



# **Stormwater Management Plan**

Kansas Permit # M-MC31-SN01  
Federal Permit # KSR044015

February 25, 2015



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## SECTION 1: Introduction to the Document

**1.1 Purpose of the Stormwater Management Plan:** This Stormwater Management Plan (SMP) outlines the efforts and strategies to be employed for the reduction of pollutants in stormwater runoff within the City of Ottawa, Kansas. The plan is to be used by the community as a guide to stormwater management activities, including stormwater Best Management Practices (BMPs), goals, monitoring duties, and reporting requirements. The document is designed to meet the requirements for Stormwater Management Plans as required by KDHE and the EPA under the Municipal Separate Storm Sewer System (MS4) permitting program.

**1.2 Current Permit Information:** This plan was prepared in compliance with Kansas Permit # M-MC31-SN01 and Federal Permit # KSR044015.

Effective Date:	<u>February 1, 2014</u>
Expiration Date:	<u>January 31, 2019</u>

**1.3 Permit Compliance Activities and Schedule:** Part IV of the MS4 General Permit requires certain activities to be completed within the effective permit period. The compliance schedule requirements are as follows.

- **Year 2014:** Complete inventory and maps of the outfalls, stream, and lakes in the targeted areas, select drainage basins, and sub-basins as candidates for structure or non-structure BMPs, select and initiate, or continue existing effective plans for source control program targeted to the Total Maximum Daily Load (TMDL) pollutants. By July 1, 2014, implement new source control programs and the initial stormwater monitoring program.
- **Year 2015:** Continue the source control programs and monitoring of storm events at selected sites.
- **February 28, 2015:** A copy of the initial updated/implemented SMP document developed pursuant to this permit's requirements shall be submitted to KDHE for review. Subsequent annual reports shall be submitted to KDHE by February 28 of each year for the preceding calendar year.
- **Year 2016:** Continue source control program and monitoring of storm events at selected sites. By July 1, 2016, select, design and initiate installation of approval structure BMPs.
- **Year 2017:** Continue BMP installation and/or source control programs and stream/lake/BMP outfall monitoring as appropriate. Complete BMP installation by the end the year.
- **Year 2018:** Continue stream/lake/BMP monitoring and effective source control programs.
- **February 28, 2019:** Provide a final report on effectiveness of source control and structure BMPs to achieve the measureable goals and summarize water quality data from selected monitoring sites.

**1.4 Parties Responsible for Compliance with the Stormwater Management Plan:** Overall responsibility for coordination of activities outlined in this plan, and for reporting, will be by the City of Ottawa's Director of Public Works.



**1.5 Reporting to KDHE:** Annual reporting is required by KDHE to be submitted each calendar year on the 28<sup>th</sup> of February. The report will cover activities conducted during the prior calendar year and will include the following:

- Activities during the previous calendar year.
- The status of compliance with permit conditions, an assessment of the appropriateness of the BMPs, progress towards achieving the statutory goal of reducing the discharge of pollutants to the maximum extent practicable (MEP), and the measurable goals (with an indication of the progress toward meeting the goals) for each of the six minimum control measures and TMDLs as listed in the Stormwater Management Plan document.
- Results of information collected and analyzed, if any, during the annual reporting period, including monitoring data used to assess the success of the program at reducing the TMDL regulated pollutants.
- A summary of the stormwater activities that were scheduled to be undertaken during the previous calendar year and the status of these activities.
- A summary of the stormwater activities which are schedule to be undertaken during the next reporting cycle (including an implementation schedule).
- A map showing changes in the permittee's jurisdictional Permit Area.
- Description of significant changes in any of the BMPs including those in the SMP implementing the six minimum control measures.
- Updated ordinances or resolution associated with the SMP or the six minimum control measures shall be provided with the annual reports.
- A list of other parties, if any, which will be responsible for implementing any of the program areas of the Stormwater Management Plan.



## SECTION 2: Six Minimum Control Measures

This section describes the six Minimum Control Measures (MCMs) for water quality protection that are required by all MS4 permits. They include the following:

1. Public Education and Outreach.
2. Public Involvement and Participation.
3. Illicit Discharge Detection and Elimination.
4. Construction Site Stormwater Runoff Control.
5. Post-Construction Stormwater Management in New Development and Redevelopment.
6. Pollution Prevention/Good Housekeeping for Municipal Operations.

For each of these control measures the following is provided in this section:

- A summary description of the control measure.
- A table listing BMPs, Measureable Goals for the BMPs, and schedule/frequency of review or assessment.

**2.1 Public Education and Outreach:** This MCM consists of implementing a public education program which includes distribution of educational materials to the community and conducting outreach activities to address the impacts of stormwater discharges on water bodies and the steps the public can take to reduce pollutants in stormwater runoff.

BMP #	BMP Description	Measurable Goal Description	Schedule/Frequency
1.01	Address Stormwater on City's website.	Establish a storm water pollution information link. Effectiveness will be measured by the number of "hits" to the website.	<b>Review Quarterly</b>
1.02	Provide Stormwater information on City's Government Access Channel (television).	Continue to provide Stormwater information on City's Government Access Channel. Use public feedback to gauge effectiveness.	<b>Review Annually</b>
1.04	Continue to implement a storm water education program for school aged children and college level programs.	With USD 290, assist with instruction that fits appropriately into the science curriculum (emphasizing Middle and High School). Also work with Ottawa University and Neosho County Community College to include curriculum.	<b>Review Annually</b>
1.05	Develop and distribute storm water education materials for restaurant owners.	Outreach material on proper storm water management practices for restaurants will be produced and distributed to restaurants, keeping records of distribution.	<b>Review Annually</b>
1.06	Develop and distribute "Do you know which sewer your business is using?" brochure.	Issue brochure to new businesses opening utility accounts, and distribute the brochure through the offices of the Ottawa Chamber of Commerce and the Ottawa Main Street Association.	<b>Review Annually</b>



**2.2 Public Involvement and Participation:** This MCM consists of implementing a public involvement and participation program to solicit public comment and recommendations regarding the BMPs and measurable goals utilized by the City to comply with the permit. The City will comply with State and local public notice requirements when implementing a public involvement and participation program.

BMP #	BMP Description	Measurable Goal Description	Schedule/Frequency
2.01	Develop and implement a volunteer storm drain inlet stenciling program.	Stencils will be "checked out" by volunteer groups. Volunteer group organizers will be trained in proper methods. The status of stenciling will be monitored, with the intent that all inlets to the storm drainage system will be stenciled by the end of the permit term.	<b>Review Annually</b>
2.02	Assist to organize volunteer community clean-up efforts.	Clean-ups will be organized by volunteer organizations, home owners' associations, etc., with the assistance of City of Ottawa staff. The number of cleanup efforts will be recorded.	<b>Review Bi-Annually</b>
2.03	Maintain the City website based community reporting procedure for suspected water contamination.	Continue to review the number of reports by citizens, and follow-up with activities documented.	<b>Review Monthly</b>
2.04	Establish "Stream Teams."	Stream Teams will be established from volunteer organizations (civic clubs, school clubs, Boy/Girl Scouts, etc.) for major drainage areas within the City. Stream Team activities may include stream clean-up and outfall monitoring. The number of teams organized and their activities will be monitored.	<b>Review Annually</b>

**2.3 Illicit Discharge Detection and Elimination:** This MCM consists of developing, implementing, and enforcing a program to detect and eliminate illicit wastewater discharges or other non-stormwater discharges into the storm sewer system.

KDHE requires this program to include, at a minimum:

- Developing a storm sewer system map of the permitted MS4 showing the location of all outfalls, either pipes or open channel drainage, and showing the names and locations of all streams or lakes that receive discharges from those outfalls.
- Enacting and enforcing an ordinance or resolutions to prohibit non-stormwater discharges into the storm sewer system.



- Informing public employees, businesses, and the general public of hazards associated with illegal discharges and improper disposal of waste.
- Developing and implementing a plan to detect and address prohibited non-stormwater discharges.

<b>BMP #</b>	<b>BMP Description</b>	<b>Measurable Goal Description</b>	<b>Schedule/Frequency</b>
3.01	Promote public use of the Franklin County Household Hazardous Waste program.	Promote increased use of the Franklin County Household Hazardous Waste facility. Effectiveness will be measured by surveying users of the facility to determine how they became aware of the service.	<b>Review Annually</b>
3.02	Develop and implement a dry weather flow inspection program.	Develop annual dry weather flow inspection program that involves visual inspection of all outfalls discharging to waters of the U.S. The program will include outfall inspection worksheets to be kept on file for 3 years.	<b>Review Bi-Annually</b>
3.03	Develop a storm sewer network and outfall map.	All public storm sewer outfalls discharging to waters of the U.S. will be mapped. Each outfall will be field verified and given a unique identifier to be used to document inspections and repairs. Map will be regularly updated in GIS as improvements or new development occurs.	<b>Review Annually</b>
3.04	Review existing Plumbing Codes and other related regulations to determine appropriateness. If necessary, develop and adopt an illicit discharge detection and elimination ordinance.	An ordinance that prohibits illicit discharges and provides for an enforcement mechanism to allow for potential source inspection and elimination will be developed. The ordinance will include language allowing the City to inspect private property if an illegal discharges appears to be emanating from the property.	<b>Review Annually</b>
3.05	Develop, refine and/or implement procedures for correcting or eliminating illicit discharges.	Procedures will be developed for providing illicit dischargers with knowledge for correcting/eliminating the discharge. Procedures will include follow up inspection and penalties for non-compliance.	<b>Review Annually</b>

**2.4 Construction Site Stormwater Runoff Control:** This MCM includes developing, implementing, and enforcing a program to reduce pollutants in any stormwater runoff to the MS4 for construction sites disturbing one acre or more, including areas that are less than one acre but are part of a larger common plan for development that disturbs one or more acre.

KDHE requires this program to include:



- Where permittee's have the authority to do so, ordinances or resolutions shall be enacted to require erosion and sediment controls, as well as sanctions to ensure compliance.
- Requirements for construction site owners or operators to implement erosion and sediment control BMPs.
- Requirements for construction site owners or operators to control wastes at the construction site that are likely to cause adverse impacts to water quality.
- Procedures for site plan review which incorporate consideration of potential water quality impacts.
- Procedures for receipt and consideration of information submitted by the public.
- Procedures for site inspection and enforcement of control measures.

<b>BMP #</b>	<b>BMP Description</b>	<b>Measurable Goal Description</b>	<b>Schedule/Frequency</b>
4.01	Require Soil Erosion and Sedimentation Control (SESC) plans for any land disturbance equal to 1 acre or greater.	A regulatory ordinance will be developed that requires SESC plans for all developments disturbing 1 acre or more.	<b>Project by Project Basis</b>
4.02	Develop or adopt a design manual for erosion and sediment control BMPs. Examples included may not necessarily address all situations.	A design manual for erosion and sediment control BMPs will be developed within 1 year of ordinance adoption. The manual will outline proper design of SESC practices and provide information on proper maintenance.	<b>Adopted the CDM Wilson &amp; Co BMP doc.</b>
4.03	Develop and implement a site inspection program for construction sites greater than 1 acre.	The City will develop an inspection program that identifies qualified inspectors and enforces the SESC ordinance. The program will specify milestones during the construction period when inspections will take place.	<b>Project by Project Basis</b>
4.04	Offer workshops to inform developers of ordinance requirements.	A workshop will be given by the City to assist engineers and developers in understanding the requirements of the SESC ordinance.	<b>Review Annually</b>
4.05	Formulate an inspection checklist for inspectors to document site inspections.	The City will develop a construction site inspection checklist to document site inspections and compliance. This information will be kept on file to document the number of inspections performed and percent compliance.	<b>Review Annually</b>





**2.5 Post-Construction Stormwater Management in New Development and Redevelopment Projects:** This MCM includes the implementation and enforcement of a program to address post-construction stormwater runoff from new development and redevelopment projects that disturb greater than or equal to one acre, including projects less than one acre that are part of a larger common plan of development or sale, that discharge into the MS4.

KDHE requires that the program must include the development and implementation, at a minimum, of the following:

- BMPs to prevent or minimize adverse water quality impacts.
- Strategies which include a combination of structural and/or non-structural BMPs appropriate for the municipality.
- For permittee's which have the authority, ordinances or resolutions to address post-construction runoff from new development and redevelopment projects to the extent allowable under State and local law.
- Ensure adequate long-term operation and maintenance of BMPs.

BMP #	BMP Description	Measurable Goal Description	Schedule/Frequency
5.01	Develop/adopt a BMP design manual.	The design manual will show design criteria for wet detention ponds, extended dry detention ponds and grass swales.	<b>Adopted the CDM Wilson &amp; Co BMP doc.</b>
5.02	Require all post development runoff peaks to meet existing condition runoff peaks.	Reduce the increases in runoff peaks resulting from new developments. Detention requirements will be reviewed and established for all future developments.	<b>Project by Project Basis</b>
5.03	Establish buffer zone requirements for all new developments.	Buffer zones will be reviewed for implementation along waterways located within new developments.	<b>Review Annually</b>
5.04	Continue enforcing the Stormwater regulatory ordinance.	Regulatory ordinance provides standards for structural and non-structural BMPs designed to minimize adverse water quality impacts.	<b>Review Annually</b>
5.05	Develop a program for the maintenance of storm water facilities, public and private.	A program outlining operation and maintenance responsibilities for storm water facilities, such as detention ponds and water quality ponds, will be developed and implemented.	<b>Review Annually</b>



**2.6 Pollution Prevention/Good Housekeeping for Municipal Operations:** In this MCM, the City will develop and implement an operation and maintenance program that includes employee training to prevent and reduce stormwater pollution from municipal operations activities such as park and open space maintenance, fleet and building maintenance, new construction and land disturbances, and stormwater system maintenance.

<b>BMP #</b>	<b>BMP Description</b>	<b>Measurable Goal Description</b>	<b>Schedule/Frequency</b>
6.01	Implement a more formalized street sweeping program.	A formalized street sweeping program will be developed. Commercial district streets will be swept once per week and residential streets will be swept once per quarter. Additional sweeping may occur in the fall and spring months due to seasonal requirement	<b>Review Annually.</b>
6.03	Implement proper waste disposal procedures.	The City will develop procedures for proper disposal of materials such as oil, street debris, salt from snow stockpiles, and yard waste.	<b>Review Annually.</b>
6.04	Develop procedures for operating and maintaining storm water facilities.	The procedures will include regular inspection and maintenance schedules. Checklists will be prepared for documentation.	<b>Review Annually.</b>



### SECTION 3: Total Maximum Daily Load Regulated Pollutants

**3.1 Background:** Total Maximum Daily Loads (TMDLs) are established for waters found on the Clean Water Act Section 303d list of impaired waters. The purpose of the TMDL is to define the allowable pollutant load that may enter those impaired waters so that those waters attain a condition that fully supports all its designated uses. The TMDL then allocates portions of that allowable load among the likely point and non-point sources discharging the pollutant into the water or its watershed.

The City is required to implement BMPs to reduce to the maximum extent possible the discharge of TMDL regulated pollutants from the MS4 to impaired waters. Total Maximum Daily Load (TMDL) regulated pollutants identified in the current permit are listed below:

<b>TMDL Regulated Pollutant</b>	<b>Specific Impaired Stream or Lake to Target</b>
Bacteria	Marais des Cygnes River, Wilson Creek, and Rock Creek

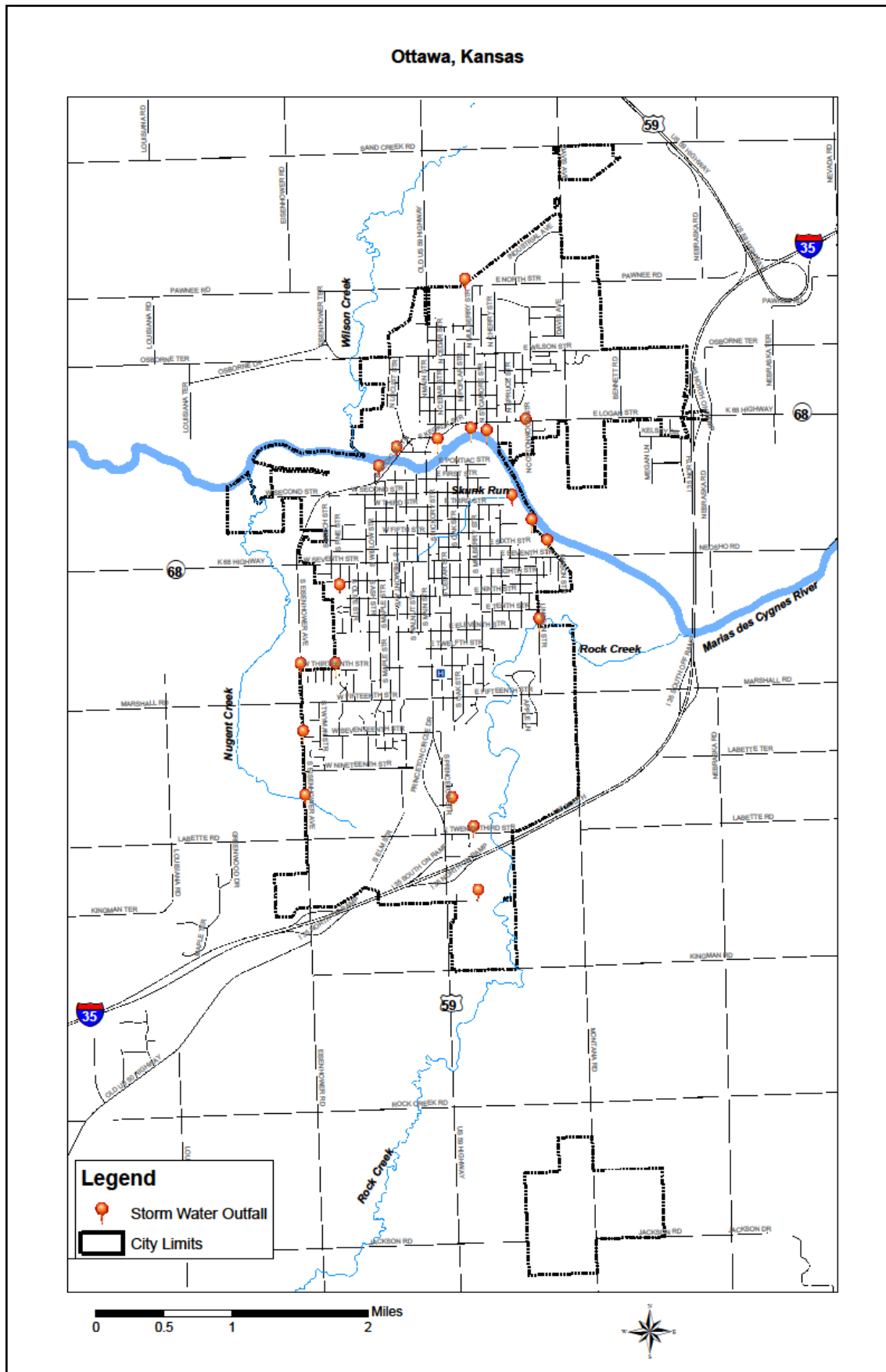
**3.2 Selection of BMPs:** All of the tasks associated with the Six MCMs are designed to reduce pollutants in stormwater runoff. Selected BMPs specifically targeting Bacteria include the following:

<b>BMP #</b>	<b>BMP Description</b>	<b>Measurable Goal Description</b>	<b>Schedule/Frequency</b>
8.01	Pet Waste Clean Up. A public education campaign will continue to be implemented to encourage pet owners to properly dispose of pet waste.	Flyer to be included in water bills to customers and will be available at parks, veterinary offices. Flyer will provide information on proper pet waste disposal.	<b>Review annually</b>
8.02	Develop and implement a sanitary sewer inspection program.	An inspection program for all municipal sanitary sewer systems will be developed to detect overflow points and leaks that enter streams and rivers.	<b>Review annually</b>
8.03	Septic System Maintenance Program. Develop and implement a program to identify and eliminate failing septic systems.	Procedures for septic system maintenance program will be developed and implemented.	<b>Review annually</b>

**3.3 Establishing Measurable Goals:** The measurable goals for the reduction of the TMDL pollutants will be based on in-stream concentrations. Monitoring of pollutant levels entering and leaving City limits will provide the metric for the successfulness of the BMPs. The TMDL goals include reduction of the concentration/mass of pollutants in the streams within/across City limits.



**3.4 Mapping:** The following map illustrates the City limits, the Marias des Cygnes River, Wilson Creek, and Rock Creek.





**3.5 Alternative Stormwater Offsite Pollution Reduction Program:** This program allows permittee's to implement offsite pollution reduction programs outside of the permit area but within the watershed as an alternate to activities within the permit area. The City is not pursuing the program at this time.



## **SECTION 4: Monitoring**

**4.1 Monitoring Requirements:** The permit requires that the City implements a wet weather monitoring program designed to assess the improvements in the water bodies (streams/rivers) due to the implementation of citywide BMPs. The minimum requirements for monitoring are as follows:

1. In-stream sampling of the main streams where they enter and exit City limits
2. Streams to be monitored include the Marais des Cygnes River, Wilson Creek, and Rock Creek
3. Sampling shall be for the TMDL regulated pollutants

**4.2 Monitoring Frequency:** At a minimum, four (4) storm events shall be monitored annually for each stream. Each storm event shall be a 24-hr rain or snow melt event greater than or equal to 0.50 inches of precipitation. The monitoring events shall occur both in the spring (March 1 thru June 30) and in the summer (July 1 thru October 31).

**4.3 Other Permit Requirements:** Other permit requirements, such as sampling methodology and reference data collection, are listed in the MS4 permit and will be included in the monitoring procedures.



## **SECTION 5: Modifications to BMPs and the Stormwater Management Plan**

This SMP will be evaluated annually and modifications to the Plan, if any, will be submitted with the annual report. Minor modifications to BMPs listed in this plan, if needed to meet program objectives, will be made within 60 days as determined by the permittee or written notification by KDHE.