

**Ann Arbor Public Schools
Stormwater Management Program Plan**

**Municipal Separate Storm Sewer System (MS4)
National Pollutant Discharge Elimination System
(NPDES)
Stormwater Discharge Permit**

PERMIT NO. MI0060234

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Stormwater Management Program Plan

1.0 Introduction

Ann Arbor Public Schools is a public school district based in Ann Arbor, Michigan, that owns or operates a regulated Municipal Separate Storm Sewer System (MS4). This Stormwater Management Plan (SWMP) has been developed to retain authorization to discharge stormwater to surface waters and reduce the discharge of pollutants from the MS4 to the Maximum Extent Practicable and protect water quality. Ann Arbor Public Schools will implement and enforce this SWMP to the Maximum Extent Practicable.

This Stormwater Management Plan commits to actions throughout the permit cycle. This SWMP includes measurable goals for Best Management Practices (BMP), focusing on the six minimum measures required under the MS4 NPDES Permit. Measurable goals describe the actions Ann Arbor Public Schools will take to implement each BMP and allow Ann Arbor Public Schools to evaluate progress toward meeting key objectives outlined in the following sections.

Ann Arbor Public Schools owns and operates thirty-five (35) properties within the boundaries of the “Ann Arbor Urbanized Area”. All of Ann Arbor Public Schools’ properties are within the urbanized area based off the 2010 Census data, and the facilities include:

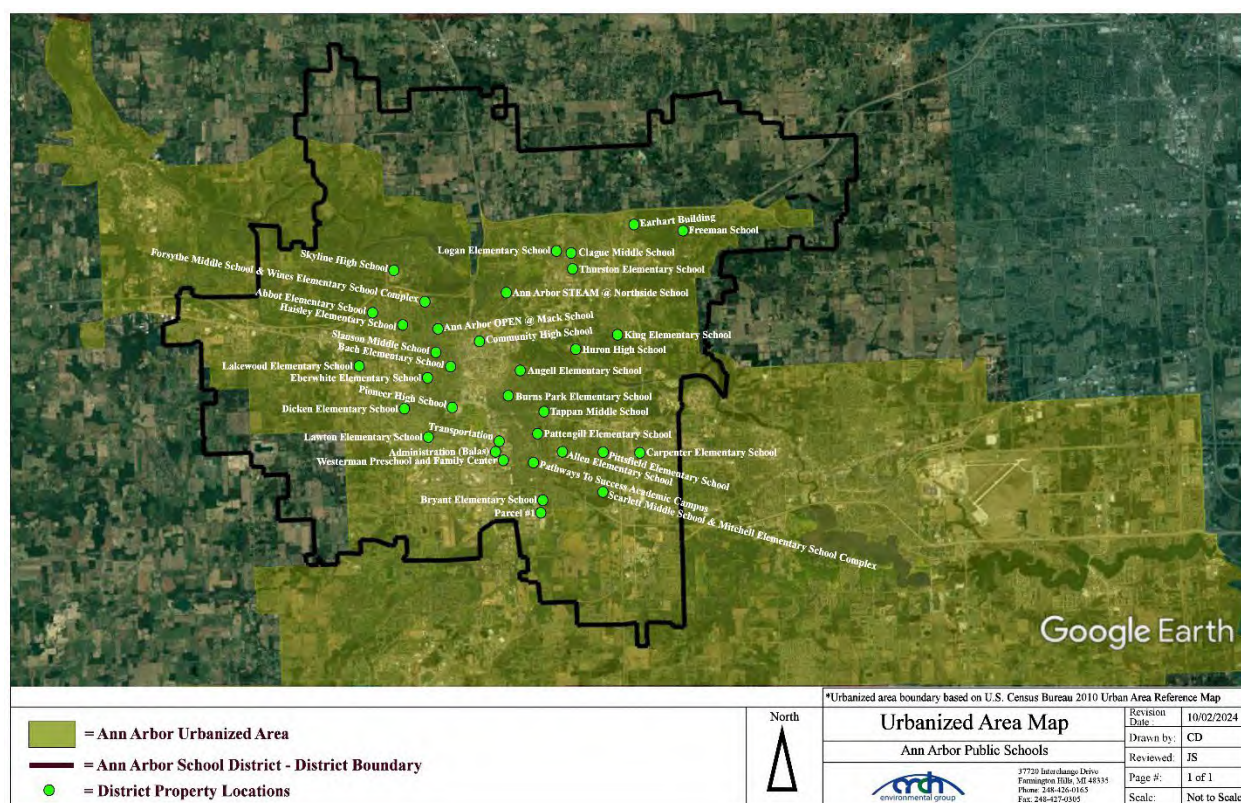
1. **Administration (Balas)** - 2555 S. State, Ann Arbor, MI 48104
2. **Abbot Elementary School** - 2670 Sequoia Parkway, Ann Arbor, MI 48103
3. **Allen Elementary School** - 2560 Towner Blvd, Ann Arbor, MI 48104
4. **Angell Elementary School** - 1608 S. University, Ann Arbor, MI 48104
5. **Ann Arbor Open @ Mack School** - 920 Miller, Ann Arbor, MI 48103
6. **Ann Arbor STEAM @ Northside School** - 912 Barton Dr, Ann Arbor, MI 48105
7. **Bach Elementary School** - 600 Jefferson W, Ann Arbor, MI 48103
8. **Bryant Elementary School** - 2150 Santa Rosa, Ann Arbor, MI 48108
9. **Burns Park Elementary School** - 1414 Wells, Ann Arbor, MI 48104
10. **Carpenter Elementary School** - 4250 Central Blvd, Ann Arbor, MI 48104
11. **Clague Middle School** - 2616 Nixon Rd, Ann Arbor, MI 48105
12. **Community High School** - 401 Division N, Ann Arbor, MI 48104
13. **Dicken Elementary School** - 2135 Runnymede, Ann Arbor, MI 48104
14. **Earhart Building** - 3700 Earhart Road, Ann Arbor, MI 48103
15. **Eberwhite Elementary School** - 800 Soule Blvd, Ann Arbor, MI 48103
16. **Freeman School** - 3540 Dixboro Lane, Ann Arbor MI 48105
17. **Forsythe Middle School / Wines Elementary School Complex**, 1655 Newport Rd, Ann Arbor, MI 48103 /1701 Newport, Ann Arbor, MI 48103
18. **Haisley Elementary School** - 825 Duncan, Ann Arbor, MI 48103
19. **Huron High School** - 2727 Fuller Rd, Ann Arbor, MI 48105
20. **King Elementary School** - 3800 Waldenwood Dr., Ann Arbor, MI 48105
21. **Lakewood Elementary School** - 344 Gralake, Ann Arbor, MI 48103
22. **Lawton Elementary School** -2250 S Seventh St, Ann Arbor, MI 48104
23. **Logan Elementary School** - 2685 Traver Blvd, Ann Arbor, MI 48105
24. **Pathways To Success Academic Campus** - 2800 Stone School Rd, Ann Arbor, MI 48104
25. **Pattengill Elementary School** - 2100 Crestland, Ann Arbor, MI 48104

26. **Pioneer High School** - 601 Stadium Blvd W., Ann Arbor, MI 48104
27. **Pittsfield Elementary School** - 2543 Pittsfield, Ann Arbor, MI 48104
28. **Scarlett Middle School / Mitchell Elementary School Complex** - 3300 Lorraine St., Ann Arbor, MI 48108 /3550 Pittsview Dr., Ann Arbor, MI 48108
29. **Skyline High School** - 2552 N Maple Rd, Ann Arbor, MI 48103
30. **Slauson Middle School** - 1019 Washington W, Ann Arbor, MI 48103
31. **Tappan Middle School** -2251 Stadium Blvd, Ann Arbor, MI 48104
32. **Thurston Elementary School** - 2300 Prairie, Ann Arbor, MI 48105
33. **Transportation Facility** - 2400 Boardwalk St, Ann Arbor, MI 48104
34. **Westerman Preschool and Family Center** - 2775 Boardwalk, Ann Arbor, MI 48104
35. **Parcel #1** - 2081 East Ellsworth Road, Ann Arbor, MI, Parcel #09-12-10-304-099

1.1 Regulated Area

A map identifying the Ann Arbor Public Schools within the Ann Arbor urbanized area as defined by the 2010 Census is provided below in Map 1.

Map 1 – District Jurisdictional Boundary Map – Urbanized Area¹



1.2 Outfalls & Discharge Points/ Receiving Waters

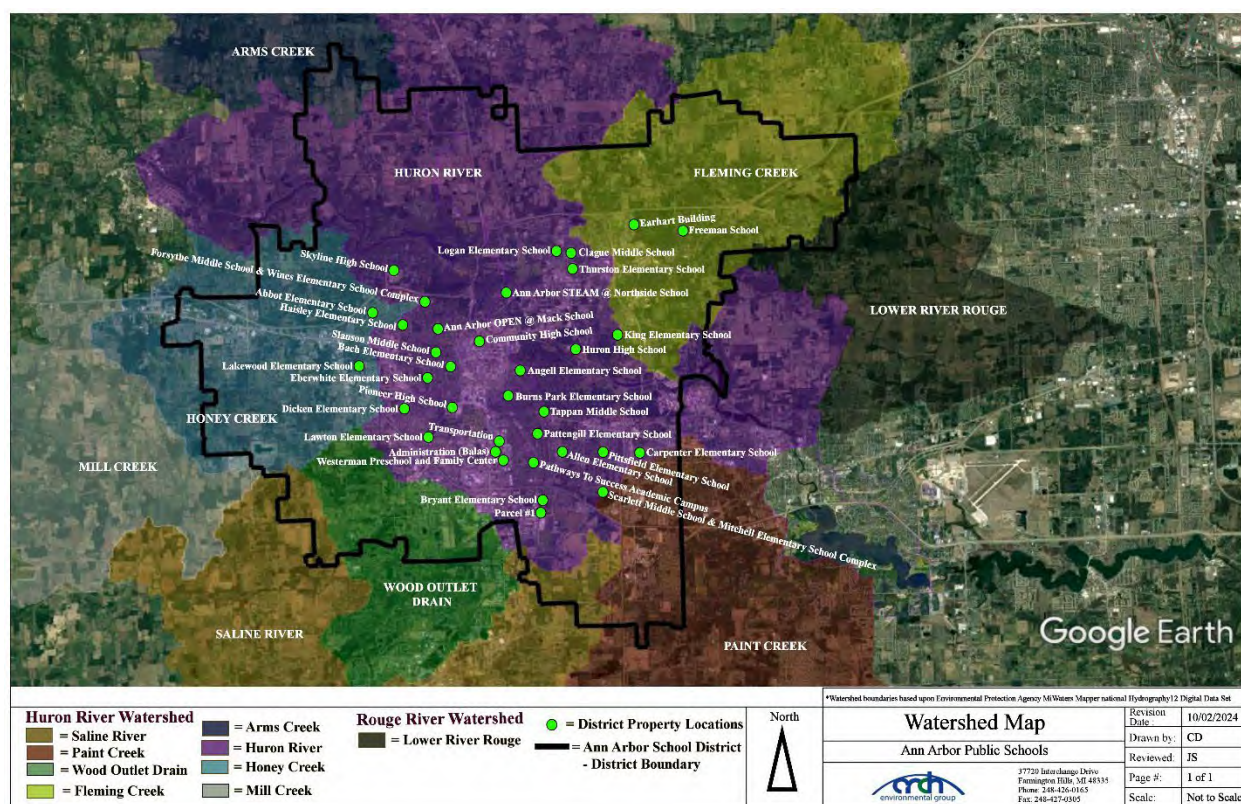
The permit authorizes the discharge of stormwater from municipal separate stormwater drainage systems to waters of the state from all existing outfalls or points of discharge.

¹ Urbanized area boundary based on Michigan Department of Environment, Great Lakes, and Energy *Regulated Areas for the Municipal Separate Storm Sewer System (MS4 Program)*.

Ann Arbor Public Schools has identified outfalls that discharge directly into surface waters of the state and discharge points that discharge into other MS4 drainage systems. The Ann Arbor Public Schools drainage system discharges directly or indirectly into the Fleming Creek, Honey Creek, Huron River, and Paint Creek Watersheds as detailed in Map 2 below.

Ann Arbor Public Schools has completed site specific storm sewer system maps which identify outfall and discharge point locations, discharge point source identification numbers, and receiving waters. A receiving water table and site-specific storm sewer system maps are provided in Appendix A. Any changes to the Ann Arbor Public Schools storm sewer system will be reflected on the storm sewer system maps and reported provided to the EGLE during progress reporting. The district watershed boundary map is provided below in the map listed as “Map 2”.

Map 2 – District Watershed Map²



1.3 Enforcement Response Procedures

The Ann Arbor Public Schools properties are regulated as an MS4 under the NPDES Permit program. Environmental compliance staff members from Ann Arbor Public Schools have the authority to inspect and monitor stormwater-related activities on campus and require full compliance with all stormwater permit requirements. Enforcement of Ann Arbor Public Schools policies, procedures, and best management practices (BMPs) outlined in this SWMP is the responsibility of the Stormwater Program Manager or their designee. Any questions regarding this policy and procedure will be directed to the Stormwater Program Manager.

² Watershed boundaries based on Michigan Department of Environment, Great Lakes, and Energy *Watershed Boundary - 12 Digit* and *Watershed Boundary - 8 Digit*.

The primary role of the Stormwater Program Manager, or their designee, is to ensure that the ERP is followed in a timely and consistent manner and track compliance issues and schedules. To achieve compliance, the following steps may be conducted:

1. Reviews reported violation.
2. Contact business or non-district individual responsible for the violation.
3. Ensures that compliance actions taken are consistent and timely.
4. Tracks instances of noncompliance.
5. Review compliance reports and schedules to ensure that appropriate enforcement actions are taken, and compliance goals are met.
6. Conduct follow-up inspection(s) to verify the violation has been corrected.
7. Legal action may be pursued for the most serious violations including where the response to previous enforcement actions is inadequate.

The tracking of instances of noncompliance includes the following information:

- Name
- Date
- Location of Violation (address, cross streets, etc.,)
- Business/Agency/Organization (as appropriate)
- Description of Violation
- Description of Enforcement Response
- Date Violation was resolved

Information shall be placed into the Districts Noncompliance Enforcement Tracking Sheet.

This procedure will be reviewed on an annual basis by the Stormwater Manager for any updates. A copy of the SW Illicit Discharge Regulatory Policy is included with and an example of the Municipal Separate Storm Sewer System Noncompliance Enforcement Tracking Sheet in Appendix B.

2.0 Stormwater Management Program Plan (SWMP) Minimum Control Measures

This SWMP has been developed to describe the Best Management Practices (BMPs) Ann Arbor Public Schools will implement to meet the six minimum control measures and water quality requirements. The six minimum control measures include:

- **Public Participation/Involvement Program (PPP)**
To share components of the SWMP and encourage participation in its review and implementation.
- **Public Education Program (PEP)**
To promote, publicize, and facilitate education for the purpose of encouraging the public to reduce the discharge of pollutants to stormwater to the maximum extent practicable.
- **Illicit Discharge Elimination Program (IDEP)**
To detect and eliminate illicit connections and discharges to the MS4.
- **Construction Stormwater Runoff Control Program**
To augment Part 91 rules dealing with soil erosion, offsite sedimentation, and other construction-related wastes.
- **Post-Construction Stormwater Runoff Program**
To address post-construction stormwater runoff from projects that disturb one acre or more, including projects less than one acre that are part of a larger common plan of development that would disturb one acre or more.
- **Pollution Prevention/Good Housekeeping Program**
To minimize pollutant runoff to the maximum extent practicable from municipal operations that discharge stormwater to the surface waters of the state.

Each BMP includes a measurable goal, implementation schedule, and measure of assessment.

2.1 Public Involvement/Participation Program (PPP)

Engaging and empowering the public in the effort to reduce the impacts of stormwater runoff is a key element of the public involvement/participation program. Ann Arbor Public Schools has partnered with the Huron River Watershed Council (HRWC) and the HRWC PPP Program. A copy of the HRWC Public Participation Program is in Appendix C.

2.1.1 Public Involvement/Participation Program Objectives

The purpose of this Public Participation Program (PPP) is to facilitate the involvement of Municipal Separate Stormwater Sewer Systems (MS4s) in the watershed, and the general public in the revision of MS4 Storm Water Management Plans (SWMPs). This PPP is designed to involve all entities in the watershed with the authority, ability, and desire to carry out the implementation of SWMPs in commenting and implementing those plans.

2.1.2 Public Involvement & Participation Procedure

1. Public Notice (HRWC BMP 1.1)
 - Provide electronic copies of SWMP to HRWC.
2. Public Access to Storm Water Management Plans (HRWC BMP 1.2)
 - Post SWMP on the Ann Arbor Public Schools Stormwater webpage.
3. Watershed Groups (HRWC BMP 1.3)
 - Attend the Middle Huron Partners Group Meetings.

4. SWMP Review (HRWC BMP 1.4)

- Notification for comment on district stormwater webpage.
- Ann Arbor Public Schools will review comments from the general public and EGLE.

2.1.3 Public Involvement & Participation Program (PPP) – BMP Table

BMP	Implementation of BMP	Timeframe	Measurable Goal	Measure of Assessment	Responsible Party
BMP #2.1.3.1 Public Notice (HRWC PPP BMP 1.1)	Provide electronic copy of the final Ann Arbor Public Schools SWMP to the HRWC.	Initial notice will be provided no later than 15 days following the release of a draft permit.	Digital copy of the SWMP Permit provided to the HRWC to share with the general public.	Copy of email to HRWC with copy of Ann Arbor Public Schools SWMP Permit.	Ann Arbor Public Schools
BMP #2.1.3.2 Public Access to Storm Water Management Plans (HRWC PPP BMP 1.2)	Make SWMP available for public review through stormwater webpage.	Annually Throughout Permit Cycle	Availability of the SWMP for review, including contact information for comments.	Verify SWMP available on stormwater webpage, and track changes webpage posting of SWMP.	Ann Arbor Public Schools
	Contact information will be available on the stormwater webpages to forward comments regarding the SWMP.			Compile and track comments from the public.	
BMP #2.1.3.3 Participation Activities (HRWC PPP BMP 1.3)	Attend the Middle Huron Partners Group Meetings.	Ongoing Throughout Permit Cycle	Attend Huron Partners Group Meetings when available.	Reports of participation.	Ann Arbor Public Schools
BMP #2.1.3.4 SWMP Review (HRWC PPP BMP 1.4)	Ann Arbor Public Schools will review comments from the general public. Notification for comment on district stormwater webpage.	Annually Throughout Permit Cycle	SWMP comments reviewed and SWMP updated as necessary.	Compile and track comments from the public and EGLE.	Ann Arbor Public Schools

2.2 Public Education Program (PEP)

The PEP program is designed to promote, publicize, and facilitate education for the purpose of encouraging the public to reduce the discharge of pollutants in stormwater to the maximum extent practicable. The plan describes current and proposed best management practices (BMPs) to meet the minimum control measure requirements in a Public Education Plan (PEP). Ann Arbor Public Schools has partnered with the Huron River Watershed Council (HRWC) and is included in the HRWC Collaborative Public Education Plan. A copy of the HRWC Collaborative Public Education Plan is included in Appendix C.

2.2.1 Public Education Program Objectives

1. Promote public responsibility and stewardship in the applicant(s) watershed.
2. Inform and educate the public about the connection of the MS4 to area waterbodies and the potential impacts discharges could have on surface waters of the state.
3. Educate the public on illicit discharges and promote public reporting of illicit discharges and improper disposal of materials into the MS4.
4. Promote preferred cleaning materials and procedures for car, pavement, and power washing.
5. Inform and educate the public on proper application and disposal of pesticides, herbicides, and fertilizers.
6. Promote proper disposal practices for grass clippings, leaf litter, and animal wastes that may enter into the MS4.
7. Identify and promote the availability, location, and requirements of facilities for collection or disposal of household hazardous wastes, travel trailer sanitary wastes, chemicals, yard wastes, and motor vehicle fluids.
8. Inform and educate the public on proper septic system care and maintenance, and how to recognize system failure.
9. Educate the public on and promote the benefits of green infrastructure and Low Impact Development.
10. Identify and educate commercial, industrial and institutional entities likely to contribute pollutants to stormwater runoff.

2.2.2 Public Education Program Procedure

To address each of the PEP requirements, the district will, individually or collaboratively, implement the following specific activities, which include a description, timeline, evaluation component, and the required topic that the activity meets. Activities will be completed with the involvement of responsible parties as noted in each activity description, and/or in cooperation with identified permitted communities.

Activity 1:	Distribute Informational Materials
Activity 2:	Distribute Community Watershed Calendar
Activity 3:	Content in Community Newsletter, Website, or Social Media
Activity 4:	Local Print and Digital Advertisements
Activity 5:	Promote Water Resource Protection Workshops
Activity 6:	Promote and Support Volunteer Stream Monitoring
Activity 7:	Promote and Support Storm Drain Labeling
Activity 8:	Promote Riparian Land Management Information
Activity 9:	Conduct Outreach at Local and Regional Fairs and Community Events
Activity 10:	Promote County-Wide Complaint Tracking and Response Systems.
Activity 11:	Livingston County Household Hazardous Waste Reduction Program

Not Applicable for Ann Arbor Public Schools

- Activity 12: Livingston County Prescription Drugs and Personal Care Products Disposal Program
Not Applicable for Ann Arbor Public Schools
- Activity 13: Livingston County Electronic Waste Reduction Program
Not Applicable for Ann Arbor Public Schools
- Activity 14: Livingston County Stream and River Crossing Road Signs
Not Applicable for Ann Arbor Public Schools
- Activity 15: Washtenaw County Community Partners for Clean Streams
- Activity 16: Washtenaw County Pollution Prevention Inspections
- Activity 17: Washtenaw County Issues of the Environment Radio Show
- Activity 18: Washtenaw County Environmental Excellence Awards
Not Applicable for Ann Arbor Public Schools
- Activity 19: Washtenaw County Fats, Oils, and Grease and Litter Reduction
- Activity 20: Washtenaw County River Safe Homes Program
- Activity 21: Washtenaw County/Ann Arbor Residential Rain Garden Program
- Activity 22: Washtenaw County Home Toxics Reduction Program
- Activity 23: Washtenaw County Medication Disposal Program

2.2.3 Public Education Program Effectiveness

Ann Arbor Public Schools will collaboratively administer a broader survey once during the permit cycle in conjunction with Activity #2, the watershed community calendar. The survey's target audience will be residents of the permitted entities. The survey will measure public awareness of stormwater pollution and possible solutions, environmental attitudes, capacity, constraints, behaviors and, when appropriate, effectiveness of specific public education activities. The survey will primarily be conducted over the web with respondents recruited by mail and e-mail, through advertising, direct in-person contact and/or social media.

2.2.4 Public Education Program Periodic Progress Report

Ann Arbor Public Schools will provide documentation of PEP efforts, a summary of the evaluation of its effectiveness when appropriate.

2.2.5 Public Education Program (PEP) – BMP Table

BMP Topic	Description of BMP	Timeframe	Measurable Goal & Key Messages	Measure of Assessment	Target Audience	Responsible Party
BMP #2.2.5.1 Distribute Informational Materials (HRWC PEP Activity #1)	SEMCOG posters placed strategically throughout the district.	Ongoing Throughout Permit Cycle	Maintain three (3) various SEMCOG posters at each facility. Strategic locations include Main Office, Lounge, and Receiving Area (if available).	Develop one (1) comprehensive consolidation report of District-wide educational posters annually.	Students, faculty and community	Ann Arbor Public Schools
	Place SEMCOG "7 Simple Steps to Clean Water" information on the district webpage.		SEMCOG "7 Simple Steps to Clean Water" information and links.	Conduct one (1) webpage review annually to confirm information is available and links are functioning.		
	Place watershed specific information on the district webpage.		Supply watershed information and promote watershed membership information.	Conduct one (1) webpage review annually to confirm information is available.		
	Include HRWC links on the district webpage.		Visible HRWC links on the stormwater webpage.	Conduct one (1) webpage review annually to confirm the links are functioning.		

BMP Topic	Description of BMP	Timeframe	Measurable Goal & Key Messages	Measure of Assessment	Target Audience	Responsible Party
BMP #2.2.5.2 Distribute Community Watershed Calendar (HRWC PEP Activity #2)	Place calendars in the lobby of the Administration Building as well as in the Main Office at school buildings.	Biennially	Calendars typically feature a different tip each month for increasing public awareness of watershed issues and improving personal actions affecting the health of their watershed.	Distribute approximately one-thousand (1,000) HRWC calendars to Ann Arbor Public Schools Facilities.	Students, faculty and community	Ann Arbor Public Schools
	Ann Arbor Public Schools will collaboratively administer a broader survey in conjunction with the watershed community calendar.	Ongoing Throughout Permit Cycle	The survey will measure public awareness of stormwater pollution and possible solutions, environmental attitudes, capacity, constraints, behaviors and, when appropriate, effectiveness of specific public education activities. The survey will primarily be conducted over the web with respondents recruited by mail and e-mail, through advertising, direct in-person contact and/or social media.	Document surveys results in Public Education Reports annually.		
BMP #2.2.5.3 Content in Community Newsletters, Websites, Social Media (HRWC PEP Activity #3)	Place SEMCOG "7 Simple Steps to Clean Water" information on the district webpage.	Ongoing Throughout Permit Cycle	SEMCOG "7 Simple Steps to Clean Water" information and links.	Conduct one (1) webpage review annually to confirm information is available and links are functioning.	Students, faculty and community	Ann Arbor Public Schools

BMP Topic	Description of BMP	Timeframe	Measurable Goal & Key Messages	Measure of Assessment	Target Audience	Responsible Party
BMP #2.2.5.4 Local Print and Digital Advertisements (HRWC PEP Activity #4)	Include HRWC website link on the district webpage. https://www.hrwc.org/	Ongoing Throughout Permit Cycle	HRWC links visible on the stormwater webpage.	Conduct one (1) webpage review annually to confirm information is available and links are functioning.	Students, faculty and community	Ann Arbor Public Schools
BMP #2.2.5.5 Promote Water Resource Protection Workshops (HRWC PEP Activity #5)	Link to SEMCOG on the district webpage. https://semcog.org/	Ongoing Throughout Permit Cycle	SEMCOG links visible on the stormwater webpage.	Conduct one (1) webpage review annually to confirm information is available and links are functioning.	Students, faculty and community	Ann Arbor Public Schools
BMP #2.2.5.6 Promote and Support Volunteer Stream Monitoring (HRWC PEP Activity #6)	Link to the HRWC volunteer program on the district webpage. https://www.hrwc.org/volunteer/	Ongoing Throughout Permit Cycle	Volunteers assess habitat, water quality, and aquatic life in the Huron River and its tributaries as part of an ongoing scientific study.	Conduct one (1) webpage review annually to confirm information is available and links are functioning.	Students, faculty and community	Ann Arbor Public Schools
BMP #2.2.5.7 Promote and Support Storm Drain Labeling (HRWC PEP Activity #7)	Link to the HRWC Adopt-A-Storm drain on the district webpage. https://www.hrwc.org/volunteer/adoptastormdrain/	Ongoing Throughout Permit Cycle	The connection of storm drains to local waterways and the impacts of dumping pollutants into these drains.	Conduct one (1) webpage review annually to confirm information is available and links are functioning.	Students, faculty and community	Ann Arbor Public Schools

BMP Topic	Description of BMP	Timeframe	Measurable Goal & Key Messages	Measure of Assessment	Target Audience	Responsible Party
BMP #2.2.5.8 Promote Riparian Land Management Information (HRWC PEP Activity #8)	Link to Waterfront Wisdom, 7 Tips for creating and maintain a beautiful and healthy waterfront on the district webpage. https://www.hrwc.org/wp-content/uploads/HRWC-Waterfront-Wisdom-Web.pdf	Ongoing Throughout Permit Cycle	Educate on why riparian zones are important and educate on best management practices such as landscaping with native plants, buffer zones and minimizing impervious surfaces.	Conduct one (1) webpage review annually to confirm information is available and links are functioning.	Students, faculty and community	Ann Arbor Public Schools
BMP #2.2.5.9 Conduct Outreach at Local and Regional Fairs and Community Events (HRWC PEP Activity #9)	Publicize HRWC events through email, newsletters, or social media.	Ongoing Throughout Permit Cycle	Promote public awareness of environmental issues and increase district environmental participation through HRWC sponsored events.	Distribute educational material to District staff through watershed announcements quarterly.	Students, faculty and community	Ann Arbor Public Schools
BMP #2.2.5.10 Provide County-Wide Complaint Tracking and Response Systems (HRWC PEP Activity #10)	Place How to Report/Hotline Numbers poster at district facilities. Poster describes illicit discharges and how to report illicit discharges.	Ongoing Throughout Permit Cycle	Place “How to spot illicit discharge/ How to Report-Hotline Numbers” posters placed in Receiving Rooms at each Ann Arbor Public Schools facility. Goal is to have one poster at each facility.	Develop one (1) comprehensive consolidation report of District-wide How to Report/Hotline Numbers posters annually.	Students, faculty and community	Ann Arbor Public Schools
	Post copy of AAPS SW Illicit Discharge Regulatory Policy on the district webpage.		Promotion of districts illicit discharge regulatory policy.	Conduct one (1) webpage review annually to confirm information is available and links are functioning.		

BMP Topic	Description of BMP	Timeframe	Measurable Goal & Key Messages	Measure of Assessment	Target Audience	Responsible Party
BMP #2.2.5.11 Livingston County Household Hazardous Waste Reduction Program (HRWC PEP Activity #11)	Not applicable to Ann Arbor Public Schools.					
BMP #2.2.5.12 Livingston County Prescription Drugs and Personal Care Products Disposal Program (HRWC PEP Activity #12)	Not applicable to Ann Arbor Public Schools.					
BMP #2.2.5.13 Livingston County Electronic Waste Reduction Program (HRWC PEP Activity #13)	Not applicable to Ann Arbor Public Schools.					

BMP Topic	Description of BMP	Timeframe	Measurable Goal & Key Messages	Measure of Assessment	Target Audience	Responsible Party
BMP #2.2.5.14 Livingston County Stream and River Crossing Road Signs (HRWC PEP Activity #14)	Not applicable to Ann Arbor Public Schools.					
BMP #2.2.5.15 Washtenaw County Community Partners for Clean Streams (HRWC PEP Activity #15)	Link to Washtenaw County Community Partners for Clean Streams on the district webpage. https://www.washtenaw.org/409/Community-Partners-for-Clean-Streams	Ongoing Throughout Permit Cycle	Promote protect water quality through on-site daily activities.	Conduct one (1) webpage review annually to confirm information is available and links are functioning.	Students, faculty and community	Ann Arbor Public Schools
BMP #2.2.5.16 Washtenaw County Pollution Prevention Inspections (HRWC PEP Activity #16)	Link to Washtenaw County Pollution Prevention information on the district webpage. https://www.washtenaw.org/1573/Pollution-Prevention	Ongoing Throughout Permit Cycle	Utilize and dispose of hazardous materials properly, thereby preventing environmental contamination.	Conduct one (1) webpage review annually to confirm information is available and links are functioning.	Students, faculty and community	Ann Arbor Public Schools

BMP Topic	Description of BMP	Timeframe	Measurable Goal & Key Messages	Measure of Assessment	Target Audience	Responsible Party
BMP #2.2.5.17 Washtenaw County Issues of the Environment Radio Show (HRWC PEP Activity #17)	Link to Washtenaw County radio show on the district webpage. https://www.washtenaw.org/341/The-Green-Room---TV-Radio	Ongoing Throughout Permit Cycle	Promotes public awareness of environmental issues, programs and news impacting our community.	Conduct one (1) webpage review annually to confirm information is available and links are functioning.	Students, faculty and community	Ann Arbor Public Schools
BMP #2.2.5.18 Washtenaw County Environmental Excellence Awards (HRWC PEP Activity #18)	Not applicable to Ann Arbor Public Schools.					
BMP #2.2.5.19 Washtenaw County Fats, Oils, and Grease and Litter Reduction (HRWC PEP Activity #19)	Link to Washtenaw County Fats, Oils, and Grease information on the district webpage. https://www.washtenaw.org/838/Fats-Oils-Grease	Ongoing Throughout Permit Cycle	Proper disposal of cooking fats, kitchen maintenance practices and recycling best management practices.	Conduct one (1) webpage review annually to confirm information is available and links are functioning.	Students, faculty and community	Ann Arbor Public Schools

BMP Topic	Description of BMP	Timeframe	Measurable Goal & Key Messages	Measure of Assessment	Target Audience	Responsible Party
BMP #2.2.5.20 Washtenaw County River Safe Homes Program (HRWC PEP Activity #20)	<p>Link to Washtenaw County RiverSafe Homes information on the district webpage. https://www.washtenaw.org/632/Green-Living</p> <p>Link to Washtenaw County survey. https://www.surveymonkey.com/r/riversafe</p>	Ongoing Throughout Permit Cycle	Protecting water quality around the home is easy to do and produces significant results.	Conduct one (1) webpage review annually to confirm information is available and links are functioning.	Students, faculty and community	Ann Arbor Public Schools
BMP #2.2.5.21 Washtenaw County/Ann Arbor Residential Rain Garden Program (HRWC PEP Activity #21)	<p>Link to Washtenaw County Rain Garden information on the district webpage. https://www.washtenaw.org/647/Rain-Gardens</p>	Ongoing Throughout Permit Cycle	Protecting water quality and preventing stormwater runoff through the use of rain gardens with native plants.	Conduct one (1) webpage review annually to confirm information is available and links are functioning.	Students, faculty and community	Ann Arbor Public Schools
BMP #2.2.5.22 Washtenaw County Home Toxics Reduction Program (HRWC PEP Activity #22)	<p>Link to Washtenaw County Home Toxics information on the district webpage. https://www.washtenaw.org/287/Home-Toxics-Center-Paint-Oil-Pesticides-</p>	Ongoing Throughout Permit Cycle	The program seeks to address the environmental (including water quality) and public health effects resulting from improper handling and disposal of home toxics and is committed to reducing the use of home toxics and keeping citizens informed about the choices and responsibilities associated with purchasing, handling and disposing of toxic substances.	Conduct one (1) webpage review annually to confirm information is available and links are functioning.	Students, faculty and community	Ann Arbor Public Schools

BMP Topic	Description of BMP	Timeframe	Measurable Goal & Key Messages	Measure of Assessment	Target Audience	Responsible Party
BMP #2.2.5.23 Washtenaw County Medication Disposal Program (HRWC PEP Activity #23)	Link to Washtenaw County “Don’t Flush the Drugs” information on the district webpage. https://www.washtenaw.org/310/Medication-Disposal	Ongoing Throughout Permit Cycle	“Don’t rush to flush,” keep Rx Drugs and personal care products out of our water systems, proper medication disposal.	Conduct one (1) webpage review annually to confirm information is available and links are functioning.	Students, faculty and community	Ann Arbor Public Schools

2.3 Illicit Discharge Elimination Program (IDEP)

The following Ann Arbor Public Schools Illicit Discharge Elimination Program is designed to identify, locate, prohibit, and effectively eliminate illicit discharges, including discharges of sanitary wastewaters, to the permitted separate stormwater drainage systems.

2.3.1 Illicit Discharge Elimination Program (IDEP) Program Objectives

1. Establish authority to investigate, inspect and monitor suspected illicit discharges.
2. Maintain maps of the MS4, points of discharge, and outfalls.
3. Prohibit non-stormwater discharge into the MS4.
4. Provide regular training to staff.
5. Instruct contractors to prevent dumping into the MS4.
6. Conduct routine dry weather screening.
7. Conduct source investigations if the source of an illicit discharge/connection is not identified by field screening.
8. Illicit discharge identification and elimination program performance & effectiveness.

2.3.2 Facility Site Storm Sewer System Maps and Lists

Ann Arbor Public Schools and consultants completed storm sewer system mapping at each of the owner operated properties identified in Section 1.0 of this Stormwater Management Plan. Storm sewer system maps include detailed information of the storm sewer system, including the locations of outfalls, points of discharge, and waters of the State that receive the discharges. The maps include a unique identification number for each storm sewer location identified on the map. Latitude and longitude are also noted for outfall and points of discharge location. Storm sewer system information will be maintained and updated as needed for reporting in Progress Reports.

Outfalls are discharge points where stormwater is discharged directly to surface waters of the state. Surface waters of the state include streams, lakes, ponds, county drains, and wetlands. Outfalls can be pipes, ditches, or even sheet flow from the facility. Some facilities may have an outfall where they can manually control the discharge.

Points of Discharge are discharge points where stormwater is discharged to a municipal or private separate storm sewer system. The visual assessment will be conducted as close to the point of discharge as possible before the storm water enters the municipal or private separate storm sewer system. Points of discharge may include on-site catch basins, trench drains, and conveyances to roadside ditches.

Copies of the current facility storm sewer system maps are available at the Balas Administration Building located at 2555 S. State, Ann Arbor, MI 48104. Additionally, copies of the storm sewer system maps and a list of the outfalls and points of discharge are provided in Appendix A.

2.3.3 Illicit Discharge Identification & Investigation Procedure – Field Observations

Ann Arbor Public Schools will conduct field observations for 100% of all outfalls and points of discharge locations during dry weather or more expeditiously if Ann Arbor Public Schools becomes aware of a non-stormwater discharge. Outfalls and points of discharge will be inspected by personnel trained to recognize all signs of possible illicit discharges. Dry weather screening (DWS) will be conducted by Ann Arbor Public Schools once per permit cycle, which is typically a five-year period. Outfalls and points of discharge will be inspected and evaluated following a period of at least 48-72 hours of dry weather to adequately characterize dry-weather conditions.

Illicit Discharge means any discharge to, or seepage into the separate stormwater drainage system that is not composed entirely of stormwater or uncontaminated groundwater except discharges pursuant to an NPDES permit. Illicit discharges include but are not limited to the following:

- Dumping of motor vehicle fluids
- Improper disposal of household hazardous wastes
- Grass clippings
- Leaf litter
- Pet & other animal wastes
- Unauthorized discharges of sewage
- Industrial wastes
- Restaurant wastes
- Vehicle & equipment wash waters
- Any non-stormwater waste

All potential discharges are documented utilizing the Illicit Discharge/Illegal Dumping Reporting form.

Illicit Connection means a physical connection to the MS4 separate stormwater system that primarily conveys non-stormwater discharges other than uncontaminated groundwater into the MS4 separate storm sewer system; or a physical connection not authorized or permitted by the local authority, where a local authority requires authorization or a permit for physical connections.

Dry Weather Screening field observations will document the following items,

- Outfall or point of discharge identification number
- Date of inspection and name of inspector(s) completing the screening
- Number of hours since last significant rainfall
- Structural condition of outfall or point of discharge
- Presence or absence of flow
- Presence or absence of standing water
- Water clarity and color
- Presence of oil sheen, trash and or other floatable materials
- Presence of bacterial sheen or slimes
- Excessive vegetative growth
- Odor
- Suds
- Presence of oil

♦ *These characteristics are documented even if no flow is observed at the time of the inspection.*

During field observations, in instances where the storm sewer outfalls and points of discharge are submerged or are connected to another enclosed sewer, the inspector will observe the nearest upstream storm sewer location or access point. All field observations are detailed on a "Screening Inspection Log". A copy of the Screening Inspection Log is provided in Appendix D.

2.3.4 Illicit Discharge Identification & Investigation Procedure – Field Screening & Source Investigation

At the time of the outfall or discharge point inspection, if dry weather flow is observed and the source is not obvious, the inspector who identified the discharge shall immediately conduct an upstream source investigation to determine the origin of the flow. The initial investigation will include visual and olfactory observations upstream from the outfall/point of discharge. If necessary, relevant indicator field screening or dye tracing will be conducted.

If the origin of the flow is not identified during the visual upstream investigation, a grab sample is collected within 24 hours from the discharge for indicator field screening analysis. Indicator field screening is a secondary tool utilized to help determine the source of dry weather flow when there are no obvious indicators such as very high turbidity, strong odors, or visible discharge. The determination of which field screening parameters to use to determine dry weather flow may be determined based on the site conditions, visual observations, and olfactory observations.

Additional grab samples may be collected and delivered for external laboratory analysis, if additional test parameters are needed for the source investigation. The laboratory analysis parameters for grab samples will be determined based on the suspected source of the flow during the source investigation.

Field screening and laboratory analysis parameters may include the following with the associated action level³:

- **pH** (Action Level: <6.5 or >9.0)
- **E. coli** (Action Level: >1,000 CFU)
- **Surfactants** (Action Level: >0.5 mg/l)
- **Ammonia** (Action Level: >1.0 mg/l)

Once the source has been isolated down to a specific site location through field investigation, field screening, and/or laboratory analysis, the work for source confirmation will begin. Additional fieldwork, building evaluation, and/or dye testing may be necessary to confirm the source of the flow. Continued source investigations will be conducted, if needed, within 14 days of the original observed dry weather flow.

2.3.5 Illicit Discharge/Connection Elimination Procedure

Illicit discharges and connections are identified through reporting, routine storm sewer system inspections and dry weather screening inspections. A “How to Spot Illicit Discharges” poster along with a “How to Report/Hotline Numbers” posters are placed in the receiving/custodial areas in each facility to report concerns. Ann Arbor Public Schools goal is to evaluate all potential unauthorized or suspected illicit discharge to the municipal separate storm sewer system (MS4) and perform any necessary notifications and reporting to the applicable agencies (i.e., EGLE, local drain commission, etc.) within the required time period(s).

Ann Arbor Public Schools will evaluate and conduct the following actions regarding reported or observed illicit discharges/illegal dumping into the storm drainage system:

- Suspected discharges will be investigated within 24 hours. Ann Arbor Public Schools will ensure enforcement actions within 7 days.
- Conduct source investigations, including applicable field screening to trace the origin of the materials within 14 days of the reported/observed illicit discharge.

³ Action levels were determined based on the EGLE Municipal Separate Storm Sewer System (MS4) Program – Dry-Weather Screening: A Guide for Permittees

- Ann Arbor Public Schools will follow existing spill response procedures outlined in Section 2.3.9, under Spill Response, Policy & Procedures, if required.
- If the party responsible is identified, educate the party on the impact of their actions, explain the stormwater requirements, and provide information regarding Best Management Practices.
- Evidence of illicit discharges traced to other MS4 jurisdictions will be provided to the responsible MS4 operator along with any collected data to assist that MS4 operator in completing their investigations to correct the illicit discharge or connection.
- Ann Arbor Public Schools will cooperate with the MS4 operator in determining the source or type of illicit discharge and/or connection and will follow-up to ensure that appropriate action has been completed by the MS4 operator to eliminate the discharge.
- Continue inspection and follow-up activities until the illicit discharge activity has ceased.
- Document all activities utilizing the Illicit Discharge/Illegal Dumping Reporting form.

A copy of the Illicit Discharge/Illegal Dumping Reporting form is located in Appendix B.

Once an illicit discharge or illicit connection has been confirmed from an Ann Arbor Public Schools facility, the discharge will be corrected using the most expedient method possible based on the type of discharge or the configuration of the connection. Corrective actions implemented to eliminate the continued illicit discharge may include the cleaning of impacted areas/structures and the use of physical barriers as well as administrative measures. Those administrative measures may include employee training, placement of signs or markings, or policy revisions. Within 60 days of a confirmed illicit connection from a district facility, Ann Arbor Public Schools will take steps to eliminate the illicit connection. Corrective methods include capping, closing, or re-routing illicit connections to the sanitary sewer or other collection systems.

2.3.6 Illicit Discharge Regulatory Mechanism/Policy

The district has developed a “Stormwater Management – Illicit Discharge Regulatory Policy”. This policy was developed as a regulatory mechanism for prevention of pollution from storm water runoff and to protect the quality of the surface waters of the State of Michigan through the regulation of non-stormwater discharges to the MS4 to the maximum extent practicable, as required by federal and state law. This regulatory mechanism establishes methods for controlling the introduction of pollutants into the MS4 in order to comply with the requirements of the NPDES permit through the Michigan Department of Environment, Great Lakes, and Energy (EGLE). The objectives of the regulatory mechanism are:

1. To regulate the contribution of pollutants to the MS4 by stormwater discharges by any user.
2. To prohibit illicit connections and discharges from District facilities of polluting substances into the MS4.
3. To establish authority to investigate, inspect, and monitor suspected illicit discharges or connections.
 - a. The Stormwater Program Manager or designee will have the authority to investigate, inspect and monitor district facilities and properties for suspected or confirmed illicit discharges or connections to the MS4.

Ann Arbor Public Schools has a Resolution in Support of the Stormwater Management Plan to direct compliance with these requirements. Ann Arbor Public Schools Resolution in Support of the Stormwater Management Plan was reviewed and approved in January 2026. A copy of the signed Resolution and a copy of the “Stormwater Management – Illicit Discharge Regulatory Policy” are provided in Appendix B.

Prohibitions of Illicit Discharges

1. Prohibition of Illicit Discharges:
 - a. Ann Arbor Public Schools prohibits the discharge of non-stormwater discharges into the storm drain system, including but not limited to pollutants or waters containing any pollutants.
2. The following discharges are NOT prohibited:
 - a. This policy excludes prohibitions from the discharge or flows from firefighting activities to the Ann Arbor Public Schools MS4. Discharge or flows from firefighting activities will be addressed only if they are identified as significant sources of pollutants to surface waters of the state.
 - b. The following activities are not prohibited under this policy unless they are determined to be significant sources of pollutants to surface waters of the state:
 - Water line flushing and discharges from potable water sources.
 - Landscape irrigation runoff, lawn water runoff, and irrigation waters.
 - Diverted stream flows and flows from riparian habitats and wetlands.
 - Rising groundwater and springs.
 - Uncontaminated groundwater infiltration and seepage.
 - Uncontaminated pumped groundwater, except groundwater cleanups specifically authorized by NPDES permits.
 - Foundation drains, water from crawl space pumps, footing drains, and basement sump pumps.
 - Air conditioning condensation.
 - Water from noncommercial car washing (runoff from family home).
 - Street wash water.
 - Dechlorinated swimming pool water from single, two, or three family residences. (A swimming pool operated by the permittee shall not be discharged to a separate storm sewer or to surface waters of the state without NPDES permit authorization from EGLE.)

Prohibition of Illicit Connections

1. Improper connections in violation of this regulatory mechanism must be disconnected and redirected.
2. The construction, use, maintenance, or continued existence of illicit connections to the storm drain system is prohibited by Ann Arbor Public Schools. This prohibition expressly includes, without limitation, illicit connections made in the past, regardless of whether the connection was permissible under law or practices applicable or prevailing at the time of connection.

2.3.7 Illicit Discharge Elimination Training

A training program is an important component of an effective IDEP. Training is required for all employees whose job responsibilities involve illicit discharge related activities, or indicate a potential to cause, witness, or report an illicit discharge or connection. Training is discussed in detail in Section 3.0 of this SWMP.

2.3.8 Illicit Discharge Elimination Program Effectiveness

Ann Arbor Public Schools is required to track the implementation of the illicit discharge elimination program per the SWMP and evaluate its effectiveness. The following are examples of the types of performance and effectiveness measures that may be used to evaluate the effectiveness of the IDEP program. The following information will be reviewed annually, and will be used to focus and modify activities to maximize environmental benefits of the plan:

- Verify the distribution of public education posters.

- Evaluate dry weather screening monitoring data to measure changes in water quality.
- Number of illicit connections found, and the number of illicit connections eliminated.
- Evaluate the number and type of discharges that are investigated and determine if discharges have decreased throughout the permit cycle
- Evaluate if the number of reported potential discharges has increased due to improved awareness.
- Actions conducted to follow-up illicit discharges that are identified or reported.

2.3.9 Polluting Materials Emergency and Spill Response Procedures

Purpose

This procedure has been developed to define appropriate and safe response procedures for spill or accidental releases of hazardous materials or substances at all Ann Arbor Public Schools's facilities.

Procedure

Only trained and authorized personnel are permitted to respond to hazardous materials incidents. The Stormwater Program Manager will immediately report any release of any polluting materials from the MS4 to surface waters or groundwater of the state, unless a determination is made that the release is not in excess of the threshold reporting quantities in the Part 5 Rules and comply with all Federal, State, and local regulatory requirements for the management and reporting of all hazardous materials and/or waste releases.

If it is determined that the release poses a threat to safety or the environment outside the facility or in excess of the threshold reporting quantities, the Stormwater Program Manager will report the release immediately or within 24 hours of knowledge of the release to:

- EGLE Jackson District Office at (517)-780-7960 during regular working hours.
- The 24-hour Michigan Pollution Emergency Alerting System (PEAS) at 1-800-292-4706 after working hours.

Any release of oil (including gasoline, diesel fuel, used oil and mineral spirits) to navigable waters or adjoining shorelines will be reported to the immediately or within 24 hours of knowledge of the release to:

1. The 24-hour National Response Center (NRC) at 1-800-424-8802

The Stormwater Program Manager will maintain responsibility for monitoring any changes in regulatory requirements regarding hazardous materials and waste spills or accidental releases. This procedure will be revised as necessary based upon any changes in the regulatory requirements or internal experiences. All hazardous materials spills or releases will be thoroughly investigated by the Stormwater Program Manager.

Emergency Spill Response Procedures

Each facility having the potential for the release of hazardous material or substance shall have trained and knowledgeable staff members to respond and/or implement spill response procedures for that facility. Spill containment materials such as absorbent socks, pads, booms, diking materials, storm drain covers, etc. are to be stored and maintained at all facilities for use by trained employees in the event of a spill or accidental release.

The following general guidelines are to be implemented as applicable in managing spills and accidental releases:

1. Minor Spill or Leak

- Attempt to contain the spill.
- Wear proper Personal Protective Equipment (PPE) while cleaning up the spill/leak.
- Notify supervisor and call Stormwater Program Manager at (734) 249-1244.

2. Major Spill or Leak

- Call the Stormwater Program Manager immediately at (734) 249-1244.
- Do not attempt to clean up the spill yourself.
- Provide clean-up/rescue personnel with appropriate Safety Data Sheets (SDS) and other important information.

Refer to sections **2.3.4 Illicit Discharge Identification & Investigation Procedure – Field Screening & Source Investigation** and **2.3.5 Illicit Discharge/Connection Elimination Procedure** for implementation timeframes and corrective measures to implement.

This guidance has been developed in anticipation of potential releases of hazardous materials and substances. The procedures outlined in this guidance will only be implemented by those people who have received sufficient training and are competent in the handling of the released material.

2.3.10 Illicit Discharge Elimination Program (IDEP) – BMP Table

BMP	Description of BMP	Timeframe	Measurable Goal	Measure of Assessment	Responsible Party
BMP #2.3.10.1 Facility Storm Sewer System Maps	Provide an up-to-date storm sewer system map. The maps shall identify the storm sewer system, location of outfalls and points of discharge, and names and locations of the surface waters of the state receive the discharge.	Maps Completed in 2021 Updates Ongoing as Needed throughout Permit Cycle Within 30 days of new outfalls, discharge points, structures, and conveyances.	100% of facilities mapped, and 100% of storm sewer system updates mapped.	Maintain facility site maps at Balas Administration Building.	Ann Arbor Public Schools
				Update facility map with sewer system updates. Maintain maps for progress report submittal.	Ann Arbor Public Schools
BMP#2.3.10.2 Enforcement	Written policy to enforce elimination of illicit discharges into MS4 owned by the Permittee.	Illicit Discharge Regulatory Policy Developed and Resolution in Support of the SWMP approved in 2026	Illicit Discharge Regulatory Policy developed, and Resolution in Support of the SWMP reviewed and approved by the Superintendent of AnAPS Schools.	Copy of the Illicit Discharge Regulatory Policy and Approved Resolution in Support of the SWMP	Ann Arbor Public Schools
				Copy of policy available on the district stormwater webpage or emailed to staff.	
BMP #2.3.10.3 Dry Weather Screening	Dry Weather Screening is conducted once per permit cycle. Dry weather screening will be conducted by personnel trained to recognize all signs of possible illicit discharges.	DWS Scheduled to be completed once during the permit cycle	100% of outfalls and point of discharges were inspected and evaluated following a period of 48-72 hours of dry weather.	Maintain dry weather screening inspection logs/reports.	Ann Arbor Public Schools

BMP	Description of BMP	Timeframe	Measurable Goal	Measure of Assessment	Responsible Party
BMP #2.3.10.4 Illicit Discharge Reporting	Eliminate illicit discharges and connections through reporting, routine storm sewer system inspections and dry weather screening inspections.	Ongoing Throughout Permit Cycle	Place “How to spot illicit discharge/ How to Report-Hotline Numbers” posters in Receiving Rooms at each Ann Arbor Public Schools facility. Goal is to have one poster at each facility.	Annually verify number of posters in place throughout the district.	Ann Arbor Public Schools
			Advertise reporting hotline on district webpage.	Track number of calls and document calls.	
BMP #2.3.10.5 Unauthorized Discharge/ Illicit Discharge Complaint Response	The district will immediately evaluate any potential unauthorized or suspected illicit discharge to the municipal separate storm sewer system (MS4) and perform any necessary notifications and reporting to the applicable agencies (i.e., EGLE, local drain commission, etc.) within the required time period(s). This procedure is outlined in Section 2.3.10 Polluting Materials Emergency and Spill Response Policy & Procedures.	Suspected discharges will be investigated within 24 hours. Ann Arbor Public Schools will ensure enforcement actions within 7 days.	100% of unauthorized or suspected illicit discharges evaluated (field observation, field screening, and source investigation) and eliminated.	Documentation of relevant field observations, field screening or source investigations.	Ann Arbor Public Schools
		Within 14 days of reported suspected discharge.			
BMP #2.3.10.6 Illicit Connections	Reroute, repair, or disconnect any illicit connections.	Within 60 days of identified illicit connection	Take steps to eliminate 100% of identified illicit connections.	Work order, receipt, or report detailing the illicit connection correction activities.	Ann Arbor Public Schools

BMP	Description of BMP	Timeframe	Measurable Goal	Measure of Assessment	Responsible Party
BMP #2.3.10.7 Illicit Discharge Elimination Training	Train staff on the identification and reporting of illicit discharges or improper connections and the cleanup/notification procedures for spills of polluting materials.	Once per permit cycle or during the 1 st year of employment Throughout Permit Cycle	Goal of providing illicit discharge elimination training to all maintenance, transportation, custodial and skilled trade staff who work for Ann Arbor Public Schools. [All Stormwater Training is outlined in Section 3.0 Training]	Copy of sign in sheets.	Ann Arbor Public Schools
BMP #2.3.10.8 Notice of Intent to Discharge Tracer Dyes	Maintain approval from EGLE for authorization to discharge tracer dyes in surface waters per Rule 97 of the Michigan Water Quality Standards to conduct source investigations.	As needed Throughout Permit Cycle	EGLE approval to discharge tracer dyes.	Documentation of EGLE approval.	Ann Arbor Public Schools
BMP #2.3.10.9 IDEP program Performance & Effectiveness	Review performance measures to evaluate the effectiveness of the IDEP program. Items include posting of IDEP public education posters, number of outfalls/discharge points screened, number of illicit connections found, number of illicit connections eliminated, and the number and type of violations investigated.	Annually Throughout Permit Cycle	Annual review of SWMP IDEP program performed. Evaluate reduced illicit discharges, increase reporting, and evaluate dry weather screening data.	Maintain copy of SWMP annual review and evaluation information for progress reporting.	Ann Arbor Public Schools

2.4 Construction Site Stormwater Runoff Control Program

Ann Arbor Public Schools's goal is to establish procedures for construction stormwater runoff control to meet minimum measure requirements to the maximum extent practicable.

Construction refers to actions that result in a disturbance of the land, including clearing, grading, excavating, and other similar activities.

Construction-related activities are activities that support the construction project such as stockpiles, borrow areas, concrete truck washouts, fueling areas, material storage areas and equipment storage areas.

2.4.1 Construction Site Stormwater Management Program Objectives

- A. Outline the process for notifying the Part 91 Agency appropriate staff when soil or sediment is discharged to the MS4 from a construction activity, if required.
 - The procedure shall allow for the receipt and consideration of complaints or other information submitted by the public or identified internally as it relates to construction stormwater runoff control.
- B. Outline the procedure for when to notify the EGLE when soil, sediment, or other pollutants are discharged to the MS4.
 - Other pollutants may include pesticides, petroleum derivatives, construction chemicals, and solid wastes that may become mobilized when land surfaces are disturbed.
- C. The procedure for ensuring that construction activity that is one (1) acre or greater in total land disturbance obtains a Part 91 Permit from the appropriate Part 91 Agency.

2.4.2 Construction Notification Procedure

The EGLE certified construction stormwater operator conducting site inspections will normally detect any soil or sediment entering the MS4.

In the event an inspector identified a discharge during an inspection:

1. The inspector shall document all details of the soil erosion and sedimentation control for deficiencies and report to the Ann Arbor Public Schools Stormwater Manager (or designee) for correction.
2. The Ann Arbor Public Schools Stormwater Manager (or designee) is responsible for assessing any suspected or confirmed discharge and notifying the appropriate agency, if required.
3. Ann Arbor Public Schools will notify the local Part 91 agency and/or EGLE, if required, when significant runoff of soil, sediment, or other pollutants such as pesticides, petroleum derivatives, construction chemicals, or solid wastes from the construction site discharges to the MS4 or surface waters of the state within 24 hours of discovery, or as otherwise required by the issuing agency.

In the event of a public complaint:

Ann Arbor Public Schools will track the receipt of complaints submitted by the public or noted by staff during regular course of business of soil, sediment, or other pollutants such as pesticides, petroleum derivatives, construction chemicals, and solid wastes are being discharged into the MS4.

The tracking will include:

- Name of person providing the complaint.

- Location (address or nearest cross street).
- Description of follow up (e.g., date referred to the Part 91 enforcing agency).

2.4.3 Part 91 Permit

Ann Arbor Public Schools will ensure that any construction activity that results in a land disturbance that meets specific criteria will obtain a Part 91 Permit through the site plan review process with the appropriate county or municipal permitting agency. A Part 91 Permit is required if the project meets the following criteria:

- Greater than or equal to one (1) acre, or
- Disturb less than one (1) acre that is part of a common plan of development or sale which is greater than or equal to one (1) acre, or
- within 500 feet of a lake or stream.

2.4.4 Permit-by Rule Compliance

Ann Arbor Public Schools shall comply with the State of Michigan Permit by Rule (Rule 323.2190) for stormwater discharge from construction activity. Construction activities that disturb one (1) acre, or more of land with a point source discharge to the water of the waters of the state are required to obtain an NPDES permit from the EGLE Water Resources Division (WRD). Permit-by Rule is the process in which storm water coverage is automatically issued for required construction activities upon securing a SESC permit from the appropriate Part 91 recognized County Enforcing Agency (CEA), Municipal Enforcing Agency (MEA), or Authorized Public Agency (APA) under the authority of Part 91.

1. Construction sites with at least one (1) acre but less than five (5) acres of soil disturbance with a surface water discharge, must obtain a county or municipal SESC permit, and are required to follow the provisions of the Permit-by Rule, but do not need to notify EGLE of the construction activity.
2. Construction sites disturbing over five (5) acres with a point source discharge to the waters of the state must obtain a county or municipal SESC permit and submit a Notice of Coverage (NOC) and other pertinent documents and the appropriate fee to the EGLE.

Requirements of Permit-by Rule include, but are not limited to:

- Weekly site inspections conducted by a Certified Construction Stormwater Operator.
- Inspection within 24 hours of a precipitation event, which results in a discharge from the site by a Certified Construction Stormwater Operator.

2.4.5 Construction Site Stormwater Management – BMP Table

BMP	Description of BMP	Timeframe	Measurable Goal	Measure of Assessment	Responsible Party
BMP #2.4.5.1 Notification of Deposit during Inspection	Ann Arbor Public Schools will notify the local part 91 agencies or EGLE when runoff from the construction site discharges significant pollutants to the MS4 or surface waters of the state within 24 hours of discovery or as otherwise required by the issuing agency. The Ann Arbor Public Schools Stormwater Manager (or designee) is responsible for assessing any suspected or confirmed discharge and notifying the appropriate agency, if required. (Refer to section 2.4.2)	As necessary Throughout Permit Cycle	100% discharges identified and appropriate agencies notified. Control of potential system failure.	Documentation of Construction Stormwater Operator site inspection.	Ann Arbor Public Schools
	Track complaints submitted by the public or noted by staff during regular course of business of soil, sediment, or other pollutants such as pesticides, petroleum derivatives, construction chemicals, and solid wastes are being discharged into the MS4.			Documentation of public complaint (Name of person providing the complaint, location [address or nearest cross street] description of follow up [e.g., date referred to the Part 91 enforcing agency]).	Ann Arbor Public Schools
BMP #2.4.5.2 Part 91 Permit	Ann Arbor Public Schools will ensure that any construction activity that results in a land disturbance greater than or equal to one (1) acre, disturbs less than one (1) acre that is part of a common plan of development or sale which is great than or equal to 1 acre, or within 500 feet of a lake or stream will obtain a Part 91 Permit through the site plan review process.	As necessary Throughout Permit Cycle	100% of permits obtained.	Copy of permit and associated soil erosion and sedimentation control plans.	Ann Arbor Public Schools

BMP	Description of BMP	Timeframe	Measurable Goal	Measure of Assessment	Responsible Party
BMP #2.4.5.3 Permit by Rule	Construction sites between (1) acre but and five (5) acres of soil disturbance follow the provisions of the Permit by Rule, but do not need to notify EGLE of the construction activity.	As necessary Throughout Permit Cycle	Goal of 100% of weekly and precipitation event inspection completed by certified Construction Stormwater Operator.	Documentation of Construction Stormwater Operator site inspection.	Ann Arbor Public Schools
	Construction sites disturbing over five (5) acres with a point source discharge to the waters of the state must follow provisions of the Permit by Rule and submit a Notice of Coverage (NOC) and other pertinent documents and the appropriate fee to the EGLE.		100% NOC obtained, if applicable.	Copy of NOC, if applicable.	Ann Arbor Public Schools

2.5 Post Construction Stormwater Controls for New Developments & Redevelopments

Post-construction storm water runoff is the storm water that would flow from a project site to the Municipal Separate Storm Sewer System (MS4) after completion of a development or redevelopment project (not during the project).

A post-construction stormwater runoff program compliance assistance document is available via the internet at https://www.michigan.gov/documents/deq/wrd-storm-MS4-ComplianceAssistance_470350_7.pdf.

2.5.1 Post Construction Stormwater Management Program Objectives

The post-construction stormwater run-off controls are necessary to maintain or restore stable hydrology in receiving waters by limiting surface runoff rates and volumes and reducing pollutant loadings from sites that undergo development or significant redevelopment.

Projects that change the existing footprint (e.g., increase impervious surface) or offer new opportunities for storm water control (e.g., reconstruction to the subbase layer with a change in underdrainage) are considered redevelopment projects.

The objectives of this program and associated procedures are to:

- Develop and implement a regulatory mechanism to address post-construction stormwater runoff for new development and redevelopment projects, including preventing or minimizing water quality impacts.
- Develop and implement regulatory mechanisms for projects that disturb one or more acre, including projects less than an acre that are part of a larger common plan of development or sale and discharge into the applicants MS4.
- Ensure post-construction controls to minimize water quality impacts by following water quality treatment standards.
- Require that BMPs be designed on a site-specific basis to reduce post-development total suspended solids loading.
- Procedure to meet water quality treatment and channel protection standards of new development or redevelopment projects.
- Address “hot spots”.
- Require adequate long-term Operations and Maintenance of BMPs by ordinance or other regulatory means.

2.5.2 Post-Construction Policy and Procedure

The district has developed a “Stormwater Management - Post-Construction Policy & Procedure” to direct compliance with these requirements. The “Stormwater Management - Post-Construction Policy & Procedure” is located in Appendix B.

Development and redevelopment projects on district properties are regulated under and must comply with the Ann Arbor Public Schools individual NPDES permit for stormwater discharges, as issued by the Michigan Department of Environment, Great Lakes, and Energy (EGLE). The Stormwater Management Post-Construction Policy & Procedure has been developed to provide guidance regarding responsibilities and actions to meet the NPDES permit conditions for development and redevelopment projects on Ann Arbor Public Schools properties.

The post-construction plan for stormwater management on regulated sites **must** include:

- A minimum treatment volume standard to address water quality impacts.
- Channel protection criteria to address resource impairment resulting from flow volumes and rates.
- Review sites with known soil and/or groundwater contamination, including potential “hot spots” and evaluate the use of infiltration BMPs to meet water quality treatment and channel protection criteria to ensure that infiltration BMPs do not exacerbate existing conditions. Hot spots include areas with the potential for significant pollutant loading such as vehicle service and maintenance facilities, vehicle equipment cleaning facilities, fleet storage areas for buses, and outdoor liquid container storage.
- Drawings showing the location of stormwater control measures and the storm system.
- Details on the proposed stormwater control measures.
- Operation & Maintenance (O&M) requirements.
- Supporting information:
 - o Calculations used for designing all components of the stormwater management systems.
 - o Total suspended Solids (TSS) design removal rates and supporting manufacturer documentation, if applicable.
 - o Geotechnical report including soil boring and infiltration test data.

The project team [Architecture, Engineering & Construction, Other Project Manager, Project Developer and/or Contractors] shall develop the post-construction plan for stormwater management in accordance with this guideline and the NPDES permit.

Ann Arbor Public Schools has developed and passed a Resolution in Support of the Stormwater Management Plan in January 2026 as the regulatory mechanism to direct compliance with these requirements. In addition to the Resolution, the following sections identify specific actions to be taken by Ann Arbor Public Schools to ensure compliance with the applicable standards. A copy of the Ann Arbor Public Schools Resolution in Support of the Stormwater Management Plan is provided in Appendix B.

The Stormwater Program Manager or designee will administer and enforce the stormwater management program, including maintaining procedures, guidance, information, etc. to aid district staff and contractors in complying with the post-construction requirements for stormwater management.

2.5.3 Water Quality Treatment Standard

Ann Arbor Public Schools goal is to include water quality treatment volume standards for each new construction or redevelopment project where the area of development or redevelopment exceeds one (1) acre. One or more of the following treatment standards will be included as part:

- 1) Treat the first one inch of runoff from the entire site, or
- 2) Treat the runoff generated from ninety percent (90%) of all runoff-producing storms for the project site.

The source of the rainfall data for the water quality treatment standard of requiring the treatment of the runoff generated from the ninety percent (90%) of all runoff-producing storms is:

- The EGLE memo dated March 24, 2006, which is available via the internet at http://www.michigan.gov/documents/deq/wrd-hsu-ninety-percent_557709_7.pdf

Treatment methods should be designed on a site-specific basis to achieve the following:

1. A minimum of eighty percent (80%) removal of total suspended solids (TSS), as compared with uncontrolled runoff, or
2. Discharge concentrations of TSS not to exceed 80 milligrams per liter (80mg/L).

A minimum treatment volume standard is not required where site conditions are such that TSS concentrations in storm water discharges will not exceed 80mg/L.

Treatment methods shall be designed on a site-specific basis to reduce the discharge of sedimentation or TSS from the site. Such methods may include:

1. Standpipe filters in storm water detention basins
2. Sediment filter tanks
3. Catch basin sumps
4. Aqua-Swirls®
5. Treatment trains
6. Rain Gardens
7. Pervious pavement systems

2.5.4 Channel Protection Performance Standard

Ann Arbor Public Schools understands that channel protection criteria are necessary to maintain post-development stormwater runoff volumes and peak flow rates at or below existing levels for all storms up to the 2-year, 24-hour event. "Existing Levels" means the runoff volume and peak flow rate for the last land use prior to the planned new development or redevelopment. More restrictive channel protection criteria may be utilized on a case-by-case basis, as appropriate.

Rainfall Data

The rainfall data for calculating runoff volume and peak flow rate shall be the Rainfall Frequency Atlas of the Midwest, 1992 [National Oceanic & Atmospheric Administration (NOAA) - Huff & Angel].

There may be instances where site conditions (e.g., space limitations or tight soils that prevent infiltration) challenge or prohibit feasibility of maintaining the project site's pre-development runoff levels for all storms up to the 2-year, 24-hour event. The district shall consider off-site mitigation (Section 2.5.5) or increase the required detention volume by up to an additional 20%. To manage that portion of proposed runoff that is not managed through infiltration or other upline BMPs, detention basins will be designed to capture and treat up to a 100-year recurrence interval storm event. Retention basins with no outlet will be capable of storing two consecutive 100-year recurrence interval storms.

2.5.5 Off-Site Mitigation for Redevelopment Projects

Ann Arbor Public Schools shall seek alternative compliance where unable to fully implement stormwater controls on-site due to poor site conditions.

- **Off-site mitigation** refers to BMPs implemented at a location different from the original project site.
- **Watershed** refers to the area represented by a 10-digit Hydrologic Unit Code.
- **Sewershed** refers to the area where stormwater is conveyed by an MS4 to a common outfall or point of discharge.

Off-site mitigation requires that off-site location be located within the same jurisdiction and watershed/sewershed as the original project. The highest preference shall be given to locations that yield benefits to the same receiving water that received runoff from the original site.

The following criteria will be considered when determining the physical constraints of the project site:

- Limited size of the lot outside of the building footprint to create the necessary infiltration capacity even with amended soils. The district shall consider small BMPs spread across the entire site rather than on large BMP prior to offsite mitigation.
- Soil instability as documented by a thorough geotechnical analysis.
- A site use that is inconsistent with capture and reuse of storm water.
- The potential water quality impact from the original project site and the benefits realized at the off-site location. For example, the water quality impact from a site with a discharge to a small-sized stream would be greater than a site on a larger river and an offset downstream of the project site may provide less water quality benefit.

A second set of infeasibility criteria include:

- Poorly draining soils
- Bedrock
- High groundwater, or the potential of mounded groundwater to impair other uses
- Stormwater hot spots (includes Part 201 and Part 213 sites, and areas of soil or groundwater contamination)

The project team [Architecture, Engineering & Construction, Project Manager, Project Developer, and/or Contractors] will develop the off-site stormwater mitigation plan in accordance with this SWMP and the Ann Arbor Public Schools MS4 NPDES permit. The District's Resolution in Support of the Stormwater Management Plan serves as the regulatory mechanism ensuring compliance.

The Stormwater Program Manager or designee will review and document all applicable off-site mitigation projects to verify that they meet the requirements outlined in Section 2.5.5. This review will include confirming that each project aligns with approved mitigation strategies, satisfies the necessary design and performance standards, and provides the required pollutant-reduction benefits. Documentation of these findings will be maintained as part of the District's compliance records.

When site conditions enable the district to retain at least the volume of stormwater associated with a 0.4 inch rain event, remaining off-site compliance will be provided at a 1:1.5 ratio. When this minimum cannot be met onsite, a 1:2 ratio applies.

2.5.6 Site-Specific Requirements

Because each site has its own special circumstances and conditions, the following BMPs will be considered as appropriate according to site conditions:

- Reduce runoff from the site to greatest extent possible (provide holding basins, divert water through grassed swales).
- Prevent spills and discharges.
- Control waste such as building materials, concrete washout, chemicals, litter, and sanitary waste.
- Phasing will be considered to limit amount of exposed soils.

- Interim soils stabilization methods are to be considered (temporary seeding, mulching etc.).
- Buffer preservation (avoid exposing soils to property limits).
- Inspection staff will be trained in the proper maintenance and operation of Soil Erosion and Silt Prevention measures.

Construction plans will be reviewed for sites with known soil and/or groundwater contamination, including potential “hot spots” and evaluate the use of infiltration BMPs to meet water quality treatment and channel protection criteria to ensure that infiltration BMPs do not exacerbate existing conditions. Hot spots include areas with the potential for significant pollutant loading such as vehicle service and maintenance facilities, vehicle equipment cleaning facilities, fleet storage areas for buses, and outdoor liquid container storage.

Additional water quality standards or pretreatment measures may be required in addition to those included in the water quality criteria in order to remove potential pollutant loadings from entering either groundwater or surface water systems.

Pretreatment measures include:

Stormwater Hot Spots	Minimum Pre-Treatment Options
Vehicle service and maintenance facilities	<ol style="list-style-type: none"> 1. Oil/Water Separators/Hydrodynamic Devices 2. Use of Drip Pans and/or Dry Sweep Material under Vehicles/Equipment 3. Use of Absorbent Devices to Reduce Liquid Releases 4. Spill Prevention Response Program
Fleet storage areas for buses	BMPs that are part of a Stormwater Pollution Prevention Plan (SWPPP)
Vehicle Fueling Stations	<ol style="list-style-type: none"> 1. Oil/Water Separators/Hydrodynamic Devices 2. Water Quality Inserts for Inlets 3. Spill Prevention Response Program
Vehicle equipment cleaning facilities	BMPs that are part of a Stormwater Pollution Prevention Plan (SWPPP)
Outdoor liquid container storage	Spill Prevention Response Program

2.5.7 Site Plan Review

This policy is to establish a requirement to submit a site plan for review as required by the EGLE NPDES Stormwater Discharge Permit and ensure that water quality objectives, erosion and sediment control requirements, and BMP maintenance are considered to the maximum extent practicable.

Ann Arbor Public Schools shall evaluate proposed construction activities to determine:

- If the activity meets the criteria of a development or redevelopment project with an earth disturbance greater than or equal to 1 acre, or part of a common plan of development resulting in a development or redevelopment activity greater than or equal to 1 acre in size.

- Does the development or redevelopment project discharge to the waters of the state, or to a county, city, or township MS4.

If the development or redevelopment project discharges directly to waters of the state, Ann Arbor Public Schools shall comply with the post-construction standards outlined in this SWMP.

If the development or redevelopment project discharges to a regulated county, city, or township MS4, Ann Arbor Public Schools shall submit the site plan for review and approval. Site plan approval by the county, city, or township of an equivalent post-construction standard ensures acceptable compliance with the Ann Arbor Public Schools NPDES MS4 Stormwater Discharge Permit. Ann Arbor Public Schools shall obtain and maintain a copy of the site plan approval document.

If the development or redevelopment project discharges to a county, city, or township MS4 that is not regulated or requires site plan review, Ann Arbor Public Schools shall comply with the post-construction standards outlined in this SWMP.

2.5.8 Long-Term Operation & Maintenance of Stormwater Controls

Ongoing operation and maintenance of the stormwater BMPs is a critical component of the Stormwater Management Plan. All structural and vegetative stormwater control measures installed as a requirement under this section of the permit shall include guidance for maintaining maximum design performance through long-term operation and maintenance.

- Update and revise the stormwater structural controls on facility site diagrams as identified during scheduled inspections or within 30 days following the completion of a new facility or reconstruction/redevelopment site project.
- Follow long-term guidance for inspection and operation to maintain maximum design performance.
- Stormwater runoff facilities shall be maintained in good condition, in accordance with the approved storm water plan.

Trained staff or certified contractors will conduct routine inspection of all identified structural controls and complete maintenance, repair, or replacement, as necessary.

2.5.9 Post Construction Stormwater Management – BMP Table

BMP	Description of BMP	Timeframe	Measurable Goal	Measure of Assessment	Responsible Party
BMP #2.5.9.1 Regulatory Mechanism	Develop and implement regulatory mechanisms to address post-construction stormwater runoff for new development and redevelopment projects, including preventing or minimizing water quality impact.	Post-Construction Policy & Procedure Developed and Resolution in Support of the SWMP approved in 2026	Post-Construction Policy & Procedure developed and Resolution in Support of the SWMP reviewed and approved by the Superintendent of AnAPS Schools.	Copy of the Post-Construction Policy and Procedure and the Approved Resolution in Support of the SWMP.	Ann Arbor Public Schools
	Develop and implement regulatory mechanisms for projects that disturb one or more acre, including projects less than an acre that are part of a larger common plan of development or sale and discharge into the applicants MS4.				
BMP #2.5.9.2 Post Construction Standards	Ensure post-construction channel protection standards and water quality treatment standards are met.	As necessary Throughout Permit Cycle	All development or redevelopment projects meet water quality and channel protection standards outlined in the districts SWMP or meet an equivalent post-construction standard for the township, city, or county.	Copy of calculations demonstrating channel protection standards and water quality treatment standards are met.	Ann Arbor Public Schools
BMP #2.5.9.3 Off-Site Mitigation	Ann Arbor Public Schools shall seek alternative compliance where unable to fully implement stormwater controls on-site due to poor site conditions.	Off-site mitigation projects completed within 24 months after the start of the original project site construction.	All development or redevelopment projects implementing off-site mitigation will be reviewed and documented to confirm they meet the requirements outlined in Section 2.5.5. Documentation will be maintained as part of the District's compliance record.	Copy of the applicable reviews for projects implementing off-site mitigation.	Ann Arbor Public Schools

BMP	Description of BMP	Timeframe	Measurable Goal	Measure of Assessment	Responsible Party
BMP #2.5.9.4 Site Specific	Ann Arbor Public Schools will review construction plans for sites with known soil and/or groundwater contamination, including potential “hot spots” and evaluate the use of infiltration BMPs to meet water quality treatment and channel protection criteria.	As necessary Throughout Permit Cycle	Reduce or eliminate discharge of pollutants during construction on contaminated sites.	Documentation of additional stormwater controls.	Ann Arbor Public Schools
BMP #2.5.9.5 Site Plan Review	Prepare and submit a written application, including site plan for construction of storm water management systems for all new construction or redevelopment projects where the area of development or redevelopment exceeds one (1) acre.	As necessary Throughout Permit Cycle	If the development or redevelopment project discharges to a regulated county, city, or township MS4, the district shall submit the site plan for review and approval. Site plan approval by the county, city, or township of an equivalent post-construction standard ensures acceptable compliance with the districts NPDES MS4 Stormwater Discharge Permit.	Obtain and maintain a copy of the site plan approval document and copy of calculations.	Ann Arbor Public Schools
			<p>If the development or redevelopment project discharges directly to the waters of the state, the district shall comply with the post-construction standards outlined in this SWMP.</p> <p>If the development or redevelopment project discharges to a county, city, or township MS4 that is not regulated or requires site plan review, Ann Arbor Public Schools shall comply with the post-construction standards outlined in this SWMP.</p>	Copy of calculations that demonstrate channel protection standards and water quality treatment standards are met.	Ann Arbor Public Schools

BMP	Description of BMP	Timeframe	Measurable Goal	Measure of Assessment	Responsible Party
BMP #2.5.9.6 Long-Term Operation & Maintenance of Stormwater Controls	All structural and vegetative stormwater control measures installed as a requirement under this section of the permit shall include guidance for maintaining maximum design performance through long-term operation and maintenance.	<p>Within 30 days following the completion of a new facility or reconstruction/redevelopment site project.</p> <p>Throughout Permit Cycle</p>	<p>Follow long-term guidance for inspection and operation to maintain maximum design performance.</p> <p>Stormwater runoff facilities shall be maintained in good condition, in accordance with the approved storm water plan.</p>	All storm sewer site maps updated. Maintain all inspection, maintenance, and repair reports conducted by staff or contractors.	Ann Arbor Public Schools

2.6 Pollution Prevention & Good Housekeeping Program

Develop, implement, and ensure compliance through a program of operation & maintenance of BMPs, with the ultimate goal of preventing or reducing pollutant runoff to the maximum extent practicable from operation that discharge stormwater to surface waters of the state.

2.6.1 Pollution Prevention & Good Housekeeping Program Objectives

- a. Maintain an up-to-date inventory of owned facilities and stormwater structural controls.
- b. Procedure for updating and revising inventory of stormwater structural controls.
- c. Procedure for assessing each facility for the potential to discharge pollutants.
- d. Develop an SOP (SWPPP) for all facilities with a high potential for pollutant runoff.
- e. Procedure identifying BMPs currently implemented or to be implemented to prevent or reduce pollutant runoff at each facility with medium and lower potential to discharge.
- f. Procedure for prioritizing of catch basins/manholes for maintenance and cleaning.
- g. Schedule for routine catch basin/manhole inspection, maintenance, and cleaning.
- h. Provide the geographic location of stormwater structures.
- i. Procedure for dewatering, storage and disposal of materials extracted from storm sewer cleaning.
- j. Procedure for inspecting and maintaining storm water controls.
- k. Procedure for new structural controls to be designed and implemented in accordance with post-construction stormwater runoff control performance standards.
- l. Best management practices for operation and maintenance activities.
- m. Procedure for street sweeping.
- n. Procedure for pesticide application.
- o. Training.
- p. Contractor requirements and oversight.

It is the ultimate goal of Ann Arbor Public Schools to prevent and reduce pollutant/contaminant runoff from Ann Arbor Public Schools facilities to the maximum extent practicable. All BMPs are implemented at all low, medium, and high priority facilities.

2.6.2 Structural Control Inventory & Schedule Table

No prioritization will be needed, as all structures are to be inspected and maintained equally. All structural controls will have routine inspection, maintenance schedules, and long-term procedures which adequately control, to the maximum extent practicable, pollution removal and control. Structural control effectiveness will be determined based on the results of these inspections and repaired, upgraded, or replaced as indicated.

The structural Control Inventory and Schedule Table for each property are in Appendix F.

2.6.3 Facility Assessment & Prioritization

Ann Arbor Public Schools has identified all applicant owned facilities with a discharge of stormwater to surface waters of the state, and during mapping of each facility, inventoried the number of stormwater structural controls (i.e., catch basins, detention basins, etc.) at each site. Each location was assessed to determine high, medium, and low potential to discharge pollutants to surface waters of the state.

Ann Arbor Public Schools considered the following when assessing each facility:

- Presence of urban pollutants stored at the site (i.e., sediment, nutrients, metals, hydrocarbons, pesticides, fertilizers, herbicides, chlorides, trash, bacteria, or other site-specific pollutants,
- Identification of improperly stored materials,
- Potential for polluting activities to be conducted outside (i.e., vehicle washing),
- Proximity to water bodies,
- Poor housekeeping practices,
- Discharge of pollutants of concern to impaired waters.

For facilities that have a high potential to discharge pollutants to surface waters of the state, a Stormwater Pollution Prevention Plan (SWPPP) and Pollution Incident Prevention Plan (PIPP) for salt storage facilities will continue to be implemented, if applicable.

BMPs currently implemented by Ann Arbor Public Schools at facilities with medium and lower potential for the discharge of pollutants to surface waters of the state include:

1. Good housekeeping practices,
2. Employee training,
3. Routine visual inspections,
4. Spill prevention and response.

This inventory will be updated as facilities and structural stormwater controls are added, removed, or no longer owned or operated by the applicant following routine inspections or following new construction or redevelopment projects. Priority level assessments will be revised within 30 days following the completion of a new facility or reconstruction/redevelopment.

2.6.4 Storm Sewer Structure Controls Inspection & Maintenance Policy & Procedure

1. Develop a schedule for inspecting and maintaining catch basins and stormwater controls at each facility, for the reduction of pollutant runoff. A schedule is included in Appendix E.
2. Visually inspect all stormwater controls identified on facility maps. Inspection includes:
 - a. Structural integrity of the structure.
 - o Areas of significant cracking or sinkholes.
 - b. Sediment build-up.
 - o Areas with high amounts of build-up sediment. A build-up of accumulated solid material that is greater than or equal to the one-third guideline established by the EPA or between 30 and 40% of the total sump depth, as established by the EGLE⁴.
 - c. Color, odor, sheen, and flow.
 - d. Overall functionality and presence of erosion.
 - e. Pond evaluation.
3. Note inspection information on the inspection form. A copy of the inspection form “Structural BMP Table” is located in Appendix E.
4. When inspecting stormwater controls, review the site for non-structural BMPs currently implemented to prevent or reduce pollutant runoff at each facility. BMPs include:
 - a. Review of “No Dumping” stencils at storm drains.
 - b. Review of catch basins/manholes cleaned.

⁴ Michigan Department of Environment, Great Lakes, and Energy (EGLE) Catch Basin/Street Sweeping Management

- c. Dumpster good housekeeping practices.
 - d. Garden, green space and signage inventories.
 - e. "SEMOG" poster placement at facilities.
 - f. "How to spot illicit discharge/ How to Report-Hotline Numbers" poster placement at facilities.
 - g. Spill kit availability at facilities.
5. Following the inspection, the stormwater controls will be prioritized for cleaning and maintenance in a timely manner. Prioritize locations based on the following:
 - Drainage structures that are designated as consistently generating the highest volumes of trash and/or debris.
 - Areas with high amounts of build-up sediment. Refer to number 2 (b) above.
 - Areas of significant erosion.
 - Areas of significant cracking or sinkholes.
6. Once the inspection is complete, the stormwater manager or designated person will review the report and determine if a work order or other item is needed to work with relevant departments or contractors to fix any problems.
7. If an illicit discharge is suspected, follow the procedure outlined in Section 2.3 Illicit Discharge Elimination Program.
8. Retain inspection forms for each stormwater structural control inspected.
9. Retain documentation regarding the scheduling or completion of the repair/maintenance if completed.
10. Debris and maintenance waste removed as part of the maintenance and/or repairs shall be disposed of in accordance with Section 2.6.5 Structural BMP Operation & Maintenance Waste Disposal procedures.

Furthermore, staff members conducting maintenance and grounds activities are provided IDEP and pollution prevention/good housekeeping training. All structural controls will have routine inspection, maintenance schedules, and long-term procedures which adequately control, to the maximum extent practicable, pollution removal and control. Structural control effectiveness will be determined based on the results of these inspections and repaired, upgraded, or replaced as indicated. This procedure will be reviewed on an annual basis and updated as needed or 30 days following the implementation of a new stormwater structural control.

2.6.5 Structural BMP Operation & Maintenance Waste Disposal Procedures

Waste materials generated from operation, maintenance, and cleaning activities associated with storm sewer systems have typically been discharged back into the storm sewer system. This type of discharge is unauthorized per Part 31, Water Resources Protection (Part 31) of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA) and is therefore illegal. The combined solid and liquid waste stream (solid/liquid waste) from cleaning storm sewer systems is legally defined as "Liquid Industrial By-products" pursuant to Part 121, Liquid Industrial By-products (Part 121) of NREPA.

Ann Arbor Public Schools will ensure that all waste materials generated during operation and maintenance of structural stormwater controls are properly characterized, transported, and disposed of as required under State of Michigan PA 451 Part 111 (hazardous wastes), Part 121 (liquid industrial by-products), and Part 115 (solid wastes). At minimum, the following procedures will be implemented for waste generated from cleaning or maintaining storm sewer structural controls.

Waste Disposal Methods for Non-Contaminated Materials

Non-contaminated waste materials generated during cleaning or maintenance of storm sewer structures will be properly disposed using one of the following methods:

1. Have the waste transported to drying beds to separate the solid/liquid waste. This is usually performed at a publicly owned treatment plant or at a privately-owned permitted facility where the liquid portion of the waste stream is separated from the solids and treated prior to discharge. Once dry, the solids should be disposed of in a licensed solid waste landfill in accordance with Part 115 of PA 451 (NREPA).
2. Request permission from the local wastewater treatment plant operator to discharge the combined solid/liquid waste into the sanitary system. Most treatment plants will require pre-treatment prior to discharge. All applicable local ordinance provisions must be followed.
3. When conducting catch basin maintenance activities where the above options are not available, the following methods can be used after the water in the sump is confirmed to be non-contaminated:
 - Conduct visual inspection to ensure the water in the sump has not been contaminated. If necessary, collect a grab sample of the water and look for signs of contamination such as visible sheen, discoloration, obvious odor, etc. If contamination is expected based on visual inspection, a grab sample should be collected and analyzed before handling the materials and generating waste. While waiting for sample analysis, efforts should be taken to prevent stormwater from entering the storm sewer system.
 - Using a sump pump, or any other pumping mechanism, remove the majority of water in the sump of the basin without disturbing the solid material below. Do not use pumps connected to the vacuum truck's holding tank.
 - The clear water may then be directly discharged to one of the following:
 - Municipal sanitary sewer system (with prior approval from local sewer authority).
 - Application to the ground adjacent to the catch basin may be allowed on a site-specific basis. The EGLE Water Resources Division (WRD) Groundwater Discharge Program would need to be contacted to determine if application to the ground adjacent to the catch basin would be allowed and to complete the necessary requirements for that process.
 - The remaining liquid/solid in the sump will be collected with a vacuum truck and disposed of off-site in accordance with Part 115 of PA451 (NREPA) or treated as Liquid Industrial By-Products under Part 121.

Ann Arbor Public Schools does not currently own or operate storm sewer cleaning or transportation equipment. Ann Arbor Public Schools is responsible for meeting the liquid industrial by-products generator requirements under Part 121, even if the catch basins are cleaned out by a private contractor. If Ann Arbor Public Schools contracts with a private contractor to transport liquids generated from cleaning of catch basins or other structures, that contractor must be registered and permitted to transport liquid industrial by-products under the provisions of the Hazardous Materials Transportation Act, 1998 PA 138, as amended.

Waste Disposal Methods for Contaminated Materials

Waste materials generated during operation and maintenance of storm sewer systems found or suspected to be contaminated with pollutants or hazardous substances will be characterized, packaged, marked, labeled, stored, transported, and disposed as a liquid industrial by-product under Part 121 or Part 115 of PA 451 (NREPA).

2.6.6 Pollution Prevention/Good Housekeeping – Municipal Operations & Maintenance Activities

Ann Arbor Public Schools recognizes the importance of reducing pollutant runoff from maintenance activities. The following procedure will include an assessment of the potential activities for the potential to discharge pollutants. The assessment shall identify the pollutants that could be discharged from the applicable operation and maintenance activity and the BMPs implemented or to be implemented to prevent or reduce pollutant runoff.

PROCEDURE

Applicable operations and maintenance activities include parking lot and sidewalk maintenance, cold weather operations, vehicle washing, maintenance of vehicles, land disturbance, and landscaping. Bridge maintenance, right-of-way maintenance, and unpaved road maintenance do not apply to Ann Arbor Public Schools.

Roadways/Parking Lots

Maintenance: Pothole, sidewalk, curb, and gutter repair.

Possible Pollutants: Fuel, oil, sediment, concrete.

BMPs to address Pollutants:

1. Contractors and in-house staff contracted to complete these jobs are informed of stormwater management practices to reduce pollution in stormwater.
2. Avoid mixing excess amounts of fresh concrete or cement.
3. Never dispose of washout into the street, storm drains, ditches, or creeks.
4. Stencil storm drains to prevent disposal of wash water.
5. Schedule patching, resurfacing and surface sealing during dry weather.
6. If it rains unexpectedly, take appropriate action to prevent pollution of stormwater runoff (e.g., divert runoff around work areas, cover materials).
7. Maintain pollution prevention/good housekeeping practices, which is to remove stockpiles (asphalt materials, sand, etc.) by the end of the day to a covered location. Alternatively, cover the piles if they cannot be moved.

Process for updating assessment: Contractor or project is assessed on an ongoing basis, and problems are addressed when found.

Cold Weather Operations

Maintenance: Plowing, sanding, deicing, snow pile disposal.

Possible Pollutants: Sodium, magnesium, calcium, potassium, chloride, turbidity.

BMPs to address Pollutants:

1. Keep all deicing material covered or in waterproof containers.
2. Prevent deicer drainage to storm sewers.
3. Mechanical removal of as much snow or ice as possible prior to applying deicing chemicals.
4. Proper salt storage management.
5. Maintain application equipment per manufacturer's recommendations.

Process for updating assessment: BMPs will be assessed for effectiveness within 30 days following their addition or removal.

A Pollution Incident Prevention Plan (PIPP) has been implemented for the salt storage at the Pioneer High School Maintenance Facility. The PIPP is reviewed every three (3) years.

Vehicle Washing

Maintenance: Washing of buses, staff vehicles and maintenance equipment.

Possible Pollutants: Petroleum based wastes, metals, and nutrients.

BMPs to address Pollutants:

1. All vehicle washing and maintenance is to be performed indoors where drains connecting to the sanitary system can receive all waste. The district has an interior bus wash on site.
2. Alternatively, vehicle washing can be performed at a commercial auto wash facility.
3. Alternatively, rinse grass from lawn care equipment on permeable (grassed) areas.
4. School car wash fundraising events will not be permitted on school grounds.

Process for updating assessment: BMPs will be assessed for effectiveness within 30 days following their addition or removal.

Vehicle Maintenance

Possible Pollutants: Petroleum based wastes, metals, and nutrients.

BMPs to address Pollutants:

1. Oil-water separators will be inspected routinely and serviced as necessary to maintain efficiency.
2. All vehicle or equipment maintenance will take place inside or away from storm drains where drains connecting to the sanitary system can receive all waste.
3. Any floor drain suspected to drain to the stormwater system will be dye traced as needed
4. Recycle used motor oil, diesel oil, other vehicle fluids, and vehicle parts whenever possible.

Process for updating assessment: BMPs will be assessed for effectiveness within 30 days following their addition or removal.

Landscaping

Possible Pollutants: Wood chips, sediment, sand, and compost.

BMPs to address Pollutants:

1. Place temporary stockpiled material away from storm drains, and berm or cover stockpiles to prevent material releases into the storm drain. Alternatively, place stockpiles on permeable (grassed) areas.
2. Provide adequate buffer areas at stream banks.
3. Proper Storage, handling, and use of pesticides, herbicides, and fertilizers.

Process for updating assessment: BMPs will be assessed for effectiveness within 30 days following their addition or removal.

Land Disturbance

Possible Pollutants: Sediment runoff.

BMPs to address Pollutants:

1. Plan land clearing so soil is not exposed for long periods of time.
2. Place temporary stockpiled material away from storm drains, and berm or cover stockpiles to prevent material releases into the storm drain.
3. Protect against sediment flowing into drains.
4. Install sediment barriers.

Process for updating assessment: BMPs will be assessed for effectiveness within 30 days following their addition or removal.

ASSESSMENT

Pollution prevention inspections ensure that these BMPs are carried out properly. Any issues identified during the inspections will be reviewed and addressed by the Stormwater Manager.

2.6.7 Street Sweeping Procedure, Prioritization & Schedule

PRIORITIZATION

The EGLE Stormwater Discharge Permit requires a procedure for prioritizing owned streets, parking lots, and other impervious infrastructure for street sweeping based on the potential to discharge pollutants. Ann Arbor Public Schools evaluated each facility for the presence of the following factors:

- Potential for polluting activities to be conducted outside
- Proximity to water bodies
- Traffic volume
- Land use
- Absence of any factors

PROCEDURE

Ann Arbor Public Schools does not own or operate sweeping equipment. However, Ann Arbor Public Schools will be proactive and undertake the following activities to reduce the potential to discharge pollutants to surface waters of the state from parking lots and other impervious infrastructures.

1. Conduct seasonal efforts to remove leaves.
2. Inspect parking lot and street areas.
3. Conduct hand sweeping of debris to prevent accumulated waste in the spring and the fall.
4. Hand sweeping will not be completed when streets are wet, so dewatering of the collected debris will not be required.
5. Analyze sediment to determine if it is suspected of being contaminated with hazardous material prior to disposal. Sediment or materials determined to be non-hazardous will be bagged and disposed of in a licensed landfill. Sediment or materials determined to be hazardous waste will be disposed under Part 115 requirements.
6. Contract out street cleaning when appropriate.

This prioritization will be updated as facilities and structural stormwater controls are added, removed, or no longer owned or operated by the applicant following routine inspections, or as traffic volume, land use or sediment and trash accumulation increases.

PRIORITIZATION LEVELS & SCHEDULE

All low, medium, and high prioritized parking lots and streets are inspected on the same schedule in an effort to reduce pollutants.

Facility Name	Priority Level of Potential Discharge* (High, Med, Low)	Street Sweeping Schedule
Administration Building (Balas)	Low	Hand Sweeping, Spring and Fall
Abbot Elementary School	Low	Hand Sweeping, Spring and Fall

Facility Name	Priority Level of Potential Discharge* (High, Med, Low)	Street Sweeping Schedule
Allen Elementary School	Low	Hand Sweeping, Spring and Fall
Angell Elementary School	Low	Hand Sweeping, Spring and Fall
Ann Arbor Open @ Mack School	Low	Hand Sweeping, Spring and Fall
Ann Arbor STEAM @ Northside School	Low	Hand Sweeping, Spring and Fall
Bach Elementary School	Low	Hand Sweeping, Spring and Fall
Bryant Elementary School	Low	Hand Sweeping, Spring and Fall
Burns Park Elementary School	Low	Hand Sweeping, Spring and Fall
Carpenter Elementary School	Low	Hand Sweeping, Spring and Fall
Clague Middle School	Low	Hand Sweeping, Spring and Fall
Community High School	Low	Hand Sweeping, Spring and Fall
Dicken Elementary School	Low	Hand Sweeping, Spring and Fall
Eberwhite Elementary School	Low	Hand Sweeping, Spring and Fall
Earhart Building	Low	Hand Sweeping, Spring and Fall
Freeman School	Low	Hand Sweeping, Spring and Fall
Forsythe Middle School/ Wines Elementary School COMPLEX	Low	Hand Sweeping, Spring and Fall
Haisley Elementary School	Low	Hand Sweeping, Spring and Fall
Huron High School	Medium	Hand Sweeping, Spring and Fall

Facility Name	Priority Level of Potential Discharge* (High, Med, Low)	Street Sweeping Schedule
King Elementary School	Low	Hand Sweeping, Spring and Fall
Lakewood Elementary School	Low	Hand Sweeping, Spring and Fall
Lawton Elementary School	Low	Hand Sweeping, Spring and Fall
Logan Elementary School	Low	Hand Sweeping, Spring and Fall
Pathways To Success Academic Campus	Low	Hand Sweeping, Spring and Fall
Pattengill Elementary School	Low	Hand Sweeping, Spring and Fall
Pioneer High School	High	Hand Sweeping, Spring and Fall
Pittsfield Elementary School	Low	Hand Sweeping, Spring and Fall
Scarlett Middle School/ Mitchell Elementary School COMPLEX	Low	Hand Sweeping, Spring and Fall
Skyline High School	Medium	Hand Sweeping, Spring and Fall
Slauson Middle School	Low	Hand Sweeping, Spring and Fall
Tappan Middle School	Low	Hand Sweeping, Spring and Fall
Thurston Elementary School	Low	Hand Sweeping, Spring and Fall
Transportation Facility	High	Monthly Inspections, Hand Sweep as Needed
Westerman Preschool and Family Center	Low	Hand Sweeping, Spring and Fall
Parcel #1	NA	NA

*If required, following inspections indicating higher traffic volume, land use or sediment and trash accumulation at all low, medium, and high prioritized parking lots and streets, the District shall contract a commercial street sweeping company.

DISPOSAL

If a commercial street sweeper is contracted to clean a parking lot and street areas for Ann Arbor Public Schools, the street sweeping activities are subject to the solid waste requirements. Solid waste must be managed under Part 115 requirements. Dispose of solid waste in a licensed landfill. The contractor hired to do the street sweeping is responsible for the proper disposal of the waste material. The contracted sweeping will not be completed when streets are wet, so dewatering of the collected debris will not be required.

2.6.8 Managing Vegetated Properties

Ann Arbor Public Schools has established this procedure to prevent or reduce pollutant runoff from vegetated land:

1. Ann Arbor Public Schools requires all contracted personnel who participate in the application of pesticides, to be trained and licensed by the State of Michigan under the Commercial Pesticide Application Certification Program for relevant categories as applicable, to prevent or reduce pollutant runoff from vegetated land.
2. Whenever practicable, an integrated pest management technique will be implemented.

2.6.9 Contractor Requirements & Oversight

Ann Arbor Public Schools requires contractors to comply with pollution prevention and good housekeeping BMPs.

Prior to conducting work, contractors shall be provided a “Contractor Stormwater Acknowledgement” form. This will allow the district to review stormwater compliance with contractors hired to perform municipal operation and maintenance activities and to obtain signatures. The “Contractor Stormwater Acknowledgement” form is located in Appendix G.

2.6.10 Pollution Prevention/Good House Keeping Training

A training program is an important component to effective pollution prevention. Training is required for all employees whose job responsibilities involve municipal or maintenance activities. Training is discussed in detail in Section 3.0 of this SWMP.

2.6.11 Pollution Prevention/Good Housekeeping (PPGH) – BMP Table

BMP	Description of BMP	Timeframe	Measurable Goal	Measure of Assessment	Responsible Party
BMP #2.6.11.1 Structural Control Inventory	Provide an up-to-date inventory of the number of stormwater structural controls for each facility's (i.e., catch basins, detention ponds). Update facilities potential to discharge pollutants (high, medium, low) following the update.	Updated as needed or within 30 days following the completion of a new facility or development/ redevelopment. Ongoing Throughout Permit Cycle	100% of stormwater structural controls are inventoried.	Maintain list of inventories and potential to discharge priority level. Submit updated list with progress report, noting if priority levels have changed.	Ann Arbor Public Schools
BMP #2.6.11.2 SWPPP development & implementation (SOP)	Develop a "Stormwater Pollution Prevention Plan (SWPPP)" for maintenance, transportation, and storage facilities/Implement policies & procedures.	Developed & Implemented Ongoing Throughout Permit Cycle	SWPPP completed and 100% of inspections implemented.	Copy of SWPPP and copy of inspections.	Ann Arbor Public Schools
BMP #2.6.11.3 Stormwater Structural Control Inspections	Visually inspect stormwater controls identified on facility maps.	Triennially Throughout Permit Cycle	Routine schedule implemented and inspections reviewed by stormwater manager.	Maintain inspection forms/reports.	Ann Arbor Public Schools
BMP #2.6.11.4 Review for BMP's Implemented	While inspecting stormwater controls, review the site for BMPs currently implemented to prevent or reduce pollutant runoff at each facility, such as storm drain stencils, garden areas, areas cleaned, areas repaired, SEMCOG poster placement, Illicit discharge education posters, and spill kits.	Triennially Throughout Permit Cycle	Routine inspections completed and reviewed by stormwater manager.	Documentation of inspection findings (number of posters, number of spill kits, inventory of gardens, pictures of stencils, pictures of spill kits).	Ann Arbor Public Schools

BMP	Description of BMP	Timeframe	Measurable Goal	Measure of Assessment	Responsible Party
BMP #2.6.11.5 Prioritization of Storm Sewer Locations for Maintenance & Cleaning	Following the inspection, the stormwater controls will be prioritized for cleaning and maintenance. Prioritize locations based on: (1) drainage structures that are designated as consistently generating the highest volumes of trash and/or debris, (2) areas with high amounts of build-up sediment, (3) areas of significant cracking or sinkholes.	Annually Throughout Permit Cycle	Prioritization locations identified.	Copy of prioritization.	Ann Arbor Public Schools
BMP #2.6.11.6 Cleaning & Maintenance (Catch Basin/ Manhole Cleaning)	Ann Arbor Public Schools will ensure that cleaning of the catch basins/manholes occur, and all waste materials generated during operation and maintenance of structural stormwater controls are properly characterized, transported, and disposed as required under State of Michigan PA 451 Part 111 (hazardous wastes), Part 121 (Liquid Industrial By-Products), and Part 115 (solid wastes).	Once per permit cycle Or More often if prioritized due to a build-up of accumulated solid material that is greater than or equal to the one-third guideline outlined in the Storm Sewer Structure Controls Inspection & Maintenance Policy & Procedure	Cleaning is completed once per permit cycle or more often if build-up of accumulated solid material reaches the action level per the procedure in section 2.6.4. All waste disposed of as required.	Copies of Waste Manifests.	Ann Arbor Public Schools
BMP #2.6.11.7 Roadways & Parking Lots	Storm drains stenciled to prevent disposal of wash water into storm drains.	As needed Throughout Permit Cycle	Storm drain stencils inspected and maintained as needed.	Copy of work order. Photos of stenciling.	Ann Arbor Public Schools

BMP	Description of BMP	Timeframe	Measurable Goal	Measure of Assessment	Responsible Party
BMP #2.6.11.8 Cold Weather Operations	Proper salt storage management. Maintain storage bags/equipment in good working condition and maintain application equipment per manufacturer's recommendations.	Ongoing Throughout Permit Cycle	Continue proper salt storage and management as previously implemented.	Copy of SWPPP comprehensive inspection report.	Ann Arbor Public Schools
BMP #2.6.11.9 Vehicle Washing	All vehicle washing and maintenance is to be performed indoors where drains connecting to the sanitary system can receive all waste. Alternatively, vehicle washing can be performed at a commercial auto wash facility.	Ongoing Throughout Permit Cycle	100 % of applicable staff trained on where to wash vehicles.	Copy of sign-in sheets and Agenda (if available).	Ann Arbor Public Schools
	Alternatively, rinse grass from lawn care equipment on permeable (grassed) areas.		100 % of applicable staff trained on where to wash vehicles.	Copy of sign-in sheets and Agenda (if available).	
	School car wash fundraising events will not be permitted on school grounds.		Notice sent to staff regarding policy.	Copy of e-mail or policy.	
BMP #2.6.11.10 Vehicle Maintenance	Any floor drain suspected to drain to the stormwater system will be dye traced as needed.	Throughout Permit Cycle	100% of floor drains inspected.	Copy of inspection report, as needed.	Ann Arbor Public Schools
	Oil-water separators will be inspected routinely and serviced as necessary to maintain efficiency.	Annually Throughout Permit Cycle	Oil-water separators cleaned and functioning properly.	Copy of invoices or shipping papers.	
	Recycle used motor oil, diesel oil, other vehicle fluids, and vehicle parts whenever possible.	As needed Throughout Permit Cycle	Reduction in amount of disposed material and amount of material shipped for off-site disposal.	Copy of invoices or shipping papers.	

BMP	Description of BMP	Timeframe	Measurable Goal	Measure of Assessment	Responsible Party
BMP #2.6.11.11 Land Disturbance	Place temporary stockpiled material away from storm drains, and berm or cover stockpiles to prevent material releases into the storm drain. Protect against sediment flowing into drains.	As needed Throughout Permit Cycle	100 % of applicable staff trained.	Copy of sign-in sheets and Agenda (if available).	Ann Arbor Public Schools
BMP #2.6.11.12 Street Sweeping	Conduct hand sweeping in the parking lots/roadways in the spring and fall.	Spring & Fall Throughout Permit Cycle	Hand sweep parking lots/roadways in the spring and fall	Copy of work order or schedule.	Ann Arbor Public Schools
	Street sweeping conducted by a professional sweeping company.	As needed Throughout Permit Cycle	If needed, following inspections indicating higher traffic volume, land use or sediment and trash accumulation, sweeping of parking lots and streets shall be contracted.	Copy of invoice or disposal documentation.	
BMP #2.6.11.13 Vegetated Properties (Pesticides)	Ann Arbor Public Schools requires that all personnel who participate in the application of pesticides will be trained and licensed by the State of Michigan under the Commercial Pesticide Application Certification Program for relevant categories as applicable, to prevent or reduce pollutant runoff from vegetated land.	Ongoing Throughout Permit Cycle	Application of pesticides will only be completed by trained and licensed applicators.	Documentation of in-house staff license or copy of contractor receipt.	Ann Arbor Public Schools

BMP	Description of BMP	Timeframe	Measurable Goal	Measure of Assessment	Responsible Party
BMP #2.6.11.14 Contractor Oversight	Ann Arbor Public Schools requires contractors to comply with pollution prevention and good housekeeping BMPs. Ann Arbor Public Schools will complete contractor notification, pre-project meeting and periodic inspections to provide oversight to ensure compliance.	As needed Throughout Permit Cycle	Contractors trained and informed of pollution prevention and good housekeeping techniques.	Copy of sign-in sheets, Contractor Acknowledgement Form, pre-project meeting notes, or inspections.	Ann Arbor Public Schools & Contractors/ Vendors
	Prior to conducting work, contractors shall be provided with a Contractor Acknowledgement Form.				
BMP #2.6.11.15 Training	Pollution prevention and good housekeeping training.	Once per permit cycle or during the 1 st year of employment Throughout Permit Cycle	Goal of providing training to maintenance staff who work for Ann Arbor Public Schools. [All Stormwater Training is outlined in Section 3.0 Training]	Copy of sign-in sheets and Agenda (if available).	Ann Arbor Public Schools
BMP #2.6.11.16 Pollution Prevention & Good Housekeeping Activities Effectiveness Review	Review performance measures to evaluate the effectiveness of the Pollution Prevention and Good Housekeeping (PPGH) program. Items include catch basin cleaning documentation, catch basin maintenance records, SWPPP inspections, street sweeping documentation, and training activities.	Annually Throughout Permit Cycle	Annual review of SWMP PPGH program performed and copies of those reviews maintained on file.	Maintain copy of SWMP annual review and evaluation information for progress reporting.	Ann Arbor Public Schools

3.0 Training

Ann Arbor Public Schools will provide education and training for applicable employees and contractors using a variety of methods depending on their specific job function. The training program is categorized in three (3) different types of training, which are summarized below:

General Awareness Training

General Awareness training is encouraged for teachers, administrative staff, and support staff. General Awareness training is provided in the form of an 11-minute video produced by Arch Environmental Group titled, **“When it Rains, It Drains...The Stormwater Question”**. This video is also available on the stormwater webpage.

Pollution Prevention & Good Housekeeping (PPGH) / Illicit Discharge Elimination Program (IDEP) Training and Reporting

Pollution Prevention & Good Housekeeping (PPGH) / Illicit Discharge Elimination Program (IDEP) training is required for all employees whose job responsibilities include activities that could cause or witness an illicit discharge. This training includes instructions on identification and notification of illicit discharges or connections. This training is provided to applicable in-house custodial, maintenance, transportation, and food service employees.

Contractor Oversight

Contractors employed by Ann Arbor Public Schools to conduct activities with a potential to impact water quality. Prior to conducting work, contractors shall be provided a “Contractor Stormwater Acknowledgement” form.

3.1 Training Table

BMP	Description	Measurable Goal	Target Audience	Timeframe
General Awareness Training	Encourage teachers, administrative and support staff to watch the General Awareness Stormwater Video "When it Rains it Drains".	Maintain on district website and Record attendance with sign-in sheets. Ann Arbor Public Schools will retain records of training for future review regarding SWMP.	Teachers, administrative and support staff.	Ongoing Throughout Permit Cycle
IDEP & PPGH Training	Pollution Prevention & Good Housekeeping, and Illicit Discharge Elimination Program	Record attendance with sign-in sheets for each training session. Ann Arbor Public Schools will retain records of trainings for future review regarding SWMP.	In-house custodial, maintenance, transportation, and food service employees.	Required once per permit cycle for current employees and during the 1 st year of employment for new employees. Throughout Permit Cycle
Contractor Oversight	Stormwater specific oversight for on-site contractors.	Utilize a "Contractor Stormwater Acknowledgement" form to review stormwater compliance with contractors hired to perform municipal operation and maintenance activities and to obtain signatures. Obtain records for future review of the SWMP.	Contractors employed by Ann Arbor Public Schools to conduct activities with a potential to impact water quality.	Required at the time of employment or prior to completing work with a potential to impact water quality. Throughout Permit Cycle

4.0 Total Maximum Daily Load (TMDL) Restrictions

Ann Arbor Public Schools has partnered with the Huron River Watershed Council (HRWC) and the Total Maximum Daily Load (TMDL) Implementation Plan for the Huron River Watershed MS4s in Washtenaw County. A copy of the Total Maximum Daily Load (TMDL) Implementation Plan for the Huron River Watershed MS4s in Washtenaw County is in Appendix “C”. The HRWC will complete the two (2) rounds of wet weather monitoring as part of this collaborative agreement.

Ann Arbor Public Schools will put forth effort and resources to reduce the sources of impairments related to the TMDLs Phosphorus, *E. coli*, and Aquatic biota.

4.1 What are TMDLs

When a lake or stream fails to meet federal water quality standards, the Clean Water Act requires that a “Total Maximum Daily Load (TMDL)” limit be developed. Studies are completed to determine the sources impacting the water body and to develop goals so that the water body can meet the applicable standards.

A TMDL describes the process used to determine how much of a particular pollutant a lake or stream can assimilate and sets pollution reduction targets for the water body.

4.2 Prioritizing and Implementation BMPs

The MS4s in the Middle Huron River Watershed have put forth substantial effort and significant resources to reduce the sources of impairments related to the TMDLs listed in the previous section. These partner organizations, along with non-MS4 entities, have developed a number of general and specific plans to address watershed impairments. These plans direct the current and future project and program priorities. The suite of projects and programs already established and in place contributed to significant impairment reduction, as evidenced by data collected through on-going monitoring. See the HRWC TMDL Implementation Plan for the Huron River Watershed MS4s in Washtenaw County in Appendix C details.

To comply with NPDES stormwater permit requirements, the above-listed MS4s submit that the suite of Best Management Practices (BMPs) contained in the tables below and attached represents each MS4’s initial project priorities that will be implemented to collectively make progress toward achieving each of the TMDL pollutant load reduction targets. The MS4s in the Middle Huron River Watershed believe the approach outlined herein best addresses the TMDLs based on 30 years of TMDL implementation experience, previous hotspot sampling efforts funded by EGLE/DEQ, and consistent data collection to document trends.

The attached table of BMPs identifies the targeted TMDL pollutants (i.e. phosphorus, sediments, or bacteria where relevant) and the priority of the BMP. In many cases, no additional prioritization is needed, because the activity is a general (G) stormwater treatment BMP and will be applied across the MS4 and watershed, and not specific to a particular drainage or impairment. For those BMPs that are area or pollutant specific, data from the monitoring program will be used to help establish priorities for implementation. In these cases, BMPs are classified as high (H), medium (M) or low (L) priority for each TMDL. The high priority BMPs will first be implemented in creeksheds or drainage areas that are determined (through monitoring) to be greater sources of the TMDL pollutant or impairment. Conversely, medium and low priority BMPs will be implemented in the TMDL-pollutant source areas after the high priority BMPs are implemented.

Portions of this prioritization are derived through monitoring and have already been accomplished. As such, specific projects or areas have been identified and prioritized for each impairment. Those specific priority projects are included in the table below. The table was originally developed for the Middle Huron River Watershed Management Plan, Section 2 (WMP). That plan is being used as a project planning tool and includes details about specific priority areas, including maps. Please see that plan for reference. Additional activities are identified in the WMP, but the ones below are high priorities, and descriptions following the table represent the collaborative commitments of Middle Huron MS4s.

4.3 Summary of Priority TMDL Implementation Strategy for Stormwater

Top Priority Activities			
Activity	Impairment / Source Reduced	Participating Organizations	Success Measures
1. Develop and implement Bioretention and Infiltration BMPs	All / Runoff	HRWC, Municipalities, UM, AAPS	Increased baseflow and reduced flow variability; reduced nutrient and bacteria concentrations and loading; monitoring
2. Enforce restrictions of new discharge permits in nutrient TMDL area	Phosphorus / new sources	HRWC, partners	No newly permitted dischargers of phosphorus effluent
3. Enforce rules, standards and ordinances for stormwater management	All / new stormwater	Municipalities	Reduced runoff and nutrient/bacteria concentrations; monitoring
4. Implement the Information and Education Strategy	All / Multiple	HRWC, all partners and residents	Impairment knowledge from survey; participation rates, monitoring
5. Complete CCTV of priority area. Identify and investigate any unknown taps that may indicate non-stormwater discharges	Bacteria / multiple	Municipalities	Illicit taps identified and removed or confirmation of no illicit taps in the system.
6. Pet waste ordinance education	Pathogens / Pet waste	City of Ann Arbor	Resident knowledge from survey; call volume
7. Continue active management of Ford Lake	Phosphorus / internal lake	Ypsilanti Township	Reduced algae bloom count; low DO management events

Appendix A

Outfall/Discharge Point Receiving Water Table & Site Stormwater Structure Maps

Receiving Waters Table
Permit Cycle 2026- TBD

Ann Arbor Public Schools Receiving Waters Table Permit Cycle [2026- TBD]							
Facility	Structure ID	Outfall or Point of Discharge	GPS Coordinates (Latitude/Longitude)		Point of Discharge / Receiving Regulated MS4 or Waters of the State	Receiving Waters	Watershed
Abbot Elementary School	ABT-01.MH.DP	Point of Discharge	42.292928	-83.785350	City of Ann Arbor MS4	Honey Creek	Huron River
	ABT-02.MH.DP	Point of Discharge	42.293314	-83.785244	City of Ann Arbor MS4	Honey Creek	Huron River
	ABT-12.MH.DP	Point of Discharge	42.294103	-83.786383	City of Ann Arbor MS4	Honey Creek	Huron River
	ABT-13.MH.DP	Point of Discharge	42.293376	-83.786282	City of Ann Arbor MS4	Honey Creek	Huron River
	ABT-14.MH.DP	Point of Discharge	42.292928	-83.471052	City of Ann Arbor MS4	Honey Creek	Huron River
Administration (Balas)	ADT-02.OP.OF	Outfall	42.251036	-83.735217	Surface Waters of the State	Swift Drain	Huron River
	ADT-12.MH.DP	Point of Discharge	42.250008	-83.736211	City of Ann Arbor MS4	Swift Drain	Huron River
Allen Elementary School	ALN-06.MH.DP	Point of Discharge	42.251572	-83.709773	City of Ann Arbor MS4	Swift Drain	Huron River
	ALN-21.MH.DP	Point of Discharge	42.250849	-83.709114	City of Ann Arbor MS4	Swift Drain	Huron River
Angell Elementary School	ANG-05.CB.DP	Point of Discharge	42.273418	-83.728966	City of Ann Arbor MS4	Barton Pond	Huron River
	ANG-09.MH.DP	Point of Discharge	42.274984	-83.728708	City of Ann Arbor MS4	Barton Pond	Huron River

Receiving Waters Table
Permit Cycle 2026- TBD

Ann Arbor Public Schools Receiving Waters Table Permit Cycle [2026- TBD]							
Facility	Structure ID	Outfall or Point of Discharge	GPS Coordinates (Latitude/Longitude)		Point of Discharge / Receiving Regulated MS4 or Waters of the State	Receiving Waters	Watershed
Ann Arbor Open at Mack	AOS-08.MH.DP	Point of Discharge	42.286971	-83.759429	City of Ann Arbor MS4	Barton Pond	Huron River
	AOS-10.OP.DP	Point of Discharge	42.286883	-83.760068	City of Ann Arbor MS4	Barton Pond	Huron River
	AOS-13.MH.DP	Point of Discharge	42.287753	-83.760285	City of Ann Arbor MS4	Barton Pond	Huron River
	AOS-16.MH.DP	Point of Discharge	42.287753	-83.760558	City of Ann Arbor MS4	Barton Pond	Huron River
	AOS-17.OP.DP	Point of Discharge	42.287828	-83.760407	City of Ann Arbor MS4	Barton Pond	Huron River
	AOS-18.MH.DP	Point of Discharge	42.287799	-83.759931	City of Ann Arbor MS4	Barton Pond	Huron River
	AOS-20.CB.DP	Point of Discharge	42.287924	-83.759973	City of Ann Arbor MS4	Barton Pond	Huron River
	AOS-21.MH.DP	Point of Discharge	42.288106	-83.759769	City of Ann Arbor MS4	Barton Pond	Huron River
Ann Arbor STEAM @ Northside School	AAN-01.MH.DP	Point of Discharge	42.299353	-83.732878	City of Ann Arbor MS4	Swift Drain	Huron River
	AAN-03.UDS.DP	Point of Discharge	42.298082	-83.734524	City of Ann Arbor MS4	Swift Drain	Huron River
	AAN-05.MH.DP	Point of Discharge	42.297835	-83.734206	City of Ann Arbor MS4	Swift Drain	Huron River
	AAN-11.UDS.DP	Point of Discharge	42.298147	-83.732299	City of Ann Arbor MS4	Swift Drain	Huron River

Receiving Waters Table
Permit Cycle 2026- TBD

Ann Arbor Public Schools Receiving Waters Table Permit Cycle [2026- TBD]							
Facility	Structure ID	Outfall or Point of Discharge	GPS Coordinates (Latitude/Longitude)		Point of Discharge / Receiving Regulated MS4 or Waters of the State	Receiving Waters	Watershed
Bach Elementary School	BCH-02.CB.DP	Point of Discharge	42.276636	-83.755348	City of Ann Arbor MS4	Barton Pond	Huron River
	BCH-03.CB.DP	Point of Discharge	42.276542	-83.755534	City of Ann Arbor MS4	Barton Pond	Huron River
	BCH-05.MH.DP	Point of Discharge	42.276919	-83.757089	City of Ann Arbor MS4	Barton Pond	Huron River
Bryant Elementary	BYT-03.MH.DP	Point of Discharge	42.233054	-83.716243	City of Ann Arbor MS4	Swift Drain	Huron River
Burns Park Elementary School	BPS-09.MH.DP	Point of Discharge	42.265664	-83.730662	City of Ann Arbor MS4	Swift Drain	Huron River
	BPS-10.MH.DP	Point of Discharge	42.265406	-83.730722	City of Ann Arbor MS4	Swift Drain	Huron River
Carpenter Elementary School	CPT-05.MH.DP	Point of Discharge	42.247933	-83.675483	Washtenaw County MS4	Swift Drain	Huron River
	CPT-14.CB.DP	Point of Discharge	42.249141	-83.676257	Washtenaw County MS4	Swift Drain	Huron River
	CPT-15.MH.DP	Point of Discharge	42.249293	-83.674234	Washtenaw County MS4	Swift Drain	Huron River
Clague Middle School	CLA-19.HDS.DP	Point of Discharge	42.310054	-83.702704	City of Ann Arbor MS4	Swift Drain	Huron River
	CLA-33.MH.DP	Point of Discharge	42.311372	-83.707322	City of Ann Arbor MS4	Swift Drain	Huron River

**Receiving Waters Table
Permit Cycle 2026- TBD**

Ann Arbor Public Schools Receiving Waters Table Permit Cycle [2026- TBD]							
Facility	Structure ID	Outfall or Point of Discharge	GPS Coordinates (Latitude/Longitude)		Point of Discharge / Receiving Regulated MS4 or Waters of the State	Receiving Waters	Watershed
Community High School	CHS-01.CB.DP	Point of Discharge	42.284287	-83.744717	City of Ann Arbor MS4	Barton Pond	Huron River
	CHS-02.MH.DP	Point of Discharge	42.284310	-83.745612	City of Ann Arbor MS4	Barton Pond	Huron River
	CHS-06.MH.DP	Point of Discharge	42.284127	-83.745634	City of Ann Arbor MS4	Barton Pond	Huron River
	CHS-09.OP.DP	Point of Discharge	42.284324	-83.745627	City of Ann Arbor MS4	Barton Pond	Huron River
Dicken Elementary School	DES-11.MH.DP	Point of Discharge	42.263320	-83.775360	City of Ann Arbor MS4	Swift Drain	Huron River
Earhart Building	EAR-02.OP.OF	Outfall	42.318734	-83.678152	Surface Waters of the State	Fleming Creek	Huron River
Eberwhite Elementary School	EBW-07.OP.OF	Outfall	42.272886	-83.766413	City of Ann Arbor MS4	Barton Pond	Huron River
	EBW-08.SCC.OF	Outfall	42.272342	-83.766538	City of Ann Arbor MS4	Barton Pond	Huron River
Forsythe Middle School- Wines Elementary School COMPLEX	FWC-12.CB.DP	Point of Discharge	42.294951	-83.769894	City of Ann Arbor MS4	Honey Creek	Huron River
	FWC-13.MH.DP	Point of Discharge	42.295165	-83.769119	City of Ann Arbor MS4	Honey Creek	Huron River
	FWC-18.MH.DP	Point of Discharge	42.296979	-83.770587	City of Ann Arbor MS4	Honey Creek	Huron River
	FWC-29.MH.OF	Outfall	42.298878	-83.770616	Surface Waters of the State	Barton Pond	Huron River
	FWC-31.MH.DP	Point of Discharge	42.297584	-83.770493	City of Ann Arbor MS4	Barton Pond	Huron River
	FWC-43.OP.OF	Outfall	42.298624	-83.766465	City of Ann Arbor MS4	Barton Pond	Huron River

**Receiving Waters Table
Permit Cycle 2026- TBD**

Ann Arbor Public Schools Receiving Waters Table Permit Cycle [2026- TBD]							
Facility	Structure ID	Outfall or Point of Discharge	GPS Coordinates (Latitude/Longitude)		Point of Discharge / Receiving Regulated MS4 or Waters of the State	Receiving Waters	Watershed
Freeman School	No Outfall or Point of Discharge Identified on Property.						
Haisley Elementary School	HSL-03.CB.DP	Point of Discharge	42.289730	-83.774915	City of Ann Arbor MS4	Barton Pond	Huron River
	HSL-06.FS.DP	Point of Discharge	42.288869	-83.775607	City of Ann Arbor MS4	Barton Pond	Huron River
	HSL-10.MH.DP	Point of Discharge	42.289591	-83.777964	City of Ann Arbor MS4	Honey Creek	Huron River
Huron High School	HRN-29.MH.DP	Point of Discharge	42.280058	-83.704214	City of Ann Arbor MS4	Swift Drain	Huron River
	HRN-38.MH.DP	Point of Discharge	42.281553	-83.705956	City of Ann Arbor MS4	Swift Drain	Huron River
	HRN-39.MH.DP	Point of Discharge	42.281283	-83.706206	City of Ann Arbor MS4	Swift Drain	Huron River
	HRN-64.OP.OF	Outfall	42.283122	-83.701558	Surface Waters of the State	Swift Drain	Huron River
	HRN-67.OP.OF	Outfall	42.282917	-83.701756	Surface Waters of the State	Swift Drain	Huron River
	HRN-69.OP.OF	Outfall	42.282183	-83.701839	Surface Waters of the State	Swift Drain	Huron River
	HRN-102.MH.DP	Point of Discharge	42.280164	-83.699672	City of Ann Arbor MS4	Swift Drain	Huron River

**Receiving Waters Table
Permit Cycle 2026- TBD**

Ann Arbor Public Schools Receiving Waters Table Permit Cycle [2026- TBD]							
Facility	Structure ID	Outfall or Point of Discharge	GPS Coordinates (Latitude/Longitude)		Point of Discharge / Receiving Regulated MS4 or Waters of the State	Receiving Waters	Watershed
King Elementary School	KES-01.SCC.DP	Point of Discharge	42.284753	-83.684526	City of Ann Arbor MS4	Fleming Creek	Huron River
	KES-05.MH.DP	Point of Discharge	42.285405	-83.687131	City of Ann Arbor MS4	Swift Drain	Huron River
Lakewood Elementary School	LAK-12.MH.DP	Point of Discharge	42.277590	-83.791271	City of Ann Arbor MS4	Honey Creek	Huron River
Lawton Elementary School	LES-02.MH.DP	Point of Discharge	42.252811	-83.763041	City of Ann Arbor MS4	Swift Drain	Huron River
	LES-06.MH.DP	Point of Discharge	42.254801	-83.764153	City of Ann Arbor MS4	Swift Drain	Huron River
Logan Elementary School	LOG-03.MH.DP	Point of Discharge	42.312803	-83.708924	City of Ann Arbor MS4	Swift Drain	Huron River
	LOG-04.MH.DP	Point of Discharge	42.31179	-83.709416	City of Ann Arbor MS4	Swift Drain	Huron River
	LOG-18.MH.DP	Point of Discharge	42.312021	-83.709288	City of Ann Arbor MS4	Swift Drain	Huron River
	LOG-21.SCC.OF	Outfall	42.312803	-83.710981	Surface Waters of the State	Swift Drain	Huron River
Pathways to Success Academic Campus	PTS-02.SCC.OF	Outfall	42.247008	-83.721506	Surface Waters of the State	Swift Drain	Huron River
	PTS-05.CB.DP	Point of Discharge	42.247297	-83.720172	City of Ann Arbor MS4	Swift Drain	Huron River
Pattengill Elementary School	PTG-06.MH.DP	Point of Discharge	42.255363	-83.721074	City of Ann Arbor MS4	Swift Drain	Huron River

**Receiving Waters Table
Permit Cycle 2026- TBD**

Ann Arbor Public Schools Receiving Waters Table Permit Cycle [2026- TBD]							
Facility	Structure ID	Outfall or Point of Discharge	GPS Coordinates (Latitude/Longitude)		Point of Discharge / Receiving Regulated MS4 or Waters of the State	Receiving Waters	Watershed
Pioneer High School	PIO-01.MH.DP	Point of Discharge	42.263085	-83.750520	City of Ann Arbor MS4	Swift Drain	Huron River
	PIO-03.MH.DP	Point of Discharge	42.263004	-83.750642	City of Ann Arbor MS4	Swift Drain	Huron River
	PIO-49.MH.DP	Point of Discharge	42.263986	-83.754595	City of Ann Arbor MS4	Swift Drain	Huron River
	PIO-90.OP.OF	Outfall	42.260136	-83.756230	Surface Waters of the State	Swift Drain	Huron River
	PIO-91.OP.OF	Outfall	42.460245	-83.755897	Surface Waters of the State	Swift Drain	Huron River
	PIO-92.OP.OF	Outfall	42.260335	-83.755868	Surface Waters of the State	Swift Drain	Huron River
	PIO-93.OP.OF	Outfall	42.260470	-83.755832	Surface Waters of the State	Swift Drain	Huron River
	PIO-94.OP.OF	Outfall	42.260600	-83.755858	Surface Waters of the State	Swift Drain	Huron River
	PIO-127.OP.OF	Outfall	42.260640	-83.756091	Surface Waters of the State	Swift Drain	Huron River
	PIO-157.OP.OF	Outfall	42.260245	-83.755897	Surface Waters of the State	Swift Drain	Huron River
Pittsfield Elementary School	PIT-09.MH.DP	Point of Discharge	42.249512	-83.690890	City of Ann Arbor MS4	Swift Drain	Huron River

**Receiving Waters Table
Permit Cycle 2026- TBD**

Ann Arbor Public Schools Receiving Waters Table Permit Cycle [2026- TBD]							
Facility	Structure ID	Outfall or Point of Discharge	GPS Coordinates (Latitude/Longitude)		Point of Discharge / Receiving Regulated MS4 or Waters of the State	Receiving Waters	Watershed
Scarlett Middle School- Mitchell Elementary School COMPLEX	SCR-13.MH.OF	Outfall	42.235022	-83.692057	Surface Waters of the State	Paint Creek	Huron River
	SCR-14.MH.OF	Outfall	42.234550	-83.692547	Surface Waters of the State	Paint Creek	Huron River
	SCR-36.MH.DP	Point of Discharge	42.238253	-83.694431	City of Ann Arbor MS4	Swift Drain	Huron River
	SCR-43.MH.OF	Outfall	42.235078	-83.691228	Surface Waters of the State	Paint Creek	Huron River
Skyline High School	SHS-54.MH.DP	Point of Discharge	42.307824	-83.781088	City of Ann Arbor MS4	Barton Pond	Huron River
	SHS-63.OP.OF	Outfall	42.302528	-83.779391	Surface Waters of the State	Barton Pond	Huron River
Slauson Middle School	SLA-09.MH.OF	Outfall	42.278461	-83.761324	City of Ann Arbor MS4	Barton Pond	Huron River
	SLA-12.MH.OF	Outfall	42.279615	-83.760450	City of Ann Arbor MS4	Barton Pond	Huron River
	SLA-13.MH.OF	Outfall	42.279657	-83.759929	City of Ann Arbor MS4	Barton Pond	Huron River
	SLA-14.MH.OF	Outfall	42.278848	-83.761211	City of Ann Arbor MS4	Barton Pond	Huron River

**Receiving Waters Table
Permit Cycle 2026- TBD**

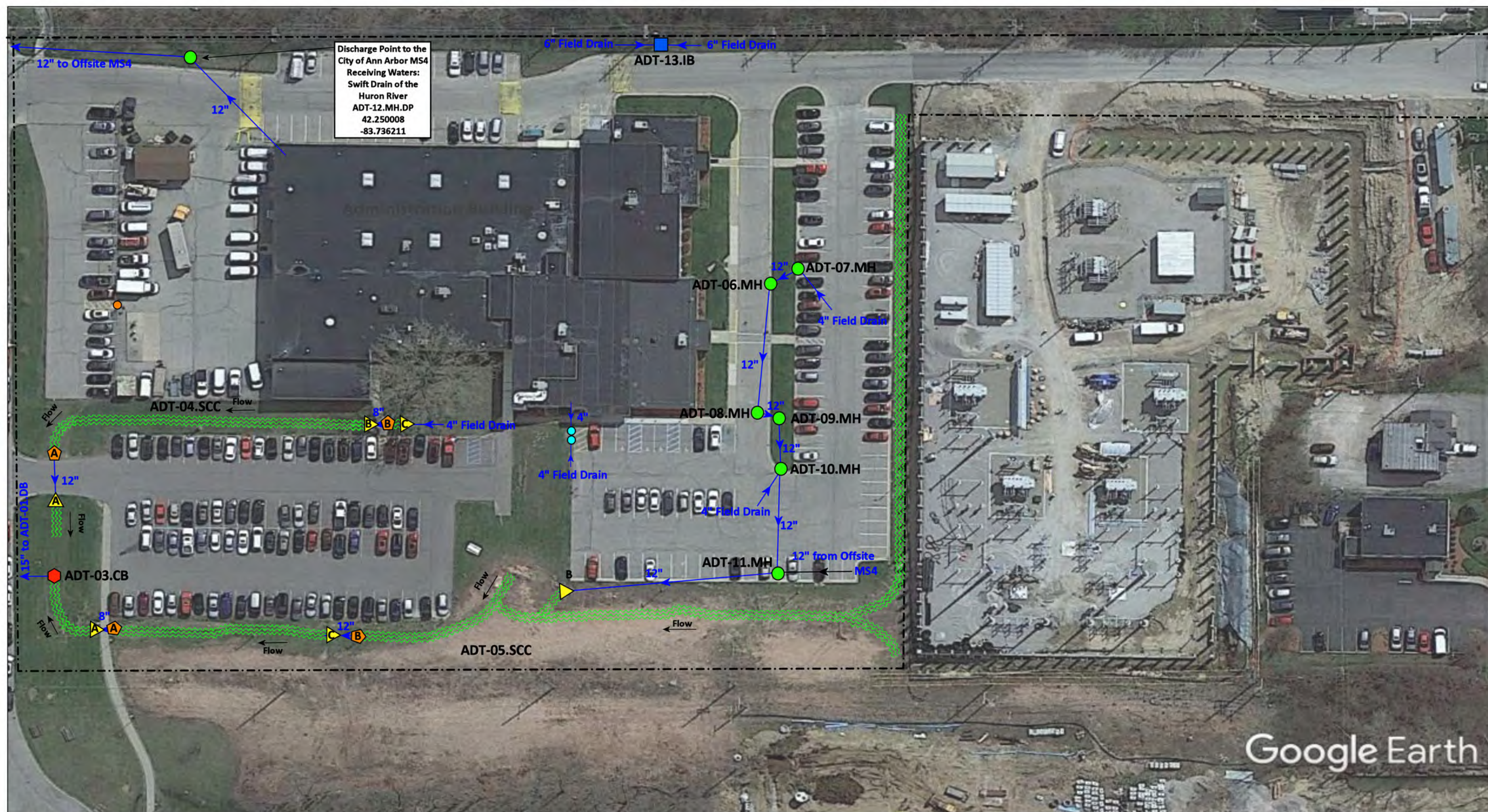
Ann Arbor Public Schools Receiving Waters Table Permit Cycle [2026- TBD]							
Facility	Structure ID	Outfall or Point of Discharge	GPS Coordinates (Latitude/Longitude)		Point of Discharge / Receiving Regulated MS4 or Waters of the State	Receiving Waters	Watershed
Tappan Middle School	TSM-11.MH.DP	Point of Discharge	42.260821	-83.716105	City of Ann Arbor MS4	Swift Drain	Huron River
	TSM-13.CB.DP	Point of Discharge	42.260757	-83.715397	City of Ann Arbor MS4	Swift Drain	Huron River
Thurston Elementary School	ATH-02.CB.DP	Point of Discharge	42.306182	-83.702653	City of Ann Arbor MS4	Swift Drain	Huron River
	ATH-03.MH.DP	Point of Discharge	42.306236	-83.702761	City of Ann Arbor MS4	Swift Drain	Huron River
	ATH-17.CB.DP	Point of Discharge	42.307647	-83.702570	City of Ann Arbor MS4	Swift Drain	Huron River
Transportation Facility	AAT-01.OP.OF	Outfall	42.252541	-83.735931	Surface Waters of the State	Swift Drain	Huron River
	AAT-02.SCC.OF	Outfall	42.251643	-83.735460	Surface Waters of the State	Swift Drain	Huron River
Westerman Preschool and Family Center	WPS-05.OP.DP	Point of Discharge	42.248297	-83.733936	City of Ann Arbor MS4	Swift Drain	Huron River
	WPS-18.OP.DP	Point of Discharge	42.247650	-83.733302	City of Ann Arbor MS4	Swift Drain	Huron River
Parcel - Ellsworth Road	No Outfall or Point of Discharge Identified on Property.						



- | | | | |
|----------------|----------------------|--------------------------|--------------------------------|
| = Catch Basin | = Infiltration Basin | = Buried Structure | = Pond/Basin |
| = Manhole | = Open Pipe Outlet | = Stabilized Outlet | = Swale/Stormwater |
| = French Drain | = Drainage Receptor | = Flow Splitter | = Conveyance Channel |
| = Offsite MS4 | = Trench Drain | = Hydrodynamic Separator | = Underground Detention System |
| = Sanitary | = Property Lines | | |



2670 Sequoia Pkwy, Ann Arbor, Michigan 48103		Revision Date :	12/18/2023
Abbot Elementary School		Drawn by:	KD
Ann Arbor Public Schools		Reviewed:	SR
		Page #:	2 of 2
37720 Interchange Drive Farmington Hills, MI 48335 Phone: 248-426-0165 Fax: 248-427-0305		Scale:	Not to Scale



2555 S. State, Ann Arbor, MI 48104

Administration Building (Balas)

Ann Arbor Public Schools



37720 Interchange Drive
Farmington Hills, MI 48335
Phone: 248-426-0165
Fax: 248-427-0305

Revision Date :	10/18/2024
Drawn by:	KD
Reviewed:	JP
Page #:	1 of 2
Scale:	Not to Scale

North



= Catch Basin	= Infiltration Basin	= Buried Structure	= Pond/Basin
= Manhole	= Open Pipe Outlet	= Stabilized Outlet	= Swale/Stormwater Conveyance Channel
= French Drain	= Drainage Receptor	= Flow Splitter	= Underground Detention System
= Offsite MS4	= Trench Drain	= Hydrodynamic Separator	
= Sanitary	= Property Lines		



Outfall to the
Surface Waters of
the State
Receiving Waters:
Swift Drain of the
Huron River
ADT-02.OP.OF
42.251036
-83.735217

Google Earth

2555 S. State, Ann Arbor, MI 48104

Administration Building (Balas)

Ann Arbor Public Schools



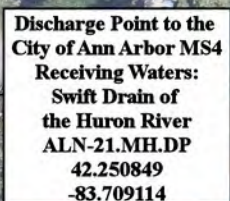
37720 Interchange Drive
Farmington Hills, MI 48335
Phone: 248-426-0165
Fax: 248-427-0305

Revision Date :	10/18/2024
Drawn by:	KD
Reviewed:	JP
Page #:	2 of 2
Scale:	Not to Scale

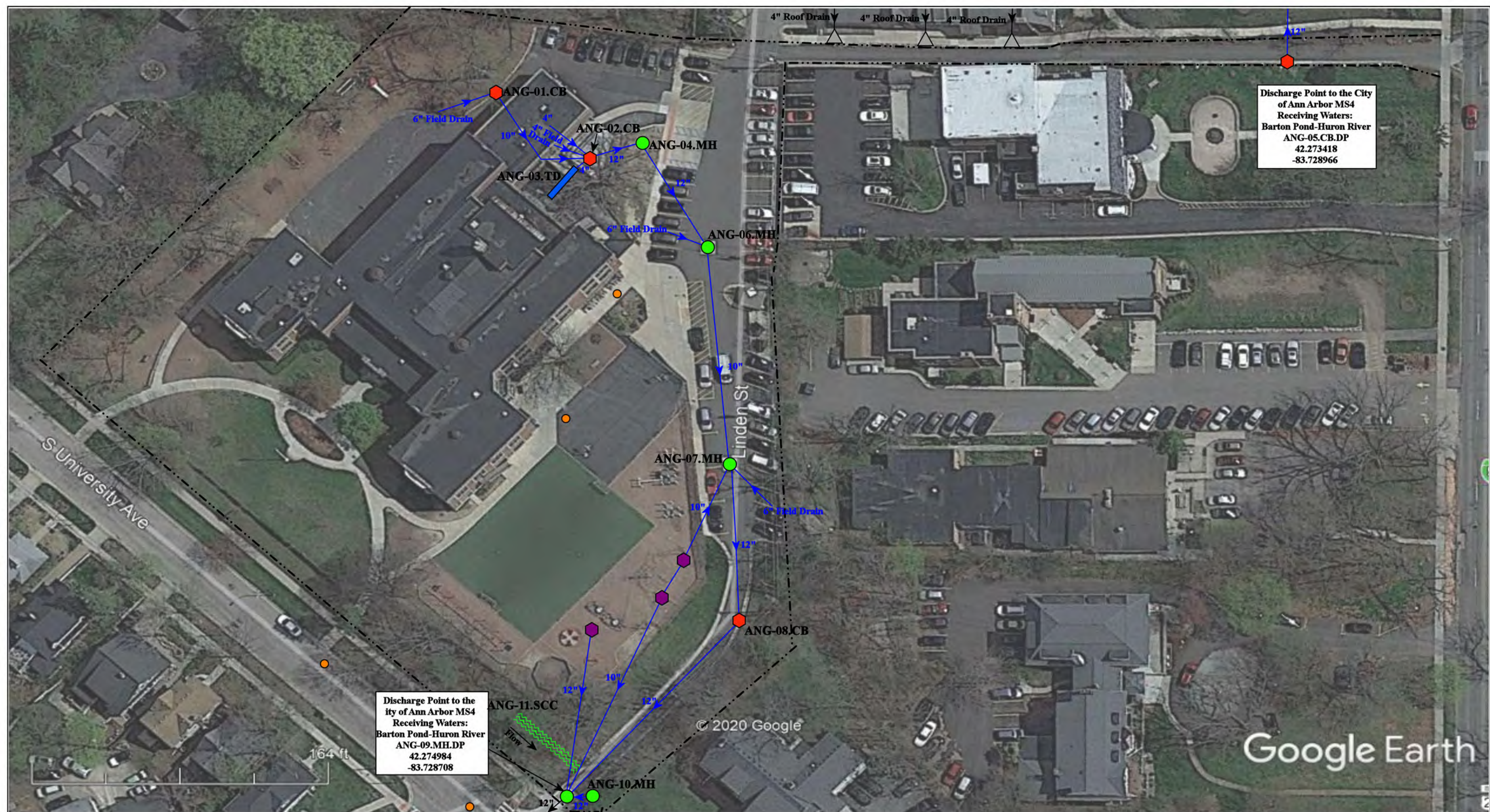
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= Manhole	= Open Pipe Outlet	= Stabilized Outlet	= Swale/Stormwater
= French Drain	= Drainage Receptor	= Flow Splitter	= Conveyance Channel
= Offsite MS4	= Trench Drain	= Hydrodynamic Separator	= Underground Detention System
= Sanitary	= Property Lines		

North





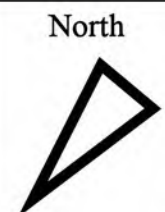
				2560 Towner Blvd, Ann Arbor, MI 48104				
<div><div><div> = Catch Basin</div><div> = Manhole</div><div> = French Drain</div><div> = Offsite MS4</div><div> = Sanitary</div></div><div><div> = Infiltration Basin</div><div> = Open Pipe Outlet</div><div> = Drainage Receptor</div><div> = Trench Drain</div><div> = Property Lines</div></div><div><div> = Buried Structure</div><div> = Stabilized Outlet</div><div> = Flow Splitter</div><div> = Hydrodynamic Separator</div></div><div><div> = Pond/Basin</div><div> = Swale/Stormwater Conveyance Channel</div><div> = Bioretention Basin</div></div></div>				<div>North</div> 	Allen Elementary School		Revision Date :	04/18/2025
Ann Arbor Public Schools		Drawn by:	SB					
 Phone: 248-426-0165 Fax: 248-427-0305		Reviewed:	KS					
		Page #:	1 of 1					
		Scale:	Not to Scale					



Discharge Point to the City
of Ann Arbor MS4
Receiving Waters:
Barton Pond-Huron River
ANG-05.CB.DP
42.273418
-83.728966

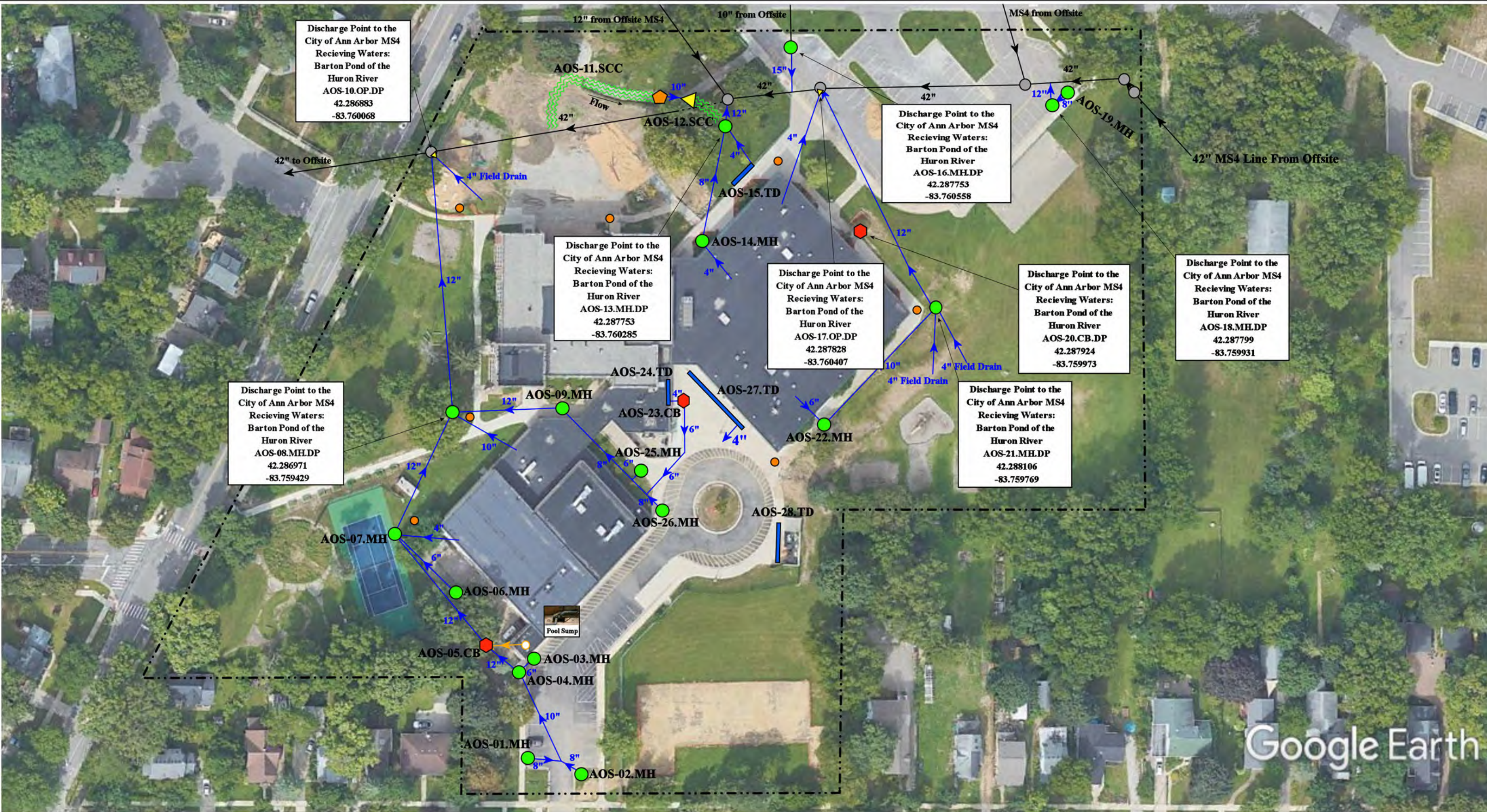
Discharge Point to the
City of Ann Arbor MS4
Receiving Waters:
Barton Pond-Huron River
ANG-09.MH.DP
42.274984
-83.728708

- | | | | |
|---------------|----------------------|--------------------------|--------------------------------|
| = Catch Basin | = Infiltration Basin | = Buried Structure | = Pond/Basin |
| = Manhole | = Open Pipe Outlet | = Stabilized Outlet | = Swale/Stormwater |
| = Basin Drain | = Drainage Receptor | = Flow Splitter | = Conveyance Channel |
| = Offsite MS4 | = Trench Drain | = Hydrodynamic Separator | = Underground Detention System |
| = Sanitary | = Property Lines | | |

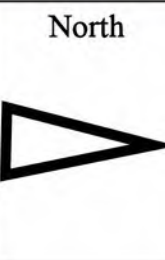


1608 S University Ave, Ann Arbor, MI 48104			Revision Date:	12/30/2022
Angell Elementary School			Drawn by:	SF
Ann Arbor Public Schools			Reviewed:	KEM
			Page #:	1 of 1
			Scale:	Not to Scale

37720 Interchange Drive
Farmington Hills, MI 48335
Phone: 248-426-0165
Fax: 248-427-0305



- | | | | |
|----------------|----------------------|--------------------------|------------------------------------|
| = Catch Basin | = Infiltration Basin | = Buried Structure | = Pond/Basin |
| = Manhole | = Open Pipe Outlet | = Stabilized Outlet | = Swale/Stormwater |
| = French Drain | = Drainage Receptor | = Flow Splitter | = Conveyance Channel |
| = Offsite MS4 | = Trench Drain | = Hydrodynamic Separator | = Interior Sump to Storm (Illicit) |
| = Sanitary | = Property Lines | | |



920 Miller Avenue, Ann Arbor, MI 48103		Revision Date :	10/15/2024
Ann Arbor Open School		Drawn by:	SF
Ann Arbor Public Schools		Reviewed:	CD
		Page #:	1 of 1
		Scale:	Not to Scale



Map Key

<ul style="list-style-type: none"> ● = Catch Basin ● = Manhole ■ = Infiltration Basin ■ = Drainage Receptor ▲ = Open Pipe Outlet ■ = Stabilized Outlet 	<ul style="list-style-type: none"> ■ = Trench Drain ● = French Drain ■ = Sanitary ■ = Offsite MS4 ● = Flow Splitter ○ = Hydrodynamic Separator 	<ul style="list-style-type: none"> ■ = Lift Station ■ = Buried Structure ■ = Abandoned Structure ■ = Roof Drain ○ = Cleanout ■ = Access Lid 	<ul style="list-style-type: none"> ■ = Underground Detention/Retention System ■ = Pond/Basin ■ = Bioretention Pond/Basin ~ = Swale/Stormwater Conveyance Channel ■ = Riprap ▲ = Culvert 	<ul style="list-style-type: none"> → = Pipe → = Field Drainage → = Creek/River/Drain/Pond/Lake ■ = Gravel Lot/Road --- = Property Lines ✱ = Access Point
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912 Barton Dr, Ann Arbor, MI 48105									
<h2 style="margin: 0;">Ann Arbor STEAM @ Northside School</h2>									
Ann Arbor Public Schools									
	25510 W 11 Mile Road Southfield, MI 48034 Phone (248) 426-0165 Fax: (248) 427-0305								
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">Revision Date:</td> <td>10/06/2025</td> </tr> <tr> <td>Drawn By:</td> <td>SB</td> </tr> <tr> <td>Reviewed By:</td> <td>RG</td> </tr> <tr> <td>Page #:</td> <td>1 of 2</td> </tr> </table>	Revision Date:	10/06/2025	Drawn By:	SB	Reviewed By:	RG	Page #:	1 of 2	
Revision Date:	10/06/2025								
Drawn By:	SB								
Reviewed By:	RG								
Page #:	1 of 2								



Map Key

- | | | | | |
|------------------------|----------------------------|-------------------------|---|----------------------------------|
| ● = Catch Basin | — = Trench Drain | □ = Lift Station | ■ = Underground Detention /Retention System | — = Pipe |
| ● = Manhole | ● = French Drain | ● = Buried Structure | ■ = Pond/Basin | — = Field Drainage |
| ■ = Infiltration Basin | ● = Sanitary | ● = Abandoned Structure | ■ = Bioretention Pond/Basin | — = Creek/River/ Drain/Pond/Lake |
| ● = Drainage Receptor | ● = Offsite MS4 | ● = Roof Drain | — = Swale/Stormwater Conveyance Channel | — = Gravel Lot/Road |
| ▲ = Open Pipe Outlet | ● = Flow Splitter | ○ = Cleanout | — = Riprap | --- = Property Lines |
| ● = Stabilized Outlet | ● = Hydrodynamic Separator | ● = Access Lid | ▲ = Culvert | * = Access Point |



912 Barton Dr, Ann Arbor, MI 48105

Ann Arbor STEAM @ Northside School

Ann Arbor Public Schools



Revision Date: 10/06/2025

Drawn By: SB

Reviewed By: RG

Page #: 2 of 2

0 45 90 Feet

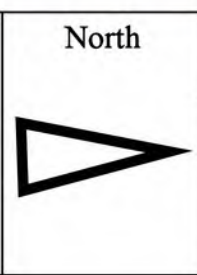
25510 W 11 Mile Road
Southfield, MI 48034
Phone (248) 426-0165
Fax: (248) 427-0305



Google Earth

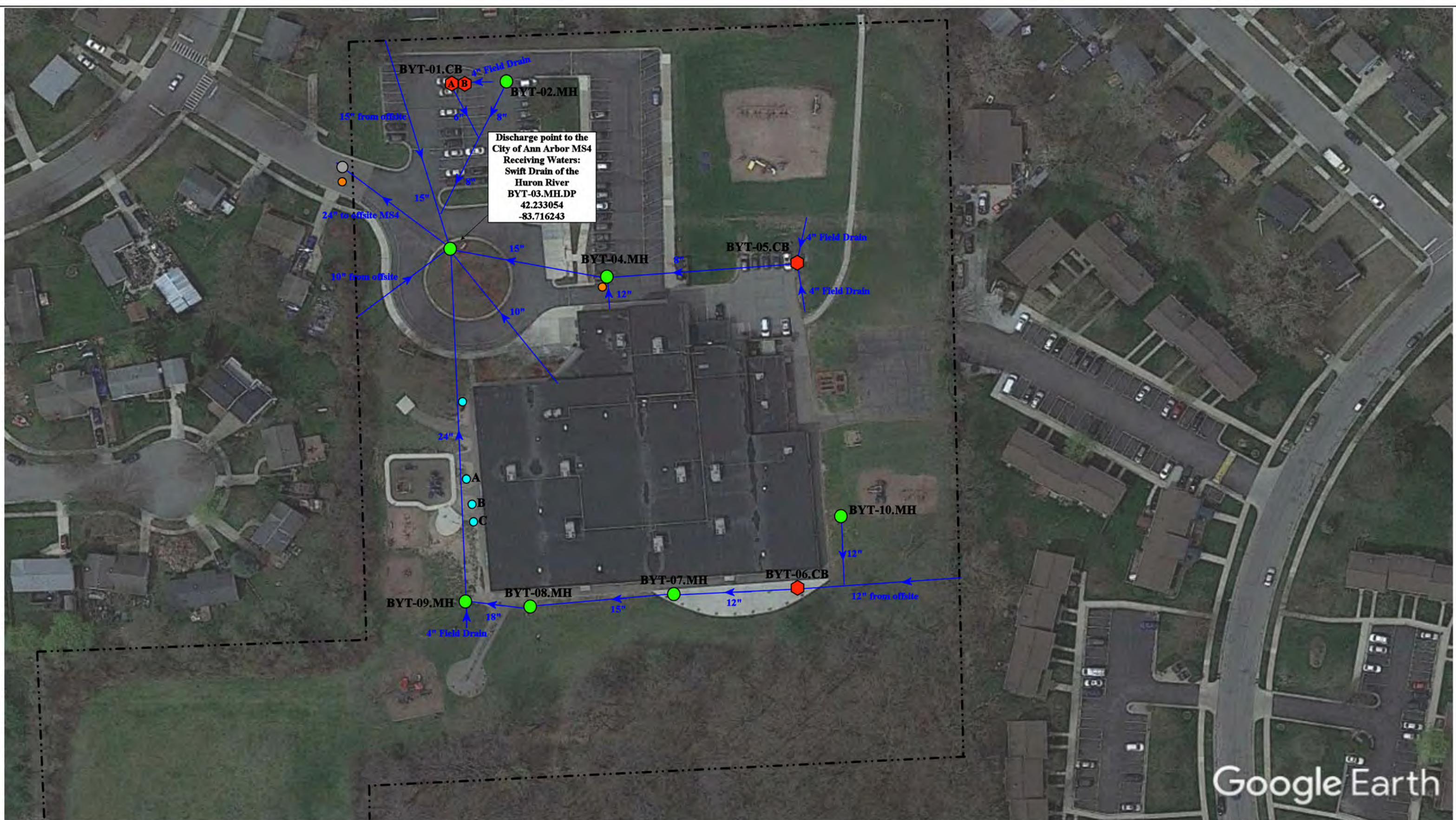
600 West Jefferson Street, Ann Arbor Michigan 48103

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|------------------|------------------------|----------------------------|----------------------------------|
| ● = Catch Basin | ■ = Infiltration Basin | ● = Buried Structure | ■ = Pond/Basin |
| ● = Manhole | ▲ = Open Pipe Outlet | ● = Stabilized Outlet | ■ = Swale/Stormwater |
| ● = French Drain | ● = Drainage Receptor | ● = Flow Splitter | ■ = Conveyance Channel |
| ● = Offsite MS4 | ■ = Trench Drain | ● = Hydrodynamic Separator | ■ = Underground Detention System |
| ● = Sanitary | --- = Property Lines | | |



	Bach Elementary School		Revision Date :	01/14/2024
	Ann Arbor Public Schools		Drawn by:	MRW
			Reviewed:	BK
			Page #:	2 of 2
			Scale:	Not to Scale

37720 Interchange Drive
Farmington Hills, MI 48335
Phone: 248-426-0165
Fax: 248-427-0305



= Catch Basin	= Infiltration Basin	= Buried Structure	= Pond/Basin
= Manhole	= Open Pipe Outlet	= Stabilized Outlet	= Swale/Stormwater Conveyance Channel
= French Drain	= Drainage Receptor	= Flow Splitter	= Underground Detention System
= Offsite MS4	= Trench Drain	= Hydrodynamic Separator	
= Sanitary	= Property Lines		



2150 Santa Rosa Drive, Ann Arbor, MI 48108

Bryant Elementary School

Ann Arbor Public Schools



37720 Interchange Drive
Farmington Hills, MI 48335
Phone: 248-426-0165
Fax: 248-427-0305

Revision Date :	01/15/2025
Drawn by:	WM
Reviewed:	EG
Page #:	1 of 2
Scale:	Not to Scale



2150 Santa Rosa Drive, Ann Arbor, MI 48108

Bryant Elementary School

Ann Arbor Public Schools

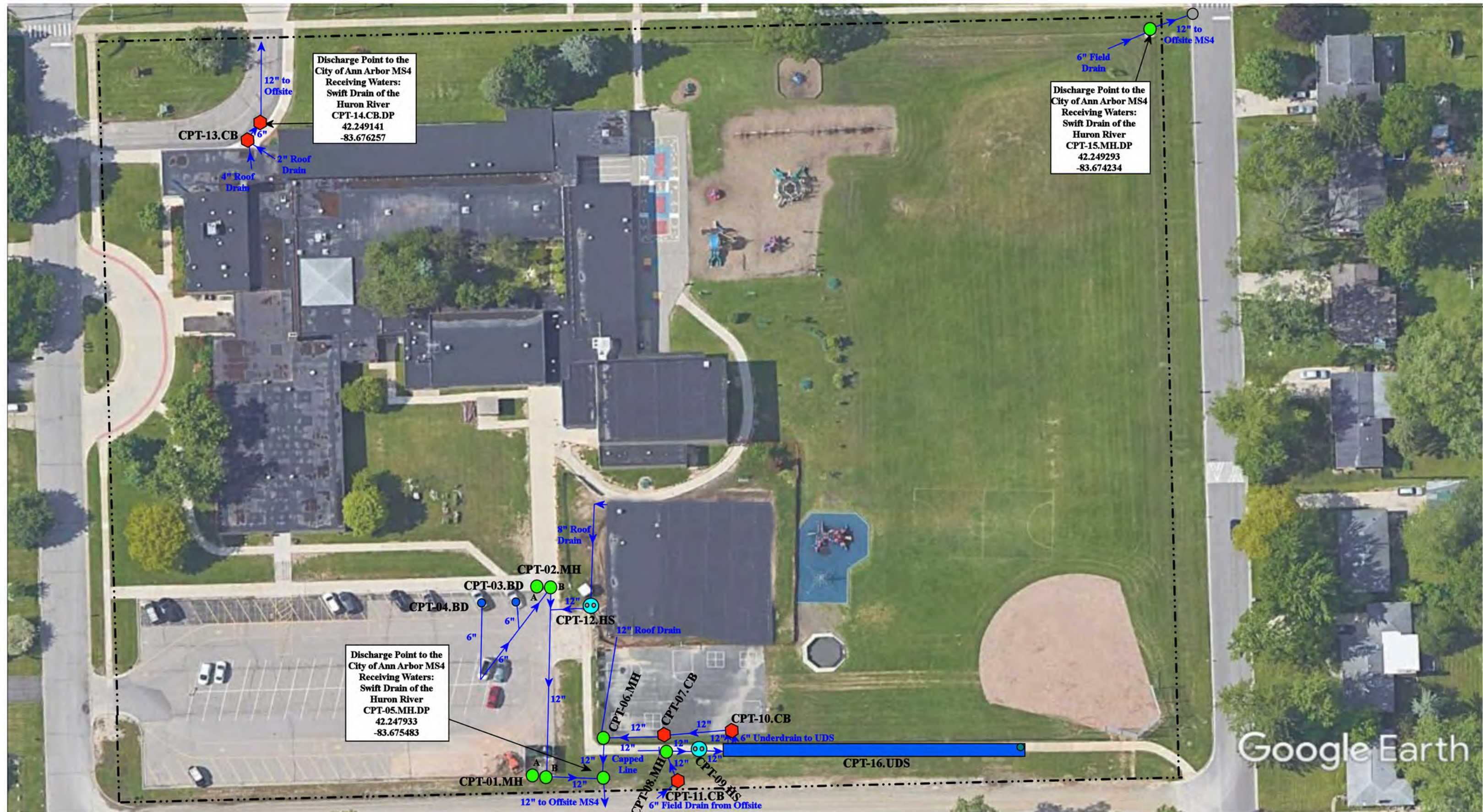


37720 Interchange Drive
Farmington Hills, MI 48335
Phone: 248-426-0165
Fax: 248-427-0305

Revision Date :	01/15/2025
Drawn by:	WM
Reviewed:	EG
Page #:	2 of 2
Scale:	Not to Scale

= Catch Basin	= Infiltration Basin	= Buried Structure	= Pond/Basin
= Manhole	= Open Pipe Outlet	= Stabilized Outlet	= Swale/Stormwater Conveyance Channel
= French Drain	= Drainage Receptor	= Flow Splitter	= Underground Detention System
= Offsite MS4	= Trench Drain	= Hydrodynamic Separator	
= Sanitary	= Property Lines		





Discharge Point to the
City of Ann Arbor MS4
Receiving Waters:
Swift Drain of the
Huron River
CPT-14.CB.DP
42.249141
-83.676257

Discharge Point to the
City of Ann Arbor MS4
Receiving Waters:
Swift Drain of the
Huron River
CPT-15.MH.DP
42.249293
-83.674234

Discharge Point to the
City of Ann Arbor MS4
Receiving Waters:
Swift Drain of the
Huron River
CPT-05.MH.DP
42.247933
-83.675483

- = Property Line
- = Basin Drain
- = Manhole
- = Catch Basin
- = Hydrodynamic Sperator
- = Underground Detention Center
- = Offsite MS4
- = Underground Detention Center Access Lid



4250 Central Boulevard, Ann Arbor MI 48108

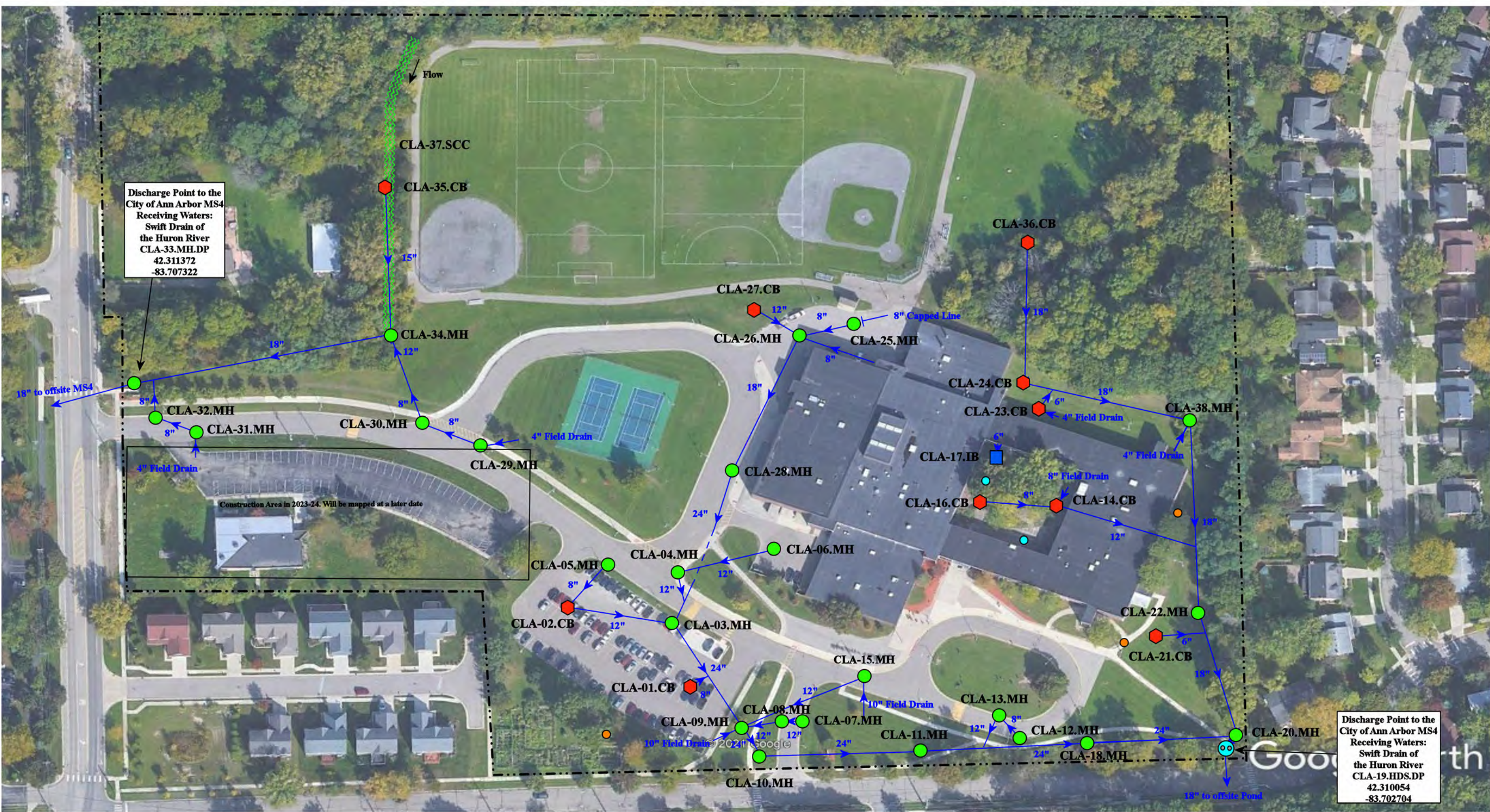
Carpenter Elementary School

Ann Arbor Public Schools



37720 Interchange Drive
Farmington Hills, MI 48335
Phone: 248-426-0165
Fax: 248-427-0305

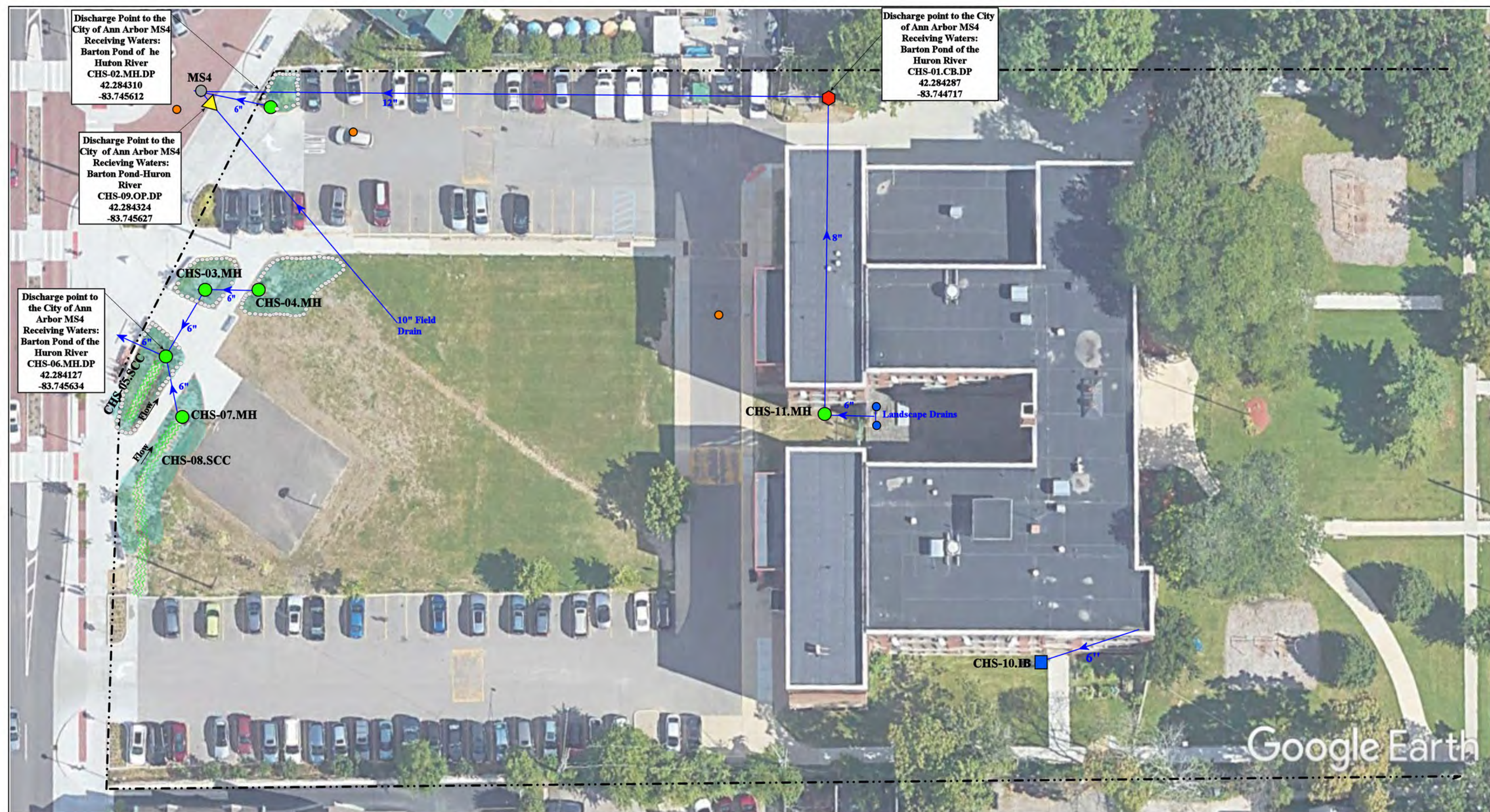
Revision Date :	10/9/2020
Drawn by:	JK
Reviewed:	CD
Page #:	1 of 1
Scale:	Not to Scale



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|----------------|----------------------|--------------------------|--------------------------------|
| = Catch Basin | = Infiltration Basin | = Buried Structure | = Pond/Basin |
| = Manhole | = Open Pipe Outlet | = Stabilized Outlet | = Swale/Stormwater |
| = French Drain | = Drainage Receptor | = Flow Splitter | = Conveyance Channel |
| = Offsite MS4 | = Trench Drain | = Hydrodynamic Separator | = Underground Detention System |
| = Sanitary | = Property Lines | | |



2616 Nixon Road, Ann Arbor, Michigan 48105		Revision Date :	01/15/2025
<h1>Clague Middle School</h1> <p>Ann Arbor Public Schools</p> 		Drawn by:	WM
		Reviewed:	EDG
<p>37720 Interchange Drive Farmington Hills, MI 48335 Phone: 248-426-0165 Fax: 248-427-0305</p>		Page #:	1 of 1
		Scale:	Not to Scale



401 N Division St, Ann Arbor MI 48104

Community High School

Ann Arbor Public Schools

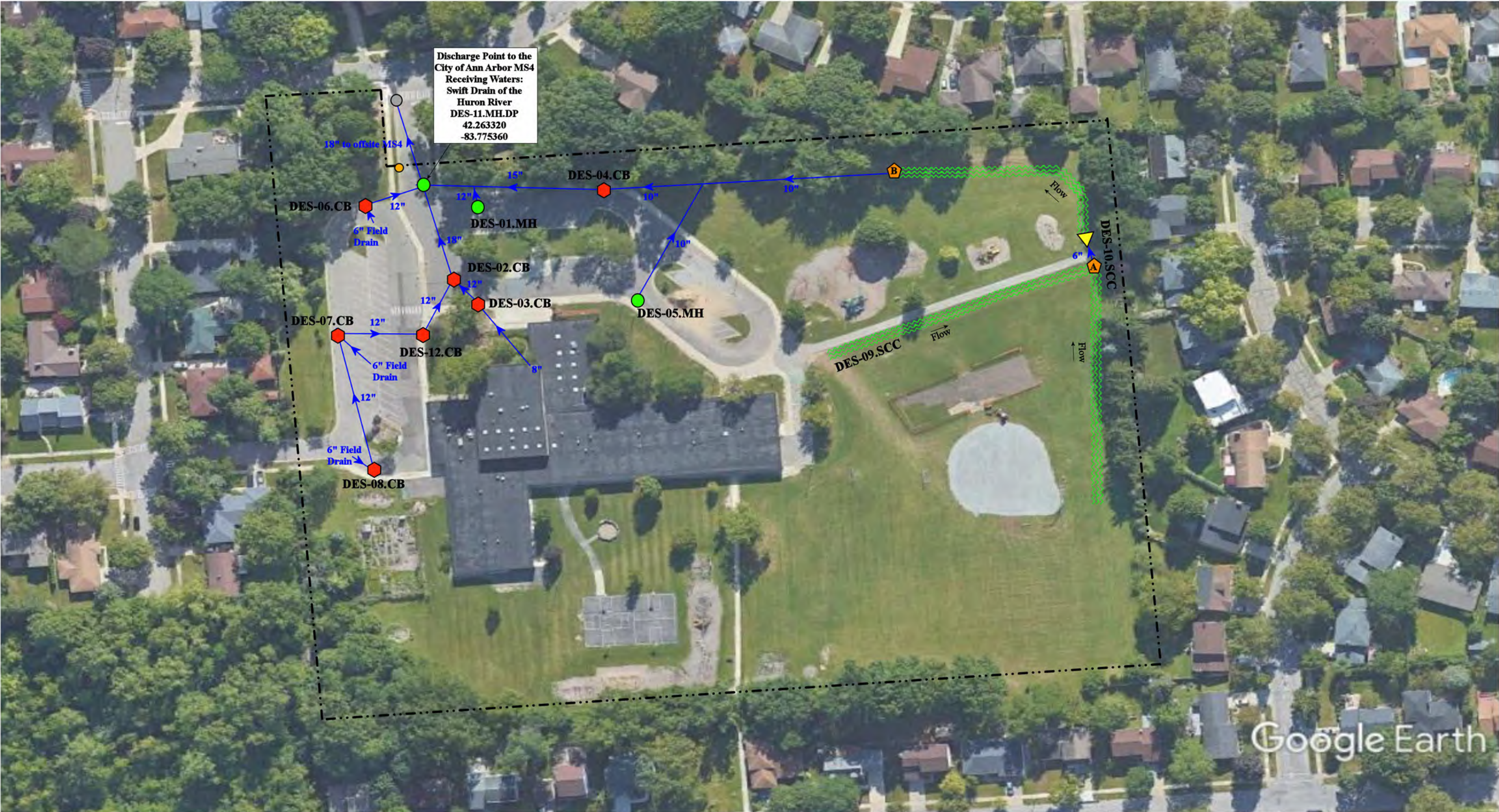


37720 Interchange Drive
Farmington Hills, MI 48335
Phone: 248-426-0165
Fax: 248-427-0305

Revision Date :	6/12/2023
Drawn by:	WM
Reviewed:	EL
Page #:	1 of 1
Scale:	Not to Scale

= Catch Basin	= Infiltration Basin	= Buried Structure	= Pond/Basin
= Manhole	= Open Pipe Outlet	= Stabilized Outlet	= Swale/Stormwater Conveyance Channel
= Basin Drain	= Drainage Receptor	= Flow Splitter	= Underground Detention System
= Offsite MS4	= Trench Drain	= Hydrodynamic Separator	
= Sanitary	= Property Lines		





Discharge Point to the
City of Ann Arbor MS4
Receiving Waters:
Swift Drain of the
Huron River
DES-11.MH.DP
42.263320
-83.775360

Google Earth

- | | | | |
|------------------|------------------------|----------------------------|----------------------------------|
| ● = Catch Basin | ■ = Infiltration Basin | ■ = Buried Structure | ■ = Pond/Basin |
| ● = Manhole | ▲ = Open Pipe Outlet | ■ = Stabilized Outlet | ■ = Swale/Stormwater |
| ● = French Drain | ▲ = Drainage Receptor | ■ = Flow Splitter | ■ = Conveyance Channel |
| ● = Offsite MS4 | ■ = Trench Drain | ● = Hydrodynamic Separator | ■ = Underground Detention System |
| ● = Sanitary | --- = Property Lines | | |



2135 Runnymede Blvd., Ann Arbor, MI 48103		Revision Date :	10/31/2023
Dicken Elementary School		Drawn by:	EMB
Ann Arbor Public Schools		Reviewed:	MW
		Page #:	1 of 1
		Scale:	Not to Scale

37720 Interchange Drive
Farmington Hills, MI 48335
Phone: 248-426-0165
Fax: 248-427-0305



- | | | | |
|----------------|----------------------|--------------------------|--------------------------------|
| = Catch Basin | = Infiltration Basin | = Buried Structure | = Pond/Basin |
| = Manhole | = Open Pipe Outlet | = Stabilized Outlet | = Swale/Stormwater |
| = French Drain | = Drainage Receptor | = Flow Splitter | = Conveyance Channel |
| = Offsite MS4 | = Trench Drain | = Hydrodynamic Separator | = Underground Detention System |
| = Sanitary | = Property Lines | | |



3700 Earhart Road, Ann Arbor, MI 48103		Revision Date :	2/15/2024
Earhart Building		Drawn by:	WM
Ann Arbor Public Schools		Reviewed:	CM
		Page #:	1 of 2
		Scale:	Not to Scale

37720 Interchange Drive
Farmington Hills, MI 48335
Phone: 248-426-0165
Fax: 248-427-0305

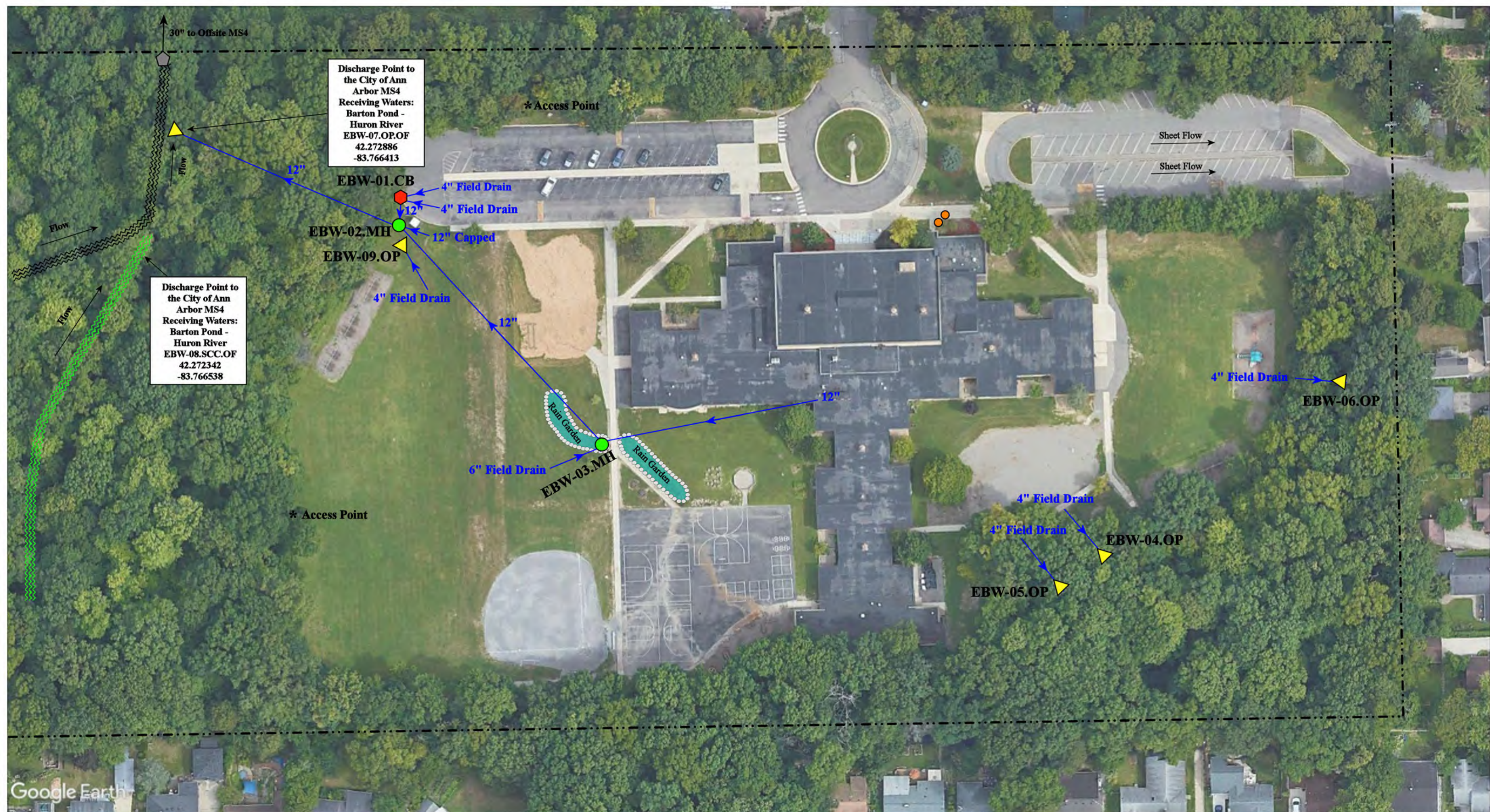


- | | | | |
|----------------|----------------------|--------------------------|---------------------------------------|
| = Catch Basin | = Infiltration Basin | = Buried Structure | = Pond/Basin |
| = Manhole | = Open Pipe Outlet | = Stabilized Outlet | = Swale/Stormwater Conveyance Channel |
| = French Drain | = Drainage Receptor | = Flow Splitter | = Underground Detention System |
| = Offsite MS4 | = Trench Drain | = Hydrodynamic Separator | = Lift Station |
| = Sanitary | = Property Lines | | |



3700 Earhart Road, Ann Arbor, MI 48103		Revision Date :	2/15/2024
Earhart Building		Drawn by:	WM
Ann Arbor Public Schools		Reviewed:	CM
		Page #:	2 of 2
		Scale:	Not to Scale

37720 Interchange Drive
Farmington Hills, MI 48335
Phone: 248-426-0165
Fax: 248-427-0305



800 Soule Boulevard, Ann Arbor, Michigan 48103

Eberwhite Elementary School

Ann Arbor Public Schools



37720 Interchange Drive
Farmington Hills, MI 48335
Phone: 248-426-0165
Fax: 248-427-0305

Revision Date :	06/16/2023
Drawn by:	JK
Reviewed:	KD
Page #:	1 of 4
Scale:	Not to Scale

= Catch Basin	= Infiltration Basin	= Buried Structure	= Pond/Basin
= Manhole	= Open Pipe Outlet	= Stabilized Outlet	= Swale/Stormwater Conveyance Channel
= Basin Drain	= Drainage Receptor	= Flow Splitter	= MS4 Swale/Stormwater Conveyance Channel
= Offsite MS4	= Trench Drain	= Hydrodynamic Separator	
= Sanitary	= Property Lines		





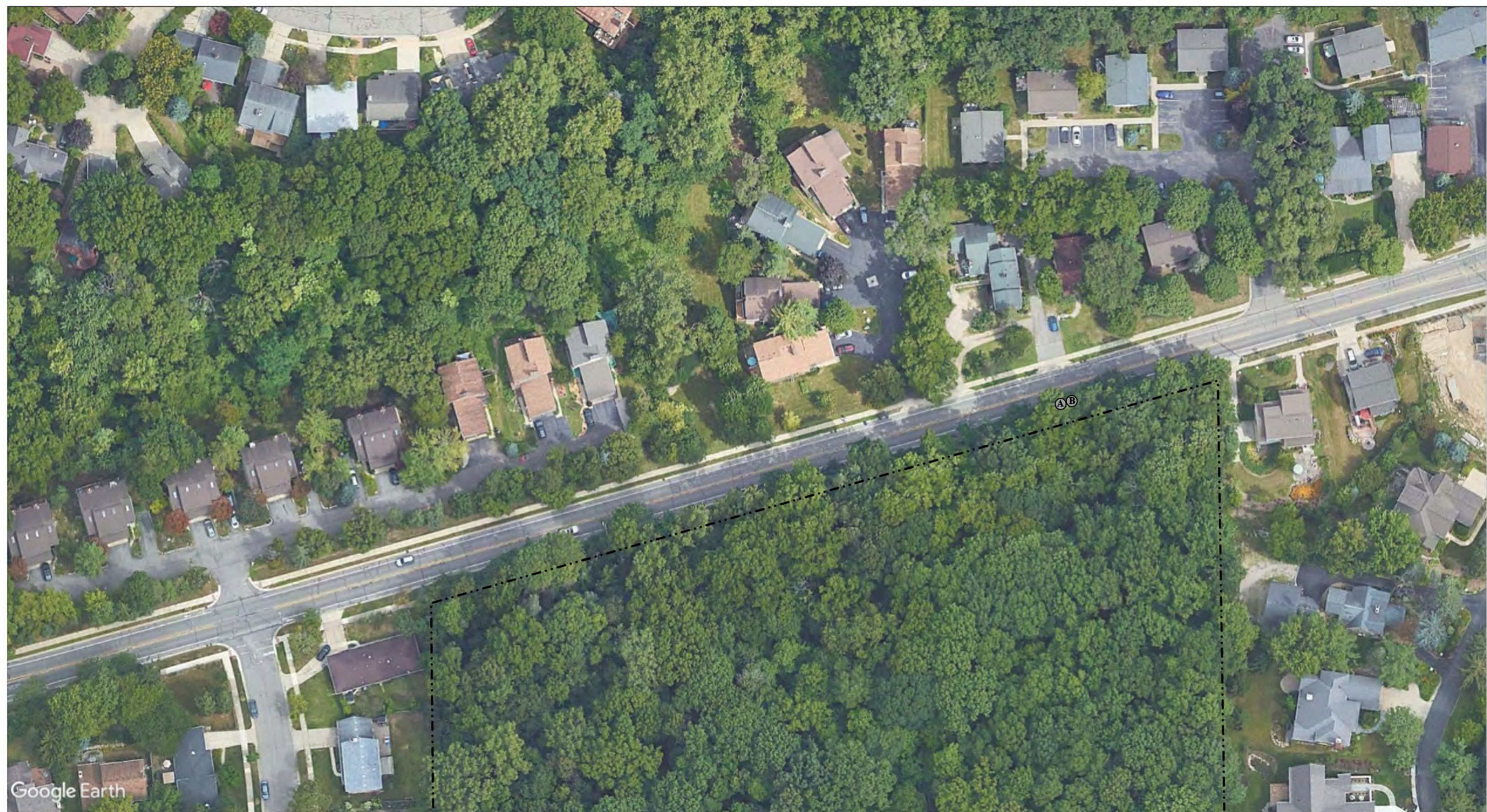
Google Earth

= Catch Basin	= Infiltration Basin	= Buried Structure	= Pond/Basin
= Manhole	= Open Pipe Outlet	= Stabilized Outlet	= Swale/Stormwater Conveyance Channel
= Basin Drain	= Drainage Receptor	= Flow Splitter	= MS4 Swale/Stormwater Conveyance Channel
= Offsite MS4	= Trench Drain	= Hydrodynamic Separator	
= Sanitary	= Property Lines		



800 Soule Boulevard, Ann Arbor, Michigan 48103			Revision Date :	06/16/2023
Eberwhite Elementary School			Drawn by:	JK
Ann Arbor Public Schools			Reviewed:	KD
			Page #:	2 of 4
			Scale:	Not to Scale

37720 Interchange Drive
Farmington Hills, MI 48335
Phone: 248-426-0165
Fax: 248-427-0305



Google Earth

				800 Soule Boulevard, Ann Arbor, Michigan 48103	
				Eberwhite Elementary School	
				Ann Arbor Public Schools	
					
				37720 Interchange Drive Farmington Hills, MI 48335 Phone: 248-426-0165 Fax: 248-427-0305	
				Revision Date:	06/16/2023
				Drawn by:	JK
				Reviewed:	KD
				Page #:	4 of 4
				Scale:	Not to Scale

- | | | | |
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| <ul style="list-style-type: none"> = Catch Basin = Manhole = Basin Drain = Offsite MS4 = Sanitary | <ul style="list-style-type: none"> = Infiltration Basin = Open Pipe Outlet = Drainage Receptor = Trench Drain = Property Lines | <ul style="list-style-type: none"> = Buried Structure = Stabilized Outlet = Flow Splitter = Hydrodynamic Separator | <ul style="list-style-type: none"> = Pond/Basin = Swale/Stormwater Conveyance Channel = MS4 Swale/Stormwater Conveyance Channel |
|--|---|---|--|





Google Earth

- = Property Lines
- = Sanitary
- = MS4
- ~~~~~ = MS4 SCC
- ▲ = MS4 Open Pipe Outlet



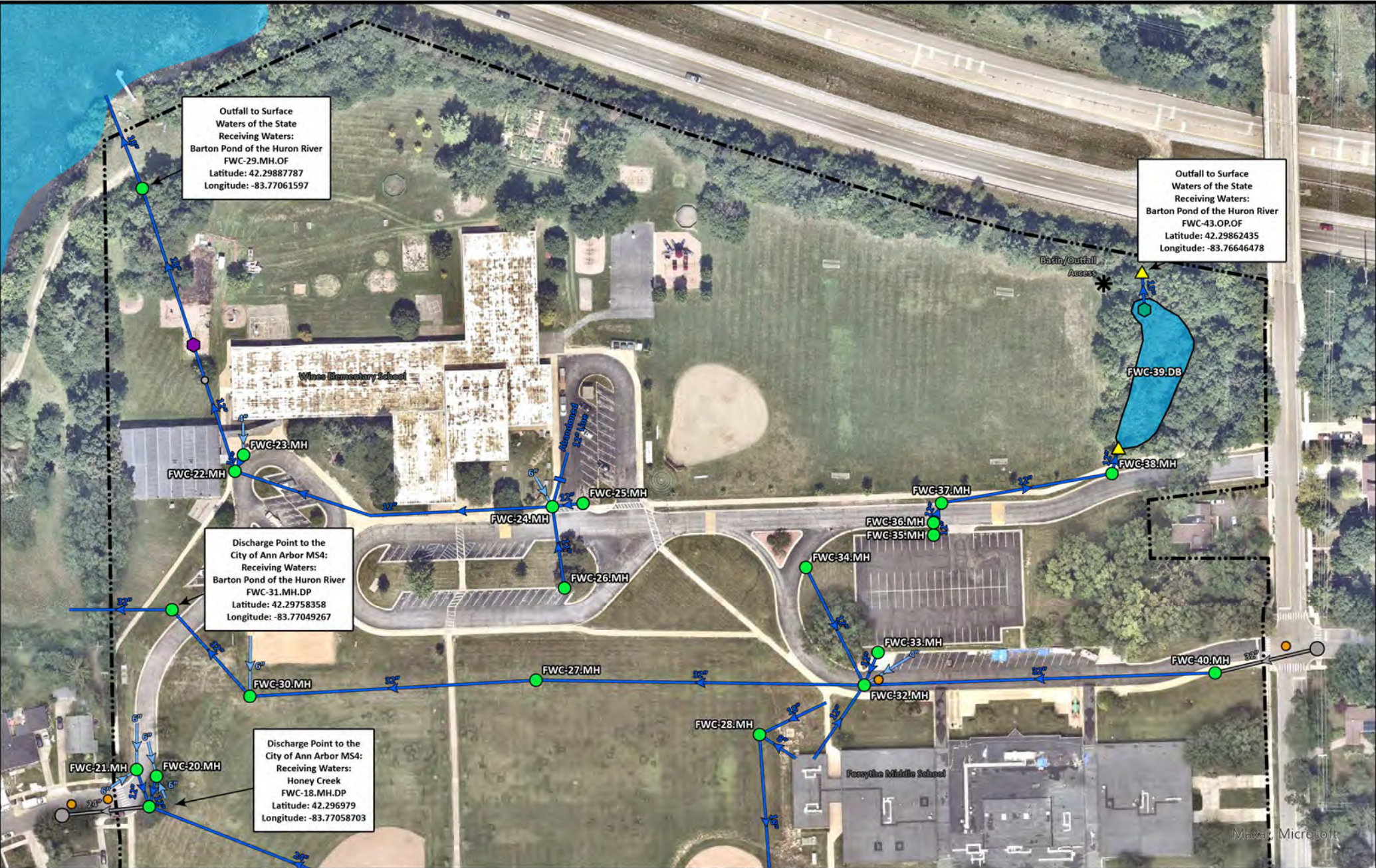
2081 East Ellsworth Road, Ann Arbor, MI 48108		
Ellsworth Road Parcel	Revision Date :	07/13/2021
	Drawn by:	JLP
	Reviewed:	LK
	Page #:	1 of 1
Ann Arbor Public Schools		Scale:
	37720 Interchange Drive Farmington Hills, MI 48335 Phone: 248-426-0165 Fax: 248-427-0305	
	Not to Scale	

Outfall to Surface Waters of the State
Receiving Waters:
Barton Pond of the Huron River
FWC-29.MH.OF
Latitude: 42.29887787
Longitude: -83.77061597

Outfall to Surface Waters of the State
Receiving Waters:
Barton Pond of the Huron River
FWC-43.OP.OF
Latitude: 42.29862435
Longitude: -83.76646478

Discharge Point to the City of Ann Arbor MS4:
Receiving Waters:
Barton Pond of the Huron River
FWC-31.MH.DP
Latitude: 42.29758358
Longitude: -83.77049267

Discharge Point to the City of Ann Arbor MS4:
Receiving Waters:
Honey Creek
FWC-18.MH.DP
Latitude: 42.296979
Longitude: -83.77058703

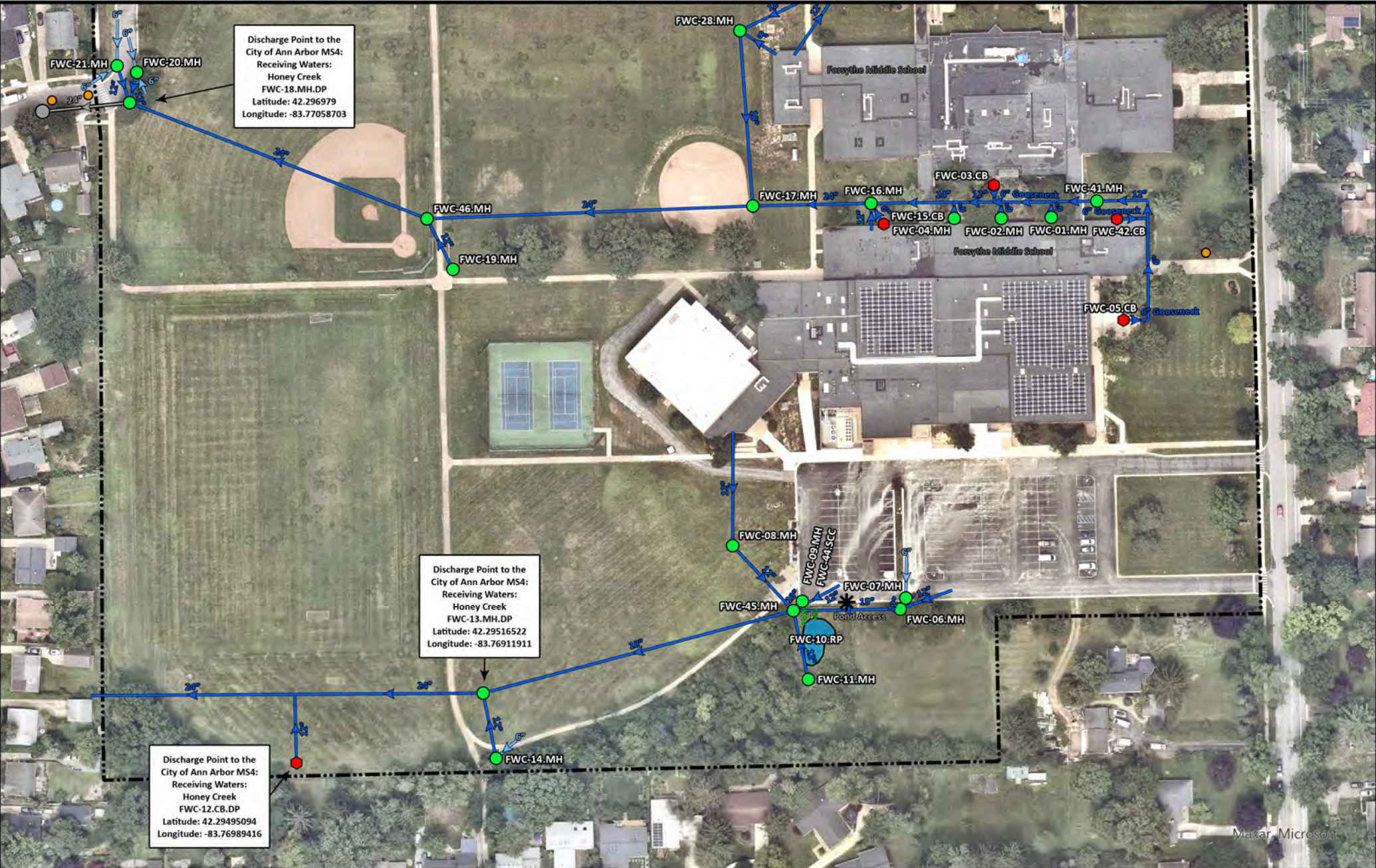


Map Key

- | | | | | |
|--|--|---|---|--|
| <ul style="list-style-type: none"> ● = Catch Basin ● = Manhole ■ = Infiltration Basin ▲ = Drainage Receptor ▲ = Open Pipe Outlet ■ = Stabilized Outlet | <ul style="list-style-type: none"> — = Trench Drain ● = French Drain ● = Sanitary ● = Offsite MS4 ● = Flow Splitter ● = Hydrodynamic Separator | <ul style="list-style-type: none"> ■ = Lift Station ■ = Buried Structure ■ = Abandoned Structure ● = Roof Drain ● = Cleanout ● = Access Lid | <ul style="list-style-type: none"> ■ = Underground Detention/Retention System ■ = Pond/Basin ■ = Bioretention Pond/Basin ■ = Swale/Stormwater Conveyance Channel ■ = Riprap ▲ = Culvert | <ul style="list-style-type: none"> — = Pipe — = Field Drainage — = Creek/River/Drain/Pond/Lake — = Gravel Lot/Road --- = Property Lines ★ = Access Point |
|--|--|---|---|--|



1655 Newport Rd, Ann Arbor, MI 48103 / 1701 Newport Road, Ann Arbor, MI 48103	
Forsythe Middle School/ Wines Elementary School Complex	
Ann Arbor Public Schools	
Revision Date:	10/16/2025
Drawn By:	ADH
Reviewed By:	RG
Page #:	1 of 2
25510 W 11 Mile Road Southfield, MI 48034 Phone (248) 426-0165 Fax: (248) 427-0305	
0 65 130 Feet	



Map Key

● = Catch Basin	— = Trench Drain	□ = Lift Station	■ = Underground Detention /Retention System	→ = Pipe
● = Manhole	● = French Drain	● = Buried Structure	■ = Pond/Basin	→ = Field Drainage
■ = Infiltration Basin	● = Sanitary	■ = Abandoned Structure	■ = Bioretention Pond/Basin	→ = Creek/River/ Drain/Pond/Lake
● = Drainage Receptor	● = Offsite MS4	● = Roof Drain	→ = Swale/Stormwater Conveyance Channel	→ = Gravel Lot/Road
▲ = Open Pipe Outlet	● = Flow Splitter	○ = Cleanout	→ = Riprap	--- = Property Lines
● = Stabilized Outlet	● = Hydrodynamic Separator	● = Access Lid	▲ = Culvert	★ = Access Point

1655 Newport Rd, Ann Arbor, MI 48103 / 1701 Newport Road, Ann Arbor, MI 48103

Forsythe Middle School/ Wines Elementary School Complex

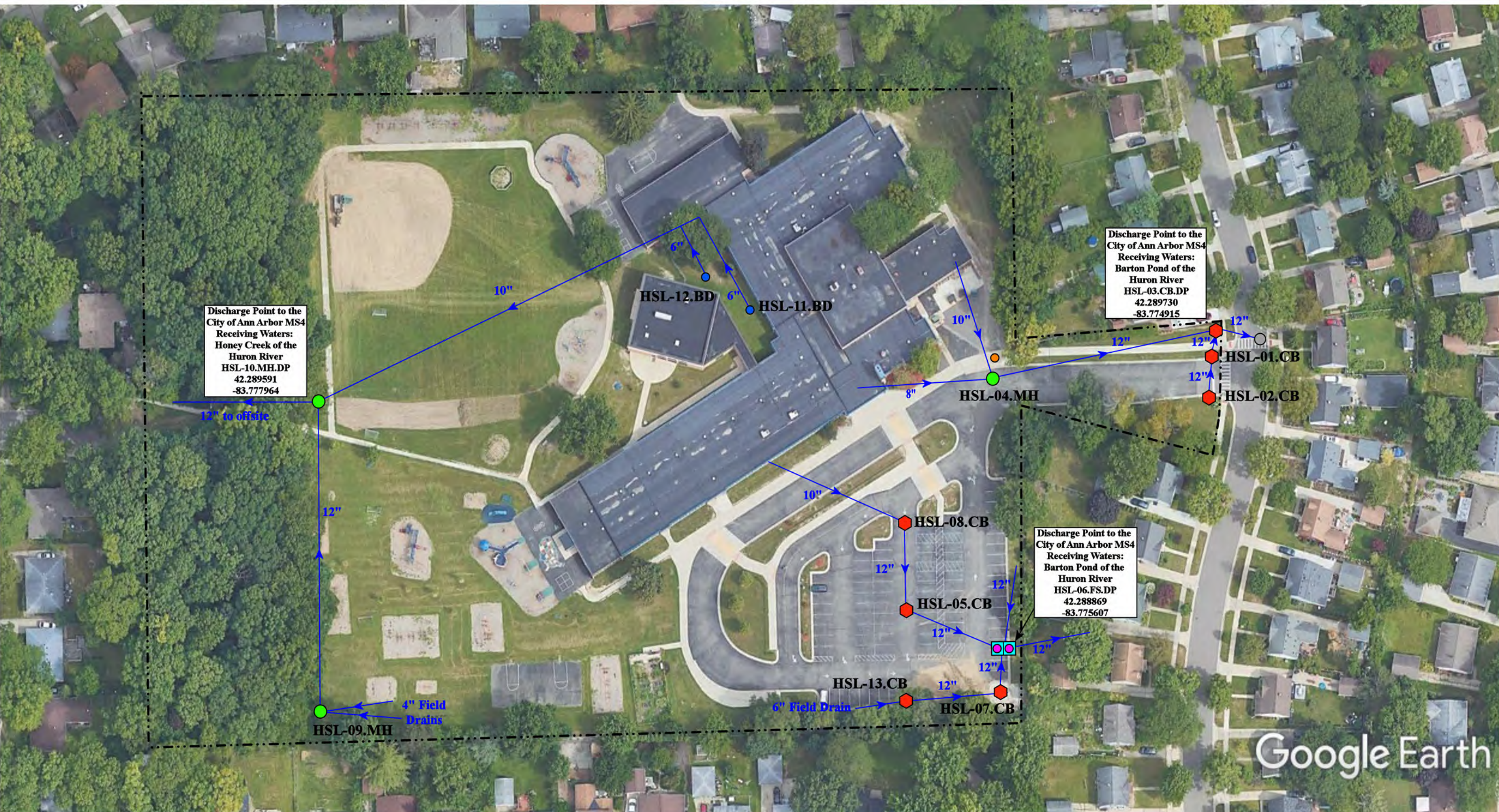
Ann Arbor Public Schools



25510 W 11 Mile Road
Southfield, MI 48034
Phone (248) 426-0165
Fax: (248) 427-0305

Revision Date: 10/16/2025
Drawn By: ADH
Reviewed By: RG
Page #: 2 of 2

0 65 130 Feet



= Catch Basin	= Infiltration Basin	= Buried Structure	= Pond/Basin
= Manhole	= Open Pipe Outlet	= Stabilized Outlet	= Swale/Stormwater
= Basin Drain	= Drainage Receptor	= Flow Splitter	= Conveyance Channel
= Offsite MS4	= Trench Drain	= Hydrodynamic Separator	= Underground Detention System
= Sanitary	= Property Lines		



825 Duncan Street, Ann Arbor, Michigan, 48103		Revision Date :	08/11/2023
Haisley Elementary School		Drawn by:	APH
Ann Arbor Public Schools		Reviewed:	BJK
		Page #:	1 of 1
		Scale:	Not to Scale

37720 Interchange Drive
Farmington Hills, MI 48335
Phone: 248-426-0165
Fax: 248-427-0305

Discharge Point to the City of Ann Arbor MS4
Receiving Waters:
Swift Drain of the Huron River
HRN-39.MH.DP
42.281283
-83.706206

Discharge Point to the City of Ann Arbor MS4
Receiving Waters:
Swift Drain of the Huron River
HRN-38.MH.DP
42.281553
-83.705956

Discharge Point to the City of Ann Arbor MS4
Receiving Waters:
Swift Drain of the Huron River
HRN-29.MH.DP
42.280058
-83.704214

Outfall to Unnamed Tributary of the Huron River
HRN-67.OP.OF
42.282917
-83.701756

Outfall to Unnamed Tributary of the Huron River
HRN-64.OP.OF
42.283122
-83.701558

● = Catch Basin

● = Manhole

● = French Drain

● = Offsite MS4

● = Sanitary

■ = Infiltration Basin

▲ = Open Pipe Outlet

▲ = Drainage Receptor

— = Trench Drain

--- = Property Lines

■ = Buried Structure

■ = Stabilized Outlet

■ = Flow Splitter

● = Hydrodynamic Separator

■ = Pond/Basin

■ = Swale/Stormwater Conveyance Channel

■ = Underground Detention System

North

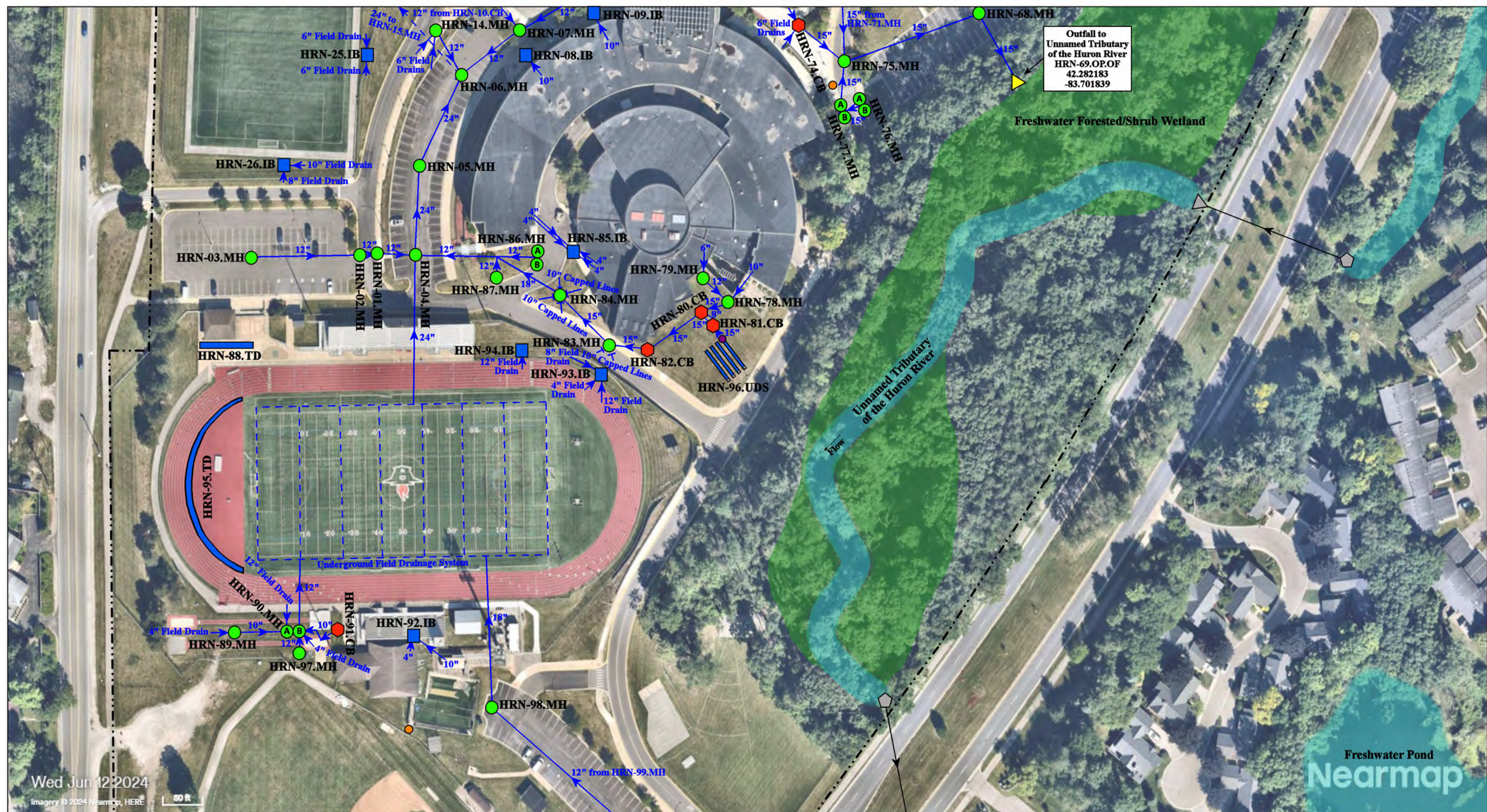
2727 Fuller Rd, Ann Arbor, MI 48105

Huron High School

Ann Arbor Public Schools

37720 Interchange Drive
Farmington Hills, MI 48335
Phone: 248-426-0165
Fax: 248-427-0305

Revision Date :	10/04/2024
Drawn by:	RG
Reviewed:	AH
Page #:	1 of 3
Scale:	Not to Scale



Wed Jun 12 2024
Imagery © 2024 Nearmap, HERE

- | | | | |
|----------------|----------------------|--------------------------|---------------------------------------|
| = Catch Basin | = Infiltration Basin | = Buried Structure | = Pond/Basin |
| = Manhole | = Open Pipe Outlet | = Stabilized Outlet | = Swale/Stormwater Conveyance Channel |
| = French Drain | = Drainage Receptor | = Flow Splitter | = Underground Detention System |
| = Offsite MS4 | = Trench Drain | = Hydrodynamic Separator | |
| = Sanitary | = Property Lines | | |



2727 Fuller Rd, Ann Arbor, MI 48105		Revision Date :	10/04/2024
Huron High School		Drawn by:	RG
Ann Arbor Public Schools		Reviewed:	AH
		Page #:	2 of 3
		Scale:	Not to Scale

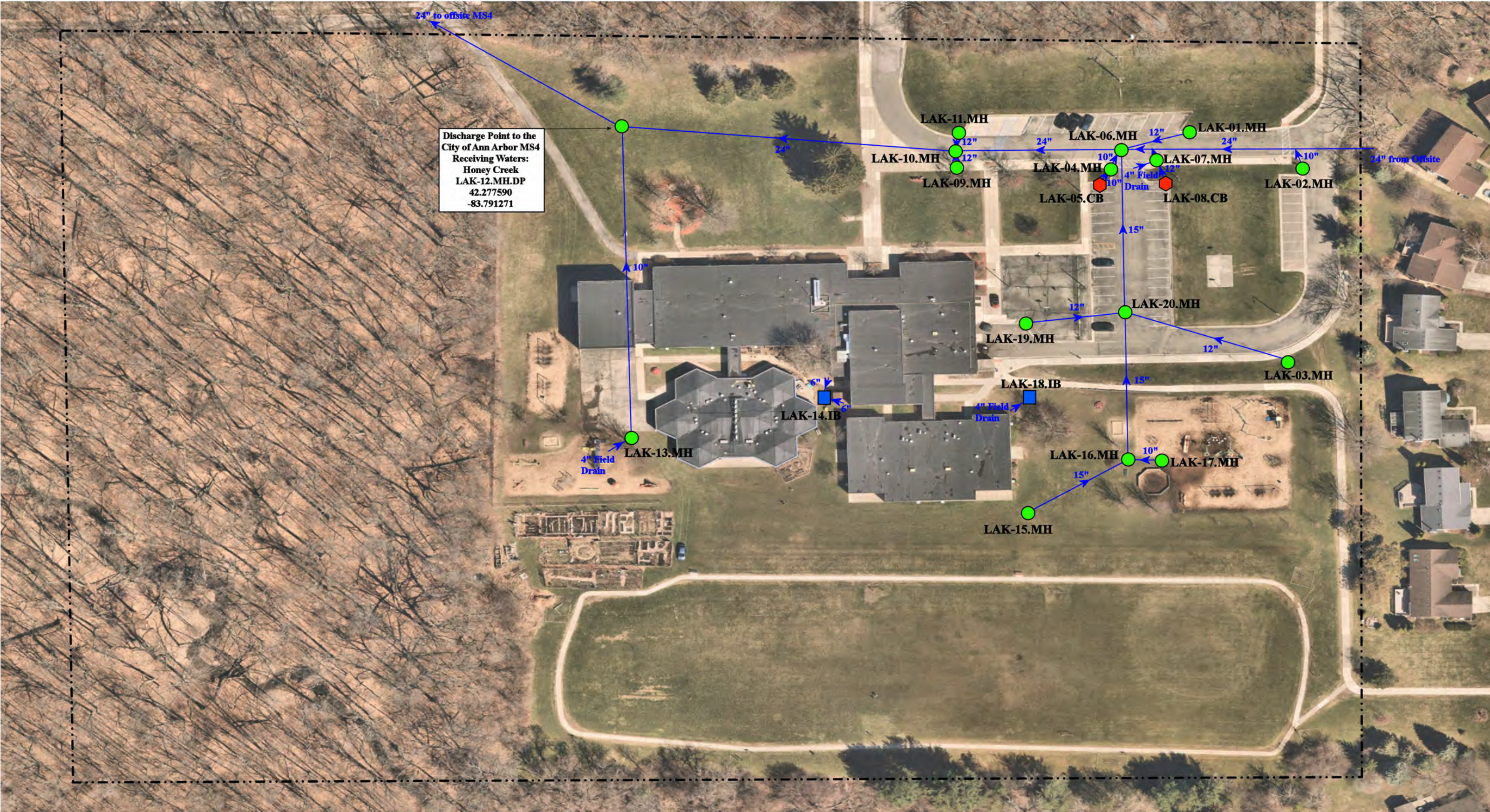
37720 Interchange Drive
Farmington Hills, MI 48335
Phone: 248-426-0165
Fax: 248-427-0305



= Catch Basin	= Infiltration Basin	= Buried Structure	= Pond/Basin
= Manhole	= Open Pipe Outlet	= Stabilized Outlet	= Swale/Stormwater Conveyance Channel
= French Drain	= Drainage Receptor	= Flow Splitter	= Underground Detention System
= Offsite MS4	= Trench Drain	= Roof Drain	
= Sanitary	= Property Lines	= Hydrodynamic Separator	



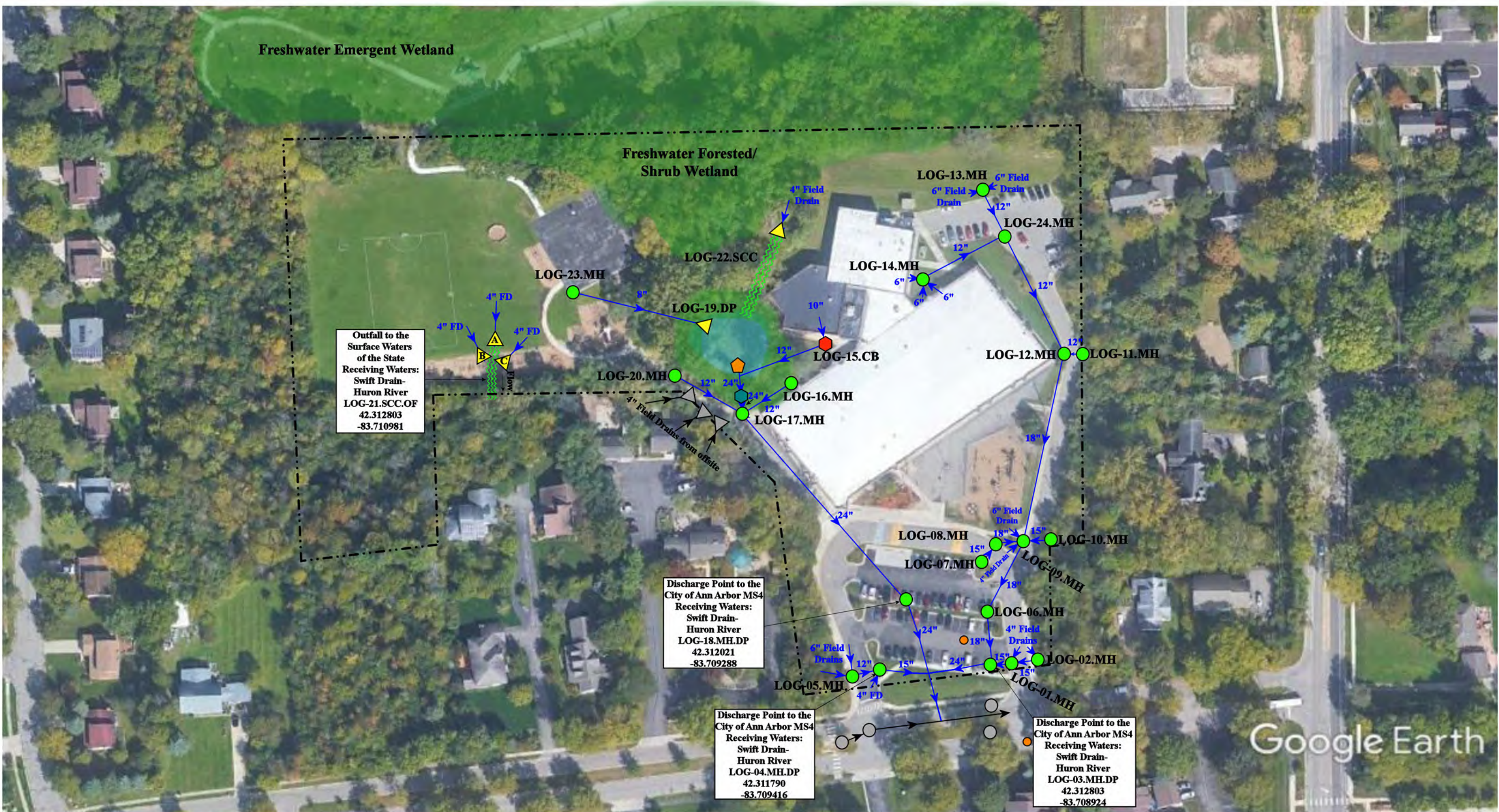
3800 Waldenwood Drive, Ann Arbor, Michigan 48015	
King Elementary School	
Ann Arbor Public School	
37720 Interchange Drive Farmington Hills, MI 48335 Phone: 248-426-0165 Fax: 248-427-0305	
Revision Date :	05/13/2025
Drawn by:	WM
Reviewed:	EG
Page #:	1 of 1
Scale:	Not to Scale



= Catch Basin	= Infiltration Basin	= Buried Structure	= Pond/Basin
= Manhole	= Open Pipe Outlet	= Stabilized Outlet	= Swale/Stormwater
= Basin Drain	= Drainage Receptor	= Flow Splitter	Conveyance Channel
= Offsite MS4	= Trench Drain	= Hydrodynamic Separator	= Underground Detention System
= Sanitary	= Property Lines		



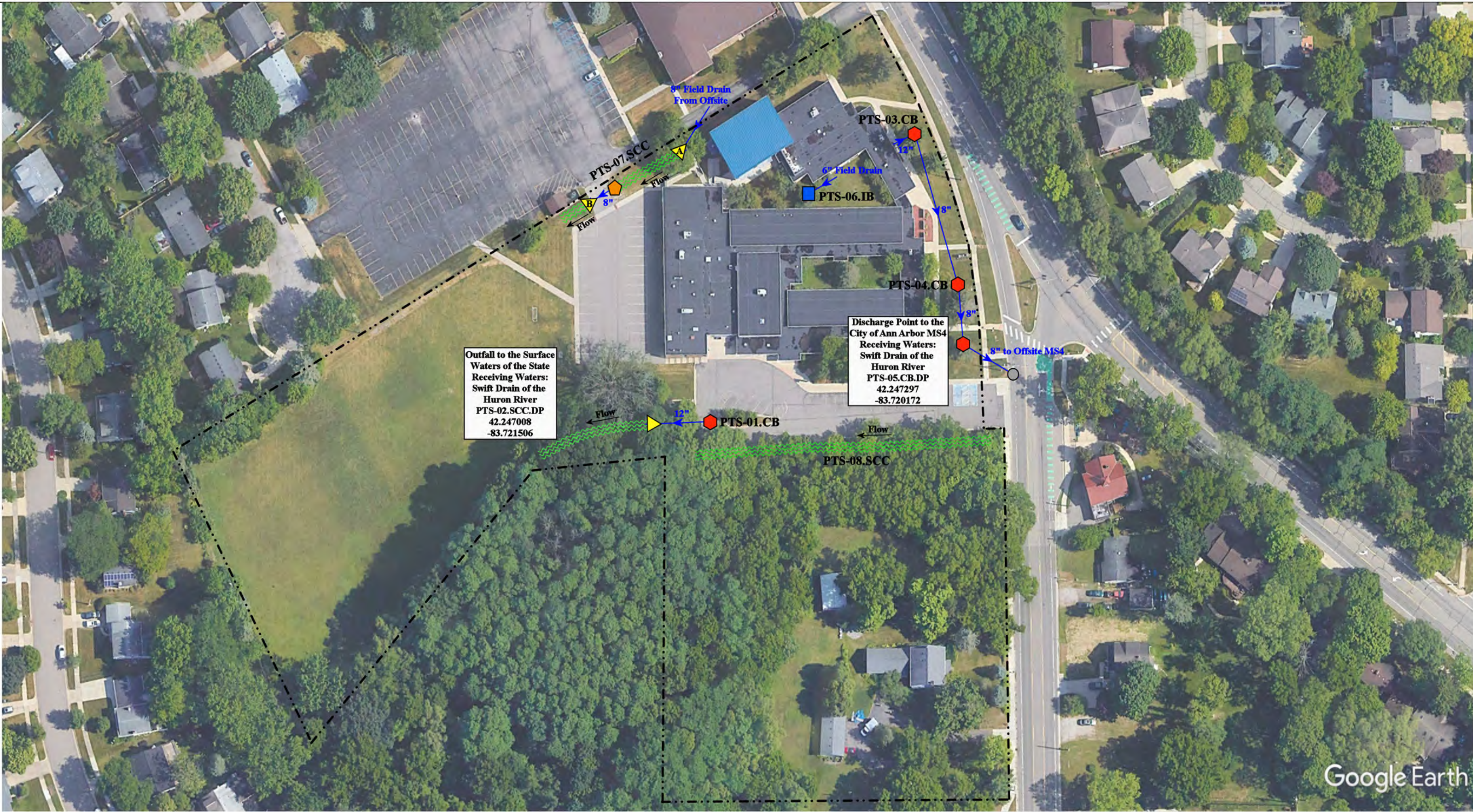
344 Gralake Avenue, Ann Arbor, MI 48103	
Lakewood Elementary School	
Ann Arbor Public Schools	
	37720 Interchange Drive Farmington Hills, MI 48335 Phone: 248-426-0165 Fax: 248-427-0305
Revision Date:	06/22/2022
Drawn by:	KEM
Reviewed:	BJK
Page #:	1 of 1
Scale:	Not to Scale



= Catch Basin	= Infiltration Basin	= Buried Structure	= Pond/Basin
= Manhole	= Open Pipe Outlet	= Stabilized Outlet	= Swale/Stormwater
= French Drain	= Drainage Receptor	= Flow Splitter	= Conveyance Channel
= Offsite MS4	= Trench Drain	= Hydrodynamic Separator	= Underground Detention System
= Sanitary	= Property Lines		



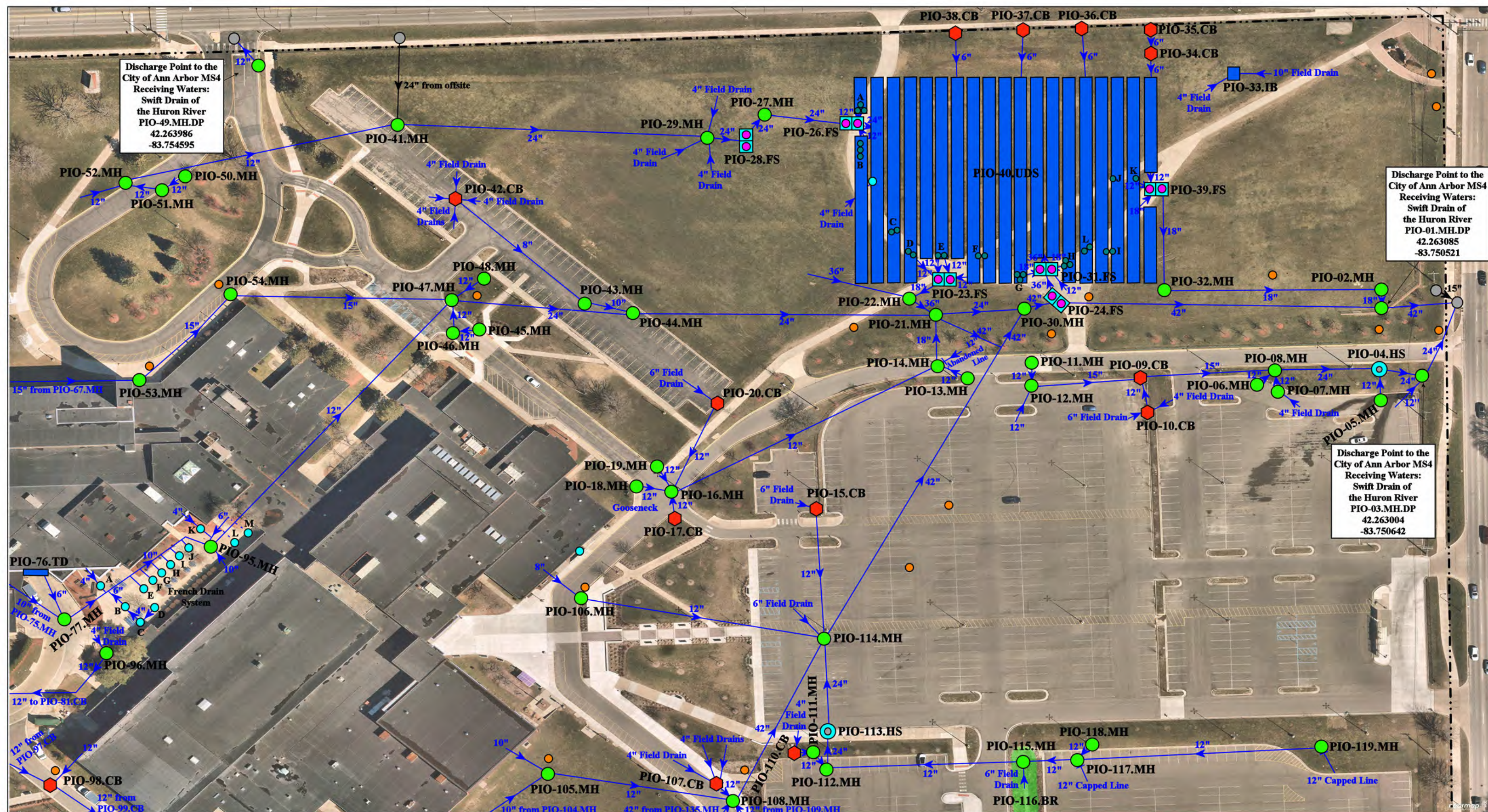
2685 Traver Blvd., Ann Arbor, MI 48105	
Logan Elementary School	
Ann Arbor Public Schools	
	25510 W 11 Mile Road Southfield, MI 48034 Phone: 248-426-0165 Fax: 248-427-0305
Revision Date :	08/21/2025
Drawn by:	EMB
Reviewed:	CJ
Page #:	1 of 1
Scale:	Not to Scale

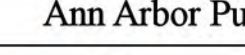
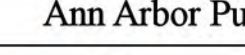
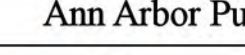


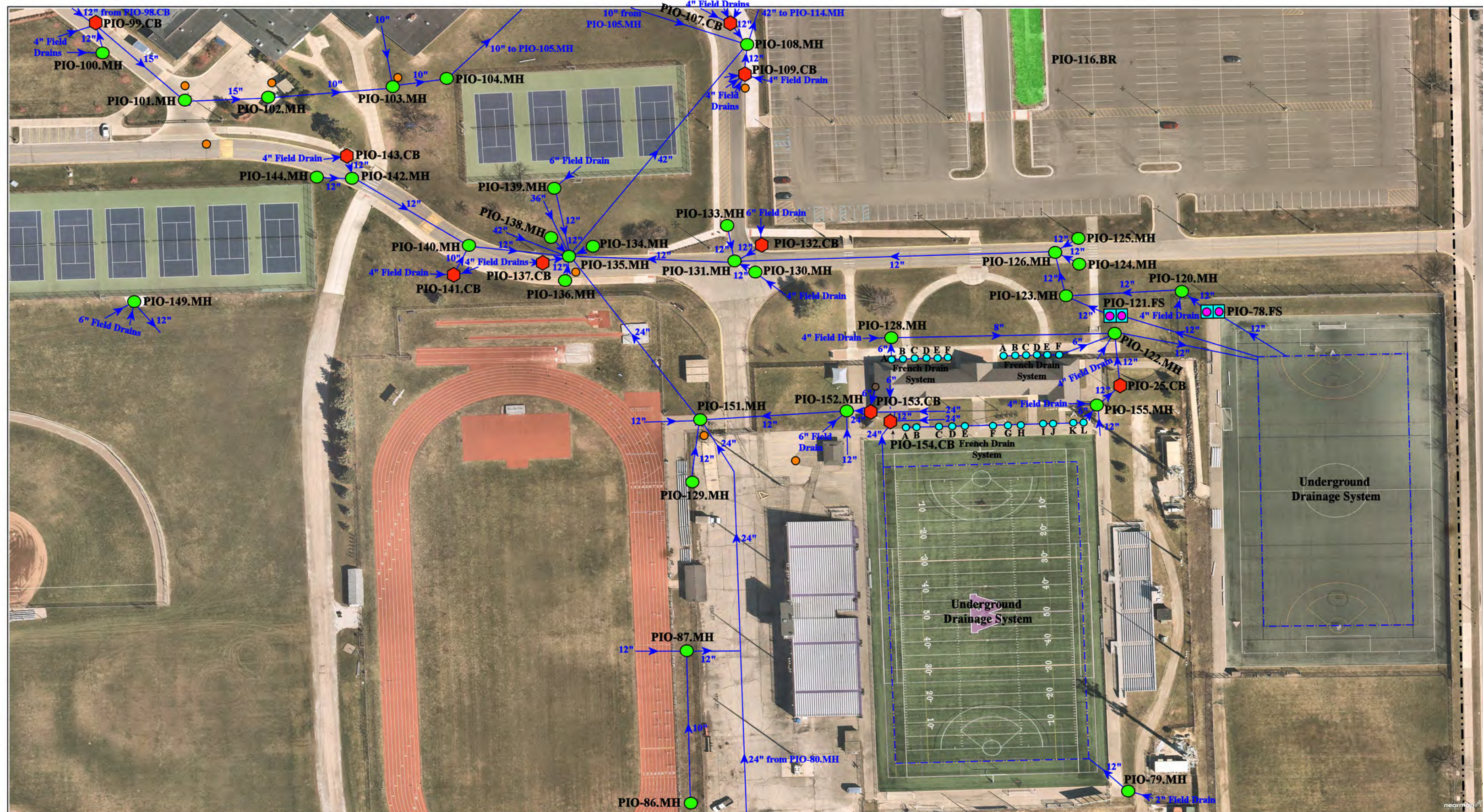
= Catch Basin	= Infiltration Basin	= Buried Structure	= Pond/Basin
= Manhole	= Open Pipe Outlet	= Stabilized Outlet	= Swale/Stormwater Conveyance Channel
= Basin Drain	= Drainage Receptor	= Flow Splitter	= Underground Detention System
= Offsite MS4	= Trench Drain	= Hydrodynamic Separator	
= Sanitary	= Property Lines		



2800 Stone School Rd, Ann Arbor, MI 48104		Revision Date:	4/28/2023
Pathways to Success Academic Campus		Drawn by:	CBT
Ann Arbor Public Schools		Reviewed:	BJK
 37720 Interchange Drive Farmington Hills, MI 48335 Phone: 248-426-0165 Fax: 248-427-0305		Page #:	1 of 1
		Scale:	Not to Scale



<div><div><div><div><div></div><div>Catch Basin</div></div><div><div></div><div>Manhole</div></div><div><div></div><div>French Drain</div></div><div><div></div><div>Offsite MS4</div></div><div><div></div><div>Sanitary</div></div></div><div><div><div></div><div>Infiltration Basin</div></div><div><div></div><div>Open Pipe Outlet</div></div><div><div></div><div>Drainage Receptor</div></div><div><div></div><div>Trench Drain</div></div><div><div></div><div>Property Lines</div></div></div><div><div><div></div><div>Buried Structure</div></div><div><div></div><div>Stabilized Outlet</div></div><div><div></div><div>Flow Splitter</div></div><div><div></div><div>Hydrodynamic Separator</div></div></div><div><div><div></div><div>Bioretention Basin</div></div><div><div></div><div>Swale/Stormwater Conveyance Channel</div></div><div><div></div><div>Underground Detention System</div></div></div></div></div>				<div>North</div> <div></div>	<div>601 W Stadium Blvd, Ann Arbor, MI 48103</div> <table><tr><td colspan="2">Pioneer High School</td><td>Revision Date :</td><td>12/03/2025</td></tr><tr><td colspan="2">Ann Arbor Public Schools</td><td>Drawn by:</td><td>BJK</td></tr><tr><td colspan="2" rowspan="3"><div><div>25510 W 11 Mile Rd Suite 300 Southfield, MI 48034 Phone: 248-426-0165 Fax: 248-427-0305</div></div></td><td>Reviewed:</td><td>KEM</td></tr><tr><td>Page #:</td><td>1 of 7</td></tr><tr><td>Scale:</td><td>Not to Scale</td></tr></table>			Pioneer High School		Revision Date :	12/03/2025	Ann Arbor Public Schools		Drawn by:	BJK	<div><div>25510 W 11 Mile Rd Suite 300 Southfield, MI 48034 Phone: 248-426-0165 Fax: 248-427-0305</div></div>		Reviewed:	KEM	Page #:	1 of 7	Scale:	Not to Scale
Pioneer High School		Revision Date :	12/03/2025																				
Ann Arbor Public Schools		Drawn by:	BJK																				
<div><div>25510 W 11 Mile Rd Suite 300 Southfield, MI 48034 Phone: 248-426-0165 Fax: 248-427-0305</div></div>		Reviewed:	KEM																				
		Page #:	1 of 7																				
		Scale:	Not to Scale																				



601 W Stadium Blvd, Ann Arbor, MI 48103

Pioneer High School

Ann Arbor Public Schools



25510 W 11 Mile Rd Suite 300
Southfield, MI 48034
Phone: 248-426-0165
Fax: 248-427-0305

Revision Date :	12/04/2025
Drawn by:	BJK
Reviewed:	KEM
Page #:	2 of 7
Scale:	Not to Scale

= Catch Basin	= Infiltration Basin	= Buried Structure	= Bioretention Basin
= Manhole	= Open Pipe Outlet	= Stabilized Outlet	= Swale/Stormwater Conveyance Channel
= French Drain	= Drainage Receptor	= Flow Splitter	= Trench Drain
= Offsite MS4	= Property Lines	= Hydrodynamic Separator	= Underground Detention System
= Sanitary			





= Catch Basin	= Infiltration Basin	= Buried Structure	= Pond/Basin
= Manhole	= Open Pipe Outlet	= Stabilized Outlet	= Swale/Stormwater Conveyance Channel
= French Drain	= Drainage Receptor	= Flow Splitter	= Trench Drain
= Offsite MS4	= Property Lines	= Hydrodynamic Separator	= Underground Detention System
= Sanitary			



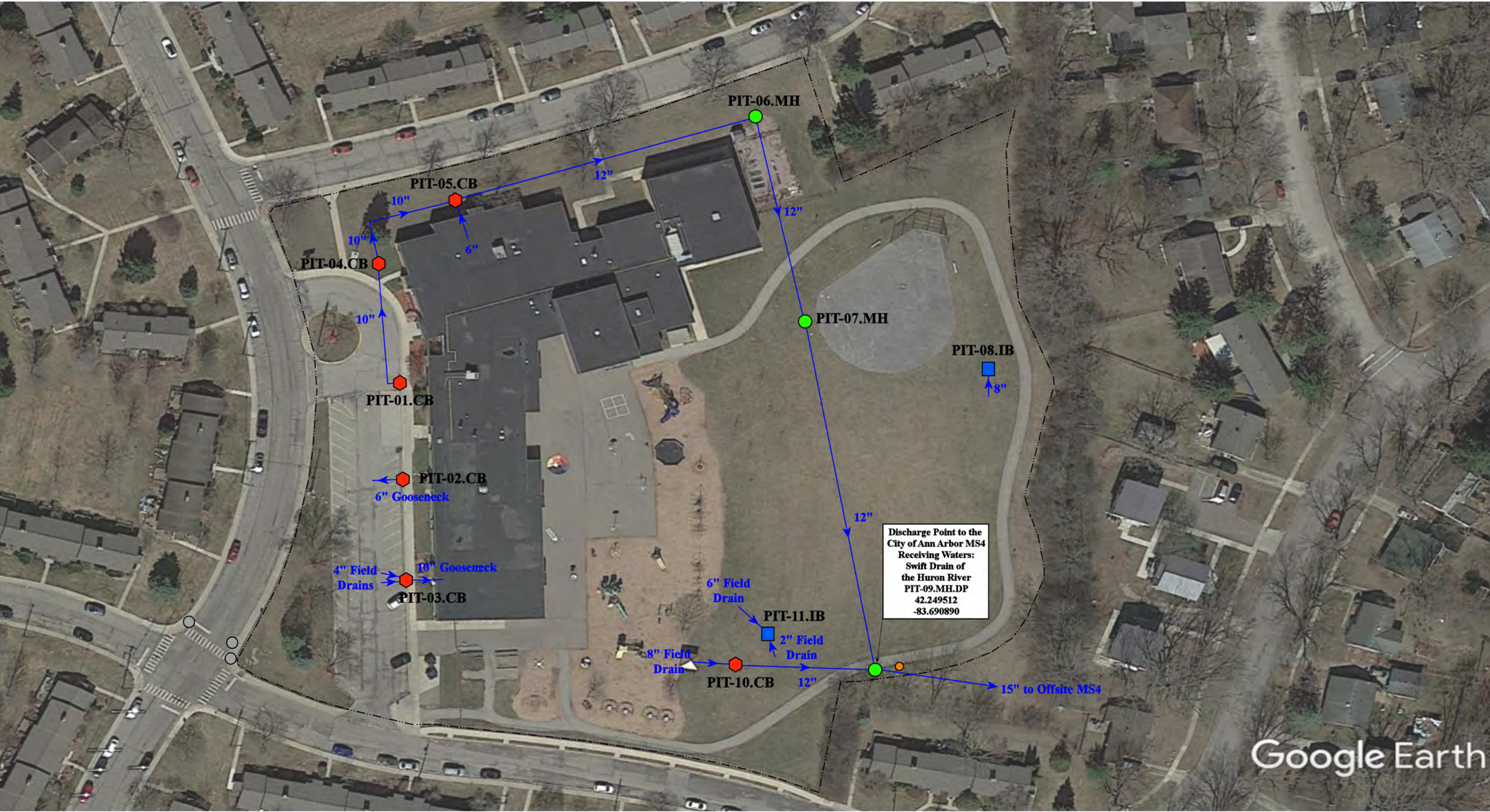
601 W Stadium Blvd, Ann Arbor, MI 48103	
Pioneer High School	
Ann Arbor Public Schools	
25510 W 11 Mile Rd Suite 300 Southfield, MI 48034 Phone: 248-426-0165 Fax: 248-427-0305	
Revision Date :	12/04/2025
Drawn by:	BJK
Reviewed:	KEM
Page #:	5 of 7
Scale:	Not to Scale



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|----------------|----------------------|--------------------------|--------------------------------|
| = Catch Basin | = Infiltration Basin | = Buried Structure | = Pond/Basin |
| = Manhole | = Open Pipe Outlet | = Stabilized Outlet | = Swale/Stormwater |
| = French Drain | = Drainage Receptor | = Flow Splitter | = Conveyance Channel |
| = Offsite MS4 | = Trench Drain | = Hydrodynamic Separator | = Underground Detention System |
| = Sanitary | = Property Lines | | |



601 W Stadium Blvd, Ann Arbor, MI 48103			Revision Date :	12/04/2025
Pioneer High School			Drawn by:	BJK
Ann Arbor Public Schools			Reviewed:	KEM
 <div>25510 W 11 Mile Rd Suite 300 Southfield, MI 48034 Phone: 248-426-0165 Fax: 248-427-0305</div>			Page #:	6 of 7
			Scale:	Not to Scale



- | | | | |
|----------------|----------------------|--------------------------|--------------------------------|
| = Catch Basin | = Infiltration Basin | = Buried Structure | = Pond/Basin |
| = Manhole | = Open Pipe Outlet | = Stabilized Outlet | = Swale/Stormwater |
| = French Drain | = Drainage Receptor | = Flow Splitter | = Conveyance Channel |
| = Offsite MS4 | = Trench Drain | = Hydrodynamic Separator | = Underground Detention System |
| = Sanitary | = Property Lines | | |



2543 Pittsfield Boulevard, Ann Arbor, MI 48104			Revision Date :	03/20/2024
Pittsfield Elementary School			Drawn by:	KEM
Ann Arbor Public Schools			Reviewed:	BJK
 37720 Interchange Drive Farmington Hills, MI 48335 Phone: 248-426-0165 Fax: 248-427-0305			Page #:	1 of 1
			Scale:	Not to Scale



Freshwater Emergent Wetlands

<div><div><div><div><div></div><div>= Catch Basin</div></div><div><div></div><div>= Manhole</div></div><div><div></div><div>= French Drain</div></div><div><div></div><div>= Offsite MS4</div></div><div><div></div><div>= Sanitary</div></div></div><div><div><div></div><div>= Infiltration Basin</div></div><div><div></div><div>= Open Pipe Outlet</div></div><div><div></div><div>= Drainage Receptor</div></div><div><div></div><div>= Trench Drain</div></div><div><div></div><div>= Property Lines</div></div></div><div><div><div></div><div>= Buried Structure</div></div><div><div></div><div>= Stabilized Outlet</div></div><div><div></div><div>= Flow Splitter</div></div><div><div></div><div>= Hydrodynamic Separator</div></div></div><div><div><div></div><div>= Pond/Basin</div></div><div><div></div><div>= Swale/Stormwater Conveyance Channel</div></div><div><div></div><div>= Underground Detention System</div></div></div></div></div>					<div>North</div> <div></div>		<div>3300 Lorraine St. / 3550 Pittsview Dr., Ann Arbor, MI 48108</div> <div>Scarlett Middle School / Mitchell Elementary School Complex</div> <div>Ann Arbor Public Schools</div> <div></div> <div>Phone: 248-426-0165 Fax: 248-427-0305</div>		<div>Revision Date : 04/24/2025</div> <div>Drawn by: RG</div> <div>Reviewed: APH</div> <div>Page #: 3 of 3</div> <div>Scale: Not to Scale</div>
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Google Earth

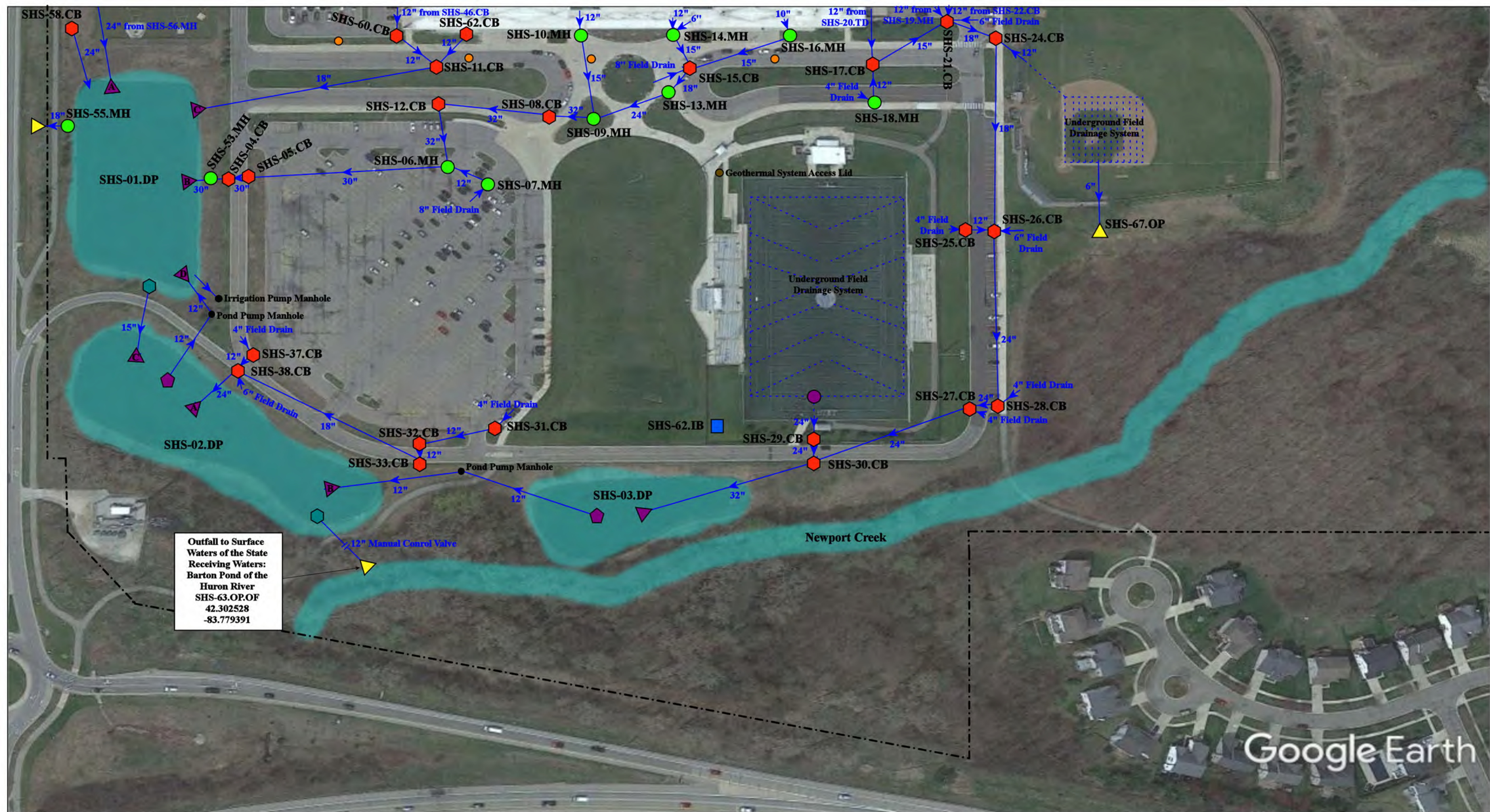
2552 N Maple Rd, Ann Arbor, MI, 48103

	= Catch Basin		= Infiltration Basin		= Buried Structure		= Pond/Basin
	= Manhole		= Open Pipe Outlet		= Stabilized Outlet		= Swale/Stormwater
	= French Drain		= Drainage Receptor		= Flow Splitter		= Conveyance Channel
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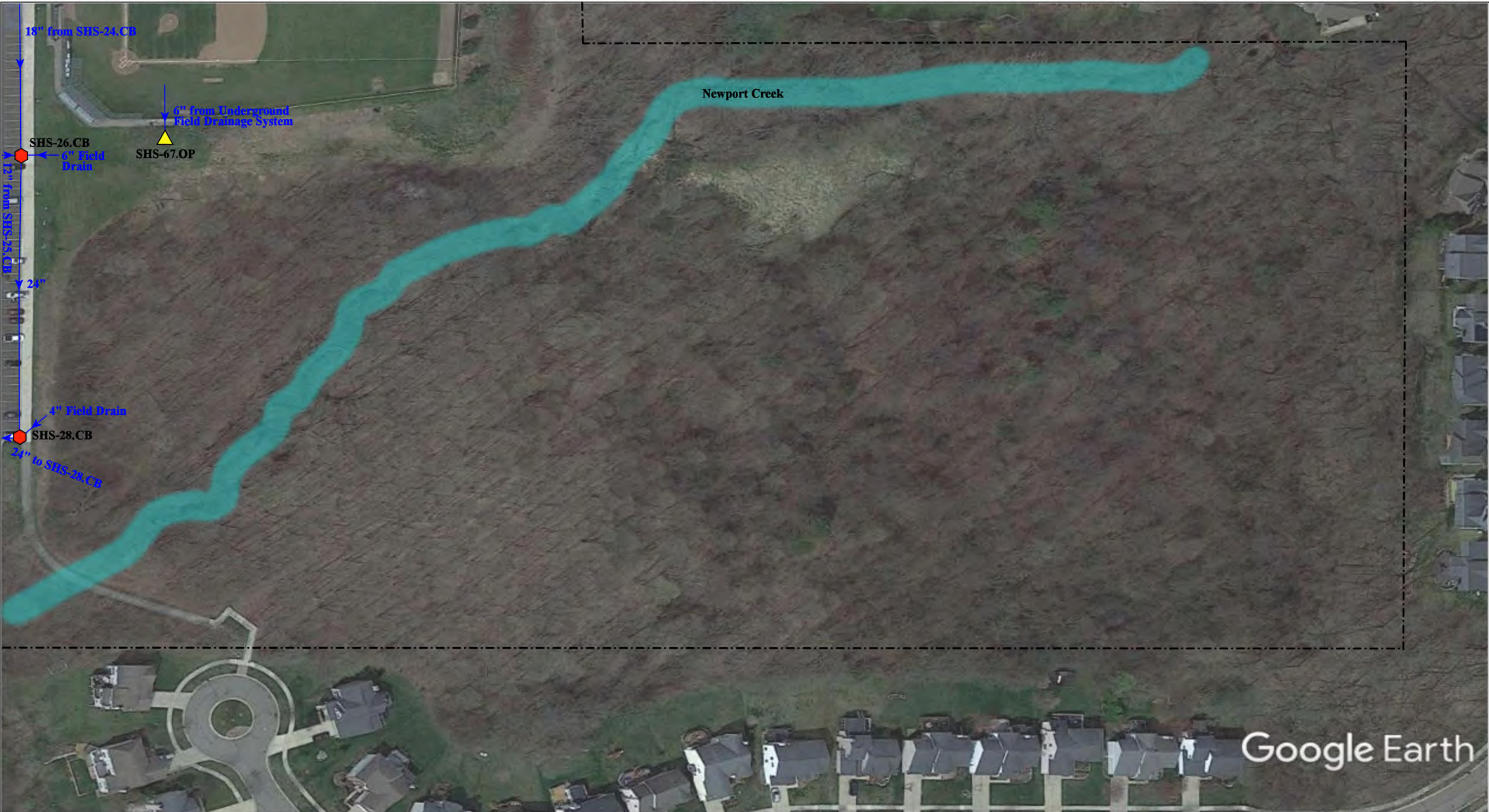


Skyline High School Ann Arbor Public Schools 	Revision Date :	11/22/2023
	Drawn by:	EDG
	Reviewed:	KEM
	Page #:	1 of 3
	Scale:	Not to Scale

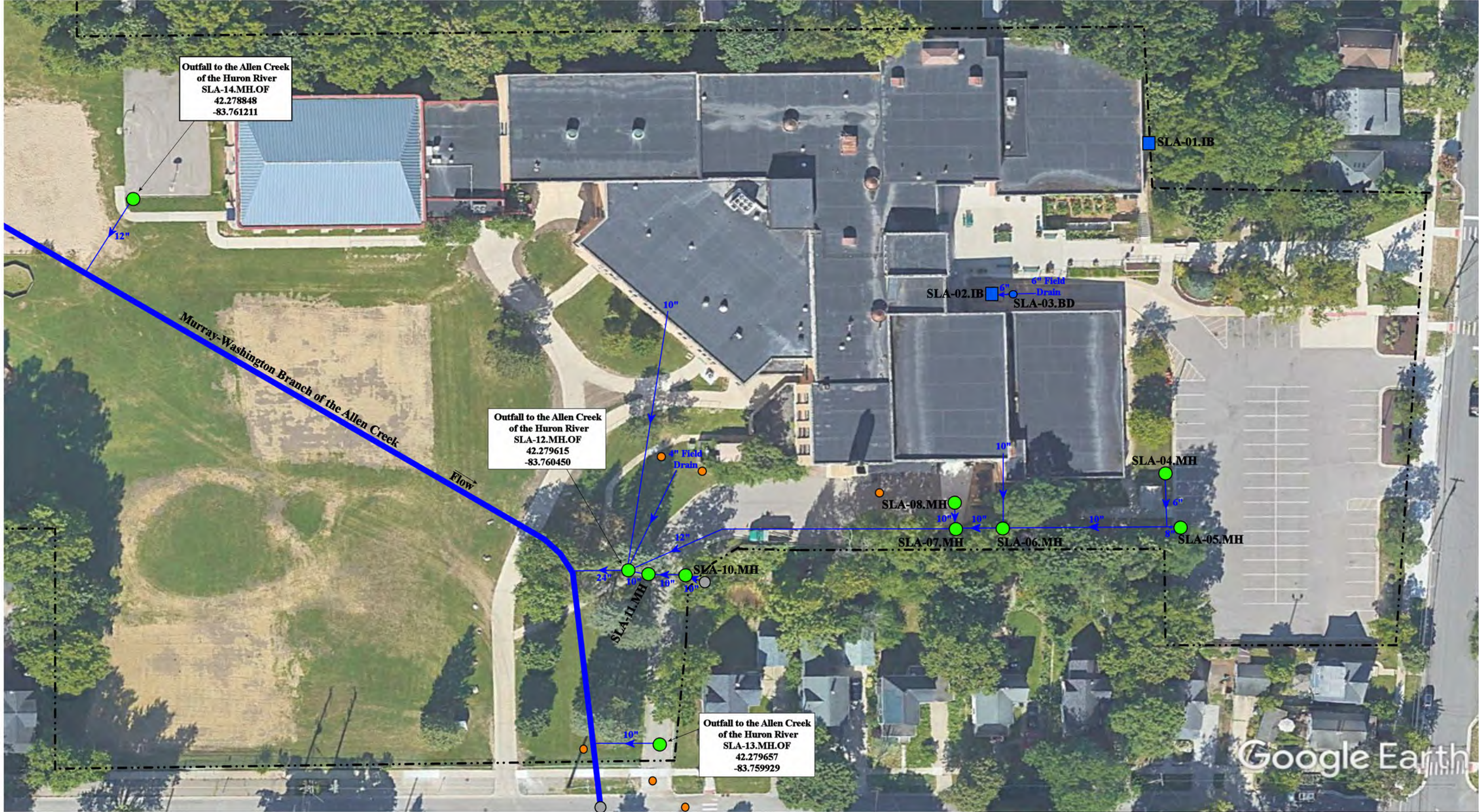
37720 Interchange Drive
Farmington Hills, MI 48335
Phone: 248-426-0165
Fax: 248-427-0305



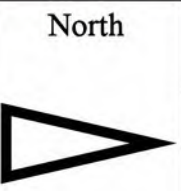
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Skyline High School				Revision Date:	11/22/2023
Ann Arbor Public Schools				Drawn by:	EDG
 37720 Interchange Drive Farmington Hills, MI 48335 Phone: 248-426-0165 Fax: 248-427-0305				Reviewed:	KEM
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				Ann Arbor Public Schools	
37720 Interchange Drive Farmington Hills, MI 48335 Phone: 248-426-0165 Fax: 248-427-0305					
North		Revision Date :	11/22/2023		
		Drawn by:	EDG		
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| ● = Manhole | ▲ = Open Pipe Outlet | ■ = Stabilized Outlet | ≡ = Swale/Stormwater Conveyance Channel |
| ● = Basin Drain | ● = Drainage Receptor | □ = Flow Splitter | ≡ = Underground Detention System |
| ● = Offsite MS4 | — = Trench Drain | ⊙ = Hydrodynamic Separator | |
| ● = Sanitary | - - - = Property Lines | | |

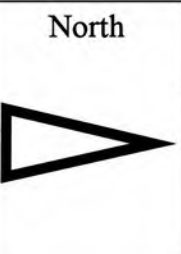


1019 W Washington Street, Ann Arbor, Michigan 48103		Revision Date :	08/11/2023
Slauson Middle School		Drawn by:	EMB
Ann Arbor Public Schools		Reviewed:	EG
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37720 Interchange Drive
Farmington Hills, MI 48335
Phone: 248-426-0165
Fax: 248-427-0305

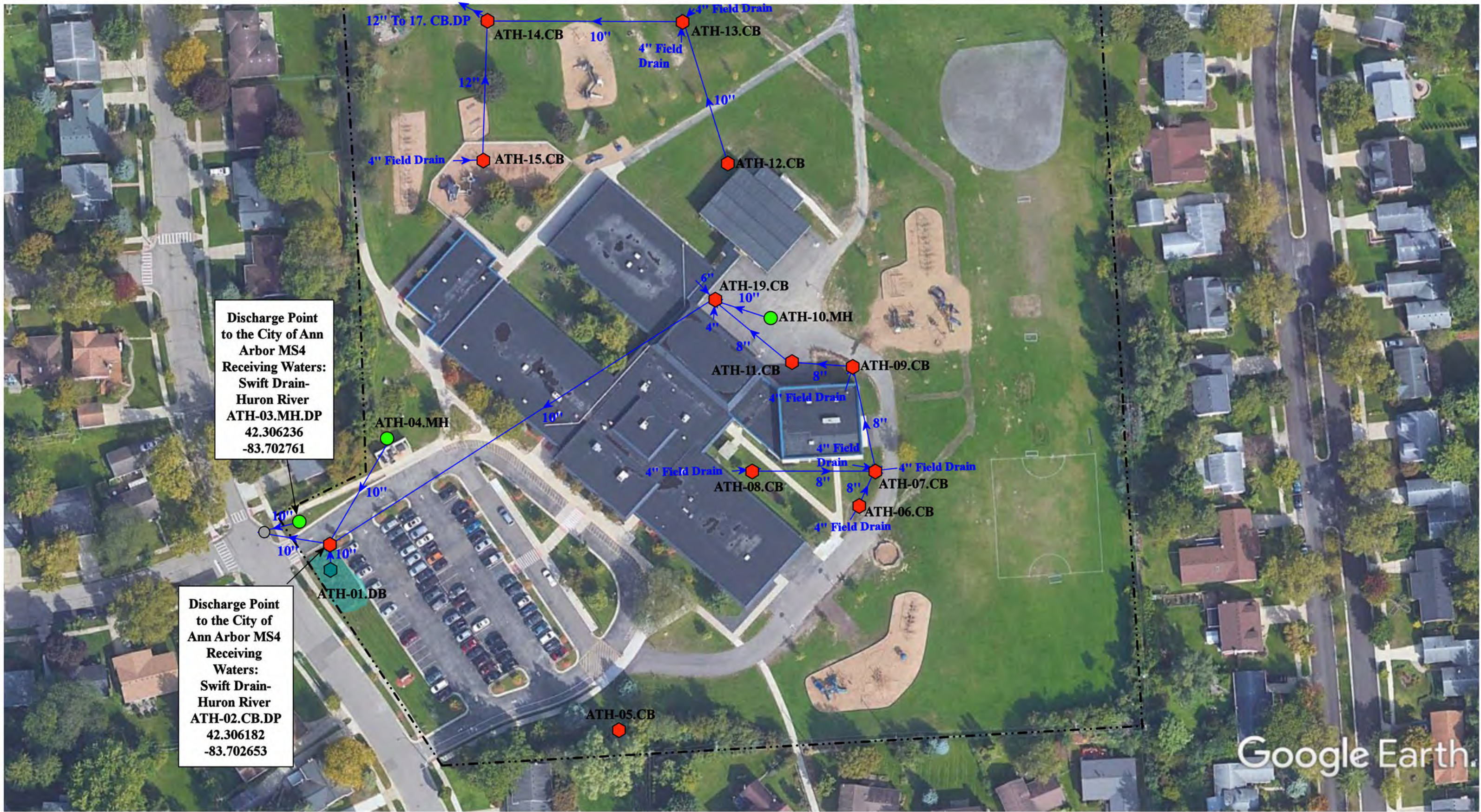


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| = Sanitary | = Property Lines | | |



1019 W Washington Street, Ann Arbor, Michigan 48103		
Slauson Middle School		Revision Date : 08/11/2023
Ann Arbor Public Schools		Drawn by: EMB
		Reviewed: EG
		Page #: 2 of 2
		Scale: Not to Scale

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Farmington Hills, MI 48335
Phone: 248-426-0165
Fax: 248-427-0305



Discharge Point
to the City of Ann
Arbor MS4
Receiving Waters:
Swift Drain-
Huron River
ATH-03.MH.DP
42.306236
-83.702761

Discharge Point
to the City of
Ann Arbor MS4
Receiving
Waters:
Swift Drain-
Huron River
ATH-02.CB.DP
42.306182
-83.702653

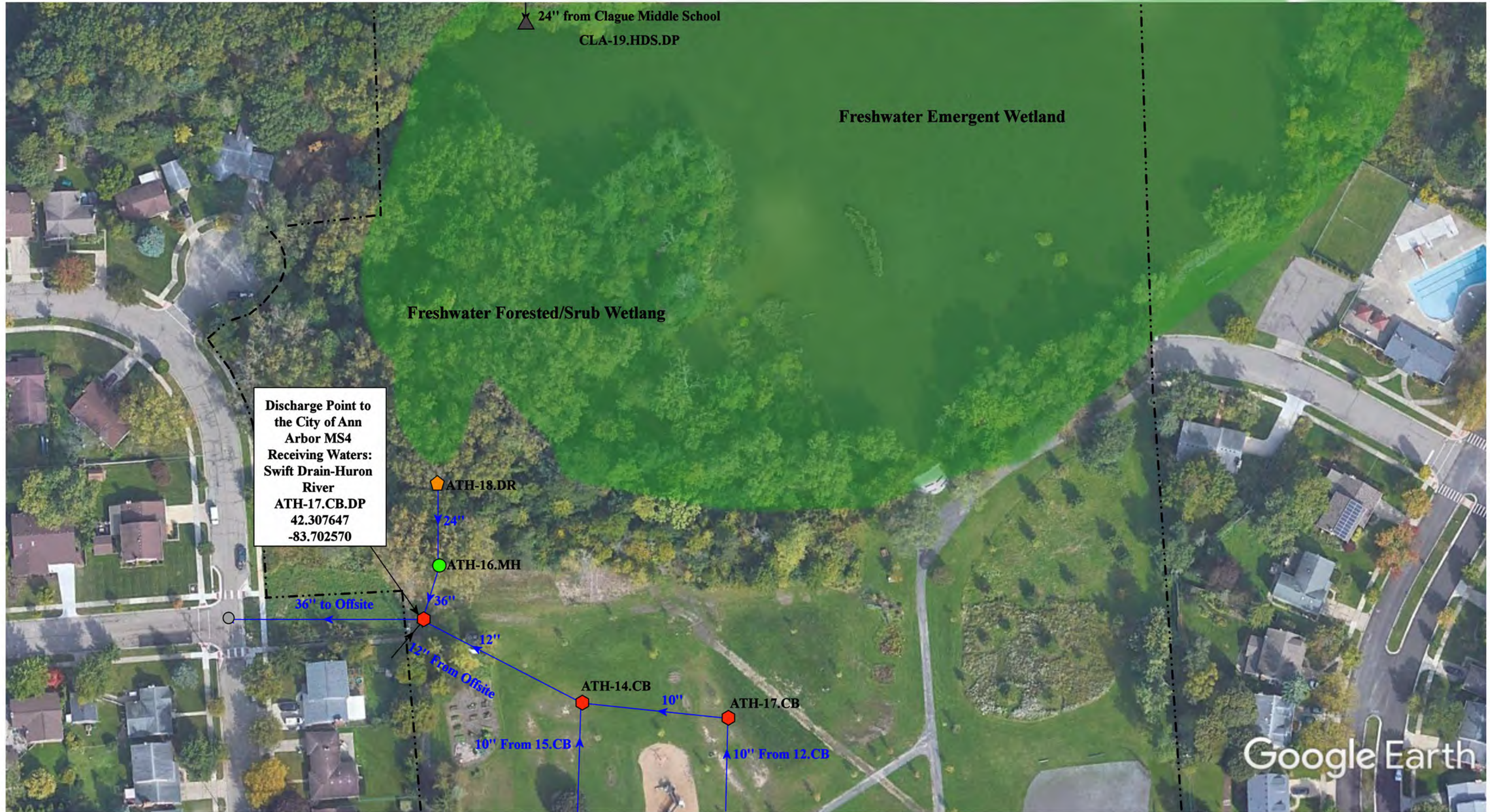
Google Earth

2300 Prairie Street, Ann Arbor, MI 48105

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| = Offsite MS4 | = Trench Drain | = Hydrodynamic Separator | = Underground Detention System |
| = Sanitary | = Property Lines | | |



Thurston Elementary School	Revision Date :	2/20/2023
	Drawn by:	WM
	Reviewed:	EB
Ann Arbor Public Schools	Page #:	1 of 3
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	37720 Interchange Drive Farmington Hills, MI 48335 Phone: 248-426-0165 Fax: 248-427-0305	



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| = Sanitary | = Property Lines | | |



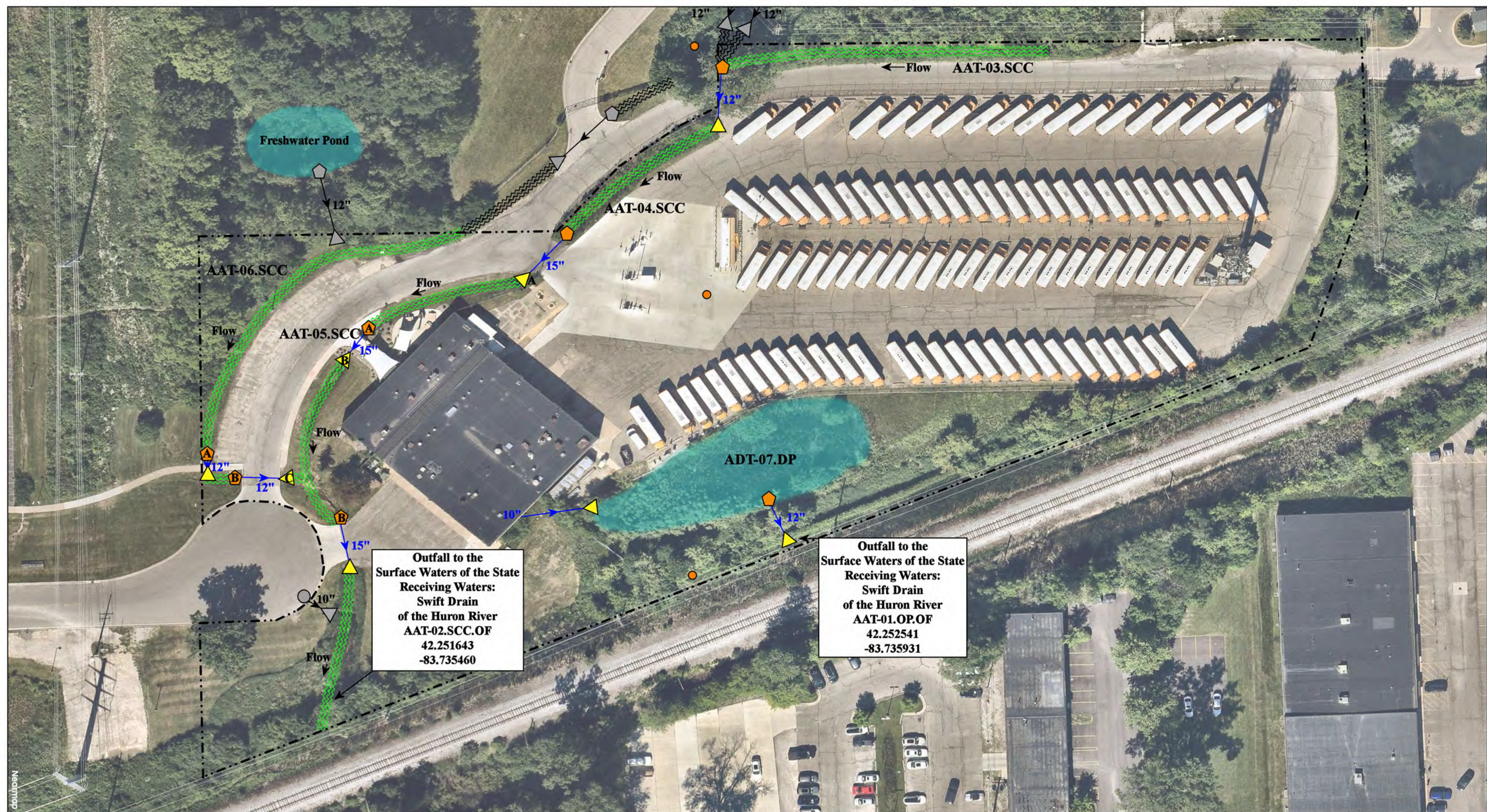
2300 Prairie Street, Ann Arbor, MI 48105		Revision Date :	2/20/2023
Thurston Elementary School		Drawn by:	WM
		Reviewed:	EB
Ann Arbor Public Schools		Page #:	2 of 3
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37720 Interchange Drive Farmington Hills, MI 48335 Phone: 248-426-0165 Fax: 248-427-0305			



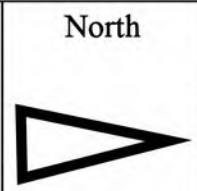
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| = Catch Basin | = Infiltration Basin | = Buried Structure | = Pond/Basin |
| = Manhole | = Open Pipe Outlet | = Stabilized Outlet | = Swale/Stormwater |
| = Basin Drain | = Drainage Receptor | = Flow Splitter | = Conveyance Channel |
| = Offsite MS4 | = Trench Drain | = Hydrodynamic Separator | = Underground Detention System |
| = Sanitary | = Property Lines | | |



2300 Prairie Street, Ann Arbor, MI 48105		Revision Date :	2/20/2023
Thurston Elementary School		Drawn by:	WM
		Reviewed:	EB
Ann Arbor Public Schools		Page #:	3 of 3
		Scale:	Not to Scale
37720 Interchange Drive Farmington Hills, MI 48335 Phone: 248-426-0165 Fax: 248-427-0305			



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| ● = Catch Basin | ■ = Infiltration Basin | ■ = Buried Structure | ■ = Pond/Basin |
| ● = Manhole | ▲ = Open Pipe Outlet | ■ = Stabilized Outlet | ~ = Swale/Stormwater |
| ● = French Drain | ■ = Drainage Receptor | ■ = Flow Splitter | — = Conveyance Channel |
| ● = Offsite MS4 | — = Trench Drain | ● = Hydrodynamic Separator | ■ = Oil/Water Separator |
| ● = Sanitary | - - - = Property Lines | | |



2400 Boardwalk St, Ann Arbor, MI 48104		Revision Date :	10/09/2024
Transportation Facility		Drawn by:	EDG
Ann Arbor Public Schools		Reviewed:	BJK
		Page #:	1 of 1
		Scale:	Not to Scale

37720 Interchange Drive
Farmington Hills, MI 48335
Phone: 248-426-0165
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Appendix B

Enforcement Policies and Tracking Forms

**Ann Arbor Public Schools
Resolution in Support of Stormwater Management Plan**

WHEREAS Ann Arbor Public Schools owns and operates facilities within the boundaries of the Ann Arbor Urbanized Area which discharges stormwater through a municipal separate storm sewer system (MS4) to surface waters of the State of Michigan; and

WHEREAS The Michigan Department of Environment, Great Lakes, and Energy maintains oversight and regulatory authority for compliance with the terms and conditions of the NPDES Municipal Separate Storm Sewer System discharge permit; and

WHEREAS Ann Arbor Public Schools has applied for and received permit coverage to discharge stormwater from Ann Arbor Public Schools facilities to the MS4; and

WHEREAS Ann Arbor Public Schools agrees to comply with the NPDES Municipal Separate Storm Sewer System discharge permit requirements, and

WHEREAS Ann Arbor Public Schools has developed a Stormwater Management Program Plan (SWMP) outlining the policies, procedures, and best management practices to be employed by the district to comply with the permit requirements, and

WHEREAS the conditions of the NPDES Municipal Separate Storm Sewer System discharge permit require Ann Arbor Public Schools to develop policies and procedures that prohibit illicit discharges to their stormwater system and to implement appropriate enforcement procedures and actions to detect and eliminate such illicit discharges, and

WHEREAS Ann Arbor Public Schools agrees to prohibit the discharge of non-stormwater discharges into the storm drain system, including but not limited to pollutants or waters containing any pollutants, and

WHEREAS Ann Arbor Public Schools agrees to eliminate illicit discharges and illicit connections, and

WHEREAS Ann Arbor Public Schools agrees to prohibit the construction, use, maintenance or continued existence of illicit connections to the storm drain system. This prohibition expressly includes, without limitation, illicit connections made in the past, regardless of whether the connection was permissible under law or practices applicable or prevailing at the time of connection, and

WHEREAS Ann Arbor Public Schools agrees to obtain a Part 91 permit from the appropriate state, county, or local governmental soil erosion permitting agency for new development and redevelopment projects that disturb one or more acres, and

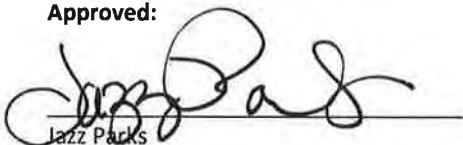
WHEREAS Ann Arbor Public Schools agrees to obtain an NPDES construction site stormwater permit from the Michigan Department of Environment Great Lakes and Energy for new development and redevelopment projects that disturb five or more acres, and

WHEREAS Ann Arbor Public Schools agrees to use post-construction stormwater run-off controls are necessary to maintain or restore stable hydrology in receiving waters by limiting surface runoff rates and volumes and reducing pollutant loadings from sites that undergo development or significant redevelopment.

THEREFORE, be it resolved that Ann Arbor Public Schools will enforce the above listed policies and procedures for illicit discharge elimination and control of stormwater runoff as part of the overall Ann Arbor Public Schools Stormwater Management Program Plan.

Duly approved by the Ann Arbor Public Schools Superintendent of Schools, Washtenaw County, Michigan this 9th day of January, 2026.

Approved:


Jazz Parks

Superintendent of Schools, Ann Arbor Public Schools

Municipal Separate Storm Sewer System Noncompliance Enforcement Tracking
Ann Arbor Public Schools
Permit No. MI0060234

Report Number	Name	Date	Location of Violation	Business/ Organization	Description of Violation	Description of Enforcement Response	Compliance Schedule Date	Date Violation Resolved
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								

District Illicit Discharge/Illegal Dumping Reporting Form
Ann Arbor Public Schools

Date: _____ Time _____

Inspectors: _____

I. ORIGIN OF REPORT

1. Describe the reason for conducting the investigation.

- | | |
|---|---|
| ☐ Illicit Discharge Inspection (Routine) | ☐ Facility Staff |
| ☐ Citizen Complaint | |
| ☐ Other _____ | |

II. SOURCE

1. Describe location of source of discharge (company name, address, cross streets, physical features, etc.)

2. Describe the Source:

- | | |
|--|--|
| ☐ Residential | ☐ Transportation Facility |
| ☐ Construction Site | ☐ Custodial |
| ☐ Other _____ | |

3. Facility of the Source: _____

III. TYPE

1. Describe the type of material discharged:

- | | |
|--|---|
| ☐ Sanitary Leak/Spill | ☐ Paint Discharge |
| ☐ Dumpster Discharge | ☐ Cleaning Discharge |
| ☐ Unhardened Cement Discharge | ☐ Paint Discharge |
| ☐ Vehicle Repair | ☐ Vehicle Washing |
| ☐ Grey Water Discharge | ☐ Landscape Material Dumping |
| ☐ Cooling Water Discharge | ☐ Allowable Discharge |
| ☐ Other _____ | |

Provide Additional Information: _____

2. Other Sources:

- | |
|---|
| ☐ Illicit Connection |
| ☐ Construction Site |
| ☐ Other _____ |

IV. FOLLOW-UP AND ENFORCEMENT ACTIVITIES

1. Describe Corrective Actions: _____

2. Describe Enforcement Action:

- | | |
|---|---|
| ☐ None/Incident Resolved | ☐ Verbal Notice |
| ☐ Administrative Action | ☐ Cleaning Discharge |

3. Date Resolved: _____

4. Responsible Party

Signature: _____

Stormwater Management – Illicit Discharge Regulatory Policy

Ann Arbor Public Schools
Permit Number: MI0060234

This illicit discharge regulatory policy was developed as a regulatory policy for prevention of pollution from storm water runoff and to protect the quality of the waters of the State of Michigan through the regulation of non-stormwater discharges to the municipal separate storm sewer system (MS4) to the maximum extent practicable as required by federal and state law. This regulatory mechanism establishes methods for controlling the introduction of pollutants into the MS4 in order to comply with the requirements of the National Pollutant Discharge Elimination System (NPDES) permit through the Michigan Department of Environment, Great Lakes, and Energy (EGLE). The objectives of the regulatory mechanism are:

1. To regulate the contribution of pollutants to the MS4 by stormwater discharges by any user.
2. To prohibit illicit connections and discharges into the MS4.
3. To establish authority to investigate, inspect, and monitor suspected illicit discharges.

District properties include all Ann Arbor Public Schools properties.

Illicit Discharge means any discharge to, or seepage into the separate stormwater drainage system that is not composed entirely of stormwater or uncontaminated groundwater except discharges pursuant to an NPDES permit.

Illicit Connection means a physical connection to the MS4 separate stormwater system that primarily conveys non-stormwater discharges other than uncontaminated groundwater into the MS4 separate storm sewer system; or a physical connection not authorized or permitted by the local authority, where a local authority requires authorization or a permit for physical connections.

Prohibitions of Illicit Discharges

1. Prohibition of Illicit Discharges:
 - a. Ann Arbor Public Schools prohibits the discharge of non-stormwater discharges into the storm drain system, including but not limited to pollutants or waters containing any pollutants.
 - b. No person shall throw, drain, or otherwise discharge, cause, or allow others under its control to throw, drain, or otherwise discharge into the MS4 any pollutants or waters containing any pollutants, other than stormwater.
2. The following discharge is **not prohibited**:
 - a. This policy excludes prohibitions from the discharge or flows from firefighting activities to the Ann Arbor Public Schools MS4. Discharge or flows from firefighting activities will be

addressed only if they are identified as significant sources of pollutants to surface waters of the state.

- b. The following activities are **not prohibited** under this policy unless they are determined to be significant sources of pollutants to surface waters of the state:
- Water line flushing and discharges from potable water sources.
 - Landscape irrigation runoff, lawn water runoff, and irrigation waters.
 - Diverted stream flows and flows from riparian habitats and wetlands.
 - Rising groundwater and springs.
 - Uncontaminated groundwater infiltration and seepage.
 - Uncontaminated pumped groundwater, except groundwater cleanups specifically authorized by NPDES permits.
 - Air conditioning condensation.

Prohibition of Illicit Connections

1. The construction, use, maintenance or continued existence of illicit connections to the MS4 is prohibited.
2. This prohibition expressly includes, without limitation, illicit connections made in the past, regardless of whether the connection was permissible under law or practices applicable or prevailing at the time of connection.
3. A person is considered to be in violation of this regulatory mechanism if the person connects a line conveying sewage to the MS4 or allows such a connection to continue.
4. Improper connections in violation of this regulatory mechanism must be disconnected and redirected.
5. Illicit discharge and connections will be eliminated immediately.

Enforcement

The District Stormwater Program Manager will administer and enforce the stormwater management program, including investigate, inspect, and monitor suspected illicit discharges or illicit connections.

If you witness or think a discharge is taking place, please contact the Ann Arbor Public Schools at (734) 249-1244.

Stormwater Management - Post-Construction Policy & Procedure

Ann Arbor Public Schools
Permit Number: MI0060234

Applies To: As required by the National Pollutant Discharge Elimination System (NPDES) permit for Ann Arbor Public Schools, the scope of this Guideline includes all development and redevelopment projects on District properties that involve either:

- a. earth disturbance of one (1) acre or greater,
OR
 - b. earth disturbance of less than one (1) acre, but which are part of a larger common plan of development or sale that would disturb one (1) acre or more.
-

Post-Construction Requirements Policy Statement

Ann Arbor Public Schools development and redevelopment projects on District property are regulated under and must comply with the Ann Arbor Public Schools NPDES permit for stormwater discharges, as issued by the Michigan Department of Environment, Great Lakes and Energy (EGLE). The Stormwater Management Post-Construction Requirements Guideline has been developed to provide guidance regarding responsibilities and actions to meet the NPDES permit conditions for development and redevelopment projects on district owned properties.

Post-Construction Plan for Stormwater Management

The post-construction plan for stormwater management on regulated sites **must** include:

- A minimum treatment volume standard to address water quality impacts.
- Channel protection criteria to address resource impairment resulting from flow volumes and rates.
- Review sites with known soil and/or groundwater contamination, including potential “hot spots” and evaluate the use of infiltration BMPs to meet water quality treatment and channel protection criteria to ensure that infiltration BMPs do not exacerbate existing conditions. Hot spots include areas with the potential for significant pollutant loading such as vehicle service and maintenance facilities, vehicle equipment cleaning facilities, fleet storage areas for buses, and outdoor liquid container storage.
- Drawings showing the location of stormwater control measures and the storm system.
- Details on the proposed stormwater control measures.
- Operation & Maintenance (O&M) requirements.
- Supporting information
 - Calculations used for designing all components of the stormwater management systems.
 - Total Suspended Solids (TSS) design removal rates and supporting manufacturer documentation, if applicable.

- o Geotechnical report including soil boring and infiltration test data.

The project team [Architecture, Engineering & Construction, Other Project Manager, Project Developer and/or Contractors] shall develop the post-construction plan for stormwater management in accordance with this guideline and the NPDES permit.

Water Quality Treatment Volume Standard

The minimum treatment volume standard **must** be either:

- a. Treat the first one (1) inch of runoff from the entire site.
- OR**
- b. Treat the runoff generated from ninety percent (90%) of all runoff-producing storms for the project site, as summarized in MDEQ's memo dated March 24, 2006
https://www.michigan.gov/documents/deq/wrd-hsu-ninety-percent_557709_7.pdf

Total Suspended Solids

The treatment methods must be designed on a site-specific basis to achieve the following:

- a. A minimum of eighty percent (80%) removal of total suspended solids (TSS), as compared with uncontrolled runoff.
- OR**
- b. Discharge concentrations of TSS not to exceed 80 milligrams per liter (80mg/L).

A minimum treatment volume standard is not required where site conditions are such that TSS concentrations in storm water discharges will not exceed 80mg/L.

Channel Protection Criteria

The channel protection criteria must maintain post-development site runoff volume and peak flow rate at or below existing levels for all storms up to the 2-year, 24-hour event. "Existing levels" means the runoff volume and peak flow rate for the last land use prior to the planned new development or redevelopment. More restrictive channel protection criteria may be utilized on a case-by-case basis, as appropriate.

Site Plan Review

This policy is to establish a requirement to submit a site plan for review as required by the EGLE NPDES Stormwater Discharge Permit and ensure that water quality objectives, erosion and sediment control requirements, and BMP maintenance are considered to the maximum extent practicable.

Ann Arbor Public Schools shall evaluate proposed construction activities to determine:

- If the activity meets the criteria of a development or redevelopment project with an earth disturbance greater than or equal to 1 acre, or part of a common plan of development resulting in a development or redevelopment activity greater than or equal to 1 acre in size.
- Does the development or redevelopment project discharge to waters of the state, or to a county, city, or township MS4.

If the development or redevelopment project discharges directly to waters of the state, Ann Arbor Public Schools shall comply with the post-construction standards outlined in this SWMP.

If the development or redevelopment project discharges to a regulated county, city, or township MS4, Ann Arbor Public Schools shall submit the site plan for review and approval. Site plan approval by the county, city, or township of an equivalent post-construction standard ensures acceptable compliance with the Ann Arbor Public Schools NPDES MS4 Stormwater Discharge Permit. Ann Arbor Public Schools shall obtain and maintain a copy of the site plan approval *document*.

If the development or redevelopment project discharges to a county, city, or township MS4 that is not regulated or require site plan review, Ann Arbor Public Schools shall comply with the post-construction standards outlined in this SWMP.

Off-Site Mitigation

Ann Arbor Public Schools shall seek alternative compliance where unable to fully implement stormwater controls on-site due to poor site conditions.

- **Off-site mitigation** refers to BMPs implemented at a location different from the original project site.
- **Watershed** refers to the area represented by a 10-digit Hydrologic Unit Code.
- **Sewershed** refers to the area where stormwater is conveyed by an MS4 to a common outfall or point of discharge.

Off-site mitigation requires that off-site location be located within the same jurisdiction and watershed/sewershed as the original project. The highest preference shall be given to locations that yield benefits to the same receiving water that received runoff from the original site.

The following criteria will be considered when determining the physical constraints of the project site:

- Limited size of the lot outside of the building footprint to create the necessary infiltration capacity even with amended soils. The district shall consider small BMPs spread across the entire site rather than on large BMP prior to offsite mitigation.
- Soil instability as documented by a thorough geotechnical analysis.
- A site use that is inconsistent with capture and reuse of storm water.
- The potential water quality impact from the original project site and the benefits realized at the off-site location. For example, the water quality impact from a site with a discharge to a small-sized stream would be greater than a site on a larger river and an offset downstream of the project site may provide less water quality benefit.

A second set of infeasibility criteria include:

- Poorly draining soils
- Bedrock
- High groundwater, or the potential of mounded groundwater to impair other uses
- Stormwater hot spots (includes Part 201 and Part 213 sites, and areas of soil or groundwater contamination)

The project team [Architecture, Engineering & Construction, Project Manager, Project Developer, and/or Contractors] will develop the off-site stormwater mitigation plan in accordance with this SWMP and the

Ann Arbor Public Schools MS4 NPDES permit. The District's Resolution in Support of the Stormwater Management Plan serves as the regulatory mechanism ensuring compliance.

The Stormwater Program Manager or designee will review and document all applicable off site mitigation projects to verify that they meet the requirements outlined in Section 2.5.5. This review will include confirming that each project aligns with approved mitigation strategies, satisfies the necessary design and performance standards, and provides the required pollutant reduction benefits. Documentation of these findings will be maintained as part of the District's compliance records.

When site conditions enable the district to retain at least the volume of stormwater associated with a 0.4 inch rain event, remaining off-site compliance will be provided at a 1:1.5 ratio. When this minimum cannot be met onsite, a 1:2 ratio applies.

Operations & Maintenance Plans

All structural and vegetative stormwater control measures installed as a requirement under this section of the permit shall include a plan for maintaining maximum design performance through long-term operation and maintenance.

Enforcement

The Ann Arbor Public Schools Stormwater Program Manager will administer and enforce the stormwater management program, including maintaining procedures, guidance, information, etc. to aid district staff and contractors in complying with the post-construction requirements for stormwater management.

Appendix C

HRWC Collaborative Plans

Public Participation Program for the Huron River Watershed MS4s in Washtenaw County

March 1, 2022

The Public Participation Program is required by the Michigan Department of Environment, Great Lakes, and Energy (EGLE) NPDES Storm Water Discharge Permit application.

The purpose of this Public Participation Program (PPP) is to facilitate the involvement of Municipal Separate Stormwater Sewer Systems (MS4s) in the watershed, and the general public in the revision of MS4 Storm Water Management Plans (SWMPs). This PPP is designed to involve all entities in the watershed with the authority, ability, and desire to carry out the implementation of SWMPs in commenting and implementing those plans.

I. General Information

This Public Participation Program is submitted by the Huron River Watershed Council (HRWC) on behalf of the following Phase I and II MS4s within the Huron River Watershed:

City of Ann Arbor
Ann Arbor Public Schools
Barton Hills Village
City of Dexter
Eastern Michigan University*
Pittsfield Charter Township
University of Michigan

VA Ann Arbor Healthcare System
Washtenaw County Road Commission
Washtenaw County Water Resources
Commissioner's Office
Ypsilanti Charter Township
City of Ypsilanti

** Eastern Michigan University does not have its own permit, but is nested under the City of Ypsilanti*

II. Communication During the SWMP Revision Process

The MS4s listed in the previous section participate in a watershed group to draft and implement stormwater management plans. MS4s in Washtenaw County formed the Middle Huron River Stormwater Advisory Group (SAG) and Middle Huron Partners (MHP). HRWC facilitates this group. Significant effort was engaged by these entities previous stormwater permits to reach out to potential stakeholders and the public at large. Further, public involvement was considered in the development of a Watershed Management Plans. As part of these efforts and others, a number of on-going citizens groups have been formed. These include creek groups for a number of tributary drainages. The MHP will continue to participate with and recruit representation from these important citizens groups.

The practices listed in this section will be used to solicit public participation during the SWMP development process for each MS4. Public input shall be encouraged in all aspects of the storm water management program. The following minimum actions shall be taken to encourage public input:

1. The watershed permittees shall follow local public notice requirements, as appropriate, when notifying the public that a storm water management program must be implemented. Copies of the SWMP shall be available for public inspection, and the public shall be notified of when and where it is available.
2. The MS4s shall continue to participate in watershed groups that are open to public participation for the purpose of encouraging public involvement in all aspects of the storm water management program.
3. The MS4s shall cooperate with the HRWC, by informing them of activities under the storm water management program, providing copies of the SWMPs and pursuing input on the plans, seeking volunteer assistance including water quality monitoring assistance, and seeking ways to meet general permit requirements by assisting the local organizations with their ongoing programs for water resource protection and enhancement.

The following Best Management Practices (BMPs) will be carried out to meet public participation requirements:

BMP 1.1. Public Notice

Description: MS4s will provide electronic copies of draft SWMPs to HRWC to share with the general public. HRWC will notify the public that SWMPs were developed and encourage public input in the revision process. This will be done primarily through:

- Posting SWMPs on the HRWC website.
- Sending out an electronic notice to Huron River Watershed Council public contact lists.
- Publicizing the SWMP review process via the HRWC newsletter and press releases.
- Posting each SWMP on individual MS4 websites.

In addition, several other means of communication will be utilized for announcing progress and soliciting input. These may include any of the following:

1. Printing a notice in the local news media.
2. Announcements/updates to local boards, associations, and other interested groups by HRWC and watershed group members
3. Articles in local newsletters
4. Public meetings
5. Web site(s), RSS and social networking sites
6. Announcements at major public events

MS4s will follow any public notice requirements specific to their local jurisdiction. The same public notice procedure will be used following any major SWMP revision.

Timeline: Initial notice will be provided no later than 15 days following the release of a draft permit.

Evaluation: Publication of notice in news media, hits on main website.

Responsible Parties: Each listed MS4 will provide SWMPs and HRWC will notify the public within the watershed. MS4s will notify public in their local jurisdiction.

BMP 1.2 Public Access to Storm Water Management Plans

Description: HRWC and the MS4s will publish and make available copies of the SWMPs on the HRWC website, MS4 websites and MS4 offices.

Timeline: Following review by EGLE and revision by MS4s. SWMPs will be made available when the draft permit becomes available for public review.

Evaluation: Number of views each of the plans get at each website

Responsible Parties: HRWC and individual MS4s

BMP 1.3 Watershed Groups

Description: The Middle Huron Partners is a watershed implementation group that is open to and encourages public participation. This group meets three times a year (on average) on an as needed basis. Meeting schedules are shared via e-mail distribution lists. Meetings of this group will be the primary point of public input into SWMP implementation and provide feedback to MS4 representatives.

Timeline: on-going; start in year one of permit

Evaluation: Document MS4 representative and citizen participation;

Responsible Parties: MS4 representatives, HRWC

BMP 1.4 SWMP Review

Description: Following public notice of the SWMPs, HRWC will share comments with MS4s and MS4s will accept and consider comments from the public and EGLE. After revising SWMPs, HRWC will post revised and final drafts of each MS4's SWMP. Following initial implementation, feedback will be solicited through watershed group meetings. Toward the end of the permit cycle, MS4s will determine if a major revision of SWMPs are necessary. If so, the same public notice and revision process will be followed as with the initial draft and revision.

Timeline: Review completed following initial application and prior to permit issuance. SWMP revision considered by year 5 of permit cycle.

Evaluation: Comments from the general public.

Responsible Parties: HRWC and MS4s

Effective upon NPDES Permit issuance for a period of five (5) years.

STORMWATER DISCHARGE PERMIT APPLICATION COLLABORATIVE PUBLIC EDUCATION PLAN

Ann Arbor Public Schools
Barton Hills Village
Brighton Township
Charter Township of Pittsfield
Charter Township of Ypsilanti
City of Ann Arbor
City of Brighton
City of Dexter
City of Ypsilanti
Eastern Michigan University
Livingston County Drain Commissioner
Livingston County Road Commission
University of Michigan
VA Ann Arbor Healthcare System
Village of Pinckney
Washtenaw County Road Commission
Washtenaw County Water Resources Commissioner

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I. INTRODUCTION

Purpose of Public Education Plan

In accordance with the permit requirements for Federal Phase II Storm Water Regulations, this Public Education Plan (PEP) was prepared to instill within the residents, businesses, and officials of the communities in regulated watersheds a heightened level of awareness of the connection between individual actions and the health of their watershed and water resources. The objective of this plan is to promote, publicize, and facilitate watershed education for the purpose of encouraging the public to reduce the discharge of pollutants in storm water.

Federal Phase II Storm Water Regulations

A 1987 amendment to the Federal Clean Water Act required the U.S. Environmental Protection Agency (EPA) to develop regulations setting forth National Pollutant Discharge Elimination System (NPDES) permit application requirements for storm water discharges from municipal separate storm sewer systems (MS4s). An MS4 is a drainage system that discharges to waters of the State and is owned or operated by a federal, state, county, city, village, township, district, association or other public body of government. Such drainage systems may include roads, catch basins, curbs, gutters, parking lots, ditches, conduits, pumping devices, or man-made channels.

Phase I of the NPDES regulations went into effect in 1990, which regulated discharges from communities with populations greater than 100,000. The rules for Phase II of the NPDES regulations were issued in 1999, requiring storm water discharge permits for communities with populations under 100,000 that have MS4s in “urbanized areas” as defined by the U.S. Bureau of the Census.

In Michigan the Michigan Department of Environment, Great Lakes and Energy (EGLE) is administering the federal Phase II permitting process.

Required Public Education Plan Elements

The PEP program is designed to promote, publicize, and facilitate education for the purpose of encouraging the public to reduce the discharge of pollutants in stormwater to the maximum extent practicable. The plan describes current and proposed best management practices (BMPs) to meet the minimum control measure requirements in a Public Education Plan (PEP).

The PEP may involve watershed or regional partners collaborating to combine or coordinate existing programs for public stewardship of water resources. Permittees shall indicate if they are or will be working collaboratively with watershed or regional partners on any or all activities in the PEP during the permit cycle.

The PEP is designed to implement a sufficient amount of educational activities to ensure that the targeted audiences are reached with the appropriate messages to the maximum extent practicable. The permittee shall identify applicable topics from the topics listed below.

Each applicable topic shall be prioritized based on a procedure for assessing high-priority community-wide issues and targeted issues to reduce pollutants in stormwater runoff.

- A. Promote public responsibility and stewardship in the applicant(s) watershed.
- B. Inform and educate the public about the connection of the MS4 to area waterbodies and the potential impacts discharges could have on surface waters of the state.
- C. Educate the public on illicit discharges and promote public reporting of illicit discharges and improper disposal of materials into the MS4.
- D. Promote preferred cleaning materials and procedures for car, pavement, and power washing.
- E. Inform and educate the public on proper application and disposal of pesticides, herbicides, and fertilizers.
- F. Promote proper disposal practices for grass clippings, leaf litter, and animal wastes that may enter into the MS4.
- G. Identify and promote the availability, location, and requirements of facilities for collection or disposal of household hazardous wastes, travel trailer sanitary wastes, chemicals, yard wastes, and motor vehicle fluids.
- H. Inform and educate the public on proper septic system care and maintenance, and how to recognize system failure.
- I. Educate the public on and promote the benefits of green infrastructure and Low Impact Development.
- J. Identify and educate commercial, industrial and institutional entities likely to contribute pollutants to stormwater runoff.

For all applicable topics, the PEP shall identify:

- 1. Target audience.
- 2. Key message.
- 3. Delivery mechanism.
- 4. Year and frequency the BMP will be implemented.
- 5. Responsible party.

A **measurable goal with a measure of assessment shall be included for each BMP** and as appropriate, a schedule for implementation (months and years), including interim milestones and the frequency of the BMP.

The PEP shall provide the procedure for evaluating and determining the effectiveness of the overall PEP. The procedure shall include a method for assessing changes in public awareness and behavior resulting from the implementation of the PEP and the process for modifying the PEP to address ineffective implementation.

II. COLLABORATION OF WATERSHED PARTNERS

The permittees identified below have elected to meet the PEP requirements by working with each other and other watershed and regional partners to develop, submit, and implement a PEP that includes both collaborative and individual BMPs:

- Ann Arbor Public Schools
- Barton Hills Village
- Brighton Township
- Charter Township of Township
- Charter Township of Ypsilanti
- City of Ann Arbor
- City of Brighton
- City of Dexter
- City of Ypsilanti
- Eastern Michigan University
- Livingston County Drain Commissioner
- Livingston County Road Commission
- University of Michigan
- VA Ann Arbor Healthcare System
- Village of Pinckney
- Washtenaw County Road Commission
- Washtenaw County Water Resources Commissioner

Other watershed and regional partners that contribute to collaborative public education activities through participation in stormwater groups include Ann Arbor Charter Township, City of Belleville, City of Chelsea, Green Oak Township, Hamburg Township, Hartland Township, Scio Township and Superior Charter Township.

III. PROCEDURE FOR IDENTIFYING AND PRIORITIZING APPLICABLE PEP TOPICS

The public education topics A-J listed above in Section II were identified in the permit application. These topics are referred to by their corresponding letter in the Public Education BMPs below as well as on the PEP table.

Watershed-Wide Priority Topics

The procedure for identifying high-priority watershed-wide or targeted issues suited for collaborative public education efforts includes:

- A review of Watershed Management Plans for both the Huron River in the Ann Arbor-Ypsilanti Metropolitan Area (Middle Huron) and the Huron Chain of Lakes including any established Total Maximum Daily Loads for waterbodies in each area.
- A review of data from the Water Quality Monitoring Program.
- A review of the effectiveness of PEP activities (both the accumulated measures of the PEP's individual activities and a measure of the sum of all the activities including results from a survey of residents administered in conjunction with the distribution of a Community Watershed Calendar, Activity #2 below and referenced in Section VIII. Evaluation of Effectiveness).
- Topics identified by permittees at group meetings prior to and throughout the permit cycle.
- Discussion and input from the permitted entities regarding individual jurisdictional versus watershed-wide needs, potential public outreach opportunities, and existing and future programs.

Any additional procedural steps for identifying high-priority or targeted issues by individual permittees include:

The high priority community-wide issues and targeted issues are:

- High levels of phosphorus in stormwater runoff from most monitored tributaries indicating broad sources;
- High *E. coli* counts in some targeted tributaries in the Middle Huron (Mill and Honey Creeks, and tributaries draining to the Huron River between Argo and Geddes Ponds);
- High conductivity levels (indicating potential dissolved contaminants) in most Middle Huron tributaries;
- Flashy flows in Middle Huron streams indicating the need for infiltration and storage across the watershed;
- A need for greater protection of riparian areas to reduce erosion and slow and treat stormwater runoff; and
- Survey results indicating a need for continued education about stormwater pollution and residential responsibilities.

The high priority community-wide issues and targeted issues were used to **prioritize** topics A-J for **collaborative efforts**. Existing and Proposed Collaborative Public Education BMPs include in some way all topics, but the emphasis will be on Collaborative High Priority Topics. Individual permittees may have additional or other priorities for individual education efforts as shown below and may address these in Existing and Proposed Individual Public Education BMPs:

Collaborative Priority Level	Permittee Priority	Topic Letter	Topic Description
High		A	Public responsibility and stewardship in the watershed.
High		B	The connection of the MS4 to area waterbodies and the potential impacts of discharges.
High		F	Proper disposal practices for grass clippings, leaf litter, and animal wastes.
High		I	Benefits of green infrastructure and low impact development.
Med		C	Illicit discharges and public reporting of illicit discharges and improper disposal of materials.
Med		E	Inform and educate the public on proper application and disposal of pesticides, herbicides, and fertilizers.
Med		G	Identify and promote the availability, location, and requirements of facilities for collection or disposal of household hazardous wastes, travel trailer sanitary wastes, chemicals, yard wastes, and motor vehicle fluids.
Med		H	Proper septic system care and maintenance, and how to recognize system failure.
Low		D	Promote preferred cleaning materials and procedures for car, pavement, and power washing.
Low		J	Identify and educate commercial, industrial and institutional entities likely to contribute pollutants to stormwater runoff.

IV. EXISTING AND PROPOSED COLLABORATIVE PUBLIC EDUCATION BMPs

To address each of the PEP requirements, the permittee will, individually or collaboratively, implement the following specific activities, which include a description, timeline, evaluation component, and the required topic that the activity meets. Activities will be completed with the involvement of responsible parties as noted in each activity description, and/or in cooperation with identified permitted communities.

Timelines for implementation of proposed activities extend for a period of 5 years.

Activity #1: Distribute Informational Materials

Delivery Mechanism: Print and digital materials such as tip cards, brochures, posters, website links, or graphics for emails, websites or social media sites developed by the Huron River

	Watershed Council (HRWC) and others will be utilized. Campaign materials will be distributed at municipal offices, events, on web sites, via cable access or direct mailed as appropriate.
Key Messages:	Materials contain information that covers required Topics A-J. For example, Southeast Michigan Council of Governments (SEMCOG) has created a campaign that promotes key messages on proper use of fertilizer, car care, landscaping, storm drain awareness, household hazardous wastes, water conservation, pet care, green infrastructure, and riparian protection.
Target Audience:	Residents, visitors, public employees, businesses, industries, construction contractors and developers.
Year and Frequency:	Materials will be disseminated at least annually throughout the permit cycle.
Goal:	To increase visibility and awareness of watershed issues and the impacts of pollutants discharged to the MS4 among residents, visitors, public employees, businesses, industries, construction contractors, and developers through repeat messaging and information.
Assessment:	Frequency and number, circulation or amount distributed; tracking of web hits to supporting pages; and/or phone calls and e-mails to the permittee for related information.
Responsible Parties:	SEMCOG has materials available free with membership or for purchase, HRWC develops materials under contract for permittees working collaboratively. Permittees will individually ensure distribution of materials to appropriate target audiences through their current channels of distribution, see Section VI Existing and Proposed Individual BMPs.
Topics Addressed:	A-J

Permittee - Ann Arbor Public Schools:

SEMCOG posters placed strategically throughout the district, SEMCOG "7 Simple Steps to Clean Water" information on stormwater webpages, watershed specific information on the stormwater webpage, and include HRWC links on the stormwater webpage.

Activity #2: Distribute a Community Watershed Calendar

Delivery Mechanism:	Coordinated by HRWC, permittees will participate in the bulk printing and distribution of a Community Watershed Calendar to residents.
Key Messages:	Calendars typically feature a different tip each month for increasing public awareness of watershed issues and improving personal actions affecting the health of their watershed. Topics/messages are likely to include key messages associated with A-J of the PEP topics that are suited for homeowners, such as general watershed stewardship; household hazardous waste disposal; proper lawn care; car washing; storm drain pollutants; pet waste; riparian land management; green infrastructure and LID; and illegal dumping in storm drains.
Target Audience:	Residents.
Year/Frequency:	Biannually (even years 2022, 2024, etc).
Goal:	Increase in number of recipients reporting willingness to engage in specific MS4 pollution prevention activities and increased awareness of topics.

Assessment: Number of calendars distributed; web site hits; evaluative results of calendar's impact; and broad survey of overall PEP effectiveness.

Responsible Parties: Permittees produce collaboratively but distribute individually.

Topics Addressed: A-I

Permittee - Ann Arbor Public Schools:

Place calendars in the lobby of the Administration Building as well as in the Main Office at school buildings.

Activity #3: Content in Community Newsletters, Websites, Social Media

Delivery Mechanism: Permittees will annually publish articles, resources, events and stewardship opportunities in their own newsletters, on websites, through email and/or social media channels. Sources for information include SEMCOG, HRWC, Washtenaw County, and Livingston County, EGLE and/or EPA, and others. Topics will include watersheds, stewardship activities and events, and individual actions the public can take to protect water resources/prevent the discharge of pollutants to the MS4.

Key Messages: Articles and information will focus on issues represented by all 11 topics.

Target Audience: Residents, visitors, public employees, businesses, industries, construction contractors and developers.

Year/Frequency: Published annually throughout the permit cycle.

Goal: To increase resident awareness of watershed issues and the impacts of pollutants discharged to the MS4 and willingness to engage in pollution prevention activities or watershed stewardship.

Assessment: Frequency and number of articles, circulation or amount distributed, tracking of web hits to supporting pages and/or phone calls and e-mails for related information.

Responsible Parties: The permittees will publish newsletter articles and information through various distribution outlets; Livingston and Washtenaw counties, HRWC and others will provide content and information, see Section VI Existing and Proposed Individual BMPs.

Topics Addressed: A-J

Permittee - Ann Arbor Public Schools:

SEMCOG posters placed strategically throughout the district, SEMCOG "7 Simple Steps to Clean Water" information on stormwater webpages, watershed specific information on the stormwater webpage, and include HRWC links on the stormwater webpage.

Activity #4: Local Print and Digital Advertisements

Delivery Mechanism: Coordinated by HRWC, participating permittees will place paid advertising in local print and digital publications and on social media channels.

Key Messages: Watershed awareness and protection, connection of storm drains to natural water bodies, hazardous waste disposal, illegal dumping, lawn care, and car washing. Advertisements will use materials developed by Southeast Michigan Partners for Clean Streams, SEMCOG, HRWC and others.

Target Audience: Residents, visitors, businesses, industries, construction contractors, developers.

Year/Frequency:	Annually
Goal:	To increase visibility of watershed and MS4 pollution issues through repeat messaging.
Assessment:	Frequency and number of advertisements run; circulation/amount distributed; number of inquiry calls and web hits received as a result of advertisements.
Responsible Parties:	HRWC to coordinate ad development, placement and timing and to track resulting inquiry calls and web hits. Permittees to provide funding.
Topics Addressed:	A-I

Permittee - Ann Arbor Public Schools:

Include HRWC links on the stormwater webpage.

Activity #5: Promote Water Resource Protection Workshops

Delivery Mechanism:	The permittees will assist in promotion of educational workshops and programs for target audiences that will be organized through agencies such as HRWC, Washtenaw County Water Resources Commissioner, the Livingston County Drain Commissioner, County Road Commissions, MSU Extension, SEMCOG, the Michigan Water & Environment Association, the natural Shorelines Partnership and others.
Key Messages:	Programs may include the following: Watershed Management Short Course, Master Rain Gardener and Master Composter training, Michigan Water Stewards program, watershed-friendly golf course management workshop, illicit discharge and connections elimination workshop, road salt BMP/de-icing alternatives workshop, land use/storm water planning workshops, and riparian land management workshops.
Target Audience:	Residents, government officials and employees, construction contractors, and developers.
Year/Frequency:	1 per year throughout the permit cycle as workshop dates are established.
Goal:	Increase number of workshop participants.
Assessment:	Compilation of all promotional efforts; number of attendees from the communities of the permittees. When possible participants will be surveyed by organizer immediately following workshops.
Responsible Parties:	Permittees will promote workshop events as developed by outside agencies.
Topics Addressed:	A-J

Permittee - Ann Arbor Public Schools:

SEMCOG links visible on the stormwater webpage.

Activity #6: Promote and Support Volunteer Stream Monitoring

Delivery Mechanism:	Permittees will support and assist in promoting volunteer stream monitoring programs such as HRWC's River Roundups and Stonefly Search and Chemistry and Flow Monitoring. Efforts will include providing stream monitoring program literature and posting volunteer event opportunities at customer service locations, on web sites and social media outlets and in newsletters. HRWC will
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Key Messages:	provide information ongoing to permittees on volunteer opportunities prior to events. Stream monitoring volunteers assess habitat, water quality, and aquatic life in the Huron River and its tributaries as part of an ongoing scientific study. The programs strive to educate watershed residents about their connection to the river and also the current conditions of the Huron River and its tributary streams. In addition, a central goal of these programs is to inspire people to take actions that lead to better river protection at home and in their communities.
Target Audience:	Residents.
Year/Frequency:	Annually
Goal:	Increase in participation in volunteer stream monitoring events and resulting stewardship activities (as reported).
Assessment:	Compilation of all promotional efforts; number of citizens participating in events; resulting stewardship actions taken by participants as reported through a paper evaluation at the end of each event.
Responsible Parties:	Permittees, HRWC.
Topics Addressed:	A in particular, but also B-I

Permittee - Ann Arbor Public Schools:

Link to the HRWC volunteer program on stormwater webpage.

Activity #7: Promote and Support Storm Drain Labeling *(for communities with storm drains)*

Delivery Mechanism:	Permittees will support and assist in promoting HRWC's Adopt-A-Storm-Drain program. The program encourages both group and individual homeowner catch basin maintenance and labeling and distribution of information to residential neighbors. Permittee efforts will include designating storm drains for adoption and recruiting public participation through distribution of promotional information and materials. Additionally, The Washtenaw County Water Resources Commissioner's Office actively implements a catch basin marker program through the Community Partners for Clean Streams Program. Subdivision/condominium developments, businesses and institutional landowners must have final approval of the WRC as a Community Partner for Clean Streams (where appropriate) to be eligible. The markers are installed by Homeowner Associations/residents/businesses. Permittees may also implement storm drain labeling with the use of school and community volunteers to assist in affixing labels to storm drains. Along streets where storm drains are affixed, communities will distribute flyers to residential units. Limited to locations with occupancy rates of over 80% (i.e. areas not under recent construction).
Key Messages:	The connection of storm drains to local waterways and the impacts of dumping pollutants into these drains.
Target Audience:	Residents, visitors, and commercial businesses and institutions.
Year/Frequency:	Ongoing throughout permit cycle.
Goal:	Increase in number of catch basins labeled and/or maintained by residents and number of residents who can identify the connection between MS4s and waterbodies.

Assessment: Participation level in HRWC Adopt-A-Storm drain program, number of drains labeled and flyers distributed.

Responsible Parties: Washtenaw County Water Resources Commissioner, permittees in Washtenaw County, school and community volunteers, HRWC. (The Adopt-A-Storm-Drain program is currently in Washtenaw County only).

Topics Addressed: A, B, C in particular

Permittee - Ann Arbor Public Schools:

Link to the HRWC Adopt-A-Storm drain on stormwater webpage.

Activity #8: Promote Riparian Land Management Information

Delivery Mechanism: Coordinated by HRWC, the permittees may distribute a brochure promoting riparian best management practices to riparian landowners via local realtors and nursery/garden retail businesses. Brochures may also be available at municipal offices and distributed by government officials and employees who work with riparian landowners or direct mailed to landowners.

Key Messages: Brochures may emphasize BMPs such as landscaping with native plants, buffer zones, and minimizing impervious surfaces to facilitate on-site water retention.

Target Audience: Riparian landowners, realtors, government officials and employees.

Year/Frequency: Brochures available throughout the permit cycle.

Goal: Increase number of riparian landowners who implement BMPs.

Assessment: Number of brochures distributed number of hits to supporting web page or contacts received by HRWC for additional information. Increase in number of riparian landowners reporting willingness to implement BMPs.

Responsible Parties: Permittees produce collaboratively and distribute individually, HRWC.

Topics Addressed: A-I

Permittee - Ann Arbor Public Schools:

Link to Waterfront Wisdom, 7 Tips for creating and maintain a beautiful and healthy waterfront.

Activity #9: Conduct Outreach at Local and Regional Fairs and Community Events

Delivery Mechanism: Coordinated by HRWC and done individually, permittees will promote and support stormwater education displays and outreach at local fairs and community events such as community Earth Day Festivals, Green Fairs, Huron River Days and others. They will also help promote these events through their newsletters and on websites.

Key Messages: Public awareness of watershed issues and improving personal actions affecting the health of the watershed also including key messages associated with A-J of the PEP topics, such as general watershed stewardship; household hazardous waste disposal; proper lawn care; car washing; storm drain pollutants; pet waste; riparian land management; benefits of native plants; and illegal dumping in storm drains.

Target Audience: Residents, visitors, community leaders.

Year/Frequency: 3 per year.

Goal: To increase resident awareness of watershed and MS4 pollution issues and willingness to engage in pollution prevention activities or watershed stewardship.

Assessment: Number of events; number of materials distributed and contacts made, e-mail addresses collected for HRWC or permittee newsletter distribution.

Parties involved: Permittees and HRWC. See Section VI Existing and Proposed Individual BMPs.

Topics Addressed: A-I

Permittee - Ann Arbor Public Schools:
Forward HRWC event notices to school staff.

Activity #10: Promote County-Wide Complaint Tracking and Response Systems

Delivery Mechanism: Permittees will educate the public on illicit discharges and work with the counties to publicize county-wide public reporting and response system for illicit discharges or improper disposal of materials into local storm drain systems. Environmental Reporting Lines are in place in both Washtenaw and Livingston counties. Washtenaw County Environmental Health administers the Reporting Line for Washtenaw County and Livingston County Health Department administers it in Livingston County. The programs are logged and have an updated brochure ready for distribution. The Counties promote the use of their Environmental Reporting Lines through partner newsletters, cable TV, and web sites.

Key Messages: Prevention and reporting of illicit discharges and/or improper disposal of materials into MS4s.

Target Audience: Residents, visitors, commercial and industrial businesses, local government officials and employees.

Year/Frequency: Ongoing promotional efforts.

Goal: Decrease in the number of illicit discharges and improper disposal of materials into MS4s.

Assessment: Promotion/publicizing efforts; Number of calls to Environmental Reporting Line; results of the tracking and response system.

Responsible Parties: Washtenaw County Health Department, Water Resources Commissioner, Livingston County Health Department, Livingston County Drain Commissioner, Permittees.

Topics Addressed: B, C

Permittee - Ann Arbor Public Schools:
Place How to Report/Hotline Numbers poster at district facilities and post copy of AAPS SW Illicit Discharge Regulatory Policy on the district webpage.

V. EXISTING AND PROPOSED COUNTY-WIDE PUBLIC EDUCATION BMPs

Activity #11: Livingston County Household Hazardous Waste Reduction Program

Delivery Mechanism:	Permittees will work with the County to publicize. Provides the residents of Livingston County with a disposal option for flammable, poisonous, toxic and corrosive materials by providing quarterly county-wide collections at an established center in Howell, along with informational materials for the public that promote the collection center and proper disposal of household hazardous waste, and information related to recycling. LCDC's Solid Waste Program developed a "Waste Reduction Guide" to help residents and local businesses dispose of items ranging from batteries to printer cartridges to tires. The LCDC website also identifies services, informational publications, updates on locations and times for disposal and resource links. The LCDC Solid Waste Program gives detailed information on its website on paint disposal and oil recycling. LCDC also sponsors a Mercury Thermometer Exchange to educate residents on the dangers of mercury and reduce the amount being discarded in residential trash. LCDC will also provide information displays for area banks, post offices and public libraries that offer information on travel trailer, vehicle maintenance and other household hazardous waste disposal.
Key Messages:	The program seeks to address the environmental (including water quality) and public health effects resulting from improper handling and disposal of household hazardous waste and is committed to reducing the use of home toxics and keeping citizens informed about the choices and responsibilities associated with purchasing, handling and disposing of toxic substances.
Target Audience:	Livingston County residents.
Year/Frequency:	3 collections per year (spring, summer, fall).
Goal:	Increase the number of residents using the program to dispose of home toxics.
Assessment:	Promotion/publicizing efforts including display use; Number of drop offs/quantity of disposal materials; web site hits.
Party Involved:	Coordinated by Livingston County Solid Waste Department and LCDC. Promoted by permittees in Livingston County.
Topics Addressed:	A, E, G

Permittee - Ann Arbor Public Schools:

Not applicable for Ann Arbor Public Schools.

Activity #12: Livingston County Prescription Drugs and Personal Care Products Disposal Program

Delivery mechanism:	Permittees will work with the county to publicize. County website and brochure outlining proper disposal of unused prescription drugs and personal care products. Permanent collection sites and system established via the Big Red Barrel project.
Key Messages:	Keep Rx Drugs and personal care products out of our water systems, proper medication disposal.
Target Audience:	Livingston County residents.
Year/Frequency:	Ongoing throughout permit cycle.

Goal: Increase the number of residents using the program to dispose of prescription drugs and personal care products.

Assessment: Promotion/publicizing efforts; web site hits; Quantity of pharmaceuticals collected at events.

Party Involved: Livingston County Solid Waste Department, Livingston County Sheriff's Office, Livingston Community Alliance. Promoted by permittees in Livingston County.

Topics Addressed: A, G

Permittee - Ann Arbor Public Schools:
Not applicable for Ann Arbor Public Schools.

Activity #13: Livingston County Electronic Waste Reduction Program

Delivery Mechanism: County-wide annual event to properly dispose/recycle used electronics (TVs, computers, etc). Promote proper disposal of used electronic devices to keep out of waste stream. Information distributed to public through brochures, website, and various public events.

Key Message: Keep electronic devices out of landfills by properly recycling.

Target Audience: Livingston County residents

Year/Frequency: Annually.

Goal: Increase the number of residents using the program to dispose of electronic waste.

Assessment: Promote/publicize efforts; web site hits; Quantity of devices collected at events.

Party Involved: Livingston County Solid Waste Department. Promoted by permittees in Livingston County

Topics Addressed: A, G

Permittee - Ann Arbor Public Schools:
Not applicable for Ann Arbor Public Schools.

Activity #14: Livingston County Stream and River Crossing Road Signs

Description: The Livingston County Road Commission will coordinate the design and placement of stream and road crossing signs on primary roads in areas where a need for signage has been identified and not met. Existing signs will also be maintained.

Target Audience: Visitors, residents.

Year/Frequency: Ongoing.

Goal: Raise public awareness of area watersheds and creeksheds.

Assessment: Number of signs, maintenance activities; increase in number of people reporting seeing signs over permit cycle as indicated in the measure overall PEP effectiveness, see Section VII Evaluation of Effectiveness.

Parties involved: LCRC and local community officials, permittees.

Topics Addressed: A

Permittee - Ann Arbor Public Schools:
Not applicable for Ann Arbor Public Schools.

Activity #15: Washtenaw County Community Partners for Clean Streams

Delivery Mechanism: Community Partners for Clean Streams is a voluntary, no cost to participants, cooperative water quality protection program between the Washtenaw County Water Resources Commissioner's office and Washtenaw County businesses, institutions and multi-complex landowners. Partners assess how their daily site activities affect stormwater quality and commit to proactive ways to improve their activities by way of a Water Quality Action Plan. Partners are recognized for their stewardship in online and newspaper ads. Permittees will promote the CPCS program in newsletters, make referrals to WCWRC regarding potential partners, and display brochures, supplied by WCWRC, promoting the program.

Key Messages: Commitment to protect water quality through on-site daily activities.

Target Audience: Washtenaw County businesses, institutions, multi-complex landowners.

Year/Frequency: On-going.

Goal: Increase in number of participants in program.

Assessment: Number of participants.

Parties Involved: WCWRC. Promoted by permittees in Washtenaw County.

Topics Addressed: A-J

Permittee - Ann Arbor Public Schools:

Link to Washtenaw County Community Partners for Clean Streams webpage.

Activity #16: Washtenaw County Pollution Prevention Inspections

Delivery Mechanism: The Pollution Prevention Program is responsible for inspecting facilities that store, manufacture, or use hazardous, toxic, or polluting materials.

Key Messages: Inspectors ensure that facilities utilize and dispose of hazardous materials properly, thereby preventing environmental contamination. This program operates in accordance with the Washtenaw County Pollution Prevention Regulation.

Target Audience: Facilities that store, manufacture or use hazardous, toxic, or polluting materials.

Year/Frequency: On-going. Washtenaw County staff routinely inspects businesses storing 56 gallons or more of hazardous materials. Frequency of inspection depends on the quantity of materials stored and the level of compliance achieved and varies from once a year to once every four years. However, staff may make site visits as needed to ensure compliance with the P2 Regulation.

Goal: Increase in improvements made as a result of inspection.

Assessment: Number of inspections.

Parties involved: Washtenaw County Environmental Health and Water Resources Commissioner.

Topics Addressed: J

Permittee - Ann Arbor Public Schools:

Link to Washtenaw County Pollution Prevention webpage.

Activity #17: Washtenaw County Issues of the Environment Radio Show

Delivery Mechanism: Radio show; ~every Wednesday morning from 8:20-8:30am the Washtenaw County Division of Public Works hosts a special guest speaker on the Issues of

	the Environment Radio Show on WEMU (89.1 FM). IOE is sponsored by the Washtenaw County Water Resources Commissioner's Office and the Public Works Division.
Key Messages:	Varies by show topic, but generally addresses environmental stewardship and related issues. Promotes public awareness of environmental issues, programs and news impacting our community.
Target Audience:	Washtenaw County residents and businesses.
Year/Frequency:	Ongoing ~weekly show, frequency of water quality related topics will be ~quarterly.
Goal:	Increase in number of listeners recognizing watershed and taking steps to protect and participating in programs.
Assessment:	Number of water quality related program topics covered.
Parties involved:	Washtenaw County Water Resources Commissioner's Office and the Washtenaw County Public Works Division. Promoted by permittees in Washtenaw County.
Topics Addressed:	A-J

Permittee - Ann Arbor Public Schools:

Link to Washtenaw County radio show on the district webpage.

Activity #18: Washtenaw County Environmental Excellence Awards

Delivery Mechanism:	The Environmental Excellence Awards Program recognizes businesses and non-profit organizations in Washtenaw County that practice environmentally sound behavior in the areas of water quality protection, waste reduction and recycling, and pollution prevention. This award is typically provided once per year.
Key Messages:	Water quality protection, waste reduction and recycling, and pollution prevention.
Target Audience:	Businesses, institutions, multi-complex developments.
Year/Frequency:	~Annually.
Goal:	Increase in number of applicants/participants and award recipients.
Assessment:	Number of award recipients.
Parties involved:	Washtenaw County Water Resources Commissioner, Environmental Health Division, and Solid Waste Management. Promoted by permittees in Washtenaw County.
Topics Addressed:	A-J

Permittee - Ann Arbor Public Schools:

Not applicable for Ann Arbor Public Schools.

Activity #19: Washtenaw County Fats, Oils, and Grease and Litter Reduction

Delivery Mechanism:	Community Partners for Clean Streams – Handbook; Fats, Oil and Grease brochure; and FOG presentations. FOG material distribution, information and/or presentations are coordinated through the Washtenaw County Environmental Health Department, Public Works Division and Water Resources Commissioner's Office.
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Key Messages: Proper disposal of cooking fats, kitchen maintenance practices and recycling best management practices.

Target Audience: Washtenaw County businesses.

Year/Frequency: On-going. Materials are available at County offices, distributed by staff, online and at events/presentations. FOG presentations are provided upon request.

Goal: Decrease the number of actions or corrections needed.

Assessment: Number of participants and materials distributed.

Parties involved: Washtenaw County Water Resources Commissioner, Environmental Health Division.

Topics Addressed: J

Permittee - Ann Arbor Public Schools:

Link to Washtenaw County Fats, Oils, and Grease on the district webpage.

Activity #20: Washtenaw County River Safe Homes Program

Delivery Mechanism: Online and hard copy surveys determine how activities around the home protect water quality. Improvement resources are included. Participants receive a RiverSafe Homes plaque for satisfactorily completing the survey and periodic environmental news via email, website or social media posts.

Key Messages: Protecting water quality around the home is easy to do and produces significant results.

Target Audience: Washtenaw County residents. Business, industries.

Year/Frequency: On-going.

Goal: Increase number of participants.

Assessment: Number of participants; results of survey.

Parties Involved: Washtenaw County Water Resources Commissioner. Promoted by permittees in Washtenaw County.

Topics Addressed: A-J

Permittee - Ann Arbor Public Schools:

Link to Washtenaw County RiverSafe Homes on the district webpage and Link to Washtenaw County survey.

Activity #21: Washtenaw County/Ann Arbor Residential Rain Garden Program

Delivery Mechanism: The City of Ann Arbor and the Washtenaw County Water Resources Commissioner works with several families each year to plan, design and install rain gardens on their properties as funding is available. The WCWRC's website provides extensive information to promote and support "do-it-yourself" rain gardeners.

Key Messages: Protecting water quality and preventing stormwater runoff through the use of rain gardens with native plants.

Target Audience: Washtenaw County residents.

Year/Frequency: Annually.

Goal: Increase number of participants in program.

Assessment: Number of participants and number of rain gardens installed and maintained.

Parties Involved: Washtenaw County Water Resources Commissioner, City of Ann Arbor.
Promoted by permittees in Washtenaw County.

Topics Addressed: A, B, I

Permittee - Ann Arbor Public Schools:

Link to Washtenaw County Rain Garden information on the district webpage.

Activity #22: Washtenaw County Home Toxics Center

Delivery Mechanism: Provides the residents of Washtenaw County with a disposal option for flammable, poisonous, toxic and corrosive materials by providing the Washtenaw County Home Toxics Collection Center in Scio Township, along with informational materials for the public that promote the collection center and proper disposal of home toxics.

Key Messages: The program seeks to address the environmental (including water quality) and public health effects resulting from improper handling and disposal of home toxics and is committed to reducing the use of home toxics and keeping citizens informed about the choices and responsibilities associated with purchasing, handling and disposing of toxic substances.

Target Audience: Washtenaw County residents.

Year/Frequency: On-going.

Goal: Increase the number of residents using the program to dispose of home toxics.

Assessment: Promoting/publicizing efforts; web site hits; informational materials distributed; Number of drop offs/quantity of disposal materials.

Party Involved: Washtenaw County and Permittees who promote the Home Toxic Reduction Program. Promoted by permittees in Washtenaw County.

Topics Addressed: G

Permittee - Ann Arbor Public Schools:

Link to Washtenaw Home Toxics information on the district webpage.

Activity #23: Washtenaw County Medication Disposal Program

Delivery mechanism: County website, brochure, video, outlining proper disposal of unused prescription drugs and personal care (PDPC) products; network of local pharmacies participating in a drug-take-back program. County funded contractor to provide drug pick up from participating pharmacies, and proper disposal. Brochures are placed at various local pharmacies, doctors' offices, government buildings. (web site: dontflushdrugs.com, <https://www.washtenaw.org/310/Medication-Disposal>).

Key Messages: "Don't Flush Drugs," keep Rx Drugs and personal care products out of our water systems, proper medication disposal.

Target Audience: Washtenaw County residents.

Year/Frequency: On-going.

Goal: Increase the number of residents using the program for disposal of PDPC.

Assessment: Promotional efforts; Quantity of educational materials distributed, website visits, etc.

Party Involved: Washtenaw County Environmental Health and Water Resources Commissioner.
Promoted by permittees in Washtenaw County.

Topics Addressed: A, G

Permittee - Ann Arbor Public Schools:

Link to Washtenaw County Medication & Medical Sharps Disposal information on the district webpage.

VI. EXISTING AND PROPOSED INDIVIDUAL PUBLIC EDUCATION BMPs

NONE

VII. OTHER INVOLVED ORGANIZATIONS

In implementing this Public Education Plan, the permittees will pursue cooperative partnerships plus information and resource sharing with several organizations, including but not limited to:

Organization	Program
Huron-Clinton Metroparks and Michigan State Parks	Environmental Education and Interpretive Programs
Huron River Watershed Council	Water Quality Monitoring Program, Facilitation of Collaborative Permittee Activities, Information and Education Campaign
Livingston County Drain Commissioner	Workshops, Illicit Discharge & Dumping Response System, Educational Literature
Livingston County Health Department	Wastewater Management Program, Water Quality Monitoring Program
Livingston County Road Commission	Watershed signs
Livingston Solid Waste Management	Household Hazardous Waste Collection Site, composting, waste disposal and recycling
Michigan State University Extension	Articles, classes, events, podcasts, publications, videos on lakes, streams, watersheds and water quality
Michigan Department of Environment, Great Lakes and Energy	Water Resources Division, Field Operations Section
Michigan Department of Natural Resources	Educational programs and resources
Michigan Water Environment Association	Association for water quality professionals with resources for educators and students

Southeast Michigan Council of Governments	Workshops, educational events, and public education materials
Washtenaw County Environmental Health Department	Water Quality Monitoring Program, Septic systems; Environmental Reporting Hotline
Washtenaw County Road Commission	Watershed Signs
Washtenaw County Solid Waste Program	Household Hazardous Waste Collection, composting, waste disposal and recycling
Washtenaw County Water Resources Commissioner	Community Partners for Clean Streams, Environmental Reporting Hotline, Educational Literature, River Safe Homes, Rain Garden Program

VIII. EVALUATION OF EFFECTIVENESS

Evaluation of the overall effectiveness of the PEP will consist of a combination of both the accumulated measures of the effectiveness of the PEP's individual activities and a measure of the effectiveness of the sum of all the activities through a coordinated survey conducted by the permitted entities.

Evaluation of accumulated measures of the effectiveness of the PEP's individual activities success can be categorized in terms of output (i.e., effort or activity) that measures short-term goals and milestones. Examples of output measurements include tracking web site visitors, or the number of literature pieces distributed to a target audience. When practicable, measurements of outcome (i.e., results that indicate actual behavior change) will be incorporated into BMP evaluations. Such measures are expected to include public comment and feedback, level of participation in programs and activities, and tools that measure behavior change. When applicable, these measures will be reasonably coordinated with other communities and organizations.

Permittees will collaboratively administer a broader survey at least once during a 5-year cycle. The survey's target audience will be residents of the permitted entities. The survey will measure public awareness of stormwater pollution and possible solutions, environmental attitudes, capacity, constraints, behaviors and, when appropriate, effectiveness of specific public education activities. The survey will primarily be conducted over the web with respondents recruited by mail and e-mail, through advertising, direct in-person contact and/or social media. The watershed community calendar (Activity #2) may be used to promote and recruit survey participation. Results will serve to provide a basis for evaluating PEP activities going forward and will provide an opportunity to benchmark social indicators for subsequent permit cycles. Questions will be designed to reasonably compare with previous survey efforts.

IX. PERIODIC PROGRESS REPORT

Permittees will provide documentation of PEP efforts, a summary of the evaluation of its effectiveness when appropriate, and any proposed revisions or amendments to the PEP program in the periodic stormwater reports to EGLE. Reporting on PEP efforts will reflect data gathered on a calendar year basis.

**STORMWATER DISCHARGE PERMIT APPLICATION
COLLABORATIVE PUBLIC EDUCATION PLAN TABLE**
Effective upon NPDES Permit issuance for a period of 5 years

Public Education Topic	BMP Activity #	BMP Activity Description	Partner Collaboration	Target Audience	Key Message	Delivery Mechanism	Year	Frequency	Reponsible Party	Goal	Assessment
A-J	1	Distribute Informational Materials	Yes	Public	A-J	Print and/or digital materials	1-5	Annually	Permittees	Increase in public contact to improve visibility, and increase awareness, willingness	Number of materials distributed increased website traffic, specific built-in eval or focus groups, overall evaluative survey
A-I	2	Distribute a Watershed Community Calendar	Yes	Residents	A-I	Printed calendar	1, 3, 5	Biennially (even years: 2022, 2024, ...)	HRWC/Permittees	Increase in number of recipients willing to engage in prevention or stewardship	Number distributed, increased website traffic, calendar specific survey, overall evaluative survey
A-J	3	Publish Educational Content in Newsletters, Websites, Social Media	Yes	Public	A-J	Newsletters, social media, websites	1-5	Annually	HRWC/Permittees	Increase in number of recipients willing to engage in prevention or stewardship	Number of newsletters distributed, traffic/following on community sites where materials posted, specific evaluation or overall evaluative survey
A-I	4	Local Print and Digital Advertising	Yes	Public	A-I	Advertising	1-5	Annually Seasonal	HRWC/Permittees	Increase in public contact to improve visibility, and increase awareness, willingness	Number and timing of ads placed, increased website traffic, redemption of offers, overall evaluative survey
A-J	5	Promote Water Resource Protection Workshops	Yes	Residents	A-I	Workshops	1-5	1 per year	Permittees	Increase number of workshop participants	Number of workshop participants or post workshop evaluation survey of participants
A primary, B-I secondary	6	Promote/Support Volunteer Stream Monitoring	Yes	Residents	A-I	HRWC Adopt-A-Stream Program	1-5	Annually 3+ times per year	HRWC/Permittees	Increase program participation and resulting stewardship actions	Number of new and repeat participation in stream monitoring events
A, B, C	7	Promote/Support Storm Drain Labeling	Yes	Residents	A, B, C	HRWC Adopt-A-Stormdrain Program	1-5	On-going	HRWC/Permittees	Increase number of catch basins labeled and program participants	Number of volunteers participating, number of stormdrains labeled, number of flyers distributed
A-I	8	Promote Riparian Land Management Information (optional)	Yes	Riparian Landowners	A-I	Print and/or digital materials	1-5	On-going	HRWC/Permittees	Increase in incidents of riparian landowners implementing BMPs	Number of brochures distributed, hits to community and HRWC websites where materials are posted
A-I	9	Outreach at Local/Regional Fairs and Community Events	Yes	Residents	A-I	Displays at community festivals	1-5	On-going	HRWC/Permittees	Increase in public contact to improve visibility, and increase awareness, willingness	Number of events, materials distributed at events, community volunteers staffing events, contacts made and/or email addresses collected
B, C	10	Promote County Wide Complaint Tracking and Response Systems	Yes (to promote)	Public	B, C	Reporting lines with print and digital promotional information	1-5	On-going	Washtenaw County Environmental Health Div/Livingston County Health Department/Permittees promote	Decrease in number of illicit discharges and improper disposals	Number of phone calls to reporting line, reduction in incidents, results of tracking and response system
A, E, G	11	Livingston County Household Hazardous Waste Reduction	Yes (to promote)	Livingston Residents	G	County-wide collections with print and digital promotional information	1-5	Quarterly	Livingston County Solid Waste Dept/ Drain Commissioner/Permittees promote	Increase in use of program	Number of drop offs/quantity of disposed materials
A, G	12	Livingston County Prescription Drugs and Personal Care Products Disposal	Yes (to promote)	Livingston Residents	A, G	County-wide collection program with print and digital promotional information	1-5	On-going	Livingston County Solid Waste Dept/Sheriff's Office, Community Alliance /Permittees promote	Increase in use of program	Increase in drop offs of prescription drugs at participating locations
A, G	13	Livingston County Electronic Waste Reduction	Yes (to promote)	Livingston Residents	A	County-wide collection of used electronics	1-5	Annually	Livingston County Solid Waste Dept/Permittees promote	Increase in use of program	Quantity of devices collected at events

**STORMWATER DISCHARGE PERMIT APPLICATION
COLLABORATIVE PUBLIC EDUCATION PLAN TABLE**
Effective upon NPDES Permit issuance for a period of 5 years

Public Education Topic	BMP Activity #	BMP Activity Description	Partner Collaboration	Target Audience	Key Message	Delivery Mechanism	Year	Frequency	Reponsible Party	Goal	Assessment
A	14	Livingston County Stream and River Crossing Road Signs	Yes (to install and/or maintain)	Livingston and Washtenaw Residents and Visitors	A	Roadside Signage	1-5	On-going	Livingston and Washtenaw County Road Commissions/Permittees promote	Increase awareness of watershed/creekshed existence	Number of signs installed and locations, public report of seeing signs in specific or overall evaluative survey
A-J	15	Washtenaw County Community Partners for Clean Streams	Yes (to promote/participate)	Washtenaw County businesses and Employees	A-I	Stormwater site assessments, planning and education for businesses, institutions and multi-complex land owners	1-5	On-going	Washtenaw County Water Resources Commissioner/Permittees promote	Increase in number of participants in program	Number of participants
J	16	Washtenaw County Pollution Prevention Inspections	Yes (to promote)	Washtenaw County businesses and Employees	J	Inspection of facilities that store, manufacture or use hazardous, toxic or polluting materials	1-5	On-going	Washtenaw County Environmental Health Div/Water Resources Commissioner/Permittees promote	Increase in improvements made as a result of inspection	Number of inspections
A-J	17	Washtenaw County Issues of Environment Radio Show	Yes (to promote)	Washtenaw County Residents	A-J	Weekly radio show on WEMU 89.1 FM	1-5	On-going, quarterly water-related topic	Washtenaw County Environmental Health/Permittees promote	Increase in number of listeners recognizing watershed and taking steps to protect and participating in programs	Number of water quality related program topics covered, projected number of listeners
A-J	18	Washtenaw County Environmental Excellence Awards	Yes (to promote)	Washtenaw County Businesses and Employees	A-J	Annual award program recognizing businesses, institutions, and multi-complex developments	1-5	Annually	Washtenaw County Water Resources Commissioner/Environmental Health Div/Solid Waste/Permittees promote	Increase in number of applicants/participants and award recipients	Number of award recipients
J	19	Washtenaw County Fats, Oils, and Grease and Litter Reduction	Yes (to promote)	Washtenaw County Businesses and Employees	J	Section of Community Partners for Clean Streams Handbook and coordinated with County Food Inspection Program	1-5	On-going	Washtenaw County Water Resources Commissioner/Environmental Health Div/Solid Waste/Permittees promote	Decrease the number of actions or corrections needed	Number of inspections and improvements made as a result
A-J	20	Washtenaw County RiverSafe Homes Program	Yes (to promote)	Washtenaw County Residents	A-J	Incentive program for participation in survey and receipt of educational resources	1-5	On-going	Washtenaw County Water Resources Commissioner/Permittees promote	Increase number of participants	Number of participants or residents who are deemed to have RiverSafe homes
A, B, I	21	Washtenaw County/Ann Arbor Residential Rain Garden Program	Yes (City of Ann Arbor and Washtenaw County others promote)	Washtenaw County Residents	A, B, I	Rain garden education and installation assistance	1-5	Annually	Washtenaw County Water Resources Commissioner, City of Ann Arbor/Permittees promote	Increase number of participants in program	Number of rain gardens installed and number of applicants to program who install a rain garden independently
G	22	Washtenaw County Home Toxics Center	Yes (to promote)	Washtenaw County Residents	G	Home toxics collection center and informational materials	1-5	On-going	Washtenaw County Environmental Health Div/Permittees promote	Increase in use of program	Increase in use of home toxics collection center by residents, number of brochures distributed, ads run, etc.
A, G	23	Washtenaw County Medication Disposal Program	Yes (to promote)	Washtenaw County Residents	A, G	Network of local participating pharmacies and informational materials on program and proper disposal of prescription drugs and personal care products	1-5	On-going	Washtenaw County Environmental Health Div/Water Resources Commissioner/Permittees promote	Increase in use of program	Increase in drop offs of prescription drugs at participating pharmacies

**STORMWATER DISCHARGE PERMIT APPLICATION
COLLABORATIVE PUBLIC EDUCATION PLAN TABLE**
Key Messages by Topic

Public Education Topic	Key Message
A. Promote public responsibility and stewardship in the applicant(s) watershed.	Watershed definition, location, purpose for protecting, ways to affect, also including recreational and economic benefits of local water resources.
B. Inform and educate the public about the connection of the MS4 to area waterbodies and the potential impacts discharges could have on surface waters of the state.	Recognition of and how to locate. Lack of treatment and flow impacts to water quality and water body to which MS4 is connected.
C. Educate the public on illicit discharges and promote public reporting of illicit discharges and improper disposal of materials into the MS4.	What it is, promotion of reporting system and how to use, water quality impacts, identification of on-site sewage disposal and symptoms of failure, consequences to water quality.
D. Promote preferred cleaning materials and procedures for car, pavement, and power washing.	Preferred cleaning materials and procedures.
E. Inform and educate the public on proper application and disposal of pesticides, herbicides, and fertilizers.	Proper application and disposal.
F. Promote proper disposal practices for grass clippings, leaf litter, and animal wastes that may enter into the MS4.	Proper disposal.
G. Identify and promote the availability, location, and requirements of facilities for collection or disposal of household hazardous wastes, travel trailer sanitary wastes, chemicals, yard wastes, and motor vehicle fluids.	Identification of household hazardous wastes and proper disposal.
H. Inform and educate the public on proper septic system care and maintenance, and how to recognize system failure.	Proper care and maintenance, recognition of failure, water quality impacts.
I. Educate the public on and promote the benefits of green infrastructure and Low Impact Development.	Benefits of green infrastructure and low impact development and implementing landscaping for water quality in residential applications.
J. Identify and educate commercial, industrial and institutional entities likely to contribute pollutants to stormwater runoff.	Storage of chemicals to prevent exposure to stormwater runoff, proper disposal of grease and waste from food preparation, best practices for kitchen maintenance and recycling to prevent improper disposal.

Total Maximum Daily Load (TMDL) Implementation Plan for the Huron River Watershed MS4s in Washtenaw County

April 14, 2025

The Michigan Department of Environment, Great Lakes, and Energy (EGLE), under the National Pollutant Discharge Elimination System (NPDES) Storm Water Discharge Permit application, requires a plan or other documentation outlining how each Municipal Separate Stormwater Sewer System (MS4) will "make progress toward achieving the pollutant load reduction requirement" in each TMDL listed in each applicant's application notice. The purpose of this document is to provide the collective watershed plan for addressing relevant TMDLs in the Huron River Watershed in Washtenaw County by MS4s for the purpose of stormwater permit compliance. This document addresses the permit application sections relating to TMDLs. This document is well supported and meets the relevant and applicable goals and objectives for addressing TMDLs through stormwater system management.

I. TMDL and MS4 Coverage

This TMDL plan is submitted on behalf of the following Phase I and II MS4s within the Huron River Watershed, for each of the below-listed TMDLs:

A. *Excessive nutrients (phosphorus) and algae in Ford Lake and Belleville Lake*

City of Ann Arbor
Ann Arbor Public Schools
Barton Hills Village
City of Dexter
Eastern Michigan University*
Pittsfield Charter Township
University of Michigan

VA Ann Arbor Healthcare System
Washtenaw County Road Commission
Washtenaw County Water Resources
Commissioner's Office
Ypsilanti Charter Township
City of Ypsilanti

** Eastern Michigan University does not have its own permit, but is nested under the City of Ypsilanti*

B. *Excessive bacteria (E. coli) in the following areas based on specific TMDLs or the statewide TMDL:*

- Huron River and tributaries downstream of Argo Dam to Geddes Dam*
- Honey Creek*
- All other tributaries in Washtenaw County except direct drainages to the Huron River down to the Barton Dam (statewide)*

City of Ann Arbor
Ann Arbor Public Schools
City of Dexter
Pittsfield Charter Township

University of Michigan
VA Ann Arbor Healthcare System
Washtenaw County Road
Commission

Washtenaw County Water
Resources Commissioner's Office

C. Aquatic biota impairment in Malletts Creek:

City of Ann Arbor
Ann Arbor Public Schools
Pittsfield Charter Township
University of Michigan
Washtenaw County Road Commission
Washtenaw County Water Resources Commissioner's Office

D. *Aquatic biota impairment in Swift Run:*

City of Ann Arbor
Ann Arbor Public Schools
Pittsfield Charter Township
Washtenaw County Road Commission
Washtenaw County Water Resources Commissioner's Office

II. Prioritizing and Implementation BMPs

The MS4s in the Middle Huron River Watershed have put forth substantial effort and significant resources to reduce the sources of impairments related to the TMDLs listed in the previous section. These partner organizations, along with non-MS4 entities, have developed a number of general and specific plans to address watershed impairments. These plans direct the current and future project and program priorities. The suite of projects and programs already established and in place contributed to significant impairment reduction, as evidenced by data collected through on-going monitoring (see Appendix A for details).

To comply with NPDES stormwater permit requirements, the above-listed MS4s submit that the suite of Best Management Practices (BMPs) contained in the tables below and attached represents each MS4's initial project priorities that will be implemented to collectively make progress toward achieving each of the TMDL pollutant load reduction targets. The MS4s in the Middle Huron River Watershed believe the approach outlined herein best addresses the TMDLs based on 30 years of TMDL implementation experience, previous hotspot sampling efforts funded by EGLE/DEQ, and consistent data collection to document trends.

The attached table of BMPs identifies the targeted TMDL pollutants (i.e. phosphorus, sediments, or bacteria where relevant) and the priority of the BMP. In many cases, no additional prioritization is needed, because the activity is a general (G) stormwater treatment BMP and will be applied across the MS4 and watershed, and not specific to a particular drainage or impairment. For those BMPs that are area or pollutant specific, data from the monitoring program will be used to help establish priorities for implementation. In these cases, BMPs are classified as high (H), medium (M) or low (L) priority for each TMDL. The high priority BMPs will first be implemented in creeksheds or drainage areas that are determined (through monitoring) to be greater sources of the TMDL pollutant or impairment. Conversely, medium and low priority BMPs will be implemented in the TMDL-pollutant source areas after the high priority BMPs are implemented.

Portions of this prioritization are derived through monitoring and have already been accomplished. As such, specific projects or areas have been identified and prioritized for each impairment. Those specific priority projects are included in the table below. The table was originally developed for the Middle Huron River Watershed Management Plan, Section 2 (WMP). That plan is being used as a project planning tool and includes details about specific priority areas, including maps. Please see that plan for reference. Additional activities are identified in the WMP, but the ones below are high priorities, and descriptions following the table represent the collaborative commitments of Middle Huron MS4s.

Table 1. Summary of Priority TMDL Implementation Strategy for Stormwater

Activity	Impairment / Source Reduced	Participating Organizations	Success Measures
Top Priority Activities			
1. Develop and implement Bioretention and Infiltration BMPs	All/ Runoff	HRWC, Municipalities, UM, AAPS	Increased baseflow and reduced flow variability; reduced nutrient and bacteria concentrations and loading; monitoring
2. Enforce restrictions of new discharge permits in nutrient TMDL area	Phosphorus / new sources	HRWC, partners	No newly permitted dischargers of phosphorus effluent
3. Enforce rules, standards and ordinances for stormwater management	All/ new stormwater	Municipalities	Reduced runoff and nutrient/bacteria concentrations; monitoring
4. Implement the Information and Education Strategy	All/ Multiple	HRWC, all partners and residents	Impairment knowledge from survey; participation rates, monitoring
5. Complete CCTV of priority area. Identify and investigate any unknown taps that may indicate non-stormwater discharges	Bacteria/ multiple	Municipalities	Illicit taps identified and removed or confirmation of no illicit taps in the system.
6. Pet waste ordinance education	Pathogens/ Pet waste	City of Ann Arbor	Resident knowledge from survey; call volume
7. Continue active management of Ford Lake	Phosphorus / internal lake	Ypsilanti Township	Reduced algae bloom count; low DO management events

1. Bioretention and Infiltration BMPs

HRWC developed a process to incorporate available geographic, aerial and other remotely collected information to identify opportunities for Bioretention and Infiltration BMPs, also known as Green Stormwater Infrastructure (GSI).¹ This valuable information includes a map of opportunities in the watershed. Opportunities are identified for streets, large lots and roofs. Other opportunities assessments have also been developed. Projects and programs already exist in the watershed, such as Washtenaw County's residential Rain Garden Program,² the City of Ann Arbor's Bioretention and Infiltration BMPs policy, and numerous public and private projects that are inventoried across the county as a whole. Hundreds of projects have been identified including residential rain gardens, community rain gardens, native restoration, green roofs, and infiltration practices.

The commitment for this effort will be for HRWC to work with MS4s to develop and implement, to the maximum extent practicable, a strategy to identify target locations that combine TMDL focus areas and available opportunities for retrofit designs along key roads or other publicly-owned properties, large business properties, and any other properties where GSI would be effective. TMDL focus areas are those subdrainages or creeksheds that show higher than average Phosphorus (P) loading or sedimentation rates. High bacteria levels will also be considered. Initially, in the first permit cycle, focus areas will include Swift Run, Malletts Creek and Allen Creek. Public property opportunities will be further prioritized and implemented by municipalities and partner agencies. This strategy will promote the use of designs that slow and settle runoff waters from impervious surfaces like roads, drives and sidewalks and infiltrate as much runoff as possible. Slowing run-off waters will reduce stream flashiness and will address the top long-term goal of reducing flow variability in the Watershed. This also allows a greater portion of runoff to be filtered through the ground, removing TMDL pollutants like Phosphorus and Total Suspended Solids (TSS), before reaching groundwater, where bacteria will not reproduce, thus reducing stormwater runoff sources of contamination. Research on bacteria reduction indicates that few structural BMPs work to significantly reduce bacteria levels in stormwater runoff. However, properly designed detention or retention basins have been shown to reduce bacteria in outflow. Existing, publicly-owned detention ponds and stormwater systems in critical areas of the watershed should be evaluated for retrofit opportunities to capture, settle and treat stormwater runoff. Implementation of priority projects will initially be done on an opportunistic basis as resources allow, but MS4s within the Middle Huron Partners will implement multiple projects and report biennially, or as requested by EGLE, on projects that are developed or under development. Overall, the Partners will target 30 GSI projects per year in the first permit cycle. Other types of projects may be counted if they target TMDL pollutant reduction beyond minimum post-construction requirements. The project count target should be considered a pilot effort in the first permit cycle.

¹ Huron River Watershed Council. 2014. Green Infrastructure Opportunities.
<https://www.hrwc.org/our-watershed/protection/surrounding-land/green-infrastructure/green-infrastructure-opps/>

² Washtenaw County Water Resources Commissioner. Undated. Rain Gardens.
<https://www.washtenaw.org/647/Rain-Gardens>.

Progress will be tracked and evaluated before identifying focus areas and sites for additional projects in future permit applications. Evaluation metrics will attempt to capture effectiveness and scale, such as maximum volume, infiltration volume, and Total P (TP) and TSS reduction. HRWC will also report in-stream monitoring results from downstream of projects (before and after implementation) biennially. Additionally, since recent bacteria sampling data from Allen Creek suggests that bacteria counts have decreased (see Figure 1), the Partners will first engage in a round of 5 weeks of sampling following EGLE procedures to determine if bacteria reduction practices are warranted.

2. Enforce restrictions of new discharge permits in the nutrient TMDL area

The TMDL for Ford Lake and Belleville Lake concludes that there is excess phosphorus entering the lakes from current sources. The policy establishes phosphorus loading limit goals for all identified sources, and in some cases, states how EGLE staff believe that the sources can be reduced to the stated goals. These targets are then used as guidelines to set limits within NPDES discharge permits. Given that the lakes exceed the TMDL, the addition of new phosphorus sources within the TMDL watershed is counterproductive. It is imperative to the success of all the phosphorus reduction activities going forward that no new sources be added to counteract these nutrient reduction efforts. In order to prevent new sources from being added, HRWC and MS4s commit to participate fully in public response to new permit applications. In this public response process, the partners will request that EGLE give full consideration of the effort made within the watershed to control existing phosphorus sources and uphold the goals of the TMDL by rejecting any new source permits.

3. Enforce rules, standards and ordinances for stormwater management

This program helps reduce the pollutant concentrations and bacteria in surface water by mitigating flooding, modulating flow, treating storm water, and discouraging waterfowl by using native landscape buffers near waterways and ponds. Washtenaw County Water Resources Commissioner's (WCWRC) Office program provides the greatest protection from stormwater impacts from new development and redevelopment projects across the state. The current standards and rules require infiltration of storm events up to the bankfull event, in most cases, and controls flow to pre-development rates. Most municipalities in the County have adopted stormwater ordinances which refer to the Water Resources Commissioner's Office's stormwater standards. The City of Ann Arbor, and Ann Arbor Township have their own standards and review process, both of which are more protective overall. WCWRC or municipal staff review private development proposals to ensure they meet WCWRC or municipal standards. Projects that do not meet standards must be redesigned or adjusted in order to receive municipal building permits. Middle Huron Partners will determine how to evaluate the effectiveness of these standards and the stormwater practices that have resulted from them. MS4s will report on evaluation biennially, or as otherwise requested by EGLE.

4. Implement the Information and Education Strategy (Public Education Plan)

Municipal and agency partners developed a Public Education Plan (PEP), as part of compliance with stormwater regulations and to address public sources of impairments. The PEP includes 23 activities and strategies to address 10 stormwater topics identified

by EGLE. Further, the PEP includes activities to address all TMDL impairments. The PEP also includes a strategy to evaluate the success and progress of education measures. The collaborative PEP was submitted as a separate document. HRWC and Partners will review the PEP annually alongside monitoring results to determine if any activities should be targeted to TMDL higher priority areas.

5. Complete CCTV of priority area. Identify and investigate any unknown taps that may indicate non-stormwater discharges

The priority creekshed identified specifically for *E. coli* is Swift Run, based on HRWC long-term and investigative sampling. The creekshed has 4.8 miles of open channel and approximately 10.4 miles of MS4 stormwater pipe of various sizes. The open channel will be inspected for direct connections and verified as stormwater conveyance or, if identified as non-stormwater, will be removed/corrected. The entire 10.4 miles of stormwater pipe will be inspected via CCTV. All non-stormwater taps will be identified and removed/corrected. The inspection will provide certainty that the creekshed is free of sanitary sewer or non-stormwater connections. This is an important and well-supported action.

Additional activities in Items 4 and 6 of this section will be applied across the MS4 and watershed, and not specific to a particular drainage or impairment.

The MS4s do not believe that sanitary sewer connections are common because this watershed never had a combined system, sump drain connections were eliminated in a program in the 1990s, and intensive hotspot monitoring funded previously by EGLE has not indicated significant *E. coli* contributions by way of sanitary sewer connections. The conclusions of that hotspot sampling read as follows:

Initially the ... basin was divided into 10 sub-watersheds for monitoring. At the downstream end of each sub-basin, water quality was sampled for the following parameters:

§ Field: temp, pH, total dissolved solids, ammonia, and conductivity

§ Lab: Escherichia coli, and surfactants

Concurrent visual and olfactory observations were made: odor, color, clarity, floatables, and deposits/stains.

Assuming that E. coli was strongly correlated to illicit activity, locations where E. coli exceeded 1,000 cfu/100ml were slated for follow up. Video inspections were completed in four storm sewer segments where E. coli was highest. In two cases, homes corresponding to storm sewer leads were dye-tested. No illicit connections were identified.

After consultation with DEQ staff, monitoring and investigation shifted to the adjacent Allen's Creekshed for one season. MDEQ sampling indicated a higher pathogen levels in Allen's Creek. The results were similar. Elevated E. coli was found throughout the storm sewers system in dry weather, yet illicit connections were not apparent.

Fecal material was observed within the storm system at several locations in both creeksheds. Raccoons and raccoon paw prints were commonly observed. E. coli levels on different days at the same location were highly variable, ranging from non-detectable to hundreds of thousands. At one location, E. coli exceeded 1,000,000 CFU/100ml, yet video inspection and dye-testing failed to identify any illicit connection.

See attached Appendix C for specific examples.

Additionally, as described in Section III, HRWC staff will sample Swift Run on a twice monthly basis between April and September at least two years in the permit cycle, resulting in 12 samples per year. This captures wet and dry weather conditions as described in that section. Due to the focus on Swift Run in this permit cycle, HRWC will sample one or more “investigative” sites for at least one season (12 samples) for direct comparison above and below any remediation work.

6. Pet waste ordinance education

This program builds off the work of Activity 4 in educating the general public on the impacts of pet waste on surface water quality and the existing local regulations concerning pet waste. These efforts will increase public awareness of local pet waste ordinances, including those in the City of Ann Arbor and other municipalities that enact them, and drive behaviors to reduce pet waste entering storm drains. In addition, HRWC will work with other watershed municipalities on the development, adoption and implementation of ordinances requiring the removal and proper disposal of pet waste with fines for infractions, through the sharing of educational materials as well as the installation of informational signage and pet waste disposal stations in public areas that dog walkers frequent.

7. Continue active management of Ford Lake dam flow

The endpoint for phosphorus reduction efforts in the watershed is ultimately Ford and Belleville Lakes, since they are the water bodies for which the phosphorus TMDL policy is established. It is important to recognize a key activity that is engaged to control a large source of phosphorus loading within the Middle Huron River system. Ypsilanti Township operates the dam that forms the Ford Lake impoundment of the Huron River. The dam is constructed to allow the Township to normally draw water through electric turbines and release flow over the top of the dam under normal circumstances. However, when the dissolved oxygen levels in Ford Lake bottom water drop to near zero, the Township can open gates at the bottom of the dam (reducing turbine flow) which causes lake water to mix and increase oxygen at the bottom. This replacement of oxygen keeps phosphorus in bottom sediment from releasing into the water column. This practice prevents phosphorus levels from exploding and prevents algae blooms in the lake. This practice essentially locks up an important source of phosphorus. Ypsilanti Township will continue to engage in this effort to control bottom phosphorus releases when it is feasible without completely shutting down the power turbines.

III. Monitoring Plan

A summary of past monitoring results and conclusions related to TMDLs in the watershed is included in Appendix A. The summaries provided are based primarily on data collected through HRWC's Chemistry and Flow Monitoring Program, which has been funded in part by MS4s. Long-term sites are sampled for nutrients, bacteria and background chemistry, twice monthly from April to September which typically captures wet and dry weather conditions. Currently the MS4s and other watershed partners plan to continue to support this program to seasonally monitor Middle Huron River tributaries for TMDL pollutants. However, for the purposes of NPDES stormwater permit compliance, the MS4s commit to the following monitoring plan for the regulated area. The MS4s believe this plan is supported and meets all goals and objectives for monitoring under stormwater regulations.

1. MS4s will continue to support the collection of in-stream water quality samples from sites that are located at or near major tributary mouths. Figure 2 shows a map of long-term monitoring sites and focus reaches. A current map of monitoring sites is located at <https://www.hrwc.org/chemistryandflow/>.

Past monitoring has been used to identify focus areas for TMDL investigation. HRWC has sampled multiple locations in tributary streams to identify focus reaches for outfall sampling. For bacteria-impaired streams, focus reaches are those with high *E. coli* annual geomeans above average for the TMDL watershed, and with multiple samples over 1,000 cfu (or count/100 ml sample). For phosphorus and aquatic life (TSS) impairments, focus reaches are those in high loading streams with above average comparative concentrations.

The *E. coli* focus reach for prioritization is Swift Run. In 2023 sampling, there were some upstream locations with significantly greater counts than the downstream locations during concurrent sampling. Multiple outfalls or discharge points were identified on this reach (see Figure 3).

For phosphorus and TSS, high results (i.e. > 0.5 mg/l TP or 80 mg/l TSS) will trigger assessment for identification of potential sources and potential treatment practices. Following this first year's outfall investigation, HRWC will evaluate results and identify a new focus reach in order of greatest likelihood of high pollutant sources. Figure 2 shows focus reaches in TMDL areas with MS4 outfalls. Three focus area streams (Swift Run, Malletts Creek, and Allen Creek) have been identified for initial investigation. Depending on initial results, HRWC will investigate other streams or other reaches along these 3 streams. The Allen Creek focus reaches are shown in Figure 4. Most of those are underground stormwater pipes. It is possible that multiple focus reaches will be sampled this way in a given sampling year.

2. In the long-term, stream samples will be collected at least twice during five years not including the data from previous monitoring, though the current plan includes annual

sampling. At least one sampling event will take place at each of the eleven sites. Following remediation or significant BMP projects, sampling will occur at ambient sites downstream to evaluate success at TMDL pollutant reduction. Additionally, HRWC will sample the long-term site at Swift Run twice per month between April and September for a total of 12 samples. Analysis of previous data shows that samples collected at such a frequency fairly represent the range of TP concentrations that were captured by storm-targeted sampling with auto-samplers. Figure 5 shows TP concentrations over time from the Malletts Creek long-term site under sampling program. In addition to the regular samples, five composite storm sampling concentrations (from Event Mean Concentrations) are shown. These storm concentrations are all well within the range of scheduled single-sample concentrations. Storm sampling did not assess *E. coli* counts since sampling with autosamplers is not sterile and thus cannot provide reliable results. However, over the course of the program, *E. coli* has been sampled when discharge ranged between almost 0 cfs (nearly stagnant) to 70 cfs, covering most of the range of flow conditions observed at the site. Therefore, HRWC believes that results represent a range of stream conditions from dry to wet-weather.

3. Samples will be collected following procedures identified in HRWC's Chemistry and Flow Monitoring Program QAPP (see Appendix B). Samples will be analyzed by the Ann Arbor Water Treatment Plant Laboratory or other certified lab for the following concentrations: Total Phosphorus (TP), Total Suspended Solids (TSS), and *E. coli*.
4. Stream flow estimates will be obtained from existing stations during the dates and times water quality samples are collected.
5. The pollutant concentrations and stream flow estimates will be used to update pollutant loading models and estimate pollutant load reductions. These results will be summarized in a brief report to be shared with the public via HRWC and/or MS4 websites at least once every five years, but currently is done annually.
6. Based on a review of sampling data and summary reports, BMP implementation will be reviewed and BMPs may be updated or revised to ensure progress toward achieving TMDL pollutant load reductions.

In addition to this stormwater sampling plan, HRWC currently collects macroinvertebrates three times a year at sites throughout the Huron River Watershed. A number of these sites (see Figure 6) are in Malletts Creek and Swift Run watersheds, which are impaired for low biota diversity. This monitoring is not required, and MS4s do not commit to continue such sampling, but HRWC plans to continue doing so on behalf of all of the MS4s.

Figures

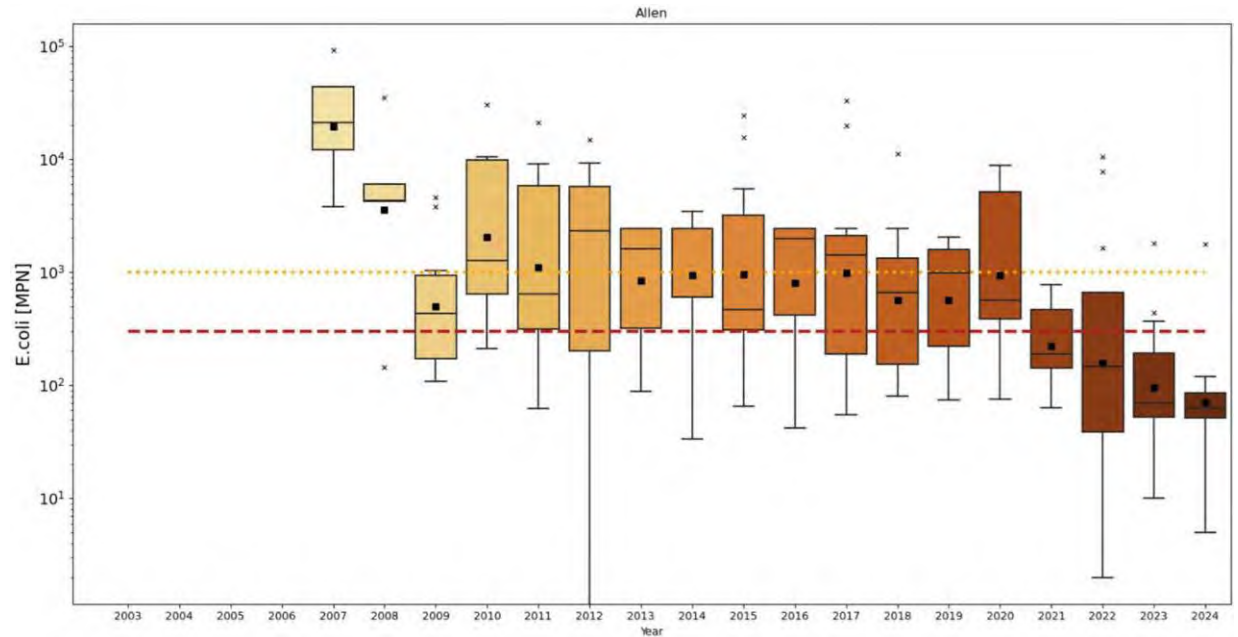


Figure 1. Data range box plots for each sampling year from the sampling site at the mouth of Allen Creek. Box shows 25-75th percentiles. Whiskers show 95th percentile range, and extra points are further outliers. Horizontal lines show Michigan *E. coli* standards for full-contact (red) and partial contact (yellow).

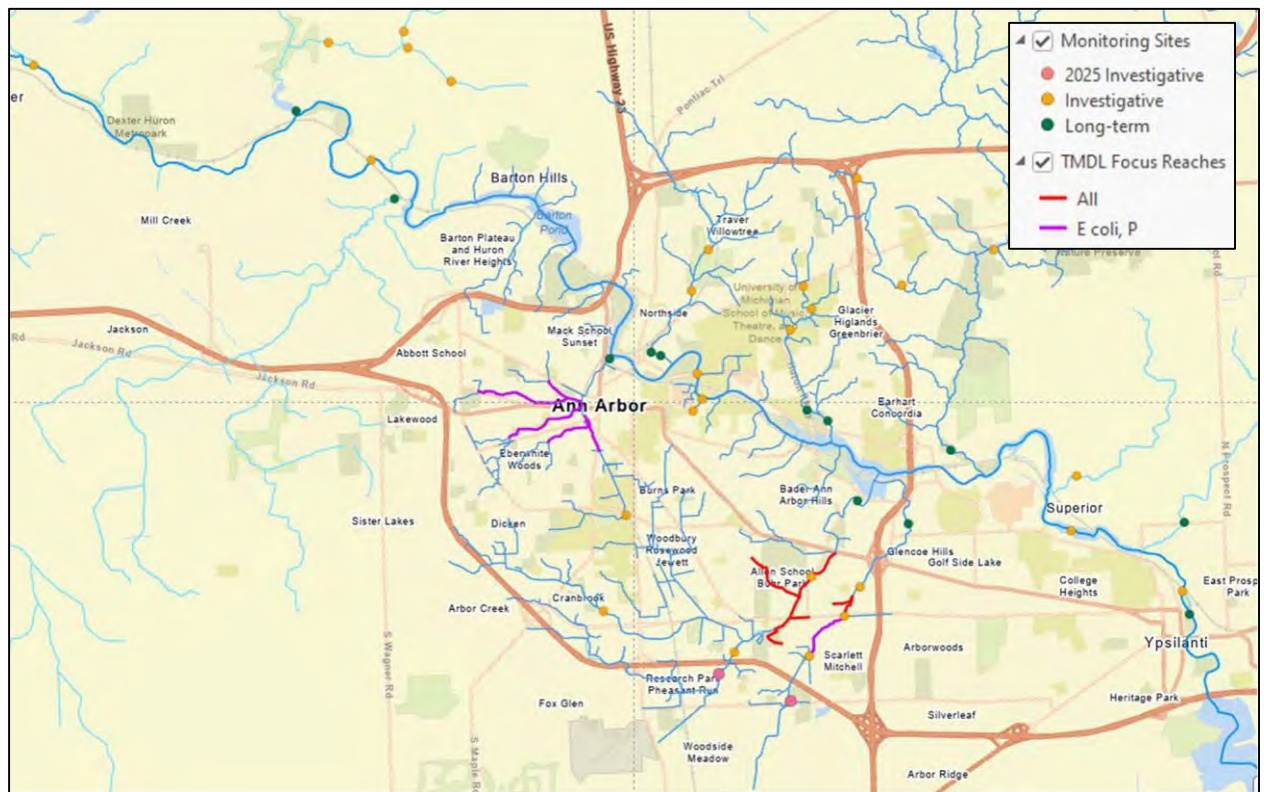


Figure 2. Water quality monitoring stations in the Middle Huron River watershed and focus areas.

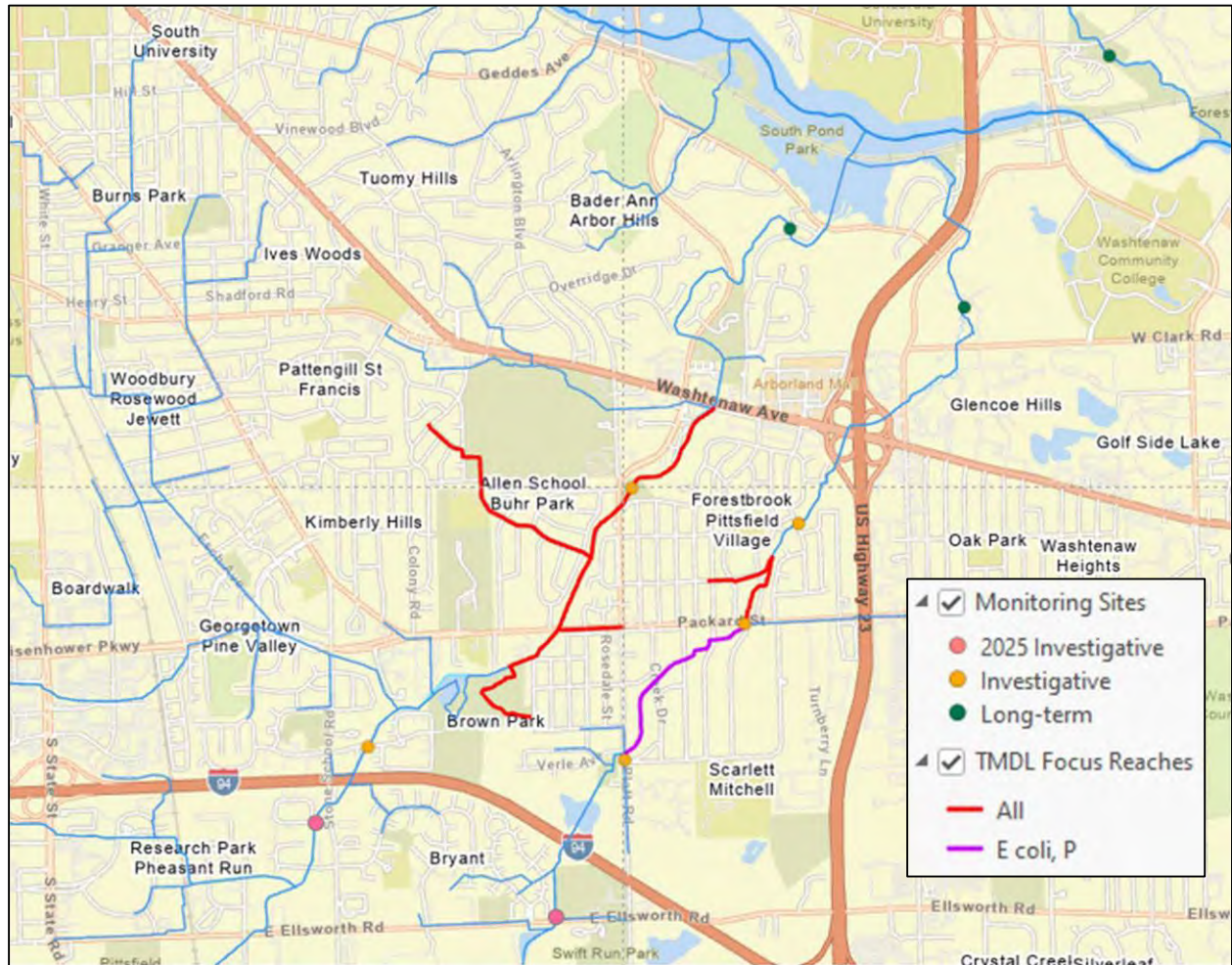


Figure 3. Focus area reaches along Swift Run (to right, east) and Malletts Creek (to left, west), along with long-term (green) and past investigative (orange), and 2025 investigative (rose) sampling sites.

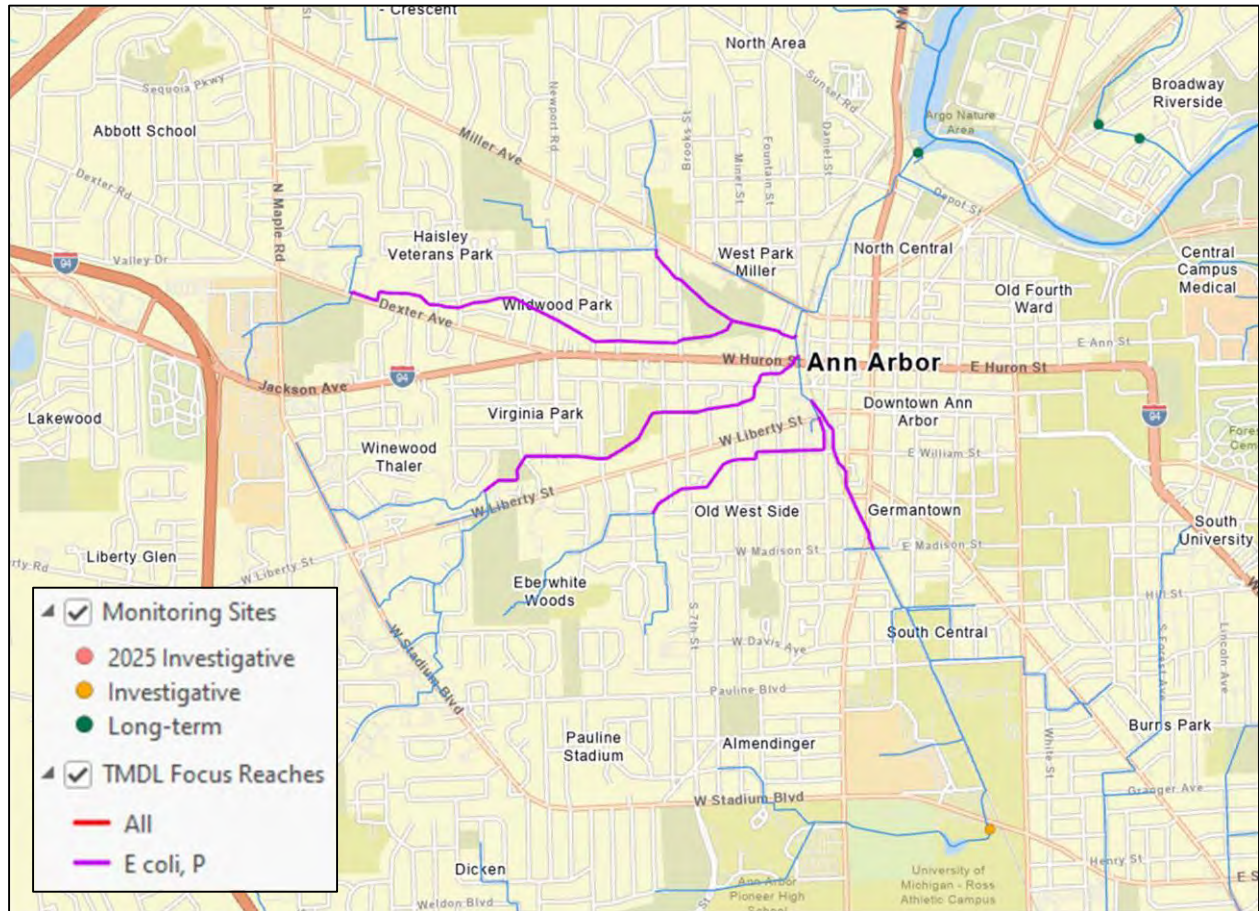


Figure 4. Focus area reaches along Allen Creek, along with long-term (green) and investigative (orange) sampling sites. Note: The vast majority of drainage shown is underground stormwater pipes of various sizes.

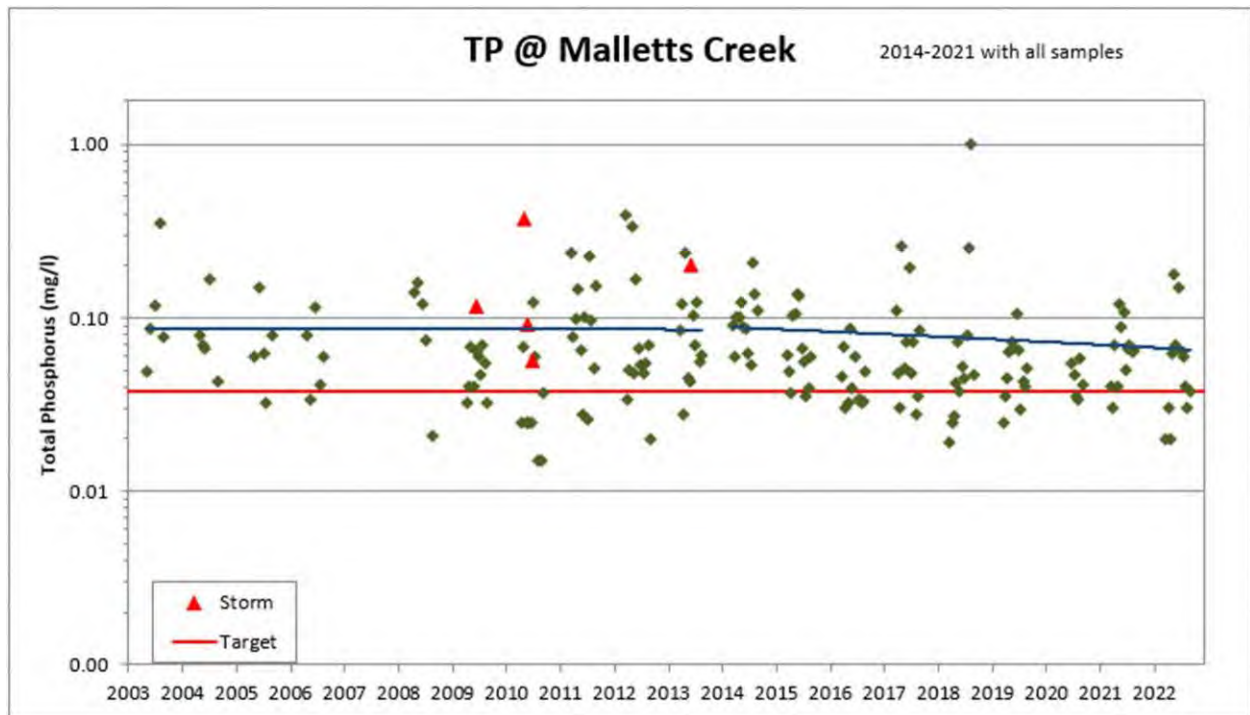


Figure 5. Sampling results showing total phosphorus (TP) concentrations sampled over time at the Malletts Creek long-term site. The five red triangles represent composite Event Mean Concentrations (EMC) for targeted storm sampling events comprised of multiple samples over the course of a rain storm event.

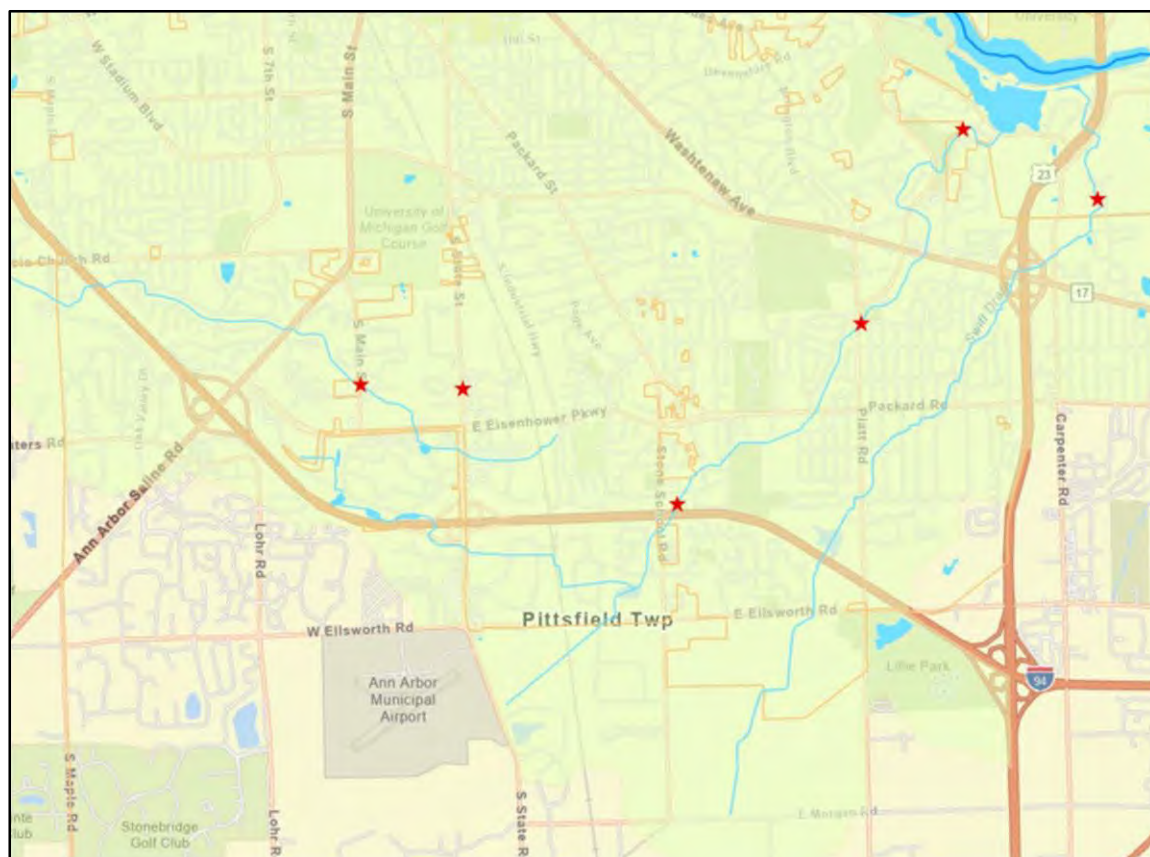


Figure 6. Current HRWC macroinvertebrate sampling locations in Malletts Creek and Swift Run watersheds.

Appendix A.

Monitoring Progress for TMDLs in the Middle Huron Watershed

The MS4s in the Middle Huron River Watershed have already made significant progress toward achieving TMDL pollutant reduction targets. The below sections highlight the progress that has been made through 2022 for each TMDL listed in stormwater permits for municipalities in the watershed. Additionally, detailed, recent-year monitoring results can be obtained in two forms from the HRWC website: the live monitoring report at <https://www.hrwc.org/washtenaw-results>, and via the map-based data tool InfoStream at <https://www.hrwc.org/our-watershed/maps/>.

A. *Excessive nutrients (phosphorus) and algae in Ford Lake and Belleville Lake*

Water Sampling Data Summary

In September 1991, a hazardous material response team was summoned to investigate a reported "green paint spill" in Ford Lake. The "paint" was a severe algae bloom. This incident brought EGLE (then MDEQ) field scientists to the lakes to conduct intensive monitoring of the Huron River and its tributaries from 1992-1994; this monitoring formed the basis for the development of the phosphorus TMDL. The primary water quality parameter measured by EGLE was Total Phosphorus (TP).

EGLE has continued to conduct water quality monitoring in the Huron River and in Ford and Belleville Lakes since the development of the TMDL through 2006, and then again in 2009, and then every other year from 2012-18. Each monitoring season, from April to October, state field scientists visited the watershed one time per month to measure nutrients and ambient water quality parameters at two river sites — the Huron River at Bandemer Park, and the Huron River at Michigan Avenue, just upstream of where the Huron enters Ford Lake. In addition, they measured water clarity, chlorophyll a, nutrients, and other water quality parameters at various depths at four locations within each of the two lakes. Every five years, EGLE conducts more intensive and extensive monitoring in the middle Huron through its basin monitoring program. The Huron River Watershed has been monitored through this program in 1997, 2002, and 2007, 2012, and 2017. 2022 would be the next year in which EGLE will monitor the Huron River watershed, but data has not been released from that sampling yet.

In addition to monitoring conducted by the State, in 2002 the Huron River Watershed Council (HRWC) developed a companion monitoring program for nine of the tributaries flowing into the middle Huron. HRWC staff and trained volunteers measure stream discharge, collect grab samples for lab analysis of TP, Nitrate + Nitrite, and Total Suspended Solids, and monitor other water quality parameters. Each site was originally visited one time per month. In 2006, analysis for *E. coli* was added. In 2008, storm sampling was added and monitoring frequency was increased to twice per month. Finally, in 2010, monitoring at stormwater investigative sites was added. Main branch river sites are monitored in Dexter and Ypsilanti to assess upstream and downstream conditions, and 9 tributary sites between those main branch sites are included in the program¹.

¹ For more information including site maps and data reports, visit the program website: <https://www.hrwc.org/chemistryandflow/>.

The data collected by the State is used to measure progress towards meeting the phosphorus TMDL. Now, HRWC's tributary monitoring program is the only program collecting data on nutrients in the tributaries flowing into the middle Huron. The University of Michigan, in partnership with the City of Ann Arbor, irregularly monitors river sites. One shortcoming of HRWC's program is that it does not monitor Total Nitrogen, which would enable estimating the ratio of TP:TN, an indicator of conditions favorable to the formation of nuisance algal blooms. Dr. John Lehman at the University of Michigan conducted a study of this ratio from 2003-06 and concluded that TP is the limiting nutrient for blooms under most conditions.

A few general comments can be made about the data. TP concentrations entering and within Ford Lake have generally not shown a significant trend. While some months and even years have been approaching or below the TMDL target goal of 30 µg/l, late season samples (especially August) regularly exceed the goal by up to 2X or 3X (see Fig. 1). Similarly, concentrations in Belleville Lake (see Fig. 2) have often been measured above the goal of 30 µg/l. Belleville Lake exceeds the goal more consistently than Ford Lake does.

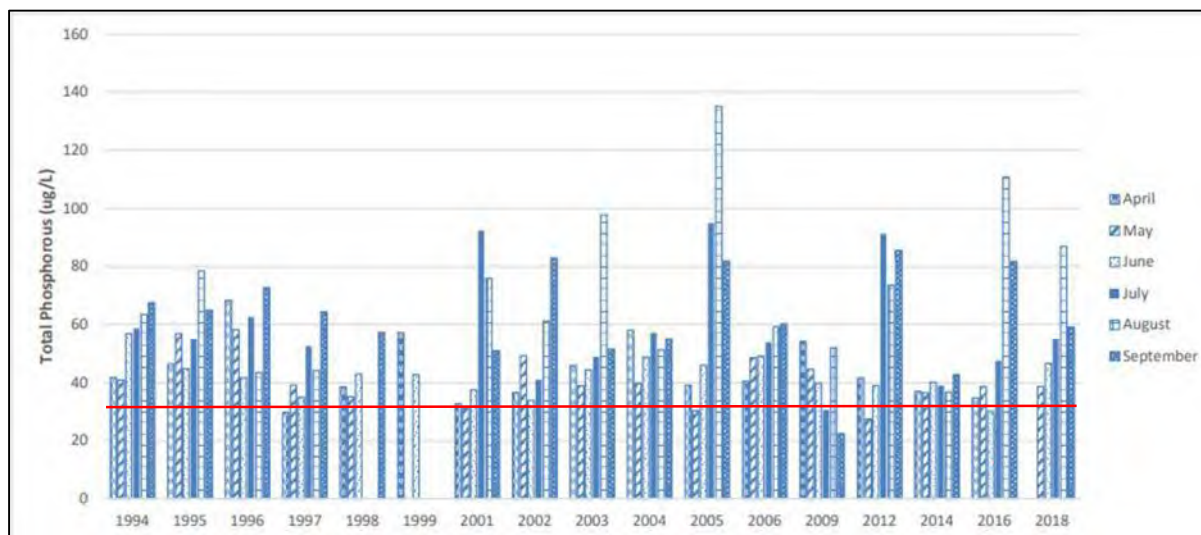


Figure 1. Total phosphorus concentrations in Ford Lake sampled by EGLE in some years from April through September from 1994 to 2018. The TMDL goal of 30 µg/l is included in red.

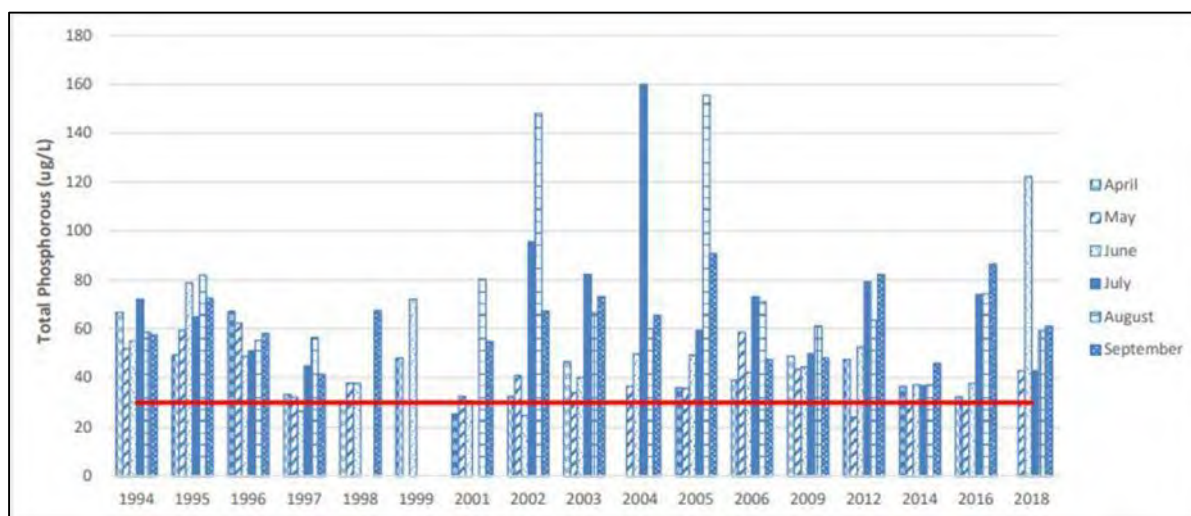


Figure 2. Total phosphorus concentrations in Belleville Lake sampled by EGLE in some years from April through September from 1994 to 2018. The TMDL goal of 30 µg/l is included in red.

Watershed monitoring in the river and tributary streams indicates some trends. First looking at river sites (Fig. 3), TP concentrations fluctuated seasonally around the goal concentration of 30 µg/l at the upstream site at North Territorial Road in Dexter from 2003 through about 2014. Since then, TP concentrations have declined considerably, with only a handful of measures above the goal level. Over the last five years, the mean TP concentration was 29 µg/l. The downward trend is significant.² The downstream site just above the inflow to the Ford Lake impoundment in Ypsilanti also shows a downward trend. That trend is also significant.³ However, concentrations have been higher, with a mean over the last five years of 60 µg/l. While TP in the river appears to be coming down over time, concentrations entering the impoundment system (where the TMDL is targeted) are still well above 30 µg/l.

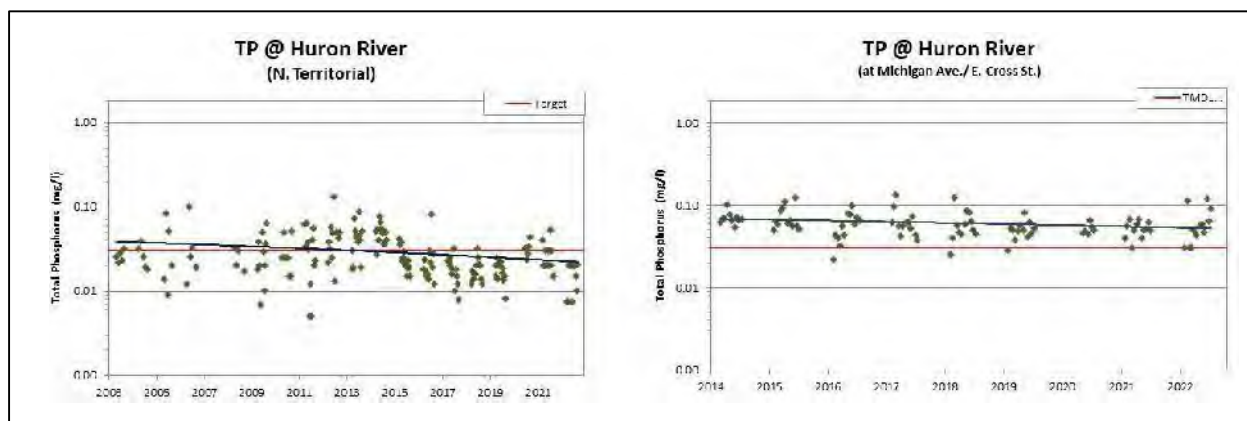


Figure 3. Total phosphorus concentrations from samples at two Huron River sites. The left chart depicts samples from near N. Territorial Rd. somewhat downstream of where the river flows out of Portage Lake from Livingston County. The right chart depicts samples from Riverside Park (between Michigan Ave. and Cross St.), just above where the river becomes the Ford Lake impoundment. The TMDL goal of 0.03 mg/l is shown in red on both charts.

² Regression p-value = 0.002.

³ Regression p-value = 0.025

Generally, total phosphorus concentration trends in Middle Huron tributaries have been mixed, but all show mean concentrations above the TMDL goal concentration. Mean 5-year (2018-2022) TP concentrations in tributaries ranged from 35 µg/l (Boyden Creek) to 119 µg/l (Swift Run). Most mean TP concentrations are driven by high concentrations from samples during high-flow storm events. Five-year geomean TP concentrations for the same two tributaries are 31 µg/l and 84 µg/l respectively. A couple tributaries (Mill Creek and Swift Run) show no trend in TP concentrations over time, but the other seven show declining trends.⁴

Phosphorus Loading

The TMDL estimates that the annual total phosphorus load to Ford Lake is 76,620 lbs/year. This estimate is based on point source reporting, and a land use model. The TMDL states that EGLE monitoring data shows a significant decline in phosphorus concentrations at river monitoring sites that is also consistent with a 20% decline in phosphorus concentrations observed by HRWC and an 11-23% decline observed by Dr. John Lehman. An estimated 31% of the EGLE-estimated phosphorus load was derived from direct point sources, 12% was from stormwater (MS4) sources within the TMDL watershed, and the remainder (57%) was from upstream nonpoint sources.

HRWC assessed monitoring data collected since 2003 through 2018 to estimate loading from tributary drainages at multiple times since the original TMDL was developed. Most recently, HRWC worked with Dr. Tim Maguire formerly of the University of Windsor to develop landscape-adjusted, April-September seasonal loading estimates for multiple drainages in the Middle Huron watershed using monitoring data from HRWC's Chemistry and Flow Monitoring Program. Across the five most recent years in the dataset (2014-2018), total phosphorus loads ranged from 6,149 to 34,410 lbs per season with an average of 18,692 lbs/season. This 6-month mean translates to an estimate of 37,384 lbs for a complete year. This represents a 53% reduction in phosphorus loading from the estimate in the original TMDL. Part of this decrease in loading comes from a general decrease in TP concentrations, but a larger reduction is likely occurring during storm runoff events.

Despite this decline in phosphorus loading to Ford Lake, neither Ford nor Belleville Lake is showing any trend in lake phosphorus concentrations (see previous), based on periodic lake monitoring by EGLE. Because of this, the revised TMDL set new loading goals. EGLE used two lake models to estimate that each lake would need to reach a total phosphorus concentration of 30 µg/l to reach a healthy aquatic trophic status. The revised TMDL sets annual and daily load targets for Ford Lake as found in Table 1. The Belleville Lake targets rely primarily on load reductions from Ford Lake upstream, internal lake management, and stormwater MS4 reductions.

Table 1. Ford Lake TMDL Loading and Target Load Goals

	EGLE Current Load Estimate (lbs/yr)	TMDL Goal (lbs/yr)	Reduction (%)	TMDL Goal (lbs/day)
Nonpoint Load Allocations				
Huron River Upstream	19,000	15,000	21%	41.1
Urban	3,000	800	73%	2.2
Agriculture	19,000	7,000	63%	19.2
Other	500	500	0%	1.4

⁴ All regression slopes were negative (declining), with regression p-values ranging from 0.006 to 0.072.

Internal Load	2,000	480	76%	1.3
Precipitation, Deposition	130	130	0%	0.4
LA Total	43,630	23,910	45%	65.5
Point Waste Load Allocations				
WWTPs				
Ann Arbor	22,000	8,980	59%	24.6
Chelsea	600	560	7%	1.5
Dexter	270	180	33%	0.5
Loch Alpine	510	95	81%	0.3
Thornton Farms	200	45	78%	0.1
Other				
Chrysler-Chelsea Proving	40	40	0%	0.1
Sweepster	100	100	0%	0.3
Thetford/Norcold	40	40	0%	0.1
UM Power Plant	20	20	0%	0.1
Ann Arbor Drinking Water Plant	30	30	0%	0.1
Point WLA Total	23,810	10,090	58%	27
Aggregate Stormwater MS4s	9,180	2,500	73%	7
WLA Total	32,990	12,590	62%	34
Margin of Safety	NA	Implicit (0)		0
Total Load	76,620	36,500	52%	100

The TMDL target goal requires that the entire Middle Huron watershed reduce phosphorus loading by 52% from the EGLE loading estimate. This load from upstream sources has certainly been reduced, based on EGLE and HRWC monitoring. However, since lake concentrations have not changed significantly, it is necessary to continue to reduce loading from upstream sources. It is likely that it will require many years of low loading, in addition to active lake management, to reduce in-lake phosphorus concentrations and, in turn, nuisance algal blooms.

Creekshed Breakdown

In an effort to determine critical areas for reducing phosphorus inputs, HRWC continues to monitor the watershed and estimate loading and changes in loading from tributary creeksheds and subsections of the Middle Huron watershed. Table 2 presents two sets of estimates of total phosphorus loading. The first estimates are based on four years of early monitoring program data and were produced using USGS P-load software. The second set were produced by a landscape-integrated GIS model that incorporated stream discharge and TP concentrations collected across the entire Huron River watershed for five years through 2018. Both are established in the table as mass-balance models. At certain river monitoring points, any unaccounted amount of surplus or deficit in the total load is balanced with a “other sources (sinks)” category.

Table 2. Estimates of Total Phosphorus Loading

Location	TP Mean Daily Load Est. (2003-2006)	TP Mean Daily Load Est. (2014-18)	Difference (%)
Huron @ N. Territorial (upstream)	38.34	59.15	35.2%
Mill Creek	25.26	40.72	38.0%
Boyden Creek		4.60	
Honey Creek	5.07	3.43	-47.8%

Allen Creek	3.41	3.42	0.23%
Subtotal to Wall St.	72.08	111.32	35.25%
Other sources/(sinks)	88.3	49.06	-80.0%
Huron @ Wall St.	160.38	160.38	0.00%
Traver Creek	0.83	2.70	69.24%
Millers Creek	0.28	4.49	93.77%
Malletts Creek	15.32	10.79	-41.99%
Swift Run	1.2	14.55	91.75%
Subtotal to Geddes Pond	178.01	192.91	7.72%
Ann Arbor Wastewater Treatment Plan	49.62	60.23	17.62%
Fleming Creek	5.84	4.56	-28.03%
Superior Drain	0.7	29.29	97.61%
Subtotal to Ford Lake	234.17	286.99	18.40%
Other sources/(sinks)	-102.63	-184.85	44.48%
Huron @ Ford Lake (US-12)	131.54	102.14	-28.78%

Certain caveats for the 2014-2018 model should be considered. Due to the erratic nature of discharge from Allen Creek, loading estimates for that tributary are extremely variable and unreliable. To account for that, P-load was used to estimate Allen Creek loads. Since no additional monitoring data was collected at the Wall Street station and the mean flow was very similar to the 2003-06 period, the load estimates at that location were nearly identical. The estimate for the river at N. Territorial Road is also likely overestimated due to a lack of sufficient data upstream. Finally, the Superior Drain estimate used five years ending in 2013 since HRWC stopped sampling that site in 2013.

The bottom line suggests that phosphorus loading has decreased by 29% since sampling began in 2003. The results suggest that Swift Run is the best target for loading reduction in the target watershed given the overall size of phosphorus load. Traver and Millers Creeks also show increasing loads, but their total contribution is much lower. Malletts Creek is also a good target, given the size of the load and the number of sources. However, loading decreased by 42% from efforts and practices to date already, so allowing more time for recent practices to achieve their full potential may be the best approach in that creekshed. Mill Creek and Superior Drain are also good targets for reduction activities.

B. *Excessive bacteria (E. coli) in the Huron River and multiple tributaries in the watershed*

Sampling Effort and Data Summary

In August 2001, a TMDL for *E. coli* was established for the Huron River downstream of Argo Dam to Geddes Dam. To remove the reach from the impaired waters list, it will need to meet the water quality standard (WQS) for pathogens. For the TMDL, the standard organism count of 130 per 100 milliliters (ml) as a 30-day geometric mean between May 1 to October 31 was used, as that is the monthly standard for full-contact waters. Following the establishment of the TMDL, an implementation plan was compiled by affected stakeholders.

Data on counts for *E. coli* and fecal coliform bacteria vary widely throughout this river section and the contributing tributaries. Historical data indicate that Lower Geddes Pond has consistently exhibited the highest bacteria concentrations among all Huron River reaches in the

Ann Arbor area. Additional sampling conducted in 2001 by EGLE corresponds with the findings of the historical data and indicates that the listed reach and its tributaries exceeded the WQS for *E. coli*.

The results of 2002 sampling for the implementation plan indicated that Geddes Pond exceeded the 30-day geometric mean for full body activities during the second half of July and all of August. There was one additional sampling event that exceeded the full body activity daily maximum standard (300 *E. coli* per 100 ml) in September. Each tributary sampled had elevated *E. coli*, and seemed to be influenced by wet weather events. Allen Creek typically had high *E. coli* concentrations and had visual evidence of illicit connections. Millers Creek, at the east and west branches at Plymouth Road, were typically higher than other locations. Sampling on Malletts Creek was started in July and showed high *E. coli* concentrations for the period sampled. Early season sampling on Swift Run Creek indicated elevated concentrations at various locations. However, the last four weeks of sampling were dry or stagnant. Traver Creek *E. coli* concentrations decreased later in the sampling season, but some of the highest concentrations overall were found at the creek mouth.

DNA sampling was also conducted during one sampling event on August 27, 2002, in the hopes of determining whether sources of *E. coli* were human or non-human. Unfortunately, the results were inconclusive from this early DNA investigation.

Bacteria sources have been determined to consist of a range of wet and dry weather-driven sources. However, the primary loading of pathogens enters the Huron River directly through the tributaries and storm sewers within the listed reach. Potential pathogen sources for the listed waterbody include sources typically associated with urban and suburban runoff because the immediate watershed is primarily composed of urban and suburban land covers and uses. Source evaluation indicates that bacteria loads from a large part of Ann Arbor enter Geddes Pond/Huron River via the storm water system. Bacteria loads are also delivered to Geddes Pond/Huron River by tributaries that drain a large portion of the Ann Arbor area. Other pathogen sources for Geddes Pond/Huron River likely include upstream inputs, illicit sewer connections, pet and wildlife feces, and a small number of malfunctioning septic systems. Agricultural land uses located in the upstream reaches of the Traver Creek watershed make livestock and horse feces other likely sources.

Since the bacteria standard is concentration-based, and bacteria are living organisms, rather than chemical pollutants, the TMDL is also concentration-based, rather than mass loading based like most other types of TMDLs. Further, since low concentrations were detected to be coming from river sources, the focus was placed on tributary sources. Based on this reasoning, and considering other relevant factors, monthly average concentration maxima were established for each of the tributaries that match state WQ standards

Since a concentration standard is used, a total loading of bacteria from the creeks was not established for the TMDL. However, loading allocations were established for each creekshed based on these allowable concentrations and monthly stream flow averages. Based on this information, no fixed pathogen loading figures have been established, nor specific reduction targets.

HRWC has monitored each of the major tributaries (though not direct drainages) in the watershed for *E. coli* since 2006 (Table 3). HRWC volunteers generally collect single samples twice per month from April through September, rather than triplicate samples monthly, though

there are some exceptions where triplicate sampling has been incorporated. However, the methods do not exactly replicate EGLE standard methods. HRWC results would be expected to be somewhat more variable, and therefore may overstate concentration levels.

All of the tributaries along the Middle Huron River watershed have average bacteria counts (whether calculated as means or geomeans) that are above the TMDL targets (and state standard for full-body contact). Trends in the data suggest that conditions in the tributaries are becoming less conducive to bacteria growth over time, however. All show declining trends, and the trends in two of these tributaries are statistically significant (Table 3). Geomeans for the most recent five years are all close to (with Traver Creek below) the standard for a single sample set (300 bacteria per 100 ml), but occasional high counts still occur in all tributaries.

Table 3. Measured *E. coli* Concentrations for the Subwatersheds of the Huron River, 2006-2022.

Average *E. coli* Concentration (per 100 ml), (April-September)

Tributary	17-year mean	5-year mean	5-year geomean	17-year Trend	Trend p-value*
Allen Creek	3,304	1,335	355	Decline	0.02
Traver Creek	779	716	264	Decline	0.13
Millers Creek	781	637	363	Decline	0.03
Malletts Creek	1,643	2,146	426	Decline	0.57
Swift Run	1,969	1,261	387	Decline	0.33
Direct Drainage	NA	NA	NA	NA	NA

*Significance determined by ANOVA via regression analysis for variation since beginning of dataset. Probability <0.05 in red.

Since the TMDL sets a seasonal limit (May through October), HRWC also evaluated monthly geomeans to determine if there are any seasonal patterns (Table 4). Bacteria counts are at their lowest across all sites in April, before the TMDL takes effect, and all tributaries are either below the TMDL or within 30% of it then. Concentrations in May also are a bit lower than the rest of the season, but there do not appear to be substantive differences between the months of June through September. HRWC does not monitor in October. If anything, remedial activities should be focused on the June to September period to have the greatest impact.

Table 4. Monthly geomean *E. coli* concentrations (per 100 ml) (2015-2019)

Tributary	April	May	June	July	August	September
Allen Creek	272.94	279.39	467.14	576.39	2,429.19	3,976.15
Traver Creek	45.81	213.39	586.33	440.41	510.68	665.25
Millers Creek	78.03	240.06	731.96	596.17	516.31	462.80
Malletts Creek	152.49	168.31	555.03	414.45	388.60	388.75
Swift Run	129.04	209.95	729.80	672.83	802.14	671.31
Direct Drainage	NA	NA	NA	NA	NA	NA

In addition to the continuous monitoring program, HRWC also conducted a bacteria study in 2020-21 of Huron River drainages, as part of a larger study of Lake Erie drainages, funded by EGLE. A report on the results of that study was shared with EGLE separately, but a summary of results from this TMDL area is below.

Within the TMDL watershed, sites matching those from annual monitoring included Allen, Traver, and Malletts Creeks. Additionally, a river site at the Fuller Road bridge was sampled. Table 5 includes the five-week sampling results. The river site was shown to be meeting the state standard for the five-week period and each sample set. The tributary sites had bacteria counts that exceeded the standards. Traver and Malletts Creek five-week geomeans are comparable to the current 5-year geomeans. Allen Creek was quite different, however, with a five-week geomean that was almost 3 times the 5-year monitoring geomean.

Table 5. Summary of E. coli Results, 2020-2021

Site ID	Site Description	Week 1 GM (#/100 ml)	Week 2 GM (#/100 ml)	Week 3 GM (#/100 ml)	Week 4 GM (#/100 ml)	Week 5 GM (#/100 ml)	30-day GM (#/100 ml)
MH04	Allen @ Main St.	386	564	8,757	75	5,086	939
MH05B	Traver @ Broadway	463	605	187	201	190	288
HR10	Huron River @ Fuller Rd.	135	93	28	81	11	50
MH07	Malletts @ Chalmers Dr.	142	586	296	823	267	352

Microbial source tracking was also conducted as part of the study for any E. coli sample results that exceeded 1,000 #/100ml. For the TMDL area, that only included two Allen Creek samples. The results of those samples are in Table 6 below. These results showed that one sample showed strong evidence of human-sourced bacteria and canine-sourced bacteria. The other sample did not show any evidence of selected sources of bacteria DNA. Due to the extensive underground network of storm sewers in the Allen Creek catchment, canine scent tracking was not conducted within the watershed.

Table 6. Summary of MST Results.

Site ID	Site Description	Sample Date	DNA Concen- tration (ng/ul)	Human HF183 (GC/100 ml) ¹	Human B. theta (GC/100 ml) ¹	Bovine (GC/100 ml) ¹	Canine (GC/100 ml) ¹
MH04	Allen @ Main St.	7/28/2020	23.1	108,888	4,880	ND	5,590
MH04	Allen @ Main St.	8/11/2020	3.5	ND	ND	ND	ND

The more recent results from the bacteria study indicate that the main stem of the Huron River is currently meeting the state's standards for bacteria, so the river itself should not be a focus for remediation. EGLE should consider adjusting the TMDL to reflect this. However, tributary streams are not meeting the standards. The entire area should be targeted for bacteria reduction activities. While progress can be seen in the data trends, more effort is necessary to meet water quality standards and return these creeks to full recreational use. Particular targets for remedial activities are Allen, Malletts and Swift Run creeks, as these are the largest drainages that likely contribute the most bacteria to the river and ponded waters where most recreation occurs. Additional follow-up IDEP investigation is recommended for Allen Creek, due to the evidence of human septic sources. The City of Ann Arbor has conducted IDEP investigation in this area. Refer to the City's reports for details and results.

C. Excessive bacteria (*E. coli*) in Honey Creek

A TMDL was developed and approved in 2009 to address the bacteria impairment in Honey Creek. Subsequently, a watershed management plan was developed and approved by EGLE in 2014 to implement activities to address the goals in the TMDL. Following that, HRWC and partners conducted an implementation project to carry out a number of recommended activities from the WMP. Below is an analysis from the WMP with some updates from monitoring following implementation.

The study of the Honey Creek watershed was designed to identify likely sources of bacterial contamination to the creek. Water sampling points were distributed at tributary end points to isolate watershed sections geographically. Samples were evaluated for bacterial genetics to determine likely animal sources. Stream reaches with consistently high bacteria counts were surveyed for visible signs of bacteria sources. Key watershed areas were evaluated with a windshield survey to identify residential and agricultural practices that may be contributing bacteria to Honey Creek. Finally, interviews were conducted with representatives of area residents to confirm practices.

Water quality sampling indicated that there were occasional sample events at all sites that exceeded the single sample TBC standard. However, several sites were more generally below the standard and even below or near the 30-day standard. These areas will not be the focus of remedial efforts.

Through the course of investigation, it was determined that multiple sources are contributing bacteria to Honey Creek. All five species markers that were selected for bacteria source tracking (human, bovine, canine, equine and goose) were positively identified in multiple samples at multiple locations. However, some markers are more critical to human health and others were more predominant at specific sample sites. The presence, especially the predominance, of the human marker in samples is of particular concern. The presence of human source markers in bacteria was identified in samples from all critical areas. The human marker predominated in subwatershed 15 (see Figure 4). Sampling in area 15 also suggested a non-runoff source. This combined information suggests that subwatershed 15 should be a high-priority target for investigation and remediation of human fecal contamination sources. Other critical areas should also be investigated for human sources, however, due to the presences and relative predominance of human sources throughout sampling in critical areas.

Other sources are more difficult to define geographically. Bovine, or cow manure source markers were identified in all but one sample, even in subwatersheds such as 17 that have little agricultural land use area. Similarly, canine markers were identified in all critical areas. Likewise, goose source markers were found in all source areas, though that source did not predominate in areas 1 or 7. Equine or horse fecal source markers were found in all critical areas, though less often in areas 7 and 15. Surprisingly, it was a predominant source in a sample from area 17 despite little evidence of horse ownership in that subwatershed, though there was evidence of horse traffic in the area. Identification and remediation of horse sources in area 17 are likely localized to the end of that stream, as little evidence of horses was found elsewhere.

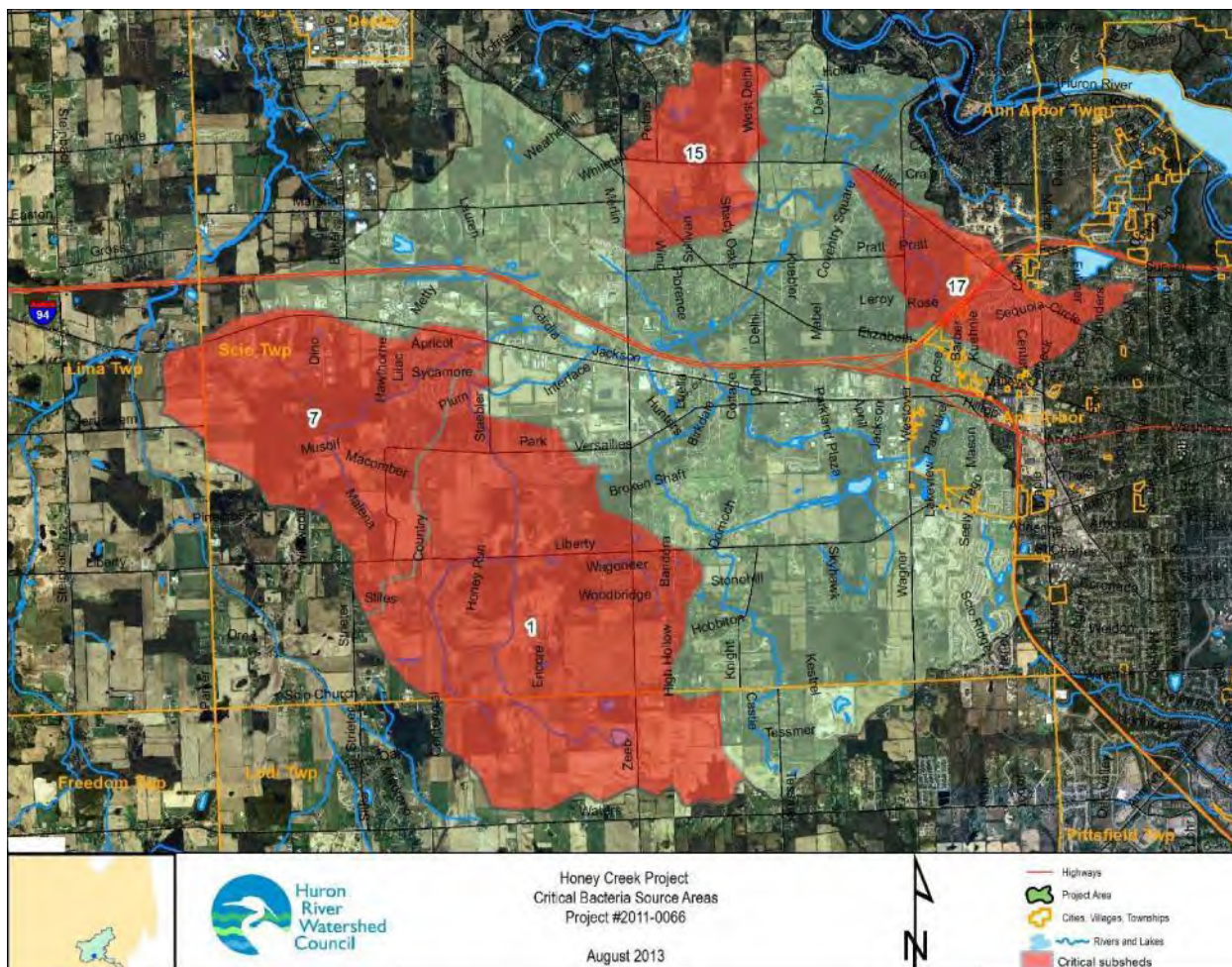


Figure 4. Critical bacteria source subwatershed areas in the Honey Creek watershed. Numbers indicate subwatershed designation and are referenced to downstream sampling stations.

The implementation project included activities to address all the different bacteria sources and critical areas. The post project data summary from 2020 concludes that Honey Creek continues to exceed the state standards for bacteria levels and that implementation efforts have not had enough time to show results in lowered bacteria counts. Standard monitoring continued through 2022 near the Honey Creek outflow. In the last five years (2018-2022), Honey Creek samples exceeded the single sample event standard of 300 bacteria per 100 ml 55% of the time. The mean count was 538 per 100 ml over this period, and the geomean was 322 #/100ml.

Three Honey Creek sites were also part of the study of Michigan drainages to Lake Erie: the outflow site (MH03) and sites at the two main upper branches (HC14, and HC15). Table 7 includes the five-week sampling results. None of the sites meet the 30-day standard of 130 #/100 ml, nor would they meet the single event standard of 300 #/100 ml. Site HC15 was particularly high, with a 30-day geomean of 1,807 #/100 ml. That was the area where human markers were previously found. It appears that Honey Creek continues to be impaired by high bacteria levels.

Table 7. Summary of E. coli Results from Honey Creek sites

Site ID	Site Description	Week 1 GM (#/100 ml)	Week 2 GM (#/100 ml)	Week 3 GM (#/100 ml)	Week 4 GM (#/100 ml)	Week 5 GM (#/100 ml)	30-day GM (#/100 ml)
MH03	Honey @ Wagner	440	526	733	412	238	441
HC15	Honey @ Delhi	575	1,465	2,230	2,914	3,522	1,807
HC14	Honey @ Zeeb	439	508	529	477	567	502

D. Aquatic biota impairment in Malletts Creek

The reach of Malletts Creek from its confluence with the Huron River at South Pond Park upstream to Packard Road has been listed as an impaired water due to poor fish and macroinvertebrate monitoring results. The impairment is based on data collected by EGLE in August 1997. A TMDL was established to address this impairment in August 2004.

Data collected by EGLE in 2002 and 2003 at two sites in the Malletts Creekshed indicated that fish and macroinvertebrate populations were acceptable. Habitat assessments conducted during the same time rated the sites as “good.” However, individual measures of flow and bank stability suggested unstable conditions. Also, HRWC data through 2005 for lower Malletts sites consistently rated the sites as “poor.” For these reasons, the TMDL was established.

The primary sources of concern for poor fish and macroinvertebrate conditions are hydrologic alteration and excessive sedimentation due to urban and suburban development. Reductions in storm sewer runoff rates and solids loads from both commercial and municipal storm water runoff sites, along with reduced stream bank erosion through more stable flow management are necessary to reduce impacts on the aquatic life.

Biota impairments do not lend themselves to direct loading calculations. Because of this fact, along with the concern about sediment dynamics in the system, the focus of loading calculations for the TMDL establishment was on total suspended solids (TSS). While the primary goal is to improve fish, macroinvertebrate, and habitat measures, TSS measurements will be used by EGLE to further assess improvements in Malletts Creek as a secondary goal. This secondary goal is represented by a mean annual, in-stream TSS concentration target of 80 mg/l to characterize wet weather runoff/washoff events. The mean annual target concentration of 80 mg/l TSS is based on a review of existing conditions and published literature on the effects of TSS by the EGLE. This secondary numeric target may be overridden by achievement of the biological and habitat numeric targets. However, if the TSS numeric target is achieved, but the biota or habitat numeric targets are not achieved, then the TSS target may have to be reevaluated.

This secondary goal has the added benefit of being consistent with goals to reduce phosphorus loading under the Ford and Belleville Lakes TMDL. According to the Malletts Creek Restoration Plan, the plan targets a 50% reduction in total phosphorus, which is characterized as “...functionally equivalent to the mean TSS concentration of 80 mg/l.”

At the time of the TMDL development, the estimated total annual TSS load from all NPDES permitted storm water discharges (there are no point sources identified), was approximately 651 tons (1.3 million pounds). Additional non-point source discharge (outside of stormwater areas) and background sources account for 51 tons, for an overall total load of 702 tons (1.4 million pounds). The TMDL target load of 596 tons of TSS will require a 15% overall reduction in loading (106 tons) – 16% reduction in storm water sources and 45% reduction in agricultural sources.

Since the original TMDL evaluation, conditions in Malletts Creek have improved significantly. HRWC monitors sites throughout the watershed for aquatic insect diversity and sensitive family counts. The downstream site in Malletts Creek at Chalmers Road has seen a steady and significant increase in insect diversity in both Spring and Fall sampling. Three-year average insect families are 9.4 families, and EPT were 2.4 families. The Fall 2018 count of 14 is the highest on record for the site, and would move the site from a poor to a fair rating. Sensitive families and winter stoneflies have not yet returned to the site, however. The Chalmers Road site also received a habitat rating of 68.5 in 2016 (most recent evaluation), which is conducive to diverse biota populations.

HRWC also monitors the Chalmers Road site for TSS twice per month, April through September. TSS concentrations are generally low, with a mean concentration of 22 mg/l. However, TSS can exceed 80 mg/l target during larger storm events. In the most recent 5 years, the TSS concentration only exceeded the 80 mg/l target twice (both in 2018; see Figure 5). Hydrologically, Malletts Creek has a high flashiness index at 0.64, but the rating has trended down since 2010. This is likely due to the moderating effect of the regional wetland restoration and detention project in Mary Beth Doyle Park. A natural creek with a drainage area the size of Malletts Creek would be expected to have a stream flow of 93 cfs following a 50% (2-year return interval) storm of 2.35". The modeled flow for Malletts Creek following a storm of this size is 499 cfs, and the estimate from survey data is 1,007 cfs. Both estimates are multiple times greater than peak flows expected in a natural creek. USGS recorded a peak flow of 1,050 cfs following a 2-inch storm.

Overall, it appears that flows in Malletts Creek may still be somewhat flashy and present high peak flows. However, recent data indicates that efforts to moderate high flows and restore the downstream banks may be working. High levels of sedimentation have not occurred in recent years and habitat conditions may be improving to allow a greater diversity of aquatic life. Generally, it appears that Malletts Creek may be meeting the TMDL targets at the downstream sampling station. ***It should be re-evaluated to determine if the TMDL can be removed;*** DNR fish sampling and new EGLE macroinvertebrate sampling should be conducted at Chalmers Road to start this process.

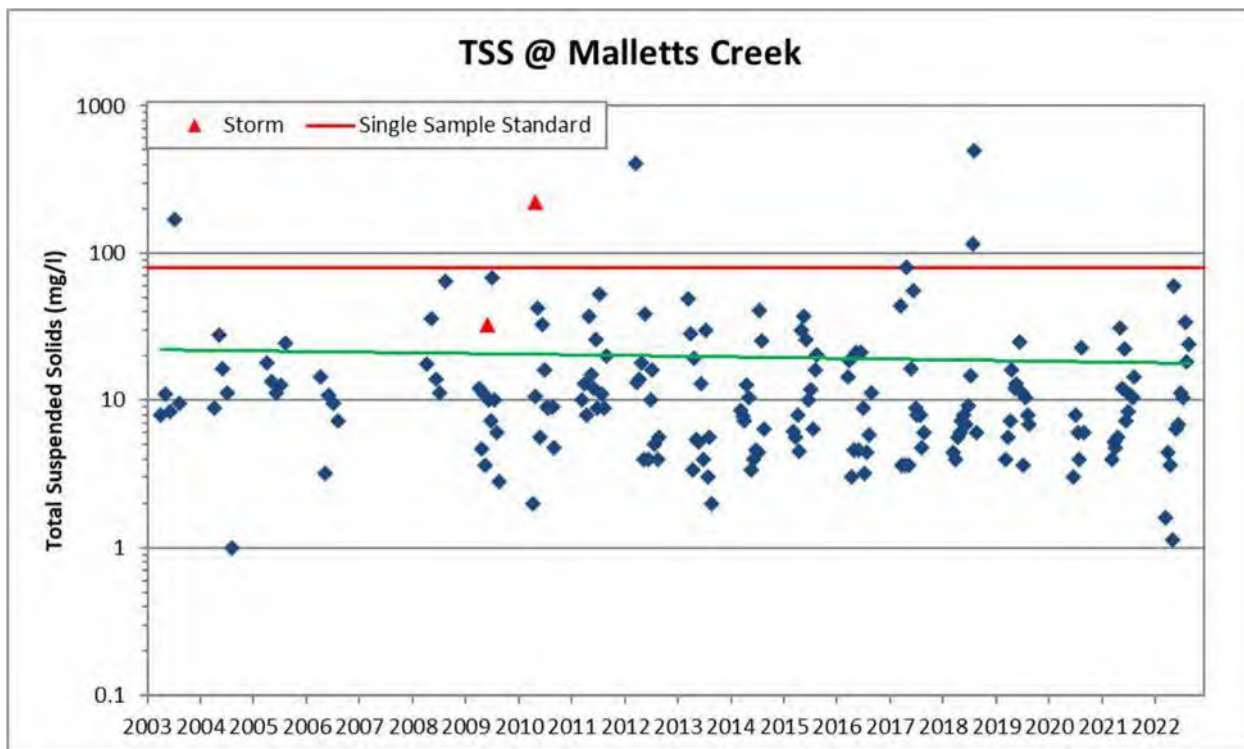


Figure 5. TSS samples by year from Malletts Creek at Chalmers Dr. The red line depicts the storm standard, and the green trend line indicates a slight downward trend in concentration.

E. *Aquatic biota impairment in Swift Run*

The reach of Swift Run from its confluence with the Huron River at South Pond Park upstream to Ellsworth Road has been listed as an impaired water due to poor macroinvertebrate monitoring results. The listed impairment is based on data collected by EGLE in August 1997. A TMDL was established to address this impairment in November 2004.

Data collected by EGLE in 1997 at Hogback Road rated the macroinvertebrate community as "poor." Further sampling by EGLE in 2003 at Shetland Drive also rated macroinvertebrate communities as poor. Habitat assessments conducted during the same times rated the Hogback site as "fair" or moderately impaired, and the Shetland site as "good." However, individual measures of flow and bank stability suggested unstable habitat conditions at both sites. For these reasons, the macroinvertebrate community was considered impaired and the TMDL was established.

As with the TMDL for biota in Malletts Creek to the west, the primary sources of concern for poor macroinvertebrate conditions in Swift Run are hydrologic alteration and excessive sedimentation due to urban/commercialized development. Reductions in storm sewer runoff rates and solids loads from both commercial and municipal storm water runoff sites, along with reduced stream bank erosion through more stable flow management are necessary to reduce impacts on the aquatic life.

Biota impairments also do not lend themselves to direct loading calculations. Because of this fact, along with the concern about sediment dynamics in the system, the focus of loading

calculations for the TMDL establishment was on total suspended solids (TSS). While the primary goal is to improve fish, macroinvertebrate, and habitat measures, TSS measurements will be used by EGLE to further assess improvements in Swift Run as a secondary goal. This secondary goal is represented by a mean annual, in-stream TSS concentration target of 80 mg/l to characterize wet weather runoff/washoff events. The mean annual target concentration of 80 mg/l TSS is based on a review of existing conditions and published literature on the effects of TSS by EGLE. This secondary numeric target may be overridden by achievement of the biological and habitat numeric targets. However, if the TSS numeric target is achieved, but the biota or habitat numeric targets are not achieved, then the TSS target may have to be reevaluated.

This secondary goal has the added benefit of being consistent with goals to reduce phosphorus loading under the Ford and Belleville Lakes TMDL. According to the Malletts Creek Restoration Plan, a target of 50% reduction in total phosphorus is established, which is characterized as "...functionally equivalent to the mean TSS concentration of 80 mg/l."

At the time of the TMDL development, the estimated total annual TSS load from NPDES permitted stormwater discharge (no point sources were identified), was approximately 256 tons (511,844 pounds). Additional non-point source discharge and background sources account for 20 tons, for an overall total load of 276 tons. The TMDL target load of 269 tons of TSS requires only a 3% overall reduction in loading (<1% reduction in stormwater sources and 45% reduction in agricultural sources), or a total load reduction of 7.6 tons per year. It was later determined that the City of Ann Arbor's landfill was misidentified as agricultural land, so most of the focus will need to be on practices to reduce peak flow rates and sedimentation from stormwater sources.

Since the original TMDL evaluation, conditions in Swift Run have not changed significantly. HRWC monitors sites throughout the watershed for aquatic insect diversity and sensitive family counts. The downstream site in Swift Run at Shetland Drive has seen a modest and statistically insignificant increase in insect diversity in Fall and no perceptible change in Spring sampling. One sensitive family was discovered in Fall 2004, but not again since. All biota indicators suggest the site continues to have poor conditions for diverse populations of aquatic life.

HRWC also monitors the Shetland Drive site for TSS twice per month, April through September. TSS concentrations are generally moderate, with a mean concentration of 33 mg/l. However, TSS regularly exceeds the 80 mg/l target during storm events, though not as much in recent years (see Figure 5). In the most recent 5 years, the TSS concentration exceeded the 80 mg/l target twice, both in 2018. Further, the hydrology in Swift Run continues to be quite flashy. Swift Run has the highest flashiness index rating (0.82) of all the tributaries studied by HRWC. A natural creek with a drainage area similar to Swift Run would be expected to have a stream flow of 52 cfs following a 50% (2-year return interval) storm of 2.35". The modeled flow for Swift Run following a storm of this size is 189 cfs, and the estimate from survey data is 398 cfs. Both estimates are multiple times greater than peak flows expected in a natural creek, but the differences are not as big as some other Huron River tributaries. HRWC measured a peak flow of 273 cfs during a 2.6" rain event, which is consistent with these estimates. Generally, it appears that Swift Run is not meeting the TMDL targets at the downstream sampling station.

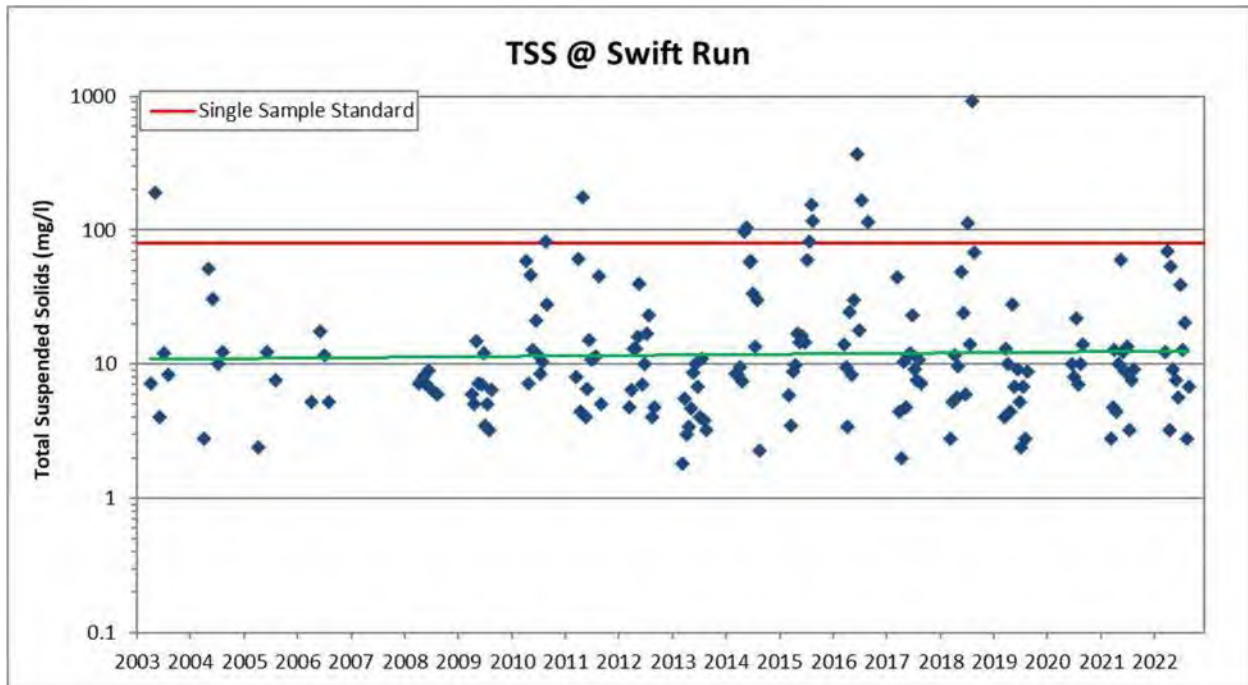


Figure 6. TSS samples by year from Swift Run Creek at Shetland Dr. The red line depicts the storm standard, and the green trend line indicates no significant trend in concentration.

Appendix B.

Quality Assurance Project Plan for the Work Plan Entitled: "TMDL Implementation Planning in the Middle Huron River TMDL Watersheds"

Version 1.2

Date: August 31, 2010

Grantee: Huron River Watershed Council for the Washtenaw County

Water Resources Commissioner

MDNRE Tracking Code: #8635-0010

Funding Source: TMDL Implementation Planning

Project Administrator: Rachel Matthews

MDNRE Use Only:

D Approved

D Returned for Modifications

Signature of MDNRE Reviewer

Date



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Huron River Watershed Council
TMDL Implementation Planning in the Middle Huron River TMDL Watersheds
Quality Assurance Project Plan

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1. Project Description

1.1 Project Organization and Distribution List

Table 1. Personnel, Affiliation and Role/Responsibilities of each in the monitoring project

Personnel	Affiliation	Role/Responsibilities
Rachel Matthews	MDNRE	Project Officer
Harry Sheehan	WCWRC	Grant Administrator
Laura Rubin	HRWC	Program oversight and review
Ric Lawson	HRWC	Program management, data management and reporting, and quality assurance
Debi Weiker	HRWC	Field data collection management, volunteer coordination, and quality control
Donna McNeff	Ann Arbor WTP	Laboratory management
Middle Huron Partners	Local government	Supplemental funding, program review and guidance
Middle Huron Stormwater Advisory Committee	Phase II Watershed Group	Supplemental funding, program review and guidance
Volunteers	HRWC	Assist with field data collection

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Quality Assurance Project Plan

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Review and Advisory Teams

Middle Huron Partners
Middle Huron Stormwater Advisory Committee
(current contact list included in Appendix 1)

Volunteer Data Collectors

Program volunteers change annually and will assist in data collection under the supervision of Debi Weiker and Ric Lawson. Standard Operating Procedures (SOPs) will be distributed at training, and the QAPP will be made available to them upon request.

All others involved with monitoring will receive a copy of this Quality Assurance Program Plan (QAPP) and any revisions.

1.2 Project Description

This monitoring project aims to evaluate collective progress of NPS best management practices towards minimizing stormwater-related impairments and improving overall water quality within the middle Huron River system, including the two TMDL areas at Ford and Belleville Lakes. An updated project description and current information about the program can be found at www.hrwc.org/our-work/water-quality-monitoring/.

1.2.1. Statement of Water Quality Concerns

The Middle Huron River watershed drains 217 square miles and lies primarily within Washtenaw County. The watershed culminates in two impoundments: Ford and Belleville Lakes. Both of these have Total Maximum Daily Loads (TMDLs) for phosphorus enrichment, the first TMDLs to be established in the State of Michigan. The watershed is characterized by a mix of urban, agricultural, and natural areas. As of 2000, the watershed was 48% urban, 21% rural, and 27% forest or wetland. Altered watershed hydrology, poor riparian management, and fecal contamination are impacting many of the streams and lakes in the watershed, as indicated by several reaches that appear on the state's list of impaired waters.

The Huron River Watershed is home to one-half million people, numerous threatened and endangered plant and animal species, abundant bogs, wet meadows, and remnant prairies of statewide significance. The Huron is the only state designated scenic river in southeast Michigan. It supplies drinking water to 140,000 people, and its watershed contains two-thirds of the public recreational land in southeast Michigan. Protection of the Huron River system is vital to both the physical health of residents and to the economic health of local communities. However, portions of the system fail to meet minimum water quality standards. Michigan's 303(d) list of impaired waters identifies five

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waterbodies in the middle Huron that require the development and implementation of TMDLs for either nonpoint source or municipal separate storm sewer system (MS4) related impairments. They are listed below.

Table 2. Non-Point Source and stormwater impairments in the middle Huron River watershed.

HUC	Waterbody	Designated Use	Cause
040900050403 040900050404	Ford & Belleville Lakes	Aquatic life and wildlife	Phosphorus (total) Excessive algae
040900050402	Huron River (Allen Creek to Geddes Pond)	Total body contact	Escherichia coli
040900050402	Malletts Creek	Warm water fishery Aquatic life and wildlife	Flow alteration
040900050402	Swift Run	Aquatic life and wildlife	Flow alteration Sedimentation/siltation
040900050309	Honey Creek	Total body contact	Escherichia coli

One TMDL has been established in the watershed for phosphorus enrichment. The defined drainage area for this TMDL covers the entire Middle Huron River watershed. TMDLs for *E. coli* are more limited to river and creek sections in Ann Arbor. Watershed management plans (WMPs) have been developed for the middle Huron (see map) as a whole and for Allen Creek, Fleming Creek, Geddes drainage (TMDL plan), Malletts Creek (TMDL plan), Millers Creek, and Mill Creek within the larger middle Huron. Additionally, a Nonpoint Source Reduction Implementation Plan has been developed for the Ford and Belleville Lakes TMDL and a point source plan is under development. The Huron also is listed on the state's Unified Watershed Assessment (UWA) as a Category 1 watershed, indicating its high restoration priority. The top impairments listed in the WMPs in the middle Huron are high sediment and nutrient loadings, altered hydrology, and pathogens, mirroring the TMDL impairments. The main causes of these impairments are related to urban development without proper stormwater impact planning.

The Washtenaw County Water Resources Commissioner (WCWRC), with assistance from the Huron River Watershed Council (HRWC), has regularly convened a number of watershed advisory groups for the middle Huron since the first TMDL was developed, beginning in 1994. The communities and agencies within this watershed have engaged in substantial voluntary effort to develop projects and programs to address TMDLs and other potential impairments through the Middle Huron Initiative. The agencies permitted under stormwater regulations now meet regularly as the Middle Huron Stormwater Advisory Group (SAG). This group has developed a budget and work plan to address regulatory requirements and coordinate ongoing activities within that framework. Planning and implementation of monitoring are both parts of this work plan. Funding for those activities, followed by TMDL activity planning and prioritization, will help fulfill the overall goal of meeting TMDL goals.

The Middle Huron Stream Nutrient Monitoring Program was developed in response to community interest in increasing the data available on nutrient contributions to the middle Huron River. The data is intended to lead to a better understanding of pollution contributions from non-point sources in this portion of the watershed. In 2006, data collection for *E. coli* was added to the list of water quality concerns for certain stretches of tributaries within the middle Huron system. An improved understanding of pollution sources and water quality trends will help the Partners of the Middle Huron Initiative and the Middle Huron Stormwater Advisory Committee to focus and track pollution reduction efforts as they strive to meet the phosphorus TMDL for Ford and Belleville Lakes and the *E. coli* TMDL for specific tributaries of the middle Huron River.

1.2.2 Project Goals

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Goal 1: Collect, synthesize and disseminate data that complements past data and is useful to the Partners of the Middle Huron Initiative and the SAG to evaluate the collective progress of NPS best management practices (BMPs) in improving water quality in the TMDL areas.

GOAL 2: Identify hot spots and characterize phosphorus loading and *E. coli* dynamics

Objectives under this goal include:

- refine the implementation priorities for locations, commitments, timeline, and costs; and
- establish a baseline for evaluating the success of implementation projects.

Targeted monitoring of potential hot spots will help confirm and better define critical areas that have previously been measured or modeled to be pollutant sources. The associated loadings of phosphorus and *E. coli* will be quantified with initial monitoring. The data also will help to obtain better projections for the likely impact (i.e. loading reductions) of potential projects. The monitoring plan and the monitoring itself also will address the need to establish a better baseline for evaluating the success of future implementation projects, as well as progress toward NPS load reduction targets. Once we have obtained measures of phosphorus concentrations and loading and *E. coli* counts, both during various dry weather flow and during storm events, a baseline will be established that can be used to determine the nature and degree of reductions (or increases) from future projects. This approach has been utilized with great success broadly in the Middle Huron River, where specific phosphorus reductions were measured following the implementation of a phosphorus fertilizer ordinance.

1.3 Project Tasks and Schedule

Following is an annual work plan and schedule for the monitoring program. It is anticipated that this program will be sustained following the completion of the grant period.

Task	Staff Responsible	%of Time	Deliverables & Results (deliverables in italics)
1) Measure stream discharge at 10 sites		35%	
Subtasks			
1.1 Develop and submit QAPP for DNRE approval	Lawson; Weiker		<i>Approved QAPP</i>
1.2 Solicit and train volunteer corps to provide field support for discharge measurement	Weiker		Trained field support of 5-8 volunteers
1.3 Collect discharge measures as needed at a range of water levels at each site to complete rating curves	Lawson; Weiker		Stream discharge data for 10 sites
1.4 Respond to wet weather events as needed. High discharge levels will be targeted for measurement following events.	Lawson; Weiker		High discharge data for 10 sites
1.5 Download data from pressure sensors and gauge stations; record data and conduct analyses including completion of stream rating curves;	Lawson; Weiker		<i>Database files and analytical results</i>

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1.6 Share data with project partners and develop annual data reports	Lawson; Weiker		<i>Reports for 2010, 2011 field seasons; press releases; presentations</i>
1.7 Solicit evaluation of data and draft products from Middle Huron Partners, SAG and HRWC staff	Lawson		
2) Collect water quality samples and field data at 10 sites		50%	
Subtasks			
2.1 Develop and submit QAPP for DNRE approval	Lawson; Weiker		<i>Approved QAPP</i>
2.2 Calibrate equipment prior to field visits	Weiker		Equipment prepared to manufacturers' specs
2.3 Solicit and train volunteer corps to provide field support during baseline monitoring and wet weather events	Weiker		Trained field support of 8 volunteers, at minimum
2.4 Collect baseline grab samples, autosample wet weather events, and record ambient conditions.	Lawson; Weiker		Minimum 20 sample sets per month plus storm samples; field data for DO, pH, conductivity, temp.
2.5 Collect grab samples at 4-5 investigative sites upstream from long-term monitoring sites	Lawson; Weiker		Minimum 8 sample sets per month for total phosphorus, E. coli and TSS
2.6 Deliver samples to WTP lab for analysis	Lawson; Weiker		<i>Water sample analysis data</i>
2.7 Record data and conduct analyses	Lawson; Weiker		Nutrient and TSS load calculations for 10 sites; trend analyses of all parameters for 10 sites; paired sample analysis of investigative sites
2.8 Share data with project partners and develop annual reports	Lawson; Weiker		<i>Annual reports for field seasons; press releases; presentations</i>
2.9 Solicit evaluation of data and draft products from Middle Huron Partners, SAG, and HRWC staff	Lawson		
3) Administer and Report		15%	All required documents and deliverables
Subtasks			
3.1 Develop and submit status reports following WRD guidance to WCWRC	Lawson		<i>Quarterly status reports</i>
3.2 Develop and submit annual report to WCWRC and partners.	Lawson		<i>Draft Report; Final Report</i>

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Timetable

The grant project will begin in February, 2010 and conclude in September 2011. The timeline below is established on an annual timeframe, however, to represent a long term strategy for continuous monitoring activities beyond the scope of this specific project.

Work Plan Activity	Project Months											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Task 1) Measure stream discharge at 10 sites												
1.1 Develop and submit QAPP for DNRE approval (update in subsequent years)												
1.2 Solicit and train volunteer corps to provide discharge measurement support												
1.3 Measure discharge across a range of water levels at all sites												
1.4 Respond to wet weather events as needed												
1.5 Record data and conduct analyses; download data from level sensors and gauge stations												
1.6 Share data with project partners and report results												
1.7 Solicit evaluation of data and draft products from Middle Huron Partners, HRWC staff												
Task 2) Collect water quality samples and field data at 10 sites+ designated investigative sites												
2.1 Develop and submit QAPP for DNRE approval (update in subsequent years)												
2.2 Calibrate equipment prior to field visits												
2.3 Solicit and train volunteer corps to provide field support during baseline monitoring and wet weather events												
2.4 Collect baseline and investigative grab samples, autosample wet weather events,												

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Work Plan Activity	Project Months											
	1	2	3	4	5	6	7	8	9	10	11	12
and record ambient conditions.												
2.5 Deliver samples to WTP lab for analysis												
2.6 Record data and conduct analyses												
2.7 Share data with project partners and report results												
2.8 Solicit evaluation of data and draft products from Middle Huron Partners, HRWC staff												
Task 3) Administer and Report												
3.1 Develop and submit status reports following WRD guidance												
3.2 Develop and submit annual report to WCWRC and partners.												

1.4 Training Requirements

The program manager and field manager have been trained in all collection techniques as part of professional education programs. Technical advisors from the DNRE and University resources will be sought as necessary to consult for questions on details and analyses. All volunteer collectors receive training at the beginning of the sampling season and are accompanied by the program or field manager on their first sampling experience. Training includes instruction and demonstration of all field techniques, SOPs and data handling procedures.

2. Measurement and Data Acquisition

2.1. Project Objectives

Objective 1: Collect data during dry and wet weather at tributary sites that are comparable to existing data in order to compute loading changes for Total Phosphorus (TP), Total Suspended Solids (TSS), and Nitrate-Nitrite (N-N).

Objective 2: Identify phosphorus loading hot spots and E. coli sources to improve targeting of watershed management strategies.

Objective 3: Measure stream discharge (Q) at tributary sites in the Middle Huron dry and wet weather conditions for use in calculating seasonal load estimates and flow profiles.

Objective 4: Analyze key water quality indicators at tributary sites (TP, TSS, N-N, Dissolved Oxygen (DO), *E. coli*, conductivity, pH, and temperature) across dry and wet weather conditions to detect trends and discover anomalies.

Objective 5: Report data analysis results to the Middle Huron Partners, SAG and the MDNRE and assist partners with assessment of current BMP implementation and plan future BMPs.

2.2 Project Design

HRWC will conduct stream monitoring from May through September (moving to an April start in 2011) at one main river site and nine tributary sites in the middle Huron following standard field procedures (see Appendices 2 and 3). Additionally, a set of rotating "investigative sites" will be selected upstream of long-term monitoring sites to allow for pairwise evaluation. The monitoring program will be based on the existing program that was designed to complement MDNRE's monitoring program at Ford and Belleville lakes, such that monitoring occurs during the months that the TMDL is in effect and the identical parameters are measured.

Stream discharge and water quality indicators will be measured at each site during dry and wet weather conditions in order to measure ambient conditions and any impacts from stormwater runoff on the sites. Fixed water level loggers will be placed at sites that do not already have gages, on an annual rotating basis to allow for flow profiling across an entire season. Grab samples will be taken at each of the study sites twice monthly. Additional samples will be taken during wet weather events. Water samples will be collected and analyzed in a lab according to US EPA accepted procedures (City of Ann Arbor WTP).

The proposed long-term and investigative monitoring sites (Table 3) are located on major tributaries to the middle reach of the Huron River and represent a mix of land uses. The long-term locations were selected based on historical sampling by HRWC, MDNRE, HRWC's Adopt-A-Stream program (macroinvertebrate and habitat data), significant subwatershed phosphorus loading modeling estimates, and a desire to capture the range of subwatershed and upstream conditions. Land use and land cover data have been collected for drainage areas to the monitoring points. These data will be used to help select investigative sampling locations and inform an understanding of relationships between land cover and ecological stream health. A current map of monitoring sites can be found as Figure 1. A live, updated map of long-term and investigative monitoring sites is maintained as a public Google map at www.hrwc.org/our-work/water-quality-monitoring/.

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Table 3. Location and information on monitoring sites in the Middle Huron Monitoring Program

Long-Term Sites				
Site#	Water Body	Cross-street	Drainage Area (km²)	Land Use
MH01	Huron River	N. Territorial Rd	1,394	Woodland, wetland; Natural River District
MH02	Mill Creek	Parker Rd	336	Agricultural; drain confluence
MH03	Honey Creek	Wagner Rd	60	Low-density residential
MH04	Allen Creek	outfall to Huron River	13	High-density urban
MH05	Traver Creek	Broadway St.	18	High-density residential; commercial
MH06	Fleming Creek	Geddes Rd	79	Woodland; wetland
MH07	Malletts Creek	Chalmers Rd	28	Low-density residential; commercial
MH08	Millers Creek	Huron Parkway	5	Woodland; medium-density residential
MH09	Swift Run	Shetland Rd	12	Medium-density residential
MH10	Superior Drain	Clark Rd	6	Agricultural; low-density residential
Investigative Sites (as of publication)				
Site ID	Water Body	Cross-street	Rationale for selection	
SROI	Swift Run	Ellsworth Rd.	Impacted creek. Isolates land fill and agriculture from residential.	
MalOI	Malletts Creek	Oakbrook Dr.	High TP loading, e. coli counts. Isolates medium-density residential branch.	
MillerOI	Millers Creek	Hubbard Rd.	High TP concentrations. Isolates residential from public land	
ACOI	Allen Creek	U of M Golf Course	Only surface access. Downstream of golf course.	
HCOI	Honey Creek	Jackson Rd.	E. coli TMDL. Upstream of highway. Separates creek branches.	

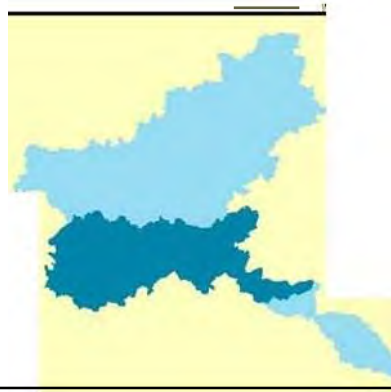
In the event of wet weather, automated samples will be taken at sites with fixed water level loggers or investigative sites upstream. Stream discharge measurements will be taken using data from equipment existing in the following streams: Malletts (USGS), Mill (USGS), and Allen (City of Ann Arbor). Water level sensors maintained by HRWC generate continuous data and were placed at the other long-term sites on an annual rotational basis. Stream discharge will be measured directly by project and volunteer staff with flow meters at all sites to develop stage-discharge rating curves.

In addition to samples taken at the long-term monitoring sites, grab samples will also be taken at 4-5 additional upstream locations each year. These paired samples will be taken in an attempt to isolate hot spots for phosphorus loading or E. coli sources. These investigative sites will be selected with the following criteria in mind:

- critical potential source area drainages and tributary drainages with historically high concentrations, counts or loadings;
- subdivision of stormwater discharge points;
- subdrainages that have a predominance of a land use likely to be pollutant source;
- proximity to a potential source;
- hydrologic position relative to past monitoring; and
- access and logistical constraints.

Overall, the goal of site selection for investigative sites will be to subdivide critical tributary drainages to isolate probable hot spots or sources and determine their relative contribution of phosphorus, TSS and E. coli compared to paired samples from the downstream end of the tributary. Samples from investigative sites will be collected within an hour of downstream samples so that direct comparisons will be valid.

Figure 1. 2010 Middle Huron River Monitoring Sites



N
A
4
Miles

Monitoring sites

- & Investigative
- Long-term
- Q Municipalities
- Surface water



Lakes and Reservoirs



Middle Huron River Watershed

Huron
River
Watershed
Council

Created August 2010

2.3 Sample Collection Methods

Stream monitoring will be conducted twice monthly from May (April, starting in 2011) through September at the designated long-term and investigative monitoring sites described in section 2.2. The monitoring teams, consisting of at least two individuals, after picking up equipment at the HRWC offices, will travel to a pre-designated site and first complete a field data sheet (see Appendix 4) that documents the location, date, time, team members and weather conditions for the current and previous days. The field data sheet is also used to record information about the water samples and the water quality measurement results using the Horiba multiprobe. The team will then travel to any investigative sites on the same tributary stream and collect grab samples from that site. Upon completion of the fieldwork, the monitoring team will deliver grab samples to the AAWTP laboratory for analysis and return equipment to the HRWC office. A 'chain-of-custody' form (see Appendix 4) will be completed and submitted to the lab to follow the water samples. Copies of the chain of custody form are returned to HRWC with the lab results. Following subsections describe in detail the parameters to be measured, analytical protocols, equipment to be used, and specific protocols for grab sampling and wet weather sampling. See the Appendices for detailed sample collection protocols.

2.3.1 Parameters to be Measured

Under the support of the TMDL grant, the following parameters will be measured at each site:

- Water level and discharge (in cubic feet per second)
- Total Phosphorus (TP in mg/l)
- Total Suspended Solids (TSS in mg/l)
- *Escherichia coli* (in count per 100 ml)

With supplemental support from the Middle Huron Partners and SAG, the following parameters will also be measured at each site:

- Nitrate and Nitrite (**N-N** in mg/l)
- Dissolved oxygen (in mg/l)
- Water temperature (in degrees Celsius)
- Conductivity (in micro Siemens)
- pH

All parameters will be collected during each sampling event, with the exception of stream discharge. See the discussion in section 2.3.4 for stream discharge procedures. Also, only water level (later downloaded discharge), TP and *E. coli* will be collected during storm events. TSS will be analyzed for these events as laboratory staff are available and able to do so. However, the lab staff is sometimes limited in their capacity to take on extra samples. For the same reason, *E. coli* may not be analyzed for some storms, depending on timing, if the holding period would be exceeded. Pre and post monitoring around any new management practice will include all three parameters. Table 4 below includes analytical specifics for each parameter.

Table 4. Analytical specifics for measured parameters

Parameter	Method	Detection Limit/Range	Sample Volume (ml)	Bottle Type	Preserva- tive	Hold Time
Total phosphorus	SM20 4500-P B.5 and E	0.01 ppm	100 or 250	plastic	none	48 hrs

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Total Suspended solids	SM 20 2540 D	0.1 ppm	750	plastic	none	none
Nitrate/nitrite	SM20 4500-NO3 B/ SM20 4500-NO2 B	NOr 0.1 ppb NO3 - 0.2 ppm	750	plastic	none	48 hrs
E. Coli	SM20 9213 D	0 per 100 ml	100	Sterile Whirl-pak ¹	None ²	24 hrs ³
Dissolved Oxygen	Horiba U-10 water quality probe	0.0 - 19.9 mg/l	NA; measured with field instrument			
Conductivity	Horiba U-10	0 - 100 mS/cm	NA; measured with field instrument			
pH	Horiba U-10	0 - 14 pH	NA; measured with field instrument			
Temperature	Horiba U-10	0 - 50 °C	NA; measured with field instrument			
Flow	Marsh-McBirney Flomate 2000	-0.5 to +19.99 ft/sec	NA; measured with field instrument			

¹ Sterilized 100 ml (or larger) bottles will be used if they can be obtained at a reasonable cost.

² Thiosulfate tablets will be included in sample containers at sites where chlorine degradation is a concern.

³ Samples will be kept on ice immediately following collection and will be stored under refrigeration until analysis can be conducted.

2.3.2 Equipment

A Horiba U-10 Water Quality Checker multiparameter monitoring instrument will be used to collect additional parameters including pH, DO, conductivity and temperature.

Stream flow measurements will be made using a top-setting rod, that allows all adjustments to be made from above water, with a Marsh McBirney Flo-Mate (Model 2000) portable flow meter.

"WaterMark" Style C staff gauges, graduated to hundredths and marked at every foot and every tenth, will be used to measure relative stream water level.

HOB0 pressure loggers (model U20-001-01) from Onset Computer Corporation (www.onsetcomp.com), will be installed at long-term sites on a rotating basis at sites without other water level recording equipment. They will be used to measure water pressure, which will be converted to water level using a barometric pressure compensation program.

Samples will be collected in 1000 ml plastic bottles and plastic sterile packs (*E. coli* only).

2.3.3 Grab Sampling

Collectors will obtain a sufficient supply of sample bottles, pre-marked labels, a cooler (with freezer pack), and field data sheets. They will follow sampling protocols (see Appendices 2 and 3) to collect grab samples and deliver to the laboratory for analysis. One duplicate sample will be collected for approximately every ten sampling sets. Most *E. coli* samples will consist of a single grab sample. Several times a year across all sites, a complete set of 3 representative samples will be collected to be consistent with the water quality standard. This sampling protocol will also be conducted for pre and post BMP monitoring.

2.3.4 Flow Monitoring

Water level and discharge will be recorded in two ways. Two sites (Mill and Malletts) have USGS stations associated with them, and one (Allen) has an automated depth-velocity logger managed by the City of Ann Arbor. At these sites, water levels will be recorded along with time during each sampling event. Water level and discharge information will later be downloaded and recorded on field sheets and entered into the database. No further flow information will be collected at these sites.

Two to three additional sites will have HOBO pressure loggers installed. These will be set to record pressure and temperature every 10 minutes. Pressure is converted to water level by adjusting for barometric pressure following procedures included in the HOBO data logger user guide, which is kept on file at the HRWC offices. Barometric pressure data will be obtained from weather stations reported through www.weatherunderground.com. A station will be selected based on closest proximity to the in stream HOBO loggers. Logger pressure data are converted to water level using the compensation tool (algorithm) in the HOBO software. Water level data points will be converted to discharge by developing rating curves for each site by collecting at least seven flow measurements spanning the range of water levels, following flow procedures included in the Appendix 3.

For the remaining sites, staff gauges have been installed. Rating curves similar to those for pressure loggers will be established for each of these gauges to translate a staff gauge level reading into a discharge estimate as indicated in the flow procedures in the Appendix 3.

2.3.5 Wet-Weather Monitoring

In addition to the twice monthly monitoring at each location, a minimum of one wet weather event will be sampled at each site with continuous water level monitoring. Following analysis, subsequent events will be monitored for sites based on data need and availability of resources. The actual number of events sampled will depend on the frequency of suitable wet weather events, thus, the distribution of events sampled is difficult to predict.

Some investigative sites may also be sampled for wet weather discharge. Targeting of investigative sites for wet weather sampling will be based on previous baseline results and the availability of water level loggers at downstream sites. Discharge data will be estimated from downstream site discharge data using drainage area ratios.

In general, wet weather events will be identified as precipitation events predicted to yield a minimum of 0.2 inches within 24 hours. Mobilization will occur when storms of the desired magnitude are predicted, based on available hourly forecast predictions. However, a "dry" period of <0.1 inches of rainfall over 48 hours should precede the potential wet weather event before a site qualifies for event sampling. This general criterion is being used to ensure that the samples collected are representative of runoff events. Tributaries respond differently to storms, however, and the true measure will be to determine if the flow in the target tributary has returned to levels near those that preceded the previous wet weather event. This may require less or more than 48 hours.

Samples will be collected using a programmable autosampler, starting at the onset of a storm and spanning a period not to exceed 24 hours. Four to six samples for analysis will be selected based on the discharge profile of the storm event hydrograph. Samples will be selected to represent the diversity of flow conditions during the wet weather event. At least two samples will be obtained on the rising side of the hydrograph or near the peak. Wet weather samples will

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be analyzed for TP, *E. coli*, and, if the lab has sufficient capacity, TSS. There is some concern about the accuracy of *E. coli* samples collected using the autosampler. When discussing those results in reporting or publications, a caveat will be included until such time that such samples are proven to be valid.

In addition to the six sample sets, one duplicate will be collected for each wet weather sampling event for quality assurance and analysis of sample variance. Specific guidance for storm event sampling is included in the sampling SOP included in the Appendix 2.

2.4 Data Quality Objectives

Accuracy and precision statistics for each of the measured parameters are included in Table 5 below.

Table 5. Accuracy and precision of measured parameters

Parameter	Accuracy	Repeatability/ Precision
Total Phosphorus	2.8% (from spikes)	3.5%
Total Suspended Solids	.0001 mg/l (from blanks)	19.6%
Nitrate/nitrite	NO ₂ : 6.0% (spikes)	3.0%
	NO ₃ : 4.3% (spikes)	7.2%
<i>E. Coli</i>	NA	
Dissolved Oxygen	0.1 mg/l	±0.1 mg/l
Conductivity	0-1 mS/cm: 0.01 mS/cm 1-10 mS/cm: 0.1 mS/cm 10-100 mS/cm: 1 mS/cm	1%/F.S.
pH	0.1 pH	±0.05 pH
Temperature	1°C	±0.3°C
Flow	± 2% of reading± 0.05 ft/sec	± 0.05 ft/sec

For lab-analyzed chemical parameters, accuracy objectives are to stay within 10% using blanks and spikes. Precision objectives are to stay within 10% for all but TSS, and within 20% for TSS using field duplicates. These objectives will be monitored at the lab across all samples analyzed at the lab - both those run for the HRWC, as well as those for other programs. Running control plots are monitored to stay within accuracy and precision boundaries. The lab maintains a separate QAPP for their lab procedures. This can be reviewed or obtained upon request. The lab is a certified drinking water lab and has thus had their lab procedures reviewed and approved by MDNRE for compliance. The lab is also certified by U.S. EPA as to meet national waste water testing standards, and thus undergoes review and assessment by EPA. Details on these certifications can also be obtained from the lab.

Additionally, a relative percent difference (RPD) will be calculated for each field and duplicate sample pair as a measure of sample site variance for each parameter. Running program mean RPDs will be kept and reported. Any individual RPDs more than 1 standard deviation above the mean will be flagged and reported as potentially unreliable. Samples more than 2 sd away from the mean will result in nullification of that sample set.

For field parameters, the following objectives will apply.

2.4.1 Precision

Volunteers attend both classroom-style and field training to learn the procedures and protocol for collecting water quality data and measuring flow/discharge. Volunteer teams are then observed in the field periodically to audit monitoring activities. Rechecks of flow measurements selected randomly along the channel transect are used to determine precision of monitoring teams' technique.

2.4.2 Accuracy

No standards exist for field estimation of stream discharge, so efforts are made to reduce measurement error. New volunteers and student interns will receive training that includes practice in the stream. They will then take water samples, measure water quality parameters and flow in teams of two or three members, accompanied by trainers on their first outing for stream monitoring. Periodically trainers will accompany them as an additional check on proper technique and sampling protocol.

2.4.3 Representativeness

Monitoring sites have been selected to be representative of the chemical concentrations and loads entering the Huron River from tributaries. As such the measures should be the cumulative impact from each tributary. By taking baseflow samples at regular intervals, the dataset should be representative of the conditions at the output of these tributaries. Including storm samples should allow for calculation of a representative set of loadings for each tributary.

2.4.4 Comparability

Standard procedures are being followed for all measures, which have been and are being utilized in other watersheds. This should allow for results that are comparable to measurements of the same parameters elsewhere.

2.4.5 Completeness

Our objective is to complete multiple measurements of discharge at sufficient water levels to develop a rating curve for each staff gauge or level sensor installed at each monitoring site. We expect to collect samples twice per month at all monitoring sites for base flow and a wet weather event for each. Following validation by the project and field managers, the objective is to maintain results that are 95% valid and at least 90% completeness according to the above outcome objectives.

2.5 Quality Control Procedures

All field equipment and lab equipment will be calibrated with a frequency consistent with procedures in each instrument's manual. Dates on all calibration chemicals will be inspected and chemicals replaced as needed. As indicated previously, field duplicates will be collected and analyzed for laboratory parameters for use in calculated accuracy and precision. Each will be collected and analyzed at a frequency of one for every ten samples. Relative % differences will be reported for each along with the monitoring data.

2.6 External Data Acquisition

Data has been collected regularly under this monitoring program since 2003. This data will be included in annual reports, and will be distinguished from data collected under the grant project. Additional water quality datasets from outside sources will be reviewed for comparison, but no

meta-analyses will be conducted unless the analysis is discussed with MDNRE and program partners.

USGS Real-time Water Data is used to obtain discharge data from stations located in Malletts and Mill Creeks. The initial data posted is provisional and subject to adjustment throughout the May- September field season. Final posting of discharge data for the season is generally completed by November and the provisional data recorded on field datasheets are checked and updated if necessary.

Discharge data for Allen Creek outfall is obtained from the flow gage maintained by the City of Ann Arbor.

In order to compute water level using the HOBO pressure sensors, a barometric pressure record covering the period of monitoring is necessary. Barometric pressure data is available from a wide network of weather stations via the Weather Underground at www.weatherunderground.com. The nearest station to the location of each sensor will be selected as the barometric pressure source. The data will be regularly downloaded from the website and processed for import into the software that accompanies the pressure sensor. The software uses an algorithm to use the barometric pressure data to compensate for the atmospheric portion of the pressure measurement recorded by the sensor and compute a water level from the remaining pressure. Since the compensation is a relative computation tied to an initial water level measurement at the time of installation, either raw or elevation-corrected barometric pressure can be used.

3. Data Validation and Reporting

3.1 Data Review, Validation and Verification

Upon completion of field sampling, collectors will deliver samples to the lab, where labels will be matched to the chain-of-custody form before the lab signs off on the transfer. The data forms will be delivered to HRWC offices where they will be reviewed by the program or field manager for completeness. All equipment will be signed back in and check for completeness. The program manager will download any water level and discharge measures and record those on the data forms prior to initialing the data forms. If any data or equipment is discovered missing, the project manager will make an effort to recover at the time of turn-in. If this is not possible, the data gap will be noted on the data form. Collectors will be instructed on any procedures that were not properly followed. A determination will then be made on the validity of the data collection. If necessary, the collection will be rescheduled.

3.2 Reconciliation with DQOs

Upon receipt of data from laboratory analysis, the results of samples and duplicates will be evaluated to confirm that accuracy and precision objectives are being met. Any exceedences will be reported to the laboratory, and corrective actions will be requested. Further, individual samples will be evaluated with lab staff to determine if any should be deemed invalid. A completeness statistic will also be computed as a percentage of samples validated against the total of samples collected. Any violations of DQOs will be included as caveats in data analysis reports.

3.3 Data Management

Once data are collected from the field, they are entered into the program database. The database is an Access database that is integrated with other monitoring data collected by the HRWC. The database helps to reduce data entry error by allowing for rapid comparison of new data with historical data to determine if any entries are missing or outside the normal range. Such entries will be rechecked for data entry error or sampling or analytical anomalies. The database is housed on the HRWC server, which is backed up nightly on-site and twice per month off-site. The data are compiled and analyzed in Excel to calculate statistics and trends for each site for the measured parameters.

3.4 Reporting

Monitoring, quality control evaluation and data analysis progress will be reported quarterly to the DNRE Project Officer. Following a comprehensive analysis of the full dataset each year, the results will be synthesized into a final report for electronic distribution to the MDNRE, Water Resources Division (WRD), community partners of the Middle Huron Initiative and SAG at semiannual meetings, and on the HRWC website. Data collected as part of this grant project will be reported separately to the DNRE Project Officer. All data will be submitted to the DNRE Project Officer at the close of the grant.

3.5 Audits

The necessity of field audits is limited as the field manager accompanies volunteer collectors on a regular basis. In addition, sampling teams will be reset each year to provide for comparison of results from different collectors. The program manager will also conduct field samples on occasion as an additional level of program evaluation.

Any systemic problems discovered through this process by either manager will be discussed and retraining will be scheduled for collectors as needed to address problems. Other programmatic corrective actions will be taken as necessary and communicated to volunteer collectors. If necessary, this program QAPP will be updated with revised procedures. All problems will be reported via quarterly reports to the DNRE project officer.

4. Appendices

Included with this document are the following appended documents:

1. Middle Huron Partners and Middle Huron Stormwater Advisory Committee Contact Lists (as of June, 2010.)
2. Field sampling and wet weather procedures
3. Flow monitoring procedures
4. 2010 Data Forms:
 - a. Field Data Form
 - b. Wet Weather Field Data Form
 - c. Flow Monitoring Form
 - d. Chain of Custody Form

Appendix C.

Results from previous intensive hotspot monitoring.

Manchester

20082

Pre-screening

20082	
<i>E. coli</i>	20 cfu/100ml
Ammonia	0.4 mg/l
Surfactant	0.059 mg/l
20082	
<i>E. coli</i>	non-detect
Ammonia	0.8 mg/l
Surfactant	0.12 mg/l
20082	
<i>E. coli</i>	2364 cfu/100ml
Ammonia	1.0 mg/l
Surfactant	non-detect

Results: High *E. coli* spike and moderate concentrations of all parameters suggest a potential illicit connection.

Recommendation: Conduct visual investigation and sample upstream.

Fall 2005

20082	
<i>E. coli</i>	50,000 cfu/100ml
Ammonia	1.5 mg/l
Surfactant	0.12 mg/l
20687	
<i>E. coli</i>	10 cfu/100ml
Ammonia	0.4 mg/l
Surfactant	non-detect
20676	
<i>E. coli</i>	50 cfu/100ml
Ammonia	non-detect
Surfactant	0.095 mg/l
20684	
<i>E. coli</i>	non-detect
Ammonia	0.5 mg/l
Surfactant	0.082 mg/l

Summer 2006

Field investigation: Upstream inspection found no indication of illicit activity. Copious evidence of animal waste was present.

Discontinue Investigation

Legend



Priority_2



Samplelocation



Stormwater system (City)

Ann Arbor_Roads

1 inch equals 500 feet

22300

0823050122327

E

Initial screening indicated the potential for illicit activity upstream based on *E. coli* alone:

22300

Ammonia	0.4 mg/l
Surfactant	0.082 mg/l
<i>E. coli</i>	171 cfu/100ml

22300

Ammonia	0.20 mg/l
Surfactant	non-detect
<i>E. coli</i>	84,000 cfu/100ml

The upstream watershed was sampled in only one location due to low flow:

22297

Ammonia	0.70 mg/l
Surfactant	0.089 mg/l
<i>E. coli</i>	1,270 cfu/100ml

22297

Ammonia	0.03 mg/l
Surfactant	.059 mg/l
<i>E. coli</i>	5,400 cfu/100ml

22337

Legend

— Priority 1 Location

22340-N

22348 Sample Location

Storm Manhole

Storm Sewer

Results: Upstream screening did not indicate ongoing illicit activity, however, based on initial prioritization, the elevated *E. coli* level warranted follow up screening. Video inspection of the small system upstream did not identify illicit activity. There were very few connections, only one active. That active connection was a sump discharge from a recently installed footing drain disconnect. A raccoon was present during upstream video screening. Animal waste was present throughout.

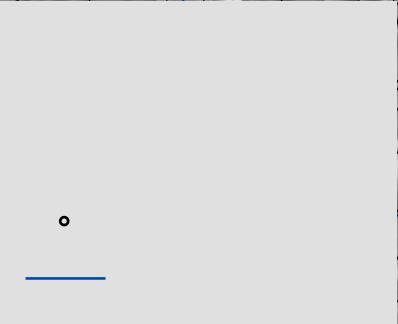
Recommendation: No illicit activity, discontinue investigation.

22297

22300



1 inch equals 325 feet



28732 - Oak & Austin

Prescreening

Initial screening indicated the potential for illicit activity upstream, not due to lab samples, but visual indication of a Milky White color:

28732

Ammonia	0.2 mg/l
Surfactant	0.075mg/l
<i>E. coli</i>	1364 cfu/100ml
Color	Milky White

The upstream watershed was sampled in several locations including the initial screening point 28732:

28732

Ammonia	insufficient flow
Surfactant	insufficient flow
<i>E. coli</i>	insufficient flow

28633

Ammonia	0.6 mg/l
Surfactant	0.077 mg/l
<i>E. coli</i>	7300 cfu/100ml

28733

Ammonia	0.30 mg/l
Surfactant	0.082 mg/l
<i>E. coli</i>	270 cfu/100ml

Results: Upstream screening did not identify any illicit activity. Low flow limited sampling locations.

Recommendation: Re-sample in spring / summer. If non-detect, discontinue.

Spring 2006

28732

Ammonia	0.04 mg/l
Surfactant	0.058 mg/l
<i>E. coli</i>	1,100,000 cfu/100ml

28731

Ammonia	0.03 mg/l
Surfactant	non detect
<i>E. coli</i>	10 cfu/100ml

28733

Ammonia	insufficient flow
Surfactant	non-detect
<i>E. coli</i>	insufficient flow

Unidentified curb discharge

Ammonia	not taken
Surfactant	.081 mg/l
<i>E. coli</i>	2,600 cfu/100ml

Status

Due to low flow, follow up sampling and field inspection were not useful in narrowing the source of the very high *E. coli* in 28732. Video inspection was completed for the entire system. One home was identified for dye testing. Results are pending. Field inspection identified a curb drain, a 2" PVC pipe, that was actively discharging flow to the roadway, then to a catch basin upstream of 28732. Sample results show some surfactant and *E. coli*. A staff member requested access to the suspect property and talked with the home owner. The source was a temporary backyard sump pump that is used annually to drain down a pooled area. The owner did not have a dog. These results were from pooled stormwater runoff.

Summer 2006

Dye test found that the suspect home was in compliance with code; no illicit connection.

Legend

- ☆ Priority 1 Locations
- Sample Location
- Storm Sewer

1 inch equals 275 feet

Appendix D

SEMCOG Posters & Illicit Discharge Poster

How to Spot Illicit Discharges



Illegal Dumping, Spills, or Floor Drain Connection Observations:

- Oily Sheen
- Trash, non-sanitary debris
- Petroleum odors
- Stained sediment, rocks, and vegetation
- Vehicle bay washout



Sanitary Sewer Discharge Observations:

- Sanitary Debris
- Staining on pipe
- Heavy Foam
- Odors (sewage, chlorine, rotten eggs, or detergents)
- Gray or Discolored Water



Agricultural Runoff, Fertilizers, or Sanitary Sewer Waste Observations:

- Heavy vegetation at or near outlet
- Algae growth at or near outlet



What to Report

- **Spills and Contamination to lakes, river, and streams**
District Stormwater Coordinator, EGLE, Environmental Health Department, Drain Commissioner's Office
- **Suspicious dumping or discharges from pipes**
District Stormwater Coordinator, EGLE, Environmental Health Department, Drain Commissioner's Office
- **Sewage on the ground or in surface water**
District Stormwater Coordinator, Environmental Health Department
- **Large number of dead fish in waterways**
District Stormwater Coordinator, EGLE, Environmental Health Department
- **Failing or leaking septic systems**
District Stormwater Coordinator, Environmental Health Department
- **Construction site soil erosion to waterways**
District Stormwater Coordinator, local SESC Enforcing Agency
- **Polluted runoff from storage piles/dumpsters entering waterways**
District Stormwater Coordinator, Environmental Health Department, Drain Commissioner's Office

Important Numbers

Emergency Call 9-1-1

- | | |
|---|-----------------------|
| • Pollution Emergency Alerting System (PEAS) | 1-800-292-4706 |
| • 24-Hr Spill Hot Line—Arch Environmental Group | 1-248-522-2821 |

Non-Emergency

- | | |
|--|-----------------------|
| • School District Stormwater Manager | |
| • EGLE Environmental Assistance Center | 1-800-662-9278 |
| • Eaton County Drain Commissioner | 1-800-292-4706 |
| • Genesee County Drain Commissioner | 1-810-732-2940 |
| • Ingham County Drain Commissioner | 1-517-676-8395 |
| • Jackson County Drain Commissioner | 1-517-788-4398 |
| • Macomb County Public Works | 1-877-679-4357 |
| • Muskegon County Drain Commissioner | 1-231-724-6219 |
| • Oakland County Water Resources | 1-248-858-0958 |
| • St. Clair County Drain Commissioner | 1-810-364-5369 |
| • Washtenaw County Drain Commissioner | 1-724-222-6860 |
| • Wayne County Department of the Environment | 1-888-223-2363 |

Vehicle Fluid Tips

Pollution prevention



Keep lids closed



Avoid placing near
floor drains



Keep tops
of barrels clean



Clean out
secondary
containment
pallets monthly



Containers should
have a clear,
readable label



Keep floor clean
(of spills and
oil dry)

Aggregate Storage Tips

Pollution prevention



Keep salt covered



Keep cold patch materials covered



Keep aggregate materials in bins



Avoid placing materials near storm drains



Keep material areas swept



Catch basin cleanings and street sweepings must be contained



Keeping it Clean

Municipal operations for clean water

Dumpsters and loading docks

- Keep dumpster lids closed and inspect for leaks.
- Never place hazardous waste in a dumpster or trash bin.
- Do not leave out the dumpster interior or loading docks. Apply absorbent over any fluids spilled in the dumpster.
- Check loading and unloading equipment regularly for leaks.



Vehicle and equipment fueling



- Look for and report leaks on vehicles when adding fuel.
- Use secondary containment when transferring fuel from the tank truck to the fuel tank. Cover storm drains in the vicinity during transfer.
- Place spill cleanup materials where they are readily accessible.
- Clean up small spills with absorbent materials rather than hosing down the area. Remove the absorbent materials promptly and dispose of in the trash.

Vehicle and equipment washing

- Take vehicles to a commercial car wash. These facilities collect and treat the wastewater.
- If you wash vehicles onsite, wash equipment and vehicles ONLY in designated facilities where the wash water drains to the sanitary sewer system or is collected and recycled.
- Clean parts in a self-contained unit. Make sure that the parts washer is not connected to the storm drain.
- Use steam cleaning and pressure washing instead of solvents.



Vehicle parking and equipment storage



- Inspect parking and storage areas for leaks.
- Store vehicles and equipment inside or under cover to prevent precipitation from washing pollutants into the storm drain.
- Store vehicles on a paved area that you can sweep regularly to remove drips, leaks, and dirt.
- Drain all fluids from wrecked cars when they arrive to prevent any spills or leaks.

Vehicle and equipment maintenance

- Keep accurate maintenance logs and up-to-date inventory of materials.
- Perform vehicle maintenance in covered, designated service bays where spills and leaks can be properly contained.
- Recycle spent fluids. Do not dump down the drain or in the trash.
- Avoid hosing down your work areas. Use rags for small spills, a dump tarp for general cleanup, and dry absorbent for larger spills.



Chemical management – preventing leaks and spills



- Fit oil and chemical storage containers with secondary containment structures to contain spilled materials.
- Store materials indoors. If you do have outdoor storage areas, keep them covered to prevent rain from contacting the material.
- Cover and/or contain, through erosion control practices, stockpiles of raw materials (e.g., oil, soil) to prevent polluted stormwater runoff.
- Inspect storage areas regularly for spills and leaks. Keep containers and other storage devices in good condition without leaks or corrosion.

Chemical management – when a spill occurs

- If a spill occurs, notify the key spill response personnel. If the material is hazardous, contact the local fire department.
- Never wash a spill into the storm drain or leave it without cleaning it up. Contain spills and block the nearby storm drain.
- Clean up non-hazardous spills by using a rag, dump cloth, or absorbent materials.



SEMOG

Funding provided in part by the Rouge River National Wet Weather Demonstration Program grant EEP09143-06, and SEMOG, the Southeast Michigan Council of Governments.

Seven Simple Steps to Clean Water

Our Water. Our Future.



1. Help keep pollution out of storm drains

2. Fertilize sparingly and carefully

3. Carefully store and dispose of household cleaners, chemicals, and oil

4. Clean up after your pet

5. Practice good car care

6. Choose earth friendly landscaping

7. Save water

Our Water. Our Future. Ours to Protect.

Find out more at www.semcog.org.

Brought to you by the Southeast Michigan Partners for Clean Water.

Support provided by SEMCOG, the Southeast Michigan Council of Governments (313-961-4266) and the Rouge River National Wet Weather Demonstration Project.

Remember, you're not just washing your car

Our Water. Our Future.



Ours to Protect



Practice good car care

Did you know there are over four million vehicles in Southeast Michigan? **Practicing good car care helps protect our lakes and streams.**

How? Storm drains and roadside ditches lead to our lakes and streams. So, if motor fluids or dirty water from washing our cars are washed or dumped into the storm drain, it pollutes our local waterways.

What can you do? Simple. **Keep your car tuned and fix leaks** promptly, **recycle used motor oil** and other fluids, **take your car to the carwash or wash your car on the grass.**

Find out more at www.semcog.org.

Brought to you by the Southeast Michigan Partners for Clean Water.

Support provided by SEMCOG, the Southeast Michigan Council of Governments (313-961-4266) and the Rouge River National Wet Weather Demonstration Project.

Remember, you're not just walking the dog

Our Water. Our Future.



Ours to Protect



Clean up after your pet

Did you know that pet waste has bacteria that makes our lakes and rivers unsafe for swimming and other recreational activities?

That happens when **pet waste left on sidewalks or yards gets washed into storm drains**

or roadside ditches that lead directly to our lakes and rivers.

What can you do? Simple.

No matter where you are **dispose of your pet's waste promptly** in the toilet or trash.

Find out more at www.semcog.org.

Brought to you by the Southeast Michigan Partners for Clean Water.

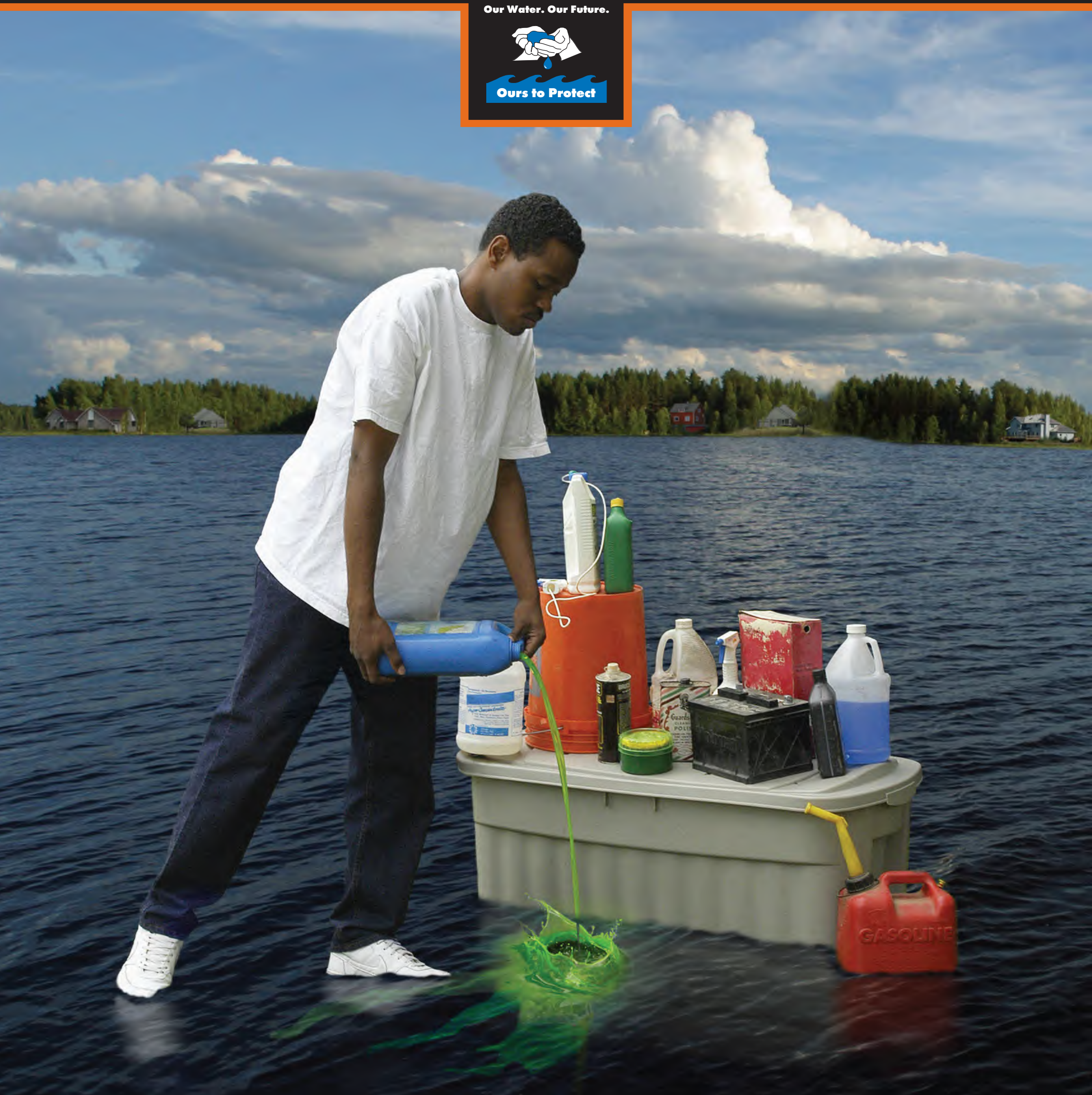
Support provided by SEMCOG, the Southeast Michigan Council of Governments (313-961-4266) and the Rouge River National Wet Weather Demonstration Project.

Remember, it's not just toxic to you

Our Water. Our Future.



Ours to Protect



Carefully store and dispose of household cleaners, chemicals, and oil

Did you know that many **household products are dangerous to our pets, kids, and the environment?**

These materials get into our lakes and rivers if washed or dumped into a storm drain or roadside ditch.

What can you do? Simple.

Proper disposal is key. Take household cleaners, pesticides, gasoline, antifreeze, used oil, and other dangerous products to your **community's household hazardous waste collection day.** Contact your community for more information on these events.

Find out more at www.semco.org.

Brought to you by the Southeast Michigan Partners for Clean Water.

Support provided by SEMCOG, the Southeast Michigan Council of Governments (313-961-4266) and the Rouge River National Wet Weather Demonstration Project.

Remember, it ALL drains to our lakes and rivers

Our Water. Our Future.



Ours to Protect



Keep pollution out of storm drains

Storm drains and roadside ditches lead to our lakes and streams. **So, any oil, pet waste, leaves, or dirty water from washing your car or other outside activities** that enters a storm drain gets into our lakes and streams.

How can you help? Simple. **Use a broom instead of a hose** to clean your driveway. Keep leaves, grass clippings, and trash away from the storm drain, and **never dump motor oil, pet waste, or dirty, soapy water** down the storm drain.
Remember, only rain in the drain!

Find out more at www.semco.org.

Brought to you by the Southeast Michigan Partners for Clean Water.

Support provided by SEMCOG, the Southeast Michigan Council of Governments (313-961-4266) and the Rouge River National Wet Weather Demonstration Project.

Remember, you're not just getting rid of weeds and pests

Our Water. Our Future.



Ours to Protect



Choose earth-friendly landscaping

Did you know you can **protect your kids, pets, and the environment** from the harmful effects of herbicides & pesticides by choosing earth-friendly landscaping? These chemicals wash off our lawns and gardens into our storm drains, which lead to our lakes and rivers.

What can you do? Simple.

Spot treat for specific pests and weeds or remove by hand. Mulch around plants. **Water your lawn only when it needs it.** Attract butterflies and birds by **adding plants that are native to Southeast Michigan.**

Find out more at www.semco.org.

Brought to you by the Southeast Michigan Partners for Clean Water.

Support provided by SEMCOG, the Southeast Michigan Council of Governments (313-961-4266) and the Rouge River National Wet Weather Demonstration Project.

Remember, you're not just fertilizing your lawn

Our Water. Our Future.



Fertilize sparingly and caringly

Storm drains found in our streets and yards empty into our lakes and streams. So, **when we fertilize our lawn we could also be fertilizing our lakes and streams**. While fertilizer is good for our lawn, it's bad for our water. Fertilizer in our lakes and streams causes algae to grow.

Algae can form large blooms and uses up oxygen that fish need to survive. With 1.5 million homes in Southeast Michigan, all of us need to be aware of the far-reaching effects of our lawn care practices.

What can you do? Simple. Use a **no or low phosphorus fertilizer**, select a **slow release** fertilizer where at least half of the nitrogen is water insoluble (check the ingredients on the label), keep fertilizer away from lakes, streams, and storm drains, and **sweep excess fertilizer** back onto your lawn. Not only will our lakes and streams thank you, but so will your pocketbook!

Find out more at www.semcog.org.

Brought to you by the Southeast Michigan Partners for Clean Water.

Support provided by SEMCOG, the Southeast Michigan Council of Governments (313-961-4266) and the Rouge River National Wet Weather Demonstration Project.

KEEP OUR WATER CLEAN

A photograph of three beagles running across a grassy field. The dog in the center is slightly ahead of the other two, all of which are looking towards the camera. The background is a soft-focus view of trees and a body of water under a clear sky.

onewater

mionewater.com

CLEAN UP AFTER YOUR PETS

BUILD ON WATER QUALITY



DISPOSE OF ALL GREASE IN THE TRASH

KEEP OUR WATER CLEAN

A Great Egret is shown in mid-flight, its long legs trailing behind and its wings fully extended. The bird has white plumage with dark wingtips and a long, sharp beak. It is flying over a body of water with a blurred shoreline in the background.

onewater

mionewater.com

IF YOU SEE POLLUTION, REPORT IT

KEEP OUR WATER CLEAN

An underwater photograph showing a clear, greenish-blue body of water. In the center, a clear plastic bottle is floating, partially submerged. A person's legs and feet are visible, kicking up bubbles and creating a wake in the water. The scene is brightly lit, with sunlight filtering through the water's surface.

ONLY RAIN DOWN THE STORM DRAIN

BUILD ON WATER QUALITY



ONLY RAIN DOWN THE STORM DRAIN

Appendix E

Inspection Field Worksheets

Routine Storm Sewer System Inspection Table

Building:		
Inspectors:		

Client:		
Start Date:		
Inspection Type:		

[illegible]

Routine Storm Sewer System Inspection Table

Building:	"School/Location"
Inspectors:	"Inspectors Name"

Client:	"School District"		
Start Date:	"Start Date"		"End Date"
Inspection Type:	"Routine Storm Sewer Inspection or other"		

ID #	Type	Inspected	Standing Water	Color	Odor	Structure Staining	Suds	Oil Sheen	Bacterial Sheen	Sewage	Algae	Slimes	Abnormal Vegetation	Flow Observed	Velocity of Flow	Color of Flow	Blockages	Erosion	Needs Cleaning?	Structural Issues	Structural Trend	Stenciled
"Storm Structure ID" Ex. ADM-01.CB(ADM represents building such as Admin, 01=number of structure, and CB=structure type.	Type of Structure (Catch Basin, Manhole, Pond, Swale, Pipe, etc.)	Was it inspected this round. (Yes or No)	Was there standing water in the structure? (Yes or No)	What color is the standing water if present? (Clear, Cloudy, Brown, White, etc.)	Does the basin have a noticeable odor? (Yes or No)	Is there staining on the interior of the structure? (Yes or No) This could be staining caused by a current illicit discharge, remnants of a past illicit discharge, or natural staining from iron oxidizing bacteria etc.	Are there suds present in the structure (organic suds - caused by aeration/natural causes, soapy suds, or no)	Is there oil sheen present on the water surface in the structure? (Significant - indicative of an illicit discharge, OR No)	Is there bacterial sheen on water surface of the structure? (Yes or No) - We ask this to confirm that a sheen in a photo was bacterial instead of oil.	Is evidence of sewage present in water in structure? (toilet paper, poo, etc.) - (Yes or No)	Is Algae growth present in the structure? (Yes or No)	Are there slimes present in the structure? (Yes or No)	Is there abnormal veg. growth in structure? (Yes or No)	Was there water flow observed in the structures pipes? (No, Trickle(light flow), Intermittent(Indicative of a sump), or continuous(usually occurs during/after a rain event))	What is the estimated velocity of the water flow if present? (N/A, Trickle, slow, moderate, or substantial) Substantial occurs during or after a rain event.	What is the color of the flow within the structure? (N/A, Brown, Yellow, Clear, Cloudy, etc.) Used to be sure there is no evidence of illicit activities during or after rain events.	Are any pipes blocked? (Yes or No) This would be evident if there was a visible blockage in a pipe OR if the water level in the structure is high.	Is there erosion occurring around the structure? (Yes or No)	Does the structure have sediment build-up in the sump or bottom? (Significant - for 40% full sump depth below outpipe or higher, moderate - for 30% to 40% sump depth below outpipe, preventative - for 20% to 30% sump depth, OR no cleaning for below 20%. Or Cleaned)	Are there any issues with the structure itself and how severe is it? - This could be for cracking on the interior/exterior, sink holes, erosion, etc. (Significant, Moderate, Preventative, or None, Repaired-since last inspection, or Partial Repair)	If there is a structural issue, is the structural issue worsening since the previous inspection? (Stable - appears the same/hasn't worsened, Improving - appears better/usually for a repair or for erosion lessening, OR deteriorating - the condition has worsened)	Does the structure have a "No Dumping - Drains to River" stencil in place? (No - means it needs one, Yes - it has one, Update - it has one, but it is fading, OR N/A - the structure is in the grass)

Pond Inspection Form

Building: <input style="width: 90%;" type="text"/>	Client: <input style="width: 90%;" type="text"/>
Inspectors: <input style="width: 49%; height: 20px;" type="text"/> <input style="width: 49%; height: 20px;" type="text"/>	
Date of Inspection: <input style="width: 95%;" type="text"/>	
Structure Information:	
Structure ID: <input style="width: 100%;" type="text"/> Pond Type: <input style="width: 100%;" type="text"/> Age of Pond: <input style="width: 100%;" type="text"/>	Number of Inlet(s) (OP): <input style="width: 100%;" type="text"/> Number of Outlet(s) (DR): <input style="width: 100%;" type="text"/> Number of Stabilized Outlets (SO): <input style="width: 100%;" type="text"/>
Inlet(s)/Outlet(s) (OP/DR) Observations:	
Are there any structural issues with the inlet(s)/outlet(s) (OP/DR)? <input style="width: 100%;" type="text"/>	Structural Comments: <input style="width: 100%;" type="text"/>
Is there excess sediment buildup at the inlet(s)/outlet(s) (OP/DR)? <input style="width: 100%;" type="text"/>	Are the inlet(s)/outlet(s) (OP/DR) below the water level? <input style="width: 100%;" type="text"/>
Are the inlet(s)/outlet(s) (OP/DR) accessible or overgrown with vegetation? <input style="width: 100%;" type="text"/>	
Pond Structure Observations:	
Is there grass along the sides of the pond cut between 4" and 9"? <input style="width: 100%;" type="text"/>	Is there excess vegetation along the sides of the pond (not grass)? <input style="width: 100%;" type="text"/>
Are there signs of erosion along the side slopes, berms and/or emergency spillway? <input style="width: 100%;" type="text"/>	Is there evidence of animal burrows around the sidewalls of the pond? <input style="width: 100%;" type="text"/>
Pond Vegetation Observations:	
How much emergent vegetation is present in the pond bottom? <input style="width: 100%;" type="text"/>	Vegetation Comments: <input style="width: 100%;" type="text"/>
Is emergent vegetation made up of native or invasive species? <input style="width: 100%;" type="text"/>	Is there decomposing vegetation or organic matter decaying on the pond bottom? <input style="width: 100%;" type="text"/>
General Pond Observations:	
Is the pond free of trash/other debris? <input style="width: 100%;" type="text"/>	Types of trash/debris present: <input style="width: 100%;" type="text"/>
General Comments: <input style="width: 95%; height: 30px;" type="text"/>	

Pond Inspection Table Description

ID #	Enter structure ID
Type	Select from the following options: Retention Pond, Detention Pond, Retention Basin, Detention Basin
Inspected	Select Yes or No. If unable to inspect the structure, please make a comment under "General Comments" as to why you could not inspect the structure
Approximate Age of the Pond	This can be found using the history function in Google Earth for the site. Remember, this is an approximate age determination. We are interested in this information because pond life spans are between 15 and 20 years
Number of Inlet(s) (OP)	Select the number of inlet pipe(s) from the drop down menu
Number of Outlet(s) (DR)	Select the number of outlet pipe(s) from the drop down menu
Number of Stabilized Outlet(s) (SO)	Select the number of stabilized outlet(s) from the drop down menu
Are there any structural issues with the inlet(s)/outlet(s) (OP/DR)?	Examples include detached pipes, missing riprap around the inlet(s), missing stone around DR, etc. Select one of the following options: None, Preventative, Moderate, Significant, or Repaired. Preventative = beginning signs of deterioration Moderate = signs of deterioration present but does not hinder the function of the structure Significant = deterioration has hindered the function of the structure as it was designed
Structural Comments	Describe the structural issues observed
Is there excess sediment buildup at the inlet(s)/outlet(s) (OP/DR)?	Examples include pipes that are buried under sediment or sediment levels higher than the bottom of the inlet(s)/outlet(s)
Are the inlet(s)/outlet(s) (OP/DR) below the water level?	This could be a sign that the MS4 is backed up causing water to back up into the pond. If you suspect that, please investigate if that is the case. If the MS4 is not backed up, this could be a sign that the pond is not functioning as designed
Are the inlet(s)/outlet(s) (OP/DR) accessible or overgrown with vegetation (native or invasive)?	Overgrown vegetation at the inlet(s)/outlet(s) can prevent water from freely flowing in/out of the structure
Is the grass along the sides of the pond cut between 4" and 9"?	This is an ideal height range of grass around the pond to stabilize the sidewalls of the pond and to prevent erosion around the side walls of the pond
Is there excess vegetation along the sidewalls of the pond (not grass)?	Does the area look overgrown and unkempt? Select from the following options: Yes or No
Are there signs of erosion along the side slopes, berms and/or emergency overflow?	Select from the following options: Yes or no
Is there evidence of animal burrows around the sidewalls of the pond?	Select from the following options: Yes or No. Animal burrows can destabilize the sidewalls of the pond
How much emergent vegetation is present in the pond bottom?	Select from the following options: 0%-25%, 25%-50%, or 50%-100%. Use your best judgement to determine this percentage. Ideally, the pond bottom should be made up of around 25% emergent vegetation Emergent Vegetation Definition: Aquatic plants that grow with their roots under water but their leaves and stems above the surface of the water
Is emergent vegetation made up of native or invasive species (phragmites or purple loosestrife)?	See reference page in the Pond Inspection Reference page for photos of Phragmites and Purple Loosestrife to see if it is present.
Vegetation Comments	If there are invasive species present, please write which ones are present
Is there vegetation or organic matter decaying on the pond bottom?	Select from the following options: Yes, No, or Unknown. If you can tell, great, this could have impact on DO or could cause flow issues through the pond
Is the pond free of trash/other debris?	Select from the following options: Yes or No. This can include trash/inorganic debris or organic material (like grass clippings, leaves, etc.)
Types of trash/debris present	Select from the following options: Trash, Natural Debris (organic material) or N/A
General Comments	Please add any other comments that you feel are important to note about the pond condition

Screening Inspection Log

Building:		Client:			
Inspectors:		Date			
		Inspection Type:			

Structure Information:					
ID Number:		Structure Type		Lat:	
Discharge Point/Outfall:		Location:			
Outfall Dimensions					

Observations:					
Standing Water Characteristics		Flow Characteristics		Maintenance	
Standing Water:		Flow Observed:		Cleaning:	
Color:		Source of Flow:		Blockages	
Odor:		Velocity of Flow:		Structural Issues	
Suds:		Color of Flow:		Structural Trend	
Staining:		Flow Odor		Stenciling:	
Oil Sheen:		Additional Comments:			
Sewage:					
Bacterial Sheen:					
Floatables:					
Slimes:					
Abnormal Growth:					

Sample ID And Information		Field Analysis:	Results:	Units:	Initials:	Photo ID:
Sample Collected?		pH:		pH units		
Permit Cycle:		Temperature:		Celsius		
Last Rain Event:		Surfactants:		mg/L		
Current Weather:		Ammonia:		mg/L		
Screening Location Type:		Chlorine:		mg/L		
Other Screening Activities		Turbidity:		NTU		
Conducted:		Conductivity:		uohm/cm		
Outfall Characterization :		Equipment Calibration:				
Sample sent to Lab:		Date:	Cal. By:			

TMDL Screening Inspection Log

Building:			Client:		
Inspectors:			Date		
			Inspection Type:		

Structure Information:					
ID Number:		Structure Type		Lat:	
Type:		Location:			
Outfall Dimensions					

Observations:					
Standing Water Characteristics			Flow Characteristics		
Standing Water:		Flow Observed:			
Color:		Source of Flow:			
Odor:		Velocity of Flow:			
Suds:		Color of Flow:			
Staining:		Flow Odor			
Oil Sheen:		Additional Comments:			
Sewage:					
Bacterial Sheen:					
Algae:					
Slimes:					
Abnormal Growth:					

Sample ID And Information		Lab Analysis:	Results:	TMDL Threshold:	Units:	Photo ID:
Sample ID:		pH:		6.5 - 9	pH units	
Time Collected:		Temperature:		N/A	Celsius	
Last Rain Event:		E. coli:		1000	CFU per 100mL	
Current Weather:		Total Phosphorus:		Watershed Dependent	ug/L	
Screening Location Type:		Total Suspended Solids:		Watershed Dependent	mg/L	
Total Rainfall (Inches):		Dissolved Oxygen:		Watershed Dependent	mg/L	
		Other:				
Outfall Characterization:						
Sample sent to Lab:						

Appendix F

Property Structural Controls Inventory, Inspection, & Maintenance Schedule

Ann Arbor Public Schools - Administration Building (Balas)

Structural Control Inventory, Inspection, & Maintenance Schedule

Facility	Priority Level of Potential Discharge (High, Medium, Low)	Type of Structural Control	Number of Controls	Inspection/Maintenance Schedule
Administration Building (Balas) 2555 S. State, Ann Arbor, MI 48104	Low	Catch Basins/Manholes	8	Inspect Triennially, Clean Once per Permit Cycle or if Build-Up of Accumulated Solid Material is Above 30% of the Total Sump Depth
		Open Pipe Outlets	1	Inspect Triennially, Maintain as Needed
		Infiltration Basins	1	Inspect Triennially, Maintain as Needed
		Detention Basins	1	Inspect Triennially, Maintain as Needed
		Stormwater Conveyance Channels	2	Inspect Triennially, Maintain as Needed
		Swales	2	Inspect Annually, Maintain as Needed

Ann Arbor Public Schools - Abbot Elementary School

Structural Control Inventory, Inspection, & Maintenance Schedule

Facility	Priority Level of Potential Discharge (High, Medium, Low)	Type of Structural Control	Number of Controls	Inspection/Maintenance Schedule
Abbot Elementary School 2670 Sequoia Parkway, Ann Arbor, MI 48103	Low	Catch Basins/Manholes	14	Inspect Triennially, Clean Once per Permit Cycle or if Build-Up of Accumulated Solid Material is Above 30% of the Total Sump Depth
		Open Pipe Outlets	1	Inspect Triennially, Maintain as Needed
		Drainage Receptors	1	Inspect Triennially, Maintain as Needed
		Infiltration Basins	1	Inspect Triennially, Maintain as Needed

Ann Arbor Public Schools - Allen Elementary School

Structural Control Inventory, Inspection, & Maintenance Schedule

Facility	Priority Level of Potential Discharge (High, Medium, Low)	Type of Structural Control	Number of Controls	Inspection/Maintenance Schedule
Allen Elementary School 2560 Towner Blvd, Ann Arbor, MI 48104	Low	Catch Basins/Manholes	19	Inspect Triennially, Clean Once per Permit Cycle or if Build-Up of Accumulated Solid Material is Above 30% of the Total Sump Depth
		Detention Basins	1	Inspect Triennially, Maintain as Needed
		Stormwater Conveyance Channels	2	Inspect Triennially, Maintain as Needed
		Bioretentions	1	Inspect Triennially, Maintain as Needed

Ann Arbor Public Schools - Angell Elementary School

Structural Control Inventory, Inspection, & Maintenance Schedule

Facility	Priority Level of Potential Discharge (High, Medium, Low)	Type of Structural Control	Number of Controls	Inspection/Maintenance Schedule
Angell Elementary School 1608 S. University, Ann Arbor, MI 48104	Low	Catch Basins/Manholes	9	Inspect Triennially, Clean Once per Permit Cycle or if Build-Up of Accumulated Solid Material is Above 30% of the Total Sump Depth
		Trench Drains	1	Inspect Triennially, Maintain as Needed
		Stormwater Conveyance Channels	1	Inspect Triennially, Maintain as Needed

Ann Arbor Public Schools - Ann Arbor Open @ Mack School

Structural Control Inventory, Inspection, & Maintenance Schedule

Facility	Priority Level of Potential Discharge (High, Medium, Low)	Type of Structural Control	Number of Controls	Inspection/Maintenance Schedule
Ann Arbor Open @ Mack School 920 Miller, Ann Arbor, MI 48103	Low	Catch Basins/Manholes	20	Inspect Triennially, Clean Once per Permit Cycle or if Build-Up of Accumulated Solid Material is Above 30% of the Total Sump Depth
		Open Pipe Outlets	2	Inspect Triennially, Maintain as Needed
		Trench Drains	3	Inspect Triennially, Maintain as Needed
		Stormwater Conveyance Channels	2	Inspect Triennially, Maintain as Needed

Ann Arbor Public Schools - Ann Arbor STEAM @ Northside School

Structural Control Inventory, Inspection, & Maintenance Schedule

Facility	Priority Level of Potential Discharge (High, Medium, Low)	Type of Structural Control	Number of Controls	Inspection/Maintenance Schedule
Ann Arbor STEAM @ Northside School 912 Barton Dr, Ann Arbor, MI 48105	Low	Catch Basins/Manholes	7	Inspect Triennially, Clean Once per Permit Cycle or if Build-Up of Accumulated Solid Material is Above 30% of the Total Sump Depth
		Open Pipe Outlets	4	Inspect Triennially, Maintain as Needed
		Trench Drains	1	Inspect Triennially, Maintain as Needed
		Underground Detention Systems	2	Inspect Triennially, Maintain as Needed
		Hydrodynamic Separators	2	Inspect Triennially, Maintain as Needed

Ann Arbor Public Schools - Bach Elementary School

Structural Control Inventory, Inspection, & Maintenance Schedule

Facility	Priority Level of Potential Discharge (High, Medium, Low)	Type of Structural Control	Number of Controls	Inspection/Maintenance Schedule
Bach Elementary School 600 Jefferson W, Ann Arbor, MI 48103	Low	Catch Basins/Manholes	4	Inspect Triennially, Clean Once per Permit Cycle or if Build-Up of Accumulated Solid Material is Above 30% of the Total Sump Depth
		Infiltration Basins	1	Inspect Triennially, Maintain as Needed
		Rain Gardens	1	Inspect Triennially, Maintain as Needed

Ann Arbor Public Schools - Bryant Elementary School

Structural Control Inventory, Inspection, & Maintenance Schedule

Facility	Priority Level of Potential Discharge (High, Medium, Low)	Type of Structural Control	Number of Controls	Inspection/Maintenance Schedule
Bryant Elementary School 2150 Santa Rosa, Ann Arbor, MI 48108	Low	Catch Basins/Manholes	10	Inspect Triennially, Clean Once per Permit Cycle or if Build-Up of Accumulated Solid Material is Above 30% of the Total Sump Depth

Ann Arbor Public Schools - Burns Park Elementary School

Structural Control Inventory, Inspection, & Maintenance Schedule

Facility	Priority Level of Potential Discharge (High, Medium, Low)	Type of Structural Control	Number of Controls	Inspection/Maintenance Schedule
Burns Park Elementary School 1414 Wells, Ann Arbor, MI 48104	Low	Catch Basins/Manholes	10	Inspect Triennially, Clean Once per Permit Cycle or if Build-Up of Accumulated Solid Material is Above 30% of the Total Sump Depth
		Stormwater Conveyance Channels	1	Inspect Triennially, Maintain as Needed

Ann Arbor Public Schools - Carpenter Elementary School

Structural Control Inventory, Inspection, & Maintenance Schedule

Facility	Priority Level of Potential Discharge (High, Medium, Low)	Type of Structural Control	Number of Controls	Inspection/Maintenance Schedule
Carpenter Elementary School 4250 Central Blvd, Ann Arbor, MI 48104	Low	Catch Basins/Manholes	11	Inspect Triennially, Clean Once per Permit Cycle or if Build-Up of Accumulated Solid Material is Above 30% of the Total Sump Depth
		Underground Detention Systems	1	Inspect Triennially, Maintain as Needed
		Hydrodynamic Separators	2	Inspect Triennially, Maintain as Needed

Ann Arbor Public Schools - Clague Middle School

Structural Control Inventory, Inspection, & Maintenance Schedule

Facility	Priority Level of Potential Discharge (High, Medium, Low)	Type of Structural Control	Number of Controls	Inspection/Maintenance Schedule
Clague Middle School 2616 Nixon Rd, Ann Arbor, MI 48105	Low	Catch Basins/Manholes	34	Inspect Triennially, Clean Once per Permit Cycle or if Build-Up of Accumulated Solid Material is Above 30% of the Total Sump Depth
		Infiltration Basins	1	Inspect Triennially, Maintain as Needed
		Stormwater Conveyance Channels	1	Inspect Triennially, Maintain as Needed
		Hydrodynamic Separators	1	Inspect Triennially, Maintain as Needed

Ann Arbor Public Schools - Community High School

Structural Control Inventory, Inspection, & Maintenance Schedule

Facility	Priority Level of Potential Discharge (High, Medium, Low)	Type of Structural Control	Number of Controls	Inspection/Maintenance Schedule
Community High School 401 Division N, Ann Arbor, MI 48104	Medium	Catch Basins/Manholes	7	Inspect Triennially, Clean Once per Permit Cycle or if Build-Up of Accumulated Solid Material is Above 30% of the Total Sump Depth
		Open Pipe Outlets	1	Inspect Triennially, Maintain as Needed
		Infiltration Basins	1	Inspect Triennially, Maintain as Needed
		Stormwater Conveyance Channels	2	Inspect Triennially, Maintain as Needed
		Rain Gardens	4	Inspect Triennially, Maintain as Needed

Ann Arbor Public Schools - Dicken Elementary School

Structural Control Inventory, Inspection, & Maintenance Schedule

Facility	Priority Level of Potential Discharge (High, Medium, Low)	Type of Structural Control	Number of Controls	Inspection/Maintenance Schedule
Dicken Elementary School 2135 Runnymede, Ann Arbor, MI 48104	Low	Catch Basins/Manholes	10	Inspect Triennially, Clean Once per Permit Cycle or if Build-Up of Accumulated Solid Material is Above 30% of the Total Sump Depth
		Stormwater Conveyance Channels	2	Inspect Triennially, Maintain as Needed

Ann Arbor Public Schools - Earhart Building

Structural Control Inventory, Inspection, & Maintenance Schedule

Facility	Priority Level of Potential Discharge (High, Medium, Low)	Type of Structural Control	Number of Controls	Inspection/Maintenance Schedule
Earhart Building 3700 Earhart Road, Ann Arbor, MI 48103 ☐	Low	Catch Basins/Manholes	12	Inspect Triennially, Clean Once per Permit Cycle or if Build-Up of Accumulated Solid Material is Above 30% of the Total Sump Depth
		Open Pipe Outlets	1	Inspect Triennially, Maintain as Needed
		Drainage Receptors	1	Inspect Triennially, Maintain as Needed
		Detention Ponds	2	Inspect Triennially, Maintain as Needed
		Retention Ponds	1	Inspect Annually, Maintain as Needed
		Retention Ponds	1	Inspect Triennially, Maintain as Needed
		Oil Water Separators	1	Inspect Annually, Maintain as Needed

Ann Arbor Public Schools - Eberwhite Elementary School

Structural Control Inventory, Inspection, & Maintenance Schedule

Facility	Priority Level of Potential Discharge (High, Medium, Low)	Type of Structural Control	Number of Controls	Inspection/Maintenance Schedule
Eberwhite Elementary School 800 Soule Blvd, Ann Arbor, MI 48103	Low	Catch Basins/Manholes	3	Inspect Triennially, Clean Once per Permit Cycle or if Build-Up of Accumulated Solid Material is Above 30% of the Total Sump Depth
		Open Pipe Outlets	5	Inspect Triennially, Maintain as Needed
		Stormwater Conveyance Channels	1	Inspect Triennially, Maintain as Needed
		Rain Gardens	2	Inspect Triennially, Maintain as Needed

Ann Arbor Public Schools - Freeman School

Structural Control Inventory, Inspection, & Maintenance Schedule

Facility	Priority Level of Potential Discharge (High, Medium, Low)	Type of Structural Control	Number of Controls	Inspection/Maintenance Schedule
Freeman School 3540 Dixboro Lane, Ann Arbor MI 48105	Low	Catch Basins/Manholes	7	Inspect Triennially, Clean Once per Permit Cycle or if Build-Up of Accumulated Solid Material is Above 30% of the Total Sump Depth
		Retention Basins	1	Inspect Triennially, Maintain as Needed

Ann Arbor Public Schools - Forsythe Middle School/Wines Elementary School Complex

Structural Control Inventory, Inspection, & Maintenance Schedule

Facility	Priority Level of Potential Discharge (High, Medium, Low)	Type of Structural Control	Number of Controls	Inspection/Maintenance Schedule
Forsythe Middle School/Wines Elementary School Complex 1655 Newport Rd, Ann Arbor, MI 48103 /1701 Newport, Ann Arbor, MI 48103	Medium	Catch Basins/Manholes	40	Inspect Triennially, Clean Once per Permit Cycle or if Build-Up of Accumulated Solid Material is Above 30% of the Total Sump Depth
		Open Pipe Outlets	1	Inspect Triennially, Maintain as Needed
		Detention Basins	1	Inspect Triennially, Maintain as Needed
		Retention Ponds	1	Inspect Triennially, Maintain as Needed
		Stormwater Conveyance Channels	1	Inspect Triennially, Maintain as Needed

Ann Arbor Public Schools - Haisley Elementary School

Structural Control Inventory, Inspection, & Maintenance Schedule

Facility	Priority Level of Potential Discharge (High, Medium, Low)	Type of Structural Control	Number of Controls	Inspection/Maintenance Schedule
Haisley Elementary School 825 Duncan, Ann Arbor, MI 48103	Low	Catch Basins/Manholes	10	Inspect Triennially, Clean Once per Permit Cycle or if Build-Up of Accumulated Solid Material is Above 30% of the Total Sump Depth
		Flow Splitters	1	Inspect Triennially, Maintain as Needed

Ann Arbor Public Schools - Huron High School

Structural Control Inventory, Inspection, & Maintenance Schedule

Facility	Priority Level of Potential Discharge (High, Medium, Low)	Type of Structural Control	Number of Controls	Inspection/Maintenance Schedule
Huron High School 2727 Fuller Rd, Ann Arbor, MI 48105	Medium	Catch Basins/Manholes	80	Inspect Triennially, Clean Once per Permit Cycle or if Build-Up of Accumulated Solid Material is Above 30% of the Total Sump Depth
		Open Pipe Outlets	4	Inspect Triennially, Maintain as Needed
		Drainage Receptors	1	Inspect Triennially, Maintain as Needed
		Infiltration Basins	15	Inspect Triennially, Maintain as Needed
		Trench Drains	2	Inspect Triennially, Maintain as Needed
		Underground Detention Systems	1	Inspect Triennially, Maintain as Needed
		Hydrodynamic Separators	1	Inspect Triennially, Maintain as Needed

Ann Arbor Public Schools - King Elementary School

Structural Control Inventory, Inspection, & Maintenance Schedule

Facility	Priority Level of Potential Discharge (High, Medium, Low)	Type of Structural Control	Number of Controls	Inspection/Maintenance Schedule
King Elementary School 3800 Waldenwood Dr., Ann Arbor, MI 48105	Low	Catch Basins/Manholes	7	Inspect Triennially, Clean Once per Permit Cycle or if Build-Up of Accumulated Solid Material is Above 30% of the Total Sump Depth
		Infiltration Basins	1	Inspect Triennially, Maintain as Needed
		Stormwater Conveyance Channels	1	Inspect Triennially, Maintain as Needed

Ann Arbor Public Schools - Lakewood Elementary School

Structural Control Inventory, Inspection, & Maintenance Schedule

Facility	Priority Level of Potential Discharge (High, Medium, Low)	Type of Structural Control	Number of Controls	Inspection/Maintenance Schedule
Lakewood Elementary School 344 Gralake, Ann Arbor, MI 48103	Low	Catch Basins/Manholes	18	Inspect Triennially, Clean Once per Permit Cycle or if Build-Up of Accumulated Solid Material is Above 30% of the Total Sump Depth
		Infiltration Basins	2	Inspect Triennially, Maintain as Needed

Ann Arbor Public Schools - Lawton Elementary School

Structural Control Inventory, Inspection, & Maintenance Schedule

Facility	Priority Level of Potential Discharge (High, Medium, Low)	Type of Structural Control	Number of Controls	Inspection/Maintenance Schedule
Lawton Elementary School 2250 S Seventh St, Ann Arbor, MI 48104	Low	Catch Basins/Manholes	14	Inspect Triennially, Clean Once per Permit Cycle or if Build-Up of Accumulated Solid Material is Above 30% of the Total Sump Depth

Ann Arbor Public Schools - Logan Elementary School

Structural Control Inventory, Inspection, & Maintenance Schedule

Facility	Priority Level of Potential Discharge (High, Medium, Low)	Type of Structural Control	Number of Controls	Inspection/Maintenance Schedule
Logan Elementary School 2685 Traver Blvd, Ann Arbor, MI 48105	Low	Catch Basins/Manholes	21	Inspect Triennially, Clean Once per Permit Cycle or if Build-Up of Accumulated Solid Material is Above 30% of the Total Sump Depth
		Detention Ponds	1	Inspect Triennially, Maintain as Needed
		Stormwater Conveyance Channels	2	Inspect Triennially, Maintain as Needed

Ann Arbor Public Schools - Pathways to Success Academic Campus

Structural Control Inventory, Inspection, & Maintenance Schedule

Facility	Priority Level of Potential Discharge (High, Medium, Low)	Type of Structural Control	Number of Controls	Inspection/Maintenance Schedule
Pathways to Success Academic Campus 2800 Stone School Rd, Ann Arbor, MI 48104	Low	Catch Basins/Manholes	4	Inspect Triennially, Clean Once per Permit Cycle or if Build-Up of Accumulated Solid Material is Above 30% of the Total Sump Depth
		Infiltration Basins	1	Inspect Triennially, Maintain as Needed
		Stormwater Conveyance Channels	2	Inspect Triennially, Maintain as Needed
		Swales	1	Inspect Triennially, Maintain as Needed

Ann Arbor Public Schools - Pattengill Elementary School

Structural Control Inventory, Inspection, & Maintenance Schedule

Facility	Priority Level of Potential Discharge (High, Medium, Low)	Type of Structural Control	Number of Controls	Inspection/Maintenance Schedule
Pattengill Elementary School 2100 Crestland, Ann Arbor, MI 48104	Low	Catch Basins/Manholes	9	Inspect Triennially, Clean Once per Permit Cycle or if Build-Up of Accumulated Solid Material is Above 30% of the Total Sump Depth
		Open Pipe Outlets	1	Inspect Triennially, Maintain as Needed
		Infiltration Basins	1	Inspect Triennially, Maintain as Needed

Ann Arbor Public Schools - Pioneer High School

Structural Control Inventory, Inspection, & Maintenance Schedule

Facility	Priority Level of Potential Discharge (High, Medium, Low)	Type of Structural Control	Number of Controls	Inspection/Maintenance Schedule
Pioneer High School 601 Stadium Blvd W., Ann Arbor, MI 48104	High	Catch Basins/Manholes	130	Inspect Triennially, Clean Once per Permit Cycle or if Build-Up of Accumulated Solid Material is Above 30% of the Total Sump Depth Storm Structure PIO-80.MH Inspected Annually as part of the SOP.SWPPP
		Open Pipe Outlets	8	Inspect Triennially, Maintain as Needed
		Drainage Receptors	1	Inspect Triennially, Maintain as Needed
		Infiltration Basins	7	Inspect Triennially, Maintain as Needed
		Trench Drains	2	Inspect Triennially, Maintain as Needed
		Stormwater Conveyance Channels	1	Inspect Triennially, Maintain as Needed
		Bioretentions	1	Inspect Triennially, Maintain as Needed
		Rain Gardens	1	Inspect Triennially, Maintain as Needed
		Underground Detention Systems	1	Inspect Triennially, Maintain as Needed
		AST	1	Inspect Triennially, Maintain as Needed
		Flow Splitters	8	Inspect Triennially, Maintain as Needed
		Hydrodynamic Separators	2	Inspect Triennially, Maintain as Needed
		Salt Storage	1	Inspect Triennially, Maintain as Needed
		Oil Water Separators	2	Inspect Triennially, Maintain as Needed
		Aggregate Storage	1	Inspect Triennially, Maintain as Needed

Ann Arbor Public Schools - Pittsfield Elementary School

Structural Control Inventory, Inspection, & Maintenance Schedule

Facility	Priority Level of Potential Discharge (High, Medium, Low)	Type of Structural Control	Number of Controls	Inspection/Maintenance Schedule
Pittsfield Elementary School 2543 Pittsfield, Ann Arbor, MI 48104	Low	Catch Basins/Manholes	9	Inspect Triennially, Clean Once per Permit Cycle or if Build-Up of Accumulated Solid Material is Above 30% of the Total Sump Depth
		Infiltration Basins	2	Inspect Triennially, Maintain as Needed

Ann Arbor Public Schools - Scarlett Middle School/Mitchell Elementary School Complex Structural Control Inventory, Inspection, & Maintenance Schedule

Facility	Priority Level of Potential Discharge (High, Medium, Low)	Type of Structural Control	Number of Controls	Inspection/Maintenance Schedule
Scarlett Middle School/Mitchell Elementary School Complex 3300 Lorraine St., Ann Arbor, MI 48108/3550 Pittsview Dr., Ann Arbor, MI 48108	Medium	Catch Basins/Manholes	38	Inspect Triennially, Clean Once per Permit Cycle or if Build-Up of Accumulated Solid Material is Above 30% of the Total Sump Depth
		Infiltration Basins	4	Inspect Triennially, Maintain as Needed
		Trench Drains	2	Inspect Triennially, Maintain as Needed
		Detention Ponds	1	Inspect Triennially, Maintain as Needed
		Rain Gardens	3	Inspect Triennially, Maintain as Needed

Ann Arbor Public Schools - Skyline High School

Structural Control Inventory, Inspection, & Maintenance Schedule

Facility	Priority Level of Potential Discharge (High, Medium, Low)	Type of Structural Control	Number of Controls	Inspection/Maintenance Schedule
Skyline High School 2552 N Maple Rd, Ann Arbor, MI 48103	Medium	Catch Basins/Manholes	53	Inspect Triennially, Clean Once per Permit Cycle or if Build-Up of Accumulated Solid Material is Above 30% of the Total Sump Depth
		Open Pipe Outlets	4	Inspect Triennially, Maintain as Needed
		Infiltration Basins	2	Inspect Triennially, Maintain as Needed
		Trench Drains	5	Inspect Triennially, Maintain as Needed
		Detention Basins	1	Inspect Triennially, Maintain as Needed
		Detention Ponds	2	Inspect Triennially, Maintain as Needed
		Stormwater Conveyance Channels	1	Inspect Triennially, Maintain as Needed

Ann Arbor Public Schools - Slauson Middle School

Structural Control Inventory, Inspection, & Maintenance Schedule

Facility	Priority Level of Potential Discharge (High, Medium, Low)	Type of Structural Control	Number of Controls	Inspection/Maintenance Schedule
Slauson Middle School 1019 Washington W, Ann Arbor, MI 48103	Low	Catch Basins/Manholes	11	Inspect Triennially, Clean Once per Permit Cycle or if Build-Up of Accumulated Solid Material is Above 30% of the Total Sump Depth
		Infiltration Basins	2	Inspect Triennially, Maintain as Needed

Ann Arbor Public Schools - Tappan Middle School

Structural Control Inventory, Inspection, & Maintenance Schedule

Facility	Priority Level of Potential Discharge (High, Medium, Low)	Type of Structural Control	Number of Controls	Inspection/Maintenance Schedule
Tappan Middle School 2251 Stadium Blvd, Ann Arbor, MI 48104	Low	Catch Basins/Manholes	19	Inspect Triennially, Clean Once per Permit Cycle or if Build-Up of Accumulated Solid Material is Above 30% of the Total Sump Depth

Ann Arbor Public Schools - Thurston Elementary School

Structural Control Inventory, Inspection, & Maintenance Schedule

Facility	Priority Level of Potential Discharge (High, Medium, Low)	Type of Structural Control	Number of Controls	Inspection/Maintenance Schedule
Thurston Elementary School 2300 Prairie, Ann Arbor, MI 48105	Low	Catch Basins/Manholes	17	Inspect Triennially, Clean Once per Permit Cycle or if Build-Up of Accumulated Solid Material is Above 30% of the Total Sump Depth
		Drainage Receptors	1	Inspect Triennially, Maintain as Needed
		Detention Basins	1	Inspect Triennially, Maintain as Needed

Ann Arbor Public Schools - Transportation Facility

Structural Control Inventory, Inspection, & Maintenance Schedule

Facility	Priority Level of Potential Discharge (High, Medium, Low)	Type of Structural Control	Number of Controls	Inspection/Maintenance Schedule
Transportation Facility 2400 Boardwalk St, Ann Arbor, MI 48104	High	Open Pipe Outlet	1	Inspect Annually, Maintain as Needed
		Stormwater Conveyance Channels	5	Inspect Annually, Maintain as Needed
		Detention Ponds	1	Inspect Annually, Maintain as Needed

Ann Arbor Public Schools - Westerman Preschool and Family Center

Structural Control Inventory, Inspection, & Maintenance Schedule

Facility	Priority Level of Potential Discharge (High, Medium, Low)	Type of Structural Control	Number of Controls	Inspection/Maintenance Schedule
Westerman Preschool and Family Center 2775 Boardwalk, Ann Arbor, MI 48104	Low	Catch Basins/Manholes	15	Inspect Triennially, Clean Once per Permit Cycle or if Build-Up of Accumulated Solid Material is Above 30% of the Total Sump Depth
		Open Pipe Outlets	2	Inspect Triennially, Maintain as Needed
		Detention Ponds	1	Inspect Triennially, Maintain as Needed

Ann Arbor Public Schools - Parcel #1

Structural Control Inventory, Inspection, & Maintenance Schedule

Facility	Priority Level of Potential Discharge (High, Medium, Low)	Type of Structural Control	Number of Controls	Inspection/Maintenance Schedule
Parcel #1 2081 East Ellsworth Road, Ann Arbor, MI, Parcel #09-12-10-304-099	Low	None	None	Inspect Triennially, Maintain as Needed

Appendix G

Contractor Oversight & Employee Training Documentation

Ann Arbor Public Schools

Contractor Stormwater Acknowledgement

Ann Arbor Public Schools (AnAPS) shall implement the procedure requiring contractors hired by AnAPS to perform municipal operation and maintenance activities that comply with the AnAPS pollution prevention and good housekeeping program and contractor oversight to ensure compliance with the AnAPS National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) Storm Water Discharge Permit. These requirements are outlined in Section A. Limitations and Monitoring Requirements, #7 Contractor Requirements and Oversight.

The purpose of this acknowledgement form is to communicate the AnAPS requirements for pollution prevention and good housekeeping while the contractor is on district property, conducting municipal operation and maintenance activities. Those activities may include snow removal, landscaping/lawn care, pest control, vehicle maintenance, construction, and waste management. The ultimate goal of the AnAPS pollution prevention and good housekeeping program is to prevent leaks, spills, and other releases of any non-stormwater materials to the ground, MS4, or Surface Waters of the State.

While conducting municipal operations and/or maintenance activities while on AnAPS property, contractors shall, to the maximum extent practicable, adhere to the following guidelines:

- Prevent the discharge of fluids from vehicle fueling and maintenance activities, which may include fuels, oils, and other petroleum products.
- Prevent the discharge of pollutants from storage, handling, and disposal of construction products, materials, and wastes.
- Prevent the discharge of soaps, solvents, detergents, and wash water from construction activities, including paint, form release oils, and curing compounds.
 - These fluids should be collected and properly disposed of in a manner to prevent contact with stormwater and prevent discharge of these pollutants.
 - This includes the rinsing and washing of paint application equipment for athletic field marking and parking lot striping.
- Minimize the discharge of pollutants from vehicle and equipment washing, wheel wash water, and other types of washing.
 - Vehicle washing activities using soaps or detergents shall occur indoors, where the discharge of the wash water is directed to drains that connect to the sanitary system
 - Alternatively, lawn equipment may be rinsed off in permeable (grassed) areas.
- Concrete wash water should be directed into a leak-proof container. Once hardened, the concrete waste shall be disposed of properly.
 - For any liquid concrete waste, those shall be disposed of properly and not be discharged to the MS4 or surface waters of the state.
- Prevent the discharge of hazardous or toxic wastes and sanitary wastes.
- Place temporary stockpiled material, such as sand, gravel, asphalt millings, and soil away from storm drains.
 - Place stockpiled material on permeable (grassed) areas.
 - Berm or cover stockpiled material when not in use to prevent material releases into storm drains.
- During snow removal operations, stockpile plowed snow from parking lots in permeable (grassed) areas away from storm drains to prevent discharges during snowmelt.
- During salt application, use the least amount of salt to be effective at ice melt for the conditions.
- Report any other discharge from the potential pollutant-generating activities not addressed above to Ann Arbor Public Schools.

Name of Business

Business Representative Signature

Date

