# Stormwater Management Plan

2021 - 2024

Submitted in Compliance with

Kansas Permit No. M-KS31-SU01

February 2021

Last Revised February 2024

# CONTENTS

# 1.0 INTRODUCTION

The Stormwater Management Plan (SMP or "Plan") outlines the programs and practices the City of Lawrence (“City”) will implement to comply with the requirements of the National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) permit effective December 1, 2019. The focus of the SMP is to document how the City will manage and reduce the discharge of pollutants from its storm system to the maximum extent practicable by implementing best management practices (BMPs) consistent with the provisions of the permit. Programs outlined herein will best enable the City to protect water quality and satisfy the requirements of the Clean Water Act and Kansas surface water quality standards. The Plan components will be described in clear, specific, and measurable terms to comply with new EPA regulations published in the MS4 General Permit Remand Rule (Remand Rule), as finalized and effective January 9, 2017.

This SMP will guide the City’s stormwater programs to implement BMPs for Total Maximum Daily Load (TMDL) regulations and each of the six minimum control measures: Public Education, Public Involvement and Participation, Illicit Discharge Detection and Elimination, Construction Site Runoff Control, Post Construction Discharge from new Development and Redevelopment, and Pollution Prevention and “Good Housekeeping” in municipal operations. The Kansas Department of Health and Environment (KDHE) established a point system associated with a list of BMP options, tasks, or other conditions for each control measure to be implemented to demonstrate compliance with the permit control measures and Remand Rule. The City will implement these BMPs to achieve the necessary point requirements sufficient for permit compliance for each year within the permit cycle beginning in 2021.

The Plan includes tables of BMPs for each control measure along with measurable goals and the corresponding point value. The tables indicate the BMP options for the City to implement during this permit cycle, with the BMPs the City plans to perform identified with the personnel responsible for implementing the measure. While the various BMPs provide the City flexibility in implementing the stormwater management program, a critical and challenging component will be documenting and tracking the wide array of actions associated with this five-year permit.

Additional sections of the Plan include measures for monitoring and controlling pollutants from industrial and high-risk areas, flood control projects, and water quality monitoring. Also included are maps and sampling requirements to address TMDL impairments in the receiving waters adjacent to Lawrence’s permitted jurisdiction through wet weather stream sampling and testing during qualifying precipitation events. The SMP additionally serves as an important resource for other needs of the City, such as multilayer capital improvement and integrated plans.

The City will modify the SMP as needed to meet the conditions of the permit through any of the following methods as laid out in the permit:

1. If the SMP document is updated during the permit cycle, the City will submit the Plan to KDHE for review and approval along with the annual report, which is due after the first of the calendar year but before the 28th of February. In this case, the City can begin implementing the new SMP as soon as the SMP is submitted to KDHE. The City is required to implement the approved SMP to meet the conditions of the permit. If KDHE finds the SMP is not approvable, requirements for modification and resubmittal will be addressed by the City.

2. If it becomes necessary to modify the SMP at some time other than when the annual report is submitted to KDHE, the City will make the modifications to the SMP document and submit the SMP document to KDHE for approval. The City will not begin the implementation of the modified SMP until KDHE has provided approval.

3. KDHE may require the City to modify the SMP at any time. Requirements for modification and resubmittal will be addressed by the City promptly for KDHE approval.

This Plan was prepared in compliance with Kansas Permit Number: M-KS31-SU01

SMP Effective Date: February 24, 2021
SMP Expiration Date: January 31, 2025

Section 1.1 summarizes the basic requirements of the stormwater permitting program for the benefit of users of this document. Subsequent sections provide the details of the SMP itself.

## 1.1 Overview of Stormwater Permit Requirements for MS4s

The Federal Water Pollution Control Act (i.e., the Clean Water Act) requires permits for both municipal and industrial stormwater dischargers, developed under the National Pollutant Discharge Elimination System (NPDES). Permits for stormwater discharges from municipal urbanized areas are regulated under the Municipal Separate Storm Sewer Systems (MS4) permitting program,

An MS4 is defined as “a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains)” that are (1) designed or used for collecting or conveying stormwater and (2) owned or operated by a city, county, or other governmental entity (including federal and state entities). The term “MS4” specifically excludes (1) combined sewers and (2) systems that are part of a publicly owned treatment works.

KDHE has developed two general MS4 permits for small municipalities with separate storm sewer systems; one for entities receiving an MS4 permit for the first time and another for entities receiving a re-issued permit. The City is currently in the third MS4 permit cycle, implementing the permit effective on December 1, 2019. The City’s original MS4 permit was issued on October 1, 2004, and was superseded by a second permit issued on February 1, 2014.

The general permits establish standardized requirements for entities across the state engaged in similar activities and discharging stormwater of similar quality. Permits issued to regulated cities or counties may include supplemental conditions in addition to the standardized requirements in the general permits. The following description of the MS4 permit program was compiled from KDHE fact sheets:

The small MS4 general permit program addresses MS4s that serve populations less than 100,000 in urbanized areas, as well as MS4s located outside of urbanized areas that have or may have the potential to negatively impact surface water quality as a result of their discharges.

A general permit requires the permittee to develop, implement, and enforce a Stormwater Management Plan (SMP) designed to reduce the discharge of pollutants from the MS4 to the maximum extent practicable, to protect water quality, and to satisfy water quality requirements of the Clean Water Act and Kansas law.

The SMP must include the six minimum stormwater control measures that are required of all plans. The City will demonstrate compliance through a point system and a list of various BMPs, tasks, or other conditions with associated point values that will be tallied and compared with the total point requirement for each of the Six Minimum Control Measures and TMDL BMPs when required.

The SMP must also address the implementation of BMPs with measurable goals, designate the parties responsible for implementing the BMPs, and provide appropriate maps and procedures for conducting stormwater/receiving stream sampling and testing based upon the TMDL impairments for reducing pollutants in stormwater discharges from the municipality. Particular emphasis is placed on drainage basins and stormwater pollutants that discharge to designated Total Maximum Daily Load (TMDL) streams and lakes within or immediately downstream of the municipality.

“Impaired Waters” are streams or lakes that do not attain or maintain minimum water quality standards. They may result from individual or multiple pollutants. A TMDL is a calculation of the maximum amount of a pollutant that a waterbody can receive and still meet water quality standards. TMDLs are developed for impaired streams and lakes that are identified on the State’s 303(d) list of impaired waters

TMDL water bodies and pollutants of concern are identified in permits issued for individual municipalities if impaired waters exist within or immediately downstream of that jurisdiction. Monitoring requirements and water quality protection initiatives may then focus primarily on those pollutants.

## 2.0 PARTIES RESPONSIBLE FOR COMPLIANCE WITH THIS PLAN

The City of Lawrence Municipal Services and Operations Department (MSO), Environment, Health & Science (EHS) Section will assume the overall responsibility for coordinating activities and the reporting outlined in this Plan. EHS will provide education and communicate regulatory requirements of the MS4 permit to all City departments. Other MSO sections and staff will take part in the implementation of best management practices required under the six minimum control measures. EHS will collaborate with other City departments such as Parks and Recreation and Planning and Development Services in some cases. The plan designates lead staff for each BMP that the City chooses to implement under each minimum control measure.

## 3.0 COMPLIANCE - NPDES SIX MINIMUM CONTROL MEASURES

This section describes the six minimum water quality protection control measures that are required by all MS4 permits. Effective implementation of these minimum control measures is expected to result in a significant reduction of pollutants discharged into receiving water bodies. The City will continue to develop and implement adequate BMPs with measurable goals for each of the control measures selected to claim at least the minimum required points in the calendar years for the duration of this management plan.

In cases where the City is already implementing a BMP that qualifies for points, continued implementation of that BMP will earn the listed points as allowed for the first year of implementation under this permit as well as allowable for subsequent years.

Additionally, because multiple BMPs involve holding public hearings or public forums, the City may hold a public hearing or forum that addresses various topics and claim points for all applicable BMPs.

The City is not limited to the implementation of the BMPs listed in the MS4 permit. However, while other BMPs may be implemented, only those listed in the permit will count towards the required annual point total.

EHS staff will maintain a schedule on file to claim the associated points and document compliance with the goal and implementation schedule to report on the extent of compliance (i.e., equaling, exceeding, or failing to reach the required annual point total) in the annual report submitted to KDHE.

The permit describes the six minimum control measures as follows:

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

Sections 3.1 – 3.6 provide the following information for each control measure:

- A summary description of the control measure and the City's applicable practices and programs
- The benefits of the control measure
- A table listing BMPs with measurable goals, point values, and responsible parties
- Program assessment activities for evaluating the success of the control measure
- Lead staff for each BMP that the City chooses to implement under each minimum control measure.

## 3.1 Control Measure 1: Public Education and Outreach

### Description

This minimum control consists of implementing a public education program to inform residents, businesses, and organizations about the impacts of stormwater discharge on surface water quality and how they can help reduce pollutants in stormwater runoff. This minimum control includes distributing educational materials to the community and conducting outreach activities.

The City renewed emphasis on internal and external communication capabilities by establishing an expanded Communications Division staffed with full-time employees, including a Public Information Officer (PIO) within MSO to assist with stormwater initiatives. A full-time MSO Technician additionally focuses specifically on water quality and community education efforts and messaging as an Outreach Coordinator in EHS.

Additionally, EHS coordinates with the City's Planning & Development Services (PDS) department to educate developers on meeting applicable MS4 permit requirements. If a contractor or developer fails to follow stormwater pollution prevention BMPs during construction, PDS can help EHS address erosion control maintenance as part of the permitting process. EHS staff actively participate in new development project meetings to provide information and guidance to PDS staff regarding MS4 requirements.

The City of Lawrence operates the Lawrence/Douglas County Household Hazardous Waste (HHW) facility for all county residents and participates in regional efforts to keep hazardous materials out of the environment. Public education related to HHW focuses primarily on the proper use and disposal of these materials. EHS and the PIO emphasize HHW in messaging through various media to educate the public about issues related to HHW as a threat to water quality. Improper disposal of HHW can result in the introduction of concentrated quantities of hazardous material into waterways or water bodies through the storm sewer system.

In addition to the Public Education and Outreach program described above, the City will implement sufficient BMPs with measurable goals listed in the table below to achieve the required number of points in each year within the permit cycle. The implementation of BMPs for this minimum control measure must result in the accumulation of a minimum of 4 points total on an annual basis for each calendar year in 2021 and 2022. The point total requirement increases to 7 points for each calendar year beginning in 2023.

### Benefit

An informed and knowledgeable community is crucial to the success of a stormwater management program. Public awareness helps to ensure greater support and compliance. As the public gains a good understanding of the importance of water quality issues in both residences and businesses, they become more aware of the personal responsibilities expected

of them and others in the community, including the individual actions they can take to protect and improve water quality.

## BMPs, Goals, and Staff

| No. 1 - Public Education and Outreach | | | | | |
|---|---|---|---|---|---|
| **BMP** | **BMP Description** | **Measurable Goal** | **Implementation Time Schedule, etc.** | | |
| | | | **Schedule** | **Planned Points** | **Notes** |
| **1.01** | Maintain a stormwater webpage for the permittee. | Maintain the webpage with up to date information with all links effective and valid information. Check all links and update the website as necessary on a minimum monthly basis. Document monthly checks in the logbook and indicate changes with logged summaries. | 2021 | 3 | The webpage must be available throughout the year once it is posted and initially made available. In the initial year posted, it must be available for a minimum of 3 months to qualify for the points. In subsequent calendar years, the points may be claimed if the webpage has been maintained throughout the twelve months.<br><br>3 points may be claimed in the first year implemented, and 2 points may be claimed for each successive year the webpage is maintained available. |
| | | | 2022 | 2 | |
| | | | 2023 | 2 | |
| | | | 2024 | 2 | |
| **Lead Staff: MSO Environment, Health & Science Staff (EHS) & MSO Public Information Officer (PIO)** | | | | | |
| **1.02** | Distribute educational materials (either flyers, brochures, catalog mailings, handouts, or e-mails) addressing various pertinent stormwater public education topics. | The number of all flyers, brochures, catalog mailings, handouts, or e-mails distributed in a year shall equal or exceed the most recent U.S. Census Bureau decennial housing units value for the permit area. The applicable U.S. Census housing units value shall be documented, and the number of flyers, brochures, or e-mails distributed shall also be documented. This information and copies of the flyers, brochures, or e-mails shall be retained on file. | 2021 | 2 | Either flyer, brochures, catalog mailings, handouts, or e-mails are to be distributed in at least two separate batches, ideally in separate seasons (either winter, spring, summer, or fall). However, the required number of flyers, brochures, or e-mails must be distributed in a single calendar year and the points can be claimed for that year.<br><br>2 points may be claimed in a year in which the required number of flyers, |
| | | | 2022 | 2 | |
| | | | 2023 | 2 | |
| | | | 2024 | 2 | |

| | | | | | |
|---|---|---|---|---|---|
| | | | | | brochures, catalog mailings, handouts, or e-mails are distributed. |
| **Lead Staff: EHS and PIO** | | | | | |
| **1.03** | Provide either training or educational materials to permittee identified businesses at high risk of contributing to stormwater pollution. Such businesses can include but are not limited to, food service, auto service, disaster response and janitorial services. The training or educational materials shall address best management practices they can employ to minimize or avoid adverse stormwater impacts due to their operations. | Training or educational materials must be provided, within the year, to at least five separate businesses if the population of the municipality is greater than 10,000, or three businesses if the population of the municipality is between 3,000 and 9,999, or two separate businesses if the population of the municipality is less than 3,000.There is no requirement to provide training to business in separate business categories, although it is allowed. | 2021 | 2 | The required amount of training or distribution of educational materials must occur within the year for which points are claimed. 2 points may be claimed in any year in which the required amount of training or distribution of educational material occurs. |
| | | | 2022 | 2 | |
| | | | 2023 | 2 | |
| | | | 2024 | 2 | |
| **Lead Staff: EHS** | | | | | |
| **1.04** | Apply notification, placard, covers/hatches with message, or stencil, on stormwater inlets to provide a message similar to “No Dumping – Drains to River” | Apply this notification on at least 10% of all known stormwater inlets in the MS4. | 2021 | 2 | The required number of placards, covers/hatches with message, or stencils must be placed within the year for which points are claimed. Alternately, points may be claimed in any subsequent year when an additional 5% of all known stormwater inlets in the MS4 bear the placard, covers/hatches with message, or stencil.<br><br>2 points may be claimed in years when the required number of inlets (10%) receives placards, covers/hatches with message, or stencils or in subsequent years when an additional 5% of all known stormwater inlets in the MS4 bear the placard, covers/hatches with message, or stencil. |
| | | | 2022 | 2 | |
| | | | 2023 | 2 | |
| | | | 2024 | 2 | |
| **Lead Staff: EHS & MSO Field Operations & Inspections staff (FOI)** | | | | | |

| | | | | | |
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| **1.05** | Post the municipality's MS4 permit and SMP document on either the stormwater web page or the municipal webpage. | The two documents must be posted for at least six months of the year to claim one point. | 2021 | 1 | Months for which the posting occurs must be within the year for which points are claimed. No "carryover" of months from one year to the next. 1 point may be claimed for posting each year (minimum of at least six months). |
| | | | 2022 | 1 | |
| | | | 2023 | 1 | |
| | | | 2024 | 1 | |
| **Lead Staff: EHS & PIO** | | | | | |
| **1.06** | Provide either a stormwater telephone hotline or web-based or text message method for public reporting of illicit discharges. | Respond to all reported complaints within 10 days and, if found valid, resolve or establish a schedule for resolution within 20 days. Actual resolution may take more than 20 days, but the schedule for resolution must be finalized, and the efforts to implement resolution must begin within 20 days following receipt of a complaint. Document complaints and response/resolution process for all complaints received in the year. Resolution of an illicit discharge can include, but is not limited to: elimination of the discharge, on-site treatment to allow discharge to the MS4 (normally requires an NPDES permit), redirecting the discharge to a location that the discharge is not considered illicit (i.e., sanitary sewer), or to holding tanks to allow the waste to be hauled off for appropriate treatment, reuse/recycle, or disposal. | 2021 | | The hotline/reporting system must be available to the public for at least six months in the year to claim the points.<br><br>2 points may be claimed for each year the hotline/reporting system is maintained and available. An additional point may be claimed for each illicit discharge resolved in the year up to a limit of 2 additional points per year. One point allowed per illicit discharge resolved. |
| | | | 2022 | 4 | |
| | | | 2023 | | |
| | | | 2024 | | |
| **Lead Staff: EHS** | | | | | |
| **1.07** | Provide educational material annually to at least four groups, including each of the following | Identify and educate at least 4 groups/entities from the listed types annually, developing topics | 2021 | 3 | All the requirements for sending educational material to the various |

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| | types: Residents, Businesses/Institutions, Commercial entities/Developers, and Industrial facilities. The educational material may be provided as any of the following:<br>• Brochures<br>• Flyers<br>• E-mails<br>• Press release | that are group-specific and address activities and or pollutants of concern. | 2022 | 3 | groups must occur in a single year to qualify for the points in that year.<br><br>3 points may be claimed each year; this BMP is implemented in compliance with the specified requirements. |
| | | | 2023 | 3 | |
| | | | 2024 | 3 | |
| **Lead Staff: EHS** | | | | | |
| **1.08** | Provide stormwater education for students at a school campus within K-12 (those grades present at the campus) within the permittee's jurisdiction or within 30 miles from this permit area. The training may be limited to the individual campus (local school buildings associated with a single address). This training does not need to be provided to the entire school system, e.g., USD.<br>Alternately, funding stormwater BMP installations and/or field trips at the school campus will qualify. | Provide or fund an educator or speaker who will reach at least 5% of the K-12 students who normally attend school in the selected school campus.<br>Alternately, the funding of BMPs at the school campus may provide for any of the following:<br>• Installation of BMPs at the school<br>• Stormwater related field trips<br>• Water quality stream sampling activities<br>• Construction of rain gardens on school property<br>• Rain barrel workshops<br>• Rain garden workshops | 2021 | | All of the required students (5% minimum) in K-12 at the selected campus must be educated in a single year to qualify for the points in that year.<br>Alternately, stormwater BMPs may be funded at a school campus where students may participate in the installation or observe the operation of the BMPs. Any of the items listed under measurable goals qualify.<br><br>3 points may be claimed each year this BMP is implemented in compliance with the specified requirements (provide education and/or fund stormwater BMP installations at the school campus). |
| | | | 2022 | | |
| | | | 2023 | 3 | |
| | | | 2024 | 3 | |
| **Lead Staff: EHS** | | | | | |
| **1.09** | Operate an information booth at a large public event (such as a sports event, fair, or music festival) where at least an estimated 1,000 or more individuals attend.<br>Alternately, operate an information booth at multiple public events | Provide information about stormwater topics of current interest. | 2021 | | All events shall have the booth staffed by the permittee for at least 50% of the days the event occurs.<br><br>2 points may be claimed each year this BMP is implemented in compliance with the specified |
| | | | 2022 | | |

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| | (such as a sports event, fair, or music festival) where a cumulative estimated total of 3,000 or more individuals attend. Finally, a single point can be claimed for operating an information booth at a public event where at least an estimated 200 or more individuals attend. | | 2023 | 1 | requirements for alternative 1. (1,000 or more attendees) or alternative 2. (3,000 attendees). Finally, 1 point may be claimed each year this BMP is implemented in compliance with the specified requirements for alternative 3 (200 attendees). |
| | | | 2024 | 1 | |
| **Lead Staff: EHS** | | | | | |
| **1.10** | Provide either training or educational materials to lawn/turf care service entities addressing best management practices they can employ to minimize or avoid adverse stormwater impacts due to their operations. | Training or educational materials must be provided, within the year, to at least five lawn/turf care service entities or at least 20% of the lawn care service entities located in the municipality, whichever is least. | 2021 | 2 | The required amount of training or distribution of educational materials must occur within the year for which points are claimed.<br><br>2 points may be claimed in any year in which the required amount of training or distribution of educational material occurs. |
| | | | 2022 | 2 | |
| | | | 2023 | 2 | |
| | | | 2024 | 2 | |
| **Lead Staff: EHS** | | | | | |
| **1.11** | Adopt a public education program to reduce littering. | Install and/or maintain signs to discourage littering. Signs are to be located in areas where littering has been a problem. | 2021 | | Credit can be claimed for any year in which signs are installed and in place for greater than six months or in cases where signs have previously been installed in any year where the signs remain posted for the full year.<br>1 point may be claimed for the year when signs are posted for six months or more, or 1 point may be claimed in subsequent years where the signs remain posted throughout the year. |
| | | | 2022 | | |
| | | | 2023 | | |
| | | | 2024 | | |
| **Lead Staff:** | | | | | |
| **1.12** | Create a stormwater information brochure to provide to the public at public meetings and/or hearings | Have multiple copies of the brochure available during at least 10 meetings or hearings open to the public during the year. Provide the brochures to the public at no charge. | 2021 | 1 | The brochures shall address stormwater topics of concern.<br><br>1 point may be claimed in any year the brochures are made available to the public at meetings and/or hearings as required. |
| | | | 2022 | 1 | |
| | | | 2023 | 1 | |
| | | | 2024 | 1 | |

| | | | | | |
|---|---|---|---|---|---|
| **Lead Staff: EHS** | | | | | |
| **1.13** | Operate an adopt-a-highway program to utilize public volunteers to clean road right-of-way. | The volunteers shall clean at least a two-mile segment of road either within the permit area or adjacent to the permit area. Alternately multiple spots (such as roadways, parks, and waterways) which are cleaned and equate to or exceed a two-mile road clean-up can qualify for a point." | 2021 | | The road right-of-way shall be cleaned at least once per year. Points may be claimed for any year in which cleaning has occurred.<br><br>1 point may be claimed in any year a two-mile road segment is cleaned, or alternately, multiple spots are cleaned which equate to or exceed a two-mile road clean-up. |
| | | | 2022 | | |
| | | | 2023 | | |
| | | | 2024 | | |
| **Lead Staff: EHS** | | | | | |
| **1.14** | Hold a media campaign addressing various pertinent stormwater public education topics. | Estimated media exposure during prime-time broadcasting for the duration of the campaign shall be 10 times the most recent U.S. Census Bureau decennial population value for the permit area. The date, time, and estimated media exposure for each spot broadcast shall be documented and kept on file along with the applicable U.S. Census population value. | 2021 | | The media campaign shall be run within the year for which points are claimed. A new media campaign shall be run for each year points are claimed.<br><br>2 points may be claimed in a year in which the media campaign meeting the minimum exposure rate is conducted. |
| | | | 2022 | | |
| | | | 2023 | | |
| | | | 2024 | | |
| **Lead Staff: EHS & PIO** | | | | | |
| **1.15** | Develop or participate in an ongoing social media program on pertinent stormwater public education topics. | Publish or share social media content on the permittee's social media accounts at least six times per year. Record post topic, the number of impressions and engagement for each post. Include link to permittee's stormwater education website. | 2021 | 2 | The required number of social media posts must occur within the year for which the posts are claimed.<br><br>2 points can be claimed in a year in which the required number of content is shared. |
| | | | 2022 | 2 | |
| | | | 2023 | 2 | |
| | | | 2024 | 2 | |
| **Lead Staff: EHS & PIO** | | | | | |
| **1.16** | Operate an information booth at a public event or hold a public event, which is intended to improve public | At least an estimated 800 or more individuals must attend the event. | 2021 | | The booth must be staffed at least 50% of the time the event is open to the public. |

| | | | | | |
|---|---|---|---|---|---|
| | understanding of issues related to water quality. The event may be associated with any environmental related issue including but not limited to an environmental expo, earth day, world wetlands day, international day of action for rivers, world fish migration day, world biodiversity day, world oceans day, world cleanup day, world water monitoring day, world rivers day, and America recycles day. | | 2022 | 2 | 2 points may be claimed each year this BMP is implemented in compliance with the specified requirements.<br><br>Municipal staff from multiple permittees may staff the both and claim points for their municipality for this BMP if their staff meet the 50% of the time staffing requirement. |
| | | | 2023 | 2 | |
| | | | 2024 | 2 | |
| **Lead Staff: EHS** | | | | | |
| **1.17** | Operate an adopt-a-street program to utilize public volunteers to clean street right-of-way. | The volunteers shall clean at least a two-mile segment of street, either a single street or multiple streets, either within the permit area or adjacent to the permit area. | 2021 | | The street right-of-way shall be cleaned at least once per year. Points may be claimed for any year in which cleaning has occurred.<br><br>1 point may be claimed in any year at least two miles of street right-of-way is cleaned by volunteers. |
| | | | 2022 | | |
| | | | 2023 | | |
| | | | 2024 | | |
| **Lead Staff: EHS** | | | | | |

| **BMP Summary Table:** | | **Year** | **Points Earned** | **Note** |
|---|---|---|---|---|
| **Public Education and Outreach**<br><br>The City of Lawrence will earn a minimum of 4 points annually for years 2021 and 2022, and 7 points in 2023 and 2024. | | 2021 | 18 | *BMP Point totals are left blank intentionally and are meant for tracking as the Plan progresses.* |
| | | 2022 | 22 | |
| | | 2023 | 21 | |
| | | 2024 | | |

**BMP POINT SUMMARY GOALS TABLE**

| BMP | 2021 | 2022 | 2023 | 2024 |
|---|---|---|---|---|
| 1.01 | 3 | 2 | 2 | 2 |
| 1.02 | 2 | 2 | 2 | 2 |
| 1.03 | 2 | 2 | 2 | 2 |
| 1.04 | 2 | 2 | 2 | 2 |

| | | | | |
|---|---|---|---|---|
| 1.05 | 1 | 1 | 1 | 1 |
| 1.06 | | 4 | | |
| 1.07 | 3 | 3 | 3 | 3 |
| 1.08 | | | 3 | 3 |
| 1.09 | | | 1 | 1 |
| 1.10 | 2 | 2 | 2 | 2 |
| 1.11 | | | | |
| 1.12 | 1 | 1 | 1 | 1 |
| 1.13 | | | | |
| 1.14 | | | | |
| 1.15 | 2 | 2 | 2 | 2 |
| 1.16 | | 2 | 2 | 2 |
| 1.17 | | | | |
| YEARLY TOTAL | 18 | 23 | 23 | 23 |

**Program Assessment**

The City will be responsible for implementing adequate BMPs to comply with the minimum points required on Public Education and Outreach control measure of this permit and will work to claim additional points in the calendar years as specified above as a goal. The program's overall success will be measured through the successful implementation of the program's components. The City will document compliance and report the extent of progress with annual milestones and point totals achieved for the previous program year in the annual NPDES report submitted to KDHE in accordance with the permit.

Strategies of performance measurement can leverage the results of public engagement activities in Stormwater Management. The success of each BMP will be noted in the City's annual report based on the activities completed in the previous year and will be measured potentially by the following:

- Number of site visits to City website
- Number of community involvement events and participants
- Number of water quality presentations conducted by City staff
- The number of post-construction site violations in comparison to the previous year

## 3.2 Control Measure 2: Public Involvement and Participation

**Description**

This minimum control consists of creating opportunities for individuals and organizations to provide public comment and recommendations regarding BMPs and measurable goals utilized by the City to comply with the MS4 permit. Public participation in the development and implementation of BMPs should result in the reduction of stormwater pollution. Program implementation will also comply with state and local public notice requirements.

To implement a Public Involvement and Participation program as required in the permit, the City will implement sufficient BMPs with measurable goals listed in the table below to qualify for the required number of points in each year within the permit cycle. The implementation of BMPs for this minimum control measure must result in the accumulation of a minimum of 3 points total on an annual basis for each calendar year in 2021 and 2022. The point total requirement increases to 6 points for each calendar year beginning in 2023 for the remainder of the permit cycle.

**Benefit**

An active and involved community is crucial to the success of a stormwater management program because it allows for broader public support and participation, faster results, and a broader base of expertise with economic benefits. As such, the community deserves the opportunity to voice opinions on the content of the Plan. Further, input into decisions builds support and ownership of the desired outcomes. Public involvement and participation can create a conduit to other environmental and water quality programs. The goal of the SMP is to improve water quality in local lakes and rivers by reducing pollutants in runoff originating within our community, which provides benefits to the entire community.

## BMPs, Goals, and Staff

| No. 2 - Public Involvement and Participation | | | | | |
|---|---|---|---|---|---|
| **BMP** | **BMP Description** | **Measurable Goal** | **Implementation Time Schedule, etc.** | | |
| | | | **Schedule** | **Planned Points** | **Notes** |
| **2.01** | Hold a public hearing or public forum to notify the public about stormwater program activities and to solicit public comments regarding stormwater issues. | Provide public notice of the hearing/forum, invite local news media, either newspaper, radio or TV, and document the hearing with attendance sign-in sheet and minutes of the hearing which include public comments and responses. | 2021 | | Retain copies of the notices to public, invitations to attend, attendance sign-in sheets, and minutes. Points may be claimed in year which hearing is held.<br><br>2 points may be claimed each year this BMP is implemented in compliance with the specified requirements. |
| | | | 2022 | | |
| | | | 2023 | | |
| | | | 2024 | | |
| **Lead Staff: EHS, MSO Stormwater Engineering Program Manager, & PIO** | | | | | |
| **2.02** | Establish a citizens advisory committee. | Host the citizens advisory committee meetings twice yearly and receive comments and guidance from the committee regarding the SMP. Retain on file copies of the attendance list and minutes of the meetings. | 2021 | | The citizens advisory committee must hold at least two meetings in the year which points are claimed.<br><br>3 points may be claimed each year this BMP is implemented in compliance with the specified requirements. |
| | | | 2022 | | |
| | | | 2023 | | |
| | | | 2024 | | |
| **Lead Staff: EHS** | | | | | |
| **2.03** | Hold park or stream bank clean-up events for public volunteers to aid municipal staff in removing trash, debris, or pollutant sources from the selected clean-up area. | Clean an area equal to or greater than one acre, or alternately at least 200 yards of streambank. Alternately, for municipalities with less than 500 population, clean an area which must be equal to or greater than a quarter of an acre or alternately at least 100 feet of streambank | 2021 | | At least one such clean-up activity must occur in the year for which points are claimed.<br><br>3 points may be claimed each year this BMP is implemented in compliance with the specified requirements. |
| | | | 2022 | | |
| | | | 2023 | 3 | |
| | | | 2024 | 3 | |
| **Lead Staff: EHS** | | | | | |

| | | | | | |
|---|---|---|---|---|---|
| **2.04** | Train either citizen watch groups, homeowner associations (HOAs), or public service groups to recognize illicit discharge activities and communicate observations to appropriate municipal staff. | Provide training or distribute training materials to the group participants like HOA at least once annually. | 2021 | 2 | At least one such training activity or distribution of training materials must be provided to the group in the year for which points are claimed.<br>2 points may be claimed each year this BMP is implemented in compliance with the specified requirements. |
| | | | 2022 | 2 | |
| | | | 2023 | | |
| | | | 2024 | | |
| **Lead Staff: EHS** | | | | | |
| **2.05** | Provide at least two events for residents to engage in cleanup activities and improve water quality in the municipality. | Provide at least two events in streams, streamside parks, areas adjacent to public waterways, and/or other green infrastructure/water resources. These events can be any of the following: Environmental restoration events, stream cleanups, tree plantings, or stream monitoring. | 2021 | | At least two events in compliance with the stated goals must be conducted within the year for which points are claimed.<br><br>3 points may be claimed each year this BMP is implemented in compliance with the specified requirements. |
| | | | 2022 | | |
| | | | 2023 | 3 | |
| | | | 2024 | 3 | |
| **Lead Staff: EHS** | | | | | |
| **2.06** | Establish a program to encourage residents to install stormwater treatment best management practices on their property. | Encouragement can include funding, grants, and other financial incentives, trainings and or giveaways. Stormwater treatment BMPs can include rain barrels, rain gardens, native plantings, native trees, cisterns and vegetated swales. Record participation numbers annually. | 2021 | 2 | One or more of the listed methods of encouragement must be implemented in the year for which points are claimed.<br><br>2 points may be claimed each year this BMP is implemented in compliance with the specified requirements, with the addition of 1 additional point (for a total of 3 points in the year) each year that participation increases 10% from the previous year. |
| | | | 2022 | 3 | |
| | | | 2023 | | |
| | | | 2024 | | |
| **Lead Staff: EHS** | | | | | |
| **2.07** | Enact either an ordinance, a resolution, or other enforceable requirement that requires pet owners or their keepers to immediately and properly | The ordinance or resolution or other enforceable measure shall be enacted, and signs posted informing the public of their obligation at the park. The | 2021 | 1 | In the year the Measurable Goal requirement is implemented the point may be claimed and for each year thereafter. |
| | | | 2022 | 1 | |

| | | | | | |
|---|---|---|---|---|---|
| | dispose of their pet's solid waste deposited at parks or rest areas owned by the permittee. | installation of a pet waste bag dispenser in the public area qualifies as adequate signage. | 2023 | 1 | 1 point may be claimed for the year in which the Measurable Goal requirements are enacted, and 1 points may be claimed for each subsequent year the Measurable Goal requirements remain in effect. |
| | | | 2024 | 1 | |
| **Lead Staff: EHS & MSO Engineering** | | | | | |
| **2.08** | Provide a monetary donation to a scholarship fund for students pursuing a degree in an environmental program, which would qualify them to work in a field that can result in water pollution control. | A $500 contribution in a year is the minimum acceptable amount to achieve this goal. | 2021 | | The donation must be made in the year the points are claimed.<br><br>2 points may be claimed each year this BMP goal is achieved. |
| | | | 2022 | | |
| | | | 2023 | | |
| | | | 2024 | | |
| **Lead Staff: EHS** | | | | | |
| **2.09** | Distribute stormwater educational materials to the public within this permit area.<br><br>Alternately, the permittee may provide stormwater educational materials, e.g. brochures, flyers, or pamphlets that address various stormwater topics. Other nearby municipalities may distribute these materials to the public. The nearby municipalities must be within 30 miles from this permit area. | The educational materials that are distributed or supplied for each topic must have a value of at least $50. Topics may be anything related to stormwater including but not limited to clean-up guidance following flooding, discouraging littering, explaining and discouraging illicit discharges to the storm sewers, guidance on constructed BMPs for home owners (rain gardens, rain barrels, etc.) guidance on area household hazardous waste receiving centers, and guidance on area recycling programs. | 2021 | 1 | For educational materials distributed or provided to nearby municipalities each year points may be claimed when materials are provided with equal or greater value as required for each separate topic.<br><br>1 point may be claimed per topic addressed in compliance with the requirements, up to a total of 5 points/topics. |
| | | | 2022 | 1 | |
| | | | 2023 | 3 | |
| | | | 2024 | 3 | |
| **Lead Staff: EHS** | | | | | |
| **2.10** | Establish a program to employ (either paid or unpaid) high school or college age environmental interns in an environmental related program including but not limited to either the wastewater utility, | The intern must receive the same environmental related training a new full-time employee would receive, within the first six months of the full-time employee's employment, during their internship. | 2021 | 2 | The internship must last at least 8 weeks in the year when points are claimed. 2 points may be claimed each year this BMP goal is achieved per intern. |
| | | | 2022 | 2 | |
| | | | 2023 | 2 | |

| | | | | | |
|---|---|---|---|---|---|
| | stormwater utility, potable water utility or solid waste utility. | | 2024 | 2 | |
| **Lead Staff: EHS & MSO Engineering** | | | | | |

| **BMP Summary Table:** | | **Year** | **Points Earned** | **Note** |
|---|---|---|---|---|
| **Public Involvement and Participation**<br><br>The City of Lawrence will earn a minimum of 3 points annually for years 2021 and 2022 and 6 points in 2023 and 2024. | | 2021 | 14 | *BMP Point totals are left blank intentionally and are meant for tracking as the Plan progresses.* |
| | | 2022 | 15 | |
| | | 2023 | 15 | |
| | | 2024 | | |

**BMP POINT GOAL SUMMARY TABLE**

| BMP | 2021 | 2022 | 2023 | 2024 |
|---|---|---|---|---|
| 2.01 | | | | |
| 2.02 | | | | |
| 2.03 | | | 3 | 3 |
| 2.04 | 2 | 2 | | |
| 2.05 | | | 3 | 3 |
| 2.06 | 2 | 3 | | |
| 2.07 | 1 | 1 | 1 | 1 |
| 2.08 | | | | |
| 2.09 | 1 | 1 | 3 | 3 |
| 2.10 | 2 | 2 | 2 | 2 |
| YEARLY TOTAL | 8 | 9 | 12 | 12 |

**Program Assessment**

Like Public Education and Outreach, the overall success of the Public Involvement and Participation Program will be measured through the successful implementation of the program's components. The City will document and report program progress with each annual NPDES report, discussing the activities completed in this section for the previous program year.

Success will also be measured by the following:

- Number of public education meetings held
- Number and type of stormwater educational materials provided to the public within the permit area
- Numbers of students in an internship program and the type of work they get assigned to with the training they received
- Number of workshops or trainings completed

## 3.3 Control Measure 3: Illicit Discharge Detection and Elimination

**Description**

This minimum control consists of developing, implementing, and enforcing a program to detect and eliminate illicit discharges or other non-stormwater discharges into the storm sewer system. As part of this program, the City continues to implement and enforce Stormwater Pollution Prevention Ordinance No. 7373, adopted on July 17, 2001, which prohibits non-stormwater discharges into the MS4, and promotes awareness among public employees, businesses, and the general public of hazards associated with illegal discharges and improper disposal of waste.

The City also maintains a storm sewer map of the MS4, indicating outfalls, as well as the names and locations of all streams or lakes receiving discharges from the outfalls.

Additionally, City staff will develop and implement a plan to identify and address prohibited non-stormwater discharges, including illegal dumping to the storm sewer system by evaluating dry weather MS4 discharges.

In addition to implementing an Illicit Discharge Detection and Elimination program as described above, the City will implement sufficient BMPs with measurable goals listed in the table below to qualify for the required number of points in each year within the permit cycle.

The implementation of BMPs for this minimum control measure must result in the accumulation of a minimum of 5 points total on an annual basis for calendar years 2021 and 2022. The point total requirement increases to 7 points for each calendar year beginning in 2023 for the duration of the permit cycle.

The City has embraced the regional chapter of the American Public Works Association (APWA) cooperative efforts through participation in the processes and adoption of standards.

**Benefit**

A community should understand the extent of water quality problems caused by illicit discharges as direct discharges of waste into streams can present significant localized impacts to both public health and the environment. Developing legal, technical, and educational means to eliminate illicit discharges provides direct benefits to water quality, the environment, and public health. The City will emphasize the elimination of inappropriate discharges into storm drains by identifying sources of non-stormwater discharges and instituting appropriate actions for their elimination.

## BMPs, Goals, and Staff

| No. 3 - Illicit Discharge Detection and Elimination | | | | | |
|---|---|---|---|---|---|
| **BMP** | **BMP Description** | **Measurable Goal** | **Implementation Time Schedule, Etc.** | | |
| | | | **Schedule** | **Planned Points** | **Notes** |
| **3.01** | Hold a public hearing or public forum to educate the public about illicit discharges and alternate acceptable methods of disposal or reuse of substances and/or materials. | Provide public notice of the hearing/forum, invite local news media (either newspaper, radio or TV), and document the hearing with attendance sign-in sheet and minutes of the hearing which include questions/comments from the attendees and answers/comments from the permittee staff. | 2021 | | Retain copies of the notices to public, invitations to attend, attendance sign-in sheets, and minutes. Hearing must be held in year for which points are claimed.<br><br>2 points may be claimed for any year a hearing/forum is held. |
| | | | 2022 | | |
| | | | 2023 | | |
| | | | 2024 | | |
| **Lead Staff: EHS** | | | | | |
| **3.02** | Implement a program to abandon failed or failing residential or commercial on-site wastewater treatment facilities. These on-site wastewater treatment systems such as septic tank – lateral systems or lagoon systems are then connected to the municipal wastewater collection system for treatment of wastewater at the municipal wastewater treatment plant.<br><br>Alternately, upgrade or replace | Redirect the wastewater generated by the facility to the municipal wastewater treatment collection system for proper treatment and disposal.<br><br>Alternately, upgrade or replace the failed system with improvements that meet or exceed the present code or local requirements. | 2021 | | For each failed or failing on-site system which is abandoned, and the wastewater is redirected to the municipal wastewater treatment system, the permittee may claim points in the year the system is initially connected into the municipal wastewater treatment system.<br><br>Alternately, for systems which are upgraded or replaced to restore adequate performance a lower number of points may be claimed in the year the upgrade or replacement is completed.<br><br>3 points may be claimed for each |
| | | | 2022 | | |
| | | | 2023 | | |

| | | | | | |
|---|---|---|---|---|---|
| | the failed system to restore performance. | | 2024 | | abandoned system in the year it is abandoned. Alternately, for systems that are upgraded or replaced as per the requirements, a total of 2 points may be claimed in the year upgrade or replacement is completed. |
| **Lead Staff: Eco Flow Engineering Program Manager** | | | | | |
| **3.03** | Develop a spill response plan and, if appropriate, coordinate emergency response with other agencies or organizations. | The plan shall include, at a minimum, explanation of appropriate spill response activities for spills associated with vehicle accidents, at grade or above ground storage tanks, and vehicle fluids from mechanical equipment such as construction equipment, cars, or trucks. The written plan shall be maintained on file. | 2021 | | The plan may be implemented in any year and points may be claimed for the initial implementation or for each year the plan remains effective.<br><br>3 points may be claimed in the year initially implemented, and 2 points may be claimed for each successive year the plan remains effective. |
| | | | 2022 | 3 | |
| | | | 2023 | 2 | |
| | | | 2024 | | |
| **Lead Staff: EHS** | | | | | |
| **3.04** | Implement a program to evaluate MS4 outfalls to identify illicit discharges. Inspect at least 5% of the known MS4 outfalls during a calendar year and evaluate the ones that have dry weather discharges. Evaluate the water quality of the dry weather discharges to recognize non-stormwater contributions and trace the source of any illicit discharge. | When at least 5% of the known MS4 outfalls are inspected and for which at least one outfall was identified as discharging (entirely or partially) flow from an illicit discharge, the allotted points may be claimed in the year when the illicit discharge is eliminated. Document the MS4 outfalls inspected, the outfalls with dry weather discharges and the MS4 outfalls associated with illicit discharges. | 2021 | 1 | The evaluation of a group of at least 5% of the known MS4 outfalls may be completed all in one year or may occur in up to two consecutive years and a point can be claimed. The larger number of points may be claimed only for the year in which the illicit discharge(s), associated with this group of evaluated outfalls is/are eliminated.<br><br>1 point may be claimed in the year when a total of at least 5% of the known MS4 outfalls are finally inspected, and 2 additional points may be claimed in which the illicit discharge(s) associated with this group of evaluated outfalls is/are eliminated. |
| | | | 2022 | 1 | |
| | | | 2023 | 1 | |
| | | | 2024 | 1 | |
| **Lead Staff: EHS, FIO, GIS, & Water Quality Lab staff** | | | | | |
| **3.05** | Distribute a letter (or flier) and/or e-mail along with a press release from a municipal | The letter (or flier) and/or e-mail along with the press release shall highlight the | 2021 | 2 | The distribution of these various documents, letter (or flier) and/or e-mail along with the press release, shall all occur |

| | | | | | |
|---|---|---|---|---|---|
| | official with the intent of reaching every resident and business in the MS4 permit area. The distributed documents shall provide information on how to avoid illicit discharges to the MS4, i.e., proper disposal methods for common substances or materials often discharged illicitly. Provide a link to the municipal website where applicable ordinances and disposal guidance are posted. | requirements for proper disposal of wastes and disposal methods. Copies of these documents shall be retained on file along with the distribution/mailing lists to document distribution to the target area (minimum MS4 permit area) to avoid illicit discharges to the MS4. Provide a link to the municipal website where applicable ordinances and disposal guidance are posted. | 2022 | 2 | in the same month. Permittee may claim these points in the year these documents are distributed.<br><br>2 points. |
| | | | 2023 | 2 | |
| | | | 2024 | 2 | |
| **Lead Staff: EHS & PIO** | | | | | |
| **3.06** | Inspect, by televising pipelines or direct visualization of open channel drainage, 2% of the MS4 system within the permit area all conducted within a 12-month period to aid in identifying illicit discharges as well as evaluate the condition of the storm sewer lines/drainage channels-ditches. If in a 12-month period 10% of the MS4 system is inspected a higher point value may be claimed. | Generate a summary report of the inspection including the number of linear feet televised, number of linear feet visually inspected, condition comments, illicit discharges identified and the results of efforts to eliminate illicit discharges, e.g., discharge line disconnected and redirected to the sanitary sewer or discharge practice terminated. | 2021 | 5 | The inspection process can occur in a single calendar year or may be conducted over a period extending from one year into the succeeding year. Points may be claimed in the year when the televised and/or visual inspection of this portion of the MS4 system (either 2% or 10%) is completed.<br><br>3 points may be claimed for inspection of 2% of the MS4 system. Alternately, if 10% of the MS4 system is inspected, 5 points may be claimed. |
| | | | 2022 | 5 | |
| | | | 2023 | 5 | |
| | | | 2024 | 5 | |
| **Lead Staff: EHS & FIO** | | | | | |
| **3.07** | Implement a Household Hazardous Waste Collection Program (HHWCP) or document others have implemented such a program to provide such service to all property owners or residents located within the permit area. | Document the residents and property owners within the MS4 permit area were able to dispose of such wastes at the HHWCP during a calendar year. Retain this documentation on file. | 2021 | 3 | The property owners or residents located within the permit area must be able to dispose of waste accepted by the HHWCP throughout a calendar year. Points may be claimed for any such year.<br><br>3 points may be claimed for any year in which this BMP was implemented in compliance with the requirements. |
| | | | 2022 | 3 | |
| | | | 2023 | 3 | |
| | | | 2024 | 3 | |
| **Lead Staff: EHS & MSO Solid Waste staff (SW)** | | | | | |

| | | | | | |
|---|---|---|---|---|---|
| **3.08** | Implement a program to increase the reliability of sanitary sewer pump stations above the minimum standard design requirements. | A pump station shall be upgraded to include the following:<br>• installation of a dedicated on-site standby generator (with automatic transfer switch) for use when main line power fails<br>• installation of a dialer system, or telemetry system, or connection to a SCADA system to provide real time or nearly real time notification of failures at the pump station which can potentially lead to sanitary sewer overflow<br>• the permittee shall purchase and maintain for immediate operation a trailer mounted motor driven sewage pump for use when the pump station fails to operate<br>The motor driven pump shall be sized to pump at a rate at least equal to the firm pumping capacity of any sanitary sewer pump station the permittee claims points for under this BMP.<br><br>The pump station shall be modified to facilitate the connection of the trailer mounted pump discharge to the force main and convenient installation of the suction line from the trailer mounted pump into the wet well. | 2021 | | In the year all improvements, as listed under measurable goals, are installed and ready for operation the points may be initially claimed and in subsequent years these improvements remain operational points may be claimed.<br><br>5 points may be claimed (for each pump station upgraded in compliance with this BMP) in the first year the improvements, as listed under measurable goals, are installed and ready for operation.<br><br>4 points may be claimed for (for each pump station upgraded in compliance with this BMP) each successive year the improvements, as listed under measurable goals, remain operational. |
| | | | 2022 | | |
| | | | 2023 | | |
| | | | 2024 | | |
| **Lead Staff: EHS & MSO Facility Operations, Maintenance, and Automation (FOMA) staff** | | | | | |

| | | | | | |
|---|---|---|---|---|---|
| **3.09** | Provide a contribution to area recycle programs or programs (such as household hazardous waste disposal facilities, e-cycle facilities, paper shred facilities, pharmaceutical disposal facilities etc.) designed to properly dispose of types of waste or materials which have previously been discarded to or adjacent to either the MS4, streams, or lakes within or adjacent to the permittee's permit area. The area program must be within 30 miles from this permit area. | The contributions may be made to programs, which take tires, automotive fluids, batteries, or other wastes for which there is any documentation such wastes have been discarded as addressed under the BMP summary. The contributions must total a minimum of $500 in the year ($100 in the year for alternative lower population municipalities) which points are claimed. The contributions can be monetary or can be in the form of goods and/or services with an agreed specified value. Contributions may be made to area household hazardous waste programs, private recycle/reuse facilities or civic/volunteer organizations assisting in recycle. | 2021 | | The total value of donation (either in-kind work, materials, supplies or cash) in a minimum amount of $500 must be made in the year points are claimed.Alternatively, for municipalities with less than 500 population the total value of donation in a minimum amount of $100 must be made in the year points are claimed.2 points may be claimed each year this BMP goal is achieved. |
| | | | 2022 | | |
| | | | 2023 | | |
| | | | 2024 | 2 | |
| **Lead Staff:** | | | | | |
| **3.10** | Inspect, 5% of the MS4 system Stormwater inlets and/or outfalls within the permit area all conducted within a 12-month period to aid in identifying illicit discharges. If in a 12-month period 15% of the MS4 system inlets and/or outfalls are inspected a higher point value may be claimed in the year the required percentage of inspections are completed. | Generate a summary report of the inspection including the number of inlets and/or outfalls visually inspected, condition comments, illicit discharges identified and the results of efforts to eliminate illicit discharges, e.g., discharge line disconnected and redirected to the sanitary sewer or discharge practice terminated. | 2021 | 3 | The inspection process can occur in a single calendar year or may be conducted over a period extending from one year into the succeeding year. Points may be claimed in the year when the televised and/or visual inspection of this portion of the MS4 system (either 2% or 15%) is completed.<br>3 points may be claimed for inspection of 2% of the MS4 system in the year the required percentage of inlets and/or outfalls are finally inspected, alternately if 15% of the MS4 system is inspected 5 points may be claimed. |
| | | | 2022 | 3 | |
| | | | 2023 | 3 | |
| | | | 2024 | 3 | |
| **Lead Staff: EHS** | | | | | |

| BMP Summary Table: | Year | Points Earned | Note |
|---|---|---|---|
| **Illicit Discharge Detection and Elimination**<br><br>The City of Lawrence will earn a minimum of 5 points annually years 2021 and 2022 and 7 points for years 2023 and 2024. | 2021 | 18 | *BMP Point totals are left blank intentionally and are meant for tracking as the Plan progresses.* |
| | 2022 | 23 | |
| | 2023 | 23 | |
| | 2024 | | |

| BMP POINT GOAL SUMMARY TABLE | | | | |
|---|---|---|---|---|
| **BMP** | **2021** | **2022** | **2023** | **2024** |
| 3.01 | | | | |
| 3.02 | | | | |
| 3.03 | | 3 | 2 | |
| 3.04 | 1 | 1 | 1 | 1 |
| 3.05 | 2 | 2 | 2 | 2 |
| 3.06 | 5 | 5 | 5 | 5 |
| 3.07 | 3 | 3 | 3 | 3 |
| 3.08 | | | | |
| 3.09 | | | | 2 |
| 3.10 | 3 | 3 | 3 | 3 |
| YEARLY TOTAL | 14 | 17 | 16 | 16 |

**Program Assessment**

The overall success of the Illicit Discharge Detection and Elimination Program will be measured through the successful implementation of the program components, including enforcement of the City's Stormwater Prevention Pollution Ordinance No. 7373. Program progress will be reported with each annual NPDES report discussing the activities completed in this section for the previous program year.

Success will also be measured by the following:

- Number of public complaints addressed or illicit discharge instances discovered by City staff
- Percent of MS4 system inspected
- Number of notices of violation or penalties issued
- Number of inlet and outfall inspections
- Types of illicit discharges detected and eliminated, if any

## 3.4 Control Measure 4: Construction Site Stormwater Runoff Control

**Description**

This minimum control aims to reduce stormwater runoff pollutants to the City's storm sewer system from construction activities. Programs to address this control measure will include developing, implementing, and enforcing a program to reduce pollutants in any stormwater runoff to the MS4 from 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.

As part of the program, the City intends to develop and maintain a land disturbance ordinance requiring erosion and sediment controls and BMPs, as well as enforceable sanctions when applicable to ensure compliance. Ordinance measures will also include:

- 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 that 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.

In addition to establishing and enforcing land disturbance ordinance measures, the City will implement sufficient BMPs with measurable goals listed in the table below to qualify for the required number of points in each year within the permit cycle. The implementation of BMPs for this minimum control measure must result in the accumulation of a minimum of 4 points total on an annual basis for each calendar year in 2021 and 2022. The point total requirement increases to 6 points for each calendar year beginning in 2023 through the duration of the permit cycle.

**Benefit**

If uncontrolled, land disturbance activities and construction activities can generate significant pollutant loads consisting of debris and sediment that can cause negative impacts to our environment, adjoining properties, storm sewer infrastructure, and downstream water bodies. Fortunately, effective controls are easy and cost-effective to implement. The use of BMPs such as pollution runoff control measures at construction sites helps to filter pollutants and prevents pollution runoff by controlling it at its source.
The City will aim to achieve the known benefits of effective stormwater runoff BMPs for construction companies and other stakeholders in the City, which include the following:

1. Protection of wetlands and aquatic ecosystems;
2. Improved quality of receiving waterbodies;
3. Conservation of water resources;
4. Protection of public health, and;
5. Flood control.

## BMPs, Goals, and Staff

| No. 4 - Construction Site Stormwater Runoff Control | | | | | |
|---|---|---|---|---|---|
| **BMP** | **BMP Description** | **Measurable Goal** | **Implementation Time Schedule, Etc.** | | |
| | | | **Schedule** | **Planned Points** | **Notes** |
| **4.01** | Implement a requirement for a Soil Erosion and Sediment Control (SESC) Plan for any land disturbance sites which are either equal to or greater than 1 acre or for which there is construction activity disturbing less than one acre that is part of a larger common plan of development or sale that in total disturbs one acre or more. | Enact a regulatory ordinance, or other enforceable measure that requires an SESC Plan for all developments disturbing sites which are either equal to or greater than 1 acre or for which there is construction activity disturbing less than one acre that is part of a larger common plan of development or sale that in total disturbs one acre or more. | 2021 | | Points may be claimed in the year the ordinance/enforceable requirement first becomes effective, and for each full calendar year thereafter for which the ordinance/enforceable requirement remains effective.<br><br>3 points may be claimed in the year the ordinance initially becomes effective, and 2 points may be claimed for each successive year thereafter for which the ordinance remains effective. |
| | | | 2022 | 3 | |
| | | | 2023 | 2 | |
| | | | 2024 | 2 | |
| **Lead Staff: Stormwater Engineering Program Manager** | | | | | |
| **4.02** | Develop and adopt a design manual for erosion and sediment control BMPs which are required to be used on sites which will be disturbed and are either equal to or greater than 1 acre or for which there is construction activity disturbing less than one acre that is part of a larger common plan of development or sale that in total disturbs one acre or more. | Require implementation of BMPs in compliance with the design manual on all sites that meet the disturbed area standard as specified.in the BMP Summary. | 2021 | 2 | Points may be claimed for the year in which the manual is initially adopted and implemented, and a reduced number of points may be claimed for subsequent years in which the manual remains implemented.<br><br>3 points may be claimed in the year the manual is initially implemented, and 2 points may be claimed for each successive year the manual remains effective. |
| | | | 2022 | 2 | |
| | | | 2023 | | |
| | | | 2024 | | |
| **Lead Staff: Stormwater Engineering Program Manager** | | | | | |
| **4.03** | Provide access to at least one training class for contractors, developers or others involved with land disturbance projects which provides training on requirements for a Stormwater Pollution Prevention Plan (SWP2 Plan) and | This training class must address all local requirements for a SWP2 Plan, requirements for implementation of BMPs and address the requirements for permits. | 2021 | 3 | Points may be claimed for the year in which the training class is held.<br><br>3 points |
| | | | 2022 | | |
| | | | 2023 | 3 | |

| | | | | | |
|---|---|---|---|---|---|
| | implementation of appropriate BMPs. | | 2024 | 3 | |
| **Lead Staff: EHS** | | | | | |
| **4.04** | Develop a site plan review process that considers potential water quality impacts that may occur during construction as well as post construction impacts. | Review process must have written guidance for the reviewer. Issuance of a building permit or approval to start construction may not be provided until the site plan has successfully passed the review process either based on the initial site plan submittal or has been modified to comply with requirements identified during the review process. Measures must be included to enforce the installation of water quality BMPs included in the site plan. | 2021 | 3 | Points may be claimed in the year the review process is initially developed and implemented. Also, points may be claimed in each subsequent year the review process continues to be implemented.<br><br>3 points may be claimed in the year the review process is initially developed and implemented. 2 points may be claimed for each successive year the review process continues to be implemented. |
| | | | 2022 | 2 | |
| | | | 2023 | 2 | |
| | | | 2024 | 2 | |
| **Lead Staff: EHS, Stormwater Engineering Program Manager, & Planning & Development Services (PDS)** | | | | | |
| **4.05** | Establish effective requirements for construction sites to control wastes. Develop through ordinance or other enforceable means requirements for construction site Operators or owners to control wastes. At a minimum control shall be imposed to prevent entry into the MS4 for the following wastes:<br>• discarded building materials<br>• concrete<br>• truck washout chemicals, litter, and sanitary waste | Enact ordinance or other effective means to achieve control of wastes at construction sites. | 2021 | 2 | Points may be claimed in the year of enactment. Also, points may be claimed in each subsequent year the method of effective control of construction site waste remains in effect.<br><br>3 points may be claimed in the year of enactment. 2 points may be claimed for each successive year the method of effective control of construction site waste remains in effect. |
| | | | 2022 | 2 | |
| | | | 2023 | 2 | |
| | | | 2024 | 2 | |
| **Lead Staff: EHS & PDS** | | | | | |
| **4.06** | Develop written procedures for inspection of construction sites. Develop a Stormwater Construction Site Inspection Guide for use by municipal inspectors. | The procedures document must address the administrative aspects associated with required inspections of construction sites, the issuance of inspection reports, | 2021 | 3 | Development of the written procedures and the Inspection Guide can occur in any year. Initial implementation can allow points to be claimed in that year and continued implementation can allow points to be |

| | | | | | |
|---|---|---|---|---|---|
| | | notices of violations, and enforcement actions. The Inspection Guide must provide inspectors guidance on how to conduct a construction site stormwater inspection, the required procedures, and guidance on acceptable conditions of various BMPs employed on such sites, enforcement actions and/or reference of cases for enforcement by other municipal staff, guidance on photo log of the inspection and inspection checklists for use by the inspector. | 2022 | 2 | claimed in subsequent years.<br><br>3 points may be claimed in the year of initial development, 2 points may be claimed for each successive year the written procedures and inspection guide continue to be utilized. |
| | | | 2023 | 2 | |
| | | | 2024 | 3 | |
| **Lead Staff: EHS & Stormwater Engineering Program Manager** | | | | | |
| **4.07** | Acquire or develop a software tracking system to track inspections and related tasks. | The tracking system must allow for scheduling inspections and follow-up activities such as re-inspections, mailing notices or reports, etc. | 2021 | | A point can be claimed in the initial year the software tracking system is implemented and each year thereafter in which it is utilized.1 point may be claimed for any year the software is initially utilized, and 1 point may be claimed for each successive year the software is utilized. |
| | | | 2022 | 1 | |
| | | | 2023 | 1 | |
| | | | 2024 | 1 | |
| **Lead Staff:** | | | | | |

| **BMP Summary Table:** | **Year** | **Points Earned** | **Note** |
|---|---|---|---|
| **Construction Site Stormwater Runoff Control**<br><br>The City of Lawrence will earn a minimum of 4 points annually for years 2021 and 2022 and 6 points in years 2023 and 2024. | 2021 | 12 | *BMP Point totals are left blank intentionally and are meant for tracking as the Plan progresses.* |
| | 2022 | 8 | |
| | 2023 | 8 | |
| | 2024 | | |

**BMP POINT GOAL SUMMARY TABLE**

| BMP | 2021 | 2022 | 2023 | 2024 |
|---|---|---|---|---|
| 4.01 | | 3 | 2 | 2 |
| 4.02 | 2 | 2 | | |
| 4.03 | 3 | | 3 | 3 |
| 4.04 | 3 | 2 | 2 | 2 |
| 4.05 | 2 | 2 | 2 | 2 |
| 4.06 | 3 | 2 | 2 | 3 |
| 4.07 | | 1 | 1 | 1 |
| YEARLY TOTAL | 13 | 12 | 12 | 13 |

### Program Assessment

This control measure aims to educate at least 80 percent of all construction site operators and contractors about the proper selection, installation, inspection, and maintenance of BMPs by the end of this permit term, which will help ensure compliance with erosion and sediment control requirements. This goal could be tracked by documenting attendance at local, state, or federal training programs. Attendance can be encouraged by requiring contractors to provide proof of training for annual certification or licensing when applying for permits.

Success will also be measured by the following:

- Number of public complaints addressed to correct stormwater pollution runoff from construction sites
- Number of inspections conducted and repeated by City staff to identify and correct stormwater pollution violations
- Number of notices of violation or penalties issued to construction site contractors or developers
- Observations from outfall inspections

## 3.5 Control Measure 5: Post-Construction Stormwater Management

### Description

This minimum control requires the City to develop, implement, maintain and enforce a program to address post-construction stormwater runoff from new development and redevelopment projects that disturb greater than or equal to one acre. The City's program will additionally address post-construction stormwater runoff controls for projects that are less than one acre but are part of a larger common plan for development that disturbs one or more acres.

The City will carefully consider the relationship between construction and post-construction stormwater. Construction stormwater BMPs listed in a SWPPP are designed to minimize impacts during the active construction phase, and they do not always translate into BMPs applicable for post-construction. Post-construction PMPs must treat runoff from the newly constructed or redeveloped site, including runoff from roads, parking lots, yards, rooftops, and other land uses associated with the development.

The program will include the use of BMPs to prevent or minimize adverse water quality impacts, as well as strategies that include a combination of structural and/or non-structural

BMPs appropriate for the municipality. The program will also ensure adequate long-term operation and maintenance of those structural BMPs.

In addition to the program described above, the City will implement sufficient BMPs with measureable goals in the table below to qualify for the required number of points in each year within the permit cycle. The implementation of BMPs for this minimum control measure must result in the accumulation of a minimum of 5 points total on an annual basis for each calendar year in 2021 and 2022. The point total requirement increases to 7 points for each calendar year beginning in 2023 for the duration of the permit cycle.

**Benefit**

Conversion of the native landscape to a developed landscape increases both the volume and quality of runoff and pollutant loads in stormwater. The consequences can include erosion, flooding, and pollution, impacting both downstream property owners and public infrastructure. Soil exposed by construction activities is especially vulnerable to erosion. Runoff from an unstabilized construction site can result in the loss of approximately 35–45 tons of sediment per acre each year (ASCE and WFF, 1992). Even in a short period of time, construction sites can contribute more sediment to streams than would be deposited naturally over several years.

The environmental effects of development can make it more difficult for the community to protect its natural resources. Where and how Lawrence accommodates growth influences the quality of streams, rivers, and lakes. By supporting development practices that use land efficiently and protects undisturbed natural land, the community can grow while still protecting water resources. Lasting stormwater controls included with development sites can help reduce these adverse impacts and costs to both private property owners and the public.

## BMPs, Goals, and Staff

| No. 5 - Post-Construction Stormwater Management in New Development and Redevelopment Projects | | | | | |
|---|---|---|---|---|---|
| **BMP** | **BMP Description** | **Measurable Goal** | **Implementation Time Schedule, etc.** | | |
| | | | **Schedule** | **Planned Points** | **Notes** |
| **5.01** | Develop and adopt a custom design manual for Post-Construction Stormwater Management that specifies various structural BMPs which are required for new development and re-development construction sites that are greater than 1 acre or for which there is construction activity disturbing less than one acre that is part of a larger common plan of development or sale that in total disturbs one acre or more.<br><br>Alternately, adopt and implement the APWA 5600 Stormwater Design Criteria and the MARC/APWA BMP Manual. | The custom design manual shall impose requirements to achieve at least one of the following standards:<br><br>Capture, at least, the first 0.5 inches of precipitation on the development/re-development site and utilize methods to prevent discharge off-site, including but not limited to:<br>• retain on-site<br>• infiltrate<br>• evaporate<br>• transpire<br>• beneficially reuse<br><br>Through implementation of appropriate BMP(s) reduce the peak stormwater flow rate to a value equal to or less than the rate which would be experienced on the site prior to the development/re-development | 2021 | 4 | Development of the design manual can occur in any year. Initial implementation can allow points to be claimed in that year and continued implementation can allow points to be claimed in subsequent years.<br><br>4 points may be claimed in the year of initial implementation of a custom design manual – alternately 6 points may be claimed in the year of initial implementation of the APWA 5600 stormwater design criteria and the MARC/APWA BMP Manual.<br><br>3 points may be claimed for each successive year compliance with the custom design manual is required/implemented.<br><br>Alternately, 5 points may be claimed in each successive year the implementation of the APWA 5600 stormwater design criteria and the MARC/APWA BMP Manual is required/implemented. |
| | | | 2022 | 3 | |

| | | | | | |
|---|---|---|---|---|---|
| | | project based upon modeling a standard storm event, e.g. 1.0 inch – 6-hour event assuming saturated soil conditions.<br><br>Other sizing or detention standards generally accepted by design engineers as adequate for the permittee's local.<br><br>As an alternative to a custom design manual the APWA 5600 Stormwater Design Criteria and the MARC/APWA BMP Manual may be adopted and implemented. Measures must be included to enforce the installation of the various structural BMPs required. | 2023<br><br>2024 | 3 | |
| **Lead Staff: EHS & Stormwater Engineering Program Manager** | | | | | |
| **5.02** | Develop a list of post-construction structural or non-structural BMPs, which are required to be incorporated in any development/re-development project. The list must include guidance regarding the BMPs, which must be incorporated in various projects as determined appropriate by the permittee. The list is to be provided to entities involved with the design of projects prior to site plan review by the permittee. | Development and implementation of the list and guidance is necessary to claim points in the first year. The list of required BMPs must be enforceable through ordinance or other means. | 2021<br><br>2022<br><br>2023<br><br>2024 | | Development of the list and guidance can occur in any year. Initial implementation can allow points to be claimed in that year and continued implementation can allow points to be claimed in subsequent years.<br><br>3 points may be claimed in the year of initial implementation. 2 points may be claimed for each successive year the list is maintained and implemented. |
| **Lead Staff: EHS** | | | | | |
| **5.03** | Develop and implement a program to ensure adequate long-term cleaning, operation and maintenance of all municipally owned or operated post-construction structural stormwater | The program shall be detailed in a written document and made available to all pertinent maintenance staff. | 2021 | 3 | Development of the program can occur in any year. Initial implementation can allow points to be claimed in that year and continued implementation can allow points to be claimed in subsequent years. |

| | | | | | |
|---|---|---|---|---|---|
| | BMP facilities. The program shall address several different types of these BMP systems. The systems, which are addressed, shall include any type of post-construction structural BMP system, contained in the MS4. These shall include, if so present, at a minimum the following:<br>• detention ponds<br>• retention ponds<br>• grass swales<br>• wetlands<br>• pervious paving systems<br>• vegetative filter strips<br>• drop inlet-catch basin<br>• manufactured stormwater treatment devices (swirl separators, screens, etc.) | | 2022 | 2 | 3 points may be claimed in the year of initial implementation. 2 points may be claimed for each successive year the program is maintained and utilized. |
| | | | 2023 | 2 | |
| | | | 2024 | 2 | |
| **Lead Staff: EHS, Stormwater Engineering Program Manager, & PIO** | | | | | |
| **5.04** | Develop a master plan or comprehensive development plan, which establishes zoning and development standards with establishment of both structural and non-structural BMPs intended to avoid or minimize adverse water quality impacts post-construction. | Runoff problems can be addressed efficiently with sound planning procedures. This master or comprehensive development plan must include, if not already implemented, a zoning ordinance, a stream buffer ordinance, site plan development requirements which include minimizing the increase of impervious surfaces and maximization/preservation of open space. The plan must also impose requirements for new development or re-development projects to utilize stormwater retention or detention BMPs and vegetative BMPs (such as grassy swales, filter strips, artificial wetlands, and rain gardens). | 2021 | | After all aspects are implemented including final implementation of the master or comprehensive development plan, along with enactment of the required ordinances points for implementation of this BMP can initially be claimed.<br><br>5 points may be claimed in the year all aspects are initially implemented. 2 points may be claimed for each successive year all aspects continue to be implemented. |
| | | | 2022 | | |
| | | | 2023 | | |
| | | | 2024 | | |
| **Lead Staff: EHS, Stormwater Engineering Program Manager, & PIO** | | | | | |

| | | | | | |
|---|---|---|---|---|---|
| **5.05** | Develop and implement a program for inspection of permittee owned structural BMPs which includes implementation of needed maintenance to ensure long-term operation of the BMPs | The program shall require inspection of at least 10% of the structural BMPs on an annual basis.<br><br>Identified maintenance activities shall be completed:<br>• in the same year of inspection or<br>• completed as dictated by the permittee's maintenance/O&M plan or<br>• a written plan for completion of the necessary maintenance shall be completed in the same year of inspection with the objective for completion of the maintenance activity within 18 months. | 2021 | 3 | The program shall be developed and implemented within a single year.<br><br>3 points may be claimed in the year the program is initially developed and implemented. 2 points may be claimed for each successive year the program continues to be implemented. |
| | | | 2022 | 2 | |
| | | | 2023 | 2 | |
| | | | 2024 | 2 | |
| **Lead Staff: EHS, Stormwater Engineering Program Manager, & PIO** | | | | | |
| **5.06** | Develop and implement a program for inspection of known privately owned structural BMPs which includes providing the owner of the BMPs an inspection report which specifies needed maintenance to ensure long-term operation of the BMPs. | The program shall require inspection of at least 10% of the known privately owned structural BMPs on an annual basis.Identified maintenance activities shall be completed in the same year of inspection or a written plan for completion of the necessary maintenance shall be completed in the same year of inspection with the objective for completion of the maintenance activity within 18 months. | 2021 | | The program shall be developed and implemented within a single year.<br><br>3 points may be claimed in the year the program is initially developed and implemented. 2 points may be claimed for each successive year the program continues to be implemented. |
| | | | 2022 | 3 | |
| | | | 2023 | 2 | |
| | | | 2024 | 3 | |
| **Lead Staff: EHS** | | | | | |
| **5.07** | Enact either an ordinance, a resolution, or other enforceable requirement, which requires the installation of pervious surfaces on property. | The ordinance or resolution or other enforceable requirement must specify when installation of impervious surfaces is not acceptable and what allowable | 2021 | 3 | The year the ordinance or resolution or other enforceable requirement is implemented points may be claimed and continued implementation can allow points to be claimed in subsequent years. |
| | | | 2022 | 2 | |

| | | | | | |
|---|---|---|---|---|---|
| | | pervious surfaces can be installed in lieu of impervious surfaces. | 2023 | 2 | 3 points may be claimed in the year of initial implementation. 2 points may be claimed for each successive year the ordinance or resolution or other enforceable requirement is implemented. |
| | | | 2024 | 2 | |
| **Lead Staff: EHS & Stormwater Engineering Program Manager** | | | | | |
| **5.08** | Implement a program to encourage residential owners to install stormwater BMPs, including but not limited to, native trees, native flower gardens, rain gardens, rain barrels, pervious surfaces, and vegetated swales. | A program that results in installation of such BMPs on 1% of the residential parcels in a year will allow two points to be claimed for that year. In a year when installation of such BMPs on 5% of the residential parcels occurs, a larger number of points may be claimed. | 2021 | | The number of residential parcels improved to qualify for points must occur in a single calendar year.<br><br>2 points may be claimed in a year BMPs are installed on 1% of the residential parcels. 4 points may be claimed in a year BMPs are installed on 5% of the residential parcels. |
| | | | 2022 | | |
| | | | 2023 | | |
| | | | 2024 | | |
| **Lead Staff: EHS, Stormwater Engineering Program Manager, & PIO** | | | | | |

| **BMP Summary Table:** | | **Year** | **Points Earned** | **Note** |
|---|---|---|---|---|
| **Post-Construction Stormwater Management in New Development and Redevelopment Projects**<br>The City of Lawrence will earn a minimum of 5 points annually for years 2021 and 2022 and 7 points in years 2023 and 2024. | | 2021 | 9 | *BMP Point totals are left blank intentionally and are meant for tracking as the Plan progresses.* |
| | | 2022 | 5 | |
| | | 2023 | 7 | |
| | | 2024 | | |

| BMP POINT GOAL SUMMARY TABLE | | | | |
|---|---|---|---|---|
| **BMP** | **2021** | **2022** | **2023** | **2024** |
| 5.01 | 4 | 3 | 3 | |
| 5.02 | | | | |
| 5.03 | 3 | 2 | 2 | 2 |
| 5.04 | | | | |
| 5.05 | 3 | 2 | 2 | 2 |
| 5.06 | | 3 | 2 | 3 |
| 5.07 | 3 | 2 | 2 | 2 |

| | | | | |
|---|---|---|---|---|
| 5.08 | | | | |
| YEARLY TOTAL | 13 | 12 | 11 | 9 |

### Program Assessment

The overall success of this control measure will be measured by the effective implementation of the program components, including the adoption and enforcement of the design manual that imposes requirements to capture necessary precipitation on development and redevelopment sites and the inspection and maintenance of all municipally owned and operated post-construction structural BMPs. The City will also continue to enforce Ordinance No. 9772, which requires developers to mitigate the impact of excess parking through the use of BMPs as described in the City's adopted BMP manual.

Success will also be measured by the following:

- Records of cleaning, operation, and maintenance of all municipally owned or operated post-construction structural stormwater BMP facilities. The program shall address several different types of these BMP systems.
- Number of inspections of city-owned structural BMPs, including appropriate maintenance to ensure long-term operation of the BMPs.
- Number of inspections of known privately-owned structural BMPs in which the owner is provided an inspection report and educational material.

## 3.6 Control Measure 6: Municipal Pollution Prevention/Housekeeping

### Description

This minimum control measure requires the development and implementation of a program focused on operation, maintenance, and employee training efforts to reduce and prevent stormwater pollution from public facility operations such as park and open space maintenance, fleet and building maintenance, new construction and land disturbance, and stormwater system maintenance.

In addition to the program described above, the City will implement sufficient BMPs with measureable goals in the table below to qualify for the required number of points in each year within the permit cycle. The implementation of BMPs for this minimum control measure must result in the accumulation of a minimum of 4 points total on an annual basis for each calendar year in 2021 and 2022. The point total requirement increases to 6 points for each calendar year beginning in 2023 for the remainder of the permit cycle.

**Benefit**

The City is committed to lead by example on managing public facilities and projects to reduce and prevent pollution, and to demonstrate and teach proper stormwater pollution reduction techniques to other community landowners. As part of its Strategic Plan, the City commits to environmental sustainability, considering the environmental consequences of every decision and the impacts our actions have beyond our boundaries. Stormwater pollution prevention and management is an important component of the outcomes of the City's environmental sustainability commitment.

## BMPs, Goals, and Staff

| No. 6 - Pollution Prevention/Good Housekeeping for Municipal Operations | | | | | |
|---|---|---|---|---|---|
| **BMP** | **BMP Description** | **Measurable Goal** | **Implementation Time Schedule, etc.** | | |
| | | | **Schedule** | **Planned Points** | **Notes** |
| **6.01** | Install a screening device or method at a single municipal storm sewer outfall or on the storm sewer line immediately upstream of the outfall to reduce the discharge of floatables or other objects to receiving waters. | The screening device or method is required to remove objects that exceed at least 1½ inches in size. The device or method must be capable of continuous operation during stormwater discharges. An emergency bypass or overflow line can be included to avoid surcharging/flooding in the event the screening device or method fails to operate properly at any time. A log of the material captured and prevented from discharge to the receiving water shall be maintained. | 2021 | | Volume or weight of the material shall be documented for either each discharge event or on a quarterly basis.<br><br>3 points may be claimed in the year the screening device or method is initially implemented. 2 points may be claimed for each successive year the screening device or method continues to be implemented. |
| | | | 2022 | | |
| | | | 2023 | | |
| | | | 2024 | | |
| **Lead Staff: EHS, Stormwater Engineering Program Manager, & MSO Field staff** | | | | | |
| **6.02** | Implement a recycle and proper waste disposal program for municipal staff to reduce potential for litter, to recycle waste oil, batteries, glass containers, plastic containers, and paper products. | A log of the materials directed to recycle shall be maintained. Entries in the log shall record either weight or volume of recycle materials removed from the containers and transported to the recycle facility as well as the date of transport. | 2021 | 3 | Recycle containers shall be available for staff use all days of the year in which points are claimed.<br><br>3 points may be claimed in the year recycle containers are made available for municipal staff use and the recycle program is initially implemented. 2 points may be claimed for each successive year the recycle program continues to be implemented. |
| | | | 2022 | 2 | |
| | | | 2023 | 2 | |
| | | | 2024 | 2 | |
| **Lead Staff: EHS, MSO staff, & Sustainability Office** | | | | | |

| | | | | | |
|---|---|---|---|---|---|
| **6.03** | Develop a guidance document for municipal staff or third-party contractors that apply pesticides. The guidance shall require any municipal staff who apply restricted use pesticides to have a commercial applicator certification from the Kansas Department of Agriculture if required by that Department. | Require staff that apply pesticides to use such pesticides in compliance with the guidance document. The guidance document must require use of pesticides in compliance with the label instructions. | 2021 | 2 | The guidance document must be finalized and implemented in the year which points are initially claimed. The guidance document must be finalized and implemented in the year which points are initially claimed.<br><br>2 points may be claimed in the year the guidance document is finalized and implemented. 1 point may be claimed for each successive year the guidance document continues to be implemented. |
| | | | 2022 | 1 | |
| | | | 2023 | 1 | |
| | | | 2024 | 1 | |
| **Lead Staff: EHS, & Parks and Recreation Department (PR)** | | | | | |
| **6.04** | Implement a program, with guidance to municipal staff or third-party contractors, to ensure any municipal vehicle or other mechanical equipment washing is conducted in a manner, which ensures the wash water is disposed of in the sanitary sewer, or otherwise receives proper treatment prior to discharge to the environment. | Maintain proper wash facilities for municipal staff to wash vehicles and/or equipment or implement a program which includes guidance to municipal staff to take vehicles and/or equipment to commercial wash facilities, either of which ensures the wash water is conveyed to the sanitary sewer, or otherwise receives proper treatment prior to discharge to the environment, and is not discharged untreated to the MS4 or directly to the environment. | 2021 | | The guidance document must be finalized and implemented in the year which points are initially claimed.<br><br>2 points may be claimed in the year the guidance document is finalized and implemented. 1 point may be claimed for each successive year the guidance document continues to be implemented. |
| | | | 2022 | 2 | |
| | | | 2023 | 1 | |
| | | | 2024 | 1 | |
| **Lead Staff: EHS** | | | | | |
| **6.05** | Implement a program for street sweeping in which the street sweepings are collected and disposed of properly or recycled/reused if possible. | All paved streets, which can be swept, shall be listed in the schedule for street sweeping. A log shall be maintained listing the street segments that are swept, and dates of sweeping and where the street sweepings are disposed or where the material was sent to be recycled and/or reused.<br><br>Alternatively, for municipalities | 2021 | 3 | At least 10% of the streets, which are listed in the street sweeping schedule, must be swept at least once in a year to claim points for the year. In years when street sweeping equipment is purchased for use by the permittee, additional points may be claimed.<br><br>Alternately, for municipalities with less than 500 population, at least 5% of the street gutters that can be swept must be swept in |
| | | | 2022 | 2 | |

| | | | | | |
|---|---|---|---|---|---|
| | | with less than 500 population street sweeping can be limited to sweeping the gutters. The log which must be maintained need only indicate the street segments which were swept in the year and confirm the sweepings were properly disposed or recycled and/or reused | 2023 | 2 | a year to claim points.<br><br>3 points may be claimed in the year at least 10% of the listed streets are swept and street sweeping equipment is purchased. 2 points may be claimed for each year at least 10% of the listed streets are swept or alternately, for municipalities with less than 500 population, if at least 5% of the street gutters that can be swept are swept in a year 2 points may be claimed. |
| | | | 2024 | 2 | |
| **Lead Staff: FIO** | | | | | |
| **6.06** | Develop an employee training program to ensure permittee's staff understand what actions they can take in the workplace to minimize stormwater pollution. | Provide guidance documents in the form of either fact sheets, flyers or e-mails to staff to coach them in appropriate actions they can take while working to minimize stormwater pollution.Alternately, provide in-person training or videos with sign-in-sheets for signature documentation of personal or video training. Retain copies of the guidance documents and/or sign-in-sheets. A log of when the guidance was distributed, or training was provided to staff should be maintained. Provide appropriate guidance and/or training to staff a minimum of twice per year. | 2021 | 1 | For each year in which staff receive guidance documents or in-person training or video training on two separate dates, points may be claimed for the year. In years when guidance documents or training (in-person or video) are provided on two separate dates 1 point may be claimed. |
| | | | 2022 | 1 | |
| | | | 2023 | 1 | |
| | | | 2024 | 1 | |
| **Lead Staff: EHS** | | | | | |
| **6.07** | Implement a program to inspect stormwater inlets to identify illicit discharges and clean drop inlets of accumulated debris. | Inspect at least 5% of all inlets annually. Additionally, if 10% of all inlets are inspected in a year an additional point may be claimed.<br><br>For any inlets that have evidence of dumped paint, oil or other | 2021 | 1 | For each year in which staff inspect at least 5% of all stormwater inlets at least one point may be claimed.<br><br>In years when staff inspect at least 5% of all stormwater inlets and remove accumulated debris, 1 point may be |
| | | | 2022 | 1 | |

| | | | | | |
|---|---|---|---|---|---|
| | | substances that are considered illicit discharges follow up with efforts to educate individuals near the impacted inlet about illicit discharges. For inlets that have any accumulation of debris, remove the debris for proper disposal. | 2023 | 1 | claimed. In years when staff inspect at least 10% of all stormwater inlets and remove accumulated debris 2 points may be claimed. |
| | | | 2024 | 1 | |
| **Lead Staff: EHS, FIO, & GIS staff** | | | | | |
| **6.08** | Develop, implement and keep updated an online storm sewer map accessible to the public. | Map shall cover the entire MS4 within the permit area and include all the MS4 lines, both pipe and open drainage (i.e. ditches), and shall also illustrate all impaired waterways (i.e. 303(d) listed and TMDL listed streams/rivers) with an indication of the listed impairment. | 2021 | 3 | For each year in which the map is posted online, points may be claimed. In the first year the map is posted it must be posted for at least six months for points to be claimed.<br><br>3 points may be claimed in the first year. 2 points may be claimed for each year thereafter for which the map remains posted. |
| | | | 2022 | 2 | |
| | | | 2023 | 2 | |
| | | | 2024 | 2 | |
| **Lead Staff: EHS, MSO Water Quality Lab, & GIS staff** | | | | | |
| **6.09** | Identify permittee owned facilities, open space and buildings that can be retrofitted for stormwater BMPs. | Retrofit projects can include:<br>• green infrastructure,<br>• catchment improvements,<br>• Pollutant of Concern targeted BMPs, and<br>• native plant restoration projects. | 2021 | | The site(s) must be retrofitted with stormwater BMPs as listed in the measurable goals. Points can be awarded in the first year the BMPs are installed and operation begins, and points may be claimed for each year the retrofitted BMPs continue to be operated.<br><br>1 point may be claimed in the first year for each site retrofitted (up to two sites/points maximum. 2 points may be claimed for each year at least two sites continue to operate all of the retrofitted BMPs that were installed. |
| | | | 2022 | | |
| | | | 2023 | | |
| | | | 2024 | | |
| **Lead Staff: EHS** | | | | | |
| **6.10** | Install and operate a constructed wetland at a municipal facility such as at a parking lot, shop, maintenance facility, rest area or any other industrial/commercial | The wetland shall include a water surface area of at least 1/4 acre or equivalent submerged surface area for submerged wetlands. | 2021 | 1 | Points may be claimed in the year the wetland is constructed and in subsequent years the wetland remains in operation. |
| | | | 2022 | 1 | |

| | | | | | |
|---|---|---|---|---|---|
| | type facility, e.g. recycling facility, transfer station, kennel, or airport. | | 2023 | 1 | 2 points may be claimed for the year in which the wetland is constructed. 1 point may be claimed for each subsequent year the wetland remains in operation. |
| | | | 2024 | 1 | |
| **Lead Staff: EHS & MSO Construction Management, Engineering, & Development (CMED)** | | | | | |
| **6.11** | Install a canopy or other covered area for load-out of salt or other de-icing chemicals where such de-icing materials are stored either within the permit area or a storage facility located within 30 miles of this permit area.<br><br>The canopy or other covered area for load-out of salt or other de-icing materials may be installed at a facility owned by the permittee or at a facility owned by an entity the permittee contracts with as long as the facility is located within 30 miles of this permit area. | The canopy or covered area shall be large enough to allow normal load-out and cleanup of spilled de-icing materials, without mixing with precipitation and resulting in contaminated runoff from the site, during and immediately following load out operations | 2021 | 2 | Points may be claimed in the initial year of construction and in subsequent years the canopy/covered area remains in operation.<br><br>3 points may be claimed for the year in which the canopy/covered area is constructed. 2 points may be claimed for each subsequent year the canopy/covered area remains in operation. |
| | | | 2022 | 2 | |
| | | | 2023 | 2 | |
| | | | 2024 | 2 | |
| **Lead Staff: EHS & FIO** | | | | | |
| **6.12** | Install a stormwater treatment system for capture of either trash, sediment, or debris. Systems may include any proprietary stormwater treatment system including CDS, Hancor, Enviro 21, etc. or similar custom designed systems. A system can be installed at a single municipal storm sewer outfall or on the storm sewer line immediately upstream of the outfall to reduce the discharge of floatables or other | The treatment system or method must be capable of continuous operation during stormwater discharges.An emergency bypass or overflow line can be included to avoid surcharging/flooding in the event the system is overloaded or fails to operate properly at any time.A log of the material (noting either volume or weight) captured and prevented from discharge to | 2021 | | Volume or weight of the material shall be documented for either each discharge event, on a quarterly basis or at least annually. 3 points may be claimed in the year the treatment system is initially implemented. 2 points may be claimed for each successive year the treatment system continues to be implemented. |
| | | | 2022 | | |
| | | | 2023 | 3 | |

| | | | | | |
|---|---|---|---|---|---|
| | objects to receiving waters. Alternately, a system may be installed on a stormwater line to provide treatment at problem locations | the receiving water shall be maintained. | 2024 | 2 | |
| **Lead Staff: EHS** | | | | | |

| **BMP Summary Table:** | | **Year** | **Points Earned** | **Note** |
|---|---|---|---|---|
| **Pollution Prevention/Good Housekeeping for Municipal Operations**<br><br>The City of Lawrence will earn a minimum of 4 points annually for years 2021 and 2022 and 6 points in years 2023 and 2024. | | 2021 | 17 | *BMP Point totals are left blank intentionally and are meant for tracking as the Plan progresses.* |
| | | 2022 | 13 | |
| | | 2023 | 16 | |
| | | 2024 | | |

| **BMP POINT GOAL SUMMARY TABLE** | | | | |
|---|---|---|---|---|
| **BMP** | **2021** | **2022** | **2023** | **2024** |
| 6.01 | | | | |
| 6.02 | 3 | 2 | 2 | 2 |
| 6.03 | 2 | 1 | 1 | 1 |
| 6.04 | | 2 | 1 | 1 |
| 6.05 | 3 | 2 | 2 | 2 |
| 6.06 | 1 | 1 | 1 | 1 |
| 6.07 | 1 | 1 | 1 | 1 |
| 6.08 | 3 | 2 | 2 | 2 |
| 6.09 | | | | |
| 6.10 | 1 | 1 | 1 | 1 |
| 6.11 | 2 | 2 | 2 | 2 |
| 6.12 | | | 3 | 2 |
| YEARLY TOTAL | 16 | 14 | 16 | 15 |

**Program Assessment**

The overall success of the Pollution Prevention/Good Housekeeping Program will be measured through the successful implementation of facility Stormwater Pollution Prevention Plans (SWPPPs), employee training, and facility inspections conducted as part of the program. Program assessment will be reported with each annual NPDES report discussing the activities completed in this section for the previous program year.

In addition, success will also be measured by:

- The number of inspections conducted and stormwater inlets cleaned
- The number of new pollution prevention practices implemented to resolve deficiencies
- Training classes attended by City employees
- Tons of debris swept
- Volume of leaves/yard waste collected
- Updates to manuals or SOPs
- Number of online storm sewer map users

## 4.0 TMDL POLLUTANTS

The City is required to continue to review, update, implement and develop, when necessary, structural and non-structural BMPs which will reduce to the Maximum Extent Practicable the discharge of the Total Maximum Daily Load (TMDL) regulated pollutants from the MS4 as follow:

| TMDL Regulated Pollutant | Specific Impaired Stream(s) to Target |
|---|---|
| Bacteria | Yankee Tank Creek, Wakarusa River, Baldwin Creek, Kansas River |
| Nutrients | Wakarusa River, Kansas River |
| Sediment | Wakarusa River, Kansas River |

TMDLs are established for waters found on the Clean Water Act (CWA) Section 303(d) list of impaired waters. The purpose of the TMDL is to define the necessary and allowable loads that may enter those waters to meet the Kansas Water Quality Standards and attain a

condition that fully supports all applicable designated uses. The TMDL allocates allowable loads among the likely point and non-point sources within the impaired watershed. Implementation of the TMDL by the regulated point source and nonpoint source programs brings about pollutant load reductions from potential or known sources through permits, numeric goals, or narrative actions that improve water quality to meet applicable water quality standards.

Wet weather surface water quality monitoring is no longer conducted on the Kansas River. It is required on Yankee Tank Creek, Wakarusa River, and Baldwin Creek under the effective permit. The permitted surface water monitoring locations are identified as follows:

| SURFACE WATER MONITORING LOCATIONS | | | |
|---|---|---|---|
| LOCAL SITE NAME | LOCAL ID. | LOCATION DESCRIPTION | KDHE EDMR CODE |
| Wakarusa River Upstream | WKR Up | Wakarusa River Upstream at the outfall of Clinton Lake Reservoir. | WAKUP006A6 |
| Wakarusa River Downstream | WKR Down | Wakarusa River Downstream at E. 1900 Rd. | WAKDN006B6 |
| Baldwin Creek | BLD | Baldwin Creek at E. 1150 Rd. | BLD007B6 |
| Yankee Tank Creek | YKE | Yankee Tank Creek at E. 1200 Rd. | YKE008B6 |

The City is additionally sampling two optional locations to supplement this information:

| LOCAL SITE NAME | LOCAL ID. | LOCATION DESCRIPTION |
|---|---|---|
| Inverness Creek – Optional | INVopt | Inverness Creek at 27th and Crossgate Dr. |
| Yankee Tank Creek – Optional | YKEopt | Yankee Tank Creek at N. 1500 Rd. |

**Best Management Practices (BMPs)**

MS4 permit compliance focuses largely on developing and implementing a suite of structural and non-structural BMPs designed to reduce the discharge of pollutants from the MS4 to the maximum extent practicable. BMPs are defined broadly as “schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the United States (WOTUS). BMPs generally fall into two categories: structural and non-structural. Structural BMPs are physical structures or features that are intended to collect, treat, infiltrate, and/or convey stormwater. Examples of structural BMPs include:

- Retention ponds and swales

- Rain gardens
- Green roofs
- Constructed wetland
- Pervious pavement

Non-structural BMPs include various practices or actions that are intended to directly reduce stormwater pollution or encourage the public to take steps to reduce stormwater pollution. Examples of non-structural BMPs include:

- Public signage encouraging pet owners to pick up animal waste or stating that storm drains discharge to local waters
- Street sweeping program
- Ordinance prohibiting non-stormwater discharges to the MS4
- Inspection and maintenance schedule for structural BMPs
- Public education sessions
- Public rain barrel distribution program

All six of the minimum control measures are designed to reduce pollutants in stormwater runoff. BMPs targeting bacteria, nutrients, and sediment, the most common TMDL pollutants in Lawrence, are addressed through the following control measures:

Bacteria
Public Education and Outreach
Public Involvement and Participation
Illicit Discharge Detection
Post-Construction Runoff Controls requiring the implementation of post-construction BMPs

Nutrients
Public Education and Outreach
Public Involvement and Participation
Post-Construction Runoff Controls requiring the implementation of post-construction BMPs
Pollution Prevention/ Good Housekeeping

Sediment
Public Involvement and Participation
Construction Stormwater Runoff
Post-Construction Runoff Controls requiring the implementation of post-construction BMPs
Pollution Prevention/Good Housekeeping

The implementation of BMPs for TMDL and surface water monitoring must result in the accumulation of a minimum of 4 points total on an annual basis for each calendar year 2021 and 2022. The point total requirement increases to 6 points for each calendar year beginning in 2023 for the remainder of the permit cycle. The following table lists various BMPs, with

measurable goals, and the schedule by which BMPs will be implemented to qualify for the points in the year.

In addition to the program described above, the City will implement sufficient BMPs with measurable goals in the table below to qualify for the required number of points in each year within the permit cycle. The implementation of BMPs for this minimum control measure must result in the accumulation of a minimum of 4 points total on an annual basis for each calendar year in 2021 and 2022. The point total requirement increases to 6 points for each calendar year beginning in 2023 for the remainder of the permit cycle.

| Total Maximum Daily Load (TMDL) BMPs | | | | | |
|---|---|---|---|---|---|
| **BMP** | **BMP Description** | **Measurable Goal** | **Implementation Time Schedule, etc.** | | |
| | | | **Schedule** | **Planned Points** | **Notes** |
| **1** | Install pet waste stations that include a glove/bag dispenser with signage and waste can to encourage pet waste disposal at either parks, trails, rest areas or other public lands owned by the permittee. | At least one pet waste station shall be installed at the selected park, trail, rest area or other public land. The station(s) shall include signage, which encourages proper pet waste disposal/cleanup, and a waste can. | 2021 | 1 | The point may be claimed In the year the Measurable Goal requirement is implemented and for each year thereafter that the pet waste stations remain in use.<br><br>1 point may be claimed for the year in which the Measurable Goal requirements are enacted, and<br>1 point may be claimed for each subsequent year the Measurable Goal requirements remain in effect. |
| | | | 2022 | 1 | |
| | | | 2023 | 1 | |
| | | | 2024 | 1 | |
| **Lead Staff: EHS & PIO** | | | | | |
| **2** | Establish a program to encourage installation of residential rain gardens. | Provide public education on rain gardens and design guidance for the installation of residential rain gardens. The rain gardens must have a minimum area of 20 square feet. The installation of rain gardens on five various residential parcels shall qualify the permittee to claim points for this BMP. | 2021 | | In the year five or more residential rain gardens are finally constructed and become operational, the points may be initially claimed and in subsequent years when at least five residential rain gardens remain operational points may be claimed.<br><br>3 points may be claimed for the year in which five or more residential parcels install rain gardens and initiate operation. 2 points may be claimed for each subsequent year at least five or more residential parcels have rain gardens remain in operation. |
| | | | 2022 | | |
| | | | 2023 | | |
| | | | 2024 | | |
| **Lead Staff: EHS** | | | | | |
| **3** | Install and operate a constructed wetland. | The wetland shall include a water surface area of at least one acre or equivalent submerged surface area for submerged wetlands. | 2021 | 2 | Points may be claimed in the year the wetland is constructed and in subsequent years the wetland remains in operation.<br><br>3 points may be claimed for the year in which the wetland is constructed. 2 points may be |
| | | | 2022 | 2 | |
| | | | 2023 | 2 | |

| | | | | | |
|---|---|---|---|---|---|
| | | | 2024 | 2 | claimed for each subsequent year the wetland remains in operation. |
| **Lead Staff: EHS** | | | | | |
| **4** | Enact a stream buffer ordinance, resolution, or other enforceable requirement to impose stream buffer standards. | The enactment of stream buffer standards must include enforcement capability. Consider use of the EPA stream buffer model ordinance or similar such requirement. | 2021 | | The year the ordinance, resolution or other enforceable requirement is enacted points may be claimed. Also, points may be claimed for subsequent years the ordinance, resolution or other enforceable requirement remains in effect.<br><br>3 points may be claimed for the year in which the ordinance, resolution or other enforceable requirement is enacted. 2 points may be claimed for each subsequent year it remains in effect. |
| | | | 2022 | 3 | |
| | | | 2023 | | |
| | | | 2024 | | |
| **Lead Staff: EHS, Stormwater Engineering Program Manager, & PDS** | | | | | |
| **5** | Develop a pet waste brochure or flyer document to educate the public about animal waste contamination of stormwater. The document encourages pet owners to pick up their pet's waste.Alternately, post the document on social media or the municipal website. | The brochures or flyers are to be posted in various public buildings and distributed to the public throughout the year. In the year, the number of documents shall equal or exceed the most recent U.S. Census Bureau decennial housing units value for the permit area. The applicable U.S. Census housing units value shall be documented, and the number of documents distributed shall also be documented. This information and copies of the documents shall be retained on file.Documents posted to social media or the website shall have the page copied and printed to retain on file. | 2021 | 1 | The documents may be distributed in any fashion and at any time throughout the year.Documents posted on website(s) shall be posted for at least six months in the year. Documents posted on social media shall be posted six times within the year points are claimed.<br><br>1 point may be claimed in a year in which the required number of brochures and/or flyers are distributed, documents posted on social media or the website must be posted for at least as specified. |
| | | | 2022 | 1 | |
| | | | 2023 | 1 | |
| | | | 2024 | 1 | |
| **Lead Staff: EHS** | | | | | |
| **6** | Distribute "Only Rain Down the Drain" door hangers or similar document. | Provide in portions of the permit area with suspected illicit discharges. In the year, the | 2021 | 2 | The documents may be distributed in any fashion and at any time throughout the year. .Alternately, the document may be posted to |

| | | | | | |
|---|---|---|---|---|---|
| | | number of documents distributed shall equal or exceed 10% of the most recent U.S. Census Bureau decennial housing units value for the permit area. The applicable U.S. Census housing units value shall be documented, and the number of documents distributed shall also be documented. This information and copies of the documents shall be retained on file. | 2022 | 2 | social media (at least three times in the year) or posted on the municipal website for a minimum of three months in the year to qualify for points.<br><br>2 points may be claimed in a year in which the required number of hangers or similar documents are distributed or alternately posted to social media or the municipal website for the required time. |
| | | | 2023 | 2 | |
| | | | 2024 | 2 | |
| **Lead Staff: EHS** | | | | | |
| **7** | Inspect 10% of all known MS4 outfalls for dry weather discharges either annually or twice per year to identify potential illicit discharges. | Complete inspection of all known MS4 outfalls either annually or twice per year during dry weather periods. If dry weather discharge is found, follow-up with investigation to determine if a portion or all of the discharge is illicit. Document the findings and initiate efforts to eliminate any identified illicit discharges | 2021 | 3 | The inspections must be conducted either annually or if twice per year they must be seasonal within the same calendar year (winter, spring, summer, and fall). Points can be claimed for that year. In addition, if an illicit discharge is detected and eliminated in association with this inspection program, additional points may be claimed in the year detected or in the year the discharge is eliminated.<br><br>3 points may be claimed for annual inspection as required by this BMP. 5 points may be claimed for these inspections completed twice in a year, and if an illicit discharge is detected and eliminated. The 2 additional points may be claimed only once, either in the year detected or in the year the illicit discharge is eliminated. |
| | | | 2022 | 3 | |
| | | | 2023 | 3 | |
| | | | 2024 | 3 | |
| **Lead Staff: EHS, Stormwater Engineering Program Manager, & FIO** | | | | | |

| | | | | | |
|---|---|---|---|---|---|
| **8** | Implement an Alternative Stormwater Offsite Pollution Reduction Program. | This program will include installation of BMPs in alternative locations, including outside the Permit Area, within the watershed shared by urban entities or urban and non-urban entities. The alternative stormwater offsite pollution reduction program shall be developed with watershed interests, such as other communities, Watershed Restoration and Protection Strategy (WRAPS) groups and Conservation Districts lying outside the Permit Area for the joint purpose of reducing pollutant loads generated from urban and non-urban lands within the shared watershed. Candidate offsite locations and practices will be consistent with implementing existing watershed plans that identify specific urban and non-urban (such as agricultural) BMP types and locations to achieve TMDLs reductions. The Alternative Stormwater Offsite Pollution Reduction Program shall be subject to KDHE approval and approved by KDHE prior to incorporation into the permittee's SMP. | 2021 | | In the year the Alternative Stormwater Offsite Pollution Reduction Program is approved by KDHE, points may be claimed. In subsequent years in which the program is maintained points may be claimed.<br><br>5 points may be claimed in the year KDHE approves the program. 4 points may be claimed for each subsequent year it remains in effect. |
| | | | 2022 | | |
| | | | 2023 | | |
| | | | 2024 | | |
| **Lead Staff: EHS** | | | | | |
| **9** | Implement a program to collect and properly dispose of litter, on four separate occasions per calendar year, within areas where littering has been identified as a problem. Such areas may include municipal parks, trails, rest areas, | The four litter collection efforts should, but are not required to, occur seasonally, i.e., winter, spring, summer and fall. If it is unreasonable to collect litter in any season, the required four collection efforts may occur in | 2021 | | The four collection efforts must occur in a calendar year.<br><br>2 points may be claimed for any year in which four collection efforts have occurred in compliance with the requirements of this BMP. |
| | | | 2022 | | |
| | | | 2023 | 2 | |

| | | | | | |
|---|---|---|---|---|---|
| | or other public lands owned by the permittee. | either three seasons or in a minimum of two seasons. | 2024 | 2 | |
| **Lead Staff: EHS** | | | | | |
| **10** | Establish a program to encourage Rainwater Harvesting. | Provide public education on rainwater harvesting and design guidance for the installation of rain barrels, cisterns, raingardens and other rainwater harvesting devices. When rain barrels are utilized, they must be a minimum size of 50 gallons. When raingardens are utilized, they must be a minimum of 20 square feet. A rain harvesting system on a commercial setting must have adequate capacity to hold the runoff from the impervious surface for which it is designed to collect on the commercial parcel equal to that generated by a 0.1-inch rainfall event. The installation of rain barrels or rain gardens on five residential lots, or the installation of one rain harvesting system in a commercial setting shall qualify the permittee to claim points for this BMP. | 2021 | | In the year five or more residential rain barrel systems or one commercial cistern are finally constructed and become operational the points may be initially claimed and in subsequent years when at least five residential rain barrel systems or one commercial cistern remain operational points may be claimed.<br><br>3 points may be claimed for any year in which sufficient rain harvesting systems are constructed or maintained in operation in compliance with the requirements of this BMP. |
| | | | 2022 | | |
| | | | 2023 | | |
| | | | 2024 | | |
| **Lead Staff: EHS, Stormwater Engineering Program Manager, & PIO** | | | | | |
| **11** | Construct and maintain a structural BMP to reduce loadings of sediment and nutrients, including bioretention, detention basins, porous pavement, retention ponds, media filters and any composite treatment trains of multiple BMPs | A construction project installing a structural BMP must be completed prior to awarding of points. Any individual project will be awarded points scaled on the basis of the extent of the contributing area that the BMP will control. The permittee will document maintenance of the constructed BMP in subsequent | 2021 | | By year five of this permit, at least two structural BMP projects will be constructed and maintained. Points will be awarded in the year construction was completed and subsequent points will be awarded in the subsequent years after documentation of maintenance of the project.<br><br>4 points may be claimed for any year in which a structural BMP project is completed for a |
| | | | 2022 | | |

| | | | | | |
|---|---|---|---|---|---|
| | | years to continue to be awarded points. | 2023 | | contributing area exceeding one acre. 3 points may be claimed for any year in which a structural project is completed for a contributing area under one acre.<br><br>A bonus point may be awarded for a composite BMP project. 2 points may be awarded in subsequent years upon documentation of ongoing maintenance of the BMPs. |
| | | | 2024 | 2 | |
| **Lead Staff: EHS** | | | | | |
| **12** | Construct a streambank stabilization project. | Install a minimum of 100 feet of bank stabilization at a site(s) with a history of erosion. | 2021 | 2 | The installation of, the minimum 100 feet of bank stabilization must occur in the year points are claimed at a single site or at multiple sites. The sites may be on the same stream or on different streams.<br><br>3 points may be claimed for the year in which the required minimum amount of stream bank stabilization is installed. 2 points may be claimed for each subsequent year it remains in effect. |
| | | | 2022 | 2 | |
| | | | 2023 | 2 | |
| | | | 2024 | 2 | |
| **Lead Staff: EHS** | | | | | |

| **BMP Summary Table:** | | **Year** | **Points Earned** | **Note** |
|---|---|---|---|---|
| **Total Maximum Daily Load (TMDL)**<br><br>The City of Lawrence will earn a minimum of 4 points annually for years 2021 and 2022 and 6 points for years 2023 and 2024. | | 2021 | 12 | *BMP Point totals are left blank intentionally and are meant for tracking as the Plan progresses.* |
| | | 2022 | 14 | |
| | | 2023 | 17 | |
| | | 2024 | | |

| BMP POINT GOAL SUMMARY TABLE | | | | |
|---|---|---|---|---|
| **BMP** | **2021** | **2022** | **2023** | **2024** |
| 1 | 1 | 1 | 1 | 1 |
| 2 | | | | |
| 3 | 2 | 2 | 2 | 2 |
| 4 | | 3 | | |
| 5 | 1 | 1 | 1 | 1 |
| 6 | 2 | 2 | 2 | 2 |
| 7 | 3 | 3 | 3 | 3 |
| 8 | | | | |
| 9 | | | 2 | 2 |
| 10 | | | | |
| 11 | | | | 2 |
| 12 | 2 | 2 | 2 | 2 |
| YEARLY TOTAL | 11 | 14 | 13 | 15 |

### Pollutant Reduction Goals

Success in achieving reductions in bacteria, sediment and nutrients will be assessed by directly monitoring in-stream concentrations and evaluating pollutant concentration trends across the permit period. The MSO section conducts the monitoring program on behalf of the City.

TMDL measurable goals will be based upon an in-stream sampling of the streams existing in or adjacent to the permit area during or immediately following storm events. Results of samples obtained to determine the performance of BMPs are maintained on file in compliance with the Standard Conditions records retention requirement and will be reported to KDHE via the electronic DMR process and summarized in the annual report.

Individual or sub-basin BMP performance goals may include in-stream or BMP discharge sampling locations based upon individual BMPs, sub-basin BMPs, or aggregate BMPs. Adaptive management will be utilized in an effort to reduce the discharge of TMDL regulated pollutants. New approaches will be reviewed and evaluated for implementation throughout the permit cycle. Adjustments to the SMP will be made as necessary to document program adjustments resulting from this iterative process.

Measurable goals for reducing TMDL pollutants contributed by MS4s can be expressed in quantifiable values to:

1. reduce the total mass of pollutants, and
2. be expressed as average and median values (percent reduction of inflow volume, reduction in pollutant mass loading) or for bacteria as a geometric mean.

## 5.0 MONITORING

### Storm Event Monitoring

The City implemented a wet weather monitoring program to assess the impact of precipitation-related runoff to water bodies within and discharging from the permitted jurisdictional boundary of the City. Stormwater sampling will be conducted at the four required locations noted in the permit, and the City chooses two additional locations during qualifying stormwater sampling events from March through October. The parameters monitored per the permit are based on approved Total Maximum Daily Loads.

All permitted sites are required to be sampled for bacteria (*E. coli*). The sampling sites on the Wakarusa River are additionally required to be sampled for nutrients and sediment per the table below. The City intends to analyze nutrients and *E.Coli* at all optional and required

sampling sites if resources allow. Sediment samples will only be collected from the Wakarusa River sampling sites as required. The monitoring program will enable the City to support adaptive stormwater management and the evaluation of SMP effectiveness in reducing the discharge of pollutants from the MS4.

The storm event monitoring data may be used to assist in evaluating trends in water quality. Monitoring results will be reported annually to KDHE as part of the annual report.

In addition to the storm event monitoring, the City may conduct dry weather monitoring, as appropriate to determine the effectiveness of the six minimum control measures, to detect illicit discharges, or to confirm baseline water quality data. Supplemental monitoring results will be utilized to evaluate pollutant loading trends over different hydrological conditions.

The overall monitoring program includes:

- A network of four required and two supplemental sites where discrete grab samples are collected.
- Analyses targeting nutrients, suspended sediment, and *Escherichia coli* bacteria.
- Four samples collected at each site annually during qualifying stormwater sampling events from March through October. If environmental conditions allow, two samples will be collected from March 1-June 30 and two samples from July 1- October 31.
- Conducting the first four sampling events during a qualifying event as described in the permit beginning after March 1, when a rainfall event exceeds 0.25 inches in the previous 24 hours. The City does not intend to sample more than two events in any one month.
- Maintaining an MS4 sampling plan, that details procedures and protocols for wet weather sampling and the monitoring program.
- Data to be compiled and reviewed on a routine basis to assess water quality conditions and trends.

A map of TMDL monitoring locations is included as Appendix A.

# 6.0 PERMIT COMPLIANCE SCHEDULE AND ANNUAL REPORTING

### Permit Compliance Schedule

Part IV of the 2019 issued permit includes the following compliance schedule requirements:

***Year 2019:***

The City started allocating time and effort to complete updates to the Stormwater Management Program document in 2019. The City continued the TMDL storm event monitoring of streams and reported results via the eDMR and permit term final report on effectiveness of source controls and structural BMPs to achieve the measurable goals.

***Year 2020:***

The City performed 8 TMDL storm monitoring sampling events. Sampling results were uploaded and submitted via the eDMR reporting process for all monitoring by January 28, 2021.

The City prepared the required information regarding the wet weather surface water monitoring map and detail of sampling locations within 100 days of the effective date of the permit issued in 2019.

The Annual Report for the calendar year 2019 was submitted to KDHE on February 27, 2020. The wet weather surface monitoring map was submitted on February 28, 2020.

The City worked on the majority of updates to the SMP for submittal with the 2020 annual report.

***Year 2021:***

EHS will continue source control programs and monitoring of storm events at selected sites. The City plans to submit the SMP document to KDHE with the 2020 Annual Report between January 1 and February 28, 2021.

Listed BMPs sufficient to achieve minimum point requirements for each year will be implemented beginning in 2021.

The City will also continue the TMDL storm event monitoring of streams with results reported via the eDMR reporting process for all monitoring within the calendar year by no later than January 28 of the following year.

***Year 2022:***

EHS will continue source control programs and monitoring of storm events at selected sites.

The City will complete TMDL storm event monitoring of streams and report results via the eDMR reporting process for all monitoring within the calendar year by no later than January 28 of the following year.

The City will continue to implement BMPs sufficient to achieve the minimum point requirements as outlined in the permit. The City will select, design, and initiate the installation of appropriate structural BMPs.

***Year 2023:***

The city will continue TMDL storm event monitoring of streams and report results via the eDMR reporting process for all monitoring within the calendar year by no later than January 28 of the following year.

EHS will continue stream/lake/BMP outfall monitoring and effective source control programs.

BMP installations will be completed by the end of the year. BMPs will be implemented to achieve the minimum point requirements as outlined in the permit, which increases from 2022.

The City will submit the Annual Report for the calendar year 2022 to KDHE between January 1 and February 28, 2023.

***Year 2024:***

The City will continue to complete TMDL storm event monitoring of streams and report results via the eDMR reporting process for all monitoring within the calendar year by no later than January 28 of the following year.

EHS will continue stream/lake/BMP outfall monitoring and effective source control programs.

By February 28, 2024, a final report will be provided on the effectiveness of source controls and structural BMPs to achieve the measurable goals and summarize water quality data from selected monitoring sites. The City will submit the annual report for the calendar year 2023 to KDHE between January 1 and February 28, 2024.

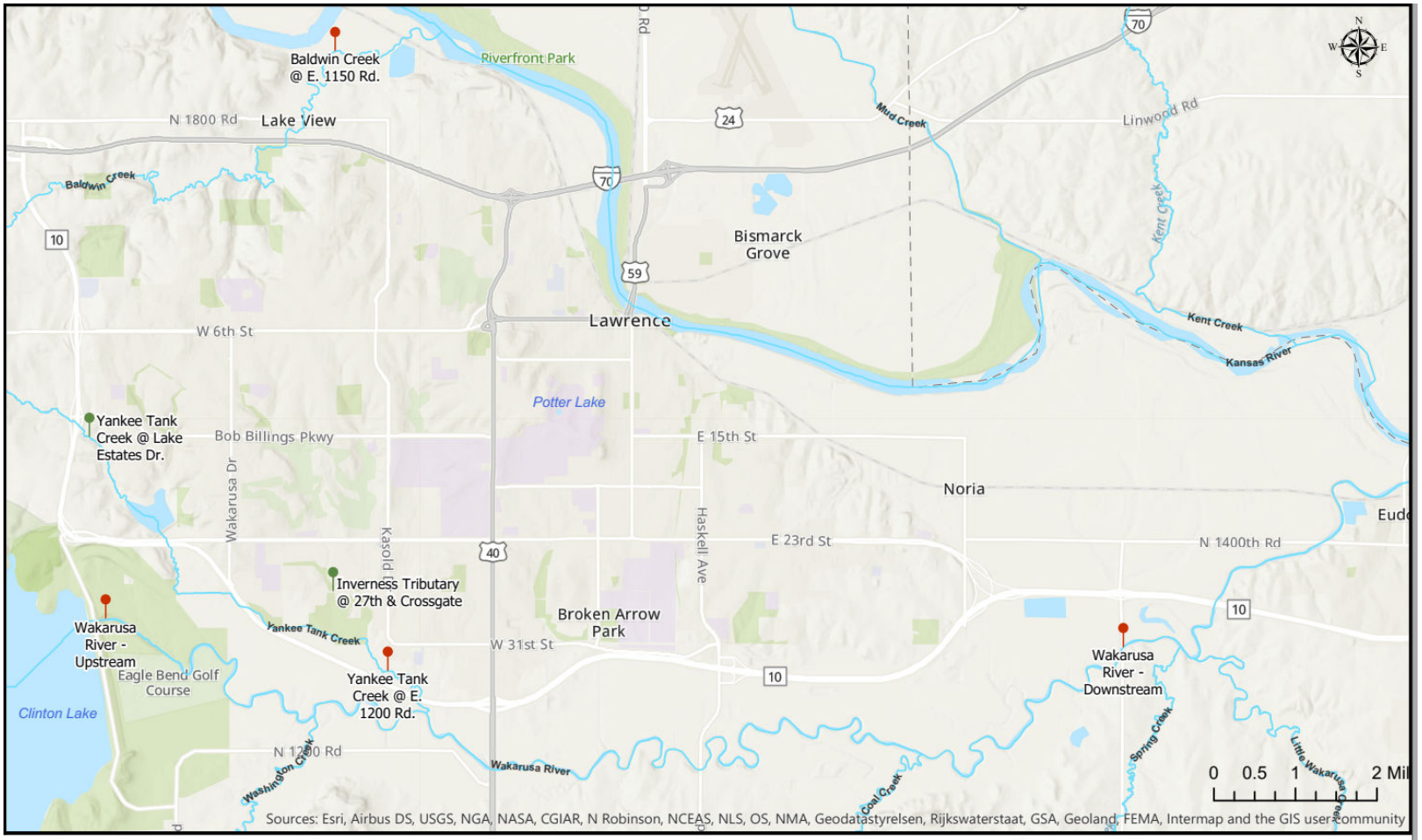
By February 28, 2025, a copy of the initial updated/implemented SMP document will be developed pursuant to this permit's requirements and submitted to KDHE for review. Subsequent annual reports shall be submitted to KDHE by February 28 of each year for the preceding calendar year

## Reporting

The City will submit an annual report to KDHE by February 28 of each year with the initial report under this permit due February 28, 2021, for the calendar year 2020. The report will cover the activities during the previous calendar year and will include:

- The status of compliance with permit conditions, an assessment of the appropriateness of the selected BMPs, progress towards achieving the statutory goal of reducing the discharge of the 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 Program 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 of reducing the TMDL regulated pollutants
- A summary of stormwater activities that were scheduled to be undertaken during the previous calendar year and the status of these activities
- A summary of stormwater activities that are scheduled to be undertaken during the next reporting cycle (including an implementation schedule)
- A map showing any changes in the permittee's jurisdictional Permit Area
- A description of significant changes in any of the BMPs including those in the SWP implementing the six minimum control measures
- Updated ordinances or resolutions associated with the SMP or the six minimum control measures shall be provided with the annual reports.
- A list of other parties, if any, who will be responsible for implementing any of the program areas of the Stormwater Management Program.
- 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 of a determination by the permittee or date of written notification from KDHE.
- Major modifications to BMPs listed in this plan, if needed to meet program objectives, will be proposed in a written plan to KDHE within 60 days of a determination by the permittee or date of written notification from KDHE.

# 7.0 APPENDIX A – Sampling Point Location Maps




Legend

Stormwater Sample Points - Required

- Baldwin Creek @ E. 1150 Rd.
- Wakarusa River - Downstream
- Wakarusa River - Upstream
- Yankee Tank Creek @ E. 1200 Rd.

Stormwater Sample Points - Optional

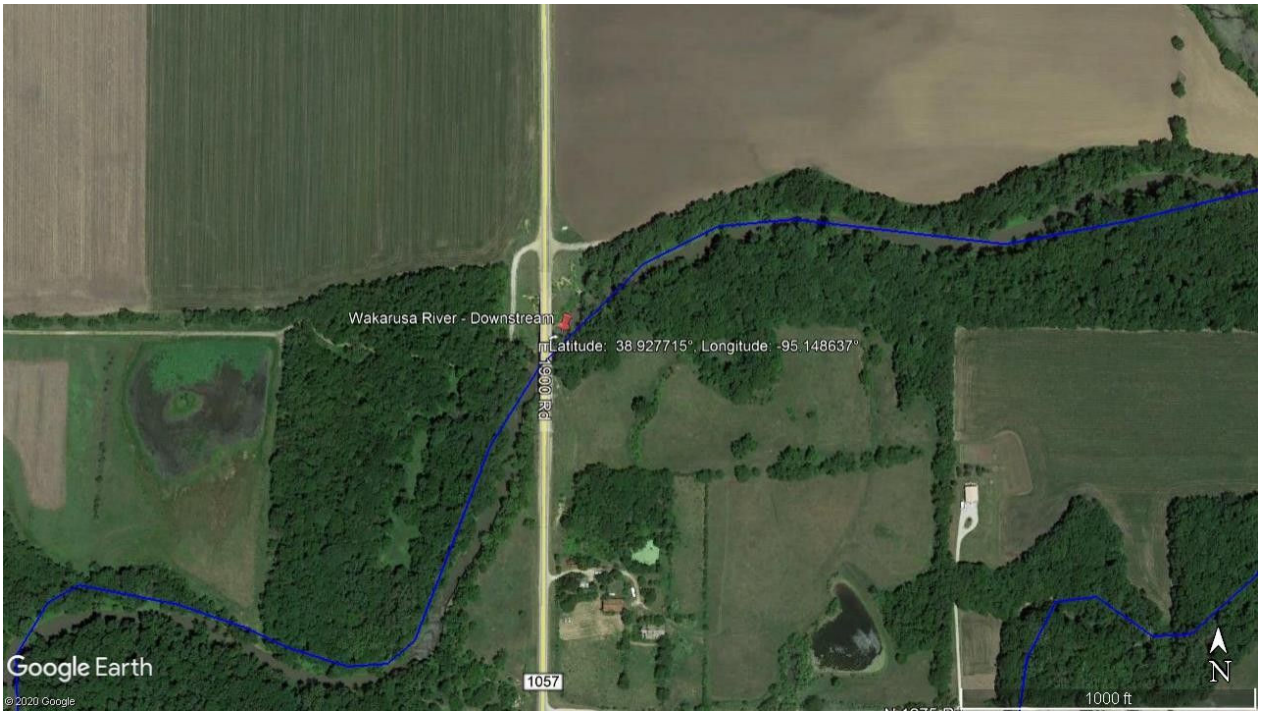
- Inverness Tributary @ 27th & Crossgate
- Yankee Tank Creek @ Lake Estates Dr.

City of Lawrence
MUNICIPAL SERVICES & OPERATIONS

Stormwater Sampling Points 2020


## Sampling Point Location Data

| | |
|---|---|
| Local Site Name | Wakarusa River – Upstream |
| Local Site Identifier | WKR Up |
| Sample Location Description | Wakarusa River upstream at the outfall of Clinton Lake Reservoir. Sample collection from the north side access area of the outlet with a sampling cup and telescoping rod. |
| KDHE eDMR Code (if known) | WAKAUP006A6 |
| Latitude/Longitude Data – Decimal & Degree Format | |
| Latitude | 38.931568 |
| Longitude | -95.329182 |
| Years Monitoring will be conducted | All years in current permit cycle: 2020-2024 |




## Sampling Point Location Data

| | |
|---|---|
| Local Site Name | Wakarusa River – Downstream |
| Local Site Identifier | WKR Down |
| Sample Location Description | Wakarusa River downstream at E. 1900 Rd. Sample collection from east side (downstream side) of bridge where a rope and bucket are lowered to the middle of the river. |
| KDHE eDMR Code (if known) | WAKADN006B6 |
| Latitude/Longitude Data – Decimal & Degree Format | |
| Latitude | 38.927715 |
| Longitude | -95.148637 |
| Years Monitoring will be conducted | All years in current permit cycle: 2020-2024 |


## Sampling Point Location Data

| | |
|---|---|
| Local Site Name | Baldwin Creek |
| Local Site Identifier | BLD |
| Sample Location Description | Baldwin Creek at E. 1150 Rd. Sample collection from the east side of the bridge using a rope and bucket. |
| KDHE eDMR Code (if known) | BLD007B6 |
| Latitude/Longitude Data – Decimal & Degree Format | |
| Latitude | 39.010013 |
| Longitude | -95.288642 |
| Years Monitoring will be conducted | All years in current permit cycle: 2020-2024 |


## Sampling Point Location Data

| | |
|---|---|
| Local Site Name | Yankee Tank Creek |
| Local Site Identifier | YKE |
| Sample Location Description | Yankee Tank Creek at E. 1200 Rd. Sample collection from east side of bridge where a rope and bucket are lowered to the middle of the stream. |
| KDHE eDMR Code (if known) | YKE008B6 |
| Latitude/Longitude Data – Decimal & Degree Format | |
| Latitude | 38.924441 |
| Longitude | -95.279076 |
| Years Monitoring will be conducted | All years in current permit cycle: 2020-2024 |


## Sampling Point Location Data

| | |
|---|---|
| Local Site Name | Yankee Tank Creek – Optional |
| Local Site Identifier | YKEopt |
| Sample Location Description | Yankee Tank Creek at N. 1500 Rd. Sample collected from south side of road using a rope and bucket. |
| KDHE eDMR Code (if known) | |
| Latitude/Longitude Data – Decimal & Degree Format | |
| Latitude | 38.956799 |
| Longitude | -95.332140 |
| Years Monitoring will be conducted | Optional, all years in current permit cycle as staff time and resources allow. |


## Sampling Point Location Data

| | |
|---|---|
| Local Site Name | Inverness Creek – Optional |
| Local Site Identifier | INVopt |
| Sample Location Description | Inverness Creek at 27th and Crossgate Dr. Sample collected from the south side of the road using a rope and bucket. |
| KDHE eDMR Code (if known) | |
| Latitude/Longitude Data – Decimal & Degree Format | |
| Latitude | 38.935359 |
| Longitude | -95.288840 |
| Years Monitoring will be conducted | Optional, all years in permit cycle as staff time and resources allow. |