

Sanitation District No. 1  
December 21, 2011

# Capacity, Management, Operations, & Maintenance (CMOM) FY 2011 Annual Report





December 21, 2011

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

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

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

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

To Whom It May Concern:

Pursuant to the above-referenced Consent Decree, Sanitation District No. 1 (SD1) is required to submit annual reports on the implementation of its Capacity, Management, Operations, and Maintenance (CMOM) programs. These reports are due no later than December 31 each year.

The Consent Decree was entered on April 18, 2007 and required SD1 to submit four separate CMOM documents within the first year – the Grease Control Program, the Sewer Overflow Response Plan (SORP), the CMOM Self-assessment, and the Pump Station Operation Plan for Backup Power. Each of these submittals has received regulatory approval. Updates to these programs are now included in the CMOM Annual Report, as it is not required for the program updates to be submitted as separate documents.

Page 2  
December 21, 2011

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 establishing aggressive, proactive, achievable measures to protect water resources and enhance the quality of life in Northern Kentucky.

If you have any questions or concerns, do not hesitate to contact me at 859-578-6762 or by email at [mwurschmidt@sd1.org](mailto:mwurschmidt@sd1.org).

Best regards,

A handwritten signature in cursive script that reads "Mark W. Wurschmidt".

Mark W. Wurschmidt, P.E., BCEE  
Interim Executive Director

MWW/pc  
Enclosures



## CERTIFICATION

Capacity, Management, Operations, & Maintenance (CMOM)  
FY 2011 Annual 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.

*Mark W. Wurschmidt*

Mark W. Wurschmidt, P.E., BCEE  
Interim Executive Director

*12/21/11*

Date

COMMONWEALTH OF KENTUCKY

COUNTY OF

*Kenton*

)ss.

The foregoing instrument was acknowledged before me this 21 day of December, 2011 by Mark W. Wurschmidt, P.E., BCEE, Interim Executive Director of Sanitation District. No. 1.

*Sandra Marie Bowers*

NOTARY PUBLIC

*Kenton*

County, Kentucky

My commission expires:

*7/6/2014*

# **CAPACITY, MANAGEMENT, OPERATIONS, AND MAINTENANCE FY 2011 ANNUAL REPORT**

December 21, 2011



**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
CCTV	Closed Circuit Television
CIP	Capital Improvement Program
CMOM	Capacity, Management, Operations, and Maintenance
CSAP	Continuous Sewer Assessment Program
CSO	Combined Sewer Overflow
ERP	Emergency Response Plan
FOG	Fats, Oils, and Grease
FSE	Food Service Establishments
FY	Fiscal Year
GCE	Grease Control Equipment
I/I	Inflow and Infiltration
IMS	Information Management System
O&M	Operations & Maintenance
PM	Preventive Maintenance
SCI	Stream Condition Index
SD1	Sanitation District No. 1
SORP	Sewer Overflow Response Plan
SSES	Sanitary Sewer Evaluation Survey
SSO	Sanitary Sewer Overflow

## **SECTION 1. INTRODUCTION**

### **1.1 Overview and Report Period**

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 (Cabinet) to address sanitary sewer overflows (SSOs) and combined sewer overflows (CSOs) in an effort to improve water quality throughout SD1's service area. The Consent Decree requires that SD1 continue the implementation of formal Capacity, Management, Operations, and Maintenance (CMOM) programs. SD1's CMOM programs are designed to manage the collection systems' assets and operations in a manner that maximizes efficiency and reduces the potential for overflow occurrences. Proper planning and management of CMOM programs can result in a reduction of the number, frequency, and volume of SSOs and CSOs.

Pursuant to the Consent Decree, SD1 is required to submit annual reports on its implementation of the CMOM programs. This report describes implementation of SD1's CMOM programs during Fiscal Year (FY) 2011, which began on July 1, 2010 and ended on June 30, 2011.

### **1.2 Collection System Major Components**

SD1's sewer system covers approximately 239 square miles and serves approximately 101,100 customer accounts. SD1's collection and treatment systems are comprised of approximately:

- 39,942 manholes
- 3,897 catch basins in the combined sewer system
- 1,700 miles of sewer lines
- 400 miles of storm water lines
- 144 pump stations (11 of which are owned by the City of Walton and operated by SD1 through a contract; 2 of which are owned by the Airport and operated by SD1 through a contract)
- 15 flood pump stations

- 10 small wastewater treatment plants (5 of which are owned by separate entities and operated under contract by SD1)
- 2 regional water reclamation facilities

SD1's sewer system conveys wastewater from private laterals connected to homes, businesses, and industries through a series of gravity lines, pumped systems, and interceptors to a wastewater treatment plant. The service area consists of both combined and separate systems. The combined sewers are located primarily in the river cities. A map of the service area and major components can be found in Appendix A.

### **1.3 CMOM Program Structure**

SD1 has been performing CMOM activities for several years. In 2007, these activities were structured into formal CMOM programs during the self-assessment. During the self-assessment process, a written purpose, goals, and recommended improvements were established for each program. SD1 currently has 34 CMOM programs, which are identified in Table 1.1. Section 2 of this Annual Report provides an update on the implementation of these programs.

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**Table 1.1 CMOM Program Activities**

<b>Management Programs</b>	<b>Operations Programs</b>
• Organizational Structure	• Emergency Preparedness & Response
• Communication & Customer Service	• Safety
• Legal Authority	• Budgeting
• Acquisition Considerations	• Engineering
• Information Management System (IMS)	• Call Before You Dig
• Training	• Water Quality Monitoring
• System Mapping	• Compliance
• SSO Reporting & Notification	• Mobile Waste Haulers
<b>Maintenance Programs</b>	• Pump Station Operations
• Manhole Repairs	• Pump Station Emergencies
• Rehabilitation & Replacement	• Pump Station Force Mains PM
• Mainline Sewer Repairs	• Odor & Corrosion Control
• Sewer Cleaning	• Continuous Sewer Assessment
• Equipment & Tools Maintenance	• Smoke & Dye Testing
• Pump Station Maintenance	• Flow Monitoring
• Maintenance of Rights-of-way	• CCTV Inspection
<b>Capacity Programs</b>	• Manhole Inspections
• Capacity Assessment & Assurance	
• New Connection Tap-In	

## **SECTION 2. CMOM PROGRAM HIGHLIGHTS**

This section provides an update on the implementation of SD1's CMOM programs and Section 5 provides an update the remaining tasks to be completed as part of SD1's original CMOM self-assessment. In addition, the Consent Decree required SD1 to specifically establish a Grease Control Program and Pump Station Operation Plan for Backup Power. These specific CMOM programs are described in Sections 3 and 4.

## 2.1 Budgeting

The purpose of SD1's Budgeting Program is to enable all operating departments to execute SD1's mission and vision in a fiscally responsible manner and provide cost-effective services to ratepayers. The Budgeting Program provides SD1 with a clear understanding of the organization's financial needs and obligations, which results in the ability to adequately manage debt service and plan for future needs. This program also helps SD1 personnel categorize expenses and properly manage assets and infrastructure.

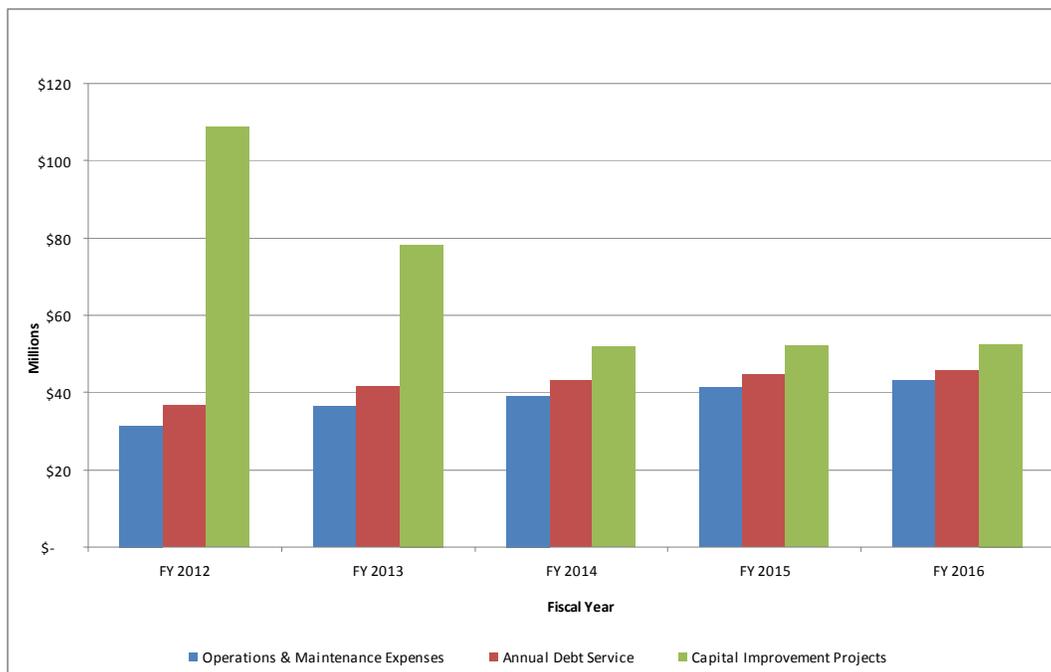
### 2.1.1 Capital and Operations & Maintenance Expenditures

The un-audited capital expenditures for FY 2011 totaled approximately \$103.7 million, and the un-audited operations and maintenance (O&M) expenditures for FY 2011 totaled approximately \$28.6 million. As required in the Consent Decree, SD1 has developed Watershed Plans for improvement projects to be implemented over the next several years, which will impact capital spending. The total capital spending associated with all project work over the next five years is approximately \$343.7 Million, as demonstrated in Table 2.1. Figure 2.1 represents SD1's anticipated debt service, O&M, and capital improvement program (CIP) expenses over the next five years.

**Table 2.1 Five-Year CIP Budget (FY 2012 – FY 2016)**

<b>Fiscal Year</b>	<b>Projected Capital Spending</b>
2012	\$108,914,018
2013	\$ 78,315,883
2014	\$ 51,766,904
2015	\$ 52,376,034
2016	\$ 52,413,370
<b>Total</b>	<b>\$343,786,209</b>

**Figure 2.1 SD1 Expenses: Annual Debt Service, O&M, and CIP  
(FY 2012 through FY 2016)**



### 2.1.2 Billing

#### Low Income Assistance

As an additional effort to help reduce the financial burden placed on ratepayers, SD1 has partnered with a local social service agency to develop a Low Income Assistance Pilot Program. In FYs 2010 and 2011, SD1 implemented the pilot program that provided families at or below 125% of the Federal Poverty Guidelines a 25% discount on sanitation service. Nearly 1,100 accounts have received assistance for at least one billing, for a total of approximately \$88,000 in assistance funds provided. Because of its success, SD1 will continue to offer the program through FY 2012.

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### 2.1.3 Alternate Sources of Funding

Although SD1 receives adequate funding from its operating revenue sources to fund its O&M and debt service commitments, these sources do not provide sufficient funding to also support the CIP. SD1 is therefore required to borrow money from other sources. During FY 2011, user rates and fees made up approximately 40% of the total funding sources, while borrowed money accounted for the remaining 60% of necessary funding sources to support the fiscal year budget.

#### Revenue Bonds

In December 2010, SD1 sold \$60.5 million in revenue bonds – a combination of \$19.6 million in Build America Bonds and \$40.9 million in Recovery Zone Economic Bonds – at a true interest cost of 3.217%, which is the lowest rate SD1 has received for its bonds. Prior to the bond sale SD1 received a credit rating of Aa2 from Moody's and AA/stable rating from Standard & Poor's. Because of this favorable credit rating, SD1 was able to keep additional basis points from being added to its true interest cost. If SD1 would have been rated at a Single A rating, it is likely that an additional 50-100 basis points would have been added, which equates to over \$6.1 million in additional interest over the life of the bonds.

#### Clean Water State Revolving Loan Fund

In May 2011, the Kentucky Infrastructure Authority provided SD1 more than \$437 million out of the Clean Water State Revolving Loan Fund program for seven capital improvement projects including:

- Ash Street Pump Station and Force Main Projects
- Church Street Combined Sewer Overflow Reduction Project
- Kentucky Aire Pump Station Elimination
- Lakeview Pump Station Improvements
- Lakeside Park Public and Private Source Inflow and Infiltration Removal and Sewer Rehabilitation
- Vernon Lane Public and Private Source Inflow and Infiltration Removal and Sewer Rehabilitation

Since 2004, the Kentucky Infrastructure Authority has funded 20 capital improvement projects saving more than \$120 million in interest costs when compared to traditional 30-year revenue bonds.

## **2.2 Capacity Assessment & Assurance**

The purpose of SD1's Capacity Assessment & Assurance Program is to determine the overall capacity of the collection, transmission, and treatment components of the system, identify areas that lack adequate capacity, and develop programs and solutions to provide sufficient capacity in these areas. This program provides staff with a holistic understanding of SD1's system's capacity, which allows for better management, design, and control of the system.

### **2.2.1 Field Inspections and Flow Monitoring**

During FY 2011, SD1's wet weather SSO and CSO investigation crews continued 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 helps identify the most appropriate and effective solutions for eliminating the SSOs.

In addition, SD1's flow monitoring crews are involved in a number of data collection efforts in specific areas of the collection system to confirm model predictions, identify and confirm areas that are suspected to have high inflow and infiltration (I/I), and collect pre and post construction monitoring data in project areas. The map provided in Appendix B highlights the 65 monitoring locations crews monitored during the reporting period, which includes:

- 22 sanitary sewer evaluation survey (SSES) monitoring sites
- 22 capacity monitoring sites
- 16 pre-construction monitoring sites
- 5 post-construction monitoring sites

### Use of Wireless Technology

In May 2011, SD1 purchased ten wireless flow meters and rain gauges that transmit their operational status and collected data from across the collection system to SD1 without having to actually visit each location. The benefits of adopting this technology include:

- Reduction of staff time by eliminating the need to visit each flow meter and rain gauge location after each rain event or on a routine basis in order to download the data.
- Allows staff to be able to check on the operation of the flow meter or rain gauge remotely from the office to confirm it is functioning properly. This allows staff to save time and increase efficiency by providing proactive maintenance on only the sites that need attention based on the remote monitoring.
- Provides alarming capability for each flow meter or rain gauge to alert staff immediately if there is a problem with the meter or gauge in order to greatly reduce data loss due to problems that would have gone undetected until a routine visit.
- Provides real-time viewing of the data during dry and wet weather to observe the response in the collection system or the amount of rain that fell during the actual event in order to increase efficiency with decision-making and subsequent follow-up actions.
- Allows the existing flow monitoring crew to increase the number of flow and rain monitoring sites that can be operated and maintained without adding any additional staff.

### Implementation of Micromonitoring

SD1 has recently expanded its flow monitoring program with the addition of micromonitors. Micromonitoring uses a weir to measure low flows in the collection system where other equipment cannot detect such levels. It also provides accurate flow measurement in small sections of sewers with only a few service connections. The micromonitors are also equipped with a tool that allows for the monitor to be installed without entering the manhole, which makes it a quick and cost effective solution for evaluating I/I in a collection system. During FY 2012, SD1 intends to utilize this technology in its priority rehabilitation and repair project areas to assess the localized flow conditions. The data will be used in cost-benefit and cost effectiveness analyses to determine which private I/I rehabilitation projects to complete.

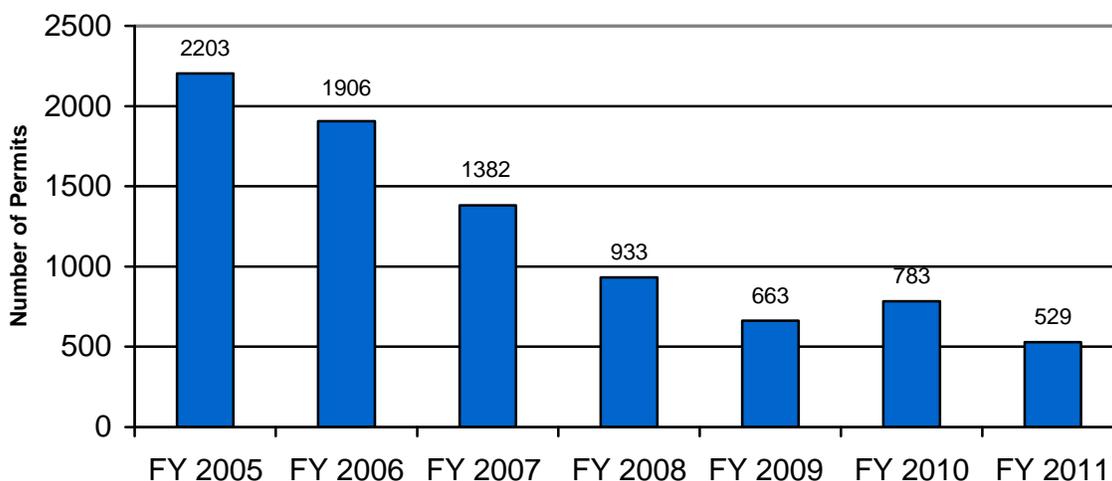
## 2.2.2 Reservation of Capacity

SD1's Rules and Regulations require developers to submit a written request for the reservation of sanitary sewer capacity, which are reviewed and considered for approval by SD1's Board of Directors or designee.

### Capacity Connection Permits

In accordance with SD1's Rules and Regulations, a building sewer capacity connection permit must be obtained from SD1. In FY 2011, SD1 issued 529 capacity connection permits. As depicted in Figure 2.2, the number of permits issued has declined over the past six years with a slight increase during FY 2010.

**Figure 2.2 Capacity Connection Permits Issued  
(FY 2005 through FY 2011)**



## 2.3 Communication & Customer Service

The purpose of SD1's Communication & Customer Service Program is to inform and educate staff, external customers, and community groups about the services SD1 offers, including:

- Wastewater collection and treatment
- Storm water collection and management
- Flood protection and drainage
- Industrial monitoring

- Water quality monitoring
- Environmental education

SD1 has worked diligently to establish consistent messages and use unique ways of reaching target audiences through several internal and external communication initiatives. Highlights of these efforts are included throughout the remainder of this section.

### Communication/Customer Service

SD1 is dedicated to providing unparalleled customer service to both internal and external customers. In FY 2011, SD1's communication team continued department networking and implemented a new customer care initiative.

**Department Networking:** Communication team members attend other department meetings, in order to stay connected with the communication needs across SD1. Department networking also allows the communication department to identify needs that overlap and avoid duplicate efforts in communicating with the community.

**Customer Care Initiative:** In Fall 2010, SD1 launched a new customer service campaign and Customer Service Promise. Over the past year, educational presentations regarding this campaign have been provided to employees, site visits with crews have been conducted to learn more about customer service experiences and challenges, and a new customer care team was formed to help provide another layer of service to SD1 customers.

### **2.3.1 Conference & Community Group Presentations**

#### Public Education Presentations

As an ongoing educational initiative and a means to share industry information, SD1 staff and consultants make many presentations throughout the year regarding CMOM and other Consent Decree-related information. The target audiences of these presentations include stakeholders at both the local and national level.

Table 2.2 highlights the name and venue of some of the presentations that took place during FY 2011.

**Table 2.2 FY 2011 Conference & Community Group Presentations**

<b>Date</b>	<b>Forum/Event</b>	<b>Presentation Title/Topic</b>
7/14/2010	Imagination 2020 Steering Committee Meeting	SD1 Update
7/19/2010	2010 Water Professionals Conference	Turning Wastewater Utility Challenges into Effective Advocacy
8/10/2010	21st Annual 5 Cities Plus 2010 Conference	Initial Green Infrastructure and Watershed Control Projects
8/10/2010	21st Annual 5 Cities Plus 2010 Conference	Pump Station, Force Main and Air Release Valve Program for SD1
8/10/2010	21st Annual 5 Cities Plus 2010 Conference	A Stream Condition Index for Watersheds in Northern Kentucky Designed for Better Public Understanding of Watershed Assessments
8/11/2010	21st Annual 5 Cities Plus 2010 Conference	Director's Report
10/5/2010	Water Environment Federation's 2010 Annual Technical Program	The Two Most Important Tools in Cleaning Large Diameter Sewers: A Hydraulic Model And A Long Hose
1/26/2011	Rate Hearing -- Boone County	Rate Hearings 2011
1/27/2011	Rate Hearing -- Campbell County	Rate Hearings 2011
1/29/2011	Rate Hearing -- Kenton County	Rate Hearings 2011
2/12/2011	Lou Noll Symposium	Overview of Rate Hearings
2/23/2011	NKY Chamber of Commerce Board Meeting	Overview of Rate Hearings
3/1/2011 & 3/2/2011	March on Washington	Topics included affordability and need for EPA policy changes
3/3/2011	Utility Conference Charleston, West Virginia	Presentation to West Virginia Utility Association regarding needed advocacy strategies

3/22/2011	U.S. Conference of Mayors Water Council Meeting	SD1 Testimony in Support of US Conference of Mayors EPA Policy Change Efforts
3/23/2011	Taylorred with Time Senior Citizens Group	Overview of rates and advocacy strategies
4/11/2011	Kenton County Government Academy	SD1 Overview
4/11/2011	Park Hills City Council Meeting	Storm Water Transfer
5/3/2011	City Managers Meeting	Integrated Plan, I/I, CSOs, GI
5/25/2011	Public Meeting - Lakeside Park Dye Testing	Project design options
6/16/2011	Public Meeting - Covington/Taylor Mill Project	Church Street CSO Reduction Project
6/29/2011	Public Meeting - Vernon Ln. I/I Removal Project	Project design options

### 2.3.2 General Public Education Efforts

In addition to the conference and community group presentations, SD1 has taken other approaches, as described below, to engage and inform the general public on issues relating to SD1's services.

#### Articles

During this reporting period, SD1 initiatives have been featured in a number of publications, e-newsletters, blogs, and newspapers including:

- Boone Sewage Tunnel Boring Complete (10/29/2010) – *The Kentucky Enquirer*
- Aged Pipes, EPA Mandates Lead to Higher Sewer Rates (1/22/2011) – *The Kentucky Enquirer*
- SD1 Eliminating Silver Grove Sewer Overflow Where Children Play (1/31/2011) – *The Kentucky Enquirer (Campbell County Connects Blog)*
- SD1 Wins National Award for College Course on Protecting Water Resources (3/31/2011) – *Southeast Stormwater Association Forecast e-newsletter*

- SD1 Improvements Could Help Alleviate Future Flooding (4/22/2011) – *Cincinnati.com*
- SD1 Preparing for Taylor Mill Project (6/8/2011) – *Kenton County Connects Blog*

### Educational Material and Publications

As a routine part of SD1's communication efforts, educational information is published in "What's Happening," a county-specific publication that is mailed to every resident in Boone, Campbell and Kenton counties. During FY 2011, SD1 had educational information published in eleven different issues of "What's Happening" throughout the three counties.

In addition, SD1 has developed a number of informational and educational pieces during this reporting period including:

- Best Management Practices: Carpet/Upholstery Cleaning Services poster
- Be Responsible bill insert (proper fertilizer and pesticide application)
- Government Relations E-Newsletter
- Public Service Park brochure
- Storm Water Pollution Prevention Tip of the Month posters
- Tips for Water Conservation flyer
- When it Rains it Drains brochure
- Your Bill Explained flyer

Refer to Appendix C which highlights a few examples of these educational publications.

*(This space was left intentionally blank.)*

### 2.3.3 Website

SD1's new website design was launched in May of 2010. During this reporting period, new information was added to the site including topics such as current capital projects, the benefits of rain barrels and what can be done to help reduce flooding and sewer backups during heavy rain events. In addition, the home page features a series of flash stories that are updated regularly and highlight key messages. These messages included stories such as:

- SD1 Wins National Award for College Course of Protecting Water Resources (<http://www.sd1.org/NewsArticle.aspx?id=42>)
- Filling a Swimming Pool Does Not Affect Sanitary Sewer Bills (<http://www.sd1.org/NewsArticle.aspx?id=48>)
- SD1 Honored to Receive Recognition (<http://sd1.org/NewsArticle.aspx?id=32>)

The site also features a document library which allows users to search for documents by category or key word. Some of the documents added and updated on the site during this reporting cycle included:

- Understanding Your Sanitary Sewer Rates
- Sanitary Sewer Service Rate Increase Fact Sheet
- Cost of Clean

Copies of these documents can be found in Appendix C.

### 2.3.4 Audio Signs at Public Service Park

In June 2010, SD1 installed a series of interactive audio exhibits at Public Service Park, providing the public with an interactive way to experience the park and learn about SD1's innovative green initiatives. These signs were developed as a part of the State Environmental Project requirements set forth in the Consent Decree and were paid for by the funds set aside to fulfill the requirements.

The audio signs are posted at 10 strategic locations throughout the park and feature two buttons that generate two-minute long clips detailing the Park's best management practice features. The "Tell Me More" button gives general information about the feature showcased at each exhibit, and the "About SD1's Site" button provides detailed information on each feature specific to SD1.

### 2.3.5 Customer Service Surveys

In an effort to better serve our customers, SD1 developed surveys that help rate the level of service customers receive when they either have a project going on in their area or they call with an issue. To ensure a high response rate from the customers who receive a survey to complete, the surveys were designed as door hangers with return address information and pre-paid postage on the backside. During FY 2011, 272 surveys were returned. Of those 272 surveys, 270 were surveys regarding trouble calls, and the other two surveys were in regards to projects going on in the customer's area. Table 2.3 depicts the results of the trouble call surveys that were returned in FY 2011.

**Table 2.3 Customer Service Trouble Call Survey Results**

<b>Trouble Call Survey</b>						
	<b>Possible Answers</b>					
<b>Questions</b>	<b>Yes</b>	<b>No</b>	<b>Blank</b>			
Do you feel that SD1 employees responded to your issue in a timely manner?	270	0	0			
	<b>Excellent</b>	<b>Very Good</b>	<b>Good</b>	<b>Fair</b>	<b>Poor</b>	<b>Blank</b>
The level of satisfaction achieved with the resolution offered by SD1 was:	170	54	22	7	5	12
The friendliness and availability of SD1 staff to answer questions was:	212	49	8	0	0	1

The two capital improvement project surveys that were returned in FY 2011 both noted that the accuracy of the information received regarding what to expect throughout the construction process and the efforts made to ensure employees were easily identifiable were "very good". The process for obtaining customer feedback in relation to SD1's capital improvement projects is being evaluated as part of the new customer service initiative outlined in Section 2.3.

### **2.3.6 Watershed Community Council**

In November 2007, SD1 formed a Watershed Community Council to share information and help facilitate open, thoughtful discussion on the watershed planning process. The Council is comprised of 53 members from a diverse group of stakeholders, including environmental organizations, home builders, the development community, local government and citizens. The council met one time during FY 2011 on November 3, 2010 to provide updates on the Watershed Plans, Western Regional Tunnel and Water Reclamation Facility project, green and stimulus projects and the Ft. Mitchell Pleasant Ridge Storm and Sanitary Sewer Improvement Project.

## **2.4 Compliance**

The purpose of SD1's Compliance Program is to identify and control residential, commercial, and industrial sources of flow that could adversely affect the collection system. This program encompasses both the Industrial Pretreatment Program and Grease Control Program (see Section 3 for an update on SD1's Grease Control Program). This program meets the Clean Water Act pretreatment regulations and complies with the National Pollution Discharge Elimination System permit.

### **2.4.1 Permitting**

The Compliance Program provides the authoritative measures necessary to permit and monitor discharges from commercial and industrial users that may cause corrosion or blockages in the collection system. SD1 currently has a total of 56 permitted Significant Industrial Users in its collection system. Two new facilities were newly permitted during FY 2011: Kisel Inc., Florence, KY and Richter Precision Inc., Florence, KY.

SD1 approved the following three short-term specialty discharges during the current reporting period:

- Total Quality Cleaning, Hebron, KY – Unusual Discharge (Floor Cleaning)
- D. R. Clark & Associates, Hebron, KY – Unusual Discharge (Floor Cleaning)
- Shield Environmental Associates, Bellevue, KY – Unusual Discharge (Soil Remediation)

## 2.4.2 Monitoring & Enforcement

The purpose of the Industrial Pretreatment Monitoring Program is to monitor discharges from industrial users throughout the service area to ensure compliance with Article 5 of SD1's Sanitary Rules and Regulations and protect SD1's sanitary sewer system, treatment plants, employees, and the receiving waters. All permitted industries are inspected annually and monitored semi-annually, with additional inspection and sampling performed as needed. During FY 2011, SD1 issued 36 Notices of Violation and \$7,750 in administrative fines. Refer to Appendix D for a summary report describing these violations in more detail. SD1 has an Enforcement Response Plan in place to address each violation. Typically, the first Notice of Violation issued is verbal (and documented in a computerized program management system). The second violation is written. Each subsequent violation includes a fine. Fines can range anywhere from \$500 to \$1000 depending upon the violation. Most issues are resolved before escalating to fines. If problems persist, an industry is put on a compliance schedule.

## 2.5 Continuous Sewer Assessment

The purpose of the Continuous Sewer Assessment program (CSAP) is to provide a proactive and coordinated asset management-based approach to assessing the condition and life cycle of SD1's infrastructure and managing a cost-effective rehabilitation/replacement of the system. Implementation of this program has enabled SD1 to more effectively and proactively prioritize and implement system inspection, cleaning, and rehabilitation/replacement of its assets.

The CSAP is comprised of the following six specific O&M activities that work in conjunction to assess and maintain the collection system:

- Interceptor Program – targets the maintenance and condition assessment of critical main trunk and interceptor sewers
- Large Diameter Sewer Assessment Program – focuses on the maintenance and condition assessment of sewers in the combined sewer system with pipes typically 15-inches and larger in diameter that have a high consequence of failure

- Manhole Inspection Program – assesses manholes throughout the collection system to determine the extent of structural defects, signs of sewer surcharge, and risk of I/I
- Preventive O&M Program – prioritizes the condition assessment, maintenance and repair/rehabilitation of the collection system to proactively prevent system failure that can cause overflows
- SSES Program – identifies and assesses the sources of I/I throughout the collection system
- Trouble Call Program – provides response to calls from customers who suspect problems related to the sanitary sewer service

Appropriate inspection technologies such as flow monitoring, closed circuit television (CCTV), smoke & dye testing, sonar, and visual inspection are used in the assessment phase of the O&M programs. CSAP classifies pipes by using the Sewer Condition Risk Evaluation Analysis Model™ (SCREAM) to generate structural and maintenance scores for each pipe inspected. The structural and maintenance scores then identify appropriate schedules for recommended next actions such as re-inspecting, cleaning, repair, or complete rehabilitation or replacement.

Together, the activities of each O&M program ensure that SD1 is meeting the overall objectives of the CSAP as demonstrated by the program process diagram in Appendix E. The remaining portions of this section highlight the collective progress of the six O&M programs in meeting the assigned performance goals and targets of the overall CSAP. The data provided for previous years has been updated based on improvements in gbaMS recordkeeping over the past FY.

### **2.5.1 Collection System Condition Assessment**

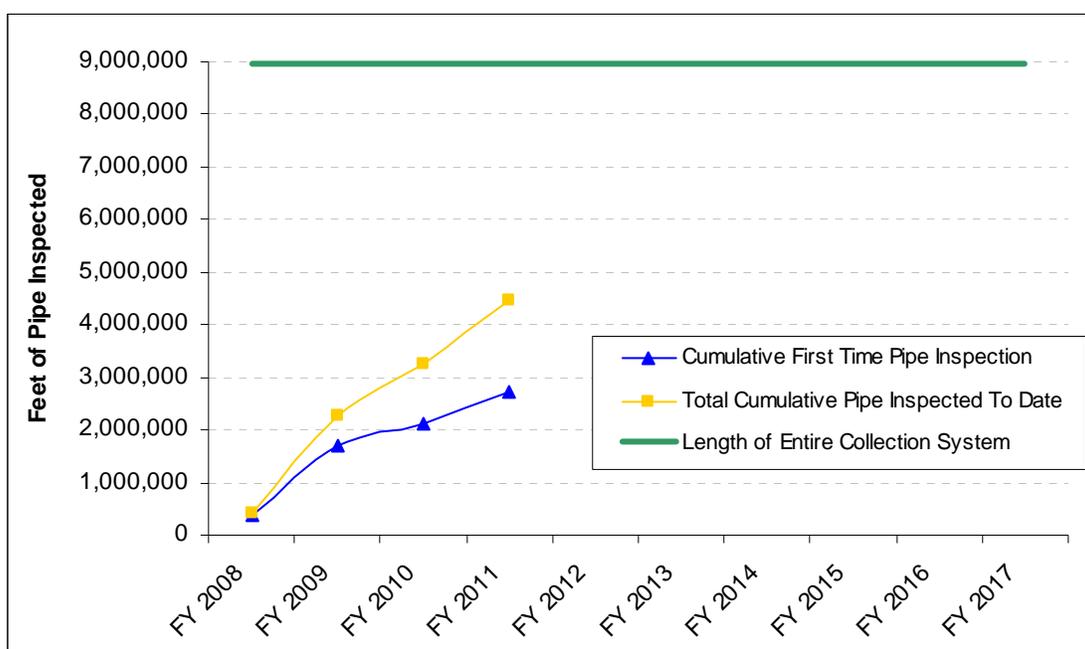
#### Sewer Inspections

Table 2.4 outlines the amount of pipe inspected since the onset of the CSAP through the end of the current reporting period. Figure 2.3 shows SD1's progress of inspecting its entire collection system in 10 years.

**Table 2.4 Sewer Inspection Footage**

	<b>Initial Inspection Footage</b>	<b>Follow-Up Inspection Footage</b>	<b>Total Cumulative Footage</b>
<b>FY 2008 (Jan-June)</b>	374,068	46,898	420,966
<b>FY 2009</b>	1,340,874	498,113	1,838,987
<b>FY 2010</b>	421,130	589,519	1,010,649
<b>FY 2011</b>	600,306	583,389	1,183,695
<b>Total To Date</b>	<b>2,736,378 (30% of system)</b>	<b>1,171,919</b>	<b>4,454,297</b>

**Figure 2.3 Sewer Inspection Progress**



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### Catch Basin and Manhole Inspections

SD1 inspects upstream and downstream manholes during all sewer inspections, unless the manholes have had an inspection within the last 12 months. Also, SD1-owned catch basins are inspected at least once per year. Table 2.5 summarizes the number of catch basin and manholes inspected since the onset of the CSAP through the end of the current reporting period.

**Table 2.5 Catch Basin & Manhole Inspections**

<b>Period</b>	<b>Number of Catch Basin Inspections*</b>	<b>Number of Manhole Inspections</b>
FY 2008 (January – June)	986	2,050
FY 2009	1,774	7,238
FY 2010	4,168	1,933
FY 2011	3,401	1,783
<b>Total Inspected</b>	<b>10,329</b>	<b>13,004</b>

\*The “Number of Catch Basin Inspections” captures the total number of inspections conducted throughout the year and includes basins owned by SD1, the State of Kentucky, municipalities, counties and privately owned basins.

### **2.5.2 Collection System Maintenance**

#### Sewer Cleaning

Cleaning is critical in maintaining the capacity of the sewer system and preventing overflows. SD1’s prioritization process ensures that cleaning activities are done in a cost-effective manner and only on pipes in need of cleaning. The program’s logic can be found in the CSAP process diagram in Appendix E. The cleaning program classifies pipes by using SCREAM Model™ maintenance scores and identifies appropriate schedules for re-inspections, re-cleaning, and when the pipe should be reviewed for a permanent solution in lieu of continued cleaning.

Table 2.6 provides an overview of the length of pipe cleaned in accordance with the cleaning program logic since the onset of the CSAP through the end of the current reporting period.

**Table 2.6 Sewer Cleaning Footage**

<b>Period</b>	<b>Footage of Pipe Cleaned</b>
FY 2008 (January – June)	113,695
FY 2009	439,191
FY 2010	737,613*
FY 2011	382,352
<b>Total Feet Cleaned</b>	<b>1,672,851</b>

\*In FY 2010, additional sewer cleaning support was provided by an outside contractor leading to the higher totals for that year.

Pipes with high recurring maintenance scores undergo further evaluation for potential permanent solutions. Taking into consideration the pipe's structural and maintenance condition, a life-cycle cost analysis is performed to determine if it is more cost-effective to continue to inspect and clean the pipe on a regular preventive maintenance (PM) schedule or to permanently repair or replace the pipe. To date, SD1 has 7,977 feet of pipe on its permanent PM cleaning list. The cleaning and re-inspection frequencies vary depending on the condition of the pipe or the frequency of reoccurring issues such as grease, roots, basement backups and overflows. SD1's permanent PM cleaning list will continue to evolve as additional inspection data is collected, solutions for the remaining pipes are identified and other new pipes are identified as needing corrective actions.

#### Catch Basin and Grit Pit Cleaning

In January 2009 SD1 began tracking the amount of debris removed during catch basin and grit pit cleaning. During FY 2011, SD1 removed approximately 629 yards of debris from catch basins and 330 yards of debris from grit pits.

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**Table 2.7 Yards of Debris Removed Through Catch Basin and Grip Pit Cleaning**

<b>Activity</b>	<b>FY 2009 Total (January – June)</b>	<b>FY 2010 Total</b>	<b>FY 2011 Total</b>	<b>Combined Total</b>
Catch Basin Cleaning	149	433	629	1,211
Grit Pit Cleaning	237	362	330	929
<b>Total Yards of Debris Removed</b>	<b>386</b>	<b>795</b>	<b>959</b>	<b>2,140</b>

#### Rehabilitation and Replacement

SD1 Collection System construction crews and SD1's maintenance contractors perform repair, replacement and rehabilitation work. The work schedule is determined by various criticality factors and the proximity of these pipes to priority watershed areas. Pipes requiring emergency work because of the potential for failure are scheduled for an immediate repair upon discovery. Additional considerations that may determine if the schedule should be accelerated for a solution are factors such as proximity to overflows, lack of hydraulic capacity, and proximity to other pipes being fixed.

Table 2.7 describes the rehabilitation and replacement activities performed by SD1's internal construction crews and maintenance contractors since the onset of the CSAP through the end of the current reporting period.

*(This space was left intentionally blank.)*

**Table 2.7 Rehabilitation & Replacement Activities\***

<b>Activity</b>	<b>FY 2008 Total</b>	<b>FY 2009 Total</b>	<b>FY 2010 Total</b>	<b>FY 2011 Total</b>	<b>Combined Total</b>
Feet of Sewer Lines Replaced	8,459	15,421	25,529	15,544	<b>64,953</b>
Feet of Sewer Lines Rehabilitated (cured-in-place piping)	1,081	3,204	12,872	64,715**	<b>81,872</b>
Feet of Sewer Line Repaired	3,149	2,523	3,710	3,956	<b>13,338</b>
Number of Misc. Sewer Repairs	33	41	5	12	<b>91</b>
Number of Manhole Repairs	548	370	317	321	<b>1,556</b>
Number of Manhole Replacements	35	63	80	60	<b>238</b>
Number of New Manhole Installations	16	53	40	36	<b>145</b>
Number of Catch Basin Repairs	68	115	71	209	<b>463</b>
Number of Catch Basin Replacements	81	209	203	609	<b>609</b>
Number of New Catch Basin Installations	0	4	2	3	<b>9</b>

\*Rehabilitation & Replacement Activities do not include expansion of SD1 system through CIP projects and new development.

\*\*In January 2010, SD1 entered into CIPP lining contract, which accounts for the increases in lineal footage in FYs 2010 and 2011.

## **2.6 Emergency Preparedness & Response**

SD1's Sewer Overflow Response Plan (SORP) is an operational document that emphasizes emergency response activities to contain, mitigate, and clean residuals from overflows. The long-range objective of the SORP is to provide a framework

whereby proper documentation of each event will help establish permanent overflow abatement programs to be incorporated into SD1's Watershed Plans. SD1's SORP as amended July 10, 2009 received regulatory approval on November 10, 2009.

### **2.6.1 SORP Training**

SD1 held annual SORP trainings between June and November of 2011. More than 100 operation level employees attended these trainings and were provided a copy of a newly developed standard operating procedures handbook.

Personnel in collection systems construction and customer service, and plant operations are required to attend an initial seven-hour course and annual refresher courses. Operations level employees also receive continuous hands-on training in the field during actual overflow response events.

### **2.6.2 SORP Annual Review**

Under the Consent Decree, SD1 is required to perform annual reviews of the SORP and make adjustments as necessary. Specifically, Section 36(c) states that:

**36. (c) Specific CMOM Program Development – Sewer Overflow Response Plan (“SORP”).** ...By no later than each anniversary date of the approval of the SORP, the District shall annually review the SORP and propose changes as appropriate subject to Cabinet/EPA review and approval.

SD1 conducted meetings in FY 2011 to review the SORP and there are no proposed material modifications to the SORP that resulted from this review process.

## **2.7 Information Management Systems (IMS)**

SD1 has continued its efforts to automate the CSAP to eliminate the need for manual data entry and work order generation. The CSAP database communicates directly with Lucity, SD1's data management and tracking software, to generate automatic next action work orders for cleaning, re-inspection, work scheduling, and permanent solution determinations.

The CSAP automation also encompasses a feature for determining the rehabilitation and replacement options for asset renewal. This feature is known as the Corrective Action Logic. This feature uses life-cycle costing analysis to produce a comparison for each pipe in order to determine whether it is more cost-effective to continue to clean, repair, rehabilitate or replace each pipe. SD1 will continue to refine these tools to enhance their functionality and increase the efficiency of SD1's decision-making and rehabilitation capabilities.

A number of IMS improvements were also made in FY 2011 to enhance communication and data collection including:

- The utilization of fiber optic networks to connect the Eastern Regional Water Reclamation Facility and Riley Road Pump Station to SD1's computer network (the Western Regional Water Reclamation Facility and new Diversion Pump Station will also be connected through the fiber optic network next year)
- The use of wireless technology to remotely download flow meter data
- The implementation of a web-based version of Arc GIS to provide contractors with real-time mapping information needed during project bidding processes

## **2.8 Legal Authority**

The purpose of SD1's Legal Authority Program is to:

- Implement and enforce SD1's Rules and Regulations
- Assist in the development of policies and guidance documents
- Implement SD1's existing policies and guidance
- Ensure compliance with applicable state and federal laws
- Assist with securing necessary permits from state and federal agencies
- Keep informed of relevant legal issues and state and federal policies and guidance
- Reduce legal liability and manage risk
- Provide staff with legal support and advice
- Effectively manage litigation

- Provide legal assistance for timely, effective, and cost-efficient implementation of the Consent Decree, including coordination with regulators and legal review of all plans submitted pursuant to the Consent Decree
- Continuously review and revise legal authority as needed to further the mission of SD1

### **2.8.1 Private Sewer Laterals**

#### Sewer Lateral Repair and Illegal Connection Inspection and Enforcement Policy

Of the 876 trouble calls related to building backups during FY 2011, 119 were determined to be SD1's responsibility and 757 were the responsibility of private owners. The backups determined to be the responsibility of private owners were due to causes such as breaks and blockages in private service laterals. SD1's Board of Directors has adopted several amendments to the Sewer Lateral Repair and Illegal Connection Inspection and Enforcement Policy in order to more efficiently address private lateral issues and remove private source I/I. The most recent version of this policy can be found in its entirety in Appendix F. SD1 will continue to assess its role in addressing and funding private source lateral and I/I removal issues and make future amendments and/or implement new policies and programs as deemed necessary.

#### *Financing and Grant Program for Defective Private Lateral Repairs and Removal of Illegal Connections Outside Public Roadways*

SD1 established a program during FY 2008 to provide financing and/or funds to eligible property owners faced with the obligation to perform excavation and repair work of private laterals outside public roadways.

Through this program, SD1 may advance funds for payment of a licensed plumber to conduct the necessary improvements, and offer a finance option to allow the property owner to repay SD1 with interest. The interest is set at a rate of two basis points above prime rate at the time that financing is initiated over a term not to exceed 15 years. To date, SD1 has provided approximately \$77,515 in financing to 22 property owners (approximately \$6,000 will be repaid through the grant funds described below).

As part of a Supplemental Environmental Project under the Consent Decree, SD1 may also reimburse qualified residential property owners for a portion of the costs of certain sanitary sewer improvement projects. Candidate projects include the repair or

replacement of failing sanitary service laterals and the installation of new sanitary service connections to SD1 sewer mains. Approved residential property owners may be eligible to receive grants of up to \$5,000 towards such projects, depending on their income level. To date, SD1 has provided approximately \$287,400 in grant funding to help 103 qualified property owners make sanitary sewer improvements. The Supplemental Environmental Project is required to be completed by April 18, 2012, which will bring an end to this grant program.

## **2.9 New Connection Tap-In**

The purpose of SD1's New Connection Tap-in Program is to ensure standard policies and procedures are in place to approve and perform connections to the sanitary and storm sewer systems. The objectives of this program are to:

- Accommodate economic development throughout the Northern Kentucky region.
- Eliminate the number of illegal and improper taps made throughout the collection system.
- Ensure all connection fees are paid and all new connections are put on billing.
- Maintain the integrity of the sanitary sewer system by reducing the amount of I/I that can enter the system through bad taps or improper abandonment of service laterals.
- Protect the integrity of the sanitary and storm sewer systems by enforcing the use of proper materials.
- Provide an avenue for SD1 to keep certified tappers informed about changes to the Rules and Regulations or specifications for tapping the system.

### **2.9.1 Certified Tapper Program**

SD1's formal Certified Tapper Program ensures that connections to the sanitary and storm sewer system are approved by SD1 personnel and are performed accurately based upon written specifications and procedures. Plumbers interested in becoming certified are required to attend training and pass a written exam. In addition, Certified Tappers must attend a recertification class offered by SD1 every three years. SD1 currently has 154 Certified Tappers representing 90 plumbing companies. Of these 154 Certified Tappers, eight became newly certified during FY 2011.

## 2.9.2 Violations and Fines

During FY 2011, SD1 issued nine violations and \$5,500 in fines to six companies for connecting to SD1's sewer system without obtaining the proper Capacity Permit or Sanitary Sewer Connection Application Permit.

**Table 2.9 Capacity Connection Violations and Fines**

<b>Fiscal Year</b>	<b>Number of Violations</b>	<b>Number of Companies</b>	<b>Total in Fines</b>
2009	6	6	<b>\$3,000</b>
2010	8	7	<b>\$5,250</b>
2011	9	6	<b>\$5,500</b>
<b>Total Violations and Fines</b>	<b>23</b>	<b>19</b>	<b>\$13,750</b>

## 2.10 Organizational Structure

The purpose of SD1's Organizational Structure Program is to provide delineated job responsibilities, outline opportunities for advancement, ensure effective employee supervisor ratios, and guarantee adequate staff is in place to accomplish the mission and vision of SD1. This program also works in conjunction with the annual budget process to determine staffing needs and allocate operational expenses appropriately.

In January 2010, SD1 contracted with a third party to evaluate the O&M activities and business services that take place throughout the organization. To address some of the recommendations set forth in this evaluation, changes have been made to the organizational structure in order to achieve some of the following goals:

- Gain efficiencies by grouping people according to function
- Enhance communication / information exchange (both internally and externally)
- Reduce number of direct reports at the executive level to enable more strategic input from the Deputy Directors and to engage senior level management in the oversight of the day-to-day activities
- Provide opportunities for cross training and leadership development
- Move to more proactive operations
- Update position titles to match industry peers

SD1's current organizational charts can be found in Appendix G. Below is an overview of the current organizational structure:

**Operations:** Collection Systems, Capital Improvements, and Facilities & Fleet Management

**Engineering:** Treatment & Pump Station Operations, Water Resources and Planning & Design

**Administration:** Finance, Purchasing, Accounting, Account Services, Communication, Organizational Development, and Employee Benefits & Payroll

## 2.11 Pump Station Operations

The purpose of SD1's Pump Station Operations program is to ensure reliable operations of the pump stations throughout the service area. Routine inspections and preventative maintenance are performed to ensure that all stations are operating at maximum efficiency. In FY 2011, SD1 completed approximately 1,500 pump station PM inspections that included assessments of generators, stand-by pumps, bubblers, heating ventilation and air conditioning, electrical, air release valves, gate valves, plug valves and pump/motor lubrication.

### Power Systems Evaluation and Asset Management Program

During FY 2011, SD1 began the development of a proactive and coordinated asset management program of its treatment and pump operation power systems. The purpose of this program is to assess and identify the condition of the power systems, plan and prioritize subsequent improvement plans based upon criticality and implement regular preventive and corrective maintenance required to sustain the reliability of its power systems. These proactive measures cost-effectively ensure that all power systems are operating at maximum efficiency, thereby reducing the risk of sewage discharges.

The initial assessment phase, completed in FY 2011, indicated that the Willow Run and Covington Main Street Flood Pumping Station power systems were in critical condition and in need of immediate attention. Based on this information, SD1 took immediate action at these stations. Transformers at the Willow Run location were replaced in February 2011 and transformers at the Covington Main Street location are currently in the process of being replaced.

During FY 2012, SD1 will evaluate the initial condition assessments of the other power systems that were found to be in less critical condition and develop a prioritized improvement plan to address any repairs that are needed.

## **2.12 Safety**

The purpose of SD1's Safety Program is to ensure that appropriate measures are taken to eliminate or control the exposure of SD1 employees and the general public to hazards that may cause physical harm, and to comply with local, state, and federal safety codes and legislation. Performing daily operations in a safe manner not only protects our workforce and the community, but also demonstrates fiscal prudence, high employee morale, and results in financial savings for our ratepayers.

SD1's Safety Committee assists in providing a safe working environment for all employees. The Committee provides recommendations to improve safety and working conditions at SD1 and communicates with all departments, staff, and employees on matters relating to occupational safety & health. In addition, SD1 has an established Emergency Response Team that has been trained to plan for and respond to workplace emergencies.

### **2.12.1 Safety Training**

SD1 has continued to produce and distribute a Safety Training Calendar that identifies class offerings, instructors, times, and dates of training throughout the year. A copy of the FY 2011 Safety Training Calendar is included in Appendix H. The calendar is posted to the Intranet site, and monthly email notifications are sent to SD1 employees to notify them of upcoming trainings and attendance requirements. Attendance at safety training classes is tracked with Training Tracker software to ensure that each employee meets his or her annual safety training requirements.

### **2.12.2 Performance Indicators**

Table 2.9 outlines the indicators used to measure the success of the Safety Program and SD1's performance in each area during FY 2008 through FY 2011.

**Table 2.10 Safety Program Performance**

<b>Performance Metric</b>	<b>FY 2008</b>	<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011</b>
OSHA Recordables	10	15	19	6
Worker Compensation Claims	10	9	10	9
Friendly Reminders Issued	18	1	8	6
Safety Violations Issued	3	0	4	1
First Aids	17	17	21	23
Site Safety Audits	104	348	222	235

### **2.13 Smoke & Dye Testing**

The purpose of SD1's Smoke & Dye Testing Program is to identify specific sources of rainfall derived I/I into the sanitary sewer system. Smoke & dye testing along with sewer and manhole inspections and flow monitoring comprises SD1's SSES program elements. Smoke testing helps to identify significant sources of storm water I/I, including private service laterals and illegal connections such as downspouts and area drains. Smoke testing can also be used to determine the location of sewer main defects likely contributing to an I/I problem. Dye testing is performed for comprehensive identification of both public and private source I/I connections in areas found to have excessive I/I.

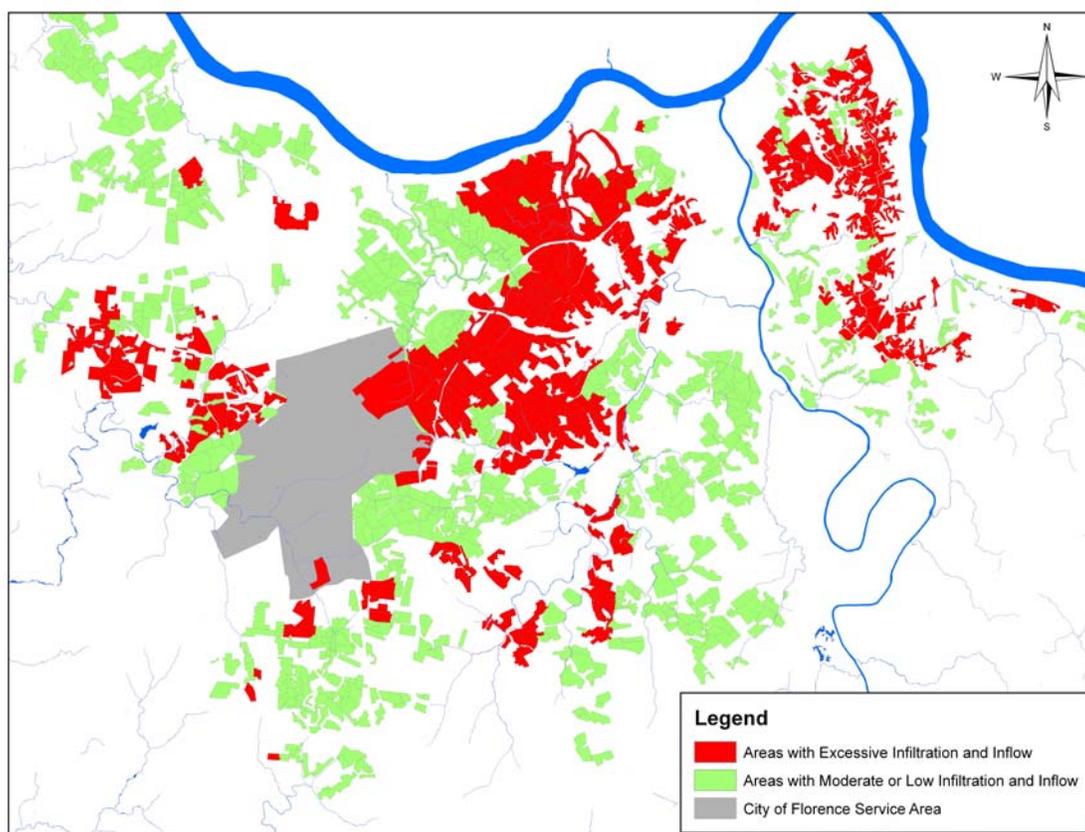
#### Priority I/I Source Identification & Removal Program

As part of the SSES program, SD1 has budgeted funds as part of its Watershed Plans to implement a Priority Inflow and Infiltration Source Identification & Removal Program designed to reduce and eliminate SSOs through public and private source I/I removal projects. Smoke and dye testing plays a critical role in identifying the sources of I/I as part of this program. The priority watershed areas SD1's smoke and dye crews will initially evaluate as part of this program are known to have extensive I/I and include the Banklick Creek (Lakeview Pump Station) watershed, Taylor Creek watershed, and the watershed area tributary to the Licking River Siphon.

### 2.13.1 SSES – I/I Assessment Projects

The goal of the SSES program is to identify and remove both public and private sources of rain water derived I/I that is entering the sanitary sewer system to reduce and eliminate sanitary sewer overflows. SD1 has expended significant effort over the last several years, as part of its watershed planning efforts, to identify and quantify the sources of I/I using detailed flow monitoring and smoke and dye testing. The map in Figure 2.4 provides an overview of the areas in SD1's collection system experiencing I/I at levels such that 2% or more of the storm water runoff from the area served ends up in the sanitary sewer. This map provides the focus of the SSES program and I/I associated assessment projects.

**Figure 2.4 Areas of Excessive I/I Across SD1's Collection System**



The following information provides a description of the ongoing SSES investigations that occurred during FY 2011 as part of the I/I assessments.

#### City of Lakeside Park – Arcadia Neighborhood

This project area consists of approximately 190 homes in the city of Lakeside Park and is located in the Dry Creek Watershed. The project area is considered to be a contributor to a significant public health caused by local SSOs. Because of the high priority of this area and the known high peak flows during wet weather, SD1 conducted detailed public and private smoke and dye testing to determine both public and private storm water derived I/I source connections to the sanitary sewer. The testing confirmed a significant number of public and private sources of I/I. In FY 2011, SD1 began designing several I/I removal projects and sewer system upgrades, which will be completed in FYs 2012 and 2013. These projects generally include:

- Removal of direct storm water connections from approximately 190 homes
- Rehabilitation of 2.8 miles of sanitary sewer and associated manholes
- Rehabilitation or replacement of 4,800 linear feet of storm sewer and associated structures
- Installation of up to 5 regional-type green infrastructure installations to reduce storm water quantity and enhance water quality locally and downstream

Collection system modeling shows that eliminating 50% of the I/I in Lakeside Park, SD1 can eliminate four recurring high public health risk SSO locations and the corresponding 0.33 million gallons of overflow volume in the typical year. By removing I/I at the source, downstream overflows in the Dry Creek watershed can also be reduced by 0.28 million gallons in the typical year.

#### City of Ft. Mitchell – Pleasant Ridge

This project area is located in the Pleasant Run Creek watershed and consists of approximately 140 homes in the city of Ft. Mitchell. Because of the known high peak flows during wet weather, the potential cost savings and other project-related benefits, SD1 conducted an evaluation of the collection system in the area. The evaluation included detailed public and private smoke and dye testing to identify storm water derived I/I source connections to the sanitary sewer. Not only did the assessment confirm a significant number of public and private sources of I/I, it also revealed storm and sewer structures in poor condition, numerous homes with illicit connections

(sanitary sewage entering the storm sewer system), common manholes for sewer and storm water lines, storm water lines that have constructed bypasses into the sanitary sewer, and sewage was found at storm water outfalls.

SD1 is working in partnership with the City to develop an improvement plan for this area that will holistically address the condition of the sanitary and storm sewer assets, existing area storm water flooding, the removal of public and private source I/I and illicit connections, and storm water quantity and quality issues. Opportunities for green infrastructure are also being evaluated to address reductions in storm water peak flows to critical in-stream flow levels to reduce erosion and hydromodification (see section 2.15 for more details) and improvements in storm water runoff water quality. Design work on Phase I was completed by the end of FY 2011 and construction is scheduled to occur during FY 2012. Subsequent phases will be under design in FY 2012.

#### City of Ft. Thomas - Vernon Lane

The Vernon Lane project area consists of approximately 270 homes in Ft. Thomas and is located in the Licking River Siphon drainage area. The project area is considered to contribute to a significant public health risk as a result of local SSOs. Because of the high priority of this area and the known high peak flows during wet weather, SD1 conducted detailed public and private smoke and dye testing in order to identify storm water derived I/I source connections to the sanitary sewer. The testing revealed a significant number of public and private sources of I/I, as shown in Figure 2.7.

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Figure 2.5 Vernon Lane SSES Findings

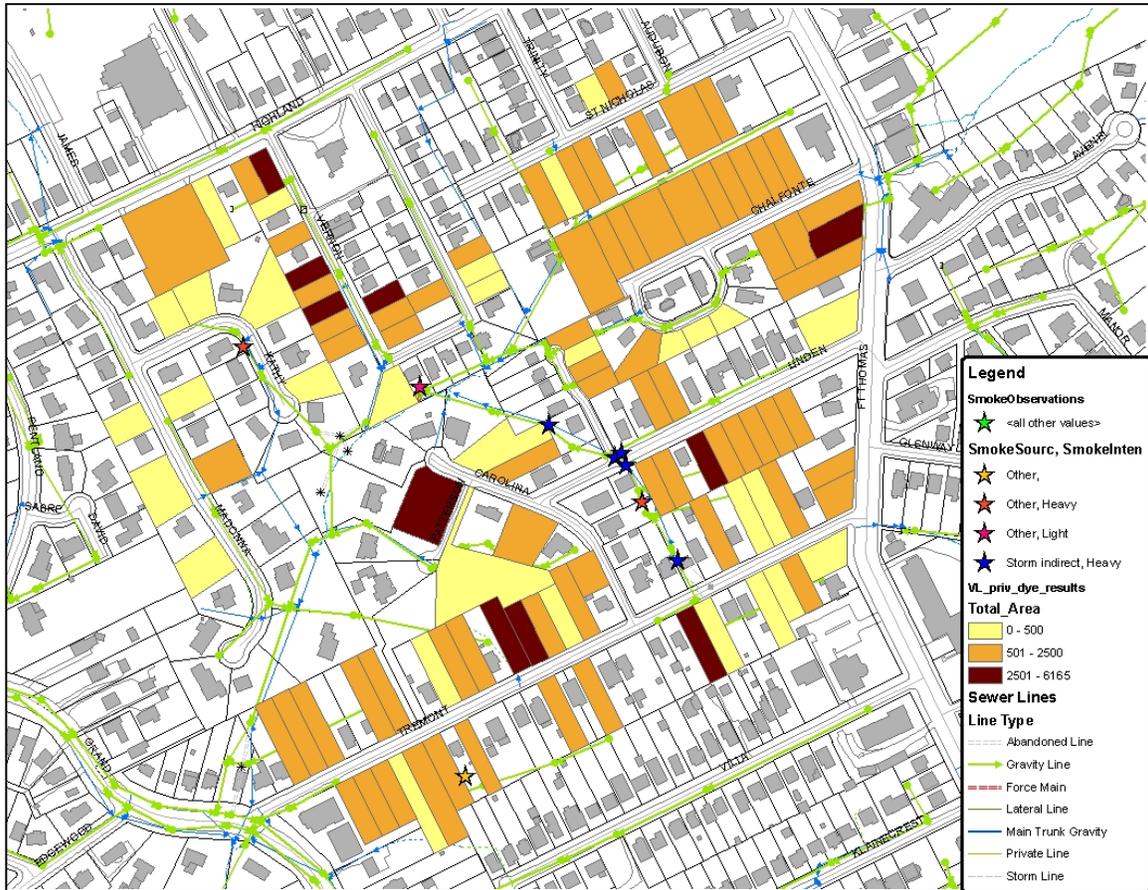


Figure 2.7 indicates properties color coded by the amount of tributary area (square feet) tied to the sanitary sewer when it rains - the darker the shade of color, the greater the amount of area that contributes storm water runoff to the sanitary sewers. The stars represent locations where indirect cross-connections between the storm and sanitary sewers were identified.

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During FY 2011, SD1 continued working on the improvement plans for this area. The final project design will holistically address all sources of storm water entering the sewers and streams at the local level. The project focuses on the removal of direct storm water connections from 115 homes, rehabilitation or replacement of 3,500 linear feet of storm sewer and associated structures, and up to 5 regional-type green infrastructure installations to mitigate flooding, reduce storm water peak flows to critical in-stream flow levels to reduce erosion and hydromodification (see section 2.15 for more details), and improve storm water runoff water quality.

By eliminating 50% of the I/I in the Vernon Lane area, SD1 can eliminate 2 recurring high public health risk SSO locations and the corresponding 0.26 MG of overflow volume in a typical year. By removing I/I at the source, downstream overflows in the Three Mile Creek watershed can also be reduced by 3.3 MG in the typical year. This project is under design with construction planned for FY 2012.

## **2.14 Training**

The purpose of SD1's Training Program is to build an elite, professional, and proactive workforce capable of executing the mission and vision of SD1 in a safe, timely, and cost-effective manner. This comprehensive Training Program results in several benefits for the organization, including:

- Ensuring the safety of our employees and the community we serve
- Increasing job satisfaction, employee morale, and workforce engagement by providing opportunities for personal and professional growth
- Keeping staff up-to-date on industry trends, as well as certification and license requirements
- Maintaining the efficiency and consistency of job performance, which consequently upholds the quality of our work and yields a greater return on investment
- Meeting and exceeding the expectations of our ratepayers and governing bodies by ensuring fiscally responsible, efficient, and well-informed operations

SD1 employees are provided with a wide array of training opportunities throughout the year, including safety training, technical skills training, and soft skills training in areas such as communication and leadership. SD1 personnel received more than 5,400 total

hours of training during FY 2011. Employees may receive professional development through external courses or through SD1's formal in-house training program that is managed by Human Resources.

### **2.14.1 In-House Training Program**

During this reporting period, SD1 provided leadership training courses including: managing change, team building, conflict management, time management, effective communication and presentation skills. In addition, specific computer skills training courses geared towards field personnel were offered to help ensure the continued advancement of technology in SD1's field operations. All of the classroom instruction for the courses identified in the catalog is provided by highly qualified and trained SD1 personnel, and instruction material is made available through the training program's in-house library. The training calendar and library is updated annually to provide revised or new training information.

In FY 2012, SD1's in-house training program will focus on performance-based management and core competencies to allow for more job-specific training and certification.

(Refer to Section 2.6.1 for a description of SORP training and Section 2.12.1 for a description of safety training that took place during the current reporting period.)

### **2.14.2 External Training**

#### Kentucky WINS Program

SD1 continued its participation in the Kentucky WINS program that provides grant funding for customized employee training through the Kentucky Community & Technical College System. During FY 2011, SD1 was able to secure grant funds to provide personnel additional specialized job training. Personnel attended Gateway Community College and completed courses in project management, circuit analysis and fluid power.

Many of the employees that have taken classes through this program over the last several years are close to meeting the requirements needed to obtain specialized certifications. In FY 2012, SD1 will seek additional grant funds for those employees to take the technical classes needed to fulfill the certification requirements of their

respective programs. In addition, SD1 is seeking WINS grant funds for employee course training to help support the development of specific core competencies.

## **2.15 Water Quality Monitoring**

The purpose of the Watershed Monitoring Program is to collect and assess instream water quality, macroinvertebrate, fish and habitat data throughout the study area. This program includes dry weather baseflow monitoring in all watersheds (approximately 75 locations), and wet weather event-based and biological monitoring in major watersheds (approximately 60 locations). Both wet and dry weather sampling is also collected on the Ohio River between river miles 440-518 (24 locations) to assess water quality.

During 2011, SD1 continued the collection of instream biological (fish and macroinvertebrate communities) and habitat data to support the characterization of the Northern Kentucky Watersheds, and continued to expand this knowledge by including a hydromodification component in its monitoring efforts. This component focuses on measuring the physical stream channel responses that are primarily attributable to land-use conversion from undeveloped to developed. The altered flow regime associated with conventional urban development (i.e. hydromodification) leads to flashier and larger flows, excessive stream erosion, and overall channel instability that can cause water quality impairments (e.g. high TSS and sedimentation/siltation) and have adverse effects on aquatic biota such as fish and macroinvertebrates. Accelerated bank erosion, channel widening, and enlargement also pose risks to adjacent public infrastructure (e.g. sewers, roads, and bridges) and private property.

This data is being used to calculate critical flow values ( $Q_{critical}$ ) for Northern Kentucky streams.  $Q_{critical}$  is the amount of flow that begins to induce impairments such as stream bank erosion and hydromodification. The calculation of  $Q_{critical}$  allows for the design of storm water runoff controls that address both issues. In addition, this factor is viewed as the link between water quality and water quantity management due to the strong relationship revealed by recent data analysis between stream stability and ecological integrity.

### Performance Monitoring

Instream water quality and overflow data collected to help characterize watersheds in SD1's service area plays an integral role in prioritizing, designing, and implementing cost-effective solutions that will reduce overflow occurrences and improve water quality in rivers and streams within SD1's service area. These data were used to create the hydraulic and water quality models that served as essential planning tools in developing SD1's Watershed Plans submitted June 30, 2009 as well as the March 31, 2011 resubmittal. In 2011, SD1 revisited sites where biological and habitat assessments could not be conducted during the initial site visit; conducted base flow water quality sampling at locations with less than four observations; conducted base flow sampling in the lower Ohio River (river miles 490-518); and conducted event-based monitoring in several watersheds (Big Bone, Gunpowder and Woolper and lower Ohio River). As a second phase of the monitoring program, SD1 is currently developing performance metrics in order to measure its progress in improving water quality in relation to the base-line water quality models.

### Stream Condition Index

Data collected through SD1's watershed monitoring program continues to support and refine the Stream Condition Index (SCI). During 2011, with initial data collection complete, SD1 continued to make final refinements to the index, by including additional biological, chemical, habitat and stream flow data, as well as introducing a hydromodification metric. These data considerably strengthen the index, which is expected to be completed in 2012.

### Source Identification Program

SD1 developed a Source Identification Program during 2009 to identify potential non-sewer overflow sources and develop recommendations and remedies that correct the sources and reduce the impact to local waterways. SD1 chose to pilot the program in the Banklick Creek watershed in order to gain insight about its application before applying it to another watershed. SD1 conducted follow-up sampling during 2010 (dry weather) and 2011 (wet weather) to confirm the sources identified in the field reconnaissance activities conducted in 2009. Based on the resubmittal of the Watershed Plans, three sites in the Banklick Creek watershed are currently being evaluated for potential storm water controls.

### **SECTION 3. GREASE CONTROL PROGRAM**

The purpose of SD1's Grease Control Program is to prevent the introduction of fats, oils, and grease (FOG) into the sanitary sewer system thereby reducing sewer overflows, maximizing sewer capacity and decreasing sewer maintenance costs. In addition, this program is intended to increase awareness of operators of local food service establishments (FSE) and home owners about measures they can take to limit or prevent the introduction of FOG into the drains and sanitary sewer system.

SD1 received regulatory approval of its Grease Control Program: Proposed Phased Implementation Plan on January 8, 2008. Once complete, the revised Grease Control Program will include components such as ordinances, design standards, and expanded permitting, inspection and enforcement protocols. The enhancements made under the new Grease Control Program will aid in maximizing sewer capacity and reducing sewer overflows within the collection systems.

The program is constructed through the implementation of four phases, each lasting 12 months, as outlined in Table 3.1. For a description of the tasks to be completed during each phase, refer to Appendix I. Phase 1, 2 and 3 are complete, and Phase 4 is currently being implemented and tracked as part of SD1's regulatory compliance measures. The deadline for completion of all Phase 4 tasks is January 8, 2012. A description of SD1's implementation of its program is more fully described in the following sections.

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**Table 3.1 Grease Control Program Phased Implementation Plan Schedule**

<b>Actions</b>	<b>Phase 1*</b>	<b>Phase 2</b>	<b>Phase 3</b>	<b>Phase 4</b>
Conduct Self Assessment				
Review Rules and Regulation/ Enforcement				
Design Criteria				
FSE Education				
Public Education				
Compile Data from Self Assessment				
Revise Rules and Regulations/ Enforcement Response Plan				
Develop Inspection Protocol				
Approval for Rules and Regulations/ Enforcement Response Plan				
Modify Food Service Discharge Permit				
Revise Domestic Holding Tank Waste Hauler Manifest				
Evaluate Staffing and Equipment Requirements				
Public Reading for Rules and Regulations/Enforcement Response Plan				
Permitting				
Performance Indicators				

Shaded areas indicate actions being performed in phase.

\*Phase 1 commenced January 8, 2008.

### **3.1 Program Management**

#### **3.1.1 Responsibility**

SD1's Industrial Monitoring Group is responsible for the implementation of the Grease Control Program.

### **3.1.2 Legal Authority**

#### Sanitary Rules & Regulations

The Sanitary Rules and Regulations provide SD1 the legal authority necessary to control the sewer system and monitor discharges to the public wastewater treatment system. This control, along with other controls affected by these Rules and Regulations, is necessary not only to conform to federal and state Environmental Protection Agency laws and regulations, but also to provide for the consistent, reliable, and efficient functioning of the SD1's wastewater collection and treatment systems.

#### Enforcement Response Plan

SD1's Enforcement Response Plan (ERP) is used to determine the appropriate enforcement response to a specific violation of pretreatment requirements. The purpose of plan is to define the range of appropriate enforcement actions based on the nature and the severity of the violation and the overall degree of noncompliance. It also promotes consistent and timely use of the enforcement remedies available to SD1 by eliminating uncertainty and confusion concerning enforcement options.

SD1 updated its ERP during FY 2010 to include provisions necessary to enforce the requirements of the grease control program. These updates were approved by the Cabinet on July 19, 2010.

#### FOG Management Policy

During FY 2010, SD1 created a FOG Management Policy to describe in greater detail the implementation of its permitting program. The policy is intended to establish clear design standards, procedures, and guidelines to regulate FSE operations, as well as the disposition of FOG wastes pumped from FSE Grease Control Equipment (GCE) during routine maintenance.

In July 2011, SD1 notified certified tappers, plumbing suppliers, the Northern Kentucky Restaurant Association, the Northern Kentucky Health Department, and city and county representatives that new FSEs will be required to install and maintain appropriately sized grease control equipment in accordance with the provisions of the new FOG Management Policy and its related design standards beginning January 1, 2012. The bill insert created for this mailing can be found in Appendix C.

## **3.2 Permitting**

Currently, FSEs located within the vicinity of grease blockages are required complete a Restaurant/Food Service Grease Handling Questionnaire. SD1 then determines the need to issue a Food Service Discharge Permit along with any applicable fees. Effective January 1, 2012, SD1 will require that all new food service establishments to complete a Questionnaire and obtain a Food Service Discharge Permit.

### **3.2.1 Record Keeping**

SD1 Food Service Discharge Permit requires that FSE maintain a “FOG Folder” at the FSE facility address that must be available for periodic inspections. Records shall be retained for a minimum of three years. Failure to meet any of the record keeping requirements is a violation of the Food Service Discharge Permit and SD1 Rules and Regulations.

### **3.2.2 Grease Control Equipment (GCE)**

SD1’s permit also requires that all discharges containing grease & oil pass through Grease Control Equipment (GCE) before entering the sanitary sewer. GCE refers to any equipment that removes fats, oils, and grease from wastewater such as a grease trap which is installed inside the building usually under a counter/sink or built into the floor of the kitchen area; or a grease interceptor which is usually installed outside in the ground and is much larger in size. GCE must be well-maintained and in proper operating condition at all times.

The design criteria for approved devices are defined in the FOG Management Policy and will be enforced with deadlines for installation through the revisions made to the Sanitary Rules and Regulations.

Effective January 1, 2012, all new FSEs, as well as those undergoing significant renovations, will be required to submit plumbing plans to SD1 to ensure that the grease control device specified for installation meets SD1’s design criteria. Once installed, the grease control device must be inspected by SD1 to verify that an appropriate grease control device was installed and is operating properly. SD1 will use any and all legal remedies to enforce the use of such devices, including the Administrative and Judicial

remedies set forth in SD1's Sanitary Rules and Regulation. Commonly used remedies include: notices of violation, cease and desist orders, and administrative fines.

### **3.2.3 Reporting Requirements**

SD1 requires permitted FSEs to report proof of service or cleaning of its GCE. All documentation must be submitted to SD1 within 30 days of the actual cleaning/service.

## **3.3 Inspections**

### **3.3.1 Permitting Inspections**

SD1's Industrial Monitoring Department performs inspections of local FSE that may be contributing to the buildup of FOG in the collection system. During this inspection, the FSE is provided a Restaurant/Food Service Grease Handling Questionnaire that must be completed and returned to SD1 within two weeks. The questionnaire is used to help gain insight into the potential of FOG to enter the collection system through that particular FSE. If the potential is established, the FSE is issued a Food Service Discharge Permit. Random inspections are conducted to ensure compliance with the permit and with SD1's Rules and Regulations.

FSEs are initially inspected in known FOG problem areas where maintenance and inspection data reveal that the condition of the lines and pump stations are significantly stressed due to the buildup of FOG. In addition, FSEs are inspected when contributing wastewater to a line that is found overflowing due to a blockage caused by FOG. By looking at the collection systems in this manner, SD1 can prioritize which areas to focus on and target inspections to FSEs that have the greatest potential impact of reducing FOG.

#### Sewer Inspection Data

SD1 conducts FSE inspections based on current sewer inspection data, which provides specific locations of grease blockages. CCTV inspection data in Lucity indicating a blockage of 30% or greater due to grease is integrated into a GIS data layer to visually represent the FOG problem areas across SD1's service area. Maps are created from the data layer to display the sewer lines, sewer structures, and buildings connected to the collection system in relation to the grease blockages. The maps are updated

monthly with new inspection data and are reviewed to determine if new problem areas exist. If new problem areas are indicated, the FSEs in those areas are inspected. Over time, the maps will also be reviewed to ensure that pipe conditions are improving and the FOG issues are being resolved.

### **3.3.2 Compliance Inspections**

At the end of FY 2011, SD1 had 44 permitted FSEs throughout the service area. Within one year of a permit's issue date, at least one follow-up inspection is conducted at each permitted FSE. As a result of these inspections, SD1 issued 28 Notices of Violation in response to non-compliance with the Food Service Discharge Permit. The three main areas of FSE non-compliance during FY 2011 were: (1) not properly maintaining the required FOG folder, (2) not cleaning grease traps as often as the permit requires, and (3) failing to return the Permit Application/Questionnaire and associated fees.

### **3.4 Grease Trap Waste Disposal**

All individuals or companies that haul waste to the Dry Creek Wastewater Treatment Plant must apply for and obtain a Domestic Holding Tank Waste Hauler Discharge Permit. Permits are issued on an annual basis and provisions of the permit must be adhered to at all times. Mobile waste haulers disposing grease trap waste at the plant are required to submit a Domestic Holding Tank Waste Hauler Manifest, which provides a detailed description of each load on their truck. All FSEs in SD1 jurisdiction shall have a SD1 certified grease waste hauler complete a grease interceptor certification annually.

Two waste hauler certification courses were held in 2011 (one in April and one in November). Beginning January 1, 2012, any hauler disposing of grease from a permitted FSE at the plant must attend a training course and become certified to inspect GCEs. SD1 does not require all grease to be disposed at the plant therefore, only those haulers associated with a permitted FSE are required to be certified.

SD1 monitors the method and location of disposal of grease removed from accepted grease control devices through the grease hauler manifest. The information is stored in LINKO FOG software. The amount of grease hauled to and disposed of at the Dry Creek Wastewater Treatment plant since FY 2008 is provided in Table 3.2.

**Table 3.2 Grease Disposed at Dry Creek Wastewater Treatment Plant  
(FY 2008 through FY 2011)**

<b>Fiscal Year</b>	<b>Gallons of Grease</b>
2008	555,833*
2009	43,649
2010	108,300
2011	161,150

\*There was a significant reduction in the amount of grease disposed at Dry Creek following FY 2008 because SD1 no longer received grease from Schwan's Global Supply Chain; however, SD1 anticipates that this number will increase as additional FSEs become permitted.

### **3.5 FOG Education**

#### **3.5.1 FSE Compliance Workshop**

SD1 has created appropriate training materials to educate grease generators and their employees on best management practices, permit requirements, and applicable rules and regulations. A representative from all permitted FSEs is required to attend a training workshop.

SD1's current FSE compliance training workshop is being coordinated through the Northern Kentucky Health Department's monthly Food Service Managers Workshop, which is a required program for all FSEs in Boone, Campbell and Kenton counties. This coordination provides a cost-effective and efficient way for SD1 to ensure that all FSEs, even those not currently permitted, are being trained.

SD1 is provided a monthly summary of the attendees who attended the training and the number of educational pamphlets and brochures that were distributed to each attendee. During FY 2011, approximately 860 food service managers (including representatives from FSEs that are not currently permitted) attended the workshop and received over 860 brochures and pamphlets.

### **3.5.2 General Education**

SD1 uses various communication pieces throughout the year to inform and educate private residences on the harmful effects of FOG in sewer lines and the proper grease handling techniques that can be used to minimize the release of FOG into the collection system. This information is distributed through various channels such as: direct mailings, bill inserts, SD1's website, promotional product giveaways, and community newsletters and newspapers. Using the data provided by sewer inspections, SD1 will focus its public education efforts primarily in areas that are showing signs of grease problems and will apply an appropriate communication strategy to best fit the situation.

#### Residential Communication

During FY 2011, SD1 mailed approximately 2,000 letters to residents in areas that have experienced an overflow or building backup caused by a build-up of grease. The letter alerts residents that an overflow or building backup occurred, educates the residents about the effects of fats, oils, and grease (FOG) on the collection system, and provides proper disposal methods.

#### Website

SD1 has been working to expand the grease control section of its website to include additional information for the public, FSEs, and sludge haulers. Information regarding the new FOG Management Policy and associated informational bill insert were added to the website and additional material will continue to be added as needed.

### **3.6 Performance Indicators**

Table 3.2 provides a summary of the performance indicators that SD1 is tracking in relation to its implementation of a formal Grease Control Program. Now that there are three full years of data for this program SD1 can begin analyzing the performance information. Specifically, SD1 is determining if there is any correlation between the reduction in the feet of lines on the permanent PM cleaning list and the increase in the number of SSOs and building backups, or if there are other influences/factors that have lead to these results.

**Table 3.2 Grease Control Program Performance Indicators**

<b>Performance Indicator</b>	<b>FY 2008</b>	<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011</b>
Feet of Line on Current PM Cleaning List due to Grease	82,000*	4,326	4,326	4,892
Number of SSOs due to Grease	4	17	10	7
Number of Building Backups due to Grease (Reported through Trouble Calls)	2	5	7	7

\*Between FYs 2008 and 2009, the lines listed on the permanent PM list were inspected and assessed according to the CSAP, using SCREAM scores to help identify the lines requiring PM.

## **SECTION 4. PUMP STATION BACKUP POWER UPDATES**

SD1 received regulatory approval of the Pump Station Operation Plan for Backup Power on May 14, 2008 and has made significant progress assessing and implementing backup power solutions throughout the service area. For a detailed update on the current progress of this program, refer to Appendix J.

## **SECTION 5. SELF-ASSESSMENT PROGRAM UPDATES**

SD1 performed an extensive self-assessment of each CMOM program in mid-2007, involving approximately 75 employees in a series of interviews and team planning workshops. During this process, SD1 employees identified nearly 100 improvements to collection system activities that would aid in more effectively achieving regulatory compliance and reducing SSO and CSO occurrences throughout the service area. SD1's progress in completing three remaining tasks during FY 2011 is provided in Table 5.1.

**Table 5.1 Status of Remaining CMOM Recommended Improvements**

<b>CMOM Program</b>	<b>I.D.</b>	<b>Task</b>	<b>Current Status</b>
Acquisition Considerations	N/A	Assess the use of Lucy for inputting new construction inspection reports and applicable photos.	Lucy has made enhancements to the Master Project module to track pertinent construction inspection data and SD1 is working to create a field version of the database that will import inspection data directly to Lucy.
IMS	IMS-6	Assess the use of the Inspection module in Lucy for new construction inspections.	See Acquisition Considerations task update.
Engineering	EN-2	Upload technical specifications to SD1's website.	Updates to SD1's sanitary sewer specifications are underway. If feasible, the specs will be uploaded to the website upon completion. Persons interested in obtaining the current specifications can receive them electronically upon request.

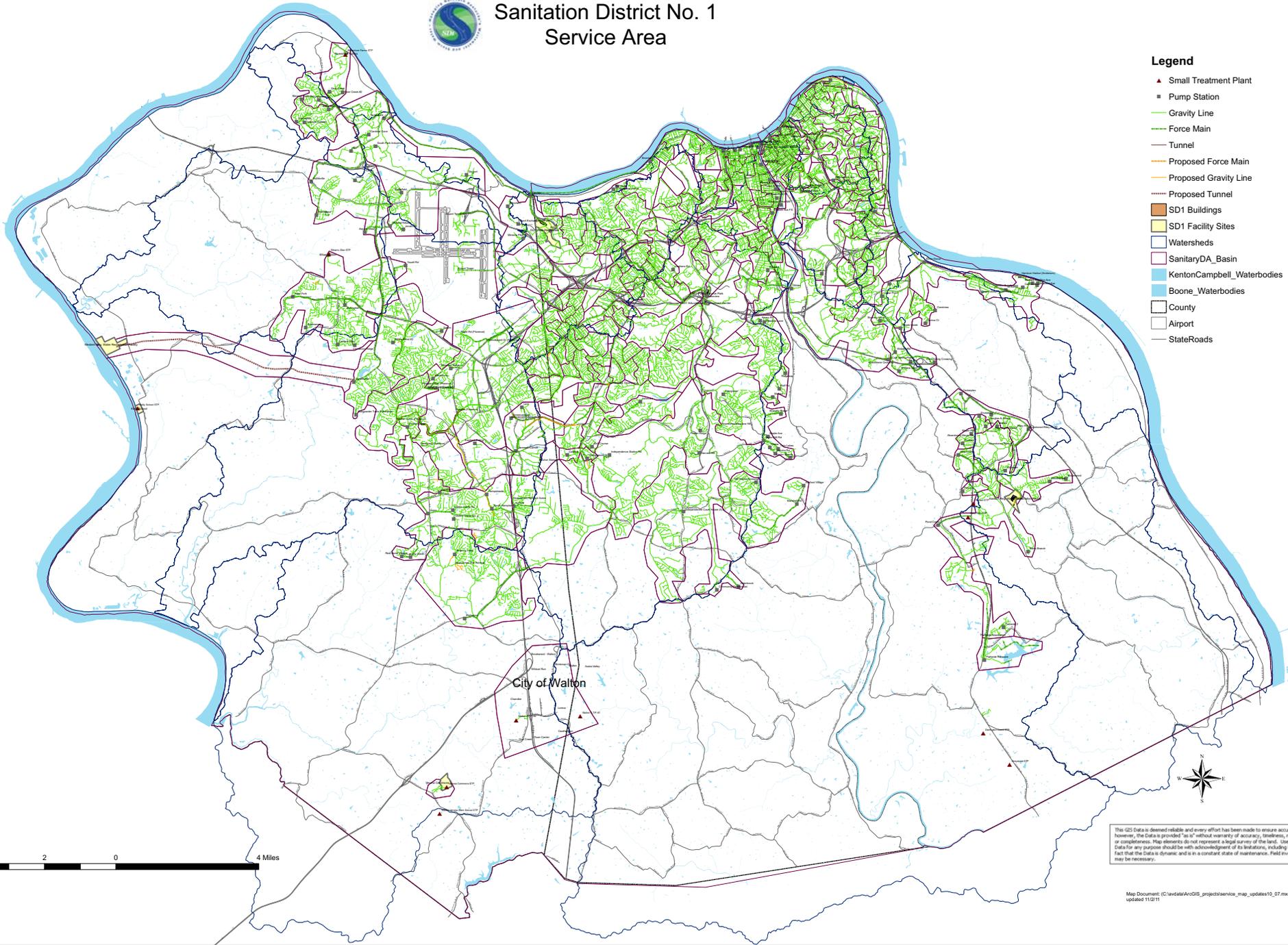
**APPENDIX A:**  
***Map of Service Area***



# Sanitation District No. 1 Service Area

## Legend

- ▲ Small Treatment Plant
- Pump Station
- Gravity Line
- Force Main
- Tunnel
- Proposed Force Main
- Proposed Gravity Line
- Proposed Tunnel
- SD1 Buildings
- SD1 Facility Sites
- Watersheds
- SanitaryDA\_Basin
- KentonCampbell\_Waterbodies
- Boone\_Waterbodies
- County
- Airport
- StateRoads



City of Walton



The GIS Data is deemed reliable and every effort has been made to ensure accuracy; however, the Data is provided "as is" without warranty of accuracy, timeliness, reliability or completeness. Map elements do not represent a legal survey of the land. Use of this Data for any purpose should be with acknowledgment of its limitations, including the fact that the Data is dynamic and is in a constant state of maintenance. Field investigation may be necessary.

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**APPENDIX B:**  
***Flow Monitoring Locations***

# C-MOM Meter Classification

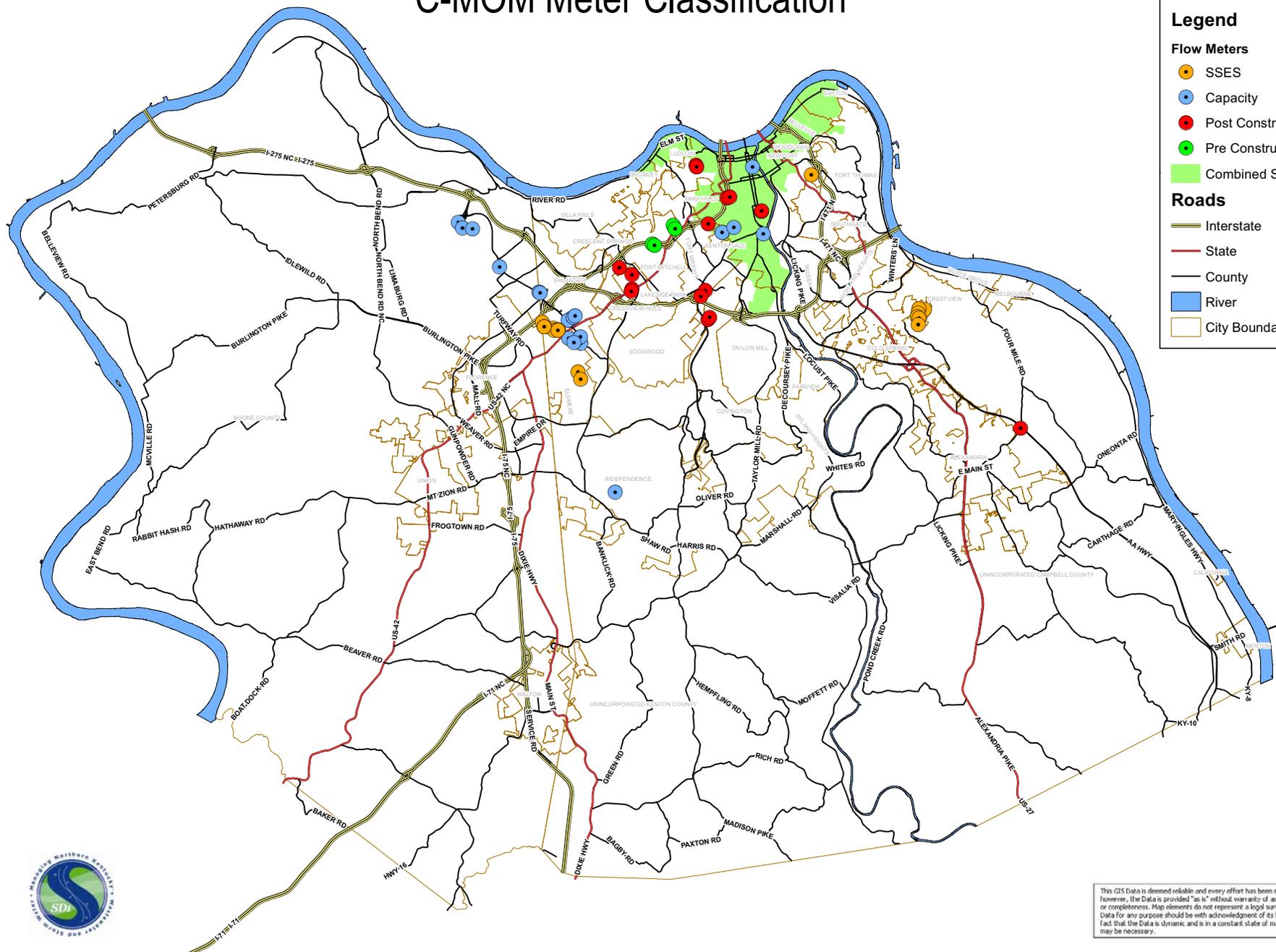
**Legend**

**Flow Meters**

- SSES
- Capacity
- Post Construction
- Pre Construction
- Combined Sewer System

**Roads**

- Interstate
- State
- County
- River
- City Boundary



This GIS Data is deemed reliable and every effort has been made to ensure accuracy; however, the Data is provided "as is" without warranty of accuracy, usefulness, reliability or completeness. Map elements do not represent a legal survey of the land. Use of this Data for any purpose should be with acknowledgment of its limitations, including the fact that the Data is dynamic and is in a constant state of maintenance. Field investigation may be necessary.

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## **APPENDIX C:**

### ***FY 2011 Example Educational Publications***



**Quick Links**



- Bids/RFPs/RFQs
- Developers
- Public Service Park
- Open Records Policy
- Request to Inspect Public Records
- Download Adobe Reader
- Employment Opportunities
- Kentucky Law

**Latest News**

Northern Kentucky's Storm Water Best Management Practices Manual: Public Comment

Protect the Environment, Properly Drain Your Pool

State audit found SD1 to have an effective structure for the oversight and processes that govern its operations

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**Upcoming Events** 16

09/20/2011 - SD1 Board of Directors Meeting

09/21/2011 - Co-Permittee Operations and Maintenance Programs Workshop #2

09/22/2011 - Meeting the New Post-Construction Storm Water Regulations Design Workshop #1

[See All Events](#)



The latest version of Adobe Reader is required to download documents from this web site. Please [click here](#) to download the free version.

**Audio Signs Debut At SD1's Public Service Park**

SD1 unveiled a series of interactive audio exhibits at Public Service Park (PSP), providing the public with an interactive way to enjoy the park and learn about SD1's innovative green initiatives.

[Read More](#)

**Welcome to SD1**

SD1 is responsible for the collection and treatment of Northern Kentucky's wastewater, as well as regional storm water management. SD1 is the second largest public sewer utility in Kentucky with a service area that covers approximately 220 square miles, encompassing more than 30 municipalities and unincorporated portions of Boone, Campbell and Kenton counties.

SD1 maintains more than 1,600 miles of sanitary sewer line, 143 wastewater pumping stations, 15 flood pump stations, 8 package treatment plants, two major wastewater treatment plants, more than 250 miles of storm sewer and over 17,800 storm sewer structures.

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**Q** **WHAT SERVICES ARE PROVIDED WITH THE REVENUE CREATED FROM THE STORM WATER SURCHARGE?**

- A** The revenue created from the surcharge is used to fund the Regional Storm Water Management Program including:
- Operation and maintenance of the public storm sewer system.
  - Upgrade and replacement of the existing storm water infrastructure.
  - Identification and elimination of improper connections that illegally dump wastes directly into rivers and streams.
  - Plan review and inspection of construction sites to ensure storm water requirements are met during and after construction including: erosion protection and sediment control measures, storm water detention requirements and post-construction water quality best management practices.
  - Implementation of storm water curricula in over 60 Northern Kentucky schools.

**Q** **HOW DOES STORM WATER IMPACT AN AREA IF THERE ARE NO STORM WATER PIPES?**

- A** If there are no storm water pipes in the area to carry the storm water directly to a waterway, storm water still flows naturally over land. It picks up pollutants such as fertilizer and bacteria from animal waste, and carries it into a waterway. Storm water that penetrates into the ground also reaches streams that are beneath the surface that provide the base flows to a local waterway.

**Q** **WHEN IT COMES TO THE STORM WATER SYSTEM, WHAT IS THE RESPONSIBILITY OF SD1, THE CITIES AND HOMEOWNERS?**

- A** SD1 has assumed responsibility for approximately 400 miles of publicly owned storm sewers (closed-pipe systems) and more than 28,000 associated storm structures. Cities and counties have maintained responsibility for roadside ditches, culverts, curb and gutter systems and the maintenance of the storm catch basin grates. Homeowners and local businesses will remain responsible for storm systems that convey storm water solely from private property. For a complete listing of the cities and counties where SD1 is currently operating and maintaining the public storm sewer systems, visit our website at [www.SD1.org](http://www.SD1.org).



**I** To report an illegal discharge or flooding problems, to schedule a tour of Public Service Park or to gather more information about SD1's storm water program, please call the storm water hotline at 859-578-6745.



**SD1**

Managing Northern Kentucky's Wastewater and Storm Water

**W H E N  
I T R A I N S**



**I T D R A I N S**  
**REGIONAL STORM WATER  
MANAGEMENT PROGRAM**

## Q WHAT IS STORM WATER RUNOFF AND WHY IS IT A PROBLEM?

**A** Storm water runoff occurs when precipitation from rain or snowmelt flows over the ground. Impervious surfaces like driveways, sidewalks, pavement, rooftops, parking lots and streets prevent storm water from naturally soaking into the ground.

Storm water is a problem because when it rains, pollution such as oil, salt, litter, soil, fertilizer, chemicals, debris, dirt and pesticides are washed into nearby street drains. Most of these drains empty directly into the streams and rivers that we use for fishing, swimming, boating and recreating.

## Q WHAT ARE THE EFFECTS OF STORM WATER POLLUTION ON LOCAL WATERWAYS?

- A**
- Polluted storm water can affect plants, fish, animals and people.
  - Sediment can cloud the water and make it difficult for aquatic plants to grow.
  - Bacteria can wash into swimming and fishing areas and create health hazards.
  - Household hazardous wastes like insecticides, pesticides, paint, used motor oil and solvents can cause wildlife to die.
  - Polluted storm water affects drinking water sources. This can affect human health and increase drinking water treatment costs.
  - Excess nutrients can wash into waterways from agricultural lands as a result of over-fertilizing. This can lead to algae blooms and low levels of dissolved oxygen in local waterbodies, making it difficult for fish and other aquatic organisms to survive.

## Q WHY HAS SD1 IMPLEMENTED A REGIONAL STORM WATER MANAGEMENT PROGRAM?

**A** SD1, at the direction of local leaders and with the help of citizen focus groups, developed a Regional Storm Water Management Program to comply with U.S. Environmental Protection Agency (U.S. EPA) storm water regulations, operate and maintain the public storm sewer systems and protect our waterways from polluted storm water runoff.



## Q WHY DOES THE EPA REGULATE STORM WATER?

**A** According to the U.S. EPA, 40 percent of our nation's waterways remain polluted, and storm water runoff is a leading source. To protect and improve the quality of our waterways, the U.S. EPA issued the Phase II Storm Water Regulations requiring communities to reduce pollutants in storm water runoff.



## Q HOW IS THE STORM WATER FEE DETERMINED?

**A** The storm water fee is calculated using a very specific impervious area formula that is widely used and accepted by storm water utilities across the nation. Properties within the storm water service area as defined by the Kentucky Division of Water (KDOW) are divided into two categories: residential and non-residential.

### Residential:

Based on a statistical analysis of residential properties in Boone, Campbell and Kenton counties, it was determined that the average impervious area per property is 2,652 square feet. Based on this data, SD1 has designated an equivalent residential unit (ERU) equal to 2,600 square feet. All residential properties are charged a single flat monthly fee based on one ERU.

### Non-residential:

Non-residential property owners including schools, churches and local governments are billed monthly based on the number of ERUs that are represented by the impervious area of the property or the current storm water fee per 2,600 square feet of impervious area.

Those who are not receiving sanitary sewer service from SD1 have to pay if they own property within the identified service area as defined by KDOW. Properties classified as agricultural or unimproved properties may be exempt from the fee. To view the current storm water fee, visit [www.sd1.org](http://www.sd1.org) or call 859-578-7450.

### Why Conserve Water?

Conserving water is simple and can have a positive impact on your budget and our planet.

Every drop of water that comes into your home must be treated before it trickles out of your tap and then treated once again after going down the drain. By making a commitment to use less water, you can cut down on waste in this process while saving money on your sanitary sewer and water bills.

# Conserving water is a win-win-win:

- Lower water bill
- Lower sanitary sewer bill
- Improved environment



In addition, your energy-saving efforts will help preserve the natural environment and prevent pollution. American public water supply and treatment facilities consume huge amounts of electricity. Just allowing a faucet to run for five minutes uses about as much energy as burning a 60 watt light bulb for 14 hours.

### Cut Waste, Cut Costs

Your bill and water meter are tools that can help you discover leaks. Monitor each water bill to check for unusually high use. If you think you might have a leak, read your water meter before and after a two-hour period when no water is being used. If your meter shows usage, you probably have a leak.



# SD1

### SD1's Sanitary Sewer Billing Policy

SD1's goal is to estimate how much water is going down the drains in a given home and to do that, we use water usage records provided by your local water district. However, some summertime outdoor activities use water that does not go into the sanitary sewer system. Because of this, SD1 bases the sanitary sewer charge on winter water usage. Water conservation practices will not impact your sanitary sewer bill until the winter usage factor is recalculated for your property in the winter months.

For more information on billing, visit [www.sd1.org](http://www.sd1.org).

For more information, visit [www.sd1.org/conservation](http://www.sd1.org/conservation)



## Tips for Water Conservation

### Toilets

- » Upgrade to a WaterSense labeled toilet ([epa.gov/watersense](http://epa.gov/watersense)).
- » Do not use your toilet as a trash can. It's only made for one type of waste.
- » Check your toilet for leaks.

### Lawn and Garden

- » Mulch around your plants.
- » Use plants that are native to your area and climate.
- » Install a rain barrel to capture runoff for use in landscape watering ([sd1.org/rainbarrelprogram](http://sd1.org/rainbarrelprogram)).
- » Adjust sprinklers so that water does not end up on the pavement.
- » Water landscaping in the morning or evening.
- » Adjust your lawn mower blade to at least 3 inches.
- » Do not over fertilize.

### Kitchen and Laundry

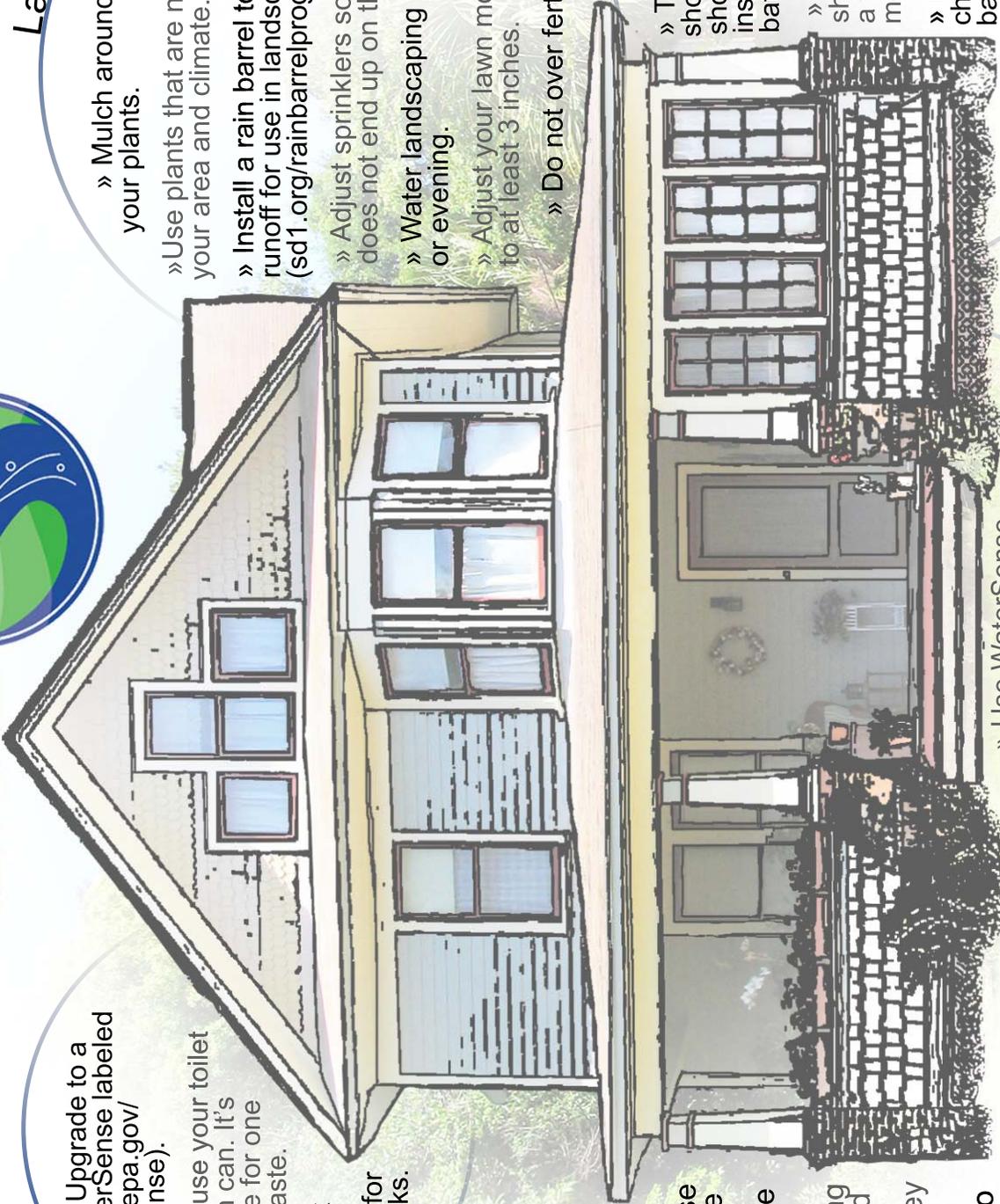
- » Use just one glass or water bottle each day.
- » Run washing machines and dishwashers only when they are full.
- » Upgrade to high-efficiency Energy Star ([energystar.gov](http://energystar.gov)) appliances that offer cycle and load size adjustments.

### Taps

- » Use WaterSense ([epa.gov/watersense](http://epa.gov/watersense)) labeled aerators and faucets.
- » Turn off taps when brushing teeth.

### Shower and Bath

- » Take short showers instead of baths.
- » Replace your shower head with a water-efficient model.
- » If you do choose to take a bath, stop the drain first and adjust the temperature as the tub fills.



# STORM WATER POLLUTION PREVENTION

## TIP OF THE MONTH

# APRIL



### TIPS FOR CONCRETE DISPOSAL:

- Do not wash out concrete trucks or dispose of excess concrete into storm drains, open ditches, streets or waterways.
- Do not allow excess concrete to be dumped on-site, except in designated areas.
- For on-site washout locate a washout area at least 50 feet from storm drains, open ditches or waterways. Do not allow runoff from washout area by constructing a temporary pit or bermed area large enough for liquid and solid waste. Wash out wastes into a temporary pit where concrete can set, be broken up, and then disposed of properly.

1045 Eaton Drive

Ft. Wright, KY 41017

Storm Water Hotline

859-578-6745

[www.sd1.org](http://www.sd1.org)

# SD1

Managing Northern Kentucky's  
Wastewater and Storm Water



# STORM WATER POLLUTION PREVENTION

## TIP OF THE MONTH

# JULY

### TIPS FOR PERFORMING STREET MAINTENANCE:

- Protect storm drain inlets by cleaning up any waste or debris.
- Take debris that is removed from catch basins to a sanitary landfill or material storage area where it can't be washed away. Never dump debris in a drainage ditch or roadway.
- Check the weather forecast. Do not perform street maintenance before or during rain events.

1045 Eaton Drive

Ft. Wright, KY 41017

Storm Water Hotline

859-578-6745

[www.sd1.org](http://www.sd1.org)

# SD1

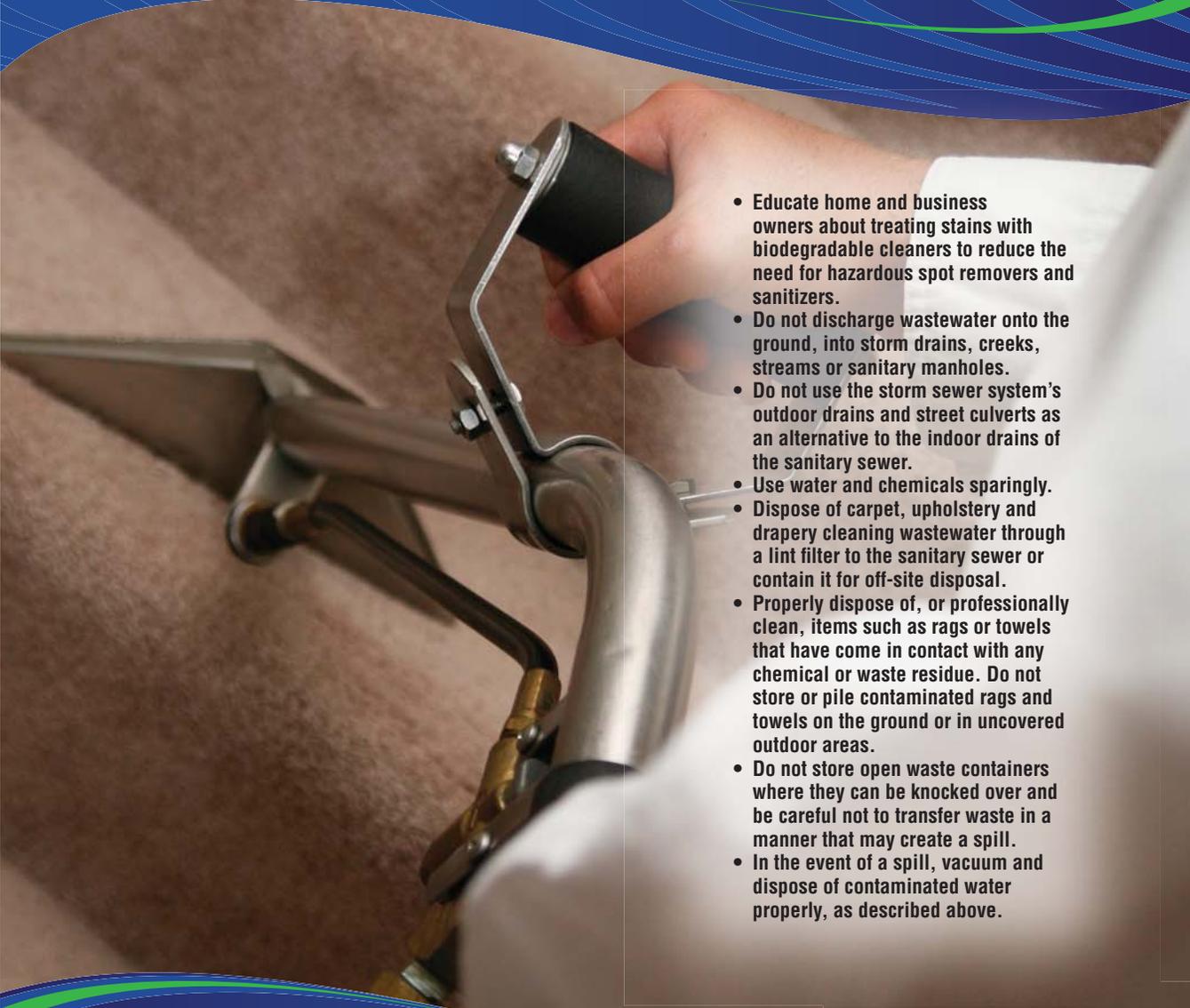
Managing Northern Kentucky's  
Wastewater and Storm Water



# BEST MANAGEMENT PRACTICES

## Carpet/Upholstery Cleaning Services

Carpet and upholstery cleaning service facilities are at risk of contributing to the contamination of storm water and hurting our local creeks and rivers. Wastewater from carpet cleaning usually contains detergents, other hazardous chemicals and carpet residues that can disrupt aquatic life and can compromise public health. This damage to our natural environment usually occurs when wastewater is improperly discharged so it is extremely important for Northern Kentucky's business community to help SD1 protect water resources. Companies that do not correctly handle wastewater may be issued a Notice of Violation or even assessed a fine by SD1. Here's how you can protect our waterways from storm water pollution:

- 
- Educate home and business owners about treating stains with biodegradable cleaners to reduce the need for hazardous spot removers and sanitizers.
  - Do not discharge wastewater onto the ground, into storm drains, creeks, streams or sanitary manholes.
  - Do not use the storm sewer system's outdoor drains and street culverts as an alternative to the indoor drains of the sanitary sewer.
  - Use water and chemicals sparingly.
  - Dispose of carpet, upholstery and drapery cleaning wastewater through a lint filter to the sanitary sewer or contain it for off-site disposal.
  - Properly dispose of, or professionally clean, items such as rags or towels that have come in contact with any chemical or waste residue. Do not store or pile contaminated rags and towels on the ground or in uncovered outdoor areas.
  - Do not store open waste containers where they can be knocked over and be careful not to transfer waste in a manner that may create a spill.
  - In the event of a spill, vacuum and dispose of contaminated water properly, as described above.

1045 Eaton Drive

Ft. Wright, KY 41017

Storm Water Hotline

859-578-6745

[www.sd1.org](http://www.sd1.org)

# SD1

Managing Northern Kentucky's  
Wastewater and Storm Water



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# Western Regional Tunnel Conveyance System Fact Sheet

## .....Project Description.....

This gravity sewer project will route flow to the new 20 million gallon per day Western Regional Water Reclamation Facility. The project consists of 32,610 ft. of 8.5 ft. diameter pipe to be installed by tunneling methods as well as 2,990 ft. of open cut sewer installation and a 700 ft. pipe bridge over Willoughby Creek. The completion of this project is a requirement of the SD1 Consent Decree and is the single largest capital project in SD1 history. When completed, the projects will reduce modeled sanitary sewer overflow volumes by 60 million gallons annually and allow for the removal of at least ten pump stations.

## .....Project Benefits.....

- 14 million gallons wet weather storage.
- Relief to existing interceptor sewers with added system capacity for future growth.
- Energy saving design that flows by gravity, eliminating the need for a pump station.
- Operational simplicity, minimal maintenance and limited operations involvement.

## .....Project Facts.....

- Tunnel Design and Construction Management Team: HDR Quest, Hatch Mott MacDonald, CH2MHill and Thelen Associates, Inc.
- Contractor: McNally Kiewit WRCT JV
- Construction cost: \$110,000,000
- Start date: June 2009
- Anticipated average daily flow at start-up: 10 million gallons per day
- The tunnel will be constructed up to 300 feet below ground.
- Tunnel excavation is predominantly through Kope Formation Shale with layers of stronger limestone.

## .....Tunnel Boring Machine Facts.....

- The Tunnel Boring Machine (TBM) was originally manufactured in 1969 by Robbins Company and was first used in 1970.
- The TBM has successfully completed twelve projects in Canada and the USA (including Frankfort, KY and Cleveland, OH).
- The TBM was scheduled to excavate 500 feet per week.
- As the TBM advanced, rings of rolled steel section and timber boards were erected to support the ground.
- The TBM cutterhead was 145 inches in diameter, had twenty seven, 12-inch diameter disc cutters and eight muck buckets.
- The TBM cutterhead rotated clockwise at a maximum 6.45 times per minute and was driven by four 100HP electric motors.
- The TBM was propelled forward using two 10-inch diameter jacks with 65" stroke with maximum thrust of 550,000 pounds.
- The TBM was kept on alignment using a laser which is connected to a computer.
- The TBM was approximately 200 ft. in length and the body of the TBM weighed 65 tons.



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# TERRACED REFORESTATION

## PROJECT DESCRIPTION

SD1 is managing the Terraced Reforestation project which involves the construction of a series of vegetated, terraced berms within the I-71/75 right-of-way in the City of Covington. By using the reforestation techniques, this project will reduce the amount of storm water runoff that enters the combined sewer system while providing an aesthetic amenity to the community.



The soil that currently exists at this location will be improved with more permeable soil to promote better infiltration. The berms have been designed to catch runoff from the upstream drainage area. Twelve earthen terraces will be constructed, and over 40 shrubs and 280 trees, as well as 8 acres of native seeding will be planted to absorb rainwater. The total construction and engineering costs of \$850,000 are fully funded by ARRA stimulus funds.

## PROJECT TIMELINE

Construction began in May 2010 and is estimated to be complete by early 2011.

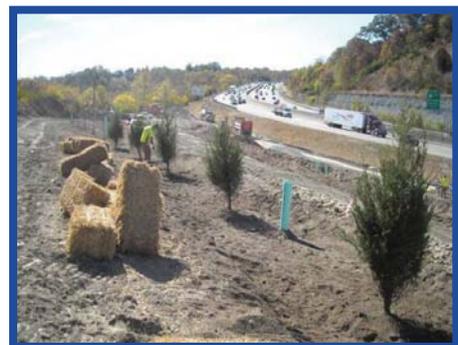
for more information please visit [www.SD1.org](http://www.SD1.org)

## PROJECT BENEFITS

- >> Based on a typical year model, approximately 3.1 million gallons of annual combined sewer overflow (CSO) volume reduction will be achieved. *(This estimate is based on a combination the Terraced Reforestation and the St. Elizabeth Detention Basin Retrofit.)*
- >> The wildlife habitat will improve through the improvements of the open space.
- >> The unit cost of this project is approximately \$0.37 per gallon of CSO removed, which compares favorably with typical gray infrastructure costs of \$0.50 per gallon.
- >> The project site is located in a highly visible area of the I-71/75 right-of-way, which has a current traffic volume of approximately 150,000 vehicles daily. This project will significantly improve the aesthetic value of this open space area through the planting of trees, shrubs and native prairie grasses.

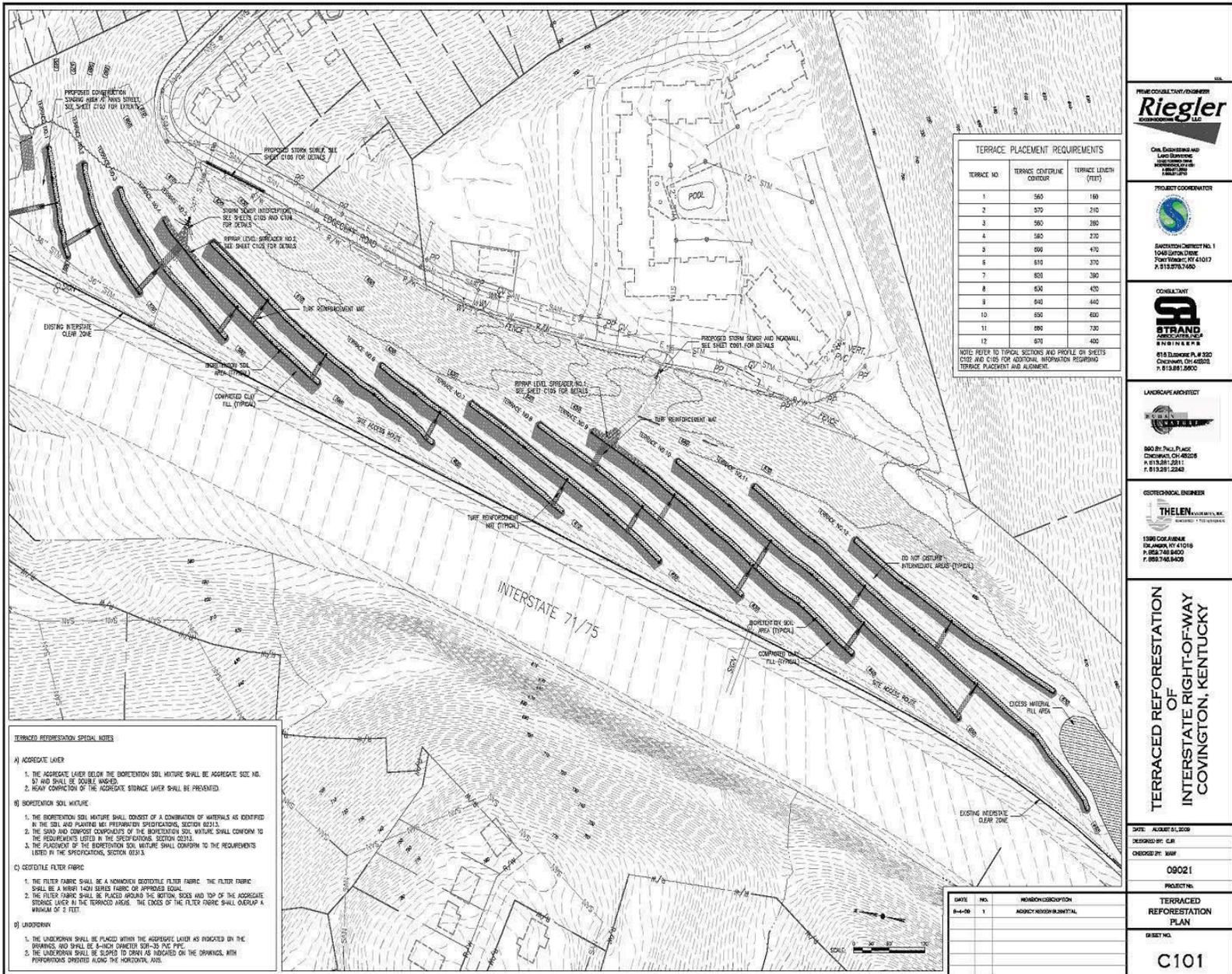
## CONTACT INFORMATION

- >> Darleen Mcguire, Project Manager, Capital Improvements Program | (859) 547-1648 | [dmcguire@sd1.org](mailto:dmcguire@sd1.org)
- >> SD1 Customer Care Team | (859) 578-6776 | [info@sd1.org](mailto:info@sd1.org)



for PROJECT MAP, see back page

# PROJECT MAP



**PROJECT CONSULTANT/ENGINEER**  
**Riegler**  
 Civil Engineering and Land Surveying  
 1408 GUYTON DRIVE  
 POFF WALKER, KY 41017  
 P. 513.378.7480

**PROJECT COORDINATOR**

**CONSULTANT**  
**STRAND**  
 815 Blaine Pl., # 202  
 Cincinnati, OH 45202  
 P. 513.881.5800

**LANDSCAPE ARCHITECT**  
  
 880 BY PAUL PLACE  
 CINCINNATI, OH 45205  
 P. 513.535.2511  
 F. 513.281.2242

**GEOTECHNICAL ENGINEER**  
  
 1386 COLLEGE  
 COLUMBUS, KY 41018  
 P. 606.748.8400  
 F. 606.748.8400

**TERRACED REFORESTATION OF INTERSTATE RIGHT-OF-WAY COVINGTON, KENTUCKY**

DATE: AUGUST 01, 2009  
 DESIGNED BY: CLR  
 CHECKED BY: JAHF  
 PROJECT NO.: 09021  
 TERRACED REFORESTATION PLAN  
 SHEET NO.: C101



# FROGTOWN INTERCEPTOR SEWER

## PROJECT DESCRIPTION

Sanitation District No. 1 (SD1) is constructing the next portion of the Western Regional Sanitary Sewer System along Gunpowder Creek from Sunnybrook Drive to Frogtown Road. The project includes installation of approximately 10,900 feet of 42-inch interceptor sewer and related manholes. The majority of the sewer will be installed by open cut, trench construction. However, there will be one bore and jack under Mount Zion Road.



The project is an important project in SD1's capital improvement plan and is required by their Federal Court Order to reduce Sanitary Sewer Overflows (SSOs). This sewer will replace the existing sewer along this alignment and will ultimately eliminate two pump stations in the area, the South Hampton Pump Station and Hemstead Pump Station. It will also convey flows from the upstream sewers to the downstream South Gunpowder Interceptor. SD1 was able to obtain a low interest loan to fund the project through Kentucky Infrastructure Authority (KIA).

## PROJECT TIMELINE

Construction is expected to start Winter 2010 and be completed by Spring 2012.

for more information please visit  
[www.SD1.org](http://www.SD1.org)

## TEMPORARY INCONVENIENCES

- » Most of the construction is along Gunpowder Creek. However, construction vehicles will need to access the project area.
- » Access to homes will be maintained throughout the project. Some noise, dirt, vibration, and disturbance will occur as the project proceeds.
- » Expect travel delays in and around the construction area and plan travel time accordingly.

## SAFETY

- » The contractor is required to follow all OSHA safety requirements. However, if you become aware of a public safety hazard, please report it to 911 immediately.
- » Children can be curious about construction. Please keep them away from machinery, trenches, and pits to avoid accidents.
- » If you see a potentially unsafe condition or safety fencing that needs repair, please contact SD1 immediately.
- » Follow the speed limit and be aware that in construction zones, the speed limits are often lower than normal.

## RESTORATION

Restoration of landscaping and grassy areas disturbed by construction will begin after construction is complete in that area. Every effort will be made to restore property to its original condition.

## CONTACT INFORMATION

- » Bob Wilson, SD1 Project Manager | (859) 578-7469 | [rwilson@sd1.org](mailto:rwilson@sd1.org)
- » Tom Schaffer, Project Engineer, HDR Engineering, Inc. | (859) 223-3755 | [tom.schaffer@hdrinc.com](mailto:tom.schaffer@hdrinc.com)
- » SD1 Customer Care Team | (859) 578-6776 | [info@sd1.org](mailto:info@sd1.org)

for PROJECT MAP, see back page

# PROJECT MAP



**FROGTOWN INTERCEPTOR SEWER**

**Legend**

- Sewer Manhole
- Pump Station (to be eliminated)
- Frogtown Interceptor Sewer
- Force Main
- Gravity Line
- Road
- Stream
- Building



# ASH STREET PUMP STATION *and* FORCE MAIN

## PROJECT DESCRIPTION

Sanitation District No. 1 (SD1) is designing the Ash Street Pump Station and associated force main, which will be key components of the Eastern Regional Sanitary Sewer System. The Ash Street Pump Station will be located at the intersection of First Street and Ash Street in Silver Grove. The project is critical to SD1's capital improvement plan and is required by their Federal Court Order to reduce sewer overflows.



Currently, a 10-inch diameter sewer line conveys wastewater from local cities to the Silver Grove Pump Station, located at the intersection of Mary Ingles Highway & State Route 1998. However, during heavy rainfall, flow into the sewer quickly exceeds its conveyance capacity. The excess flow is discharged into a drainage ditch through a combined sewer overflow (CSO). This overflow discharges a combination of wastewater and storm water an average of 29 times per year with an annual overflow volume of about 2.4 million gallons (MG). The CSO discharge is located near a mobile home community and the surrounding area is subject to frequent backwater from the Ohio River. It experiences poor drainage even in low river conditions. When the river is elevated, ground and river water enter the Silver Grove Pump Station through low lying manholes and leaky sewers, resulting in sewer overflows near the Silver Grove Pump Station that discharge approximately 23.2 MG a year.

The new 7 to 9 million gallon per day (MGD) Ash Street Pump Station will redirect the flow to the state-of-the-art Eastern Regional Water Reclamation Facility (ERWRF) in Campbell County. The total, projected overflow volume reduced by this project is 38.4 MG. This project also includes:

- >> Installation of approximately 27,000 linear feet (LF) of 20-inch diameter force main to convey wet weather flows from Ash Street to the ERWRF.
- >> Redirecting the existing Silver Grove Force Main to the Ash Street Pump Station.
- >> Installation of a new gravity sewer immediately upstream of the Silver Grove Pump Station to convey the remaining flow and to eliminate the intrusion of river water.
- >> Abandonment of the 10-inch diameter gravity sewer that currently conveys flow from downtown Silver Grove to the Silver Grove Pump Station.
- >> New services for the customers that are currently served directly by the 10-inch diameter gravity sewer to be abandoned. These customers shall receive sewer service through the installation of approximately 19 individual grinder pumps and 6,000 LF of low pressure sewer.

## PROJECT TIMELINE

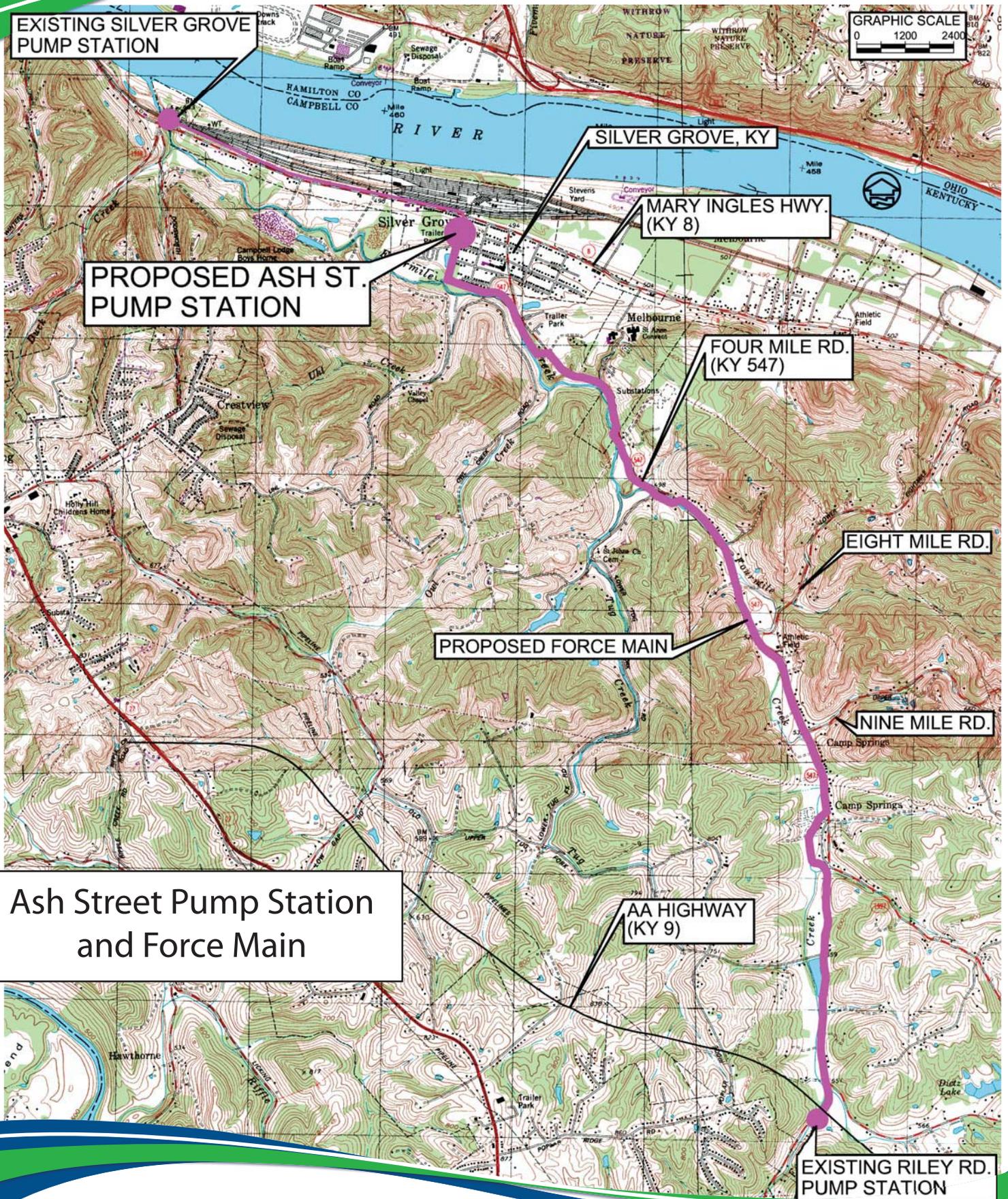
Construction is expected to start in Winter 2011 and be completed by Summer 2013.

## CONTACT INFORMATION

- >> Kyle Boyle, SD1 Project Engineer | 859-547-1644 | kboyle@sd1.org
- >> Joe Henry, GRW, Inc. | 859-223-3999 | jhenry@grwinc.com
- >> SD1 Customer Care Team | 859-578-6776 | info@sd1.org

for more information please visit [www.SD1.org](http://www.SD1.org)

# PROJECT MAP





# NARROWS ROAD DIVERSION PUMP STATION

## PROJECT DESCRIPTION

Sanitation District No. 1 (SD1) is constructing a Diversion Pump Station (DPS) which is a key component of the Western Regional Sanitary Sewer System improvements. The DPS will be located on Narrows Road where it crosses Bullock Pen Creek in Erlanger. The project is a critical project in SD1's capital improvement plan required by their Federal Court Order to reduce Sanitary Sewer Overflows (SSOs).

Two existing major gravity sewer interceptors converge at the DPS site and currently flow to the Lakeview Pump Station and ultimately the Dry Creek Wastewater Treatment Plant. The new 17 million gallon per day peak capacity DPS will redirect the flow from these two interceptors to the Western Regional Water Reclamation Facility in Boone County. This improvement project will reduce flow to the Lakeview Pump Station resulting in a reduction of SSOs at the Lakeview Pump Station. The following photo show a rendering of the front of the proposed pump station building.



The project also includes construction of a new aerial sewer line crossing of Bullock Pen Creek near the pump station, to replace an old aerial crossing in the same location. Improvements to the Bullock Pen Creek channel are also part of the project, including stream flow velocity control and bank erosion control elements near the pump station.

SD1 has received a low-interest loan through the Kentucky Infrastructure Authority (KIA) to fund this project.

## PROJECT TIMELINE

Construction of the DPS is expected to start in January 2011 and be completed by Summer 2012.

## TEMPORARY INCONVENIENCES

The construction site is located near the dead-end of Narrows Road. However, construction traffic on Narrows Road and Brightleaf Boulevard may create some noise and disturbance as the project proceeds.

## SAFETY

- » The construction contractor is required to follow all OSHA safety requirements.
- » Children can be curious about construction. Please keep them away from machinery, trenches, or pits to avoid accidents.
- » If you see a potentially unsafe condition or safety fencing that needs repair, please contact SD1 immediately.

## CONTACT INFORMATION

- » Kyle Boyle, Project Engineer | (859) 547-1644 | [kboyle@sd1.org](mailto:kboyle@sd1.org)
- » John LaRue, Project Engineer, HDR Engineering, Inc. | (859) 223-3755 | [john.larue@hdrinc.com](mailto:john.larue@hdrinc.com)
- » SD1 Customer Care Team | (859) 578-6776 | [info@sd1.org](mailto:info@sd1.org)

for more information please visit  
[www.SD1.org](http://www.SD1.org)

# PROJECT MAP





# SOUTH FORK GUNPOWDER INTERCEPTOR *and* ROSETTA SEWER

## PROJECT DESCRIPTION

Sanitation District No. 1 (SD1) is constructing a portion of the Western Regional Sanitary Sewer System along Gunpowder Creek starting at the Fowler Creek Pump Station near Woodcreek Subdivision to Sunnybrook Drive and along Utter Back Creek from Haines Road to Rosetta Drive. The project includes installation of approximately 17,000 feet of 42-inch to 66-inch and approximately 3,700 feet of 30-inch to 36-inch interceptor sewer and related manholes. The majority of the sewer will be installed by open cut, trench construction. However, there will be two tunnels; one 150 feet long and one 1,170 feet long.



The project is a critical project in SD1's capital improvement plan required by their Federal Court Order to reduce Sanitary Sewer Overflows (SSOs). This sewer will replace the existing sewer along this alignment and will ultimately eliminate both the Fowler Creek Pump Station and the Rosetta Pump Station. It will also convey flows from the upstream sewers including Sunnybrook Sewer to the downstream Gunpowder Interceptor. SD1 was able to obtain a low interest loan to fund the project through Kentucky Infrastructure Authority (KIA).

## PROJECT TIMELINE

Construction is expected to start Fall 2010 and be completed by Spring 2012.

for more information please visit [www.SD1.org](http://www.SD1.org)

## TEMPORARY INCONVENIENCES

- » Most of the construction is along Gunpowder Creek. However, construction traffic will need to access the project area.
- » Access to homes will be maintained throughout the project. Some noise, dirt, vibration, and disturbance will occur as the project proceeds.
- » Expect travel delays in and around the construction, so plan travel time accordingly to avoid stress and frustration.

## SAFETY

- » The contractor is required to follow all OSHA safety requirements. However, if you become aware of a public safety hazard, please report it to 911 immediately.
- » Children can be curious about construction. Please keep them away from machinery, trenches or pits to avoid accidents.
- » If you see a potentially unsafe condition or safety fencing that needs repair, please contact SD1 immediately.
- » Follow the speed limit and be aware that in construction zones, the speed limits are often lower than normal.

## RESTORATION

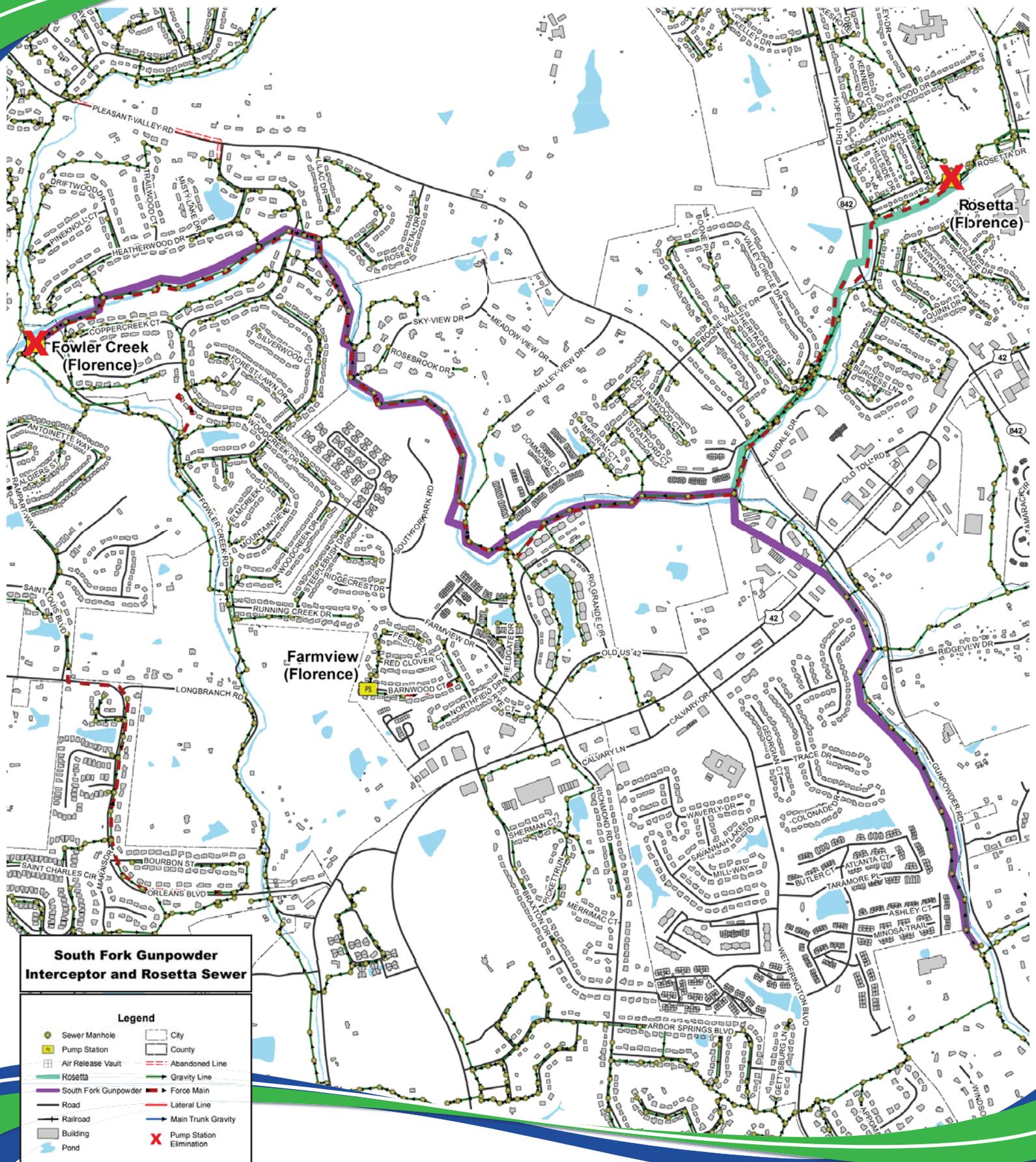
Restoration of landscaping and grassy areas disturbed by construction will begin after construction is complete in that area. Every effort will be made to restore property to its original condition.

## CONTACT INFORMATION

- » Bob Wilson, Project Manager | (859) 578-7469 | [rwilson@sd1.org](mailto:rwilson@sd1.org)
- » Tom Schaffer, Project Engineer, HDR Engineering, Inc. | (859) 223-3755 | [tom.schaffer@hdrinc.com](mailto:tom.schaffer@hdrinc.com)
- » SD1 Customer Care Team | (859) 578-6776 | [info@sd1.org](mailto:info@sd1.org)

for PROJECT MAP, see back page

# PROJECT MAP



## South Fork Gunpowder Interceptor and Rosetta Sewer

### Legend

- Sewer Manhole
- Pump Station
- City
- County
- Air Release Vault
- Abandoned Line
- Rosetta Gravity Line
- South Fork Gunpowder Gravity Line
- Force Main
- Road
- Railroad
- Building
- Pond
- Lateral Line
- Main Trunk Gravity
- Pump Station Elimination

# Save **SOME GREEN** on a new rain barrel

**A special offer for SD1 storm  
water customers on the**

## **RAINTAINER**

The Raintainer is a 55-gallon rain barrel that blends in with your landscaping and includes multiple pre-drilled openings through which water can be drawn. The lid of the Raintainer can be used as a self-watering planter. It can also be easily removed, making cleaning the inside of the barrel simple.

**\$75** + tax  
for SD1 storm water customers

**First come, first served so order while supplies last!**

With your order confirmation, you will receive details about pick up dates and times.  
All Raintainers will be picked up from SD1's main office at 1045 Eaton Drive, Ft. Wright.

Visit [www.sd1.org](http://www.sd1.org)  
for order forms and other information about the Raintainer.



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### **SD1 INVITES YOU TO VISIT PUBLIC SERVICE PARK!**

Featuring storm water Best Management Practices and cutting edge public educational programming, Public Service Park is a national model for environmental outreach. Visitors are empowered with the information they need to protect waterways for future generations.

Whether you are curious about vegetated roofs, looking to take a quiet walk or searching for a wetland adventure, Public Service Park provides an interactive learning experience you won't soon forget. Along your journey, you'll learn why it is important to prevent water pollution, reduce storm water runoff and protect our streams and rivers.



### **ABOUT THE PARK**

Public Service Park is dedicated to those who enhance Northern Kentucky's quality of life through public service.

There is no admission charge for park access or tours and free parking is available on site. Public Service Park is wheelchair accessible.

### **LOCATION**

Public Service Park surrounds SD1's administrative offices on an 18.4 acre environmentally friendly complex abutting Banklick Creek in Ft. Wright, Kentucky.

### **HOURS**

Public Service Park is open from 8:00 a.m. to dusk, seven days a week.

SD1's office hours are 8:00 a.m. to 4:30 p.m., Monday through Friday.



# **SD1**

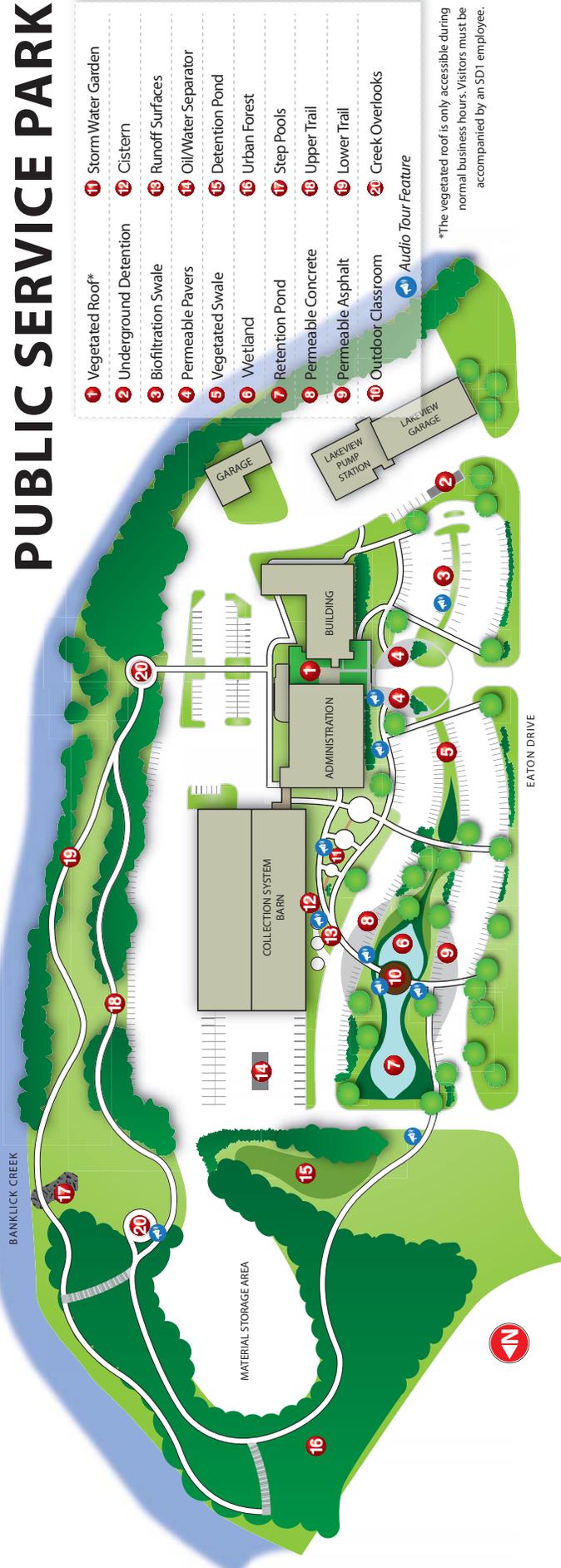
Managing Northern Kentucky's  
Wastewater and Storm Water

### **PUBLIC SERVICE PARK**

Sanitation District No. 1  
859-578-7450  
1045 Eaton Drive  
Ft. Wright, KY 41017  
[www.sd1.org](http://www.sd1.org)

# **Public Service Park**

# PUBLIC SERVICE PARK



\*The vegetated roof is only accessible during normal business hours. Visitors must be accompanied by an SD1 employee.

## SELF-GUIDED TOURS

Visitors can take a self-guided tour by following the educational signage posted throughout the park. SD1 invites everyone to spend time at Public Service Park whether you want to start a water quality discussion with your family or simply enjoy the view of Banklick Creek while walking our half mile trail. Dogs are welcome but please remember to pick up after them. Pet waste bags are available on the trail.



## AUDIO TOUR

There are 10 listen-and-learn features throughout the park. Find them on the map above wherever you see a speaker icon. Start at the welcome sign by SD1's main entrance and as you walk through the park, look for the blue "DID YOU KNOW?" panels.

## FIELD TRIPS AND GUIDED TOURS

Field trips and group tours bring Public Service Park's exhibits to life, inspire participants to take action and can enhance lessons that align with state curriculum school standards. To schedule a visit, call the Storm Water Hotline at 859-578-6745 or sign up online at [www.sd1.org/tours](http://www.sd1.org/tours).

Please note that, depending on the age and size of student groups, you may be required to provide trained chaperones, complete SD1's environmental unit and/or finish a field trip pre-test.

*Notice: Use of SD1's park and facilities is at your own risk under KRS KY 411.190, Kentucky State Recreational User Statutes.*

Public Service Park is designed to give participants a hands-on and engaging experience that illustrates the problems facing local waterways and what can be done to help. All are welcome: contractors, developers, engineers, schools, environmental groups, scout troops, community groups and everyone else!



# PEAK Update: We've Hit the Road!

Professional • Efficient  
Accessible • Knowledgeable



## Who Did We See?

- Steve Hamberg (Fleet)
- Jay Ashcraft (Fleet)
- Bob Wilson (CIP)
- Debbie Rizzo (CIP)
- Darleen McGuire (CIP)
- Kyle Boyle (CIP)

## Organization Leads to Efficient Service!

Check out Steve Hamberg's A+ organizational skills! He has set up a color-coded filing system for our fleet. Do you think it takes him long to find the information he's looking for? Nope! A little bit of time up front can save loads of time and headaches in the future! This is a great example of what you can do to help provide Efficient customer service (the E in PEAK)!



## SD1's Fleet Management Program...WOW!

The PEAK Team recently visited with Steve Hamberg and Jay Ashcraft in our Fleet group. There is only one word to describe what we saw — impressive! With the organizational restructuring that occurred in 2010, SD1 decided to devote resources to developing a global fleet management program. Since this was a new venture for SD1, Steve and Jay had to start from nearly scratch! They are managing a fleet of 176 vehicles and 125 pieces of equipment. When they first started down this road, there was a lot of catch-up work to do. For example, we had a Vacuum that had not received an oil change in six years, inspections

that had expired, and 800 work orders to address. Over the past several months, they have done a lot of work to develop a comprehensive inventory, manage data in GBA, develop competitive vendor agreements, and much more! So, what can you do to help? Steve and Jay are very pleased with the quality of internal communication between themselves and their co-workers. Below are a few ways you

can continue to help them provide superior service to our employees and vendors:



- Accuracy and timeliness of "green sheets." This data is very important to the proper management of our fleet.
- Hand over your keys! Steve and Jay need to create master key sets.
- Share resources — On busy days, Jay and Steve are running around, picking trucks up, etc. Maybe you can lend a helping hand?
- Use the appropriate vendor for maintenance.

## Proactive Service Pays Off!

So, how many people do you think it takes to manage 107 capital projects? Umm...maybe 10...12...??? Nope, try four! Well, only if they are four rock star project managers like our very own Bob Wilson, Debbie Rizzo, Darleen McGuire, and Kyle Boyle. Out of the 107 capital projects on the books, we have 50 that are currently active. If you do the math, that's about 12 projects to simultaneously manage per person! As if that wasn't enough, they are also involved in other tasks such as managing our Supplemental

Environmental Projects (SEPs) and capital budget preparation. All of these responsibilities involve frequent interactions with internal and external customers, contractors, cities, and regulators. The employees in this group go above and beyond to keep stakeholders informed and happy. They proactively initiate communication through phone calls, letters, emails, and visits to make sure that project coordination is strong and all parties involved are "in the know" and on the same page. Their

proactive customer service seems to be paying off, as they typically receive very few calls when you take into consideration the number of people their projects impact. I think it's safe to say that the employees in this group model our four attributes of PEAK service every day — Professional, Efficient, Accessible, and Knowledgeable!



Check out a video highlighting our PEAK visits on Google Sites!  
(Link found at top of email page)

Interested in getting involved with the A Committee or joining us as a guest on one of our site visits?  
Contact Peggy Casey at extension 2222 or via email at pcasey@sd1.org

# PEAK Update: We've Hit the Road!

Professional • Efficient  
Accessible • Knowledgeable



## Who Did We See?

- **Rich Middleton** (Operations)
- **Mike Wood** (O&M)
- **Lisa Askin** (Lab)
- **Jennifer Tyson** (Lab)
- **Samie Angman** (Ind. Mon.)
- **Greg Renhoff** (Maintenance)
- **Scott Lucas** (Maintenance)
- **Jeff Epogle** (Maintenance)

Thanks to each of you for taking the time to talk with us about your job responsibilities and internal and external customer interactions. The PEAK Team learned a lot and very much enjoyed our visit!

## What Did We Hear?

We gained great insight into the customer service experiences of various groups at the plant. A full list of everything we heard would be too long for this article, but below are just a few key points that came out of our discussions:

- Who are all these new people? We would love to be introduced to new employees, maybe through the newsletter.
- Turn-off days present a number of challenges for the Operations group, and there are already some great ideas brewing of how this process can improve.
- Some would like to see more interaction with employees outside of the plant and feel better connected to the organization as a whole.
- The employee newsletter, *Collectively Speaking*, is a great source of information and is read by many folks at the plant.

## The PEAK Team Visits Dry Creek!

On Friday, January 14, members of the PEAK Team made a surprise visit to folks at the Dry Creek Wastewater Treatment Plant in an effort to learn more about their internal and external customer service experiences. We weren't able to catch everyone, but we did spend some time with Operations, Lab, Industrial Monitoring, and Maintenance. Being that this was an un-announced "pop in," we got a few funny looks, but it was nothing some free pens and candy couldn't fix to make



people feel relaxed and ready to talk! What were we

after? Simple - to hear about what we currently do to provide PEAK (Professional, Efficient, Accessible, and Knowledgeable) customer service and to gain new ideas of what can be done to improve our customer service.

I know what you might be thinking — we don't all interact with customers, so what is there to talk about? Well, PEAK is about giving great service to everyone: Customers, Employees, Vendors, Regulators, etc. Whoever it may be that you

interact with during your workday, you should always strive to provide the best service possible.

The employees we spoke with at the plant interact with a wide range of customers, including fellow employees, ratepayers, commercial and industrial users, contractors, sludge haulers, and more! We heard about several positive steps we already take to provide great service, as well as great ideas on how to improve.



Check out a video highlighting our visit on the home page of the employee Intranet site!

## So, What's Next?

This was only the first visit of many more to come! The PEAK Team plans to make at least one site visit per month. We are keeping a running list of all the issues our employees are facing and any suggestions they have for how we can

improve. Each month, the PEAK Team will meet to discuss action plans in response to what we're hearing. Some are easy fixes that you might literally see happen overnight. Others, are more complicated issues that we

will need some time to look into. So far, we've only visited 8 employees out of our 250 ....could you be next?!!?



Interested in getting involved with the PEAK Committee or joining us as a guest on one of our site visits? Contact Peggy Casey at extension 3333 or via email at [pcasey@sd1.org](mailto:pcasey@sd1.org)

## SD1 Improving Overflows Near Church Street

Near Church Street in Taylor Mill, there is a combined sewer overflow (CSO) that spills approximately 56 million gallons of a wastewater and storm water mixture into Banklick Creek every year. This overflow volume, along with other pollutant sources, contributes to poor water quality in Banklick Creek and makes it unsafe for recreation after rain events. More than 150 acres of land drain to this overflow location, which spans the cities of Taylor Mill and Covington and consists of primarily residential areas.

Through SD1's innovative watershed-based approach to water quality improvements, a combination of green infrastructure storm

water management techniques and new sewers will be constructed in this area to reduce the wastewater and storm water entering Banklick Creek. Additional improvements include treating storm water flowing to the stream to increase its water quality, improving and restoring natural habitats in an underutilized natural drainage area and providing educational opportunities that highlight the water quality improvements needed in our region.

The Church Street CSO Reduction Project involves the construction of a storm water management biofiltration basin to capture and treat the storm water runoff from the area. The

project also involves rehabilitation and replacement of existing combined sewers, construction of approximately 2,000 linear feet of separate storm sewer system and removal of storm water connections like down spouts from private

property. Construction of Phase I is scheduled to begin summer 2012 and be completed by summer 2014, when Phase II is projected to begin. For more information on the Church Street CSO Reduction project, please visit [www.sd1.org](http://www.sd1.org).



*Based on typical year rainfall, the annual volume of the Church Street CSO will be reduced by a projected 52 million gallons once the project is completed.*

## Filling a Swimming Pool Does Not Affect Sanitary Sewer Bills



Here is some good news to go with your freshly-filled swimming pool: filling a swimming pool does not affect the sanitary sewer bills of SD1's residential customers.

SD1 calculates sanitary sewer charges based on winter usage.

The goal is to estimate how much water is going down the drains in a given home and to do that, SD1 uses water usage records provided by your local water district. However, some summertime outdoor activities use water that does not go into the sanitary sewer system. These include filling a pool, washing a car or watering a lawn.

To compensate for this disparity, SD1's sanitary sewer charge is calculated annually based on the highest

water usage occurring completely during the previous winter, a figure called the Usage Factor. This takes out of consideration water used outdoors while still reflecting water usage that typically takes place year-round such as washing clothes, taking showers and cleaning dishes.

The Usage Factor for customers receiving quarterly water meter readings is taken from October 1 - April 30 and for customers receiving monthly water meter readings, November 1 - February 28.

The Usage Factor eliminates the need for SD1 to provide residential customers with pool credits. But because non-residential customers are still being billed on actual consumption, they are eligible for pool credits. To receive a pool credit, non-residential accounts need to measure the amount of water used to fill the pool, then fill out the Pool Credit Request. If approved, a credit will appear on the sewer bill. Please contact SD1 at 859/578-7450 or [info@sd1.org](mailto:info@sd1.org) for more information.

### SD1 SPOTLIGHT

- Mike Buhite received his Class IV Wastewater Operator Certification
- Tim Bracke received his Class III Wastewater Operator Certification
- Barrett Groh obtained his Professional Engineering License in Kentucky
- Shelby Fields completed the American Red Cross Instructor Certification for First-Aid, CPR, Blood Borne Pathogens and AED requirements
- The National Association of Clean Water Agencies awarded SD1 the 2011 National Environmental Achievement Award in the Public Information and Education category for developing the Protecting Water Resources course at NKU
- The Walton Treatment Plant won the Platinum Peak Performance Award for the second consecutive year

### SD1



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

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Monday-Friday, 8 am - 4:30 pm

## Governor Beshear Signs Affordability Legislation



**Kentucky legislators and community representatives witness the signing of House Bill 504. (Photo Credit: Kentucky's Creative Services - Tourism, Arts and Heritage Cabinet)**

On April 14, Kentucky Governor Steve Beshear signed House Bill 504 (HB 504) into law. This landmark legislation requires regulators to consider affordability in Clean Water Act compliance efforts for Kentucky communities and their residents.

While this law does not negate the need for future rate increases, it does require the Kentucky Division of Water (KDOW) to consider the costs of infrastructure improvement projects and the maximization of environmental benefits when negotiating and implementing

improvement plans with local communities and U.S. EPA Region 4.

One way that HB 504 addresses the affordability issue is requiring KDOW to consider extending the time required for a sewer utility to make infrastructure improvements, which also would help make compliance with the Clean Water Act more affordable. In addition, the bill supports the use of innovative approaches such as "green" technology to improve water quality, similar to the approach that SD1 is taking in Northern Kentucky, as another way to make these improvements more affordable.



## Catch Some Rain

In early 2009, SD1 launched its pilot rain barrel program. Rain barrels collect and store rainwater from rooftops

for use in dry weather to give thirsty gardens, flowers and trees a drink. They help keep excess storm water out of the sewer system and help prevent rain from picking up pollution and carrying it to the nearest body of water.

SD1 customers will still be able to purchase "Raintainers" while supplies last. The "Raintainer" is a 55-gallon rain barrel that has an aesthetically pleasing appearance and includes a connection for a hose, making it possible to draw water from the barrel. The lid of the "Raintainer" can be used as a self-watering planter, and can also be easily removed, making cleaning the inside of the barrel simple.

For more information visit [www.sd1.org/rainbarrels](http://www.sd1.org/rainbarrels) or call SD1's Storm Water Hotline at 859/578-6745.

## SD1 Honors "Protecting the Environment Award" Recipients

The 2010 Protecting the Environment Award ceremony was held on June 29 at Twenhofel Middle School. The award ceremony recognized three scout troops, six teachers and three individual students who have gone above and beyond to protect the environment and water resources in Northern Kentucky.

For the second year in a row, the \$2,500 in cash prizes was sponsored by Walmart (Ft. Wright, KY). Additional event needs and prizes were donated by the following partners: John R. Green Company (Covington, KY), the Kenton County School District (Ft. Wright, KY), Kroger (Erlanger, KY), Meijer (Florence, KY), Natorp's Garden Stores (Florence, KY), Panera Bread (Crestview Hills, KY) and the WAVE

Foundation at the Newport Aquarium (Newport, KY).

The three scout troops were awarded between \$300 and \$500 each to complete projects with an emphasis on education and environmental service during the 2010-2011 school year. Additionally, six teachers were each awarded \$200 mini-grants to purchase supplies for teaching water-related topics to their classes next school year and three individual students were recognized for completing a spring-time pond and shoreline clean-up in Hebron, KY.

SD1 has hosted the Protecting the Environment Award program since 2003. The purpose of the program is to reward local individuals and groups involved in protecting the environment and Northern Kentucky's water resources.



**(From left to right) Christopher Sanders, Kevin Sanders and William Sanders, all students at Sanders Home School, pose for a photo with SD1's mascot Splash McClean after being honored with the "Protecting the Environment Award."**

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## A Tale of Two Challenges: Addressing Aging Infrastructure and Unfunded Mandates

Although SD1 was formed in 1946, portions of the wastewater infrastructure were already in place at that time and the organization inherited a system that was full of challenges. Sixty-five years later, there are parts of the sewer system that are old and outdated. There is an entire world of infrastructure under our feet and parts of it are in dire need of maintenance and rehabilitation.

But the challenges go beyond age and deterioration. Due to economic growth in the region, portions of the collection system are no longer big enough to handle increasing capacity demands. SD1 has been working hard to address these concerns. By building new water reclamation fa-

cilities in Campbell and Boone counties, the moratorium on development in Campbell County was lifted in 2009, and a moratorium was avoided in Boone County and portions of southern Kenton County.

SD1 has been working diligently to lessen the financial burden on our ratepayers as much as possible. But the bottom line is this: water is one of our most precious natural resources, yet state and federal funding for water and wastewater projects continues to diminish, and doing nothing is simply not an option.

In the 1970s and 1980s, the federal government provided grants that funded thousands of new wastewater treatment plants and expanded thousands more, result-



*Significant infrastructure investments are needed to protect our community and help keep pace with environmental challenges.*

ing in significant reductions in discharges of pollutants and greatly improved water quality. Beginning in the 1990s, the federal government continued to identify new investment needs and created additional legislative mandates, including the storm water regulations; however, no additional federal funding has accompanied these requirements, placing the burden back on ratepayers. According to the U.S. Conference

of Mayors, it is estimated that spending for public water and wastewater systems will range between \$2.9 and \$4.8 trillion from 2009 to 2028 with local governments shouldering 95% of the total expenditures.

To get a better understanding of the challenges SD1 faces and the battles they are fighting on your behalf, please visit [www.sd1.org/costofclean](http://www.sd1.org/costofclean).

## Terraced Reforestation



*Over 280 trees and 40 shrubs will be planted along I-71/75 to help absorb rainwater.*

In May 2010, SD1 began managing the Terraced Reforestation project which involves the construction of a series of vegetated, terraced berms within the I-71/75 right-of-way in the City of Covington. By using reforestation techniques, this project will reduce the amount of storm water runoff that enters SD1's combined sewer system while providing an aesthetic amenity to the community.

The soil that existed at this location will be improved by mixing it with more permeable soil to promote better infiltration. The berms have

been designed to catch runoff from the upstream drainage area. Twelve earthen terraces will be constructed, and over 280 trees and 40 shrubs, as well as eight acres of native seeding will be planted to help absorb rainwater.

The Terraced Reforestation project, which is estimated to be completed in early 2011, offers environmental, economic and social benefits. The total construction and engineering costs of \$850,000 are funded by ARRA stimulus funds.

## Properly Dispose of Unwanted Medications

Take advantage of the drug take-back program by dropping off unwanted or expired drugs to one of the 12 Police Department drop-box locations in Northern Kentucky:

- Boone County, 3000 Conrad Ln., Burlington
- Campbell County, 8774 Constable Dr., Alexandria
- Edgewood, 385 Dudley Rd., Edgewood
- Erlanger, 505 Commonwealth Ave., Erlanger
- Florence, 8100 Ewing Blvd., Florence
- Ft. Thomas, 130 N. Ft. Thomas Ave., Ft. Thomas
- Ft. Wright, 409 Kyles Ln., Ft. Wright
- Highland Heights, 176 Johns Hill Rd., Highland Heights
- Kenton County, 11777 Madison Pike, Independence
- Newport, 998 Monmouth St., Newport
- Park Hills, 1106 Amsterdam Rd., Park Hills
- Villa Hills, 719 Rogers Rd., Villa Hills

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## Western Regional Conveyance Tunnel Break Through

For more than a year, a 65-ton boring machine has been drilling a six-mile tunnel up to 300 feet below the ground in Boone County. Eventually, more than 20 million gallons of wastewater will flow through the tunnel to the Western Regional Water Reclamation Facility operated by SD1 near the Ohio River. On Thursday, October 28, 2010, the machine — nicknamed the Celtic Tiger — finally broke through the final shaft, four months ahead of schedule.

Work began on the tunnel in June 2009. The nearly \$110,000,000 project includes the installation of approximately seven miles of 8.5 foot diameter pipe. When fully operational the tunnel project will divert

flows off of SD1's existing collection system and reduce sanitary sewer overflows — which typically occur during heavy rainfalls — by 60 million gallons and replace at least 10 pump stations. The tunnel was bored through shale and limestone and runs from central Boone County near Camp Ernst Road west to Route 20 near the Ohio River. It is one of the most ambitious and impressive fetes of engineering, construction and ingenuity in Northern Kentucky history.

Jeff Eger, SD1's Executive Director says, "Infrastructure investments like the Western Regional tunnel can spur economic growth and create jobs. For the construction of the tunnel project alone, approxi-



*Members of the crew pose with the "Celtic Tiger" shortly after its break through.*

mately 100 people were employed on site — 80% of them being from the local greater Cincinnati region. On average, every job created in rebuilding infrastructure creates over three additional jobs."

The completion of this project is a requirement of SD1's Federal Court Order to reduce sewer overflows. It is the largest single project in the history of SD1.

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## Sanitary Sewer Improvements Scheduled to Begin



*Construction is scheduled to begin this fall along the South Fork of Gunpowder Creek.*

This fall, SD1 will begin construction on two significant sewer improvement projects in Boone County. The South Fork Gunpowder Interceptor Sewer and Rosetta Sewer project is scheduled to begin early this fall. More than four miles (22,300 feet) of sanitary sewer will be installed, ranging in size from 30-inch pipe to 72-inch pipe, from the Fowler Creek Pump Station (located near the Pleasant Valley Meadow Subdivision) to Sunnybrook Drive and from Rosetta Drive to Pleasant Valley Road. The Frogtown Interceptor Sewer project is scheduled to begin later this fall, which involves the installation of 2 miles (10,900 feet) of 42-inch

sanitary sewer. The project begins at Frogtown Road, runs along the South Fork of Gunpowder Creek, and ends at Sunnybrook Drive. Both of these improvement projects will convey wastewater flow to the new Western Regional Water Reclamation Facility and are required to be completed under SD1's federal court order. To help finance these projects, which total more than \$22 million, SD1 has received low-interest-rate loans through the Kentucky Infrastructure Authority and the Clean Water State Revolving Fund. For more information about these projects, please visit [www.sd1.org](http://www.sd1.org).



## Catch Some Rain

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for use in dry weather to give thirsty gardens, flowers and trees a drink. They help keep excess storm water out of the sewer system and help prevent rain from picking up pollution and carrying it to the nearest body of water.

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Issue

Government Relations Newsletter

August, 2011

Today, the State Auditor's office released their report regarding the examination of SD1 policies, procedures, controls and financial activity.

The Auditor of Public Accounts (APA) reviewed certain SD1 organizational policies, procedures and other governing requirements and compared them to the APA's "Recommendations for Public and Nonprofit Boards" regarding financial oversight and internal control processes for board consideration. Through this comparison, they found SD1 policies, procedures and practices generally provide an effective structure for the oversight and processes that govern the operations of the organization.

As you can imagine, operating a large sanitary and storm water utility in the present day can be a challenging endeavor. Strict environmental regulations imposed by the U.S. EPA and the Kentucky Division of Water, the need to maintain aging infrastructure, and the drastic reductions in federal funding have required utilities across the country to increasingly rely on ratepayers for financial support.

The APA's report notes the incredibly difficult challenge SD1 faces in keeping rates affordable while having to consider debt service, operation and maintenance costs and the capital costs of projects that are an obligation of the Consent Decree. In addition, they acknowledge that SD1 was in compliance with the rate setting requirements of KRS 220 regarding Board approvals and public notices, and that SD1 has adopted rate setting guidelines that have expanded the opportunity for public discussion and comment.

The APA also found that SD1's records retention policies are "in compliance with [the Kentucky Department for Libraries and Archives] KDLA approved Local Government Retention Schedule requirements." SD1 is proud of its management of records and is pleased to have this additional validation of the records management program.

They also made recommendations to further strengthen certain policies, controls and oversight procedures. It is important to note however, that the APA's suggested improvements are not a matter of what is legally required and their 32 "Recommendations for Public and Nonprofit Boards", in which SD1 was compared, were not specifically created for SD1 and do not reflect SD1's statutory obligations.

SD1's Board of Directors value the APA's opinions expressed in the report and will review the recommendations and implement changes that serve the interests of SD1 ratepayers. The Board has and remains to be fully confident in the abilities of its staff and supports their continued efforts to be the innovative leaders that are needed to meet today's challenges of managing a wastewater and storm water utility.

For more information, please review the following attachments:

- [A full copy of the audit report](#)
- [SD1's response to the report](#)
- [SD1's press release regarding the release of the report](#)

If you have any questions, please contact Jamie Holtzapfel, Director of Communications, at [jholtzapfel@sd1.org](mailto:jholtzapfel@sd1.org).

Please visit us on the web at  
[www.sd1.org](http://www.sd1.org)



Issue

Government Relations Newsletter

May, 2011



#### Infrastructure Updates Demand Rate Increases

On March 29, 2011, the Judges Executive passed SD1's proposed two year 15% rate increase. The first increase was effective April 1, 2011 and the next increase will take effect on April 1, 2012. The rate increases are necessary to replace old and failing infrastructure, provide needed infrastructure to support economic development within Northern Kentucky and help with the federal consent decree that requires SD1 to address sewage overflows. With the 15% rate increase selected, up to \$200 million in additional interest expenses will be saved, as the two lower rate increase options would have driven up the amount of debt SD1 would need to issue increasing long-term interest costs.

Find out more on the [cost of clean](#) or read Boone County Judge Moore's news editorial that was featured in the Enquirer [here](#)

On May 5, 2011, the Kentucky Infrastructure Authority (KIA) granted SD1 more than 37 million out of the Clean Water Act State Revolving Loan Fund (SRF) program to help fund seven much needed and legally-required capital improvement projects. Click [here](#) for more information on the KIA loan.

**Above: SD1 is investing in infrastructure and our economic growth.**

#### Advocating for Affordability

Municipalities throughout the country continue to invest in their systems but face a regulatory landscape within U.S. EPA where everything is a priority and economics are an afterthought. SD1 joined other clean water utility executives from across the country to discuss and raise awareness regarding the complex financial and affordability challenges and solutions to maximize water quality benefit.

During the March on Washington, held on March 2-3, 2011, National Association for Clean Water Agencies (NACWA) members had the opportunity to share their challenges and recommendations with representatives from Congress and the U.S. Environmental Protection Agency (EPA) and they discussed ways in which federal water mandates can be applied that enable communities to better sustain them financially while protecting water quality.

Click [here](#) for more news about SD1's advocacy efforts including information on the US Conference of Mayors Recommendations to Increase CSO/SSO Flexibility in Achieving Clean Water Goals as well as to read more about SD1's opportunity to provide testimony to the U.S. EPA and Department of Justice regarding affordability in clean water.

**SD1 and NACWA state their case in the nation's capital.**



#### HC Keeping Clean Water Less Costly

A joint resolution passed by the Kentucky General Assembly urges Congress and the federal government to consider "affordability" in Clean Water Act Compliance efforts for Kentucky communities and their residents. HCR37 passed the Kentucky House 99-0 February 23, 2011. It passed the state Senate 36-1 on March 4, 2011. In a strong gesture of bipartisanship, the resolution was filed by Rep. Adam Koenig, R-Erlanger and co-sponsored by Rep. Addia Wuchner, R-Burlington and Rep. Kevin Sennette, D-Ashland.

To download a copy of the press release with more information on HCR27, please click [here](#).

Please visit us on the web at  
[www.sd1.org](http://www.sd1.org)



**SD1**  
Managing Northern Kentucky's  
Wastewater and Storm Water

# BE RESPONSIBLE.

Maintaining beautiful lawns and landscaping may involve the use of pesticides and fertilizers. With proper care, you can maximize the benefits of these products while minimizing their adverse effects on the environment.

**Please refer to the back of this insert for tips that will help you attain a beautiful and environmentally friendly lawn.**



Fertilizers and pesticides provide nutrients to our lawns and gardens and protect them from pests. If they are applied too heavily or are not needed, however, excess nutrients and chemicals are left in the soil. These excess pesticides and fertilizers can leach into groundwater systems or be washed into local streams, causing pollution, algae blooms and a loss of dissolved oxygen. Public health becomes compromised and aquatic life is disrupted throughout the food chain.

### FOR FERTILIZERS:

- **Test your lawn's soil** to determine its characteristics and which nutrients are lacking. Choose a product with appropriate proportions of nutrients needed.
- **Minimize nitrogen use.** Excess nitrogen is particularly harmful to wildlife and public health, especially small children.
- **Choose slow-release fertilizers** to minimize chemical loss through the soil and promote uptake by the plant.
- **Plant native grasses and plants** that are adapted to the local environment and may not need supplemental nutrients.

### DISPOSAL:

Proper disposal is a critical final measure toward protecting our water sources from excess lawn care products.

For more information on proper pesticide and fertilizer use or if you have any storm water related questions, please contact the Storm Water Hotline at 859-578-6745 or visit our website at [www.sdl1.org](http://www.sdl1.org)

### FOR PESTICIDES:

- **Identify the pest and choose the appropriate control.** Using the wrong pesticide could damage plants without solving the problem.
- **Try nontoxic controls first.** For example, soapy water can eliminate many garden pests.
- **Follow the label** if pesticides must be used. Do not over-apply and stick to the affected part of the plant.
- **Apply when pests are most vulnerable.** Depending on the pest, applications at night, early morning or after watering may be most effective.
- **Inspect for pests often.** Catching a problem early reduces the amount of pesticide needed and prevents storage and disposal problems.

Contact your local Solid Waste Coordinator for disposal and recycling options:

Boone County Solid Waste: 859-334-3151

Campbell County Solid Waste: 859-547-1802

Kenton County Solid Waste: 859-392-1920



**SD1**  
Managing Northern Kentucky's  
Wastewater and Storm Water

# NEW REGULATIONS

**Starting January 1, 2012**, all new and significantly remodeled food service establishments (FSEs) will be under the supervision of SD1's fats, oils and grease (FOG) program and thus must install and maintain an approved 1,000-2,500 gallon grease interceptor located outside of the FSE building.



**Due to the Environmental Protection Agency's enforcement of the Clean Water Act, and because of the profound impact that fats, oils and grease (FOG) have on SD1's sewer system, SD1 is implementing the FOG program.**

The FOG program regulates food service establishments (FSEs) because they have the potential to release FOG into the sewer system due to the high volume of food prepared and processed at these facilities. FOG damages the sanitary sewer system, clogs collection points and can cause sanitary sewer overflows. Therefore, FSE owners are responsible for ensuring that their facility's grease control equipment is designed and constructed according to SD1's guidelines and is inspected and certified annually. FSEs that do not comply with these regulations face potential enforcement action.



**For more information, visit [www.sd1.org/fog](http://www.sd1.org/fog), contact SD1's Industrial Monitoring Department at 859-331-6674 or email [info@sd1.org](mailto:info@sd1.org).**



## Your SD1 Bill Explained

*Sanitary sewer and storm water fees fund improvement projects required by law, support continued economic success in our region and protect our water resources for future generations.*

### What charges are on my SD1 bill?

There are two services on your bill: storm water and sanitary sewer.

Storm water is rain water runoff that requires management to prevent pollution and flooding. Storm water charges are based on the average impervious area of residential units in Boone, Campbell and Kenton counties. This average is approximately 2,600 square feet and is referred to as an ERU (equivalent residential unit). All residential properties are charged a single, flat monthly fee of \$4.54 for one ERU.

Sanitary sewer is sewage and all water that goes down drains.

SD1 calculates a home's sanitary sewer charge based on water usage records provided by your local water district. This is because water going into a home has to go out, usually through a drain that leads to the sanitary sewer system. However, summertime outdoor activities, such as washing a car or watering a lawn, use water that does not go into the sanitary sewer system. To compensate for this disparity, SD1's sanitary sewer charge is based on a winter usage factor. This takes out of consideration water used outdoors while still reflecting water usage that typically takes place year-round such as washing clothes, taking showers and cleaning dishes.

The usage factor is calculated annually based on the water usage occurring during the previous October 1 through April 30 period for quarterly bills, or the previous October 15 through March 15 period for monthly bills, as measured by public water supply meters.



*Inspecting a sewer line*



*Testing water quality*

### What do sanitary funds support?

- The removal and treatment of wastewater from your toilet, sink, washing machine, dishwasher and other drains 24 hours a day, seven days a week.
- Construction and maintenance of effective pipes, pump stations and technologically advanced treatment facilities that protect the environment and public health.
- Operation and maintenance of over 1,600 miles of sanitary sewer line, 143 wastewater pumping stations, 15 flood pump stations, eight package treatment plants and two major wastewater treatment plants.
- Average residential sanitary sewer rates that are less than most other regional wastewater utilities and below national averages.

### What do storm water funds support?

- Operation of storm water systems.
- Improvements to the public storm water infrastructure, including new construction and repairs or replacement.
- Monitoring water quality in local waterways.
- Identification and elimination of improper connections that discharge waste into our rivers and streams.
- Inspection of construction sites for compliance with sediment and erosion control requirements.
- A variety of educational programs.

### Payment Options

#### In Person

Stop by SD1's main office during regular business hours (Monday through Friday, 8:00 am to 4:30 pm) at 1045 Eaton Drive, Ft. Wright, KY.

#### By Phone

Make a payment over the phone by calling our Account Services Department at 859-578-7450 during regular business hours.

The check-by-phone option incurs a small convenience fee.

#### Online

Register with MyCheckFree to view and pay your bill online. You will need a copy of your original bill, which includes your account number, E-ID number and the biller's zip code (41012-0112). Once you have completed your registration, you will no longer receive paper statements. You can even create auto-withdrawal options.

#### By Mail

You can use the self-addressed envelope that is included in your bill or mail your

payment to SD1, PO Box 12112, Covington, KY 41012-0112.

#### Auto-withdrawal

Arrange for your monthly payment to be automatically deducted from a checking, savings or credit card account. For more information, contact our Account Services Department during regular business hours.

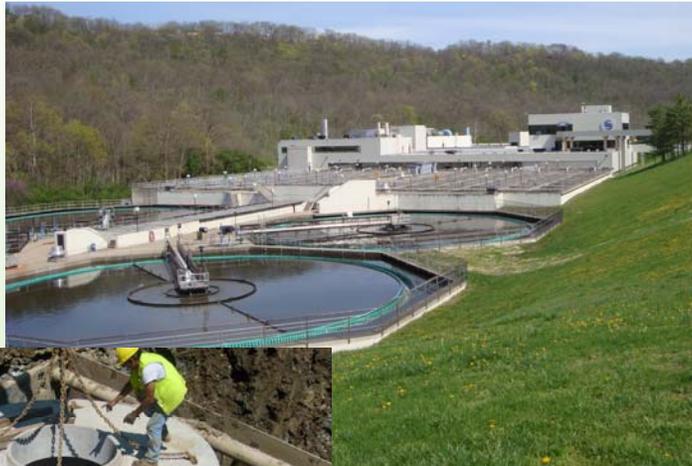
SD1 accepts cash, check or credit card (Visa, MasterCard or Discover).

## Why are my sanitary rates increasing?

- SD1's capital improvement projects and programs are driven by a Federal Consent Decree, which requires SD1 to comply with the Clean Water Act (CWA) and address sewage overflows to improve water quality in local rivers and streams. It is estimated that the Consent Decree will require a \$1.2 billion investment over 20 years. If SD1 fails to adhere to the requirements or deadlines of the Consent Decree, the EPA can impose harsh penalties while still requiring us to stay in compliance.
- The Consent Decree requires the completion of more than 50 early action projects including two new wastewater treatment plants: a four million gallons per day plant in Campbell County and a 20 million gallons per day plant in Boone County.
- In the mid-90s, SD1 took ownership of most of the wastewater collection systems in Northern Kentucky, portions of which were built nearly a century ago for a significantly smaller population. Much of it is aging, overburdened and subject to increasingly strict state and federal regulations.
- SD1's budgeted expenditures for Fiscal Year (FY) 2012 and 2013 include: approximately \$96 million for FY 2012 and \$65 million for FY 2013 in capital improvement costs; over \$30 million each year in operating and maintenance costs; and over \$32 million each year for existing debt service.



Installing a manhole



Dry Creek Wastewater Treatment Plant



A Northern Kentucky creek

## What has SD1 done to keep rates low?

- SD1 advocated for House Bill 504, legislation that will help strike a balance between compliance with the CWA and the financial burden it places on local ratepayers. It was signed into law in April 2010.
- SD1 has taken advantage of low interest rate loans through the Clean Water State Revolving Loan Fund, helping to save ratepayers over \$100 million in future interest expenses.
- Last year, SD1 sold \$60.5 million in Recovery Zone Economic Development Bonds at a rate of 3.217% and \$75 million in Build America Bonds at 3.643% - the lowest true interest cost ever received on their bonds. The revenue bonds will help finance an estimated \$140 million in capital improvements in FY 2011, as directed by the Consent Decree.

## How are my sewer rates determined and approved?

SD1 utilizes a detailed financial tool that evaluates when rate and fee adjustments are needed. Following a 30-day public comment period, proposed rate adjustments are reviewed and approved by SD1's eight-member citizen Board of Directors and the Judges

Executive of Boone, Kenton and Campbell counties. Beginning July 1, 2011, rate changes of more than five percent will require approval of at least two of the three counties' entire fiscal courts.

## Why does my sanitation bill seem higher than my water bill?

Your water bill and the sanitation charge on your SD1 bill pay for two very different services and are each calculated using different methodologies. Your water bill is based on actual usage and your sanitary sewer charge is calculated using the usage factor. The operating and capital costs to run water and sewer utilities vary, as do federal, state and local requirements.

## Doesn't monthly billing cost more than quarterly billing?

The total additional cost per account holder per month for monthly billing is \$0.28. This is offset by:

- The elimination of second notices to customers who do not pay by their due date. With monthly billing, the past due amount shows on the next statement.
- Paperless e-bill and online payment via MyCheckFree.
- Automatic withdrawal payments accepted by SD1's customer service department.

## What is done to help low income residents?

SD1 strives to lessen the financial burden on our ratepayers while ensuring that advancements in water quality are made. The Low Income Assistance Program can help increase affordability for qualifying residential customers. More information can be found at [www.sd1.org/paymentoptions](http://www.sd1.org/paymentoptions).

## Why should I have to pay?

SD1's clean water projects are all required by law. More importantly,

we all create waste and all need clean water. SD1 provides that very basic service at the lowest cost possible.

## Can I see my sewer rates at work?

Absolutely! SD1 offers tours of the Dry Creek Wastewater Treatment Plant in Villa Hills and the Eastern Regional Water Reclamation Facility in Alexandria, as well as educational programs at our innovative Public Service Park in Ft. Wright. Call or email us for more information.

## Questions?

Contact our Account Services Department at 859-578-7450, Monday through Friday, 8:00 a.m. to 4:30 p.m., or email us at [info@sd1.org](mailto:info@sd1.org). For more information on the cost of clean water, visit [www.sd1.org/costofclean](http://www.sd1.org/costofclean). Learn more about water infrastructure at [www.epa.org](http://www.epa.org), [www.wef.org](http://www.wef.org) or [liquidassets.psu.edu](http://liquidassets.psu.edu).



## Sanitary Sewer Service Rate Increase Fact Sheet

SD1 faces the challenge of providing wastewater management services to more than 30 Northern Kentucky communities while meeting the requirements set forth by the U.S. EPA. To provide sufficient funds to meet this challenge, SD1 has implemented 15% sanitary sewer rate adjustments for both Fiscal Years (FY) 2012 and 2013.

### What does my sanitary sewer bill pay for?

Twenty-four hours a day, seven days a week, dirty water from your toilet, sink, washing machine, dishwasher and other drains leaves homes and area businesses and enters the sewer system. It is our mission to carry this wastewater away in a structurally sound system of pipes and pump stations and to clean it at technologically advanced treatment facilities so it does not pollute our rivers, streams and creeks.



Crews inspect a sewer line

SD1 operates and maintains over 1,600 miles of sanitary sewer line, 143 wastewater pumping stations, 15 flood pump stations, eight package treatment plants and two major wastewater treatment plants. In addition, SD1 is responsible for various ongoing capital improvement projects and programs.

### Why is SD1 raising rates?

- SD1's capital improvement projects and programs are driven by a Federal Consent Decree, which requires SD1 to address sewage overflows, improve water quality in local rivers and streams and comply with the Clean Water Act (CWA). It is estimated that the Consent Decree will require a \$1.2 billion investment over the next 20 years. If SD1 fails to comply with the requirements or deadlines of the Consent Decree, the U.S. EPA can impose harsh penalties.
- In the mid-90s, SD1 took ownership of most of the wastewater collection systems in Northern Kentucky. Portions of these systems were outdated and in need of repair. Since then, SD1 has seen increases in maintenance and infrastructure costs as the system has aged and new state and federal regulations have become stricter.

- SD1's budgeted expenditures for FY 2012 and 2013 include: approximately \$96 million for FY 2012 and \$65 million for FY 2013 in capital improvement costs; over \$30 million each year in operating and maintenance costs; and over \$32 million each year for existing debt service.
- Revenues from sanitary sewer rates and related fees currently generate about \$75 million (prior to approved rate increases). This is less than half of the budgeted expenditures for each year.
- For every one dollar SD1 collects, \$1.62 is borrowed to help fund capital improvements.

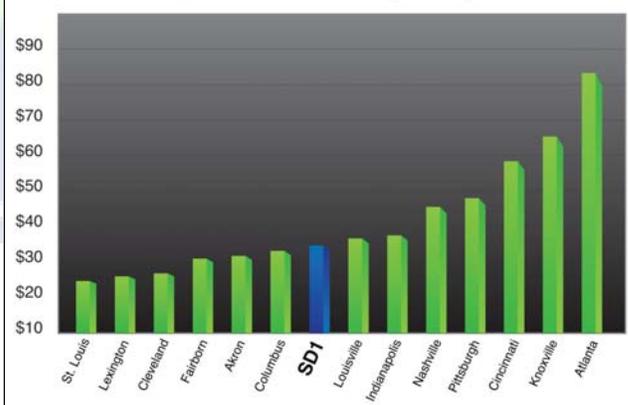
### How much will my sewer bill increase?

The current rate per hundred cubic feet (HCF) of usage, or 748 gallons, is \$5.06. With a 15% increase, FY 2012 will see a rate of \$5.82 per HCF (\$.76 increase) and \$6.69 per HCF (\$.87 increase) in FY 2013.

The actual residential monthly use in FY 2011 is just below 6 HCF, which equates to a current average monthly residential bill of \$30.36. With a 15% increase, FY 2012 will have an average monthly residential bill of \$34.92 (\$4.56 increase) and \$40.14 (\$5.22 increase) for FY 2013.

### How do SD1's sanitary sewer rates compare to other wastewater utilities?

Monthly Residential Sewer Rates as of August 2010  
(based on 7 hundred cubic feet per month)



## When will the new rate go into effect?

The new rates for FY 2012 were effective April 1, 2011 and will be reflected on residential bills beginning May 1, 2011. The new rates for FY 2013 will be effective April 1, 2012 and be reflected on residential bills beginning May 1, 2012.

## Are there any accommodations made for low income residents?

SD1 strives to lessen the financial burden on our ratepayers as much as possible while ensuring that advancements in water quality are made. The Low Income Assistance Pilot Program can help increase affordability for qualifying residential customers. More information can be found at <http://www.sd1.org/paymentoptions>.



Installation of a new sewer

## Why are there so many capital projects? How are they funded?

Most of SD1's capital projects are mandated by the Consent Decree and are expensive undertakings. This work is not optional and cannot be delayed.

- Over the next five years, nearly 80% of SD1's budgeted capital expenditures – approximately \$96 million for FY 2012 and \$65 million for FY 2013 – are directly related to the Consent Decree.
- SD1's capital improvement program is funded primarily through bond debt (i.e., borrowed money). Payments on this debt, along with loans and tax-exempt commercial paper debt, account for a significant share of SD1's expenses and must be paid.
- SD1 works hard to fund capital projects by carefully balancing borrowed funds and rate levels. This is in an effort to keep debt service costs and rates as low as possible as we strive to comply with the Consent Decree.

## What progress has SD1 made?

The good news is that these improvements are making our waterways cleaner and safer. Since the Consent Decree was implemented in 2007, SD1 has invested more than

\$347 million in more than 100 projects mandated by the Consent Decree.

Many projects relate to the Eastern and Western Regional Water Reclamation Facilities, which will significantly reduce sewer overflows and provide additional capacity to help meet economic development needs in Northern Kentucky.

The three-year-old Eastern Regional Water Reclamation Facility (ERWRF) treats an average of 1 million gallons daily and has the capacity to handle up to 4 million gallons a day. It uses state-of-the-art ultraviolet light disinfection and biofiltration technology to address potential odor issues.

When completed, the Western Regional Water Reclamation Facility (WRWRF) will be able to treat up to 20 million gallons per day, reduce modeled sanitary sewer overflow volumes by 60 million gallons annually and allow for the removal of at least ten pump stations.

The Kentucky Infrastructure Authority granted low interest loans to SD1 for both the ERWRF and WRWRF. SD1 received \$32 million to help finance the ERWRF at a 3.2% interest rate and \$70 million for the WRWRF at a 1.2% interest rate. These low interest loans have helped save ratepayers millions of dollars in future interest expenses.



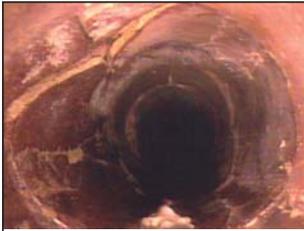
Eastern Regional Water Reclamation Facility

## Can I see my sewer rates at work?

Absolutely! SD1 offers tours of the Dry Creek Wastewater Treatment Plant in Villa Hills and the ERWRF in Alexandria, as well as educational programs at our innovative Public Service Park in Ft. Wright. Simply call or email us for more information.

## Questions?

Contact our Account Services Department at 859-578-7450, Monday through Friday, 8:00 a.m. to 4:30 p.m. or email us at [info@sd1.org](mailto:info@sd1.org). For more information on the cost of clean water, visit [www.sd1.org/costofclean](http://www.sd1.org/costofclean). Learn more about the nation's water infrastructure at [www.epa.org](http://www.epa.org), [www.wef.org](http://www.wef.org) or <http://liquidassets.psu.edu/>.



▲ Without new investments in wastewater and storm water infrastructure our assets become liabilities.



# THE COST OF CLEAN

SD1 Update



▲ Support investments that improve our clean water infrastructure.

## TOP COST SAVING MEASURES

The cost to meet federal mandates and maintain \$1 billion in assets is significant. However, SD1 is working hard to make it as affordable as possible for our ratepayers.

### Legislative Efforts

SD1 has taken a stand for our ratepayers by supporting and lobbying for key affordability legislation on both the state and national level.

### Innovative Financing

SD1's financial stability and strong credit ratings have saved ratepayers millions of dollars in interest expenses.

### Watershed Approach

SD1's Federal Court Order is the country's first enforcement action that allows a community to use the watershed management approach to more efficiently and cost-effectively meet federal Clean Water Act requirements. SD1's Watershed Approach could save ratepayers more than \$2 billion by 2025, and will result in increased benefits to both public health and water quality.

### Alternative Staffing and Volunteers

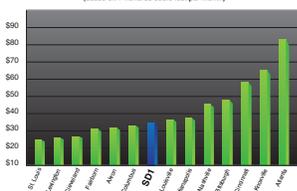
SD1 fulfills many labor needs through strategic staffing utilizing numerous community volunteers, co-ops, interns, temporary employees and other full-time alternatives. The Campbell County Work Release Program alone saves ratepayers approximately \$150,000 each year.



Kentucky legislators and community representatives witness the signing of House Bill 504. (Photo Credit: Kentucky's Creative Services - Tourism, Arts and Heritage Cabinet)

## SD1 SNAPSHOT

Monthly Residential Sewer Rates as of August 2010 (based on 7 hundred cubic feet per month)



SD1's rates compare favorably to other municipalities, similar in size, across the nation.



Sewer improvement in Campbell County. Significant infrastructure investments are needed to protect our community and help keep pace with environmental challenges.

## A TALE OF TWO CHALLENGES: Addressing Aging Infrastructure and Unfunded Mandates

Although SD1 was formed in 1946, portions of the wastewater infrastructure were already in place at that time and the organization inherited a system that was full of challenges. Now, 65 years into our existence, there are parts of our service area that are old and outdated. There is an entire world of infrastructure under our feet and parts of it are in dire need of maintenance and rehabilitation.



Combined sewer overflow in the City of Dayton.

But the challenges go beyond age and deterioration. Due to economic growth in our region, portions of our collection system are no longer big enough to handle increasing capacity demands. SD1 has been working hard to address these concerns as well by building new water reclamation facilities in Campbell and Boone counties. These facilities allowed a moratorium on development in Campbell County to be lifted in 2009, and made it possible to avoid a moratorium in Boone County and portions of southern Kenton County.

SD1 has been working diligently to lessen the financial burden on our ratepayers as much as possible, but the bottom line is this: water is one of our most precious natural resources, yet state and federal funding for water and wastewater projects continues to diminish, and doing nothing is simply not an option. In the 1970's and 1980's, the federal government provided grants that funded thousands of new wastewater treatment plants and expanded thousands more, resulting in significant reductions in discharges of pollutants and greatly improved water quality. Beginning in the 1990's, the federal government continued to identify

new investment needs and created additional legislative mandates, including the storm water regulations. However, no additional federal funding has accompanied these requirements, placing the burden back on ratepayers. According to the U.S. Conference of Mayors, it is estimated that spending for public water and wastewater systems will range between \$2.9 and \$4.8 trillion from 2009 to 2028 with local governments shouldering 95% of the total expenditures.

SD1 put this document together to give our ratepayers a better understanding of the challenges we face and the battles we are fighting on your behalf. Please take the time to read through it and then visit SD1's website for additional information.

For more information on any of these topics, visit [www.sd1.org/costofclean](http://www.sd1.org/costofclean).

## SD1 By The Numbers

Our numbers are significant and so is our responsibility.

- **220** – approximate square miles that make up SD1's service area
- **250** – approximate miles of storm water lines owned and maintained by SD1
- **1,600** – approximate miles of sanitary sewer lines owned and maintained by SD1
- **63,000** – pounds of waste per day that SD1 prevents from entering the Ohio River through wastewater treatment
- **36 million** – total average gallons of wastewater per day treated by SD1's two major water reclamation facilities

## SD1 Highlights

### Recognition

SD1 was recently recognized for three distinguished awards.

- The National Association of Clean Water Agencies (NACWA) presented SD1 with the Platinum Peak Performance Award for the Walton treatment plant.

- Interactive Health Solutions (IHS) named SD1 one of the Healthiest Companies in America for 2010.

- NACWA selected SD1 to receive the 2011 National Environmental Achievement Award in Public Information and Education for partnering with NKU to develop the 200 level College Course, *Protecting Water Resources*.

### Education

SD1 offers curriculum and field trips to teach students through hands-on activities.

- SD1's Environmental Unit is taught to over 5,000 students every year.
- Over 2,000 students visit SD1's Public Service Park every year.



A Thomas More College volunteer teaches students about wetlands in SD1's outdoor classroom.

### Public Participation

SD1 offers residents several public participation opportunities.

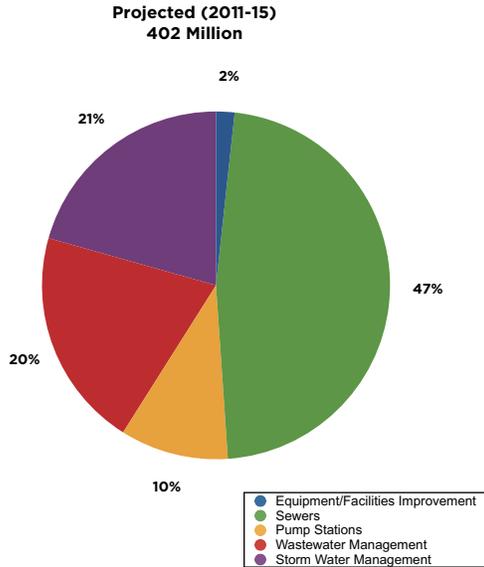
- Provide feedback to SD1 by participating in the Watershed Community Council or the Storm Water Advisory Committee.

- Neighbors, scouts and other groups can participate in SD1's Storm Drain Marking Program. Supplies and maps are free.

# Financial Picture

While SD1 is working to save money, expenses still exist, projects need to be completed and mandates must be met. These requirements come with a cost.

## Capital Expenditures



## Breaking Down A Dollar



These percentages are based on 2011 projected expenses and an average monthly sanitary sewer rate of \$35.42 for 700 cubic feet of water usage.

For every \$1.00 collected, \$1.62 is borrowed to help fund SD1's capital program. Debt service is growing and is projected to surpass operations and maintenance expenses in fiscal year 2012.

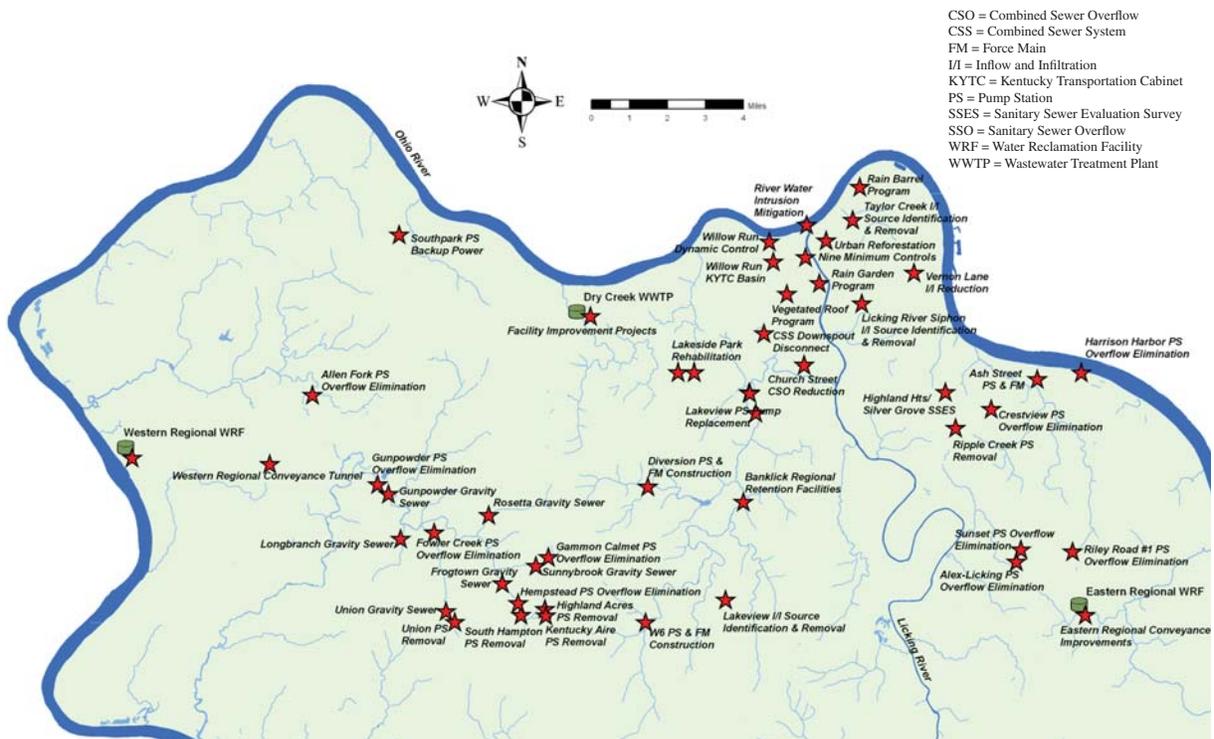
## Your Dollars at Work Water Quality Improvement Projects

Each project identified on this map is within SD1's service area (which incorporates the majority of Boone, Campbell and Kenton counties), contributes to the improvement of regional water quality and addresses requirements of SD1's Federal Court Order.

The work utilizes varying approaches, including grey, green and watershed controls to reach SD1's triple bottom line—the most environmentally, economically and socially responsible solution. Among other things, these projects and programs will help eliminate combined and sanitary sewer overflows and reduce storm water runoff.

**Legend**

- ★ Water Quality Improvement Projects (2010 - 2014)
- Water Reclamation Facilities
- Rivers
- Major Creeks



**APPENDIX D:**

***Compliance Program FY 2011 Violations Summary Report***

Sanitation District # 1  
 Industrial Pretreatment Program  
 Violations Summary Report

Permit: **IND-00002**

**Southern Graphic Systems, Inc.**

Violation Description	Violation Type	Date of NC	Enforcement Type	Date of Enforcement	Enforcement
pH fell below 4 twice.	NC-P	06/21/11	V	06/24/11	Verbal Notice of Violation (NOV)

Permit: **IND-00014**

**Camco Chemical Co. Inc.**

Violation Description	Violation Type	Date of NC	Enforcement Type	Date of Enforcement	Enforcement
Foam in the retain samples	NC-P	02/11/11	V	02/17/11	Verbal Notice of Violation (NOV)
A Sample Event violation occurred on 3/10/2011 10:30:00 AM Sample Event Type: ASAMP - Camco Chemical Co Inc Sample Name: AB75643 Monitoring Point: MH 1030013 Event Due Date: 3/10/2011 10:30:00 AM Event Complete Date: 3/10/2011	NC-P	03/10/11	V	05/06/11	Verbal Notice of Violation (NOV)

Sanitation District # 1  
 Industrial Pretreatment Program  
 Violations Summary Report

Permit: **IND-00018**

**Duro Standard Products (Florence)**

Violation Description	Violation Type	Date of NC	Enforcement Type	Date of Enforcement	Enforcement
Non-compliance parameter violation - Copper, total The daily limit was exceeded in a sample taken no 5/3/2011. The result was 8.0 mg/L while the daily limit is 5.0 mg/L..	NC-P	05/03/11	WF	05/26/11	Written Notice of Violation (NOV) and fine.
Non-compliance parameter violation - Copper, total The daily limit was exceeded in a sample taken no 5/4/2011. The result was 36.0 mg/L while the daily limit is 5.0 mg/L.	NC-P	05/04/11	WF	05/26/11	Written Notice of Violation (NOV) and fine.
Non-compliance parameter violation - Copper, total The daily limit was exceeded in a sample taken on 6/15/2011. The result was 14.6 mg/L while the daily limit is 5.0 mg/L.	NC-P	06/15/11	WF	07/18/11	Written Notice of Violation (NOV) and fine.
Copper, total Concentration TRC Significant Non-Compliance (SNC) 3 of 8 concentration daily results exceeded the Technical Review Criteria (TRC) limit of 33% for the SNC determination period from 1/1/2011 thru 6/30/2011.	SNC-P	06/30/11	P WF	09/01/11 07/18/11	Publish in local newspaper Written Notice of Violation (NOV) and fine.

Sanitation District # 1  
 Industrial Pretreatment Program  
 Violations Summary Report

Permit: **IND-00018**

**Duro Standard Products (Florence)**

Violation Description	Violation Type	Date of NC	Enforcement Type	Date of Enforcement	Enforcement
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Permit: **IND-00021**

**Louis Trauth Dairy, LLC**

Violation Description	Violation Type	Date of NC	Enforcement Type	Date of Enforcement	Enforcement
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pH exceeded allowable limits on three days and violations were not reported.	NC-P	10/01/10	WF	01/13/11	Written Notice of Violation (NOV) and fine.
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pH chart recorder data showed 5 days where excursions beyond allowable limits were recorded. These include 7/31/10, 8/18/10, 8/23/10, 8/24/10, 8/30/10. These violations all exceeded the lower	NC-P	10/08/10	W	10/08/10	Written Notice of Violation (NOV)
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Failure to respond to Notice of Violation (10-8-10)	NC-R	11/19/10	W	11/19/10	Written Notice of Violation (NOV)
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Failure to submit pH chart recorder data and pH monitoring maintenance and calibration logs.	NC-R	11/22/10	W	11/22/10	Written Notice of Violation (NOV)
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Sanitation District # 1  
 Industrial Pretreatment Program  
 Violations Summary Report

Permit: **IND-00021**

**Louis Trauth Dairy, LLC**

Violation Description	Violation Type	Date of NC	Enforcement Type	Date of Enforcement	Enforcement
Failure to submit pH chart recorder data and pH monitoring maintenance and calibration logs.	NC-E	02/08/11	WF	02/24/11	Written Notice of Violation (NOV) and fine.
Failure to submit pH chart recorder data and pH monitoring maintenance and calibration logs.	NC-E	06/07/11	WF	06/28/11	Written Notice of Violation (NOV) and fine.

Permit: **IND-00033**

**Schwan's Global Supply Chain, Inc.**

Violation Description	Violation Type	Date of NC	Enforcement Type	Date of Enforcement	Enforcement
Low pH (<5.0) was detected twice during sampling.	NC-P	10/13/10	V	10/26/10	Verbal Notice of Violation (NOV)

Permit: **IND-00034**

**LOreal USA Products, Inc.**

Violation Description	Violation Type	Date of NC	Enforcement Type	Date of Enforcement	Enforcement
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Sanitation District # 1  
 Industrial Pretreatment Program  
 Violations Summary Report

Permit: **IND-00034**

**LOreal USA Products, Inc.**

Violation Description	Violation Type	Date of NC	Enforcement Type	Date of Enforcement	Enforcement
The foam in the retain samples did not dissipate immediately after the shake test.	NC-O	12/03/10	V	12/03/10	Verbal Notice of Violation (NOV)
Foam in the retain sample from a discharge on 1/28/11 did not dissipate immediately after the shake test, and the start and stop time of that discharge, along with the travel time to Dry Creek Wastewater Treatment Plant, match up with the start and stop time of foam entering the Dry Creek Wastewater Treatment Plant on 1/29/11.	NC-O	01/29/11	W	02/03/11	Written Notice of Violation (NOV)

Our records show that in December 2010 you received a verbal NOV for foam in a retain sample that did not dissipate immediately after the shake test.

Sanitation District # 1  
 Industrial Pretreatment Program  
 Violations Summary Report

Permit: **IND-00034**

**LOreal USA Products, Inc.**

Violation Description	Violation Type	Date of NC	Enforcement Type	Date of Enforcement	Enforcement	Penalty
Foam in the retain samples from both discharges on 2/9/11 and 2/10/11 did not dissipate immediately after the shake test. The start and stop time of that discharge from 2/10/11, along with the travel time to Dry Creek Wastewater Treatment Plant, match up with the foam that entered the Dry Creek Wastewater Treatment Plant on 2/10/11.	NC-O	02/11/11	WF	02/17/11	Written Notice of Violation (NOV) and fine.	

This is the second time within a two week period that foam has been found in your retain samples. Please keep in mind the foam must dissipate immediately after the shake test which is stated in your Industrial Wastewater Discharge Permit. The shake test helps provide evidence that the wastewater batch being discharged has been properly treated and will likely not be the cause of foaming in SD1's collection system and/or treatment

Sanitation District # 1  
 Industrial Pretreatment Program  
 Violations Summary Report

Permit: **IND-00034**

**L'Oreal USA Products, Inc.**

Violation Description	Violation Type	Date of NC	Enforcement Type	Date of Enforcement	Enforcement	Penalty
Foam in the retain sample on 3/18/11 did not dissipate immediately after the shake test. Also, the discharge and travel time match up with the foam that entered the Dry Creek Wastewater Treatment Plant on 3/18/11.	NC-O	03/18/11	WF	04/06/11	Written Notice of Violation (NOV) and fine.	

Please keep in mind the foam must dissipate immediately after the shake test which is stated in your Industrial Wastewater Discharge Permit. The shake test helps provide evidence that the wastewater batch being discharged has been properly treated and will likely not be the cause of foaming in SD1's collection system and/or treatment plant.

Permit: **IND-00037**

**Aristech Acrylics LLC**

Violation Description	Violation Type	Date of NC	Enforcement Type	Date of Enforcement	Enforcement	Penalty
pH violation below 5.0 for about 20 min	NC-P	12/22/10	V	12/28/10	Verbal Notice of Violation (NOV)	

Sanitation District # 1  
 Industrial Pretreatment Program  
 Violations Summary Report

Permit: **IND-00039**

**Duro Designer Company, Inc. (Walton)**

Violation Description	Violation Type	Date of NC	Enforcement Type	Date of Enforcement	Enforcement	Penalty
Sample taken on 6/1/2011 showed a Copper, total Daily Limit was exceeded. The Result was 6.08 mg/L, the Daily Limit is 5 mg/L.	NC-P	06/01/11	W	07/06/11	Written Notice of Violation for copper violation on 6/1/11.	

Permit: **IND-00054**

**Perfetti Van Melle USA**

Violation Description	Violation Type	Date of NC	Enforcement Type	Date of Enforcement	Enforcement	Penalty
The pH fell outside of SD1's limits of 6.0 to 10.0. The pH violations were recorded below 5.0, as well as, periods of greater than one hour between 5 and 6, which are violations your permit and SD1's Rules and Regulations. (see attached graph and also refer to SD1's Rules and Regulations on pH for the Dry Creek Wastewater Treatment Plant).	NC-P	09/28/10	CS WF	11/19/10 10/15/10	Compliance Schedule Written Notice of Violation (NOV) and fine.	
Late reporting for one of the compliance schedule milestone reports.	NC-R	03/18/11	V	03/24/11	Verbal Notice of Violation (NOV)	

Sanitation District # 1  
 Industrial Pretreatment Program  
 Violations Summary Report

Permit: **IND-00054**

**Perfetti Van Melle USA**

Violation Description	Violation Type	Date of NC	Enforcement Type	Date of Enforcement	Enforcement	Penalty
Late reporting for the Compliance Schedule Milestone Report that was due on 5-22-11. This report was for Phase 2 of your Compliance Schedule.	NC-R	05/23/11	W	05/25/11	Written Notice of Violation (NOV)	

Permit: **IND-00063**

**Ultra Environmental Services, Inc.**

Violation Description	Violation Type	Date of NC	Enforcement Type	Date of Enforcement	Enforcement	Penalty
Oil & Grease, Hydrocarbons TRC Non-Compliance. Daily Limit was exceeded. The Concentration Result was 89.7 mg/L while the Concentration Daily Limit was 50 mg/L. The Violation occurred for Sample 'AB82919' on the Sample Date of '6/16/2011 3:00:00 PM' and for Monitoring Point 'End of Process'.	NC-P	06/16/11	V	07/13/11	Verbal Notice of Violation (NOV)	

Sanitation District # 1  
 Industrial Pretreatment Program  
 Violations Summary Report

Permit: **IND-00064**

**Wild Flavors, Inc.**

Violation Description	Violation Type	Date of NC	Enforcement Type	Date of Enforcement	Enforcement
The pH limit of 5 was exceeded at least once on all days over the course of the 5-day sampling period from 10-4 to 10-8-	NC-P	10/04/10	W	10/19/10	Written Notice of Violation (NOV) Written Notice of Violation (NOV)
Wild Flavor called and reported that their chart showed a pH was recorded between 11.1 and 12.0 for approximately 30 minutes, which exceeded the 15 minute limitation. This occurred from 0210 to 0240. They reported the violation.	NC-P	10/12/10	V	10/21/10	Verbal Notice of Violation (NOV), gave verbal since they called SD1 and reported that Wild Flavor's pH recorder showed a violation.
Quick pH Spike to 4.9	NC-P	04/25/11	V	05/06/11	Verbal Notice of Violation (NOV)

Permit: **IND-00068**

**Messier-Bugatti, USA (Carbon Bldg)**

Violation Description	Violation Type	Date of NC	Enforcement Type	Date of Enforcement	Enforcement
pH Violation - three excursions above 10 for >60 minutes	NC-P	06/03/11	W	06/03/11	Written Notice of Violation (NOV)

Sanitation District # 1  
 Industrial Pretreatment Program  
 Violations Summary Report

Permit: **IND-00068**

**Messier-Bugatti, USA (Carbon Bldg)**

Violation Description	Violation Type	Date of NC	Enforcement Type	Date of Enforcement	Enforcement
During a resampling event pH was detected spiking below the federal limit of 5 several times over an extended period of time.	NC-P	06/30/11	W	06/30/11	Written Notice of Violation (NOV)

Permit: **IND-00076**

**Sara Lee Foods**

Violation Description	Violation Type	Date of NC	Enforcement Type	Date of Enforcement	Enforcement
Oil & Grease, Total TRC Daily Limit was exceeded. The Result was 155 mg/L while the Daily Limit was 100 mg/L. The Violation occurred for Sample 'Self Monitoring' on the Sample Date of '7/28/2010' and for Monitoring Point 'Sample Shack'.	NC-P	07/28/10	W	09/09/10	Written Notice of Violation (NOV)
Oil & Grease, Total Daily Limit was exceeded. The Result was 105 mg/L while the Daily Limit was 100 mg/L. The Violation occurred for Sample 'AB62340' on the Sample Date of '9/13/2010 2:00:00 PM' and for Monitoring Point '2430206'.	NC-P	09/13/10	WF	09/27/10	Written Notice of Violation (NOV) and fine.

Sanitation District # 1  
 Industrial Pretreatment Program  
 Violations Summary Report

Permit: **IND-00076**

**Sara Lee Foods**

Violation Description	Violation Type	Date of NC	Enforcement Type	Date of Enforcement	Enforcement
Oil and Grease Compliance Schedule	SNC-P	11/01/10	CS	02/11/11	Compliance Schedule

Permit: **IND-00077**

**Iofina Chemical, Inc.**

Violation Description	Violation Type	Date of NC	Enforcement Type	Date of Enforcement	Enforcement
pH spike <5	NC-P	06/17/11	V	06/17/11	Verbal Notice of Violation (NOV)

Permit: **IND-00079**

**Tressa, Inc.**

Violation Description	Violation Type	Date of NC	Enforcement Type	Date of Enforcement	Enforcement
The foam in the retain samples did not dissipate immediately after the shake test.	NC-O	12/03/10	V	12/03/10	Verbal Notice of Violation (NOV)

Sanitation District # 1  
 Industrial Pretreatment Program  
 Violations Summary Report

Permit: **IND-00083**

**Club Chef LLC**

Violation Description	Violation Type	Date of NC	Enforcement Type	Date of Enforcement	Enforcement
The pH fell outside of the District's limits twice on 7/14/10. pH exceeded 10 from 1232-1343 (71 minutes) and exceeded 11 from 1358-1433 (35 minutes) and 1238-1338 (60 minutes).	NC-P	07/14/10	CS WF	11/01/10 08/03/10	Compliance Schedule Written Notice of Violation (NOV) and fine.

Permit: **IND-00089**

**North Bend Biofuels, LLC.**

Violation Description	Violation Type	Date of NC	Enforcement Type	Date of Enforcement	Enforcement
Non-Compliance Reporting Violation - Quarterly report - Your 4th quarter 2010 self-monitoring report was not mailed in time to be received by the 1-20-11 due date. The letter was postmarked on 1-26-11 and received on 1-31-11.	NC-R	01/20/11	WF	02/03/11	Written Notice of Violation (NOV) and fine.

This is the second time you facility has had a late report for the 2010 reporting period.

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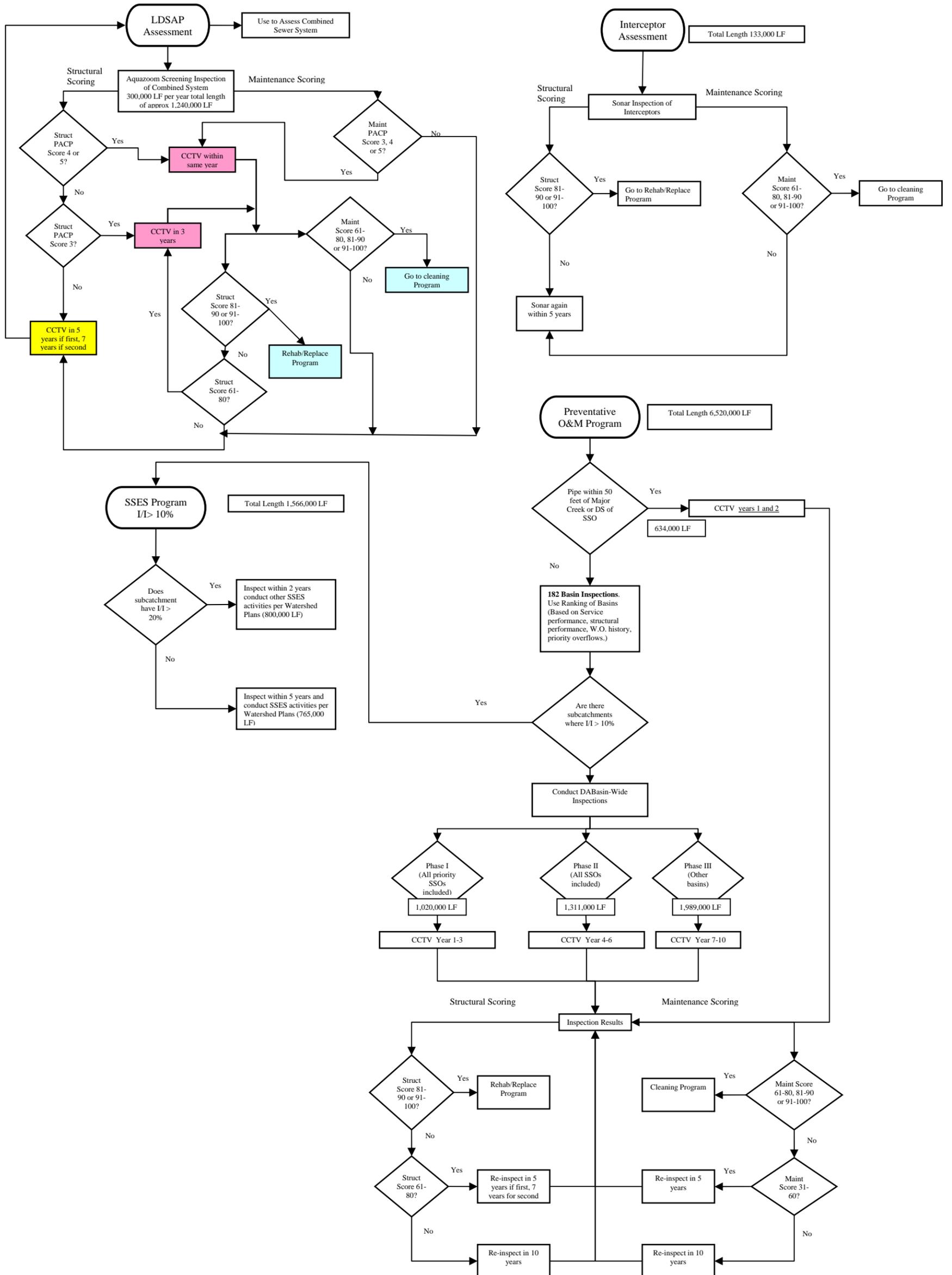
## **APPENDIX E:**

### ***Continuous Sewer Assessment Program Process Diagram***

# Sanitation District No. 1 Continuous Sewer Assessment Program

## Process Diagram 10/05/09

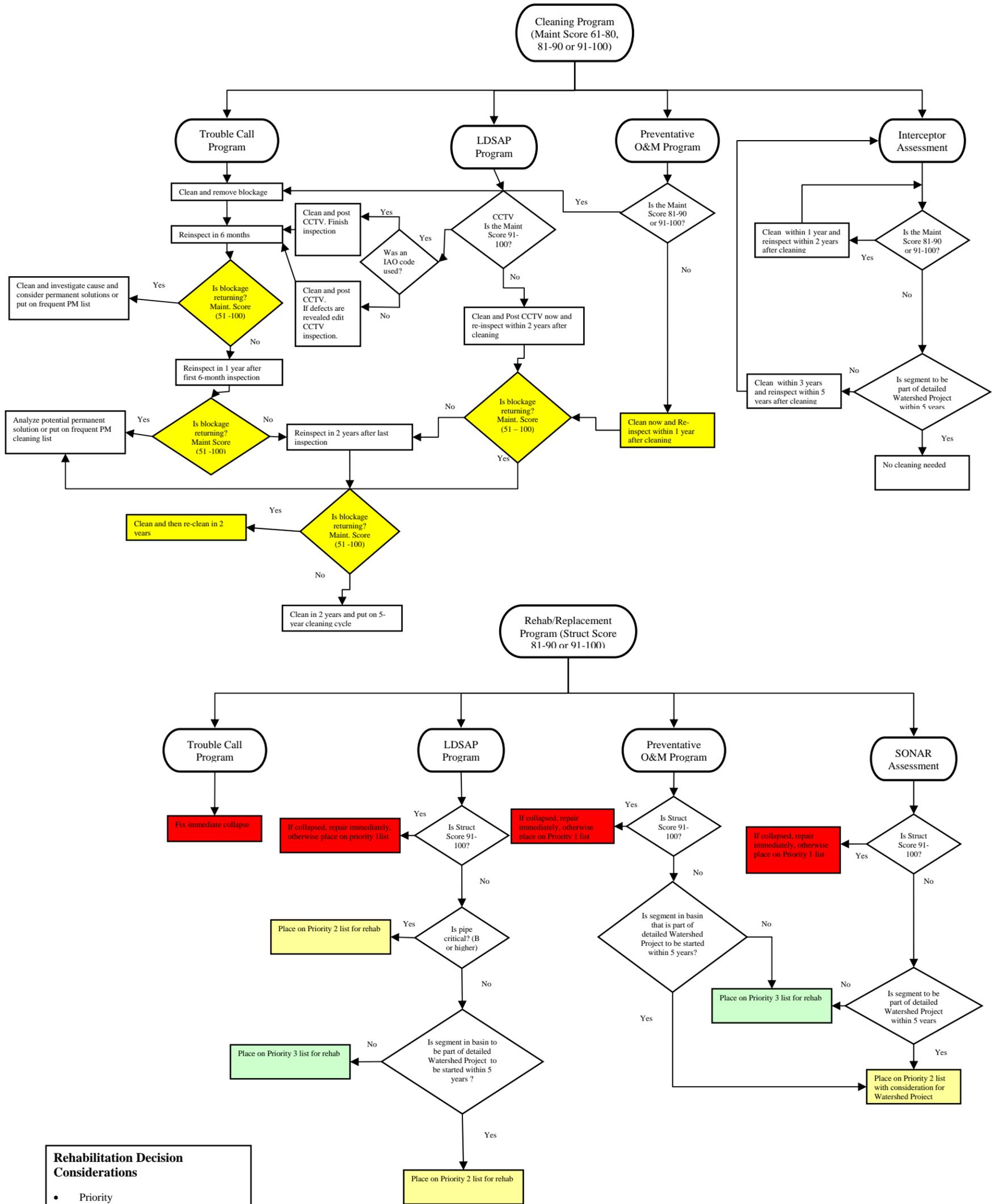
CONFIDENTIAL PRELIMINARY WORKING DRAFT WATERSHED CONSENT DECREE



# Sanitation District No. 1 Continuous Sewer Assessment Program

## Process Diagram 11/17/08

CONFIDENTIAL PRELIMINARY WORKING DRAFT WATERSHED CONSENT DECREE



**APPENDIX F:**

***Sewer Lateral Repair and Illegal Connection Inspection and Enforcement Policy***

# **SANITATION DISTRICT NO. 1 SEWER LATERAL REPAIR AND ILLEGAL CONNECTION INSPECTION AND ENFORCEMENT POLICY**

## **BACKGROUND**

Since the consolidation of the sanitary sewer system in 1995, the Sanitation District No. 1 (SD1) policy relating to ownership and maintenance of building sewers (also known as sewer laterals) was stated in Article 7, Section 701.1.G, of SD1's Rules and Regulations:

The owner of the premises, served by a sewer shall be responsible for all maintenance, operation, cleaning, repair and reconstruction of the building sewer from the building to the point of connection with the public sewer.

This regulation fully complies with Kentucky law. Nevertheless, the result of this regulation was that in certain instances, property owners were being required to perform excavation and repair work beneath public roadways. Accordingly, SD1 provided some assistance to property owners faced with this difficult and costly situation with subsequent revisions to Article 7, Section 701.1.G, of SD1's Rules and Regulations and sewer lateral Policy amendments made between 1995 and 2004. Article 7, Section 701.1.G, of the Rules and Regulations currently states:

The owner of the premises, served by a sewer shall be responsible for all maintenance, operation, cleaning, repair and reconstruction of the building sewer from the building to the point of connection with the public sewer unless the building sewer is located under a public roadway. If the building sewer is damaged under the paved roadway, SD1 will share in the cost repair as determined by the Board of Directors.

At the November 21, 2006 Board Meeting, the Board of Directors adopted, as an interpretation of Section 701.1.G, the following Sewer Lateral Policy:

The owner of the premises, served by a sewer shall be responsible for all maintenance, operation, cleaning, repair and reconstruction of the building sewer from the building to the point of connection with the public sewer. However, if a property owner conclusively demonstrates, in accordance with the guidelines set out in the Sewer Lateral Repair Policy, that the private sewer lateral is not functioning as a result of a structural problem occurring at a section of the private lateral located beneath the public roadway, the Sanitation District will repair the structural problem of the private lateral from the public sewer to the edge of the public roadway at no cost to the property owner.

At the March 25, 2008 and August 19, 2008 Board Meetings, the Board of Directors revised the Policy to more comprehensively address the repair and maintenance of laterals to help protect waterways by addressing illegal storm water connections into the

sanitary sewer system that can overload sanitary sewers and contribute to sanitary sewer overflows. The revised Policy applies to lateral defects and illegal connections identified by property owners and/or SD1.

On August 19, 2008, the Board of Directors adopted, as a revised interpretation of Section 701.1.G, the following Sewer Lateral Policy:

The owner of the premises served by a sewer shall be responsible for all maintenance, operation, cleaning, repair and reconstruction of the building sewer from the building to the point of connection with the public sewer. However, if a property owner conclusively demonstrates, in accordance with the guidelines set out in the Sewer Lateral Repair Policy, that the private sewer lateral is not functioning as a result of a problem occurring at a section of the private lateral located beneath the public roadway that cannot be corrected through routine sewer cleaning or similar maintenance activities, the Sanitation District will repair the problem of the private lateral from the public sewer to the edge of the public roadway at no cost to the property owner.

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## **I. Definitions**

- A. Illegal Connections:** Defined by Article 3, Sections 302.1 and 302.2, of SD1's Rules and Regulations as the direct or indirect discharge of surface water, groundwater, roof runoff, subsoil drains or subsurface drainage to the sanitary sewer system.
- B. Inflow and Infiltration (I/I):** Refers to rainwater and groundwater that enters the sanitary sewer system from a variety of sources such as defective private sewer laterals, roof downspouts, yard drains, foundation drains, stairwell drains, and sump pumps.
- C. Private Sewer Lateral:** This policy shall only apply to private laterals 6 inches in diameter and smaller.
- D. Property Owner:** Refers to both commercial and residential property owners.
- E. Public Roadway:** Defined as the public road from edge of pavement to edge of pavement, including the abutting street curb or the abutting sidewalk, if present, and excluding segments of driveways within the right-of-way.

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## **II. Lateral Problem Within Public Roadway Identified by Property Owner**

- A. Purpose:** To provide some assistance to property owners faced with the obligation to perform excavation and repair work of private laterals beneath public roadways.

**B. Applicability:** This section of the Policy only applies when SD1 has been notified by the property owner that the sewer lateral is not functioning properly and when it is conclusively demonstrated to SD1, in accordance with the provisions of this Policy, that the malfunction is a result of a problem with the private sewer lateral at a point beneath the public roadway that cannot be corrected through routine sewer cleaning or similar maintenance activities. Ownership and maintenance responsibilities shall remain with the individual property owner from the building to the public sewer, including the length of sewer lateral beneath the public roadway. SD1 may, in its sole discretion, approve projects that do not meet the above-mentioned criteria.

**C. Problem Identification:** The property owner is responsible for hiring a licensed plumber to identify the location of the lateral line and, specifically, the location of the problem. Locating the problem should be accomplished through the use of a "locating device." Measuring distances to the problem is not considered an adequate method to locate the problem. Once the location of the problem has been identified, the plumber should clearly mark the location on the surface of the ground with spray paint or by other appropriate means.

If requested, the plumber will provide SD1 with a videotape of the sewer lateral, which clearly shows the problem causing the sewer lateral malfunction.

SD1 may, in its sole discretion, waive the problem identification requirements on a case-by-case basis.

***Note:** In all cases, the property owner is responsible for 100% of the costs associated with locating the private sewer lateral problem.*

**D. SD1 Review:** SD1 will review the available information, and determine if the information provided is in accordance with the requirements of this Policy. If the information is sufficient, SD1 will approve the project for repair. If additional information is required, SD1 representatives will notify the property owner of the additional requirements.

**E. Performance of Repair Work:** SD1 will perform the necessary repair work within the public roadway. As part of the repair work SD1 may televise the lateral and perform all necessary smoke and/or dye testing to assess the condition of the lateral and the presence of any illegal connections.

If the work necessary to repair the problem extends beyond the public roadway, SD1 will notify the property owner that he/she must hire a licensed plumber to perform the work outside the roadway at the owner's expense. If SD1 discovers any illegal connections during its assessment of the lateral, SD1 may notify owner that these connections must be removed in accordance with SD1's Sanitary Rules and Regulations and Section III of this Policy.

**Note:** *In all cases, SD1 reserves the right to require the installation of a vertical cleanout riser near the edge of pavement.*

- F. Indemnity:** The property owner must agree to indemnify and hold SD1 harmless from any causes of action, claims, liability, judgment or expenses, including attorneys' fees and the costs of investigation and litigation, arising out of the project.

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### **III. SD1 Illegal Connection Inspection and Enforcement Program**

- A. Purpose:** The elimination of inflow and infiltration (I/I) into the separate sanitary sewer system from surface water, groundwater, roof runoff, subsoil drains, and subsurface drainage is essential to the efficient operation of SD1's collection, transmission, and treatment systems. SD1's Illegal Connection Inspection and Enforcement Program is intended to proactively and aggressively control and eliminate I/I through system testing, repair and replacement of defective private laterals and removal of illegal connections. The health, safety, welfare and best interests of SD1's ratepayers requires that such sources of I/I be eliminated as expeditiously as possible to aid in eliminating sanitary sewer overflows and water quality degradation. Only those property owners that cooperate in the timely repair of the lateral or elimination of the illegal connections shall be eligible for financial assistance in the form of financing and/or grant money (See Section IV of this Policy).
- B. Applicability:** This Section of the Policy applies to all illegal connections such as defective private laterals, roof downspouts, yard drains, foundation drains, stairwell drains and sump pumps. In non-roadway areas within the areas depicted in red on Attachment A, the sewer lateral connection and up to and including ten (10) feet of private sewer lateral will be replaced in conjunction with public sewer replacement or rehabilitation, at the sole cost and determination of SD1. Any portion of sewer lateral beyond ten (10) feet from the point of connection to the sewer main will be subject to the articles of this policy. Sewer laterals in roadway areas will be replaced according to Section II of this Policy. This Section applies only to the separate sanitary sewer system. While inflow and infiltration (I/I) is a serious issue for SD1, it is generally not an area of concern in the combined sewer system because there is typically not a separate storm sewer system to receive flow from disconnected I/I sources (downspouts, driveway drains, etc.).
- C. Authority:** SD1 has authority to implement and enforce this program pursuant to KRS 220.320, KRS 220.322, KRS 220.510 and Articles 3, 7, 9 and 10 of SD1's Sanitary Rules and Regulations.<sup>1</sup>
- D. Inspection:** In conjunction with SD1's normal operation and maintenance practices or construction activities, SD1 may notify property owners that the private lateral must be inspected. SD1 shall attempt to obtain written permission to inspect

the private lateral via smoke/dye testing and/or Closed Circuit Television Inspection (CCTV).

If property owner refuses to grant permission, he/she becomes ineligible for financial assistance. SD1 will either attempt to obtain evidence of the violation using an unobtrusive method such as smoke testing, visual observation of the flow in the lateral during a rain event, etc. or shall document the property owner's refusal to grant permission. The property owner shall then be informed that should SD1 discover an illegal connection and/or should the property owner experience a structural failure in the future, the property owner shall be responsible for all costs of maintenance, operation, cleaning, repair and reconstruction of the private lateral from the building to the point of connection with the public sewer, including that portion located within the public roadway.

**E. Notification and Enforcement:**

1. After identification of a defect(s) and/or illegal connection(s), SD1 may give written notice to the property owner of the property where such source is located or to the occupant thereof by first class mail or hand delivery, in accordance with Section 701.2.B of the Rules and Regulations. It shall be sufficient if the notice is addressed to and mailed or delivered to the person or persons in whose name application was made for water service for that location.
2. If the defect(s) in the private lateral is located beneath the public roadway, Section II of this Policy may apply.
3. If the defect(s) and/or illegal connection(s) to the private lateral are located outside the public roadway, the person or persons so notified shall within thirty (30) calendar days of the date of mailing or delivery of such notice deliver to SD1, 1045 Eaton Drive, Ft Wright, Kentucky 41017, a plan, prepared by a licensed plumber, to address the defect(s) and/or remove the illegal connection(s). The plan shall include a detailed description of the work to be performed, a drawing showing the defect(s) and/or illegal connection(s) and the method of its elimination if feasible and a cost estimate for the work. If elimination is deemed not possible or practicable, the plan shall provide a written demonstration of infeasibility (repair costs alone are insufficient to demonstrate infeasibility of elimination).
4. SD1 staff shall review each plan and approve or deny same within thirty (30) calendar days after receipt. Notice of this action shall be promptly communicated to the person submitting the plan. If the submitted plan is denied by SD1 staff, the notified person or persons shall submit a revised plan acceptable to SD1 within thirty (30) calendar days for review and approval.
5. After receipt of notification of plan approval, the person submitting same shall have sixty (60) calendar days in which to complete the work outlined in the approved plan and notify SD1 of such completion. Upon receipt of notice of completion, SD1 shall inspect the work and retest the lateral and system.

6. Failure to comply: If the property owner fails to comply within the time frames indicated above and fails to request and receive an extension of time pursuant to section 7 below, SD1 may utilize any of the following enforcement actions:
  - a. In accordance with Section 302.3 of the Rules and Regulations, "Should the owner of such an illegally connected premises fail to remove the illegal connection within 90 days of being notified by the Executive Director to do so, the Executive Director may cause the connection to be removed and the cost thereof to be billed to the owner of the premises."
  - b. Assess administrative fines of up to \$1,000 per day pursuant to KRS 220.320 and Section 1001.2.A of the Rules and Regulations.
  - c. Institute an action in court pursuant to KRS 220.320 and Section 1001.2.B of the Rules and Regulations. The available remedies shall include:
    1. Injunctive relief;
    2. Cost recovery to recover the cost associated with noncompliant acts of a user;
    3. Civil penalties of up to \$1,000 per day per violation; and
    4. Termination of wastewater treatment service.
  - d. If SD1 incurs costs for services rendered, it may, by notice in writing, shut off water service to said premises in accordance with KRS 220.510. Furthermore, KRS 220.322(4) states that "Charges [for disconnections, reconnections, or relocations of sewers] not paid when due may cause the board of directors to compel payment in the manner authorized in this chapter and the rules and regulations of SD1."
7. Extensions of time: The Executive Director may, for good cause shown, grant an extension of any of the deadlines set out in this Policy, provided that the request for the extension is received prior to the expiration of the deadline. The extension shall be issued in writing and shall specify the date of its termination.

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#### **IV. FINANCING AND GRANT PROGRAM FOR DEFECTIVE PRIVATE LATERAL REPAIRS AND REMOVAL OF ILLEGAL CONNECTIONS OUTSIDE PUBLIC ROADWAY**

- A. **Purpose:** To provide financing and/or funds to eligible property owners faced with the obligation to perform excavation and repair work of private laterals outside public roadways.
- B. **Financing:** For removal of illegal connections and/or repairs to damaged laterals outside the "public roadway" as defined above, the property owner will obtain the services of a licensed plumber. SD1 may at its discretion advance funds for payment of the plumber's invoice and offer a finance option to allow the property owner to repay SD1 with interest at a rate of two basis points above prime rate at the time that financing is initiated with a minimum interest rate of six (6) percent and a maximum interest rate of ten (10) percent over a term not to exceed fifteen (15) years. Furthermore, the property owner shall grant a consensual lien to SD1 to be placed on the property in order to guarantee payment recovery.

- C. **SD1 Grant Program for Sanitary Service Improvement Projects:** As part of its Consent Decree with the U.S. EPA and Commonwealth of Kentucky, SD1 has developed a program to reimburse qualified residential property owners for a portion of the cost of certain sanitary sewer improvement projects. Candidate projects would include the repair or replacement of failing sanitary service laterals and the installation of new sanitary service connections to SD1 sewer mains. Approved residential property owners may be eligible to receive grants of up to \$5,000 towards such projects, depending on their income level. Routine operation and maintenance projects such as root-cutting or cleaning are not included in this program. Per the Consent Decree, this program will expire in April 2012.
- D. **Eligibility:**
1. Financing - Property owners that cooperate in the timely repair of the lateral or elimination of the illegal connections are eligible for financing.
  2. Grant Program – Residential property owners with incomes at or below the low income level as established by the U.S. Department of Housing and Urban Development (HUD) are eligible to apply for funding through this program. Proof of income documentation must be included with the project application.

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**V. Cost-Share Program for Defective Private Lateral Repairs and Removal of Illegal Connections Outside of Public Roadway**

- A. **Purpose:** To encourage property owners to voluntarily repair private systems that are located in priority areas determined by SD1 to have excessive amounts of I/I. Section III of this policy shall govern how the repairs are properly performed.
- B. **Cost Share:** This policy allows SD1 to reimburse property owners 50% of the costs to properly remove the I/I, with a total contribution of \$2,500 per property.
- C. **Eligibility:** The property must be found to have excessive amounts of I/I as determined by SD1 and be located within one of the areas depicted in red on the attached map (attachment A). It must also be determined by SD1 that removal of I/I on the property will further compliance with SD1's Consent Decree.
- D. **Duration:** The program was approved to be permanent June 21, 2011 with no renewal required by SD1's Board of Directors. SD1 will provide the Board with monthly updates on outcomes and benefits of the program.

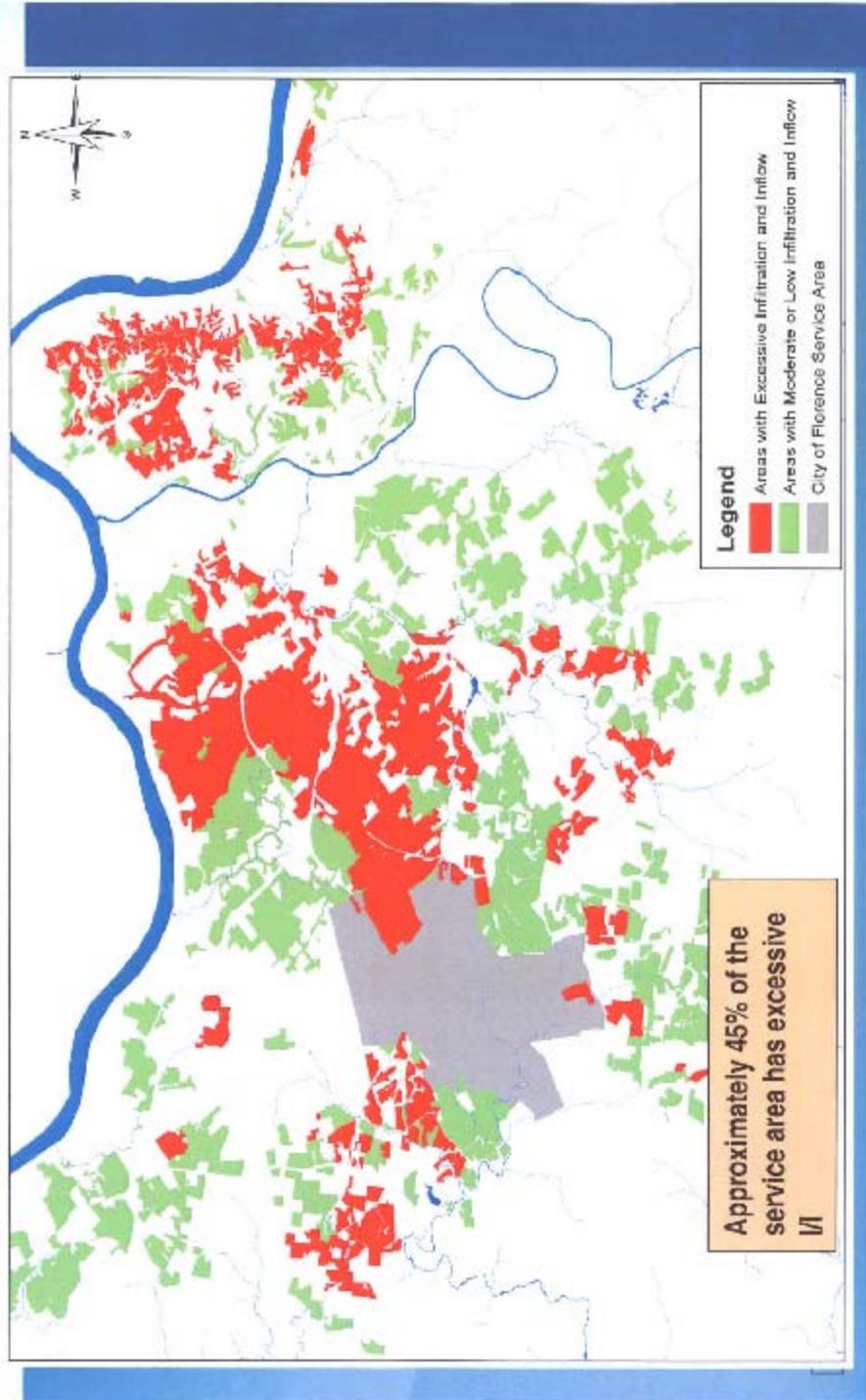
**VI. History/Revision Dates:**

Board Approval: November 13, 2000  
March 5, 2001  
July 29, 2004  
March 25, 2008  
August 19, 2008

October 13, 2008  
September 15, 2009  
December 15, 2009  
June 15, 2010  
March 22, 2011  
June 21, 2011

# Attachment A

# Areas with Excessive I/I



## <sup>1</sup> PRIVATE SEWER LATERAL AND ILLEGAL CONNECTION ENFORCEMENT AUTHORITY

**KRS 220.322(1)(a).** The board may adopt rules requiring owners of property to disconnect storm water inflows to sanitary sewers maintained and operated by the district and not operated as a combined sewer, or to connections with these sewers.

**KRS 220.322(2).** Any inflow required to be disconnected under a rule adopted pursuant to this chapter shall constitute a nuisance subject to injunctive relief and abatement.

**KRS 220.322(4).** The board shall require in its rules regarding disconnections, reconnections, or relocations of sewers the reimbursement of moneys expended. This shall be done by the district assessing a charge to the property owner for immediate payment or payments in installment with interest as determined by the board not to exceed 10%.

**KRS 220.322(4).** Charges for disconnections, reconnections, or relocations of sewers not paid when due may cause the board of directors to compel payment in the manner authorized in this chapter and the rules and regulations of the district.

**KRS 220.510.** "In case of failure of any user to pay for services rendered, the board may compel payment and may enjoin further use until the payment is made, or it may institute an action in any court having jurisdiction ...or the board may, by notice in writing, signed by the chairman or any member of said board, notify the [entity] which furnishes water to the user's premises, to shut off the water service to said premises, until such time as all delinquent charges, plus a reasonable charge for turning off the water service, against said user, are paid in full."

The Sanitary Rules and Regulations outline SD1's procedures for inspection and rehabilitation of private sewer laterals and the appeals and enforcement processes.

**Article 3, Section 302.1.** "No person shall discharge or cause to be discharged, either directly or indirectly, to the sanitary sewer system, surface water, groundwater, roof runoff, subsoil drains or subsurface drainage."

**Article 3, Section 302.2.** "Any such connections made ... shall be considered illegal and shall be subject to immediate removal by the owner of the premises so connected and at such owner's expense."

**Article 3, Section 302.3.** "Should the owner of such an illegally connected premises fail to remove the illegal connection within 90 days of being notified by the General Manager to do so, the General Manager may cause the connection to be removed and the cost thereof to be billed to the owner of the premises."

**Article 7, Section 701.2.B.** "No person or public corporation shall make direct connection of roof downspouts, exterior or interior foundation drains, area drains or other sources of surface runoff or groundwater directly to a public sanitary sewer. Upon discovery of such improper sources, SD1 may notify the property owner to remove any improper connection within 30 days of notification and return the public sewer and associated appurtenances to a satisfactory condition."

### **General Enforcement Authority**

**KRS 220.320.** Authorizes the board to recover by civil action from any person or public corporation violating the regulations a penalty of \$100 to \$1,000 for each offense, plus costs. The Board may enforce by mandamus or otherwise all necessary and authorized regulations made by them, and may remove any improper construction or close any connections made improperly or in violation of the regulations.

**Article 9, Section 901.4.** "The General Manager and other employees of SD1 shall have the authority to serve notices of violation of these Rules and Regulations. The General Manager shall be responsible for the enforcement of these Rules and Regulations and shall have authority to issue orders and impose penalties as authorized therein, ...and shall have any other powers or authority necessary and proper for the enforcement and the achievement of the goals of these Rules and Regulations."

**Article 10, Section 1001.1.A.** If any person or public corporation is found to be violating any provision of these Rules and Regulations, the General Manager may:

- (1) Enforce these regulations by mandamus or otherwise;
- (2) Remove any improper construction or close any connections made improperly or in violation of these regulations;
- (3) Revoke any permit issued pursuant to these regulations;
- (4) Recover by civil action from any person or public corporation violating any regulation, a sum of not less than \$100 nor more than \$5,000 for each offense, together with costs.

### **Administrative Enforcement Remedies**

Pursuant to Article 10, Section 1001.2.A of the Rules and Regulations, SD1 may invoke the following remedies:

- (1) Notice of Violation (NOV)
- (2) Administrative Orders such as:
  - Cease and Desist Orders
  - Show Cause Orders
- (3) Administrative Fines
  - General Manager may assess a penalty of up to \$1,000 per day for each violation of SD1's Rules and Regulations

### **Judicial Enforcement Remedies**

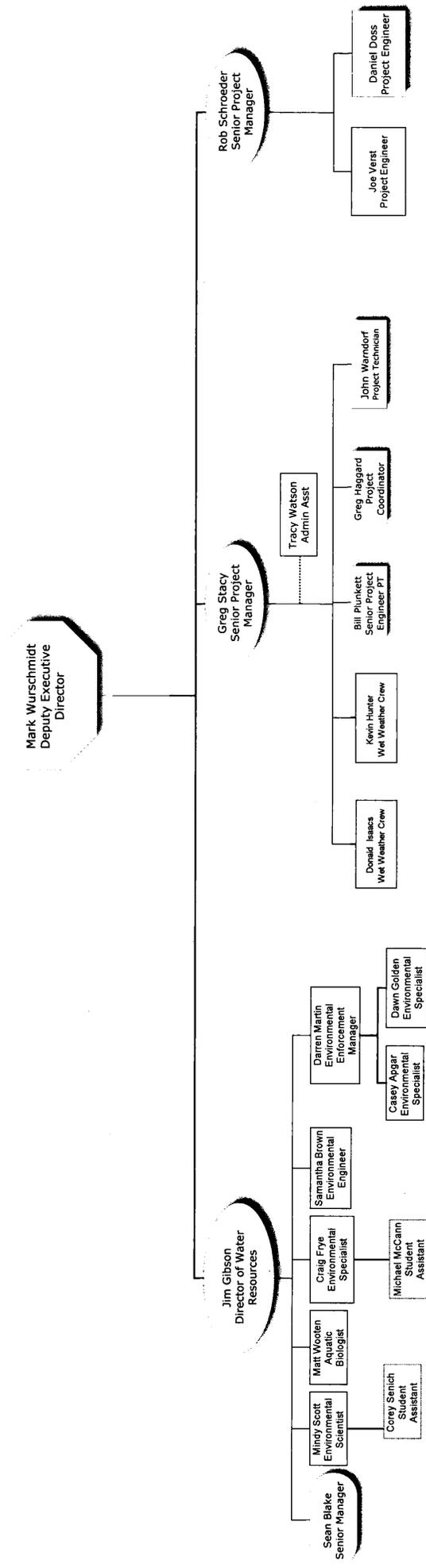
Judicial remedies may be sought pursuant to Article 10, Section 1001.2.B in the following situations: (1) when notices of violation and administrative orders have proven ineffective in returning the violating user to compliance; (2) when emergency situations require injunctive relief to halt or prevent discharges which threaten human health or the environment or interfere with the treatment system or (3) to impose civil penalties and recover losses incurred due to noncompliance. All judicial administrative remedies will be sought at the discretion of the General Manager. The available remedies include:

- (1) Injunctive Relief - where an administrative order does not achieve compliance;
  - (2) Cost Recovery - to recover the cost associated with noncompliant acts of a user;
  - (3) Civil Penalties - \$1,000 per violation for individuals and \$5,000 per violation for corporations; and
  - (4) Termination of Wastewater Treatment Service – the General Manager may terminate or cause to be terminated wastewater treatment system service to any premise if a violation is found to exist.
-

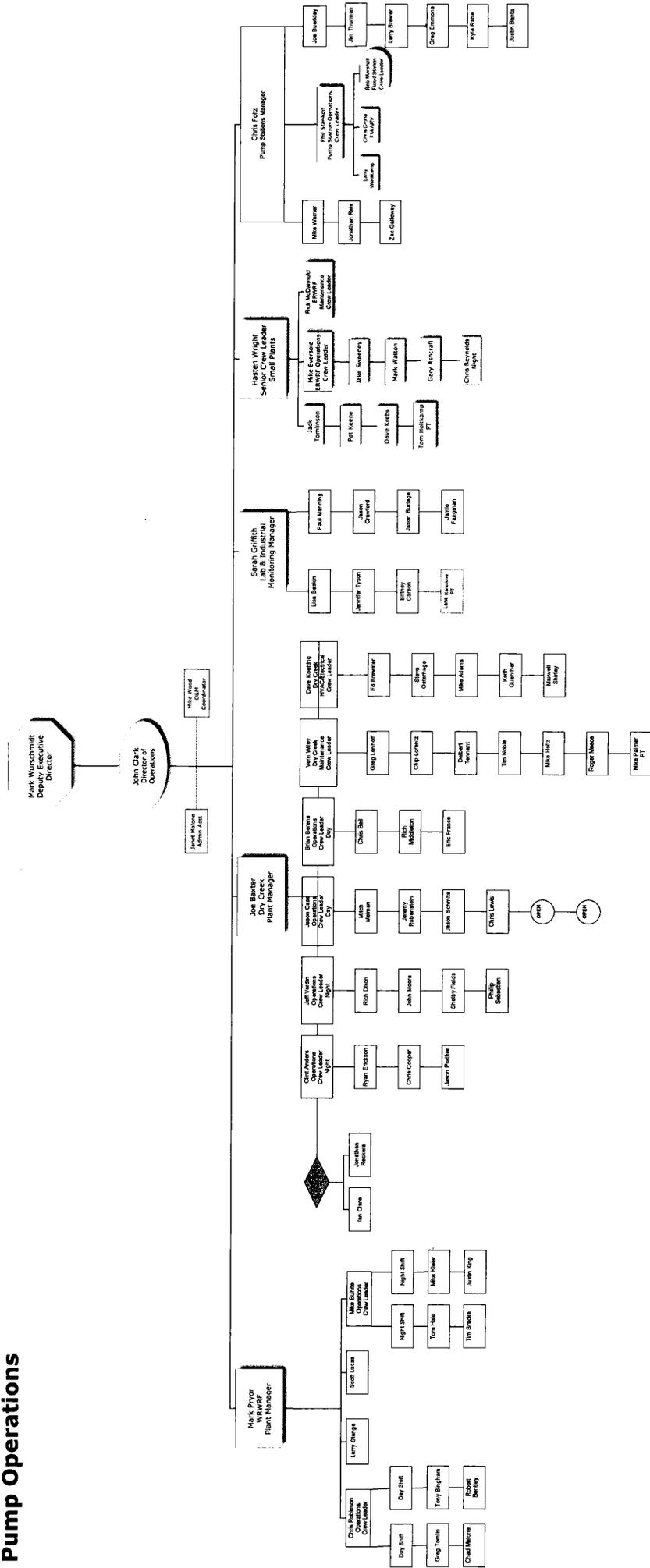
**APPENDIX G:**  
***Organizational Charts***



# SD1 Engineering



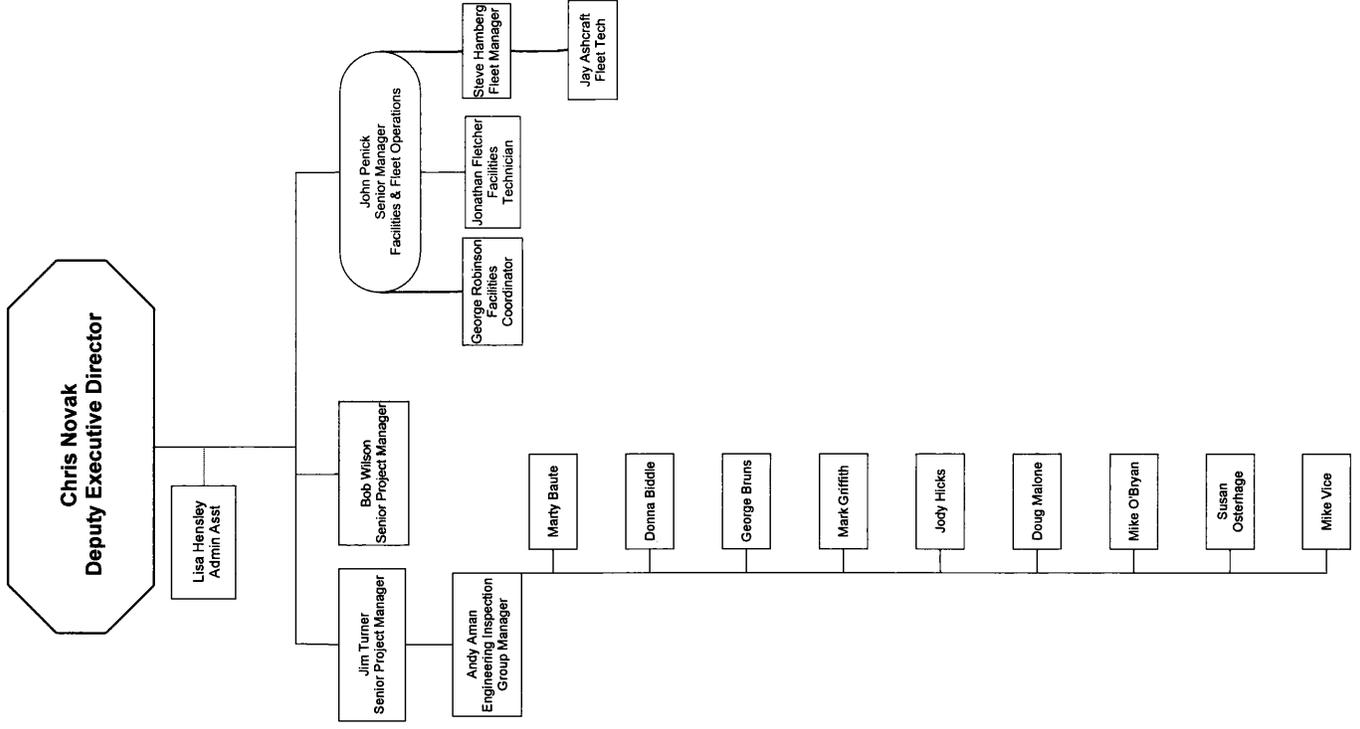
# SD1 Operations: Treatment & Pump Operations



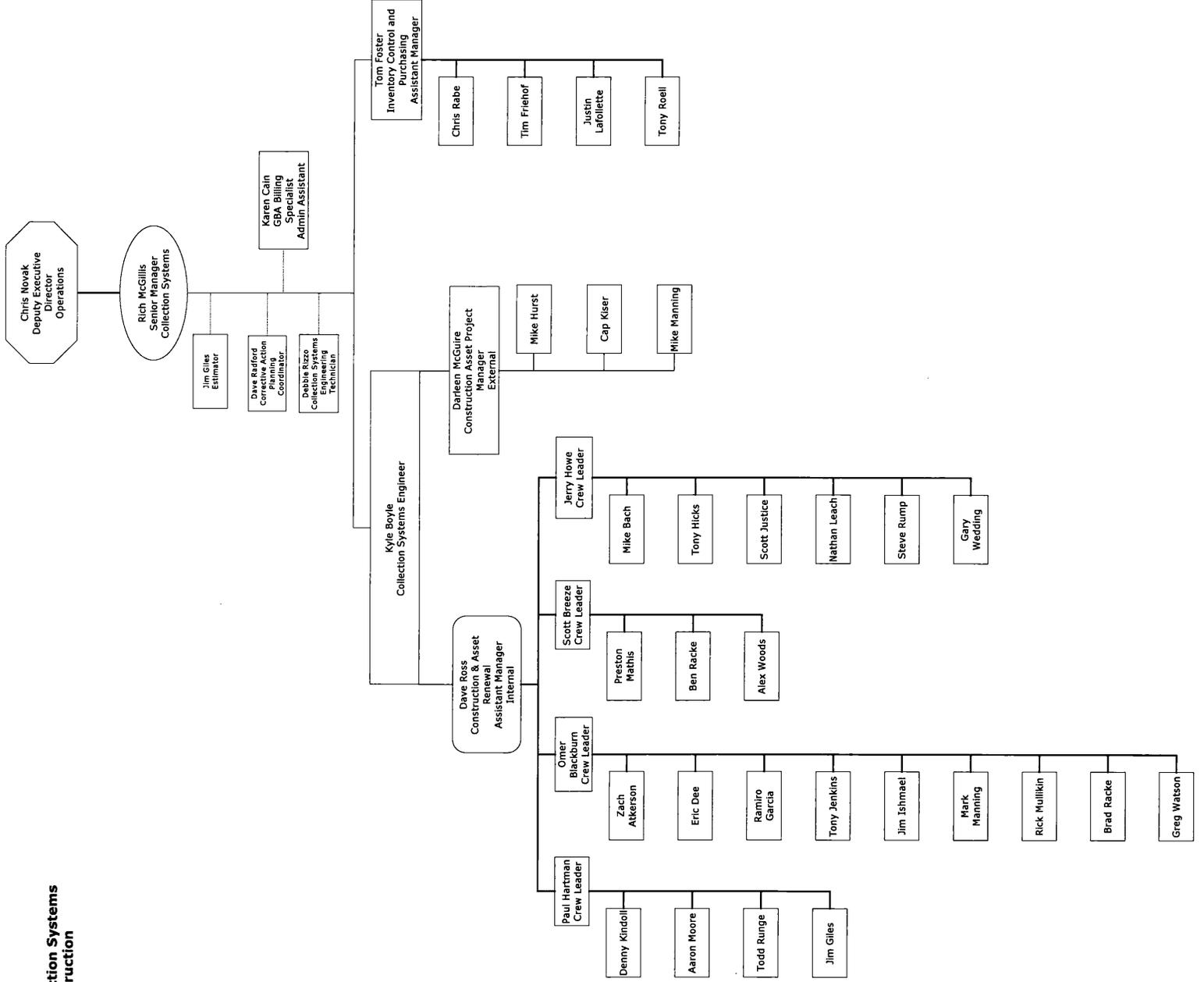
# SD1

## Operations:

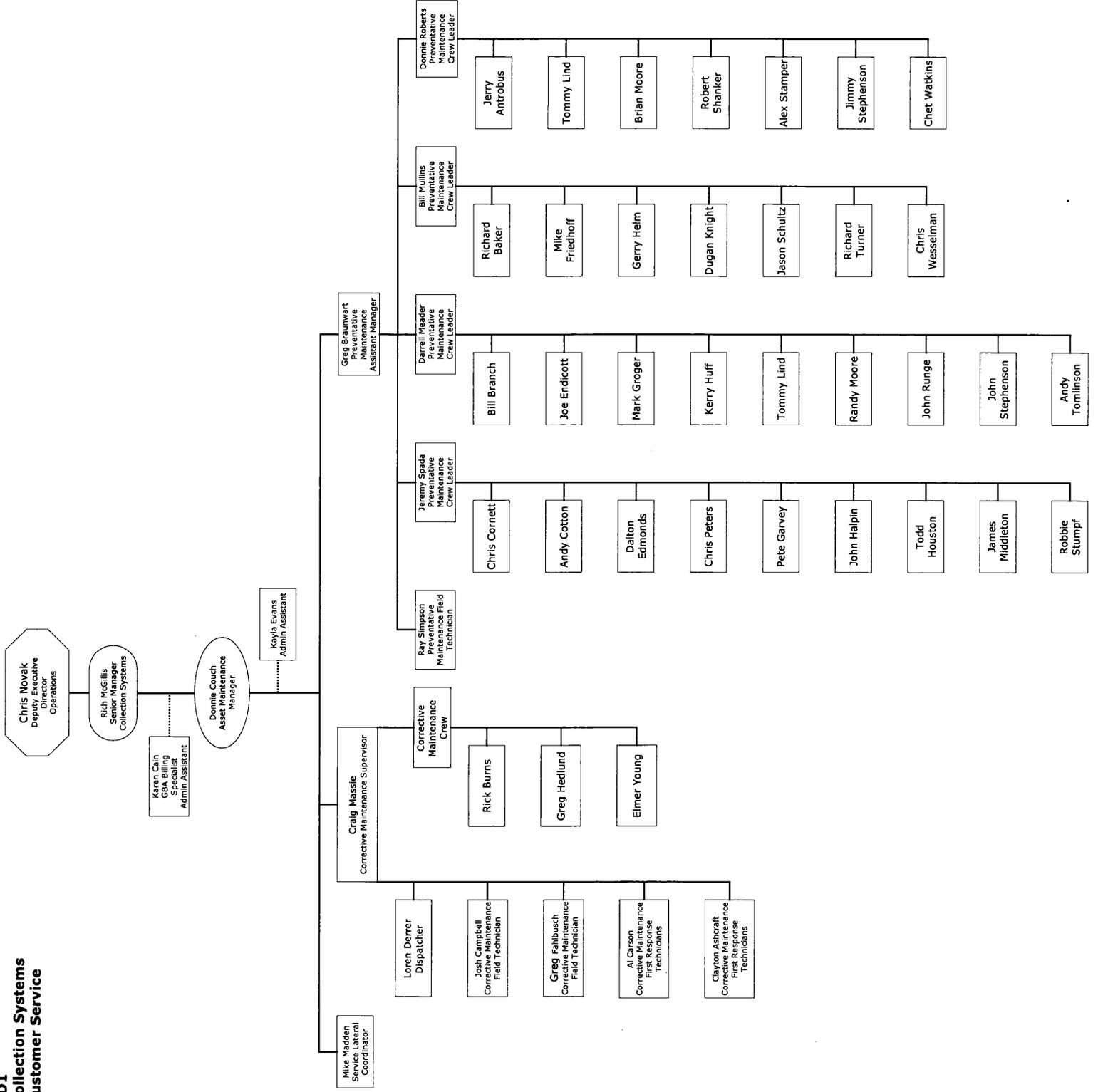
### Capital Improvements



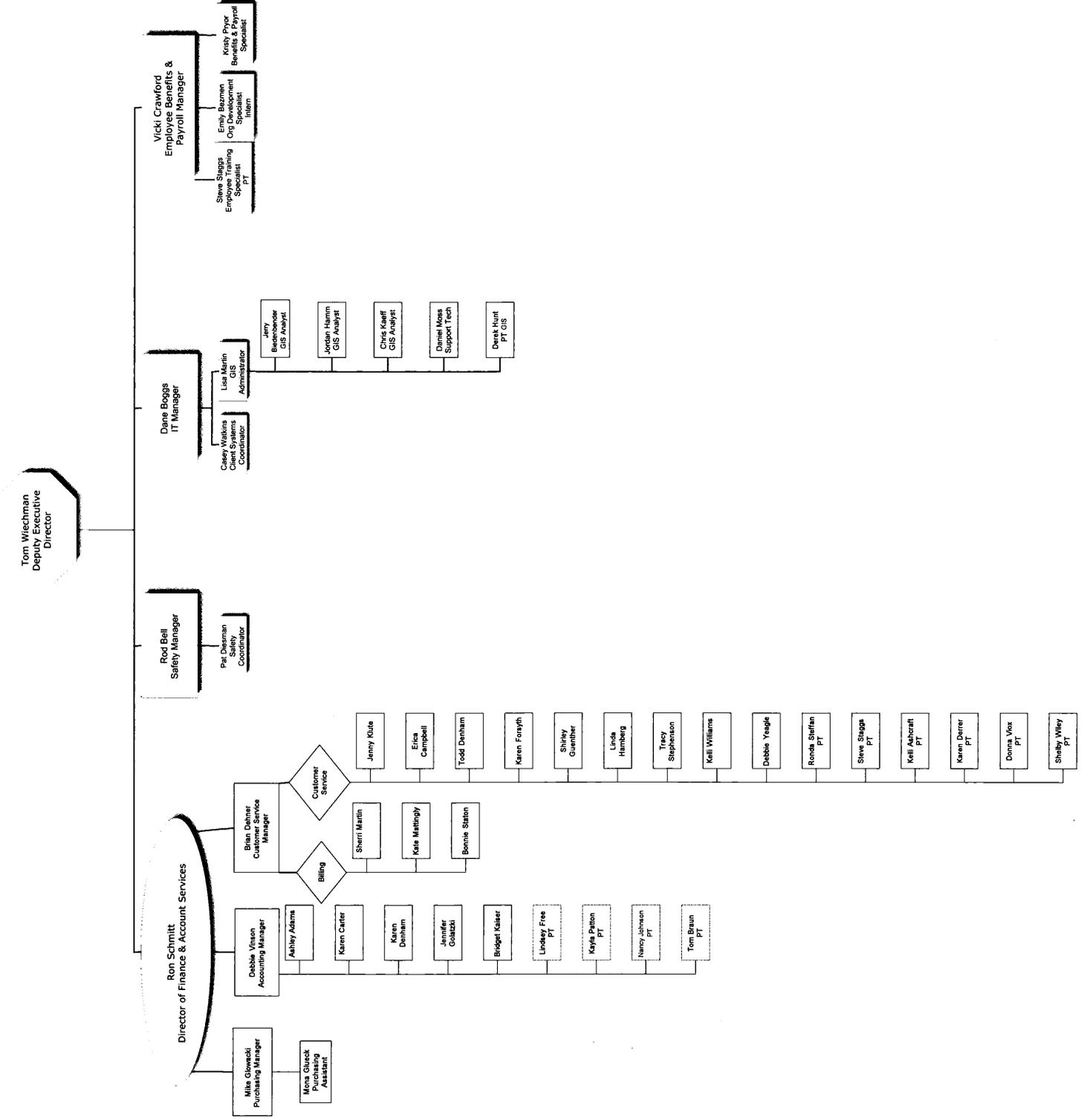
**SD1  
Collection Systems  
Construction**



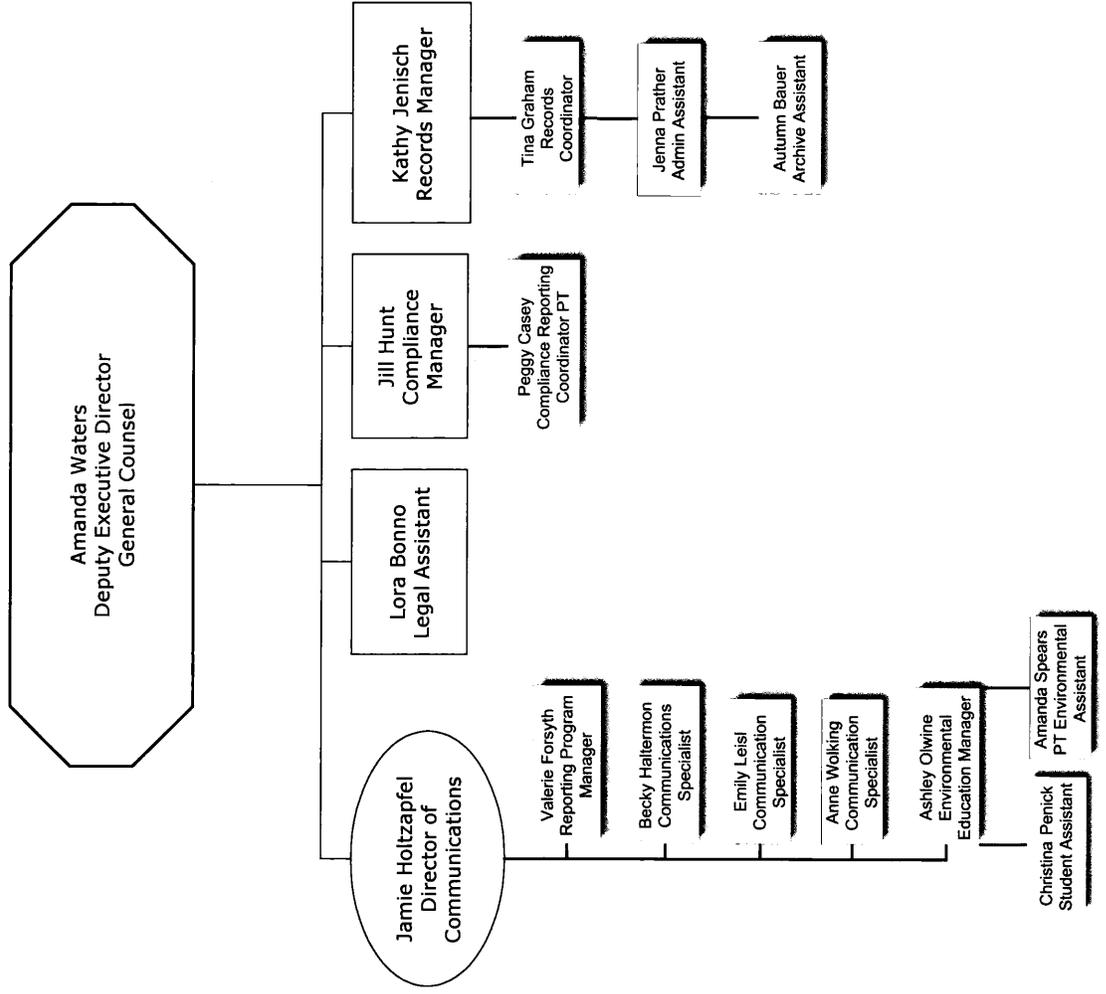
**SD1  
Collection Systems  
Customer Service**



# SD1 Administration



# SD1 Administration - Legal



**APPENDIX H:**  
***FY 2011 Safety Training Catalog***

# SD1



## Fiscal Year 2011 Safety Training Schedule and Calendar of Events

## Introduction

In order to ensure the overall health and safety of each SD1 employee and to satisfy the requirements of SD1, the training described and assigned in this document has been chosen based on job hazard analyses performed as required by OSHA Standards Parts 1910 (General Industry) and 1926 (Construction Industry) as adapted and promulgated by Kentucky Revised Statute Chapter 338

This document is intended to be used as a planning tool as well as a source of information for individual employees to ensure that each are aware of the safety training expectations held by SD1 concerning various positions, job descriptions, and certification requirements.

This calendar includes, but is not limited to:

- Courses offered
- Course elements
- Class Dates
- Class duration and size limits
- Descriptions of job categories that have required safety training
- SD1 Instructors and Subject Matter Experts

### SD1 Instructors/Subject Matter Experts

Chris Beil	Office Safety
Hazard Communication	Contract Employer Responsibilities
Rod Bell	Fire Safety Emergency Action Planning
Electrical Safety	Swift Water Awareness
Hazard Communication	Scaffolding and Ladders / Powered Platforms
Permit Required Confined Space Entry Rescue	Excavation / Trenching Safety
Traffic	Chris Foltz
Forklift	Electrical Safety
Office Safety	John Halpin
Contract Employer Responsibilities	First Aid
Fire Safety Emergency Action Planning	Traffic
Swift Water Awareness	Donald Isaacs
Scaffolding and Ladders / Powered Platforms	Permit Required Confined Space Entry Rescue
Hazardous Waste Operations and Emergency Response:	Dennis Kindoll
Operations Level	Traffic
Excavation / Trenching Safety	Forklift
Brian Berens	Excavation / Trenching Safety
First Aid	Dugan Knight
Hazard Communication	Forklift
Swift Water Awareness	(open)
Permit Required Confined Space Entry Rescue	Hazard Communication
Scott Breeze	Brian Moore
Excavation / Trenching Safety	Fire Safety Emergency Action Planning
George Bruns	Steve Osterhage
Permit Required Confined Space Entry Rescue	Electrical Safety
Fire Safety Emergency Action Planning	Donnie Roberts
Josh Campbell	Permit Required Confined Space Entry Rescue
Fire Safety Emergency Action Planning	Vern Wiley
Donnie Couch	Hazard Communication
First Aid	Swift Water Awareness
Permit Required Confined Space Entry Rescue	Permit Required Confined Space Entry Rescue
Fire Safety Emergency Action Planning	Scaffolding and Ladders / Powered Platforms
Jason Crawford	
Hazard Communication	
Pat Diesman	
First Aid	
Electrical Safety	
Hazard Communication	
Permit Required Confined Space Entry Rescue	
Traffic	
Forklift	

## Notes

- Supervisors will be required to independently complete online NIMS Training Courses 100 and 700;
- The following training/tests are administered at the St. Elizabeth Business Health Center and are scheduled on an as-needed and/or when-required basis. These events are for designated employees with occupational exposure:
  - Pulmonary Function Test, Respirator Fit Testing/Training, and Audiometric Testing/Training;
  - Department of Transportation Random Drug and Alcohol Screening;
  - Department of Transportation Physical Certification;
  - Department of Transportation Reasonable Suspicion Drug and Alcohol Screening;
  - Other Medical Screening as required.
- The training schedule for the Sanitation District No.1 Emergency Response Team (SD1ERT) is subject to the schedule(s) of the Northern Kentucky Technical Rescue Team, the Northern Kentucky Hazardous Materials Response Team, and the Greater Cincinnati Hazardous Materials Response Team. Because 2011 training schedules for these organizations have not yet been released, the SD1ERT schedule will be announced on a later date.
- The following classes (and any other additional classes) are not listed. However, as much advance notice as possible will be given:
  - WINNs Grant Training – Gateway Community College
  - OSHA 10 hour Construction and General Industry Safety Standards for Designated Subject Matter Experts

## Calendar Color Legend

Red Text = SD1 General

Blue Text = SD1 General Make-Up

Green Text = ERT and other Specialized Training for Designated Employees based upon Job Hazard Analysis

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## *Safety Department Mission Statement*

*The Sanitation District Safety Department believes in an employee based, proactive safety program.*

*Our belief is that our safety initiative should be based on the following principles:  
Responsibility, Accountability, Involvement, and Employee Ownership at all levels.*

*Our goal is to provide the Sanitation District with technical support and services that are related to compliance at all levels: Safety, Health, and our Environmental Responsibilities.*

*We are responsible and accountable for the well being of our employees, our communities, and the equipment to which we work with. We promote a work environment that is safe and free from all known and recognized hazards.*

*We based our program on a management philosophy that our employees are our most valuable assets.*

*Our goal is to provide our employees the necessary leadership for compliance training, education, equipment, and administrative support with service.*

**All incidents and accidents are preventable**

# July 2010 (FY 2011)

## Department of Transportation (DOT) Truck Safety:

July 12<sup>th</sup> – July 16<sup>th</sup>

Make-up: July 27<sup>th</sup>

## Department of Transportation Commercial Drivers License

- **Elements**
  - Driver Safety
  - Walk Around / Daily and Pre-Trip Inspections
  - Random Inspections
  - Reasonable Suspicion
  - Securing Loads
  - Personal Protective Equipment
  - Minor Repairs
  - Vehicle Housekeeping
  - Accident Prevention: Signs & Tags
  - Removal From Service - Lockout /Tag Out
  - Coaching The Experience Driver
  - Department of Transportation Commercial Drivers License Pre-trip inspection
  - Record Keeping - Commercial Motor Vehicles
- **Duration 4.0 hrs.**
  - 4.0 hr - Department of Transportation and Non-Department of Transportation Vehicles and Equipment
- **Required:** semi-annually
- **Employees required to attend: ALL CDL OPERATORS AND LOADERS**
  - **Dry Creek WWTP**
    - Operations (Designated Operators)
    - Maintenance (Designated Operators)
  - **Collection System**
    - Customer Service (Designated Operators)
    - Construction (Designated Operators)
  - **Field Technical Services**
    - Operations
    - Maintenance
- **Maximum Class Size: 20**

# July

<i>Sun</i>	<i>Mon</i>	<i>Tue</i>	<i>Wed</i>	<i>Thu</i>	<i>Fri</i>	<i>Sat</i>
				1	2	3
4	5	6	7	8	9	10
11	12 DOT Truck Safety 4.0 hr.	13 DOT Truck Safety 4.0 hr.	14 DOT Truck Safety 4.0 hr.	15 DOT Truck Safety 4.0 hr.	16 DOT Truck Safety 4.0 hr.	17
18	19	20 Safety Committee Meeting	21	22	23	24
25	26	27 DOT Truck Safety MAKE UP 4.0 hr.	28	29	30	31

# August 2010 (FY 2011)

## Swift Water Awareness: August 27<sup>th</sup>

- **Elements**
  - Understanding Hazards
  - Accident Prevention: Signs & Tags
  - Locations Found
  - Working Around
  - Rescue
  - Throw Ropes
  - Life Rings
  - Personal Flotation Devices
  - Personal Protective Equipment
- **Duration:** 4.0 hours
- **Required:** annually
- **Employees required to attend:**
  - **Administration – Department 3**
    - Facilities
  - **Engineering – Department 5**
    - Flow Monitoring
    - Storm Water - Illicit Discharge
  - **SD1 Emergency Response Team**
- **Maximum Class Size:** 25

# August

<i>Sun</i>	<i>Mon</i>	<i>Tue</i>	<i>Wed</i>	<i>Thu</i>	<i>Fri</i>	<i>Sat</i>
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17 Safety Committee Meeting	18	19	20	21
22	23	24	25	26	27 Swift Water Awareness 4.0 hr.	28
29	30	31				

# September 2010 (FY 2011)

## Forklift:

September 13<sup>th</sup> through June 17<sup>th</sup>

Make-up: September 28<sup>th</sup> and September 30<sup>th</sup>

## Forklift (Powered Industrial Trucks),

- **Elements**
  - Authorized operators
  - Types
  - Capacities
  - Loading
  - Traveling
  - Attachments
  - Pre-use inspection
  - Roll over / Tip over
  - Safety operating areas
  - Removal From Service - Lockout /Tag Out
- **Duration 4.0 hrs.**
  - 4.0 hr – Powered Industrial Lift Trucks
- **Required:** semi-annually
- **Employees required to attend:**
  - **Dry Creek WWTP**
    - Operations
    - Maintenance
    - Any other Designated Employees from Operations & Maintenance
  - **Collection System**
    - Customer Service (Designated Operators)
    - Construction (Designated Operators)
  - **Field Technical Services**
    - Operations
    - Maintenance
- **Maximum Class Size: 20**

# September

<i>Sun</i>	<i>Mon</i>	<i>Tue</i>	<i>Wed</i>	<i>Thu</i>	<i>Fri</i>	<i>Sat</i>
			1	2	3	4
5	6	7	8	9	10	11
12	13 Forklift 4.0 hr.	14 Forklift 4.0 hr.	15 Forklift 4.0 hr.	16 Forklift 4.0 hr.	17 Forklift 4.0 hr.	18
19	20	21 Safety Committee Meeting	22	23	24	25
26	27	28 Forklift 4.0 hr. (make-up)	29	30 Forklift 4.0 hr. (make-up)		

# October 2010 (FY 2011)

## **Fire Safety:**

October 11<sup>th</sup> through October 15<sup>th</sup>  
Make-up October 26<sup>th</sup> and October 28<sup>th</sup>

- **Elements**
  - Portable Fire Extinguishers
  - Personal Protective Equipment
  - Accident Prevention: Signs & Tags
  - Emergency action plan – Egress - Exit
  - Employee alarm systems
  - Fire detection systems
  - Emergency action and notification plan
  - National Incident Management System
  - Emergency communication
  - Fire prevention
  - Flammable and combustible storage
- **Duration:** 2 hours
- **Required:** annually
- **Employees required to attend:**
  - **Dry Creek WWTP – Department 1 - All**
  - **Collection System – Department 2 - All**
  - **Administration – Department 3- All**
  - **Engineering – Department 5 - All**
- **Maximum Class Size: 50**

# October

<i>Sun</i>	<i>Mon</i>	<i>Tue</i>	<i>Wed</i>	<i>Thu</i>	<i>Fri</i>	<i>Sat</i>
					1	2
3	4	5	6	7	8	9
10	11 <b>Fire Safety 2.0 hr.</b>	12 <b>Fire Safety 2.0 hr.</b>	13 <b>Fire Safety 2.0 hr.</b>	14 <b>Fire Safety 2.0 hr.</b>	15 <b>Fire Safety 2.0 hr.</b>	16
17	18	19 <b>Safety Committee Meeting</b>	20	21	22	23
24	25	26 <b>Fire Safety 2.0 hr. (make-up)</b>	27	28 <b>Fire Safety 2.0 hr. (make-up)</b>	29	30
31						

# November 2010 (FY 2011)

## Excavation Safety:

November 8<sup>th</sup> through November 12<sup>th</sup>

Make-up: November 23<sup>rd</sup> and November 25<sup>th</sup>

- **Elements**
  - Trench and Shoring
  - Personal Protective Equipment
  - Accident Prevention: Signs & Tags
  - Call before you dig
  - Underground lines – Color Coding
  - Overhead lines
  - Rescue Notification Awareness
  - Public Safety
  - Housekeeping
  - Slips / Trips / Falls
  - Ladder Safety
  - Contract Employer Responsibilities
  - Some atmospheric monitoring
  - Traffic Control / Excavation Permit
  - Record Keeping
  - Hot Work Permit – Flammable / Spark Producing
  - Atmospheric Sampling – Confined Space
  - Cold Weather Training
  
- **Duration:** 6 hours
  
- **Required:** annually
  
- **Employees required to attend:**
  - **Collection System – Department 2**
    - Construction
  - **Engineering – Department 5**
    - Inspectors
    - Project Managers
  - **SD #1 Emergency Response Team (ERT)**
  
- **Maximum Class Size:** 20

# November

<i>Sun</i>	<i>Mon</i>	<i>Tue</i>	<i>Wed</i>	<i>Thu</i>	<i>Fri</i>	<i>Sat</i>
	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
<b>7</b>	<b>8</b> Excavation Safety 6.0 hr.	<b>9</b> Excavation Safety 6.0 hr.	<b>10</b> Excavation Safety 6.0 hr.	<b>11</b> Excavation Safety 6.0 hr.	<b>12</b> Excavation Safety 6.0 hr.	<b>13</b>
<b>14</b>	<b>15</b>	<b>16</b> Safety Committee Meeting	<b>17</b>	<b>18</b>	<b>19</b>	<b>20</b>
<b>21</b>	<b>22</b>	<b>23</b> Excavation Safety 6.0 hr. (make-up)	<b>24</b>	<b>25</b> Excavation Safety 6.0 hr. (make-up)	<b>26</b>	<b>27</b>
<b>28</b>	<b>29</b>	<b>30</b>				

# December 2010 (FY 2011)

## Hazardous Waste Operations:

December 7<sup>th</sup> and December 9<sup>th</sup>

Make-up: December 15<sup>th</sup>

- **Elements**
  - Chemical Protective Clothing & Levels of Protection
  - Chemical Profiling (MSDS)
  - Air Monitoring (AMI) Overview
  - Spill Control and Containment (SPCC)
  - Emergency Response Guide (current edition)
  - NIOSH
  - CAMEO
- **Duration:** 4 hours
- **Required:** annually
- **Employees required to attend:**
  - **Dry Creek WWTP – Department 1**
    - Maintenance
    - Operations
    - Industrial Monitoring
    - Certified Pesticide Applicators
    - Field Technical Services
      - Operations
      - Certified Pesticide Applicators
  - **Administration – Department 3**
    - Facilities
      - Certified Pesticide Applicators
  - **Engineering – Department 5**
    - Stormwater – Illicit Discharge
  - **Optional:** SD1 Emergency Response Team Members
- **Maximum Class Size: 20**

# December

<i>Sun</i>	<i>Mon</i>	<i>Tue</i>	<i>Wed</i>	<i>Thu</i>	<i>Fri</i>	<i>Sat</i>
			1	2	3	4
5	6	7 Hazardous Waste Operations 4.0 hr.	8	9 Hazardous Waste Operations 4.0 hr.	10	11
12	13	14	15 Hazardous Waste Operations 4.0 hr. (make-up)	16	17	18
19	20	21 Safety Committee Meeting	22	23	24	25
26	27	28	29	30	31	

# January 2011

## CPR/AED/Bloodborne Pathogens:

January 10<sup>th</sup> through 14<sup>th</sup>

Make-up: January 25<sup>th</sup>, 27<sup>th</sup>, and 28<sup>th</sup>

## First Aid:

January 12<sup>th</sup>

Make-up: January 27<sup>th</sup> and 28<sup>th</sup>

## CPR/AED/Bloodborne Pathogens

- **Elements**
  - Adult CPR with AED
  - Bloodborne Pathogens
  - Personal Protective Equipment
  - Myclyns Wound Sanitizer
- **Duration:** 6 hours
- **Required:** annually
- **Employees required to attend:**
  - Any employee who is one of the following:
    - Confined Space Entry Qualified
    - Electricians
    - Emergency Response Team
    - Emergency Action Plan (EAP) Designated First Responders (plant and office)

Maximum class size: 20

---

## First Aid

- **Elements**
  - Adult First Aid
  - Bloodborne Pathogens
  - Personal Protective Equipment
- **Duration:** 2 hours
- **Required:** every 3 years, offered annually
- **Employees required to attend:**
  - Any employee who is one of the following:
    - Confined Space Entry Qualified
    - Electricians
    - Emergency Response Team
    - Emergency Action Plan (EAP) Designated First Responders (plant and office)
- **Maximum class size:** 40

# January

<i>Sun</i>	<i>Mon</i>	<i>Tue</i>	<i>Wed</i>	<i>Thu</i>	<i>Fri</i>	<i>Sat</i>
						1
2	3	4	5	6	7	8
9	10 CPR/AED/BBP 6.0 hr.	11 CPR/AED/BBP 6.0 hr. First Aid 2.0 hr.	12 CPR/AED/BBP 6.0 hr.	13 CPR/AED/BBP 6.0 hr.	14 CPR/AED/BBP 6.0 hr.	15
16	17	18 Safety Committee Meeting	19	20	21	22
23	24	25 CPR/AED/BBP 6.0 hr.	26	27 CPR/AED/BBP 6.0 hr. First Aid 2.0 hr.	28 CPR/AED/BBP 6.0 hr. First Aid 2.0 hr.	29
30	31					

# February 2011

## Traffic Control - Update :

February 7<sup>th</sup> through 11<sup>th</sup>

Make-up: February 22<sup>nd</sup> and 24<sup>th</sup>

## Traffic Control :

- **Elements**
  - Traffic control / Excavation Permit
  - Record Keeping
  - Flagging
  - Signaling
  - Hot Weather Training
  - Work Zone Setup
  - Signs
  - Accident Prevention: Signs & Tags
  - Changing Conditions
  - Short-term v/s Long-term
  - Speed Classification
  - Personal Protective Equipment (employees to bring equipment for audit)
- **Duration**
  - 8.0 hrs. for regular class (even numbered years)
  - 4.0 hrs. for update class (odd numbered years)
- **Required:** Semi-annually
- **Employees required to attend:**

Any employee who is one of the following:

  - Dry Creek – Designated Personnel
  - Electricians
  - Collection Systems Construction and Customer Service
  - Flow Monitoring
  - Engineering Inspectors
  - Emergency Response Team
  - Inmate supervisors
- **Maximum Class Size: 40**

# February

<i>Sun</i>	<i>Mon</i>	<i>Tue</i>	<i>Wed</i>	<i>Thu</i>	<i>Fri</i>	<i>Sat</i>
		1	2	3	4	5
6	7 Traffic Control 4.0 hr	8 Traffic Control 4.0 hr	9 Traffic Control 4.0 hr	10 Traffic Control 4.0 hr	11 Traffic Control 4.0 hr	12
13	14	15 Safety Committee Meeting	16	17	18	19
20	21	22 Traffic Control 4.0 hr. (Make-up)	23	24 Traffic Control 4.0 hr. (Make-up)	25	26
27	28					

# March 2011

**Lockout – Tagout:** March 14<sup>th</sup> through 18<sup>th</sup>  
Make-up: March 29<sup>th</sup> and March 31<sup>st</sup>

**Electrical Safety:** March 14<sup>th</sup> through 18<sup>th</sup>  
Make-up: March 29<sup>th</sup> and March 31<sup>st</sup>

## **Lockout – Tagout**

- **Elements**
    - Lockout / Tagout Program
    - Housekeeping
    - Personal Protective Equipment
  - **Duration:** 1.0 hr.
  - **Required:** annually
  - **Employees required to attend:**
    - **Dry Creek WWTP – Department 1**
      - Operations
      - Maintenance
      - Small Plants
      - Eastern Regional WRF
      - Field Technical Services
        - Operations
        - Maintenance
    - **Collection System – Department 2**
      - Customer Service
      - Construction
  - **Maximum Class Size:** 40
- 

## **Electrical Safety**

- **Elements**
  - Assured Grounding
  - Arc Flash NFPA 70E (overview)
  - Housekeeping
  - Personal Protective Equipment
  - Accident Prevention: Signs & Tags
  - Lockout / Tagout (overview)
- **Duration:** 3.0 hrs.
- **Required:** annually
- **Arc Flash Personal Protective Equipment:** Attendees to bring arc flash PPE for Demonstration/audit purposes
- **Employees required to attend:**

Any employee who is one of the following:

  - Electricians and Maintenance personnel. Also Operations personnel who completed electronics or electrical components training (WINNS grant training at Gateway Community College)
- **Maximum Class Size:** 30

# March

<i>Sun</i>	<i>Mon</i>	<i>Tue</i>	<i>Wed</i>	<i>Thu</i>	<i>Fri</i>	<i>Sat</i>
		1	2	3	4	5
6	7	8	9	10	11	12
13	<b>14</b> Lockout-Tagout 1.0 hr. Electrical Safety 3.0 hr.	<b>15</b> Lockout-Tagout 1.0 hr. Electrical Safety 3.0 hr. Safety Committee Meeting	<b>16</b> Lockout-Tagout 1.0 hr. Electrical Safety 3.0 hr.	<b>17</b> Lockout-Tagout 1.0 hr. Electrical Safety 3.0 hr.	<b>18</b> Lockout-Tagout 1.0 hr. Electrical Safety 3.0 hr.	19
20	21	22	23	24	25	26
27	28	<b>29</b> Lockout-Tagout 1.0 hr. (make-up) Electrical Safety 3.0 hr. (make-up)	30	<b>31</b> Lockout-Tagout 1.0 hr. (make-up) Electrical Safety 3.0 hr. (make-up)		

# April 2011

**Hazard Communication:** April 11<sup>th</sup> through April 15<sup>th</sup>  
Make-up: April 26<sup>th</sup> and 28<sup>th</sup>

**Lab Safety:** April 11<sup>th</sup> through April 15<sup>th</sup>  
Make-up: April 26<sup>th</sup> and 28<sup>th</sup>

## **Hazard Communication**

- **Elements**
    - Damming and Dykes
    - Safe Handling of Hazardous Chemicals
    - Accident prevention/housekeeping
    - Material Safety Data Sheets / Locations
    - Temporary Use Containers
    - Personal Protective Equipment
    - Accident Prevention: Signs & Tags
    - Housekeeping
    - Storage of Flammable and Combustible Liquids
    - Spill Prevention Control & Countermeasures & Storm Water Pollution Prevention Plan Kit Locations
    - Understanding National Fire Protection Association Hazard Recognition Labels
  - **Duration:** 2.0 hrs.
  - **Required:** annually
  - **Employees required to attend:**

Any employee who is one of the following:

    - **Dry Creek WWTP – Department 1**
      - Operations, Maintenance, Lab / Industrial Monitoring, Small Plants
      - Eastern Regional WRF
      - Field Technical Services – Operations and Maintenance
    - **Collection System – Department 2**
      - Customer Service
      - Construction
    - **Administration – Department 3**
      - Safety and Facilities
    - **Engineering – Department 5**
      - Flow Monitoring
  - **Maximum Class Size: 40**
- 

## **Lab Safety**

- **Elements**
  - Safe Handling of Hazardous Chemicals
  - Accident prevention
  - Material Safety Data Sheets / Locations
  - Temporary Use Containers
  - Personal Protective Equipment
  - Accident Prevention: Signs & Tags
  - Housekeeping
  - Storage of Flammable and Combustible Liquids
  - Understanding National Fire Protection Association Hazard Recognition Labels
- **Duration:** 1.0 hrs.
- **Required:** annually
- **Employees required to attend:**
  - **Dry Creek WWTP – Department 1**
    - Lab / Industrial Monitoring
- **Maximum Class Size: 20**

# April

<i>Sun</i>	<i>Mon</i>	<i>Tue</i>	<i>Wed</i>	<i>Thu</i>	<i>Fri</i>	<i>Sat</i>
					1	2
3	4	5	6	7	8	9
10	11 Hazard Communication 2.0 hr. Lab Safety 1.0 hr.	12 Hazard Communication 2.0 hr. Lab Safety 1.0 hr.	13 Hazard Communication 2.0 hr. Lab Safety 1.0 hr.	14 Hazard Communication 2.0 hr. Lab Safety 1.0 hr.	15 Hazard Communication 2.0 hr. Lab Safety 1.0 hr.	16
17	18	19 Safety Committee Meeting	20	21	22	23
24	25	26 Hazard Communication 2.0 hr. (make-up) Lab Safety 1.0 hr. (make-up)	27	28 Hazard Communication 2.0 hr. (make-up) Lab Safety 1.0 hr. (make-up)	29	30

# May 2011

## Confined Space Entry and Rescue:

May 9<sup>th</sup> through May 13<sup>th</sup>

Make-up: May 24<sup>th</sup> and May 26<sup>th</sup>

- **Elements**
  - Confined space – permit required Program
  - Fall protection / fall prevention
  - iTX atmospheric monitoring
  - Personal Protective Equipment
  - Accident Prevention: Signs & Tags
  - Lock-out / Tag-out
  - Hazard Communication
  - Entry Equipment - Simulator
  - Communication
  - Rescue/SKED
  - Permit Required Confined Space Forms
  - Self Contained Breathing Apparatus /Supplied Air Respirator
  - Ventilation
  - Open Surface Tanks
  - Personal Protection
  - Entry/Dispatch
  - Hot Work Permit
  - Emergency Rescue Permit
  - Compressed Gasses
  - Housekeeping
  - Traffic Control / Flagger
  
- **Duration:** 8.0 hrs.
  
- **Required:** annually
  
- **Employees required to attend:**
  - **Dry Creek WWTP – Department 1**
    - Operations
    - Maintenance
    - Lab / Industrial Monitoring
    - Eastern Regional WRF
    - Field Technical Services
      - Operations
      - Maintenance
  - **Collection System – Department 2**
    - Customer Service
    - Construction
  - **Administration – Department 3- Safety**
  - **Engineering**
    - Flow Monitoring
    - Inspectors
    - Storm Water - Illicit Discharge
  
- **Maximum Class Size: 40**

# May

<i>Sun</i>	<i>Mon</i>	<i>Tue</i>	<i>Wed</i>	<i>Thu</i>	<i>Fri</i>	<i>Sat</i>
1	2	3	4	5	6	7
8	9 Confined Space Entry and Rescue 8.0 hr.	10 Confined Space Entry and Rescue 8.0 hr.	11 Confined Space Entry and Rescue 8.0 hr.	12 Confined Space Entry and Rescue 8.0 hr.	13 Confined Space Entry and Rescue 8.0 hr.	14
15	16	17 Safety Committee Meeting	18	19	20	21
22	23	24 Confined Space Entry and Rescue 8.0 hr. (make-up)	25	26 Confined Space Entry and Rescue 8.0 hr.(make-up)	27	28
29	30	31				

# June 2011

## General Safety – NON Office:

June 13<sup>th</sup> through June 17<sup>th</sup>

Make-up: June 29<sup>th</sup>

- **Elements**
  - Emergency Action Planning
  - Personal Protective Equipment
  - Accident Prevention: Signs & Tags
  - Contractor Safety
  - Hazardous Conditions
  - Wet Conditions
  - Carbon Monoxide
  - Dust
  - Confined Spaces
  - Guarding
  - Protective Guards
  - Inspection
  - Storage
  - Generators, transformers, and Rectifiers
  - Operating Controls and Switches
  - Cords and Plugs
  - Power Operated Hand Tools
  - Electric Tools Pneumatic Tools Liquid Fuel Tools Powder-Actuated Tools Hydraulic Power Tools
  - Portable Abrasive Wheel Tools
  
- **Duration:** 3.0 hrs.
  
- **Required:** semi-annually
  
- **Employees required to attend:**
  - **Dry Creek WWTP – Department 1**
    - Operations
    - Maintenance
    - Lab / Industrial Monitoring
    - Eastern Regional WRF
    - Field Technical Services
      - Operations
      - Maintenance
  - **Collection System – Department 2**
    - Customer Service
    - Construction
  - **Administration – Department 3**
    - Safety
    - Facilities
  - **Engineering - Department 5**
    - Flow Monitoring
    - Inspectors
  
- **Maximum Class Size:** 40

# June

<i>Sun</i>	<i>Mon</i>	<i>Tue</i>	<i>Wed</i>	<i>Thu</i>	<i>Fri</i>	<i>Sat</i>
			1	2	3	4
5	6	7	8	9	10	11
12	13 General Safety (NON-Office) 3.0 hr.	14 General Safety (NON-Office) 3.0 hr.	15 General Safety (NON-Office) 3.0 hr.	16 General Safety (NON-Office) 3.0 hr.r.	17 General Safety (NON-Office) 3.0 hr. hr..	18
19	20	21 Safety Committee Meeting	22	23	24	25
26	27	28	29 General Safety (NON-Office) 3.0 hr. (make-up)	30		

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**APPENDIX I:**  
***Grease Control Program Updates***

## Grease Control Program: Phased Implementation Tasks

Category	Task	Status/Activity
<b>Grease Control Phase 1 Tasks / Completed January 2008 - January 2009</b>		
Conduct Self Assessment	SD1 will acquire a list of FSEs within the service area that are permitted by the Kentucky Health Department. This will aid in determining the magnitude of FSEs that have the potential to discharge FOG to the SSS. This information will also help establish mailing addresses and points of contact for the FSEs.	Complete
	Field crew personnel currently determine when collection system problems are caused by FOG during a trouble call. This process will be evaluated to determine if the causes of trouble calls are being classified accurately.	Complete
	Field crew personnel enter trouble call evaluations into GBA. The process of entering information into GBA will be evaluated to ensure data is accurate, accessible and manageable.	Complete
	SD1 currently uses a geographical information mapping system called Arc Viewer. One of the primary functions of Arc Viewer is to show the locations of sanitary sewer lines in the service area. This system will be evaluated to find possible mapping capabilities for areas with FOG problems within the collection system.	Complete
Review Rules and Regulation / Enforcement Response Plan	A review of the SD1's Rules and Regulations and ERP is being conducted. This review will identify any deficiencies in the legal authority to control the discharge of grease into the SSS. It will also identify deficiencies in the enforcement program. If found, the deficiencies will indicate revisions to be made in Phase 2 of this program.	Complete
Design Criteria	SD1 will review the effectiveness of other publicly owned treatment works (POTWs) Rules and Regulations and ERPs (i.e. Cincinnati MSD, Louisville MSD, and Knoxville Utilities Board). This will provide insight into what is working for utilities in the surrounding area.	Complete
	SD1 will seek the development of design criteria for grease reduction device standards by the Kentucky Division of Plumbing, Kentucky Health Department and Kentucky Environmental and Public Protection Cabinet.	Complete

## Grease Control Program: Phased Implementation Tasks

Category	Task	Status/Activity
<b>Grease Control Phase 1 Tasks (Continued) / Completed January 2008 - January 2009</b>		
FSE Education	Over the last year, SD1 has created and distributed BMP posters to be displayed in permitted FSEs and will continue to distribute such posters. The FSEs are required to display these posters in areas where there is potential for FOG to be discharged to the SSS.	Complete
	SD1 will create and send out BMP brochures to all FSEs. The brochure will focus on the harmful effects of FOG in sewer lines and proper grease handling techniques used to minimize the release of FOG into the collection system. These brochures can also be distributed during site visits.	Complete
	SD1 will begin researching a compliance assistance workshop for FSEs. An evaluation of other FOG workshops will be conducted to determine content and effectiveness. This workshop will provide FSEs with a comprehensive overview of the Grease Control Program. The workshop will be initiated when all specifics of the program have been established.	Complete
FSE Education	SD1 has met with members of the Kentucky Restaurant Association (KRA) and the Northern Kentucky Restaurant Association (NKRA) to open channels of communication with key stakeholders. SD1 will continue to work to educate these key stakeholders. Their participation and cooperation is valuable. We will encourage the KRA and NKRA to include grease control program information in their newsletters.	Complete
Public Education	Over the last year, SD1 has created and distributed door hangers to inform customers when there has been a blockage or obstruction due to FOG in their area. These informational pieces focus on the harmful effects of FOG in sewer lines and proper grease handling techniques used to minimize the release of FOG into the collection system. SD1 will continue to distribute door hangers and letters to customers in areas impacted by FOG related overflows.	Complete
	SD1 will create and send out additional bill inserts to all customers within the service area. The bill stuffers will spotlight the harmful effects of FOG in sewer lines and proper grease handling techniques used to minimize the release of FOG into the collection system.	Complete
	SD1 will research the "Trap the Grease Program." This program involves supplying residences with a container for grease rather than pouring it down the drain.	Complete

## Grease Control Program: Phased Implementation Tasks

Category	Task	Status/Activity
<b>Grease Control Phase 2 Tasks / Completed January 2009 - January 2010</b>		
Conduct Self Assessment	GBA will be modified and field crew personnel will be trained to ensure data is entered accurately and that the data is accessible and manageable.	Complete
	SD1 will create a list of collection system areas experiencing problems with FOG in the sanitary sewers. This list will be created using the information established in GBA in Phase 1.	Complete
	SD1 will create a list of FSEs that may be contributing to FOG problem areas. This list will be created using information provided from the Kentucky Health Department in Phase 1.	Complete
Revise Rules and Regulation / Enforcement Response Plan	If necessary, SD1 will begin drafting revisions to the District's Rules and Regulations and ERP to ensure proper legal authority and enforcement.	Complete
Design Criteria	SD1 will continue to coordinate with the Kentucky Division of Plumbing, Kentucky Health Department and Kentucky Environmental and Public Protection Cabinet on the development of design criteria for grease reduction device standards.	Complete
FSE Education	SD1 will continue developing the compliance assistance workshop for FSEs and will maintain the distribution of the BMP posters to permitted FSEs.	Complete
	SD1 will distribute letters and other informational pieces to residential customers in areas impacted by FOG related overflows. These pieces will be evaluated and updated as needed on a regular basis.	Complete
Develop Inspection Protocol	SD1 will begin developing an inspection protocol for plumbing plans, installation and final inspection. This will ensure the proper installation of appropriate grease control devices.	Complete
	Inspection frequency and inspection report forms will be developed to determine if the FSE is in compliance with the Grease Control Program.	Complete
Modify Food Service Discharge Permit	SD1 will revise the Food Service Discharge Permit to ensure the permit coincides with changes made to the Rules and Regulations and Emergency Response Plan. The permit will address grease control device management, operation and maintenance standards, onsite record keeping requirements, cleaning frequency, cleaning standards, additives and ultimate disposal.	Complete
	SD1 will evaluate and revise, if necessary, the Restraunt/Food Service Grease Questionnaire to ensure the proper information is supplied about grease handling procedures.	Complete

## Grease Control Program: Phased Implementation Tasks

Category	Task	Status/Activity
<b>Grease Control Phase 3 Tasks / To be completed January 2010 - January 2011</b>		
Revise Domestic Holding Tank Waste Hauler Manifest	SD1 will evaluate and revise, if necessary, the Domestic Holding Tank Waste Hauler Manifest to better monitor the method and disposal of grease.	Complete
Evaluate Staffing and Equipment Requirements	SD1 will evaluate staffing levels and employ additional personnel, if necessary, to ensure requirements of the FOG program are being met.	Complete
FSE Education	SD1 will continue developing the compliance assistance workshop for FSEs.	Complete
	SD1 will maintain the distribution of the BMP poster to permitted FSEs.	On-going - distributed during FSE inspections. Brochures and pamphlets are also distributed during monthly FSE compliance assistance workshops.
Approval for Rules and Regulations / Enforcement Response Plan	SD1 will read publicly the modifications to the Rules and Regulations on two separate occasions at SD1's board meetings. A public comment period will begin with the first reading. SD1 will then submit revisions to SD1's Board of Directors for approval, then to the Cabinet for approval.	Complete
Public Education	SD1 will expand the grease control section of its website. The expansion will contain additional information for the public, FSEs and sludge haulers. Documents and forms will be made available for viewing and printing.	Complete
	SD1 will distribute letters and other informational pieces to residential customers in areas impacted by FOG related overflows. These pieces will be evaluated and updated as needed on a regular basis.	On-going task - distributed to residents in areas that experience overflows or in areas where inspection data reveal a grease problem.
Category	Task	Status/Activity
<b>Grease Control Phase 4 Tasks / To be completed January 2011 - January 2012</b>		
Public Readings of Rules and Regulations/Enforcement Response Plan	SD1 will publicly read the modifications on two separate occasions at SD1 board meetings. The revisions will be published when Phase 4 is complete.	Complete
Evaluate Staffing and Equipment Needs	The Industrial Monitoring Department will be responsible for all the activities associated with the Grease Control Program, and will be provided with necessary equipment. If the workload becomes too great for the current staff, SD1 will employ an additional Industrial Monitoring Specialist to ensure requirements of the program are being met.	Complete

## Grease Control Program: Phased Implementation Tasks

Performance Indicators	GBA will be used to determine the number of trouble calls due to grease, number of lines being PM's and the number of SSOs due to FOG.	Complete
	Linko FOG will be used to track permits, inspections, violations and correspondence on all permitted FSEs.	Complete
Permitting	All previously permitted FSEs will undergo a re-evaluation using the modifications to the Grease Control Program conducted in the previous phases.	All previously permitted FSEs will be re-issued a permit in November 2011. All pertinent information will be on the permit, which has a new template
	Any FSEs in new grease problem areas will be evaluated using the modifications in the previous phases.	On-going - once the process is identified, any FSEs in new grease problem areas will be evaluated using the modifications in the previous phase.
	All new FSEs will be evaluated using the modifications from the previous phases.	On-going - once the process is identified, any new FSEs in will be evaluated using the modifications in the previous phase.
FSE/Public Education	SD1 will require all permitted FSEs to attend a compliance assistance workshop and will maintain the distribution of the BMP posters to permitted FSEs.	On-going - compliance workshop meetings are held on a monthly basis. FOG brochures and pamphlets are also distributed during monthly FSE compliance assistance workshops. BMP posters are provided during inspections. During July - September 2011 206 FSEs attended the workshop. SD1 had no need to distribute any BMP posters during the same time frame.
	SD1 will distribute letters and other informational pieces to residential customers in areas impacted by FOG related overflows. These pieces will be evaluated and updated as needed on a regular basis.	On-going task - approximately 6,436 pieces of literature have been sent since February 2009, of which 471 were mailed July - September 2011. Letters will continue to go out September - December 2011 to any residence that experiences a backup due to FOG or where an overflow has occurred due to a blockage of FOG.

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## **APPENDIX J:**

### ***Pump Station Backup Power Update***

**Pump Station Backup Power Plan**

CIP Title	Basin	Original Proposed Solution	Updated Proposed Solution	Scheduled Completion Date	Actual Completion Date	Status Description As of October 2011
<b>Category 1 Projects (4 total projects)</b>						
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 Engine	2010	2010	Complete
<b>Category 2 Projects (21 total projects)</b>						
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	East	PS Elimination	n/a	2009	2009	Complete
Riley Road No. 2						
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 Engine	Study - 2008 2012 - 2015	2008 2010	Complete Complete
Wedgewood Dr	Central	PS Elimination Study	PS Elimination	Study - 2008 2012 - 2015	2008	Complete On-hold
Willow Bend No. 2	West	PS Elimination Study	PS Elimination	Study - 2008 2012 - 2015	2008 n/a	Complete Initial Project Analysis
Army Reserve	East	PS Elimination Study	Initial analysis indicated that this station can be eliminated by means of gravity sewer. Cost-effectiveness of solution to be further analyzed before final determination is made.	Study - 2008	2008	Complete
				2012 - 2015	n/a	Initial Project Analysis
Eagles Landing	West	PS Elimination Study	Initial analysis indicated that this station can be eliminated by means of gravity sewer. Cost-effectiveness of solution to be further analyzed before final determination is made.	Study - 2008	2008	Complete
				2012 - 2015	n/a	Initial Project Analysis
Evergreen	Central	PS Elimination Study	Initial analysis indicated that this station can be eliminated by means of gravity sewer. Cost-effectiveness of solution to be further analyzed before final determination is made.	Study - 2008	2008	Complete
				2012 - 2015	n/a	Initial Project Analysis
Lamphill	East	PS Elimination Study	Electrical hook up for portable generator	Study - 2008 2011	2008 n/a	Complete Project In-Progress
				Study - 2008	2008	Complete
Mill House Crossing	Central	PS Elimination Study	Backup Dry Prime Pump with a Diesel Engine	2012	n/a	Project In-Progress
Ridgefield	North	PS Elimination Study	PS Elimination	Study - 2008	2008	Complete
				2012 - 2015	n/a	Initial Project Analysis

**Pump Station Backup Power Plan**

CIP Title	Basin	Original Proposed Solution	Updated Proposed Solution	Scheduled Completion Date	Actual Completion Date	Status Description As of October 2011
<b>Category 2 Projects (continued)</b>						
War Admiral	West	PS Elimination Study	PS Elimination	Study - 2008	2008	Complete
				2012 - 2015	2011	Complete
Blackstone	West	PS Elimination Study	These stations will be eliminated after the Western Regional collection system is operational.	Study - 2008	2008	Complete
Dublin Green No. 1	West	PS Elimination Study		2012 - 2015	n/a	
				Study - 2008	2008	Complete
Fowler Creek	West	PS Elimination		2012 - 2015	n/a	
Gammon Calmet	West	PS Elimination		2013	2011	Complete
Gunpowder	West	PS Elimination		2013	n/a	
Union	West	PS Elimination		2013	n/a	
CIP Title	Basin	Original Proposed Solution	Updated Proposed Solution	Scheduled Completion Date	Actual Completion Date	Status Description As of October 2011
<b>Category 3 Projects (24 total projects)</b>						
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	Permanent Generator	Property owner issues; still evaluating solutions	2014	n/a	Evaluating Solutions
Kees	East	Permanent Generator	Back up dry pump system with diesel engine	2011	2011	Complete
Overlook	East	Permanent Generator	Property owner issues; permanent generator no feasible. Evaluating alternate backup power solution. The generator initially procured for this location will be moved to Newport Steel Pump Station.	2014	n/a	Evaluating Solutions
Riverview Farms	North	Permanent Generator	Property owner issues; permanent generator no feasible. Evaluating alternate backup power solution. The generator initially procured for this location will be moved to Enzweiler Pump Station.	2014	n/a	Evaluating Solutions
Stillwater	East	Permanent Generator	Property owner issues; permanent generator no feasible. Evaluating alternate backup power solution. The generator initially procured for this location will be moved to Cedar Pump Station.	2014	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 Description As of October 2011
<b>Category 4 Projects (50 total projects)</b>						
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 Engine	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 Engine	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 Engine	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 Engine	2009-2014	2010	Complete
Shadow Lake	East	Permanent Generator	Backup Dry Prime Pump with a Diesel Engine	2009-2014	2009	Complete
Wolf Rd	Central	Permanent Generator	Backup Dry Prime Pump with a Diesel Engine	2009-2014	2009	Complete
Air Park West	North	Permanent Generator	Backup Dry Prime Pump with a Diesel Engine	2009-2014	2011	Complete
Arbortech	North	Permanent Generator	Backup Dry Prime Pump with a Diesel Engine	2012	n/a	Initial Project Analysis
Arborwood	North	Permanent Generator	Property owner issues; permanent generator not feasible. Evaluating alternate backup power solution.	2009-2014	n/a	Evaluating Solutions
Brandtly Ridge	Central	Permanent Generator	Backup Dry Prime Pump with a Diesel Engine	2012	n/a	Project In-Progress
Brentwood	North	Permanent Generator	Property owner issues; permanent generator not feasible. Evaluating alternate backup power solution.	2009-2014	n/a	Evaluating Solutions
Brushup Lane	West	Permanent Generator	PS Elimination	2012		Project In-Progress
Carlisle Ave	East	Permanent Generator	n/a	2009-2014	n/a	Evaluating Solutions
Cinnamon Ridge	West	Permanent Generator	Backup Dry Prime Pump with a Diesel Engine	2012	n/a	Project In-Progress
Cold Spring Crossing	East	Permanent Generator	n/a	2009-2014	n/a	Evaluating Solutions
Cold Spring Plaza	East	Permanent Generator	Backup Dry Prime Pump with a Diesel Engine	2012	n/a	Project In-Progress
Darma Ct	East	Permanent Generator	Electrical hook up for portable generator	2012	n/a	Project In-Progress
Deer Creek No. 1	North	Permanent Generator	Backup Dry Prime Pump with a Diesel Engine	2009-2014	2011	Complete
Deer Creek No. 2	North	Permanent Generator	Backup Dry Prime Pump with a Diesel Engine	2009-2014	2011	Complete
Eighth Street	Central	Connect to Grid Power	n/a	2009-2014	n/a	Initial Project Analysis
Gerrard Ave	East	Permanent Generator	Portable Generator	2009-2014	2011	Complete
Golf Course	Central	Permanent Generator	n/a	2009-2014	n/a	Initial Project Analysis
Hampton Ridge	West	Permanent Generator	Property owner issues; permanent generator not feasible. Evaluating alternate backup power solution.	2009-2014	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 Description As of October 2011
<b>Category 4 Projects (continued)</b>						
Harvest Hill	Central	Permanent Generator	PS Elimination Study	2009-2014	n/a	Under analysis to be eliminated by means of gravity sewer.
ICH	Central	Permanent Generator	Electrical hook up for portable generator	2012	n/a	Project In-Progress
IDI	North	Permanent Generator	n/a	2009-2014	n/a	Initial Project Analysis
Independence Station Rd	Central	Permanent Generator	Backup Dry Prime Pump with a Diesel Engine	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	n/a	Project In-Progress
Jonathan	West	Permanent Generator	Property owner issues; permanent generator not feasible. Evaluating alternate backup power solution.	2009-2014	n/a	Evaluating Solutions
Litton	North	Permanent Generator	n/a	2009-2014	n/a	Initial Project Analysis
Ohio Ave	East	Permanent Generator	Portable Generator	2009-2014	2011	Complete
Orchard Estates	West	Permanent Generator	n/a	2009-2014	n/a	Evaluating Solutions
Parkside No. 2	East	Permanent Generator	n/a	2009-2014	n/a	Initial Project Analysis
Patton Street	Central	Dual Utility Power Feed	n/a	2009-2014	n/a	Initial Project Analysis
Ria Vista	North	Permanent Generator	Electrical hook up for portable generator	2011	n/a	Project In-Progress
Silver Grove	East	Permanent Generator	n/a	2009-2014	n/a	Initial Project Analysis
St Annes	East	Permanent Generator	n/a	2009-2014	n/a	Evaluating Solutions
Sycamore	West	Permanent Generator	Property owner issues; permanent generator not feasible. Evaluating alternate backup power solution.	2009-2014	n/a	Evaluating Solutions
Taylor Mill Rd	Central	Permanent Generator	Electrical hook up for portable generator	2011	n/a	Project In-Progress
Wilder	East	Permanent Generator	n/a	2009-2014	n/a	Evaluating Solutions
Wyndemere	North	Permanent Generator	Portable Generator	2009-2014	n/a	Evaluating Solutions
Youell Rd	West	Permanent Generator	Backup Dry Prime Pump with a Diesel Engine	2012	n/a	Initial Project Analysis

**Pump Station Backup Power Plan**

CIP Title	Basin	Original Proposed Solution	Updated Proposed Solution	Scheduled Completion Date	Actual Completion Date	Status Description As of October 2011
<b>Category 5 Projects (6 total projects)</b>						
Keavy	Central	Permanent Generator	Backup Dry Prime Pump with a Diesel Engine	2010-2015	2010	Complete
Meadow Lane	Central	Permanent Generator	Backup Dry Prime Pump with a Diesel Engine	2010-2015	2009	Complete
Cardinal Cove	North	Permanent Generator	n/a	2010-2015	n/a	Initial Project Analysis
Crestview	East	PS Elimination Study	n/a	2010-2015	n/a	Evaluating Solutions
Ripple Creek	East	PS Elimination Study	PS Elimination	2010-2015	2010	Complete
Winters Lane No. 2	East	Permanent Generator	n/a	2010-2015	n/a	Initial Project Analysis
CIP Title	Basin	Original Proposed Solution	Updated Proposed Solution	Scheduled Completion Date	Actual Completion Date	Status Description As of October 2011
<b>Category 6 Projects (5 total projects)</b>						
Enzweiller	East	Permanent Generator	n/a	2012-2015	2009	Complete
Mafred	Central	Permanent Generator	Backup Dry Prime Pump with a Diesel Engine	2012-2015	2009	Complete
Ridgeway	Central	Permanent Generator	Backup Dry Prime Pump with a Diesel Engine	2012-2015	2009	Complete
Richwood	West	Permanent Generator	Backup Dry Prime Pump with a Diesel Engine	2012	n/a	Project In-Progress
Twin Lakes	Central	Permanent Generator	n/a	2012-2015	n/a	Initial Project Analysis

Progress Summary	Number
2007 Complete Projects	4
2008 Complete Projects	8
2009 Complete Projects	24
2010 Complete Projects	10
2011 Complete Projects	11
<b>Total Complete</b>	<b>57</b>
2011 Active Projects	4
2012 Active Projects	9
<b>Total Project Activity</b>	<b>70</b>

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