SD1
Managing Northern Kentucky's
Wastewater and Storm Water

October 30, 2013

Director of the Division of Enforcement
Department for Environmental Protection
300 Fair Oaks Lane
Frankfort, KY 40601

Chief, Environmental Enforcement Section
Environmental and Natural Resources Division
U.S. Department of Justice
601 D street NW
Washington, DC 20005
DOJ Case No. 90-5-1-1-08591

Chief, Water Program Enforcement Branch
Water Management Division
U.S. Environmental Protection Agency, Region 4
Atlanta Federal Center
61 Forsyth Street, S.W.
Atlanta, Georgia 30303

Re: Consent Decree Case No. 2:05-cv-00199-WOB

To Whom It May Concern:

Pursuant to the above-referenced Consent Decree, Sanitation District No. 1 (SD1) is required to submit quarterly reports that demonstrate SD1's compliance with the Consent Decree:

> **42. Quarterly Reports**. The District shall submit to the Cabinet/EPA a quarterly report that describes the District's progress in complying with this Consent Decree for the previous quarter no later than thirty days after the end of each calendar quarter. The first such report shall be submitted to the Cabinet/EPA no later than thirty days after the second full quarter after entry of this Consent Decree.

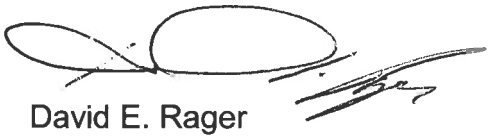
Information contained within the enclosed Quarterly Report describes SD1's compliance with Consent Decree Case No. 2:05-cv-00199-WOB for the period of July 1, 2013 through September 30, 2013. The report also contains an outlook for the upcoming calendar quarter period of October 1, 2013 through December 31, 2013.

A certification as required by the Consent Decree is also enclosed (Consent Decree paragraph 38).

I am confident in the integrity of the enclosed document, and I am certain that its content not only satisfies regulatory requirements, but also helps further the mission and vision of SD1 by demonstrating aggressive, proactive, achievable measures underway in Northern Kentucky to protect water resources and enhance the quality of life.

If you have any questions or concerns, do not hesitate to contact me at 859-578-7465 or by e-mail at drager@sd1.org.

Best regards,



David E. Rager
Executive Director

DER/wck
Enclosures

Sanitation District No. 1
October 30, 2013

Consent Decree
Quarterly Report No. 24
(July 1, 2013 through September 30, 2013)

CERTIFICATION

Consent Decree Quarterly Report No. 24
Consent Decree Case No. 2:05-cv-00199-WOB

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 such 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.

David E. Rager
Executive Director

10-30-13
Date

COMMONWEALTH OF KENTUCKY

)ss.

COUNTY OF Kenton

The foregoing instrument was acknowledged before me this 30 day of October, 2013 by David E. Rager, Executive Director of Sanitation District. No. 1.

Angela M. Cook
Notary Public
Kentucky, State at Large
Comm. Exp. 07-30-16
Notary ID 471543

NOTARY PUBLIC

Campbell County, Kentucky

My commission expires: 7-30-16

CONSENT DECREE
QUARTERLY REPORT NO. 24

October 30, 2013

Sanitation District No. 1
1045 Eaton Drive
Ft. Wright, KY 41017

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LIST OF ACRONYMS AND ABBREVIATIONS

Cabinet	Kentucky Energy and Environment Cabinet
CSO	Combined Sewer Overflow
CSAP	Continuous Sewer Assessment Program
CVG	Cincinnati-Northern Kentucky International Airport
EPA	U.S. Environmental Protection Agency
MG	Millions of Gallons
SD1	Sanitation District No. 1
SSO	Sanitary Sewer Overflow

SECTION 1. INTRODUCTION

1.1 Purpose

This Quarterly Report is submitted to fulfill the requirements of Sanitation District No. 1's (SD1) Consent Decree as entered on April 18, 2007. This Consent Decree is a legal agreement with the U.S. Environmental Protection Agency (EPA) and the Kentucky Energy and Environment Cabinet (Cabinet). The purpose of the Consent Decree is to address sanitary sewer overflows (SSOs) in SD1's sanitary sewer system and combined sewer overflows (CSOs) in the combined sewer system in an effort to improve water quality throughout SD1's service area. Specifically, Section V Reporting Requirements, states that:

> **42. Quarterly Reports.** The District shall submit to the Cabinet/EPA a quarterly report that describes the District's progress in complying with this Consent Decree for the previous quarter no later than thirty days after the end of each calendar quarter.

1.2 Report Period

Information contained within this report describes SD1's compliance with Consent Decree Case No. 2:05-cv-00199-WOB for the period of July 1, 2013 through September 30, 2013. This report also contains an outlook for the upcoming calendar quarter period of October 1, 2013 through December 31, 2013.

1.3 Consent Decree Compliance Schedule

A comprehensive compliance schedule for meeting the requirements of the Consent Decree can be found in Appendix A. Additionally, a more detailed listing of the projects and activities conducted to comply with the requirements of the Consent Decree, including schedules, project updates for the current reporting period, and planned activity for the subsequent quarter can be found in Appendix B. SD1 has also incorporated the status of the projects proposed in the first five years of the revised Draft Integrated Watershed Plan, which was last submitted on October 1, 2013, into Appendix B.

Initial Watershed Projects

As shown in Appendix B, SD1 has completed all of the initial watershed projects, except for the Western Regional – Richwood project C-039-00. A request to remove this project as an initial watershed project was included in the revised Integrated Watershed Plan, submitted on March 31, 2011. Formal approval of this request was granted in a letter from the Cabinet, dated May 13, 2013. Further details can be found in the final Initial Watershed Projects 2013 Annual Report, submitted on June 7, 2013.

SECTION 2. OVERFLOW DATA

This section of the Quarterly Report presents SD1's estimates of overflow activity in the collection systems.

Overflow Categories

For reporting and system performance measurement purposes, SD1 has categorized sewer overflows throughout the service area into five distinct categories:

- *SSOs Due to Wet Weather Capacity Issues* – Recurring and inactive overflows from SD1's sanitary sewer system due to a lack of capacity during wet weather. This category includes wet-weather discharges at pump stations that may or may not have a constructed bypass. Overflows are determined to be "recurring" if they have been observed to overflow twice in a running twelve month period. Overflows are determined to be "inactive" until they occur more than once in a running twelve month period. Inactive overflows are generally under investigation as suspected or predicted hydraulic model overflow points in the collection system.

- *SSOs Due to Operational Issues* – Overflows from SD1's sanitary sewer system, including pump stations that are not a result of wet weather capacity issues. Many of these are one-time, dry-weather occurrences caused by temporary system issues that are investigated and corrected as soon as practicable.

- *Wet Weather CSOs* – Wet-weather discharges from the combined sewer system.

- *Dry Weather CSOs* – Dry-weather discharges from the combined sewer system.

- *Building Backups* – The release of raw sewage from a service lateral into a building in SD1's service area. Building backups can be caused by several factors, such as constrained capacity during wet weather, or a blockage or collapse in the private service lateral or public main line. Building backups can be determined to be associated with the public sewer system, or can be due to other causes beyond the control of SD1.

Quantitative Estimates

SD1 uses three general methods for developing quantitative estimates of overflow activity:

- Field inspections during or shortly after wet-weather events to identify activations. This inspection program has been in place since 2005 and is adjusted as warranted for ongoing reporting and sewer overflow response cleanup. SD1 personnel continues to perform routine inspections after rain events at prioritized recurring, inactive and suspected SSO locations to understand and verify overflow activity. Response personnel also continue to assess the need for sewer overflow cleanups. This is part of SD1's ongoing effort to characterize and verify overflows throughout the collection systems and ensure they are categorized accurately and

cleaned up after rain events. Proper characterization of overflows ensures that SD1 maintains and improves upon the accuracy of the hydraulic model, and utilizes it to help identify the most appropriate and effective solutions that are aligned with SD1's Watershed Plans.

- Simple hydraulic estimating using Manning's Gravity Flow and Pipe Calculation to report overflows from pump stations with constructed bypasses, and industry standard volume estimations techniques and calculations are used for spills or for any witnessed overflow from a manhole. The only exception to this calculation methodology is at the Lakeview Pump Station, which has a metered bypass pipe. This method has been used historically for reporting purposes, and its results are included in this Quarterly Report.

- Estimates developed from SD1's system-wide collection system models. SD1 completed a year-long flow monitoring program in 2008, consisting of more than 245 flow meters and 45 rain gauges installed throughout the combined and separate sewer systems, which was utilized to update the calibration and validation of the system-wide hydraulic models. This calibration was undertaken to provide a model network that could confidently be used as an accurate tool in preparing SD1's Watershed Plans. In addition to the use of the models for planning future capital improvements, the models are also being used to provide information about the current performance of SD1's system. Based on the results of the model calibration and verification, SD1 has developed a highly calibrated hydraulic model that provides an accurate representation of the sewer system. This tool allows SD1 to have confidence in the results of the overflow volumes from the sewer system and to provide estimates of the overflow locations within the system for quarterly reporting purposes. In addition, the model is updated on a quarterly and annual basis to incorporate the latest data gathered from ongoing targeted flow monitoring, sewer inspections, completed projects and SSO inspections and characterization. Since 2008, SD1 has conducted 13 targeted sewershed recalibrations. The continual recalibration process ensures that the model is kept up-to-date and accurately reflects the current state of the collection system. This approach is consistent with SD1's commitment to provide the best available information on overflow activity within these reports.

For this submittal, SD1 has measured rainfall with a series of 16 SD1 owned and operated rain gauges located across the system, and simulated the rainfall that occurred July 1, 2013 through September 30, 2013 within the hydraulic model. The results of the model simulations have been summarized and included as an estimate of the frequency and total volume of the overflow locations within SD1's system for this period. For the modeled locations, these results are not a summary of observed or confirmed activations but are a confident estimate of the overflow statistics based on the calibrated and verified model.

SD1 actively realigns and optimizes field and modeling activities on a continual basis through regular inspections and flow monitoring, in order to verify model simulations

against actual field conditions. This ensures the continual improvement of modeling accuracy and precision. Field verifications improve model predictions by correcting and minimizing discrepancies found with observed conditions. The ongoing refinement of SD1's modeling tools provides accurate estimations of overflow location and activity. These frequent inspection and flow monitoring processes are also used to calibrate and update the model to reflect capital improvements to SD1's collection system. Modeled overflow activity reported in this submittal incorporates the current system improvements, including the Western Regional Conveyance System and the Western Regional Water Reclamation Facility.

Precipitation Data

Rainfall statistics are an important component of overflow reporting, as rainfall conditions represent an uncontrolled variable impacting SD1's wet weather CSO and SSO activity. Quarterly CSO and SSO activations and volumes will constantly vary over time, with or without system improvements, due to natural variations in rainfall patterns and the associated groundwater and antecedent moisture conditions. Over time, SD1 expects system improvements to show a clear trend in reduced overflow activity. However, reviewing overflow reports for any individual quarter relative to the previous quarter also requires careful review of the rainfall associated with each quarter, in order to understand the relative impact of rainfall patterns. For this reason, storm event summaries are included in all overflow reporting submittals.

The data regularly provided in Table 2.1 comes from the Cincinnati-Northern Kentucky International Airport rain gauge maintained by the National Weather Service (CVG). Due to the federal government shutdown, the data for this reporting period was not available during the production of this report. As an alternative, the rainfall totals provided in Table 2.1 during this reporting period will be from Kentucky Mesonet, the Commonwealth's official source of weather and climate data. In order to maintain geographic consistency with the historical data reported from the National Weather Service, the Kentucky Mesonet station referenced is in Burlington, approximately six miles from the CVG rain gauge. Furthermore, the inter-event time to define the number of storms has been temporarily changed from 7 hours to 24 hours, to accommodate the daily totals reported by Kentucky Mesonet. The inter-event time will return to 7 hours, after hourly rainfall totals are once again available from the National Weather Service at CVG.

Table 2.1 Summary of Storm Events
(July 1, 2013 through September 30, 2013)

Month	Approximate # of Storm Events[1]	Rainfall (in)
July	6	5.25
August	5	5.51
September	4	3.41
Total	**15**	**14.17**

[1] *A storm event is defined as at least 0.01" of rain with a minimum inter-event time of 24 hours.*

The remainder of this section reports overflows that occurred throughout SD1's service area during the period of July 1, 2013 through September 30, 2013. A cumulative accounting of SD1's overflow activity from January 2008 through the current reporting period and an annual comparison of the 2008 through 2013 overflow activity can be found in Appendix C.

2.1 SSOs Due to Wet Weather Capacity Issues

As previously described, this category includes recurring and inactive overflows from SD1's sanitary sewer system, due to a lack of capacity during wet weather. This includes wet-weather discharges at pump stations that may or may not have a constructed bypass. Overflows are determined to be "recurring" if they have been observed to overflow twice in a running twelve month period. Overflows are determined to be "inactive" until they have been observed to overflow more than once in a running twelve month period. Inactive overflows are generally under investigation as suspected or predicted hydraulic model overflow points in the collection system.

Recurring Wet Weather SSOs

Modeled activation and volume statistics for 179 recurring wet-weather SSO locations for the current reporting period can be found in Appendix D. Updates to the locations of SD1's recurring SSOs are reported on an annual basis to include any revisions based upon the field inspections, flow monitoring, and hydraulic modeling programs. Appendix E of SD1's April 2013 Quarterly Report includes the most recent revisions to the recurring SSOs list. Therefore, any revisions to the SSO list documented after April 2013 will be published in the April 2014 Quarterly Report.

Recurring Pump Station Overflows

In addition to the 179 recurring wet weather SSOs, there are also 14 pump stations identified in the Consent Decree that have historically documented recurring wet-weather capacity issues. On the following page, Table 2.2 lists each of the 14 pump stations identified in Exhibit E of the Consent Decree, and demonstrates their wet-weather SSO occurrences during the current reporting period.

In the third quarter of 2013, three of the pump stations listed in the Consent Decree discharged a total of 11 times, due to the lack of wet-weather capacity. A total estimated overflow volume of 2,980,400 gallons was discharged during the 11 events.

As previously mentioned, SD1 uses the Manning's Gravity Flow and Pipe Calculation to estimate discharge volumes from pump stations. The only exception to this calculation methodology is at the Lakeview Pump Station, which has a permanent flow meter on the station's bypass pipe to the Banklick Creek. However, the typical metered-bypass volumes for Lakeview are not available for this reporting period, due to the construction activity of the Lakeview Pump Replacement project. The wet-weather lack of capacity volumes for Lakeview during this quarter are a combination of the Manning's Gravity Flow and Pipe Calculation, the contractor's flow monitoring equipment, and SD1's hydraulic model.

Table 2.2 Discharges from Consent Decree Pump Stations Due to Lack of Capacity during Wet Weather
(July 1, 2013 through September 30, 2013)

Name of Pump Station	Number of Wet-Weather Related Discharge Occurrences	Total Estimated Volume (gallons)
Allen Fork	0	0
Crestview	4	24,900
Kentucky Aire	3	35,500
Lakeview	4	2,920,000
Alex-Licking	0	0
Harrison Harbor	0	0
Highland Acres	0	0
Riley Road	0	0
Ripple Creek	0	0
South Hampton	0	0
South Park	0	0
Sunset	0	0
Taylorsport	0	0
Union	0	0
TOTAL	**11**	**2,980,400**

Gray denotes pump stations where required improvements have been completed.

In addition to tracking the recurring wet-weather SSOs at the pump stations listed in the Consent Decree, SD1 continuously monitors all pump stations throughout the service area for recurring wet-weather capacity issues.

During the current reporting period, there were six pump stations with documented recurring wet-weather capacity issues that discharged 15 times for an approximate total volume of 344,250 gallons. Table 2.3 provides a summary of these occurrences and the total estimated volumes.

Table 2.3 Discharges from Pump Stations Not Listed in the Consent Decree Due to Lack of Capacity during Wet Weather
(July 1, 2013 through September 30, 2013)

Name of Pump Station	Number of Wet-Weather Related Discharge Occurrences	Total Estimated Volume (gallons)
Enzweiler	1	6,900
Highland Heights	6	283,300
Keavy	3	33,550
Mafred	2	17,550
Overlook	2	750
Sand Run	1	2,200
TOTAL	**15**	**344,250**

Inactive Wet Weather SSOs

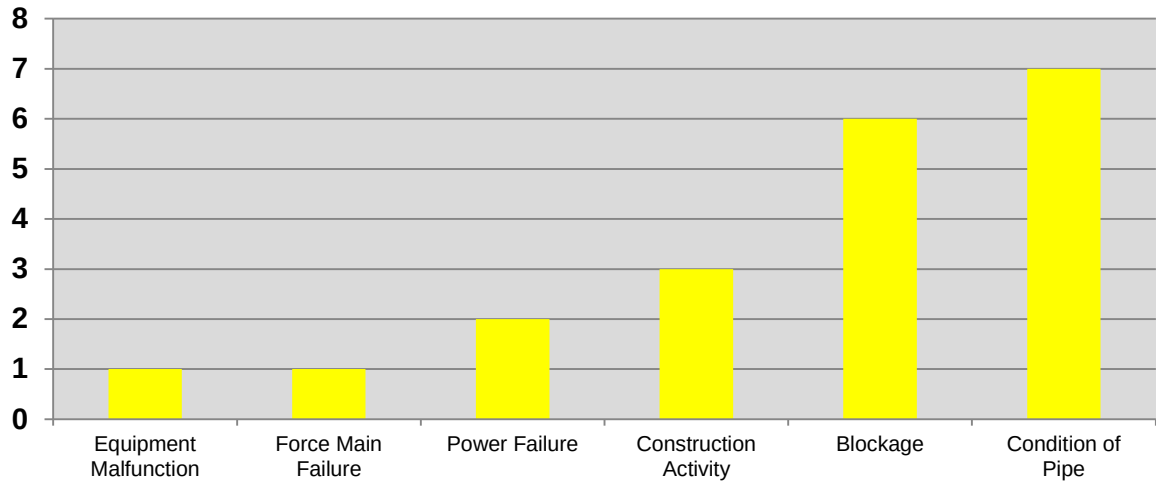
During the current reporting period, there were no inactive wet-weather SSOs observed.

2.2 SSOs Due to Operational Issues

As previously mentioned, this category of overflows includes discharges from SD1's sanitary sewer system that are not a result of wet-weather capacity issues. Many of these are one-time, dry-weather occurrences caused by temporary system issues that are investigated and corrected as soon as possible. Bypass pumping failures during construction projects and equipment malfunctions at pump stations are also documented in this category.

During the current reporting period, there were a total of 20 SSOs due to operational issues throughout SD1's service area, with a total estimated overflow volume of 30,017,800 gallons. The 20 overflows for this category are broken down by the primary causes, demonstrated in Figure 2.1. Approximate total volumes for each of the primary causes are demonstrated in Figure 2.2.

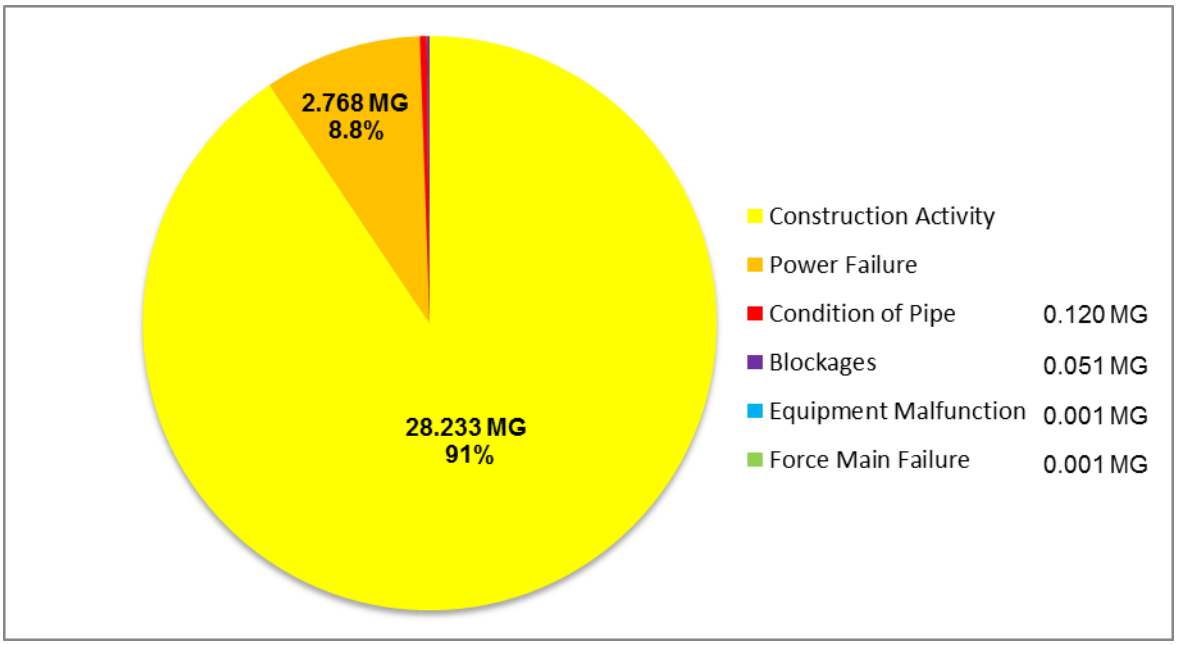
Figure 2.1 Occurrences of SSO due to Operational Issues per Cause
(July 1, 2013 through September 30, 2013)



Of the six blockages, three were caused by debris, two were caused by roots, and one was caused by grease. Of the seven SSOs caused by the condition of pipe, six were due to line breaks and one was due to a collapse.

All three of the overflows due to construction activity, and one of the power failures, occurred at the Lakeview Pump Station during the pump replacement project. For the remainder of the reporting period, there were no overflows recorded at the Lakeview Pump Station after the pumps were replaced on September 30, 2013. For more information regarding the current status of the pump replacement project, see the Watershed Plan Projects: Five Year Program in Appendix B.

Figure 2.2 Gallons of SSO due to Operational Issues per Cause
(July 1, 2013 through September 30, 2013)



Of the 20 discharges due to operational issues, the following four occurrences during the Lakeview pump replacement project accounted for more than 99 percent of the total estimated volume:

- On July 4, 2013, the discharge pipe of the temporary bypass pumping system broke. Approximately 7.25 MG of SSO discharged into the Banklick Creek as a result of this issue.

- From July 6 to July 9, 2013, construction activity at the pump station was complicated by a series of storms that produced approximately six inches of rain (recorded at the Lakeview rain gauge) in the first week of July. The largest event was a 10-year/48-hour storm culminating in 2.62 inches of rainfall on July 6. This rain event caused the Banklick Creek to exceed its banks, which flooded the project area and damaged the temporary bypass pumping system. The contractor had to replace and repair the bypass pumping system over a three-day period. During this time, Lakeview released approximately 17.391 MG of SSO into the Banklick Creek, due to the pump failures.

- From July 11 to July 13, 2013, intermittent line failures and a temporary shutdown of the bypass pumping for system reconfiguration, led to the combined discharge of approximately 3.592 MG into the Banklick Creek.

- On August 8, 2013, an electrical failure at Lakeview Pump Station caused by a pump failure that tripped the station's circuit breakers controlling all of the pumps, led to the release of approximately 2.768 MG of SSO into the Banklick Creek.

The other 16 occurrences were also immediately acted upon and the problems repaired. The sewers where blockages occurred were inspected and cleaned as determined by SD1's Continuous Sewer Assessment Program (CSAP), which also provides appropriate next actions to permanently address the cause of the recurring blockages. All overflow events are recorded in Lucity and are periodically reviewed to identify if any trends or localized problem areas exist that warrant the need for a larger-scale inspection routine, rehabilitation, or repair project. Overflows due to blockages of grease are evaluated further, as part of SD1's Fat, Oil, and Grease Program.

2.3 Wet Weather CSOs

Included in Appendix E are the modeled activation and volume statistics for SD1's 95 CSOs. This data was generated from the hydraulic modeling program previously described in Section 2.1.

In addition to the modeled wet-weather volume reported at CSO Outfall 45 in Appendix E, Patton Street Pump Station released approximately 104,200 gallons due to an area-wide power failure during the wet weather events between July 4 and July 6. This additional volume is not included in the total produced by the model provided in Appendix E, but is included in the cumulative wet weather CSO volume in Appendix C.

2.4 Dry Weather CSOs

During the current reporting period, there were two dry weather discharges from the combined system, totaling approximately 1,950 gallons. The dry weather CSOs were evaluated for causes and solutions were identified to ensure they do not reoccur, in accordance with SD1's Nine Minimum Control No. 5 plan to reduce and eliminate dry-weather CSOs.

Table 2.4 summarizes the locations, dates, causes of the overflows, estimated overflow volumes, and the actions taken to prevent these overflows from occurring in the future.

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Table 2.4 Dry Weather CSOs
(July 1, 2013 through September 30, 2013)

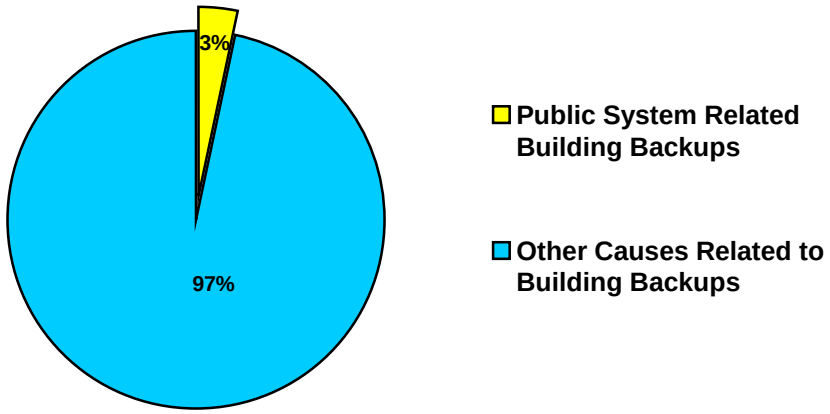
Date	Structure ID#	Location	Overflow Cause	Volume Estimate	Corrective Action Taken
9/03/13	0730008	Bromley Rohman Street Diversion	Blockage of Grit	1,525 gallons	The dry weather diversion line and the upstream grit pit were cleaned and an inspection was performed to ensure all debris was cleared. The upstream grit pit has been put on a more aggressive preventative maintenance schedule to avoid future washouts of accumulated grit during wet weather. No clean-up was required, as all CSO was discharged into the Ohio River.
9/18/13	0870052	Covington Glenn Avenue Diversion	Blockage of Grit and Debris	425 gallons	The dry weather diversion line was cleaned and a re-inspection was performed to ensure all debris was cleared from the line. This line will be re-inspected, in accordance with SD1's CSAP, to ensure the debris does not return. The diversion has also been put on a more frequent inspection schedule. An investigation of the area's catch basins and manholes has been performed, in order to identify and control any unchecked sources of grit. As a result, a new bell has been installed in one upstream catch basin. No clean-up was required, as all CSO was discharged into the Licking River.

2.5 Building Backups

During the current reporting period, there were approximately 239 building backups throughout SD1's service area. Of the 239 backups**,** approximately 8 were related to the condition or operation of the public sewers and 231 were caused by other issues, as shown in Figure 2.3.

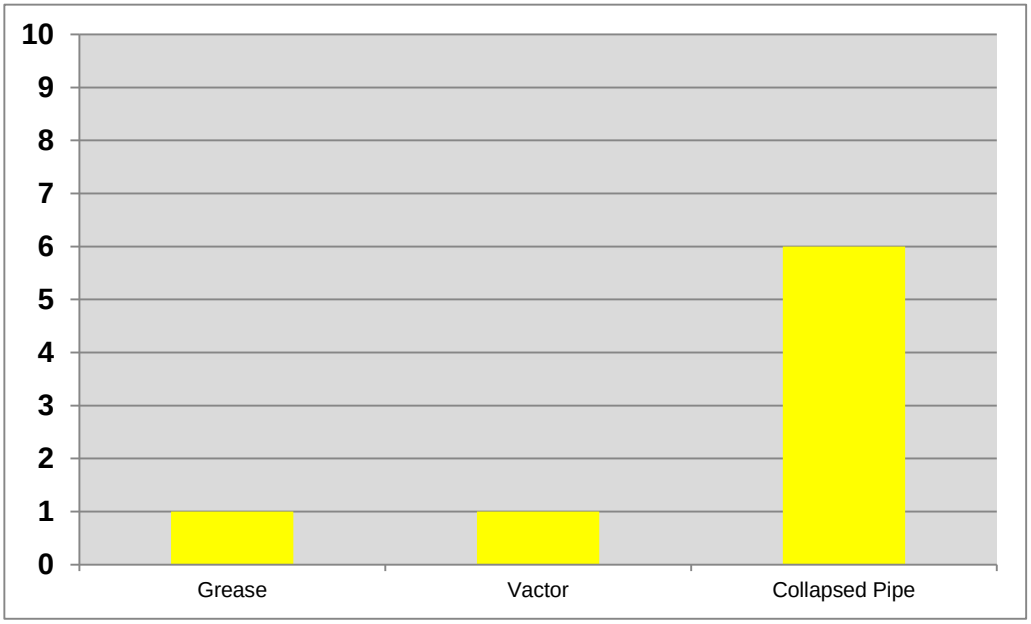
Of the 231 building backups determined not to be related to the condition or operation of the public sewer lines, 80 were due to plumbing issues with private service laterals, and 151 were due to a 100-year storm event that took place between July 1, 2013 and July 6, 2013, which caused significant flooding in isolated portions of SD1's service area.

Figure 2.3 Building Backups: Public System vs. Other Causes
(July 1, 2013 through September 30, 2013)



Causes for the approximate 8 building backups determined to be related to the condition or operation of the public sewer lines are detailed in Figure 2.4.

Figure 2.4 Occurrences of Public System Related Building Backups per Cause
(July 1, 2013 through September 30, 2013)



Of the 8 building backups related to the condition or operation of the public sewer lines, one was caused by a blockage of grease; one was due to a Vactor truck blowing water into the building; and six were due to a single collapsed line. The sewer where a blockage occurred was cleaned and will be re-inspected as determined by SD1's CSAP, which also provides appropriate next actions to permanently address recurring blockages.. Building backups due to blockages of grease are evaluated further, as part of SD1's Fat, Oil, and Grease Program.

All building backups are recorded in Lucity and are periodically reviewed to identify if any trends or localized problem areas exist that warrants the need for a larger-scale inspection routine, rehabilitation, or repair project.

APPENDIX A:

Consent Decree Compliance Schedule

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Consent Decree Compliance Schedule

	CONSENT DECREE ACTIVITY	PERCENT COMPLETE	DUE DATE	DATE OF COMPLETION
	ASSESSED STIPULATED PENALTY			
✓	$14,000 for 9 DWOs, between April 18, 2009 through June 30, 2010	100%	1/9/2011	12/21/2010
	CIVIL PENALTY			
✓	Pay Civil Penalties to EPPC and US EPA	100%	06/18/07	06/18/07
	CMOM PROGRAM REQUIREMENTS – 2007 through 2014			
✓	Submit CMOM Program Self-Assessment	100%	10/18/07	10/17/07
✓	Submit Grease Control Program	100%	10/18/07	09/17/07
✓	Submit Pump Station Backup Power Plan	100%	04/18/08	12/14/07
✓	Submit Sewer Overflow Response Plan (SORP)	100%	10/18/07	10/09/07
Submit CMOM Annual Report				
✓	CMOM Annual Report 1	100%	12/31/07	12/28/07
✓	CMOM Annual Report 2	100%	12/31/08	12/19/08
✓	CMOM Annual Report 3	100%	12/31/09	12/18/09
✓	CMOM Annual Report 4	100%	12/31/10	12/21/10
✓	CMOM Annual Report 5	100%	12/31/11	12/21/11
✓	CMOM Annual Report 6	100%	12/31/12	12/31/12
	CMOM Annual Report 7	0%	12/31/13	
	CMOM Annual Report 8	0%	12/31/14	
Phased Grease Control Implementation				
✓	Phase 1 Tasks	100%	01/08/09	01/08/09
✓	Phase 2 Tasks	100%	01/08/10	01/08/10
✓	Phase 3 Tasks	100%	01/08/11	01/08/11
✓	Phase 4 Tasks / Full Implementation	100%	01/08/12	12/31/11
Complete Pump Station Backup Power Projects (110 Total)		75%	12/31/2015	
Complete SORP Annual Review				
✓	SORP Annual Review 1	100%	05/14/09	07/10/09
✓	SORP Annual Review 2	100%	11/10/10	10/01/10
✓	SORP Annual Review 3	100%	11/10/11	11/10/11
✓	SORP Annual Review 4	100%	11/10/12	11/10/12
	SORP Annual Review 5	30%	11/10/13	
	SORP Annual Review 6	0%	11/10/14	
	INITIAL WATERSHED PROJECTS			
✓	Complete Initial Watershed Projects (51 Total)	100%	12/31/14	06/06/12
Submit Initial Watershed Projects Annual Report				
✓	Initial Watershed Projects Annual Report 1	100%	04/18/08	04/08/08
✓	Initial Watershed Projects Annual Report 2	100%	06/07/09	06/05/09
✓	Initial Watershed Projects Annual Report 3	100%	06/07/10	06/04/10
✓	Initial Watershed Projects Annual Report 4	100%	06/07/11	06/07/11
✓	Initial Watershed Projects Annual Report 5	100%	06/07/12	06/07/12
✓	Initial Watershed Projects Annual Report 6	100%	06/07/13	06/06/13
	NMC PROGRAM REQUIREMENTS – 2007 through 2014			
✓	Submit NMC Documentation of Compliance	100%	04/18/08	03/12/08
✓	Complete Additional NMC Compliance Activities (51 Total)	100%	04/18/09	4/18/09[1]
Submit NMC Annual Report				
✓	NMC Annual Compliance Report 1	100%	09/04/09	05/11/09
✓	NMC Annual Compliance Report 2	100%	09/04/10	06/04/10
✓	NMC Annual Compliance Report 3	100%	09/04/11	06/21/11
✓	NMC Annual Compliance Report 4	100%	09/04/12	07/02/12
✓	NMC Annual Compliance Report 5	100%	09/04/13	09/04/13
	NMC Annual Compliance Report 6	0%	09/04/14	

Consent Decree Compliance Schedule

	CONSENT DECREE ACTIVITY	PERCENT COMPLETE	DUE DATE	DATE OF COMPLETION
	PUBLIC PARTICIPATION			
✓	Watershed Summit	100%	N/A	08/30/07
✓	Watershed Community Council Meeting 1	100%	N/A	11/27/07
✓	Watershed Community Council Meeting 2	100%	N/A	02/26/08
✓	Watershed Community Council Meeting 3	100%	N/A	05/20/08
✓	Watershed Community Council Meeting 4	100%	N/A	08/19/08
✓	Watershed Community Council Meeting 5	100%	N/A	11/18/08
✓	Watershed Community Council Meeting 6	100%	N/A	02/17/09
✓	Watershed Community Council Meeting 7	100%	N/A	05/20/10
✓	Watershed Community Council Meeting 8	100%	N/A	11/03/10
	PUMP STATION OVERFLOW ELIMINATION PLAN (PSOEP) – 2007 through 2014			
✓	Submit PSOEP	100%	10/18/07	09/18/07
Submit PSOEP Annual Report				
✓	PSOEP Annual Report 1	100%	05/14/09	05/11/09
✓	PSOEP Annual Report 2	100%	05/14/10	05/14/10
✓	PSOEP Annual Report 3	100%	05/14/11	05/13/11
✓	PSOEP Annual Report 4	100%	05/14/12	05/14/12
✓	PSOEP Annual Report 5	100%	05/14/13	05/14/13
	PSOEP Annual Report 6	0%	05/14/14	
	REPORTING – 2007 through 2014			
Submit Quarterly Report				
✓	Submit Quarterly Report 1	100%	01/30/08	01/30/08
✓	Submit Quarterly Report 2	100%	04/30/08	04/30/08
✓	Submit Quarterly Report 3	100%	07/30/08	07/30/08
✓	Submit Quarterly Report 4	100%	10/30/08	10/30/08
✓	Submit Quarterly Report 5	100%	01/30/09	01/30/09
✓	Submit Quarterly Report 6	100%	04/30/09	04/30/09
✓	Submit Quarterly Report 7	100%	07/30/09	07/30/09
✓	Submit Quarterly Report 8	100%	10/30/09	10/30/09
✓	Submit Quarterly Report 9	100%	01/30/10	01/29/10
✓	Submit Quarterly Report 10	100%	04/30/10	04/30/10
✓	Submit Quarterly Report 11	100%	07/30/10	07/30/10
✓	Submit Quarterly Report 12	100%	10/30/10	10/29/10
✓	Submit Quarterly Report 13	100%	01/30/11	01/28/11
✓	Submit Quarterly Report 14	100%	04/30/11	04/29/11
✓	Submit Quarterly Report 15	100%	07/30/11	07/29/11
✓	Submit Quarterly Report 16	100%	10/30/11	10/28/11
✓	Submit Quarterly Report 17	100%	01/30/12	01/30/12
✓	Submit Quarterly Report 18	100%	04/30/12	04/30/12
✓	Submit Quarterly Report 19	100%	07/30/12	07/30/12
✓	Submit Quarterly Report 20	100%	10/30/12	10/30/12
✓	Submit Quarterly Report 21	100%	01/30/13	01/30/13
✓	Submit Quarterly Report 22	100%	04/30/13	04/30/13
✓	Submit Quarterly Report 23	100%	07/30/13	07/30/13
✓	Submit Quarterly Report 24	100%	10/30/13	10/30/13
	Submit Quarterly Report 25	0%	01/30/14	
	Submit Quarterly Report 26	0%	04/30/14	
	Submit Quarterly Report 27	0%	07/30/14	
	Submit Quarterly Report 28	0%	10/30/14	

Consent Decree Compliance Schedule

	CONSENT DECREE ACTIVITY	PERCENT COMPLETE	DUE DATE	DATE OF COMPLETION
	STATE ENVIRONMENTAL PROJECTS			
✓	Setup 6 Separate Escrow Accounts	100%	10/18/07	10/18/07
✓	Conservancies	100%	04/18/12	04/18/12
✓	*Boone County*	100%	04/18/12	03/26/12
✓	*Campbell County*	100%	04/18/12	02/23/12
✓	*Kenton County*	100%	04/18/12	04/17/12
✓	Licking River Watershed Watch	100%	04/18/12	09/28/11
✓	Split Rock	100%	04/18/12	12/18/08
✓	Education Programs	100%	04/18/12	08/04/11
✓	State Environmental Project Completion Report	100%	06/17/12	06/15/12
	SUPPLEMENTAL PROJECTS			
✓	Supplemental Environmental Projects	100%	04/18/12	04/12/12
✓	SEP Completion Reports	100%	06/17/12	06/15/12
	WATERSHED PLANS			
Framework for Developing Watershed Plans				
✓	Obtain Public Input on Framework for Watershed Plans	100%	04/09/08	04/09/08
✓	Submit Framework for Watershed Plans	100%	04/18/08	04/17/08
First Round Watershed Plans				
✓	Obtain Public Input on First Round of Watershed Plans	100%	06/27/09	06/08/09
✓	*Public Comment Period (5/7/09-6/8/09)*	100%	06/08/09	06/08/09
✓	*Boone County Public Meeting*	100%	N/A	05/14/09
✓	*Campbell County Public Meeting*	100%	N/A	05/19/09
✓	*Kenton County Public Meeting*	100%	N/A	05/21/09
✓	Submit First Round of Watershed Plans	100%	06/30/09	06/30/09
✓	Resubmit First Round of Watershed Plans	100%	03/31/11	03/31/11
✓	Resubmit First Round of Watershed Plans - Revision	100%	10/03/13	10/01/13
Second Round Watershed Plans				
	Obtain Public Input on Second Round of Watershed Plans	0%	To Be Determined[2]	
	Submit Second Round of Watershed Plans	0%	To Be Determined[2]	
Third Round Watershed Plans				
	Obtain Public Input on Third Round of Watershed Plans	0%	To Be Determined[2]	
	Submit Third Round of Watershed Plans	0%	To Be Determined[2]	
	Consent Decree Compliance			
	Complete all Consent Decree Compliance Measures	36%	12/31/25	

[1] *Project schedules for three of the 51 projects were extended beyond 4/18/2009, as described in the 2009 NMC Annual Report. The three projects were complete as of December 2009.*

[2] *Deadline is dependent on the approval date of each Watershed Plan.*

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APPENDIX B:

Watershed Improvement Program

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Initial Watershed Projects

CIP Title	Basin	Scheduled Completion Date	Actual Completion Date	Status
Initial Watershed Projects				
Strawberry PS Elimination	North	2006	2005	Complete
Beechwood Outfall Sewer Replacement	North	2007	2007	Complete
Eastern Regional - Contract 1--Pond Creek Force Main and Gravity Sewer to Eastern Regional WRF	East	2008	2007	Complete
Eastern Regional - Contract 2--Kahn's Gravity Sewer and Gravity Sewer to the Pond Creek PS	East	2008	2007	Complete
US 27 at Summit Assessment	East	2008	2006	Complete
Eastern Regional - Contract 4--Alex-Licking Gravity Sewer & Force Main to Contract 1	East	2009	2008	Complete
Eastern Regional - Contract 6--Pond Creek PS	East	2008	2007	Complete
Eastern Regional - Contract 8A--Alex-Licking PS	East	2009	2009	Complete
Parkside PS Relocation	East	2008	2007	Complete
Eastern Regional Water Reclamation Facility	East	2008	2008	Complete
Highland Heights PS Study	East	2006	2006	Complete
Wilson/Waterworks Road Relief Sewer Study	East	2008	2007	Complete
Pinehill/Skyview Terrace Sewer	East	2006	2005	Complete
Eastern Regional - Contract 7--Riley Road #2 PS	East	2009	2009	Complete
Eastern Regional - Contract 3--Riley Force Main and Gravity Sewer to the ERWRF	East	2009	2010	Complete
Western Regional - KDOT - Turkeyfoot Road Force Main	West	2006	2005	Complete
Western Regional - Union Sewer (North and South)	West	2013	2008	Complete
American Sign PS Rehabilitation	West	2008	2008	Complete
Allen Fork Collection System - Phase I Improvements	West	2009	2007	Complete
Duncan Drive Assessment Project	West	2007	2006	Complete
Western Regional - Sunnybrook Sewer	West	2013	2010	Complete
Western Regional - Gunpowder Interceptor Sewer	West	2013	2010	Complete
Banklick PS Screening Facility	Central	2006	2005	Complete
Stevenson Road Relief Sewer Project Phase II	Central	2006	2006	Complete
Latonia Combined Sewer Separation	Central	2009	2007	Complete
Licking River Sewer Crossing Study	Central	2007	2007	Complete
McMillan PS Removal	Central	2006	2005	Complete
Meyer Road PS Rehabilitation	Central	2008	2008	Complete
Macke PS Rehabilitation	Central	2008	2008	Complete

Updated: October 30, 2013

Initial Watershed Projects

CIP Title	Basin	Scheduled Completion Date	Actual Completion Date	Status
Initial Watershed Projects				
Richwood PS Improvements	Central	2006	2005	Complete
Patton Street Sewer Study	Central	2006	2006	Complete
South Hills Outfall	Central	2008	2007	Complete
Grit Chamber Projects	Multiple	2010	2008	Complete
Fort Wright Illicit Discharge Removal	Multiple	2007	2006	Complete
Fort Wright Sanitary Sewer Rehabilitation Phase 1	Multiple	2007	2006	Complete
Fort Wright Outfall Sewer - Phase II	Multiple	2006	2006	Complete
Dry Creek Treatment Plant - Grit Removal Modifications	Multiple	2006	2005	Complete
Large Diameter Sewer Assessment Program - Phase III	Multiple	2007	2006	Complete
Brookwood Subdivision SSES Study	Multiple	2006	2006	Complete
Southern Kenton Drainage Study	Multiple	2007	2006	Complete
Wilson Road Sewer Assessment Project	Multiple	2006	2005	Complete
Apple Drive Sewer Outfall	Multiple	2006	2006	Complete
Bluegrass Swim Club Sewer Separation	Multiple	2008	2007	Complete
Eastern Regional – Sunset Pump Station and Force Main Improvements	East	2010	2010	Complete
Western Regional Conveyance System to Western Regional WRF	West	2013	2012	Complete
Western Regional Water Reclamation Facility	West	2013	2012	Complete
Western Regional - Narrows Road Diversion PS	West	2013	2012	Complete
Western Regional - Frogtown Interceptor Sewer (from Sunnybrook Dr. to Frogtown Rd.)	West	2014	2012	Complete
Western Regional - South Fork Gunpowder Interceptor Sewer and Rosetta Sewer	West	2013	2012	Complete
Western Regional - Turkeyfoot Industrial Road Force Main	West	2013	2012	Complete
Western Regional - Richwood Sewer and Force Main	West	Removed from Initial Watershed Projects. Approved in letter from Cabinet dated May 13, 2013.		

Watershed Plan Projects: Five Year Program (2009 - 2014)

System-wide Programs

CIP Title	Basin	Project Description	Target Project Benefit	Scheduled Completion Date	Actual Completion Date	Past Activity for 07/01/2013 to 09/30/2013	Planned Activity for 10/01/2013 to 12/31/2013
(Schedules listed in this section are subject to change based on the approval of SD1's Watershed Plans.)							
Priority Inflow and Infiltration Source Identification & Removal Program							
Lakeview I/I Source Identification & Removal	Central	SSES activities and I/I removal in areas where found to be cost effecitve and feasible upstream of the Lakeview Pump Station	Reduce I/I and SSOs in Lakeview PS service area	Beyond 2014	n/a	Initial Design	Initial Design
Licking River Siphon Source Identification and Removal	Central	SSES activities and I/I removal in areas where found to be cost effecitve and feasible upstream of the Licking River Siphon	Reduce I/I and SSOs in Licking River Siphon area	Beyond 2014	n/a	Initial Design	Initial Design
Taylor Creek Source Identification and Removal	East	SSES activities and I/I removal in areas where found to be cost effecitve and feasible in the Taylor Creek area	Reduce I/I and SSOs in Taylor Creek area	Beyond 2014	n/a	Initial Design	Initial Design
Green Programs (DRIP & GrIPP)							
Boone Woods YMCA Detention Model	North	Partnership with Northern Kentucky University Center for Applied Ecology to retrofit a detention basin on Boone Woods YMCA property	Improve Water Quality	2010	2010	Complete	
City of Covington: 12th Street Bioswale	North	Partnership with City of Covington to install street planters leading to a bioswale and rain garden along 12th Street	Reduce CSO volume	2011	2011	Complete	
City of Covington: Main Strasse Gateway Biofiltration Swale	North	Partnership with City of Covington and Transit Authority of Northern Kentucky to install biolfiltration swales on city property at the Bakewell parking lot	Reduce CSO volume	2012	2013	Complete	
Notre Dame Academy Basin Retrofit	North	Partnership with Notre Dame Academy to retrofit an existing detention basin on school property	Reduce CSO volume	2009	2009	Complete	
City of Ft. Thomas: Rossford Park Rain Garden	East	Partnership with City of Ft. Thomas to install rain gardens at Rossford Park	Improve Water Quality	2012	2012	Complete	
City of Ft. Thomas: Memorial Parkway Bioswalw	East	Partnership with City of Ft. Thomas to install a bioswale at the Northern Kentucky Water District property located along Memorial Parkway.	Improve Water Quality	2010	2010	Complete	
Kenton County School District: Turkeyfoot Middle School	Central	Partnership with Kenton County School District to install rain garden at Turkeyfoot Middle School	Improve Water Quality	2010	2010	Complete	
City of Covington: Madison Ave. Rain Garden	North	Partnership with City of Covington to install two rain gardens or street planters within the right-of-way along Madison Avenue	Reduce CSO volume	2013	n/a	Finish Construction	Complete
Kenton County Public Library: Mary Ann Morgan Branch	North	Partnership with Kenton County Library to install rain gardens and permeable pavers on site at the Mary Ann Mongan Branch	Reduce CSO volume	2013	n/a	Finish Construction	Complete
Demonstration Projects (Pilot Projects & Innovative Technology Testing)							
St. Elizabeth Detention Basin Retrofit	North	Modification of an existing dry detention basin located on property owned by St. Elizabeth Medical Center.	Reduce CSO volume in the Willow Run Sewershed	2009	2009	Post-Construction Monitoring	
Prisoner's Lake Rainwater Harvesting	North	Construction of a small storm water pumping station and force main to capture storm water runoff from Prisoner's Lake that will be re-used in an irrigation pond for a small public golf course.	Manage storm water entering the CSS	2010	2010	Post-Construction Monitoring	
Terraced Reforestation	North	Construction of a series of vegetated, terraced berms within the I-71/75 right-of-way in the City of Covington.	Manage storm water entering the CSS	2010	2011	Post-Construction Monitoring	
Watershed Controls Pilot Projects - Regional and Decentralized Controls							
Regional Project: Banklick Regional Wetlands	Central	Constructed wetland that treats flow diverted from Banklick Creek to reduce bacteria concentrations.	Improve water quality of Banklick Creek	2011	2011	Post-Construction Monitoring	
Decentralized Control Project	Central	Storm water control measures such as wetlands, biofiltration basins, and enhanced retention serving upstream drainage areas smaller than one square mile, but typically greater than five acres	Improve water quality of local streams	Beyond 2014	n/a	Initial Design	Initial Design

Watershed Plan Projects: Five Year Program (2009 - 2014)

Specific Basin Projects

CIP Title	Basin	Project Description	Target Project Benefit	Scheduled Completion Date	Actual Completion Date	Past Activity for 07/01/2013 to 09/30/2013	Planned Activity for 10/01/2013 to 12/31/2013
(Schedules listed in this section are subject to change based on the approval of SD1's Watershed Plans.)							
Van Deren Sanitary Sewer Improvements	North	Sanitary and storm sewer improvements in a 100 home area to separate common manholes and remove illicit connections and I/I	Reduce SSOs and illicit discharges in Lakeside Park	2011	2011	Post-Construction Monitoring	
Avon Drive Sanitary Sewer Improvements	North	Replacement of 570 LF of 12-inch sewer with 24-inch pipe and installation of new storm sewer	Reduce SSOs in Lakeside Park	2010	2010	Post-Construction Monitoring	
Willow Run Direct Entry Point Bar Racks	North	Installed bar racks on 10 direct entry points where open storm channels discharge into sewer system	Reduce debris entry into system, maintain capacity and reduce blockages	2009	2010	Post-Construction Monitoring	
KYTC Basin - Green Infrastructure Retrofit	North	Conversion of traditional detention basin near I-75 to provide greater detention and infiltration by modifying the outlet structure and other improvements	CSO reduction, informs future green infrastructure design	2012	2011	Post-Construction Monitoring	
Lakeview PS Pump Replacement	Central	Replaceament of 8 pumps at the Lakeview pump station along with piping and electrical improvements to provide a reliable peak capacity of 22.5 MGD	Reduce SSOs at Lakeview PS and increase PS reliability	2014	2013	Finish Construction	Complete
Church Street (gray, green, and watershed controls) Phase 1	Central	Disconnection of downspouts from approximately 130 homes, the separation of street load on six streets, new biofiltration basin and installation of approximately 1,300 linear feet of new 72-inch sewer	Reduce CSO frequency and volume into Banklick Creek and improve structural integrity of sewer infrastructure.	2014	n/a	Construction	Construction
Vernon Lane – Public & Private Source I/I Removal	Central	Combinbination of private I/I removal, sewer rehabilitation, manhole lining, and stormwater BMPs in	Eliminate Vernon Ln. SSO and improve water quality	Beyond 2014	n/a	Ph 1 Construction Ph 2 Final Design	Ph 1 Construction Ph 2 Final Design
Ash Street PS and Forcemain	East	Construction of a new approximately 7 MGD pump station in Silver Grove and new force main to the Riley Rd. Pump Station in Alexandria Also includes new force main to redirect flow from the Silver Grove PS to the Ash St. PS	Reduce overflows from Silver Grove CSO and SSO reduction in the Highland Heights PS and Silver Grove PS service areas.	2015	n/a	Final Design	Final Design
Riviera Sewer Replacement	East	Replacement of approximately 4,100 LF of deteriorated 24-inch pipe in the Taylor Creek area	Reduce CSOs into Taylor Creek and address structural issues	Beyond 2014	n/a	None	None
Lakeside Park – Public Sewer Rehab and Private Source Removal	North	Combinbination of private I/I removal, sewer rehabilitation/replacment and manhole lining, and stormwater BMPs where feasible in Lakeside Park	Eliminate SSOs in Lakside Park	Beyond 2014	n/a	In Progress	In Progress
Willow Run Dynamic Control Facility	North	Construction of a dynamic weir facility at the Willow Run overflow diversion to provide in-line storage	CSO reduction using in-line storage	2015	n/a	None	None

Other Committed Projects

CIP Title	Basin	Project Description	Target Project Benefit	Scheduled Completion Date	Actual Completion Date	Past Activity for 07/01/2013 to 09/30/2013	Planned Activity for 10/01/2013 to 12/31/2013
(Schedules listed in this section are subject to change based on the approval of SD1's Watershed Plans.)							
Donnemeyer Improvements, Newport Pavilion Improvements, Bellevue Relief Sewer, Wilson/Waterworks Road, Covert Run	East	Multiple sewer projects including replacement with larger 18-30 -inch diameter sewers in the Taylor Creek area. Also included private source removal	Reduce CSO and SSO in Taylor Creek area and address basement flooding	2011	2011	Post-Construction Monitoring	Post-Construction Monitoring
Dry Creek WWTP Headworks Imrpovements	North	Construction of a new 110 MGD headworks facility at the Dry Creek WWTP	Increase reliability and wet weather treatment cpacity at Dry Creek WWTP	2013	n/a	Construction	Construction

Pump Station Backup Power Plan

CIP Title	Basin	Original Proposed Solution	Updated Proposed Solution	Scheduled Completion Date	Actual Completion Date	Status as of October 2013
Category 1 Projects (4 total projects)						
Alex Licking	East	Permanent Generator	n/a	2008	2008	Complete
American Sign	West	Permanent Generator	n/a	2008	2008	Complete
Riley Road	East	Permanent Generator	n/a	2009	2009	Complete
Sunset	East	Permanent Generator	Backup Dry Prime Pump with a Diesel	2010	2010	Complete
CIP Title	**Basin**	**Original Proposed Solution**	**Updated Proposed Solution**	**Scheduled Completion Date**	**Actual Completion Date**	**Status as of October 2013**
Category 2 Projects (21 total projects)						
Kahns	East	PS Elimination	n/a	2007	2007	Complete
Meadow Hill	Central	PS Elimination Study	PS Elimination	Study - 2008	2008	Complete
				2012 - 2015	2010	
Riley Road No. 1	East	PS Elimination	n/a	2009	2009	Complete
Riley Road No. 2						
Riverwatch PS	North	PS Elimination Study	PS Elimination	Study - 2008	2008	Complete
				2012 - 2015	2008	Complete
South Park Industrial	North	PS Elimination Study	Backup Dry Prime Pump with a Diesel	Study - 2008	2008	Complete
				2012 - 2015	2010	Complete
Wedgewood Dr	Central	PS Elimination Study	Evaluating Solutions	Study - 2008	2008	Complete
				2015	n/a	Evaluating Solutions
Willow Bend No. 2	West	PS Elimination Study	PS Elimination	Study - 2008	2008	Complete
				2013	2013	Complete
Army Reserve	East	PS Elimination Study	Electrical hook up for portable generator	Study - 2008	2008	Complete
				2013	n/a	In Progress
Eagles Landing	West	PS Elimination Study	Electrical hook up for portable generator	Study - 2008	2008	Complete
				2013	n/a	In Progress
Evergreen	Central	PS Elimination Study	Evaluating Solutions	Study - 2008	2008	Complete
				2015	n/a	Evaluating Solutions
Lamphill	East	PS Elimination Study	Electrical hook up for portable generator	Study - 2008	2008	Complete
				2011	2011	Complete
Mill House Crossing	Central	PS Elimination Study	Backup Dry Prime Pump with a Diesel	Study - 2008	2008	Complete
				2012	2012	Complete
Ridgefield	North	PS Elimination Study	Evaluating Solutions	Study - 2008	2008	Complete
				2015	n/a	Evaluating Solutions
War Admiral	West	PS Elimination Study	PS Elimination	Study - 2008	2008	Complete
				2012 - 2015	2011	Complete
Blackstone	West	PS Elimination Study	Evaluating Solutions	Study - 2008	2008	Complete
				2015	n/a	Evaluating Solutions
Dublin Green No. 1	West	PS Elimination Study	PS Elimination	Study - 2008	2008	Complete
				2015	2012	Complete
Fowler Creek	West	PS Elimination	These stations will be eliminated after the Western Regional collection system is operational.	2013	2011	Complete
Gammon Calmet	West	PS Elimination		2013	2012	Complete
Gunpowder	West	PS Elimination		2013	2012	Complete
Union	West	PS Elimination		2013	2012	Complete

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Pump Station Backup Power Plan

CIP Title	Basin	Original Proposed Solution	Updated Proposed Solution	Scheduled Completion Date	Actual Completion Date	Status as of October 2013
Category 3 Projects (24 total projects)						
Airport Exchange Ind Park	North	Permanent Generator	n/a	2009	2009	Complete
Barrs Branch	East	Permanent Generator	Portable Generator	2009	2009	Complete
Cedar Point	East	Permanent Generator	n/a	2009	2009	Complete
Bullitsville	North	Permanent Generator	n/a	2008	2008	Complete
Catalpa	Central	Permanent Generator	n/a	2009	2009	Complete
Centerplex	East	Permanent Generator	n/a	2008	2008	Complete
Hempsteade	West	Permanent Generator	n/a	2009	2009	Complete
Highland Heights	East	Portable Generator	n/a	2009	2009	Complete
Dublin Green No. 2	West	Permanent Generator	n/a	2009	2009	Complete
Brookwood	East	Permanent Generator	n/a	2009	2009	Complete
Ky Aire	West	Permanent Generator	n/a	2008	2007	Complete
Levi	West	Permanent Generator	n/a	2008	2007	Complete
Maple Ave	Central	Permanent Generator	n/a	2009	2009	Complete
Sand Run	North	Permanent Generator	n/a	2008	2008	Complete
Saturn	West	Permanent Generator	n/a	2009	2009	Complete
Second Street	Central	Permanent Generator	n/a	2009	2009	Complete
Skyport	North	Permanent Generator	n/a	2008	2008	Complete
South Hampton	West	Permanent Generator	n/a	2008	2007	Complete
Thornwilde	North	Permanent Generator	n/a	2008	2008	Complete
Bunning Lane	East	PS Elimination Study	Evaluating Solutions	2015	n/a	Evaluating Solutions
Kees	East	Permanent Generator	Backup Dry Prime Pump with a Diesel	2011	2011	Complete
Overlook	East	Permanent Generator	Evaluating Solutions	2015	n/a	Evaluating Solutions
Riverview Farms	North	Permanent Generator	Evaluating Solutions	2015	n/a	Evaluating Solutions
Stillwater	East	Permanent Generator	Evaluating Solutions	2015	n/a	Evaluating Solutions

Pump Station Backup Power Plan

CIP Title	Basin	Original Proposed Solution	Updated Proposed Solution	Scheduled Completion Date	Actual Completion Date	Status as of October 2013
Category 4 Projects (50 total projects)						
Banklick	Central	Permanent Generator	n/a	2009-2014	2009	Complete
Cedar	Central	Permanent Generator	n/a	2009-2014	2009	Complete
Fowler Ridge	Central	Permanent Generator	Backup Dry Prime Pump with a Diesel	2009-2014	2010	Complete
Lassing Green	West	Permanent Generator	n/a	2009-2014	2009	Complete
Leathers Rd	Central	Permanent Generator	Backup Dry Prime Pump with a Diesel	2009-2014	2010	Complete
Marshall Rd	Central	Permanent Generator	n/a	2009-2014	2010	Complete
Mineola Pike	North	Permanent Generator	Backup Dry Prime Pump with a Diesel	2009-2014	2010	Complete
Newport Steel Mill	East	Permanent Generator	n/a	2009-2014	2009	Complete
Paul Rd	East	Permanent Generator	Portable Generator	2009-2014	2010	Complete
Rosewood Lane	East	Permanent Generator	Backup Dry Prime Pump with a Diesel	2009-2014	2010	Complete
Shadow Lake	East	Permanent Generator	Backup Dry Prime Pump with a Diesel	2009-2014	2009	Complete
Wolf Rd	Central	Permanent Generator	Backup Dry Prime Pump with a Diesel	2009-2014	2009	Complete
Air Park West	North	Permanent Generator	Backup Dry Prime Pump with a Diesel	2009-2014	2011	Complete
Arbortech	North	Permanent Generator	Backup Dry Prime Pump with a Diesel	2012	2012	Complete
Arborwood	North	Permanent Generator	Evaluating Solutions	2015	n/a	Evaluating Solutions
Brandtly Ridge	Central	Permanent Generator	Backup Dry Prime Pump with a Diesel	2012	2012	Complete
Brentwood	North	Permanent Generator	Electrical hook up for portable generator	2015	n/a	In Progress
Brushup Lane	West	Permanent Generator	PS Elimination	2012	2012	Complete
Carlisle Ave	East	Permanent Generator	Evaluating Solutions	2015	n/a	Evaluating Solutions
Cinnamon Ridge	West	Permanent Generator	Backup Dry Prime Pump with a Diesel	2012	2012	Complete
Cold Spring Crossing	East	Permanent Generator	Permanent Generator	2015	n/a	In Progress
Cold Spring Plaza	East	Permanent Generator	Backup Dry Prime Pump with a Diesel	2012	2012	Complete
Darma Ct	East	Permanent Generator	Electrical hook up for portable generator	2013	n/a	In Progress
Deer Creek No. 1	North	Permanent Generator	Backup Dry Prime Pump with a Diesel	2009-2014	2011	Complete
Deer Creek No. 2	North	Permanent Generator	Backup Dry Prime Pump with a Diesel	2009-2014	2011	Complete
Eighth Street	Central	Connect to Grid Power	Evaluating Solutions	2015	n/a	Evaluating Solutions
Gerrard Ave	East	Permanent Generator	Portable Generator	2009-2014	2011	Complete
Golf Course	Central	Permanent Generator	Electrical hook up for portable generator	2012	2012	Complete
Hampton Ridge	West	Permanent Generator	Evaluating Solutions	2015	n/a	Evaluating Solutions
Harrison Harbor	East	Permanent Generator	Portable Generator	2009-2014	2011	Complete

Pump Station Backup Power Plan

CIP Title	Basin	Original Proposed Solution	Updated Proposed Solution	Scheduled Completion Date	Actual Completion Date	Status as of October 2013
Category 4 Projects (continued)						
Harvest Hill	Central	Permanent Generator	Evaluating Solutions	2015	n/a	Evaluating Solutions
ICH	Central	Permanent Generator	Electrical hook up for portable generator	2011	2011	Complete
IDI	North	Permanent Generator	Electrical hook up for portable generator	2012	2012	Complete
Independence Station Rd	Central	Permanent Generator	Backup Dry Prime Pump with a Diesel	2009-2014	2011	Complete
Jefferson Ave	East	Permanent Generator	Portable Generator	2009-2014	2011	Complete
Jericho Rd	Central	Permanent Generator	Electrical hook up for portable generator	2011	2011	Complete
Jonathan	West	Permanent Generator	Evaluating Solutions	2015	n/a	Evaluating Solutions
Litton	North	Permanent Generator	Electrical hook up for portable generator	2012	2012	Complete
Ohio Ave	East	Permanent Generator	Portable Generator	2009-2014	2011	Complete
Orchard Estates	West	Permanent Generator	Evaluating Solutions	2015	n/a	Evaluating Solutions
Parkside No. 2	East	Permanent Generator	Electrical hook up for portable generator	2012	2012	Complete
Patton Street	Central	Dual Utility Power Feed	Evaluating Solutions	2015	n/a	Evaluating Solutions
Ria Vista	North	Permanent Generator	Electrical hook up for portable generator	2011	2011	Complete
Silver Grove	East	Permanent Generator	Evaluating Solutions	2015	n/a	Evaluating Solutions
St Annes	East	Permanent Generator	Evaluating Solutions	2015	n/a	Evaluating Solutions
Sycamore	West	Permanent Generator	PS Elimination	2015	2012	Complete
Taylor Mill Rd	Central	Permanent Generator	Electrical hook up for portable generator	2011	2011	Complete
Wilder	East	Permanent Generator	Evaluating Solutions	2015	n/a	Evaluating Solutions
Wyndemere	North	Permanent Generator	Electrical hook up for portable generator	2012	2012	Complete
Youell Rd	West	Permanent Generator	Electrical hook up for portable generator	2012	2012	Complete

Pump Station Backup Power Plan

CIP Title	Basin	Original Proposed Solution	Updated Proposed Solution	Scheduled Completion Date	Actual Completion Date	Status as of October 2013
Category 5 Projects (6 total projects)						
Keavy	Central	Permanent Generator	Backup Dry Prime Pump with a Diesel	2010-2015	2010	Complete
Meadow Lane	Central	Permanent Generator	Backup Dry Prime Pump with a Diesel	2010-2015	2009	Complete
Cardinal Cove	North	Permanent Generator	Permanent Generator	2015	2013	Complete
Crestview	East	Permanent Generator	Evaluating Solutions	2015	n/a	Evaluating Solutions
Ripple Creek	East	PS Elimination Study	PS Elimination	2010-2015	2010	Complete
Winters Lane No. 2	East	Permanent Generator	Evaluating Solutions	2015	n/a	Evaluating Solutions
CIP Title	**Basin**	**Original Proposed Solution**	**Updated Proposed Solution**	**Scheduled Completion Date**	**Actual Completion Date**	**Status as of October 2013**
Category 6 Projects (5 total projects)						
Enzweiller	East	Permanent Generator	n/a	2012-2015	2009	Complete
Mafred	Central	Permanent Generator	Backup Dry Prime Pump with a Diesel	2012-2015	2009	Complete
Ridgeway	Central	Permanent Generator	Backup Dry Prime Pump with a Diesel	2012-2015	2009	Complete
Richwood	West	Permanent Generator	Backup Dry Prime Pump with a Diesel	2012	2012	Complete
Twin Lakes	Central	Permanent Generator	Evaluating Solutions	2015	n/a	Evaluating Solutions

Progress Summary	Number
2007 Complete Projects	4
2008 Complete Projects	8
2009 Complete Projects	24
2010 Complete Projects	11
2011 Complete Projects	16
2012 Complete Projects	18
2013 Complete Projects	2
Total Complete	**83**
2013 Active Projects	5
Total Project Activity	**88**

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Pump Station Overflow Elimination Plan

CIP Title	Basin	Scheduled Completion Date	Actual Completion Date	Activity for 07/01/2013 to 09/30/2013	Planned Activity for 10/01/2013 to 12/31/2013
Pump Station Overflow Elimination Projects					
Alex-Licking	East	12/31/2010	2008	Complete	
Harrison Harbor	East	12/31/2010	*See PS Oveflow Elimination Annual Report May 11, 2009	Complete	
Highland Acres	West	12/31/2010	2010	Complete	
Riley Road No.1	East	12/31/2010	2009	Complete	
Ripple Creek	Central	12/31/2010	2010	Complete	
South Hampton	West	3/31/2013	2012	Complete	
South Park	North	12/31/2010	2010	Complete	
Sunset	Central	12/31/2010	2010	Complete	
Taylorsport	North	12/31/2010	2004	Complete	
Union	West	3/31/2013	2012	Complete	
Allen Fork	North	12/31/2015	n/a	In-Progress	In-Progress
Crestview	East	12/31/2015	n/a	Phase 1 - Sewer and MH rehab is complete. Private service rehab is under evaluation. Pump station improvement is in Final Design.	
Kentucky Aire	West	12/31/2013	n/a	Construction	Finish Construction
Lakeview	Central	12/31/2023[1]	n/a	In-Progress	In-Progress

[1] *Revised deadline approved in letter from Cabinet dated May 13, 2013.*

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APPENDIX C:

Cumulative and Annual Overflow Data

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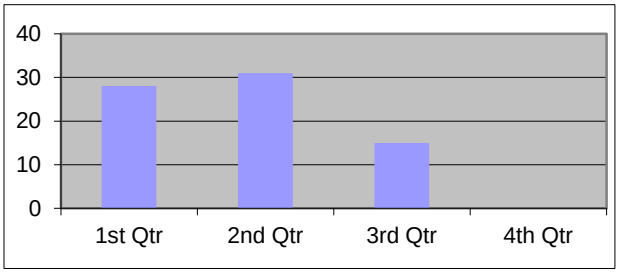
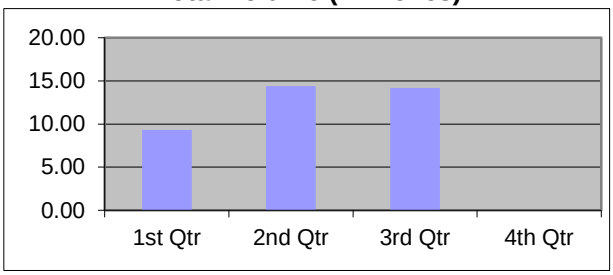
Cumulative Overflow Data
January 1, 2013 through December 31, 2013

Rainfall

Total Occurrences

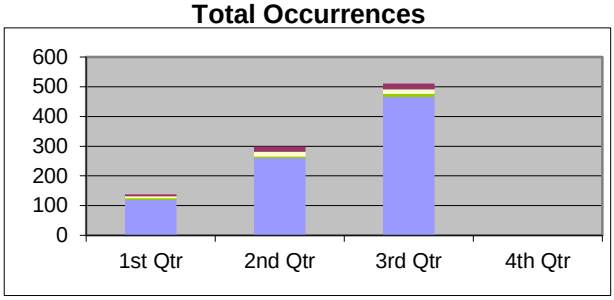


Total Volume (In Inches)

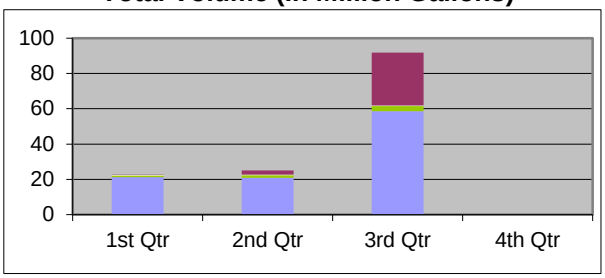


SSOs - Due to Wet Weather (WW) and Operational Issues

Total Occurrences



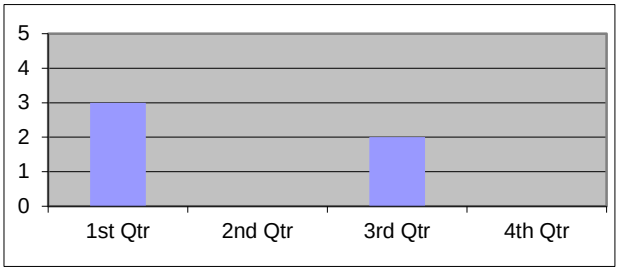
Total Volume (In Million Gallons)



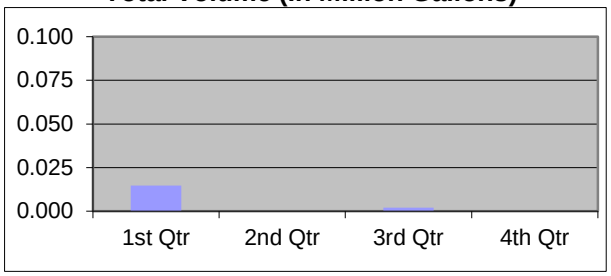
Recurring WW SSOs
Recurring WW CD Pump Station Overflows
Recurring WW Other Pump Station Overflows
Inactive WW Overflows
SSOs Due to Operational Issues

Dry Weather CSOs

Total Occurrences

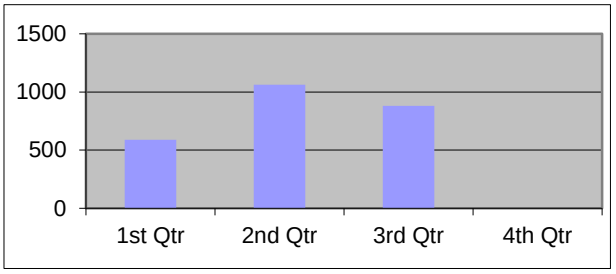


Total Volume (In Million Gallons)

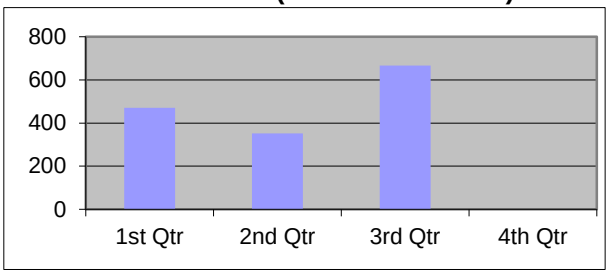


Wet Weather CSOs

Total Occurrences

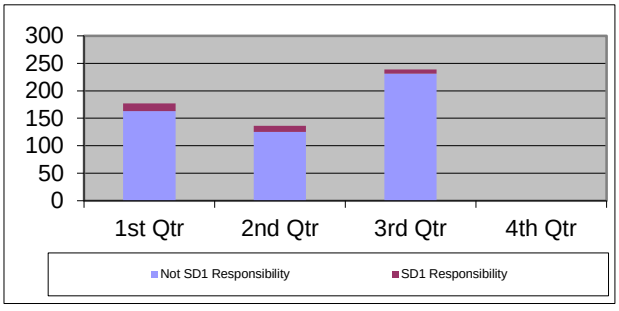


Total Volume (In Million Gallons)



Building Backups

Total Occurrences



2013 Overflow Summary			
	Occurrences	**Volume**	
Rainfall	74	37.870	inches
Recurring WW SSOs	904	107.171	MG
Inactive WW SSOs	0	0.000	MG
Operational SSOs	43	32.491	MG
Dry Weather CSOs	3	0.017	MG
Wet Weather CSOs	2531	1488.370	MG
Building Backups (Not SD1)		519	
Building Backups (SD1)		33	

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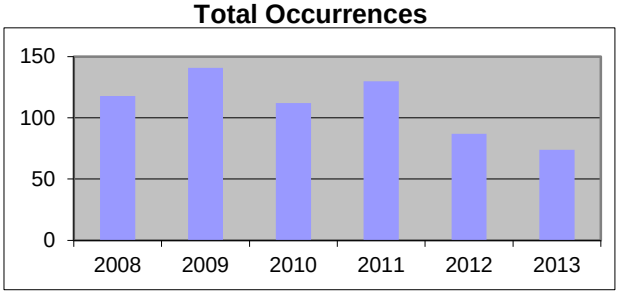
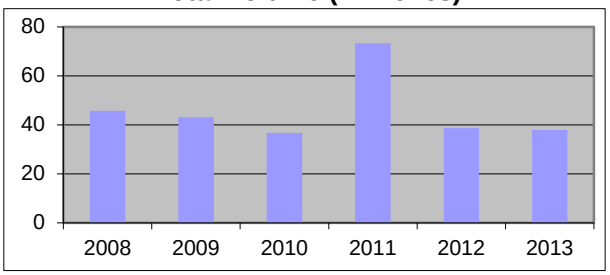
Annual Cumulative Overflow Data
2008 through 2013 Q3

Rainfall

Total Occurrences

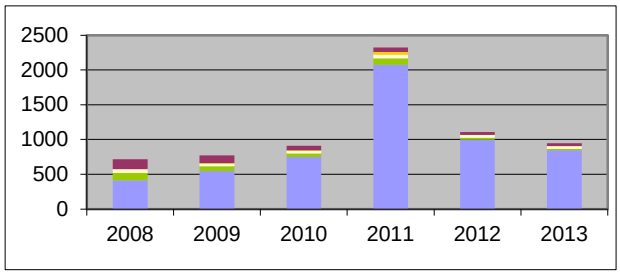


Total Volume (In Inches)

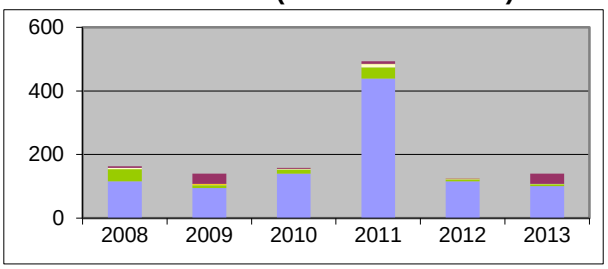


SSOs - Due to Wet Weather (WW) and Operational Issues

Total Occurrences



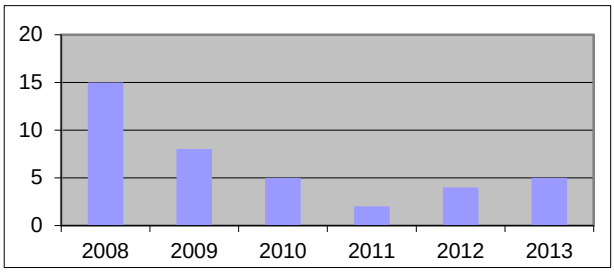
Total Volume (In Million Gallons)



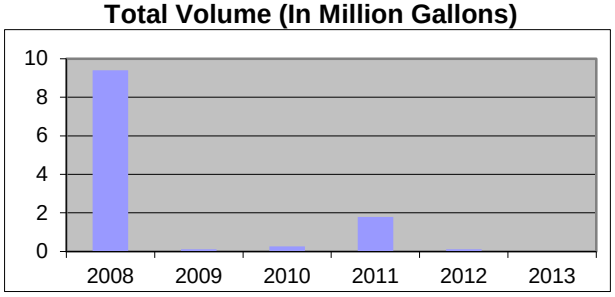
Recurring WW SSOs
Recurring WW CD Pump Station Overflows
Recurring WW Other Pump Station Overflows
Inactive WW Overflows
SSOs Due to Operational Issues

Dry Weather CSOs

Total Occurrences

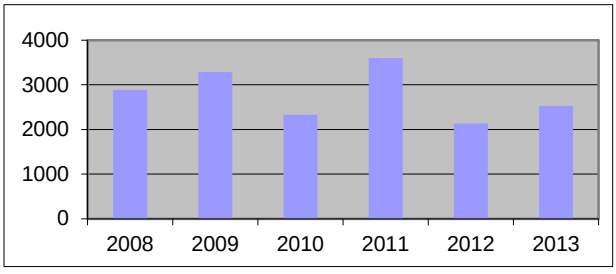


Total Volume (In Million Gallons)

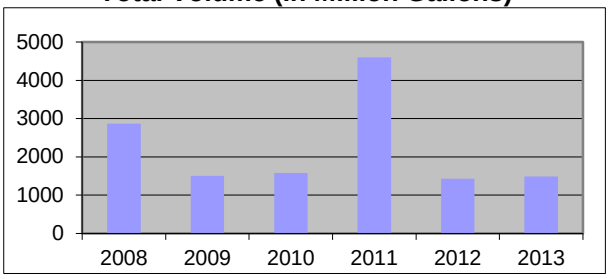


Wet Weather CSOs

Total Occurrences

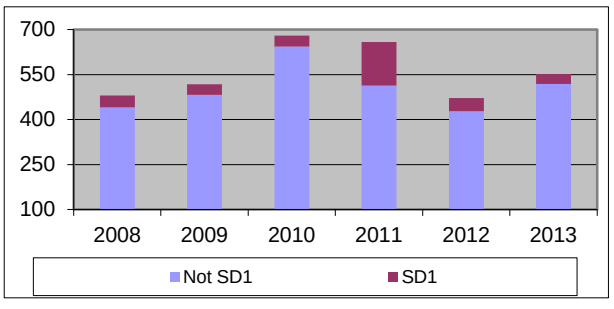


Total Volume (In Million Gallons)



Building Backups

Total Occurrences



Change from 2012 to 2013 Q3			
	Occurrences	**Volume**	
Rainfall	-13	-0.74	inches
Recurring WW SSOs	-163	-15.823	MG
Inactive WW SSOs	-1	-0.002	MG
Operational SSOs	5	32.176	MG
Dry Weather CSOs	1	-0.087	MG
Wet Weather CSOs	395	63.81	MG
Building Backups (Not SD1)		91	
Building Backups (SD1)		-11	

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APPENDIX D:

Recurring Wet Weather SSOs

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Wet Weather CSOs				
No.	CSO ID	KPDES Permit #	Model Predicted Activations	Model Predicted Overflow Volume (MG)
1	0010220	To Be Permitted	7	1.46
2	0030031	KY0021466 - Outfall 10	0	0.00
3	0200069	KY0021466 - Outfall 11	8	0.50
4	0330100	KY0021466 - Outfall 12	1	0.00
5	0340050	KY0021466 - Outfall 14	7	0.45
6	0340051	KY0021466 - Outfall 13	7	0.15
7	0360079	To Be Permitted	6	1.29
8	0540009	To Be Permitted	17	0.70
9	0540044	To Be Permitted	17	0.80
10	0540158	To Be Permitted	8	0.17
11	0550134	To Be Permitted	5	0.10
12	0570089	KY0021466 - Outfall 16	6	12.37
13	0570090	KY0021466 - Outfall 17	5	1.76
14	0600094	KY0021466 - Outfall 18	15	1.38
15	0600096	To Be Permitted	11	0.31
16	0600097	KY0021466 - Outfall 19	14	2.85
17	0600104	To Be Permitted	6	0.09
18	0610071	KY0021466 - Outfall 21	20	12.32
19	0610072	KY0021466 - Outfall 20	11	0.61
20	0620075	KY0021466 - Outfall 23	21	5.08
21	0620077	KY0021466 - Outfall 22	13	0.40
22	0630054	To Be Permitted	0	0.00
23	0630061	KY0021466 - Outfall 83	14	2.90
24	0640090	KY0021466 - Outfall 24	21	35.30
25	0650054	To Be Permitted	4	0.02
26	0650090	KY0021466 - Outfall 26	6	2.45
27	0650098	To Be Permitted	6	7.59
28	0650100	KY0021466 - Outfall 25	11	0.27
29	0660085	To Be Permitted	0	0.00
30	0690059	To Be Permitted	3	0.08
31	0690067	To Be Permitted	0	0.00
32	0730129	To Be Permitted	16	1.40
33	0770096	KY0021466 - Outfall 28	14	2.09
34	0790084	KY0021466 - Outfall 31	23	6.93
35	0790086	KY0021466 - Outfall 29	14	34.86
36	0840111	To Be Permitted	3	1.84
37	0840112	To Be Permitted	13	1.77
38	0840116	KY0021466 - Outfall 27	19	4.13
39	0870078	KY0021466 - Outfall 33	6	1.13
40	0870079	KY0021466 - Outfall 34	23	12.49
41	0880081	KY0021466 - Outfall 36	18	10.38
42	0880082	KY0021466 - Outfall 35	7	1.37
43	0890081	To Be Permitted	0	0.00
44	0910065	KY0021466 - Outfall 38	15	40.86
45	0910066	To Be Permitted	0	0.00
46	0910068	KY0021466 - Outfall 37	12	35.28
47	0910084	To Be Permitted	7	0.45
48	0930102	KY0021466 - Outfall 43	0	0.00
49	0930103	KY0021466 - Outfall 42	6	0.16
50	0930104	KY0021466 - Outfall 40	7	0.70

Wet Weather CSOs				
No.	CSO ID	KPDES Permit #	Model Predicted Activations	Model Predicted Overflow Volume (MG)
51	0930105	KY0021466 - Outfall 41	16	16.37
52	0930106	KY0021466 - Outfall 39	1	0.02
53	0960063	KY0021466 - Outfall 45	7	2.58
54	0960064	KY0021466 - Outfall 44	6	0.15
55	0980073	KY0021466 - Outfall 46	9	0.46
56	0980080	KY0021466 - Outfall 47	8	0.47
57	0980081	KY0021466 - Outfall 48	20	30.59
58	1320112	To Be Permitted	1	0.04
59	1350155	KY0021466 - Outfall 49	4	0.73
60	1380132	To Be Permitted	5	0.81
61	1380146	To Be Permitted	4	0.23
62	1420141	KY0021466 - Outfall 50	14	0.73
63	1420142	KY0021466 - Outfall 51	19	25.58
64	1420144	KY0021466 - Outfall 52	2	0.13
65	1420145	KY0021466 - Outfall 53	1	0.30
66	1420146	KY0021466 - Outfall 54	2	0.17
67	1420147	KY0021466 - Outfall 55	10	0.94
68	1440204	KY0021466 - Outfall 59	6	0.28
69	1440206	KY0021466 - Outfall 61	14	2.13
70	1440207	To Be Permitted	1	0.01
71	1440209	KY0021466 - Outfall 56	38	38.78
72	1440508	KY0021466 - Outfall 60	9	0.87
73	1470089	KY0021466 - Outfall 62	5	0.75
74	1470093	KY0021466 - Outfall 63	18	23.24
75	1480185	To Be Permitted	8	1.96
76	1480187	KY0021466 - Outfall 30	17	207.16
77	1490132	KY0021466 - Outfall 65	6	2.93
78	1490172	KY0021466 - Outfall 64	1	0.01
79	1500131	KY0021466 - Outfall 66	10	7.01
80	1510133	To Be Permitted	1	0.03
81	1710114	KY0021466 - Outfall 69	6	0.74
82	1710116	KY0021466 - Outfall 68	18	7.33
83	1710119	KY0021466 - Outfall 70	7	2.81
84	1710121	KY0021466 - Outfall 71	7	1.71
85	1710124	KY0021466 - Outfall 72	7	2.64
86	1720109	KY0021466 - Outfall 73	7	8.12
87	1730259	KY0021466 - Outfall 75	7	2.03
88	1730262	To Be Permitted	2	0.03
89	1730263	KY0021466 - Outfall 74	7	1.54
90	1840130	To Be Permitted	14	1.24
91	1850158	KY0021466 - Outfall 76	26	20.26
92	1870193	KY0021466 - Outfall 78	16	0.84
93	1870194	KY0021466 - Outfall 79	6	0.25
94	1880090	KY0021466 - Outfall 81	7	2.58
95	1880091	KY0021466 - Outfall 80	6	1.30
		TOTAL	879	666.16

Threshold for model activation is 0.01 MGD and 0.001 MG

APPENDIX E:

Wet Weather CSOs

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Recurring Wet Weather SSOs					
No.	**MHID**	**City**	**County**	**Model Predicted Overflow Activations**	**Model Predicted Overflow Volume (MG)**
1	0020006	Silver Grove	Campbell	6	2.41
2	0020007	Silver Grove	Campbell	6	0.16
3	0020008	Unicorp Campbell County	Campbell	6	0.13
4	0020031	Unicorp Campbell County	Campbell	4	0.27
5	0020032	Unicorp Campbell County	Campbell	4	0.11
6	0040003	Fort Thomas	Campbell	3	0.16
7	0050022	Fort Thomas	Campbell	4	0.28
8	0060001	Unicorp Campbell County	Campbell	4	0.37
9	0060002	Unicorp Campbell County	Campbell	4	0.06
10	0060004	Unicorp Campbell County	Campbell	4	0.32
11	0070044	Highland Heights	Campbell	2	0.01
12	0100002	Highland Heights	Campbell	4	0.56
13	0100003	Highland Heights	Campbell	3	0.26
14	0110002	Fort Thomas	Campbell	2	0.05
15	0110010	Highland Heights	Campbell	4	0.47
16	0120019	Highland Heights	Campbell	0	0.00
17	0150009	Wilder	Campbell	5	2.01
18	0150024	Southgate	Campbell	1	0.00
19	0150063	Wilder	Campbell	0	0.00
20	0150064	Wilder	Campbell	0	0.00
21	0150065	Wilder	Campbell	0	0.00
22	0150085	Fort Thomas	Campbell	0	0.00
23	0150086	Fort Thomas	Campbell	5	0.80
24	0150087	Fort Thomas	Campbell	3	0.04
25	0150356	Southgate	Campbell	0	0.00
26	0200003	Fort Thomas	Campbell	0	0.00
27	0220035	Southgate	Campbell	3	0.02
28	0220056	Fort Thomas	Campbell	5	0.06
29	0220058	Fort Thomas	Campbell	3	0.03
30	0220086	Southgate	Campbell	1	0.01
31	0230011	Fort Thomas	Campbell	0	0.00
32	0230016	Fort Thomas	Campbell	0	0.00
33	0250002	Fort Thomas	Campbell	0	0.00
34	0260001	Fort Thomas	Campbell	0	0.00
35	0270026	Fort Thomas	Campbell	5	0.42
36	0270062	Fort Thomas	Campbell	0	0.00
37	0270103	Fort Thomas	Campbell	0	0.00
38	0280001	Fort Thomas	Campbell	3	0.02
39	0280073	Fort Thomas	Campbell	0	0.00
40	0300035	Fort Thomas	Campbell	7	0.12
41	0330005	Fort Thomas	Campbell	0	0.00
42	0360004	Dayton	Campbell	0	0.00
43	0380005	Fort Thomas	Campbell	5	0.17
44	0390007	Fort Thomas	Campbell	4	0.07

Recurring Wet Weather SSOs					
No.	**MHID**	**City**	**County**	**Model Predicted Overflow Activations**	**Model Predicted Overflow Volume (MG)**
45	0400002	Fort Thomas	Campbell	7	0.64
46	0400017	Fort Thomas	Campbell	1	0.00
47	0410010	Fort Thomas	Campbell	5	0.12
48	0410019	Fort Thomas	Campbell	5	0.18
49	0410036	Fort Thomas	Campbell	1	0.00
50	0440074	Fort Thomas	Campbell	3	0.04
51	0530083	Newport	Campbell	5	0.42
52	0860001	Wilder	Campbell	13	13.25
53	0860003	Wilder	Campbell	0	0.00
54	0860016	Wilder	Campbell	0	0.00
55	1010002	Fort Thomas	Campbell	0	0.00
56	1010025	Fort Thomas	Campbell	4	0.18
57	1010027	Fort Thomas	Campbell	2	0.01
58	1040060	Independence	Kenton	0	0.00
59	1090069	Edgewood	Kenton	3	0.03
60	1110025	Erlanger	Kenton	1	0.00
61	1110051	Erlanger	Kenton	3	0.08
62	1110067	Erlanger	Kenton	5	0.23
63	1110161	Erlanger	Kenton	1	0.06
64	1110164	Erlanger	Kenton	1	0.02
65	1110174	Elsmere	Kenton	1	0.01
66	1110275	Elsmere	Kenton	0	0.00
67	1110294	Erlanger	Kenton	3	0.04
68	1190012	Erlanger	Kenton	5	0.67
69	1220016	Erlanger	Kenton	5	0.08
70	1220054	Erlanger	Kenton	5	0.75
71	1240008	Erlanger	Kenton	4	0.20
72	1240012	Erlanger	Kenton	1	0.07
73	1550053	Fort Mitchell	Kenton	1	0.02
74	1560016	Fort Mitchell	Kenton	0	0.00
75	1560019	Fort Mitchell	Kenton	0	0.00
76	1560074	Fort Mitchell	Kenton	0	0.00
77	1560092	Fort Mitchell	Kenton	1	0.02
78	1570025	Fort Mitchell	Kenton	5	0.26
79	1600029	Lakeside Park	Kenton	4	0.40
80	1600050	Lakeside Park	Kenton	5	0.26
81	1610102	Fort Mitchell	Kenton	2	0.02
82	1690043	Fort Wright	Kenton	4	0.18
83	1690072	Fort Wright	Kenton	3	0.10
84	1700008	Covington	Kenton	0	0.00
85	1700025	Park Hills	Kenton	3	0.11
86	1730103	Fort Mitchell	Kenton	3	0.61
87	1750076	Independence	Kenton	0	0.00
88	1760047	Edgewood	Kenton	5	0.57
89	1760048	Edgewood	Kenton	5	0.56
90	1790003	Crescent Springs	Kenton	5	0.16
91	1830020	Unicorp Boone County	Boone	0	0.00
92	1830067	Unicorp Boone County	Boone	0	0.00
93	1850140	Covington	Kenton	5	0.09

Recurring Wet Weather SSOs					
No.	**MHID**	**City**	**County**	**Model Predicted Overflow Activations**	**Model Predicted Overflow Volume (MG)**
94	1850141	Covington	Kenton	6	0.53
95	1860108	Taylor Mill	Kenton	0	0.00
96	1870013	Covington	Kenton	0	0.00
97	1870014	Covington	Kenton	0	0.00
98	1920086	Cold Spring	Campbell	3	0.02
99	1920097	Cold Spring	Campbell	4	0.13
100	1940006	Fort Wright	Kenton	4	0.87
101	1950014	Fort Wright	Kenton	3	0.73
102	1950232	Fort Wright	Kenton	0	0.00
103	1960002	Fort Wright	Kenton	5	1.64
104	1990018	Covington	Kenton	0	0.00
105	1990028	Covington	Kenton	2	0.35
106	1990032	Unicorp Kenton County	Kenton	1	0.02
107	2040040	Edgewood	Kenton	0	0.00
108	2070019	Elsmere	Kenton	3	0.28
109	2090008	Elsmere	Kenton	7	0.72
110	2100002	Elsmere	Kenton	1	0.15
111	2100007	Elsmere	Kenton	1	0.00
112	2100036	Elsmere	Kenton	4	0.04
113	2100037	Elsmere	Kenton	1	0.01
114	2100057	Elsmere	Kenton	3	0.04
115	2100106	Elsmere	Kenton	5	0.36
116	2100126	Elsmere	Kenton	3	0.09
117	2100128	Elsmere	Kenton	0	0.00
118	2100129	Elsmere	Kenton	5	1.56
119	2110001	Elsmere	Kenton	5	0.53
120	2110002	Elsmere	Kenton	5	0.42
121	2110006	Elsmere	Kenton	4	0.06
122	2120001	Elsmere	Kenton	5	0.13
123	2120041	Elsmere	Kenton	4	0.07
124	2130027	Erlanger	Kenton	2	2.18
125	2130286	Erlanger	Kenton	1	0.04
126	2150050	Crestview Hills	Kenton	0	0.00
127	2160004	Fort Mitchell	Kenton	6	0.06
128	2160005	Fort Mitchell	Kenton	7	0.07
129	2170006	Crestview Hills	Kenton	8	0.48
130	2170008	Crestview Hills	Kenton	6	0.16
131	2170013	Lakeside Park	Kenton	6	0.12
132	2170097	Crestview Hills	Kenton	6	0.05
133	2280010	Unicorp Kenton County	Kenton	0	0.00
134	2280011	Unicorp Kenton County	Kenton	5	0.29
135	2280016	Independence	Kenton	4	0.44
136	2290001	Crescent Springs	Kenton	2	0.45
137	2300016	Erlanger	Kenton	0	0.00
138	2300019	Erlanger	Kenton	2	0.79
139	2300121	Independence	Kenton	5	2.88
140	2300123	Unicorp Kenton County	Kenton	5	2.58
141	2301219	Erlanger	Kenton	4	3.99
142	2301274	Erlanger	Kenton	0	0.00
143	2360024	Unicorp Boone County	Boone	0	0.00

Recurring Wet Weather SSOs					
No.	**MHID**	**City**	**County**	**Model Predicted Overflow Activations**	**Model Predicted Overflow Volume (MG)**
144	2410387	Unicorp Boone County	Boone	3	0.07
145	0150399	Wilder	Campbell	5	0.95
146	0270020	Fort Thomas	Campbell	0	0.00
147	0360074	Dayton	Campbell	0	0.00
148	0370001	Fort Thomas	Campbell	4	0.12
149	0370009	Fort Thomas	Campbell	2	0.01
150	0400034	Fort Thomas	Campbell	4	0.04
151	0430006	Newport	Campbell	5	0.08
152	0490039	Newport	Campbell	2	0.02
153	0500047	Newport	Campbell	4	0.59
154	0870037	Covington	Kenton	6	1.77
155	1110226	Elsmere	Kenton	0	0.00
156	1120029	Erlanger	Kenton	0	0.00
157	1190001	Erlanger	Kenton	4	0.04
158	1210018	Erlanger	Kenton	0	0.00
159	1230019	Erlanger	Kenton	0	0.00
160	1230036	Erlanger	Kenton	0	0.00
161	1560102	Fort Mitchell	Kenton	0	0.00
162	1610053	Fort Mitchell	Kenton	1	0.01
163	1610054	Fort Mitchell	Kenton	1	0.01
164	1700006	Ludlow	Kenton	3	0.29
165	1730100	Crescent Springs	Kenton	3	0.21
166	1770062	Erlanger	Kenton	1	0.06
167	1930007	Southgate	Campbell	3	0.05
168	2020035	Taylor Mill	Kenton	3	0.59
169	2020203	Covington	Kenton	2	0.26
170	2090063	Elsmere	Kenton	3	0.11
171	2130026	Erlanger	Kenton	0	0.00
172	2130028	Erlanger	Kenton	0	0.00
173	2150090	Crestview	Campbell	0	0.00
174	2160006	Fort Mitchell	Kenton	5	0.05
175	2350173	Unicorp Kenton County	Kenton	0	0.00
176	2370003	Unicorp Boone County	Boone	0	0.00
177	2390002	Unicorp Boone County	Boone	1	0.05
178	2400001	Unicorp Boone County	Boone	2	0.04
179	2450001	Alexandria	Campbell	0	0.00
			TOTAL	465	58.56

Threshold for model activation is 0.01 MGD and 0.001 MG