

# CITY OF SHAWNEE

**CITY HALL**  
11110 JOHNSON DRIVE  
SHAWNEE, KS 66203  
(913) 631-2500  
FAX (913) 631-7351

**CIVIC CENTRE**  
13817 JOHNSON DRIVE  
SHAWNEE, KS 66216  
(913) 631-5200  
FAX (913) 631-4651

**FIRE**  
6501 QUIVIRA ROAD  
SHAWNEE, KS 66216  
(913) 631-1080  
FAX (913) 631-1628

**POLICE**  
5850 RENNER ROAD  
SHAWNEE, KS 66217  
(913) 631-2155  
FAX (913) 631-6389

**MUNICIPAL COURT**  
5860 RENNER ROAD  
SHAWNEE, KS 66217  
(913) 742-6003  
FAX (913) 962-0983

February 27, 2023

Kansas Department of Health and Environment  
Bureau of Water - Municipal Programs Section  
1000 SW Jackson - Suite 420  
Topeka, Kansas 66612-1367

RE: City of Shawnee - 2022 Municipal Separate Storm Sewer System (MS4) Annual Report:  
Permit No. M-KS68-SU01

Dear Sir or Madam:

This report is being submitted in compliance with the requirements of Kansas Water Pollution Control General MS4 Permit No. M-KS68-SU01. Please find the enclosed 2022 Kansas Stormwater Annual Report for the City of Shawnee, outlining the measures the City took to reduce the discharge of pollutants from our MS4.

Shawnee's objective is to protect water quality and to satisfy the water quality requirements of the Clean Water Act, the City's NPDES Phase II permit and initial Notice of Intent.

The Annual Report describes Best Management Practices (BMPs), their measurable goals and the agencies responsibility for implementation associated with addressing the required conditions of the permit mentioned above.

If you have any questions, please contact me at 913-742-6236 or via email at [cmoeller-kraass@cityofshawnee.org](mailto:cmoeller-kraass@cityofshawnee.org).

Sincerely,



Cynthia N. Moeller-Kraass, P.E.  
Stormwater Manager

PC: Doug Whitacre, P.E., Interim City Manager  
Kevin Manning, P.E., Interim Public Works Director  
Tammy Snyder, Stormwater Program Manager  
Ian Fannin-Hughes, Water Quality Specialist, Johnson County Public Works



[www.GoodStartsHere.org](http://www.GoodStartsHere.org)

# KANSAS STORMWATER 2022 ANNUAL REPORT FORM FOR MUNICIPAL SEPARATE STORM SEWER SYSTEMS (MS4)

Please place an "X" in the left box if any information has changed from previous years

<input type="checkbox"/>	Permittee [Agency Name] Mailing Address 1:	City of Shawnee, Kansas
<input type="checkbox"/>	Mailing Address 2:	11110 Johnson Drive
<input type="checkbox"/>	Municipality:	Shawnee
<input type="checkbox"/>	State:	Kansas
<input type="checkbox"/>	Zip Code:	66203
<input type="checkbox"/>	MS4 Program Contact Person:	Tammy Snyder
<input type="checkbox"/>	Contact E-Mail Address:	Tsnyder@cityofshawnee.org
<input type="checkbox"/>	Contact Phone Number:	913-742-6313
<input type="checkbox"/>	Construction E-Mail Address:	twirth@cityofshawnee.org
<input type="checkbox"/>	Contact Phone Number:	913-742-6295
<input type="checkbox"/>	Kansas Permit Number: — Ex. M-MC21-SU01	M-KS68-SU01

Reporting Period covers activities from January 1, 2022 through December 31, 2022.

This annual report must be submitted to the Kansas Department of Health and Environment (KDHE) by February 28th, 2023. The annual report is to be submitted as PDF files to KDHE preferably by email ([KDHE.MS4@ks.gov](mailto:KDHE.MS4@ks.gov)). There is no requirement to provide hard copies of any documents.

**IN ADDITION**, provide the following:

1. A current copy of the Stormwater Management Program (SMP) Document as a PDF file along with the Annual Report.
2. Include an executive summary to this report, which briefly covers the major aspects of the MS4 stormwater management program enacted during the year. In completing the executive summary, the preparer should address the following questions:
  1. Were there any aspects of the program that appeared especially effective at reducing pollutants in your stormwater discharge?
  2. Were there any aspects of the program that provided unsatisfactory results?
  3. What was the most successful part of the program?
  4. What was the most challenging aspect of the program?
  5. Describe any City/County area MS4 clean-ups and the participation.

6. Describe the elected officials' participation in the stormwater pollution elimination.
7. Describe the collaboration with other organizations to eliminate stormwater pollution.
8. If an audit/inspection of your MS4 program was conducted by EPA or KDHE during the year, list the items the audit/inspection report identified as required changes and provide a narrative explanation of how the changes were implemented or explain the plan to implement the changes and identify a target date for final implementation.

The executive summary does not need to be extensive and detailed. It is anticipated the executive summaries will range from one half of a page to two pages in length depending on the scope of the program.

3. Any new stormwater ordinances or revised ordinances, which have not already been submitted to KDHE for review/retention.

Shawnee does not have any new ordinances in 2022 to submit for review.

#### **TOPICS REQUIRED TO BE ADDRESSED IN THIS REPORT AS IDENTIFIED IN PART V OF THE PERMIT**

Within the next one or two pages, or perhaps more if so desired, provide comments addressing the following items:

1. Provide the status of compliance with permit conditions, an assessment of the appropriateness of the implemented Best Management Practices, progress towards achieving the statutory goal of reducing the discharge of pollutants to the maximum extent practicable (MEP), and the measurable goals with an indication of the progress toward meeting the goals for each of the six minimum control measures.
2. Provide results of information collected and analyzed, (for example test results, surveys, or public comments/input) during the annual reporting period. This may include monitoring data used to assess the success of best management practices with respect to reduction in pollutant discharge. Include an interpretation of the information which addresses success or failure of the portion of the program for which the information applies.
3. Provide results of information collected and analyzed, if any, during the annual reporting period, including monitoring data used to assess the success of the program at reducing the TMDL regulated pollutants.
4. Provide a summary of the stormwater activities that were scheduled to be undertaken during the previous calendar year and the status of these activities.
5. Provide a summary of the stormwater activities which are scheduled to be undertaken during the next calendar year (including an implementation schedule).
6. Provide a map showing changes in the permittee's Permit Area if the permit area has changed within the year.
7. Provide a description of significant changes in any of the BMPs.

8. Provide a list of any ordinances or resolutions which were updated in the last year and are associated with the SMP. Please note, page on of this report requires submission of any new stormwater related ordinances or resolutions or any such updated ordinances or resolution be submitted with this annual report.
9. Provide a list of other parties (such as other municipalities or consultants), which are responsible for implementing any of the program areas of the Stormwater Management Program.
10. For Phase I permittees only, provide a summary of the inspection results, including the wet weather surface water quality monitoring test results, and information obtained under PART III Monitoring Industrial Stormwater Discharges section of this permit.

## **SIX MINIMUM CONTROL MEASURES FOR MUNICIPAL SEPARATE STORM SEWER SYSTEMS (MS4'S) WITH NPDES PERMITS**

The following outlines the NPDES permit requirements for implementation of the Six Minimum Control Measures as required under Kansas MS4 permits issued by the KDHE. The NPDES permit provided to the MS4 authority should be reviewed for additional requirements associated with implementation of the Six Minimum Control Measures such as deadlines for the implementation of the requirements or supplemental requirements associated with the individual measures. The general requirements are as follows:

**A. Six Minimum Controls** — The permittee shall develop and implement Best Management Practices (BMP's) with measurable goals for each of the six minimum control measures. The six minimum control measures and associated requirements are listed and explained as follows:

### **1. Public Education and Outreach**

The permittee shall implement a public education program which includes distribution of educational materials to the community or conducting equivalent outreach activities which address the impacts of stormwater discharges on water bodies and the steps the public can take to reduce pollutants in stormwater runoff.

### **2. Public Involvement and Participation**

The permittee shall implement a public involvement and participation program to solicit public comment and recommendations regarding the BMP's and measurable goals utilized by the permittee to comply with the permit. The permittee shall comply with state and local public notice requirements when implementing a public involvement and participation program.

### **3. Illicit Discharge Detection and Elimination**

The permittee shall:

- a. Develop, implement and enforce a program to detect and eliminate illicit discharges into the MS4;
- b. Develop a storm sewer system map of the permittee's MS4, showing the location of all outfalls, either pipes or open channel drainage, showing the names and location of all streams or lakes that receive discharges from those outfalls. A copy of the map shall be submitted to KDHE. This map may be submitted as a PDF file(s) on a CD or DVD.
- c. Enact ordinances or resolutions to prohibit non-stormwater discharges into the storm sewer system and implement appropriate enforcement procedures and actions if the permittee has such authority. A copy of the ordinances or resolutions shall be submitted to KDHE.
- d. Inform public employees, businesses, and the general public of hazards associated with illegal discharges and improper disposal of waste; and

- e. Develop and implement a plan to detect and address prohibited non-stormwater discharges, including but not limited to illegal dumping, to the storm sewer system. Unless identified by either the permittee or KDHE as a significant source of pollutants to waters of the state, the following examples of non-stormwater discharges are not prohibited from entering the MS4:

- |   |  |
|---|--|
| 1. Water line flushing  | activities   |
| 2. Diverted stream flow   | 17. Flows from riparian habits and wetlands  |
| 3. Rising ground waters   | 18. De-chlorinated swimming pool discharges excluding filter backwash  |
| 4. Uncontaminated groundwater infiltration as defined under 40 CFR 35.2005(20) to separate storm sewers | 19. Street wash waters (excluding street sweepings which have been removed from the street)  |
| 5. Uncontaminated pumped groundwater  | 20. Discharges of flows from firefighting activities   |
| 6. Contaminated groundwater if authorized by KDHE and approved by the municipality                      | 21. Heat pump discharge waters (residential only)  |
| 7. Discharges from potable water sources  | 22. Treated wastewater meeting requirements of a NPDES permit  |
| 8. Foundation drains  | 23. Sump pump drains   |
| 9. Air conditioning condensate  | 24. Other discharges determined not to be a significant source of pollutants to waters of the state, a public health hazard, or a nuisance |
| 10. Irrigation waters   |  |
| 11. Springs   |  |
| 12. Water from crawl space pumps  |  |
| 13. Footing drains  |  |
| 14. Lawn watering   |  |
| 15. Individual residential car washing  |  |
| 16. Occasional not-for-profit car wash  |  |

#### **4. Construction Site Stormwater Runoff Control**

The permittee shall develop, implement, and enforce a program to reduce pollutants in any stormwater runoff to the MS4 from construction activities that result in a land disturbance of greater than or equal to one acre. Reduction of stormwater discharges from construction activity disturbing less than one acre must be included in the program if that construction activity is part of a larger common plan of development or sale that would disturb one acre or more. The program must include the development and implementation, at a minimum, of the following:

- a. Permittees which have the authority to enact ordinances or resolutions shall enact such ordinances or resolutions to require erosion and sediment controls, as well as sanctions to ensure compliance, to the extent allowable under State and Local law;
- b. Requirements for construction site owners or operators to implement appropriate erosion and sediment control best management practices;

- c. Requirements for construction site owners or operators to control waste such as discarded building materials, concrete truck washout, chemicals, litter, and sanitary waste at the construction site that are likely to cause adverse impacts to water quality;
- d. Procedures for site plan review which incorporate consideration of potential water quality impacts;
- e. Procedures for receipt and consideration of information submitted by the public;
- f. Procedures for site inspection and enforcement of control measures.

## 5. Post-Construction Stormwater Management in New Development and Redevelopment Projects

The permittee shall develop, implement, 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, including projects less than one acre that are part of a larger common plan of development and implementation, at a minimum of the following:

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

## 6. Pollution Prevention/Good Housekeeping for Municipal Operations

The permittee shall develop and implement an operation and maintenance program that includes employee training to prevent and reduce stormwater pollution from municipal operations activities such as park and open space maintenance, fleet and building maintenance, new construction and land disturbances, and stormwater system maintenance.

### B. Stormwater Management Program

Please place an "X" in the left boxes to complete the table below.

YES	NO	N/A	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Has the Stormwater Management Program (SMP) been developed and implemented?
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Has the SMP been modified or updated during this reporting period?
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	If the answer to question 2 above was "yes," has the modified SMP been submitted to KDHE for review?

If the answer to item 3 is a “NO,” a copy of the updated SMP must be submitted with this annual report. If it is anticipated a measurable goal cannot be met in the next year the SMP should be modified and submitted to KDHE for review. The modifications may include different BMP’s and/or revised goals to avoid being in a position of non-compliance. However; reasonable BMP’s with reasonable goals must be implemented or KDHE may require the permittee to modify the SMP to include additional or better BMP’s and/or more reasonable goals.

**C. Total Maximum Daily Load (TMDL) Best Management Practices (BMP’s)**  
 Some permittees are required to implement BMPs to reduce the discharge of listed TMDL regulated pollutants (potentially any or all of the following pollutants – bacteria, nutrients, and sediment)

Please place an “X” in the left boxes to complete the table below.

YES	NO	N/A	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Were any BMP’s intended to attenuate the discharge of TMDL regulated pollutants implemented? See your permit to determine if TMDL regulated pollutants are listed for the receiving stream affected by your stormwater system.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	List all of the BMP’s intended to attenuate the discharge of TMDL regulated pollutants as identified in the SMP and provide the requested information in the following table.

List all the TMDL BMPs as identified in the SMP and provide the requested information in the following table.



**D. TMDL BMP Table — Please fill out accordingly.**

**Minimum of 4 points required 2021 & 2022**

**Minimum of 6 points required 2023 & 2024**

BMP ID	BMP DESCRIPTION	MEASURABLE GOAL	PROGRESS ACHIEVING GOAL (MEASURED RESULT)	BMP POINTS	SHAWNEE SW PLAN 2021-2024
TMDL -01 Shawnee	Install pet waste stations which 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.	<ul style="list-style-type: none"> <li>24 Waste dispensers were maintained in the City of Shawnee parks.</li> <li>100,000 Pet Waste bags were used in Shawnee parks.</li> </ul>	1	X
TMDL – 04 Shawnee	Enact a stream buffer ordinance, resolution, or other enforceable requirement to impose stream buffer standards.	Ordinance Adopted . The enactment of stream buffer standards must include enforcement capability. Consider use of the EPA stream buffer model ordinance or similar such requirement.	Stream setback design criteria found in the City of Shawnee Design Manual.  2012 adopted ordinance 3021.	2	X
TMDL – 05 MARC & Shawnee	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.	<p>Flyers Distributed and Social Media Posts "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.</p> <p>The applicable U.S. Census housing units value shall be documented, and the number of documents distributed shall also be documented.</p> <p>This information and copies of the documents shall be retained on file.</p> <p>Documents posted to social media or the website shall have the page copied and printed to retain on file.</p>	<p>MARC – Pick Up After Your Pet flyers are at City Hall counters.</p> <p>.....</p> <p>City posts on social media the importance of picking up pet waste – six (6) times a year. Shawnee also has an article in the CityLine newsletter that is mailed out to 32,261 property owners.</p>	1	X

TMDL – 06 Shawnee	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 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.	"Only Rain Down the Drain" door hangers are distributed to property owners as pollution is noted or reported.  City posts on social media – "Only Rain Down the Drain" – three (3) times a year. It is also an article in Shawnee's CityLine newsletter mailed to 32,261 property owners.	2	X
			<b>TOTAL POINTS EARNED</b>	<b>6</b>	

#### E. Stormwater Management Program Requirements (Six Minimum Control Measures)

**Minimum of 4 points required 2021 & 2022**

1. Public Education and Outreach (Table) - Please fill out accordingly

**Minimum of 7 points required 2023 & 2024**

List all of the public education and outreach BMPs as identified in the SMP and provide the requested information in the following table.

BMP ID	BMP DESCRIPTION	MEASURABLE GOAL	PROGRESS ACHIEVING GOAL (MEASURED RESULT)	BMP POINTS	SHAWNEE SW PLAN 2021-2024
P Ed & 0 – 01 Shawnee	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 website as necessary on a minimum monthly basis. Document monthly checks in log book and indicate changes with logged summaries.	Stormwater-related pages views: 3,651 <a href="https://www.cityofshawnee.org/cms/one.aspx?portalId=8941472&amp;pageId=9642743">https://www.cityofshawnee.org/cms/one.aspx?portalId=8941472&amp;pageId=9642743</a>	2	X

BMP ID	BMP DESCRIPTION	MEASURABLE GOAL	PROGRESS ACHIEVING GOAL (MEASURED RESULT)	BMP POINTS	SHAWNEE SW PLAN 2021-2024
P Ed & 0 – 02  Shawnee & JCSMP	Distribute educational materials (either flyers, brochures, catalog mailings, handouts, or e-mails) addressing various pertinent stormwater public education topics.	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.	The CityLine newsletter was mailed to all property owners in the Spring, Summer, Fall & Winter – to 32,261 property owners. There are stormwater articles in each edition of the newsletter.  ..... 5 educational advertisements were published in the "Johnson County Magazine" featuring seasonal stormwater pollution prevention messages. The JoCo magazine is distributed quarterly to all households and businesses in the County, reaching over 260,000.	2	X
P Ed & 0 – 04 Shawnee	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.	Shawnee has 4,167 placards or stamped stormwater inlet lids on curb inlets = 59% of the inventory.	2	X
P Ed & 0 – 05 Shawnee	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.	Both documents are posted on Shawnee's stormwater webpage. <a href="https://www.cityofshawnee.org/Departments/Public_Works/Stormwater">https://www.cityofshawnee.org/Departments/Public_Works/Stormwater</a>	1	X
P Ed & 0 – 06 Shawnee	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.	Both a telephone and web based system (SeeClickFix) are set up for stormwater illicit discharges. 913-742-6008. Shawnee uses CityWorks to track and response to Service Requests. <a href="https://www.cityofshawnee.org/cms/one.aspx?portalId=8941472&amp;pageId=9497773">https://www.cityofshawnee.org/cms/one.aspx?portalId=8941472&amp;pageId=9497773</a>	2	X

BMP ID	BMP DESCRIPTION	MEASURABLE GOAL	PROGRESS ACHIEVING GOAL (MEASURED RESULT)	BMP POINTS	SHAWNEE SW PLAN 2021-2024
P Ed & 0 – 06  JCSMP	Continued from above	Continued from above	An "Environmental Complaints" webform ( <a href="https://www.jocogov.org/departments/environment/environmental-complaints">https://www.jocogov.org/departments/environment/environmental-complaints</a> ) is available on the Johnson County government website as well as a 24-hour response hotline at 913-715-6900. Residents are able to report pollution for any municipality in the County.		
P Ed & 0 - 08  JCSMP	<p>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.</p> <p>Alternately, funding stormwater BMP installations and/or field trips at the school campus will qualify.</p>	<p>Provide or fund an educator or speaker that will reach at least 5% of the K-12 students as normally attend school in the selected school campus. Alternately, the funding of BMPs at the school campus may provide for any of the following:</p> <ul style="list-style-type: none"> <li>-&gt; Installation of BMPs at the school</li> <li>-&gt; Stormwater related field trips</li> <li>-&gt; Water quality stream sampling activities</li> <li>-&gt; Rain gardens on school property</li> <li>-&gt; Rain barrel workshops</li> <li>-&gt; Rain garden workshops"</li> </ul>	<p>The Johnson County Stormwater Management Program partners with various non-profit organizations to provide stormwater education to at least one classroom of students in all permitted municipalities in the County.</p> <p><u>Stone Lion Puppet Theater –</u></p> <p>41 environmental education activities to over 2,500 children from Kindergarten to 5th grade in JoCo.</p> <p><u>Friends of the Kaw -</u></p> <p>Provides water quality data collections and analysis to 8<sup>th</sup> grade students – “Kids About Water”. Students learn about watersheds and pollution and what steps can be taken to improve water quality. In JoCo approximately 2,700 students were serviced.</p> <p>Approximately 2,828 students from Shawnee benefited from the above two programs.</p>	3	X

<b>BMP ID</b>	<b>BMP DESCRIPTION</b>	<b>MEASURABLE GOAL</b>	<b>PROGRESS ACHIEVING GOAL (MEASURED RESULT)</b>	<b>BMP POINTS</b>	<b>SHAWNEE SW PLAN 2021-2024</b>
P Ed & 0 – 13 Shawnee	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.	Adopt A Spot - Shawnee residents are active in the numerous volunteer programs. In 2022, residents spent 764 hours, cleaning 55 locations.	1	
P Ed & 0 – 15 Shawnee	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.	<ul style="list-style-type: none"> <li>• City Website views: 804,655</li> <li>• Stormwater-related pages views: 3,651</li> <li>• Water Quality Tweets: 57</li> <li>• Water Quality Social Media Posts: 261</li> </ul>	2	X
			<b>TOTAL POINTS EARNED</b>	<b>15</b>	

**E. Stormwater Management Program Requirements (Six Minimum Control Measures)****Minimum of 3 points required 2021 & 2022****Minimum of 6 points required 2023 & 2024****2. Public Involvement and Participation (Table) - Please fill out accordingly**

List all of the public improvement and participation BMPs as identified in the SMP and provide the requested information in the following.

<b>BMP ID</b>	<b>BMP DESCRIPTION</b>	<b>MEASURABLE GOAL</b>	<b>PROGRESS ACHIEVING GOAL (MEASURED RESULT)</b>	<b>BMP POINTS</b>	<b>SHAWNEE SW PLAN 2021-2024</b>
P I/P – 03  Shawnee	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 which must be equal to or greater than one acre or alternately at least 200 yards of streambank.	<u>Adopt A Spot</u> - In 2022, residents spent 764 hours picking up trash and debris at 55 locations. 33 of those locations were by natural creeks or streams.  For National Clean Up Day, on 9/8/22, Shawnee worked with the community to clean up downtown along an open channel creek by Old Shawnee Town.	3	X
P I/P – 05  Shawnee	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.	On 3/25/22, cleanup activities took place at Swarner Park, for an estimated 105 hours.  On 10/15/22, Shawnee hosted a recycling event. 73 volunteer hours were recorded. 12,180 lbs of paper was recycled, 5.49 tons of e-waste was collected and 5 pallets of paint cans were recycled.	3	X
P I/P – 06  JCSMP & Shawnee	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.	The JCSMP provides financial support to cities to offer the “Contain the Rain” program to their residents. This is a 50% cost share program for residents to install stormwater treatment BMPs on their property.  Residents in Shawnee completed 11 projects in 2022. The installed 2 rain gardens, 8 rain barrels, 8 native trees and dozens of native plants.	2	X

BMP ID	BMP DESCRIPTION	MEASURABLE GOAL	PROGRESS ACHIEVING GOAL (MEASURED RESULT)	BMP POINTS	SHAWNEE SW PLAN 2021-2024
P I/P – 06 JCSMP	Continued from above	Continued from above	Bridging the Gap – JCSMP partners with them to support homeowners BMP Cost Share Program. The created “Contain the Rain” and developed a website, <a href="http://www.containtherainjoco.com">www.containtherainjoco.com</a> where homeowners have access to resources on native plants, trees, rain barrels, etc.		
P I/P – 07 Shawnee	Enact either an ordinance, a resolution, or other enforceable requirement that requires pet owners or their keepers to immediately and properly dispose of their pet's solid waste deposited at parks or rest areas owned by the permittee.	The ordinance or resolution or other enforceable measure shall be enacted, and signs posted informing the public of their obligation at the park. The installation of a pet waste bag dispenser in the public area qualifies as adequate signage.	Shawnee Ordinance 2886 was adopted in 2005.	1	X
P I/P – 08 JCSMP	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 which can result in water pollution control.	A \$500 contribution in a year is the minimum acceptable amount to achieve this goal.	The JCSMP is sponsoring a graduate student in the University of Kansas Department of Civil, Environmental, and Architectural Engineering as a part of a Sediment Source study with Dr. Admin Husic, a professor in the department. A total of \$20,000 of the project funding between 2021-2024.	2	
			<b>TOTAL POINTS EARNED</b>	<b>11</b>	

### E. SMP Requirements (Six Minimum Control Measures) (Continued)

#### a. Illicit Discharge Detection and Elimination

Please place an "X" in the left boxes to complete the table below.

YES	NO	N/A	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Has a program/plan been developed and is it presently implemented to detect and address illicit/prohibited discharges into the MS4?
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Has a map of the MS4 been developed, showing the location of all outfalls, either pipes or open channel drainage, showing names and location of all streams or lakes receiving discharges from the outfalls?
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	The permit may require the permittee enact ordinances, or resolutions. Have ordinances, or resolutions, or regulations to prohibit non-stormwater discharges into the storm sewer system been enacted?  <b>Shawnee Ordinance 2824 - Effective Date: October 1, 2006</b>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Have the ordinances, resolutions, or regulations been modified?

List all the Illicit Discharge Detection and Elimination BMPs as identified in the SMP and provide the requested information in the following table



**E. Stormwater Management Program Requirements (Six Minimum Control Measures)****Minimum of 5 points required 2021 & 2022****Minimum of 7 points required 2023 & 2024****3. Illicit Discharge Detection and Elimination (Table) - Please fill out accordingly**

List all of the illicit discharge detection and elimination BMPs as identified in the SMP and provide the requested information in the following table.

<b>BMP ID</b>	<b>BMP DESCRIPTION</b>	<b>MEASURABLE GOAL</b>	<b>PROGRESS ACHIEVING GOAL (MEASURED RESULT)</b>	<b>BMP POINTS</b>	<b>SHAWNEE SW PLAN 2021-2024</b>
ID D & E – 02  JCSMP	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. Alternately, upgrade or replace the failed system to restore performance.	Redirect the wastewater generated by the facility to the municipal wastewater treatment collection system for proper treatment and disposal. Alternately, upgrade or replace the failed system with improvements which meet or exceed the present code or local requirements.	The Johnson County Department of Health and Environment operates the On-Site Sewage Treatment Systems Program to protect the health and environment of Johnson County citizens by ensuring the proper design and operation of on-site septic systems. The program inspects new residential and commercial on-site septic systems, existing commercial systems, and existing residential systems subject to property transactions and requires repairs when systems are not functioning correctly.  <u>Onsite Sewage Treatment Inspections</u> 229 – In Shawnee	2	

<b>BMP ID</b>	<b>BMP DESCRIPTION</b>	<b>MEASURABLE GOAL</b>	<b>PROGRESS ACHIEVING GOAL (MEASURED RESULT)</b>	<b>BMP POINTS</b>	<b>SHAWNEE SW PLAN 2021-2024</b>
ID D & E – 03  Multi-Jurisdictional Plan	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.	Regional Hazard Mitigation Plan was adopted by Shawnee, January 2020 – Resolution 1901.	2	X
ID D & E – 06  Shawnee	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.	Shawnee has 192 miles of pipes. In 2022, 20 miles of pipe were CCTV'd = 10.4% of inventory.  A GIS map and dashboard is in place to view the CCTV completed.	5	X
ID D & E – 07  JCSMP	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.	The Johnson County Department of Health and Environment and the City of Olathe operate HHWCP where any resident of the County can drop off household hazardous waste.  20,104 residents used the HHWCP. 1,569 residents were from Shawnee.	3	X

BMP ID	BMP DESCRIPTION	MEASURABLE GOAL	PROGRESS ACHIEVING GOAL (MEASURED RESULT)	BMP POINTS	SHAWNEE SW PLAN 2021-2024
ID D & E – 9 Shawnee	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.	Spring Recycling Event 4/9/2022: 6 employees worked 4-hours shifts to dispose of E-waste = 24 hours  Fall Recycling Event 10/15/22: 12 employees worked 4-hour shifts to recycle paint and E-waste event = 48 hours 12,180 lbs of paper recycled along with 5.49 tons of electronics and 5 pallets of used paint.  Total contribution = \$1,800.00	2	
ID D & E – 10 Shawnee	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.	1,157 inlet and/or outfall inspections completed by CCTV = 11.9% of inventory.  148 inlet and/or outfall inspections completed by a consultant.	3	X
			<b>TOTAL POINTS EARNED</b>	<b>17</b>	

## E. SMP Requirements (Six Minimum Control Measures) (Continued)

### b. Construction Site Stormwater Runoff Control

Please place an "X" in the left boxes to complete the table below.

YES	NO	N/A	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<p>The permit requires the permittee, if they have such authority, to enact ordinances or resolutions. Have ordinances or resolutions to address construction site runoff from new development/redevelopment projects been enacted?</p> <p><b>Shawnee Ordinance 2867 – Effective Date: January 1, 2008</b></p>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Has a copy of the ordinances or resolutions been submitted to KDHE as required by the permit?
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Has a procedure or program been developed requiring construction site owners and/or operators to implement appropriate erosion and sediment control best management practices?
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Has a procedure or program been developed requiring construction site owners and/or operators to control waste such as discarded building materials, concrete truck washout, chemicals, paint, litter, and sanitary waste at construction sites likely to cause adverse impacts to water quality?
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Has a procedure been developed and implemented requiring site plan review which includes consideration of potential water quality impacts?
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Has a procedure been developed for the receipt and consideration of information submitted by the public?
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Has a procedure been developed and implemented for construction site inspection and enforcement of the control measures?

List all the construction site stormwater runoff control BMP's as identified in the SMP and provide the requested information in the following table.

**E. Stormwater Management Program Requirements (Six Minimum Control Measures)****Minimum of 4 points required 2021 & 2022****Minimum of 6 points required 2023 & 2024****4. Construction Site Stormwater Runoff Control (Table) - Please fill out accordingly**

List all of the Site Stormwater Runoff Control BMP's as identified in the SMP and provide the requested information in the following table.

<b>BMP ID</b>	<b>BMP DESCRIPTION</b>	<b>MEASURABLE GOAL</b>	<b>PROGRESS ACHIEVING GOAL (MEASURED RESULT)</b>	<b>BMP POINTS</b>	<b>SHAWNEE SW PLAN 2021-2024</b>
CS SR C – 01  Shawnee	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 which 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 which is part of a larger common plan of development or sale that in total disturbs one acre or more.	Shawnee Ordinance 11.20.040 – Land Disturbance Permit was adopted in 2007.  155 Land Disturbance Permits (LDPs) were issued in 2022.	2	X
CS SR C – 02  Shawnee	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 which 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 which meet the disturbed area standard as specified in the BMP Summary.	Shawnee Design & Construction Manual outlines Standard Details for erosion control and sediment BMPs.	2	X

BMP ID	BMP DESCRIPTION	MEASURABLE GOAL	PROGRESS ACHIEVING GOAL (MEASURED RESULT)	BMP POINTS	SHAWNEE SW PLAN 2021-2024
CS SR C – 03 JCSMP	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 implementation of appropriate BMPs.	This training class must address all local requirements for a SWP2 Plan, requirements for implementation of BMPs and address the requirements for permits.	The JCSMP works with the Johnson County Contractor Licensing provide education and informational resources for contractors licensed in Johnson County. On November 3, 2022, the Johnson County Contractors Licensing Program offered a 4-hour class that provided training for contractors on proper erosion and sediment control at construction sites. Attendees could opt to take an exam at the end of the class to become a “Johnson County Certified Inspector”. There were 44 participants.	3	X
CS SR C – 04 Shawnee	Develop a site plan review process which considers potential water quality impacts which 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.	Shawnee has adopted the KC Metro APWA, Best Management Practices for Stormwater Quality.	2	X

BMP ID	BMP DESCRIPTION	MEASURABLE GOAL	PROGRESS ACHIEVING GOAL (MEASURED RESULT)	BMP POINTS	SHAWNEE SW PLAN 2021-2024
CS SR C – 05  Shawnee	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: -> discarded building materials -> concrete truck washout -> chemicals -> litter, and -> sanitary waste.	Enact ordinance or other effective means to achieve control of wastes at construction sites.	Shawnee adopted Ordinance 2867 in 2007, which outlines the requirement to control wastes on active construction sites and land that is disturbed. Shawnee Municipal Code – 11.20 Land Disturbance Activities.	2	X
			<b>TOTAL POINTS EARNED</b>	<b>11</b>	

**E. SMP Requirements (Six Minimum Control Measures) (Continued)****c. Post-Construction Site Stormwater Management in New Development and Redevelopment**

Please place an "X" in the left boxes to complete the table below.

YES	NO	N/A	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	The permit requires the permittee, if they have such authority, to enact ordinances or resolutions. Have ordinances or resolutions to address construction site runoff from new development and redevelopment projects been enacted?  <b>Shawnee Ordinance 2958 - Effective Date: March 31, 2010</b>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Has a copy of the ordinances or resolutions been submitted to KDHE as required by the permit?
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Has a post-construction stormwater runoff program been implemented?
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Have post-construction sites been inspected?
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Are BMP's specified to minimize adverse water quality impacts?
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Have strategies been developed to include a combination of structural and/or non-structural BMP appropriate for the municipality?
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Have measures been implemented to ensure adequate long-term operation and maintenance of structural BMP's?

List all the post-construction site stormwater management in new development and redevelopment BMPs as identified in the SMP and provide the requested information in the following table.

This section  
intentionally  
left blank



## E. Stormwater Management Program Requirements (Six Minimum Control Measures)

**Minimum of 5 points required 2021 & 2022**

**Minimum of 7 points required 2023 & 2024**

5. Post - Construction Site Stormwater Runoff Control (Table) - Please fill out accordingly

List all of the post-construction site stormwater runoff BMPs as identified in the SMP's, provide the requested information in the following table.

BMP ID	BMP DESCRIPTION	MEASURABLE GOAL	PROGRESS ACHIEVING GOAL (MEASURED RESULT)	BMP POINTS	SHAWNEE SW PLAN 2021-2024
P-CSM-01 Shawnee	Develop and adopt a custom design manual for Post-Construction Stormwater Management which specifies various structural BMPs which are required for new development and re-development construction sites which are greater than 1 acre for which there is construction activity disturbing less than one acre which is part of a larger common plan of development or sale that in total disturbs one acre or more. Alternatively, 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: -> 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: Retain on-site Infiltrate Evaporate Transpire Or beneficially reuse 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.	<u>City Ordinances:</u>  11.24.160 – Stormwater detention facility, Inspections and Certifications.  11.16.160 – Stormwater Treatment Facility (STF) Certifications.  Shawnee has adopted APWA 5600 Stormwater Design Criteria as outlined in Shawnee Design and Construction Manual – 1.01 General.  Shawnee has adopted MARC/APWA BMP Manual.	5	X

BMP ID	BMP DESCRIPTION	MEASURABLE GOAL	PROGRESS ACHIEVING GOAL (MEASURED RESULT)	BMP POINTS	SHAWNEE SW PLAN 2021-2024
P-CSM-03 Shawnee	<p>Develop and implement a program to ensure adequate long-term 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. 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 of the following:</p> <ul style="list-style-type: none"> <li>-&gt; detention ponds</li> <li>-&gt; retention ponds</li> <li>-&gt; grass swales</li> <li>-&gt; pervious paving systems</li> <li>-&gt; wetlands</li> <li>-&gt; vegetative filter strips</li> <li>-&gt; manufactured stormwater treatment devices (swirl seperators, screend, etc.)</li> <li>-&gt; drop inlet-catch basin</li> </ul>	The program shall be detailed in a written document and made available to all pertinent maintenance staff.	<p>Per Shawnee Municipal Code, City owned Stormwater Treatment Facilities are inspected and certified annually and Detention Basins are certified every three (3) years.</p> <p><u>City Ordinances:</u> 11.24.160 – Stormwater detention facility, Inspections and Certifications.</p> <p>11.16.160 – Stormwater Treatment Facility (STF) Certifications.</p> <p>11 Detention Basins were inspected and/or certified by an engineer in 2022. Once the final report is received, Shawnee will move forward and address needed maintenance items.</p>	2	
P-CSM-04 Shawnee	<p>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.</p>	<p>This mast 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.)</p>	<p>Through the SDCM, Shawnee adopted the APWA BMP Manual. Shawnee also has a section on treatment in the Shawnee Municipal Code.</p>	2	

BMP ID	BMP DESCRIPTION	MEASURABLE GOAL	PROGRESS ACHIEVING GOAL (MEASURED RESULT)	BMP POINTS	SHAWNEE SW PLAN 2021-2024
P-CSM-05 Shawnee	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	<p>Database Updated "The program shall require inspection of at least 10% of the structural BMPs on an annual basis.</p> <p>Identified maintenance activities shall be completed:</p> <ol style="list-style-type: none"> <li>1. In the same year of inspection or</li> <li>2. completed as dictated by the permittee's maintenance/O&amp;M plan</li> <li>3. 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.</li> </ol>	<p>Shawnee maintains a GIS database to track certifications and inspections of all detention basins and stormwater treatment facilities (STFs) throughout the city.</p> <p>Shawnee has a program to clean, inspect and certify STFs annually as required by City ordinance and detention basins are inspected and certified every 3 years, as required by City ordinance.</p>	2	X
P-CSM-06 Shawnee	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.	<p>The program shall require inspection of at least 10% of the known privately owned structural BMPs on an annual basis.</p> <p>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.</p>	<p>29 detention basins were certified, 31 detention basins were inspected and 95 STFs were certified and 28 inspected in 2022.</p> <p>Certifications are completed by 3<sup>rd</sup> party PE's.</p> <p>Property owners were notified of maintenance items that needed to be addressed. City staff follows up with property owners to make certain corrective measures are taken.</p> <p>Per Shawnee Municipal Code – STFs are required to be Certified Annually and Detention Basins every three (3) years.</p>	2	
			<b>TOTAL POINTS EARNED</b>	<b>13</b>	

### E. SMP Requirements (Six Minimum Control Measures) (Continued)

#### d. Municipal Pollution Prevention/Housekeeping

Please place an "X" in the left boxes to complete the table below.

YES	NO	N/A	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	The permit requires the permittee to enact a program to address pollution prevention/good housekeeping for Municipal Operations. Has such a program been enacted?

List all the municipal pollution prevention/housekeeping BMP's as identified in the SMP and provide the requested information in the following table.

This section  
intentionally  
left blank

**E. Stormwater Management Program Requirements (Six Minimum Control Measures)** **Minimum of 4 points is required 2021 & 2022**  
**Minimum of 6 points is required 2023 & 2024**

6. Municipal Pollution Prevention / Housekeeping (Table) - Please fill out accordingly

List all of the municipal pollution prevention / housekeeping BMPs as identified in the SMP's and provide the requested information in the following table.

BMP ID	BMP DESCRIPTION	MEASURABLE GOAL	PROGRESS ACHIEVING GOAL (MEASURED RESULT)	BMP POINTS	SHAWNEE SW PLAN 2021-2024
P P/G H – 05  Shawnee	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 which 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.	1,985 lane miles of streets were swept in Shawnee.  <ul style="list-style-type: none"> <li>• Residentials – 2 x in 2022</li> <li>• Collectors – 3 x in 2022</li> <li>• Arterials – 6 x in 2022</li> <li>• Downtown – 12 x in 2022</li> <li>• Bike Lanes – 32 x in 2022</li> </ul>	3	X
P P/G H – 06  Shawnee	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.	In-house employee training was completed in 2022 for Public Works and Community Development employees	1	X

BMP ID	BMP DESCRIPTION	MEASURABLE GOAL	PROGRESS ACHIEVING GOAL (MEASURED RESULT)	BMP POINTS	SHAWNEE SW PLAN 2021-2024
P P/G H – 08  Shawnee & JCSMP	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	Shawnee's stormwater map is available to the public on Shawnee's website. <a href="https://cityofshawneeks.maps.arcgis.com/apps/instant/sidebar/index.html?appid=e19418d523d9461ab0fff2ebc7b8654b">https://cityofshawneeks.maps.arcgis.com/apps/instant/sidebar/index.html?appid=e19418d523d9461ab0fff2ebc7b8654b</a>  ..... The Johnson County Automated Information Mapping System ( <a href="https://aims.jocogov.org/">https://aims.jocogov.org/</a> ) is a publicly available mapping system showing the MS4 lines and TMDL listed streams for all municipalities in Johnson County.	2	X
P P/G H – 12  Shawnee	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 objects to receiving waters. Alternately, a system may be installed on a stormwater line to provide treatment at problem locations.	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 the receiving water shall be maintained.	Shawnee installed a Stormwater Treatment Facility (STF 78.01), hydrodynamic separator, at Fire Station 78 at 5300 Woodsonia. It was installed in 2019.	2	
			<b>TOTAL POINTS EARNED</b>	<b>8</b>	

## E. SMP Requirements (Six Minimum Control Measures) (Continued)

### e. **PHASE ONE OPERATORS ONLY**: Monitoring Industrial and High Risk Runoff

The permit requires the permittee to enact a program to address post-construction site stormwater runoff from new development and redevelopment.

Please place an "X" in the left boxes to complete the table below.

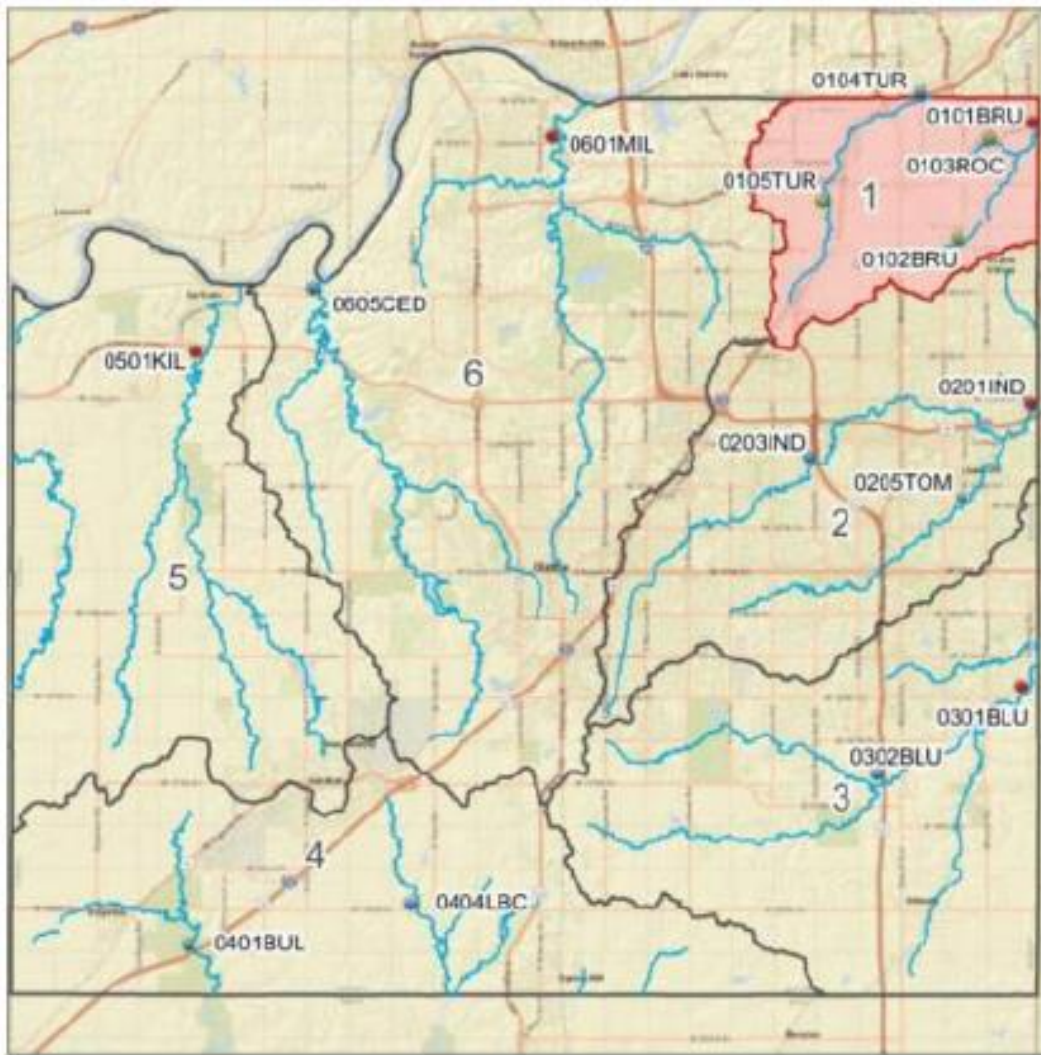
YES	NO	N/A	
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Has the permittee developed and maintained a list of the municipal industrial facilities contributing to the pollutant loading to the MS4?
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Have at least two municipal industrial facilities on the list had inspection and sampling conducted?
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	If the answer to items 1 and 2 is "No", provide a statement. <hr/> <hr/>

## F. Recordkeeping and Reporting


Some permittees are required to monitor surface waters if the permit includes TMDL monitoring requirements for Specific Impaired Streams to Target within Part II of the permit and surface water monitoring locations are identified in a subsequent table. Provide a current map of monitoring locations and site information data in the succeeding table (expand the table if necessary to address all sites).

The City of Shawnee previously reported two (2) creek monitoring locations, Little Mill Creek and Clear Creek. In 2018/2019, Johnson County Stormwater Management Program reviewed all the locations in the County being monitored and they proposed a different plan to KDHE for future monitoring. It was believed that alternate sampling and testing locations would provide more valuable information for all jurisdictions in Johnson County. Johnson County, received confirmation on March 19, 2019, from KDHE that Johnson County would be allowed to implement the new monitoring program.

In 2019, Johnson County Stormwater Management Program implemented the County wide monitoring program and they started submitting the electronic data for all jurisdictions. The City of Shawnee will not be submitting data in the KEAP eDMR system for Little Mill Creek or Clear Creek. Please see the Johnson County monitoring locations on the following map. The JCSMP monitored two (2) creek locations in Shawnee in 2022, Turkey Creek and Mill Creek.




Basin	Site ID	Site Name	Site Type	Location
1	0101BRU	Brush01	Fixed/Rotating	Brush Creek at State Line Rd.
1	0102BRU	Brush02	Rotating	Brush Creek at Roe Ave.
1	0103ROC	Rock01	Rotating	Rock Creek at Mission Rd.
1	0104TUR	Turkey01	Fixed	Turkey Creek at Lamar Ave.
1	0105TUR	Turkey02	Rotating	Turkey Creek at 67th St.
2	0201IND	Indian01	Fixed/Rotating	Indian Creek at State Line Rd.
2	0203IND	Indian03	Fixed	Indian Creek at Switzer Rd.
2	0205TOM	Tomahawk01	Fixed	Tomahawk Creek at Roe Ave.
3	0301BLU	Blue01	Fixed/Rotating	Blue River at Kenneth Rd.
3	0302BLU	Blue02	Fixed	Blue River at Highway 69
4	0401BUL	Bull01	Fixed	Bull Creek at Interstate 35
4	0404LBC	LittleBull01	Fixed	Little Bull Creek at 199th St.
5	0501KIL	Kill01	Fixed/Rotating	Kill Creek at 95th St.
6	0601MIL	Mill01	Fixed/Rotating	Mill Creek at Johnson Dr.
6	0605CED	Cedar01	Fixed	Cedar Creek at 83rd St.

 2022 Rotational Basin for Storm Event Monitoring



## Certification

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

Signature of Permittee:  Date: 2/27/23  
(Legally responsible person)

Name Printed: Douglas Whitacre Title Interim City Mgr.

### 40 CFR 122.22 Signatories to permit applications and reports.

(a) Application. All permit applications shall be signed by either a principal executive officer or ranking elected official.

All reports required by permits, and other information requested by the Director shall be signed by a person described in paragraph (a) of this section, or by a duly authorized representative of that person.

Please note the submission requirements on page 1. Submit this report to:

### KANSAS DEPARTMENT OF HEALTH & ENVIRONMENT

Municipal Programs Section

1000 SW Jackson Street, Suite 420

Topeka, Kansas 66612

## Executive Summary

Append an executive summary to this report which briefly covers the major aspects of the MS4 stormwater management program enacted during the year. In completing the executive summary, the preparer should address the following questions:

1. Were there any aspects of the program that appeared especially effective at reducing pollutants in your stormwater discharge?
2. Were there any aspects of the program that provided unsatisfactory results?
3. What was the most successful part of the program?
4. What was the most challenging aspect of the program?
5. Describe any City/County area MS4 clean-ups and the participation.
6. Describe the elected officials' participation in the stormwater pollution elimination.
7. Describe the collaboration with other organizations to eliminate stormwater pollution.
8. If an audit/inspection of your MS4 program was conducted by EPA or KDHE during the year, list the items the audit/inspection report identified as required changes and provide a narrative explanation of how the changes were implemented or explain the plan to implement the changes and identify a target date for final implementation .

- 1) We believe that our efforts under public education (MCM 1) that were focused on Only Rain Down the Drain, importance of picking up of pet waste and various stormwater topics were successful at reaching a broad number of residents with messaging, that hopefully will increase awareness and encourage positive behavior changes.

We also believe issuing land disturbance permits and inspecting active projects for effective erosion control measures is extremely effective in reducing stormwater pollutants along with increased inspection of detention basins and stormwater treatment facilities.

- 2) No, there were no aspects of the program that provided unsatisfactory results.
- 3) Public education and outreach efforts through the multiple approaches from the city, county, and regional levels were successful. The ability to conduct outreach through multiple outlets increases the public's awareness of water quality issues. Additionally, the partnership with K-State Extension promotes water quality messaging and provides information regarding lawn and garden care that targets a likely source for excess nutrients in urban streams.

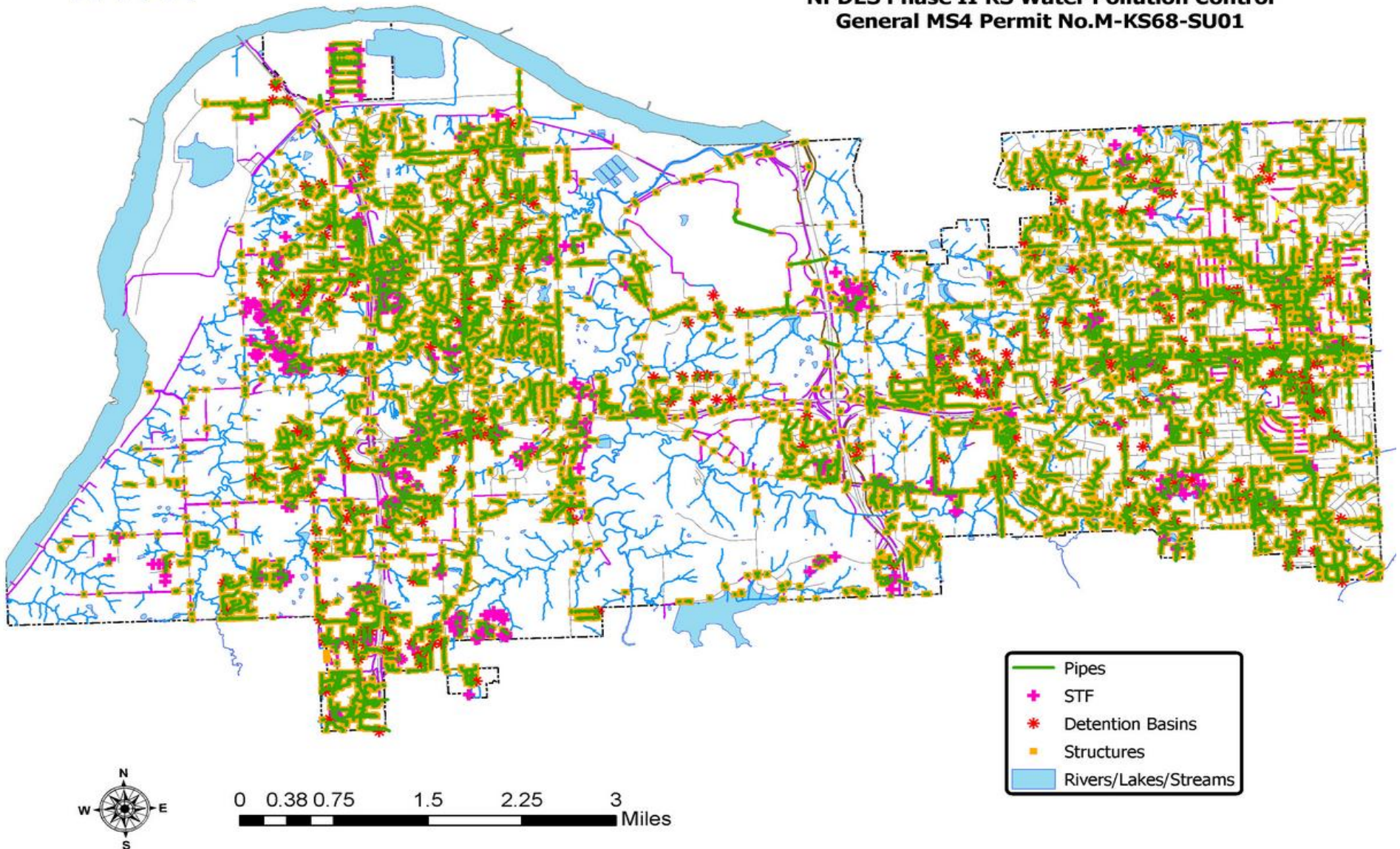
- 4) Outreach activities with the community are still challenging due to the pandemic. Also with staffing changes over the last few years, it is challenging to educate and illustrate the importance of some work individuals do in various departments and how that collective work impacts our Stormwater Program and MS4 Permit.
- 5) Adopt A Spot – Shawnee’s Adopt A Spot program also had a positive impact regarding MS4 clean-ups. Shawnee residents volunteered over 750 hours and cleaned up 55 different locations.

Shawnee also participated in the Spring and Fall Recycling Events in 2022. There were 33 volunteers and 18 City staff members that participated in these events. Over 22,000 lbs of E-waste was recycled; over 30,000 lbs of paper was recycled; and 5 pallets of used paint was recycled.

- 6) City Elected Officials set Policy for the City of Shawnee and approve all City projects. In 2022, they approved \$4,795,017.59 to address failing stormwater infrastructure throughout the City. This included seven (7) pipe repair projects.
- 7) The City of Shawnee collaborated with the Johnson County Stormwater Management Program (JCSMP), who coordinated a cooperative approach for permitted Johnson County cities to help meet selected minimum control measures mandated in the NPDES Phase 2 MS4 permits. In particular, the JCSMP coordinates efforts for some of the best management practices (BMPs) for Minimum Control Measures (MCM) 1 and 2, but also assist with MCMs 3-6. The coordinated approach through this partnership has proved to be cost effective and reduces redundancy amongst the cities in Johnson County. Also, on the behalf of Johnson County cities, the JCSMP partners with Johnson County K-State Extension, Mid-America Regional Council Water Quality Education Committee, Bridging the Gap, Friends of the Kaw, Stone Lion Puppet Theater, the city of Olathe Public Works (for Household Hazardous Waste Collection), and the Johnson County Department of Health and Environment.
- 8) Shawnee’s last KDHE audit was performed in 2018, there was no audit performed in 2022.



**City of Shawnee Kansas  
Storm Sewer System Map  
December 2022  
NPDES Phase II KS Water Pollution Control  
General MS4 Permit No.M-KS68-SU01**





# Johnson County Creek Monitoring Locations and Testing Data:

## Summary of stormwater samples collected in Johnson County, Kansas, 2022

[In., inches; CFS, cubic feet per second; ft, feet; mg/L, milligrams per liter; Total nitrogen, total Kjeldahl nitrogen+nitrate plus nitrite; nm, nanometer; NTRU, nephelometric turbidity ratio units; DSTM, defined substrate test method; MPN/100mL, most probable number per one hundred milliliters; m-TEC MF, membrane Thermotolerant Escherichia coli membrane filtration; col/100mL, colonies per one hundred milliliters; EWI, Equal Width Increment; -, no data available; <, less than; E, estimated; >, greater than; P, provisional; rainfall estimates from <https://www.stormwatch.com/home.php>]

### 2022 JCSMP MS4 Water Quality Monitoring

|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|

Site Name	Site ID	EDMR Code	Location	Latitude	Longitude	Nearby Prior Sample Site ID	Date	Time	Discharge, Instantaneous, CFS	Stream Level	Stream Velocity (fps)	Stream Velocity (desc.)	Stage (ft)	Escherichi a coli, water, MPN/100 mL	Chloride, mg/L	Turbidity (NTU)	Nitrate plus nitrite, water, filtered, mg/L as nitrogen	Nitrite as N, mg/L	Orthophosphate, water, filtered, mg/L as phosphorus	Ammonia, water, unfiltered, mg/L as nitrogen	Kjeldahl Nitrogen, mg/L, as nitrogen	total Phosphorus, mg/L, as phosphorus	Kjeldahl Nitrogen, mg/L, as nitrogen, dissolved	total Phosphorus, mg/L, as phosphorus, dissolved	Suspended Solids, mg/L	
Indian03	0203IND	SW035A6	Indian Creek at Switzer Rd.	38.9206002	-94.7053095		4/27/2022	9:25 AM	148.72	Steady	1.17	Normal	3.29	98.00	116.00	4.00	0.11	<0.02	<0.05	<0.04	<0.5	<0.05	<0.5	<0.05	<0.05	4.00
Indian03	0203IND	SW035A6	Indian Creek at Switzer Rd.	38.9206002	-94.7053095		5/24/2022	9:05 AM	228.29	Steady	1.29	Normal	3.63	66300.00	155.00	38.00	1.25	0.02	0.07	<0.04	1.00	0.15	1.00	0.09	74.00	
Indian03	0203IND	SW035A6	Indian Creek at Switzer Rd.	38.9206002	-94.7053095		6/27/2022	11:00 AM	120.05	Steady	1.08	Normal	3.17	294.00	122.00	4.00	4.01	0.03	0.40	<0.04	<0.5	<0.05	<0.5	<0.05	8.00	
Indian03	0203IND	SW035A6	Indian Creek at Switzer Rd.	38.9206002	-94.7053095		7/26/2022	10:15 AM	173.84	Steady	1.23	Normal	3.39	1370	42	4.00	0.39	<0.02	<0.05	<0.04	0.60	0.06	<0.5	<0.05	6.00	
Indian03	0203IND	SW035A6	Indian Creek at Switzer Rd.	38.9206002	-94.7053095		8/30/2022	9:30 AM	141.31	Steady	1.15	Normal	3.26	309.00	49.00	4.00	0.41	<0.02	<0.05	<0.04	<0.5	0.06	<0.5	0.06	4.00	
Indian03	0203IND	SW035A6	Indian Creek at Switzer Rd.	38.9206002	-94.7053095		9/26/2022	10:30 AM	113.49	Steady	1.07	Normal	3.13	75.00	178.00	2.00	<0.03	<0.02	<0.05	<0.04	<0.5	0.07	<0.5	0.06	<4	
Tomahawk01	0205TOM	SW038A6	Tomahawk Creek at Roe Ave	38.9065813	-94.6384757	385401094385600	4/27/2022	10:05 AM	64.01	Steady	1.53	Normal	2.01	173.00	178.00	2.00	0.11	<0.02	<0.05	<0.04	<0.5	<0.05	<0.5	<0.05	4.00	
Tomahawk01	0205TOM	SW038A6	Tomahawk Creek at Roe Ave	38.9065813	-94.6384757	385401094385600	5/24/2022	9:45 AM	260.34	Rising	2.59	Rapid	3.32	3870.00	128.00	26.00	0.96	<0.02	<0.05	<0.04	0.80	0.10	0.80	0.05	66.00	
Tomahawk01	0205TOM	SW038A6	Tomahawk Creek at Roe Ave	38.9065813	-94.6384757	385401094385600	6/27/2022	10:00 AM	56.84	Steady	1.48	Normal	1.93	296.00	140.00	2.00	0.32	<0.02	<0.05	<0.04	<0.5	<0.05	<0.5	<0.05	3.00	
Tomahawk01	0205TOM	SW038A6	Tomahawk Creek at Roe Ave	38.9065813	-94.6384757	385401094385600	7/26/2022	9:40 AM	83.42	Steady	1.69	Normal	2.18	538.00	75.00	4.00	0.56	<0.02	<0.05	<0.04	0.80	<0.05	<0.5	<0.05	<4	
Tomahawk01	0205TOM	SW038A6	Tomahawk Creek at Roe Ave	38.9065813	-94.6384757	385401094385600	8/30/2022	9:00 AM	79.85	Steady	1.66	Normal	2.15	813.00	52.00	7.00	0.41	<0.02	<0.05	<0.04	<0.5	0.07	<0.5	<0.05	5.00	
Tomahawk01	0205TOM	SW038A6	Tomahawk Creek at Roe Ave	38.9065813	-94.6384757	385401094385600	9/26/2022	10:15 AM	50.09	Steady	1.41	Normal	1.86	75.00	136.00	1.00	0.26	<0.02	<0.05	<0.04	<0.5	<0.05	<0.5	<0.05	12.00	
Blue01	0301BLU	SW014A6	Blue river at Kenneth Rd.	38.842294	-94.6126258		4/27/2022	10:30 AM	184.61	Steady	2.1	Normal	5.15	51.00	75.00	2.00	0.04	<0.02	<0.05	<0.04	<0.5	<0.05	<0.5	<0.05	20.00	
Blue01	0301BLU	SW014A6	Blue river at Kenneth Rd.	38.842294	-94.6126258		5/24/2022	1:35 PM	269.9	Rising	2.41	Rapid	5.51	226.00	31.00	15.00	0.64	<0.02	<0.05	<0.04	<0.5	0.07	<0.5	<0.05	20.00	
Blue01	0301BLU	SW014A7	Blue river at Kenneth Rd.	38.842294	-94.6126258		6/28/2022	9:30 AM	126.49	Steady	1.82	Normal	4.86	146.00	32.00	7.00	0.06	<0.02	<0.05	<0.04	0.50	<0.05	0.70	<0.05	10.00	
Blue01	0301BLU	SW014A8	Blue river at Kenneth Rd.	38.842294	-94.6126258		7/25/2022	9:00 AM	98.45	Steady	1.66	Normal	4.7	131.00	47.00	13.00	0.06	<0.02	<0.05	0.29	0.60	0.08	<0.5	<0.05	23.00	
Blue01	0301BLU	SW014A9	Blue river at Kenneth Rd.	38.842294	-94.6126258		8/29/2022	9:30 AM	176.05	Steady	2.06	Normal	5.11	120.00	46.00	14.00	0.04	<0.02	<0.05	<0.04	0.70	0.08	<0.5	<0.05	20.00	
Blue01	0301BLU	SW014A6	Blue river at Kenneth Rd.	38.842294	-94.6126258		9/26/2022	8:50 AM	108.6	Steady	1.72	Normal	4.76	563.00	43.00	7.00	0.04	<0.02	<0.05	<0.04	0.50	0.11	<0.5	<0.05	8.00	
Blue02	0302BLU	SW019A6	Blue River at Hwy 69	38.8123324	-94.6758762		4/27/2022	10:45 AM	157.47	Steady	2.49	Normal	3.99	20.00	65.00	4.00	<0.03	<0.02	<0.05	<0.04	<0.5	0.07	<0.5	<0.05	6.00	
Blue02	0302BLU	SW019A6	Blue River at Hwy 69	38.8123324	-94.6758762		5/24/2022	1:15 PM	285.41	Rising	3.17	Rapid	4.68	327.00	32.00	9.00	0.63	<0.02	<0.05	<0.04	<0.5	<0.5	<0.5	<0.05	11.00	
Blue02	0302BLU	SW019A7	Blue River at Hwy 70	38.8123324	-94.6758762		6/28/2022	10:30 AM	92.98	Steady	2.11	Normal	3.54	97.00	42.00	7.00	<0.03	<0.02	<0.05	<0.04	0.70	<0.05	2.00	<0.05	14.00	
Blue02	0302BLU	SW019A8	Blue River at Hwy 71	38.8123324	-94.6758762		7/25/2022	9:30 AM	116.28	Steady	2.27	Normal	3.72	122.00	53.00	12.00	0.06	<0.02	<0.05	0.08	<0.5	0.06	<0.5	<0.05	16.00	
Blue02	0302BLU	SW019A9	Blue River at Hwy 72	38.8123324	-94.6758762		8/29/2022	10:00 AM	130.3	Steady	2.35	Normal	3.82	199.00	40.00	3.00	0.21	<0.02	<0.05	<0.04	0.60	0.07	<0.5	0.06	3.00	
Blue02	0302BLU	SW019A6	Blue River at Hwy 69	38.8123324	-94.6758762		9/26/2022	9:15 AM	86.94	Steady	2.06	Normal	3.49	31.00	56.00	6.00	<0.03	<0.02	0.05	<0.04	<0.5	0.08	<0.5	0.06	9.00	
Blue01	0401BUL	SW005B6	Bull Creek at Interstate 35	38.7534724	-94.9765767		4/27/2022	11:45 AM	1.24	Steady	0.05	Normal	1.89	216.00	194.00	24.00	<0.03	<0.02	<0.05	<0.04	<0.5	0.10	<0.5	<0.05	30.00	
Blue01	0401BUL	SW005B6	Bull Creek at Interstate 35	38.7534724	-94.9765767		5/24/2022	12:15 PM	16.6	Rising	0.6	Rapid	2.42	1350.00	93.00	31.00	0.67	<0.02	0.05	<0.04	0.80	0.11	0.50	0.08	50.00	
Blue01	0401BUL	SW005B6	Bull Creek at Interstate 35	38.7534724	-94.9765767		6/28/2022	12:00 PM	0.74	Steady	0.09	Normal	1.67	120.00	126.00	17.00	0.28	<0.02	0.06	<0.04	0.80	0.08	0.70	<0.05	24.00	
Blue01	0401BUL	SW005B6	Bull Creek at Interstate 35	38.7534724	-94.9765767		7/25/2022	10:45 AM	204	Rising	1.6	Rapid	3.95	118000.00	63.00	204.00	0.43	0.03	0.08	0.11	1.00	0.49	0.60	0.10	333.00	
Blue01	0401BUL	SW005B6	Bull Creek at Interstate 35	38.7534724	-94.9765767		8/29/2022	11:30 AM	3.54	Steady	0.46	Normal	1.92	4110.00	126.00	22.00	0.25	<0.02	0.06	<0.04	0.50	0.14	<0.5	0.09	26.00	
Blue01	0401BUL	SW005B6	Bull Creek at Interstate 35	38.7534724	-94.9765767		9/27/2022	11:50 AM	0.39	Steady	0.05	Normal	1.67	63.00	133.00	14.00	0.03	<0.02	0.06	0.05	0.60	<0.05	<0.5	<0.05	14.00	
LittleBull01	0404LBC	SW027A6	Little Bull Creek at 199th St.	38.7675897	-94.8796336		4/27/2022	11:15 AM	2.88	Steady	0.19	Normal	2.86	122.00	169.00	4.00	0.64	0.02	<0.05	<0.04	0.60	<0.05	0.60	<0.05	5.00	
LittleBull01	0404LBC	SW027A6	Little Bull Creek at 199th St.	38.7675897	-94.8796336		5/24/2022	12:45 PM	14.9	Rising	0.2	Rapid	3.22	355.00	133.00	22.00	1.75	<0.02	0.08	<0.04	1.00	0.11	<0.5	0.09	49.00	
LittleBull01	0404LBC	SW027A6	Little Bull Creek at 199th St.	38.7675897	-94.8796336		6/28/2022	11:20 AM	2.18	Steady	0.49	Normal	2.74	98.00	315.00	16.00	1.39	<0.02	0.11	<0.04	2.00	0.15	1.60	0.10	22.00	
LittleBull01	0404LBC	SW027A6	Little Bull Creek at 199th St.	38.7675897	-94.8796336		7/25/2022	10:15 AM	3.14	Rising	1.51	Rapid	3.54	17300.00	229.00	102.00	1.76	0.04	0.14	0.07	1.10	0.41	0.90	0.20	146.00	
LittleBull01	0404LBC	SW027A6	Little Bull Creek at 199th St.	38.7675897	-94.8796336		8/29/2022	11:00 AM	2.83	Steady	0.3	Normal	2.8	565.00	79.00	19.00	0.57	<0.02	0.16	<0.04	0.60	0.22	<0.5	0.20	24.00	
LittleBull01	0404LBC	SW027A6	Little Bull Creek at 199th St.	38.7675897	-94.8796336		9/27/2022	11:20 AM	1.3	Steady	0.31	Normal	2.92	122.00	398.00	10.00	2.27	0.03	0.43	<0.04	1.30	0.43	0.80	0.39	11.00	
Kill01	0501KIL	SW001A6	Kill Creek at 95th St.	38.9565282	-94.9735304		4/26/2022	1:30 PM	17.81	Steady	1.98	Normal	5.09	121.00	62.00	1.00	<0.03	<0.02	0.20	<0.04	0.70	0.28	<0.5	0.24	8.00	
Kill01	0501KIL	SW001A6	Kill Creek at 95th St.	38.9565282	-94.9735304		5/23/2022	11:55 AM	26.56	Steady	2.19	Normal	5.33	52.00	29.00	5.00	0.55	<0.02	0.12	<0.04	<0.5	0.12	<0.5	0.13	6.00	
Kill01	0501KIL	SW001A6	Kill Creek at 95th St.	38.9565282	-94.9735304		6/28/2022	3:00 PM	8.16	Steady	1.63	Normal	4.79	63.00	32.00	4.00	0.72	<0.02	0.12	<0.04	0.70	0.10	1.80	0.09	9.00	
Kill01	0501KIL	SW001A6	Kill Creek at 95th St.	38.9565282	-94.9735304		7/25/2022	2:00 PM	13.41	Rising	1.77	Rapid	4.92	249.00	51.00	8.00	0.11	<0.02	0.07	0.12	0.60	0.09	<0.5	0.06	11.00	
Kill01	0501KIL	SW001A6	Kill Creek at 95th St.	38.9565282	-94.9735304		8/29/2022	1:30 PM	11.15	Steady	1.83	Normal	4.98	189.00	61.00	4.00	2.41	0.03	0.33	<0.04	0.50	0.34	<0.5	0.33	6.00	
Kill01	0501KIL	SW001A6	Kill Creek at 95th St.	38.9565282	-94.9735304		9/27/2022	12:40 PM	6.88	Steady	1.56	Normal	4.73	121.00	77.00	5.00	0.68	<0.02	0.61	<0.04	0.60	0.69	<0.5	0.53	6.00	
Mill01	0601MIL	SW007A6	Mill Creek at Johnson Dr.	39.0293219	-94.8176371		4/26/2022	12:40 PM	24.2	Steady	1.41	Normal	45.01	97.00	148.00	4.00	0.39	0.03	<0.05	<0.04	0.50	<0.05	<0.5	<0.05	4.00	
Mill01	0601MIL	SW007A6	Mill Creek at Johnson Dr.	39.0293219	-94.8176371		5/23/2022	11:05 AM	42.1	Steady	0.25	Normal	45.14	31.00	111.00	4.00	1.05	<0.02	0.06	<0.04	<0.5	0.05	<0.5	0.06	6.00	
Mill01	0601MIL	SW007A6	Mill Creek at Johnson Dr.	39.0293219	-94.8176371		6/28/2022	2:15 PM	8.4	Steady	0.1	Normal	44.86	52.00	114.											