

STORMWATER MANAGEMENT PLAN
FOR
PITTSFIELD CHARTER TOWNSHIP



Prepared in compliance with
Michigan Department of Natural Resources and Environment

PHASE II STORMWATER PERMIT
MIS0490000

and

CERTIFICATE OF COVERAGE
MIS040021

Pittsfield Charter Township
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Section I Introduction

1.1 Executive Summary

Pittsfield Charter Township is pleased to provide this NPDES Phase II Stormwater Management Plan to the Michigan Department of Natural Resources and Environment (MDEQ). This plan has been developed to address existing water quality issues and to prevent water quality impairment due to polluted stormwater runoff at existing and future Township locations. The following program represents a revision of the original plan that was permitted during the initial Phase II permitting cycle from 2010-2014 in Michigan. The next four-year permitting cycle will extend from 2014-2018. This plan has been developed as an issue-specific four-year Stormwater Phase II Program, and the specific issues to be addressed via the program are as follows:

1. General stormwater runoff pollution typically associated with activities at the point source locations;
2. Maintenance related activities including the application of pesticides, herbicides and fertilizers at Point Source locations;
3. Illegal dumping and improper disposal of common waste products that have the potential to adversely affect water quality in State waters;
4. Erosion and sedimentation associated with construction and development and post-construction stormwater management;
5. Efforts to educate the public on the adverse affects of pollution and the potential negative impacts associated with impaired water quality; and
6. Pollution prevention and good housekeeping associated with maintenance facilities.

1.2 Purpose of the Stormwater Management Plan (SWMP)

The Stormwater Management Plan (SWMP) is intended to reduce the discharge of pollutants from stormwater, to protect the designated uses of the waters of the State, to protect water quality, and to satisfy the water quality requirements of the Federal and Michigan Water Pollution Control Acts. The SWMP consists of a summary of each of the six minimum measures along with an outline of the tasks, best management practices (BMPs), and schedules that the Township must fulfill for meeting the permit requirements of each measure. Pittsfield Charter Township is submitting revisions to the SWMP in accordance with Part I.A.3 and Part I.B.1.a of the General Permit on or before April 1, 2013.

The six minimum measures include a Public Education Plan (PEP), a Public Involvement & Participation Plan (PIPP), an Illicit Discharge Elimination Plan (IDEP), a Post-Construction Controls for Development and Re-Development Program, a Construction Stormwater Runoff Control Program, and a Pollution Prevention and Good Housekeeping for Municipal Operations Plan.

1.3 The Federal Stormwater and Phase II Regulations

In the late 1980's, the U.S. Environmental Protection Agency (EPA) publicized regulations addressing stormwater discharges. On December 8, 1999, the U.S. EPA published Phase II stormwater regulations. These Phase II regulations apply to smaller communities like Pittsfield Charter Township that are part of a contiguous urban area.

Federal regulations require regulated stormwater communities to obtain an NPDES permit and to develop plans for implementation of the "six minimum measures" for stormwater management.

1.4 The State General Stormwater Permit

To facilitate addressing nonpoint sources of pollution commonly associated with stormwater runoff, the Michigan Department of Natural Resources and the Environment (MDEQ) developed a General Wastewater Discharge Permit for Stormwater Discharges from Municipal Separate Storm Sewer Systems (MIS049000; Jurisdictional General Permit). MDEQ's general permit is consistent with the Phase II federal regulations and also requires permittees to develop and implement plans for the six minimum measures. The Township applied for a Jurisdictional permit on May 1, 2009, and was issued the Certificate of Coverage (COC), No. MIS040021, in 2009, which authorized the Township to discharge stormwater at the five (5) point sources under their jurisdiction. The certificate expires on April 1, 2013, at which time the certificate may be modified, terminated, reissued or revoked as allowed for in General Permit No. MIS049000.

1.5 MDEQ Reporting

As outlined in the Township's COC, the first Annual Report and available information regarding the storm sewer system was due on May 1, 2011.

The second annual report will document the progress made towards beginning or completing the tasks outlined in this SWMP for year 2014.

According to a change in the reporting process through the MDEQ, the Township will submit reports on a biennial basis. The report for the permitting period of September 2011 through August 2013 was submitted on October 1, 2013, and the report for the permitting period of September 2013 through August 2015 will be submitted on October 1, 2015. The key areas that Pittsfield Charter Township will focus on is developing policies and procedures, and a documentation and tracking system to evaluate the six (6) minimum requirements on an annual basis. The planned tracking system will help determine progress made towards meeting the key objectives described in the following sections and to make changes in objectives as warranted.

The same reporting tool will be used by the Township to prepare progress reports for the MDEQ of activities completed and proposed revisions. The progress reports will be submitted to the MDEQ's Water Division Southeast Michigan District Supervisor.

1.6 Review and Modification

The SWMP is a living document, meaning it will likely be modified many times as a result of public input and as program successes and failures are realized over time. Any request for modifications, additions or deletions of tasks to be completed by the Township must be documented to the MDEQ. Any changes, unless noted otherwise by the Department, are approved within 60 days of request submittal to the MDEQ.

1.7 Township Contact for SWMP

Staff Contact: Ms. Mandy Grewal

Title: Supervisor, Pittsfield Charter Township

Telephone: 734.822.3135

1.8 The Nested Jurisdictions

There are four nested jurisdictions within Pittsfield Charter Township. They are the Ann Arbor Airport (City of Ann Arbor), the Wheeler Service Center (City of Ann Arbor), Washtenaw County Service Center (Washtenaw County) and the Michigan Department of Corrections Complex (State of Michigan).

All three (3) have applied for Phase I Certificates of Coverage.

1.9 The Point Discharges within the responsibility of Pittsfield Charter Township

The Point Discharges within the responsibility of Pittsfield Charter Township are:

1. Pittsfield Charter Township Administration Office & Public Safety Offices
6201 & 6227 West Michigan Avenue, Ann Arbor 48108
2. Pittsfield Community Center/Parks & Recreation/Fire Station #3
701 W. Ellsworth Road, Ann Arbor 48108
3. Fire Station #2
4345 E. Ellsworth Road, Ypsilanti 48197
4. Utilities Field Office
4467 Concourse Drive, Ann Arbor 48108
5. Township Booster Station & Ground Storage Reservoir
100 E. Textile Road, Ann Arbor 48108

The Wood Outlet Drain, Paint Creek, Malletts Creek, Koch Warner Drain, Pittsfield Drain No. 1, Pittsfield Drain No. 5, Rouse Creek, and Swift Run Creek are the main watercourses that flow through the Township. They are all open waterways. Malletts Creek and Swift Run Creek are part of the Huron River Watershed and are tributaries to Ford Lake and Belleville Lake. The Wood Outlet Drain, Koch Warner Drain, Pittsfield Drain No. 1, Pittsfield Drain No. 5, and Rouse Creek are part of the River Raisin Watershed, and Paint Creek is part of the Stony Creek/Swan Creek Watershed.

1.10 TMDL

Pittsfield Charter Township is a member of the Middle Huron Watershed Stormwater Advisory Group (SAG), a collaboration between communities and agencies with a general stormwater Phase I or Phase II permit for the Middle Huron River in Washtenaw County. As a member, Pittsfield Charter Township is participating in submitting the Middle Huron Stormwater Plan for Addressing Total Maximum Daily Loads (TMDLs), an alternative approach to addressing TMDL requirements that was submitted to MDEQ on January 28, 2010.

This plan is available online at: http://www.hrwc.org/wp-content/uploads/2010/03/Middle_Huron_TMDL_plan_FINAL.pdf and is referred to on the attached Stormwater Management Plan Commitments to Action.

Section II Pittsfield Charter Township

2.1 Background on Pittsfield Charter Township

Organized in 1834 and chartered in 1972, Pittsfield Charter Township bridges the territory between the City of Ann Arbor and The City of Saline, encompassing approximately 28 square miles. The current population is estimated at 34,663. The demographics are varied and include large urban areas, industrial and commercial, residential areas, and rural areas comprised of natural areas and farmland.

Pittsfield Charter Township is a community of approximately 12,690 parcels and a 2014 SEV of \$1,821,824,700. Major thoroughfares in Pittsfield Charter Township include Michigan Avenue (U.S. 12), U.S. 23, and I-94. Pittsfield Charter Township is included in three school districts: Ann Arbor, Milan, and Saline.

2.2 Stormwater Management Committee

The Stormwater Management Committee was established on July 14, 2009 to advise the Board of Trustees and examine long-range strategies for the following issues:

- Pittsfield Charter Township's Stormwater Management Plan
- Systematic documentation that can be used as measurements of success
- Enhancing stormwater best-management practices
- Establishing public programming activities in compliance with the Township's Stormwater Management Plan
- Provide updates to the Township BOT regarding water discharge permit compliance
- Collaboration with regional entities engaged in stormwater management to promote regional stormwater quality initiatives

Section III Public Education Plan

3.1 Public Education Plan (PEP) Objectives

The purpose of the PEP is to inform the Township residents, municipal employees, businesses, visitors to the area, and construction contractors and developers about the state's water resources and encourage stewardship regarding those resources. The primary objective of the plan is to promote, publicize, and facilitate watershed education and, in doing so, encourage the public to reduce the discharge of pollutants in stormwater.

The land use in the Township dictates the focus of the education program. According to the Southeast Michigan Council of Government's (SEMCOG's) 2000 land use data, the Township is a residential community with significant areas of commercial development, and some rural areas. There are still some undeveloped parcels of land available within the Township.

Given the land uses, the primary concerns for stormwater contamination would be residential and commercial sources. Some of the residential sources of contaminants would be illicit connections, new

construction or redevelopment, yard maintenance and landscaping, and household hazardous waste disposal. Commercial sources would include waste automotive fluids, restaurant waste and grease, and car wash and laundry wastes. The Township’s public education will be geared to address these potential sources. Below is a list of educational topics and target audiences that the Township will address in the four year Stormwater Management Plan.

Topics	Target Audience
Illicit Discharges and improper waste disposal	All
Stewardship and Water Bodies affected	All
Sanitary (Septic Tank) & Pet Waste	Residents, Commercial, Developers
Pesticide & Fertilizer Use	Residents, Commercial, Schools and Township staff
Yard Wastes	Residents and Township staff
Automotive Wastes	Commercial, Residential, and Township staff
Riparian Land Management	All
Native Vegetation Landscaping	Residents, Commercial, Developers
Low-Impact Development	Residents, Commercial, Township staff
Detention/Retention Basins	HOAs, Developers and Township staff
Household Hazardous Waste	Residents and Township staff
Restaurant Wastes	Commercial, Schools
General Watershed Information	All

The primary Public Education project will be creating a Stormwater Management portion of the website with BMPs, information about F.O.G. program, fertilizer ordinance information, and links to government resources.

The Township is developing a public education signage Wellhead Protection project in cooperation with the City of Ann Arbor for wellheads.

The Township will continue to work with other organizations and agencies in the public education effort and utilize or modify existing materials where possible. Some of the potential partners and/or sources of information include: Huron River Watershed Council (HRWC), Washtenaw County Water Resources Commissioner Office (WCWRC), Southeast Michigan Council of Governments (SEMCOG), Michigan Department of Environmental Quality (MDEQ), River Raisin Watershed Council (RRWC), and the Michigan State University-Extension Office. In addition, the Washtenaw County Water Resources Commissioner’s office has agreed to partner with Pittsfield by helping to publicize a public reporting “Hot Line” that the Township will provide links to in future revisions to the Township website.

Section IV Public Involvement & Participation Program

4.1 Public Involvement & Participation Objectives

The Township created a Stormwater Management Committee (SWMC) comprised of 11 committee members. The members shall consist of two (2) Township residents, two (2) Planning Commission Liaisons, a Board of Trustees Liaison, three (3) Township Staff Liaisons, and regional representatives from the Huron River Watershed Council (HRWC), Washtenaw County Water Resources Commissioners Office (WCWRC), and River Raisin Watershed Council (RRWC). The primary purpose of the committee is to devise strategies to implement the Stormwater Management Plan including the BMPs.

The SWMC meets at least quarterly. Public participation via information posting on the Township website is a sustained goal of the committee.

Section V Illicit Discharge Elimination Plan

5.1 Prohibit Illicit Discharges

Pittsfield Township has a Written Policy to:

1. Instruct employees and contractors to prevent dumping in the MS4.
2. Establish the authority to investigate, inspect, and monitor suspected illicit discharges.
3. Enforce elimination of illicit discharges and connections into the MS4.
 - a. Staff may be able to locate the source of an illicit connection/discharge solely through visual observation of flow in the storm sewer at manholes.
 - b. Odor, color, turbidity, bacteria growth, quantity of flow, etc., may lead to the source of a problem without additional sampling.
 - c. Conduct source investigations if the source of an illicit discharge is not identified by field screening.
 - d. Respond to illicit discharges with corrective action to eliminate the illicit discharge and pursue enforcement actions once the source is identified.
4. Provide for regular training of staff
5. Provide schedule of staff visual inspections and dry weather screening at Township-owned discharge points. Weather inspections will be conducted if no rain/precipitation event has occurred for a minimum of 48 hours. If flow is observed in the discharge point at that time, it may be attributed to sewage, cooling water, sump pump discharge, infiltration from ground water sources, or runoff from potable water sources such as lawn sprinklers.
6. Evaluate the overall effectiveness of IDEP
7. Prohibit non-stormwater discharge into the MS4

8. Allow the discharges or flows from firefighting activities to the MS4 and require that these discharges only be addressed if they are identified as significant sources of pollutants to waters of the State.
9. Prohibit the following categories of non-stormwater discharges or flows if found to be significant contributors of pollutants to the MS4: from water line flushing and discharges from potable water sources, landscape irrigation runoff, lawn watering runoff, irrigation waters, diverted stream flows and flows from riparian habitats and wetlands, rising groundwaters and springs, uncontaminated groundwater infiltration and seepage, uncontaminated pumped groundwater, except for groundwater cleanups specifically authorized by NPDES permits, foundation drains, water from crawl space pumps, footing drains, and basement sump pumps, air conditioning condensation, waters from noncommercial car washing, street wash water, and dechlorinated swimming pool water from single, two, or three family residences.
10. Regulate the contribution of pollutants to the MS4
11. Prohibit illicit discharges, including illicit connections and the direct dumping or disposal of materials into the MS4.
12. Schedule the elimination of illicit discharges

Pittsfield Township has a regular program to label storm drains at discharge points. The Township partners with residents and Homeowners Associations to maintain storm drain labels.

Pittsfield Township advertises the County complaint hotline on its website and manages documentation of complaints in coordination with the Department of Public Safety.

5.2 Overall effectiveness of IDEP

1. Update BS&A Software database to track inspections, findings, and enforcement efforts. Develop system in conjunction with the Department of Public Safety to coordinate documentation and reporting efforts.
2. Ongoing efforts to identify main pollutants of concern including using an overlay of illicit connections and dumping on GIS map and documenting pollutants eliminated from system.

Section VI Post Construction Controls for Development

Pittsfield Township filed a Jurisdictional Stormwater permit on May 1, 2009, with revisions submitted on September 14, 2009. The conditions of the Watershed permit relating to (Part I. Section A. Article 8., “Post Construction Stormwater Control for New Developments & Redevelopment Projects” watershed-wide has been reviewed under consultation of the Pittsfield Charter Township Stormwater Management Committee.

Pittsfield Township evaluated Ordinance revisions that would adopt Water Quality and Channel Protection standards consistent with the Washtenaw County Water Resources Commissioner (WCWRC)

Office standards, including enforcement procedures in order to file a Watershed permit prior to expiration of the Stormwater Permit Jurisdictional Permit (2017).

The stormwater management of new developments is carefully analyzed by the Township during the site plan review process and is regulated by the Township Engineering Standards, WCWRC Standards, SESC Standards, and the Township SESC Site Plan Checklist. MDEQ certified SESC inspectors ensure vegetative stabilization of new development. To ensure long-term maintenance of stormwater drainage systems and BMPs, proprietors must enter into a Stormwater Maintenance Agreement.

Standards requiring that BMPs be designed on a site-specific basis to reduce post-development total suspended solids loading, procedures for reviewing the use of infiltration BMPs to meet water quality treatment and channel protection standards for new development or redevelopment projects in areas of soil or groundwater contamination in a manner that does not exacerbate existing conditions, and standards requiring BMPs to address the associated pollutants in potential hot spots were implemented in the Engineering Standards (previously named Land Development Standards) in 2013.

In 2013, Chapter 5 of the Pittsfield Township Engineering Standards, Stormwater Management, was modified to be consistent with WCWRC Standards. Additionally, Chapter 8: Private Roads, was developed to accommodate for pervious pavement and ditch design.

The Township will continue ongoing efforts to review existing regulatory mechanisms and adopt or revise policies, ordinances, and specifications that require new development or redevelopment to address urban runoff quantity and quality issues during project planning and implementation. The Township will review and utilize concepts in model Post-Construction Stormwater Management Ordinances when drafting revisions.

Section VII Construction Stormwater Runoff Control

Pittsfield Township enacted a Soil Erosion and Sedimentation Control Ordinance in 2003, and has an ongoing procedure for tracking and following up on complaints. This process includes inspections, enforcement, and tracking of violations.

A process is ongoing for all site plan reviews to ensure that plans are in compliance with standards.

A procedure is in place to notify the MDEQ when soil and sediment pollution is entering waters of the state, or when other pollutants are discharged into the Township's MS4.

Section VIII Pollution Prevention/Good Housekeeping for Municipal Operations

Pittsfield Township is committed to improving Employee and Contractor Training on an ongoing basis, despite the budgeting challenges in the Township. The primary area of focus will be improvements in recordkeeping and documentation of all training. Training will be carried out in partnership with SEMCOG or other training programs provided by other government entities.

The Township is currently a member of the Community Partners for Clean Streams (CPCS) cooperative effort between the Washtenaw County Water Resources Commissioner's Office and Washtenaw County businesses, institutional landowners and multi-family residential complexes. Every two (2) years, the

Township undergoes an inspection of all municipal facilities by the Washtenaw County Environmental Health Pollution Prevention staff.

Additionally, Pittsfield Township's staff is trained in Waste Management and Operations and Maintenance good housekeeping at all facilities. The Township continues to evaluate the BMPs of its fleet and facilities, including the reduction of pollutant discharges. Catch basins within the MS4 are inspected, maintained, and cleaned on an annual basis to ensure proper performance. Materials collected from catch basins are disposed of properly to prevent any further pollution. Any new facilities or stormwater controls owned by Pittsfield Township will be designed and implemented in accordance with WCWRC Standards and Township Engineering Standards. The Township is also responsible for ensuring that any operation and maintenance activities, such as cold weather operations, vehicle washing and maintenance, and parking lot sweeping are carried out in accordance with applicable BMPs.

Section IX Stormwater Management Plan Commitment to Action

The Jurisdictional Permit requires permittees' Stormwater Management Program (SWMP) Plan to include a description of the measurable goals for each BMP. The requirement can be found in Part I, Section B.1.a. (page 17). Specifically, the Permit states "The SWMP plan shall include a description of the measurable goals for each listed BMP. Measurable goals for an individual BMP may include a description of BMP actions and/or results related to an environmental benefit."

The attached **Stormwater Management Plan, Commitments to Action from 2014 through 2018** in a spreadsheet format includes the six minimum measures, an implementation BMP (including message and target audience), that the spreadsheet provides; implementation timeframe, the measurable goal, record keeping, and the responsible party.

The Environmental Protection Agency (EPA) requires the BMPs to include design objectives (or goals) that quantify the progress of program implementation and the performance of those BMPs. The State of Michigan's two types of permits (Jurisdictional and Watershed) include such criteria as well.

Section X Conclusion and Submittal

In accordance with Certificate of Coverage MIS040021, the Pittsfield Charter Township Stormwater Management Program Plan has been reviewed in public meetings of the Stormwater Management Committee and will be submitted to the MDEQ on or before October 1, 2013. Questions regarding the Stormwater Management Plan should be directed to the Supervisor's Office, Pittsfield Charter Township, 6201 W. Michigan Avenue, Ann Arbor, MI, or 734-822-3135 or by email at supervisor@pittsfield-mi.gov.



Pittsfield Charter Township, Ann Arbor, Michigan

Storm Water Management Plan

Commitments to actions for 2014 through 2018

Total Maximum Daily Loads

TMDL	Implementation BMP	Timeframe	Measurable Goal	Record Keeping	Responsible Party
E. coli, Geddes Pond, Huron River	As a member of the Middle Huron Stormwater Advisory Group, Pittsfield Charter Township is following the implementation BMP submitted by the Watershed Permitted group to the MS4 committee.	As designated on Permit	Middle Huron Stormwater Plan for Addressing Total Maximum Daily Loads (TMDLs) is attached. PCT must test discharge points as designated on Jurisdictional Permit.	Testing of discharge points will be recorded.	SW Coordinator
Total Phosphorus, Ford & Belleville Lakes	As a member of the Middle Huron Stormwater Advisory Group, Pittsfield Charter Township is following the implementation BMP submitted by the Watershed Permitted group to the MS4 committee.	As designated on Permit	Middle Huron Stormwater Plan for Addressing Total Maximum Daily Loads (TMDLs) is attached. PCT must test discharge points as designated on Jurisdictional Permit.	Testing of discharge points will be recorded.	SW Coordinator
Sedimentation Siltation, Flow(biota), Swift Run Creek	As a member of the Middle Huron Stormwater Advisory Group, Pittsfield Charter Township is following the implementation BMP submitted by the Watershed Permitted group to the MS4 committee.	As designated on Permit	Middle Huron Stormwater Plan for Addressing Total Maximum Daily Loads (TMDLs) is attached. PCT must test discharge points as designated on Jurisdictional Permit.	Testing of discharge points will be recorded.	SW Coordinator
Dissolved Oxygen, Paint Creek	As a member of the Middle Huron Stormwater Advisory Group, Pittsfield Charter Township is following the implementation BMP submitted by the Watershed Permitted group to the MS4 committee.	As designated on Permit	Middle Huron Stormwater Plan for Addressing Total Maximum Daily Loads (TMDLs) is attached. PCT must test discharge points as designated on Jurisdictional Permit.	Testing of discharge points will be recorded.	SW Coordinator

Public Education Plan

Topic	Implementation BMP (Message and Target Audience)	Timeframe	Measurable Goal (or WMP goal)	Record Keeping	Responsible Party (in-house use only)
Hazards associated with illicit discharges and improper disposal of waste	Publicize the Washtenaw County Public reporting "Hot Line" (cooperative effort with WCWRC) on township website. Encourage public reporting of illicit discharges, and dumping, into the permittee's MS4 (Previously permitted municipalities required to have a hotline already).	Annually through 2018	Hot Line information available on township website.	Print copy of webpage whenever it changes. Number of hits on Stormwater website.	SWMC Staff Liaison
	Educate the public on common illicit discharges such as construction site waste, sediment, carpet cleaners, household waste, vehicle fluids, etc.	2015, Feb	Brochure to issue with all building permits for construction sites.	Tracking database.	SWMC Staff Liaison
		2014, May	"Seven Simple Steps" brochure distributed at Spring Clean-Up event.	Keep a brochure with number of building permits issued.	Building Dept. Liaison
	Include brochures, information, and other relevant links, on Stormwater website.	2014, November	Number of hits on Stormwater website.	Keep a brochure with date distributed and number of mailings.	SWMC Staff Liaison
Stewardship and Water bodies potentially impacted	Educate the public on local waterbodies, water quality issues, and stewardship.	2014, November	Include information, and link to watershed council on Stormwater website.	Print copy of webpage whenever it changes. Number of hits on Stormwater website.	SWMC Staff Liaison
			Include Watershed Education video on website.	Number of hits on streamlining video.	
	Promote membership to local watershed council to public, businesses.	Annually through 2018	1. Supply watershed council membership information at permittee facilities and to businesses. 2. Include promotion of membership and link to watershed council website from permittee website.	Staff person in charge of facility information table to keep up to date on a regular basis.	
Educate the public on local waterbody health and stewardship.	Annually through 2018	Report on the "health" of the water bodies through website and delivery of report in winter taxes.	Print copy of webpage whenever it changes. Number of hits on Stormwater website.		
Sanitary and Pet Waste	Septic System Maintenance	Annually through 2018	Use electronic newsletter (or mail) to notify all septic system owners of proper septic system maintenance.	Copy of notification.	Utilities Dept. Liaison
	Pet waste	2015, April	1. Put two pet waste signs up in all parks (total of 13). 2. Provide baggies at each sign. 3. Track baggie use annually.	Receipts of purchase.	SWMC Staff Liaison
	Include guidance on Stormwater website and link to the Washtenaw County septic system maintenance site (video).	2014, November	Number of hits on Stormwater website.	Print copy of webpage whenever it changes. Number of hits on Stormwater website.	
	Proper lawn care and proper storage of fertilizers and pesticides -- guidance.	Annually through 2018	Advertise the guidance in the permittee's newsletter (Spring).	Copy of advertisement, newsletter, webpage, etc. and website information.	
Managing Pesticides and Fertilizers	Include guidance on Stormwater website.	Ongoing through 2018	Number of hits on Stormwater website.	Invites & number of attendees per workshop.	
	Partner with MSU to help homeowners use and understand soil test for proper application of fertilizers and alternatives to pesticides and lawns.	Every Fall through 2018	Workshop with MSU advertised to HOAs.		
	Work with Washtenaw County Water Resources Commissioner to develop a "F.O.G" workshop. Send WCRC restaurant waste management brochure.	Annually through 2018	1. Send Invitation and brochure to all restaurants, cafeterias, and bars 2. Spot check various food service locations - goal of 20% annually.	Copy of brochure with date sent out, list of restaurants, inspection follow-up info (annual summary of inspections).	SWMC Staff Liaison & Code Enforcement
Commercial, Industrial, Institutional Education on Stormwater impacts	Work with Washtenaw County Water Resources Commissioner to develop a "Partners for Clean Streams" program for commercial and industrial businesses.	Annually through 2018	1. Create spreadsheet to track number of partners.	Copy of agreement(s), educational materials used, keep track of partners, etc.	SWMC Staff Liaison & WCWRC Office
	Develop a brochure for proper car washing and cleaning agents.	2015, April	1. Send copy of brochure to all school superintendents. 2. Send copy of commercial brochure to all Powerwash and commercial vehicle washing businesses to ensure wastewater goes to sanitary sewer, not storm system. 3. Spot check 20% of businesses to determine compliance and document.	Copy of brochure and date sent, distribution list, spot check follow-up information, copy of webpage.	SWMC Staff Liaison & Code Enforcement
Car washing	Include guidance on Stormwater website.	2014, November	Number of hits on Stormwater website.	Print copy of webpage whenever it changes.	SWMC Staff Liaison
Educate riparian land owners	Use existing guidance for riparian land management.	Ongoing through 2018	Use website to notify all riparian land owners of Watershed education and riparian land management.	Copy of webpage.	SWMC Staff Liaison
	Include guidance on Stormwater website and link to watershed councils' webpage on native vegetation.	Ongoing through 2018	Number of hits on website.	Copy of resolution and ordinance.	
	Change weed ordinance to allow native vegetation (necessary before education can begin).		Board Resolution and code updated.		SWMC (Committee)

Responsibilities Key
 Stormwater Coordinator = Orange
 Staff Liaison = Blue
 Building Liaison = Green
 Utilities Liaison = Brown
 Planning Liaison = Lt Green
 Code Enforcement = Red
 SWMC = Pink
 Parks Rec = Purple
 Others = Black



Topic	Implementation BMP (Message and Target Audience)	Timeframe	Measurable Goal (or WMP goal)	Record Keeping	Responsible Party (in-house use only)
Benefits of native vegetation	Encourage public to use water quality friendly landscaping through the SEMCOG "Ours to Protect" tip cards: "Choose earth-friendly landscaping."	Ongoing through 2018	1. Have tip cards available at PCT facilities and public events, including Community Coordinator. 2. Permittee to follow the guide for its own facilities. 3. Include guidance on SW website and link to other native vegetation info.	Copy of webpage and Number of hits on SW website.	SWMC Staff Liaison
	Partner with businesses to decrease lawns and increase native vegetation.		Number of businesses, especially in large commercial and industrial complexes to make changes in their own landscaping.		
Overall Effectiveness of PEP	Increase public's knowledge in water quality issues and behavioral changes.	2017, August	Increase 20% of general public's knowledge.	Before and after surveys, database, and summary.	Watershed Council
	Increase overall native vegetation and decrease lawn area throughout permittee's jurisdiction.		Number of business partners that decrease lawns and increase native vegetation. Measure acreage of lawn decrease and native vegetation increase.	Track partners through CAC. Track the acreage of lawn removed and planted to native vegetation. Utilize pictures of best sites.	Group effort (Permittees, Public, Watershed Council)

Public Involvement & Participation Plan

Objective	Implementation BMP	Timeframe	Measurable Goal (or WMP goal)	Record Keeping	Responsible Party
Public notice of SWMP	Follow local notification requirements to publicize updated SWMP and locations for review.	2014, May	Meet all rules for notification.	Keep copy of official notification and number of reviews, minutes, etc.	SWMC Staff Liaison
	Make SWMP available to public review through website.				
Storm Water Management Committee (SWMC)	Regular meetings of township SWMC.	Quarterly through 2018	Attendance at meetings by public.	Keep copy of minutes and agreed upon actions.	SWMC
	Encourage more citizens to get involved in SWMC.	Ongoing through 2018	Include request for public participation on webpage.		
Cooperation with local watershed protection group - HRWC	Encourage partnerships and make necessary changes to program as necessary.	2014, June	Send draft copy of revised SWMP to watershed council for comment prior to submittal to MDNRE.	Keep copy of recommendations. Keep copies of any agreements, minutes, and/or partnership information.	SWMC Staff Liaison & Watershed Council
		Annually through 2018	Send water quality monitoring data to watershed council for input on program enhancement.		
		Ongoing through 2018	Work with local organizations to improve program through prioritization, surveys, and education.		

Illicit Discharge Elimination Program (IDEP)

Topic	Implementation BMP	Timeframe	Measurable Goal (or WMP goal)	Record Keeping	Responsible Party (in-house use only)				
Prohibit illicit discharges through regulation (this should already be done from last permit cycle)	Written policy to instruct employees and contractors regarding the regulation of the contribution of pollutants, and prevent dumping, to the MS4.	December, 2014 in conjunction with DPS departments	Written Township policy for employees & contractors. Ordinance, authority, and policies to be established. Enforcement ongoing.	1. Copy of written policy. Copy of in-house policy for investigating discharges/dumping.	2. Code Enforcement Officer				
	Written policy to establish the authority to investigate, inspect, and monitor suspected illicit discharges.								
	Written policy to enforce elimination of illicit discharges and connections into the MS4 owned or operated by the Permittee.								
	Label Storm Drains at Discharge Points.					Number of storm drains labelled (Curb marker or painted).	Report of Storm Drains labeled.	SW Liaison	
A program to find and eliminate illicit connections and discharges	Investigate complaints or situations as reported or discovered, including Spill Response and Emergencies.	March, 2014 - information provided to HRWC	1. Document all complaints and incidences through tracking system. 2. Outcome of investigations.	1. Copy of complaint, Field notes, pictures, etc. 2. Copy of investigation outcome, enforcement letters, etc.	Code Enforcement Officer				
	Storm Sewer System Map					Participating in GIS mapping program with HRWC with all discharge points, receiving waters, facilities, controls, etc.	HRWC	HRWC and SW Coordinator	
	Define, photograph, and post on township website examples of Dry Weather screening or other investigation methods to maximize the detection of illicit discharges.					February 1, 2015	1. Priority list developed ranking illicit discharge potential from high to low (Table 1 from permit). 2. Create inspection maps and schedule for field staff.	1. Copy of priority list and reasoning. 2. Copy of inspection maps and schedule.	2. SW Coordinator, Code Enforcement Officer
	Enforcement					2017, Fall	Inspections conducted at all discharge points (minimum 20% a year).	Screen shots of website showing definitions, photographs of dry weather screening.	SW Coordinator, Code Enforcement Officer
Environmental or Complaint Response	Advertise County complaint hotline on website. Manage documentation in conjunction with Pittsfield Township DPS.	Ongoing through 2018	1. Number of calls received per year when system is implemented. 2. Outcome of calls.	Tracking System - BS& A & DPS Records	SW Coordinator				
		Modify BS&A field to include data							
Staff Training	Provide IDEP training to all staff.	Annually through 2018	1. Provide basic training (presentation) to all staff, include field training to all field staff -- by Feb 2015. 2. New staff to receive training within one year of hire date or immediately if field staff.	Sign in sheets and training materials.					
Overall Effectiveness of IDEP	Tracking database - Use data fields in BS&A to document. Develop system in conjunction with Department of Public Safety Departments.	January 1, 2015	Update system to track inspections, findings, illumination, & enforcement to meet permit.	Tracking data base -- to include annual amount of discharges eliminated.	SW Coordinator, Code Enforcement Officer				
	Eliminate all obvious illicit dumping and connections found.	Ongoing through 2018	Eliminate dumping within one week. Eliminate connections within one year.						
	Identify main pollutants of concern (POC). These may be analytical or physical.	Ongoing through 2018	Results reviewed and pollutants identified.	Watershed management plans, historical information, sample results, pictures, field notes, etc.	SW Coordinator, WCWRC Office				
	Generate map to identify the location(s) of the discharge(s) into both the MS4 and receiving waters.		Include in the GIS Map an overlay of illicit connections and dumping, both existing and fixed.	Map Overlays					
	Summarize the estimated amount POC eliminated if the POC is an analytical. If POC is physical, summarize other activities to eliminate problem.	Annually through 2018 after POC identified	Estimation of pollutants eliminated from system.	Tracking data base					

Post Construction Controls for Development and Re-development

Topic	Implementation BMP	Timeframe	Measurable Goal (or WMP goal)	Record Keeping	Responsible Party (in-house use only)
Regulate Post Construction Controls at new development sites and re-development sites	Adopt Water Quality and Channel Protection standards consistent with Washtenaw County Water Resources Commissioner Office standards.	By date in COC	Board Resolution and ordinance/code updated.	Copy of Resolution and updated ordinance/code.	SW Coordinator and Permittee
	Adopt Operation and Maintenance (O&M) requirements for new PC controls.				
	Develop and implement policy for site plan review and approval to meet new standards. Implement Land Revision Standards.	Within 2 weeks of adopting new ordinance	Policy developed and implemented by all staff involved in site plan review.	Keep a copy of the procedure available.	Site plan review team (Planning); SW Coordinator
	Develop and implement an inspection policy to ensure PC controls are in place as approved in the site plan.		Use new checklist for all site plan reviews to ensure plans are in compliance with new standards. Plans cannot be approved without meeting the standards.	Copies of signed reviews, approvals, as-builts.	
Develop and implement enforcement procedures if PC controls are not constructed as required or O&M is not conducted as required.	Within 8 months of new ordinance	Written procedures developed and implemented by all staff involved with site plan approvals, inspections, enforcement.	Copy, attorney approved, procedures.	Attorney (review of ordinance), SW coordinator, Inspector(s)	
Post Construction Controls (PCC) at municipally owned facilities	All property owned by the MS4 permittee that has new development or substantial redevelopment will adhere to the Washtenaw County Water Resources Commissioner Office standards.	Ongoing through 2018	Develop checklist to ensure that documentation of development on permittee owned property meets the requirements for PCC.	Copies of signed reviews, approvals, as-builts.	Site plan review team (Planning); SW Coordinator
	All Permittee owned sites with a new PCC-BMP will have an O&M plan for the BMP.		Ensure O&M requirements are met for all permittee owned BMPs. Track in O&M Tracking database.	Keep copies of O&M plans and all inspection and maintenance activities conducted by staff.	SW Coordinator and Permittee

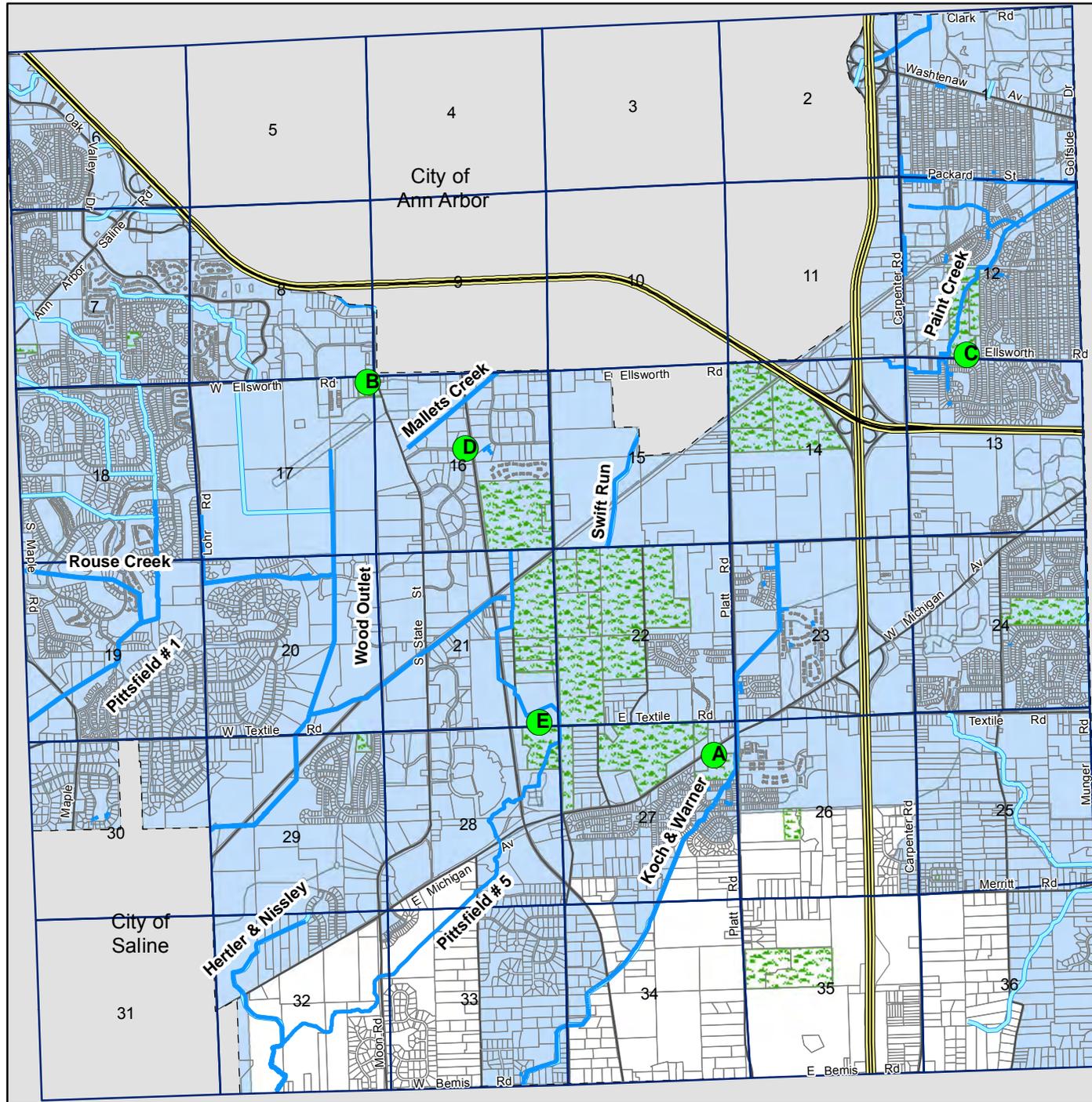
Responsibilities Key
 Stormwater Coordinator = Orange
 Staff Liaison = Blue
 Building Liaison = Green
 Utilities Liaison = Brown
 Planning Liaison = Lt Green
 Code Enforcement = Red
 SWMC = Pink
 Parks Rec = Purple
 Others = Black



Construction Stormwater Runoff Control					
Topic	Implementation BMP	Timeframe	Measurable Goal (or WMP goal)	Record Keeping	Responsible Party
Provide notice to the SESC agency and Department when pollutants are discharged from construction activity	Inspect construction sites. Pittsfield has enacted SESC (Soil Erosion and Sedimentation Controls) Administration & Enforcement by ordinance.	Ongoing through 2018	Conduct weekly inspections at 20% of construction sites.	Inspection forms, pictures, enforcement letters, and copies of notices to Department.	SW Coordinator/Engineer; Township planner
Complaint Process	Procedure for tracking and following up on complaints.		Policy implemented by all relevant staff. 100% complaint follow-up.	Complaint record (tracking system), inspection forms, pictures, etc.	Code Enforcement Officer
Review and approval of preliminary site plans	Develop and implement policy for site plan review and approval to meet Part 91 standards and local standards. Develop and implement enforcement procedures if SESC controls are not constructed and maintained as required.		Use checklist for all site plan reviews to ensure plans are in compliance with standards. Plans cannot be approved without meeting the standards. Enforcement staff to follow process (Stop work orders, enforcement letters etc.).	Copy of procedures, signed reviews and approvals, weekly inspection reports from every site, enforcement documents/letters.	SW Coordinator/Engineer; Township planner; Code Enforcement Officer
Pollution Prevention / Good Housekeeping for Municipal Operations					
Topic	Implementation BMP	Timeframe	Measurable Goal (or WMP goal)	Record Keeping	Responsible Party (in-house use only)
Employee / Contractor Training	Develop detailed list of training topics for employees and contractors .	December, 2015	Final list of topics necessary for employees and contractors.	spreadsheet	Building Official and Building Dept Liaison
	Develop various training sessions and materials for employees.	Ongoing through 2018	General training provided to all existing employees regarding SW program.	Training materials developed for sessions and sign-in sheets for those sessions.	
		Ongoing through 2018	Training provided to new employees within first year of hire date.		
		December, 2015	Number of employees trained in their respective areas.		
	Provide training to contractors prior to conducting work for permittee.	Ongoing through 2018	Number of contractors that attend training sessions given by permittee, or other acceptable session.	Number of contractors certified through training program as necessary.	
Number of contracts, with specific BMP requirements, signed by contractors.			Copy of Contracts		
Structural Stormwater Control Effectiveness	Develop the detailed list of municipal properties and structural controls at those properties. The required summary list is attached to this SWMP as an appendix.	By the due date of the First Progress Report	Submitted as part of First Progress Report.	Spreadsheet showing Catch basin labelling and locations. Check labelling and stencilling annually.	SW Coordinator in conjunction with HRWC and WCWRC offices
		By the due date of the Second Progress Report	Completed GIS mapping system with all facilities and controls mapped, with detailed database for Inspections, Operation, and Maintenance tracking.	GIS Mapping System	
	Develop a schedule for inspections, and O&M for all structural controls.	By the due date of the First Progress Report	Inspection schedule developed, added to the SWMP and GIS Mapping System, and implemented.		
	2016, March	O&M schedule developed, added to GIS Mapping System, and implemented.			
New Facilities and SW Controls	Ongoing through 2018	New controls meet standards. Facilities and controls added to GIS Mapping System within one week of construction			
Waste Management	Identify sources of waste and storage.	Ongoing through 2018	Sources identified and staff in charge.	Spreadsheet	Building Official and Building Dept Liaison and Utilities Dept. Liaison
	Develop procedures for proper handling and disposal of waste		Staff following proper procedures.	Written procedures/policy, Inspection reports.	
Management of Vegetated Properties owned or responsibility of Permittee	Develop policy regarding soil testing and fertilizer use.	Ongoing through 2018	Policy adopted under last permit.	Copy of policy	Code Enforcement Officer
	Use existing training materials for employees and contractors regarding storage, handling, and use of pesticides, herbicides, and fertilizers.		General training provided to all relevant employees and contractors. Policies read and signed by contractors and relevant employees. Scheduled with general P2 training.	Sign in sheets and training materials, copies of signed policies.	Parks & Rec Director
	Proper soil and wood chip storage at MS4 sites.		Document Volume and quantity of soil and wood chips at Parks & Rec sites and methods used to control runoff into SW.	Reporting that quantifies soil & wood chips at site. Frequency of vactoring of Catch basins & debris collected.	
	Develop a program to minimize SW impacts from vegetated properties.		To be included as part of developing the inspections, and O&M for all structural controls.	GIS Mapping System	SW Coordinator and Building Official and Building Dept Liaison
Fleet Maintenance and Storage Yard/Facilities	SWPPP(s) developed and implemented (see attached list of facilities where applicable).	Ongoing through 2018	SWPPP(s) approved and signed by SW coordinator and DPW Facilities Manager.	Copy of SWPPP(s) and facilities inspection reports.	Building Official and Building Dept Liaison and SW Coordinator
	Inspection, O&M Schedules for all permittee owned vehicles and equipment. Work with Fire Department to develop policy for labelling flammable cabinets.	May, 2015	Each facility will have a schedule to do inspections and O&M or have them done by contractors.	Copy of PPI biennial schedule, inspection reports, and work completion receipts.	
	Investigate and implement BMPs for refuse management (if problems are found).	Ongoing through 2018	Implement changes to refuse management as necessary.	Copy of PPI biennial summary report of investigation and implementation and inspection reports.	
	Implement BMPs to reduce pollutant discharges (requirement from last permit).	Ongoing through 2018	Continue biannual parking lot sweeping catch basin cleaning and precision application of salt as previously implemented.	Copy of biannual schedule, amount of waste collected and disposed of properly, annual summary report of salt use. Frequency of vactoring of Catch basins & debris collected.	
Parking Lots owned by Permittee	Proper salt storage and management (requirement from last permit).	Ongoing through 2018	Continue proper salt storage and management as previously implemented.	Copy of inspection reports.	Building Official and Building Dept Liaison and SW Coordinator
	Reduce TSS runoff from paved surfaces to the Maximum Extent Possible with a goal of 25% reduction.	By the due date of the First Progress Report By the due date of the Second Progress Report	Report yearly maintenance plan of parking lots. Report improvement of solids reduced.	Contractor report of total solids collected. Continue reporting of total annual solids collected.	

Responsibilities Key
 Stormwater Coordinator = Orange
 Staff Liaison = Blue
 Building Liaison = Green
 Utilities Liaison = Brown
 Planning Liaison = Lt Green
 Code Enforcement = Red
 SWMC = Pink
 Parks Rec = Purple
 Others = Black

Pittsfield Charter Township Urbanized Area, Drains & Points of Discharge



Legend

- Streams
- Major Drains
- Major Roads
- Pittsfield Parcels
- Pittsfield Sections
- Pittsfield Parks
- 2010 Census Defined Urban Area

PCT Point Discharges

- Administration Office & Public Safety Offices
- Community Center/Parks & Recreation/ Fire Station #3
- Fire Station #2
- Utilities Field Office
- Booster Station & Ground Storage Reservoir



Pittsfield Charter Township Watersheds, Drains & Points of Discharge



Legend

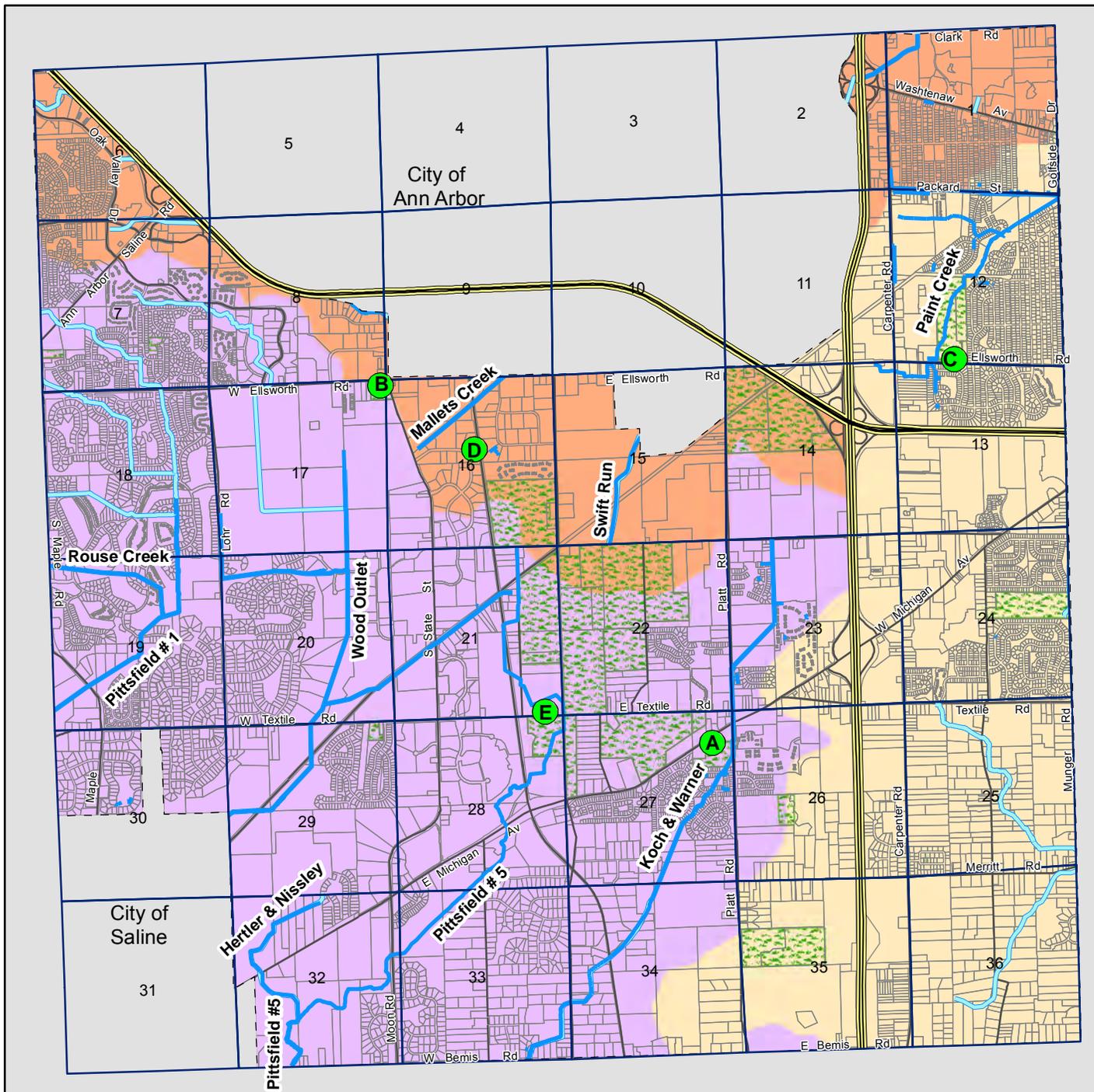
- Streams
- Major Drains
- Major Roads
- Pittsfield Parcels
- Pittsfield Sections
- Pittsfield Parks

Watershed

- Huron River
- Raisin River
- Stony Creek/Swan Creek

PCT Point Discharges

- Administration Office & Public Safety Offices
- Community Center/Parks & Recreation/Fire Station #3
- Fire Station #2
- Utilities Field Office
- Booster Station & Ground Storage Reservoir



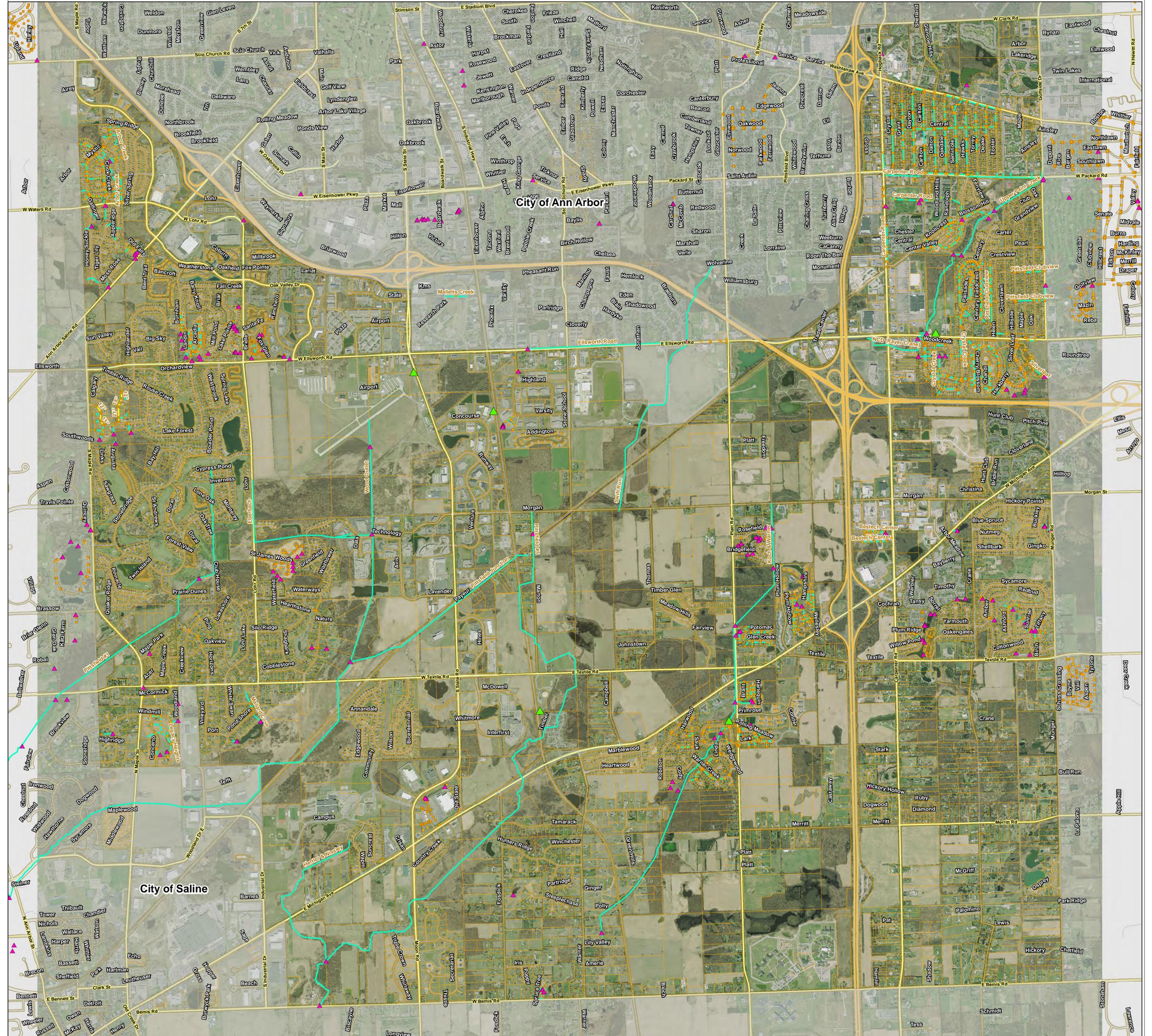
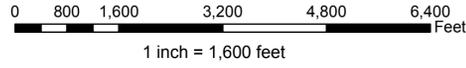


STORM WATER OUTFALLS LOCATED WITHIN PITTSFIELD TOWNSHIP



Legend

- ▲ PCT Storm Discharge Outlet
- ▲ WCWRC Storm Outlet
- County Storm Drain
- Manhole
- Catch Basin





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Mandy Grewal, Supervisor

Attachment #1
(Permit Question #1)

Enforcement Response Procedure

I. Policy:

This policy is to establish the Pittsfield Charter Township Enforcement Response Procedure.

II. Background:

The MDEQ NPDES Phase II Stormwater Discharge Permit Application requires a procedure for Enforcement Response to address violations of the ordinances or regulatory mechanism identified in the Stormwater Management Plan.

III. Procedure:

When a violation that may impact water quality is reported, the Code Enforcement Officer (CEO) conducts a site visit that they document with photos. If the violation appears to pose a health risk, then the CEO will immediately contact their immediate supervisor and the Washtenaw County Health Department and the MDEQ District Office. If the onsite tenant or contractor is available, then the CEO will verbally discuss the violation with them during the site visit. They will use the site visit to determine if the violation is real.

Upon returning to the office, the CEO will open an incident report on BS&A and update it with site visit findings. If the violation is found to be non-existent, then they will follow-up with whoever filed the violation report before updating and closing the incident report on BS&A. If the violation is found to be real, then the CEO will identify which ordinance is being violated and update BS&A with information regarding the name of the person responsible for violating the ordinance, the date and location of the violation, and a description of the violation. The CEO will also identify the proper jurisdiction that is responsible for the location where the violation is located. If the jurisdiction is not Pittsfield Township, then they will contact the appropriate jurisdiction regarding the violation and maintain contact with the jurisdiction regarding the violation until it is resolved.

The next step will be for the CEO to meet with the Utilities Director, Engineer, and/or Planner to determine a course of action. During this meeting, they will decide if a stop-work order should be issued, and if an Environmental Consultant should be brought in to produce an environmental report. They will also send a letter to the property owner with ordinance violation information, photos, and a request to schedule a meeting to discuss the violation. If relevant, this letter will also include information about the stop-work order. The outcomes of this meeting will be recorded in BS&A,

including information regarding a description of the enforcement response used, and a schedule for returning to compliance.

After the meeting with the property owner, the CEO will carry out follow-up inspections. The timeline for this follow-up may vary. If it is found that the violation is resolved, then the CEO will update BS&A with the date that the violation was resolved and close the violation report. They will also end the stop work order, if one has been issued. If the problem is not resolved, then a citation will be issued and enforcement will continue until the violation is resolved.



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Attachment #2
(Permit Question #2)

Public Participation Policy

I. Policy:

This policy is to establish the Pittsfield Charter Township Public Participation Policy.

II. Background:

The MDEQ NPDES Phase II Stormwater Discharge Permit Application requires a procedure for the Public Participation/Involvement Program to make the Stormwater Management Plan (SWMP) available for public inspection and comment.

III. Procedure:

The Pittsfield Township Stormwater Management Plan (SWMP) is available for public inspection and comment on the Pittsfield Township Website and at the Township Administration Building.

When the SWMP is updated and/or revised by the Stormwater Management Committee; the Township will first include the review on the Stormwater Management Committees agenda. The agenda is posted on the Township Website and in the display case outside of the Township Administration Building for public review. The public will be notified on the Township's Stormwater Management Committee webpage that the SWMP is being updated and/or revised. A notice will be posted in the local news media.

A draft of the proposed revisions will be forwarded to the MDEQ for review. The Township will accept comments from the MDEQ and the public. The revised draft will be posted on the Township website for a review period of 30 days. Following review, the SWMP will then be sent to the Pittsfield Township Board of Trustees for adoption. When the item is placed on the Board of Trustees agenda, it is posted on the Township Website and in the display case outside of the Township Administration Building for public review.

Once the SWMP is approved, the revised copy is sent to the MDEQ, the Huron River Watershed Council (HRWC), and the River Raisin Watershed Council (RRWC). The SWMP is included on the Township Stormwater Management Committee webpage.

The Township also partners with the HRWC on a joint public participation program. Please see the attached Public Participation Program for the Huron River Watershed MS4s in Washtenaw County.



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Mandy Grewal, Supervisor

Attachment #3
(Permit Question #3)

Public Participation Policy

I. Policy:

This policy is to establish the Pittsfield Charter Township Public Participation Policy.

II. Background:

The MDEQ NPDES Phase II Stormwater Discharge Permit Application requires a procedure for the Public Participation/Involvement Program to make the Stormwater Management Plan (SWMP) open for public involvement and participation in its implementation and review.

III. Procedure:

The Pittsfield Township Stormwater Management Plan (SWMP) is available for public inspection and comment on the Pittsfield Township Website and at the Township Administration Building.

When the SWMP is updated and/or revised by the Stormwater Management Committee; the Township will first include the review on the Stormwater Management Committees agenda. The agenda is posted on the Township Website and in the display case outside of the Township Administration Building for public review. The public will be notified on the Township Stormwater Management Committee webpage that the SWMP is being updated and/or revised.

A notice will be posted on the Township Website asking for public participation and review of the SWMP. A notice will also be printed in the local news media.

The Township also partners with the HRWC on a joint public participation program. Please see the attached Public Participation Program for the Huron River Watershed MS4s in Washtenaw County.

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

The Public Participation Program is required by the MDEQ 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
Village of Dexter
Eastern Michigan University
Pittsfield Charter Township
City of Ypsilanti

Ypsilanti Charter Township
Washtenaw County Water
Resources Commissioner
Washtenaw County Road
Commission
University of Michigan

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). 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 SAG 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: Notice will be provided upon release of a draft permit, no later than April 1, 2013.

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 DEQ and revision by MS4s. SWMPs will be made available when the draft permit becomes available for public review, sometime between April 1, 2013 and October 1, 2014.

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 SAG 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 posted to a HRWC web page and via e-mail distribution

Huron River Watershed

Public Participation Program

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 and MS4s will accept and consider comments from the public and MDEQ. After revising SWMPs, HRWC will post revised drafts and accept public comments for 30 more days before each MS4 finalizes their 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



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Mandy Grewal, Supervisor

Attachment #4
(Permit Question #4)

Public Education Program

I. Policy:

This policy is to establish the Pittsfield Charter Township procedure for the Public Education Program (PEP).

II. Background:

The MDEQ NPDES Phase II Stormwater Discharge Permit Application requires a procedure with the process for assessing the high priority community-wide issues and targeted issues to reduce pollutants in stormwater runoff.

III. Procedure:

Pittsfield Township partners with the Huron River Watershed Council (HRWC) and through this collaborative effort and the use of the Watershed Management Plan and water quality monitoring, we assess the high priority community-wide issues that will help reduce pollutants. Please see the attached Stormwater Discharge Permit Application Collaborative Public Education Plan.

In addition to this collaborative effort, Pittsfield Township bases their high priority issues on feedback we receive from residents and business owners within our community. Surveys have helped gauge the educational interests of our residents, and have helped us tailor our annual Stormwater Management Educational Seminar for residential homeowner's towards the issues that our residents are specifically concerned about.

Furthermore, each season (Winter, Spring, Summer, and Fall) Pittsfield Township dedicates a posting on the Township Website to a specific stormwater issue pertaining to that season. Each season has specific issues that can contribute to pollutants in stormwater runoff, and this is another way that we gauge the importance of our high priority community-wide issues.



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Mandy Grewal, Supervisor

Attachment #5
(Permit Question #5A)

Public Education Program

I. Policy:

This policy is to establish the Pittsfield Charter Township procedure for the Public Education Program (PEP).

II. Background:

The MDEQ NPDES Phase II Stormwater Discharge Permit Application requires a procedure with the process for identifying applicable PEP topics. The first topic, Item A, relates to promoting public responsibility and stewardship in the applicant's watershed.

III. Procedure:

This item is a high priority item for Pittsfield Township. The Township has indicated in their Stormwater Management Plan and Commitments to Action table that they will educate the entire Township on public responsibility and stewardship in the watershed. This target audience includes: Township residents, commercial businesses, developers, schools, and Township staff. One of the ways we will educate the public is through our Township Website. We have a link to the Huron River Watershed Council website and they provide information on their website about the current health of the watershed. The Township has also developed educational materials for distribution at Township events. These materials include:

- After the Storm brochure
- FOG (Fats, Oils, and Grease) brochure
- Maintaining Your Detention Pond brochure

In addition to these educational materials, the Township hosts a Stormwater Management Educational Seminar annually for Township residents, and a Fats, Oils, and Grease Educational Seminar for Township business owners. We have partnered with the Washtenaw County Water Resources Commissioners Office, Huron River Watershed Council, Washtenaw County Environmental Health Department, and Ypsilanti Utilities Community Authority for these seminars.

Additional steps are listed in the Township's Commitments to Action Plan which has been included with the permit application.

Please also see the attached Public Education Plan and Public Education Plan Table which highlights the collaborative work being completed between Pittsfield Township and the Huron River Watershed

Pittsfield Charter Township

PEP

Page 2

Council. Please note that Pittsfield Township is not participating in the items specifically labeled for Livingston County.



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Attachment #6
(Permit Question #5B)

Public Education Program

I. Policy:

This policy is to establish the Pittsfield Charter Township procedure for the Public Education Program (PEP).

II. Background:

The MDEQ NPDES Phase II Stormwater Discharge Permit Application requires a procedure with the process for identifying applicable PEP topics. The second topic, Item B, relates to informing and educating the public about the connection of the MS4 to area waterbodies and the potential impacts of discharges.

III. Procedure:

This item is a high priority item for Pittsfield Township. The Township has indicated in their Stormwater Management Plan and Commitments to Action table that they will educate the entire Township on public responsibility and stewardship in the watershed. This target audience includes: Township residents, commercial businesses, developers, schools, and Township staff. Through educational materials developed by the Township (After the Storm brochure, FOG brochure, and Maintaining Your Detention Pond) which are included on the Township's website, and through the use of educational materials from the Washtenaw County Water Resources Commissioners Office, Huron River Watershed Council, and Southeast Michigan Council of Governments we educate the public about the potential impacts that discharges could have on waters of the state.

Additional steps are listed in the Township's Commitments to Action Plan which has been included with the permit application.

Please also see the attached Public Education Plan and Public Education Plan Table which highlights the collaborative work being completed between Pittsfield Township and the Huron River Watershed Council. Please note that Pittsfield Township is not participating in the items specifically labeled for Livingston County.



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Attachment #7
(Permit Question #5C)

Public Education Program

I. Policy:

This policy is to establish the Pittsfield Charter Township procedure for the Public Education Program (PEP).

II. Background:

The MDEQ NPDES Phase II Stormwater Discharge Permit Application requires a procedure with the process for identifying applicable PEP topics. The third topic, Item C, relates to educating the public on illicit discharges and promoting public reporting on illicit discharges.

III. Procedure:

This item is a medium priority item for Pittsfield Township. The Township has indicated in their Stormwater Management Plan and Commitments to Action table that they will educate the entire Township on illicit discharges and promoting public reporting of illicit discharges. This target audience includes: Township residents, commercial businesses, developers, schools, and Township staff. Through educational materials developed by the Township (After the Storm brochure, FOG brochure) which are included on the Township's website, and through the use of educational materials from the Washtenaw County Water Resources Commissioners Office, Huron River Watershed Council, and Southeast Michigan Council of Governments we educate the public about the impacts of illicit discharges.

On the Pittsfield Township Stormwater webpage we include the number for the Washtenaw County Environmental Reporting Line for non-emergency issues, and direct the public to report illegal dumping or suspicious discharges and odors to 9-1-1.

Additional steps are listed in the Township's Commitments to Action Plan which has been included with the permit application.

Please also see the attached Public Education Plan and Public Education Plan Table which highlights the collaborative work being completed between Pittsfield Township and the Huron River Watershed Council. Please note that Pittsfield Township is not participating in the items specifically labeled for Livingston County.



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Attachment #8
(Permit Question #5D)

Public Education Program

I. Policy:

This policy is to establish the Pittsfield Charter Township procedure for the Public Education Program (PEP).

II. Background:

The MDEQ NPDES Phase II Stormwater Discharge Permit Application requires a procedure with the process for identifying applicable PEP topics. The fourth topic, Item D, relates to promoting preferred cleaning materials and procedures for car, pavement and power washing.

III. Procedure:

This item is a low priority item for Pittsfield Township. The Township has indicated in their Stormwater Management Plan and Commitments to Action table that they will educate the entire Township on promoting preferred cleaning materials and procedures for car, pavement, and power washing. This target audience includes: Township residents, commercial businesses, schools, and Township staff. Through educational materials developed by the Township (After the Storm brochure) which is included on the Township's website, and through the use of educational materials from the Washtenaw County Water Resources Commissioners Office, Huron River Watershed Council, and Southeast Michigan Council of Governments we educate the public about the impacts of cleaning materials.

Additional steps are listed in the Township's Commitments to Action Plan which has been included with the permit application.

Please also see the attached Public Education Plan and Public Education Plan Table which highlights the collaborative work being completed between Pittsfield Township and the Huron River Watershed Council. Please note that Pittsfield Township is not participating in the items specifically labeled for Livingston County.



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Attachment #9
(Permit Question #5E)

Public Education Program

I. Policy:

This policy is to establish the Pittsfield Charter Township procedure for the Public Education Program (PEP).

II. Background:

The MDEQ NPDES Phase II Stormwater Discharge Permit Application requires a procedure with the process for identifying applicable PEP topics. The fifth topic, Item E, relates to informing and educating the public on proper application and disposal of pesticides, herbicides, and fertilizers.

III. Procedure:

This item is a high priority item for Pittsfield Township. The Township has indicated in their Stormwater Management Plan and Commitments to Action table that they will educate the entire Township on the proper application and disposal of the above items. This target audience includes: Township residents, commercial businesses, schools, and Township staff. Through educational materials developed by the Township (After the Storm brochure) which is included on the Township's website, and through the use of educational materials from the Washtenaw County Water Resources Commissioners Office, Huron River Watershed Council, and Southeast Michigan Council of Governments we educate the public about the impacts of pesticides, herbicides, and fertilizers.

The Township includes SEMCOGs Seven Simple Steps to Clean Water brochure on the stormwater webpage. This item is also distributed at Township events. During the Stormwater Educational Seminar for Township homeowner's, we educate the public on the importance of the proper application and disposal of fertilizers.

Additional steps are listed in the Township's Commitments to Action Plan which has been included with the permit application.

Please also see the attached Public Education Plan and Public Education Plan Table which highlights the collaborative work being completed between Pittsfield Township and the Huron River Watershed Council. Please note that Pittsfield Township is not participating in the items specifically labeled for Livingston County.



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Attachment #10
(Permit Question #5F)

Public Education Program

I. Policy:

This policy is to establish the Pittsfield Charter Township procedure for the Public Education Program (PEP).

II. Background:

The MDEQ NPDES Phase II Stormwater Discharge Permit Application requires a procedure with the process for identifying applicable PEP topics. The sixth topic, Item F, relates to promote proper disposal practices for grass clippings, leaf litter, and animal wastes that may enter into the MS4.

III. Procedure:

This item is a high priority item for Pittsfield Township. The Township has indicated in their Stormwater Management Plan and Commitments to Action table that they will educate the entire Township on the proper disposal of grass clippings, leaf litter, and animal wastes. This target audience includes: Township residents and Township staff. Through educational materials developed by the Township (After the Storm brochure) which is included on the Township's website, and through the use of educational materials from the Washtenaw County Water Resources Commissioners Office, Huron River Watershed Council, and Southeast Michigan Council of Governments we educate the public about the proper disposal of grass clippings, leaf litter, and animal wastes.

The Township includes SEMCOGs Seven Simple Steps to Clean Water and Clean Up After Your Pet brochures on the stormwater webpage. This item is also distributed at Township events. During the Stormwater Educational Seminar for Township homeowner's, we educate the public on the importance of proper disposal of grass clippings, leaf litter, and animal wastes.

Additional steps are listed in the Township's Commitments to Action Plan which has been included with the permit application.

Please also see the attached Public Education Plan and Public Education Plan Table which highlights the collaborative work being completed between Pittsfield Township and the Huron River Watershed Council. Please note that Pittsfield Township is not participating in the items specifically labeled for Livingston County.



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Attachment #11
(Permit Question #5G)

Public Education Program

I. Policy:

This policy is to establish the Pittsfield Charter Township procedure for the Public Education Program (PEP).

II. Background:

The MDEQ NPDES Phase II Stormwater Discharge Permit Application requires a procedure with the process for identifying applicable PEP topics. The seventh topic, Item G, relates to identifying and promoting the availability, location, and requirements of facilities for collection or disposal of household hazardous wastes.

III. Procedure:

This item is a low priority item for Pittsfield Township. The Township has indicated in their Stormwater Management Plan that they will educate the Township identifying and promoting the availability, location, and requirements of facilities for collection or disposal of household hazardous wastes. This target audience includes: Township residents and Township staff. Through educational materials developed by the Township (After the Storm brochure) which is included on the Township's website, and through the use of educational materials from the Washtenaw County Water Resources Commissioners Office, we educate the public as it relates to these items.

The Township includes the Washtenaw County Water Resources Commissioners Office Prescription Drug and Personal Care Product Disposal on the stormwater webpage. This item is also distributed at Township events. During the Stormwater Educational Seminar for Township homeowner's, we educate the public on the Washtenaw County Home Toxics Reduction Program and pass out the tip card for this program.

Please also see the attached Public Education Plan and Public Education Plan Table which highlights the collaborative work being completed between Pittsfield Township and the Huron River Watershed Council. Please note that Pittsfield Township is not participating in the items specifically labeled for Livingston County.



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Attachment #12
(Permit Question #5H)

Public Education Program

I. Policy:

This policy is to establish the Pittsfield Charter Township procedure for the Public Education Program (PEP).

II. Background:

The MDEQ NPDES Phase II Stormwater Discharge Permit Application requires a procedure with the process for identifying applicable PEP topics. The eighth topic, Item H, relates to informing and educating the public on proper septic system care and maintenance, and how to recognize system failure.

III. Procedure:

This item is a low priority item for Pittsfield Township. The Township has indicated in their Stormwater Management Plan and Commitments to Action Plan that they will educate the Township on septic system maintenance. This target audience includes: Township residents and Township staff. Through educational materials developed by the Township (After the Storm brochure) which is included on the Township's website, we educate the public as it relates to these items.

Please also see the attached Public Education Plan and Public Education Plan Table which highlights the collaborative work being completed between Pittsfield Township and the Huron River Watershed Council. Please note that Pittsfield Township is not participating in the items specifically labeled for Livingston County.



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Attachment #13
(Permit Question #5I)

Public Education Program

I. Policy:

This policy is to establish the Pittsfield Charter Township procedure for the Public Education Program (PEP).

II. Background:

The MDEQ NPDES Phase II Stormwater Discharge Permit Application requires a procedure with the process for identifying applicable PEP topics. The ninth topic, Item I, relates to educating the public on, and promoting the benefits of, green infrastructure and low impact development.

III. Procedure:

This item is a high priority item for Pittsfield Township. The Township has indicated in their Stormwater Management Plan and Commitments to Action Plan that they will educate the Township on green infrastructure and low impact development. This target audience includes: Township residents, commercial businesses, developers, and Township staff.

The Township has developed a Natural Lawn Ordinance, No. 298, and a Natural Lawn Application for homeowner's. At our annual Stormwater Maintenance Educational Seminar, we discuss the importance of green infrastructure and low impact development with our Township residents. We have developed educational materials including the After the Storm brochure, and a Natural Lawn brochure which is still in development.

Furthermore, in our 2010 Pittsfield Plan (Master Plan) we have a Green Pittsfield chapter which discusses green infrastructure and low impact development.

Please also see the attached Public Education Plan and Public Education Plan Table which highlights the collaborative work being completed between Pittsfield Township and the Huron River Watershed Council. Please note that Pittsfield Township is not participating in the items specifically labeled for Livingston County.



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Attachment #14
(Permit Question #5J)

Public Education Program

I. Policy:

This policy is to establish the Pittsfield Charter Township procedure for the Public Education Program (PEP).

II. Background:

The MDEQ NPDES Phase II Stormwater Discharge Permit Application requires a procedure with the process for identifying applicable PEP topics. The tenth topic, Item J, relates to promoting methods for managing riparian lands to protect water quality.

III. Procedure:

This item is a low priority item for Pittsfield Township. The Township has indicated in their Stormwater Management Plan and Commitments to Action Plan that they will educate the Township on riparian lands. This target audience includes: Township residents, commercial businesses, developers, and Township staff.

The Township has developed a Natural Lawn Ordinance, No. 298, and a Natural Lawn Application for homeowner's. At our annual Stormwater Maintenance Educational Seminar, we discuss the riparian lands with our Township residents. We have developed educational materials including the Maintaining Your Detention Pond brochure, and a Natural Lawn brochure which is still in development.

Please also see the attached Public Education Plan and Public Education Plan Table which highlights the collaborative work being completed between Pittsfield Township and the Huron River Watershed Council. Please note that Pittsfield Township is not participating in the items specifically labeled for Livingston County.



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Attachment #15
(Permit Question #5K)

Public Education Program

I. Policy:

This policy is to establish the Pittsfield Charter Township procedure for the Public Education Program (PEP).

II. Background:

The MDEQ NPDES Phase II Stormwater Discharge Permit Application requires a procedure with the process for identifying applicable PEP topics. The eleventh topic, Item K, relates to identifying and educating commercial, industrial, and institutional entities likely to contribute pollutants to stormwater runoff.

III. Procedure:

This item is a low priority item for Pittsfield Township. The Township has indicated in their Stormwater Management Plan and Commitments to Action Plan that they will educate the Township on the above items. This target audience includes: commercial businesses, industrial businesses, institutional entities, developers, and Township staff.

The Township participates in the Community Partner for Clean Streams Program and provides a link to this program on the stormwater webpage.

Please also see the attached Public Education Plan and Public Education Plan Table which highlights the collaborative work being completed between Pittsfield Township and the Huron River Watershed Council. Please note that Pittsfield Township is not participating in the items specifically labeled for Livingston County.



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Attachment #16
(Permit Question #6)

Public Education Program

I. Policy:

This policy is to establish the Pittsfield Charter Township procedure for the Public Education Program (PEP).

II. Background:

The MDEQ NPDES Phase II Stormwater Discharge Permit Application requires a procedure with the process for evaluating and determining the effectiveness of the overall PEP.

III. Procedure:

Pittsfield Township works to increase the knowledge of our residents and business owners as it relates to reducing pollutants in stormwater runoff. Through the information we include on our Township Stormwater Management Committee webpage, the public seminars we host, the educational materials we develop, and the collaborative effort we engage in with the HRWC and various entities; we ensure that the public has sufficient access to information on reducing stormwater pollution.

Through the use of surveys, we can gauge the current knowledge of our residents and business owners and then develop upon any areas where additional knowledge may be needed.

Additional information is listed in the Township's Commitments to Action Plan which has been included with the permit application.

Please also see the attached Public Education Plan and Public Education Plan Table which highlights the collaborative work being completed between Pittsfield Township and the Huron River Watershed Council. Please note that Pittsfield Township is not participating in the items specifically labeled for Livingston County.

STORMWATER DISCHARGE PERMIT APPLICATION COLLABORATIVE PUBLIC EDUCATION PLAN (PEP)

October 1, 2014 – October 1, 2018

Brighton Township
Charter Township of Ypsilanti
Charter Township of Pittsfield
City of Ann Arbor
City of Brighton
City of Ypsilanti
Eastern Michigan University
Livingston County Drain Commissioner
Livingston County Road Commission
Village of Dexter
Village of Pinckney
Washtenaw County Road Commission
Washtenaw County Water Resources Commissioner

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Exhibit A – Table of PEP Tasks by Topic and Activity

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 Environmental Quality (MDEQ) 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, (Stormwater Discharge Permit Application, Public Education Program (PEP) p. 3).

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, (Stormwater Discharge Permit Application, Public Education Program (PEP) p. 3).

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, (Stormwater Discharge Permit Application, Public Education Program (PEP) p. 3).

- 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. Promote methods for managing riparian lands to protect water quality.
- K. 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, ([Stormwater Discharge Permit Application, Public Education Program \(PEP\) p. 3](#)).

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, ([Stormwater Discharge Permit Application, Public Education Program \(PEP\) p. 3](#)).

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:

- Brighton Township
- Charter Township of Ypsilanti
- Charter Township of Pittsfield
- City of Ann Arbor
- City of Brighton
- City of Ypsilanti
- Eastern Michigan University
- Livingston County Drain Commissioner
- Livingston County Road Commission
- Village of Dexter
- Village of Pinckney
- Washtenaw County Road Commission
- Washtenaw County Water Resources Commissioner

III. PROCEDURE FOR IDENTIFYING AND PRIORITIZING APPLICABLE PEP TOPICS

The public education topics A-K 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 quarterly group meetings and periodic subcommittee 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:

In addition to this collaborative effort, Pittsfield Township bases their high priority issues on feedback we receive from residents and business owners within our community. Surveys have helped gauge the educational interests of our residents, and have helped us tailor our annual Stormwater Management Educational Seminar for residential homeowner's towards the issues that our residents are specifically concerned about.

Furthermore, each season (Winter, Spring, Summer, and Fall) Pittsfield Township dedicates a posting on the Township Website to a specific stormwater issue pertaining to that season. Each season has specific issues that can contribute to pollutants in stormwater runoff, and this is another way that we gauge the importance of our high priority community-wide issues.

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-K 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		E	Inform and educate the public on proper application and disposal of pesticides, herbicides, and fertilizers.
High		I	Benefits of green infrastructure and Low Impact Development.
Medium		C	Illicit discharges and public reporting of illicit discharges and improper disposal of materials.
Low		J	Methods for managing riparian lands to protect water quality.
Low		H	Proper septic system care and maintenance, and how to recognize system failure.
Low		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.
Low		D	Promote preferred cleaning materials and procedures for car, pavement, and power washing.
Low		K	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.

Time lines for implementation of proposed activities extend from (year 1) when implementation of the PEP begins to (year 5) when the permit expires.

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), or created by the Southeast Michigan Council of Governments (SEMCOG), or 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-K. For example, the SEMCOG campaign 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-K

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. The calendar will, at least once during the permit cycle, include a mechanism for collecting evaluative feedback to measure the effectiveness of the piece itself or that will measure overall PEP effectiveness, see Section VII Evaluation of Effectiveness.
- 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.

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-J

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 tools. Sources for information include SEMCOG, HRWC, Washtenaw County, and Livingston County, MDEQ 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-K

Activity #4: Local Newspaper and Web Advertisements

Delivery Mechanism: Coordinated by HRWC, participating permittees will pay for local print news media and online advertising.

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-J

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 the Washtenaw County Water Resources Commissioner, the Livingston 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 program, 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: 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: K in particular, but also A-J

Activity #6: Promote and Support Volunteer Stream Monitoring

Delivery Mechanism: Permittees will support and assist in promoting the Huron River Watershed Council's Adopt-A-Stream Program. Efforts will include providing Adopt-A-Stream literature and posting volunteer event opportunities at customer service locations, on web sites and social media outlets and in newsletters. HRWC will provide information ongoing to permittees on Adopt-A-Stream volunteer opportunities prior to events.

Key Messages: Adopt volunteers assess habitat, water quality, and aquatic life in the Huron River and its tributaries as part of an ongoing scientific study. The Program strives 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 the program 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 spring, fall and winter.

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-J

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

Delivery Mechanism: Permittees will support and assist in promoting the Huron River Watershed Council’s Adopt-A-Stormdrain 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 stormdrains for adoption and recruiting public participation through distribution of promotional information and materials. Additionally The Water Resources Commissioner’s Office actively implements a catch basin marker program through the Community Partners for Clean Streams Program and the Homeowner’s Handbook. 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-Stormdrain program, number of drains labeled and flyers distributed.

Responsible Parties: Washtenaw County Water Resources Commissioner, permittees in Washtenaw County, school and community volunteers, HRWC.

Topics Addressed: A, B, C in particular

Activity #8: Promote Riparian Land Management Information

Delivery Mechanism: Coordinated by HRWC, the permittees will distribute a brochure promoting riparian best management practices to riparian landowners via local realtors and nursery/garden retail businesses. Brochures will 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 will 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: Brochure available by year 3.

Goal: Increase number of riparian landowners who implement BMPs.

Assessment: Number of brochures distributed, number of hits to supporting web page or phone calls 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: J

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-J

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

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: On-going quarterly collections.

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: G

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

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

Activity #14: Stream and River Crossing Road Signs Livingston and Washtenaw Counties

Description: The Washtenaw County Road Commission and the Livingston County Road Commission each will coordinate the design and placement of stream and road crossing signs on primary roads in their respective county 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: WCRC, LCRC and local community officials, permittees.

Topics Addressed: A

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 land owners. 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 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 land owners.

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

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: K

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

Delivery Mechanism: Weekly radio shows; 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).

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 Environmental Health Division. Promoted by permittees in Washtenaw County.
Topics Addressed: A-K

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 provided once 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-K

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

Delivery Mechanism: Community Partners for Clean Streams – Handbook Section 9; Fats, Oil and Grease brochure; and FOG presentations. FOG material distribution and presentations are coordinated through the Washtenaw County Environmental Health Department and Water Resources Commissioner’s Office.
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: K

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-K

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, J

Activity #22: Washtenaw County Home Toxics Reduction Program

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 Environmental Health Division and Permittees who promote the Home Toxic Reduction Program. Promoted by permittees in Washtenaw County.
Topics Addressed: G

Activity #23: Washtenaw County Drug Take-Back Program

Delivery mechanism:	County website, brochure, video, outlining proper disposal of unused prescription drugs and personal care (PDPC) products; network of local pharmacies (currently eight) 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 : http://www.ewashtenaw.org/government/departments/planning_environmental_environmental_issues/medications_disposal/).
Key Messages:	"Don't rush to flush," 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 pharmaceuticals brought into participating pharmacies.
Party Involved:	Washtenaw County Environmental Health and Water Resources Commissioner. Promoted by permittees in Washtenaw County.
Topics Addressed:	A, G

VI. EXISTING AND PROPOSED INDIVIDUAL PUBLIC EDUCATION BMPs

In addition to the items listed in Pittsfield Township's Stormwater Management Plan and Commitments to Action Plan, the following are items that the Township is implementing or has recently implemented.

Activity #1: After the Storm Brochure

Delivery Mechanism:	Pittsfield Township developed and printed an After the Storm brochure for our target audience within our Township. The brochure is located on the Township Website and has been handed out at various Township events. Through our previous Clean-Up Day event, this brochure was included in handouts to the residents who attended. Now the brochure is handed out to each new resident when they sign up for water and trash service through the Township.
Key Messages:	This brochure explains what stormwater runoff is, what a watershed is, and the effects of water pollution. It also breaks down residential, commercial, and construction BMPs.
Target Audience:	Residents, commercial businesses, developers, schools, Township staff
Year and Frequency:	On-going
Goal:	Increase the education of our residents on what stormwater is and how they can utilize the BMPs.
Assessment:	Number of materials distributed
Responsible Parties:	Pittsfield Charter Township
Topics Addressed:	A-F, H-I, K

Activity #2: Fats, Oils, and Grease Brochure

Delivery Mechanism: Pittsfield Township developed and printed a Fats, Oils, and Grease (FOG) brochure for our target audience within our Township. The brochure is located on the Township Website and has been handed out at various Township events. Through our Fats, Oils, and Grease seminar, this brochure was included in handouts to business owners who attended. The brochure will be included in future mailings for the FOG seminar to ensure that business owners who cannot participate in the seminar will still receive the educational material.

Key Messages: This brochure explains what FOG is and why it is a concern. It also breaks down the BMPs for dealing with FOG.

Target Audience: Commercial, industrial, and institutional entities

Year and Frequency: On-going

Goal: Increase the education of our business owners on what FOG is and how they can utilize the BMPs.

Assessment: Number of materials distributed

Responsible Parties: Pittsfield Charter Township

Topics Addressed: A-C, K

Activity #3: Maintaining Your Detention Pond Brochure

Delivery Mechanism: Pittsfield Township developed and printed a Maintaining Your Detention Pond brochure for our target audience within our Township. The brochure is located on the Township Website and will be handed out at various Township events. Through our Stormwater Management Educational seminar, this brochure will be included in handouts to the residents who attended.

Key Messages: This brochure explains detention pond basics, maintenance tasks, and a self-inspection checklist.

Target Audience: Residents

Year and Frequency: On-going

Goal: Increase the education of our residents regarding detention ponds and the maintenance and care of those ponds.

Assessment: Number of materials distributed

Responsible Parties: Pittsfield Charter Township

Topics Addressed: A, J

Activity #4: Fats, Oils, and Grease Seminar

Delivery Mechanism: Pittsfield Township hosts a Fats, Oils, and Grease seminar annually for our commercial, industrial, and institutional entities. We partner with the Washtenaw County Water Resources Commissioners (WCRC) Office, Huron River Watershed Council (HRWC), Ypsilanti Community Utilities Authority (YCUA), and Washtenaw County Environmental Health Department to host an educational seminar to educate our business owners about FOG and the proper disposal of FOG.

Key Messages: What is FOG, what are the effects of FOG, and the BMPs pertaining to the management of fats, oils, and grease.

Target Audience: Commercial, industrial, and institutional entities

Year and Frequency: Annually

Goal: Increase the education of our business owners about FOG and how to maintain their systems.
Assessment: Number of attendees and number of materials distributed
Responsible Parties: Pittsfield Charter Township
Topics Addressed: A-C, K

Activity #5: Stormwater Management Educational Seminar

Delivery Mechanism: Pittsfield Township hosts a Stormwater Management Educational seminar annually for our residents. We partner with the Washtenaw County Water Resources Commissioners (WCRC) Office and Huron River Watershed Council (HRWC) to host an educational seminar to educate our residents about a variety of stormwater management topics.

Key Messages: This seminar explains what stormwater runoff is, what a watershed is, and the effects of water pollution. It also covers various topics including fertilizer and pesticide use, disposal practices for grass clippings, leaf litter, and animal wastes, the disposal of household hazardous waste, volunteer efforts, storm drain labeling programs, green infrastructure, maintaining vehicles, car washing, wetland maintenance, stormwater facilities.

Target Audience: Residents

Year and Frequency: Annually

Goal: Increase the education of our residents pertaining to stormwater management.

Assessment: Number of attendees and number of materials distributed

Responsible Parties: Pittsfield Charter Township

Topics Addressed: A-J

Activity #6: Natural Lawn Care Brochure

Delivery Mechanism: Pittsfield Township is developing a Natural Lawn brochure for our target audience within our Township. The brochure will be located on the Township Website and will be handed out at various Township events. Through our Stormwater Management Educational seminar, this brochure will be included in handouts to the residents who attend.

Key Messages: This brochure explains natural lawn care, pest management, and seasonal lawn care tips.

Target Audience: Residents

Year and Frequency: On-going

Goal: Increase the education of our residents regarding natural lawns.

Assessment: Number of materials distributed

Responsible Parties: Pittsfield Charter Township

Topics Addressed: E, J

Activity #7: 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), or created by the Southeast Michigan Council of Governments (SEMCOG), or 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-K. For example, the SEMCOG campaign 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. Pittsfield Township will distribute educational materials at Township events, to new Township residents when they sign up for water and trash service, and will have educational materials on hand at the Township offices.
- Topics Addressed:** A-K

Activity #8: 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 tools. Sources for information include SEMCOG, HRWC, Washtenaw County, and Livingston County, MDEQ 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.

Pittsfield Township will include articles, resources, events and stewardship opportunities on our Township Website when the items are available for posting and distribution.

Topics Addressed: A-K

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. Pittsfield Township will include articles, resources, events and stewardship opportunities on our Township Website when the items are available for posting and distribution.

Topics Addressed: A-J

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	Contact If Known
Huron-Clinton Metropark Authority and Michigan State Parks	Environmental Education and Interpretive Programs	Dave Moilanen

Huron River Watershed Council	Water Quality Monitoring Program, Facilitation of Collaborative Permittee Activities, Information and Education Campaign	Ric Lawson and Pam Labadie
Livingston County Drain Commissioner	Workshops, Illicit Discharge & Dumping Response System, Educational Literature	Matt Bolang
Livingston County Health Department	Waste Water Management Program, Water Quality Monitoring Program	Matt Bolang
Livingston County Road Commission	Watershed signs	Kim Hiller
Livingston Solid Waste Management	Household Hazardous Waste Collection Site, composting, waste disposal and recycling	Robert Spaulding
MSU Extension – Livingston County	Horticulture & Natural Resources, Watershed Management, Lawn Care and other programs	Gretchen Voyle
MSU Extension -- Washtenaw County	Horticulture & Natural Resources, Watershed Management, Lawn Care and other programs	Bob Bricault
Michigan Department of Environmental Quality	Water Resources Division, Field Operations Section	Christe Alwin (Livingston County) Deb Snell (Washtenaw County)
Michigan Water Environment Association	Water Source Book	Jerry Harte, Executive Director
Southeast Michigan Council of Governments	Workshops, educational events, and public education materials	Amy Mangus
Washtenaw County Environmental Health Department	Water Quality Monitoring Program, Septic systems; Environmental Reporting Hotline	Leon Moore
Washtenaw County Road Commission	Watershed Signs	Steve Puuri
Washtenaw County Solid Waste Program	Household Hazardous Waste Collection, composting, waste disposal and recycling	Dan Moody, Solid Waste Coordinator
Washtenaw County Water Resources Commissioner	Community Partners for Clean Streams, Environmental Reporting Hotline, Educational Literature, River Safe Homes, Rain Garden Program	Evan Pratt

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 hits 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 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. 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 the MDEQ. Reporting on PEP efforts will reflect data gathered on a calendar year basis.

**STORMWATER DISCHARGE PERMIT APPLICATION
COLLABORATIVE PUBLIC EDUCATION PLAN (PEP) TABLE**

OCTOBER 1, 2014 - OCTOBER 1, 2018

FINAL

Public Education Topic	BMP Activity #	BMP Activity Description	Partner Collaboration	Target Audience	Key Message	Delivery Mechanism	Year	Frequency	Reponsible Party	Goal	Assessment
A-K	1	Public Information Materials	Yes	Public	A-K	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-J	2	Watershed Community Calendar	Yes	Residents	A-J	Printed 2-year calendar	1, 3, 5	Biannually	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-K	3	Educational Content	Yes	Public	A-K	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-J	4	Local Newspaper and Web or Other Advertising	Yes	Public	A-J	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
K primary, A-J secondary	5	Water Resource Protection Workshops	Yes	Residents	A-J	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-J secondary	6	Promote/Support Volunteer Stream Monitoring	Yes	Residents	A-J	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 Stormdrain 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
J	8	Riparian Land Management Information	Yes	Riparian Landowners	J	Print and/or digital materials	2, 4	On-going	HRWC/Permittees	Increase in incidents of riparian landowners implementing BMPs	Number of brochures distributed, hits to community and HRWC website where materials are posted
A-J	9	Local/Regional Community Events	Yes	Residents	A-J	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	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 dishcharges and improper disposals	Number of phone calls to reporting line, reduction in incidents, results of tracking and response system
A, 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	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	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 (PEP) TABLE**

OCTOBER 1, 2014 - OCTOBER 1, 2018

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Public Education Topic	BMP Activity #	BMP Activity Description	Partner Collaboration	Target Audience	Key Message	Delivery Mechanism	Year	Frequency	Reponsible Party	Goal	Assessment
A	14	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-J	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
K	16	Washtenaw County Pollution Prevention Inspections	Yes (to promote)	Washtenaw County businesses and Employees	K	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-K	17	Washtenaw County Issues of Environment Radio Show	Yes (to promote)	Washtenaw County Residents	A-K	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-K	18	Washtenaw County Environmental Excellence Awards	Yes (to promote)	Washtenaw County Businesses and Employees	A-K	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
K	19	Washtenaw County Fats, Oils, Grease Reduction	Yes (to promote)	Washtenaw County Businesses and Employees	K	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-K	20	Washtenaw County RiverSafe Homes Program	Yes (to promote)	Washtenaw County Residents	A-K	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 or participants or residents who are deemed to have RiverSafe homes
A, B, I, J	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, J	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 Reduction	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 Drug Take-Back 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 (PEP) TABLE**

OCTOBER 1, 2014 - OCTOBER 1, 2018

FINAL

Public Education Topic	BMP Activity #	BMP Activity Description	Partner Collaboration	Target Audience	Key Message	Delivery Mechanism	Year	Frequency	Responsible Party	Goal	Assessment
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PEP Topics:

- 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. Promote methods for managing riparian lands to protect water quality.
- K. Identify and educate commercial, industrial and institutional entities likely to contribute pollutants to stormwater runoff.

Permittees:

Brighton Township	Livingston County Drain Commissioner
Charter Township of Ypsilanti	Livingston County Road Commission
Charter Township of Pittsfield	Village of Dexter
City of Ann Arbor	Village of Pinckney
City of Brighton	Washtenaw County Road Commission
City of Ypsilanti	Washtenaw County Water Resources Commissioner
Eastern Michigan University	

STORMWATER DISCHARGE PERMIT APPLICATION
COLLABORATIVE PUBLIC EDUCATION PLAN TABLE

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. Promote methods for managing riparian lands to protect water quality.	Importance of riparian buffers and best management practices.
K. 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.



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Mandy Grewal, Supervisor

Attachment #17
(Permit Question #10)

Illicit Discharge Identification and Investigation

I. Policy:

This policy is to establish the Pittsfield Charter Township procedure for illicit discharge identification and investigation.

II. Background:

The MDEQ NPDES Phase II Stormwater Discharge Permit Application requires a procedure for performing field observations at all outfalls and points of discharge for the entire MS4 during dry-weather at least once during the permit cycle. The procedure shall include a schedule for completing the field observations during the permit cycle or more expeditiously if the applicant becomes aware of a non-stormwater discharge.

III. Procedure:

Field observations at all outfalls and points of discharge for the entire MS4 will be performed by utilities and grounds employees on a daily basis in conjunction with other utilities and grounds responsibilities. Utilities and grounds employees are all required to be trained to recognize all signs of possible illicit discharges.

The focus of the field observations shall be to observe the following:

- Presence/absence of flow
- Deposits/stains on the discharge structure or bank
- Vegetation condition
- Structural condition
- Biology, such as bacterial sheens, algae, and slimes
- Water clarity
- Color
- Odor
- Floatable materials



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Attachment #18
(Permit Question #11)

Illicit Discharge Identification and Investigation

I. Policy:

This policy is to establish the Pittsfield Charter Township policy for illicit discharge identification and investigation.

II. Background:

The MDEQ NPDES Phase II Stormwater Discharge Permit Application requires a procedure for performing field screening if flow is observed at an outfall or point of discharge and the source of an illicit discharge is not identified during the field observation. Field screening shall include analyzing the discharge for indicator parameters. Field parameters typically sampled for include: temperature, pH, total dissolved solids, ammonia, and conductivity. Lab parameters that are sampled for include E coli and surfactants. The procedure shall include a schedule for performing field screening.

III. Procedure:

If flow is observed at an outfall or point of discharge and the source of illicit discharge is not identified during the regular field observations, then the employee who finds the discharge will immediately notify their immediate supervisor about the problem. The Code Enforcement Officer will then conduct a field visit within one hour between 8:00 a.m. – 4:00 p.m. to investigate the report and open a BS&A report on the incident. Upon determination of an illicit discharge, the Code Enforcement Officer will also notify the Washtenaw County Environmental Health Department and the appropriate MDEQ District Office regarding the incident at the following phone numbers:

Washtenaw County Environmental Health Department – (734) 222-3800

Michigan Department of Environmental Quality – (800) 662-9278

A water sample will also be collected immediately upon determination of an illicit discharge and sent to the city of Ann Arbor to be assessed for pollutants. Upon determination from the lab, the owner of the property where the discharge was identified will be notified. If the pollutant source point cannot be identified, then the line will be televised to determine where the effluent is coming from. Once the source of the problem is identified, repairing the problem will commence as soon as possible.

The procedure is outlined below:

- 1) A field staff member identifies a possible illicit discharge.
- 2) The staff member informs their immediate supervisor about the violation.
- 3) The Code Enforcement Officer conducts a field visit to the site.
 - a) Photos are taken to document the violation.
 - b) Determine if the violation poses a possible health risk.
 - i) Notify the Washtenaw County Environmental Health Department.
 - ii) Notify the appropriate MDEQ District Office.
 - c) Open a BS&A report.
 - d) The property owner is notified of the violation.
- 4) A water sample is collected from the discharge.
 - a) The sample is sent to the City of Ann Arbor to be analyzed.
- 5) Identify the source of the violation.
 - a) If the pollutant source cannot be identified, then the line will be televised to determine where the effluent is coming from.
- 6) Repairing the source of the violation commences as soon as possible once the source has been identified.



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Attachment #19
(Permit Question #12)

Illicit Discharge Identification and Investigation

I. Policy:

This policy is to establish the Pittsfield Charter Township procedure for illicit discharge identification and investigation.

II. Background:

The MDEQ NPDES Phase II Stormwater Discharge Permit Application requires a procedure for performing a source investigation if the source of and illicit discharge is not identified by field screening. The procedure shall include a schedule for performing a source investigation.

III. Procedure:

As indicated in the policy for performing field screening if flow is observed at an outfall or point of discharge, Attachment #18, a source investigation will be carried out by televising the line to determine where effluent is coming from. Source investigations should be carried out within 30 days of identifying a problem. As-builds for a site may be pulled to assist in source investigation.



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Attachment #20
(Permit Question #13)

Illicit Discharge Identification and Investigation

I. Policy:

This policy is to establish the Pittsfield Charter Township procedure for illicit discharge identification and investigation.

II. Background:

The MDEQ NPDES Phase II Stormwater Discharge Permit Application requires a procedure for responding to illegal dumping/spills. The procedure shall include a schedule for responding to complaints, performing field observations, and follow-up field screening and source investigations as appropriate.

III. Procedure:

When a utilities field crew member identifies illegal dumping/spills, they immediately inform their direct supervisor, who then informs the Code Enforcement Officer of the problem. The Code Enforcement Officer will follow the same steps found in the Enforcement Response Procedure, Attachment #1, to address the issue. On weekdays from 8:00 a.m. to 4:00 p.m., site visits will be completed within one hour by the Code Enforcement Officer. Issues identified after hours will be addressed by the Code Enforcement Office next business day. If it is determined that the dumping/spills may pose a risk to public safety, then the Washtenaw County Environmental Health Department and MDEQ will be immediately contacted at the following phone numbers:.

Washtenaw County Environmental Health Department – (734) 222-3800
Michigan Department of Environmental Quality – (800) 662-9278



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Attachment #21
(Permit Question #15)

Illicit Discharge Identification and Investigation

I. Policy:

This policy is to establish the Pittsfield Charter Township procedure for illicit discharge identification and investigation.

II. Background:

The MDEQ NPDES Phase II Stormwater Discharge Permit Application requires a procedure for immediately reporting any release of any polluting materials from the MS4 to the surface waters or groundwaters of the state.

III. Procedure:

This policy is addressed as a part of the MS4's Field Screening Procedures, Attachment #18, and procedure for responding to illegal dumping/spills, Attachment #20.



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Attachment #22
(Permit Question #17)

Illicit Discharge Identification and Investigation

I. Policy:

This policy is to establish the Pittsfield Charter Township procedure for illicit discharge identification and investigation.

II. Background:

The MDEQ NPDES Phase II Stormwater Discharge Permit Application requires a procedure for responding to illicit discharges once the source is identified. The procedure shall specify the corrective action, and a schedule to eliminate the illicit discharge and pursue enforcement actions. The procedure shall also address illegal spills/dumping.

III. Procedure:

This policy is addressed as a part of the MS4's Field Screening Procedures, Attachment #18, and procedure for responding to illegal dumping/spills, Attachment #20.



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Attachment #23
(Permit Question #18)

Illicit Discharge Identification and Investigation Training and Evaluation

I. Policy:

This policy is to establish the Pittsfield Charter Township program for IDEP training and evaluation.

II. Background:

The MDEQ NPDES Phase II Stormwater Discharge Permit Application requires a program to train staff employed by Pittsfield Charter Township on identifying an illicit discharge or connection and the proper procedure for reporting and responding to an illicit discharge or connection. At a minimum, existing staff shall be trained at least once during the permit cycle and new hires within the first year of their hire date.

III. Procedure:

All employees who work as field staff must complete a training program within the first year of their hire date and as needed thereafter. Training will be provided by various municipalities in the area, and training dates will therefore depend on the schedules of those who are providing the courses. IDEP courses are provided by Wayne County, the City of Ann Arbor, and other local municipalities. Field staff departments that are required to take IDEP courses include Utilities, Grounds, Building Inspectors, and Code Enforcement. Records of staff completion of IDEP courses will be kept on a spreadsheet that will be maintained by the Stormwater Staff Liaison.



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Mandy Grewal, Supervisor

Attachment #24
(Permit Question #19)

Illicit Discharge Identification and Investigation Training and Evaluation

I. Policy:

This policy is to establish the Pittsfield Charter Township program for IDEP training and evaluation.

II. Background:

The MDEQ NPDES Phase II Stormwater Discharge Permit Application requires a procedure for evaluating and determining the overall effectiveness of the IDEP.

III. Procedure:

IDEP effectiveness can be gauged by the following methods:

- Monitoring the frequency of hotline use and associated confirmed illicit discharges
- Number of discharges corrected
- Indicator sampling results for specific streams, outfalls, and storm drains
- Status of enforcement actions
- Number of discharges found by field staff

Data for these indicators will be assembled by the Stormwater Liaison twice during the permit cycle and assessed in order to improve the IDEP.



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Mandy Grewal, Supervisor

Attachment #25
(Permit Questions #20-27)

Illicit Discharge Ordinance

I. Policy:

This policy is to establish the Pittsfield Charter Township program for Illicit Discharge Ordinance.

II. Background:

The MDEQ NPDES Phase II Stormwater Discharge Permit Application requires a procedure for an ordinance or regulatory mechanism that prohibits non-stormwater discharges into the applicant's MS4, prohibits discharges from firefighting activities, prohibits discharges as identified in permit question #22 a-k, regulates the contribution of pollutants, prohibits illicit discharges including illicit connections and direct dumping, establishes the authority to inspect, investigate, and monitor suspected illicit discharges, enforces elimination of illicit discharges, and includes a schedule for eliminating illicit discharges.

III. Procedure:

Pittsfield Charter Township has drafted a regulatory mechanism to prohibit non-stormwater discharges into our MS4. The regulatory mechanism is attached for review. Pittsfield Township works in cooperation with the Huron River Watershed Council (HRWC) and has attached the IDEP Memorandum of Understanding.



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Attachment #26
(Permit Questions #20-27)

Illicit Discharge Regulatory Mechanism

The purpose of this regulatory mechanism is to provide for the health, safety, and general welfare of the citizens of Pittsfield Charter Township 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 Environmental Quality (MDEQ). 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.

1. Discharge Prohibitions

- a. Prohibition of Illicit Discharges. 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.
- b. The following discharges are not prohibited (unless identified as significant contributors of pollutants to the MS4).
 - i. Water line flushing, landscape irrigation, diverted stream flows, rising ground waters, uncontaminated pumped ground water, discharges from potable water sources, foundation drains, air conditioning condensation, irrigation water, springs, water from crawl space pumps, footing drains, lawn watering, individual residential car washing, flows from riparian habitats and wetlands, de-chlorinated swimming pool discharges, and street wash water.
 - ii. Firefighting activities are not prohibited unless the discharge is identified as a significant source of pollutants to waters of the State.

2. Prohibition of Illicit Connections

- a. The construction, use, maintenance or continued existence of illicit connections to the MS4 is prohibited.
- b. 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.
- c. 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.
- d. Improper connections in violation of this regulatory mechanism must be disconnected and redirected.
- e. Illicit discharge and connections will be eliminated immediately.

3. Inspection & Monitoring

- a. Right of Entry: Inspecting and Sampling. The Township owns and maintains their points of discharge and as such is permitted to inspect facilities subject to regulation under this regulatory mechanism as often as may be necessary to determine compliance with this regulatory mechanism.
- b. The Township has ready access to all parts of the premises for the purposes of inspection, sampling, and examination.
- c. The Township has the right to set up on any facility such devices as are necessary to conduct monitoring and/or sampling of the facility's stormwater discharge.

Memorandum of Understanding
Cooperative Illicit Discharge Elimination Program Elements
June 27, 2014

This Memorandum of Understanding (MOU) is between all attached signatories, representing Municipal Separate Storm Sewer System (MS4) owners or operators within Livingston and Washtenaw Counties. For purposes of this MOU the Huron River Watershed is limited to the census defined urbanized area within the Huron River watershed in Livingston and Washtenaw Counties. The primary purpose of the MOU is to establish cooperative elements of dry-weather screening programs to detect and eliminate illicit discharges to MS4s owned or operated by any of the signatories, and ultimately remove pollutants from the river systems (or waters of the State).

This MOU will accompany applications to the Michigan Department of Environmental Quality (DEQ) for MS4 stormwater discharge permits under the National Pollutant Discharge Elimination System (NPDES). The MOU is submitted to address portions of permit application elements under section VII.10 through VII.17.

We the undersigned acknowledge the importance of illicit discharge elimination programs (IDEP) for improving and protecting surface waters of the State as valuable water resources for the residents, aquatic life, and wildlife, and agree to the following:

1. All signatory MS4 owners or operators have or will develop IDEP plans and will submit details of these plans or programs as part of a Storm Water Management Plan (SWMP), to apply for an NPDES permit to discharge stormwater to waters of the state.
2. As part of the permit application, each IDEP will include procedures for performing field observations at outfalls identified in priority areas. Each MS4 will identify a method for prioritizing areas or outfalls within their jurisdiction. Watershed-wide priorities will be discussed at watershed group meetings for inclusion in MS4 IDEP programs.

3. On at least an annual basis, the Huron River Watershed Council (HRWC) will share results of its Water Quality Monitoring Program with signatory MS4s. Results will include data on nutrients and bacteria from short and long-term surface water sites throughout the watershed. HRWC will recommend priority drainages for IDEP. Signatory MS4s will utilize the results to determine or update priority areas and prioritize field observations at outfalls upstream of monitoring sites with water quality impairments (potential illicit discharge areas). The HRWC will review the periodic stormwater reports from signatory MS4s so that HRWC can better identify future monitoring sites.

5. In situations where one MS4 discharges into a downstream MS4, the *downstream MS4* will do the following:
 - A. Conduct field observations following procedures and schedules established in its SWMP. Any agreement for sharing the cost of such outfall screening will be made separate to this MOU.
 - B. In the event that a potential illicit discharge is observed, downstream MS4 staff will conduct field screening and perform a source investigation following procedures in its SWMP.
 - C. If the source of an illicit discharge is traced back to an upstream MS4 point of discharge, downstream MS4 staff will contact the designated upstream MS4 staff and provide them with investigation details and any lab analysis results within 24 hours of receipt by the downstream MS4 staff. Downstream MS4 staff will report any discharge of pollutants to waters of the state to the DEQ following procedures in its IDEP plan.

6. In the event that an illicit discharge is reported by a downstream MS4 as emanating from the upstream MS4, the upstream MS4 will do the following according to schedules and procedures in their IDEP:
 - A. MS4 staff will implement the procedure for performing a field observation and source investigation as appropriate in accordance with their IDEP.
 - B. Following completion of source investigation, MS4 staff will communicate a report of results, including notification to the next upstream MS4 if that is the confirmed origination of the illicit discharge, in their periodic stormwater report to the DEQ.

- C. If an illicit discharge source is identified, the upstream MS4 will pursue remedial action with the source, as identified in its IDEP.
7. If an illicit discharge has been eliminated, staff will document the closure of the detection incident according to their agency's procedures.
 8. In the event of an unresolved illicit discharge detection that was originally traced to a discharge point from the upstream MS4, the upstream MS4 will assume the responsibility of investigating the discharge and any follow-up actions in accordance with its IDEP.
 9. Any signatory may terminate its involvement in this MOU at any time for any reason. Notice of such termination shall be given in writing to all other signatories prior to the effective date of termination. In such an event, the permittee terminating involvement in this MOU shall notify the DEQ prior to terminating and submit a revised application with an updated IDEP.
 10. This MOU shall cover the duration of the NPDES permits issued in 2014. The signatories may agree to renew the MOU.
 11. No signatory makes any admission of fact or law, or waives any claim, right, or argument against anyone or any entity by becoming a signatory to this MOU or by acting under it. Nothing in this MOU shall create any claim, right, or argument in any third party.

Pittsfield Charter Township:

/s/ Mandy Grewal, Ph.D., Supervisor

July 10, 2014

/s/ Alan Israel, Clerk

July 10, 2014



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Attachment #27
(Permit Question #29)

Construction Stormwater Runoff Control

I. Policy:

This policy is to establish the Pittsfield Charter Township procedure construction stormwater runoff control.

II. Background:

The MDEQ NPDES Phase II Stormwater Discharge Permit Application requires a procedure with the process for notifying the Part 91 Agency or appropriate staff when soil or sediment is discharged to the applicant's MS4 from a construction activity. The procedure shall allow for the receipt and consideration of complaints or other information submitted by the public identified internally as it relates to construction stormwater runoff control. For non-Part 91 agencies, consideration of complaints may include referring the complaint to the qualifying local Soil Erosion and Sedimentation Control Program as appropriate. Construction activity is defined pursuant to Part 21, Wastewater Discharge Permits, Rule 323.2102 (K). The applicant may consider as part of their procedure when and under what circumstances the Part 91 Agency or appropriate staff will be contacted.

III. Procedure:

The Township's MDEQ certified soil erosion inspectors will normally detect any soil or sediment entering the Township's MS4. The inspector will document all details of the soil erosion and sedimentation control deficiency and report to the Township Engineer. In the event of a public complaint, the party involved will be directed to the Code Enforcement Officer who will then notify the Township Engineer.



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Attachment #28
(Permit Question #30)

Construction Stormwater Runoff Control

I. Policy:

This policy is to establish the Pittsfield Charter Township procedure construction stormwater runoff control.

II. Background:

The MDEQ NPDES Phase II Stormwater Discharge Permit Application requires a procedure for when to notify the MDEQ when soil, sediment, or other pollutants are discharged to the applicant's MS4 from a construction activity. Other pollutants include pesticides, petroleum derivatives, construction chemicals, and solid wastes that may become mobilized when land surfaces are disturbed.

III. Procedure:

To date, the Township has never encountered a situation where there was a need to notify the MDEQ for soil and sediment pollution of the Township's MS4. Per the Township Soil Erosion and Sedimentation Control (SESC) Ordinance, the Township will issue a Municipal Civil Infraction fine for any SESC violations that are not handled in an acceptable manner. If soil and sediment pollution reaches a water of the state, then the Township Engineer will notify the MDEQ Environmental Quality Analyst. In the event that other pollutants are discharged into the Township's MS4, the Township's Code Enforcement Officer will notify the MDEQ.



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Attachment #29
(Permit Question #31)

Construction Stormwater Runoff Control

I. Policy:

This policy is to establish the Pittsfield Charter Township procedure construction stormwater runoff control.

II. Background:

The MDEQ NPDES Phase II Stormwater Discharge Permit Application requires a procedure for ensuring that construction activity one acre or greater in total earth disturbance with the potential to discharge to the MS4 obtains a Part 91 permit, or is conducted by an approved Authorized Public Agency as appropriate.

III. Procedure:

The Township Engineer conducts site plan reviews. Any developer requiring a Part 91 permit will be directed to the permit application process during the site plan review. The Part 91 permit is required to be obtained by the developer prior to any earth change. Per the Township Soil Erosion and Sedimentation Control (SESC) Ordinance, any earth change started prior to the issuance of a permit results in the permit fee being doubled.



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Attachment #30
(Permit Question #32)

Construction Stormwater Runoff Control

I. Policy:

This policy is to establish the Pittsfield Charter Township procedure construction stormwater runoff control.

II. Background:

The MDEQ NPDES Phase II Stormwater Discharge Permit Application requires a procedure to advise the landowner or recorded easement holder of the State of Michigan Permit by Rule 323.2190.

III. Procedure:

An NPDES permit application is provided to the land owner or record easement holder at the pre-construction meeting or during the Soil Erosion and Sedimentation Control (SESC) plan review process.



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Attachment #31
(Permit Question #33)

Post Construction Stormwater Runoff Control Ordinance

I. Policy:

This policy is to establish the Pittsfield Charter Township post construction stormwater runoff control ordinance or other regulatory mechanism.

II. Background:

The MDEQ NPDES Phase II Stormwater Discharge Permit Application requires that an ordinance or other regulatory mechanism be in effect to address post-construction stormwater runoff from new development and redevelopment projects, including preventing or minimizing water quality impacts. The ordinance or other regulatory mechanism shall apply to private, commercial, and public projects, including projects where the applicant is the developer.

III. Procedure:

Proper post-construction stormwater runoff is ensured by several regulatory mechanisms that apply to private, commercial, and public projects. The stormwater management of new developments is carefully analyzed by the Township during the site plan review process and is regulated by the Township Engineering Standards, Washtenaw County Water Resources (WCWRC) Standards, Soil Erosion and Sedimentation Control (SESC) Standards and the Township SESC Site Plan Checklist. MDEQ certified SESC inspectors ensure vegetative stabilization of new developments. The inspectors follow the Township's SESC Standard Operating Procedures. To ensure long-term maintenance, proprietors must enter into a Stormwater Maintenance Agreement, where the proprietor agrees to inspect, repair and maintain the storm drainage system within the development. In the event that this does not occur, the Township has the right to conduct the work.

The standards and maintenance agreement referenced above can all be found as attachments to this document, with the exception of WCWRC Standards, which can be found at:

http://www.ewashtenaw.org/government/drain_commissioner/dc_webPermits_DesignStandards/dc_Rules/frontpage



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Attachment #32
(Permit Question #34)

Post Construction Stormwater Runoff Control Ordinance

I. Policy:

This policy is to establish the Pittsfield Charter Township post construction stormwater runoff control ordinance or other regulatory mechanism.

II. Background:

The MDEQ NPDES Phase II Stormwater Discharge Permit Application requires that an ordinance or other regulatory mechanisms that address post-construction stormwater runoff apply to projects that disturb at least one or more acres, including projects less than an acre that are part of a larger common plan of development or sale and discharge into the MS4.

III. Procedure:

The Township Site Plan Ordinance requires all developments to submit a site plan. This in turn triggers the regulatory mechanisms to address post-construction stormwater runoff from new development and redevelopment projects.



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Attachment #33
(Permit Question #37)

Post Construction Stormwater Runoff Control

I. Policy:

This policy is to establish the Pittsfield Charter Township post construction stormwater runoff control to address water quality treatment performance standards.

II. Background:

The MDEQ NPDES Phase II Stormwater Discharge Permit Application requires that an ordinance or other regulatory mechanism include water quality treatment standards to treat the first one inch of runoff from the entire site or treat the runoff generated from 90 percent of all runoff-producing storms.

III. Procedure:

The Township uses its Engineering Standards and the Washtenaw County Water Resources Commissioners (WCWRC) Office Standards as regulatory mechanisms for water quality treatment. These mechanisms require treatment and detention of the first inch of runoff as well as the 100-year storm event (4.9-inches of rain over 24 hours).



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Attachment #34
(Permit Question #39)

Post Construction Stormwater Runoff Control

I. Policy:

This policy is to establish the Pittsfield Charter Township post construction stormwater runoff control to address water quality treatment performance standards.

II. Background:

The MDEQ NPDES Phase II Stormwater Discharge Permit Application asks if an ordinance or other regulatory mechanism requires that BMPs are designed on a site-specific basis to reduce post-development total suspended solids loadings by 80 percent or achieve a discharge concentration of total suspended solids not to exceed 80 milligram per liter.

III. Procedure:

The Township uses its Engineering Standards and the Washtenaw County Water Resources Commissioners (WCWRC) Office Standards as regulatory mechanisms. The section of the Engineering Standards pertaining to this question can be found under Question #54, Attachment #37.

The Washtenaw County Water Resources Commissioners (WCWRC) Office Standards can be found at:

http://www.ewashtenaw.org/government/drain_commissioner/dc_webPermits_DesignStandards/dc_Rules/frontpage



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Attachment #35
(Permit Question #40)

Channel Protection Performance Standards

I. Policy:

This policy is to establish the Pittsfield Charter Township channel protection performance standards.

II. Background:

The MDEQ NPDES Phase II Stormwater Discharge Permit Application requires that an ordinance or other regulatory mechanism require that the post-construction runoff rate and volume of discharges not exceed the pre-development rate and volume for all storms up to the two-year, 24-hour storm at the site. At a minimum, pre-development is the last land use prior to the planned new development or redevelopment.

III. Procedure:

The regulatory mechanisms used to ensure the runoff rate and volume of discharges do not exceed the pre-development conditions are the Washtenaw County Water Resources Commissioners (WCWRC) Office Standards and the Township's Engineering Standards. An allowable release rate of 0.15 cfs per acre of pre-developed land is the standard for detention design.



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Attachment #36
(Permit Question #42)

Site-Specific Requirements

I. Policy:

This policy is to establish the Pittsfield Charter Township site-specific requirements.

II. Background:

The MDEQ NPDES Phase II Stormwater Discharge Permit Application requires a procedure for reviewing the use of infiltration BMPs to meet the water quality treatment and channel protection standards for new development or redevelopment projects in areas of soil or groundwater contamination in a manner that does not exacerbate existing conditions.

III. Procedure:

The Township Engineering Standards require the review of the use of infiltration BMPs to meet water quality treatment and channel protection standards for all new development projects. For redevelopment projects, the Engineering Standards require a hydrogeological study if groundwater information warrants further investigation, as well as a Phase I and/or Phase II environmental impact study, if the site warrants. The Township Engineer is responsible for determining whether such studies are necessary for each site.



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Attachment #37
(Permit Question #54)

Regulatory Mechanisms to Require Site Plan Reviews

I. Policy:

This policy is to establish the Pittsfield Charter Township regulatory mechanisms to require site plan reviews.

II. Background:

The MDEQ NPDES Phase II Stormwater Discharge Permit Application requires that an ordinance or other regulatory mechanism include a requirement to submit a site plan for review and approval of post-construction stormwater runoff BMPs.

III. Procedure:

The Township's Site Plan Ordinance details what type of developments are required to submit a site plan for review. Approval of post-construction stormwater runoff BMPs is accomplished during the site plan review process. Chapter 2: Plan Requirements and Chapter 5: Stormwater Management of the Engineering Standards has been included following this attachment.

Chapter 2

PLAN REQUIREMENTS FOR SITE PLANS AND ENGINEERING REVIEWS

2.01 General Requirements:

- A. All plans for land improvements shall be prepared on standard white prints with black lines, shall be drawn to an engineering scale, and shall be neatly and accurately prepared. Where more than one sheet is required to show the entire site, match lines shall be provided.
- B. Plans submitted for Planning Commission review shall consist of four (4) rolled sets at twenty-four (24) inch by thirty-six (36) inch and ten (10) reduced sets at eleven (11) inch by seventeen (17) inch.
- C. All plans submitted for Engineering or Administrative review shall consist of four (4) rolled sets at twenty-four (24) inch by thirty-six (36) inch and ten (10) reduced sets at eleven (11) inch by seventeen(17) inch. One electronic copy in digital format shall be submitted with each plan set. Plans submitted for review to outside agencies shall be date-stamped received by Pittsfield Charter Township at the time of the plan set submittal for Planning Commission review. The applicant shall be responsible for submitting the stamped plans to the appropriate outside reviewing agencies. All fees associated with outside agency reviews shall be the responsibility of the applicant and shall be paid to those agencies by the applicant.
- D. All plans shall be prepared by a professional engineer registered in the State of Michigan whose seal shall be affixed to the first sheet.
- E. Each sheet in a set of plans shall show the name and general description of the property; date; scale; north arrow; title of each sheet; and the name, address, and telephone number of the person or firm that prepared the sheet. Each sheet in a set shall be numbered consecutively, beginning with “sheet 1” and shall have proper match lines or other keys to provide reasonable continuity and orientation. Sheets shall be ordered in the plan set to provide reasonable continuity.
- F. The north arrow shall be displayed on the right side of the sheet and the plan shall be oriented such that north is up or to the left.
- G. The scales throughout the set of plans shall be standard engineering scales and shall be consistent throughout. The scale shall be no greater than 1 inch = 40 feet, unless specifically requested.

Pittsfield Charter Township
Engineering Standards
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- H. All elevations shall be based on the North American Vertical Datum 1988 (NAVD 88) and shall be noted as such.
- I. Overhead utility lines shall be identified and re-located underground.
- J. With each re-submittal, the preparer shall provide a written response of revisions made to the plans.

2.02 Information Required for Construction Plans:

- A. All information required for a preliminary and final site plans.
- B. Location and overall dimensions of existing structures and drives.
- C. The first sheet in each set shall be the title sheet and shall include, at a minimum:
 - 1. Site and zoning data.
 - 2. Sheet index with consecutively numbered sheets.
 - 3. All revision dates.
 - 4. Project name at the top of the sheet.
 - 5. Parcel Identification Number at the top of the sheet under the project name.
 - 6. Address of the site at the top of the sheet under the project name.
 - 7. Vicinity map.
 - 8. The name of the project and the Township identifying number (i.e. CSPA xx-xx) shall also be located in the lower right corner.
- D. A fire protection sheet shall be included which shows the following items and nothing else:
 - 1. Roads.
 - 2. Parking lots.
 - 3. Driveways.
 - 4. Buildings.
 - 5. Ingress/egress points.

Pittsfield Charter Township
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6. Building heights and uses.
 7. Water main.
 8. Domestic water service.
 9. Fire service lead.
 10. Hydrants.
 11. Post indicator valves (PIV).
 12. Fire department connections (FDC).
 13. Meter rooms.
 14. Township fire apparatus turning template with dimensions maneuvering site.
 15. Three hundred (300) feet hose lay lines.
 16. Fire lane no parking signs.
- E. A storm drainage narrative shall be included clearly and concisely describing the intended method of designing the storm drainage systems, including drainage areas, existing and proposed; detention or retention basins and discharge concepts; storm sewer and ditch design criteria; Washtenaw County Water Resources Commissioner development criteria; and downstream capacity limitations. The narrative should be interspersed with all associated computations as they are developed. The narrative should be prepared on standard 8 ½-inch by 11-inch sheets dated, numbered and titled; and include the name, address and telephone number of the person or firm that prepared it. Maps of similar size portraying the concepts involved should also be included.
- F. Nonresidential site plans shall provide access throughout the site for the WB-50 design semi-truck and the Township L-3 Fire Apparatus. Plans shall include both templates maneuvering the site with the appropriate template detail. Templates may be obtained from the Township website.
- G. A permanent benchmark shall be established for each project and be shown on the plans.
- H. Soil Erosion and Sedimentation Control Plan. Such plan shall be developed according to the Pittsfield Township Soil Erosion and Sedimentation Control Checklist.

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- I. Proposed structures; addresses; distance between existing structures; finished floor elevations; basement floor elevations; finished grade elevations; indication of a walkout or a viewout; and sill elevations if a viewout.
- J. Phase I and/or Phase II environmental impact study, if site warrants. To be determined by the Township Engineer.
- K. Drives or street names; right-of-way or easement width; surface type and width; surface elevations; location and type of curbs; length and width of turning lanes; curve radii.
- L. Proposed parking areas – number and size of spaces; location of each space; type of surface; aisle width; angle of spaces; location of wheel stops and/or curbs, where applicable.
- M. Proposed fences or screens – location; height; type; typical details, including elevations and sections.
- N. Photometric Plan:
 - 1. The Photometric Plan shall be a scaled plan and shall show the layout of the entire site including:
 - a. Property Lines;
 - b. Roadways;
 - c. Driveways;
 - d. Parking Areas;
 - e. Sidewalks; and
 - f. Existing and Proposed Building Locations.
 - 2. The Photometric Plan shall also include the following minimum information:
 - a. Location of all site lights including:
 - i. Area lights;
 - ii. Driveway lights;
 - iii. Pedestrian lights;
 - iv. Building mounted lights;

Pittsfield Charter Township
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- v. Canopy lights;
 - vi. Sign lights; and
 - vii. Landscape lights.
- b. A Luminaire Schedule indicating:
- i. Type (“A”, “B”, “C”, etc.);
 - ii. Manufacturer;
 - iii. Model Number;
 - iv. Lamp Type;
 - v. Lumen output;
 - vi. Wattage;
 - vii. Number of Head; and
 - viii. I. E. S. photometric file number used for calculations for each luminaire.
- c. Mounting height for each luminaire.
- d. Photometric grid spacing shall be 20 feet x 20 feet maximum.
- e. Footcandle levels at all property lines.
- f. A Photometric Summary/Statistics Table indicating:
- i. Maximum, Minimum and Average footcandle levels; and
 - ii. Maximum-to Minimum and Average-to-Minimum ratios.
- g. Limit the actual calculation zone to roadways, parking lots and pedestrian areas. Areas where light levels are less than 0.1 footcandle shall not be included in calculations.
3. Residential plans shall also include:
- i. Cut-sheets for proposed luminaires;
 - ii. Visual files (Lithonia Lighting); and
 - iii. IES photometric files for use in analyzing the lighting plan.

Pittsfield Charter Township
Engineering Standards
Chapter 2 – Plan Requirements

- O. Retaining Walls:
 - 1. Location; dimensions.
 - 2. Materials of wall and fill.
 - 3. Typical vertical sections.
 - 4. Design calculations for all walls exceeding 4 feet or walls adjacent to parking.
 - 5. Weep tile material and size.

- P. Drinking Water System:
 - 1. Material type and size of lines.
 - 2. Location of fire hydrants and valves.
 - 3. Profiles below their respective plan views.
 - 4. Location of meter room.
 - 5. Location of irrigation meter pits and water meter schematic.
 - 6. Fire riser schematic.
 - 7. Calculations for the sizing of the domestic and fire service lead.

- Q. Wastewater Collection System:
 - 1. Material type and size of lines.
 - 2. Inverts with direction and size annotated.
 - 3. Location and size of manholes.
 - 4. Profiles below their respective plan views.
 - 5. Design basis.

- R. Stormwater Management System:
 - 1. Dimensions.
 - 2. Cross sections.
 - 3. Material type and size of storm sewers.

Pittsfield Charter Township
Engineering Standards
Chapter 2 – Plan Requirements

4. Location and centerline elevations of swales or ditches.
 5. Inverts with direction and size annotated
 6. Direction of flow.
 7. Overflow route of surface drainage when the 10 year event is exceeded.
 8. Profiles of storm sewers.
 9. Culverts.
 10. Design basis.
- S. Proposed interior plumbing plans:
1. Location.
 2. Size.
 3. Material type of lines.
 4. Floor drains.
 5. Roof drains and their respective interconnectivity.
 6. Water lines.
 7. Domestic and fire.
 8. Size.
 9. Valving.
 10. Backflow prevention.
- T. Franchise Utilities Services (Electrical, Telephone, Cable, and Gas):
1. Location of underground lines and surface equipment/ cabinets.
- U. All water, sanitary sewer, and storm drainage lines and appurtenances together with all streets, lot lines, and outlines of all existing and proposed buildings, shall be shown on one sheet in each construction set of plans.
- V. Evidence of approval by or letter of “no jurisdiction” by:
1. Michigan Department of Environmental Quality – wetlands, lakes, streams, dams, floodplain.

Pittsfield Charter Township
Engineering Standards
Chapter 2 – Plan Requirements

2. Michigan Department of Transportation.
 3. Washtenaw Country Road Commission.
 4. Washtenaw County Water Resources Commissioner’s office. For site plans not within the jurisdiction of the WCWRC, a review and technical approval of the stormwater management concepts shall be obtained.
 5. Washtenaw County Environmental Health – wells, septic systems.
 6. City Ann Arbor.
- W. Proposed building and address numbers.
- X. If a site plan is approved as a Drainage District, evidence that the Drainage District is established.
- Y. If off-site easements are required to connect to public utilities, evidence that the easement has been recorded.
- Z. Temporary Dewatering Plan, if requested by the Township Engineer. Specifications shall be integrated into the plans that address impacts on adjacent properties, wells and wetlands. The amount and location of flow at the discharge point and well abandonment plan shall also be shown on the plans.
- AA. A hydrogeological study, if requested by the Township Engineer, that investigates the fluctuation of groundwater and anticipated high groundwater elevations throughout the site.
- BB. Current Township specifications and Detail Sheets.
- CC. Design basis with supporting calculations for water and wastewater.
- DD. All design shall be consistent with chapters 3-14 of the Current Engineering Standards.

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Chapter 5

STORMWATER MANAGEMENT

5.01 General:

- A. All construction shall be in accordance with the current “Pittsfield Township Storm Sewer” specifications and details. Specifications and details must be included with the construction plan and are located on the Township’s website.
- B. All storm water systems shall be shown in plan and profile on standard twenty-four (24) inch by thirty-six (36) inch white prints having blue or black lines and shall be neatly and accurately prepared to an engineering scale.
- C. A quantities table itemizing all proposed storm sewer and manholes shall be included in the plans.
- D. Storm sewer location, material, size, length and all easements shall be shown on the plan and profile view.
- E. All utilities shall be shown which cross or parallel proposed storm sewer.
- F. The minimum horizontal separation between storm sewer and any other utility shall be 10 feet.
- G. The minimum vertical separation between storm sewer and any other utility shall be 18 inches. Top of pipe and bottom of pipe elevation shall be provided at each crossing in the profile.
- H. No storm sewers or appurtenances should be constructed or allowed to remain under or within 20 feet of structural improvements. This does not pertain to edge drain or roof drains.
- I. Compaction of trenches is required in roadway corridors and parking lots (Class II Granular Backfill at 95% compaction). Roadway corridors constitute front of house to front of house in residential developments.
- J. Improved open drains may be permitted only if the road cross-section or proposed use so warrants.
- K. The 1% chance flood area elevation contour shall be provided on the plan. If no floodplain exists, a note shall be indicated on the plan.

Pittsfield Charter Township
Engineering Standards
Chapter 5 – Stormwater Management

- L. Sump pump discharge lines shall directly tie into the nearest catch basin or enclosed storm sewer. The sump pump discharge line shall include back flow prevention.
- M. Design calculations shall be submitted for:
 - 1. Storm sewers.
 - 2. Drainage ditches.
 - 3. Detention basins and retention basins.
 - 4. Restricted discharges.
- N. The applicant shall submit evidence that the storm drainage plan has been approved by the following agencies, if they have jurisdiction:
 - 1. Michigan Department of Transportation (MDOT).
 - 2. Michigan Department of Environmental Quality (MDEQ).
 - 3. Washtenaw County Road Commission (WCRC).
 - 4. Washtenaw County Water Resources Commissioner (WCWRC).
 - 5. City of Ann Arbor.
- O. Storm drainage systems shall be designed at a minimum, in accordance with current WCWRC's rules. The method for computing storm runoff shall be based on WCWRC's standards.
- P. Shop drawings shall be submitted by the underground contractor for all storm sewer and appurtenances that will be installed. Shop drawings will consist of letters of certification for all pipe, manufacturer's standard details or cut sheets for generic structures and appurtenances, and manhole component parts list. Shop drawings must be approved prior to construction activity beginning.
- Q. Hard copy and electronic "as-built" plans shall be submitted by the developer and reviewed by the Township Engineer after construction is complete. These plans shall show the as-built location and elevation of all storm sewers and appurtenances per the Township's current requirements. The approved electronic "as-built" plan shall be in AutoCAD format.
- R. All storm sewer materials and construction shall comply with the current Township Standard Specifications, Details and Shop Drawing Checklist.

5.02 Sizes and Distribution:

- A. The minimum size for storm sewers shall be 12-inches in diameter. However, a sump pump lead or roof drain which accepts no direct surface runoff may be a minimum of 6-inches in diameter.
- B. Storm sewer design computations shall be submitted for review on a sewer design form/spreadsheet. These calculations shall also be provided on the plan set.

5.03 Depth of Sewer:

- A. Minimum depth of cover to top of pipe should be 3 feet, except in rear yards where minimum cover shall be 1 foot.
- B. The maximum depth to invert of any storm sewer shall not exceed the depth recommended by the manufacturer for each size and class of pipe.

5.04 Easements:

- A. All storm sewers must be located in a public right-of-way or an easement.
- B. Easements shall be provided to the appropriate authority for all storm sewers, storm drains and swales. These easements shall be prepared, executed and recorded by the developer prior to final acceptance within three (3) months after Township approval. Easements shall be prepared in a form acceptable to Pittsfield Township and the WCWRC.

5.05 Profile:

- A. A continuous stationed profile shall be provided for the storm sewer, through the detention basin and outlet structure.
- B. The following information shall be included in the storm sewer profile:
 - 1. Continuous stationing shall be provided in the plan and profile.
 - 2. All manholes, uniquely numbered.
 - 3. Length of run between manholes.
 - 4. Type and class of pipe between manholes.
 - 5. Size of pipe between manholes.
 - 6. Rim and invert elevations of all manholes.
 - 7. Storm sewer slope.

Pittsfield Charter Township
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Chapter 5 – Stormwater Management

8. Hydraulic gradient line for the 10 year storm; maintained a minimum 2 feet below the top of all structures.
9. Existing and proposed ground elevation along the route of the storm sewer.
10. All utility crossings with top of pipe and bottom of pipe elevations. (18 inch minimum clearance)
11. Sand backfill areas compacted to 95% under the influence of pavement, shown graphically.

5.06 Grade:

- A. Sewer slopes shall provide a minimum flowing full velocity of 3 feet per second and maximum flowing full velocity of 10 feet per second.
- B. Where sufficient grade is available, storm sewers shall be constructed at a depth adequate to allow for gravity drainage of the building footing drains. Where grade is not available to allow for gravity drainage of the footing drains, a sump with pump shall be provided for each building with the pump discharge connected to the enclosed sewer system or directed to an on-site improved open drain.

5.07 Structures:

- A. In residential developments, drainage structures shall be located at every other lot line, thus reducing the need for rear yard cross lot drainage swales.
- B. All manholes shall be watertight, made of precast concrete, and have a minimum inside diameter of 48 inches. Landings are required when the depth exceeds 20 feet.
- C. Manholes and catch basins shall be consecutive numbered.
- D. Clear openings in manholes shall be a minimum of 24 inches.
- E. Maximum spacing between storm drainage structures shall be per current WCWRC standards.
- F. In general, street catch basins shall comply with the standards of the Washtenaw County Road Commission and shall be located as follows:
 1. At the radius return of street intersections. There should be a maximum distance of 150 feet along the street between a high point and a corner catch basin when drainage is required to traverse the corner. No drainage will be permitted to enter into the intersection.

Pittsfield Charter Township
Engineering Standards
Chapter 5 – Stormwater Management

2. At all low points in streets.
 3. At intermediate points along the street such that there is a maximum distance of 400 feet along the street between a high point and a catch basin or from a previous intercepting catch basin.
 4. At each corner of intersections with public roads to prevent drainage from passing through the intersection.
- G. Storm drainage structures, other than manholes, shall meet the following minimum requirements:
1. 24-inch diameter structures are permitted if the depth from rim to top of the bottom slab is less than 5 feet and the structure is at the head of a run. Structures with a depth greater than 5 feet shall have a minimum inside diameter of 4 feet.
 2. Clear openings in structures shall be a minimum of 24 inches.
 3. Sumps will be used only where specifically required; such as by the WCRC, WCWRC or prior to discharge to a wetland.
- H. Structures shall be located at:
1. Changes in grade.
 2. Change in direction.
 3. Change in pipe size.
 4. At junctions.
 5. At the end of the sewer.
 6. Every other rear lot corner where stormwater is drained or carried through a rear yard such as a swale.

5.08 Service Leads:

- A. The location, type, length, and slope of building service connections shall be shown on the plan.

5.09 Detention/Retention:

- A. Stormwater capacity shall be provided for the temporary detention of stormwater runoff from the 100-year/24 hour storm event, the bankfull flood (1.5-year/24 hour storm event) and the first flush volume (the runoff from the first 0.5 inch of

Pittsfield Charter Township
Engineering Standards
Chapter 5 – Stormwater Management

rain from the entire contributing watershed). Design shall be consistent with the WCWRC standards.

- B. Sediment forebays shall be provided at the inlet of all stormwater management facilities to provide energy dissipation and to trap incoming sediments. Forebays shall be designed per the current WCWRC rules.
- C. Method for stormwater detention include, but are not limited to, the following:
 - 1. Deep permanent lake/retention basin.
 - 2. Landscaped shallow dry detention basin.
 - 3. Underground storage.
 - 4. Low Impact Design (i. e. Bioswales, infiltration, etc.)
 - 5. Roof storage.
 - 6. Combination of the above.
- D. Discharge from the developed site shall not exceed the maximum rate of discharge which occurred on the undeveloped site.
- E. Deep permanent lakes/retention basins shall:
 - 1. Be at least 10 feet deep over 2/3 the surface area, or have mechanical aeration or supplemental well supply.
 - 2. Have in-water slopes not steeper than 1 vertical on 5 horizontal for the first 20 feet; and 1 vertical on 3 horizontal from there to the bottom.
 - 3. Not be closer than 20 feet from any structure at maximum elevation.
 - 4. Have a discharge for both normal use and emergency use.
 - 5. Have their retention calculated only above the outlet invert.
 - 6. Where retention is required due to an insufficient outlet, the stormwater capacity design of the retention basin shall be consistent with the current WCWRC standards.

5.10 Storm Water Quality:

- A. A storm water treatment device may be required prior to discharge from the site. New development will be reviewed on an individual basis.

- B. Means for delivery and maintenance of storm water treatment structures shall be specified.

5.11 Structure Schedule:

- A. A storm sewer structure schedule shall be provided on the plans showing each manhole, catch basin and end section by number that includes:
 - 1. Structure type.
 - 2. Casting type.
 - 3. Rim elevation.
 - 4. All invert elevations with size and direction.
 - 5. Depth.
 - 6. Sump (Yes or No).

5.12 Stormwater Management Maintenance Agreement:

- A. A stormwater management maintenance agreement, satisfactory to the Township, shall be executed by the property owner prior to obtaining a certificate of occupancy.

5.13 Materials:

- A. Allowable sewer pipe is reinforced concrete (C76-Class IV). Allowable culvert pipe is reinforced concrete or corrugated metal pipe (CMP). Allowable underground storage pipe is reinforced concrete or HDPE.

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Pittsfield Charter Township
Department of Utilities & Municipal Services

6201 West Michigan Avenue, Ann Arbor, MI 48108
Phone: (734) 822-3101 • Fax: (734) 944-1103
Website: www.pittsfield-mi.gov

Craig Lyon
Director of Utilities &
Municipal Services
lyonc@pittsfield-mi.gov

Mandy Grewal, Supervisor

Attachment #38
(Permit Question #55)

Procedure for Site Plan Review

I. Policy:

This policy is to establish the Pittsfield Charter Township procedure for site plan review.

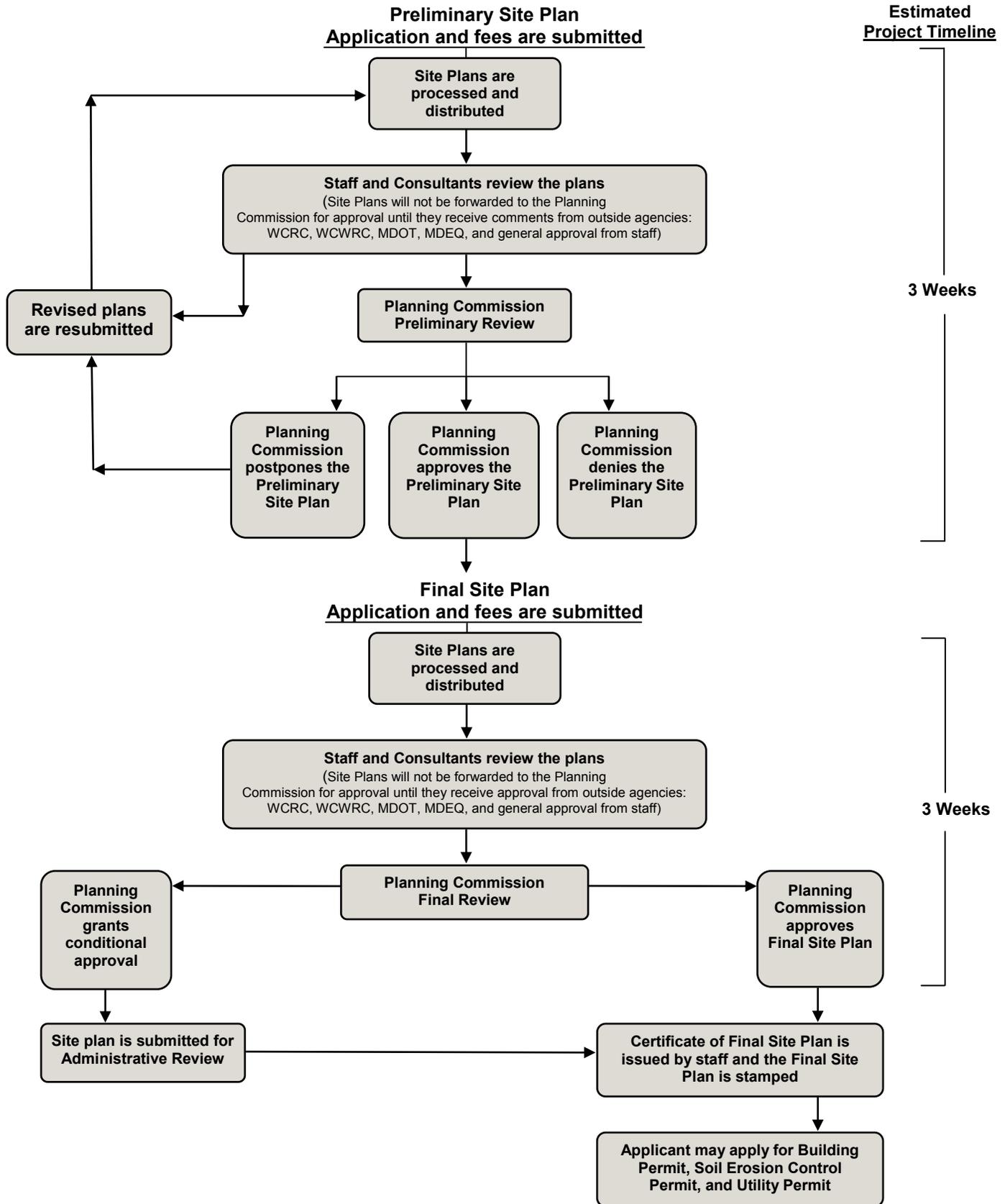
II. Background:

The MDEQ NPDES Phase II Stormwater Discharge Permit Application requires a procedure for site plan review and approval.

III. Procedure:

The procedure for site plan review and approval is regulated by the Township's Site Plan Ordinance and the Engineering Standards. The procedure for site plan review and approval is detailed on the Commercial Site Plan Application Flowchart which is attached, and is also available on the Township website at the following location:

<http://mi-pittsfieldtownship.civicplus.com/DocumentCenter/View/517>





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Department of Utilities & Municipal Services

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Craig Lyon
Director of Utilities &
Municipal Services
lyonc@pittsfield-mi.gov

Mandy Grewal, Supervisor

Attachment #39
(Permit Question #56)

Procedure for Site Plan Review

I. Policy:

This policy is to establish the Pittsfield Charter Township procedure for site plan review.

II. Background:

The MDEQ NPDES Phase II Stormwater Discharge Permit Application requires a process for determining how the developer meets the performance standards and ensures long-term operation and maintenance of BMPs. This should be included in the site plan review and approval procedure.

III. Procedure:

The developer meets the performance standards by being held to the Washtenaw County Water Resources Commissioners (WCWRC) Office Standards, the Pittsfield Township Engineering Standards and the Pittsfield Township Site Plan Ordinance during the site plan review process. Long-term operation and maintenance of BMPs are ensured by the Stormwater Maintenance Agreement which has been attached.



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Department of Utilities & Municipal Services

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lyonc@pittsfield-mi.gov

Mandy Grewal, Supervisor

Attachment #40
(Permit Question #57)

Long-Term Operation and Maintenance of BMPs

I. Policy:

This policy is to establish the Pittsfield Charter Township procedure for the long-term operation and maintenance of BMPs.

II. Background:

The MDEQ NPDES Phase II Stormwater Discharge Permit Application requires that the ordinance or other regulatory mechanisms require the long-term operation and maintenance of all structural and vegetative BMPs installed and implemented to meet the performance standards in perpetuity.

III. Procedure:

The Stormwater Management Long-Term Maintenance Agreement and Plan requires the proprietor to ensure long-term operation and maintenance of BMPs. This agreement has been attached.



Pittsfield Charter Township
Department of Utilities & Municipal Services

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Craig Lyon
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Municipal Services
lyonc@pittsfield-mi.gov

Mandy Grewal, Supervisor

Attachment #41
(Permit Question #58)

Long-Term Operation and Maintenance of BMPs

I. Policy:

This policy is to establish the Pittsfield Charter Township procedure for the long-term operation and maintenance of BMPs.

II. Background:

The MDEQ NPDES Phase II Stormwater Discharge Permit Application requires that the ordinance or other regulatory mechanisms require a maintenance agreement between the applicant and owners or operators responsible for the long-term operation and maintenance of structural and vegetative BMPs installed and implemented to meet the performance standards.

III. Procedure:

The Stormwater Management Long-Term Maintenance Agreement and Plan is the regulatory mechanism that requires maintenance of BMPs. The agreement binds the proprietor, its successor and assigns, and any person or entity claiming any right or ownership in the development and runs with the land.

**STORM WATER MANAGEMENT
LONG-TERM MAINTENANCE AGREEMENT AND PLAN**

THIS AGREEMENT is made this _____ day of _____, 20___, by and between the Pittsfield Charter Township, a municipal corporation, with principal offices located at 6201 W. Michigan Ave. Ann Arbor, Michigan 48108, hereinafter "Township" and _____ a _____ Michigan _____, with principal offices located _____, hereinafter "Proprietor".

RECITALS

1. Proprietor is developing certain property located in Pittsfield Charter Township, Washtenaw County, Michigan as _____ ("Development") and as more particularly described in Exhibit "C" attached hereto.
2. The Proprietor must construct a storm water management system to provide adequate drainage in the proposed Development as more particularly described in Exhibit "A" attached hereto.
3. The Township and Proprietor desire that the storm water management system to be constructed in the Development be maintained in perpetuity to ensure that it functions properly as designed and in conformity with applicable laws and regulations.

NOW, THEREFORE, for and in consideration of the mutual covenants and benefits to be derived hereunder, the receipt, adequacy and sufficiency of which is hereby acknowledged, and fully incorporating the above-stated recitals into the agreement, the Township and the Proprietor agree as follows:

AGREEMENT

1. The Proprietor shall fully, completely and unconditionally assume the obligations of maintaining the storm water management system in the Development as follows:
 - A. The Proprietor agrees it will inspect, repair, and maintain, at its own expense, the storm drainage system which is located within the Development in conformity with all applicable laws and regulations and in conformity with this Agreement. If Proprietor fails to do so, then, upon reasonable notice to Proprietor, The Township may enter upon said premises for the purposes of inspecting, repairing and maintaining said storm drainage system, in which event the Proprietor agrees to pay to the Township all reasonable charges and expenses incurred thereon.

2. The Proprietor, its agents, representatives, successors and assigns shall defend, indemnify and hold the Township harmless from and against any claims, demands, actions, damages, injuries, costs or expenses of any kind or nature whatsoever, hereinafter "Claims", fixed or contingent, known or unknown, arising out of or in any way connected with the design, construction, use, inspection, maintenance, repair or operation (or omissions in such regard) of the storm drainage system which is the subject of this Agreement. This indemnity and hold harmless shall include reasonable costs, expenses and attorney fees incurred by the Township in connection with such Claims or the enforcement of this Agreement.

3. This agreement shall bind the Proprietor, its successors and assigns, and any person or entity claiming any right or ownership in the Development and shall run with the land.

4. This Agreement shall be recorded at Proprietor's expense with the Washtenaw County Register of Deeds.

5. Despite the indication of the drafter indicated below, which is included for recording purposes only, this Agreement shall not be construed in favor or against either Proprietor or Township, as it is the result of their mutual efforts.

IN WITNESS WHEREOF, the Proprietor and Township have executed this Agreement on the day and year first above written.

WITNESSES:

Name of Entity

By:

Its:

STATE OF MICHIGAN)
)ss:
COUNTY OF _____)

The foregoing instrument was acknowledged before me this ____ day of ____, 201__ by _____, who stated under oath that s/he is the _____ of the _____ and that this easement was signed on behalf of the _____, by authority of its _____, and s/he acknowledged the granting of this easement to be the free act and deed of the _____.

Notary Public
_____ County, Michigan
Acting in Washtenaw County
My commission expires: _____

INSTRUMENT DRAFTED BY:
Pittsfield Charter Township

WHEN RECORDED RETURN TO:
Pittsfield Charter Township
Attn: Mr. Alan Israel, Clerk
6201 W. Michigan Avenue
Ann Arbor, MI 48108

EXHIBIT A

Map Depicting Physical Limits of Storm Water Management System.

EXHIBIT B

Detention Pond/Forebay

REQUIRED MAINTENANCE:

- Check the outlet regularly for clogging and clean when necessary (annually).
- If necessary based on surroundings, mow grass side slopes (two times per year).
- Inspect entire system at least annually including inlet/outlet pipes, restricted outlet structure(s), animal grates and filters.
- Check banks and bottom for erosion and correct as necessary (annually).
- Remove sediment when accumulation reaches six inches or if resuspension is observed.
- Reseed banks near inlet/outlet and stabilize eroded banks as necessary.
- Add grasses such as sedges and rushes.
- Remove dead vegetation (early spring) that obstructs flow.

If the outlet is pumped, then only a licensed electrician or company that provided the pump system should conduct any maintenance. Chemicals should not be applied to your detention basin, side slopes or buffer strip.

Manufactured/Underground Detention System

REQUIRED MAINTENANCE:

- Check the outlet regularly for clogging and clean when necessary (annually).
- Inspect entire system including inlet/outlet pipes, restricted outlet structure(s), and water quality structures (two times per year).
- Clean detention system if its volume has been reduced by more than 10 percent due to accumulation of silt and sediment.

Storm Sewer Collection System

REQUIRED MAINTENANCE:

- Check the outlet regularly for clogging and clean when necessary (annually).
- Inspect entire storm sewer distribution system (two times per year).
- Clean storm sewer structures when accumulation of silt and sediment reaches 6-inches or greater.
- Clean grates on inlets, outlets, and other storm sewer structures should be cleaned regularly.
- Water channels should be cleaned regularly.

**Upon completion of annual routine inspections,
documentation shall be provided to Pittsfield Township**

Mail to:

Pittsfield Charter Township
6205 W. Michigan Avenue
Ann Arbor MI 48108

Attn: Department of Utilities and Municipal Services

EXHIBIT C

Legal Description of Property.



Pittsfield Charter Township
Department of Utilities & Municipal Services

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Website: www.pittsfield-mi.gov

Craig Lyon
Director of Utilities &
Municipal Services
lyonc@pittsfield-mi.gov

Mandy Grewal, Supervisor

Attachment #42
(Permit Question #59)

Long-Term Operation and Maintenance of BMPs

I. Policy:

This policy is to establish the Pittsfield Charter Township procedure for the long-term operation and maintenance of BMPs.

II. Background:

The MDEQ NPDES Phase II Stormwater Discharge Permit Application requires that the maintenance agreement allow the applicant to inspect the structural or vegetative BMP, perform the necessary maintenance or corrective actions neglected by the BMP owner or operator, and track the transfer of operation and maintenance responsibility of the BMP.

III. Procedure:

The structural or vegetative BMP is inspected throughout the construction process and continued until stabilization is achieved. The Stormwater Management Long-Term Maintenance Agreement and Plan states that if the proprietor fails to perform the necessary maintenance, the Township may enter the property for the purpose of inspecting, repairing, and maintaining the storm drainage system.



Pittsfield Charter Township
Department of Utilities & Municipal Services
 6201 West Michigan Avenue, Ann Arbor, MI 48108
 Phone: (734) 822-3130 Fax: (734) 944-1103
 Website: www.pittsfield-mi.gov Email: planning@pittsfield-mi.gov

Soil Erosion and Sedimentation Control Application

Applicant Requirement Checklist
<input type="checkbox"/> Project Fees (must be paid by cash or check when application is submitted) <i>Administrative Fee is non-refundable. Application will not be processed until full payment is received</i>
<input type="checkbox"/> Completed Application Form with completed Township SESC Checklist
<input type="checkbox"/> Three (3) full size sets of the Soil Erosion and Sedimentation Control Plan
<input type="checkbox"/> Written statement from the property owner authorizing Designated Agent to obtain permit in property owner's name

:: OFFICE USE ::
SEC# _____ - _____
Admin Fee \$ _____
Escrow Fee \$ _____
Performance Deposit \$ _____
Total \$ _____

Property Information
_____ Or _____
General Location of Site _____ Street Number _____ Street Name _____
Parcel I.D. # L-12 - _____ - _____ - _____ Subdivision: _____

Project Information
Please provide a description of the project: _____ _____
Name of Project: _____
Project Start Date: _____ Project Completion Date: _____
Size of Earth Change (round up to nearest acre): _____ Itemized Cost of Soil Erosion Control (please attach): _____
Name and Distance to nearest lake, stream, or drain: _____
Chronological Sequence and expected time of year for each major phase of earth disruption (attach list if necessary): _____ _____ _____

Performance Deposit (Cash Bond)
A Performance Deposit (Cash Bond) must be submitted with the Permit Application. See attached Fee Schedule.
Amount Required \$ _____ <input type="checkbox"/> Cash <input type="checkbox"/> Certified Check

Proposed Earth Change
Project Type: <input type="checkbox"/> Residential <input type="checkbox"/> Multi-Family <input type="checkbox"/> Commercial <input type="checkbox"/> Industrial <input type="checkbox"/> Land Balancing <input type="checkbox"/> Stockpiling _____
<input type="checkbox"/> Other: _____
National Pollutant Discharge Elimination System (NPDES) Permit Required ≥ 5 acres: <input type="checkbox"/> Yes <input type="checkbox"/> No

Please Complete Reverse Side →

:: Office Use ::	Time Stamp
Received By: _____ (Initials)	

Applicant Information

(Please Print)

Applicant is the: Property Owner Designated Agent

Company Name (If Applicable) _____ Applicant's Name _____

Address _____ City _____ State _____ Zip _____

(_____) _____ (_____) _____
Contact Number Fax Number Email Address

By signing below, the Applicant agrees that they are responsible for replenishing any Escrow Accounts that may become delinquent.

Signature of Applicant _____ Date _____

Property Owner Information

(Please Print)

Property Owner's Name _____ (_____) _____
Contact Number

Address _____ City _____ State _____ Zip _____

Email Address _____ (_____) _____
Fax Number

Preparer of Soil Erosion and Sedimentation Control Plan

(Please Print)

Company Name _____ Contact Name _____

(_____) _____ (_____) _____
Contact Number Fax Number Email Address

Parties Responsible for Earth Change

(Please Print)

Company Name _____ Name of "On-Site" Responsible Individual _____

Address _____ City _____ State _____ Zip _____

(_____) _____ (_____) _____
Contact Number Fax Number Email Address

Applicant's Compliance Agreement

I (we) affirm that the above information is accurate and that I (we) will conduct the above-described earth change in accordance with Part 91, Soil Erosion and Sedimentation Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended, applicable local ordinances, and the documents accompanying this application. The property owner takes ultimate responsibility for compliance with all permitted activity.

Property Owner's Signature _____ Property Owner's Name (Please Print) _____ Date _____

Designated Agent's Signature _____ Designated Agent's Name (Please Print) _____ Date _____

Soil Erosion and Sedimentation Control Plan Checklist

General Requirements

The Soil Erosion and Sedimentation Control (SESC) Plan shall show all proposed improvements on the site to scale, as well as existing and proposed contours at 2-foot intervals. If revisions are deemed necessary, **three (3) copies** of revised SESC plan shall be submitted for each subsequent review until the plan has been given approval by the Township, at which point three (3) copies will be required for permit approval.

Item No.	Item	Shown	N/A	Comments
1.	Plan at scale of not more than 1"=200', including legal description, location, proximity to lakes, streams, or wetlands, and predominant land features			
2.	A soils survey or a written description of soil types of the exposed land area			
3.	Limits of earth disruption			
4.	Existing vegetation and predominant land surface features			
5.	Description and location of all existing and proposed on-site drainage and dewatering facilities. If dewatering is necessary, a Dewatering Plan must be submitted prior to construction			
6.	Detailed sequence of construction shown on the plans, including a time schedule for the installation of soil erosion and sedimentation control measures			
7.	Description and location of all proposed temporary and permanent soil erosion and sedimentation control measures			
8.	Program proposal for continued maintenance and individual responsible for permanent soil erosion and sedimentation control measures			
9.	Grading Plan submitted			
10.	Itemized Cost Analysis of all temporary and permanent soil erosion and sedimentation control measures			
11.	Description of how to install each control measure			
12.	Potential stockpile areas shown with a note stating "silt fence shall be installed and maintained around perimeter of such stockpile, if stockpile will be large and is expected to be on-site for a period of time."			
13.	Construction mud tracking entrance: minimum depth of 6-inches of 1 x 3-inch limestone, minimum length of 100 feet, width 20 feet			
14.	Silt fence: prominent line type in legend, 6-inch minimum anchor trench, stakes 6-foot maximum spacing, stakes driven into ground 1-foot minimum			
15.	Inlet filters: all storm structures within vicinity of project and road(s) adjacent to project, including maintenance program			
15. a	Dandy Bags for all existing and proposed catch basins			
15. b	Beaver dams, in addition to Dandy Bags for all curb style catch basins			
16.	Sedimentation basins: should be at least four times long as wide, with the inlet and outlet at opposite ends, and a proposed schedule of cleaning out when 40 to 50 percent filled			

Please Complete Reverse Side →

Soil Erosion and Sedimentation Control Plan Checklist (Continued)

Item No.	Item	Shown	N/A	Comments
17.	Detention basins: seed and stabilize immediately upon achieving final grade, and follow Washtenaw County Water Resource Commission (WCWRC) approved specifications			
18.	Swirl chamber: Noted to inspect weekly for sediment accumulation until site is stabilized, and will clean as required			
19.	Potential storm water runoff and soil loss with corresponding calculations			
20.	Soil stabilization:			
20. a	Drainage ditches and slopes steeper than 1:4 (25%) stabilized with erosion control blanket			
20. b	Steep slopes that do not take upon initial seeding must be re-seeded and stabilized with erosion control blankets			
21.	Tree protection fence: standard 48" high snow or construction fence, 6-foot maximum spacing of stakes, fence located outside drip-line			
22.	Landscaping Notes:			
22. a	Stabilization must be started within five (5) days of final grade. Use 4-inches of topsoil, minimum			
22. b	Where excavation has been through lawn areas, the contractor shall restore the disturbed area by placing topsoil and seeding or sodding over the final backfill material			

Additional Comments

- 1) When designing SESC plans, please consider the time of year when work is proposed to be conducted. For example, if earthwork will be conducted during the summer months, dust may be an issue and, if so, a Dust Control Plan should be shown on the plans.
- 2) Please add the General Soil Erosion Notes found on pages 6 and 7 of the Soil Erosion and Sedimentation Control Application, to the SESC Plan.
- 3) Please note that a field preconstruction meeting must be held with the SESC Inspector prior to any earth change activity.

::OFFICE USE ONLY::

Reviewed By: _____ Date: _____

Status: Approved Approved as Noted: _____

Denied as Noted: _____

Soil Erosion and Sedimentation Control Notes

General

- 1) The Contractor shall implement and maintain the soil erosion control measures as shown on the SESC Plans at all times during construction on this project. Any modifications or additions to the soil erosion control measures due to construction or changed conditions, shall be complied with as required or directed by the owner, project engineer, or Pittsfield Charter Township.
- 2) All soil erosion and sedimentation control work shall conform to the permit requirements of Pittsfield Charter Township and the laws of the State of Michigan.
- 3) A NPDES Construction Activity Permit is required for all sites greater than five (5) acres.
- 4) Daily inspections shall be made by the Contractor. Periodic inspections may be made by the Owner/Project Engineer/Township to determine the effectiveness of erosion and sedimentation control measures. Any necessary corrections shall be made without delay by the onsite responsible individual.
- 5) Erosion and sedimentation from work on the site shall be contained on the site and not be allowed to collect on any off-site areas or in waterways.
- 6) All mud/dirt tracked onto roads from the site due to construction, shall be promptly removed by the Contractor.
- 7) Restoration of all disturbed areas, including placement of topsoil, seed, fertilizer and mulch and/or sod shall be completed within five (5) days of the completion of final grade.
- 8) Construction operations shall be scheduled and performed so that preventative soil erosion control measures are in place prior to excavation in critical areas, and temporary stabilization measures are in place immediately following backfilling operations.
- 9) Special precautions will be taken in the use of construction equipment to prevent situations that promote erosion.
- 10) Proper dust control shall be maintained during construction by use of water trucks and/or chloride as required.
- 11) The Contractor shall be responsible for maintaining all temporary soil erosion control measures and removal of some upon authorized completion of project. Completion of project will not be authorized until all site work, home building, road work, and utility construction is complete and all soils are stabilized.
- 12) The Contractor shall not grade in existing wetland or conservation areas to be protected. Silt fence shall be installed and maintained adjacent to existing wetland and conservations areas to prevent grading, erosion, and sedimentation into them.
- 13) Tree protection fencing must remain intact until restoration of the site is complete.

Sequence of Construction

- 1) Install sediment fence and tree protection fencing prior to any grading operation.
- 2) Install mud tracking pad.
- 3) Construct temporary sediment/detention basin.
- 4) Place topsoil, fertilizer, seed, and mulch over the entire detention basin area.
- 5) Rough grade site, stockpile topsoil, and begin building construction.
- 6) Install storm drainage system, including riprap and parking lot inlet filters and detention basin standpipe.
- 7) Maintain erosion and sedimentation control measures, as required.
- 8) Install sanitary sewer and water systems.
- 9) Bring pavement areas to sub-base grade, place sub-base and bituminous pavement.
- 10) Install franchised utilities.
- 11) Finish grade, redistribute topsoil, seed and mulch all disturbed areas.
- 12) Remove any accumulated sediment within the detention basin and replace clean washed stone around standpipe.
- 13) Complete construction of site.
- 14) Ensure all soil is stabilized. Remove all temporary soil erosion control measures.

Please See Next Page →

Soil Erosion and Sedimentation Control Notes (Continued)

Seeding/Sod

- 1) Seed or sod in accordance with project specifications.
- 2) All areas of disturbed earth that are not to be paved or sodded shall have 4 inches of topsoil, seed, fertilizer and mulch.
- 3) Immediately after seeding, mulch all seeded areas with unweathered small grain straw (preferably wheat) or hay spread. Spread uniformly at the rate of 1-1/2 to 2 tons or 100 pounds (2 to 3 bales) per 1,000 square foot. This mulch should be anchored with a disc-type mulch-anchoring tool.
- 4) Any disturbed area not paved, seeded or mulched, sodded or built upon on or after November 15th, is to be mulched in the manner as specified above, in order to provide soil erosion protection during the winter and early spring.
- 5) All erosion and sedimentation control prevention procedures and structures are to comply with the Standards and Specifications for Soil Erosion and Sedimentation Control of the Washtenaw County Soil Conservation District.

Catch Basin/Manhole Protection

- 1) Protect storm sewer catch basins with the following product or approved equal:
 - a. Regular Flow Siltsack (for areas of low to moderate precipitation and run-off).
 - b. Hi-Flow Siltsack (for areas of moderate to heavy precipitation and run-off).
 - c. Oil-Absorbant Siltsack (for areas where there is a concern for oil run-off or spills).

Roads

- 1) During construction, all roads shall be protected from unvegetated areas washing onto road surfaces by placement of silt fence behind curb or a 10-foot wide straw mulch bank behind the curb or other approved method and/or as shown on the plans.
- 2) During construction of any portion of the project, roads shall be maintained free of dirt, silt, and construction debris.

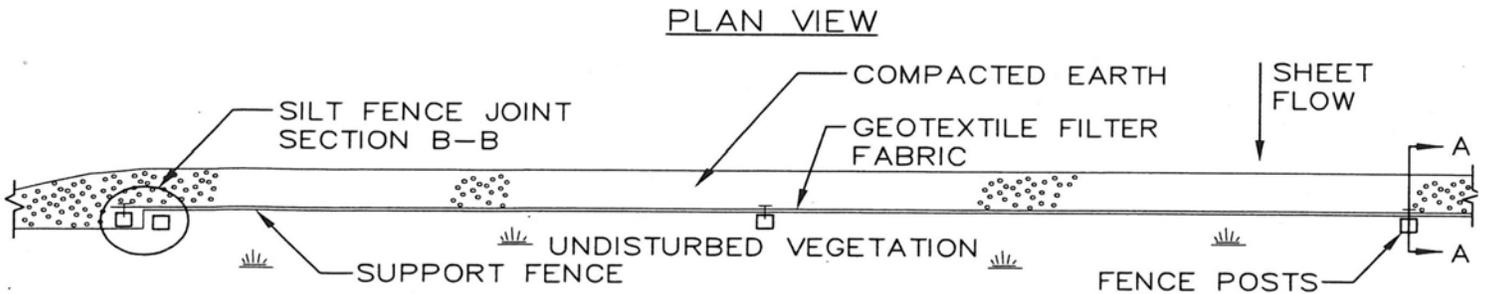
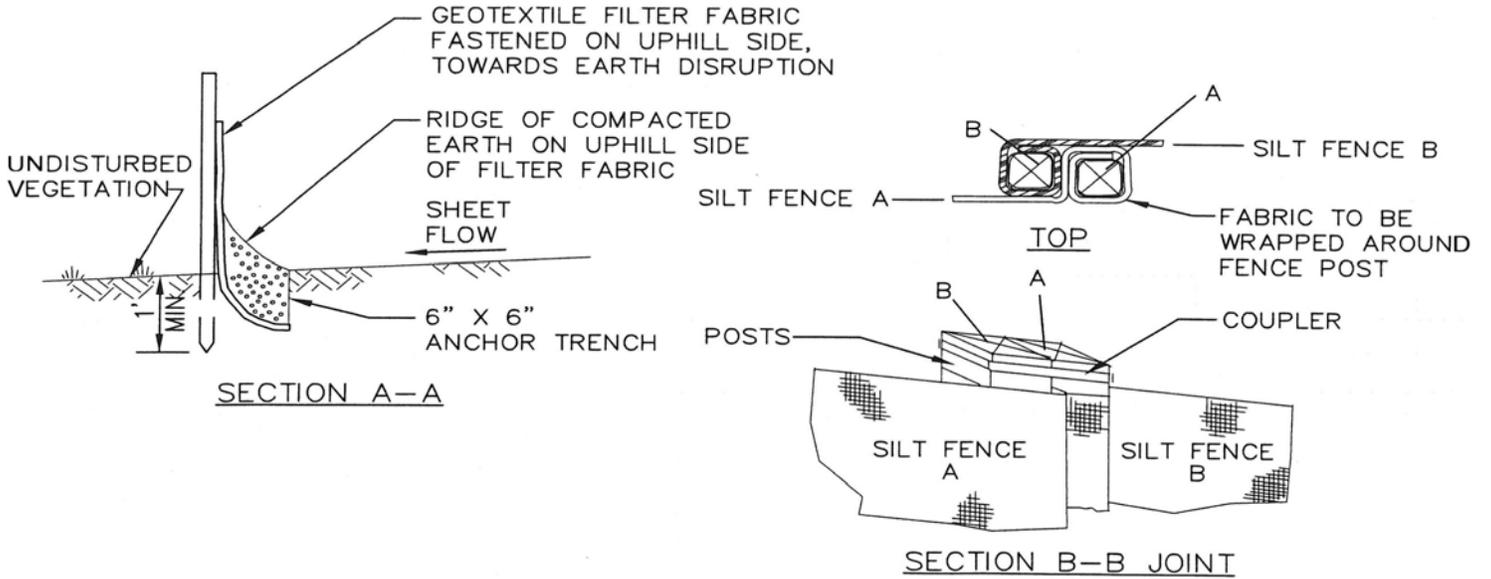
Soil Erosion and Sedimentation Control Fee Schedule

Combined fees for the Soil Erosion Control Permit are as follows:

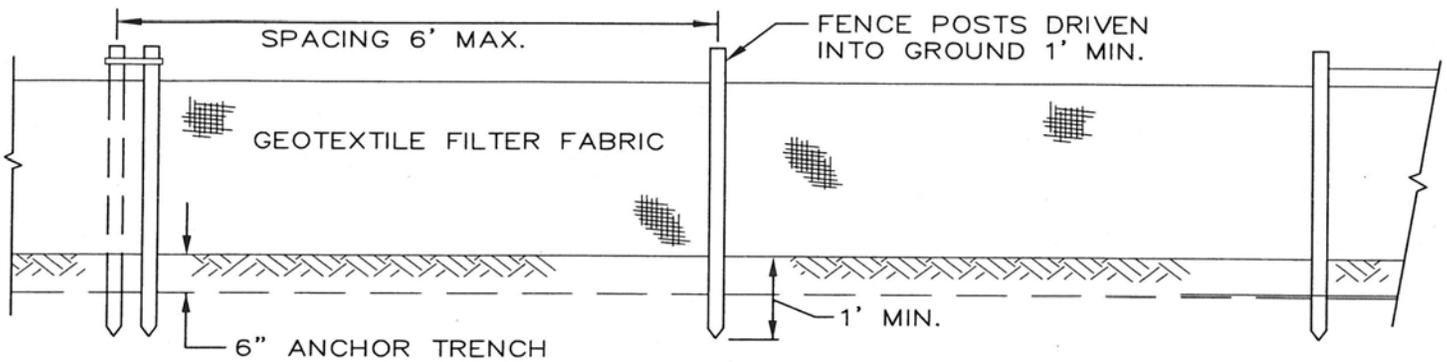
- 1) A non-refundable **Administrative Fee** of **\$300**.
- 2) An **Escrow Deposit** of **\$5,000** for **minor** projects and **\$10,000** for **major** projects. A **minor** project will be a project no more than five (5) acres in size of disruption, and a **major** project will be a project larger than five (5) acres in size of disruption. The Escrow Account will be evaluated by Pittsfield Charter Township when there is approximately 30% remaining in the account. If deemed necessary by Pittsfield Charter Township, the account will require a deposit in the amount of half of the original Escrow amount (\$2,500 or \$5,000) to remain active. If the Escrow Account becomes inactive, then an additional \$300 Administrative Fee will be charged to re-activate the account. Remaining funds in the Escrow Account will be released when the project is complete, all permanent measures are installed and functioning, temporary measures are removed, and a final inspection has been approved.
- 3) A **Performance Deposit (Cash Bond)** will be required to be submitted with the Permit Application. Funds will be released when the project is complete, all permanent measures are installed and functioning, temporary measures are removed, and a final inspection has been approved. The Performance Deposit (Cash Bond) shall be **\$500** per acre disturbed, with a minimum of **\$2,000** per project.
- 4) If a minor project consists of earth changes for a proposed or already existing single private residence, landscaping activities that require a Soil Erosion and Sedimentation Control Permit, or agricultural practices other than the plowing and tilling of fields for crop reduction, then the Administrative Fee, the Escrow Account Deposit, and the Performance Deposit (Cash Bond) will be half the amount stated above.

Soil Erosion and Sedimentation Control Standard Details

SILT FENCE



FRONT VIEW

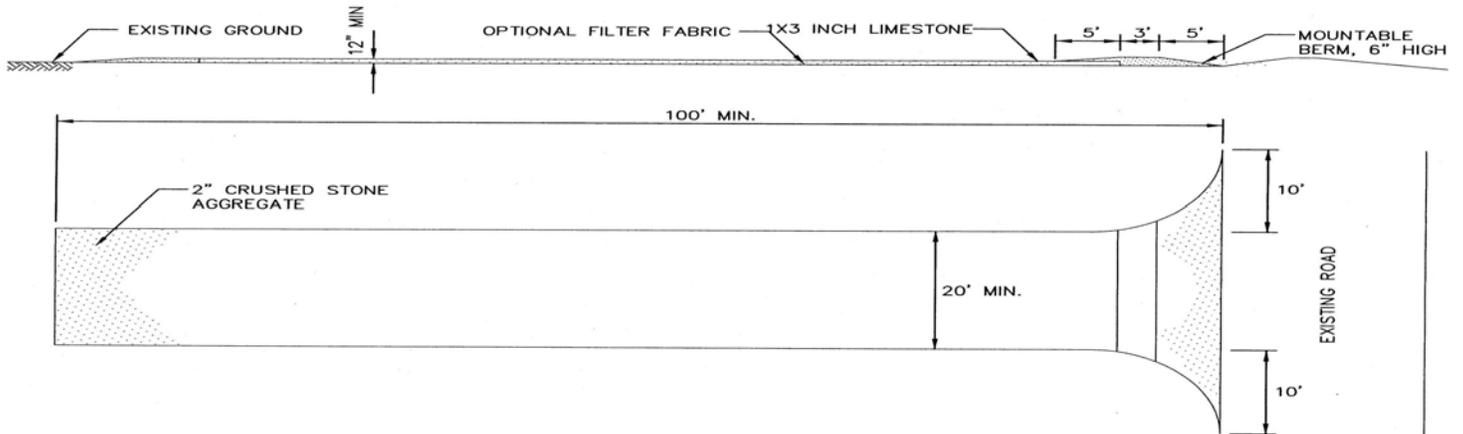


Pittsfield Charter Township
Department of Utilities & Municipal Services

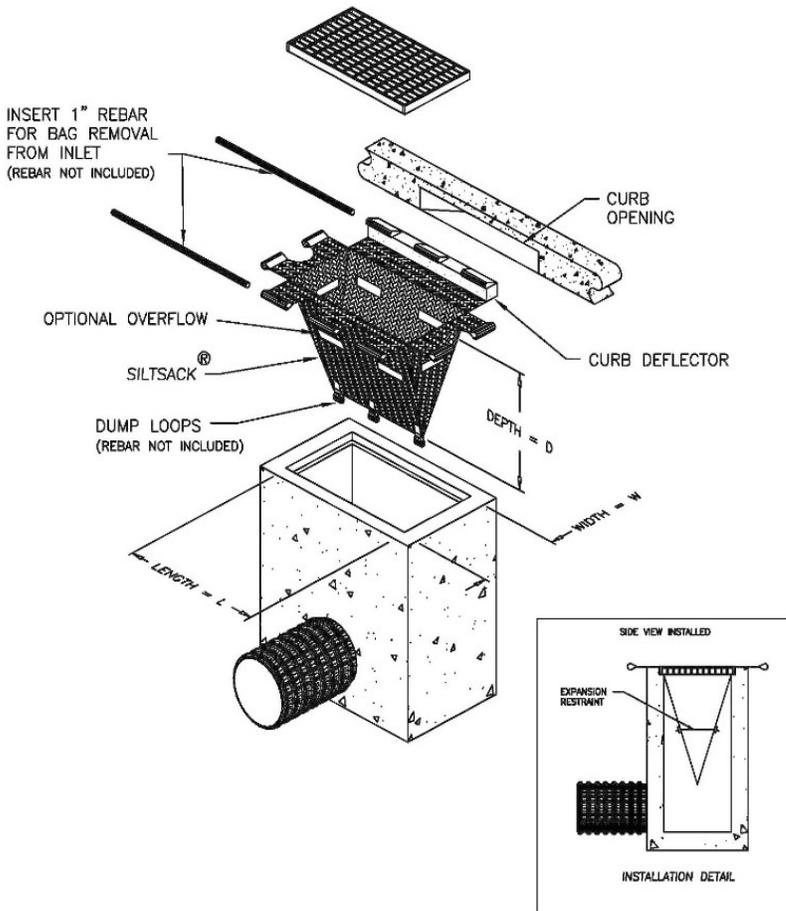
6201 West Michigan Avenue, Ann Arbor, MI 48108
 Phone: (734) 822-3130 Fax: (734) 944-1103
 Website: www.pittsfield-mi.gov Email: planning@pittsfield-mi.gov

Soil Erosion and Sedimentation Control Standard Details

MUD TRACKING ROAD (MUD MAT) DETAIL

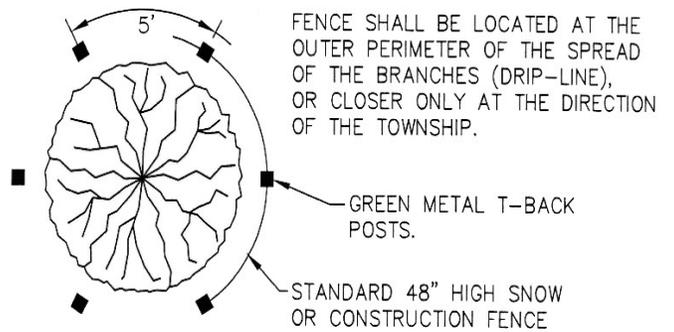


SILTSACK® SPECIFICATIONS



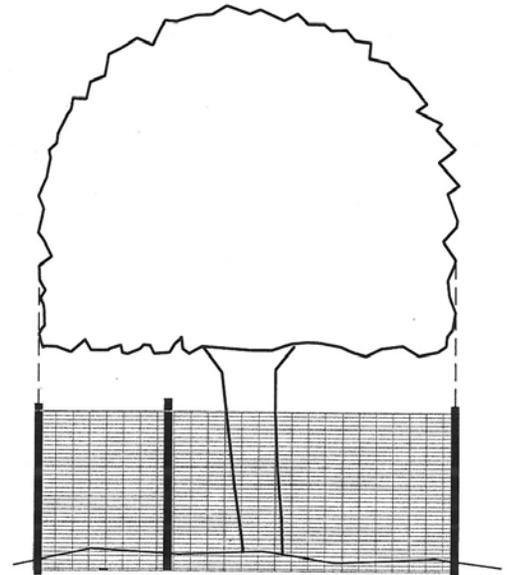
TREE PROTECTION FENCE DETAIL

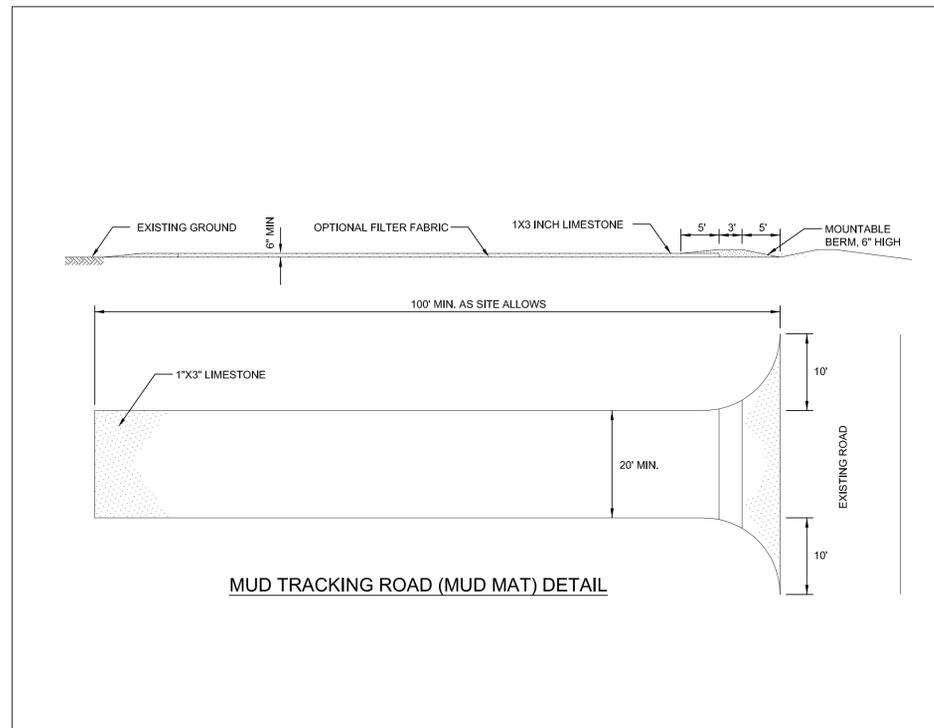
NOT TO SCALE



NOTES:

1. ALL TREES TO BE REMOVED WILL BE IDENTIFIED BY RED FLAGGING.
2. TREE PROTECTION FENCING IS TO BE ERECTED PRIOR TO ANY EARTHWORK OR CONSTRUCTION AND IS TO REMAIN IN PLACE UNTIL CONSTRUCTION AND GRADING IS COMPLETE.
3. ALL DEBRIS, FILL, EQUIPMENT OR MATERIAL IS TO BE KEPT CLEAR OF AREA WITHIN PROTECTIVE FENCE. NO CLEANING OF EQUIPMENT OR MATERIAL OR STORAGE OR DISPOSAL OF ANY MATERIAL WITHIN THE DRIP LINE OF ANY TREES TO BE SAVED.





MUD TRACKING ROAD (MUD MAT) DETAIL

**PITTSFIELD CHARTER TOWNSHIP
SOIL EROSION AND SEDIMENTATION CONTROL NOTES
GENERAL**

- The contractor shall implement and maintain the soil erosion control measures as shown on the plans at all times during construction on this project. Any modifications or additions to the soil erosion control measures due to construction or changed conditions, shall be complied with as required or directed by the owner, project engineer or Pittsfield Township.
- All soil erosion and sedimentation control work shall conform to the permit requirements of Pittsfield Township and the laws of the State of Michigan.
- A NPDES construction activity permit is required for all sites greater than 5 acres.
- Daily inspections shall be made by the contractor. Periodic inspections may be made by the owner/project engineer/Township to determine the effectiveness of erosion and sedimentation control measures. Any necessary corrections shall be made without delay.
- Erosion and sedimentation from work on the site shall be contained on the site and not be allowed to collect on any off-site areas or in waterways.
- All mud/dirt tracked onto roads from the site due to construction, shall be promptly removed by the contractor.
- Restoration of all disturbed areas, including placement of topsoil, seed, fertilizer and mulch and/or sod shall be done within 5 days of the completion of final grade.
- Construction operations shall be scheduled and performed so that preventative soil erosion control measures are in place prior to excavation in critical areas and temporary stabilization measures are in place immediately following backfilling operations.
- Special precautions will be taken in the use of construction equipment to prevent situations that promote erosion.
- Proper dust control shall be maintained during construction by use of water trucks and/or chloride as required.
- The contractor shall be responsible for maintaining all temporary soil erosion control measures and removal of some upon authorized completion of project. Completion of project will not be authorized until all site work, home building, road work and utility construction is complete and all soils are stabilized.
- The contractor shall not grade in existing wetland or conservation areas to be protected. Silt fence shall be installed and maintained adjacent to existing wetland and conservation areas to prevent grading, erosion and sedimentation into them.
- Tree protection fencing must remain intact until restoration of the site is complete.

SEQUENCE OF CONSTRUCTION

- Install sediment fence and tree protection fencing prior to any grading operation.
- Install mud-tracking pad.
- Construct temporary sediment/detention basin.
- Place topsoil, fertilizer, seed and mulch over the entire detention basin area.
- Rough grade site, stockpile topsoil and begin building construction.
- Install storm drainage system including riprap and parking lot inlet filters and detention basin standpipe.
- Maintain erosion and sedimentation control measures, as required.
- Install sanitary sewer and water systems.
- Bring pavement areas to sub-base grade, place sub-base and bituminous pavement.
- Install franchised utilities.
- Finish grade, redistribute topsoil, seed and mulch all disturbed areas.
- Remove any accumulated sediment within the detention basin and replace clean washed stone around standpipe.
- Complete construction of site.
- Insure all soil is stabilized. Remove all temporary soil erosion control measures.

SEEDING/SOD

- Seed or sod in accordance with project specifications.
- All areas of disturbed earth that are not to be paved or sodded shall have 4 inches of topsoil, seed, fertilizer and mulch.
- Immediately after seeding, mulch all seeded areas with unweathered small grain straw (preferably wheat) or hay spread. Spread uniformly at the rate of 1 1/2 to 2 tons or 100 pounds (2 to 3 bales) per 1,000 square foot. This mulch should be anchored with a disc-type mulch-anchoring tool.
- Any disturbed area not paved, seeded or mulched, sodded or built upon by November 15, is to be mulched in the manner as specified above, in order to provide soil erosion protection during the winter and early spring.
- All erosion and sedimentation control prevention procedures and structures are to comply with the Standards and Specifications for soil erosion and sediment control of the Washtenaw County Soil Conservation District.
- Drainage ditches and slopes steeper than 1:4 (25%) shall be stabilized with erosion control blankets.
- Slopes that do not take upon initial seeding must be re-seeded and stabilized with erosion control blankets.
- Where excavation has been through lawn areas, the CONTRACTOR shall restore the disturbed area by placing topsoil and seeding or sodding over the final backfill material.

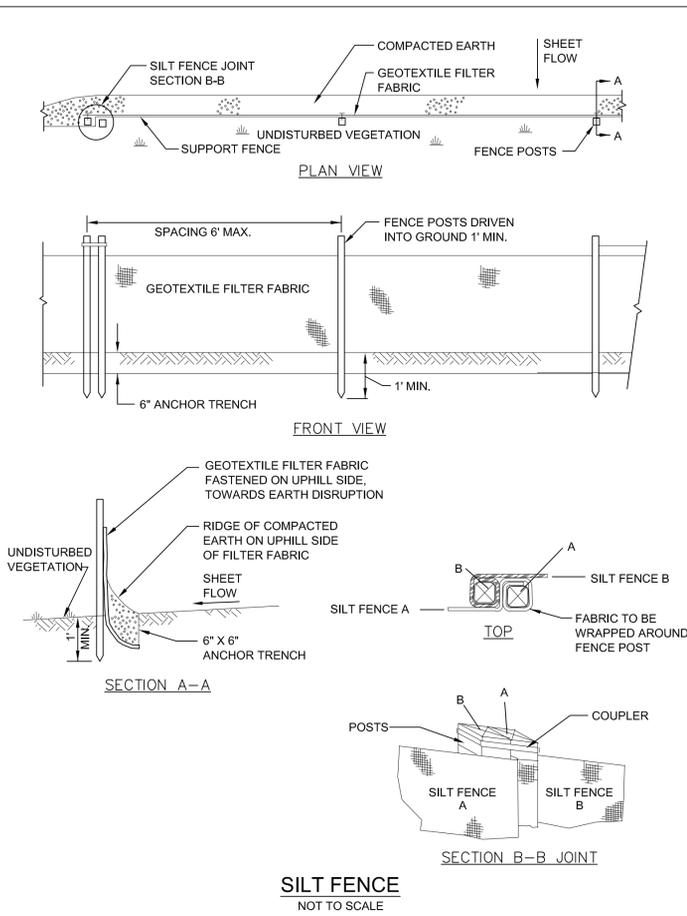
CATCH BASIN/MANHOLE PROTECTION

- Protect storm sewer catch basins with Siltsack, or approved equivalent as follows:

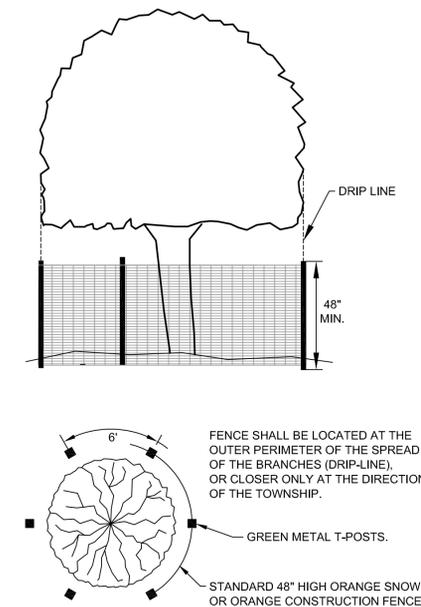
ROADS

- During construction, all roads shall be protected from unvegetated areas washing onto road surfaces by placement of silt fence behind curb or a 10 foot wide straw mulch bank behind the curb or other approved method and/or as shown on the plans.
- During construction of any portion of the project, roads shall be maintained free of dirt, silt and construction debris.

Pittsfield SEC 9/22/2009

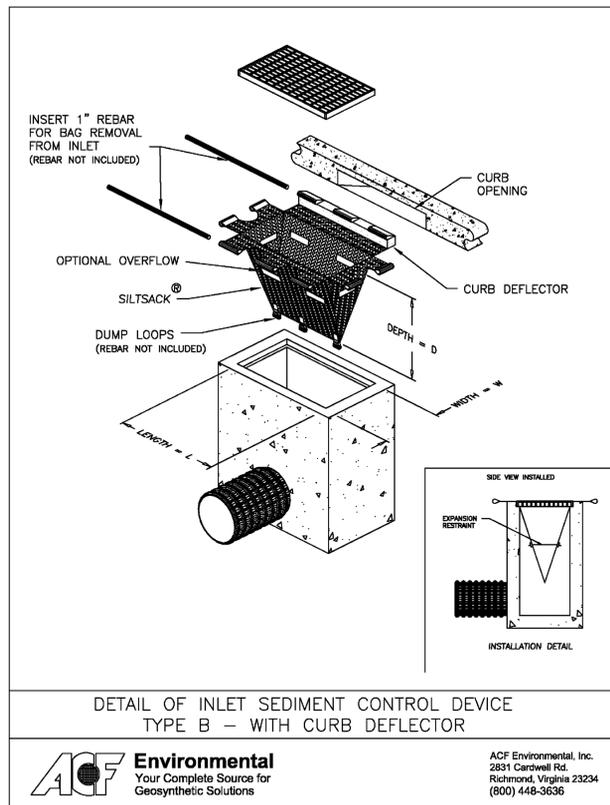


SILT FENCE
NOT TO SCALE



TREE PROTECTION FENCE DETAIL
NOT TO SCALE

- NOTES:
- ALL TREES TO BE REMOVED WILL BE IDENTIFIED BY RED FLAGGING.
 - TREE PROTECTION FENCING IS TO BE ERECTED PRIOR TO ANY EARTHWORK OR CONSTRUCTION AND IS TO REMAIN IN PLACE UNTIL CONSTRUCTION AND GRADING IS COMPLETE.
 - ALL DEBRIS, FILL, EQUIPMENT OR MATERIAL IS TO BE KEPT CLEAR OF AREA WITHIN PROTECTIVE FENCE. NO CLEANING OF EQUIPMENT OR MATERIAL OR STORAGE OR DISPOSAL OF ANY MATERIAL WITHIN THE DRIP LINE OF ANY TREES TO BE SAVED.



DETAIL OF INLET SEDIMENT CONTROL DEVICE
TYPE B - WITH CURB DEFLECTOR

ACF Environmental
Your Complete Source for
Geosynthetic Solutions

ACF Environmental, Inc.
2831 Carwell Rd.
Richmond, Virginia 23234
(800) 448-3636

**SILTSACK®
SPECIFICATIONS**

NOTE: THE SILTSACK® WILL BE MANUFACTURED FROM A WOVEN POLYPROPYLENE FABRIC THAT MEETS OR EXCEEDS THE FOLLOWING SPECIFICATIONS.

REGULAR FLOW SILTSACK®

(FOR AREAS OF LOW TO MODERATE PRECIPITATION AND RUN-OFF)

PROPERTIES	TEST METHOD	UNITS	
GRAB TENSILE STRENGTH	ASTM D-4632		300 LBS
GRAB TENSILE ELONGATION	ASTM D-4632		20 %
PUNCTURE	ASTM D-4853		120 LBS
MULLEN BURST	ASTM D-3786		800 PSI
TRAPEZOID TEAR	ASTM D-4533		120 LBS
UV RESISTANCE	ASTM D-4355		90 %
APPARENT OPENING SIZE	ASTM D-4751		40 US SIEVE
FLOW RATE	ASTM D-4491		45 GAL/MIN/50 FT
PERMITTIVITY	ASTM D-4491		0.55 SEC -1

*** HI-FLOW SILTSACK®**

(FOR AREAS OF MODERATE TO HEAVY PRECIPITATION AND RUN-OFF)

PROPERTIES	TEST METHOD	UNITS	
GRAB TENSILE STRENGTH	ASTM D-4632		265 LBS
GRAB TENSILE ELONGATION	ASTM D-4632		20 %
PUNCTURE	ASTM D-4853		135 LBS
MULLEN BURST	ASTM D-3786		420 PSI
TRAPEZOID TEAR	ASTM D-4533		45 LBS
UV RESISTANCE	ASTM D-4355		90 %
APPARENT OPENING SIZE	ASTM D-4751		80 US SIEVE
FLOW RATE	ASTM D-4491		300 GAL/MIN/50 FT
PERMITTIVITY	ASTM D-4491		1.5 SEC -1

OIL-ABSORBANT SILTSACK®

(FOR AREAS WHERE THERE IS A CONCERN FOR OIL RUN-OFF OR SPILLS)

DEPENDING ON YOUR PARTICULAR APPLICATION, THE SILTSACK CAN BE MADE FROM EITHER ONE OF THE ABOVE FABRICS WITH AN OIL-ABSORBANT PILLLOW INSERT OR, MADE COMPLETELY FROM AN OIL-ABSORBANT SILTSACK WITH A WOVEN PILLLOW INSERT.

SILTSACK DISTRIBUTORS:
PRICE & COMPANY
(www.priceandcompany.com)

METRO GRAND RAPIDS, MI
425 36TH STREET SW
WYOMING, MI 49548-2108
1-800-248-8230

METRO DETROIT, MI
28165 WALL STREET
WIXOM, MI 48393-3525
1-866-960-4300

(* HI-FLOW SILT SACK SHALL BE USED FOR ALL APPLICATIONS WITHIN
PITTSFIELD TOWNSHIP)

SILTSACK
NOT TO SCALE



Pittsfield Charter Township
6201 W. Michigan Ave.
Ann Arbor, MI 48108-9721
48108-9721
Tel. 734.822.3101
www.pittsfield-mi.gov

Revision	By	Appd.	YY.MM.DD
SILTSACK	BWA	DRW	12.01.03
TWP REV	BWA	DRW	11.04.27
UPDATES	TTN	DRW	10.01.20

Issued By Appd. YY.MM.DD

File Name: SE-01 TTN DRW DRW 07.10.01

Permit-Seal Dwn. Chkd. Dsgn. YY.MM.DD

Client/Project
PITTSFIELD TOWNSHIP

Pittsfield Township, Michigan

Title
SOIL EROSION DETAILS AND NOTES

Project No. 2075001300 Scale NOT TO SCALE

Revision

Earthwork

1.00 GENERAL

1.01 DESCRIPTION

A. The CONTRACTOR shall perform all excavation and backfilling necessary to complete the work. This shall include the excavation of earth and rock, the removal and disposal of unsuitable material, dewatering, placement of suitable fill and backfill material, pipe boring and jacking, all quality assurance testing, and the restoration and final grading for all earth surfaces.

1.02 WORK WITHIN RIGHTS-OF-WAY

A. Where the governmental bodies having jurisdiction of the streets or rights-of-way have specific specifications relating to the requirements for work within their jurisdiction, such requirements must be met as a minimum requirement, and if these Specifications impose further limitation on the work, they shall also be met as the required work standard.
B. During all operations of the CONTRACTOR in the streets and roadways, the CONTRACTOR shall maintain barricades, lights, and warning signs as required by the agency having jurisdiction.

1.03 WORK WITHIN EASEMENTS

A. During construction within any easements, the CONTRACTOR shall confine himself to the limits shown on the Plans. He shall notify property owners in advance of moving equipment on easements and use of the access routes which will be designated by the OWNER. The OWNER will cooperate in working out the details of access. The topsoil over the trench shall be removed and carefully replaced upon completion of the work. The backfill of the trench in the easement may be left slightly high to provide for any slight residual settlement. Any trees, shrubs, or bushes removed shall be replaced to the satisfaction of the property owner.

1.04 SOIL BORINGS

A. Soil boring results, if taken on a site, are appended to these Specifications with locations noted. Boring logs are shown to be generally representative of the site and to assist in the design and construction of the work.

2.00 PRODUCTS

2.01 BACKFILL MATERIAL

A. For areas not requiring "granular backfill" material, backfill shall be of the excavated material, with the exception that materials such as soft clay, topsoil, muck, cinders, vegetable matter, refuse, boulders and other objectionable and non-packing earth shall be excluded from the backfill and removed from the site. Stone larger than 3 inches in any dimension shall be excluded from the backfill and removed from the site by the CONTRACTOR.

B. Where "granular material" backfill is required as specified herein, backfill material shall be defined as a material meeting granular material Class II as defined in 2003 MDOT 902.08.

C. All utilities within road right-of-way corridor (existing or proposed) shall be backfilled with MDOT CL II granular material compacted to 95% maximum unit weight.

D. All utilities shall be installed with 2 NS sand bedding or better.

2.02 ENCASING PIPE

A. Steel encasing pipe for boring and jacking shall conform to the requirements of either, ASTM A53, Type E or S, Grade B or ASTM A139, Grade B.
B. Steel encasing pipe used under channels and highways shall meet the requirements of the governmental agency having jurisdiction and the following minimum requirements:

Table with 2 columns: Nominal Diameter (Inches) and Maximum Wall Thickness. Rows include diameters from 13 to 54 inches and corresponding wall thicknesses.

C. Steel encasing pipe used under railroads shall meet the requirements of the railroad and the following minimum requirements:

Table with 3 columns: Nominal Diameter (Inches), Coated or Cathodically Protected, and Uncoated & Unprotected. Rows include diameters from 14 to 48 inches and corresponding wall thicknesses.

D. Casing pipe joints shall be welded to form a leak-proof continuous casing.
E. The inside diameter of casing pipe shall be at least 2 inches greater than the largest outside diameter of the carrier pipe joints or couplings for carrier pipe less than 6 inches in diameter, and at least 4 inches greater than the largest outside diameter of the carrier pipe joints for carrier pipe 6 inches and over in diameter, unless otherwise shown on the Plans.

F. The steel casing pipe shall be of smooth interior and shall be placed accurately to line and grade, allowing for the encased pipe thickness and supports under each length of encased pipe.

3.00 EXECUTION

3.01 GENERAL EXCAVATION

A. Excavation shall be performed by any practicable method consistent with the integrity and protection of the work and neighboring structures, workmen, and the public. Topsoil shall be separately removed and stockpiled for reuse.
B. All excavation, except where necessary to tunnel, bore or jack under roads, railroads, tree roots and other obstructions within the limits indicated on the Plans, may be open cut from the surface. Tunneling or boring under trees shall be considered as incidental to construction and will not be considered as cause for request for additional payment.
C. Foreign material or unsuitable foundation material encountered such as wood, boulders, etc., which obstruct the excavation, shall be removed. Such materials found at the bottom of the excavation shall be removed and the foundation restored with approved materials.
D. If excess excavation is made or the material becomes disturbed so as to require removal beyond the prescribed limits, the resulting cavity shall be filled with selected material tamped into place, in not more than 6-inch layers to the satisfaction of the ENGINEER, before the construction work proceeds. At the direction of the ENGINEER, the excess excavation may be filled with 2000 psi concrete at the CONTRACTOR'S expense.
E. The excavation shall be kept dry during the work. Where water is encountered in the excavation, it shall be removed by pumping or well points. All necessary precautions shall be taken to prevent damage to existing wells and to completed or partially completed structures. The CONTRACTOR shall be responsible for all damages caused by him due to inadequate or improper protection.
F. The CONTRACTOR shall take ample precautions to protect all trees and ornamental shrubbery not within the limits of the construction areas, or within the construction areas shown on the Plans to be retained from injury by workmen, equipment, or any other agencies connected with the work, including subcontractors. Such protection shall be provided during the progress of the excavation, grading, or other phases of the work as necessary. Such trees or shrubbery shall be surrounded by protective posts or fencing before construction begins, when in judgment of the ENGINEER, such precautionary measures are necessary. If, as a result of any phase of the work, trees are damaged or it is necessary to remove limbs in the way of construction, the repair of the damage and such limb removal shall be done by the CONTRACTOR as directed by the ENGINEER. All costs for the protective work shall be borne by the CONTRACTOR as incidental the Contract work.
G. Any excavation not backfilled at the end of each day must be clearly marked and surrounded by appropriate safety fencing as directed by the ENGINEER. If directed by the ENGINEER, the CONTRACTOR shall cover the open excavation with a steel plate and light the excavated area.

3.02 EXCAVATION FOR SEWERS AND WATER MAINS

A. Trenches shall be excavated to the depth required with allowance for bedding the pipe. The trench shall be cut wider and deeper at each pipe joint location to provide for properly completing the pipe joint and to relieve the joint of all loadings.
B. The width of the trench at the top of a rigid pipe shall be sufficient to allow the pipe to be laid and jointed properly and shall provide for a minimum net clearance of 6 inches and a maximum net clearance of 12 inches on each side of the barrel of the pipe and to allow the backfill to be placed and properly compacted.
C. The width of trench at the top of a flexible pipe backfill when using concrete bedding shall be sufficient to allow the pipe to be laid and jointed properly with the minimum net clearance of 12 inches and a maximum net clearance of 18 inches on each side of the barrel of the pipe.
D. Where the conditions of the ground require or where the work is in close proximity of existing structures, the sides of excavation shall be securely held by bracing and/or sheeting which may be removed in units when the level of the backfill has reached a point where it is safe to pull the sheeting without disturbing the protected feature. No sheeting, bracing, or other timber shall be left in the excavation upon the completion of the main or other structures, except with the specific review and direction of the ENGINEER.
E. Other underground mains, sewers or structures encountered in the excavation shall be adequately supported during the CONTRACTOR'S operations, and before backfilling, shall be given permanent support as directed by the ENGINEER to meet the standards or requirements of the owning utility or agency.
F. Water, sewer, gas and other utility services disturbed by the CONTRACTOR in his operations shall be repaired or replaced in a manner equal to the original condition by the CONTRACTOR at his own expense. Where these services are encountered and are undamaged, they shall be supported and/or protected by the CONTRACTOR at his expense against later settlement and/or damage after backfill. The CONTRACTOR shall consult the agency or the utility firm having jurisdiction over any duct line, gas main, etc., which may cross the excavation to determine method of supporting such duct or pipe.

3.03 EXCAVATION FOR STRUCTURES

A. Excavation for structures shall be extended sufficiently beyond the limits of the structure to provide ample room for form construction and for practicable construction methods to be followed.
B. Requirements for excavation of sewers and water mains shall also apply to this Section.
C. The CONTRACTOR shall take ample precautions to protect all trees and ornamental shrubbery not within the limits of the construction area, or within the construction areas shown on the Plans to be retained from injury by workmen, equipment, or any other agencies connected with the work, including subcontractors. Such protection shall be provided during the progress of the excavation, grading, or other phases of the work as necessary. Such trees or shrubbery shall be surrounded by protective posts or fencing before construction begins, when in judgment of the ENGINEER, such precautionary measures are necessary. If, as a result of any phase of the work, trees are damaged or it is necessary to remove limbs in the way of construction, the repair of the damage and such limb removal shall be done by the CONTRACTOR as directed by the ENGINEER. All costs for the protective work shall be borne by the CONTRACTOR as incidental to the Contract work.

3.04 EXCAVATION FOR PAVED SURFACES

A. In excavating around manholes and catch basins or inlets, care shall be exercised to avoid removing the casings and pushing dirt into the structures. Dirt pushed into manholes, catch basins or inlets by the CONTRACTOR'S operations shall be immediately removed so that the dirt will not be carried into the sewer by the flow of sewage or storm water.
B. The CONTRACTOR shall take ample precautions to protect all trees and ornamental shrubbery not within the limits of the construction area, or within the construction areas shown on the Plans to be retained from injury by workmen, equipment, or any other agencies connected with the work, including subcontractors. Such protection shall be provided during the progress of the excavation, grading, or other phases of the work as necessary. Such trees or shrubbery shall be surrounded by protective posts or fencing before construction begins, when in judgment of the ENGINEER, such precautionary measures are necessary. If, as a result of any phase of the work, trees are damaged or it is necessary to remove limbs in the way of construction, the repair of the damage and such limb removal shall be done by the CONTRACTOR as directed by the ENGINEER. All costs for the protective work shall be borne by the CONTRACTOR as incidental to the Contract work.

3.05 ROCK EXCAVATION

A. Rock excavation shall consist of excavating igneous, metamorphic and sedimentary rock which cannot be excavated without continuous drilling and blasting or drilling and spalling to fracture the rock. Blasting shall be permitted only after it has been shown that other methods of excavation are impractical. All rock excavation shall be carried to a minimum depth of 8 inches below the pipe or manhole bottom and to the bottom of all footings. The width of the rock excavation shall not exceed the diameter of the pipe plus 12 inches on either side or the edge of the foundation footing.
B. When the use of explosives is necessary for the progression of the work, the CONTRACTOR shall comply with all laws, ordinances and applicable safety code requirements and regulations relative to the handling, storage and use of explosives and protection of life and property. A person competent and experienced in the use of explosives shall be employed to supervise the work. The CONTRACTOR shall schedule all blasting for a definite hour of the day and shall so notify all residents and businesses in the area as to the scheduled day and hour for such blasting operations. Explosive materials shall not be stockpiled and stored in residential areas. Explosives and initiating devices shall not be carried in the same vehicle.
C. Suitable weighted plank coverings or timber mats shall be provided to confine all materials lifted by blasting within the limits of the excavation or trench. Excessive blasting or overshooting shall not be permitted. Any material outside of the authorized excavation cross section which may be shattered or loosened shall be removed at the CONTRACTOR'S expense. The CONTRACTOR shall be responsible for all damage resulting from the use of explosives.

3.06 PIPE BORING AND JACKING

A. The CONTRACTOR shall obtain all necessary permits for jacking the encasing pipe under channels, railroads and shall notify the governmental agency and/or company having jurisdiction 48 hrs before work at any crossing is started. The CONTRACTOR shall pay all costs for an inspector and/or flagmen required by a railroad or governmental agency.
B. A suitable approach trench shall be opened, adjacent to the toe of the slope of the embankment. The approach trench shall be long enough to accommodate the length of pipe units to be placed, and wide enough to provide sufficient working room. Guide timbers or rails for keeping the pipe on-line and grade shall be installed in the bottom of the trench and heavy timber backstop supports installed at the rear of the trench to take the thrust of the jacks. A timber bearing a "pushing frame" shall be built and furnished to fit or match the end of the pipe to be jacked, so that the pressure of the jacks will be evenly distributed over the end of the pipe. Two (2) hydraulic jacks of sufficient power shall be used to apply pushing or jacking pressure. For firm ground, excavation shall be carried on from inside the pipe, not to exceed twelve (12) inches ahead of the lead pipe. For unstable ground, the lead pipe shall precede the auger. Excavation at the top and sides shall be accurately cut to line and grade. Adjoining sections of steel pipe shall be welded. Pipe shall be jacked on successive shifts until completed to guard against the "freezing of the line" due to settlement and compaction of surrounding soil.
C. The sheeting of pits along any road will be required if the leading edge of all work pits will be closer to the pavement edge than the shoulder point or ten (10) ft, which ever distance is greater, or on curb and gutter sections, at least five (5) ft from back of curb.
D. Upon completion of the installation of the steel pipe encasement, the contractor shall furnish and install a bolted style casing spacer as described below on the carrier pipe. Casing spacers shall be placed a maximum of seven (7) feet apart along the length of the carrier pipe with one casing spacer within 2-1/2 feet of each side of a pipe joint and the rest evenly spaced. Wood skids are not an acceptable method of supporting the carrier pipe.
E. Casing spacers for carrier pipes from 4" - 24" shall be made of a molded, segmented high density polyethylene plastic with 304 stainless steel connecting nuts and bolts. Minimum spacer width shall be 5.2" for carrier pipes from 4" - 12" and 7.0" for carrier pipes 14" - 24". Each casing spacer shall have at least six (6) integrally molded skids extending 1" beyond the bell or mechanical joint of the carrier pipe. The casing spacers shall be equal to the PSI Ranger as manufactured by Pipeline Seal and Insulator, Inc., Houston, TX.
F. Casing spacers for carrier pipes larger than 24" shall be a PVC fusion bonded coated (10-16 mils) steel shell (minimum 14 gauge steel) with a 90 mil PVC inner liner and 2" wide 30% glass reinforced polyester runners (minimum compressive strength = 18,000 psi) (polyethylene is not an acceptable runner material) attached by 3/8" coated steel studs welded to the steel shell. All bolts and nuts used to fasten the shell to the carrier pipe shall be cadmium plated steel. Where riser are required under the runners they shall be a minimum 10 gauge steel welded to the shell and coated as specified for the shell (epoxy is not an acceptable coating for the shell riser). The casing spacers shall be equal to the PSI Model C as manufactured by Pipeline Seal and Insulator, Inc., Houston, Texas.

3.07 SHORING, SHEETING AND BRACING

A. Where sheet piling, shoring, sheeting, bracing, or other supports are necessary, they shall be furnished, placed, maintained, and except as shown or specified otherwise, removed by the CONTRACTOR.
B. All sheet piling, shoring, sheeting and bracing shall be designed by a professional engineer engaged by the CONTRACTOR with demonstrated competence and experience in such work. The sheeting system shall be designed to prevent bottom failure and hydrostatic uplift within the excavation. Provision shall also be made in the design for lateral pressures due to side slope and construction equipment or other surcharge loads, as applicable.
C. The CONTRACTOR shall provide to the ENGINEER for his review, design calculation and arrangement drawings of the sheeting system prior to ordering any materials for bracing, sheeting, etc., and prior to the commencement of the excavation.
D. All materials, except as otherwise specified, used for sheeting and sheet piling, lagging, braces, shores, and stringers, or waling strips shall be of approved quality and dimensions throughout.
E. Materials for sheeting systems shall be furnished and driven or set in place by the CONTRACTOR, where necessary or wherever ordered by the ENGINEER, whether the same is or is not considered necessary by the CONTRACTOR. If, in the opinion of the ENGINEER, the materials furnished by the CONTRACTOR are not of proper quality or sufficient size or not properly placed to ensure the safety of the work or of adjacent structures and property, the CONTRACTOR shall, upon notice from the ENGINEER to that effect, forthwith procure, furnish and set in place or drive other and satisfactory materials, or place the material in a satisfactory manner; and if he shall fail or neglect to do so, the ENGINEER may order all or any part of the work to be stopped until such materials so used are furnished and placed; and the CONTRACTOR shall not be entitled to claim, demand, or receive any compensation for larger size or better quality or different disposal of materials ordered by the ENGINEER, nor any compensation for allowance of any kind whatsoever for or on account of any damage or delay resulting from such stoppage of work.
F. Steel sheet piling may be either new or used. It shall be of adequate strength, straight and properly braced. Steel sheet piling shall be of the interlocking type. Friction in the interlocks shall not be assumed to contribute to the strength of the sheet piling.
G. The design, planning, installation and removal, if required, of all sheet piling, shoring, sheeting, and bracing shall be accomplished in such a manner as to maintain the required excavation or trench section and to maintain the undisturbed state of the soils below and adjacent to the excavation.
H. Steel sheet piling for the excavation shall be driven straight and in-line. The piling shall be supported above ground, before driving, by a guide frame at least 20 ft high which will keep the piling accurately in the required position and vertical. Each piece of piling shall be driven only a few feet at a time and driving shall proceed continuously around the perimeter so that the piles shall reach their full penetration together.
I. Waters and bracing shall be supplied and installed as required to complete the sheeting system. Waters and braces shall be of adequate strength for the load imposed. Splices in waters shall develop the full strength of the member in bending, shear, and axial compression.
J. If bracing members are to be removed during construction, the liming and procedure for removal shall not induce excessive stresses in the permanent structures or in steel sheet piling and bracing members.
K. If the construction sequence of structures requires the transfer of bracing to the completed portions of any structure, the CONTRACTOR shall secure written acceptance of the ENGINEER prior to the installation of such bracing.
L. In trenching operations the use of horizontal strutting below the barrel of pipe or the use of the pipe as support for trench raking will not be permitted. The use of a traveling shield for sewer construction shall require that the device be approved for use by a professional engineer. Sheet piling and timbers in trench excavations shall be withdrawn in a manner so as to prevent subsequent settlement of the pipe or additional backfill loadings which might overload the pipe.
M. The neglect, failure, or refusal of the ENGINEER to order the use of sheeting, or sheet piling or steel, or to order the same to be left in place, or the giving or failure to give of any order or directions as to the manner or methods of driving or placing sheeting, sheet piling, bracing, shores, etc., shall not in any way relieve the CONTRACTOR of any or all obligations under this Contract. Sheeting left in place shall be cut off one (1) ft below existing grade.
N. The rules of the OSHA and the State Department of Labor with respect to excavation and construction shall at all times be strictly observed.

3.08 GENERAL BACKFILLING

A. For all areas, unless otherwise noted, backfilling shall consist of placing excavated material as defined in Paragraph 2.01.A. of this Section, in 12-inch lifts to finish grade. Compaction of backfill shall be such as to obtain 90% of the maximum density.
B. Under pavements, curb, paved driveways, and sidewalks, and where pipe is within a one on one influence of pavement, compaction testing shall be performed by an independent testing laboratory. Testing shall be performed at intervals of one test per lift per 50 feet of trench or as determined necessary by the ENGINEER.
C. In residential developments, all backfill within the road corridor shall be granular material compacted in layers not to exceed 12 inches loose thickness with backfilling carried up to subgrade. Compaction of backfill shall be as such to obtain 95% of the maximum unit density as determined at the optimum moisture content. For purposes of this section, the road corridor is defined as front of house to front of house, including right-of-way and adjacent easements and setbacks.

3.09 BACKFILLING FOR SEWERS AND WATER MAINS

A. Backfilling shall consist of placement of the prescribed materials from a level 12 inches above the crown of the pipe. Placement shall be as follows:
1. Under gravel driveways, gravel roads and shoulders, the backfill shall be granular material which shall be solidly compacted by mechanical tampers in layers of not more than 12 inches loose thickness with backfilling carried up to within 12 inches of finished grade. Compaction of backfill shall be such as to obtain 95% of the maximum unit density as determined at the optimum moisture content.
2. Under pavements, curb, paved driveways, and sidewalks, the backfill shall be granular material compacted in layers not to exceed 12 inches loose thickness with backfilling carried up to subgrade. Compaction of backfill shall be as such to obtain 95% of the maximum unit density as determined at the optimum moisture content. After a period of about 60 days or less, if the backfill compaction is satisfactory to the ENGINEER, to provide for any slight settlement, the CONTRACTOR shall return neatly any broken edges of pavement and replace the top surface of the backfill within the pavement area with pavement surface equal to that surface which was removed. The pavement shall be replaced in accordance with the standard specifications of the agency having jurisdiction.
3. Backfill around lift stations, or buried underground structures shall be granular material compacted in 12-inch lifts. Compaction of backfill shall be such as to obtain 95% of the maximum unit density as determined at the optimum moisture content.
4. For all other areas, backfilling shall consist of placing excavated material as defined in Paragraph 2.01.A. of this Section, in 12-inch lifts to finish grade. Compaction of backfill shall be such as to obtain 90% of the maximum unit density as determined at the optimum moisture content.

3.10 FILLING AND BACKFILLING FOR STRUCTURES

A. Embankments underlying structural footings, streets and drives, sidewalks and around structures shall be granular material meeting the requirements of the Michigan Department of Transportation for granular material compacted to 95% density.
B. In all other areas, material required for embankments and backfilling shall be soil or soil-rock mixture free of organic and other deleterious matter and shall contain no more than 15% rocks or lumps larger than 2-1/2 inches in the greatest dimension, compacted to 90% density.
C. Under all interior and exterior floor slabs, an 8-inch thick granular cushion shall be placed. This material shall be clean mineral aggregate meeting the following gradation requirements:
Passing the No. 4 Sieve 100%
Passing the No. 200 Sieve 0-3%
D. Where embankment material is placed to achieve a new surface elevation, the top 4 inches shall be approved topsoil either salvaged from the site or hauled in by the CONTRACTOR.

3.11 FILLING AND BACKFILLING FOR PAVED SURFACES

A. Embankments, including sand cushions and granular fills, shall be placed in successive layers not more than 6 inches in depth the full width of the cross section, each layer to be thoroughly compacted by means of vibratory compactors or by an approved pneumatic-tired roller or combination thereof, as required by the ENGINEER. Each layer shall be compacted to not less than 95% of the maximum unit density as determined at the optimum moisture content. All parts of the embankment shall be uniformly compacted and the CONTRACTOR shall so direct all earthmoving equipment used in the work so that the same shall be attained. Embankment or fill outside the limits of the subgrade where sand or gravel is not required shall be made with suitable material which is free from perishable organic matter, rubbish, stones, broken concrete, roots, or other foreign materials, at no additional compensation. Before any embankments are begun, the base shall be made firm and cleared of topsoil, soil or other perishable material. The sides of the embankment shall be neatly and evenly dressed to the slope shown on the Plans, or such other slope as the ENGINEER may direct.
B. Upon completion of the placing of the curbs, and after the concrete has cured sufficiently, forms shall be removed and the excavated space behind the curb shall be backfilled with a good quality of surface soil, free of rubbish, stone, broken concrete, roots or other foreign material. Where adequate acceptable material for backfill behind the curb is not available, granular fill conforming to 2003 MDOT 8.02.06, Class II, shall be used. Where the area behind the curb is in cut, it shall be trimmed from the top of the curb on the slope shown on the Plans. If the area is in embankment or fill, an earth berm shall be placed immediately adjacent to the top of the curb and then the embankment of fill shall be finished to the slope shown on the Plans. All trimming and finishing shall be done in a neat, workmanlike manner. All excess concrete and debris shall be removed from the excavation behind the curb line before backfilling begins.
C. In construction of non-rigid pavements, backfilling back of curb and gutter shall be completed before placement and compaction of the base course of the roadway.

3.12 PREPARATION OF SUBGRADE FOR ROADWAY SURFACES

A. The bottom of the excavation for the pavement or top of the fill shall be known as the pavement subgrade and shall be smoothed, trimmed and compacted to the required line, grade and cross section to receive the road metal. It shall be thoroughly compacted by rolling with a roller of approved type weighing not less than 8 tons. The subgrade shall be compacted to at least 95% of the maximum density as designated by the test method AASHTO T-180. Inaccessible areas, where rolling is not practical, shall be thoroughly compacted by mechanical tampers capable of striking a blow equivalent to at least 250 foot-pounds per square foot. The subgrade thus formed shall be maintained in a smooth and compacted condition until the pavement has been placed. No base course, surfacing, curb, or curb gutter, shall be placed until the subgrade has been reviewed by the ENGINEER. The subgrade shall be finished in an acceptable condition at least one day in advance of the pavement construction at all times. Six inches of compacted depth of granular material shall be used where uncompacted soil is encountered. The granular fill shall conform to the 2003 MDOT 9.02.08, Class II, compacted to 95% of its density.
B. Immediately prior to placing the pavement, the subgrade shall be tested for conformity with the cross section shown on the Plans by means of an approved template riding on the curb and gutter sections or on side forms. If necessary, materials shall be removed or added, as required, to bring all portions of the subgrade to the correct elevation. Corrected portions shall then be thoroughly compacted and again tested with the template. Pavement material shall not be placed at any portion of the subgrade which has not been tested for correct elevation.
C. The finished subgrade shall be maintained in a smooth and compacted condition until the pavement is placed. No storage piles of fine or coarse aggregate shall be placed directly upon the finished subgrade. Should the subgrade become rutted or disturbed in any manner, it shall be reshaped and recompacted.

3.13 GRADING

A. The CONTRACTOR shall grade the site to achieve the elevations as shown on the Plans. All disturbed areas beyond the grading limits shall be restored to prior condition.
B. Surplus excavated material not needed for embankment shall be disposed of by the CONTRACTOR. Headwalls, culverts, drains, sewers and appurtenances filled or damaged by the CONTRACTOR during the course of his operations shall be cleaned, repaired, or replaced at his expense.
C. All temporary earth changes shall be in conformance with the Soil and Erosion Control Act.

3.14 RESTORATION

A. Headwalls, culverts, and drainage systems filled or damaged by the CONTRACTOR during the course of his operations shall be cleaned, relaid or rebuilt with new materials to a condition equal to the original state, and of thickness equal to the original structure and to the original line and grade at the CONTRACTOR'S expense.
B. Where the excavation is located beside a ditch and/or where an existing ditch is filled or disturbed in the CONTRACTOR'S operations, the CONTRACTOR shall clean, repair, or replace the ditch with property pitched bottom and side slopes and of section and capacity not less than the original section.
C. Where excavation has been through lawn areas, the CONTRACTOR shall restore the disturbed area by placing topsoil and seeding or sodding over the final backfill material.
D. The CONTRACTOR shall remove excess dirt and other construction material from the site of the work and leave the site in a condition equal to its original state.
E. The final condition of the streets and roadways shall be subject to the approval of the governmental body having jurisdiction thereof, as well as review by the ENGINEER.



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Table with columns for revision/updates, revision number, description, and dates. Includes entries for TWP REV, UPDATES, Revision, and Issued.

File Name: SE-02 TTN DRW DRW 07.10.01 Dwn. Chkd. Dsgn. YY.MM.DD

Permit-Seal

Client/Project
PITTSFIELD TOWNSHIP

Pittsfield Township, Michigan
Title
EARTHWORK SPECIFICATIONS

Project No. 2075001300 Scale NOT TO SCALE

Revision



Pittsfield Charter Township
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Attachment #44
(Permit Question #62)

Municipal Facility and Structural Stormwater Control Inventory

I. Policy:

This policy is to establish the Pittsfield Charter Township procedure for municipal facility and structural stormwater control inventory.

II. Background:

The MDEQ NPDES Phase II Stormwater Discharge Permit Application requires the procedure for updating and revising the inventory and maps of applicant-owned or operated facilities and stormwater structural controls with a discharge of stormwater to surface waters of the state. Updates and revisions should take place as facilities and structural stormwater controls are added, removed, or no longer owned or operated by the applicant.

III. Procedure:

Inventory and maps of facilities and stormwater structural controls owned and operated by Pittsfield Charter Township will be updated and revised within 30 day of any changes to the statuses of these facilities and stormwater structural controls. Status changes may include the addition, removal, or transfer of ownership of these facilities and stormwater structural controls.

Pittsfield Charter Township Stormwater Structural Control Inventory

<u>Township Facilities</u>	<u>Location of Facility</u>	<u>Stormwater Structural Controls</u>
Pittsfield Township Administration Building/Public Safety Office	6201 W. Michigan Avenue (Admin)/6227 W. Michigan Avenue (Public Safety)	6 (Admin Bldg) Catch Basins / Detention Pond 9 (Public Safety) Catch Basins
Community Center/Parks & Recreation/Fire Station #3	701 W. Michigan Avenue	6 - Catch Basins / Detention Pond
Fire Station #2	4345 East Ellsworth Road	4 - Catch Basins / Detention Pond
Utilities Field Office	4467 Concourse Drive	5 - Catch Basins / Detention Pond
Booster Station & Ground Storage Reservoir	100 E. Textile Road	3 - Catch Basins / Detention Pond
<u>Township Parks</u>		
Pittsfield Preserve/Marshview Meadows	Textile Road, North of Michigan Avenue, East of Platt Road	Spillway (does not drain to waters of the state) / Detention Pond
Lillie Park North & South	4225 Platt Road	Pond
Montibeller Park	4345 E. Ellsworth Road	(drains to Fire Station #2 facility)
Pittsfield Township Park	701 W. Michigan Avenue	0
Prairie Park	6201 W. Michigan Avenue	(drains to Pittsfield Township Administration facility)
Hickory Woods	5415 Crane Road	Spillway (does not drain to waters of the state)



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Attachment #45
(Permit Question #63)

Facility-Specific Stormwater Management

I. Policy:

This policy is to establish the Pittsfield Charter Township procedure for facility-specific stormwater management.

II. Background:

The MDEQ NPDES Phase II Stormwater Discharge Permit Application requires the procedure for assessing each facility identified in an inventory of applicant-owned or operated facilities and stormwater structural control with a discharge of stormwater to surface waters of the state. This procedure must include a process for updating and revising the assessment. The following factors are to be considered when assessing each facility:

- Amount of urban pollutants stored at the site
- Identification of improperly stored materials
- The potential for polluting activities to be conducted outside
- Proximity to waterbodies
- Poor housekeeping practices
- Discharge of pollutants of concern to impaired waters

III. Procedure:

As a part of the Washtenaw County Water Resources Commissioner's Phase II Stormwater Permit and the Community Partners for Clean Streams program, a voluntary inspection of the six facilities that are owned and operated by Pittsfield Charter Township is conducted biannually. These inspections review site conditions relative to the Washtenaw County Pollution Prevention regulations and state and federal environmental regulations, in accordance with MIOSHA standards. A report is generated in response to these inspections. Once the report is received, the Stormwater Liaison works with relevant departments to fix any problems noted in the report within 30 days.



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Attachment #46
(Permit Question #64)

Facility-Specific Stormwater Management

I. Policy:

This policy is to establish the Pittsfield Charter Township procedure for facility-specific stormwater management.

II. Background:

The MDEQ NPDES Phase II Stormwater Discharge Permit Application requires the list of prioritized facilities that are owned or operated by the applicant. Each facility shall be prioritized based on having the high, medium, or low potential to discharge pollutants to surface waters of the state. Facilities with the high potential for pollutant runoff shall include, but are not limited to, the applicant's fleet maintenance and storage yards. The applicant may submit a demonstration with a description of how the applicant's fleet maintenance and storage yard has the low potential to discharge pollutants to surface waters of the state.

III. Procedure:

Site	Potential for discharging pollutants to surface waters of the state (high, medium, low)	Notes
Administration Office	Low	No pollutant sources on site
Fire Station #2	Low	No pollutant sources on site Vehicle and equipment washing is done within the facility
Community Center/Fire Station #3	Low	No pollutant sources on site Vehicle and equipment washing is done within the facilities
Booster Station & Ground Storage Reservoir	Low	No pollutant sources on site

Public Safety Offices	Medium*	All vehicle and equipment washing is done inside, where discharge can drain to the sanitary system. All chemicals on site are stored properly.
Utilities Field Office	Medium*	All vehicle maintenance and washing is done inside, where discharge can drain to the sanitary system. Large trucks, including the vector truck are stored on site. All chemicals on site are stored properly.
Parks & Recreation	Medium*	Light maintenance for vehicles is done indoors, where discharge can drain to the sanitary system. Chemicals on this site are stored properly.

*Chemical storage, and vehicle maintenance and washing at all sites listed as “medium” are done in compliance with pollution prevention inspections (see #63) in order to reduce the potential for the discharge of pollutants to surface waters of the state.



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Attachment #47
(Permit Question #70)

Facility-Specific Stormwater Management

I. Policy:

This policy is to establish the Pittsfield Charter Township procedure for facility-specific stormwater management.

II. Background:

The MDEQ NPDES Phase II Stormwater Discharge Permit Application requires the procedure for identifying the BMPs currently implemented or to be implemented during the permit cycle to prevent or reduce pollutant runoff at each facility with the medium or lower potential for the discharge of pollutants to surface waters of the state using the assessment and prioritized list.

III. Procedure:

As a part of the Washtenaw County Water Resources Commissioner's Phase II Stormwater Permit and the Community Partners for Clean Streams program, a voluntary inspection of the six facilities that are owned and operated by Pittsfield Charter Township is conducted biannually. These inspections review site conditions relative to the Washtenaw County Pollution Prevention regulations and state and federal environmental regulations, in accordance with MIOSHA standards. A report is generated in response to these inspections. Once the report is received, the Stormwater Liaison works with relevant departments to fix any problems noted in the report within 30 days.

Furthermore, when IDEP and Good Housekeeping Training Programs are available, staff members from these facilities attend the training seminars. Staff members are trained within the first year of hire.



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Mandy Grewal, Supervisor

Attachment #48
(Permit Question #71)

Structural Stormwater Control Operation and Maintenance Activities

I. Policy:

This policy is to establish the Pittsfield Charter Township procedure for structural stormwater control operation and maintenance activities.

II. Background:

The MDEQ NPDES Phase II Stormwater Discharge Permit Application requires the procedure for prioritizing each catch basin for routine inspection, maintenance, and cleaning based on preventing or reducing pollutant runoff. The procedure shall include assigning a priority level for each catch basin and the associated inspection, maintenance and cleaning schedule based on preventing or reducing pollutant runoff. The procedure shall include a process for updating/revising the priority level for a catch basin giving consideration to inspection findings and citizen complaints.

III. Procedure:

All catch basins will be inspected once in the spring and once in the fall, with maintenance and cleaning done on an as-needed basis. No prioritization will be needed, as all catch basins are to be inspected and maintained equally.



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Attachment #49
(Permit Question #72)

Structural Stormwater Control Operation and Maintenance Activities

I. Policy:

This policy is to establish the Pittsfield Charter Township procedure for structural stormwater control operation and maintenance activities.

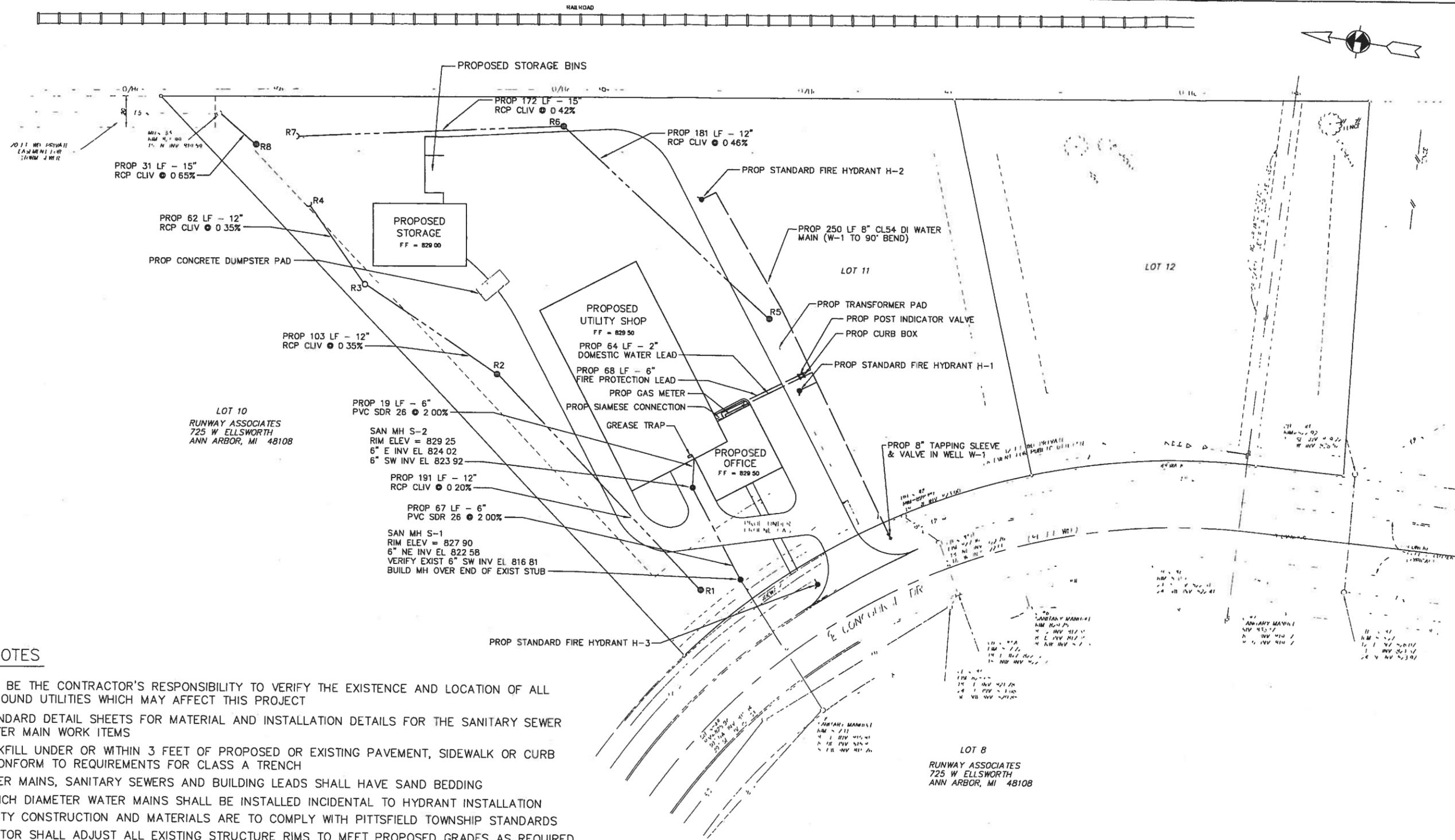
II. Background:

The MDEQ NPDES Phase II Stormwater Discharge Permit Application requires the geographic location of the catch basins in each priority level be provided using either a narrative description or map.

III. Procedure:

All catch basins will be inspected once in the spring and once in the fall, with maintenance and cleaning done on an as-needed basis. No prioritization will be needed, as all catch basins are to be inspected and maintained equally.

Please see the attached site plans of the Pittsfield Township facilities. Each facility will be inspected as stated above. The geographic location of these facilities is indicated in the Township's Watershed, Drains, and Points of Discharge Map located in this permit application under the tab labeled: Sections IV-VI.



UTILITY NOTES

- 1 IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE EXISTENCE AND LOCATION OF ALL UNDERGROUND UTILITIES WHICH MAY AFFECT THIS PROJECT
- 2 SEE STANDARD DETAIL SHEETS FOR MATERIAL AND INSTALLATION DETAILS FOR THE SANITARY SEWER AND WATER MAIN WORK ITEMS
- 3 ALL BACKFILL UNDER OR WITHIN 3 FEET OF PROPOSED OR EXISTING PAVEMENT, SIDEWALK OR CURB SHALL CONFORM TO REQUIREMENTS FOR CLASS A TRENCH
- 4 ALL WATER MAINS, SANITARY SEWERS AND BUILDING LEADS SHALL HAVE SAND BEDDING
- 5 ALL 6-INCH DIAMETER WATER MAINS SHALL BE INSTALLED INCIDENTAL TO HYDRANT INSTALLATION
- 6 ALL UTILITY CONSTRUCTION AND MATERIALS ARE TO COMPLY WITH PITTSFIELD TOWNSHIP STANDARDS
- 7 CONTRACTOR SHALL ADJUST ALL EXISTING STRUCTURE RIMS TO MEET PROPOSED GRADES AS REQUIRED COST SHALL BE INCIDENTAL
- 8 THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING AND MAINTAINING ALL TEMPORARY EROSION CONTROL DEVICES AND REMOVING SAID DEVICES UPON COMPLETION OF CONSTRUCTION
- 9 MAINTAIN 18" MINIMUM VERTICAL CLEARANCE BETWEEN WATER MAIN AND SEWERS
- 10 FRANCHISED UTILITIES SHALL ENTER THE BUILDING AT THE LOCATIONS SHOWN ON MECHANICAL AND ELECTRICAL DRAWINGS COST SHALL BE INCIDENTAL



LEGEND	
---12 S---	EXIST SAN SEWER
---12 R---	PROF SAN SEWER
---12 ST---	EXIST STORM SEWER
---12 W---	PROF STORM SEWER
---	EXIST WATER MAIN
---	PROF WATER MAIN
---	EXIST UG ELEC
---	EXIST UG GAS
---	EXIST UG TELE
---	EXIST FENCE
○	EXIST MANHOLE
⊕	EXIST CATCH BASIN
⊖	EXIST CULVERT
⊕	EXIST FIRE HYDRANT
⊕	EXIST GATEVALVE
⊕	EXIST VALVE IN BOX
⊕	EXIST LIGHT POLE
⊕	EXIST GUY
⊕	EXIST SIGN
⊕	SECTION CORNER
⊕	SOIL BORE
⊕	EXIST SPOT ELEVATION
⊕	MONITORING WELL

BENCHMARKS
 BM-1 TOP OF IRON PIPE ELEV 828 01 (U.S.G.S.)
 BM-2 TOP OF IRON PIPE ELEV 826 74 (U.S.G.S.)
 BM-3 SPIKE IN WEST SIDE OF POWER POLE ELEV 834 80 (U.S.G.S.)

REV	DATE	DESCRIPTION
1	5/19/99	PER TOWNSHIP
2	4/27/99	ORIGINAL ISSUE

DESIGNED BY: NDF
 CHECKED BY: RBG
 SEALED

PITTSFIELD CHARTER TOWNSHIP
 UTILITIES FIELD OFFICE

OVERALL UTILITY PLAN

Ayres, Lewis, Norris & May, Inc
 Engineers • Planners • Surveyors
 3959 Research Park Drive
 Ann Arbor, Michigan 48108
 (734) 761-1010

SCALE: HOR 1"=30'
 50997-02



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Mandy Grewal, Supervisor

Attachment #50
(Permit Question #73)

Structural Stormwater Control Operation and Maintenance Activities

I. Policy:

This policy is to establish the Pittsfield Charter Township procedure for structural stormwater control operation and maintenance activities.

II. Background:

The MDEQ NPDES Phase II Stormwater Discharge Permit Application requires the procedure for inspecting, cleaning, and maintaining catch basins to ensure proper performance. Proper cleaning methods include ensuring accumulated pollutants are not discharged during cleaning and are removed prior to discharging to surface waters of the state.

III. Procedure:

Proper cleaning methods will be carried out by contractors hired to clean the catch basins. Contractors are required to ensure that accumulated pollutants are not discharged during cleaning and are removed prior to discharging to surface waters of the state. All catch basins will be inspected once in the spring and once in the fall, and it will be determined at such time if routine maintenance and cleaning will be needed. The following items will be reviewed upon inspection: structural integrity of the structure, sediment build-up, flow, access, and overall functionality.



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Attachment #51
(Permit Question#74)

Structural Stormwater Control Operation and Maintenance Activities

I. Policy:

This policy is to establish the Pittsfield Charter Township procedure for structural stormwater control operation and maintenance activities.

II. Background:

The MDEQ NPDES Phase II Stormwater Discharge Permit Application requires the procedure for dewatering and disposal of materials extracted from catch basins.

III. Procedure:

Materials removed from catch basins will only be discharged at landfills that can accept industrial waste. The landfill currently accepting these materials is Republic Landfill in Plymouth Township.



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Attachment #52
(Permit Question #75)

Structural Stormwater Control Operation and Maintenance Activities

I. Policy:

This policy is to establish the Pittsfield Charter Township procedure for structural stormwater control operation and maintenance activities.

II. Background:

The MDEQ NPDES Phase II Stormwater Discharge Permit Application requires the procedure for inspecting and maintaining the structural stormwater controls (other than catch basins) identified within the permit application.

III. Procedure:

All stormwater structural controls will be inspected once in the spring and once in the fall, with maintenance and cleaning done on an as-needed basis. The Utilities Department will inspect and maintain these controls and will dispose of any maintenance waste materials at the appropriate Type II Landfill.

The procedure will be updated within 30 days of the implementation of new stormwater structural controls.



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Attachment #53
(Permit Question #76)

Structural Stormwater Control Operation and Maintenance Activities

I. Policy:

This policy is to establish the Pittsfield Charter Township procedure for structural stormwater control operation and maintenance activities.

II. Background:

The MDEQ NPDES Phase II Stormwater Discharge Permit Application requires the procedure requiring new applicant-owned or operated facilities or new structural stormwater controls for water quantity be designed and implemented in accordance with the post-construction stormwater runoff control performance standards and long-term operation and maintenance requirements.

III. Procedure:

The Township follows the Washtenaw County Water Resources Commissioners (WCWRC) Office Standards and Township Engineering Standards for stormwater quantity design detailing the 100-year/24-hour rain event with outlet flow not exceeding 0.15 cfs per pre-development acre. The maintenance and long-term operation of stormwater facilities is ensured by the Stormwater Maintenance Agreement.



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Attachment #54
(Permit Question #77)

Municipal Operations and Maintenance Activities

I. Policy:

This policy is to establish the Pittsfield Charter Township procedure for municipal operations and maintenance activities.

II. Background:

The MDEQ NPDES Phase II Stormwater Discharge Permit Application requires the procedure with the assessment of the applicant's operation and maintenance activities for the potential to discharge pollutants to surface waters of the state. The assessment shall identify all pollutants that could be discharged from each applicable operation and maintenance activity and the BMPs being implemented or to be implemented to prevent or reduce pollutant runoff. The procedure shall include a process for updating and revising the assessment.

III. Procedure:

Applicable municipal operations and maintenance activities include parking lot and sidewalk maintenance, cold weather operations, and vehicle washing and maintenance.

Parking lot and sidewalk maintenance (pothole, sidewalk, and curb and gutter repair)

Possible pollutants: Fuel, hydraulic fluid, oil, sediment, concrete

BMPs to address pollutants: Contractors hired for these jobs are certified contractors who are informed of stormwater management practices to reduce pollution in stormwater.

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

Cold weather operations (plowing, sanding, deicing, snow pile disposal)

Possible pollutants: Sodium, magnesium, calcium, potassium, chloride, turbidity

BMPs to address pollutants: Conduct operations strictly on an as-needed basis. Because Pittsfield Charter Township does not maintain their own roadways, the application and storage of deicing agents does not apply.

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

Vehicle washing and maintenance

Possible pollutants: Petroleum based wastes, metals, nutrients

BMPs to address pollutants: All vehicle washing and maintenance is to be performed indoors where drains connecting to the sanitary system can receive all wastes. Alternatively, vehicle washing can be performed at Zippy's Auto Wash.

Process for updating assessment: Pollution prevention inspections ensure that these BMPs are carried out properly. Any issues found in the inspection reports are addressed within 30 days. If changes are made to the existing BMPs, they will be assessed within 30 days of the changes.



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Attachment #55
(Permit Question #78)

Municipal Operations and Maintenance Activities

I. Policy:

This policy is to establish the Pittsfield Charter Township procedure for municipal operations and maintenance activities.

II. Background:

The MDEQ NPDES Phase II Stormwater Discharge Permit Application requires the procedure for prioritizing applicant-owned or operated streets, parking lots, and other impervious infrastructure for street sweeping based on the potential to discharge pollutants to surface waters of the state. The procedure shall include assigning a priority level for each parking lot and street and the associated cleaning schedule based on preventing or reducing pollutant runoff. The procedure shall include a process for updating/revising the priority level giving consideration to street sweeping findings and citizen complaints.

III. Procedure:

All applicant-owned parking lots are to be swept each spring, and as necessary in the fall, without prioritization. The contractor hired to do the sweeping is responsible for properly disposing of wastes from parking lots.



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Attachment #56
(Permit Question #79)

Municipal Operations and Maintenance Activities

I. Policy:

This policy is to establish the Pittsfield Charter Township procedure for municipal operations and maintenance activities.

II. Background:

The MDEQ NPDES Phase II Stormwater Discharge Permit Application requires the geographic location of the streets, parking lots, and other impervious surfaces in each priority level using either a narrative description or map.

III. Procedure:

Please see the attached site plans of the Pittsfield Township facilities located in the Township's Watershed, Drains, and Points of Discharge Map located in this permit application under the tab labeled: Sections IV-VI. Also refer to Question #72, Attachment #49, within this permit application.



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Attachment #57
(Permit Question #80)

Municipal Operations and Maintenance Activities

I. Policy:

This policy is to establish the Pittsfield Charter Township procedure for municipal operations and maintenance activities.

II. Background:

The MDEQ NPDES Phase II Stormwater Discharge Permit Application requires the procedure identifying the sweeping methods based on the applicant's sweeping equipment and use of additional resources in sweeping seasonal leaves or pick-up of other materials.

III. Procedure:

All applicant-owned parking lots are to be swept each spring, and as necessary in the fall, without prioritization. The contractor hired to do the sweeping is responsible for properly disposing of wastes from parking lots.



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Attachment #58
(Permit Question #81)

Municipal Operations and Maintenance Activities

I. Policy:

This policy is to establish the Pittsfield Charter Township procedure for municipal operations and maintenance activities.

II. Background:

The MDEQ NPDES Phase II Stormwater Discharge Permit Application requires the procedure for dewatering and disposal of street sweeper waste material.

III. Procedure:

The contractor hired to do street sweeping on applicant-owned parking lots is responsible for proper disposal of waste material.



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Attachment #59
(Permit Question #82)

Managing Vegetated Properties

I. Policy:

This policy is to establish the Pittsfield Charter Township procedure for managing vegetated properties.

II. Background:

The MDEQ NPDES Phase II Stormwater Discharge Permit Application requires the procedure requiring the applicant's pesticide applicator to be certified by the State of Michigan as an applicator in the applicable category, to prevent or reduce pollutant runoff from vegetated land.

III. Procedure:

At least two personnel in the Grounds Department must be trained and certified by the State of Michigan as a pesticide applicator to prevent or reduce pollutant runoff from vegetated land. The Stormwater Liaison will be responsible for maintaining records of which employees have been certified.



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Attachment #60
(Permit Question #83)

Employee Training

I. Policy:

This policy is to establish the Pittsfield Charter Township procedure for employee training.

II. Background:

The MDEQ NPDES Phase II Stormwater Discharge Permit Application requires an employee training program to train employees involved in implementing the pollution prevention and good housekeeping program. The program shall include the training schedule. At a minimum, existing staff shall be trained once during the permit cycle and new hires within the first year of their hire date.

III. Procedure:

Employees will be trained by SEMCOG's NPDES training program. SEMCOG will conduct training sessions throughout the permit cycle on the municipal management of stormwater. The Township Stormwater Liaison has been added to SEMCOG's monthly email distribution list in order to receive information regarding training program announcements. The Stormwater Liaison will also maintain records of which employees have completed trainings in order to ensure that all field staff is trained at least once during the permit cycle and new hires are trained within the first year of their hire date.



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Mandy Grewal, Supervisor

Attachment #61
(Permit Question #84)

Contractor Requirements and Oversight

I. Policy:

This policy is to establish the Pittsfield Charter Township procedure for contractor requirements and oversight.

II. Background:

The MDEQ NPDES Phase II Stormwater Discharge Permit Application requires a procedure requiring contractors hired by the applicant to perform municipal operation and maintenance activities comply with all pollution prevention and good housekeeping BMPs as appropriate. The procedure shall include the process implemented for providing oversight of contractor activities to ensure compliance.

III. Procedure:

All contractors hired by Pittsfield Charter Township to perform municipal operations and maintenance activities are responsible for contacting the Engineering Department to obtain a permit for Soil Erosion and Sedimentation Control (SESC). This permit allows the Township to ensure compliance with SESC BMPs.



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Mandy Grewal, Supervisor

Attachment #62
(Permit Question #86)

TMDL Implementation Plan

I. Policy:

This policy is to establish the Pittsfield Charter Township TMDL implementation plan.

II. Background:

The MDEQ NPDES Phase II Stormwater Discharge Permit Application requires a procedure for identifying and prioritizing BMPs currently being implemented or to be implemented during the permit cycle to make progress toward achieving the pollutant load reduction requirement in each TMDL identified in Question 85. Each BMP shall include a reference to the targeted TMDL pollutant.

III. Procedure:

BMPs are to be prioritized based on the Huron River Watershed Council's TMDL Implementation Plan (attached). Priority will be given to BMPs that reduce phosphorus loads to Ford and Belleville Lakes, reduce E. coli loads to Geddes Pond, and address environmental quality for Biota, increase Dissolved Oxygen levels, and reduce E. coli in Swift Run Creek and Paint Creek.



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Mandy Grewal, Supervisor

Attachment #63
(Permit Question #87)

TMDL Implementation Plan

I. Policy:

This policy is to establish the Pittsfield Charter Township TMDL implementation plan.

II. Background:

The MDEQ NPDES Phase II Stormwater Discharge Permit Application requires a list of prioritized BMPs currently being implemented or to be implemented during the permit cycle to make progress toward achieving the pollutant load reduction requirement in each TMDL identified in Question 85. Each BMP shall include a reference to the targeted TMDL pollutant.

III. Procedure:

As a member of the Middle Huron Stormwater Advisory Group, Pittsfield Charter Township is following the implementation BMP submitted by the Watershed Permitted group to the MS4 committee. Additional BMPs are listed on the Pittsfield Charter Township Storm Water Management Plan Commitments to Action Plan which is included in the permit application under the Application tab.



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Attachment #64
(Permit Question #88)

TMDL Implementation Plan

I. Policy:

This policy is to establish the Pittsfield Charter Township TMDL implementation plan.

II. Background:

The MDEQ NPDES Phase II Stormwater Discharge Permit Application requires a monitoring plan for assessing the effectiveness of the BMPs currently being implemented, or to be implemented, in making progress toward achieving the TMDL pollutant load reduction requirement, including a schedule for completing the monitoring. Monitoring shall be specifically for the pollutant identified in the TMDL. Monitoring may include, but is not limited to, outfall monitoring, in-stream monitoring, or modeling. At a minimum, monitoring shall be conducted two times during the permit cycle or at a frequency sufficient to determine if the BMPs are adequate in making progress toward achieving the TMDL pollutant load reduction.

III. Procedure:

All monitoring of BMP effectiveness will be carried out by the Huron River Watershed Council for the Middle Huron Stormwater Advisory Group. Additional information about this monitoring plan can be found in the attached Total Maximum Daily Load (TMDL) Implementation Plan for the Huron River Watershed MS4s in Washtenaw County.

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

The Michigan Department of Environmental Quality (MDEQ), 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 through the permit cycle covering October 1, 2014 through October 1, 2018. This document addresses the permit application sections VII.86 through VII.88.

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	Ypsilanti Charter Township
Ann Arbor Public Schools	Washtenaw County Water
Barton Hills Village	Resources Commissioner
Village of Dexter	Washtenaw County Road
Eastern Michigan University	Commission
Pittsfield Charter Township	University of Michigan
City of Ypsilanti	

B. *Excessive bacteria (E. coli) in the Huron River and tributaries downstream of Argo Dam to Geddes Dam*

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

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

City of Ann Arbor	Washtenaw County Road
Ann Arbor Public Schools	Commission
Washtenaw County Water	
Resources Commissioner	

D. *Aquatic biota impairment in Malletts Creek*

City of Ann Arbor
Ann Arbor Public Schools
Pittsfield Charter Township
Washtenaw County Water
Resources Commissioner

Washtenaw County Road
Commission
University of Michigan

E. *Aquatic biota impairment in Swift Run*

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

Washtenaw County Water
Resources Commissioner
Washtenaw County Road
Commission

II. Prioritizing and Implementation BMPs

The MS4s in the Middle Huron River Watershed have put forth substantial effort and 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 put 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 attached table represents each MS4's project priorities that will be implemented during the permit cycle to collectively make progress toward achieving each of the TMDL pollutant load reduction targets. 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, as the activity is a general (G) stormwater treatment BMPs 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 these TMDL-pollutant source areas after high priority BMPs are implemented.

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 Water Quality Monitoring Program, which has been funded in part by MS4s. 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.

1. MS4s will support the collection of water quality samples from sites that are located at or near major tributary mouths. Figure 1 shows a map of long-term monitoring sites at the time of publication. A current map of monitoring sites is located at <http://www.hrwc.org/water-quality-monitoring/>.
2. Samples will be collected at least twice during the permit cycle, not including the data included from previous monitoring. Sampling years will be 2015 and 2018. At least one sampling event will take place at each of the nine sites. An effort will be made to sample water quality parameters during a representative (i.e. >0.25" and <1.5") wet weather event.
3. Samples will be collected following procedures identified in HRWC's Water Quality 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 during the permit cycle, but currently is done annually.
6. Depending on the results from long-term monitoring sites, additional short-term investigative sites may be selected upstream. These sites will be sampled within an hour of sampling at the downstream site so that results can be compared and better define pollutant source locations.
7. Based on a review of 2015 and 2018 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 2) 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 MS4s.

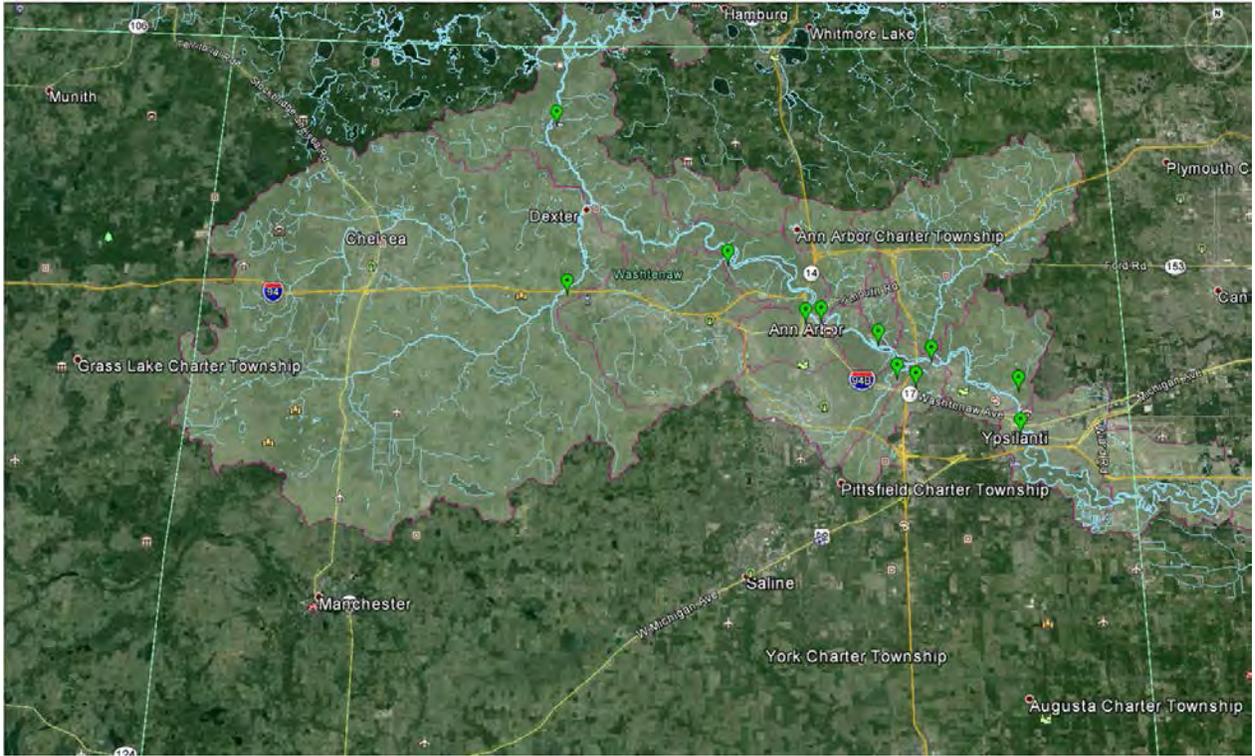


Figure 1. Long-term water quality monitoring stations in the Middle Huron River watershed.



Figure 2. Current HRWC macroinvertebrate sampling locations in Malletts Creek and Swift Run watersheds.

SWMP Priority Actions for Total Maximum Daily Load (TMDL) Progress

The table below lists stormwater BMPs that are targeted to improve water quality impairments listed by TMDL affected, and the SWMP section they apply to. If the BMP addresses a TMDL, high (H), medium (M) or low (L) priority is indicated, or G indicates general implementation.

Pittsfield Charter Township

Section*	SWMP Actions for Pittsfield Charter Township	Phosphorus TMDL	Biota (Flow, sedimentation) TMDL	E.coli TMDL
ERP	<i>Track instances of non-compliance as required under the permit</i>	G	G	G
PPP	<i>Access to the stormwater management plan</i>	G	G	G
PPP	<i>Stormwater Advisory Group (Watershed group) meetings</i>	G	G	G
PPP	<i>Stormwater Management Program (SWMP) review.</i>	G	G	G
PPP	<i>Participation in Watershed Groups</i>	G	G	G
PEP	<i>Distribute Informational Materials</i>	H	H	H
PEP	<i>Watershed Community Calendar</i>	G	G	G
PEP	<i>Information in Community Newsletters and on Websites - Educational Content</i>	G	G	G
PEP	<i>Local Newspaper and Web/Other Advertisements</i>	G	G	G
PEP	<i>Promote Water Resource Protection Workshops</i>	H	H	H
PEP	<i>Volunteer Stream Monitoring</i>	G	G	G
PEP	<i>Catchbasin/Storm Drain Labeling</i>	H	M	H
PEP	<i>Riparian Land Management Information</i>	H	H	H
PEP	<i>Displays and Outreach at Local and Regional Fairs and Community Events</i>	G	G	G
PEP	<i>Promote County-wide Compliant Tracking and Response System</i>	G	G	G
PEP	<i>Stream and River Crossing Road Signs</i>	G	G	G
PEP	<i>Washtenaw County Community Partners for Clean Streams</i>	G	G	G
PEP	<i>Washtenaw County Pollution Prevention Inspections</i>	H	L	H
PEP	<i>Washtenaw County Issues of the Environment Radio Show</i>	G	G	G
PEP	<i>Washtenaw County Environmental Excellence Awards</i>	G	G	G
PEP	<i>Washtenaw County Fats, Oil and Grease & Litter Reduction</i>	G	G	G

SWMP Priority Actions for Total Maximum Daily Load (TMDL) Progress

Section*	SWMP Actions for Pittsfield Charter Township	Phosphorus TMDL	Biota (Flow, sedimentation) TMDL	E.coli TMDL
PEP	<i>Washtenaw County River Safe Homes Program</i>	G	G	G
PEP	<i>Washtenaw County & City of Ann Arbor Residential Rain Garden Program</i>	H	H	M
PEP	<i>Washtenaw County Home Toxics Reduction Program</i>	G	G	G
PEP	<i>Guidance for Managing Pesticides & Fertilizers on Stormwater Website</i>	G	G	G
PEP	<i>Develop Brochure for Proper Car Washing and Cleaning Agents</i>	G	G	G
PEP	<i>Washtenaw County Drug Take Back Program</i>	G	G	G
IDEP	<i>Dry Weather Screening Program & Data Collection</i>	M	L	H
IDEP	<i>Illegal Dumping/Spill Response & Database</i>	G	G	G
IDEP	<i>Environmental reporting line / Tracking</i>	G	G	G
IDEP	<i>Time of Sale & Field Inspections</i>	M		H
IDEP	<i>Pollution Prevention (P2) Program</i>	M	L	H
IDEP	<i>Staff Training</i>	M	L	H
IDEP	<i>Dye Testing</i>	M	L	H
SESC	<i>Soil Erosion and Sedimentation Control (SESC) Programs</i>	H	H	
SESC	<i>SESC Inspections</i>	H	H	
SESC	<i>Discharge notifications</i>	H	H	
SESC	<i>State of Michigan – Permit-by-Rule Notification</i>	H	H	
PCSW	<i>Require PCSW controls within jurisdiction, including on WC projects</i>	G	G	G
P2GH	<i>Municipal Facility & Structural Stormwater Control Inventory</i>	G	G	G
P2GH	<i>Regulated Municipal Facility – Assessment of Potential for Pollutant Discharge</i>	G	G	G
P2GH	<i>Catch basin cleaning</i>	H	H	M
P2GH	<i>Lot sweeping</i>	H	M	L
P2GH	<i>Litter collection</i>	G	G	G
P2GH	<i>Proper Handling & Disposal of Operation and Maintenance Waste</i>	H	M	L
P2GH	<i>Employee/Contractor Training</i>	G	G	G
P2GH	<i>Staff Certifications</i>	G	G	G
P2GH	<i>Parking Lot Maintenance</i>	G	G	G

SWMP Priority Actions for Total Maximum Daily Load (TMDL) Progress

Section*	SWMP Actions for Pittsfield Charter Township	Phosphorus TMDL	Biota (Flow, sedimentation) TMDL	E.coli TMDL
P2GH	<i>IDEP Training</i>	G	G	G
P2GH	<i>Management of County-owned Vegetated Properties</i>	H	M	

* Key:

- ERP Enforcement Response Procedure
- PPP Public Participation Plan
- PEP Public Education Plan
- IDEP Illicit Discharge and Elimination Plan
- SESC Construction Soil Erosion and Sediment Control
- PCSW Post-Construction Stormwater Runoff Program
- P2GH Pollution Prevention and Good Housekeeping