



September 2, 2017

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

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

Ms. Denisse Diaz, Chief
NPDES Permitting and Enforcement Branch
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) was required to document its compliance with the Nine Minimum Controls (NMC), including proposed projects to be performed to ensure that compliance with the NMC is achieved by no later than twenty-four months after entry of the Consent Decree. SD1's NMC Compliance Report was submitted on March 12, 2008 to the EPA and Cabinet and received regulatory approval on July 6, 2008.

SD1 is required to submit an annual report on its implementation of the NMCs within sixty days after the anniversary date of the approved NMC Compliance Report. The enclosed report serves as the ninth annual report, covering calendar year 2016, which demonstrates SD1's continued commitment to the implementation of the NMCs.

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

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September 2, 2017

To the best of my knowledge and belief, the enclosed report is true, accurate, and complete, and further demonstrates SD1's commitment to the mission of protecting and enhancing the water resources and quality of life in Northern Kentucky.

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

Best regards,



Adam Chaney
Executive Director

AC/wck
Enclosures

Sanitation District No. 1
September 2, 2017

Nine Minimum Controls 2017 Annual Compliance Report



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CERTIFICATION

Nine Minimum Controls 2017 Annual Compliance Report
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.


Adam Chaney
Executive Director

8-31-17
Date

COMMONWEALTH OF KENTUCKY

)ss.

COUNTY OF Kenton

The foregoing instrument was acknowledged before me this 31 day of August, 2017 by Adam Chaney, Executive Director of Sanitation District, No. 1.




NOTARY PUBLIC

Kenton County, Kentucky

My commission expires: 9.1.20

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NINE MINIMUM CONTROLS 2017 ANNUAL COMPLIANCE REPORT

September 2, 2017



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

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LIST OF ACRONYMS AND ABBREVIATIONS

CSAP	Continuous Sewer Assessment Program
CSO	Combined Sewer Overflow
CSS	Combined Sewer System
DWO	Dry Weather Combined Sewer Overflow
EPA	United States Environmental Protection Agency
GIS	Geographic Information Systems
LDSAP	Large Diameter Sewer Assessment
KDEP	Kentucky Department of Environmental Protection
KYTC	Kentucky Transportation Cabinet
MS4	Municipal Separate Storm Sewer System
NMC	Nine Minimum Controls
ORSANCO	Ohio River Valley Water Sanitation Commission
O&M	Operations and Maintenance
RWI	River Water Intrusion
SD1	Sanitation District No. 1
SIU	Significant Industrial User
S&F	Solids and Floatables
USACE	United States Army Corps of Engineers
WWTP	Waste Water Treatment Plant

SECTION 1. INTRODUCTION

1.1 Overview

On April 18, 2007, Sanitation District No. 1 (SD1) entered into a Consent Decree with the U.S. Environmental Protection Agency and the Kentucky Energy and Environment Cabinet to address sanitary sewer overflows and combined sewer overflows (CSOs) in an effort to improve water quality throughout SD1's service area. As part of this agreement, SD1 was required to document its compliance with the Nine Minimum Controls (NMC) for CSOs as set forth in the CSO Control Policy, including proposed projects to be performed to ensure that compliance with the NMC is achieved by no later than twenty-four months after entry of the Consent Decree.

SD1's NMC Compliance Report was submitted on March 12, 2008 to the EPA and Cabinet and received regulatory approval on July 6, 2008.

1.2 Report Objective

Pursuant to the Consent Decree, SD1 is required to submit an annual report on its implementation of the NMCs within sixty days after each anniversary date of the approval of the NMC Compliance Report. The enclosed report serves as the eighth annual report to demonstrate SD1's continued implementation of the NMCs, from January 1, 2016 to December 31, 2016.

SECTION 2. NINE MINIMUM CONTROLS

The following sections present detailed descriptions of SD1's continued compliance efforts during 2016. These compliance efforts are in direct response to the Consent Decree requirements, to the guidance provided in the CSO Control Policy, and EPA's Guidance for Nine Minimum Controls.

2.1 NMC #1: Proper Operation and Regular Maintenance Programs for the Sewer System and CSO Outfalls

The purpose of this control is to establish operation, maintenance, and inspection procedures to ensure that the combined sewer system (CSS) and treatment facility will perform as effectively as possible to maximize treatment of combined sewage and reduce the magnitude, frequency, and duration of CSOs.

SD1 tracks its operation and maintenance (O&M) activities using the computerized maintenance management system Lucy. Appendix A provides an overview of the major activities performed in both the separate sewer system and CSS through implementation of regularly scheduled O&M activities, as well as SD1's formal Continuous Sewer Assessment Program (CSAP). The data represents approximate amounts of work completed by both internal and external crews, and has been updated from previous years, based on SD1's continued improvements in Lucy recordkeeping.

2.1.1 Information Management Tools

In 2016, SD1 continued integrating information management tools to optimize the accessibility of data and the operational awareness of the organization. The following is a brief description of one new program that has improved SD1's data management capability.

FlowLink Global

In 2016, SD1 began using new software called FlowLink Global. This software is capable of pushing SD1's wireless flow meter and rain gauge data from its onsite servers into a cloud-based dashboard application for greater accessibility and visualization. This new tool allows near-real-time rainfall and flow data to be immediately accessible to all SD1 staff without requesting it from the department responsible for managing the devices and data. All of the data visualization and reporting is completed in the cloud, without any desktop processing by staff. FlowLink Global reduces data handling time and improves operational decision making for groups who respond to wet-weather events, such as: CSO and SSO inspection crews, pump station and flood station crews, and treatment plant operators.

The new application allows users to navigate to specific devices by map or by dashboard, and visualizes rainfall and flows by graphs and summary reports. Respectively, Figures 2.1 and 2.2 illustrate the map and dashboard sites of SD1's 23 wireless rain gauges. Figure 2.3 illustrates an example of a rainfall graph that is created when a point on the map or a site in the dashboard is selected.

Figure 2.1 FlowLink Global Map

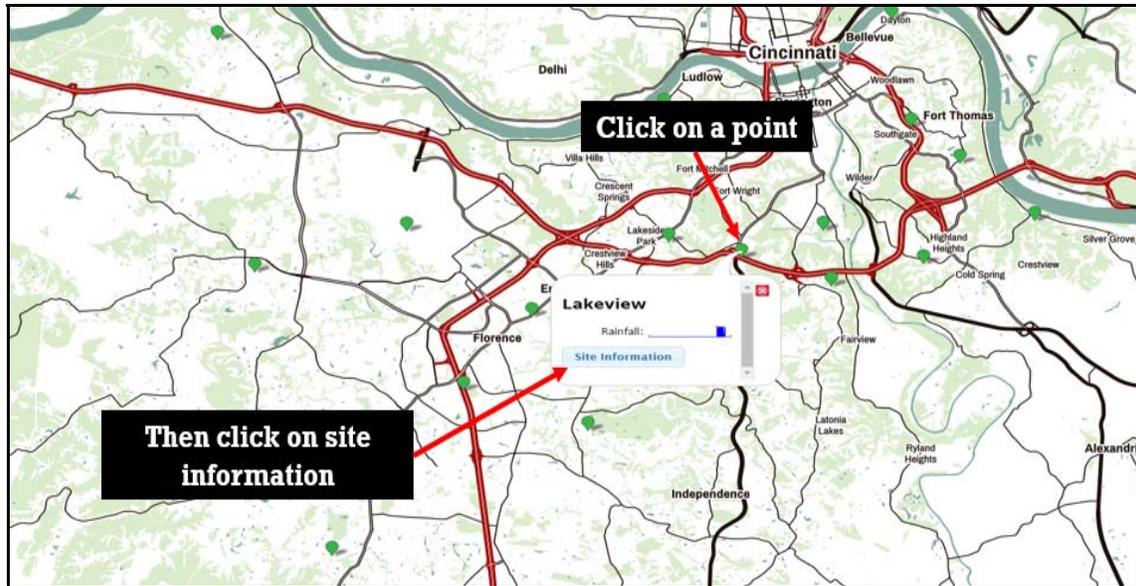


Figure 2.2 FlowLink Global Dashboard

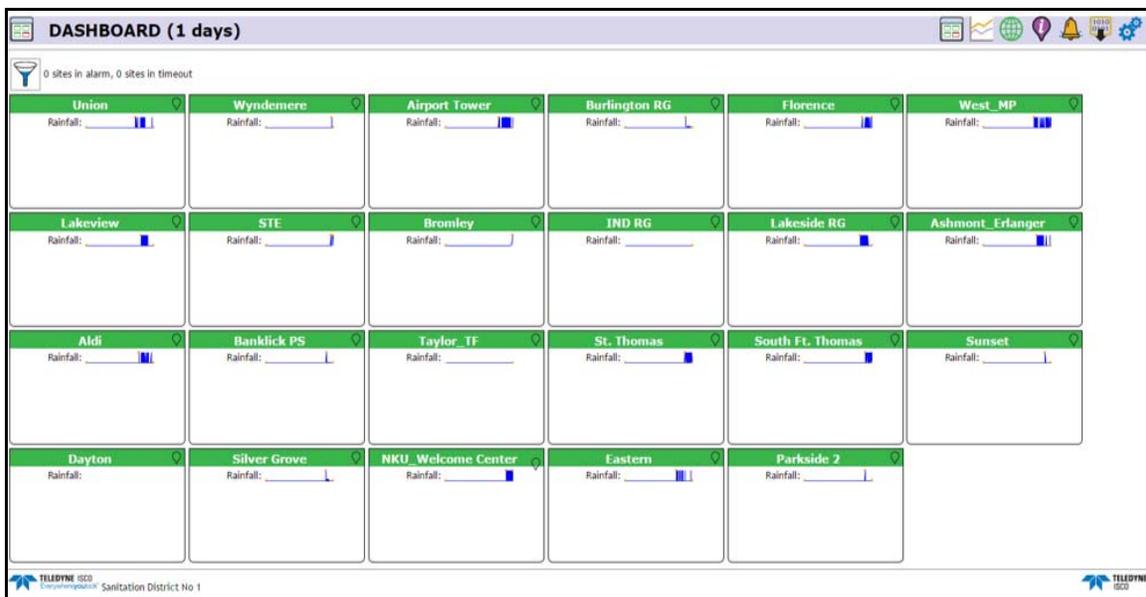
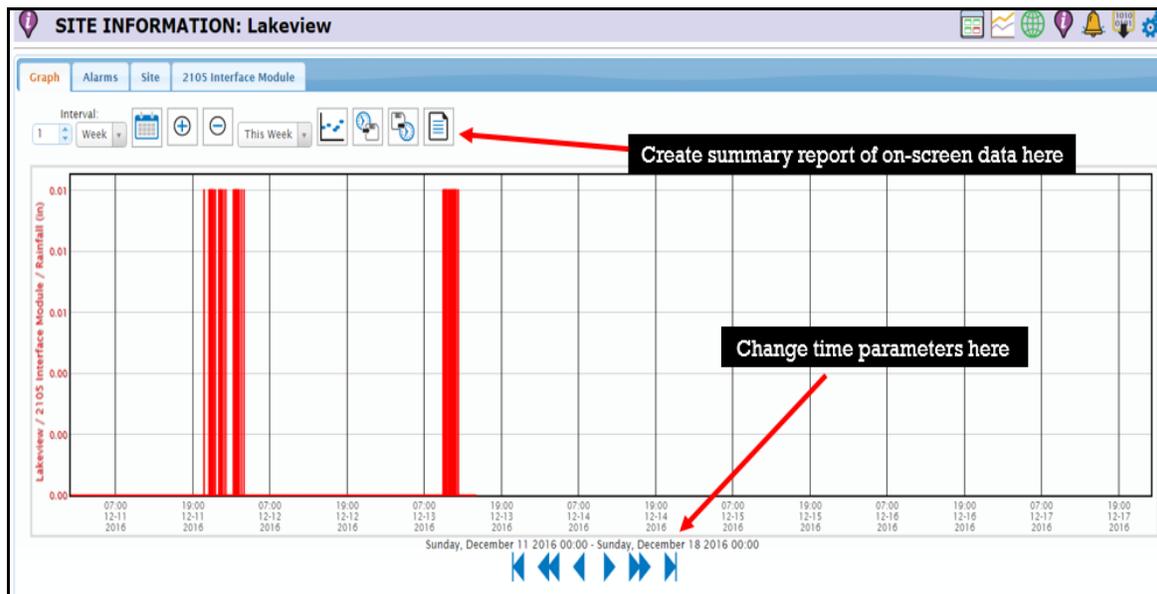


Figure 2.3 FlowLink Global Rainfall Graph



2.1.2 Asset Operation and Maintenance

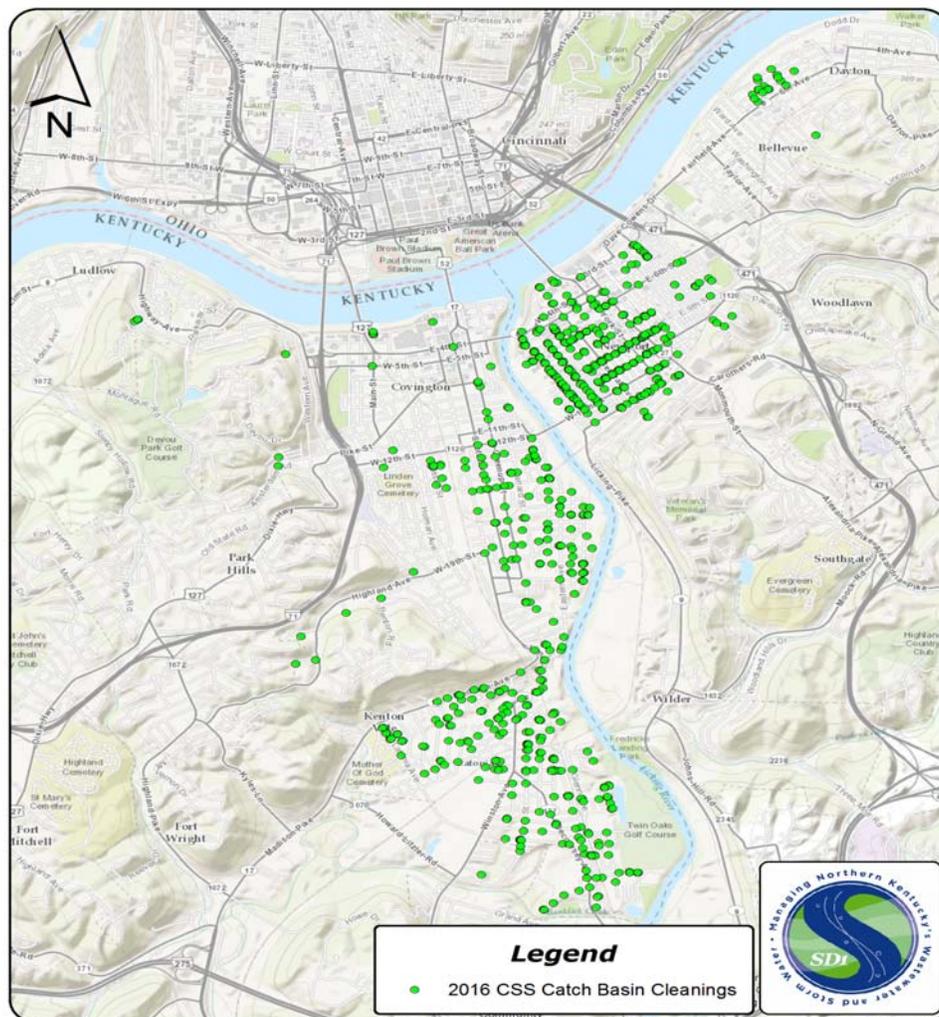
CSS Catch Basin Inspections

Historically, SD1 has inspected each catch basin in the combined system at least once per year to evaluate structural conditions and the accumulation of grit and debris. Recent modifications to annual catch basin inspection frequencies, based on the extensive knowledge acquired in the first seven years of the program, have been documented in the Nine Minimum Controls 2016 Annual Report, as well as the CMOM Fiscal Year 2016 Annual Report. Aside from visual evaluations of catch basins that were cleaned, no formal inspections were performed in the CSS, in 2016. Approximately 3,100 catch basins in the separate sewer system were inspected.

CSS Catch Basin Maintenance

SD1 performed approximately 834 cleanings at approximately 710 catch basins in the CSS, in 2016. Figure 2.4 is a map of the 710 catch basins that were cleaned.

Figure 2.4 Locations of CSS Catch Basin Cleanings in 2016



Diversion and CSO Outfall Inspection and Maintenance

SD1 regularly inspects 37 diversions and the associated CSO outfalls on a weekly basis, and all 136 diversions following wet-weather events that exceed half of an inch of rain. Cleanings are performed on an as-needed basis at the locations that have solids and floatables controls installed at the diversion manhole or the outfall (see NMC #6 for a list of SD1’s solids and floatables controls).

Throughout 2016, SD1 performed approximately 5,791 inspections at 136 CSO diversions. Approximately 15 percent of the inspections were performed during wet weather, 27 percent during dry weather, and 58 percent during the 48-hour period following a wet-weather or high-river event. The information gathered from these

inspections is used to identify and respond to conditions that may lead to dry-weather overflows and to confirm model predicted wet-weather activations..

2.2 NMC #2: Maximum Use of Collection System for Storage

The purpose of this control is to maximize the use of the collection system by making relatively simple modifications to the CSS to enable the existing sewers to store wet weather flows until capacity is available in the downstream collection and treatment systems in order to reduce CSO volume.

2.2.1 River Water Intrusion Mitigation

River water intrusion (RWI) during wet-weather events has the potential to occupy in-line storage volume that would otherwise be available to combined sewers flows. Therefore, controlling river intrusion in the CSO outfalls increases the available storage volume and maximizes storage of wet-weather flows.

SD1's main approach to protecting against RWI consists of the installation of duckbill-shaped Tideflex check valves at 42 locations that impact 39 CSOs. SD1 has identified where CSO diversion inverts are at or below the river stage of 47 feet on the Ohio River, and have made those CSOs the priority for check valves. The Tideflex check valves can either be installed on the end of the existing outfall pipes, or in chambers constructed upstream of the existing outfall. See the 2015 NMC Annual Report for a map of the current Tideflex check valve locations. SD1 has budgeted in 2017 to design a set of RWI solutions for approximately seven CSO outfalls, and anticipates the next round of check valve construction to begin in 2018.

Sealed Gate on the Ohio River Interceptor

During routine flow monitoring for model calibration, SD1 discovered a broken gate to an abandoned bypass pipe from the Ohio River Interceptor, in the City of Newport. The gate was previously known to be in a fixed, closed position, which effectively abandoned the bypass pipe from Manhole ID# 0790010. The failed gate was leaking large volumes of river water into the interceptor, which noticeably impacted the flows in the interceptor sewer. SD1 determined that the abandoned bypass pipe to the river and the gate were not associated with a permitted CSO or the USACE-constructed flood

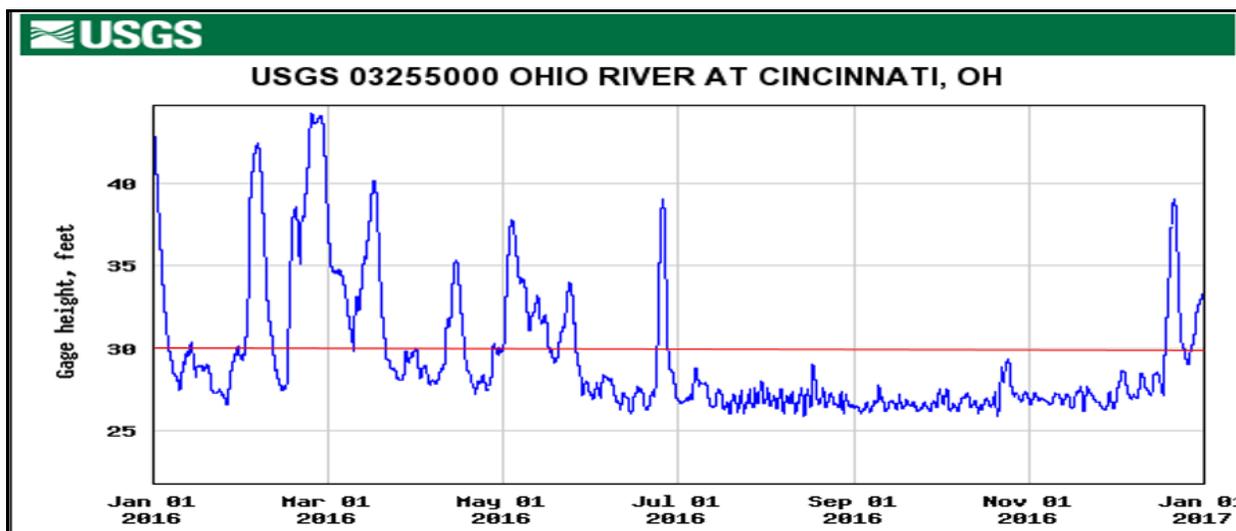
control system. Figure 2.5 is a photograph of river water intruding through the broken gate, into the 42-inch interceptor sewer.

Figure 2.5 River Water Intrusion at Abandoned Gate on Ohio River Interceptor



SD1 observed the river intrusion at the failed gate whenever the river stage reached 30 feet. In 2016, the Ohio River was at or above the intrusion stage for approximately one quarter of the year, as demonstrated in the USGS hydrograph, provided in Figure 2.5

Figure 2.5 Ohio River Stages in 2016

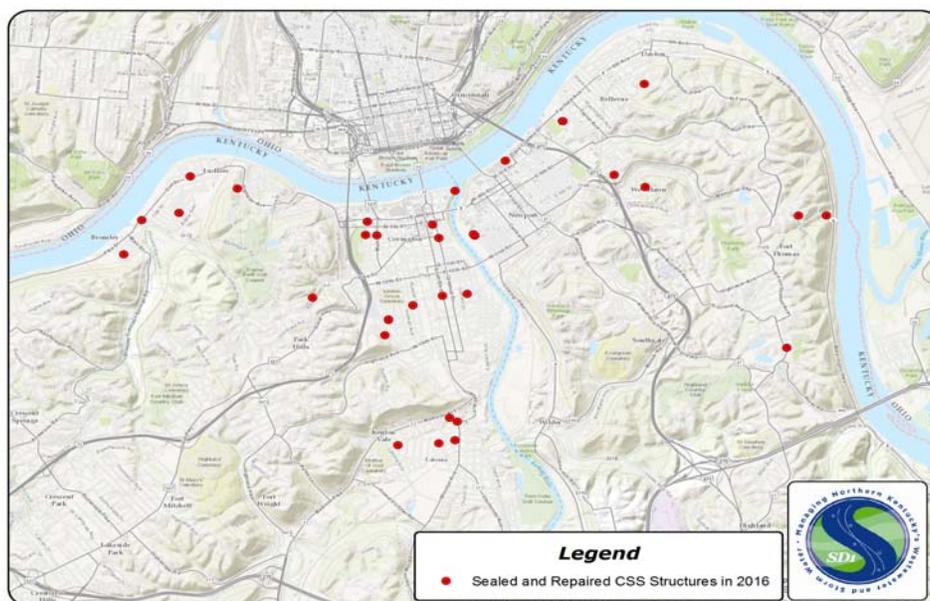


In early 2017, once the river receded to pool stage, SD1 excavated the abandoned bypass line and permanently sealed the gate with a concrete bulkhead on the outside of the manhole. Prior to sealing the gate, flow monitoring during dry-weather and high-river conditions at the Second Street Pump Station in the City of Covington indicated an average flow of approximately 8.2 million gallons per day. Shortly after sealing the gate, in similar dry-weather and high-river conditions, average flow at the pump station dropped to approximately 7.7 million gallons per day. The mitigation of the river water intrusion at the failed gate noticeably improved dry and wet weather pumping operations at the Second Street Pump Station and has recovered storage capacity in the Ohio River Interceptor during high-river conditions.

2.2.2 Repaired and Modified Manholes in the Combined System

In 2016, SD1 continued to rehabilitate and modified structures to prevent excessive inflow and infiltration (I/I) to the CSS. Approximately 31 low lying structures were sealed or fit with a new watertight frame and lid in the CSS. These repairs and modifications keep excessive I/I from entering the CSS and reducing capacity in the interceptors during wet weather. Figure 2.6 is a map of the approximately 31 manhole locations that were rehabilitated in the CSS in 2016.

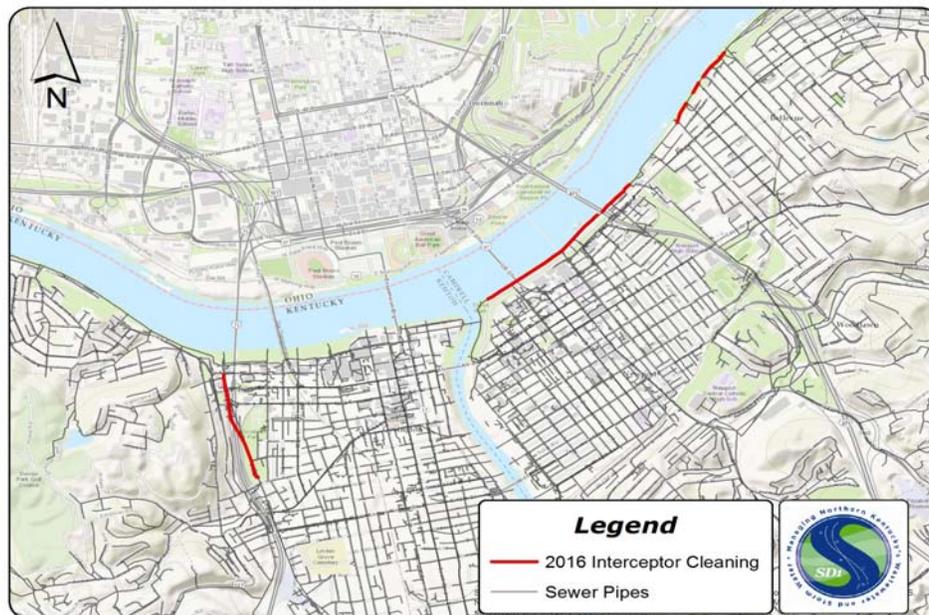
Figure 2.6 Manholes Sealed or Modified in the CSS in 2016



2.2.3 Interceptor Cleanings

SD1 cleaned approximately 35 large interceptor pipes along the Ohio River and Willow Run in 2016. Rocks, debris, and grit were removed from approximately 9,000 feet of interceptors in order to maximize storage capacity during wet weather. Figure 2.7 illustrates where the interceptors were cleaned in 2016.

Figure 2.7 Interceptor Cleanings in 2016



2.3 NMC #3: Review and Modification of Pretreatment Requirements

The purpose of this control is to minimize the impacts of discharges into the CSS from non-domestic sources during wet weather events, and to minimize CSO occurrences by modifying inspection, reporting and oversight procedures within the approved pretreatment program.

Standard Permits

SD1 permitted CR Brands as a new Significant Industrial User (SIU), in 2015. However, CR Brands closed and reopened in 2016 as US Nonwovens. The facility is located within the CSS, and their new permit also has a prohibition against discharging during wet weather. This is the only change to the program in the past year. SD1 had a total of 53 permitted SIUs in its collection system as of December 31, 2016.

Wet Weather Permit Conditions

Three SIUs have special conditions in their permits, requiring zero discharges during wet weather, due to their locations within the CSS. SD1 conducts an annual surprise inspection during wet weather to ensure that the SIUs are in compliance with their permits. In 2016, no SIUs in the CSS were found to be discharging during wet weather.

The three SIUs in the CSS, during 2016, with special conditions in their permits are:

- US Nonwovens – Ludlow
- Imperial Sugar Company – Ludlow
- McGinnis Incorporated – Ludlow

Compliance Monitoring

In 2016, no special short term discharge permits were issued.

Enforcement

SD1 issued the following enforcement actions in 2016:

- 40 Notice of Violations; two in the CSS (both to US Nonwovens).
- \$2,500 in administrative fines issued with four of the Notice of Violations.

Pretreatment Modifications

No modifications were made to the pretreatment program in 2016.

2.4 NMC #4: Maximization of Flow to POTW for Treatment

The purpose of this control is to maximize flow to the treatment plant by making simple modifications to the CSS and treatment plant to enable as much wet-weather flow as possible to reach the treatment plant, thereby minimizing the magnitude, frequency, and duration of CSOs that flow untreated into receiving waters.

Bromley Pump Station Study

The Bromley Pump Station was constructed in 1977 as a wet-well/dry-well station. It serves the entire combined sewer area, and is SD1's largest pump station. Portions of the pump station have been upgraded since its original construction, including screen replacement, odor control, and HVAC improvements. Some electrical work was

completed in 2000, and in 2003 the present electrical feed platform was constructed. Repairs to motors and replacement of volutes were completed in 2014 and 2015.

Due to its size and tributary service area, the Bromley Pump Station and force main are considered critical assets to transporting wastewater to the Dry Creek Wastewater Treatment Plant. SD1 began tasks of a master plan for the Bromley Pump Station in 2012, addressing immediate needs. The master plan is divided into three priorities, as listed below, to focus on the most urgent needs initially, while planning for the future.

- Tier 1 – Immediate Needs
- Tier 2 – Operations and Maintenance / Short-Term Improvements
- Tier 3 – Long-Term Improvements

In 2015, SD1 finished the initial Tier 1 Tasks related to identifying and addressing immediate needs.

In early 2017, SD1 has made significant progress on Tier 2 Tasks by determining the viability of operational changes to maximize flow to the Dry Creek WWTP. Prior to the construction of the new headworks in 2014, the Dry Creek WWTP could not accept additional flows from the Bromley Pump Station. The Bromley Pump Station has two large and two small pumps, but never operated with two large pumps at the same time because the plant could not accept the additional flows. The new headworks allows the plant to receive additional flow. However, pump station operation with two large pumps was limited by transformer capacity. After completing an extensive evaluation, a series of tests, and failure simulations, the transformer can accommodate the simultaneous operation of the station's two large pumps.

SD1 is currently determining the proper pump cycles and bubbler levels to maximize flows to the treatment plant, and anticipates implementing the operational changes by the end of 2017.

Current modeling indicates that the optimal scenario for modified pumping operations at the Bromley Pump Station may avoid approximately 65 million gallons of CSO in the typical year. Additionally, the changes may provide some indirect reduction of SSO.

Table 2.1 provides the current model predictions for the existing pump settings, the predictions for the pending changes to the pumping operation, and the net benefits.

Table 2.1 Predicted Overflow Reductions from the Proposed Operational Changes at Bromley Pump Station

Year	Existing Typical Year		Revised Bromley PS Settings Typical Year		Net Reduction	
	Activations	Volume (MG)	Activations	Volume (MG)	Activations	Volume (MG)
CSO	2373	1704.3	2356	1639.26	17	65.04
SSO	602	149	591	148.77	11	0.23
Total	2975	1853.3	2947	1788.03	28	65.27

2.5 NMC #5: Elimination of CSOs during Dry Weather

The purpose of this control is to ensure overflows do not occur in the CSS during dry-weather conditions by implementing measures that focus on proper and efficient collection system operation.

Investigations to Identify Potential Dry-Weather Overflow Locations

In conjunction with the routine CSO diversion inspections described in Section 2.1, inspectors visually look for debris and blockages that may trigger dry-weather overflows, or would affect the ability of the diversions to maximize the flows entering the interceptors during rainfall. Diversion structures that have dry-weather overflow records or have the potential to overflow during dry weather are evaluated in further detail to determine a recommended course of action, which may include more frequent monitoring. Diversions where multiple dry-weather overflows have occurred are further evaluated for additional actions, which may include:

- Catch basin modifications to reduce solids that may cause dry-weather overflow risk at the downstream diversion
- Permanent modifications to the diversion, such as removing a weir plate, removing the bar rack over the diversion or upsizing the diversion pipe
- Targeted cleaning upstream or at diversions to address solids deposits

- More frequent inspections for diversions with a configuration considered susceptible to dry-weather overflow or for previously modified locations to confirm that the issue has been sufficiently addressed
- Permanent monitoring for early warning at locations where measures have failed to address the issue
- Installation of wireless flow meters or level sensors in the diversion's bypass pipe that provide email alarms to SD1 staff if a dry-weather CSO is occurring

Dry-Weather CSO Inspection Frequency

Historically, SD1's CSO investigation crews have inspected every CSO diversion once per week and after every rainfall event greater than half of an inch. The information gathered from these diversion inspections have been used to characterize the activity of CSOs during wet weather, and to identify locations susceptible to dry-weather overflows and the measures needed to eliminate them from reoccurring.

EPA's 1995 Guidance for Nine Minimum Controls for the fifth minimum control allows for historical trends and patterns to be analyzed to determine where inspection frequency adjustments are appropriate. According to the NMC Guidance, greater scrutiny should be given to areas of historical dry-weather overflows. Diversions that have never experienced a dry-weather overflow, are in good repair, and have no known hydraulic capacity issues, may be inspected less frequently.

SD1 modified the dry-weather inspection routine of some CSO diversions in 2013. Based on historical inspections, modeled data, targeted CCTV inspections of upstream pipes, and EPA's 1995 Guidance for Nine Minimum Controls, SD1 determined that only 37 diversions continue to need weekly dry-weather inspections. The remaining 96 diversions have no evidence of structural or maintenance issues, or lack of capacity that would lead to a dry-weather overflows. EPA's NMC guidance suggests that monthly inspections of such locations may be suitable, but SD1 is inspecting the 96 locations on a bi-weekly basis. The bi-weekly inspection frequency of the 96 diversions may be adjusted to a monthly schedule in the near future. No new adjustments to the CSO inspection routes were made in 2016, but minor changes are anticipated in 2017.

Targeted Inspection Effort – LDSAP Diversion Subprogram

SD1's Large Diameter Sewer Assessment Program (LDSAP) has a sub-program dedicated to pipe assessment and maintenance in the vicinity of CSO diversions. The

Diversion Subprogram began in early 2011 as a targeted inspection and cleaning strategy for pipes that are within a 1000-foot radius of all CSO diversions. The subprogram systematically and repeatedly assesses all lines upstream of the diversions, and produces appropriate next actions in the Continuous Sewer Assessment Program (CSAP). This level of proactive maintenance in the combined system has improved SD1's ability to eliminate accumulating debris in critical areas and curtail dry-weather CSOs. In 2016, SD1 inspected approximately 16,000 feet of pipe and cleaned approximately 6,300 feet in the CSS, around the CSO diversions.

The LDSAP Diversion Subprogram is being phased out in 2017, and replaced with a new logic in the CSAP that will account for pipe assessment scores, consequence of failure, and probability of failure. The CSO diversions will have greater weight in the consequence of failure factor, which will queue appropriate next steps for maintenance and inspection schedules.

The total footage of pipe inspected and cleaned, and the amount of debris and grit removed as part of the LDSAP Diversion Sub-Program, is included in the O&M data presented in Appendix A.

2016 Dry-Weather CSOs

SD1 recorded two DWOs during 2016 that were due to regular maintenance issues in the CSS. Additionally, SD1 recorded two separate DWOs at the Wildcat CSO (Structure ID# 0650098) along Taylor Creek in the City of Bellevue, which were related to the bypass pumping operation during the reconstruction of the collapsed Riviera interceptor. All four of the DWOs occurred in the first quarter of 2016.

DWOs from the Riviera Interceptor and Wildcat Drive CSO

As described in Quarterly Reports 30 through 34, a section of the 24-inch Riviera Drive interceptor in the City of Bellevue collapsed in January of 2015. SD1 declared the collapse an emergency, and replaced approximately 1,300 feet of the interceptor. Multiple complications with the bypass pumping operation, due to the depth of the collapsed pipe, led to at least six DWOs in 2015 and two DWOs in 2016. A wireless, ultra-sonic level sensor was installed in mid-2015 at the upstream diversion of the Wildcat Drive CSO to continuously monitor flows in the interceptor in order to alarm staff and improve response times to DWOs and pumping failures.

On February 12 and 13 of 2016, SD1 observed two dry-weather discharges at the Wildcat Drive CSO (structure number 0650098). Approximately 86,000 gallons were spilled into Taylor Creek from the two events. The DWOs were a result of mechanical failures of the downstream bypass pumping operation. On March 9, 2016, the Riviera interceptor replacement was completed and the bypass pumps were removed. No further dry-weather complications at the Wildcat Drive CSO are expected. SD1 anticipates Force Majeure consideration of the six DWOs that occurred in 2015 and the two that occurred in 2016.

DWOs due to Operational Failures

Table 2.2 provides a summary of the two DWOs that occurred in 2016, unrelated to the Riviera interceptor construction project, and the actions taken to prevent the overflows from reoccurring.

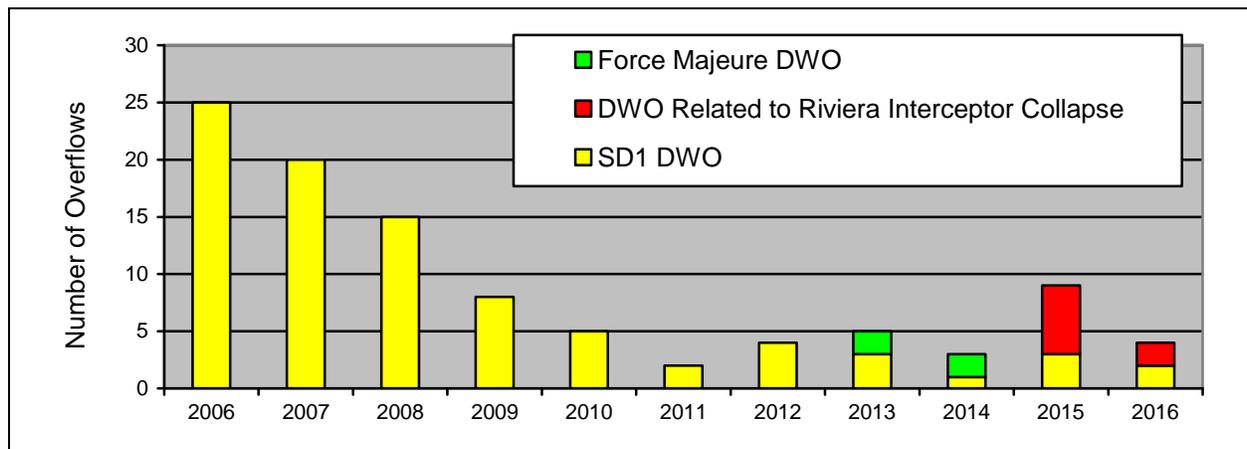
Table 2.2 Summary of Dry Weather CSOs that Occurred in 2016

Structure ID#	Location	Date	Overflow Cause	Estimated Volume	Corrective Action Taken
1710116 KY0021466 Outfall 68	Ludlow, KY Adela Street	01/06/16	Blockage of debris	15,000 gallons	On January 14, SD1 jettied the pipe between the diversion and the interceptor and removed a large clay crock that was wedged in the pipe between the diversion and the interceptor. Flow returned to normal after removing the debris. The CSO diversion is inspected weekly.
1420142 KY0021466 Outfall 51	Covington, KY Eighth Street Pump Station	01/07/16	Electrical failure	988,000 gallons	The electrical failure was due to a loose connection in the control cabinet of the pump station. All connections in the cabinet were tightened and power was restored to the pump station in approximately four hours.

Annual Frequency of Dry-Weather CSOs

The frequency of dry-weather CSOs (DWOs) remains low, as summarized in Figure 2.9. Aside from the two dry-weather overflow issues related to the construction of the new Riviera interceptor, SD1 only recorded two DWOs in 2016.

Figure 2.9 Occurrences of Dry Weather CSOs (2006 through 2016)



DWO Force Majeure Findings in 2013 and 2014

In a letter dated November 24, 2014, from the Kentucky Department for Environmental Protection (KDEP) and the United States Environmental Protection Agency (EPA), it was determined that two of the three recorded dry-weather CSOs in 2014 were probable Force Majeure events, pursuant to Paragraph 61 of the Consent Decree. Additionally, two dry-weather CSOs from 2013 were determined to be probable Force Majeure events.

2.6 NMC #6: Control of Solid and Floatable Materials in CSOs

The purpose of this control is to reduce the amount of solid and floatable (S&F) material discharged to water bodies through wet-weather CSOs through the implementation of simple measures such as: baffles, screens, catch basin modifications, and nets.

Catch Basin Modifications

In 2016, SD1 continued replacing catch basins and retrofitting catch basins with bells and grated inlets to reduce the amount of S&F materials entering the CSS. The following factors are considered when determining if a bell installation is appropriate:

- The catch basin is in need of structural repair and does not have a bell
- The catch basin is in need of total rehabilitation and can be replaced with a new catch basin that has both a grated inlet and a bell

- An untrapped catch basin directly upstream of a dry-weather CSO that appears to be a potential source of debris will be retrofitted with a bell
- Odor control of gases escaping the main line through an untrapped catch basin

In 2016, SD1 repaired 93 catch basins and replaced 10 catch basins in the CSS. The newly replaced catch basins were equipped with bells. Of the 5,907 known public, private, and state-owned catch basins and inlets in the CSS, there are approximately 2,777 structures that are known to be equipped with a trap or bell for control of solids and floatables.

In-line and End-of-Pipe Controls

The program consists of approximately 40 controls, including:

- 17 static weirs
- 12 outfall nets
- 4 baffles
- 4 baffle chambers
- 1 bar rack
- 1 combination weir and baffle
- 1 combination weir and screen

During 2016, no new in-line or end-of-pipe solids and floatables control projects were installed. Regular maintenance of the existing controls, such as baffle chamber cleanings and net replacements, were performed on an as-needed basis, in response to the regular CSO diversion inspections outlined in Section 2.1. SD1's solids and floatables controls program is summarized in Table 2.3 on the following two pages.

Table 2.3 Current Solids and Floatables Control Program

CSO/Diversion	Name	Type of Control	Status
0030031	Carmel Manor	Netbag	Installed
0050190	Highland Heights PS bypass	Netbag	Installed
0200069	617 Mary Ingles	Netbag	Installed
0330100	Tower Hill	Netbag	Installed
0340050	Lester Ln	Netbag	Installed
0340051	Manor Ln	Netbag	Installed
0360079	Anchor Inn	Netbag	Installed
0570011	McKinney St	Engineered S&F Control Baffle Chamber w/Bar Rack Above Baffle	Installed
0570030	Main St	Engineered S&F Control Baffle Chamber w/Bar Rack Above Baffle	Installed
0600096	O'Fallon Ave	Netbag	Installed
0600104	Van Voast Ave	Static weir	Installed
0650041	Geiger Ave	Type "B" Bar Rack	Installed
0650098	Wildcat Run	Netbag	Installed
0650084	Taylor Bottoms	Baffle	Installed
0690059	Enterprise Ave	Static weir	Installed
0730129	12 th St	Static weir	Installed
0770006	Saratoga St	Static weir	Installed
0790086	4 th St	Static weir	Installed
0840111	9 th St	Static weir	Installed
0840112	10 th St	Static weir	Installed
0840116	12 th St	Static weir	Installed
0910005	Oakland Ave	Static weir	Installed
0910065	James Ave	Static weir	Installed
0910068	Oakland Ave	Static weir	Installed
0910084	Meiken/Eastern	Netbag	Installed
0930026	17 th St	Baffle	Installed
0930050	19 th St	Baffle	Installed

CSO/Diversion	Name	Type of Control	Status
0930066	19 th St	Weir and baffle	Installed
0930106	16 th St	Static weir	Installed
0960064	15 th St	Netbag	Installed
1420043	10 th St	Baffle	Installed
1440121	Greenup St	Engineered S&F Control Nutrient Separating Baffle Box (solids sump, screen and baffle)	Installed
1440156	Garrard St	Engineered S&F Control Baffle Chamber (solids sump, screen and baffle)	Installed
1440207	Kennedy St	Netbag	Installed
1480116	Willow Run	Static weir	Installed
1480129	Willow Run	Static weir	Installed
1490132	Highway Ave	Static weir	Installed
1490172	Swain Ct	Netbag	Installed
1510133	Marcella Dr	Static weir	Installed
1710003	Adela St	Weir and baffle	Postponed
1850158	Church St	Weir and screen	Installed
1880090	Virginia Ave	Static weir	Installed

2.7 NMC #7: Pollution Prevention

The purpose of this control is to minimize various forms of pollution from entering into the CSS, and compromising the water quality of the receiving water body and/or SD1's conveyance and treatment infrastructure. As the Northern Kentucky regional storm

water agency, many components of SD1's approach to pollution prevention is implemented as required by EPA National Pollutant Discharge Elimination System Phase II Municipal Separate Storm Sewer System (MS4) regulations and reported in SD1's storm water annual reports. In that regard, SD1 uses a wide-ranging approach to pollution prevention from public education and programmatic initiatives to physical efforts such as catch basin cleaning and facility audits.

SD1 collected approximately 378 cubic yards of debris from catch basin cleaning activities in 2016 and approximately 324 cubic yards of grit and debris from grit pits. In addition, street sweeping operations occur on a regular basis in 21 communities throughout SD1's service area, which vary in frequency from annually to weekly.

The following sections describe some of the other major activities that demonstrate SD1's continued commitment to this minimum control.

2.7.1 Pollution Prevention Audits of SD1 Facilities

In November of 2016, SD1 once again completed pollution prevention audits on all of its facilities, as a minimum control requirement of the Kentucky Pollutant Discharge Elimination System (KPDES) Phase II Storm Water Permit. Facilities audited by SD1 staff include: SD1 Main Office, Employee Development Center, Dry Creek Wastewater Treatment Plant, Eastern Regional Water Reclamation Facility, Western Regional Water Reclamation Facility, and more than 130 pump stations. Additionally, SD1 updated all of its pollution prevention signs at all of its facilities to include proper disposal instructions and emergency contact information.

SD1 also sent reminders to all of its MS4 co-permittees, which include all municipalities in the CSS, to complete municipal facility audits. Proper audit methods were also provided to all of the co-permittees during two training sessions that were attended by 47 representatives of 26 communities.

2.7.2 Public Education Programs

Public Service Park

Dedicated to those who enhance Northern Kentucky's quality of life through public service, Public Service Park is an example of SD1's leadership in water pollution

prevention practices, also known as best management practices. The park is an aggressive approach to empower and educate the public on the vital importance of protecting the waterways for future generations. Featuring storm water best management practices, a wide range of green infrastructure, and cutting edge public educational programming, SD1's Public Service Park targets many audiences, ranging from the development community and water professionals, to students and the general public who can follow a self-guided tour.

SD1 conducted 18 Public Service Park tours, for approximately 438 participants in 2016. These tours included participants from Northern Kentucky University, Miami University, Banklick Watershed Council, and local adult chaperone trainings for school field trips.

In addition to the adult tours, SD1 conducted 19 field trips for local elementary schools at SD1's Public Service Park. These field trips are an optional extension of SD1's elementary storm water and watershed curriculum that is taught in over 45 Northern Kentucky schools. In 2016, approximately 1,367 students attended a field trip at Public Service Park. Groups attending field trips included students from public, private and independent schools as well as home school groups and scout troops.

Classroom Presentations

SD1 is committed to empowering students to protect the environment and has reached many students with interactive school presentations. SD1 uses an interactive model called Enviroscope to teach the negative impact of polluted storm water runoff on local waterways. During 2016, 68 Enviroscope lessons were taught in 18 schools, which reached more than 1,500 students.

Public Presentations

In 2016, SD1 also participated in 33 education events and reached approximately 2,000 students and adults, beyond the formal programs covered above.

Printed Publications

What's Happening! Publication

In 2016, SD1 once again published standard pollution prevention articles in the three Northern Kentucky county newsletters that are titled "What's Happening!" The articles, "Tips for buying and applying de-icer", "Helpful tips for homeowners" and "Protect the

environment, drain your pool properly”, provided tips and best practices for preventing pollution in our local waterways. The articles published in “What’s Happening!” were distributed to residents in SD1’s services area. Copies were also placed at the front counter in SD1’s main office. Examples of these standard articles can be found in Appendix B.

Bill Insert

In March of 2016, SD1 mailed approximately 112,000 copies of the catch basin bill insert to customers. SD1 also provided 2,000 copies to its MS4 co-permittees to share with residents. This bill insert encouraged residents to "spring clean" their storm drains. The insert explained that pollutants and debris washed into catch basins by rain usually go directly to nearby waterways and, in turn, can degrade the quality of water we rely on for drinking water and recreation. The bill insert provides tips, including using fertilizers and pesticides sparingly, not dumping oil, chemical or yard debris down storm drains, and not littering. The bill insert can also be found in Appendix B.

Comic Book

SD1’s trouble call team hosted MeSseD comic book creator and writer Jay B. Kalagayan, in August, 2016. Mr. Kalagayan observed SD1’s camera and vector truck crews in action. The purpose of Mr. Kalagayan’s visit was for research to support the MeSseD comic book, which features a science fiction version of a sewer worker who battles pollution. The comic book was released in late 2016. Mr. Kalagayan has helped raise awareness about the importance of sewer infrastructure while promoting his work extensively in local media. The comic book is available digitally and in print. The following link features all of the MeSseD issues and related content: <https://www.messedcomics.com/>

2.7.3 Land Disturbance/Sediment and Erosion Control

SD1’s Storm Water Rules and Regulations established a land disturbance permit process, which is applicable for any land disturbance activity greater than or equal to one acre that occurs in the separate system, or an area of 10,000 square feet or more in the combined system. All construction activities within SD1’s service area that disturb one acre of land or more in the separate system, or an area of 10,000 square feet or more in the combined system, are required to receive a permit from SD1 prior to the commencement of the activity. SD1’s plan review process includes examination of

storm water runoff from construction sites and post-construction storm water management for new developments and re-developments. Appropriate sediment and erosion control best management practices must be properly cited to control erosion from the site before plans are approved.

Post-construction storm water runoff treatment controls are required in the separate storm sewer system, as well as the combined sewer system to reduce the pollution associated with the storm water runoff. Property owners are required to enter into a long term maintenance agreement for post-construction water quality and volume reduction controls.

During 2016, SD1 routinely inspected 257 permitted construction sites within its service area. Based on the results of inspections conducted at those sites, SD1 issued 67 Notices of Violation, 29 Escalated Notices of Violations, and three Administrative Fines for issues of non-compliance. Additionally, 77 Land Disturbance Permits, 31 Grading Permits, and 11 Clearing Permits were issued.

2.7.4 Sponsored Events

Household Hazardous Waste Collection Event

SD1 continues its partnership with the Northern Kentucky Household Hazardous Waste Action Coalition. This unique coalition is comprised of local governments and organizations and is sponsored by area businesses. SD1 serves as the chair of the coalition, which meets quarterly.

As a way to inform the public about the proper disposal methods of household hazardous waste, SD1 worked with the Household Hazardous Waste Action Coalition to form and, more importantly, promote the website www.nkyhww.org. The website provides viewers with disposal and recycling methods for household items, especially those considered hazardous waste. By informing people how to properly dispose of the hazardous waste, SD1 is actively influencing the community to reduce the amount of contaminants that enter the CSS.

A household hazardous waste collection event for the residents of Boone, Campbell and Kenton counties was held November 5, 2016. The event was promoted through various media outlets including: websites, flyers, an advertisement placed in the

community newspapers, a column in the quarterly community publication “What’s Happening!”, and a press release distributed to local TV news stations. More than 2,600 citizens participated in the event. Participants dropped off items such as: antifreeze, oil, lead acid batteries, paint, solvents, pesticides, electronics, fluorescent light bulbs, propane tanks, paper, and aerosol cans.

River Sweep Event

SD1 once again sponsored Ohio River Valley Water Sanitation Commission’s (ORSANCO) annual River Sweep event, which took place on June 18, 2016. Volunteers from public organizations, civic groups, recreational clubs and the general public in six states bordering the Ohio River came together to collect more than 500 tons of trash and other debris from the banks of the Ohio River and its tributaries.

2.8 NMC #8: Public Notification

The purpose of this control is to reduce exposure to potential health risks caused by CSOs by informing the public of the location of CSOs, the actual occurrences of CSOs, the possible health and environmental effects of CSOs, and the recreational or commercial activities curtailed as a result of CSOs.

SD1 maintains warning signage posted near CSO outfalls and public education signs located near public access to water to warn about unsafe conditions during and after rainfall events.

Wet Weather Advisory Emails

SD1 continues to issue wet-weather advisories to an email distribution list that weather conditions could potentially cause overflows. There are approximately 220 email accounts on the distribution list, which include members of the general public, Northern Kentucky community leaders, local Water Districts, regulators, local media outlets, and SD1’s Watershed Community Council members. Individuals can sign up to receive this e-mail notification by filling out a request form on SD1’s website or by e-mailing a request to info@sd1.org. In 2016, email notifications were sent to this group 25 times. SD1’s website also includes other overflow related information, including a map of all known CSO locations.

2.9 NMC #9: Monitoring to Characterize CSO Impacts

The purpose of this control is to determine the occurrence and apparent impacts of CSOs through visual inspections and other simple methods, to gain an understanding on overflow occurrences and water quality problems that reflect use impairments caused by CSOs. Changes in such occurrences can provide a preliminary indication of the effectiveness of the NMC.

2.9.1 Hydraulic Modeling: Inspections and Flow Monitoring

In 2008, SD1 completed the development of a highly calibrated system-wide hydraulic model for its collection system to be used as an accurate planning tool for capital improvements, and to provide information about the current performance of SD1's system. To ensure that the model continues to provide the most accurate information about the systems' performance, SD1's wet-weather CSO and SSO investigation crews continue to perform routine inspections during and after rain events. Additionally more than 60 flow meters and 20 rain gauges are continuously deployed to monitor flows and calibrate the model.

Inspections

As described previously, SD1's CSO investigation crew regularly inspects each CSO outfall and its associated diversions once per week or bi-weekly, as well as after wet-weather events that produce at least one half of an inch of rain. The solids & floatables controls associated with CSO diversions and outfalls are inspected routinely, as a part of the regular CSO inspections. The solids and floatable controls are cleaned on an as-needed basis. These inspections and cleanings ensure proper operation and maintenance of the diversions, as described in Section 2.1, but are also evaluated to support characterization and verification of the collection system models. Information gathered from diversion inspections is collected and stored in Lucity, which is then used to characterize the activity of CSOs during wet weather and to identify the location of dry-weather overflows and the measures needed to eliminate them from reoccurring.

These efforts are part of SD1's on-going process of verifying the model results against actual field conditions by direct visual observation. Over time, these field verifications will continue to improve the collection systems model to better reflect observed

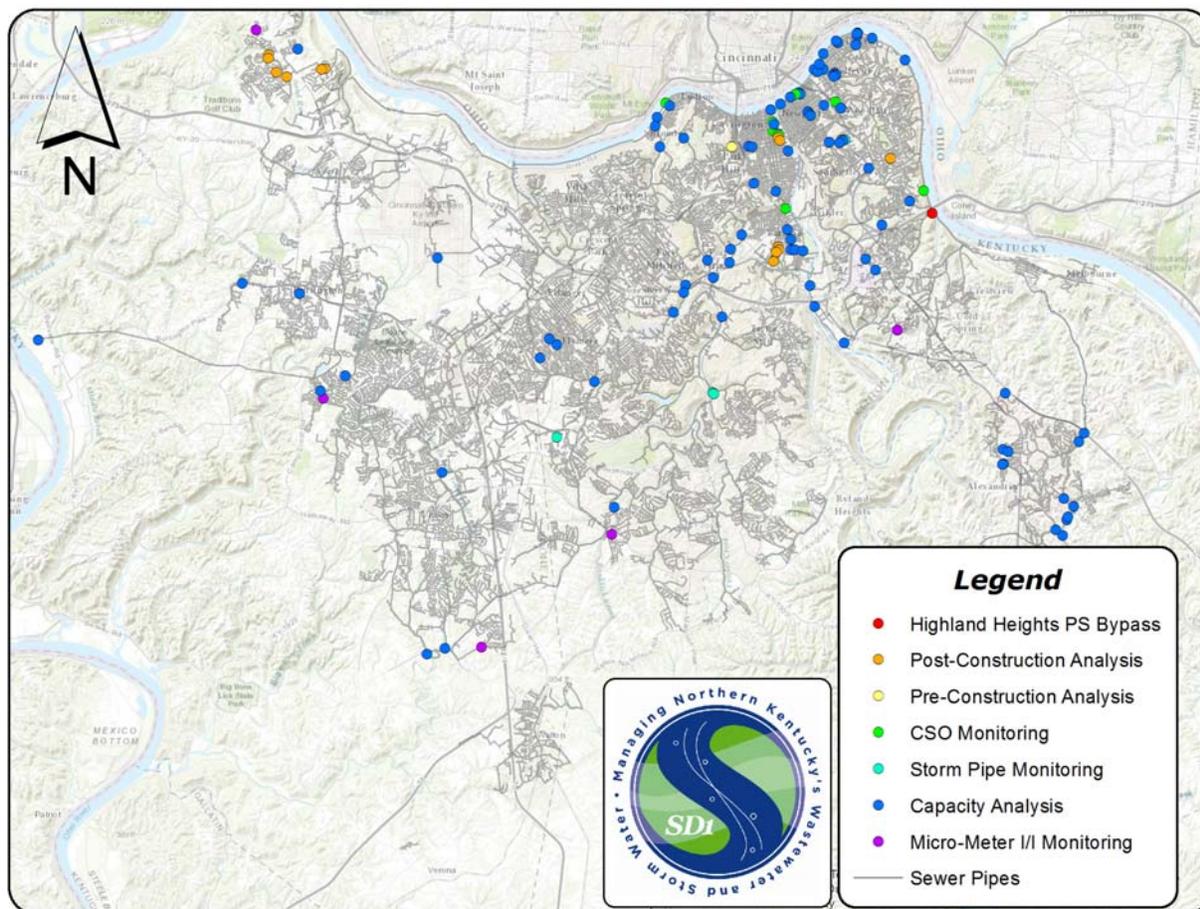
conditions. The ongoing recalibration of SD1’s collection systems model is critical to accurately quantify CSO impacts with future water quality modeling.

Flow Monitoring

SD1’s flow monitoring crew is involved in a number of monitoring efforts. Data are collected in specific areas of the collection system to confirm and update hydraulic modeling, identify areas susceptible to high inflow and infiltration (I/I), and evaluate the effectiveness of capital improvements.

SD1 maintained approximately 128 flow monitoring locations throughout its collection system, in 2016. Figure 2.10 illustrates the location and purpose of each flow meter.

Figure 2.10 SD1 Flow Monitoring Locations in 2016



2.9.2 Water Quality Monitoring

The purpose of SD1's Watershed Monitoring Program is to establish a baseline assessment of watershed and stream conditions, via the collection of instream water quality, biological, physical habitat and hydromodification data throughout Northern Kentucky. This program includes dry-weather base flow water quality and biological monitoring in all watersheds (approximately 75 locations), as well as, event-based wet-weather water quality in major watersheds (approximately 60 locations). Additionally, both wet and dry weather water quality samples are collected on the Ohio River between river miles 444 and 518 (22 locations).

Performance Monitoring

The instream water quality data and collected overflow data are used to help characterize watersheds in Northern Kentucky. These datasets play an integral role in prioritizing, designing, and implementing cost-effective solutions that will reduce overflow occurrences and improve water quality in rivers and creeks within SD1's service area. These data were used to create the hydraulic and water quality models that served as primary planning tools in developing SD1's Watershed Plans that were submitted on June 30, 2009, as well as the March 14, 2014 final submission. In 2012, SD1 initiated Phase II of its monitoring efforts, which entailed revisiting sites originally sampled at the onset of the program in 2007.

During 2016, there were 17 sites sampled within the East Basin. These site revisits included biological and habitat assessments, base flow water quality samples, and where appropriate, hydromodification surveys. Additionally, two base flow and one wet-weather event were sampled for the entire Northern Kentucky portion of the Ohio River (river miles 444-518). SD1 also continued to develop and refine performance metrics, in order to measure its progress in improving water quality in relation to the base-line water quality models.

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APPENDIX A:
O&M and Repair Work (2008 through 2016)

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O&M and Repair Work (2008 through 2016)

Activity	2008	2009	2010	2011	2012	2013	2014	2015	2016	Total
Combined System Structures										
Catch Basins Cleanings	1,211	888	787	1,392	1,431	1,393	544	1,408	834	9,888
Catch Basin Cleaning (Yards of Debris Removed)	N/A	427	469	525	466	630	312	450	378	3,657
Catch Basin Inspections	2,057	3,328	4,070	4,125	3,750	4,072	2,971	2,066	0	26,439
New Catch Basin Installation	0	5	2	2	0	5	1	0	1	16
Catch Basins Replaced	159	224	140	90	61	59	28	18	10	789
Catch Basins Repaired	128	65	78	211	38	59	45	65	93	782
Grit Pit Cleaning (Yards of Debris Removed)	358	439	355	365	415	408	360	213	324	3,237
Manholes										
Manhole Inspections	5,985	4,688	1,254	1,841	814	1,258	524	0	0	16,364
Manholes Repaired	485	332	320	656	407	314	200	241	307	3,262
Manholes Replaced	55	59	96	30	38	33	12	20	16	359
New Manholes Installed	26	53	39	50	49	35	33	16	30	331
Sewer Cleaning										
Sewer Lines Cleaned – Feet (Length of Pipe)	706,441	530,303	451,877	375,303	462,281	613,968	683,140	409,167	366,237	4,598,717
Sewer Inspection										
Sewer Line Initial Inspection - Feet	1,126,198	855,962	463,299	504,488	623,277	721,736	761,720	1,394,999	999,878	7,451,557
Sewer Line Follow-up Inspection – Feet	288,605	555,856	631,781	473,996	581,711	801,503	673,824	544,188	526,529	5,077,993
Sewer Lines Inspected - Total Feet	1,414,803	1,411,818	1,095,080	978,484	1,204,988	1,523,239	1,435,544	1,939,187	1,526,407	12,529,550
Sewer Line Rehab/Replacement Stats										
Sewer Lines Rehabilitated (CIPP) - Feet	953	2,251	29,528	84,717	51,100	59,137	32,782	27,786	46,237	334,491
Sewer Lines Repaired/Replaced - Feet	18,442	17,658	27,157	11,392	31,391	12,680	8,323	6,347	7,296	140,686
Misc. Sewer Line Repairs - Count	45	40	8	9	15	0	0	0	0	117

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APPENDIX B:

Example of 2016 Public Education Publications

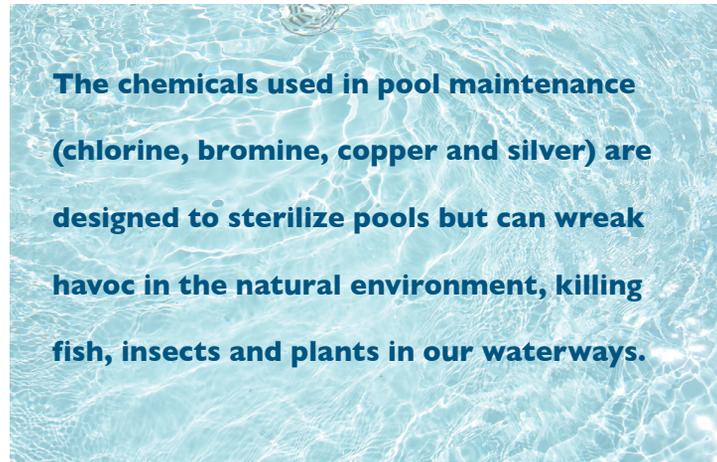
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Protect the environment, properly drain your pool

If not properly handled, swimming pool water can harm our streams. The chemicals used in pool maintenance (chlorine, bromine, copper and silver) are designed to sterilize pools but can wreak havoc in the natural environment, killing fish, insects and plants in our waterways. For this reason, it's important to properly drain your pool water when closing your summer oasis for the approaching cold weather.

The best place to discharge pool water is to the sanitary sewer system, but sometimes this option is not available or is not allowed. In that case, your next best choices are to discharge pool water onto the lawn of your property or to the storm water system. Either way, it's important before discharging the water that it is clear, dechlorinated and of a neutral pH.

When discharging pool water onto your lawn, the water should not flow off your property and you should not



allow it to pond for a prolonged period of time. Stagnant water can create odors and serve as breeding ground for flies and mosquitos. Discharge pool water slowly (25 gallons per minute or less) to prevent soil erosion, flooding or damage to adjacent properties.

Do not discharge water containing cleaning chemicals, acid buffering compounds, algae and

other substances into the street, storm water system or a stream. Be sure to test your pool water for chemicals and other pollutants before discharging.

When is it safe to discharge pool water?

- Pool water should be essentially free of chlorine (less than 0.1 parts per million total chlorine), algaecides and other potential pollutants prior to discharge. To

reduce chlorine levels you can use chlorine neutralizer, which can be purchased at many pool supply stores.

- A 10-day holding time after the last chemical treatment is adequate to dissipate chlorine prior to discharging the pool water.
- pH levels should be within a normal range (6 to 9). pH adjustment chemicals, instructions and test kits are available at many pool supply stores.

Planning on having plenty more pool days this year? Keep in mind the backwash water from pool filters also contains chemicals, debris and dirt that can damage the environment, so do not drain it directly into the storm water system.

If you have any questions regarding proper pool discharging procedures, please contact SD1 at 859/578-7450.

Don't leave yard debris lying around

Autumn is near and with it brings warm, sunny days, cool, crisp nights and colorful leaves falling to the ground. You probably think the leaves spread across your landscape paint a beautiful picture; however, leaves left on lawns and streets can cause drains to clog and potentially flood your property or surrounding properties in your community.

As a homeowner, it is your responsibility to maintain your lawn and help protect property in your community. Follow the simple tips below to help protect your community this fall:

- Rake or sweep leaves and yard debris out of your street and away from storm drains to

prevent clogged drains and flooding.

- Rake leaves into a compost pile to make a nutrient-rich fertilizer to use on your garden next spring.
- Create mulch for your lawn by pulverizing leaves with your lawn mower. Leaves are one of the best fertilizers for your lawn.
- Contact your city to learn about possible leaf pick-up services it may offer. Remember, if you are asked to put the leaves near the street, wait to do so until just before the collection day.
- Never rake your leaves or yard debris into storm drains, ditches, creeks or rivers.

**SAVE
THE
DATE!**

Household Waste Collection Event Saturday, November 5

Residents of Boone, Campbell and Kenton counties may drop off select household hazardous waste items on Saturday, November 5 at UC Health Stadium, "Home of the Florence Freedom." Visit www.nkyhhw.org for updates on this event as they become available!

SD1



1045 Eaton Drive
Fort Wright, KY 41017
phone: 859/578-7450

Hours of Operation:

Monday-Friday, 8 am - 4:30 pm

Tips for buying and applying de-icer



Snow and ice removal is an annual winter chore. As snow piles up, the first line of defense is simply to shovel paved areas to keep them clean and prevent ice from forming. When ice does form, it is common to use salt and other types of chemical de-icers to clear walkways and driveways.

Salt and other chemical de-icers help make travel conditions less hazardous, but they can affect local waterways, landscaping, pets and wildlife. Below is a list of tips to help you buy and safely apply de-icers this winter without harming the environment.

Tips for buying:

Traditional rock salt and some chemical de-icers can injure a pet's paws, damage cars, prematurely age cement and asphalt and pollute streams. There are some alternative de-icers that have less of an impact but are just as effective at melting ice from paved walkways and driveways.

- Look for alternative de-icers like calcium chloride and calcium magnesium acetate.

- Try using de-icers that contain alternative ingredients, such as beet juice.
- Avoid using de-icers that contain urea.

Tips for applying:

- Before applying de-icer, make sure to manually remove as much snow and ice as possible. De-icer works best when it is applied to thin layers of ice.
- Follow the directions on the de-icer container. Using more than what is recommended will not make the ice melt faster. When snow and ice melt, the runoff picks up the excess de-icer and carries it to our streams.
- When possible, avoid using salt and other de-icers near trees, shrubs and grasses. The salty water can severely harm or kill a home's landscaping.

If you have questions, email info@sd1.org or call the Storm Water Hotline at 859/578-6745.

Helpful tips for homeowners

As you create resolutions for the new year, keep these tips and other resources below in mind to help protect you, your home and our community.

FACT: Antibiotics, steroids and other pharmaceuticals can contaminate our waterways because the wastewater treatment process is not designed to remove these substances.

TIP: Never flush or wash medications down a drain or toilet in your home. Dispose of expired or unused medications in the trash or take them to a pharmaceutical drop-off location near you. A list of locations can be found on our website at www.sd1.org/prescription.

FACT: Common household chemicals like cleaners, auto fluids, paint and lawn care products are toxic to a wastewater treatment plant.

TIP: Wastewater treatment plants are living units designed to treat wastewater, not hazardous chemicals. If flushed or poured down the drain, these chemicals can kill the tiny living organisms that treat the wastewater at SD1's treatment plants. Contact your Campbell County Solid Waste Coordinator or visit www.nkyhhw.org to learn how to dispose of chemicals and other hazardous materials.

FACT: FOG (fats, oils and grease) can clog pipes and cause raw sewage to back up in your home or overflow out of SD1's system.

TIP: Household grease from meat fats, lard, baking goods, butter and margarine, cooking oils, food scraps, sauces and dairy products can build up in pipes, preventing your wastewater from making its way through the sewer pipes to SD1's treatment plant. Instead of pouring these substances down the drain, collect fats, oils and grease in a container and throw them in the trash can.

FACT: When flushed down the toilet, diapers, baby wipes and other personal hygiene products can cause blockages in pipes that lead to backups and overflows of sewage.

TIP: Diapers, wipes, cotton balls, dental floss and other personal hygiene products can build up in pipes, bind with any fats, oils or grease that have accumulated in the pipes and cause major blockages. They also can find their way into the environment if the blockages cause SD1's system to overflow. Always dispose of these items in the trash.

If you have questions, email info@sd1.org or visit www.sd1.org for more information.

HHW Collection Event draws record crowd

The 2015 Household Hazardous Waste Collection Event held October 17 served a record-setting 2,190 area residents, ensuring many tons of paint, paper, electronics and other hazardous materials will not end up polluting the environment.

If you missed the event, you can still make sure you properly dispose of household hazardous waste. Visit www.nkyhhw.org to learn more.



SD1

1045 Eaton Drive
Fort Wright, KY 41017
phone: 859/578-7450

Hours of Operation:
Monday-Friday, 8 am - 4:30 pm

SD1

Managing Northern Kentucky's
Wastewater and Storm Water



Spring clean storm drains

The catch basins, or storm drains, on the side of the road funnel rainwater to Northern Kentucky's creeks and rivers. With spring showers on the horizon, it is important to remember that pollutants and debris washed into these basins when it rains are not usually carried to one of SD1's treatment plants for cleaning, but instead are conveyed to a nearby waterway. Once in our creeks and rivers, chemicals, yard debris, litter and dirt can degrade the quality of the water we rely on for drinking water and recreation. Basins and drains clogged by debris also can lead to storm water flooding that creates safety hazards and costly property damage.

You can help protect public health, property and the environment by following the tips on the back of this insert.



Remember these tips to help protect public health, property and the environment:

- ▶ Sweep grass clippings, leaves and other debris off the street and away from storm drains. Dispose of all waste properly in trash receptacles or recycling bins.
- ▶ Use fertilizers and pesticides sparingly.
- ▶ Never dump, pour or wash oil, chemicals, paint, yard debris, trash or other substances down a storm drain.
- ▶ Rake leaves and other debris from your yard and place them in paper bags or trash bins for disposal.
- ▶ Shred leaves with your lawnmower and compost them or use them for mulch.
- ▶ When it snows, try to shovel ice and snow away from storm drains to maintain a clear opening.



For more helpful tips and information about how to prepare for heavy precipitation, visit www.sd1.org/CustomerService/RainEventPreparations.