SD1
Managing Northern Kentucky's
Wastewater and Storm Water

April 30, 2010

Acting 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

Dear Gentlemen:

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 January 1, 2010 through March 31, 2010. This report also contains an outlook for the upcoming calendar quarter period of April 1, 2010 through June 30, 2010.

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 jeger@sd1.org.

Best regards,

Jeffery A. Eger
General Manager

JAE/jh
Enclosures

Sanitation District No. 1
April 30, 2010

Consent Decree
Quarterly Report No. 10
(January 1, 2010 through March 31, 2010)

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SD1
Managing Northern Kentucky's
Wastewater and Storm Water

CERTIFICATION

Consent Decree Quarterly Report No. 10
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.

Jeffery A. Eger
General Manager

4/26/10
Date

COMMONWEALTH OF KENTUCKY
)ss.
COUNTY OF Kenton

The foregoing instrument was acknowledged before me this 26 day of April, 2010 by Jeffery A. Eger, General Manager of Sanitation District. No. 1.

Kathleen A. Jansen
NOTARY PUBLIC

Kenton County, Kentucky

My commission expires: 4-15-11

1045 Eaton Drive • Ft. Wright, KY 41017 • phone 859-578-7450 • fax 859-331-2436 • www.sd1.org

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CONSENT DECREE
QUARTERLY REPORT NO. 10

April 30, 2010

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

TABLE OF CONTENTS

LIST OF ACRONYMS AND ABBREVIATIONS

Cabinet	Kentucky Energy and Environment Cabinet
CSO	Combined Sewer Overflow
EPA	U.S. Environmental Protection Agency
gbaMS	GBA Master Series (information tracking system)
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 January 1, 2010 through March 31, 2010. This report also contains an outlook for the upcoming calendar quarter period of April 1, 2010 through June 30, 2010.

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.

SECTION 2. OVERFLOW DATA

This section of the Quarterly Report presents SD1's estimates of overflow activity in the collection systems. While SD1 has a long history of comprehensive data collection and inspection programs, we have been working over the last several years to realign and optimize our existing programs, originally implemented to meet pre-Consent Decree needs, to fit into the framework of the quarterly reports. This realignment continues to be improved and optimized as part of SD1's wet-weather management activities, and future reports will continue to incorporate expanded overflow metrics based on more quantitative measures as they become available.

Over the last quarter, SD1 has made further progress with developing standardized reports in its computerized maintenance management system, GBA Master Series (gbaMS), to help support the specific reporting needs for these quarterly reports and to better utilize the collected data to track system performance. SD1 is continuing to fine-tune and optimize its tracking and reporting capabilities to increase efficiency in its work. SD1 has been using gbaMS since 1999 and has added several modules and applications in response to evolving needs over the years. As there are now new uses for this tool after entering into the Consent Decree, SD1 is undergoing adjustments to both the data input and output processes for gbaMS to generate more precise data for use in these quarterly reports. Because the refinement of gbaMS is ongoing to meet these evolving needs, several numbers generated from this software program will be reported as "approximate." SD1 continues to move forward with structuring its reporting procedures, and enhancing and improving data input and output quality assurance and quality control processes.

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 service lateral or main line, and can be determined to be either SD1's responsibility or the building owner's responsibility.

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 expanded as warranted for ongoing reporting and sewer overflow response cleanup. SD1's wet weather crew continues to perform routine inspections before, during and after rain events at prioritized recurring, inactive and suspected SSO locations to understand and verify overflow activity and the need for sewer overflow response cleanup. 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 the hydraulic model that SD1 utilizes maintains and improves upon its accuracy and will help identify the most appropriate and effective solutions to be included in 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, that 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 the Watershed Plans for June 2009. 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. 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 collected rainfall data from a series of eight rain gauges located across the system and simulated the rainfall that occurred between January 1, 2010 and March 31, 2010 within the hydraulic models. 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. As noted in earlier quarterly reports and the Sewer Overflow Response Plan, SD1 is actively realigning and optimizing their field activities to support the framework of Consent Decree requirements, and this process includes continually performing field inspections to verify the model results against actual field conditions through monitoring and observation. Over time, these field verifications will continue to improve the model as appropriate to better reflect any discrepancies found with observed conditions. It is an ongoing and continual process to refine the modeling tools in order to provide the most accurate information possible about overflow locations, including future model updates to incorporate system improvements.

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 in Table 2.1 is from the Cincinnati-Northern Kentucky International Airport rain gauge maintained by the National Weather Service (CVG).

Table 2.1 Summary of Storm Events
(January 1, 2010 through March 31, 2010)

Month	Approximate # of Storm Events[1]	Rainfall (in)
January 2010	10	2.01
February 2010	10	2.31
March 2010	13	3.50
Total	**33**	**7.82**

[1] *A storm event is defined as at least 0.01" of rain with a minimum inter-event time of 7 hours.*

The remainder of this section reports overflows that occurred throughout SD1's service area during the period of January 1, 2010 through March 31, 2010. A cumulative accounting of SD1's overflow activity from January 2008 through the current reporting period and an annual comparison of the 2008 and 2009 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 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 105 recurring wet weather SSO locations for the current reporting period can be found in Appendix D. This list was revised subsequent to the January 2010 Quarterly Report based upon the field inspection and hydraulic modeling programs. A detailed listing outlining structure numbers and transaction descriptions for the revisions made to the SSO list can be found in Appendix E.

Recurring Pump Station Overflows

In addition to the 105 recurring wet weather SSOs, there are also 14 pump stations identified in the Consent Decree that have historically documented recurring wet weather capacity issues. 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.

The 14 pump stations listed in the Consent Decree discharged a total of 12 times due to lack of capacity during the current reporting period, with an estimated overflow volume of 4,216,000 gallons.

As previously mentioned, SD1 uses Manning's Gravity Flow and Pipe Calculation to estimate discharge volume from pump stations. The only exception to this calculation methodology is at the Lakeview Pump Station, which has a metered bypass pipe.

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Table 2.2 Discharges from Consent Decree Pump Stations Due to Lack of Capacity during Wet Weather
(January 1, 2010 through March 31, 2010)

Name of Pump Station	Number of Discharge Occurrences	Total Estimated Volume (gallons)
Allen-Fork	0	0
Crestview	0	0
Highland Acres	1	5,000
Kentucky Aire	3	104,000
Lakeview	6	4,068,000
Ripple Creek	1	15,000
South Hampton	1	24,000
South Park	0	0
Sunset	0	0
Union	0	0
Alex-Licking	Overflows Eliminated	
Harrison Harbor		
Riley Road		
Taylorsport		
TOTAL	**12**	**4,216,000**

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, the Highland Heights Pump Station was the only pump station not listed in the Consent Decree that discharged during wet weather due to lack of capacity, with 8 wet-weather related discharge occurrences recorded and a total estimated volume of 611,000 gallons. As SD1 moves forward with the watershed planning efforts required under the Consent Decree, priorities will be established based on severity and known wet weather issues will be addressed.

Inactive Wet Weather SSOs

During this current reporting period, there were no additional structures observed overflowing during wet weather due to a lack of capacity, including pump stations and structures in the collection system under investigation as suspected or predicted hydraulic model overflow points.

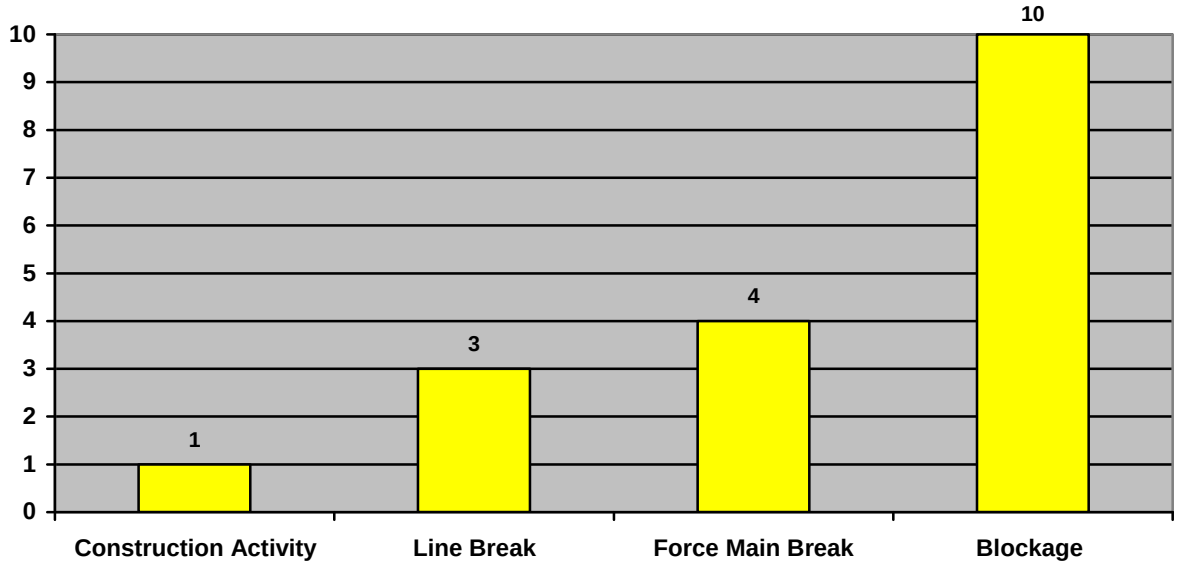
2.2 SSOs Due to Operational Issues

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 practicable.

During the current reporting period, there were a total of 18 SSOs due to operational issues throughout SD1's service area with a total estimated overflow volume of 1,915,000 gallons.

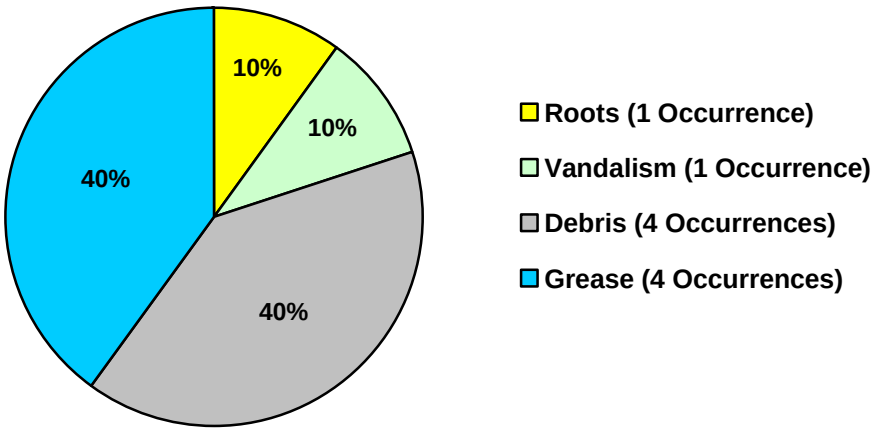
The 18 overflows reported in this category can be broken down by the primary causes demonstrated in Figure 2.1.

Figure 2.1 Causes of Operational Issues Resulting in SSOs
(January 1, 2010 through March 31, 2010)



The 10 SSOs caused by blockages can further be broken down into 4 secondary causes, as demonstrated in Figure 2.2.

Figure 2.2 Causes for Blockages in Pipes Resulting in SSOs
(January 1, 2010 through March 31, 2010)



All of these SSOs were immediately acted upon and the problems repaired. Where line breaks were found, the breaks were repaired and the sewers post-inspected to ensure all problems were addressed. The sewers where blockages occurred were put into the cleaning program to be inspected and cleaned as-needed in the next six months as part of the Continuous Sewer Assessment Program, which also provides appropriate next actions to permanently address the cause of the blockages. All overflow events are recorded in gbaMS and are periodically reviewed to identify if any trends or localized problem areas (such as past overflows or proximity to recurring SSOs) exist that warrant the need for a larger-scale inspection or rehabilitation/ repair project. Overflows due to blockages of grease are further evaluated as part of our Fat, Oil, and Grease Program.

2.3 Wet Weather CSOs

Included in Appendix F are the modeled activation and volume statistics for SD1's 92 CSOs. This data was generated from the hydraulic modeling program previously described in Section 2.1. SD1 conducted an annual review of its listing of wet weather CSO locations subsequent to the January 2010 Quarterly Report and no revisions were identified.

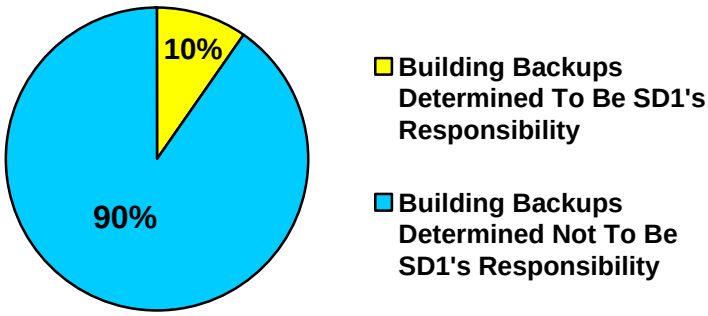
2.4 Dry Weather CSOs

During the current reporting period, there was one CSO during dry weather at the Taylor Avenue CSO diversion (Structure ID# 0610080), with a total estimated discharge volume of 8,000 gallons. An inspection of the dry weather pipe revealed a blockage of debris. However, the pipe was found to be in good structural condition so the upstream sewers were televised to determine the source of debris. The upstream sewers did not show any signs of debris and were also in good structural condition. SD1 believes that the blockage of debris is most likely from upstream river water intrusion because this outfall pipe has a tideflex valve on it to prevent river water and debris from entering at this location. The blockage was removed, and the dry weather pipe will be inspected in the next six months to determine if the debris is a reoccurring problem.

2.5 Building Backups

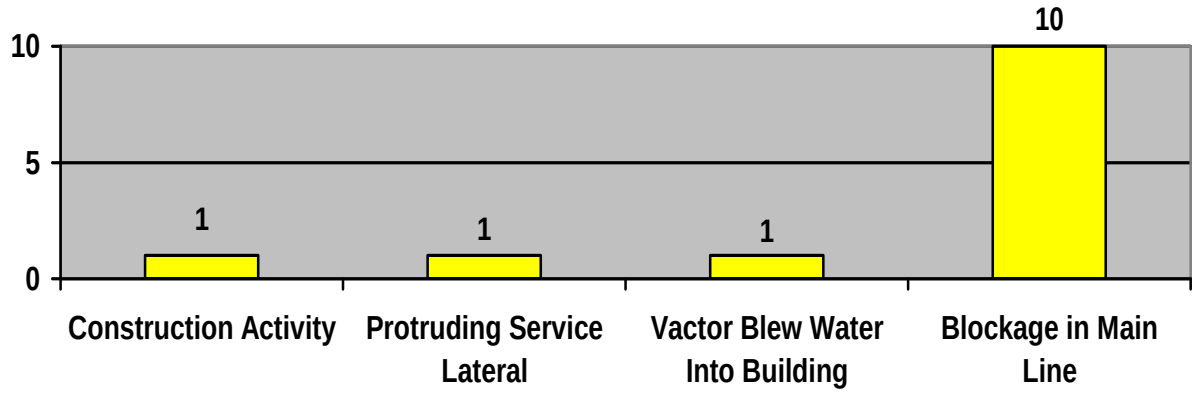
During the current reporting period, there were approximately 135 building backups throughout SD1's service area. Of these 135**,** approximately 13 were determined to be SD1's responsibility and 122 were determined not to be the responsibility of SD1, as shown in Figure 2.3. The backups determined not to be the responsibility of SD1 were due to causes such as breaks and blockages in private service laterals.

Figure 2.3 Building Backups: Public vs. Private
(January 1, 2010 through March 31, 2010)



Causes for the approximate 13 building backups determined to be SD1's responsibility are detailed in Figure 2.4 below.

Figure 2.4 Causes of SD1-Responsible Building Backups
(January 1, 2010 through March 31, 2010)



The 10 building backups caused by blockages can further be broken down into three secondary causes, as demonstrated in Figure 2.5.

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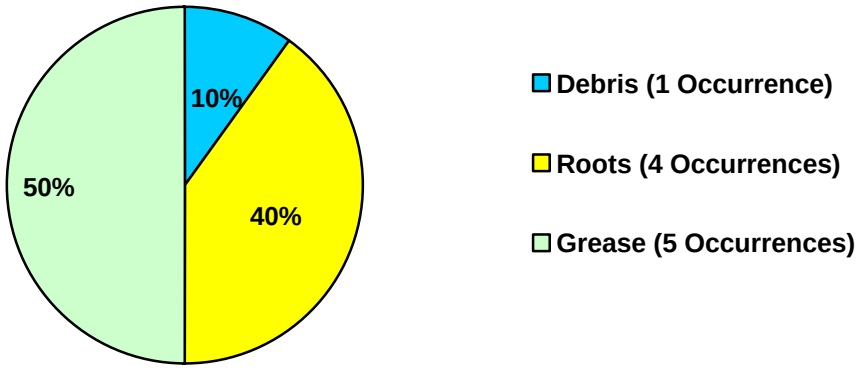
Figure 2.5 Causes for Blockages in Main Line Resulting in a Building Backup
(January 1, 2010 through March 31, 2010)



The sewers where blockages occurred were put into the cleaning program to be inspected and cleaned as-needed in the next six months as part of the Continuous Sewer Assessment Program, which also provides appropriate next actions to permanently address the cause of the blockages. All building backups are recorded in gbaMS and are periodically reviewed to identify if any trends or localized problem areas (such as past overflows or proximity to recurring SSOs) exist that warrant the need for a larger-scale inspection or rehabilitation/ repair project. Building backups due to blockages of grease are further evaluated as part of our Fat, Oil, and Grease Program.

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APPENDIX A:

Consent Decree Schedule

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Consent Decree Compliance Schedule

	CONSENT DECREE ACTIVITY	PERCENT COMPLETE	DUE DATE	DATE OF COMPLETION
	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	09/18/07
✓	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	0%	12/31/10	
	CMOM Annual Report 5	0%	12/31/11	
	CMOM Annual Report 6	0%	12/31/12	
	CMOM Annual Report 7	0%	12/31/13	
	CMOM Annual Report 8	0%	12/31/14	
Complete SORP Annual Review				
✓	SORP Annual Review 1	100%	05/14/09	01/30/09
✓	SORP Annual Review 2	100%	12/31/10	09/30/09
	SORP Annual Review 3	0%	12/31/11	
	SORP Annual Review 4	0%	12/31/12	
	SORP Annual Review 5	0%	12/31/13	
	SORP Annual Review 6	0%	12/31/14	
	INITIAL WATERSHED PROJECTS			
	Complete Initial Watershed Projects (51 Total)	78%	12/31/14	
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	0%	06/07/10	
	Initial Watershed Projects Annual Report 4	0%	06/07/11	
	Initial Watershed Projects Annual Report 5	0%	06/07/12	
	Initial Watershed Projects Annual Report 6	0%	06/07/13	
	Initial Watershed Projects Annual Report 7	0%	06/07/14	
	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	04/18/09
Submit NMC Annual Report				
✓	NMC Annual Compliance Report 1	100%	09/04/09	05/11/09
	NMC Annual Compliance Report 2	40%	09/04/10	
	NMC Annual Compliance Report 3	0%	09/04/11	
	NMC Annual Compliance Report 4	0%	09/04/12	
	NMC Annual Compliance Report 5	0%	09/04/13	
	NMC Annual Compliance Report 6	0%	09/04/14	
	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

Consent Decree Compliance Schedule

	CONSENT DECREE ACTIVITY	PERCENT COMPLETE	DUE DATE	DATE OF COMPLETION
	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	40%	05/14/10	
	PSOEP Annual Report 3	0%	05/14/11	
	PSOEP Annual Report 4	0%	05/14/12	
	PSOEP Annual Report 5	0%	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	0%	07/30/10	
	Submit Quarterly Report 12	0%	10/30/10	
	Submit Quarterly Report 13	0%	01/30/11	
	Submit Quarterly Report 14	0%	04/30/11	
	Submit Quarterly Report 15	0%	07/30/11	
	Submit Quarterly Report 16	0%	10/30/11	
	Submit Quarterly Report 17	0%	01/30/12	
	Submit Quarterly Report 18	0%	04/30/12	
	Submit Quarterly Report 19	0%	07/30/12	
	Submit Quarterly Report 20	0%	10/30/12	
	Submit Quarterly Report 21	0%	01/30/13	
	Submit Quarterly Report 22	0%	04/30/13	
	Submit Quarterly Report 23	0%	07/30/13	
	Submit Quarterly Report 24	0%	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	
	STATE ENVIRONMENTAL PROJECTS			
✓	Setup 6 Separate Escrow Accounts	100%	10/18/07	10/18/07
	Conservancies	33%	04/18/12	
	Boone County	*10%*	04/18/12	
	Campbell County	*70%*	04/18/12	
	Kenton County	*20%*	04/18/12	
	Licking River Watershed Watch	25%	04/18/12	
	Split Rock	100%	04/18/12	12/18/08
	Education Programs	25%	04/18/12	
	State Environmental Project Completion Report	0%	06/17/12	
	SUPPLEMENTAL PROJECTS			
	Supplemental Environmental Projects	55%	04/18/12	
	SEP Completion Reports	0%	06/17/12	

Consent Decree Compliance Schedule

	CONSENT DECREE ACTIVITY	PERCENT COMPLETE	DUE DATE	DATE OF COMPLETION
	WATERSHED PLANS			
Framework for Developing Watershed Plans				
✓	Obtain Public Input on Framework for Watershed Plans	100%	04/09/08	04/09/09
✓	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
Second Round Watershed Plans				
	Obtain Public Input on Second Round of Watershed Plans	0%	Summer 2014[1]	
	Submit Second Round of Watershed Plans	0%	Summer 2014[1]	
Third Round Watershed Plans				
	Obtain Public Input on Third Round of Watershed Plans	0%	Summer 2019[1]	
	Submit Third Round of Watershed Plans	0%	Summer 2019[1]	
	[1] *Deadline is dependent on the approval date of each Watershed Plan.*			
	Consent Decree Compliance			
	Complete all Consent Decree Compliance Measures	16%	12/31/25	

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APPENDIX B:

Watershed Improvement Program

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Watershed Improvement Program (2007 through 2014)

CIP Title	Basin	Scheduled Completion Date	Actual Completion Date	Past Activity for 01/01/2010 to 03/31/2010	Planned Activity for 04/01/2010 to 06/30/2010
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	
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	

Updated: April 30, 2010

Watershed Improvement Program (2007 through 2014)

CIP Title	Basin	Scheduled Completion Date	Actual Completion Date	Past Activity for 10/1/2009 to 12/31/2009	Planned Activity for 04/01/2010 to 06/30/2010
Initial Watershed Projects					
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	
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 - Contract 7--Riley Road #2 PS	East	2009	2009	Complete	

Watershed Improvement Program (2007 through 2014)

CIP Title	Basin	Scheduled Completion Date	Actual Completion Date	Past Activity for 01/01/2010 to 03/31/2010	Planned Activity for 04/01/2010 to 06/30/2010
Initial Watershed Projects					
Eastern Regional - Contract 3--Riley Force Main and Gravity Sewer to the ERWRF	East	2009	n/a	Finish Construction	Finish Construction
Western Regional - Turkeyfoot Industrial Road Force Main	West	2013	n/a	Force main Construction was split into 4 phases. Phases 1 & 2 are complete. Phase 3 is under construction. Phase 4 is under design.	
Western Regional Conveyance System to Western Regional WRF	West	2013	n/a	Construction	Construction
Western Regional - Sunnybrook Sewer	West	2013	n/a	Finish Construction	Complete
Western Regional - Gunpowder Interceptor Sewer	West	2013	n/a	Finish Construction	Complete
Western Regional Water Reclamation Facility	West	2013	n/a	Construction	Construction
Eastern Regional - Contract 5--Sunset Force Main and Gravity Sewer	East	2010	n/a	Final Design	Project being re-evaluated.
Eastern Regional - Contract 8B - Sunset PS Relocation	East	2010	n/a	Final Design	Project being re-evaluated.
Western Regional - Frogtown Interceptor Sewer (from Sunnybrook Dr. to Frogtown Rd.)	West	2014	n/a	Final Design	Final Design
Western Regional - South Fork Gunpowder Interceptor Sewer and Rosetta Sewer	West	2013	n/a	Final Design	Final Design
Western Regional - Narrows Road Diversion PS	West	2013	n/a	Final Design	Final Design
Initial Watershed Projects Total Costs (future and spent dollars)					**$415.4 Million**

Watershed Improvement Program (2007 through 2014)

CIP Title	Basin	Scheduled Completion Date	Actual Completion Date	Past Activity for 01/01/2010 to 03/31/2010	Planned Activity for 04/01/2010 to 06/30/2010
System-wide and Basin Projects (Schedules listed in this section are subject to change based on the approval of SD1's Watershed Plans.)					
Alex-Licking PS Overflow Elimination	Central	2010	2009	Complete	
Harrison Harbor PS Overflow Elimination	East	2010	2009	Complete	
Donnemeyer Improvements, Newport Pavilion Improvemetns, Bellevue Relief Sewer, Wilson/Waterworks Road	North	2010	2009	Complete	
Taylorsport PS Overflow Elimination	North	2010	2004	Complete	
Riley Road PS Overflow Elimination	East	2010	2009	Complete	
River Water Intrusion Mitigation	System-wide	Beyond 2014	n/a	Initial Design	In-Progress
Priority Inflow and Infiltration Source Identification & Removal Program	System-wide	Beyond 2014	n/a	Initial Design	Initial Design
Green Programs					
– Downspout Disconnection	System-wide	Beyond 2014	n/a	Initial Design	Initial Design
– Rain Barrels	System-wide	Beyond 2014	n/a	Initial Design	Initial Design
– Rain Gardens	System-wide	Beyond 2014	n/a	Initial Design	Initial Design
– Green Roof	System-wide	Beyond 2014	n/a	Initial Design	Initial Design
– Urban Reforestation	System-wide	Beyond 2014	n/a	Initial Design	Initial Design
Green Demonstration Projects					
– I-71/75 Reforestation	System-wide	Beyond 2014	n/a	Construction	Construction
– Prisoner's Lake Water Harvest Project	System-wide	Beyond 2014	n/a	Construction	Construction
– Green Street	System-wide	Beyond 2014	n/a	Initial Design	Initial Design
– Green School	System-wide	Beyond 2014	n/a	Initial Design	Initial Design
– Partnering on Developing	System-wide	Beyond 2014	n/a	Initial Design	Initial Design
– Innovative Technology Testing	System-wide	Beyond 2014	n/a	Initial Design	Initial Design
Lakeview PS Pump Replacement	Central	2014	n/a	Initial Design	Initial Design
Church Street (gray, green, & watershed controls)	Central	2013	n/a	Initial Design	Initial Design

Watershed Improvement Program (2007 through 2014)

CIP Title	Basin	Scheduled Completion Date	Actual Completion Date	Past Activity for 01/01/2010 to 03/31/2010	Planned Activity for 04/01/2010 to 06/30/2010
System-wide and Basin Projects (Schedules listed in this section are subject to change based on the approval of SD1's Watershed Plans.)					
Vernon Lane (Public & Private Source I/I Removal)	Central	Beyond 2014	n/a	Initial Design	Initial Design
Watershed Controls Pilot Projects					
– Banklick Creek Wetland (Taylor Site)	Central	Beyond 2014	n/a	Construction	Construction
– Retention Basin #1	Central	Beyond 2014	n/a	Initial Design	Initial Design
– Retention Basin #2	Central	Beyond 2014	n/a	Initial Design	Initial Design
Sunset PS Overflow Elimination	Central	2010	n/a	Status reported under initial watershed project above.	
Ripple Creek PS Removal	Central	2010	n/a	Final Design	Final Design
Ash Street PS and Forcemain	East	2014	n/a	Initial Design	Initial Design
Crestview PS Overflow Elimination	East	2014	n/a	Initial Design	Initial Design
Demonstration of Green Technologies – Taylor Creek Retention	East	2011	n/a	Final Design	Project being re-evaluated.
Bellevue Trunk Sewer Replacement (Riviera Drive)	East	2012	n/a	Initial Design	Initial Design
Allen Fork PS Overflow Elimination	North	2014	n/a	Initial Design	Initial Design
Lakeside Park – Public Sewer Rehab and Private Source Removal	North	Beyond 2014	n/a	Initial Design	Initial Design
Van Deren Sanitary Sewer Improvements	North	2011	n/a	Finish Construction	Finish Construction
Avon Drive Sanitary Sewer Improvements	North	2010	n/a	Finish Construction	Finish Construction
Willow Run Dynamic Control Facility	North	2014	n/a	Initial Design	Initial Design
Willow Run Direct Entry Point Bar Racks	North	2009	n/a	Construction	Construction
KYTC Basin - Green Infrastructure Retrofit	North	2012	n/a	Construction	Construction
South Park PS Overflow Elimination	North	2010	n/a	Final Design	Construction
Highland Acres PS Removal	West	2010	n/a	Initial Design	Final Design
Kentucky Aire PS Removal	West	2013	n/a	Initial Design	Initial Design
South Hampton PS Removal	West	2013	n/a	Initial Design	Initial Design
Union PS Removal	West	2013	n/a	Initial Design	Initial Design
System-wide and Basin Projects Total Costs (future and spent dollars)					**$78 Million**

Watershed Improvement Program (2007 through 2014)

CIP Title	Basin	Scheduled Completion Date	Actual Completion Date	Past Activity for 01/01/2010 to 03/31/2010	Planned Activity for 04/01/2010 to 06/30/2010
Committed Projects					
SD1 has budgeted $123.8 million over the next five years to rehabilitate and properly maintain its infrastructure in order to avoid failures that are costly to fix and pose a threat to public health and the environment. By nature, the work in this category is reflective of common daily operations, including activities such as: fixing failing pipes, maximizing existing dry and wet weather capacity, addressing loss of service and basement backups, reducing inflow and infiltration, and minimizing wet weather overflows. As typical and frequent tasks, a summary of SD1's progress will be provided in the next set of Watershed Plans and through updates provided in the annual CMOM and NMC reports.					
Committed Projects Total Costs (future and spent dollars)					**$123.8 Million**

2007 through 2014 Watershed Improvement Plan Total Costs (future and spent dollars)	**$617.2 Million**

APPENDIX C:

Cumulative and Annual Overflow Data

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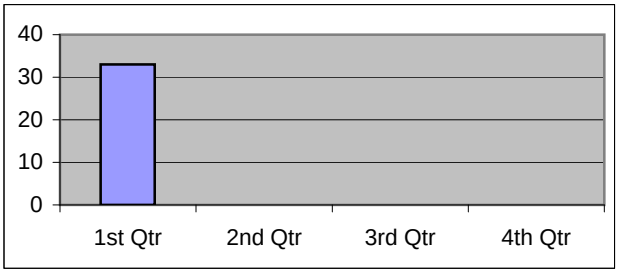
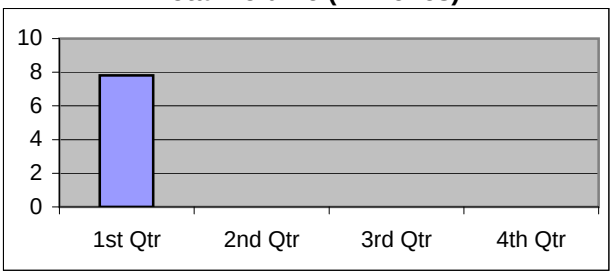
Cumulative Overflow Data
January 1, 2010 through March 31, 2010

Rainfall

Total Occurrences

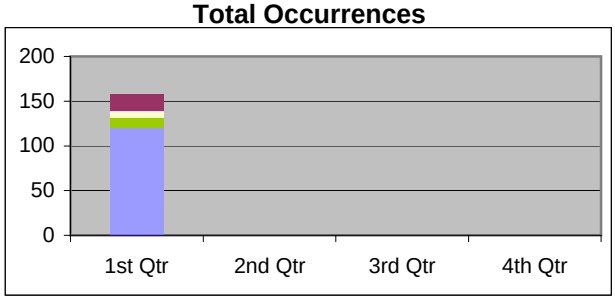


Total Volume (In Inches)

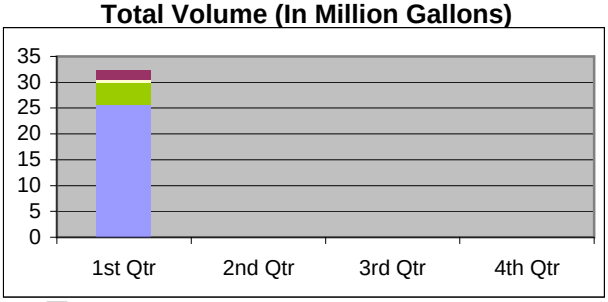


SSOs - Due to Wet Weather (WW) and Operational Issues

Total Occurrences



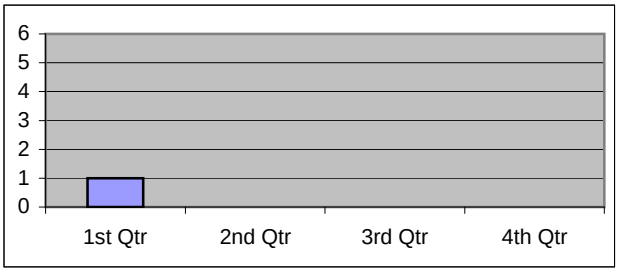
Total Volume (In Million Gallons)



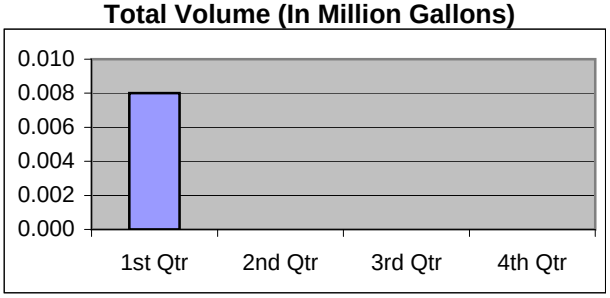
Recurring WW SSOs
Recurring WW CD Pump Station Overflows
Recurring WW Other Pump Station Overflows
Inactive WW Overflows
SSOs Due to Operational Issues

Dry Weather CSOs

Total Occurrences

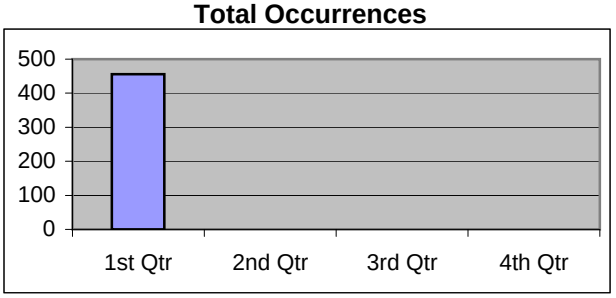


Total Volume (In Million Gallons)

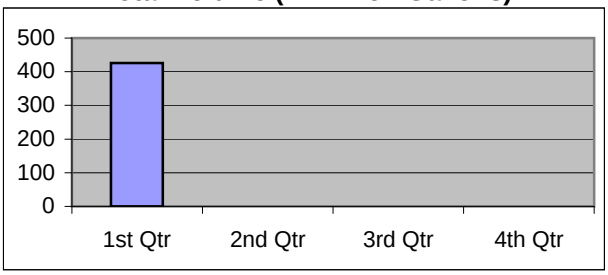


Wet Weather CSOs

Total Occurrences

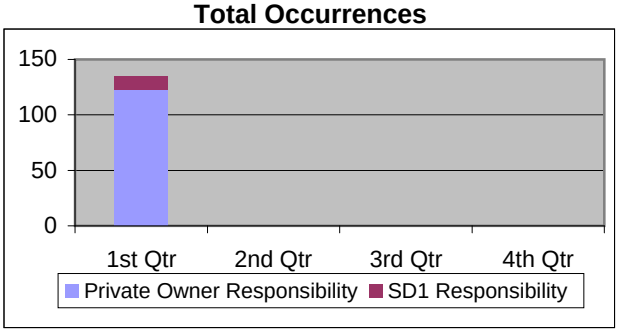


Total Volume (In Million Gallons)



Building Backups

Total Occurrences



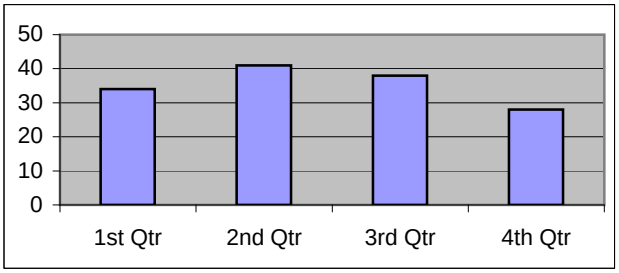
2010 Overflow Summary			
	Occurrences	**Volume**	
Rainfall	33	7.82	inches
Recurring WW SSOs	140	30.447	MG
Inactive WW SSOs	0	0.000	MG
Operational SSOs	18	1.915	MG
Dry Weather CSOs	1	0.008	MG
Wet Weather CSOs	456	426.30	MG
Building Backups (Private)		122	
Building Backups (SD1)		13	

Updated April 30, 2010

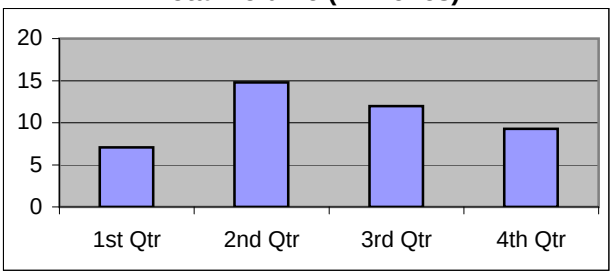
Cumulative Overflow Data
January 1, 2009 through December 31, 2009

Rainfall

Total Occurrences

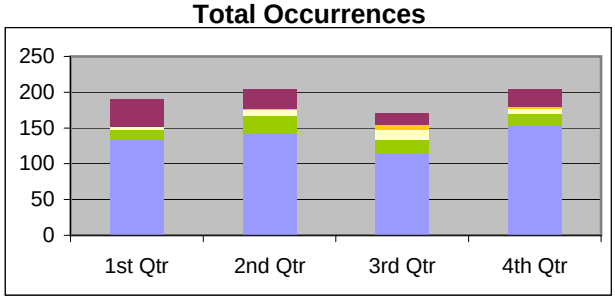


Total Volume (In Inches)

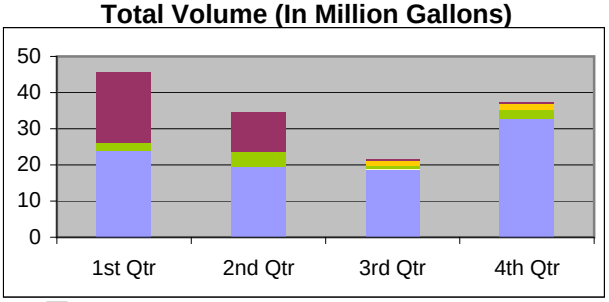


SSOs - Due to Wet Weather (WW) and Operational Issues

Total Occurrences



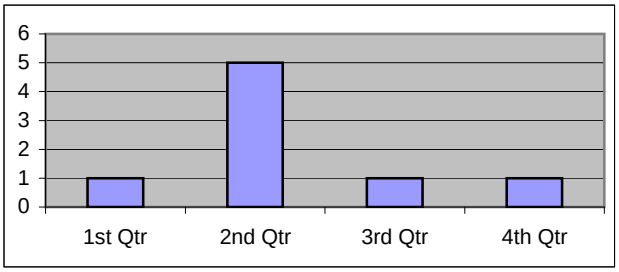
Total Volume (In Million Gallons)



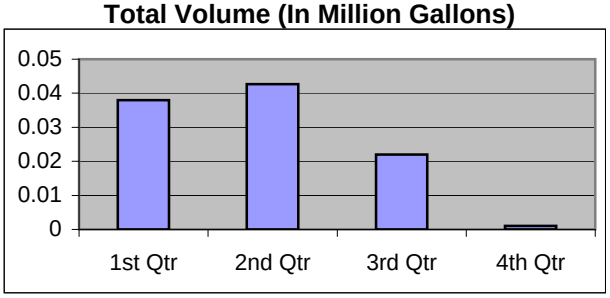
Recurring WW SSOs
Recurring WW CD Pump Station Overflows
Recurring WW Other Pump Station Overflows
Inactive WW Overflows
SSOs Due to Operational Issues

Dry Weather CSOs

Total Occurrences

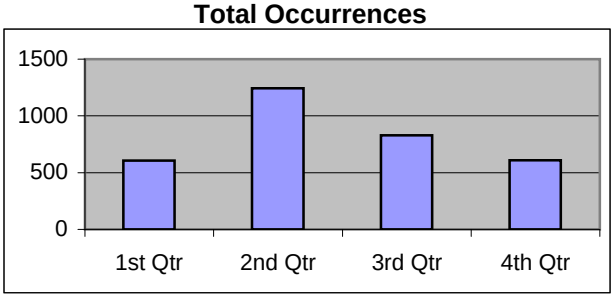


Total Volume (In Million Gallons)

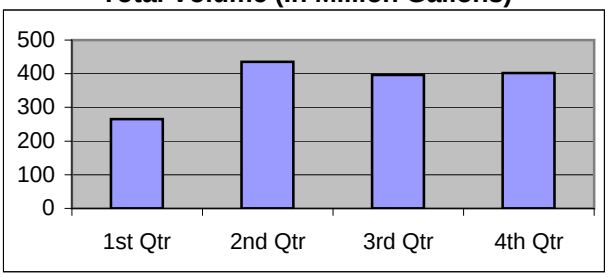


Wet Weather CSOs

Total Occurrences

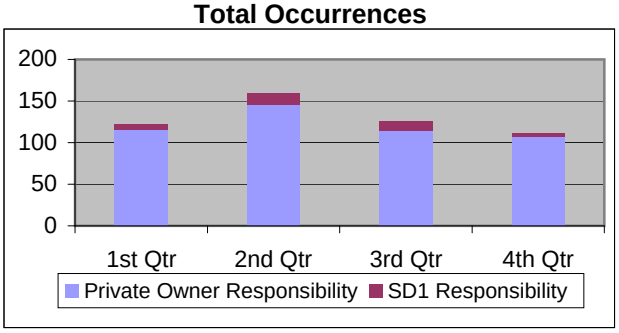


Total Volume (In Million Gallons)



Building Backups

Total Occurrences



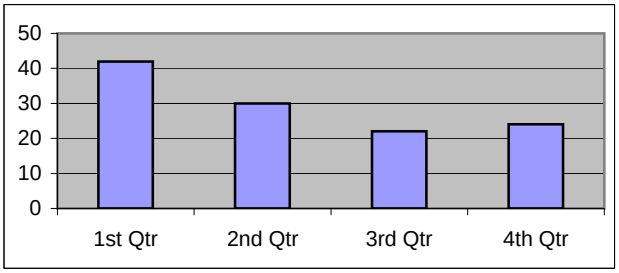
2009 Overflow Summary			
	Occurrences	**Volume**	
Rainfall	141	43.11	inches
Recurring WW SSOs	651	105	MG
Inactive WW SSOs	13	3	MG
Operational SSOs	108	31	MG
Dry Weather CSOs	8	0.104	MG
Wet Weather CSOs	3289	1,502	MG
Building Backups (Private)		482	
Building Backups (SD1)		36	

Updated January 29, 2010

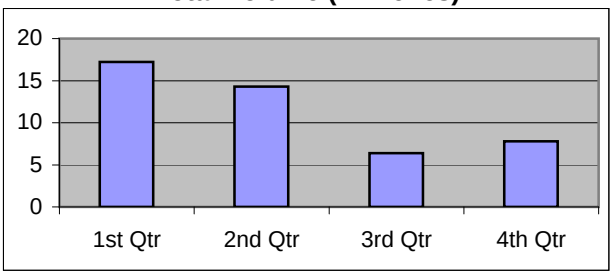
Cumulative Overflow Data
January 1, 2008 through December 31, 2008

Rainfall

Total Occurrences

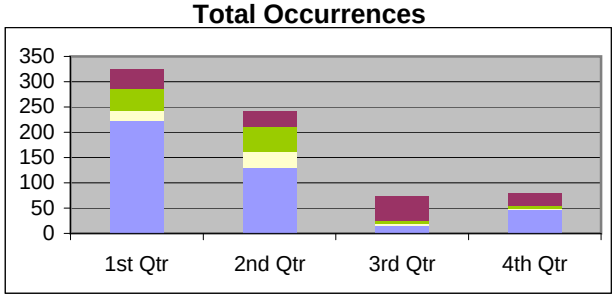


Total Volume (In Inches)

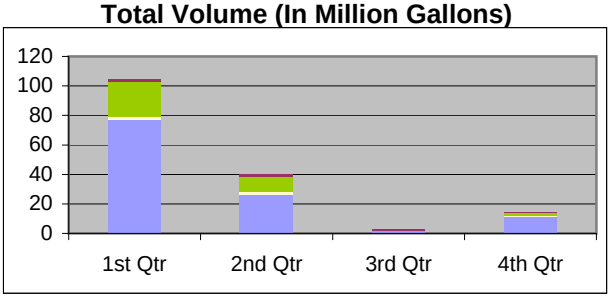


SSOs - Due to Wet Weather (WW) and Operational Issues

Total Occurrences



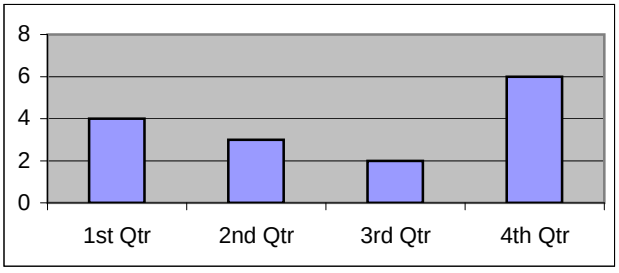
Total Volume (In Million Gallons)



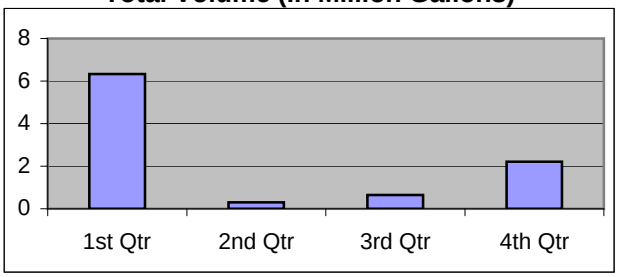
Recurring WW CD Pump Station Overflows
Recurring WW Other Pump Station Overflows
SSOs Due to Operational Issues
Recurring WW SSOs

Dry Weather CSOs

Total Occurrences

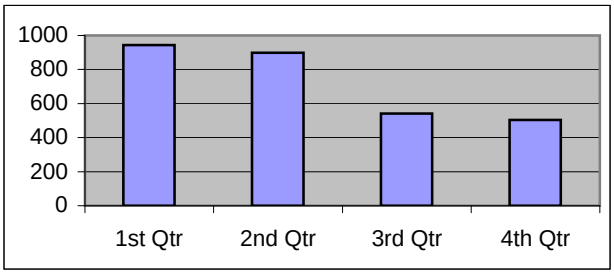


Total Volume (In Million Gallons)

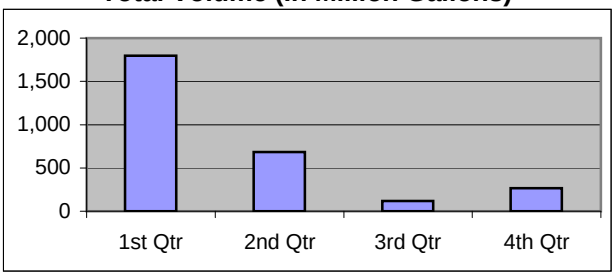


Wet Weather CSOs

Total Occurrences

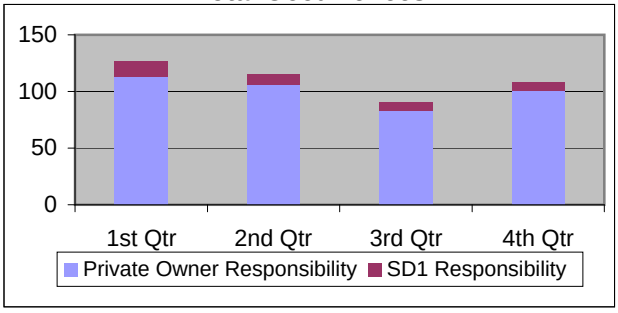


Total Volume (In Million Gallons)



Building Backups

Total Occurrences



2008 Overflow Summary

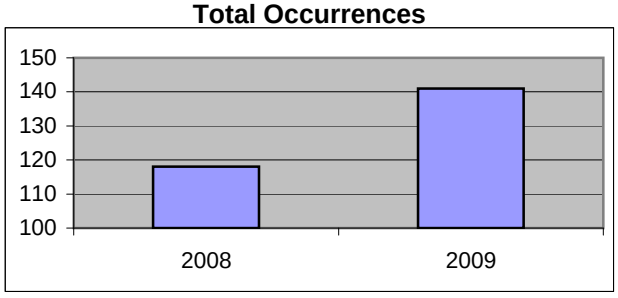
	Occurrences	Volume	
Rainfall	118	45.66	inches
Recurring WW SSOs	576	158	MG
Inactive WW SSOs	N/A	N/A	
Operational SSOs	143	5	MG
Dry Weather CSOs	15	9	MG
Wet Weather CSOs	2888	2,869	MG
Building Backups (Private)		402	
Building Backups (SD1)		39	

Updated January 29, 2010

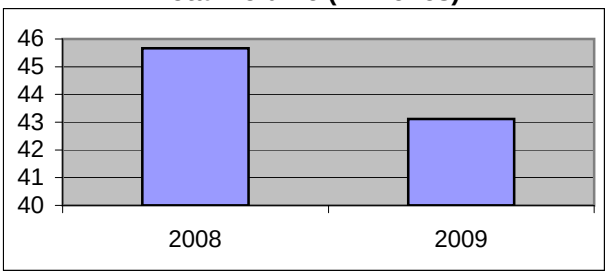
Annual Cumulative Overflow Data
2008 through 2009

Rainfall

Total Occurrences

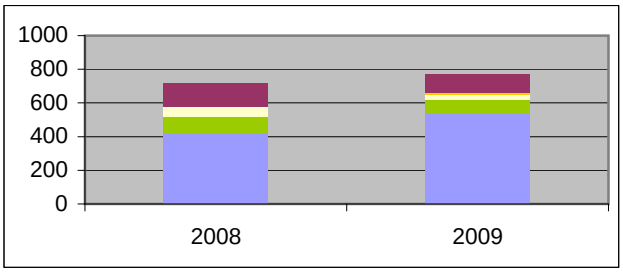


Total Volume (In Inches)

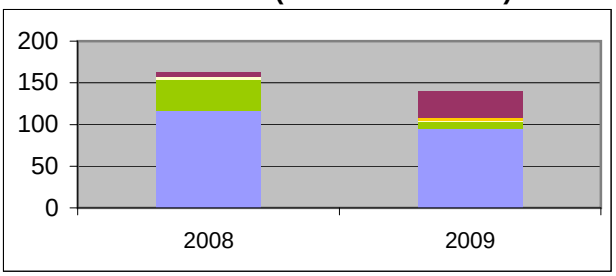


SSOs - Due to Wet Weather (WW) and Operational Issues

Total Occurrences



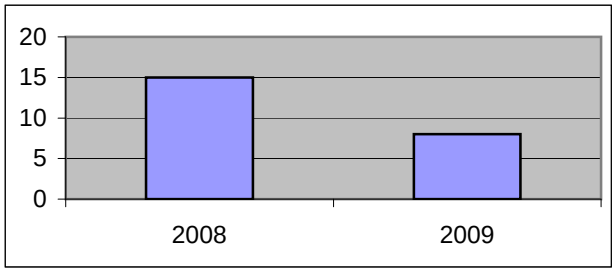
Total Volume (In Million Gallons)



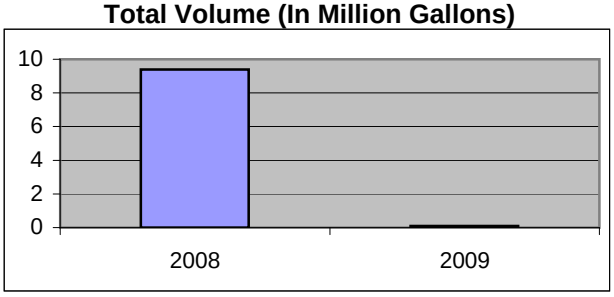
Recurring WW SSOs
Recurring WW CD Pump Station Overflows
Recurring WW Other Pump Station Overflows
Inactive WW Overflows
SSOs Due to Operational Issues

Dry Weather CSOs

Total Occurrences

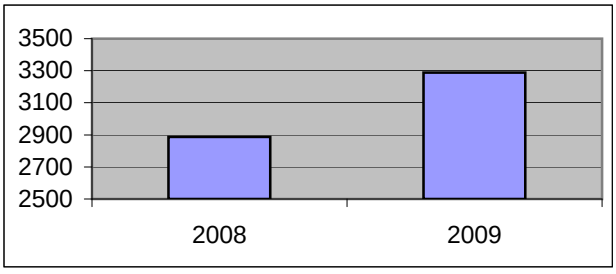


Total Volume (In Million Gallons)

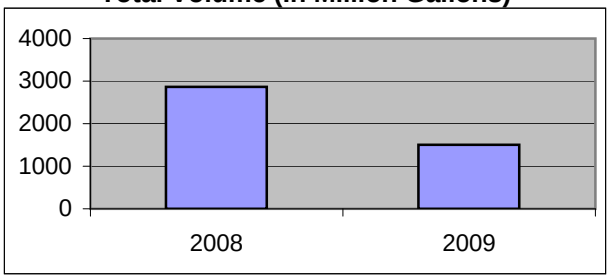


Wet Weather CSOs

Total Occurrences



Total Volume (In Million Gallons)



Building Backups

Total Occurrences

Change from 2008 to 2009			
	Occurrences	Volume	
Rainfall	23	-2.55	inches
Recurring WW SSOs	75	-53	MG
Inactive WW SSOs	13	3	MG
Operational SSOs	-35	26	MG
Dry Weather CSOs	-7	-8.90	MG
Wet Weather CSOs	401	-1,367	MG
Building Backups (Private)		80	
Building Backups (SD1)		-3	

Updated January 29, 2010

APPENDIX D:

Recurring Wet Weather SSOs

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Recurring Wet Weather SSOs					
No.	**MHID**	**City**	**County**	**Model Predicted Overflow Activations**	**Model Predicted Overflow Volume (MG)**
1	0020005	Silver Grove	Campbell	5	0.88
2	0020006	Silver Grove	Campbell	5	0.12
3	0020007	Silver Grove	Campbell	4	0.03
4	0020008	Unicorp Campbell County	Campbell	4	0.04
5	0020012	Unicorp Campbell County	Campbell	0	0.00
6	0020031	Unicorp Campbell County	Campbell	0	0.00
7	0020032	Unicorp Campbell County	Campbell	0	0.00
8	0040003	Forth Thomas	Campbell	1	0.01
9	0050022	Fort Thomas	Campbell	1	0.07
10	0060001	Unincorp Campbell County	Campbell	1	0.08
11	0060002	Unincorp Campbell County	Campbell	0	0.00
12	0100002	Highland Heights	Campbell	1	0.14
13	0110010	Highland Heights	Campbell	3	0.13
14	0150058	Wilder	Campbell	4	0.48
15	0150063	Wilder	Campbell	0	0.00
16	0150064	Wilder	Campbell	0	0.00
17	0150065	Wilder	Campbell	2	0.07
18	0150085	Unincorp Campbell County	Campbell	0	0.00
19	0150086	Southgate	Campbell	2	0.15
20	0150356	Southgate	Campbell	0	0.00
21	0220035	Southgate	Campbell	0	0.00
22	0220044	Fort Thomas	Campbell	1	0.03
23	0220056	Fort Thomas	Campbell	0	0.00
24	0220058	Fort Thomas	Campbell	0	0.00
25	0230016	Fort Thomas	Campbell	0	0.00
26	0260001	Fort Thomas	Campbell	0	0.00
27	0270026	Fort Thomas	Campbell	0	0.00
28	0270062	Fort Thomas	Campbell	0	0.00
29	0300035	Fort Thomas	Campbell	0	0.00
30	0400002	Fort Thomas	Campbell	4	0.10
31	0400017	Fort Thomas	Campbell	0	0.00
32	0410010	Fort Thomas	Campbell	4	0.05
33	0410019	Fort Thomas	Campbell	1	0.05
34	0410036	Fort Thomas	Campbell	0	0.00
35	0440074	Fort Thomas	Campbell	0	0.00
36	0530083	Newport	Campbell	4	0.34
37	0860001	Wilder	Campbell	9	11.67
38	0860003	Wilder	Campbell	0	0.00
39	0860016	Wilder	Campbell	0	0.00
40	1010025	Fort Thomas	Campbell	1	0.00
41	1040060	Independence	Kenton	0	0.00
42	1090069	Edgewood	Kenton	0	0.00
43	1110025	Erlanger	Kenton	1	0.02

Recurring Wet Weather SSOs					
No.	**MHID**	**City**	**County**	**Model Predicted Overflow Activations**	**Model Predicted Overflow Volume (MG)**
44	1110051	Erlanger	Kenton	1	0.04
45	1110067	Erlanger	Kenton	1	0.22
46	1110161	Erlanger	Kenton	1	0.02
47	1110164	Erlanger	Kenton	1	0.03
48	1110174	Elsmere	Kenton	1	0.01
49	1110294	Erlanger	Kenton	1	0.02
50	1220016	Erlanger	Kenton	0	0.00
51	1220029	Erlanger	Kenton	0	0.00
52	1220054	Erlanger	Kenton	0	0.00
53	1240008	Erlanger	Kenton	1	0.15
54	1240012	Erlanger	Kenton	0	0.00
55	1550053	Fort Mitchell	Kenton	0	0.00
56	1560016	Fort Mitchell	Kenton	0	0.00
57	1560019	Fort Mitchell	Kenton	0	0.00
58	1560074	Fort Mitchell	Kenton	0	0.00
59	1560092	Fort Mitchell	Kenton	0	0.00
60	1600029	Lakeside Park	Kenton	0	0.00
61	1600050	Lakeside Park	Kenton	1	0.01
62	1610102	Fort Mitchell	Kenton	0	0.00
63	1690043	Fort Wright	Kenton	0	0.00
64	1690072	Fort Wright	Kenton	0	0.00
65	1700025	Park Hills	Kenton	0	0.00
66	1760047	Edgewood	Kenton	0	0.00
67	1760048	Edgewood	Kenton	0	0.00
68	1830020	Unincorp Boone County	Boone	0	0.00
69	1830067	Unincorp Boone County	Boone	0	0.00
70	1850140	Covington	Kenton	0	0.00
71	1850141	Covington	Kenton	3	0.12
72	1860108	Taylor Mill	Kenton	0	0.00
73	1940006	Fort Wright	Kenton	2	0.18
74	1950011	Fort Wright	Kenton	0	0.00
75	1950014	Fort Wright	Kenton	5	1.56
76	1990018	Covington	Kenton	0	0.00
77	1990028	Covington	Kenton	0	0.00
78	1990032	Unicorp Kenton County	Kenton	3	1.97
79	2040040	Edgewood	Kenton	1	0.44
80	2070019	Elsmere	Kenton	1	0.14
81	2090008	Elsmere	Kenton	1	0.08
82	2100007	Elsmere	Kenton	0	0.00
83	2100036	Elsmere	Kenton	1	0.01
84	2100037	Elsmere	Kenton	0	0.00
85	2100106	Elsmere	Kenton	1	0.02
86	2100128	Elsmere	Kenton	0	0.00
87	2100129	Elsmere	Kenton	2	0.53
88	2110002	Elsmere	Kenton	1	0.04
89	2120001	Elsmere	Kenton	0	0.00
90	2120041	Elsmere	Kenton	0	0.00
91	2130022	Villa Hills	Kenton	1	0.00

Recurring Wet Weather SSOs					
No.	**MHID**	**City**	**County**	**Model Predicted Overflow Activations**	**Model Predicted Overflow Volume (MG)**
92	2130027	Erlanger	Kenton	1	0.11
93	2130286	Erlanger	Kenton	1	0.00
94	2150050	Crestview	Kenton	0	0.00
95	2170006	Crestview Hills	Kenton	1	0.06
96	2280010	Unicorp Kenton County	Kenton	0	0.00
97	2280011	Unicorp Kenton County	Kenton	2	0.14
98	2280016	Unicorp Kenton County	Kenton	2	0.20
99	2300016	Erlanger	Kenton	0	0.00
100	2300019	Erlanger	Kenton	1	0.06
101	2300121	Independence	Kenton	8	1.59
102	2300123	Unicorp Kenton County	Kenton	7	1.07
103	2300523	Erlanger	Kenton	6	1.11
104	2301219	Erlanger	Kenton	3	1.22
105	2301274	Erlanger	Kenton	0	0.00
			TOTAL	**120**	**25.62**

Threshold for model activation is 0.01 MGD and 0.001 MG

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APPENDIX E:

Recurring Wet Weather SSO Locations Revision Transactions

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Recurring Wet Weather SSO Locations - Revision Transactions				
MHID	City	County	Revision	Comments
0020005	Silver Grove	Campbell		
0020006	Silver Grove	Campbell	Added	Identified as a recurring SSO based on field inspections
0020007	Silver Grove	Campbell	Added	Identified as a recurring SSO based on field inspections
0020008	Unicorp Campbell County	Campbell	Added	Identified as a recurring SSO based on field inspections
0020012	Unicorp Campbell County	Campbell	Added	Identified as a recurring SSO based on field inspections
0020014	Silver Grove	Campbell	Removed	Field inspections do not indicate enough overflow evidence to be considered a recurring SSO but it will continue to be investigated as an inactive SSO location due to historical evidence and model predictions
0020031	Unicorp Campbell County	Campbell	Added	Identified as a recurring SSO based on field inspections
0020032	Unicorp Campbell County	Campbell	Added	Identified as a recurring SSO based on field inspections
0040003	Forth Thomas	Campbell	Added	Identified as a recurring SSO based on field inspections
0050022	Fort Thomas	Campbell		
0060001	Unincorp Campbell County	Campbell		
0060002	Unincorp Campbell County	Campbell		
0100001	Highland Heights	Campbell	Removed	Eliminated based on field inspections showing no overflow evidence in a 2-year period
0100002	Highland Heights	Campbell		
0110010	Highland Heights	Campbell		
0150058	Wilder	Campbell		
0150063	Wilder	Campbell		
0150064	Wilder	Campbell		
0150065	Wilder	Campbell		
0150085	Unincorp Campbell County	Campbell		
0150086	Southgate	Campbell		
0150356	Southgate	Campbell		
0220035	Southgate	Campbell	Added	Identified as a recurring SSO based on field inspections
0220044	Fort Thomas	Campbell		
0220056	Fort Thomas	Campbell	Added	Identified as a recurring SSO based on field inspections
0220058	Fort Thomas	Campbell		
0230016	Fort Thomas	Campbell	Added	Identified as a recurring SSO based on field inspections
0260001	Fort Thomas	Campbell	Added	Identified as a recurring SSO based on field inspections
0270026	Fort Thomas	Campbell	Added	Identified as a recurring SSO based on field inspections
0270062	Fort Thomas	Campbell		
0300008	Fort Thomas	Campbell	Removed	Eliminated based on field inspections showing no overflow evidence in a 2-year period
0300035	Fort Thomas	Campbell	Added	Identified as a recurring SSO based on field inspections
0400002	Fort Thomas	Campbell	Added	Identified as a recurring SSO based on field inspections
0400017	Fort Thomas	Campbell	Added	Identified as a recurring SSO based on field inspections
0410010	Fort Thomas	Campbell		
0410019	Fort Thomas	Campbell		
0410036	Fort Thomas	Campbell		
0440074	Fort Thomas	Campbell		
0530083	Newport	Campbell		
0860001	Wilder	Campbell		
0860003	Wilder	Campbell		
0860016	Wilder	Campbell		
1010025	Fort Thomas	Campbell	Added	Identified as a recurring SSO based on field inspections
1040060	Independence	Kenton		
1090069	Edgewood	Kenton		
1110025	Erlanger	Kenton		
1110051	Erlanger	Kenton		
1110067	Erlanger	Kenton		
1110161	Erlanger	Kenton		
1110164	Erlanger	Kenton		
1110174	Elsmere	Kenton		

Recurring Wet Weather SSO Locations - Revision Transactions				
MHID	City	County	Revision	Comments
1110275	Elsmere	Kenton	Removed	Field inspections do not indicate enough overflow evidence to be considered a recurring SSO but it will continue to be investigated as an inactive SSO location due to historical evidence and model predictions
1110294	Erlanger	Kenton		
1220016	Erlanger	Kenton	Added	Identified as a recurring SSO based on field inspections
1220029	Erlanger	Kenton		
1220054	Erlanger	Kenton	Added	Identified as a recurring SSO based on field inspections
1240008	Erlanger	Kenton		
1240012	Erlanger	Kenton		
1550053	Fort Mitchell	Kenton	Added	Identified as a recurring SSO based on field inspections
1560016	Fort Mitchell	Kenton		
1560019	Fort Mitchell	Kenton		
1560074	Fort Mitchell	Kenton		
1560092	Fort Mitchell	Kenton		
1590006	Lakeside Park	Kenton	Removed	Eliminated based on field inspections showing no overflow evidence in a 2-year period
1600029	Lakeside Park	Kenton		
1600050	Lakeside Park	Kenton		
1610102	Fort Mitchell	Kenton		
1610114	Fort Mitchell	Kenton	Removed	Eliminated by Avon Drive Sewer Conveyance Project
1610115	Fort Mitchell	Kenton	Removed	Eliminated by Avon Drive Sewer Conveyance Project
1690043	Fort Wright	Kenton		
1690072	Fort Wright	Kenton		
1700025	Park Hills	Kenton		
1730104	Fort Mitchell	Kenton	Removed	Field inspections do not indicate enough overflow evidence to be considered a recurring SSO but it will continue to be investigated as an inactive SSO location due to historical evidence and model predictions
1760047	Edgewood	Kenton		
1760048	Edgewood	Kenton		
1830020	Unincorp Boone County	Boone		
1830067	Unincorp Boone County	Boone		
1850140	Covington	Kenton		
1850141	Covington	Kenton		
1860108	Taylor Mill	Kenton		
1870013	Covington	Kenton	Removed	Field inspections do not indicate enough overflow evidence to be considered a recurring SSO but it will continue to be investigated as an inactive SSO location due to historical evidence and model predictions
1890011	Lakeside Park	Kenton	Removed	Field inspections do not indicate enough overflow evidence to be considered a recurring SSO but it will continue to be investigated as an inactive SSO location due to historical evidence and model predictions
1920163	Cold Spring	Campbell	Removed	Eliminated based on field inspections
1930007	Southgate	Campbell	Removed	Field inspections do not indicate enough overflow evidence to be considered a recurring SSO but it will continue to be investigated as an inactive SSO location due to historical evidence and model predictions
1940006	Fort Wright	Kenton		
1950011	Fort Wright	Kenton	Added	Identified as a recurring SSO based on field inspections
1950014	Fort Wright	Kenton	Added	Identified as a recurring SSO based on field inspections
1960002	Fort Wright	Kenton	Removed	Field inspections do not indicate enough overflow evidence to be considered a recurring SSO but it will continue to be investigated as an inactive SSO location due to historical evidence and model predictions
1990018	Covington	Kenton		
1990028	Covington	Kenton		
1990032	Unicorp Kenton County	Kenton	Added	Identified as a recurring SSO based on field inspections

Recurring Wet Weather SSO Locations - Revision Transactions				
MHID	City	County	Revision	Comments
2030097	Edgewood	Kenton	Removed	Eliminated - manhole bypass has been sealed
2040040	Edgewood	Kenton	Added	Identified as a recurring SSO based on field inspections
2070019	Elsmere	Kenton		
2070020	Elsmere	Kenton	Removed	Eliminated based on field inspections showing no overflow evidence in a 2-year period
2090008	Elsmere	Kenton		
2100007	Elsmere	Kenton		
2100036	Elsmere	Kenton		
2100037	Elsmere	Kenton		
2100106	Elsmere	Kenton		
2100128	Elsmere	Kenton		
2100129	Elsmere	Kenton		
2110002	Elsmere	Kenton		
2120001	Elsmere	Kenton		
2120041	Elsmere	Kenton		
2130022	Villa Hills	Kenton		
2130027	Erlanger	Kenton	Added	Identified as a recurring SSO based on field inspections
2130286	Erlanger	Kenton	Added	Identified as a recurring SSO based on field inspections
2150050	Crestview	Kenton		
2160004	Fort Mitchell	Kenton	Removed	Field inspections do not indicate enough overflow evidence to be considered a recurring SSO but it will continue to be investigated as an inactive SSO location due to historical evidence and model predictions
2160036	Fort Mitchell	Kenton	Removed	Eliminated - manhole bypass has been sealed
2170006	Crestview Hills	Kenton	Added	Identified as a recurring SSO based on field inspections
2280010	Unicorp Kenton County	Kenton		
2280011	Unicorp Kenton County	Kenton		
2280016	Unicorp Kenton County	Kenton		
2290001	Crescent Springs	Kenton	Removed	Field inspections do not indicate enough overflow evidence to be considered a recurring SSO but it will continue to be investigated as an inactive SSO location due to historical evidence and model predictions
2300016	Erlanger	Kenton	Added	Identified as a recurring SSO based on field inspections
2300019	Erlanger	Kenton		
2300121	Independence	Kenton	Added	Identified as a recurring SSO based on field inspections
2300123	Unicorp Kenton County	Kenton		
2300523	Erlanger	Kenton		
2301219	Erlanger	Kenton	Added	Identified as a recurring SSO based on field inspections
2301274	Erlanger	Kenton	Added	Identified as a recurring SSO based on field inspections
2380001	Unincorp Boone County	Boone	Removed	Eliminated by new Western Regional Gunpowder Interceptor Sewer
2390002	Unincorp Boone County	Boone	Removed	Field inspections do not indicate enough overflow evidence to be considered a recurring SSO but it will continue to be investigated as an inactive SSO location due to historical evidence and model predictions
2390006	Unincorp Boone County	Boone	Removed	Eliminated based on field inspections showing no overflow evidence in a 2-year period
2390008	Unincorp Boone County	Boone	Removed	Eliminated based on field inspections showing no overflow evidence in a 2-year period
2390762	Unincorp Boone County	Boone	Removed	Eliminated based on field inspections showing no overflow evidence in a 2-year period

Total SSO Locations Added = 30
Total SSO Locations Removed = 23
Total Recurring SSO Locations after Revisions = 105

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APPENDIX F:

Wet Weather CSOs

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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	4	0.28
2	0010228	To Be Permitted	N/A	NA
3	0030031	KY0021466 - Outfall 10	0	0.00
4	0200069	KY0021466 - Outfall 11	4	0.11
5	0330100	KY0021466 - Outfall 12	0	0.00
6	0340050	KY0021466 - Outfall 14	4	0.05
7	0340051	KY0021466 - Outfall 13	4	0.04
8	0360079	To Be Permitted	8	1.53
9	0540009	To Be Permitted	5	0.10
10	0540044	To Be Permitted	4	0.02
11	0550134	To Be Permitted	1	0.01
12	0570089	KY0021466 - Outfall 16	9	6.32
13	0570090	KY0021466 - Outfall 17	8	4.72
14	0600094	KY0021466 - Outfall 18	5	0.12
15	0600096	To Be Permitted	1	0.00
16	0600097	KY0021466 - Outfall 19	5	0.42
17	0600104	To Be Permitted	0	0.00
18	0610071	KY0021466 - Outfall 21	20	1.84
19	0610072	KY0021466 - Outfall 20	4	0.03
20	0620075	KY0021466 - Outfall 23	9	1.24
21	0620077	KY0021466 - Outfall 22	4	0.01
22	0630061	KY0021466 - Outfall 83	5	0.09
23	0640090	KY0021466 - Outfall 24	12	93.42
24	0650054	To Be Permitted	0	0.00
25	0650090	KY0021466 - Outfall 26	6	1.12
26	0650098	To Be Permitted	5	3.20
27	0650100	KY0021466 - Outfall 25	1	0.00
28	0690059	To Be Permitted	0	0.00
29	0730129	To Be Permitted	12	0.20
30	0770096	KY0021466 - Outfall 28	5	0.15
31	0790084	KY0021466 - Outfall 31	18	3.24
32	0790086	KY0021466 - Outfall 29	21	16.16
33	0840111	To Be Permitted	0	0.00
34	0840112	To Be Permitted	10	0.53
35	0840116	KY0021466 - Outfall 27	14	0.80
36	0870078	KY0021466 - Outfall 33	1	0.00
37	0870079	KY0021466 - Outfall 34	13	5.13
38	0880081	KY0021466 - Outfall 36	12	4.59
39	0880082	KY0021466 - Outfall 35	2	0.02
40	0910065	KY0021466 - Outfall 38	8	67.65
41	0910066	To Be Permitted	0	0.00
42	0910068	KY0021466 - Outfall 37	10	9.14
43	0930102	KY0021466 - Outfall 43	0	0.00
44	0930103	KY0021466 - Outfall 42	0	0.00
45	0930104	KY0021466 - Outfall 40	0	0.00
46	0930105	KY0021466 - Outfall 41	15	6.34
47	0930106	KY0021466 - Outfall 39	0	0.00
48	0960063	KY0021466 - Outfall 45	5	1.24
49	0960064	KY0021466 - Outfall 44	0	0.00
50	0980073	KY0021466 - Outfall 46	1	0.00

Wet Weather CSOs				
No.	CSO ID	KPDES Permit #	Model Predicted Activations	Model Predicted Overflow Volume (MG)
51	0980080	KY0021466 - Outfall 47	0	0.00
52	0980081	KY0021466 - Outfall 48	17	8.83
53	1310100	To Be Permitted	NA	NA
54	1320112	To Be Permitted	0	0.00
55	1350155	KY0021466 - Outfall 49	0	0.00
56	1380132	To Be Permitted	0	0.00
57	1380146	To Be Permitted	0	0.00
58	1420141	KY0021466 - Outfall 50	5	0.07
59	1420142	KY0021466 - Outfall 51	14	32.85
60	1420144	KY0021466 - Outfall 52	0	0.00
61	1420145	KY0021466 - Outfall 53	0	0.00
62	1420146	KY0021466 - Outfall 54	0	0.00
63	1420147	KY0021466 - Outfall 55	1	0.01
64	1440204	KY0021466 - Outfall 59	0	0.00
65	1440205	KY0021466 - Outfall 60	4	0.02
66	1440206	KY0021466 - Outfall 61	7	0.70
67	1440207	To Be Permitted	0	0.00
68	1440209	KY0021466 - Outfall 56	22	14.64
69	1470089	KY0021466 - Outfall 62	1	0.03
70	1470093	KY0021466 - Outfall 63	8	10.63
71	1480185	To Be Permitted	2	0.24
72	1480187	KY0021466 - Outfall 30	15	96.83
73	1490132	KY0021466 - Outfall 65	2	0.21
74	1490172	KY0021466 - Outfall 64	0	0.00
75	1500131	KY0021466 - Outfall 66	7	1.50
76	1510133	To Be Permitted	0	0.00
77	1510245	To Be Permitted	0	0.00
78	1710114	KY0021466 - Outfall 69	1	0.00
79	1710116	KY0021466 - Outfall 68	7	3.22
80	1710119	KY0021466 - Outfall 70	5	2.08
81	1710121	KY0021466 - Outfall 71	4	1.13
82	1710124	KY0021466 - Outfall 72	5	1.17
83	1720109	KY0021466 - Outfall 73	7	2.90
84	1730259	KY0021466 - Outfall 75	5	0.26
85	1730262	To Be Permitted	0	0.00
86	1730263	KY0021466 - Outfall 74	6	0.26
87	1840130	To Be Permitted	4	0.12
88	1850158	KY0021466 - Outfall 76	21	17.54
89	1870193	KY0021466 - Outfall 78	5	0.36
90	1870194	KY0021466 - Outfall 79	2	0.01
91	1880090	KY0021466 - Outfall 81	3	0.79
92	1880091	KY0021466 - Outfall 80	1	0.04
		TOTAL	**456**	**426.30**

Threshold for model activation is 0.01 MGD and 0.001 MG