Appendix A

Section VII. SWMP

1. Enforcement Response Procedure (ERP) - The City currently has a complaint response system in place that forwards complaints to the OCHD. The City has established a reliable system to receive and investigate citizen reports regarding suspicious discharges from storm sewer outfalls, failed OSDS, waste dumping, construction sites, etc. The reporting system includes:

- Telephone complaint system with emergency number for non-business hours;
- Complaint documentation and tracking system;
- Follow-up notification to reporting citizen to inform them what corrective actions have been or are being taken.

When the City of Wixom receives complaints regarding illicit discharges, the City investigates each suspected connection as outlined above and takes appropriate action(s).

The City's Code of Ordinances (Appendix F) that regulates enforcement regarding OSDS, sanitary sewers, and illegal dumping into waters of the state are attached with this application. All ordinance violations within the City property will be handled by City staff, with coordination from OCHD and MDEQ.

Chapter 8, Hazardous Chemicals; Chapter 12, Stop Work Order (Building Operations); Chapter 12, Obstruction of drains/diverting flows; Chapter 13, Sewer Service System; and Chapter 17, Wetlands and Watercourses require and enforce the elimination of illicit discharges.

Chapter 8, Hazardous Chemicals (Page 9); Chapter 12, Building Operations (Page 2); Chapter 12, Obstructions (Page 2); Chapter 12, Drainage Courses (Page 1); Chapter 13, Connection to System (Page 1 and 2); Chapter 13, Disposal of Solid Waste (Page 6); and Chapter 17, Wetlands and Watercourses (Page 12) provide details on enforcement and violations.

Emergency response procedures are provided in the PIPP (Appendix O), Page 4-5. Additional ERP information can be found in the Enforcement Response Procedure SOP.

2-3. Public Participation Plan (PPP) - The Upper Huron/Kent Lake Public Participation Plan (PPP), Appendix I, was completed in 2010. The City and its consultant, Hubbell, Roth & Clark, Inc. (HRC) provided input on this plan. The City is also a member of the Alliance of Rouge Communities (ARC). The ARC is in the process of developing a watershed-wide Public Education Plan (PEP) and Illicit Discharge Elimination Program (IDEP)/TMDL Collaborative Plan.

Watershed planning efforts in the Upper Huron/Kent Lake subwatershed began in 2000 with the initial development of the Kent Lake Subwatershed Management Plan prepared under section 319 of the Clean Water Act in August, 2002 to meet a Total Maximum Daily Load (TMDL) for phosphorus. Public participation was a major component for this plan, including the use of a series of press releases, two public meetings and six news articles to help garner participation and input into the development and implementation of the plan.

During development of the subsequent Upper Huron/Kent Lake subwatershed management plan, finalized in 2006 and required as part of the Phase II Watershed-based Storm Water Permit program, the subwatershed group held two public forums and received feedback from the general public through the use of surveys. SEMCOG, the Clinton River Watershed Council, and other entities developed an online survey for SE Michigan residents, businesses, and employees. This survey was

Appendix A

completed in 2011 is currently being reviewed. This PPP survey will help guide future PPP and PEP efforts for SE Michigan stakeholders.

At the next Kent Lake/Upper Huron Subwatershed Advisory Group Meeting (March 12, 2013), the Group will review the current Public Participation Plan and SE Michigan PPP online survey results for the local area and start to draw conclusions on PEP effectiveness. The City will work with the Kent Lake/Upper Huron SWAG to revise the PPP as necessary.

Once the new SWMP is developed and approved by MDEQ, the City will post this on their website for public comment during the duration of the permit cycle. Contact information will be provided to field questions and comments.

4-6. Public Education Program (PEP) – The Public Works Director and HRC reviewed the PEP permit requirements and provided input on priority PEP topics, based on the needs and concerns of the City. For instance, the City has very few privately-owned septic systems in the City, therefore PEP Topic H – Septic System Maintenance was ranked as low priority. The City hosts an annual HHW drop-off event. Chemicals disposal and yard chemicals applications/disposal were ranked medium and high.

As in the previous permit cycle, the City will work collaboratively with the Huron River Watershed Council (HRWC), Alliance of Rouge Communities (ARC), Oakland County Water Resources Commission (OCWRC), and Southeast Michigan Council of Governments (SEMCOG) to implement PEP activities through: HRWC events, ARC materials and events, OCWRC kids' calendars and Michigan Green Schools Program, and media/materials developed and distributed by SEMCOG.

The attached Public Education Plan (Appendix K) provides details on the City's Public Education Program, including priorities, responsible parties, delivery mechanisms, target audiences, key messages, frequencies, and measures of progress.

The website and newsletters are very cost-effective ways of educating the public – we will continue to implement these as well.

We are seeing an increase in stewardship participation and inquiries from residents at events. Residents are asking questions regarding proper fertilizers and lawn care providers to utilize; native vegetation buffers; etc. Regional stormwater management education is coming across with the types of feedback we are receiving.

We feel the public education program has been successful to date.

The City will determine the best methods for measuring effectiveness of the PEP. We will work with SEMCOG, the HRWC, and other entities in this process. An online survey was developed by the CRWC, SEMCOG, and others to gain input on stormwater management from SE Michigan residents and employees. The survey data will be reviewed by CRWC, SEMCOG, OCWRC, and all applicable entities. An additional regional survey may be developed in the near future.

The City has begun reviewing the current SE Michigan PPP online survey results for the local area and start to draw conclusions on PEP effectiveness.
The progress report will be reviewed biennially and changes will be made to the PEP portion based on:

Appendix A

- PPP Survey results
- Increase in stewardship participation
- Increase in resident inquiries regarding lawn care, riparian management, etc.
- Increase in MGIA 'Healthy Lawn Care Program for Watershed Protection' participating lawn care providers
- Decrease in trash/debris found in local waterbodies

See Table 1 for the PEP Priorities Table.

7-17. Illicit Discharge Elimination Program (IDEP) - Up-to-date outfall and detention basin maps (including all: City-owned outfalls, receiving waters, City-owned and privately owned retention/detention basins, wetlands, and roads) are attached with this application. The City is in the process of updating the storm sewer map in a GIS format to include all catch basins. This map will continue to be updated as needed. The Illicit Discharge Elimination Program Report is attached (Appendix L).

As-built drawings of all City-owned facilities, including catch basins and impervious areas are available at City Hall and are available upon request.

The City will be working collaboratively with the ARC to determine IDEP effectiveness. All other IDEP activities will be performed individually.

Of the 139 City-owned outfalls, we have prioritized 18 outfalls (Outfall Numbers: SE -201, SE-07, SE-08, SE-065, SE-14, SE-16, SE-17, SE-18, SE-19, SE-23, SE-24, CE-070A, PD-05, PD-08, LL-180, LL-090, NT-110, NT-050) for detecting non-stormwater discharges. This prioritization is based on the following:

- Previous field investigations data – outfalls with dry weather flow
- Structural issues – broken end sections, erosion around pipe, blockage
- Industrial, commercial, or mixed use areas
- Areas with older infrastructure

See the Outfall Map (Appendix C) for the location of these prioritized outfalls. All 139 outfalls were dry-weather screened in Spring/Summer 2013. The 18 prioritized outfalls will be screened in 2018 and again during the permit cycle if the outfalls show dry-weather flow and analysis shows high levels of phosphorus. Source investigations will occur at the prioritized outfalls, as well as any other outfalls, if there is dry weather flow and it is not totally obvious the source is groundwater. The remaining 121 outfalls will be dry-weather screened every permit cycle.

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

- Presence/absence of flow
- Deposits/stains on the discharge structure or bank
- Structural condition
- Bacterial sheens, oil sheens, algae
- Odor and color
- Floatable materials

Appendix A

Dry weather inspections are conducted if no rain/precipitation event has occurred for a minimum of 48 hours. If flow is observed in the sewer at that time, it may be attributed to sewage, cooling water, sump pump discharge, infiltration from ground water sources, or runoff from potable water sources such as lawn sprinklers.

The City may be able to locate the source of an illicit connection/discharge solely through visual observation of flow in the storm sewer at manholes. Odor, color, turbidity, bacteria growth, quantity of flow, etc., may lead to the source of a problem without additional sampling.

All storm outfalls that are discharging during dry weather will be investigated further by upstream visual inspection or with televising, as-built pipe schematic review, dye and/or smoke testing, sampling, or other investigation as needed to determine the nature and source of the flow.

Most illicit connections/discharges within the City have been identified by City staff while out in the field, or by City residents.

1. Televising - The City may elect to televise those storm sewers that have suspicious flows to identify pollutant sources that cannot be located through simple visual observation and/or sampling. For example, the City may determine through visual observation and/or sampling that an illicit connection exists between two specific manholes. Video inspection of the stretch of storm sewer between these two manholes could be used to isolate the exact source of the connection/discharge.
2. As-built pipe schematic review - Where available, the City utilizes as-built pipe schematic drawings as a tool to determine the source of an illicit connection/discharge.
3. Dye or smoke testing - The City conducts physical inspection of commercial and/or residential facilities as needed to verify suspected illicit connections that are detected through visual observations/sampling of yards, outfalls and manholes. As necessary, facility inspections include dye or smoke testing of suspect facility plumbing fixtures to determine if the fixture discharges to the sanitary sewer or to the storm sewer. All facility inspections are documented.
4. Sampling - Investigation of dry weather discharges will be prioritized based on the number of discharges identified as well as other factors including location, volume of flow, and suspected contaminants based on color, turbidity, or odor. If flow is observed during the dry weather outfall inspections and visual observations do not lead to a source, the City may decide to sample the flow for pollutant parameters typically found in illicit connections. Sampling can rule out some dry weather discharges such as groundwater. The sampling will typically begin at the outfall and continue upstream from manhole to manhole until a source is found. The choice of sampling parameters will depend on several factors including:
    - Location of the storm outfall (i.e., in residential or commercial area);
    - Turbidity and color of discharge which could distinguish between an illicit discharge from a commercial establishment versus a residence;
    - Odor associated with discharge such as petroleum odor, or raw sewage odor.

Appendix A

The City may analyze the samples for some or all of the following parameters:

Parameters	Found In	Potential Source(s)
Escherichia coli	Sewage	**Human or Animal Waste**
Surfactants	Soap, Emulsifiers	**Industrial/Commercial/ Residential**
Ammonia	Sewage, Fertilizers, Industrial Chemicals	**Industrial/Residential/ Agricultural**
Nitrates	Sewage, Fertilizers, Industrial Chemicals	**Fertilizers/ Industrial/ Residential/Agricultural**
Nitrites	Sewage, Fertilizers, Industrial Chemicals	**Fertilizers/ Industrial/ Residential/Agricultural**
Conductivity	Industrial Waste, Sewage, Salt	**Industrial/ Residential/ Agricultural**
Total Dissolved Solids	Industrial Waste, Sewage, Salt	**Industrial/Residential/ Agricultural**
Temperature	Cooling Water, Sewage	**Industrial/ Residential**
pH	Acids and Bases	**Industrial/ Residential**

Indicator parameters (pH, temperature, ammonia, and detergents) will be utilized if the source is not identified during the field observation.

For source investigations outside of field screening and priority areas, illegal dumping/spills, and complaint response, City staff visits the site and contacts MDEQ (PEAS Hotline). The field investigation is to verify if follow-up source investigations or sampling is needed. If necessary, illicit discharges and connections are traced to their source and notifications are sent out to the business owner or homeowner. The issue is requested to be remedied within 14 days of notification. The City typically performs site investigations within 24 hours after receiving the complaint. In addition, for OSDS complaints, the City forwards complaints to the Oakland County Health Department (OCHD). All complaints in this manner are recorded. PEAS is contacted when any polluting materials are released to the MS4. The Fire Department and/or HAZMAT are also contacted as necessary. Additional spill response information is provided in the PIPP, Page 7-9.

The City will report any identified significant illicit discharges including those of untreated or partially treated sewage to the MDEQ within 24 hours after the discharge begins or is discovered and of corrective actions being taken to eliminate the connection/discharge. The reports will cover the information required by the General Permit and Certificate of Coverage.

The City will submit a biennial progress report to MDEQ summarizing the activities completed including illicit connections and discharges identified and corrected. For significant illicit discharges, the City will list the pollutants of concern, the estimated load and volume discharged, and the locations of the discharge into the system and to the waters of the state.
The attached Illicit Discharge Elimination Program Report (Appendix L) provides detailed information on visual observations and sampling methods.

<u>18-19. IDEP Training and Evaluation</u> - All City field personnel (Public Works staff) receive IDEP training at least once per permit cycle. New hires are trained within the first year of their hire date.

Appendix A

The City has utilized both the county agencies and Hubbell, Roth & Clark, Inc. for IDEP training. Training topics are: identifying illicit discharges or connections, procedures for responding to spills, and failing OSDS identification and enforcement. 4 Public Works employees received IDEP training in Spring 2012. Seven (7) members of the DPW went through GH/P2/IDEP training in the Fall of 2015.

An IDEP Fact Sheet (Appendix L) was developed for SE Michigan. This fact sheet was posted at the Department of Public Works (DPW) bulletin board and all DPW staff have a copy in their vehicles.

The City feels that dry-weather inspections, responding to complaints, and staff investigations are effective ways of implementing the IDEP. The City is in support of a County-wide OSDS inspection program, in lieu of all the privately-owned septic systems in Oakland County. The City feels this inspection program would make the IDEP program more effective. The City will be working collaboratively with the ARC at determining the best methods for IDEP effectiveness.

Evaluation Methods

- Staff Training frequency
- Number of illicit discharges eliminated over the permit cycle
- IDEP Notification successes/failures
- Number of resident/business complaints received over the permit cycle
- Evaluation of program efficiency
- Changes in receiving water quality data over time

Evaluation methods will be re-evaluated biennially during the progress report submittal process.

20-27. Illicit Discharge Ordinance - The City's code of ordinances (Appendix F): Chapter 12, Drainage Courses; Chapter 13, Sewer Service System; Chapter 17, Wetlands and Watercourses; Chapter 18, VCA District; and Engineering Design Standards for Detention Basins are attached to this application for your reference.

Chapter 8, Hazardous Chemicals (Page 4); Chapter 12, Dumping (Building Operations) (Page 2); Chapter 13, Sewer Service System (Page 1-2) and Disposal of Solid Waste (Page 2-3); and Chapter 17, Wetlands and Watercourses (Page 10) prohibit non-stormwater discharges into the MS4.

Chapter 8, Hazardous Chemicals (Page 4, 6-7); Chapter 12, Dumping (Building Operations) (Page 2); Chapter 13, Sewer Service System (Page 1-2) and Disposal of Solid Waste (Page 2); and Chapter 17, Wetlands and Watercourses (Page 10) regulate the contribution of pollutants into the MS4.

Chapter 12, Dumping (Building Operations) (Page 2); and Chapter 13, Disposal of Solid Waste (Page 2) prohibit illicit discharges, connections, and dumping.

Chapter 8, Hazardous Chemicals (Page 8) establishes authority to inspect, investigate, and monitor suspected illicit discharges.
Chapter 8, Hazardous Chemicals (Page 9); Chapter 12, Stop Work Order (Building Operations) (Page 2); Chapter 12, Obstruction of drains/diverting flows (Page 1-2); Chapter 13, Sewer Service System (Page 2); and Chapter 17, Wetlands and Watercourses (Page 10, 12) require and enforce the elimination of illicit discharges.

Appendix A

Chapter 8, Hazardous Chemicals (Page 8); and Chapter 13, Connection to Sewers (Page 2) include a schedule for eliminating illicit discharges into the MS4. If necessary, illicit discharges and connections are traced to their source and notifications are sent out to the business owner or homeowner. The issue is requested to be remedied by the owner within 30 days of notification. The City typically performs site investigations within 24 hours after receiving the complaint. Additional information can be found in the IDEP, Page III-5.

28-32. Construction Stormwater Runoff Control - The City relies on the Oakland County Water Resources Commission to administer and enforce the SESC program within the City's jurisdiction.

When a SESC complaint is received, City staff will visit the site and investigate. The City will notify the developer and/or property owner of any SESC violations, requesting that the issue be remedied within 14 days of notification. If it is an issue that violates City ordinances, the City will proceed accordingly. The City will notify the OCWRC to investigate and enforce the issue. If the developer/owner does not remedy the SESC issue within 14 days, the City then contacts MDEQ.

All construction within the City limits requires a building permit. If a site is within 500 feet of a waterway and/or one acre or more in size, then a SESC permit is to be submitted with the building permit application. Building permits are issued after the SESC permit is provided. For Notice of Coverage sites (5acres or more in size), building permits are issued after the NPDES permit is provided.

The City will contact the contractor if there is a SESC issue, or the OCWRC/MDEQ as needed. The City will notify MDEQ of a discharge into waters of the state.

33-34. Ordinance or Other Regulatory Mechanism - The City's Engineering Design Standards (EDS), Appendix G, address post-construction stormwater runoff from new development and redevelopment projects. A copy has been attached to this application for reference. The EDS will be revised to reflect the water quality treatment and channel protection requirements of this permit once the Oakland County Water Resources Commissioner (OCWRC) standards have been revised and approved.

All construction projects (excluding individual homes) require site plan review.

37-39. Water Quality Treatment Performance Standard - The City's current Engineering Design Standards (EDS) state, 'In no event will maximum design rate or volume of discharge exceed the maximum capacity of the downstream land, channel, pipe or watercourse to accommodate the flow. It is the applicant's obligation to meet this standard. Should a stormwater system, as built, fail to comply, it is the applicant's responsibility to redesign, reconstruct, or make modifications at his/her expense to storm water management facilities. Such modifications or additional facilities will be subject to the City's review and approval. Storm drainage 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.' The City encourages the use of BMPs. All BMPs are to be reviewed and approved by the City Engineering Department and/or its consultant. For detention basins, discharge must be limited to 0.2 cfs per acre when the detention basin is holding the required run-off. These EDS will be revised to reflect the water quality treatment and channel protection requirements of this permit, once OCWRC have revised their standards. The EDS will be revised to address total suspended sediment loadings and include details on sediment forebays and encouraging stormwater BMPs.

Appendix A

40-41. Channel Protection Performance Standard - The existing EDS require that storm drainage systems be designed for a ten year intensity rainfall. The OCWRC intends to revise their stormwater standards to meet the new permit requirements. Once these standards are revised, the City will adopt a resolution to administer and enforce these standards.

42-43. Site-Specific Requirements - All construction projects (excluding individual homes) require site plan review. All stormwater management BMPs will be reviewed prior to approval.

For redevelopment or development areas with soil or groundwater contamination, recommendations will be made for BMP installation that would not exacerbate existing conditions, such as oil/water separators, etc. City staff will coordinate with MDEQ staff for input regarding these situations as they occur.

Cluster Open Space Development is encouraged to preserve natural features.

Chapter 8, Hazardous Chemicals (Page 6) of the City's Code requires that a Pollution Incident Prevention Plan (PIPP) be developed for industrial complexes and other businesses that house and transport hazardous chemicals that identifies emergency clean-up procedures, procedures to prevent pollution to surface waters and groundwaters, and inventories of chemicals. Secondary containment is also required.

The EDS will be revised to state, 'at the discretions of the City, additional stormwater management will be required for redevelopment and new development of auto recyclers, recycling centers, scrap yards, etc'.

44-53. Off-Site Mitigation and Payment in Lieu Programs - The City does not currently have an ordinance or regulatory mechanism that meets the optional requirements, as identified in questions 44-53. The City will not be pursuing this option.

54-56. Site Plan Review - The City's Engineering Design Standards (EDS) (Page 3-4), Appendix G, require site plan submittal for review and approval of post-construction stormwater runoff BMPs.

Five (5) sets of plans are to be submitted to the City Engineering Department for review and approval. The City's consultants then review of the site plan including: water supply, wastewater disposal, storm water management, site grading, pavement improvements and right-of-way improvements. Review comments are issued to the City Planning Commission for discussion at Planning Commission meetings. Once the site plan has been accepted by the Planning Commission, the Applicant is then 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. The amount of the escrow account is determined by the City. The City's Engineer reviews the construction plans for conformance to City Engineering Design Standards. The City strives to complete a typical review in five business days. More complex reviews may take as long as 10 business day or more. Once the plans are in an acceptable form, the plans are issued as approved construction plans. The Applicant is 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 require the submittal of plans and permit applications to the City for review and approval, prior to them being forwarded to the governing agency by the City's Engineer. Once the approved engineering plans have been issued, a pre-

Appendix A

construction meeting with the Applicant (or their representative) and their related contractors, is required prior to the start of any site work. This meeting verifies that all relevant permits have been applied for, that the proper insurance/bonds are provided and to schedule construction observation.

1.18.5 - Bond Inspection and Final Inspections (EDS) (Page 4) - Once the proposed improvements have been completed, the Applicant may request that the City have their Engineer perform a site inspection to establish bond amounts to complete the remaining site improvements for final acceptance by the City.

1.18.6 - Record Drawing Plan Review (EDS) (Page 4) - 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 City's Engineering Design Standards for the requirement of the Record Drawings submittal. The applicant will also be required to submit all public utility easements, detention basin maintenance agreement, off-site easements, etc. for review. Once approved, original copies of the applicable documents shall be submitted to the City for recording at the Oakland County Register of Deeds.

57-59. Long-Term Operation and Maintenance of BMPs - The City's Engineering Design Standards (Page 17) require maintenance agreements (reviewed and accepted by the City) for all privately-owned detention/retention basins. Maintenance agreements are required for structural and vegetative BMPs if these installations are part of the overall stormwater management/detention system. For instance, if a green roof is proposed to hold stormwater and install a smaller detention basin than would normally be required, a maintenance agreement would be required for both the green roof and detention basin to ensure proper efficiency throughout the life of these BMPs.

The maintenance agreement allows the City to: inspect the structural or vegetative BMP, perform the necessary maintenance or corrective actions neglected by the BMP owner or operator, and tracks the transfer of operation and maintenance responsibility of the BMP (deed restrictions).

Detention ponds owned by the City are inspected annually.

60-62. Municipal Facility and Structural Stormwater Control Inventory - See Appendix H for a complete list of municipally-owned facilities and structural controls. A storm sewer map (Appendix C) is provided, which identifies all catch basins and Detention Basin Map (Appendix D) identifies all detention basins (privately-owned) within the City's jurisdiction. As-built maps are available at the DPW facility and City Hall upon request.

As new structural controls are identified and built, the current map will be revised within 90 days of identification.

63-70. Facility-Specific Stormwater Management – The City-owned facilities (shown in Appendix J) were assessed during the application process. The following factors were considered during the assessment: 1) information currently identified in the Pollution Incident Prevention Plan (PIPP), Appendix O; 2) amount of urban pollutants stored at the site; 3) identification of improperly stored materials; 4) the potential for polluting activities to be conducted outside; 5) proximity to waterbodies; and 6) poor housekeeping practices. This Facilities List will be integrated into the PIPP. The list will be revised within 30 days of determining a discharge from a new facility or when a major spill occurs at either of these facilities.

Appendix A

As-built drawings of all City-owned facilities, including catch basins and impervious areas are available at City Hall and are available upon request.

Fire station and DPW vehicles and equipment are washed indoors. All wash water waste is sent to the sanitary sewer system. Fleet vehicle maintenance is performed at the DPW facility.

A list of significant materials stored on-site is provided in the PIPP (Appendix O), Page 10.

Bi-annual comprehensive site inspections were performed (by October 2013) at the Public Works Building, as part of the PIPP. These inspections will cover areas such as the: salt dome, indoor and outdoor materials storage areas, fuel areas, oil/water separator, and secondary containment. Routine site inspections at these areas are currently performed monthly.

Public Works Building, Good Housekeeping - All salt storage and loading is performed in an enclosed facility. The liquid salt brine and deicing alternative (corn product) are located under a roofed building. The outdoor materials are stockpiled inside concrete barriers. Chemicals stored indoors are located on pallets or on shelving units. Vehicles and equipment and outdoor dumpsters are inspected regularly for leaks. A few DPW trucks now carry spill kits to prevent unwanted materials from entering the storm sewer system and spill kits are located at the DPW facility. The City has reduced salt usage by 50% over the last 4 years.

Catch basins are cleaned on an as-needed basis. Catch basin inspections are performed annually so that everyone is inspected at least once every five years. Catch basin cleaning waste is hauled away by the contractor for proper landfill disposal.

For medium to low potential discharge areas (parks, Fire Stations, etc.) – no-phosphorus fertilizers are utilized on all City-owned properties. Soil testing is required prior to phosphorus applications. Weeds are spot-treated as necessary. All street sweeping, catch basin cleaning, and landscape contractors are required (per the City's contract/agreement) to adhere to current state and federal guidelines for stormwater management. On site consultation is performed by City staff for parks and areas adjacent to waterways.

71-76. Structural Stormwater Control Operation and Maintenance Activities - All catch basins (800+) are inspected annually in the Spring (as part of our West Nile Virus preventative maintenance program). The catch basins are assessed and then followed-up with cleaning as necessary. Catch basins are prioritized annually, based on the amount of sediment accumulated and condition of manhole and basin. Catch basins that are in poor condition or that have severe accumulated sediment are placed at the top of the list for the following maintenance season.

A contractor is hired to perform street sweeping and catch basin cleaning. The contractor disposes of catch basin and street sweeping waste at a Type II landfill. Disposal requirements for street sweeping and catch basin cleaning are identified in the bidding contract. Additional information is provided in the Catch Basin Cleaning/Wastes Disposal SOP.

City-owned detention/retention basins and oil/water separators are inspected annually. Basins are inspected to identify erosion along the embankments, accumulation of trash and debris, root intrusion or sediment buildup in the inlets and outlets, etc. A copy of the basin maintenance checklist is attached. As issues are identified, repairs are made accordingly and inspection frequencies are increased as necessary. The oil/water separator is inspected for issues with the structural integrity of

Appendix A

the system, and oil/sediment buildup. As issues are identified, repairs are made accordingly and inspection frequencies are increased as necessary.

Privately-owned detention/retention basins are not maintained by the City; however maintenance agreements are in place to ensure adequate maintenance by the owners of these facilities. Once new structural controls (oil/water separators, porous pavements, rain gardens, etc.) are installed, these controls will be inspected within one year of their installation and annually thereafter.

Vegetated swales are inspected periodically throughout the year. Inspections identify sediment accumulation and issues with flow. This procedure will be modified as needed, once new swales are installed, or issues with the current swales are identified.

The City and its engineering consultant will ensure that new structural controls are designed and implemented in accordance with post-construction stormwater runoff control performance standards and long-term operation and maintenance operations.

Underground/above ground fueling tanks – Fueling tanks are located at the DPW facility. These tanks are inspected daily by DPW staff and regularly by the contractor (owner of the tanks). Spill kits are available at the DPW facility in the likelihood of any fuel spill or leak. See attached UST SOP for details.

77-81. Municipal Operations and Maintenance Activities - The City does not own or maintain any bridges or unpaved roads. Potential pollutants from operations and maintenance activities include: sediment from parking lots and catch basins, fertilizers utilized on City-owned properties, salt utilized on parking lots and sidewalks, and fluids from vehicles and equipment.

All major and local streets are swept 3 times a year and on an as-needed basis. The downtown streets (priority) are swept 4 times per year. The municipal parking lots are swept on an as-needed basis at a minimum of twice per year. The City inspects catch basins annually and cleans and repairs as needed. See the Street and Parking Lot Maintenance SOP for details.

All salt storage and loading is performed in an enclosed facility. The liquid salt brine and deicing alternative (organic product) are located under a roofed building. The City has reduced salt usage by 50% over the last 4 years. Trucks are periodically calibrated and salt is pre-wetted to minimize the amount needed.

No-phosphorus fertilizers are utilized on all City-owned properties. Soil testing is required prior to phosphorus applications. Weeds are spot-treated as necessary. All street sweeping, catch basin cleaning, and landscape contractors are required (per the City's contract/agreement, Appendix N) to adhere to current state and federal guidelines for stormwater management. On site consultation is performed by City staff for parks and areas adjacent to waterways. All catch basin cleaning and street sweeping waste is hauled offsite to a Type II landfill.

DPW trucks and equipment are washed inside the DPW garage where drains are directed to the sanitary sewer system. Police vehicle utilize a commercial car washing facility. Fire station vehicles and equipment are washed indoors. Minor repairs are performed in the DPW garage for departmental vehicles. Major repairs are performed at a commercial facility. Police and fire station vehicles utilize a commercial facility for all repairs.

Appendix A

82. Managing Vegetated Properties - No-phosphorus fertilizers are utilized on all City-owned properties. Soil testing is required prior to phosphorus applications. Weeds are spot-treated as necessary. All street sweeping, catch basin cleaning, and landscape contractors are required (per the City's contract/agreement, Appendix N) to adhere to current state and federal guidelines for stormwater management. Lawn care contractors are expected to follow watershed-friendly procedures, as stated in Appendix N. On site consultation is performed by City staff for parks and areas adjacent to waterways.

83. Employee Training - All City field personnel (Public Works staff) receive Good Housekeeping/Pollution Prevention training at least once per permit cycle. New hires are trained within the first year of their hire date. The City has utilized both the county agencies and Hubbell, Roth & Clark, Inc. for IDEP training. Training topics are: what is stormwater; how stormwater relates to maintenance and lawn care operations; materials handling and response; chemicals management; vehicle and equipment washing and maintenance; street and parking lot maintenance; salt storage and application; materials disposal and storage; landscape practices; and waterfowl management.

84. Contractor Requirements and Oversight - All street sweeping, catch basin cleaning, and landscape contractors are required (per the City's contract/agreement, Appendix N) to adhere to current state and federal guidelines for stormwater management. Copies of all state licenses are required with the contractor bid submittal. On site consultation is performed by City staff for parks and areas adjacent to waterways.

During the growing season, the City will inspect all its properties to ensure that: fertilizers are being swept up from impervious surfaces; organic fertilizers are being utilized; and buffers are maintained along waterways.

85-88. Total Maximum Daily Load Implementation Plan - Kent Lake and has a Total Maximum Daily Load (TMDL) for Total Phosphorus and Norton Creek has a TMDL for Dissolved Oxygen and Sedimentation. Based on water quality sampling and accepted mathematical models, a phosphorus TMDL of 30 μg/L for Kent Lake was established. According to MDEQ, this value should assure the attainment of water quality standards for the lake in addition to meeting the requirements of Water Quality Standard R 323.1060(2) which states "nutrients shall be limited to the extent necessary to prevent stimulation of growths of aquatic rooted, attached, suspended, and floating plants, fungi, or bacteria which are or may become injurious to the designated uses of the waters of the state." Based on three (3) years of scheduled monitoring and the employment of the Walker methodology of lake trophic assessment, the TMDL estimates that the current annual phosphorus load is 7,000 pounds/year. Approximately 1,300 pounds/year of this total is from point sources, and 5,700 pounds/year is from nonpoint sources. Therefore, MDEQ prescribes a 16% reduction (approximately 1000 pounds/year) of nonpoint source phosphorus loading to the lake in order to meet the TMDL. The phosphorus TMDL for Kent Lake was approved by the USEPA on March 10, 2000.

Septic system failures, illicit connections, and permitted point sources have been cited as major routes of phosphorus introduction. A USEPA study performed in 1975 determined that 53.9% of the phosphorus load to Kent Lake was from the Milford and Wixom wastewater treatment plants.

TP TMDL Priorities – The City has identified and prioritized the following ongoing and future activities to address TMDL pollutant reduction for Total Phosphorus, Dissolved Oxygen and Sediment:

Appendix A

Minimize Phosphorus Fertilizers on City-owned, Residential and Private Properties –
1) Phosphorus-free fertilizers are utilized on all City-owned properties.
2) Lawn care information is posted on the City website and in electronic newsletter articles.

Dry-Weather TP Sampling/Monitoring –
During the IDEP inspections in Spring/Summer of 2018, wet weather water samples will be collected for Total Phosphorus (TP) analysis at all 18 prioritized outfalls with wet weather flow. Additional sampling of any of these outfalls will be considered based on the results of the first round of wet weather sampling.

Prioritizations were made based on what actions the City is currently implementing to address TP loading, and what can cost-effectively be accomplished by the end of this permit cycle.

HRWC developed a fact sheet for the Norton Creekshed to better identify the successes, challenges, and trends. MDEQ lists Norton Creek as impaired for aquatic life as measured by a lack of aquatic insect diversity. HRWC finds an average of 6.5 insect families per sampling event at the one sample site which is very poor. The site is among the worst of the 80 sites that HRWC monitors in the Huron River Watershed. Conductivity levels remain high in this area. See attached sheet for details.

Dissolved Oxygen/Sedimentation TMDL Priorities
1) Encourage residents to install native plantings in their lawn.
2) Encourage residents to install rain barrels.
3) Research for opportunities to install native plantings, rain gardens, etc. in the creekshed.

Dry-Weather DO and Sediment Sampling/Monitoring –
During the Spring/Summer of 2018 wet weather samples will be collected for Dissolved Oxygen and Sediment (TSS) at the seven (7) of the prioritized outfalls that are within the Norton Creek Subwatershed. Those outfalls are CE-070A, LL-090, LL-180, NT-050, NT-110, PD-05 and PD-08. These outfalls will be wet weather sampled again prior to the end of the permit cycle.

Prioritizations were made based on what actions the City can cost-effectively implement to address DO and sediment loadings.

TMDL BMPs will be evaluated biennially by City and HRC staff and will be revised as necessary.

The City will continue to evaluate the best methods at addressing the TP TMDL and will provide updates in the progress reports to MDEQ. The City of Wixom will conduct monitoring, but will coordinate efforts with the Upper Huron/Kent Lake SWAG, ARC, and HRWC to evaluate these TMDL methods and review at least twice during the permit cycle.

City of Wixom
NPDES MS4 Permit Application
October 2013

Appendix J

City of Wixom Facilities & Structural Controls

Facility Name	Address/Crossroads	Located in MS4 or Combined System	Potential for Pollutant Runoff (High, Medium, Low)	Priority Cleaning Schedule
City Hall/Administration /Police Station	49045 Pontiac Trail	MS4	Low	Medium
Public Works Building	2041 Charms Rd.	MS4	High	High
Wastewater Plant	2057 Charms Rd.	WW Permit	Medium	Low
Fire Station #1	1345 N. Wixom Rd.	MS4	Medium	Low
Cemetery	N. Wixom Rd. and W. Maple Rd.	MS4	Low	Low
Library/Community Center	49015 Pontiac Trail	MS4	Low	Low
Water Tower	S. Wixom Rd. and I-96	MS4	Low	Low
Gibson House Historical Park	49805 Pontiac Trail	MS4	Low	Low
Gilbert Willis Park	49805 Chickasaw	MS4	Low	Low
Gunnar Mettala Park	645 Mettala Dr.	MS4	Low	Low
Mack Park	113 Wixom Rd.	MS4	Low	Low
Sibley Square Park	48900 Pontiac Trail	MS4	Low	Low
Wixom Habitat Park	1135 Wixom Rd.	MS4	Medium	Low
3 Retention/Detention Basins	Throughout City	MS4	N/A	As-Needed
200+ Retention/Detention Basins	Throughout City – Privately Owned	MS4	N/A	N/A
139 City-Owned Outfalls	Throughout City	MS4	N/A	As-Needed
200+ Catch Basins that are identified as plugged with sediment or distressed	Throughout City	MS4	High	High
600+ All other Catch Basins	Throughout City	MS4	Medium	Medium
0 Vegetated Swales	N/A	N/A	N/A	N/A
2 Oil/Water Separators	at Public Works Building and Fire Stations	MS4	N/A	High
Downtown City Streets	N/S/E/W of Pontiac Trail & Wixom Rd	MS4	Medium	High
All other City Streets	Throughout City	MS4	Medium	Medium

Appendix K

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
STORM WATER PERMIT APPLICATION

PUBLIC EDUCATION PLAN

FOR

City of Wixom

A CROSSROADS COMMUNITY WITH CHARACTER

FOUNDED 1871

Revised June 2016

Table Of Contents

Section I - Introduction and Background

As part of the City of Wixom's continued effort to enhance the quality of its stormwater discharges, the City is submitting an updated Public Education Plan (PEP).

The City believes that adequate public education and resident involvement is essential for protecting and enhancing our natural resources. This plan is in response to the following current and expected future activities involving the protection of the Rouge and Huron Rivers and the quality of life of City residents.

The City of Wixom has been cooperating with communities and agencies in the region on the dissemination of stormwater related information. As a requirement of the NPDES Phase II storm water permit, this Public Education Plan (PEP) was developed to inform the general public, employees of the City, and visitors to the City about their role in protecting water quality and preventing storm water pollution in the 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 District and communities will undertake to achieve these education goals, and how these efforts will be evaluated.

The City is a partner in the Kent Lake (Upper Huron River) Subwatershed Group and Alliance of Rouge Communities to address the Phase II storm water permit requirements. They agreed that approaching storm water management on a subwatershed, cross-jurisdictional basis is both cost-effective and environmentally sound. The watershed approach allows the partners to share information and resources to address storm water concerns at their source. Similarly, this public education program was developed in coordination with other municipalities in the subwatershed group. This will allow for a consistent and effective mechanism for protecting water resources across the region, while leveraging financial resources in the community.

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

During preparation of this Public Education Plan, the following activities were performed.

- Various staff from within the community were contacted:
    - City Water and Sewer Department Staff
    - City Manager's Office

- Various staff from outside the community were contacted:
    - Friends of the Rouge
    - Huron River Watershed Council
    - Alliance of Rouge Communities
    - MSU Extension - Oakland County
    - Oakland County Water Resources Commissioners' Office
    - Huron River Watershed Council
    - Southeast Michigan Council of Governments
    - Resource Recycling and Recovery Authority of South Oakland County
    - Michigan Department of Environmental Quality
    - Oakland County Health Division
    - Southeastern Oakland County Resource Recovery Authority
    - Southeastern Oakland County Water Authority

- In the future, the following will be contacted:
    - Neighboring municipality's staff
    - Subdivision Associations in the City of Wixom

Revisions and input regarding the Public Education Plan are expected and welcome throughout the watershed planning process.

Section III - Public Education Plan Objectives

The purpose of the Public Education Plan is to instill a sense of stewardship among residents and visitors concerning the vitality of the City's river and lake resources. The primary objective of the plan is to promote, publicize, and facilitate watershed education and, in doing so, encourage the public to reduce the discharge of pollutants in storm water.

The specific objectives of the Public Education Plan are to:

1. Increase the general awareness among residents of the Rouge and Huron Rivers and how our daily activities impact these resources.
2. Improve the public's perception of the Rouge and Huron River's existing and future potential as community recreational and natural resource assets.
3. Develop and implement public involvement and education programs, materials, and activities for the citizens in our community to build awareness and foster stewardship of these resources.
4. Support the participation of students, groups, or individuals in our community that are participating in existing Rouge and Huron Rivers educational efforts.

Section IV - Current Public Education Efforts

The City of Wixom, through a contract with RRRASOC**,** provides a recycling program for all residents. This program is an extensive curbside recycling program, accepting paperboard, telephone books, empty paint cans, household batteries, and other miscellaneous items in addition to standard recyclable items. Five HHW drop-off days are scheduled annually in Wixom, Southfield, Farmington Hills, and Novi.

The 292-acre Wixom Habitat is a natural retention basin that serves as an active filtering wetland for the Huron River Watershed. The City of Wixom constructed the Habitat Park in the Spring of 1999. The construction of this facility included paved parking for easier access to the site, a Wetland Garden, depicting various native wetland species, as well as serving a functional purpose for the water quality. The site also included Boardwalks and Paths to access the site from various areas around the park.

The Huron River Watershed Council runs several advertisements in local newspapers concerning environmental awareness, specifically lawn care and fertilizer use. The Huron River Watershed Council also supports the Oakland County MSU – Extension Office endeavor in soil testing for residents of Oakland County.

Local radio stations have aired Public Service Announcements that deal with environmental issues such as waste management and recycling. These radio stations can be heard in areas of the City of Wixom. The City has also posted information on its website, newsletters and handed out material at City events.

The City coordinates education efforts with the Alliance of Rouge Communities (ARC), Oakland County Water Resources Division (OCWRC), Southeast Michigan Council of Governments (SEMCOG), Huron River Watershed Council (HRWC), and Southeastern Oakland County Water Authority (SOCWA) to distribute public educational materials, post information on the City website, and publish articles in the City's newsletters.

Section V - Required Elements

The following paragraphs summarize the eleven (11) elements specified in the MDEQ General Storm Water Permit and the City's plan for addressing each.

1. (High Priority) Educate the public on illicit discharges and promote public reporting of illicit discharges and improper disposal of materials into the MS4. (MS4 Permit Application Task C)

Target Audience: City staff, residents, businesses, visitors
Key Messages: Recognition of illicit connections and discharges, methods to detect them, their impact on water bodies, and methods to eliminate them.

Existing Effort: The City promotes the OCWRC hotline via website and IDEP Fact Sheet that is distributed at IDEP Training Workshops for City staff. This Fact Sheet is posted on the website.

Future Efforts: The City will post information in future newsletter articles.

Schedule: Ongoing
Responsible Parties: City of Wixom, OCWRC
Measurable Goal: Training workshop sign-in sheets; Training provided to all relevant field employees; Number of illicit connections/discharges detected and eliminated, Complaints received from residents/businesses; Water quality improvements over time

2. (Medium Priority) Identify and promote the availability, location, and requirements of facilities for collection or disposal of household hazardous wastes, travel trailer sanitary wastes, chemicals, grass clippings, leaf litter, yard wastes, animal wastes, and motor vehicle fluids. (MS4 Permit Application Task F & G)

Target Audience: Residents, businesses, City staff
Key Messages: Disposal or refuse of wastes.

Existing Efforts: Once each year the City sponsors a drop off program allowing residents a convenient location and safe method to properly dispose of household hazardous waste. Drop off dates are announced in the RRRASOC newsletter, sent to single family homes. In addition, residents can call RRRASOC at (248) 208-2270. HHW Drop-off information is available in City electronic newsletters and website. Lawn care information is posted on the website. Pet waste tip cards are distributed at the annual Fire Station Open House event. SEMCOG and OCWRC had radio and television PSAs aired from 2006-2011 regarding pet waste. Yard waste information is provided in electronic newsletters.

Future Efforts: The City will continue its existing efforts throughout the permit cycle.

Schedule: Annually; Ongoing
Responsible Parties: City of Wixom, RRRASOC, SEMCOG, OCWRC
Measurable Goal: Number of HHW materials taken to RRRASOC; Copies of publications distributed; Increase in HHW materials collected over time; Inquiries received from residents

3. (High Priority) Inform and educate the public on proper application and disposal of pesticides, herbicides, and fertilizers. (MS4 Application Task E)

Target Audience: City staff, residents, businesses
Key Messages: Proper use, storage, and disposal of yard chemicals.

Existing Effort: The Huron River Watershed Council runs several advertisements in local newspapers concerning environmental awareness, specifically lawn care and fertilizer use. The City posts lawn care information on our website. Fertilizing tip cards are distributed at the annual Fire Station Open House event, and the 'Seven Simple Steps' display is available. RRRASOC mails quarterly disposal information to all City residents. SEMCOG and OCWRC had radio and television PSAs aired from 2006-2011 regarding earth-friendly fertilizing.

Future Effort: The City will publish yard chemicals information in the newsletter.

Schedule: Ongoing

Responsible Parties: City of Wixom, RRRASOC, SEMCOG, OCWRC

Measurable Goal: Copies of publications distributed; Copies of newsletter articles; Increase in MGIA endorsed Healthy Lawn Care Companies over time

4. (Low Priority) Promote preferred cleaning materials and procedures for car, pavement, and power washing. (MS4 Application Task D)

Target Audience: Residents, businesses, visitors, City staff

Key Messages: Proper car care/reduce pollution generated from vehicle maintenance

Existing Effort: Car washing and maintenance information is provided on the City website. Car washing tip cards are distributed at the annual Fire Station Open House event.

Future Effort(s): The City will continue its existing efforts throughout the permit cycle.

Schedule: Annually; Ongoing

Responsible Parties: City of Wixom, SEMCOG, OCWRC

Measurable Goal: Copies of publications distributed; Number of website hits

5. (High Priority) Inform and educate about the connection of the MS4 to area waterbodies and the potential impacts discharges could have on surface waters of the state. (MS4 Application Task B)

Target Audience: City staff, residents, businesses, visitors

Key Messages: General awareness of storm drainage systems in the City and how they impact the watershed.

Existing Effort: Storm water awareness information is posted on the City website. The IDEP Fact Sheet is posted on the site and was distributed at the IDEP Training offered to City field staff in April 2012. Storm drain awareness tip cards are distributed at the annual Fire Station Open House event and the 3-panel 'Seven Simple Steps' display is

also available. SEMCOG and OCWRC had radio and television PSAs aired from 2006-2011 regarding storm drain awareness.

Future Efforts: The City will publish a storm drain awareness article in the newsletter. The City will continue its existing efforts throughout the permit cycle.

Schedule: Ongoing
Responsible Parties: City of Wixom, SEMCOG, MSU-E, OCWRC
Measurable Goal: Copies of publications distributed; Copies of newsletter articles; Number of website hits; Inquiries received; Reduction in waste in waterways over time

6. (High Priority) Promote public responsibility and stewardship in the applicant's watersheds. (MS4 Application Task A)

Target Audience: City staff, residents, businesses, visitors
Key Messages: Watershed awareness, community involvement

Existing Effort: The City participates in an annual clean-up program through Oakland County. Wixom Elementary participates in the Michigan Green Schools Program, which promotes stewardship, stormwater management, recycling, and conservation.

Future Efforts: The City currently does not host a River Day or Rouge Rescue events. The City will promote the Rouge Rescue events via website and newsletters.

Schedule: Annually; Ongoing
Responsible Parties: City of Wixom, SEMCOG, HRWC, FOTR
Measurable Goal: Copies of publications distributed; Copies of newsletter articles; Number of website hits; Increase in volunteer participation within watersheds

7. (Medium Priority) Promote methods for managing riparian lands to protect water quality. (MS4 Application Task J)

Target Audience: City staff, residents, businesses, visitors

Key Messages: Watershed-friendly land management for riparian owners

Existing Effort: None.

Future Efforts: The City will distribute the OCWRC Waterfront Wisdom booklets at the DPW Open House event and will post the web link information on our site.

Schedule: Ongoing
Responsible Parties: City of Wixom, SEMCOG, OCWRC
Measurable Goal: Copies of publications distributed; Number of website hits; Inquiries received

8. (Low Priority) Inform and educate the public on proper septic system care and maintenance, and how to recognize system failure. (MS4 Application H)

Target Audience: City staff, residents, businesses, visitors
Key Messages: General awareness of storm drainage systems in the City and how they impact the watershed. Septic system maintenance education.

Existing Effort: None.

Future Efforts: The City will distribute the OCWRC Waterfront Wisdom booklets at the Fire Station Open House event and will post the web link information on our site, which provides information on OSDS. The ARC hosted two (2) septic system maintenance workshops in Fall 2013.

Schedule: Annually; Ongoing
Responsible Parties: City of Wixom, OCHD, OCWRC, MSU-E, ARC
Measurable Goal: Copies of publications distributed; Number of website hits; Number of OSDS issues, as reported by OCWRC.

9. (Medium Priority) Educate the public on and promote the benefits of green infrastructure and Low Impact Development (LID). (MS4 Application Task I)

Target Audience: City staff, residents, businesses, students, visitors
Key Messages: General awareness of storm drainage systems in the City and how they impact the watershed.

Existing Effort: Wixom Elementary currently participates in the Michigan Green Schools Program, which promotes stormwater management, green infrastructure, recycling, and stewardship.

Future Efforts: The City will post the SEMCOG LID Manual on our website. The City will publish a newsletter article on green infrastructure.

Schedule: Ongoing
Responsible Parties: City of Wixom, ARC, MSU-E, SEMCOG, HRWC, FOTR
Measurable Goal: Copies of publications distributed; Copies of newsletter articles; Number of website hits; Increase in green infrastructure and LID in watersheds and City

10. (Low Priority) Identify and educate commercial, industrial, and institutional entities likely to contribute pollutants to stormwater runoff. (MS4 Application Task K)

Target Audience: Commercial food services, vehicle service stations
Key Messages: Pollution prevention.

Existing Effort: None.

Future Efforts: The City will post the MDEQ Pollution Prevention (P2) web link on our site.

Schedule: Ongoing
Responsible Parties: City of Wixom, SEMCOG, MDEQ
Measurable Goal: Number of website hits

Section VI - Cooperating Organizations

A variety of individuals and organizations outside City government will be approached to assist the City in implementing its Public Education Plan. These include:

Organization	Program	Contact
Friends of the Rouge	Grow Zones, REP	Cyndi Ross
Alliance of Rouge Communities	Rain Barrel Sales, Green Infrastructure	Annette DeMaria
Oakland County Water Resources Commissioner's Office	Main 1/2 Subwatershed Public Education Plan	Jacy Garrison
RRRASOC	Recycling, Household Hazardous Waste	
SOCCRA/SOCWA	Yard Waste Management	Lillian Dean
MSU Extension-Oakland County	Master Composter Program	Bindu Bhakta
Huron River Watershed Council	Education/Outreach	Pam Labadie
High School Student Organizations (Honor Society, Band, Env. Interest)	Volunteer Opportunities; Environmental Education	Science Teachers at Walled Lake HS.
Southeast Michigan Council of Governments	Ours to Protect Media Campaign	Amy Mangus

Section VII - Evaluation

The City will evaluate its Public Education Plan every 3-5 years, with coordination from the Alliance of Rouge Communities, SEMCOG, and Kent Lake/Upper Huron SWAG to determine progress made towards meeting the objectives described above as well as changes in objectives that may be warranted. The Kent Lake/Upper Huron Subwatershed Advisory Group will review the current Public Participation Plan and SE Michigan PPP online survey results for the local area and start to draw conclusions on PEP effectiveness. The City will work with the Kent Lake/Upper Huron SWAG to revise the PPP as necessary.

Based on this evaluation, the City will prepare a biennial summary report of activities completed and propose revisions to the plan.

Staff Contact: ***Tim Sikma***

Title: ***Director of Public Works***

Telephone: ***(248) 624-0141***

Appendix L

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY

STORM WATER PERMIT APPLICATION

ILLICIT CONNECTION & DISCHARGE ELIMINATION PLAN

FOR

City of Wixom

A CROSSROADS COMMUNITY WITH CHARACTER

FOUNDED 1871

Revised June 2016

Table of Contents

Section I - Introduction and Background

This document describes City of Wixom's plan for identifying and eliminating illicit connections and discharges to the Rouge and Huron Rivers. The plan has been developed to partially fulfill the application requirements for the State of Michigan's NPDES permit for Storm Water Discharge from Separate Storm Water Drainage Systems.

A. Rouge River Remedial Action Plan (RAP)

In 1985, MDEQ began developing the Rouge River Remedial Action Plan, or Rouge RAP, to identify water quality problems, sources of pollution, and corrective actions necessary to restore the Rouge watershed as well as recommend time frames for implementing corrective actions. MDEQ completed the Rouge RAP in 1989.

The Rouge RAP identifies Combined Sewer Overflows (CSOs), Sanitary Sewer Overflows (SSOs), illicit connections, and storm water as sources of pollution to the Rouge River and threats to public health.

B. MDEQ Storm Water Permit

To help facilitate addressing non-point sources of pollution to the Rouge and Huron Rivers, the MDEQ developed a General Wastewater Discharge Permit for Storm Water Discharges from Separate Storm Water Drainage Systems. MDEQ's general permit is consistent with the Phase II Federal Regulations. The general permit requires permittees to develop and implement illicit discharge elimination programs. MDEQ believes that communities that apply for and comply with its general storm water permit will be essentially in compliance with forthcoming USEPA storm water regulations.

C. Illicit Connection and Discharge Elimination Plan

The City's illicit connection and discharge elimination plan consists of both short term and long-term efforts. Short-term efforts will be focused on the following:

- Inspecting <u>known</u> storm outfalls to the Rouge and Huron Rivers (as identified through review of existing sewer maps);
- Eliminating illicit discharges as they are identified through visual monitoring of <u>known</u> storm outfalls;

- Field observation to identify and verify additional storm outfalls that may not have been identified through review of existing sewer maps.

Long term efforts will be focused on the following:

- Inspecting additional storm outfalls that may be identified through the identification/verification process described above; and
- Continued elimination of illicit discharges as they are identified through outfall inspections

The City expects its illicit discharge elimination program to evolve over time. The City will review its program biennially to determine if program changes are appropriate.

Section II - The Storm Sewer System in City of Wixom

City of Wixom covers approximately 9.4 square miles (6,000 acres) and has a total population of 13,500 per the 2010 census.

Separate sanitary and storm sewers serve 5,700 acres in the City of Wixom. Less than 5% of the city residences are served by on-site sewage disposal systems.

The separate storm sewer system in City of Wixom consists of storm sewers under the ownership and/or jurisdiction of several different entities, namely, the Michigan Department of Transportation (MDOT), the Road Commission for Oakland County (RCOC), the Oakland County Water Resource Commissioner (OCWRC), private entities and City of Wixom. For example, approximately 7 miles of roads in the City, and associated right-of-way drainage systems, are under the jurisdiction of the RCOC.

There are seven (7) Oakland County drains within the City of Wixom. Some of these drains outlet internally, i.e., to other county drains. The remaining drains outlet to tributaries the Rouge and Huron Rivers.

City of Wixom currently knows of 139 outfalls to the Rouge and Huron River watersheds. These outfalls can be further characterized as follows:

- Various outfalls directly to the Rouge and Huron River watersheds as follows:
  - outfalls to naturally occurring lakes or creeks;
  - outfalls to wetland areas and/or ponds;
  - outfalls to open areas such as golf courses or low areas;
  - outfalls to open ditches and/or linear watercourses
- Outfalls to OCWRC drains.

Many of these outfalls are from storm sewers not under the City's jurisdiction.

Section III - Illicit Connection and Discharge Elimination Program

A. Review Existing Legal Authority

It is critical for the City to have adequate legal authority and enforcement capability to implement its illicit connection and discharge elimination program. The City has conducted a thorough review in 2006 and 2013 of its existing ordinance to ensure that:

- The ordinance adequately defines illicit connections and discharges;
- The ordinance prohibits illicit connections and discharges;
- The City has adequate legal authority to investigate suspected illicit connections and discharges;
- The City has adequate legal authority to require elimination of illicit connections and discharges;
- The City has adequate enforcement capability.

Ordinances and standards were reviewed in 2013 as part of the MS4 application process. The City will revise these ordinances as necessary to comply with the current MS4 permit.

B. Identifying and Eliminating Illicit Connections and Discharges

1. Verification of Storm Sewer Catchments

Accurate storm sewer catchment maps will be essential for investigating illicit connections that may be identified through outfall inspection and/or sampling.

This information is based on review of existing sewer quarter section maps. The City will verify this information through field observation and generate storm sewer maps for each storm sewer outfall tributary area**.**

Due to the extent, complexity and multi-jurisdictional nature of the storm sewer system, City coordination with MDOT, RCOC and OCWRC is essential. The City is currently updating our storm sewer maps using GPS to offer a more complete inventory.

2. Priority Scheduling

The City has developed a prioritization schedule for dry weather outfall inspections based on:

- Previous field investigations data – outfalls with dry weather flow
- Structural issues – broken end sections, erosion around pipe, blockage
- Industrial, commercial, or mixed use areas
- Areas with older infrastructure

Of the 139 City-owned outfalls, we have prioritized 18 outfalls (Outfall Numbers: SE -201, SE-07, SE-08, SE-065, SE-14, SE-16, SE-17, SE-18, SE-19, SE-23, SE-24, CE-070A, PD-05, PD-08, LL-180, LL-090, NT-110, NT-050)) for detecting non-stormwater discharges.

All 139 outfalls will be dry-weather screened during the permit cycle. Dry-weather screening will be performed regularly thereafter for all 18 prioritized outfalls.

3. Dry Weather Visual Storm Sewer Outfall Inspection

Dry weather (two consecutive days without precipitation) discharges are often indicative of illicit connections. The City will visually inspect each known direct storm water outfall to the Rouge and Huron Rivers, every seven years during dry weather. In instances where the storm water outfall is submerged, the City will visually inspect the upstream manhole.

All storm outfalls that are discharging during dry weather will be investigated further, with sampling and/or other investigation within 48 hours to determine the nature and source of the flow. Investigation of these dry weather discharges will be prioritized based on the number of discharges identified as well as other factors including location, volume of flow, and suspected contaminants based on color, turbidity and/or odor. The DPW staff has gone through this training.

All 139 outfalls were investigated in the Spring/Summer of 2013. Dry weather screening will be performed annually for all 18 prioritized outfalls. All outfall inspections will be documented.

4. Tracing Illicit Connections and Discharges

If flow is observed during the dry weather outfall inspections, the City may decide to sample the flow for pollutant parameters typically found in illicit connections. Sampling can rule out some dry weather discharges such as groundwater. Possible parameters include the following:

- *Escherichia Coli*
- Surfactants
- Ammonia
- Nitrates
- Nitrites
- Total Suspended Solids (TSS)
- Conductivity
- Other parameters as appropriate based on visual observation and/or other site specific information.

The choice of sampling parameters will depend on several factors including:

- Location of the storm outfall (i.e., in residential or commercial area);
- Turbidity and color of discharge which could distinguish between an illicit discharge from a commercial establishment versus a residence;
- Odor associated with discharge such as petroleum odor, or raw sewage odor.

In addition, pH, temperature, and Dissolved Oxygen can be tested in the field with hand-held instruments. The City may choose not to sample the discharge, if its source can be readily tracked by visually observing flow in the storm sewer via manholes, or other investigative methods. Indicator parameters (pH, temperature, ammonia, and detergents) will be utilized if the source is not identified during the field observation.

The City may be able to locate the source of an illicit connection/discharge solely through visual observation of flow in the storm sewer at manholes.

Depending on the circumstances, the City may televise those storm sewers that look suspicious to identify pollutant sources that cannot be located through simple visual observation and/or sampling. For example, the City may be able to determine - based on visual observation and/or sampling - that an illicit connection exists between two specific

manholes. Video inspection of the stretch of storm sewer between these two manholes could be used to isolate the exact source of the connection/discharge.

The City will conduct physical inspection of commercial and/or residential facilities as needed to verify illicit connections detected through visual outfall inspection, sampling, and/or manhole flow observation. As necessary, facility inspections will include dye testing of suspect facility plumbing fixtures. All facility inspections will be documented.

5. Owner Notification

Once an illicit connection/discharge has been identified and verified, the City will notify the owner in writing and direct them to eliminate the illicit connection/discharge within a specified time frame, 30 days or less. The notification will require the owner to inform the City when the connection has been eliminated. The time frame for eliminating the connection/discharge will depend on the type of illicit connection/discharge and how difficult elimination will be. Prioritization will be given to discharges of high flow or high levels of pollutants.

The City will follow up with the owner to ensure that the connection/discharge has been eliminated. If the connection has not been eliminated, the City will enforce its ordinances to obtain compliance and coordinate efforts with OCHD or MDEQ as necessary.

C. On-site Sewage Disposal Systems (OSDS)

Well designed, properly operating on-site sewage disposal systems (OSDS) provide a viable and acceptable method of treating sanitary sewage and do not contribute to water pollution. In contrast, failing OSDS that do not adequately treat sanitary sewage due to poor soil conditions, insufficient drainage area or other inadequacies, can cause significant water quality problems. Recent in-stream sampling results suggest that failing OSDS are a significant source of pollution in the Rouge River watershed. Furthermore, failing septic systems are considered illicit discharges that must be eliminated.

1. Extent of OSDS in City of Wixom

Roughly 5% of the City of Wixom's population is served by on-site disposal systems. In addition, portions of the City remain undeveloped. The City of Wixom has a Stormwater

Master Plan, and a Sanitary Service Master Plan which describes how the sanitary sewer service will be provided to the entire City as the need arises through development of undeveloped areas.

2. Enforcement of Existing City Ordinance

The City of Wixom will continue to enforce Chapter 13 of the City Code, which recommends owners of failing OSDS to connect to the City sewer system if it is available, i.e., within 200 ft of the structure in which sanitary sewage originates.

Currently, the City identifies failing OSDSs through complaints from residents and/or observations made by City field personnel. When OSDSs are identified, the City sends notices requiring homeowners to connect to the sanitary sewer (if available) in accordance with the ordinance. The City itself does not have any buildings on septic systems. The Waste Water Treatment Plant is on a separate Discharge permit.

3. Role of Oakland County Department of Public Health

The City of Wixom recognizes the authority and expertise of the Oakland County Department of Public Health in overseeing issues related to failing septic systems. Currently, all new construction and repairs for OSDS are permitted through the Oakland County Department of Public Health. Other than the City's property ordinance, there is little enforcement by City of Wixom where sewers are not available.

The City of Wixom supports the efforts of the Oakland County Department of Public Health to initiate a revision to the existing county ordinance controlling the design, construction, operation and maintenance of on-site sewage disposal systems (OSDS). The revisions should include:

a. OSDS system evaluation prior to sale of property;
b. Evaluation of each OSDS at least every 5 years;
c. Certification of private inspectors to perform the evaluations;
d. Inspections required each time a OSDS tank is pumped;
e. Educational materials provided to owners of OSDS regarding card and maintenance.

If a local ordinance revision is necessary to require OSDS evaluations, it will be presented to the City Council within 12 months after passage of the County-wide ordinance.

OSDS failures are expected to be identified as part of the OSDS evaluation program and in response to complaints.

- Any OSDS found to be failing will be sent a notice to connect to the sanitary sewer if it is available in accordance with City of Wixom's ordinance.
- If sanitary sewers are not available, OSDS found to be experiencing problems or failing will be referred to the property owner and Oakland County Environmental Health Division for a short term and long term solution.

D. Complaint Response and Investigation

Citizens and business owners are often an excellent source of information regarding illicit connections and discharges. The City's website provides information for individuals to report suspicious activities. The City and OCWRC/OCHD have established a reliable system to receive and investigate citizen reports regarding suspicious discharges from storm water outfalls.

OCWRC also maintains a 24-hour, 7-days-per-week complaint telephone hotline. OCWRC will refer complaints to the City of Wixom as appropriate. The City will investigate all complaints received through the OCWRC hotline and take remedial actions as appropriate. This hotline is advertised on the City website.

The reporting system includes:

- Telephone complaint system with emergency number for non-business hours;
- Complaint tracking system;
- Follow-up notification to reporting citizen to inform them what corrective actions have been or are being taken.

When the City of Wixom receives complaints regarding illicit discharges, the City will investigate each suspected connection as outlined above and take appropriate action(s).

E. Coordination with Oakland County Water Resource Commissioner (OCWRC)

The OCWRC has developed its own illicit connection and discharge elimination program. As part of its program, OCWRC screens in-stream sampling data collected by the Rouge Program Office and the Oakland County Health Department for consistently high concentrations of bacteria and targets areas of the river for further investigation. OCWRC also screens in-stream sampling data on an ongoing basis to monitor progress in eliminating illicit connections. In addition, OCWRC inspects and samples its storm drain outfalls to surface waters. When county sampling and inspection results suggest that illicit connections to county storm drains exist, OCWRC will investigate further to determine where the suspected illicit discharge is coming from. OCWRC will notify the City of all illicit connections/discharges suspected to originate in the City of Wixom. The City will investigate each suspected connection and take appropriate action(s) in accordance with the investigative techniques described earlier.

F. Coordination with MDEQ

As illicit connections and discharges are identified, the City will notify the MDEQ of the connection/discharge and inform MDEQ of corrective actions being taken to eliminate the connection/discharge.

G. Monitoring New Construction

The City of Wixom will develop a procedure to identify storm outfalls resulting from new construction and incorporate them into the Illicit Discharge Elimination Plan. Each new storm outfall will be included in the outfall location map and will be inspected within 2 years of identification.

H. Employee Training

All City field personnel (Public Works staff) receive IDEP training at least once per permit cycle. New hires are trained within the first year of their hire date. The City has utilized both the county agencies and Hubbell, Roth & Clark, Inc. for IDEP training. Training topics are: identifying illicit discharges or connections, procedures for responding to spills, and failing OSDS identification and enforcement. 4 Public Works employees received IDEP training in

Spring 2012. Seven (7) DPW employees went through GH/P2/IDEP Training in the Fall of 2015.

An IDEP Fact Sheet was developed for Southeast Michigan. This fact sheet was posted at the Department of Public Works (DPW) bulletin board and all DPW staff have a copy in their vehicles.

I. Determining Program Effectiveness

The City feels that dry-weather inspections, responding to complaints, and staff investigations are effective ways of implementing the IDEP. The City is in support of a County-wide OSDS inspection program, in lieu of all the privately-owned septic systems in Oakland County. The City feels this inspection program would make the IDEP program more effective. The City will be working collaboratively with the ARC at determining the best methods for IDEP effectiveness.

Evaluation Methods

- Staff Training frequency
- Number of illicit discharges eliminated over the permit cycle
- IDEP Notification successes/failures
- Number of resident/business complaints received over the permit cycle
- Evaluation of program efficiency
- Changes in receiving water quality data over time

Evaluation methods will be re-evaluated biennially during the progress report submittal process.

Section IV - Monitoring Reporting

The City will establish a tracking system to monitor progress in implementing the illicit connection and discharge elimination plan.

On a biennial basis, the City of Wixom will prepare and submit a report summarizing its illicit discharge elimination efforts to MDEQ. The report will summarize the following:

- illicit connections/discharges identified through citizen complaints, OCWRC referral, inspections, sampling and/or sewer television and the corrective actions taken, including follow up inspections and sampling;
- dry weather storm water outfall inspections conducted;
- storm sewers televised in the past year as well as the findings;
- corrective actions taken as a result of storm sewer televising;
- televising of storm sewers performed during the permit period;
- sanitary sewers televised in the past year as well as the findings;
- corrective actions taken as a result of sanitary sewer televising;
- On-site sewage disposal systems found to be improperly functioning and the actions taken to correct the problems; and
- an updated map of outfall locations

Staff Contact: Tim Sikma
Title: Director of Public Works
Telephone: (248) 624-0141

POLLUTION INCIDENT PREVENTION PLAN (PIPP)

June 2016

49045 Pontiac Trail • Wixom, Michigan 48393-2567

TABLE OF CONTENTS

POLLUTION INCIDENT PREVENTION PLAN (PIPP)

The Pollution Incident Prevention (PIP) Plan provides a response plan as required by the State of Michigan's Part 5 Rules. This plan provides spill response procedures and is intended to provide guidance in the event of a release of polluting materials to air, soil, or surface water at the City of Wixom Department of Public Works (DPW) Facility. The provisions of this plan must be carried out immediately in the event of a release of polluting materials that could threaten human health or the environment. The Part 5 Rules require facilities that receive, process, manufacture, store, or ship polluting materials above the threshold amounts to develop and implement a PIP Plan and to provide containment for potentially polluting materials. Michigan Part 5 Rules defines "polluting material' as oil, salt, and any material listed on the Polluting Materials list.

Updated Material Safety Data Sheets (MSDSs) are continually tracked and filed and made readily available for review by employees at the facility. These are located inside the DPW Garage.

EMERGENCY CONTACTS

POLICE DEPARTMENT/DISPATCH: 911

Michigan Department of Environmental Quality (MDEQ) - Southeast Michigan District Office MDEQ 24-Hour Pollution Emergency Alert System (PEAS)	27700 Donald Court Warren, MI 48092-2793 Phone: 586.753.3769 Fax: 586.751.4690 800.292.4706
OCWRC 24-Hour Pollution Prevention Hotline	248.858.0931
Oakland County Local Emergency Planning Committee	1200 N. Telegraph Road Building 47W Pontiac, MI 48341 Phone: 248.858.5300
Detroit Water and Sewage Department (DWSD)	313.267.6000/9000
State Emergency Response Commission	517.373.8481
National Emergency Response Commission	800.424.8802
U.S. EPA Region 5 Office 24-Hour Number	312.353.2318
CHEMTREC (chemicals, spills, fires information)	800.424.9300

Statement of Compliance: This facility is currently in compliance with the Part 5 PIPP Rules.

1.1 PIPP Distribution

The Department of Public Works Foreman and the City Manager's Office maintain a copy of this PIP Plan. The Plan is available to all personnel who are authorized to have access to it.

Copies of this Plan and future revised Plans will be available upon request to the list below:

1. US EPA Regional Administrator
2. MDEQ Water Resources Division, SE Michigan District
3. City of Wixom Police and Fire Departments
4. Emergency Response Contractor
5. Oakland County Local Emergency Planning Committee (LEPC)
6. Oakland County Health Department
7. State of Michigan Emergency Response Commission-MDEQ Waste Management Div.

1.2 PIPP Amendments

This Plan will be reviewed and updated as needed every three (3) years, or when facility personnel, processes, or procedures identified in the Plan change or as otherwise necessary to maintain compliance with the Part 5 Rules.

1.3 Facility Description

The DPW administrative offices are located at the DPW Facility Complex at 2041 Charms Road. The DPW facility has 10 full time employees.

The Charms Road site includes a 21,000 sq. ft. building with 2 cold storage buildings

The yard is 40 acres and all outside storage is located away from any stormwater feature or catch basin.

The salt storage building with a capacity of 1800 tons

1.3.1 Operations

The DPW Facility is utilized for the storage of salt, sand, gravel, and asphalt cold patch. Concrete containment structures are utilized for these materials. Also, the existing compost site has been operated by a private contractor since 2007

Routine vehicle maintenance is carried out at the DPW site, including lubrication, oil changes, power washing, minor repairs, and tire changes. Heavy repairs are sent to the appropriate private mechanic shop.

Vehicles and equipment are washed inside the garage in the designed wash bay area, which prevents any storm water runoff.

The yard provides the storage space for the various road maintenance equipment, materials and miscellaneous equipment.

A DPW Facility Site Map is included in Appendix A.

1.4 Past Pollution Incidents

2003 gasoline spill

1.5 Emergency Response Personnel

1.5.1 Emergency Response Coordinator Responsibilities

The Emergency Response Coordinator (ERC) has a wide range of responsibilities including employee training, conducting facilities inspections, and committing City resources to respond to emergency situations. The ERC must be thoroughly familiar with facility operations and the Plan contents and must be either at the facility or on call and be able to respond to an emergency in a short period of time. Specific ERC responsibilities are outline below. The ERC may delegate these responsibilities to an alternate ERC at his/her discretion.

A. Ensuring that emergency response equipment inspections are conducted quarterly.

B. Activating internal facility alarms or communication systems to notify all facility personnel of an emergency situation.

C. Assessing the nature and extent of emergency situations and committing the resources necessary for proper response.

D. Ensuring that injured personnel are given appropriate medical attention and/or arranging transportation to a hospital when necessary.

E. Maintaining adequate space for the movement of emergency response personnel and equipment.

F. Ensuring that waste materials generated from emergency response activities are handled, stored, and disposed of in accordance with state and federal regulations.

G. Notifying the appropriate local, state, and federal agencies of releases and emergencies.

H. Minimizing the likelihood of an emergency situation recurring by evaluating incidents, critiquing response, and implementing improved procedures as necessary.

1.5.2 Emergency Response Coordinator

Primary Coordinator: Tim Sikma Title: Director, Department of Public Works Telephone: (248) 624-0141 / Cell: (248) 521-9605 E-mail: tsikma@wixomgov.org

Alternate Coordinator: Jim Byrd Title: Foreman, Department of Public Works Telephone: (248) 624-0141 / Cell: (248) 521-7637 E-mail: jbyrd@wixomgov.org

1.6 Emergency Response Equipment

1.6.1 Spill Control and Personal Protection Equipment

City staff are trained to clean up small spills or releases in their work areas. In the event of an emergency, a spill contractor is on call to respond to spills and releases at the facility. Table 1.1 lists the available emergency response equipment. The equipment is stored near areas of concern and is immediately available.

Table 1.1 Spill Control and Personal Protection Equipment

EQUIPMENT	LOCATION	INTENDED USE
Shovels/brooms	Located in the DPW Facility	Used to clean up spill absorbents and solid pollutants
First Aid Kits	Located in the DPW Facility	Available for use and treatment of minor medical emergencies
Fire Extinguishers	Located in the DPW Facility - various locations	Available to assist in fire control
Spill Kits/Absorbents	DPW Facility & fueling location	Contain can clean up minor spills

1.7 Spill Prevention and Control

Material storage, spill training, and preventative maintenance practices will be the primary methods used at the DPW Facility to minimize the potential for spills of salt, oil, and other polluting materials.

Significant spills occurring at the facility property will be recorded on the *DEQ Spill or Release Report* form located in Appendix B. Section 1.4 of this Plan and will be updated if a significant

spill or leak occurs. In addition, the spill prevention and response procedures will be evaluated to determine if the planned response was adequate. If necessary, the spill prevention and response procedures will be modified to include additional or alternative practices to minimize future spills.

The following items outline some of the general spill prevention procedures and practices implemented at the DPW Facility:

1.7.1 Good Housekeeping

RETAP performed a facilities assessment in 2004. In addition, Hubbell, Roth & Clark, Inc. (HRC), the City's Engineering Consultant, is available for Environmental Assessments at the DPW Facility.

Most major repairs are handled by a commercial repair/maintenance station. Oil changing and greasing of vehicles and equipment are performed inside the DPW Garage. Specifically:

- Detailed maintenance logs are kept on all vehicles
- Spare parts and some chemicals are located on shelving units.
- Solvents, cleaners, and miscellaneous chemicals are stored in designated cabinet or on the floor of the DPW Garage.
- Motor oil, power steering fluid, and other automotive fluids are stored in fifty-five (55) gallon drums along the wall. Secondary containment exists for spill control.
- Recyclable parts, materials, and fluids are recycled through a third party vendor.
- DPW Staff visually inspects all vehicles and equipment for leaks and maintenance issues at least monthly, and/or on rainy days when more time allows.
- Drip pans, containers, and 'quick-dry' agents are readily available for known leaks and repairs.
- Two (2) sanitary manholes, located inside the DPW Garage drain directly to the sanitary sewer system. The drains are vacuumed out by the Metro Environmental as needed.
- Most chemicals and miscellaneous fluids are located and stored on shelving units in the DPW Garage. Aerosol sprays and other hazardous materials are stored in a cabinet along the wall.
- The City has recently updated their plowing practices to reduce salt use. The City continues to look into salt brine, sugar beet juice, and other road salt alternatives.

1.7.2 Comprehensive Site Inspections & Preventative Maintenance

- Periodic vehicle and equipment inspections for leaking oil and fluids;
- Periodic inspection of the solid waste dumpster area;
- Use dry absorbents to clean-up spills and leaks;
- Segregate and label wastes; and

- Visual inspections of the DPW Garage and Salt Storage Area for potential problems

1.7.3 Employee Training Program

Various DPW staff (primarily the DPW Foreman, James Byrd) have attended training opportunities provided by SEMCOG and other entities. The Phase II General MS4 Permit requires all DPW staff to attend periodic pollution prevention and good housekeeping training as it is provided. The City and HRC will work together to ensure that future training opportunities are participated by staff.

1.7.4 Best Management Practices

Currently, no phosphorous fertilizers are utilized on any of the City-owned properties. The City has a contract with Tru-Green ChemLawn for pesticide applications. Spot-treatments are encouraged.

All turf is mowed by City staff and mowing heights are maintained at 3 inches.

All street sweeping and catch basin wastes are handled by a third party vendor and disposed of in accordance with all laws.

1.8 Emergency Management Activities

1.8.1 Initial Response Procedures

In the event of a spill or the failure of a storage unit, the following steps should be immediately implemented:

A. **Ensure the safety of employees in the area.** If an employee is injured, immediately contact the Primary Emergency Response Coordinator or supervisor for further instructions.

B. If no danger to an employee exists, **attempt to stop the spill or leak at its source**.

C. **If possible, identify the spilled material.** It is important to identify the spilled material so that the MSDS can be used to identify health hazards, environmental warnings, and material compatibility.

D. **Notify the Primary Emergency Coordinator** as soon as possible. The Primary Emergency Response Coordinator will contact additional Emergency Response Coordinators whenever necessary.

E. Contain the material in the smallest possible area by using the emergency response equipment provided in this plan. If the spill is small, use a broom or shovel to clean up

the spill. Dispose of materials appropriately. Prevent spills from entering the storm sewer system.

F. **Begin Notification Procedure.** The Emergency Response Coordinator has authority to determine if outside contractors are needed to help clean a spill and will coordinate with management if agency reporting is required. If the Reportable Quantity of a particular material is released, agency notification must begin as soon as practicable (within 30 minutes of discovery of the incident).

G. **Recover or cleanup the spilled material.** Remove the spilled material through the use of a shovel or front end loader. As much material as possible should be recovered and reused where appropriate.

H. After the spill has been cleaned, the Emergency Response Coordinator will complete a report summarizing the details of the incident. This report shall be retained in Appendix B of this Plan.

I. Evaluate the PIP Plan and amend if necessary. Determine the cause of the incident and evaluate the emergency response procedures. Correct any deficiencies and amend the plan accordingly.

1.8.2 Emergency Notifications

This subsection is intended to help the Emergency Response Coordinator to determine whether a spill needs to be reported and to whom the reports must be made. **NOTE: Prior to notifying state or federal authorities, the Emergency Response Coordinator must try to make contact with management.**

PIPP (Michigan Part 5 Rules) Emergency Notifications – These Rules require immediate notification be made to PEAS, the SERC, 911, and the LEPC if oil, salt, or a Polluting Material (see attachment) has reached or has the potential to reach surface or ground waters of the State. This includes indirect discharges through storm or sanitary sewer systems. Note that the discharge of limited concentrations of oil, salt, or Polluting Materials to the waters of the State or to a sanitary sewer may be allowed if the MDEQ or local ordinance has approved the discharge and issued a permit.

If the Emergency Response Coordinator determines that a Polluting material has reached or has the potential to reach surface or groundwaters of the State, verbal notice shall be given as soon as practicable after detection of the release to the **MDEQ 24-Hour Pollution Emergency Alert System (PEAS) at (800) 292.4706 and to 911.**

Within ten (10) days of the incident, the Emergency Response Coordinator must file a written report with the **MDEQ Southeast Michigan District Office** (586.753.3769) and the Oakland County Health Department. The written report shall outline the cause of the incident, its

discovery, and any procedures taken to remove the oil, salt, or Polluting Material(s) from the waters of the State.

Additional External Emergency Notifications:

Fire Department, Police Department, Ambulance Services – If a spill incident results in injuries to City staff, emergency medical services will be contacted immediately. If a spill is the result of vandalism or if police assistance is needed, the Police Department will be contacted. If the spill results in a fire, explosion, or threat thereof, the Fire Department will be immediately notified. The Emergency Response Coordinator shall determine if the outside contractor is needed to help clean up a spill. If the facility has knowledge of any release of a hazardous substance in a quantity equal to or exceeding the reportable Quantity, the National Response Center, the SERC, and the LEPC shall be notified immediately.

Oakland County Local Emergency Planning Committee	**248.858.5371**
State Emergency Response Commission	**517.373.8481 or 9807**
National Response Center (NRC)	**800.424.8802**

Internal Notifications:

The following City personnel shall be contacted in the event of a spill incident that requires state or federal agency notification or cleanup assistance from an outside contractor. This contact should normally be made after a spill incident has occurred and the appropriate response has taken place, but before outside agencies are notified. Note that requirements to contact outside agencies are time critical. The agency calls must be made quickly even if management cannot be reached.

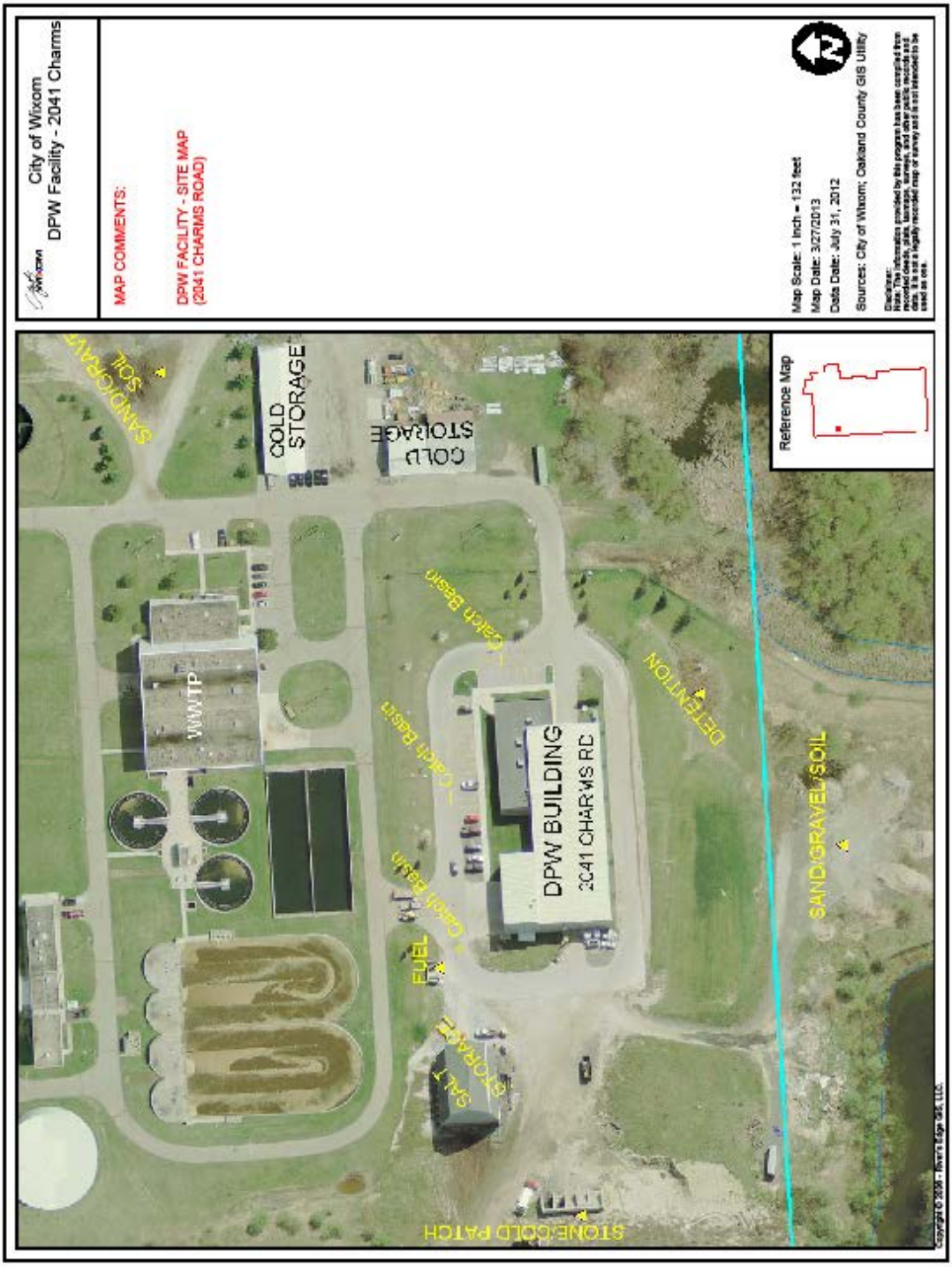
Clarence Goodlein, City Manager	**248.624.0894**

Table 1.2 Oil & Polluting Materials Storage

MATERIAL	LOCATION	CONTAINER MATERIAL	INSIDE/ OUTSIDE	SAFETY DEVICES	SECONDARY CONTAINMENT	STORAGE CAPACITY	SECONDARY CONTAINMENT VOLUME
Rock Salt	Salt Barn	Wood	Inside	N/A	Contained inside a building; with door	1800 tons	N/A
Gravel/Dirt Piles	West Sides of Property	Concrete	Outside	N/A	Contained on gravel/dirt parking lot away from storm drains	60 yds	N/A
Misc. Materials Storage	West Side of Property	None	Outside	N/A	Contained inside parking lot	N/A	N/A
Solid Waste Dumpster	West Side of Property	Metal	Outside	N/A	Contained on gravel/dirt parking lot away from storm drains	40 yd	N/A
Hydraulic, Oil, Misc. Drums	Inside DPW Garage	Metal & Plastic Drums	Inside	Locked DPW Garage	Stored on a secondary containment.	55-gal	40 gal
Waste Fuel & Oil Drums	Inside DPW Garage	Metal & Plastic Drums	Inside	Locked DPW Garage	Stored in a containment structure	55-gal	100 gal
Gas Tanks	West Side of Property		Outside	Protected by bollards and wall	Double wall containment tanks	1000 gal	600 gal
Hazardous/ Flammable Materials	Inside DPW Garage		Inside	Locked DPW Garage	Yellow labeled cabinet	N/A	N/A

Appendix A – SITE MAP

CITY OF WIXOM DPW FACILITY



Appendix B - FORM

BI-ANNUAL PREVENTION MAINTENANCE / ROUTINE HOUSEKEEPING INSPECTIONS

Inspection Date: _____

Inspector Name: _____

Material/Contents/ Structural BMP	Location	Materials Spilled? (Y/N)	Corrective Action Needed? (Y/N)	Additional Comments

Appendix C - FORM

PIPP REVIEW FORM (EVERY 3 YEARS)

Facility Information:	
Designated Name:	Certificate of Coverage No.:
Facility Contact Information:	
Name:	Contact Number:
E-Mail:	Certification No.:
Backup Facility Contact Information:	
Name:	Contact Number:
E-Mail:	Certification No.:
Certified Operator Information (if applicable):	
Name:	Contact Number:
E-Mail:	Certification No.:

PIPP Review Checklist

1)	Facility general information is current and accurate	Yes	No	
2)	Site Map is current and accurate	Yes	No	
3)	Significant material inventory is current and accurate	Yes	No	
4)	New exposures, processes and related controls have been documented appropriately in the PIPP	Yes	No	N/A
5)	Spills have been recorded and reported as appropriate	Yes	No	N/A
6)	Employee SWPPP/PIPP training was conducted and documented	Yes	No	
7)	Records of routine preventative maintenance and housekeeping inspections are available in the PIPP file	Yes	No	
8)	Comprehensive site inspections have been completed, certified and filed in the PIPP file	Yes	No	
9)	Corrective actions noted in the inspection reports have been completed	Yes	No	
10)	PIPP has been reviewed and signed by the Employee Response Coordinator	Yes	No	

Additional Comments (use additional sheets if necessary):

I certify that the above information is correct	
Name:	Signature/Date:

City of Wixom – Outfall Inventory

Description	Location	X Coordinate	Y Coordinate	Receiving Water
LL-080	Beck & Potter	83.51354	42.53985	Taylor-Ladd Drain
LL-090	Loon Lake & Fairbury	83.52349	42.5501	Taylor-Ladd Drain
LL-180	Loon Lake & Fairbury	83.5226	42.54853	Loon Lake
LL-170	Loon Lake Road & Forest Bay Ct.	83.52324	42.54708	Loon Lake
LL-190	Loon Lake Road & Forest Bay Ct.			Loon Lake
LL-040	South Creek Drive & Woodbridge Lane, Across from #1369 South Creek Road	83.52035	42.54363	Loon Lake
LL-065	Loon Lake & Teaneck	83.51155	42.53994	Taylor-Ladd Drain
LL-070	Loon Lake & Teaneck			Taylor-Ladd Drain
LL-010	Loon Lake Road, East of North Hill GC			Pond X
LL-010A	Loon Lake Road & Chanclair			Sun Lake Wetlands
LL-120	Potter Road & Nightingale			Wetlands
LL-130	East of Wixom Road, North of Charms Road			Loon Lake
LL-160	East of Wixom Road, South of Hopkins			Loon Lake
LL-210	South of Potter Road, North of Maple Road	83.52103	42.5376	Drain X
CE-251	Franklin/Anthony Uher; West Road (N. side) & Beck Road	83.52165	42.51242	Drain X
CE-240	West Road & Beck Road			Pond X
CE-290	West Rd (N. Side) & Wixom Rd. Off West Tech Dr., N of 29706 Building	83.53301	42.51069	Pond X
CE-470	West Rd. (S Side) & Wixom Rd.; in front of 49178 Fluid Automation Building	83.53481	42.50751	Drain X
CE-465	West Rd. (S side) & Beck Rd.; in front of Quality Kitchen Showroom Building	83.53129	42.50825	Pond X
CE-320	Wixom Rd. & West Rd.; In front of 30200 Detroit Edison Wixom Station	83.53689	42.51389	Drain X
CE-031	Wixom Rd. & West Rd.; In front of 30200 Detroit Edison Wixom Station			Drain X
CE-280	Wixom Rd. & West Rd.; In front of 30200 Detroit Edison Wixom Station	83.53571	42.51238	Drain X
CE-282	Wixom Rd. & West Rd.	83.5356	42.51234	Drain X

City of Wixom – Outfall Inventory

Description	Location	X Coordinate	Y Coordinate	Receiving Water
CE-281	Wixom Rd & West Rd			Drain X
CE-300	Wixom Road &Wixomtech	83.53532	42.51069	Pond X
CE-029	Wixom Rd & West Rd	83.53334	42.5066	Drain X
CE-028	Wixom Rd & West Rd	83.52305	42.50939	Drain X
CE-090	West Rd, East of Wall			Drain X
CE-100	West Rd, East of Anthony			Drain X
CE-200	West Rd, East of Anthony	83.52309	42.50946	Drain X
CE-141	West Rd, East of Anthony	83.52168	42.50884	Drain X
CE-160	West Rd, South of Anthony	83.52279	42.50854	Drain X
CE-120	West Rd, East of Lorrie	83.52226	42.50747	Pond X
CE-110	West Rd, East of Lorrie	83.52201	42.50727	Pond X
CE-130	West Rd, East of Lorrie	83.52163	42.50772	Pond X
CE-321	West Rd, East of Anthony	83.5369	42.5139	Drain X
CE-080	West Rd & Wall	83.52988	42.50758	Drain X
CE-010	West Rd & Wall	83.52952	42.50826	Drain X
CE-020	West Rd & Wall			Drain X
CE-030	West Rd & Wall			Drain X
CE-390	West of Wixom Rd, E. of Oakcreek			Norton Creek
CE-410	East of Wixom Rd, North of West Road			Drain X
CE-070A	Wixom Rd & West Rd			Drain X
ER-010	Wixom Rd N of CO RR	-	-	Pond X
ER-020A	Detention point outlet to road drainage system (30300 & 30320 Beck Road)	-	-	Pond X
NT-1	Durr Automation (Private Outfall)	-	-	Pond X
NT-2	Outlet of Durr Automation Drive (Private Outfall)	-	-	Pond X
NT-4	Maple Rd & Oakcreek	-	-	Pond X
NT-5	Dteodore End	83.54751	42.53051	Norton Creek
NT-200	Wixom Rd & Oakcreek			Norton Creek
PD-05	Wixom & Shafer, North of Shafer Rd., East of Wixom Rd.	-	-	Patton Drain
PD-030	East of Wixom Rd West of CO RR			Patton Drain

City of Wixom – Outfall Inventory

Description	Location	X Coordinate	Y Coordinate	Receiving Water
PD-08A	Behind Total Soccer	-	-	Wetlands
PD-08	Between City Hall & Total Soccer	-	-	Wetlands
PD-09	Wainstock & RR, Behind City Hall	-	-	Wetlands
SB-070	West of Beck Road, North of Pontiac Trail	83.45882	42.66499	Drain X
SB-150	South of Maple Road, East of Wixom Road (Private driveway)			Sibley Drain
SB-120	Beck Road, South of COE RR			Drain X
SE-01	Beck Rd & 96	-	-	Drain X
SE-06	Beck Road between 12 Mile and West Road, north of Progress Drive	-	-	Drain X
SE-07	Beck Road between 12 Mile and West Road, I-96 Beck Business Center	-	-	Drain X
SE-08	Beck Between I-96 & West Road, Beck Business Center detention pond outlet	-	-	Drain X
SE-13	Beck Rd South of West Rd			Drain X
SE-12	Beck Rd South of West Rd	-	-	Drain X
SE-14	Inlet to detention pond	-	-	Wetlands
SE-15	E side Beck Road between West & 12 Mile	-	-	Wetlands
SE-16	E. side Beck Road between West & 12 Mile	-	-	Wetlands
SE-17	Between 21 Mile and West Road on Beck Road East side, Beck Business Center	-	-	Wetlands
SE-18	Wixom	-	-	Pond X
SE-20/020	Beck Rd & 96	83.51637	42.49446	Drain X
SE-21	Beck Rd & West Rd	-	-	Drain X
SE-22	Ditch culvert, not an outfall (dry)	-	-	Drain X
SE-23	Beck Rd & West Rd.	-	-	Drain X
SE-24	Beck Rd & West Rd	-	-	Drain X
SB-195	Wixom Rd, South of Potter Road (RCOC Outfall)			Sibley Drain
SB-040	Behind residential homes in Sub.	83.52236	42.52916	Wetlands
SB-020	In backyard of house #2382 Wenona, crossroads Beck & Maple, near railroad tracks	83.51786	42.60517	Wetlands
SB-030	South of Maple Road @ COE RR	83.53759	42.5156	Wetlands

City of Wixom – Outfall Inventory

Description	Location	X Coordinate	Y Coordinate	Receiving Water
SB-06	East of Wixom Road, North of COE RR			Sibley Drain
SB-250	South of COE RR & Apache			Wetlands
SB-135	Maple Road & Metalla			Drain X
SB-050	Beck Road & Apache			Pond X
NT-110	North of Maple Rd at railroad tracks	83.55678	42.53611	Holden Drain
CG 010	Wixom Rd N. of 96 (MDOT Outfall)			Pond X
CE-402	Wixom Rd & West Rd (W of Wixom Rd); Runs along railroad tracks	83.53759	42.5156	Drain X
CG-265	Wixom Rd & Grand River Blvd; Adjacent to Meijer	82.54343	42.49746	Pond X
CG-280	Grand River Blvd & Wixom Rd; Behind Power Plus Engineering Building	83.54572	42.49917	Pond X
CG-275	Grand River Boulevard & Wixom Road	83.5452	82.49908	Pond X
CG-350	I-96 and Grand River Blvd; Behind 28065 Ten Air Inc. Bldg	83.55029	42.50028	Pond X
CG-380	I-96 & Wixom Rd; South of Ford Plant, W of Wixom Rd (MDOT Outfall)	83.55342	42.50191	Wetlands
CG-055	Wixom Rd (E Side) & Grand River; W of Mobil gas station parking lot	83.53547	42.49447	Drain X
CG-050	Wixom Rd (E Side) & Grand River; W of Mobil gas station parking lot	83.53572	42.49457	Drain X
CG-115	Wixom Rd (East) & I-96; South of I-96; 28080 Univer. Homes (MDOT Outfall)	83.53579	42.49739	Drain X
CG-060	Wixom Rd (East Side) & Grand River; South of I-96, near Mobil station	83.54579	42.49563	Drain X
CG-071	Wixom Rd (east side of Wixom Rd)	83.5377	49.49597	Drain X
CG-070	Wixom Rd & Grand River (east side of Wixom Rd), west of Dunkin Donuts parking lot	83.53576	42.49598	Drain X
CG-310	Napier & Grand River; at utility building off of Napier (old pump station)	83.5534	42.49483	Pond X
CG-305	Napier & Grand River; at utility building off of Napier (old pump station) – same as CG-310	83.55447	42.49444	Pond X
CG-315	Napier & Grand River; at utility building off of Napier (old pump station)	83.555	42.49455	Pond X

City of Wixom – Outfall Inventory

Description	Location	X Coordinate	Y Coordinate	Receiving Water
CG-300	Napier & Grand River; at old pump station	83.5531	42.49454	Pond X
CG-320	Napier & Grand River; in front of 51155 Grand River (Private/RCOC Outfall)	83.55261	42.49783	Drain X
CG-340	Napier & Grand River; in front of Fame Industrial Building; across from 51035 Grand River (Private RCOC/Outfall)	-	-	Drain X
CG-325	Napier & Grand River; behind Fame Industrial Building (51000) (Private/RCOC Outfall)	83.55263	42.49946	Pond X
CG-330	Napier & Grand River; in front of 51035 Building (Private/RCOC Outfall)	83.55193	42.49769	Drain X
CG-095	Wixom Rd & Grand River; South of Meijer's drive/Shell Gas Station (RCOC Outfall)	83.53616	42.49577	Drain X
CG-090	Wixom Rd & Grand River; in front of McDonalds (RCOC Outfall)	83.53605	42.49498	Drain X
CG-091	Wixom Rd & Grand River; west side of Wixom Rd (RCOC Outfall)	83.53609	42.4949	Drain X
NT-030	Pontiac Trail, East of Product			Drain X
NT-165	Pontiac Trail & South Wixom (N side of Pontiac Trail; behind Korex building (Private Outfall)	83.54088	42.52638	Norton Creek
NT-060	Maple Road@ CO RR	83.53038	42.53038	Norton Creek
NT-070	Maple Road & Hampton	83.54963	42.52901	Drain X
NT-170	Pontiac Trail & South Wixom (N side of Pontiac Trail); behind Korex building (Private Outfall)	83.54065	42.52619	Norton Creek
NT-175	Pontiac Trail & South Wixom Rd.; behind AFC Holcraft building (Private Outfall)	83.539999	42.52553	Norton Creek
NT-195	Pontiac Trail & South Wixom Rd; (N. side of Pontiac Trail) (Private Outfall)	83.54204	42.52431	Ponds that outlet to Norton Creek
NT-140	Maple Rd & Wixom Rd; Residential; near railroad tracks (bridge @ Maple Rd)	42.53158	8.54775	Norton Creek
NT-150	Maple Rd & Hedigan; Res/Sub; Behind house #2400 Hedigan	42.53459	83.54519	Pond X
NT-130	Maple Road & Castlewood			Pond X
PD-110	Pontiac Trail & South Wixom Rd; S. side of Wixom Food Market parking lot	83.53745	42.52201	Patton Drain

City of Wixom – Outfall Inventory

Description	Location	X Coordinate	Y Coordinate	Receiving Water
PD-070	Pontiac Trail & South Wixom Rd; West of Total Soccer; South of World's Gym	83.53658	42.52125	Patton Drain
PD-105	Pontiac Trail & South Wixom Rd; (West side of Wixom) across from Aramack entrance	83.53773	42.51991	Drain X
CE-360	Pontiac Trail & South Wixom Rd (West side of Wixom Rd)	83.53564	42.51568	Pond X
CE-400	West of Wixom Rd, N. of Ford Complex	83.53735	42.51455	Drain X
CE-070A	Wixom Rd (south) & West Rd; NW of Wendys, SW of corner of Wixom & West Rd.	-	-	Drain X
SE-090	Beck Rd (East side) & 12 Mile Rd; behind Commerce Industries #28266	83.51363	42.49958	Wetlands
SE-100	Beck Rd (east side) & 12 Mile Rd; behind (north of) Commerce Industries #28266	83.51354	42.49945	Wetlands
SE-050/050A	12 Mile Rd & I-96; in front of RV center	83.52643	42.49417	Drain X
SE-030A	12 Mile Rd & I-96; in front of Anderson Bros. Pools #47850	83.52232	42.49434	Wetlands
SE-065	Beck Rd & 12 Mile Rd & I-96; behind Maguire Graphics building #46962	83.51186	42.50094	Drain X
PD-120	Pontiac Trail & Beck Road; south of Village Apts; north of railroad tracks; behind building #44	83.51189	42.50094	Pond X
SE-040	I-96 & Beck Road; off of I-96 west of Beck Rd, just north of highway approximately 1600'	83.52119	42.49515	Wetlands
CG-120	I-96 east & Wixom Rd; in island of on-ramp to 96 east (MDOT Outfall)	83.53758	42.49788	Drain X
CG-020	I-96 & Wixom Rd; just east of Wixom Rd overpass (MDOT Outfall)	83.5365	42.49858	Drain X
CG-150	I-96 east & Wixom Rd; just south of Wixom Rd-96 onramp, approximately 350' west of Wixom (MDOT Outfall)	83.53758	42.49869	Drain X
CG-290	I-96 west & Wixom Rd; at edge of Ford plant property	83.54622	42.50049	Drain X
CG-375	I-96 west & Wixom Rd; south end of I-96; approximately 1900' east of Wixom city limits (MDOT Outfall)	83.55225	42.50098	Drain X
CG-110	I-96 & Wixom Rd; at island of 96 east on-ramp; south end of island	83.5366	42.49688	Drain X

City of Wixom – Outfall Inventory

Description	Location	X Coordinate	Y Coordinate	Receiving Water
ER-040A	Beck Rd & Pontiac Trail (east side); behind #30000 Flow Corporation (adjacent to railroad tracks)	83.51414	42.51344	Pond X
ER-350	Beck Rd & Pontiac Trail (east side); behind #30100 Moller Manufacturing (~200' north of railroad tracks)	83.51378	42.51466	Pond X
ER-250, 251, 252, 253	Beck Road & Pontiac Trail (east side); off Cartier Drive, in front of 47220 Fiber Class	83.1483	42.51821	Pond X
CE-230	Beck Rd & Pontiac Trail (west); west of CE-235	83.52474	42.51598	Pond X
SE-19/190A	Beck Rd South of Wixom Rd & West Rd; just south of #20181 – Petronis Industries building	83.51632	42.50489	Drain X
SE-195	Beck Rd & Avanti Dr; at corner of Avanti/Beck Rd	83.51676	42.50407	Drain X
SE-210	Beck Rd & West Rd (West of Beck Rd)	83.51653	42.50739	Drain X
NW-010	Res. Woods, Charms Rd & Wixom DPW Drive	42.54339	83.55044	Sibley Drain
NW-020	Charms Rd and Wexford; Res. Across from house #2085 Charms	42.54613	83.55259	Pond X
NW-040	Charms Rd & Devonshire; Res Adjacent to house #1814	42.51778	83.55495	Pond X
NW-040A	Charms Rd & Charms Revine; Res. Behind house #2211 & 2217	42.51748	83.55595	Pond X
NW-050	Charms Rd & Charms Revine; Res adjacent to house #1814	42.54797	83.55492	Pond X
NW-070	Charms Rd & Windingway; north of Charms, behind house #1616	42.54616	83.54532	Pond X
NW-080	Charms Rd; Res east of Sarah Banks Middle School entrance	42.54619	83.54074	Drain X
NW-090	Charms Rd & Barberry; 3649 Barberry; residential (across the street)	42.5526	83.54504	Pond X
NW-100	Charms Rd & Loon Lake Rd; Res #3537 Loon Lake Rd.	42.55198	83.54157	Drain X
NW-110	Charms Rd & Loon Lake Rd; Res #3537 Loon Lake Rd.			Drain X
NW-120	Charms Rd & Barberry Rd; Res behind house no. 3517 Barberry	42.5522	83.54029	Drain X
NW-140	Charms Rd & Pondview Dr; Res behind house #1495 & 1507 Pondview	42.54435	83.54007	Pond X

= Not a City of Wixom Outfall

= Prioritized Outfall