SD1
Managing Northern Kentucky's
Wastewater and Storm Water

April 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 January 1, 2013 through March 31, 2012. The report also contains an outlook for the upcoming calendar quarter period of April 1, 2013 through June 30, 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
April 30, 2013

Consent Decree
Quarterly Report No. 22
(January 1, 2013 through March 31, 2013)

CERTIFICATION

Consent Decree Quarterly Report No. 22
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

4/29/13
Date

COMMONWEALTH OF KENTUCKY

)ss.

COUNTY OF Kenton

The foregoing instrument was acknowledged before me this 29 day of April, 2013 by David E. Rager, Executive Director of Sanitation District. No. 1.

Angela M. Cook
NOTARY PUBLIC

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

Campbell County, Kentucky

My commission expires: 7-30-16

CONSENT DECREE
QUARTERLY REPORT NO. 22

April 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
EPA	U.S. Environmental Protection Agency
KDOW	Kentucky Division of Water
RWI	River Water Intrusion
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, 2013 through March 31, 2013. This report also contains an outlook for the upcoming calendar quarter period of April 1, 2013 through June 30, 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 submitted on March 31, 2011, into Appendix B.

<u>Initial Watershed Projects</u>
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 is still pending.

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 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 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. This 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 18 rain gauges located across the system, and simulated the rainfall that occurred January 1, 2013 through March 31, 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 their field and modeling activities on a continual basis, through regular inspections and flow monitoring 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. This frequent inspection and monitoring process is 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 related to the new 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 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, 2013 through March 31, 2013)

Month	Approximate # of Storm Events[1]	Rainfall (in)
January	10	3.39
February	10	2.21
March	8	3.71
Total	**28**	**9.31**

[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, 2013 through March 31, 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 2012 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 179 recurring wet-weather SSO locations for the current reporting period can be found in Appendix D. This list has been revised subsequent to the January 2013 Quarterly Report based upon the field inspections and hydraulic modeling updates. As discussed in past reports, the recurring SSO list is updated annually in the April Quarterly Report to reflect the latest information from ongoing system characterization, based upon field inspections and flow monitoring. A detailed listing outlining structure numbers and transaction descriptions for the revisions made to the SSO list can be found in Appendix E.

On March 18, 2013 a recurring wet-weather SSO was observed to be overflowing at Structure ID # 2370003. SD1 provided initial notification of the overflow, and estimated 1,900 gallons discharged into Woolper Creek, in Boone County. This overflow was not predicted by the hydraulic model at this location, for this particular event. However, the model did show significant surcharge of the manhole during the wet weather. SD1 will conduct flow monitoring in the vicinity of this recurring SSO to fine tune the model, in order to minimize discrepancies between the field observations and modeled results at this location.

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. 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.

Two of the 14 pump stations listed in the Consent Decree discharged a total of six times due to lack of capacity during the current reporting period, with an estimated overflow volume of 860,800 gallons.

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 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, 2013 through March 31, 2013)

Name of Pump Station	Number of Wet-Weather Related Discharge Occurrences	Total Estimated Volume (gallons)
Allen Fork	0	0
Crestview	3	3,300
Kentucky Aire	0	0
Lakeview	3	857,500
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	**6**	**860,800**

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 experienced recurring wet-weather capacity issues. It discharged seven times, with a total estimated volume of 402,900 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

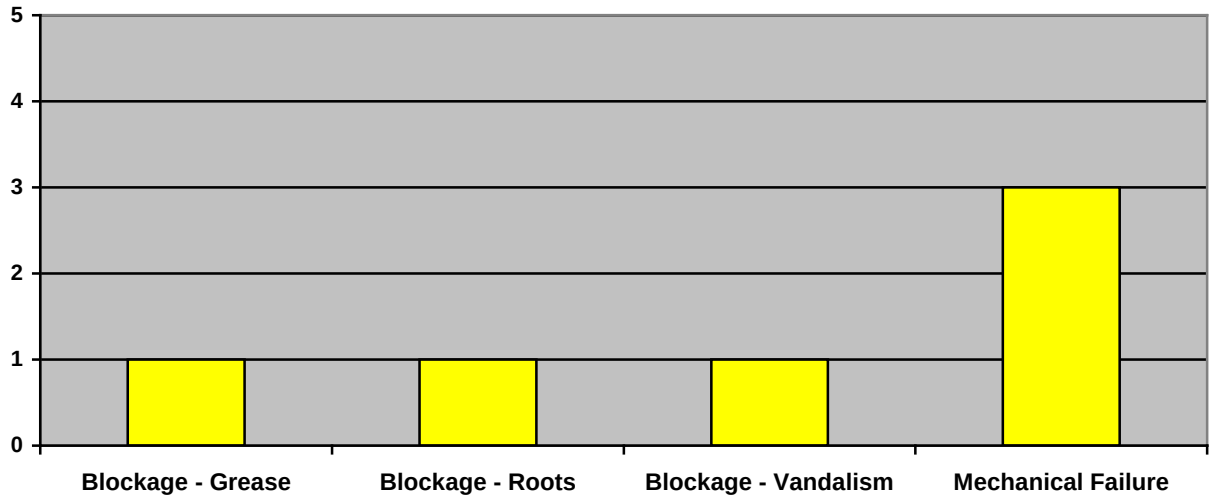
There were no inactive wet-weather SSOs observed, during the current reporting period.

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.

During the current reporting period, there were a total of six SSOs due to operational issues throughout SD1's service area, with a total estimated overflow volume of 133,600 gallons. The six overflows for this category are broken down by the primary causes, demonstrated in Figure 2.1.

Figure 2.1 Causes of Operational Issues Resulting in SSOs
(January 1, 2013 through March 31, 2013)



These SSOs were immediately acted upon and the problems repaired. 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 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.

In addition to the six SSOs due to operational issues, SD1 responded to an overflow from a blockage in a private system owned by the Housing Authority of Covington, on January 3, 2013. Notification of the overflow was made to the Florence Office of the Kentucky Division of Water (KDOW). Further clarification of the private ownership of the system was provided to KDOW on January 10, 2013. The response to the after-hours trouble call and the containment of the overflow was a courtesy, as SD1 was in the process of providing contractual assessment and maintenance services to the owner of the system, at the time. SD1 makes no claim of responsibility for the private system, nor will future notifications of the private system's failure come from SD1.

2.3 Wet Weather CSOs

Included in Appendix F 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.

2.4 Dry Weather CSOs

During the current reporting period, there were three dry-weather discharges from the combined system, totaling approximately 14,700 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 2.3 summarizes the locations, dates, causes of the overflows, estimated overflow volumes, and the actions taken to prevent these overflows from occurring in the future.

Table 2.3 Dry Weather CSOs
(January 1, 2013 through March 31, 2013)

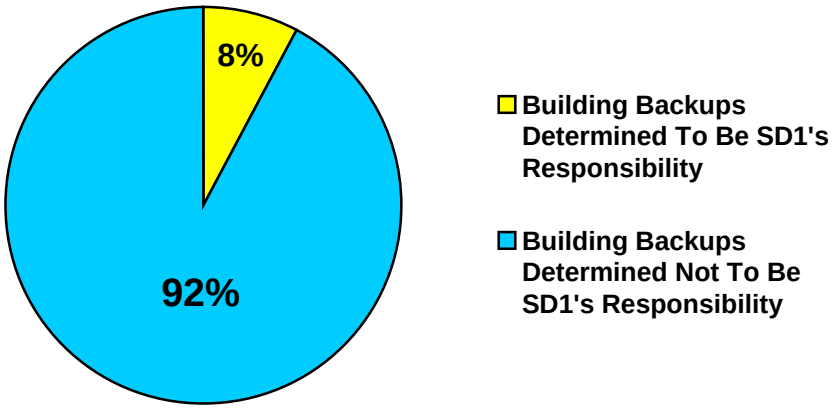
Structure ID#	Location & Date	Overflow Cause	Volume Estimate	Corrective Action Taken
0600041	Bellevue O'Fallon Avenue Diversion 01/10/13	Debris comprised of grit, mud, and Christmas ornaments caused a blockage in the diversion's dry weather line. After further review, it was determined that an old brick washout catch basin, approximately 150 feet upstream of the diversion, was the point of entry for most of the debris. Vented manhole covers in the road, also appeared to be a source of road grit.	1,200 gallons	The dry weather diversion line was cleaned and a re-inspection was performed to ensure all debris was cleared. The old washout catch basin was replaced with a new precast cast basin, equipped with a bell to trap solids and floatables. Additionally, odor control liners were installed in three manholes to check road grit. The diversion will continue to be inspected regularly, and the catch basin will be inspected annually in accordance with SD1's Nine Minimum Controls plan.
1730029	Bromley Pleasant Street Diversion 02/11/13	Following a six-day flood stage event on the Ohio River, debris comprised of mud and sticks entered the CSO outfall from the river, and settled in the dry weather diversion line after the collection system returned to normal operation. The debris created a blockage in the dry weather line.	5,500 gallons	The dry weather diversion line was cleaned and a re-inspection was performed to ensure all debris was cleared. This CSO outfall is at the confluence of Pleasant Run Creek and the Ohio River, and is prone to river water intrusion (RWI). This CSO outfall is scheduled next to be retrofitted with a duckbill check valve, as described in the RWI Mitigation section of SD1's Integrated Watershed Plan.

Structure ID#	Location & Date	Overflow Cause	Volume Estimate	Corrective Action Taken
0610080	Bellevue Taylor Avenue Diversion 02/14/13	Following a six-day flood stage event on the Ohio River that required the activation of the flood control system, excessive sanitary debris from the collection system settled into the diversion, once normal operations resumed. The debris created a blockage in the diversion structure.	8,000 gallons	The diversion structure and surrounding lines were cleaned, and a re-inspection was performed to ensure all debris was cleared. The diversion will continue to receive regular inspections to ensure debris does not return.

2.5 Building Backups

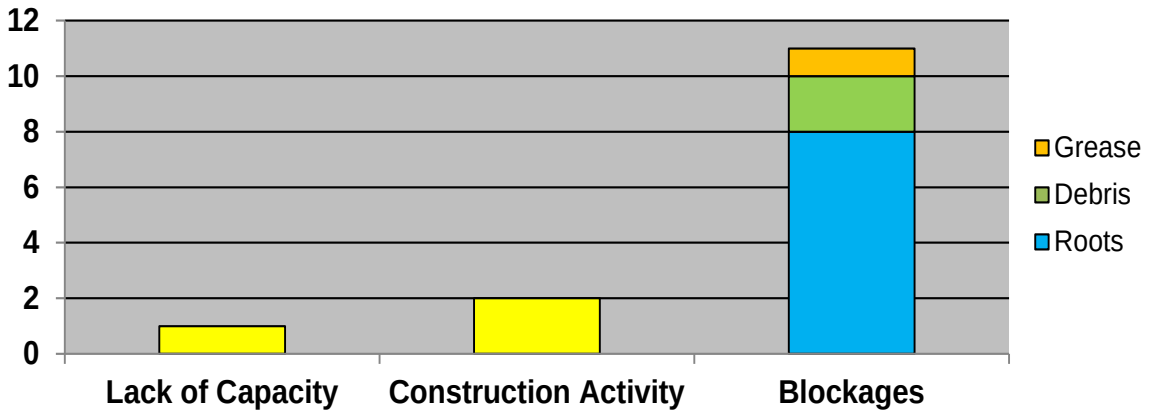
During the current reporting period, there were approximately 177 building backups throughout SD1's service area. Of these 177**,** approximately 14 were determined to be SD1's responsibility and 163 were determined not to be the responsibility of SD1, as shown in Figure 2.2. The backups determined not to be the responsibility of SD1 were due to causes such as breaks and blockages in private service laterals.

Figure 2.2 Building Backups: Public vs. Private
(January 1, 2013 through March 31, 2013)



Causes for the approximately 14 building backups determined to be SD1's responsibility are detailed in Figure 2.3, on the following page.

Figure 2.3 Causes of SD1-Responsible Building Backups
(January 1, 2013 through March 31, 2013)



The building backup due to a lack of capacity occurred during intense wet weather in an area with known inflow and infiltration issues. The home experiencing the backup has storm drains connected to the private service lateral, which are contributing to the problem significantly. SD1 is working with the home owner to identify solutions to the problem, including the removal of the storm drains from the service lateral and installation of a backflow preventer. An external sump pump is also being evaluated as an option for keeping storm water out of the sanitary system

The two building backups caused by construction activity were related to localized construction projects performed by SD1 contractors. The issues were immediately resolved with bypass pumping and repairs.

Of the 11 blockages that caused building backups, eight were caused by roots, two by debris, and one by grease. 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. 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)		74%	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	0%	11/10/13	
	SORP Annual Review 6	0%	11/10/14	
	INITIAL WATERSHED PROJECTS			
	Complete Initial Watershed Projects (51 Total)	98%	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	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	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	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	0%	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	25%	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	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	

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
Second Round Watershed Plans				
	Obtain Public Input on Second Round of Watershed Plans	0%	Summer 2014[2]	
	Submit Second Round of Watershed Plans	0%	Summer 2014[2]	
Third Round Watershed Plans				
	Obtain Public Input on Third Round of Watershed Plans	0%	Summer 2019[2]	
	Submit Third Round of Watershed Plans	0%	Summer 2019[2]	
	Consent Decree Compliance			
	Complete all Consent Decree Compliance Measures	33%	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: April 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	Requested Removal as Initial Action Project - Awaiting Approval (see Watershed Plans)		

Updated: April 30, 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 01/01/2013 to 03/31/2013	Planned Activity for 04/01/2013 to 06/30/2013
(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	Final Design	Final Design
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	Construction	Construction
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

Updated: April 30, 2013

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 10/01/2012 to 12/31/2012	Planned Activity for 1/01/2013 to 3/31/2013
(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	n/a	Construction	Construction
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	Final Design	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	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	Final Design	Final Design
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 10/01/2012 to 12/31/2012	Planned Activity for 1/01/2013 to 3/31/2013
(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

Updated: April 30, 2013

Pump Station Backup Power Plan

CIP Title	Basin	Original Proposed Solution	Updated Proposed Solution	Scheduled Completion Date	Actual Completion Date	Status as of January 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 January 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 2012 - 2015	2008 2010	Complete
Riley Road No. 1 Riley Road No. 2	East	PS Elimination	n/a	2009	2009	Complete
Riverwatch PS	North	PS Elimination Study	PS Elimination	Study - 2008 2012 - 2015	2008 2008	Complete Complete
South Park Industrial	North	PS Elimination Study	Backup Dry Prime Pump with a Diesel	Study - 2008 2012 - 2015	2008 2010	Complete Complete
Wedgewood Dr	Central	PS Elimination Study	Evaluating Solutions	Study - 2008 2015	2008 n/a	Complete Evaluating Solutions
Willow Bend No. 2	West	PS Elimination Study	PS Elimination	Study - 2008 2013	2008 n/a	Complete Construction
Army Reserve	East	PS Elimination Study	Electrical hook up for portable generator	Study - 2008 2013	2008 n/a	Complete In Progress
Eagles Landing	West	PS Elimination Study	Electrical hook up for portable generator	Study - 2008 2013	2008 n/a	Complete In Progress
Evergreen	Central	PS Elimination Study	Evaluating Solutions	Study - 2008 2015	2008 n/a	Complete Evaluating Solutions
Lamphill	East	PS Elimination Study	Electrical hook up for portable generator	Study - 2008 2011	2008 2011	Complete Complete
Mill House Crossing	Central	PS Elimination Study	Backup Dry Prime Pump with a Diesel	Study - 2008 2012	2008 2012	Complete Complete
Ridgefield	North	PS Elimination Study	Evaluating Solutions	Study - 2008 2015	2008 n/a	Complete Evaluating Solutions
War Admiral	West	PS Elimination Study	PS Elimination	Study - 2008 2012 - 2015	2008 2011	Complete Complete
Blackstone	West	PS Elimination Study	Evaluating Solutions	Study - 2008 2015	2008 n/a	Complete Evaluating Solutions
Dublin Green No. 1	West	PS Elimination Study	PS Elimination	Study - 2008 2015	2008 2012	Complete 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

Updated: April 30, 2013

Pump Station Backup Power Plan

CIP Title	Basin	Original Proposed Solution	Updated Proposed Solution	Scheduled Completion Date	Actual Completion Date	Status as of January 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 January 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 January 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 January 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	n/a	In Progress
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 January 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
Total Complete	**81**
2013 Active Projects	7
Total Project Activity	**88**

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Pump Station Overflow Elimination Plan

CIP Title	Basin	Scheduled Completion Date	Actual Completion Date	Past Activity for 01/01/2013 to 03/31/2013	Planned Activity for 04/01/2013 to 06/30/2013
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	Initial Design	Initial Design
Crestview	East	12/31/2015	n/a	Phase 1 - Sewer and MH rehab is complete. Lateral rehab is under evaluation.	
Kentucky Aire	West	12/31/2013	n/a	Final Design	Construction
Lakeview	Central	Requested Delay - Awaiting Approval (see Watershed Plans)			

Updated: April 30, 2013

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APPENDIX C:

Cumulative and Annual Overflow Data

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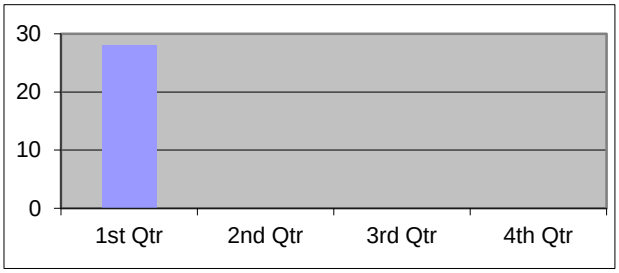
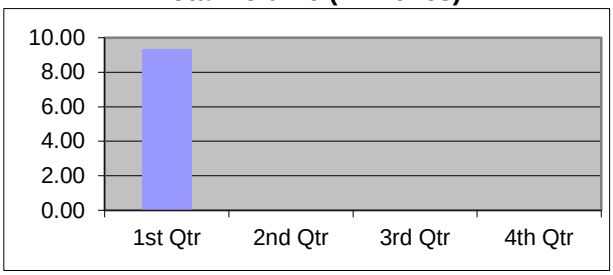
Cumulative Overflow Data
January 1, 2012 through December 31, 2012

Rainfall

Total Occurrences

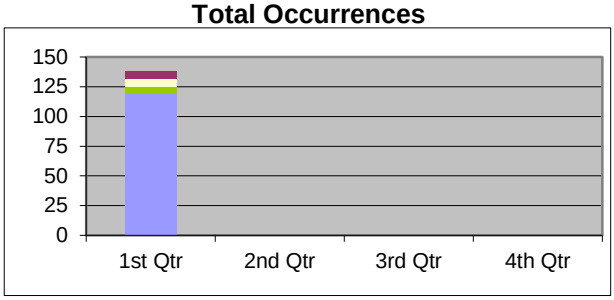


Total Volume (In Inches)

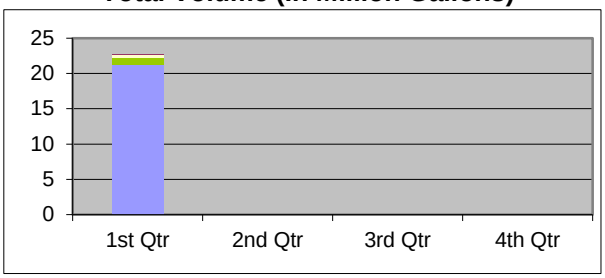


SSOs - Due to Wet Weather (WW) and Operational Issues

Total Occurrences



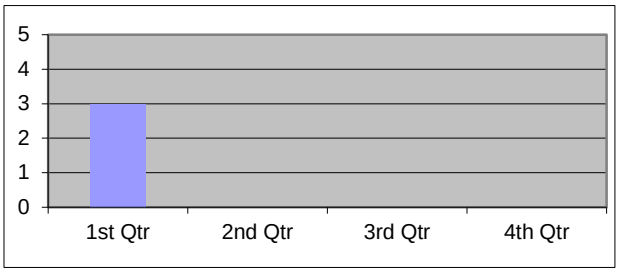
Total Volume (In Million Gallons)



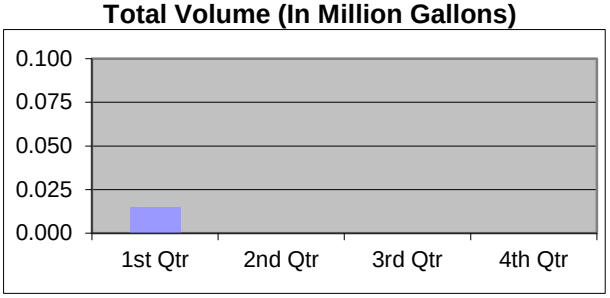
Recurring WW SSOs
Recurring WW CD Pump Station Overflows
Recurring WW Other Pump Station Overflows
Inactive WW Overflows
SSOs Due to Operational Issues

Dry Weather CSOs

Total Occurrences

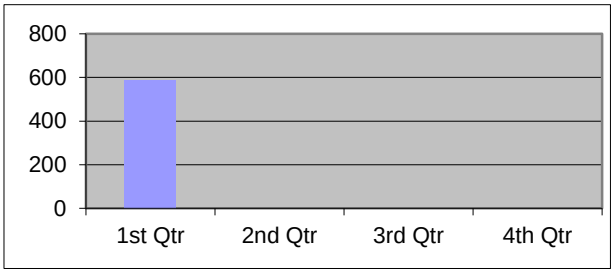


Total Volume (In Million Gallons)

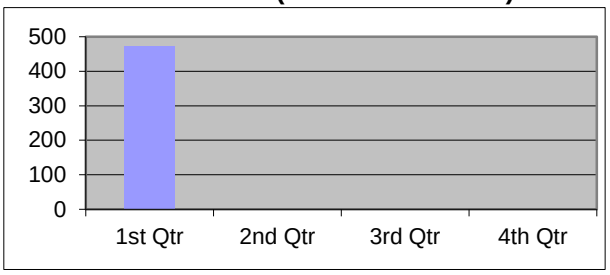


Wet Weather CSOs

Total Occurrences

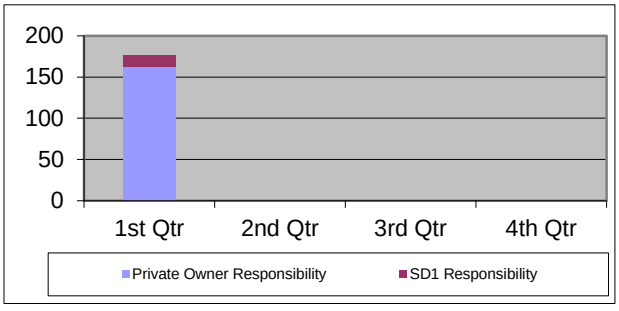


Total Volume (In Million Gallons)



Building Backups

Total Occurrences



2013 Overflow Summary			
	Occurrences	**Volume**	
Rainfall	28	9.310	inches
Recurring WW SSOs	132	22.583	MG
Inactive WW SSOs	0	0.000	MG
Operational SSOs	6	0.134	MG
Dry Weather CSOs	3	0.015	MG
Wet Weather CSOs	588	470.980	MG
Building Backups (Private)		163	
Building Backups (SD1)		14	

Updated: January 30, 2013

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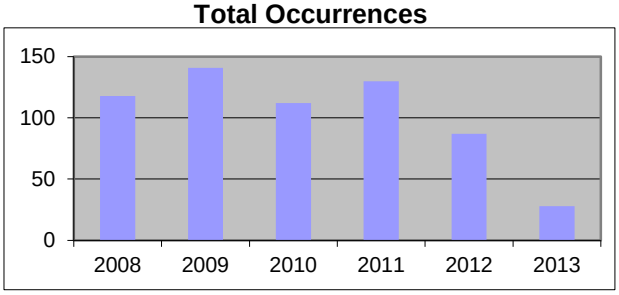
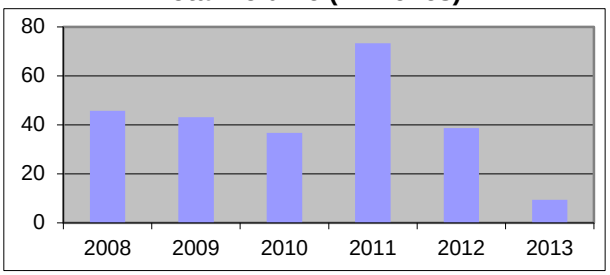
Annual Cumulative Overflow Data
2008 through 2012

Rainfall

Total Occurrences

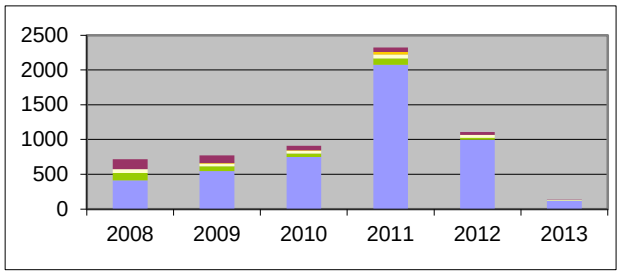


Total Volume (In Inches)

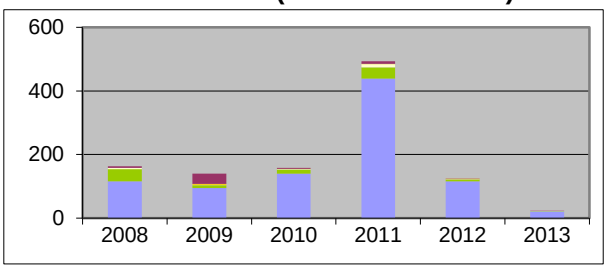


SSOs - Due to Wet Weather (WW) and Operational Issues

Total Occurrences



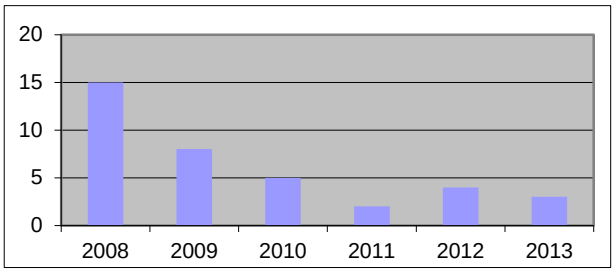
Total Volume (In Million Gallons)



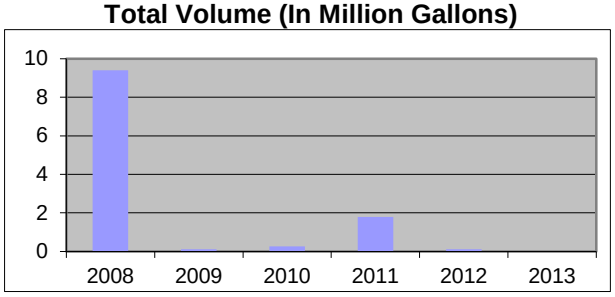
Recurring WW SSOs
Recurring WW CD Pump Station Overflows
Recurring WW Other Pump Station Overflows
Inactive WW Overflows
SSOs Due to Operational Issues

Dry Weather CSOs

Total Occurrences

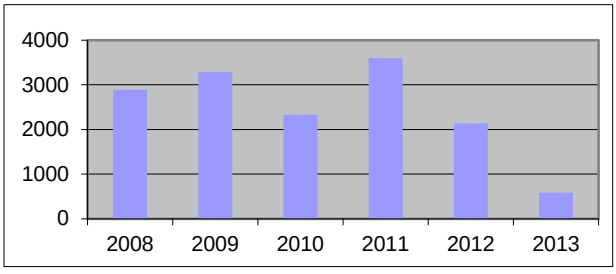


Total Volume (In Million Gallons)

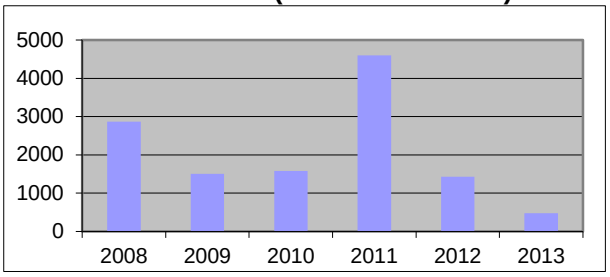


Wet Weather CSOs

Total Occurrences



Total Volume (In Million Gallons)



Building Backups

Total Occurrences

Change from 2011 to 2012			
	Occurrences	Volume	
Rainfall	-43	-34.65	inches
Recurring WW SSOs	-1154	-323.04	MG
Inactive WW SSOs	-35	-1.24	MG
Operational SSOs	-28	-7.72	MG
Dry Weather CSOs	2	-1.69	MG
Wet Weather CSOs	-1466	-3171.78	MG
Building Backups (Private)		-85	
Building Backups (SD1)		-102	

Updated: January 30, 2013

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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	0020006	Silver Grove	Campbell	6	1.40
2	0020007	Silver Grove	Campbell	5	0.08
3	0020008	Unicorp Campbell County	Campbell	4	0.04
4	0020031	Unicorp Campbell County	Campbell	0	0.00
5	0020032	Unicorp Campbell County	Campbell	0	0.00
6	0040003	Fort Thomas	Campbell	0	0.00
7	0050022	Fort Thomas	Campbell	1	0.02
8	0060001	Unicorp Campbell County	Campbell	1	0.00
9	0060002	Unicorp Campbell County	Campbell	0	0.00
10	0060004	Unicorp Campbell County	Campbell	0	0.00
11	0070044	Highland Heights	Campbell	0	0.00
12	0100002	Highland Heights	Campbell	1	0.01
13	0100003	Highland Heights	Campbell	0	0.00
14	0110002	Fort Thomas	Campbell	0	0.00
15	0110010	Highland Heights	Campbell	3	0.04
16	0120019	Highland Heights	Campbell	NA	NA
17	0150009	Wilder	Campbell	5	0.48
18	0150024	Southgate	Campbell	0	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	3	0.25
24	0150087	Fort Thomas	Campbell	0	0.00
25	0150356	Southgate	Campbell	0	0.00
26	0200003	Fort Thomas	Campbell	0	0.00
27	0220035	Southgate	Campbell	0	0.00
28	0220056	Fort Thomas	Campbell	1	0.00
29	0220058	Fort Thomas	Campbell	0	0.00
30	0220086	Southgate	Campbell	0	0.00
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	0	0.00
36	0270062	Fort Thomas	Campbell	0	0.00
37	0270103	Fort Thomas	Campbell	1	0.00
38	0280001	Fort Thomas	Campbell	0	0.00
39	0280073	Fort Thomas	Campbell	0	0.00
40	0300035	Fort Thomas	Campbell	0	0.00
41	0330005	Fort Thomas	Campbell	0	0.00
42	0360004	Dayton	Campbell	0	0.00
43	0380005	Fort Thomas	Campbell	0	0.00
44	0390007	Fort Thomas	Campbell	1	0.00

Recurring Wet Weather SSOs					
No.	**MHID**	**City**	**County**	**Model Predicted Overflow Activations**	**Model Predicted Overflow Volume (MG)**
45	0400002	Fort Thomas	Campbell	2	0.05
46	0400017	Fort Thomas	Campbell	0	0.00
47	0410010	Fort Thomas	Campbell	1	0.01
48	0410019	Fort Thomas	Campbell	1	0.01
49	0410036	Fort Thomas	Campbell	0	0.00
50	0440074	Fort Thomas	Campbell	0	0.00
51	0530083	Newport	Campbell	4	0.07
52	0860001	Wilder	Campbell	16	13.95
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	0	0.00
57	1010027	Fort Thomas	Campbell	0	0.00
58	1040060	Independence	Kenton	0	0.00
59	1090069	Edgewood	Kenton	0	0.00
60	1110025	Erlanger	Kenton	0	0.00
61	1110051	Erlanger	Kenton	1	0.01
62	1110067	Erlanger	Kenton	1	0.05
63	1110161	Erlanger	Kenton	0	0.00
64	1110164	Erlanger	Kenton	0	0.00
65	1110174	Elsmere	Kenton	0	0.00
66	1110275	Elsmere	Kenton	0	0.00
67	1110294	Erlanger	Kenton	1	0.01
68	1190012	Erlanger	Kenton	3	0.05
69	1220016	Erlanger	Kenton	0	0.00
70	1220054	Erlanger	Kenton	1	0.01
71	1240008	Erlanger	Kenton	2	0.08
72	1240012	Erlanger	Kenton	0	0.00
73	1550053	Fort Mitchell	Kenton	0	0.00
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	0	0.00
78	1570025	Fort Mitchell	Kenton	0	0.00
79	1600029	Lakeside Park	Kenton	0	0.00
80	1600050	Lakeside Park	Kenton	1	0.02
81	1610102	Fort Mitchell	Kenton	0	0.00
82	1690043	Fort Wright	Kenton	0	0.00
83	1690072	Fort Wright	Kenton	0	0.00
84	1700008	Covington	Kenton	0	0.00
85	1700025	Park Hills	Kenton	0	0.00
86	1730103	Fort Mitchell	Kenton	0	0.00
87	1750076	Independence	Kenton	NA	NA
88	1760047	Edgewood	Kenton	2	0.04
89	1760048	Edgewood	Kenton	1	0.01
90	1790003	Crescent Springs	Kenton	0	0.00
91	1830020	Unicorp Boone County	Boone	0	0.00
92	1830067	Unicorp Boone County	Boone	0	0.00
93	1850140	Covington	Kenton	0	0.00

Recurring Wet Weather SSOs					
No.	**MHID**	**City**	**County**	**Model Predicted Overflow Activations**	**Model Predicted Overflow Volume (MG)**
94	1850141	Covington	Kenton	4	0.04
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	0	0.00
99	1920097	Cold Spring	Campbell	0	0.00
100	1940006	Fort Wright	Kenton	0	0.00
101	1950014	Fort Wright	Kenton	1	0.11
102	1950232	Fort Wright	Kenton	0	0.00
103	1960002	Fort Wright	Kenton	1	0.01
104	1990018	Covington	Kenton	0	0.00
105	1990028	Covington	Kenton	0	0.00
106	1990032	Unicorp Kenton County	Kenton	0	0.00
107	2040040	Edgewood	Kenton	0	0.00
108	2070019	Elsmere	Kenton	1	0.02
109	2090008	Elsmere	Kenton	4	0.08
110	2100002	Elsmere	Kenton	0	0.00
111	2100007	Elsmere	Kenton	0	0.00
112	2100036	Elsmere	Kenton	0	0.00
113	2100037	Elsmere	Kenton	0	0.00
114	2100057	Elsmere	Kenton	0	0.00
115	2100106	Elsmere	Kenton	1	0.01
116	2100126	Elsmere	Kenton	NA	NA
117	2100128	Elsmere	Kenton	0	0.00
118	2100129	Elsmere	Kenton	5	0.54
119	2110001	Elsmere	Kenton	1	0.03
120	2110002	Elsmere	Kenton	1	0.01
121	2110006	Elsmere	Kenton	0	0.00
122	2120001	Elsmere	Kenton	0	0.00
123	2120041	Elsmere	Kenton	0	0.00
124	2130027	Erlanger	Kenton	0	0.00
125	2130286	Erlanger	Kenton	0	0.00
126	2150050	Crestview Hills	Kenton	0	0.00
127	2160004	Fort Mitchell	Kenton	0	0.00
128	2160005	Fort Mitchell	Kenton	0	0.00
129	2170006	Crestview Hills	Kenton	1	0.00
130	2170008	Crestview Hills	Kenton	0	0.00
131	2170013	Lakeside Park	Kenton	0	0.00
132	2170097	Crestview Hills	Kenton	1	0.00
133	2280010	Unicorp Kenton County	Kenton	0	0.00
134	2280011	Unicorp Kenton County	Kenton	0	0.00
135	2280016	Independence	Kenton	0	0.00
136	2290001	Crescent Springs	Kenton	0	0.00
137	2300016	Erlanger	Kenton	0	0.00
138	2300019	Erlanger	Kenton	0	0.00
139	2300121	Independence	Kenton	5	1.24
140	2300123	Unicorp Kenton County	Kenton	5	0.71
141	2301219	Erlanger	Kenton	5	1.39
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	0	0.00
145	0150399	Wilder	Campbell	5	0.35
146	0270020	Fort Thomas	Campbell	1	0.01
147	0360074	Dayton	Campbell	0	0.00
148	0370001	Fort Thomas	Campbell	1	0.01
149	0370009	Fort Thomas	Campbell	0	0.00
150	0400034	Fort Thomas	Campbell	0	0.00
151	0430006	Newport	Campbell	2	0.04
152	0490039	Newport	Campbell	0	0.00
153	0500047	Newport	Campbell	0	0.00
154	0870037	Covington	Kenton	0	0.00
155	1110226	Elsmere	Kenton	0	0.00
156	1120029	Erlanger	Kenton	0	0.00
157	1190001	Erlanger	Kenton	0	0.00
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	0	0.00
163	1610054	Fort Mitchell	Kenton	0	0.00
164	1700006	Ludlow	Kenton	1	0.00
165	1730100	Crescent Springs	Kenton	0	0.00
166	1770062	Erlanger	Kenton	0	0.00
167	1930007	Southgate	Campbell	2	0.01
168	2020035	Taylor Mill	Kenton	1	0.02
169	2020203	Covington	Kenton	0	0.00
170	2090063	Elsmere	Kenton	0	0.00
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	0	0.00
175	2350173	Unicorp Kenton County	Kenton	0	0.00
176	2370003	Unicorp Boone County	Boone	0	0.00
177	2390002	Unicorp Boone County	Boone	0	0.00
178	2400001	Unicorp Boone County	Boone	0	0.00
179	2450001	Alexandria	Campbell	0	0.00
			TOTAL	118	21.32

Threshold for model activation is 0.01 MGD and 0.001 MG
NA: Not Modeled

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**
0020006	Silver Grove	Campbell		
0020007	Silver Grove	Campbell		
0020008	Unicorp Campbell County	Campbell		
0020031	Unicorp Campbell County	Campbell		
0020032	Unicorp Campbell County	Campbell		
0040003	Fort Thomas	Campbell		
0050022	Fort Thomas	Campbell		
0060001	Unicorp Campbell County	Campbell		
0060002	Unicorp Campbell County	Campbell		
0060004	Unicorp Campbell County	Campbell		
0070044	Highland Heights	Campbell		
0100002	Highland Heights	Campbell		
0100003	Highland Heights	Campbell		
0110002	Fort Thomas	Campbell		
0110010	Highland Heights	Campbell		
0120019	Highland Heights	Campbell		
0150009	Wilder	Campbell		
0150024	Southgate	Campbell		
0150063	Wilder	Campbell		
0150064	Wilder	Campbell		
0150065	Wilder	Campbell		
0150085	Fort Thomas	Campbell		
0150086	Fort Thomas	Campbell		
0150087	Fort Thomas	Campbell		
0150356	Southgate	Campbell		
0150399	Wilder	Campbell		
0200003	Fort Thomas	Campbell		
0220035	Southgate	Campbell		
0220044	Fort Thomas	Campbell	Removed	Eliminated based on field inspections showing no overflow evidence in a 2-year period
0220056	Fort Thomas	Campbell		
0220058	Fort Thomas	Campbell		
0220086	Southgate	Campbell		
0230011	Fort Thomas	Campbell		
0230016	Fort Thomas	Campbell		
0250002	Fort Thomas	Campbell		
0260001	Fort Thomas	Campbell		
0270020	Fort Thomas	Campbell		
0270026	Fort Thomas	Campbell		
0270062	Fort Thomas	Campbell		
0270103	Fort Thomas	Campbell		
0280001	Fort Thomas	Campbell		
0280073	Fort Thomas	Campbell		
0300035	Fort Thomas	Campbell		
0330005	Fort Thomas	Campbell		
0360004	Dayton	Campbell		
0360074	Dayton	Campbell		
0370001	Fort Thomas	Campbell		
0370009	Fort Thomas	Campbell		
0380005	Fort Thomas	Campbell		
0390007	Fort Thomas	Campbell		
0400002	Fort Thomas	Campbell		
0400017	Fort Thomas	Campbell		
0400034	Fort Thomas	Campbell		
0410010	Fort Thomas	Campbell		
0410019	Fort Thomas	Campbell		
0410036	Fort Thomas	Campbell		
0430006	Newport	Campbell		
0440074	Fort Thomas	Campbell		
0490039	Newport	Campbell		
0500047	Newport	Campbell		

Recurring Wet Weather SSO Locations - Revision Transactions				
MHID	**City**	**County**	**Revision**	**Comments**
0530083	Newport	Campbell		
0540064	Bellevue	Campbell	Removed	Eliminated based on field inspections showing no overflow evidence in a 2-year period
0860001	Wilder	Campbell		
0860003	Wilder	Campbell		
0860016	Wilder	Campbell		
0870037	Covington	Kenton		
1010002	Fort Thomas	Campbell		
1010025	Fort Thomas	Campbell		
1010027	Fort Thomas	Campbell		
1040060	Independence	Kenton		
1090069	Edgewood	Kenton		
1110025	Erlanger	Kenton		
1110051	Erlanger	Kenton		
1110067	Erlanger	Kenton		
1110161	Erlanger	Kenton		
1110164	Erlanger	Kenton		
1110174	Elsmere	Kenton		
1110226	Elsmere	Kenton		
1110275	Elsmere	Kenton		
1110294	Erlanger	Kenton		
1120029	Erlanger	Kenton		
1190001	Erlanger	Kenton		
1190012	Erlanger	Kenton		
1210018	Erlanger	Kenton		
1220016	Erlanger	Kenton		
1220029	Erlanger	Kenton	Removed	Eliminated - manhole bypass has been sealed
1220054	Erlanger	Kenton		
1230012	Erlanger	Kenton	Removed	SSO mistakenly added as 1230012 should be 1230036
1230019	Erlanger	Kenton		
1230036	Erlanger	Kenton	Added	SSO mistakenly added as 1230012 should be 1230036
1240008	Erlanger	Kenton		
1240012	Erlanger	Kenton		
1550053	Fort Mitchell	Kenton		
1560016	Fort Mitchell	Kenton		
1560019	Fort Mitchell	Kenton		
1560074	Fort Mitchell	Kenton		
1560092	Fort Mitchell	Kenton		
1560102	Fort Mitchell	Kenton		
1570025	Fort Mitchell	Kenton		
1600029	Lakeside Park	Kenton		
1600050	Lakeside Park	Kenton		
1610053	Fort Mitchell	Kenton		
1610054	Fort Mitchell	Kenton		
1610102	Fort Mitchell	Kenton		
1690043	Fort Wright	Kenton		
1690072	Fort Wright	Kenton		
1700006	Ludlow	Kenton		
1700008	Covington	Kenton		
1700025	Park Hills	Kenton		
1730100	Crescent Springs	Kenton		
1730103	Fort Mitchell	Kenton		
1750076	Independence	Kenton		
1760047	Edgewood	Kenton		
1760048	Edgewood	Kenton		
1770062	Erlanger	Kenton		
1790003	Crescent Springs	Kenton		
1830020	Unicorp Boone County	Boone		
1830067	Unicorp Boone County	Boone		
1850140	Covington	Kenton		
1850141	Covington	Kenton		
1860108	Taylor Mill	Kenton		
1870013	Covington	Kenton		
1870014	Covington	Kenton		
1920086	Cold Spring	Campbell		
1920097	Cold Spring	Campbell		

Recurring Wet Weather SSO Locations - Revision Transactions				
MHID	**City**	**County**	**Revision**	**Comments**
1930007	Southgate	Campbell		
1940006	Fort Wright	Kenton		
1950014	Fort Wright	Kenton		
1950232	Fort Wright	Kenton		
1960002	Fort Wright	Kenton		
1990018	Covington	Kenton		
1990028	Covington	Kenton		
1990032	Unicorp Kenton County	Kenton		
2020035	Taylor Mill	Kenton		
2020203	Covington	Kenton		
2040040	Edgewood	Kenton		
2070019	Elsmere	Kenton		
2090008	Elsmere	Kenton		
2090063	Elsmere	Kenton		
2100002	Elsmere	Kenton		
2100007	Elsmere	Kenton		
2100036	Elsmere	Kenton		
2100037	Elsmere	Kenton		
2100057	Elsmere	Kenton		
2100106	Elsmere	Kenton		
2100126	Elsmere	Kenton		
2100128	Elsmere	Kenton		
2100129	Elsmere	Kenton		
2110001	Elsmere	Kenton		
2110002	Elsmere	Kenton		
2110006	Elsmere	Kenton		
2120001	Elsmere	Kenton		
2120041	Elsmere	Kenton		
2130026	Erlanger	Kenton		
2130027	Erlanger	Kenton		
2130028	Erlanger	Kenton		
2130286	Erlanger	Kenton		
2150050	Crestview Hills	Kenton		
2150090	Crestview	Campbell		
2160004	Fort Mitchell	Kenton		
2160005	Fort Mitchell	Kenton		
2160006	Fort Mitchell	Kenton		
2170006	Crestview Hills	Kenton		
2170008	Crestview Hills	Kenton		
2170013	Lakeside Park	Kenton		
2170097	Crestview Hills	Kenton		
2280010	Unicorp Kenton County	Kenton		
2280011	Unicorp Kenton County	Kenton		
2280016	Independence	Kenton		
2290001	Crescent Springs	Kenton		
2300016	Erlanger	Kenton		
2300019	Erlanger	Kenton		
2300121	Independence	Kenton		
2300123	Unicorp Kenton County	Kenton		
2301219	Erlanger	Kenton		
2301274	Erlanger	Kenton		
2350173	Unicorp Kenton County	Kenton		
2360024	Unicorp Boone County	Boone		
2370003	Unicorp Boone County	Boone		
2380957	Unicorp Boone County	Boone	Removed	Eliminated by new Western Regional Conveyance Improvements
2390002	Unicorp Boone County	Boone		
2400001	Unicorp Boone County	Boone		
2410387	Unicorp Boone County	Boone		
2450001	Alexandria	Campbell		

Total SSO Locations Added= 1
Total SSO Locations Removed = 5

Total Recurring SSO Locations after Revisions = 179

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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	3	0.09
2	0030031	KY0021466 - Outfall 10	0	0.00
3	0200069	KY0021466 - Outfall 11	5	0.08
4	0330100	KY0021466 - Outfall 12	0	0.00
5	0340050	KY0021466 - Outfall 14	3	0.03
6	0340051	KY0021466 - Outfall 13	3	0.02
7	0360079	To Be Permitted	2	0.24
8	0540009	To Be Permitted	7	0.06
9	0540044	To Be Permitted	7	0.08
10	0540158	To Be Permitted	1	0.01
11	0550134	To Be Permitted	1	0.00
12	0570089	KY0021466 - Outfall 16	2	0.78
13	0570090	KY0021466 - Outfall 17	0	0.00
14	0600094	KY0021466 - Outfall 18	4	0.09
15	0600096	To Be Permitted	2	0.01
16	0600097	KY0021466 - Outfall 19	5	0.24
17	0600104	To Be Permitted	1	0.00
18	0610071	KY0021466 - Outfall 21	14	5.50
19	0610072	KY0021466 - Outfall 20	2	0.02
20	0620075	KY0021466 - Outfall 23	16	1.13
21	0620077	KY0021466 - Outfall 22	2	0.02
22	0630054	To Be Permitted	0	0.00
23	0630061	KY0021466 - Outfall 83	3	0.16
24	0640090	KY0021466 - Outfall 24	18	88.01
25	0650054	To Be Permitted	0	0.00
26	0650090	KY0021466 - Outfall 26	5	0.93
27	0650098	To Be Permitted	6	3.01
28	0650100	KY0021466 - Outfall 25	1	0.01
29	0660085	To Be Permitted	0	0.00
30	0690059	To Be Permitted	0	0.00
31	0690067	To Be Permitted	0	0.00
32	0730129	To Be Permitted	16	0.28
33	0770096	KY0021466 - Outfall 28	3	0.13
34	0790084	KY0021466 - Outfall 31	23	3.01
35	0790086	KY0021466 - Outfall 29	29	13.51
36	0840111	To Be Permitted	0	0.00
37	0840112	To Be Permitted	18	0.69
38	0840116	KY0021466 - Outfall 27	16	0.74
39	0870078	KY0021466 - Outfall 33	1	0.00
40	0870079	KY0021466 - Outfall 34	19	6.34
41	0880081	KY0021466 - Outfall 36	20	5.62
42	0880082	KY0021466 - Outfall 35	1	0.02
43	0890081	To Be Permitted	NA	NA
44	0910065	KY0021466 - Outfall 38	19	68.83
45	0910066	To Be Permitted	0	0.00
46	0910068	KY0021466 - Outfall 37	15	10.82
47	0910084	To Be Permitted	2	0.04
48	0930102	KY0021466 - Outfall 43	0	0.00
49	0930103	KY0021466 - Outfall 42	0	0.00
50	0930104	KY0021466 - Outfall 40	1	0.01

Wet Weather CSOs				
No.	CSO ID	KPDES Permit #	Model Predicted Activations	Model Predicted Overflow Volume (MG)
51	0930105	KY0021466 - Outfall 41	18	6.87
52	0930106	KY0021466 - Outfall 39	0	0.00
53	0960063	KY0021466 - Outfall 45	2	0.08
54	0960064	KY0021466 - Outfall 44	1	0.00
55	0980073	KY0021466 - Outfall 46	2	0.00
56	0980080	KY0021466 - Outfall 47	2	0.01
57	0980081	KY0021466 - Outfall 48	18	11.30
58	1320112	To Be Permitted	0	0.00
59	1350155	KY0021466 - Outfall 49	0	0.00
60	1380132	To Be Permitted	2	0.05
61	1380146	To Be Permitted	0	0.00
62	1420141	KY0021466 - Outfall 50	8	0.05
63	1420142	KY0021466 - Outfall 51	19	30.83
64	1420144	KY0021466 - Outfall 52	0	0.00
65	1420145	KY0021466 - Outfall 53	0	0.00
66	1420146	KY0021466 - Outfall 54	0	0.00
67	1420147	KY0021466 - Outfall 55	0	0.00
68	1440204	KY0021466 - Outfall 59	1	0.01
69	1440206	KY0021466 - Outfall 61	9	0.37
70	1440207	To Be Permitted	0	0.00
71	1440209	KY0021466 - Outfall 56	25	27.40
72	1440508	KY0021466 - Outfall 60	2	0.06
73	1470089	KY0021466 - Outfall 62	1	0.01
74	1470093	KY0021466 - Outfall 63	14	18.09
75	1480185	To Be Permitted	7	0.30
76	1480187	KY0021466 - Outfall 30	17	133.29
77	1490132	KY0021466 - Outfall 65	2	0.10
78	1490172	KY0021466 - Outfall 64	0	0.00
79	1500131	KY0021466 - Outfall 66	15	2.25
80	1510133	To Be Permitted	0	0.00
81	1710114	KY0021466 - Outfall 69	2	0.01
82	1710116	KY0021466 - Outfall 68	14	2.31
83	1710119	KY0021466 - Outfall 70	8	1.37
84	1710121	KY0021466 - Outfall 71	7	0.40
85	1710124	KY0021466 - Outfall 72	7	0.63
86	1720109	KY0021466 - Outfall 73	15	3.36
87	1730259	KY0021466 - Outfall 75	10	0.29
88	1730262	To Be Permitted	1	0.00
89	1730263	KY0021466 - Outfall 74	14	0.39
90	1840130	To Be Permitted	7	0.09
91	1850158	KY0021466 - Outfall 76	26	19.32
92	1870193	KY0021466 - Outfall 78	8	0.43
93	1870194	KY0021466 - Outfall 79	2	0.01
94	1880090	KY0021466 - Outfall 81	5	0.72
95	1880091	KY0021466 - Outfall 80	1	0.00
		TOTAL	588	470.98

Structure 1310100 has been determined not to be a CSO and has been removed from the list

Threshold for model activation is 0.01 MGD and 0.001 MG