

# City of Leavenworth, Kansas



January 1, 2016 - December 31, 2016

Kansas Permit No: M-MO12-SN01

Federal Permit No: KSR044011

February 28, 2017

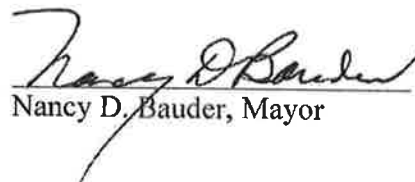
**RESOLUTION NO. B-2165**


**BE IT RESOLVED BY THE GOVERNING BODY OF THE CITY OF LEAVENWORTH, KANSAS, AS FOLLOWS:**

**SECTION 1:** The 2016 Annual Report for Stormwater reflects the direction, efforts and accomplishments by City of Leavenworth for calendar year 2016. It shall be an official record of these actions to meet the requirements of KDHE for an Annual Report until or unless changed by official action.

**PASSED AND APPROVED THIS 28<sup>th</sup> DAY OF FEBRUARY, 2017.**



  
Nancy D. Bauder, Mayor

  
Carla K. Williamson, CMC, City Clerk

LEAVENWORTH  
330 SHAWNEE ST  
LEAVENWORTH  
KS

66048-9998  
1950380593

02/28/2017 (800)275-8777 2:02 PM

| Product Description | Sale Qty | Final Price |
|---------------------|----------|-------------|
|---------------------|----------|-------------|

|  |   |        |
|--|---|--------|
| PM 2-Day Flat Rate Env (Domestic) (TOPEKA, KS 66612) (Flat Rate) (Expected Delivery Day) (Thursday 03/02/2017) (USPS Tracking #) (9505 5154 1994 7059 1027 11) | 1 | \$6.65 |
| Insurance (Up to \$50.00 included)   | 1 | \$0.00 |

Total \$6.65

Credit Card Remitd \$6.65  
(Card Name:VISA)  
(Account #:XXXXXXXXXXXX8111)  
(Approval #:033460)  
(Transaction #:504)

Includes up to \$50 insurance

Text your tracking number to 28777 (2USPS) to get the latest status. Standard Message and Data rates may apply. You may also visit USPS.com USPS Tracking or call 1-800-222-1811.

Save this receipt as evidence of insurance. For information on filing an insurance claim go to <https://www.usps.com/help/claims.htm>.

Order stamps at [usps.com/shop](https://usps.com/shop) or call 1-800-Stamp24. Go to [usps.com/clicknship](https://usps.com/clicknship) to print shipping labels with postage. For other information call 1-800-ASK-USPS.

\*\*\*\*\*  
Get your mail when and where you want it with a secure Post Office Box. Sign up for a box online at [usps.com/poboxes](https://usps.com/poboxes).  
\*\*\*\*\*

All sales final on stamps and postage  
Refunds for guaranteed services only  
Thank you for your business

HELP US SERVE YOU BETTER

TELL US ABOUT YOUR RECENT POSTAL EXPERIENCE

Go to: <https://postalexperience.com/Pos>

840-5640-0683-004-00007-39585-02

or scan this code with your mobile device:



or call 1-800-410-7420

YOUR OPINION COUNTS

Bill #: 840-56400683-4-739585-2  
Clerk: 10

**CITY OF  
LEAVENWORTH**

Kansas Stormwater Annual Report Form for Municipal Separate Storm Sewer Systems  
(MS4s)  
**January 1, 2016 – December 31, 2016**

TABLE OF CONTENTS

1. Section A – Local Government Information
2. Section B - Executive Summary
3. Section C-E - Stormwater Management Program
4. Section F - Record Keeping and Reporting
5. Section G - Certification
6. Appendix A – Summary of Sampling Data with data sheets
7. Appendix B – N/A
8. Appendix C - Selected Maps and Charts related to measurement of rainfall and stream stage with comments
9. Appendix D – Selected Supporting Documentation for Stormwater Management Program
10. Appendix E – SMP Ordinance Changes in 2016
11. Appendix F – N/A
12. Appendix G – N/A
13. Appendix H – DVD delivery of Storm Sewer Map and Links

**CITY OF LEAVENWORTH**

**Kansas Stormwater Annual Report Form for Municipal Separate Storm Sewer Systems**

**January 1, 2016 – December 31, 2016**

# **Section A**

## **Local Government Information**

**KANSAS STORMWATER 2016 ANNUAL REPORT FORM  
FOR MUNICIPAL SEPARATE STORM SEWER SYSTEMS (MS4s)**

Check box if  
this is a new name,  
address, phone, etc.

Permittee Information

Permittee (Agency Name) Mailing Address 1: City of Leavenworth

Mailing Address 2: 100 N. Fifth Street

City: Leavenworth

State: Kansas

Zip Code: 66048

MS4 Program Contact Person: Michael G. McDonald

Contact E-Mail Address: mmcdonald@firstcity.org

Contact Phone Number: 913-684-0375

Construction Issues Contact Person: Mike Hooper

Contact E-Mail Address: mhooper@firstcity.org

Contact Phone Number: 913-684-0375

Kansas Permit Number: M-MO12-SN01

(Example) M - MC21 - SU01

Reporting Period covers activities from January 1, 2016 through December 31, 2016.

This annual report must be submitted to the Kansas Department of Health and Environment (KDHE) by February 28, 2017. This annual report must be submitted as a word or PDF file to KDHE on a standard compact disk (CD). A paper copy of the report may, in addition to the CD, be submitted if the permittee so desires but is not required. **In addition**, provide the current copy of the Stormwater Management Program (SMP) Document as a word or PDF file on the CD.

## **B. Executive Summary**

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

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

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.

**CITY OF LEAVENWORTH**

**Kansas Stormwater Annual Report Form for Municipal Separate Storm Sewer Systems  
January 1, 2016 – December 31, 2016**

# **Section B**

## **Executive Summary**



## **CITY OF LEAVENWORTH**

Kansas Stormwater Annual Report Form for Municipal Separate Storm Sewer Systems  
January 1, 2016 – December 31, 2016

### **SECTION 1: EXECUTIVE SUMMARY**

To satisfy of the requirements of NPDES permit, this annual report summarizes the City of Leavenworth's plans and actions to reduce the discharge of pollutants from the municipal separate storm sewer system (MS4) to the maximum extent practicable, to protect water quality, and to meet the appropriate water quality requirements of the Clean Water Act. The information contained within this report was obtained through interviews with city staff, review of permits and projects from 2016, and examining publications made available to the citizens of Leavenworth. These discussions with office and field personnel from the Public Works and other Departments highlights the key aspects and define the current state of the stormwater management plan and provide insight into future improvements to the stormwater quality standards.

City staff communicated the awareness of water quality with increased efforts in several areas during 2016. This increased level of activity was a result of comments from the 2013 EPA inspection, adoption of stormwater guidelines and implementation of the "Land Disturbance Permit" process (including adoption of ordinances in 2016). Staff awareness was improved through training and education.

The importance of construction site runoff control was communicated to developers and contractors through enforcement of the "Land Disturbance Permit" (LDP) requirement for nearly all construction activities. The adoption of ordinances formally establishing the permits implementation of the LDP was coordinated with local development and contracting firms and group meeting with contractors at City Hall.

The City continued with improved clean-up of Sanitary Sewer Overflow (SSO) situations on both public and private property. The aggressive commercial grease trap inspection program by the building inspectors continued with on-site inspections and review of maintenance records. At least two new installations occurred from this effort, and many others saw increased maintenance activity.

The city water quality sampling program for Three and Five-Mile Creeks continued. Six storms were sampled in 2016. Improvements in response time were noted as city personnel become more familiar with the program although the rapid response of local streams to rainfall creates some timing issues. In a broad non-scientific overview of three years of testing data it appears that water quality is usually diminished as it passes through Leavenworth. Three-Mile Creek generally shows a greater decrease in quality than Five-Mile Creek.

Several local governments in Leavenworth County continue to share weather information from local weather stations at government buildings. This information is often compiled into charts and graphs that provide insight to the local weather patterns and distributed via email to those who have expressed an interest.

## **CITY OF LEAVENWORTH**

**Kansas Stormwater Annual Report Form for Municipal Separate Storm Sewer Systems  
January 1, 2016 – December 31, 2016**

Stormwater quality and runoff control from construction projects continues to be addressed during the planning phase of projects. This begins at the review by the "Development Review Committee", which provides general advice and guidance to applicants and other staff on most projects prior to the detailed design process. Stormwater quantity and quality issues are discussed. The creation of the "Land Disturbance Permit" (LDP) process includes standard drawings and acknowledgements by owners and/or contractors related to their responsibilities for managing water quality from their site. Requirements related to providing an "Operations and Maintenance Manual" for any water quality features have been added.

Closer review of construction drawings by city staff has proven effective at reducing pollutants in stormwater by ensuring large and small projects attempt some measure of action. Plan reviews include evaluations of both the construction site erosion control plan and the overall drainage plan of the development. Addressing stormwater issues early in the design process has ensured that Best Management Practices (BMPs) well suited for the site are included and adequate erosion control information is included in the plans for construction.

Past projects in Leavenworth have been focused on incorporating BMPs such as native plantings and filter strips into construction plans as most developments occupy existing lots with existing drainage systems. This work continued in 2016. Public Works staff has also required the use of filter strips, roughened textures on concrete drainage channels, creating small sediment traps at inlets and similar work on several development projects.

The EPA "Special Environmental Project" (SEP) being constructed across Ottawa Street between 7<sup>th</sup> Street and Broadway includes several special inlets. These inlets are designed to facilitate natural degradation of pollutants from low rainfall events before the water is sent into the storm sewer system connected to creeks and streams. This project is not yet complete, however it is being evaluated for several features to be included in future city and development projects.

One of the least effective parts of the stormwater management plan lies with managing existing BMPs on private developments. Lack of maintenance to detention ponds by Home Owner Associations (HOA's) continues to be a concern by both the HOA's and the City. Failure to maintain these systems can decrease the functionality of these critical stormwater quantity infrastructure components over time and adversely impact water quality as well. City staff and city attorney have been working on an approach to improve responses from HOA.

City staff performed outreach to owners/operators of current detention ponds in the city during 2016. Past construction plans were reviewed to identify known ponds and similar features. A mailing was sent out with basic information on maintenance of ponds, and informed them of an upcoming meeting. This informational meeting reviewed owner responsibilities (especially keeping records of their maintenance activities) and city expectations. While there was not 100% attendance, the meeting was well received

## **CITY OF LEAVENWORTH**

Kansas Stormwater Annual Report Form for Municipal Separate Storm Sewer Systems

**January 1, 2016 – December 31, 2016**

and the city will be conducting similar meetings in upcoming years. The program will likely be expanded to cover other permanent water quality installation BMP's as well.

The inspection and enforcement of the LDP and grease trap regulations has found that while initial compliance is very good, the on-going maintenance and self-inspection of these facilities is lacking. Compliance with city expectations improved in 2016 as the programs became better understood by both staff and citizens. The Commission approval of a fee and fine structure for the LDP (erosion control) process made a difference, and staff expects to prepare additional regulations related to grease traps, detention basins and other water quality features.

Efforts to reach out and educate the citizens of Leavenworth through media such as the city website, the local cable television station (Channel 2), Facebook, and Twitter have increased public awareness of environmental issues in general. The Adopt-A-Park program has been a very popular way to increase public awareness. Staff continues to evaluate small surveys related to water quality issues that can be sent out via social media or email. No surveys were distributed in 2016.

**CITY OF LEAVENWORTH**

**Kansas Stormwater Annual Report Form for Municipal Separate Storm Sewer Systems**

**January 1, 2016 – December 31, 2016**

# **Section C-E**

## **Stormwater Management Program**

**C. Stormwater Management Program**

|   | Place a check mark in the appropriate box. |                                     |                                     |
|---|--|-------------------------------------|-------------------------------------|
|   | Yes  | No                                  | Not Applicable                      |
| 1. Has the Stormwater Management Program (SMP) been developed?  | <input checked="" type="checkbox"/>        | <input type="checkbox"/>            |                                     |
| 2. Has the SMP been modified during this reporting period?  | <input type="checkbox"/>                   | <input checked="" type="checkbox"/> |                                     |
| 3. If the answer to question 2 above was "yes", has the modified SMP been submitted to KDHE for approval? | <input type="checkbox"/>                   | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |

If the answer to item 3 is "No" a copy of the modified 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 approval. The modifications may include different BMPs and/or revised goals to avoid being in a position of non-compliance.

**D. Total Maximum Daily Load (TMDL) Best Management Practices**

|  | Place a check mark in the appropriate box. |                          |                                     |
|--|--|--------------------------|-------------------------------------|
|  | Yes  | No                       | Not Applicable                      |
| 1. Were any best management practices (BMPs) intended to attenuate the discharge of TMDL regulated pollutants implemented? See your permit to determine if TMDL regulated pollutants are listed for the receiving stream affected by your stormwater system. | <input type="checkbox"/>                   | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 2. List all of the BMPs intended to attenuate the discharge of TMDL regulated pollutants as identified in the SMP and provide the requested information on the following table on the following pages.   |  |                          |                                     |

**D. Total Maximum Daily Load (TMDL) Best Management Practices (Table)**

| BMP ID Number | Brief BMP Description | Regulated TMDL Parameter | Measurable Goal(s) | Progress Achieving Goal(s)<br>(Measured Result) |
|---------------|-----------------------|--------------------------|--------------------|---|
|               |                       |                          |                    |   |
|               |                       |                          |                    |   |
|               |                       |                          |                    |   |
|               |                       |                          |                    |   |

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

### 1. Public Education and Outreach (Table)

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 & media)

| BMP ID Number | Brief BMP Description   | Measurable Goal(s)   | Progress Achieving Goal(s)<br>(Measured Result)   |
|---------------|---|--|---|
| 1.1           | Web Page link to stormwater infrastructure information – Master Plan, Management Plan, Map                  | # of visitors – Current software unable to isolate detailed information, however entire site had 152,658 views in 2016 | All items are available on-line. Current web page software does not provide detailed page views counts.   |
| 1.2           | Place documents in Public Library stormwater infrastructure information – Master Plan, Management Plan, Map | # Check-out requests – none  | All items available at the Public Library. No check-out requests are known.   |
| 1.3           | Include articles or stories related to stormwater in city newsletter in at least two issues per year        | # Articles/Stories – at least three per issue in 2016<br># Issues – three issues of City Connection delivered in 2016  | Coordination between Public Information Office and Public Works has stories on leaf collection, wastewater issues, adopt a park, etc.                 |
| 1.4           | City generated posts on social media related to stormwater issues at least ten occurrences per year         | # Posts – unable to determine exact number, well in excess of fifty.   | Public Information Office interacts with the public on Social Media on wide range of stormwater related issues.                                       |
| 1.5           | Provide Information to Citizens regarding the City of Leavenworth Solid Waste Division.                     | Distribute trash bags to citizens with proper disposal handout   | A paper insert with solid waste and other city information is provided to the doorstep on nearly all residences twice per year in roll of trash bags. |
| 1.6           | Show Stormwater Information on Local cable TV Station   | Broadcast community forums, in which continued water quality discussions take place                                    | Public Information office broadcasts City Commission Meetings, Planning Commission Meetings and others on city channel cable TV.                      |

## 2. Public Involvement and Participation (Table)

List all of the public involvement and participation BMPs as identified in the SMP and provide the requested information in the following table. (List all associations & partnerships)

| BMP ID Number | Brief BMP Description  | Measurable Goal(s)   | Progress Achieving Goal(s)<br>(Measured Result)   |
|---------------|--|--|---|
| 2.1           | Hold Public Information Meetings Regarding Stormwater Issues                           | Annual review by City Commission of Stormwater Annual Report – YES<br><br>Review of Stormwater projects in annual Capital Improvement Plan - YES | City Commission reviewed KDHE annual Storm water report February 2 and February 16 <sup>th</sup> , 2016.<br><br>City Commission reviewed stormwater projects for CIP in late 2016 and approved design and construction of several projects. |
| 2.2           | Create an “Adopt a Stream Program”   | # Streams Adopted - None<br><br># Streams Cleaned – At least two   | City has not created an official “Adopt a Stream” program, but does encourage groups to clean streams. At least two streams were cleaned by groups participating as part of citywide clean-up or as part of a group activity.               |
| 2.3           | Improve Lines of Communication with the Public through use of website and social media | Integrate contemporary methods of providing and receiving information to the Public. - ONGOING   | Public Information Office continues a robust Social Media program for all city issues. Posted Information on other efforts such as detention ponds, grease traps and such improves as staff skills increase                                 |



|     |   |   |   |
|-----|---|---|---|
| 2.4 | Annual City-Wide Clean-up Program   | # Groups – approximately 38<br><br># Participants – 1,263                                   | City-wide clean-up continues to increase in number of participants. Number of Groups is difficult to determine, Public Information Office notes it is in excess of 20 groups.   |
| 2.5 | Customer Surveys – conduct at least one survey each year on stormwater related issues in an on-line environment | # of responses – N/A  | No survey was conducted in 2016. This is primarily due to internal conflicts related to the purpose of the survey and lack of similar studies performed by others to learn from.  |
| 2.6 | Encourage groups to participate in activities such as inlet stencil program and similar                         | # groups – 1 outside of the City Wide Clean-up effort (see 2.4)<br><br># programs – see 2.4 | Group participation is encouraged for environmental issues. One group approached the city related to cleaning up streams outside of the Citywide Clean-up day.<br><br>City also approved purchase of creek bottom property by a local business to use for landscaping and integrate into their restaurant business. |
|     |   |   |   |
|     |   |   |   |

**3. Illicit Discharge Detection and Elimination**

Place a check mark in the appropriate box.

Explain each item below in following table.

Yes                      No                      Not Applicable

- 1. Has a program/plan been developed and is it presently implemented to detect and address illicit/prohibited discharges into the MS4?  Yes       No       Not Applicable
- 2. 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?  Yes       No       Not Applicable
- 3. The permit requires the permittee enact ordinances Resolutions or regulations. Has an ordinances, resolutions or regulations to prohibit non-stormwater discharges into the storm system been enacted?  Yes       No       Not Applicable

Effective Date: \_\_\_March 2106

Has the ordinance, resolution or regulation been modified?

Effective Date: \_\_\_December 20, 2016\_\_

- 4. Has the ordinance, resolution or regulation and/or modification been submitted to KDHE for approval?  Yes       No       Not Applicable  
*(INCLUDED in Appendix E to this report)*
- 5. Have public employees, business, and the general public been informed of the hazards associated with illegal discharges and improper disposal of waste?  Yes       No       Not Applicable
- 6. Are stormwater inlets & detention ponds inspected for illicit discharges and debris?  Yes       No       Not Applicable
- 7. Are restaurant waste grease areas inspected?  Yes       No       Not Applicable
- 8. Are septic systems inspected?  Yes       No       Not Applicable
- 9. Are debris, yard waste and dead animals removed from the streets when noticed by employees or reported?  Yes       No       Not Applicable
- 10. Is there a yard waste management program?  Yes       No       Not Applicable
- 11. Are snow removal activities inspected?  Yes       No       Not Applicable
- 12. List all of the illicit discharge detection and elimination BMPs as identified in the SMP and provide the requested information in the table on the following pages.

**3. Illicit Discharge Detection and Elimination (Table)**

| BMP ID Number | Brief BMP Description                                | Measurable Goal(s)  | Progress Achieving Goal(s)<br>(Measured Result)   |
|---------------|--|---|---|
| 3.1           | Inspect complaints of Illicit Discharge              | <p>Inform public of methods to communicate concerns regarding illicit discharges - YES</p> <p># reports investigated – 34 after hours calls on sewer/stormsewr issues and approximately 20 more from all other sources.</p> | Public Information Officer has created Social Media space for complaints, and places stories in the city newsletter. 24/7 “real person” phone answering service can dispatch city forces for emergencies. |
| 3.2           | Update Stormwater Outfall Maps                       | Continue efforts to accurately locate and measure existing and new stormwater infrastructure  | City maps are updated constantly. The GIS staff and the stormwater work crew to assist in obtaining accurate measurements and locations. In 2016 the maps were made available on-line to the public.      |
| 3.3           | Inspect Outfalls                                     | <p># outfalls inspected – over 1200 inlets and drains were inspected.</p> <p>No specific notation on “outfall”</p>  | On-going efforts by the stormwater work crew has inspected infrastructure throughout the year as part of their routine work and for the GIS staff.  |
| 3.4           | Collect yard Waste at City Composting Facility       | # customers: for 2016, Grass – 549, Leaves - 738  | City provides free drop-off of yard waste for composting. There may be slight overlap with #3.5   |
| 3.5           | Collect Tree and Brush Debris at Brush disposal site | # Customers – 4,777 for 2016. (2083 on Free Saturdays, 2694 on other days).   | City provides a KDHE approved site for drop off of tree and brush debris for disposal through a combination of mulching, composting and burning.  |

|      |  |  |   |
|------|--|--|---|
| 3.6  | Collect Household Hazardous Waste as part of Citywide Clean-up Event | # pounds of household hazardous waste recycled - unknown   | City residents are directed to Leavenworth County facility during most of the year. City-Wide clean-up accepts HHW, but it is not weighed separately.   |
| 3.7  | Conduct Free Disposal Saturdays (First Saturday)                     | # Events - 12<br><br># Tons Collected - Unknown  | The free Saturdays are well attended, however volume is not racked separately for regular refuse and recycling material   |
| 3.8  | <b>Staff Training</b>  | # of staff trained – 10+   | At least ten different staff members attended some level of training on stormwater related issues, many on multiple issues  |
| 3.9  | Stormsewer Maintenance and Inspection                                | Provide dry weather storm sewer inspection. - YES  | Two person crew inspects stormwater structures and works with GIS staff.  |
| 3.10 | Inspection of Sanitary Sewer Systems                                 | Inspect residential and commercial sanitary systems for improper discharge into storm drains. - YES<br><br>Inspect sanitary sewer system to reduce number and volume associated with SSO - YES<br><br>Coordinate SSO events between Wastewater Staff, Building Officials and Engineering. -YES | City operates CCTV of sewer and storm sewer systems throughout the year. Approximately 5.7 total miles were inspected in 2016<br><br>City completed \$679,000 in work within the Sanitary Sewer System to reduce Inflow and Infiltration to and from the stormsewer system.<br><br>Greatly improved coordination between wastewater staff and building inspection staff on review and resolution of SSO events. |

|      |   |   |  |
|------|---|---|--|
| 3.11 | Commercial Grease Trap Inspection Program | Review status of commercial grease traps through record review and physical inspection – YES. | An aggressive grease trap inspection program has improved participation and record keeping from the approximately 66 entities required to have a grease trap. At least two new installations were completed in 2016 as a result of this program. |
|------|---|---|--|

**4. Construction Site Stormwater Runoff Control**

Place a check mark in the appropriate box.

Explain each item below in following table.

Yes      No      Not Applicable

1. The permit requires the permittee to enact ordinances, resolutions or regulations. Has an ordinance, resolutions or regulation to address construction site runoff from new development and redevelopment projects been enacted?  Yes       No       Not Applicable

Effective Date: December 2016

2. Has a copy of the ordinance, resolution or regulation been submitted to KDHE as required by the permit?  Yes       No       Not Applicable  
*(submitted as appendix E of this report)*

3. Has a procedure or program been developed requiring construction site owners and/or operators to implement appropriate erosion and sediment control best management practices?  Yes       No       Not Applicable

4. 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?  Yes       No       Not Applicable

5. Has a procedure been developed and implemented requiring site plan review of erosion control and debris container locations incorporating consideration of potential water quality impacts?  Yes       No       Not Applicable

6. After review, is a construction site permit issued?  Yes       No       Not Applicable

7. Has a procedure been developed for the receipt and consideration of information submitted by the public?  Yes       No       Not Applicable

8. Has a procedure been developed and implemented for construction site inspection and enforcement of the control measures?  Yes       No       Not Applicable

9. Are construction site inspection and enforcement actions successful?  Yes       No       Not Applicable

10. Are site owners and/or operators provided instruction On proper construction site erosion and waste control?  Yes       No       Not Applicable

11. List all the construction site stormwater runoff control BMPs as identified in the SMP and provide the requested information in the table on the following pages.

## 4. Construction Site Stormwater Runoff Control (Table)

| BMP ID Number | Brief BMP Description  | Measurable Goal(s)  | Progress Achieving Goal(s)<br>(Measured Result)  |
|---------------|--|---|--|
| 4.1           | Construction Drawing plan review and Site Runoff Control                 | # plans reviewed - 23<br><br># LDP Issued - 208   | All development projects were reviewed related to installation of appropriate BMP's. All construction projects were reviewed to ensure adequate BMP's were included in the work to prevent erosion runoff. |
| 4.2           | Publish Updated Standard Details and Design Criteria for Erosion Control | Make available on-line - YES<br><br>Review annually with staff – No formal meeting, however staff has met informally throughout the year. |  |
| 4.3           | Staff Training on Runoff Inspection                                      | # inspectors trained – 10+, see section 3.8   | City staff has attended a variety of courses in 2016. City sponsored a class focused on prevention of erosion for city and other entities in December 2016   |
| 4.4           | Inform Local Contractors of LDP  | Annual notification of LDP requirements - YES<br><br>LDP documents available on-line - YES  | Letters sent to permit holders 9/15, and 10/3 2016 reminding them of program requirements.<br><br>LDP documents are available on-line.   |

|     |   |                                    |   |
|-----|---|------------------------------------|---|
| 4.5 | Pre-Construction Meetings with Owner and Contractor - Require meetings with owner and contractor prior to commencement of grading operations. | # Meetings – 9                     | All city funded projects have a pre-construction conference. Development projects typically meet at the Development Review Committee where BMP requirements are discussed, and then incorporated into the plans. City has no requirement that private development have a pre-con with the city. |
| 4.6 | Construction Site Inspection and Enforcement - Increase the frequency of inspections and communications back to owner/contractor              | Documentation of inspections - YES | Extensive documentation of site visits (both random and after rainfall) are included in each project file. This includes city and development projects, and individual LDP inspections (such as home construction)  |



**5. Post-Construction Site Stormwater Management in New Development and Redevelopment.**

Place a check mark in the appropriate box.

Explain each item below in following table.

Yes

No

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

The program developed to manage stormwater in new development and redevelopment projects must include the following elements:

- a. Strategies which include a combination of structural and/or Non-structural BMPs,
- b. Measures to ensure adequate long-term operation and maintenance of BMPs,
- c. Site Owner or operator name and telephone number Responsible to ensure adequate long-term operation Maintenance of BMPs,
- d. BMPs to prevent or minimize adverse water impacts.

2. Has a post-construction stormwater runoff program been Implemented?



3. Has post-construction sites been inspected?



4. Have there been post-construction violations?



*(All post construction issues identified were addressed by permit holders)*

5. 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 table on the following pages.

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

| BMP ID Number | Brief BMP Description   | Measurable Goal(s)  | Progress Achieving Goal(s)<br>(Measured Result)   |
|---------------|---|---|---|
| 5.1           | Construct Sediment vane traps on new and reconstructed inlets   | # Inlets - 18   | Sediment traps were installed on new and replacement inlets on various projects.  |
| 5.2           | Protect sensitive areas, such as wetlands and riparian areas through plan review and selected land acquisition from developers and at tax sales | # tracts acquired from developers - 0<br><br># tracts from Tax sale - 1<br><br># Acres acquired/year – 0.26 | City participated in the 2016 tax sale by Leavenworth county and purchased one property. Two requests for the city to sell/donate these types of properties occurred in 2016, one resulted in a donation for landscaping at a local restaurant, the other was rejected (in 2017) for lack of detail |
| 5.3           | Enforce Post Construction Runoff Control Ordinance  | # LDP Releases - 88<br><br>Documentation of Inspection and communication - YES                              | LDP's are closed out when the danger of off-site erosion has been eliminated though either vegetation or other means. This is documented in the various permits   |
| 5.4           | Conduct Long Term BMP Maintenance Inspections   | Documentation of inspection and communication - YES   | City continues outreach to detention basin owners. Meeting on June 22, 2016 was relatively well attended. This effort will continue and expand. City conducts inspections of selected sites on random, after rainfall, or with depth recording equipment.   |

## 5. Post-Construction Site Stormwater Management in New Development and Redevelopment Table (continued)

| BMP ID Number | Brief BMP Description   | Measurable Goal(s)                     | Progress Achieving Goal(s)<br>(Measured Result)  |
|---------------|---|--|--|
| 5.6           | Analyze Existing Structural BMP Performances at selected sites (particularly detention basins)          | # sites evaluated – 6+                 | City installed depth recording devices in at least six locations in 2016. This is to facilitate evaluation of performance. Selected graphs and charts are shared informally with interested parties via email.                     |
| 5.7           | Measure rain gage and creek depth to evaluate flow quantity and duration from at least March – October. | # Rain gages - 4<br># Stream gages - 2 | City continues to maintain rain and creek monitors. The city also collaborates with other local governments on an extended rain gauge network. Selected graphs and charts are shared informally with interested parties via email. |
|               |   |  |  |
|               |   |  |  |

**6. Municipal Pollution Prevention/Housekeeping.**

Place a check mark in the appropriate box.

Explain each item below in following table.

|  | Yes                                 | No                                  |
|--|-------------------------------------|-------------------------------------|
| 1. The permit requires the permittee to enact a program to address Pollution Prevention/Good Housekeeping for Municipal Operations.  | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| 2. Has an operation & maintenance program to reduce Pollutant runoff and an audits /inspection program been adopted? <i>(Audits and inspections occur, no formal program has been adopted)</i>     | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| 3. Has a municipal employee training program been established?<br><i>(All involved employees have been directed to seek appropriate training throughout the year, city also sponsors training)</i> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| 4. Are oil, hazardous wastes, chemicals and municipal debris properly deposited?   | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| 5. Are snow and ice removal material and chemicals properly managed to prevent runoff?   | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| 6. Are municipal streets swept on a regular basis?   | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| 7. Are municipal stormwater inlets and drains inspected and cleaned?   | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| 8. Are municipal snow piles controlled drainage to prevent runoff pollution?   | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |

List all the Municipal Pollution Prevention/Housekeeping BMPs as identified in the SMP and provide the requested information on the table on the following pages.

**7. PHASE I OPERATORS ONLY - Monitoring Industrial and High Risk Run-off**

Place a check mark in the appropriate box.

|  | Yes                      | No                       |
|--|--------------------------|--------------------------|
| 1. Has the permittee developed and maintained a list of the municipal industrial facilities contributing to the pollutant loading to the municipal storm sewer system? | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. Has at least two municipal industrial facilities on the list had inspection and sampling conducted?   | <input type="checkbox"/> | <input type="checkbox"/> |

If the answer to items 1 and 2 is "No" provide a statement on the Phase I operator form Appendix B as to why monitoring and control has not occurred.

Complete Monitoring form in Appendix B.

## 6. Municipal Pollution Prevention/Housekeeping Table

| BMP ID Number | Brief BMP Description   | Measurable Goal(s)   | Progress Achieving Goal(s)<br>(Measured Result)  |
|---------------|---|--|--|
| 6.1           | Review City Facilities for water quality concerns and develop plans to address them, goal is at least three facilities per year   | # Reports Prepared - 1 report (three sites)  | City focused on identifying possible future water quality improvements in parking lots at city facilities. |
| 6.2           | Street Sweeping Program – goal is residential areas three times per year and collector/arterial streets once per month (8 months) | # Times completed Residential Area Sweeping – 5<br><br># Times completed Collector/arterial Sweeping – 5<br><br># hours sweeping - 896<br><br>miles of streets swept – Unknown (difficult to determine)<br><br># pounds of debris removed – 308 Tons | Aggressive Street sweeping program operates all year, weather permitting. There are two sweepers.          |

## 6. Municipal Pollution Prevention/Housekeeping Table

| BMP ID Number | Brief BMP Description   | Measurable Goal(s)   | Progress Achieving Goal(s)<br>(Measured Result)   |
|---------------|---|--|---|
| 6.3           | Snow Removal Operations - Use ground speed control and GPS equipment to keep salt use within guidelines | # tons of salt used per year - 398<br><br># pounds per lane mile per storm – 356 lb/lane-mile average for 2016 | Use of ground speed control continues to result in relatively stable application rates of 300-350 lb/lane-mile for several years. |
| 6.4           | Stormwater Inlet Cleaning   | # Inlets – 1200+   | Stormwater crew inspected and/or maintained in excess of 1200 inlets, areas drains and other stormwater facilities.               |
| 6.5           | Continue Citywide Leaf Collection Program (currently one-half of city each year)                        | # loads – 75 loads (est. 1500cy)   | City continues to offer free leaf vacuuming for one-half of the city each year (alternating halves).                              |
|               |   |  |   |
|               |   |  |   |

**CITY OF LEAVENWORTH**

**Kansas Stormwater Annual Report Form for Municipal Separate Storm Sewer Systems**

**January 1, 2016 – December 31, 2016**

# **Section F, Items 1-5**

## **Record Keeping and Reporting**

**F. Recordkeeping and Reporting**

Attach a report which addresses the following subjects:

1. A general assessment of the appropriateness of the various BMPs included for each of the major program elements as follows:
  - a. TMDL regulated pollutants (Appendix A contains TMDL Report Forms)
  - b. Public Education and Outreach
  - c. Public Involvement and Participation
  - d. Illicit Discharge Detection and Elimination
  - e. Construction Site Stormwater Runoff Control
  - f. Post-Construction Site Stormwater Management in New Development and Redevelopment
  - g. Pollution Prevention/Good Housekeeping for Municipal Operations

Issues which may be addressed include:

- a. Are the BMPs appropriate for local population?
  - b. Are the BMPs appropriate for the pollution sources?
  - c. Are there specific concerns related to the local receiving waters that may justify a change in BMPs?
2. An assessment of the effectiveness of the BMPs towards achieving the statutory goal of reducing the discharge of pollutants to the Maximum Extent Practicable (MEP).
  3. Provide a summary of results of information collected and analyzed, if any, during the reporting period, including any monitoring data used to assess the success of the SMP.
  4. Provide a summary of the planned changes in stormwater activities which are scheduled to be undertaken during the next annual reporting cycle. This should address the implementation of new BMPs and/or the deletion of BMPs and include a projected schedule for the month or quarter when the BMP will be either implemented or discontinued. Please note a revised SMP should be submitted for KDHE approval if BMPs are revised.
  5. Provide a list of other municipalities/contractors, if any, which will be responsible for implementing any of the program areas of the SMP.



# CITY OF LEAVENWORTH

Kansas Stormwater Annual Report Form for Municipal Separate Storm Sewer Systems  
January 1, 2016 – December 31, 2016

## Section F: Recordkeeping and Reporting

1. *A general assessment of the appropriateness of the various BMPs included for each of the major program elements as follows:*

- a. **TMDL Regulated Pollutants.** Not Applicable
- b. **Public Education and Outreach.** Stormwater information is disseminated to the public through the city newsletter, press releases, website, social media, and placing reference material at the Public Library. For news and distribution of relevant material associated with storm debris collection or flood recovery efforts, Facebook, Twitter, television and YouTube are being utilized by the Public Information Officer to reach a larger population in a timely manner. Considering all of these avenues to reach the public, the city's attempt to provide its citizens with updated material is very effective. Updated videos and information would increase the effectiveness of this means of communication. A review of materials placed at the library showed that there had been little to no use of them.

[VIDEO: Public Works Director Mike McDonald explains new "eco-swale" used by the City of Leavenworth as a new best-practice tool for improving stormwater quality and quantity.](#)



<https://youtu.be/llfx9sazB58>

- c. **Public Involvement and Participation.** The city engages the public by calling for volunteers to work on local initiatives through the several lines of communication discussed earlier. The Annual Spring Clean Up has been effective in reducing pollution as well increasing the public awareness of stormwater BMPs and other city programs.

Free drop-off of large items on Free Saturdays continues to be a popular program. Calls for civic organizations to clean and make improvements to city parks throughout the year are being made through an established Adopt-a-Park program with fifteen currently adopted. Arbor Day is observed yearly and the city continues to be part of the Tree City USA program. An Adopt-a-Stream program has not been established however cleaning along streams has occurred in public spaces through the Spring Clean-up and spontaneous citizen efforts coordinated with through the Parks Department. Brochures and newsletters are published

## CITY OF LEAVENWORTH

Kansas Stormwater Annual Report Form for Municipal Separate Storm Sewer Systems  
January 1, 2016 – December 31, 2016

throughout the year that include code enforcement information and more information about any discarded debris and the proper place to discard it.

City receives occasional calls from groups such as Boy Scouts related to public service projects. In August 2016, the University of Saint Mary's freshman class conducted a trash pickup near Havens Park.

Related activities in 2016 included the Annual Spring Clean-up Program held April 16, 2016 which had an increased number of participants with total 1,263 volunteers picking up trash throughout the City, the Legacy Tree Program saw an additional sixteen trees planted in 2016, and the city participated in the County-wide clean-up effort on October 15, 2016



City Staff celebrate Arbor Day 2016 with the planting of a crabapple tree near the Missouri River. The Legacy Tree program allows community members to commemorate a loved one with a newly planted tree.



Soldiers from Fort Leavenworth "Adopt a Park" as a community service project in 2016.

- d. **Illicit Discharge Detection and Elimination.** In order to control improper disposal of waste to the storm sewer system, the City of Leavenworth makes material available through flyers and online regarding household hazardous waste and its proper disposal. Leavenworth Police Department has worked with Public Information Officer and representatives of Fort Leavenworth to distribute information for disposal of outdated medicines in coordination with the DEA's Drug Takeback. Drug Takeback dates and times have also been posted to the Webpage. Parks Department reports that the "Pick up Your Dog Doo" plan continues to be a very effective at the parks where it has been implemented.

## **CITY OF LEAVENWORTH**

**Kansas Stormwater Annual Report Form for Municipal Separate Storm Sewer Systems  
January 1, 2016 – December 31, 2016**

Storm sewers are examined with the city's camera truck which allows for sewer lines to be videotaped and searched for improper connections or line failures. The use of a "Pole Cam" continues to facilitate a much quicker inspection time. The city has completed the storm sewer map and it is available on the GIS system and as a paper map (upon request). Technical information on the map continues to be verified through use of physical inspection and hand held GPS, particularly to correctly note diameters and locations of storm sewer structures. The final GIS database will include size, horizontal location as well as invert and top elevations for all storm structures and outfalls.

The city has an ongoing cleaning and CCTV program for the sanitary sewer lines. This work has identified several locations that that were repaired as part of the current effort to reduce Inflow and Infiltration.

Staff evaluated the number of creek crossings for periodic inspection. The number of crossings was increased from twenty-six to over one-hundred for inspection. This includes regularly scheduled inspections as well as after heavy rainfall events.

The City requirement that all exterior clean-out caps on sanitary sewer lines be "screw caps" rather than "press-on caps" has contributed to the reduced number of Sanitary Sewer Overflow (SSO) events that that release sewer water to environment. It also has had the intended consequence that property owners maintain their sewer service lines to avoid sewer back-ups into the homes.

The City inspection of commercial facilities with grease traps (or who might/should have grease traps) continued in 2016. This program is a combination of inspection and education to ensure that the grease traps are properly maintained which helps to prevent blocked sewer lines, which prevents sanitary sewer water from entering the environment. This has resulted in at least two institutions installing the correct grease trap, and others increasing their maintenance effort.

City contacted with grease trap owners in 2016 with multiple requests for inspection records. While some businesses are able to comply when notified, others have had to be contacted multiple times for results. Several businesses have been physically inspected by city inspectors to verify grease trap operations. In general – the education and awareness portion of the plan seems to be effective, however routine maintenance of the grease traps varies considerably. On-site inspections were effective in meeting program goals of awareness and education.

It is likely that additional ordinances specific to grease trap maintenance will be necessary for greater compliance. It will be necessary to coordinate this with other city departments before it can be implemented.

## CITY OF LEAVENWORTH

Kansas Stormwater Annual Report Form for Municipal Separate Storm Sewer Systems  
January 1, 2016 – December 31, 2016

City employees are reminded at staff meetings and safety meetings to report any activity that is questionable to their supervisor and/or the City Engineer Office. The maps identify all storm water facilities and outfalls and are used by employees and supervisors to evaluate concerns identified in the field.

- e. **Construction Site Stormwater Runoff Control.** City implemented a “Land Disturbance Permit” (LDP) in early 2015 and strengthened it in 2016 with the adoption of a fee and fine structure for LDP’s and erosion. The LDP has been very successful ensuring owners and contractors know their responsibilities. It has dramatically reduced erosion and sedimentation from construction sites.

Enforcing the LDP is time consuming during both office and field review requirements. City continues to evaluate several digital alternatives to better manage staff time to ensure the permits are being complied with.

Plan review and construction site inspection are the city’s first line of defense in protecting water quality in developing areas. The initial planning process for large and small developments includes a formal focus on stormwater quantity, quality and control measures as part of the Development Review Committee meeting with project sponsors and developers. Staff comments on plans reviewed are submitted in writing.

Weekly meetings are held in the Public Works office to review stormwater issues on current city and developer projects both in the design and construction phase.

The city guidelines related to stormwater quantity and quality were approved by the City Commission in early 2015. They rely upon the technical work completed in other documents – particularly the MARC BMP Manual, APWA Section 5600 and City of Leavenworth Stormwater Master Plan 1995.

City staff has attended a variety of training and educational events to become more effective in addressing the construction site runoff situation. This includes attendance at regional classes, venter demonstrations, and focused training on installation/inspection of erosion control systems.



**Contractors conduct annual maintenance of a detention basin near Leavenworth Walmart 5000 10<sup>th</sup> Avenue in 2016 following a public meeting with City staff about best practices for managing detention basins.**

## CITY OF LEAVENWORTH

Kansas Stormwater Annual Report Form for Municipal Separate Storm Sewer Systems  
January 1, 2016 – December 31, 2016

- f. **Post-Construction Site Stormwater Management in New Development and Redevelopment.** City has changed contracting requirements on City funded projects so that contractors are responsible for landscaping for 2 years following construction rather than the previous period of one year. This practice ensures that an acceptable grass stand is established in the area to stabilize soils and increase infiltration by reducing runoff velocity.

On developer funded project the city requires that the approved plans be followed. This typically requires maintaining erosion control measures until a minimum of revegetation of the site is met, and maintaining all other BMP activity. The associated LDP permit is completed with issuance of a certificate once the post construction measures are fully implemented. The City has increased periodic inspection of post-construction sites to ensure compliance with the regulations by reviewing the status of active projects at weekly staff meetings.

Also, the city began a program to notify detention pond owners of proper maintenance procedures and requirements. This program needs to be more aggressively pursued to be effective. It is expected that notification of maintenance requirements will be expanded to address other project specific BMP's in the future. Key obstacle is that many are owned by "Home Owners Associations" that are disbanded.

- g. **Pollution Prevention/Good Housekeeping for Municipal Operations.** The city offers a variety of services to reduce impact of city operations on the stormwater system. The leaf collection program continues in the Fall (curbside pick-up is one-half of the city each year), more efficient application of salt and sand to the roadways through better equipment, street sweeping operations, and extended sweeping season are all effective in decreasing pollutants from entering the storm sewer system. Other programs include recycling, tree and brush disposal and similar services for citizens.

Beyond these steps the city has 2 full time employees dedicated to the cleaning of storm inlet structures with a vacuum truck (and occasional augmentation from other workers). At least 1000 inlets were inspected and openings cleaned in 2016.

The addition of the ground speed control systems on the spreaders has improved consistency of application rates and they remain within the recommended rates of application. The street sweeping program has exceeded performance standards. City ensures chemicals (including salt) are stored in covered facilities, and that all personnel using herbicides/pesticides are trained appropriately. The City offers free disposal of grass and leaves, and free drop-off of recyclable goods is available.

City began installing several inlets as part of the Special Environmental Project (SEP) required as part of the EPA settlement in 2016. These inlets are intended to collect pollutants from small rain events and allow them to degrade through exposure to sunlight

## **CITY OF LEAVENWORTH**

Kansas Stormwater Annual Report Form for Municipal Separate Storm Sewer Systems  
January 1, 2016 – December 31, 2016

and/or infiltration through buried media to improve water quality. The inlets will also collect roadside trash and debris. The performance of these inlets will be monitored for possible inclusion on other projects.

City staff has reviewed the general state of water quality management selected city facilities in late 2016. The intent is to identify any problems requiring immediate action and to create a pool of locations for a possible future effort related to water quality.

The following were identified and action taken in 2016:

- The berm surrounding the snow disposal area used when snow is trucked from the downtown area was repaired after it had been removed to facilitate repairs of a storm drainage inlet but had not been restored.
- The salt/sand operational area at the Municipal Service Center area was evaluated for functionality of containment of run-off from storage and truck loading. In general the site functions well, but substantial degradation of creek banks from erosion was noticed. City forces cleared vegetation that obstructed the view of the creek and installed silt fence. A project that will improve water quality for the salt/sand area and reduce erosion of the creek banks is was not completed in 2016, but will be evaluated for 2017.
- Parking areas are the Public Library lend themselves to relatively simple modifications to improve water quality of the runoff. Staff is evaluating possible improvements in 2017.

The results of the limited inspection of city facilities indicated that a greater effort needs to be in-place to evaluate ALL city facilities. Additional facilities will be evaluated in 2017, and it will be proposed to expand the program to all city property.

### **Further Discussion of BMP's in general**

City opinion is that the BMP approach to the current level of stormwater activity in Leavenworth is entirely appropriate. They address the main concerns of the city: water quantity, water quality and construction site run-off. The implementation of the LDP has improved erosion and runoff during and after construction on many projects. The aggressive street sweeping program catches much of the salt and sand from winter operations before the spring rains. Grease trap and detention basin inspection are important programs. Staff is aware of the significance of the stormwater issues reviewed by KDHE and seeks to ensure compliance by having an empowered staff and opportunities for the public to comment or become involved.

The paragraph above notes that the BMP's are appropriate to the City. The current Stormwater Management Plan was not updated in 2016.

## CITY OF LEAVENWORTH

Kansas Stormwater Annual Report Form for Municipal Separate Storm Sewer Systems  
January 1, 2016 – December 31, 2016

**2. *An assessment of the effectiveness of the BMP's towards achieving the statutory goal of reducing the discharge of pollutants to the Maximum Extent Practicable (MEP).***

The City of Leavenworth has evaluated the functionality of various types of BMPs in Leavenworth while preparing for the adoption of an updated stormwater design manual. BMP overall effectiveness, economy, and general upkeep needs will drive BMP selection on future developments in Leavenworth. For instance, most in-situ soils in Leavenworth have low permeability which has led the Public Works staff to favor BMPs focused more on pollutant removal rather than stormwater infiltration. Recently constructed detention basins and bank stabilization projects have proven stable in normal rains. The storm of July 6<sup>th</sup> 2015 (3"-4" of rain in an hour) did damage bank protection rip-rap on Five-Mile Creek at the treatment plant, and Three-Mile Creek between Esplanade and 2<sup>nd</sup> Street. The rip-rap on Five-Mile Creek was repaired in 2016. The bank erosion between Esplanade and 2<sup>nd</sup> Street is the subject of a joint OneGas and City project expected to be constructed in 2017.

The successful operation of ground speed control on salt spreaders and performance of the street sweeping program have improved water quality of discharges to the creeks and rivers.

The increased focus on the construction site monitoring program has been generally effective. The city is seeking more effective methods to efficiently inspect these permits.

The increased number of programs and greater inspection effort have made it clear that without enforcement there is minimal effort on the part of owners and contractors on complying with record keeping. Efforts in 2017 will be to create better ordinances related to compliance in these areas.

**3. *Provide a summary of results of information collected and analyzed, if any, during the reporting period used to assess the success of the SMP.***

Stormwater from the MS4 has been tested during six events in 2016. Additional testing in selected detention basins and over the winter months has occurred as well.

Stream Testing dates in 2016 are shown below:

- April 25<sup>th</sup>
- April 26<sup>th</sup>
- May 11<sup>th</sup>
- July 31<sup>st</sup>
- August 25<sup>th</sup>
- September 14<sup>th</sup>

## CITY OF LEAVENWORTH

Kansas Stormwater Annual Report Form for Municipal Separate Storm Sewer Systems  
January 1, 2016 – December 31, 2016

***A summary of the results is included in the Appendix A along with several graphs and charts in Appendix C.***

The city also monitored several detention basins to evaluate performance. This information is communicated back to the designer in many cases, and adjustments made if necessary to the outfall structure.

In general the city observed the following during this process

1. **The stream stage is extremely sensitive to rainfall intensity and duration.** It was difficult to have all of the samples taken during a “rising Stream” stage. A brief report summarizing these observations is included in the appendices. Key concerns are
  - a. It will require substantial investment in equipment and staffing to operate a testing environment that can reliably take samples in rising stream stages.
  - b. City has not performed a literature search to determine if water quality is known to vary between rising and falling stages
2. **Measuring Stream Volume is difficult.** City has used manual methods and “stage-discharge” charts to estimate volume while sampling. There are significant differences between the methods. Field reports in 2017 indicate that the stream bed may have eroded in some locations which impacts flow measurements. A brief report summarizing these concerns is included in the appendices.
3. **Differences in water quality data are difficult to interpret.** A very simplistic analysis shows that in 2014 – water quality was improved by flowing through the City of Leavenworth. This was NOT TRUE in 2015. In 2015 some storms saw better water quality after passing through Leavenworth, and at other times not. This improvement (or not) varied between Three and Five-Mile Creek on occasion. The 2016 data show that water quality generally degraded as it passed through Leavenworth, with greater degradation in Three-Mile Creek than Five-Mile Creek. The tables below are greatly simplified from the more complex table in this section. The detailed information is in the appendices.



**CITY OF LEAVENWORTH**

Kansas Stormwater Annual Report Form for Municipal Separate Storm Sewer Systems  
 January 1, 2016 – December 31, 2016

**Simplified Tables of Water Quality Results  
 Leavenworth Kansas  
 2014-2016**

| <b>Three Mile Creek - 4 event 2014</b> |           |       |
|--|-----------|-------|
|  | NC/Better | Worse |
| Total Phosphorus                       | 1         | 3     |
| Ortho Phosphate                        | 0         | 2     |
| Nitrate+Nitrite                        | 2         | 2     |
| Total Kjeldahl Nitrogen                | 2         | 2     |
| Total Suspended Solids                 | 3         | 1     |
| Turbidity                              | 4         | 0     |
| E.Coli                                 |           |       |
|  | 12        | 10    |

| <b>Five-Mile Creek - 4 event 2014</b> |           |       |
|---------------------------------------|-----------|-------|
|                                       | NC/Better | Worse |
| Total Phosphorus                      | 3         | 1     |
| Ortho Phosphate                       | 2         | 0     |
| Nitrate+Nitrite                       | 0         | 4     |
| Total Kjeldahl Nitrogen               | 4         | 0     |
| Total Suspended Solids                | 2         | 2     |
| Turbidity                             | 2         | 2     |
| E.Coli                                |           |       |
|                                       | 13        | 9     |

| <b>Three Mile Creek - 6 event 2015</b> |           |       |
|--|-----------|-------|
|  | NC/Better | Worse |
| Total Phosphorus                       | 1         | 5     |
| Ortho Phosphate                        | 3         | 3     |
| Nitrate+Nitrite                        | 2         | 4     |
| Total Kjeldahl Nitrogen                | 3         | 3     |
| Total Suspended Solids                 | 3         | 3     |
| Turbidity                              | 2         | 4     |
| E.Coli                                 | 0         | 6     |
|  | 14        | 28    |

| <b>Five-Mile Creek - 6 event 2015</b> |           |       |
|---------------------------------------|-----------|-------|
|                                       | NC/Better | Worse |
| Total Phosphorus                      | 2         | 4     |
| Ortho Phosphate                       | 5         | 1     |
| Nitrate+Nitrite                       | 0         | 6     |
| Total Kjeldahl Nitrogen               | 4         | 2     |
| Total Suspended Solids                | 2         | 4     |
| Turbidity                             | 3         | 3     |
| E.Coli                                | 5         | 1     |
|                                       | 21        | 21    |

| <b>Three Mile Creek - 6 event 2016</b> |           |       |
|--|-----------|-------|
|  | NC/Better | Worse |
| Total Phosphorus                       | 0         | 6     |
| Ortho Phosphate                        | 2         | 4     |
| Nitrate+Nitrite                        | 3         | 3     |
| Total Kjeldahl Nitrogen                | 0         | 6     |
| Total Suspended Solids                 | 0         | 6     |
| Turbidity                              | 2         | 4     |
| E.Coli                                 | 0         | 6     |
|  | 7         | 35    |

| <b>Five-Mile Creek - 6 event 2016</b> |           |       |
|---------------------------------------|-----------|-------|
|                                       | NC/Better | Worse |
| Total Phosphorus                      | 2         | 4     |
| Ortho Phosphate                       | 3         | 3     |
| Nitrate+Nitrite                       | 3         | 3     |
| Total Kjeldahl Nitrogen               | 1         | 5     |
| Total Suspended Solids                | 2         | 4     |
| Turbidity                             | 3         | 3     |
| E.Coli                                | 3         | 3     |
|                                       | 17        | 25    |

# City of Leavenworth

## 2016 Stormwater Sampling Summary

(Note - in calculating CFS for 2014 and 2015 - the rating curve was used rather than the observed velocities)

(Note - in calculating CFS for 2016 - the observed velocities and an average channel width were used due to unexpected channel geometry changes)

| 2016                    |           | April 25, 2016 |            | April 26 2016 |            | May 11, 2016 |            | July 31 2016 |            | August 25 2016 |            | September 14 2016 |            |        |        |   |       |        |   |
|-------------------------|-----------|----------------|------------|---------------|------------|--------------|------------|--------------|------------|----------------|------------|-------------------|------------|--------|--------|---|-------|--------|---|
|                         |           | West           | East       | West          | East       | West         | East       | West         | East       | West           | East       | West              | East       |        |        |   |       |        |   |
|                         |           | Upstream       | Downstream | Upstream      | Downstream | Upstream     | Downstream | Upstream     | Downstream | Upstream       | Downstream | Upstream          | Downstream |        |        |   |       |        |   |
| <b>Three Mile Creek</b> | CFS       | 15             | 2          | 83            | 208        | 247          | 211        | 53           | 72         | 114            | 163        | 300               | 366        |        |        |   |       |        |   |
| Total Phosphorus        | mg/l      | <0.1           | 0.26       | w             | 1.10       | 1.80         | w          | 0.32         | 0.73       | w              | 0.55       | 0.90              | w          | 0.66   | 0.67   | w | 0.38  | 0.55   | b |
| Ortho Phosphate         | mg/l      | <0.1           | 0.12       | w             | 0.11       | <0.1         | b          | <0.1         | 0.15       | w              | 0.13       | 0.18              | w          | 0.30   | 0.28   | b | 0.19  | 0.30   | w |
| Nitrate+Nitrite         | mg/l      | 0.50           | 0.60       | w             | 0.84       | 0.40         | b          | 0.18         | 0.39       | w              | 0.92       | 0.77              | b          | 0.85   | 0.37   | b | 0.17  | 0.55   | w |
| Total Kjeldahl Nitrogen | mg/l      | 1.3            | 1.6        | w             | 3.4        | 10.8         | w          | 1.2          | 2.5        | w              | 2.0        | 3.2               | w          | 1.8    | 2.4    | w | 1.3   | 1.6    | w |
| Total Suspended Solids  | mg/l      | 17             | 85         | w             | 1,040      | 1,750        | w          | 196          | 498        | w              | 362        | 500               | w          | 648    | 1,140  | w | 349   | 442    | w |
| Turbidity               | NTU       | 21             | 103        | w             | 876        | 849          | b          | 176          | 429        | w              | 328        | 284               | b          | 570    | 765    | w | 303   | 344    | w |
| E.Coli                  | col/100ml | 1,723          | 6,131      | w             | 10,462     | 27,500       | w          | 8,840        | 28,510     | w              | 43,500     | 99,700            | w          | 24,600 | 28,800 | w | 4,500 | 36,540 | w |

| Three Mile Creek - 6 event 2016 |           |       |
|---------------------------------|-----------|-------|
|                                 | NC/Better | Worse |
| Total Phosphorus                | 0         | 6     |
| Ortho Phosphate                 | 2         | 4     |
| Nitrate+Nitrite                 | 3         | 3     |
| Total Kjeldahl Nitrogen         | 0         | 6     |
| Total Suspended Solids          | 0         | 6     |
| Turbidity                       | 2         | 4     |
| E.Coli                          | 0         | 6     |

7 35

| 2016                    |           | April 25, 2016 |            | April 26 2016 |            | May 11, 2016 |            | July 31 2016 |            | August 25 2016 |            | September 14 2016 |            |        |        |   |        |        |   |
|-------------------------|-----------|----------------|------------|---------------|------------|--------------|------------|--------------|------------|----------------|------------|-------------------|------------|--------|--------|---|--------|--------|---|
|                         |           | West           | East       | West          | East       | West         | East       | West         | East       | West           | East       | West              | East       |        |        |   |        |        |   |
|                         |           | Upstream       | Downstream | Upstream      | Downstream | Upstream     | Downstream | Upstream     | Downstream | Upstream       | Downstream | Upstream          | Downstream |        |        |   |        |        |   |
| <b>Three Mile Creek</b> | CFS       | 14             | 77         | 110           | 920        | 89           | 1060       | 4            | 358        | 49             | 610        | 500               | 2080       |        |        |   |        |        |   |
| Total Phosphorus        | mg/l      | 0.14           | 0.14       | b             | 1.60       | 1.80         | w          | 0.56         | 1.60       | w              | 0.14       | 0.37              | w          | 1.50   | 0.43   | b | 0.38   | 0.56   | w |
| Ortho Phosphate         | mg/l      | <0.1           | <0.1       | b             | <0.1       | <0.1         | b          | <0.1         | 0.14       | w              | <0.1       | 0.10              | w          | 0.61   | 0.22   | b | 0.18   | 0.20   | w |
| Nitrate+Nitrite         | mg/l      | 0.17           | 0.30       | w             | 2.70       | 0.72         | b          | 1.10         | 0.80       | b              | 0.26       | 0.49              | w          | 0.54   | 0.42   | b | 0.13   | 0.30   | w |
| Total Kjeldahl Nitrogen | mg/l      | 1.0            | 1.2        | w             | 7.0        | 7.9          | w          | 2.0          | 5.0        | w              | 1.2        | 2.4               | w          | 6.9    | 1.4    | b | 1.6    | 2.2    | w |
| Total Suspended Solids  | mg/l      | 60             | 53         | b             | 2,120      | 2,840        | w          | 449          | 1,710      | w              | 194        | 314               | w          | 2,730  | 388    | b | 604    | 620    | w |
| Turbidity               | NTU       | 146            | 61         | b             | 1,650      | 1,890        | w          | 338          | 1,130      | w              | 157        | 240               | w          | 1,960  | 385    | b | 467    | 504    | b |
| E.Coli                  | col/100ml | 4,884          | 5,475      | w             | 28,500     | 24,196       | b          | 48,840       | 198,630    | w              | 32,300     | 36,400            | w          | 44,100 | 16,100 | b | 19,890 | 15,650 | b |

| Five-Mile Creek - 6 event 2016 |           |       |
|--------------------------------|-----------|-------|
|                                | NC/Better | Worse |
| Total Phosphorus               | 2         | 4     |
| Ortho Phosphate                | 3         | 3     |
| Nitrate+Nitrite                | 3         | 3     |
| Total Kjeldahl Nitrogen        | 1         | 5     |
| Total Suspended Solids         | 2         | 4     |
| Turbidity                      | 3         | 3     |
| E.Coli                         | 3         | 3     |

17 25

| 2015                    |           | May 5 2015 |            | May 14 2015 |            | June 3 2015 |            | July 20 2015 |            | October 31 2015 |            | November 5 2015 |            |      |      |   |       |       |   |
|-------------------------|-----------|------------|------------|-------------|------------|-------------|------------|--------------|------------|-----------------|------------|-----------------|------------|------|------|---|-------|-------|---|
|                         |           | West       | East       | West        | East       | West        | East       | West         | East       | West            | East       | West            | East       |      |      |   |       |       |   |
|                         |           | Upstream   | Downstream | Upstream    | Downstream | Upstream    | Downstream | Upstream     | Downstream | Upstream        | Downstream | Upstream        | Downstream |      |      |   |       |       |   |
| <b>Three Mile Creek</b> | CFS       | 300        | 190        | 40          | 45         | 1300        | 7700       | 45           | n/a (1)    | 30              | 0          | 500             | 140        |      |      |   |       |       |   |
| Total Phosphorus        | mg/l      | 0.14       | 0.24       | w           | 0.15       | 0.23        | w          | 1.1          | 2.4        | w               | 0.34       | 0.18            | b          | 0.19 | 0.42 | w | 2.4   | 0.76  | w |
| Ortho Phosphate         | mg/l      | ND         | ND         | x           | ND         | ND          | x          | 0.11         | 0.15       | w               | 0.12       | 0.11            | b          | 0.18 | 0.24 | w | 0.13  | 0.18  | w |
| Nitrate+Nitrite         | mg/l      | 0.33       | 0.94       | w           | 0.27       | 0.37        | w          | 0.27         | 0.33       | w               | 0.59       | 0.61            | w          | 0.4  | 0.38 | b | 0.47  | 0.31  | b |
| Total Kjeldahl Nitrogen | mg/l      | 0.88       | 1.5        | w           | 0.81       | 0.88        | w          | 3            | 6.3        | w               | 1.3        | 0.7             | b          | 0.77 | 0.7  | b | 31.1  | ND    | b |
| Total Suspended Solids  | mg/l      | 90         | 98         | w           | 60         | 81          | w          | 1380         | 1570       | b               | 322        | 157             | b          | 18   | 41   | w | 2870  | 402   | b |
| Turbidity               | NTU       | 87.3       | 117        | w           | 47.4       | 57          | w          | 804          | 1380       | w               | 273        | 100             | b          | 8.6  | 10.2 | w | 1320  | 69.8  | b |
| E.Coli                  | col/100ml | 2247       | 3873       | w           | 866        | 9090        | w          | 12997        | 98700      | w               | 20980      | 13540           | w          | 3448 | 5172 | w | 34500 | 42800 | w |

| Three Mile Creek - 6 event 2015 |           |       |
|---------------------------------|-----------|-------|
|                                 | NC/Better | Worse |
| Total Phosphorus                | 1         | 5     |
| Ortho Phosphate                 | 3         | 3     |
| Nitrate+Nitrite                 | 2         | 4     |
| Total Kjeldahl Nitrogen         | 3         | 3     |
| Total Suspended Solids          | 3         | 3     |
| Turbidity                       | 2         | 4     |
| E.Coli                          | 0         | 6     |

14 28

| 2015                    |           | May 5 2015 |            | May 14 2015 |            | June 3 2015 |            | July 20 2015 |            | October 31 2015 |            | November 5 2015 |            |      |      |   |       |      |   |
|-------------------------|-----------|------------|------------|-------------|------------|-------------|------------|--------------|------------|-----------------|------------|-----------------|------------|------|------|---|-------|------|---|
|                         |           | West       | East       | West        | East       | West        | East       | West         | East       | West            | East       | West            | East       |      |      |   |       |      |   |
|                         |           | Upstream   | Downstream | Upstream    | Downstream | Upstream    | Downstream | Upstream     | Downstream | Upstream        | Downstream | Upstream        | Downstream |      |      |   |       |      |   |
| <b>Five Mile Creek</b>  | CFS       | 30         | 150        | 35          | 150        | 330         | 1900       | 30           | n/a (1)    | 20              | 135        | 35              | 600        |      |      |   |       |      |   |
| Total Phosphorus        | mg/l      | 0.18       | 0.34       | w           | 0.29       | 0.13        | b          | 2.4          | 1.6        | b               | 0.14       | 0.13            | b          | 0.19 | 0.68 | w |       |      |   |
| Ortho Phosphate         | mg/l      | ND         | ND         | x           | ND         | ND          | x          | 0.11         | 0.14       | w               | 0.15       | ND              | b          | 0.14 | 0.14 | x | 0.12  | 0.15 | w |
| Nitrate+Nitrite         | mg/l      | 0.22       | 0.46       | w           | 0.12       | 0.23        | w          | 0.21         | 0.28       | w               | 0.42       | 0.47            | w          | ND   | 0.19 | w | 0.13  | 0.24 | w |
| Total Kjeldahl Nitrogen | mg/l      | 1.3        | 2.1        | w           | 1.3        | 0.84        | b          | 7.3          | 4.8        | b               | 1.8        | 0.89            | b          | 0.54 | ND   | b | 0.5   | 12.2 | w |
| Total Suspended Solids  | mg/l      | 113        | 165        | w           | 136        | 65          | b          | 1540         | 2110       | w               | 480        | 201             | b          | 11   | 25   | w | 49    | 392  | w |
| Turbidity               | NTU       | 146        | 231        | w           | 100        | 28.5        | b          | 1660         | 1220       | b               | 404        | 134             | b          | 5.3  | 13.1 | w | 27.2  | 138  | w |
| E.Coli                  | col/100ml | 12997      | 17329      | w           | 17800      | 7540        | b          | 90800        | 52100      | b               | 77010      | 61310           | b          | 1421 | 2613 | w | 19863 | 2851 | b |

| Five-Mile Creek - 6 event 2015 |           |       |
|--------------------------------|-----------|-------|
|                                | NC/Better | Worse |
| Total Phosphorus               | 2         | 4     |
| Ortho Phosphate                | 5         | 1     |
| Nitrate+Nitrite                | 0         | 6     |
| Total Kjeldahl Nitrogen        | 4         | 2     |
| Total Suspended Solids         | 2         | 4     |
| Turbidity                      | 3         | 3     |
| E.Coli                         | 5         | 1     |

(1) Missouri River Backed up

21 21

| 2014                    |           | April 24 2014 |            |   | May 12 2014 |            |   | October 1 2014 |            |   | October 2 2014 |            |   |
|-------------------------|-----------|---------------|------------|---|-------------|------------|---|----------------|------------|---|----------------|------------|---|
|                         |           | Upstream      | Downstream |   | Upstream    | Downstream |   | Upstream       | Downstream |   | Upstream       | Downstream |   |
| <b>Three Mile Creek</b> | CFS       | 200           | 190        |   | 200         | 190        |   | 200            | 190        |   | 45             | 750        |   |
| Total Phosphorus        | mg/l      | 0.32          | 0.55       | w | 0.42        | 0.61       | w | 1.5            | 0.79       | b | 0.6            | 0.67       | w |
| Ortho Phosphate         | mg/l      |               |            |   |             |            |   | 0.19           | 0.2        | w | 0.16           | 0.19       | w |
| Nitrate+Nitrite         | mg/l      | 0.5           | 0.42       | b | 0.69        | 0.69       | x | 0.56           | 0.57       | w | 0.3            | 0.73       | w |
| Total Kjeldahl Nitrogen | mg/l      | 1             | 1.1        | w | 0.7         | 2.4        | b | 2.8            | 2.6        | b | 2.1            | 2.5        | w |
| Total Suspended Solids  | mg/l      | 303           | 242        | b | 165         | 440        | w | 1370           | 508        | b | 480            | 465        | b |
| Turbidity               | NTU       | 294           | 112        | b | 276         | 274        | b | 530            | 260        | b | 313            | 239        | b |
| E.Coli                  | col/100ml | 12997         | 3448       | b | 10500       | 14100      | w | 19863          | 72700      | w | 9208           | 37900      | w |
| Dissolved Oxygen        | mg/l      | 6.3           | 3.3        |   | 6.1         | 4.6        |   |                |            |   |                |            |   |

| Three Mile Creek - 4 event 2014 |           |       |
|---------------------------------|-----------|-------|
|                                 | NC/Better | Worse |
| Total Phosphorus                | 1         | 3     |
| Ortho Phosphate                 | 0         | 2     |
| Nitrate+Nitrite                 | 2         | 2     |
| Total Kjeldahl Nitrogen         | 2         | 2     |
| Total Suspended Solids          | 3         | 1     |
| Turbidity                       | 4         | 0     |
| E.Coli                          |           |       |
|                                 | 12        | 10    |

| 2014                    |           | April 24 2014 |            |   | May 12 2014 |            |   | October 1 2014 |            |   | October 2 2014 |            |   |
|-------------------------|-----------|---------------|------------|---|-------------|------------|---|----------------|------------|---|----------------|------------|---|
|                         |           | Upstream      | Downstream |   | Upstream    | Downstream |   | Upstream       | Downstream |   | Upstream       | Downstream |   |
| <b>Five Mile Creek</b>  | CFS       | 1020          | 800        |   | 880         | 660        |   | 1100           | 800        |   | 3100           | 265        |   |
| Total Phosphorus        | mg/l      | 0.13          | 0.54       | w | 0.34        | 0.28       | b | 0.66           | 0.63       | b | 1.5            | 1.1        | b |
| Ortho Phosphate         | mg/l      |               |            |   |             |            |   | 0.2            | 0.18       | b | 0.24           | 0.22       | b |
| Nitrate+Nitrite         | mg/l      | 0.21          | 0.34       | w | 0.29        | 0.32       | w | 0.3            | 0.5        | w | 0.32           | 0.41       | w |
| Total Kjeldahl Nitrogen | mg/l      | 0.69          | 0.56       | b | 1.8         | 1.6        | b | 1.3            | 1.3        | x | 4.4            | 3          | b |
| Total Suspended Solids  | mg/l      | 54            | 485        | w | 300         | 226        | b | 356            | 472        | w | 1510           | 1480       | b |
| Turbidity               | NTU       | 22.5          | 261        | w | 199         | 193        | b | 241            | 263        | w | 488            | 438        | b |
| E.Coli                  | col/100ml | 1872          | 3255       | w | 8660        | 8660       | x | 88600          | 30900      | b | 63100          | 59100      | b |
| Dissolved Oxygen        | mg/l      | 6.7           | 4.9        |   | 5.5         | 5.1        |   |                |            |   |                |            |   |

| Five-Mile Creek - 4 event 2014 |           |       |
|--------------------------------|-----------|-------|
|                                | NC/Better | Worse |
| Total Phosphorus               | 3         | 1     |
| Ortho Phosphate                | 2         | 0     |
| Nitrate+Nitrite                | 0         | 4     |
| Total Kjeldahl Nitrogen        | 4         | 0     |
| Total Suspended Solids         | 2         | 2     |
| Turbidity                      | 2         | 2     |
| E.Coli                         |           |       |
|                                | 13        | 9     |

## **CITY OF LEAVENWORTH**

Kansas Stormwater Annual Report Form for Municipal Separate Storm Sewer Systems  
January 1, 2016 – December 31, 2016

**4. Provide a summary of the planned minor changes in stormwater activities to accomplish the SMP designated goals that are scheduled to be undertaken during the next annual reporting cycle.**

The City expects to perform the following changes in 2017:

1. Consider modifications to the Stormwater Management Program
2. Consider revisions to the "Stormwater Guidelines" especially related to effective implementation, and consider revisions to the fee and fine schedule.
3. City will continue to evaluate methods and equipment to improve sampling program and to provide relevant information.
4. City will continue to observe performance of selected detention ponds and related facilities during the heavy rainfall season. City will evaluate hardware and software to create some level of automation related to stream stage and sampling.
5. Expand awareness of BMP maintenance expectations and requirements.
6. Increase staff training related to construction site inspection and post construction inspection activities throughout the year.
7. Increase exposure of related staff members from building inspection and code enforcement to stormwater issues, especially with illicit discharge issues
8. Seek opportunities with community groups to improve awareness of stormwater issues
9. Evaluate at least two city facilities for stormwater quality and quantity concerns. Prepare a report with recommendations.

**5. Provide a list of other municipalities/contractors, if any, which will be responsible for implementing any of the program areas of the SMP.**

*None*

**CITY OF LEAVENWORTH**

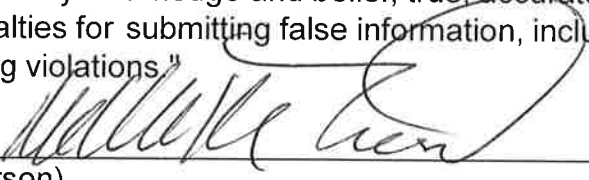
**Kansas Stormwater Annual Report Form for Municipal Separate Storm Sewer Systems  
January 1, 2016 – December 31, 2016**

# **Section G**

## **Certification**

**G. 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 designed 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: 2.28.2017  
(Legally responsible person)

Name (printed): MICHAEL G. McDONALD Title: DIR. PUBLIC WORKS

**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.  
Submit this report to:

**KANSAS DEPARTMENT OF HEALTH & ENVIRONMENT**  
Municipal Programs Section  
1000 SW Jackson Street, Suite 420  
Topeka, Kansas 66612-1367

# **Appendix A**

## **Summary of Sampling Data**

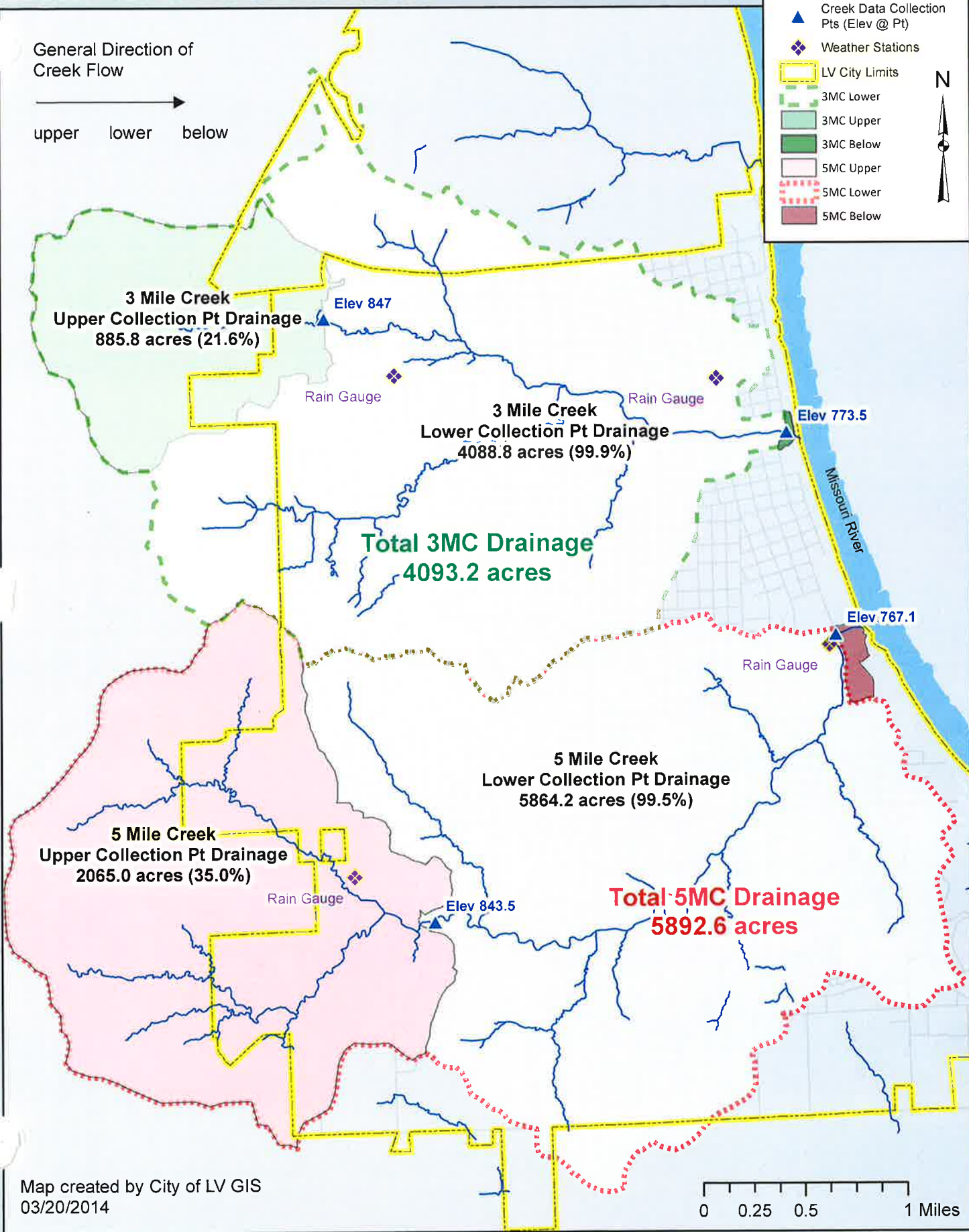
- **Basin Map**
- **Location Detail Coordinates**
- **Weather Monthly Summary Sheets (two locations)**
- **Data Collection Time Summary**
- **Data Collection Visual Summary**
- **Photo Summary of Sampling Events**
- **Summary of Water Quality Data (six storms)**
- **Water Quality Monitoring Sheets**

# City of Leavenworth, KS Creek Data Collection Points

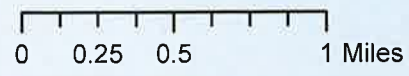
General Direction of  
Creek Flow  
→  
upper    lower    below

**Legend**

- ▲ Creek Data Collection Pts (Elev @ Pt)
- ◆ Weather Stations
- ▭ LV City Limits
- ▭ 3MC Lower
- ▭ 3MC Upper
- ▭ 3MC Below
- ▭ 5MC Upper
- ▭ 5MC Lower
- ▭ 5MC Below



Map created by City of LV GIS  
03/20/2014





**City of Leavenworth, Kansas**

***Water Quality Collection Points***

| <b>Location</b> | <b>Type</b> | <b>Measurement Location</b>  | <b>Elevation</b> | <b>Additional Height</b> | <b>Baseline</b> | <b>LATITUDE</b> | <b>LONGITUDE</b> |
|-----------------|-------------|------------------------------|------------------|--------------------------|-----------------|-----------------|------------------|
| 5MC West        | Deck        | @7th vert f/ east upstr edge | 843.5            | Handrail Elev = 848.3    | 848.3           | 39.28160093     | -94.94268289     |
| 3MC West        | Deck        | @4th vert f/ north upstr edg | 847.0            | Handrail Elev = 848.1    | 848.1           | 39.32462470     | -94.95067177     |
| 5MC East        | Deck        | @5th vert f/ north upstr edg | 767.1            | Deck Elev = 767.1        | 767.1           | 39.30099774     | -94.90515459     |
| 3MC East        | Deck        | @4th vert f/ north upstr edg | 773.5            | Handrail Elev = 777.0    | 777.0           | 39.31544044     | -94.90893167     |

*City of Leavenworth GIS, January 6, 2016*

*Kansas FIPS 1501 North (Decimal Degrees)*

MONTHLY CLIMATOLOGICAL SUMMARY for MAR. 2016

NAME: Leavenworth City Hall CITY: Leavenworth STATE: Kansas  
 ELEV: 851 ft LAT: 39° 18' 00" N LONG: 94° 54' 00" W

TEMPERATURE (°F), RAIN (in), WIND SPEED (mph)

| DAY | MEAN TEMP | HIGH | TIME   | LOW  | TIME   | HEAT DEG DAYS | COOL DEG DAYS | RAIN | AVG WIND SPEED | HIGH | TIME   | DOM DIR |
|-----|-----------|------|--------|------|--------|---------------|---------------|------|----------------|------|--------|---------|
| 1   | 32.4      | 43.4 | 12:15a | 27.1 | 12:00m | 32.6          | 0.0           | 0.00 | 7.5            | 31.0 | 3:00a  | NNW     |
| 2   | 43.7      | 62.9 | 4:15p  | 24.3 | 4:45a  | 21.3          | 0.0           | 0.00 | 5.9            | 27.0 | 2:15p  | SE      |
| 3   | 44.0      | 53.7 | 12:15a | 34.7 | 8:30a  | 21.0          | 0.0           | 0.00 | 5.1            | 24.0 | 10:00a | NNW     |
| 4   | 47.7      | 66.5 | 5:00p  | 29.6 | 5:00a  | 17.4          | 0.1           | 0.00 | 3.8            | 20.0 | 2:00p  | N       |
| 5   | 52.5      | 65.1 | 3:30p  | 39.4 | 5:30a  | 12.5          | 0.0           | 0.00 | 2.4            | 14.0 | 9:00a  | NW      |
| 6   | 61.2      | 73.0 | 2:15p  | 48.7 | 3:30a  | 6.0           | 2.2           | 0.00 | 8.4            | 37.0 | 12:30p | S       |
| 7   | 66.4      | 69.4 | 12:45p | 64.1 | 12:00m | 0.1           | 1.5           | 0.00 | 10.9           | 35.0 | 1:00p  | S       |
| 8   | 61.1      | 65.1 | 2:45p  | 56.0 | 12:00m | 3.9           | 0.0           | 0.20 | 5.3            | 27.0 | 9:00a  | S       |
| 9   | 52.6      | 59.7 | 3:15p  | 46.1 | 6:45a  | 12.4          | 0.0           | 0.00 | 3.5            | 16.0 | 3:15a  | N       |
| 10  | 55.8      | 69.0 | 3:45p  | 45.1 | 7:45a  | 9.5           | 0.4           | 0.00 | 1.5            | 11.0 | 7:30a  | NNE     |
| 11  | 55.7      | 68.9 | 3:30p  | 41.2 | 6:45a  | 9.7           | 0.5           | 0.00 | 1.9            | 15.0 | 10:30a | E       |
| 12  | 54.0      | 58.4 | 3:30p  | 48.8 | 5:15a  | 11.0          | 0.0           | 0.20 | 1.7            | 9.0  | 4:00p  | SE      |
| 13  | 57.8      | 64.0 | 4:45p  | 54.1 | 12:00m | 6.9           | 0.0           | 0.00 | 0.7            | 7.0  | 4:00p  | ENE     |
| 14  | 60.7      | 75.5 | 4:15p  | 46.9 | 7:15a  | 6.9           | 2.7           | 0.00 | 1.8            | 14.0 | 4:15p  | S       |
| 15  | 56.6      | 62.8 | 12:15a | 46.9 | 12:00m | 8.4           | 0.0           | 0.05 | 4.5            | 26.0 | 1:00p  | NNW     |
| 16  | 51.3      | 62.0 | 4:15p  | 42.6 | 8:00a  | 13.7          | 0.0           | 0.00 | 6.2            | 26.0 | 2:00p  | W       |
| 17  | 50.5      | 61.3 | 3:15p  | 36.4 | 7:30a  | 14.5          | 0.0           | 0.00 | 3.0            | 21.0 | 3:00p  | N       |
| 18  | 43.1      | 54.4 | 1:00a  | 34.0 | 11:45p | 21.9          | 0.0           | 0.00 | 5.1            | 27.0 | 1:30a  | N       |
| 19  | 35.0      | 40.2 | 5:30p  | 28.5 | 7:30a  | 30.0          | 0.0           | 0.00 | 4.2            | 27.0 | 11:30a | WNW     |
| 20  | 39.1      | 49.1 | 4:45p  | 33.0 | 1:15a  | 25.9          | 0.0           | 0.00 | 3.8            | 20.0 | 4:15a  | NNW     |
| 21  | 48.3      | 65.8 | 5:15p  | 30.9 | 6:45a  | 16.7          | 0.0           | 0.00 | 7.3            | 34.0 | 1:15p  | S       |
| 22  | 61.3      | 73.1 | 6:45p  | 50.1 | 7:45a  | 5.6           | 1.9           | 0.00 | 9.5            | 32.0 | 12:30a | S       |
| 23  | 66.4      | 76.8 | 3:45p  | 55.8 | 11:45p | 1.5           | 2.9           | 0.24 | 8.9            | 36.0 | 6:45p  | S       |
| 24  | 40.1      | 60.0 | 12:30a | 32.6 | 8:45a  | 24.9          | 0.0           | 0.05 | 7.8            | 31.0 | 11:15a | NNW     |
| 25  | 43.8      | 57.9 | 4:00p  | 27.8 | 6:45a  | 21.2          | 0.0           | 0.00 | 2.5            | 17.0 | 1:15p  | SE      |
| 26  | 47.9      | 57.5 | 5:30p  | 39.5 | 12:00m | 17.1          | 0.0           | 0.13 | 3.7            | 22.0 | 8:45p  | ESE     |
| 27  | 41.1      | 54.2 | 5:15p  | 32.5 | 5:45a  | 23.9          | 0.0           | 0.36 | 4.6            | 23.0 | 3:30p  | NNW     |
| 28  | 49.6      | 66.5 | 4:15p  | 30.7 | 6:00a  | 15.5          | 0.1           | 0.00 | 3.0            | 21.0 | 2:30p  | S       |
| 29  | 58.3      | 67.5 | 5:15p  | 47.7 | 7:30a  | 7.0           | 0.3           | 0.00 | 6.6            | 28.0 | 12:45p | SE      |
| 30  | 64.7      | 72.9 | 4:30p  | 58.7 | 4:00a  | 2.2           | 1.9           | 0.00 | 7.9            | 33.0 | 1:30p  | S       |
| 31  | 53.5      | 63.5 | 12:15a | 43.7 | 12:00m | 11.5          | 0.0           | 0.00 | 7.2            | 28.0 | 9:00p  | WNW     |
|     | 51.5      | 76.8 | 23     | 24.3 | 2      | 432.7         | 14.5          | 1.23 | 5.0            | 37.0 | 6      | S       |

Max >= 90.0: 0  
 Max <= 32.0: 0  
 Min <= 32.0: 7  
 Min <= 0.0: 0

Max Rain: 0.36 ON 03/27/16

Days of Rain: 7 (>.01 in) 5 (>.1 in) 0 (>1 in)

Heat Base: 65.0 Cool Base: 65.0 Method: Integration

MONTHLY CLIMATOLOGICAL SUMMARY for APR. 2016

NAME: Leavenworth City Hall CITY: Leavenworth STATE: Kansas  
 ELEV: 851 ft LAT: 39° 18' 00" N LONG: 94° 54' 00" W

TEMPERATURE (°F), RAIN (in), WIND SPEED (mph)

| DAY | MEAN TEMP | HIGH | TIME  | LOW  | TIME   | HEAT DEG DAYS | COOL DEG DAYS | RAIN | AVG WIND SPEED | HIGH | TIME   | DOM DIR |
|-----|-----------|------|-------|------|--------|---------------|---------------|------|----------------|------|--------|---------|
| 1   | 43.4      | 50.1 | 1:30p | 37.3 | 12:00m | 21.6          | 0.0           | 0.00 | 7.7            | 31.0 | 6:00a  | NNW     |
| 2   | 49.0      | 63.2 | 5:00p | 34.3 | 3:00a  | 16.0          | 0.0           | 0.00 | 6.1            | 26.0 | 12:45p | NNW     |
| 3   | 63.3      | 81.1 | 4:30p | 43.8 | 1:15a  | 7.4           | 5.7           | 0.00 | 8.2            | 34.0 | 4:15p  | SW      |
| 4   | 59.7      | 68.3 | 1:45a | 51.7 | 8:45a  | 5.5           | 0.2           | 0.00 | 4.7            | 23.0 | 2:00a  | N       |
| 5   | 60.3      | 78.4 | 6:15p | 43.8 | 6:45a  | 8.3           | 3.6           | 0.01 | 8.0            | 36.0 | 11:00p | SE      |
| 6   | 55.5      | 63.2 | 6:45p | 49.5 | 8:30a  | 9.5           | 0.0           | 0.24 | 6.9            | 33.0 | 11:45a | WNW     |
| 7   | 53.6      | 62.8 | 2:15p | 42.4 | 6:45a  | 11.4          | 0.0           | 0.00 | 7.1            | 39.0 | 1:15p  | NNW     |
| 8   | 49.7      | 62.5 | 4:45p | 38.0 | 7:00a  | 15.3          | 0.0           | 0.00 | 7.0            | 34.0 | 3:00p  | NNW     |
| 9   | 46.2      | 61.1 | 7:00p | 31.7 | 7:15a  | 18.8          | 0.0           | 0.00 | 5.3            | 21.0 | 3:15p  | SE      |
| 10  | 62.0      | 70.9 | 4:00p | 56.0 | 12:15a | 3.9           | 1.0           | 0.00 | 6.2            | 33.0 | 1:30a  | S       |
| 11  | 52.0      | 58.7 | 5:15p | 45.0 | 9:30a  | 13.0          | 0.0           | 0.00 | 5.6            | 25.0 | 12:45p | N       |
| 12  | 49.2      | 62.9 | 5:30p | 31.8 | 7:00a  | 15.8          | 0.0           | 0.00 | 2.5            | 14.0 | 2:30p  | SE      |
| 13  | 57.2      | 73.2 | 5:45p | 37.8 | 6:45a  | 9.9           | 2.1           | 0.00 | 2.8            | 16.0 | 1:45p  | SSE     |
| 14  | 61.4      | 73.6 | 3:45p | 44.5 | 7:15a  | 6.1           | 2.5           | 0.00 | 2.8            | 18.0 | 2:45p  | SE      |
| 15  | 64.2      | 74.5 | 5:00p | 48.8 | 7:00a  | 4.2           | 3.5           | 0.00 | 4.5            | 22.0 | 12:30p | SE      |
| 16  | 66.8      | 75.3 | 6:00p | 58.1 | 7:30a  | 1.5           | 3.2           | 0.00 | 6.1            | 21.0 | 9:45a  | SE      |
| 17  | 67.9      | 76.4 | 5:15p | 58.7 | 7:15a  | 1.1           | 4.0           | 0.02 | 5.3            | 22.0 | 5:15p  | SE      |
| 18  | 62.7      | 67.7 | 6:15p | 59.8 | 10:15a | 2.4           | 0.1           | 0.39 | 2.6            | 13.0 | 6:45a  | SE      |
| 19  | 60.0      | 66.2 | 3:30p | 54.8 | 6:45a  | 5.0           | 0.1           | 0.02 | 2.5            | 12.0 | 12:15a | N       |
| 20  | 59.6      | 67.4 | 5:30p | 53.7 | 8:00a  | 5.5           | 0.1           | 0.34 | 4.1            | 21.0 | 12:00p | W       |
| 21  | 58.4      | 65.9 | 4:00p | 51.4 | 6:15a  | 6.6           | 0.0           | 0.01 | 4.9            | 28.0 | 12:15p | W       |
| 22  | 59.4      | 69.8 | 5:15p | 53.1 | 6:15a  | 6.1           | 0.5           | 0.00 | 2.2            | 13.0 | 6:45a  | WNW     |
| 23  | 65.6      | 80.2 | 5:45p | 48.4 | 5:30a  | 4.9           | 5.5           | 0.00 | 3.3            | 21.0 | 6:45p  | SSE     |
| 24  | 71.2      | 80.2 | 3:30p | 59.9 | 11:15p | 0.3           | 6.6           | 0.58 | 8.0            | 32.0 | 2:00p  | S       |
| 25  | 69.1      | 79.9 | 5:15p | 59.7 | 1:00a  | 1.0           | 5.1           | 0.20 | 4.7            | 21.0 | 4:30a  | S       |
| 26  | 65.2      | 71.4 | 3:30p | 57.6 | 8:30a  | 1.3           | 1.4           | 2.71 | 4.4            | 36.0 | 8:30a  | ESE     |
| 27  | 60.5      | 70.9 | 2:15p | 51.7 | 12:00m | 5.1           | 0.6           | 0.76 | 5.4            | 30.0 | 3:45p  | W       |
| 28  | 51.4      | 56.3 | 6:15p | 46.5 | 5:15a  | 13.6          | 0.0           | 0.00 | 4.9            | 24.0 | 2:00a  | W       |
| 29  | 51.0      | 54.2 | 2:00p | 47.2 | 7:30a  | 14.0          | 0.0           | 0.38 | 4.8            | 22.0 | 7:00p  | ENE     |
| 30  | 58.4      | 65.9 | 5:45p | 51.3 | 12:45a | 6.6           | 0.0           | 0.54 | 3.6            | 21.0 | 11:30a | W       |
|     | 58.5      | 81.1 | 3     | 31.7 | 9      | 241.7         | 45.8          | 6.20 | 5.1            | 39.0 | 7      | SE      |

Max >= 90.0: 0

Max <= 32.0: 0

Min <= 32.0: 2

Min <= 0.0: 0

Max Rain: 2.71 ON 04/26/16

Days of Rain: 11 (>.01 in) 9 (>.1 in) 1 (>1 in)

Heat Base: 65.0 Cool Base: 65.0 Method: Integration

MONTHLY CLIMATOLOGICAL SUMMARY for MAY. 2016

NAME: Leavenworth City Hall CITY: Leavenworth STATE: Kansas  
 ELEV: 851 ft LAT: 39° 18' 00" N LONG: 94° 54' 00" W

TEMPERATURE (°F), RAIN (in), WIND SPEED (mph)

| DAY   | MEAN TEMP | HIGH | TIME   | LOW  | TIME   | HEAT DEG DAYS | COOL DEG DAYS | RAIN | AVG WIND SPEED | HIGH | TIME   | DOM DIR |
|-------|-----------|------|--------|------|--------|---------------|---------------|------|----------------|------|--------|---------|
| 1     | 53.4      | 59.5 | 1:15p  | 49.1 | 12:00m | 11.6          | 0.0           | 0.00 | 2.8            | 18.0 | 1:15p  | W       |
| 2     | 52.2      | 58.7 | 6:30p  | 47.9 | 6:45a  | 12.8          | 0.0           | 0.00 | 1.0            | 8.0  | 11:45a | NNW     |
| 3     | 57.9      | 70.5 | 4:15p  | 43.8 | 5:45a  | 8.2           | 1.1           | 0.00 | 1.3            | 15.0 | 4:45p  | W       |
| 4     | 62.2      | 70.1 | 4:30p  | 53.4 | 12:00m | 4.0           | 1.2           | 0.00 | 4.7            | 23.0 | 4:00a  | NNW     |
| 5     | 61.9      | 74.4 | 4:15p  | 48.8 | 3:15a  | 5.9           | 2.7           | 0.00 | 0.8            | 13.0 | 1:45p  | ENE     |
| 6     | 68.1      | 83.7 | 4:15p  | 50.7 | 6:30a  | 4.2           | 7.2           | 0.00 | 3.4            | 18.0 | 3:45p  | S       |
| 7     | 74.6      | 87.5 | 6:00p  | 62.2 | 6:15a  | 0.1           | 9.7           | 0.00 | 3.8            | 18.0 | 3:45a  | SW      |
| 8     | 65.5      | 72.7 | 11:00a | 60.2 | 6:45a  | 0.9           | 1.4           | 0.45 | 3.5            | 26.0 | 10:15p | SE      |
| 9     | 67.1      | 75.0 | 3:30p  | 59.2 | 12:00m | 0.9           | 2.9           | 0.51 | 4.1            | 21.0 | 10:15p | SE      |
| 10    | 68.7      | 82.6 | 6:15p  | 57.0 | 6:45a  | 2.5           | 6.2           | 0.00 | 1.1            | 11.0 | 4:15p  | ENE     |
| 11    | 66.3      | 74.0 | 1:30p  | 58.9 | 12:00m | 1.1           | 2.4           | 0.83 | 2.7            | 31.0 | 5:45a  | SE      |
| 12    | 63.0      | 71.7 | 5:30p  | 52.8 | 7:00a  | 3.8           | 1.7           | 0.00 | 3.4            | 25.0 | 2:15p  | NNW     |
| 13    | 60.2      | 79.1 | 1:45p  | 48.8 | 12:00m | 7.3           | 2.5           | 0.11 | 5.0            | 28.0 | 6:15p  | N       |
| 14    | 51.7      | 60.9 | 6:15p  | 44.2 | 6:30a  | 13.3          | 0.0           | 0.00 | 4.3            | 21.0 | 9:30a  | NNW     |
| 15    | 54.9      | 66.7 | 3:15p  | 40.8 | 6:15a  | 10.2          | 0.1           | 0.06 | 1.4            | 12.0 | 12:45p | NE      |
| 16    | 51.5      | 52.9 | 11:45a | 50.3 | 3:30a  | 13.5          | 0.0           | 0.50 | 3.6            | 16.0 | 12:30p | ENE     |
| 17    | 53.6      | 61.5 | 6:00p  | 48.7 | 12:00m | 11.4          | 0.0           | 0.05 | 4.1            | 15.0 | 7:30a  | ENE     |
| 18    | 58.2      | 70.1 | 4:00p  | 46.7 | 6:45a  | 7.4           | 0.5           | 0.00 | 0.8            | 10.0 | 5:45p  | ENE     |
| 19    | 57.9      | 67.9 | 1:45p  | 45.6 | 6:15a  | 7.5           | 0.4           | 0.01 | 1.3            | 12.0 | 11:15a | SE      |
| 20    | 60.2      | 66.4 | 4:30p  | 54.4 | 12:00m | 5.0           | 0.1           | 0.02 | 1.4            | 10.0 | 2:15p  | SE      |
| 21    | 62.7      | 74.7 | 5:45p  | 48.2 | 6:00a  | 5.2           | 2.9           | 0.00 | 1.8            | 15.0 | 3:30p  | E       |
| 22    | 69.8      | 81.5 | 4:30p  | 53.3 | 6:15a  | 2.3           | 7.2           | 0.00 | 3.4            | 18.0 | 2:30p  | SE      |
| 23    | 67.7      | 71.2 | 12:15p | 63.7 | 3:00p  | 0.1           | 2.7           | 0.48 | 2.9            | 20.0 | 3:00p  | S       |
| 24    | 70.7      | 81.9 | 5:00p  | 62.1 | 6:00a  | 0.7           | 6.4           | 0.23 | 2.5            | 22.0 | 1:45p  | SE      |
| 25    | 74.5      | 83.3 | 6:00p  | 64.9 | 5:00a  | 0.0           | 9.5           | 0.28 | 5.3            | 31.0 | 4:30a  | S       |
| 26    | 67.8      | 79.6 | 12:45a | 61.4 | 11:00p | 0.8           | 3.6           | 2.88 | 4.1            | 42.0 | 5:15p  | SE      |
| 27    | 66.9      | 77.7 | 2:45p  | 60.4 | 12:00m | 1.4           | 3.3           | 0.87 | 2.9            | 34.0 | 9:15p  | SW      |
| 28    | 67.8      | 77.2 | 6:00p  | 59.0 | 4:00a  | 1.8           | 4.5           | 0.03 | 3.8            | 20.0 | 9:45a  | SW      |
| 29    | 74.6      | 87.4 | 4:15p  | 61.8 | 5:15a  | 0.5           | 10.1          | 0.00 | 1.6            | 14.0 | 2:00p  | SW      |
| 30    | 72.4      | 86.1 | 2:15p  | 62.2 | 6:15a  | 0.2           | 7.5           | 0.10 | 2.6            | 28.0 | 2:45p  | S       |
| 31    | 70.4      | 78.5 | 4:15p  | 63.2 | 3:45a  | 0.3           | 5.8           | 0.00 | 1.6            | 13.0 | 8:30a  | SSW     |
| <hr/> |           |      |        |      |        |               |               |      |                |      |        |         |
|       | 63.7      | 87.5 | 7      | 40.8 | 15     | 144.9         | 103.6         | 7.41 | 2.8            | 42.0 | 26     | SE      |

Max >= 90.0: 0  
 Max <= 32.0: 0  
 Min <= 32.0: 0  
 Min <= 0.0: 0

Max Rain: 2.88 ON 05/26/16

Days of Rain: 15 (>.01 in) 10 (>.1 in) 1 (>1 in)

Heat Base: 65.0 Cool Base: 65.0 Method: Integration

MONTHLY CLIMATOLOGICAL SUMMARY for JUN. 2016

NAME: Leavenworth City Hall CITY: Leavenworth STATE: Kansas  
 ELEV: 851 ft LAT: 39° 18' 00" N LONG: 94° 54' 00" W

TEMPERATURE (°F), RAIN (in), WIND SPEED (mph)

| DAY | MEAN TEMP | HIGH  | TIME  | LOW  | TIME   | HEAT DEG DAYS | COOL DEG DAYS | RAIN | AVG WIND SPEED | HIGH | TIME   | DOM DIR |
|-----|-----------|-------|-------|------|--------|---------------|---------------|------|----------------|------|--------|---------|
| 1   | 72.1      | 81.8  | 5:30p | 62.4 | 6:30a  | 0.2           | 7.3           | 0.00 | 1.8            | 13.0 | 12:30p | W       |
| 2   | 72.8      | 84.5  | 4:15p | 57.4 | 6:00a  | 1.5           | 9.2           | 0.00 | 1.3            | 13.0 | 12:00p | SE      |
| 3   | 74.0      | 85.9  | 5:00p | 59.1 | 5:00a  | 1.0           | 10.0          | 0.00 | 2.4            | 14.0 | 4:15p  | S       |
| 4   | 73.6      | 82.5  | 6:15p | 63.8 | 6:15a  | 0.1           | 8.6           | 0.10 | 3.6            | 29.0 | 1:00a  | NNW     |
| 5   | 73.3      | 84.5  | 6:15p | 62.2 | 6:15a  | 0.4           | 8.7           | 0.00 | 2.5            | 20.0 | 2:15p  | NNW     |
| 6   | 79.0      | 91.3  | 4:45p | 65.5 | 6:30a  | 0.0           | 14.0          | 0.00 | 4.2            | 19.0 | 12:15p | W       |
| 7   | 71.4      | 81.4  | 7:15p | 58.0 | 6:30a  | 0.8           | 7.1           | 0.00 | 1.0            | 11.0 | 11:30a | N       |
| 8   | 75.9      | 87.7  | 5:15p | 61.4 | 6:00a  | 0.4           | 11.3          | 0.00 | 2.9            | 18.0 | 3:30p  | SSE     |
| 9   | 82.5      | 91.7  | 5:00p | 72.5 | 6:45a  | 0.0           | 17.5          | 0.00 | 6.2            | 31.0 | 3:30p  | S       |
| 10  | 83.0      | 93.0  | 4:00p | 72.8 | 6:15a  | 0.0           | 18.0          | 0.00 | 6.0            | 21.0 | 10:45a | S       |
| 11  | 84.2      | 93.3  | 4:45p | 74.8 | 6:15a  | 0.0           | 19.2          | 0.00 | 3.6            | 15.0 | 2:45p  | S       |
| 12  | 82.7      | 93.8  | 4:00p | 73.3 | 5:15a  | 0.0           | 17.7          | 0.00 | 2.7            | 33.0 | 5:30p  | SSW     |
| 13  | 79.6      | 90.0  | 2:45p | 70.8 | 6:00a  | 0.0           | 14.6          | 0.00 | 2.5            | 14.0 | 3:45p  | S       |
| 14  | 83.2      | 94.3  | 5:45p | 73.0 | 4:30a  | 0.0           | 18.2          | 0.00 | 4.6            | 22.0 | 4:45p  | S       |
| 15  | 86.3      | 99.9  | 3:30p | 72.3 | 5:15a  | 0.0           | 21.3          | 0.00 | 2.8            | 20.0 | 12:30a | SW      |
| 16  | 85.5      | 96.5  | 4:00p | 73.7 | 5:30a  | 0.0           | 20.5          | 0.00 | 2.1            | 17.0 | 10:30a | SE      |
| 17  | 85.7      | 95.6  | 3:15p | 75.6 | 5:30a  | 0.0           | 20.7          | 0.00 | 2.7            | 13.0 | 2:45p  | E       |
| 18  | 81.7      | 89.4  | 4:30p | 73.6 | 7:15a  | 0.0           | 16.7          | 0.00 | 3.3            | 16.0 | 6:15p  | E       |
| 19  | 81.8      | 92.3  | 5:45p | 69.1 | 5:30a  | 0.0           | 16.8          | 0.00 | 3.1            | 16.0 | 2:00p  | S       |
| 20  | 84.0      | 95.9  | 4:00p | 75.2 | 6:15a  | 0.0           | 19.0          | 0.00 | 4.2            | 22.0 | 7:45p  | SSW     |
| 21  | 84.8      | 97.2  | 5:15p | 75.4 | 1:30a  | 0.0           | 19.8          | 0.00 | 4.7            | 21.0 | 5:30p  | S       |
| 22  | 89.8      | 101.8 | 5:30p | 79.8 | 6:00a  | 0.0           | 24.8          | 0.00 | 7.8            | 33.0 | 12:45p | SW      |
| 23  | 83.0      | 90.3  | 2:30p | 75.6 | 12:00m | 0.0           | 18.0          | 0.00 | 3.0            | 13.0 | 5:00a  | NNE     |
| 24  | 80.3      | 91.6  | 3:15p | 72.1 | 6:15a  | 0.0           | 15.3          | 0.00 | 2.4            | 16.0 | 5:45p  | SE      |
| 25  | 85.8      | 94.4  | 4:15p | 78.0 | 6:45a  | 0.0           | 20.8          | 0.00 | 5.7            | 26.0 | 3:00p  | S       |
| 26  | 81.7      | 88.1  | 3:45p | 74.9 | 12:00m | 0.0           | 16.7          | 0.01 | 2.5            | 16.0 | 1:30a  | S       |
| 27  | 80.7      | 94.1  | 3:45p | 68.2 | 7:00a  | 0.0           | 15.7          | 0.00 | 1.1            | 10.0 | 4:00p  | ESE     |
| 28  | 77.2      | 85.6  | 3:45p | 68.1 | 10:15a | 0.0           | 12.2          | 0.18 | 2.1            | 21.0 | 9:00a  | ENE     |
| 29  | 76.6      | 85.7  | 6:15p | 66.2 | 5:30a  | 0.0           | 11.6          | 0.00 | 2.1            | 14.0 | 12:00p | SE      |
| 30  | 79.5      | 87.6  | 1:45p | 72.1 | 5:30a  | 0.0           | 14.5          | 0.00 | 1.8            | 22.0 | 2:30p  | SSE     |
|     | 80.4      | 101.8 | 22    | 57.4 | 2      | 4.4           | 465.8         | 0.29 | 3.2            | 33.0 | 12     | S       |

Max >= 90.0: 18

Max <= 32.0: 0

Min <= 32.0: 0

Min <= 0.0: 0

Max Rain: 0.18 ON 06/28/16

Days of Rain: 2 (>.01 in) 1 (>.1 in) 0 (>1 in)

Heat Base: 65.0 Cool Base: 65.0 Method: Integration

MONTHLY CLIMATOLOGICAL SUMMARY for JUL. 2016

NAME: Leavenworth City Hall CITY: Leavenworth STATE: Kansas  
 ELEV: 851 ft LAT: 39° 18' 00" N LONG: 94° 54' 00" W

TEMPERATURE (°F), RAIN (in), WIND SPEED (mph)

| DAY | MEAN TEMP | HIGH | TIME   | LOW  | TIME   | HEAT DEG DAYS | COOL DEG DAYS | RAIN | AVG WIND SPEED | HIGH | TIME   | DOM DIR |
|-----|-----------|------|--------|------|--------|---------------|---------------|------|----------------|------|--------|---------|
| 1   | 75.3      | 83.3 | 2:30p  | 67.9 | 6:15a  | 0.0           | 10.3          | 0.00 | 2.2            | 11.0 | 7:30a  | NNE     |
| 2   | 67.2      | 73.0 | 12:15a | 64.1 | 11:45p | 0.1           | 2.3           | 4.16 | 3.0            | 16.0 | 10:15p | E       |
| 3   | 64.4      | 69.2 | 4:30p  | 61.0 | 7:45a  | 1.3           | 0.7           | 1.22 | 3.1            | 13.0 | 3:00a  | NE      |
| 4   | 72.0      | 82.4 | 6:45p  | 64.0 | 1:30a  | 0.2           | 7.2           | 0.00 | 1.2            | 10.0 | 2:15p  | ENE     |
| 5   | 84.6      | 96.5 | 2:45p  | 71.7 | 5:00a  | 0.0           | 19.6          | 0.00 | 3.9            | 21.0 | 4:00p  | S       |
| 6   | 82.9      | 92.3 | 6:15p  | 70.3 | 10:00a | 0.0           | 17.9          | 0.16 | 3.2            | 25.0 | 7:00a  | S       |
| 7   | 80.6      | 92.7 | 4:15p  | 67.0 | 5:30a  | 0.0           | 15.6          | 0.56 | 2.6            | 32.0 | 4:30a  | S       |
| 8   | 81.3      | 90.2 | 4:30p  | 74.2 | 12:00m | 0.0           | 16.3          | 0.00 | 1.4            | 10.0 | 8:00a  | NNE     |
| 9   | 80.6      | 90.7 | 3:30p  | 71.2 | 5:00a  | 0.0           | 15.6          | 0.00 | 2.0            | 15.0 | 5:45p  | SE      |
| 10  | 84.1      | 93.5 | 5:00p  | 74.8 | 6:30a  | 0.0           | 19.1          | 0.00 | 4.1            | 19.0 | 2:00p  | SSE     |
| 11  | 85.2      | 93.7 | 4:15p  | 76.9 | 6:45a  | 0.0           | 20.2          | 0.00 | 7.4            | 31.0 | 5:45p  | S       |
| 12  | 77.2      | 85.8 | 2:30p  | 64.5 | 5:45a  | 0.0           | 12.2          | 1.37 | 4.5            | 40.0 | 5:15a  | S       |
| 13  | 78.0      | 84.5 | 6:30p  | 68.9 | 10:45a | 0.0           | 13.0          | 0.46 | 2.1            | 39.0 | 10:30a | SE      |
| 14  | 77.8      | 84.5 | 6:00p  | 70.4 | 6:30a  | 0.0           | 12.8          | 0.00 | 1.3            | 17.0 | 2:45p  | W       |
| 15  | 75.1      | 84.0 | 2:15p  | 67.2 | 6:15a  | 0.0           | 10.1          | 0.00 | 1.9            | 13.0 | 12:30p | NNE     |
| 16  | 78.8      | 89.9 | 4:30p  | 68.4 | 5:45a  | 0.0           | 13.8          | 0.00 | 2.2            | 15.0 | 4:30p  | SE      |
| 17  | 85.6      | 95.4 | 5:00p  | 76.6 | 6:30a  | 0.0           | 20.6          | 0.00 | 5.3            | 25.0 | 12:30p | S       |
| 18  | 83.8      | 93.5 | 5:15p  | 75.4 | 7:00a  | 0.0           | 18.8          | 0.00 | 3.7            | 19.0 | 12:15p | S       |
| 19  | 85.8      | 95.5 | 4:00p  | 75.9 | 5:30a  | 0.0           | 20.8          | 0.00 | 3.0            | 17.0 | 2:00p  | S       |
| 20  | 88.0      | 96.4 | 4:15p  | 78.6 | 6:30a  | 0.0           | 23.0          | 0.00 | 3.9            | 18.0 | 1:00p  | S       |
| 21  | 89.1      | 98.6 | 3:30p  | 80.1 | 6:30a  | 0.0           | 24.1          | 0.00 | 5.8            | 21.0 | 12:15p | S       |
| 22  | 88.3      | 96.7 | 5:45p  | 80.7 | 7:00a  | 0.0           | 23.3          | 0.00 | 4.5            | 22.0 | 12:30p | S       |
| 23  | 88.0      | 96.3 | 3:15p  | 81.6 | 6:45a  | 0.0           | 23.0          | 0.00 | 3.7            | 17.0 | 12:45p | S       |
| 24  | 85.9      | 95.4 | 3:00p  | 79.4 | 12:00m | 0.0           | 20.9          | 0.00 | 2.7            | 23.0 | 7:30p  | S       |
| 25  | 78.1      | 83.6 | 7:15p  | 72.7 | 7:45a  | 0.0           | 13.1          | 0.00 | 2.0            | 13.0 | 4:00p  | NE      |
| 26  | 79.0      | 86.7 | 3:15p  | 69.1 | 6:30a  | 0.0           | 14.0          | 0.00 | 1.5            | 11.0 | 2:15p  | ENE     |
| 27  | 79.5      | 89.2 | 5:45p  | 68.4 | 6:45a  | 0.0           | 14.5          | 0.00 | 1.2            | 11.0 | 10:15a | SE      |
| 28  | 80.2      | 89.3 | 4:15p  | 72.3 | 5:45a  | 0.0           | 15.2          | 0.00 | 2.2            | 14.0 | 3:00p  | N       |
| 29  | 76.9      | 83.9 | 2:45p  | 70.5 | 6:15a  | 0.0           | 11.5          | 0.00 | 2.0            | 14.0 | 4:00p  | N       |
| 30  | 75.1      | 84.3 | 7:00p  | 65.4 | 6:45a  | 0.0           | 10.1          | 0.04 | 1.1            | 8.0  | 2:45p  | ENE     |
| 31  | 75.6      | 82.7 | 5:15p  | 70.3 | 9:15a  | 0.0           | 10.6          | 0.91 | 2.4            | 22.0 | 8:45a  | ESE     |
|     | 80.1      | 98.6 | 21     | 61.0 | 3      | 1.6           | 470.2         | 8.88 | 2.9            | 40.0 | 12     | S       |

Max >= 90.0: 15  
 Max <= 32.0: 0  
 Min <= 32.0: 0  
 Min <= 0.0: 0

Max Rain: 4.16 ON 07/02/16

Days of Rain: 8 (>.01 in) 7 (>.1 in) 3 (>1 in)

Heat Base: 65.0 Cool Base: 65.0 Method: Integration

MONTHLY CLIMATOLOGICAL SUMMARY for AUG. 2016

NAME: Leavenworth City Hall CITY: Leavenworth STATE: Kansas  
 ELEV: 851 ft LAT: 39° 18' 00" N LONG: 94° 54' 00" W

TEMPERATURE (°F), RAIN (in), WIND SPEED (mph)

| DAY   | MEAN TEMP | HIGH | TIME   | LOW  | TIME   | HEAT DEG DAYS | COOL DEG DAYS | RAIN | AVG WIND SPEED | HIGH | TIME   | DOM DIR |
|-------|-----------|------|--------|------|--------|---------------|---------------|------|----------------|------|--------|---------|
| 1     | 77.6      | 89.0 | 6:30p  | 70.3 | 10:00a | 0.0           | 12.5          | 0.12 | 5.3            | 26.0 | 8:15a  | SE      |
| 2     | 80.4      | 89.1 | 4:00p  | 73.7 | 5:30a  | 0.0           | 15.4          | 0.18 | 2.1            | 18.0 | 7:00a  | ENE     |
| 3     | 82.3      | 91.4 | 4:15p  | 74.4 | 8:15a  | 0.0           | 17.3          | 0.00 | 2.4            | 13.0 | 1:15p  | ENE     |
| 4     | 88.5      | 99.6 | 3:30p  | 78.7 | 6:30a  | 0.0           | 23.5          | 0.00 | 3.2            | 19.0 | 12:00p | SE      |
| 5     | 76.6      | 88.2 | 12:15a | 71.7 | 11:30a | 0.0           | 11.6          | 0.00 | 2.6            | 14.0 | 12:45a | N       |
| 6     | 74.5      | 80.9 | 5:00p  | 68.4 | 6:30a  | 0.0           | 9.5           | 0.00 | 2.4            | 13.0 | 3:00p  | NE      |
| 7     | 71.3      | 75.8 | 4:30p  | 67.4 | 10:00a | 0.0           | 6.3           | 0.10 | 2.1            | 14.0 | 7:30p  | ENE     |
| 8     | 75.0      | 80.0 | 6:30p  | 69.8 | 6:30a  | 0.0           | 10.0          | 0.00 | 1.9            | 11.0 | 9:30a  | ENE     |
| 9     | 82.9      | 93.4 | 3:30p  | 73.7 | 5:15a  | 0.0           | 17.9          | 0.00 | 1.3            | 10.0 | 6:15p  | ESE     |
| 10    | 86.5      | 97.5 | 4:45p  | 77.6 | 6:45a  | 0.0           | 21.5          | 0.00 | 2.4            | 23.0 | 8:00p  | S       |
| 11    | 89.3      | 99.6 | 5:00p  | 80.1 | 6:45a  | 0.0           | 24.3          | 0.00 | 6.0            | 21.0 | 11:30a | S       |
| 12    | 77.1      | 88.6 | 12:15a | 72.4 | 4:15a  | 0.0           | 12.1          | 0.33 | 2.4            | 21.0 | 12:15a | NNW     |
| 13    | 77.0      | 86.6 | 4:15p  | 67.5 | 6:45a  | 0.0           | 12.0          | 0.00 | 2.3            | 15.0 | 2:30p  | N       |
| 14    | 77.1      | 87.3 | 3:30p  | 68.5 | 6:15a  | 0.0           | 12.1          | 0.00 | 1.7            | 14.0 | 4:15p  | NE      |
| 15    | 74.6      | 82.1 | 4:30p  | 68.0 | 4:15a  | 0.0           | 9.6           | 0.00 | 0.6            | 7.0  | 1:15p  | N       |
| 16    | 78.3      | 89.3 | 4:45p  | 67.5 | 6:30a  | 0.0           | 13.3          | 0.00 | 2.6            | 16.0 | 3:45p  | S       |
| 17    | 81.8      | 92.8 | 4:00p  | 71.1 | 6:45a  | 0.0           | 16.8          | 0.00 | 4.0            | 19.0 | 3:15p  | S       |
| 18    | 81.6      | 92.4 | 3:00p  | 71.3 | 7:15a  | 0.0           | 16.6          | 0.00 | 3.4            | 19.0 | 4:00p  | S       |
| 19    | 77.3      | 89.0 | 5:00p  | 67.9 | 10:15p | 0.0           | 12.3          | 0.61 | 2.9            | 34.0 | 8:00p  | S       |
| 20    | 67.7      | 73.8 | 6:30p  | 60.9 | 12:00m | 0.3           | 3.0           | 0.00 | 3.3            | 20.0 | 10:00a | NNW     |
| 21    | 69.9      | 82.9 | 5:15p  | 58.4 | 5:30a  | 1.8           | 6.7           | 0.00 | 1.5            | 13.0 | 12:45p | W       |
| 22    | 73.1      | 84.1 | 3:30p  | 61.1 | 6:45a  | 0.6           | 8.7           | 0.00 | 3.6            | 20.0 | 12:00p | SE      |
| 23    | 77.9      | 87.5 | 4:00p  | 68.8 | 5:00a  | 0.0           | 12.9          | 0.00 | 6.4            | 29.0 | 3:45p  | S       |
| 24    | 75.7      | 86.3 | 5:45p  | 67.4 | 6:00a  | 0.0           | 10.7          | 1.41 | 3.0            | 31.0 | 1:15a  | S       |
| 25    | 74.1      | 80.9 | 3:00p  | 70.3 | 8:15a  | 0.0           | 9.1           | 0.76 | 1.9            | 15.0 | 6:30p  | NNE     |
| 26    | 72.6      | 84.4 | 4:30p  | 67.3 | 6:30a  | 0.0           | 7.6           | 1.46 | 2.5            | 25.0 | 6:15p  | SE      |
| 27    | 76.8      | 88.7 | 5:30p  | 67.4 | 7:30a  | 0.0           | 11.8          | 0.11 | 1.6            | 29.0 | 6:45a  | SSE     |
| 28    | 79.6      | 91.6 | 3:30p  | 71.2 | 5:30a  | 0.0           | 14.6          | 0.42 | 2.0            | 21.0 | 8:45p  | SE      |
| 29    | 80.5      | 91.7 | 2:15p  | 70.2 | 7:15a  | 0.0           | 15.5          | 0.00 | 1.4            | 10.0 | 3:45p  | SE      |
| 30    | 77.7      | 86.4 | 4:45p  | 71.2 | 6:30a  | 0.0           | 12.7          | 0.00 | 2.6            | 13.0 | 3:15a  | NNE     |
| 31    | 73.7      | 80.9 | 5:15p  | 66.0 | 12:00m | 0.0           | 8.7           | 0.89 | 2.2            | 22.0 | 3:15a  | NNE     |
| ----- |           |      |        |      |        |               |               |      |                |      |        |         |
|       | 77.7      | 99.6 | 4      | 58.4 | 21     | 2.7           | 396.6         | 6.39 | 2.7            | 34.0 | 19     | S       |

Max >= 90.0: 9  
 Max <= 32.0: 0  
 Min <= 32.0: 0  
 Min <= 0.0: 0

Max Rain: 1.46 ON 08/26/16

Days of Rain: 11 (>.01 in) 10 (>.1 in) 2 (>1 in)

Heat Base: 65.0 Cool Base: 65.0 Method: Integration

MONTHLY CLIMATOLOGICAL SUMMARY for SEP. 2016

NAME: Leavenworth City Hall CITY: Leavenworth STATE: Kansas  
 ELEV: 851 ft LAT: 39° 18' 00" N LONG: 94° 54' 00" W

TEMPERATURE (°F), RAIN (in), WIND SPEED (mph)

| DAY   | MEAN TEMP | HIGH | TIME   | LOW  | TIME   | HEAT DEG DAYS | COOL DEG DAYS | RAIN | AVG WIND SPEED | HIGH | TIME   | DOM DIR |
|-------|-----------|------|--------|------|--------|---------------|---------------|------|----------------|------|--------|---------|
| 1     | 69.5      | 78.2 | 4:00p  | 61.3 | 5:45a  | 0.6           | 5.1           | 0.00 | 2.2            | 14.0 | 2:00p  | ENE     |
| 2     | 67.9      | 77.3 | 4:15p  | 60.4 | 3:30a  | 1.2           | 4.1           | 0.00 | 1.8            | 12.0 | 3:00p  | ENE     |
| 3     | 70.2      | 80.2 | 3:45p  | 60.7 | 7:15a  | 0.7           | 5.9           | 0.00 | 2.1            | 17.0 | 11:45a | SE      |
| 4     | 73.1      | 82.8 | 4:30p  | 64.9 | 7:00a  | 0.0           | 8.1           | 0.00 | 3.3            | 18.0 | 3:45p  | SE      |
| 5     | 80.7      | 90.3 | 5:45p  | 70.7 | 6:15a  | 0.0           | 15.7          | 0.00 | 5.7            | 27.0 | 11:45a | S       |
| 6     | 84.0      | 91.7 | 4:15p  | 75.7 | 5:15a  | 0.0           | 19.0          | 0.00 | 6.2            | 31.0 | 2:45p  | S       |
| 7     | 83.0      | 89.9 | 3:30p  | 77.4 | 7:45a  | 0.0           | 18.0          | 0.00 | 6.1            | 24.0 | 4:30p  | S       |
| 8     | 77.9      | 82.9 | 12:15a | 72.4 | 3:00a  | 0.0           | 12.9          | 0.95 | 2.9            | 23.0 | 2:00a  | S       |
| 9     | 76.0      | 85.0 | 4:30p  | 67.4 | 12:00m | 0.0           | 11.0          | 0.74 | 3.0            | 21.0 | 8:45p  | S       |
| 10    | 65.9      | 75.4 | 5:15p  | 57.7 | 7:15a  | 2.0           | 2.9           | 0.04 | 3.9            | 22.0 | 2:30a  | NNW     |
| 11    | 67.0      | 78.0 | 4:45p  | 56.1 | 7:15a  | 2.6           | 4.7           | 0.00 | 2.9            | 17.0 | 12:15p | SSE     |
| 12    | 74.0      | 85.4 | 3:45p  | 63.1 | 3:30a  | 0.2           | 9.2           | 0.00 | 4.5            | 21.0 | 10:30a | S       |
| 13    | 69.8      | 78.8 | 4:00p  | 65.8 | 10:15p | 0.0           | 4.8           | 1.44 | 1.9            | 16.0 | 1:00p  | SE      |
| 14    | 70.1      | 77.0 | 4:45p  | 64.7 | 8:30a  | 0.0           | 5.1           | 1.36 | 2.1            | 13.0 | 5:15a  | ENE     |
| 15    | 75.7      | 86.3 | 2:45p  | 65.6 | 7:00a  | 0.0           | 10.7          | 0.00 | 2.5            | 18.0 | 11:45p | S       |
| 16    | 68.2      | 75.1 | 12:15a | 64.6 | 7:00a  | 0.0           | 3.2           | 0.25 | 2.4            | 17.0 | 4:45a  | W       |
| 17    | 71.5      | 83.1 | 4:30p  | 63.0 | 11:45p | 0.2           | 6.7           | 0.00 | 1.8            | 16.0 | 1:00p  | W       |
| 18    | 72.8      | 84.6 | 4:30p  | 60.1 | 5:15a  | 1.1           | 8.9           | 0.00 | 1.9            | 16.0 | 12:00p | S       |
| 19    | 79.0      | 91.3 | 4:30p  | 66.5 | 7:00a  | 0.0           | 14.0          | 0.00 | 2.8            | 18.0 | 1:45p  | SSE     |
| 20    | 82.3      | 92.9 | 3:00p  | 70.3 | 7:30a  | 0.0           | 17.3          | 0.00 | 2.4            | 12.0 | 12:45a | SSE     |
| 21    | 82.6      | 91.1 | 3:30p  | 75.8 | 7:30a  | 0.0           | 17.6          | 0.00 | 4.1            | 18.0 | 2:45p  | S       |
| 22    | 80.4      | 90.3 | 4:45p  | 71.8 | 7:30a  | 0.0           | 15.4          | 0.00 | 4.2            | 19.0 | 12:45p | S       |
| 23    | 78.5      | 88.8 | 3:30p  | 67.9 | 7:00a  | 0.0           | 13.5          | 0.00 | 2.2            | 14.0 | 2:45p  | SSE     |
| 24    | 78.0      | 89.3 | 4:45p  | 68.6 | 12:00m | 0.0           | 13.0          | 0.64 | 3.0            | 19.0 | 2:30p  | SSE     |
| 25    | 65.4      | 69.0 | 12:45a | 59.0 | 12:00m | 1.2           | 1.5           | 0.29 | 1.8            | 19.0 | 10:45a | W       |
| 26    | 63.1      | 75.1 | 4:45p  | 50.6 | 7:15a  | 4.5           | 2.5           | 0.00 | 2.1            | 16.0 | 1:00p  | W       |
| 27    | 66.9      | 81.2 | 5:15p  | 55.6 | 7:15a  | 2.6           | 4.5           | 0.00 | 1.8            | 14.0 | 3:30p  | W       |
| 28    | 60.8      | 66.8 | 4:15p  | 56.4 | 12:00m | 4.3           | 0.1           | 0.00 | 3.5            | 18.0 | 1:00p  | N       |
| 29    | 59.9      | 71.4 | 4:00p  | 50.2 | 7:30a  | 6.4           | 1.3           | 0.00 | 2.4            | 15.0 | 11:45a | N       |
| 30    | 61.9      | 73.7 | 2:45p  | 50.4 | 7:00a  | 5.3           | 2.3           | 0.00 | 1.9            | 17.0 | 12:45p | N       |
| ----- |           |      |        |      |        |               |               |      |                |      |        |         |
|       | 72.5      | 92.9 | 20     | 50.2 | 29     | 32.9          | 259.0         | 5.71 | 3.0            | 31.0 | 6      | S       |

Max >= 90.0: 6

Max <= 32.0: 0

Min <= 32.0: 0

Min <= 0.0: 0

Max Rain: 1.44 ON 09/13/16

Days of Rain: 8 (>.01 in) 7 (>.1 in) 2 (>1 in)

Heat Base: 65.0 Cool Base: 65.0 Method: Integration



MONTHLY CLIMATOLOGICAL SUMMARY for SEP. 2016

NAME: Water Pollution Control - WWTP CITY: STATE:  
 ELEV: 0 ft LAT: LONG:

TEMPERATURE (°F), RAIN (in), WIND SPEED (mph)

| DAY   | MEAN TEMP | HIGH | TIME   | LOW  | TIME   | HEAT DEG DAYS | COOL DEG DAYS | RAIN | AVG WIND SPEED | HIGH | TIME   | DOM DIR |
|-------|-----------|------|--------|------|--------|---------------|---------------|------|----------------|------|--------|---------|
| 1     | 68.8      | 77.3 | 3:15p  | 61.2 | 6:45a  | 0.7           | 4.5           | 0.00 | 2.1            | 17.0 | 4:15p  | NE      |
| 2     | 67.3      | 76.3 | 5:15p  | 60.3 | 3:15a  | 1.4           | 3.7           | 0.01 | 1.6            | 14.0 | 2:15p  | E       |
| 3     | 69.4      | 78.9 | 4:45p  | 59.6 | 7:15a  | 1.1           | 5.5           | 0.00 | 2.2            | 17.0 | 2:30p  | SE      |
| 4     | 72.7      | 81.9 | 4:00p  | 64.3 | 6:45a  | 0.0           | 7.7           | 0.00 | 3.4            | 19.0 | 2:15p  | SE      |
| 5     | 79.8      | 89.1 | 4:15p  | 69.5 | 1:45a  | 0.0           | 14.8          | 0.00 | 4.8            | 26.0 | 1:45p  | SSE     |
| 6     | 83.1      | 90.5 | 4:15p  | 75.2 | 7:30a  | 0.0           | 18.1          | 0.00 | 2.2            | 21.0 | 12:45a | S       |
| 7     | 82.3      | 88.8 | 4:15p  | 76.9 | 7:30a  | 0.0           | 17.3          | 0.00 | 0.1            | 13.0 | 6:30a  | S       |
| 8     | 77.1      | 82.1 | 12:15a | 73.4 | 2:45a  | 0.0           | 12.1          | 0.76 | 0.1            | 15.0 | 2:45a  | S       |
| 9     | 75.2      | 83.6 | 4:45p  | 67.5 | 12:00m | 0.0           | 10.2          | 0.91 | 1.0            | 19.0 | 9:30p  | SE      |
| 10    | 65.2      | 73.9 | 5:15p  | 57.6 | 7:15a  | 2.2           | 2.4           | 0.06 | 1.6            | 22.0 | 2:45a  | NNW     |
| 11    | 65.5      | 76.8 | 4:45p  | 53.4 | 6:45a  | 3.6           | 4.2           | 0.01 | 2.7            | 17.0 | 12:15p | SSW     |
| 12    | 72.8      | 83.9 | 3:30p  | 61.6 | 2:30a  | 0.5           | 8.3           | 0.00 | 0.0            | 0.0  | ---    | ---     |
| 13    | 68.9      | 76.5 | 4:15p  | 65.7 | 10:30p | 0.0           | 3.9           | 1.49 | 1.2            | 22.0 | 8:15p  | NNE     |
| 14    | 69.7      | 76.1 | 2:45p  | 64.5 | 8:15a  | 0.0           | 4.7           | 0.95 | <del>1.3</del> | 13.0 | 3:15p  | NE      |
| 15    | 74.5      | 85.1 | 5:00p  | 64.9 | 7:15a  | 0.0           | 9.5           | 0.00 | 2.1            | 15.0 | 2:15p  | SE      |
| 16    | 67.7      | 74.2 | 12:15a | 64.1 | 7:00a  | 0.1           | 2.8           | 0.54 | 0.5            | 16.0 | 4:30a  | S       |
| 17    | 70.7      | 82.2 | 3:30p  | 61.3 | 12:00m | 0.3           | 6.1           | 0.01 | 1.1            | 14.0 | 1:45p  | SSW     |
| 18    | 71.4      | 83.3 | 3:45p  | 58.9 | 4:00a  | 1.6           | 8.0           | 0.00 | 2.0            | 15.0 | 12:30p | S       |
| 19    | 77.1      | 89.6 | 5:15p  | 63.8 | 7:15a  | 0.1           | 12.1          | 0.00 | 2.9            | 20.0 | 1:15p  | S       |
| 20    | 80.7      | 91.1 | 5:00p  | 69.4 | 7:30a  | 0.0           | 15.7          | 0.00 | 0.0            | 0.0  | ---    | ---     |
| 21    | 81.0      | 89.9 | 2:15p  | 74.0 | 2:45a  | 0.0           | 16.0          | 0.00 | 0.0            | 0.0  | ---    | ---     |
| 22    | 79.2      | 88.3 | 4:45p  | 71.0 | 7:15a  | 0.0           | 14.2          | 0.00 | 0.0            | 0.0  | ---    | ---     |
| 23    | 76.7      | 87.6 | 3:00p  | 65.9 | 7:30a  | 0.0           | 11.7          | 0.00 | 0.0            | 2.0  | 5:00a  | S       |
| 24    | 76.6      | 87.9 | 3:45p  | 67.4 | 7:30a  | 0.0           | 11.6          | 0.69 | 0.0            | 0.0  | ---    | ---     |
| 25    | 65.2      | 68.7 | 12:15a | 58.7 | 12:00m | 1.2           | 1.4           | 0.31 | 0.0            | 2.0  | 12:00m | WNW     |
| 26    | 61.9      | 73.9 | 5:15p  | 49.9 | 7:45a  | 5.3           | 2.2           | 0.00 | 0.0            | 5.0  | 2:00a  | WNW     |
| 27    | 65.2      | 80.3 | 5:30p  | 53.6 | 7:30a  | 3.9           | 4.2           | 0.00 | 0.2            | 6.0  | 7:30a  | SSE     |
| 28    | 60.0      | 66.0 | 4:00p  | 55.6 | 12:00m | 5.1           | 0.0           | 0.00 | 0.0            | 0.0  | ---    | ---     |
| 29    | 59.2      | 70.3 | 5:00p  | 50.3 | 7:30a  | 6.8           | 1.0           | 0.00 | 0.3            | 9.0  | 8:00a  | NW      |
| 30    | 60.8      | 72.9 | 4:00p  | 50.9 | 6:45a  | 6.0           | 1.9           | 0.00 | 0.0            | 2.0  | 3:45a  | NNW     |
| ----- |           |      |        |      |        |               |               |      |                |      |        |         |
|       | 71.5      | 91.1 | 20     | 49.9 | 26     | 39.9          | 235.8         | 5.74 | 1.1            | 26.0 | 5      | S       |

Max >= 90.0: 2  
 Max <= 32.0: 0  
 Min <= 32.0: 0  
 Min <= 0.0: 0

Max Rain: 1.49 ON 09/13/16

Days of Rain: 8 (>.01 in) 7 (>.1 in) 1 (>1 in)

Heat Base: 65.0 Cool Base: 65.0 Method: Integration

MONTHLY CLIMATOLOGICAL SUMMARY for MAR. 2016

NAME: Water Pollution Control - WWTP CITY: STATE:  
 ELEV: 0 ft LAT: LONG:

TEMPERATURE (°F), RAIN (in), WIND SPEED (mph)

| DAY | MEAN TEMP | HIGH | TIME   | LOW  | TIME   | HEAT DEG DAYS | COOL DEG DAYS | RAIN | AVG WIND SPEED | HIGH | TIME   | DOM DIR |
|-----|-----------|------|--------|------|--------|---------------|---------------|------|----------------|------|--------|---------|
| 1   | 32.6      | 43.3 | 12:15a | 27.2 | 12:00m | 32.4          | 0.0           | 0.00 | 7.9            | 32.0 | 12:30a | NW      |
| 2   | 44.0      | 62.6 | 4:15p  | 24.7 | 4:45a  | 21.0          | 0.0           | 0.00 | 5.3            | 26.0 | 4:15p  | SE      |
| 3   | 43.9      | 54.0 | 12:15a | 35.2 | 8:15a  | 21.1          | 0.0           | 0.00 | 5.8            | 24.0 | 10:45a | NNW     |
| 4   | 47.3      | 66.2 | 4:30p  | 27.1 | 5:30a  | 17.8          | 0.0           | 0.00 | 3.9            | 24.0 | 2:30p  | S       |
| 5   | 51.3      | 64.3 | 3:30p  | 34.0 | 5:45a  | 13.7          | 0.0           | 0.00 | 2.5            | 15.0 | 10:00a | NW      |
| 6   | 61.3      | 72.5 | 2:00p  | 48.9 | 3:30a  | 5.8           | 2.1           | 0.00 | 8.2            | 38.0 | 12:00p | S       |
| 7   | 66.3      | 69.7 | 12:30p | 63.9 | 12:00m | 0.1           | 1.4           | 0.00 | 10.6           | 37.0 | 4:00p  | S       |
| 8   | 60.8      | 64.7 | 11:45a | 55.8 | 12:00m | 4.2           | 0.0           | 0.41 | 4.9            | 30.0 | 9:15a  | S       |
| 9   | 52.4      | 59.1 | 3:15p  | 46.0 | 7:30a  | 12.6          | 0.0           | 0.00 | 3.8            | 15.0 | 12:15a | N       |
| 10  | 55.0      | 67.2 | 5:15p  | 45.1 | 7:15a  | 10.2          | 0.2           | 0.00 | 1.5            | 10.0 | 7:30a  | N       |
| 11  | 54.1      | 67.9 | 3:30p  | 39.5 | 6:30a  | 11.2          | 0.3           | 0.00 | 2.2            | 15.0 | 4:30p  | ESE     |
| 12  | 53.7      | 57.4 | 3:15p  | 48.8 | 4:30a  | 11.3          | 0.0           | 0.20 | 1.7            | 9.0  | 7:45a  | ESE     |
| 13  | 57.4      | 62.7 | 5:15p  | 53.2 | 12:00m | 7.3           | 0.0           | 0.00 | 0.5            | 9.0  | 4:00p  | ESE     |
| 14  | 60.2      | 74.3 | 5:00p  | 46.9 | 6:45a  | 7.2           | 2.4           | 0.00 | 2.2            | 19.0 | 1:15p  | S       |
| 15  | 56.5      | 64.4 | 12:15a | 47.3 | 11:45p | 8.5           | 0.0           | 0.02 | 4.4            | 25.0 | 12:15p | NW      |
| 16  | 51.7      | 61.8 | 4:00p  | 43.3 | 8:00a  | 13.3          | 0.0           | 0.00 | 3.9            | 26.0 | 9:45p  | W       |
| 17  | 50.1      | 61.5 | 3:00p  | 35.0 | 7:30a  | 14.9          | 0.0           | 0.00 | 2.7            | 17.0 | 2:45p  | NNW     |
| 18  | 43.1      | 54.5 | 1:00a  | 32.6 | 11:45p | 21.9          | 0.0           | 0.00 | 6.3            | 22.0 | 1:15a  | N       |
| 19  | 35.4      | 40.4 | 12:00p | 29.9 | 7:30a  | 29.6          | 0.0           | 0.00 | 3.8            | 23.0 | 10:45a | WNW     |
| 20  | 39.0      | 48.7 | 5:00p  | 31.8 | 12:00m | 26.0          | 0.0           | 0.00 | 5.2            | 21.0 | 4:00a  | NW      |
| 21  | 47.5      | 65.4 | 5:15p  | 28.2 | 5:15a  | 17.5          | 0.0           | 0.00 | 7.7            | 39.0 | 5:45p  | S       |
| 22  | 61.2      | 72.5 | 6:45p  | 50.4 | 7:30a  | 5.5           | 1.7           | 0.00 | 9.8            | 35.0 | 5:00p  | S       |
| 23  | 66.0      | 76.8 | 3:00p  | 53.4 | 11:30p | 1.8           | 2.8           | 0.16 | 8.4            | 42.0 | 6:45p  | S       |
| 24  | 40.0      | 60.3 | 12:15a | 32.1 | 12:00m | 25.0          | 0.0           | 0.04 | 8.1            | 33.0 | 11:45a | NW      |
| 25  | 43.3      | 57.5 | 6:00p  | 27.4 | 6:45a  | 21.7          | 0.0           | 0.00 | 3.2            | 17.0 | 6:00p  | SE      |
| 26  | 48.0      | 57.0 | 5:45p  | 39.6 | 12:00m | 17.0          | 0.0           | 0.11 | 4.0            | 23.0 | 8:45p  | SE      |
| 27  | 40.8      | 53.1 | 5:30p  | 32.9 | 5:45a  | 24.2          | 0.0           | 0.50 | 5.3            | 19.0 | 12:45a | NW      |
| 28  | 49.0      | 65.9 | 5:00p  | 30.1 | 7:00a  | 16.1          | 0.1           | 0.00 | 3.5            | 20.0 | 2:30p  | S       |
| 29  | 58.7      | 67.3 | 5:15p  | 49.0 | 7:15a  | 6.6           | 0.3           | 0.00 | 7.9            | 30.0 | 12:00p | SE      |
| 30  | 64.7      | 73.0 | 4:30p  | 58.7 | 3:45a  | 2.2           | 1.9           | 0.00 | 7.9            | 31.0 | 1:45p  | S       |
| 31  | 53.7      | 63.1 | 12:15a | 44.1 | 12:00m | 11.3          | 0.0           | 0.00 | 5.8            | 24.0 | 12:15p | WNW     |
|     | 51.3      | 76.8 | 23     | 24.7 | 2      | 439.0         | 13.2          | 1.44 | 5.1            | 42.0 | 23     | S       |

Max >= 90.0: 0

Max <= 32.0: 0

Min <= 32.0: 8

Min <= 0.0: 0

Max Rain: 0.50 ON 03/27/16

Days of Rain: 7 (>.01 in) 5 (>.1 in) 0 (>1 in)

Heat Base: 65.0 Cool Base: 65.0 Method: Integration

MONTHLY CLIMATOLOGICAL SUMMARY for APR. 2016

NAME: Water Pollution Control - WWTP CITY: STATE:  
 ELEV: 0 ft LAT: LONG:

TEMPERATURE (°F), RAIN (in), WIND SPEED (mph)

| DAY   | MEAN TEMP | HIGH | TIME   | LOW  | TIME   | HEAT DEG DAYS | COOL DEG DAYS | RAIN | AVG WIND SPEED | HIGH | TIME   | DOM DIR |
|-------|-----------|------|--------|------|--------|---------------|---------------|------|----------------|------|--------|---------|
| 1     | 43.6      | 49.5 | 1:30p  | 37.8 | 12:00m | 21.4          | 0.0           | 0.00 | 7.0            | 28.0 | 6:30p  | WNW     |
| 2     | 48.5      | 62.6 | 5:30p  | 33.1 | 4:00a  | 16.5          | 0.0           | 0.00 | 5.8            | 30.0 | 2:15p  | NW      |
| 3     | 61.9      | 80.3 | 4:30p  | 38.8 | 2:45a  | 8.4           | 5.3           | 0.00 | 7.8            | 36.0 | 1:30p  | SSW     |
| 4     | 59.2      | 68.6 | 12:30a | 51.0 | 12:00m | 6.0           | 0.2           | 0.00 | 5.7            | 23.0 | 1:30p  | N       |
| 5     | 60.3      | 77.8 | 6:00p  | 43.8 | 6:45a  | 8.3           | 3.5           | 0.01 | 8.5            | 33.0 | 4:15p  | SE      |
| 6     | 55.5      | 62.4 | 6:15p  | 49.6 | 8:30a  | 9.5           | 0.0           | 0.23 | 6.5            | 28.0 | 10:30a | WNW     |
| 7     | 53.4      | 62.3 | 2:15p  | 42.6 | 7:00a  | 11.6          | 0.0           | 0.00 | 7.8            | 45.0 | 12:45p | NW      |
| 8     | 49.7      | 62.0 | 4:45p  | 38.7 | 6:45a  | 15.3          | 0.0           | 0.00 | 7.5            | 30.0 | 4:00p  | NW      |
| 9     | 46.3      | 60.7 | 6:45p  | 31.6 | 7:30a  | 18.7          | 0.0           | 0.00 | 6.2            | 22.0 | 12:30p | SE      |
| 10    | 62.0      | 69.6 | 3:45p  | 54.2 | 12:15a | 3.9           | 0.9           | 0.00 | 6.4            | 29.0 | 2:30a  | S       |
| 11    | 51.5      | 57.4 | 4:45p  | 43.0 | 11:00p | 13.5          | 0.0           | 0.00 | 7.3            | 28.0 | 7:15a  | N       |
| 12    | 48.4      | 62.3 | 6:00p  | 31.6 | 5:45a  | 16.6          | 0.0           | 0.00 | 2.9            | 16.0 | 4:00p  | ESE     |
| 13    | 55.8      | 72.0 | 4:45p  | 35.5 | 7:00a  | 10.8          | 1.7           | 0.00 | 3.0            | 17.0 | 12:15p | S       |
| 14    | 59.8      | 72.4 | 5:15p  | 42.0 | 6:45a  | 7.3           | 2.1           | 0.00 | 3.0            | 17.0 | 12:15p | SE      |
| 15    | 63.4      | 73.7 | 4:45p  | 47.1 | 7:00a  | 4.7           | 3.2           | 0.00 | 4.9            | 23.0 | 2:30p  | SE      |
| 16    | 66.8      | 75.2 | 5:45p  | 58.1 | 7:15a  | 1.4           | 3.1           | 0.00 | 6.8            | 24.0 | 5:15p  | SE      |
| 17    | 67.8      | 76.1 | 5:00p  | 58.4 | 7:00a  | 1.2           | 3.9           | 0.05 | 5.4            | 24.0 | 5:00p  | SE      |
| 18    | 62.7      | 67.8 | 6:00p  | 59.7 | 10:15a | 2.4           | 0.2           | 0.39 | 2.9            | 15.0 | 6:15a  | SE      |
| 19    | 59.8      | 65.9 | 4:00p  | 54.9 | 6:30a  | 5.2           | 0.0           | 0.03 | 3.4            | 11.0 | 12:15a | N       |
| 20    | 59.3      | 67.0 | 5:30p  | 53.5 | 11:45p | 5.9           | 0.1           | 0.28 | 3.4            | 20.0 | 1:45p  | SW      |
| 21    | 58.4      | 65.7 | 4:00p  | 50.6 | 6:30a  | 6.6           | 0.0           | 0.01 | 4.5            | 25.0 | 3:45p  | WNW     |
| 22    | 59.1      | 67.9 | 4:15p  | 53.0 | 6:15a  | 6.2           | 0.4           | 3.14 | 2.8            | 14.0 | 7:00a  | N       |
| 23    | 64.3      | 79.1 | 4:45p  | 46.1 | 6:45a  | 5.7           | 5.1           | 0.00 | 3.8            | 25.0 | 2:00p  | SSE     |
| 24    | 70.9      | 79.7 | 2:00p  | 59.8 | 11:15p | 0.4           | 6.3           | 0.64 | 7.9            | 32.0 | 3:15p  | S       |
| 25    | 68.6      | 78.1 | 4:30p  | 59.5 | 12:30a | 1.1           | 4.7           | 0.15 | 4.1            | 23.0 | 10:00a | S       |
| 26    | 64.5      | 70.6 | 3:30p  | 57.5 | 9:00a  | 1.4           | 0.9           | 2.83 | 5.0            | 36.0 | 8:30a  | ESE     |
| 27    | 60.4      | 69.9 | 2:15p  | 51.5 | 12:00m | 5.1           | 0.5           | 0.63 | 4.6            | 26.0 | 4:00a  | S       |
| 28    | 51.7      | 56.1 | 6:00p  | 46.8 | 5:15a  | 13.3          | 0.0           | 0.00 | 3.8            | 18.0 | 12:15a | W       |
| 29    | 51.2      | 54.6 | 3:30p  | 47.3 | 6:45a  | 13.8          | 0.0           | 0.30 | 5.5            | 21.0 | 6:45p  | NE      |
| 30    | 58.6      | 66.6 | 5:15p  | 51.7 | 12:15a | 6.5           | 0.1           | 0.46 | 2.9            | 21.0 | 2:15p  | ENE     |
| ----- |           |      |        |      |        |               |               |      |                |      |        |         |
|       | 58.1      | 80.3 | 3      | 31.6 | 9      | 248.7         | 42.2          | 9.15 | 5.2            | 45.0 | 7      | SE      |

Max >= 90.0: 0

Max <= 32.0: 0

Min <= 32.0: 2

Min <= 0.0: 0

Max Rain: 3.14 ON 04/22/16

Days of Rain: 12 (>.01 in) 10 (>.1 in) 2 (>1 in)

Heat Base: 65.0 Cool Base: 65.0 Method: Integration

MONTHLY CLIMATOLOGICAL SUMMARY for MAY. 2016

NAME: Water Pollution Control - WWTP CITY: STATE:  
 ELEV: 0 ft LAT: LONG:

TEMPERATURE (°F), RAIN (in), WIND SPEED (mph)

| DAY | MEAN TEMP | HIGH | TIME   | LOW  | TIME   | HEAT DEG DAYS | COOL DEG DAYS | RAIN | AVG WIND SPEED | HIGH | TIME   | DOM DIR |
|-----|-----------|------|--------|------|--------|---------------|---------------|------|----------------|------|--------|---------|
| 1   | 53.6      | 59.9 | 1:15p  | 49.2 | 12:00m | 11.4          | 0.0           | 0.01 | 4.0            | 18.0 | 2:00p  | NW      |
| 2   | 51.8      | 58.4 | 6:30p  | 46.6 | 12:00m | 13.2          | 0.0           | 0.00 | 2.1            | 12.0 | 5:15a  | NW      |
| 3   | 56.1      | 70.6 | 6:45p  | 40.4 | 6:15a  | 10.0          | 1.1           | 0.00 | 1.6            | 15.0 | 5:45p  | WNW     |
| 4   | 61.5      | 69.2 | 5:30p  | 51.0 | 12:00m | 4.4           | 0.9           | 0.00 | 5.6            | 23.0 | 12:30p | NW      |
| 5   | 59.8      | 73.1 | 4:15p  | 45.3 | 5:15a  | 7.5           | 2.3           | 0.00 | 1.1            | 11.0 | 1:15p  | NE      |
| 6   | 66.6      | 82.5 | 3:45p  | 47.7 | 6:00a  | 5.1           | 6.6           | 0.00 | 3.3            | 17.0 | 3:15p  | SSW     |
| 7   | 73.3      | 85.9 | 5:30p  | 59.1 | 6:45a  | 0.6           | 8.8           | 0.00 | 2.8            | 15.0 | 12:45p | S       |
| 8   | 64.8      | 72.8 | 10:45a | 58.3 | 6:30a  | 1.4           | 1.2           | 0.57 | 3.5            | 25.0 | 5:30p  | SE      |
| 9   | 66.6      | 74.1 | 4:15p  | 59.0 | 12:00m | 1.0           | 2.6           | 0.41 | 4.7            | 19.0 | 3:30p  | SE      |
| 10  | 67.8      | 81.4 | 5:45p  | 56.7 | 6:15a  | 2.6           | 5.4           | 0.01 | 1.1            | 11.0 | 12:15a | E       |
| 11  | 65.8      | 74.6 | 2:15p  | 57.9 | 12:00m | 1.4           | 2.2           | 1.21 | 3.0            | 35.0 | 5:45a  | NW      |
| 12  | 62.3      | 71.2 | 6:30p  | 52.8 | 12:00m | 4.2           | 1.5           | 0.00 | 4.1            | 24.0 | 4:00p  | WNW     |
| 13  | 59.3      | 78.6 | 1:30p  | 48.0 | 4:30a  | 8.1           | 2.4           | 0.22 | 6.0            | 35.0 | 6:00p  | SSW     |
| 14  | 51.3      | 60.0 | 5:30p  | 44.3 | 6:30a  | 13.7          | 0.0           | 0.00 | 5.8            | 24.0 | 10:00a | NNW     |
| 15  | 54.0      | 66.8 | 3:45p  | 38.9 | 6:15a  | 11.1          | 0.1           | 0.08 | 1.6            | 11.0 | 1:45p  | SW      |
| 16  | 51.6      | 53.1 | 12:15p | 50.3 | 3:45a  | 13.4          | 0.0           | 0.60 | 3.5            | 19.0 | 12:30p | ESE     |
| 17  | 53.4      | 60.9 | 6:30p  | 48.0 | 12:00m | 11.6          | 0.0           | 0.06 | 4.1            | 17.0 | 7:30a  | NE      |
| 18  | 57.0      | 68.7 | 5:30p  | 45.8 | 3:00a  | 8.3           | 0.4           | 0.01 | 1.2            | 13.0 | 5:30p  | SSW     |
| 19  | 56.9      | 66.9 | 12:15p | 45.1 | 6:30a  | 8.4           | 0.2           | 0.03 | 1.6            | 14.0 | 1:00p  | S       |
| 20  | 59.8      | 66.4 | 4:45p  | 54.2 | 12:00m | 5.2           | 0.1           | 0.01 | 2.1            | 15.0 | 2:15p  | ESE     |
| 21  | 62.1      | 73.7 | 5:30p  | 47.9 | 6:00a  | 5.4           | 2.5           | 0.01 | 2.2            | 17.0 | 3:00p  | ESE     |
| 22  | 69.0      | 80.3 | 5:15p  | 52.2 | 6:15a  | 2.8           | 6.8           | 0.00 | 4.0            | 22.0 | 4:45p  | SE      |
| 23  | 66.9      | 70.7 | 12:30p | 62.3 | 11:30p | 0.3           | 2.2           | 0.53 | 3.1            | 22.0 | 3:00p  | SE      |
| 24  | 69.9      | 79.9 | 4:45p  | 61.3 | 5:15a  | 0.9           | 5.8           | 0.28 | 2.3            | 25.0 | 1:45p  | SSE     |
| 25  | 73.8      | 82.1 | 6:30p  | 64.4 | 5:00a  | 0.0           | 8.8           | 0.23 | 5.0            | 30.0 | 2:15a  | SE      |
| 26  | 67.3      | 77.0 | 12:30a | 61.5 | 11:00p | 0.8           | 3.1           | 3.35 | 4.2            | 36.0 | 4:00p  | NNE     |
| 27  | 66.6      | 76.9 | 2:30p  | 60.3 | 12:00m | 1.4           | 3.0           | 0.81 | 2.9            | 22.0 | 3:00a  | NE      |
| 28  | 67.0      | 77.1 | 6:45p  | 58.7 | 3:45a  | 1.9           | 3.8           | 0.03 | 3.2            | 21.0 | 2:00p  | SSW     |
| 29  | 72.8      | 86.5 | 3:15p  | 58.7 | 5:00a  | 1.3           | 9.1           | 0.00 | 1.3            | 13.0 | 1:00p  | S       |
| 30  | 70.8      | 84.6 | 2:15p  | 60.7 | 6:15a  | 0.5           | 6.3           | 0.10 | 2.8            | 27.0 | 2:45p  | SSE     |
| 31  | 70.0      | 79.3 | 4:30p  | 62.1 | 3:30a  | 0.5           | 5.5           | 0.00 | 1.4            | 14.0 | 8:45a  | SSW     |
|     | 62.9      | 86.5 | 29     | 38.9 | 15     | 158.4         | 92.7          | 8.56 | 3.1            | 36.0 | 26     | SE      |

Max >= 90.0: 0  
 Max <= 32.0: 0  
 Min <= 32.0: 0  
 Min <= 0.0: 0

Max Rain: 3.35 ON 05/26/16

Days of Rain: 15 (>.01 in) 10 (>.1 in) 2 (>1 in)

Heat Base: 65.0 Cool Base: 65.0 Method: Integration

MONTHLY CLIMATOLOGICAL SUMMARY for JUN. 2016

NAME: Water Pollution Control - WWTP CITY: STATE:  
 ELEV: 0 ft LAT: LONG:

TEMPERATURE (°F), RAIN (in), WIND SPEED (mph)

| DAY | MEAN TEMP | HIGH  | TIME  | LOW  | TIME   | HEAT DEG DAYS | COOL DEG DAYS | RAIN | AVG WIND SPEED | HIGH | TIME   | DOM DIR |
|-----|-----------|-------|-------|------|--------|---------------|---------------|------|----------------|------|--------|---------|
| 1   | 71.4      | 81.1  | 6:15p | 61.6 | 6:30a  | 0.3           | 6.8           | 0.00 | 1.9            | 12.0 | 8:30a  | W       |
| 2   | 71.4      | 83.5  | 2:15p | 56.4 | 6:15a  | 1.8           | 8.2           | 0.00 | 1.6            | 15.0 | 1:45p  | ESE     |
| 3   | 72.7      | 84.5  | 4:15p | 57.8 | 5:30a  | 1.5           | 9.2           | 0.00 | 2.7            | 15.0 | 3:15p  | ESE     |
| 4   | 73.2      | 81.3  | 6:15p | 63.5 | 6:30a  | 0.1           | 8.3           | 0.09 | 4.4            | 27.0 | 1:00a  | NW      |
| 5   | 72.2      | 84.6  | 7:15p | 60.8 | 4:30a  | 0.6           | 7.8           | 0.00 | 3.3            | 17.0 | 11:15a | NW      |
| 6   | 77.1      | 90.6  | 5:00p | 62.3 | 6:00a  | 0.1           | 12.2          | 0.00 | 4.1            | 21.0 | 10:15a | W       |
| 7   | 70.2      | 81.4  | 6:00p | 56.9 | 6:15a  | 1.0           | 6.2           | 0.00 | 1.9            | 13.0 | 11:00a | NNW     |
| 8   | 74.2      | 85.8  | 4:30p | 58.6 | 5:45a  | 1.3           | 10.5          | 0.00 | 3.8            | 23.0 | 12:00p | SE      |
| 9   | 81.6      | 90.7  | 5:15p | 72.0 | 6:15a  | 0.0           | 16.6          | 0.00 | 6.5            | 28.0 | 3:15p  | SSW     |
| 10  | 82.1      | 91.3  | 3:30p | 72.4 | 6:15a  | 0.0           | 17.1          | 0.00 | 5.8            | 22.0 | 1:00p  | S       |
| 11  | 83.2      | 91.8  | 4:30p | 73.9 | 6:30a  | 0.0           | 18.2          | 0.00 | 3.9            | 17.0 | 2:45p  | S       |
| 12  | 81.0      | 92.6  | 2:15p | 69.8 | 6:30a  | 0.0           | 16.0          | 0.00 | 2.3            | 36.0 | 5:30p  | SSW     |
| 13  | 78.6      | 88.6  | 2:15p | 69.4 | 6:00a  | 0.0           | 13.6          | 0.00 | 2.1            | 13.0 | 12:00p | SSE     |
| 14  | 82.1      | 92.9  | 6:00p | 71.7 | 6:30a  | 0.0           | 17.1          | 0.00 | 4.0            | 23.0 | 2:45p  | SSW     |
| 15  | 84.9      | 99.5  | 4:15p | 69.8 | 6:30a  | 0.0           | 19.9          | 0.00 | 2.7            | 19.0 | 1:00a  | S       |
| 16  | 84.1      | 96.1  | 4:15p | 73.0 | 5:30a  | 0.0           | 19.1          | 0.00 | 1.9            | 16.0 | 10:30a | SSW     |
| 17  | 84.5      | 94.4  | 4:00p | 74.1 | 5:45a  | 0.0           | 19.5          | 0.00 | 2.7            | 15.0 | 7:00p  | E       |
| 18  | 80.8      | 88.2  | 5:00p | 73.1 | 7:30a  | 0.0           | 15.8          | 0.00 | 3.8            | 18.0 | 1:45p  | E       |
| 19  | 80.5      | 91.1  | 5:00p | 66.7 | 5:30a  | 0.0           | 15.5          | 0.00 | 3.3            | 18.0 | 3:15p  | SSE     |
| 20  | 83.3      | 95.7  | 5:00p | 74.0 | 5:30a  | 0.0           | 18.3          | 0.00 | 4.6            | 29.0 | 7:45p  | SSW     |
| 21  | 84.0      | 96.0  | 5:00p | 75.0 | 2:15a  | 0.0           | 19.0          | 0.00 | 4.7            | 20.0 | 5:15p  | S       |
| 22  | 89.1      | 100.7 | 5:15p | 79.3 | 6:15a  | 0.0           | 24.1          | 0.00 | 7.7            | 32.0 | 2:15p  | SSW     |
| 23  | 82.2      | 89.9  | 2:45p | 74.3 | 12:00m | 0.0           | 17.2          | 0.00 | 3.0            | 14.0 | 2:45p  | N       |
| 24  | 79.1      | 90.0  | 3:15p | 69.7 | 5:45a  | 0.0           | 14.1          | 0.00 | 3.0            | 18.0 | 5:30p  | SE      |
| 25  | 85.1      | 93.7  | 4:30p | 77.2 | 6:45a  | 0.0           | 20.1          | 0.00 | 5.6            | 26.0 | 12:00p | S       |
| 26  | 81.1      | 87.9  | 3:45p | 73.7 | 12:00m | 0.0           | 16.1          | 0.00 | 2.6            | 12.0 | 1:45a  | SE      |
| 27  | 79.7      | 93.3  | 4:45p | 68.3 | 7:15a  | 0.0           | 14.7          | 0.01 | 1.0            | 14.0 | 3:00p  | NE      |
| 28  | 76.4      | 84.6  | 4:00p | 67.7 | 10:00a | 0.0           | 11.4          | 0.14 | 2.2            | 16.0 | 9:00a  | NE      |
| 29  | 75.7      | 84.7  | 6:15p | 65.7 | 5:30a  | 0.0           | 10.7          | 0.00 | 2.3            | 16.0 | 2:15p  | ESE     |
| 30  | 78.3      | 86.8  | 1:45p | 70.3 | 6:15a  | 0.0           | 13.3          | 0.00 | 1.9            | 20.0 | 2:45p  | NNE     |
|     | 79.3      | 100.7 | 22    | 56.4 | 2      | 6.7           | 436.6         | 0.24 | 3.4            | 36.0 | 12     | SSW     |

Max >= 90.0: 16

Max <= 32.0: 0

Min <= 32.0: 0

Min <= 0.0: 0

Max Rain: 0.14 ON 06/28/16

Days of Rain: 2 (>.01 in) 1 (>.1 in) 0 (>1 in)

Heat Base: 65.0 Cool Base: 65.0 Method: Integration

MONTHLY CLIMATOLOGICAL SUMMARY for JUL. 2016

NAME: Water Pollution Control - WWTP CITY: STATE:  
 ELEV: 0 ft LAT: LONG:

TEMPERATURE (°F), RAIN (in), WIND SPEED (mph)

| DAY  | MEAN TEMP | HIGH | TIME   | LOW  | TIME   | HEAT DEG DAYS | COOL DEG DAYS | RAIN | AVG WIND SPEED | HIGH | TIME   | DOM DIR |
|------|-----------|------|--------|------|--------|---------------|---------------|------|----------------|------|--------|---------|
| 1    | 74.7      | 81.7 | 3:15p  | 67.3 | 6:30a  | 0.0           | 9.7           | 0.00 | 2.7            | 11.0 | 10:15a | N       |
| 2    | 67.2      | 72.9 | 12:15a | 64.1 | 11:45p | 0.0           | 2.3           | 3.33 | 2.9            | 14.0 | 1:00p  | E       |
| 3    | 64.5      | 69.0 | 5:00p  | 61.2 | 7:45a  | 1.2           | 0.7           | 0.92 | 3.1            | 13.0 | 3:30a  | NE      |
| 4    | 71.5      | 82.0 | 6:45p  | 63.8 | 2:45a  | 0.3           | 6.8           | 0.00 | 0.8            | 11.0 | 3:45p  | NE      |
| 5    | 83.5      | 94.9 | 3:45p  | 70.4 | 1:30a  | 0.0           | 18.5          | 0.00 | 3.5            | 19.0 | 3:00p  | S       |
| 6    | 81.7      | 90.5 | 5:45p  | 70.1 | 10:15a | 0.0           | 16.7          | 0.25 | 3.2            | 24.0 | 7:00a  | S       |
| 7    | 79.3      | 91.1 | 4:00p  | 66.8 | 5:30a  | 0.0           | 14.3          | 0.75 | 2.8            | 46.0 | 4:30a  | S       |
| 8    | 80.0      | 88.4 | 4:30p  | 72.0 | 12:00m | 0.0           | 15.0          | 0.00 | 1.5            | 12.0 | 8:30a  | NNE     |
| 9    | 79.5      | 89.1 | 5:15p  | 70.2 | 5:00a  | 0.0           | 14.5          | 0.00 | 2.6            | 17.0 | 5:45p  | ESE     |
| 10   | 83.0      | 91.8 | 5:15p  | 74.0 | 6:30a  | 0.0           | 18.0          | 0.00 | 4.1            | 19.0 | 12:15p | SSE     |
| 11   | 84.2      | 91.9 | 4:00p  | 75.8 | 6:45a  | 0.0           | 19.2          | 0.00 | 7.3            | 30.0 | 4:15p  | SSE     |
| 12   | 76.4      | 84.2 | 2:30p  | 64.5 | 5:15a  | 0.0           | 11.4          | 1.26 | 4.4            | 38.0 | 7:45a  | S       |
| 13   | 77.2      | 83.7 | 6:15p  | 68.7 | 12:00p | 0.0           | 12.2          | 0.45 | 1.9            | 40.0 | 10:30a | ESE     |
| 14   | 77.0      | 84.3 | 6:00p  | 70.1 | 7:15a  | 0.0           | 12.0          | 0.01 | 1.2            | 16.0 | 3:00p  | SSW     |
| 15   | 74.2      | 82.9 | 2:15p  | 66.5 | 6:15a  | 0.0           | 9.2           | 0.00 | 2.3            | 14.0 | 5:15p  | NNE     |
| 16   | 77.9      | 88.0 | 4:45p  | 67.4 | 6:00a  | 0.0           | 12.9          | 0.00 | 2.9            | 16.0 | 3:00p  | SE      |
| 17   | 84.7      | 94.4 | 6:00p  | 76.0 | 6:30a  | 0.0           | 19.7          | 0.00 | 5.1            | 24.0 | 3:15p  | S       |
| 18   | 82.6      | 91.2 | 5:00p  | 74.3 | 7:15a  | 0.0           | 17.6          | 0.00 | 3.9            | 21.0 | 11:15a | ESE     |
| 19   | 84.4      | 93.3 | 3:45p  | 74.3 | 6:45a  | 0.0           | 19.4          | 0.00 | 2.9            | 18.0 | 2:30p  | S       |
| 20   | 86.5      | 94.9 | 3:45p  | 77.3 | 5:00a  | 0.0           | 21.5          | 0.00 | 4.0            | 19.0 | 2:00p  | SSE     |
| 21   | 88.0      | 97.3 | 4:00p  | 79.3 | 6:30a  | 0.0           | 23.0          | 0.00 | 5.7            | 23.0 | 3:45p  | S       |
| 22   | 87.0      | 95.3 | 5:15p  | 79.7 | 7:00a  | 0.0           | 22.0          | 0.00 | 5.3            | 24.0 | 11:45a | S       |
| 23   | 86.4      | 94.6 | 2:45p  | 78.7 | 6:00a  | 0.0           | 21.4          | 0.00 | 3.0            | 18.0 | 2:15p  | S       |
| 24   | 85.0      | 96.0 | 3:15p  | 78.6 | 12:00m | 0.0           | 20.0          | 0.00 | 3.0            | 20.0 | 7:15p  | S       |
| 25   | 77.4      | 82.4 | 6:15p  | 72.4 | 7:15a  | 0.0           | 12.4          | 0.00 | 2.6            | 13.0 | 1:30p  | NNW     |
| 26   | 78.2      | 86.6 | 4:45p  | 69.0 | 6:30a  | 0.0           | 13.2          | 0.00 | 1.7            | 12.0 | 12:15p | NE      |
| 27   | 78.8      | 88.5 | 7:45p  | 68.6 | 6:15a  | 0.0           | 13.8          | 0.00 | 1.1            | 12.0 | 10:15a | N       |
| 28   | 79.2      | 87.5 | 4:15p  | 71.8 | 4:15a  | 0.0           | 14.2          | 0.00 | 2.9            | 15.0 | 3:30p  | NW      |
| 29   | 76.0      | 82.6 | 3:30p  | 69.4 | 6:00a  | 0.0           | 11.0          | 0.00 | 2.8            | 14.0 | 3:30p  | NNW     |
| 30   | 74.4      | 83.4 | 6:45p  | 65.3 | 6:45a  | 0.0           | 9.4           | 0.04 | 1.0            | 8.0  | 1:15p  | E       |
| 31   | 74.7      | 81.8 | 5:15p  | 69.8 | 6:00a  | 0.0           | 9.7           | 0.93 | 2.5            | 16.0 | 1:30p  | ESE     |
| 79.2 | 97.3      | 21   | 61.2   | 3    | 1.5    | 441.7         | 7.94          | 3.1  | 46.0           | 7    | S      |         |

Max >= 90.0: 13  
 Max <= 32.0: 0  
 Min <= 32.0: 0  
 Min <= 0.0: 0

Max Rain: 3.33 ON 07/02/16

Days of Rain: 8 (>.01 in) 7 (>.1 in) 2 (>1 in)

Heat Base: 65.0 Cool Base: 65.0 Method: Integration

MONTHLY CLIMATOLOGICAL SUMMARY for AUG. 2016

NAME: Water Pollution Control - WWTP CITY: STATE:  
 ELEV: 0 ft LAT: LONG:

TEMPERATURE (°F), RAIN (in), WIND SPEED (mph)

| DAY | MEAN TEMP | HIGH | TIME   | LOW  | TIME   | HEAT DEG DAYS | COOL DEG DAYS | RAIN | AVG WIND SPEED | HIGH | TIME   | DOM DIR |
|-----|-----------|------|--------|------|--------|---------------|---------------|------|----------------|------|--------|---------|
| 1   | 77.1      | 87.5 | 6:30p  | 70.4 | 10:00a | 0.0           | 12.1          | 0.01 | 5.9            | 31.0 | 8:00a  | ESE     |
| 2   | 79.6      | 87.1 | 4:00p  | 73.0 | 6:45a  | 0.0           | 14.6          | 0.11 | 1.8            | 20.0 | 7:00a  | N       |
| 3   | 81.6      | 90.0 | 4:30p  | 74.2 | 7:30a  | 0.0           | 16.6          | 0.00 | 2.3            | 14.0 | 4:45p  | E       |
| 4   | 87.2      | 98.4 | 4:00p  | 77.5 | 7:00a  | 0.0           | 22.2          | 0.00 | 2.6            | 16.0 | 11:30a | SSW     |
| 5   | 76.2      | 85.3 | 12:45a | 71.9 | 11:00a | 0.0           | 11.2          | 0.00 | 3.7            | 14.0 | 1:15a  | NNW     |
| 6   | 74.0      | 80.3 | 4:15p  | 68.2 | 7:30a  | 0.0           | 9.0           | 0.00 | 2.7            | 13.0 | 2:15p  | NNE     |
| 7   | 71.0      | 75.1 | 1:45p  | 67.3 | 10:00a | 0.0           | 6.0           | 0.11 | 1.8            | 13.0 | 11:00a | NNE     |
| 8   | 74.5      | 79.9 | 6:30p  | 69.3 | 6:45a  | 0.0           | 9.5           | 0.00 | 2.0            | 14.0 | 10:00a | E       |
| 9   | 81.7      | 91.4 | 3:45p  | 72.6 | 6:00a  | 0.0           | 16.7          | 0.00 | 1.1            | 11.0 | 6:45p  | E       |
| 10  | 84.9      | 95.8 | 4:30p  | 75.6 | 6:30a  | 0.0           | 19.9          | 0.00 | 2.7            | 22.0 | 8:00p  | SSE     |
| 11  | 88.3      | 97.9 | 4:00p  | 79.1 | 6:45a  | 0.0           | 23.3          | 0.00 | 5.6            | 21.0 | 3:45p  | S       |
| 12  | 76.8      | 88.1 | 12:15a | 72.4 | 4:15a  | 0.0           | 11.8          | 0.29 | 2.5            | 18.0 | 12:15a | NNW     |
| 13  | 76.0      | 84.6 | 4:30p  | 67.3 | 7:00a  | 0.0           | 11.0          | 0.00 | 2.8            | 15.0 | 12:15p | NW      |
| 14  | 76.0      | 85.7 | 3:45p  | 67.5 | 6:30a  | 0.0           | 11.0          | 0.00 | 1.9            | 16.0 | 2:00p  | N       |
| 15  | 74.0      | 82.4 | 4:45p  | 67.5 | 6:15a  | 0.0           | 9.0           | 0.00 | 0.6            | 9.0  | 1:45p  | N       |
| 16  | 76.8      | 88.2 | 5:00p  | 65.6 | 7:00a  | 0.0           | 11.8          | 0.00 | 2.7            | 18.0 | 5:15p  | SSE     |
| 17  | 80.8      | 91.7 | 3:15p  | 70.1 | 7:00a  | 0.0           | 15.8          | 0.00 | 3.5            | 20.0 | 3:15p  | S       |
| 18  | 80.2      | 90.6 | 3:30p  | 69.8 | 6:00a  | 0.0           | 15.2          | 0.00 | 3.3            | 20.0 | 3:15p  | S       |
| 19  | 76.4      | 87.9 | 5:00p  | 67.8 | 8:30p  | 0.0           | 11.4          | 0.81 | 2.9            | 38.0 | 8:00p  | S       |
| 20  | 67.7      | 73.0 | 6:45p  | 62.7 | 12:00m | 0.1           | 2.8           | 0.01 | 3.4            | 20.0 | 10:00a | NW      |
| 21  | 68.5      | 81.4 | 5:15p  | 55.8 | 7:00a  | 2.4           | 6.0           | 0.00 | 1.2            | 13.0 | 3:45p  | WNW     |
| 22  | 71.3      | 82.9 | 5:00p  | 57.4 | 6:30a  | 1.7           | 8.1           | 0.00 | 3.4            | 24.0 | 11:15a | SSE     |
| 23  | 77.3      | 86.8 | 4:15p  | 68.5 | 5:00a  | 0.0           | 12.3          | 0.00 | 5.9            | 34.0 | 4:15p  | SSE     |
| 24  | 75.1      | 85.2 | 5:15p  | 67.1 | 6:15a  | 0.0           | 10.1          | 1.42 | 2.8            | 27.0 | 1:15a  | S       |
| 25  | 73.7      | 80.6 | 2:45p  | 70.3 | 8:15a  | 0.0           | 8.7           | 0.64 | 1.8            | 12.0 | 11:30a | NNE     |
| 26  | 72.1      | 82.8 | 5:00p  | 67.2 | 6:45a  | 0.0           | 7.1           | 1.32 | 2.6            | 21.0 | 6:15p  | ESE     |
| 27  | 75.8      | 87.7 | 3:45p  | 67.4 | 7:30a  | 0.0           | 10.8          | 0.10 | 0.8            | 21.0 | 6:45a  | S       |
| 28  | 78.1      | 89.8 | 3:30p  | 69.2 | 7:00a  | 0.0           | 13.1          | 0.31 | 1.7            | 34.0 | 8:30p  | ESE     |
| 29  | 78.5      | 89.3 | 5:00p  | 69.1 | 7:15a  | 0.0           | 13.5          | 0.00 | 1.1            | 12.0 | 5:30p  | ESE     |
| 30  | 76.9      | 84.4 | 4:45p  | 70.7 | 7:15a  | 0.0           | 11.9          | 0.01 | 2.0            | 17.0 | 2:30a  | N       |
| 31  | 73.1      | 79.5 | 5:00p  | 65.5 | 12:00m | 0.0           | 8.1           | 0.98 | 1.9            | 19.0 | 3:15a  | N       |
|     | 76.8      | 98.4 | 4      | 55.8 | 21     | 4.2           | 370.6         | 6.12 | 2.6            | 38.0 | 19     | S       |

Max >= 90.0: 7  
 Max <= 32.0: 0  
 Min <= 32.0: 0  
 Min <= 0.0: 0

Max Rain: 1.42 ON 08/24/16

Days of Rain: 10 (>.01 in) 9 (>.1 in) 2 (>1 in)

Heat Base: 65.0 Cool Base: 65.0 Method: Integration

# City of Leavenworth

## 2016 Stormwater Sampling Time Summary

| Three Mile Creek | Time | (West)        | (East)     | (West)        | (East)     | (West)      | (East)     | (West)       | (East)     | (West)         | (East)     | (West)            | (East)     |
|------------------|------|---------------|------------|---------------|------------|-------------|------------|--------------|------------|----------------|------------|-------------------|------------|
|                  |      | April 25 2016 |            | April 26 2016 |            | May 11 2016 |            | July 31 2016 |            | August 25 2016 |            | September 14 2016 |            |
|                  |      | Upstream      | Downstream | Upstream      | Downstream | Upstream    | Downstream | Upstream     | Downstream | Upstream       | Downstream | Upstream          | Downstream |
|                  |      | 842           | 816        | 1015          | 957        | 1043        | 1026       | 1037         | 1018       | 948            | 926        | 911               | 846        |

| Five Mile Creek | Time | (West)        | (East)     | (West)        | (East)     | (West)      | (East)     | (West)       | (East)     | (West)         | (East)     | (West)            | (East)     |
|-----------------|------|---------------|------------|---------------|------------|-------------|------------|--------------|------------|----------------|------------|-------------------|------------|
|                 |      | April 25 2016 |            | April 26 2016 |            | May 11 2016 |            | July 31 2017 |            | August 25 2016 |            | September 14 2016 |            |
|                 |      | Upstream      | Downstream | Upstream      | Downstream | Upstream    | Downstream | Upstream     | Downstream | Upstream       | Downstream | Upstream          | Downstream |
|                 |      | 905           | 932        | 1035          | 1120       | 1059        | 951        | 1055         | 1116       | 1011           | 1032       | 926               | 946        |



**Mike McDonald**

---

**To:** Manuel Carrera  
**Subject:** RE: 2016 Sampling - Depth Data

| 9/14/16     | stream level | stream velocity | stream flow    | distance to water surface | Sample Time |
|-------------|--------------|-----------------|----------------|---------------------------|-------------|
| 3 mile east | up           | rapid           | 8.82 sec/50ft  | 22'2"                     | 846         |
| 3 mile west | up           | rapid           | 8.06 sec/50ft  | 18'                       | 911         |
| 5 mile west | up           | rapid           | 9.38. sec/50ft | 15'9.5"                   | 926         |
| 5 mile east | up           | rapid           | 4.75 sec/50ft  | 12'3"                     | 946         |

pictures and videos are on the W drive W:\Storm Event 3 & 5 mile creeks & Data loggers\storm events 2016\160914

| 8/25/16     | stream level | stream velocity | stream flow    | distance to water surface | Sample Time |
|-------------|--------------|-----------------|----------------|---------------------------|-------------|
| 3 mile east | up/steady    | rapid           | 9.84 sec/50ft  | 23'9"                     | 926         |
| 3 mile west | up/steady    | rapid           | 10.78 sec/50ft | 19'4"                     | 948         |
| 5 mile west | up/steady    | rapid           | 15.12 sec/50ft | 21'7.5"                   | 1011        |
| 5 mile east | up/steady    | rapid           | 6.00 sec/50ft  | 15'1"                     | 1032        |

pictures and videos are on the W drive W:\Storm Event 3 & 5 mile creeks & Data loggers\storm events 2016\160825

| 7-31-16     | stream level | stream velocity | stream flow    | distance to water surface | Sample Time |
|-------------|--------------|-----------------|----------------|---------------------------|-------------|
| 3 mile east | up/steady    | rapid           | 12.22 sec/50ft | 24'5"                     |             |
| 3 mile west | up/steady    | slow            | 19.22 sec/50ft | 19'7"                     |             |
| 5 mile west | up/steady    | slow            | 55.47 sec/50ft | 22'4"                     |             |
| 5 mile east | up/steady    | rapid           | 6.18 sec/50ft  | 16'4"                     |             |

pictures and videos are on the W drive W:\Storm Event 3 & 5 mile creeks & Data loggers\storm events 2016

| 5/11/16     | stream level | stream velocity | stream flow    | distance to water surface | Sample Time |
|-------------|--------------|-----------------|----------------|---------------------------|-------------|
| 3 mile east | up/steady    | slow            | 40.69 sec/50ft | 17'8"                     | 1026        |
| 3 mile west | up/steady    | rapid           | 7.94 sec/50ft  | 18'6"                     | 1043        |
| 5 mile west | up/steady    | rapid           | 10.72 sec/50ft | 20'9"                     | 1059        |
| 5 mile east | up/steady    | rapid           | 15.87 sec/50ft | 8'6"                      | 951         |

pictures and videos are on the W drive W:\Storm Event 3 & 5 mile creeks & Data loggers\storm events 2016\160511

| 4/26/16     | stream level | stream velocity | stream flow    | distance to water surface | Sample Time |
|-------------|--------------|-----------------|----------------|---------------------------|-------------|
| 3 mile east | up/steady    | rapid           | 8.68 sec/50ft  | 23'7"                     | 957         |
| 3 mile west | up/steady    | rapid           | 12.81 sec/50ft | 19'2"                     | 1015        |
| 5 mile west | up/steady    | rapid           | 10.88 sec/50ft | 20'3"                     | 1035        |
| 5 mile east | up/steady    | rapid           | 4.56 sec/50ft  | 15'                       | 1120        |

pictures and videos are on the W drive W:\Storm Event 3 & 5 mile creeks & Data loggers\storm events 2016\160426

| 4/25/16     | stream level | stream velocity | stream flow   | distance to water surface | Sample Time |
|-------------|--------------|-----------------|---------------|---------------------------|-------------|
| 3 mile east | up/steady    | above average   | 40.5sec/50ft  | 25'4"                     | 816         |
| 3 mile west | up/steady    | normal          | 47.24sec/50ft | 19'7"                     | 842         |
| 5 mile west | up/steady    | normal          | 46.47sec/50ft | 22'1"                     | 905         |
| 5 mile east | up/steady    | rapid           | 13.25sec/50ft | 16'                       | 932         |

pictures and videos are on the W drive W:\Storm Event 3 & 5 mile creeks & Data loggers\storm events 2016\160425

# Three Mile Creek East (Downstream) looking East

April 25, 2016



April 26, 2016



May 11



July 31



August 25



September 14



# Three Mile Creek East (Downstream) looking West

April 25, 2016



April 26, 2016



May 11



July 31



August 25



September 14



# Three Mile Creek West (Upstream) looking East

April 25, 2016



May 11



August 25



April 26, 2016



July 31



September 14



# Three Mile Creek West (Upstream) looking West

April 25, 2016



May 11



August 25



April 26, 2016



July 31



September 14



# Five Mile Creek East (Downstream) looking East

April 25, 2016



April 26, 2016



May 11



July 31



August 25



September 14





# Five Mile Creek East (Downstream) looking West

April 25, 2016



April 26, 2016



May 11



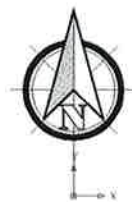
July 31



August 25



September 14



# Five Mile Creek West (Upstream) looking West

April 25, 2016



April 26, 2016



May 11



July 31



August 31



September 14



# Five Mile Creek West (Upstream) looking East

April 25, 2016



April 26, 2016



May 11



July 31



August 31



September 14



# City of Leavenworth

## 2016 Stormwater Sampling Summary

(Note - in calculating CFS for 2014 and 2015 - the rating curve was used rather than the observed velocities)

(Note - in calculating CFS for 2016 - the observed velocities and an average channel width were used due to unexpected channel geometry changes)

| 2016                    |           | April 25, 2016 |            | April 26 2016 |            | May 11, 2016 |            | July 31 2016 |            | August 25 2016 |            | September 14 2016 |            |        |        |   |       |        |   |
|-------------------------|-----------|----------------|------------|---------------|------------|--------------|------------|--------------|------------|----------------|------------|-------------------|------------|--------|--------|---|-------|--------|---|
|                         |           | West           | East       | West          | East       | West         | East       | West         | East       | West           | East       | West              | East       |        |        |   |       |        |   |
|                         |           | Upstream       | Downstream | Upstream      | Downstream | Upstream     | Downstream | Upstream     | Downstream | Upstream       | Downstream | Upstream          | Downstream |        |        |   |       |        |   |
| <b>Three Mile Creek</b> | CFS       | 15             | 2          | 83            | 208        | 247          | 211        | 53           | 72         | 114            | 163        | 300               | 366        |        |        |   |       |        |   |
| Total Phosphorus        | mg/l      | <0.1           | 0.26       | w             | 1.10       | 1.80         | w          | 0.32         | 0.73       | w              | 0.55       | 0.90              | w          | 0.66   | 0.67   | w | 0.38  | 0.55   | b |
| Ortho Phosphate         | mg/l      | <0.1           | 0.12       | w             | 0.11       | <0.1         | b          | <0.1         | 0.15       | w              | 0.13       | 0.18              | w          | 0.30   | 0.28   | b | 0.19  | 0.30   | w |
| Nitrate+Nitrite         | mg/l      | 0.50           | 0.60       | w             | 0.84       | 0.40         | b          | 0.18         | 0.39       | w              | 0.92       | 0.77              | b          | 0.85   | 0.37   | b | 0.17  | 0.55   | w |
| Total Kjeldahl Nitrogen | mg/l      | 1.3            | 1.6        | w             | 3.4        | 10.8         | w          | 1.2          | 2.5        | w              | 2.0        | 3.2               | w          | 1.8    | 2.4    | w | 1.3   | 1.6    | w |
| Total Suspended Solids  | mg/l      | 17             | 85         | w             | 1,040      | 1,750        | w          | 196          | 498        | w              | 362        | 500               | w          | 648    | 1,140  | w | 349   | 442    | w |
| Turbidity               | NTU       | 21             | 103        | w             | 876        | 849          | b          | 176          | 429        | w              | 328        | 284               | b          | 570    | 765    | w | 303   | 344    | w |
| E.Coli                  | col/100ml | 1,723          | 6,131      | w             | 10,462     | 27,500       | w          | 8,840        | 28,510     | w              | 43,500     | 99,700            | w          | 24,600 | 28,800 | w | 4,500 | 36,540 | w |

| Three Mile Creek - 6 event 2016 |           |       |
|---------------------------------|-----------|-------|
|                                 | NC/Better | Worse |
| Total Phosphorus                | 0         | 6     |
| Ortho Phosphate                 | 2         | 4     |
| Nitrate+Nitrite                 | 3         | 3     |
| Total Kjeldahl Nitrogen         | 0         | 6     |
| Total Suspended Solids          | 0         | 6     |
| Turbidity                       | 2         | 4     |
| E.Coli                          | 0         | 6     |

7 35

| 2016                    |           | April 25, 2016 |            | April 26 2016 |            | May 11, 2016 |            | July 31 2016 |            | August 25 2016 |            | September 14 2016 |            |        |        |   |        |        |   |
|-------------------------|-----------|----------------|------------|---------------|------------|--------------|------------|--------------|------------|----------------|------------|-------------------|------------|--------|--------|---|--------|--------|---|
|                         |           | West           | East       | West          | East       | West         | East       | West         | East       | West           | East       | West              | East       |        |        |   |        |        |   |
|                         |           | Upstream       | Downstream | Upstream      | Downstream | Upstream     | Downstream | Upstream     | Downstream | Upstream       | Downstream | Upstream          | Downstream |        |        |   |        |        |   |
| <b>Three Mile Creek</b> | CFS       | 14             | 77         | 110           | 920        | 89           | 1060       | 4            | 358        | 49             | 610        | 500               | 2080       |        |        |   |        |        |   |
| Total Phosphorus        | mg/l      | 0.14           | 0.14       | b             | 1.60       | 1.80         | w          | 0.56         | 1.60       | w              | 0.14       | 0.37              | w          | 1.50   | 0.43   | b | 0.38   | 0.56   | w |
| Ortho Phosphate         | mg/l      | <0.1           | <0.1       | b             | <0.1       | <0.1         | b          | <0.1         | 0.14       | w              | <0.1       | 0.10              | w          | 0.61   | 0.22   | b | 0.18   | 0.20   | w |
| Nitrate+Nitrite         | mg/l      | 0.17           | 0.30       | w             | 2.70       | 0.72         | b          | 1.10         | 0.80       | b              | 0.26       | 0.49              | w          | 0.54   | 0.42   | b | 0.13   | 0.30   | w |
| Total Kjeldahl Nitrogen | mg/l      | 1.0            | 1.2        | w             | 7.0        | 7.9          | w          | 2.0          | 5.0        | w              | 1.2        | 2.4               | w          | 6.9    | 1.4    | b | 1.6    | 2.2    | w |
| Total Suspended Solids  | mg/l      | 60             | 53         | b             | 2,120      | 2,840        | w          | 449          | 1,710      | w              | 194        | 314               | w          | 2,730  | 388    | b | 604    | 620    | w |
| Turbidity               | NTU       | 146            | 61         | b             | 1,650      | 1,890        | w          | 338          | 1,130      | w              | 157        | 240               | w          | 1,960  | 385    | b | 467    | 504    | b |
| E.Coli                  | col/100ml | 4,884          | 5,475      | w             | 28,500     | 24,196       | b          | 48,840       | 198,630    | w              | 32,300     | 36,400            | w          | 44,100 | 16,100 | b | 19,890 | 15,650 | b |

| Five-Mile Creek - 6 event 2016 |           |       |
|--------------------------------|-----------|-------|
|                                | NC/Better | Worse |
| Total Phosphorus               | 2         | 4     |
| Ortho Phosphate                | 3         | 3     |
| Nitrate+Nitrite                | 3         | 3     |
| Total Kjeldahl Nitrogen        | 1         | 5     |
| Total Suspended Solids         | 2         | 4     |
| Turbidity                      | 3         | 3     |
| E.Coli                         | 3         | 3     |

17 25

| 2015                    |           | May 5 2015 |            | May 14 2015 |            | June 3 2015 |            | July 20 2015 |            | October 31 2015 |            | November 5 2015 |            |      |      |   |       |       |   |
|-------------------------|-----------|------------|------------|-------------|------------|-------------|------------|--------------|------------|-----------------|------------|-----------------|------------|------|------|---|-------|-------|---|
|                         |           | West       | East       | West        | East       | West        | East       | West         | East       | West            | East       | West            | East       |      |      |   |       |       |   |
|                         |           | Upstream   | Downstream | Upstream    | Downstream | Upstream    | Downstream | Upstream     | Downstream | Upstream        | Downstream | Upstream        | Downstream |      |      |   |       |       |   |
| <b>Three Mile Creek</b> | CFS       | 300        | 190        | 40          | 45         | 1300        | 7700       | 45           | n/a (1)    | 30              | 0          | 500             | 140        |      |      |   |       |       |   |
| Total Phosphorus        | mg/l      | 0.14       | 0.24       | w           | 0.15       | 0.23        | w          | 1.1          | 2.4        | w               | 0.34       | 0.18            | b          | 0.19 | 0.42 | w | 2.4   | 0.76  | w |
| Ortho Phosphate         | mg/l      | ND         | ND         | x           | ND         | ND          | x          | 0.11         | 0.15       | w               | 0.12       | 0.11            | b          | 0.18 | 0.24 | w | 0.13  | 0.18  | w |
| Nitrate+Nitrite         | mg/l      | 0.33       | 0.94       | w           | 0.27       | 0.37        | w          | 0.27         | 0.33       | w               | 0.39       | 0.61            | w          | 0.4  | 0.38 | b | 0.47  | 0.31  | b |
| Total Kjeldahl Nitrogen | mg/l      | 0.88       | 1.5        | w           | 0.81       | 0.88        | w          | 3            | 6.3        | w               | 1.3        | 0.7             | b          | 0.77 | 0.7  | b | 31.1  | ND    | b |
| Total Suspended Solids  | mg/l      | 90         | 98         | w           | 60         | 81          | w          | 1380         | 1570       | b               | 322        | 157             | b          | 18   | 41   | w | 2870  | 402   | b |
| Turbidity               | NTU       | 87.3       | 117        | w           | 47.4       | 57          | w          | 804          | 1380       | w               | 273        | 100             | b          | 8.6  | 10.2 | w | 1320  | 69.8  | b |
| E.Coli                  | col/100ml | 2247       | 3873       | w           | 866        | 9090        | w          | 12997        | 98700      | w               | 20980      | 13540           | w          | 3448 | 5172 | w | 34500 | 42800 | w |

| Three Mile Creek - 6 event 2015 |           |       |
|---------------------------------|-----------|-------|
|                                 | NC/Better | Worse |
| Total Phosphorus                | 1         | 5     |
| Ortho Phosphate                 | 3         | 3     |
| Nitrate+Nitrite                 | 2         | 4     |
| Total Kjeldahl Nitrogen         | 3         | 3     |
| Total Suspended Solids          | 3         | 3     |
| Turbidity                       | 2         | 4     |
| E.Coli                          | 0         | 6     |

14 28

| 2015                    |           | May 5 2015 |            | May 14 2015 |            | June 3 2015 |            | July 20 2015 |            | October 31 2015 |            | November 5 2015 |            |      |      |   |       |      |   |
|-------------------------|-----------|------------|------------|-------------|------------|-------------|------------|--------------|------------|-----------------|------------|-----------------|------------|------|------|---|-------|------|---|
|                         |           | West       | East       | West        | East       | West        | East       | West         | East       | West            | East       | West            | East       |      |      |   |       |      |   |
|                         |           | Upstream   | Downstream | Upstream    | Downstream | Upstream    | Downstream | Upstream     | Downstream | Upstream        | Downstream | Upstream        | Downstream |      |      |   |       |      |   |
| <b>Five Mile Creek</b>  | CFS       | 30         | 150        | 35          | 150        | 330         | 1900       | 30           | n/a (1)    | 20              | 135        | 35              | 600        |      |      |   |       |      |   |
| Total Phosphorus        | mg/l      | 0.18       | 0.34       | w           | 0.29       | 0.13        | b          | 2.4          | 1.6        | b               | 0.47       | 0.19            | b          | 0.14 | 0.13 | b | 0.19  | 0.68 | w |
| Ortho Phosphate         | mg/l      | ND         | ND         | x           | ND         | ND          | x          | 0.11         | 0.14       | w               | 0.15       | ND              | x          | 0.14 | 0.14 | x | 0.12  | 0.15 | w |
| Nitrate+Nitrite         | mg/l      | 0.22       | 0.46       | w           | 0.12       | 0.23        | w          | 0.21         | 0.28       | w               | 0.42       | 0.47            | w          | ND   | 0.19 | w | 0.13  | 0.24 | w |
| Total Kjeldahl Nitrogen | mg/l      | 1.3        | 2.1        | w           | 1.3        | 0.84        | b          | 7.3          | 4.8        | b               | 1.8        | 0.89            | b          | 0.54 | ND   | b | 0.5   | 12.2 | w |
| Total Suspended Solids  | mg/l      | 113        | 165        | w           | 136        | 65          | b          | 1540         | 2110       | w               | 480        | 201             | b          | 11   | 25   | w | 49    | 392  | w |
| Turbidity               | NTU       | 146        | 231        | w           | 100        | 28.5        | b          | 1660         | 1220       | b               | 404        | 134             | b          | 5.3  | 13.1 | w | 27.2  | 138  | w |
| E.Coli                  | col/100ml | 12997      | 17329      | w           | 17800      | 7540        | b          | 90800        | 52100      | b               | 77010      | 61310           | b          | 1421 | 2613 | w | 19863 | 2851 | b |

| Five-Mile Creek - 6 event 2015 |           |       |
|--------------------------------|-----------|-------|
|                                | NC/Better | Worse |
| Total Phosphorus               | 2         | 4     |
| Ortho Phosphate                | 5         | 1     |
| Nitrate+Nitrite                | 0         | 6     |
| Total Kjeldahl Nitrogen        | 4         | 2     |
| Total Suspended Solids         | 2         | 4     |
| Turbidity                      | 3         | 3     |
| E.Coli                         | 5         | 1     |

21 21

(1) Missouri River Backed up

| 2014                    |           | April 24 2014 |            | May 12 2014 |            | October 1 2014 |            | October 2 2014 |            |
|-------------------------|-----------|---------------|------------|-------------|------------|----------------|------------|----------------|------------|
|                         |           | Upstream      | Downstream | Upstream    | Downstream | Upstream       | Downstream | Upstream       | Downstream |
| <b>Three Mile Creek</b> | CFS       | 200           | 190        | 200         | 190        | 200            | 190        | 45             | 750        |
| Total Phosphorus        | mg/l      | 0.32          | 0.55 w     | 0.42        | 0.61 w     | 1.5            | 0.79 b     | 0.6            | 0.67 w     |
| Ortho Phosphate         | mg/l      |               |            |             |            | 0.19           | 0.2 w      | 0.16           | 0.19 w     |
| Nitrate+Nitrite         | mg/l      | 0.5           | 0.42 b     | 0.69        | 0.69 x     | 0.56           | 0.57 w     | 0.3            | 0.73 w     |
| Total Kjeldahl Nitrogen | mg/l      | 1             | 1.1 w      | 0.7         | 2.4 b      | 2.8            | 2.6 b      | 2.1            | 2.5 w      |
| Total Suspended Solids  | mg/l      | 303           | 242 b      | 165         | 440 w      | 1370           | 508 b      | 480            | 465 b      |
| Turbidity               | NTU       | 294           | 112 b      | 276         | 274 b      | 530            | 260 b      | 313            | 239 b      |
| E.Coli                  | col/100ml | 12997         | 3448 b     | 10500       | 14100 w    | 19863          | 72700 w    | 9208           | 37900 w    |
| Dissolved Oxygen        | mg/l      | 6.3           | 3.3        | 6.1         | 4.6        |                |            |                |            |

| Three Mile Creek - 4 event 2014 |           |       |
|---------------------------------|-----------|-------|
|                                 | NC/Better | Worse |
| Total Phosphorus                | 1         | 3     |
| Ortho Phosphate                 | 0         | 2     |
| Nitrate+Nitrite                 | 2         | 2     |
| Total Kjeldahl Nitrogen         | 2         | 2     |
| Total Suspended Solids          | 3         | 1     |
| Turbidity                       | 4         | 0     |
| E.Coli                          |           |       |
|                                 | 12        | 10    |

| 2014                    |           | April 24 2014 |            | May 12 2014 |            | October 1 2014 |            | October 2 2014 |            |
|-------------------------|-----------|---------------|------------|-------------|------------|----------------|------------|----------------|------------|
|                         |           | Upstream      | Downstream | Upstream    | Downstream | Upstream       | Downstream | Upstream       | Downstream |
| <b>Five Mile Creek</b>  | CFS       | 1020          | 800        | 880         | 660        | 1100           | 800        | 3100           | 265        |
| Total Phosphorus        | mg/l      | 0.13          | 0.54 w     | 0.34        | 0.28 b     | 0.66           | 0.63 b     | 1.5            | 1.1 b      |
| Ortho Phosphate         | mg/l      |               |            |             |            | 0.2            | 0.18 b     | 0.24           | 0.22 b     |
| Nitrate+Nitrite         | mg/l      | 0.21          | 0.34 w     | 0.29        | 0.32 w     | 0.3            | 0.5 w      | 0.32           | 0.41 w     |
| Total Kjeldahl Nitrogen | mg/l      | 0.69          | 0.56 b     | 1.8         | 1.6 b      | 1.3            | 1.3 x      | 4.4            | 3 b        |
| Total Suspended Solids  | mg/l      | 54            | 485 w      | 300         | 226 b      | 356            | 472 w      | 1510           | 1480 b     |
| Turbidity               | NTU       | 22.5          | 261 w      | 199         | 193 b      | 241            | 263 w      | 488            | 438 b      |
| E.Coli                  | col/100ml | 1872          | 3255 w     | 8660        | 8660 x     | 88600          | 30900 b    | 63100          | 59100 b    |
| Dissolved Oxygen        | mg/l      | 6.7           | 4.9        | 5.5         | 5.1        |                |            |                |            |

| Five-Mile Creek - 4 event 2014 |           |       |
|--------------------------------|-----------|-------|
|                                | NC/Better | Worse |
| Total Phosphorus               | 3         | 1     |
| Ortho Phosphate                | 2         | 0     |
| Nitrate+Nitrite                | 0         | 4     |
| Total Kjeldahl Nitrogen        | 4         | 0     |
| Total Suspended Solids         | 2         | 2     |
| Turbidity                      | 2         | 2     |
| E.Coli                         |           |       |
|                                | 13        | 9     |

**Additional Sites Monitored** (Either surface waters, ground waters or flow within MS4)

Site Name: 3 Mile West

Site Number: \_\_\_\_\_

Event Rainfall Total: 0.89 Inches

Lake:

Stream:

Estimated Stream Flow: 15 CFS

Stream Level Conditions: up/steady (Rising, Falling, Steady)

Stream Velocity Conditions: \_\_\_\_\_ (Rapid/Normal, Still (backwater))

Sample Date: 4/25/16 @ 842

| Parameters & Units Required    | Results* | Sample Type                         |                          |
|--------------------------------|----------|-------------------------------------|--------------------------|
|                                |          | Grab                                | Composite                |
| Total Phosphorus (mg/l)        | < 0.1    | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Ortho-Phosphate (mg/l)         | < 0.1    | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Nitrate + Nitrite (mg/l)       | 0.5      | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Total Kjeldahl Nitrogen (mg/l) | 1.3      | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Total Nitrogen (mg/l)          | 1.8      | Calculate                           |                          |
| Chlorophyll (µg/l)             |          | <input type="checkbox"/>            | <input type="checkbox"/> |
| Total Suspended Solids (mg/l)  | 17.0     | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Turbidity(NTU)                 | 20.5     | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Secchi Disk (feet)             |          | <input type="checkbox"/>            | <input type="checkbox"/> |
| E. coli (col/100ml)            | 1723     | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Other                          |          | <input type="checkbox"/>            | <input type="checkbox"/> |
| Other                          |          | <input type="checkbox"/>            | <input type="checkbox"/> |

Comments: \_\_\_\_\_

**Footnotes and comments**

\* Any result shown in analytical report to be ND (non-detect) must be shown as < with the reporting/detection limit by the certified laboratory.

This form, Water Quality Results for Additional Sites Monitored, is intended for use by both Phase I and Phase II MS4s.

NPDES permitted Phase I MS4s included Topeka: Unified Government of Wyandotte County and Kansas City, Kansas; and Wichita. All other NPDES permitted MS4s in Kansas are Phase II MS4s

**Additional Sites Monitored** (Either surface waters, ground waters or flow within MS4)

Site Name: 3 Mile East

Site Number: \_\_\_\_\_

Event Rainfall Total: 0.76 Inches 0.78

Lake:

Stream:

Estimated Stream Flow: 2 CFS

Stream Level Conditions: up/steady (Rising, Falling, Steady)

Stream Velocity Conditions: average (Rapid/Normal, Still (backwater))

Sample Date: 4/25/16 @ 816

| Parameters & Units Required    | Results* | Sample Type                         |                          |
|--------------------------------|----------|-------------------------------------|--------------------------|
|                                |          | Grab                                | Composite                |
| Total Phosphorus (mg/l)        | 0.26     | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Ortho-Phosphate (mg/l)         | 0.12     | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Nitrate + Nitrite (mg/l)       | 0.6      | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Total Kjeldahl Nitrogen (mg/l) | 1.6      | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Total Nitrogen (mg/l)          | 2.2      | Calculate                           |                          |
| Chlorophyll (µg/l)             |          | <input type="checkbox"/>            | <input type="checkbox"/> |
| Total Suspended Solids (mg/l)  | 85       | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Turbidity(NTU)                 | 103      | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Secchi Disk (feet)             |          | <input type="checkbox"/>            | <input type="checkbox"/> |
| E. coli (col/100ml)            | 6131     | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Other                          |          | <input type="checkbox"/>            | <input type="checkbox"/> |
| Other                          |          | <input type="checkbox"/>            | <input type="checkbox"/> |

Comments: \_\_\_\_\_

**Footnotes and comments**

\* Any result shown in analytical report to be ND (non-detect) must be shown as < with the reporting/detection limit by the certified laboratory.

This form, Water Quality Results for Additional Sites Monitored, is intended for use by both Phase I and Phase II MS4s.

NPDES permitted Phase I MS4s included Topeka: Unified Government of Wyandotte County and Kansas City, Kansas; and Wichita. All other NPDES permitted MS4s in Kansas are Phase II MS4s

**Additional Sites Monitored** (Either surface waters, ground waters or flow within MS4)

Site Name: 5 Mile West

Site Number: \_\_\_\_\_

Event Rainfall Total: 0.55 Inches

Lake:

Stream:

Estimated Stream Flow: 14 CFS

Stream Level Conditions: up/steady (Rising, Falling, Steady)

Stream Velocity Conditions: normal (Rapid/Normal, Still (backwater))

Sample Date: 4/25/16 @ 905

| Parameters & Units Required    | Results* | Sample Type                         |                          |
|--------------------------------|----------|-------------------------------------|--------------------------|
|                                |          | Grab                                | Composite                |
| Total Phosphorus (mg/l)        | 0.14     | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Ortho-Phosphate (mg/l)         | < 0.1    | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Nitrate + Nitrite (mg/l)       | 0.17     | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Total Kjeldahl Nitrogen (mg/l) | 1.0      | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Total Nitrogen (mg/l)          | 1.2      | Calculate                           |                          |
| Chlorophyll (µg/l)             |          | <input type="checkbox"/>            | <input type="checkbox"/> |
| Total Suspended Solids (mg/l)  | 60       | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Turbidity(NTU)                 | 146      | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Secchi Disk (feet)             |          | <input type="checkbox"/>            | <input type="checkbox"/> |
| E. coli (col/100ml)            | 4884     | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Other                          |          | <input type="checkbox"/>            | <input type="checkbox"/> |
| Other                          |          | <input type="checkbox"/>            | <input type="checkbox"/> |

Comments: \_\_\_\_\_

**Footnotes and comments**

\* Any result shown in analytical report to be ND (non-detect) must be shown as < with the reporting/detection limit by the certified laboratory.

This form, Water Quality Results for Additional Sites Monitored, is intended for use by both Phase I and Phase II MS4s.

NPDES permitted Phase I MS4s included Topeka: Unified Government of Wyandotte County and Kansas City, Kansas; and Wichita. All other NPDES permitted MS4s in Kansas are Phase II MS4s



**Additional Sites Monitored** (Either surface waters, ground waters or flow within MS4)

Site Name: 5 Mile East

Site Number: \_\_\_\_\_

Event Rainfall Total: 0.55 Inches

Lake:

Stream:

Estimated Stream Flow: 77 CFS

Stream Level Conditions: up/steady (Rising, Falling, Steady)

Stream Velocity Conditions: rapid (Rapid/Normal, Still (backwater))

Sample Date: 4/25/16 @ 932

| Parameters & Units Required    | Results* | Sample Type                         |                          |
|--------------------------------|----------|-------------------------------------|--------------------------|
|                                |          | Grab                                | Composite                |
| Total Phosphorus (mg/l)        | 0.14     | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Ortho-Phosphate (mg/l)         | < 0.1    | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Nitrate + Nitrite (mg/l)       | 0.3      | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Total Kjeldahl Nitrogen (mg/l) | 1.2      | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Total Nitrogen (mg/l)          | 1.5      | Calculate                           |                          |
| Chlorophyll (µg/l)             |          | <input type="checkbox"/>            | <input type="checkbox"/> |
| Total Suspended Solids (mg/l)  | 53       | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Turbidity(NTU)                 | 60.9     | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Secchi Disk (feet)             |          | <input type="checkbox"/>            | <input type="checkbox"/> |
| E. coli (col/100ml)            | 5475     | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Other                          |          | <input type="checkbox"/>            | <input type="checkbox"/> |
| Other                          |          | <input type="checkbox"/>            | <input type="checkbox"/> |

Comments: \_\_\_\_\_

**Footnotes and comments**

\* Any result shown in analytical report to be ND (non-detect) must be shown as < with the reporting/detection limit by the certified laboratory.

This form, Water Quality Results for Additional Sites Monitored, is intended for use by both Phase I and Phase II MS4s.

NPDES permitted Phase I MS4s included Topeka: Unified Government of Wyandotte County and Kansas City, Kansas; and Wichita. All other NPDES permitted MS4s in Kansas are Phase II MS4s

**Additional Sites Monitored** (Either surface waters, ground waters or flow within MS4)

Site Name: 3 Mile West

Site Number: \_\_\_\_\_

Event Rainfall Total: 0.76 Inches

Lake:

Stream:

Estimated Stream Flow: 83 CFS

Stream Level Conditions: up/steady (Rising, Falling, Steady)

Stream Velocity Conditions: rapid (Rapid/Normal, Still (backwater))

Sample Date: 4/26/16 @ 1015

| Parameters & Units Required    | Results* | Sample Type                         |                          |
|--------------------------------|----------|-------------------------------------|--------------------------|
|                                |          | Grab                                | Composite                |
| Total Phosphorus (mg/l)        | 1.1      | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Ortho-Phosphate (mg/l)         | 0.11     | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Nitrate + Nitrite (mg/l)       | 0.84     | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Total Kjeldahl Nitrogen (mg/l) | 3.4      | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Total Nitrogen (mg/l)          | 4.3      | Calculate                           |                          |
| Chlorophyll (µg/l)             |          | <input type="checkbox"/>            | <input type="checkbox"/> |
| Total Suspended Solids (mg/l)  | 1040     | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Turbidity(NTU)                 | 876      | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Secchi Disk (feet)             |          | <input type="checkbox"/>            | <input type="checkbox"/> |
| E. coli (col/100ml)            | 10462    | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Other                          |          | <input type="checkbox"/>            | <input type="checkbox"/> |
| Other                          |          | <input type="checkbox"/>            | <input type="checkbox"/> |

Comments: \_\_\_\_\_

**Footnotes and comments**

\* Any result shown in analytical report to be ND (non-detect) must be shown as < with the reporting/detection limit by the certified laboratory.

This form, Water Quality Results for Additional Sites Monitored, is intended for use by both Phase I and Phase II MS4s.

NPDES permitted Phase I MS4s included Topeka: Unified Government of Wyandotte County and Kansas City, Kansas; and Wichita. All other NPDES permitted MS4s in Kansas are Phase II MS4s

**Additional Sites Monitored** (Either surface waters, ground waters or flow within MS4)

Site Name: 3 Mile East

Site Number: \_\_\_\_\_

Event Rainfall Total: 0.60 Inches

Lake:

Stream:

Estimated Stream Flow: 208 CFS

Stream Level Conditions: up/steady (Rising, Falling, Steady)

Stream Velocity Conditions: rapid (Rapid/Normal, Still (backwater))

Sample Date: 4/26/16 @ 957

| Parameters & Units Required    | Results* | Sample Type                         |                          |
|--------------------------------|----------|-------------------------------------|--------------------------|
|                                |          | Grab                                | Composite                |
| Total Phosphorus (mg/l)        | 1.8      | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Ortho-Phosphate (mg/l)         | < 0.1    | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Nitrate + Nitrite (mg/l)       | 0.4      | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Total Kjeldahl Nitrogen (mg/l) | 10.8     | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Total Nitrogen (mg/l)          | 11.2     | Calculate                           |                          |
| Chlorophyll (µg/l)             |          | <input type="checkbox"/>            | <input type="checkbox"/> |
| Total Suspended Solids (mg/l)  | 1750     | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Turbidity(NTU)                 | 849      | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Secchi Disk (feet)             |          | <input type="checkbox"/>            | <input type="checkbox"/> |
| E. coli (col/100ml)            | 27500    | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Other                          |          | <input type="checkbox"/>            | <input type="checkbox"/> |
| Other                          |          | <input type="checkbox"/>            | <input type="checkbox"/> |

Comments: \_\_\_\_\_

**Footnotes and comments**

\* Any result shown in analytical report to be ND (non-detect) must be shown as < with the reporting/detection limit by the certified laboratory.

This form, Water Quality Results for Additional Sites Monitored, is intended for use by both Phase I and Phase II MS4s.

NPDES permitted Phase I MS4s included Topeka: Unified Government of Wyandotte County and Kansas City, Kansas; and Wichita. All other NPDES permitted MS4s in Kansas are Phase II MS4s

**Additional Sites Monitored** (Either surface waters, ground waters or flow within MS4)

Site Name: 5 Mile West

Site Number: \_\_\_\_\_

Event Rainfall Total: 0.69 Inches

Lake:

Stream:

Estimated Stream Flow: 110 CFS

Stream Level Conditions: up/steady (Rising, Falling, Steady)

Stream Velocity Conditions: rapid (Rapid/Normal, Still (backwater))

Sample Date: 4/26/16 @ 1035

| Parameters & Units Required    | Results* | Sample Type                         |                          |
|--------------------------------|----------|-------------------------------------|--------------------------|
|                                |          | Grab                                | Composite                |
| Total Phosphorus (mg/l)        | 1.6      | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Ortho-Phosphate (mg/l)         | < 0.1    | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Nitrate + Nitrite (mg/l)       | 2.7      | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Total Kjeldahl Nitrogen (mg/l) | 7.0      | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Total Nitrogen (mg/l)          | 9.7      | Calculate                           |                          |
| Chlorophyll (µg/l)             |          | <input type="checkbox"/>            | <input type="checkbox"/> |
| Total Suspended Solids (mg/l)  | 2120     | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Turbidity(NTU)                 | 1650     | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Secchi Disk (feet)             |          | <input type="checkbox"/>            | <input type="checkbox"/> |
| E. coli (col/100ml)            | 28500    | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Other                          |          | <input type="checkbox"/>            | <input type="checkbox"/> |
| Other                          |          | <input type="checkbox"/>            | <input type="checkbox"/> |

Comments: \_\_\_\_\_

**Footnotes and comments**

\* Any result shown in analytical report to be ND (non-detect) must be shown as < with the reporting/detection limit by the certified laboratory.

This form, Water Quality Results for Additional Sites Monitored, is intended for use by both Phase I and Phase II MS4s.

NPDES permitted Phase I MS4s included Topeka: Unified Government of Wyandotte County and Kansas City, Kansas; and Wichita. All other NPDES permitted MS4s in Kansas are Phase II MS4s

**Additional Sites Monitored** (Either surface waters, ground waters or flow within MS4)

Site Name: 5 Mile East

Site Number: \_\_\_\_\_

Event Rainfall Total: 0.87 Inches

Lake:

Stream:

Estimated Stream Flow: 920 CFS

Stream Level Conditions: up/steady (Rising, Falling, Steady)

Stream Velocity Conditions: rapid (Rapid/Normal, Still (backwater))

Sample Date: 4/26/16 @ 1120

| Parameters & Units Required    | Results* | Sample Type                         |                          |
|--------------------------------|----------|-------------------------------------|--------------------------|
|                                |          | Grab                                | Composite                |
| Total Phosphorus (mg/l)        | 1.8      | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Ortho-Phosphate (mg/l)         | < 0.1    | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Nitrate + Nitrite (mg/l)       | 0.72     | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Total Kjeldahl Nitrogen (mg/l) | 7.9      | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Total Nitrogen (mg/l)          | 8.6      | Calculate                           |                          |
| Chlorophyll (µg/l)             |          | <input type="checkbox"/>            | <input type="checkbox"/> |
| Total Suspended Solids (mg/l)  | 2840     | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Turbidity(NTU)                 | 1890     | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Secchi Disk (feet)             |          | <input type="checkbox"/>            | <input type="checkbox"/> |
| E. coli (col/100ml)            | 24196    | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Other                          |          | <input type="checkbox"/>            | <input type="checkbox"/> |
| Other                          |          | <input type="checkbox"/>            | <input type="checkbox"/> |

Comments: \_\_\_\_\_

**Footnotes and comments**

\* Any result shown in analytical report to be ND (non-detect) must be shown as < with the reporting/detection limit by the certified laboratory.

This form, Water Quality Results for Additional Sites Monitored, is intended for use by both Phase I and Phase II MS4s.

NPDES permitted Phase I MS4s included Topeka: Unified Government of Wyandotte County and Kansas City, Kansas; and Wichita. All other NPDES permitted MS4s in Kansas are Phase II MS4s

**APPENDIX C**

**WATER MONITORING RESULTS**

**Additional Sites Monitored** (Either surface waters, ground waters or flow within MS4)

Site Name: 3 Mile West

Site Number: \_\_\_\_\_

Event Rainfall Total: 0.87 Inches

Lake:

Stream:

Estimated Stream Flow: 247 CFS

Stream Level Conditions: up/steady (Rising, Falling, Steady)

Stream Velocity Conditions: rapid (Rapid/Normal, Still (backwater))

Sample Date: 5/11/16 @1043

| Parameters & Units Required    | Results* | Sample Type                         |                          |
|--------------------------------|----------|-------------------------------------|--------------------------|
|                                |          | Grab                                | Composite                |
| Total Phosphorus (mg/l)        | 0.32     | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Ortho-Phosphate (mg/l)         | < 0.1    | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Nitrate + Nitrite (mg/l)       | 0.18     | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Total Kjeldahl Nitrogen (mg/l) | 1.2      | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Total Nitrogen (mg/l)          | 1.4      | Calculate                           |                          |
| Chlorophyll (µg/l)             |          | <input type="checkbox"/>            | <input type="checkbox"/> |
| Total Suspended Solids (mg/l)  | 196      | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Turbidity(NTU)                 | 176      | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Secchi Disk (feet)             |          | <input type="checkbox"/>            | <input type="checkbox"/> |
| E. coli (col/100ml)            | 8840     | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Other                          |          | <input type="checkbox"/>            | <input type="checkbox"/> |
| Other                          |          | <input type="checkbox"/>            | <input type="checkbox"/> |

Comments: \_\_\_\_\_

**Footnotes and comments**

\* Any result shown in analytical report to be ND (non-detect) must be shown as < with the reporting/detection limit by the certified laboratory.

This form, Water Quality Results for Additional Sites Monitored, is intended for use by both Phase I and Phase II MS4s.

NPDES permitted Phase I MS4s included Topeka: Unified Government of Wyandotte County and Kansas City, Kansas; and Wichita. All other NPDES permitted MS4s in Kansas are Phase II MS4s

**Additional Sites Monitored** (Either surface waters, ground waters or flow within MS4)

Site Name: 3 Mile East

Site Number: \_\_\_\_\_

Event Rainfall Total: 0.83 Inches

Lake:

Stream:

Estimated Stream Flow: 211 CFS

Stream Level Conditions: up/steady (Rising, Falling, Steady)

Stream Velocity Conditions: slow (Rapid/Normal, Still (backwater))

Sample Date: 5/11/16 @ 1026

| Parameters & Units Required    | Results* | Sample Type                         |                          |
|--------------------------------|----------|-------------------------------------|--------------------------|
|                                |          | Grab                                | Composite                |
| Total Phosphorus (mg/l)        | 0.73     | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Ortho-Phosphate (mg/l)         | 0.15     | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Nitrate + Nitrite (mg/l)       | 0.39     | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Total Kjeldahl Nitrogen (mg/l) | 2.5      | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Total Nitrogen (mg/l)          | 2.8      | Calculate                           |                          |
| Chlorophyll (µg/l)             |          | <input type="checkbox"/>            | <input type="checkbox"/> |
| Total Suspended Solids (mg/l)  | 498      | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Turbidity(NTU)                 | 429      | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Secchi Disk (feet)             |          | <input type="checkbox"/>            | <input type="checkbox"/> |
| E. coli (col/100ml)            | 28510    | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Other                          |          | <input type="checkbox"/>            | <input type="checkbox"/> |
| Other                          |          | <input type="checkbox"/>            | <input type="checkbox"/> |

Comments: \_\_\_\_\_

**Footnotes and comments**

\* Any result shown in analytical report to be ND (non-detect) must be shown as < with the reporting/detection limit by the certified laboratory.

This form, Water Quality Results for Additional Sites Monitored, is intended for use by both Phase I and Phase II MS4s.

NPDES permitted Phase I MS4s included Topeka: Unified Government of Wyandotte County and Kansas City, Kansas; and Wichita. All other NPDES permitted MS4s in Kansas are Phase II MS4s

**WATER MONITORING RESULTS**

**Additional Sites Monitored** (Either surface waters, ground waters or flow within MS4)

Site Name: 5 Mile West

Site Number: \_\_\_\_\_

Event Rainfall Total: 0.69 Inches

Lake:

Stream:

Estimated Stream Flow: 89 CFS

Stream Level Conditions: up/steady (Rising, Falling, Steady)

Stream Velocity Conditions: rapid (Rapid/Normal, Still (backwater))

Sample Date: 5/11/16 @ 1059

| Parameters & Units Required    | Results* | Sample Type                         |                          |
|--------------------------------|----------|-------------------------------------|--------------------------|
|                                |          | Grab                                | Composite                |
| Total Phosphorus (mg/l)        | 0.56     | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Ortho-Phosphate (mg/l)         | < 0.1    | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Nitrate + Nitrite (mg/l)       | 1.1      | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Total Kjeldahl Nitrogen (mg/l) | 2.0      | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Total Nitrogen (mg/l)          | 3.1      | Calculate                           |                          |
| Chlorophyll (µg/l)             |          | <input type="checkbox"/>            | <input type="checkbox"/> |
| Total Suspended Solids (mg/l)  | 449      | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Turbidity(NTU)                 | 338      | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Secchi Disk (feet)             |          | <input type="checkbox"/>            | <input type="checkbox"/> |
| E. coli (col/100ml)            | 48840    | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Other                          |          | <input type="checkbox"/>            | <input type="checkbox"/> |
| Other                          |          | <input type="checkbox"/>            | <input type="checkbox"/> |

Comments: \_\_\_\_\_

**Footnotes and comments**

\* Any result shown in analytical report to be ND (non-detect) must be shown as < with the reporting/detection limit by the certified laboratory.

This form, Water Quality Results for Additional Sites Monitored, is intended for use by both Phase I and Phase II MS4s.

NPDES permitted Phase I MS4s included Topeka: Unified Government of Wyandotte County and Kansas City, Kansas; and Wichita. All other NPDES permitted MS4s in Kansas are Phase II MS4s



**Additional Sites Monitored** (Either surface waters, ground waters or flow within MS4)

Site Name: 5 Mile East

Site Number: \_\_\_\_\_

Event Rainfall Total: 1.21 Inches

Lake:

Stream:

Estimated Stream Flow: 1060 CFS

Stream Level Conditions: up/steady (Rising, Falling, Steady)

Stream Velocity Conditions: rapid (Rapid/Normal, Still (backwater))

Sample Date: 5/11/16 @ 951

| Parameters & Units Required    | Results* | Sample Type                         |                          |
|--------------------------------|----------|-------------------------------------|--------------------------|
|                                |          | Grab                                | Composite                |
| Total Phosphorus (mg/l)        | 1.6      | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Ortho-Phosphate (mg/l)         | 0.14     | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Nitrate + Nitrite (mg/l)       | 0.80     | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Total Kjeldahl Nitrogen (mg/l) | 5.0      | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Total Nitrogen (mg/l)          | 5.8      | Calculate                           |                          |
| Chlorophyll (µg/l)             |          | <input type="checkbox"/>            | <input type="checkbox"/> |
| Total Suspended Solids (mg/l)  | 1710     | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Turbidity(NTU)                 | 1130     | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Secchi Disk (feet)             |          | <input type="checkbox"/>            | <input type="checkbox"/> |
| E. coli (col/100ml)            | 198630   | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Other                          |          | <input type="checkbox"/>            | <input type="checkbox"/> |
| Other                          |          | <input type="checkbox"/>            | <input type="checkbox"/> |

Comments: \_\_\_\_\_

**Footnotes and comments**

\* Any result shown in analytical report to be ND (non-detect) must be shown as < with the reporting/detection limit by the certified laboratory.

This form, Water Quality Results for Additional Sites Monitored, is intended for use by both Phase I and Phase II MS4s.

NPDES permitted Phase I MS4s included Topeka: Unified Government of Wyandotte County and Kansas City, Kansas; and Wichita. All other NPDES permitted MS4s in Kansas are Phase II MS4s

Additional Sites Monitored (Either surface waters, ground waters or flow within MS4)

Site Name: 3 Mile West

Site Number: \_\_\_\_\_

Event Rainfall Total: 0.90 Inches

Lake:

Stream:

Estimated Stream Flow: 53 CFS

Stream Level Conditions: up/steady (Rising, Falling, Steady)

Stream Velocity Conditions: slow (Rapid/Normal, Still (backwater))

Sample Date: 7/31/16 @ 1037

| Parameters & Units Required    | Results* | Sample Type                         |                          |
|--------------------------------|----------|-------------------------------------|--------------------------|
|                                |          | Grab                                | Composite                |
| Total Phosphorus (mg/l)        | 0.55     | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Ortho-Phosphate (mg/l)         | 0.13     | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Nitrate + Nitrite (mg/l)       | 0.92     | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Total Kjeldahl Nitrogen (mg/l) | 2.0      | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Total Nitrogen (mg/l)          | 2.9      | Calculate                           |                          |
| Chlorophyll (µg/l)             |          | <input type="checkbox"/>            | <input type="checkbox"/> |
| Total Suspended Solids (mg/l)  | 362      | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Turbidity(NTU)                 | 328      | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Secchi Disk (feet)             |          | <input type="checkbox"/>            | <input type="checkbox"/> |
| E. coli (col/100ml)            | 43500    | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Other                          |          | <input type="checkbox"/>            | <input type="checkbox"/> |
| Other                          |          | <input type="checkbox"/>            | <input type="checkbox"/> |

Comments: \_\_\_\_\_

**Footnotes and comments**

\* Any result shown in analytical report to be ND (non-detect) must be shown as < with the reporting/detection limit by the certified laboratory.

This form, Water Quality Results for Additional Sites Monitored, is intended for use by both Phase I and Phase II MS4s.

NPDES permitted Phase I MS4s included Topeka: Unified Government of Wyandotte County and Kansas City, Kansas; and Wichita. All other NPDES permitted MS4s in Kansas are Phase II MS4s

Additional Sites Monitored (Either surface waters, ground waters or flow within MS4)

Site Name: 3 Mile East

Site Number: \_\_\_\_\_

Event Rainfall Total: 0.81 Inches

Lake:

Stream:

Estimated Stream Flow: 72 CFS

Stream Level Conditions: up/steady (Rising, Falling, Steady)

Stream Velocity Conditions: rapid (Rapid/Normal, Still (backwater))

Sample Date: 7/31/16 @ 1018

| Parameters & Units Required    | Results* | Sample Type                         |                          |
|--------------------------------|----------|-------------------------------------|--------------------------|
|                                |          | Grab                                | Composite                |
| Total Phosphorus (mg/l)        | 0.9      | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Ortho-Phosphate (mg/l)         | 0.18     | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Nitrate + Nitrite (mg/l)       | 0.77     | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Total Kjeldahl Nitrogen (mg/l) | 3.2      | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Total Nitrogen (mg/l)          | 3.9      | Calculate                           |                          |
| Chlorophyll (µg/l)             |          | <input type="checkbox"/>            | <input type="checkbox"/> |
| Total Suspended Solids (mg/l)  | 500      | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Turbidity(NTU)                 | 284      | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Secchi Disk (feet)             |          | <input type="checkbox"/>            | <input type="checkbox"/> |
| E. coli (col/100ml)            | 99700    | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Other                          |          | <input type="checkbox"/>            | <input type="checkbox"/> |
| Other                          |          | <input type="checkbox"/>            | <input type="checkbox"/> |

Comments: \_\_\_\_\_

**Footnotes and comments**

\* Any result shown in analytical report to be ND (non-detect) must be shown as < with the reporting/detection limit by the certified laboratory.

This form, Water Quality Results for Additional Sites Monitored, is intended for use by both Phase I and Phase II MS4s.

NPDES permitted Phase I MS4s included Topeka: Unified Government of Wyandotte County and Kansas City, Kansas; and Wichita. All other NPDES permitted MS4s in Kansas are Phase II MS4s

Additional Sites Monitored (Either surface waters, ground waters or flow within MS4)

Site Name: 5 Mile West

Site Number: \_\_\_\_\_

Event Rainfall Total: 0.48 Inches *USE 5 MILE EAST RAINFALL AS 5 MILE WEST QUOTE BAD*

Lake:

Stream:

Estimated Stream Flow: 4 CFS

Stream Level Conditions: up/steady (Rising, Falling, Steady)

Stream Velocity Conditions: slow (Rapid/Normal, Still (backwater))

Sample Date: 7/31/16 @ 1055

| Parameters & Units Required    | Results* | Sample Type                         |                          |
|--------------------------------|----------|-------------------------------------|--------------------------|
|                                |          | Grab                                | Composite                |
| Total Phosphorus (mg/l)        | 0.14     | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Ortho-Phosphate (mg/l)         | < 0.1    | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Nitrate + Nitrite (mg/l)       | 0.26     | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Total Kjeldahl Nitrogen (mg/l) | 1.2      | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Total Nitrogen (mg/l)          | 1.5      | Calculate                           |                          |
| Chlorophyll (µg/l)             |          | <input type="checkbox"/>            | <input type="checkbox"/> |
| Total Suspended Solids (mg/l)  | 194      | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Turbidity(NTU)                 | 157      | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Secchi Disk (feet)             |          | <input type="checkbox"/>            | <input type="checkbox"/> |
| E. coli (col/100ml)            | 32300    | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Other                          |          | <input type="checkbox"/>            | <input type="checkbox"/> |
| Other                          |          | <input type="checkbox"/>            | <input type="checkbox"/> |

Comments: \_\_\_\_\_

**Footnotes and comments**

\* Any result shown in analytical report to be ND (non-detect) must be shown as < with the reporting/detection limit by the certified laboratory.

This form, Water Quality Results for Additional Sites Monitored, is intended for use by both Phase I and Phase II MS4s.

NPDES permitted Phase I MS4s included Topeka: Unified Government of Wyandotte County and Kansas City, Kansas; and Wichita. All other NPDES permitted MS4s in Kansas are Phase II MS4s

Additional Sites Monitored (Either surface waters, ground waters or flow within MS4)

Site Name: 5 Mile East

Site Number: \_\_\_\_\_

Event Rainfall Total: 0.79 Inches

Lake:

Stream:

Estimated Stream Flow: 358 CFS  
total

Stream Level Conditions: up/steady (Rising, Falling, Steady)

Stream Velocity Conditions: rapid (Rapid/Normal, Still (backwater))

Sample Date: 7/31/16 @ 1116

| Parameters & Units Required    | Results* | Sample Type                         |                          |
|--------------------------------|----------|-------------------------------------|--------------------------|
|                                |          | Grab                                | Composite                |
| Total Phosphorus (mg/l)        | 0.37     | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Ortho-Phosphate (mg/l)         | 0.1      | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Nitrate + Nitrite (mg/l)       | 0.49     | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Total Kjeldahl Nitrogen (mg/l) | 2.4      | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Total Nitrogen (mg/l)          | 2.9      | Calculate                           |                          |
| Chlorophyll (µg/l)             |          | <input type="checkbox"/>            | <input type="checkbox"/> |
| Total Suspended Solids (mg/l)  | 314      | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Turbidity(NTU)                 | 240      | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Secchi Disk (feet)             |          | <input type="checkbox"/>            | <input type="checkbox"/> |
| E. coli (col/100ml)            | 36400    | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Other                          |          | <input type="checkbox"/>            | <input type="checkbox"/> |
| Other                          |          | <input type="checkbox"/>            | <input type="checkbox"/> |

Comments: \_\_\_\_\_

**Footnotes and comments**

\* Any result shown in analytical report to be ND (non-detect) must be shown as < with the reporting/detection limit by the certified laboratory.

This form, Water Quality Results for Additional Sites Monitored, is intended for use by both Phase I and Phase II MS4s.

NPDES permitted Phase I MS4s included Topeka: Unified Government of Wyandotte County and Kansas City, Kansas; and Wichita. All other NPDES permitted MS4s in Kansas are Phase II MS4s

Additional Sites Monitored (Either surface waters, ground waters or flow within MS4)

Site Name: 3 Mile West

Site Number: \_\_\_\_\_

Event Rainfall Total: 0.85 Inches

Lake:

Stream:

Estimated Stream Flow: 114 CFS

Stream Level Conditions: up/steady (Rising, Falling, Steady)

Stream Velocity Conditions: rapid (Rapid/Normal, Still (backwater))

Sample Date: 8/25/16 @ 948

| Parameters & Units Required    | Results* | Sample Type                         |                          |
|--------------------------------|----------|-------------------------------------|--------------------------|
|                                |          | Grab                                | Composite                |
| Total Phosphorus (mg/l)        | 0.66     | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Ortho-Phosphate (mg/l)         | 0.3      | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Nitrate + Nitrite (mg/l)       | 0.85     | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Total Kjeldahl Nitrogen (mg/l) | 1.8      | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Total Nitrogen (mg/l)          | 2.6      | Calculate                           |                          |
| Chlorophyll (µg/l)             |          | <input type="checkbox"/>            | <input type="checkbox"/> |
| Total Suspended Solids (mg/l)  | 648      | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Turbidity(NTU)                 | 570      | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Secchi Disk (feet)             |          | <input type="checkbox"/>            | <input type="checkbox"/> |
| E. coli (col/100ml)            | 24600    | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Other                          |          | <input type="checkbox"/>            | <input type="checkbox"/> |
| Other                          |          | <input type="checkbox"/>            | <input type="checkbox"/> |

Comments: \_\_\_\_\_

**Footnotes and comments**

\* Any result shown in analytical report to be ND (non-detect) must be shown as < with the reporting/detection limit by the certified laboratory.

This form, Water Quality Results for Additional Sites Monitored, is intended for use by both Phase I and Phase II MS4s.

NPDES permitted Phase I MS4s included Topeka: Unified Government of Wyandotte County and Kansas City, Kansas; and Wichita. All other NPDES permitted MS4s in Kansas are Phase II MS4s

Additional Sites Monitored (Either surface waters, ground waters or flow within MS4)

Site Name: 3 Mile East

Site Number: \_\_\_\_\_

Event Rainfall Total: 1.16 Inches

Lake:

Stream:

Estimated Stream Flow: 163 CFS

Stream Level Conditions: up/steady (Rising, Falling, Steady)

Stream Velocity Conditions: rapid (Rapid/Normal, Still (backwater))

Sample Date: 8/25/16 @ 926

| Parameters & Units Required    | Results* | Sample Type                         |                          |
|--------------------------------|----------|-------------------------------------|--------------------------|
|                                |          | Grab                                | Composite                |
| Total Phosphorus (mg/l)        | 0.67     | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Ortho-Phosphate (mg/l)         | 0.28     | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Nitrate + Nitrite (mg/l)       | 0.37     | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Total Kjeldahl Nitrogen (mg/l) | 2.4      | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Total Nitrogen (mg/l)          | 2.7      | Calculate                           |                          |
| Chlorophyll (µg/l)             |          | <input type="checkbox"/>            | <input type="checkbox"/> |
| Total Suspended Solids (mg/l)  | 1140     | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Turbidity(NTU)                 | 765      | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Secchi Disk (feet)             |          | <input type="checkbox"/>            | <input type="checkbox"/> |
| E. coli (col/100ml)            | 28800    | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Other                          |          | <input type="checkbox"/>            | <input type="checkbox"/> |
| Other                          |          | <input type="checkbox"/>            | <input type="checkbox"/> |

Comments: \_\_\_\_\_

**Footnotes and comments**

\* Any result shown in analytical report to be ND (non-detect) must be shown as < with the reporting/detection limit by the certified laboratory.

This form, Water Quality Results for Additional Sites Monitored, is intended for use by both Phase I and Phase II MS4s.

NPDES permitted Phase I MS4s included Topeka: Unified Government of Wyandotte County and Kansas City, Kansas; and Wichita. All other NPDES permitted MS4s in Kansas are Phase II MS4s

Additional Sites Monitored (Either surface waters, ground waters or flow within MS4)

Site Name: 5 Mile West

Site Number: \_\_\_\_\_

Event Rainfall Total: 1.16 Inches

Lake:

Stream:

Estimated Stream Flow: 49 CFS

Stream Level Conditions: up/steady (Rising, Falling, Steady)

Stream Velocity Conditions: rapid (Rapid/Normal, Still (backwater))

Sample Date: 8/25/16 @ 1011

| Parameters & Units Required    | Results* | Sample Type                         |                          |
|--------------------------------|----------|-------------------------------------|--------------------------|
|                                |          | Grab                                | Composite                |
| Total Phosphorus (mg/l)        | 1.5      | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Ortho-Phosphate (mg/l)         | 0.61     | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Nitrate + Nitrite (mg/l)       | 0.54     | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Total Kjeldahl Nitrogen (mg/l) | 6.9      | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Total Nitrogen (mg/l)          | 7.4      | Calculate                           |                          |
| Chlorophyll (µg/l)             |          | <input type="checkbox"/>            | <input type="checkbox"/> |
| Total Suspended Solids (mg/l)  | 2730     | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Turbidity(NTU)                 | 1960     | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Secchi Disk (feet)             |          | <input type="checkbox"/>            | <input type="checkbox"/> |
| E. coli (col/100ml)            | 44100    | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Other                          |          | <input type="checkbox"/>            | <input type="checkbox"/> |
| Other                          |          | <input type="checkbox"/>            | <input type="checkbox"/> |

Comments: \_\_\_\_\_

**Footnotes and comments**

\* Any result shown in analytical report to be ND (non-detect) must be shown as < with the reporting/detection limit by the certified laboratory.

This form, Water Quality Results for Additional Sites Monitored, is intended for use by both Phase I and Phase II MS4s.

NPDES permitted Phase I MS4s included Topeka: Unified Government of Wyandotte County and Kansas City, Kansas; and Wichita. All other NPDES permitted MS4s in Kansas are Phase II MS4s



Additional Sites Monitored (Either surface waters, ground waters or flow within MS4)

Site Name: 5 Mile East

Site Number: \_\_\_\_\_

Event Rainfall Total: 0.97 Inches

Lake:

Stream:

Estimated Stream Flow: 610 CFS

Stream Level Conditions: up/steady (Rising, Falling, Steady)

Stream Velocity Conditions: rapid (Rapid/Normal, Still (backwater))

Sample Date: 8/25/16 @ 1032

| Parameters & Units Required    | Results* | Sample Type                         |                          |
|--------------------------------|----------|-------------------------------------|--------------------------|
|                                |          | Grab                                | Composite                |
| Total Phosphorus (mg/l)        | 0.43     | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Ortho-Phosphate (mg/l)         | 0.22     | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Nitrate + Nitrite (mg/l)       | 0.42     | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Total Kjeldahl Nitrogen (mg/l) | 1.4      | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Total Nitrogen (mg/l)          | 1.8      | Calculate                           |                          |
| Chlorophyll (µg/l)             |          | <input type="checkbox"/>            | <input type="checkbox"/> |
| Total Suspended Solids (mg/l)  | 388      | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Turbidity(NTU)                 | 385      | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Secchi Disk (feet)             |          | <input type="checkbox"/>            | <input type="checkbox"/> |
| E. coli (col/100ml)            | 16100    | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Other                          |          | <input type="checkbox"/>            | <input type="checkbox"/> |
| Other                          |          | <input type="checkbox"/>            | <input type="checkbox"/> |

Comments: \_\_\_\_\_

**Footnotes and comments**

\* Any result shown in analytical report to be ND (non-detect) must be shown as < with the reporting/detection limit by the certified laboratory.

This form, Water Quality Results for Additional Sites Monitored, is intended for use by both Phase I and Phase II MS4s.

NPDES permitted Phase I MS4s included Topeka: Unified Government of Wyandotte County and Kansas City, Kansas; and Wichita. All other NPDES permitted MS4s in Kansas are Phase II MS4s

**Additional Sites Monitored** (Either surface waters, ground waters or flow within MS4)

Site Name: 3 Mile West

Site Number: \_\_\_\_\_

Event Rainfall Total: 2.64 Inches

Lake:

Stream:

Estimated Stream Flow: 300 CFS

Stream Level Conditions: up/steady (Rising, Falling, Steady)

Stream Velocity Conditions: rapid (Rapid/Normal, Still (backwater))

Sample Date: 9/14/16 @ 911

| Parameters & Units Required    | Results* | Sample Type                         |                          |
|--------------------------------|----------|-------------------------------------|--------------------------|
|                                |          | Grab                                | Composite                |
| Total Phosphorus (mg/l)        | 0.38     | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Ortho-Phosphate (mg/l)         | 0.19     | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Nitrate + Nitrite (mg/l)       | 0.17     | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Total Kjeldahl Nitrogen (mg/l) | 1.3      | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Total Nitrogen (mg/l)          | 1.5      | Calculate                           |                          |
| Chlorophyll (µg/l)             |          | <input type="checkbox"/>            | <input type="checkbox"/> |
| Total Suspended Solids (mg/l)  | 349      | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Turbidity(NTU)                 | 303      | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Secchi Disk (feet)             |          | <input type="checkbox"/>            | <input type="checkbox"/> |
| E. coli (col/100ml)            | 4500     | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Other                          |          | <input type="checkbox"/>            | <input type="checkbox"/> |
| Other                          |          | <input type="checkbox"/>            | <input type="checkbox"/> |

Comments: \_\_\_\_\_

**Footnotes and comments**

\* Any result shown in analytical report to be ND (non-detect) must be shown as < with the reporting/detection limit by the certified laboratory.

This form, Water Quality Results for Additional Sites Monitored, is intended for use by both Phase I and Phase II MS4s.

NPDES permitted Phase I MS4s included Topeka: Unified Government of Wyandotte County and Kansas City, Kansas; and Wichita. All other NPDES permitted MS4s in Kansas are Phase II MS4s

Additional Sites Monitored (Either surface waters, ground waters or flow within MS4)

Site Name: 3 Mile East

Site Number: \_\_\_\_\_

Event Rainfall Total: 2.80 Inches

Lake:

Stream:

Estimated Stream Flow: 366 CFS

Stream Level Conditions: up/steady (Rising, Falling, Steady)

Stream Velocity Conditions: rapid (Rapid/Normal, Still (backwater))

Sample Date: 9/14/16 @ 846

| Parameters & Units Required    | Results* | Sample Type                         |                          |
|--------------------------------|----------|-------------------------------------|--------------------------|
|                                |          | Grab                                | Composite                |
| Total Phosphorus (mg/l)        | 0.55     | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Ortho-Phosphate (mg/l)         | 0.3      | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Nitrate + Nitrite (mg/l)       | 0.55     | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Total Kjeldahl Nitrogen (mg/l) | 1.6      | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Total Nitrogen (mg/l)          | 2.2      | Calculate                           |                          |
| Chlorophyll (µg/l)             |          | <input type="checkbox"/>            | <input type="checkbox"/> |
| Total Suspended Solids (mg/l)  | 442      | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Turbidity(NTU)                 | 344      | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Secchi Disk (feet)             |          | <input type="checkbox"/>            | <input type="checkbox"/> |
| E. coli (col/100ml)            | 36540    | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Other                          |          | <input type="checkbox"/>            | <input type="checkbox"/> |
| Other                          |          | <input type="checkbox"/>            | <input type="checkbox"/> |

Comments: \_\_\_\_\_

**Footnotes and comments**

\* Any result shown in analytical report to be ND (non-detect) must be shown as < with the reporting/detection limit by the certified laboratory.

This form, Water Quality Results for Additional Sites Monitored, is intended for use by both Phase I and Phase II MS4s.

NPDES permitted Phase I MS4s included Topeka: Unified Government of Wyandotte County and Kansas City, Kansas; and Wichita. All other NPDES permitted MS4s in Kansas are Phase II MS4s

Additional Sites Monitored (Either surface waters, ground waters or flow within MS4)

Site Name: 5 Mile West

Site Number: \_\_\_\_\_

Event Rainfall Total: 1.95 Inches

Lake:

Stream:

Estimated Stream Flow: 500 CFS

Stream Level Conditions: up/steady (Rising, Falling, Steady)

Stream Velocity Conditions: rapid (Rapid/Normal, Still (backwater))

Sample Date: 9/14/16 @ 926

| Parameters & Units Required    | Results* | Sample Type                         |                          |
|--------------------------------|----------|-------------------------------------|--------------------------|
|                                |          | Grab                                | Composite                |
| Total Phosphorus (mg/l)        | 0.38     | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Ortho-Phosphate (mg/l)         | 0.18     | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Nitrate + Nitrite (mg/l)       | 0.13     | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Total Kjeldahl Nitrogen (mg/l) | 1.6      | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Total Nitrogen (mg/l)          | 1.8      | Calculate                           |                          |
| Chlorophyll (µg/l)             |          | <input type="checkbox"/>            | <input type="checkbox"/> |
| Total Suspended Solids (mg/l)  | 604      | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Turbidity(NTU)                 | 467      | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Secchi Disk (feet)             |          | <input type="checkbox"/>            | <input type="checkbox"/> |
| E. coli (col/100ml)            | 19890    | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Other                          |          | <input type="checkbox"/>            | <input type="checkbox"/> |
| Other                          |          | <input type="checkbox"/>            | <input type="checkbox"/> |

Comments: \_\_\_\_\_

**Footnotes and comments**

\* Any result shown in analytical report to be ND (non-detect) must be shown as < with the reporting/detection limit by the certified laboratory.

This form, Water Quality Results for Additional Sites Monitored, is intended for use by both Phase I and Phase II MS4s.

NPDES permitted Phase I MS4s included Topeka: Unified Government of Wyandotte County and Kansas City, Kansas; and Wichita. All other NPDES permitted MS4s in Kansas are Phase II MS4s



**Additional Sites Monitored** (Either surface waters, ground waters or flow within MS4)

Site Name: 5 Mile East

Site Number: \_\_\_\_\_

Event Rainfall Total: 2.21 Inches

Lake:

Stream:

Estimated Stream Flow: 2080 CFS

Stream Level Conditions: up/steady (Rising, Falling, Steady)

Stream Velocity Conditions: rapid (Rapid/Normal, Still (backwater))

Sample Date: 9/14/16 @ 946

| Parameters & Units Required    | Results* | Sample Type                         |                          |
|--------------------------------|----------|-------------------------------------|--------------------------|
|                                |          | Grab                                | Composite                |
| Total Phosphorus (mg/l)        | 0.56     | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Ortho-Phosphate (mg/l)         | 0.2      | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Nitrate + Nitrite (mg/l)       | 0.3      | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Total Kjeldahl Nitrogen (mg/l) | 2.2      | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Total Nitrogen (mg/l)          | 2.5      | Calculate                           |                          |
| Chlorophyll (µg/l)             |          | <input type="checkbox"/>            | <input type="checkbox"/> |
| Total Suspended Solids (mg/l)  | 620      | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Turbidity(NTU)                 | 504      | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Secchi Disk (feet)             |          | <input type="checkbox"/>            | <input type="checkbox"/> |
| E. coli (col/100ml)            | 15650    | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Other                          |          | <input type="checkbox"/>            | <input type="checkbox"/> |
| Other                          |          | <input type="checkbox"/>            | <input type="checkbox"/> |

Comments: \_\_\_\_\_

**Footnotes and comments**

\* Any result shown in analytical report to be ND (non-detect) must be shown as < with the reporting/detection limit by the certified laboratory.

This form, Water Quality Results for Additional Sites Monitored, is intended for use by both Phase I and Phase II MS4s.

NPDES permitted Phase I MS4s included Topeka: Unified Government of Wyandotte County and Kansas City, Kansas; and Wichita. All other NPDES permitted MS4s in Kansas are Phase II MS4s

**CITY OF LEAVENWORTH**

**Kansas Stormwater Annual Report Form for Municipal Separate Storm Sewer Systems**

**January 1, 2016 – December 31, 2016**

**Appendix B**  
**TMDL**  
**N/A**

## **Appendix C**

# **Selected Maps and Charts related to measurement of rainfall and stream stage with comments**

- **Overview map of drainage basins, water quality sampling points, rain gauges and detention basins**
- **Comments on**
  - **Sampling Rising Streams**
  - **Measuring Stream Volume**
  - **Detention Basin Effectiveness**
- **Selected graphs of Three-Mile and Five-Mile Creek**
- **Selected Graphs of detention basins**

**The first two topics were presented in the 2015 Annual Report. This is a follow-up**

**Difficulty in obtaining samples in the rising stream**

The City has conducted three years of sampling effort as part of the MS4 permit. It is understood that KDHE and the City are interested in determining the impact of city activity on quality of water flowing through the city.

It has been difficult to have the sampling team obtain samples from a rising stream stage of both Three-Mile and Five-Mile Creek. The graphs in this appendix from July 2016 of Three and Five-Mile Creeks show the rapid rise and fall of the water surface elevation. It is clear that it is nearly impossible to meet the requirements of sampling a rising stream

The city evaluated the costs of installation of permanent monitors. The cost of between \$20,000 and \$40,000 continues to be a barrier to their installation. The staff time to oversee the operation of permanent monitors is also a concern.

Staff was contemplating ideas to vary sample collection routines in 2016. No storms were run with any revised operating procedures. Time to gather all samples was decreased as operators become more familiar with the process.

Changes for 2017 include:

- Follow-up measurements on some anticipated detention basin modifications
- Measuring a weir installed in a creek to compare flow with previous events
- Use of a portable TSS meter to evaluate fluctuations in TSS by rerunning the sample route for TSS information only
- Continue discussions with manufacturers for affordable equipment better suited the needs of the city and KDHE



City of Leavenworth  
MS4 Annual Report – 2016  
February 27, 2016

### **Difficulty in measuring streamflow (volume)**

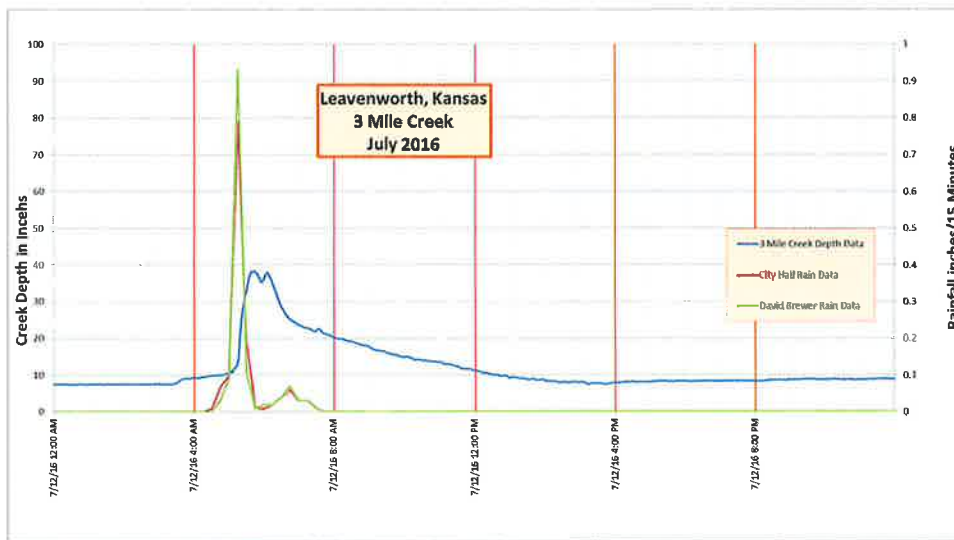
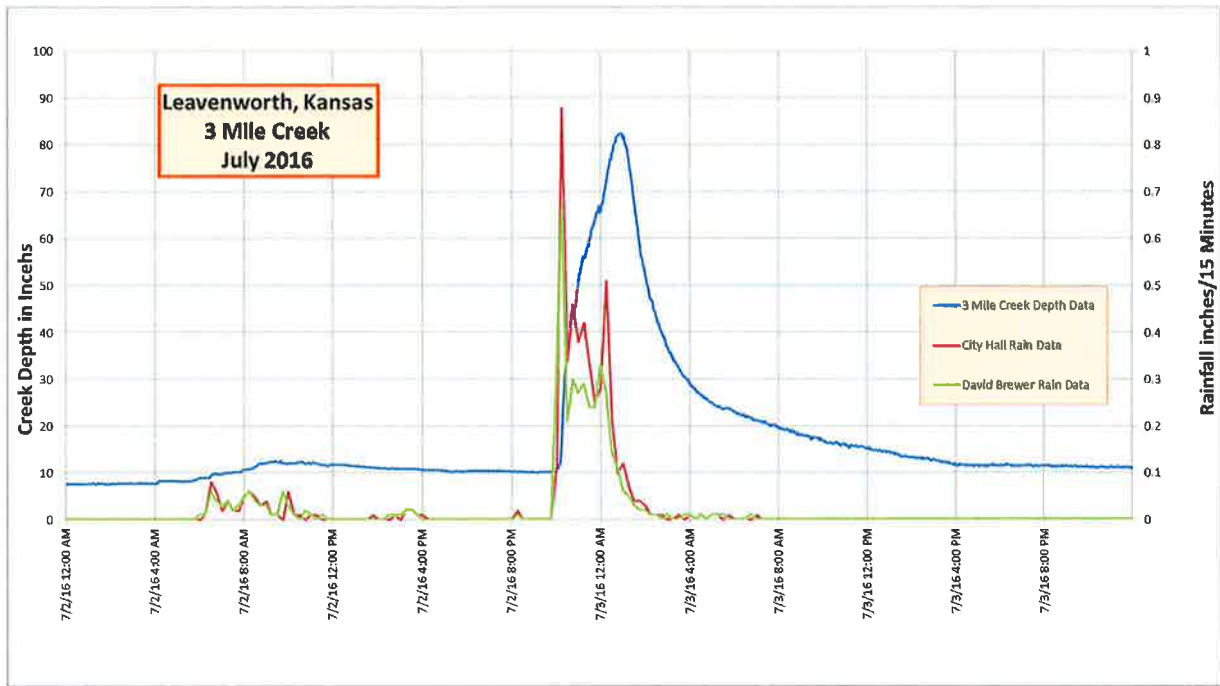
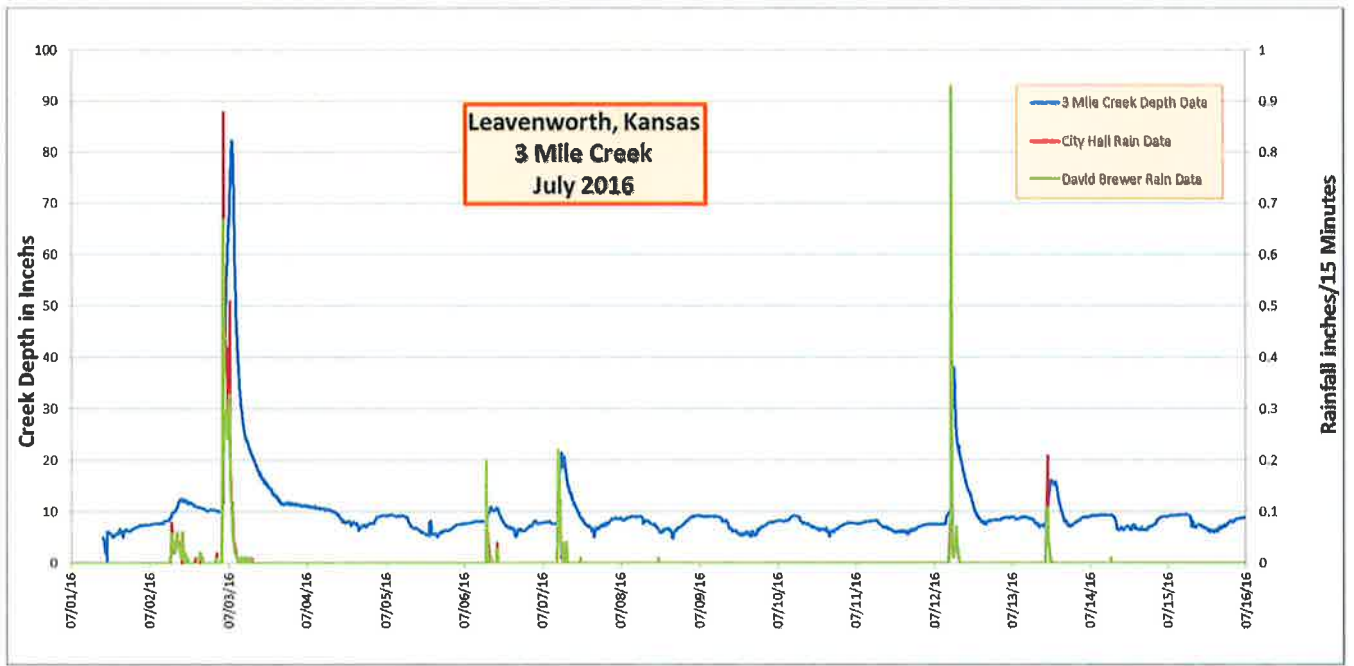
The City has conducted three years of sampling effort as part of the MS4 permit. Accuracy of the manual flow volume calculations was a concern. An engineering firm was contracted to provide Stage-Discharge curves for all sampling locations. This provided a more repeatable calculation that requires only the depth of the flow. These charts were used in the 2014 and 2015 annual reports.

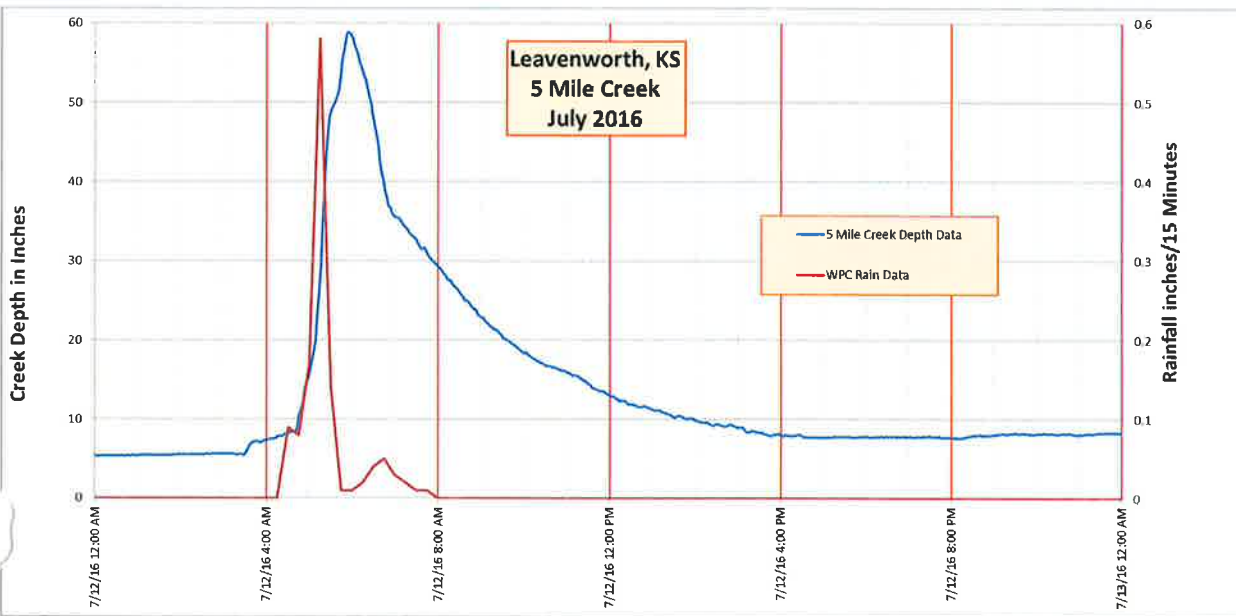
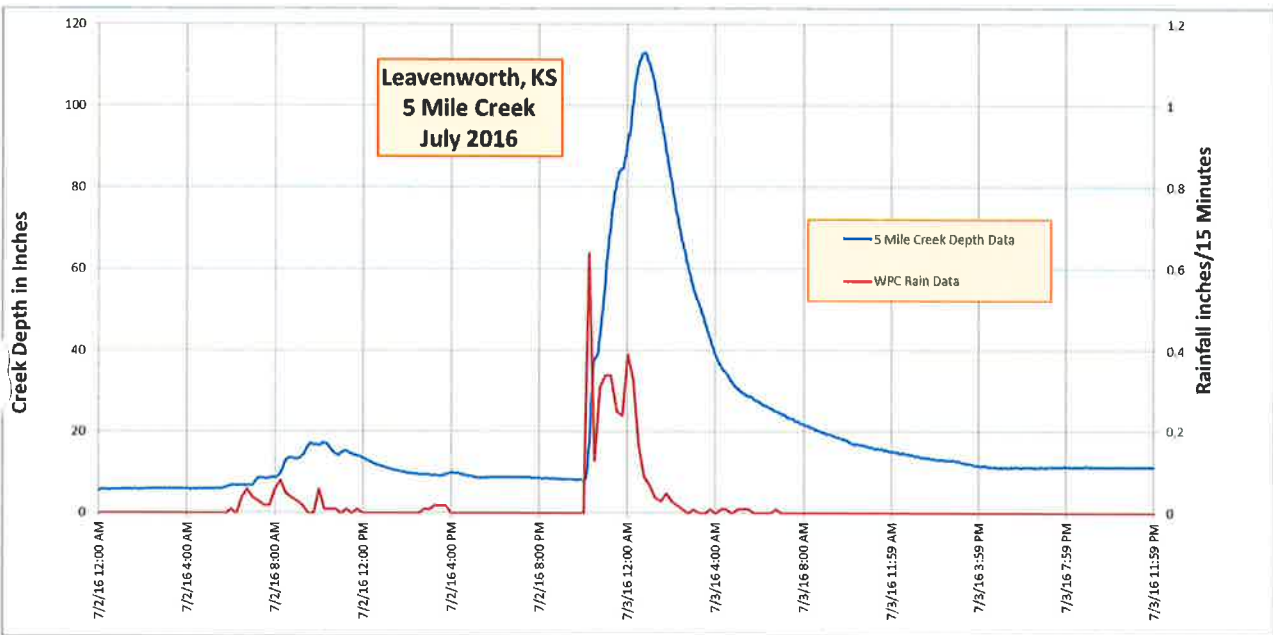
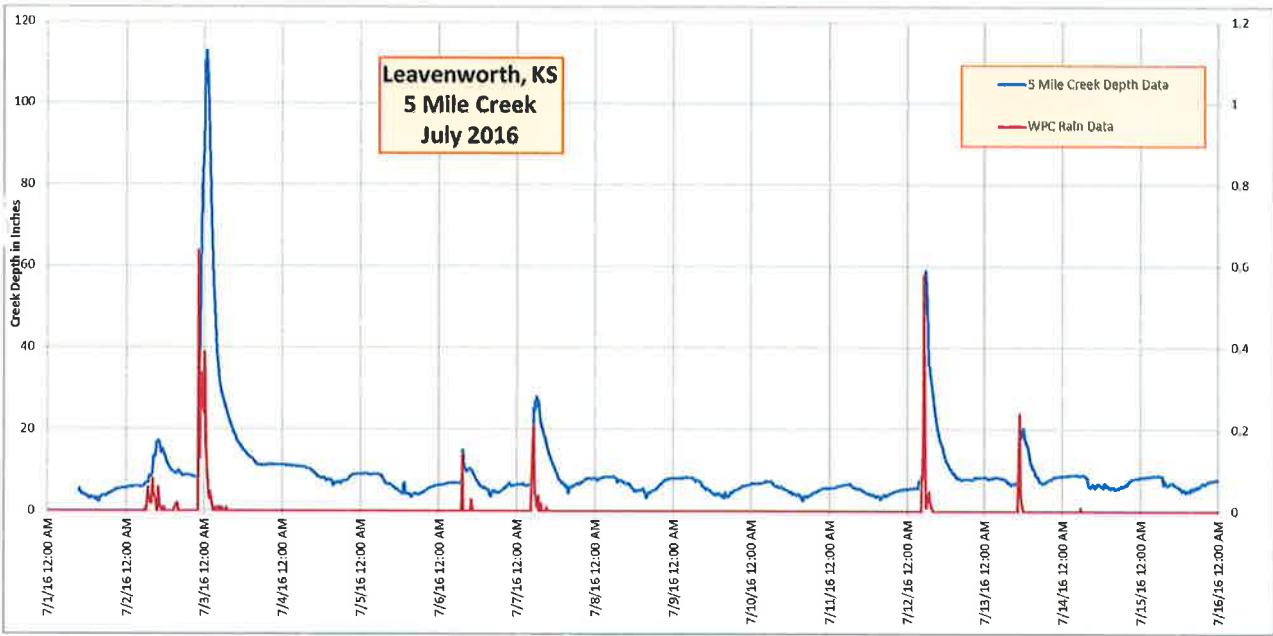
A review of water volume calculations indicates that the Stage-Discharge Curves will not work in 2016 as the depth data and velocity appear to not be represented accurately in the tables. Staff discussions indicate that the creek channel may have eroded during the year. Further measurements are necessary. Flow data for 2016 will be calculated from observed velocities and an assumed channel width.

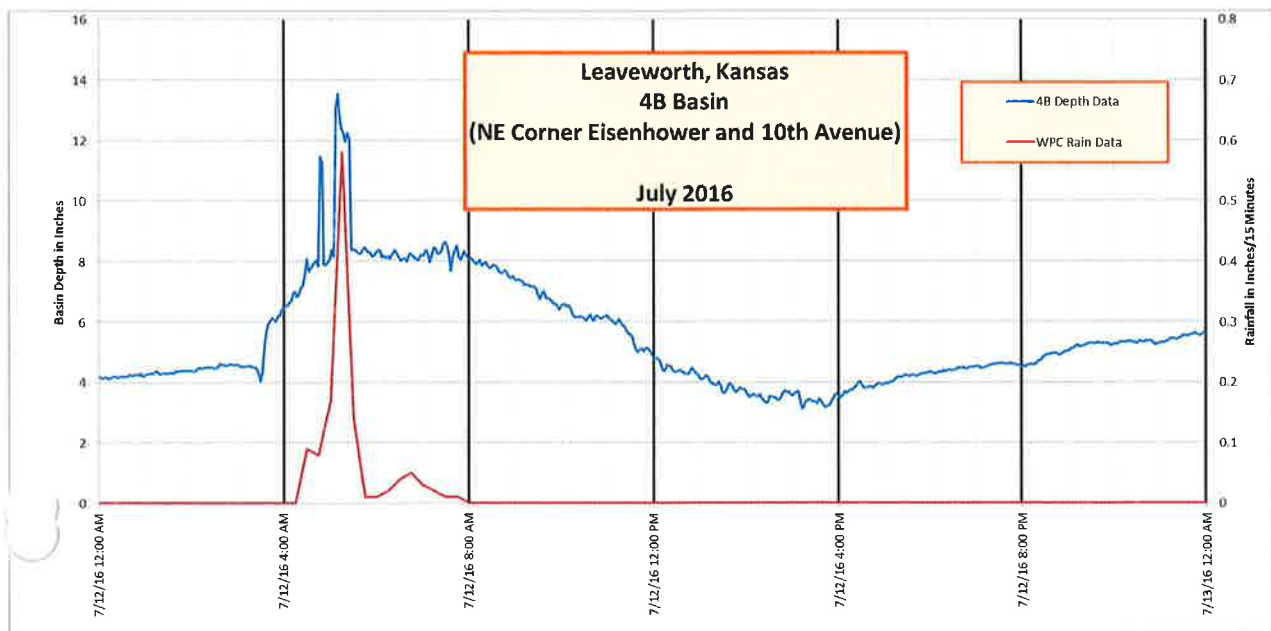
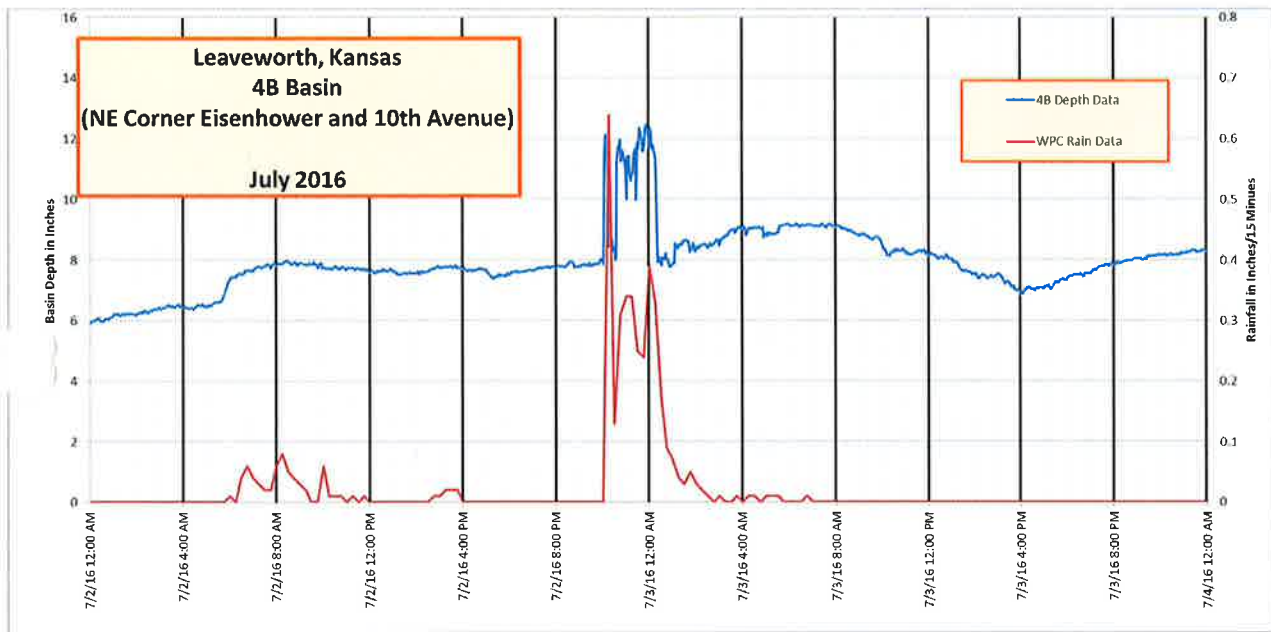
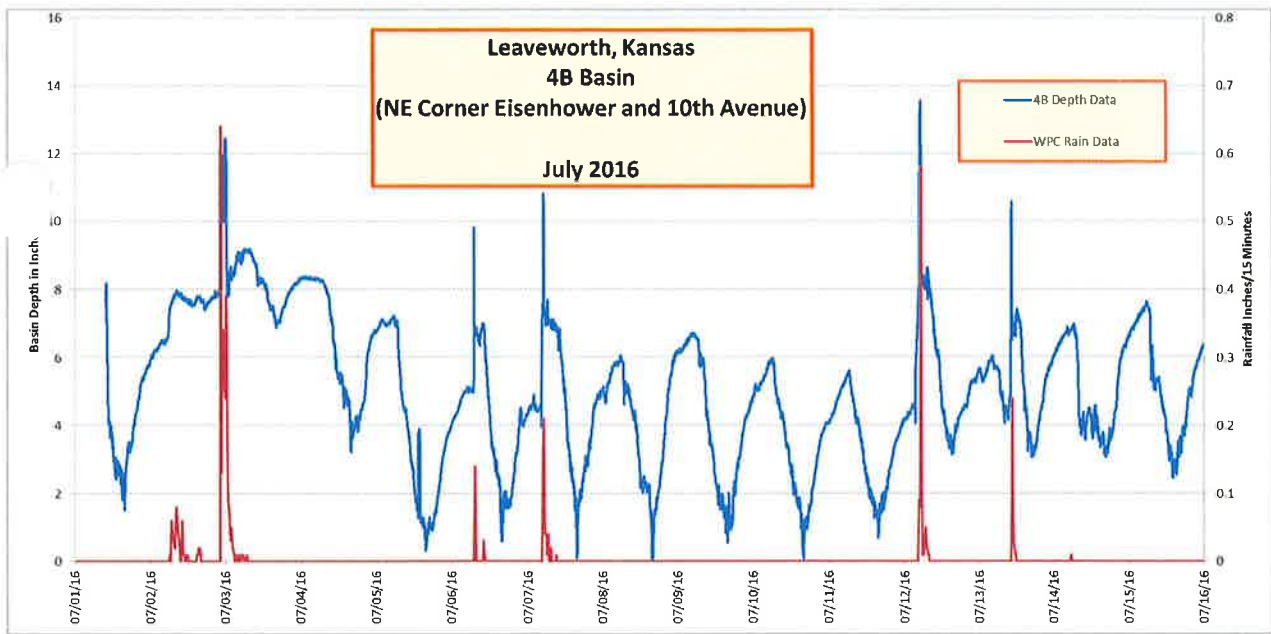
### **Detention Basin Concerns (New thought for 2016)**

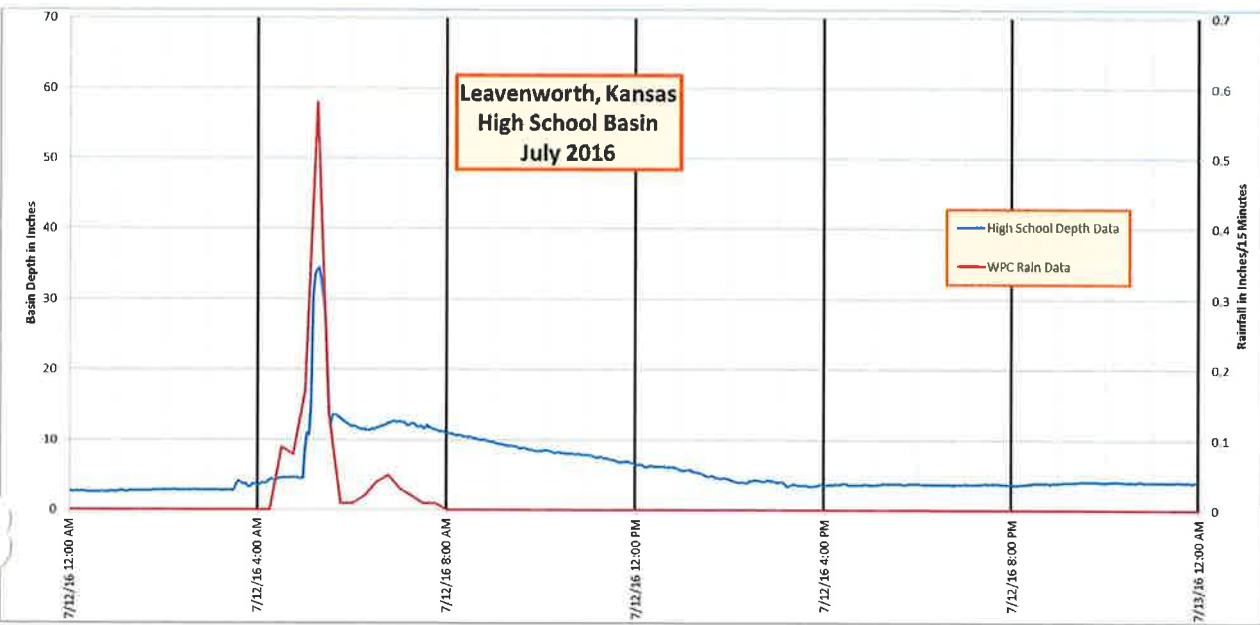
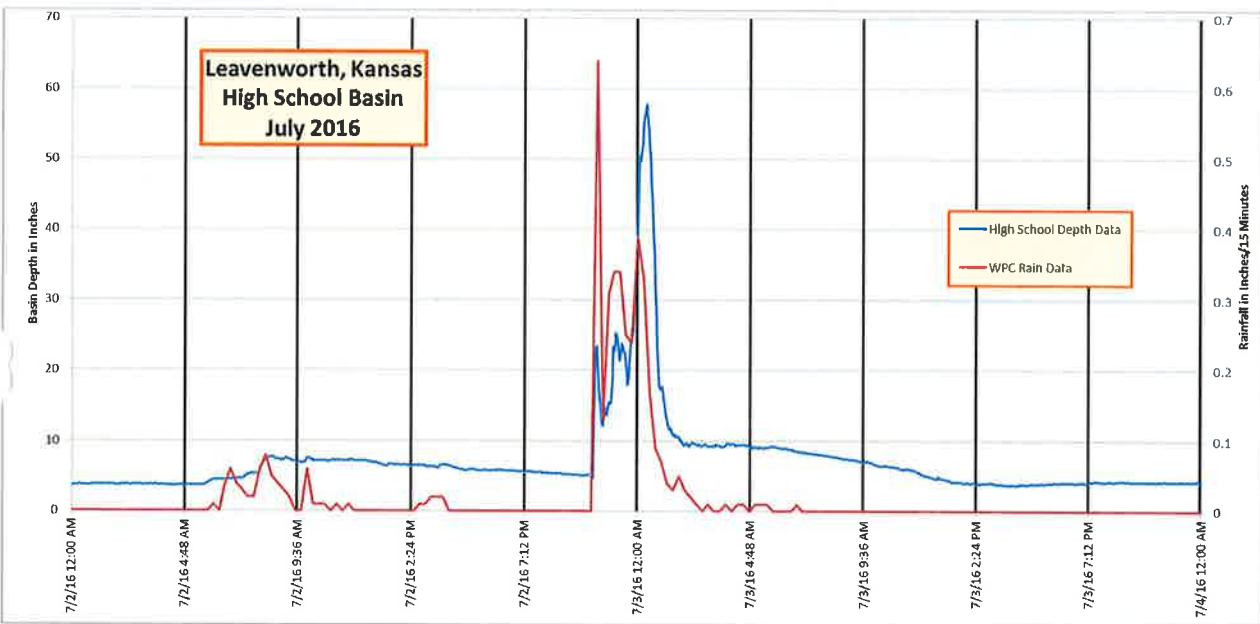
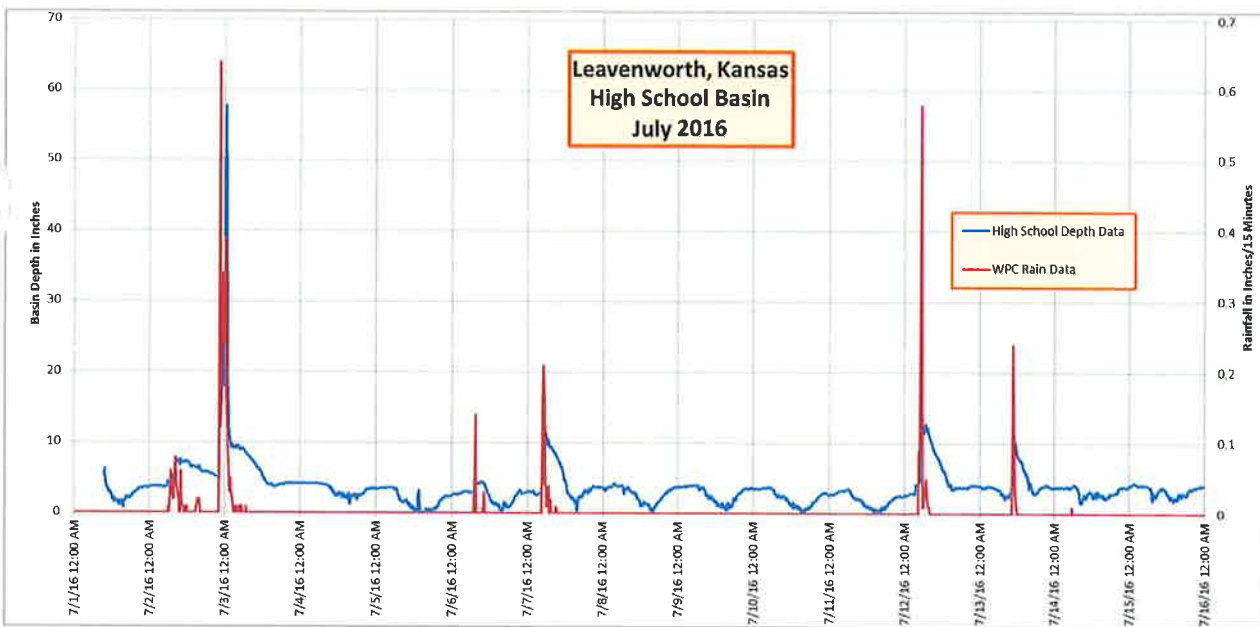
A brief review of several detention basin charts from 2016 shows many of the early designed basins pass a lot of water through very quickly. Discussion with design professionals indicate that these were an early design that basically allowed for storage and release for of the design storm. They work fine to mitigate that, and are simple to construct. They do very little mitigation on smaller storms, and smaller storms are the most damaging to creek banks and other erosion potential areas.

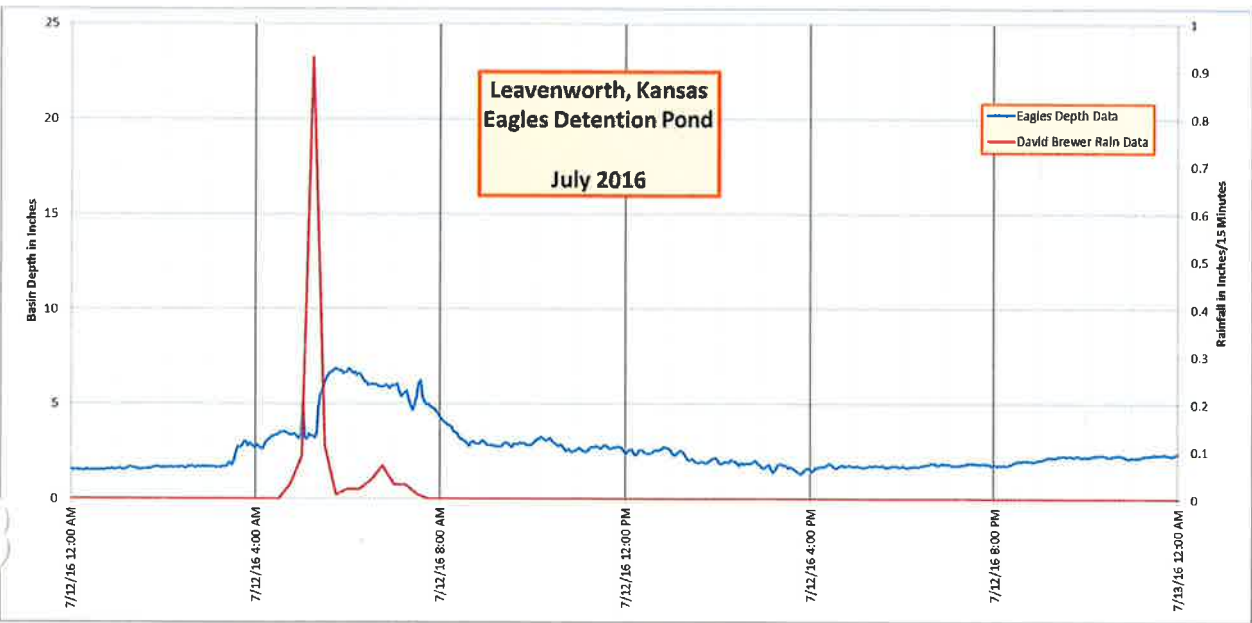
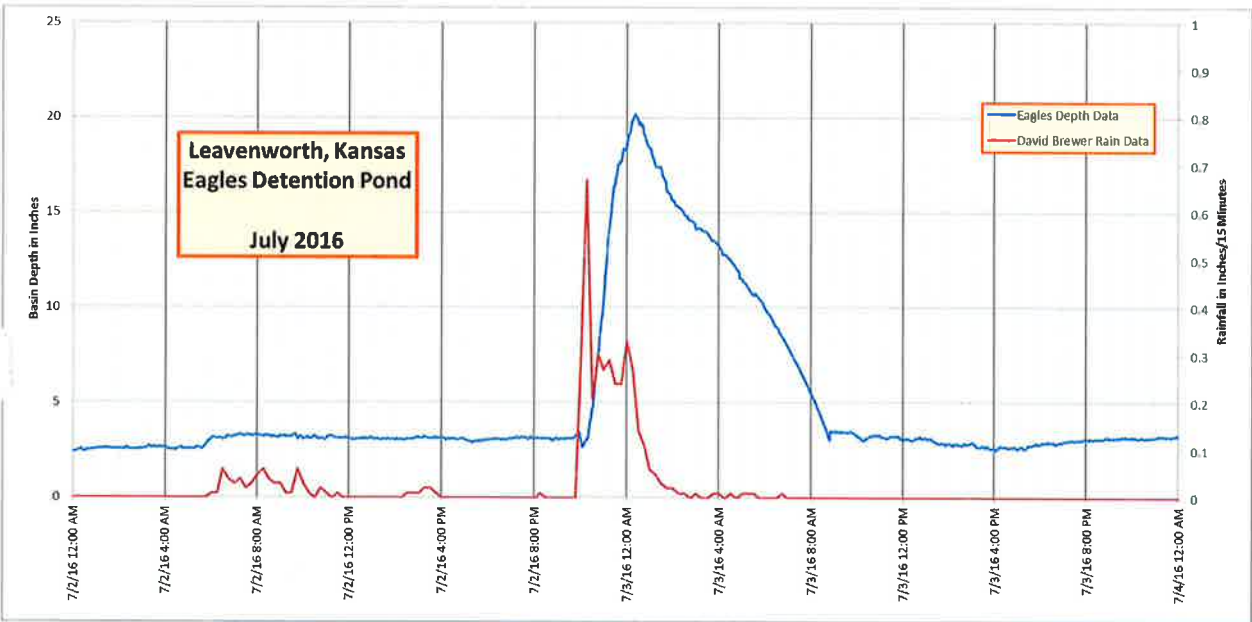
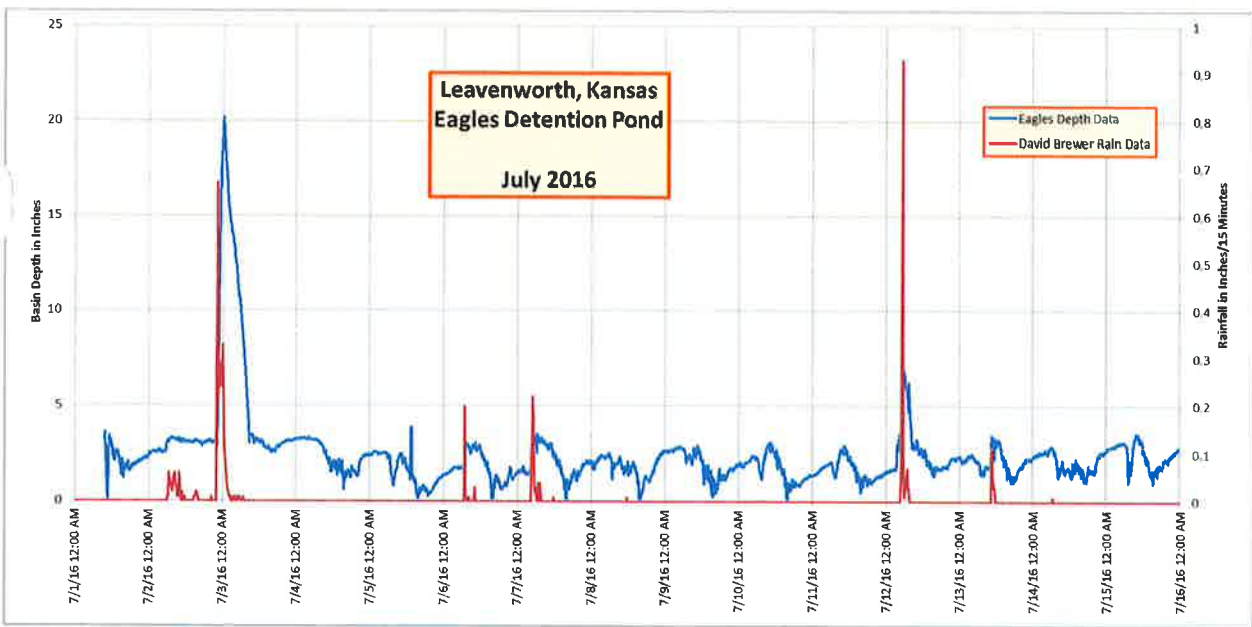
City is considering working with basin owners on some modifications to make the responses more in keeping with modern design practices. Any such modified basins are expected to be monitored.











## **Appendix D**

# **Selected Supporting Documentation for Stormwater Management Program**

## **(Stormwater Annual Report - Section E) (BMP Numbers 1-6)**

- **Selected Items for BMP #1 and #2**
  - **On-Line content at lvks.org**
  - **Meeting information related to KDHE Annual Stormwater Report and Stormwater Management Plan**
  - **2016 City –wide Clean-up**
  - **Pages from “First City Newsletter”**
  - **Spring Clean-up Summary**
  - **Arbor Day Information**
  - **Newsletter article on how to contact City with concerns over environmental issues**
- **Selected items for BMP #3**
  - **Selected examples of training**
  - **Summary of Grease Trap Program**
- **Selected items for BMP #4**
- **Selected items for BMP #5**
- **Selected items for BMP #6**
  - **Street Sweeping Summary Chart**
  - **Salt Usage Summary Chart**
  - **Leaf Collection Program with table**

## Useful Links

**You are viewing a feed that contains frequently updated content.** When you subscribe to a feed, it is added to the Common Feed List. Updated information from the feed is automatically downloaded to your computer and can be viewed in Internet Explorer and other programs. [Learn more about feeds.](#)

 [Subscribe to this feed](#)

## Sidewalk Replacement Projects

---

Thursday, March 24, 2016, 8:11:43 AM

Sidewalk replacement projects

## Stormwater Management Plan

---

Thursday, March 24, 2016, 8:05:57 AM

Stormwater Management Report

## Cherokee Bridge Geotechnical Report Project 2013-732

---

Friday, December 11, 2015, 2:41:52 AM

Project 2013-732 Cherokee Bridge Geotechnical Report

## Project 2015-824 Special Waster Removal From Stove Factory Loft Parking Lot

---

Monday, December 07, 2015, 4:22:12 AM

Special Water Removal from Stove factory loft parking lot

## Stormwater and Drainage General Guidlines and permit links

---

Thursday, September 24, 2015, 4:19:45 AM

## Land Disturbance Documents

---

Friday, September 11, 2015, 5:13:50 AM

Documents necessary for construction projects, demos, or working in the Cit'y right of way.

## Ottawa, 7th to Broadway Watershed Plan

---

Friday, June 19, 2015, 5:32:39 AM



## **City Hall Roof and parapet site Susan Richard Johnson & Associates, Inc. Site Visit**

---

Friday, June 19, 2015, 5:31:47 AM

## **Rain Garden Guide**

---

Tuesday, June 16, 2015, 5:11:25 AM

## **Public Works Survey Part 2: City streets, trash and regular services**

---

Wednesday, August 27, 2014, 4:25:59 AM

An Online Survey Monkey Survey was conducted May 5 to July 2, 2014 for the purposes of getting customer feedback regarding the City's street repair, garbage collection, special pickup, recycling, and the City's ability to communicate messages regarding these services. There were 94 responses. The survey was promoted using the City's website, Facebook and Twitter.

## **Ottawa Street 13th to 17th Boring Logs**

---

Friday, April 18, 2014, 3:55:53 AM

## **2003 Burns & McDonnell Subsurface Wastewater Treatment Plant Drilling Logs**

---

Monday, December 05, 2011, 5:34:32 AM

## **1970 Waste Water Treatment Plant Boring Report**

---

Friday, December 02, 2011, 8:47:07 AM

## **RFQ Riverfront Community Center Restoration Project**

---

Tuesday, April 19, 2011, 5:54:18 AM

## **Street Patch Detail**

---

Tuesday, January 25, 2011, 10:37:13 AM

Asphaltic Concrete Patch Spec

## Appendix A Proposed Project Scope and Cost Est

---

Tuesday, January 25, 2011, 10:33:18 AM

## N 20th Terrace Storm Water Drainage Study

---

Friday, December 03, 2010, 6:09:00 AM

## Wastewater Master Plan Update

---

Monday, November 22, 2010, 1:28:05 AM

City of Leavenworth, Kansas Wastewater Treatment Plant Master Plan and Collection Systems Update Project No. 2009-621 Table of Contents Executive Summary 1. Introduction 2. Nutrient Removal Alternatives 3. Disinfection Alternatives 4. I&I Assessment and Reduction Plan 5. Implementation

## General Specification for Projects under \$100,000

---

Tuesday, February 09, 2010, 3:18:10 AM

CITY OF LEAVENWORTH CONTRACT DOCUMENTS AND SPECIFICATIONS PROJECT NO: OFFICE OF THE CITY ENGINEER \_\_\_\_\_ MICHAEL G. MCDONALD, P.E CITY OF LEAVENWORTH Project No:  
SECTION I SECTION II SECTION III SECTION IV SECTION V SECTION VI SECTION VII SECTION VIII SECTION IX SECTION X SECTION XI NOTICE TO CONTRACTORS INSTRUCTION TO BIDDERS PROPOSAL PERFORMANCE BOND STATUTORY BOND CONTRACT AGREEMENT AFFIRMATIVE ACTION PROGRAM CONSTRUCTION UNDER \$100,000 MINORITY BUSINESS ENTERPRISE UTILIZATION PLAN GENERAL CONDITIONS SPECIAL CONDITIONS TECHNICAL SPECIFICATIONS OPTIONS: 1. You may write/type...

## General Specification for Projects over \$100,000

---

Tuesday, February 09, 2010, 3:17:46 AM

CITY OF LEAVENWORTH CONTRACT DOCUMENTS AND SPECIFICATIONS PROJECT NO: OFFICE OF THE CITY ENGINEER \_\_\_\_\_ MICHAEL G. MCDONALD, P.E CITY OF LEAVENWORTH KANSAS CONTRACT DOCUMENT AND SPECIFICATIONS Project No: SECTION I SECTION II SECTION III SECTION IV SECTION V SECTION VI SECTION VII SECTION VIII SECTION IX SECTION X SECTION XI NOTICE TO CONTRACTORS INSTRUCTION TO BIDDERS PROPOSAL PERFORMANCE BOND STATUTORY BOND CONTRACT AGREEMENT AFFIRMATIVE ACTION PROGRAM CONSTRUCTION OVER \$100,000 MINORITY BUSINESS ENTERPRISE UTILIZATION PLAN GENERAL CONDITIONS SPECIAL CONDITIONS TECHNICAL SPECIFICATIONS...



Welcome To Your City Commission Meeting - Please turn off all cell phones during the commission meeting.  
Meetings are televised everyday on Channel 2 at noon, 7 p.m. and midnight

**CALL TO ORDER - Pledge of allegiance followed by silent meditation**

**OLD BUSINESS:**

**Consideration of Previous Meeting Minutes:**

1. February 9, 2016 regular meeting minutes **Action:** Motion (pg 2)

**NEW BUSINESS:**

**Citizens Participation (i.e. Items not listed on the agenda or receipt of petitions)**

**General Items:**

2. Mayor's Appointments - Civil Service Commission, Convention & Tourism Committee, Deer Management Advisory Committee, Leavenworth Main Street Program, Parks & Community Advisory Board, Sister City Advisory Board **Action:** Motion (pg 5)

**Resolutions:**

3. Resolution No. B-2131 2015 Annual Stormwater Report **Action:** Motion (pg 6)
4. Resolution No. B-2132 2016 Stormwater Management Program **Action:** Motion (pg 19)

**Bids, Contracts and Agreements:**

5. Bids for Plastic Refuse Bags **Action:** Motion (pg 24)
6. Bids for Demolition of 724-730 Pottawatomie **Action:** Motion (pg 26)
7. Proposals for Hawthorn Park Restroom Project **Action:** Motion (pg 27)

**CONSENT AGENDA:**

Claims for February 6, 2016 through February 19, 2016 in the amount of \$575,901.94; Payroll #4, effective February 19, 2016 net amount of \$286,811.96 (including Fire & Police Pension in the net amount of \$11,232.85). **Action:** Motion

**Other Items:**


8. Executive Session – Consultation with City Attorney on matters deemed privileged in an attorney-client relationship **Action:** Motion

**Adjourn - Action:** Motion

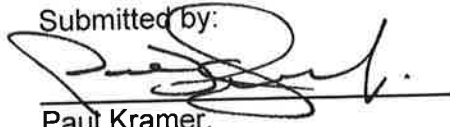
**REVIEW DRAFT  
STORMWATER MANAGEMENT PLAN**

February 2, 2016

Prepared by:

  
Michael G. McDonald, P.E.,  
Director of Public Works

Submitted by:

  
Paul Kramer,  
City Manager

**ISSUE**

Review Draft Stormwater Management Plan.

**BACKGROUND**

The City of Leavenworth is a Phase II City for stormwater matters and is regulated by KDHE. The City adopted a stormwater management plan in 2003 that described how the City would implement programs to protect water quality in the creeks and streams within the City, ultimately contributing to improved water quality of the Missouri and Mississippi Rivers. The original document is attached to this policy report.

The City has included comments in the annual reports on the progress of efforts described in the Stormwater Management Plan (SMP). City staff has stated that the annual report reflects the currently approved SMP and no revisions are necessary. KDHE and EPA have suggested that the City should update the SMP, and the current KDHE Permit requires that an updated plan be submitted to reflect changes as required in the current permit. This mostly relates to sampling of streams for water quality.

Staff has reviewed SMP documents prepared by similar cities in the area. There is no standard form for the report other than some limited guidance from KDHE on how the "Six Minimum Control Measures" should be addressed by the City (attached). These six measures are

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

These control measures are addressed by "Best Management Practices" (BMP). This is a broad term that generally relates to an expectation by regulatory agencies that the City will be following good practices for a municipality of our size, such as design standards, permit requirements, record keeping, inspection staff and more.

A draft of proposed revisions to the BMP section of the Stormwater Management Plan (SMP) is attached to this policy report. A narrative must also be drafted and attached to the final SMP.

This revised document is significantly more complex than the previous document, and addresses many specific activities currently performed by the City. It is important to note that these activities will need to be tracked and are expected to be reported each year in the annual report. The SMP prepared by the City of Olathe is attached as a reference.

**ATTACHMENT**

DRAFT changes for 2016 Stormwater Management Plan for BMP Activity  
Draft BMP Activity Summary for the 2015 Annual Report  
2003 Stormwater Management Plan  
Kansas Six Minimum Control Measures Fact Sheet  
Olathe Stormwater Management Plan

**POLICY REPORT PWD NO. 16-18  
RESOLUTION NO. B-2131  
2015 ANNUAL REPORT  
STORMWATER**

**February 23, 2016**

Prepared by:



Michael G. McDonald, P.E.,  
Director of Public Works

Reviewed by:



Paul Kramer,  
City Manager

**ISSUE:**

Approve Resolution No. B-2131 for the 2015 Annual Report for Stormwater.

**RECOMMENDATION:**

Staff recommends that the City Commission approve Resolution No. B-2131 for the 2015 Annual Report for Stormwater

**BACKGROUND:**

February 2, 2016 the City Commission reviewed the draft for the 2015 Annual Report for Stormwater that reflects the direction and efforts of the City for the Calendar year of 2015. There have been no significant changes to the report since the meeting

The City of Leavenworth is a Phase II City for stormwater matters and is regulated by Kansas Department of Health and Environment (KDHE). The City adopted a stormwater management plan in 2003 that described how the City would implement programs to protect water quality in the creeks and streams within the City, ultimately contributing to improved water quality of the Missouri and Mississippi Rivers.

The annual report reflects the efforts to comply with the currently approved Stormwater Management Program (SMP) and includes a variety of Best Management Practices (BMP) to implement the plan. The annual report will be submitted to the State of Kansas on or before February 26<sup>th</sup> 2016.

**ATTACHMENTS:**

Resolution No. B-2131

**RESOLUTION NO. B-2131**

**BE IT RESOLVED BY THE LEAVENWORTH CITY COMMISSION OF THE CITY OF LEAVENWORTH, KANSAS, AS FOLLOWS:**

**SECTION 1:**

The 2015 Annual Report for Stormwater reflects the direction, efforts and accomplishments by City of Leavenworth for calendar year 2015. It shall be an official record of these actions to meet the requirements of KDHE for an Annual Report until or unless changed by official action.

PASSED AND APPROVED THIS 23<sup>rd</sup> DAY OF FEBRUARY, 2016.

\_\_\_\_\_  
Larry Dedeke, Mayor

ATTEST:

\_\_\_\_\_  
Carla K. Williamson, CMC, City Clerk

**Resolution No. B-2132 Adopting the 2016 Stormwater Management Program** – Public Works Director Mike McDonald presented Resolution No B-2132 for approval of the 2016 Stormwater Management Program. At the February 2, 2016 Study Session the City Commission reviewed the program which incorporates the KDHE “Six Minimum Control Measures” and identifies the Best Management Practices (BMP) to be used to improve water quality in the City. Narrative has been added since the last report.

Commissioner Weakley moved to approve Resolution B-2132 Adopting the 2016 Stormwater Management Program. Commissioner Raney seconded the motion and was unanimously approved.

**Bids, Contracts & Agreements:**

**Bids for Trash** – Public Works Director Mike McDonald presented for consideration the rejection of Bid #65RF-2016-02 and to reissue the request for bids for refuse bags. Incorrect specifications were used in the request for bids.

Commissioner Preisinger moved to reject bids for refuse bags. Commissioner Raney seconded the motion and was unanimously approved.

**Bids for Demolition of 724-730 Pottawatomie** –Mayor Dedeke asked for a motion to table this agenda item.

Commissioner Preisinger moved to table the bid for the demolition of 724-730 Pottawatomie. Commissioner Bauder seconded the motion and was unanimously approved.

**Contract No. 2016-16 Proposals for Hawthorn Park Restroom Project** – Parks and Recreation Director Steve Grant presented for considerations the low bid to replace the restroom facility at Hawthorn Park. Mr. Grant explained that the best solution for this facility was to demolish and rebuild; ADA compliance with existing footprint was virtually impossible. Low bid was R. L. Phillips Construction Company in the amount of \$144,900.00. Bids were as follows:

| <b>BIDDER</b>                          | <b>TOTAL</b> |
|--|--------------|
| R. L. Phillips Construction Co         | \$144,900.00 |
| Complete Construction/Tevis Architects | \$145,013.89 |
| Bruner Contracting Co                  | \$182,238.00 |

Commissioner Bauder asked about lighting in the restroom facilities. Mayor Dedeke asked if it was an onsite construction or prefabricated building. Mr. Grant stated that he did consider a refabricated building but did not receive any bids on prefabricated building. Commissioner Preisinger asked about the timing of the construction during the summer months and the park being without a restroom during construction. Mr. Grant said there will be portable toilets available and in place during the construction.

Commissioner Bauder moved to approve the bid for the Hawthorn Park Restroom Project by R. L. Phillips Co. not to exceed \$144,900.00. Commissioner Preisinger seconded the motion and was unanimously approved.

**Consent Agenda:**

Claims for February 6, 2016 through February 19, 2016 in the amount of \$575,901.94; Payroll #4, effective February 19, 2016 net amount of \$286,811.96 (including Fire & Police Pension in the net amount of \$11,232.85).



block of Stoneleigh Court for criminal restraint.  
■ A woman reported the

theft in the 1000 block of Ottawa Street of a bank

periodic license in the 200 block of Holiday Terrace.  
■ Road traffic complaint

in the 600 block of North Second Terrace Court.  
■ Report of suspicious

race.  
■ Assisted with first aid

in the 2100 block of North 155th Street.

# Leavenworth City-Wide Clean Up

## Saturday, April 16, 2016

Take pride in your community by volunteering to be part of this year's **SPRING CLEAN UP**

Call 682-2610 to sign-up to help

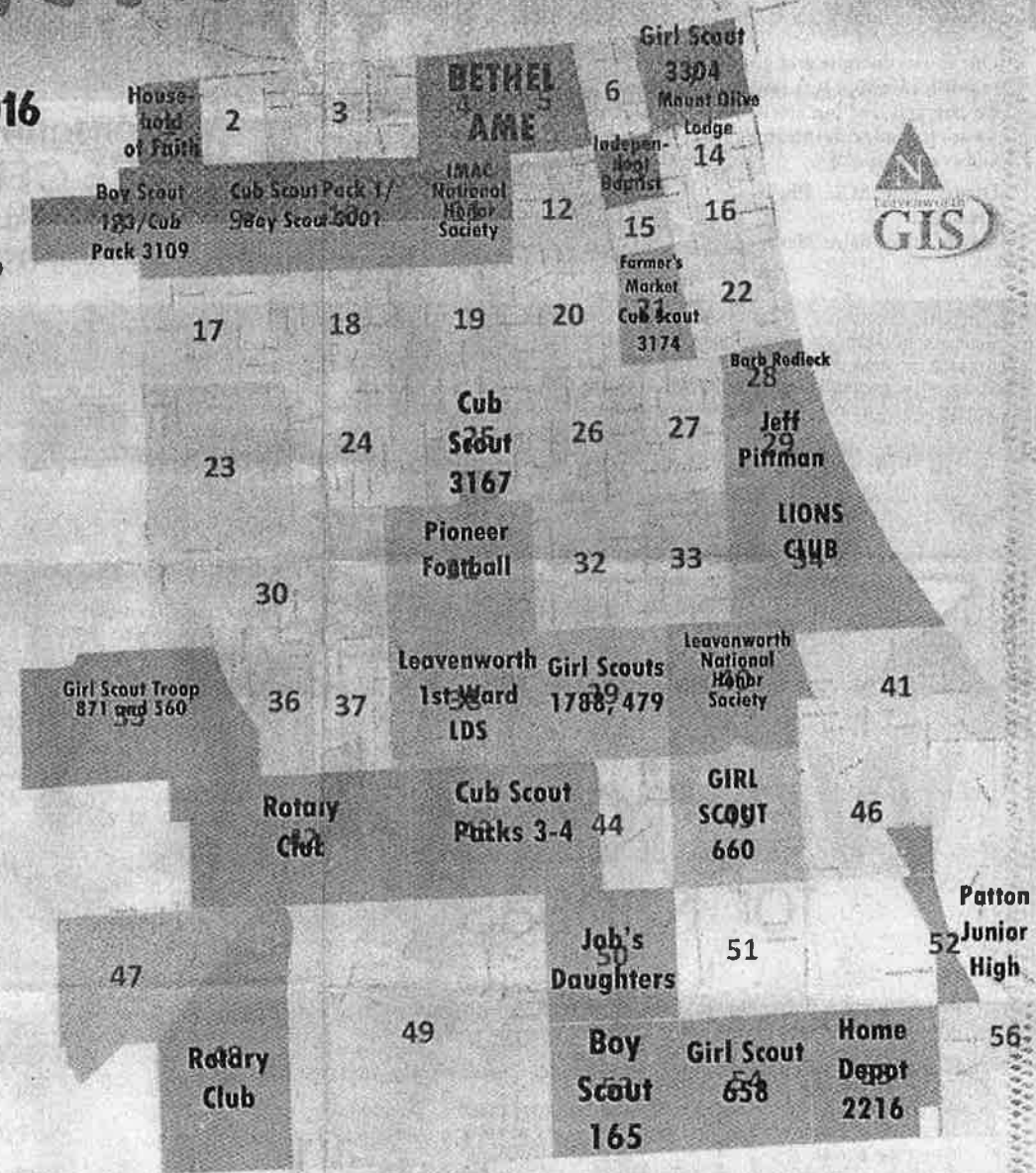
**Recycle:** Visit the City's recycling Center, one block east of Leavenworth High School at Lawrence and Halderman road, between 8 a.m. and 4 p.m. April 16. We recycle tin, aluminum, car batteries, rechargeable batteries, e-waste such as computers, used automotive oil, plastics, glass, paper, cardboard, magazines, phone books, etc.

**Shred:** Bring your unwanted paper for free paper shredding offered by Citizens Savings & Loan and the City of Leavenworth. Shredding will take place 10 a.m. to 12:45 p.m. at Citizens Savings and Loan, 5151 S. Fourth, and 1-2 p.m. at Citizens Savings and Loan, 312 S. Fifth St. No plastic bags or cardboard containers, please.

**Household Waste:** Drop off large items such as tires, furniture, metals, mattresses one block behind the Service Center at corner of Pennsylvania & Lawrence Avenues, from 8 a.m. to 4 p.m. Saturday, April 16. Household hazardous waste items that should not be dumped down the drain. This includes cleaners, varnish, paint, paint thinners, pesticides, pool chemicals and automotive chemicals can be dropped off at this location from 8 a.m. to noon.

**Yard Waste:** The brush site, 1803 S. 2nd St. will be available 8 a.m. to 3:50 p.m. for residents to drop off items like tree limbs, grass clippings, hay and leaves. Compost and mulch are available for residents. The Citywide Cleanup volunteers truly make a difference. Each year our Solid Waste Division reports taking several tons of trash and recycling off City streets because of your efforts. Thank you for participating!

Melissa Bower, Public Information Officer, City of Leavenworth



City Manager's Office  
City Hall, 100 N. Fifth St.  
913-680-2604

City Clerk's Office  
City Hall, 100 N. Fifth St.  
913-682-9201

Economic Development  
City Hall, 100 N. Fifth St.  
913-680-2602

Fire Department  
(Admin. calls only)  
3600 S. 20th Street  
913-682-3346  
For Burn Permits:  
913-758-2980

Human Resources  
100 N. Fifth St.  
87

Inspections  
City Hall, 100 N. Fifth St.  
913-684-0378

Leavenworth Public Library  
417 Spruce St.  
913-682-5666

Municipal Court  
Justice Center, 601 S. Third  
913-758-2900

Parks and Recreation  
Riverfront Community  
Center  
123 S. Esplanade St.  
913-651-2203

Planning/  
Community Development  
City Hall, 100 N. Fifth St.  
913-680-2626

Police (Admin calls only)  
Justice Center, 601 S. Third  
913-651-2260

Public Housing  
Planters II, 200 Shawnee St.  
913-682-2200

Public Information Office  
City Hall, 100 N. Fifth St.  
913-680-2610

Public Works/Engineering  
City Hall, 100 N. Fifth St.  
913-684-0375

Service Center/Streets/  
Trash  
790 Thornton St.  
913-682-0650

Sewer Emergencies (24  
Hours)  
913-682-1090

Water Pollution Control  
1800 S Second St.  
913-682-1090

# Leavenworth City Commission



Larry Dedeke  
Mayor  
913-651-3322  
ldedeke@aol.com



Nancy Bauder  
Mayor Pro-Tem  
913-675-7166  
nbauder@firstcity.org



Mark Preisinger  
Commissioner  
913-775-2822  
mpreisinger  
@firstcity.org



Charles Raney  
Commissioner  
913-704-8439  
charleyraney  
@rocketmail.com



Lisa Weakley  
Commissioner  
913-682-6297  
lweakley@firstcity.org

## Citywide Spring Cleanup to take place April 16

*Opportunities to get rid of household hazardous waste, large items*

Each year in April, more than 1,200 volunteers come together to remove tons of trash from City streets in just one day. Young and old, they come from Girl Scouts, Boy Scouts, Rotary and Lions Clubs, local churches, businesses, and many other civic groups.

On Saturday, April 16, teams of these volunteers will once again pick up trash throughout the City. Volunteers will begin with a kick-off ceremony 8:30 a.m. on April 16 at Henry Leavenworth Elementary School. The City provides gloves, trash bags and even a one-day pass to Wollman Aquatic Center as a thank you to volunteers.

The City will never turn away volunteers who want to pick up trash but it helps staff to know in advance who would like to participate so that volunteers can be provided with supplies. Please call 913-680-2610 or e-mail Melissa Bower, mbower@firstcity.org, to sign up. In addition to volunteers picking up trash,

there are several services available to residents on April 16:

- Free paper shredding will be offered from our sponsor, Citizens Savings and Loan,
  - ◆ 10 a.m. to 12:45 p.m. 5151 S. Fourth St. at Citizens Savings and Loan.
  - ◆ 1-2 p.m. 312 S. Fifth St. at Citizens Savings and Loan.
- Free recycling for City residents 8 a.m. to 4 p.m. one block east of Leavenworth High School, Lawrence and Halderman Road.
- Drop off of large items such as furniture, tires, mattresses and metals from 8 a.m. to 4 p.m. one block behind the Service Center at the corner of Pennsylvania and Lawrence Avenues. Household Hazardous Waste such as cleaners, paint or chemicals can be dropped off at this location from 8 a.m. to noon.
- Drop off of yard waste, brush, leaves and other organic materials at the Brush Site, 1803 S. 2nd St., from 8 a.m. to 3:50 p.m.



Scouts picking up trash at one of the City parks in April 2015. Children in the Leavenworth community are part of what makes the Spring Cleanup Day successful.

*First City Newsletter, Summer 2016*

# City Parks



In 2015 University of Saint Mary students donated a wheelchair swing to Hawthorn Park. All parks are handicapped accessible, but some of the equipment at Hawthorn Park, 1100 Ohio Street, is designed for individuals with disabilities.

## Leavenworth Parks and Recreation Department

123 S. Esplanade Street, Leavenworth, Kansas 66048  
(913) 651-2203

Email: [mwilliams@firstcity.org](mailto:mwilliams@firstcity.org)

Business hours: Monday - Friday, 8 a.m. - 5 p.m.

## Leavenworth Landing Park

This scenic park on the Missouri River (Esplanade and Cherokee Streets) is available to rent for special occasions. Permit fees are \$15 per hour (\$20 for non-City residents) with a \$100 refundable damage deposit. Fees are due when a permit is requested. Choose the Paddlewheel Plaza or the Railroad Roundhouse. (Note: This park has active train tracks.) The Bridge Tender's Building rents for \$20, with a \$20 refundable key deposit. The park is adjacent to the Riverfront Community Center and historic downtown Leavenworth and connects to the Three-Mile Creek Trail.

## Adopt-A-Park Program

Groups or businesses looking for a way to make a difference in our community can adopt a city park or other public area. Participants can establish a presence in the parks and report vandalism and maintenance problems, pick up litter, paint, weed, or garden. Donations also may be made for

park improvements. City staff will provide guidance and some materials for projects. Choose a park and decide which activities to do and how often. Once this is established, a sign will be erected in the park with your group's name and logo.

## Alcoholic Beverage Permit

By City ordinance, alcoholic beverages are prohibited in City parks, except as authorized by Parks and Recreation to Leavenworth area residents who have obtained a park reservation permit. There is a \$10 permit fee for alcoholic beverages.

## Legacy Tree Program

Commemorate a special person or event with a living legacy. For a \$200 fee, a tree will be planted and a plaque erected at the planting site. Request forms are available at the Parks and Recreation Office. For an additional \$200, you may request a 5" x 5" aluminum plaque.

## Memorial Bench Program

Honor a special person or group with the purchase of a memorial bench with an attached commemorative plaque. The Parks and Recreation Department will install a beautiful aluminum bench in Leavenworth Landing Park. Down payment required to order.

## Riverfront Park Campground

This cozy park beside the Missouri River is the perfect place to relax. The campground offers basic and electric camping pads, tent camping, a bath house with four private units, a boat ramp, picnic shelter, and dump station. (Note: This park is adjacent to active train tracks.)

For information and reservations, call the Park Manager at (913) 290-0034. **Open March 1 to October 31.**

## Campground Fees

**Key Deposit:** A key deposit of \$20 will be required of all patrons receiving a gate and/or restroom key. This deposit will be refunded when keys are returned.

**Tent Only Site: \$10**

**Tent and Restroom Key: \$12 (+ \$20 key deposit)**

**Camper Pad with Electric and Restroom Key: \$15 (+ \$20 key deposit)**

**Non-Camper Dump Station Fee: \$10**

**Pets: \$2/Pet per day**

## FitTrail installed at Ray Miller Park

The Leavenworth Parks and Recreation Department partnered with the Dwight D. Eisenhower Veterans Affairs Medical Center to solicit donations for the installation of fitness stations along the Ray Miller Park trail. Ten individual fitness stations were sponsored by local businesses and organizations. These stations suggest various exercises to help park patrons work toward total body fitness. Sponsors were: Armed Forces Insurance, University of Saint Mary, George E. White VFW Post 56, Kansas Society of the Daughters of the American Revolution, American Legion Auxiliary Foundation, Joseph D. Hurley Assembly of the Knights of Columbus, American Legion Family Post/Unit 411.

# MEMORANDUM

TO: Paul Kramer, City Manager

CC: Taylour Tedder, Assistant City Manager  
Michael G. McDonald, Public Works Director  
Ed Davis, Superintendent City Operations

FROM: Melissa Bower, Public Information Officer

SUBJECT: **SPRING CLEAN UP 2016 – AFTER ACTION REPORT**

DATE: April 28, 2016

The Citywide Spring Clean-up was held Saturday, April 16 at Henry Leavenworth Elementary School.



We had 1,263 volunteers picking up trash throughout the City, among the highest number in recent years. We continue to have groups express concern over the large amount of trash at Havens Park and along Tonganoxie Road south of the Greenwood Cemetery – possibly because of illegal dumping.



Citizens Savings and Loan has continued their support of a paper shredding service that is free to anyone. Vendors have become somewhat scarce because companies have transitioned to using secured lock-boxes and shredding off-site. Citizens bank prefers to have the paper shredding done on site. Because they pay for half the cost of the service, pay for the cost of a brochure and provide volunteers On site to help residents, we'll continue to seek out low cost, on-site shredding. Solid Waste provided a staff member to assist as well as a vehicle to dispose of boxes. Residents and small

businesses love the shredding service and line up well in advance. The City counted 160 vehicles using this service in 4 hours.

Solid Waste staff supervises several free services available to residents on Spring Cleanup Day.

- 168 vehicles used the Brush Site on South Second Street, bringing in 938 cubic yards of brush. (2015: 48 residents and 77.6 cubic yards of brush). Hours were 8 a.m. to 3:50 p.m.
- 254 vehicles used the Recycling Center, hours were 8 a.m. to 4 p.m.
- 202 vehicles used the large item drop-off, hours were 8 a.m. to noon.
- 24 gallons of paint and 24 containers of Household Hazardous Waste were dropped off at the Service Center between 8 a.m. and noon. The items were accepted by trained City of Leavenworth Solid Waste and Leavenworth County Transfer Station personnel on site for proper disposal.
- There was a total of about 2.55 tons of recyclables hauled to the Batliner Recycling, UNICOR and Midwest Shredding. Recyclables were up 1.55 tons versus 2015.
- For the large-item drop off, there was a total of 28.36 tons of trash hauled to the Leavenworth County Transfer Station -- 20.14 tons regular trash and 8.22 tons construction and demo materials and debris. The total tipping fees were \$993.42. (In comparison, in 2015, there were 4.93 tons of trash and construction & demolition debris hauled to the Leavenworth County Transfer Station, with a cost of \$772.69) This does not include several hundred bags of trash picked up by volunteers.

Personnel costs were \$1,874.88.

The Solid Waste Division provided manpower by staffing one event supervisor and ten collectors/equipment operators assisting residents at the drop-off site. Two collectors worked with hazardous material. The Brush Site had one additional collector to assist the Brush Site Attendant in operations. There was one collector taking count of residential customers at the shredding locations. The Recycling Center had one on-site attendant.

**Recommendations:**

This event continues to be a success for the City. An investment of about \$5,000 in T-shirts and exchange of one-day poll passes to Wollman Aquatic Center has routinely provided thousands of volunteers who remove trash from City streets.

Solid Waste staff are interested in combining the event with the County's Spring Clean-up. The downside would be less flexibility for timing and residents would have to take their large items to the County Transfer Station, however, there could be significant savings in personnel costs and less overtime.

Search Su

Leavenworth 62° e-edition | subscribe | place an ad | find and save | newsletter

# LEAVENWORTH TIMES

**"We Care About The Smile You Wear!"**

|                                  |  |  |  |
|----------------------------------|--|--|--|
| <b>Heartland</b><br>Dental Group | 3507 S. 4th St.<br>Leavenworth, Ks. 66048<br>913-682-1000 or<br>913-772-1000 | 15510 State Ave.,<br>Suite 4<br>Basehor, Ks. 66007<br>913-724-1880 | 104 N. 6th St.<br>Atchison,<br>Ks. 66002<br>913-367-2245 |
|----------------------------------|--|--|--|

HOME NEWS SPORTS ENTERTAINMENT LIFE OPINION OBITS MARKETPLACE CLASSIFIEDS JOBS CARS HOMES

FEATURED » PHOTOS GAMES TV GUIDE LOCAL BUSINESS CALENDAR BRANDED CONTENT SUBMIT YOUR NEWS YOUR PHOTOS BUSINESS SERVICES | EXPLORE »

NEWS NOW Leadership class compiles online service directory In Depth: More than 1,200 to help clean up Leavenworth 'Liama Natii

## In Depth: More than 1,200 to help clean up Leavenworth

✉ 📄 [Progress Bar] 0



Members of Boy Scout Troop 173, Cub Scout Pack 3019 and family members participated in last year's Citywide Spring Cleanup in Leavenworth.

**Why this is important ...**

More than 1,200 volunteers will help pick up trash throughout Leavenworth during the annual Citywide Spring Cleanup on Saturday. City officials say the volunteer effort is a way to bring people ...

» [Read more](#)

By **JOHN RICHMEIER**  
jrichmeier@leavenworthtimes.com

Posted Apr. 15, 2016 at 4:35 PM

This Saturday, more than 1,200 people will volunteer to help clean up the city of Leavenworth.

They will be participating in Leavenworth's annual Citywide Spring Cleanup.

Church groups, Scout troops, school groups, civic organizations and other groups will be picking up trash along public right-of-ways and in other public areas, Leavenworth Public Information Officer Melissa Bower said.

Groups are assigned specific sections of the city.

The city government has been organizing the cleanup event for more than 10 years. Bower said 1,200 volunteers is about normal for the annual event.

"I think it's very important," Mayor Larry Dedeke said.

While some residents may work outside of the city, the cleanup brings people together to volunteer in their community, Dedeke said.

ADVERTISEMENT

1 Easy Exercise That Destroys High Blood Sugar

**Looking for a great Home Loan?**

The forecast has never been brighter

Click here for online pre-approval!

**Citizens** LEAVENWORTH OFFICES  
5151 S. 4th Street, Triway • (913) 727-1040  
Since 1884... Strong, Steady & Saving!

leavenworthtimes.com

**LOOK AT THIS**

- [Newsmax Straw Poll: Who Do You Back for 2016?](#)
- [Dr. Oz Shocked After Barb Walters Reveals Her Anti-Wrinkle Secret](#)
- [Barbara Walters Refuses to Return to the View, Due to This Secret](#)
- [Melissa McCarthy Stuns Hollywood by Dropping 55 lbs in 40 Days](#)
- [A Card With No Interest for 21 Months to Help You Get Out of Debt](#)
- [No Interest Until 2018 With These Credit Cards](#)
- [Pay \\$0 Credit Card Interest Until 2018](#)
- [This Card Has No Balance Transfer Fees and Can Save You Thousands](#)
- [Doctors Rave Over New Skinny Pill](#)
- [Controversial 'Genius Pill' Used By Millionaires](#)

Powered by Newsmax.

**TOP CLICKS**

POPULAR EMAILED COMMENTED

Elizabeth "Betsy" Jones Apr. 13, 2016

Mary Ann Zielinski Apr. 12, 2016

Trial set in rape case Apr. 14, 2016

"They're helping their neighbors," he said.

Some groups participate in the cleanup every year. One such group is Bethel AME Church.

The Rev. Shirley Wallace, an ordained elder, said members of the church clean up an area in northern Leavenworth each year.

"It's sort of like a community service project for our church," she said.

She said church members gather at 9 a.m. the day of the cleanup at Jefferson Park, 1100 Kickapoo St.

When church members return to the park after picking up trash, hot dogs are awaiting for the children in the group.

"We'll have hot dogs and potato chips for the kids," Wallace said.

She said people who live in the area seem to appreciate the church's effort to pick up trash.

"I think everyone in Leavenworth should do it," Wallace said.

She said children who participate in the event become more aware of littering and do not want to contribute to the problem.

Bower said the city provides volunteers with garbage bags and gloves. The city also provides volunteers with swimming pool passes and T-Shirts.

The city was scheduled to kick off the event at 8:30 a.m. with a brief ceremony at Henry Leavenworth Elementary School, 1925 Vilas Road.

Other services also are available Saturday as part of the Citywide Spring Cleanup including free paper shredding and brush disposal.

Bower said not all volunteers will be cleaning up their areas of the city Saturday.

"Some of them will do a different day," she said.

Students from Xavier Catholic School will be cleaning up an area around the school Friday.

"Their whole school is going to do it," Bower said.

Twitter: @LVTNewsJohnR

[» Comment or view comments](#)

### » FROM THE LEAVENWORTH TIMES

- [Driver killed in accident](#)
- [Slow sweet home](#)
- [Actor Garry Shandling Is Dead at 66](#)
- [Commissioners discuss homeless shelter request](#)
- [Emma Adele Logan](#)
- [Saint John Hospital selects new chief nursing officer](#)

### » PROMOTED STORIES

- [Why Becoming an Uber Driving-Partner Made Sense for This Wife and Mother](#) uber
- [How to Pay Off Credit Cards Years Earlier With A Powerful 2 Step Method](#) LendingTree
- [Do More for Your Business with Less: Demo Salesforce for Free](#) salesforce.com
- [United States Drivers Are Stunned By This New Rule](#) LiveSmartDaily
- [8 of the Most Affordable Private Islands for Sale Right Now](#) Bankrate.com
- [Forget Your 401k If You Own A Home \(Do This Instead\)](#) Lendage.com

Recommended by

Kenneth E. "Kenny" Thompson Apr. 14, 2016

Diamond girl Apr. 13, 2016

Fort to conduct exercise Apr. 12, 2016

**LEAVENWORTH DIRECTORY**

**Featured Businesses**  
 Prestige Home Care of Kansas  
 Reifschneider Eye Center & Optical Shop  
 The Heritage Center  
 Leavenworth Family Dental PA  
 Kathy Barry Coldwell Banker

Find Leavenworth Attractions ▼

Search business by keyword  Search

Add your business here +

### EVENTS CALENDAR

MON TUE WED THU FRI SAT SUN  
Monday, April 18, 2016

 **The Singing Lesters will be in concert at Blue Ridge A/G Church** *All Day*  
 Blue Ridge A/G Church

 **Getting Paid to Talk: An Introduction to Voice Acting** *6:30 pm*  
 Truman High School

[More Events »](#)

[Add Events »](#)  
Events by [evlesays.com](#)



>> Popular Articles and Offers



Homeowners Who Have Not Missed A Payment in 3 Years Are In For A Big Surprise



Walmart Cameras Caught These Hilarious Photos



5 Easy Ways To Prepare For Retirement



10 Mysterious Photos That Cannot Be Explained

ADVERTISEMENT

TVGUIDE



Naomi Watts Will Go Fifty Shades In Netflix Thriller Series



Jane Wants to Meet Weller's Dad in This Exclusive Blindspot Sneak Peek

Terms of Service

Login with:

0 Comments powered by:



Write your comment here

Upload video

Upload image

Submit

Follow

REALTIME

Newest

Connect with The Leavenworth Times - Leavenworth, KS

Facebook

Twitter

RSS

Back to top

Site Services

- Contact Us
- Online Forms
- Place an Ad
- Purchase Photos

Market Place

- Classifieds
- Shopping
- Cars
- Boats Magazine

Community Info

- City of Leavenworth
- City of Lansing
- Leavenworth-Lansing Area Chamber of Commerce
- Leavenworth Convention and Visitors Bureau
- Leavenworth School District
- Fort Leavenworth Main Street
- Leavenworth Immaculata High School
- Lansing High School
- University of St. Mary
- Department of Veteran Affairs
- KS Lottery

Sister Publications

- The Fort Leavenworth Lamp
- The Girard Press
- MorningSun.net

Stay Informed

Email newsletter Sign Up Today

Sign up for our newsletter and have the top headlines from your community delivered right to your inbox.

Your privacy is important, read our privacy policy.

Propel Marketing More Content Now Find&Save

© Copyright 2006-2016 Gatehouse Media, LLC. Some rights reserved. Privacy Policy | Terms of Service | Gatehouse Media Publications. Original content available for non-commercial use under a Creative Commons license, except where noted. The Leavenworth Times - Leavenworth, KS | 422 Seneca St., Leavenworth, KS 66048





Welcome To Your City Commission Meeting - Please turn off all cell phones during the commission meeting.  
*Meetings are televised everyday on Channel 2 at noon, 7 p.m. and midnight*

**CALL TO ORDER - Pledge of allegiance followed by silent meditation**

1. Proclamations and Presentations: (pg 3)
  - a. World Tai Chi & QiGong Day April 30, 2016
  - b. Barbershop Harmony Month April 2016
  - c. National Public Safety Tele Communicators Week April 11-17, 2016
  - d. Spring Clean-up April 16, 2016
  - e. Arbor Day (Parks) April 29, 2016
  - f. Fair Housing Month April 2016
  - g. Adopt-A-Park Presentation – 705th Military Police Battalion

---

**OLD BUSINESS:**

**Consideration of Previous Meeting Minutes:**

2. March 22, 2016 Regular Meeting **Action:** Motion (pg 9)

**Second Consideration Ordinance:**

3. Ordinance No. 7990 Vacate Alley in Block 14, Latta’s Addition (Cherokee Street) **Action:** Roll Call Vote (pg 15)

---

**NEW BUSINESS:**

**Citizens Participation** (i.e. Items not listed on the agenda or receipt of petitions)

**Public Hearing:**

4. Public Hearing – Appeal District Use - 709 Delaware Proposed Use of Custom Cabinet Fabrication (Huninghake Innovations LLC) (pg 18)
  - a. Open Public Hearing **Action:** Motion
    - i. Comments from Staff and Public
  - b. Close Public Hearing **Action:** Motion
  - c. Consider Appeal Proposed Use of Custom Cabinet Fabrication **Action:** Motion

**Resolution:**

5. Resolution B-2134 2016 Capital Fund Program Grant Leavenworth Housing Authority **Action:** Motion (pg 41)

**Bids, Contracts and Agreements:**

6. Change Order No. 1 for Police Vehicle **Action:** Motion (pg 45)
7. Change Order No. 1 to Contract No. 2016-16 Hawthorn Park Restroom Project **Action:** Motion (pg 47)



# Proclamation

- Whereas,* the Leavenworth City Commission is committed to working toward making the City of Leavenworth the most attractive, livable, healthy and vibrant community possible; and
- Whereas,* your elected leaders realize it takes the good will and hard work of all citizens to achieve such lofty visions; and are therefore encouraging all Leavenworth citizens to assume responsibility in maintaining a clean and attractive neighborhood environment; and
- Whereas,* the City is making a concerted effort to facilitate participation from businesses, neighborhood associations, schools, churches, social/service organizations to include over 1,200 volunteers, and City staff in realizing improvement in the physical appearance of our City; and
- Whereas,* such collaborative efforts can serve to foster a sense of community, invigorate a sense of pride about the community, serve as an opportunity for organizational and leadership skill development and reinforce the virtue of personal responsibility while resulting in a more attractive community with a higher quality of life; and
- Whereas,* the "Spring Clean-Up" kick-off will be held on Saturday, April 16, 2016 at 8:30 a.m. with a ceremony at Henry Leavenworth Elementary.

*Now, Therefore, Be It Resolved,* that the Leavenworth City Commission of the City of Leavenworth, Kansas hereby proclaims April 16, 2016 as:

## "Leavenworth Spring Clean-Up Day"

and urge all of our citizens to work toward protecting our environment and to join in efforts to preserve the attractiveness of our community.

*In Witness Whereof,* I, Larry Dedek, Mayor have set my hand and caused the official Seal of the City of Leavenworth to be affixed this twelfth day of April in the year of two thousand and sixteen.

\_\_\_\_\_  
Larry Dedek, Mayor

ATTEST:

\_\_\_\_\_  
Carla K. Williamson, CMC, City Clerk



# Proclamation

---

- Whereas,* in 1872, J. Sterling Morton proposed to the Nebraska Board of Agriculture that a special day be set aside for the planting of trees; and
- Whereas,* this holiday, called *Arbor Day*, was first observed with the planting of more than a million trees in Nebraska; and
- Whereas,* *Arbor Day* is now observed throughout the nation and the world; and
- Whereas,* trees can reduce the erosion of our precious topsoil by wind and water, cut heating and cooling costs, moderate the temperature, clean the air, produce life-giving oxygen, and provide habitat for wildlife; and
- Whereas,* trees are a renewable resource giving us paper, wood for our homes, fuel for our fires and countless other wood products; and
- Whereas,* trees in the City of Leavenworth, Kansas increase property values, enhance the economic vitality of business areas, and beautify our community; and
- Whereas,* trees, wherever they are planted, are a source of joy and spiritual renewal.

*Now, Therefore,* I, Larry Dedeker, Mayor of the City of Leavenworth, Kansas do hereby proclaim April 29, 2016, as

*"Arbor Day"*

in the City of Leavenworth, and I urge all citizens to celebrate *Arbor Day* and to support efforts to protect our trees and woodlands, to plant trees to gladden the heart and promote the well-being of this and future generations.

Presented this twelfth day of April in the year two thousand and sixteen.

\_\_\_\_\_  
Larry Dedeker, Mayor

ATTEST:

\_\_\_\_\_  
Carla K. Williamson, CMC, City Clerk

- [Media Room](#)
- [Servicestoggle](#)



- 
- 
- [Meetings & Agendas](#)
- [Staff Directory](#)
- [Subscribe to E-news](#)
- [City Codes](#)
- [Trash/Recycling](#)
- [How Do I?](#)

## In the News



- [City offers Citywide Spring Cleanup April 16](#)  
There are several services that will be offered April 16 as part of the Citywide Spring Cleanup.



- [City of Leavenworth Summer 2016 newsletter available](#)  
Summer 2016 newsletter for the City of Leavenworth.



- [Mike Shore promoted to Deputy Fire Chief](#)  
A 20-year veteran of the Leavenworth Fire Department has been promoted to Deputy Fire Chief.



- [FitTrail Grand opening at Ray Miller Park](#)  
The public is invited to a ribbon cutting and grand opening of the new FitTrail exercise system noon Friday, April 1 at Ray Miller Park.

[View More](#)  [Citizen Response Form](#) [Facebook](#) [Twitter](#) [YouTube](#) [Instagram](#)

## Upcoming Events

← April 2016 →

| Sun                | Mon                | Tue                | Wed                | Thu                | Fri                | Sat                |
|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| <a href="#">27</a> | <a href="#">28</a> | <a href="#">29</a> | <a href="#">30</a> | <a href="#">31</a> | <a href="#">1</a>  | <a href="#">2</a>  |
| <a href="#">3</a>  | <a href="#">4</a>  | <a href="#">5</a>  | <a href="#">6</a>  | <a href="#">7</a>  | <a href="#">8</a>  | <a href="#">9</a>  |
| <a href="#">10</a> | <a href="#">11</a> | <a href="#">12</a> | <a href="#">13</a> | <a href="#">14</a> | <a href="#">15</a> | <a href="#">16</a> |
| <a href="#">17</a> | <a href="#">18</a> | <a href="#">19</a> | <a href="#">20</a> | <a href="#">21</a> | <a href="#">22</a> | <a href="#">23</a> |
| <a href="#">24</a> | <a href="#">25</a> | <a href="#">26</a> | <a href="#">27</a> | <a href="#">28</a> | <a href="#">29</a> | <a href="#">30</a> |

- 26  
Apr  
[Leavenworth City Commission Meeting](#)  
Tuesday, 7:00 PM
- 29  
Apr  
[Arbor Day Celebration](#)  
Friday, 12:00 PM
- 30  
Apr  
[Live at the Hollywood Jazz Concert: Book of Gaia](#)  
Saturday, 8:00 PM
- 04  
May  
[Touch a Truck](#)  
Wednesday, 10:00 AM

**From:** Melissa Bower  
**Sent:** Monday, May 02, 2016 9:53 AM  
**To:** City Employees  
**Subject:** THIS WEEK: May 2, 2016



## What Employees Should Know About the City of Leavenworth **THIS WEEK**

- The Kick-off of "Operation Red File" took place last week. This program provides senior citizens with a clear, red envelope where they can place important medical and emergency information. The magnetic envelope can attach to the fridge so emergency responders can find the information right away. The Leavenworth Police Department, 601 S. 3<sup>rd</sup> St., and Leavenworth Fire Department, 3600 S. 20<sup>th</sup> Street Trafficway, both have them available.
- We had quite a rainstorm last week! From Thursday April 26 to 3 a.m. Friday April 27, the City's rain gauges measured about 3.3 inches of rain in less than 24 hours. The City's engineering department has access to rain totals if residents are interested and we post significant events like these on the City's Facebook and Twitter pages.
- Friday's Arbor Day ceremony was cold but well-attended. We planted a flowering white crabapple tree in memory of Ron Hale, our former finance director. His wife Dianne said she appreciated it. The tree is next to the shelter at Bob Dougherty Park along the River. Special thanks to Parks and Recreation staff for organizing this event!



# City Projects

First City Connection  
NEWSLETTER MAILED  
SUMMER 2016



Sidewalks are progressing along North Second Street across from Bob Dougherty Park. In 2015, the Community Development Advisory Board provided some funding from the Community Development Block Grant for sidewalk repair in low-income areas of Leavenworth. The program is federally-funded by U.S. Department of Housing and Urban Development. Sidewalks will be placed to provide safer transportation for pedestrians traveling to and from work and school. Removal and replacement of sidewalks are along Fourth Street/Kansas Highway 7 from Osage Street to Dakota Street, along Osage Street from Fourth Street to Second Street, along Dakota Street from Fourth Street to Second Street and along Second street from Osage to Dakota.

## Cherokee Bridge

Stormwater drainage at Cherokee Street west of 11th Street was undersized and beginning to deteriorate. The Commission approved the low bid of \$928,027.69 to R. A. Knapp Construction for the project. Construction began in February to replace the drainage structure and minimize channel erosion. The road has been blocked completely and project is being done alongside another project, 11th Street Pedestrian Bridge. The pedestrian bridge will be similar to the one over Three Mile Creek. Both are scheduled to be completed in 2016.



Major projects will affect two intersections on Fourth Street/Kansas Highway 7 later this summer and possibly require lane closures.

The work at Fourth and Marion streets and Fourth and Poplar streets is intended to improve semitrailer and truck traffic along the highway. Currently the intersections are too narrow for wide turning needed by these vehicles.

In 2015 the City demolished a building it had purchased at the intersection of Fourth and Marion streets for the purpose of improving this intersection. The City has received funding from the state for these two projects.

## What's that funny sewer smell? WPC will find out.

City crews work to keep the main sewer lines clean and maintained. There is occasionally a break in a sewer line that can lead to discharge of untreated sewage, possibly reaching the stormwater drainage system. The City urges Leavenworth residents to contact us immediately if they see signs of a sewer discharge or a strange sewer smell at **913-682-1090**. Crews

respond to system user requests for service 24 hours a day 7 days a week.

The City of Leavenworth can only verify the City main lines. A lateral line is the line that runs from a residence or business to the City sewer mains. We cannot verify blockages in lateral lines. This must be done by a licensed plumbing company.

**Policy Report**  
Lease of City-owned property  
October 25, 2016

Prepared by:



Paul Kramer  
City Manager

**Background:**

The City was approached this summer by Don and Sherie Brown, owners of The Depot restaurant, regarding some City owned property adjacent to the south side of their property. The Browns had been doing some cleanup and maintenance of the area, and inquired about purchasing the land from the City. The Browns plan to invest some funds in the cleanup as well as make the area available for use by their tenant at The Depot restaurant for some special events, and were concerned about doing this in a general use area.

Staff has determined that selling that property, with its location in the floodplain, would not be advisable, but that a lease would be appropriate given the Browns plans to improve the property.

Staff conferred with the League of Kansas Municipalities and determined that a 5-year lease was appropriate. The agreement was modeled off the arrangement the City has with the model airplane club at the former City landfill.

**Staff recommendation:**

Based on the conditions listed in the agreement, staff is in favor of executing the lease with the Browns for exclusive use of the City-owned property for a period of five years, subject to mutual renewal.



# Emergency Management Institute

3.8



## FEMA

This Certificate of Achievement is to acknowledge that

**CLAUDIA D LARKIN**

has reaffirmed a dedication to serve in times of crisis through continued professional development and completion of the independent study course:

**IS-00322**

**Flood Mitigation Basics for Mitigation Staff**

*Issued this 24th Day of February, 2016*



A handwritten signature in black ink, appearing to read "Tony Russell".

Tony Russell  
Superintendent  
Emergency Management Institute

---

# CERTIFICATE OF COMPLETION

---

This verifies that

**Tammy Snyder**

---

attended and completed the  
**Floodplain Management Plan Training Session**

**USACE Silver Jackets Program, Kansas and Missouri**

Conforming to Guidelines of the ASFPM Certified Floodplain Manager Program. Continuing Education Credits (CECs) may be applied to other certifications. The training session has been approved for 6 CECs, which are hereby awarded.

**Kansas City, Missouri**

**May 13, 2016**



---

**Brian Rast, CFM, PE, PMP**  
Lead Silver Jackets Coordinator, Kansas and Missouri



**US Army Corps  
of Engineers®**

---

# CERTIFICATE OF COMPLETION

---

This verifies that

**Justin Stewart**

---

attended and completed the  
Floodplain Management Plan Training Session

USACE Silver Jackets Program, Kansas and Missouri

Conforming to Guidelines of the ASFPM Certified Floodplain Manager Program. Continuing Education Credits (CECs) may be applied to other certifications. The training session has been approved for 6 CECs, which are hereby awarded.

Kansas City, Missouri

May 13, 2016

*Brian Rast*

---

Brian Rast, CFM, PE, PMP  
Lead Silver Jackets Coordinator, Kansas and Missouri



**US Army Corps  
of Engineers®**

---

# CERTIFICATE OF COMPLETION

---

This verifies that

Tammy Snyder

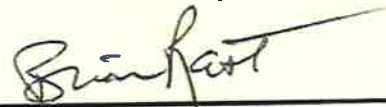
attended and completed the  
Floodplain Management Plan Training Session

USACE Silver Jackets Program, Kansas and Missouri

Conforming to Guidelines of the ASFPM Certified Floodplain Manager Program. Continuing Education Credits (CECs) may be applied to other certifications. The training session has been approved for 6 CECs, which are hereby awarded.

Kansas City, Missouri

May 13, 2016



---

Brian Rast, CFM, PE, PMP  
Lead Silver Jackets Coordinator, Kansas and Missouri



**US Army Corps  
of Engineers®**

# Certificate of Completion

presented by



This certifies that

JUSTIN STEWART

attended the **One-Hour Technical Seminar** presented by  
Contech Engineered Solutions LLC  
on November 1, 2016

This program covered technical issues relevant to the engineering profession as outlined below:

Program sponsored by: **City of Leavenworth, KS**  
Presented by: Bill Gonzalez, Contech  
Discussion Included: Drainage & Storm-water Solutions  
Duration: 1.0 hours

*Bill Gonzalez*

CONTECH Engineered Solutions

\*Please check with your governing board to confirm this method of education meets registration requirements.

*Kansas Department of Agriculture  
Division of Water Resources*

*Certificate of Training*

*This is to certify that*

**Mike Hooper**

*Attended and completed the 4 hour Workshop "Violations and Enforcement" on October 4, 2016 in Overland Park, Kansas*



*Steve Samuelson*

**Steve Samuelson**

National Flood Insurance Program Specialist

*Accepted for 3.5 core education credits  
for Certified Floodplain Managers*

*Kansas Department of Agriculture  
Division of Water Resources*

*Certificate of Training*

*This is to certify that*

**Hal Burdette**

*Attended and completed the 4 hour Workshop "Violations and Enforcement" on October 4, 2016 in Overland Park, Kansas*

*Steve Samuelson*

**Steve Samuelson**

**National Flood Insurance Program Specialist**



*Accepted for 3.5 core education credits  
for Certified Floodplain Managers*

*Kansas Department of Agriculture  
Division of Water Resources*

*Certificate of Training*

*This is to certify that*

**Justin Stewart**

*Attended and completed the 4 hour Workshop "Violations and Enforcement" on October 4, 2016 in Overland Park, Kansas*



*Steve Samuelson*

Steve Samuelson

National Flood Insurance Program Specialist

*Accepted for 3.5 core education credits  
for Certified Floodplain Managers*



# Certificate of Completion

presented by



This certifies that

Mike Hooper

attended the **One-Hour Technical Seminar** presented by  
Contech Engineered Solutions LLC  
on November 1, 2016

This program covered technical issues relevant to the engineering profession as outlined below:

Program sponsored by: **City of Leavenworth, KS**  
Presented by: Bill Gonzalez, Contech  
Discussion Included: **Drainage & Storm-water Solutions**  
Duration: 1.0 hours

*Bill Gonzalez*

CONTECH Engineered Solutions

\*Please check with your governing board to confirm this method of education meets registration requirements.

# Certificate of Completion

presented by

**CONTECH**<sup>®</sup>  
ENGINEERED SOLUTIONS

This certifies that

Veronica Withler

attended the **One-Hour Technical Seminar** presented by  
Contech Engineered Solutions LLC  
on November 1, 2016

This program covered technical issues relevant to the engineering profession as outlined below:

Program sponsored by: **City of Leavenworth, KS**  
Presented by: Bill Gonzalez, Contech  
Discussion Included: Drainage & Storm-water Solutions  
Duration: 1.0 hours

*Bill Gonzalez*

CONTECH Engineered Solutions

\*Please check with your governing board to confirm this method of education meets registration requirements.

# Certificate of Completion

presented by

**CONTECH**<sup>®</sup>  
ENGINEERED SOLUTIONS

This certifies that

Tom Heintzelman

attended the **One-Hour Technical Seminar** presented by  
Contech Engineered Solutions LLC  
on November 1, 2016

This program covered technical issues relevant to the engineering profession as outlined below:

Program sponsored by: **City of Leavenworth, KS**  
Presented by: Bill Gonzalez, Contech  
Discussion Included: Drainage & Storm-water Solutions  
Duration: 1.0 hours

*Bill Gonzalez*

CONTECH Engineered Solutions

\*Please check with your governing board to confirm this method of education meets registration requirements.

**INFORMED  
INFRASTRUCTURE**  
The construction engineer's source for projects, products and technology



**CONTECH**  
ENGINEERED SOLUTIONS

# Certificate of Completion

This is to certify that

**Justin Stewart**

has participated in

**Recommendations for Bioretention Media Qualification**

**1.0 Professional Development Hours**

Alex Macleod, P.E.  
Biofiltration Product Manager  
Contech Engineered Solutions

Kevin Carmody  
Group Publisher  
V1 Media

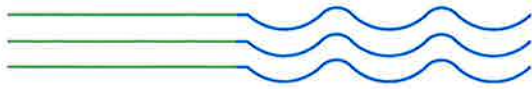
*Alex Macleod, P.E.*

A handwritten signature in blue ink, appearing to read 'K. Carmody'.

V1 Media is an approved provider in the American Institute of Architects (AIA) Continuing Education System  
AIA Provider Number: 70118112

12/30 entered

# Invoice



## Water Resources Solutions

8800 Linden Drive  
Prairie Village, KS 66207-2222

| Date       | Invoice # |
|------------|-----------|
| 12/30/2016 | 16-804    |

| Bill To  |
|--|
| City of Leavenworth Kansas<br>City Hall<br>Finance Department<br>100 North 5th Street<br>Leavenworth, KS 66048 |

| Project        |
|----------------|
| PO#20160302-00 |

| Description  | Quantity | Rate         | Amount             |
|--|----------|--------------|--------------------|
| Erosion and Sediment Control Training PO#20160302-00 |          | 11,336.00    | 11,336.00          |
|  |          | <b>Total</b> | <b>\$11,336.00</b> |

## Leavenworth Erosion & Sediment Control Training

| Time          | Topic   |
|---------------|---|
| 8:00 - 8:15   | Welcome and Introduction                              |
| 8:15 - 8:45   | History and Purpose of the Clean Water Act            |
| 8:45 - 9:45   | Storm Water Pollution Prevention Plans                |
| 9:45 - 10:00  | Break   |
| 10:00 - 10:45 | Principles of Erosion & Sediment Control              |
| 10:45 - 11:15 | Selection and Implementation of Erosion Control BMPs  |
| 11:15 - 11:45 | Selection and Implementation of Sediment Control BMPs |
|               | Lunch   |
| 1:00 - 2:00   | Installation Demos                                    |
| 2:00 - 3:00   | Inspections   |
| 3:00 - 3:30   | Closing   |



# Water Resources Solutions

Certificate of Instruction

**Mike Hooper**

Has attended the  
**Leavenworth Erosion & Sediment Control Training**

December 19, 2016  
Hosted by the City of Leavenworth  
PDHs Awarded: 6.5

*Donald W. Baker, P.E., D.WRE, CPESC*  
*Howard Lubliner, Ph. D., P.E.*



3.11

01/10/2017

FOR  
2016

YTD - GREASE TRAP/ RECEPTOR SURVEY  
YTD

|   |          |           |
|---|----------|-----------|
| LETTERS SENT TO BUSINESSES                  | 66       |           |
| NUMBER OF CLOSED BUSINESSES                 | <u>3</u> |           |
| NUMBER OF ACTIVE BUSINESSES                 |          | <u>63</u> |
|   |          |           |
| BUSINESSES WITH GREASE TRAPS/INTERCEPTORS   | 47       |           |
| BUSINESSES GREASE TRAP/INTCEP. NOT REQUIRED | 6        |           |
| BUSINESSES IN PROCESS OF INSTALLATION       | 2        |           |
| BUSINESSES NOT YET INSPECTED                | <u>8</u> |           |
| TOTAL                                       |          | <u>63</u> |



# Welcome to Leavenworth Kansas

- Home
- Departments
- Residents
- Businesses
- Visitors
- Media Room
- Services

## Contact Us

100 N. 5th St.  
Leavenworth, KS 66048  
Get Directions

- Email Us
- Staff Directory
- View City Departments

Search Home | Log In

## Search

Basic Search | Advanced Search

 All Content Types

Results 1-2 of 2

★ Featured Content

### Land Disturbance Documents

<http://www.lvks.org/egov/apps/document/center.egov?view=item;id=3300>  
Documents necessary for construction projects, demos, or working in the City's right of way.  
Score:100.00 Document Center

### 2016-02-23 City Commission Agenda

<http://www.lvks.org/egov/apps/document/center.egov?view=item;id=3462>  
2016-02-23 City Commission Agenda  
Score:57.14 Document Center

Results 1-2 of 2

★ Featured Content

engineeringii (\\citystorage) (M:) > SWPPP > MASS CORRESPONSE SENT OUT

Location to print from.

4, 2

Library Burn New folder

| Name  | Date modified      | Type                   | Size     |
|---|--------------------|------------------------|----------|
| <input checked="" type="checkbox"/> EROSION CONTROL CHECK_8-19-15                 | 1/29/2016 11:31 AM | Outlook Item           | 82 KB    |
| <input checked="" type="checkbox"/> FOLLOW UP ON LDP PROGRAM -9-15-16             | 9/30/2016 11:27 AM | Microsoft Word Do...   | 82 KB    |
| <input checked="" type="checkbox"/> FOLLOW UP ON LDP PROGRAM 10-3-16              | 10/5/2016 3:04 PM  | Microsoft Word Do...   | 82 KB    |
| <input checked="" type="checkbox"/> Land Disturbance permit - Form Letter McDo... | 4/15/2015 12:58 PM | Microsoft Word Do...   | 91 KB    |
| <input checked="" type="checkbox"/> LDP MAILING LIST                              | 2/17/2017 4:15 PM  | Microsoft Excel Wor... | 16 KB    |
| <input checked="" type="checkbox"/> letter attachments_1-23-17                    | 1/23/2017 1:49 PM  | Adobe Acrobat Doc...   | 1,354 KB |
| <input checked="" type="checkbox"/> notice of new ldp reg_1-23-17                 | 2/15/2017 12:00 PM | Microsoft Word Do...   | 84 KB    |
| <input checked="" type="checkbox"/> notice of new LDP requirements                | 3/30/2015 10:39 AM | Microsoft Word Do...   | 89 KB    |
| <input checked="" type="checkbox"/> NOTICE TO INSPECT 5-26-16                     | 5/26/2016 1:29 PM  | Outlook Item           | 92 KB    |
| <input checked="" type="checkbox"/> NOTICE TO INSPECT 9-13-16                     | 9/13/2016 4:32 PM  | Outlook Item           | 87 KB    |
| <input checked="" type="checkbox"/> RAIN NOTICE_4-27-16                           | 4/27/2016 1:26 PM  | Outlook Item           | 91 KB    |
| <input checked="" type="checkbox"/> RAIN NOTICE 8-25-16                           | 8/25/2016 2:21 PM  | Outlook Item           | 100 KB   |
| <input checked="" type="checkbox"/> RAIN NOTICE_5-11--16                          | 1/9/2017 1:54 PM   | Outlook Item           | 110 KB   |
| <input checked="" type="checkbox"/> RE HALF INCH RAIN INSPECTIONS_11-19-15        | 1/29/2016 10:57 AM | Outlook Item           | 89 KB    |
| <input checked="" type="checkbox"/> RE HALF INCH RAIN NOTICE_11-30-15             | 1/29/2016 10:55 AM | Outlook Item           | 122 KB   |

(home) (H:)  
age) (M:)  
ge) (N:)  
MENT (\\CITYSTORA

Offline status: Online  
Availability: Not available

Taskbar icons: Man ... City of Le... Inbox - C... 2 Remind... Applicati... TEMP MASS C...

2015 CDBG SIDEWALK PROJECT 2015-810  
PRE-CON MEETING AGENDA  
February 4, 2016 10:00 am

4.5  
Tammy

Introductions:

- Attendance Sign-In sheet
- Contact People and Phone Numbers (Contractors)

Mike Grafton - Field Superint

Contract Items:

- ✓ Affirmative Action Approval Letter - Submitted & approved
  - ✓ Insurance - On file City Clerk
  - ✓ Performance, Maintenance & Statutory Bond - On file City Clerk
  - ✓ Tax Exemption - Provide to contractor
  - ✓ Contract Amount - \$277,805 (Base bid + Alternate (2<sup>nd</sup> Street: Osage to Dakota))
  - ✓ Notice to Proceed - 30 days
  - ✓ Calendar Days - 90 days
  - ✓ Discuss Liquidated damages - \$ 1,000 per day (GC 29)
  - ✓ Pay Estimates - One per month (GC 28), 10% retainage
  - ✓ Traffic Control - Follow MUTCD (GC 29)
  - ✓ Work Hours - 7 am to 6 pm (GC 25) Monday thru Friday
  - ✓ Character of Workers - Trained & skilled staff (GC 25)
  - ✓ KDOT Highway Lane Closure Permit
  - ✓ Construction Phasing Plan? ↳ Under blanket permit. Steve T.
- Feb 15<sup>th</sup>  
Arbor Masters  
- Mark Cantrell

Review of Special Conditions (SC 2):

- 4) Temporary water meter must be obtained, contact the Leavenworth Water Department
- 5) List of subcontractors, suppliers, personnel and project schedule & 24 hour contact information
- 6) Contractor shall identify any spoils disposal site & obtain a separate "NO COST" fill permit
- 7) Preconstruction & post construction photos
- 8) KCMMB 4K mix, granite
- 9) Detectable Warning Pavers or Precast Detectable Warning Panels shall be Brick Red in Color. Cast-In-Place panels shall be approved by the City Engineer prior to installation.
- 10) The contractor will supply "Temporary Seeding" outside the KDOT Planting Period and said seeding shall be subsidiary to the bid. All "Permanent Seeding" shall be installed by "Hydroseeding".
- 13) The Prime Contractor must erect a bulletin board on the construction site for posting the notices required by the Federal and State laws.
- 14) The contractor shall notify Police Dispatch a minimum of 24 hours in advance of all road and/or all lane closures.
- 15) All asphalt patching next to curbs and ramps shall be subsidiary to other work.
- 16) All curb replacement at the ramp location shall be subsidiary to ADA Ramp installation.
- 17) All bricks are to be salvaged, protected, and delivered to the stockpile at the City Service Center, 790 Thornton. They shall be free of debris & are not required to be stacked.
- 18) Brick sidewalk tie in will not create tripping hazards.
- 19) Residents shall be giving 48 hours advanced notice of construction in front of their property.
- 20) All property owners shall have access to their property at the end of each day.
- 21) Sign removal and installation shall be subsidiary to sidewalk and ramp installation.

CITY OF SHAWNEE  
PUBLIC WORKS DEPARTMENT

LEAVENWORTH  
2-25-2017  
W&W

2015 - 810 CDBG SIDEWALK PROJECT  
PRE-CONSTRUCTION MEETING

FEBRUARY 4, 2016, AT 10:00 AM AT CITY HALL

|   | COMPANY                      | COMPLETE MAILING ADDRESS                | TELEPHONE NUMBERS            |
|---|------------------------------|---|------------------------------|
| 1 | Name: Tammy Snyder           | Address: 100 N. 5th                     | Phone: 913.684.0392          |
|   | Company: Leavenworth         | City, State, Zip: Leavenworth, KS 66048 | Email: TSnyder@firstcity.org |
| 2 | Name: Michael Grafton        | Address:                                | Phone: 913-207-4295          |
|   | Company: KHC                 | City, State, Zip: Tonganoxie            | Email:                       |
| 3 | Name: Arturo Romero          | Address:                                | Phone: 913 207-5590          |
|   | Company: KHC                 | City, State, Zip: Tonganoxie            | Email:                       |
| 4 | Name: Bill Reno              | Address: P.O. BOX 860603                | Phone: 913-845-2121          |
|   | Company: KHC                 | City, State, Zip: S.M. KS 66286         | Email: 913-845-2813          |
| 5 | Name: JUSTIN STEWART         | Address:                                | Phone: 913-684-0375          |
|   | Company: CITY OF LEAVENWORTH | City, State, Zip:                       | Email: JSTEWART@FIRSTCITY    |
| 6 | Name: Betsy Smith            | Address:                                | Phone: 913-684-787-7474      |
|   | Company: City of Leavenworth | City, State, Zip:                       | Email: BSmith@firstcity.org  |
| 7 | Name: MARY DWYER             | Address: 100 N 5th                      | Phone: 913-680-2628          |
|   | Company: City of Leavenworth | City, State, Zip: Leavenworth, KS 66048 | Email: mdwyer@firstcity.org  |
| 8 | Name:                        | Address:                                | Phone:                       |
|   | Company:                     | City, State, Zip:                       | Email:                       |
| 9 | Name:                        | Address:                                | Phone:                       |
|   | Company:                     | City, State, Zip:                       | Email:                       |

CITY OF CHAWNEE  
PUBLIC WORKS DEPARTMENT

- LEAV. 2-25-17  
Wen

CHEROKEE BRIDGE PROJECT 2013-732 &  
11<sup>TH</sup> STREET PEDESTRIAN BRIDGE PROJECT 2015-797

MARCH 4, 2016, 2:00 PM AT CITY HALL

|   | COMPANY                      | COMPLETE MAILING ADDRESS  | CONTACT INFORMATION                     |
|---|------------------------------|---|---|
| 1 | Name: Tammy Snyder           | Address: 100 N. 5 <sup>th</sup> Street                          | Phone: 913-684-0392                     |
|   | Company: City of Leavenworth | City, State, Zip: Leavenworth, KS 66048                         | Email: tsnyder@firstcity.org            |
| 2 | Name: Justin Klardt          | Address: 800 E 101 <sup>st</sup> Terr                           | Phone: 816 701 3178                     |
|   | Company: Wilson & Co.        | City, State, Zip: KCMO 64131                                    | Email: Justin.Klardt@wilsonco.com       |
| 3 | Name: Rick Knapp             | Address: 6501 Miami Ave.  | Phone: 913-915-1102                     |
|   | Company: RAKnapp             | City, State, Zip: Kansas City, KS 66111                         | Email: Rick@raknapp.com                 |
| 4 | Name: Heidi Knapp            | Address: 6501 Miami Ave.  | Phone: 913-287-8700 / cell 913-915-1099 |
|   | Company: RA Knapp            | City, State, Zip: KCK 66111                                     | Email: Heidi@raknapp.com                |
| 5 | Name: Wesley Orndal          | Address: 800 East 101 <sup>st</sup> Terrad <sup>Suite 200</sup> | Phone: 816 701 7122                     |
|   | Company: Wilson & Co.        | City, State, Zip: Kansas City, Mo 64131                         | Email: wesley.orndal@wilsonco.com       |
| 6 | Name: Brian Schwinn          | Address: 1333 S 2nd   | Phone: 913-433-6882                     |
|   | Company: Geiger Ready Mix    | City, State, Zip: Leavenworth, KS 66048                         | Email: brianschwinn@geigerreadymix.com  |
| 7 | Name: Jon Hair               | Address: 2720 2 <sup>nd</sup> Ave                               | Phone: 913-758-2724                     |
|   | Company: Westar              | City, State, Zip: Leavenworth - 66048                           | Email: jon.hair@westarenergy.com        |
| 8 | Name: JUSTIN STEWART         | Address:  | Phone: 913-684-0375                     |
|   | Company: CITY                | City, State, Zip:   | Email: JSTEWART@FIRSTCITY.ORG           |
| 9 | Name: Todd Black             | Address: 13032 Flint  | Phone: 913-216-3818                     |
|   | Company: CONTECH             | City, State, Zip: OP, KS 66213                                  | Email: tblack@conteches.com             |

|    | COMPANY                          | COMPLETE MAILING ADDRESS               | CONTACT INFORMATION                   |
|----|----------------------------------|--|---------------------------------------|
| 10 | Name: KEITH BAKER                | Address: 836 SPRUCE                    | Phone: 682-6302                       |
|    | Company: BAKER CONST INC         | City, State, Zip: LV KS 66048          | Email: BAKER CONST @ SBCGLOBAL.NET    |
| 11 | Name: Kayla Manning              | Address: 601 Cherokee                  | Phone: 913-682-1513                   |
|    | Company: Leavenworth Waterworks  | City, State, Zip: Leavenworth KS 66048 | Email: Kmanning@LVwater.org           |
| 12 | Name: Dennis M Baragary Sr       | Address: 601 Cherokee                  | Phone: 913-682-1513 cell 913-290-0235 |
|    | Company: Leavenworth Water Works | City, State, Zip: Leav. KS 66048       | Email: Dbaragary@lvwater.org          |
| 13 | Name: Barry Smith                | Address:                               | Phone: 913-787-7474                   |
|    | Company: City of Leavenworth     | City, State, Zip:                      | Email: Bsmith@firstcity.org           |
| 14 | Name: McDONALD                   | Address:                               | Phone: 682-0375                       |
|    | Company:                         | City, State, Zip:                      | Email:                                |
| 15 | Name:                            | Address:                               | Phone:                                |
|    | Company:                         | City, State, Zip:                      | Email:                                |
| 16 | Name:                            | Address:                               | Phone:                                |
|    | Company:                         | City, State, Zip:                      | Email:                                |
| 17 | Name:                            | Address:                               | Phone:                                |
|    | Company:                         | City, State, Zip:                      | Email:                                |
| 18 | Name:                            | Address:                               | Phone:                                |
|    | Company:                         | City, State, Zip:                      | Email:                                |
| 19 | Name:                            | Address:                               | Phone:                                |
|    | Company:                         | City, State, Zip:                      | Email:                                |
| 20 | Name:                            | Address:                               | Phone:                                |
|    | Company:                         | City, State, Zip:                      | Email:                                |
| 21 | Name:                            | Address:                               | Phone:                                |
|    | Company:                         | City, State, Zip:                      | Email:                                |

5 Mile Creek Bank Erosion Correction at WTPP 2015-817  
PRE-CON MEETING AGENDA  
March 22, 2016 2:00 pm

INTRODUCTIONS:

- Attendance Sign-In sheet
  - Contact People and Phone Numbers (Contractors) – 24 hour contact
- 
- 

CONTRACT ITEMS:

- ✓ Affirmative Action Approval Letter - Submitted & approved
- ✓ Insurance – On file City Clerk - *Additional Insured - Water Resources pg. 69*
- ✓ Performance, Maintenance & Statutory Bond – On file City Clerk - *D.K. not needed per Don Baker*
- ✓ Tax Exemption – Provide to contractor
- ✓ Contract Amount - \$ 104,575 CORRECTED
- ✓ Calendar Days – 30 days
- ✓ Notice to Proceed - *Spring - April 1<sup>st</sup> tentatively!!*
- ✓ Discuss Liquidated damages - \$1,000 per day (pg. 64)
- ✓ Pay Estimates – One per month, 10% retainage (pg. 63)
- ✓ Work Hours – 7 am to 6 pm, Monday thru Friday. Saturday & Sunday with written permission (pg. 59)
- ✓ Character of Workers – Trained & skilled staff (pg. 59)
- ✓ Contract Agreement (Discussion of Non - Discrimination section)

SUBMITTALS:

- ✓ Rip Rap Submittal - Approved
- ✓ Tensar Erosion Control Blanket – Approved
- ✓ Plantings/seed – Approved - *additional*
- List of subcontractors & additional suppliers?
- ✓ Project Schedule?

SPECIAL CONDITIONS:

- ✓ 4) Water – contact Leavenworth Water Department (temporary meter)
- ✓ 6) Spoils – identify any spoil disposal site to be utilized in the City of Leavenworth (no cost permit)
- ✓ 7) Pre-construction photos & post construction photos – required
- ✓ 8) Concrete - KCMMB 4K granite mix
- ✓ 9) Seeding - outside of KDOT planting season (March 15<sup>th</sup> – April 20<sup>th</sup> and August 15<sup>th</sup> – September 3<sup>rd</sup>) is temporary seeding (subsidiary) – Permanent seeding is Hydroseeding *Some patches & mulch blanket after*
- ✓ 10) Geofabric – placed under RipRap (1/4 ton) Heavy Stone. Subsidiary to RipRap.
- ✓ 11) Fernco coupler shall be encased with concrete, subsidiary to installation of sanitary sewer pipe.
- ✓ 12) Land Disturbance Permit – “No Cost”: Permit required before prior to starting construction. Contractor is required to maintain and inspect all erosion control through the term of the project. A copy of the inspection records will be submitted to the city prior to release of the LDP. *Done*
- ✓ 13) Curb & gutter replaced shall match existing infrastructure.
- ✓ 14) Contractor shall be responsible for providing portable restrooms for this project.



5 Mile Creek Bank Erosion Correction at WTPP 2015-817  
PRE-CON MEETING AGENDA  
March 22, 2016 2:00 pm

PROJECT DISCUSSION:

- Open Discussion

1) Silky dogwood - 2" caliper

2) Coconut blanket too thick - submit something else  
we will approve. Composite blanket resubmit!  
- blanket all that gets soaked. cotton mesh bio degradable - good

3) 14 ton rock - OK from APAC

Not nylon due to critters

4) Rip Rap - Heavier rock, APAC rock is a dense rock.

5) Slope - planting trees, move around to find best location.

↳ Stacked rock into compression. Don Parker will be inspecting April will be good for him.

Project Representatives:

Tammy Snyder, Project Manager  
913.684.0392

Justin Stewart, Senior Engineering Technician  
913.684.0368

Barry Smith, Engineering Technician  
913.684.0373

6) Trunk protection w/ trees.

**CITY OF HEAVENWORTH**  
PUBLIC WORKS DEPARTMENT

**5-MILE CREEK BANK EROSION CORRECTION AT THE WWTP – PRECONSTRUCTION MEETING**

**MARCH 22, 2016, 2:00 PM, AT CITY HALL**

|   | COMPANY                            | COMPLETE MAILING ADDRESS                  | TELEPHONE NUMBERS                |
|---|------------------------------------|---|----------------------------------|
| 1 | Name: Barry Smith                  | Address:                                  | Phone: 913 787 7474              |
|   | Company: City                      | City, State, Zip:                         | Email: BSMITH@FIRSTCITY.ORG      |
| 2 | Name: Chuck Staples                | Address:                                  | Phone: 913-682-1090              |
|   | Company: City of Heavenworth       | City, State, Zip:                         | Email: cstaples@firstcity.org    |
| 3 | Name: JOHN WILL                    | Address:                                  | Phone: 913 351 3474, 915 3704    |
|   | Company: <del>THE</del> LINAWEAVER | City, State, Zip:                         | Email: JOHN@LINAWEAVER.COM       |
| 4 | Name: Don Baker                    | Address:                                  | Phone: 913-302-1030              |
|   | Company: Water Resources Solutions | City, State, Zip:                         | Email: DBaker@wrs-rc.com         |
| 5 | Name: MIKE McDONALD                | Address:                                  | Phone: 913-684-0375              |
|   | Company: City of LV                | City, State, Zip:                         | Email: MCDONALD@FIRSTCITY.ORG    |
| 6 | Name: MIKE HOOVER                  | Address:                                  | Phone: 913-684-0396              |
|   | Company: City                      | City, State, Zip:                         | Email: mhooover@firstcity.org    |
| 7 | Name: Jon Hain                     | Address: 2720 2nd Ave                     | Phone: 913-758-2724              |
|   | Company: Westar Energy             | City, State, Zip: LV, KS 66048            | Email: jon.hain@westarenergy.com |
| 8 | Name: SCOTT SWARTZ                 | Address: 1624 NE DALTONS RIDGE DRIVE      | Phone: 816-522-1085              |
|   | Company: SUNSET LANDSCAPE          | City, State, Zip: LEE'S SUMMIT, MO. 64064 | Email: sswartz007@gmail.com      |
| 9 | Name: Tammy Snyder                 | Address:                                  | Phone: 913.684.0375              |
|   | Company: City of Heavenworth       | City, State, Zip:                         | Email: TSnyder@firstcity.org     |

| COMPANY |                              | COMPLETE MAILING ADDRESS                  | TELEPHONE NUMBERS         |
|---------|------------------------------|---|---------------------------|
| 10      | Name: JUSTIN STEWART         | Address:                                  | Phone: 913-684-0375       |
|         | Company: CITY OF LEAVENWORTH | City, State, Zip:                         | Email: JSTEWART@FIRSTCITY |
| 11      | Name: Randal Gaskin          | Address: 9494 Nell Ave                    | Phone: 913-383-6948       |
|         | Company: AT&T                | City, State, Zip: Overland Park, KS 66207 | Email: RG9513@ATT.COM     |
| 12      | Name:                        | Address:                                  | Phone:                    |
|         | Company:                     | City, State, Zip:                         | Email:                    |
| 13      | Name:                        | Address:                                  | Phone:                    |
|         | Company:                     | City, State, Zip:                         | Email:                    |
| 14      | Name:                        | Address:                                  | Phone:                    |
|         | Company:                     | City, State, Zip:                         | Email:                    |
| 15      | Name:                        | Address:                                  | Phone:                    |
|         | Company:                     | City, State, Zip:                         | Email:                    |
| 16      | Name:                        | Address:                                  | Phone:                    |
|         | Company:                     | City, State, Zip:                         | Email:                    |
| 17      | Name:                        | Address:                                  | Phone:                    |
|         | Company:                     | City, State, Zip:                         | Email:                    |
| 18      | Name:                        | Address:                                  | Phone:                    |
|         | Company:                     | City, State, Zip:                         | Email:                    |

2015 Sanitary Sewer Rehabilitation & Replacement 2014-791  
PRE-CON MEETING AGENDA  
April 5, 2016 3:00 pm

INTRODUCTIONS:

- Attendance Sign-In sheet
- Contact People and Phone Numbers (Contractors) – 24 hour contact

CONTRACT ITEMS:

- Affirmative Action Approval Letter - Submitted & approved
- Insurance – On file City Clerk
- Performance, Maintenance & Statutory Bond – On file City Clerk
- Tax Exemption – Provide to contractor
- Contract Amount - \$ 500,033
- Calendar Days – 120 days
- Notice to Proceed - 5/21/16
- Discuss Liquidated damages - \$ 1,250 per day (pg. 67)
- Pay Estimates – One per month, 10% retainage
- Work Hours – 7 am to 6 pm, Monday thru Friday. Saturday & Sunday with written permission
- Character of Workers – Trained & skilled staff
- Contract Agreement (Discussion of Non - Discrimination section)

SUBMITTALS:

- 1-5: Approved
- 6 – CIPP Submitted
- 7 – Geiger Mix Designs: Approved

SPECIAL CONDITIONS:

- 4) Water – Contact Leavenworth Water Department (temporary meter)
- 5) List of subcontractors & suppliers + submit a Project Schedule
- 6) Spoils – identify any spoil disposal site to be utilized in the City of Leavenworth (no cost permit) *Leavenworth Shop*
- 7) Pre-construction photos & post construction photos – required
- 8) Concrete - KCMMB 4K granite mix
- 9) Seeding – Permanent seeding is Hydroseeding, temporary seeding outside KDOT planting season.
- 10) Traffic Control – Subsidiary to all other work
- 12) Fences – any fences removed shall be replaced with like new material & costs are subsidiary
- 13) Signs – shall be removed & replaced by the Contractor (supplied by City)
- 14) Frames & Lids – used items shall be returned to the owner *waste weather (good ones)*
- 15) Contractor shall notify police dispatch prior to any lane closures
- 16) Porta-potty supplied by Contractor
- 17) Residents shall have full access to driveways at all times during construction (exceptions as needed)
- 18) Concrete – new concrete shall have expansion against existing concrete (boxes, valves, manholes, etc.)

*Community Meeting*

*→ 20th or 21st  
→ 5:30*

# CITY OF LEAVENWORTH

PUBLIC WORKS DEPARTMENT

## 2015 SANITARY SEWER REHABILITATION & REPLACEMENT PROJECT 2014-791 PRECONSTRUCTION MEETING

April 5, 2016, 3:00 PM, AT CITY HALL

|   | COMPANY                          | COMPLETE MAILING ADDRESS                  | TELEPHONE NUMBERS                               |
|---|----------------------------------|---|---|
| 1 | Name: Tammy Snyder               | Address: 100 N. 5th St                    | Phone: 913.684.0392                             |
|   | Company: COL                     | City, State, Zip: Leavenworth, KS 66048   | Email: TSnyder@firstcity.org                    |
| 2 | Name: Spencer Foster             | Address: 719. C. Gilman                   | Phone: 913.702.2773                             |
|   | Company: Linaweaver Const.       | City, State, Zip: Lansing, KS             | Email: Spencer@linaweaver.com                   |
| 3 | Name: Joe Huffman                | Address: 7812 N. Liberty                  | Phone: 816-590-8844                             |
|   | Company: SPAK CONST. LLC         | City, State, Zip: MANASSAS CITY, MD 20108 | Email: jhuffman@spakcon.com                     |
| 4 | Name: Mark Linaweaver            | Address: 719 Gilman Rd                    | Phone: 913-351-3474                             |
|   | Company: Linaweaver Const., Inc. | City, State, Zip: Lansing, KS 66048       | Email: Mark@Linaweaver.com                      |
| 5 | Name: MIKE HOOPER                | Address:                                  | Phone: 913-684-0396                             |
|   | Company: City                    | City, State, Zip:                         | Email: mhooper@firstcity.org                    |
| 6 | Name: McDonald                   | Address:                                  | Phone: 913-684-0375                             |
|   | Company: City                    | City, State, Zip:                         | Email: <del>MICHAEL</del> MICHAEL@FIRSTCITY.ORG |
| 7 | Name: JUSTIN STEWART             | Address:                                  | Phone: 913-684-0375                             |
|   | Company: CITY OF LEAVENWORTH     | City, State, Zip:                         | Email: JSTEWART@FIRSTCITY.org                   |
| 8 | Name: Chuck Staples              | Address: 1800 South 2nd St                | Phone: 913-682-1090                             |
|   | Company: City of Leavenworth     | City, State, Zip: Leaw KS                 | Email: cstaples@firstcity.org                   |
| 9 | Name:                            | Address:                                  | Phone:  |
|   | Company:                         | City, State, Zip:                         | Email:  |

4.6

## Erosion and Sediment Control Inspection Report Form

**Project Name and Location** CDBG, 2nd Ottawa, Post-Construction

Weather:  
Rain

Rain in last 24 hrs (inches):  
.80

Owner / Permittee:  
City of Leavenworth

**A. Current Construction / Active Areas**

none

**Pollution Control Measures (BMP) Checklist:**

- Inlet Barrier (i.e.: gravel bags)
- Sediment Barriers (i.e.: ditch checks)
- Erosion Blankets, Hydromulch / Seed, etc
- Stabilized Construction Entrance
- Stream Crossings
- Seed / Sod Areas
- Sediment Basins & Discharge Locations
- Borrow Areas
- General Site Condition (trash, etc)

**B. Problem Areas / Special Observations(\*Note problem areas ONLY below\*):**

| BMP          | Location | Observations, Effectiveness, & Corrective Actions Ordered |
|--------------|----------|---|
| Seeded Areas | Multiple | General Clean up  |
|              |          |   |
|              |          |   |
|              |          |   |

**C. Listing of Areas where construction operations have permanently or temporarily stopped; stabilization measures initiated.**

All areas

**D. Have items noted on last inspection been corrected? Yes No (if No, Explain:)**

Note: Inspection comments above indicate deficiencies only. Deficiencies must be corrected within 24 hours, unless otherwise noted. All other BMP's on site are considered to be in good working condition.

4-26-16

**Date of  
Inspection**

  
**Inspector Signature**

- 6 Goals • No Sediment Leaves the Site • Lines of Defense Everywhere & Always • Cover Quickly
- Protect the Swale, Ditch, and Channel • Keep Clean Water Clean • Inspect, Clean & Fix

# Erosion and Sediment Control Inspection Report Form

**Project Name and Location** *Cereal Ingredients, 2016-836, 4900 S. 13th, Post Construction*

Weather:  
Rain

Rain in last 24 hrs (inches):  
3.08

Owner / Permittee:  
City of Leavenworth

**A. Current Construction / Active Areas**  
  
*None*

- Pollution Control Measures (BMP) Checklist:**
- Inlet Barrier (i.e.: gravel bags)
  - Sediment Barriers (i.e.: ditch checks)
  - Erosion Blankets, Hydromulch / Seed, etc
  - Stabilized Construction Entrance
  - Stream Crossings
  - Seed / Sod Areas
  - Sediment Basins & Discharge Locations
  - Borrow Areas
  - General Site Condition (trash, etc)

**B. Problem Areas / Special Observations(\*Note problem areas ONLY below\*):**

| BMP | Location | Observations, Effectiveness, & Corrective Actions Ordered |
|-----|----------|---|
|     |          |   |
|     |          |   |
|     |          |   |
|     |          |   |

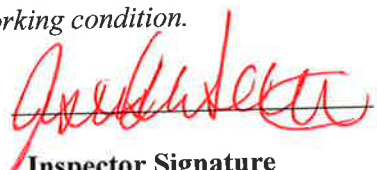
**C. Listing of Areas where construction operations have permanently or temporarily stopped; stabilization measures initiated.**

All areas

**D. Have items noted on last inspection been corrected? Yes No (if No, Explain:)**

*Note: Inspection comments above indicate deficiencies only. Deficiencies must be corrected within 24 hours, unless otherwise noted. All other BMP's on site are considered to be in good working condition.*

4-27-16  
**Date of Inspection**

  
**Inspector Signature**

- 6 Goals • No Sediment Leaves the Site • Lines of Defense Everywhere & Always • Cover Quickly  
• Protect the Swale, Ditch, and Channel • Keep Clean Water Clean • Inspect, Clean & Fix

## Erosion and Sediment Control Inspection Report Form

**Project Name and Location** 417 2<sup>nd</sup> St, Stove Factory Lofts, Construction

Weather:  
Rain

Rain in last 24 hrs (inches):  
3.08

Owner / Permittee:  
City of Leavenworth

**A. Current Construction / Active Areas**  
  
2<sup>nd</sup> Street

**Pollution Control Measures (BMP) Checklist:**

- Inlet Barrier (i.e.: gravel bags)
- Sediment Barriers (i.e.: ditch checks)
- Erosion Blankets, Hydromulch / Seed, etc
- Stabilized Construction Entrance
- Stream Crossings
- Seed / Sod Areas
- Sediment Basins & Discharge Locations
- Borrow Areas
- General Site Condition (trash, etc)

**B. Problem Areas / Special Observations (\*Note problem areas ONLY below\*):**

| BMP | Location               | Observations, Effectiveness, & Corrective Actions Ordered |
|-----|------------------------|---|
|     | 2 <sup>nd</sup> Street | Clean up, Removal of Debris, Inlet protection             |
|     |                        |   |
|     |                        |   |
|     |                        |   |

**C. Listing of Areas where construction operations have permanently or temporarily stopped; stabilization measures initiated.**

None

**D. Have items noted on last inspection been corrected? Yes No (if No, Explain:)**

*Note: Inspection comments above indicate deficiencies only. Deficiencies must be corrected within 24 hours, unless otherwise noted. All other BMP's on site are considered to be in good working condition.*

4-27-16

**Date of  
Inspection**

  
**Inspector Signature**

- 6 Goals • No Sediment Leaves the Site • Lines of Defense Everywhere & Always • Cover Quickly  
• Protect the Swale, Ditch, and Channel • Keep Clean Water Clean • Inspect, Clean & Fix



## Erosion and Sediment Control Inspection Report Form

**Project Name and Location** 2013-732 Cherokee Bridge

Weather: Sunny 75°

Rain in last 24 hrs (inches): 0.50 inches

Owner / Permittee: Knapp Co.

**A. Current Construction / Active Areas:**  
Cherokee St Bridge at 11<sup>th</sup> st, open trench in creek.

**Pollution Control Measures (BMP) Checklist:**

- Inlet Barrier (ie: gravel bags)
- Sediment Barriers (ie: ditch checks)
- Erosion Blankets, Hydromulch / Seed, etc
- Stabilized Construction Entrance
- Stream Crossings
- Seed / Sod Areas
- Sediment Basins & Discharge Locations
- Borrow Areas
- General Site Condition (trash, etc)

**B. Problem Areas / Special Observations(\*Note problem areas ONLY below\*):**

| BMP | Location | Observations, Effectiveness, & Corrective Actions Ordered |
|-----|----------|---|
|     |          |   |
|     |          |   |
|     |          |   |
|     |          |   |

**C. Listing of Areas where construction operations have permanently or temporarily stopped; stabilization measures initiated.**

**D. Have items noted on last inspection been corrected? Yes No (if No, Explain:)**

*Note: Inspection comments above indicate deficiencies only. Deficiencies must be corrected within 24 hours, unless otherwise noted. All other BMP's on site are considered to be in good working condition.*

5/9/16  
Date of Inspection

*Barry Smith*  
Inspector Signature

- 6 Goals • No Sediment Leaves the Site • Lines of Defense Everywhere & Always • Cover Quickly  
• Protect the Swale, Ditch, and Channel • Keep Clean Water Clean • Inspect, Clean & Fix

## Erosion and Sediment Control Inspection Report Form

**Project Name and Location** Nettie Hartnet School

Weather: Rain

Rain in last 24 hrs (inches): 1.35

Owner / Permittee: USD 453

**A. Current Construction / Active Areas:**  
Detention Basin appears to be functioning properly

**Pollution Control Measures (BMP) Checklist:**

- Inlet Barrier (i.e.: gravel bags)
- Sediment Barriers (i.e.: ditch checks)
- Erosion Blankets, Hydromulch / Seed, etc
- Stabilized Construction Entrance
- Stream Crossings
- Seed / Sod Areas
- Sediment Basins & Discharge Locations
- Borrow Areas
- General Site Condition (trash, etc)

**B. Problem Areas / Special Observations (\*Note problem areas ONLY below\*):**

| BMP | Location | Observations, Effectiveness, & Corrective Actions Ordered |
|-----|----------|---|
|     |          |   |
|     |          |   |
|     |          |   |
|     |          |   |

**C. Listing of Areas where construction operations have permanently or temporarily stopped; stabilization measures initiated.**

**D. Have items noted on last inspection been corrected? Yes No (if No, Explain:)**

*Note: Inspection comments above indicate deficiencies only. Deficiencies must be corrected within 24 hours, unless otherwise noted. All other BMP's on site are considered to be in good working condition.*

5/11/16  
**Date of Inspection**

  
**Inspector Signature**

- 6 Goals • No Sediment Leaves the Site • Lines of Defense Everywhere & Always • Cover Quickly  
 • Protect the Swale, Ditch, and Channel • Keep Clean Water Clean • Inspect, Clean & Fix

# Erosion and Sediment Control Inspection Report Form

**Project Name and Location** Cherokee St Bridge 2013 732

**Weather:** Rain

**Rain in last 24 hrs (inches):** 1.35

**Owner / Permittee:** Knapp Co.

**A. Current Construction / Active Areas:**

The creek

**Pollution Control Measures (BMP) Checklist:**

- Inlet Barrier (i.e.: gravel bags)
- Sediment Barriers (i.e.: ditch checks)
- Erosion Blankets, Hydromulch / Seed, etc
- Stabilized Construction Entrance
- Stream Crossings
- Seed / Sod Areas
- Sediment Basins & Discharge Locations
- Borrow Areas
- General Site Condition (trash, etc)

**B. Problem Areas / Special Observations (\*Note problem areas ONLY below\*):**

| BMP            | Location       | Observations, Effectiveness, & Corrective Actions Ordered |
|----------------|----------------|---|
| Check Dam      | N end of creek | dam washed out  |
| crossing       | S end of creek | washed out  |
| Sediment basin | S of check dam | sediment needs cleaned out                                |
| Site Condition |                | Streets need cleaned (muddy)                              |

**C. Listing of Areas where construction operations have permanently or temporarily stopped; stabilization measures initiated.**

**D. Have items noted on last inspection been corrected? Yes No (if No, Explain:)**

*Note: Inspection comments above indicate deficiencies only. Deficiencies must be corrected within 24 hours, unless otherwise noted. All other BMP's on site are considered to be in good working condition.*

5/11/14  
Date of  
Inspection

  
Inspector Signature

- 6 Goals • No Sediment Leaves the Site • Lines of Defense Everywhere & Always • Cover Quickly  
• Protect the Swale, Ditch, and Channel • Keep Clean Water Clean • Inspect, Clean & Fix

## Erosion and Sediment Control Inspection Report Form

**Project Name and Location** Hampton Inn 405 Choctaw

**Weather:** Rain

**Rain in last 24 hrs (inches):** 1.35

**Owner / Permittee:** Hampton Inn

**A. Current Construction / Active Areas:**  
Detention basin does not appear to be draining properly

**Pollution Control Measures (BMP) Checklist:**

- Inlet Barrier (i.e.: gravel bags)
- Sediment Barriers (i.e.: ditch checks)
- Erosion Blankets, Hydromulch / Seed, etc
- Stabilized Construction Entrance
- Stream Crossings
- Seed / Sod Areas
- Sediment Basins & Discharge Locations
- Borrow Areas
- General Site Condition (trash, etc)

**B. Problem Areas / Special Observations (\*Note problem areas ONLY below\*):**

| BMP          | Location | Observations, Effectiveness, & Corrective Actions Ordered   |
|--------------|----------|---|
| <u>Basin</u> |          | <u>Grass not growing outlet basin also might be clogged</u> |
|              |          |   |
|              |          |   |

**C. Listing of Areas where construction operations have permanently or temporarily stopped; stabilization measures initiated.**

**D. Have items noted on last inspection been corrected? Yes No (if No, Explain:)**

*Note: Inspection comments above indicate deficiencies only. Deficiencies must be corrected within 24 hours, unless otherwise noted. All other BMP's on site are considered to be in good working condition.*

5/1/16

**Date of Inspection**



**Inspector Signature**

- 6 Goals • No Sediment Leaves the Site • Lines of Defense Everywhere & Always • Cover Quickly  
 • Protect the Swale, Ditch, and Channel • Keep Clean Water Clean • Inspect, Clean & Fix

## Erosion and Sediment Control Inspection Report Form

**Project Name and Location** Pine Meadow Place 4900 Parkway Drive

**Weather:** Rain

**Rain in last 24 hrs (inches):**  
1.35

**Owner / Permittee:**  
John Goodsmith

**A. Current Construction / Active Areas:**

Detentions basin is functioning

**Pollution Control Measures (BMP) Checklist:**

- Inlet Barrier (i.e.: gravel bags)
- Sediment Barriers (i.e.: ditch checks)
- Erosion Blankets, Hydromulch / Seed, etc
- Stabilized Construction Entrance
- Stream Crossings
- Seed / Sod Areas
- Sediment Basins & Discharge Locations
- Borrow Areas
- General Site Condition (trash, etc)

**B. Problem Areas / Special Observations (\*Note problem areas ONLY below\*):**

| BMP          | Location              | Observations, Effectiveness, & Corrective Actions Ordered |
|--------------|-----------------------|---|
| <u>Basin</u> | <u>concrete flume</u> | <u>water has eroded and made new path to outlet</u>       |
| <u>Basin</u> |                       | <u>Overgrown with small trees</u>                         |
|              |                       |   |
|              |                       |   |

**C. Listing of Areas where construction operations have permanently or temporarily stopped; stabilization measures initiated.**

**D. Have items noted on last inspection been corrected? Yes No (if No, Explain:)**

*Note: Inspection comments above indicate deficiencies only. Deficiencies must be corrected within 24 hours, unless otherwise noted. All other BMP's on site are considered to be in good working condition.*

5/11/14  
**Date of Inspection**

Barry Smith  
**Inspector Signature**

- 6 Goals • No Sediment Leaves the Site • Lines of Defense Everywhere & Always • Cover Quickly  
• Protect the Swale, Ditch, and Channel • Keep Clean Water Clean • Inspect, Clean & Fix

## Erosion and Sediment Control Inspection Report Form

**Project Name and Location** Fairfield Inn 1101 N 4<sup>th</sup> St

**Weather:** Rain

**Rain in last 24 hrs (inches):**  
1.35

**Owner / Permittee:**  
LHP

**A. Current Construction / Active Areas:**

Detention basin appears to be performing properly

**Pollution Control Measures (BMP) Checklist:**

- Inlet Barrier (i.e.: gravel bags)
- Sediment Barriers (i.e.: ditch checks)
- Erosion Blankets, Hydromulch / Seed, etc
- Stabilized Construction Entrance
- Stream Crossings
- Seed / Sod Areas
- Sediment Basins & Discharge Locations
- Borrow Areas
- General Site Condition (trash, etc)

**B. Problem Areas / Special Observations(\*Note problem areas ONLY below\*):**

| BMP | Location | Observations, Effectiveness, & Corrective Actions Ordered |
|-----|----------|---|
|     |          |   |
|     |          |   |
|     |          |   |
|     |          |   |

**C. Listing of Areas where construction operations have permanently or temporarily stopped; stabilization measures initiated.**

**D. Have items noted on last inspection been corrected? Yes No (if No, Explain:)**

*Note: Inspection comments above indicate deficiencies only. Deficiencies must be corrected within 24 hours, unless otherwise noted. All other BMP's on site are considered to be in good working condition.*

5/11/06  
**Date of Inspection**

*Barry Smith*  
**Inspector Signature**

- 6 Goals • No Sediment Leaves the Site • Lines of Defense Everywhere & Always • Cover Quickly  
• Protect the Swale, Ditch, and Channel • Keep Clean Water Clean • Inspect, Clean & Fix

# Erosion and Sediment Control Inspection Report Form

**Project Name and Location** *Sanitary Sewer I and I, Construction*

Weather:  
Rain

Rain in last 24 hrs (inches):  
          .53          

Owner / Permittee:  
City of Leavenworth

**A. Current Construction / Active Areas**

*Various*

**Pollution Control Measures (BMP) Checklist:**

- Inlet Barrier (i.e.: gravel bags)
- Sediment Barriers (i.e.: ditch checks)
- Erosion Blankets, Hydromulch / Seed, etc
- Stabilized Construction Entrance
- Stream Crossings
- Seed / Sod Areas
- Sediment Basins & Discharge Locations
- Borrow Areas
- General Site Condition (trash, etc)

**B. Problem Areas / Special Observations(\*Note problem areas ONLY below\*):**

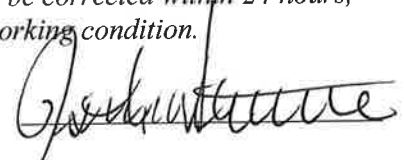
| BMP | Location              | Observations, Effectiveness, & Corrective Actions Ordered |
|-----|-----------------------|---|
|     | Franklin St. at Alley | Clean ditch line at alley                                 |
|     |                       |   |
|     |                       |   |
|     |                       |   |

**C. Listing of Areas where construction operations have permanently or temporarily stopped; stabilization measures initiated.**

**D. Have items noted on last inspection been corrected? Yes No (if No, Explain:)**

*Note: Inspection comments above indicate deficiencies only. Deficiencies must be corrected within 24 hours, unless otherwise noted. All other BMP's on site are considered to be in good working condition.*

5-23-16  
**Date of Inspection**

  
**Inspector Signature**

- 6 Goals • No Sediment Leaves the Site • Lines of Defense Everywhere & Always • Cover Quickly  
• Protect the Swale, Ditch, and Channel • Keep Clean Water Clean • Inspect, Clean & Fix

## Erosion and Sediment Control Inspection Report Form

**Project Name and Location** 2015-797

**Weather:** 66° Rain

**Rain in last 24 hrs (inches):** .65"

**Owner / Permittee:** Baker

**A. Current Construction / Active Areas:**

11<sup>th</sup> street sidewalk

**Pollution Control Measures (BMP) Checklist:**

- Inlet Barrier (ie: gravel bags)
- Sediment Barriers (ie: ditch checks)
- Erosion Blankets, Hydromulch / Seed, etc
- Stabilized Construction Entrance
- Stream Crossings
- Seed / Sod Areas
- Sediment Basins & Discharge Locations
- Borrow Areas
- General Site Condition (trash, etc)

**B. Problem Areas / Special Observations (\*Note problem areas ONLY below\*):**

| BMP          | Location    | Observations, Effectiveness, & Corrective Actions Ordered |
|--------------|-------------|---|
| Silt fence   | entire site | Storm Damage  |
| Temp Seeding |             |   |
|              |             |   |

**C. Listing of Areas where construction operations have permanently or temporarily stopped; stabilization measures initiated.**

Baker not on site since 6/28

**D. Have items noted on last inspection been corrected? Yes  No (if No, Explain:)**

*Note: Inspection comments above indicate deficiencies only. Deficiencies must be corrected within 24 hours, unless otherwise noted. All other BMP's on site are considered to be in good working condition.*

7/3/16  
Date of Inspection

  
Inspector Signature

- 6 Goals • No Sediment Leaves the Site • Lines of Defense Everywhere & Always • Cover Quickly  
• Protect the Swale, Ditch, and Channel • Keep Clean Water Clean • Inspect, Clean & Fix



## Erosion and Sediment Control Inspection Report Form

**Project Name and Location** 2013-732

**Weather:** 66° Rain

**Rain in last 24 hrs (inches):** .65"

**Owner / Permittee:** Knapp

**A. Current Construction / Active Areas:**

Arch Back Fill

**Pollution Control Measures (BMP) Checklist:**

- Inlet Barrier (ie: gravel bags)
- Sediment Barriers (ie: ditch checks)
- Erosion Blankets, Hydromulch / Seed, etc
- Stabilized Construction Entrance
- Stream Crossings
- Seed / Sod Areas
- Sediment Basins & Discharge Locations
- Borrow Areas
- General Site Condition (trash, etc)

**B. Problem Areas / Special Observations(\*Note problem areas ONLY below\*):**

| BMP           | Location           | Observations, Effectiveness, & Corrective Actions Ordered |
|---------------|--------------------|---|
| check dam     | North Side of Arch | Washed out  |
| Muddy Streets |                    |   |
|               |                    |   |

**C. Listing of Areas where construction operations have permanently or temporarily stopped; stabilization measures initiated.**

**D. Have items noted on last inspection been corrected? (Yes) No (if No, Explain:)**

*Note: Inspection comments above indicate deficiencies only. Deficiencies must be corrected within 24 hours, unless otherwise noted. All other BMP's on site are considered to be in good working condition.*

7/3/16  
Date of Inspection

  
Inspector Signature

- 6 Goals • No Sediment Leaves the Site • Lines of Defense Everywhere & Always • Cover Quickly  
• Protect the Swale, Ditch, and Channel • Keep Clean Water Clean • Inspect, Clean & Fix

## Erosion and Sediment Control Inspection Report Form

**Project Name and Location** 2013-732

**Weather:** 80° Rains/Sun

**Rain in last 24 hrs (inches):** .56"

**Owner / Permittee:** Knapp

**A. Current Construction / Active Areas:**

Back Fill Arch

**Pollution Control Measures (BMP) Checklist:**

- Inlet Barrier (ie: gravel bags)
- Sediment Barriers (ie: ditch checks)
- Erosion Blankets, Hydromulch / Seed, etc
- Stabilized Construction Entrance
- Stream Crossings
- Seed / Sod Areas
- Sediment Basins & Discharge Locations
- Borrow Areas
- General Site Condition (trash, etc)

**B. Problem Areas / Special Observations(\*Note problem areas ONLY below\*):**

| BMP                  | Location   | Observations, Effectiveness, & Corrective Actions Ordered |
|----------------------|------------|---|
| <del>Check Dam</del> | North Side | Washed Out  |
| Muddy Streets        |            |   |
|                      |            |   |
|                      |            |   |

**C. Listing of Areas where construction operations have permanently or temporarily stopped; stabilization measures initiated.**

**D. Have items noted on last inspection been corrected?** Yes No (if No, Explain:)

*Note: Inspection comments above indicate deficiencies only. Deficiencies must be corrected within 24 hours, unless otherwise noted. All other BMP's on site are considered to be in good working condition.*

7/6/16  
Date of Inspection

  
Inspector Signature

- 6 Goals • No Sediment Leaves the Site • Lines of Defense Everywhere & Always • Cover Quickly  
• Protect the Swale, Ditch, and Channel • Keep Clean Water Clean • Inspect, Clean & Fix

## Erosion and Sediment Control Inspection Report Form

**Project Name and Location** 2015-797 11<sup>th</sup> Street Pedestrian Bridge

**Weather:** 80° Rain/Sun

**Rain in last 24 hrs (inches):** .510"

**Owner / Permittee:** ~~Baker~~ Baker

**A. Current Construction / Active Areas:**  
Side Walk Construction / 11<sup>th</sup> St

**Pollution Control Measures (BMP) Checklist:**

- Inlet Barrier (ie: gravel bags)
- Sediment Barriers (ie: ditch checks)
- Erosion Blankets, Hydromulch / Seed, etc
- Stabilized Construction Entrance
- Stream Crossings
- Seed / Sod Areas
- Sediment Basins & Discharge Locations
- Borrow Areas
- General Site Condition (trash, etc)

**B. Problem Areas / Special Observations (\*Note problem areas ONLY below\*):**

| BMP          | Location   | Observations, Effectiveness, & Corrective Actions Ordered |
|--------------|------------|---|
| Silt Fence   | whole site | Fence Damaged From Storm                                  |
| Temp Seeding |            |   |
|              |            |   |

**C. Listing of Areas where construction operations have permanently or temporarily stopped; stabilization measures initiated.**

11<sup>th</sup> street, Baker was informed temporary seeding was needed

**D. Have items noted on last inspection been corrected? Yes  No  (if No, Explain:)**

Not on site since 6/28

*Note: Inspection comments above indicate deficiencies only. Deficiencies must be corrected within 24 hours, unless otherwise noted. All other BMP's on site are considered to be in good working condition.*

7/6/16  
Date of Inspection

  
Inspector Signature

- 6 Goals • No Sediment Leaves the Site • Lines of Defense Everywhere & Always • Cover Quickly  
• Protect the Swale, Ditch, and Channel • Keep Clean Water Clean • Inspect, Clean & Fix

## Erosion and Sediment Control Inspection Report Form

|   |   |
|---|---|
| <b>Project Name and Location</b> 2015-822 Sidewalks   |   |
| <b>Weather:</b><br>66° min 90° max  | <b>Pollution Control Measures (BMP) Checklist:</b><br><br><input type="checkbox"/> Inlet Barrier (ie: gravel bags)<br><input type="checkbox"/> Sediment Barriers (ie: ditch checks)<br><input checked="" type="checkbox"/> Erosion Blankets, Hydromulch / Seed, etc<br><input type="checkbox"/> Stabilized Construction Entrance<br><input type="checkbox"/> Stream Crossings<br><input checked="" type="checkbox"/> Seed / Sod Areas<br><input type="checkbox"/> Sediment Basins & Discharge Locations<br><input type="checkbox"/> Borrow Areas<br><input checked="" type="checkbox"/> General Site Condition (trash, etc) |
| <b>Rain in last 24 hrs (inches):</b><br>Ø   |   |
| <b>Owner / Permittee:</b><br>Kazz   |   |
| <b>A. Current Construction / Active Areas:</b><br>Retaining wall construction o<br>Hughes Rd. |   |

**B. Problem Areas / Special Observations(\*Note problem areas ONLY below\*):**

| BMP | Location | Observations, Effectiveness, & Corrective Actions Ordered |
|-----|----------|---|
|     |          |   |
|     |          |   |
|     |          |   |
|     |          |   |

**C. Listing of Areas where construction operations have permanently or temporarily stopped; stabilization measures initiated.**

**D. Have items noted on last inspection been corrected? Yes No (if No, Explain:)**

*Note: Inspection comments above indicate deficiencies only. Deficiencies must be corrected within 24 hours, unless otherwise noted. All other BMP's on site are considered to be in good working condition.*

7/27/16  
Date of Inspection

  
Inspector Signature

- 6 Goals • No Sediment Leaves the Site • Lines of Defense Everywhere & Always • Cover Quickly  
 • Protect the Swale, Ditch, and Channel • Keep Clean Water Clean • Inspect, Clean & Fix

## Erosion and Sediment Control Inspection Report Form

**Project Name and Location** 2015-819 Landfill

**Weather:** ~~65~~ 70°/84°

**Rain in last 24 hrs (inches):** .76

**Owner / Permittee:**

**A. Current Construction / Active Areas:**

NOT ACTIVE

**Pollution Control Measures (BMP) Checklist:**

- Inlet Barrier (ie: gravel bags)
- Sediment Barriers (ie: ditch checks)
- Erosion Blankets, Hydromulch / Seed, etc
- Stabilized Construction Entrance
- Stream Crossings
- Seed / Sod Areas
- Sediment Basins & Discharge Locations
- Borrow Areas
- General Site Condition (trash, etc)

**B. Problem Areas / Special Observations(\*Note problem areas ONLY below\*):**

| BMP | Location | Observations, Effectiveness, & Corrective Actions Ordered |
|-----|----------|---|
|     |          |   |
|     |          |   |
|     |          |   |
|     |          |   |

**C. Listing of Areas where construction operations have permanently or temporarily stopped; stabilization measures initiated.**

**D. Have items noted on last inspection been corrected? Yes No (if No, Explain:)**

*Note: Inspection comments above indicate deficiencies only. Deficiencies must be corrected within 24 hours, unless otherwise noted. All other BMP's on site are considered to be in good working condition.*

8/25/16  
Date of Inspection

  
Inspector Signature

- 6 Goals • No Sediment Leaves the Site • Lines of Defense Everywhere & Always • Cover Quickly  
• Protect the Swale, Ditch, and Channel • Keep Clean Water Clean • Inspect, Clean & Fix

## Erosion and Sediment Control Inspection Report Form

|  |   |   |
|--|---|---|
| <b>Project Name and Location</b> <span style="font-size: 1.2em;">2015-797 Pedestrian Bridge</span>   |   |   |
| <b>Weather:</b> <span style="font-size: 1.2em;">74° Rain</span>  | <b>Pollution Control Measures (BMP) Checklist:</b><br><input checked="" type="checkbox"/> Inlet Barrier (ie: gravel bags)<br><input type="checkbox"/> Sediment Barriers (ie: ditch checks)<br><input checked="" type="checkbox"/> Erosion Blankets, Hydromulch / Seed, etc<br><input type="checkbox"/> Stabilized Construction Entrance<br><input type="checkbox"/> Stream Crossings<br><input type="checkbox"/> Seed / Sod Areas<br><input type="checkbox"/> Sediment Basins & Discharge Locations<br><input type="checkbox"/> Borrow Areas<br><input checked="" type="checkbox"/> General Site Condition (trash, etc) |   |
| <b>Rain in last 24 hrs (inches):</b> <span style="font-size: 1.2em;">.76</span>  |   |   |
| <b>Owner / Permittee:</b> <span style="font-size: 1.2em;">Baker</span>   |   |   |
| <b><u>A. Current Construction / Active Areas:</u></b>  |   |   |
| <b><u>B. Problem Areas / Special Observations(*Note problem areas ONLY below*):</u></b>  |   |   |
| BMP  | Location  | Observations, Effectiveness, & Corrective Actions Ordered |
|  |   |   |
|  |   |   |
|  |   |   |
|  |   |   |
| <b><u>C. Listing of Areas where construction operations have permanently or temporarily stopped; stabilization measures initiated.</u></b> |   |   |
| project complete, watching grass grow  |   |   |
| <b><u>D. Have items noted on last inspection been corrected? Yes No (if No, Explain:)</u></b>  |   |   |
|  |   |   |

*Note: Inspection comments above indicate deficiencies only. Deficiencies must be corrected within 24 hours, unless otherwise noted. All other BMP's on site are considered to be in good working condition.*

9/8/16  
 Date of  
 Inspection

  
 Inspector Signature

- 6 Goals • No Sediment Leaves the Site • Lines of Defense Everywhere & Always • Cover Quickly  
 • Protect the Swale, Ditch, and Channel • Keep Clean Water Clean • Inspect, Clean & Fix

## Erosion and Sediment Control Inspection Report Form

|   |  |
|---|--|
| <b>Project Name and Location</b> 2015 822 A 2 <sup>nd</sup> street sidewalk |  |
| <b>Weather:</b> 74° Rain  | <b>Pollution Control Measures (BMP) Checklist:</b>                       |
| <b>Rain in last 24 hrs (inches):</b>  | <input type="checkbox"/> Inlet Barrier (ie: gravel bags)                 |
| <b>Owner / Permittee:</b> Baker Construction                                | <input checked="" type="checkbox"/> Sediment Barriers (ie: ditch checks) |
| <b>A. Current Construction / Active Areas:</b>                              | <input type="checkbox"/> Erosion Blankets, Hydromulch / Seed, etc        |
| 2 <sup>nd</sup> street between Poplar & Elm. West side of street.           | <input type="checkbox"/> Stabilized Construction Entrance                |
|   | <input type="checkbox"/> Stream Crossings                                |
|   | <input type="checkbox"/> Seed / Sod Areas                                |
|   | <input type="checkbox"/> Sediment Basins & Discharge Locations           |
|   | <input type="checkbox"/> Borrow Areas                                    |
|   | <input checked="" type="checkbox"/> General Site Condition (trash, etc)  |

**B. Problem Areas / Special Observations (\*Note problem areas ONLY below\*):**

| BMP              | Location                 | Observations, Effectiveness, & Corrective Actions Ordered |
|------------------|--------------------------|---|
| Sediment Barrier | Alley between Linn & Elm | No sediment control / sediment in street                  |
|                  |                          |   |
|                  |                          |   |

**C. Listing of Areas where construction operations have permanently or temporarily stopped; stabilization measures initiated.**

**D. Have items noted on last inspection been corrected? Yes No (if No, Explain:)**

*Note: Inspection comments above indicate deficiencies only. Deficiencies must be corrected within 24 hours, unless otherwise noted. All other BMP's on site are considered to be in good working condition.*

9/8/16  
Date of Inspection

*Benny Jones*  
Inspector Signature

- 6 Goals • No Sediment Leaves the Site • Lines of Defense Everywhere & Always • Cover Quickly  
• Protect the Swale, Ditch, and Channel • Keep Clean Water Clean • Inspect, Clean & Fix

4,6

**Tammy Snyder**

---

**From:** Tammy Snyder  
**Sent:** Wednesday, March 30, 2016 4:25 PM  
**To:** mkoppen@kc.rr.com  
**Cc:** Mike Hooper  
**Subject:** RE: EROSION CONTROL FENCE - installed properly?

Hi Bob,

I received you invoice for the demo today. We are going to need to hold out \$500 from the payment until the grass starts growing and the LDP is closed. With the recent EPA violations, stormwater and land disturbance is a priority for us.

Can you please resubmit your invoice for:

\$ 5,750.00  
\$ 500.00 retainage  
**\$5,250.00 Invoice Amount**

You can send that to me via email if that works for you. I will make a note on the calendar to check the project site mid-May/June for established grass. If grass is growing, you will then be able to close out the LDP and we will make the \$500 final payment.

Thank you,

*Tammy Snyder*  
Project Manager  
City of Leavenworth  
100 N. Fifth Street  
Leavenworth, KS 66048  
913.684.0392

---

**From:** Tammy Snyder  
**Sent:** Friday, March 25, 2016 2:31 PM  
**To:** 'mkoppen@kc.rr.com'  
**Subject:** EROSION CONTROL FENCE - installed properly?  
**Importance:** High

Bob,

Please have the erosion control installed properly around the 206 S 11<sup>th</sup> Street. It is supposed to rain all weekend and this fence isn't going to stop any erosion!!  
Mike M. indicated that it needs to be done by the end of the day or we will have our maintenance crews do it and the City will hold out \$1,000 from the final payment. Erosion control is a top priority for the City of Leavenworth.

Thank you,



*Tammy Snyder*  
Project Manager  
City of Leavenworth  
100 N. Fifth Street  
Leavenworth, KS 66048  
913.684.0392



5.1

**Mike McDonald**

---

**From:** David Griffith  
**Sent:** Wednesday, November 16, 2016 9:11 AM  
**To:** Julie Hurley; Paul Kramer; Carla Williamson; Mike McDonald  
**Subject:** RE: Tax Sale

Here is the link to the 2016 Tax Sale Properties web app.

2016TaxSaleProps

- For best results, use the table at the bottom (you might need to click the tab at the bottom center of the map to open the table—some browsers do not open the table automatically) .
- Double click on any table entry and the app will zoom to that property. You may need to zoom back out just a bit to see the geographical context.
- Bookmark the page in your browser to return quickly to the site.

Dave

**David C. Griffith**  
City of Leavenworth GIS Coordinator  
100 N 5<sup>th</sup> St., Leavenworth, KS 66048  
913-680-2634 Phone  
913-682-1513 Fax

Link to [City of LV Web Mapping](#)



---

**From:** Julie Hurley  
**Sent:** Tuesday, November 15, 2016 4:00 PM  
**To:** Paul Kramer; Carla Williamson; Mike McDonald  
**Cc:** David Griffith  
**Subject:** RE: Tax Sale

Dave has the map put together. We are going to distribute the link at this Thursday's DRC and discuss briefly, then bring back to DRC on 12/1 for more thorough discussion. That will give everyone plenty of time to go through the entire list of properties.

Julie

---

**From:** Paul Kramer  
**Sent:** Monday, November 14, 2016 8:22 AM  
**To:** Carla Williamson; Mike McDonald  
**Cc:** Julie Hurley  
**Subject:** RE: Tax Sale

Please confirm this will be ready for a DRC before Dec. 14.

Thanks,

Paul Kramer  
City Manager  
City of Leavenworth  
Office – 913-680-2600  
[www.lvks.org](http://www.lvks.org)

---

**From:** Carla Williamson  
**Sent:** Thursday, November 10, 2016 8:21 AM  
**To:** Paul Kramer; Mike McDonald  
**Cc:** Julie Hurley  
**Subject:** RE: Tax Sale

Looks like the date for the tax sale is December 14<sup>th</sup>.  
Link below.

<http://www.leavenworthcounty.org/taxsale.asp>

*Carla K. Williamson, CMC*  
City Clerk  
City of Leavenworth  
100 N 5<sup>th</sup> Street  
Leavenworth KS 66048  
913-684-0335

---

**From:** Paul Kramer  
**Sent:** Monday, October 24, 2016 8:45 AM  
**To:** Carla Williamson; Mike McDonald  
**Cc:** Julie Hurley  
**Subject:** RE: Tax Sale

Once the list is posted, we'll have David prepare the same map presentation he normally does and have it at DRC.

Thanks,

Paul Kramer  
City Manager

City of Leavenworth, KS  
913-680-2600 (office)  
913-240-4661 (cell)  
[www.lvks.org](http://www.lvks.org)

---

**From:** Carla Williamson  
**Sent:** Monday, October 17, 2016 5:02 PM  
**To:** Mike McDonald; Paul Kramer  
**Subject:** FW: Tax Sale

FYI

*Carla K. Williamson, CMC*  
City Clerk  
City of Leavenworth  
100 N 5<sup>th</sup> Street  
Leavenworth KS 66048  
913-684-0335

**From:** Roger Marris [<mailto:legal@rogermarris.com>]  
**Sent:** Monday, October 17, 2016 4:44 PM  
**To:** Carla Williamson  
**Subject:** Re: Tax Sale

I will be able to set a date in about two weeks as well as post a property listing. The sale will be held in early to mid December.

Roger Marris

On Oct 17, 2016 4:24 PM, Carla Williamson <[cwilliamson@firstcity.org](mailto:cwilliamson@firstcity.org)> wrote:

Is there a date set for the tax sale and are the properties that are going to be in the tax sale available somewhere to review.

Thanks

*Carla K. Williamson, CMC*

City Clerk

City of Leavenworth

100 N 5<sup>th</sup> Street

Post-constr.  
513, 514

## Erosion and Sediment Control Inspection Report Form

**Project Name and Location** 5 Mile Creek, 2015-817, WWTP

Weather:  
Rain

Rain in last 24 hrs (inches):  
.24

Owner / Permittee:  
City of Leavenworth

**A. Current Construction / Active Areas**

*Bank stabilization*

**Pollution Control Measures (BMP) Checklist:**

- Inlet Barrier (i.e.: gravel bags)
- Sediment Barriers (i.e.: ditch checks)
- Erosion Blankets, Hydromulch / Seed, etc
- Stabilized Construction Entrance
- Stream Crossings
- Seed / Sod Areas
- Sediment Basins & Discharge Locations
- Borrow Areas
- General Site Condition (trash, etc)

**B. Problem Areas / Special Observations (\*Note problem areas ONLY below\*):**

| BMP | Location | Observations, Effectiveness, & Corrective Actions Ordered |
|-----|----------|---|
|     |          |   |
|     |          |   |
|     |          |   |
|     |          |   |


**C. Listing of Areas where construction operations have permanently or temporarily stopped; stabilization measures initiated.**

All

**D. Have items noted on last inspection been corrected? Yes No (if No, Explain:)**

*Note: Inspection comments above indicate deficiencies only. Deficiencies must be corrected within 24 hours, unless otherwise noted. All other BMP's on site are considered to be in good working condition.*

4-18-16  
**Date of Inspection**

  
**Inspector Signature**

- 6 Goals • No Sediment Leaves the Site • Lines of Defense Everywhere & Always • Cover Quickly
- Protect the Swale, Ditch, and Channel • Keep Clean Water Clean • Inspect, Clean & Fix

## Erosion and Sediment Control Inspection Report Form

**Project Name and Location** *Stove Factory Parking Lot, 417 South 2<sup>nd</sup> Street*

Weather:

Rain

Rain in last 24 hrs (inches):

.24

Owner / Permittee:

City of Leavenworth

**A. Current Construction / Active Areas:**

None

**Pollution Control Measures (BMP) Checklist:**

- Inlet Barrier (i.e.: gravel bags)
- Sediment Barriers (i.e.: ditch checks)
- Erosion Blankets, Hydromulch / Seed, etc
- Stabilized Construction Entrance
- Stream Crossings
- Seed / Sod Areas
- Sediment Basins & Discharge Locations
- Borrow Areas
- General Site Condition (trash, etc)

**B. Problem Areas / Special Observations(\*Note problem areas ONLY below\*):**

| BMP | Location | Observations, Effectiveness, & Corrective Actions Ordered |
|-----|----------|---|
|     |          |   |
|     |          |   |
|     |          |   |
|     |          |   |

**C. Listing of Areas where construction operations have permanently or temporarily stopped; stabilization measures initiated.**

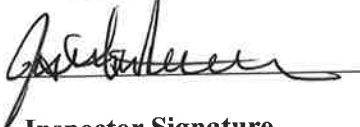
All

**D. Have items noted on last inspection been corrected? Yes No (if No, Explain:)**

*Note: Inspection comments above indicate deficiencies only. Deficiencies must be corrected within 24 hours, unless otherwise noted. All other BMP's on site are considered to be in good working condition.*

4-18-16

**Date of  
Inspection**

  
**Inspector Signature**

- 6 Goals • No Sediment Leaves the Site • Lines of Defense Everywhere & Always • Cover Quickly*
- Protect the Swale, Ditch, and Channel • Keep Clean Water Clean • Inspect, Clean & Fix

5.4



February 9, 2016

Armed Forces Insurance  
Post Office Box G  
Fort Leavenworth, KS 66027

**Subject: Detention Basin**

Dear property owners,

The City of Leavenworth is required to evaluate the effectiveness of facilities constructed to address stormwater runoff within the city. This letter is related to those facilities that have been constructed as part of a development or subdivision in an effort to control water quantity or quality. The most common facilities are ponds, detention basins or similar.

Maintenance and operation of ponds and detention basins is regulated by the EPA, KDHE and the City of Leavenworth. Maintenance of ponds and detention basins is typically provided by the property owner and/or a home owners association (HOA).

City records indicate that a pond or basin was constructed as part of the development known as Armed Forces Insurance. This is to inform you that there is a pond or detention basin on your property and/or that the City has reason to believe you are responsible to provide maintenance for. A map of the pond or basin is included with this letter.

The City is required to evaluate the effectiveness of these ponds and basins as part of the Municipal Stormwater Permit issued by KDHE. The program to meet the requirements is generally as follows:

**This Letter**

1. Verify owner information
2. Provide basic maintenance information
3. Request records or statements of any maintenance activity since Jan 1, 2013

574

**Future Actions by the City**

1. Hold informational meeting for owners in June 2016 related to operations and maintenance of ponds and basins. We will contact you in advance of the meeting.
2. Evaluate need for formal and informal education/training for owners
3. Consider the need for annual inspection reports from owners
4. Report to the City Commission on the results of this evaluation
5. Implement the program as approved by the City Commission

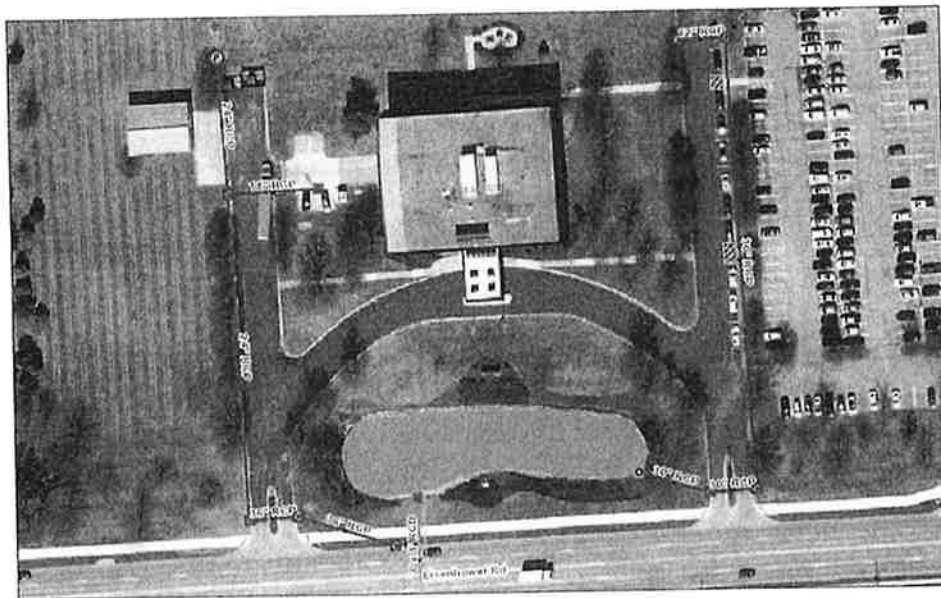
If you have any questions, inspection or maintenance reports of the basins please email them to the City for review at [bsmith@firstcity.org](mailto:bsmith@firstcity.org) or mail them to 100 N 5<sup>th</sup> Street, Leavenworth KS. 66048. Attention to Public Works Department.

Sincerely,

Michael G. McDonald, P.E.,  
Director of Public Works

Cc: Paul Kramer, City Manager  
Julie Hurley, City Planner

Armed Forces Insurance



February 10, 2016 City of Leavenworth, Kansas GIS Web Mapping

|              |              |          |                |                     |
|--------------|--------------|----------|----------------|---------------------|
| Inlets       | ■ Curb Inlet | ⊗ Outlet | → Collector    | — Underdrain        |
| ■ Area Inlet | ⊕ Pipe Inlet | swGrvcky | → Culvert      | — swStructure       |
| ■ Box Inlet  | ⊕ Junction   | — Bridge | → Open_Channel | □ swDetentionBasins |

1:920  
0 0.0075 0.015 0.03 mi  
0 37.5 75 150 Feet

City of Leavenworth - 03 2011



## Detention Basin Maintenance Recommendations

---

Detention Basins are designed differently. Some may require vegetative buffers to filter pollutants. Design specifications are located in the original subdivision plans. Sometimes the City may have these plans on file and copies can be requested at City Hall. Applicable fees may apply.

### Trash and Debris

Debris clog the drain pipes flooding the basin and causing damage to surrounding property

- ✓ Remove trash and leaves from drain and drain screen
- ✓ Avoid dumping yard clippings and mulch in basins
- ✓ Remove sediment and dispose of appropriately

### Erosion

Rodent holes or no vegetation to hold the dirt in cause erosion around the berms and drain piping

- ✓ Remove the rodents
- ✓ Repair the erosion or it will only get worse
- ✓ Fill and compact damaged areas
- ✓ Plant grass or appropriate vegetation

### Trees

Trees make maintenance difficult. Roots can destroy the dam and drain tubes

- ✓ Cut trees down and remove root system
- ✓ Keep trees from growing by mowing the basin and berms
- ✓ Repair damage caused by root growth

### Rip Rap

Rip Rap helps keep trenches from forming and catch sediment. Sediments contain pollutants

- ✓ Replace missing rocks
- ✓ Remove sediment from around rocks and dispose of appropriately
- ✓ Repair erosion

### Concrete Pilot Channel

Some basins have concrete flow lines. These help to keep trenches from forming

- ✓ Repair erosion around where trenches formed away from the concrete flow line
- ✓ Make sure water is flowing on the flow line
- ✓ Repair concrete if it is deteriorating

June 7, 2016



5.24

**Subject: Detention Basins  
Information Meeting**

Dear property owner:

In February 2016 the City of Leavenworth sent out letters concerning detention basins (or similar water quantity or water quality structures) on your property. It was also requested that you provide copies of any maintenance records since 2013.

The City of Leavenworth has scheduled an informational meeting to review the general operations and maintenance of detention ponds. The meeting is scheduled for:

**Wednesday, June 22, 2016 from 4:30 pm – 6:00 pm**  
**City Hall Commission Room, located at 100 N. 5th Street.**

The meeting is informal and without a set agenda to allow you to arrive at any time and provide an opportunity to discuss your location(s) with City staff, receive information related to maintenance activities, and review how the detention basin should perform. Please bring any records or statements of maintenance activity since Jan 1, 2013 if you have not provided them already.

It is expected that the City will be seeking to increase the number of regulations related to maintenance of detention basins and similar facilities over the next few years. Your input into the decision making process is appreciated.

Please contact Barry Smith of our office at [bsmith@firstcity.org](mailto:bsmith@firstcity.org) or 913-684-0375 if you have any questions.

Sincerely,

A handwritten signature in black ink, appearing to read "Michael G. McDonald", written over a horizontal line.

Michael G. McDonald, P.E.,  
Director of Public Works

Cc: Paul Kramer, City Manager  
Julie Hurley, City Planner



6.1

**Inter-Office  
MEMORANDUM  
Public Works Department**

Date: January 3, 2017

To: Mike McDonald, Public Works Director/City Engineer

From: Mike Hooper, Deputy Director of Public Works

Subject: Parking Facility Inspections – City Hall and Library

A site inspection/evaluation of four City owned parking lots has been done to assess the probability of making modifications within the lot for the purpose of addressing water quality issues. The evaluation included the observation and documentation of existing construction materials, the condition of any existing curb, sidewalk, and paving materials, location of any existing storm inlets, and the existing stormwater run-off patterns. The sites evaluated are;

City Hall west Lot – The lot is currently in need of maintenance to include new curb and gutter and a new asphalt surface. Prior to any maintenance activities, at the downhill end of the lot, green spaces, eco-inlets, and piping to an adjacent storm sewer system can be installed to provide BMP's for addressing water quality issues related to our stormwater management. (See attached drawing)

Library East Lot – The grade and existing curb provides an area where stormwater run-off collects and allows pollutants to settle out on the pavement. The addition of a flume in the curb, modification of the existing greenspace, and the installation of an eco-inlet would allow for more enhanced BMP's for addressing water quality issues related to our stormwater management on this location. (See attached drawing)

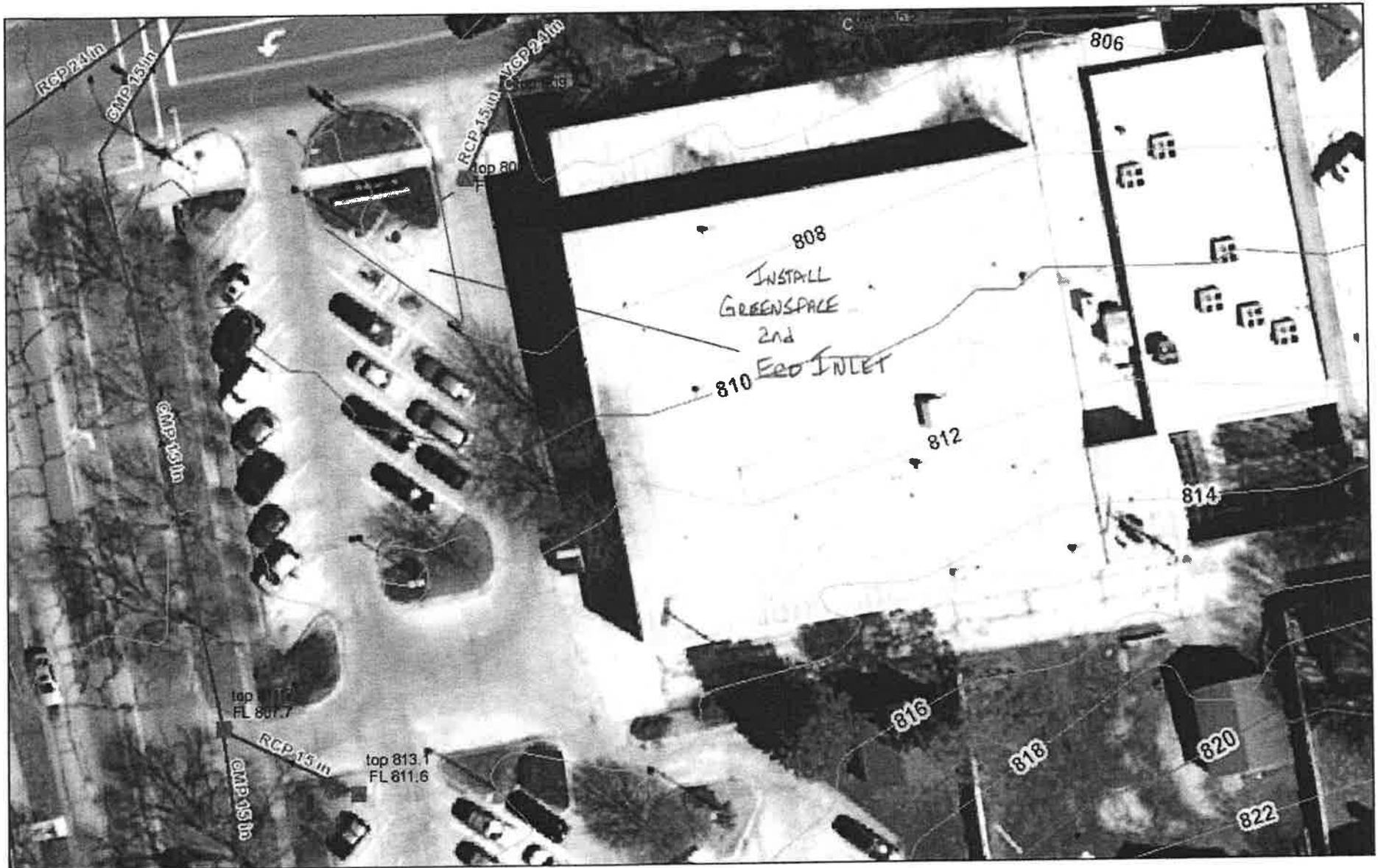
Library North West Lot – The grade of the lot and an existing green space will allow for the expansion of the green space and installation of an eco-inlet and piping to an adjacent storm sewer system to provide BMP's for addressing water quality issues related to our stormwater management. (See attached drawing)

Library South West Lot – This lot provides more of a challenge in addressing water quality issues for the site. There is an existing green space and a stormwater system in the lot. The existing lot grade and run-off patterns are not conducive to an easy BMP installation. (See attached drawing)

The items listed above are the result of a cursory site inspection and is recommended an engineering firm experienced in providing design related to stormwater quality issues be retained for further analysis and recommendations.

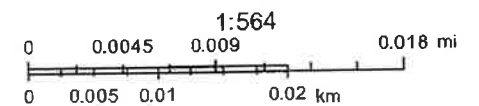
Attachments: Site drawings

# Library North West Lot



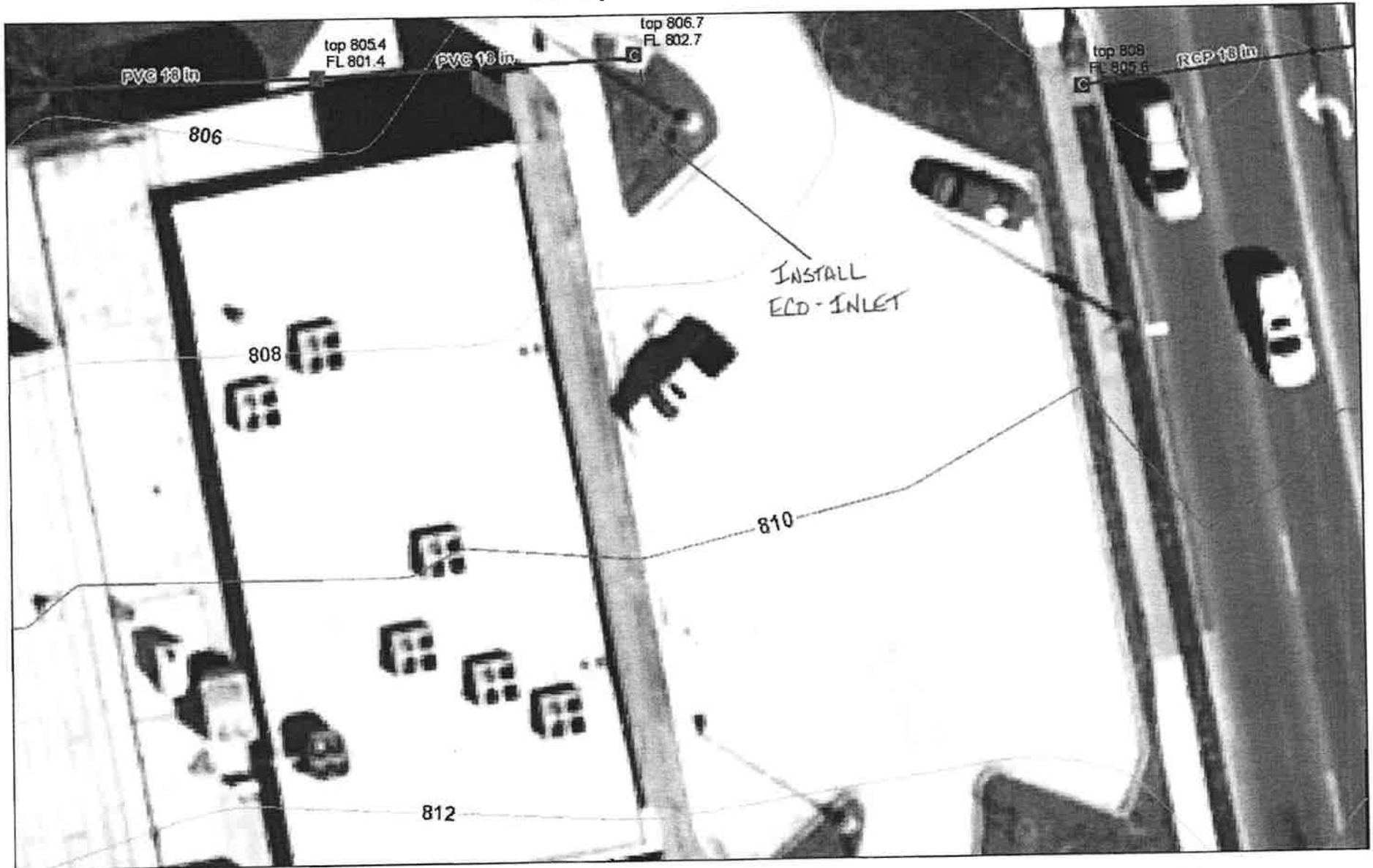
December 29, 2016

|                 |            |                  |              |                   |
|-----------------|------------|------------------|--------------|-------------------|
| <b>swInlets</b> | Curb Inlet | Outlet           | Collector    | Underdrain        |
| Area Inlet      | Pipe Inlet | <b>swGravity</b> | Culvert      | swStructure       |
| Box Inlet       | Junction   | Bridge           | Open_Channel | swDetentionBasins |



LV GIS Dept 09/23/2016  
Sources: Esri, HERE, DeLorme, USGS, Intermap, INCREMENT P, NRCan.

# Library North East Lot



December 29, 2016

**swInlets**

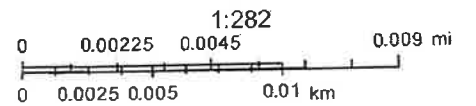
- Area Inlet
- Box Inlet

- Curb Inlet
- Pipe Inlet
- Junction

- Outlet
- swGravity
- Bridge

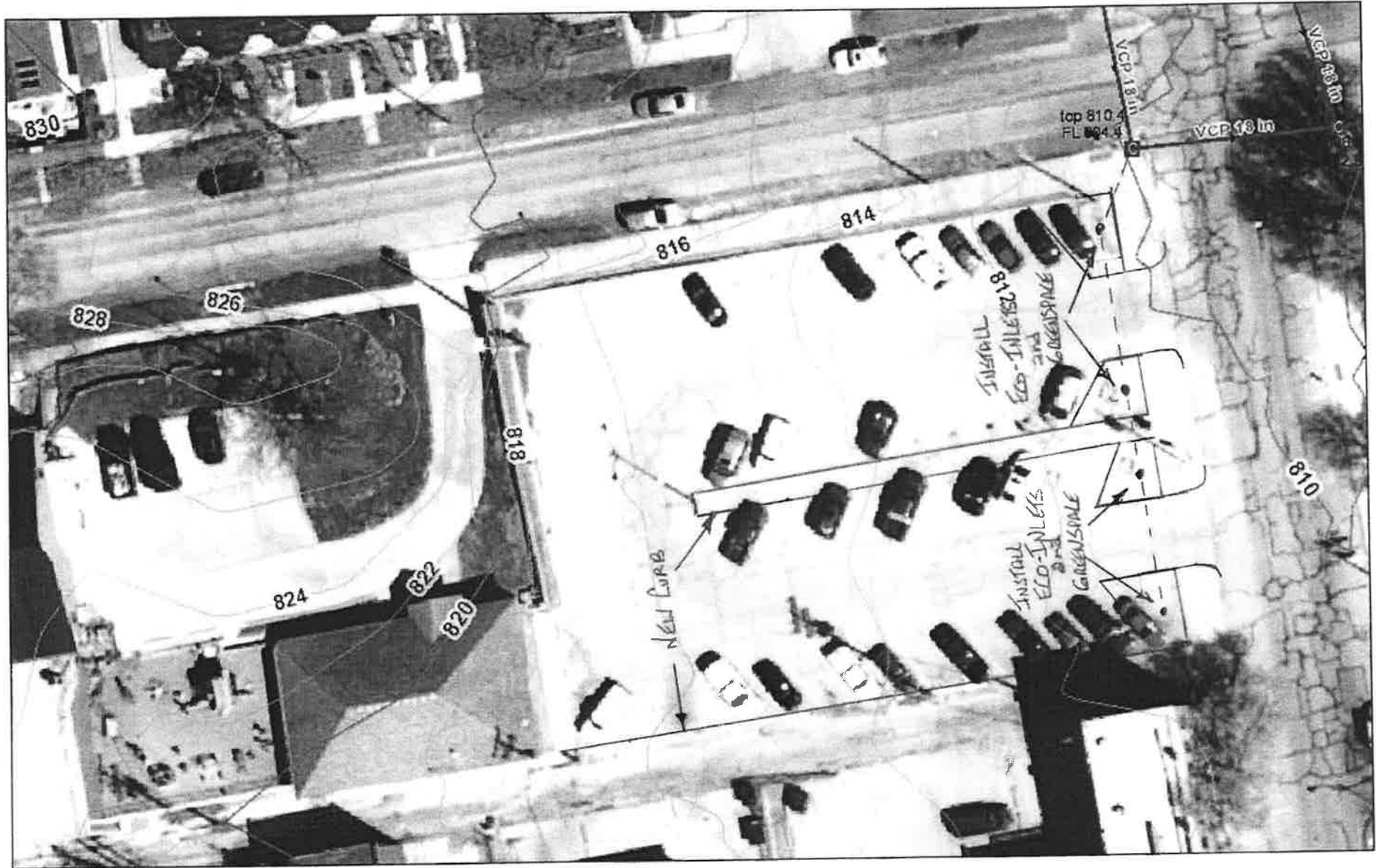
- Collector
- Culvert
- === Open\_Channel

- Underdrain
- ▨ swStructure
- swDetentionBasins



LV GIS Dept 09/23/2016  
Sources: Esri, HERE, DeLorme, USGS, Intermap, INCREMENT P, NRCan.

# City Hall West Lot



December 29, 2016

## swInlets

- Area Inlet
- Box Inlet

- ⊙ Curb Inlet
- ⊙ Pipe Inlet
- ⊙ Junction

## swGravity

- Bridge

## Collector

- Culvert

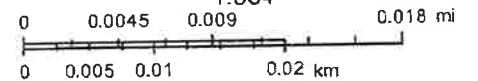
- === Open\_Channel

## Underdrain

- ▨ swStructure

- swDetentionBasins

1:564



LV GIS Dept 09/23/2016

Sources: Esri, HERE, DeLorme, USGS, Intermap, INCREMENT P, NRCan,

# Library South West Lot



December 29, 2016

**swInlets**

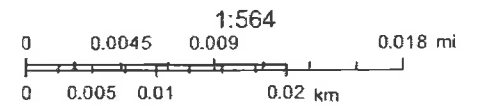
- Curb Inlet
- Area Inlet
- Box Inlet

- Pipe Inlet
- Junction

**swGravity**

- Outlet
- Culvert
- Open\_Channel
- Bridge

- Collector
- Underdrain
- swStructure
- swDetentionBasins



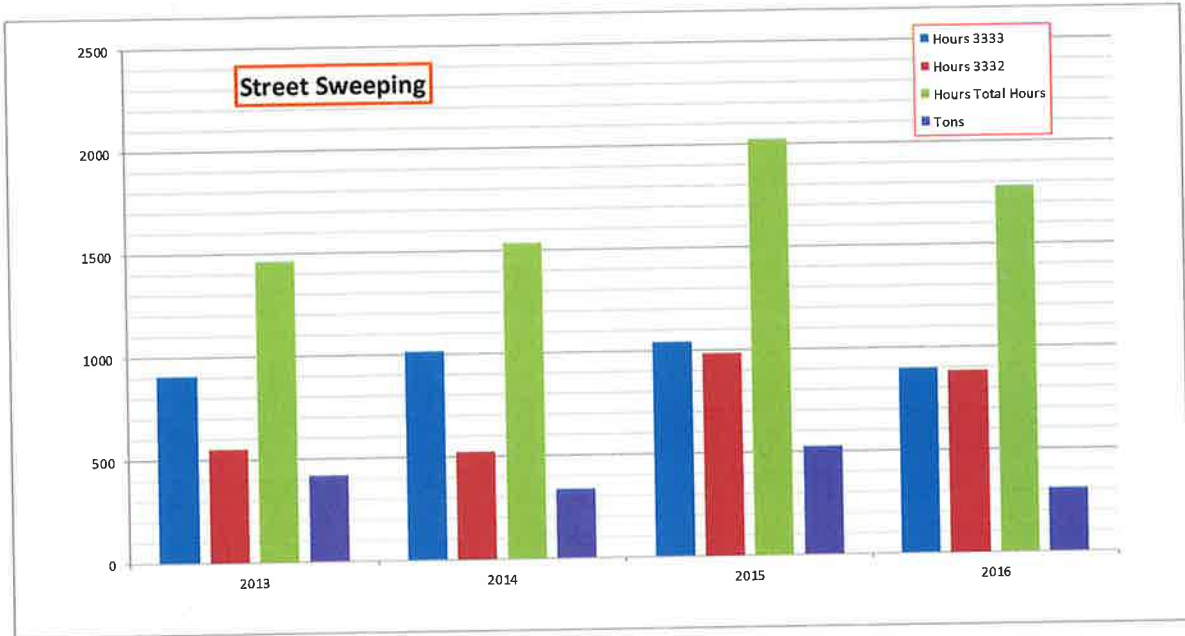
LV GIS Dept 09/23/2016  
Sources: Esri, HERE, DeLorme, USGS, Intermap, INCREMENT P, NRCan,



6.2

**City of Leavenworth**  
January 5, 2016

| Street Sweeping |       |      |             |        |
|-----------------|-------|------|-------------|--------|
|                 | Hours |      | Total Hours | Tons   |
|                 | 3333  | 3332 |             |        |
| 2013            | 907   | 555  | 1462        | 418.91 |
| 2014            | 1012  | 522  | 1534        | 338.28 |
| 2015            | 1043  | 985  | 2028        | 525.29 |
| 2016            | 896   | 886  | 1782        | 308.46 |

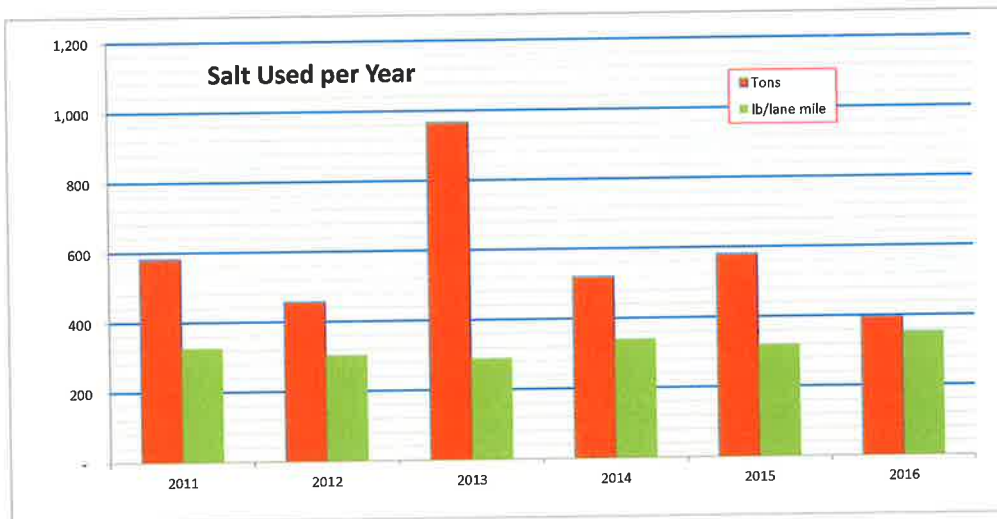


6.3

City of Leavenworth

February 25, 2017

| Salt Used |      |              |
|-----------|------|--------------|
| Year      | Tons | lb/lane mile |
| 2011      | 583  | 328          |
| 2012      | 457  | 305          |
| 2013      | 967  | 291          |
| 2014      | 520  | 342          |
| 2015      | 582  | 323          |
| 2016      | 398  | 356          |



6.5



City of Leavenworth  
100 N. 5<sup>th</sup> St.  
Leavenworth, KS 66048

Media Contact: Melissa Bower, Public Information Officer  
Phone: 913-680-2610  
[mbower@firstcity.org](mailto:mbower@firstcity.org)  
[www.lvks.org](http://www.lvks.org)

FOR IMMEDIATE RELEASE: Oct. 13, 2016

## City trucks begin leaf pick-up Nov. 7

The City of Leavenworth will offer curbside leaf pick-up service to residents from Spruce Street to Eisenhower Street. This program is weather-dependent. Residents from Metropolitan Avenue to Spruce Street who are not on the collection route can bag leaves for regular Refuse Collection or take leaves to the Brush Site at 1803 S. Second St. for free disposal.

Tips to placing leaves for pick-up:

- Residents should place the leaves as close to the street as possible, without covering the sidewalk. The piles must be free of materials such as branches. Please do not rake leaves into the street. Please do not block mailboxes.
- To provide the leaf collection equipment better access to the streets, residents are encouraged to rake leaves away from vehicles.
- Leaves placed in plastic bags or boxes will only be collected on trash day. Residents choosing to bag leaves need to have the bags on the curb no more than 24 hours before their scheduled refuse pick-up day. The bags of leaves will then be picked up with their trash by the Refuse workers as part of their normal weekly service.



### Can I take leaves somewhere other than the curbside program?

Disposal of leaves and grass is available to residents free of charge at the Brush Disposal site, 1803 S. 2nd St. The site is open Tuesday through Saturday, 8:30 a.m. to 3:45 p.m. until the last day of November. Clippings at the Brush site are used for making compost. The compost is available to residents free of charge at the brush site.

Leaves properly prepared for leaf pickup vehicle.



Leaf disposal at the Brush Site.



# 2016 Leaf Program

*34625*  
*- City of Leavenworth*

| DATE               | TRUCK |           |                           |
|--------------------|-------|-----------|---------------------------|
|                    | 3324  | 3326      | 3328                      |
| 11/7/2016          | 2     | 2         |                           |
| 11/8/2016          | 3     | 3         |                           |
| 11/9/2016          |       | 2         |                           |
| 11/14/2016         | 3     | 2         |                           |
| 11/15/2016         | 4     |           |                           |
| 11/16/2016         | 3     |           |                           |
| 11/17/2016         | 2     |           |                           |
| 11/18/2016         | 3     |           |                           |
| 11/21/2016         | 3     |           | 4                         |
| 11/22/2016         |       |           | 3                         |
| 11/23/2016         |       |           | 3                         |
| 11/28/2016         |       |           | 5                         |
| 11/29/2016         |       |           | 4                         |
| 11/30/2016         |       |           | 1                         |
| 12/5/2016          | 2     | 3         |                           |
| 12/6/2016          | 1     | 4         |                           |
| 12/7/2016          | 1     |           |                           |
| 12/8/2016          |       | 3         |                           |
| 12/12/2016         | 1     |           |                           |
| 12/13/2016         | 3     |           |                           |
| 12/14/2016         | 3     |           |                           |
| 12/15/2016         | 1     | 1         |                           |
|                    | 35    | 20        | 20                        |
| <b>TOTAL LOADS</b> |       | <b>75</b> | <b>= 1500 cubic yards</b> |

# **Appendix E**

## **Stormwater Management Program**

### **Ordinance Changes in 2016**

- **Stormwater Management Program (adopted February 23, 2016)**  
*Submitted to Rance Walker of KDHE as PDF file February 27, 2017*
- **Fee and Fine Ordinances 8021 and 8024 (adopted December 23, 2016)**

ORDINANCE NO. 8021

AN ORDINANCE AMENDING LEAVENWORTH CODE OF ORDINANCES, CHAPTER 46, ENVIRONMENT, ADDING ARTICLE VIII STORMWATER MANAGEMENT-LAND DISTURBANCE PERMITS, SEC. 46-261 THROUGH 46-272, PROVIDING SUBSTITUTE PROVISIONS AND REPEALING SECTIONS IN CONFLICT.

THEREFORE, BE IT ORDAINED BY THE GOVERNING BODY OF THE CITY OF LEAVENWORTH, KANSAS:

**Section 1.** Code of Ordinances, Chapter 46 Environment, adding Article VIII, Stormwater Management-Land Disturbance Permits, Sec. 46-261 through 46-272

ARTICLE VIII – STORMWATER MANAGEMENT-LAND DISTURBANCE PERMITS

**46-261 Definitions.**

*“Applicant”* means a property owner or agent of a property owner who has filed an application for a permit that is subject to the requirements of this Title.

*“Best Management Practices”* or *“BMPs”* mean the utilization of methods, techniques or products that have been demonstrated to be the most effective and reliable in minimizing adverse impacts on water bodies and the adjacent Stream Corridors, including but not limited to, schedules of activities, prohibitions of practices, general good housekeeping practices, pollution prevention and educational practices, maintenance procedures, and other management practices to prevent or reduce the discharge of pollutants directly or indirectly to stormwater, receiving waters, or stormwater conveyance systems. BMPs also include physical facilities, schedule of activities, prohibitions of practices, maintenance procedures, and other management practices which, when properly designed, installed and maintained, will be effective to prevent or reduce the discharge of water or air pollution, treatment practices, operating procedures, and practices to control site runoff, spillage or leaks, sludge or water disposal, or drainage from raw materials storage associated with Land Disturbance activities regulated by this Title.

*“Certified Professional in Erosion and Sediment Control (CPESC)”* means an individual who is currently holding such certification as issued by CPESC, Inc., or other Person holding a State license authorizing them to prepare and submit an Erosion and Sediment Control Plan.

*“City”* means the City of Leavenworth, Kansas.

*“City Engineer”* means the City Engineer for the City of Leavenworth, Kansas, or duly designated representative.

*“Clean Water Act”* means the federal Water Pollution Control Act (33 U.S.C. § 1251 et seq.), and any subsequent amendments thereto.

*“Code”* means the Leavenworth Code of Ordinances.

*“Development”* means any man-made change to improved or unimproved real property including the construction or reconstruction of buildings or structures; paving, excavation, grading, filling or similar operations; or the filing and recording of a subdivision plat.

*“Erosion”* means the wearing away of land by the action of wind, water, gravity or ice or a combination thereof.

*"Erosion and Sediment Control Plan", or "Plan"*, means a Plan for the control of soil erosion and sedimentation resulting from land disturbing activity, and may include, without being limited to, the drawings, specifications, construction documents, schedules, or other related documents which establish the Best Management Practices (BMPs) on a project. The Plan shall include any information required to review the design of the BMPs and to ensure proper installation, maintenance, inspection, and removal of the BMPs, along with the details required to construct any portion of the final storm sewer system that was impeded by a BMP.

*"Erosion and Sediment Control Standards", or "Standards"* means the Erosion and Sediment Control design criteria and specifications adopted in writing by the City Engineer.

*"Governing Body"* means the City Commission for the City of Leavenworth, Kansas.

*"Land Disturbance"* means any activity that changes the physical conditions of landform, vegetation and hydrology, creates bare soil, or otherwise may cause erosion or sedimentation. Such activities include, but are not limited to, clearing, removal of vegetation, stripping, grading, grubbing, excavating, filling, logging and storing of materials.

*"Land Disturbance Permit"* means a permit issued by the City Engineer subsequent to approval of Final Stormwater Management plans and Erosion and Sediment Control Plans under this Title.

*"Landowner"* means the legal or beneficial owner or owners of a lot or tract. The holder of a contract to purchase or other person having an enforceable proprietary interest in a lot or tract shall be deemed a landowner.

*"Municipal separate storm sewer system" (MS4)* means the system of conveyances, (including roads with drainage systems, municipal streets, private streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains) owned and operated by the City and designed or used for collecting or conveying stormwater, and which is not used for collecting or conveying sewage.

*National Pollution Discharge Elimination System or "NPDES"* means the national program for issuing, modifying, revoking and reissuing, terminating, monitoring and enforcing permits, and imposing and enforcing pretreatment requirements under Sections 307, 318, 402 and 405 of the federal Clean Water Act.

*"NPDES Permit"* means for the purpose of this Title, a permit issued by United States Environmental Protection Agency (EPA) or the State of Kansas that authorizes the discharge of pollutants to waters of the United States, whether the permit is applicable on an individual, group, or general area-wide basis.

*"Notice of Intent (NOI)"* means the state approved permit issued under the NPDES general permit that authorizes the discharge of stormwater from construction activities within the state for sites greater than or equal to one acre or when the site is a part of a larger common plan of development or sale which will disturb a cumulative total of one or more acres.

*"Perennial Vegetation"* means grass or other appropriate natural growing vegetation that provides substantial land cover, Erosion protection and soil stability and that is capable of sustained and healthy growth over multiple years under the constraints of shade, temperature, and moisture that will be prevalent on the site. For the purposes of this Title, annual grasses that do not regenerate after winter, ornamental plants or shrubs that do not offer effective Erosion and Sediment protection, and plants that are not suitable for the expected growing conditions on the site shall not be considered Perennial Vegetation.

*"Person"* means any individual, partnership, co-partnership, firm, company, corporation, association, joint stock company, trust, estate, governmental entity, or any other legal entity; or their legal representatives, agents, or assigns, including all federal, State, and local governmental entities.

*"Permit"* means a Land Disturbance Permit.

*"Property Owner"* means the named property owner as indicated by the records of the Leavenworth County, Kansas Records and Tax Administration.

*"Sediment"* means any solid material, organic, or inorganic, that has been deposited in water, is in suspension in water, is being transported or has been removed from its site of origin by wind, water, ice or gravity as result of soil erosion. Sedimentation is the process by which eroded material is transported and deposited by the action of wind, water, ice or gravity.

*"State"* means the state of Kansas.

*"Stop Work Order"* means an order issued which requires that all construction activity on a site be stopped.

*"Storm Sewer System"* means any conveyance or system of conveyances for stormwater, including road with drainage systems, streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains, as well as any system that meets the definition of a municipal separate Storm Sewer System or "MS4" as defined by the Environmental Protection Agency in 40 CFR 122.26.

*"Stormwater"* means storm water runoff, snow melt runoff, and surface runoff and drainage.

*"Stormwater Pollution Prevention Plan (SWPPP)"* means the written document that addresses all pollutants and their sources, including sources of sediment associated with construction, construction site erosion, and all other activities associated with construction activity and controlled through the implementation of Best management Practices (BMPs).

*"Stormwater runoff"* means water resulting from precipitation which is not absorbed by the soil, evaporated into the atmosphere, or entrapped by ground surface depressions and vegetation and which flows over the surface.

*"Stormwater Treatment Facilities" or "Facilities"* means all structures, plantings, natural features, or other physical elements that are designed, constructed and maintained in accordance with this Title and which are provided to prevent or reduce stormwater pollution or to control stormwater runoff volume and discharges.

#### **Sec. 46-262 Purpose**

The purpose of this Chapter is to implement and provide for the enforcement of a program to regulate land disturbance and construction activities related to grading and to control erosion and sediment resulting from these activities.

The Congress of the United States has amended the Clean Water Act of 1972 to reduce pollutants discharged into the waters of the United States by extending National Pollution Discharge Elimination System (NPDES) requirements to regulate stormwater and urban runoff discharge from land disturbance and construction activities, into the City's Stormwater Drainage Systems.

The City of Leavenworth is subject to NPDES requirements of federal law as an operator of a small Municipal Separate Storm Sewer System. The City is therefore obligated by federal law to develop,



implement, and enforce minimum erosion and sediment control standards in compliance with the City's Kansas Water Pollution Control General MS4 Permit.

**Sec. 46-263 Activity**

- 1) No person shall maintain a land disturbance activity or construction site that fails to provide and implement erosion and sediment control Best Management Practices to the maximum extent practicable to prevent the discharge of sediment, construction materials, concrete truck washout, fuel, or other pollutants beyond the project construction limits, adjacent staging, storage or parking areas and/or property boundaries or into the City's Stormwater Drainage System, rights-of-way, drainage easements, alleys, or other property of the City.
- 2) No person shall maintain a land disturbance activity or construction site without a Land Disturbance Permit and/or a site specific Erosion and Sediment Control Plan approved by the City Engineer or his designee.
- 3) No person shall fail to immediately take all action necessary to completely abate any violation of this Chapter including but not limited to the establishment or restoration of Erosion and Sediment Control BMP's as required by this Chapter and remedial action to clean and/or remove sediment and other pollutants in violation of this Chapter.

**Sec. 46-264 Land Disturbance Permit Required**

The issuance and approval of a Land Disturbance Permit is subject to and contingent upon compliance with this Chapter and all other City permits, Leavenworth Code of Ordinances, other City regulations and other requirements specific to the development during the duration of the land disturbance, and such Land Disturbance Permit may be revoked or withdrawn upon a failure to comply with this Chapter. The failure to comply with the requirements stated in this Chapter shall be unlawful and shall constitute a violation of this Chapter. No person shall authorize or maintain a land disturbance activity without first obtaining any Land Disturbance Permit required by this Chapter. The landowner of the land upon which a land disturbance activity takes place, shall be the person responsible for obtaining any required Land Disturbance Permit except for work conducted in the right-of-way or utility easements. The person or construction site operator conducting land disturbance activities in the right-of-way or easements shall be responsible for obtaining any required Land Disturbance Permit.

- 1) A Land Disturbance Permit is required for the following land disturbance activities.
  - a) Any disturbance that will include more than one-hundred (100) square feet of fill or cut; or
  - b) Any disturbance that occurs in or within fifty (50) feet of a natural or improved channel or drainage way; or
  - c) Any disturbance that involves building construction of a new roofed structure of more than two-hundred-fifty (250) square feet on a site with less than one (1) acre of land disturbance.
  - d) The following land disturbances will require the submittal of a state approved SWPPP and an NOI prior to the issuance of a Land Disturbance Permit.
    - i. The cumulative disturbance of an area greater than or equal to one (1) acre; or
    - ii. The disturbance of any part of a larger common plan of development or sale that, when completed, will disturb a cumulative area greater than or equal to one (1) acre; or

- iii. Any construction activities which disturb less than one acre, and which are not part of larger common plan of development or sale, if the water quality impact from the discharge of stormwater from the construction activity warrants consideration because the proposed construction activities constitute a significant pollution potential.
- 2) A Land Disturbance Permit is not required for the following:
  - a) Work to correct or remedy emergencies, including situations that pose an immediate danger to life and property; or
  - b) Agricultural uses with the exception, that if the City Engineer determines that erosion and sediment controls are needed, then the following standards or permits may be required to be completed and maintained:
    - i. United States Department of Agriculture Natural Resources Conservation Service Erosion and Sediment Control Standards; or
    - ii. Land Disturbance Permit may be required.
- 3) Land Disturbance Permit Application shall include, but is not limited to, the following minimum submittal requirements:
  - a) A site specific Erosion and Sediment Control Plan that complies with this Chapter and the Leavenworth Code of Ordinances.
  - b) A site specific grading plan that complies with this Chapter and the Leavenworth Code of Ordinances, and/or other applicable City of Leavenworth Policies;
  - c) A Stormwater Pollution Prevention Plan (SWPPP) that complies with this Chapter. The SWPPP must be in compliance with the State of Kansas KDHE General Permit for NPDES stormwater runoff from construction activities;
  - d) Contact information for the applicant, construction site operator, project owner, qualified erosion control specialist, and inspector;
  - e) Area to be disturbed;
  - f) Duration of land disturbance;
  - g) Security as required by this Chapter;
  - h) Permit Fee as required by this Chapter.
- 4) The construction site operators required to be identified in the application shall be trained in erosion and sediment control practices, shall maintain a copy of any project related SWPPP on the project site and shall comply with all requirements of the Land Disturbance Permit.
- 5) The land disturbance activity described in the Land Disturbance Permit application shall be commenced within the time limits defined in the application. The land disturbance activity described and authorized in the Land Disturbance Permit application shall adhere to the schedule defined in the Land Disturbance Permit application or be subject to additional fees defined in this Chapter.
- 6) The Land Disturbance Permit application, Erosion and Sediment Control Plans and all other Land Disturbance Permit requirements shall be prepared under the supervision of and sealed by a

Professional Engineer or Landscape Architect licensed in the State of Kansas who has received a minimum of eight (8) hours classroom instruction in sediment and erosion control taught by a Qualified Erosion Control Specialist.

- 7) For all Permits requiring a KDHE NOI and/or SWPPP, the Land Disturbance Permit application, Erosion and Sediment Control Plans and all other Land Disturbance Permit requirements shall be prepared under the supervision of and sealed by a Professional Engineer or Landscape Architect licensed in the State of Kansas who has received a minimum of eight (8) hours classroom instruction in sediment and erosion control taught by a Qualified Erosion Control Specialist.
- 8) A Land Disturbance Permit not being required for a site does not exempt a site from following the basic erosion control practices defined in the Leavenworth Code of Ordinances.
- 9) If the land disturbance activity threatens or impedes the ability of the City to meet its own permit requirements under the NPDES Stormwater Discharge Permit, the City Engineer may require any person to obtain a Land Disturbance Permit in full compliance with this Chapter.
- 10) Every permit shall expire based on the time limits defined in the application.
- 11) No person required by this Chapter to obtain a Land Disturbance Permit shall authorize or maintain a land disturbance activity or a site of construction, which is not maintained at all times, in compliance with the site specific Erosion and Sediment Control Plan approved by the City Engineer.
- 12) No person shall permit, authorize or maintain a land disturbance activity or construction activity until all erosion and sediment control measures identified in the Land Disturbance Permit application have been installed, inspected, and approved in accordance with this Chapter.
- 13) No person required by this Chapter to obtain a Land Disturbance Permit shall fail to obtain a satisfactory final inspection and City approval of the full site restoration in compliance with all requirements of this Chapter, prior to the expiration of the Land Disturbance Permit.

#### **Sec. 46-265 Land Disturbance Permit Inspections**

A Land Disturbance Permit acknowledges and conveys the City Engineer, or his/her designee, the right to enter upon property described in the Land Disturbance Permit, as necessary to enforce and carryout the provisions of this Chapter. All required erosion and sediment control measures shall be maintained in good order in compliance with the Erosion and Sediment Control Plan at all times.

##### **1) Routine Inspection**

It shall be the responsibility of the permit holder to provide routine inspections of the construction site and maintain effective erosion and sediment control measures. Routine inspections shall be performed once per week, more frequently if required on the plan, and within twenty-four (24) hours following each rainfall event of half an inch (1/2") or more within any twenty-four (24) period. A log shall be kept of these inspections by the Qualified Erosion Control Specialist as a part of the SWPPP. Any deficiencies shall be noted in a report of the inspection and include the action taken to correct the deficiency. All written reports shall be submitted by the Qualified Erosion Control Specialist to the City as required by and in compliance with the City of Leavenworth Code of Ordinances. The City shall not be designated as an inspector. Residential and commercial contractors shall submit inspection records every three (3) months. All Contractors on City projects shall submit copies of their inspection records with all pay applications.

##### **2) Initial inspection**

The permit holder shall notify the City Engineer when initial erosion and sediment control measures are installed in accordance with the plan. No Land disturbance activity shall begin prior to the written approval by the City Engineer, that all pre-construction erosion and sediment control measures are correctly installed per the approved Plan.

3) Final inspection

A Land Disturbance Permit shall not be closed until a final inspection and approval of the site stabilization is issued by the City. No final Certificate of Occupancy shall be issued until a site is stabilized, restored, and the Land Disturbance Permit requirements have been satisfied and the permit closed. A site shall be considered stabilized and restored when perennial vegetation, pavement, buildings or structures using permanent materials, cover 70% of the disturbed area defined by the Land Disturbance Permit and as required by the City Engineer. All portions of the site using perennial vegetation for ground stabilization shall be homogeneously covered with at least a seventy (70%) vegetation density. Restoration includes the removal of all non-permanent erosion and sediment control devices for the site. Final Certification of the restoration and stabilization of the site shall be submitted for approval to the City Engineer by the Qualified Erosion Control Specialist. The submittal for Final Certification shall include a copy of all inspection records identified in Section A above.

**Sec. 46-266 Land Disturbances of Less Than One (1) Acre**

- 1) Land Disturbances less than one (1) acre that are not covered by a Land Disturbance Permit and require a building permit or work in the right-of-way permit will require an Erosion and Sediment Control Plan to be submitted in compliance with the City of Leavenworth Code of Ordinances.
- 2) Franchised and/or Public Utilities shall obtain a General Land Disturbance Permit for land disturbances of less than one (1) acre in lieu of obtaining individual project Land Disturbance Permits. The General Land Disturbance Permit for franchised and public utilities will be renewed annually and shall include the effective erosion control standards and construction methods that are to be implemented on the utility's projects, conforming to the Leavenworth Code of Ordinances. The fee and performance surety for a General Land Disturbance Permit will be as shown in the latest City of Leavenworth Table of Fees.

**Sec. 46-267 Fees**

- 1) Prior to the issuance of a Land Disturbance Permit, each applicant shall pay to the City a fee as established by the Governing Body as set out in Appendix F. Fees paid for a Land Disturbance Permit, which is subsequently revoked by the City Engineer, are not refundable. A person operating in compliance with the regulations of this Chapter shall not be charged a permit fee when obtaining a Land Disturbance Permit for construction or re-construction of City owned and financed capital improvements projects.
- 2) Any person who permits, authorizes, or maintains a land disturbance activity without first obtaining a valid Land Disturbance Permit required by this Chapter, shall pay additional permit fees as set out in Appendix F.
- 3) The applicant shall establish and maintain throughout the permit period an escrow account, or a surety bond in the City's name, as sufficient surety for the City. The City Engineer may determine that a specific type of surety instrument be required of an applicant based on the project proposed and the past performance of the applicant. The amount of the required surety shall be as defined in Appendix F. The amount of the escrow account may be reduced with the approval, in writing, of the City Engineer.

## **Sec. 46-268 Enforcement of Code Provisions**

Any person, that fails to provide and implement Erosion and Sediment Control Best Management Practices to the maximum extent practicable as required by this Chapter, shall be ordered by the City Engineer, to take remedial action on said land to prevent the occurrence or recurrence of a violation of this Chapter. Remedial action shall include, but not limited to, conformance to the requirements of this Chapter. When failed or absent erosion control has resulted in mud, silt, gravel, dust, or other debris entering into the public rights of way, drainage easements, alleys, or other property of the City, the remedial action required also shall include the restoration of the area disturbed to a neat and presentable condition and removal of any debris or other pollutants.

Whenever the City Engineer, finds a violation of this Chapter, he/she shall order the landowner upon which a land disturbance activity takes place, the Construction Site Operator, and/or the Permit Holder to take action within (48) forty-eight hours after such order to comply with the provisions of this Chapter. The order may direct the removal of any dirt, debris, or mud that has been deposited in the rights of way, drainage easements, alleys, or other properties owned by the City, within (4) four hours after service of such notice. Notice may be given in person, by posting at the site, by telephone call, e-mail, or by facsimile contacts as provided in the Land Disturbance Permit Application.

In addition to the enforcement provisions of this chapter, the City Engineer may issue a Stop Work Order if the he/she determines that work authorized by a Land Disturbance Permit is in violation of this Chapter or the Erosion and Sediment Control Plan, including required drainage, grade or elevation plans, or not in compliance with the provisions of the application, plans or specifications, or conditions upon which a permit was issued, including but not limited to the following:

- 1) Applicant fails to submit reports in accordance with this Chapter;
- 2) Inspection by the City Engineer reveals the site defined by the Land Disturbance Permit is not in substantial compliance with the Erosion and Sediment Control Plan, as determined by him/her;
- 3) Failure to comply with a written order from the City Engineer to bring the site into compliance with the Land Disturbance Permit, correct a violation of this Chapter, or restore a disturbed area within the time limits defined by him/her; or
- 4) Applicant fails to pay any fee.

In the event a Stop Work Order is issued by the City Engineer, he/she shall order and direct the landowner of the property, or the landowner's agent, or any party in possession of such property described in the Land Disturbance Permit Application, or the construction site operator performing the work, or any work authorized by the City permit in the development to immediately suspend work within the area defined in the Land Disturbance Permit.

Such Stop Work Order shall be in writing, shall state the conditions under which the work may be resumed, and may be served upon a person to whom it is directed either by personal delivery, or by posting the area defined by the Land Disturbance Permit and/or mailing a copy of the same to the address identified within the Land Disturbance Permit application or permit holder, landowner, and/or any party in possession of such property. In the event the City Engineer issues a written Stop Work Order, all persons shall cease all work on the development site, except work necessary to remedy the cause of the suspension.

It shall be unlawful for a Land Disturbance Permit applicant, construction site operator, party in possession of property subject to a Stop Work Order, or landowner subject to a Stop Work Order, to

allow, consent, or permit any person to perform work described within the LAND DISTURBANCE PERMIT or any other work requiring a City permit, upon property subject to a Stop Work Order.

Upon written notice by the City Engineer as required herein for a Stop Work Order, the City engineer may revoke the Land Disturbance Permit if the applicant fails or refuses to remedy the cause of the suspension set forth in the Stop Work Order.

In the event the Land Disturbance Permit is revoked by the City Engineer, no person shall permit or continue any work described in the Land Disturbance Permit without first obtaining a new Land Disturbance Permit and paying a new permit fee as required by this Chapter.

#### **Sec. 46-269 Abatement of Nuisances and Hazards**

In addition to the penalties provided by this Chapter, when the City Engineer determines there exists a condition or act prohibited by this Chapter, he/she may, in his or her sole discretion, take whatever action he or she deems necessary to immediately abate the nuisance or hazard to protect the safety of persons or property, and the City may be reimbursed from any surety required by this Chapter, and/or may assess, to the property where a violation has been identified by the City Engineer, all costs of the abatement, including administrative costs, materials, and personnel, to the person who commits, permits, maintains, directs, or authorizes the nuisance or hazard in violation of this Chapter.

The Governing Body hereby delegates to the City engineer, the duty of determining when a violation of the Chapter exists. This determination shall be made in written form by the City engineer, acting on behalf of the Governing Body, and the City Engineer may proceed to abate and assess the nuisance.

#### **Sec. 46-270 Failure to Comply With Order**

No person shall intentionally impede or obstruct the City Engineer or his or her lawful designee from the lawful performance of duties or activities related to the enforcement of this Chapter or abatement of violations, through the use of restraint, coercion, intimidation, by force and violence, or threat thereof. No person shall intentionally disregard an Order of the City Engineer or his or her lawful designee, to immediately cease and discontinue a condition or act prohibited by this Chapter, or to fail to take any action necessary to immediately abate and/or remedy the conditions prohibited by this Chapter and as required by the City Engineer.

#### **Sec. 46-271 Penalties**

Any person violating any of the provisions of the Chapter shall be guilty of a Class C offense. The imposition of a penalty shall not prohibit any action of the City Engineer to enforce compliance, prevent a violation, or remedy a violation, nor shall it prohibit the City Engineer from imposing liens or assessments necessary to remedy a violation of this Chapter. In addition to the imposition of a penalty, the Court may assess restitution and reimbursement of all costs of any abatement, including administrative, materials, and personnel, to the person who commits, permits, maintains, directs, or authorizes, a violation of this Chapter.

The City shall keep a record of the total cost of such abatement or removal incurred by the City, and shall bill such costs to the owner of the property where a violation of this Chapter takes place by certified mail, return receipt requested. If the assessment for such costs is unpaid after (30) thirty days from the date of billing, the City Clerk, at the time of certifying City taxes, shall certify such costs to the County Clerk, with instructions to extend the same on the tax roll of the County against the applicable lot or parcel of ground, and ask that it be collected by the County Treasurer and paid to the City as City taxes are collected and paid. Nothing in this section shall limit the City's right to pursue collection both by levying a special assessment and in any other manner provided for by law, but only until the full cost and any applicable interest has been paid in full.

The imposition of a penalty for any violation or noncompliance shall not excuse any violation, permit a violation to continue, or excuse any obligation to remedy any violation. The City shall have the authority to maintain civil suits or actions in any court of competent jurisdiction for the purpose of enforcing the provisions of this Chapter. In addition to any other remedies, the City Attorney may institute injunction, mandamus, or other appropriate action or proceeding to prevent violation of this Chapter. Each day that a violation occurs or is permitted to continue shall constitute a separate offense.

**Sec. 46-272 Additional Persons Responsible for Compliance**

In addition to the person who commits, permits, maintains, directs, or authorizes, a violation of this Chapter, additional persons responsible for compliance with this Chapter shall include, jointly and severally:

The owner or occupant of the property upon which a violation or an illicit connection or discharge occurs;

The person who submits or to whom a Building Permit or NPDES Permit is issued that relates to the property upon which a violation or an illicit connection or discharge occurs;

Any person who participates in a violation or an illicit discharge or illicit connection as prohibited by this Chapter.

**Section 2.** That all other ordinances or parts of ordinances in conflict herewith are hereby repealed.


**Section 3.** That if any section, subsection, sentence, clause or phrase of this ordinance is, for any reason, held to be unconstitutional, such decision shall not affect the validity of the remaining portions of this ordinance. The Governing Body hereby declares that it would have passed this ordinance, and each section, subsection, clause or phrase thereof, irrespective of the fact that any one or more sections, subsections, sentences, clauses and phrases be declared unconstitutional.

**Section 4.** That nothing in this ordinance hereby adopted shall be construed to affect any suit or proceeding impending in any court, or any rights acquired, or liability incurred, or any cause or causes of action acquired or existing, under any act or ordinance hereby repealed as cited in Section 2 of this ordinance; nor shall any just or legal right or remedy of any character be lost, impaired or affected by this ordinance.

**Section 5.** That this ordinance and the rules, regulations, provisions, requirements, orders and matters established and adopted hereby shall take effect and be in full force and effect from and after the date of its final passage and adoption.

Passed by the City of Leavenworth City Commission on this 20th day of December, 2016.

ATTEST:

  
Carla K. Williamson, CMC, City Clerk



Summary Published in The Leavenworth Times  
Date of Summary Publication: December 23, 2016

**Ordinance No. 8021 Summary**

On December 20 2016 the City of Leavenworth Kansas adopted Ordinance No. 8021. An Ordinance amending Leavenworth Code of Ordinances Chapter 46 Environment adding Article VIII Stormwater Management-Land Disturbance Permits Section 46-261 through 46-272 providing substitute provisions and repealing sections in conflict. A complete copy of this ordinance is available at [www.lvks.org](http://www.lvks.org) or at the Office of the City Clerk 100 N 5<sup>th</sup> Street Leavenworth Kansas. This summary certified by Tom Dawson City Attorney.

**Publish Leavenworth Times December 23 2016**

Certified by:

A handwritten signature in black ink, appearing to read 'Tom Dawson', written over a horizontal line.

**Tom Dawson, City Attorney**



ORDINANCE NO. 8024

AN ORDINANCE REGULATING THE SCHEDULE OF FEES WITHIN THE CORPORATE LIMITS OF THE CITY OF LEAVENWORTH, KANSAS AND INCORPORATING BY REFERENCE THE APPENDIX F SCHEDULE OF FEES OF THE CODE OF ORDINANCES, DATED DECEMBER 20, 2016, FOR THE CITY OF LEAVENWORTH.

BE IT ORDAINED BY THE GOVERNING BODY OF THE CITY OF LEAVENWORTH, KANSAS:

**Section 1. Incorporating Appendix F Schedule of Fees, December 20, 2016.**

There is hereby incorporated by reference for the purpose of regulating fees charged to the public within the corporate limits of the City of Leavenworth, Kansas, that certain fee schedule known as the "Appendix F Schedule of Fees" prepared, save and except such sections, parts or portions as are hereinafter omitted, deleted, notified or changed, adopted by Ordinance No. 8024. The Appendix F Schedule of Fees shall be attached to Ordinance No. 8024, incorporated by reference in the Code of Ordinances, filed with the City Clerk to be open to inspection and available to the public at all reasonable hours.

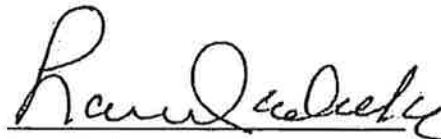
**Section 2: Repealed**

That schedules amended herein and all other sections in conflict herewith are hereby repealed.

**Section 3. Effective Date.**

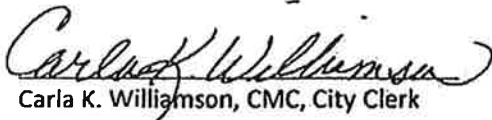
This ordinance shall take effect and be in force from and after its publication, or as stated in the Appendix F Schedule of Fees. Published in the official city newspaper as provided by law.

Passed by the Leavenworth City Commission on this 20<sup>th</sup> day of December, 2016.



Larry Dedeke, Mayor

ATTEST:



Carla K. Williamson, CMC, City Clerk

Summary Published In the Leavenworth Times  
Date of Publication: December 23, 2016



**Ordinance No. 8024 Summary**

On December 20 2016 the City of Leavenworth Kansas adopted Ordinance No. 8024. An Ordinance Regulating the schedule of fees within the corporate limits of the City of Leavenworth Kansas and incorporating by reference the Appendix F schedule of fees of the code of ordinances dated December 20 2016 for the City of Leavenworth. A complete copy of this ordinance is available at [www.lvks.org](http://www.lvks.org) or at the Office of the City Clerk 100 N 5<sup>th</sup> Street Leavenworth Kansas. This summary certified by Tom Dawson City Attorney.

**Publish Leavenworth Times December 23 2016**

**Certified by:**

A handwritten signature in black ink, appearing to be "Tom Dawson", written over a horizontal line.

**Tom Dawson, City Attorney**

| City Code Chapter | Applicable Section | Description   | Effective Timeline | Requirements   | Fee                        |  |
|-------------------|--------------------|---|--------------------|--|----------------------------|--|
| 46                | 183                | Excavations Permit Fee  | Per Event          | Permit fee   | \$25.00                    |  |
| 46                | 231                | Oil and Gas Well Drilling   |                    | Initial permit fee   | \$725.00                   |  |
| 46                | 231                | Oil and Gas Well Drilling   |                    | Renewal permit fee   | \$375.00                   |  |
| 46                | 231                | Oil and Gas Well Drilling   |                    | Transfer permit fee  | \$100.00                   |  |
| 46                | 266                | Regulated Land Disturbance activity less the 1 acre   |                    | No fee if less than one (1) acre   | \$0.00                     |  |
| 46                | 266                | Utility Companies/Contractors working for a utility Company with an annual Land Disturbance Permit  |                    | Must be working for a utility company with an annual Land Disturbance Permit | \$0.00                     |  |
| 46                | 267                | Regulated Land Disturbance activity 1-5 acres   | Per Event          | Permit Fee   | \$150.00                   |  |
| 46                | 267                | Regulated Land Disturbance activity more than 5 acres   | Per Event          | Permit Fee   | \$250.00                   |  |
| 46                | 267                | One (1) Single family residence   |                    | No fee if one (1) single family residence                                    | \$0.00                     |  |
| 46                | 267                | Two (2) to Five (5) single family residences  | Per Event          | Permit Fee   | \$150.00                   |  |
| 46                | 267                | More than Five (5) single family residences   | Per Event          | Permit Fee   | \$250.00                   |  |
| 46                | 267                | <b>Failure to Obtain the Land Disturbance Permit prior to the timetable outlined in Chapter 46 will result in these late fees</b>   |                    |  |                            |  |
| 46                | 267                | First Offense Regulated land disturbance activity of less than 1 acre or 1 single family residence  |                    | Pay permit fee of \$150.00 and administrative fees                           | \$150.00 Plus Admin fees   |  |
| 46                | 267                | Second and following offenses   |                    | Fees shall be doubled plus administrative fees                               | Double fee plus Admin fees |  |
| 46                | 267                | Fees for all other Categories   |                    | Fees shall be doubled plus administrative fees                               | Double fee plus Admin fees |  |
| 46                | 267                | Surety Requirements for Land Disturbance  |                    |  |                            |  |
| 46                | 267                | Regulated Land Disturbance activity less the 1 acre   |                    | No Surety required if less than one (1) acre                                 | \$0.00                     |  |
| 46                | 267                | Regulated Land Disturbance activity 1-5 acres   | Per Event          | Surety Required  | \$5,000.00                 |  |
| 46                | 267                | Regulated Land Disturbance activity more than 5 acres   | Per Event          | Surety Required  | \$10,000.00                |  |
| 46                | 267                | One (1) Single family residence   | Per Event          | Surety Required  | \$2,500.00                 |  |
| 46                | 267                | Two (2) to Five (5) single family residences  | Per Event          | Surety Required  | \$5,000.00                 |  |
| 46                | 267                | More than Five (5) single family residences   | Per Event          | Surety Required  | \$10,000.00                |  |
| 46                | 267                | Utility Companies/Contractors working for a utility Company with an annual Land Disturbance Permit  |                    | Must be working for a utility company with an annual Land Disturbance Permit | \$5,000.00                 |  |
| 46                | 267                | <b>Failure to Obtain the Land Disturbance Permit prior to the timetable outlined in Chapter 46 will result in the applicant being required to submit the following Surety</b> |                    |  |                            |  |
| 46                | 267                | First Offense Regulated land disturbance activity of less than 1 acre or 1 single family residence  |                    |  | \$5,000.00                 |  |
| 46                | 267                | Second and following offenses   |                    | Surety Shall be doubled  |                            |  |

| City Code Chapter | Applicable Section                     | Description  | Effective Timeline           | Requirements   | Fee      |
|-------------------|--|--|------------------------------|--|----------|
| 46                | 267                                    | Fees for all other Categories  |                              | Surety Shall be doubled  |          |
| <b>50</b>         | <b>FIRE PREVENTION AND PROTECTION</b>  |  |                              |  |          |
| 50                | 31                                     | Fire Department Fees:  |                              |  |          |
| 50                | 31                                     | Hazmat Response  |                              | Charged the full cost of the response  |          |
| 50                | 31                                     | Underground Storage Tank   |                              | Inspection (remove and install)  | \$75.00  |
| 50                | 31                                     | Propane Tank   |                              | Inspection   | \$75.00  |
| <b>54</b>         | <b>HEALTH AND SANITATION</b>           |  |                              |  |          |
| 54                | 74                                     | Nuisance Assessment Fee  |                              | Assessment of city costs of abatement  | \$100.00 |
| 54                | 75                                     | Nuisance Penalty   |                              | First offense minimum fine   | \$100.00 |
| 54                | 75                                     | Nuisance Penalty   |                              | Second offense minimum fine  | \$250.00 |
| 54                | 75                                     | Nuisance Penalty   |                              | Third offense minimum fine   | \$500.00 |
| 54                | 75                                     | Nuisance Penalty   |                              | Fourth and subsequent offenses minimum fine or by imprisonment, not to exceed 6 months, or by both such fine and imprisonment.   | \$500.00 |
| 54                | Division 2                             | Food Service Establishments  |                              |  |          |
| 54                | 154                                    | Food, Mobile Food Vendor   | Mar 1 - Feb 28               | Every person engaged in operating a mobile food vending truck or wagon, per vehicle, per year  | \$60.00  |
| 54                | 154                                    | Health Permit  | Jan 1 - Dec 31               | Annual permit fee  | \$100.00 |
| 54                | 156                                    | Food Handler   | Lifetime                     | Must attend food handler class   | \$10.00  |
| 54                | 156                                    | Food Handler   |                              | Duplicate Food Handler Card  | \$1.00   |
| 54                | 190                                    | Privies, Cesspools and Septic Tanks  |                              | Installation of septic tanks permit fee  | \$10.00  |
| 54                | 234                                    | Temporary Sewage Lagoons   |                              | Installation permit fee  | \$25.00  |
| <b>66</b>         | <b>MANUFACTURED HOMES AND TRAILERS</b> |  |                              |  |          |
| 66                | 79                                     | Travel Trailer Park  | Per Year                     | Per each block of 100 travel trailer spaces or fraction thereof, per year  | \$25.00  |
| 66                | 79                                     | Travel Trailer Park  | Per Year                     | Maximum, per year  | \$250.00 |
| 66                | 79                                     | Travel Trailer Park  |                              | Plus, per travel trailer space occupied for a period aggregating more than 30 days, per 3 month period   | \$1.50   |
| 66                | 142                                    | Mobile Home Park   |                              | Rezoning application   | \$350.00 |
| 66                | 145                                    | Mobile Home Park   |                              | Construction of a mobile home park per lot fee   | \$2.00   |
| 66                | 145                                    | Mobile Home Park   |                              | Construction of a mobile home park minimum fee   | \$10.00  |
| 66                | 174                                    | Mobile Home Park   | Per Month, Payable Quarterly | For each mobile home park: per lot occupied by an inhabited mobile home (residence or domicile of one or more persons) for a period aggregating more than 20 days each month.                                  | \$15.00  |
| 66                | 174                                    | Mobile Home Park   | Annual                       | For each mobile home park: per lot occupied by an inhabited mobile home (residence or domicile of one or more persons) for a period aggregating more than 20 days each month. Annual inspection fees, per lot. | \$10.00  |
| 66                | 176                                    | Mobile Home Park   | Transfer                     | Transfer of license per mobile home lot  | \$5.00   |
| <b>78</b>         | <b>PEDDLERS AND SOLICITORS</b>         |  |                              |  |          |
| 78                | 1                                      | Peddler: Any person, whether a resident of the city or not, traveling from house to house or street to street for the purpose of selling or soliciting for the sale of any goods, wares, merchandise or services other than agricultural products produced or processed in this state and who is not required to obtain a license and pay a fee under any other provision of the Code of Ordinances. |                              |  |          |
| 78                | 1                                      | Transient Merchant, Itinerant Merchant or Itinerant Vendor: (See definition) and who is not required to obtain a license and pay a fee under any other provision of the Code of Ordinances.  |                              |  |          |

**CITY OF LEAVENWORTH**

**Kansas Stormwater Annual Report Form for Municipal Separate Storm Sewer Systems**

**January 1, 2016 – December 31, 2016**

**Appendix F**  
**N/A**

**CITY OF LEAVENWORTH**

**Kansas Stormwater Annual Report Form for Municipal Separate Storm Sewer Systems**

**January 1, 2016 – December 31, 2016**

# **Appendix G**

**N/A**

**CITY OF LEAVENWORTH**

Kansas Stormwater Annual Report Form for Municipal Separate Storm Sewer Systems

January 1, 2016 – December 31, 2016

## **Appendix H**

# **Map Showing Stormwater System and Outfalls**

*A DVD containing the Map of the City showing creeks, streams, inlets, outlets, outfalls and other stormwater related information will be mailed separately to Rance Walker of KDHE ASAP after the GIS Department returns from vacation at Royals Spring Training. The current version can be viewed online at:*

<http://colks.maps.arcgis.com/apps/webappviewer/index.html?id=a71f398ba29a40bab9dd78cf2d84402e>

*or click the GIS link at:*

<http://www.lvks.org/departement/division.php?structureid=139>

*or Search for: lvks.org GIS and then click the link*