

STORMWATER MANAGEMENT PLAN

FOR

HIGHLAND CHARTER TOWNSHIP



- 1) Application
 - a) Original watershed based application 3/24/2015
 - b) Renewal Application 4/1/2021
- 2) Emergency Response Plan (ERP) 4/6/2023
- 3) Public Participation Plan (PPP) 4/6/2023
- 4) Public Education Plan (PEP) 4/6/2023
- 5) Illicit Discharge Elimination Plan (IDEP) 5/1/2023
- 6) Post Construction Controls (PCC) 4/6/2023
- 7) Pollution Prevention/Good Housekeeping (P2/GH) 5/3/2023
- 8) TMDL Memos 1/15/2015
 - a) Kent Lake Phosphorus 1/15/2015
 - b) Statewide e coli 4/1/2021

1) APPLICATION

- a) Original watershed based application
- b) 2021 Renewal Application

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PLEASE TYPE OR PRINT

Applicants for either new permit coverage or reissuance of a permit shall include all of the following requested information for Sections I-VIII.

SECTION I. APPLICANT NAME AND MAILING ADDRESS		Current Permit/COC Number (if applicable)
Highland Charter Township		MIG610277
Additional Applicant Name Information		
Street Address or P.O. Box		e-mail
205 N John St		corwinb@twp.highland.mi.us
City or Village	State	ZIP Code
Highland	MI	48357
Telephone (with area code)	FAX Number (with area code)	
248-887-3791 x136	248-887-1937	

SECTION II. CONTACTS

<input checked="" type="checkbox"/> Application Contact <input checked="" type="checkbox"/> Stormwater Program Manager <input type="checkbox"/> Stormwater Billing	First Name	Last Name	
	Elizabeth	Corwin	
	Title	Business	
	Planning Director	Highland Charter Township	
	Address 1	Address 2	
205 N John St			
City	State	ZIP Code	
Highland	MI	48357	
Telephone (with area code)	FAX (with area code)	e-mail	
248-887-3791 x136	248-887-1937	corwinb@twp.highland.mi.us	
<input type="checkbox"/> Application Contact <input type="checkbox"/> Stormwater Program Manager <input checked="" type="checkbox"/> Stormwater Billing	First Name	Last Name	
	Amy	LaVoie	
	Title	Business	
	Bookkeeper	Highland Charter Township	
	Address 1	Address 2	
205 N John St			
City	State	ZIP Code	
Highland	MI	48357	
Telephone (with area code)	FAX (with area code)	e-mail	
248-887-3791 x7	248-887-1937	lavoiea@twp.highland.mi.us	
<input type="checkbox"/> Application Contact <input type="checkbox"/> Stormwater Program Manager <input type="checkbox"/> Stormwater Billing	First Name	Last Name	
	Title	Business	
	Address 1	Address 2	
City	State	Zip Code	
Telephone (with area code)	FAX (with area code)	e-mail	

SECTION III.
 PERMIT ACTION REQUESTED:
 NEW AUTHORIZATION
 REISSUANCE OF PREVIOUS AUTHORIZATION
 MODIFICATION OF CURRENT PERMIT

SECTION IV. REGULATED AREA
 Provide a map identifying the urbanized area within the applicant's jurisdictional boundary as defined by the 2010 Census. The regulated municipal separate storm sewer system (MS4) means an MS4 owned or operated by a city, village, township, county,

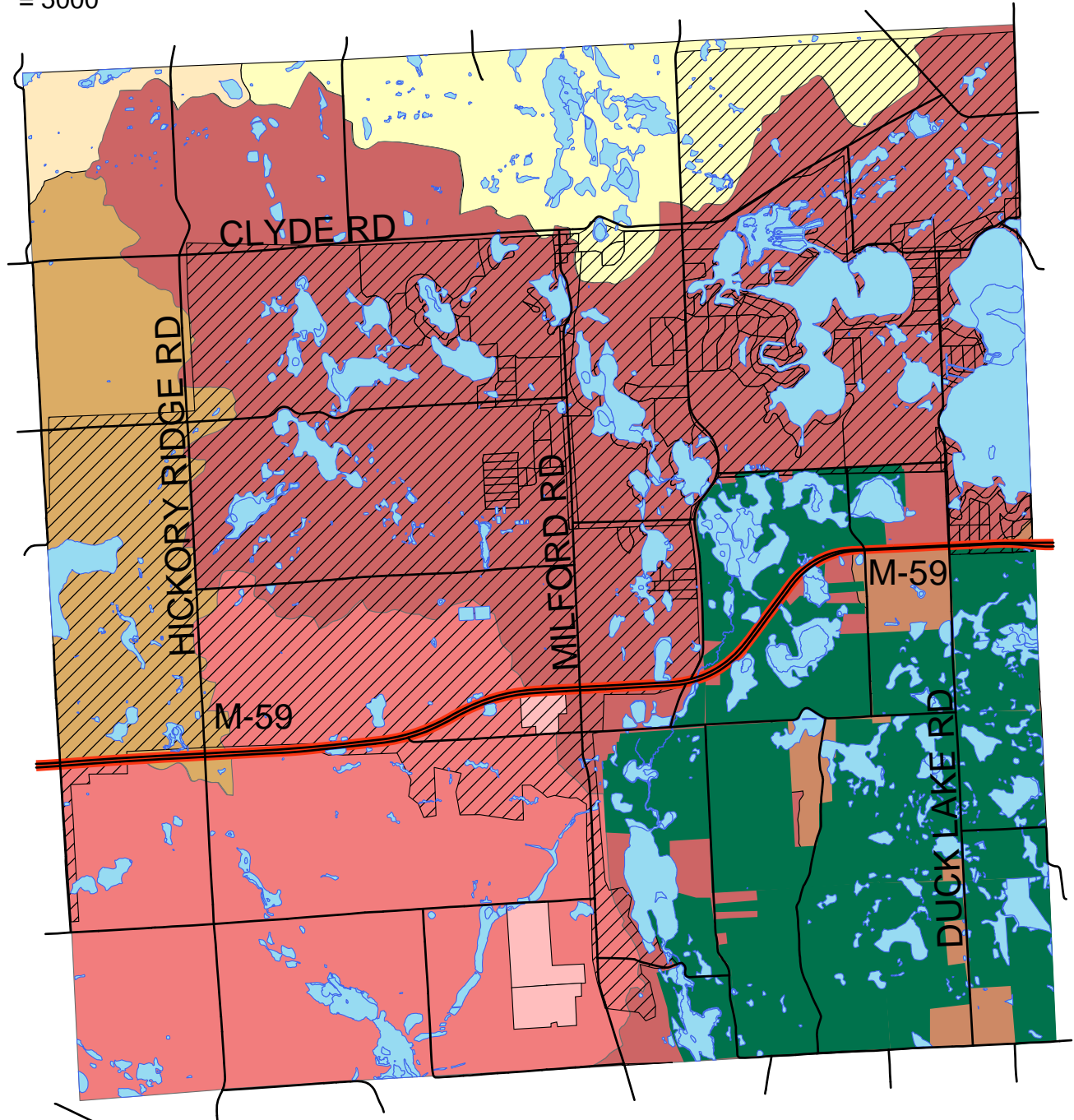
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district, association, or other public body created by or pursuant to state law and the nested MS4 identified in Section VI. that is located in an urbanized area and discharges stormwater into surface waters of the state. The 2010 Census maps are located at http://www.michigan.gov/documents/deq/wrd-stormwater-urbanizedareas_374344_7.pdf












1" = 5000'

REGULATED AREAS MAP



Legend

 urbanized areas	KENT LAKE WATERSHED	SHIAWASSEE WATERSHED	Nested Jurisdictions
	 Huron River	 North Ore Creek	 HVSD
	 Pettibone Creek	 Runyan Creek	 MDNR
	 Woodruff Creek	 Shiawassee River	

Charter Township of Highland

Oakland County, Michigan

Only Area Subject to Phase II NPDES Permit Requirements
is Kent Lake/Upper Huron River Subwatershed



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SECTION V. OUTFALLS AND POINTS OF DISCHARGE

Identify and provide the surface water of the state that receives the discharge from each of the applicant's outfalls and points of discharge in Table 1 or an alternative format. Please note that an MS4 is not a surface water of the state. For example, an open county drain that is a surface water of the state is not an MS4.

SECTION VI. NESTED JURISDICTIONS

Submit the name and general description of each nested MS4 for which a cooperative agreement has been reached to carry out the terms and conditions of the permit for the nested jurisdiction. The applicant shall be responsible for assuring compliance with the permit for those nested jurisdictions with which they have entered into an agreement and listed as part of the Application. If the primary jurisdiction and the nested jurisdiction agree to cooperate so that the terms and conditions of the permit are met for the nested MS4, the nested jurisdiction does not need to apply for a separate permit. A city, village, or township shall not be a nested jurisdiction.

NESTED JURISDICTION NAME AND GENERAL DESCRIPTION:

none

SECTION VII. STORMWATER MANAGEMENT PROGRAM

This application requires a description of the Best Management Practices (BMPs) the applicant will implement for each minimum control measure and the applicable water quality requirements during this permit cycle. The applicant shall incorporate the BMPs to develop a Stormwater Management Program (SWMP) as part of the application. The SWMP shall be developed, implemented, and enforced to reduce the discharge of pollutants from the MS4 to the Maximum Extent Practicable and protect water quality in accordance with the appropriate water quality requirements of Michigan Act 451, Public Acts of 1994, Part 31, and the Federal Water Pollution Control Act, as amended, (33 U.S.C. 1251 *et seq.*). The Maximum Extent Practicable may be met by implementing the BMPs identified in the SWMP and demonstrating the effectiveness of the BMPs. The applicant shall attach any appropriate and necessary documentation to demonstrate compliance with the six minimum control measures and applicable water quality requirements as part of the application.

The applicant shall complete this application to the best of its knowledge and ensure that it is true, accurate, and meets the minimum requirements for a SWMP to the Maximum Extent Practicable.

When answering the questions in this section of the application, the applicant's MS4 encompasses what the applicant identified in Sections IV, V, and VI, above. The applicant shall include a measurable goal for each BMP. Each measurable goal shall include, as appropriate, a schedule for BMP implementation (months and years), including interim milestones and the frequency of the action. Each measurable goal shall have a measure of assessment to measure progress towards achieving the measurable goal. A United States Environmental Protection Agency (USEPA) guidance document on measurable goals available at <http://www.epa.gov/npdes/pubs/measurablegoals.pdf>.

Several minimum control measures include a statement requesting the applicant to indicate in the response if you are, or will be, working collaboratively with watershed or regional partners on any or all activities to meet the minimum control measure requirements. If the applicant chooses to work collaboratively with watershed or regional partners to implement parts of the SWMP, each applicant will be responsible for complying with the minimum permit requirements.

For purposes of this application a procedure means a written process, policy or other mechanism describing how the applicant will implement minimum requirements. It may be helpful to read all questions in each section first.

Enforcement Response Procedure (ERP)

The applicant shall describe the current and proposed enforcement responses to address violations of the applicant's ordinances and regulatory mechanisms identified in the SWMP. The following question represents the minimum requirement for the ERP. Please complete the question below.

1. Provide the ERP. The ERP shall include the applicant's expected response to violations to compel compliance with an ordinance or regulatory mechanism implemented by the applicant in the SWMP (e.g., written notices, citations, and fines). The ERP shall contain a method for tracking instances of non-compliance, including, as appropriate, the name of the person responsible for violating the applicant's ordinance or regulatory mechanism, the date and location of the violation, a description of the violation, a description of the enforcement response used, a schedule for returning to compliance, and the date the violation was resolved. The applicant may keep an electronic file or hard copy file of the enforcement tracking.

ERP Reference (page and paragraph of attachments): *e.g., Attachment A, Page 3, Section b. See Attached ERP*

Public Participation/Involvement Program (PPP)

The applicant shall describe the current and proposed BMPs to meet the minimum control measure requirements for the PPP to the maximum extent practicable, which shall be incorporated into the SWMP. Please indicate in your response if you are, or will be, working collaboratively with watershed or regional partners on any or all activities in the PPP during the permit cycle (i.e., identify collaborative efforts in the procedures). The following questions represent the minimum control measure requirements for the PPP. Please complete all the questions below. 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.

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2. Provide the procedure for making the SWMP available for public inspection and comment. The procedure shall include a process for notifying the public when and where the SWMP is available and of opportunities to provide comment. The procedure shall also include a process for complying with local public notice requirements, as appropriate.

Procedure Reference (page and paragraph of attachments): *e.g., Attachment A, Page 3, Section b. See attached PPP, page 3, Part 3.7*

3. Provide the procedure for inviting public involvement and participation in the implementation and periodic review of the SWMP.

Procedure Reference (page and paragraph of attachments): *See attached PPP, Page 2, Part 3.*

Public Education Program (PEP)

The applicant shall describe the current and proposed BMPs to meet the minimum control measure requirements for the PEP to the maximum extent practicable, which shall be incorporated into the SWMP. Please indicate in your response if you are, or will be, working collaboratively with watershed or regional partners on any or all activities in the PEP during the permit cycle. The following questions represent the minimum requirements for the PEP. Please complete all the questions below. A measurable goal with a measure of assessment shall be included for each BMP, and, as appropriate, a schedule for implementation (months and years), including interim milestones and the frequency of the BMP. The responses shall reflect the nested MS4s identified in Section VI.

4. Provide the procedure with the assessment of high priority, community-wide issues and targeted issues to reduce pollutants in stormwater runoff as part of the PEP. The assessment shall include a list of the priority issues.

- Procedure Reference (page and paragraph of attachments): *e.g., Attachment A, Page 3, Section b _____*
 Not applicable – PEP topics will not be prioritized.

5. The applicant shall identify applicable PEP topics below and prioritize based on the assessment in Question 4. The PEP topics may be prioritized as high, medium, and low or in order from 1-11 based on the assigned priority level (e.g., 1 being the highest priority topic and 11 being the lowest priority topic). For each applicable topic, identify the target audience; key message; delivery mechanism; year and frequency the BMP will be implemented; and the responsible party.

For each topic below, complete one or more of the following

- Fill out Table 2 for each applicable PEP topic.
- Reference the page number in your existing PEP document.
- Explain why the PEP activity is not applicable or a priority issue.

- A. Promote public responsibility and stewardship in the applicant's watershed(s).

Priority Ranking _____

- See Table 2
 Attach existing approved PEP (page and paragraph of attachments): *See PEP, p. 2, Element #1*
 Not applicable. Provide explanation below.

- 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.

Priority Ranking _____

- See Table 2
 Attach existing approved PEP (page and paragraph of attachments): *See PEP, p. 5, Element # 2*
 Not applicable. Provide explanation below.

- C. Educate the public on illicit discharges and promote public reporting of illicit discharges and improper disposal of materials into the MS4.

Priority Ranking _____

- See Table 2
 Attach existing approved PEP (page and paragraph of attachments): *See PEP, p. 6, Element # 3*
 Not applicable. Provide explanation below.

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D. Promote preferred cleaning materials and procedures for car, pavement, and power washing.

Priority Ranking _____

See Table 2

Attach existing approved PEP (page and paragraph of attachments): See PEP, p. 6, Element #4

Not applicable. Provide explanation below.

E. Inform and educate the public on proper application and disposal of pesticides, herbicides, and fertilizers.

Priority Ranking _____

See Table 2

Attach existing approved PEP (page and paragraph of attachments): See PEP, p.6, Element #4

Not applicable. Provide explanation below.

F. Promote proper disposal practices for grass clippings, leaf litter, and animal wastes that may enter into the MS4.

Priority Ranking _____

See Table 2

Attach existing approved PEP (page and paragraph of attachments): See PEP, p.7, Element #5

Not applicable. Provide explanation below.

G. Identify and promote the availability, location, and requirements of facilities for collection or disposal of household hazardous wastes, travel trailer sanitary wastes, chemicals, and motor vehicle fluids.

Priority Ranking _____

See Table 2

Attach existing approved PEP (page and paragraph of attachments): see PEP, p.7, Element #5

Not applicable. Provide explanation below.

H. Inform and educate the public on proper septic system care and maintenance, and how to recognize system failure.

Priority Ranking _____

See Table 2

Attach existing approved PEP (page and paragraph of attachments): see PEP, p.8, Element #6

Not applicable. Provide explanation below.

I. Educate the public on, and promote the benefits of, green infrastructure and Low Impact Development.

Priority Ranking _____

See Table 2

Attach existing approved PEP (page and paragraph of attachments): see PEP, p.9, Element #7

Not applicable. Provide explanation below.

J. Promote methods for managing riparian lands to protect water quality.

Priority Ranking _____

See Table 2

Attach existing approved PEP (page and paragraph of attachments): see PEP, p.10, Element #8

Not applicable. Provide explanation on the next page.

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K. Identify and educate commercial, industrial, and institutional entities likely to contribute pollutants to stormwater runoff.

Priority Ranking _____

See Table 2

Attach existing approved PEP (page and paragraph of attachments): see PEP, p. 10, Element #9

Not applicable. Provide explanation below.

6. 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.

Procedure Reference (page and paragraph of attachments): See PEP, p 12

Illicit Discharge Elimination Program (IDEP)

The applicant shall describe the current and proposed BMPs to meet the minimum control measure requirements for the IDEP to the Maximum Extent Practicable, which shall be incorporated into the SWMP. Please indicate in your response if you are or will be working collaboratively with watershed or regional partners on any or all BMPs in the IDEP during the permit cycle (e.g., identify collaborative efforts in the procedures). The following questions represent the minimum control measure requirements for the IDEP. Please complete all the questions below. A measurable goal with a measure of assessment shall be included for each BMP, and, as appropriate, a schedule for implementation (months and years), including interim milestones and the frequency of the BMP. The responses shall reflect the nested MS4s identified in Section VI.

The following definitions apply to the terms used below:

- Illicit Discharge: Any discharge to, or seepage into, an MS4 that is not composed entirely of stormwater or uncontaminated groundwater except discharges pursuant to an NPDES permit. A discharge that originates from the applicant's property and meets the illicit discharge definition is considered an illicit discharge.
- Illicit Connection: A physical connection to an MS4 that primarily conveys non-stormwater discharges other than uncontaminated groundwater into the MS4; or a physical connection not authorized or permitted by the local authority, where a local authority requires authorization or a permit for physical connections.

The Center for Watershed Protection has a guide on developing and implementing an IDEP available at http://www.epa.gov/npdes/pubs/idde_manualwithappendices.pdf. This guide is a useful tool to assist with completing the application.

Storm Sewer System Map

7. Provide the location where an up-to-date storm sewer system map(s) is available. The map(s) shall identify the following: the storm sewer system, the location of all outfalls and points of discharge, and the names and location of the surface waters of the state that receive discharges from the permittee's MS4 (for both outfalls and points of discharge). A separate storm sewer system includes: roads, catch basins, curbs, gutters, parking lots, ditches, conduits, pumping devices, and man-made channels. A storm sewer system map(s) may include available diagrams, such as certification maps, road maps showing rights-of-way, as-built drawings, or other hard copy or digital representation of the storm sewer system.

The map (or maps) is available at the following location: *e.g., The Department of Public Works front office* The Planning Department Office

Illicit Discharge Identification and Investigation

8. Provide the procedure for prioritizing the applicant's MS4 for detecting non-stormwater discharges. The goal of the prioritization process is to target areas with high illicit discharge potential. The procedure shall document the process for selecting each priority area using the list below.
- Areas with older infrastructure
 - Industrial, commercial, or mixed use areas
 - Areas with a history of past illicit discharges
 - Areas with a history of illegal dumping
 - Areas with onsite sewage disposal systems
 - Areas with older sewer lines or with a history of sewer overflows or cross-connections
 - Areas with sewer conversions or historic combined sewer systems
 - Areas with poor dry-weather water quality
 - Areas with water quality impacts, including waterbodies identified in a Total Maximum Daily Load
 - Priority areas applicable to the applicant not identified above

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- Procedure Reference (page and paragraph of attachments): e.g., Attachment A, Page 3, Section b _____
 Not applicable – The applicant will perform illicit discharge identification and investigation throughout the entire MS4. Skip to Question 10.

9. Provide the geographical location of each prioritized area using either a narrative description or map and identify the prioritized areas that will be targeted during the permit cycle.

IDEP Prioritized Areas (page and paragraph of attachments): _____

10. Provide the procedure for performing field observations at all outfalls and points of discharge in the priority areas, as identified in the procedure above, or 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. *As part of the procedure, the applicant may submit an interagency agreement with the owner or operator of the downstream MS4 identifying responsibilities for ensuring an illicit discharge is eliminated if originating from the applicant's point(s) of discharge. The interagency agreement would eliminate the requirement for performing a field observation at that point(s) of discharge.*

The focus of the field observation 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

Procedure Reference (page and paragraph of attachments): See IDEP , p. III-2, Task 2.1

11. Provide the 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 (e.g., ammonia, fluoride, detergents, and pH). The procedure shall include a schedule for performing field screening.

Procedure Reference (page and paragraph of attachments): See IDEP , p. III-2, Task 2.1

12. Provide the procedure for performing a source investigation if the source of an illicit discharge is not identified by field screening. The procedure shall include a schedule for performing a source investigation.

Procedure Reference (page and paragraph of attachments): See IDEP , p. III-2, Task 2.1

13. Provide the 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.

Procedure Reference (page and paragraph of attachments): See IDEP , p.II-4, Task 2.4

14. Provide the procedure for responding to illicit discharges outside of the priority areas. The procedure shall include a schedule for performing field observations, and follow-up field screening and source investigations as appropriate.

Procedure Reference (page and paragraph of attachments): _____

Not applicable – Field observations will be conducted at all outfalls and points of discharge

15. Provide the procedure that includes a requirement to immediately report any release of any polluting materials from the MS4 to the surface waters or groundwaters of the state, unless a determination is made that the release is not in excess of the threshold reporting quantities in the Part 5 Rules, by calling the appropriate MDEQ District Office, or if the notice is provided after regular working hours call the MDEQ's 24-Hour Pollution Emergency Alerting System telephone number: 800-292-4706.

Procedure Reference (page and paragraph of attachments): See IDEP , p.III-3, Task 2.2

16. If the procedures requested in Questions 8 through 14 do not accurately reflect the permittee's procedure(s), describe the alternative approach to meet the minimum requirements.

Not applicable

17. Provide the procedure for responding to illicit discharges once the source is identified. The procedure shall include a schedule to eliminate the illicit discharge and pursue enforcement actions. The procedure shall also address illegal spills/dumping.

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Procedure Reference (page and paragraph of attachments): See IDEP, p. III-3, Task 2.1 and Task 2.4 and ERP

IDEP Training and Evaluation

18. Provide the program to train staff employed by the applicant 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. The program shall include a training schedule for the permit cycle. *It is recommended that staff is trained more than once per permit cycle.*

Program Reference (page and paragraph of attachments): See IDEP p. III-3-4 task 3

19. Provide the procedure for evaluating and determining the overall effectiveness of the IDEP. *Examples of evaluating overall effectiveness include, but are not limited to, the following: evaluate the prioritization process to determine if efforts are being maximized in areas with high illicit discharge potential; evaluate the effectiveness of using different detection methods; evaluate the number of discharges and/or quantity of discharges eliminated using different enforcement methods; and evaluate program efficiency and staff training frequency.*

Procedure Reference (page and paragraph of attachments): See IDEP p. III-5, Task 4.

Illicit Discharge Ordinance

20. Provide the ordinance or regulatory mechanism in effect that prohibits non-stormwater discharges into the applicant's MS4 (except the non-stormwater discharges addressed in Questions 21 and 22).

Ordinance number(s) or regulatory mechanism title(s) (attach a copy): See ERP**Note that we do not treat discharges to our MS4 differently than discharges elsewhere

21. Does the ordinance or other regulatory mechanism exclude prohibiting the discharges or flows from firefighting activities to the applicant's MS4 and require that these discharges or flows only be addressed if they are identified as significant sources of pollutants to waters of the State? The ordinance shall not authorize illicit discharges; however, the applicant may choose to exclude prohibiting the discharges and flows from firefighting activities if they are identified as not being significant sources of pollutants to waters of the state.

- Yes, ordinance or regulatory mechanism reference (page and paragraph of attachments): _____
 Not applicable – All non-stormwater discharges into the applicant's MS4 will be prohibited.

22. Does the ordinance or other regulatory mechanism prohibit the following categories of non-stormwater discharges or flows if identified as significant contributors to violations of Water Quality Standards? The ordinance shall not authorize illicit discharges; however, the applicant may choose to exclude prohibiting the following discharges or flows if they are identified as not being a significant contributor to violations of Water Quality Standards.

- a. Water line flushing and discharges from potable water sources
- b. Landscape irrigation runoff, lawn watering runoff, and irrigation waters
- c. Diverted stream flows and flows from riparian habitats and wetlands
- d. Rising groundwaters and springs
- e. Uncontaminated groundwater infiltration and seepage
- f. Uncontaminated pumped groundwater, except for groundwater cleanups specifically authorized by NPDES permits
- g. Foundation drains, water from crawl space pumps, footing drains, and basement sump pumps
- h. Air conditioning condensation
- i. Waters from noncommercial car washing
- j. Street wash water
- k. Dechlorinated swimming pool water from single, two, or three family residences. (A swimming pool operated by the permittee shall not be discharged to a separate storm sewer or to surface waters of the state without NPDES permit authorization from the MDEQ.)

- Yes, ordinance or regulatory mechanism reference (page and paragraph of attachments): _____
 Not applicable – All non-stormwater discharges into the applicant's MS4 will be prohibited.

23. Provide the ordinance or regulatory mechanism that regulates the contribution of pollutants to the applicant's MS4.

Ordinance or regulatory mechanism reference (page and paragraph of attachments): See ERP

24. Provide the ordinance or regulatory mechanism that prohibits illicit discharges, including illicit connections and the direct dumping or disposal of materials into the applicant's MS4.

Ordinance or regulatory mechanism reference (page and paragraph of attachments): See ERP

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25. Provide the ordinance or regulatory mechanism with the authority established to inspect, investigate, and monitor suspected illicit discharges into the applicant's MS4.

Ordinance or regulatory mechanism reference (page and paragraph of attachments): See ERP

26. Provide the ordinance or regulatory mechanism that requires and enforces elimination of illicit discharges into the applicant's MS4, including providing the applicant the authority to eliminate the illicit discharge.

Ordinance or regulatory mechanism reference (page and paragraph of attachments): See ERP

Construction Stormwater Runoff Control Program

The applicant shall describe the current and proposed BMPs to meet the minimum control measure requirements for the construction stormwater runoff control program to the maximum extent practicable, which shall be incorporated into the SWMP. Please indicate in your response if you are or will be working collaboratively with watershed or regional partners on any or all requirements of this program during the permit cycle. The following questions represent the minimum control measure requirements for the construction stormwater runoff control program. Please complete all the questions below. A measurable goal with a measure of assessment shall be included for each BMP, and, as appropriate, a schedule for implementation (months and years), including interim milestones and the frequency of the BMP. The responses shall reflect the nested MS4s identified in Section VI.

Qualifying Local Soil Erosion and Sedimentation Control Programs

27. Is the applicant a Part 91 Agency? A list of Part 91 agencies is available at http://www.michigan.gov/deq/0,4561,7-135-3311_4113-8870--,00.html.

Yes. Choose type: County Enforcing Agency Municipal Enforcing Agency Authorized Public Agency

No, the applicant relies on the following Qualifying Local Soil Erosion and Sedimentation Control Program (Part 91 Agency)

OCWRC is the County Enforcing Agent

Construction Stormwater Runoff Control

28. Provide the 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 or 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.

Procedure Reference (page and paragraph of attachments): *e.g., Attachment A, Page 3, Section b* See PCC Sect. III ppD

29. Provide the 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. The applicant may consider as part of their procedure when and under what circumstances the MDEQ will be contacted.

Procedure Reference (page and paragraph of attachments): See PCC Sect. III ppE

30. Provide the procedure for ensuring that construction activity one acre or greater in total earth disturbance with the potential to discharge to the applicant's MS4 obtains a Part 91 permit, or is conducted by an approved Authorized Public Agency as appropriate. Note: For applicants that conduct site plan review, the procedure must be triggered at the site plan review stage.

Procedure Reference (page and paragraph of attachments): See PCC Sect. III ppABC

31. Provide the procedure to advise the landowner or recorded easement holder of the property where the construction activity will occur of the State of Michigan Permit by Rule (Rule 323.2190).

Procedure Reference (page and paragraph of attachments): See PCC Attachments B and C

Post-Construction Stormwater Runoff Program

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

The applicant shall describe the current and proposed BMPs to meet the minimum control measure requirements for the post-

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construction stormwater runoff program to the maximum extent practicable, which shall be incorporated into the SWMP. Please complete the questions below as appropriate. If the "No" response is selected but a date is requested for the minimum requirement to

be available, please provide a date to meet the minimum requirement. All dates provided by the applicant in this application should be on or before October 1, 2014. Some questions are set up to allow for additional responses to meet the minimum requirements. If space is not available for an additional response, then the minimum requirement must be met in accordance with the question. A measurable goal with a measure of assessment shall be included for each BMP, and, as appropriate, a schedule for implementation (months and years), including interim milestones and the frequency of the BMP. The responses shall reflect the nested MS4s identified in Section VI.

An applicant may reference in its ordinance or regulatory mechanism other technical documents used to implement the post-construction stormwater runoff program. For example, an applicant may answer a question with a reference to a performance or technical standards document in the ordinance **and** the reference in the technical document. When referencing the ordinance, regulatory mechanism, or other technical documents, attach the document and provide the page and paragraph reference.

The MDEQ has a manual with information on post-construction stormwater runoff control available at <http://www.semcoq.org/LowImpactDevelopment.aspx>. Chapter 9 of the *Low Impact Development Manual for Michigan* provides a methodology for addressing post-construction stormwater runoff.

Ordinance or Other Regulatory Mechanism

32. Is an ordinance or other regulatory mechanism 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. This requirement may be met using a single ordinance or regulatory mechanism or a combination of ordinances and regulatory mechanisms.
- Yes, ordinance or regulatory mechanism reference (page and paragraph of attachments): *e.g., Attachment A, Pages 1-15 See PCC Attachment D & E*
- No, the ordinance or regulatory mechanism will be available on _____
33. Does the ordinance or other regulatory mechanism 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 applicant's MS4?
- Yes, ordinance or regulatory mechanism reference (page and paragraph of attachments): *See PCC, Attachment D*
- No, the ordinance or regulatory mechanism will be available on _____

Federal Facilities

Federal facilities are subject to the Energy Independence and Security Act of 2007. Section 438 of this legislation establishes post-construction stormwater runoff requirements for federal development and redevelopment projects.

34. Is the applicant the owner or operator of a federal facility with a stormwater discharge?
- Yes
- No, skip to Question 36
35. Is the applicant implementing the post-construction stormwater runoff control requirements in Section 438 of the Energy Independence and Security Act? A guidance document is available at http://www.epa.gov/greeningepa/documents/epa_swm_guidance.pdf
- Yes, regulatory mechanism reference (page and paragraph of attachments): _____
- No, the regulatory mechanism will be available on _____

Water Quality Treatment Performance Standard

36. Does the ordinance or other regulatory mechanism include one of the following water quality treatment standards?
- Treat the first one inch of runoff from the entire site. Ordinance or other regulatory mechanism reference (page and paragraph of attachments) *Section 5.2.1 of Attachment E* Skip to Question 38.
- Treat the runoff generated from 90 percent of all runoff-producing storms. Ordinance or other regulatory mechanism reference (page and paragraph of attachments) _____
- No, the ordinance or other regulatory mechanism will be available on _____
- The ordinance or other regulatory mechanism is/will be available on _____ and includes the following water quality treatment standard. Provide an explanation as to how the water quality treatment standard will prevent or minimize water quality impacts.

37. What is the source of the rainfall data if the applicant has chosen the water quality treatment standard of requiring the treatment of the runoff generated from 90 percent of all runoff-producing storms?
- The MDEQ's memo dated March 24, 2006 providing the 90 percent annual non-exceedance storm statistics. The memo is available at http://www.michigan.gov/documents/deq/lwm-hsu-nps-ninety-percent_198401_7.pdf.

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- An analysis of at least ten years of local published rain gauge data following the method in the March 25, 2006, MDEQ memo titled *90 Percent Annual Non-Exceedance Storms* cited above.
- Other rainfall data source (page and paragraph of attachments) _____

38. Does the ordinance or other regulatory mechanism require that BMPs be **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?
- Yes, ordinance or other regulatory mechanism reference (page and paragraph of attachments): See Section 5.2.4 of Attachment E
 - No, the ordinance or other regulatory mechanism will be available on _____
 - The ordinance or other regulatory mechanism defines treatment as follows:

Channel Protection Performance Standard

39. Does the 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. *A spreadsheet to assist with these calculations is available at www.michigan.gov/documents/deq/wb-storm-MS4-RunoffVolume_331235_7.xls*
- Yes, ordinance or other regulatory mechanism reference (page and paragraph of attachments): Covered by OCWRC Standards adopted by reference
 - No, the ordinance or other regulatory mechanism will be available on _____
 - The ordinance or other regulatory mechanism is/will be available on _____ and includes the following channel protection standard. Provide an explanation as to how the channel protection standard will prevent or minimize water quality impacts.

40. Does the ordinance or other regulatory mechanism exclude any waterbodies from the channel protection performance standard? The channel protection performance standard is not required for the following waterbodies: the Great Lakes or connecting channels of the Great Lakes; Rouge River downstream of the Turning Basin; Saginaw River; Mona Lake and Muskegon Lake (Muskegon County); and Lake Macatawa and Spring Lake (Ottawa County).
- Yes, ordinance or other regulatory mechanism reference (page and paragraph of attachments): _____
 - No, the ordinance or other regulatory mechanism will be available on _____
 - Not applicable

Site-Specific Requirements

41. Provide the 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. The procedure shall include the process for coordinating with MDEQ staff as appropriate.

Procedure Reference (page and paragraph of attachments): See PCC, paragraph IVB

42. Does the ordinance or other regulatory mechanism require BMPs to address the associated pollutants in potential hot spots as part of meeting the water quality treatment and channel protection standards for new development or redevelopment projects? Hot spots include areas with the potential for significant pollutant loading such as gas stations, commercial vehicle maintenance and repair, auto recyclers, recycling centers, and scrap yards. Hot spots also include areas with the potential for contaminating public water supply intakes.

- Yes, ordinance or other regulatory mechanism reference (page and paragraph of attachments): _____
- No, the ordinance or other regulatory mechanism will be available on This is left to the professional judgment of Township Engineer See Environmental Performance Standards, Chapter 25, Section 8.17 of the Highland Township General Code of Ordinances (available at municode.com)

Off-Site Mitigation and Payment in Lieu Programs

43. Does the ordinance or other regulatory mechanism allow for the approval of off-site mitigation for redevelopment projects that cannot meet 100 percent of the performance standards on-site after maximizing stormwater retention? Off-site mitigation refers to BMPs implemented at another location within the same jurisdiction and watershed/sewershed as the original project. *A watershed is the geographic area included in a 10-digit Hydrologic Unit Code and a sewershed is the area where stormwater is conveyed by the applicant's MS4 to a common outfall or point of discharge.*

- Yes, ordinance or other regulatory mechanism reference (page and paragraph of attachments): _____
- No, the ordinance or other regulatory mechanism will be available on _____
- Not pursuing this option

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44. Does the ordinance or other regulatory mechanism allow for the approval of payment in lieu for projects that cannot meet 100 percent of the performance standards on-site after maximizing stormwater retention? A payment in lieu program refers to a developer paying a fee to the applicant that is applied to a public stormwater management project within the same jurisdiction and watershed/sewershed as the original project in lieu of installing the required BMPs onsite. The stormwater management project may be either a new BMP or a retrofit to an existing BMP and shall be developed in accordance with the applicant's performance standards. *A watershed is the geographic area included in a 10-digit Hydrologic Unit Code and a sewershed is the area where stormwater is conveyed by the applicant's MS4 to a common outfall or point of discharge.*

- Yes, ordinance or other regulatory mechanism reference (page and paragraph of attachments): _____
- No, the ordinance or other regulatory mechanism will be available on _____
- Not pursuing this option. If "not pursuing this option" was selected for both Questions 43 and 44, skip to Question 52.

45. Does the ordinance or other regulatory mechanism establish criteria for determining the conditions under which off-site mitigation and/or payment in lieu are available and require technical justification as to the infeasibility of on-site management? The determination that performance standards cannot be met on-site shall not be based solely on the difficulty or cost of implementing, but shall be based on multiple criteria related to the physical constraints of the project site, such as: too small of a lot outside of the building footprint to create the necessary infiltrative capacity even with amended soils; soil instability as documented by a thorough geotechnical analysis; a site use that is inconsistent with the capture and reuse of stormwater; too much shade or other physical conditions that preclude adequate use of plants. The criteria shall also include consideration of the stream order and location within the watershed/sewershed as it relates to the water quality impacts from the original project site (*e.g., the water quality impact from a site with a discharge to a small-sized stream would be greater than a site on a large river and an offset downstream of the project site may provide less water quality benefit.*) The highest preference for off-site mitigation and in lieu projects shall be given to locations that yield benefits to the same receiving water that received runoff from the original project site.

- Yes, ordinance or other regulatory mechanism reference (page and paragraph of attachments): _____
- No, the ordinance or other regulatory mechanism will be available on _____

46. Does the ordinance or other regulatory mechanism establish a minimum amount of stormwater to be managed on-site as a first tier for off-site mitigation or payment in lieu? A higher offset ratio is required if off-site mitigation or payment in lieu is requested for the amount of stormwater identified as the first tier. *For example, a minimum of 0.4 inches of stormwater runoff shall be managed on-site as a first tier.*

- Yes, ordinance or other regulatory mechanism reference (page and paragraph of attachments): _____
- No, the ordinance or other regulatory mechanism will be available on _____
- The ordinance or other regulatory mechanism requires the following:

47. Does the ordinance or other regulatory mechanism require an offset ratio of 1:1.5 for the amount of stormwater above the first tier (identified in Question 46) not managed on-site to the amount of stormwater required to be mitigated at another site or for which in-lieu payments shall be made?

- Yes, ordinance or other regulatory mechanism reference (page and paragraph of attachments): _____
- No, the ordinance or other regulatory mechanism will be available on _____
- The ordinance or other regulatory mechanism requires the following:

48. Does the ordinance or other regulatory mechanism require that if demonstrated by the developer to the applicant that it is completely infeasible to manage the first tier of stormwater identified in Question 47 on-site, the offset ratio for the unmanaged portion is 1:2?

- Yes, ordinance or other regulatory mechanism reference (page and paragraph of attachments): _____
- No, the ordinance or other regulatory mechanism will be available on _____
- The ordinance or other regulatory mechanism requires the following:

49. Does the ordinance or other regulatory mechanism require a schedule for completing off-site mitigation and in-lieu projects? *Off-site mitigation and in-lieu projects should be completed within 24 months after the start of the original project site construction.*

- Yes, ordinance or other regulatory mechanism reference (page and paragraph of attachments): _____

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- No, the ordinance or other regulatory mechanism will be available on _____
- The ordinance or other regulatory mechanism requires the following:

50. Does the ordinance or other regulatory mechanism require that offsets and in-lieu projects be preserved and maintained in perpetuity, such as deed restrictions and long-term operation and maintenance?

- Yes, ordinance or other regulatory mechanism reference (page and paragraph of attachments): _____
- No, the ordinance or other regulatory mechanism will be available on _____
- The ordinance or other regulatory mechanism requires the following:

51. Describe the tracking system implemented, or to be implemented, to track off-site mitigation and/or in-lieu projects.

52. Are there any other exceptions to the performance standards, other than off-site mitigation and payment in lieu, being implemented or to be implemented during the permit cycle?

- Yes, describe below

No

Site Plan Review

53. Does the ordinance or other regulatory mechanism include a requirement to submit a site plan for review and approval of post-construction stormwater runoff BMPs?

- Yes, ordinance or regulatory mechanism reference (page and paragraph of attachments): See PCC Attachment D
- No, the ordinance or regulatory mechanism will be available on _____

54. Provide the procedure for site plan review and approval.

Procedure Reference (page and paragraph of attachments): See PCC Attachment F

55. Provide the reference in the site plan review and approval procedure to the process for determining how the developer meets the performance standards and ensures long-term operation and maintenance of BMPs.

Procedure Reference (page and paragraph of attachments): See PCC Attachment D, Section 15.03E and Attachment F Section 5.03

Long-Term Operation and Maintenance of BMPs

56. Does the ordinance or other regulatory mechanism require the long-term operation and maintenance of all structural and vegetative BMPs installed and implemented to meet the performance standards in perpetuity?

- Yes, ordinance or other regulatory mechanism reference (page and paragraph of attachments): See PCC Attachment D Section 15.03 and Development Agreements
- No, the ordinance or other regulatory mechanism will be available on _____

57. Does the ordinance or other regulatory mechanism 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?

- Yes, ordinance or other regulatory mechanism reference (page and paragraph of attachments): See PCC Attachment D Section 15.03 and Development Agreement

- No, the ordinance or other regulatory mechanism will be available on _____
- The ordinance or other regulatory mechanism requires the following:

58. Does the maintenance agreement or other legal mechanism allow the applicant to complete the following? (Check if yes)

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- Inspect the structural or vegetative BMP
- Perform the necessary maintenance or corrective actions neglected by the BMP owner or operator
- Track the transfer of operation and maintenance responsibility of the BMP (e.g., deed restrictions)

If any of the boxes above were not checked, provide a response explaining how the maintenance agreement or other legal mechanism allows the applicant to verify and ensure maintenance of the BMP.

Pollution Prevention and Good Housekeeping Program

The applicant shall describe the current and proposed BMPs to meet the minimum control measure requirements for the Pollution Prevention and Good Housekeeping Program to the maximum extent practicable, which shall be incorporated into the SWMP. The applicant shall develop and implement a Pollution Prevention and Good Housekeeping Program to prevent or reduce the discharge of pollutants from municipal facilities and operations.

The following definitions apply to the terms used below:

- Fleet: A group of vehicles owned or operated as a unit.
- Maintenance (includes, but not limited to): adding/changing vehicle fluids, fueling, lubrication, painting, mechanical repairs, parts degreasing, and vehicle/equipment washing.
- Storage Yard (includes, but not limited to): areas where vehicles are stored longer than overnight/weekend; areas where road maintenance materials are stored; areas where vehicle maintenance materials are stored; areas where chemicals in bulk are stored; areas where catch basin cleaning wastes are stored; and areas where maintenance equipment such as mowers, tractors, vactor trucks, and sweepers is stored.

Please complete the questions below as appropriate. A "Not Applicable" response is appropriate in cases where the applicant does not own or operate a municipal facility or stormwater structural control or does not perform the operation in the question. A measurable goal with a measure of assessment shall be included for each BMP, and, as appropriate, a schedule for implementation (months and years), including interim milestones and the frequency of the BMP. The responses shall reflect the nested MS4s identified in Section VI.

Municipal Facility and Structural Stormwater Control Inventory

59. Provide an up-to-date inventory of applicant-owned or operated facilities and stormwater structural controls with a discharge of stormwater to surface waters of the state. The inventory shall include the location of each facility and an estimate of the number of structural stormwater controls for each category below (e.g., 100 catch basins and 7 detention basins).

Inventory Reference (Page and Paragraph of Attachments): e.g., Attachment A, Page 3, Section b _____

Check all applicant-owned or operated facilities with a discharge of stormwater to surface waters of the state:

- | | |
|---|---|
| <input checked="" type="checkbox"/> Administration buildings | <input type="checkbox"/> Animal Control Building |
| <input type="checkbox"/> Airports | <input type="checkbox"/> Bus Stations and Garages |
| <input type="checkbox"/> Cemeteries | <input type="checkbox"/> Composting facilities |
| <input type="checkbox"/> Equipment storage and maintenance facilities | <input checked="" type="checkbox"/> Fire Stations |
| <input type="checkbox"/> Fuel Farms | <input type="checkbox"/> Hazardous waste disposal facilities |
| <input type="checkbox"/> Hazardous waste handling and transfer facilities | <input type="checkbox"/> Landfills |
| <input type="checkbox"/> Landscape maintenance facilities | <input checked="" type="checkbox"/> Libraries |
| <input type="checkbox"/> Materials storage yards | <input type="checkbox"/> Mosquito Control Facility |
| <input type="checkbox"/> Parks | <input type="checkbox"/> Pesticide storage facilities |
| <input checked="" type="checkbox"/> Police stations | <input type="checkbox"/> Public golf courses |
| <input type="checkbox"/> Public parking lots | <input type="checkbox"/> Public schools |
| <input type="checkbox"/> Public works yards | <input type="checkbox"/> Recycling facilities |
| <input type="checkbox"/> Salt storage facilities | <input type="checkbox"/> Solid waste handling and transfer facilities |
| <input type="checkbox"/> Vacant land and open space | <input type="checkbox"/> Vehicle storage and maintenance yards |
| <input type="checkbox"/> Outdoor wash areas | <input checked="" type="checkbox"/> Other facilities – Provide a description below: |

Private Roads

Check all applicant-owned or operated structural stormwater controls with a discharge of stormwater to surface waters of the state:

- | | |
|--|--|
| <input checked="" type="checkbox"/> Catch basins | <input type="checkbox"/> Constructed wetlands |
| <input type="checkbox"/> Detention basins | <input type="checkbox"/> Infiltration basins and trenches |
| <input type="checkbox"/> Oil/water separators | <input type="checkbox"/> Porous pavement |
| <input type="checkbox"/> Pump Stations | <input type="checkbox"/> Rain gardens |
| <input type="checkbox"/> Secondary containment | <input type="checkbox"/> Underground storage vaults or tanks |

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- Vegetated swales
 Other structural stormwater controls – Provide a description below:

See P2/GH Section X

60. Provide the location where an up-to-date map (or maps) is available with the location of the facilities and structural stormwater controls identified in Question 59. *The location of the facilities and structural stormwater controls may be included on the storm sewer system map maintained for the IDEP.*

The map (or maps) is available at the following location: Maintained in Planning Department Offices

61. Provide the procedure for updating and revising the inventory in Question 59 and map (or maps) identified in Question 60 as facilities and structural stormwater controls are added, removed, or no longer owned or operated by the applicant. *A suggested timeframe for updating/revising the inventory and map(s) is 30 days following adding/removing a facility or structural stormwater control.*

Procedure Reference (page and paragraph of attachments): There is no long or short term plan to expand the MS4

see P2/GH Section III

Facility-Specific Stormwater Management

62. Provide the procedure for assessing each facility identified in Question 59 for the potential to discharge pollutants to surface waters of the state. The procedure shall include a process for updating and revising the assessment. *A recommended timeframe for updating/revising the assessment is 30 days prior to discharging stormwater from a new facility and within 30 days of determining a need to update/revise the facility assessment.*

The applicant should consider the following factors when assessing each facility:

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

Procedure Reference (page and paragraph of attachments): See P2/GH p.1, Sect. III

Not Applicable – The applicant does not own a facility that discharges stormwater to surface waters of the state. Skip to Question 70.

63. Provide the list of prioritized facilities using the assessment in Question 62. 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.

Prioritized Facility List (page and paragraph of attachments): See P2/GH p.1, Sect. III

Fleet Maintenance and Storage Yard Demonstrations (page and paragraph of attachments): _____

64. Is a site-specific standard operating procedure (SOP) available identifying the structural and non-structural stormwater controls implemented and maintained to prevent or reduce pollutant runoff at each facility with the high potential for pollutant runoff? The SOP shall be available at each facility with the high potential for pollutant runoff and upon request from the MDEQ. The SOP shall identify the person responsible for oversight of the facility. *The MDEQ may request the submission of the SOP during the application review process.*

Yes, a site-specific SOP is available at each facility with the high potential for pollutant runoff

Not Applicable – The applicant does not own or operate any facilities with the high potential for pollutant runoff. Skip to Question 69.

65. Provide the reference in the SOP, for each facility with the high potential for pollutant runoff, to the following: the list of significant materials stored on-site that could pollute stormwater; the description of the handling and storage requirements for each significant material; and the potential to discharge the significant material.

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SOP Reference (page and paragraph of attachments): _____

This space is available to reference multiple site-specific SOPs

66. Provide the reference in the SOP, for each facility with the high potential for pollutant runoff, identifying the good housekeeping practices implemented at the site. *Good housekeeping practices include keeping the facility neat and orderly, properly storing and covering materials, and minimizing pollutant sources to prevent or reduce pollutant runoff.*

SOP Reference (page and paragraph of attachments): _____

This space is available to reference multiple site-specific SOPs

67. Provide the reference in the SOP, for each facility with the high potential for pollutant runoff, to the description and schedule for conducting routine maintenance and inspections of stormwater management and control devices to ensure materials and equipment are clean and orderly and to prevent or reduce pollutant runoff. *A biweekly schedule is recommended for routine inspections.*

SOP Reference (page and paragraph of attachments): _____

This space is available to reference multiple site-specific SOPs

68. Provide the reference in the SOP, for each facility with the high potential for pollutant runoff, to the description and schedule for conducting a comprehensive site inspection at least once every six months. The comprehensive inspection shall include an inspection of all structural stormwater controls and a review of non-structural stormwater controls to prevent or reduce pollutant runoff.

SOP Reference (page and paragraph of attachments): _____

This space is available to reference multiple site-specific SOPs

69. Provide the procedure 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 and lower potential for the discharge of pollutants to surface waters of the state using the assessment and prioritized list in Questions 62 and 63.

Procedure Reference (page and paragraph of attachments): See P2/GH p.6, Section XI

Structural Stormwater Control Operation and Maintenance Activities

70. Provide 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. *A recommended timeframe for updating/revising the procedure is 30 days following the construction of a catch basin or a change in priority level.*

- Procedure Reference (page and paragraph of attachments): See P2/GH p.2, Section IV
 Not Applicable – The applicant does not own or operate catch basins. Skip to Question 74.

71. Provide the geographic location of the catch basins in each priority level using either a narrative description or map.

Catch Basin Priority Location (page and paragraph of attachments): See IDEP

72. Provide 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

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surface waters of the state. A compliance assistance document titled *Catch Basin Cleaning Activities Guidance Document* is available at http://www.michigan.gov/documents/deq/wb-stormwater-CatchBasinGuidance_216198_7.pdf.

Procedure Reference (page and paragraph of attachments): See P2/GH p.2, Section IV

73. Provide the procedure for dewatering and disposal of materials extracted from catch basins. A compliance assistance document titled *Catch Basin Cleaning Activities Guidance Document* is available at http://www.michigan.gov/documents/deq/wb-stormwater-CatchBasinGuidance_216198_7.pdf.

Procedure Reference (page and paragraph of attachments): See P2/GH p. 2, Section IV

74. Provide the procedure for inspecting and maintaining the structural stormwater controls identified in Question 59, excluding the structural stormwater controls included in an SOP as part of Question 64 and catch basins.. The procedure shall include a description and schedule for inspecting and maintaining each structural stormwater control and the process for disposing of maintenance waste materials. The procedure shall require that controls be maintained to reduce to the maximum extent practicable the contribution of pollutants to stormwater. The procedure shall include a process for updating/revising the procedure to ensure a maintenance and inspection program for each structural stormwater control. A recommended timeframe for updating/revising the procedure is 30 days following the implementation of a new structural stormwater control.

- Procedure Reference (page and paragraph of attachments): See P2/GH p.2, Section IV
 Not Applicable – Applicant does not own or operate any structural stormwater controls

75. Provide 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.

Procedure Reference (page and paragraph of attachments): See P2/GH p. 3, Section IV

Municipal Operations and Maintenance Activities

76. Provide 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. A suggested timeframe for updating/revising the assessment is 30 days following adding/removing BMPs to address new and existing operation and maintenance activities.

At a minimum, the procedure shall include assessing the following municipal operation and maintenance activities if applicable:

- Road, parking lot, and sidewalk maintenance (e.g., pothole, sidewalk, and curb and gutter repair)
- Bridge maintenance
- Right-of-way maintenance
- Unpaved road maintenance
- Cold weather operations (e.g., plowing, sanding, application of deicing agents, and snow pile disposal)
- Vehicle washing and maintenance of applicant-owned vehicles (e.g., police, fire, school bus, public works)

- Procedure Reference (page and paragraph of attachments): See P2/GH p.3, Section V page 4, Section V
 Not Applicable – Provide an explanation below.

77. Provide 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 (i.e., sweeping frequency and timing) 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. A recommended timeframe for updating/revising the prioritization is 30 days following the construction of a new street, parking lot, or other applicant-owned or operated impervious surface or within 30 days of identifying a need to revise a priority level.

See P2/GH p.4 Section V

- Procedure Reference (page and paragraph of attachments): ~~The Township does not intend to sweep its facilities.~~
 Not Applicable – The applicant does not own or operate any streets, parking lots, or other impervious infrastructure. Skip to Question 81.

78. Provide the geographic location of the streets, parking lots, and other impervious surfaces in each priority level using either a narrative description or map.

Street Sweeping Priority Location (page and paragraph of attachments): not prioritized

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79. Provide 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. *Proper sweeping methods include operating sweeping equipment according to the manufacturers' operating instructions and to protect water quality.*

Procedure Reference (page and paragraph of attachments): ~~not planning to sweep~~ See P2/GH p. 4, Section V --hand sweep only

80. Provide the procedure for dewatering and disposal of street sweeper waste material. *A compliance assistance document titled Catch Basin Cleaning Activities Guidance Document is available at http://www.michigan.gov/documents/deq/wb-stormwater-CatchBasinGuidance_216198_7.pdf*

Procedure Reference (page and paragraph of attachments): ~~not planning to sweep~~ See P2/GH p. 4, Section V--hand sweep only

Managing Vegetated Properties

81. Provide 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. A description of the categories is located at http://www.michigan.gov/mdard/0,4610,7-125-1569_16988_35289-11992--,00.html

Procedure Reference (page and paragraph of attachments): See P2/GH p.3, Section VI

Not Applicable – Provide an explanation below (e.g., the applicant's pesticide applicator only uses ready-to-use products from the original container).

Employee Training

82. Provide the 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.

Program Reference (Page and Paragraph of Attachments): See P2/GH p.IV, Section VII.

Contractor Requirements and Oversight

83. Provide the 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.

Procedure Reference (Page and Paragraph of Attachments): See P2/GH p IV, Section VII.

Total Maximum Daily Load (TMDL) Implementation Plan

The following questions address discharges to impaired waters with a USEPA approved TMDL that includes a pollutant load allocation assigned to the permittee's MS4. BMPs shall be implemented to reduce the discharge of the TMDL pollutant from the MS4 to make progress in meeting Water Quality Standards. Applicable TMDLs are TMDLs approved prior to the applicant being notified of the need to apply for permit reissuance. Applicable TMDLs for the applicant were provided in the application notice letter.

The applicant shall describe the current and proposed BMPs to meet the minimum requirements for the TMDL Implementation Plan, which shall be incorporated into the SWMP. Please indicate in your response, if you are or will be working collaboratively with watershed or regional partners on any or all activities in the TMDL Implementation Plan during the permit cycle. The following questions represent the minimum requirements for a TMDL Implementation Plan. Please complete the following questions as appropriate. A measurable goal with a measure of assessment shall be included for each BMP, and, as appropriate, a schedule for implementation (months and years), including interim milestones and the frequency of the BMP. The responses shall reflect the nested MS4s identified in Section VI.

The USEPA has a document to assist with developing a TMDL Implementation Plan available at http://water.epa.gov/lawsregs/lawsguidance/cwa/tmdl/upload/region3_factsheet_tmdl.pdf.

84. Was a TMDL included in the applicant's application notice?

Yes, the following approved USEPA TMDL(s) was included in my application notice letter:

Michigan Department of Environmental Quality – Water Resources Division
STORMWATER DISCHARGE PERMIT APPLICATION

Kent Lake -- Phosphorus

No, Skip to Section VIII.

85. Provide the 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. The procedure shall include a process for reviewing, updating, and revising BMPs implemented or to be implemented to ensure progress in achieving the TMDL pollutant load reduction.

Procedure Reference (page and paragraph of attachments): *e.g., Attachment A, Page 3, Section b* See TMDL memo attached
See TMDL Memo Attached

86. Provide the 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.

TMDL BMP Priority List (page and paragraph of attachments): See TMDL memo attached
See TMDL Memo Attached

87. Provide the 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. *Existing monitoring data may be submitted for review as part of the plan to meet part of the monitoring requirement.*

TMDL Monitoring Plan (page and paragraph of attachments): See TMDL memo attached See TMDL Memo Attached

SECTION VIII. CERTIFICATION

Rule 323.2114(1-4) of the Part 21 Rules of Michigan Act 451, Public Act of 1994, Part 31, as amended, requires that this Application be signed by either a principal executive officer, the mayor, village president, city or village manager, or other duly authorized employee.

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for having knowledge of violations."

I understand that my signature constitutes a legal agreement to comply with the requirements of the NPDES Permit. I certify under penalty of law that I possess full authority on behalf of the legal owner/permittee to sign and submit this Application. I certify to the best of my knowledge that it is true, accurate and meets the minimum permit requirements for a SWMP to the MEP.

Print Name: Rick A. Hamill

Title: Supervisor

Representing: Highland Charter Township

Signature: 

Date: 6-30-2014
3-24-2015

Please submit this completed Application and attachments to:

DEPARTMENT OF ENVIRONMENTAL QUALITY
WATER RESOURCES DIVISION
PERMITS SECTION
P.O. BOX 30458
LANSING, MICHIGAN 48909-7958

Michigan Department of Environmental Quality – Water Resources Division
STORMWATER DISCHARGE PERMIT APPLICATION

Table 1 – Outfall and Point of Discharge Information

An identification number shall be provided for each outfall and point of discharge. Please note that the latitude and longitude is not required as part of the application. When entering a point of discharge, the receiving water is the point where the stormwater enters a surface water of the state. The following definitions apply to these terms:

- **Outfall** means a discharge point from an MS4 directly to surface waters of the state
- **Point of Discharge** means a discharge from an MS4 to an MS4 owned or operated by another public body

A. Outfall/ Point of Discharge No.:	<input checked="" type="checkbox"/> Outfall <input type="checkbox"/> Point of Discharge	Outfall/Point of Discharge Identification No.: A1, A2
B. Receiving Water:	Receiving Water : Unnamed pond	
C. Latitude/Longitude (Optional)	Latitude: N42 degrees 34 minutes 37.7 seconds	Longitude: W83 degrees 36 minutes 45 seconds
A. Outfall/ Point of Discharge No.:	<input checked="" type="checkbox"/> Outfall <input type="checkbox"/> Point of Discharge	Outfall/Point of Discharge Identification No.: A3
B. Receiving Water:	Receiving Water : Downey Lake	
C. Latitude/Longitude (Optional)	Latitude: 42 degrees 38 minutes 34 seconds	Longitude: 2 83 degrees 36 minutes 31 seconds
A. Outfall/ Point of Discharge No.:	<input type="checkbox"/> Outfall <input type="checkbox"/> Point of Discharge	Outfall/Point of Discharge Identification No.:
B. Receiving Water:	Receiving Water :	
C. Latitude/Longitude (Optional)	Latitude:	Longitude:
A. Outfall/ Point of Discharge No.:	<input type="checkbox"/> Outfall <input type="checkbox"/> Point of Discharge	Outfall/Point of Discharge Identification No.:
B. Receiving Water:	Receiving Water:	
C. Latitude/Longitude (Optional)	Latitude:	Longitude:
A. Outfall/ Point of Discharge No.:	<input type="checkbox"/> Outfall <input type="checkbox"/> Point of Discharge	Outfall/Point of Discharge Identification No.:
B. Receiving Water:	Receiving Water :	
C. Latitude/Longitude (Optional)	Latitude:	Longitude:
A. Outfall/ Point of Discharge No.:	<input type="checkbox"/> Outfall <input type="checkbox"/> Point of Discharge	Outfall/Point of Discharge Identification No.:
B. Receiving Water:	Receiving Water :	
C. Latitude/Longitude (Optional)	Latitude:	Longitude:
A. Outfall/ Point of Discharge No.:	<input type="checkbox"/> Outfall <input type="checkbox"/> Point of Discharge	Outfall/Point of Discharge Identification No.:
B. Receiving Water:	Receiving Water :	
C. Latitude/Longitude (Optional)	Latitude:	Longitude:

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Abbreviated National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) Application Form (Reissuance)

version 1.6

(Submission #: HP7-GBD1-YGNB4, version 1)

Details

Submission ID HP7-GBD1-YGNB4

Submission Reason Renewal

Status Submitted

Form Input

Existing Permit Details

Existing Permit ID (Read Only)

-6000757381470207299

Existing Permit Number (Read Only)

MI0059709

Section 1. Applicant Information

Applicant Information

Organization Name

Charter Township of Highland

Phone Type	Number	Extension
-------------------	---------------	------------------

Business	2488873791	
----------	------------	--

Email

corwinb@highlandtwp.org

Fax

NONE PROVIDED

Address

205 North John Street

Highland, MI 48357

United States

Permittee Type

Township

Is this a Phase I or Phase II?

PHASE II

Section 2. MS4 Location Information

Municipal Entity Name (e.g., City of Lansing)

Highland Twp MS4-Oakland

Identify the Primary Municipal Facility or the Mailing Address Location

A site needs to be identified as part of the application. Identify the physical address for the municipal entity, such as the primary municipal facility (e.g., City Hall).

Facility Location

42.637368474122766,-83.66320610046387

Section 3. MS4 Contacts (1 of 3)

CONTACTS

A contact must be provided for each of the roles listed below. You may assign more than one role to a single contact by holding down the 'Ctrl' key while selecting each role. Use the "+" (repeat section) button to add an additional contact.

Contact

Storm Water Program Manager

Contact Information

Prefix

NONE PROVIDED

First Name

Elizabeth

Last Name

Corwin

Title

Planning Director

Organization Name

Charter Township of Highland

Phone Type

Business

Number

2488873791

Extension

136

Email

corwinb@highlandtwp.org

Fax

NONE PROVIDED

Mailing Address:

205 North John Street

Highland, MI 48357

United States

Section 3. MS4 Contacts (2 of 3)

CONTACTS

A contact must be provided for each of the roles listed below. You may assign more than one role to a single contact by holding down the 'Ctrl' key while selecting each role. Use the "+" (repeat section) button to add an additional contact.

Contact

Annual Permit Billing Contact

Contact Information

Prefix

NONE PROVIDED

First Name

Amy

Last Name

LaVoie

Title

Bookkeeper

Organization Name

Highland Charter Township

Phone Type

Business

Number

2488873791

Extension

7

Email

lavoiea@highlandtpw.org

Fax

NONE PROVIDED

Mailing Address:

205 North John Street

Highland, MI 48357

United States

Section 3. MS4 Contacts (3 of 3)

CONTACTS

A contact must be provided for each of the roles listed below. You may assign more than one role to a single contact by holding down the 'Ctrl' key while selecting each role. Use the "+" (repeat section) button to add an additional contact.

Contact

Application Contact

Contact Information

Prefix

NONE PROVIDED

First Name

Rick

Last Name

Hamill

Title

Supervisor

Organization Name

Charter Township of Highland

Phone Type

Business

Number

2487874571

Extension

Email

hamillr@highlandtpw.org

Fax

NONE PROVIDED

Mailing Address:

205 N John

Highland, Michigan 48357

United States

Section 4: Regulated Area, Outfalls/Points of Discharge, and Nested Jurisdictions

Regulated Area

Identify the urbanized area within the applicant's jurisdictional boundary as defined by the 2010 Census. The regulated MS4 means an MS4 owned or operated by a city, village, township, county, district, association, or other public body created by or pursuant to state law and the nested MS4 identified below that is located in an urbanized area and discharges storm water into surface waters of the state. The 2010 Census maps are located at the Urbanized Area Link below.

[Urbanized Area Link](#)

Select an Urbanized Area

Detroit

Did the applicant's regulated MS4 expand since the 2000 Census? ?If yes, the applicant shall consider the expanded regulated MS4 in all responses provided below.

NO

Outfall and Point of Discharge Information

Provide the following information for each of the applicant's MS4 outfalls and points of discharge within the regulated area, including new outfalls and points of discharge in the expanded regulated area: identification number; description of whether the discharge is from an outfall or point of discharge, description of whether the outfall or point of discharge is newly identified in this application or was previously identified in the last application (e.g. new or existing); and the surface water of the state that receives the discharge.

An outfall means a discharge point from an MS4 directly to surface waters of the state.

A point of discharge means a discharge from an MS4 to an MS4 owned or operated by another public body. In the case of a point of discharge, the surface water of the state is the ultimate receiving water from the final outfall.

Please note that an MS4 is not a surface water of the state. For example, an open county drain that is a surface water of the state is not an MS4.

OUTFALL AND POINT OF DISCHARGE INFORMATION

[Exhibit a.jpg - 03/31/2021 11:44 AM](#)

[Township complexes.pdf - 03/31/2021 02:56 PM](#)

Comment

NONE PROVIDED

Nested Jurisdictions

Submit the name and general description of each nested MS4 for which a cooperative agreement has been reached to carry out the terms and conditions of the permit for the nested jurisdiction. The applicant shall be responsible for assuring compliance with the permit for those nested jurisdictions with which they have entered into an agreement and listed as part of the Application. If the primary jurisdiction and the nested jurisdiction agree to cooperate so that the terms and conditions of the permit are met for the nested MS4, the nested jurisdiction does not need to apply for a separate permit. A city, village, or township shall not be a nested jurisdiction.

Use the "+" (repeat section) button to add an additional Jurisdiction contact.

Nested Jurisdiction

Prefix

NONE PROVIDED

First Name

NONE PROVIDED

Last Name

NONE PROVIDED

Title

NONE PROVIDED

Organization Name

NONE PROVIDED

Phone Type

NONE PROVIDED

Number**Extension****Email**

NONE PROVIDED

Fax

NONE PROVIDED

Address

[NO STREET ADDRESS SPECIFIED]

[NO CITY SPECIFIED], MI [NO ZIP CODE SPECIFIED]

United States

Section 5: General SWMP, Enforcement Response Procedure, and Public Participation/Involvement Program

STORM WATER MANAGEMENT PROGRAM (SWMP)

This Application requires certification of the Best Management Practices (BMPs) the applicant will continue to implement for each minimum control measure and proposed BMPs to be implemented to fully meet each minimum control measure and the applicable water quality requirements during the permit cycle. The applicant identified BMPs to develop an approved SWMP as part of the previously submitted Application associated with the current permit. As part of this Application, the SWMP shall be modified/updated as needed, implemented, and enforced to reduce the discharge of pollutants from the MS4 to the Maximum Extent Practicable and protect water quality in accordance with the appropriate water quality requirements of the NREPA 451, Public Acts of 1994, Part 31, and the Federal Water Pollution Control Act, as amended, (33 U.S.C. 1251 et seq.). The Maximum Extent Practicable may be met by implementing the BMPs identified in the SWMP and demonstrating the effectiveness of the BMPs. The applicant shall certify continued implementation of the previously approved SWMP and attach any appropriate and necessary documentation to update the SWMP and demonstrate compliance with the six minimum control measures and applicable water quality requirements as part of this Application. All updates to the SWMP will be reviewed for approval as part of the application review process.

The applicant shall complete this Application to the best of its knowledge and ensure that it is true, accurate, and meets the minimum requirements for a SWMP to the Maximum Extent Practicable. All references to the plans, programs, and BMPs to be certified for continued implementation are those from the previously submitted MS4 Individual Permit Application associated with the current permit. The content from the previously submitted Application will be available in MiWaters as part of the public notice process for this Application.

When answering the questions in this section of the Application, the applicant's MS4 encompasses what the applicant identified in Sections IV, V, and VI, above. The applicant shall include a measurable goal for each new BMP or certify the approved measurable goal continues to be applicable. Each measurable goal shall include, as appropriate, a schedule for BMP implementation (months and years), including interim milestones and the frequency of the action. Each measurable goal shall have a measure of assessment to measure progress towards achieving the measurable goal. A United States Environmental Protection Agency (USEPA) guidance document on measurable goals is available at http://water.epa.gov/polwaste/npdes/swbmp/upload/measurablegoals.pdf#_ga=1.38737702.463004347.1438199466.

If the applicant chooses to work collaboratively with watershed or regional partners to implement parts of the SWMP, each applicant will be responsible for complying with the minimum permit requirements.

It is recommended that files be separated and then converted to a PDF format before being attached below to meet the file size limit. For best results, upload one document at a time. Please be aware that files exceeding 500 MB in size are not recommended.

[USEPA measurable goals guidance document link](#)

Enforcement Response Procedure (ERP)

Is the previously approved ERP true, accurate and with continued implementation to the maximum extent practicable in the regulated area (including expanded regulated area) expected to meet the minimum requirements for a SWMP as identified in the previous application?

YES

If no, provide the proposed ERP changes below.

NONE PROVIDED

Public Participation/Involvement Program (PPP)

Is the previously approved PPP true, accurate and with continued implementation to the maximum extent practicable in the regulated area (including any expanded regulated area) expected to meet the minimum requirements for a SWMP as identified in the previous application?

No

If no, provide the proposed PPP changes below.

Although the intent was to meet with a Citizen Committee last year to fully implement the annual review/recommendation process outlined in the PPP, that effort was postponed due to COVID Restrictions. We do not intend to take up that process until Spring of 2022.

Section 6. Public Education Program (PEP)

PEP Procedures

NONE PROVIDED

Comment

NONE PROVIDED

Is the previously approved PEP true, accurate and with continued implementation to the maximum extent practicable in the regulated area (including expanded regulated area) expected to meet the minimum requirements for a SWMP as identified in the previous application?

YES

If no, provide the proposed PEP changes below.

NONE PROVIDED

Section 7. Illicit Discharge Elimination Program (IDEP)

Is an up-to-date storm sewer system map(s) available, including any expanded regulated area? The map(s) shall identify the following: the storm sewer system, the location of all outfalls and points of discharge, and the names and location of the surface waters of the state that receive discharges from the permittee's MS4 (for both outfalls and points of discharge). If no, the application is considered incomplete.

YES

Was the applicant's MS4 previously prioritized for detecting non-storm water discharges? If yes, provide the updated procedure for prioritizing the detection of non-storm water discharges to target areas with high illicit discharge potential during the permit cycle, including the number of outfalls/points of discharge by geographic area using either a narrative description or map.

NO

Is the previously approved IDEP true, accurate and with continued implementation to the maximum extent practicable in the regulated area (including expanded regulated area) expected to meet the minimum requirements for a SWMP as identified in the previous application?

YES

Section 8. Construction Storm Water Runoff Control Program

Is the previously approved Construction Storm Water Runoff Control Program true, accurate and with continued implementation to the maximum extent practicable in the regulated area (including expanded regulated area) expected to meet the minimum requirements for a SWMP as identified in the previous application?

YES

If no, provide the proposed changes below

NONE PROVIDED

Section 9. Post-Construction Storm Water Runoff Program

Is the previously approved Post-Construction Storm Water Runoff Program true, accurate and with continued implementation to the maximum extent practicable in the regulated area (including expanded regulated area) expected to meet the minimum requirements for a SWMP as identified in the previous application?

YES

If no, provide the proposed changes below.

NONE PROVIDED

Section 10. Pollution Prevention and Good Housekeeping Program

Does the applicant have any new owned or operated facilities not identified in the previous application (e.g., a facility located in the expanded regulated area)? If YES provide the information below.

NO

If yes, provide the facility assessment for the potential to discharge pollutants to surface waters of the state in accordance with the procedure previously approved to determine a priority level. If the facility is determined to be a high-priority facility, certify below that a facility-specific standard operating procedure is being implemented. If the facility is determined to be a medium or low-priority facility, certify below that BMPs are being implemented at the facility.

NONE PROVIDED

Is the previously approved Pollution Prevention and Good Housekeeping Program true, accurate, and with continued implementation to the maximum extent practicable in the regulated area (including expanded regulated area) expected to meet the minimum requirements for a SWMP as identified in the previous application?

YES

If no, provide the proposed Pollution Prevention and Good Housekeeping changes below.

NONE PROVIDED

Section 11. Total Maximum Daily Load Implementation Plan (TMDL)

Does the applicant have a currently approved TMDL Implementation Plan?

YES

Is the previously approved TMDL Implementation Plan true, accurate, and with continued implementation expected to reduce the discharge of the TMDL pollutant from the MS4 to make progress in meeting Water Quality Standards?

YES

- Clyde Twp MS4-St Clair Black River (E. coli)
- Commerce Twp MS4-Oakland Rouge River - Rouge (Sediment); Statewide E. coli; Kent Lake (Phosphorus); and Norton Creek (Dissolved Oxygen)
- Galesburg MS4-Kalamazoo Lake Allegan - Kalamazoo River Impoundment (Phosphorus)
- Grand Beach MS4-Berrien Statewide E. coli
- Highland Twp MS4-Oakland Statewide E. coli and Kent Lake (Phosphorus)
- Huron Charter Twp MS4-Wayne Statewide E. coli; Wagner-Pink Drain (E. coli); and Detroit River (E. coli)
- Huron Valley PS MS4-Oakland Statewide E. coli and Kent Lake (Phosphorus)
- Huron-Clinton MPA MS4-SEMDO Statewide E. coli; Lake St. Clair Metropolitan and Memorial Beaches (E. coli); and Kent Lake (Phosphorus)
- Lyon Twp MS4-Oakland Statewide E. coli
- Michiana MS4-Berrien Statewide E. coli
- Port Huron MS4-St Clair Statewide E. coli and Black River (E. coli)
- South Lyon MS4-Oakland Strawberry Lake (Phosphorus)

- South Lyon PS MS4-Oakland Statewide E. coli and Strawberry Lake (Phosphorus)
- St Clair MS4-St Clair Statewide E. coli
- Van Buren PS MS4-Wayne Statewide E. coli; Rouge River (Sediment); and Ford/Belleville Lakes (Phosphorus)
- Walled Lake PS MS4-Oakland Statewide E. coli; Rouge River (Sediment); Kent Lake (Phosphorus); and Norton Creek (Dissolved Oxygen)
- Wolverine Lake MS4-Oakland Kent Lake (Phosphorus)

Based on the list above, is/are there new TMDL(s) listed for your MS4 that ARE NOT already in your current NPDES Permit?

YES

The following questions address discharges to impaired waters with a United States Environmental Protection Agency (USEPA) approved Total Maximum Daily Load (TMDL) that includes a pollutant load allocation assigned to the applicant's MS4. BMPs shall be implemented to reduce the discharge of the TMDL pollutant from the MS4 to make progress in meeting Water Quality Standards. Applicable TMDLs are TMDLs approved prior to the applicant being notified of the need to apply for permit reissuance. Applicable TMDLs for the applicant were provided in the application notice letter.

The applicant shall describe the current and proposed BMPs to meet the minimum requirements for the TMDL Implementation Plan, which shall be incorporated into the SWMP. Please indicate in your response, if you are or will be working collaboratively with watershed or regional partners on any or all activities in the TMDL Implementation Plan during the permit cycle. The following questions represent the minimum requirements for a TMDL Implementation Plan. Please complete the following questions as appropriate. A measurable goal with a measure of assessment shall be included for each BMP, and, as appropriate, a schedule for implementation (months and years), including interim milestones and the frequency of the BMP. The responses shall reflect the nested MS4s identified in Section 4.

The USEPA has a document to assist with developing a TMDL Implementation Plan available at the following link.
[Understanding Impaired Waters and Total Maximum Daily Load \(TMDL\) Requirements for Municipal Stormwater Programs](#)

Total Maximum Daily Load Implementation Plan

- [Statewide E Coli TMDL memo.pdf - 04/01/2021 03:39 PM](#)
- [TMDL memo.pdf - 04/01/2021 03:40 PM](#)
- Comment**
- NONE PROVIDED

Proposing to work collaboratively on any or all activities in the TMDL Implementation Plan during the permit cycle.
 No

1. If a TMDL(s) was included in the applicant's application notice, provide the name(s) below. If no TMDL was identified, skip to the next section.

Kent Lake (Phosphorus) Statewide E Coli TMDL

2. Provide the reference to the procedure submitted above describing the process 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 1. The procedure shall include a process for reviewing, updating, and revising BMPs implemented or to be implemented to ensure progress in achieving the TMDL pollutant load reduction.

Public Education Plan , Elements 6, 7 and 8. Evaluated by review of website hits, volumes of printed materials distributed, and one on one conversations with Staff/citizens.

3. Provide the reference to the TMDL BMP Priority List submitted above with 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 1. Each BMP shall include a reference to the targeted TMDL pollutant.

Public Education Plan , Elements 6, 7 and 8. Evaluated by review of website hits, volumes of printed materials distributed, and one on one conversations with Staff/citizens.

4. Provide the reference to the TMDL Monitoring Plan submitted above 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. Existing monitoring data may be submitted for review as part of the plan to meet part of the monitoring requirement.

Testing for total phosphorus at two locations off Town Center Boulevard twice during the permit cycle. Results to date show nothing of significance.

Certify and Submit

Comments (As needed)

NONE PROVIDED

Additional Documents (As needed)

NONE PROVIDED

Comment

NONE PROVIDED

Attachments

Date	Attachment Name	Context	User
4/1/2021 3:40 PM	TMDL memo.pdf	Attachment	Elizabeth Corwin
4/1/2021 3:39 PM	Statewide E Coli TMDL memo.pdf	Attachment	Elizabeth Corwin
3/31/2021 2:56 PM	Township complexes.pdf	Attachment	Elizabeth Corwin
3/31/2021 11:44 AM	Exhibit a.jpg	Attachment	Elizabeth Corwin

Status History

	User	Processing Status
3/26/2021 9:30:07 AM	Elizabeth Corwin	Draft
4/1/2021 3:56:34 PM	Elizabeth Corwin	Signing
4/1/2021 3:56:34 PM	Elizabeth Corwin	Submitting
4/1/2021 3:57:36 PM	Elizabeth Corwin	Submitted

**CHARTER TOWNSHIP OF HIGHLAND
MUNICIPAL SEPARATE STORM SEWER SYSTEM ENFORCEMENT
RESPONSE PROCEDURE (ERP)**

**DATE: JUNE 1, 2014
Revised Dec. 30, 2014
Revised April 6, 2023**

I. POLICY:

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

II. BACKGROUND:

Under terms of the Separate MS4 Stormwater Permit issued by MDEGLE the permittee must develop a procedure for Enforcement Response to address violations of the ordinances or regulatory mechanism identified in the Stormwater Management Plan.

Highland Township is not an authorized local enforcement agent for Soil Erosion and Sedimentation Control, nor does Highland Township have jurisdiction over onsite sewage disposal systems. Suspected violations of the Soil Erosion and Sedimentation Control Act are directed to the Water Resources Commissioner for Oakland County and suspected violations of the sanitary code are directed to the Oakland County Health Division.

III. PROCEDURE:

In Highland Township, ordinances are codified in the General Code. Each ordinance/regulatory mechanism within the code includes an enforcement response to violations of the ordinance (see Chapter 1, General Provisions). The ordinances referenced in this application include:

- Chapter 11, Garbage and Rubbish, Article 1, General
- Chapter 23, Water, Sewer and Waste Disposal. Article IV. Sanitary Sewer and Waste Disposal (see specifically Sec 23-10)
- Chapter 25, Zoning Ordinance: Section 8.17 Environmental Protection Standards and Section 15.03 Stormwater management

In addition, the site plan review process mandates compliance with the Engineering Design Standards, which incorporate the Oakland County Water Resource Commissioner's Stormwater Standards. These standards were adopted by Resolution #23-03 by the Township Board on February 6, 2023.

- If additional ordinances are completed and passed by the governing body, the enforcement mechanism will be conveyed to the MDEQ NPDES Permit Contact, currently Lishba Varughese.

See Appendix ERP-A for a copies of the cited ordinances and engineering standards.

In addition to the enforcement mechanisms noted in ordinance, additional tracking of instances of noncompliance occurs and includes the following information:

- Name
- Date
- Location of Violation (address, cross streets, etc.,)

**CHARTER TOWNSHIP OF HIGHLAND
MUNICIPAL SEPARATE STORM SEWER SYSTEM ENFORCEMENT
RESPONSE PROCEDURE (ERP)**

**DATE: JUNE 1, 2014
Revised Dec. 30, 2014
Revised April 6, 2023**

- Business/Agency/Organization (as appropriate)
- Description of Violation
- Description of Enforcement Response
- Schedule for Returning to Compliance
- Date Violation was Resolved.

IV. OTHER:

Any questions on this policy and procedure should be directed to the Storm Water Manager.

V. PROCESS FOR UPDATING/REVISING THIS PROCEDURE

This procedure shall be reviewed on an annual basis by the Stormwater Manager for any updates to streamline the requirements.

EXHIBIT ERP-A

Chapter 1

GENERAL PROVISIONS

- Sec. 1-1. How Code designated and cited.
- Sec. 1-2. Definitions and rules of construction.
- Sec. 1-3. Section catchlines and other headings.
- Sec. 1-4. References and notes.
- Sec. 1-5. Certain ordinances not affected by Code.
- Sec. 1-6. Code does not affect prior offenses, rights, etc.
- Sec. 1-7. Amendments to Code.
- Sec. 1-8. Supplementation of Code.
- Sec. 1-9. Severability.
- Sec. 1-10. General penalties and sanctions for violations of Code and township ordinances; continuing violations; injunctive relief.
- Sec. 1-11. Appearance tickets.
- Sec. 1-12. Municipal ordinance violations bureau.
- Secs. 1-13, 1-14. Reserved.
- Sec. 1-15. Authority of bureau.
- Sec. 1-16. Election of person charged with violation.
- Sec. 1-17. Schedule of civil fines.

Sec. 1-1. How Code designated and cited.

The ordinances embraced in the following chapters and sections shall constitute and be designated the "Code of Ordinances, Charter Township of Highland, Michigan," and may be so cited. Such Code may also be cited as the "Highland Charter Township Code."

State law reference—Codification authority, MCL 42.5, 41.186.

Sec. 1-2. Definitions and rules of construction.

It is the legislative intent of the township board, in adopting this Code, that all provisions and sections of this Code be liberally construed to protect and preserve the peace, health, safety and welfare of the inhabitants of the township. In the construction of this Code and any amendment thereto, the following rules shall be observed, unless the context clearly indicates otherwise:

Bureau. The municipal ordinance violations bureau.

Code. The term "this Code" or "Code" shall mean the Code of Ordinances, Charter Township of Highland, Michigan, as designated in section 1-1.

Computation of time. The time within which an act is to be done, as provided in this Code or in any order issued pursuant to this Code, when expressed in days, shall be computed by excluding the first day and including the last, except that if the last day be Sunday or a legal holiday it shall be excluded; and when the time is expressed in hours, the whole of a Sunday or a legal holiday, from midnight to midnight, shall be excluded.

County. The term "the county" or "this county" shall mean the County of Oakland in the State of Michigan.

Gender. A word importing the masculine gender only shall extend and be applied to females and to firms, partnerships and corporations as well as to males.

Month. The word "month" shall be construed to mean a calendar month.

Municipal civil infraction. A violation of a provision of this Code for which the remedy and/or penalty is prescribed to be a civil fine or other sanction other than a criminal penalty. A municipal civil infraction is not a lesser included offense of a criminal offense or of an ordinance violation that is not a civil infraction.

Municipal civil infraction determination. A determination that a defendant is responsible for a municipal civil infraction by one of the following:

- (1) An admission of responsibility for the municipal civil infraction.
- (2) An admission of responsibility for the municipal civil infraction, "with explanation."
- (3) A preponderance of the evidence at an informal hearing or formal hearing.
- (4) A default judgment for failing to appear at a scheduled appearance.

Municipal civil infraction violation notice. A written notice prepared by an authorized official, directing a person to appear at the township ordinance violation bureau for the purpose of paying a civil fine and/or costs for a violation which is prescribed to be a municipal civil infraction.

Number. A word importing the singular number only may extend and be applied to several persons and things as well as to one (1) person and thing.

Oath, affirmation, sworn, affirmed. The word "oath" shall be construed to include the word "affirmation" in all cases where by law an affirmation may be substituted for an oath; and in like cases the word "sworn" shall be construed to include the word "affirmed."

Officer, department, etc. Whenever any officer, department or other agency is referred to by title only, such reference shall be construed as if followed by the words "of the Charter Township of Highland, Michigan." Whenever, by the provisions of this Code, any officer of the township is assigned any duty or empowered to perform any act or duty, reference to such officer shall mean and include such officer or his deputy or authorized subordinate. Whenever in accordance with the provisions of this Code or any ordinance of the township, any specific act is required to be done by any designated officer or official of the township, such act may be performed by any township employee duly authorized to perform that act by such officer or official.

Person. The word "person" includes firms, joint ventures, partnerships, limited liability companies, corporations, clubs and all associations or organizations of natural persons, either incorporated or unincorporated, howsoever operating or named, and whether acting by themselves or by a servant, agent or fiduciary, and includes all legal representatives, heirs, successors and assigns thereof.

Public acts. References to public acts are references to the Public Acts of Michigan. (For example, a reference to Public Act No. 168 of 1959 is a reference to Act No.168 of the Public Acts of Michigan of 1959.) Any reference to a public act, whether by act number or by short title, is a reference to such act as amended.

Repeat offense. A determination of responsibility for a second, or any subsequent, municipal civil infraction with regard to the same Code provision, committed by the same person within any three-year period, unless some other period is specifically provided with regard to a specific Code provision.

Responsible or responsibility. A determination entered by a court or magistrate that a person is in violation of a provision of this Code prescribed to be a municipal civil infraction.

Shall/may. The word "shall" is mandatory and the word "may" is permissive.

State. The term "the state" or "this state" shall be construed to mean the State of Michigan.

Tense. Words used in the present or past tense include the future as well as the present and past.

Township. The word "township" shall mean the Charter Township of Highland in Oakland County, Michigan.

Township board or board. The terms "township board" or "board" shall mean the Township Board of Highland Charter Township, Michigan.

Violation. Any act which is prohibited or made or declared to be unlawful or an offense under this Code, including affirmative acts as well as omissions and/or failures to act where the act is required by this Code.

Week. The word "week" shall be construed to mean seven (7) days.

Written, in writing. The words "written" or "in writing" may include any form of reproduction or expression of language.

Year. The word "year" shall be construed to mean a calendar year.
(Ord. No. 366, § 1, 6-26-1996)

Sec. 1-3. Section catchlines and other headings.

The catchlines of the several sections of this Code printed in boldface type are intended as mere catchwords to indicate the contents of the sections and shall not be deemed or taken to be the titles of such sections, nor as any part of the sections, nor, unless expressly so provided, shall they be so deemed when any of such sections, including the catchlines, are amended or reenacted. No provision of this Code shall be held invalid by reason of deficiency in any such catchline or in any heading or title to any chapter, article or division.

Sec. 1-4. References and notes.

Cross references, state law references, editor's notes and history notes are by way of explanation only and should not be deemed a part of the text of any section.

Sec. 1-5. Certain ordinances not affected by Code.

Nothing in this Code or the ordinance adopting this Code shall affect any ordinance, when not inconsistent with this Code:

- (1) Promising or guaranteeing the payment of money for the township, or authorizing the issuance of any bonds of the township or any evidence of the township's indebtedness, or any contract or obligation assumed by the township;
- (2) Containing any administrative provisions of the township board;
- (3) Acquiring a specific water and sewer system;
- (4) Granting any right or franchise;
- (5) Dedicating, naming, establishing, locating, relocating, opening, paving, widening, vacating, etc., any street or public way in the township;
- (6) Making any appropriation;

- (7) Levying or imposing taxes;
- (8) Establishing or prescribing grades in the township;
- (9) Providing for local improvements and assessing taxes therefor;
- (10) Dedicating or accepting any plat or subdivision in the township;
- (11) Prescribing the number, classification or compensation of any township officers or employees;
- (12) Prescribing specific parking restrictions, no-parking zones, specific speed zones, parking meter zones, and specific stop or yield intersections or other traffic ordinances pertaining to specific streets;
- (13) Pertaining to rezoning;
- (14) Any other ordinance, or part thereof, which is not of a general and permanent nature;

and all such ordinances are hereby recognized as continuing in full force and effect to the same extent as if set out at length in this Code. Such ordinances are on file in the township clerk's office.

Sec. 1-6. Code does not affect prior offenses, rights, etc.

(a) Nothing in this Code or the ordinance adopting this Code shall affect any offense or act committed or done, or any penalty or forfeiture incurred, or any contract or right established or accruing before the effective date of this Code.

(b) The adoption of this Code shall not be interpreted as authorizing or permitting any use or the continuance of any use of a structure or premises in violation of any ordinance in the township in effect on the date of adoption of this Code.

Sec. 1-7. Amendments to Code.

(a) Amendments to any of the provisions of this Code shall be made by amending such provisions by specific reference to the section number of this Code in the following language: "That section _____ of the Code of Ordinances, Charter Township of Highland, Michigan (or Highland Charter Township Code), is hereby amended to read as follows:" The new provisions shall then be set out in full as desired.

(b) If a new section not heretofore existing in the Code is to be added, the following language shall be used: "That the Code of Ordinances, Charter Township of Highland, Michigan (or Highland Charter Township Code), is hereby amended by adding a section, to be numbered _____, which said section reads as follows:" The new section shall then be set out in full as desired.

Sec. 1-8. Supplementation of Code.

(a) By contract or by township personnel, supplements to this Code shall be prepared and printed whenever authorized or directed by the township board. A supplement to the Code shall include all substantive permanent and general parts of ordinances adopted during the period covered by the supplement and all changes made thereby in the Code. The pages of a supplement shall be so numbered that they will fit properly in the Code and will, where necessary, replace pages which have become obsolete or partially obsolete, and the new pages shall be so prepared that, when they have been inserted, the Code will be current through the date of the adoption of the latest ordinance included in the supplement.

(b) In preparing a supplement to this Code, all portions of this Code which have been repealed shall be excluded from the Code by the omission thereof from reprinted pages.

(c) When preparing a supplement to this Code, the codifier (meaning the person, agency or organization authorized to prepare the supplement) may make formal, nonsubstantive changes in ordinances and parts of ordinances included in the supplement, insofar as it is necessary to do so to embody them into a unified code. For example, the codifier may:

- (1) Organize the ordinance material into appropriate subdivisions;
- (2) Provide appropriate catchlines, headings and titles for sections and other subdivisions of the Code printed in the supplement, and make changes in such catchlines, headings and titles;
- (3) Assign appropriate numbers to sections and other subdivisions to be inserted in the Code and, where necessary to accommodate new material, change existing section or other subdivision numbers;
- (4) Change the words "this ordinance" or words of the same meaning to "this chapter," "this article," "this division," etc., as the case may be, or to "sections ____ to ____" (inserting section numbers to indicate the sections of the Code which embody the substantive sections of the ordinance incorporated into the Code); and
- (5) Make other nonsubstantive changes necessary to preserve the original meaning of ordinance sections inserted into the Code; but in no case shall the codifier make any change in the meaning or effect of ordinance material included in the supplement or already embodied in the Code.

Sec. 1-9. Severability.

Should any provision or section of this Code be held unconstitutional or invalid, such holding shall not be construed as affecting the validity of any of the remaining provisions or sections, it being the intent of the township board that this Code shall stand, notwithstanding the invalidity of any provision or section thereof. The provisions of this section shall apply to the amendment of any section of this Code, whether or not the wording of this section is set forth in the amendatory ordinance.

Sec. 1-10. General penalties and sanctions for violations of Code and township ordinances; continuing violations; injunctive relief.

(a) Unless a violation of this Code or any ordinance of the township is specifically designated in the Code or ordinance as a municipal civil infraction, the violation shall be deemed to be a misdemeanor.

(b) The penalty for a misdemeanor violation shall be a fine not exceeding five hundred dollars (\$500.00), plus costs of prosecution, or imprisonment not exceeding ninety (90) days, or both, unless a specific penalty is otherwise provided for the violation by this Code or any ordinance. Unless otherwise provided by law, the penalty for a misdemeanor violation that substantially corresponds to a violation of state law that is a misdemeanor for which the maximum period of imprisonment is 93 days shall be imprisonment for not more than 93 days or a fine of not more than \$500.00, plus costs of prosecution, or both.

(c) The sanction for a violation which is a municipal civil infraction shall be a civil fine in the amount as provided by this Code or any ordinance, plus any costs, damages, expenses and other sanctions, as authorized by law.

- (1) Unless otherwise specifically provided for a particular municipal civil infraction violation by this Code or any ordinance, the civil fine for a violation shall be not less than seventy-five dollars (\$75.00), plus costs and other sanctions, for each infraction.
- (2) Increased civil fines shall be imposed for repeated violations by a person of any requirement or provision of this Code or any ordinance. Unless otherwise specifically provided by this Code or any ordinance for a particular municipal civil infraction violation, the increased fine for a first repeat offense shall be no less than one hundred fifty dollars (\$150.00), plus costs and other sanctions, for each offense, and the increased fine for second (or any subsequent) offenses shall be no less than three hundred dollars (\$300.00), plus costs and other sanctions for each offense.
- (3) The judge or magistrate shall be authorized to reduce a fine upon a determination of extraordinary circumstances.
- (4) The judge or magistrate shall also be authorized to impose costs, damages and expenses as provided by law.
- (5) In addition to ordering the defendant determined to be responsible for a municipal civil infraction to pay a civil fine, costs, damages and expenses, the judge or magistrate shall be authorized to issue any judgment, writ or order necessary to enforce, or enjoin violation of, this Code.

(d) Each day on which any violation of this Code or any ordinance continues shall be a separate offense and shall be subject to penalties or sanctions as a separate offense.

(e) In addition to any penalties provided for in this Code, any equitable or other remedies available may be sought.

(Ord. No. 366, § 2, 6-26-1996)

State law reference—Limitation on penalties, MCL 42.21.

Sec. 1-11. Appearance tickets.

Officers, employees and other individuals employed by and in the service of the township who are authorized by state law and/or the provisions of the ordinances of the township to enforce the provisions of such ordinances, including, but not limited to, the zoning and ordinance enforcement officers, building inspector, fire inspector, fire officer, firefighters, and their assistants, are hereby specifically authorized in accordance with state law, including section 9c of The Code of Criminal Procedure (MCL 764.9c); to issue and serve upon a person an appearance ticket if the officer, employee or other individual employed by or in the service of the township has reasonable cause to believe that the person has committed a violation of the provisions of the ordinances of the township or state law, except where the issuance of such an appearance ticket is expressly prohibited by the provisions of the ordinances or applicable state law.

Sec. 1-12. Municipal ordinance violations bureau.

(a) The township hereby establishes a municipal ordinance violations bureau ("bureau") to accept admissions of responsibility for municipal civil infractions in response to municipal civil infraction violation notices.

(b) Payments made to the bureau shall be retained and accounted for as fines and costs, respectively, and shall be deposited in the general fund.

(c) The bureau shall be located at the township hall, and shall be under the supervision and control of the township treasurer.

(Ord. No. 366, § 3, 6-26-1996)

Secs. 1-13, 1-14. Reserved.**Sec. 1-15. Authority of bureau.**

(a) The bureau is authorized to accept payment of fines and costs in response to municipal civil infraction violation notices, and shall not be authorized to accept monies or admissions of responsibility in response to municipal civil infraction citations.

(b) The bureau shall not accept payment of a fine or costs from any person who denies having committed a municipal civil infraction charged in a municipal civil infraction violation notice.

(c) The bureau shall not have authority or jurisdiction to determine, or attempt to determine, the truth or falsity of any fact or matter relating to an alleged violation.

(Ord. No. 366, § 3, 6-26-1996)

Sec. 1-16. Election of person charged with violation.

(a) Any person receiving a municipal civil infraction violation notice shall be permitted to dispose of the charge alleged in the notice by making payment of the fine and/or costs to the bureau; however, a person shall have the right to elect not to have the violation processed by

the bureau and to have the alleged violation processed in a court of competent jurisdiction. The unwillingness of any person to dispose of a violation at the bureau shall not prejudice the person or in any way diminish the person's rights, privileges and protection accorded by law.

(b) A person electing to have the alleged violation processed at the bureau shall appear at the bureau and pay the specified fine and/or costs within the time specified for appearance in the municipal civil infraction violation notice. Such appearance may be made by mail, in person, or by representation, provided, if appearance is made by mail, the person charged in the notice shall have the responsibility for timely delivery of the fine and/or costs within the time specified in the municipal civil infraction violation notice.

(Ord. No. 366, § 3, 6-26-1996)

Sec. 1-17. Schedule of civil fines.

A schedule of civil fines payable to the bureau for admissions of responsibility by persons served with municipal ordinance violation notices is hereby established. The fines for the violations listed below shall be as follows:

<i>Code Section*</i>	<i>Offense</i>	<i>Fine</i>
Any municipal civil infraction	Failure to comply with any provision	\$ 75.00
	First repeat offense	150.00
	Second (or any subsequent) repeat offense	300.00

*Including chapter(s), article(s), divisions, and subsections, or portions thereof, as specified in the schedule, a copy of which, as amended from time to time, shall be posted at the bureau. (Ord. No. 366, § 3, 6-26-1996)

Chapter 11

GARBAGE AND RUBBISH*

Article I. In General

- Sec. 11-1. Definitions.
- Sec. 11-2. Littering and accumulation.
- Sec. 11-3. Throwing, accumulating refuse declared nuisance; abatement.
- Sec. 11-4. Penalties and sanctions.
- Secs. 11-5—11-25. Reserved.

Article II. Collection and Disposal

Division 1. Generally

- Sec. 11-26. Definitions.
- Secs. 11-27—11-40. Reserved.

Division 2. Organization

- Sec. 11-41. Created.
- Sec. 11-42. Fiscal year.
- Sec. 11-43. Charges.
- Sec. 11-44. Township board control.
- Sec. 11-45. Employees not to exceed authority.
- Sec. 11-46. Revenues.
- Secs. 11-47—11-55. Reserved.

Division 3. Collection

- Sec. 11-56. Implementation of system.
- Sec. 11-57. Placement for collection.
- Sec. 11-58. Containers.
- Sec. 11-59. Schedule.
- Sec. 11-60. Disposal.
- Sec. 11-61. Responsible person.
- Secs. 11-62—11-75. Reserved.

Division 4. Finances

- Sec. 11-76. Proportionate bills.
- Sec. 11-77. Establishment of funds and order of priority of deposits.
- Sec. 11-78. Billing and enforcement.

***Cross reference**—Burning of garbage and rubbish, § 9-31.

State law reference—Authority to provide for collection and disposal of garbage and rubbish, MCL 41.411 et seq.

ARTICLE I. IN GENERAL**Sec. 11-1. Definitions.**

The following words, terms and phrases, when used in this chapter, shall have the meanings ascribed to them in this section, except where the context clearly indicates a different meaning:

Approved incinerator or approved garbage grinder means incinerators and garbage grinders, respectively, which conform in all respects to the basic building code adopted by the township.

Compost means a mixture of decaying garbage and other organic substances such as dead leaves and manure which is used for fertilizing and conditioning land.

Garbage means wastes, other than human wastes, of animal, fruit or vegetable matter, liquid or otherwise, including wastes that attend the preparation for cooking, dealing in or storing of meat, fish, fowl, fruit or vegetables.

Public nuisance means that which annoys, injures or endangers the safety, health, comfort or repose of the public; offends public decency, interferes with, obstructs or renders dangerous any street, highway, navigable lake or stream; or in any way renders the public insecure in life or property.

Refuse means and includes all items of waste as defined in this section.

Rubbish means all wastes, other than garbage and human wastes, consisting of both combustible and noncombustible wastes, such as paper, cardboard, rags, rubber, tin cans, glass, yard clippings, wood, bedding, crockery, building materials, ashes (residues of any kind from fires), or litter of any kind that will be a detriment to the public health and safety.

(Ord. No. 238, § 1, 11-9-1977)

Cross reference—Definitions and rules of construction generally, § 1-2.

Sec. 11-2. Littering and accumulation.

(a) It shall be unlawful to throw or deposit any refuse upon or into any stream, lake, or other body of water, street, alley or other property, public or private, except as specifically permitted in this chapter.

(b) It shall be the duty of every occupant of property and every owner of property, either occupied or unoccupied, at all times to maintain the premises owned or occupied by him in a clean and orderly condition.

(c) It shall be unlawful for the occupant of any property, and it shall be unlawful for the owner of any property, to permit the deposit or accumulation of garbage or other refuse upon such premises, unless stored or accumulated as permitted by this chapter.

(Ord. No. 238, § 3, 11-9-1977)

State law reference—Littering, MCL 750.901 et seq., MSA 28.603(1) et seq. 324.8901 et seq.

Sec. 11-3. Throwing, accumulating refuse declared nuisance; abatement.

The throwing or placing of refuse or permitting it to accumulate on either public or private property contrary to the provisions of this chapter is declared to be a public nuisance which shall be abated as herein provided.

- (1) The supervisor or ordinance enforcement officer shall serve written demand for removal of such refuse within the time therein specified, not less than forty-eight (48) hours, by either delivering the notice to the occupant of premises directly adjoining the public right-of-way upon which refuse has accumulated or the premises upon which refuse has accumulated, or to the person responsible for payment of taxes thereon, as set forth in the then current tax rolls, or posting the demand in a conspicuous place on such premises. If such demand has not been complied with within the specified time period after being served or posted, the supervisor or ordinance enforcement officer may cause such refuse to be removed.
- (2) Upon a determination by the supervisor that the nuisance created by the refuse constitutes an immediate hazard to the public health, safety or welfare, he may declare an emergency and cause the nuisance to be abated without the prior notice described in subparagraph (1) of this section.
- (3) The cost of any abatement pursuant to this section shall be charged and billed against the premises and the owner thereof as a special assessment pursuant to the provisions of state law.

(Ord. No. 238, § 3, 11-9-1977)

Sec. 11-4. Penalties and sanctions.

Municipal civil infraction. A person who violates any provision of this article is responsible for a municipal civil infraction, subject to payment of a civil fine as specified in section 1-10 of this Code, plus costs and other sanctions, for each infraction. Repeat offenses shall be subject to increased fines as provided by section 1-10 of this Code.

These sanctions are in addition to any other remedy provided in this chapter.
(Ord. No. 373, § 1, 6-26-1996)

Secs. 11-5—11-25. Reserved.

ARTICLE II. COLLECTION AND DISPOSAL

DIVISION 1. GENERALLY

Sec. 11-26. Definitions.

The following words, terms and phrases, when used in this article, shall have the meanings ascribed to them in this section, except where the context clearly indicates a different meaning:

Ashes means residue from fires used for cooking and heating.

ARTICLE I. IN GENERAL**Sec. 23-1. Short title.**

The ordinance codified in this chapter shall be known and cited as the "Water and Sewer Ordinance."

Sec. 23-2. Conflicting provisions.

(a) Nothing contained in this Ordinance shall be construed as to interfere with any existing or future lawful requirements that may be, or heretofore were, imposed by any other governmental entity authorized to enact sanitary, health or water pollution abatement restrictions. In the event of a conflict between the requirements of this Ordinance and those of another governmental body, the strictest standard shall apply.

(b) Nothing contained in this Ordinance shall be construed so as to interfere with the duties and powers of the Township or its operating agents.

Sec. 23-3. Definitions.

The following words, terms and phrases, when used in this chapter, shall have the meanings respectively ascribed to them in this section:

Available public sanitary sewer means a publicly owned sanitary sewer system with available capacity located in a right-of-way, easement, highway, street, or public way which crosses, adjoins or abuts the parcel to be served and passing not more than 200 feet at the nearest point from a structure in which sanitary sewage originates, and located in the same Sanitary Sewer District as such structure.

Available public water system means a publicly owned water system with available capacity located in a right-of-way, easement, highway, street, or public way which crosses, adjoins or abuts upon the premises and passing not more than 200 feet at the nearest point from a structure in which potable water is used, and located in the same Water District as such structure.

Board or Township Board means the Charter Township of Highland Board of Trustees.

District, Sanitary Sewer, means a public sewer district, which includes properties which have been designated to benefit from the public sanitary sewer by virtue of participation in a Special Assessment District to extend sanitary service by the physical extension of a sanitary sewer system across the property frontage in accordance with the Highland Township Sanitary Sewer Master Plan.

District, Water, means a public water district, which includes properties which have been designated to benefit from the public water by virtue of participation in a Special Assessment District to extend water main by the physical extension of a water main across the property frontage in accordance with the Highland Township Water Master Plan.

Oakland County or County means the County of Oakland, State of Michigan.

Operating Agent means the organization appointed by the Township as agent for the operation, maintenance, and management of public water and public sewer systems within Highland Township.

Outdoor watering shall mean sprinkling of gardens, lawns and landscaping, filling and topping off of swimming pools, car washing and other uses of water for other than drinking and sanitary purposes.

Performance Guarantee means cash or an automatically renewable irrevocable letter of credit deposited by an applicant with the Township to ensure completion of public water or sanitary sewer system improvements or performance of other obligations under the provisions of this chapter.

Township means the Charter Township of Highland, Oakland County, Michigan and where the Township has assigned its authority under this Ordinance, it may include the assignee of the Township.

Wellhead Protection Overlay Zone means an area surrounding a public well's wellhead, the boundary of which represents the area within which contaminants in surface water can travel to the wellhead within a 10-year period and which has been delineated on the appropriate Appendix to this Ordinance.

Sec. 23-4. Supervision and management of Township-owned public sanitary sewer and public water systems.

(a) The construction, alteration, repair and management of Township-owned public sanitary sewer and public water systems shall be under the supervision and control of the Township Supervisor, subject to overall control of the Township Board of Trustees. The Board may make such rules, orders and regulations as it deems advisable and necessary to assure the efficient management and operation of the system.

(b) The Township Board may contract with a private sector consultant or public agency to serve as the operating agent.

(c) All revenues and expenditures related to the operation, maintenance and expansion of the Township-owned public sewer and water system shall be maintained as enterprise funds managed by the Township Treasurer or her/his agent as authorized by the Township Board. All accounts shall be opened, maintained, and invested in accordance with state law.

Sec. 23-5. Sewer and water rates and charges.

No free public sewer and water service shall be allowed and all properties connected to a Township-owned public water or sewer system shall be subject to the payment of such sewer and/or water rates and charges as shall be established by resolution of the Township Board.

Sec. 23-6. Termination of service.

The Township shall have the right to terminate any water or sewer service to any premises within the Township where any of the following conditions occur: when any delinquency exists with respect to any water or sewer payments due under this ordinance or otherwise; where conditions on the premises interfere with the efficient operation of public water or sewer facilities due to non-compliance with the plumbing codes of the Township; where demands on the public water or sewer supply in excess of those reasonably associated with the approved land use of the property and with any and all restrictions and limitations on the use of the particular water or sewer service imposed by the Township Supervisor or Township Board; or where environmental concerns are found related to suspected or confirmed illicit discharges.

Sec. 23-7. Lien rights.

Bills not paid for water and/or sewer service on or before the due date of said bill shall be deemed to be delinquent and shall be a lien upon the property served until paid, and the personal obligation of the owner of such premises. Until such charges are paid, the Township may, at the option of the board, proceed in a personal action against the owner, or in foreclosure of the lien, or both, to the extent necessary to collect such amounts and collection charges related thereto. Any amounts owed may be certified to the Supervisor annually, on or before March 1st of each year and entered by him/her upon the next tax roll against the property served, for collection in the same manner as the collection of property taxes.

Sec. 23-8. Debt charges.

The Township Board may impose a debt retirement charge to repay a debt incurred for improvements to the public water or sewer systems. All users shall be charged a debt retirement charge if one is imposed using methodology determined to spread the costs equitably among users of the system, which may include minimum user fees and/or proportional user fees based on consumer demands upon the system. If a debt retirement charge is imposed by the Township Board, the surcharge shall not exceed the estimated amount required to meet all principal, interest and reserve obligations for the year.

Sec. 23-9. Surplus funds.

Any surplus funds collected from water or sewer service or from capital improvements or extensions thereto shall be deposited into a water and sewer improvement revolving fund of the Township for use in further extending, improving, repairing, relocating and/or financing the public water and/or sewer systems of the Township.

Sec. 23-10. Authority to enter property.

Duly authorized employees of the Township or Operating Agent bearing proper credentials and identification shall be permitted to enter upon all properties served or to be served by public sewer and water for the purposes of inspection, observation, measurement, sampling, and testing, to determine compliance with the provisions of this Ordinance. On request, the

owner, lessee or occupant shall furnish to the authorized employee/agent any pertinent information regarding the piping system or systems on such property. The refusal of such information or refusal of access may result in termination of service to the premises.

Sec. 23-11. Injury to facilities.

No person except an employee or agent of the entity with jurisdiction in the performance of their duties, shall willfully or carelessly break, damage, destroy, uncover, deface or tamper with any structure, appurtenance or equipment of the Township public water supply or public sanitary sewer systems.

Sec. 23-12. Effect on Michigan Plumbing Code.

This chapter does not supersede the Michigan Plumbing Code but is supplementary to it.

Secs. 23-13—23-25. Reserved.

ARTICLE II. WATER SUPPLY

DIVISION 1. DESIGN AND CONSTRUCTION OF PUBLIC WATER SUPPLIES

Sec. 23-26. Intent and policy.

(a) It is hereby determined to be the policy of the Charter Township of Highland that the distribution of potable water to the citizens of the Township is best performed through public water supply and distribution systems in accordance with the Water Master Plan. Supplying public water where feasible.

- (1) Shall provide for a high quality of potable water
- (2) Shall provide better opportunity to protect water supplies from contamination
- (3) Shall allow for enhanced firefighting capability by the Township Fire Department

(b) It is not the policy of the Township to pursue extension of public water supply throughout established neighborhoods or areas of low density (one home per five acres or less) except where a public health threat is identified or where requested by a majority of the residents.

Sec. 23-27. Use of public water supply required when available.

(a) Except as provided in this chapter, no person shall construct or maintain any private water well within the Township.

(b) In the event any new structure is built on property located within two hundred (200) feet of a public water supply, said structure shall be required to connect to the public system. In the event an existing structure is located on property within two hundred (200) feet of a public

ARTICLE IV. SANITARY SEWER AND WASTE DISPOSAL**Sec. 23-136. Intent and policy.**

It is hereby determined to be the policy of the Charter Township of Highland to limit the public investment in sanitary sewer collection systems and wastewater treatment facilities to serve those areas specifically designated in the Highland Township Sanitary Sewer Master Plan. Municipal sanitary sewer service shall be reserved to address issues in established areas of high residential density, such as along lakefronts, to support economic development in the Downtown Development District, and to further the goals and objectives of the Comprehensive Land Use Plan.

Sec. 23-137. Use of systems.

The sanitary sewer system shall be used for the collection and transportation of sanitary sewage only. Yard drains, patio drains, catch basins, downspouts, footing drains, weep tile, or any conduit that carries stormwater or ground water, alone or in combination with sanitary sewage, shall not be connected to the sanitary system, directly or indirectly.

Sec. 23-138. Water pollution.

It shall be unlawful to discharge to the waters of the state any sanitary sewage, industrial or commercial wastes, or other polluted waters within the Township unless suitable treatment has been provided in accordance with the provisions of this article.

Sec. 23-139. Private sewer systems.

Except as provided in this article, it shall be unlawful to construct or maintain any privy, privy vault, septic tank, septic system or other wastewater treatment and disposal system intended or used for the collection, treatment or disposal of sewage, on any property in the Township.

Sec. 23-140. New private sewer systems.

(a) *Compliance with standards.* For structures not otherwise served by a public sanitary sewer system, the building sewer shall be connected to a private sewage disposal system complying with the terms of this article, the requirements of the Oakland County Health Division, the State of Michigan, and any other applicable law, ordinance or regulation.

(b) *Approval of installations.* No new private sewer system shall be constructed, installed or operated within the Township unless the plans for the installation are approved by, and a permit issued by, the Oakland County Health Division or Michigan Department of Environmental Quality.

(c) *Operation and maintenance costs.* All costs associated with the operation, maintenance and replacement of a private sewage disposal system shall be borne by the property owners served by such systems.

(d) *Maintenance agreements.* For systems serving more than one office, commercial or industrial structure and for systems serving more than one residential unit, a maintenance agreement shall bind the owners of all lots, parcels and condominium units with access to the sewer system, including their successors and assigns. The maintenance agreement must include the following minimum information.

- (1) *Restrictive covenant.* A restrictive covenant shall be included in the maintenance agreement establishing the responsibility for operating and maintaining the private sanitary sewer system on all lots and parcels to be serviced by the system. Such restrictive covenant shall further grant to the Charter Township of Highland an easement for the purpose of providing for the installation, operation, inspection, maintenance or removal of any public or private utility systems. The agreement shall grant to the Township the right, but not the obligation, to inspect and repair said sanitary sewer system at the expense of the owners of property served by the sanitary sewer system. The Township shall have the sole discretion whether to create a special assessment district under the agreement. If the Township elects to repair a private sanitary sewer system, the agreement shall provide for the establishment of a special assessment district to defray all costs incurred in repairing the system, including all administrative costs. The agreement shall provide that all current and future owners agree that they are waiving all rights to challenge all aspects of the special assessment district. In addition, the owners and all future owners agree that the maintenance agreement shall be deemed a petition or an adjunct to a petition by the property owners for a special assessment district, if such a petition is legally required.
- (2) *Co-Owner Association.* A provision for an incorporated association of co-owners along the proposed private sanitary sewer system, which shall be responsible to collect fees and to maintain the sanitary sewer system.
- (3) *Financing.* A feasible and practical method for financing the repair, improvement, and maintenance of the private sanitary sewer system in compliance with this ordinance. The maintenance agreement shall include an explicit clause advising all current and future parties to said agreement that neither the Township nor any other public agency is obligated to perform regular inspections of the easement area or provide repairs, improvements or maintenance to the private system.

Sec. 23-141. Required connection to public sanitary sewer systems.

(a) *Connection required.* All new structures in which sanitary sewage originates lying within the district shall be connected to an available public sanitary sewer before a certificate of occupancy is issued if such sewer exists.

(b) *Connection of existing structures.* Existing structures in which sanitary sewage originates lying within the boundaries of the district and within 200 feet of an available public sanitary sewer shall be connected to the public sewer system upon the earlier of the following events except as may be deferred by the Township Board per section 23-141.c:

- (1) Within 18 months after the date of mailing or posting of written notice by the Township that a sanitary sewer system has become available for connection;

- (2) Within 90 days after the date of mailing or posting of written notice by the Township or the Oakland County Health Division that a health hazard exists due to the failure of an existing private sewage disposal system for any reason;
- (3) When new and/or additional tile fields are necessary in an existing septic system because of the construction of new structures, additions to existing structures, or change of use of any structure;

(c) *Deferral of requirement to connect.* The Township Board may defer the time period for connection for up to five (5) years for cause as follows:

- (1) The applicant demonstrates a hardship, such as topographic issues, presence of regulated wetlands, etc. Financial difficulty in and of itself will not be sufficient to establish hardship; or
- (2) The applicant demonstrates that an existing septic system is in good repair and functioning properly to protect groundwater and public health. The applicant must document the condition of the field by certification of a professional or contractor experienced in sewage disposal design and/or operation and maintenance of onsite systems whose credentials are found to be acceptable to the Township. Evidence shall include, as a minimum, dye test results and record of physical observation of tanks and the disposal field. No deferral shall be granted for a system consisting of drywells or cisterns. Annual recertification is required throughout the deferral period.

(d) *Covenant to be recorded affirming requirement to connect.* In the event that a deferral is granted, all persons with any interest in the property shall execute a covenant, in a form suitable for recording at the Oakland County Register of Deeds, and approved by the Township Attorney, confirming the requirement to connect to the sanitary sewer. The deferral is not transferable to future owners in the event of a property transfer. No building permits will be issued to remodel or expand existing structures unless the existing structure is connected to the public sanitary sewer as a condition of said permit.

(e) *Application to new structures.* For new structures for which an available public sanitary sewer is not immediately available for connection, but the Township reasonably anticipates that the public sanitary sewer will be extended in the future in reasonable proximity to such new structure, the Township may, as a condition of site plan approval, require the applicant to connect such structure to the public sanitary sewer within 60 days of the date the Township notifies the owner of the property that the system is available for connection.

(f) *No guarantee of available capacity.* The Township makes no guarantee that capacity in any sanitary sewer district is available for connection of any particular structures located within the district. Properties located within any district shall only be required to connect and/or be entitled to connection to those systems if capacity is available and all other requirements of this article and other applicable ordinances and regulations are met.

(g) *Abandonment of existing private system.* At such time as a direct connection is made to a public sewer in compliance with this ordinance, any privy, privy vault, septic tank, cesspool and/or other similar private sewer disposal facility located on the property now served by the public system shall be properly abandoned and filled with suitable material as dictated by public health regulations.

Sec. 23-142. Application to construct public sanitary sewer system improvements.

Any persons, firms or corporations seeking to construct public sanitary sewer system improvements shall, at their own expense, submit an application together with conceptual plans for such work to the Township Planning Department. The Planning Director shall review the plans along with the Township Engineer and operating agents to determine the conditions and requirements for such installation. An escrow account shall be established as required under section 3-41 to cover review and inspection fees. Upon approval of the conceptual plans, the applicant shall submit complete plans and specifications prepared by a Registered Engineer in the State of Michigan, along with a cost opinion for the improvements. The Township Engineer shall review the plans and specifications for compliance with Township, county and state standards and once acceptable, shall forward to the appropriate county and state agencies for issuance of construction permits.

Sec. 23-143. Installation of sewers.

The type, capacity, location and layout of all sewers shall comply with the Township Master Sanitary Sewer Plan and with all applicable requirements of the state, the Township, and the entity with jurisdiction, and shall be constructed and connected in accordance with the regulations and design standards of the Township and the entity with jurisdiction.

Sec. 23-144. Sanitary sewer extensions.

Where property is to be connected to the sanitary sewer system, and the sanitary sewer system does not extend the full frontage of the owner's property, the property owner shall be responsible for extending the sanitary sewer system at the owner's cost along the entire frontage, so as to allow further extension of the sewer system to adjoining properties. In the case of properties fronting roads on multiple sides, the property owner shall be responsible for extending the sewer along each frontage as indicated in the Township Master Sanitary Sewer plan. The Township Board may grant waivers from this section where the Township Engineer determines that upstream properties would be better served by force main and pump stations due to topographic considerations and/or development patterns.

Sec. 23-145. Grease interceptors.

Grease, oil and sand interceptors shall be provided when, in the opinion of the Township, they are necessary for the proper handling of wastewaters containing grease, flammable wastes, sand or other harmful ingredients. Interceptors shall not be required for private living quarters or dwelling units. All such interceptors shall be of a type and capacity approved by the Township, and located so as to be readily accessible for cleaning and inspection.

Sec. 23-146. Industrial wastewater pretreatment.

No user shall contribute or cause to be contributed, directly or indirectly, any pollutant or wastewater that will interfere with the operation or performance of a sanitary sewer system or wastewater treatment facility. Where the characteristics of raw effluent emanating from a

8. Grading limits must be shown on the plan, including cross-sections across any areas to be retained by walls. The stewardship plan should also identify areas where topsoil will be stored during construction, or any areas to be cleared and used for stockpile of materials during construction.
9. If existing trees are to be relocated, the proposed location for such trees shall be shown, with a statement as to how such trees are to be protected and/or stored during land clearance and construction and how they are to be maintained after construction.
10. The plan shall disclose the presence of any threatened or endangered species observed on site.

D. *Approval process and review criteria.* The Planning Commission shall review all site plans in consideration of Section 5.04, Standards For Site Plan Approval. For sites which are required to submit a Natural Features Inventory and Stewardship Plan, the Planning Commission shall further consider the impact of proposed design elements, and the value of conserving or preserving existing significant natural features or sensitive features as per the intent and purpose of this ordinance. Such consideration shall include:

1. Woodlands and significance of trees and vegetation by reason of quantity, location, size and species.
2. Lakes, streams, wetlands, flood plains and natural drainage courses.
3. Habitat of animals and plants and impacts upon wildlife and plant habitat.
4. Topography, existing slopes, hills, prairies, etc.
5. Visual impact of existing natural features and the preservation and promotion of natural vistas and views harmonious with the rural character of Highland Township.
6. Other existing natural features that are significant and unique to a particular parcel of land.
7. Comparison to the natural features inventory study (MNFI) and the Highland Green Infrastructure Plan using these as general guidelines for evaluation.

Sec. 15.03. Stormwater management.

A. *Purpose.* The purpose of this Ordinance is to encourage the use of structural, vegetative or managerial practices, commonly referred to as best management practices (BMP's), designed to treat, prevent, or reduce degradation of water quality due to storm water runoff. All development projects subject to site plan review shall be designed, constructed, and maintained using best management practices (BMP's) to prevent flooding, protect water quality, reduce soil erosion, maintain and improve wildlife habitat, and contribute to the aesthetic values of the project. The particular facilities and measures required onsite shall reflect and incorporate existing grade, natural features, wetlands and watercourses on the site to the maximum extent feasible.

B. *Stormwater management.* All stormwater management plans shall meet the Engineering Design Standards adopted by the Township, and shall utilize nonstructural control techniques to the maximum extent feasible, including, but not limited to:

1. Limitation of land disturbance and grading;
2. Maintenance of vegetated buffers and natural vegetation;
3. Minimization of impervious surfaces;
4. Use of terraces, contoured landscapes, runoff spreaders, grass or rock-lined swales
5. Use of infiltration devices.

C. *General standards.*

1. Sites shall be designed and managed utilizing Low Impact Development techniques to emulate the natural water cycle, and maintain local and regional hydrologic patterns. The Low Impact Development Manual for Michigan, published by the Southeast Michigan Council of Governments (SEMCOG) provides guidance for the designer and developer.
2. Stormwater management systems shall be designed to prevent flooding and the degradation of water quality related to stormwater runoff and soil erosion from proposed development.
3. All new development and redevelopment of properties shall include on-site storage of stormwater. Facilities shall be designed to provide a volume of storage and discharge rate which meets the standards of the Township. A project may be exempted from the onsite storage requirement upon finding that an acceptable natural drainage outlet is available or storage capacity has been provided offsite and that all necessary drainage easements have been acquired.
4. Priority shall be placed on site design which maintains natural drainage patterns and watercourses. Alternations to natural drainage patterns shall not create flooding or degradation of water quality for adjacent or downstream property owners.
5. The use of swales and buffer strips vegetated with desirable native materials is encouraged as a method of stormwater conveyance so as to decrease runoff velocity, allow for bio-filtration, allow suspended sediment particles to settle and to remove pollutants. Tolerance for water saturation, sunlight, pesticides, metals, and salts shall be required in determining appropriate plantings in these areas.
6. Where large amounts of grease and oil may accumulate, as in the case of commercial/ industrial developments and large areas of impervious surfaces for parking, oil separators shall be required.
7. For sites that store or use chemicals, a spill response plan shall be submitted and approved by the Township.

D. *Use of wetlands.* Wetlands may be used for stormwater management if all the following conditions are met:

1. Wetlands shall be protected from impairment due to the discharges of stormwater. Measures shall be taken to reduce erosive velocities of stormwater and to remove sediment and other pollutants prior to discharge to a wetland.
2. Wildlife, fish or other beneficial aquatic organisms and their habitat within the wetland will not be impaired.
3. The wetland has sufficient holding capacity for stormwater, based upon calculations prepared by the proprietor and reviewed and approved by the Township.
4. On-site erosion control shall be provided to protect the natural functioning of the wetland.
5. Provisions approved by the Township shall be established so as to insure that the wetland is not disturbed or impaired in the future relative to the needed storage capacity.
6. Applicable permits shall be obtained from the Michigan Department of Environmental Quality or appropriate federal agency.

E. *Maintenance.* For stormwater management systems serving more than one office, commercial or industrial structure and for systems serving more than one residential unit, a maintenance agreement shall bind the owners of all lots, parcels and condominium units with access to the stormwater management system, including their successors and assigns. The maintenance agreement must include the following minimum information:

1. A restrictive covenant shall be included in the maintenance agreement establishing the responsibility for operating and maintaining the stormwater management system on all lots and parcels to be serviced by the system. Such restrictive covenant shall further grant to Highland Township an easement for the purpose of providing for the installation, operation, inspection, and maintenance of stormwater management systems. The agreement shall grant to Highland Township the right, but not the obligation, to inspect and repair said stormwater management system at the expense of the owners of property served by the system. The Township shall have the sole discretion whether to create a special assessment district under the agreement. If the Township elects to repair a private stormwater management system, the agreement shall provide for the establishment of a special assessment district to defray all costs incurred in repairing the system. The agreement shall provide that all current and future owners agree that they are waiving all rights to challenge all aspects of the special assessment district. In addition, the owners and all future owners agree that the maintenance agreement shall be deemed a petition or an adjunct to a petition by the property owners for a special assessment district, if such a petition is legally required.

Highland Charter Township
Public Participation and Involvement Program (PPP)
April 5, 2023

This Public Participation and Involvement Program is required by the Michigan Department of Environmental Quality NPDES Wastewater Discharge General Permit, which governs Storm Water Discharges from Municipal Separate Storm Sewer Systems (MS4's) With Controls Based on Six Minimum Measures (Specifically Part I, Section B.2. Public Involvement and Participation.)

The purpose of this Public Participation/Involvement Program (PPP) is to encourage the involvement of watershed jurisdictions, agencies, organizations, and the general public in all aspects of the storm water management program. This PPP is designed to involve all entities with the authority, ability, and desire to carry out the development and implementation of the Subwatershed Management Plan as well.

Part 1. General Information

Highland Township participated in the development of the Kent Lake Subwatershed Plan in cooperation with neighboring communities:

Primary Partners

Oakland County	Lyon Township	Village of Wolverine Lake
Commerce Township	Village of Milford	City of Wixom
Highland Township	Milford Township	White Lake Township
Huron Valley School District		

Secondary Partners

Springfield Township	Village of Orchard Lake	Novi
Waterford Township	City of Walled Lake	West Bloomfield Township

Subsequently, the permitting process under the National Pollutant Discharge Elimination System was challenged in court, and refined such that a number of partners were excused from the permitting requirements. Highland Township also filed for release from the permit requirements, but was denied due to ownership of a private road, and a dispute as to whether the catchbasins and storm sewers at the office campus on John Street and the Highland Township library constituted MS4's under the definition of the program.

The Kent Lake Subwatershed Management Plan, the Public Education Plan (PEP) and the Stormwater Pollution Prevention Initiative (SWPPI) developed during the planning for the Watershed Based Permit are still largely valid. The SWPPI has been replaced by this Stormwater Management Plan.

A second Subwatershed Management Plan was developed under the facilitation of the Huron River Watershed Council. This plan was approved under section 319 of the Clean Water Act to address the Total Maximum Daily Load (TMDL) for phosphorus. This plan has also informed Township efforts in developing a stormwater management plan.

The Highland Township Stormwater Management Plan shall consist of the application for the NPDES permit with all its attached exhibits, such as this PPP, the stormwater Pollution Prevention Initiative (SWPPI), Environmental Response Program (ERP), etc.

Part 2. Building the Team

The Kent Lake Subwatershed Group (SWAG) is currently facilitated by the Oakland County Water Resources Commisisoner's staff. The SWAG now acts primarily as an email clearinghouse to distribute information regarding upcoming activities and news relative to stormwater management. SWAG

members, such as the Huron River Watershed Council, Oakland County Water Resources Commissioner and Southeast Michigan Council of Governments (SEMCOG) also provide technical assistance and training opportunities for the other SWAG members, publish public education materials, and offer appropriate workshops for the public.

Highland Township maintains its membership with the Huron River Watershed Council, and also promotes the activities of the Six Rivers Regional Land Conservancy. Highland residents participate in the activities of each of these organizations with ongoing programs designed to protect and enhance water quality in our jurisdiction.

Highland Township has a number of citizen committees dedicated to missions that are related to water resources and protection. These groups include the Highland Township Recreation Committee, the Highland Township Planning Commission, Lake Boards and the Community Round Table. The Planning Commission will take the lead on advising the Township Board in regards to progress and implementation of the plan, and will invite members of the other committees to meet periodically to discuss progress.

The following activities will be used to inform and advise the public and encourage participation in the implementing the plan. These activities are identified below

1. Websites
2. Email distribution lists
3. Workshops / public meetings
4. Existing events
5. Cable television – government & community access channels
6. Press releases
7. Public Hearings

Part 3. Communication During

Establishing ongoing mechanisms to ensure adequate communication with and between the stakeholders identified above is critical to a implementation of the stormwater management program This section lists and described the various activities and mechanisms that have shown to be effective.

1. Websites

Highland Township maintains a website that includes a frequently updated news section and some pages dedicated to water resources. The components of the Stormwater Management Plan will be made available to the public there, along with links to other watershed based resources. These web pages will be utilized to inform the public of activities and volunteer opportunities.

2. Email Distribution Lists

The Township maintains a number of email distribution lists, as does the regional conservancy and some lake homeowner’s associations. These mechanisms will also be used to inform the public.

3. Workshops / Public Meetings

Highland Township does not have any specific plans to host workshops, but will continue to promote those of its partners. The Township will periodically include agenda items at the Planning Commission to share progress on implementing the stormwater management program and to solicit input/feedback

5. Cable Television

Highland Township utilizes the cable bulletin boards to announce specific events and provide the website link. This means of communication is losing its effectiveness as the public accesses its entertainment and news increasingly via the internet.

6. Press Releases

Press releases will be distributed as notable events arise – e.g. prior to workshops, public meetings, and major events, and to announce public comment periods.

8. *Public Hearings*

If the Township Board, based on the input of the Planning Commission and staff determines to specifically adopt the stormwater management plan, the process would involve a public hearing, with at least 15 days prior public notice published on the Highland Township website and published in a paper of general circulation in the Township (e.g. the Spinal Column). The proposed document would be made available online and at the Clerk's office for review. Public comment would be received for at least 28 days prior to adoption by resolution.

PUBLIC EDUCATION PLAN (PEP)

FOR



**PREPARED IN COMPLIANCE WITH
MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES AND ENERGY
PHASE II STORM WATER REGULATIONS**

**INDIVIDUAL STORM WATER PERMIT FOR
MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4)
MI0059709**

**November 1, 2004
Revised July 5, 2005
Revised Sept 1, 2010
Revised June 1, 2014
Revised December 30, 2014
Revised April 2, 2015
Revised April 5, 2023**

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Introduction

As a requirement of the NPDES Phase II stormwater permit, this Public Education Plan (PEP) was developed to inform the public of Highland Township about their role in protecting water quality and preventing stormwater pollution in their community. The plan outlines public education goals and messages that must be communicated under the requirements of the Phase II regulations. The PEP then describes the existing and future efforts the communities will undertake to achieve these education goals, and how these efforts will be evaluated.

The Charter Township of Highland is a primary partner in the Upper Huron/Kent Lake Watershed, and a secondary partner in the Huron Chain of Lakes, Upper-2 Shiawassee River and Main Branch Shiawassee watersheds to address the Phase II stormwater permit requirements. The Township agrees with its partners that approaching stormwater management on a subwatershed, cross-jurisdictional basis is both cost-effective and environmentally sound, although the permitting program has moved to jurisdictional permits. The watershed approach allows the partners to share information and resources to address stormwater concerns at their source. Similarly, this public education program was developed in coordination with other municipalities in the subwatershed groups. This will allow for a consistent and effective mechanism for protecting water resources across the region, while leveraging financial resources in the community.

Stakeholders, Individuals, and Organizations Involved in the Preparation of the Public Education Plan

During preparation of this Public Education Plan, various staff and organizations were contacted, including:

- Highland Township Planning Department
- Southeastern Michigan Council of Governments (SEMCOG)
- Oakland County Water Resource Commissioner's Office (OCWRC)
- Oakland County Planning and Economic Development Services (OCPEDS)
- Huron River Watershed Council (HRWC)
- Huron-Clinton Metroparks Authority (HCMA)
- Michigan State University Extension Services (MSUE)

Required Elements – Existing and Future Public Education Efforts

The following paragraphs summarize the nine (9) elements specified in the General Stormwater Permit and the plan for addressing each.

Required Element #1: Watershed Stewardship

Promote public responsibility and stewardship in the watershed.

Overall target audiences: residents, visitors, public employees, businesses, industries, construction contractors, and developers.

Key Messages:

- 1) What is a watershed?
- 2) What watershed do you live in?
- 3) How is the stormwater system connected to our waterways?
- 4) How do our everyday activities affect our waterways?
- 5) What can individuals and communities do to protect our water resources?
- 6) Storm water discharged to separate storm sewer systems does not receive treatment prior to discharge to the watershed.

Existing Efforts:

Currently, the Township distributes materials from SEMCOG, HRWC, and MSUE on display tables in the lobby of the Township Hall and Highland Township Library, and occasionally displays posters with Watershed Stewardship messages. The Township posts upcoming stewardship events in the current news section of its homepage at www.highlandtwp.net. The Township also distributes “Watershed Wisdom”, a handbook for waterfront owners prepared by the OCDC in our literature displays and at Lake Board meetings.

Southeast Michigan One Waters Partners Informational Materials and miOneWater.com

<i>Target audiences:</i>	Residents, visitors, public employees, businesses, industries, construction contractors and developers
<i>Message content:</i>	Brochures, tip cards, posters, and other materials developed by the regional public outreach campaign, “MiOneWater” and legacy materials from the Southeast Michigan Partners for Clean Water, will be utilized. These materials contain information that covers all the key messages. The overall campaign promotes the Seven Simple Steps to Clean Water. Topics include: fertilizer, car care, landscaping, storm drain awareness, household hazardous wastes, water conservation, pet care, riparian protection. They have also developed a kid’s activity sheet. The campaign materials will be distributed at municipal offices, events, web site, and direct mail.
<i>Timetable:</i>	Throughout the permit cycle.
<i>Responsible party for implementation:</i>	Highland Township will ensure distribution of these materials to the appropriate target audiences through the pamphlet rack.
<i>Evaluation mechanism:</i>	Number of materials distributed.
<i>Measurable Goal:</i>	Distribute 25 tip cards per year

Web Site Information

<i>Target audiences:</i>	Residents, visitors, public employees, businesses, industries, construction contractors and developers
<i>Message content:</i>	Highland Township will add information to the web site and/or link to the “Our Water. Our future. Ours to protect.” Web site. Information will be included on watersheds, stewardship activities and events, and individual actions the public can take to protect water resources.
<i>Timetable:</i>	Throughout the permit cycle.
<i>Responsible party for implementation:</i>	Highland Township will provide content and/or link to the SEMCOG , “Our Water. Our future. Ours to protect.” web site.
<i>Evaluation mechanism:</i>	Amount of web site hits to local community or SEMCOG page.
<i>Measurable Goal:</i>	100 hits to water quality web pages.

Cable Access/Community Billboard

<i>Target audiences:</i>	Residents, visitors, public employees, businesses, industries, construction contractors and developers.
<i>Message content:</i>	The materials utilized for cable access will include all key messages.
<i>Timetable:</i>	Airing of these materials will occur throughout the permit period.
<i>Responsible party for implementation:</i>	Highland Township will include text messages within its allotted space on the community “bulletin board” on the community access channels. Development of the materials may include Highland Township, along with SEMCOG.
<i>Evaluation</i>	

mechanism: Number of text messages aired. This means of communication is losing favor due to the diversity of means in which the public accesses news and entertainment.

Measurable Goal: Air one text message per month

Promote Water Resource Protection Workshops by others

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

Message Content: Highland Township agrees to promote workshops which may be held by other agencies that cover basics on watersheds and relating it to everyday activities in the watershed. These workshops may include lawn care, septic system management, managing shoreline properties, and landscaping shorelines. These workshops have been offered in the past by the MSU Extension Oakland County, SEMCOG and Oakland County.

Timetable: Workshops may be held during the permit cycle. The evaluation component will occur immediately following the workshop through a survey of participants.

Responsible party for implementation: Highland Township will promote relevant events at Township Hall and at the website.

Evaluation mechanism: Survey of participants.

Measureable Goal: Promote all workshops that the Township becomes aware of.

River Day Activities

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

Message Content: River day is an annual event promoting celebrations and stewardship of the water resource. Highland Township will promote River Day activities through cable access, and the web site.

Timetable: Annual event held in June.

Responsible party for implementation: Highland Township will promote River Day activities.

Evaluation mechanism: Number of participants, project results (varies by event).

Measureable Goal: Encourage 5 Township residents to participate each year.

Adopt-A-Stream Program

Target Audiences: Residents, visitors, public employees, businesses

Message Content: The Adopt-A-Stream Program provides an opportunity for residents to learn about the river by experiencing it. Volunteers assess habitat, water quality, and aquatic life in the Huron River and its tributaries as part of an ongoing scientific study. Highland Township will promote this program through various mechanisms such as web site information, community access "bulletin board", and print materials. Specifically, the community will promote two events a year: stonefly search and bug ID day.

Timetable: Coordinate with HRWC on best time to promote program throughout the year.

Responsible party for implementation: Highland Township will promote the Adopt-A-Stream program.

Evaluation mechanism: Number of times information aired on cable, number of people reached through web site

Measurable Goal: Promote adopt-a-stream on website and cable access each year.

Signage at Road/Stream Crossings or Entering the Watershed

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

<i>Message Content:</i>	Signage will contain messages that identify the watershed, tributary and the stewardship message, “Ours to Protect”. Consistent signage has been developed as part of the Southeast Michigan Partners for Clean Water.
<i>Timetable:</i>	Highland Township has installed signs and will maintain them throughout the permit cycle.
<i>Responsible party for implementation:</i>	Highland Township will maintain the signs as necessary.
<i>Evaluation mechanism:</i>	Number of signs installed. 6 signs have been installed and no additional signs are proposed at this time.
<i>Measurable Goal:</i>	Township to inspect signs once each year.

Promote EGLE’s Pollution Prevention Programs

<i>Target Audience:</i>	Business
<i>Message Content:</i>	Highland Township will promote existing EGLE pollution prevention programs based on the type of business in the community. Programs that could be promoted include: Michigan Retired Engineer Technical Assistance Program, restaurant industry pollution prevention, food industry pollution prevention, marine industry pollution prevention, clean marina program, small chemical manufacturers pollution prevention initiative, and Michigan Turfgrass Environmental Stewardship Program. Distribution would include links to EGLE's Environmental Assistance Center web site, and email blasts to business community.
<i>Timetable:</i>	Web link will be posted and email blasts will occur throughout the permit period.
<i>Responsible party for implementation:</i>	Highland Township will coordinate with EGLE on promoting their programs.
<i>Evaluation mechanism:</i>	Number of website hits, number of businesses reached through email blast.
<i>Measurable Goal:</i>	Reach 50 business per year through email blasts and links back to websites.

Required Element #2: Storm Drainage Systems and Waterways

Inform and educate the public about the connection of the MS4 to area waterbodies and the potential impacts discharges can have on surface waters of the state.

Overall target audiences: residents, visitors, public employees, businesses, industries, construction contractors, and developers.

Key Messages:

- 1) The connection between storm drainage systems and natural water bodies.
- 2) The environmental impacts of pollutants that enter the storm drainage system.
- 3) How to keep common pollutants out of the storm drainage system.

Existing Efforts:

In addition to activities identified Element #1 which relate directly to storm drainage systems and waterways, Highland Township displays posters in Township Hall and has labeled catch basins in the Axford Acres subdivision with vinyl medallions “No dumping/Drains to Waterways” (approximately 125 catch basins). The Township also distributes “Watershed Wisdom”, a handbook for waterfront owners prepared by the OCDC in our displays and at Lake Board meetings.

Southeast Michigan Partners for Clean Water Informational Materials and miOneWater.com
Web Site Information
Cable Access/Community Billboard
River Day Activities
Adopt-A-Stream Program
Promote Water Resource Protection Workshops by others
Promote EGLE's Pollution Prevention Programs

Required Element #3: Reporting of Illicit Discharges

Educate the public on illicit discharges and promote public reporting on illicit discharges and improper disposal of materials in the MS4.

Overall target audiences: residents, visitors, public employees, businesses, industries, construction contractors, and developers.

Key Messages:

- 1) The connection between storm drainage systems and natural water bodies.
- 2) Nothing but stormwater should enter a storm drainage system.
- 3) What is an illicit discharge?
- 4) The impact of illicit discharges on the environment.
- 5) How to report an illicit discharge.
- 6) Consequences and penalties associated with illicit discharges and improper waste disposal.

Existing Efforts:

Highland Township promotes Oakland County Water Resource Commissioner's Water Pollution Hotline and the MDEQ Pollution Emergency Advisory System on its website. Literature is available in pamphlet racks at Township.

Promote Oakland County Water Resource Commission's (OCDC) Water Pollution Hotline and the EGLE Pollution Emergency Alert System hotline

<i>Target Audiences:</i>	Residents, visitors, public employees, businesses, industries, construction contractors, and developers.
<i>Message Content:</i>	Highland Township will publicize OCWRC's hotline in all appropriate presentations, workshops, on the web site, newsletter, and display racks.
<i>Timetable:</i>	Promotion of the hotline will occur throughout the permit period.
<i>Responsible party for implementation:</i>	Highland Township will coordinate with OCWRC.
<i>Evaluation mechanism:</i>	Number of calls to hotline, nature of complaints, and follow-up actions
<i>Measurable Goal:</i>	Publicize hot line to twenty-five percent of the visitors to the Township offices each year.

Southeast Michigan Partners for Clean Water Informational Materials and miOneWater.com
Web Site Information
Cable Access/Community Billboard
Promote Water Resource Protection Workshops by others
Promote EGLE's Pollution Prevention Programs

Required Elements #4, 5 and 6: Common Home and Yard Stormwater Pollutants

Promote preferred cleaning materials and procedures for care, pavement and power washing.

Inform and educate the public on proper application and disposal of pesticides, herbicides and fertilizers.

Overall target audiences: residents, public employees, and businesses. Non-profit groups such as student organizations that conduct carwashes for fundraisers.

Key Messages:

- 1) The impacts of residential car, pavement, and power washing on water quality.
- 2) Stormwater discharged from separate storm sewer systems does not receive treatment prior to discharge to the watershed.
- 3) Preferred methods of car, pavement, and power washing to protect water quality.
- 4) The impacts of fertilizers and pesticides on water quality.
- 5) How to properly apply fertilizers and pesticides, methods for minimizing their use, and non-toxic alternatives to protect water quality.
- 6) How to use, store, and properly dispose of fertilizers and pesticides.
- 7) Mowing techniques to reduce waste and protect water quality.
- 8) Proper animal waste disposal techniques.
- 9) Proper disposal practices for grass clippings, leaf litter, and animal wastes that get flushed into MS4's and the surface waters of the state.
- 10) Other environmentally-friendly lawn and garden practices.

Existing Efforts:

The Township displays posters from the Southeast Michigan Partners for Clean Water in Township Hall. The Township has assisted Homeowner's Associations in arranging speakers from MSUE to speak on lawn care issues. The Township has installed a "Doggi Potti" kiosk with disposal bags at the trail entrance at Duck Lake Pines Park and Hickory Ridge Pines Park. Information on these topics is available on our webpages.

Southeast Michigan Partners for Clean Water Informational Materials and miOneWater.com

Web Site Information

Cable Access/Community Billboard

Promote Water Resource Protection Workshops by others

Promote EGLE's Pollution Prevention Programs

Required Element #7: Waste Disposal

Identify and promote the availability, location, and requirements of facilities for collection or disposal of household hazardous wastes, travel trailer sanitary wastes, chemicals and motor vehicle fluids..

Overall target audiences: residents.

Key Messages:

- 1) The impact of household hazardous wastes, travel trailer sanitary wastes, chemicals, yard wastes, and motor vehicle fluids on our waterways and the importance of their proper disposal.
- 2) Non-toxic alternatives to household hazardous materials.
- 3) Methods for reducing and properly disposing of yard wastes, including composting.
- 4) Techniques to reduce grass clippings and leaf litter, including composting.
- 5) Promotion of community programs for waste disposal.
- 6) Disposal locations, requirements and available alternatives for travel trailer sanitary wastes.

Existing Efforts:

Highland Township has historically conducted a Household Hazardous Waste Collection Day on a recurring cycle of every 18 months (most recently June 18, 2022). Moving forward, this event will be held for one day every other summer. This event is promoted with flyers, website news articles, and coverage in the local newspaper. Highland Township provides for curbside pick up of lawn waste, branches, and the like. Pickup is weekly from April through November, with special pickups of Christmas trees during January. Curbside recycling is provided with weekly garbage collection.

Highland Township also promotes Oakland County No-haz events, but does not subsidize the cost to the resident. Our website includes other options for hazardous waste disposal and recycling opportunities.

Highland Township does not provide wastewater disposal services of any kind and does not operate a sanitary station for discharge of wastewater from RV holding tanks. The only campgrounds and public launches available belong to the State of Michigan, who we trust properly identifies the regulations for its users. We will provide a link to any locally known dump sites on our website.

Household Hazardous Waste Collection Day/Site

<i>Target audiences:</i>	Residents
<i>Message content:</i>	Highland Township will promote and host a household hazardous waste collection day.
<i>Timetable:</i>	Event is recurring every 18 months.
<i>Responsible party for implementation:</i>	Highland Township is responsible for implementing.
<i>Evaluation mechanism:</i>	Number of participants.
<i>Measurable Goal:</i>	Increase the volume of hazardous materials collected at each event.

Yard Waste Collection and Recycling Program

<i>Target audiences:</i>	Residents
<i>Message content:</i>	Highland Township will continue to operate a recycling and yard waste collection program.
<i>Timetable:</i>	Throughout permit period
<i>Responsible party for implementation:</i>	Highland Township is responsible for implementing.
<i>Evaluation mechanism:</i>	Number of households in community..
<i>Measurable Goal:</i>	Increase the number of participants each year

Southeast Michigan Partners for Clean Water Informational Materials and miOneWater.com

Web Site Information

Cable Access/Community Billboard

Promote Water Resource Protection Workshops by others

Promote EGLE's Pollution Prevention Programs

Required Element #8: Proper Septic System Care and Maintenance

Inform and educate the public on proper septic system care and maintenance and how to recognize system failure.

Overall target audiences: property owners and residents.

Key Messages:

- 1) How septic systems function.
- 2) The potential impact of chemicals, household hazardous materials and excessive nutrient loading on septic systems.
- 3) Methods for reducing water usage.
- 4) Recommended frequency for pumping septic tanks.
- 5) Recognizing signs of failure and reporting mechanisms.

Existing Efforts:

Highland Township places literature regarding septic system maintenance in pamphlet racks and has promoted MSUE workshops on its website. Highland Township promotes the OCWRC pollution hotline. The Oakland County Health Division is afforded an opportunity to review every building permit for possible impacts on septic systems. The zoning ordinance requires permit applicants to demonstrate that the septic system functions properly or that a new or replacement system has been permitted.

Southeast Michigan Partners for Clean Water Informational Materials and miOneWater.com
Web Site Information
Cable Access/Community Billboard
Promote Water Resource Protection Workshops by others

Required Element #9: Benefits of Green Infrastructure and Low Impact Development Practices

Educate the public on, and promote the benefits of green infrastructure and Low Impact Development.

Overall target audiences: property owners and residents.

Key Messages:

- 1) Native vegetation is drought, disease and pest tolerant, minimizing the need for fertilizers and irrigation.
- 2) Native vegetation may be used as part of a stormwater management plan, as it absorbs runoff and filters nutrients and other contaminants.
- 3) Utilizing native plants encourages bio-diversity, whereas many non-natives become invasive and crowd out native species.
- 4) Stormwater measures (such as raingardens and bioswales) that promote groundwater infiltration limit the volume and intensity of runoff entering streams and rivers and helps address local flooding issues.

Existing Efforts:

Highland Township places literature regarding native vegetation in pamphlet racks and has promoted workshops on its website. The Highland Garden Club has sponsored speakers for their annual garden talk who encourage use of native vegetation. The zoning encourages use of native plants, and identifies appropriate materials in its plant list. The ordinance also prohibits non-native, invasive species and lists them. The Highland Downtown Development Authority utilized native vegetation in a “Four-Corners” project as a demonstration project.

The Township engineering design standards encourages the use of SEMCOG’s Low Impact Development standards where appropriate.

Southeast Michigan Partners for Clean Water Informational Materials and miOneWater.com

Web Site Information

Cable Access/Community Billboard

Water Resource Protection Workshops

Riparian Land Management

Education of the public concerning management of riparian lands to protect water quality.

Overall target audiences: residents, public employees, businesses, industries, construction contractors, and developers.

Key Messages:

- 1) How poor riparian land management can negatively impact our waterways.
- 2) Effective riparian stewardship practices for protecting water quality.

Existing Efforts:

Highland Township maintains literature at its pamphlet racks at Township Hall on riparian land management issues, and distributes it to Lake Board participants on a periodic basis. The OCWRC publication “Waterfront Wisdom” has been widely distributed.

Southeast Michigan Partners for Clean Water Informational Materials and miOneWater.com

Web Site Information

Cable Access/Community Billboard

River Day Activities

Adopt-A-Stream Program

Water Quality Display

Promote Water Resource Protection Workshops by others

Promote MDEQ’s Pollution Prevention Programs

Other pollutants unique to specific users

Education of specific commercial, industrial and institutional entities about possible impacts to the watershed related to their activities.

Overall target audiences: businesses, industries, institutional administrators.

Key Messages:

- 1) The behaviors and activities of commercial, industrial and institutional entities can have impacts on the watershed.

Existing Efforts:

Highland Township Fire Department conducts annual inspections of all industries and businesses. As part of that inspection, the Fire Inspectors review storage and handling of chemicals and other hazardous materials.

Site and user-specific solutions will be identified as the need arises.

Overall Evaluation

In addition to evaluating individual activities, Highland Township's overall public outreach program will be evaluated by staff to refine what resources and efforts seem to be effective. The Township will judge the effectiveness of our programs through follow up activities that may include surveys, web site and phone tracking, along with one-on-one discussions with our various target audiences.

Implementation Schedule

Activity	Year 1	Year 2	Year 3	Year 4
Southeast Michigan Partners for Clean Water Informational Materials	X	X	X	X
Web Site Information	X	X	X	X
Cable Access/Community Billboard	X	X	X	X
River Day Activities	X	X	X	X
Adopt-A-Stream Program	X	X	X	X
Signage at Road/Stream Crossings or Entering the Watershed	X	X	X	X
Promote MDEQ's Pollution Prevention Programs	X	X	X	X
Promote Oakland County Water Resource Commission's (OCWRC) Water Pollution Hotline and MDEQ Pollution Emergency Advisory System (PEAS)	X	X	X	X
Household Hazardous Waste Collection Day/Site	X		X	
Yard Waste Collection and Recycling Program	X	X	X	X
Waterfront Wisdom Brochure	X	X	X	X

Other Involved Organizations

In implementing this PEP, Highland Township will promote events or distribute information and resource sharing from several organizations, including:

Organization	Program	Contact
SEMCOG	Ours to Protect campaign materials, mass media, survey, miOneWater.com	Bailee Pasienza Katie Grantham
Oakland County Planning and Economic Development Services	Riparian brochure	Kristen Wilftgang
Oakland County Water Resource Commission	Tributary signage, hotline — “Waterfront Wisdom” booklet	Jacy Garrison/Ron Fadoir
Huron River Watershed Council	Adopt-A-Stream, River Day	Ric Lawson
MSU Extension, Oakland County	Water resource protection workshops	Bindu Bhakta
MDEGLE	Environmental Assistance Center	

**CHARTER TOWNSHIP OF HIGHLAND
MUNICIPAL SEPARATE STORM SEWER SYSTEM
ILLCIT DISCHARGE ELEMINATION PLAN**

DATE: April 6, 2023

I. POLICY:

This policy is to establish the Charter Township of Highland Illicit Discharge Elimination Plan.

II. BACKGROUND:

Under terms of the Separate MS4 Stormwater Permit issued by EGLE the permittee must develop a procedure for the detection and elimination of illicit connections or discharges identified within the MS4.

All components of the Highland Township MS4's have been constructed or reconstructed since Highland Township's first watershed based Phase II NPDES permit was issued. For the most part, the system consists of storm sewers and infiltration basins located solely on the Township's owned properties, with other governmental or educational agencies as neighbors. The potential for an illicit connection to the MS4 is considered minimal. The potential for illicit discharges is also minimal, although the public does have free access to the parking lots and streets draining to the MS4.

All non stormwater discharges to the Township's MS4 are prohibited by ordinance and building code. The Township will determine during the permit cycle how to exempt fire-fighting activities and other unobjectionable discharges such as foundation drains or irrigation from this general prohibition.

III. STORM SEWER MAPS

The Highland Township Planning Department maintains copies of the conforming to construction record plans for its facilities. These construction plans serve as the storm sewer maps for the MS4. The plans include:

Town Center Drive Improvements HRC Job 20070151, Plan date 6/20/2007
General Plan PEA, Inc. Job 97-105 Plan date 7/20/98
 11 catch basins
 Approximately 2400 lineal feet 12" to 24" storm sewer
 Sediment forebay and approximately 60 LF vegetated swale

Highland Township Library SPR-00-06
 David-Osler Associates
 6 catch basins
 Approximately 900 lineal feet 12" to 24" storm sewer

Township Hall Building Renovations Boss Engineering Job 20-430
 Plans dated 07-22-21
 9 catch basins
 Approximately 490 lineal feet of 6" to 10" storm sewer

Discharges to small lawn basins, existing deep infiltration basins with some surface runoff flowing to existing catchbasins in John Street

**CHARTER TOWNSHIP OF HIGHLAND
MUNICIPAL SEPARATE STORM SEWER SYSTEM
ILLCIT DISCHARGE ELEMINATION PLAN**

DATE: April 6, 2023

Civic Center Parking Lot Paving

HRC Job 20060285

Plans dated 09/06/2006

1 catch basin directing flow at 250 W Livingston (former Fire Hall #1) to drainage ditch. Remainder of this plan is irrelevant since the other parking lots in plan have been demolished and reconstructed.

In addition, the Planning Department and Building Department also maintains plans for Fire Hall #1 at 1600 W. Highland Road and Fire Hall #2 at 2600 W Wardlow. These facilities are not considered a part of the MS4, as they are discreet facilities with no direct discharge to the waters of the State and Fire Station #2 is not located within the urbanized area.

A generalized map of the Township Complex at John Street and the Town Center/Beach Farm Circle systems are included as exhibit IDEP-A

IV. PLAN TO DETECT AND ELIMINATE NON-STORM WATER DISCHARGES TO MS4

- 1) The entirety of Highland Township's MS4 is located on property owned by Highland Township and maintained as our facilities. Given the near proximity of the facilities and limited complexity of the system, there is no need to prioritize for field observations.
- 2) Highland Township commits to inspect the storm sewer system at each of its facilities within the MS4 at least once per permit cycle during dry weather. This includes the catchbasins and infiltration basins. In reality, most catchbasins are viewed more often, and any anomalies sighted would be investigated thoroughly. In addition, much of the runoff at the Township Complex falls drains to lawn basins, and any issues would likely be identified during routine lawn care activities.
 - a) As part of the required observation, a record will be maintained noting the date, weather conditions, presence/absence of flow, water clarity, color, odor, floatable materials, deposits, stains on the discharge structure and bank, vegetation condition, structural condition, and biology (e.g. bacterial sheens, algae and slimes). It should be noted that as a baseline, no such conditions have been noted in previous screenings to date.
 - b) If a flow is observed at an outfall or point of discharge, a sample of the discharge will be collected and sampled for pH, e. coli, ammonia, and phosphorus.
 - c) If a flow is observed, the Stormwater Manager shall direct efforts to identify the source of the discharge. The source investigation shall be instigated within three business days of the observed discharge. The investigation shall include interviews with maintenance staff and the management of adjacent facilities, physical inspection of adjacent facilities and review of water usage records where appropriate. If the source of the discharge is not identified during this review, appropriate investigative techniques. Highland Township is not approved to apply tracer dyes to surface waters of the state at this time and does not intend to seek permission.
 - d) If the source is determined to be an illegal dumping or spill, the Stormwater Manager shall consult with the Fire Marshal, Code Enforcement Officer and Sheriff to determine appropriate enforcement action under the appropriate ordinance, building or fire code or state statute.

**CHARTER TOWNSHIP OF HIGHLAND
MUNICIPAL SEPARATE STORM SEWER SYSTEM
ILLCIT DISCHARGE ELEMINATION PLAN**

DATE: April 6, 2023

- e) In any case where a hazardous material is detected, the Fire Marshal shall be notified. The Fire Marshal will lead the appropriate response, including containment and cleanup efforts and notification of EGLE and the 24-hour Pollution Emergency Alerting System when required.
- f) The Stormwater Manager shall maintain a log of each illicit discharged including details regarding the type of discharge, test results (if any), identification of the source, containment and cleanup activities, and enforcement actions.

V. TRAINING

- a) Township employees with positions that include field inspection or maintenance will complete IDEP training within the first year of employment such as the training opportunities sponsored by the Southeast Michigan Council of Government (SEMCOG). The training shall include, as a minimum topics of field observations, field screening and source investigation. The Stormwater Manager shall maintain a log of training documentation. Currently, those staff positions include the Building Official, Planning Director, Zoning Administrator and part time maintenance personnel. As of May 2023, each of the staff in these positions has completed the required training.
- b) The Fire Department takes the lead on hazardous materials response. Their personnel undergoes periodic training specific to their duties. The Fire Chief maintains a log of training for fire personnel.
- c) Periodically, the stormwater manager will identify relevant training opportunities for staff identified above. The identified staff will complete one training activity such as viewing online course materials or attending virtual or offsite training once per permit cycle to refresh their skills.
- d) When the Township identifies and documents an illicit discharge, the team identified above will be debriefed to brainstorm and assess the response and determine what parts of the IDEP plan should be modified for better results in the future.

VI. OTHER:

Any questions on this policy and procedure should be directed to the Storm Water Manager.

VII. PROCESS FOR UPDATING/REVISING THIS PROCEDURE

This procedure shall be reviewed on an annual basis by the Stormwater Manager for any updates to streamline the requirements.

**CHARTER TOWNSHIP OF HIGHLAND
CONSTRUCTION AND POST CONSTRUCTION STORMWATER
RUNOFF CONTROL PROGRAM (PCC)**

**DATE: JUNE 1, 2014
Revised April 6, 2023**

I. POLICY:

This policy is to establish the Charter Township of Highland Construction and Post-Construction Stormwater Runoff Control Program.

II. BACKGROUND:

The MDEQ NPDES Phase II Stormwater Discharge Permit Application requires a procedure for ensuring that Construction Stormwater Runoff Controls will be implemented in all development sites within the Township's jurisdiction to the maximum extent practicable.

Highland Township is not an authorized local enforcement agent for Soil Erosion and Sedimentation Control. Any site with a disturbed area greater than one acre or within 500 feet of a lake, stream, pond, open drain, river or wetland must obtain a Soil Erosion and Sedimentation Control (SESC) permit from the Water Resources Commissioner for Oakland County.

III. CONSTRUCTION SITE STORMWATER RUNOFF CONTROL :

- A.) In Highland Township, ordinances are codified in the General Code. The Zoning Ordinance, which is Chapter 25 of the General Code, requires that all new structures (including single family residences) require at least a land use permit, and that all new commercial structures require site plan approval. (see Attachment-A)
- B.) For projects that do not trigger the site plan approval process, but do require a building permit, the soil erosion control part is part of the application checklist for a building permit, and no application is submitted unless an applicant can demonstrate that either the permit requirement is not applicable, or that the permit has been obtained (see Attachment-B)
- C.) For projects that require site plan approval, the requirement of the soil erosion control permit is part of the site plan review process (see Attachment-C for checklist). Although we do not have jurisdiction over the permit, the Township Engineer will also review and comment on the SESC plan.
- D.) A small subset of landscaping projects may not require any permits from the Township. When earthwork activity is observed by the Building Department staff without knowledge of a building permit, the Oakland County Water Resources Commissioner's office will be contacted. Complaints to the office are also referred to the Oakland County Water Resources Commissioner's office. The current contact is Joe Gardner, 248-858-9699 or gardnerj@oakgov.com.
- E.) Complaints of earthwork activity in wetlands or waterbodies or of other pollutants entering wetlands or waterbodies are investigated first for evidence of a permit issued by the Michigan Department of Environment, Great Lakes and Energy (EGLE). If no permit is evidenced, the

**CHARTER TOWNSHIP OF HIGHLAND
CONSTRUCTION AND POST CONSTRUCTION STORMWATER
RUNOFF CONTROL PROGRAM (PCC)**

**DATE: JUNE 1, 2014
Revised April 6, 2023**

- complaint is referred to the EGLE District staff for further investigation. The current contact is 586-753-3700. For after hours emergencies, contact the hotline at 1-800-292-4706
- F.) For complaints, additional tracking occurs and includes the following information:
- Name
 - Date
 - Location of concern (address, cross streets, etc.,)
 - Business/Agency/Organization (as appropriate)
 - Description of concern
 - Description of Response
 - Schedule for Returning to Compliance
 - Date Concern was Resolved.

IV. SITE PLAN REVIEW AND POST-CONSTRUCTION CONTROLS

- All sites shall be designed in accordance with the Township Engineering Design standards which reference the Oakland County Water Resources standards, unless an alternative design has been approved, consistent with the SEMCOG Low Impact Development Manual. (See Section 15.03 of the Zoning Ordinance, Attachments D and E) The Oakland County Water Resources Commissioner's Standards are available at <https://www.oakgov.com/home/showpublisheddocument/13067/638093985625870000>
- B.) The Engineering Design Standards are flexible but comprehensive in approaching sediment removal and storm water treatment. The preference in most cases is onsite retention and groundwater infiltration. The Township Engineer shall coordinate reviews with other agencies in areas of none or suspected groundwater contamination(OCHD, OCWRC or MDEQ) as appropriate.
- C.) The site plan review process is outlined in the Zoning Ordinance (see Attachment F).

V. OTHER:

Any questions on this policy and procedure should be directed to the Storm Water Manager.

VI. PROCESS FOR UPDATING/REVISING THIS PROCEDURE

This procedure shall be reviewed on an annual basis by the Stormwater Manager for any updates to streamline the requirements.

ZONING ORDINANCE—LAND USE PERMITS/BUILDING PERMITS
ZONING ORDINANCE

inspections of buildings and premises as necessary to carry out the duties in enforcement of this Ordinance. The duties of the Building Official can also be performed by his/her designee.

Sec. 3.05. Land Use Permit.

A. No new use or change of use for a building, structure or land may be established unless a Land Use Permit has first been issued. The purpose of the Land Use Permit is to ensure that a proposed use is permissible within the subject Zoning District, that other requirements of the Zoning Ordinance have been met and to ensure that the site conditions comply with any site plan approved by the Planning Commission.

B. Applications for Land Use Permits for uses other than Class A Farm Markets and single-family dwellings shall be accompanied by a site plan approved by the Planning Commission or by a sketch plan meeting the requirements of Table 5.2, Site Plan and Sketch Plan Submittal Requirements, as appropriate.

C. Applications for Land Use Permits for Class A Farm Markets and single family homes and accessory structures and uses (including, but not limited to, accessory structures such as sheds, pools, fences and the like) shall be accompanied by a plot plan drawn to scale, providing the following information:

1. The actual shape, location and dimensions of the lot.
2. The shape, size and location of all buildings or other structures to be erected, altered, or moved and of any building or other structures already on the lot.
3. The location of drives, access ways, easements, septic tanks, wells, overhead and underground utilities, and drain fields.
4. The location of water bodies and water courses including the ordinary high water mark and floodplain elevations, where applicable.
5. The existing and intended use of the lot and of all such structures upon it, including in residential areas, the number of dwelling units the building is intended to accommodate. The Zoning Administrator may require floor plans and elevations.
6. The Zoning Administrator may require a field survey to establish locations of property lines and improvements.
7. Such additional information as may be required to review the application for conformance with this ordinance and to determine that the provisions of Article 5, Site Plan Review, are not applicable.

D. No Land Use Permit shall be issued unless the Zoning Administrator has first determined that the use is allowable within the Zoning District and complies with local, county, state and federal regulations.

E. No Land Use Permit shall be issued unless the Zoning Administrator has first determined the minimum level of improvements necessary to bring a site into compliance with applicable zoning regulations and with any site plan approved by the Planning Commission.

ZONING ORDINANCE—LAND USE PERMITS/BUILDING PERMITS

§ 3.05

HIGHLAND CHARTER TOWNSHIP CODE

F. No sign permits shall be issued until a Land Use permit has first been issued.

Sec. 3.06. Building permits.

* A. No building permit shall be issued for the erection or alteration or use of any building or structure or part thereof unless a Land Use Permit has first been issued. *

B. No building, structure, or part thereof shall be erected, altered, moved or repaired unless a building permit is first issued for such work. The terms "altered" and "repaired" shall include any changes in structural parts, stairways, type of construction, type, class or kind of occupancy, light or ventilation, means of egress and ingress or any other changes affecting or regulated by the Township, except for minor repairs or changes not involving any of these features.

C. Any building permit granted under this section may become null and void in accordance with the building code unless the proposed development shall have passed its first building inspection and shown substantial progress within one (1) year from the date of the granting of the permit. Any building permit may be renewed in accordance with the provisions for building permit renewal set forth in the duly adopted building code of the Township.

Sec. 3.07. Certificates of occupancy.

A. No building or part thereof shall be occupied by or for any use unless and until a certificate of occupancy shall have been issued by the Building Official.

B. The Building Official may issue a temporary certificate of occupancy if the following conditions are satisfied:

1. The applicant has posted a performance guarantee, in accordance with Section 3.09, Permit Fees and Performance Guarantees, to guarantee completion of all improvements required by ordinance, including but not limited to earthwork, paving, utilities, landscape or the approved site plan.
2. The applicant and/or builder has completed the work items required by the Building Official and Zoning Administration to ensure safety.

C. A Certificate of Occupancy shall not be issued until a land use permit has been issued, all site plan improvements are completed or the appropriate performance guarantee is posted as required in Section 3.09, Permit Fees and Performance Guarantees.

Sec. 3.08. Inspections.

The construction authorized by any permit shall be subject to periodic inspections at intervals and upon completion of specific phases as determined by the Building Official. The Building Official has authority to enter the building, premises or land at any reasonable time for the purpose of conducting inspections. It shall be the duty of the permit holder to notify the Building Official when the construction is ready for inspection. Failure to provide proper notice shall be grounds for revoking a permit.

REQUIREMENTS PRIOR TO BUILDING PERMITS

REQUIREMENTS PRIOR TO APPLYING FOR BUILDING PERMIT

Note: The following required paper work is part of the construction documents and must be submitted at the time of application or the application will not be accepted. *If the Zoning Board of Appeals granted a variance the approved minutes must accompany the application or it will not be accepted.*

- 1. Planning review and approval of placement:** Ask the Planning Department in which zoning district your property is located. If you are on a major thoroughfare your setback distance may vary. This information will be helpful to you when you draw your scaled plot plan for the Planning & Zoning Department's review.
- 2. Scaled Plot Plan:** You are responsible for the accuracy of your plot plan, as well as any other plans submitted. The scaled plot plan will need to be stamped approved by the Planning Department before being submitted, along with the application for your building permit, to the Building Department.

INCLUDE:

- Building Envelope
- Streets, driveways, and label them
- Indicate lot number, subdivision and sidwell number.
- Include any proposed and existing buildings. Show distance of all new buildings/additions or accessory structures to the property lines and to each other.
- **Indicate location of septic field and well, also distance from any new construction or existing structures.**
- Indicate any existing power lines, utility poles or easements.
- Indicate any lakes, streams, ponds or wetlands.

If you have any other questions, please feel free to contact the Planning & Zoning Department at 248-887-3791, **ext. #2.**

If you cannot meet all zoning requirements you cannot be issued a building permit. You may apply for a variance request through the Planning Department. They will supply you with additional information and the meeting schedules of the Zoning Board of Appeals. **If** your variance is granted then you can apply for your building permit at the Building Department once the approved minutes are available.

- 3. Grading Plan:** A scaled drawing of the building site, showing all buildings and the direction of surface water runoff of the site. This applies to all new construction.
- 4. Subdivision Association Review:** If you plan construction within a subdivision that has an active association, it is recommended that you have the association review your construction plans during the planning stage. They may have restrictions other than the ones enforced by the Township.

REQUIREMENTS PRIOR TO BUILDING PERMITS

5. All Perk Test and Well Permits are through Oakland County Health Dept.:

Phone: General Information 248-858-1312

Location: North Office Health Center Building, 1200 N. Telegraph

Proposed new house construction requires an approved perk test. Proposed additional bedrooms require existing septic system review by the Health Department. **The approved perk test must be included with your building permit application; check to make sure the number of the permit is clearly marked on the perk test.**

6. Community Wells: Contact the Water Resources Commission

Phone: 248-858-1110

Location: No. 1 Public Works Drive, Waterford, MI 48328

Some Subdivisions have community wells; therefore **water connection permits** are required.

7. Driveway Approach Permit: Contact Oakland Road Commission.

Citizen Service Department Phone: 248-858-4804

Permits Phone: 248-858-4835

Location: 2420 Pontiac Lake Road, Waterford, MI 48328

If your new house will be built on property adjoining an Oakland County Road, you will need a Driveway Approach Permit when you apply for your building permit.

8. Soil Erosion Permit: Contact Oakland County Drain Commission.

Phone: 248-858-5389

Location: 1 Public Works Drive, Waterford, MI 48328

When building a new house, addition or accessory structure on property adjoining a lake, stream or sub aqueous area, it is required to have the Drain Commission review the location. If building in Highland Township we require a copy of the receipt or permit from the Drain Commission when applying for a building permit.

9. Two Sets of Blueprints – Residential:

Two complete sets of blueprints or drawings must be submitted when applying for a building permit. (Detailed descriptions of the blue print requirements are located in Appendix A of this booklet.) Plan on at least **Two Weeks** for a print review. One set of prints will be kept on file in the office and the other will be returned to you when you pay for your permit. The Building Official may note comments or corrections on your prints. Please look them over at once. Houses 3,500-sq. ft. and over require an Architectural Stamp on the prints. No reverse plan will be accepted. All Blueprints or drawings must be drawn to scale no less than one quarter inch equals one foot (1/4"=1').

PLEASE NOTE: For home remodel/renovations submit a floor plan of existing structure and a separate floor plan of the intended structure after renovations.

10. Michigan Uniform Energy Code: We accept REScheck and Energy Star software program work sheets for compliance to the Michigan Energy Code 2009.

REQUIREMENTS PRIOR TO BUILDING PERMITS

- 11. Commercial** projects require three sets of prints stamped by an Architect and take approximately three weeks for review. Licensed Contractors must pull all Mechanical Permits.

PLEASE NOTE: COMMERCIAL OR MULTI-LIVING: Exterior Lighting will Require a Planning Review through the Planning Department

12. Proof of Ownership:

Supply a copy of your Deed, Land Contract or Memorandum of Land Contract when making application for new construction.

Purchase Agreement NOT ACCEPTABLE For Proof Of Ownership

13. Issuance of Street Number:

This is done at the time of the review. When you obtain your building permit your street number will be issued and printed on your building permit.

14. Posting a Cash Permit Deposit:

If the value of your construction is \$1,000.00 or more, you will be required by Highland Township Ordinance that you submit a cash deposit when obtaining your building permit. Under the section called **PERMIT DEPOSIT INFORMATION** is an explanation of how the cash deposit may affect you. **Keep this information with your records.** When the job is completed and you have received your Certificate of Occupancy, your deposit will automatically be returned to you, minus refuse collection fee for new construction or any additional inspection fees or outstanding bills. Your refund check will be sent to you by mail within thirty days after your Certificate of Occupancy or Use is issued.

15. Building Permit Fee:

The building permit fee is based on the value of the proposed construction. This fee will be paid upon obtaining your approved permit. The building permit is for structural work ONLY. The building permit does not cover Electrical, Plumbing or Heating work. The building permit is good for six (6) months. Receiving an inspection shows progress, the permit is good for one (1) year.

16. Obtaining Your Building Permit:

You may pay for your building permit with cash or check only.

The Township does not accept a two party check or credit cards.

NOTE: WHEN REMODELING EXISTING STRUCTURES AND YOU DISCOVER ROTTED MATERIALS, STOP AND CALL THE BUILDING OFFICIAL BEFORE PROCEEDING. IF YOU CONTINUE WITHOUT PERMISSION FROM THE OFFICIAL YOUR PERMIT WILL BE RESCINDED AND ALL FEES WILL BE FORFIET. IF YOU EXCEED 50% OF THE STRUCTURE IT WILL BE CONSIDERD A NEW BUILD.

REQUIREMENTS PRIOR TO BUILDING PERMITS

17. Obtaining Electrical, Plumbing and Mechanical Permits:

These are *separate permits* from the building permit. The building permit only covers the structural work and does not permit you to do electrical, plumbing or mechanical work. To obtain any of these additional permits you must be prepared to describe exactly what you will be installing in each of these categories. A permit fee will be charged for each permit separately. **HOMEOWNERS** doing their own work can pull a Homeowners Permit. If a contractor is doing the work they must obtain the permit in their company name in order to work on the job in question.

18. All Contractors: Please note the following procedures and policies.

- **Work done Prior to Pulling a Permit** is subject to a **Double Fee**.
- The **first permit pulled** each registration period **Must** be done **In Person**. Thereafter, all Mechanical, Electrical, and Plumbing permits may be applied for by mail.
- When Pulling a Permit by mail **Please** observe the following for **Each Application**:
 1. Include Building Permit # if applicable, address, and job description/items.
 2. Enclose a copy of contractor's license **every time**.
 3. Enclose a copy of contractor's driver license **every time**.
 4. Contractor must sign and date application; additionally submit a currently dated and notarized letter on company letter head giving permission to an agent to pull permits for licensee.

You are welcome to make copies for future work. We need one copy with the above information for *each application* -- filled out in full.

If all of the above information is not included the application will be returned.

19. Modular Home Requirements:

- Minimum square footage is 1,000 square feet
- An approval sticker from the State of Michigan must be affixed to the home
- Building System Approval Report from the Department of Labor of Michigan
- HUD approved homes are required to go to the Zoning Administrator for review.

20. Demolition requirements:

- Show proof from Oakland County Health Department that well has been abandon
- Show proof of Electrical Service disconnect from Utility Company
- Show proof of Gas Service disconnect from Utility Company

PLEASE NOTE: A set of Approved prints Must be on site for All inspections.

NO building permits accepted by Mail / Fax / Electronic Mail

Fees for permits are Doubled if work has started Prior to Obtaining said Permit

ENVIRONMENTAL PERMITS CHECKLIST

STATE & COUNTY ENVIRONMENTAL PERMITS CHECKLIST
FOR HIGHLAND TOWNSHIP, OAKLAND COUNTY

Name of Business:

Mailing Address:

Sidwell Number:

Telephone:

Fax:

Type of Business:

Facility Owner or Manager:

Date:

Signature:

Note: For assistance with permits and approvals from the Michigan Department of Environmental Quality, including permit coordination among MDEQ divisions, contact the Permit Coordinator, 517/335-4235.

Circle (Y/N) the items that may pertain to your project or facility; then contact the office(s) listed to determine specific requirements. Return a copy of this checklist to the Highland Township Planning Department as part of your site plan submittal -- even if state and county approvals have not yet been obtained. An updated copy should be submitted prior to occupancy.

This list includes the most common permits and approvals related to waste, water quality, and air quality. Other permits and approvals, including local approvals, may also be needed.

1. Y N Will the project involve the discharge of any type of wastewater to a storm sewer, drain, lake, stream, wetland or other surface water? *Contact: Mi. Dept. of Environmental Quality, Surface Water Quality Division, Permits Section: 517/373-8088.*
2. Y N Will the project involve the direct or indirect discharge of waste, waste effluent, wastewater, pollutants, and/or cooling water into the groundwater or on the ground? *Contact: Mi. Dept. of Environmental Quality, Waste Management Division, Groundwater Program Section: 517/373-8148.*
3. Y N Will the project involve construction or alteration of any sewage collection or treatment facility? For **facilities discharging to surface waters**, contact the Mi. Dept of Environmental Quality, Surface Water Quality Division, SE Michigan District Office: 734/953-8905. For **facilities discharging to groundwater**, contact the Mi. Dept. of Environmental Quality, Waste Management Division, SE Michigan District Office: 734/953-8905.
4. Y N Will the project or facility store or use chemicals, petroleum products, or salt? Depending on the type of substance, secondary containment and a Pollution Incident Prevention Plan (PIPP) may be required. *Contact: Mi. Dept. of Environmental Quality, Waste Mgmt. Division, SE Michigan District Office: 734/953-8905.*
5. Y N Will the project involve the installation, operation, or removal of an underground or aboveground storage tank containing a petroleum product or a hazardous substance? *Contact: Mi. Dept. of Environmental Quality, Storage Tank Division: 517/373-8168.*
6. Y N Will the project involve liquified petroleum gas storage tanks or container filling locations? *Contact: Mi. Dept. of Environmental Quality, Storage Tank Division: 517/373-8168.*
7. Y N Does the project involve the installation of a compressed natural gas dispensing station with storage? *Contact: Mi. Dept. of Environmental Quality, Storage Tank Division: 517/373-8168.*
8. Y N Will the project involve the generation of hazardous waste? *Contact: Mi. Dept. of Environmental Quality, Waste Mgmt. Division, SE Michigan District Office: 734/953-8905.*
9. Y N Will the project involve the on-site treatment, storage or disposal of hazardous waste? *Contact: Mi. Dept. of Environmental Quality, Waste Mgmt. Division, Hazardous Waste Permit Unit: 517/373-9875.*
10. Y N Will the project involve the transport of hazardous waste or non-hazardous liquid industrial waste? *Contact: Mi. Dept. of Environmental Quality, Waste Mgmt. Division, Hazardous Waste Program Section: 517/373-9875.*
11. Y N Will the project involve landfilling, transferring or processing solid non-hazardous wastes on-site?

PCC—EXHIBIT C

ENVIRONMENTAL PERMITS CHECKLIST

Contact: Mi. Dept. of Environmental Quality, Waste Mgmt. Division; SE Michigan District Office telephone: 734/953-8905.

12. Y N Will the project involve the installation, construction, reconstruction, relocation, or alteration of any process or process equipment (including air pollution control equipment) which has the potential to emit air contaminants?
Contact: Mi. Dept. of Environmental Quality, Air Quality Division, Permit Section: 517/373-7023.
13. Y N Will the project or facility involve the storage, mixing or distribution of pesticides or fertilizers in bulk quantities?
Contact: Mi. Dept. of Agriculture, Pesticide and Plant Pest Management Division: 517/373-1087.
14. Y N Will the project involve any man-made change in the natural cover or topography of land, including cut and fill activities which may contribute to soil erosion and sedimentation? Will the earth change disturb an area of one acre or more, or occur within 500 feet of a lake or stream? If the answer to both of these questions is yes, a soil erosion and sedimentation control permit is required.
Contact: Office of the Oakland County Drain Commissioner: 248/858-0958.
15. Y N Will the project involve dredging, filling, or construction in, across or under (1) a river, stream, creek, ditch, drain, lake, pond or swamp? (2) wetlands? (3) floodplain (area that may have or ever had either standing or flowing water)?
Contact: Mi. Dept. Environmental Quality, Land and Water Mgmt. Div. Permit Consolidation Unit, 517/373-9244.
16. Y N Will the project involve any dredging proposed within 500 feet of a lake, river, stream, creek or ditch?
Contact: Mi. Dept. Environmental Quality, Land and Water Mgmt. Division, Permit Consolidation Unit: 517/373-9244.
17. Y N Will the project involve an earth change activity within 500 feet of a lake or stream or will the project disturb an area greater than one (1) acre in size? *Contact: Mi. Dept. of Environmental Quality, Land & Water Mgmt. Division, Soil Erosion & Sedimentation: 517/373-3178.*
18. Y N Does the project involve any construction or land alteration within 400 feet of a designated natural river or tributary?
Contact: Mi. Dept. of Natural Resources, Forest Mgmt. Division., Natural Rivers Program Unit, 517/373-1275.
19. Y N Does the project involve dredging, filling, grading or other alteration of the soil, vegetation or natural drainage, or placement of permanent structures in a designated environmental area?
Contact: Mi. Dept. Environmental Quality, Land and Water Management Division, Great Lakes Section: 517/373-1950.
20. Y N Will an on-site wastewater treatment system or septic system be installed?

For subsurface sanitary sewage disposal in quantities of 10,000 gallons per day or less:

- Oakland County Health Division: 248/926-3300. For any subsurface discharge of sanitary sewage in quantities equal to or greater than 10,000 gallons per day - *Contact Mi. Dept. of Environmental Quality, Waste Management Division: 517/373-8148.*

For subsurface disposal of sanitary sewage in quantities of 6,000 to 10,000 gallons per day -

In addition to obtaining a construction permit from the county or district environmental health department, submit a state wastewater discharge notification form. Flow monitoring and reporting are required. -

- *Mi. Dept. of Environmental Quality, Waste Management Division, Groundwater Permits Unit: 517/373-8148.*

For industrial or commercial wastewater (other than sanitary sewage) in any quantity -

- *Mi. Dept. of Environmental Quality, Waste Management Division, Groundwater Permits Unit: 517/373-8148.*

21. Y N Will the project involve the construction of a water supply well or the extension of a water supply service from an existing water system? *Contact: Mi. Dept. Environmental Quality, Drinking Water Program, SE Michigan District Office (734/953-0243) and Oakland County Health Division: 248/926-3300.*
22. Y N Are there out-of-service wells, abandoned wells, or cisterns on the site? (drinking water, irrigation, & monitoring wells)
Contact: Oakland County Health Division: 248/926-3300.
23. Y N Will the project involve a subdivision or site condominium project utilizing individual on-site subsurface disposal systems or individual wells? *Contact: Oakland County Health Division: 248/926-3300.*
24. Y N Will the project involve the on-site storage of sanitary sewage prior to transport and disposal off-site (pump and haul)?
Contact: Mi. Dept. of Environmental Quality, Waste Management Division, Groundwater Program Sect.: 517/373-8148.
25. Y N Has the property or facility ever been subject to a remedial action, limited closure, or other environmental cleanup response under Part 201, Natural Resources and Environmental Protection Act (NREPA)? Is the property currently subject to a response action? Has a Baseline Environmental Assessment (BEA) been completed for the property?
Contact: Mi. Dept. of Environmental Quality, Environmental Response Division: 517/373-9893 and/or Mi. Dept. of Environmental Quality, Storage Tank Division: 517/373-8168.

Revised September 30, 2002

STORMWATER MANAGEMENT ORDINANCE

§ 15.02

HIGHLAND CHARTER TOWNSHIP CODE

8. Grading limits must be shown on the plan, including cross-sections across any areas to be retained by walls. The stewardship plan should also identify areas where topsoil will be stored during construction, or any areas to be cleared and used for stockpile of materials during construction.
9. If existing trees are to be relocated, the proposed location for such trees shall be shown, with a statement as to how such trees are to be protected and/or stored during land clearance and construction and how they are to be maintained after construction.
10. The plan shall disclose the presence of any threatened or endangered species observed on site.

D. *Approval process and review criteria.* The Planning Commission shall review all site plans in consideration of Section 5.04, Standards For Site Plan Approval. For sites which are required to submit a Natural Features Inventory and Stewardship Plan, the Planning Commission shall further consider the impact of proposed design elements, and the value of conserving or preserving existing significant natural features or sensitive features as per the intent and purpose of this ordinance. Such consideration shall include:

1. Woodlands and significance of trees and vegetation by reason of quantity, location, size and species.
2. Lakes, streams, wetlands, flood plains and natural drainage courses.
3. Habitat of animals and plants and impacts upon wildlife and plant habitat.
4. Topography, existing slopes, hills, prairies, etc.
5. Visual impact of existing natural features and the preservation and promotion of natural vistas and views harmonious with the rural character of Highland Township.
6. Other existing natural features that are significant and unique to a particular parcel of land.
7. Comparison to the natural features inventory study (MNFI) and the Highland Green Infrastructure Plan using these as general guidelines for evaluation.

Sec. 15.03. Stormwater management.

A. *Purpose.* The purpose of this Ordinance is to encourage the use of structural, vegetative or managerial practices, commonly referred to as best management practices (BMP's), designed to treat, prevent, or reduce degradation of water quality due to storm water runoff. All development projects subject to site plan review shall be designed, constructed, and maintained using best management practices (BMP's) to prevent flooding, protect water quality, reduce soil erosion, maintain and improve wildlife habitat, and contribute to the aesthetic values of the project. The particular facilities and measures required onsite shall reflect and incorporate existing grade, natural features, wetlands and watercourses on the site to the maximum extent feasible.

STORMWATER MANAGEMENT ORDINANCE

ZONING ORDINANCE

§ 15.03

B. *Stormwater management.* All stormwater management plans shall meet the Engineering Design Standards adopted by the Township, and shall utilize nonstructural control techniques to the maximum extent feasible, including, but not limited to:

1. Limitation of land disturbance and grading;
2. Maintenance of vegetated buffers and natural vegetation;
3. Minimization of impervious surfaces;
4. Use of terraces, contoured landscapes, runoff spreaders, grass or rock-lined swales
5. Use of infiltration devices.

C. *General standards.*

1. Sites shall be designed and managed utilizing Low Impact Development techniques to emulate the natural water cycle, and maintain local and regional hydrologic patterns. The Low Impact Development Manual for Michigan, published by the Southeast Michigan Council of Governments (SEMCOG) provides guidance for the designer and developer.
2. Stormwater management systems shall be designed to prevent flooding and the degradation of water quality related to stormwater runoff and soil erosion from proposed development.
3. All new development and redevelopment of properties shall include on-site storage of stormwater. Facilities shall be designed to provide a volume of storage and discharge rate which meets the standards of the Township. A project may be exempted from the onsite storage requirement upon finding that an acceptable natural drainage outlet is available or storage capacity has been provided offsite and that all necessary drainage easements have been acquired.
4. Priority shall be placed on site design which maintains natural drainage patterns and watercourses. Alternations to natural drainage patterns shall not create flooding or degradation of water quality for adjacent or downstream property owners.
5. The use of swales and buffer strips vegetated with desirable native materials is encouraged as a method of stormwater conveyance so as to decrease runoff velocity, allow for bio-filtration, allow suspended sediment particles to settle and to remove pollutants. Tolerance for water saturation, sunlight, pesticides, metals, and salts shall be required in determining appropriate plantings in these areas.
6. Where large amounts of grease and oil may accumulate, as in the case of commercial/ industrial developments and large areas of impervious surfaces for parking, oil separators shall be required.
7. For sites that store or use chemicals, a spill response plan shall be submitted and approved by the Township.



ENGINEERING DESIGN STANDARDS

Adopted February 6, 2023

Prepared by





RESOLUTION #23-03: ADOPT ENGINEERING STANDARDS

At a regular meeting of the Township Board of the Charter Township of Highland, Oakland County, Michigan, held in the Township Hall on February 6, 2023 at 6:30 p.m.

Present: Rick Hamill, Tami Flowers, Jennifer Frederick, Judy Cooper, Brian Howe, Elizabeth Lewis, and Joe Salvia

Absent: None

The following resolution was offered by Mrs. Cooper and seconded by Mr. Salvia:

WHEREAS, the Township Board of Trustees deems to establish minimum engineering standards to guide the construction of public and private improvements to protect and safeguard the public peace, health and safety of its residents, and the integrity of its natural environment; and

WHEREAS, Engineering design practices, construction materials and methods, and other best management practices have changed since Highland Township first adopted the "Charter Township of Highland Design and Construction Standards" on July 27, 1983 and subsequent revisions (including the most recent standards adopted by resolution on September 22, 2010); and

WHEREAS, Highland Township residents have consistently reaffirmed their desire to maintain a rural environment and natural open spaces, thus leading the Planning Commission to adopt the use of the Low Impact Development Manual published by the Southeast Michigan Council of Governments (SEMCOG) through reference in our zoning ordinance; and

WHEREAS, Highland Township is required to comply with water quality standards imposed by the National Pollutant Discharge Elimination System through its Phase II Stormwater Permit (Certificate of Coverage MI0059709) for its discharge from its Municipal Separate Stormwater System (MS4) and

WHEREAS, the Oakland County Water Resources Commissioner has developed, in conjunction with neighboring counties, a comprehensive stormwater engineering standard that addresses all the minimum measures required under the NPDES permit for MS4's to meet statewide water quality standards;

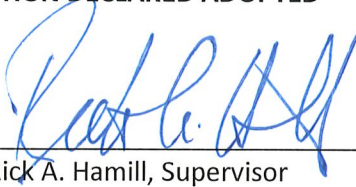
IT IS THEREFORE RESOLVED, that the Highland Township Board of Trustees, hereby resolves to adopt Engineering Design Standards (dated February 2, 2023) and through reference therein adopt the Stormwater Engineering Design Standards developed by the Oakland County Water resources Commissioner, as amended.

Ayes: Hamill, Flowers, Frederick, Cooper, Howe, Lewis, and Salvia

Nays: None

Abstain: None

RESOLUTION DECLARED ADOPTED



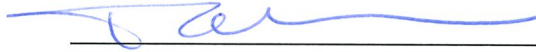
Rick A. Hamill, Supervisor



Tami Flowers, MiPMC Clerk

STATE OF MICHIGAN)
COUNTY OF OAKLAND)

I, the undersigned, the duly qualified and elected Clerk of the Charter Township of Highland, Oakland County, Michigan, do hereby certify that the foregoing resolution was adopted by the Township Board of Trustees at a regular meeting held on the 6th day of February, 2023.



Tami Flowers, MiPMC Clerk

Highland Township Engineering Design Standards

These Engineering Design Standards are intended to provide a reasonable basis for design of public and private improvements in Highland Township. They are not intended as a substitute for sound engineering judgment. The Standards may not apply to all conditions, and alternate solutions shall be permitted as approved by the Township's Engineer.

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Highland Township Engineering Design Standards

1. GENERAL

- 1.1 Complete improvement plans bearing the seal of a licensed Professional Engineer, Surveyor or Architect licensed to practice in the State of Michigan shall be submitted prior to review and approval of any portion thereof.
- 1.2 A certified boundary survey of the site, prepared and sealed by a licensed Professional Surveyor licensed to practice in the State of Michigan, or a copy of the completed plat shall be submitted with the engineering drawings.
- 1.3 Plans submitted shall be on 24" x 36" white prints having blue or black lines and shall be neatly and accurately prepared. Judgment should be exercised in the design, layout, and the presentation of proposed improvements. Electronic version of the plans should be made available for submittals as requested.
- 1.4 For projects or subdivisions having more than one sheet of plans, a general plan having a scale of 1" = 100' shall be provided showing the overall project and indicating the size and general location of all improvements shown in the detailed plans.
- 1.5 Street names, street and easement widths, lot lines, lot dimensions, lot numbers and ownership shall be shown on all plans.
- 1.6 Elevations shall be on U.S.G.S. Datum. Two (2) permanent bench marks for the work shall be indicated on the plans.
- 1.7 Any areas that are considered to be "wetlands" as defined by the Department of Environment, Great Lakes and Energy (EGLE) shall be indicated on the plans. No improvements will be allowed in wetlands unless the EGLE issues a permit, or a letter of "No Authority", for such improvements.
- 1.8 Finished grade shall be indicated for all structures.
- 1.9 The developer or their engineer shall be responsible to forward plans for approval to any private utility company (gas, electric, phone, cable, etc.) and any Federal, State or County (Water Resource Commissioner, Road Commission, etc.) agency whose facilities or rights-of-way may be affected by the proposed construction. Public utilities will require the review and approval of the Township prior to submittal to the permitting agency.
- 1.10 It shall be the developer's engineer and contractor's responsibility to verify the existence and location of all underground utilities and to utilize the MISS DIG system prior to construction.
- 1.11 All engineering construction plans shall contain the latest version of the applicable Highland Township Standard Detail Sheets or the Oakland County Water Resource Commissioner (if applicable) and the developers/owners

name(s), address, and phone number.

- 1.12 An Engineer's Opinion of Construction Cost must be supplied with the Construction Plan submittal. This estimate will be used by the Township to establish review and inspection fees for the improvements in accordance with the Township Ordinance.
- 1.13 All utility trenches under the 45 degree zone of influence line of existing or proposed pavements, bike paths, sidewalks or drive approaches shall be backfilled with sand compacted to at least 95% of maximum unit weight.
- 1.14 Utility crossings of paved roadways will be required to be bored. Open cutting of paved roadways will not be permitted.
- 1.15 An itemized quantity list will be required for all proposed utility improvements (water main, sanitary sewer, storm sewer, paving).
- 1.16 The developer shall submit to the Township one (1) set of complete construction plans for review and an electronic file in .pdf format. After the plans receive approval, additional plan sets may be required.
- 1.17 ***Plan Review and Construction Process***

Site Plan Reviews

Consultant review of the preliminary site plan including water supply, wastewater disposal, storm water management, wetlands, site grading, pavement improvements and right-of-way improvements. Review comments will be issued to the Township Planning Commission for discussion at Planning Commission meetings. Once the Site Plan has been accepted by the Planning Commission, the Applicant will be required to submit Engineering Drawings and an itemized cost estimate of the proposed improvements so that an escrow account may be established for plan reviews and construction observation.

Engineering Plan Reviews

Consultant review of the Engineering Plans for conformance to Township Engineering Design Standards. Once the plans are in an acceptable form, the plans will be issued as approved construction plans. The Applicant will be responsible to apply for all required County and State permits including soil erosion, water supply, wastewater disposal, right-of-way, wetlands, etc. Public water main and sanitary sewer improvements will require the submittal of plans and permit applications for review and approval to be forwarded to the governing agency by the Township Engineering Consultant.

Development Agreement and Performance Guarantee

Prior to the commencement of site improvements, the Applicant shall enter into a development agreement with the Township outlining the scope of the project, the commitments of the Applicant in respect to completing work and protecting natural features, a schedule and cost opinion. The Applicant will be required to

establish a performance guarantee (cash deposit or irrevocable letter of credit) in an amount equal to fifty percent of the cost of the site work. The agreement also outlines the rights of the Applicant as regards occupancy, changes of use and transfer of ownership. This requirement for the development agreement is found in the Highland Township Zoning Ordinance, Section 3.12.

Pre-Construction Meeting

Once the approved engineering plans have been issued, a pre-construction meeting with the Applicant or their representative is required prior to the start of any site work. This meeting will verify that all relevant permits have been applied for, that the proper insurance is provided, and to schedule construction observation. A sample of the required insurance is included in Appendix A.

Site Construction and Observation

Once construction begins, the following construction observation is required:

- Roadways and parking lots including subgrade, aggregate base, curb and gutter, pavement installation, sidewalks and bike paths.
- Storm sewer installation and underground detention/retention systems.
- Water main installation and testing.
- Sanitary sewer installation and testing.
- Retaining wall installation.
- Additional construction observations may be required by the Township.
- The developer will be required to provide density testing for all public utility construction and work within the public road right-of-way.

Bond Inspections and Final Inspections

As development progresses, the Applicant may periodically request that the Township perform a site inspection to evaluate whether the performance guarantee may be reduced or if the completed work is sufficient to allow for a temporary certificate of occupancy. At the time of occupancy, the performance guarantee must be at least 150 percent of the remaining work items. The performance guarantee will be released upon final acceptance and grant of permanent occupancy certificate.

Record Drawing Plan Review

Record drawings describing the location and elevations of the proposed site improvements are required to be submitted for review and approval. See Section 8 of the Township Engineering Design Standards for Record Drawing Requirements.

2. WATER MAIN

2.1 *General*

- 2.1.1 If the proposed improvements include the construction of public water main, the developer shall submit a set of water main only plans (including the water main standard detail sheets) with a completed EGLE permit application for water supply systems. This information will be forwarded by the Township's Engineer to the Oakland County Water Resources Commissioner (WRC) and the EGLE for permitting.
- 2.1.2 All water system improvements shall be designed in accordance with the current edition of "Recommended Standards for Water Works" (a/k/a Ten State Standards).
- 2.1.3 Water mains in new developments shall be installed from boundary to boundary in abutting roads and interior streets, and at other locations and sized as may be deemed necessary by the Township for future extensions.
- 2.1.4 An itemized quantity list for all proposed water main construction must be included on the plans.
- 2.1.5 All public water mains must be located within a 20 foot wide easement or public road right-of-way. Easements should extend 10 feet beyond any hydrant. Sketches and descriptions of both the parcel and easement will be required. The documents shall contain a provision to prohibit the construction of any above ground structures within the limits of the easement.

2.2 *Design Requirements*

- 2.2.1 The distribution system in all developments requiring more than 600 feet of water main shall have a minimum of two connections to a source of supply and shall be a "looped" system. Water mains are to be looped whenever possible. The ability to serve at least 2,000 gpm in single-family detached residential; 3,000 gpm in apartment, cluster residential and similar complexes, institutional, and school areas; and at least 4,000 gpm in office, industrial and shopping centers is essential.
- 2.2.2 Eight (8) inch minimum diameter mains will be installed in single family residential areas.
- 2.2.3 Twelve (12) inch mains are considered to be the minimum size in commercial, office, industrial, and multiple family residential areas except in a looped system of 1,500 feet or less where eight (8) inch mains may be permitted.
- 2.2.4 Water mains are to be looped whenever possible. Interconnection to existing public water supply systems is encouraged.

- 2.2.5 Hydrant leads longer than 20 feet must be eight (8) inches.
- 2.2.6 No service leads are allowed to extend from a six (6) inch hydrant lead.
- 2.2.7 Profile view is required for all sizes of watermains.
- 2.2.8 Water mains shall be kept on one side of the street for the entire length of the street. Water mains shall not be located under pavement or under cul-de-sacs.
- 2.2.9 Gate valves shall be spaced at a maximum of 800 feet intervals on distribution lines. They shall be spaced such that not more than four valves need to be turned off to isolate any section of the water main.
- 2.2.10 Sufficient valves shall be placed such that not more than 20 single family homes, 30 multiple family units or two (2) hydrants shall be out of service within a section of isolated water main.
- 2.2.11 Dead-end mains must end with a hydrant and a gate valve and well. All stubs for future looping must include a gate valve and well.
- 2.2.12 Gate valves should not be located under roadway pavement, bike paths, sidewalks or driveway approaches when possible.
- 2.2.13 Four (4) inch and larger valves are required to be installed in a gate well, except for six (6) inch hydrant shut off valves.
- 2.2.14 In single family residential areas, hydrants shall be spaced along the water main a maximum of 500 feet. In no case shall a house be more than 350 feet from a hydrant. Commercial, industrial, and multiple family spacing shall be a maximum of 400 feet.
- 2.2.15 Along major roadways and in areas other than single family residential, hydrant spacing shall be a maximum of 500 feet.
- 2.2.16 In commercial and industrial areas, the exterior of buildings shall be no further than 300 feet from a hydrant, nor closer than 35 feet, measured along shortest feasible exterior route for laying hose. There shall be a fire hydrant located within 150 feet of any building fire department connection.
- 2.2.17 Where possible, hydrants shall be located at the lot corners, but no closer than eight (8) feet from any driveway or driveway approach.
- 2.2.18 Hydrants located in parking areas shall be protected with a six (6) inches (minimum) concrete curb or standard guard posts.
- 2.2.19 When connecting to an existing water main, a tapping sleeve, gate valve and well will be required unless connection to the existing main can be made without interrupting service on the main.

- 2.2.20 The plans shall indicate the finish grades of all hydrants and gate well rims.
- 2.2.21 Water mains shall be located so as to provide a minimum of ten (10) feet horizontal clearance between the nearest edge of the water main and the nearest edge of any sanitary or storm sewer.
- 2.2.22 A minimum vertical clearance of 18 inches shall be maintained between the top or bottom of any water main and the top or bottom of any sewer or utility. Vertical clearance of less than 18 inches will require concrete encasement of the sewer or utility.
- 2.2.23 Restrained joints shall be used at all bends, tees, hydrant shoes, plugs and caps where necessary to prevent lateral movement of the water main. Thrust blocks will not be allowed unless required by the permitting agencies.

2.3 *Materials*

- 2.3.1 All water main 18 inch diameter and smaller shall be Ductile Iron pipe, Class 54. Two (2) brass wedges shall be used per joint.
- 2.3.2 Highland Township standard valve is East Jordan Iron Works C500 or C515, series A, Left Hand Open. All valves shall be resilient seated and conform to AWWA C509 Standards.
- 2.3.3 Hydrants shall be East Jordan Iron Works 5-BR traffic model with a five (5) inch Storz Pumper and two (2) 2.5 inch National Standard Thread Hose nozzles.
- 2.3.4 Restrained joints shall be Megalug or FieldLok gaskets.
- 2.3.5 Push-on type joints shall be Super Bell Tite or Tyton or approved equal.

2.4 *Installation*

- 2.4.1 All water main shall be installed with a minimum cover of five-and-a-half (5.5) feet below finish grade or top of curb (or road centerline if uncurbed) where the main is parallel to a road. When water mains must dip to pass under another utility, the sections which are deeper than normal shall be kept to a minimum length by the use of vertical bends properly restrained.
- 2.4.2 The contractor will fill, disinfect and pressure test all new water main construction under the supervision of Highland Township and/or its agent.

- 2.4.3 Before any water main will be accepted by the Township, it must pass a pressure test complying with the current specifications and procedures of the Township. The maximum loss of water for the 2-hour hydrostatic test shall be 11.65 gallons, per inch diameter of main, per mile of pipe over a 24-hour period.
- 2.4.4 Before any water main system will be accepted by the Township, the fire hydrants must be brush coated with Glamortex 501 Enamel, color 314 Vermillion (fire hydrant red) paint or approved equal.
- 2.4.5 Gate well covers shall be East Jordan Iron Works No. 1040 or approved equal with the text "Highland Township Water" embossed on the surface.
- 2.4.6 Refer to the standard detail sheets for additional material and construction standards.

3. SANITARY SEWER

3.1 *General*

- 3.1.1 If the proposed improvements include the construction of public sanitary sewer, the developer shall submit a set of sanitary sewer only (with sanitary standard details) plans with a completed EGLE permit application for wastewater systems. This information will be forwarded by the Township's Engineer to the proper agencies for permitting.
- 3.1.2 All sanitary sewer improvements shall be designed in accordance with the current edition of "Recommended Standards for Wastewater Facilities" (a/k/a Ten State Standards). A sanitary sewer basis of design is required to be included on the plans for all sanitary sewer extensions.
- 3.1.3 A grease interceptor will be required for all food service operations. No connections for domestic waste will be allowed to the interceptor.
- 3.1.4 Downspouts, weep tile, footing drains, sump pump discharges, or any conduit, that carries storm or ground water shall not be allowed to discharge into a sanitary sewer.
- 3.1.5 An itemized quantity list for all proposed sanitary sewer construction must be included on the plans.
- 3.1.6 Sanitary sewers will be required across the entire frontage of the site.
- 3.1.7 All public sanitary sewers must be located within a 20' wide easement or public road right-of-way. Easements should extend 10 feet beyond the last manhole. Sketches and descriptions of both the parcel and easement will be required. The documents shall contain a provision to prohibit the construction of any above ground structures within the limits of the easement. The easement width may be increased depending on the proposed sewer depth, soil conditions or adjacent facilities.

3.2 *Design Requirements*

- 3.2.1 At all connections to the Township 's Sanitary System or extension thereto, in the first manhole upstream from the connection, provide a water-tight bulkhead with a 1" diameter pipe through the bulkhead for measuring infiltration immediately upstream. Also a one foot sump at the base of the manhole shall be provided.
- 3.2.2 The minimum allowable size of a public sanitary sewer is 8" diameter.

3.2.3 The following table of minimum slopes and maximum manhole (MH) spacing for sanitary sewers shall be adhered to:

<u>Size</u>	<u>Minimum Grade</u>	<u>MH Spacing (Max.)</u>
8"	0.40%	400 Feet
10"	0.28%	400 Feet
12"	0.22%	400 Feet
15"	0.15%	400 Feet
18"	0.12%	500 Feet
21"	0.10%	500 Feet

3.2.4 The last upstream run of sewer must be at a grade of 1.00% or greater.

3.2.5 The minimum slope for 6" diameter building leads is 1.00%. Cleanouts are required every 100 feet and at all bends.

3.2.6 A monitoring manhole is required on the sanitary lead for all non-residential connections to the sanitary sewer system. The monitoring manhole can only have one (1) lead running through it. It must be located on a straight run of lead and can not be a manhole on a public sewer main.

3.2.7 Each building structure shall have a separate individual sanitary service lead connected to a public sanitary sewer.

3.2.8 Sanitary sewers will not be approved in the rear lot easement.

3.2.9 The following information shall be indicated on the sanitary sewer profile:

- a. Length of run between manholes.
- b. Type, class, size and slope of pipe.
- c. Class of bedding.
- d. Rim elevation of all manholes.
- e. Existing and proposed ground elevation line above the route of the sewer.
- f. A logical numbering system for manholes shall be included.
- g. Invert elevations of all sewer at manholes.
- h. Location and limits of sand backfill where required.
- i. Location and elevations of crossings with other utilities.

3.2.10 Provide a minimum depth from top of curb (or road centerline if uncurbed) to the top of any sanitary sewer of 9 feet at locations where the sewer grade is parallel to the road grade. Under any design the sewer shall be deep enough to reasonably serve, by gravity, a standard depth basement.

3.2.11 Sanitary sewer shall be placed on the opposite side of the street from the water main, and shall have a horizontal separation of at least 10 feet.

3.2.12 External drop connections are required at manholes where the invert of the outlet pipe is 18 inches or more below the invert of the inlet pipe. Internal drop connections will not be allowed.

- 3.2.13 Where the proprietor must extend the sanitary sewer from off-site, the proprietor shall extend sanitary sewer leads to the property line of all adjacent property on both sides of the right-of-way the entire length of the off-site sanitary sewer extension.
- 3.2.14 In new subdivisions, all service leads shall be sand backfilled and extended a minimum of ten (10) feet past the property line or to the easement line.
- 3.2.15 The plan and profile view of the proposed sanitary sewer shall generally be shown on the same sheet.
- 3.2.16 Maximum flow velocity for pipe flowing full shall be maintained by matching the eight-tenths point of the diameter depth above invert for pipe size increases.
- 3.2.17 Provide a drop of 0.10 feet in the downstream sewer invert for a direction change of 30 degrees or greater to compensate for velocity head loss of the incoming flow.

3.3 Materials

- 3.3.1 Service leads installed with the lateral sewer shall be a minimum of 6 inches in diameter and shall be Schedule 40 PVC or SDR 23.5.
- 3.3.2 New sanitary sewer manholes must be water-tight and shall be pre-cast sections with modified grooved tongue joints with rubber gaskets, conforming to A.S.T.M. Designation, C-478. Also, a butel rubber coating around the casing and cone shall be provided for all new manholes as noted on the Township 's or its agent's standard detail sheet.
- 3.3.3 Main line sewer shall be PVC Truss pipe, Solidwall SDR 26, or RCP, C-76, Class IV or V, or approved equal.

3.4 Installation

- 3.4.1 No sanitary sewer installation or portion thereof shall have infiltration exceeding 100 gallons per inch diameter per mile of pipe per 24 hour period.
- 3.4.2 Each end of a service lead shall be marked by setting a 2" square wooden stake vertically above the end of the lead.
- 3.4.3 Each tee or end of service lead shall have water-tight and airtight stopper of compatible joint material and shall be adequately braced to withstand exfiltration and/or air test pressure.
- 3.4.4 When existing manholes are to be tapped, a hole of the appropriate diameter shall be core drilled through the wall of the manhole. A watertight fitting shall be used to connect the pipe into the manhole.

- 3.4.5 A minimum of 30 days after installation and prior to acceptance, all sewers shall be subjected to infiltration, air or exfiltration tests, or a combination thereof, in accordance with the following requirements, prior to acceptance of the system by the Highland Township and prior to removal of the bulkhead.
- a. All sewers over 24" diameter shall be subjected to infiltration tests. All sewers of 24" diameter or smaller, where ground water level above the top of sewer is over seven (7) feet, shall be subjected to an infiltration test.
 - b. All sewers of 24" diameter or less, where the ground water level above the top of the sewer is seven (7) or less, shall be subjected to air tests or exfiltration tests.
- 3.4.6 A minimum of 30 days after installation and prior to the acceptance of new mainline sanitary sewer systems, a televised inspection of each section of the mainline shall be conducted from manhole to manhole. DVD video and log of this inspection shall be submitted to the Township's Engineer to document the current condition of the sanitary system at the time of the utility acceptance. The DVD and log shall be consistent with the Standards of the Township of Highland.

4. STORM SEWER

4.1 *Design Requirements*

- 4.1.1 Storm sewer systems shall be designed for a ten year intensity rainfall. The Rational Method for arriving at storm sewer runoff shall be used. An "n" value of 0.013 shall be used for concrete pipe.
- 4.1.2 The formula for a ten (10) year rainfall intensity shall be equivalent to $I = 175/(T+25)$ in which T is the time of concentration (minutes), and I is the intensity (inches per hour).
- 4.1.3 The initial T is generally 20 minutes for residential areas and 15 minutes for high runoff areas.
- 4.1.4 The consulting engineer shall use the following minimum values for "C", the runoff coefficient, in the "Rational Formula" of computing storm water flows ($Q = CIA$).

Impervious Hard Surfaces	C = 0.90
Gravel Surface	C = 0.50
Vegetated/Turf Surface	C = 0.20

Other values of the runoff coefficient may be used or required at the discretion of the Township's Engineer for such areas as parks and open-spaces or unusual sites.

- 4.1.5 Sufficient capacity shall be provided in the storm sewer system to take fully developed tributary upstream drainage into the system. When a storm sewer is designed to provide capacity for upstream areas, the hydraulic gradient shall remain in the pipe.
- 4.1.6 Storm sewer design calculations, including a drainage area map shall be included on the engineering plans. The storm district map shall show all on-site and off-site drainage districts. A minimum 1" = 50' scale is allowed. The district limits must be over laid on a proposed grading plan for the site.
- 4.1.7 All public storm sewers must be located in a public right-of-way or an easement. The minimum storm sewer easement shall be 12 feet. The easement size will vary as required for maintenance and access. Any storm sewer that accepts runoff from abutting property or public right-of-way must be placed in a minimum 12 foot storm sewer easement.
- 4.1.8 If a storm sewer is designed to take on-site drainage only, the hydraulic gradient must be no higher than one (1) foot below ground. When the hydraulic gradient is above the top of the sewer pipe, the design elevation of the hydraulic gradient shall be indicated on the profile at each manhole.

4.1.9 Storm water quality measures, including channel protection volume/rate and flood control measures must be incorporated into the design of the storm sewer system. Stormwater detention is necessary for all developments in the Township. See Section 5, Storm Water Quality Measures, for details.

4.1.10 Manholes shall be located as follows:

- a. All changes in alignment
- b. Points where the size of the sewer changes
- c. Points where the grade of the sewer changes
- d. The junction of sewer lines
- e. Street intersections or other points where catch basins or inlets are to be connected.

4.1.11 Manhole and catch basin spacing for storm sewers shall be as follows:

<u>Diameter of Sewer</u>	<u>Maximum Spacing</u>
12" – 15"	300 ft.
18" - 21"	350 ft.
24" - 30"	400 ft.
36" & 42"	450 ft.
48" & larger	500 ft.

4.1.12 The minimum size of a public storm sewer is 12 inch diameter. 10 inch diameter pipe will be allowed for sewer lines that pick up footing drain or roof conductor drainage. No open covers will be permitted for a 10 inch diameter storm sewer.

4.1.13 Connection must be made at manholes or catch basins. Blind taps are not allowed.

4.1.14 The following information shall be indicated on the storm sewer profile:

- a. Length of run between manholes.
- b. Type, class, size and slope of pipe.
- c. Class of bedding.
- d. Rim elevations of all manholes.
- e. Existing and proposed ground elevations above the route of the sewer.
- f. A logical numbering system for manholes shall be included.
- g. Invert elevations of all sewers at manholes.
- h. Locations and limits of sand backfill, where required.
- i. Locations and elevations of crossing with other utilities.

- 4.1.15 The following table of minimum slopes for storm sewers shall be adhered to:

Size and Minimum Slope

12" @ 0.32%
15" @ 0.24%
18" @ 0.18%
21" @ 0.14%
24" @ 0.12%
27" @ 0.10%
30" @ 0.09%
36" @ 0.07%
42" @ 0.06%
48" @ 0.05%

- 4.1.16 The minimum velocity may not be less than 2.5 feet per second in a pipe flowing full. The maximum velocity in storm sewers shall be ten (10) feet per second. The contents of a larger pipe will never be discharged into a smaller line even though the slope may be steeper for the smaller line. This principle does not apply, however, to a restricted opening or discharge.
- 4.1.17 Where possible provide a minimum of three (3) feet of cover from the top of curb (or road centerline) to the top of any storm sewer.
- 4.1.18 For subdivisions, storm sewers shall be located in the public road right-of-way or in easements adjacent to the public road right-of-way. Storm sewers shall not be located in rear yards except to pick up rear yard drainage or for sump pump discharge lines.
- 4.1.19 At all pavement catch basins and inlets, forty (40) lineal feet (twenty in each direction) of six (6) inch edge drain shall be constructed at the back of curb line in each direction, backfilled with pea gravel and includes fabric. Additional edge drain may be required as directed by the Township Engineer.
- 4.1.20 No more than 1.0 acre of area shall be tributary to one standard catch basin. Catch basins may be placed side by side in order to provide for additional capacity.
- 4.1.21 A maximum of 900 feet of drainage is allowed to any catch basin from two (2) directions.
- 4.1.22 Where lateral storm sewers are proposed, all new homes must be constructed with sump pumps which discharge to an underground pipe connected to an underground public rear yard drain or storm drain. The sump pump discharge lead shall be a minimum of four (4) inch diameter and shall be constructed to each lot in a new subdivision. The lead shall be constructed at a minimum 1.0% grade and connected to a structure. No blind taps are allowed.

4.1.23 The minimum grade for swales and ditches shall be 1.0%. All ditch slopes greater than 3.0% will require sod vegetation. Ditch slopes greater than 5.0% will require rip rap and/or check dams.

4.2 *Materials*

4.2.1 Pipe for storm sewers within the public right-of-way shall be C-76 reinforced concrete pipe conforming to Classes IV or V.

4.2.2 Pipe outside the influence of the public right-of-way may be double-walled, High Density Polyethylene (HDPE) with smooth interior and annular exterior corrugation meeting requirements of ASTM F2306. Special bedding and backfill will be required.

4.2.3 Joints for storm sewer shall be tongue and groove premium joints with rubber gaskets.

4.2.4 All lead material shall be schedule 40 PVC.

4.2.5 Storm manholes are to be a four foot (4') diameter minimum with an eccentric cone. Catch basins are to be a minimum four feet (4') diameter with a two (2) foot sump and an eccentric cone. Inlets may be a two (2) foot diameter. All storm structures must conform to ASTM C-478.

4.3 *Installation*

4.3.1 All storm sewers shall be installed on Class "B" bedding or better.

4.3.2 A pre-fabricated bar screen shall be installed on all storm sewers eighteen (18) inch in diameter and larger.

4.3.3 Refer to the standard detail sheets for additional material and construction standards.

4.3.4 HDPE sewers will require deflection testing with a nine point mandrel a minimum of 30 days after installation. At no point will the pipe have out of round deflections greater than five (5) percent of normal pipe diameter.

5. STORM WATER QUALITY MEASURES

5.1 *General*

- 5.1.1 Highland Township is subject to storm water quality requirements in its Municipal Separate Stormwater System (MS4) under its certificate of coverage (COC) under the National Pollutant Discharge Elimination System (NPDES). Under this permit, any project located within the Township's MS4 must strictly comply with requirements under that COC. Parcels that discharge to Town Center Boulevard, Beach Tree Farm Circle and the Township office complex at N John St and Livingston are located within the MS4.
- 5.1.2 All development and redevelopment projects located inside and outside the regulated MS4 are subject to the Oakland County Water Resources Commissioner's (WRC) current stormwater Engineering Design Standards. Where a project is otherwise exempt from the WRC Stormwater Rules, the Township design requirements herein will apply.
- 5.1.3 Detention basins shall be designed to detain improved storm water over the developed areas on site. The applicant is not required to detain water from off site areas in the drainage district.
- 5.1.4 Alternative designs that comply with design principals outlined in the Low Impact Development Manual (LID) published by the Southeast Michigan Council of Governments (SEMCOG) may be considered provided they achieve the minimum water quality standards outlined in the standards.

5.2 *Design Requirements*

- 5.2.1 The outlet pipe from a detention basin shall be restricted to allow only the agricultural run-off. The allowable discharge rate is limited to 0.2 cfs per acre when the water level in the detention basin is at its design high water elevation.
- 5.2.2 Leaching systems may be designed with a maximum infiltration rate of six (6) inches per hour and store a volume equal to a 100-year storm. Sufficient data must be available to support the use of a leaching system. In no case shall the infiltration rate be greater than 0.2 cfs per acre. A form of sediment control must be provided with all leaching systems.
- 5.2.3 Sediment control system must provide 80% removal of the annual total suspended solids (TSS) based on a 100 micron particle size and treat 100% of the runoff from the 1-year/24-hour storm event. Rain events in excess of the 1-year/24-hour event must bypass the system without causing re-entrainment of floatable contaminants.
- 5.2.4 A minimum of 12 inches of freeboard must be maintained for all systems. All building openings must be above the freeboard elevation.

- 5.2.5 All basins shall be required to be designed to drain by gravity unless designed with a permanent water elevation. Detention basins designed to utilize pumps for dewatering will not be permitted.
- 5.2.6 Where a retention basin will be utilized, it is the developer's engineer's responsibility to provide documentation to confirm that the soils in the area of the basin can infiltrate at a minimum rate of six (6) inches per hour. In no case shall the infiltration rate be greater than 0.2 cfs per acre. This information shall appear on the construction plans. A leaching basin will be required for all retention systems unless the ground water level is within two (2) feet of the outlet.
- 5.2.7 All open detention basins must be fenced if the side slopes exceed 1 vertical to 5 horizontal. This may be waived by the Township if the design of the basin is an integral part of the landscaping and the location and depth does not present a potential hazard. The maximum side slope for a basin with fencing shall be 1 vertical to 3 horizontal.
- 5.2.8 A 20 foot wide access easement must be provided to all basins.
- 5.2.9 An agreement for the long term operation and maintenance of storm water quality measures must be completed by the developer and submitted to the Township prior to final acceptance of the record drawings. Standard maintenance agreement forms can be secured from the Township.

5.3 *Materials*

- 5.3.1 Fences shall be a minimum of 6 feet high vinyl clad chain link with a locking access gate, 8 feet wide. Alternate types of fencing may be permitted, for aesthetic purposes, subject to approval by the Township.
- 5.3.2 Rip-rap is required at all pipe entrances and exits to the basin. The minimum width of the rip-rap shall be twice the outside diameter of the pipe. The rip-rap shall extend from bottom of the basin to the top of the slope. Acceptable material for rip-rap includes field stone or broken concrete of six (6) inch minimum thickness.

6. GRADING

6.1 General

- 6.1.1 A grading plan is required for all developments. Rear yard storm drainage systems are required for all residential projects.
- 6.1.2 The grading of the proposed development shall not create drainage problems, or make existing drainage problems worse, on adjacent property. If necessary, storm drains shall be extended to the adjacent property to alleviate drainage problems.
- 6.1.3 A building permit shall not be issued until a grading plan has been submitted to the Township and approved.
- 6.1.4 A soil erosion permit is required for all earth disruption within 500 feet of lakes or wetlands, any earth disruption over 1.0 acre, or as deemed necessary by the permitting agency.

6.2 Design Requirements

- 6.2.1 First floor and basement (where applicable) elevations for each proposed structure or building shall be shown on the plans.
- 6.2.2 The grades of existing adjacent houses, buildings, drainage structures and streets shall be shown. The actual surveyed grades of existing adjacent ground and yards shall be shown on a grid pattern up to a minimum of 100 feet from the property line. The drainage pattern of all adjacent existing land shall be indicated.
- 6.2.3 The grading plan shall be designed to insure that if a failure or overflow occurs within the storm system, water will drain away in overland swales without flooding houses.
- 6.2.4 Finished grade shall be compatible with the grades of surrounding houses, roads, yards and with the existing ground at the proposed house. Finished grade set below the crown of the road will require that all stormwater is intercepted and routed so that it does not adversely impact any buildings.
- 6.2.5 All existing and proposed ground grades are to be in tenths of a foot.
- 6.2.6 Rear yard swales shall be no longer than 400 feet before being intercepted by a catch basin and shall have a minimum grade of 1.0%.
- 6.2.7 The proposed side yard swale elevation shall be shown between all houses. This elevation must be a minimum of 0.5 feet below the lower adjacent house grade. The side yard swale must have a minimum slope of 1.0% to the front and rear.

- 6.2.8 General direction of flow of the rear yard drainage and swales must be indicated with arrows.
- 6.2.9 The maximum allowable grade shall be 1 vertical to 4 horizontal.
- 6.2.10 Sites reclaimed from mining operations shall have a maximum slope of 1 vertical to 5 horizontal and 1 vertical to 6 horizontal to a depth of four feet if the slope is below a normal water level.
- 6.2.11 The first 20 feet of lawn areas along lakes or ponds shall be graded ~~flat~~ with minimal fall or have a 25 foot undisturbed natural area to protect the water body from lawn fertilizers.
- 6.2.12 The proposed ground elevations shall be indicated at each lot corner and top of curb or edge of pavement.
- 6.2.13 The maximum driveway slope is 8.0%. -The slope of the driveway shall be labeled on the plans.
- 6.2.14 All proposed retaining wall designs will require review by the Township Engineer on an individual basis.

7. PAVING & PRIVATE ROADS

7.1 *General*

- 7.1.1 For both public and private roadways proposed in the Township, the Road Commission for Oakland County's (RCOC) design standards for subdivisions will be utilized as the basis for the design unless modified in this section.
- 7.1.2 Alternative paving designs may be submitted to the Township for consideration. They will be reviewed by the Township's Engineer and recommendation will be made to the Township. Such alternative paving designs shall only be acceptable in those instances where the Township finds that the proposed design will provide an acceptable level of serviceability, ease of maintenance and are consistent with other paving in similar areas elsewhere in the Township.
- 7.1.3 For roads under the jurisdiction of Michigan Department of Transportation (MDOT) or Road Commission for Oakland County (RCOC) all improvements shall be designed to meet their requirements.
- 7.1.4 Acceleration, deceleration and passing lanes are required at all road entrances that front on paved major roads. These improvements shall be designed to RCOC standards.
- 7.1.5 Alternate horizontal and vertical alignments may be considered with written approval from the Township Fire Department.

7.2 *Design Requirements*

- 7.2.1 The minimum outside radius of a cul-de-sac (back of curb) shall be fifty (50) feet. The back of curb inside radius shall be twenty (20) feet. All right-of-way radii shall be sixty (60) feet minimum.
- 7.2.2 A boulevard section may be allowed in an enlarged right-of-way. Pavement widths shall be at least twenty-four (24) feet for all boulevard streets (back of curb to back of curb). The distance from the property line to curb shall be sixteen (16) feet on boulevards. The island width shall be sixteen (16) feet. The nose of the boulevard island shall be set back at least twelve (12) feet from the edge of pavement of the intersecting street.
- 7.2.3 The minimum driveway width providing one-way traffic shall be no less than 16 feet (back of curb to back of curb). The minimum width for two-way traffic shall be 27 feet (back of curb to back of curb).
- 7.2.4 Vertical curves are necessary when a change in grade of 1.0% or more occurs. The minimum length of vertical curve shall be 100 feet. All proposed vertical curves shall meet County standards for subdivisions.

- 7.2.5 The minimum pavement vertical grade for roadways shall be 0.60% when concrete curb and gutter is provided, 0.80% with open ditch and the maximum allowable grade shall be 8.0% for curb and gutter and 6.0% for open ditches. The maximum cross slope grade for cul-de-sac is 3.0%. At street intersections, grades shall not exceed 3.0% for a distance of 100 feet.
- 7.2.6 All proposed roadways shall be profiled and shall include:
- a. Elevations at each station for the top of curb, or at centerline if not curbed.
 - b. Existing ground elevations at the center of the right-of-way, and 30 feet either side of the centerline.
 - c. Station and elevations of all high points, low points, grade-breaks and necessary information at vertical curves. Grades for vertical curves must be indicated at twenty-five (25) foot intervals.
 - d. The station and top of curb grade of all pavement catch basins and inlets.
- 7.2.7 The pavement radius at all intersections of all roads shall be a minimum twenty-five (25) feet. Industrial developments will require a minimum radius of thirty-five (35) feet.
- 7.2.8 Finish grade of all structures shall be indicated in the plan and profile views.
- 7.2.9 The minimum aggregate cross-section for a gravel road is eight (8) inches. The minimum pavement cross-section for a residential road is three (3) inches of bituminous on eight (8) inches of aggregate.
- 7.2.10 The minimum commercial parking lot pavement cross-section is three (3) inches of bituminous on eight (8) inches of aggregate or seven (7) inches of concrete. The minimum pavement cross-section for industrial developments shall be four (4) inches of bituminous on eight (8) inches of aggregate or eight (8) inches of concrete.
- 7.2.11 Industrial street cross-sections will be reviewed on an independent basis.
- 7.2.12 Safety paths and sidewalks will be required along the frontage of developments as directed by the Township. Safety paths are required along major thoroughfares and shall be three inches of bituminous pavement on four (4) inches of 21AA aggregate a minimum of eight (8) feet wide. All sidewalks are to be concrete and a minimum of four (4) inches thick on four (4) inches of Class II sand, and minimum of six (6) feet wide.

7.3 Materials

- 7.3.1 Roadway surface material for private gravel roadways shall be 21AA aggregate.
- 7.3.2 The aggregate base material for paved private roads and parking lots shall be 21AA aggregate.
- 7.3.3 The bituminous mixture for private roads shall be ~~MDOT 1300~~ meet current MDOT standards.

7.4 Installation

- 7.4.1 The installation of private roads within the Township shall require inspection by the Township Engineer at the following stages:
 - a. After the sub grade has been rough cut to the plan elevation.
 - b. After the placement of the aggregate base or aggregate roadway surface, prior to curb and gutter installation (if required).
 - c. Full-time during the placement of the bituminous pavement (where applicable).
 - d. After all the required vegetation has been established.

8. RECORD DRAWINGS

8.1 *General*

- 8.1.1 All projects within the Township shall be required to submit record drawings. The drawings will need to be reviewed and approved by the Township Engineer prior to final acceptance of the project by Highland Township.
- 8.1.2 The initial submittals shall be of two (2) sets of black line prints providing the applicable information shown on the attached checklist. The minimum scale shall be 1"=50' and shall bear the seal of a registered professional engineer or surveyor licensed to practice within the State of Michigan. All record lengths and elevations must be shown on the drawings and labeled as record with an accuracy of \pm one foot.
- 8.1.3 After the record drawings have been approved by the Township Engineer, the applicant shall submit an electronic copy of the plan set.

8.2 *Water System*

- 8.2.1 Locate gate valves, wells, hydrants and all water system appurtenances from the nearest property corner using an X-Y coordinate system.
- 8.2.2 Itemized As-Built quantities list, which indicates the size, type, brand name and lengths of water main used. Hydrants, gate valves, blow-off valves and appurtenances must also be listed showing their type, brand name, model number, and quantity.
- 8.2.3 Additional information may be required by other permitting agencies.

8.3 *Sanitary System*

- 8.3.1 Indicate the length of sewer, invert elevation, lead locations, rim elevation, percentage of grade, manhole location from the nearest property corner (using an X-Y coordinate system), sewer material and joints used.
- 8.3.2 Itemized As-Built quantities list, which indicates the size, type, brand name and lengths of pipe used.

8.4 *Storm System*

- 8.4.1 Indicate length of sewer, invert elevation, rim elevation, percentage of grade, manhole location from the nearest property corner (using an X-Y coordinate system), sewer material and joints used.

8.4.2 As-built storm system plans are required to be accompanied by a letter (8.5" x 11") signed and sealed by the design engineer stating that the detention/retention basin is properly sized according to the approved construction plans, and that the outlets are properly located and sized.

8.4.3 Itemized As-Built quantity list, which indicates the size, type, brand name and lengths of pipe used.

8.5 Roadways

8.5.1 Provide top of curb elevations for each lot corner (and side lot corner for corner lots). Developments with open ditches will require edge of pavement elevations.

8.5.2 Provide an as-built cross-section of the roadway.

Appendix A

Sample Insurance

Client#: 7782

PAVCOR

ACORD™

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY) 04/02/2015

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER: Insurance Agency, 24724 Any Street (248) 666-6666, P.O. Box 2067, SomeCity, MI 48037-2067. CONTACT NAME: Insurance Agent name, PHONE (A/C, No, Ext): 248 555-5555, FAX (A/C, No, Ext): 248 111-1111, E-MAIL: InsuranceAgent@InsuranceGroup.com, ADDRESS: InsuranceAgent@InsuranceGroup.com, PRODUCER CUSTOMER ID #.

INSURED: Company ABC, 2654 Street Name, AnyCity, MI 48183. INSURER A: Insurance Company 1, INSURER B: Insurance Company 2, INSURER C:, INSURER D:, INSURER E:, INSURER F:.

COVERAGES CERTIFICATE NUMBER: REVISION NUMBER: THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

Table with columns: INSR LTR, TYPE OF INSURANCE, ADDL INSR, SUBR, WVD, POLICY NUMBER, POLICY EFF (MM/DD/YYYY), POLICY EXP (MM/DD/YYYY), LIMITS. Rows include: A GENERAL LIABILITY (MPA00000042433S), A AUTOMOBILE LIABILITY (BA00000042434S), A UMBRELLA LIAB (CMB00000042436S), B WORKERS COMPENSATION AND EMPLOYERS' LIABILITY (WC0001100555), A Installation Floater (MPA00000042433S).

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (Attach ACORD 101, Additional Remarks Schedule, if more space is required) Municipality Name, their counsel, members, board members, public officials, consultants, agents and (See Attached Endorsements evidencing the change of policy)

CERTIFICATE HOLDER: Municipality Name, 18500 Street Name, AnyCity, MI 48025. CANCELLATION: SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS. AUTHORIZED REPRESENTATIVE SIGNATURE.

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DESCRIPTIONS (Continued from Page 1)

employees, as well as the engineer; Hubbell Roth & Clark, their owners, directors, officers, consultants, agents, and employees are included as Additional Insured per written contract with respect to the general, auto and umbrella liability coverages for the work performed by the named insured for the certificate holder. Insurance is considered primary and non contributing and a waiver of subrogation applies. Should any of the above described policies be cancelled before the expiration date thereof, the issuing Company will mail 30 days prior written notice to the Certificate holder. Endorsements evidencing the change of Policy are attached.

Example only

POLICY NUMBER: TRA 4820287

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

**EARLIER NOTICE OF CANCELLATION
PROVIDED BY US**

This endorsement modifies insurance provided under the following:

- BUSINESS AUTO COVERAGE PART
- CRIME AND FIDELITY COVERAGE PART
- EQUIPMENT BREAKDOWN COVERAGE PART
- FARM COVERAGE PART
- COMMERCIAL PROPERTY COVERAGE PART
- COMMERCIAL INLAND MARINE COVERAGE PART
- COMMERCIAL LIABILITY UMBRELLA COVERAGE PART
- OWNERS AND CONTRACTORS PROTECTIVE LIABILITY COVERAGE PART
- COMMERCIAL GENERAL LIABILITY COVERAGE PART
- LIQUOR LIABILITY COVERAGE PART
- PROFESSIONAL LIABILITY COVERAGE

SCHEDULE

Number of Days' Notice 30

<u>Name Of Additional Insured Person(s) Or Organization(s)</u>	<u>Location(s) Of Covered Operations</u>

(If no entry appears above, information required to complete this Schedule will be shown in the Declarations as applicable to this endorsement.)

For any statutorily permitted reason other than nonpayment of premium, the number of days required for notice of cancellation, as provided in paragraph 2. of either the CANCELLATION Common Policy Condition or as amended by an applicable state cancellation endorsement, is increased to the number of days shown in the Schedule above.

POLICY NUMBER:

COMMERCIAL GENERAL LIABILITY
CG 20 37 04 13

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

**ADDITIONAL INSURED – OWNERS, LESSEES OR
CONTRACTORS – COMPLETED OPERATIONS**

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART
PRODUCTS/COMPLETED OPERATIONS LIABILITY COVERAGE PART

SCHEDULE

Name Of Additional Insured Person(s) Or Organization(s)	Location And Description Of Completed Operations

Information required to complete this Schedule, if not shown above, will be shown in the Declarations.

A. Section II – Who Is An Insured is amended to include as an additional insured the person(s) or organization(s) shown in the Schedule, but only with respect to liability for "bodily injury" or "property damage" caused, in whole or in part, by "your work" at the location designated and described in the Schedule of this endorsement performed for that additional insured and included in the "products-completed operations hazard".

However:

1. The insurance afforded to such additional insured only applies to the extent permitted by law; and
2. If coverage provided to the additional insured is required by a contract or agreement, the insurance afforded to such additional insured will not be broader than that which you are required by the contract or agreement to provide for such additional insured.

B. With respect to the insurance afforded to these additional insureds, the following is added to **Section III – Limits Of Insurance:**

If coverage provided to the additional insured is required by a contract or agreement, the most we will pay on behalf of the additional insured is the amount of insurance:

1. Required by the contract or agreement; or
2. Available under the applicable Limits of Insurance shown in the Declarations;

whichever is less.

This endorsement shall not increase the applicable Limits of Insurance shown in the Declarations.

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

**ADDITIONAL INSURED – OWNERS, LESSEES OR
CONTRACTORS – AUTOMATIC STATUS WHEN
REQUIRED IN CONSTRUCTION AGREEMENT WITH YOU**

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART

A. Section II – Who Is An Insured is amended to include as an additional insured any person or organization for whom you are performing operations when you and such person or organization have agreed in writing in a contract or agreement that such person or organization be added as an additional insured on your policy. Such person or organization is an additional insured only with respect to liability for "bodily injury", "property damage" or "personal and advertising injury" caused, in whole or in part, by:

1. Your acts or omissions; or
2. The acts or omissions of those acting on your behalf;

in the performance of your ongoing operations for the additional insured.

However, the insurance afforded to such additional insured:

1. Only applies to the extent permitted by law; and
2. Will not be broader than that which you are required by the contract or agreement to provide for such additional insured.

A person's or organization's status as an additional insured under this endorsement ends when your operations for that additional insured are completed.

B. With respect to the insurance afforded to these additional insureds, the following additional exclusions apply:

This insurance does not apply to:

1. "Bodily injury", "property damage" or "personal and advertising injury" arising out of the rendering of, or the failure to render, any professional architectural, engineering or surveying services, including:

- a. The preparing, approving, or failing to prepare or approve, maps, shop drawings, opinions, reports, surveys, field orders, change orders or drawings and specifications; or
- b. Supervisory, inspection, architectural or engineering activities.

This exclusion applies even if the claims against any insured allege negligence or other wrongdoing in the supervision, hiring, employment, training or monitoring of others by that insured, if the "occurrence" which caused the "bodily injury" or "property damage", or the offense which caused the "personal and advertising injury", involved the rendering of or the failure to render any professional architectural, engineering or surveying services.

2. "Bodily injury" or "property damage" occurring after:

- a. All work, including materials, parts or equipment furnished in connection with such work, on the project (other than service, maintenance or repairs) to be performed by or on behalf of the additional insured(s) at the location of the covered operations has been completed; or
- b. That portion of "your work" out of which the injury or damage arises has been put to its intended use by any person or organization other than another contractor or subcontractor engaged in performing operations for a principal as a part of the same project.

C. With respect to the insurance afforded to these additional insureds, the following is added to **Section III – Limits Of Insurance:**

The most we will pay on behalf of the additional insured is the amount of insurance:

- 1. Required by the contract or agreement you have entered into with the additional insured; or
- 2. Available under the applicable Limits of Insurance shown in the Declarations;

whichever is less.

This endorsement shall not increase the applicable Limits of Insurance shown in the Declarations.

Example only

STORMWATER MANAGEMENT ORDINANCE

§ 15.03

HIGHLAND CHARTER TOWNSHIP CODE

D. *Use of wetlands.* Wetlands may be used for stormwater management if all the following conditions are met:

1. Wetlands shall be protected from impairment due to the discharges of stormwater. Measures shall be taken to reduce erosive velocities of stormwater and to remove sediment and other pollutants prior to discharge to a wetland.
2. Wildlife, fish or other beneficial aquatic organisms and their habitat within the wetland will not be impaired.
3. The wetland has sufficient holding capacity for stormwater, based upon calculations prepared by the proprietor and reviewed and approved by the Township.
4. On-site erosion control shall be provided to protect the natural functioning of the wetland.
5. Provisions approved by the Township shall be established so as to insure that the wetland is not disturbed or impaired in the future relative to the needed storage capacity.
6. Applicable permits shall be obtained from the Michigan Department of Environmental Quality or appropriate federal agency.

E. *Maintenance.* For stormwater management systems serving more than one office, commercial or industrial structure and for systems serving more than one residential unit, a maintenance agreement shall bind the owners of all lots, parcels and condominium units with access to the stormwater management system, including their successors and assigns. The maintenance agreement must include the following minimum information:

1. A restrictive covenant shall be included in the maintenance agreement establishing the responsibility for operating and maintaining the stormwater management system on all lots and parcels to be serviced by the system. Such restrictive covenant shall further grant to Highland Township an easement for the purpose of providing for the installation, operation, inspection, and maintenance of stormwater management systems. The agreement shall grant to Highland Township the right, but not the obligation, to inspect and repair said stormwater management system at the expense of the owners of property served by the system. The Township shall have the sole discretion whether to create a special assessment district under the agreement. If the Township elects to repair a private stormwater management system, the agreement shall provide for the establishment of a special assessment district to defray all costs incurred in repairing the system. The agreement shall provide that all current and future owners agree that they are waiving all rights to challenge all aspects of the special assessment district. In addition, the owners and all future owners agree that the maintenance agreement shall be deemed a petition or an adjunct to a petition by the property owners for a special assessment district, if such a petition is legally required.

SITE PLAN REVIEW ORDINANCE

ZONING ORDINANCE

§ 5.01

7. Signage must comply with the provisions of Section 14.07G, Temporary Commercial Special Event Signs, although the Planning Commission may extend time periods for such signs to comply with the period of approval for the temporary use.

8. The Zoning Administrator shall document all conditions of approval in a temporary land use permit. The applicant may be required to post a performance guarantee, as provided in Section 3.09B to secure the temporary land use permit and assure final restoration of the site.

9. Administrative renewal of a temporary use may occur on an annual basis subject to the following conditions:

- a. The use shall have a defined start and end date with a maximum activity time frame of ninety (90) consecutive days (except for seasonal sales of agricultural products which must generally conform to schedules approved by the Planning Commission in original approval).
- b. The use shall be specific to the applicant and shall not be transferable.
- c. The use would not expand in size or change location on the property from event to event.
- d. The restoration of the area has been completed upon termination of the temporary use as confirmed by the Zoning Administrator by physical examination of the site within 30 days of the end of the temporary use permit.
- e. No complaints were filed regarding the temporary use that were not resolved to the satisfaction of the Zoning Administrator and Township Supervisor.
- f. The Zoning Administrator may, at her (his) discretion, refer the matter to the Planning Commission for further consideration.

ARTICLE 5. SITE PLAN REVIEW: PROCEDURES AND STANDARDS

Sec. 5.01. Intent.

These site plan review procedures and standards provide a consistent method for reviewing land use and development proposals to attain compliance with this Zoning Ordinance, the Master Plan, Engineering Design and Construction standards, other applicable local policies, ordinances, and state and federal laws. The procedures are further intended to:

- A. Preserve and protect natural features and greenways.
- B. Achieve harmonious relationships of buildings, structures and uses within a site, with adjacent sites, and within the context and character of the community.
- C. Provide for safe and convenient traffic circulation and access to and between sites.
- D. Provide for the public health by requiring sound plans for dealing with sewage disposal, water supply and storm water management issues.

- E. Provide a means to bring existing developments into compliance with current standards.
- F. Encourage cooperation and consultation between the Township and applicants to further the objectives of the Master Plan.

Sec. 5.02. Uses subject to site plan review.

A building permit shall not be issued until a site plan or sketch plan has been approved, a Land Use Permit has been issued, all fees have been paid, and a suitable escrow deposit has been placed to cover costs for review and inspection.

A change of use of an existing building shall require full site plan or sketch plan review if any of the following conditions apply:

1. There is no approved site plan on file at the Township.
2. The site plan on file was approved prior to July 9, 1986.
3. The property description has changed due to addition or division of any real property from the subject parcel.
4. The proposed use would result in a greater parking requirement than the use specified on the approved site plan.
5. There has been a significant change in the road right-of-way such as widening or alteration of traffic controls at the nearest intersection.
6. There is a documented drainage issue on the site.

Each project will be subject to the appropriate review process as set forth in Table 5.1, depending upon the scale and complexity of the proposal. For circumstances not specifically covered in Table 5.1, Eligible Uses and Required Review Process, the Zoning Administrator has the authority to determine the process that will be followed and may refer the application to the Township's Planning Commission, Planning Consultants, Engineers or other Consultants for review and recommendation. Proposals will be reviewed under one of the following processes:

- A. *Full site plan.* A full site plan is the most detailed process, typically required for all new developments and major expansions. This process will not apply to individual single family homes and accessory structures. Site plans will be reviewed for approval by the Planning Commission.
- B. *Sketch plan.* The sketch plan process is appropriate for small-scale projects such as change of use of an existing building. The plans may be less detailed than full site plans, provided sufficient detail allows for review for compliance with applicable standards. Sketch plans will be reviewed for approval by the approving body as identified in Table 5.1.
- C. *Administrative review.* Administrative review is reserved for new projects and minor changes subject to Table 5.1, Eligible Uses and Required Review Process. Projects

		<i>Required For:</i>	
		<i>Site Plan</i>	<i>Sketch Plan</i>
<i>Plan Data</i>			
	Location, Sizes, and Types of Existing Trees 6 inches or Greater in Diameter, Measured at 3.5 feet off the Ground, Evergreen Trees 10 foot or Taller and the General Location of all other Existing Plant Materials, with an Identification of Materials to be Removed Materials to be Preserved	•	•
	Description of Methods to Preserve Existing Landscaping	•	
	The Location of Existing and Proposed Lawns and Landscaped Areas	•	•
	Landscape Plan, Including Location and Type of all Proposed Shrubs, Trees, and Other Live Plant Material	•	
	Planting List for Proposed Landscape Materials, with Caliper Size or Height of Material, Method of Installation, Botanical and Common Names, and Quantity	•	
	Proposed Dates of Plant Installation	•	
	Landscape Maintenance Schedule	•	
F.	Building and Structure Details		
	Location, Height, and Outside Dimensions of all Proposed Buildings and Structures	•	•
	Building Floor Plans and Total Floor Area	•	
	Details on Accessory Structures and any Screening	•	
	Size, Height and Method of Shielding for all Site and Building Lighting	•	
	Location, Size, Height, and Lighting of all Proposed Site and Wall Signs	•	•
	Location, Size, Height and Material of Construction for all Obscuring Wall(s) or Berm(s) with Cross-Sections, where required	•	•
	Building Façade Elevations for all Sides, Drawn at an Appropriate Scale	•	
	Description of Exterior Building Materials and Colors (Samples may be Required)	•	
G.	Information Concerning Utilities, Drainage and Related Issues		
	Location of Sanitary Sewers and Septic Systems, Existing and Proposed	•	
	Location and Size of Existing and Proposed Water Mains, Well Sites, Water Service, Storm Sewers Loads, and Fire Hydrants	•	
	Stormwater Drainage and Retention/Detention Calculations	•	•
	Indication of Site Grading, Drainage Patterns and other Stormwater Management Measures	•	•

<i>Situation / Uses</i>		<i>Required For:</i>		
		<i>Full Site Plan</i>	<i>Sketch Plan</i>	<i>Admin. Review</i>
	An increase in parking or loading area of up to 25% or 6,000 s.f. of paved area whichever is greater without any building changes			ZA
	An increase in parking or loading area over 25% or 6,000 s.f. of pavement area without any building changes		PC	
	Changes to building height that do not add additional floor area			ZA
	Any change or expansion of non-residential use		PC	
	Collocation on existing wireless communication facilities			ZA
	Expansion of an approved wireless communication ground equipment enclosure	PC		
	Installation of new wireless communication ground equipment within an approved ground equipment building or enclosure			ZA
C. Change of Use				
	Change of use for building with an approved site plan on file, provided site is determined to be generally compliant with site plan and use is permitted by right			ZA
	Change of use for a building without an approved site plan on file, where site improvements are generally compliant with Ordinance except for elements such as lighting, signage or landscaping		PC	
	Change of use for a building without an approved site plan on file, where site improvements such as paving, drainage or utility work are necessary to bring the site into compliance with the Ordinance	PC		
	Change of use for an existing non-conforming use or structure		ZBA	
D. Other Types of Projects				
	Accessory open air businesses		PC	
	Improvements to outdoor recreational uses and parks that are permitted uses		PC	
	Accessory building and structures associated with a non-single family residential use in any zoning district	PC		
	Architectural changes to non-single-family residential structures (an elevation plan describing changes and construction materials is required)			ZA
	Bike path, pathway or sidewalk construction or relocation			ZA

ZONING ORDINANCE

§ 5.02

<i>Situation / Uses</i>	<i>Required For:</i>		
	<i>Full Site Plan</i>	<i>Sketch Plan</i>	<i>Admin. Review</i>
Construction of an entrance feature associated with a non-single-family residential use (walls, landscaping, etc.)		PC	
Grading, excavation, filling, soil removal, creation of ponds or clearing of trees within an area of 1,000 s.f., provided such activity is normally and customarily incidental to single-family uses on the site			ZA
Grading, excavation, filling, soil removal, creation of ponds or clearing of trees other than that specified above		PC	
Home occupations			ZA
Internal construction or change in the floor plan that does not increase gross floor area, increase the intensity of use or affect parking requirements on a site which meets all site design standards of this ordinance			ZA
Landscape changes to similar species and that are consistent with the standards of this ordinance			ZA
Modifications to upgrade a non-single-family residential building to improve barrier-free design, or to comply with the Americans with Disabilities Act or other federal, state or county regulations			ZA
Parking lot improvements provided the total number of spaces shall remain constant			ZA
Portable classrooms		PC	
Sign relocation or replacement provided it meets the dimensional and location standards of this ordinance			ZA
Site improvements such as installation of walls, fences, lighting or curbing consistent with ordinance standards		PC	
Temporary trailer used for construction office			ZA
Temporary uses, sales and seasonal events		PC	
Waste receptacle relocation to a more inconspicuous location or installation of screening around the waste receptacle			ZA

- PC Planning Commission
- ZBA Zoning Board of Appeals
- TB Township Board
- ZA Zoning Administrator

Sec. 5.03. Site plan and sketch plan review procedures and requirements.

Site plans and sketch plans must be submitted in accordance with the following procedures and requirements:

- A. *Application.* The application shall be submitted by the owner for which site plan or sketch plan approval is sought, or by an agent of the owner as authorized in writing.
- B. *Pre-application meeting.* The applicant shall meet with the Zoning Administrator to discuss the project, submittal requirements and the review process. The applicant should provide sufficient information prior to the meeting so that the Zoning Administrator may identify other staff, consultants or interested parties whose early input would be beneficial to the review process. The intent of the meeting is to provide guidance and identify issues and resources for the applicant. No approvals or decisions will result from the pre-application meeting. Comments or suggestions of staff and consultants are for the applicant's consideration and are not binding upon the Board or Commission with authority to act on the application.
- C. *Site plan submittal.* The applicant shall submit twenty (20) copies of the following to the Zoning Administrator. Plans will not be accepted unless all materials are submitted.
 - 1. Complete application and application checklist form supplied by the Township.
 - 2. Written description of the proposed project or use.
 - 3. A completed site plan or sketch plan that includes the information required in Table 5-2.
 - 4. Any additional information the reviewing body finds necessary and appropriate to complete their review, as may be requested by the Township. Additional information may include but is not limited to natural features, stormwater management, surrounding land uses, public facilities and services, utilities, and traffic.
- D. *Technical reviews.* The Zoning Administrator shall forward the applications and site plan(s) to the appropriate staff and consultants for their review and comment.
- E. *Planning Commission subcommittee reviews.* The Zoning Administrator shall forward all applications and site plan(s) to members of the Planning Commission. The Chairman shall assign preliminary review of the site plan to the appropriate subcommittee for their evaluation prior to inclusion of the project on an agenda.

- F. *Planning Commission consideration.* The Zoning Administrator shall compile all staff and consultant reviews and distribute to the Planning Commission. A project shall not be scheduled for an agenda unless adequate time is allowed for receipt and distribution of the reports one week prior to the Planning Commission meeting.

The Planning Commission subcommittee, staff and consultants will report findings to the Planning Commission, who shall then make a determination based on the standards and requirements of this Ordinance. The Planning Commission may table, approve, approve subject to conditions, or deny a site plan as follows:

1. *Table.* The application may be tabled if it is determined to be incomplete, if the applicant has not fully responded to the deficiencies identified in the reviews, if a variance is needed from the Zoning Board of Appeals, or if revisions are needed be tentatively rescheduled for a future meeting date, subject to timely submittal of revised plans accompanied by a letter describing all changes, signed by the applicant or the applicant's design professional.
2. *Site plan approval.* The application may be approved if the site plan is determined to be in compliance with the standards and requirements of this Ordinance. The applicant will then be directed to complete construction plans for the building(s) and site improvements, and to pursue all required permits and approvals may be granted concurrently. Preliminary Approval is valid for one (1) year after approval of the official minutes.
3. *Site plan approval, subject to conditions.* The application may be approved, subject to conditions if: 1) those conditions are reasonably related to the burdens imposed by the Development and/or 2) modifications to the Site Plan are required to ensure full Ordinance compliance. The applicant shall comply with the conditions identified by the Planning Commission while completing the construction plans for the building(s) and site improvements. Preliminary Approval is valid for one (1) year after approval of the official minutes.
4. *Denial.* The application may be denied if the site plan does not comply with the standards and requirements of this Ordinance. Any re-submittal shall be considered a new site plan, and shall be required to reinitiate the full review process. Any person aggrieved by a decision of the Planning Commission in denial of a site plan shall have the right to appeal to the Zoning Board of Appeals.
5. *Construction plan approval (with or without conditions).* The Zoning Administrator shall place the application on a Planning Commission agenda for final review once the following conditions have been met:
 - a. The site plan has been revised to address any conditions of the Preliminary Approval;
 - b. Construction plans (define or include in chart) have been developed in conformance with applicable standards and are approved by the Township Engineer; and
 - c. All necessary outside agency approvals have been obtained.

The Planning Commission will grant final approval of the plans if it determines that the plans comply with the conditions (if any) of the preliminary approval and the standards and requirements of this Ordinance.

- G. *Agency approvals.* The applicant shall be required to obtain all other necessary permits from agencies such as, but not limited to, the Oakland County Water Resources Commissioner, Road Commission for Oakland County, Oakland County Health Division and State of Michigan, as well as applicable utility companies. Copies of applications and approvals from all agencies shall be submitted prior to final site plan approval.
- H. *Recording of site plan review action.* Each action taken with reference to a site plan review shall be duly recorded in the minutes of the Planning Commission's meeting. The findings supporting the Commission's action shall be recorded in the minutes. After the minutes have been approved, one (1) copy of the site plan shall be transmitted to the applicant, along with a copy of the final approved minutes documenting any conditions of approval.
- I. *Building improvements.* The applicant can apply for a building permit and land use permit once Final Approval of the Site Plan or Sketch Plan has been granted by the Planning Commission and a pre-construction meeting has been held with planning staff, Township planning consultants and Township engineers.
- J. *Commencement and completion of construction.* Construction shall commence and be completed in accordance with the Development Agreement as required under Section 3.12.

Sec. 5.04. Standards for site plan approval.

In the process of review and approval, the Planning Commission may consider the following factors in evaluating site plans, condominium plans and subdivision plans:

- A. The proposed use will not be injurious to the general health, safety and welfare of the Township and surrounding neighborhood.
- B. There is a proper relationship between thoroughfares and proposed service drives, driveways and parking areas.
- C. The proposed development provides for proper development of roads, easements and public utilities, and protects the general health, safety, welfare and character of the Township.
- D. The location of buildings, outside storage receptacles, parking areas, screen walls and utility areas is such that the adverse effects of such uses will be minimized for the occupants of that use and surrounding areas.
- E. The design of storm sewers, stormwater facilities, roads, parking lots driveways, water mains, sanitary sewers and other site improvements meets the design and construction standards of the Township and other appropriate agencies.

- F. Proper access to all portions of the site and all sides of any structure is provided. All structures or groups of structures shall be so arranged as to permit emergency vehicle access by some practical means to all sides. Site features such as, but not limited to, trees and other plant materials, fences, retaining walls, berms, outdoor furniture, outdoor structures, and natural and artificial water bodies shall be arranged to permit adequate emergency vehicle access.
- G. Site planning and design of specific improvements will accomplish the preservation and protection of existing natural resources and features such as lakes, ponds, streams, wetlands, floodplains, steep slopes, groundwater, trees, and wooded areas, including understory trees.
- H. The proposed development will utilize the natural topography to the maximum extent possible by minimizing the amount of cutting, filling and grading required.
- I. The proposed development will not cause soil erosion or sedimentation. The drainage plan is adequate to handle anticipated stormwater runoff.
- J. A stormwater management system and facility will preserve the natural drainage characteristics and enhance the aesthetics of the site to the maximum extent possible, and will not substantially reduce or increase the natural retention or storage capacity of any wetland, water body or water course, or cause alterations which could increase flooding or water pollution on or off site. The Oakland County Drain Commission Standards shall be used for the review and approval of all stormwater management systems.
- K. Wastewater treatment systems, including on-site septic systems will be located to minimize any potential degradation of surface water or ground water quality.
- L. Sites which include storage of hazardous waste, fuels, salt, or chemicals will be designed to prevent spills and discharges of pollution materials to the surface of the air or to the ground, groundwater or nearby water bodies, with a specific plan to achieve such objectives being incorporated as part of the site plan.
- M. Landscaping, including grass, trees, shrubs and other vegetation is provided to maintain and improve the aesthetic quality of the site and area.
- N. The means of ingress and egress to and from the site shall be planned with the objective of achieving recognized planning, engineering and safety standards, and shall not result in an unreasonable risk of danger to persons and/or property on the site and/or off the site. In general, this standard shall be met based upon the design of ingress and egress in terms of number, location and design of access(es), and utilization of acceleration, deceleration and passing lanes and approaches. The Planning Commission shall review the ingress and egress proposed for the purpose of promoting and protecting traffic safety, and shall require improvements accordingly.
- O. The site plan complies with all Township Ordinances and design standards and any other applicable laws.

TABLE 5.2. SITE PLAN AND SKETCH PLAN SUBMITTAL REQUIREMENTS

		<i>Required For:</i>	
		<i>Site Plan</i>	<i>Sketch Plan</i>
<i>Plan Data</i>			
A.	Application Form		
	Name and Address of the Applicant and Property Owner	•	•
	Address and Common description of Property and complete Legal Description	•	•
	Dimensions of Land and total Acreage	•	•
	Zoning on the site and all adjacent properties	•	•
	Description of proposed project or use, type of building or structures, and name of proposed development, if applicable	•	•
	Name and Address of Firm or individual who prepared the site plan	•	•
	Proof of Property Ownership	•	•
B.	Site Plan Descriptive and Identification Data		
	Site plans shall consist of an overall plan for the entire development, drawn to an Engineer's Scale of not less than 1 inch = 50 feet for property less than 3 acres, or 1 inch = 100 feet for property 3 acres or more in size. Sheet size shall be at least 24 x 36 inches if a large development is shown in sections on multiple sheets then one overall composite sheet shall be included.	•	•
	Title Block with Sheet number/Title; Name, Address and Telephone Number of the Applicant and Firm or Individual who prepared the Plans; and Date(s) of submission and any revisions (Month, Day, Year)	•	•
	Scale and North-Point	•	•
	Location map drawn to a separate scale with North-Point, Showing Surrounding Land, Water Features, Zoning and Roads within 1/2 mile	•	
	Legal and Common Description of Property	•	•
	Identification and seal of Architect, Engineer, Land Surveyor, or Landscape Architect who prepared drawings	•	
	Zoning Classifications of Petitioner's Parcel and all Abutting Parcels	•	•
	Proximity to Section Corner and Major Thoroughfares	•	•
	Buildable Area in Acres and Gross Acreage	•	•
C.	Site Data		
	Existing Lot Lines, Building Lines, Structures, Parking Areas, sidewalks/Pathways and other Improvements on the Site and within 100 foot of the Site	•	•

ZONING ORDINANCE

§ 5.04

		<i>Required For:</i>	
		<i>Site Plan</i>	<i>Sketch Plan</i>
<i>Plan Data</i>			
	Topography on the Site and within 100 foot of the Site at Two-Foot Contour Intervals, Referenced to a U.S.G.S. Benchmark	•	
	Proposed Lot Lines, Lot Dimensions, Property Lines, Setback Dimensions, Structures, and other Improvements to the Site and within 100 foot of the Site	•	•
	Location of Existing Drainage Courses, Floodplains, Lakes and Streams, and Wetlands with Elevations	•	•
	A Natural Resources Inventory and Stewardship Plan as outlined in Section 15.02	•	•
	Location of any Wellhead Protection Areas, as Identified in the Natural Features Protection Area Map, If Applicable	•	•
	All Existing and Proposed Easements Including Type	•	•
	Location of Exterior Lighting (Site and Building Lighting)	•	•
	Location of Trash Receptacle(s) and Transformer Pad(s) and Method of Screening	•	•
	Extent of any Outdoor Sales or Display Area	•	•
D.	Access and Circulation		
	Dimensions, Curve Radii and Centerlines of Existing and Proposed Access Points, Roads and Road Rights-of-Way or Access Easements	•	•
	Driveways and Intersections within 250 foot of the Site	•	
	Cross Section details of Proposed Roads, Driveways, Parking Lots, Sidewalks and Non-Motorized Paths Illustrating Materials and Thickness	•	
	Dimensions of Acceleration, Deceleration, and Passing Lanes	•	
	Dimensions of Parking Spaces, Islands, Circulation Aisles and Loading Zones	•	•
	Calculations for required number of Parking and Loading Spaces	•	•
	Designation of Fire Lanes	•	•
	Traffic Regulatory Signs and Pavement Markings	•	
	Location of Existing and Proposed Sidewalks/Pathways within the Site Right-of-Way	•	•
	Location, Height, and Outside Dimensions of all Storage Areas and Facilities	•	•
	Traffic Impact Study as may be required by the Planning Commission	•	•
E.	Landscape Plans		

		<i>Required For:</i>	
		<i>Site Plan</i>	<i>Sketch Plan</i>
<i>Plan Data</i>			
	Location, Sizes, and Types of Existing Trees 6 inches or Greater in Diameter, Measured at 3.5 feet off the Ground, Evergreen Trees 10 foot or Taller and the General Location of all other Existing Plant Materials, with an Identification of Materials to be Removed Materials to be Preserved	•	•
	Description of Methods to Preserve Existing Landscaping	•	
	The Location of Existing and Proposed Lawns and Landscaped Areas	•	•
	Landscape Plan, Including Location and Type of all Proposed Shrubs, Trees, and Other Live Plant Material	•	
	Planting List for Proposed Landscape Materials, with Caliper Size or Height of Material, Method of Installation, Botanical and Common Names, and Quantity	•	
	Proposed Dates of Plant Installation	•	
	Landscape Maintenance Schedule	•	
F.	Building and Structure Details		
	Location, Height, and Outside Dimensions of all Proposed Buildings and Structures	•	•
	Building Floor Plans and Total Floor Area	•	
	Details on Accessory Structures and any Screening	•	
	Size, Height and Method of Shielding for all Site and Building Lighting	•	
	Location, Size, Height, and Lighting of all Proposed Site and Wall Signs	•	•
	Location, Size, Height and Material of Construction for all Obscuring Wall(s) or Berm(s) with Cross-Sections, where required	•	•
	Building Façade Elevations for all Sides, Drawn at an Appropriate Scale	•	
	Description of Exterior Building Materials and Colors (Samples may be Required)	•	
G.	Information Concerning Utilities, Drainage and Related Issues		
	Location of Sanitary Sewers and Septic Systems, Existing and Proposed	•	
	Location and Size of Existing and Proposed Water Mains, Well Sites, Water Service, Storm Sewers Loads, and Fire Hydrants	•	
	Stormwater Drainage and Retention/Detention Calculations	•	•
	Indication of Site Grading, Drainage Patterns and other Stormwater Management Measures	•	•

		<i>Required For:</i>	
		<i>Site Plan</i>	<i>Sketch Plan</i>
<i>Plan Data</i>			
	Stormwater Retention and Detention Ponds, including Grading, Side Slopes, Depth, High Water Elevation, Volume and Outfalls	•	•
	Location and Size of Underground Storm Sewers and Drains	•	•
	Location of Above and Below Ground Gas, Electric and Telephone Lines, Existing and Proposed	•	
	Location of Transformers and Utility Boxes	•	
	Assessments of Potential Impacts from the Use, Processing, or Movement of Hazardous Materials or Chemicals, if Applicable	•	
H.	Additional Information Required for Multiple Family Residential Development		
	The number and location of each type of residential unit (One Bedroom Units, Two Bedroom Units, etc.)	•	
	Density Calculations by Type of Residential Unit (Dwelling Units per Acre)	•	
	Garage and/or Carport Locations and Details, if Proposed	•	
	Mailbox Clusters	•	
	Location, Dimensions, Floor Plans and Elevations of Common Building(s) (e.g., Recreation, Laundry, etc.), if Applicable	•	
	Swimming Pool Fencing Detail, including Height and Type of Fence, if Applicable	•	
	Location and Size of Recreation and Open Space Areas	•	
	Indication of Type of Recreation Facilities Proposed for Recreation Area	•	

*If any of the items listed above are not applicable, a list of each item considered not applicable and the reason(s) why each listed item is not considered applicable should be provided on the site plan

ARTICLE 6. SPECIAL LAND USE PROCEDURES AND STANDARDS

Sec. 6.01. Intent.

This Article is intended to provide regulations for Special Land Uses, which may be compatible with permitted uses in a zoning district, under specific location and site criteria. This Article provides standards for the Planning Commission and the Township Board to determine the appropriateness of a given special land use covering factors such as compatibility with adjacent zoning and land uses, location, design, size, intensity of use, impact on traffic operations, potential impact on groundwater, demand on public facilities and services, equipment used, and processes employed. Establishment or major expansion of any special land use requires a special land use permit under this Article.

Sec. 8.17. - Environmental performance standards.

- A. *Intent.* All uses in Highland Township shall adhere to all standards and regulations set forth in this Ordinance including the following:
1. *Airborne emissions.*
 - a. *Smoke and air contaminants.* It shall be unlawful for any person, firm or corporation to permit the emission of any smoke or air contaminant from any source whatsoever to a density greater than that permitted by Federal or State standards. It shall be unlawful to discharged from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment or nuisance to the public or which endanger the comfort, repose, health or safety of persons or which cause injury or damage to business or property.
 - b. *Odors.* The creation of offensive odors is prohibited. This requirement is not intended to interfere with the operation of a farm, as defined by this Ordinance, which is lawful pursuant to the Michigan Right to Farm Act, as amended.
 2. *Noise.*
 - a. The emission of measurable noises from the premises shall not exceed sixty (60) decibels as measured at the adjoining property lines in all districts except that the IM District shall not exceed seventy (70) decibels during normal work period between 6 a.m. and 10 p.m.
 - b. Objectionable sounds of an intermittence nature, or sounds characterized by high frequencies, even if falling below the allowed decibel readings, shall be controlled so as not to become a nuisance to adjacent uses.
 - c. Air-raid sirens and related apparatus used solely for public purposes are exempt from this requirement.
 - d. Outdoor speakers which can be heard beyond the property boundaries of any use shall be prohibited.
 - e. Use of outdoor commercial and industrial truck loading and unloading spaces within two hundred (200) feet of a residential district shall be prohibited between the hours of 10:00 pm and 6:00 am.
 3. *Vibration.*
 - a. No Vibration shall be permitted which is discernible without instruments on any adjoining lot or property.
 - b. Vibrations resulting from temporary construction activity shall be exempt from the requirements of this section.
- B. *Waste disposal.* All solid, liquid, sanitary and hazardous wastes shall be treated and disposed of in accordance with the standards of the Oakland County Health Department and the Michigan Department of Environmental Quality (MDEQ). Treatment or disposal of waste shall not create a hazard or nuisance to neighboring uses.
- C. *Electrical disturbance, electromagnetic, or radio frequency interference.* No use shall:
1. Create any electrical disturbance that adversely affects any operations or equipment other than those of the creator of such disturbance.

2. Cause, create, or contribute to the interference with electronic signals (including television and radio broadcasting transmission) to the extent that the operation of any equipment not owned by the creator of such disturbance is adversely affected.
- D. *Hazardous substances.* Use, storage, handling and disposal of hazardous substances shall meet the following standards:
1. Hazardous waste shall be treated and disposed of in accordance with the standards of the Oakland County Health Department and the Michigan Department of Natural Resources and Environment (MDNRE). Treatment or disposal of waste shall not create a hazard or nuisance to neighboring uses.
 2. It shall be unlawful for any person, firm, corporation or other legal entity to pollute, impair or destroy the air, water, soils or other natural resources within the Township. The use, storage, handling and/or disposal of hazardous substances and/or wastes in the form of solid, liquid, gaseous and/or sanitary wastes shall com.
 3. Any person, firm, corporation or other legal entity operating a business or conducting an activity which uses, stores or generates hazardous substances shall complete and file an Environmental Permits Checklist on a form supplied by the Township in conjunction with the following:
 - a. Upon submission of a site plan;
 - b. Upon any change of use or occupancy of a structure or premise; or
 - c. Upon any change of the manner in which such substances are handled, and/or in the event of a change in the type of substances to be handled.
 4. Prior to Township approval of the business or expansion which uses, stores or generates hazardous substances, the Environmental Permits Checklist shall be reviewed by the Township Fire Department for comment. In addition to Fire Department review, the Township may elect, at the applicant's cost, to use an independent consultant to review the Environmental Permits Checklist. The independent consultant's review shall determine the effects of the proposal on the local environment. All business and facilities which use, store or generate hazardous substances in quantities greater than one hundred (100) kilograms per month (per the Environmental Permits Checklist) shall comply with the following standards:
 - a. *Above ground storage.*
 - i. Hazardous substances shall be stored only in product-tight containers.
 - ii. Secondary containment of hazardous substances shall be provided for all facilities. Secondary containment shall be sufficient to store the substance for the maximum anticipated period of time necessary for the recovery of any released substance.
 - iii. Outdoor storage of hazardous substances is prohibited except in product-tight containers which are protected from weather, leakage, accidental damage and vandalism through secondary containment. Secondary containment shall be sufficient to store the substance for the maximum anticipated period of time necessary for the recovery of any released substance, including an allowance for the expected accumulation of precipitation.
 - iv. State and federal agency requirements for storage, leak detection, record keeping, spill prevention, emergency response, transport and disposal shall be met.
 - b.

Underground storage. State and federal agency requirements for storage, leak detection, record keeping, spill prevention, emergency response, transport and disposal shall be met.

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POLLUTION PREVENTION/GOOD HOUSEKEEPING PROGRAM (P2/GH)**

**DATE: JUNE 1, 2014
REVISED: DEC. 30, 2014
REVISED: MAY 1, 2023**

I. POLICY:

This policy is to establish the Charter Township of Highland Good Housekeeping/Facilities Management Policy

II. BACKGROUND:

The MEGLE NPDES Phase II Stormwater Discharge Permit Application requires that the Township evaluate and prioritize its facility for potential for contamination of waters of the state, and to develop policies to minimize such risks.

Highland Township owns two private streets with a system of storm sewers and catch basins that discharges to an unnamed pond. Its second facility is the public library, whose storm water discharges to Downey Lake. The Township also owns a complex of buildings at Livingston and John Road which have minor runoff from lawns to the storm sewer system in the Road Commission of Oakland County right-of-way. Those storm sewers and open ditches have no direct connection to surface waters of the state.

It is the Township's understanding that a Stormwater Pollution Prevention Plan (SWPP) is not required as Township Facilities do not involve significant risks to the groundwaters of the State as no materials are stored outside and no vehicle maintenance is conducted outside.

III. ASSESSMENT OF FACILITIES :

All facilities were evaluated by the stormwater program manager for potential for the discharge of pollutants to surface waters of the state. Considerations included the absence or presence of urban pollutants stored onsite (chemicals, fertilizers, herbicides, trash, etc); identification of any improperly stored materials, potential for polluting activities that might be conducted outside (vehicle washing), proximity to waterbodies, and other poor housekeeping facilities:

- A.) Town Center Drive and Beach Tree Farm Circle serve four distinct parcels which each have self-contained stormwater management systems including onsite infiltration basins. Little or no stormwater runoff reaches the street.

Each of the businesses served (Magnetic Products; 5/3 Bank; US Postal Service; Highland Township Library) is serviced by commercial lawn services. None of these users keep supplies of pesticides, herbicides or other such chemicals onsite. There is no offsite storage of inventories of materials or finished products at the sites.

While the US Postal Service keeps a fleet of LLVs (delivery vehicles), they do no vehicle maintenance on site.

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There is a limited potential for pollutants common to street runoff (oils, road salts, etc.) to enter the unnamed pond. However the discharge is to a sediment forebay and each catch basin has a sump.

This facility is rated as “low” potential for significant discharge to waters of the state.

- B.) The Highland Township Library is a discrete site with no impact to its stormwater system from any adjacent neighbors. The Township does not believe its storm sewers constitute an MS4. There is no storage of chemicals, fertilizers, herbicides, etc. onsite. The lawn maintenance is completed by a private maintenance contractor with equipment brought in from offsite. No vehicles are stored or repaired onsite.

A new park “Chill at the Mill” was constructed at the Library Grounds in 2021-22. This is primarily a child’s playground and a gathering space for the community with one small building as a replica of a local historical watermill. Its grounds will be maintained by the Township maintenance staff.

The Township is leasing part of the property adjacent to the library for a food pantry, which was constructed in 2022. This site has no storm sewer—the runoff drains across the site into two infiltration basins. Community Sharing is the tenant, who will maintain the grounds. There is no connection to the waters of the state.

This facility is rated as “low” potential for significant discharge to the waters of the state.

- C.) The Township owned building at 205 W. Livingston (formerly Fire Station No. 1) is also a discrete site with no stormwater impacts from or to neighboring properties. The Township does not believe that any part of this facility constitutes an MS4. The current tenant at the building is the Western Oakland Transportation Authority, which operates a fleet of small barrier free buses and vans. Some minor repair of vehicles may be conducted in the building. Vehicles are not washed at the site. The floor drains are connected to an underground tank that holds any drainage. This facility is at least a mile away from any water of the state.

This facility is rated as “low” potential for significant discharge to waters of the state.

- D) The Township operates an administrative complex which consists of the Sheriff substation, (165 N. John) Township offices (205 N. John), a two-car garage and Adult Activity Center (209 N. John), all located on the same parcel as the WOTA headquarters (formerly Fire Station 1). The complex underwent extensive reconstruction in 2022, and the entire parking lot was reconstructed. The parking lots drain to a discrete storm sewer system consisting of open bottom catchbasins with overflow, which do not meet the federal definition of an MS4. Roof drains for all of the Township Offices, half of the Sheriff substation and all of the Adult

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Activity Center drain directly to the infiltration storm system. The other half of the roof drains from the Sheriff substation drain to the parking lot where the runoff sheetflows to adjacent parking lots and minimally to an open ditch along N. John Street.

The garage houses a snowblower, tools and a limited amount of commercially bagged salt, small gas cans, oil and washer solvent. At times, a tractor is stored in the garage. Much of the building is used for dry storage of paper records. The Township does not do its own maintenance of its vehicles, but obtains service from local automotive dealers. There are no floor drains in the buildings.

These facilities are rated as “low” potential for significant discharge to the waters of the state.

- E. The Township also owns Fire Stations at 1600 W. Highland and 2600 E. Wardlow Road that were constructed in 2021 and 2022. These sites were developed as “greenfield sites”, each with drainage areas less than 5 acres. Whereas Fire Station No. 1 at 1600 W Highland Road is located in the urbanized area, it is a discrete site, with all discharge to groundwater infiltration with no connection to the waters of the state. Fire Station No. 2 at 2600 E Wardlow is also a discrete site with no discharge to the waters of the state and is located outside of the urbanized area.

Each site operates under a NPDES permit for a vehicle wash not open to the public under Rule 2215. The COC for Fire Station No. 1 is GW1520047. The COC for Fire Station No. 2 is GW1520046. The certificates of coverage are for vehicle wash within the building, discharging to the stormwater basins onsite. The permit strictly limits the amount of washwater permissible in a permit cycle, and does not allow for undercarriage wash.

The tankers and other fire vehicles are not repaired or maintained onsite.

These facilities are rated as “low” potential for significant discharge to the waters of the state.

No Site Specific Operating Procedures have been developed. If any significant change is proposed to the use of these facilities, or the design and construction of their associated parking lots and grounds, the Supervisor’s office staff, in conjunction with the Planning Department staff will assess such changes and determine whether Standard Operating Procedures should be established and/or the impact on maintenance workloads and budgets.

IV. STRUCTURAL STORMWATER CONTROL OPERATIONS AND MAINTENANCE ACTIVITIES

There is no need to prioritize the catch basins, vegetated swales or sediment forebay for routine inspection, maintenance and cleaning based on preventing or reducing pollutant runoff, since they are very few and they are in close geometric proximity to each other and face similar low risks of introducing pollutants to the waters of the state.

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The Township does not have forces to complete its own maintenance activities on its structural stormwater controls. Inspections are conducted annually by staff, but any other work on the system is conducted by contractors under the supervision of the Township Engineer, using standard specifications appropriate to the work. The document titled Catch Basin Cleaning Activities Guidance Document (<https://www.michigan.gov/-/media/Project/Websites/egle/Documents/Programs/WRD/Storm-Water-Municipal/catchbasin-cleaning-guidance.pdf?rev=7af34ceed92f40cba72bf43d9a4f8e73>) will be referenced in preparing contract documents.

Catchbasins are inspected at least once in each permit cycle. The inspector looks for an accumulation of gravel, sand, oils and organic materials that may fill the sump or be deposited at the ends of pipes. To date, nothing of concern has been observed. These are primarily open bottom catch basins with sumps. Inspection has consisted of visual inspections from the surface and nothing other than standing water in sumps has ever been observed. The Stormwater manager will maintain logs with the inspection dates and any maintenance and cleaning activity, including the amount of materials extracted and disposed of.

The sediment forebay should hold at least ten years of sediment. It will also be inspected with the remainder of the stormwater system.

If inspection of any component of the stormwater system reveals that sediment contains materials with a suspicious sheen, discoloration or obvious odor, the Township will retain the services of a testing firm to determine if the sediment should be treated as a hazardous waste. Such wastes would be collected and disposed of in accordance with state and federal law.

Should the accumulation be such that the function of the system is compromised, but not otherwise suspected of containing any pollutants of concern, the sediment will be deposited and stabilized in an area that will not impact the stormwater system or waters of the state during dry weather conditions.

The Township would contract these maintenance activities using procedures in the MEGLE reference document noted above.

The Township had an opportunity during the previous permit cycle to undertake a significant construction program, with two new firehalls constructed as well as major reconstruction of the Township Hall complex. At this time, there is no short term or long term plan to add new facilities or structural controls. If one was contemplated, the design would be consistent with that required of new development elsewhere in the Township (see PCC policy).

V. MUNICIPAL OPERATIONS AND MAINTENANCE ACTIVITIES

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The Township addresses roadway, parking lot and sidewalk maintenance annually by a walk-through assessment of facilities at budget time (late summer/early fall). Needs are identified and built into upcoming budget year. Currently, the Township does not prepare a long term capital improvements program. The Township does maintain a healthy fund balance and has been able to successfully manage the needs as they arise.

Within the last 3 years, nearly every facility owned by Highland Township has undergone major reconstruction.

The Township owns no bridges.

The Township contracts with a snow removal company for plowing and de-icing of its parking lots, Town Center Boulevard and Beach Tree Farm Circle. The Contractor is notified and obligated in the contract to be judicious in the use of de-icing agents. See attachment A. Building maintenance staff at Township Hall and at the library sweep up the excess salt after the conclusion of a snow/ice event and place in a bucket for reuse at the next event. Any obvious debris or sediment is placed in the dumpster onsite. The Township does not hire a mechanized sweeper since there is so little area involved, we have been able to effectively control salt and excess debris with handsweeping.

The Township's operations and maintenance activities have little potential to significantly impact the waters of the state. Some potential discharges are grass clippings, fertilizers, de-icing agents and the sediments that might be accumulated with snow piles.

Township vehicles are washed offsite at commercial carwashes, with the exception of the fire trucks, which are washed within the building. All washwater is directed to a concrete leach basin in the yard, and does not discharge to the waters of the state.

The Township has not historically performed any street sweeping. The parking lots have been swept by hand if needed. The Stormwater Manager will inspect the Town Center Boulevard and Beach Tree Farm Circle annually and evaluate whether sweeping is necessary. A record of inspections will be recorded in the progress reports.

VI. MANAGING VEGETATED PROPERTIES

Lawn mowing is primarily completed by building maintenance staff. Upon completion of mowing activities, staff blows all clipping back onto the grass or sweeps the excess grass from sidewalks and hard surfaces.

Highland Township contracts for application of fertilizers and weed killers. TPC Lawncare applies three rounds of liquid, non-phosphorus fertilizer/weed control per year to the lawns at the Township complex. Please see attached letter to TPC alerting them to our obligations under the permit and requesting their cooperation in protecting surfacewater. Also attached is our first invoice. Please note that no fertilizers or weed killers were applied in 2013.

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Highland Township does not routinely contract with a pesticide applicator. If such services are necessary, Highland Township will ensure that its contractor is licensed and certified by the State of Michigan.

VII. EMPLOYEE TRAINING/CONTRACTOR COMPLIANCE

Jeremy Werthman is the part time employee responsible for building and lawn maintenance. He attended SEMCOG sponsored Good Housekeeping Training in 2022.

Jeremy reports to the Supervisor's office, which is also responsible for hiring contractors for other facility needs. Cassie Blacysk has been hired to fill the position of Supervisor's Assistant, effective in May 2023. She will undergo Good Housekeeping Training in her first year of employment to assist in administering contracts.

The Township occasionally hires a part time employee during peak mowing season. Jeremy Werthman will train such employee in good housekeeping practices.

The Township will also ensure that appropriate language is included in requests for proposals and in contracts/agreements that requires that the contractor complies with BMPs. Mr. Werthman and the Township Supervisor's office oversees this type of contracting activity.

VIII. OTHER:

Any questions on this policy and procedure should be directed to the Storm Water Manager.

IX. PROCESS FOR UPDATING/REVISING THIS PROCEDURE

This procedure shall be reviewed on an annual basis by the Stormwater Manager, with input from the Supervisor's Office and maintenance staff, for any updates necessary to improve the procedures for more effective management of potential impacts to the waters of the state .

X. INVENTORY OF STRUCTURAL CONTROLS

Highland Township owns little or no storm sewer and/or structural controls. A map and plans are maintained in the Planning and Zoning Department Files. These plans currently include:

Town Center Drive Improvements	HRC Job 20070151, Plan date 6/20/2007
General Plan	PEA, Inc. Job 97-105 Plan date 7/20/98
11 catch basins	
Approximately 2400 lineal feet 12" to 24" storm sewer	
Sediment forebay and approximately 60 LF vegetated swale	

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Highland Township Library SPR-00-06
David-Osler Associates

6 catch basins
Approximately 900 lineal feet 12” to 24” storm sewer

Township Hall Building Renovations Boss Engineering Job 20-430
Plans dated 07-22-21

9 catch basins
Approximately 490 lineal feet of 6” to 10” storm sewer

Discharges to small lawn basins, existing deep infiltration basins with some surface runoff flowing to existing catchbasins in John Street

Civic Center Parking Lot Paving HRC Job 20060285
Plans dated 09/06/2006

1 catch basin directing flow at 250 W Livingston (former Fire Hall #1) to drainage ditch. Remainder of this plan is irrelevant since the other parking lots in plan have been demolished and reconstructed.

Other known structural controls with no plans:

1 catch basin at Adult Activity Center (groundwater infiltration—no pipe)
1 catch basin at Highland Station House annex (groundwater infiltration—no pipe)

Any expansions or modifications of the existing stormwater system structural controls will be documented with as-built plans to be maintained in the Planning and Zoning Department files.

XI. BEST MANAGEMENT PRACTICES AND MEASURABLE GOALS

The NPDES Stormwater Discharge permits requires an identification of best management practices to prevent or reduce pollutant runoff at each facility with medium and lower discharge for the discharge of pollutants to the surface waters of the state using the facility assessment developed for the permit and identified in Section III. above.

The following BMP’s were identified under former permits and have been implemented.

Inspect onsite sewage disposal systems and pump septic tanks at Township Facilities (18 month recurrence)

Educate contractors on the need to limit/reduce fertilizers/herbicides/pesticides (replaces “develop plan”, since the Township has determined to continue its practice of hiring outside contractors for this service) (once per contract cycle).

**CHARTER TOWNSHIP OF HIGHLAND
POLLUTION PREVENTION/GOOD HOUSEKEEPING PROGRAM (P2/GH)**

DATE: JUNE 1, 2014

REVISED: DEC. 30, 2014

REVISED: MAY 1, 2023

Maintain sediment control devices (sediment forebay at Town Center Drive inspected once every year and excess sediment will be removed and disposed of properly if needed).

Inspect outfalls at Township facilities (annually)

Other BMP's identified in this policy include:

Hand sweeping to collect excess salt after a snow or ice event. Reducing salt usage is not a readily measurable goal since it is so variable by localized weather events. We have no long term recordkeeping of salt usage compared to weather records, and the de-icers are placed by the contractor to meet performance criteria and augmented by staff. The Township will agree to record the amount of de-icing agents applied by staff each year moving forward and note opportunities to reduce the use of deicing agents through judicious use where and when safe and feasible.

Blowing grass clippings back into lawn, and/or bagging clippings and debris for compost. In order to reduce the amount of organics that might enter the storm sewer system, maintenance staff uses a blower to direct clippings back into lawn, and collects the debris with the mower for transport to a compost site. Mowing is scheduled during dry weather conditions. Again, the amount of clippings collected is variable based on weather conditions.

In general, The Township does not measure stormwater effluent for any pollutant parameters, therefore the only measurable for most BMP's is whether or not the activity was performed as indicated, the goal being to maintain our current standard of non-impact to the waters of the state.

CHARTER TOWNSHIP OF HIGHLAND



Memorandum

Date: January 15, 2015

Re: Kent Lake Subwatershed TMDL for phosphorus

Under the Township's certificate of coverage, Highland Township is obligated to also comply with a pollutant load allocation for the Kent Lake-Phosphorus Total Maximum Daily Load restriction.

The water quality model prepared by the Huron River Watershed Council as part of the approved 319 subwatershed management plan demonstrated that Highland Township was not a significant contributor of phosphorus to the watershed. Much of the land area identified as part of the critical subbasins within Highland Township actually lies within the Highland State Recreation Area, which is not specifically subject to our land use regulations and ordinances.

While we believe that our adherence to the permit requirements otherwise associated with our NPDES Stormwater Discharge Permit will ensure that we continue to protect surface water quality, we understand that for the purposes of the permit we have to identify some specific BMP's focused on addressing the TMDL limits and present a monitoring program for our MS4.

Best Management Practices

The Watershed Management Plan presented management alternatives for four different categories: Structural Stormwater BMP retrofitting, Conservation Planning and Standards Adoption/Revision, Waterbody Restoration and Education and Stewardship.

Highland Township believes that our systems are designed and maintained in a fashion that limits impacts to the subbasins and ultimately the watershed. We rely on groundwater infiltration wherever practical, and have included a sediment forebay at the "end of pipe" at Town Center Boulevard. We have not proposed any Structural Stormwater BMP Retrofits and do not believe these are practical or cost effective in our case.

Highland Township has reworked its ordinances and design standards over the course of the last five years and has completed all the revisions committed to in our previous SWPPI, including ordinance language that favors native landscaping, that requires natural features inventories as part of site planning, and requires post construction controls. In addition, we participated in Green Infrastructure Planning facilitated by the Oakland County Planning Department. We continually consider opportunities to involve local land conservancies in our planning process and express a community value for open space in our master plan. We are not identifying specific Conservation Planning and Standards Revisions to implement in the next permit period.

Staff members who voluntarily participated in the Citizen Conservation Stewardship program evaluated lands adjacent to our MS4, just north of Town Center Boulevard and to Downey Lake. These waterbodies are seemingly healthy. No projects have been proposed for a waterbody restoration.

This leaves Education and Stewardship Management Alternatives. We believe that all public education opportunities have potential impact on the phosphorus loading to the Kent Lake Subwatershed, but the most effective messages are centered around Septic System Maintenance and Responsible Riparian Landownership.

We have identified the following activities (best management practices) from our other permit commitments as the most likely to be relevant and effective in regards to the Highland Township MS4 and other lands within the watershed in our jurisdiction. The task numbers refer to the Summary of Commitments identified in the former permit and recommitted to with the current application package:

WMP Action 5.3.3: Septic System Maintenance Programs:

Task 22: Distribute Materials from MSUE re: onsite sewage disposal systems and Task 23: Periodic articles in website: These tasks and measurable goals are further discussed in the PEP, Required Element 6.

WMP Action 5.4.10 Identify and Eliminate Failing Onsite Sewage Disposal Systems (OSDS's)

Task 50: Inspect onsite sewage disposal systems and pump septic tanks at Township Facilities: This task and measurable goals are further discussed in the P2/GH, Section V, Municipal Operations and Maintenance Activities.

Task 67: Distribute Riparian Land Management Brochure: This task and measurable goals are further discussed PEP, Required Element 1.

Task 68: Inspect outfalls at Township facilities: This task and measurable goals are further discussed in the IDEP, Task 2.1

Tasks involving physical inspection of our facilities are conducted routinely and should be considered low to medium priority. Public education tasks are also conducted routinely, but would have lesser priority since the public education program has been ongoing for several years and its impacts are hard to determine.

Monitoring Program

Highland Township asserts that its only MS4 is located at Town Center Boulevard and Beach Tree Farm Circle. There are two outfalls to an unnamed pond at that location. Maps are provided in the Stormwater Permit Application package (see Figure A).

Highland Township commits to working with Highland Treatment Environmental Operations (located nearby at Milford Road) to complete wet weather sampling at two locations, upstream from the unnamed pond (one location along each of two storm sewer lines). The samples will be collected during a rain event that exceeds at least one inch of rain across the duration of the storm. We will sample two events in year one of the permit and two events in year three.

The samples will be analyzed for total orthophosphate by lab personnel using standardized testing protocols. The records will be maintained in the Highland Township Planning Department. The results will be reviewed to determine if further investigation of the MS4 and tributary areas is warranted and if adjustments must be made to the stormwater management plan.



Memorandum

Date: April 1, 2021
Re: Statewide TMDL for e. coli

Under the Township's certificate of coverage, Highland Township is obligated to also comply with a pollutant load allocation for the statewide e. coli Total Maximum Daily Load restriction.

We believe that our adherence to the permit requirements otherwise associated with our NPDES Stormwater Discharge Permit will ensure that we continue to protect surface water quality. We also believe that assessment of our facilities shows little or no potential to impact e. coli concentrations in any waters of the state where total body or partial body contact are likely.

Facility Assessment

The facilities within our MS4 areas include the township complex offices (fire, police, administrative offices, garage and adult activity center.) Each of these buildings is served by well maintained septic systems (pumped on a regular basis.) In addition, the township complex is not in near proximity to any farming activity and does not have any direct discharge to any waters of the state. Its only outfall is a catchbasin that spills to a typically dry ditch in the Oakland County road right-of-way. These facilities have very "low" potential to impact e. coli levels.

The second MS4 area is the area served by Beach Tree Farm Circle and Town Center Boulevard. This includes our public library. Again, the library is served by a well maintained septic system (pumped on a regular basis). While this MS4 does include one outfall to Downey Lake, the grounds are maintained with a significant wooded barrier to the shore line. Downey Lake is not identified as an "impaired waters" on the interactive map viewer. There is no public access to Downey Lake at the library or elsewhere. The lake is characterized by steep slopes and a marshy margin on the north. The MS4 is not an area where waterfowl congregate or where any farming activity occurs. This facility also has "low" potential to impact e. coli levels.

Best Management Practices

The Watershed Management Plan presented management alternatives for four different categories: Structural Stormwater BMP retrofitting, Conservation Planning and Standards Adoption/Revision, Waterbody Restoration and Education and Stewardship.

Highland Township believes that our systems are designed and maintained in a fashion that limits impacts to the subbasins and ultimately the watershed. We rely on groundwater infiltration wherever practical, and have included a sediment forebay at the "end of pipe" at Town Center Boulevard. We have not proposed any Structural Stormwater BMP Retrofits and do not believe these are practical or cost effective in our case.

Warm inside. Great outdoors.



Highland Township has a regulatory framework and design standards that favors native landscaping, that requires natural features inventories as part of site planning, and that requires post construction controls. In addition, we participated in Green Infrastructure Planning facilitated by the Oakland County Planning Department. We continually consider opportunities to involve local land conservancies in our planning process and express a community value for open space in our master plan. We are not identifying specific Conservation Planning and Standards Revisions to implement in the next permit period.

Staff members who voluntarily participated in the Citizen Conservation Stewardship program evaluated lands adjacent to our MS4, just north of Town Center Boulevard and to Downey Lake. These waterbodies are seemingly healthy. No projects have been proposed for a waterbody restoration.

This leaves Education and Stewardship Management Alternatives. We believe that all public education opportunities have potential impact on e. coli levels within waters of the state, but the most effective messages are centered around Septic System Maintenance and Responsible Riparian Landownership. These actions are also identified in our memo regarding the TMDL for Phosphorus for the Kent Lake Watershed.

We have identified the following activities (best management practices) from our other permit commitments as the most likely to be relevant and effective in regards to the Highland Township MS4 and other lands within the watershed in our jurisdiction. The task numbers refer to the Summary of Commitments identified in the former permit and recommitted to with the current application package:

WMP Action 5.3.3: Septic System Maintenance Programs:

Task 22: Distribute Materials from MSUE re: onsite sewage disposal systems and Task 23: Periodic articles in website: These tasks and measurable goals are further discussed in the PEP, Required Element 6.

WMP Action 5.4.10 Identify and Eliminate Failing Onsite Sewage Disposal Systems (OSDS's)

Task 50: Inspect onsite sewage disposal systems and pump septic tanks at Township Facilities: This task and measurable goals are further discussed in the P2/GH, Section V, Municipal Operations and Maintenance Activities.

Task 67: Distribute Riparian Land Management Brochure: This task and measurable goals are further discussed PEP, Required Element 1.

Task 68: Inspect outfalls at Township facilities: This task and measurable goals are further discussed in the IDEP, Task 2.1

Tasks involving physical inspection of our facilities are conducted routinely and should be considered low to medium priority. Public education tasks are also conducted routinely, but would have lesser priority since the public education program has been ongoing for several years and its impacts are hard to determine.

Monitoring Program

Highland Township asserts that its only MS4 is located at Town Center Boulevard and Beach Tree Farm Circle. There are two outfalls to an unnamed pond at that location. Maps are provided in the Stormwater Permit Application package (see Figure A).

In evaluating our stormwater system in our MS4's we have not identified any locations we believe would be suitable for monitoring for e. coli levels. The accessible catch basins are typically dry and the lake itself is not easily accessible. Paired with "low" potential for impacting e. coli levels in the watershed, we do not propose a monitoring program for e. coli