



February 23, 2021

Kansas Department of Health and Environment  
Technical Services Section  
1000 SW Jackson Street, Suite 420  
Topeka, Kansas 66612-1367

***RE: NPDES Annual Report, Year 1***

To Whom It May Concern:

The City of Lenexa Stormwater Group is pleased to submit the above referenced report. This report describes NPDES activities completed between January 1, 2020 and December 31, 2020 as required by permit number M-KS34-SU01, issued October 1, 2014. Also attached is Lenexa's updated stormwater management plan which outlines the BMP's that will be implemented through the duration of the current permit.

If you have questions about the attached report, please contact me at (913) 477-7644.

Sincerely,

CITY OF LENEXA

A blue ink signature of Tom Jacobs, written in a cursive style. The signature is positioned over the text "CITY OF LENEXA" and "Tom Jacobs, PE, CFM".

Tom Jacobs, PE, CFM  
Stormwater Engineer



Clear Creek Regional Wetlands

# **NPDES ANNUAL REPORT**

## **M-KS34-SU01**

### **CITY OF LENEXA**

**YEAR ONE**  
**JANUARY 1, 2020 – DECEMBER 31, 2020**

## **B. Executive Summary**

The City of Lenexa's Stormwater Management Program, known as "Rain to Recreation," is an active partner with Johnson County government and the county's stormwater management program (JCSMP), the Mid-America Regional Council (MARC), and various non-profit organizations. The city of Lenexa partners directly with the JCSMP, who coordinates a cooperative approach for 12 Cities and unincorporated Johnson County, to help meet selected minimum control measures mandated in the NPDES Phase II Stormwater permits. In particular, the JCSMP coordinates water quality testing as well as efforts for best management practices (BMPs) under minimum control measures 1 and 2 but have also assist with MCM's 3-6. This coordinated approach has proved to be cost effective and reduces redundancy among the cities in Johnson County.

Lenexa was originally permitted in October of 2004. The latest permit was issued on October 1<sup>st</sup>, 2019. The latest permit requires that the City continue to operate under the stormwater management plan outlined in the previous permit until a new plan is submitted in 2021. To date, the city is in full compliance with past permit efforts.

### ***1. Aspects of the program that appeared especially effective at reducing pollutants in stormwater discharge:***

In a typical year we feel that MCM 1 and 2 are the most affective but due to the restrictions put on us by the pandemic we were not able to do any in-person outreach this year. One outreach program that remained successful is a Stormwater Costshare program where the City provides grants to residents to plant native plants or install rain gardens and rain barrels in an effort to reduce runoff. We were able to advertise using our social media channels and do all inspections remotely by trading pictures. We actually found that people were using this program more than usually during the stay at home order in the spring.

We continue to concentrate heavily on evaluating the condition of private stormwater infrastructure that was built prior to the start of and during the program. We continue to make routine inspections to make sure that the facilities are still in compliance with their intended use. We continue our routine pollutant removal through our good housekeeping activities such as street sweeping and routine debris removal from storm drains.

### ***2. Aspects of the program that provided unsatisfactory results:***

It continues to be difficult to evaluate effectiveness of the minimum control measures. Water quality testing that has been done over the past permit cycle did not produce meaningful results. A new protocol was developed and is being initiated by the JCSMP on the City's behalf. Although we are in the second year of this testing, due to the rotating nature of the testing sites, we have only now received the first year of data for sites directly impacted by Lenexa. As more data is received we are hopeful that this will help us to evaluate the effectiveness of the program.

### ***3. The most successful parts of the program:***

In this unusual year, when outreach projects were not an option, we continued to be successful with other aspects of the program. We were able to continue with our inspection of erosion and sediment control on construction sites as well as post construction BMP construction and maintenance inspections. Surprisingly, there was a near record amount of construction activity in Lenexa despite the pandemic.

***4. The most challenging parts of the program:***

The Rain to Recreation Program is in fact a stormwater utility with many aging infrastructure demands like those well documented around the country. The first 10 years of the program focused on establishing policies and practices for stormwater management. The program's first decade was also largely a frontloaded capital program, resolving past flooding issues and reducing future flooding with construction of regional retention facilities. Now, the program is focusing on operations and maintenance of existing gray infrastructure as well as green infrastructure added since its inception.

The City has a significant amount of failing metal pipe and other stormwater structures that need repaired or replaced. Balancing the maintenance needs of traditional and sustainable infrastructure will be a challenge as the program evolves. Stormwater program staff continues to compile data to implement a stormwater asset management program. This program will guide infrastructure maintenance and replacement decisions and establish funding priorities.

It is always a challenge to gain compliance with erosion and sediment control requirements and post construction BMP maintenance compliance. The City has a fulltime staff member dedicated to each effort and without this staff commitment there would be little compliance by contractors and owners.

***5. Describe any City area MS4 clean-ups and the participation:***

Lenexa Typically enlists volunteers through an adopt a spot program. Unfortunately, due to COVID protocols, we were unable to organize any cleanups this year. However, we were able to provide our usual bulky trash and E-waste collection days resulting in

***6. Describe the elected officials' participation in the stormwater pollution elimination:***

The Lenexa Governing Body is the legislative branch of the city government, responsible for making policy decisions and passing ordinances concerning the conduct and affairs of the city.

In 2000, the city developed a Stormwater Master Plan which called for a proactive approach to stormwater management issues within the city. This approach reduces flooding, improves water quality and builds community assets. To fund this plan the Lenexa Governing Body established a stormwater management fee which is imposed on each residential and nonresidential developed property. The fee pays for operation and maintenance, costs of capital improvements, debt service associated with the stormwater management system and other costs included in the operating budget. This monthly service charge will not increase in the 2021 budget and will stay at \$9.08 per equivalent dwelling unit (EDU). (Homeowners will pay \$109 annually.) Stormwater service charges are budgeted to stay the same as well. Stormwater service charges are billed and collected

by Johnson County. The County distributes the service charges on the same schedule as property taxes.

Each year, the Lenexa Governing adopts a Capital Improvement Plan (CIP). The CIP is a plan that is a result of a systematic evaluation of capital projects. The plan serves as a guide for the efficient and effective provision of public facilities, outlining a timeline and schedule of capital projects for a five-year period. The plan is reviewed annually, during which time the needs of the city may be re-prioritized and the financial status re-evaluated. The Lenexa Governing Body has allocated \$18,396,640 in Stormwater Funding for the 2020-2025 time period.

***7. Describe the collaboration with other organizations to eliminate stormwater pollution:***

Lenexa partners directly with the following organizations through financing or direct participation:

- The American Public Works Association Water Resources Committee
- Water and Environment Federation
- Mid America Regional Council Water Education Committee
- The International Erosion Control Association
- The Blue River Watershed Association
- Johnson County Stormwater Management program
- Deep Roots

***8. Audit:***

No Audit was conducted.

# KANSAS STORMWATER 2020 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: |        |
| <input type="checkbox"/> | Mailing Address 2:                         |        |
| <input type="checkbox"/> | Municipality:                              |        |
|                          | State:                                     | Kansas |
| <input type="checkbox"/> | Zip Code:                                  |        |
| <input type="checkbox"/> | MS4 Program Contact - Person:              |        |
| <input type="checkbox"/> | Contact E-Mail Address:                    |        |
| <input type="checkbox"/> | Contact Phone Number:                      |        |
| <input type="checkbox"/> | MS4 Program Construction Contact - Person  |        |
| <input type="checkbox"/> | Construction E-Mail Address:               |        |
| <input type="checkbox"/> | Contact Phone Number:                      |        |
| <input type="checkbox"/> | Kansas Permit Number: — Ex. M-MC21-SU01    |        |

Reporting period covers activities from January 1, 2020 through December 31, 2020.

This annual report must be submitted to the Kansas Department of Health and Environment (KDHE) by February 28th, 2021. The annual report is to be submitted as PDF files to KDHE preferably on a standard compact disk (CD) or digital versatile disk (DVD). If the permittee does not have the ability to provide the files in a CD or DVD, a flash drive can be submitted. Some permittees provide additional hard copy submissions of the annual report or supplemental documents along with the electronic files. There is no requirement to provide hard copies of any documents other than a simple transmittal letter.

**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/resolutions or revised ordinances/resolutions which have not already been submitted to KDHE for review and retention.

This template annual report document (basic report) for the 2020 reporting period has changed from the annual report format used in previous years. This document focuses on the core aspects of permit requirements including the Stormwater Management Program, the Six Minimum Control Measures (Public Education and Outreach, Public Involvement and Participation, Illicit Discharge Detection and Elimination, Construction Site Stormwater Runoff Control, Post-Construction Stormwater Management in New Development and Redevelopment Projects, and Pollution Prevention/Good Housekeeping for Municipal Operations), Total Maximum Daily Load (TMDL) Best Management Practices and TMDL wet weather monitoring. Additionally, for Phase I permittees a program to monitor their listed industrial facilities is required. Although any failure to comply with a requirement of the MS4 National Pollutant Discharge Elimination System (NPDES) permit may expose the permittee to enforcement action by either the permitting authority (Kansas Department of Health and Environment) or by the Environmental Protection Agency, the failure to implement the core aspects of the permit likely increases the risk of not only enforcement but also of incurring a monetary penalty.

The permittee is well advised to accurately report the conditions and status of their stormwater program and give due consideration to improving or enhancing their program where it is weak, or deficient in any of the core aspects (stormwater management program, six minimum control measures and TMDL best management practices – if applicable – also for Phase I permittees monitoring industrial facilities).

## **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.



## **RESPONSES TO REQUIRED TOPICS**

1. Lenexa continues to implement the minimum control measures outlined in the stormwater management plan submitted in 2015 with the start of the last permit. That permit cycle is now complete, and we feel that we have been consistent in completing our measurable goals. During that period, we were audited once. The audit identified one deficiency in that we were not keeping records of passing erosion and sediment control inspections, only failing ones. Since then, we have initiated a process to track passing inspections electronically.
2. Water quality test results can be viewed in Appendix 2 of this report. Water quality testing was completed by Johnson County on behalf of all the Cities within the County. We feel that one comprehensive testing program will be more meaningful than if each City were to do their own testing. This being only the second year of the current monitoring effort, it is impossible to establish any trends.
3. Other than the water quality testing data mentioned above, no information was collected.
4. Lenexa had scheduled multiple stormwater activities for each minimum control measure. These activities are listed in the table of part D of this form. Please note that this year, due to the restrictions in place related to the COVID pandemic, many of the in person events were not allowed to take place.
5. Activities to be undertaken during the coming year as well as the following three years are outlined in the City's updated stormwater management plan. This plan accompanies this report.
6. Lenexa's permit area has not changed in the last year.
7. Lenexa did not make any significant changes to BMP's this last year.
8. There have been no updates to our stormwater ordinance or regulation this past year. The last time they were updated was in 2018. The most current copies of all stormwater related ordinances are in the accompanying stormwater management plan.

9. Lenexa relies on the Johnson County Stormwater Management Program for comprehensive water quality testing. This is an agreement that was approved by KDHE at the beginning of the 2014 permit and will continue through the duration of the 2019 permit. In addition, Lenexa works closely with the organizations listed below to advance the cause of water quality management throughout the region. In some cases, these organizations provide creditable services within the City of Lenexa but they are not specifically responsible for those parts of Lenexa's program.

- The American Public Works Association Water Resources Committee
- Water and Environment Federation
- Mid America Regional Council Water Education Committee
- The International Erosion Control Association
- The Blue River Watershed Association
- Deep Roots

10.N/A

## **SIX MINIMUM CONTROL MEASURES FOR MUNICIPAL SEPARATE STORM SEWER SYSTEMS (MS4s) 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 the 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.

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### 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  | 16. Occasional not-for-profit car wash activities  |
| 2. Diverted stream flow   | 17. Flows from riparian habits and wetlands  |
| 3. Rising groundwaters  | 18. Dechlorinated 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  |  |

#### **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 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 (TMDL Table). |
| <input 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**

| <b>BMP ID NUMBER</b> | <b>BRIEF BMP DESCRIPTION</b>  | <b>REGULATED TMDL PARAMETERS</b> | <b>MEASURABLE GOAL(S)</b> | <b>PROGRESS ACHIEVING GOAL(S)<br/>(MEASURED RESULT)</b>   |
|----------------------|---|----------------------------------|---------------------------|---|
| 1                    | <b>Filtration BMP</b> <ul style="list-style-type: none"> <li>• Native Vegetation (2)</li> <li>• Native Swales (1)</li> <li>• Proprietary Units (12)</li> <li>• Underground Detention (5)</li> </ul> | Sediment, Bacteria, Nutrients    | Number installed          | In 2020, 20 filtration BMP's were installed on private development in Lenexa to satisfy the City's storm drainage criteria. |
| 2                    | <b>Storage BMP</b> <ul style="list-style-type: none"> <li>• Extended Wetland Detentions (1)</li> <li>• Extended dry detention (5)</li> </ul>  | Sediment                         | Number installed          | In 2020, 6 storage BMP's were installed on private development in Lenexa to satisfy the City's storm drainage criteria.     |
| 3                    | <b>Flyer</b><br>Direct mailing to residents in Little mill Creek Watershed  | Nutrients, Bacterial             | Number Mailed             | Mailed to 1643 addresses. This completes mailings to the entire watershed   |
| 4                    | <b>New BMP's on City Property</b><br>1 – Rain garden<br>1 - Wetland<br>1 – Stormwater treatment unit  | Sediment, storage                | Number installed          | In 2020 three BMP's were installed on City property.  |

**D.**

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

| <b>BMP ID NUMBER</b> | <b>BRIEF BMP DESCRIPTION</b>  | <b>REGULATED TMDL PARAMETERS</b> | <b>MEASURABLE GOAL(S)</b>                                   | <b>PROGRESS ACHIEVING GOAL(S) (MEASURED RESULT)</b>  |
|----------------------|---|----------------------------------|---|--|
| 5                    | <b>EROSION AND SEDIMENT CONTROL:</b><br>Review plans, issue permits track violations and enforcements measures. | Sediment                         | Number of violations<br><br>Enforcement measures documented | In 2020 a total of 1794 inspections were conducted, 344 violations were noted and corrected by our erosion and sediment control inspector. Four violations resulted in stop work orders. |
| 6                    | <b>PET WASTE BAG DISPENSERS:</b> Installed in city/county parks encouraging pet owners to pick up after pets    | Bacteria                         | Number of Dispensers.                                       | Lenexa's Parks and recreation department installed six additional pet waste dispensers along Lenexa trails this year. 253,600 pet waste bags were dispensed.                             |
| 7                    | See Attached Johnson County report for additional BMP's installed on City's behalf (Appendix 1).                |                                  |   |  |



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

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

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

(List presentations and media)

| <b>BMP ID NUMBER</b> | <b>BRIEF BMP DESCRIPTION</b>  | <b>MEASURABLE GOAL(S)</b>   | <b>PROGRESS ACHIEVING GOAL(S)<br/>(MEASURED RESULT)</b>  |
|----------------------|---|---|--|
| 1                    | Contributions to partner organizations  | Annual participation – continuous throughout the year                     | Lenexa contributed \$4000 to the Mid-America Regional Council Water Quality Education Committee in 2020. This committee provides water quality education over the entire metro area. |
| 2                    | Stormwater education at festivals and events; participation in local, national, or regional conferences | 2 events per year   | Lenexa was unable to participate in public events this year due to COVID protocols.  |
| 3                    | Rain to Recreation web page   | Document the number of website visitors per year to determine usefulness. | The City had 936 views on its Rain to Recreation website this year. Topics deal with a range of water quality issues.  |

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

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

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

| BMP ID NUMBER | BRIEF BMP DESCRIPTION                           | MEASURABLE GOAL(S)   | PROGRESS ACHIEVING GOAL(S)<br>(MEASURED RESULT)  |
|---------------|---|--|--|
| 4             | Social media, electronic and print publications | Facebook posts – 12/yr<br>Town Talk – 2 articles per year<br>My Lenexa news – 4 times per year<br>Twitter, Pinterest, Flickr –<br>Maintain an active presence during entire year | Lenexa initiated 10 Social media posts (using Facebook, Twitter and Next Door), four articles in the Town Talk print newsletter, and Six articles in the My Lenexa News email newsletter.  |
| 5             | Stormwater management cost share program        | Monitor the number of participants from year to year along with funds distributed. Increase number each year.  | Lenexa had another successful BMP cost share program providing \$22,731.27 of funding to 36 different participants. This resulted in 22 rain barrels, 17 native plantings, 8 rain gardens, 6 Native trees and 1 permeable paver project installed on private property. |
| 6             | Educational door hangers                        | Two neighborhoods, One time per year   | Staff has decided that door hangers are not an effective way to deliver the message. Instead, we did direct mailing to four postal routes in one of our impaired watersheds. This year we distributed to three postal routes reaching 1,643 addresses.                 |

**E. Stormwater Management Program Requirements (Six Minimum Control Measures) (CONTINUED)****1. Public Education and Outreach (Table) - Please fill out accordingly**

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

| <b>BMP ID NUMBER</b> | <b>BRIEF BMP DESCRIPTION</b>                     | <b>MEASURABLE GOAL(S)</b>  | <b>PROGRESS ACHIEVING GOAL(S)<br/>(MEASURED RESULT)</b>  |
|----------------------|--|--|--|
| 7                    | Workshops and classes                            | Three workshops or classes per year. Attendance at workshops will be recorded. | Due to COVID protocols, Lenexa was unable to hold in-person workshops. We did hold one virtual raingarden class attended by six residents. |
| 8                    | Presentations to school groups                   | Seven per year. Approximately 550 students reached each year.                  | Due to COVID protocols Lenexa was unable to meet with school groups  |
| 9                    | Online system to report observed illegal dumping | 100% follow up on reports  | Lenexa followed up on 100% of the 11 online reports of illegal dumping.  |
| 10                   | Trail and BMP signage                            | Ongoing and continuous through the year.                                       | Parks and recreation installed six new pet waste stations near Lenexa trails   |

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

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

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

(List presentations and media)

| <b>BMP ID NUMBER</b> | <b>BRIEF BMP DESCRIPTION</b>  | <b>MEASURABLE GOAL(S)</b> | <b>PROGRESS ACHIEVING<br/>GOAL(S)<br/>(MEASURED RESULT)</b> |
|----------------------|---|---------------------------|---|
| 11                   | See attached Johnson County report for additional items done on the City's behalf (Appendix 1). |                           |   |
|                      |   |                           |   |
|                      |   |                           |   |

**E. Stormwater Management Program Requirements (Six Minimum Control Measures) (CONTINUED)****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 table. (List all associations and partnerships)

| <b>BMP ID NUMBER</b> | <b>BRIEF BMP DESCRIPTION</b>  | <b>MEASURABLE GOAL(S)</b>   | <b>PROGRESS ACHIEVING GOAL(S)<br/>(MEASURED RESULT)</b>   |
|----------------------|---|---|---|
| 1                    | Presentations to neighborhood or civic organizations  | Two per year  | Due to COVID protocols, Lenexa was not able to do presentation to neighborhood and civic Organizations. |
| 2                    | Promote community involvement in City sponsored volunteer activities that support BMP initiatives | Six opportunities offered throughout the year                               | Due to COVID protocols, Lenexa was not able to sponsor volunteer activities                             |
| 3                    | Request public feedback through social media channels   | Ongoing during duration of SMP's effective date.                            | On-going  |
| 4                    | Water testing   | 16 TRUE Blue Classes (grades 6-12)<br>26 Macro Critter Counts (grades 4-12) | Due to COVID protocols, Lenexa was not able to do educational stream sampling                           |

**E. Stormwater Management Program Requirements (Six Minimum Control Measures) (CONTINUED)****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 table. (List all associations and partnerships)

| <b>BMP ID NUMBER</b> | <b>BRIEF BMP DESCRIPTION</b>  | <b>MEASURABLE GOAL(S)</b>  | <b>PROGRESS ACHIEVING GOAL(S)<br/>(MEASURED RESULT)</b> |
|----------------------|---|--|---|
| 5                    | Comply with public notice provisions  | Ongoing as SMP will remain posted on City website with opportunities to comment. | On-going  |
| 6                    | See attached Johnson County report for additional items done on City's behalf (Appendix 1). |  |   |
|                      |   |  |   |
|                      |   |  |   |

## 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?<br><br>Effective date: July 2006. Modified Dec. 2018 |
| <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Have the ordinances, resolutions, or regulations been modified?<br><br>Effective date:  |

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

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

#### 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 NUMBER</b> | <b>BRIEF BMP DESCRIPTION</b>             | <b>MEASURABLE GOAL(S)</b>                     | <b>PROGRESS ACHIEVING GOAL(S)<br/>(MEASURED RESULT)</b>   |
|----------------------|--|---|---|
| 1                    | Outfall Map                              | Updated annually                              | The outfall map was kept up to date   |
| 2                    | Dry weather outfall inspections          | 33% of all outfalls inspected once every year | Inspected 103 outfalls which represents 16% of all City outfalls.   |
| 3                    | MS4 infrastructure inspection            | 20% of all infrastructure inspected annually  | Lenexa made video inspections of 20% of all of the City's enclosed system. In addition, all open channels were inspected.   |
| 4                    | Sponsor dumpster days and e-waste events | Two events                                    | Lenexa sponsored one dumpster day and which collected 1920 CY of trash and one E-waste day collecting 31,429 pounds of electronics. Lenexa residents were also able to attend the Johnson County event. |



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

#### 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.

| BMP ID NUMBER | BRIEF BMP DESCRIPTION   | MEASURABLE GOAL(S)  | PROGRESS ACHIEVING GOAL(S)<br>(MEASURED RESULT)  |
|---------------|---|---|--|
| 5             | Illicit discharge related resident complaints   | As per City policy, 100 % follow-up within 48 hours                                       | Eleven illicit discharge complaints were logged and 100% were followed up within 48 hours. |
| 6             | Stay current and review standard practices and industry standards as needed                     | Implement as necessary standard changes and/or modifications to already adopted practices | On-Going.  |
| 7             | See attached Johnson County report for additional items done on the City's behalf (Appendix 1). |   |  |
|               |   |   |  |

## 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"/> | 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?<br><br>Effective date: 2001. Revised December 2018               |
| <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)

#### 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 NUMBER</b> | <b>BRIEF BMP DESCRIPTION</b>                            | <b>MEASURABLE GOAL(S)</b>  | <b>PROGRESS ACHIEVING<br/>GOAL(S)<br/>(MEASURED RESULT)</b>  |
|----------------------|---|--|--|
| 1                    | Number of residential constructions sites inspected     | 75% of all residential construction sites, monthly                           | 100% of all residential construction sites were inspected Bi-monthly.<br>Including 325 failed inspections and four stop work orders. |
| 2                    | Number of commercial construction sites inspected       | 100% of all commercial construction sites, monthly                           | 100% of all commercial construction sites were inspected monthly.<br>Including 19 failed inspections and no stop work order.         |
| 3                    | Number of capital/public improvement projects inspected | 100% of all construction sites, monthly or as requested by project inspector | Lenexa inspected 100% of public improvement and capital sites.   |
| 4                    | Project plan review during approval process             | Provide assistance in plan review process as requested by City Engineer.     | On-going   |

**E. Stormwater Management Program Requirements (Six Minimum Control Measures)****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 NUMBER</b> | <b>BRIEF BMP DESCRIPTION</b>   | <b>MEASURABLE GOAL(S)</b>  | <b>PROGRESS ACHIEVING GOAL(S)<br/>(MEASURED RESULT)</b>    |
|----------------------|--|--|--|
| 5                    | Construction site discharge related complaints   | As per City policy, 100% follow-up within 48 hours   | Lenexa followed up on all complaints with 48 hours.        |
| 6                    | Stay current and review standard practices and industry standards as needed                          | Implement as necessary design standard changes and/or modification to already adopted practices. | On-going. Revised code to adopt latest regional standards. |
| 7                    | See attached Johnson County report for additional items completed on the City's behalf (Appendix 1). |  |  |
|                      |  |  |  |

### 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?<br><br>Effective date: |
| <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.

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**E. Stormwater Management Program Requirements (Six Minimum Control Measures)****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 and provide the requested information in the following table.

| <b>BMP ID NUMBER</b> | <b>BRIEF BMP DESCRIPTION</b>   | <b>MEASURABLE GOAL(S)</b>   | <b>PROGRESS ACHIEVING<br/>GOAL(S)<br/>(MEASURED RESULT)</b>  |
|----------------------|--|---|--|
| 1                    | Number of private BMP's inspected for maintenance and upkeep on an annual basis (after the first year) | As per City of Lenexa code, 33% of private BMP's once every year.       | 212 existing BMP's were inspected this year representing 39% of the City's privately owned BMP's. We identified 38 in need of maintenance. |
| 2                    | Number of new private BMP's inspected during construction phases                                       | As per City of Lenexa code, 100% of all newly constructed private BMP's | Lenexa inspected 100% of all private BMP's during construction. This included 26 BMP's.  |
| 3                    | Number of private BMP's inspected at first annual maintenance inspection                               | As per City of Lenexa code, 100% of all 1 year old private BMP's        | Lenexa completed a first annual inspection on 100% of all BMP's that were construction within the previous year. This included 36 BMP's.   |
| 4                    | Participate in cross jurisdictional stormwater BMP efforts   | Participation on committees/financial contributions                     | Lenexa participates in nine separate regional organizations.   |

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

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 and provide the requested information in the following table.

| <b>BMP ID NUMBER</b> | <b>BRIEF BMP DESCRIPTION</b>  | <b>MEASURABLE GOAL(S)</b>  | <b>PROGRESS ACHIEVING<br/>GOAL(S)<br/>(MEASURED RESULT)</b> |
|----------------------|---|--|---|
| 5                    | Stay current and review standard practices and industry standards as needed | Implement as necessary design standard changes and/or modifications to already adopted practices | On-going.   |
|                      |   |  |   |
|                      |   |  |   |
|                      |   |  |   |

**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.

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

| <b>BMP ID NUMBER</b> | <b>BRIEF BMP DESCRIPTION</b>  | <b>MEASURABLE GOAL(S)</b>  | <b>PROGRESS ACHIEVING<br/>GOAL(S)<br/>(MEASURED RESULT)</b>   |
|----------------------|-------------------------------|--|---|
| 1                    | BMP maintenance program       | Labor hours spent maintaining BMP's                                | Lenexa staff spent 3502 hours maintaining green infrastructure and 562 hours maintaining streams.                           |
| 2                    | Storm system cleaning program | Amount of debris and sediment removed                              | Lenexa removed 497 cubic yards of debris from storm drains and 141 cubic yards of sediment from stormwater treatment units. |
| 3                    | Street sweeping program       | Amount of sweepings removed. Sweep all streets four times per year | Lenexa's continuous street sweeping program removed 631 cubic yards of material from the streets.                           |
| 4                    | Employee training program     | One training event each year for all operations employees          | COVID protocols prevented Lenexa from conducting the annual training this year.   |

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

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.

| <b>BMP ID NUMBER</b> | <b>BRIEF BMP DESCRIPTION</b> | <b>MEASURABLE GOAL(S)</b>                    | <b>PROGRESS ACHIEVING<br/>GOAL(S)<br/>(MEASURED RESULT)</b>                                |
|----------------------|------------------------------|--|--|
| 5                    | Annual inspection            | Inspect all operations facilities each year. | The annual inspection of City facilities was performed on 10-02-20. No problems were found |
|                      |                              |  |  |
|                      |                              |  |  |
|                      |                              |  |  |

## 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 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 type="checkbox"/> | Have at least two municipal industrial facilities on the list had inspection and sampling conducted?                                       |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | If the answer to items 1 and 2 is "No," provide a statement.<br><hr/> <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).

### Note:

**Lenexa does not have monitoring requirements with the 2019 permit. Johnson County takes the lead for water quality testing in the entire county and reports the results directly to KDHE.**

**See appendix 2 for water quality information.**

**See appendix 1E (Johnson County Report)**

## 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 Signed \_\_\_\_\_

(Legally responsible person)

Name Printed: \_\_\_\_\_

Title \_\_\_\_\_

## 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

## **APPENDIX 1**

### **Johnsons County's efforts on Lenexa's Behalf**

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

| <b>BMP ID NUMBER</b> | <b>BRIEF BMP DESCRIPTION</b>   | <b>REGULATED TMDL PARAMETERS</b> | <b>MEASURABLE GOAL(S)</b>  | <b>PROGRESS ACHIEVING GOAL(S)<br/>(MEASURED RESULT)</b>  |
|----------------------|--|----------------------------------|--|--|
|                      | <b>FREE SOIL TESTING FOR RESIDENTS:</b> Educate residents that applying fertilizer without a current soil test can result in over application and excessive nutrient runoff.                   | Nutrients                        | Number of soil tests<br>Education received with reports and through marketing efforts for free soil test opportunity.  | 469 soil tests county-wide--<br><b>Including 43 in Lenexa.</b><br>Participants receive a custom report with recommended rates of application and proper timing. As well as a general stormwater quality awareness pamphlet educating homeowners on lawn and garden best management practices.  |
|                      | <b>SEPTIC SYSTEM INSPECTON PROGRAM:</b><br>Johnson County Department of Health and Environment staff performs inspections of all on-site sewer systems at construction and resale of property. | Bacteria                         | Number of inspections<br><br>Number of soil profile analysis<br>Number of required repairs<br><br>Number of permits issued for new construction<br><br>Number of decommissioning | 18 residential inspections (required on resale of property)<br>17 commercial inspections (conducted annually)<br>4 soil profiles completed<br>12 minor repairs completed<br>5 major repair permits issued for systems that were replaced as a result of a failed inspection.<br>1 permits issued for new construction<br>3 septic tank decommissioning |

**D. TMDL BMP Table (Continued) — Please fill out accordingly**

|  |   |          |   |  |
|--|---|----------|---|--|
|  | <b>PET WASTE BAG DISPENSERS:</b> Installed in city/county parks to encourage pet owners to pick up after pets | Bacteria | Number of dispensers installed<br><br>Number of bags used | <ul style="list-style-type: none"> <li>• Shawnee Mission Park (10 dispensers/ 105,000 bags)</li> <li>• Streamway Park System (3 dispensers/ 3,500 bags)</li> </ul> |
|--|---|----------|---|--|

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

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

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

| BMP ID NUMBER | BRIEF BMP DESCRIPTION           | MEASURABLE GOAL(S)                       | PROGRESS ACHIEVING GOAL(S)<br>(MEASURED RESULT)   |
|---------------|---------------------------------|--|---|
|               | <b>Print media:</b>             | Type and number of materials distributed | <b>Johnson County Magazine:</b><br><br>The Johnson County Magazine is distributed to all households in Johnson County four times a year for the Winter, Spring, Summer, and Fall issues. A ½ page informational advertisement was included in all four issues of the magazine. Advertisements focused on what homeowners can do to protect water quality, soil tests and how they can help homeowners protect water quality, and proper leaf and yard waste disposal. |
|               | <b>Events and Presentations</b> | Activity and number of participants      | <b>Healthy Yards Expo:</b> Cancelled due to COVID concerns.   |
|               | <b>In-School Education</b>      | Activity and Number of Participants      | <b>Stone Lion Puppet Theater:</b><br>Stone Lion presented 1 puppet show to 350 K-2 students in Lenexa as part of the county wide effort.  |



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

### 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>HHW Collection:</b> The JCSMP provided supplemental financial assistance to the Johnson County Department of Health and Environment and the city of Olathe's existing HHW Collection programs. This funding allowed for an increase in drop-off appointments at both facilities that would not have otherwise been possible. (These numbers represent the previous year's annual reporting numbers for the HHW sites which is on the State of Kansas's fiscal year of July 1- June 30) | Number of residents served<br><br>Pounds of Hazardous Material collected   | 15,776 participants county-wide<br><br>1,357,639 pounds of hazardous waste collected and managed properly   |
|  | <b>SEPTIC SYSTEM INSPECTION PROGRAM:</b> Johnson County Department of Health and Environment staff performs inspections of all on-site sewer systems at construction and resale of property.  | Number of inspections<br><br>Number of soil profile analysis<br><br>Number of required repairs<br><br>Number of permits issued for new construction<br><br>Number of decommissions | 18 residential inspections (required on resale of property)<br>17 commercial inspections (conducted annually)<br><br>4 soil profiles completed<br><br>12 minor repairs completed<br><br>5 major repair permits issued for systems that were replaced as a result of a failed inspection.<br><br>1 permit issued for new construction<br><br>3 septic tank decommissioning |

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

### 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.

| BMP ID NUMBER | BRIEF BMP DESCRIPTION  | MEASURABLE GOAL(S)                           | PROGRESS ACHIEVING<br>GOAL(S)<br>(MEASURED RESULT) |
|---------------|--|--|--|
|               | <b>Contractor Training:</b><br>Provide education and informational resources for contractors licensed in Johnson County. This year the Johnson County Contractors Licensing Program offered two 4-hour the "ABCs of BMPs" class that instructs contractors on proper erosion and sediment control at construction sites. Attendees could opt to take an exam to become a "Johnson County Certified Inspector". Each attendee received a copy of the "Johnson County Kansas Erosion Prevention and Sediment Control Field Guide". | Number of individuals trained and certified. | 118 attendees and 107 certified inspectors         |

## **Johnson County Stormwater Management Program NPDES MS4 Services Summary-- 2020**

The Johnson County Stormwater Management Program (JCSMP) manages funds generated through a 1/10<sup>th</sup> of one percent sales tax collected throughout the entire County for the purposes of stormwater management. Every year, a percentage of these funds are dedicated to providing assistance to the cities within Johnson County who hold a NPDES MS4 permits. In particular, the JCSMP coordinates some efforts for best management practices for Minimum Control Measures (MCM) 1 and 2, but also assist with MCMs 3-6. This coordinated approach through this partnership has proven to be cost effective and reduces redundancy.

In 2020, COVID-19 safety measures significantly impacted the outreach and training activities that were planned for the year. In-school activities planned with Olathe North High School, Friends of the Kaw, Blue River Watershed Association, and Stone Lion Puppet Theater were greatly reduced or cancelled altogether. The annual "Healthy Yards Expo" also was cancelled in 2020 as well as rain garden and rain barrel instructional classes that are normally held during the spring and summer months.

Limited in-school activities did occur in the winter before all schools in Johnson County moved to virtual learning in March 2020. Additionally, stream-side activities were conducted in the fall where social distancing measures were practiced and the 'in-class' instruction section of the lessons was held virtually.

### ***Public Education and Outreach: Minimum Control Measure 1***

#### **K-State Extension**

Residential lawn and garden care practices can be a major contribution to nutrient and sediment pollution in urban stormwater runoff. The JCSMP has formed a partnership with Johnson County K-State Extension (KSE) because Johnson County residents recognize KSE, the KSE Master Gardeners and Master Naturalists, and Johnson County Extension Agent, Dennis Patton, as trusted resources for lawn and garden care guidance. The JCSMP works with Johnson County K-State Extension to conduct stormwater pollution prevention outreach in a variety of ways throughout the year.

#### ***Print Media***

KSE publishes ads in the Johnson County Magazine, which is distributed four times per year (approximately by season) to approximately 260,000 residences and businesses in Johnson County. Ad graphics are included in Appendix A.

- Winter 2020: Advertisement for the Contain the Rain/BMP Cost Share programs. Most cities in Johnson County offer a cost-sharing program to their residents to encourage the use of rain barrels and rain gardens. The Contain the Rain website provides education on native plants, rain gardens, and native trees as well as direct links to the requirements and applications for every city.
- Spring 2020: Advertisement for the free soil test opportunities for Johnson County residents. The ad includes the benefits of a soil test as guidance for proper fertilization and water quality protection and an advertisement for the Healthy Yards Expo.

- Summer 2020: The summer edition of the Johnson County magazine featured an advertisement highlighting the various actions homeowners can take around their homes and yards to protect water quality.
- Fall 2020: Messaging focused on proper leaf and grass clipping management in the Fall 2020 edition.

### *Events*

The Healthy Yards Expo is a lawn and garden event that promotes environmentally friendly lawn and garden practices. It is based on the K-State Extension “Healthy Yards and Communities” initiative and the event is a partnership between KSE, JCSMP, and the cities of Lenexa, Olathe, Overland Park, and Shawnee. The 11<sup>th</sup> annual Expo was to be held on April 3, 2020, but had to be cancelled because of COVID-19 concerns.

### *Soil tests*

The JCSMP contracts with KSE to provide 1000 free soil tests to homeowners in Johnson County. In 2020, 469 residents county-wide received a free soil test (city specific numbers in Appendix B). A custom recommendation for soil amendments is provided with each soil test result as well as an informational flyer (Appendix B) that includes best practices for protecting water quality while caring for residential lawns and landscapes. COVID-19 restrictions also impacted the number of soil samples processed for 2020 as the Extension offices were closed for part of the year.

### **In-School Programming (PreK-8<sup>th</sup> grades)**

In-school programming was severely impacted by COVID in 2020. The state-wide shut down of schools in the spring of 2020 prevented the majority of our planned programming to occur. Limited in-person attendance for students in the fall of 2020 as well as restrictions on assemblies and visitors to schools also impacted our planned programming in schools. However, Stone Lion Puppet Theater and Friends of the Kaw were able to accomplish limited outreach activities in 2020.

#### **Stone Lion Puppet Theater**

The JCSMP contracts with the Stone Lion Puppet Theater, a local non-profit theater, to present age-appropriate water quality messaging to the County’s early elementary aged residents. In 2020, Stone Lion presented 10 puppet shows to approximately 2,205 children ranging in grades from Pre-Kindergarten to 6<sup>th</sup> grade. These shows occurred in January through March 2020 before schools closed in the spring due to COVID. Details including the school name, student’s resident cities in attendance, and number of students reached are included in Appendix C.

#### **Friends of the Kaw**

The JCSMP contracts with the Friends of the Kaw to present water quality data collection and analyses to middle school aged students through their “Kids About Water” programming. Through this multi-day programming, students learn about watersheds and water quality indicators of stormwater pollution. The students visit streams to collect and analyze water samples and macroinvertebrate

populations. Then, the students determine the health of the stream and what actions can be taken to improve or protect water quality. In 2020, Friends of the Kaw presented to 13 classes, which totaled 285 students. Details including the school name, student's resident cities in attendance, and number of students reached are included in Appendix C.

#### **Shawnee Mission School District (8<sup>th</sup> grade curriculum, Friends of the Kaw, and Blue River Watershed Association)**

The JCSMP has partnered with the Shawnee Mission School District to provide a capstone field experience for middle school curriculum that teaches students about water quality and the impacts humans have on degraded water quality in the environment. This curriculum begins in the 6<sup>th</sup> grade and continues through 8<sup>th</sup> grade, culminating in a field trip to collect water quality and macroinvertebrate samples to analyze the health of nearby streams. The Shawnee Mission School District spans 14 cities in Johnson County, all of which hold MS4 permits. The ultimate goal is to provide this experience to every 8<sup>th</sup> grade student in the five middle schools—Hocker Grove, Indian Hills, Indian Woods, Trailridge, and Westridge. Unfortunately, all planned field trips in the spring of 2020 were cancelled due to COVID. It is the intent of the JCSMP to continue this program in 2021 if possible.

#### **Hillsdale Lake WRAPS/ Miami and Johnson County Conservation Districts**

The JCSMP partners with the Hillsdale Lake Watershed Restoration and Protection Strategy (WRAPS) to provide watershed education and water quality sampling experiences to the middle school students at Spring Hill Middle School and advanced Zoology and Field Biology students at Gardner-Edgerton High School. Unfortunately, all activities associated with the Spring Hill and Gardner-Edgerton High School students were cancelled.

### ***Public Participation and Involvement: Minimum Control Measure 2***

#### **Bridging the Gap**

The JCSMP partners with Bridging the Gap to provide support to the cities' Homeowner Stormwater BMP Cost Share program. They have worked to create a brand of "Contain the Rain JOCO" and have developed a website [www.containtherainjoco.com](http://www.containtherainjoco.com) where homeowners have access to resources on native plants, trees, and rain barrels as well as a 'one-stop shop' for links to all the cities' programs within Johnson County.

### ***Illicit Discharge Detection and Elimination: Minimum Control Measure 3***

#### **Household Hazardous Waste Collection Site Support**

KDHE recognizes support of Household Hazardous Waste Collection as a method to deter illegal dumping of harmful materials into the MS4. The JCSMP provides supplemental financial assistance annually to the two household hazardous waste collection sites that operate in Johnson County.

The Johnson County Department of Health and Environment (JCDHE) operates a site in the city of Mission, in the northeast part of the County. Under normal operations, the JCDHE site accepts HHW from any County resident who makes an appointment, which are available only during regular business hours during the week. The supplemental funding allows for the JCDHE site to schedule appointments on Saturdays from April through September to allow for increased convenience to residents unable to schedule appointments during the week. JCDHE provides KDHE a fiscal year report that runs from July 1, 2019 through June 30, 2020, so those numbers are used for these reporting purposes. A total of 8,033 participants and 652,839 pounds of household hazardous waste was collected and managed properly (detailed report attached in Appendix D).

The city of Olathe also operates a household hazardous waste collection site that is more centrally located in the county. The Olathe HHW collection site normally would only accept household hazardous waste from Olathe residents. However, the supplemental funding provided by the JCSMP allows any Johnson County resident to drop off household hazardous waste at the Olathe site. The July 1, 2019 through June 30, 2020 annual report to KDHE for the city of Olathe HHW site reported 7,743 participants and a total of 704,800 pounds of household hazardous waste collected and managed properly (detailed report attached in Appendix D).

In 2020, a total of 15,776 Johnson County residents utilized both the HHW facilities to properly manage 1,357,630 pounds of hazardous waste.

### Onsite Sewage Treatment Systems Program

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. The program also investigates complaints about malfunctioning on-site septic systems. There are approximately 9,000 private sewage treatment systems in Johnson County. The overall county totals are listed below and a detailed by number for each city is included in Table 1.

| Table 1. 2020 Onsite Sewage Treatment Inspections by city. |               |                |         |        |        |                |             |         |         |         |                 |
|--|---------------|----------------|---------|--------|--------|----------------|-------------|---------|---------|---------|-----------------|
|  | County Totals | Unincorporated | Shawnee | Lenexa | Olathe | Bonner Springs | Spring Hill | Merriam | Mission | Leawood | Prairie Village |
| Resale   | 341           | 216            | 65      | 18     | 36     | 0              | 2           | 1       | 3       | 0       | 0               |
| Commerical Inspections                                     | 307           | 134            | 91      | 17     | 45     | 2              | 15          | 1       | 1       | 0       | 1               |
| Soil Profile Analysis                                      | 103           | 58             | 17      | 4      | 14     | 0              | 9           | 1       | 0       | 0       | 0               |
| Minor Repair   | 124           | 56             | 26      | 12     | 22     | 0              | 8           | 0       | 0       | 0       | 0               |
| Septic Tank Decommissions                                  | 40            | 15             | 10      | 3      | 9      | 1              | 1           | 1       | 0       | 0       | 0               |
| Installation Permits Issued                                | 152           | 101            | 27      | 6      | 7      | 0              | 9           | 2       | 0       | 0       | 0               |
| New Construction Permits                                   | 57            | 38             | 12      | 1      | 5      | 0              | 1           | 0       | 0       | 0       | 0               |
| Major Repairs Permits                                      | 95            | 63             | 15      | 5      | 2      | 0              | 8           | 2       | 0       | 0       | 0               |

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

Certified Erosion and Sediment Control Inspector training

The JCSMP works with the Johnson County Contractor Licensing Provide education and informational resources for contractors licensed in Johnson County. On October 26<sup>th</sup> and 29<sup>th</sup>, 2020, the Johnson County Contractors Licensing Program offered a virtual 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”. Approximately 118 individuals took the course and 107 individuals passed the certification exam.

### **Water Quality Sampling**

The JCSMP will continue to support water quality monitoring across the County on behalf of the cities to meet regulatory monitoring requirements. Reporting requirements to KDHE are established in the Johnson County NPDES MS4 permit (M-KS52-SU02). The water quality monitoring approach focuses on entire watersheds, rather than municipal boundaries, in order to align with the watershed management goals of the Strategic Plan.

#### **Monitoring Objectives:**

- Evaluate MS4 discharge impacts to the receiving waters
- Investigate relative contribution of sources of specific pollutants causing designated use impairment, including nutrients, bacteria and sediment
- Gather data to inform program decisions and prioritization of future activities related to the protection of water quality.

The monitoring program consists of both rotating and fixed monitoring stations. Fixed monitoring and the rotational year’s stations are monitored on scheduled, monthly basis from April-September regardless of rainfall. Additional wet weather samples are collected in the rotational basin only and 3 wet weather events after a 0.25” rainfall will be collected.

The Mill and Cedar Creek watersheds (watershed grouping 6) were the rotation watersheds in 2020. A map of monitoring stations is included in Appendix E. A separate Excel spreadsheet file “2020 MS4 Sampling Summary” with the 2020 sampling data will be provided with this report. A separate report “Johnson County SMP 2020 MS4 Water Quality Monitoring” by GBA and FYRA Engineering provides analysis of the results for 2020. This report is in review and will be provided as soon as it is finalized.

## 2020 Budget

|   |    |                   |   |  |  |  |  |
|---|----|-------------------|---|--|--|--|--|
| <b>2020 NPDES Services Budget</b>   |    |                   |   |  |  |  |  |
| <b>MCM 1:</b>   |    |                   |   |  |  |  |  |
| *Johnson County K-State Extension   | \$ | 32,560            |   |  |  |  |  |
| In School Education: Stone Lion Puppet Theater  | \$ | 21,750            | (continuation of 2019-2020 contract)                  |  |  |  |  |
| In School Education: Friends of the Kaw   | \$ | 28,014            | (continuation of 2019-2020 contract)                  |  |  |  |  |
| **In School Education: Blue River Watershed Association                                       | \$ | <del>20,803</del> |   |  |  |  |  |
| Community and In-School Education: Hillsdale Lake WRAPS                                       | \$ | 10,000            |   |  |  |  |  |
| MARC Water Quality Education Committee Membership   | \$ | 45,000            |   |  |  |  |  |
| <b>MCM 2:</b>   |    |                   |   |  |  |  |  |
| Bridging the Gap  | \$ | 15,000            | (Not to exceed-- dependant on number of applications) |  |  |  |  |
| **Olathe North High School  | \$ | <del>14,700</del> |   |  |  |  |  |
| <b>MCM 3:</b>   |    |                   |   |  |  |  |  |
| HHW Collection: Johnson County Health and Enviroment  | \$ | 50,000            |   |  |  |  |  |
| HHW Collection: City of Olathe  | \$ | 90,000            |   |  |  |  |  |
| <b>MCM 4:</b>   |    |                   |   |  |  |  |  |
| Erosion Control Inspector class   | \$ | 5,000             |   |  |  |  |  |
| <b>Water Quality Sampling</b>   |    |                   |   |  |  |  |  |
| GBA: Sample collection and data analysis  | \$ | 99,000            |   |  |  |  |  |
| JCW lab: Lab analysis   | \$ | 20,000            |   |  |  |  |  |
|   |    |                   |   |  |  |  |  |
| * K-State Extention's budget reflects a reduction after the Healthy Yards Expo was cancelled. |    |                   |   |  |  |  |  |
| ** Budget totals with a "strikethrough" were planned, but cancelled contracts.                |    |                   |   |  |  |  |  |



**APPENDIX A:**  
**Johnson County Magazine Advertisements**

## Winter 2020

PAID ADVERTISEMENT

Have you started planning your spring garden yet?



Go to [containtherainjoco.com](http://containtherainjoco.com) to learn about rebates for butterfly gardens and rain barrels!

K-STATE JOHNSON COUNTY  
Research and Extension Johnson County  
In partnership together

## Spring 2020

Crave that spring green?

It all begins with a soil test!

**FREE soil tests to Johnson County Residents**  
(Quantities Limited)

**With a soil test you will learn:**

- Soil nutrients & pH levels
- How to save money on fertilizers by knowing the right type and amount to apply
- Why fertilizing is important for a healthy lawn and garden
- How to reduce stormwater run-off for cleaner water

Learn more at:  
[johnson.k-state.edu](http://johnson.k-state.edu) or 913.715.7000  
11811 S Sunset Dr. Suite 1500 Olathe

K-STATE JOHNSON COUNTY  
Research and Extension Johnson County  
In partnership together



an earth-friendly home,  
lawn and garden event

Saturday, April 4.  
9 a.m. - 2 p.m.  
Shawnee Civic Centre  
13817 Johnson Dr., Shawnee, KS 66216  
**FREE**

Summer 2020



Winter 2020

# Water quality...

*It all starts with you.*

Leaves and grass release nutrients when they decay, which lowers water quality, allowing algae to grow and killing fish.

**Keep leaves and grass clippings out of the streets and out of our streams.**

[johnson.k-state.edu](http://johnson.k-state.edu)  
or call 913-715- 7050

K-STATE Research and Extension | Johnson County | JOHNSON COUNTY KANSAS  
In partnership together

Kansas State University Agricultural Experiment Station and Cooperative Extension Service K-State Research and Extension is an equal opportunity provider and employer.

## **APPENDIX B:**

### **Soil tests numbers by city and Informational Insert**



Soil test numbers by city and informational insert.

| City  | Fairway | Gardner | Lake Quiriva | Leawood | Lenexa | Merriam | Mission | Olathe | Overland Park | Prairie Village | Roeland Park | Shawnee | Westwood |
|-------|---------|---------|--------------|---------|--------|---------|---------|--------|---------------|-----------------|--------------|---------|----------|
| Tests | 13      | 4       | 2            | 26      | 43     | 6       | 18      | 112    | 157           | 31              | 3            | 34      | 1        |



## This simple tip helps protect our water quality.

**Avoid blowing leaves and grass clippings into the street or driveway.**

Sweep or rake up yard waste. Leaves and grass that enter into storm drains break down and cause pollution in our waterways.

For more Healthy Yards Tips visit  
[johnson.k-state.edu/lawn-garden/healthy-yards-and-environment](http://johnson.k-state.edu/lawn-garden/healthy-yards-and-environment)  
 or call 913-715-7000

**K-STATE** **JOHNSON COUNTY**  
 Research and Extension  
 Johnson County  
 KANSAS  
 In partnership together



## This simple tip helps protect our water quality.

**Blow or sweep lawn fertilizers and pesticides off driveways, sidewalks, and gutters back into your yard.**

Fertilizers left on hard surfaces wash into storm drains during rainfall, which ends up in our ponds and streams. These chemicals pollute our waterways.

For more Healthy Yards Tips visit  
[johnson.k-state.edu/lawn-garden/healthy-yards-and-environment](http://johnson.k-state.edu/lawn-garden/healthy-yards-and-environment)  
 or call 913-715-7000

**K-STATE** **JOHNSON COUNTY**  
 Research and Extension  
 Johnson County  
 KANSAS  
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## **APPENDIX C:**

### **In-school education numbers by city**

| 2020 In-School Activities                            |                                 |   |      |                    |          |
|--|---------------------------------|---|------|--------------------|----------|
| Date   | School                          | Student resident cities   | Kids | # of shows/classes | Grades   |
| <b>Stone Lion Puppet Theater shows</b>               |                                 |   |      |                    |          |
| 1/9/20   | Pawnee Elem (SMSD)              | Overland Park   | 200  | 1                  | K-2      |
| 1/15/20  | Holy Trinity School             | Lenexa  | 250  | 1                  | K-2      |
| 1/21/20  | Indian Creek Elem (Olathe)      | Olathe  | 375  | 2                  | K-6      |
|  |                                 |   |      |                    |          |
| 2/9/20   | Boy Scouts                      | Leawood   | 150  | 1                  | Elem     |
| 2/20/20  | Brookwood Elem (SMSD)           | Leawood, OP   | 220  | 1                  | PreK-2   |
| 2/21/20  | Madison Elem (GE)               | Gardner, Unicorporated  | 300  | 1                  | K-2      |
|  |                                 |   |      |                    |          |
| 3/5/20   | Hyman Brand Academy             | Leawood, Lenexa, Mission, Olathe, OP, Prairie Village, Stilwell | 160  | 1                  | K-5      |
| 3/10/20  | Brookridge Elem (SMSD)          | Overland Park   | 250  | 1                  | K-2      |
| 3/12/20  | Shawano Elem (SMSD)             | Shawnee, Lenexa   | 300  | 1                  | PreK-2nd |
| <b>Friends of the Kaw-- Kids about Water classes</b> |                                 |   |      |                    |          |
| Spring 2020  | Bluejacket-Flint Elementary     | Shawnee   | 75   | 3                  | 6        |
| Fall 2020  | Monticello Trails Middle School | Shawnee   | 210  | 10                 | 7        |

**APPENDIX D:**

**Household Hazardous Waste Collection Reports for Johnson County Department  
of Health and Environment and the city of Olathe.**



# Kansas Household Hazardous Waste Program - Annual Report Form

for State Fiscal Year 2020 (July 1, 2019 to June 30, 2020)

Name of Facility: Johnson County, KS HHW

Permit Number: 652H

County(ies) Served: Johnson

Facility Address: 5901 Jim Bills Road, Mission, KS 66203

Facility Contact: Trent Thompson

Phone #: 913-715-6938

Fax #:

email: trent.thompson2@jccogov.org

| Waste Category   | Name of Disposal Contractor for each Category | Conversion factors used to estimate amounts left in Storage | Wastes in STORAGE<br>(includes all wastes left in storage at the close of the report period)<br>pounds | Wastes DISTRIBUTED through a REUSE Waste Exchange program<br>pounds | HAZARDOUS WASTES CONTRACTED or disposal at a cost |  |                          |                           |                             | Wastes not contracted as Hazardous Waste or disposal at no cost |   |  |  | Total Pounds COLLECTED |
|--|---|---|--|---|---|--|--------------------------|---------------------------|-----------------------------|---|---|--|--|------------------------|
| DOT Class<br>(Class description)                       |   |   |  |   | Recycled (HW) i.e. batteries<br>pounds            | Energy Recovery (HW) fuel sub.<br>pounds | Treatment (HW)<br>pounds | Landfilled (HW)<br>pounds | Incineration (HW)<br>pounds | Recycled i.e. batteries & refining of used oil<br>pounds        | Energy Recovery i.e. used oil, fuel substitutes<br>pounds | Treatment and/or disposal through sanitary sewer<br>pounds | Landfilled at Non HAZ MSW LF<br>pounds |                        |
| 1. NR (Bulk Latex Paint)                               | Self  | 12 pounds per gallon  | 6,500  | 104,772   |   |  |                          |                           |                             |   |   |  | 217,600                                | 328,872                |
| 2. NR (Bulk Used Oil)                                  | Environmental Energy                          | 8 pounds per gallon   |  |   |   |  |                          |                           |                             | 25,400  |   |  |  | 25,400                 |
| 3. Class 2, Div. 2.1 (Sorted Aerosols, Lab/Loose Pack) | Stericycle                                    |   | 900  |   |   | 16,683                                   |                          |                           |                             |   |   |  |  | 17,583                 |
| 4. Class 3 (Bulk Oil Based Paint)                      | Stericycle                                    | 12 pounds per gallon  | 3,200  |   |   | 98,889                                   |                          |                           |                             |   |   |  |  | 102,089                |
| 5. Class 3 (Bulk Fuels/Fuel Blends)                    | Stericycle                                    | 8 pounds per gallon   | 530  |   |   | 21,433                                   |                          |                           | 435                         |   |   |  |  | 22,398                 |
| 6. Class 4, Div. 4.1 (Flammable Solids)                | Stericycle                                    |   | 10   |   |   |  |                          |                           | 42                          |   |   |  |  | 52                     |
| 7. Class 4, Div. 4.2 (Spontaneously Combustible)       | Stericycle                                    |   | 5  |   |   |  |                          |                           | 21                          |   |   |  |  | 26                     |
| 8. Class 4, Div. 4.3 (Dangerous When Wet)              | Stericycle                                    |   | 5  |   |   |  |                          |                           | 23                          |   |   |  |  | 28                     |
| 9. Class 5, Div. 5.1 (Oxidizers)                       | Stericycle                                    |   | 30   |   |   |  |                          |                           | 958                         |   |   |  |  | 988                    |
| 10. Class 5, Div. 5.2 (Organic Peroxides)              | Stericycle                                    |   | 5  |   |   |  |                          |                           | 15                          |   |   |  |  | 20                     |
| 11. Class 6, Div. 6.1 (Poisons)                        | Stericycle                                    |   | 1,800  |   |   |  |                          |                           | 25,036                      |   |   |  |  | 26,836                 |
| 12. Class 6, Div. 6.1 (Dioxins)                        | N/A   |   | 385  |   |   |  |                          |                           |                             |   |   |  |  | 385                    |
| 13. Class 8 (Corrosives, Acids and Bases)              | Stericycle                                    |   | 300  |   |   |  | 7,383                    |                           | 1,514                       |   |   |  |  | 9,197                  |
| 14. Class 8 (Batteries - Lead Acid)                    | Best Battery                                  | Car batteries, at 30 pounds each                            | 500  |   |   |  |                          |                           |                             | 9,999   |   |  |  | 10,499                 |
| 15. Class 8 (Sorted Batteries)                         | Battery Solutions                             |   | 1,500  |   |   |  |                          |                           |                             | 1,958   |   |  |  | 3,458                  |
| 16. Class 8 (Batteries - Lithium)                      | Best Battery                                  |   | 25   |   |   |  |                          |                           |                             | 528   |   |  |  | 553                    |
| 17. NR (Antifreeze)                                    | Heritage Crystal Clean                        |   | 250  |   |   |  |                          |                           |                             | 10,125  |   |  |  | 10,375                 |
| 18. NR (Non-Hazardous) Reuse Items                     | Self  |   |  | 85,312  |   |  |                          |                           |                             |   |   |  |  | 85,312                 |
| 19. Mercury  | Stericycle                                    |   |  |   | 681   |  |                          |                           |                             |   |   |  |  | 681                    |
| 20. Fluorescent Bulbs                                  | A Tech  |   | 150  |   |   |  |                          |                           |                             | 2,338   |   |  |  | 2,488                  |
| 21. Electronic Waste                                   | N/A   |   |  |   |   |  |                          |                           |                             |   |   |  |  | 0                      |
| 22. Pharmaceuticals / Sharps                           | N/A   |   |  |   |   |  |                          |                           |                             |   |   |  |  | 0                      |
| 23. Propane  |   |   | 100  |   |   |  |                          |                           |                             | 1,823   |   |  |  | 1,923                  |
| 24. Other: Cooking Oil                                 | Darling                                       |   |  |   |   |  |                          |                           |                             | 1,001   |   |  |  | 1,001                  |
| 25. Other:   |   |   |  |   |   |  |                          |                           |                             |   |   |  |  | 0                      |
| 26. Other: Fire Extinguishers                          | Keller  |   |  |   |   |  |                          |                           |                             | 1,830   |   |  |  | 1,830                  |
| 27. Other: PCB's                                       | Clean Harbors                                 |   |  |   |   |  |                          | 281                       |                             |   |   |  |  | 281                    |
| 28. Oxidizers  | Clean Harbors                                 |   |  |   |   |  |                          |                           | 370                         |   |   |  |  | 370                    |
| 24. Other: Isocyanates                                 | Stericycle                                    |   |  |   |   |  |                          |                           | 194                         |   |   |  |  | 194                    |
| <b>Total Pounds Managed:</b>                           |   |   | 16,195   | 190,084   | 681   | 137,005                                  | 7,383                    | 281                       | 28,608                      | 55,002  | 0   | 0  | 217,600                                | 652,839                |

Additional Program summary results:

## Annual Operational Costs for the year (July 1, 2019 - June 30, 2020):

|  |               |                                  |                      |
|--|---------------|----------------------------------|----------------------|
| A. Disposal Cost                       | \$ 128,384.00 | E. Public Education/Advertising: | \$ 228.00            |
| B. Salaries:                           | \$ 208,848.00 | F. Physicals:                    | \$ -                 |
| C. Equipment/Supplies:                 | \$ 12,463.00  | G. Training:                     | \$ -                 |
| D. Overhead (Admin & Util):            | \$ 7,500.00   | H. Other:                        | \$ -                 |
| <b>TOTAL ANNUAL OPERATIONAL COSTS:</b> |               |                                  | <b>\$ 357,423.00</b> |

Total Cost per Participant: \$ 44.49

Total Disposal Cost per Participant: \$ 15.98

Average Pound per Participant: 81.27

Cost to manage per Pound: \$ 0.55

Average Disposal Cost per Pound: \$ 0.74

Percent Managed through Waste Exchange Program:

Percent Contracted for Hazardous Waste disposal:

Percent Managed through Other means:

Percent in Storage as of report date:

29.12%

26.65%

41.76%

2.48%

How many operating days was your HHW facility closed due to COVID-19?

0

Total Number of Participants for the year (July 1, 2019 - June 30, 2020):

8,033

# Kansas Household Hazardous Waste Program - Annual Report Form

for State Fiscal Year 2020 (July 1, 2019 to June 30, 2020)

Name of Facility: City of Olathe HHW

Permit Number: 849

County(ies) Served: Johnson

Facility Address: 1420 S. Robinson st. Olathe, Ks. 66061

Facility Contact: Steve Davis

Phone #: 913-971-9015

Fax #:

email: sdavis@olatheks.org

| Waste Category<br><br>DOT Class<br>(Class description)    | Name of Disposal<br>Contractor for each<br>Category | Conversion factors<br>used to estimate<br>amounts left in<br>Storage   | Wastes in<br>STORAGE   | Wastes<br>DISTRIBUTED<br>through a REUSE<br>Waste Exchange<br>program | HAZARDOUS WASTES CONTRACTED<br>or disposal at a cost |   |                                 |                               |                                    | Wastes not contracted as Hazardous Waste<br>or disposal at <u>no</u> cost |  |  |  | Total Pounds<br>COLLECTED |
|---|---|--|--|---|--|---|---------------------------------|-------------------------------|------------------------------------|---|--|--|--|---------------------------|
|   |   |  | (includes all wastes<br>left in storage at the<br>close of the report<br>period)<br><br>pounds | pounds  | Recycled<br>(HW) i.e.<br>batteries<br><br>pounds     | Energy<br>Recovery<br>(HW) fuel<br>sub.<br><br>pounds | Treatment<br>(HW)<br><br>pounds | Landfilled (HW)<br><br>pounds | Incineration<br>(HW)<br><br>pounds | Recycled i.e.<br>batteries &<br>refining of<br>used oil<br><br>pounds     | Energy<br>Recovery i.e.<br>used oil, fuel<br>substitutes<br><br>pounds | Treatment and/or<br>disposal through<br>sanitary sewer<br><br>pounds | Landfilled at<br>Non HAZ<br>MSW LF<br><br>pounds |                           |
| 1. NR<br>(Bulk Latex Paint)                               | City of Olathe                                      | 12 pounds per<br>gallon  | 2,820  | 34,209  |  |   |                                 |                               |                                    |   |  |  | 375,600  | 412,629                   |
| 2. NR<br>(Bulk Used Oil)                                  | GFL environmental                                   | 8 pounds per<br>gallon   | 2,000  | 593   | 28,800   |   |                                 |                               |                                    |   |  |  |  | 31,393                    |
| 3. Class 2, Div. 2.1<br>(Sorted Aerosols, Lab/Loose Pack) | Heritage<br>environmental                           |  | 700  | 8,619   |  | 7,912   |                                 |                               |                                    |   |  |  |  | 17,231                    |
| 4. Class 3<br>(Bulk Oil Based Paint)                      | Heritage<br>environmental                           | 12 pounds per<br>gallon  | 50   | 1,889   |  | 57,021  |                                 |                               |                                    |   |  |  |  | 58,960                    |
| 5. Class 3<br>(Bulk Fuels/Fuel Blends)                    | Heritage<br>environmental                           | 8 pounds per<br>gallon   |  | 1,379   |  | 6,210   |                                 |                               |                                    |   |  |  |  | 7,589                     |
| 6. Class 4, Div. 4.1<br>(Flammable Solids)                | Heritage<br>environmental                           |  |  | 97  |  |   |                                 |                               |                                    |   |  |  |  | 97                        |
| 7. Class 4, Div. 4.2<br>(Spontaneously Combustible)       | Heritage<br>environmental                           | When determining<br>weights of LAB<br>PACKS in Storage<br>don't forget to<br>subtract the drum<br>weight and the<br>absorbent<br>material, to report<br>the NET WEIGHT,<br>or the amount of<br>the wastes<br>collected and<br>managed. |  |   |  |   |                                 |                               |                                    |   |  |  |  | 0                         |
| 8. Class 4, Div. 4.3<br>(Dangerous When Wet)              | Heritage<br>environmental                           |  |  |   |  |   |                                 |                               |                                    |   |  |  |  | 0                         |
| 9. Class 5, Div. 5.1<br>(Oxidizers)                       | Heritage<br>environmental                           |  |  | 1,539   |  |   | 333                             |                               | 31                                 |   |  |  |  | 1,903                     |
| 10. Class 5, Div. 5.2<br>(Organic Peroxides)              | Heritage<br>environmental                           |  |  |   |  |   |                                 |                               |                                    |   |  |  |  | 0                         |
| 11. Class 6, Div. 6.1<br>(Poisons)                        | Heritage<br>environmental                           |  | 100  | 7,969   |  |   |                                 |                               | 23,836                             |   |  |  |  | 31,905                    |
| 12. Class 6, Div. 6.1<br>(Dioxins)                        | Heritage<br>environmental                           |  |  |   |  |   |                                 |                               |                                    |   |  |  |  | 0                         |
| 13. Class 8<br>(Corrosives, Acids and Bases)              | Heritage<br>environmental                           |  |  | 1,991   |  |   | 6,961                           |                               | 703                                |   |  |  |  | 9,655                     |
| 14. Class 8<br>(Batteries - Lead Acid)                    | Best Batteries                                      | Car batteries, at<br>30 pounds each  |  | 1,500   | 9,159  |   |                                 |                               |                                    |   |  |  |  | 10,659                    |
| 15. Class 8<br>(Sorted Batteries)                         | Best Batteries                                      | For all other<br>batteries report<br>actual weight   |  | 60  | 360  |   |                                 |                               |                                    |   |  |  |  | 420                       |
| 16. Class 8<br>(Batteries - Lithium)                      | Best Batteries                                      |  |  | 120   | 200  |   |                                 |                               |                                    |   |  |  |  | 320                       |
| 17. NR<br>(Antifreeze)                                    | GFL environmental                                   | Please note<br>conversion factor<br>used to estimate<br>amounts left in<br>storage, if<br>applicable.  |  | 200   |  |   |                                 |                               |                                    | 5,080   |  |  |  | 5,280                     |
| 18. NR<br>(Non-Hazardous)                                 | Heritage<br>environmental                           |  |  | 342   |  |   |                                 |                               |                                    |   |  |  |  | 342                       |
| 19. Mercury   | Heritage<br>environmental                           |  |  |   |  |   |                                 |                               |                                    |   |  |  |  | 0                         |
| 20. Fluorescent Bulbs                                     | Heritage<br>environmental                           |  |  | 20  |  |   |                                 |                               |                                    | 2,056   |  |  |  | 2,076                     |
| 21. Electronic Waste                                      | Secure ecycle                                       |  |  |   | 112,459  |   |                                 |                               |                                    |   |  |  |  | 112,459                   |
| 22. Pharmaceuticals / Sharps                              |   |  |  |   |  |   |                                 |                               |                                    |   |  |  |  |                           |
| 23. Other: Cooking Oil                                    | Darpro  |  |  |   |  |   |                                 |                               |                                    |   | 1,882  |  |  | 1,882                     |
| <b>Total Pounds Managed:</b>                              |   |  | 5,670  | 60,527  | 150,978  | 71,143  | 7,294                           | 0                             | 24,570                             | 7,136   | 1,882  | 0  | 375,600  | 704,800                   |

Additional Program summary results:

## Annual Operational Costs for the year (July 1, 2019 - June 30, 2020):

|                             |               |                                  |             |
|-----------------------------|---------------|----------------------------------|-------------|
| A. Disposal Cost            | \$ 117,639.45 | E. Public Education/Advertising: | \$ -        |
| B. Salaries:                | \$ 167,769.00 | F. Physicals:                    | \$ -        |
| C. Equipment/Supplies:      | \$ 21,016.41  | G. Training:                     | \$ 1,760.59 |
| D. Overhead (Admin & Util): | \$ 2,500.00   | H. Other:                        | \$ -        |

TOTAL ANNUAL OPERATIONAL COSTS:

\$ 310,685.45

|                                      |          |
|--------------------------------------|----------|
| Total Cost per Participant:          | \$ 40.12 |
| Total Disposal Cost per Participant: | \$ 15.19 |
| Average Pound per Participant:       | 91.02    |
| Cost to manage per Pound:            | \$ 0.44  |
| Average Disposal Cost per Pound:     | \$ 0.46  |

|  |        |
|--|--------|
| Percent Managed through Waste Exchange Program:  | 8.59%  |
| Percent Contracted for Hazardous Waste disposal: | 36.04% |
| Percent Managed through Other means:             | 54.57% |
| Percent in Storage as of report date:            | 0.80%  |

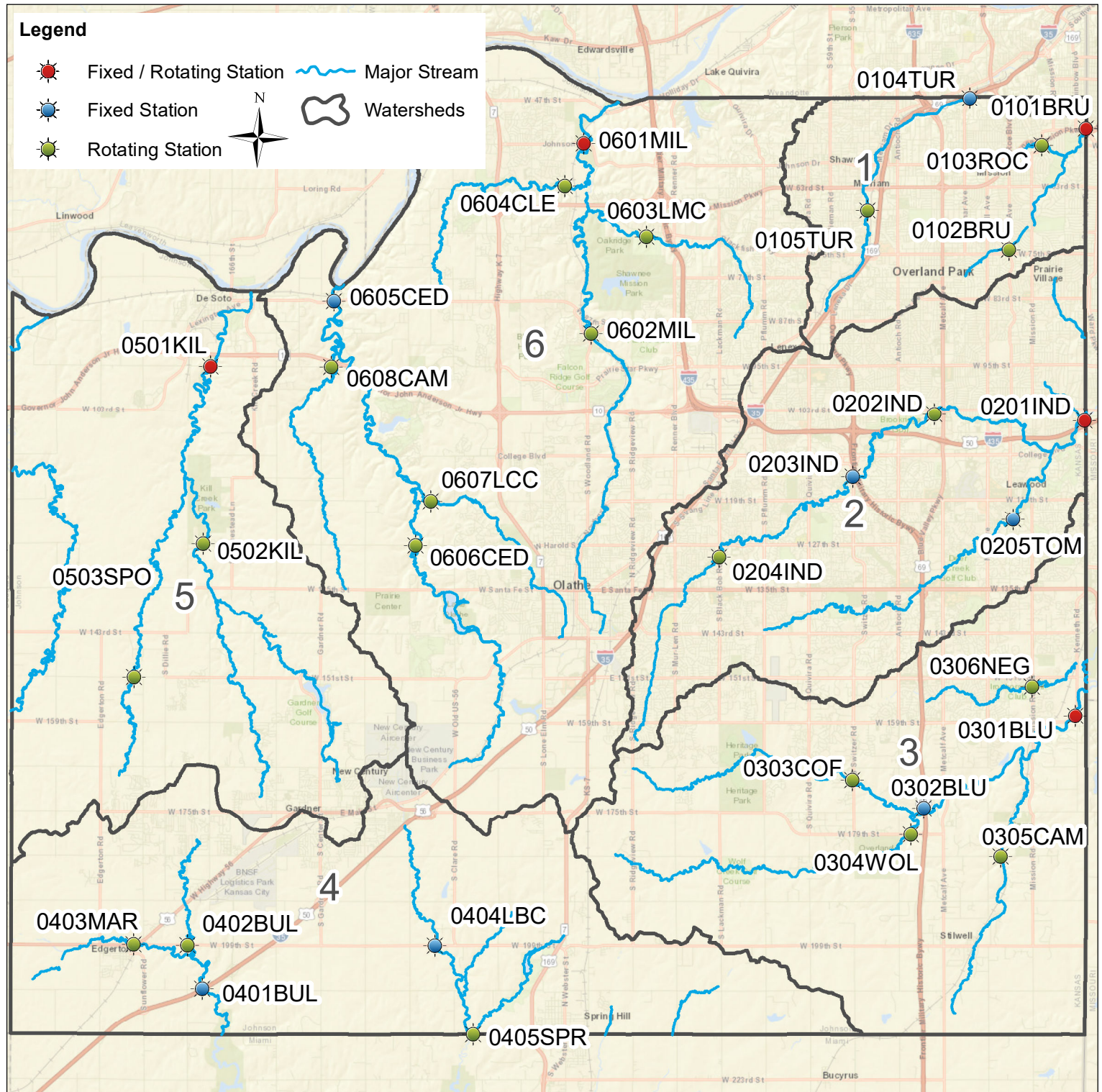
How many operating days was your HHW facility closed due to COVID-19?

28

Total Number of Participants for the year (July 1, 2019 - June 30, 2020):

7,743

**APPENDIX E:**  
**Water Quality Monitoring Location Map**



Kansas Permit Number: M-KS52-SU02

Federal Permit Number: KSR410007

1 inch = 16,417 feet

**APPENDIX 2**  
**Water quality monitoring results**  
**(Submitted by Johnson County)**



[illegible]

| Site Name | Site ID | EDM Code | Location             | Latitude    | Longitude    | Nearest River Sample Site ID | Date      | Time     | Sample Type | Air Temperature (F) | Weather Conditions | Residual in. | Discharge, cfs | Temperature °F | pH   | Dissolved Oxygen (mg/L) | Specific Conductance (µS/cm) | Stream Velocity (ft/s) | Stream Depth (ft) | Stream Width (ft) | Water Color (PCU) | Turbidity (NTU) | Nitrate plus nitrite, mg/L as nitrogen | Nitrite as Nitrogen, 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 | total Phosphorus, mg/L as phosphorus |
|-----------|---------|----------|----------------------|-------------|--------------|------------------------------|-----------|----------|-------------|---------------------|--------------------|--------------|----------------|----------------|------|-------------------------|------------------------------|------------------------|-------------------|-------------------|-------------------|-----------------|--|---------------------------|---|--|-------------------------------------|--------------------------------------|-------------------------------------|--------------------------------------|
| Blue2     | 0302BLU | SW031945 | Blue River at Hwy 69 | 38.81233327 | -94.47587617 |                              | 8/76/2020 | 11:00 AM | routine     | 88                  | Sunny              | 0.00         | 0.9            | 25.17          | 7.98 | 6.08                    | 619                          | 0.2                    | Normal            | 3.31              | 74.00             | 6.00            | <0.03                                  | <0.02                     | <0.05   | <0.04  | 0.50                                | 0.20                                 | <0.5                                | <0.2                                 |
| Blue02    | 0302BLU | SW031945 | Blue River at Hwy 69 | 38.81233327 | -94.47587617 |                              | 9/23/2020 | 12:30 PM | routine     | 74                  | Partly Cloudy      | 0.00         | 83.4           | 19.31          | 7.93 | 8.11                    | 638                          | Steady                 | 2                 | 3.45              | 52.00             | 3.00            | <0.03                                  | <0.02                     | <0.05   | <0.04  | <0.5                                | <0.2                                 | <0.5                                | <0.2                                 |



| Site Name | Site ID | EDMR Code | Location                      | Latitude     | Longitude    | Nearest Prior Sample Site ID | Date       | Time     | Sample Temperature (F) | Air Temperature (F) | Weather       | Rainfall (in) | Discharge (cfs) | Stream Temperature (F) | pH   | Dissolved Solids (mg/L) | Specific Conductance (µS/cm) | Stream Velocity (ft/s) | Stream Depth (ft) | Velocity (ft/s) | Turbidity (NTU) | MN/100 (mg/L) | Nitrate plus nitrite, mg/L as nitrogen | Orthophosphate, water, filtered, mg/L as phosphorus | Kjeldahl Nitrogen, mg/L as nitrogen | total Phosphorus, mg/L as phosphorus | Nitrogen, mg/L as nitrogen | Phosphorus, mg/L as phosphorus | Supernatant, mg/L as phosphorus |      |      |
|-----------|---------|-----------|-------------------------------|--------------|--------------|------------------------------|------------|----------|------------------------|---------------------|---------------|---------------|-----------------|------------------------|------|-------------------------|------------------------------|------------------------|-------------------|-----------------|-----------------|---------------|--|---|-------------------------------------|--------------------------------------|----------------------------|--------------------------------|---------------------------------|------|------|
| Bruck001  | 01018BU | SW021A6   | Bruck Creek at State Line Rd. | 39.03389533  | -94.0756609  |                              | 4/29/2020  | 9:15 AM  | routine                | 55                  | Cloudy        | 0.00          | 4.3             | 15.24                  | 7.9  | 7.03                    | 881                          | 0.7                    | Normal            | 35.77           | 120.00          | 2.00          | 0.08                                   | 0.06  | 0.05                                | 0.80                                 | 0.05                       | 0.80                           | <0.05                           | 14   |      |
| Bruck001  | 01018BU | SW021A6   | Bruck Creek at State Line Rd. | 39.03389533  | -94.0756609  |                              | 5/27/2020  | 9:05 AM  | routine                | 68                  | Cloudy        | 0.00          | 3.31            | 20.64                  | 7.75 | 478                     | 0.44                         | Normal                 | 152.74            | 120000.00       | 7.00            | 0.49          | 0.05                                   | 0.08  | 0.14                                | 0.80                                 | 0.11                       | 0.07                           | 0.10                            | 0.07 |      |
| Bruck001  | 01018BU | SW021A6   | Bruck Creek at State Line Rd. | 39.03389533  | -94.0756609  |                              | 7/17/2020  | 10:26 AM | routine                | 76                  | Cloudy        | 0.00          | 11.2            | 23.27                  | 7.87 | 710                     | 0.9                          | Normal                 | 152.5             | 20100.00        | 11.00           | 1.18          | 0.09                                   | 0.08  | 0.15                                | 0.80                                 | 0.11                       | 0.07                           | 0.10                            | 0.07 |      |
| Bruck001  | 01018BU | SW021A6   | Bruck Creek at State Line Rd. | 39.03389533  | -94.0756609  |                              | 8/25/2020  | 10:55 AM | routine                | 90                  | Partly Cloudy | 0.00          | 0.99            | 27.1                   | 7.81 | 538                     | 0.47                         | Normal                 | 152.62            | 103.00          | 7.00            | 0.13          | <0.02                                  | <0.05   | <0.04                               | <0.5                                 | <0.5                       | <0.5                           | <0.5                            | <0.5 |      |
| Bruck001  | 01018BU | SW021A6   | Bruck Creek at State Line Rd. | 39.03389533  | -94.0756609  |                              | 9/12/2020  | 10:55 AM | routine                | 70                  | Partly Cloudy | 0.00          | 0.86            | 19.92                  | 7.93 | 831                     | 0.4                          | Normal                 | 151.61            | 31.00           | 4.00            | 0.24          | 0.03                                   | <0.05   | <0.04                               | <0.5                                 | <0.5                       | <0.5                           | <0.5                            | <0.5 |      |
| Turkey001 | 01047UR | SW021A6   | Turkey Creek at Larmer Ave.   | 39.043971666 | -94.6562111  |                              | 4/29/2020  | 8:50 AM  | routine                | 54                  | Cloudy        | 0.00          | 38.7            | 15.21                  | 8.25 | 1003                    | 0.7                          | Normal                 | 3.48              | 134.00          | 2.00            | 0.48          | <0.02                                  | <0.05   | <0.04                               | 0.80                                 | <0.05                      | <0.5                           | <0.5                            | <0.5 |      |
| Turkey001 | 01047UR | SW021A6   | Turkey Creek at Larmer Ave.   | 39.043971666 | -94.6562111  |                              | 4/29/2020  | 9:05 AM  | routine                | 65                  | Cloudy        | 0.00          | 35.9            | 20.4                   | 8.07 | 571                     | 0.7                          | Normal                 | 3.58              | 1700.00         | 5.00            | 0.33          | <0.02                                  | <0.05   | <0.04                               | <0.5                                 | <0.5                       | <0.5                           | <0.5                            | <0.5 |      |
| Turkey001 | 01047UR | SW021A6   | Turkey Creek at Larmer Ave.   | 39.043971666 | -94.6562111  |                              | 7/17/2020  | 10:10 AM | routine                | 76                  | Cloudy        | 0.00          | 26.7            | 25.87                  | 8.19 | 574                     | 1.1                          | Normal                 | 4.1               | 6130.00         | 20.00           | 0.33          | <0.02                                  | <0.05   | <0.04                               | <0.5                                 | <0.5                       | <0.5                           | <0.5                            | <0.5 |      |
| Turkey001 | 01047UR | SW021A6   | Turkey Creek at Larmer Ave.   | 39.043971666 | -94.6562111  |                              | 8/25/2020  | 10:05 AM | routine                | 90                  | Sunny         | 0.00          | 169.2           | 25.87                  | 8.19 | 574                     | 1.1                          | Normal                 | 3.09              | 10.00           | <1              | <0.03         | <0.02                                  | 0.07  | <0.04                               | <0.5                                 | <0.5                       | <0.5                           | <0.5                            | <0.5 |      |
| Turkey001 | 01047UR | SW021A6   | Turkey Creek at Larmer Ave.   | 39.043971666 | -94.6562111  |                              | 9/12/2020  | 10:20 AM | routine                | 68                  | Partly Cloudy | 0.00          | 173.4           | 19.17                  | 8    | 1022                    | 1.74                         | Normal                 | 3.14              | 20.00           | <1              | <0.03         | <0.02                                  | <0.05   | <0.04                               | <0.5                                 | <0.5                       | <0.5                           | <0.5                            | <0.5 |      |
| Blue001   | 04018BL | SW05086   | Blue Creek at Interstate 35   | 38.7537241   | -94.57657666 |                              | 4/29/2020  | 11:20 PM | routine                | 67                  | Sunny         | 0.00          | 71.2            | 11.11                  | 8.06 | 723                     | 1.2                          | Normal                 | 3.53              | 36500.00        | 101.00          | 2.58          | <0.02                                  | <0.05   | <0.04                               | 0.80                                 | <0.05                      | <0.5                           | <0.5                            | <0.5 |      |
| Blue001   | 04018BL | SW05086   | Blue Creek at Interstate 35   | 38.7537241   | -94.57657666 |                              | 5/28/2020  | 1:00 AM  | routine                | 89                  | Partly Cloudy | 0.00          | 96.1            | 22.17                  | 8.19 | 74                      | 301                          | 1.6                    | Normal            | 3.16            | 31100.00        | 800.00        | 2.00                                   | 0.13  | 0.34                                | 0.99                                 | 1.40                       | 0.17                           | 0.20                            | 0.10 |      |
| Blue001   | 04018BL | SW05086   | Blue Creek at Interstate 35   | 38.7537241   | -94.57657666 |                              | 6/25/2020  | 11:00 AM | routine                | 80                  | Cloudy        | 0.00          | 2.6             | 25.18                  | 7.95 | 549                     | 0.62                         | Normal                 | 1.9               | 789.00          | 18.00           | 0.09          | <0.02                                  | 0.05  | <0.04                               | <0.5                                 | <0.5                       | <0.5                           | <0.5                            | <0.5 |      |
| Blue001   | 04018BL | SW05086   | Blue Creek at Interstate 35   | 38.7537241   | -94.57657666 |                              | 8/25/2020  | 9:40 AM  | routine                | 81                  | Sunny         | 0.00          | 0.53            | 24.97                  | 8.03 | 635                     | 0.1                          | Still                  | 1.66              | 100.00          | 11.00           | <0.03         | <0.02                                  | 0.07  | <0.04                               | 0.70                                 | <0.5                       | <0.5                           | <0.5                            | <0.5 |      |
| Blue001   | 04018BL | SW05086   | Blue Creek at Interstate 35   | 38.7537241   | -94.57657666 |                              | 9/12/2020  | 1:50 PM  | routine                | 78                  | Partly Cloudy | 0.00          | 0.28            | 20.00                  | 7.98 | 478                     | 0.1                          | Normal                 | 1.6               | 41.00           | <1              | <0.03         | <0.02                                  | <0.05   | <0.04                               | <0.5                                 | <0.5                       | <0.5                           | <0.5                            | <0.5 |      |
| Little001 | 04046LC | SW072A4   | Little Bull Creek at 19th St. | 38.75259794  | -94.8795316  |                              | 4/29/2020  | 11:15 AM | routine                | 68                  | Sunny         | 0.00          | 4.08            | 14.64                  | 8.07 | 808                     | 0.83                         | Normal                 | 2.95              | 134.00          | 7.00            | 1.42          | <0.02                                  | <0.05   | <0.04                               | 0.60                                 | <0.05                      | <0.5                           | <0.5                            | <0.5 |      |
| Little001 | 04046LC | SW072A4   | Little Bull Creek at 19th St. | 38.75259794  | -94.8795316  |                              | 5/27/2020  | 11:35 AM | routine                | 87                  | Partly Cloudy | 0.00          | 11.3            | 23.19                  | 8.24 | 719                     | 0.62                         | Normal                 | 3.11              | 81600.00        | 71.00           | 1.77          | 0.06                                   | 0.12  | 0.16                                | 0.80                                 | 0.80                       | 0.10                           | 0.07                            | 0.07 |      |
| Little001 | 04046LC | SW072A4   | Little Bull Creek at 19th St. | 38.75259794  | -94.8795316  |                              | 7/17/2020  | 12:35 PM | routine                | 82                  | Cloudy        | 0.00          | 1.6             | 25.1                   | 8.04 | 548                     | 1005                         | 0.1                    | Normal            | 2.77            | 288.00          | 10.00         | 1.34                                   | <0.02   | 0.13                                | <0.04                                | 0.60                       | 0.50                           | 0.40                            | 0.30 | 0.40 |
| Little001 | 04046LC | SW072A4   | Little Bull Creek at 19th St. | 38.75259794  | -94.8795316  |                              | 8/25/2020  | 10:25 AM | routine                | 86                  | Sunny         | 0.00          | 1.3             | 23.78                  | 8.25 | 636                     | 0.1                          | Still                  | 2.72              | 334.00          | 11.00           | 2.36          | <0.02                                  | 0.20  | 0.20                                | 0.90                                 | 0.40                       | 0.90                           | 0.40                            | 0.90 |      |
| Little001 | 04046LC | SW072A4   | Little Bull Creek at 19th St. | 38.75259794  | -94.8795316  |                              | 9/12/2020  | 1:50 PM  | routine                | 78                  | Partly Cloudy | 0.00          | 2.58            | 19.18                  | 8.26 | 827                     | 1998                         | 0.5                    | Normal            | 2.83            | 86.00           | 3.00          | 0.57                                   | <0.02   | 0.12                                | <0.04                                | 0.80                       | 0.80                           | 0.10                            |      |      |
| Little001 | 04046LC | SW072A4   | Little Bull Creek at 19th St. | 38.75259794  | -94.8795316  |                              | 10/1/2020  | 1:05 PM  | routine                | 61                  | Partly Cloudy | 0.00          | 40.6            | 15.78                  | 8.05 | 885                     | 543                          | 2.4                    | Normal            | 5.59            | 201.00          | 9.00          | 0.42                                   | <0.02   | 0.19                                | <0.04                                | 0.80                       | 0.80                           | 0.10                            |      |      |
| Little001 | 04046LC | SW072A4   | Little Bull Creek at 19th St. | 38.75259794  | -94.8795316  |                              | 11/10/2020 | 11:05 AM | routine                | 73                  | Sunny         | 0.00          | 108.6           | 19.99                  | 7.95 | 704                     | 447                          | 3.5                    | Normal            | 6.84            | 2380.00         | 91.00         | 2.03                                   | 0.03  | 0.16                                | 0.11                                 | 0.30                       | 0.30                           | 0.13                            | 0.13 | 0.13 |
| Little001 | 04046LC | SW072A4   | Little Bull Creek at 19th St. | 38.75259794  | -94.8795316  |                              | 12/10/2020 | 11:05 AM | routine                | 77                  | Sunny         | 0.00          | 10.1            | 25.66                  | 8.37 | 619                     | 766                          | 3.5                    | Normal            | 4.9             | 160.00          | 20.00         | 0.07                                   | <0.02   | 0.11                                | <0.04                                | <0.5                       | <0.5                           | <0.5                            | <0.5 | <0.5 |
| Little001 | 04046LC | SW072A4   | Little Bull Creek at 19th St. | 38.75259794  | -94.8795316  |                              | 1/10/2021  | 1:50 PM  | routine                | 82                  | Cloudy        | 0.00          | 103             | 26.41                  | 8.09 | 688                     | 758                          | 1.7                    | Normal            | 4.9             | 313.00          | 8.00          | 0.15                                   | <0.04   | 0.15                                | <0.04                                | 0.80                       | 0.80                           | 0.10                            | 0.15 | 0.15 |
| Little001 | 04046LC | SW072A4   | Little Bull Creek at 19th St. | 38.75259794  | -94.8795316  |                              | 2/10/2021  | 12:35 PM | routine                | 76                  | Partly Cloudy | 0.00          | 8.3             | 19.52                  | 8.36 | 1083                    | 665                          | 1.7                    | Normal            | 4.81            | 74.00           | 6.00          | 0.04                                   | <0.02   | 0.12                                | <0.04                                | <0.5                       | <0.5                           | <0.5                            | <0.5 | <0.5 |
| Little001 | 04046LC | SW072A4   | Little Bull Creek at 19th St. | 38.75259794  | -94.8795316  |                              | 3/10/2021  | 12:35 PM | routine                | 76                  | Partly Cloudy | 0.00          | 8.3             | 19.52                  | 8.36 | 1083                    | 665                          | 1.7                    | Normal            | 4.81            | 74.00           | 6.00          | 0.04                                   | <0.02   | 0.12                                | <0.04                                | <0.5                       | <0.5                           | <0.5                            | <0.5 | <0.5 |

\*\*\* Too Dangerous for Velocity Measurements  
N/A Stormwater Gauge installed but not collecting data

\*\* For the USGS Site, Gauge Height was used for the Stage column

Legend  
- USGS  
- Storm Watch  
- Both



| HDR Map ID<br>(referenced in Table<br>1. pg 49 of permit) | Watershed<br>(Basin) | Proposed SiteName | Proposed SiteID | EDMR_Code | Updated<br>EDMR Code<br>Feb 21 2020<br>from KDHE | Monitoring Location                       | Latitude    | Longitude    | Site Type | Routine Monitoring Years | Routine/Storm Monitoring Years |
|---|----------------------|-------------------|-----------------|-----------|--|---|-------------|--------------|-----------|--------------------------|--------------------------------|
| 6   | 2                    | Indian02          | 0202IND         | SW001A6   | SW034A6  | Indian Creek at Marty St.                 | 38.94087837 | -94.67125993 | rotating  | 2019                     | 2019                           |
| 7   | 2                    | Indian03          | 0203IND         | SW002A6   | SW035A6  | Indian Creek at Switzer Rd.               | 38.92060019 | -94.70530949 | fixed     | 2019 - 2023              | 2019                           |
| 8   | 2                    | Indian04          | 0204IND         | SW003A6   | SW036A6  | Indian Creek at Blackbob Rd.              | 38.89429759 | -94.76115151 | rotating  | 2019                     | 2019                           |
| 9   | 2                    | Indian01          | 0201IND         | SW004A6   | SW037A6  | Indian Creek at State Line Rd.            | 38.93855109 | -94.6085446  | fixed     | 2019 - 2023              | 2019                           |
| 10  | 2                    | Tomahawk01        | 0205TOM         | SW005A6   | SW038A6  | Tomahawk Creek at Roe Ave.                | 38.90658129 | -94.63847568 | fixed     | 2019 - 2023              | 2019                           |
| 26  | 6                    | Camp01            | 0608CAM         | SW006A6   | SW002A6  | Camp Creek at 95th St.                    | 38.956322   | -94.923093   | rotating  | 2020                     | 2020                           |
| 27  | 6                    | Cedar02           | 0606CED         | SW007A6   | SW007C6  | Cedar Creek at 127th St.                  | 38.898155   | -94.887843   | rotating  | 2020                     | 2020                           |
| 28  | 6                    | Cedar01           | 0605CED         | SW008A6   |  | Cedar Creek at 83rd St.                   | 38.97807224 | -94.92185107 | fixed     | 2019 - 2023              | 2020                           |
| 29  | 6                    | Clear01           | 0604CLE         | SW009A6   |  | Clear Creek at Woodland Dr.               | 39.015403   | -94.825552   | rotating  | 2020                     | 2020                           |
| 30  | 6                    | LittleCedar01     | 0607LCC         | SW010A6   |  | Little Cedar Creek at 119th St.           | 38.912763   | -94.881421   | rotating  | 2020                     | 2020                           |
| 31  | 6                    | LittleMill01      | 0603LMC         | SW011A6   |  | Little Mill Creek at Tomahawk Golf Course | 38.998977   | -94.791483   | rotating  | 2020                     | 2020                           |
| 32  | 6                    | Mill01            | 0601MIL         | SW012A6   |  | Mill Creek at Johnson Dr.                 | 39.02932194 | -94.81763712 | fixed     | 2019 - 2023              | 2020                           |
| 33  | 6                    | Mill02            | 0602MIL         | SW013A6   | SW007A6  | Mill Creek at 87th Ln.                    | 38.967234   | -94.814489   | rotating  | 2020                     | 2020                           |
| 12  | 3                    | Blue01            | 0301BLU         | SW014A6   |  | Blue River at Kenneth Rd.                 | 38.84229399 | -94.61262575 | fixed     | 2019 - 2023              | 2021                           |
| 13  | 3                    | CampBranch01      | 0305CAM         | SW015A6   |  | Camp Branch at 183rd St.                  | 38.796342   | -94.643886   | rotating  | 2021                     | 2021                           |
| 14  | 3                    | Coffee01          | 0303COF         | SW016A6   |  | Coffee Creek at Switzer Rd.               | 38.821641   | -94.705759   | rotating  | 2021                     | 2021                           |
| 15  | 3                    | Negro01           | 0306NEG         | SW017A6   |  | Negro Creek at Mission Rd.                | 38.851885   | -94.630599   | rotating  | 2021                     | 2021                           |
| 16  | 3                    | Wolf01            | 0304WOL         | SW018A6   |  | Wolf Creek at 179th St.                   | 38.803648   | -94.681392   | rotating  | 2021                     | 2021                           |
| 11  | 3                    | Blue02            | 0302BLU         | SW019A6   |  | Blue River at Hwy 69                      | 38.81233237 | -94.67587617 | fixed     | 2019 - 2023              | 2021                           |
| 1   | 1                    | Brush01           | 0101BRU         | SW020A6   |  | Brush Creek at State Line Rd.             | 39.03389553 | -94.60756609 | fixed     | 2019 - 2023              | 2022                           |
| 2   | 1                    | Brush02           | 0102BRU         | SW021A6   |  | Brush Creek at Roe Ave.                   | 38.994497   | -94.639927   | rotating  | 2022                     | 2022                           |
| 3   | 1                    | Rock01            | 0103ROC         | SW022A6   |  | Rock Creek at Mission Rd.                 | 39.028492   | -94.62614    | rotating  | 2022                     | 2022                           |
| 4   | 1                    | Turkey01          | 0104TUR         | SW023A6   |  | Turkey Creek at Lamar Ave.                | 39.04397646 | -94.6562111  | fixed     | 2019 - 2023              | 2022                           |
| 5   | 1                    | Turkey02          | 0105TUR         | SW024A6   |  | Turkey Creek at 67th St.                  | 39.007491   | -94.699066   | rotating  | 2022                     | 2022                           |
| 17  | 4                    | Bull02            | 0402BUL         | SW025A6   |  | Bull Creek at 199th St.                   | 38.767602   | -94.982706   | rotating  | 2023                     | 2023                           |
| 18  | 4                    | Bull01            | 0401BUL         | SW026A6   | SW005B6  | Bull Creek at Interstate 35               | 38.75347241 | -94.97657666 | fixed     | 2019 - 2023              | 2023                           |
| 19  | 4                    | LittleBull01      | 0404LBC         | SW027A6   |  | Little Bull Creek at 199th St.            | 38.76758974 | -94.8796336  | fixed     | 2019 - 2023              | 2023                           |
| 20  | 4                    | Martin01          | 0403MAR         | SW028A6   |  | Martin Creek at Hwy 56                    | 38.767955   | -95.005265   | rotating  | 2023                     | 2023                           |
| 21  | 4                    | Spring01          | 0405SPR         | SW029A6   |  | Spring Creek at 215th St.                 | 38.738562   | -94.863769   | rotating  | 2023                     | 2023                           |
| 22  | 5                    | Captain01         | 0504CAP         | SW030A6   |  | Captain Creek at 103rd St.                | 38.94225    | -95.062417   | rotating  | 2023                     | 2023                           |
| 23  | 5                    | Kill01            | 0501KIL         | SW031A6   | SW001A6  | Kill Creek at 95th St.                    | 38.95652818 | -94.97353036 | fixed     | 2019 - 2023              | 2023                           |
| 24  | 5                    | Kill02            | 0502KIL         | SW032A6   |  | Kill Creek at 127th St.                   | 38.898704   | -94.976528   | rotating  | 2023                     | 2023                           |
| 25  | 5                    | Spoon01           | 0503SPO         | SW033A6   |  | Spoon Creek at 151st St.                  | 38.854974   | -95.00514    | rotating  | 2023                     | 2023                           |