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December 22, 2009

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Subject: Annual Report
July 1, 2008 through June 30, 2009
Civil Action No. 3:08-cv-00608-CRS
DOJ Case No. 90-5-1-1-08254

Attention Chief:

Please find attached our Annual Report, prepared in accordance with Paragraph 30 of our Amended Consent Decree. This report is for the period July 1, 2008 through June 30, 2009.

I certify under penalty of law that this document and all attachments were prepared under our 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.

If you have questions or need additional information, please contact me at (502) 649-3850.

Sincerely,

W. Brian Bingham
Regulatory Services Director

FY09 AR transmittal letter.doc

cc: H. J. Schardein, Jr.

Paula Purifoy

Laurence J. Zielke



Beneficial Use of Louisville's Biosolids
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Louisville and Jefferson County Wet Weather Consent Decree Annual Report



Reporting Period:

July 1, 2008 through June 30, 2009

Submitted To:

Kentucky Department of Environmental Protection
United States Environmental Protection Agency
United States Department of Justice

Submitted By:

Louisville and Jefferson County Metropolitan Sewer District
700 W. Liberty Street
Louisville, Kentucky 40203-1911

Submittal Date:

December 30, 2009

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INTRODUCTION

The Louisville and Jefferson County Metropolitan Sewer District (MSD) has entered into an Amended Consent Decree with the Kentucky Department of Environmental Protection (KDEP) and the United States Environmental Protection Agency (EPA). The Amended Consent Decree was signed by United States District Judge Simpson on April 10, 2009 and filed in United States District Court, Western Division of Kentucky, Louisville Division, on April 15, 2009.

This is the fourth Annual Report submitted in accordance with Paragraph 30 of the Amended Consent Decree. This report covers the time period from July 1, 2008, through June 30, 2009. **The structure for this report is outlined as follows:**

Section 1: Program Activities for Nine Minimum Controls - This section describes the scope, schedule and status for projects and other activities that were active during the reporting period **July 1, 2008, through June 30, 2009**, and the anticipated projects and activities that are scheduled to be performed during the next reporting period (July 1, 2009, through June 30, 2010) for continued compliance with the Amended Consent Decree.

Section 2: Program Activities for Sewer Overflow Response Protocol - This section describes the scope, schedule and status for activities that were active during the reporting period **July 1, 2008, through June 30, 2009**, and the anticipated activities that are scheduled to be performed during the next reporting period (July 1, 2009, through June 30, 2010) for continued compliance with the Amended Consent Decree.

Section 3: Program Activities for Discharge Abatement Plans - This section describes the scope, schedule and status for projects and other activities that were active during the reporting period **July 1, 2008, through June 30, 2009**, and the anticipated projects and activities that are scheduled to be performed during the next reporting period (July 1, 2009, through June 30, 2010) for continued compliance with the Amended Consent Decree.

Section 4: Program Activities for Public Outreach, Education, Notification and Participation - This section describes the activities related to public outreach, education, notification and participation that were active during the reporting period **July 1, 2008, through June 30, 2009**, and the anticipated activities that are scheduled to be performed during the next reporting period (July 1, 2009, through June 30, 2010) for continued compliance with the Amended Consent Decree.

Section 5: Capacity Management, Operations and Maintenance - The program activities performed during the reporting period **July 1, 2008, through June 30, 2009**, and activities planned for the next reporting period (July 1, 2009, through June 30, 2010) are included in this section for continued compliance with the Amended Consent Decree.

Section 6: Program Activities for Water Quality Treatment Centers - This section describes the scope, schedule and status for projects and other activities related to WQTCs that were active during the reporting period **July 1, 2008, through June 30, 2009**, and the anticipated projects and activities that are scheduled to be performed during the next reporting period (July 1, 2009, through June 30, 2010) for continued compliance with the Amended Consent Decree.

Section 7: Project WIN Performance Overview - This section provides an accounting of the number of overflow occurrences, including unauthorized discharges, from the separate sanitary

sewer and combined sewer system and the estimated volumes of each. A discussion of the probable reductions, in both unauthorized discharge points and the discharges from MSD's Combined Sewer Overflow (CSO) locations, identified in the Morris Forman Water Quality Treatment Center (WQTC) Kentucky Pollutant Discharge Elimination System (KPDES) permit, that are expected to result from MSD's projects and activities during the reporting period are also contained in this section.

Section 8: Supplemental Environmental Projects (SEPs) Annual Report - The program activities performed during the reporting period (**July 1, 2008, through June 30, 2009**) and activities planned for the next reporting period (July 1, 2009, through June 30, 2010) are included in this section.

SECTION 1: Program Activities for Nine Minimum Controls

1.1 Nine Minimum Controls Program Background

Per Paragraph 24.a. of the Amended Consent Decree, the Nine Minimum Controls (NMC) Compliance Report was initially submitted to EPA and KDEP on February 10, 2006. MSD received an approval letter, dated February 22, 2007, for the NMC Compliance Report. The approved NMC Compliance document can be viewed on the MSD Project WIN website www.msdlouky.org/projectwin. Highlights of the NMC program implementation over this reporting period are outlined below.

1.2 NMC 1: Proper Operation and Maintenance Programs

FY 09 Program

Program Metrics

- Inspected and cleaned 20,288 catch basins within the combined sewer system (CSS) during FY09.
- Continued to inspect, maintain and properly operate the CSS pump stations and the Morris Forman WQTC.
- Performed 5590 weekly inspections on CSOs, 1092 creek inspections, and initiated over 474 work orders for debris removal and/or repairs as determined to be necessary to allow proper system operation during this reporting period.
- As part of the gravity sewer preventive maintenance program, MSD cleaned 1034 sewer line segments in the CSS, ranging in size from 6 inches to 15 inches, during this reporting period.
- Developed program performance metrics for operation and maintenance of the CSS.
- Several Projects underway to improve access at CSO sites to facilitate cleaning activities.

Annual Training

- Trained Morris Forman WQTC staff to inspect CSOs 15, 16, 191, 210 and 211, and develop work orders for repair and debris removal as needed. These inspections were previously performed by I&FP staff.
- Developed training materials and “job aides” for Morris Forman WQTC crews inspecting CSOs 15, 16, 191, 210, and 211. The training material for the annual CSO Field Training was reviewed and updated.
- The annual CSO field training for I&FP and Morris Forman WQTC staff was held on May 29, 2009, and June 12, 2009, and included a description of performance measures, which will be implemented on July 1, 2009.

Annual Asset Review and Documentation

- The CSO location map for the Project WIN webpage, which links with the CSO fact

sheets, was placed into production on January 30, 2009.

- CSO Inventory update completed to include revised survey information of elevations, and improvements to the system. New CSO fact sheets were posted as part of the IOAP (Volume 2 – Appendix 2.5.1).
- Delivered copies of the revised CSO Inventory to CSO Crews in I&FP. Revised document has been placed in eB.
- Several projects underway to create improved access to some CSO sites to facilitate cleaning activities. Most of these projects are now in the easement acquisition stage.
- Revisions to the CSO components were made in Hansen to show that the regulators have been removed.
- Completed the evaluation of CSO quick hit eliminations in concert with the Long Term Control Plan (LTCP) efforts and documented the findings and plan to move forward in a December 15, 2008, memorandum.
- Conducted field verification on the CSOs on September 26, 2008, and September 29, 2008. A technical memorandum to document the findings was written on December 31, 2008.

FY 10 Program

Program Metrics

- Continue all cleaning and inspection programs.
- Report on the following program metrics:
 - 95% of CSOs Inspected/Week.
 - 95% of flap gates inspected weekly.
 - 95% of siphons inspected monthly.
 - 95% of Debris or Repair Work Orders on CSO assets created the next work day after the inspection of the asset and open for no more than 5 days.
 - 95% catch basins cleaned every 15 months.
 - 10% reduction in maintenance related (roots, obstructions, structural failures, mechanical failures, electrical failures, grease blockages, etc.) dry weather overflows in the combined sewer area each fiscal year.
 - 10% reduction in overflows in the CSS related to siphon maintenance each fiscal year.

Annual Training

- The results of the annual field investigation will be used to adjust and enhance the annual CSO Field training modules.
- Schedule and conduct the annual CSO field training with I&FP and Morris Forman WQTC personnel.

- Enhance CSO inspection and maintenance SOPs.

Asset Review and Documentation

- Continue implementation of field verification effort.
- Review the CSO Inventory and revise as necessary.
- Continue to assess quick CSO-closure opportunities within the Central Relief Drain.
- Review catch basin areas against the CSS area and explore re-alignment to confirm that regulatory commitments, of cleaning on an 18 month cycle in the CSS, are being achieved.
- Review and update the CSO webpage as needed.

CSSA

- Evaluate sewers requiring additional and/or immediate maintenance or cleaning based upon CSSA results.
- Define critical areas and large diameter sewers for inspection in FY10.
- Develop plan of sewers to be inspected in FY11.
- Develop programmatic elements and roles for the blockage abatement program.

1.3 NMC 2: Maximization of Storage in the Collection System

FY 09 Program

Real Time Control Optimization

- Continued operation of Phase I and Phase 2 of the Real Time Control system. Approximately 738 MG were stored in the system during rain events and routed to the Morris Forman WQTC once the system was able to handle the flow. See **Appendix F** for a detailed report.
- CSoft without Weather Forecasting - The intent of this project is to investigate the feasibility of programming CSoft so that it can continue to function if the weather forecasting feed from OneRain is down and not providing information. A report has been submitted to MSD for review and consideration.
- Integration of Flood Protection Mode - Integration of a flood protection mode to the CSoft Supervisor subsystem in the case when the Ohio River reaches a predetermined higher elevation during dry weather conditions in Jefferson County. The new control scheme for each of the flood pump stations during flood protection must be identified. MSD met with the Corps of Engineers to determine the Ohio River elevations needed to trigger the flood protection mode. Programming has been completed.
- Southeast Diversion Flowmeter Instability Analysis - The Southeast Diversion Structure diverts flow to the Northern Ditch Pump Station, but information needed to control the flow to the pump station site was inaccurate due to instabilities in the flow meters at the diversion structure as well as at the Northern Ditch site. BPR CSO, Inc. submitted a report on September 17, 2008, that identified the actions needed to correct these instabilities. MSD has completed the review of the document. The plan for flow meter relocation was completed by June 30, 2009.

- Northern Ditch Pump Station - It is necessary to provide a minimum flow to the Northern Ditch Pump Station in flood protection mode and safe mode. This can be done by modifying the operation of the pump station, Human Machine Interface (HMI) and the RTC system. Phase II construction projects have been completed and CSoft has been updated with the latest operating parameters.
- Rain Gauge coverage - BPR CSO, Inc. investigated the need for additional rain gauge coverage in order to enhance the RTC system. A report was submitted to MSD for review and consideration.
- Web-Based Training - The Operators RTC Training module has been approved and used in a training workshop held on December 18, 2008. Other modules have been completed; MSD Training Department will schedule this training.
- Reporting Tool - The reporting tool has been completed by BPR CSO, Inc. staff has been trained and this tool is now available for MSD staff to run the needed reports.
- Modeling - Phase I and Phase II control rules were defined for coding into the InfoWorks CS models for the combined sewer model and Southeast Diversion. The rules have allowed for the overflow reduction impact of Phase I and Phase II to be accounted for in developing overflow mitigation projects for the Integrated Overflow Abatement Plan.
- Completed the construction of the inflatable gate in the Southwestern Outfall during this period. This is part of the RTC at Southwestern Outfall SWOR2 - Budget ID I05055. This project was completed on December 16, 2008, and the certification letter was sent on December 18, 2008, in accordance with the Consent Decree.
- The Wheeler Basin and MDS/SWPS/ Morris Forman WQTC projects were combined into one project for bidding and construction and have been completed. These projects were completed on December 15, 2008, and the certification letter was sent on December 18, 2008, in accordance with the Consent Decree.

Storage Optimization

- CSO108 Regulator - The removal of the CSO108 Regulator was included in the scope of the RTC project at CSO108. The regulator was removed on November 9, 2008.
- Beargrass Creek Flapgate Evaluation - The technical memorandum to document the findings of the September 2008 analysis was presented to I&FP staff in January 2009. A prioritization plan was completed on June 19, 2009.
- Willow Pond Disconnection - This project disconnected the Willow Pond overflow structure from the CSS. Stormwater overflowed from the pond to CSO127 and contributed 2.9 MG of Annual Average Overflow Volume (AAOV). This project installed a 24-inch diameter relief storm line between Willow Pond (at corner of Lexington Road & Grinstead Drive) and Beargrass Creek. The construction of this project was complete on June 1, 2009.

FY 10 Program

Real Time Control Optimization

- Develop a working definition of “RTC active storage” to standardize the calculation of the volume of flow stored during wet weather events by RTC facilities.
- Evaluate whether modifications to current RTC operating practices can reduce overflow events at peripheral CSOs. If opportunities for CSO reductions are identified, modified SOPs for operations of RTC facilities will be developed.
- Schedule time with RS and Ops staff in the computer room during a rain event to observe the decision making process and reaction of the system to events. This may reveal further opportunities to enhance the RTC user interface or indicate where modifications in programming could improve system performance.
- Initiate an evaluation of existing and planned IOAP control facilities, pump stations, gates, and system models to determine opportunities and operational procedures to optimize the use of current and future CSO control facilities
- Continue the RTC Phase II analytical and administrative projects.
- Enhance/expand RTC reporting capabilities. BPR CSO, Inc. will submit modified drawings and specifications in July 2009, for the flow meter relocations at the Southeast Diversion.
- Determine appropriate tracking mechanisms and perform programming to actively implement the stated performance measures.

Storage Optimization

- Complete the design of the first set of flap gates by September 30, 2009, in accordance with the December 31, 2008, memorandum and revised work plan.
- Install the first set of flap gates in accordance with the December 31, 2008, memorandum and revised work plan.
- Raise dam at CSO086.
- Evaluate dam elevations to determine if flap gates are needed.
- Install bending weir at CSO108.
- Raise dam at CSO210.
- Construct an additional 24-inch low flow line between CSO016 and CSO210 to expand the conveyance of flow and minimize the overflow.

1.4 NMC 3: Review and Modification of Pretreatment Requirements

FY 09 Program

- Continued implementation of the CSO-SIU project in conjunction with the LTCP preparation. Metals data was collected in trunk sewers leading to CSOs to compare to the spreadsheet model predictions and establish confidence in the model. Spreadsheet model predictions for metals discharged to the CSOs were compared to acute water quality standards to determine if there are any new pollutants of concern (POC) for

specific CSO outfalls. MSD identified additional POCs at two CSO outfalls and began a review of industrial user data to determine if any users discharge a disproportionate share of that pollutant to the particular CSO outfall. This review and evaluation process may result in identification of new Non-Domestic Dischargers (NDDs) of concern who will be subject to the same evaluation process (relative to opportunities to reduce/eliminate discharges to CSOs) as the currently identified NDDs under the approved NMC #3 program activities. MSD initiated site visits at three new NDDs of concern and finalized revisions to the inspection form and wastewater discharge permit application to obtain information regarding discharges to the CSS.

- Continued to send wet weather alerts to Non-Domestic Dischargers (NDD) of concern prior to rain events, reminding them of their commitment to implement voluntary controls during wet weather events. During FY09, MSD sent email notices to NDDs 77 times prior to a rain event. There are currently 8 NDDs that voluntarily implement control during wet weather by alternating their cleaning schedule or by storing during a rain event and releasing later.
- Determined that additional data needs to be collected in trunk sewers contributory to CSO outfalls and/or those NDDs recently identified as possibly impacting overflows. By June 30, 2009, the data was collected and evaluated to further verify model predictions.
- Continued to include specific NMC #3 related language in re-issued permits discharging to the CSS. During this period MSD issued one new wastewater discharge permit and renewed one wastewater discharge permit.
- Continued to look for green infrastructure opportunities at NDDs discharging to CSS.
- Finalized performance measures to monitor the effectiveness of the implementation of NMC #3 within the Pretreatment Program and began tracking the performance measures.
- Continued to review industrial user data of NDDs of concern to determine if they discharge a disproportionate share of pollutants of concern to the CSS. The most recent review indicated reduced flow from some of the NDDs of concern. MSD updated the water quality risk impact model based on corrected industrial flow and concentration data. This resulted in removal of three of the newly identified NDDs of concern. MSD expects reduced flows and pollutant loadings from NDDs of concern to continue until the economy recovers.
- Started preparing training modules for internal training of staff (Emergency Response Pretreatment Inspectors and Pretreatment Technician). Training will be conducted when the module updates are completed.
- Created inspection work orders for Fats, Oils, and Grease (FOG) inspections in known hotspots. Based on findings, cleaning work orders were created.
- Collected additional data from trunk sewers and Non-Domestic Dischargers (NDDs) of concern. Analytical data available from the sampling effort has been evaluated. MSD will rerun models once new water quality standards are adopted by KDEP. When MSD reruns the models, the most recent industrial data will be used.

- Met with remaining NDD of concern to identify opportunities to reduce/eliminate the impact of discharges to the CSS. Letters were sent to the NDDs that documented the findings. MSD will continue to work with NDDs of concern to implement opportunities to reduce/eliminate impacts to the CSS.

Completed training modules for internal training of staff (ERPis) and conducted a training session on May 13, 2009. Twelve (12) staff attended this training. The training included a powerpoint session followed by interactive role playing inspection scenarios using actual companies to familiarize staff with different situations they may encounter in the field. Topics covered:

What do you produce at your facility?	Changes to Facility
Update Contact Information	Receiving wet weather alerts
Storm water program	Wet Weather Storage
Upcoming Construction Projects	Downspouts
Chemical Use	Cleaning Schedules
P2 Audit	

FY 10 Program

- Conduct follow-up site visit for all NDDs of concern.
- Complete NDD Water Quality Impact Risk Model based on recent changes to hydraulic model.
- Collect data from NDDs of concern and CSS trunk sewers to support future NDD Water Quality Impact Risk Model updates.
- Update NMC #3 file as needed;
- Track annual pretreatment inspections using Hansen;
- Provide email wet weather event notifications to NDDs of concern;
- Refer projects internally for green infrastructure opportunities;
- Utilize the revised permit application;
- Consider wet weather impacts when issuing/reissuing wastewater discharge and UDR permits to users in the CSS;
- Review performance measures and consider new measures; and
- Develop processes to track performance.

1.5 NMC 4: Maximization of Flow at the Morris Forman Water Quality Treatment Center (WQTC)

FY 09 Program

- Continued implementation of the RTC Phase II programmatic enhancement initiatives.
- Completed modifications to the Operations web page that displays flow, capacity and percent of capacity at the Morris Forman WQTC.
- There were 24 days where the peak flow was over 300 MGD at Morris Forman WQTC. There were no KPDES permit violations at Morris Forman WQTC during this reporting period.
- The RTC Phase II project, Integration of Southwestern Pump Station/Main Diversion Structure/Morris Forman WQTC (Budget ID I05056), linked the Southwestern Pump Station, Main Diversion Structure and the Morris Forman WQTC with the Global Optimization RTC system. The RTC computer system is now programmed to regulate the flows into Morris Forman WQTC during wet weather events, based on the current availability of treatment trains. This project was certified on December 15, 2008, in accordance with the Consent Decree.
- The study to evaluate the use of alternatives to sodium hypochlorite for disinfection during high flows has been completed. It has been determined that the peracetic acid is not compatible with sodium hypochlorite at the Morris Forman WQTC and therefore cannot be used as a replacement chemical on the secondary bypass line.
- Continued operation of RTC Phase I and Phase II, which minimizes wet weather CSOs by providing an optimized method for delivering more consistent flows into Morris Forman WQTC during and after wet weather events. Approximately 738 MG was stored in the system during rain events and routed to the Morris Forman WQTC once the system was able to handle the flow. See **Appendix F** for a detailed report.

FY 10 Program

- Enhance the performance metric displays for Morris Forman WQTC to include some of the underlying factors that affect available plant capacity. MSD currently tracks and displays the percentage of available plant capacity (as determined by the capacity calculator) that is being treated. MSD will increase the frequency of completing the capacity calculation and enhance the SOP and training to support this task. Additional performance metric displays that are planned include:
 - The percent availability of the critical (i.e. rate-limiting) unit processes (to manage the timing of maintenance activities in an attempt to increase uptime during wet weather events);
 - The percentage of time the full firm capacity of the treatment system is available to treat wet weather flows, (to manage the timing of major maintenance and capital projects for improvements to the Morris Forman WQTC) and;

- The percentage of time that the plant operates near the peak flow capacity of the plant when CSOs are occurring at the Southwestern Pump Station (CSO15) or at the Main Diversion Structure (CSO211).
- Initiate studies and, if appropriate, improvements to flow measurement at several places in the Morris Forman WQTC, including:
 - Developm
ent of an algorithm to calculate flow under Sluice Gate 1 at the Main Diversion Structure during wet weather events;
 - Improvem
ents to the Parshall Flumes at the New Headworks to improve flow measurement under high flow/submerged flume conditions;
 - Develop a
weir equation to allow flow measurement by the movable weir upstream of the old Headworks;
 - Replace
the flow meters upstream of the 20 secondary clarifiers; and
 - Evaluate
operating levels in the Final Effluent Pump Station to see if the existing effluent flume can be used during pumping operations.
- Investigate the potential to increase the peak flow delivery capacity of the Southwestern Pump Station, including:
 - Evaluation of wet well cleaning frequency;
 - Review the Standard Operating Procedures for wet weather conditions and update as necessary; and
 - Investigate the observed reduction of flow capacity at SWPS – determine if impellers are worn, if screening has reduced the capacity of the pumps, or if operating levels can be adjusted to restore original flow capacity.
- Enhance SOP for flow handling at MDS to allow for maximum treatment at Morris Forman WQTC prior to any flow being stored. Evaluate flow management strategy and subsequent CSoft/local station programming to determine if refinement is necessary.
- Schedule time with RS and Operations staff in the computer room during a rain event to observe the decision making process and reaction of Morris Forman WQTC processes to the event.

1.6 NMC 5: Elimination of CSOs During Dry Weather

FY 09 Program

Flood Pump Stations

- A review of flood pump stations within the CSS was performed to determine if additional operational and/or structural modifications are feasible, further maximizing operations

and efficiently transporting more flow to the Morris Forman WQTC. Modifications to several pump stations will eliminate dry weather CSOs due to high river levels. A technical memorandum was transmitted as part of the IOAP submitted in December 2008. Ten stations (4th, 5th, 10th, 17th, 27th, 34th, Paddy's Run, Shawnee, Starkey and Western FPSs) were found to have dry weather overflows during operation caused by elevated Ohio River levels.

- Five of these stations (4th, 17th, 27th, 34th and Shawnee) require automated gate control projects for the DWO eliminations. A final design contract was negotiated for the gate automation modifications design for 4th and 34th Street FPS.
- The remaining stations will only require changes in the operating procedures. A contract was awarded to develop DWO abatement solutions. The contract looked at each FPS, quantified the volumes of DWOs and developed standard operating procedures (SOPs) for the FPS that only required a change in operations to eliminate DWOs.
- USACE discussions were on-going regarding proposed modifications to these pumping stations that will minimize dry weather CSOs due to high river levels. Several meetings were held to communicate with USACE regarding the proposed FPS modifications.

Asset Analysis

- Continued implementation of the Unusual Discharge Request permit program, to prevent negative impacts on the CSS from discharges not already covered by a wastewater discharge permit.
- Completed the analysis of locations throughout the District that historically have experienced excessive accumulation of fats, oils and greases (FOG) in sewers to determine if an engineered solution could cost-effectively and efficiently solve the maintenance problem. A technical memorandum documenting the findings and outlining a plan of action was completed by December 31, 2008. One capital project was identified in the technical memorandum. Design of the Sears and Oechsli Avenue Sewer Replacement Project began on April 17, 2009. MSD RS staff will continue to meet with I&FP and IWD to prioritize, track and mitigate FOG issues within the sewer system.
- MSD performed an evaluation of dry weather unauthorized discharges to the Waters of the United States, with emphasis on the CSS, to determine causes and to determine if there is a need for corrective activities. MSD will continue to report dry weather overflows from the CSS in accordance with the Sewer Overflow Response Protocol (SORP). There were three dry weather CSOs during this timeframe. One was caused by a faulty level switch at the Southwestern Pump Station, one was caused when 4th Street Flood Pump Station was placed in service and one was caused by a major waterline break. All issues have been repaired.

FY 10 Program

Flood Pumping Stations

- Continue to implement additional operational and/or structural modifications at flood pump stations within the CSS to prevent dry weather overflows. Discussions with the

USACE will continue regarding proposed modifications to these pumping stations that will minimize dry weather CSOs due to high river levels.

- Complete design of gate automation changes at 4th Street and 34th Street PS to eliminate DWOs in “idle” mode. Bid, award, and complete construction of the 4th Street and 34th Street PS DWO Elimination projects by June 30, 2010.
- Complete and implement the SOPs for the Flood Pump Stations that do not require a capital project by June 30, 2010.
- Start the planning of modifications for both Shawnee and 27th Street Pump Stations.
- Define the scope to update the current flood protection system operation and maintenance manual. This update will include all the FPS SOP revisions to eliminate DWOs. MSD will complete the planning and budgeting for the manual revisions during this period.

Asset Analysis

- Perform a quarterly evaluation of dry weather overflows to the Waters of the United States, with emphasis on the CSS, to determine causes and to determine if there is a need for corrective activities.
- Review Louisville Water Company protocols for hydrant flow tests to prevent any DWOs caused by hyper-chlorinated discharges. Develop a letter outlining changes to this protocol if necessary.
- Perform inspection and cleaning of FOG hotspots within the CSS, in accordance with CMOM commitments.

1.7 NMC 6: Control of Solids and Floatable Materials in Combined Sewer Overflows

FY 09 Program

Field Verification

- Performed extensive review of CSO146 baffle vault to determine if the low flow line was adequately sized due to slow drainage from the vault. Field investigation of the CSO146 baffle vault found construction debris in the line. This blockage has been removed and the structure is performing as designed.
- CSO108 reported an invalid dry weather overflow. The overflow was due to a ground water leak in the CDS system. The ground water leak was investigated and a scope created for to pressure epoxy grout repair the site’s wet wells. The pump level controls were re-calibrated and programmed to stop the recorded false overflow alarms. The site wet wells were rehabilitated in April 2009, by Sealguard, Inc. to stop the ground water inflow. The CDS unit has been sealed but inflows are still observed on site. TVI of the interceptor leading to the CDS will be performed to determine if CIPP rehabilitation of the pipe can occur to eliminate inflow.
- Developed and implemented a plan to monitor and document performance of the CSO108 Solids and Floatable structure operation in accordance with the Kentucky Nature Preserve Commission MOU.

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- Identified CSO131 as the best location for placement of the Cyclone solids and floatables screening device removed from CSO30. This cyclone was re-installed on March 20, 2009. The asset information and fact sheet, for CSO131, has been updated to reflect this installation.
 - Continued implementation of an expanded visual inspection program to determine the efficacy of installed controls. A visual inspection program outline was developed prior to March 31, 2009. The pilot implementation process was developed by April 30, 2009. A testing of this process was performed on May 14, 2009. The intent of the visual inspections is to verify the installed controls are working by checking the appearance of the creek/river before, during and after a rain event compared to a standard for aesthetics. MSD will start tracking weather for capture of two rain events for visual inspection during the next reporting period.

Solids and Floatables Debris Removal

- Continued inspection and maintenance procedures for the solids and floatables structures as part of the weekly CSO inspections and PM cleaning routines, outlined under NMC #1. During this timeframe, 416 work orders were issued for debris removal at the solids and floatables structures.
- Continued working with staff to determine the quantity of debris and floatables captured by street sweeping, catch basin cleaning, at the headworks of the Morris Forman WQTC, and at the end of line S&F controls. Reports have been developed to capture the amount of material removed through catch basin cleaning and at the end of the line S&F controls. I&FP staff were trained to capture data as part of the CSO training held this quarter. Data collected on these activities will be reported starting next fiscal year. In the last quarter of FY09, 629.80 CY of debris was removed from the system with catch basin cleaning.

FY 10 Program

Field Verification

- Perform wet weather inspections on two routes (weather permitting), as part of the expanded visual inspection program to determine the efficacy of installed controls. The intent of the visual inspections is to verify the installed controls are working by checking the appearance of the creek/river before, during and after an event compared to a standard for aesthetics. Evaluate the need for enhanced solids and floatable control.
- Continue to monitor and document performance of the CSO108 Solids and Floatable structure operation in accordance with the MOU with the Kentucky Nature Preserve by MSD Crews. Reports to be submitted on June 30, and December 31 annually.
- MSD will review new S&F technologies for potential incorporation into the program as a potential pilot project.

Solids and Floatables Debris Removal

- Track the volume of solids and floatables materials removed from the CSS.

1.8 NMC 7: Pollution Prevention Programs to Reduce Contaminants in CSOs

FY 09 Program

- Continued coordination of activities performed by Louisville Metro such as: street sweeping, Operation Brightside (garbage pick-up), and other Metro pollution prevention programs.
- Installed pervious pavement in the MSD Main Office parking lot around nine catch basins on August 12, 2008. The intent is to minimize the amount of runoff water that enters the combined sewer system. 258 square yards of pervious concrete was installed.
- Continued administration of the Hazardous Materials Ordinance, which requires users with hazardous materials on site to submit a spill prevention and control plan. Continued response to spills of hazardous materials and incidents involving discharges to the sewer system and provide spill mitigation kits to the Louisville Metro Fire Department to use to absorb vehicle fluids rather than flushing to the sewer.
- Continued administration of the Erosion Prevention and Sediment Control Ordinance. Eighty-six Field Correction Notices (FCN) were written mainly for the following situations: installation/ maintenance issues, stabilization, and failure to keep self inspection logs. There were also 11 Notice of Violations (NOV) or Stop Work Orders (SWO) written. NOV/SWO's were written mainly for failure to comply with FCN, or working without permits.
- Continued issuance of Wastewater Discharge Permits under the Industrial Pretreatment Program.
- MSD will continue to: facilitate clean sweep events and coordinate volunteers to remove trash and debris from the waterways in Jefferson County, facilitate rain barrel sales in partnership with the Louisville Nature Center, prepare and distribute informational pieces targeted to inform customers and residents on activities that can be practiced within their homes to assist in the reduction of overflows within the collection system, promote Green Infrastructure initiatives within Jefferson County, such as pervious pavement and aqua pavers, and distribute a rain garden manual outlining design and installation procedures for homeowners throughout the next reporting period.
- Louisville Metro sponsored a pharmaceutical destruction on May 27, 2009, and collected more than a half-ton of old medications from residents, preventing these chemicals from entering the sanitary sewer and/or solid waste streams.

FY 10 Program

- Develop a mechanism to track EPSC NOVs and Field Correction Notices within the CSS for mapping and reporting.

- Review and evaluate the MSD Design Manual and Standard Drawings for opportunities to include green infrastructure components as an alternative.
- Partner with Louisville Metro and Louisville Metro Police Department at pharmaceutical destruction events.
- Continue to prepare and distribute informational pieces, targeted to inform customers and residents on activities that can be practiced within their homes to assist in the reduction of overflows within the collection system.
- Develop a workplan to review and enhance the Green Infrastructure BMP manual for items such as rain gardens, rain barrels, and pervious pavement.
- Develop literature for distribution to SIUs on BMPs for prevention of pollution.
- Develop an IOAP green infrastructure tracking program.
- Execute a contract to develop Stormwater Pollution Prevention Plans (SWPPPs) for the WQTCs, major Pump Stations, and CMF. Plans and training modules will be completed in FY11.
- Utilize and distribute the rain garden handbook to Louisville Metro agencies and to the public in order to encourage green infrastructure.

1.9 NMC 8: Public Notification

To reduce duplication, all public notification information will be reported in **Section 4: Project WIN Program Activities for Public Outreach, Education, Notification and Participation.**

1.10 NMC 9: Monitoring to Characterize CSO Impacts and the Efficacy of CSO Controls FY 09 Program

- MSD continued to monitor the largest CSOs for flow volume to define the wet weather contribution of the overflows to the stream.
 - MSD installed flow meters at CSO62 and CSO146.
 - Developed process to use existing Plant Information data tags to calculate the flow at CSO15 and CSO191.
 - Flow level sensors were installed at CSO20 for formula based flow calculations.
 - CSO97 has electrical power and the access structure and flow meter housing were installed and operational by December 2008. Staff calibrated and completed the programming with RTC improvements in February 2009.
 - MSD completed the project to install flow meters with telemetry and power at CSO16, CSO20, CSO210 and CSO211 in June 2009.
 - Identified 14 additional CSOs that have AAOVs exceeding 10 million gallons per year due to increased modeling asset detail and the selection of a revised typical rainfall year. These additional CSOs are as follows: CSO174, CSO153, CSO149, CSO121, CSO119, CSO105, CSO97, CSO84, CSO58, CSO55, CSO50, CSO23, CSO18, CSO16, and the CSOs discharging to Sneads Branch

Relief. A plan for monitoring flows at each location was developed by June 30, 2009.

- Finished the development of the Post Construction Compliance Monitoring Plan section of the Integrated Overflow Abatement Plan. This plan outlines the monitoring and modeling procedures to be followed to assess combined sewer overflow reduction through traditional overflow controls as well as reductions due to source control related to green infrastructure.
- Continued to collect stream flow, sonde and other environmental data sets for use in further characterization of the combined sewer service area. Data is centralized in an Oracle database and routinely updated by staff.
- Added 24 CSOs currently fitted with flow monitors to telemetry by June 30, 2009, allowing the data to be reported either through the MSD Operations site or via a new remote monitoring data website.
- Completed the preparation of the Ohio River water quality model for use in the LTCP.
- Updated Table 10-7 "CSS Pollutant Characterization", originally submitted in the NMC Compliance Report on September 15, 2006, and included in the IOAP submitted on December 19, 2008.
- Updated predictive and real-time radar rainfall services are now online at MSD with 6-hour predictive rainfall estimates. These services streamline rainfall data transfer between MSD's rainfall data vendor and the Real Time Control interface and model simulation. The testing of this data transfer continued during this quarter and adjustments to the data delivery to improve performance are currently underway. MSD also receives monthly, calibrated radar rainfall data for use in historical event analysis and modeling simulations. A website was developed that allows MSD staff to view and export rainfall data as well as USGS stream monitoring data. Training classes for staff were held to demonstrate the new functionality. Event notifications and alarms are being tested at several sites using customized parameters.
- Reviewed sampling data gathered during previous dry weather sampling events upstream and downstream of CSO206 and surrounding the 'Big Four' SSO elimination projects. Currently preparing for dry and wet weather sampling to establish baseline conditions prior to CSO and SSO elimination. An initial dry weather sampling event was captured during June 2009 and lab analysis results are still pending. Additional dry and wet weather sampling occurred during the 2009 recreational contact season which began on May 1.

FY 10 Program

- Continue sampling upstream and downstream of CSO206, as well as the overflow stream, during dry and wet weather to establish baseline conditions prior to its elimination. This sampling is scheduled to occur during the 2008 and 2009 recreational contact seasons.

- Receive an enhanced radar/rainfall dataset that will improve MSD's ability to simulate past rainfall events. This data will improve model calibration over time and allow MSD to investigate wet weather operations issues more effectively.
- Continue to be collect Sonde data through the USGS Automated Data Processing System (ADAPS) site and define additional quality control review procedures.
- Continue to implement flow monitoring with remote viewing capabilities on CSOs with an AAOV exceeding 10 million gallons per year. A plan for monitoring, measuring, or calculating flows at each location was developed June 30, 2009. New flow meters will be installed at these locations prior to December 31, 2009.
- Set up program to utilize the remote flow monitoring viewing capabilities to monitor for and provide quicker response to dry weather overflows, battery depletion, and meter drift.
- Produce the bi-annual Water Quality Synthesis Report by December 31, 2009.
- Produce an updated CSO and sewer pollutant characterization table.

SECTION 2: Program Activities for Sewer Overflow Response Protocol

2.1 SORP Program Background

Per Paragraph 24.d. of the Amended Consent Decree, MSD initially submitted the Sewer Overflow Response Protocol (SORP) to EPA and KDEP on February 10, 2006, and received comments on March 13, 2006. MSD resubmitted the revised SORP on May 12, 2006, and received an approval letter for the SORP on August 22, 2006. The most recent version is dated November 5, 2008, which received approval on January 14, 2009. The approved SORP document can be viewed on the MSD Project WIN website www.msdlouky.org/projectwin. The following activities were performed during this reporting period.

2.2 Overflow Management and Field Documentation

FY09 Program

- Clarified the definition of a reportable overflow with EPA/KDEP, excluding interior overflows that resulted from a problem on MSD's portion of the lateral. In addition, any interior overflow that is caused by a private property matter is also excluded from reporting.
- Reported a total of 576 reportable overflows.

	Dry			Wet			Total
	Interior	Exterior	WUS	Interior	Exterior	WUS	
Structural	1	9	11	1	2		24
Electrical		4	3			4	11
Grease	8	4	4	6		1	23
Mechanical		19	5			1	25
Obstruction	74	9	4	17	5		109
Power	13	16	11	19	3	20	82
Roots	55	8	3	10	2	1	79
Bypass			21			11	32
USACE Flood PS			1				1
Utility Damage	2	1	1		1		5
Blend						12	12
Capacity				94		57	151
Pump						22	22
Total	153	70	64	147	13	129	576

- 193 overflows were unauthorized discharges that reached the Waters of the US.
- 181 (94%) were reported within 24 hours and 12 (6%) were reported more than

24 hours after the start of the event.

- 44 of these unauthorized discharges (<22%) were a Bypass or Blending event that required an additional 5 day written report.
 - 42 dry weather discharges (<21%) with volumes between 1,000 and 50,000 gallons were reported.
 - 12 dry weather discharges (<6%) with volumes greater than 50,000 gallons were reported.
- Enhanced the Project WIN website with an interactive map showing CSO locations and documented SSOs.
 - Scheduled additional field reviews of SORP procedures were scheduled after rain events to both ensure successful implementation and to assist with the annual SORP overall review. One review was held.
 - Continued to review and enhance the SORP Implementation Manual.
 - Overflow/wet weather inspection routes will continue to be reviewed and adjusted as part of the annual SORP review.
 - Continued daily review, monthly review and quarterly reviews with staff from Metro Operations, Infrastructure & Flood Protection and Regulatory Services.
 - MSD I&FP staff routinely monitors 11 locations and takes preventive measures to reduce basement backups. Work orders are used to track these various activities. During FY09, MSD I&FP staff activated pumps on 3 different days.
 - MSD Regulatory Services (RS) staff and MSD Engineering staff routinely monitor overflow (SSO) sites, which have been grouped into routes based on the range of rainfall rates necessary to cause a SSO. These routes are monitored during rain events depending on the magnitude and location of the storm. If an overflow is observed, a Discharge Work Order is created to document the event. During this FY, MSD RS and Engineering staff found 34 unauthorized discharges. Inspection routes were run 18 times in FY09.
 - MSD Metro Operations (MO) continues to monitor over 300 sites via telemetry. There are approximately 20 sites where sewage is routinely hauled from pump stations to prevent overflows during rain events depending on the magnitude and location of the storm. Due to capacity issues during this reporting period, MSD Metro Operations staff hauled approximately 5.7 million gallons of sewage in FY09.

FY10 Program

- Continue to monitor data, train staff and update information as needed.
- Continue to monitor over 300 sites via telemetry.
- Continue to haul to prevent overflows and backups during rain events until system improvements are completed.

- Continue to monitor documented collection system SSO sites, which have been grouped into routes based on the range of rainfall rates necessary to cause a SSO.
- Continue the daily review, monthly review and quarterly data reviews with staff from Metro Operations, Infrastructure & Flood Protection and Regulatory Services.
- Continue to monitor the 11 pumped overflow locations and take preventive measures to reduce basement backups.
- Schedule additional field reviews of SORP procedures after rain events to both ensure successful implementation and to assist with the annual SORP overall review.

2.3 Regulatory Reporting and Data Management

FY09 Program

- Conducted monthly meetings with staff to perform quality control on discharge work orders.
- Published templates for Bypass and Blending letters to help with accuracy and consistency.
- Developed an automated email to remind staff about additional reporting needs when there is a large volume dry weather overflow over 1000 gallons.
- Modified the discharge work orders for Blending events to track additional information.
- A database trigger was written to keep staff from closing a discharge work order without a volume.
- The discharge reporting documentation was reviewed and updated.
- Data reviews and trend analysis were performed quarterly and incorporated into the quarterly training and report.

FY10 Program

- Continue to perform quality control on discharge work orders with appropriate staff.
- Update associated assets in Hansen when any new overflow locations are identified.

2.4 Staff Training and Communication

FY09 Program

- **Facilitated the SORP quarterly training.**

4 classes held in July 2008	Review documentation and recordkeeping
5 classes held in July 2008	Review field response
1 class held in August 2008	Review field response
5 classes held in October 2008	Review field response
4 classes held in December 2008	Review field response
8 classes held in March 2009	Review monitoring, staging, mobilizing and reconnaissance

1 class held in February 2009	Review monitoring, staging, mobilizing and reconnaissance
8 classes held in June 2009	Review assessment, control zone implementation and mitigation

- Facilitated the SORP **annual training** from September 2008 through December 2008. 639 people signed in for the training.
- Modified the modules for the quarterly SORP training for field staff in January 2009.

FY10 Program

- Focus the third quarter SORP training classes on clean up and public notification.
- Focus the fourth quarter training on overflow field documentation.
- Enhance the SORP Implementation Manual will as new modules are developed. The target for completion of this document is June 30, 2010.
- Conduct the Annual SORP training in November and December 2009, for all MSD staff.
- Continues to review and update the data associated with overflows.

2.5 Annual Program Review

FY09 Program

- Completed the annual SORP document review on August 20, 2008. Definitions, routes and inspections were the key areas updated in this annual SORP review. Based on discussions with EPA/KDEP a revised SORP dated November 5, 2008, was published. Approval of this document was received on January 14, 2009.

FY10 Program

- Perform the annual SORP review prior to August 2009. There are no major program updates anticipated at this time. Routes will be reviewed and updated to include any new SSO locations. New routes will be published by March 30, 2010.

2.6 Public Notification and Communication

- To reduce duplication, all public notification information will be reported in **Section 4: Project WIN Program Activities for Public Outreach, Education, Notification and Participation.**

SECTION 3: Program Activities for Discharge Abatement Plans

3.1 Integrated Overflow Abatement Plan (IOAP)

As a requirement of the Amended Consent Decree, per Paragraph 25, MSD is to prepare and submit for review and approval discharge abatement plans for the elimination of unauthorized discharges from the separate sanitary sewer system and the combined sewer system, the reduction and control of discharges from the CSO locations identified in the Morris Forman WQTC KPDES permit and the improvement of water quality in the receiving waters.

The following IOAP activities were performed during this reporting period:

- Proposed IOAP was presented to the Wet Weather Team Stakeholders group. The Stakeholder Group unanimously endorsed the IOAP Vision and prepared a recommendation to the MSD Board that they approve the IOAP for submittal.
- Proposed IOAP was released for public comment, with copies made available in all branches of the Louisville Free Public Library system, at the MSD Main Office Building, and through MSD's normal public document distribution system (DVD versions only). MSD held three informational public meetings and one formal public hearing to receive comments. MSD responded to all public comments in a responsiveness document included in the IOAP.
- IOAP was presented to MSD's Board at the December Board meeting, and received unanimous approval to submit the IOAP to the appropriate regulatory agencies.

The Integrated Overflow Abatement Plan, containing both the Final Sanitary Sewer Discharge Plan and the CSO Long Term Control Plan was submitted certified on December 19, 2008. In response to questions from EPA and KDEP, MSD revised and clarified portions of the IOAP and resubmitted all three volumes with a revision date of June 19, 2009.

MSD continued informal communications relative to clarifying questions and preliminary comments on the IOAP from EPA and KDEP. In response to those informal communications and the entry of the Amended Consent Decree into Federal Court on April 15, 2009, MSD prepared additional information, corrections, and clarifications to the previously submitted IOAP. Some information was provided to EPA and KDEP in separate submittals to ensure that the information responded to the clarification requests satisfactorily.

MSD also conducted internal project review meetings to identify potential improvements in the projects proposed as part of the IOAP. Six meetings were held, resulting in proposed changes to several of the projects due to reconsideration of cost and implementation issues, and recalculation of benefit/cost evaluations.

MSD resubmitted the IOAP after incorporating the clarifications and changes noted previously. The dates for the re-submittal were:

- Volume 2 Final LTCP – May 29, 2009
- Volume 3 Final SSDP – June 12, 2009
- Volume 1 IOAP – June 19, 2009

The entire re-submitted document was dated June 19, 2009.

During the next reporting period it is anticipated that meetings will be held with representatives of EPA Region 4 and KDEP to discuss the June 19, 2009, re-submittal of the IOAP. Regularly scheduled conference calls are also planned to continue to ensure that regulatory agency concerns and questions are addressed. MSD intends to make revisions to the IOAP as required. If approval of the IOAP is received during the next reporting period, the approved IOAP (not including the Appendices) will be posted on the Project WIN website.

3.2 Sanitary Sewer Discharge Plan (SSDP)

The Sanitary Sewer Discharge Plan (SSDP) addresses the overflows and unauthorized discharges from the separate sanitary sewer system. Three separate plans have been submitted under this program as described below and outlined in Paragraph 25.a. of the Amended Consent Decree.

3.2.1 Updated Sanitary Sewer Overflow Plan Implementation

MSD prepared and submitted the Updated Sanitary Sewer Overflow Plan (SSOP) on February 10, 2006. This plan included an overview of the MSD sanitary sewer overflow abatement program and specific actions taken to reduce/eliminate overflows from the sanitary sewer system. This document included a list of the proposed improvements to be accomplished by December 31, 2008. Refer to **Appendix A** for a chart showing a schedule of the activities described in this section.

The following projects were active during the reporting period and will be completed as required by the Consent Decree:

- Interceptor Condition Assessment Phase 1 (Budget ID H04272) - The first phase of these interceptor rehabilitation projects was completed prior to December 31, 2008, in accordance with the Consent Decree.
- Northern Ditch Interceptor Rehabilitation (Budget ID H07298) - The project was completed on November 21, 2008, and the certification letter was sent December 11, 2008, in accordance with the Consent Decree.
- Sinking Fork Interceptor Rehabilitation (Budget ID H07294) & Beechwood Village SSO Abatement Phase 1 (Budget ID H06301) - The project was completed on December 22, 2008, and the certification letter was sent January 6, 2009, in accordance with the Consent Decree.
- Middle Fork Interceptor Rehabilitation (Budget ID H04276) - The project was completed on December 31, 2008, and the certification letter was sent on January 6, 2009, in accordance with the Consent Decree.
- Beargrass Interceptor (Budget ID H07295) - The project was completed on December 22, 2008, and the certification letter was sent on January 6, 2009, in accordance with the Consent Decree.
- Goldsmith Lane/Buechel Branch Interceptor (Budget ID H07296) - The project was completed on December 22, 2008, and the certification letter was sent on January 6, 2009, in accordance with the Consent Decree.

- Fern Hill Subdivision Interceptor #8 (Budget ID C94086) - The elimination of the Holly Oaks Pump Station was certified on May 9, 2008, and therefore completed prior to the March 30, 2009, deadline, in accordance with the Consent Decree. The Fern Hill Subdivision Interceptor #8 Project is complete.
- Thurman Drive Pump Station Elimination (Budget ID B06299) - The elimination of the Thurman Drive Pump Station was completed on July 2, 2008. The flow will remain in the Derek R. Guthrie WQTC service area but will be diverted to a new interceptor. The project was certified on July 22, 2008, prior to the September 30, 2008 deadline, in accordance with the Consent Decree.
- Zabel Way Pump Station Elimination (Budget ID C06295) - The project was certified on August 20, 2008, prior to the September 30, 2008 deadline, in accordance with the Consent Decree.

3.2.2 Interim Sanitary Sewer Discharge Plan

MSD submitted for approval an Interim Sanitary Sewer Discharge Plan (ISSDP) on September 30, 2007. Comments were received on January 8, 2008. MSD resubmitted the revised ISSDP on March 7, 2008, and received an approval letter for the ISSDP on July 24, 2008. The approved ISSDP document can be viewed on the MSD Project WIN website www.msdlouky.org/projectwin.

Refer to **Appendix A** for a chart showing the schedule of the activities described in this section. **All projects are now listed by Budget ID in the chart.** Note that the schedule in **Appendix A** shows completion dates that are earlier than contained in the ISSDP. These early completion dates represent targets for MSD's project management use, but do not represent a change in schedule commitments. The dates in the approved ISSDP remain as the committed dates for completion of the ISSDP projects.

The following activities were performed during FY09 or are planned for FY10.

- Beechwood Village Sanitary Sewer Replacement (Budget IDs E07261 and E08034) - Beechwood Village East (Budget ID E07261) – Project design was completed and the project was bid on January 7, 2009. Construction began March 30, 2009, on house plumbing modifications, new property service connections (PSCs), and cured-in-place pipe (CIPP) lining the existing sewers. As of June 30, 2009, the CIPP work is 90% complete and approximately 70 plumbing modifications and PSCs are complete. Work anticipated for the next reporting period will be completion of the CIPP work and the epoxy lining of manholes, continuation of plumbing modifications/ service connections, and initiate construction of the 18" diameter interceptor. Construction completion is targeted for April, 2010. Beechwood Village West (Budget ID E08034) – This project was bid on June 9, 2009, and no work was initiated by June 30, 2009. Construction will start in FY10. The West section has a scheduled construction completion of September 2010. Both projects will be completed by April 27, 2011, in accordance with the ISSDP schedule and the Amended Consent Decree.
- Sinking Fork Relief Sewer (Budget ID H08357) - This project extends the existing Sinking Fork Interceptor to provide an outlet for the Beechwood Village projects. This project was bid on February 12, 2009. Construction started on March 30, 2009. During

FY10, the remaining interceptor will be installed and final testing and restoration will be completed. Construction completion is targeted for November 30, 2009. This project will be completed by December 30, 2010, in accordance with the ISSDP schedule and the Amended Consent Decree.

- Southeast Interceptor Relief Sewer (Budget ID H08358) - Construction will be required for a new relief interceptor parallel to the Southeast Interceptor from the Southeast Diversion Structure to the Northern Ditch Interceptor. A new junction structure will connect this relief sewer to the proposed Hikes Lane Interceptor and the existing Buechel Branch Interceptor. During development of the Final SSDP, alternatives were identified for the Upper Middle Fork Pump Station and the Jeffersontown WQTC that could impact the sizing of this relief interceptor, and require the addition of a flow equalization basin somewhere along the route. (The Buechel Basin will be addressed under separate paragraph.) Since the last reporting period, the design size of the interceptor has been determined and a revised alignment selected. Professional services have been acquired and 10% design completed for the Southeast Interceptor Relief Sewer. Easement acquisition has been placed on hold due to changes in the alignment. The Interceptor will now consist of about 7800 feet of 60-inch sewer and 600 feet of tunnel. The design of the diversion structure is progressing and will be complete in FY10. The construction of the Southeastern Relief is on schedule to be completed by the required date of May 2012. The Northern Ditch Interceptor (below) and the DRGWQTC (below) must also be completed so that the Southeast Diversion Overflow can be closed. The construction to eliminate the Southeast Diversion overflow will be completed by December 2011, in accordance with the revised ISSDP schedule and the Amended Consent Decree. The Southeast Interceptor Relief Sewer project will be coordinated with the Highgate Springs and Hikes Point Area (Budget ID H07286 and H07287) projects with a completion date of May 12, 2012.
- Hikes Lane Interceptor & Highgate Springs Pump Station (Budget ID H07286 and Budget ID H07287) - A route has been selected and the design work is 80% complete for the proposed Hikes Lane Interceptor and the Hikes Point Relief Sewer Improvements. The Hikes Lane Interceptor will be divided into Phase I and Phase II. Allowing bidding and construction to begin on the downstream portion of the project while easement acquisition and final design continues on the upper section. Phase I, the downstream section, has 3 easements and includes the new diversion structure for the connection to the existing Southeast Interceptor and the new parallel interceptor. The final design of the Hikes Lane Interceptor and the Relief Sewer Improvements is 60% complete and is targeted for completion in FY10. The Carson-Ribble Sewer Relief Project has been separated from the other projects in the Hikes Point Relief Sewer Improvements to expedite construction. Construction was awarded on June 22, 2009, and will continue in FY10. The entire project package will be completed by November 27, 2012, in accordance with the ISSDP schedule and the Amended Consent Decree.
- Northern Ditch Diversion Interceptor (Budget ID C85017) - Improvements described in the previous paragraphs will result in significantly more wet weather flow in the Derek R. Guthrie WQTC and Morris Forman WQTC service areas. The proposed plan will include the installation of a new interceptor parallel to the Northern Ditch drainage channel, allowing wet weather flow to be diverted from the Morris Forman WQTC service area

(currently through the Northern Ditch Pump Station) to the Derek R. Guthrie WQTC. The entire improvement is divided into three phases. Construction of Phase I was awarded on May 26, 2009, and notice to proceed was given on June 15, 2009. Phase I consists of 6910 feet of 84-inch sewer and 102 feet of tunnel at National Turnpike. Phase II starts after the tunnel and includes 4770 feet of 84-inch pipe and a diversion structure at the existing 72-inch Northern Ditch Interceptor. Phase II will be awarded and start construction in FY10. The anticipated award month is November, 2009, and anticipated construction start is January 2010. The entire project package will be completed by July 31, 2011, in accordance with the ISSDP schedule and the Amended Consent Decree.

- Derek R. Guthrie WQTC Wet Weather Equalization and Treatment Project (Budget ID H06302) - The final design is continuing in three separate packages – Pumping Station, Treatment Facility, and the Equalization Basin. In this reporting period, the 60% plans for the Treatment Facility were reviewed by MSD staff. In the next reporting period, MSD will provide comments back on the 60% Treatment Facility Plans and expect to receive and review the 90% plans of the same project. MSD will receive the 60% plans for the Pumping Stations and the Equalization Basin and return comments on each. During FY10, MSD will receive the 90% Pumping Stations Plans and will meet with KDEP review staff to discuss the status of the Pumping Stations and the Treatment Facility and submit a preliminary construction permit for their review and comment. In addition, MSD expects to be advertising for a construction contract by February 2010 for the Treatment Facility and Pumping Stations. The 90% plans for the Equalization Basin will be reviewed and negotiations initiated for additional easements required for the Basin construction. In early October 2009, MSD is planning to host a neighborhood Open House for residents living in a one mile radius of the Derek R. Guthrie WQTC to discuss future construction and tour the existing facilities. Construction of flow equalization and expanded secondary treatment to address the higher peak wet weather flows at the Derek R. Guthrie WQTC will be completed by December 31, 2011, in accordance with the ISSDP schedule and the Amended Consent Decree.

3.2.3 Final Sanitary Sewer Discharge Plan

MSD submitted for approval a Final Sanitary Sewer Discharge Plan (SSDP) on December 19, 2008, prior to the December 31, 2008, deadline as Volume 3 of the Integrated Overflow Abatement Plan (IOAP). As noted in Section 3.1, the Final SSDP was resubmitted on June 12, 2009. In response to additional questions from EPA and KDEP minor modifications were made to the Final SSDP on August 21, 2009. A letter granting conditional approval of IOAP was received on October 23, 2009.

This section will report on the progress of the projects identified in the IOAP, Volume 3 – Final SSDP Projects. Refer to **Appendix A** for a chart showing the schedule of the activities described in this section. **All projects are now listed by Budget ID in the chart.** Note that the schedule in **Appendix A** shows completion dates that are earlier than contained in the Final SSDP. These early completion dates represent targets for MSD's project management use, but do not represent a change in schedule commitments. The dates in the submitted Final SSDP remain the committed dates for completion of the Final SSDP projects.

The following activities were performed during FY09 or are planned for FY10.

Cedar Creek Area

- Running Fox Pump Station Elimination (Budget ID H09178) – The project consists of diverting the existing sanitary sewer flow from the Running Fox Pump Station to an existing gravity sanitary sewer system via gravity flow. Decommissioning of the pump station is also included in this project. Design on this project was completed on April 28, 2009. This project is waiting on approval from the Kentucky Division of Water. Downstream impacts are currently being analyzed to ensure issues are not created due to the flow diversion. Easement acquisition will occur in FY10. The project is scheduled for bidding by the end of December, 2009. All phases of the project will be completed by December 31, 2010, in accordance with the IOAP schedule and the Amended Consent Decree.
- Little Cedar Creek Interceptor Improvements (Budget ID H09163) – Sanitary Sewer Evaluation Study (SSES) planning for this area will start in FY10. The Running Fox and Avanti Pump Stations will be eliminated during FY10. The flow from both stations is being diverted to the Little Cedar Creek service area. These pump stations experience high wet weather flows. To address these flows and existing SSOs in the project area, a SSES project was initiated (Cedar Creek SSES, Budget ID H09389), to investigate this area. All phases of the project will be completed by December 31, 2024, in accordance with the IOAP schedule and the Amended Consent Decree.

Hite Creek Area

- Meadow Stream Pump Station In-line Storage Project (Budget ID H09174) - The planning for this project will start in FY10. A project area and scope will be developed for an SSES project (Meadow Stream SSES, Budget ID H09394) in this area. All phases of the project will be completed by December 31, 2016, in accordance with the IOAP schedule and the Amended Consent Decree.
- Floydsburg Road Pump Station I&I Investigation and Rehabilitation (Budget ID H09172) -The planning for this project will start in FY10. A project area and scope will be developed for an SSES project in this area. This pump station is located in the above Meadow Stream pump station service area. The I&I investigations for this pump station will be completed during the SSES project. All phases of the project will be completed by December 31, 2010, in accordance with the IOAP schedule and the Amended Consent Decree.
- Kavanaugh Road Pump Station Improvements Project (Budget ID H09171) - The planning for this project will start in FY10. A project area and scope will be developed for an SSES project in this area. This pump stations is in the Meadow Stream Pump Station service area. The I&I investigations for this pump station will be completed during the SSES project. All phases of the project will be completed by December 31, 2024, in accordance with the IOAP schedule and the Amended Consent Decree.

Floyds Fork Area

- Ashburton Pump Station Improvements and Diversion (Budget ID A09092) - This project will address overflows at Ashburton and Olde Copper Court Pump Stations by diverting

flow from Ashburton PS through 475 LF of upsized force main to an 8-inch gravity sewer system in a neighboring subdivision. Draw-down testing indicated that pump condition and release valve issues may be limiting pump station capacity. In response to the need to correct an existing maintenance issue at the pump station, this project has been accelerated from what is shown in the Final SSDP. A new 3-inch force main will be installed in place of the existing 2-inch force main. Construction is scheduled for FY10. The project was moved forward to allow development to occur in the area that will send flow to the Ashburton Pump Station. All phases of the project are currently targeted to be completed well in advance of December 31, 2021, in accordance with the IOAP schedule and the Amended Consent Decree.

- Eden Care Pump Station SSO Investigations (Budget ID H09170) - SSES planning for this area will start in FY10. Any potential I/I reduction determined from the SSES project results and any completed remediation will be monitored and included in the final design evaluation of this project. All phases of the project will be completed by December 31, 2012, in accordance with the IOAP schedule and the Amended Consent Decree.
- Woodland Hills PS Diversion (Budget ID H09169) - Planning for this project will start in FY10. This project consists of installing diversion pipe to allow dry weather flow to drain to an interceptor and use the pump station only during wet weather flow. All phases of the project will be completed by June 30, 2011, in accordance with the IOAP schedule and the Amended Consent Decree.

Jeffersontown Area

- Raintree and Marian Court Phase 1 - Pump Station Eliminations (Budget ID H09180) - Both these pump stations will be eliminated by a private development project. Design includes 320 linear feet of 8-inch diameter sewer to eliminate Marian Court Pump Station and 410 linear feet of 8-inch diameter sewer to eliminate Raintree Pump Station. Final design and easement acquisition have been placed on hold by the developer. Economic conditions have affected the schedule. Since this project is being completed by a private developer it has not been assigned a Budget ID and it does not appear on MSD's project management schedule. MSD is monitoring the developer's progress, and will self-perform this project if needed, to ensure that all phases of this project will be completed in advance of the December 31, 2021 date in the IOAP schedule.
- Jeffersontown WQTC Elimination (Budget ID H07293) - The final plan for eliminating blending at the Jeffersontown WQTC will be developed during the next reporting period, and submitted to EPA and KDEP by March 31, 2010. This plan will select an approach and a schedule to either eliminate or upgrade the WQTC. All phases of the project will be completed by December 31, 2015, in accordance with the IOAP schedule and the Amended Consent Decree.

Beargrass Creek Middle Fork Area

- Upper Middle Fork #1- Buechel Basin (Budget ID H07288) – This project will construct a flow equalization basin on a 96-acre parcel of land in the Jennings Lane/Produce Road area (hereinafter referred to as the Buechel Site). The basin will provide an outlet for the ISSDP proposed Southeast Diversion Relief Interceptor and will provide capacity for surcharge from the Northern Ditch Interceptor during wet weather. Design on this project will start in FY10. The project will be completed by December 2013, in

accordance with the IOAP schedule and the Amended Consent Decree.

- Hurstbourne I&I Investigation and Rehabilitation (Budget ID H09219) - The planning phase for this project will start in FY10. All phases of the project will be completed by December 31, 2011, in accordance with the IOAP schedule and the Amended Consent Decree.

Southeastern Diversion Area

- Beargrass Interceptor Rehabilitation Phase 2 (Budget ID H09239) – The planning for this project will start in FY10. All phases of the project will be completed by December 31, 2010, in accordance with the IOAP schedule and the Amended Consent Decree.
- Parkview Estates I&I Investigation & Rehabilitation (Budget ID H09198) - SSES planning will start in FY10. Any potential I/I reduction determined from the SSES project results and any completed remediation will be monitored and included in the final design evaluation of this project. All phases of the project will be completed by June 30, 2011, in accordance with the IOAP schedule and the Amended Consent Decree.

Pond Creek Area

- Charleswood Interceptor #23 Project (Budget ID C94103)/Cooper Chapel Road Widening – This is a joint project with Louisville Metro Public Works and will be constructed under a Louisville Metro Public Works contract. The project includes the construction of an interceptor, elimination of the Cooper Chapel pump station, and construction of collector sewers for unsewered properties in the area. This project is approximately 85% complete and in the easement acquisition stage. Since the last reporting period, Louisville Metro Public Works has delayed its construction schedule for the road project and placed this project on hold. Despite the road project delay, all phases of the project are targeted to be completed well in advance of December 31, 2022, in accordance with the IOAP schedule and the Amended Consent Decree.
- Avanti Pump Station Elimination (Budget ID A09090) – The project consists of diverting the existing sanitary sewer flow from the Avanti Way Pump Station to an existing gravity sanitary sewer system via gravity flow. This revised route results in the flow being diverted from the Derek R. Guthrie WQTC to the Cedar Creek WQTC for treatment. Decommissioning of the pump station is also included in this project. In response to maintenance issues with this pump station and SSOs at the PS, the project schedule has been accelerated. The project was awarded on May 27, 2009, and the Notice-to-Proceed for the construction of this project was issued on June 15, 2009. Project construction is scheduled for completion in early FY10. All phases of the project are currently targeted to be completed well in advance of December 31, 2021, in accordance with the IOAP schedule and the Amended Consent Decree.
- Government Center Pump Station Elimination (Budget ID H09194) - This project consists of diverting existing sanitary sewer flow from the Government Center Pump Station to an existing 15-inch diameter sanitary sewer line via gravity flow. Decommissioning of the existing pump station is also included in this project. In response to maintenance issues with this pump station and SSOs at the PS, the project has been accelerated. Design will start in FY10. All phases of the project are targeted

to be completed well in advance of December 31, 2024, in accordance with the IOAP schedule and the Amended Consent Decree.

- Lantana Pump Station Investigation and Rehabilitation (Budget ID H09193) - SSES planning for this area will start in FY10. This project will be completed under the Lea Ann Way SSES project (see Lea Ann Way System Improvements Project). All phases of the project will be completed by December 31, 2011, in accordance with the IOAP schedule and the Amended Consent Decree.
- Edsel Pump Station I/I Investigation and Rehabilitation (Budget ID H09197) - SSES planning for this area will start in FY10. This project will be completed with the Little Cedar Creek SSES project (see above Little Cedar Creek Interceptor Improvements Project). All phases of the project will be completed by September 30, 2011, in accordance with the IOAP schedule and the Amended Consent Decree.
- Lea Ann Way System Improvements (Budget ID C08433) - SSES planning for this project will start in FY10. The Lea Ann SSES project (Budget ID H09096) was created to investigate this area. All phases of the project will be completed by December 31, 2015, in accordance with the IOAP schedule and the Amended Consent Decree.

Ohio River Force Main Area

- Mellwood System 1 - Mellwood Pump Station and Force Main (Budget ID A09556) – The project consists of constructing a new 3 MGD pump station facility and force main upgrades to replace the existing Mellwood Pump Station. The pump station facility lies in the Ohio River floodplain, thus increasing the complexity of design. To address immediate issues with the pump station condition and provide for cost-sharing opportunities with a potential developer, this project has been divided into phases and the pump station replacement phase has been accelerated from the schedule shown in the Final SSDP. Negotiations have been finalized and a contract executed for the design of this project. The design of Phase I is at the 30% stage. Phase I construction will be completed by December 31, 2012, and all phases of the project will be completed by December 31, 2024, in accordance with the IOAP schedule and the Amended Consent Decree.
- Prospect #1 - WQTC Elimination (Budget ID multiple) – A plan to eliminate the five WQTC's serving the Prospect area was submitted to EPA and KDEP. Approval is expected in September 2009. This plan included five separate phases of work to accomplish the elimination of the treatment facilities in the Prospect area. The phases include pump stations and force mains to eliminate the Hunting Creek North and Shadow Wood WQTCs, a River Road Interceptor (Budget ID D94210) to transport the Hunting Creek North flow to a new, third pump station near the existing Ken Carla WQTC, a new Harrods Creek Interceptor (Budget ID D00249) to transport the Hunting Creek South and the Timberlake WQTC to the proposed pump station at the existing Ken Carla WQTC (Budget ID D94206). The proposed regional pump station near the Ken Carla WQTC would then be connected to MSD's Hite Creek WQTC via a new force main. Alternate alignments and preliminary pump station locations are scheduled to be complete by November 30, 2009, with completion of a preliminary design. The need for easements will be based on the final alignment of the interceptors and force main.

However some sections are progressing ahead of the overall schedule, the site for the main pump station has been located and MSD is in negotiations for land acquisition. Final design of the previously prepared plans for the River Road Interceptor is nearly complete. The River Road Interceptor should be out for construction bids by the Spring of 2010. Easement plats for this section have been finalized and easement acquisition is scheduled to begin in November, 2009. All phases of the project will be completed by December 31, 2015, in accordance with the IOAP schedule, approved elimination plan, and the Amended Consent Decree.

- Derington Court PS I/I Investigation & Rehabilitation (Budget ID H09190) - Planning for this project will start in FY10. All phases of the project will be completed by March 31, 2012, in accordance with the IOAP schedule and the Amended Consent Decree.

Mill Creek Area

- East Rockford Lane Pump Station Relocation (Budget ID A09091) - The project consists of relocating the pump station facility, as well as increasing the size of existing pumps and force main. In response to maintenance issues with the existing pump station this project has been accelerated to avoid the need for a significant rehabilitation of a pump station scheduled for replacement. A notice to proceed for design was issued on June 26, 2009. Design will continue and a SSES project will be initiated in FY10. All phases of the project are targeted to be completed well in advance of December 31, 2021, in accordance with the IOAP schedule and the Amended Consent Decree.
- Shively Interceptor (Budget ID B06208) – This project will eliminate five pump stations within the City of Shively. The project consists of the installation of approximately 19,000 LF of interceptor which may range in size from 8-inch to 27-inch diameter. Design was underway in FY09. Design and easements acquisition will be completed in FY10. Construction is tentatively scheduled to start in FY10 and continue through FY12. All phases of the project will be completed by December 31, 2014, in accordance with the IOAP schedule and the Amended Consent Decree.

Combined Sewer System Area

- Camp Taylor # 1 SSES (Budget ID H09201) - The planning for this project will start in FY10. All phases of the project will be completed by December 31, 2011, in accordance with the IOAP schedule and the Amended Consent Decree.
- Camp Taylor #2 Sewer Replacement (Budget ID H09220) - The planning for this project will start in FY10. All phases of the project will be completed by December 31, 2013, in accordance with the IOAP schedule and the Amended Consent Decree.
- Sonne Pump Station I&I Investigation and Rehabilitation (Budget ID H09187) – The planning for this project will start in FY10. Any potential I/I reduction determined from the SSES project results and any completed remediation will be monitored and included in the final design evaluation of this project. All phases of the project will be completed by June 30, 2011, in accordance with the IOAP schedule and the Amended Consent Decree.
- Hazelwood Pump Station I/I Investigation and Rehabilitation (Budget ID H09181) - SSES planning will start in FY10. Any potential I/I reduction determined from the SSES project

results and any completed remediation will be monitored and included in the final design evaluation of this project. All phases of the project will be completed by June 30, 2011, in accordance with the IOAP schedule and the Amended Consent Decree.

Small WQTC Areas

- Lake Forest Pump Station SSO Investigation (Budget ID H09173) - SSES planning will start in FY10. This Pump Station is in the Lake Forest SSES project area. Any potential I/I reduction determined from the SSES project results and any completed remediation will be monitored and included in the final design evaluation of this project. All phases of the project will be completed by December 31, 2012, in accordance with the IOAP schedule and the Amended Consent Decree.
- Riding Ridge PS Improvements (Budget ID H09175) – The planning for this project will start in FY10. A project area will be defined and scope developed for an SSES project in this area. The Riding Ridge Pump Station is in the North Hunting Creek WQTC service area. The Prospect Area SSES (H09391) will include all of the North Hunting Creek and Hunting Creek South WQTC service area. An SSES will be completed on the entire service area to look for sources of I/I reduction opportunities for the following SSDP projects: Riding Ridge PS Improvements (Budget ID H09175), the Gunpowder PS Inline Storage Project (Budget ID H09242), the Fox Harbor Inline Storage Project (Budget ID H09176) and the Fairway View PS Improvements Project (Budget ID H09177). All phases of the project will be completed by December 31, 2014, in accordance with the IOAP schedule and the Amended Consent Decree.
- Gunpowder Pump Station In-line Storage Project (Budget ID H09242) – The planning for an SSES project will start in FY10. This station is in the North Hunting Creek WQTC service area and will be included in the Prospect Area SSES Project. Refer to the above Riding Ridge Pump Station Improvements project information. Any potential I/I reduction determined from the SSES project results and any completed remediation will be monitored and included in the final design evaluation of this project. All phases of the project will be completed by December 31, 2021, in accordance with the IOAP schedule and the Amended Consent Decree.
- Fox Harbor Inline Storage Project (Budget ID H09176) – The planning for an SSES project will start in FY10. This station is in the North Hunting Creek WQTC service area and will be included in the Prospect Area SSES Project. Refer to the above Riding Ridge Pump Station Improvements project information. Any potential I/I reduction determined from the SSES project results and any completed remediation will be monitored and included in the final design evaluation of this project. All phases of the project will be completed by December 31, 2021, in accordance with the IOAP schedule and the Amended Consent Decree.
- Fairway View Pump Station Improvements Project (Budget ID H09177) - The planning for an SSES project will start in FY10. This station is in the North Hunting Creek WQTC service area and will be included in the Prospect Area SSES Project. Refer to the above Riding Ridge Pump Station Improvements project information. Any potential I/I reduction determined from the SSES project results and any completed remediation will be monitored and included in the final design evaluation of this project. All phases of the

project will be completed by December 31, 2014, in accordance with the IOAP schedule and the Amended Consent Decree.

Other Projects

- For Water Quality Treatment Center Composite Correction Plan actions refer to **Section 6.5: Comprehensive Performance Evaluations and Composite Correction Plans**

3.3 CSO Long Term Control Plan

The CSO Long Term Control Plan (LTCP) will address the overflows and unauthorized discharges from the CSS. Two separate plans have been submitted under this program as described below and outlined in Paragraph 25.b. of the Amended Consent Decree.

3.3.1 Interim CSO Long Term Control Plan

The Interim CSO LTCP was initially submitted to EPA and KDEP on February 10, 2006. MSD received an approval letter dated February 22, 2007, for the Interim LTCP. The approved Interim LTCP can be viewed on the MSD Project WIN website www.msdlouky.org/projectwin.

This plan includes an overview of the MSD program, efforts taken to reduce/eliminate discharges from the CSS and the list of proposed improvements to be accomplished by December 31, 2008.

Refer to **Appendix A** for a chart showing a schedule of the activities described in this section. The following projects were completed during FY09:

- RTC at Southwestern Outfall SWOR2 (Budget ID I05055) - This project, part of Phase 2 of the RTC program, involves the installation of an inflatable dam for storage near the upper end of the Southwestern Outfall. Storage will primarily occur in the Upper Dry Run Trunk and the Mill Creek Trunk. The storage will be integrated into the Global Optimization RTC system. This project was completed on December 16, 2008, and the certification letter was sent on December 18, 2008, in accordance with the Consent Decree.
- RTC at CSO108 (Budget ID I03588) - This project, part of Phase 2 of the RTC program, involves improving the connection between the Beargrass Interceptor and the Beargrass Interceptor Relief Sewer and automating the control of flow through these systems and, therefore, Nightingale Pump Station. This project was completed on November 21, 2008, and the certification letter was sent on December 16, 2008, in accordance with the Consent Decree.
- Integration of Southwestern Pump Station/Main Diversion Structure/Morris Forman WQTC (Budget ID I05056) - This project, part of Phase 2 of the RTC program, links the Southwestern Pump Station, Main Diversion Structure and the Morris Forman WQTC with the Global Optimization RTC system. This project was completed on December 15, 2008, and the certification letter was sent on December 18, 2008, in accordance with the Consent Decree.
- Integration of Wheeler Basin (Budget ID I05057) - This project, part of Phase 2 of the RTC program, employs additional controls to better utilize approximately one million gallons of storage in the trunk line that drains the Wheeler Basin. This project was

completed on December 15, 2008, and the certification letter was sent on December 18, 2008, in accordance with the Consent Decree.

- CSO206 Separation (Budget ID H09131) - This project includes the separation of combined sewers on the most upstream CSO on Middle Fork of Beargrass Creek. The sewershed had been divided into 15 sub-areas. This project was completed on March 31, 2009, and the certification letter was sent on April 7, 2009, in accordance with the Amended Consent Decree.

3.3.2 Final CSO Long Term Control Plan

MSD submitted for approval the Final CSO LTCP on December 19, 2008, prior to the December 31, 2008, deadline as Volume 2 of the Integrated Overflow Abatement Plan (IOAP). As noted in Section 3.1 the Final CSO LTCP was resubmitted on May 29, 2009. In response to questions from EPA and KDEP minor modifications were submitted on August 21, 2009. A letter granting conditional approval of IOAP was received on October 23, 2009.

This section will report on the progress of the projects identified in the IOAP, Volume 2 – Final CSO LTCP. Refer to **Appendix A** for a chart showing the schedule of the activities described in this section. **All projects are now listed by Budget ID in the chart.** Note that the schedule in **Appendix A** may show completion dates that are earlier than contained in the Final CSO LTCP. These early completion dates represent targets for MSD's project management use, but do not represent a change in schedule commitments.

The following activities were performed during FY09 or are planned for FY10.

3.3.2.1 Green Demonstration Projects

- MSD Main Office Parking Lot Bioswale (Budget ID H09424) – Planning for this project will start in the 1st quarter of FY10. All phases of the project will be completed by December 31, 2010, in accordance with the IOAP schedule and the Amended Consent Decree.
- Seventh and Cedar Green Parking Lot (Budget ID H09425) – Planning for this project will start in the 1st quarter of FY10. All phases of the project will be completed by December 31, 2010, in accordance with the IOAP schedule and the Amended Consent Decree.
- Second and Broadway Green Parking Lot (Budget ID H09426) – Planning for this project will start in the 1st quarter of FY10. All phases of the project will be completed by December 31, 2010, in accordance with the IOAP schedule and the Amended Consent Decree.
- Third and Ormsby Biofiltration Swales (Budget ID H09427) – Planning for this project will start in the 1st quarter of FY10. All phases of the project will be completed by December 31, 2010, in accordance with the IOAP schedule and the Amended Consent Decree.
- Sixth and Muhammad Ali Green Parking Lot (Budget ID H09428) – Planning for this project will start in the 1st quarter of FY10. All phases of the project will be completed by December 31, 2010, in accordance with the IOAP schedule and the Amended Consent Decree.

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- Sixth and Broadway Rain Garden (Budget ID H09429) - Planning for this project will start in the 1st quarter of FY10. All phases of the project will be completed by December 31, 2010, in accordance with the IOAP schedule and the Amended Consent Decree.
 - Seventeenth and W. Hill Permeable Alley (Budget ID H09430) – Planning for this project will start in the 1st quarter of FY10. All phases of the project will be completed by December 31, 2010, in accordance with the IOAP schedule and the Amended Consent Decree.
 - Seventh and Market Permeable Alley (Budget ID H09431) – Planning for this project will start in the 1st quarter of FY10. All phases of the project will be completed by December 31, 2010, in accordance with the IOAP schedule and the Amended Consent Decree.
 - Campbell and Main Permeable Alley (Budget ID H09432) – Planning for this project will start in the 1st quarter of FY10. All phases of the project will be completed by December 31, 2010, in accordance with the IOAP schedule and the Amended Consent Decree.
 - Roy Wilkins and Market Green Street (Budget ID H09433) – Original project was located at Twelfth and Jefferson, but to allow for greater public visibility the project was re-located to Roy Wilkins Blvd and Market Street. Planning for this project will start in the 1st quarter of FY10. All phases of the project will be completed by December 31, 2010, in accordance with the IOAP schedule and the Amended Consent Decree.
 - Two (2) Additional Rain Garden Projects (Budget ID H10039 and H10040) – Preliminary locations of rain gardens are planned for: Christ the King Church, Clifton Triangle Area, and MSD's Main Office Bldg. Planning for this project will start in the 1st quarter of FY10. All phases of these projects will be completed by December 31, 2010, in accordance with the IOAP schedule and the Amended Consent Decree.
 - I-264 Off-Ramp Dry Well (Budget ID H09442) - Planning for this project will start in the 3rd quarter of FY10 contingent on coordination with EPA Region 4 regarding permitting requirements. All phases of these projects will be completed by December 31, 2011, in accordance with the IOAP schedule and the Amended Consent Decree.
 - I-264 On-Ramp Dry Well (Budget ID H09443) - Planning for this project will start in the 3rd quarter of FY10 contingent on coordination with EPA Region 4 regarding permitting requirements. All phases of these projects will be completed by December 31, 2011, in accordance with the IOAP schedule and the Amended Consent Decree.
 - I-264 and Gibson Dry Well (Budget ID H09444) - Planning for this project will start in the 3rd quarter of FY10 contingent on coordination with EPA Region 4 regarding permitting requirements. All phases of these projects will be completed by December 31, 2011, in accordance with the IOAP schedule and the Amended Consent Decree.
 - Russell Lee Drive Dry Well (Budget ID H09445) - Planning for this project will start in the 3rd quarter of FY10 contingent on coordination with EPA Region 4 regarding permitting requirements. All phases of these projects will be completed by December 31, 2011, in accordance with the IOAP schedule and the Amended Consent Decree.

- JFK Montessori Area Dry Well (Budget ID H09446) - Planning for this project will start in the 3rd quarter of FY10 contingent on coordination with EPA Region 4 regarding permitting requirements. All phases of these projects will be completed by December 31, 2011, in accordance with the IOAP schedule and the Amended Consent Decree.

3.3.2.2 Gray Infrastructure Projects

- Logan Street Basin (Budget ID H09142) – This project consists of an 11.8 MG underground storage basin, and approximately 5,000 LF of new interceptor sewers. The preliminary design study started in FY09. All phases of the project will be completed by December 31, 2017, in accordance with the IOAP schedule and the Amended Consent Decree.
- CSO108 Dam Modification (Budget ID H09128) – Planning for this project is underway and design will begin in FY10. All phases of the project will be completed by December 31, 2010, in accordance with the IOAP schedule and the Amended Consent Decree.
- CSO206 Downspout Disconnections (Budget ID H09131) – Planning for this project is underway and will continue in FY10. All phases of the project will be completed by December 30, 2013, in accordance with the IOAP schedule and the Amended Consent Decree.
- I-64 and Grinstead Drive Storage Basin (Budget ID H09121) - Planning for this project will begin in FY10. All phases of the project will be completed by December 31, 2014, in accordance with the IOAP schedule and the Amended Consent Decree.
- Paddy's Run Wet Weather Treatment Facility (Budget ID H09124) - Planning for this project will begin in FY10. All phases of the project will be completed by December 31, 2014, in accordance with the IOAP schedule and the Amended Consent Decree.
- Adams Street Storage Basin (Budget ID H09135) - Planning for this project will begin in FY10. All phases of the project will be completed by December 31, 2012, in accordance with the IOAP schedule and the Amended Consent Decree.

Flood Pump Station Projects

- 34th Street Flood Pump Station (Budget ID H08478) – Design of this project will begin in FY10. All phases of the project will be completed by December 31, 2012, in accordance with the IOAP schedule and the Amended Consent Decree.
- 4th Street Flood Pump Station (Budget ID H08477) - Design of this project will begin in FY10. All phases of the project will be completed by December 31, 2012, in accordance with the IOAP schedule and the Amended Consent Decree.
- 27th Street Flood Pump Station (Budget ID H09126) – Planning for this project will begin in FY10. All phases of the project will be completed by June 30, 2013, in accordance with the IOAP schedule and the Amended Consent Decree.
- Shawnee Flood Pump Station (Budget ID H09136) - Planning for this project will begin in FY10. All phases of the project will be completed by June 30, 2013, in accordance with the IOAP schedule and the Amended Consent Decree.

3.4 Post Construction Compliance Monitoring Program

Monitoring efforts that will support the impact evaluation of the plan implementation are discussed in IOAP Volume 1, Section 6.5 Post Construction Compliance Monitoring. These efforts will be incorporated into MSD's overall collection system and environmental data management activities, which support various MSD initiatives including operational support, the Municipal Separate Storm Sewer System program, water quantity and quality modeling, and a range of regulatory reporting and trending requirements as well as overflow abatement impact analyses related to the IOAP. A draft work plan will continue to be enhanced to facilitate the successful implementation of the Post Construction Compliance Monitoring Plan as described in the September 30, 2009 submittal of the Integrated Overflow Abatement Plan.

The primary activity elements associated with the monitoring program are described below along with a brief discussion of recent and upcoming activities related to each element:

- Environmental Data Integration Site Development - MSD has defined the integrated site needs and the concept of centralizing the access to its numerous monitoring data sets – rainfall, sewer flow, stream data, plant information data from SCADA, etc. Negotiations to begin the development of the site are underway and will be completed by March 31, 2010. In the meantime, MSD has continued to improve the overall accessibility of data reported from its SCADA and LIMS systems for pump station, Real Time Control and laboratory information as well as standardize various environmental data sets in preparation for integrated data querying and display through an upcoming data site.
- Quality Assurance and Quality Control Definition and Implementation - MSD has been working to develop standard QA/QC procedures for various data sets and set a frequency for data review. In addition, proactive data notification processes are being tested that will allow the real-time data sets to notify MSD staff when certain conditions are recorded in the field. MSD will begin to formally document and define the QA/QC procedures that either exist or need to be developed for each data set intended to be part of the integrated data site.
- Green Demonstration Project & Programmatic Monitoring and Assessment - MSD has identified the green demonstration projects as part of the IOAP and will perform case studies on the effectiveness of these projects on stormwater reduction into the combined sewer. By December 31, 2009, MSD will identify equipment needs for each project and develop an installation plan and timeline for each that will capture the data needed to perform the case study. The ongoing sewer flow monitoring network expansion, which will add significant in-system and CSO meters to MSD's network, will aid in assessment of the programmatic watershed effects of the green program as projects are completed. Additional watershed monitoring needs will be defined in the next fiscal year.
- Sewer Hydraulic and Stream Water Quality Modeling for Impact Analyses - MSD has built calibrated sewer hydraulic models for all service areas as well as water quality models for Beargrass Creek and the Ohio River. These models were used extensively in the development of the IOAP. By December 31, 2009, negotiations for sewer modeling services will be completed to address model cleanup, further standardization, and additional calibration to new flow information. The models will be used as the IOAP

is implemented to aid in design decisions and systematic impacts and performance.

- Water Quality Sampling for IOAP Projects and the Long Term Monitoring Network - Dry and wet weather sampling has been performed over the past few months surrounding the 'Big 4' SSO areas as well as CSO206. By December 31, 2009, MSD will assess the data collected to date around these project areas and initiate further sampling if deemed necessary. Additionally, MSD will identify a timeline for wet weather sampling across the Long Term Monitoring Network as noted in the IOAP. Recreational contact sampling will continue throughout this same network 5 times per month during the recreational contact season.
- Sewer Flow Monitoring Network Expansion - MSD is currently implementing new telemetry software on its system. Approximately 70 new flow monitoring sites, including 18 CSO sites, now report through this Telog Enterprise software system, in addition to the CSOs and sewer flows reported through SCADA. MSD is testing the event notification capabilities of the software to assist in notifying MSD staff when certain sewer conditions or battery levels are reached.
- Stream Flow & Ambient Monitoring - MSD's partnership with the USGS continues annually with a cost and resource share for the maintenance of stream flow gauges and data sondes that are installed at the Long Term Monitoring Network locations. This data is reported by telemetry to the USGS public website as well as MSD's internal Contrail website. These monitoring efforts will continue through the next year.
- Rain Gauge and Radar Rainfall Data Collection - MSD has an established rain gauge network of 17 gauges that report data every 5 minutes through telemetry. In addition, MSD receives 4-hour predictive and real time radar rainfall data from a vendor across approximately 700, 1 square kilometer pixels that cover the county. The vendor also delivers a gauge-adjusted radar rainfall data set at the end of each month. This data is used to support operational decisions as rain events are approaching and are occurring. The Real Time Control system also utilizes the rainfall data to run simulations and develop set points for control sites throughout the combined sewer system. The radar rainfall is also used for modeling simulations that support various planning and design decisions. The radar rainfall data along with rain gauge and stream monitor information is served to users through an internet application. Training was held for MSD staff on the use of this application. MSD will continue to collect this data and will also complete an evaluation of its current rain gauge network that will review new equipment needs, network gaps, and weather service reporting needs.
- Fish, Algae, Macroinvertebrate and Habitat Surveys - MSD has completed the fish, macroinvertebrate and habitat surveys for the Long Term Monitoring Network recently and will collect this information every other year as identified in the IOAP. MSD is currently working to complete an ecological database to house this information as it is collected in order to keep a cleaner historical record of this complex information. This effort will continue through the next year along with contract negotiations with the University of Louisville to complete an algae analysis for collected data.

The environmental data collection program will continue to mature over the next quarter. MSD will be meeting regularly to discuss environmental data needs of the utility, upcoming reporting needs, and the direction of the different program aspects.

Finally, as part of the IOAP and MS4 commitments, MSD will complete a 2009 water quality synthesis report by the end of December 2009, which will trend water quality information gathered and correlate impacts of various pollutant sources such as combined sewer overflows, impervious area, and land use.

3.5 Green Program Development

The Green Program framework was submitted as part of the IOAP. The following programmatic development will begin in FY10.

FY10 Program

- Initiate 19 green infrastructure demonstration projects as described in the IOAP, with completion dates ranging from December 31, 2010, to December 31, 2011.
- Initiate the development of the programmatic elements, including the financial incentives program for government and private (commercial and residential) partners, public information, outreach and education, project identification, prioritization and implementation, etc.
- Develop the work plan for the green infrastructure effectiveness demonstration, and begin preconstruction monitoring of the initial demonstration project sites needed as part of gray infrastructure “right-sizing”.
- Initiate development of design guidance documents for green infrastructure, and develop a work plan to update appropriate MSD design documents.
- Initiate a green infrastructure tracking program followed by an inspection program for those green assets constructed by MSD, its partners, and private residents; specifically inspect those assets that are being used in impervious area reductions and CSO reduction and project sizing calculations.
- Initiate a review of the existing Louisville Metro Land Development Code to identify potential impediments to green infrastructure implementation, and also to identify proactive measures that could facilitate institutionalizing green practice in typical developments. Present recommended suggested Land Development Code changes to Louisville Metro government for consideration.

SECTION 4: Public Outreach, Education, Notification and Participation

4.1 Public Notification Program

MSD produced and distributed a number of products aimed at notifying the community on the objectives of Project WIN and how to lessen the risks associated with coming into contact with sewage overflows. The following activities occurred within this reporting period or are scheduled to occur.

4.1.1 Overflow Advisory Signs

FY09 Program

- Performed the annual sign inspection process in March 2009. In FY09, 1091 signs were inspected. 841 signs had no issues. 250 signs were replaced, repaired, or cleaned.
- Reviewed the overflow warning sign locations with the documented overflow locations to determine that all impacted reaches of streams and known overflow points have installed signage. An additional 114 signs were installed by June 30, 2009.

FY10 Program

- Install an interpretive signage “What Happens When It Rains” for SORP education at Big Rock, in Cherokee Park.
- Work with the Parks Department to install 3 additional interpretive signs at the Beargrass Greenway.
- Schedule the annual sign inspection process.
- Perform an annual evaluation of the sign location against the documented overflows to ensure all needed signs are in place.

4.1.2 Project WIN Website

FY09 Program

- Continued to post Project WIN information on the website. On MSD’s home page, the Project WIN area provides important information on the condition of area streams and shows a warning if overflows are likely to be happening or have happened in the past 48 hours. Clicking on the Project WIN logo brings up the Project WIN site, which includes a repository of public documents related to Project WIN, tips for customers to help control overflows through their personal actions, information about the history and background of Project WIN and a place to sign up for overflow advisory emails warning when significant precipitation has caused overflows in MSD’s system. This website can be found at www.msdlouky.org/projectwin.
- Developed an interactive CSO/SSO location map for the Project WIN website. This feature was available in January 2009.
- Developed a website to facilitate communication with customers on the Beechwood Village (Budget IDs E07261 and E08034) project. The site is available with a link on the

Project WIN website. Select Construction Projects to link to the website.

- Drafted enhancements to the **What You Can Do** portion of the Project WIN website.
- Posted the Project WIN 2008 video series on the website.

FY10 Program

- Continue to post Project WIN information on the website.
- Update the MSD website with a special notice regarding the plumbing modification program that is available free to customers and is aimed at reducing I&I.
- Develop a website to facilitate communication with customers on the Camp Taylor SSES project. The site will be available with a link on the Project WIN website in FY10.
- Continue enhancement of the **What You Can Do** portion of the Project WIN website.

4.1.3 Electronic Notifications

FY09 Program

- Modified the email alert process so that customers who signed up to receive email alerts regarding sewer overflows also received a revised notice that indicates when overflow conditions have returned to normal. MSD also sent out notification on dry weather unauthorized discharges of over 1000 gallons.
- Reported 32 dry weather unauthorized discharges of more than 1000 gallons. These events required additional notification due to the volume of the dry weather overflow.

FY10 Program

- Continue email alerts to customers who sign up to receive the information.
- Evaluate the email alert program and messages and develop an action plan to increase participation in the email program, and to improve retention of those who sign up.

4.1.4 Print Notifications

FY09 Program

- Mailed 884 Project WIN information packets to customers in FY09, who called with questions about the Amended Consent Decree – specifically regarding overflows, discharges, plumbing modification and the surcharge fee.
- Mailed out 2494 FOG residential public outreach letters to 10 areas in FY09.
- Distributed informational material, providing a general overview and awareness relating to public health impacts associated with sewer overflows and an update on Project WIN initiatives. This was accomplished with a publication in the newspaper on Sunday April 12, 2009, and April 23, 2009. This activity was completed prior to May 1, the start of the recreational season.

- Distributed the annual Beargrass Creek and Ohio River mailing to residents within 500 feet. This information was mailed out on April 13, 2009, to 15,815 customers. This activity was completed prior to May 1, the start of the recreational season.
- Distributed New Year's resolution posters to schools and libraries in Jefferson County.
- Mailed the Holiday Tips postcard to residents that have had grease problems reported through MSD Customer Relations.

FY10 Program

- Include a bill insert with Project WIN information to MSD customers with the billing statements in July and August 2009, focusing on FOG issues, the recent rate increase and rain gardens.
- Continue to mail Project WIN information packets to customers who call with questions about the Amended Consent Decree – specifically regarding overflows, discharges, plumbing modification and the surcharge fee.
- Continue to send out FOG residential public outreach letters to areas that have FOG issues.
- Distribute FOG related information to the general public at the annual Jeffersontown Gaslight Festival on September 18-20, 2009.
- Distribute informational material, providing a general overview and awareness relating to public health impacts associated with sewer overflows and an update of Project WIN initiatives by May 1, 2010.
- Distribute, prior to May 1, 2010, the annual mailing to residents within 500 feet of Beargrass Creek and Ohio River.

4.2 Public Outreach Programs

MSD has developed a public outreach program aimed at involving the public on MSD's primary business functions with emphasis on wastewater, stormwater and flood protection. The following activities occurred within this reporting period or are scheduled to occur.

4.2.1 Radio and Television Activities

FY09 Program

- Contracted with WHAS Radio for online web streaming of MSD seasonal tips.
- Contracted with NPR for live reads.
- Continued to run TV spots during the *Troubleshooter Show* (WAVE TV) on Mondays 10:30 am - 11:00 am. Spots ran once a week. The commercial focused on FOG issues.
- MSD's Executive Director appeared on WAVE 3 *Listens*. The appearances were on February 5, 2009, and April 14, 2009.
- Continued efforts to utilize various media outlets, including television, radio and the newspaper, to serve as a conduit for disseminating information to the public.

- Continued to periodically show the **Project WIN 2008 video series** - a series of seven videos to inform the public about MSD, the Amended Consent Decree and Project WIN on Metro TV (Channel 25).
- Developed radio spots from the key values defined by the WWT Stakeholders group. These spots ran September – November 2008.
- MSD's Executive Director recorded three new radio scripts that will be used throughout the summer asking citizens to: reduce the amount of water used during rain events; refraining from contact with waterways for 48 hours after rain events; and help improve stream water quality in the local area with customer investment.

FY10 Program

- Schedule a remote broadcast, *Living Better with Cindi Sullivan* for August 8, 2009, at the MSD main office to discuss native plants and a rain garden installation.
- Continue to contract with WHAS Radio to air thirty second radio commercials highlighting MSD tips and/or initiatives July through August 2009, 3 times per week Monday - Friday from 6:00 am - 7:00 pm and 1 time per week on Saturdays from 9:00 am - 11:00 am.
- Continue to contract for online web streaming on WHAS Radio highlighting MSD tips and/or initiatives July – August 2009, 10 times per week Monday - Friday from 7:00 am - 6:00 pm.
- Continue to run TV spots during the *Troubleshooter Show* (WAVE TV) on Mondays 10:30 am - 11:00 am. Spots are scheduled to run once a week through the end of December. The commercial focuses on FOG issues.
- Contract with WLKY TV to run TV spots in October 2009. The first spots through the end of October pertain to Stormwater. Beginning in November through December 2009, the spots will focus on the FOG program.
- Continue to have MSD's Executive Director appear on WAVE 3 *Listens* once each quarter. Appearances are currently scheduled for July 7, 2009, and October 6, 2009. Appearances in 2010 have not been scheduled at this time.
- Continue to utilize various media outlets, including television, radio and the newspaper, to serve as a conduit for disseminating information to the public.
- Continue communications with Metro TV (Channel 25) to periodically show the **Project WIN 2008 video series** - a series of seven videos to inform the public about MSD, the Amended Consent Decree and Project WIN.
- Schedule a discussion with local experts on rain gardens and collecting rain water in August 2009, on WFPL Public Radio *State of Affairs*.

4.2.2 Printed Media Activities

FY09 Program

- Published advertisements to inform the public on Project WIN activities in *Business First*, *Today's Woman*, and in *Louisville Magazine*.
- Published a Project WIN ad in *Her Scene* (a publication put out by the Courier Journal); Summer 2009 issue.
- Distributed the MSD *Update* to customers and staff each month. Project WIN related articles are contained in each issue. These publications are available on the MSD Web site.
- Distributed the MSD *Crosscurrents* to customers and staff. Project WIN related articles are contained in each issue. These publications are available on the MSD Web site.
- Published and distributed the MSD's Annual Report to customers and staff.
- Distributed 5,000 2nd Edition Rain Garden Manuals throughout the community.

FY10 Program

- Continue advertisements to inform the public on Project WIN activities in *Business First*, *Today's Woman*, and in *Louisville Magazine*.
- Continue to place Project WIN ads in the *Her Scene* (a publication put out by the Courier Journal) in the Fall 2009 and Holiday 2009 issues.
- Place an ad in the *U of L Magazine*.
- Continue to send the MSD *Update* to customers and staff each month.
- Continue to send the MSD *Crosscurrents* to customers and staff.
- Continue to send MSD's Annual Report to customers and staff each year.
- Print 5,000 2nd Edition Rain Garden Manuals for customers.

4.2.3 IOAP Project and Program Meetings

FY09 Program

- Facilitated WWT Team meetings on July, 15, 2008, September 23, 2008, December 4, 2008 and May 11, 2009.
- Conducted Project WIN public meetings on November 10, 2008, November 12, 2008, and on November 20, 2008.
- Conducted a formal public hearing on the IOAP on December 2, 2008.
- Attended the “**Mayor’s Community Conversations**”.

FY10 Program

- Conduct an “open house” at the Derek R. Guthrie Water Quality Treatment Center on October 3, 2009. Invitations will be sent to local residents, elected officials and other

interested parties, and notices of the open house will be posted on MSD's web site. The purpose of the open house is to explain upcoming improvement projects, and receive public input on the planned modifications.

- Keep the WWT informed on the progress of the IOAP. The first progress update meeting is planned for January 2010. At this meeting MSD will describe the IOAP approval process and status. The implementation schedule will be reviewed, and the status of current and upcoming projects will be discussed.
- Continue to provide information to the WWT on the Project WIN website, at www.msdlouky.org/projectwin.
- Continue to attend the “**Mayor’s Community Conversations**”.

4.4 Public Education Programs

MSD has developed a public education program aimed at expanding the public's knowledge on MSD's primary business functions with emphasis on wastewater, stormwater and flood protection. The following activities occurred within this reporting period or are scheduled to occur.

4.3.1 Green Infrastructure Workshops and Activities

FY09 Program

- Conducted a Rain Garden & Rain Barrel Workshop for the Louisville Nature Center on July 19, 2008.
- Conducted a presentation on Urban Stormwater, Rain Gardens and Rain Barrels for the Germantown Neighborhood Association on July 21, 2008.
- Conducted a presentation on Urban Stormwater, Rain Gardens and Rain Barrels for the Federation of Gardens on September 15, 2008
- Conducted a Rain Garden Installation and On-site Workshop at 2105 and 2107 Dorothy Avenue, for the Douglass Blvd. Neighborhood Association, on October 11, 2008.
- Attended the Clifton Community Green Fair on October 12, 2008.
- Conducted a presentation on Urban Stormwater, Rain Gardens and Rain Barrels for the Indian Trails Neighborhood Association on October 19, 2008.
- Conducted workshops on October 20, 27, and November 3, 2008 on Urban Stormwater, Native Plants, Rain Gardens and Rain Barrels at Louisville Nature Center.
- Conducted a presentation on Urban Stormwater, Rain Barrels and Rain Gardens, for the eckham Bird Club Harvey Brown Presbyterian Center on November 13, 2008.
- Conducted a presentation on Urban Stormwater, Rain Barrels and Rain Gardens, for the Cherokee Triangle Neighborhood Association, February 16, 2009.
- Conducted a presentation on Urban Stormwater, Rain Barrels and Rain Gardens, for the Windy Falls Neighborhood Association, November 9, 2009.
- Conducted a presentation on Urban Stormwater, Rain Barrels and Rain Gardens, for the

Jefferson County Community College Environmental Forum, April 2, 2009.

- Partnered with Metro Public Works opening of Fire Stations 6 & 21 for porous paving and rain garden installation, April 2009.
- Conducted a presentation on Urban Stormwater, Rain Barrels and Rain Gardens, World of Flowers Garden Club, May 20, 2009.
- Commenced construction in June 2009, on the rain garden at MSD's main office building.

FY10 Program

- Schedule Rain Garden workshops at various times throughout the year.
- Announce the upcoming Urban Reforestation Program.
- Complete the rain garden planting at the MSD main office building in August 2009.
- Schedule a presentation for the Partnership for a Green City to the Kentucky Association for Environmental Education for September 18, 2009.
- Schedule Rain Garden installations for John Paul II Elementary School, Jackson Woods & Brandeis Apartments.

4.3.2 Clean Streams Workshops and Activities

FY09 Program

- Staffed an educational Exhibit at the KY State Fair August 14 – 24, 2008.
- Staffed an educational exhibit at the 2008 Jeffersontown Gaslight Festival.
- Conducted a presentation on "What You Can Do To Help Our Waterways" on August 12, 2008.
- Conducted a Professional Development for JCPS teachers on stormwater at the University of Louisville on October 3, 2008.
- Presentation and stormwater activities with Youth Presbyterian Seminary campus on October 8, 2008.
- Distributed FOG postcards and grease scrapers at public events.
- Developed a kitchen magnet reminding the public not to run dishwashers or washing machines during rain events.
- Facilitated the Beargrass Creek Clean Sweep with Metro Parks and Natural Resource Conservation Service on September 27, 2008.
- Facilitated the X-Stream Clean Sweep on May 30, 2009, with stream clean up and invasive vegetation removal on 15 sites.

FY10 Program

- Conduct EcoDrama and Basin Marking – a week long program for third grade students

focused on teaching land and water pollution prevention will be held for students and their teachers in August and September 2009.

- Facilitate the X-Stream Clean Sweep in March 27, 2010

4.3.3 Education Activities for Students

FY09 Program

- Installed outdoor classrooms at: Brandeis Elementary, Jeffersontown Elementary, DuPont Manual High School, and the Floyds Fork WQTC.
- Developed a MOU with Eastern High School for educational activities.
- Facilitated a field trip to Floyds Fork WQTC, by the Whitney Young Scholars, on July 29, 2008.
- Conducted a presentation for the Senior Environmental Science Classes (2) at Male High School, on native ecosystems, native plants, and urban stormwater on November 10, 2008.
- Conducted a presentation on Water Matters for the Indiana University Southeast, on November 19, 2008.

FY10 Program

- Work with partners to maintain the outdoor classrooms at: Brandeis Elementary, Jeffersontown Elementary, DuPont Manual High School, and the Floyds Fork WQTC.
- Participate in the Jefferson County Public School Youth Summit at Eastern High School on August 13, 2009. The focus: "Earth Force, Green and Healthy Schools".
- Participate in the Rain Gardens & Square Foot Measuring, educational opportunity, scheduled for the Environmental Club of John Paul II Elementary School on October 21, 2009
- Conduct a seminar for the professional development of teachers on September 23, 2009.
- Facilitate the Environmental Magnet School program development for Portland and Cane Run Elementary Schools.
- Continue support for Eastern High School's Environmental Program at Floyds Fork WQTC. MSD is working on an expansion of this program to include Fairdale High School and the Derek R. Guthrie WQTC.
- Participate in the Kentucky Green and Healthy Schools Water Inventory on October 19, 2009. See www.greenschools.ky.gov for more information.

SECTION 5: Capacity Management Operations and Maintenance (CMOM) Annual Report

5.1 Capacity Management Operations and Maintenance Program Activities

Per Paragraph 24.c of the Amended Consent Decree, the Capacity Management Operations and Maintenance (CMOM) Self Assessment Report was submitted to EPA and KDEP on February 10, 2006. MSD received a letter of approval on August 22, 2006. The approved CMOM document can be viewed on the MSD Project WIN website www.msdlouky.org/projectwin. Highlights of the CMOM program implementation over this reporting period are outlined below.

5.1.1 Management Programs

5.1.1.1 Table of Organization - *This section describes MSD's Table of Organization. The goal of this section is to ensure each department works efficiently and cooperatively by clearly defining each department's role in the organization in terms of authority, function, position, duties, and relation to other departments. This section also identifies positions currently budgeted and filled.*

M-A-1 Organizational Chart

M-A-2 Relationship to other Departments

FY09 Program

- MSD's Organizational Chart is updated on a quarterly basis and posted on MSD's Intranet. See **Appendix H** for the latest version.
- There were 624.5 approved positions at the beginning of FY09 and 630.5 approved positions at the end of FY09. This is an increase of 6 full time positions.
- There were 26 vacant positions at the beginning of FY09 and 24 vacant positions at the end of FY09.

FY10 Program

- MSD will continue to hire staff to fill vacant positions.

5.1.1.2 Training Programs - *This section describes MSD's Training Programs. The goal of this section is to ensure employee growth and workplace safety, through mandatory training (both initial and ongoing), attendance to conferences and seminars, certification, accurate record keeping of employee training, and incentives such as pay, promotions, and ability to work. All training programs promote MSD's fundamental mission, goals, and policies.*

M-B-1 Technical Training

M-B-2 Skills Training

M-B-3 Safety Training

FY09 Program

- Provided training related to discharge monitor reports, and data entry for Hansen, MSD's workorder and overflow tracking database.

- Performed training on the following initiatives:

Type of Training	Number of Hours	Number of Sessions
Collection System	40	34
Equipment	701	87
Reporting	8	4
Safety & Hazmat	293	119
Wastewater	113	57

- Delivered 40 hours of Collection System related training to employee in 34 sessions. These session included topics such as CMOM- Pump Station PM Training, CSO/Siphon Preventive Maintenance Training, and Sewer Cleaning & Maintenance.
- Delivered 701 hours of training in 87 sessions on equipment needed to maintain and operate the collection system, pump stations and treatment plants. Types of equipment training included Backhoe, Combination Sewer Cleaner, Excavators, cranes and portable pumps.
- Delivered nearly 300 hours of safety training over 119 training sessions and included topics such as trenching and excavation safety, bloodborne pathogens, confined space training, atmospheric testing, and emergency response.
- Provided 113 hours of training related to wastewater treatment process and control. This training was delivered through 57 different sessions that included biomonitoring, applied operator math, odor control, sampling, and small treatment plant sop's.

FY10 Program

- Assess effectiveness of the training program. MSD training includes assessments that serve both as indicators of the level of learning that has taken place, and as learning instruments for the employees. Classroom and field exercises provide the instructors immediate feedback regarding the employee's grasp of the content. Equipment training, particularly more complex pieces of equipment, always include a skills demonstration in which the employee much demonstrate that they have mastered an adequate level of learning before being considered competent to operate the equipment in the field. These demonstrations also provide feedback regarding the quality of the equipment training programs.
- Provide training sessions devoted to small treatment plants and sanitary pump station SOP's. Also, more hours of training will be delivered as SOP's for Pump Station Preventive Maintenance activities are enhanced.

5.1.1.3 Safety Programs - *This section describes MSD's Safety Programs. The goal of this section is to eliminate on-the-job injuries. MSD's Safety Programs include safety committees, confined space entry procedures, district wide safety policies, traffic management, lock out/tag out procedures, and proper use of safety equipment.*

M-C-1 Safety Committee

FY09 Program

- Conduct quarterly meetings. Members of the Safety Committee include three IFP representatives, three Morris Forman WQTC representatives, and three Metro Operations representatives.
- Performed 67 random job site inspections, weekly inspections at Morris Forman WQTC, and quarterly inspections with Metro Operations of WQTCs and Pump Stations.

FY10 Program

- Continue Safety Committee meetings; perform inspections and review policy and incidents.

M-C-2 Confined Space Entry

M-C-3 General Safety Procedures

M-C-4 Traffic Management

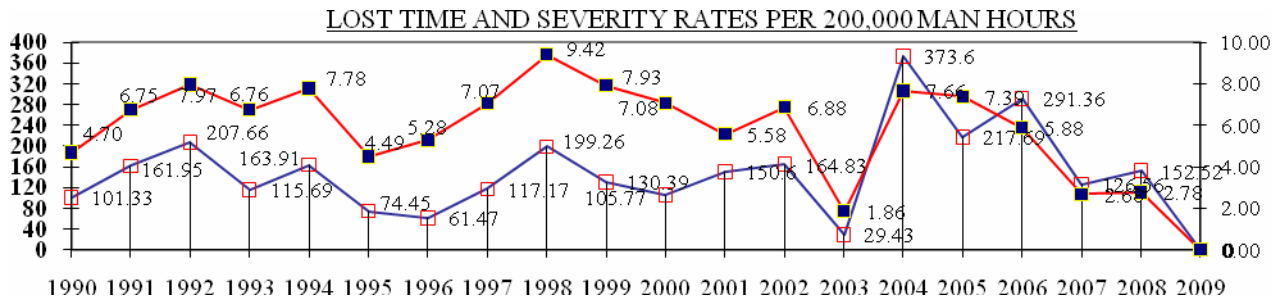
M-C-5 Lock Out/Tag Out

M-C-6 Safety Equipment

FY09 Program

- There was 1 MSD construction site visit from OSHA, which resulted in 3 NOVs. The associated fines were \$102,125.00. These NOVs are in the process of being contested and are still in litigation.
- In 2008 there were 1,147,364.50 hours worked.
 - MSD recorded 111 safety incidents.
 - MSD recorded 16 lost time incidents.
 - There were 44 Worker Comp Claims filed.
 - MSD staff were off from work a total of 875 days due to work related issues.
- Ensured that appropriate staff attended mandatory training on: Trench Training, Confined Space, First Aid, Hazmat Response and Fire Extinguisher usage.

(The above safety numbers are based on the 2008 calendar year. Data for 2009 is not yet available.)



FY10 Program

- Finalize and deliver the MSD Health and Safety Rulebook which includes protocols for:
 - Confined space entry
 - General safety procedures
 - Traffic control
 - Lock out/tag out
 - Safety equipment operations
- Conduct District-wide training on safety procedures and rule books.
- Safety Department to develop draft performance measures for reporting on safety.
- Label plywood coverings with "hole" or "cover" as increased form of awareness.
- Develop annual budget was with the following components:
 - Purchase of safety equipment, glasses, shoes (\$50K)
 - Confined space monitors (purchase, repair, gas-calibration)
 - Training for confined space, first aid, hazmat, and fire extinguisher usage
- Continue Safety Programs implementation.

M-C-7 Performance Measures

FY09 Program

- Tracked performance metrics on time and incidents for annual OSHA report submittal.
- Submitted the 2008 Annual OSHA report .

FY10 Program

- Determine measures of programmatic performance.

5.1.1.4 Utility Information Management Systems - *This section describes MSD's Utility Information Management System. The goal of this section is to produce quality information regarding sewer system performance. MSD's Utility Information Management System supports the following programs: management, operations, maintenance, complaint management, and performance indicators.*

M-D 1 Management Information Management Systems

M-D-2 Operations Information Management Systems

M-D-3 Maintenance Information Management Systems

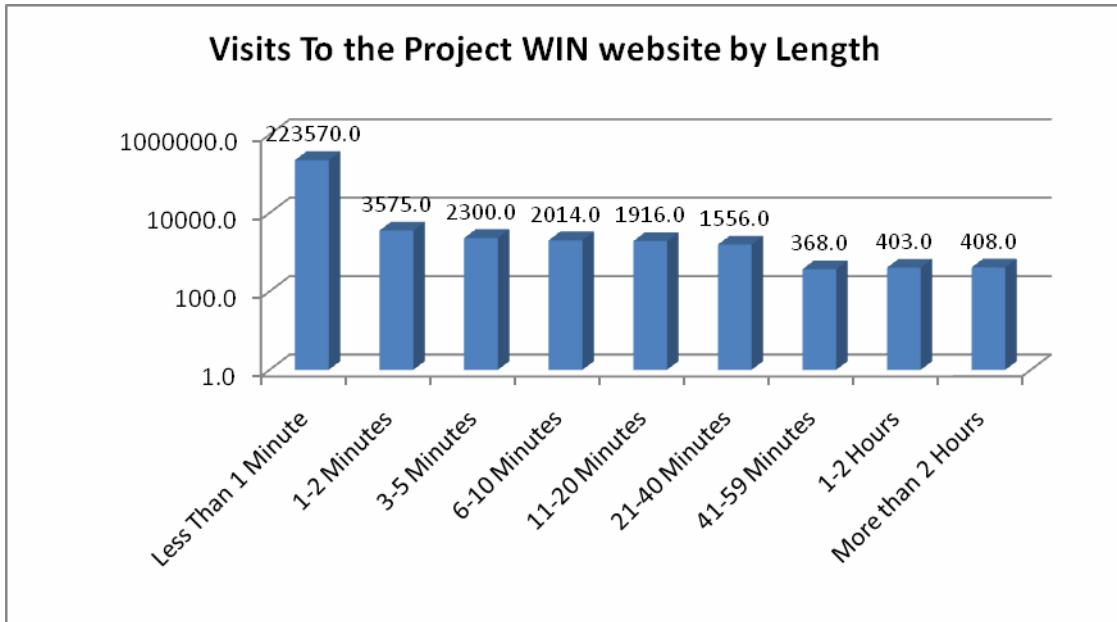
M-D-4 Complaint Management and Tracking Information Management Systems

M-D-5 Performance Indicators

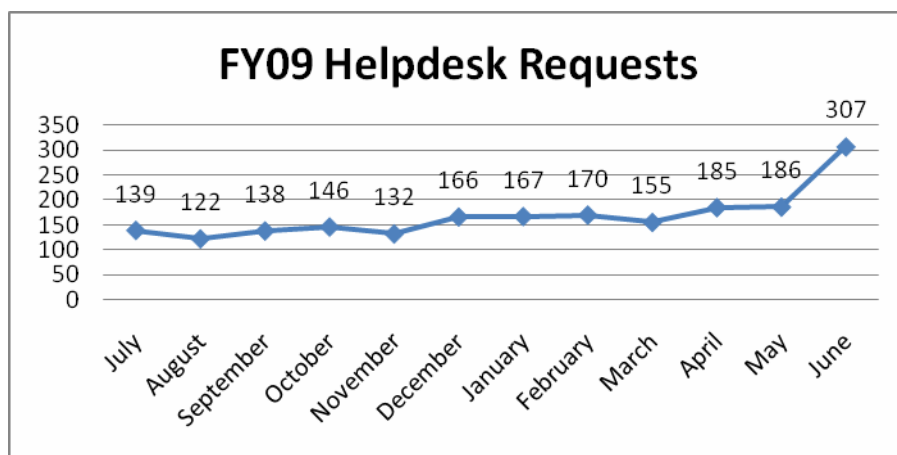
FY09 Program

- The MSD network has been available 99% of the time.

- Continued enhancement of The Project WIN website with new information about the Capacity, Management, Operation and Maintenance of MSD's facilities. Information on the Consent Decree is also available. There were 408 times when a visitor to the site was on for more than 2 hours. The Project Win Website had 183,459 hits and over 209,742,397 KB of data was downloaded.

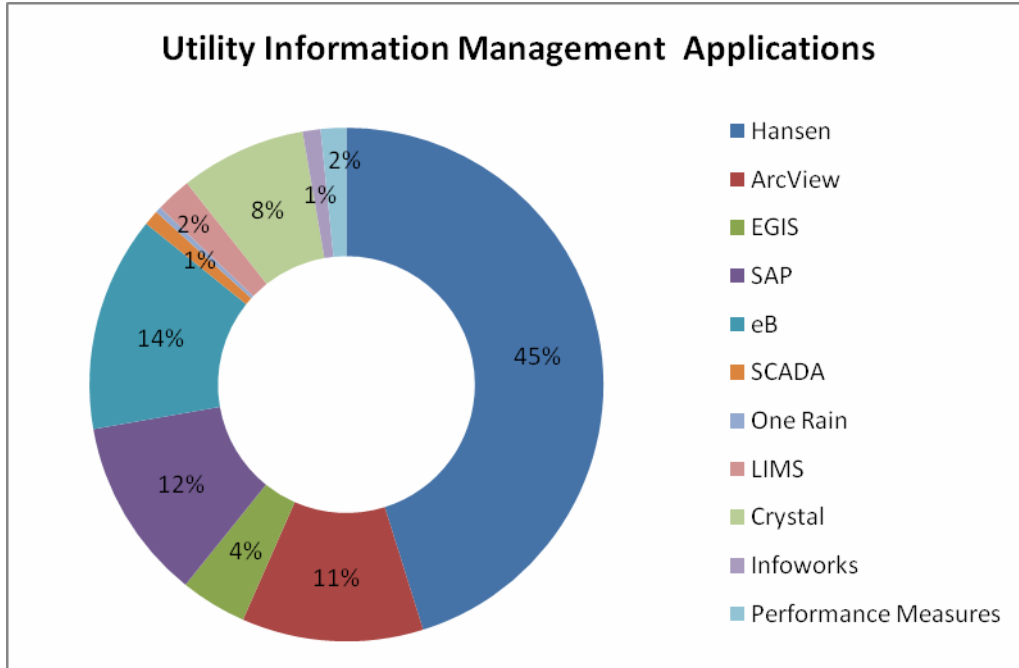


- Deployed over 400 new desktop computers.
- Maintained a helpdesk system to track and respond to requests from users.



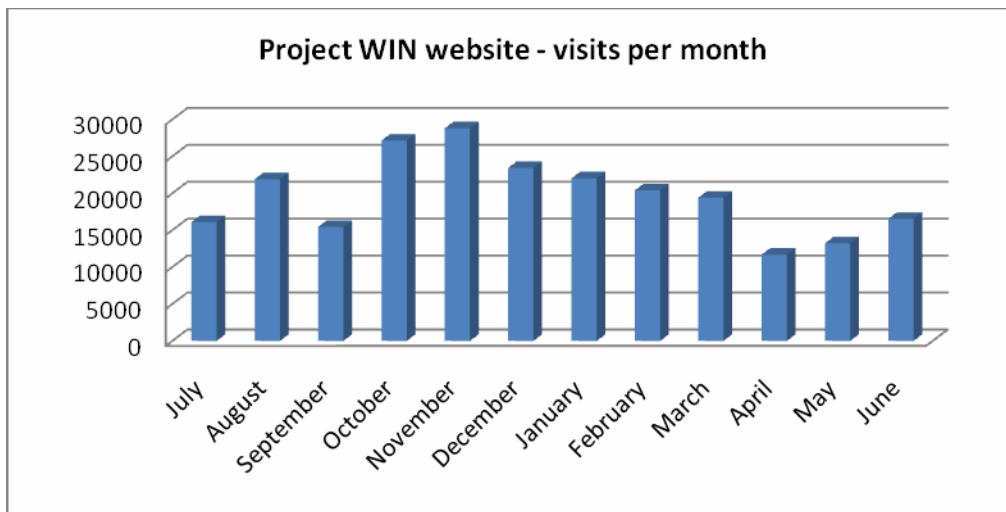
- Utilized a wide variety of software to operate the day to day business activities associated with wastewater collection, conveyance and treatments. The usage

distribution, of the major Utility Information Management (UIM) applications, is shown in the chart below.



FY10 Program

- Continue to post information on the Project WIN website.
- Continue to upgrade systems and performance. The LIMS software, eB software, GIS software and Hansen software are scheduled for upgrades.
- Enhance the SharePoint site with additional data. Staff training will occur and the first phase of performance metrics will be displayed on the system.



5.1.1.5 Engineering Programs - This section describes MSD's Engineering Projects. The goal of this section is to maintain accurate plans of current sewer system infrastructure, oversee construction quality of new infrastructure, and conduct assessments to maximize the efficiency of current WQTCs. MSD's engineering programs include the following: collection and transmission system plans, system inventory, mapping, sewer system design, sewer construction, construction inspection, acquisition considerations, continuing sewer system assessment (CSSA), infrastructure rehabilitation, and a system capacity assurance plan (SCAP).

M-E-1 Collection and Transmission System Plans

M-E-2 System Inventory

M-E-3 Mapping

- MSD scans all construction plan sheets into an eB imaging system. 183 projects were added to eB.
- Scanned plans are then captured in the GIS and asset management software. Approximately 1000 property service connections and 106,000 feet of sewer were added.
- Migrated the Pump Station database into Hansen for work order management.
- Received data correction sheets from field staff 111 times.

FY10 Program

- Continue to scan plans and update data in the GIS and asset management software from the collection and transmission plans.
- Convert the Water Quality Treatment Center equipment inventory to Hansen.

M-E-4 Sewer System Design

M-E-5 Sewer Construction

M-E-6 Construction Inspection

M-E-7 Acquisition Considerations

FY09 Program

- Completed revisions to the design manual.
- Upgraded the project tracking software to Primavera 6.
- Capital Expenditures of \$69,934,992 (includes capitalized project management and administration costs).
- Committed Professional Services Funds of \$15,448,684
- Awarded Construction Contracts valued at \$23,275,603
- Committed Construction Funds of \$16,932,997
- Processed Total Change Orders equalling \$2,423,059
 - MSD-requested scope change - 94%

- Unforeseen Conditions - 4%
- Design Error or Omission - 1 %
- Final Compensating quantities - 1%
- Acquired 76 easements at a cost of \$478,984.80.
 - Acquired 4 large parcels of property, in fee simple, for the Northern Ditch Interceptor at a cost of \$457,000.
 - Obtained the consent of the 574 property owners in Beechwood Village to make internal plumbing modifications.

FY10 Program

- Post the Design Manual to the MSD website. Updates to the manual will continue to be made as needed.
- Complete the migration to tracking performance measures and project milestones through SharePoint.

M-E-8 Continuing Sewer System Assessment

FY09 Program

- Performed condition assessments on 691 manholes.
- Interceptor Condition Assessment (ICA) Phase 2 (Budget ID H04273) – The final reports have been received for the projects listed below.
 - Pond Creek – Work completed, ICA reports submitted April 10, 2009.
 - Northern Ditch (Southeastern) – Report and Video files delivered April 10, 2009.
 - St. Matthews – Work completed, ICA reports submitted April 3, 2009.
 - Lower Middle Fork – Work completed, ICA reports submitted April 2, 2009.
 - Muddy Fork – Work completed, ICA reports submitted April 2, 2009.
- ICA Phase 3 (Multiple Budget IDs) – In June, 2009, the project scope was completed and final negotiations occurred for the interceptor condition assessments that will occur in FY10.
- Televised 1759 sewer line segments, (390,953 feet) using PACP codes. An additional 913 segments, (209,987 feet) were inspected using the standard Hansen TV inspection module. This was approximately 114 miles or 3.5% of the system.
- See **Appendix I** for the FY09 CSSA Annual Report.

FY10 Program

- Perform 14 SSES projects and review results of SSES to determine the potential number of credits available for rehabilitation. See Sections 3.2.2. and 3.2.3. for SSES project information.

- Continue to perform the Interceptor Condition Assessments and review the results of the ICAs to determine the potential number of credits available for rehabilitation. Budget has been allocated to develop additional rehabilitation projects from the ICA Phase 1 and 2 data review.
- Perform CSSA tasks and review results of CSSA to determine the potential number of credits available for rehab.
- Delineate and prioritize areas/lines for FY11 rehab based upon results.
- Develop projects for rehabilitation to target priority lines in FY11.
- Ensure that data is captured in PACP format.
- Continue condition assessments for manholes in strategic areas. MSD will follow the GLPM FY10 schedule. Inspection data will be reviewed and manhole defects will be corrected as they are found.
- Identify new priority areas for Condition Assessment and initiate associated inspections.
- Install the Neztex software in production to facilitate data transfer for PACP TV inspections from the Hansen asset management system to remote inspection software and back.
- Work with various CCTV vendors to finalize the transfer of TV inspection data.
- Award professional services contracts, (ICA Phase 3 to complete the following interceptors. Condition assessment reports will be completed for each area:
 - Mill Creek Trunk (Budget ID H09399) – FY10 CSSA Area. A work order will be issued in October, 2009, to begin the field TISCIT inspections.
 - Ohio River Interceptor (Budget ID H09400) – FY10 CSSA Area. A work order will be issued in October, 2009, to begin the field TISCIT inspections.
 - Upper Dry Run Trunk (Budget ID H09404) – FY10 CSSA Area. A work order will be issued in October, 2009, to begin the field TISCIT inspections.
 - Sneads Branch Relief (Budget ID H09402) – FY10 CSSA Area. A work order will be issued in October, 2009, to begin the field TISCIT inspections.
 - Lea Ann Way Interceptors (Budget ID H09398) – IOAP SSES Project. A work order will be issued in August, 2009, to begin the field TISCIT inspections.
 - Camp Taylor Interceptors (Budget ID H09407) – IOAP SSES Project. A work order will be issued in August, 2009, to begin the field TISCIT inspections.
 - Flood Protection System – COE inspection requirement. A work order will be issued in August, 2009, to begin the field TISCIT inspections.

M-E-9 Infrastructure Rehabilitation

FY09 Program

- MSD crews slip-lined 391 property service connections.

-
- MSD crews slip-lined 194 feet of sewer main.
 - Completed these rehabilitation projects by December 31, 2008, in accordance with the Sanitary Sewer Overflow Plan (SSOP).
 - H07298- Northern Ditch Int. Rehab Phase 1
 - H07294- Sinking Fork Int. Rehab Phase 1
 - H06301-Beechwood Village SSO Abatement Phase 1
 - H07295-Hikes Lane Rehab Phase 1
 - H07296-Goldsmith Lane Rehab Phase 1
 - H07297-Buechel Branch Rehab Phase 1
 - H04276-Middle Fork System Improvements Phase 1
 - The Moyle Hill Road Sewer Rehabilitation (Budget ID B09088) - This project to reline 2,305 LF of 8-inch, 380 LF of 10-inch, 985 LF of 12-inch diameter sewer line was completed on June 12, 2009.
 - Fincastle Rehabilitation (Budget ID H09117) – The construction on this project was completed in April 2009. Work included CIPP lining of 410 linear feet of 8-inch diameter and 407 linear feet of 18-inch diameter sewer pipe.
 - Anchor Estates Manhole Rehabilitation (Budget ID F08443) – Chimney seals and watertight manhole castings were installed on seven manholes as part of this project. Site re-grading was also completed on three manholes to direct water away from the manhole castings. Work was completed on April 10, 2009.
 - Fairmount Road Manhole Rehabilitation (Budget ID F08444) – This project rehabilitated six manholes with the installation of a complete lining. This project was awarded on April 27, 2009 and completed on June 5, 2009. These manholes near the discharge of the Fairmount Road Pump Station had deteriorated down to the rebar with evidence of heavy wet weather inflow.
 - Bay Arbor and Cedar Forest Pump Station I&I Rehabilitation (Budget ID H09338) Construction was completed on April 28, 2009. In this project, pressure injected grout was utilized to seal several wet well barrel section joints.
 - CSO108 Rehabilitation Project (F08444) - Construction was completed on April 30, 2009. In this project, pressure injected grout was utilized to seal several wet well barrel section joints.
 - Woodlawn Park Pump Station Elimination (Budget ID F05039) – This pump station was taken offline March 31, 2009. (SSO Elimination)
 - Michael Edward Pump Station Elimination (Budget ID C07431) – This project installed 280 linear feet of 8-inch diameter sewer to eliminate this pump station. The construction phase of this project was completed on June 19, 2009.

FY10 Program

Some phase of these rehabilitation projects will be active over the next reporting period.

- Edgewood Separation (Budget ID H09202) – A new project scope was created to replace an existing failed system with 1,200 feet of new 8-inch diameter sewer and abandon the existing sewer.
- Whipps Mill Basin (Budget ID H09202) – This project called for raising two manholes on the Middle Fork Interceptor to a height two feet above the flood plain along Middle Fork. Chimney seals will also be installed on both manholes.
- Sears Avenue Sewer Replacement (Budget ID A09501) - This project, located on Sears & Oechsli Avenues, will replace approximately 1,100 L.F. of an 8-inch diameter sanitary sewer that has a history of FOG issues.
- Goose Creek Pump Station (Budget ID F07070) and Lea Ann Way Pump Station (Budget ID F07069) Grinder Installations – New grinders will be installed. Wet well channel modifications at each site to improve hydraulics and operational flexibility have been proposed. The budget for these additional improvements has been approved.
- Shively and Nightingale Pump Station Grinder Replacement Projects – Planning will begin to evaluate and replace the existing grinders at the above stations. Designs will be completed.
- Brandeis Viaduct #2 Pump and Controls Modifications (Budget ID F04192) –This project will replace pump #2 and associated electric and control equipment.
- Meadow Stream ARV Replacement (Budget ID H09338) – This project will replace 10 air release valves (ARVs). The existing ARVs have 2-inch diameter discharge openings. The new valves will have 3-inch diameter openings. It is anticipated that air is being trapped in the 12-inch diameter force main causing pump operating deficiencies. Draw down testing shows the pumps are operating below their original design capacity. Once the ARVs are replaced the station will be monitored.
- Fairmount Road Pump Station Expansion (Budget ID E00303) – A technical memo will be completed with final recommendations for the expansion of the pump station. Design will begin to upgrade the station based on the memo's recommendations.
- Gorham Way Pump Station Elimination (Budget ID C09060) - The final design, easement acquisition and KDOW approval will be completed. Construction is scheduled to be complete by December 1, 2010.
- Waycross Road Pump Station Elimination (Budget ID CO9062) - The project involves the elimination of the Waycross Road Pump Station and the installation of approximately 1,200 feet of 8-inch diameter gravity sewers.
- Lake Louisville Sanitary Sewers (Budget ID D98344) – This project will involve the elimination of four pump stations - (Forest Springs, Bay Tree, Willow Cove and Cottages of Westport) and construction of approximately 5,550 linear feet of gravity line.

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- Canoe Lane/Fairway Lane Pump Station Elimination (Budget ID F06298) -This project will allow for the elimination of the Canoe Lane and Fairway Lane Pump Stations.
 - Lake Forest Pump Station, Force Main, and Interceptor (Budget ID E05509) - This project will allow for the elimination of the Berrytown, Starview, and Chenoweth Run WQTCs. Additionally, the St. Clair Drive and Arnold Palmer Pump Stations will be eliminated with this project.
 - MSD will develop a Request for Proposal, for sewer and manhole rehabilitation construction, both to be based on a fiscal year schedule and budget. Work will begin in this next reporting period.
 - Continue to complete rehabilitation work and report accordingly.

M-E-10 System Capacity Assurance Program

FY09 Program

- Approved 41 lateral extension contracts with projected flow of 474,485 GPD.
- Denied approval of 3 lateral extension projects with projected flow of 94,000 GPD due to capacity limitations. Projects denied are broken down by the following reasons:
 - 1 Capacity at Jeffersontown WQTC
 - 2 Capacity at small WQTCs
- Conditionally approved 121 lateral extension projects with projected flow of 1,791,048 GPD.
- Began formula-based defect inspection of significant footage of sewer lines in various sewersheds across the county. In addition, contract arrangements are moving forward to increase these efforts dramatically. This information will be used to prioritize cleaning and rehabilitation efforts that will remove inflow and infiltration from the system and create capacity credits.
- Enhanced the tracking of Pump Station capacities and testing results have been reviewed along with actionable items pertaining to deficiencies. Critical results of this effort are being documented on each station asset within the Hansen system.

FY10 Program

- Water Quality Treatment Center plant capacities and new development flows will continue to be tracked in accordance with the SCAP, as previously described. Pump station capacity investigation needs resulting from the pump testing and deficiency identification will be refined and remedial actions will be initiated for the highest priority stations.
- Complete a capacity credit evaluation for each credit catchment and balance with approved new flows. Rehabilitation efforts using existing sewer condition data will be advanced to remove inflow and infiltration and generate capacity credits.
- Develop a SCAP training module is and schedule training for staff. Additional GIS information and reports related to sewer capacity will be published or updated and made

available to general personnel. Credit calculation protocols and tracking in Hansen will be evaluated and a detailed process will be written. An update to the SCAP planning document will also be initiated to adjust the program's details and direction as new or altered activities are encountered as the plan is implemented.

- Continues to work on the procedures for documentation of rehabilitation and calculation of SCAP credits.
- Update the credit calculation spreadsheet for all work performed.
- Produce a report to track credit activity.

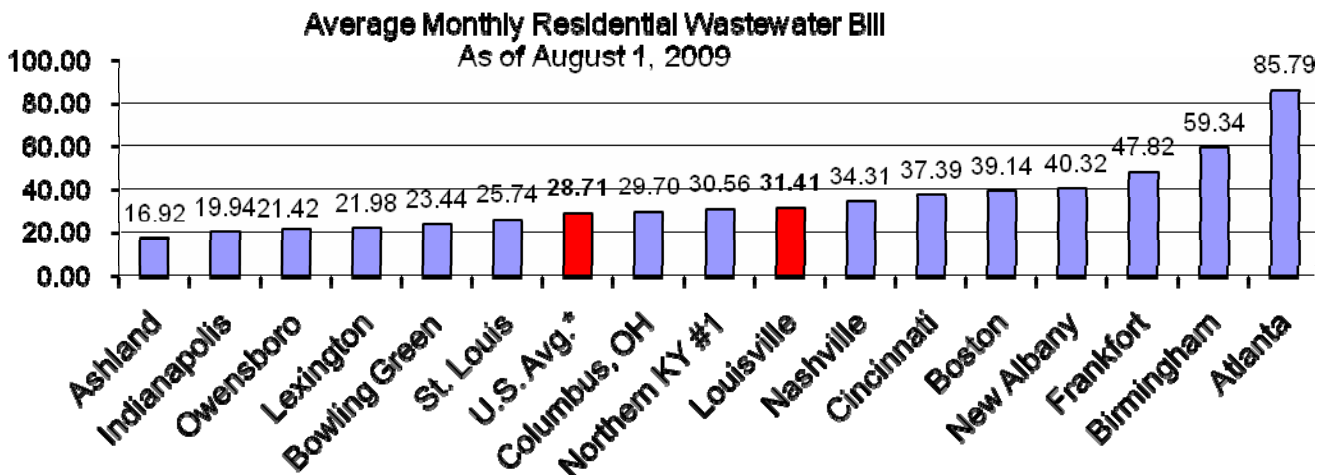
5.1.1.6 Sanitary Sewer Overflow Reporting and Notification Program - This section describes MSD's Sanitary Sewer Overflow (SSO) Reporting and Notification Program. The goal of this section is to maintain accurate, up to date records of SSOs and to ensure proper, timely notification of the agencies and organizations through un-permitted discharge reporting, SSO notification, and tracking.

- M-F-1 Unauthorized Discharge Reporting
- M-F-2 Sanitary Sewer Overflow Notification
- M-F-3 Tracking Sanitary Sewer Overflows

Refer to Section 2: Sewer Overflow Response Protocols for detailed information.

5.1.1.7 Financing and Cost Analysis Program - This section describes MSD's Financing and Cost Analysis Program. The goal of this section is to provide a detailed cost analysis for both the capital and operational costs of MSD for use in future budgeting and decision making. The following cost analysis programs are included in this section: operations, maintenance, capital improvement program funding, management, life cycle, and budget and customer rate setting.

- M-G-1 Operations Cost
- M-G-2 Maintenance Cost
- M-G-3 Capital Improvement Funding
- M-G-4 Management Programs Cost
- M-G-5 Life Cycle Cost
- M-G-6 Budget and Customer Rate Setting



FY09 Program

- Total Operating Cost = \$94,146,198; 4.7% below budget; 4% decrease over FY08.
- Total service and administrative cost less capitalized project costs = \$69,534,000; 2.9% below budget, 1% decrease over FY08.
- Total Gross Debt Service (not adjusted for capitalized interest) = \$95,881,000; 8.7% increase over FY08 gross debt service of \$88,173,000.
- Total Available Revenues = \$197,511,000; 12% above budget of \$176,615,000, 15% increase over FY08.
- Debt Service Coverage = 133%, up from 126% in FY08.
- Capital Expenditures (not including capitalized project management and administrative costs) = \$48,419,609; 22% increase over FY08.
- Capital Expenditures (including capitalized project management and administrative costs) = \$69,934,992.
- Developer Construction Cost = \$9,450,284; 37% decrease over FY08.
- Total System Construction = \$57,869,893; 6% increase over FY08.

FY10 Program

- MSD's operating budget for FY10 was set at \$103,944,400 and the capital budget was approved for \$180,823,000.
- MSD anticipates issuing Revenue Bonds totaling approximately \$180 million in order to fund its capital program.
- MSD also anticipates issuing approximately \$528 million of Revenue Bonds and Bond Anticipation Notes to refinance portions of its outstanding debt.

5.1.1.8 Equipment and Tools Management and Maintenance Program - *This section describes MSD's Equipment and Tools Management Programs. The goal of this section is to facilitate efficient repair and support of MSD's sewer systems through an accurate spare parts inventory, a timely equipment maintenance schedule, vehicle repair, and needed tools and supplies.*

M-H-1 Spare Parts Inventory Management

FY09 Program

- Installed security scan control pads at the entrance of Morris Forman and Hite Creek Storerooms. Access to these sites is limited and reviewed quarterly for control measures of inventory.
- Continued to review inventory with department managers to identify obsolete items. The Hite Creek Storeroom identified and processed obsolete inventory valued at \$3,647. Morris Forman Storeroom identified and processed obsolete inventory values at \$69,108.

-
- Met with bar-code supplier and obtained samples for future consideration and project management.
 - Initiated plans to utilize the SAP accounting system to create automatic cycle count reports.
 - Performed the annual physical inventories of Morris Forman, Hite Creek and CMF Storerooms. It was recommended that a complete Standard Operating Procedure (SOP) be developed for better processes before the next annual inventory.
 - Developed the requested Annual Inventory SOP and presented to internal auditor for approval.
 - Trained newly-hired Metro Coordinator to control spare parts, environmental issues and administrative matters for Storeroom issues at the East and Central WQTCs.
 - Continued to meet with vendors to identify opportunities of warehousing low-volume critical inventory items.

FY10 Program

- Review security scan control pads quarterly for inventory control measures.
- Continue review of inventory with department managers to identify obsolete items.
- Evaluate opportunities for Storeroom Bar-Code Scanning as an improvement for inventory management at Morris Forman and CMF Storerooms. Budget allowances will be included in the 2009/2010 budget for consultation and survey fees.
- Select a Bar-Code Scanning Project Team and initiate work sessions during the first quarter of FY10. The Storeroom Supervisor will act as Project Manager to begin the first phase. First phase of the project was completed, which included consultation of site survey and estimated charges for software, hardware and training. Second phase will begin in the third quarter of FY10 to review all information and determine if budget allowances can support a project initiative before implementation of a bar-code system.
- Test SAP processes with new location of Hite Creek WQTC Storeroom for implementation of cycle counting.

M-H-2 Equipment and Tools Repair Management

FY09 Program

- Tested Silt Filter System to replace stone bags around catch basins at CMF. This would not only provide cost savings with labor and materials, but would increase filtration of contaminants from entering the sewer system.
- Conducted Inspection and Audit of Tool Inventory in all Infrastructure and Flood Protection crew vans and trucks. All tools were marked for identification. SOP for purchasing and replacement tools was drafted and presented for legal and audit review.
- Reviewed present equipment and tool repair process and was identified as a Lean Manufacturing tool for Kaizen event. It was recommended by the Storeroom Supervisor for the team to develop a better process.

-
- Utilized two approved contracts for motor and pump repairs.
 - Repaired ITX Gas Safety Monitors through an outside contractor after internal calibration and testing is complete. All repair files and history log is maintained by the CMF Storeroom, which is the central repair station for MSD.

FY10 Program

- Begin final phase of testing the Silt Filter System to replace stone bags around catch basins at CMF. Initial testing showed a cost savings of \$500 a month (labor and materials) and significant increase in filtration of contaminants from entering the sewer system.
- Initiate odor control initiatives and vegetation improvements at CMF.
- Approve Vehicle Tool Inventory checklists for Infrastructure and Flood Protection crew vans and trucks. SOP for purchasing and replacement tools will continue legal and audit review.
- Begin the Kaizen event for Equipment and Tool Repair process in February 2010.
- Continue to utilize approved contracts for motor and pump repair.
- Continue external contractor repairs of ITX Gas Safety Monitors. All repair files and history log is maintained by the CMF Storeroom, which is the central repair station for MSD.

M-H-4 Supplies Management

FY09 Program

- Negotiated a Vendor-Managed Inventory (VMI) contract with local vendors of plumbing supplies and fasteners.
- Began reorganization of CMF Storeroom area for future quality improvements with lean manufacturing principles: relocate service counter to better serve customers at both gates, incorporate a receiving staging area, install warehouse bulk racking for larger purchasing of commodities to save freight charges, and use vertical space for extra long inventory.
- Started sampling of environmentally friendly air freshener products for installation at all plants to control odor.
- Added the storeroom layout changes to the Oil Room and Motors to the chart for visual flow.
- Implemented cost savings initiatives with janitorial supplies for all divisions at MSD.
- Participated in environmental inspection with Metro Operations to assess spill containment and recycling of chemicals and oils for all locations.
- Initiated recycling SOP at Morris Forman and presented to Environmental Committee for review. Continued partnering with Louisville Metro Government to support efforts in office paper recycling, plastic recycling and glass recycling. Worked with local suppliers

to recycle batteries, bulbs, ballasts, aluminum, cardboard, pallets and used oil for minimal or no fee.

FY10 Program

- Negotiate a Vendor-Managed Inventory (VMI) contract with local vendor for electrical supplies.
- Complete a bid proposal for inventory of managed of gas cylinders for all locations, which will provide better chemical and gas controls throughout MSD.
- Remodel the Hite Creek WQTC Storeroom with shelving, pallet racking, bins and tool check out area in the new shop to service Central and East Regions.
- Work with the CMF Storeroom to implement the following quality improvements with lean manufacturing principles will continue in the next reporting period: relocation of service counter to better serve customers at both gates, door bell installed at counter to alert staff in office during slow business hours, receiving/holding area incorporated, and constructed vertical racking for lumber.
- Designate the Morris Forman facility as the main recycling center for the District.
- Complete testing and installation of soy-based industrial hand cleaners and lotions for all maintenance and fleet shop employees.
- Continue environmental assessment of chemical and oil clean-up at Metro Operations and Morris Forman WQTC.
- Complete cost savings initiatives with janitorial supplies for all divisions at MSD for bid package by January 2010.
- Initiate contracts proved for hazardous and non-hazardous waste removal.
- Establish monthly meetings with internal customers to better service tool and inventory needs.

M-H-3 Vehicle Repair Management Program

MSD's vehicle repair maintenance program addresses over 600 pieces of rolling stock, including automobiles, trucks, trailers, construction equipment (backhoes, mobile cranes, etc.) and specialty sewer maintenance equipment. For the purpose of the CMOM program, MSD established a list of "Mission Critical" (MC) equipment required for sewer inspection and maintenance. "MC" equipment includes:

- Catch Basin Cleaners (mechanical clamshell type)
- High-Pressure Sewer Flusher Trucks
- TV Inspection Vehicles
- Vacuum Sewer & Catch Basin Cleaner Trucks

MSD's equipment inventory also includes fixed location and mobile engine generators and mobile trash pumps. Maintenance of these pieces of equipment are addressed in a later section.

FY09 Program

- Performed an evaluation of work order history on mission critical equipment. This data review indicated that on average the:
 - Six Vacuum Catch Basin & Sewer Cleaners were available 92.7 % of the time
 - Seven Sewer Flushers were available 90.6% of the time
 - Four Catch Basin Cleaners (Clamshell) were available 93.9 % of the time
 - Six TV Inspection Trucks were available 97.9 % of the time
- Conducted a review of future needs for the MC equipment and the identified of existing equipment reaching the end of its useful service life. Procurement was initiated for the following:
 - 4 Catch Basin Cleaners (mechanical clamshell type)
 - 5 TV Inspection Vehicles
 - 4 Vacuum Sewer & Catch Basin Cleaner Trucks
- Established and formalized processes and procedures for tracking Mission Critical equipment availability utilizing existing manual data-gathering techniques.
- Compiled “wants & needs” analysis for a replacement Fleet Management Information System (FMIS).
- Identified acceptable Fleet Management Information Systems (FMIS) and created a candidate “short list” for in-depth evaluation.

FY10 Program

- Continue utilizing manual techniques for analyzing availability/downtime data and compiling quarterly reports for mission critical equipment :
- Select the FMIS system to be procured (note: FASTER is the preferred system).
- Procure the FASTER software in the first quarter of 2010.
- Define the data to migrate to FASTER prior to June 30, 2010.
- Determine the information and reporting components/attributes/processes needed in FASTER to better manage availability of mission critical equipment, and enhance MSD’s ability to perform core business.
- Finalize performance measures for CMOM critical equipment by June 2010.
- Complete in-service processing and release new mission critical equipment acquired during fiscal year.
- Provide in-house Vacuum Catch Basin Cleaner “Basic Mechanics” factory training program for sixteen (16) Fleet Services technicians.
- Initiate out-of-town Vacuum Catch Basin Cleaner “Advanced Mechanics” factory training program for eight (8) Fleet Services technicians upon completion of basic program.

- Identify “Performance Measures” to be tracked with new Fleet Management Information System (FMIS) and establish acceptable benchmarks for each element to be measured.

5.1.1.9 Customer Service Programs - *This section describes MSD’s Customer Service Programs. The goal of this section is to strengthen and maintain a healthy relationship between MSD and the public through service programs which include complaint management, public information, and public education.*

M-I-1 Customer Service
M-I-2 Public Information
M-I-3 Public Education

FY09 Program

- Handled a total of 142,482 calls. February 2009 was the month with the highest number of calls. See the chart below for a detailed breakdown between MSD and METROCALL. METROCALL is answered by MSD Customer Relations staff only from 5:00 pm – 8:00 am, and on weekends and holidays. MSD has a greatly reduced staffing level during those times, resulting in higher average hold times. It is believed that people calling outside the normal business hours may be more willing to wait on hold, thus explaining the lower call abandonment rate despite the higher hold time.

	MSD				METROCALL		
	Call's Rec'd	Calls Abandoned	Avg. Hold Time (sec.)		Call's Rec'd	Calls Abandoned	Avg. Hold Time (sec.)
Jul-08	4893	722	10	Jul-08	6738	938	65
Aug-08	4852	818	12	Aug-08	5712	771	45
Sep-08	5975	1156	18	Sep-08	7042	1351	25
Oct-08	5786	1308	12	Oct-08	6495	996	55
Nov-08	4576	1120	9	Nov-08	5610	556	64
Dec-08	4970	1065	14	Dec-08	3757	487	52
Jan-09	4599	1082	15	Jan-09	7127	1002	90
Feb-09	5107	1017	9	Feb-09	8928	1126	77
Mar-09	5290	1015	9	Mar-09	7153	635	68
Apr-09	5205	931	12	Apr-09	6673	751	52
May-09	5398	664	15	May-09	7660	841	72
Jun-09	<u>5521</u>	<u>529</u>	<u>19</u>	Jun-09	<u>7415</u>	<u>649</u>	<u>73</u>
Totals	62172	11427	12.8		80310	10103	61.5

- Included a survey postcard in the annual report for readers to critique the subject matter and readability, as well as offer suggestions for future topics. The survey was also made available on the MSD Web site at www.msdlouky.org. Responses from the survey have assisted the committee in determining whether or not we met our customer’s expectations on the information covered in the report. Results of the survey included:
 - Approximately 88 percent of respondents either agreed or strongly agreed that the report helped them to have a better understanding of what MSD has accomplished in the past 12 years.
 - A little more than 76 percent of readers reported that they either agreed or strongly agreed that they learned how MSD is addressing drainage issues.

- More than 94 percent of those responding agreed or strongly agreed that the photographs included in the report enhanced their understanding of articles in the report.
- Eighty-two percent of readers responded that they found the report easy to read and understand.
- Approximately 65 percent of respondents either agreed or strongly agreed that the report helped them to learn more about Project WIN and the Consent Decree and 88 percent indicated they have a better understanding of why combined sewer overflows and sanitary sewer overflows must be addressed.
- Since only 29 percent of readers indicated they were previously aware of floodplain determination information available on MSD's Web site, the report provided a valuable resource.
- Comments from elected officials of the community also helped MSD meet obligations under the Consent Decree and the National Flood Insurance Program.

FY10 Program

- Develop and administer a customer survey as part of the IOAP public outreach program.
- Modify the introductory message used by MSD Customer Relations personnel with the intent of reducing the total message length and thus reducing the call abandonment rate. The definitions of "call abandonment" will be reviewed with the call center software vendor to make sure the statistics that are being developed accurately reflect actual customer behaviors.

5.1.1.10 Legal Support Programs – *The following support programs are included in this section: inter-jurisdictional agreement, ordinances, pretreatment legal support, grease control legal support, service laterals legal support, septic tank haulers legal support, and "Call Before You Dig" legal support.*

M-J-1 Inter-Jurisdictional Agreement

M-J-2 Ordinances

Over the past fiscal year, the MSD legal department has provided a variety of legal services designed to support MSD in its efforts to implement programs to abate sanitary sewer overflows as required by the Amended Consent Decree. The services most directly related to this effort include:

- Participating in and/or providing legal advice and other functions pertaining to the procurement of construction and professional service contractors to provide services and/or perform work in furtherance of SSO abatement related projects.
- Participating in the acquisition of properties and/or property interests (easements and/or fee simple ownership) critical to the completion of SSO abatement related sewer construction projects. The department's participation has included assisting in the negotiation and structuring of purchase and sale agreements, drafting acquisition related

documents, title research, and performing or providing oversight of the closing of acquisition transactions.

- Participating in the development of MSD's Fats, Oil and Grease (FOG) program, and providing legal advice and assisting in MSD's enforcement of the program including cost recovery and negotiation of consent decrees with commercial and industrial companies that violate program guidelines.
- Providing legal advice and comments pertaining to compliance functions necessitated by MSD's proposed MS4 NPDES permit.

M-J-3 Pretreatment

M-J-4 Grease Control

M-J-5 Service Laterals

M-J-6 Septic Tank Haulers Legal Support

M-J-7 "Call Before You Dig"

Information on these programs is provided in **Section 1.4 NMC 3: Review and Modification of Pretreatment Programs, 5.1.2.4 Grease Trap Inspection and Enforcement Program, 5.1.2.7 Septic Tank Haulers Program, 5.1.2.8. "Call Before You Dig" Program, and 5.1.2.2 Pretreatment Program**

5.1.1.11 Water Quality Monitoring Programs - *This section describes MSD's Water Quality Monitoring Program. The goal of this section is to maintain an accurate, consistent record of water quality in receiving bodies of water. Monitoring results are used to determine the effect of effluent discharge and/or spills through the following monitoring programs: routine water quality, investigative water quality, and water quality monitoring for spill impact.*

M-K-1 Routine Water Quality Monitoring Programs

M-K-2 Investigate Water Quality Monitoring

M-K-3 Water Quality Monitoring for Spill Impact

Information on these programs is provided in **Section 3.4 Post Construction Monitoring Program**, for details on water quality monitoring efforts.

5.1.1.12 Contingency Plan for Sewer and Treatment Plant - *This section describes MSD's Contingency Plan for Sewer and Treatment System. The goal of this section is to provide a protocol for sewer overflow. The following elements are included in this section: contingency planning process, response flow diagram, public notification plan, agency notification plan, emergency flow control plan, emergency operations and maintenance plan, preparedness training program, water quality monitoring plan, and sewer overflow response plan (SORP). The SORP requires training for all MSD employees.*

M-L-1 Contingency Planning Process

M-L-2 Response Flow Diagram

FY09 Program

- Continued implementation of protocols for emergency and disaster response.

-
- Updated the contact list of names, phone numbers, and responsibilities is available for emergency and disaster response protocols.

FY10 Program

- Create a new division for emergency response to respond to disasters and overflows at pump stations.
- Revise the disaster response protocol document.
- Update the emergency response protocol document.
- Create flow diagrams to show responsibilities contacts and protocols for disaster and emergency response.
- Continue to train and administer ERPI training as outlined in Section 1.4.
- Develop work plans for FY11 and FY12 program activities.

M-L-3 Public Notification Plan

M-L-4 Agency Notification Plan

Maintained, as part of the emergency and disaster response protocols, inter and intra Agency Notification Plans. Maintained the Public Notification Plan as outlined in the SORP. Refer to **Section 2: Program Activities for Sewer Overflow Response Protocol** for more details.

M-L-5 Emergency Flow Control Plan

M-L-6 Emergency Operations and Maintenance Plan

FY09 Program

- Compiled procedures for Emergency Flow Control and Emergency Operations and Maintenance.

FY10 Program

- Develop work plans to outline clearly delineated procedures and protocols for flow control during emergency situations.

M-L-7 Preparedness Training

FY09 Program

- Administered training for SORP and Emergency Response procedures. For more detail on SORP see **Section 2: Program Activities for Sewer Overflow Response Protocol**.
- Refer to Section **5.1.1.2 Training Programs** for more details on the number of personnel trained and various preparedness training sessions.

FY10 Program

- Refer to Section **5.1.1.2 Training Programs** for more details on the goals for training in FY10.

-
- Continue to train and administer ERPI training as outlined in Section 1.4.

M-L-8 Water Quality Monitoring Plan

Refer to **Section 5.1.1.11 Water Quality Monitoring Programs** for more details on the MSD Water Quality Monitoring Plan

M-L-9 Sewer Overflow Response Plan (SORP)

Refer to **Section 2: Program Activities for Sewer Overflow Response Protocol** for more details on the SORP.

5.1.2 Operations Programs

5.1.2.1 Pump Station Operations Programs - *This section describes MSD's Pump Station Operation Programs. The goal of this section is to maintain pump stations for optimal use during routine and emergency operations through well documented operating procedures.*

O-A-1 Routine Operating Programs

FY09 Program

- Submitted, as part of the IOAP, schematics recommending operation conditions at different river elevations for the combination flood/sanitary pump stations to eliminate dry weather overflows.
- Completed and submitted to the USACE for review by July 24, 2009 the Standard Operating Procedures (SOP) for Flood Pumping Stations requiring operational changes to eliminate dry weather overflows. ,
- Coordinated with front-line operations and maintenance staff to determine capital project priorities and the budgetary needs.
- Placed an order for an ISCO 4501 Pump Station Flow Monitor. This device will streamline pump station draw down efforts. The meter was delivered April 8, 2009, and MSD received manufacturer training on April 23, 2009. The unit was taken to trial evaluations at the Fairmount Road Pump Station. The unit was determined to have a faulty circuit board by the manufacturer during set-up. The unit was repaired and returned to MSD in June 2009. In June the unit was successfully evaluated at the Meadow Stream Pump Station by MSD staff.

FY10 Program

- Finalize the SOPs for the flood pump stations that will eliminate dry weather overflows without necessary pump station modifications. A meeting is scheduled August 10, 2009, for USACE approval to the proposed operations and "Idle Mode" gate automation changes to the FPS. If the revised SOPS are approved, meetings will begin with I&FP to start implementing these changes.
- Continue to meet on a monthly basis with operations and maintenance staff to determine capital project priorities and advise on the budgetary needs on a quarterly basis.

- Analyzed the master draw down pump station database with all test results and develop an action plan for the pump stations that have performance issues. Rehab projects will be prioritized from this database. This will also be coordinated with the Greenline and Emergency Generator Programs.
- Establish a pump station inspection program with standardized forms for inspection activities. This program will first concentrate on deficiencies found during the analysis of the draw down data and Greenline Program.
- Test the ISCO 4501 Pump Station Flow Monitor at the Meadow Stream and Fairmount Road Pump Stations to assess the unit. This testing will also be used to determine the effectiveness of the Meadow Stream PS project that replaced the 10 air valves. Data will be collected to determine the effectiveness of the flow monitor for use in the pump station draw down program.
- Establish SOPs and job aides for Regional Pump Stations. This will include the development of action plans for wet/dry weather capacity issues at pump stations and conducting annual pump station field training.
- Perform a system optimization exercises. Install flow meters to assist with this initiative.
- Provide backup power at critical pump stations based upon the previously performed prioritization.

O-A-2 Emergency Operating Programs

FY09 Program

- Greenline Analysis - This program entails a review of overflow elevations at pump stations to improve information management and alarm notifications. In addition, it will find opportunities to reduce the frequency and volume of unauthorized discharges while protecting properties from interior discharges. During the Hurricane Ike event, three additional Pump Stations were identified to be added to the review. MSD received the final TM-1 for Greenline - East Region analysis. This technical memo documents field home lowest opening elevation surveys and confirmed pump station as-constructed information. This information was presented in TM-2 for the East Region. MSD received the final TM-2 for Greenline - Central Region analysis. This technical memo documents field home lowest opening elevation surveys and confirmed pump station as-constructed information. This information will be analyzed and recommendations prepared for operation and pump station changes to prevent home flooding.
- Emergency Generator Phase 3 (Budget ID H09337) - MSD staff collected data for site selection for installation of emergency generators. Hansen and SAP data was collected and graphed for all pump stations, by region, prioritizing stations with four or more coded activities (power failures, hauling, generator placements, work orders, etc.). Pump station horsepower data was collected and graphed against the coded activities to prioritize sites for generators. Staff has completed the selection of 30 pump station sites, 10 for each of the three (East, Central and West) Metro Operations regions, for this phase. Bid documents for the following projects have been created.
 - East Region Emergency Generator Project (Budget ID H10082) – The purpose of this project is to install permanent stand by generators at the following MSD

pump stations: Brittany Woods Circle, Devondale, Fairway View Court, and Saurel Drive.

- West Region Emergency Generator Project (Budget ID H10084) – The purpose of this project is to install permanent stand by generators at the following MSD pump stations: Francell Court, Park Ridge Woods, Sunlight and Tree Line.
- Central Region Emergency Generator Project (Budget ID H10083) – The purpose of this project is to install permanent stand by generators at the following MSD pump stations: Griffytown #1, Middletown Christian Village, Monticello Place and Six Mile Lane.

FY10 Program

- Greenline Analysis - The Greenline program will continue. MSD will review the TM for the findings on the East and Central group and continue the analyses of the West group. An analysis of pump stations that are in need of generators due to power outages, overflows, or mechanical issues will also be performed. During the next reporting period the Greenline technical memo's documentation of the lowest home opening elevations and confirmed pump station as-constructed information will be reviewed. A plan will be developed to correct any pump station operation level settings to prevent line surcharging. The information will also be used to analyze pump station performance and prioritize rehabilitation for the pump station draw down program. Sites will be reviewed for the installation of visual and telemetry level gauges for operations at each site to prevent home and manhole surcharging.
- Emergency Generator Phase 3 (Budget ID H09337) – During the next reporting period construction contracts will be awarded and notice-to-proceeds will be issued for the above listed generator projects. Planning and final bid documents will be completed for the purchase of mobile generators through MSD's Purchasing Department.
- Terrier Lane PS Generator (Budget ID H09337) – An emergency purchase order will be needed. This pump station experiences frequent power outages which causes basement flooding to surrounding homes.
- Chenoweth Hills WQTC Generator (budget ID H09337) – Staff will investigate and test an existing 250 KW generator salvaged from the elimination a regional pump station. If the generator can meet the demand of the Chenoweth Hills WQTC, the generator will be permanently installed on site by MSD staff.
- Berrytown WQTC Generator (budget ID H09337) – Staff will investigate and test an existing 80 KW generator salvaged from the elimination a small package waste water treatment plant. If the generator can meet the demand of the Berrytown WQTC, the generator will be permanently installed on site by MSD staff.

5.1.2.2 Pretreatment Program - *This section describes MSD's Pretreatment Programs. The goal of this section is to protect MSD's sewer system and treatment plants by requiring industrial users to pre-treat their effluent to required levels through industrial user permitting, inspection and sampling and enforcement.*

O-B-1 Industrial User Permit
O-B-2 Inspection
O-B-3 Sampling Enforcement

MSD administers pretreatment limitations at 5 of its 6 regional WQTCs, 1 of which is in the combined sewer system – Morris Forman WQTC. Additional information related to the MSD Pretreatment Program for the combined sewer system can be found in Section 1.4 NMC 3: **Review and Modification of Pretreatment Requirements**

- Performed 200 inspections of Significant Industrial Users (SIU).
- 1 Upset, Interference or Bypass due to an Industrial Source.
- 50 NOVs were written to SIUs.
- There were two fines assessed, totaling \$65,500.
- The percent of Significant Noncompliance was 6%.

5.1.2.3 Corrosion Controls Program - *This section describes MSD's Corrosion Controls Program. The goal of this section is to extend the life of MSD's sewer system by controlling the corrosive effects of Hydrogen Sulfide and other corrosive chemicals in the system through inspection, control measures, monitoring, and performance measures.*

O-C-1 Inspection
O-C-2 Control Measures
O-C-3 Monitoring
O-C-4 Performance Measures

FY09 Program

- Received 826 odor complaints, 97% of which were handled by 3 departments.
 - The Industrial Waste Department (IWD) handled 3% of the Odor requests. These requests were chemical in nature or related to a discharge.
 - Metro Operations handled 13% of the requests. These requests were associated with WQTC's or pump stations. MSD currently operates over 30 chemical feed systems at pump stations, plus several large biological odor treatment systems at WQTCs.
 - I&FP handled 81% that dealt with odors from catch basins or manholes. MSD cleaned 2201 catch basins in FY09 at the request of customers. The majority of these cleanings were due to Odor Requests.
 - Altogether, IWD received 22 odor complaints, Operations received 106 odor complaints and I&FP received 670 odor complaints.
- MSD received one NOV issued related to odor at the Morris Forman WQTC. The NOV was issued due to failure to send an excessive emissions report. MSD accepted the determination that the report was sent in late and did not contest the proposed \$1,000 fine.

- Odors from the Morris Forman WQTC were all treated by on-site systems during FY09.
- The Bioway Biotrickling Scrubbers were in operation during the entire reporting period except for a short period (about 4 hours) on February 9, 2009. During that short period, odors were treated by the Chemical Scrubber.
- The SHOC Biotrickling Scrubbers remained in operation during the entire reporting period, but the odorous air (from the Main Equipment Building) was directed to the Fume Incinerator for treatment during short periods (September 26, 2008 to September 30, 2008 and October 1, 2008 to October 7, 2008).
- The Regenerative Thermal Oxidizers were in operation whenever the associated dryer was in operation.

FY10 Program

- Continue to clean our facilities to reduce odors.
- Split service requests for Operations into two groups: Those that are associated with the Morris Forman WQTC will use the code of MFF and those associated with the remaining WQTCs and Pump Stations will use the code of MOP.

5.1.2.4 Grease Trap Inspection and Enforcement Program - *This section describes MSD's Grease Trap Inspection and Enforcement Programs. The goal of this section is to reduce the amount of fats, oils and grease (FOG) that enter MSD's sewer system and treatment plants through permitting, inspection, enforcement, performance measures, and the FOG program.*

O-D-1 Permitting

O-D-2 Inspection

O-D-3 Enforcement

O-D-4 Performance Measures

O-D-5 FOG

FY09 Program

- Issued 42 enforcement actions against Food Service Establishments for FOG violations found during reconnaissance and follow-up inspections conducted at Food Service Establishments that recently failed certification by an approved MSD Certified Grease Waste Hauler. MSD collected \$14,556 in fines during FY09.
- Sent 2494 FOG residential public outreach letters to 11 areas that had FOG issues during FY09.
- Administered the first Hauler certification training in March 2009. Additional training classes were held in May 2009.

For more details on the MSD FOG Inspection Program for the CSS refer to Section **1.4 NMC 3: Review and Modification of Pretreatment Requirements**

FY10 Program

- Conduct reconnaissance at FOG "hot spot" locations along with concurrent inspections

of online FSE grease control equipment (GCE). MSD will issue enforcement actions against any FSE for FOG violations found during reconnaissance inspections.

- Administer the next round of Certified Hauler/Plumber Training in September 2009.
- Distribute educational materials to Food Service Establishments (FSE) in MSD's service area in September 2009.
- Distribute FOG related information to the general public at the annual Jeffersontown Gaslight Festival, September 18-20, 2009.
- Distribute FOG Program related information to member Food Service Establishment representatives at the annual Kentucky Restaurant Association Exposition on October 21-22, 2009.
- Advertise in the Fall and Spring editions of PREP Magazine, which is a FSE industry journal.
- Track gallons of FOG removed from FSE grease control equipment as it is reported by Certified Grease Waste Haulers.
- Continue to send FOG residential public outreach letters to residents in neighborhoods in the MSD service area that had FOG issues.
- Plan and schedule an outreach event for Food Service Establishments in the MSD service area.
- Finalize Fog Program performance measures and begin tracking.
- Initiate Certified Grease Waste Hauler audits.

5.1.2.5. New Connection Tap-In Program - *This section describes MSD's New Connection Tap-In Program. The goal of this section is to ensure that future connections do not compromise the capacity or structural integrity of the receiving treatment plant. The program is implemented using a new service taps approval process, inspection, enforcement, and performance measures.*

O-E-1 Installation of New Service Taps

O-E-1 Inspection

O-E-1 Enforcement

O-E-1 Performance Measures

O-E-5 Other

FY09 Program

- Received plans for 85 sewer projects in FY09. Treatment plant capacity is reviewed prior to approval of any plans based on the SCAP.
- Inspected sewer installations. 1001 Property service connections were installed.

FY10 Program

- Continue to review projects for capacity availability.

5.1.2.6 Flow Monitoring Field Operation Programs - *This section describes MSD's Flow Monitoring Field Operation Programs. The goal of this section is to provide accurate flow data for use in evaluating various aspects of MSD's sewer system. Flow is monitored at both permanent and temporary stations.*

O-F-1 Permanent Stations

O-F-2 Temp Stations

Refer to **Section 3.4 Post Construction Monitoring Program** for details on water quality monitoring efforts.

5.1.2.7 Septic Tank Haulers Program - *MSD does not accept septic tank waste. This is handled through private contractors in Jefferson County.*

5.1.2.8. "Call Before You Dig" Program - *This section describes MSD's "Call Before You Dig" Program. The goal of this section is to prevent the damaging or cutting of sewer lines and subsequent spills through permitting, inspection, enforcement, and performance measures*

O-H-1 Permitting

O-H-2 Inspection

O-H-3 Enforcement

O-H-4 Performance Measures

FY09 Program

- Contracted for B.U.D. markings of our facilities. In FY09 the locating contractor was paid \$404,495.52 to locate our facilities. MSD also paid the KY811 (BUD Center) \$69,604.85 to participate in this program.
 - In FY09 MSD's locating contractor processed 45,674 requests to mark MSD facilities.
 - MSD made 2,368 requests to the BUD Center for the marking of other utilities in FY09.
- In FY09 there were 25 Discharge Work Orders caused by other utilities damaging MSD facilities.

FY10 Program

- Continue to contract for this service.

5.1.3 Maintenance Programs

5.1.3.1 Pump Station Preventive Maintenance - *This section describes MSD's Pump Station Preventive Maintenance program. The goal of this section is to prevent unanticipated repairs and subsequent down-time by providing scheduling, staff, and records to perform routine, preventive pump station maintenance. Electrical, mechanical, and physical maintenance are included in this section.*

S-A-1 Electrical

S-A-2 Mechanical

S-A-3 Physical

FY09 Program

- Continued the process of updating the preventive maintenance and inspection plan for its flood pump stations based on a review of the USACE Inspection Guide. Staff is using the Hansen asset management system to track Flood Pump Station work orders as well as associated flood pump station assets such as station related floodgates.
- Commenced utilization of a Hansen database to manage preventive maintenance task and corrective work orders at sewer lift stations and small water quality treatment centers.
- Conducted training sessions with Metro Operations staff on utilization of the Hansen database.
- Developed tasks list to facilitate the inspections of the pump stations.

FY10 Program

- Conduct additional Hansen training for Metro Operations staff, as more PM processes are converted to Hansen.
- Perform inspections on pump station sites that have deficiencies determined during the Draw Down and Greenline Programs. These two programs relate only to pump performance and level controls. Staff will proactively inspect all critical equipment on site during the inspections. Check lists will be created to document the inspection and list corrective actions needed. Corrective work orders will be issued as needed.

5.1.3.2 Force Main Preventive Maintenance - *This section describes MSD's Force Main Preventive Maintenance program. The goal of this section is to prevent unanticipated repairs and subsequent down-time by providing scheduling, staff, and records to perform routine, preventive force main maintenance. The maintenance programs include air release valves and valve exercise and walking the line to find cave-ins on the force main.*

S-B-1 Air Release Valves

S-B-2 Valve Exercise Program

FY09 Program

- Inspected 240,113 feet (45 miles) of force mains. 32 corrective work orders were created as a result of these inspections. The following force main inspections were completed:

Arbor Creek	Cinderella
Bay Harbor	Farmview Plaza
Caven Avenue	Industrial
Cooper Chapel	Covered Cove
Fairmount Road	Bardstown Road
Fairway View	Gunpowder
Lake Forest	St. Patricks
Rubbertown	Ohio River

Stannye Drive	Meadowstream
Valley Village	Adams Run #1
West County Sludge Main	West Goose Creek
Worthing Court	Eastwood-Fisherville

FY10 Program

- The following force mains are scheduled for inspection in FY10.

Rubbertown	West County Sludge Main
Ohio River	Jarvis Lane
Mockingbird Valley Road	Dominion Way
Brandywyne	Berrytown
Crossgate	Denbeigh
Cypress Springs	Apple Patch
Bluegrass Fields	Edith Avenue
Bridgepointe	Louisville Boat Club

- Complete the annual force main evaluation by December 31, 2009. Adjustments to the inspection schedule will be made as needed.

5.1.3.3 Gravity Line Preventive Maintenance - *This section describes MSD's Gravity Line Preventive Maintenance program. The goal of this section is to reduce infiltration and increase efficiency of the gravity line system through routine cleaning, root control, and manhole preventive maintenance.*

- S-C-1 Routine Hydraulic Cleaning**
- S-C-2 Routine Mechanical Cleaning**
- S-C-3 Root Control Program**
- S-C-4 Manhole Preventive Maintenance**

FY09 Program

- Completed the second phase of interceptor condition assessments and performed collection system assessment in two sub-basin areas in the Middle Fork Beargrass Creek area.
- Inspected 159 manholes.
- Chemically treated 751 sewer line segments.
- Performed sewer flushing on 6129 sewer line segments and cleaning on 3910 sewer line segments.
- Root cut 617 sewer line segments.

FY10 Program

- Continue working with the contracted sewer evaluation, cleaning, and root cutting consultants and contractors and internal personnel to inspect FY10 priority areas and initiate blockage abatement maintenance measures as appropriate.

-
- Develop a Standard Operating Procedure for GLPM and enhance the Blockage Abatement Program (BAP) to ensure that sewer lines with certain defect conditions are placed in the program to periodically perform appropriate maintenance actions.
 - Schedule and conduct CSSA training and begin development of implementation training for the Blockage Abatement Program.
 - Review equipment, fleet, and personnel to allow for completion of tasks developed in the CSSA.
 - Initiate rehabilitation projects related to FY09 inspection data as well as analyzing FY10 for priority projects.

5.1.3.4 Equipment and Collection System Maintenance - *This section describes MSD's Equipment and Collection System Maintenance program. The goal of this section is to maximize the efficiency of the collection system by maintaining the supporting equipment.*

S-D-1 Equipment Maintenance

FY09 Program

- Scheduled preventive maintenance on mobile trash pumps during periods when no rain was forecast for an extended period of time, maintaining 100% availability when needed for wet weather pumping.
- Contracted preventive and corrective maintenance of both fixed and mobile engine generators with an outside supplier (Wayne Supply). The most significant maintenance issue related to engine generators occurred during the wind storm of November, 2008, when a tree fell on a fixed generator. The damaged generator was not able to provide power to the associated pump station when line power was lost. With this exception, the fixed and mobile generators were available when needed to mitigate the effects of power outages.

FY10 Program

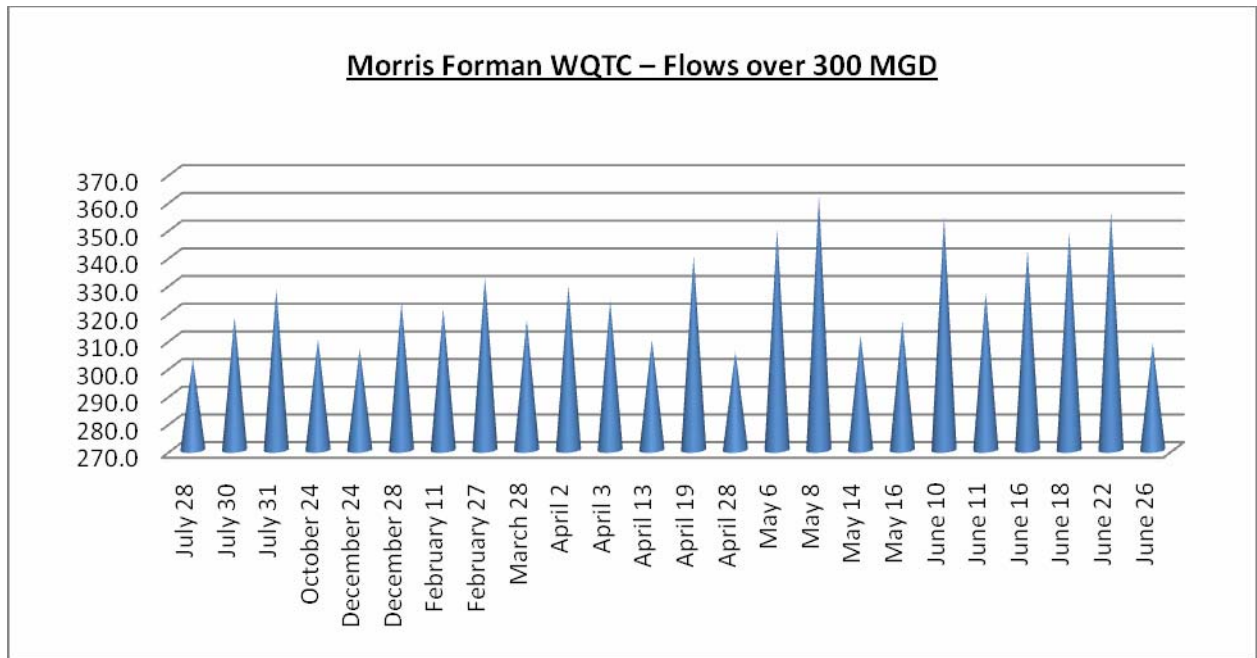
- Develop performance metrics and tracking systems to ensure the critical equipment is available when needed.

SECTION 6: Program Activities for Water Quality Treatment Centers

6.1 Regional Water Quality Treatment Center Updates

6.1.1 Morris Forman Water Quality Treatment Center

Peak flow was over 300 MGD at the Morris Forman WQTC 24 days. There were no KPDES permit violations at Morris Forman WQTC during FY09.



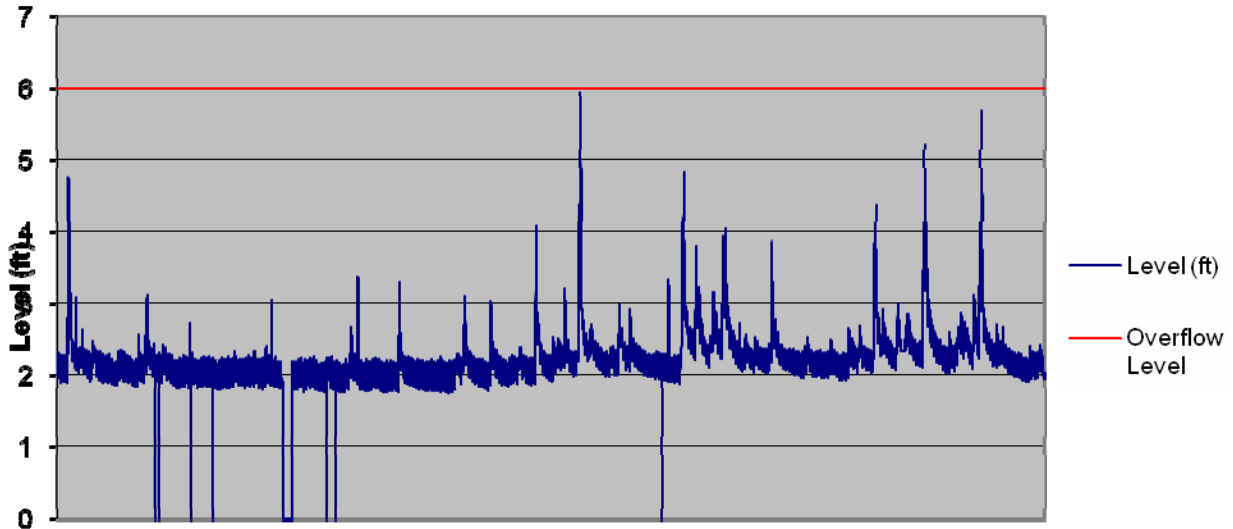
6.1.2 Jeffersontown Water Quality Treatment Center

MSD submitted the Jeffersontown WQTC Process Control Program on October 31, 2008, as required by paragraph 26.a of the Amended Consent Decree. MSD received comments on December 12, 2008, and resubmitted the plan January 16, 2009, and again on February 20, 2009. MSD received conditional approval of this document from EPA on April 1, 2009, pending finalization of the Amended Consent Decree that was under consideration by the Federal Court at the time the Process Control Program was submitted.

- Commenced plant effluent sampling 7 days per week and analyzing the parameters listed per the KPDES Permit. This data is posted with the DMR packet and available on the Project Win website starting October 30, 2008.
- Commenced electronic monitoring of the water surface elevation in the siphon head box. When this level indicates that SSOs are close to occurring, the constructed overflow siphon and manholes on the gravity interceptor within two thousand feet of the headworks of the Jeffersontown WQTC that may overflow are inspected. When these inspections identify an SSO, the occurrence is documented and reported in accordance with the approved SORP for the 24-hour notification. Unauthorized Discharges are submitted in the Quarterly Reports.
- Reported 12 blending events at the Jeffersontown WQTC. The total blended amount, from all events was reported and documented on the Project WIN webpage was 8,693,986 gallons.
- Continued peracetic acid testing. In FY10 a decision will be made on the value of this process.
- Performed two inspection routes for the Jeffersontown siphon during this reporting period. Inspections were conducted May 8, 2009, and June 18, 2009.
- Conducted training sessions on the Jeffersontown WQTC Process Control program in March 2009.
- Implemented the Process Control Program with recommendations to automate data links between the Process Control spreadsheet and LIMS.

Refer to Section 6.5.1 for an update on the CPE/CCE projects for the Jeffersontown.

Jeffersontown Siphon Level (ft) 7/1/08 - 6/30/09



6.1.3 Hite Creek Water Quality Treatment Center

A waste load allocation request for the Hite Creek WQTC was submitted to the Division of Water on March 30, 2009. This allocation is necessary to allow elimination of the Prospect Area WQTCs by December 15, 2015, as required by the Amended Consent Decree. Approval for this new allocation was received from the DOW on June 10, 2009. The next step will be to initiate the contract to amend the North County Action Plan Update by the end of FY 2010.

Refer to Section 6.5.4 for an update on the CPE/CCE projects for the Hite Creek WQTC.

6.1.4 Floyds Fork Water Quality Treatment Center

In October 2008, MSD completed a Preliminary Engineering Report for the Phase 2 expansion of the Floyds Fork WQTC to an average daily design flow of 6.5 MGD. The future needs and the current capacity commitments may require MSD to consider an expansion beyond Phase 2. MSD will move forward on the final design once a requested waste load allocation is completed by KDEP.

6.1.5 Derek R. Guthrie Water Quality Treatment Center

Refer to Section 3.2.2 for an update on the design phase of the Derek R. Guthrie WQTC Wet Weather Equalization and Treatment Project (Budget ID H06302). In FY09 a project started to repair two of the influent pumps.

6.1.6 Cedar Creek Water Quality Treatment Center

Refer to Section 6.5.3 for an update on the CPE/CCE projects for the Cedar Creek WQTC.

6.2 Prospect Area Water Quality Treatment Center Updates

The elimination plan for the five WQTCs serving Prospect (Hunting Creek North, Hunting Creek South, Ken Carla, Shadow Wood and Timberlake) was submitted to EPA and KDEP on March 31, 2009. MSD received approval of this plan on September 24, 2009, and work is proceeding on the projects defined in the IOAP.

Prospect Phosphorus Removal – MSD staff continue to explore alternative methods of delivery of the sodium aluminate. Currently the feed systems require a weekly delivery of chemical by MSD staff at four of the five sites. All sites have physical challenges that prevent bulk storage on site and also limit the type of drum delivery to the site. MSD staff is also planning to provide weather protection on the feed systems at the plant sites. Effluent analysis demonstrates that each of the five Prospect WQTCs are operating below the 1.0 mg/l effluent limit. The phosphorus monitoring data for the five WQTCs, including the calculation of monthly averages are shown in **Appendix G**, starting April 1, 2009.

6.3 Other Small Water Quality Treatment Center Updates

6.3.1 Starview Water Quality Treatment Center

Staff is working with Metro Operations to rehabilitate and install an existing 80 KW generator (from the eliminated Polo Fields site) at the Starview WQTC. In FY10 a contractor is scheduled to install the generator at the new site. MSD staff will complete the necessary electrical modifications required to utilize this generator.

6.3.2 Lake Forest Water Quality Treatment Center

Refer to Section 6.5.2 for an update on the CPE/CCE projects for the Lake Forest WQTC.

6.3.3 Timberlake Water Quality Treatment Center

Refer to Section 6.5.5 for an update on the CPE/CCE projects for the Timberlake WQTC.

6.4 Monitoring, Record-Keeping and Reporting

6.4.1 Discharge Monitoring Reports

In July 2008, MSD started posting, on the Project WIN website, a Discharge Monitoring Report (DMR) packet for each WQTC. Historical DMR data are available back through January 2007. The new DMR packets include the DMR, Monthly Operating Report (MOR), discharge report and the 5-day follow up letter for any bypass events that occurred during that period.

The information on the DMRs may be found at www.msdlouky.org/projectwin in the section labeled Water Quality Treatment Center Reports.

MSD continues to work towards the creation of electronic DMRs. This will require coordination with the State as well as upgrades to the LIMS system and the modification to internal tools. The LIMS upgrade will start in September 2009. The target for electronic creation of the DMRs is with the January 2010 reports.

6.4.2 Flow Monitoring and Recordkeeping at MSD Water Quality Treatment Centers

On September 30, 2008, MSD submitted to EPA and KDEP a Flow Monitoring and Recordkeeping plan for all MSD's WQTCs (except Morris Forman). Approval of this plan was

received on January 14, 2009.

By October 31, 2008, MSD corrected the following items:

- Eliminated the “noise” in the Jeffersontown WQTC control system that incorrectly showed small flows in the Storm Bypass Line.
- Developed an application to display flow trends in the WQTCs over an adjustable length of time above the fixed 24 hour period previously shown.
- Evaluated the communications system for our SCADA system to see if potential vulnerabilities revealed during the September 14, 2008, Wind Storm can be eliminated.

6.5 Comprehensive Performance Evaluations and Composite Correction Plans

In accordance with paragraphs 26.b and 26.c of the Amended Consent Decree, MSD submitted the required Comprehensive Performance Evaluations and Composite Correction Plans as part of the IOAP on December 19, 2008. Based on comments MSD received from EPA/KDEP, these plans were re-submitted as part of the IOAP Volume 1 on June 19, 2009. A letter granting conditional approval of IOAP was received on October 23, 2009.

Verbal approval of the CPEs was received on September 23, 2009. The following describes the Type 1 and Type 2 activities in the approved CPEs for FY10.

6.5.1 Jeffersontown Water Quality Treatment Center

- An SOP for operation of the Plant No. 1 aeration basins in parallel flow (rather than sequential plug flow as operated now) will be developed.
- Adding facilities to allow addition of sodium aluminate to the raw sewage will be completed In FY10. The CPE recommends extending chemical feed lines from the existing sodium aluminate feed system; it may be easier and more effective to move the chemical feed function to the existing screenings building. This will be complete and ready for operation by the end of December, 2009.
- Work will begin on extending the walls of the Plant No. 1 west aeration basin during FY10. This work is not scheduled for completion until June 2010, but material purchase and preliminary work is anticipated to start before the end of December 2009.

6.5.2 Lake Forest Water Quality Treatment Center

- An operations SOP will be drafted and ready for MSD review by November 30, 2009.
- Training will occur by March 31, 2010.

6.5.3 Cedar Creek Water Quality Treatment Center

- A computerized process control program will be drafted and transmitted for MSD review by September 23, 2009.
- Staff will be trained in use of this process control program by December 31, 2010.

6.5.4 Hite Creek Water Quality Treatment Center

- A computerized process control program will be drafted for MSD review during FY10.
- Training will occur by March 31, 2010.

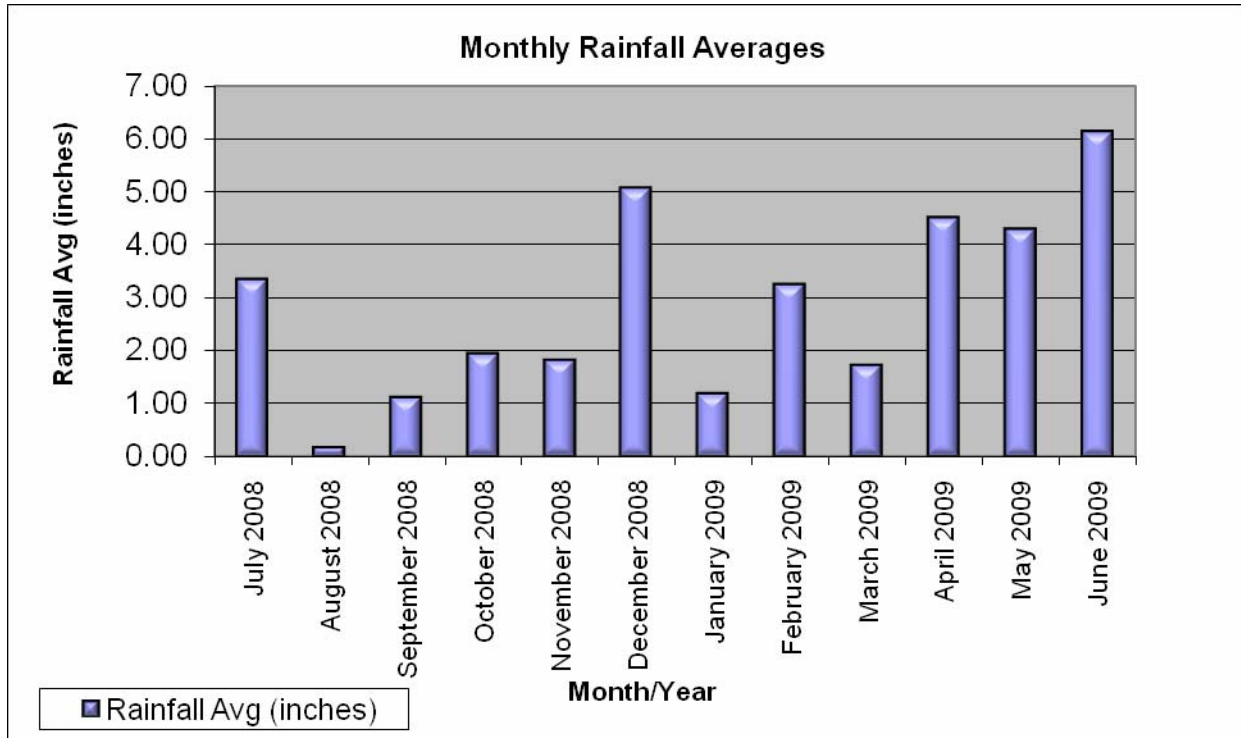
6.5.5 Timberlake Water Quality Treatment Center

- Work will begin on an SOP for the plant. This SOP will be completed during FY10.
- Training will occur by March 31, 2010.
- Design of a replacement for the flow splitter box will be initiated during FY10. This splitter box is scheduled to be replaced by the end of April, 2010.
- MSD submitted a request to KDEP to allow the installation and operation of a by-pass around the polishing pond during times when use of the polishing pond degrades plant effluent.

SECTION 7: Performance Overview

7.1 Rainfall

The number and the volume of wet weather overflows are directly related to the amount of rain that has fallen during the reporting period. The following graph shows the Jefferson County average rainfall amounts for the fiscal year. Data was pulled from MSD's Rain Gages.



On September 14, 2008, the Louisville area was hit with a wind storm that knocked out power to most of the city. Metro Operations hauled over 1,000,000 gallons from 56 locations to prevent overflows. **Appendix J** includes a report submitted to EPA on the response to the wind storm.

On January 26, 2009, Louisville Metro experienced an ice storm that disabled power to most of the city. MSD hauled 1,336,100 gallons of sewage during the ice storm when power was knocked out to 105 pump stations. For a complete summary on the activities that occurred during the Ice Storm (January 26, 2009 through February 6, 2009), see **Appendix L**.

7.2 Unauthorized Discharges to Waters of the United States

Appendix B-1 includes information related to MSD's discharges to Waters of the United States for the reporting period. This information is entered and maintained in the Hansen Information Management System (Hansen) utilizing procedures reviewed and improved through efforts associated with various components of the Amended Consent Decree. These discharges have been reported to KDEP and EPA through automated email, telephone calls and monthly wastewater treatment plant discharge monitoring reports (DMRs).

There were 193 overflows that reached the **Waters of the United States** in FY09. 64 were reported during dry weather and 129 were wet weather related.

Unauthorized Discharges - FY09			
	Dry Weather	Wet Weather	Total
Blending	0	12	12
Bypass	21	11	32
Capacity	0	57	57
Capacity Pumping	0	22	22
Electrical	3	4	7
Grease	4	1	5
Mechanical	5	1	6
Obstruction	4	0	4
Power Failure	11	20	31
Roots	3	1	4
Structural	11	0	11
USACE Flood Pumping	1	0	1
Utility Damage	1	0	1
Total	64	129	193

An analysis, by asset type, of the 64 **dry weather unauthorized discharges** was performed.

13 pump stations (7 - power, 4 - mechanical, 2 - electrical)
21 treatment plants (bypass)
16 manholes (2 - structural, 2 - roots, 4 - power, 3 - obstruction, 4 - grease, 1 - mechanical)
9 mains (structural) (6 were force mains)
2 clean-outs (1 - roots, 1 - obstruction)
3 at CSOs (1 - electrical, 1 - utility damage, 1 - operation of a FPS)

An analysis of the 129 **wet weather unauthorized discharges** was also performed.

21 pump stations (1 – pump, 7 - power, 1 - mechanical, 1 – electrical, 11 – capacity)
23 treatment plants (12 - blending, 11 - bypass)
84 manholes (1 – roots, 21- pump, 13 – power, 1 – grease, 3 – electrical, 45 – capacity)
1 clean-out (capacity)

7.2.1 Bypass Events at Water Quality Treatment Centers

Included in **Appendix B-2** is a report that lists the details of the 32 bypasses that occurred at water quality treatment centers (WQTC) during FY09. Bypasses were reported for the following WQTCs:

Regional WQTCs

- Cedar Creek (MSD0289) - KPDES Permit Number KY0098540 (2)
- Derek R. Guthrie (MSD0277) - KPDES Number KY0078956 (6)
- Floyds Fork (MSD0294) - KPDES Number KY0102784 (2)
- Hite Creek (MSD0202) - KPDES Number KY0022420 (2)
- Jeffersontown (MSD0255) - KPDES Number KY0025194 (3)

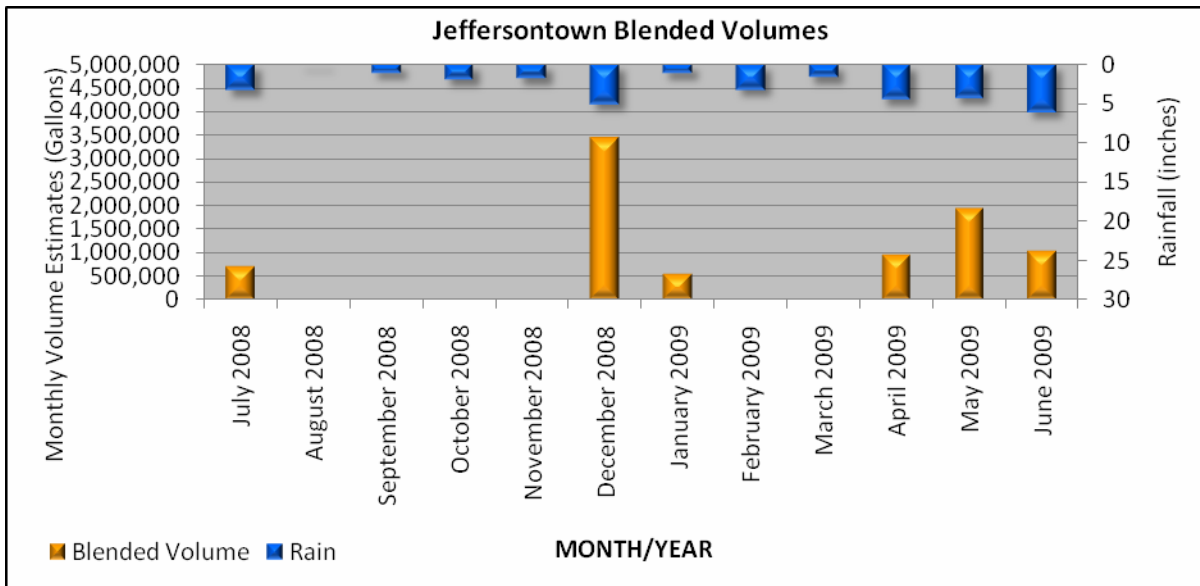
Small WQTCs

- Bancroft (MSD0290) - KPDES Number KY0039021 (2)
- Berrytown (MSD0209) - KPDES Number KY0036501 (1)
- Chenoweth Hills (MSD0263) - KPDES Number KY0029459 (5)
- Hunting Creek North (MSD0291) - KPDES Number KY0029106 (2)
- McNeely Lake (MSD0228) - KPDES Number KY0029416 (2)
- Silver Heights (MSD0258) - KPDES Number KY0028801 (2)
- Starview (MSD0247) - KPDES Number KY0031712 (2)
- Yorktown (MSD0271) - KPDES Number KY0036323 (1)

Bypass Events			
	Dry Weather	Rain Event	Total
Bancroft	2	0	2
Berrytown	1	0	1
Cedar Creek	1	1	2
Chenoweth Hills	2	3	5
Derek R. Guthrie	6	0	6
Floyds Fork	0	2	2
Hite Creek	2	0	2
Hunting Creek North	2	0	2
Jeffersontown	1	2	3
McNeely Lake	1	1	2
Silver Heights	2	0	2
Starview	0	2	2
Yorktown	1	0	1
Total	21	11	32

7.2.2 Blending Events

Included in **Appendix B-3** is a report that lists the 12 blending events that occurred at the Jeffersontown WQTC during FY09. The blending events, as posted on the Project WIN website, started on July 4, 2008, December 24, 2008, January 28, 2009, February 10, 2009, February 11, 2009, April 3, 2009, April 19 and 20, 2009, May 8, 2009, June 10, 2009, June 11, 2009 and June 18, 2009.



7.2.3 Dry Weather CSOs

During this reporting period there were three dry weather overflows from a permitted CSO location. A dry weather overflow occurred on November 4, 2008, at CSO015. This occurrence was due to an electrical problem. A dry weather overflow occurred at CSO084 on December 4, 2008, due to a water main break. A dry weather overflow occurred May 10, 2009, at CSO022 due to operation of the 4th Street Flood Pumping Station. At this time, all CSOs are functioning properly.

7.3 Overflows to Ground

MSD recorded information related to overflows to the ground that did not reach Waters of the United States for the reporting period. This information is entered and maintained in Hansen utilizing procedures reviewed and improved through efforts associated with various components of the Amended Consent Decree. These overflows are included in **Appendix B-4** for the period July 1, 2008, through June 30, 2009.

7.4 Overflows to Interior

MSD recorded information related to overflows to building interiors for the reporting period. This information is entered and maintained in Hansen utilizing procedures reviewed and improved through efforts associated with various components of the Amended Consent Decree. These overflows, that are the result of an issue in the main line, are included in **Appendix B-5** for the period of July 1, 2008, through June 30, 2009.

7.5 CSO Reductions

Appendix C includes an updated version of the modeled Annual Average Overflow Volume (AAOV) for the permitted CSOs. The new AAOV was derived from the newly calibrated and detailed InfoWorks CSO hydraulic model. Differences in the previous CSO AAOV table and the new table in Appendix C and are due to the following:

- increased level of detail within the hydraulic model (12,000 nodes versus 2,000);
- new survey information to confirm and adjust weir elevations and system setup;
- increased ability to model RTC locations;
- improved boundary condition information from the separate sanitary models that flow into the combined area; and
- use of the 2001 rainfall year for typical year simulations rather than the synthetic year.

This new table was developed and used throughout the Final LTCP that was submitted by December 31, 2008. The AAOV table assumes that the ISSDP projects have been constructed and offloaded volume from the combined system and that Real Time Control Phase II projects are functioning. This assumption is not reflected in the AAOV table in Appendix C as it represents system conditions as of September 30, 2008.

In addition, the new InfoWorks model has identified additional CSOs that have AAOVs exceeding 10 million gallons per year due to additional model detail and a revised typical rainfall year. These CSOs will be fitted with appropriate monitoring equipment and identical Telog equipment as the long term sewer network monitors and will report to the new flow data site by

the end of 2009. The new flow monitors have been ordered. Delivery and installation are scheduled to occur in FY10.

The CSO data for FY09, is included in **Appendix D**. The CSO data for each monitored overflow has been graphed along with rainfall information from the nearest rain gauge to facilitate review of the overflows that occurred.

One project was completed during this reporting period that impacted permitted CSOs.

- Willow Pond Disconnection - The project entails the disconnection of the overflow structure at Willow Pond from the CSS. This overflow was hydraulically connected to CSO127 and contributed 4.6 MG of combined sewer overflow volume during the average year. The project was completed on June 1, 2009.

The following activities occurred over the reporting period related to CSO monitoring.

- Batteries are tested before installation and the CSO flow monitoring sites are inspected every three weeks. Batteries are replaced every 90 days or when the voltage falls below four.
- The CSO117 flow meter experienced a power failure due to bad batteries. MSD was unable to download data from August 28, 2008 to September 30, 2008.
- The CSO151 flow meter experienced a power failure due to bad batteries. MSD was unable to download data from August 29, 2008 to September 30, 2008.
- The CSO182 flow meter experienced a power failure due to bad batteries. MSD was unable to download data from August 28, 2008 to September 30, 2008.
- The CSO190 flow meter experienced a power failure due to bad batteries. MSD was unable to download data from August 28, 2008 to September 30, 2008.
- CSO097 now has electrical power at the site. Access structure and flow meter housing have been installed.
- The project to upgrade existing flow meters with telemetry and power at CSO16, CSO210 and CSO211 has been completed.
- Developed process to use existing Plant Information data tags to calculate the flow at CSO015 and CSO191.
- Flow level sensor installed at CSO020 for formula based flow calculations.
- CSO097 – Water was found in the panel and a splitter was replaced. Measures have been taken to prevent this from happening again.
- MSD is testing CSO event notifications from the new Telog enterprise software to immediately notify MSD staff by e-mail and/or text message when battery power drops below specified levels needed to operate or a CSO discharges. Work will continue on this effort.
- The rehabilitation project to eliminate the infiltration at CSO108 was completed April 30, 2009. Pump programming changes were made to route any residual groundwater into the relief sewer rather than the overflow line to the stream. During the next reporting

period, MSD staff will enter the unit and influent interceptors to investigate additional sources of I/I entering the system. If I/I is found, a rehabilitation project will be created to address the source of I/I.

7.6 SSO Reductions

Estimation of SSO volume is not available in the same manner as it is for the CSO locations. The SSO volume reductions are estimates based on actual observations or from flow monitoring information. The following projects that impacted SSOs were completed during this reporting period:

- The Farnsley Park SSO located at MH 47960A was closed on August 20, 2008.
- Zabel Way Pump Station (Budget ID B06295) was eliminated on August 19, 2008.
- Thurman Lane Pump Station (Budget ID B06299) was eliminated on July 2, 2008.
- Woodlawn Park Pump Station Elimination (Budget ID F05039) – This pump station was taken offline on April 23, 2009. This project eliminated SSO's at the pump station and on Falgate Court.
- Floyds Fork Interceptor/Midland Trail Cleaning Project (Budget ID - S09097) – This project involved heavy cleaning of 100 LF of 54-inch sewer. The work was completed on March 9, 2009. The removal of the blockage and the cleaning has the potential to eliminate the SSO at the Midland Trail Golf Course. Monitoring of this site occurred and no overflows were observed.
- Goldsmith Lane/Buechel Branch Interceptor Rehabilitation Project Phase I Budget ID - H07296) - This project involved the heavy cleaning of 3,486 LF of 30 inch and 252 LF of 36 inch interceptor. The project was completed on December 21, 2008. The removal of a 90% root blockage and the cleaning has the potential to eliminate SSOs on Pruitt Court at eight manholes. Monitoring of this site has occurred and no overflows were observed.
- Fincastle Rehabilitation (Budget ID H09117) – The construction on this project was completed in April 2009. Work included CIPP lining of 410 linear feet of 8-inch diameter and 407 linear feet of 18-inch diameter sewer pipe. The pipe lining has the potential to eliminate SSOs occurring along a drainage ditch along the 3,900 block of Fincastle Road. Monitoring of this site occurred and no overflows were observed.
- The Moyle Hill Road Sewer Rehabilitation (Budget ID B09088) - This project included CIPP lining of 2,305 LF of 8-inch, 380 LF of 10-inch, 985 LF of 12-inch diameter sanitary sewer. The lining work was completed on June 12, 2009. The pipe lining has the potential to eliminate SSOs occurring along a drainage ditch along Moyle Hill Road and Boundary Roads located in Cherokee Park. Monitoring of this site occurred and no overflows were observed.

7.7 Phosphorus Monitoring at the Prospect WQTCs

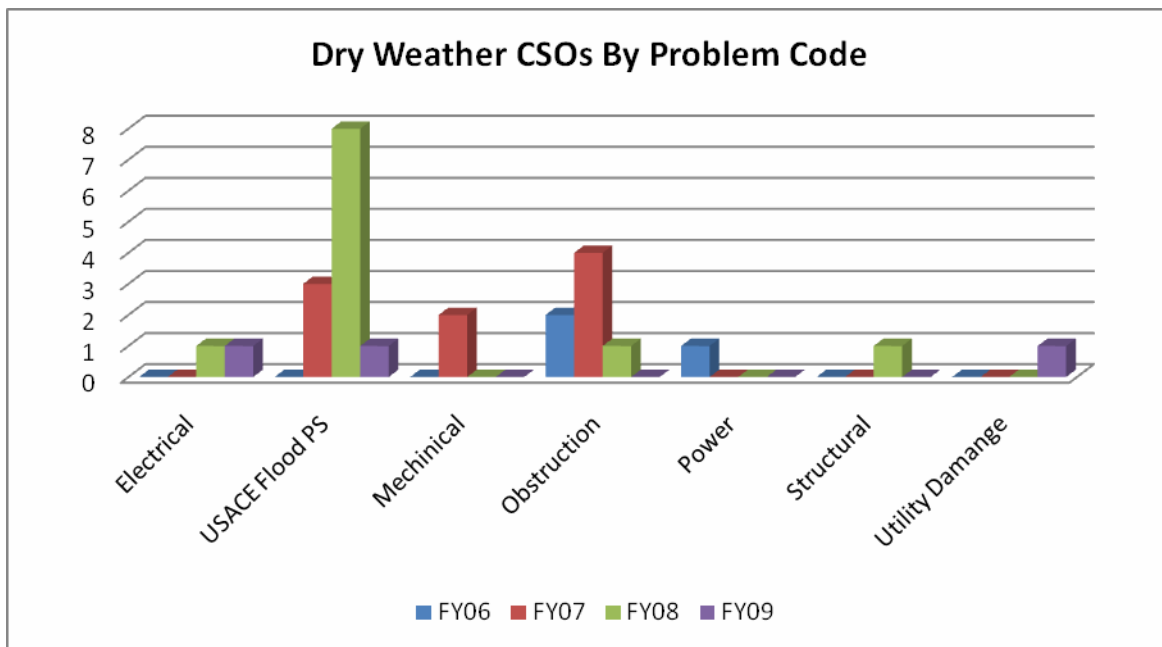
As part of the Amended Consent Decree, MSD has agreed to submit phosphorus monitoring data including the calculations of monthly averages with the quarterly reports. See **Appendix G** for these reports. This started with quarterly report #15.

7.8 Performance Measures

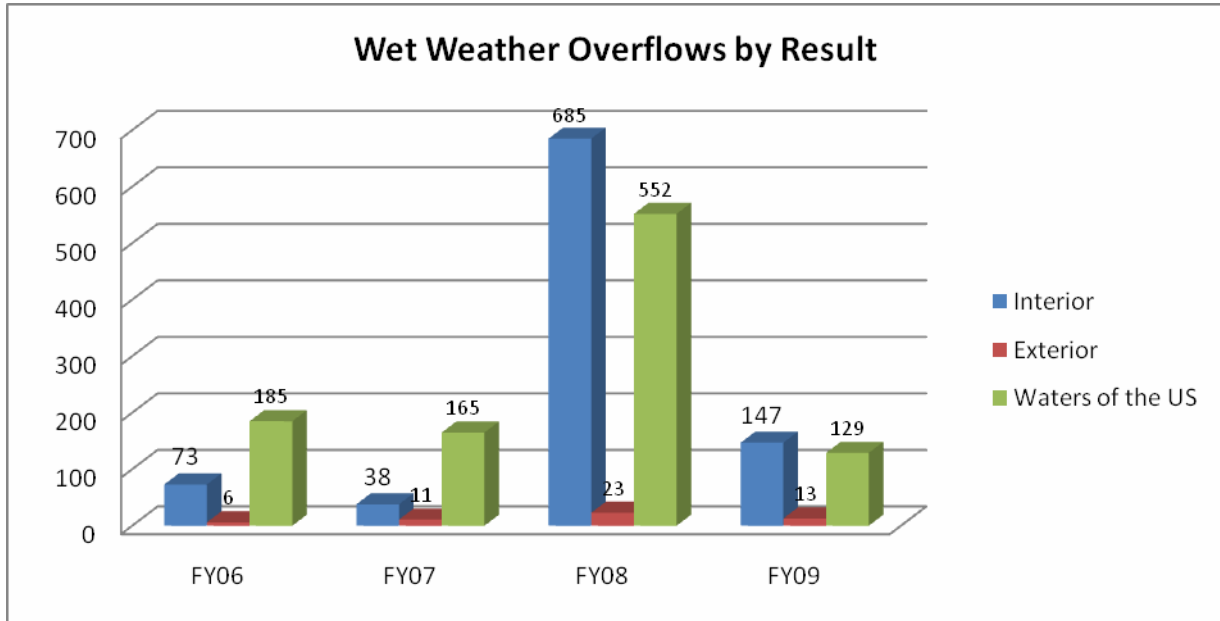
MSD has developed performance measures in order to monitor the operation of the collection system and wastewater treatment plants, with the goal of reducing sewer overflows and improving surface water quality.

7.8.1 Dry Weather Combined Sewer Overflows

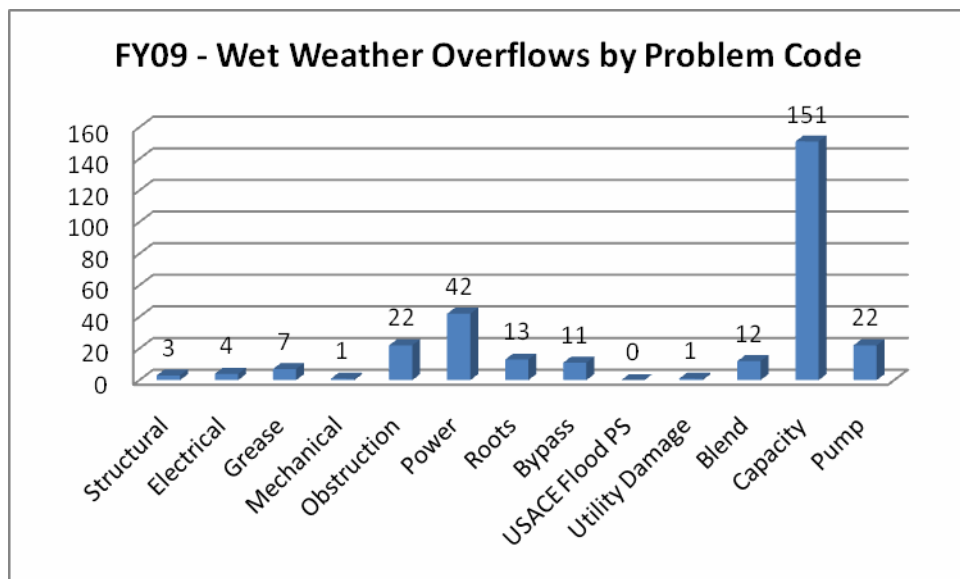
MSD has implemented NMC programs and provided resources to reduce CSOs that occur during dry weather. The figure below shows the number of occurrences of dry weather CSOs between FY06 and FY09, in bar chart format, broken down by the problem that caused the overflow. The number of occurrences over the last four fiscal years has remained relatively low (between three and eight). In FY09, only one of the three work orders was related to the operation of the Flood Protection System in accordance with the USACE procedures. MSD is working with the USACE to modify operations to reduce the number of occurrences of dry weather CSOs. In FY09, the volume attributed to Dry Weather CSOs was approximately 480,000 gallons.



7.8.2 Wet Weather Sanitary Sewer Overflows

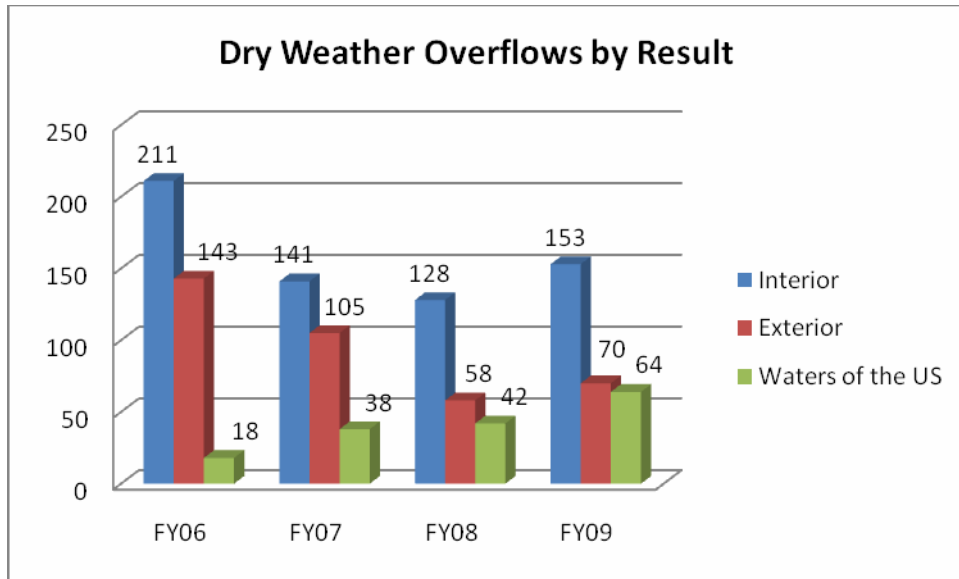


MSD is committed to reducing SSOs that occur during wet weather events. The accompanying figures show that in FY09 the number of wet weather SSOs dramatically decreased. MSD staff utilizes tanker trucks, which include portable pumps, to haul wet weather flow that is in excess of the pump station capacity. The second chart shows the wet weather overflows by problem code. Over 151 overflows were attributed to wet weather capacity issues.

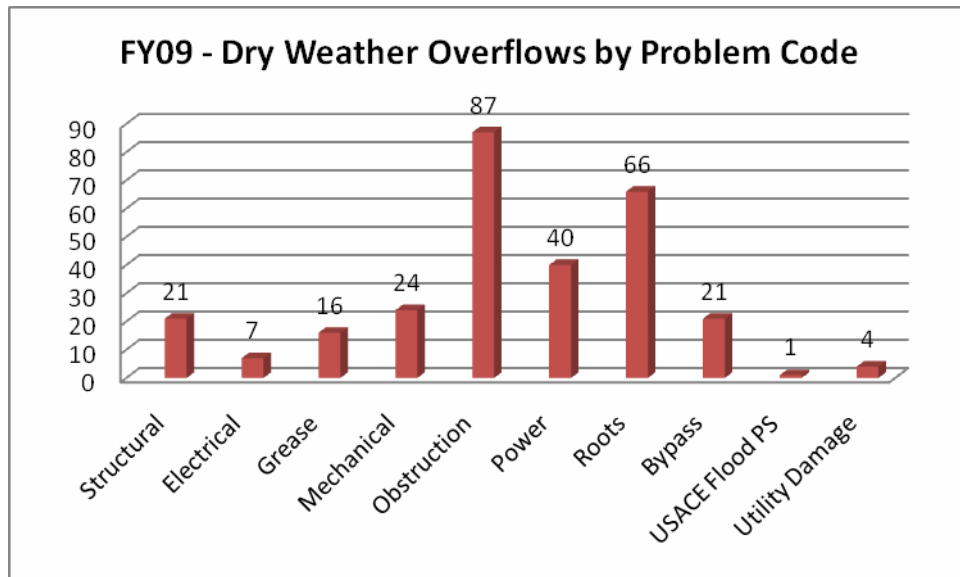


7.8.3 Dry Weather Sanitary Sewer Overflows

MSD is committed to reducing SSOs that occur during dry weather. The accompanying figures show that in FY09 the overall number of dry weather SSOs slightly increased.

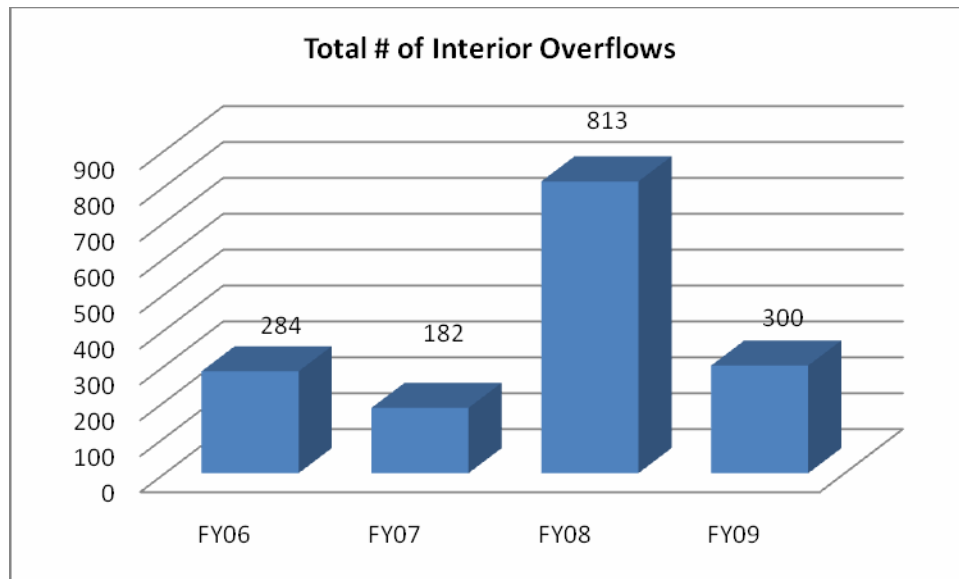


As shown in the chart below, the main problems that cause MSD’s dry weather overflows are obstructions and roots. MSD is addressing both issues with our gravity line preventive maintenance program.



7.8.4 Interior Overflows

Interior overflows are those that occur in a customer's home or facility. Those overflows that are MSD's responsibility and that are not caused by a problem in the lateral are shown in the figure below. In FY09, there were 300 interior overflows. 94 of these interior overflows reported were the result of a wet weather capacity issue (Problem code of CAP, Result code of INT and Condition code of MAIN).



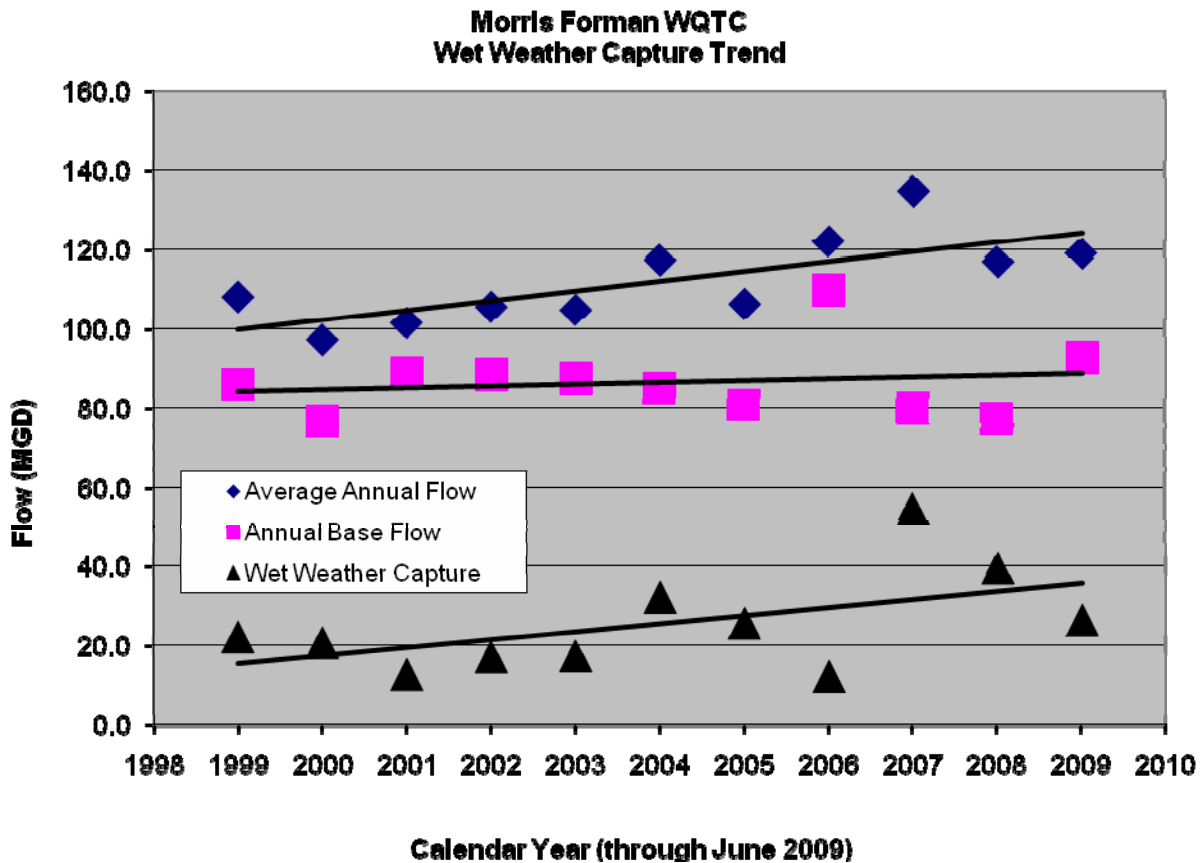
7.8.5 Solids and Floatables Control

MSD has a targeted goal to install solids and floatables control devices to capture 95% of the modeled Average Annual Overflow Volume (AAOV). In fiscal year 2007, MSD installed solids and floatable (S&F) devices at 78 locations, which increased the percent of volume receiving solids and floatable treatment to 75%. Three CSOs currently do not have solids and floatables control devices due to the complexities of the sites and requirements for major capital improvements. Those sites are addressed in the Final CSO LTCP.

MSD has the goal to inspect weekly and clean the solids and floatables devices if determined as necessary during the inspections. During FY09, there were 416 work orders issued to remove debris at the solids and floatables devices, based on weekly inspections. During the same reporting period, 95% of the solids and floatables devices were cleaned within one week of issuing the work order.

7.8.6 Wet Weather Capture

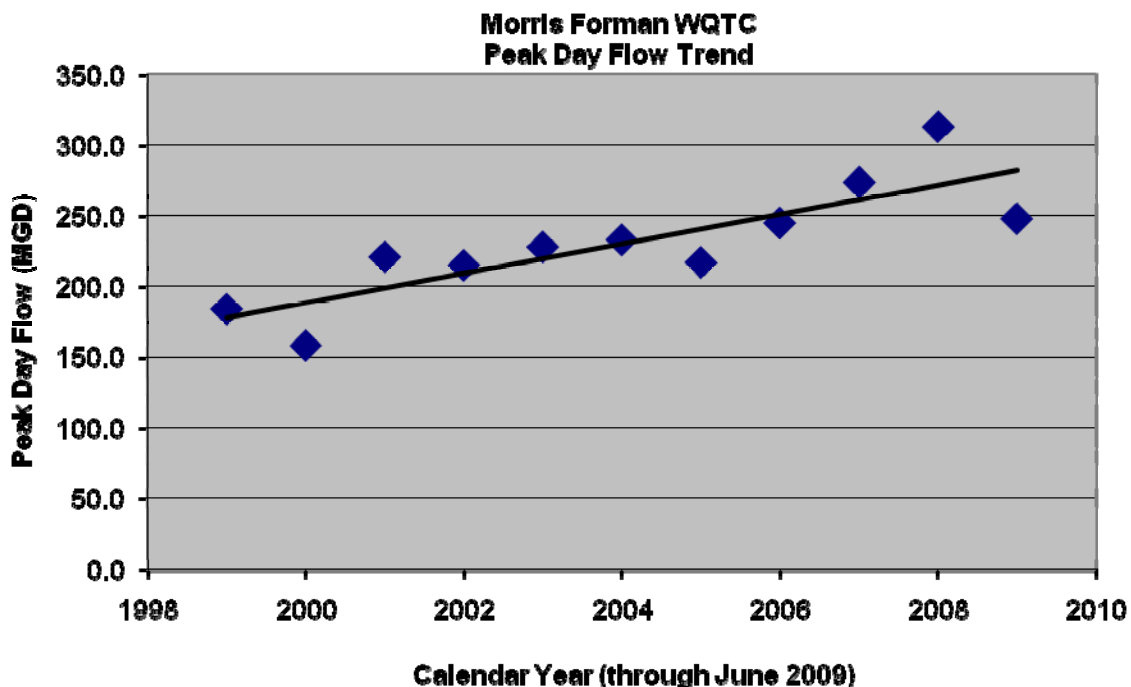
Over the past several years, MSD has continued to increase the amount of wet weather flow treated at the Morris Forman WQTC. The wet weather capture is the difference between the annual average flow treated and the base wastewater flow (defined as the lowest monthly average day flow during the year). The base flow for FY 2009 shows an increase over the base flows for 2007 and 2008. This is reflective of the relatively high levels of precipitation in FY 2009 compared to the two preceding years. This is supported by the fact that the industrial/commercial customer base in the Morris Forman WQTC service area decreased 1.1% and the residential customer base decreased by 0.8% during FY 2009. Decreasing customers would normally indicate a reduction in flow, not the increase observed in 2009. The increase in base flow directly impacts the calculation of wet weather capture. While annual average flows have increased in the face of a declining customer base, the higher base flow results in a lower



calculated wet weather capture. The ten-year trend shown in the figure below confirms, however, that wet weather capture continues to increase. The increasing trend in wet weather capture is largely attributed to a combination of capital improvements at the Morris Forman WQTC, development of wet weather operational procedures and implementation of RTC facilities in the CSS.

The improving trend in plant wet weather flow capture performance and the increase in the number of days that peak flow exceeds 300 mgd (described in Section 6.1.1) is also reflected in the long term trend in the maximum day flow treated at Morris Forman WQTC, as shown in the figure below. Each data point represents the maximum daily flow treated during the year. Although the instantaneous peak hydraulic capacity of the Morris Forman WQTC is 350 MGD, the sustained flow that can be treated on a daily basis is governed by performance of the biological treatment processes.

Given the other positive trends in wet weather capture and peak flow rates experienced, the observed drop in peak day flows compared to the past 2 years is unexpected. MSD will investigate this observed effect in the next reporting period, and address actions taken (if required) to ensure that the Morris Forman WQTC is operated at the maximum practical capacity during wet weather events. Finally, improved wet weather capture is illustrated by the peak flow rates shown on the annual hydrograph for the Morris Forman WQTC in **Section 6.1.1**. Flows at the plant approached or exceeded the 350 MGD peak hydraulic capacity seven times during the year, and exceeded 300 MGD 24 times.

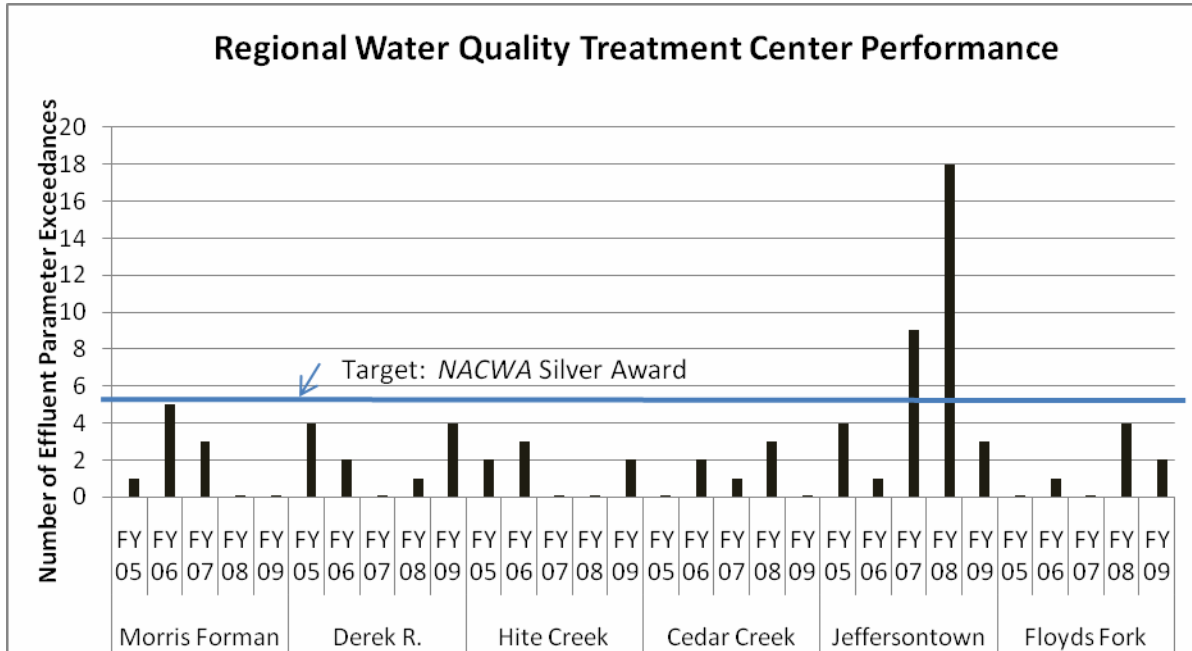


7.8.7 Treatment Plant Effluent Compliance

MSD's policy is to operate all wastewater treatment plants in full compliance with the permitted effluent water quality standards. However, circumstances sometimes arise that may cause wastewater treatment plants to exceed the permitted effluent limits. This reality is recognized by the National Association of Clean Water Agencies (NACWA), which gives awards at different levels (platinum, gold, silver) based on the number of effluent parameter exceedances during the year. Based on past operating history, MSD has established the target for all regional plants of receiving at least the NACWA Silver Award, which requires that the WQTC have five or fewer

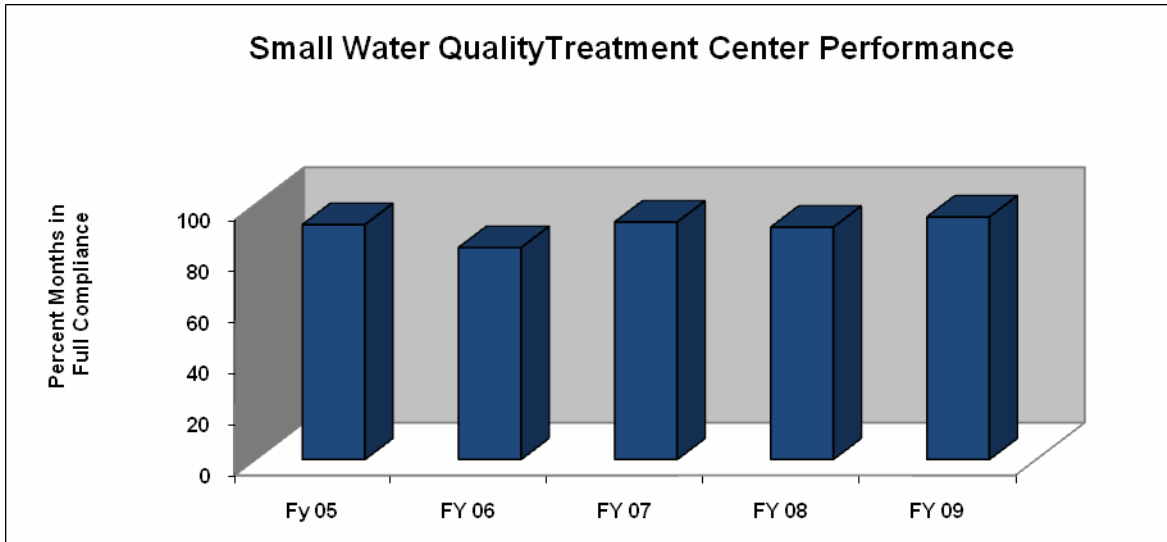
exceedances per year of any permit parameters.

As shown in the figure below, five out of the six regional WQTCs have achieved this goal for the last three fiscal years. During the current reporting period, Morris Forman and Cedar Creek WQTCs were in 100% compliance with all permit parameters, while Derek R. Guthrie WQTC had four exceedances, Hite Creek WQTC had 2 exceedances and Floyds Fork WQTC had only two exceedances. Jeffersontown WQTC had a total of 3 exceedances.



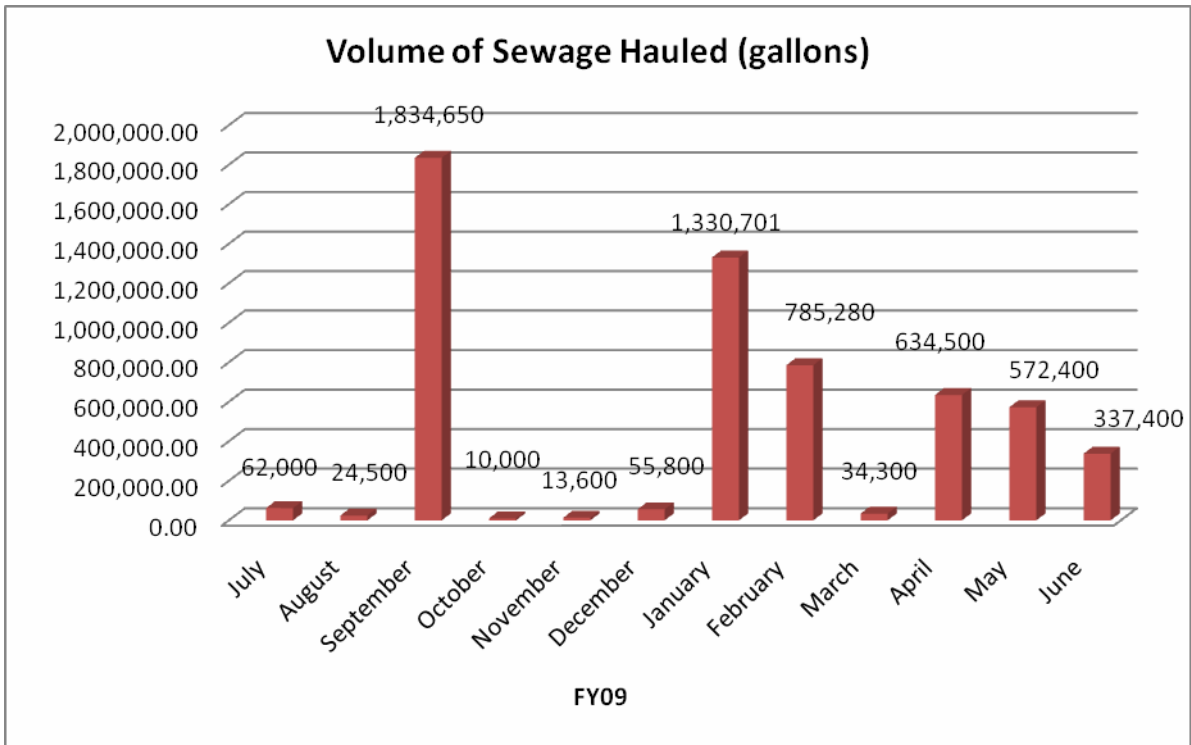
Since 1985, MSD has acquired 200 privately owned non-regional WQTCs (“package plants”) of which 185 have since been eliminated. MSD currently operates 15 non-regional plants. MSD will continue to operate the non-regional WQTCs until infrastructure is constructed to divert the wastewater flow to a regional plant and ultimately eliminate the non-regional WQTC’s.

The non-regional WQTCs typically have very limited operating flexibility, and are subject to high levels of variability in loads. The non-regional WQTCs have been in operation over 35 years and typically have much poorer records of compliance than larger plants such as MSD’s regional WQTCs. This is the reason that MSD has aggressively eliminated non-regional WQTCs. As part of MSD’s continuing efforts to improve non-regional WQTC performance, MSD has a targeted goal of achieving full compliance with all permit parameters in 95% of the months. As shown in the figure, 83% of the months were in full compliance in FY06, 94% in FY07, 91% in FY08, and 95% in FY09. It is anticipated that with the goal of at least 95% of months in full compliance will be achieved in the next reporting period.



7.8.8 Volume of Sewage Hauled

In an effort to reduce the number and volume of overflows, MSD’s Metro Operations department has implemented an aggressive wet weather hauling program. In FY09, MSD has hauled over 5.7 million gallons. The chart shows the volume of sewage that was hauled each month during FY09.



SECTION 8: Supplemental Environmental Projects (SEPs)

8.1 SEP Requirements

The original SEP requirements (August 2005) were outlined in paragraph 28 of the Consent Decree, with the specific SEPs described in Exhibit A of the Consent Decree. In April 2009 an Amended Consent Decree was filed and contained additional SEP requirements. These were outlined in paragraph 33 of the Amended Consent Decree.

The SEPs categories and related deadlines are as follows.

- **Public Health Screenings – Western Louisville:** Originally this was to be performed by December 31, 2007, subject to the approval of the Health Department. In 2007 Louisville Mayor Jerry E. Abramson signed a resolution to enter into an agreement with the KDEP and MSD to organize and conduct community health screenings with results, follow-up and referrals. There are revisions to the scope and deadline which is now April 2011.

Funding level: \$1,200,000.

- **Environmental Education and Public Outreach**
 - Riparian buffers - Originally these activities were to be performed by August 12, 2008 but the deadline was later amended to Dec. 31, 2008. **Funding level: \$250,000 and completed.**
 - Sustainable Landscaping - Education, planning and plant material for implementing sustainable landscaping for urban areas. Specifically, schools and low-income housing were targeted. These activities were completed prior to the deadline of August 12, 2007. **Funding level: \$100,000 and completed.**
 - Outdoor Classroom - Continued support of the Outdoor Classroom program with Jefferson County Public Schools. These activities have been completed prior to the deadline of August 12, 2010. **Funding level: \$100,000 and to be completed by August 12, 2010.**
 - Kentucky Personal Responsibility in a Desirable Environment (PRIDE) – Implementation and/or expansion of PRIDE into the local and regional area. These activities were completed prior to the deadline of February 12, 2006. **Funding level: \$200,000 and completed.**
 - Environmental Education Certification – Continued support for the existing Certification Program. These activities were completed prior to the deadline of August 12, 2010. **Funding level: \$50,000 and completed.**
 - Watershed Focused Environmental Groups- Provide funding to assist these groups with environmental education and public outreach activities. These activities were completed prior to the deadline of August 12, 2010. **Original Funding level: \$150,000. Added \$100,000** see Property Reclamation and Community Connectivity following. **Completed.**
 - Bicycle and Pedway Connections along K&I Railroad Bridge and Metro Park System- This project had a deadline of February 12, 2007, subject to the

approval of the Waterfront Commission. **Funding level: \$100,000 and Completed.**

- **Property Reclamation and Community Connectivity**- The original scope of work was amended to direct the funding from the Lee's Lane Landfill to the Public Health Screenings and to the Watershed Focused Environmental Groups.
- **Stream Restoration Project** – The project is to provide one-time restoration work for various stretches of Jefferson County streams. A stream restoration plan was required within 30 days of the entry of the Amended Consent Decree in order for EPA to review and approve the plan. MSD submitted a proposal in May 2009 to EPA for review and approval. Within six months of approval by EPA, MSD must begin construction on the project and the work is to be complete one year from the beginning of the work. **Funding level: \$400,000 for construction.**

The Consent Decree requires preparation of a SEP Completion Report within 60 days of the completion of the specific SEP. The report must address the following topics:

- A detailed description of the SEP
- A description of any operating problems encountered and the solutions thereto
- A breakdown of itemized costs
- Certification that the SEP is complete
- A description of the environmental and public health benefits resulting from the SEP

The following sections describe progress on only the incomplete SEPs, describing the current status during the reporting period and work planned during the next reporting period. For SEPs completed within the reporting period, copies of the SEP Completion Report are included in an **Appendix K** of the Annual Report from MSD and is considered by MSD to fulfill the commitment as stated in paragraph 33 of the Amended Consent Decree April 2009.

8.2 Public Health Screening–Western Louisville (Budget ID J06248)

The purpose of this SEP was to perform public health screenings for residents adjacent to the industrialized areas of western portion of Louisville Metro. The screenings were coordinated through the Louisville Metro Department of Public Health and Wellness (LMPHW) and performed at no cost to the residents. During the screening period of September 10 to November 9, 2007, 2,407 persons participated. The Community Health Screenings Project Report, including the statistical data and demographical information, was included in the previous annual report.

The original, proposed cost for this SEP was \$1,000,000. As a result of changes to the Property Reclamation and Community Connectivity SEP (as described in a previous sub-section) the budget for this SEP was increased to \$1,200,000. The health screening was originally proposed to be completed by December 31, 2007, subject to the approval of the Health Department. A subsequent Memorandum of Understanding between MSD and the Health Department changed the completion date to June 30, 2008 but was extended as part of the Amended Consent Decree to April 2011.

During this reporting period, the LMPHW staff worked on developing the structure for the Louisville Asthma Management Program. The first step in the program is to hire an asthma counselor to lead the task. By August 2009, it is expected that a counselor will be appointed and will work with local agencies such as the Kosair Children's Hospital and Family Health Centers in the Rubbertown area to evaluate the pattern of asthma in the community and identify risk factors that may lead to asthma prevalence. The counselor will also identify and become more familiar with the Louisville community's asthma resources. The counselor will be instrumental in developing the Program mission, goals and processes.

Funding amount: \$1,200,000

Status: Continuing

8.3 Environmental Education Outreach and Public Outreach

The purpose of this SEP is to perform or provide funding for groups that will perform efforts to raise environmental awareness and stewardship for the local and regional community. Specific emphasis will be placed on efforts that promote watershed focused environmental activities. The original, proposed cost for this SEP was \$950,000. Following the amendment of Exhibit A of the Consent Decree, the cost was changed to \$1,050,000, and the total amount was then divided among a number of different activities as described below. Completion dates for each of the activities are addressed in the detailed descriptions that follow.

8.3.1 Riparian Buffers

The riparian buffer SEP is intended to provide education, planning, and plant material for the development and implementation or restoration of riparian buffers along urbanized streams. Additionally, a demonstration project will be implemented that restores a small section of riparian buffer that will be a "No Mow Zone" to demonstrate the process and define expectations for prospective participants in the program. A total of \$250,000 (under Budget IDs J06130 and J06132) has been allocated to riparian buffers, which had an original deadline of August 12, 2008, but was extended to December 31, 2008. Specific projects being implemented under this SEP are as follows.

The Beargrass Greenway - As part of this riparian buffer SEP, MSD accepted a proposal from Bennett Knox, Metro Parks Natural Areas Manager dated November 9, 2006. This SEP focuses on the Beargrass Greenway to restore habitat, introduce high school students to practical applications of ecological and environmental science principles and raise awareness of the watershed issues affecting Beargrass Creek. MSD accepted the proposal and Metro Parks notified by a letter dated December 11, 2005. Metro Parks received the \$25,000 funding from MSD in January 2006. Work began on this project in November 2006, and during this reporting period, Metro Parks worked with classes from Louisville Male High School (now in its third year) to conduct water quality monitoring and install interpretive signage at the trailhead of Beargrass Greenway. There were some operating challenges encountered that necessitated the deadline be extended in order to complete this portion of the Riparian Buffer SEP. The challenges included staffing issues and the lack of securing volunteer support for the removal of invasive plants. These challenges have been addressed with the acquisition of volunteer groups and availability of staff to participate in this effort. Work associated with but not included in this SEP scope was completed in this reporting period by MSD and Metro Parks with the reconstruction of a wetland/storm water retention basin in the area. Construction of this basin was necessary

prior to completing this SEP. The work under this SEP will be completed in the next reporting period with the final report contained in **Appendix K-1**.

Funding Amount: \$25,000

Status: **Completed in December 2009** with summary included in this report.

Woodland Restoration in Cherokee Park addresses soil erosion and vegetation damage to the native landscape. MSD and the Olmsted Conservancy worked together to educate our community in ecologically sound landscape management. Funding was provided by MSD to the Olmsted Conservancy in January 2006. The Olmsted Conservancy planted over 600 trees and shrubs in the Nettleroth Management Area located along Beargrass Creek in Cherokee Park in order to stabilize the areas and restore the riparian zones. In addition, 500 shrubs were planted along the banks of the Ohio River in Shawnee Park to restore the native species population that had been reduced with the presence of the invasive tree species and stabilize the upper terrace of the river bank. The work, with a deadline of December 31, 2008, was completed in November 2008 and the summary is contained in **Appendix K-2** of this report.

Funding Amount: \$35,000

Status: **Completed in this reporting period** with report included.

Doctoral Support for "Assessing the Effects of Urbanization on Riparian Functions and Determining Streambank Nitrate Removal Potential Along an Impervious Surface Gradient in Harrods, Goose and Beargrass Creeks". The University of Louisville Department of Biology was awarded SEP funding on March 28, 2007. This effort had a deadline of December 31, 2008. The study's scope included the measurements of the rates of greenhouse efflux from riparian sites adjacent to streams draining catchments with various impervious cover, the concentration of nitrate and dissolved organic carbon in groundwater adjacent to the same streams, and the depth to groundwater using piezometer wells as a measure of how wet or dry the soil column would be in the riparian areas. Sampling and measurements are ongoing and data will be analyzed as well as compiling gas flux data in the next reporting period. **Appendix K-3** contains the final report on these activities.

Funding Amount: \$15,000

Status: **Completed in this reporting period** with summary included.

Grinstead/Lexington Rd Infiltration Basin - The remaining \$175,000 allocated to the Riparian Buffer SEP have been committed towards the continuation of the Grinstead Drive/Lexington Rd Project, also known as the Beargrass Greenway. In April 2008, MSD accepted the Phase 1 proposal from Redwing Ecological Services for site inventory and analysis. Work was initiated in June 2008 to assess the existing detention and treatment potential of the existing basin, evaluate the feasibility of improving the basin's treatment efficiency for storm water runoff and provide recommendations for improving the basin's ability to detain and treat runoff through wetland and riparian restoration and identify enhancement activities. Information from the study was then used to develop a plan that was completed in July 2008. Site visits were conducted and included meetings with representatives from the United States Army Corps of Engineers (USACE) and Metro Parks. Volunteer efforts for invasive vegetation removal in the area were conducted in September 2008. Construction began in December 2008 and work was completed later that month, prior to the deadline of December 31, 2008. A portion of the SEP

work required that the wetland plant installation be scheduled for later in the spring of 2009, when weather was suitable for planting. In May 2009 more than 100 volunteers planted over 1200 wetland plants, shrubs and trees. **Appendix K-4** contains the March 2, 2009 certification letter from MSD that summarizes this SEP.

Funding Amount: \$175,000

Status: **Completed in this reporting period** with report included.

8.3.2 Sustainable Landscaping

The sustainable landscaping SEP is intended to provide education, planning, and plant material for implementing sustainable landscaping for urban areas. Specifically, schools and in-fill, low income housing will be targeted. The completion date was August 12, 2008, with a total funding allocation of \$100,000 (Budget ID J06134). Activities were summarized in a previous Annual Report.

Funding Amount: \$100,000

Status: Completed with reporting in previous period.

8.3.3 Outdoor Classroom

The Outdoor Classroom SEP continued support of the Outdoor Classroom program with Jefferson County Public Schools. This program was started under the Morris Forman WQTC Agreed Order and is closely connected to the Sustainable Landscape SEP. The Outdoor Classroom SEP was allocated a total funding of \$100,000 (Budget IDs J06136, J06137, J06138, J06139), with all monies to be spent before August 12, 2010. Specific projects that have been identified to date and have been active during this reporting period are as follows:

More Kids in the Woods – MSD provided \$4000 to Louisville Metro Parks for Connecting urban Youth in Louisville to Nature Project, as part of U.S. Forest Service “More Kids in the Woods” Program. This effort was completed in May 2009, during this reporting period. See **Appendix K-5** for a summary report.

Funding Amount: \$4,000

Status: **Completed in this reporting period** with report included.

Jeffersontown Elementary School – The SEP provided \$500 to improve the existing Outdoor Classroom which is part of the Life Sciences Program at the Jeffersontown Elementary School. The funds were used to plant native species seedlings along with installing associated fixtures such as a new hose system, thermometers and plant markers. The school planted pin oak trees in spring of 2009 in order to increase the tree cover that would reduce the surface water runoff from the school property. In **Appendix K-6**, a summary report is provided.

Funding Amount: \$500

Status: **Completed in this reporting period** with summary report included.

Male HS Advanced Placement Environmental Science Class – For the past several years, the Biology/Environmental Science Classes (senior class level) have worked with Metro Parks in assisting with the design and installation of several native plant areas adjacent to the Beargrass Greenway. Activities included water quality sampling and wetland plant installation as part of

the Grinstead/Lexington Road Infiltration Project.

The class was in need of new, updated environmental science text books. This SEP funding allowed the teacher to procure enough textbooks of the selected titles so that each student would have an individual text book available to use during the semester. The order for the books was placed during this reporting period and will be used by the students in the fall 2009 semester. **Appendix K-7.**

Funding Amount: \$11,063.70

Status: **Completed in this reporting period** with summary report included.

8.3.4 Watershed Focused Environmental Groups

This SEP originally provided \$150,000 in grants to watershed focused environmental groups to allow them to provide water quality data interpretation for their group and the general public. As part of the agreement to delete the Lee's Lane Landfill reclamation, this SEP was allocated an additional \$100,000, for a total of \$250,000. The deadline for expenditure of funds was August 12, 2010. All of this work has been completed and reported in previous Annual Reports.

8.4 Property Reclamation and Community Connectivity

This SEP was intended to convert the former Lee's Lane Landfill into an area for public use. Overwhelming public opposition to this plan resulted in this SEP being eliminated, and the \$300,000 associated with it redistributed to other SEPs as noted previously.

8.5 Stream Restoration Project

This new SEP was identified in the April 2009 Amended Consent Decree in paragraph 34 and in Appendix H. The purpose of the SEP is to provide one-time restoration work for various stretches of Jefferson County streams with a construction cost not less than \$400,000. A stream restoration plan was required within 30 days of the entry of the Amended Consent Decree. The Plan was submitted by MSD in May 2009 for review and comment (**Appendix K-8**). Beyond this reporting period, MSD was given comments and subsequently presented a revised proposal for this SEP (**Appendix K-9**).

Cherokee Park Stream Restoration – The project is located on the Middle Fork of Beargrass Creek which is a 303(d) listed stream. The restoration will address approximately 400 LF of the Middle Fork near Bridge 7 on Beargrass Road, Cherokee Park. The project design will include the excavation of a bank full bench, restoration of riffles and pools and other stream restoration techniques. The stream bank restoration improvement will also restore Beargrass Creek Road which has been undermined due to nearby erosion. **Appendix K-9** contains the approved plan for this SEP. The design must be completed and the applicable permits obtained by March 2010 and construction to be completed by March 2011.

Funding Amount: \$200,000 for construction.

Status: Conceptual plan created in this reporting period and design to begin in the next reporting period.

Pond Creek/Mill Creek Trail Corridor and Ecosystem Restoration - The project includes two sites, one along Pond Creek and one on an intermittent tributary of Pond Creek with Pond Creek being a 303(d) listed stream. On the Pond Creek site, there will be removal of invasive

species along 1200 LF of stream bank and floodplain followed by planting of native species in the area. The Pond Creek tributary project will include the restoration of the existing channel for approximately 1800 LF. Restoration efforts will include the installation of in-stream natural structures and establishing native vegetation along the restored stream bank. **Appendix K-9** contains the approved plan for this SEP. The design must be completed and the applicable permits obtained by March 2010 and construction to be completed by March 2011.

Funding Amount: \$200,000 for construction.

Status: Conceptual plan created in this reporting period and design to begin in the next reporting period.

APPENDIX A - ACTIVITY SCHEDULES

Activity ID	Activity Name	Schedule %	FY2009				FY2010				FY2011	
			FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	
34th STREET FPS DWO ELIMINATION												
H084789000	34TH ST FPS DWO ELIMINATION - FACCT	0%										
H084786900	34TH ST FPS DWO ELIMINATION - SUBST COMPL	0%										
H084786000	34TH ST FPS DWO ELIMINATION - CONSTRUCTION	0%										
H084784500	34TH ST FPS DWO ELIMINATION -AWARD	0%										
H084784050	34TH ST FPS DWO ELIMINATION - BID OPEN	0%										
H084784000	34TH ST FPS DWO ELIMINATION -AD DATE	0%										
H084782904	34TH ST FPS DWO ELIM DESIGN FEES 100%	0%										
H084782903	34TH ST FPS DWO ELIM DESIGN FEES 95%	0%										
H084782902	34TH ST FPS DWO ELIM DESIGN FEES 80%	0%										
H084782901	34TH ST FPS DWO ELIM DESIGN FEES 50%	0%										
H084782001	34TH ST FPS DWO ELIMINATION - NTP	0%										
H084782000	34TH ST FPS DWO ELIMINATION - DESIGN	0%										
4th STREET FPS DWO ELIMINATION												
H084779000	4TH ST FPS DWO ELIMINATION - FACCT	53.49%	4TH ST FPS DWO ELIMINATION - FACCT									
H084776900	4TH ST FPS DWO ELIMINATION - SUBST. COMPL	0%										
H084776000	4TH ST FPS DWO ELIMINATION - CONSTRUCTION	0%										
H084774500	4TH ST FPS DWO ELIMINATION - AWARD	0%										
H084774050	4TH ST FPS DWO ELIMINATION-BID OPEN	0%										
H084774000	4TH ST FPS DWO ELIMINATION - AD DATE	0%										
H084772907	4TH ST FPS DWO ELIM - FINAL DESIGN SUBMITTAL 100%	0%										
H084772906	4TH ST FPS DWO ELIM - FINAL DESIGN SUBMITTAL 90%	0%										
H084772905	4TH ST FPS DWO ELIM - FINAL DESIGN SUBMITTAL 80%	0%										
H084772904	4TH ST FPS DWO ELIM - FINAL DESIGN SUBMITTAL 50%	0%										
H084772903	4TH ST FPS DWO ELIMINATION - FINAL TM	100%										
H084772902	4TH ST FPS DWO ELIMINATION - DRAFT TM	100%										
H084772901	4TH ST FPS DWO ELIMINATION - DATA COLLECTION	100%										
H084772001	4TH ST FPS DWO ELIMINATION - NTP	100%										
ADAMS STREET STORAGE BASIN												
H091359000	ADAMS STREET STORAGE BASIN - FORCE ACCOUNT	0%										
H091352000	ADAMS STREET STORAGE BASIN - DESIGN	0%										
ASHBURTON PS IMPROVEMENTS/DIVERSION												
A090929000	ASHBURTON PS IMPROVEMENTS/DIVERSION - FACCT	7.72%										
A090928050	ASHBURTON PS IMPROVEMENTS/DIVERSION - CD CERTIFY	0%										
A090926000	ASHBURTON PS IMPROVEMENTS/DIVERSION - CONSTRUCT	0%										
A090924500	ASHBURTON PS IMPROVEMENTS/DIVERSION - AWARD	0%										
A090924050	ASHBURTON PS IMPROVEMENTS/DIVERSION - BID OPEN	0%										
A090924000	ASHBURTON PS IMPROVEMENTS/DIVERSION - AD DATE	0%										
A090922000	ASHBURTON PS IMPROVEMENTS/DIVERSION - DESIGN	100%										
AVANTI PUMP STATION ELIMINATION												
A090909000	AVANTI PUMP STATION ELIMINATION - FACCT	100%										
A090908050	AVANTI PUMP STATION ELIMINATION - CD CERTIFY	0%										
A090906950	AVANTI PUMP STATION ELIMINATION - AS BUILTS	0%										
A090906000	AVANTI PUMP STATION ELIMINATION - CONSTRUCTION	34.81%										
A090904500	AVANTI PUMP STATION ELIMINATION - AWARD	100%										
A090904050	AVANTI PUMP STATION ELIMINATION - BID OPEN	100%										

█ Remaining Level of Effort
 █ Remaining Work
 ◆ Milestone
█ Actual Work
 █ Critical Remaining Work

Activity ID	Activity Name	Schedule %	FY2009				FY2010				FY2011	
			FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	
A090904000	AVANTI PUMP STATION ELIMINATION - AD DATE	100%										
A090902000	AVANTI PUMP STATION ELIMINATION - DESIGN	100%										
BEARGRASS INTERCEPTOR REHABILITATION PH II												
H092399000	BEARGRASS INTERCEPTOR REHAB PH II - FORCE ACCOU...	3.18%										
H092396000	BEARGRASS INTERCEPTOR REHAB PH II - CONSTRUCTION	0%										
H092394500	BEARGRASS INTERCEPTOR REHAB PH II - AWARD	0%										
H092394050	BEARGRASS INTERCEPTOR REHAB PH II - BID OPEN	0%										
H092394000	BEARGRASS INTERCEPTOR REHAB PH II- AD DATE	0%										
H092393000	BEARGRASS INTERCEPTOR REHAB PH II - EASEMENT	0%										
H092392000	BEARGRASS INTERCEPTOR REHAB PH II - DESIGN	8.61%										
BEECHWOOD VILLAGE SS REPL - EAST PORTION												
E072618050	BEECHWOOD VILLAGE SS REPL EAST - CD CERTIFY	0%										
E072616950	BEECHWOOD VILLAGE SS REPL EAST - AS-BUILTS	0%										
E072616900	BEECHWOOD VILLAGE SS REPL EAST-SUBST COMPLETE	0%										
E072616000	BEECHWOOD VILLAGE SS REPL EAST - CONSTRUCTION	10.05%										
E072614500	BEECHWOOD VILLAGE SS REPL EAST - AWARD	100%										
E072614050	BEECHWOOD VILLAGE SS REPL EAST - BID OPEN	100%										
E072614000	BEECHWOOD VILLAGE SS REPL EAST - AD DATE	100%										
E072612914	BEECHWOOD VILLAGE SS EAST-COORD W/VENHOFF	100%										
E072612907	BEECHWOOD VILLAGE SS EAST-100% PLAN SUBMITTAL	100%										
BEECHWOOD VILLAGE SS REPL - WEST PORTION												
E080349000	BEECHWOOD VILLAGE SS REPL WEST - FORCE ACCT	22.49%										
E080346000	BEECHWOOD VILLAGE SS REPL WEST - CONSTRUCTION	4.67%										
E080344500	BEECHWOOD VILLAGE SS REPL WEST - AWARD	100%										
E080344050	BEECHWOOD VILLAGE SS REPL WEST - BID OPEN	100%										
E080344000	BEECHWOOD VILLAGE SS REPL WEST - AD DATE	100%										
BUECHEL SURGE BASIN												
H072889000	BUECHEL SURGE BASIN - FACCT	100%										
H072884500	BUECHEL SURGE BASIN - AWARD	0%										
H072884050	BUECHEL SURGE BASIN - BID OPEN	0%										
H072884000	BUECHEL SURGE BASIN - AD DATE	0%										
H072883000	BUECHEL SURGE BASIN - EASEMENTS	100%										
H072882000	BUECHEL SURGE BASIN - DESIGN	0%										
CAMP TAYLOR #1 - SSES												
H092019000	CAMP TAYLOR #1 SSES - FORCE ACCOUNT	3.18%										
H092013000	CAMP TAYLOR #1 SSES - EASEMENT	0%										
H092012000	CAMP TAYLOR #1 SSES - DESIGN	7.16%										
CAMP TAYLOR #2 - REPLACE SEWERS												
H092209000	CAMP TAYLOR #2 REPLACE SEWERS - FORCE ACCOUNT	0%										
H092202000	CAMP TAYLOR #2 REPLACE SEWERS - DESIGN	0%										
CENTRAL REGION EMERGENCY GENERATOR PHASE III												
H100839000	CENTRAL REGION EMERG GENERATOR PH3-FACCT	0%										
H100836000	CENTRAL REGION EMERG GENERATOR PH3-CONST	0%										
H100834500	CENTRAL REGION EMERG GENERATOR PH3 - AWARD	0%										
H100834050	CENTRAL REGION EMERG GENERATOR PH3 - BID OPEN	0%										
H100834000	CENTRAL REGION EMERG GENERATOR PH3 - AD DATE	0%										

█ Remaining Level of Effort
 █ Remaining Work
 █ Actual Work
 █ Critical Remaining Work
 ◆ Milestone

Activity ID	Activity Name	Schedule %	FY2009				FY2010				FY2011	
			FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	
CHARLESWOOD SUBDIVISION INT. #23												
C941036000	CHARLESWOOD SUBD. INT. #23 - CONSTR.	0%										CHARLESWOOD SUBD. INT. #23 - CONSTR.
C941034500	CHARLESWOOD SUBD. INT. #23 - AWARD	0%										◆ CHARLESWOOD SUBD. INT. #23 - AWARD
C941034050	CHARLESWOOD SUBD. INT. #23 - BID OPEN	0%										◆ CHARLESWOOD SUBD. INT. #23 - BID OPEN
C941034000	CHARLESWOOD SUBD. INT. #23 - AD DATE	0%										◆ CHARLESWOOD SUBD. INT. #23 - AD DATE
CSO 108 DAM MODIFICATIONS												
H091289000	CSO 108 DAM MODIFICATIONS - FORCE ACCOUNT	5.19%										CSO 108 DAM MODIFICATIONS - FORCE ACCOUNT
H091283000	CSO 108 DAM MODIFICATIONS - EASEMENT	0.56%										CSO 108 DAM MODIFICATIONS - EASEMENT
H091282000	CSO 108 DAM MODIFICATIONS - DESIGN	25.21%										CSO 108 DAM MODIFICATIONS - DESIGN
CSO 206 AREAS 13, 14 & 15												
I010628050	CSO 206 AREAS 13, 14 & 15 - CD CERTIFICATION	100%										◆ CSO 206 AREAS 13, 14 & 15 - CD CERTIFICATION
I010626950	CSO 206 AREAS 13, 14 & 15 AS-BUILT PLANS	100%										◆ CSO 206 AREAS 13, 14 & 15 AS-BUILT PLANS
I010626900	CSO 206 AREAS 13, 14 & 15 - SUBST COMPLETE	100%										◆ CSO 206 AREAS 13, 14 & 15 - SUBST COMPLETE
I010626000	CSO 206 AREAS 13, 14 & 15 CONSTRUCTION	81.98%										CSO 206 AREAS 13, 14 & 15 CONSTRUCTION
I010624500	CSO 206 AREAS 13, 14 & 15 AWARD	100%										◆ CSO 206 AREAS 13, 14 & 15 AWARD
I010624050	CSO 206 AREAS 13, 14 & 15 BID OPEN	100%										◆ CSO 206 AREAS 13, 14 & 15 BID OPEN
I010624000	CSO 206 AREAS 13, 14 & 15 AD DATE	100%										◆ CSO 206 AREAS 13, 14 & 15 AD DATE
CSO 206 SEWER SEPARATION												
H091319000	CSO 206 SEWER SEPARATION - FORCE ACCOUNT	0%										CSO 206 SEWER SEPARATION - FORCE ACCOUNT
H091313000	CSO 206 SEWER SEPARATION - EASEMENT	0%										CSO 206 SEWER SEPARATION - EASEMENT
H091312000	CSO 206 SEWER SEPARATION - DESIGN	0%										CSO 206 SEWER SEPARATION - DESIGN
DERINGTON COURT PUMP STATION I&I INVESTIGATION												
H091909000	DERINGTON CT PUMP STATION I&I INVESTIGATION - FOR...	0%										DERINGTON CT PUMP STATION I&I INVESTIGATION - FOR...
H091902000	DERINGTON CT PUMP STATION I&I INVESTIGATION - DESI...	0%										DERINGTON CT PUMP STATION I&I INVESTIGATION - DESI...
DOWNSPOUT DISCONNECT CSO 206												
I042499000	DOWNSPOUT DISCONNECT CSO 206 PHASE 1 - FACCT	100%										DOWNSPOUT DISCONNECT CSO 206 PHASE 1 - FACCT
I042496900	DOWNSPOUT DISCONNECT CSO 206 P1- SUBST COMPLETE	100%										◆ DOWNSPOUT DISCONNECT CSO 206 P1- SUBST COMPLETE
I042496000	DOWNSPOUT DISCONNECT CSO 206 PHASE 1 - CONST	36.57%										DOWNSPOUT DISCONNECT CSO 206 PHASE 1 - CONST
I042494500	DOWNSPOUT DISCONNECT CSO 206 PHASE 1 - AWARD	100%										◆ DOWNSPOUT DISCONNECT CSO 206 PHASE 1 - AWARD
I042494050	DOWNSPOUT DISCONNECT CSO 206 PHASE 1 - BID OPEN	100%										◆ DOWNSPOUT DISCONNECT CSO 206 PHASE 1 - BID OPEN
I042494000	DOWNSPOUT DISCONNECT CSO 206 PHASE 1 - AD DATE	100%										◆ DOWNSPOUT DISCONNECT CSO 206 PHASE 1 - AD DATE
I042492901	DOWNSPOUT DISCONNECT CSO 206 - CLOSURE STARTUP	100%										DOWNSPOUT DISCONNECT CSO 206 - CLOSURE STARTUP
DRGWQTC: BLOWER PACKAGE												
H095629000	DRGWQTC: BLOWER PKG - FORCE ACCT	0%										DRGWQTC: BLOWER PKG - FORCE ACCT
H095622914	DRG: BLOWER REPL - DRAFT INSTALLATION DRAWINGS	0%										DRG: BLOWER REPL - DRAFT INSTALLATION DRAWINGS
DRGWQTC: WET WEATHER TREATMENT FACILITY												
H095619000	DRGWQTC: WET WEATHER TREATMENT FACILITY- FACCT	0%										DRGWQTC: WET WEATHER TREATMENT FACILITY- FACCT
H095616000	DRGWQTC: WET WEATHER TREATMENT FACILITY- CONS...	0%										DRGWQTC: WET WEATHER TREATMENT FACILITY- CONS...
H095614500	DRGWQTC: WET WEATHER TREATMENT FACILITY- AWARD	0%										◆ DRGWQTC: WET WEATHER TREATMENT FACILITY- AWARD
H095614050	DRGWQTC: WET WEATHER TREATMENT FACILITY-BID OP...	0%										◆ DRGWQTC: WET WEATHER TREATMENT FACILITY-BID OP...
H095614000	DRGWQTC: WET WEATHER TREATMENT FACILITY- AD DA...	0%										◆ DRGWQTC: WET WEATHER TREATMENT FACILITY- AD DA...
H095613000	DRGWQTC: WET WEATHER TREATMENT FACILITY-ESM TS	0%										DRGWQTC: WET WEATHER TREATMENT FACILITY-ESM TS
H095612000	DRGWQTC: WET WEATHER TREATMENT FACILITY-DESIGN	0%										DRGWQTC: WET WEATHER TREATMENT FACILITY-DESIGN
DRGWQTC: WW FLOW EQUALIZATION & TREATMENT												
H063024500	WCWTP: WW FLOW EQ & TREATMENT - AWARD	0%										◆ WCWTP: WW FLOW EQ & TREATMENT - AWARD
H063024050	WCWTP: WW FLOW EQ & TREATMENT - BID OPEN	0%										◆ WCWTP: WW FLOW EQ & TREATMENT - BID OPEN

█ Remaining Level of Effort
 █ Remaining Work
 █ Actual Work
 █ Critical Remaining Work
 ◆ Milestone

Activity ID	Activity Name	Schedule %	FY2009				FY2010				FY2011
			FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1
H063024000	WCWTP: WW FLOW EQ & TREATMENT - AD DATE	0%									◆ WCWTP: WW FLOW EQ &
H063022962	DRGWQTC: EQ BASIN EASEMENT ACQUISITION	0%									DRGWQTC: EQ BASIN EASEMENT ACQUISITION
H063022961	DRGWQTC: WETLANDS STUDY REPORTING	0%									DRGWQTC: WETLANDS
H063022960	DRGWQTC: WETLANDS STUDY SITE ASSESSMENT	0%									DRGWQTC: WETLANDS STUDY SITE ASSES
H063022959	DRGWQTC: EQUALIZATION BASIN - DSDC	0%									DRGWQTC: EQUALIZATION BASIN - DSDC
H063022957	DRGWQTC: EQUALIZATION BASIN - 100% DESIGN	0%									DRGWQTC: EQUALIZATION BASIN - 100% DE
H063022956	DRGWQTC: EQUALIZATION BASIN - MONTHLY REPORT #3	0%									DRGWQTC: EQUALIZATION BASIN - MONTHLY REPORT
H063022955	DRGWQTC: EQUALIZATION BASIN - 90% DESIGN	0%									DRGWQTC: EQUALIZATION BASIN - 90% DESIGN
H063022954	DRGWQTC: EQUALIZATION BASIN - MONTHLY REPORT #2	0%									DRGWQTC: EQUALIZATION BASIN - MONTHLY REPORT #2
H063022953	DRGWQTC: EQUALIZATION BASIN - 60% DESIGN	0%									DRGWQTC: EQUALIZATION BASIN - 60% DESIGN
H063022952	DRGWQTC: EQUALIZATION BASIN - 30% DESIGN	0%									DRGWQTC: EQUALIZATION BASIN - 30% DESIGN
H063022951	DRGWQTC: EQUALIZATION BASIN - FIELD SURVEY	100%									DRGWQTC: EQUALIZATION BASIN - FIELD SURVEY
H063022950	DRGWQTC: EQUALIZATION BASIN - MONTHLY REPORT #1	100%									DRGWQTC: EQUALIZATION BASIN - MONTHLY REPORT #1
H063022947	DRGWQTC: PUMP PKG - BID ASSIST	0%									DRGWQTC: PUMP PKG - BID ASSIST
H063022946	DRGWQTC: PUMP PKG - 100% DESIGN	0%									DRGWQTC: PUMP PKG - 100% DESIGN
H063022945	DRGWQTC: PUMP PKG - 90% DESIGN	0%									DRGWQTC: PUMP PKG - 90% DESIGN
H063022944	DRGWQTC: PUMP PKG - COMPLETE 60% SUBMITTAL	0%									DRGWQTC: PUMP PKG - COMPLETE 60% SUBMITTAL
H063022943	DRGWQTC: PUMP PKG - STRUCTURAL 60% COMPLETE	0%									DRGWQTC: PUMP PKG - STRUCTURAL 60% COMPLETE
H063022942	DRGWQTC: PUMP PKG - PROC/MECH 60% COMPLETE	0%									DRGWQTC: PUMP PKG - PROC/MECH 60% COMPLETE
H063022941	DRGWQTC: PUMP PKG - CFD FINAL REPORT	0%									DRGWQTC: PUMP PKG - CFD FINAL REPORT
H063022940	DRGWQTC: PUMP PKG - CFD SET-UP	100%									DRGWQTC: PUMP PKG - CFD SET-UP
H063022939	DRGWQTC: PUMP PKG-HM-FINAL RPT FOR NEW PS	0%									DRGWQTC: PUMP PKG-HM-FINAL RPT FOR NEW PS
H063022938	DRGWQTC: PUMP PKG-HM-FINAL RPT FOR EXISTING PS	0%									DRGWQTC: PUMP PKG-HM-FINAL RPT FOR EXISTING PS
H063022937	DRGWQTC: PUMP PKG-HM-TEST'G COMP FOR NEW PS	0%									DRGWQTC: PUMP PKG-HM-TEST'G COMP FOR NEW PS
H063022936	DRGWQTC: PUMP PKG-HM-TEST'G COMP FOR EXIST'G PS	0%									DRGWQTC: PUMP PKG-HM-TEST'G COMP FOR EXIST'G PS
H063022935	DRGWQTC: PUMP PKG - HM - NTP FOR NEW PS	0%									DRGWQTC: PUMP PKG - HM - NTP FOR NEW PS
H063022934	DRGWQTC: PUMP PKG - HM - NTP FOR EXISTING PS HYD	0%									DRGWQTC: PUMP PKG - HM - NTP FOR EXISTING PS HYD
H063022933	DRGWQTC: PUMP PKG - EQUIPMENT PREPURCHASE	100%									DRGWQTC: PUMP PKG - EQUIPMENT PR
H063022932	DRGWQTC: PUMP PKG - PRELIM ENGINEERING UPDATES	100%									DRGWQTC: PUMP PKG - PRELIM ENGINEERING UPDATES
H063022930	DRGWQTC: PUMP PKG - SITE SURVEY	100%									DRGWQTC: PUMP PKG - SITE SURVEY
H063022929	DRGWQTC: PUMP PKG - SUBSURFACE INVESTIGATION	0%									DRGWQTC: PUMP PKG - SUBSURFACE INVESTIGATION
H063022928	DRGWQTC: PUMP PKG - PROJECT MANAGEMENT	0%									DRGWQTC: PUMP PKG - PROJECT MANAGEMEN
H063022927	DRGWQTC: WET WEATHER TRMT FAC-BID EVALUATION	0%									DRGWQTC: WET WEATHER TRMT
H063022926	DRGWQTC: WET WEATHER TRMT FAC-BID ASSISTANCE	0%									DRGWQTC: WET WEATHER TRMT FAC-BID ASSIS
H063022925	DRGWQTC: WET WEATHER TRMT FAC-100% SUBMITTAL	0%									DRGWQTC: WET WEATHER TRMT FAC-100% SUBMITT
H063022924	DRGWQTC: WET WEATHER TRMT FAC-90% SUBMITTAL	0%									DRGWQTC: WET WEATHER TRMT FAC-90% SUBMITTAL
H063022923	DRGWQTC: WET WEATHER TRMT FAC-KDOW COMMENT ...	0%									DRGWQTC: WET WEATHER TRMT FAC-KDOW COMMENT RE
H063022922	DRGWQTC: WET WEATHER TRMT FAC-PROGRESS RPT 7	0%									DRGWQTC: WET WEATHER TRMT FAC-PROGRESS RPT 7
H063022921	DRGWQTC: WET WEATHER TRMT FAC-PROGRESS RPT 6	0%									DRGWQTC: WET WEATHER TRMT FAC-PROGRESS RPT 6
H063022920	DRGWQTC: WET WEATHER TRMT FAC-KDOW SUBMITTAL	0%									DRGWQTC: WET WEATHER TRMT FAC-KDOW SUBMITTAL
H063022919	DRGWQTC: WET WEATHER TRMT FAC-60% SUBMITTAL	100%									DRGWQTC: WET WEATHER TRMT FAC-60% SUBMITTAL
H063022918	DRGWQTC: WET WEATHER TRMT FAC-PROGRESS RPT 3	100%									DRGWQTC: WET WEATHER TRMT FAC-PROGRESS RPT 3
H063022917	DRGWQTC: WET WEATHER TRMT FAC-OPS STRATEGY TM	100%									DRGWQTC: WET WEATHER TRMT FAC-OPS STRATEGY TM
H063022916	DRGWQTC: WET WEATHER TRMT FAC-GEOTECH	100%									DRGWQTC: WET WEATHER TRMT FAC-GEOTECH
H063022913	DRG: BLOWER REPL - FINAL SPECIFICATIONS	100%									DRG: BLOWER REPL - FINAL SPECIFICATIONS
H063022912	DRG: BLOWER REPL - DRAFT SPECIFICATIONS	100%									DRG: BLOWER REPL - DRAFT SPECIFICATIONS
H063022910	WCWTP: WW FLOW EQ & TREATMENT - FINAL REPORT	100%									WCWTP: WW FLOW EQ & TREATMENT - FINAL REPORT

█ Remaining Level of Effort
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█ Actual Work
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Activity ID	Activity Name	Schedule %	FY2009				FY2010				FY2011	
			FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	
H063022908	WCWTP: WW FLOW EQ & TREATMENT - TM COST ESTIMA...	100%		WCWTP: WW FLOW EQ & TREATMENT - TM COST ESTIMATE								
H063022906	WCWTP: WW FLOW EQ & TREATMENT - TM SELECTED AL...	100%		WCWTP: WW FLOW EQ & TREATMENT - TM SELECTED ALTS								
H063022905	WCWTP: WW FLOW EQ & TREATMENT-100% PROCESS AL...	100%	WCWTP: WW FLOW EQ & TREATMENT-100% PROCESS ALTS									
H063022001	DRGWQTC: WET WEATHER TRMT FAC-NTP	100%										
H063022000	WCWTP: WW FLOW EQ & TREATMENT - DESIGN	58.91%										
EAST REGION EMERGENCY GENERATOR PHASE III												
H100829000	EAST REGION EMERG GENERATORS PH3-FACCT	0%										
H100826000	EAST REGION EMERG GENERATORS PH3-CONST	0%										
H100824500	EAST REGION EMERG GENERATORS PH3 - AWARD	0%										
H100824050	EAST REGION EMERG GENERATORS PH3 - BID OPEN	0%										
H100824000	EAST REGION EMERG GENERATORS PH3 - AD DATE	0%										
EAST ROCKFORD LANE PS RELOCATION												
A090912905	EAST ROCKFORD LN PS RELOC 100% DESIGN	0%										
A090912904	EAST ROCKFORD LN PS RELOC 90% DESIGN	0%										
A090912903	EAST ROCKFORD LN PS RELOC 60% DESIGN	0%										
A090912902	EAST ROCKFORD LN PS RELOC 30% DESIGN	0%										
A090912901	EAST ROCKFORD LN PS RELOC 10% DESIGN	0%										
A090912000	EAST ROCKFORD LANE PS RELOCATION - DESIGN	0%										
EDSEL PUMP STATION I&I INVESTIGATION												
H091979000	EDSEL PUMP STATION I&I INVESTIGATION - FORCE ACCO...	0%										
H091973000	EDSEL PUMP STATION I&I INVESTIGATION - EASEMENT	0%										
H091972000	EDSEL PUMP STATION I&I INVESTIGATION - DESIGN	0%										
FLOYDSBURGH ROAD I&I INVESTIGATION & REDUCTION												
H091729000	FLOYDSBURGH RD I&I INVESTIGATION & REDUCTION - FO...	0%										
H091726000	FLOYDSBURGH RD I&I INVESTIGATION & REDUCTION - CO...	0%										
H091724500	FLOYDSBURGH RD I&I INVESTIGATION & REDUCTION - A...	0%										
H091724050	FLOYDSBURGH RD I&I INVESTIGATION & REDUCTION - BI...	0%										
H091724000	FLOYDSBURGH RD I&I INVESTIGATION & REDUCTION- AD ...	0%										
H091723000	FLOYDSBURGH RD I&I INVESTIGATION & REDUCTION - EA...	0%										
H091722000	FLOYDSBURGH RD I&I INVESTIGATION & REDUCTION - DE...	0%										
FY08 RIPARIAN BUFFERS												
J061328050	FY08 RIPARIAN BUFFERS - SEP COMPLETION REPORT	100%										
J061326000	FY08 RIPARIAN BUFFERS - LEXINGTON RD - CONSTRUCT	100%										
J061324500	FY08 RIPARIAN BUFFERS - LEXINGTON RD - AWARD	100%										
J061324050	FY08 RIPARIAN BUFFERS - LEXINGTON RD - BID OPEN	100%										
J061324000	FY08 RIPARIAN BUFFERS - LEXINGTON RD - AD DATE	100%										
FY08 SSOP UPDATE												
H062298050	FY08 SSOP UPDATE - CD CERTIFICATION	100%										
FY09 BGC/OR LTCP												
I062339000	FY09 BGC/OR LTP - FORCE ACCT.	8.49%										
I062338050	FY09 BGC/OR LTP - CD CERTIFICATION	100%										
I062331000	FY09 BGC/OR LTP - PLANNING	100%										
FY09 OUTDOOR CLASSROOM												
J061381000	FY09 OUTDOOR CLASSROOM - PLANNING	100%										
FY09 SSOP UPDATE												
H062329000	FY09 SSOP UPDATE - FORCE ACCT	100%										



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			FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1
H062328050	FY09 SSOP UPDATE - CD CERTIFICATION	100%									
H062321000	FY09 SSOP UPDATE - PLANNING	100%	FY09 SSOP UPDATE - PLANNING								
FY10 OUTDOOR CLASSROOM											
J061398050	FY10 OUTDOOR CLASSROOM-SEP COMPLETION RPT	0%									
J061391000	FY10 OUTDOOR CLASSROOM - PLANNING	30.36%					FY10 OUTDOOR CLASSROOM - PLANNING				
GI 12th & JEFFERSON GREEN STREET											
H094339000	GI 12TH & JEFFERSON GREEN STREET - FORCE ACCT	100%									
H094331000	GI 12TH & JEFFERSON GREEN STREET - PLANNING	8.49%					GI 12TH & JEFFERSON GREEN STREET - PLANNING				
GI 17th & HILL ALLEY											
H094309000	GI 17TH & HILL ALLEY - FORCE ACCT	100%									
H094301000	GI 17TH & HILL ALLEY - PLANNING	8.49%					GI 17TH & HILL ALLEY - PLANNING				
GI 2nd & BROADWAY PARKING LOT											
H094269000	GI 2ND & BROADWAY PARKING LOT - FORCE ACCT	100%									
H094261000	GI 2ND & BROADWAY PARKING LOT - PLANNING	8.49%					GI 2ND & BROADWAY PARKING LOT - PLANNING				
GI 3rd & ORMSBY BIOSWALE											
H094279000	GI 3RD & ORMSBY BIOSWALE - FORCE ACCT	100%									
H094271000	GI 3RD & ORMSBY BIOSWALE - PLANNING	8.49%					GI 3RD & ORMSBY BIOSWALE - PLANNING				
GI 6th & BROADWAY RAIN GARDEN											
H094299000	GI 6TH & BROADWAY RAIN GARDEN - FORCE ACCT	100%									
H094291000	GI 6TH & BROADWAY RAIN GARDEN - PLANNING	8.49%					GI 6TH & BROADWAY RAIN GARDEN - PLANNING				
GI 6th & MUHAMMAD ALI PARKING LOT											
H094289000	GI 6TH & MUHAMMAD ALI PARKING LOT - FORCE ACCT	100%									
H094281000	GI 6TH & MUHAMMAD ALI PARKING LOT - PLANNING	8.49%					GI 6TH & MUHAMMAD ALI PARKING LOT - PLANNING				
GI 7th & CEDAR PARKING LOT											
H094259000	GI 7TH & CEDAR PARKING LOT - FORCE ACCT	100%									
H094251000	GI 7TH & CEDAR PARKING LOT - PLANNING	8.49%					GI 7TH & CEDAR PARKING LOT - PLANNING				
GI 7th & MARKET ALLEY											
H094319000	GI 7TH & MARKET ALLEY - FORCE ACCT	100%									
H094311000	GI 7TH & MARKET ALLEY - PLANNING	8.49%					GI 7TH & MARKET ALLEY - PLANNING				
GI ADD'L RAIN GARDENS PH 1 FY10											
H100399000	GI ADD'L RAIN GARDENS PH 1 FY10 - FACCT	8.49%					GI ADD'L RAIN GARDENS PH 1 FY10 - FACCT				
H100396000	GI ADD'L RAIN GARDENS PH 1 FY10 - PLANNING	8.49%					GI ADD'L RAIN GARDENS PH 1 FY10 - PLANNING				
GI ADD'L RAIN GARDENS PH 1 FY11											
H100419000	GI ADD'L RAIN GARDENS PH 1 FY11 - FACCT	8.49%					GI ADD'L RAIN GARDENS PH 1 FY11 - FACCT				
H100416000	GI ADD'L RAIN GARDENS PH 1 FY11 - PLANNING	8.49%					GI ADD'L RAIN GARDENS PH 1 FY11 - PLANNING				
GI ADD'L RAIN GARDENS PH 2 FY10											
H100409000	GI ADD'L RAIN GARDENS PH 2 FY10 - FACCT	8.49%					GI ADD'L RAIN GARDENS PH 2 FY10 - FACCT				
H100406000	GI ADD'L RAIN GARDENS PH 2 FY10 - PLANNING	8.49%					GI ADD'L RAIN GARDENS PH 2 FY10 - PLANNING				
GI ADD'L RAIN GARDENS PH 2 FY11											
H100429000	GI ADD'L RAIN GARDENS PH 2 FY11 - FACCT	8.49%					GI ADD'L RAIN GARDENS PH 2 FY11 - FACCT				
H100426000	GI ADD'L RAIN GARDENS PH 2 FY11 - PLANNING	8.49%					GI ADD'L RAIN GARDENS PH 2 FY11 - PLANNING				
GI ALLEYS FY09											
H094139000	GI ALLEYS FY09 - FACCT	50.82%					GI ALLEYS FY09 - FACCT				
H094131000	GI ALLEYS FY09 - PLANNING	50.82%					GI ALLEYS FY09 - PLANNING				
GI ALLEYS FY10											

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 ◆ Milestone

Activity ID	Activity Name	Schedule %	FY2009				FY2010				FY2011
			FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1
H094189000	GI ALLEYS FY10 - FACCT	8.49%					GI ALLEYS FY10 - FACCT				
H094181000	GI ALLEYS FY10 - PLANNING	8.49%					GI ALLEYS FY10 - PLANNING				
GI CAMPBELL & MAIN ALLEY											
H094329000	GI CAMPBELL & MAIN ALLEY - FORCE ACCT	100%					GI CAMPBELL & MAIN ALLEY - FORCE ACCT				
H094321000	GI CAMPBELL & MAIN ALLEY - PLANNING	8.49%					GI CAMPBELL & MAIN ALLEY - PLANNING				
GI MSD MO BIOSWALE											
H094249000	GI MSD MO BIOSWALE - FACCT	100%					GI MSD MO BIOSWALE - FACCT				
H094241000	GI MSD MO BIOSWALE - PLANNING	8.49%					GI MSD MO BIOSWALE - PLANNING				
GI PARKING PUBLIC FY09											
H094159000	GI PARKING PUBLIC FY09 - FACCT	50.82%					GI PARKING PUBLIC FY09 - FACCT				
H094151000	GI PARKING PUBLIC FY09 - PLANNING	50.82%					GI PARKING PUBLIC FY09 - PLANNING				
GI PARKING PUBLIC FY10											
H094229000	GI PARKING PUBLIC FY10 - FACCT	8.49%					GI PARKING PUBLIC FY10 - FACCT				
H094221000	GI PARKING PUBLIC FY10 - PLANNING	8.49%					GI PARKING PUBLIC FY10 - PLANNING				
GI PUBLIC DRY WELLS FY10											
H094239000	GI PUBLIC DRY WELLS FY10 - FACCT	8.49%					GI PUBLIC DRY WELLS FY10 - FACCT				
H094231000	GI PUBLIC DRY WELLS FY10 - PLANNING	8.49%					GI PUBLIC DRY WELLS FY10 - PLANNING				
GI RAIN BARRELS FY10											
H094199000	GI RAIN BARRELS FY10 - FACCT	8.49%					GI RAIN BARRELS FY10 - FACCT				
H094191000	GI RAIN BARRELS FY10 - PLANNING	8.49%					GI RAIN BARRELS FY10 - PLANNING				
GI RAIN GARDENS FY10											
H094209000	GI RAIN GARDENS FY10 - FACCT	8.49%					GI RAIN GARDENS FY10 - FACCT				
H094201000	GI RAIN GARDENS FY10 - PLANNING	8.49%					GI RAIN GARDENS FY10 - PLANNING				
GI ROOFS PUBLIC FY09											
H094119000	GI ROOFS PUBLIC FY09 - FACCT	50.82%					GI ROOFS PUBLIC FY09 - FACCT				
H094111000	GI ROOFS PUBLIC FY09 - PLANNING	50.82%					GI ROOFS PUBLIC FY09 - PLANNING				
GI ROOFS PUBLIC FY10											
H094169000	GI ROOFS PUBLIC FY10 - FACCT	8.49%					GI ROOFS PUBLIC FY10 - FACCT				
H094161000	GI ROOFS PUBLIC FY10 - PLANNING	8.49%					GI ROOFS PUBLIC FY10 - PLANNING				
GI STREETS FY09											
H094129000	GI STREETS FY09 - FACCT	50.82%					GI STREETS FY09 - FACCT				
H094121000	GI STREETS FY09 - PLANNING	50.82%					GI STREETS FY09 - PLANNING				
GI STREETS FY10											
H094179000	GI STREETS FY10 - FACCT	8.49%					GI STREETS FY10 - FACCT				
H094171000	GI STREETS FY10 - PLANNING	8.49%					GI STREETS FY10 - PLANNING				
GI URBAN REFORESTATION FY09											
H094149000	GI URBAN REFORESTATION FY09 - FACCT	50.82%					GI URBAN REFORESTATION FY09 - FACCT				
H094141000	GI URBAN REFORESTATION FY09 - PLANNING	50.82%					GI URBAN REFORESTATION FY09 - PLANNING				
GI URBAN REFORESTATION FY10											
H094219000	GI URBAN REFORESTATION FY10 - FACCT	8.49%					GI URBAN REFORESTATION FY10 - FACCT				
H094211000	GI URBAN REFORESTATION FY10 - PLANNING	8.49%					GI URBAN REFORESTATION FY10 - PLANNING				
GOLDSMITH INTERCEPTOR IMPROVEMENTS											
H072968050	GOLDSMITH INTERCEPTOR IMPROVEMENTS - CD CERTIFY	100%					◆ GOLDSMITH INTERCEPTOR IMPROVEMENTS - CD CERTIFY				
H072966990	GOLDSMITH INTERCEPTOR IMPROVEMENTS - WARRANTY	0%					◆ GOLDSMITH INTERCEPTOR IMPROVEMENTS - WARRANTY				
H072966950	GOLDSMITH INTERCEPTOR IMPROVEMENTS - AS-BUILTS	100%					◆ GOLDSMITH INTERCEPTOR IMPROVEMENTS - AS-BUILTS				

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Activity ID	Activity Name	Schedule %	FY2009				FY2010				FY2011	
			FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	
H072966900	GOLDSMITH INTERCEPTOR IMPR - SUBST COMPLETE	100%										
H072966000	GOLDSMITH INTERCEPTOR IMPROVEMENTS - CONSTRUCT	100%										
H072964500	GOLDSMITH INTERCEPTOR IMPROVEMENTS - AWARD	100%										
H072964050	GOLDSMITH INTERCEPTOR IMPROVEMENTS - BID OPEN	100%										
H072964000	GOLDSMITH INTERCEPTOR IMPROVEMENTS - AD DATE	100%										
H072962800	GOLDSMITH INTERCEPTOR IMP - PUBLIC NOTIFICATION	100%										
GOVERNMENT CENTER PUMP STATION WET WEATHER STORAGE BASIN												
H091949000	GOVERNMENT CENTER PS WW STORAGE - FORCE ACCO...	0%										
H091946000	GOVERNMENT CENTER PS WW STORAGE - CONSTRUCTI...	0%										
H091944500	GOVERNMENT CENTER PS WW STORAGE - AWARD	0%										
H091944050	GOVERNMENT CENTER PS WW STORAGE - BID OPEN	0%										
H091944000	GOVERNMENT CENTER PS WW STORAGE - AD DATE	0%										
H091943000	GOVERNMENT CENTER PS WW STORAGE - EASEMENT	0%										
H091942000	GOVERNMENT CENTER PS WW STORAGE - DESIGN	0%										
HARRODS CREEK INT PHASE II												
D002492907	HARRODS CRK INT PH II - EASEMENT PLATS	100%										
D002492906	HARRODS CRK INT PH II - UPDATE & FINALIZE PLANS	0%										
HARRODS CREEK PS & FM												
D942062925	HC/PROSPECT AREA STUDY-TASK 4.4	0%										
D942062924	HC/PROSPECT AREA STUDY-TASK 4.1-4.3	0%										
D942062923	HC/PROSPECT AREA STUDY-TASK 3.3	0%										
D942062922	HC/PROSPECT AREA STUDY-TASK 3.1-3.2	0%										
D942062921	HC/PROSPECT AREA STUDY-TASK 2.3-2.4	0%										
D942062920	HC/PROSPECT AREA STUDY-TASK 2.2	100%										
D942062919	HC/PROSPECT AREA STUDY-TASK 2.1	100%										
D942062918	HC/PROSPECT AREA STUDY-TASK 1.1 & 2.1	100%										
HIKES POINT INTERCEPTOR												
H072869000	HIKES POINT INTERCEPTOR - FORCE ACCT	13.01%										
H072863000	HIKES POINT INTERCEPTOR - EASEMENTS	0%										
H072862908	HIKES POINT INTERCEPTOR - ATTEND PREBID PHASE 2	0%										
H072862907	HIKES POINT INTERCEPTOR - ATTEND PREBID PHASE 1	0%										
H072862906	HIKES POINT INTERCEPTOR - 100% DESIGN SUBMITTAL	0%										
H072862905	HIKES POINT INTERCEPTOR - 90% DESIGN SUBMITTAL	0%										
H072862904	HIKES POINT INTERCEPTOR - 60% DESIGN SUBMITTAL	100%										
H072862903	HIKES POINT INTERCEPTOR - ENVIRON/SURVEY	100%										
H072862902	HIKES POINT INTERCEPTOR - 30% DESIGN SUBMITTAL	100%										
H072862901	HIKES POINT INTERCEPTOR - 10% DESIGN SUBMITTAL	100%										
H072862001	HIKES POINT INTERCEPTOR - NTP	100%										
H072862000	HIKES POINT INTERCEPTOR - DESIGN	65.13%										
HIKES POINT INTERCEPTOR IMPROVEMENTS												
H072958050	HIKES POINT AREA SEWER REHAB PH 1 - CD CERTIFY	100%										
H072956950	HIKES POINT AREA SEWER REHAB PH 1 - AS-BUILTS	100%										
H072956900	HIKES POINT AREA SEWER REHAB PH 1-SUBST COMPLETE	100%										
H072956000	HIKES POINT AREA SEWER REHAB PH 1 - CONSTRUCTION	100%										
H072954500	HIKES POINT AREA SEWER REHAB PH 1 - AWARD	100%										
H072954050	HIKES POINT AREA SEWER REHAB PH 1 - BID OPEN	100%										



Activity ID	Activity Name	Schedule %	FY2009				FY2010				FY2011
			FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1
H072954000	HIKES POINT AREA SEWER REHAB PH 1 - AD DATE	100%	◆ HIKES POINT AREA SEWER REHAB PH 1 - AD DATE								
H072952800	HIKES POINT AREA SEWER REHAB PH 1 -PUBLIC NOTIFY	100%	◆ HIKES POINT AREA SEWER REHAB PH 1 -PUBLIC NOTIFY								
HIKES POINT RELIEF EFFORT											
H072873000	HIKES POINT RELIEF SEWER EFFORT - EASEMENTS	0%					HIKES POINT RELIEF SEWER EFFORT - EASEMENTS				
H072872910	HP INT REPORT W/PRESENTATION-100%	100%	HP INT REPORT W/PRESENTATION-100%								
H072872909	HIKES POINT INT - CONSTRUCTABILITY; COST & SCHED	100%	HIKES POINT INT - CONSTRUCTABILITY; COST & SCHED								
H072872908	HIKES POINT INT - TRAFFIC ANALYSIS TECH MEMO	100%	HIKES POINT INT - TRAFFIC ANALYSIS TECH MEMO								
H072872907	HIKES POINT INT - HYDRAULIC HOR/VER ALIGN TM	100%	HIKES POINT INT - HYDRAULIC HOR/VER ALIGN TM								
HURSTBOURNE I&I INVEST & REHAB											
H092199000	HURSTBOURNE I&I INVEST & REHAB - FORCE ACCT	2.74%					HURSTBOURNE I&I INVEST & REHAB - FORCE ACCT				
H092193000	HURSTBOURNE I&I INVEST & REHAB - ESM'TS	0%									HURSTBOURNE I&I INVE
H092192000	HURSTBOURNE I&I INVEST & REHAB - DESIGN	6.03%					HURSTBOURNE I&I INVEST & REHAB - DESIGN				
I-64 & GRINSTEAD STORAGE BASIN											
H091219000	I-64 & GRINSTEAD STORAGE BASIN - FORCE ACCOUNT	0%					I-64 & GRINSTEAD STORAGE BASIN - FORCE ACCOUNT				
H091212000	I-64 & GRINSTEAD STORAGE BASIN - DESIGN	0%					I-64 & GRINSTEAD STORAGE BASIN - DESIGN				
INTEGRATION OF SWPS/MDS/MFWTP TO RTC											
I050568050	INTEGRATION OF SWPS/MDS/MFWTP TO RTC-CD CERTIFY	100%	◆ INTEGRATION OF SWPS/MDS/MFWTP TO RTC-CD CERTIFY								
I050566950	INTEGRATION OF SWPS/MDS/MFWTP TO RTC- AS-BUILTS	100%					◆ INTEGRATION OF SWPS/MDS/MFWTP TO RTC- AS-BUILTS				
I050566900	INTEGRATION OF SWPS/MDS/MFWTP TO RTC-SUBST CO...	100%					◆ INTEGRATION OF SWPS/MDS/MFWTP TO RTC-SUBST COMPL				
I050566000	INTEGRATION OF SWPS/MDS/MFWTP TO RTC-CONSTR.	100%	INTEGRATION OF SWPS/MDS/MFWTP TO RTC-CONSTR.								
I050564500	INTEGRATION OF SWPS/MDS/MFWTP TO RTC - AWARD	100%	◆ INTEGRATION OF SWPS/MDS/MFWTP TO RTC - AWARD								
JEFFERSONTOWN TP ELIMINATION											
H072939000	JEFFERSONTOWN TP ELIMINATION - FACCT	1.68%					JEFFERSONTOWN TP ELIMINATION - FACCT				
H072938050	JEFFERSONTOWN WQTC ELIMINATION - CD CERTIFY	100%					◆ JEFFERSONTOWN WQTC ELIMINATION - CD CERTIFY				
H072932000	JEFFERSONTOWN TP ELIMINATION - DESIGN	0%					JEFFERSONTOWN TP ELIMINATION - DESIGN				
H072931000	JEFFERSONTOWN TP ELIMINATION - PLANNING	25.21%					JEFFERSONTOWN TP ELIMINATION - PLANNING				
KAVANAUGH ROAD PUMP STATION IMPROVEMENT											
H091719000	KAVANAUGH RD PUMP STATION IMPROVEMENTS - FORC...	0.53%					KAVANAUGH RD PUMP STATION IMPROVEMENTS - FORCE ACCOUNT				
H091716000	KAVANAUGH RD PUMP STATION IMPROVEMENTS - CONS...	0%									KAVANAUG
H091714500	KAVANAUGH RD PUMP STATION IMPROVEMENTS - AWARD	0%									◆ KAVANAUGH R
H091714050	KAVANAUGH RD PUMP STATION IMPROVEMENTS - BID OP...	0%									◆ KAVANAUGH RD PUM
H091714000	KAVANAUGH RD PUMP STATION IMPROVEMENTS- AD DATE	0%									◆ KAVANAUGH RD PUMP
H091713000	KAVANAUGH RD PUMP STATION IMPROVEMENTS - EASE...	0%					KAVANAUGH RD PUMP STATION IMPROVEMENT				
H091712000	KAVANAUGH RD PUMP STATION IMPROVEMENTS - DESIGN	11.15%					KAVANAUGH RD PUMP STATION IMPROVEMENTS - DESIGN				
LANTANA PUMP STATION WET WEATHER STORAGE BASIN											
H091939000	LANTANA PUMP STATION WET WEATHER STORAGE - FO...	0%					LANTANA PUMP STATION WET WEATHER STORAGE - FORC				
H091934000	LANTANA PUMP STATION WET WEATHER STORAGE - AD ...	0%									◆ LANTANA PU
H091933000	LANTANA PUMP STATION WET WEATHER STORAGE - EAS...	0%					LANTANA PUMP STATION WET WEAT				
H091932000	LANTANA PUMP STATION WET WEATHER STORAGE - DE...	0%					LANTANA PUMP STATION WET WEATHER STORAGE - DESIG				
LEA ANN WAY PS SYSTEM SSES											
H090969000	LEA ANN WAY PS SYSTEM SSES - FACCT	100%	LEA ANN WAY PS SYSTEM SSES - FACCT								
H090962000	LEA ANN WAY PS SYSTEM SSES - DESIGN	100%	LEA ANN WAY PS SYSTEM SSES - DESIGN								
LOGAN STREET & BRECKENRIDGE STREET STORAGE BASIN											
H091429000	LOGAN ST & BRECKENRIDGE ST STORAGE BASIN - FORC...	4.46%					LOGAN ST & BRECKENRIDGE ST STORAGE BASIN - FORCE ACCOUNT				
H091423000	LOGAN ST & BRECKENRIDGE ST STORAGE BASIN - EASE...	0%									LOGAN ST & BRECKEN
H091422904	LOGAN ST STOR BASIN-PRELIM DESING & PRMT	0%					LOGAN ST STOR BASIN-PRELIM DESING & PRMT				

█ Remaining Level of Effort
 █ Remaining Work
 █ Actual Work
 █ Critical Remaining Work
 ◆ Milestone

Activity ID	Activity Name	Schedule %	FY2009				FY2010				FY2011
			FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1
H091422903	LOGAN ST STOR BASIN-SITE & TECH SELECT	0%					LOGAN ST STOR BASIN-SITE & TECH SELECT				
H091422902	LOGAN ST STOR BASIN-INFO COLLECTION	0%					LOGAN ST STOR BASIN-INFO COLLECTION				
H091422901	LOGAN ST STOR BASIN-BUILD TEAM	0%					LOGAN ST STOR BASIN-BUILD TEAM				
H091422000	LOGAN ST & BRECKENRIDGE ST STORAGE BASIN - DESIGN	23.9%					LOGAN ST & BRECKENRIDGE ST STORAGE BASIN - DESIGN				
MELLWOOD PS ELIMINATION & FORCE MAIN											
A095569000	MELLWOOD PS ELIMINATION & FORCE MAIN- FORCE ACCT	12.74%					MELLWOOD PS ELIMINATION & FORCE MAIN- FORCE ACCT				
A095566000	MELLWOOD PS ELIMINATION & FORCE MAIN - CONSTRUCT	0%									MELLWOOD PS ELIMINATION & FORCE MAIN - CONSTRUCT
A095564500	MELLWOOD PS ELIMINATION & FORCE MAIN - AWARD	0%									◆ MELLWOOD PS ELIMINATION & FORCE MAIN - AWARD
A095564050	MELLWOOD PS ELIMINATION & FORCE MAIN - BID OPEN	0%									◆ MELLWOOD PS ELIMINATION & FORCE MAIN - BID OPEN
A095564000	MELLWOOD PS ELIMINATION & FORCE MAIN - AD DATE	0%									◆ MELLWOOD PS ELIMINATION & FORCE MAIN - AD DATE
A095563000	MELLWOOD PS ELIMINATION & FORCE MAIN - EASEMENTS	0%									◆ MELLWOOD PS ELIMINATION & FORCE MAIN - EASEMENTS
A095562905	MELLWOOD PS ELIMINATION & FORCE MAIN 100% DESIGN	0%									◆ MELLWOOD PS ELIMINATION & FORCE MAIN 100% DESIGN
A095562904	MELLWOOD PS ELIMINATION & FORCE MAIN 90% DESIGN	0%									◆ MELLWOOD PS ELIMINATION & FORCE MAIN 90% DESIGN
A095562903	MELLWOOD PS ELIMINATION & FORCE MAIN 60% DESIGN	0%									◆ MELLWOOD PS ELIMINATION & FORCE MAIN 60% DESIGN
A095562902	MELLWOOD PS ELIMINATION & FORCE MAIN 30% DESIGN	0%									◆ MELLWOOD PS ELIMINATION & FORCE MAIN 30% DESIGN
A095562901	MELLWOOD PS ELIMINATION & FORCE MAIN 10% DESIGN	0%									◆ MELLWOOD PS ELIMINATION & FORCE MAIN 10% DESIGN
A095562000	MELLWOOD PS ELIMINATION & FORCE MAIN - DESIGN	44.02%					MELLWOOD PS ELIMINATION & FORCE MAIN - DESIGN				
MIDDLE FORK SYSTEM IMPROVEMENTS PH.1											
H042768050	MIDDLE FORK SYS IMP PH.1 - CD CERTIFICATION	100%									◆ MIDDLE FORK SYS IMP PH.1 - CD CERTIFICATION
H042766950	MIDDLE FORK SYS IMP PH.1 - AS-BUILTS	100%									◆ MIDDLE FORK SYS IMP PH.1 - AS-BUILTS
H042766900	MIDDLE FORK SYS IMP PH.1 - SUBSTANTIAL COMPLETE	100%									◆ MIDDLE FORK SYS IMP PH.1 - SUBSTANTIAL COMPLETE
H042766000	MIDDLE FORK SYS IMP PH.1 - CONSTRUCTION	100%					MIDDLE FORK SYS IMP PH.1 - CONSTRUCTION				
H042764500	MIDDLE FORK SYS IMP PH.1 - AWARD	100%									◆ MIDDLE FORK SYS IMP PH.1 - AWARD
H042764050	MIDDLE FORK SYS IMP PH.1 - BID OPEN	100%									◆ MIDDLE FORK SYS IMP PH.1 - BID OPEN
H042764000	MIDDLE FORK SYS IMP PH.1 - AD DATE	100%									◆ MIDDLE FORK SYS IMP PH.1 - AD DATE
H042762800	MIDDLE FORK SYS IMP PH.1 - PUBLIC NOTIFICATION	100%									◆ MIDDLE FORK SYS IMP PH.1 - PUBLIC NOTIFICATION
NORTHERN DITCH INT PHASE 2											
A092269000	NORTHERN DITCH INT PHASE 2 - FACCT	3.2%					NORTHERN DITCH INT PHASE 2 - FACCT				
A092266000	NORTHERN DITCH INT PHASE 2 - CONSTRUCTION	0%									NORTHERN DITCH INT PHASE 2 - CONSTRUCTION
A092264500	NORTHERN DITCH INT PHASE 2 - AWARD	0%									◆ NORTHERN DITCH INT PHASE 2 - AWARD
A092264050	NORTHERN DITCH INT PHASE 2 - BID OPEN	0%									◆ NORTHERN DITCH INT PHASE 2 - BID OPEN
A092264000	NORTHERN DITCH INT PHASE 2 - AD DATE	100%									◆ NORTHERN DITCH INT PHASE 2 - AD DATE
NORTHERN DITCH INT PHASE 3											
A095009000	NORTHERN DITCH INT PHASE 3 - FACCT	0%									NORTHERN DITCH INT PHASE 3 - FACCT
A095004500	NORTHERN DITCH INT PHASE 3 - AWARD	0%									◆ NORTHERN DITCH INT PHASE 3 - AWARD
A095004050	NORTHERN DITCH INT PHASE 3 - BID OPEN	0%									◆ NORTHERN DITCH INT PHASE 3 - BID OPEN
A095004000	NORTHERN DITCH INT PHASE 3 - AD DATE	0%									◆ NORTHERN DITCH INT PHASE 3 - AD DATE
NORTHERN DITCH INTERCEPTOR (NR-1A)											
C850176000	NORTHERN DITCH INTERCEPTOR (NR-1A) - CONSTR.	2.86%					NORTHERN DITCH INTERCEPTOR (NR-1A) - CONSTR.				
C850174500	NORTHERN DITCH INTERCEPTOR (NR-1A) - AWARD	100%									◆ NORTHERN DITCH INTERCEPTOR (NR-1A) - AWARD
C850174050	NORTHERN DITCH INTERCEPTOR (NR-1A) - BID OPEN	100%									◆ NORTHERN DITCH INTERCEPTOR (NR-1A) - BID OPEN
C850174000	NORTHERN DITCH INTERCEPTOR (NR-1A) - AD DATE	100%									◆ NORTHERN DITCH INTERCEPTOR (NR-1A) - AD DATE
C850173000	NORTHERN DITCH INTERCEPTOR (NR-1A) - EASEMENTS *	100%									◆ NORTHERN DITCH INTERCEPTOR (NR-1A) - EASEMENTS *
C850172924	NO DITCH INT (NR-1A)-BIDDING SERVICES	100%									◆ NO DITCH INT (NR-1A)-BIDDING SERVICES
C850172923	NO DITCH INT (NR-1A)-ADD DIVERSION STR TO PLANS	100%									◆ NO DITCH INT (NR-1A)-ADD DIVERSION STR TO PLANS
C850172922	NO DITCH INT (NR-1A)-PARTITION PLANS INTO 3 PROJ	100%									◆ NO DITCH INT (NR-1A)-PARTITION PLANS INTO 3 PROJ

█ Remaining Level of Effort
 █ Remaining Work
 ◆ Milestone
█ Actual Work
 █ Critical Remaining Work

Activity ID	Activity Name	Schedule %	FY2009				FY2010				FY2011	
			FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	
C850172921	NO DITCH FLOW CONTROL STRUCTURE-100% PLANS	100%										
C850172920	NO DITCH FLOW CONTROL STRUCTURE-90% PLANS	100%										
C850172919	NO DITCH INT (NR-1A)-100% DESIGN	100%										
C850172918	NO DITCH INT (NR-1A)-90% DESIGN	100%										
C850172917	NO DITCH INT (NR-1A)-100% SURVEY	100%										
NORTHERN DITCH INTERCEPTOR IMPROVEMENTS												
H072988050	NORTHERN DITCH INTERCEPTOR IMPR - CD CERTIFY	100%										
H072986990	NORTHERN DITCH INTERCEPTOR IMPR - WARRANTY	0%										
H072986950	NORTHERN DITCH INTERCEPTOR IMPR - AS-BUILTS	100%										
H072986900	NORTHERN DITCH INTERCEPTOR IMPR - SUBST COMPLETE	100%										
H072982800	NORTHERN DITCH INTERCEPTOR IMPR-PUBLIC NOTIFY	100%										
PADDY'S RUN WW TREATMENT FACILITY												
H091249000	PADDY'S RUN WW TREATMENT FACILITY - FORCE ACCOU...	0%										
H091242000	PADDY'S RUN WW TREATMENT FACILITY - DESIGN	0%										
PARKVIEW ESTATES I&I INVESTIGATION												
H091989000	PARKVIEW ESTATES I&I INVESTIGATION - FORCE ACCOUNT	0%										
H091984050	PARKVIEW ESTATES I&I INVESTIGATION - BID OPEN	0%										
H091984000	PARKVIEW ESTATES I&I INVESTIGATION - AD DATE	0%										
H091983000	PARKVIEW ESTATES I&I INVESTIGATION - EASEMENT	0%										
H091982000	PARKVIEW ESTATES I&I INVESTIGATION - DESIGN	0%										
PUBLIC HEALTH SCREENINGS												
J062488050	PUBLIC HEALTH SCREENINGS - SEP COMPLETION REPORT	100%										
RIVER ROAD INTERCEPTOR												
D942102907	100% DESIGN	0%										
D942102906	90% DESIGN	0%										
RTC @ CSO 108 (BG13)												
I035888050	RTC @ CSO 108 (BG13) - CD CERTIFICATION	100%										
I035886950	RTC @ CSO 108 (BG13) - AS-BUILT PLANS	100%										
I035886900	RTC @ CSO 108 (BG13) - SUBST COMPLETE	100%										
I035886000	RTC @ CSO 108 (BG13) - CONSTR.	100%										
I035884500	RTC @ CSO 108 (BG13) - AWARD	100%										
I035884050	RTC @ CSO 108 (BG13) - BID OPEN	100%										
RTC @ CSO SOUTHWESTERN OUTFALL SWOR2												
I050558050	RTC @ CSO SOUTHWESTERN OUTFALL SWOR2-CD CER...	100%										
I050556950	RTC @ CSO SOUTHWESTERN OUTFALL SWOR2 - AS-BUIL...	100%										
I050556900	RTC @ CSO SOUTHWESTERN OUTFALL SWOR2-SUBST. C...	100%										
I050552911	NEEDS ANALYSIS-RAIN GAUGE COVERAGE STUDY	100%										
I050552910	DATA FILTER HIKES PT, BUECHEL BR, BEARGRASS INT	100%										
I050552909	CONTROL STUDY INFLOW NORTHERN DITCH PS	100%										
I050552908	STUDY FLOOD PROTECTION MODE, CSOFT ADAPTATION	100%										
RTC SYSTEM FORECASTING												
H084052903	RTC SYSTEM FORECASTING - PROGRAM & DOCUMENTAT...	0%										
H084052902	RTC SYSTEM FORECASTING - DES MONITORING STATIONS	0%										
RUNNING FOX PUMP STATION ELIMINATION												
H091789000	RUNNING FOX PUMP STATION ELIMINATION- FORCE ACC...	13.85%										
H091786950	RUNNING FOX PUMP STATION ELIMINATION - AS-BUILTS	0%										



Activity ID	Activity Name	Schedule %	FY2009				FY2010				FY2011		
			FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1		
H091786000	RUNNING FOX PUMP STATION ELIMINATION - CONSTRUC...	0%											RUNNING FOX PUMP STATION ELIMINATION - CONSTRUCTION
H091784500	RUNNING FOX PUMP STATION ELIMINATION - AWARD	0%											◆ RUNNING FOX PUMP STATION ELIMINATION - AWARD
H091784050	RUNNING FOX PUMP STATION ELIMINATION - BID OPEN	0%											◆ RUNNING FOX PUMP STATION ELIMINATION - BID OPEN
H091784000	RUNNING FOX PUMP STATION ELIMINATION - AD DATE	0%											◆ RUNNING FOX PUMP STATION ELIMINATION - AD DATE
H091782000	RUNNING FOX PUMP STATION ELIMINATION - DESIGN	1.5%											◆ RUNNING FOX PUMP STATION ELIMINATION - DESIGN
SEP - POND CREEK TRAIL STREAM RESTORATION PROJECT													
H101412000	SEP - PC TRAIL STREAM RESTORATION-DESIGN	0%											SEP - PC TRAIL STREAM RESTORATION-DESIGN
SHIVELY INTERCEPTOR													
B062089000	SHIVELY INTERCEPTOR - FORCE ACCT	30.25%											SHIVELY INTERCEPTOR - FORCE ACCT
B062083000	SHIVELY INTERCEPTOR - EASEMENT	10.11%											SHIVELY INTERCEPTOR - EASEMENT
B062082916	SHIVELY-VAC, EXCAV, GROUNDWATER WELLS	0%											SHIVELY-VAC, EXCAV, GROUNDWATER WELLS
B062082914	PERTH CLYDE 80% DESIGN SUBMITTAL	0%											PERTH CLYDE 80% DESIGN SUBMITTAL
B062082913	PERTH CLYDE 100% SURVEY	0%											PERTH CLYDE 100% SURVEY
B062082912	PERTH CLYDE 50% DESIGN SUBMITTAL	0%											PERTH CLYDE 50% DESIGN SUBMITTAL
B062082911	PERTH CLYDE PREL ENG PLANS/REPORT	0%											PERTH CLYDE PREL ENG PLANS/REPORT
B062082910	PERTH CLYDE 50% SURVEY	0%											PERTH CLYDE 50% SURVEY
B062082909	SHIVELY INT - FINAL DESIGN 100%	0%											SHIVELY INT - FINAL DESIGN 100%
B062082908	SHIVELY INT - SURVEY 100%	100%											SHIVELY INT - SURVEY 100%
B062082907	SHIVELY INT - FINAL DESIGN 80%	100%											SHIVELY INT - FINAL DESIGN 80%
B062082906	SHIVELY INT - SURVEY 80%	100%											SHIVELY INT - SURVEY 80%
B062082905	SHIVELY INT - FINAL DESIGN 50%	100%											SHIVELY INT - FINAL DESIGN 50%
B062082904	SHIVELY INT - SURVEY 50%	100%											SHIVELY INT - SURVEY 50%
B062082903	SHIVELY INT - DESIGN 30%	100%											SHIVELY INT - DESIGN 30%
B062082902	SHIVELY INT - SURVEY 20%	100%											SHIVELY INT - SURVEY 20%
B062082901	SHIVELY INT - PRELIM ENG 100%	100%											SHIVELY INT - PRELIM ENG 100%
B062082001	SHIVELY INTERCEPTOR - NTP	100%											◆ SHIVELY INTERCEPTOR - NTP
B062082000	SHIVELY INTERCEPTOR - DESIGN	89.41%											◆ SHIVELY INTERCEPTOR - DESIGN
SINKING FORK INTERCEPTOR RELIEF SEWER													
H083578050	SINKING FORK INTERCEPTOR RELIEF SEWER-CD CERTIFY	0%											◆ SINKING FORK INTERCEPTOR RELIEF SEWER-CD CERTIFY
H083576950	SINKING FORK INTERCEPTOR RELIEF SEWER - AS-BUILT	0%											◆ SINKING FORK INTERCEPTOR RELIEF SEWER - AS-BUILT
H083576900	SINKING FORK INTERCEPTOR RELIEF SEWER-SUBST COMP	0%											◆ SINKING FORK INTERCEPTOR RELIEF SEWER-SUBST COMP
H083576000	SINKING FORK INTERCEPTOR RELIEF SEWER - CONSTR	100%											◆ SINKING FORK INTERCEPTOR RELIEF SEWER - CONSTR
H083574500	SINKING FORK INTERCEPTOR RELIEF SEWER - AWARD	100%											◆ SINKING FORK INTERCEPTOR RELIEF SEWER - AWARD
H083574050	SINKING FORK INTERCEPTOR RELIEF SEWER - BID OPEN	100%											◆ SINKING FORK INTERCEPTOR RELIEF SEWER - BID OPEN
H083574000	SINKING FORK INTERCEPTOR RELIEF SEWER - AD DATE	100%											◆ SINKING FORK INTERCEPTOR RELIEF SEWER - AD DATE
H083573000	SINKING FORK INTERCEPTOR RELIEF SEWER - ESM'TS	100%											◆ SINKING FORK INTERCEPTOR RELIEF SEWER - ESM'TS
H083572916	SURVEYING MILESTONES - EASEMENTS PLATS	100%											◆ SURVEYING MILESTONES - EASEMENTS PLATS
H083572915	SURVEYING MILESTONES - SURVEYING	100%											◆ SURVEYING MILESTONES - SURVEYING
H083572914	SINKING FORK INT RS - MYLARS	100%											◆ SINKING FORK INT RS - MYLARS
H083572913	SINKING FORK INT RS - CONTRACT DOCS	100%											◆ SINKING FORK INT RS - CONTRACT DOCS
H083572912	SINKING FORK INT RS - 100% PLAN SUBMITTAL	100%											◆ SINKING FORK INT RS - 100% PLAN SUBMITTAL
H083572911	SINKING FORK INT RS - 80% PLAN SUBMITTAL	100%											◆ SINKING FORK INT RS - 80% PLAN SUBMITTAL
H083572910	SINKING FORK INT RS - 50% PLAN SUBMITTAL	100%											◆ SINKING FORK INT RS - 50% PLAN SUBMITTAL
H083572909	SINKING FORK INT RS - EASEMENT APPRAISAL	100%											◆ SINKING FORK INT RS - EASEMENT APPRAISAL
H083572908	BWV - MYLARS	100%											◆ BWV - MYLARS
H083572907	BWV - CONTRACT DOCS	100%											◆ BWV - CONTRACT DOCS
H083572906	BWV - 100% PLAN SUBMITTAL	100%											◆ BWV - 100% PLAN SUBMITTAL

■ Remaining Level of Effort
 ■ Remaining Work
 ■ Milestone
 ■ Actual Work
 ■ Critical Remaining Work

Activity ID	Activity Name	Schedule %	FY2009				FY2010				FY2011		
			FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1		
H083572905	BWV - 80% PLAN SUBMITTAL	100%	BWV - 80% PLAN SUBMITTAL										
H083572904	BWV - ROCK CORES	100%	BWV - ROCK CORES										
H083572903	BWV - PLAN & BASEMENT REVISIONS	100%	BWV - PLAN & BASEMENT REVISIONS										
H083572002	SINKING FORK INTERCEPTOR RELIEF SEWER- NTP FINAL	100%	◆ SINKING FORK INTERCEPTOR RELIEF SEWER- NTP FINAL										
SINKING FORK REHAB PHASE 1 (B'WOOD VLG)													
H072948050	SINKING FORK REHAB PH1(B'WOOD VLG) - CD CERTIFY	100%	◆ SINKING FORK REHAB PH1(B'WOOD VLG) - CD CERTIFY										
H072946950	SINKING FORK REHAB PH1(B'WOOD VLG) - AS-BUILTS	100%	◆ SINKING FORK REHAB PH1(B'WOOD VLG) - AS-BUILTS										
H072946900	SINKING FORK REHAB PH1(B'WOOD VLG) - SUBST COMP	100%	◆ SINKING FORK REHAB PH1(B'WOOD VLG) - SUBST COMP										
H072946000	SINKING FORK REHAB PH1(B'WOOD VLG) - CONSTR	100%	SINKING FORK REHAB PH1(B'WOOD VLG) - CONSTR										
H072944500	SINKING FORK REHAB PH1(B'WOOD VLG) - AWARD	100%	◆ SINKING FORK REHAB PH1(B'WOOD VLG) - AWARD										
H072944050	SINKING FORK REHAB PH1(B'WOOD VLG) - BID OPEN	100%	◆ SINKING FORK REHAB PH1(B'WOOD VLG) - BID OPEN										
H072944000	SINKING FORK REHAB PH1(B'WOOD VLG) - AD DATE	100%	◆ SINKING FORK REHAB PH1(B'WOOD VLG) - AD DATE										
H072942800	SINKING FORK REHAB PH1 (B'WOOD VLG)-PUBL NOTIFY	100%	◆ SINKING FORK REHAB PH1 (B'WOOD VLG)-PUBL NOTIFY										
SOUTHEASTERN INTERCEPTOR RELIEF SEWER													
H083582908	SEI RELIEF SEWER - 100% DESIGN	0%	SEI RELIEF SEWER - 100% DESIGN										
H083582907	SEI RELIEF SEWER - 90% DESIGN	0%	SEI RELIEF SEWER - 90% DESIGN										
H083582906	SEI RELIEF SEWER - 60% DESIGN	0%	SEI RELIEF SEWER - 60% DESIGN										
H083582905	SEI RELIEF SEWER - 30% DESIGN	0%	SEI RELIEF SEWER - 30% DESIGN										
H083582904	SEI RELIEF SEWER - 10% DESIGN	0%	SEI RELIEF SEWER - 10% DESIGN										
H083582903	SEI RELIEF SEWER - PD - FINAL REPORT	100%	SEI RELIEF SEWER - PD - FINAL REPORT										
H083582902	SEI RELIEF SEWER - PD - PHASE 1 5% DRAFT REPORT	100%	SEI RELIEF SEWER - PD - PHASE 1 5% DRAFT REPORT										
H083582901	SEI RELIEF SEWER - PD - SUBMIT 10% DRAFT RPT	100%	SEI RELIEF SEWER - PD - SUBMIT 10% DRAFT RPT										
H083582001	SOUTHEASTERN INTERCEPTOR RELIEF SEWER - NTP	100%	◆ SOUTHEASTERN INTERCEPTOR RELIEF SEWER - NTP										
THURMAN DRIVE PS ELIMINATION													
B062998050	THURMAN DRIVE PS ELIMINATION - CD CERTIFICATION	100%	◆ THURMAN DRIVE PS ELIMINATION - CD CERTIFICATION										
B062996990	THURMAN DRIVE PS ELIMINATION - WARRANTY	0%	◆ THURMAN DRIVE PS ELIMINATION - WARRANTY										
B062996950	THURMAN DRIVE PS ELIMINATION - AS-BUILTS	100%	◆ THURMAN DRIVE PS ELIMINATION - AS-BUILTS										
B062996900	THURMAN DRIVE PS ELIMINATION - SUBST COMPLETE	100%	◆ THURMAN DRIVE PS ELIMINATION - SUBST COMPLETE										
WEST REGION EMERGENCY GENERATOR PHASE III													
H100849000	WEST REGION EMERG GENERATORS PH3-FACCT	0%	WEST REGION EMERG GENERATORS PH3-FACCT										
H100846000	WEST REGION EMERG GENERATORS PH3-CONST	0%	WEST REGION EMERG GENERATORS PH3-CONST										
H100844500	WEST REGION EMERG GENERATORS PH3 - AWARD	0%	◆ WEST REGION EMERG GENERATORS PH3 - AWARD										
H100844050	WEST REGION EMERG GENERATORS PH3 - BID OPEN	0%	◆ WEST REGION EMERG GENERATORS PH3 - BID OPEN										
H100844000	WEST REGION EMERG GENERATORS PH3 - AD DATE	0%	◆ WEST REGION EMERG GENERATORS PH3 - AD DATE										
WOODLAND HILLS PUMP STATION DIVERSION													
H091699000	WOODLAND HILLS PUMP STATION DIVERSION - FORCE A...	0%	WOODLAND HILLS PUMP STATION DIVERSION - FORCE A...										
H091696000	WOODLAND HILLS PUMP STATION DIVERSION - CONSTRU...	0%	WOODLAND HILLS PUMP STA										
H091694500	WOODLAND HILLS PUMP STATION DIVERSION - AWARD	0%	◆ WOODLAND HILLS PUMP STATIO										
H091694050	WOODLAND HILLS PUMP STATION DIVERSION - BID OPEN	0%	◆ WOODLAND HILLS PUMP STATION DIV										
H091694000	WOODLAND HILLS PUMP STATION DIVERSION - AD DATE	0%	◆ WOODLAND HILLS PUMP STATION DIV										
H091693000	WOODLAND HILLS PUMP STATION DIVERSION - EASEMENT	0%	WOODLAND HILLS PUMP STATION DIVERSION - EASEMENT										
H091692000	WOODLAND HILLS PUMP STATION DIVERSION - DESIGN	0%	WOODLAND HILLS PUMP STATION DIVERSION - DESIG										
ZABEL WAY PUMP STATION ELIMINATION													
C062956950	ZABEL WAY PS ELIMINATION - AS-BUILTS	100%	◆ ZABEL WAY PS ELIMINATION - AS-BUILTS										
C062956900	ZABEL WAY PS ELIMINATION - SUBSTANTIAL COMPLETE	100%	◆ ZABEL WAY PS ELIMINATION - SUBSTANTIAL COMPLETE										





APPENDIX B-1 - DISCHARGE WORK ORDERS-WATERS OF THE UNITED STATES



APPENDIX B-1
UNAUTHORIZED DISCHARGES
TO WATERS OF UNITED STATES
JULY 1, 2008 THROUGH JUNE 30, 2009

Associated Wastewater Treatment Plant Name	Associated Treatment Plant KPDES #	Overflow Location	Overflow Start Date & Time	Overflow Stop Date & Time	Volume of Overflow	Source Asset Type	Source Asset ID	Facility Discharges To	Receiving Stream	Cause of Overflow	Due To	WO #	Cleanup Efforts by MSD	Repair Efforts by MSD
HITE CREEK	KY0022420	Rest Area in Oldham County Along Northbound I-71	11/17/08 8:30 AM	11/17/08 11:30 AM	18,000 GAL	Sewer Main	102453-V	GROUND	SOUTH FORK HARRODS CREEK	STRUCTURAL FAILURE OF FORCE MAIN	STRUCTURAL FAILURE	844048	MSD CLEANED AND SANTIZED AREA	HAULING STATION TILL CONTRACTOR COMPLETES REPAIRS
HITE CREEK	KY0022420	6316 CHERRY LN	10/04/08 4:00 PM	10/04/08 04:20 PM	500 GAL	Sewer Main	102610-V	DITCH	FLOYDS FORK	FORCEMAIN BREAK IN FRONT OF 7812 BEECHDALE RD	STRUCTURAL FAILURE	829910	MSD CLEANED AND SANITIZED AREA	STATION TAKEN OUT OF SERVICE AND TANKER CALLED TIL REPAIRS ARE MADE
HITE CREEK	KY0022420	7302 FLOYDSBURG RD	07/31/08 7:15 AM	07/31/08 08:20 AM	13,000 GAL	Sewer Manhole	108958	CATCH BASIN	FLOYDS FORK	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	812565	NO CLEANUP REQUIRED	API HAULING TO PREVENT DISCHARGE SAP WORK ORDER #5192471
HITE CREEK	KY0022420	7302 FLOYDSBURG RD	05/08/09 5:50 PM	05/09/09 01:00 AM	15,900 GAL	Sewer Manhole	108958	CATCH BASIN	FLOYDS FORK	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	905966	MSD CLEANED & SANITIZED THE AREA	STORM FLOW RECEEDED
HITE CREEK	KY0022420	1831 WILLIAMSON CT	09/17/08 8:15 PM	09/17/08 08:30 PM	750 GAL	Sewer Manhole	40764	DITCH	FLOYDS FORK	STATION WENT DOWN DUE TO POWER OVERLOAD	POWER OUTAGE (LG&E)	823985	MSD CLEANED & SANITIZED THE AREA	ELECTRICIAN RESTORED POWER
HITE CREEK	KY0022420	1831 WILLIAMSON CT	12/05/08 11:42 AM	12/05/08 01:02 PM	2,000 GAL	Sewer Manhole	40764	DITCH	FLOYDS FORK	PUMP OBSTRUCTED BY ROCK	MECHANICAL FAILURE	853616	API VACTORED SEWAGE, DEBRIS REMOVED & LIME SPREAD	REMOVED OBSTRUCTION & REPLACED PUMP
HITE CREEK	KY0022420	1901 WILLIAMSON CT	09/15/08 1:45 PM	09/15/08 03:00 PM	200 GAL	Sewer Manhole	40765	GROUND	CHENOWETH RUN	POWER OUTAGE PUMP STATION DOWN	POWER OUTAGE (LG&E)	823488	MSD PERSONNEL CLEANED AND SANITIZED THE IMPACTED AREA	MSD OPERATION MADE THE REPAIRS AND FIXED THE PROBLEM
HITE CREEK	KY0022420	3700 CYPRESS SPRINGS PL	11/22/08 11:00 AM	11/22/08 01:00 PM	9,000 GAL	Sewer Main	45214-AG	GROUND	FLOYDS FORK	STRUCTURAL FAILURE OF FORCE MAIN	STRUCTURAL FAILURE	851394	MSD PERSONELL CLEANED AND SANITIZED THE AREA	HAULING STATION TILL REPAIRS ARE MADE TO FORCE MAIN
HITE CREEK	KY0022420	5500 HITT RD	02/08/09 3:15 AM	02/08/09 05:00 AM	50,000 GAL	Sewer Treatment Plant	MSD0202	STREAM	HITE CREEK	ELECTRICAL PROBLEMS @ MSD	BYPASS AT WQTC	870195	LIME AND SANITIZE AREA OF DISCHARGE	TROUBLE SHOOTING TO RESOLVE PROBLEM PLANT RUNNING ON BACKUP GENERATORS
HITE CREEK	KY0022420	5500 HITT RD	03/04/09 1:29 PM	03/04/09 01:45 PM	1 GAL	Sewer Treatment Plant	MSD0202	STREAM	HITE CREEK	DEFOAMER TOO LOW	BYPASS AT WQTC	879926	NO CLEANUP- FOAM DISSOLVED IN WATER	DEFOAMER WAS INCREASED
HITE CREEK	KY0022420	7511 MEADOW STREAM CT	09/16/08 7:30 PM	09/16/08 09:00 PM	25 GAL	Sewer Lift Station	MSD1082-PS	GROUND	FLOYDS FORK	MECHANICAL FAILURE OF GENERATOR	POWER OUTAGE (LG&E)	823779	MSD RAKED & LIMED THE AREA	CALLED CONTRACTOR FOR REPAIRS
HITE CREEK	KY0022420	7512 KAVANAUGH RD	01/30/09 5:00 AM	02/01/09 07:30 PM	43,500 GAL	Sewer Lift Station	MSD1085-PS	GROUND	HITE CREEK	POWER OUTAGE FROM ICE STORM	POWER OUTAGE (LG&E)	868350	NO CLEAN UP REQUIRED	LG&E POWER RESTORED TO THE AREA
HITE CREEK	KY0022420	7250 FLOYDSBURG RD	12/24/08 12:28 PM	12/24/08 02:30 PM	3,600 GAL	Sewer Lift Station	MSD1086-PS	DITCH	FLOYDS FORK	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	858959	NO CLEAN UP REQUIRED	HAULING TO PREVENT FURTHER DISCHARGE
BERRYTOWN	KY0036501	1203 HEAFER RD	09/23/08 8:35 PM	09/23/08 10:10 PM	2,375 GAL	Sewer Treatment Plant	MSD0209	STREAM	FLOYDS FORK	LG&E CUT POWER TO REPAIR STORM DAMAGED UTILITY POLES	BYPASS AT WQTC	825902	MSD PERSONNEL CLEANED AND SANITIZED THE AREA	GENERATOR PLACED TO PUT WWTP PLANT BACK IN SERVICE WO# 825901 SAP WO# 5196202
MCNEELY LAKE	KY0029416	10300 ROD N REEL RD	01/28/09 8:30 AM	01/28/09 08:50 AM	1,000 GAL	Sewer Treatment Plant	MSD0228	STREAM	PENNSYLVANIA RUN	LOSS OF POWER FROM LG&E DUE TO ICE	BYPASS AT WQTC	868047	MSD CLEANED & SANITIZED AREA	LG&E RESTORRED POWER TO STP, RESUME NORMAL SERVICE
MCNEELY LAKE	KY0029416	10300 ROD N REEL RD	03/30/09 10:00 AM	03/30/09 02:40 PM	30,300 GAL	Sewer Treatment Plant	MSD0228	STREAM	PENNSYLVANIA RUN	HAD TO BYPASS SECONDARY CLARIFIER FOR MAINTENANCE INSPECTION OF COLLECTION ARM. WATER IS STILL RECEIVING DISINFECTION (CL2 & SO2)	BYPASS AT WQTC	889653	NO DEBRIS	MAINTENANCE INSPECTION COMPLETED
STARVIEW	KY0031712	423 BERMUDA LN	06/18/09 2:17 PM	06/18/09 03:00 PM	1,075 GAL	Sewer Manhole	31122	GROUND	CHENOWETH RUN	LOSS OF LG&E POWER DUE TO STORM IN THE AREA	POWER OUTAGE (LG&E)	921154	MSD CLEANED & SANITIZED THE AREA	PLACED GENERATOR TO RESTORE POWER
STARVIEW	KY0031712	423 BERMUDA WAY	02/10/09 10:40 PM	02/10/09 11:25 PM	8,754 GAL	Sewer Treatment Plant	MSD0247	STREAM	CHENOWETH RUN	BYPASSED DUE TO CAPACITY OF STORM FLOW	BYPASS AT WQTC	870868	NO CLEANUP REQUIRED	STORM FLOW RECEEDED
STARVIEW	KY0031712	423 BERMUDA WAY	06/18/09 2:17 PM	06/18/09 03:00 PM	1,075 GAL	Sewer Treatment Plant	MSD0247	STREAM	CHENOWETH RUN	LOSS OF POWER FROM LG&E THUNDER STORM	BYPASS AT WQTC	921140	MSD CLEANED & SANITIZED THE AREA	PLACED GENERATOR, 105KW, MSD#0020

APPENDIX B-1
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Associated Wastewater Treatment Plant Name	Associated Treatment Plant KPDES #	Overflow Location	Overflow Start Date & Time	Overflow Stop Date & Time	Volume of Overflow	Source Asset Type	Source Asset ID	Facility Discharges To	Receiving Stream	Cause of Overflow	Due To	WO #	Cleanup Efforts by MSD	Repair Efforts by MSD
JEFFERSONTOWN	KY0025194	12401 SYCAMORE STATION PL	04/08/09 4:20 PM	04/08/09 05:20 PM	300 GAL	Sewer Manhole	112341	DITCH	POPE LICK	CONTRACTOR LEFT PIPE PLUG IN INFLUENT LINE CAUSING AN OBSTRUCTION	OBSTRUCTION-NOT GREASE / ROOTS	894688	MSD PERSONNEL CLEANED AND SANITIZED THE AREA	CONTRACTOR REMOVED PIPE PLUG & RESTORE LINE TO SERVICE UNOBSTRUCTED
JEFFERSONTOWN	KY0025194	3258 RUCKRIEGEL PKY	06/18/09 12:30 PM	06/18/09 12:45 PM	375 GAL	Sewer Manhole	28173	GROUND	CHENOWETH RUN	LACK OF SYSTEM CAPACTIY-HEAVY RAIN	LACK OF SYSTEM CAPACITY	921149	NO CLEAN-UP NEEDED DUE TO MAGNITUDE OF STORM	THIS LOCATION IS IN THE SANITARY SEWER DISCHARGE PLAN SUBMITTED ON DECEMBER 31, 2008
JEFFERSONTOWN	KY0025194	3400 DELL RD	12/24/08 3:26 PM	12/24/08 04:02 PM	150 GAL	Sewer Manhole	28414	GROUND	CHENOWETH RUN	LACK OF SYSTEM CAPACITY-HEAVY RAIN	LACK OF SYSTEM CAPACITY	859007	NO CLEANUP REQUIRED, NO IMPACT OBSERVED	THIS LOCATION WILL BE IN THE SANITARY SEWER DISCHARGE PLAN SUBMITTED DECEMBER 31, 2008
JEFFERSONTOWN	KY0025194	4710 CHENOWETH RUN RD	12/24/08 3:17 PM	12/24/08 07:40 PM	6,575 GAL	Sewer Manhole	64096	STREAM	CHENOWETH RUN	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	859009	NO DEBRIS	SITE FOUND DURING RAIN EVENT RECON- WILL BE MONITORED & EVALUATED FOR REPAIR
JEFFERSONTOWN	KY0025194	4606 DOVE LAKE CT	01/29/09 10:32 AM	01/31/09 04:00 AM	43,800 GAL	Sewer Manhole	86109	GROUND	RAZOR BRANCH	LOSS OF LG&E POWER DUE TO ICE STORM	POWER OUTAGE (LG&E)	868192	CLEAN UP NOT POSSIBLE DUE TO SNOW	LG&E RESTORED POWER TO THE AREA
JEFFERSONTOWN	KY0025194	11804 CHIPPEWA RIDGE LN	07/04/08 9:00 PM	07/05/08 01:00 AM	6,000 GAL	Sewer Manhole	92061	GROUND	CHENOWETH RUN	LACK OF SYSTEM CAPACITY DUE TO RAIN EVENT IN AREA	LACK OF SYSTEM CAPACITY	803786	CLEANED AND SANITIZED THE AREA	PUMPED WELL DOWN
JEFFERSONTOWN	KY0025194	11600 DIODE CT	06/18/09 6:25 PM	06/18/09 07:30 PM	12,000 GAL	Sewer Manhole	94940	DITCH	CHENOWETH RUN	ELECT. CONTROL FUSE BLOWN, PHASE MONITOR FAILED	ELECTRICAL PROBLEMS AT MSD	921284	NOT FEASIBLE	REPLACED CONTROL FUSE, REPLACED PHASE MONITOR, RETURNED TO SERVICE
JEFFERSONTOWN	KY0025194	9822 GALENE DR	03/29/09 4:31 PM	03/29/09 04:49 PM	10 GAL	Sewer Service Line	JT00939659	GROUND	CHENOWETH RUN	OBSTRUCTION IN THE MAIN SEWER	ROOTS	889536	MSD PERSONNEL CLEANED AND SANITIZED THE IMPACTED AREA	WORK ORDERS 889538 AND 889610 - FLUSHED AND ROOT CUT THE MAIN SEWER
JEFFERSONTOWN	KY0025194	10725 OLD TAYLORSVILLE RD	07/04/08 7:58 PM	07/05/08 05:22 AM	707,000 GAL	Sewer Treatment Plant	MSD0255	STREAM	CHENOWETH RUN	LACK OF SYSTEM CAPACITY CAUSED BY RAIN EVENT	BLENDING AT JTOWN WQTC	803780	NO CLEANUP REQUIRED, EFFLUENT RECEIVED PRIMARY AND UV TREATMENT	NEGOTIATIONS ARE UNDERWAY TO ALLOW TEMPORARY BLENDING AT THIS LOCATION
JEFFERSONTOWN	KY0025194	10725 OLD TAYLORSVILLE RD	07/04/08 10:40 PM	07/04/08 10:43 PM	500 GAL	Sewer Treatment Plant	MSD0255	STREAM	CHENOWETH RUN	SURGE IN PLANT FLOW CAUSED A DISCHARGE	BYPASS AT WQTC	803781	MSD CONTRACTOR CLEANED AND SANITIZED AREA	CONTINUE TO MONITOR PLANT FLOW TILL RAIN EVENT ENDS
JEFFERSONTOWN	KY0025194	10725 OLD TAYLORSVILLE RD	12/24/08 7:15 AM	12/24/08 11:57 AM	3,442,891 GAL	Sewer Treatment Plant	MSD0255	STREAM	CHENOWETH RUN	LACK OF SYSTEM CAPACITY CUASED BY RAIN EVENT	BLENDING AT JTOWN WQTC	858947	NO CLEAN UP REQUIRED; BLENDED FLOW RECEIVED PRIMARY AND UV TREATMENT	NEGOTIATIONS ARE UNDERWAY TO ALLOW TEMPORARY BLENDING AT THIS LOCATION
JEFFERSONTOWN	KY0025194	10725 OLD TAYLORSVILLE RD	01/28/09 5:10 AM	01/28/09 04:51 PM	547,071 GAL	Sewer Treatment Plant	MSD0255	STREAM	CHENOWETH RUN	LACK OF SYSTEM CAPACITY CAUSED BY ICE AND SNOW STORM	BLENDING AT JTOWN WQTC	868576	NO CLEAN UP REQUIRED	NEGOTIATIONS ARE UNDERWAY TO ALLOW TEMPORARY BLENDING AT THIS LOCATION
JEFFERSONTOWN	KY0025194	10725 OLD TAYLORSVILLE RD	02/10/09 8:30 PM	02/10/09 09:22 PM	440 GAL	Sewer Treatment Plant	MSD0255	STREAM	CHENOWETH RUN	LACK OF SYSTEM CAPACITY DUE TO RAIN EVENT	BLENDING AT JTOWN WQTC	870918	NO CLEANUP ACTIVITY REQUIRED	NEGOTIATIONS ARE UNDERWAY TO ALLOW BLENDING AT THIS LOCATION
JEFFERSONTOWN	KY0025194	10725 OLD TAYLORSVILLE RD	02/11/09 4:26 PM	02/11/09 09:01 PM	51,664 GAL	Sewer Treatment Plant	MSD0255	STREAM	CHENOWETH RUN	BLENDING EVENT DUE TO STORM FLOW	BLENDING AT JTOWN WQTC	871129	NO CLEAN UP REQUIRED	NEGOTIATIONS ARE UNDERWAY TO ALLOW BLENDING AT THIS LOCATION
JEFFERSONTOWN	KY0025194	10725 OLD TAYLORSVILLE RD	04/03/09 5:54 AM	04/03/09 12:25 PM	219,479 GAL	Sewer Treatment Plant	MSD0255	STREAM	CHENOWETH RUN	LACK OF SYSTEM CAPACITY DUE TO RAIN EVENT	BLENDING AT JTOWN WQTC	893523	NO CLEAN UP REQUIRED	NEGOTATIONS ARE UNDERWAY TO ALLOW BLENDING AT THIS LOCATION
JEFFERSONTOWN	KY0025194	10725 OLD TAYLORSVILLE RD	04/19/09 3:26 PM	04/19/09 11:57 PM	679,890 GAL	Sewer Treatment Plant	MSD0255	STREAM	CHENOWETH RUN	RAIN EVENT IN AREA	BLENDING AT JTOWN WQTC	897772	CLEANUP NOT POSSIBLE, BLENDED FLOW FROM PRIMARY TO UV DISINFECTION	NEGOTIATIONS ARE UNDERWAY TO ALLOW TEMPORARY BLENDING AT THIS LOCATION
JEFFERSONTOWN	KY0025194	10725 OLD TAYLORSVILLE RD	04/20/09 7:14 AM	04/20/09 01:13 PM	57,951 GAL	Sewer Treatment Plant	MSD0255	STREAM	CHENOWETH RUN	RAIN EVENT IN AREA	BLENDING AT JTOWN WQTC	898040	CLEANUP NOT POSSIBLE, BLENDED FLOW FROM PRIMARY TO UV DISINFECTION	NEGOTIATIONS ARE UNDERWAY TO ALLOW TEMPORARY BLENDING AT THIS LOCATION
JEFFERSONTOWN	KY0025194	10725 OLD TAYLORSVILLE RD	05/08/09 4:47 PM	05/09/09 08:38 AM	1,934,989 GAL	Sewer Treatment Plant	MSD0255	STREAM	CHENOWETH RUN	RAIN EVENT IN AREA	BLENDING AT JTOWN WQTC	905866	NO CLEANUP NECESSARY	NEGOTIATIONS ARE UNDERWAY TO ALLOW TEMPORARY BLENDING AT THIS LOCATION
JEFFERSONTOWN	KY0025194	10725 OLD TAYLORSVILLE RD	05/18/09 2:29 AM	05/18/09 03:10 AM	62,383 GAL	Sewer Treatment Plant	MSD0255	STREAM	CHENOWETH RUN	POWER FAIL LG&E (BLIP) CAUSED DEVICENET TO SHUT DOWN	BYPASS AT WQTC	908502	NOT POSSIBLE, FLOWS DIRECT TO CREEK	PUT UV IN MANUAL & RESET DEVICE NET TO RESTORE UV SYSTEM TO SERVICE

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Associated Wastewater Treatment Plant Name	Associated Treatment Plant KPDES #	Overflow Location	Overflow Start Date & Time	Overflow Stop Date & Time	Volume of Overflow	Source Asset Type	Source Asset ID	Facility Discharges To	Receiving Stream	Cause of Overflow	Due To	WO #	Cleanup Efforts by MSD	Repair Efforts by MSD
JEFFERSONTOWN	KY0025194	10725 OLD TAYLORSVILLE RD	06/10/09 6:15 PM	06/10/09 06:37 PM	387 GAL	Sewer Treatment Plant	MSD0255	STREAM	CHENOWETH RUN	ELECTRICAL FAILURE OF #1 PUMP @ THE INFLUENT PUMP STATION	BLENDING AT JTOWN WQTC	916888	NO CLEAN UP NECESSARY	RESET #1 PUMP AND RESTARTED PUMP AND BLEND STOPPED
JEFFERSONTOWN	KY0025194	10725 OLD TAYLORSVILLE RD	06/11/09 11:14 PM	06/11/09 11:47 PM	3,289 GAL	Sewer Treatment Plant	MSD0255	STREAM	CHENOWETH RUN	PUMP #4 WOULDN'T START	BLENDING AT JTOWN WQTC	917355	NO CLEANUP	REROUTED ELECTRICAL CABLE TO INFLUENT PUMP ENABLING OPERATION OF THE PLANT
JEFFERSONTOWN	KY0025194	10725 OLD TAYLORSVILLE RD	06/18/09 11:44 AM	06/19/09 12:38 AM	1,048,935 GAL	Sewer Treatment Plant	MSD0255	STREAM	CHENOWETH RUN	RAIN EVENT IN AREA	BLENDING AT JTOWN WQTC	920946	NO CLEANUP NECESSARY	NEGOTIATIONS ARE UNDERWAY TO ALLOW TEMPORARY BLENDING AT THIS LOCATION
JEFFERSONTOWN	KY0025194	10725 OLD TAYLORSVILLE RD	06/18/09 7:37 PM	06/18/09 08:45 PM	377,559 GAL	Sewer Treatment Plant	MSD0255	STREAM	CHENOWETH RUN	UV SYSTEM MOTHERBOARD FAILED	BYPASS AT WQTC	921262	NO CLEANUP	REPLACED MOTHERBOARD & RETURNED TO SERVICE
JEFFERSONTOWN	KY0025194	11600 DIODE CT	06/18/09 6:25 PM	06/18/09 07:30 PM	3,000 GAL	Sewer Lift Station	MSD1081-PS	DITCH	CHENOWETH RUN	CONTROL FUSE BLOWN, PHASE MONITOR FAILED	ELECTRICAL PROBLEMS AT MSD	921285	NOT FEASIBLE	REPLACED CONTROL FUSE, REPLACED PHASE MONITOR
SILVER HEIGHTS	KY0028801	9412 SLAYTON CT	01/29/09 8:30 PM	01/31/09 07:30 PM	13,800 GAL	Sewer Manhole	61683	DITCH	MUD CREEK	LOSS OF LG&E POWER DUE TO ICE STORM	POWER OUTAGE (LG&E)	868293	MSD RAKED, SANITIZED & HAULED DEBRIS AWAY. COULD NOT SPREAD LIME DUE TO HORSES IN THE AREA AT THE P/O REQUEST. □ SAP CLEANUP #5204485	BEGAN HAULING TO PREVENT ADDITIONAL OVERFLOW, FOLLOWED BY PLACING A GENERATOR ON SITE TO OPERATE PLANT.
SILVER HEIGHTS	KY0028801	9412 SLAYTON CT	10/13/08 11:30 AM	10/13/08 01:50 PM	223,190 GAL	Sewer Treatment Plant	MSD0258	STREAM	MUD CREEK	MECHANICAL FAILURE OF ROTOMETER ON DE-CHLORINATION	BYPASS AT WQTC	831889	NO CLEANUP POSSIBLE	ROTOMETER REPAIRED, SAP WO# 4013435
SILVER HEIGHTS	KY0028801	9412 SLAYTON CT	10/20/08 10:00 AM	10/20/08 01:40 PM	35,169 GAL	Sewer Treatment Plant	MSD0258	STREAM	MUD CREEK	LOUISVILLE WATER COMPANY SYSTEM DISRUPTED.	BYPASS AT WQTC	833368	NO DEBRIS	CALLED LOUISVILLE WATER CO. TO REPAIR, ALSO MSD MECHANIC HOOKED UP AN ALTERNATE WATER SUPPLY.
CHENOWETH HILLS	KY0029459	4305 ST RENE CT	09/14/08 3:00 PM	09/14/08 05:00 PM	600 GAL	Sewer Treatment Plant	MSD0263	STREAM	CHENOWETH RUN	POWER FAILUER CAUSED BY WIND STORM	BYPASS AT WQTC	823275	NO CLEAN UP REQUIRED	GENERATOR PLACED TO RUN TREATMENT PLANT TIL POWER IS RESTORED
CHENOWETH HILLS	KY0029459	4305 ST RENE CT	12/01/08 7:30 PM	12/02/08 07:30 AM	35,333 GAL	Sewer Treatment Plant	MSD0263	STREAM	CHENOWETH RUN	RAN OUT OF CHLORINE	BYPASS AT WQTC	852911	NO CLEANUP REQUIRED	REPLACED CHLORINE TANK
CHENOWETH HILLS	KY0029459	4305 ST RENE CT	02/11/09 12:05 AM	02/11/09 01:10 AM	8,143 GAL	Sewer Treatment Plant	MSD0263	STREAM	CHENOWETH RUN	BYPASSED DUE TO CAPACITY OF STORM FLOW	BYPASS AT WQTC	870870	NO CLEANUP REQUIRED	A SOLUTION FOR THIS LOCATION HAS BEEN DEVELOPED AND IS INCLUDED IN THE IOAP SUBMITTED DECEMBER 2008
CHENOWETH HILLS	KY0029459	4305 ST RENE CT	02/12/09 6:50 AM	02/12/09 07:30 AM	2,000 GAL	Sewer Treatment Plant	MSD0263	STREAM	CHENOWETH RUN	DEAD ANIMAL & DEBRIS FROM RAIN, CLOG IN THE SPLITTER BOX	BYPASS AT WQTC	871157	REMOVED DEBRIS, CLEANED & SANITIZED THE AREA	REMOVED DEBRIS
CHENOWETH HILLS	KY0029459	4305 ST RENE CT	05/08/09 7:44 AM	05/08/09 08:46 AM	21,454 GAL	Sewer Treatment Plant	MSD0263	STREAM	CHENOWETH RUN	LACK OF SYSTEM CAPACITY	BYPASS AT WQTC	905614	MSD PERSONNEL CLEANED & SANITIZED THE AREA.	STORM FLOW RECEDED
YORKTOWN	KY0036323	7418 YORKTOWN RD	07/03/08 8:00 AM	07/03/08 08:05 AM	10 GAL	Sewer Treatment Plant	MSD0271	DITCH	NORTHERN DITCH	SOLIDS INVENTORY AT PLANT WAS TOO HIGH	BYPASS AT WQTC	803647	CONTRACTOR CLEANED & SANITIZED THE AREA	HAD PLANT BIOSOLIDS HAULED THEN STARTED WASTING BIOSOLIDS.
DEREK R. GUTHRIE	KY0078956	1714 LAMKINS CT	05/08/09 5:00 PM	05/09/09 01:00 AM	5,000 GAL	Sewer Manhole	04699-W	GROUND	MILL CREEK	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	906012	NO DEBRIS	STORM FLOW RECEDED
DEREK R. GUTHRIE	KY0078956	1714 LAMKINS CT	06/18/09 1:00 PM	06/18/09 04:00 PM	2,000 GAL	Sewer Manhole	04699-W	GROUND	MILL CREEK	STREET FLOODED	LACK OF SYSTEM CAPACITY	921294	NO CLEAN UP NEEDED	WATER RECEDED
DEREK R. GUTHRIE	KY0078956	9707 EL PRADO ST	01/29/09 12:00 PM	01/29/09 12:15 PM	25 GAL	Sewer Manhole	09729	DITCH	POND CREEK	TOO MUCH HEAD WHEN PUMPS STARTED, SURCHARGE SPILLED	LACK OF SYSTEM CAPACITY	868291	SPREAD LIME AROUND THE AREA	TURNT ONE PUMP OFF TILL SURCHARGE SUBSIDED.
DEREK R. GUTHRIE	KY0078956	6221 JOHNSONTOWN RD	11/12/08 7:32 PM	11/12/08 09:43 PM	75 GAL	Sewer Manhole	100608	DITCH	MILL CREEK	GREASE BLOCKAGE IN THE SEWER	GREASE BLOCKAGE	843355	MSD PERSONNEL CLEANED AND SANITIZED THE IMPACTED AREA	WORK ORDERS 843357 & 843449 - FLUSHED THE MAIN SEWER
DEREK R. GUTHRIE	KY0078956	9317 LANTANA DR	12/09/08 2:15 PM	12/09/08 03:00 PM	1,125 GAL	Sewer Manhole	25484	STREAM	PENNSYLVANIA RUN	LOST CONTROLS TO STATION	ELECTRICAL PROBLEMS AT MSD	854358	NO DEBRIS	ELECTRICIAN MADE REPAIRS

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DEREK R. GUTHRIE	KY0078956	7801 EDSEL LN	03/06/09 8:50 AM	03/06/09 09:00 AM	100 GAL	Sewer Manhole	26954	GROUND	FERN CREEK	GREASE IN WET WELL HINDERED LEVEL CONTROLS	GREASE BLOCKAGE	879971	MSD CLEANED & SANITIZED THE AREA	CONTRACTOR IS VACTORING GREASE IN THE WET WELL AND THE STREAM
DEREK R. GUTHRIE	KY0078956	6810 SANDSTONE BLVD	05/08/09 8:00 PM	05/08/09 11:00 PM	360 GAL	Sewer Manhole	29948	GROUND	FERN CREEK	LACK OF SYSTEM CAP. DUE TO HEAVY RAIN	LACK OF SYSTEM CAPACITY	906288	CREATE WORK ORDER FOR MAINTENANCE TO CLEAN & SANITIZE AREA	THIS LOCATION WILL BE IN THE SANITARY SEWER DISCHARGE PLAN TO BE SUBMITTED BY DECEMBER 31,2008
DEREK R. GUTHRIE	KY0078956	6810 SANDSTONE BLVD	06/18/09 11:50 AM	06/18/09 03:30 PM	6,600 GAL	Sewer Manhole	29948	GROUND	FERN CREEK	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	921021	MSD PERSONNEL CLEANED AND SANITIZED THE IMPACTED AREA	A SOLUTION FOR THIS LOCATION IS INCLUDED IN THE SANITARY SEWER DISCHARGE PLAN SUBMITTED DECEMBER 2008
DEREK R. GUTHRIE	KY0078956	7507 MICHAEL DR	01/23/09 6:47 PM	01/23/09 08:01 PM	10 GAL	Sewer Manhole	31345	GROUND	PENNSYLVANIA RUN	ROOTS IN MAIN SEWER	ROOTS	866114	MSD PERSONNEL CLEANED AND SANITIZED THE IMPACTED AREA	WORK ORDER 867861 - ROOT CUT THE MAIN SEWER
DEREK R. GUTHRIE	KY0078956	4307 SOUTH RIDGE DR	09/15/08 2:45 PM	09/15/08 03:50 PM	50 GAL	Sewer Manhole	62023	GROUND	POND CREEK	POWER OUTAGE PUMP STATION NOT WORKING	POWER OUTAGE (LG&E)	823473	MSD PERSONNEL CLEANED AND SANITIZED THE IMPACTED AREA	OPEARATIONS REPAIRED THE PUMP STATION
DEREK R. GUTHRIE	KY0078956	7000 VENETIAN WAY	06/18/09 12:02 PM	06/18/09 12:40 PM	3,800 GAL	Sewer Manhole	74835	GROUND	BIG RUN	LOSS OF LG&E POWER DUE TO STORM IN THE AREA	POWER OUTAGE (LG&E)	921204	MSD CLEANED & SANITIZED AREA	GENERATOR PLACED @ STATION TILL POWER RESTORED
DEREK R. GUTHRIE	KY0078956	2601 PIONEER RD	05/08/09 5:00 PM	05/08/09 08:00 PM	5,000 GAL	Sewer Manhole	81814-W	DITCH	MILL CREEK	RAIN EVENT LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	906011	NO DEBRIS	A SOLUTION FOR THIS LOCATION IS INCLUDED IN THE INTEGRATED OVERFLOW ABATEMENT PLAN
DEREK R. GUTHRIE	KY0078956	7801 EDSEL LN	03/06/09 8:50 AM	03/06/09 09:00 AM	100 GAL	Sewer Manhole	92098	GROUND	FERN CREEK	GREASE IN WET WELL HINDERED FUNCTION OF LEVEL CONTROLS.	GREASE BLOCKAGE	879976	MSD CLEANED & SANITIZED AREA	CONTRACTOR VACTORED GREASE IN WET WELL & CLEANED STREAM
DEREK R. GUTHRIE	KY0078956	7801 EDSEL LN	03/06/09 8:50 AM	03/06/09 09:00 AM	100 GAL	Sewer Manhole	92099	GROUND	FERN CREEK	GREASE IN WET WELL HINDERED FUNCTION OF LEVEL CONTROLS	GREASE BLOCKAGE	879980	MSD CLEANED & SANITIZED THE AREA	CONTRACTOR VACTORED WET WELL & CLEANED THE STREAM
DEREK R. GUTHRIE	KY0078956	7804 EDSEL LN	03/06/09 8:50 AM	03/06/09 09:00 AM	100 GAL	Sewer Manhole	94009	DITCH	FERN CREEK	GREASE IN WET WELL HINDERED LEVEL CONTROLS	GREASE BLOCKAGE	879974	MSD CLEANED & SANITIZED THE AREA	CONTRACTOR VACTORED GREASE IN WET WELL & THE STREAM
DEREK R. GUTHRIE	KY0078956	3816 DIXIE HWY	12/05/08 9:55 AM	12/05/08 09:56 AM	300 GAL	Sewer Lift Station	MSD0048-PS	GROUND	UPPER MILL CREEK	FORCE MAIN BREAK	MECHANICAL FAILURE	853595	MSD CLEANED & SANITIZED THE AREA	CALLED CHEROKEE CONTRUCTION FOR REPAIRS
DEREK R. GUTHRIE	KY0078956	1720 SANDERS LN	01/28/09 12:45 AM	01/28/09 01:30 PM	7,650 GAL	Sewer Lift Station	MSD0053-PS	GROUND	UPPER MILL CREEK	LOSS OF LG&E POWER DUE TO ICE STORM	POWER OUTAGE (LG&E)	868645	MSD CLEANED, SANITIZED & SPREAD LIME IN THE AREA	BEGAN HAULING TO ELIMINATE OVERFLOW
DEREK R. GUTHRIE	KY0078956	10212 CAVEN AVE	09/09/08 11:10 AM	09/09/08 11:40 AM	40 GAL	Sewer Lift Station	MSD0133-PS	GROUND	MUD CREEK	SEWAGE BACK FLOWED FROM LINE AS CHECK VALVE WAS BEING REPAIRED.	MECHANICAL FAILURE	822407	AREA DISINFECTED WITH LIME	CHECK VALVE REPAIRS COMPLETE
DEREK R. GUTHRIE	KY0078956	423 ECHAPPE LN	09/16/08 1:15 AM	09/16/08 04:00 AM	49,500 GAL	Sewer Lift Station	MSD0140-PS	DITCH	BEE LICK CREEK	POWER FAIL DUE TO STRONG WINDS IN THE AREA	POWER OUTAGE (LG&E)	823551	MSD CLEANED & SANITIZED THE AREA	HAULED TO STOP THE OVERFLOW; WO#823669
DEREK R. GUTHRIE	KY0078956	7201 OUTER LOOP	09/15/08 12:10 AM	09/15/08 02:45 AM	3,875 GAL	Sewer Lift Station	MSD0180-PS	DITCH	PENNSYLVANIA RUN	LGE POWER FAILURE	POWER OUTAGE (LG&E)	823396	MSD SCRUBBED & SANITIZED THE AREA	HAULING STATION #823561
DEREK R. GUTHRIE	KY0078956	11621 LOWER RIVER RD	08/20/08 12:15 AM	08/20/08 07:15 AM	3,791,667 GAL	Sewer Treatment Plant	MSD0277	STREAM	OHIO RIVER	#2 BLOWER,BREAKER TRIPPED ON OVERLOAD	BYPASS AT WQTC	817918	PIPE DISCHARGE SUBMERGED - NO CLEANUP	RESET BREAKER ON #2 BLOWER.
DEREK R. GUTHRIE	KY0078956	11621 LOWER RIVER RD	08/20/08 9:00 AM	08/20/08 10:40 AM	902,778 GAL	Sewer Treatment Plant	MSD0277	STREAM	OHIO RIVER	FOUND HYPOCHLORITE LEAKING FROM GROUND NEAR W2 BUILDING ON PAVEMENT. EFFLUENT DISCHARGED WITHOUT FULL TREATMENT	BYPASS AT WQTC	817920	CONTRACTOR VACTORED HYPOCHLORITE FROM GROUND THEN CLEANED & SANITIZED AREA.	API CONTRACTOR VACTORED HYPOCHLORITE UP & DISCHARGED BACK INTO MSD SEWAGE SYSTEM
DEREK R. GUTHRIE	KY0078956	11621 LOWER RIVER RD	08/21/08 7:15 AM	08/21/08 08:30 AM	520,833 GAL	Sewer Treatment Plant	MSD0277	STREAM	OHIO RIVER	BACKUP CHEMICAL FEED HOSES STARTED TO LEAK	BYPASS AT WQTC	818054	MSD CLEANED & SANITIZED THE AREA	MAINTENANCE IS INSTALLING A NEW FITTING ON CHEMICAL FEED LINE & PURCHASING NEW HOSES. SAP WO#4013224
DEREK R. GUTHRIE	KY0078956	11621 LOWER RIVER RD	09/14/08 4:20 PM	09/14/08 04:25 PM	69,444 GAL	Sewer Treatment Plant	MSD0277	STREAM	OHIO RIVER	LGE POWER FAILURE	BYPASS AT WQTC	823278	NO CLEAN UP REQUIRED	CLOSED 120INCH GATE TO STOP PLANT FLOW TIL POWER RESTORED

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Associated Wastewater Treatment Plant Name	Associated Treatment Plant KPDES #	Overflow Location	Overflow Start Date & Time	Overflow Stop Date & Time	Volume of Overflow	Source Asset Type	Source Asset ID	Facility Discharges To	Receiving Stream	Cause of Overflow	Due To	WO #	Cleanup Efforts by MSD	Repair Efforts by MSD
DEREK R. GUTHRIE	KY0078956	11621 LOWER RIVER RD	12/17/08 7:30 AM	12/17/08 08:30 AM	632,091 GAL	Sewer Treatment Plant	MSD0277	STREAM	OHIO RIVER	#3 HYPO PUMP AIR LOCKED	BYPASS AT WQTC	857175	NO DEBRIS; NO CLEANUP REQUIRED	BLEED AIR FROM LINES; HYPO FEED STARTED BACK UP
DEREK R. GUTHRIE	KY0078956	11621 LOWER RIVER RD	06/25/09 11:12 AM	06/26/09 06:30 AM	20,500,000 GAL	Sewer Treatment Plant	MSD0277	STREAM	OHIO RIVER	MECHANICAL FAILURE- #1 HYPO PUMP NOT PUMPING	BYPASS AT WQTC	923712	NO DEBRIS; PIPE DISCHARGE SUBMERGED	OPERATOR STARTED #2 HYPO PUMP
DEREK R. GUTHRIE	KY0078956	2527 PARKWOOD RD	01/28/09 5:00 PM	01/31/09 05:40 AM	36,400 GAL	Sewer Lift Station	MSD1047-LS	GROUND	BIG RUN	PUMPED TO GROUND TO PREVENT FLOODING OF HOMES DUE TO LOSS OF LG&E POWER FROM ICE STORM	POWER OUTAGE (LG&E)	868077	NO DEBRIS	LG&E POWER RESTORED TO NORMAL SERVICE
DEREK R. GUTHRIE	KY0078956	6500 MOUNT WASHINGTON RD	07/11/08 9:50 AM	07/11/08 09:55 AM	10,000 GAL	Sewer Main	MSD1147-PS	DITCH	PENNSYLVANIA RUN	STRUCTURE FAILURE OF BRACE OF DISCHARGE PIPE	STRUCTURAL FAILURE	806000	RAKED DEBRIS & HAULED	CONTRACTOR IS REPAIRING PIPE WHILE MSD HAULS TO PREVENT ANY MORE OVERFLOW
MORRIS FORMAN	KY0022411	804 N ARBOR DR	09/16/08 9:15 AM	09/16/08 12:30 PM	400 GAL	Sewer Manhole	00056-W	GROUND	MIDDLE FORK BEARGRASS CREEK	POWER OUTAGE	POWER OUTAGE (LG&E)	823659	NO CLEANUP REQUIRED, NO SOLIDS OR DEBRIS.	HAULING AT LOCATION HANSEN WO#823661
MORRIS FORMAN	KY0022411	700 VANNAH AVE	12/30/08 10:00 AM	12/30/08 11:30 AM	36,800 GAL	Sewer Manhole	01106	CATCH BASIN	MIDDLE FORK BEARGRASS CREEK	ROOTS & MUD OBSTRUCTING GRAVITY LINE TO PUMP STATION.	ROOTS	859918	MSD CLEANED & SANITIZED THE AREA	ROOT CUT, FLUSHED AND VACTORED DEBRIS FROM SEWER - ELIMINATING THE BLOCKAGE
MORRIS FORMAN	KY0022411	7900 SHELBYVILLE RD	05/08/09 8:53 PM	05/09/09 12:16 AM	540 GAL	Sewer Manhole	02933	STREAM	MIDDLE FORK BEARGRASS CREEK	LACK OF SYSTEM CAPACITY-HEAVY RAIN	LACK OF SYSTEM CAPACITY	906009	A WORK ORDER WILL BE CREATED FOR IFP TO CLEAN AND SANITIZE DISCHARGE SITE	THIS LOCATION IS IN THE SANITARY SEWER DISCHARGE PLAN SUBMITTED ON DECEMBER 31, 2008
MORRIS FORMAN	KY0022411	1301 S 45TH ST	05/08/09 5:15 PM	05/08/09 06:15 PM	108,000 GAL	Sewer Manhole	08111	GROUND	OHIO RIVER	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	906015	A WORK ORDER WILL BE CREATED FOR IFP TO CLEAN AND SANITIZE DISCHARGE SITE	SITE FOUND DURING RAIN EVENT RECON-SITE WILL BE MONITORED AND EVALUATED FOR REPAIR
MORRIS FORMAN	KY0022411	1001 BRECKENRIDGE LN	12/24/08 6:38 AM	12/24/08 10:40 PM	2,128,997 GAL	Sewer Manhole	08935-SM	STREAM	MIDDLE FORK BEARGRASS CREEK	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	858838	NONE POSSIBLE DUE TO MAGNITUDE OF STORM	THIS LOCATION WILL BE IN THE SANITARY SEWER DISCHARGE PLAN SUBMITTED DECEMBER 31, 2008
MORRIS FORMAN	KY0022411	1001 BRECKENRIDGE LN	04/19/09 5:35 PM	04/19/09 09:37 PM	185,884 GAL	Sewer Manhole	08935-SM	STREAM	MIDDLE FORK BEARGRASS CREEK	LACK FOR SYSTEM CAPACITY-HEAVY RAIN	LACK OF SYSTEM CAPACITY	897779	NONE NEEDED DUE TO MAGNITUDE OF STORM	THIS LOCATION IS IN THE SANITARY SEWER DISCHARGE PLAN SUBMITTED ON DECEMBER 31, 2008
MORRIS FORMAN	KY0022411	1001 BRECKENRIDGE LN	05/08/09 5:35 PM	05/09/09 05:17 PM	3,867,778 GAL	Sewer Manhole	08935-SM	STREAM	MIDDLE FORK BEARGRASS CREEK	LACK OF SYSTEM CAPACITY-HEAVY RAIN	LACK OF SYSTEM CAPACITY	905919	NONE NEEDED-MAGNITUDE OF STORM FLUSHED SOLIDS/DEBRIS FROM SITE	THIS LOCATION IS IN THE SANITARY SEWER DISCHARGE PLAN SUBMITTED ON DECEMBER 31, 2008
MORRIS FORMAN	KY0022411	1001 BRECKENRIDGE LN	06/18/09 2:15 PM	06/18/09 06:00 PM	430,000 GAL	Sewer Manhole	08935-SM	STREAM	MIDDLE FORK BEARGRASS CREEK	LACK OF SYSTEM CAPACITY-HEAVY RAIN	LACK OF SYSTEM CAPACITY	921159	A CLEAN-UP WORK ORDER WILL BE CREATED FOR IF&P CONCERNING THIS LOCATION	THIS LOCATION IS IN THE SANITARY SEWER DISCHARGE PLAN SUBMITTED ON DECEMBER 31, 2008
MORRIS FORMAN	KY0022411	4119 LEE AVE	05/08/09 6:32 PM	05/09/09 12:17 AM	27,000 GAL	Sewer Manhole	104231	GROUND	CAMP TAYLOR DITCH	LACK OF SYSTEM CAPACITY-HEAVY RAIN	LACK OF SYSTEM CAPACITY	905957	A WORK ORDER WILL BE CREATED FOR IFP TO CLEAN AND SANITIZE DISCHARGE SITE	THIS LOCATION IS IN THE SANITARY SEWER DISCHARGE PLAN SUBMITTED ON DECEMBER 31, 2008
MORRIS FORMAN	KY0022411	1235 E OAK ST	09/26/08 1:30 PM	09/26/08 08:30 PM	120 GAL	Sewer Main	11760A	STREAM	SOUTH FORK BEARGRASS CREEK	STRUCTURAL FAILURE OF MAIN SEWER	STRUCTURAL FAILURE	827763	NO CLEAN UP PERFORMED. PIPE DISCHARGING DIRECTLY INTO IMPROVED CHANNEL	MAC CONSTRUCTION REPAIRED THE SEWER LEAK
MORRIS FORMAN	KY0022411	1235 E OAK ST	09/26/08 1:30 PM	09/26/08 08:30 PM	35 GAL	Sewer Manhole	11760A	STREAM	SOUTH FORK BEARGRASS CREEK	STRUCTURAL FAILURE OF MANHOLE	STRUCTURAL FAILURE	827777	NO CLEAN UP PERFORMED. MH DISCHARGING DIRECTLY INTO IMPROVED CHANNEL	MAC CONSTRUCTION COMPANY REPAIRED THE SEWER MH LEAK
MORRIS FORMAN	KY0022411	4119 LEE AVE	05/08/09 6:30 PM	05/11/09 12:17 AM	360 GAL	Sewer Manhole	13943	GROUND	SOUTH FORK BEARGRASS CREEK	LACK OF SYSTEM CAPACITY-HEAVY RAIN	LACK OF SYSTEM CAPACITY	905954	A WORK ORDER WILL BE CREATED FOR IFP TO CLEAN AND SANITIZE DISCHARGE SITE	THIS LOCATION IS IN THE SANITARY SEWER DISCHARGE PLAN SUBMITTED ON DECEMBER 31, 2008
MORRIS FORMAN	KY0022411	11607 HAZELWOOD RD	12/28/08 11:00 AM	12/28/08 11:30 AM	75 GAL	Sewer Service Line	1532611607	DITCH	GOOSE CREEK	OBSTRUCTION IN MAIN SEWER	OBSTRUCTION-NOT GREASE / ROOTS	859306	CUSTOMER CLEANED THE IMPACTED AREA AND MSD PERSONNEL PUT LIME IN DRAINAGE DITCH	WORK ORDER 859317 - FLUSHED OBSTRUCTION FROM THE MAIN SEWER
MORRIS FORMAN	KY0022411	2177 MILLVALE RD	10/14/08 1:30 PM	10/15/08 04:01 PM	1,591 GAL	Sewer Main	16105	GROUND	MIDDLE FORK BEARGRASS CREEK	STRUCTURAL FAILURE OF MAIN SEWER	STRUCTURAL FAILURE	832136	NO CLEAN UP - PIPE DISCHARGING UNDERGROUND AND LEAKING THROUGH ROCK AND ENTERING CREEK	CONTRACTOR CONTACTED BY ENGINEERING DEPARTMENT TO MAKE REPAIR
MORRIS FORMAN	KY0022411	1726 FRASER DR	12/24/08 12:31 PM	12/25/08 07:30 AM	84,000 GAL	Sewer Manhole	16649	DITCH	SOUTH FORK BEARGRASS CREEK	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	858956	NONE POSSIBLE DUE TO MAGNITUDE OF STORM	THIS LOCATION WILL BE IN THE SANITARY SEWER DISCHARGE PLAN SUBMITTED DECEMBER 31, 2008

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Associated Wastewater Treatment Plant Name	Associated Treatment Plant KPDES #	Overflow Location	Overflow Start Date & Time	Overflow Stop Date & Time	Volume of Overflow	Source Asset Type	Source Asset ID	Facility Discharges To	Receiving Stream	Cause of Overflow	Due To	WO #	Cleanup Efforts by MSD	Repair Efforts by MSD
MORRIS FORMAN	KY0022411	1726 FRASER DR	04/03/09 12:45 AM	04/04/09 08:15 AM	8,668 GAL	Sewer Manhole	16649	DITCH	SOUTH FORK BEARGRASS CREEK	LACK OF SYSTEM CAPACITY-HEAVY RAIN	LACK OF SYSTEM CAPACITY	893204	NONE NEEDED DUE TO MAGNITUDE OF STORM	THIS LOCATION IS IN THE SANITARY SEWER DISCHARGE PLAN AS SUBMITTED ON DEC 31, 2008
MORRIS FORMAN	KY0022411	1726 FRASER DR	04/09/09 12:30 PM	04/09/09 04:30 PM	2,292 GAL	Sewer Manhole	16649	DITCH	SOUTH FORK BEARGRASS CREEK	OBSTRUCTION IN MAIN SEWER-HEAVY PAPER TOWELS	OBSTRUCTION-NOT GREASE / ROOTS	895030	REFERRED TO I&FP FOR CLEANUP-WORK ORDER # 895279	CONTACTED MAINTENANCE. MAINTENANCE FLUSHED LINE WORK ODER # 895044
MORRIS FORMAN	KY0022411	1726 FRASER DR	04/19/09 6:19 PM	04/20/09 06:03 PM	16,548 GAL	Sewer Manhole	16649	DITCH	SOUTH FORK BEARGRASS CREEK	LACK OF SYSTEM CAPACITY-HEAVY RAIN	LACK OF SYSTEM CAPACITY	897797	NONE NEEDED DUE TO MAGNITUDE OF STORM	THIS LOCATION IS IN THE SANITARY SEWER DISCHARGE PLAN SUBMITTED ON DECEMBER 31 2008
MORRIS FORMAN	KY0022411	1726 FRASER DR	05/08/09 5:00 PM	05/10/09 12:15 AM	141,974 GAL	Sewer Manhole	16649	DITCH	SOUTH FORK BEARGRASS CREEK	LACK OF SYSTEM CAPACITY-HEAVY RAIN	LACK OF SYSTEM CAPACITY	905904	A WORK ORDER WILL BE CREATED FOR IFP TO CLEAN AND SANITIZE DISCHARGE SITE	THIS LOCATION IS IN THE SANITARY DISCHARGE PLAN SUBMITTED DECEMBER 31, 2008
MORRIS FORMAN	KY0022411	1726 FRASER DR	06/18/09 1:00 PM	06/19/09 07:30 AM	20,278 GAL	Sewer Manhole	16649	DITCH	SOUTH FORK BEARGRASS CREEK	LACK OF SYSTEM CAPACITY-HEAVY RAIN	LACK OF SYSTEM CAPACITY	921151	MSD PERSONNEL CLEANED AND SANITIZED THE IMPACTED AREA	THIS LOCATION IS IN THE SANITARY SEWER DICHARGE PLAN SUBMITTED ON DECEMBER 31, 2008
MORRIS FORMAN	KY0022411	1726 FRASER DR	06/26/09 7:15 AM	06/26/09 11:50 AM	268 GAL	Sewer Manhole	16649	DITCH	SOUTH FORK BEARGRASS CREEK	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	923702	A DISCLN WORK ORDER HAS BEEN CREATED FOR I&FP FOR THIS LOCATION	THIS LOCATION IS IN THE SANITARY SEWER DISCHARGE PLAN SUBMITTED ON DECEMBER 31, 2008
MORRIS FORMAN	KY0022411	3035 CARSON WAY	12/24/08 12:55 PM	12/24/08 03:35 PM	204,000 GAL	Sewer Manhole	17571	CATCH BASIN	SOUTH FORK BEARGRASS CREEK	SET PUMPS TO ALLEVIATE PROPERTY DAMAGE AND FLOODING DURING A SIGNIFICANT RAIN EVENT	PUMPED OVERFLOW	858949	MSD PERSONNEL CLEANED AND SANITIZED THE OVERFLOW SITE ONCE THE RAIN SUBSIDED	THIS LOCATION IS IN THE INTERIM SANITARY SEWER DISCHARGE PLAN
MORRIS FORMAN	KY0022411	3035 CARSON WAY	05/08/09 5:05 PM	05/09/09 04:22 AM	552,100 GAL	Sewer Manhole	17571	CATCH BASIN	SOUTH FORK BEARGRASS CREEK	SET PUMPS TO ALLEVIATE PROPERTY DAMAGE AND FLOODING DURING A SIGNIFICANT RAIN EVENT	PUMPED OVERFLOW	905950	MSD PERSONNEL CLEANED AND SANITIZED THE OVERFLOW SITE ONCE THE RAIN SUBSIDED	THIS LOCATION IS IN THE INTERIM SANITARY SEWER DISCHARGE PLAN
MORRIS FORMAN	KY0022411	3107 DELL BROOKE AVE	12/24/08 11:45 AM	12/24/08 06:40 PM	638,600 GAL	Sewer Manhole	18471	CATCH BASIN	SOUTH FORK BEARGRASS CREEK	SET PUMPS TO ALLEVIATE PROPERTY DAMAGE AND FLOODING DURING A SIGNIFICANT RAIN EVENT	PUMPED OVERFLOW	858955	MSD PERSONNEL CLEANED AND SANITIZED THE OVERFLOW SITE ONCE THE RAIN SUBSIDED	THIS LOCATION IS IN THE INTERIM SANITARY SEWER DISCHARGE PLAN
MORRIS FORMAN	KY0022411	3107 DELL BROOKE AVE	06/18/09 2:05 PM	06/18/09 03:23 PM	74,100 GAL	Sewer Manhole	18471	CATCH BASIN	SOUTH FORK BEARGRASS CREEK	SET PUMPS TO ALLEVIATE PROPERTY DAMAGE AND FLOODING DURING A SIGNIFICANT RAIN EVENT	PUMPED OVERFLOW	921194	MSD PERSONNEL CLEANED AND SANITIZED THE OVERFLOW SITE ONCE THE RAIN SUBSIDED	THIS LOCATION IS IN THE INTERIM SANITARY SEWER DISCHARGE PLAN
MORRIS FORMAN	KY0022411	3015 BOAIRES LN	12/24/08 11:30 AM	12/24/08 06:31 PM	508,800 GAL	Sewer Manhole	18483	CATCH BASIN	SOUTH FORK BEARGRASS CREEK	SET PUMPS TO ALLEVIATE PROPERTY DAMAGE AND FLOODING DURING A SIGNIFICANT RAIN EVENT	PUMPED OVERFLOW	858952	MSD PERSONNEL CLEANED AND SANITIZED THE OVERFLOW SITE ONCE THE RAIN SUBSIDED	THIS LOCATION IS IN THE INTERIM SANITARY SEWER DISCHARGE PLAN
MORRIS FORMAN	KY0022411	3015 BOAIRES LN	06/18/09 1:35 PM	06/18/09 05:30 PM	232,900 GAL	Sewer Manhole	18483	CATCH BASIN	SOUTH FORK BEARGRASS CREEK	SET PUMPS TO ALLEVIATE PROPERTY DAMAGE AND FLOODING DURING A SIGNIFICANT RAIN EVENT	PUMPED OVERFLOW	921190	MSD PERSONNEL CLEANED AND SANITIZED THE OVERFLOW SITE ONCE THE RAIN SUBSIDED	THIS LOCATION IS IN THE INTERIM SANITARY SEWER DISCHARGE PLAN
MORRIS FORMAN	KY0022411	3101 WEDGEWOOD WAY	05/08/09 6:10 PM	05/08/09 10:48 PM	180,700 GAL	Sewer Manhole	18595	DITCH	WEDGEWOOD DITCH	SET PUMPS TO ALLEVIATE PROPERTY DAMAGE AND FLOODING DURING A SIGNIFICANT RAIN EVENT	PUMPED OVERFLOW	905952	MSD PERSONNEL CLEANED AND SANITIZED THE OVERFLOW SITE ONCE THE RAIN SUBSIDED	THIS LOCATION IS IN THE INTERIM SANITARY SEWER DISCHARGE PLAN
MORRIS FORMAN	KY0022411	4432 CORDOVA RD	12/24/08 11:55 AM	12/24/08 01:50 PM	120,700 GAL	Sewer Manhole	21061	CATCH BASIN	UPPER SINKING FORK	SET PUMPS TO ALLEVIATE PROPERTY DAMAGE AND FLOODING DURING A SIGNIFICANT RAIN EVENT	PUMPED OVERFLOW	858953	MSD PERSONNEL CLEANED AND SANITIZED THE OVERFLOW SITE ONCE THE RAIN SUBSIDED	THIS LOCATION IS IN THE INTERIM SANITARY SEWER DISCHARGE PLAN
MORRIS FORMAN	KY0022411	4432 CORDOVA RD	05/08/09 5:28 PM	05/09/09 03:10 PM	846,300 GAL	Sewer Manhole	21061	CATCH BASIN	UPPER SINKING FORK	SET PUMPS TO ALLEVIATE PROPERTY DAMAGE AND FLOODING DURING A SIGNIFICANT RAIN EVENT	PUMPED OVERFLOW	905962	MSD PERSONNEL CLEANED AND SANITIZED THE OVERFLOW SITE ONCE THE RAIN SUBSIDED	THIS LOCATION IS IN THE INTERIM SANITARY SEWER DISCHARGE PLAN
MORRIS FORMAN	KY0022411	4432 CORDOVA RD	06/18/09 1:30 PM	06/18/09 07:55 PM	365,700 GAL	Sewer Manhole	21061	CATCH BASIN	UPPER SINKING FORK	SET PUMPS TO ALLEVIATE PROPERTY DAMAGE AND FLOODING DURING A SIGNIFICANT RAIN EVENT	PUMPED OVERFLOW	921196	MSD PERSONNEL CLEANED AND SANITIZED THE OVERFLOW SITE ONCE THE RAIN SUBSIDED	THIS LOCATION IS IN THE INTERIM SANITARY SEWER DISCHARGE PLAN
MORRIS FORMAN	KY0022411	207 BRUNSWICK RD	12/24/08 12:04 PM	12/24/08 05:47 PM	437,300 GAL	Sewer Manhole	21089	CATCH BASIN	UPPER SINKING FORK	SET PUMPS TO ALLEVIATE PROPERTY DAMAGE AND FLOODING DURING A SIGNIFICANT RAIN EVENT	PUMPED OVERFLOW	858950	MSD PERSONNEL CLEANED AND SANITIZED THE OVERFLOW SITE ONCE THE RAIN SUBSIDED	THIS LOCATION IS IN THE INTERIM SANITARY SEWER DISCHARGE PLAN
MORRIS FORMAN	KY0022411	207 BRUNSWICK RD	05/08/09 5:55 PM	05/09/09 05:04 AM	635,500 GAL	Sewer Manhole	21089	CATCH BASIN	UPPER SINKING FORK	SET PUMPS TO ALLEVIATE PROPERTY DAMAGE AND FLOODING DURING A SIGNIFICANT RAIN EVENT	PUMPED OVERFLOW	905959	MSD PERSONNEL CLEANED AND SANITIZED THE OVERFLOW SITE ONCE THE RAIN SUBSIDED	THIS LOCATION IS IN THE INTERIM SANITARY SEWER DISCHARGE PLAN
MORRIS FORMAN	KY0022411	4302 SHELBYVILLE RD	12/24/08 11:30 AM	12/24/08 08:48 PM	711,500 GAL	Sewer Manhole	21101	DITCH	UPPER SINKING FORK	SET PUMPS TO ALLEVIATE PROPERTY DAMAGE AND FLOODING DURING A SIGNIFICANT RAIN EVENT	PUMPED OVERFLOW	858946	MSD PERSONNEL CLEANED AND SANITIZED THE OVERFLOW SITE ONCE THE RAIN SUBSIDED	THIS LOCATION IS IN THE INTERIM SANITARY SEWER DISCHARGE PLAN

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JULY 1, 2008 THROUGH JUNE 30, 2009

Associated Wastewater Treatment Plant Name	Associated Treatment Plant KPDES #	Overflow Location	Overflow Start Date & Time	Overflow Stop Date & Time	Volume of Overflow	Source Asset Type	Source Asset ID	Facility Discharges To	Receiving Stream	Cause of Overflow	Due To	WO #	Cleanup Efforts by MSD	Repair Efforts by MSD
MORRIS FORMAN	KY0022411	4302 SHELBYVILLE RD	05/08/09 5:26 PM	05/09/09 07:39 PM	1,494,300 GAL	Sewer Manhole	21101	DITCH	UPPER SINKING FORK	SET PUMPS TO ALLEVIATE PROPERTY DAMAGE AND FLOODING DURING A SIGNIFICANT RAIN EVENT	PUMPED OVERFLOW	905963	MSD PERSONNEL CLEANED AND SANITIZED THE OVERFLOW SITE ONCE THE RAIN SUBSIDED	THIS LOCATION IS IN THE INTERIM SANITARY SEWER DISCHARGE PLAN
MORRIS FORMAN	KY0022411	4302 SHELBYVILLE RD	06/18/09 1:53 PM	06/18/09 08:45 PM	391,400 GAL	Sewer Manhole	21101	DITCH	UPPER SINKING FORK	SET PUMPS TO ALLEVIATE PROPERTY DAMAGE AND FLOODING DURING A SIGNIFICANT RAIN EVENT	PUMPED OVERFLOW	921188	MSD PERSONNEL CLEANED AND SANITIZED THE OVERFLOW SITE ONCE THE RAIN SUBSIDED	THIS LOCATION IS IN THE INTERIM SANITARY SEWER DISCHARGE PLAN
MORRIS FORMAN	KY0022411	4522 CORDOVA RD	12/24/08 12:12 PM	12/24/08 08:30 PM	572,700 GAL	Sewer Manhole	21153	CATCH BASIN	UPPER SINKING FORK	SET PUMPS TO ALLEVIATE PROPERTY DAMAGE AND FLOODING DURING A SIGNIFICANT RAIN EVENT	PUMPED OVERFLOW	858938	MSD PERSONNEL CLEANED AND SANITIZED THE OVERFLOW SITE ONCE THE RAIN SUBSIDED	THIS LOCATION IS IN THE INTERIM SANITARY SEWER DISCHARGE PLAN
MORRIS FORMAN	KY0022411	4522 CORDOVA RD	05/08/09 5:25 PM	05/09/09 03:00 PM	1,056,100 GAL	Sewer Manhole	21153	CATCH BASIN	UPPER SINKING FORK	SET PUMPS TO ALLEVIATE PROPERTY DAMAGE AND FLOODING DURING A SIGNIFICANT RAIN EVENT	PUMPED OVERFLOW	905961	MSD PERSONNEL CLEANED AND SANITIZED THE OVERFLOW SITE ONCE THE RAIN SUBSIDED	THIS LOCATION IS IN THE INTERIM SANITARY SEWER DISCHARGE PLAN
MORRIS FORMAN	KY0022411	4522 CORDOVA RD	06/18/09 12:40 PM	06/18/09 07:30 PM	389,500 GAL	Sewer Manhole	21153	CATCH BASIN	UPPER SINKING FORK	SET PUMPS TO ALLEVIATE PROPERTY DAMAGE AND FLOODING DURING A SIGNIFICANT RAIN EVENT	PUMPED OVERFLOW	921187	MSD PERSONNEL CLEANED AND SANITIZED THE OVERFLOW SITE ONCE THE RAIN SUBSIDED	THIS LOCATION IS IN THE INTERIM SANITARY SEWER DISCHARGE PLAN
MORRIS FORMAN	KY0022411	100 STONEHENGE DR	12/24/08 12:21 PM	12/24/08 08:53 PM	944,300 GAL	Sewer Manhole	21156	CATCH BASIN	UPPER SINKING FORK	SET PUMPS TO ALLEVIATE PROPERTY DAMAGE AND FLOODING DURING A SIGNIFICANT RAIN EVENT	PUMPED OVERFLOW	858936	MSD PERSONNEL CLEANED AND SANITIZED THE OVERFLOW SITE ONCE THE RAIN SUBSIDED	THIS LOCATION IS IN THE INTERIM SANITARY SEWER DISCHARGE PLAN
MORRIS FORMAN	KY0022411	100 STONEHENGE DR	05/08/09 5:40 PM	05/09/09 02:50 PM	1,564,200 GAL	Sewer Manhole	21156	CATCH BASIN	UPPER SINKING FORK	SET PUMPS TO ALLEVIATE PROPERTY DAMAGE AND FLOODING DURING A SIGNIFICANT RAIN EVENT	PUMPED OVERFLOW	905955	MSD PERSONNEL CLEANED AND SANITIZED THE OVERFLOW SITE ONCE THE RAIN SUBSIDED	THIS LOCATION IS IN THE INTERIM SANITARY SEWER DISCHARGE PLAN
MORRIS FORMAN	KY0022411	100 STONEHENGE DR	06/18/09 1:05 PM	06/18/09 07:05 PM	1,451,100 GAL	Sewer Manhole	21156	CATCH BASIN	UPPER SINKING FORK	SET PUMPS TO ALLEVIATE PROPERTY DAMAGE AND FLOODING DURING A SIGNIFICANT RAIN EVENT	PUMPED OVERFLOW	921182	MSD PERSONNEL CLEANED AND SANITIZED THE OVERFLOW SITE ONCE THE RAIN SUBSIDED	THIS LOCATION IS IN THE INTERIM SANITARY SEWER DISCHARGE PLAN
MORRIS FORMAN	KY0022411	7404 ARROWWOOD RD	01/29/09 10:55 AM	01/29/09 11:05 AM	1,250 GAL	Sewer Manhole	21628-W	DITCH	GOOSE CREEK	POWER OUTAGE	POWER OUTAGE (LG&E)	868204	NO DEBRIS OBSERVED NO CLEANUP REQUIRED	INSTALLED GENERATOR TO PREVENT DISCHARGE
MORRIS FORMAN	KY0022411	7404 ARROWWOOD RD	05/08/09 7:20 PM	05/08/09 11:55 PM	20,625 GAL	Sewer Manhole	21628-W	DITCH	GOOSE CREEK	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	905998	MSD CLEANED & SANITIZED THE AREA	A SOLUTION FOR THIS LOCATION IS INCLUDED IN THE INTEGRATED OVERFLOW ABATEMENT PLAN
MORRIS FORMAN	KY0022411	7404 ARROWWOOD RD	06/18/09 11:40 AM	06/18/09 02:57 PM	14,775 GAL	Sewer Manhole	21628-W	DITCH	GOOSE CREEK	POWER OUTAGE DUE TO STORM IN THE AREA	POWER OUTAGE (LG&E)	921891	MSD CLEANED & SANITIZED THE AREA	GENERATOR PLACED @ STATION UNTILL POWER WAS RESTORED
MORRIS FORMAN	KY0022411	1012 ALTA CIR	12/24/08 12:13 PM	12/25/08 08:35 AM	216,000 GAL	Sewer Manhole	27005	GROUND	MIDDLE FORK BEARGRASS CREEK	LACK OF SYSTEM CAPACITY-HEAVY RAIN	LACK OF SYSTEM CAPACITY	858951	REFERRED TO I&FP FOR CLEAN UP AFTER RAIN EVENT	THIS LOCATION WILL BE IN THE SANITARY SEWER DISCHARGE PLAN SUBMITTED DECEMBER 31, 2008
MORRIS FORMAN	KY0022411	1012 ALTA CIR	05/08/09 8:00 PM	05/09/09 08:30 AM	3,975,000 GAL	Sewer Manhole	27005	GROUND	MIDDLE FORK BEARGRASS CREEK	LACK OF SYSTEM CAPACITY-HEAVY RAIN	LACK OF SYSTEM CAPACITY	905993	NONE NEEDED-MAGNITUDE OF STORM FLUSHED SOLIDS/DEBRIS FROM SITE	THIS LOCATION IS IN THE SANITARY SEWER DISCHARGE PLAN SUBMITTED ON DECEMBER 31, 2008
MORRIS FORMAN	KY0022411	4836 PARTRIDGE RUN	02/08/09 5:09 PM	02/08/09 05:49 PM	25 GAL	Sewer Manhole	27922	DITCH	GREASY DITCH	ROOTS IN MAIN SEWER	ROOTS	870256	MSD PERSONNEL CLEANED AND SANITIZED THE IMPACTED AREA	ROOT CUT (870752) AND FLUSHED (871043) BLOCKAGE IN MAIN SEWER
MORRIS FORMAN	KY0022411	2120 INDIAN HILLS TRL	12/24/08 2:57 PM	12/24/08 10:00 PM	2,400 GAL	Sewer Manhole	40870	DITCH	MUDDY FORK BEARGRASS CREEK	LACK OF SYSTEM CAPACITY CAUSED BY RAINFALL	LACK OF SYSTEM CAPACITY	859008	NO CLEAN UP REQUIRED	WILL ADD TO LIST OF DISCHARGERS DURING RAIN EVENT RECON
MORRIS FORMAN	KY0022411	2120 INDIAN HILLS TRL	05/08/09 7:28 PM	05/09/09 01:30 AM	18,000 GAL	Sewer Manhole	40870	DITCH	MUDDY FORK BEARGRASS CREEK	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	905971	MSD CLEANED & SANITIZED THE AREA	A SOLUTION FOR THIS LOCATION IS INCLUDED IN THE INTEGRATED OVERFLOW ABATEMENT PLAN
MORRIS FORMAN	KY0022411	2120 INDIAN HILLS TRL	04/20/09 8:25 AM	04/20/09 08:35 AM	1,500 GAL	Sewer Manhole	40871	DITCH	MUDDY FORK BEARGRASS CREEK	#2 PUMP TRIPPED OUT	ELECTRICAL PROBLEMS AT MSD	898190	MSD CLEANED AND SANITIZED AREA	MSD ELECTRICIAN MADE REPAIRS AND RESET #2 PUMP
MORRIS FORMAN	KY0022411	2105 INDIAN HILLS TRL	06/18/09 5:00 PM	06/18/09 10:30 PM	3,300 GAL	Sewer Manhole	40872	GROUND	MUDDY FORK BEARGRASS CREEK	POWER FAILURE DUE TO STORM IN THE AREA	POWER OUTAGE (LG&E)	921242	MSD CLEANED & SANITIZED THE AREA	A SOLUTION FOR THIS LOCATION IS INCLUDED IN THE SANITARY SEWER DISCHARGE PLAN SUBMITTED DECEMBER 2008.
MORRIS FORMAN	KY0022411	8409 SABERDEE DR	05/08/09 5:30 PM	05/09/09 02:30 AM	13,000 GAL	Sewer Manhole	43472	DITCH	GOOSE CREEK	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	906002	MSD CLEANED & SANITIZED THE AREA	A SOLUTION FOR THIS LOCATION IS INCLUDED IN THE INTEGRATED OVERFLOW ABATEMENT PLAN

APPENDIX B-1
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TO WATERS OF UNITED STATES
JULY 1, 2008 THROUGH JUNE 30, 2009

Associated Wastewater Treatment Plant Name	Associated Treatment Plant KPDES #	Overflow Location	Overflow Start Date & Time	Overflow Stop Date & Time	Volume of Overflow	Source Asset Type	Source Asset ID	Facility Discharges To	Receiving Stream	Cause of Overflow	Due To	WO #	Cleanup Efforts by MSD	Repair Efforts by MSD
MORRIS FORMAN	KY0022411	2318 STANNYE DR	01/29/09 11:07 AM	01/31/09 08:00 PM	168,000 GAL	Sewer Manhole	44091	DITCH	LONGVIEW CREEK	LOSS OF LG&E POWER DUE TO ICE STORM	POWER OUTAGE (LG&E)	868162	MSD RAKED & BAGGED DEBRIS & SPREAD LIME	LG&E POWER RESTORED TO THE AREA
MORRIS FORMAN	KY0022411	2318 STANNYE DR	06/18/09 11:45 AM	06/18/09 01:00 PM	3,750 GAL	Sewer Manhole	44091	DITCH	LONGVIEW CREEK	LOSS OF LG&E POWER DUE TO STORM IN THE AREA	POWER OUTAGE (LG&E)	921184	MSD CLEANED & SANITIZED THE AREA	PLACED GENERATOR
MORRIS FORMAN	KY0022411	1132 ROSTREVOR CIR	12/24/08 12:08 PM	12/25/08 08:30 AM	12,000 GAL	Sewer Manhole	45835	GROUND	MIDDLE FORK BEARGRASS CREEK	LACK OF SYSTEM CAPACITY-HEAVY RAIN	LACK OF SYSTEM CAPACITY	858942	SITE WILL REQUIRE CLEAN-UP; A DISCLEAN WORK ORDER WILL BE CREATED FOR IFP	THIS LOCATION WILL BE IN THE SANITARY SEWER DISCHARGE PLAN SUBMITTED DECEMBER 31, 2008
MORRIS FORMAN	KY0022411	1132 ROSTREVOR CIR	05/08/09 7:50 PM	05/09/09 08:21 AM	337,500 GAL	Sewer Manhole	45835	GROUND	MIDDLE FORK BEARGRASS CREEK	LACK OF SYSTEM CAPACITY-HEAVY RAIN	LACK OF SYSTEM CAPACITY	905980	A WORK ORDER WILL BE CREATED FOR IFP TO CLEAN AND SANITIZE DISCHARGE SITE	THIS LOCATION IS IN THE SANITARY SEWER DISCHARGE PLAN SUBMITTED ON DECEMBER 31, 2008
MORRIS FORMAN	KY0022411	1132 ROSTREVOR CIR	06/18/09 3:00 PM	06/18/09 06:00 PM	9,000 GAL	Sewer Manhole	45835	GROUND	MIDDLE FORK BEARGRASS CREEK	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	921162	NONE POSSIBLE DUE TO MAGNITUDE OF STORM	THIS LOCATION IS IN THE SANITARY DISCHARGE PLAN SUBMITTED ON DECEMBER 31, 2008
MORRIS FORMAN	KY0022411	202 OXMOOR LN	12/24/08 4:19 PM	12/25/08 10:40 AM	135,000 GAL	Sewer Manhole	47583	STREAM	MIDDLE FORK BEARGRASS CREEK	LACK OF SYSTEM CAPACITY-HEAVY RAIN	LACK OF SYSTEM CAPACITY	859005	NONE POSSIBLE DUE TO MAGNITUDE OF STORM	THIS LOCATION WILL BE IN THE SANITARY SEWER DISCHARGE PLAN SUBMITTED DECEMBER 31, 2008
MORRIS FORMAN	KY0022411	202 OXMOOR LN	05/08/09 9:40 PM	05/09/09 12:19 AM	4,500,000 GAL	Sewer Manhole	47583	STREAM	MIDDLE FORK BEARGRASS CREEK	LACK OF SYSTEM CAPACITY-HEAVY RAIN	LACK OF SYSTEM CAPACITY	906014	NONE NEEDED-PIPE DISCHARGE SUBMERGED	THIS LOCATION IS IN THE SANITARY DISCHARGE PLAN SUBMITTED ON DECEMBER 31, 2008
MORRIS FORMAN	KY0022411	8021 CHRISTIAN CT	05/08/09 9:25 PM	05/09/09 12:25 AM	540 GAL	Sewer Manhole	47593	GROUND	MIDDLE FORK BEARGRASS CREEK	LACK OF SYSTEM CAPACITY-HEAVY RAIN	LACK OF SYSTEM CAPACITY	906013	A WORK ORDER WILL BE CREATED FOR IFP TO CLEAN AND SANITIZE DISCHARGE SITE	THIS LOCATION IS IN THE SANITARY SEWER DISCHARGE PLAN SUBMITTED ON DECEMBER 31, 2008
MORRIS FORMAN	KY0022411	3305 INDIAN CREEK CT	05/08/09 7:23 PM	05/08/09 10:50 PM	4,500 GAL	Sewer Manhole	51160	GROUND	SOUTH FORK BEARGRASS CREEK	LACK OF SYSTEM CAPACITY-HEAVY RAIN	LACK OF SYSTEM CAPACITY	905967	A WORK ORDER WILL BE CREATED FOR IFP TO CLEAN AND SANITIZE DISCHARGE SITE	THIS LOCATION IS IN THE SANITARY SEWER DISCHARGE PLAN SUBMITTED ON DECEMBER 31, 2008
MORRIS FORMAN	KY0022411	1418 TREVILIAN WAY	12/24/08 12:27 PM	12/25/08 08:00 AM	6,000 GAL	Sewer Manhole	51594	DITCH	SOUTH FORK BEARGRASS CREEK	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	858929	NONE POSSIBLE DUE TO MAGNITUDE OF STORM	THIS LOCATION WILL BE IN THE SANITARY SEWER DISCHARGE PLAN SUBMITTED DECEMBER 31, 2008
MORRIS FORMAN	KY0022411	4802 HAZELWOOD AVE	01/28/09 1:40 PM	01/28/09 07:30 PM	1,750 GAL	Sewer Manhole	55665	DITCH	UPPER MILL CREEK	LOSS OF LG&E POWER DUE TO ICE STORM	POWER OUTAGE (LG&E)	868088	NO DEBRIS TO CLEAN	LG&E POWER RETURNED TO SERVICE
MORRIS FORMAN	KY0022411	4802 HAZELWOOD AVE	02/11/09 4:30 PM	02/11/09 04:50 PM	200 GAL	Sewer Manhole	55665	DITCH	UPPER MILL CREEK	LOSS OF LG&E POWER DUE TO WIND STORM	POWER OUTAGE (LG&E)	871105	NO CLEAN UP REQUIRED	HAULING BY API WO#871081
MORRIS FORMAN	KY0022411	4600 CHAMPIONS TRACE LN	12/24/08 11:50 AM	12/24/08 08:30 PM	536,275 GAL	Sewer Manhole	72571-X	STREAM	SOUTH FORK BEARGRASS CREEK	LACK OF SYSTEM CAPACITY-HEAVY RAIN	LACK OF SYSTEM CAPACITY	858935	NONE POSSIBLE DUE TO MAGNITUDE OF STORM	THIS LOCATION WILL BE IN THE SANITARY SEWER DISCHARGE PLAN SUBMITTED DECEMBER 31, 2008
MORRIS FORMAN	KY0022411	4600 CHAMPIONS TRACE LN	04/19/09 6:42 PM	04/20/09 01:52 AM	195,618 GAL	Sewer Manhole	72571-X	STREAM	SOUTH FORK BEARGRASS CREEK	LACK OF SYSTEM CAPACITY-HEAVY RAIN	LACK OF SYSTEM CAPACITY	897820	NONE NEEDED. ALL DEBRIS/SOLIDS WASHED AWAY DUE TO MAGNITUDE OF STORM	THIS LOCATION IS IN THE INTERIM SANITARY SEWER DISCHARGE PLAN
MORRIS FORMAN	KY0022411	4600 CHAMPIONS TRACE LN	05/08/09 4:54 PM	05/09/09 01:48 PM	1,377,881 GAL	Sewer Manhole	72571-X	STREAM	SOUTH FORK BEARGRASS CREEK	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	905885	NONE POSSIBLE DUE TO MAGNITUDE OF STORM	THIS LOCATION IS INCLUDED IN THE INTERIM SANITARY SEWER DISCHARGE PLAN
MORRIS FORMAN	KY0022411	4600 CHAMPIONS TRACE LN	06/18/09 2:00 PM	06/19/09 01:40 PM	5,900,000 GAL	Sewer Manhole	72571-X	STREAM	SOUTH FORK BEARGRASS CREEK	LACK OF SYSTEM CAPACITY-HEAVY RAIN	LACK OF SYSTEM CAPACITY	921156	NONE NEEDED DUE TO MAGNITUDE OF STORM	THIS LOCATION IS IN THE INTERIM SANITARY SEWER DISCHARGE PLAN
MORRIS FORMAN	KY0022411	1618 WATHEN LN	06/18/09 11:40 AM	06/18/09 02:40 PM	13,500 GAL	Sewer Manhole	82558-W	GROUND	OHIO RIVER	LOSS OF LG&E POWER	POWER OUTAGE (LG&E)	921168	MSD CLEANED & SANITIZED THE AREA	PLACED GENERATOR, 85 KW MSD#0006 TO RESTORE POWER
MORRIS FORMAN	KY0022411	8021 CHRISTIAN CT	05/08/09 9:07 PM	05/09/09 12:20 AM	540 GAL	Sewer Manhole	90700	CATCH BASIN	MIDDLE FORK BEARGRASS CREEK	LACK OF SYSTEM CAPACITY-HEAVY RAIN	LACK OF SYSTEM CAPACITY	906010	WORK ORDER WILL BE CREATED FOR IFP TO CLEAN AND SANITIZE DISCHARGE SITE	THIS LOCATION IS IN THE SANITARY SEWER DISCHARGE PLAN SUBMITTED ON DECEMBER 31, 2008
MORRIS FORMAN	KY0022411	4068 MASSIE AVE	10/19/08 8:30 PM	10/21/08 05:54 PM	27,240 GAL	Sewer Main	93130	CATCH BASIN	MUDDY FORK BEARGRASS CREEK	MUD AND SEWAGE WAS IN THE MAIN SEWER	OBSTRUCTION-NOT GREASE / ROOTS	833073	MSD PERSONNEL CLEANED AND SANITIZED AROUND THE MANHOLE	WORK ORDERS 833083 & 833670 - FLUSHED THE MAIN SEWER

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Associated Wastewater Treatment Plant Name	Associated Treatment Plant KPDES #	Overflow Location	Overflow Start Date & Time	Overflow Stop Date & Time	Volume of Overflow	Source Asset Type	Source Asset ID	Facility Discharges To	Receiving Stream	Cause of Overflow	Due To	WO #	Cleanup Efforts by MSD	Repair Efforts by MSD
MORRIS FORMAN	KY0022411	4010 BELLS LN	11/04/08 10:00 AM	11/04/08 04:20 PM	67,500 GAL	Sewer Manhole	CSO015	STREAM	OHIO RIVER	FAULTY OPERATING LEVEL SETTING FOR SOUTHWESTERN PUMP STATION	ELECTRICAL PROBLEMS AT MSD	840087	OVERFLOW DIRECTLY TO RIVER. NO CLEANUP POSSIBLE	REVISED OPERATING LEVEL OF SOUTHWESTERN PUMP STATION
MORRIS FORMAN	KY0022411	342 W MAIN ST	05/10/09 10:00 AM	05/10/09 03:22 PM	400,754 GAL	Sewer Manhole	CSO022	STREAM	OHIO RIVER	4TH ST FLOOD PUMP STATION PLACED IN FLOOD PUMPING IDLE MODE PER USACOE PROTOCOL DURING ELEVATED RIVER LEVELS	PUMPED DUE TO COE MANUAL	906167	NO CLEAN UP PERFORMED, PIPES DISCHARGE UNDERWATER, DIRECTLY INTO RIVER	IN COMPLIANCE WITH USACOE FLOOD PUMPING PROTOCOLS
MORRIS FORMAN	KY0022411	712 BRENT ST	12/04/08 1:15 PM	12/04/08 02:57 PM	20,000 GAL	Sewer Manhole	CSO084	STREAM	SOUTH FORK BEARGRASS CREEK	CSO KICKING DUE TO MAJOR WATER MAIN BREAK ON BRENT STREET	UTILITY DAMAGED MSD ASSET	853426	NO CLEAN UP PERFORMED. PIPE DISCHARGES DIRECTLY INTO STREAM	LOUISVILLE WATER COMPANY HAS SHUT OFF THE WATER MAIN AND WILL END THE DISCHARGE
MORRIS FORMAN	KY0022411	4800 HAZELWOOD AVE	09/16/08 10:50 AM	09/17/08 01:50 PM	8,100 GAL	Sewer Lift Station	MSD0002-PS	DITCH	MILL CREEK	POWER FAIL DUE TO STRONG WINDS IN THE AREA	POWER OUTAGE (LG&E)	823753	MSD CLEANED & SANITIZED THE AREA	HAULED TO PREVENT OVERFLOW #823966
MORRIS FORMAN	KY0022411	334 MOCKINGBIRD VALLEY RD	01/28/09 6:15 PM	01/29/09 03:00 AM	49,500 GAL	Sewer Lift Station	MSD0007-PS	DITCH	MUDDY FORK BEARGRASS CREEK	LOSS OF POWER FROM LG&E DUE TO ICE STORM	POWER OUTAGE (LG&E)	868078	MSD RAKED & BAGGED DEBRIS AND SPREAD LIME AROUND EFFECTED AREA	PLACED GENERATOR TO ELIMINATE OVERFLOW
MORRIS FORMAN	KY0022411	3246 RADIANCE RD	12/24/08 1:17 PM	12/24/08 05:35 PM	14,587 GAL	Sewer Lift Station	MSD0012-PS	STREAM	SOUTH FORK BEARGRASS CREEK	LACK OF SYSTEM CAPACITY CAUSED BY RAIN EVENT	LACK OF SYSTEM CAPACITY	858980	CLEAN UP NOT REQUIRED - SUBMERGED DISCHARGE PIPE	THIS LOCATION WILL BE IN THE SANITARY SEWER DISCHARGE PLAN DECEMBER 31, 2008
MORRIS FORMAN	KY0022411	3246 RADIANCE RD	04/19/09 5:27 PM	04/19/09 09:30 PM	39,000 GAL	Sewer Lift Station	MSD0012-PS	STREAM	SOUTH FORK BEARGRASS CREEK	LACK OF SYSTEM CAPACITY DURING RAIN EVENTS	LACK OF SYSTEM CAPACITY	897804	NO CLEAN UP REQUIRED	THIS LOCATION WILL BE IN THE SANITARY SEWER DISCHARGE PLAN OF DEC 2008
MORRIS FORMAN	KY0022411	3246 RADIANCE RD	05/05/09 11:14 AM	05/05/09 11:17 AM	477 GAL	Sewer Lift Station	MSD0012-PS	STREAM	SOUTH FORK BEARGRASS CREEK	OPERATOR ERROR, TURNED PUMP SWITCH TO WRONG POSITION	MECHANICAL FAILURE	904177	B&H PUMPED 7000 GALLONS FROM CREEK TO REMOVE SEWAGE	CONTRACTED B&H TO PUMP OUT CREEK
MORRIS FORMAN	KY0022411	3246 RADIANCE RD	05/08/09 5:06 PM	05/09/09 08:07 PM	606,098 GAL	Sewer Lift Station	MSD0012-PS	STREAM	SOUTH FORK BEARGRASS CREEK	RAIN EVENT CAUSED LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	905960	NO CLEAN UP REQUIRED	THIS LOCATION IS IN THE SANITARY DISCHARGE PLAN SUBMITTED DEC08
MORRIS FORMAN	KY0022411	3246 RADIANCE RD	06/18/09 12:25 PM	06/19/09 02:40 AM	132,600 GAL	Sewer Lift Station	MSD0012-PS	STREAM	SOUTH FORK BEARGRASS CREEK	LACK OF SYSTEM CAPACITY DUE TO STORM IN AREA.	LACK OF SYSTEM CAPACITY	921218	CLEANUP NOT FEASIBLE DUE TO ELEVATED CREEK LEVEL.	THIS LOCATION IS IN THE INTERIM SANITARY SEWER DISCHARGE PLAN.
MORRIS FORMAN	KY0022411	501 MOCKINGBIRD VALLEY RD	01/30/09 5:00 AM	01/30/09 05:30 AM	13,500 GAL	Sewer Lift Station	MSD0023-PS	STREAM	MUDDY FORK BEARGRASS CREEK	POWER OUTAGE	POWER OUTAGE (LG&E)	868347	NO CLEAN UP REQUIRED	INSTALLED GENERATOR TO STOP DISCHARGE
MORRIS FORMAN	KY0022411	501 MOCKINGBIRD VALLEY RD	04/03/09 1:30 PM	04/03/09 03:00 PM	6,750 GAL	Sewer Lift Station	MSD0023-PS	STREAM	MUDDY FORK BEARGRASS CREEK	HEAVY VOLUME DUE TO STORM EVENT; CONTRACT HAULER COULD NOT KEEP UP WITH VOLUME	LACK OF SYSTEM CAPACITY	893484	FLOW KICKED OUT TO CREEK; CLEANUP NOT POSSIBLE DUE TO ELEVATED CREEK LEVEL	A SOLUTION FOR THIS LOCATION IS INCLUDED IN THE INTEGRATED OVERFLOW ABATEMENT PLAN
MORRIS FORMAN	KY0022411	501 MOCKINGBIRD VALLEY RD	04/19/09 7:00 PM	04/20/09 01:00 AM	12,000 GAL	Sewer Lift Station	MSD0023-PS	STREAM	MUDDY FORK BEARGRASS CREEK	LACK OF SYSTEM CAPACITY, RAIN EVENT IN AREA	LACK OF SYSTEM CAPACITY	897814	CLEANUP NOT POSSIBLE DUE TO ELEVATED CREEK LEVEL	A SOLUTION FOR THIS LOCATION IS INCLUDED IN THE INTEGRATED OVERFLOW ABATEMENT PLAN
MORRIS FORMAN	KY0022411	501 MOCKINGBIRD VALLEY RD	05/16/09 1:00 PM	05/16/09 03:35 PM	7,750 GAL	Sewer Lift Station	MSD0023-PS	STREAM	MUDDY FORK BEARGRASS CREEK	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	908432	NO CLEAN UP PERFORMED, PIPE DISCHARGING UNDERWATER, DIRECTLY INTO STREAM	HAULING TO PREVENT DISCHARGE
MORRIS FORMAN	KY0022411	3733 CANOE LN	02/01/09 12:50 PM	02/01/09 03:00 PM	5,000 GAL	Sewer Lift Station	MSD0024-PS	DITCH	MUDDY FORK BEARGRASS CREEK	POWER OUTAGE CAUSED DISCHARGE	POWER OUTAGE (LG&E)	868732	MSD PERSONNEL CLEANED AND SANITIZED THE AREA	HAULED TO PREVENT
MORRIS FORMAN	KY0022411	1011 WILLIAMSBURG CT	01/28/09 7:40 AM	01/28/09 11:25 PM	12,600 GAL	Sewer Lift Station	MSD0035-PS	GROUND	MIDDLE FORK BEARGRASS CREEK	LACK OF CAPACITY.PUMPED TO GROUND TO PREVENT FLOODING HOMES	PUMPED OVERFLOW	868049	SANITIZED & LIMED THE AREA	BEGAN HAULING TO PREVENT ADDITIONAL OVERFLOW.
MORRIS FORMAN	KY0022411	3011 DERINGTON CT	05/08/09 8:15 PM	05/08/09 11:10 PM	3,800 GAL	Sewer Lift Station	MSD0095-PS	STREAM	GOOSE CREEK	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	906003	MSD CLEANED & SANITIZED THE AREA	A SOLUTION FOR THIS LOCATION IS INCLUDED IN THE INTEGRATED OVERFLOW ABATEMENT PLAN
MORRIS FORMAN	KY0022411	3602 TRAIL RIDGE RD	09/19/08 8:30 AM	09/20/08 10:00 AM	900 GAL	Sewer Lift Station	MSD0125-PS	STREAM	LITTLE GOOSE CREEK	LG&E POWER LOSS DUE TO HURRICANE IKE STORM WIND DAMAGE	POWER OUTAGE (LG&E)	824254	MSD CLEANED & SANITIZED THE AREA	MOVING GENERATOR MSD0003 TO PUMP DOWN WW
MORRIS FORMAN	KY0022411	3450 GLENVIEW AVE	05/08/09 9:30 PM	05/09/09 12:40 AM	9,500 GAL	Sewer Lift Station	MSD0183-PS	DITCH	OHIO RIVER	POWER FAILURE AND LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	906006	MSD CLEANED & SANITIZED THE AREA	GENERATOR PLACED UNTIL POWER CAN BE RESTORED

APPENDIX B-1
UNAUTHORIZED DISCHARGES
TO WATERS OF UNITED STATES
JULY 1, 2008 THROUGH JUNE 30, 2009

Associated Wastewater Treatment Plant Name	Associated Treatment Plant KPDES #	Overflow Location	Overflow Start Date & Time	Overflow Stop Date & Time	Volume of Overflow	Source Asset Type	Source Asset ID	Facility Discharges To	Receiving Stream	Cause of Overflow	Due To	WO #	Cleanup Efforts by MSD	Repair Efforts by MSD
MORRIS FORMAN	KY0022411	124 FONTAINE LANDING CT	01/29/09 12:30 PM	01/29/09 03:30 PM	500 GAL	Sewer Lift Station	MSD1033-PS	GROUND	OHIO RIVER	LOSS OF LG&E POWER DUE TO ICE STORM	POWER OUTAGE (LG&E)	868272	NO DEBRIS TO CLEAN/ AREA FROZEN	BEGAN HAULING STATION TO ELIMINATE DISCHARGE
CEDAR CREEK	KY0098540	6023 COOPER CHAPEL RD	06/18/09 1:00 PM	06/18/09 02:27 PM	9,525 GAL	Sewer Service Line	160264	GROUND	FISHPOOL CREEK	LACK OF CAPACITY, RAIN EVENT IN AREA	LACK OF SYSTEM CAPACITY	921251	MSD CLEANED & SANITIZED AREA	HAULED TO PREVENT OTHER DISCHARGE
CEDAR CREEK	KY0098540	8014 ZELMA FIELDS AVE	01/30/09 12:01 AM	01/30/09 01:30 AM	10,200 GAL	Sewer Manhole	26151	GROUND	LITTLE CEDAR CREEK	LOSS OF LG&E POWER DUE TO ICE STORM	POWER OUTAGE (LG&E)	868309	NO DEBRIS; CLEAR EFFLUENT	HOOKED TO GENERATOR & HAULING SAP HAUL #5204489
CEDAR CREEK	KY0098540	8605 CEDAR CREEK RD	07/06/08 8:00 AM	07/06/08 01:30 PM	338,437 GAL	Sewer Treatment Plant	MSD0289	GROUND	CEDAR CREEK	MECHANICAL FAILURE OF THE LOW LEVEL PROBE.	BYPASS AT WQTC	804753	CLEANUP NOT POSSIBLE.	IMMEDIATE SHUTTING OF GATES TO STOP FLOW.TAKE 1 CHANNEL OUT OF SERVICE WITH FAILED DEVICE.ORDERED NEW DEVICE FOR REPAIRS TO SYSTEM
CEDAR CREEK	KY0098540	8605 CEDAR CREEK RD	04/19/09 11:49 PM	04/20/09 12:22 AM	16,500 GAL	Sewer Treatment Plant	MSD0289	GROUND	CEDAR CREEK	RAIN EVENT IN AREA CAUSING PLANT DRAINS TO OVERWHELM WETWELL. 4 OF THE PUMPS WERE OUT OF SERVICE FOR MAINTENANCE OF THE WETWELL & OPS FAILED TO RESET	BYPASS AT WQTC	898050	MSD CLEANED & SANITIZED AREA & SPREAD LIME.	REPLACED MH COVER
BANCROFT	KY0039021	7610 OLD ORCHARD CIR	09/04/08 9:00 AM	09/04/08 09:20 AM	400 GAL	Sewer Treatment Plant	MSD0290	STREAM	GOOSE CREEK	CLARIFIER OVER LOADED	BYPASS AT WQTC	821512	NO DEBRIS OBSERVED MSD PERSONEL CLEANED AND SANITIZED AREA	IN FUTURE, START COLLECTOR AND START WASTING DURING REFILLING OF CLARIFIER
BANCROFT	KY0039021	7610 OLD ORCHARD CIR	09/19/08 4:10 PM	09/19/08 05:00 PM	900 GAL	Sewer Treatment Plant	MSD0290	STREAM	GOOSE CREEK	COLLECTOR DRIVE MALFUNCTIONED	BYPASS AT WQTC	824503	NO CLEAN UP REQUIRED	REPAIRED COLLECTOR DRIVE AND CLEANED OUT CHLORINE CONTACT CHAMBER
HUNTING CREEK NORTH	KY0029106	7300 SHADWELL LN	10/05/08 11:00 AM	10/05/08 12:00 PM	9,000 GAL	Sewer Treatment Plant	MSD0291	STREAM	HARRODS CREEK	#3 SECONDARY CLARIFIER SLUDGE RETURN NOT WORKING	BYPASS AT WQTC	829929	MSD CONTRACTED CLEANUP	CALLED CONTRACTOR TO UNSTOP SLUDGE RETURN LINE
HUNTING CREEK NORTH	KY0029106	7300 SHADWELL LN	11/10/08 12:00 PM	11/10/08 12:45 PM	2,655 GAL	Sewer Treatment Plant	MSD0291	STREAM	HARRODS CREEK	CLOGGED UP SLUDGE RETURN LINE	BYPASS AT WQTC	841287	MSD CONTRACTOR CLEANED AND SANITIZED AREA	MSD CONTRACTOR UNCLOGGED SLUDGE RETURN LINE SAP WORK ORDER #5199531
HUNTING CREEK SOUTH	KY0029114	7804 DEEP TRAIL CT	09/18/08 8:15 AM	09/18/08 10:00 AM	525 GAL	Sewer Lift Station	MSD1062-LS	STREAM	HARRODS CREEK	LOSS OF LG&E POWER DUE TO STORM 9/14	POWER OUTAGE (LG&E)	824061	MSD CLEANED AND SANITIZED AREA	POWER WAS RESTORED
HUNTING CREEK SOUTH	KY0029114	6210 DEEP CREEK CT	05/08/09 8:10 PM	05/09/09 12:50 AM	8,400 GAL	Sewer Lift Station	MSD1063-PS	DITCH	HARRODS CREEK	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	906001	MSD CLEANED & SANITIZED AREA	A SOLUTION FOR THIS LOCATION IS INCLUDED IN THE INTEGRATED OVERFLOW ABATEMENT PLAN
HUNTING CREEK SOUTH	KY0029114	6808 FAIRWAY VIEW CT	07/18/08 8:40 AM	07/18/08 09:30 AM	100 GAL	Sewer Lift Station	MSD1065-PS	DITCH	HARRODS CREEK	BAD ELECTRICAL BREAKER	ELECTRICAL PROBLEMS AT MSD	808052	MSD CLEANED AND SANITIZED AREA	ELECTRICIAN REPAIRED AND INSTALLED NEW BREAKER
HUNTING CREEK SOUTH	KY0029114	6808 FAIRWAY VIEW CT	09/08/08 11:00 AM	09/08/08 11:30 AM	30 GAL	Sewer Lift Station	MSD1065-PS	DITCH	HARRODS CREEK	ELECTRICAL PROBLEMS AT STATION	ELECTRICAL PROBLEMS AT MSD	822097	NO CLEAN UP REQUIRED	HAULED TILL REPAIRS COMPLETE HANSEN WO# 822095
HUNTING CREEK SOUTH	KY0029114	6808 FAIRWAY VIEW CT	05/20/09 12:20 PM	05/20/09 12:30 PM	100 GAL	Sewer Lift Station	MSD1065-PS	DITCH	HARRODS CREEK	LG&E POWER FAIL	POWER OUTAGE (LG&E)	909503	MSD CLEANED & SANITIZED THE AREA	HAULED UNTIL POWER WAS RESTORED. HAULOP #909510
FLOYDS FORK	KY0102784	706 JOHNSON RD	02/14/09 10:40 AM	02/14/09 02:30 PM	11,500 GAL	Sewer Manhole	112398A	GROUND	BRUSH RUN	CONTRACTOR COULD NOT KEEP UP WITH INFLUENT FLOW	STRUCTURAL FAILURE	871691	NO CLEAN UP REQUIRED	HAULING STATION TO PREVENT DISCHARGE
FLOYDS FORK	KY0102784	1100 BLUE HERON RD	05/09/09 12:50 AM	05/09/09 01:50 AM	20,000 GAL	Sewer Treatment Plant	MSD0294	STREAM	FLOYDS FORK	RAINEVENT CAUSED SURGE IN PLANT FLOW CAUSING SAND FILTERS TO OVERFLOW	BYPASS AT WQTC	906059	MSD CLEANED AND SANITIZED AREA	OPENED BYPASS GATE TO ALLEVIATE FLOW
FLOYDS FORK	KY0102784	1100 BLUE HERON RD	05/09/09 3:45 PM	05/12/09 01:40 PM	8,970,000 GAL	Sewer Treatment Plant	MSD0294	STREAM	FLOYDS FORK	HIGH INFLUENT FLOW CAUSED,SAND FILTERS TO OVERFLOW(30,000 GAL),SOLIDS TO WASH OUT OF SECONDARY TO CREEK(50,000 GAL) AND NO TERTIARY TREATMENT(8.89 MG)	BYPASS AT WQTC	906122	AREA CLEANED AND SANITIZED	OPENED BYPASS GATE ON SAND FILTERS, TURNED OFF AERATORS, CLEANED SAND FILTERS AND FIXED COUPLING
FLOYDS FORK	KY0102784	13200 BLAKEY MEADOW LN	02/20/09 5:00 PM	02/20/09 05:40 PM	500 GAL	Sewer Lift Station	MSD1112-PS	STREAM	POPE LICK	MECHANICAL FAILURE OF AIR RELEIF VALVE	MECHANICAL FAILURE	874747	MSD CLEANED & SANITIZED AREA	SHUT OFF VALVE UNTIL REPAIR PARTS ARE AVAILABLE FOR REPAIRS
CHENOWETH RUN	KY0042226	14307 WAKEFIELD PL	01/11/09 6:23 PM	01/11/09 09:30 PM	2,000 GAL	Sewer Main	80351C-AG	CATCH BASIN	CHENOWETH RUN	STRUCTURE FAILURE OF FORCE MAIN	STRUCTURAL FAILURE	862995	FORCE MAIN BURIED. CONTRACTOR WILL CLEAN AND SANITIZE AREA AS PART OF REPAIR	HAULING LAKE FOREST PS TO PREVENT OVERFLOW UNTIL REPAIRS TO FORCE MAIN CAN BE MADE

APPENDIX B-1
UNAUTHORIZED DISCHARGES
TO WATERS OF UNITED STATES
JULY 1, 2008 THROUGH JUNE 30, 2009

Associated Wastewater Treatment Plant Name	Associated Treatment Plant KPDES #	Overflow Location	Overflow Start Date & Time	Overflow Stop Date & Time	Volume of Overflow	Source Asset Type	Source Asset ID	Facility Discharges To	Receiving Stream	Cause of Overflow	Due To	WO #	Cleanup Efforts by MSD	Repair Efforts by MSD
CHENOWETH RUN	KY0042226	14310 LAKE FOREST DR	01/12/09 12:45 PM	01/12/09 12:50 PM	1,000 GAL	Sewer Main	80351-V	CATCH BASIN	FLOYDS FORK	FORCE MAIN PIPE BROKE	STRUCTURAL FAILURE	863152	MSD PERSONNEL CLEANED AND SANITIZED THE AREA, CONTRACTOR WILL ALSO CLEAN AND SANITIZE AS REPAIRS ARE MADE.	HAULING STATION TO PREVENT OVERFLOW. □ CONTRACTOR TO MAKE REPAIRS TO PIPE
CHENOWETH RUN	KY0042226	14310 LAKE FOREST DR	06/16/09 7:29 AM	06/16/09 07:42 AM	100 GAL	Sewer Lift Station	MSD1169-LS	CATCH BASIN	CHENOWETH RUN	MECH, PUMP SHORTED TO ELECTRICAL GROUND CAUSING BOTH PUMPS TO FAIL	MECHANICAL FAILURE	920014	CONTRACTOR TO CLEAN & VACTOR DEBRIS FROM LAKE. B&H IN ROUTE TO SITE 10:00AM	HAUL WET WELL TO STOP OVERFLOW SAP WO# 5213510. PULL PUMPS FOR REPAIR, RETURN 1 PUMP TO SERVICE
CHENOWETH RUN	KY0042226	14609 WOODSTREAM PL	02/18/09 1:25 PM	02/18/09 05:10 PM	200 GAL	Sewer Main	MSD1172-PS	DITCH	CHENOWETH RUN	2" PVC FORCE MAIN PIPE BROKE	STRUCTURAL FAILURE	874139	MSD PERSONNEL CLEANED AREA AS PART OF GROUND RESTORATION	CHEROKEE CONST. MADE REPAIRS TO 2" PVC FM & WILL SANITIZE & RESTORE GROUNDS

APPENDIX B-2 - DISCHARGE WORK ORDERS-BYPASS

APPENDIX B-2
BYPASS EVENTS AT WQTC'S
JULY 1, 2008 THROUGH JUNE 30, 2009

Associated Wastewater Treatment Plant Name	Associated Treatment Plant KPDES #	Overflow Location	Overflow Start Date & Time	Overflow Stop Date & Time	Volume of Overflow	Source Asset Type	Source Asset ID	Cause of Overflow	Due To	WO #	Cleanup Efforts by MSD	Repair Efforts by MSD
HITE CREEK	KY0022420	5500 HITT RD	02/08/09 3:15: AM	02/08/09 05:00 AM	50,000 GAL	Sewer Treatment Plant	MSD0202	ELECTRICAL PROBLEMS @ MSD	BYPASS AT WQTC	870195	LIME AND SANITIZE AREA OF DISCHARGE	TROUBLE SHOOTING TO RESOLVE PROBLEM PLANT RUNNING ON BACKUP GENERATORS
HITE CREEK	KY0022420	5500 HITT RD	03/04/09 1:29: PM	03/04/09 01:45 PM	1 GAL	Sewer Treatment Plant	MSD0202	DEFOAMER TOO LOW	BYPASS AT WQTC	879926	NO CLEANUP- FOAM DISSOLVED IN WATER	DEFOAMER WAS INCREASED
BERRYTOWN	KY0036501	1203 HEAFER RD	09/23/08 8:35: PM	09/23/08 10:10 PM	2,375 GAL	Sewer Treatment Plant	MSD0209	LG&E CUT POWER TO REPAIR STORM DAMAGED UTILITY POLES	BYPASS AT WQTC	825902	MSD PERSONNEL CLEANED AND SANITIZED THE AREA	GENERATOR PLACED TO PUT WWTP PLANT BACK IN SERVICE WO# 825901 SAP WO# 5196202
MCNEELY LAKE	KY0029416	10300 ROD N REEL RD	01/28/09 8:30: AM	01/28/09 08:50 AM	1,000 GAL	Sewer Treatment Plant	MSD0228	LOSS OF POWER FROM LG&E DUE TO ICE	BYPASS AT WQTC	868047	MSD CLEANED & SANITIZED AREA	LG&E RESTORED POWER TO STP. RESUME NORMAL SERVICE
MCNEELY LAKE	KY0029416	10300 ROD N REEL RD	03/30/09 10:00: AM	03/30/09 02:40 PM	30,300 GAL	Sewer Treatment Plant	MSD0228	HAD TO BYPASS SECONDARY CLARIFIER FOR MAINENANCE INSPECTION OF COLLECTION ARM. WATER IS STILL RECEIVING DISINFECTION (CL2 & SO2)	BYPASS AT WQTC	889653	NO DEBRIS	MAINTENANCE INSPECTION COMPLETED
STARVIEW	KY0031712	423 BERMUDA WAY	02/10/09 10:40: PM	02/10/09 11:25 PM	8,754 GAL	Sewer Treatment Plant	MSD0247	BYPASSED DUE TO CAPACITY OF STORM FLOW	BYPASS AT WQTC	870868	NO CLEANUP REQUIRED	STORM FLOW RECEDED
STARVIEW	KY0031712	423 BERMUDA WAY	06/18/09 2:17: PM	06/18/09 03:00 PM	1,075 GAL	Sewer Treatment Plant	MSD0247	LOSS OF POWER FROM LG&E THUNDER STORM	BYPASS AT WQTC	921140	MSD CLEANED & SANITIZED THE AREA	PLACED GENERATOR, 105KW, MSD#0020
JEFFERSONTOWN	KY0025194	10725 OLD TAYLORSVILLE RD	07/04/08 10:40: PM	07/04/08 10:43 PM	500 GAL	Sewer Treatment Plant	MSD0255	SURGE IN PLANT FLOW CAUSED A DISCHARGE	BYPASS AT WQTC	803781	MSD CONTRACTOR CLEANED AND SANITIZED AREA	CONTINUE TO MONITOR PLANT FLOW TILL RAIN EVENT ENDS
JEFFERSONTOWN	KY0025194	10725 OLD TAYLORSVILLE RD	05/18/09 2:29: AM	05/18/09 03:10 AM	62,383 GAL	Sewer Treatment Plant	MSD0255	POWER FAIL LG&E (BLIP) CAUSED DEVICENET TO SHUT DOWN	BYPASS AT WQTC	908502	NOT POSSIBLE, FLOWS DIRECT TO CREEK	PUT UV IN MANUAL & RESET DEVICE NET TO RESTORE UV SYSTEM TO SERVICE
JEFFERSONTOWN	KY0025194	10725 OLD TAYLORSVILLE RD	06/18/09 7:37: PM	06/18/09 08:45 PM	377,559 GAL	Sewer Treatment Plant	MSD0255	UV SYSTEM MOTHERBOARD FAILED	BYPASS AT WQTC	921262	NO CLEANUP	REPLACED MOTHERBOARD & RETURNED TO SERVICE
SILVER HEIGHTS	KY0028801	9412 SLAYTON CT	10/13/08 11:30: AM	10/13/08 01:50 PM	223,190 GAL	Sewer Treatment Plant	MSD0258	MECHANICAL FAILURE OF ROTOMETER ON DE-CHLORINATION	BYPASS AT WQTC	831889	NO CLEANUP POSSIBLE	ROTOMETER REPAIRED, SAP WO# 4013435
SILVER HEIGHTS	KY0028801	9412 SLAYTON CT	10/20/08 10:00: AM	10/20/08 01:40 PM	35,169 GAL	Sewer Treatment Plant	MSD0258	LOUISVILLE WATER COMPANY SYSTEM DISRUPTED.	BYPASS AT WQTC	833368	NO DEBRIS	CALLED LOUISVILLE WATER CO. TO REPAIR, ALSO MSD MECHANIC HOOKED UP AN ALTERNATE WATER SUPPLY.
CHENOWETH HILLS	KY0029459	4305 ST RENE CT	09/14/08 3:00: PM	09/14/08 05:00 PM	600 GAL	Sewer Treatment Plant	MSD0263	POWER FAILUER CAUSED BY WIND STORM	BYPASS AT WQTC	823275	NO CLEAN UP REQUIRED	GENERATOR PLACED TO RUN TREATMENT PLANT TIL POWER IS RESTORED
CHENOWETH HILLS	KY0029459	4305 ST RENE CT	12/01/08 7:30: PM	12/02/08 07:30 AM	35,333 GAL	Sewer Treatment Plant	MSD0263	RAN OUT OF CHLORINE	BYPASS AT WQTC	852911	NO CLEANUP REQUIRED	REPLACED CHLORINE TANK
CHENOWETH HILLS	KY0029459	4305 ST RENE CT	02/11/09 12:05: AM	02/11/09 01:10 AM	8,143 GAL	Sewer Treatment Plant	MSD0263	BYPASSED DUE TO CAPACITY OF STORM FLOW	BYPASS AT WQTC	870870	NO CLEANUP REQUIRED	A SOLUTION FOR THIS LOCATION HAS BEEN DEVELOPED AND IS INCLUDED IN THE IOAP SUBMITTED DECEMBER 2008
CHENOWETH HILLS	KY0029459	4305 ST RENE CT	02/12/09 6:50: AM	02/12/09 07:30 AM	2,000 GAL	Sewer Treatment Plant	MSD0263	DEAD ANIMAL & DEBRIS FROM RAIN, CLOG IN THE SPLITTER BOX	BYPASS AT WQTC	871157	REMOVED DEBRIS, CLEANED & SANITIZED THE AREA	REMOVED DEBRIS
CHENOWETH HILLS	KY0029459	4305 ST RENE CT	05/08/09 7:44: AM	05/08/09 08:46 AM	21,454 GAL	Sewer Treatment Plant	MSD0263	LACK OF SYSTEM CAPACITY	BYPASS AT WQTC	905614	MSD PERSONNEL CLEANED & SANITIZED THE AREA.	STORM FLOW RECEDED
YORKTOWN	KY0036323	7418 YORKTOWN RD	07/03/08 8:00: AM	07/03/08 08:05 AM	10 GAL	Sewer Treatment Plant	MSD0271	SOLIDS INVENTORY AT PLANT WAS TOO HIGH	BYPASS AT WQTC	803647	CONTRACTOR CLEANED & SANITIZED THE AREA	HAD PLANT BIOSOLIDS HAULED THEN STARTED WASTING BIOSOLIDS.
DEREK R. GUTHRIE	KY0078956	11621 LOWER RIVER RD	08/20/08 12:15: AM	08/20/08 07:15 AM	3,791,667 GAL	Sewer Treatment Plant	MSD0277	#2 BLOWER,BREAKER TRIPPED ON OVERLOAD	BYPASS AT WQTC	817918	PIPE DISCHARGE SUBMERGED - NO CLEANUP	RESET BREAKER ON #2 BLOWER.
DEREK R. GUTHRIE	KY0078956	11621 LOWER RIVER RD	08/20/08 9:00: AM	08/20/08 10:40 AM	902,778 GAL	Sewer Treatment Plant	MSD0277	FOUND HYPOCHLORITE LEAKING FROM GROUND NEAR W2 BUILDING ON PAVEMENT. EFFLUENT DISCHARGED WITHOUT FULL TREATMENT	BYPASS AT WQTC	817920	CONTRACTOR VACTORED HYPOCHLORITE FROM GROUND THEN CLEANED & SANITIZED AREA.	API CONTRACTOR VACTORED HYPOCHLORITE UP & DISCHARGED BACK INTO MSD SEWAGE SYSTEM

APPENDIX B-2
BYPASS EVENTS AT WQTC'S
JULY 1, 2008 THROUGH JUNE 30, 2009

Associated Wastewater Treatment Plant Name	Associated Treatment Plant KPDES #	Overflow Location	Overflow Start Date & Time	Overflow Stop Date & Time	Volume of Overflow	Source Asset Type	Source Asset ID	Cause of Overflow	Due To	WO #	Cleanup Efforts by MSD	Repair Efforts by MSD
DEREK R. GUTHRIE	KY0078956	11621 LOWER RIVER RD	08/21/08 7:15: AM	08/21/08 08:30 AM	520,833 GAL	Sewer Treatment Plant	MSD0277	BACKUP CHEMICAL FEED HOSES STARTED TO LEAK	BYPASS AT WQTC	818054	MSD CLEANED & SANITIZED THE AREA	MAINTENANCE IS INSTALLING A NEW FITTING ON CHEMICAL FEED LINE & PURCHASING NEW HOSES. SAP WO#4013224
DEREK R. GUTHRIE	KY0078956	11621 LOWER RIVER RD	09/14/08 4:20: PM	09/14/08 04:25 PM	69,444 GAL	Sewer Treatment Plant	MSD0277	LGE POWER FAILURE	BYPASS AT WQTC	823278	NO CLEAN UP REQUIRED	CLOSED 120INCH GATE TO STOP PLANT FLOW TIL POWER RESTORED
DEREK R. GUTHRIE	KY0078956	11621 LOWER RIVER RD	12/17/08 7:30: AM	12/17/08 08:30 AM	632,091 GAL	Sewer Treatment Plant	MSD0277	#3 HYPO PUMP AIR LOCKED	BYPASS AT WQTC	857175	NO DEBRIS; NO CLEANUP REQUIRED	BLEED AIR FROM LINES; HYPO FEED STARTED BACK UP
DEREK R. GUTHRIE	KY0078956	11621 LOWER RIVER RD	06/25/09 11:12: AM	06/26/09 06:30 AM	20,500,000 GAL	Sewer Treatment Plant	MSD0277	MECHANICAL FAILURE- #1 HYPO PUMP NOT PUMPING	BYPASS AT WQTC	923712	NO DEBRIS; PIPE DISCHARGE SUBMERGED	OPERATOR STARTED #2 HYPO PUMP
CEDAR CREEK	KY0098540	8605 CEDAR CREEK RD	07/06/08 8:00: AM	07/06/08 01:30 PM	338,437 GAL	Sewer Treatment Plant	MSD0289	MECHANICAL FAILURE OF THE LOW LEVEL PROBE.	BYPASS AT WQTC	804753	CLEANUP NOT POSSIBLE.	IMMEDIATE SHUTTING OF GATES TO STOP FLOW.TAKE 1 CHANNEL OUT OF SERVICE WITH FAILED DEVICE.ORDERED NEW DEVICE FOR REPAIRS TO SYSTEM
CEDAR CREEK	KY0098540	8605 CEDAR CREEK RD	04/19/09 11:49: PM	04/20/09 12:22 AM	16,500 GAL	Sewer Treatment Plant	MSD0289	RAIN EVENT IN AREA CAUSING PLANT DRAINS TO OVERWHELM WETWELL. 4 OF THE PUMPS WERE OUT OF SERVICE FOR MAINTENANCE OF THE WETWELL & OPS FAILED TO RESET	BYPASS AT WQTC	898050	MSD CLEANED & SANITIZED AREA & SPREAD LIME.	REPLACED MH COVER
BANCROFT	KY0039021	7610 OLD ORCHARD CIR	09/04/08 9:00: AM	09/04/08 09:20 AM	400 GAL	Sewer Treatment Plant	MSD0290	CLARIFIER OVER LOADED	BYPASS AT WQTC	821512	NO DEBRIS OBSERVED MSD PERSONEL CLEANED AND SANITIZED AREA	IN FUTURE, START COLLECTOR AND START WASTING DURING REFILLING OF CLARIFIER
BANCROFT	KY0039021	7610 OLD ORCHARD CIR	09/19/08 4:10: PM	09/19/08 05:00 PM	900 GAL	Sewer Treatment Plant	MSD0290	COLLECTOR DRIVE MALFUNCTIONED	BYPASS AT WQTC	824503	NO CLEAN UP REQUIRED	REPAIRED COLLECTOR DRIVE AND CLEANED OUT CHLORINE CONTACT CHAMBER
HUNTING CREEK NORTH	KY0029106	7300 SHADWELL LN	10/05/08 11:00: AM	10/05/08 12:00 PM	9,000 GAL	Sewer Treatment Plant	MSD0291	#3 SECONDARY CLARIFIER SLUDGE RETURN NOT WORKING	BYPASS AT WQTC	829929	MSD CONTRACTED CLEANUP	CALLED CONTRACTOR TO UNSTOP SLUDGE RETURN LINE
HUNTING CREEK NORTH	KY0029106	7300 SHADWELL LN	11/10/08 12:00: PM	11/10/08 12:45 PM	2,655 GAL	Sewer Treatment Plant	MSD0291	CLOGGED UP SLUDGE RETURN LINE	BYPASS AT WQTC	841287	MSD CONTRACTOR CLEANED AND SANITIZED AREA	MSD CONTRACTOR UNCLOGGED SLUDGE RETURN LINE SAP WORK ORDER #5199531
FLOYDS FORK	KY0102784	1100 BLUE HERON RD	05/09/09 12:50: AM	05/09/09 01:50 AM	20,000 GAL	Sewer Treatment Plant	MSD0294	RAINEVENT CAUSED SURGE IN PLANT FLOW CAUSING SAND FILTERS TO OVERFLOW	BYPASS AT WQTC	906059	MSD CLEANED AND SANITIZED AREA	OPENED BYPASS GATE TO ALLEVIATE FLOW
FLOYDS FORK	KY0102784	1100 BLUE HERON RD	05/09/09 3:45: PM	05/12/09 01:40 PM	8,970,000 GAL	Sewer Treatment Plant	MSD0294	HIGH INFLUENT FLOW CAUSED,SAND FILTERS TO OVERFLOW(30,000 GAL),SOLIDS TO WASH OUT OF SECONDARY TO CREEK(50,000 GAL) AND NO TERTIARY TREATMENT(8.89 MG)	BYPASS AT WQTC	906122	AREA CLEANED AND SANITIZED	OPENED BYPASS GATE ON SAND FILTERS, TURNED OFF AERATORS, CLEANED SAND FILTERS AND FIXED COUPLING

APPENDIX B-3 - DISCHARGE WORK ORDERS-BLENDING

BLENDING EVENTS AT JEFFERSONTOWN WQTC

JULY 1, 2008 THROUGH JUNE 30, 2009

Associated Wastewater Treatment Plant Name	Associated Treatment Plant KPDES #	Overflow Location	Overflow Start Date & Time	Overflow Stop Date & Time	Volume of Overflow	Source Asset Type	Source Asset ID	Cause of Overflow	Due To	WO #	Cleanup Efforts by MSD	Repair Efforts by MSD
JEFFERSONTOWN	KY0025194	10725 OLD TAYLORSVILLE RD	07/04/08 7:58: PM	07/05/08 05:22 AM	707,000 GAL	Sewer Treatment Plant	MSD0255	LACK OF SYSTEM CAPACITY CAUSED BY RAIN EVENT	BLENDING AT JTOWN WQTC	803780	NO CLEANUP REQUIRED, EFFLUENT RECEIVED PRIMARY AND UV TREATMENT	NEGOTIATIONS ARE UNDERWAY TO ALLOW TEMPORARY BLENDING AT THIS LOCATION
JEFFERSONTOWN	KY0025194	10725 OLD TAYLORSVILLE RD	12/24/08 7:15: AM	12/24/08 11:57 AM	3,442,891 GAL	Sewer Treatment Plant	MSD0255	LACK OF SYSTEM CAPACITY CAUSED BY RAIN EVENT	BLENDING AT JTOWN WQTC	858947	NO CLEAN UP REQUIRED; BLENDED FLOW RECEIVED PRIMARY AND UV TREATMENT	NEGOTIATIONS ARE UNDERWAY TO ALLOW TEMPORARY BLENDING AT THIS LOCATION
JEFFERSONTOWN	KY0025194	10725 OLD TAYLORSVILLE RD	01/28/09 5:10: AM	01/28/09 04:51 PM	547,071 GAL	Sewer Treatment Plant	MSD0255	LACK OF SYSTEM CAPACITY CAUSED BY ICE AND SNOW STORM	BLENDING AT JTOWN WQTC	868576	NO CLEAN UP REQUIRED	NEGOTIATIONS ARE UNDERWAY TO ALLOW TEMPORARY BLENDING AT THIS LOCATION
JEFFERSONTOWN	KY0025194	10725 OLD TAYLORSVILLE RD	02/10/09 8:30: PM	02/10/09 09:22 PM	440 GAL	Sewer Treatment Plant	MSD0255	LACK OF SYSTEM CAPACITY DUE TO RAIN EVENT	BLENDING AT JTOWN WQTC	870918	NO CLEANUP ACTIVITY REQUIRED	NEGOTIATIONS ARE UNDERWAY TO ALLOW BLENDING AT THIS LOCATION
JEFFERSONTOWN	KY0025194	10725 OLD TAYLORSVILLE RD	02/11/09 4:26: PM	02/11/09 09:01 PM	51,664 GAL	Sewer Treatment Plant	MSD0255	BLENDING EVENT DUE TO STORM FLOW	BLENDING AT JTOWN WQTC	871129	NO CLEAN UP REQUIRED	NEGOTIATIONS ARE UNDERWAY TO ALLOW BLENDING AT THIS LOCATION
JEFFERSONTOWN	KY0025194	10725 OLD TAYLORSVILLE RD	04/03/09 5:54: AM	04/03/09 12:25 PM	219,479 GAL	Sewer Treatment Plant	MSD0255	LACK OF SYSTEM CAPACITY DUE TO RAIN EVENT	BLENDING AT JTOWN WQTC	893523	NO CLEAN UP REQUIRED	NEGOTIATIONS ARE UNDERWAY TO ALLOW BLENDING AT THIS LOCATION
JEFFERSONTOWN	KY0025194	10725 OLD TAYLORSVILLE RD	04/19/09 3:26: PM	04/19/09 11:57 PM	679,890 GAL	Sewer Treatment Plant	MSD0255	RAIN EVENT IN AREA	BLENDING AT JTOWN WQTC	897772	CLEANUP NOT POSSIBLE, BLENDED FLOW FROM PRIMARY TO UV DISINFECTION	NEGOTIATIONS ARE UNDERWAY TO ALLOW TEMPORARY BLENDING AT THIS LOCATION
JEFFERSONTOWN	KY0025194	10725 OLD TAYLORSVILLE RD	04/20/09 7:14: AM	04/20/09 01:13 PM	57,951 GAL	Sewer Treatment Plant	MSD0255	RAIN EVENT IN AREA	BLENDING AT JTOWN WQTC	898040	CLEANUP NOT POSSIBLE, BLENDED FLOW FROM PRIMARY TO UV DISINFECTION	NEGOTIATIONS ARE UNDERWAY TO ALLOW TEMPORARY BLENDING AT THIS LOCATION
JEFFERSONTOWN	KY0025194	10725 OLD TAYLORSVILLE RD	05/08/09 4:47: PM	05/09/09 08:38 AM	1,934,989 GAL	Sewer Treatment Plant	MSD0255	RAIN EVENT IN AREA	BLENDING AT JTOWN WQTC	905866	NO CLEANUP NECESSARY	NEGOTIATIONS ARE UNDERWAY TO ALLOW TEMPORARY BLENDING AT THIS LOCATION
JEFFERSONTOWN	KY0025194	10725 OLD TAYLORSVILLE RD	06/10/09 6:15: PM	06/10/09 06:37 PM	387 GAL	Sewer Treatment Plant	MSD0255	ELECTRICAL FAILURE OF #1 PUMP @ THE INFLUENT PUMP STATION	BLENDING AT JTOWN WQTC	916888	NO CLEAN UP NECESSARY	RESET #1 PUMP AND RESTARTED PUMP AND BLEND STOPPED
JEFFERSONTOWN	KY0025194	10725 OLD TAYLORSVILLE RD	06/11/09 11:14: PM	06/11/09 11:47 PM	3,289 GAL	Sewer Treatment Plant	MSD0255	PUMP #4 WOULDNT START	BLENDING AT JTOWN WQTC	917355	NO CLEANUP	REROUTED ELECTRICAL CABLE TO INFLUENT PUMP ENABLING OPERATION OF THE PLANT
JEFFERSONTOWN	KY0025194	10725 OLD TAYLORSVILLE RD	06/18/09 11:44: AM	06/19/09 12:38 AM	1,048,935 GAL	Sewer Treatment Plant	MSD0255	RAIN EVENT IN AREA	BLENDING AT JTOWN WQTC	920946	NO CLEANUP NECESSARY	NEGOTIATIONS ARE UNDERWAY TO ALLOW TEMPORARY BLENDING AT THIS LOCATION

APPENDIX B-4 - DISCHARGE WORK ORDERS-GROUND

**APPENDIX B-4
OVERFLOWS TO GROUND
JULY 1, 2008 THROUGH JUNE 30, 2009**

Associated Wastewater Treatment Plant Name	Associated Treatment Plant KPDES #	Overflow Location	Overflow Start Date & Time	Overflow Stop Date & Time	Volume of Overflow	Source Asset Type	Source Asset ID	Cause of Overflow	Due To	WO #	Cleanup Efforts by MSD	Repair Efforts by MSD
HITE CREEK	KY0022420	5000 CHAMBERLAIN LN	03/10/09 12:20 PM	03/10/09 12:35 PM	75 GAL	Sewer Manhole	107936	GREASE IN WET WELL PREVENTED THE TILT BULBS FROM LETTING THE PUMP COME ON	GREASE BLOCKAGE	882283	MSD CLEANED & SANITIZED THE AREA	MSD CONTRACTOR VACTORED THE WET WELL
HITE CREEK	KY0022420	2351 NELSON MILLER PKY	01/13/09 1:50 PM	01/13/09 02:00 PM	5,000 GAL	Sewer Main	40758J-AG	CONTRACTOR WAS BORING A HOLE & HIT THE FORCE MAIN	MECHANICAL FAILURE	863399	DEBRIS RAKED, BAGGED & HAULED OFF. AREA DISINFECTED WITH LIME.	MSD WILL HAVE A CONTRACTOR RPAIR THE FORCE MAIN
HITE CREEK	KY0022420	2351 NELSON MILLER PKY	01/13/09 2:00 PM	01/13/09 07:30 PM	8,000 GAL	Sewer Main	40758J-AG	CONSTRUCTION COMPANY WORKING IN AREA BROKE FORCEMAIN	MECHANICAL FAILURE	863401	MSD CONTRACTOR CLEANED AND SANITIZED AREA	HAULED STATION WHILE REPAIRS ARE MADE TO FORCE MAIN
HITE CREEK	KY0022420	1831 WILLIAMSON CT	09/17/08 8:30 AM	09/17/08 09:00 AM	750 GAL	Sewer Manhole	40764	PUMP MALFUNCTIONING	MECHANICAL FAILURE	823820	MSD CLEANED & SANITIZED AREA	ELECTRICIAN RESTORED POWER
HITE CREEK	KY0022420	1831 WILLIAMSON CT	12/29/08 12:30 PM	12/29/08 12:50 PM	150 GAL	Sewer Manhole	40764	ELECTRICAL BREAKER TRIPPED PUMP#2	ELECTRICAL PROBLEMS AT MSD	859645	MSD CLEANED & SANITIZED AREA	RESET ELECTRICAL BREAKER #2 PUMP & RETURNED TO SERVICE
HITE CREEK	KY0022420	7512 KAVANAUGH RD	09/16/08 7:30 AM	09/16/08 07:40 AM	20 GAL	Sewer Lift Station	MSD1085-PS	POWER OUTAGE	POWER OUTAGE (LG&E)	823777	NO DEBRIS	HAULED TO PREVENT DISCHARGE
HITE CREEK	KY0022420	6316 CHERRY LN	09/16/08 7:00 PM	09/16/08 07:10 PM	10 GAL	Sewer Lift Station	MSD1087-PS	POWER OUTAGE	POWER OUTAGE (LG&E)	823778	NO DEBRIS	HAULED TO PREVENT DISCHARGE
HITE CREEK	KY0022420	6316 CHERRY LN	09/20/08 11:40 PM	09/21/08 12:30 AM	150 GAL	Sewer Lift Station	MSD1087-PS	POWER OUTAGE AT STATION LG&E	POWER OUTAGE (LG&E)	824570	MSD CLEANED AND SANITIZED AREA	PLACED GENERATOR TO RUN STATION
KEN CARLA	KY0022497	8701 LYNNHALL CT	03/09/09 9:02 AM	03/09/09 09:20 AM	80 GAL	Sewer Treatment Plant	MSD0208	LINE FROM AERATION TO THE CLARIFIER CLOGGED.	MECHANICAL FAILURE	880469	MSD SPREAD LIME ON EFFECTED AREA	MSD CLEANED OUT LINE
BERRYTOWN	KY0036501	1203 HEAFER RD	09/14/08 8:10 PM	09/14/08 08:30 PM	20 GAL	Sewer Lift Station	MSD0209A-PS	WIND STORM CAUSED POWER FAILURE	POWER OUTAGE (LG&E)	823276	NO DEBRIS	GENERATOR PLACED AT LOCATION TO PREVENT DISCHARGE
MCNEELY LAKE	KY0029416	7100 LEISURE LN	09/14/08 11:58 PM	09/15/08 02:05 AM	50 GAL	Sewer Lift Station	MSD0103-PS	LGE POWER FAILURE	POWER OUTAGE (LG&E)	823394	MSD CLEANED & SANITIZED THE IMPACTED AREA	HAULING TO PREVENT FURTHER DISCHARGE WO#823789
JEFFERSONTOWN	KY0025194	3000 SPROWL RD	11/27/08 11:30 AM	11/27/08 12:45 PM	5 GAL	Sewer Service Line	JT00989119	GREASE IN MSD'S MAIN SEWER	GREASE BLOCKAGE	852209	MSD PERSONNEL CLEANED AND SANITIZED THE IMPACTED AREA	WORK ORDER 853412 - ROOT CUT THE MAIN SEWER
JEFFERSONTOWN	KY0025194	11524 COMMONWEALTH DR	02/26/09 9:30 AM	02/26/09 10:02 AM	1 GAL	Sewer Service Line	JT14504029	PROPERTY SERVICE DAMAGED BY FIBEROPTIC CONTRACTORS	UTILITY DAMAGED MSD ASSET	877875	MSD PERSONNEL CLEANED AND SANITIZED THE IMPACTED AREA	WORK ORDER 877926 - REPAIRED THE PROPERTY SERVICE CONNECTION
JEFFERSONTOWN	KY0025194	10725 OLD TAYLORSVILLE RD	10/30/08 2:00 PM	10/30/08 02:01 PM	150 GAL	Sewer Treatment Plant	MSD0255	B&H TRUCK OVERFILLED ON OVERHEAD LOADER SPILLING ONTO PARKING LOT.	MECHANICAL FAILURE	838381	MSD CLEANED & SANITIZED THE AREA	VACTORED UP SPILL & RETURNED TO SYSTEM
JEFFERSONTOWN	KY0025194	3651 STONE LAKES DR	09/16/08 5:30 PM	09/16/08 07:30 PM	600 GAL	Sewer Lift Station	MSD1164-PS	TREE FELL ON CONTROL PANEL	MECHANICAL FAILURE	823757	MSD CLEANED & SANITIZED THE AREA	ELECTRICIAN REPAIRED CONTROL PANEL
SILVER HEIGHTS	KY0028801	9204 BLUE LICK RD	12/13/08 8:00 PM	12/13/08 09:24 PM	5 GAL	Sewer Service Line	PD27220529	GREASE IN MAIN SEWER	GREASE BLOCKAGE	856639	MSD PERSONNEL CLEANED AND SANITIZED THE IMPACTED AREA	WORK ORDER 856640 - FLUSHED MAIN SEWER!
CHENOWETH HILLS	KY0029459	11022 ST RENE RD	09/15/08 11:55 PM	09/16/08 12:20 AM	75 GAL	Sewer Manhole	94187	LG&E POWER FAIL	POWER OUTAGE (LG&E)	823553	CLEANED & SANITIZED THE IMPACTED AREA	HAULING AT STATION. HANSEN WO#823548
DEREK R. GUTHRIE	KY0078956	3721 DIXIE HWY	10/28/08 3:15 PM	10/28/08 04:10 PM	1,280 GAL	Sewer Main	06940B-AG	STRUCTUAL FAILURE OF FORCEMAIN	MECHANICAL FAILURE	837952	MSD CLEANED AND SANTIEZED AREA	CONTRACTOR REPAIRED FORCE MAIN
DEREK R. GUTHRIE	KY0078956	11926 WASHINGTON GREEN RD	02/14/09 1:30 PM	02/14/09 02:00 PM	300 GAL	Sewer Manhole	106734	MECHANICAL PROBLEMS WITH PUMPS	MECHANICAL FAILURE	871711	MSD CLEANED AND SANITIZED AREA	MAINTENANCE CALLED IN TO MAKE REPAIRS
DEREK R. GUTHRIE	KY0078956	2101 MARY CATHERINE DR	02/07/09 4:15 PM	02/07/09 04:57 PM	10 GAL	Sewer Service Line	165215	ROOTS IN MAIN SEWER	ROOTS	870178	MSD PERSONNEL CLEANED AND SANITIZED THE IMPACTED AREA	WORK ORDERS 870177 AND 870466 - FLUSHED AND ROOT CUT THE MAIN SEWER

**APPENDIX B-4
OVERFLOWS TO GROUND
JULY 1, 2008 THROUGH JUNE 30, 2009**

Associated Wastewater Treatment Plant Name	Associated Treatment Plant KPDES #	Overflow Location	Overflow Start Date & Time	Overflow Stop Date & Time	Volume of Overflow	Source Asset Type	Source Asset ID	Cause of Overflow	Due To	WO #	Cleanup Efforts by MSD	Repair Efforts by MSD
DEREK R. GUTHRIE	KY0078956	9317 LANTANA DR	05/30/09 7:36 PM	05/30/09 08:26 PM	10 GAL	Sewer Manhole	17827	OBSTRUCTION IN MANHOLE	OBSTRUCTION-NOT GREASE / ROOTS	913363	MSD PERSONNEL CLEANED AND SANITIZED THE IMPACTED AREA	WORK ORDER 913366 - FLUSHED THE MANHOLE AND OPENED THE LINE
DEREK R. GUTHRIE	KY0078956	10200 CAVEN AVE	04/04/09 7:17 PM	04/04/09 07:17 PM	2 GAL	Sewer Main	24917	FORCE MAIN BREAK	OBSTRUCTION-NOT GREASE / ROOTS	894704	MSD PERSONNEL CLEANED AND SANITIZED THE IMPACTED AREA	CALLED CONTRACTOR TO REPAIR FORCE MAIN
DEREK R. GUTHRIE	KY0078956	9911 GANDY RD	02/15/09 4:35 PM	02/15/09 04:59 PM	3 GAL	Sewer Service Line	38847	ROOTS IN MSD'S PORTION OF THE PROPERTY SERVICE CONNECTION	ROOTS	871776	MSD PERSONNEL CLEANED AND SANITIZED THE IMPACTED AREA	WORK ORDERS 865775 AND 865482 - ROOT CUT AND REPAIRED THE PROPERTY SERVICE CONNECTION AND INSTALLED A 2-WAY CLEANOUT
DEREK R. GUTHRIE	KY0078956	4502 AMERIVAN CT	05/08/09 3:30 PM	05/08/09 05:45 PM	30 GAL	Sewer Manhole	41546	OBSTRUCTION IN MAIN SEWER	OBSTRUCTION-NOT GREASE / ROOTS	905951	MSD PERSONNEL CLEANED AND SANITIZED THE IMPACTED AREA	WORK ORDER 905799 - ROOTCUT AND OPENED THE MAIN SEWER
DEREK R. GUTHRIE	KY0078956	5108 VOLNEY CT	01/03/09 1:00 PM	01/03/09 01:25 PM	1 GAL	Sewer Manhole	41720	OBSTRUCTION IN MAIN SEWER	OBSTRUCTION-NOT GREASE / ROOTS	860503	MSD PERSONNEL CLEANED AND SANITIZED THE IMPACTED AREA	WORK ORDER 860511 - ROOT CUT THE OBSTRUCTION FROM THE SEWER LINE
DEREK R. GUTHRIE	KY0078956	6508 MANDEVILLE CT	02/09/09 8:00 PM	02/09/09 08:26 PM	25 GAL	Sewer Manhole	54895	OBSTRUCTION IN MAIN SEWER	OBSTRUCTION-NOT GREASE / ROOTS	870555	MSD PERSONNEL CLEANED AND SANITIZED THE IMPACTED AREA	WORK ORDER 870558 - ROOT CUT THE MAIN SEWER
DEREK R. GUTHRIE	KY0078956	11302 TOP WALNUT LOOP	12/31/08 1:30 PM	12/31/08 02:00 PM	50 GAL	Sewer Valve	95224-V	MECHANICAL FAILURE OF AIR RELIEF VALVE	MECHANICAL FAILURE	860275	MSD CLEANED AND SANITIZED AREA	PEPLACED LEAKING ARV
DEREK R. GUTHRIE	KY0078956	6902 BROOK BEND WAY	09/06/08 1:15 PM	09/06/08 01:52 PM	5 GAL	Sewer Manhole	95824	LACK OF SYSTEM CAPACITY	STRUCTURAL FAILURE	821756	MSD PERSONNEL CLEANED AND SANITIZED THE IMPACTED AREA	WORK ORDER 821758 - PUT THREE RINGS ON MANHOLE LID
DEREK R. GUTHRIE	KY0078956	9713 EL PRADO ST	03/16/09 12:00 PM	03/16/09 12:10 PM	5 GAL	Sewer Lift Station	MSD0072-LS	DUMP VALVE ON VACTOR TRUCK LEAKING	MECHANICAL FAILURE	884994	CONTRACTOR CLEANED & SANITIZED THE AREA	CONTRACTOR TO REPAIR TRUCK
DEREK R. GUTHRIE	KY0078956	10202 CAVEN AVE	04/09/09 1:45 PM	04/09/09 01:50 PM	15 GAL	Sewer Main	MSD0133-PS	FORCE MAIN BREAK	STRUCTURAL FAILURE	895029	MSD RAKED & LIMED THE AREA	CALLED CONTRACTOR TO REPAIR FORCE MAIN. MSD HAULING #895135
DEREK R. GUTHRIE	KY0078956	423 ECHAPPE LN	11/03/08 1:30 PM	11/03/08 01:35 PM	10 GAL	Sewer Main	MSD0140-PS	STRUCTURE FAILURE: FORCE MAIN PIPE BROKE	STRUCTURAL FAILURE	839931	CHEROKEE CONSTRUCTION REPAIR & CLEAN AREA	CHEROKEE CONSTRUCTION REPAIRING BROKEN PVC FM PIPE 11/04/08
DEREK R. GUTHRIE	KY0078956	11621 LOWER RIVER RD	12/08/08 8:30 AM	12/08/08 08:30 AM	25 GAL	Sewer Treatment Plant	MSD0277	LEAKING HOSES ON API TRUCK	MECHANICAL FAILURE	853938	DEBRIS RAKED, BAGGED & HAULED OFF. IMPACTED AREA WAS SANITIZED & LIME WAS SPREAD.	
DEREK R. GUTHRIE	KY0078956	11621 LOWER RIVER RD	12/28/08 12:30 PM	12/28/08 02:30 PM	500 GAL	Sewer Treatment Plant	MSD0277	MECHANICAL FAILURE OPERATOR OF CONTRACTED VEHICLE NOT WATCHING TRUCK	MECHANICAL FAILURE	859315	CONTRACTOR CLEANED AND SANITIZED AREA	CONTRACTOR WILL PAY CLOSE ATTENTION TO VEHICLE WHILE WORKING
DEREK R. GUTHRIE	KY0078956	11621 LOWER RIVER RD	12/28/08 12:30 PM	12/28/08 02:00 PM	500 GAL	Sewer Treatment Plant	MSD0277	CONTRACTOR OVERFILLED TRUCK WHILE VACTORING SLUDGE OUT OF CLARIFIER	MECHANICAL FAILURE	859830	AREA RAKED & DEBRIS HAULED	CONTRACTOR CLEANING AREA
DEREK R. GUTHRIE	KY0078956	6118 COOPER CHAPEL RD	12/28/08 5:42 PM	12/28/08 06:02 PM	15 GAL	Sewer Service Line	PD21096019	ROOTS IN THE MAIN SEWER	ROOTS	859341	MSD PERSONNEL CLEANED AND SANITIZED THE IMPACTED AREA	WORK ORDER 859907 - ROOT CUT THE MAIN SEWER
MORRIS FORMAN	KY0022411	603 ALGER AVE	03/11/09 4:29 PM	03/11/09 04:58 PM	15 GAL	Sewer Service Line	061G00960000A	ROOTS ON MSD'S PORTION OF THE PROPERTY SERVICE CONNECTION	ROOTS	882627	NO CLEAN UP PERFORMED; PIPE DISCHARGING DIRECTLY UNDER THE HOUSE	WORK ORDERS 887208 AND 882626 - ROOT CUT AND REPAIRED THE PROPERTY SERVICE CONNECTION AND INSTALLED A 2-WAY CLEANOUT
MORRIS FORMAN	KY0022411	2639 WENDELL AVE	11/29/08 11:30 AM	11/29/08 12:20 PM	5 GAL	Sewer Service Line	081H01790000A	ROOTS IN MSD'S PORTION OF THE PROPERTY SERVICE CONNECTION	ROOTS	852301	MSD PERSONNEL CLEANED AND SANITIZED THE IMPACTED AREA	WORK ORDERS 852303 AND 852305 ROOT CUT AND SLIP LINED THE PROPERTY SERVICE CONNECTION
MORRIS FORMAN	KY0022411	3307 SUMNER RD	02/08/09 11:00 AM	02/08/09 11:58 AM	25 GAL	Sewer Service Line	101217	RAGS AND TOWELS IN THE MAIN SEWER	OBSTRUCTION-NOT GREASE / ROOTS	870207	MSD PERSONNEL CLEANED AND SANITIZED THE IMPACTED AREA	WORK ORDER 870423 - ROOT CUT THE MAIN SEWER
MORRIS FORMAN	KY0022411	128 E TENNY AVE	08/16/08 10:00 AM	08/16/08 10:48 AM	4 GAL	Sewer Service Line	103114	ROOTS AT THE PROPERTY LINE OF THE PROPERTY SERVICE CONNECTION	ROOTS	817463	CUSTOMER ADVISED MSD PERSONNEL THAT THEY WILL CLEAN THE IMPACTED AREA	WORK ORDER 817466 - REPAIRED THE PROPERTY SERVICE CONNECTION AND INSTALLED A 2-WAY CLEANOUT
MORRIS FORMAN	KY0022411	3313 BOHANNON AVE	01/06/09 4:00 PM	01/06/09 04:38 PM	2 GAL	Sewer Service Line	10621	ROOTS AT THE SHARED JOINT OF PROPERTY SERVICE CONNECTION	ROOTS	861358	CUSTOMER CLEANED THE IMPACTED AREA	WORK ORDER 861366 - REPAIRED THE PROPERTY SERVICE CONNECTION AND INSTALLED A 2-WAY CLEANOUT

**APPENDIX B-4
OVERFLOWS TO GROUND
JULY 1, 2008 THROUGH JUNE 30, 2009**

Associated Wastewater Treatment Plant Name	Associated Treatment Plant KPDES #	Overflow Location	Overflow Start Date & Time	Overflow Stop Date & Time	Volume of Overflow	Source Asset Type	Source Asset ID	Cause of Overflow	Due To	WO #	Cleanup Efforts by MSD	Repair Efforts by MSD
MORRIS FORMAN	KY0022411	835 S 7TH ST	01/12/09 10:15 AM	01/12/09 11:55 AM	10 GAL	Sewer Service Line	119939	OPTIC LINE BORED THROUGH MSD'S PROPERTY SERVICE LINE	UTILITY DAMAGED MSD ASSET	863105	MSD PERSONNEL CLEANED AND SANITIZED THE IMPACTED AREA	WORK ORDER 863223 - REPAIRED THE PROPERTY SERVICE CONNECTION AND INSTALLED A 2-WAY CLEANOUT
MORRIS FORMAN	KY0022411	4606 DELPHENE CIR	09/10/08 6:30 PM	09/10/08 07:00 PM	1 GAL	Sewer Service Line	130689	PROPERTY SERVICE CONNECTION ACCIDENTLY CUT DURING REPAIRS FOR NEIGHBOR.	STRUCTURAL FAILURE	822669	CUSTOMER CLEANED THE IMPACTED AREA	WORK ORDER 822667 - REPAIRED THE PROPERTY SERVICE CONNECTION
MORRIS FORMAN	KY0022411	118 DARYL CT	11/03/08 11:00 PM	11/03/08 11:34 PM	3 GAL	Sewer Service Line	139405750000A	ROOTS IN MSD'S PORTION OF THE PROPERTY SERVICE CONNECTION	ROOTS	839887	MSD PERSONNEL CLEANED AND SANITIZED THE IMPACTED AREA	WORK ORDERS 839888 AND 839861 - ROOT CUT AND REPAIRED THE PROPERTY SERVICE CONNECTION AND INSTALLED A 2-WAY CLEANOUT
MORRIS FORMAN	KY0022411	808 S 22ND ST	02/08/09 5:00 PM	02/08/09 05:43 PM	10 GAL	Sewer Service Line	161130	OBSTRUCTION IN MSD'S PORTION OF THE PROPERTY SERVICE CONNECTION	OBSTRUCTION-NOT GREASE / ROOTS	870246	MSD PERSONNEL CLEANED THE IMPACTED AREA	WORK ORDER 870247 - ROOT CUT LINE
MORRIS FORMAN	KY0022411	4422 DEEPWOOD DR	08/17/08 6:00 PM	08/17/08 08:45 PM	30 GAL	Sewer Manhole	21556	ROOTS IN MAIN SEWER	ROOTS	817536	MSD PERSONNEL CLEANED AND SANITIZED THE IMPACTED AREA	WORK ORDER 817535 - FLUSHED MAIN SEWER
MORRIS FORMAN	KY0022411	7404 ARROWWOOD RD	09/20/08 5:25 PM	09/20/08 05:40 PM	375 GAL	Sewer Manhole	21628-W	BREAKER TRIPPED ON GENERATOR	POWER OUTAGE (LG&E)	824565	NO DEBRIS OBSERVED	PORTABLE GENERATOR AT STATION CIRCUIT BREAKER RESET
MORRIS FORMAN	KY0022411	7404 ARROWWOOD RD	09/24/08 8:30 AM	09/24/08 08:35 AM	50 GAL	Sewer Manhole	21628-W	GENERATOR RAN OUT OF FUEL	ELECTRICAL PROBLEMS AT MSD	825974	AREA RAKED AND DEBRIS HAULED AREA SANITIZED BY MSD PERSONNEL	PLACED BACK UP GENERATOR AT LOCATION
MORRIS FORMAN	KY0022411	2506 HOUNZ LN	04/16/09 11:33 PM	04/17/09 01:10 AM	5 GAL	Sewer Manhole	32037	OBSTRUCTION IN MAIN SEWER	OBSTRUCTION-NOT GREASE / ROOTS	897378	MSD PERSONNEL CLEANED AND SANITIZED THE IMPACTED AREA	WORK ORDERS 89742 AND 897512 - ROOT CUT AND FLUSHED THE MAIN SEWER
MORRIS FORMAN	KY0022411	1701 BELMAR DR	03/06/09 5:01 PM	03/06/09 05:39 PM	5 GAL	Sewer Service Line	34091701	A PORTION OF THE MAIN SEWER IS BROKE	STRUCTURAL FAILURE	880203	MSD PERSONNEL CLEANED AND SANITIZED THE IMPACTED AREA	WORK ORDER 880256 - REPAIRED THE MAIN SEWER
MORRIS FORMAN	KY0022411	4623 PRESTON HWY	11/28/08 4:30 PM	11/28/08 11:00 PM	50 GAL	Sewer Main	36686	GREASE IN THE MAIN SEWER	GREASE BLOCKAGE	852289	CLEANED THE AREA WITH A FLUSHER	WORK ORDERS 852292 AND 852291 - ROOT CUT AND FLUSHED THE MAIN SEWER
MORRIS FORMAN	KY0022411	3201 COMMANDER DR	06/18/09 3:20 PM	06/18/09 04:20 PM	3 GAL	Sewer Service Line	41313201	RAGS AND LITE ROOTS IN MSD'S PORTION OF THE PROPERTY SERVICE CONNECTION	OBSTRUCTION-NOT GREASE / ROOTS	921253	MSD PERSONNEL CLEANED AND SANITIZED THE IMPACTED AREA	WORK ORDERS 921654, 925367 AND 921655 - ROOT CUT, FLUSHED AND REPAIRED THE PROPERTY SERVICE LINE AND INSTALLED A 2-WAY CLEANOUT
MORRIS FORMAN	KY0022411	5814 BRITTANY WOODS CIR	10/04/08 12:30 PM	10/04/08 01:10 PM	15 GAL	Sewer Manhole	41985	PUMP STATION WENT OFF LINE	OBSTRUCTION-NOT GREASE / ROOTS	829917	MSD PERSONNEL CLEANED AND SANITIZED THE IMPACTED AREA	REPAIRS MADE BY CHEROKEE CONSTRUCTION COMPANY
MORRIS FORMAN	KY0022411	45 HILL RD	02/08/09 11:00 AM	02/08/09 11:15 AM	2 GAL	Sewer Service Line	45313A	TREE FELL AND PULLED UP PORTION OF THE MAIN SEWER AND MAIN SEWER HAD ROOTS	STRUCTURAL FAILURE	870202	CUSTOMER CLEANED THE IMPACTED AREA	WORK ORDER 870201 - REPAIRED THE MAIN SEWER
MORRIS FORMAN	KY0022411	4019 HYCLIFFE AVE	02/14/09 10:00 PM	02/14/09 10:30 PM	5 GAL	Sewer Service Line	54652	DEBRIS IN THE MAIN SEWER	OBSTRUCTION-NOT GREASE / ROOTS	871735	MSD PERSONNEL CLEANED AND SANITIZED THE IMPACTED AREA	WORK ORDERS 871761 AND 873257 - FLUSHED THE MAIN SEWER
MORRIS FORMAN	KY0022411	2310 W LEE ST	09/29/08 5:30 PM	09/29/08 06:27 PM	3 GAL	Sewer Service Line	58974	PORTION OF THE PROPERTY SERVICE LINE BROKEN ON MSD'S SIDE	STRUCTURAL FAILURE	828129	MSD PERSONNEL CLEANED AND SANITIZED THE IMPACTED AREA	WORK ORDER 828130 - REPAIRED THE PROPERTY SERVICE LINE
MORRIS FORMAN	KY0022411	1549 INDIANA AVE	09/28/08 6:41 PM	09/28/08 07:47 PM	10 GAL	Sewer Main	76105	OBSTRUCTION IN THE MAIN SEWER	OBSTRUCTION-NOT GREASE / ROOTS	827865	MSD PERSONNEL CLEANED AND SANITIZED THE IMPACTED AREA	WORK ORDER 827863 - FLUSHED THE MANHOLE
MORRIS FORMAN	KY0022411	4101 PLYMOUTH RD	12/28/08 4:52 PM	12/28/08 05:09 PM	1 GAL	Sewer Service Line	MA11359059	ROOTS IN THE SHARED JOINT OF THE PROPERTY SERVICE CONNECTION	ROOTS	859339	CUSTOMER CLEANED THE IMPACTED AREA	WORK ORDER 859337 - REPAIRED THE PROPERTY SERVICE CONNECTION AND INSTALLED A 2-WAY CLEANOUT
MORRIS FORMAN	KY0022411	3733 CANOE LN	09/16/08 2:00 PM	09/16/08 02:10 PM	100 GAL	Sewer Lift Station	MSD0024-PS	POWER OUTAGE	POWER OUTAGE (LG&E)	823776	CLEAN UP NOT FEASIBLE	HAULED TO PREVENT
MORRIS FORMAN	KY0022411	1618 WATHEN LN	09/16/08 2:30 PM	09/16/08 02:40 PM	3,000 GAL	Sewer Lift Station	MSD0041-PS	LACK OF POWER DUE TO HIGH WINDS IN AREA	POWER OUTAGE (LG&E)	823751	MSD CLEANED & SANITIZED THE AREA	HOOKEED UP GENERATOR, WO#823787, UNTIL POWER RESTORED
MORRIS FORMAN	KY0022411	6804 WIND RIDGE CT	09/17/08 5:40 AM	09/17/08 05:30 PM	2,130 GAL	Sewer Lift Station	MSD0124-PS	POWER OUTAGE DUE TO STRONG WINDS	POWER OUTAGE (LG&E)	823785	MSD CLEANED & SANITIZED THE AREA	HAULED STATION UNTIL POWER RESTORED

**APPENDIX B-4
OVERFLOWS TO GROUND
JULY 1, 2008 THROUGH JUNE 30, 2009**

Associated Wastewater Treatment Plant Name	Associated Treatment Plant KPDES #	Overflow Location	Overflow Start Date & Time	Overflow Stop Date & Time	Volume of Overflow	Source Asset Type	Source Asset ID	Cause of Overflow	Due To	WO #	Cleanup Efforts by MSD	Repair Efforts by MSD
MORRIS FORMAN	KY0022411	3602 TRAIL RIDGE RD	09/17/08 5:40 AM	09/17/08 06:30 PM	2,310 GAL	Sewer Lift Station	MSD0125-PS	POWER OUTAGE DUE TO STRONG WINDS	POWER OUTAGE (LG&E)	823784	CLEANUP NOT POSSIBLE	HAULED STATION UNTIL POWER RESTORED
MORRIS FORMAN	KY0022411	6001 RODES CT	09/14/08 11:50 PM	09/15/08 12:25 AM	50 GAL	Sewer Lift Station	MSD0193-PS	POWER FAIL DUE TO WINDSTORM	POWER OUTAGE (LG&E)	823399	MSD CLEANED AND SANITIZED AREA	HAULED TO PREVENT FURTHER DISCHARGE
MORRIS FORMAN	KY0022411	1851 EMBASSY SQUARE BLVD	10/13/08 5:45 PM	10/13/08 06:45 PM	50 GAL	Sewer Service Line	P4643	BLOCKAGE IN THE MAIN SEWER	OBSTRUCTION-NOT GREASE / ROOTS	831971	MSD PERSONNEL CLEANED AND SANITIZED THE IMPACTED AREA	WORK ORDER 831972 - FLUSH THE MAIN SEWER AND OPEN THE LINE
CEDAR CREEK	KY0098540	8605 CEDAR CREEK RD	02/18/09 1:50 PM	02/18/09 01:51 PM	25 GAL	Sewer Treatment Plant	MSD0289	API OVERFILLED THE VACTOR TRUCK	MECHANICAL FAILURE	874159	MSD CLEANED & SANITIZED THE AREA	CONTRACTOR STOPPED FILLING TANK
CEDAR CREEK	KY0098540	8605 CEDAR CREEK RD	02/19/09 10:44 AM	02/19/09 10:45 AM	20 GAL	Sewer Treatment Plant	MSD0289	CONTRACTOR API OVERFILLED VACTOR TRUCK ON PLANT	MECHANICAL FAILURE	874251	CONTRACTOR CLEANED & SANITIZED THE AREA	CONTRACTOR STOPPED FILLING VACTOR
CEDAR CREEK	KY0098540	8605 CEDAR CREEK RD	02/19/09 10:50 AM	02/19/09 10:55 AM	40 GAL	Sewer Treatment Plant	MSD0289	CONTRACTOR API VACTOR TRUCK WAS LEAKING AS IT LEFT THE PLANT.	MECHANICAL FAILURE	874253	CONTRACTOR CLEANED & SANITIZED THE AREA	REPAIR VALVE
CEDAR CREEK	KY0098540	11010 RADLEIGH LN	04/21/09 2:05 PM	04/21/09 02:06 PM	1 GAL	Sewer Main	MSD1135-PS	FORCE MAIN LEAKING BETWEEN WET WELL & VALVE VAULT	STRUCTURAL FAILURE	898589	TO BE DONE AS PART OF THE REPAIR BY MSD CONTRACTOR	SHUT OFF PUMP & ISOLATE FOR REPAIRS, REPAIRS TO BE MADE BY MSD CONTRACTOR
HUNTING CREEK NORTH	KY0029106	6521 GUNPOWDER LN	10/30/08 7:00 PM	10/30/08 09:00 PM	500 GAL	Sewer Main	66761F-V	STRUCTURAL FAILURE OF FORCE MAIN	STRUCTURAL FAILURE	838358	MSD PERSONNEL CLEANED AND SANITIZED THE IMPACTED AREA	API HUALING TO PREVENT DISCHARGE
HUNTING CREEK SOUTH	KY0029114	6530 MONTERO DR	10/31/08 10:30 AM	10/31/08 10:31 AM	20 GAL	Sewer Manhole	66913	LEAKING HOSE ON VACTOR TRUCK	MECHANICAL FAILURE	838498	CONTRACTOR CLEANED & SANITIZED THE AREA	CONTRACTOR REPAIRED HOSE
HUNTING CREEK SOUTH	KY0029114	6530 MONTERO DR	08/29/08 7:00 PM	08/29/08 07:15 PM	25 GAL	Sewer Treatment Plant	MSD0292	CONTRACTOR OVER FILLED DIGESTER AT PLANT	MECHANICAL FAILURE	820894	CONTRACTOR CLEANED AND SANITIZED AREA	CONTRACTOR STOPPED FILLING HOLDING TANK
HUNTING CREEK SOUTH	KY0029114	6210 DEEP CREEK CT	01/28/09 10:45 AM	01/30/09 01:45 PM	2040 GAL	Sewer Lift Station	MSD1063-PS	POWER OUTAGE DUE TO ICE STORM	POWER OUTAGE (LG&E)	868062	NO ACCESS DUE TO SNOW & ICE & FALLEN TREES. WHEN ACCESS WAS CLEARED THERE WAS NO SOLIDS OR DEBRIS TO CLEAN.	POWER RESTORED TO PUMP STATION.
HUNTING CREEK SOUTH	KY0029114	8619 WESTOVER DR	10/27/08 5:30 PM	10/27/08 06:30 PM	50 GAL	Sewer Lift Station	MSD1064-PS	LACK OF SYSTEM CAPACITY	ELECTRICAL PROBLEMS AT MSD	837768	AREA CLEANED AND SANITIZED BY MSD PERSONELL	WORK ORDER SUBMITTED TO TROUBLE SHOOT STATION TO VERIFY CAPACITY AND CONTROLS
HUNTING CREEK SOUTH	KY0029114	6808 FAIRWAY VIEW CT	08/28/08 7:20 PM	08/28/08 07:40 PM	50 GAL	Sewer Lift Station	MSD1065-PS	MSD ELECTRICAL PROBLEMS	ELECTRICAL PROBLEMS AT MSD	820447	MSD CLEANED AND SANITIZED AREA	HAULED TO PREVENT FURTHER DISCHARGE TILL REPAIRS ARE MADE SAP WO# 5194394
HUNTING CREEK SOUTH	KY0029114	6808 FAIRWAY VIEW CT	08/29/08 9:00 AM	08/29/08 09:30 AM	10 GAL	Sewer Lift Station	MSD1065-PS	LEAKING VALVE ON BOTTOM OF TANKER	MECHANICAL FAILURE	820822	CONTRACTOR CLEANED SANITIZED AREA	LEAKING VALVE ON TRUCK REPLACED
HUNTING CREEK SOUTH	KY0029114	6808 FAIRWAY VIEW CT	01/28/09 10:33 AM	01/29/09 10:50 AM	36,425 GAL	Sewer Lift Station	MSD1065-PS	POWER OUTAGE CAUSED BY ICE STORM	POWER OUTAGE (LG&E)	868061	MSD CLEANED AND SANITIZED AREA	HAULING TO PREVENT DISCHARGE
HUNTING CREEK SOUTH	KY0029114	6808 FAIRWAY VIEW CT	05/13/09 2:10 PM	05/13/09 02:25 PM	300 GAL	Sewer Lift Station	MSD1065-PS	LGE CUT POWER DUE TO MAJOR WATER MAIN BREAK	POWER OUTAGE (LG&E)	907422	MSD CLEANED AND SANITIZED AREA	LGE RESTORED POWER
HUNTING CREEK SOUTH	KY0029114	6808 FAIRWAY VIEW CT	06/17/09 8:10 PM	06/17/09 08:20 PM	100 GAL	Sewer Lift Station	MSD1065-PS	POWER FAIL LG&E UNDERGROUND CABLE	POWER OUTAGE (LG&E)	920661	CONTRACTOR TO VACTOR UP SPILL	TURNED OFF COVERED COVE PS TO PREVENT MORE DISCHARGE
HUNTING CREEK SOUTH	KY0029114	6719 HARRODS VIEW CIR	01/28/09 12:15 PM	01/28/09 12:45 PM	3,000 GAL	Sewer Lift Station	MSD1069-PS	POWER OUTAGE	POWER OUTAGE (LG&E)	868059	TEMP SIGNS POSTED	HAULED TO PREVENT DISCHAREGH
FLOYDS FORK	KY0102784	12700 TOWNEPARK WAY	01/05/09 10:15 AM	01/05/09 11:34 AM	20 GAL	Sewer Manhole	00389	BLOCKAGE IN THE MSD MAIN SEWER	OBSTRUCTION-NOT GREASE / ROOTS	860923	MSD PERSONNEL CLEANED AND SANITIZED THE IMPACTED AREA	WORK ORDER 860920 - ROOTCUT THE MAIN SEWER AND OPENED THE LINE
FLOYDS FORK	KY0102784	15503 SHELBYVILLE RD	02/13/09 9:50 AM	02/13/09 10:30 AM	200 GAL	Sewer Main	111262-V	STRUCTURAL FAILURE OF FORCE MAIN	STRUCTURAL FAILURE	871462	MSD CLEANED AND SANITIZED AREA	CALLED CONTRACTOR TO REPAIR FORCE MAIN

APPENDIX B-4
OVERFLOWS TO GROUND
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Associated Wastewater Treatment Plant Name	Associated Treatment Plant KPDES #	Overflow Location	Overflow Start Date & Time	Overflow Stop Date & Time	Volume of Overflow	Source Asset Type	Source Asset ID	Cause of Overflow	Due To	WO #	Cleanup Efforts by MSD	Repair Efforts by MSD
FLOYDS FORK	KY0102784	15026 BIRCHAM RD	09/16/08 5:15 PM	09/16/08 10:00 PM	1,425 GAL	Sewer Manhole	69305	POWER FAILURE	POWER OUTAGE (LG&E)	823781	NO DEBRIS OBSERVED	SET UP GENERATOR AT LOCATION
FLOYDS FORK	KY0102784	15026 BIRCHAM RD	09/16/08 7:30 PM	09/16/08 07:56 PM	10 GAL	Sewer Manhole	69305	POWER OUTAGE AT THE PUMP STATION	POWER OUTAGE (LG&E)	823767	MSD PERSONNEL CLEANED AND SANITIZED THE IMPACTED AREA	MSD PERSONNEL PUMPING SEWAGE WHILE WAITING FOR POWER TO BE RESTORED
CHENOWETH RUN	KY0042226	609 WOODLAKE DR	09/25/08 8:00 AM	09/25/08 09:00 AM	20 GAL	Sewer Lift Station	MSD1171-PS	FORCE MAIN BREAK	STRUCTURAL FAILURE	827398	NO DEBRIS JUST WATER	CONTRACTOR REPAIRED WO#4013393

APPENDIX B-5 - DISCHARGE WORK ORDERS-INTERIOR

**APPENDIX B-5
OVERFLOWS TO INTERIOR
JULY 1, 2008 THROUGH JUNE 30, 2009**

Associated Wastewater Treatment Plant Name	Associated Treatment Plant KPDES #	Overflow Location	Overflow Start Date & Time	Overflow Stop Date & Time	Volume of Overflow	Source Asset Type	Source Asset ID	Cause of Overflow	Due To	WO #	Cleanup Efforts by MSD	Repair Efforts by MSD
HITE CREEK	KY0022420	12000 FALLEN OAK CT	04/15/09 12:30: PM	04/15/09 01:00 PM	1 GAL	Sewer Service Line	1419512000	MSD PERSONNEL PERFORMING PREVENTIVE MAINTENANCE ON SEWERS	OBSTRUCTION-NOT GREASE / ROOTS	897023	CUSTOMER CLEANED THE IMPACTED AREA	INVESTIGATION INDICATED THAT ADDITIONAL REPAIRS WERE NOT REQUIRED BY MSD
HITE CREEK	KY0022420	4607 LEESBURG CT	04/30/09 11:49: PM	05/01/09 12:07 AM	3 GAL	Sewer Service Line	165605720000A	ROOTS IN MAIN SEWER	ROOTS	901206	MSD CONTRACTOR CLEANED AND SANITIZED THE IMPACTED AREA	WORK ORDERS 901209, 901244, AND 901261 - FLUSHED AND ROOT CUT THE MAIN SEWER TO REMOVE ROOTS
JEFFERSONTOWN	KY0025194	10109 SNIVELY AVE	01/20/09 9:45: AM	01/20/09 11:00 AM	1 GAL	Sewer Service Line	048500050000A	OBSTRUCTION IN THE MAIN SEWER	OBSTRUCTION-NOT GREASE / ROOTS	865322	CUSTOMER CLEANED THE IMPACTED AREA	WORK ORDER 865258 - ROOT CUT THE MAIN SEWER
JEFFERSONTOWN	KY0025194	13301 SHADY CREEK CIR	06/19/09 12:58: AM	06/19/09 12:58 AM	4 GAL	Sewer Service Line	1363539	OBSTRUCTION IN THE MAIN SEWER	OBSTRUCTION-NOT GREASE / ROOTS	921278	MSD CONTRACTOR CLEANED AND SANITIZED THE IMPACTED AREA	WORK ORDERS 921662 AND 921734 - FLUSHED THE MAIN SEWER TO REMOVE THE OBSTRUCTION
JEFFERSONTOWN	KY0025194	3620 CHARLANE PKY	05/09/09 12:05: AM	05/09/09 12:37 AM	2 GAL	Sewer Service Line	152803620	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	906104	CUSTOMER CLEANED THE IMPACTED AREA	INVESTIGATION INDICATED THAT ADDITIONAL REPAIRS WERE NOT REQUIRED BY MSD
JEFFERSONTOWN	KY0025194	2403 TREGARON AVE	01/29/09 3:15: PM	01/29/09 06:00 PM	1 GAL	Sewer Service Line	166241	OBSTRUCTION IN MAIN SEWER	OBSTRUCTION-NOT GREASE / ROOTS	868279	MSD CONTRACTOR CLEANED AND SANITIZED THE IMPACTED AREA	WORK ORDER 868280 - ROOT CUT THE MAIN SEWER
JEFFERSONTOWN	KY0025194	2801 CONSTANT COMMENT PL	03/23/09 2:30: PM	03/23/09 03:30 PM	1 GAL	Sewer Service Line	176569	OBSTRUCTION IN MAIN SEWER	OBSTRUCTION-NOT GREASE / ROOTS	886548	CUSTOMER CLEANED THE IMPACTED AREA	WORK ORDER 886542 - FLUSHED AND REMOVED OBSTRUCTION FROM SEWER
JEFFERSONTOWN	KY0025194	3318 DELL RD	02/27/09 12:40: AM	02/27/09 01:32 AM	3 GAL	Sewer Service Line	JT00939829	ROOTS IN THE MAIN SEWER	ROOTS	878048	CUSTOMER CLEANED THE IMPACTED AREA	WORK ORDER 878393 AND 879822 - FLUSHED AND ROOT CUT THE MAIN SEWER
JEFFERSONTOWN	KY0025194	3610 DELL RD	01/28/09 4:00: PM	01/28/09 05:07 PM	10 GAL	Sewer Service Line	JT00944239	OBSTRUCTION IN MAIN SEWER	OBSTRUCTION-NOT GREASE / ROOTS	868070	MSD CONTRACTOR CLEANED AND SANITIZED THE IMPACTED AREA	WORK ORDER - 868075 & 868270 ROOTCUT MAIN SEWER
JEFFERSONTOWN	KY0025194	3900 TALLY HO CT	01/25/09 12:23: AM	01/25/09 01:54 AM	2 GAL	Sewer Service Line	JT02081619	ROOTS IN THE MAIN SEWER	ROOTS	866166	CUSTOMER CLEANED THE IMPACTED AREA	WORK ORDERS 866176 AND 866177 - ROOT CUT THE MAIN SEWER
JEFFERSONTOWN	KY0025194	3103 EVON CT	06/10/09 9:15: AM	06/10/09 10:58 AM	1 GAL	Sewer Service Line	JT19813103	OBSTRUCTION IN MAIN SEWER	OBSTRUCTION-NOT GREASE / ROOTS	916713	CUSTOMER CLEANED THE IMPACTED AREA	WORK ORDER 916711 - ROOT CUT THE MAIN SEWER
JEFFERSONTOWN	KY0025194	9545 TAYLORSVILLE RD	03/17/09 11:15: AM	03/17/09 11:38 AM	1 GAL	Sewer Service Line	JT20081239	OBSTRUCTION IN MAIN SEWER	OBSTRUCTION-NOT GREASE / ROOTS	885204	CUSTOMER CLEANED THE IMPACTED AREA	WORK ORDERS 885208 AND 885431 - FLUSHED AND OPEN THE MAIN SEWER
SILVER HEIGHTS	KY0028801	3713 GRISSOM WAY	06/04/09 2:30: PM	06/04/09 03:30 PM	2 GAL	Sewer Service Line	PD27523019	GREASE BLOCKAGE IN SEWER	GREASE BLOCKAGE	914759	CUSTOMER CLEANED THE IMPACTED AREA	WORK ORDER 914767 AND 914972 - ROOT CUT AND FLUSHED THE MAIN SEWER
CHENOWETH HILLS	KY0029459	10504 CHENNY CT	10/05/08 11:00: AM	10/05/08 12:31 PM	1 GAL	Sewer Service Line	BE07980429	ROOT IN MAIN SEWER	ROOTS	829923	CUSTOMER CLEANED THE IMPACTED AREA	WORK ORDERS 830130 AND 829924 - ROOT CUT AND FLUSHED THE SEWER TO REMOVE ROOTS
DEREK R. GUTHRIE	KY0078956	1101 SPRINGVIEW DR	02/28/09 8:00: PM	02/28/09 08:09 PM	1 GAL	Sewer Service Line	066002730000A	ROOTS IN MAIN SEWER	ROOTS	878543	CUSTOMER CLEANED THE IMPACTED AREA	WORK ORDER 878556 - ROOT CUT THE MAIN SEWER AND ADVISED CUSTOMER TO CONTACT A PLUMBER IF PROBLEM CONTINUES
DEREK R. GUTHRIE	KY0078956	7914 BRUSH LN	01/29/09 2:30: PM	01/29/09 03:00 PM	5 GAL	Sewer Service Line	092702110000A	POWER AT PUMP STATION OUT DUE TO SNOW/ICE STORM (AFFECTING LG&E POWER LINES)	POWER OUTAGE (LG&E)	868246	MSD CONTRACTOR CLEANED AND SANITIZED THE IMPACTED AREA	INVESTIGATION INDICATED THAT ADDITIONAL REPAIRS WERE NOT REQUIRED BY MSD
DEREK R. GUTHRIE	KY0078956	7914 BRUSH LN	05/02/09 10:00: AM	05/02/09 10:42 AM	10 GAL	Sewer Service Line	092702110000A	OBSTRUCTION IN THE MAIN SEWER	OBSTRUCTION-NOT GREASE / ROOTS	901325	MSD CONTRACTOR CLEANED AND SANITIZED THE IMPACTED AREA	WORK ORDER 901324 - ROOT CUT THE MAIN SEWER
DEREK R. GUTHRIE	KY0078956	2246 AMBOY DR	12/09/08 9:00: PM	12/09/08 09:34 PM	1 GAL	Sewer Service Line	10017	GREASE IN THE MAIN SEWER	GREASE BLOCKAGE	854365	CUSTOMER CLEANED THE IMPACTED AREA	WORK ORDER 854366 - FLUSHED MAIN SEWER
DEREK R. GUTHRIE	KY0078956	2246 AMBOY DR	06/25/09 8:45: AM	06/25/09 10:02 AM	1 GAL	Sewer Service Line	10017	ROOTS AND OBSTRUCTION IN MAIN SEWER	ROOTS	923209	CUSTOMER CLEANED THE IMPACTED AREA	WORK ORDERS 923206, 923388, AND 923390 - FLUSHED AND ROOT CUT THE MAIN SEWER
DEREK R. GUTHRIE	KY0078956	2406 STROTMAN RD	12/24/08 8:58: PM	12/24/08 11:06 PM	10 GAL	Sewer Service Line	100828	GREASE IN MAIN SEWER	GREASE BLOCKAGE	859046	MSD CONTRACTOR CLEANED AND SANITIZED THE IMPACTED AREA	WORK ORDERS 859100 AND 859180 ROOT CUT AND FLUSHED MAIN SEWER AND PAGED THE ON CALL ERPI TO FOLLOW UP ON THE RESIDENTIAL SOURCE OF GREASE

**APPENDIX B-5
OVERFLOWS TO INTERIOR
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Associated Wastewater Treatment Plant Name	Associated Treatment Plant KPDES #	Overflow Location	Overflow Start Date & Time	Overflow Stop Date & Time	Volume of Overflow	Source Asset Type	Source Asset ID	Cause of Overflow	Due To	WO #	Cleanup Efforts by MSD	Repair Efforts by MSD
DEREK R. GUTHRIE	KY0078956	4601 DOHN RD	01/09/09 12:15: PM	01/09/09 01:15 PM	1 GAL	Sewer Service Line	10200460000A	OBSTRUCTION IN MAIN SEWER	OBSTRUCTION-NOT GREASE / ROOTS	862686	CUSTOMER CLEANED THE IMPACTED AREA	WORK ORDER 862685 FLUSHED THE OBSTRUCTION FROM SEWER
DEREK R. GUTHRIE	KY0078956	4733 LYNN LEA RD	06/26/09 8:45: AM	06/26/09 09:45 AM	5 GAL	Sewer Service Line	102005590000A	OBSTRUCTION IN MAIN SEWER	OBSTRUCTION-NOT GREASE / ROOTS	924072	MSD CONTRACTOR CLEANED AND SANITIZED THE IMPACTED AREA	WORK ORDEER 923556 - FLUSHED AND REMOVED DEBRIS FROM SEWER
DEREK R. GUTHRIE	KY0078956	1705 SADIE LN	11/17/08 7:00: PM	11/17/08 08:00 PM	2 GAL	Sewer Service Line	102101030000A	HEAVY GREASE IN MAIN SEWER	GREASE BLOCKAGE	844245	CUSTOMER CLEANED IMPACTED AREA	WORK ORDER 844246 - FLUSHED MAIN SEWER
DEREK R. GUTHRIE	KY0078956	9922 DANIEL DR	06/07/09 9:40: PM	06/08/09 05:10 AM	3 GAL	Sewer Service Line	102209922	GREASE AND OBSTRUCTION IN MAIN SEWER	GREASE BLOCKAGE	917228	CUSTOMER CLEANED THE IMPACTED AREA	WORK ORDER 923099 - ROOT CUT THE MAIN SEWER
DEREK R. GUTHRIE	KY0078956	6710 OUTER LOOP	04/17/09 3:30: PM	04/17/09 04:15 PM	1 GAL	Sewer Service Line	103196710	OBSTRUCTION IN MAIN SEWER	OBSTRUCTION-NOT GREASE / ROOTS	897609	CUSTOMER CLEANED THE IMPACTED AREA	WORK ORDER 897607 - FLUSHED THE MAIN SEWER
DEREK R. GUTHRIE	KY0078956	7903 MANSLICK RD	01/28/09 11:03: PM	01/28/09 11:11 PM	5 GAL	Sewer Service Line	104403710000A	POWER AT PUMP STATION OUT DUE TO SNOW/ICE STORM (AFFECTING LG&E POWER LINES)	POWER OUTAGE (LG&E)	868127	MSD CONTRACTOR CLEANED AND SANITIZED THE IMPACTED AREA	HAULED SEWAGE UNTIL POWER COULD BE RESTORED
DEREK R. GUTHRIE	KY0078956	4110 JIM HAWKINS DR	04/09/09 11:57: PM	04/10/09 12:04 AM	1 GAL	Sewer Service Line	108034110	OBSTRUCTION IN THE MIAN SEWER	OBSTRUCTION-NOT GREASE / ROOTS	895128	CUSTOMER CLEANED THE IMPACTED AREA	WORK ORDER 895334 - FLUSHED AND ROOT CUT THE MAIN SEWER
DEREK R. GUTHRIE	KY0078956	2710 RALPH AVE	06/26/09 10:15: AM	06/26/09 10:45 AM	1 GAL	Sewer Service Line	108500260000A	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	924076	CUSTOMER CLEANED THE IMPACTED AREA	INVESTIGATION INDICATED THAT ADDITIONAL REPAIRS WERE NOT REQUIRED BY MSD
DEREK R. GUTHRIE	KY0078956	2601 PIONEER RD	12/25/08 2:15: AM	12/25/08 02:37 AM	1 GAL	Sewer Service Line	108501700000A	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	859057	CUSTOMER CLEANED THE IMPACTED AREA	INVESTIGATION INDICATED THAT ADDITIONAL REPAIRS WERE NOT REQUIRED BY MSD
DEREK R. GUTHRIE	KY0078956	1823 MARY CATHERINE DR	05/09/09 10:09: PM	05/09/09 10:40 PM	20 GAL	Sewer Service Line	109202010000A	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	906147	CUSTOMER CLEANED THE IMPACTED AREA	INVESTIGATION INDICATED THAT ADDITIONAL REPAIRS WERE NOT REQUIRED BY MSD
DEREK R. GUTHRIE	KY0078956	3212 WESSEL RD	11/17/08 8:30: PM	11/17/08 09:30 PM	2 GAL	Sewer Service Line	109299	GREASE BLOCKAGE IN THE MAIN SEWER	GREASE BLOCKAGE	844247	CUSTOMER CLEANED THE IMPACTED AREA	WORK ORDER 844248 - FLUSHED MAIN SEWER
DEREK R. GUTHRIE	KY0078956	3214 WESSEL RD	05/12/09 12:00: AM	05/12/09 10:15 AM	1 GAL	Sewer Service Line	109301	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	906764	CUSTOMER CLEANED THE IMPACTED AREA	INVESTIGATION INDICATED THAT ADDITIONAL REPAIRS WERE NOT REQUIRED BY MSD
DEREK R. GUTHRIE	KY0078956	11007 GRAFTON HALL RD	03/07/09 9:33: PM	03/07/09 10:18 PM	1 GAL	Sewer Service Line	1165611007	ROOTS IN MAIN SEWER	ROOTS	880278	CUSTOMER CLEANED THE IMPACTED AREA	WORK ORDERS 880277 AND 880313 - ROOT CUT THE MAIN SEWER
DEREK R. GUTHRIE	KY0078956	4407 LEEDS RD	06/26/09 9:02: PM	06/26/09 09:19 PM	1 GAL	Sewer Service Line	117100650000A	ROOTS IN MAIN SEWER	ROOTS	924117	CUSTOMER CLEANED THE IMPACTED AREA	WORK ORDER 924141 - ROOT CUT THE MAIN SEWER
DEREK R. GUTHRIE	KY0078956	13316 HORNCastle WAY	02/13/09 3:00: PM	02/13/09 03:58 PM	10 GAL	Sewer Service Line	122400590856A	ROOTS IN MAIN SEWER	ROOTS	871654	MSD PERSONNEL CLEANED AND SANITIZED THE IMPACTED AREA	WORK ORDER 871656 - ROOT CUT THE MAIN SEWER
DEREK R. GUTHRIE	KY0078956	2309 GARRS LN	04/03/09 1:30: AM	04/03/09 03:28 AM	5 GAL	Sewer Service Line	124001090000A	OBSTRUCTION IN THE MAIN SEWER	OBSTRUCTION-NOT GREASE / ROOTS	895016	MSD CONTRACTOR CLEANED AND SANITIZED THE IMPACTED AREA	WORK ORDER 897332 - FLUSHED THE MAIN SEWER
DEREK R. GUTHRIE	KY0078956	3901 WAYSIDE DR	11/26/08 2:15: PM	11/26/08 03:15 PM	4 GAL	Sewer Service Line	124300270000A	ROOTS IN MAIN SEWER	ROOTS	852168	MSD CONTRACTOR CLEANED AND SANITIZED THE IMPACTED AREA	WORK ORDER 852166 - ROOT CUT THE MAIN SEWER
DEREK R. GUTHRIE	KY0078956	3101 ALTUS DR	02/11/09 8:49: PM	02/11/09 09:39 PM	1 GAL	Sewer Service Line	124300480075A	HEAVY ROOTS IN THE MAIN SEWER	ROOTS	871106	CUSTOMER CLEANED THE IMPACTED AREA	WORK ORDERS 871108 AND 871246 - FLUSHED AND ROOT CUT THE MAIN SEWER
DEREK R. GUTHRIE	KY0078956	13806 BLAKELY LN	07/26/08 2:30: PM	07/26/08 03:12 PM	2 GAL	Sewer Service Line	12505127	OBSTRUCTION IN MAIN SEWER	OBSTRUCTION-NOT GREASE / ROOTS	810045	CUSTOMER CLEANED THE IMPACTED AREA	WORK ORDER 810047 - FLUSHED DEBRIS FROM THE SEWER
DEREK R. GUTHRIE	KY0078956	2404 STROTMAN RD	12/24/08 8:58: PM	12/24/08 11:06 PM	10 GAL	Sewer Service Line	125300300000A	GREASE IN MAIN SEWER	GREASE BLOCKAGE	859049	MSD CONTRACTOR CLEANED AND SANITIZED THE IMPACTED AREA	WORK ORDER 858991 - FLUSHED AND VACTORED MAIN SEWER AND PAGED ON CALL ERPI TO

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Associated Wastewater Treatment Plant Name	Associated Treatment Plant KPDES #	Overflow Location	Overflow Start Date & Time	Overflow Stop Date & Time	Volume of Overflow	Source Asset Type	Source Asset ID	Cause of Overflow	Due To	WO #	Cleanup Efforts by MSD	Repair Efforts by MSD
DEREK R. GUTHRIE	KY0078956	2331 FARNSLEY RD	01/29/09 7:00: PM	01/29/09 08:08 PM	1 GAL	Sewer Service Line	132898	ROOTS IN THE MAIN SEWER AND AT THE TAP OF MSD'S PORTION OF THE PROPERTY SERVICE CONNECTION	ROOTS	868301	CUSTOMER CLEANED THE IMPACTED AREA	WORK ORDERS 869154, 868737 AND 868704 - ROOT CUT MAIN SEWER; REPAIRED THE PROPERTY SERVICE CONNECTION AND INSTALLED A 2-WAY CLEANOUT
DEREK R. GUTHRIE	KY0078956	7107 BETSY ROSS DR	02/28/09 5:00: PM	02/28/09 05:24 PM	1 GAL	Sewer Service Line	139861	OBSTRUCTION IN MAIN SEWER AND IN MSD'S PORTION OF THE PROPERTY SERVICE CONNECTION	OBSTRUCTION-NOT GREASE / ROOTS	878520	CUSTOMER CLEANED THE IMPACTED AREA	WORK ORDERS 878519 AND 878521 - ROOT CUT MAIN SEWER AND THE PROPERTY SERVICE CONNECTION
DEREK R. GUTHRIE	KY0078956	7316 REGIMENT RD	01/28/09 2:20: PM	01/28/09 02:25 PM	1 GAL	Sewer Service Line	1463517	POWER AT PUMP STATION OUT DUE TO SNOW/ICE STORM (AFFECTING LG&E POWER LINES)	POWER OUTAGE (LG&E)	868101	CUSTOMER CLEANED THE IMPACTED AREA	POWER RESTORED
DEREK R. GUTHRIE	KY0078956	10809 ORELAND MILL RD	01/28/09 2:20: PM	01/28/09 02:25 PM	1 GAL	Sewer Service Line	175245	POWER AT PUMP STATION OUT DUE TO SNOW/ICE STORM (AFFECTING LG&E POWER LINES)	POWER OUTAGE (LG&E)	868102	CUSTOMER CLEANED THE IMPACTED AREA	INVESTIGATION INDICATED THAT ADDITIONAL REPAIRS WERE NOT REQUIRED BY MSD
DEREK R. GUTHRIE	KY0078956	2136 EAST LN	01/28/09 8:00: AM	01/28/09 09:15 AM	10 GAL	Sewer Service Line	27519	LACK OF SYSTEM CAPACITY	POWER OUTAGE (LG&E)	868104	MSD CONTRACTOR CLEANED AND SANITIZED THE IMPACTED AREA	WORK ORDER 868346 - FLUSHED THE MAIN SEWER
DEREK R. GUTHRIE	KY0078956	2212 FARNSLEY RD	05/11/09 12:00: PM	05/11/09 12:15 PM	1 GAL	Sewer Service Line	33920	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	906602	ADVISED CUSTOMER THEY ARE RESPONSIBLE FOR CLEANING THE IMPACTED AREA	ADVISED CUSTOMER TO CONTACT A PLUMBER
DEREK R. GUTHRIE	KY0078956	2304 GARRS LN	04/02/09 11:11: PM	04/03/09 01:25 AM	10 GAL	Sewer Service Line	34261	ROOTS IN MAIN SEWER	ROOTS	893223	CUSTOMER CLEANED THE IMPACTED AREA	WORK ORDER 904614 - FLUSHED/VACTOR THE OBSTRUCTION FROM THE SEWER
DEREK R. GUTHRIE	KY0078956	9709 GANDY RD	01/28/09 12:20: PM	01/28/09 12:45 PM	1 GAL	Sewer Service Line	38167	POWER AT PUMP STATION OUT DUE TO SNOW/ICE STORM (AFFECTING LG&E POWER LINES)	POWER OUTAGE (LG&E)	868094	CUSTOMER CLEANED THE IMPACTED AREA	INVESTIGATION INDICATED THAT ADDITIONAL REPAIRS WERE NOT REQUIRED BY MSD
DEREK R. GUTHRIE	KY0078956	2537 HAMPSTEAD DR	05/09/09 9:30: AM	05/09/09 10:08 AM	5 GAL	Sewer Service Line	39304	ROOTS IN MAIN SEWER	ROOTS	906040	MSD CONTRACTOR CLEANED AND SANITIZED THE IMPACTED AREA	WORK ORDER 906082 - ROOT CUT THE MAIN SEWER
DEREK R. GUTHRIE	KY0078956	2528 JENLEE LN	03/11/09 11:30: AM	03/11/09 12:30 PM	1 GAL	Sewer Service Line	51392	ROOTS IN MAIN SEWER	ROOTS	882493	CUSTOMER CLEANED THE IMPACTED AREA	WORK ORDER 882487 AND 882684 - FLUSHED AND ROOT CUT THE MAIN SEWER
DEREK R. GUTHRIE	KY0078956	2708 RALPH AVE	06/26/09 10:15: AM	06/26/09 10:45 AM	1 GAL	Sewer Service Line	86311	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	924082	CLEANED THE IMPACTED AREA	INVESTIGATION INDICATED THAT ADDITIONAL REPAIRS WERE NOT REQUIRED BY MSD
DEREK R. GUTHRIE	KY0078956	3515 ROBIN DR	06/12/09 2:30: PM	06/12/09 03:39 PM	3 GAL	Sewer Service Line	89025	OBSTRUCTION IN MAIN SEWER	OBSTRUCTION-NOT GREASE / ROOTS	917845	MSD CONTRACTOR CLEANED AND SANITIZED THE IMPACTED AREA	WORK ORDER 917843 - ROOT CUT THE MAIN SEWER
DEREK R. GUTHRIE	KY0078956	5014 LESABRE DR	01/27/09 2:16: PM	01/27/09 02:17 PM	10 GAL	Sewer Service Line	90825014B	BLOCKAGE IN MAIN SEWER	OBSTRUCTION-NOT GREASE / ROOTS	867945	MSD CONTRACTOR CLEANED AND SANITIZED THE IMPACTED AREA	WORK ORDER 867940 - ROOT CUT THE MAIN SEWER
DEREK R. GUTHRIE	KY0078956	4907 CREST CT	12/14/08 4:43: PM	12/14/08 05:04 PM	2 GAL	Sewer Service Line	96314907	ROOTS IN MAIN SEWER	ROOTS	856680	MSD CONTRACTOR CLEANED AND SANITIZED THE IMPACTED AREA	WORK ORDER 856725 - ROOT CUT MAIN SEWER
DEREK R. GUTHRIE	KY0078956	219 GLISSADE DR	01/28/09 1:00: PM	01/28/09 01:15 PM	1 GAL	Sewer Service Line	AU11138079	POWER AT PUMP STATION OUT DUE TO SNOW/ICE STORM (AFFECTING LG&E POWER LINES)	POWER OUTAGE (LG&E)	868095	MSD CONTRACTOR CLEANED AND SANITIZED THE IMPACTED AREA	INVESTIGATION INDICATED THAT ADDITIONAL REPAIRS WERE NOT REQUIRED BY MSD
DEREK R. GUTHRIE	KY0078956	9412 PIROUETTE AVE	01/28/09 1:15: PM	01/28/09 01:30 PM	1 GAL	Sewer Service Line	AU11210039	POWER AT PUMP STATION OUT DUE TO SNOW/ICE STORM (AFFECTING LG&E POWER LINES)	POWER OUTAGE (LG&E)	868096	MSD CONTRACTORS CLEANED AND SANITIZED THE IMPACTED AREA	INVESTIGATION INDICATED THAT ADDITIONAL REPAIRS WERE NOT REQUIRED BY MSD
DEREK R. GUTHRIE	KY0078956	9414 PIROUETTE AVE	09/16/08 12:30: AM	09/16/08 12:57 AM	2 GAL	Sewer Service Line	AU11211039	POWER OUTAGE PUMP STATION DOWN	POWER OUTAGE (LG&E)	823514	MSD CONTRACTOR CLEANED AND SANITIZED THE IMPACTED AREA	MSD'S OPERATIONS DEPARTMENT PUMPING THE PUMP STATION
DEREK R. GUTHRIE	KY0078956	405 ECHAPPE LN	01/28/09 9:49: PM	01/28/09 09:49 PM	5 GAL	Sewer Service Line	AU11214059	POWER AT PUMP STATION OUT DUE TO SNOW/ICE STORM (AFFECTING LG&E POWER LINES)	POWER OUTAGE (LG&E)	868111	CUSTOMER CLEANED THE IMPACTED AREA	GENERATOR UTILIZED UNTIL POWER RESTORED
DEREK R. GUTHRIE	KY0078956	419 ECHAPPE LN	01/28/09 2:20: PM	01/28/09 02:25 PM	1 GAL	Sewer Service Line	AU11221039	POWER AT PUMP STATION OUT DUE TO SNOW/ICE STORM (AFFECTING LG&E POWER LINES)	POWER OUTAGE (LG&E)	868100	CUSTOMER CLEANED THE IMPACTED AREA	INVESTIGATION INDICATED THAT ADDITIONAL REPAIRS WERE NOT REQUIRED BY MSD
DEREK R. GUTHRIE	KY0078956	9507 PIROUETTE AVE	01/29/09 11:45: AM	01/29/09 12:00 PM	1 GAL	Sewer Service Line	AU11259059	POWER AT PUMP STATION OUT DUE TO SNOW/ICE STORM (AFFECTING LG&E POWER LINES)	POWER OUTAGE (LG&E)	868183	CUSTOMER CLEANED THE IMPACTED AREA	INVESTIGATION INDICATED THAT ADDITIONAL REPAIRS WERE NOT REQUIRED BY MSD

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DEREK R. GUTHRIE	KY0078956	9505 PIROUETTE AVE	01/28/09 8:11: PM	01/28/09 09:27 PM	3 GAL	Sewer Service Line	AU11260029	POWER AT PUMP STATION OUT DUE TO SNOW/ICE STORM (AFFECTING LG&E POWER LINES)	POWER OUTAGE (LG&E)	868110	MSD CONTRACTOR CLEANED AND SANITIZED THE IMPACTED AREA	GENERATOR UTILIZED UNTIL POWER RESTORED
DEREK R. GUTHRIE	KY0078956	9505 PIROUETTE AVE	01/29/09 12:00: PM	01/29/09 12:12 PM	1 GAL	Sewer Service Line	AU11260029	POWER AT PUMP STATION OUT DUE TO SNOW/ICE STORM (AFFECTING LG&E POWER LINES)	POWER OUTAGE (LG&E)	868177	MSD CONTACTOR CLEANED AND SANITIZED THE IMPACTED AREA	INVESTGATION INDICATED THAT ADDITIONAL REPAIRS WERE NOT REQUIRED BY MSD
DEREK R. GUTHRIE	KY0078956	9503 PIROUETTE AVE	01/29/09 10:00: PM	01/29/09 10:45 PM	10 GAL	Sewer Service Line	AU11261029	OVERFLOW CAUSED BY POWER FAILURE	POWER OUTAGE (LG&E)	868320	MSD CONTRACTORS CLEANED AND SANITIZED THE IMPACTED AREA	INVESTIGATION INDICATED THAT ADDITIONAL REPAIRS WERE NOT REQUIRED BY MSD
DEREK R. GUTHRIE	KY0078956	9617 BRITANNIA CT	06/11/09 3:45: PM	06/11/09 05:30 PM	5 GAL	Sewer Service Line	AU12407069	OBSTRUCTION IN MAIN SEWER	OBSTRUCTION-NOT GREASE / ROOTS	917304	CUSTOMER CLEANED THE IMPACTED AREA	WORK ORDER 917303 - FLUSHED OBSTRUCTION FROM SEWER
DEREK R. GUTHRIE	KY0078956	10713 JUNE DR	06/11/09 8:05: PM	06/11/09 09:04 PM	1 GAL	Sewer Service Line	AU14119019	OBSTRUCTION IN THE MAIN SEWER	OBSTRUCTION-NOT GREASE / ROOTS	917321	CUSTOMER CLEANED THE IMPACTED AREA	WORK ORDERS 917345 AND 917346 - ROOT CUT THE MAIN SEWER TO REMOVE OBSTRUCTION
DEREK R. GUTHRIE	KY0078956	4701 LONGBOROUGH CT	11/23/08 8:30: PM	11/23/08 09:36 PM	1 GAL	Sewer Service Line	BE08824299	MASSIVE ROOTS IN THE MAIN SEWER	ROOTS	851434	CUSTOMER CLEANED THE IMPACTED AREA	WORK ORDERS - 851500 AND 851435 - ROOT CUT AND FLUSHED THE MAIN SEWER
DEREK R. GUTHRIE	KY0078956	4701 LONGBOROUGH CT	11/25/08 1:00: PM	11/25/08 01:06 PM	15 GAL	Sewer Service Line	BE08824299	ROOTS IN MSD'S MAIN SEWER	ROOTS	851783	MSD PERSONNEL CLEANED AND SANITIZED THE IMPACTED AREA	WORK ORDERS - 851500 AND 851435 - ROOT CUT AND FLUSHED THE MAIN SEWER
DEREK R. GUTHRIE	KY0078956	7218 QUAIL RIDGE RD	02/16/09 7:00: PM	02/16/09 07:30 PM	2 GAL	Sewer Service Line	BW03002049	OBSTRUCTION IN MAIN SEWER	OBSTRUCTION-NOT GREASE / ROOTS	873699	CUSTOMER CLEANED THE IMPACTED AREA	WORK ORDER 873700 - ROOT CUT MAIN SEWER
DEREK R. GUTHRIE	KY0078956	6804 RIGGS DR	03/27/09 12:02: AM	03/27/09 12:38 AM	15 GAL	Sewer Service Line	BW04509029	ROOTS IS THE MAIN SEWER	ROOTS	889166	MSD CONTRACTOR CLEANED AND SANITIZED THE IMPACTED AREA	WORK ORDER 889273 - ROOT CUT THE MAIN SEWER
DEREK R. GUTHRIE	KY0078956	7903 BROADFERN DR	01/29/09 1:45: PM	01/29/09 02:15 PM	5 GAL	Sewer Service Line	BW06676089	HEAVY GREASE IN THE LINE FROM THE PUMP STATION	GREASE BLOCKAGE	868241	MSD CONTRACTOR CLEANED AND SANITIZED THE IMPACTED AREA	WORK ORDERS 870846 AND 869157 - VACTOR AND REPAIRED THE PROPERTY SERVICE CONNECTION AND INSTALLED A 2-WAY CLEANOUT
DEREK R. GUTHRIE	KY0078956	8009 WATERFERN WAY	12/09/08 11:00: PM	12/09/08 11:35 PM	15 GAL	Sewer Service Line	BW06793019	OBSTRUCTION IN THE MAIN SEWER	OBSTRUCTION-NOT GREASE / ROOTS	854368	CUSTOMER CLEANED THE IMPACTED AREA	WORK ORDER 854465 - ROOT CUT THE MAIN SEWER
DEREK R. GUTHRIE	KY0078956	11127 STALWERT PL	12/18/08 10:30: PM	12/18/08 11:32 PM	3 GAL	Sewer Service Line	DD40006019	ROOTS IN THE MAIN SEWER	ROOTS	857569	CUSTOMER CLEANED THE IMPACTED AREA	WORK ORDERS 857664 AND 857661 - VACTOR AND REPAIRED THE MAIN SEWER
DEREK R. GUTHRIE	KY0078956	10515 MOONLIGHT WAY	10/02/08 11:45: AM	10/02/08 12:35 PM	1 GAL	Sewer Service Line	DD41287019	OBSTRUCTION IN THE MAIN SEWER	OBSTRUCTION-NOT GREASE / ROOTS	829439	CUSTOMER CLEANED THE IMPACTED AREA	WORK ORDER 829439 - FLUSHED THE OBSTRUCTION FROM SEWER
DEREK R. GUTHRIE	KY0078956	13310 BESSELS BLVD	03/31/09 11:00: PM	03/31/09 11:38 PM	1 GAL	Sewer Service Line	DD71474019	STRUCTUAL PROBLEM ON MSD'S PORTION OF THE PROPERTY SERVICE CONNECTION	STRUCTURAL FAILURE	892620	CUSTOMER CLEANED THE IMPACTED AREA	WORK ORDERS 893071 -
DEREK R. GUTHRIE	KY0078956	2404 PIKES PEAK BLVD	05/09/09 10:00: AM	05/09/09 10:30 AM	100 GAL	Sewer Service Line	DE30320019	OBSTRUCTION IN MAIN SEWER	OBSTRUCTION-NOT GREASE / ROOTS	907034	MSD CONTRACTOR CLEANED AND SANITIZED THE IMPACTED AREA	WORK ORDER 906020 - FLUSHED THE MAIN SEWER TO REMOVE OBSTRUCTION
DEREK R. GUTHRIE	KY0078956	4507 GRANDVIEW DR	01/18/09 12:00: AM	01/18/09 06:42 PM	5 GAL	Sewer Service Line	DE38082019	ROOTS IN THE MAIN SEWER	ROOTS	865043	CUSTOMER CLEANED THE IMPACTED AREA	WORK ORDERS 865052 AND 865053 - ROOT CUT THE MAIN SEWER
DEREK R. GUTHRIE	KY0078956	1822 KENDALL LN	09/10/08 12:15: PM	09/10/08 02:00 PM	3 GAL	Sewer Service Line	DE38518019	OBSTRUCTION IN MAIN SEWER	OBSTRUCTION-NOT GREASE / ROOTS	822614	MSD CONTRACTOR CLEANED AND SANITIZED THE IMPACTED AREA	WORK ORDER 822593 - ROOT CUT THE MAIN SEWER
DEREK R. GUTHRIE	KY0078956	7017 BILLIE LN	04/11/09 12:00: PM	04/11/09 12:32 PM	20 GAL	Sewer Service Line	PB16190029	ROOTS IN MAIN SEWER	ROOTS	895374	MSD CONTRACTOR CLEANED AND SANITIZED THE IMPACTED AREA	WORK ORDER 895376 - ROOT CUT THE MAIN SEWER
DEREK R. GUTHRIE	KY0078956	5600 WHISPERING HILLS BLVD	11/28/08 3:00: PM	11/28/08 04:45 PM	3 GAL	Sewer Service Line	PB16206019	ROOTS IN THE MAIN SEWER	ROOTS	852280	MSD CONTRACTOR CLEANED AND SANITIZED THE IMPACTED AREA	WORK ORDER 852281 - ROOT CUT THE MAIN SEWER
DEREK R. GUTHRIE	KY0078956	7201 BLAZIER CT	09/04/08 5:10: PM	09/04/08 05:25 PM	1 GAL	Sewer Service Line	PB16693049	ROOTS IN MAIN SEWER	ROOTS	821598	CUSTOMER CLEANED THE IMPACTED AREA	WORK ORDER 821704 - ROOT CUT MAIN SEWER

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DEREK R. GUTHRIE	KY0078956	8909 BLUE LICK RD	05/27/09 6:53: PM	05/27/09 08:59 PM	1 GAL	Sewer Service Line	PC07406019	OBSTRUCTION IN THE MAIN SEWER AND ROOTS ON MSD'S PORTION OF THE PROPERTY SERVICE CONNECTION	OBSTRUCTION-NOT GREASE / ROOTS	912718	CUSTOMER CLEANED THE IMPACTED AREA	WORK ORDERS 913082, 913083, 913085, AND 913100 - ROOT CUT MAIN SEWER; WORK ORDERS 914025 AND 913100 - ROOT CUT AND REPAIRED THE PROPERTY SERVICE LINE
DEREK R. GUTHRIE	KY0078956	4000 NEAGLI CT	10/24/08 1:30: PM	10/24/08 02:30 PM	1 GAL	Sewer Service Line	PD05304019	OBSTRUCTION IN MAIN SEWER	OBSTRUCTION-NOT GREASE / ROOTS	836127	MSD PERSONNEL CLEANED AND SANITIZED THE INPACTED AREA	WORK ORDER 836118 - ROOT CUT THE MAIN SEWER
DEREK R. GUTHRIE	KY0078956	11010 ALTSHELER PL	05/21/09 4:00: PM	05/21/09 05:51 PM	1 GAL	Sewer Service Line	PD17204089	OBSTRUCTION IN MAIN SEWER	OBSTRUCTION-NOT GREASE / ROOTS	909864	CUSTOMER CLEANED THE IMPACTED AREA	WORK ORDER 909865 - FLUSHED DEBRIS FROM SEWER
DEREK R. GUTHRIE	KY0078956	11006 WAYCROSS AVE	09/15/08 5:30: PM	09/15/08 06:01 PM	1 GAL	Sewer Service Line	PD17232059	POWER OUTAGE - PUMP STATION NOT WORKING	POWER OUTAGE (LG&E)	823491	MSD CONTRACTOR CLEANED AND SANITIZED THE IMPACTED AREA	PUMP STATION REPAIRED;POWER WAS RESTORED
DEREK R. GUTHRIE	KY0078956	5811 MEDTREE PL	06/23/09 8:30: AM	06/23/09 09:30 AM	1 GAL	Sewer Service Line	PD20298019	OBSTRUCTION IN MAIN SEWER	OBSTRUCTION-NOT GREASE / ROOTS	922346	MSD CONTRACTORS CLEANED AND SANITIZED THE IMPACTED AREA	WORK ORDER 922345 - FLUSHED DEBRIS FROM SEWER
DEREK R. GUTHRIE	KY0078956	6213 PRICE LANE RD	02/01/09 11:00: AM	02/01/09 12:44 PM	1 GAL	Sewer Service Line	PD21034029	OBSTRUCTION IN MAIN SEWER	OBSTRUCTION-NOT GREASE / ROOTS	868710	CUSTOMER CLEANED THE IMPACTED AREA	WORK ORDER 868711 - ROOT CUT MAIN SEWER
DEREK R. GUTHRIE	KY0078956	6208 FORSYTHIA LN	03/24/09 11:15: AM	03/24/09 12:30 PM	1 GAL	Sewer Service Line	PD22088029	OBSTRUCTION IN MSD MAIN SEWER	OBSTRUCTION-NOT GREASE / ROOTS	887109	CUSTOMER CLEANED THE IMPACTED AREA	WORK ORDER 887111 - FLUSHED AND OPENED THE MAIN SEWER
DEREK R. GUTHRIE	KY0078956	9112 GLASSLIPPER CT	04/14/09 11:00: PM	04/14/09 11:50 PM	1 GAL	Sewer Service Line	PD24561049	OBSTRUCTION IN MAIN SEWER	OBSTRUCTION-NOT GREASE / ROOTS	896839	CUSTOMER CLEANED THE IMPACTED AREA	WORK ORDER 896840 - ROOT CUT MAIN SEWER AND GOT LINE OPEN
DEREK R. GUTHRIE	KY0078956	9420 WOOD HOLLOW RD	02/16/09 11:00: PM	02/16/09 11:25 PM	1 GAL	Sewer Service Line	PD26090049	ROOTS IN THE MAIN SEWER	ROOTS	873704	CUSTOMER CLEANED THE IMPACTED AREA	WORK ORDERS 873705 AND 873831 - ROOT CUT THE MAIN SEWER
DEREK R. GUTHRIE	KY0078956	9420 WOOD HOLLOW RD	03/14/09 1:00: PM	03/14/09 01:47 PM	10 GAL	Sewer Service Line	PD26090049	ROOTS IN MAIN SEWER	ROOTS	884656	MSD CONTARACTOR CLEANED AND SANITIZED THE IMPACTED AREA	WORK ORDERS 884659 AND 885004 - ROOT CUT THE MAIN SEWER (OPENED LINE); MAIN SEWER NEEDS REPAIR (NOT CAUSING BLOCKAGE)
DEREK R. GUTHRIE	KY0078956	4908 WOODSEND RD	11/13/08 7:00: PM	11/13/08 07:49 PM	2 GAL	Sewer Service Line	PD26110099	OBSTRUCTION IN MAIN SEWER	OBSTRUCTION-NOT GREASE / ROOTS	843585	CUSTOMER CLEANED THE IMPACTED AREA	WORK ORDER 843664 - FLUSHED THE MAIN SEWER AND OPENED THE LINE
DEREK R. GUTHRIE	KY0078956	2404 GARRS LN	04/02/09 11:11: PM	04/03/09 01:25 AM	10 GAL	Sewer Service Line	RR12483039	ROOTS IN MAIN SEWER	ROOTS	893219	MSD CONTRACTOR CLEANED AND SANITIZED THE IMPACTED AREA	WORK ORDER 904610 - FLUSHED/VACTORED THE OBSTRUCTION FROM MAIN SEWER
DEREK R. GUTHRIE	KY0078956	2196 PEASLEE RD	05/08/09 5:00: PM	05/11/09 07:28 PM	50 GAL	Sewer Service Line	RR13544019	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	906604	CUSTOMER CLEANED THE IMPACTED AREA	INVESTIGATION INDICATED THAT ADDITIONAL REPAIRS WERE NOT REQUIRED BY MSD
DEREK R. GUTHRIE	KY0078956	1900 FARNSLEY RD	06/22/09 12:45: PM	06/22/09 01:15 PM	1 GAL	Sewer Service Line	RR14246019	OBSTRUCTION (SHOP TOWEL) IN MAIN SEWER	OBSTRUCTION-NOT GREASE / ROOTS	922123	ADVISED CUSTOMER THAT THEY ARE RESPONSIBLE FOR CLEANING THE IMPACTED AREA	WORK ORDER 921998 - ROOT CUT AND REMOVED SHOP TOWEL FROM SEWER
DEREK R. GUTHRIE	KY0078956	3425 FERN LEA RD	09/01/08 10:00: PM	09/02/08 01:30 AM	30 GAL	Sewer Service Line	RR14443759	ROOTS IN MAIN SEWER	ROOTS	821030	MSD CONTRACTOR CLEANED AND SANITIZED THE IMPACTED AREA	WORK ORDER 820977 - ROOT CUT THE MAIN SEWER
DEREK R. GUTHRIE	KY0078956	3443 HEATHERFIELD DR	05/11/09 10:30: AM	05/11/09 10:45 AM	1 GAL	Sewer Service Line	RR14471039	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	906601	ADVISED CUSTOMER THEY ARE RESPONSIBLE FOR CLEANING THE IMPACTED AREA	ADVISED CUSTOMER TO CONTACT A PLUMBER
DEREK R. GUTHRIE	KY0078956	3443 HEATHERFIELD DR	06/26/09 10:00: AM	06/26/09 10:15 AM	1 GAL	Sewer Service Line	RR14471039	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	924065	CUSTOMER CLEANED THE IMPACTED AREA	INVESTIGATION INDICATED THAT ADDITIONAL REPAIRS WERE NOT REQUIRED BY MSD
DEREK R. GUTHRIE	KY0078956	3446 HEATHERFIELD DR	05/12/09 12:00: AM	05/12/09 10:25 AM	1 GAL	Sewer Service Line	RR14552049	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	906767	CUSTOMER CLEANED THE IMPACTED AREA	INVESTIGATION INDICATED THAT ADDITIONAL REPAIRS WERE NOT REQUIRED BY MSD
DEREK R. GUTHRIE	KY0078956	3444 HEATHERFIELD DR	05/11/09 10:00: AM	05/11/09 10:15 AM	1 GAL	Sewer Service Line	RR14553049	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	906600	CUSTOMER CLEANED THE IMPACTED AREA	ADVISED CUSTOMER TO CONTACT A PLUMBER
MORRIS FORMAN	KY0022411	2011 TERRIL LN	02/24/09 12:00: PM	02/24/09 01:30 PM	1 GAL	Sewer Service Line	01011964	HEAVY GREASE AND ROOTS IN THE MAIN SEWER	GREASE BLOCKAGE	877503	CUSTOMER CLEANED THE IMPACTED AREA	WORK ORDER 877771 - ROOT CUT THE MAIN SEWER

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OVERFLOWS TO INTERIOR
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Associated Wastewater Treatment Plant Name	Associated Treatment Plant KPDES #	Overflow Location	Overflow Start Date & Time	Overflow Stop Date & Time	Volume of Overflow	Source Asset Type	Source Asset ID	Cause of Overflow	Due To	WO #	Cleanup Efforts by MSD	Repair Efforts by MSD
MORRIS FORMAN	KY0022411	2639 ALGONQUIN PKY	06/26/09 3:00: PM	06/26/09 03:15 PM	1 GAL	Sewer Service Line	040B00700000A	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	924094	CUSTOMER CLEANED THE IMPACTED AREA	INVESTIGATION INDICATED THAT ADDITIONAL REPAIRS WERE NOT REQUIRED BY MSD
MORRIS FORMAN	KY0022411	2031 WINGFIELD AVE	02/28/09 4:00: PM	02/28/09 04:56 PM	1 GAL	Sewer Service Line	041K00430000A	OBSTRUCTION IN MAIN SEWER	OBSTRUCTION-NOT GREASE / ROOTS	878514	CUSTOMER CLEANED THE IMPACTED AREA	WORK ORDER878513 - ROOT CUT MAIN SEWER
MORRIS FORMAN	KY0022411	2200 WINSTON AVE	06/07/09 5:00: PM	06/07/09 05:14 PM	1 GAL	Sewer Service Line	045000130000A	OBSTRUCTION IN THE MAIN SEWER	OBSTRUCTION-NOT GREASE / ROOTS	915294	CUSTOMER CLEANED THE IMPACTED AREA	WORK ORDER 915295 - ROOT CUT MAIN SEWER
MORRIS FORMAN	KY0022411	4308 BRIARWOOD RD	06/01/09 3:00: PM	06/01/09 03:30 PM	2 GAL	Sewer Service Line	052400960000A	ROOTS IN MAIN SEWER	ROOTS	913859	CUSTOMER CLEANED THE IMPACTED ARE	WORK ORDER 914256 - ROOT CUT THE MAIN SEWER
MORRIS FORMAN	KY0022411	3737 ROSEMONT BLVD	04/19/09 9:28: PM	04/19/09 09:28 PM	8 GAL	Sewer Service Line	055700090000A	ROOTS IN MAIN SEWER	ROOTS	897849	MSD CONTRACTOR CLEANED AND SANITIZED THE IMPACTED AREA	WORK ORDERS 898048 AND 898076 - ROOT CUT THE MAIN SEWER
MORRIS FORMAN	KY0022411	3738 ROSEMONT BLVD	04/19/09 6:54: PM	04/19/09 06:54 PM	8 GAL	Sewer Service Line	055700840000A	ROOTS IN MAIN SEWER	ROOTS	897845	MSD CONTRACTOR CLEANED AND SANITIZED THE IMPACTED AREA	WORK ORDERS 898048 AND 898076 - ROOT CUT THE MAIN SEWER
MORRIS FORMAN	KY0022411	3736 ROSEMONT BLVD	04/19/09 8:13: PM	04/19/09 08:38 PM	10 GAL	Sewer Service Line	055700850000A	ROOTS IN MAIN SEWER	ROOTS	897853	MSD CONTRACTOR CLEANED AND SANITIZED THE IMPACTED AREA	WORK ORDERS 898048 AND 898076 - ROOT CUT THE MAIN SEWER
MORRIS FORMAN	KY0022411	3740 ROSEMONT BLVD	04/19/09 6:19: PM	04/19/09 06:19 PM	10 GAL	Sewer Service Line	055700980000A	ROOTS IN MAIN SEWER	ROOTS	897834	MSD CONTRACTOR CLEANED AND SANITIZED THE IMPACTED AREA	WORK ORDERS 898048 AND 898076 - ROOT CUT THE MAIN SEWER
MORRIS FORMAN	KY0022411	3735 ROSEMONT BLVD	04/19/09 5:00: PM	04/19/09 05:28 PM	8 GAL	Sewer Service Line	055701040000A	ROOTS IN MAIN SEWER	ROOTS	897851	MSD CONTRACTOR CLEANED AND SANITIZED THE IMPACTED AREA	WORK ORDERS 898048 AND 898076 - ROOT CUT THE MAIN SEWER
MORRIS FORMAN	KY0022411	3929 S 1ST ST	05/09/09 5:04: AM	05/09/09 05:04 AM	2 GAL	Sewer Service Line	055F01180000A	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	906081	CUSTOMER CLEANED THE IMPACTED AREA	INVESTIGATION INDICATED THAT ADDITIONAL REPAIRS WERE NOT REQUIRED BY MSD
MORRIS FORMAN	KY0022411	3117 MARLIN RD	09/29/08 9:00: PM	09/29/08 11:36 PM	1 GAL	Sewer Service Line	056300290000A	OBSTRUCTION IN MAIN SEWER	OBSTRUCTION-NOT GREASE / ROOTS	828143	CUSTOMER CLEANED THE IMPACTED AREA	WORK ORDER 828144 - FLUSHED DEBRIS FROM THE SEWER
MORRIS FORMAN	KY0022411	120 BLUE RIDGE RD	12/12/08 10:45: AM	12/12/08 11:12 AM	1 GAL	Sewer Service Line	058000020000A	ROOTS IN MAIN SEWER	ROOTS	854848	CUSTOMER CLEANED THE IMPACTED AREA	WORK ORDER 856588 - ROOT CUT THE MAIN SEWER
MORRIS FORMAN	KY0022411	521 FORUM AVE	02/27/09 1:45: PM	02/27/09 02:00 PM	1 GAL	Sewer Service Line	060G00600000A	LACK OF SYSTEM CAPACITY DURING RAIN EVENT	LACK OF SYSTEM CAPACITY	878453	CUSTOMER CLEANED THE IMPACTED AREA	NO FURTHER INVESTIGATION REQUIRED
MORRIS FORMAN	KY0022411	520 FORUM AVE	05/08/09 5:28: PM	05/08/09 05:59 PM	2 GAL	Sewer Service Line	060G00620000A	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	906149	CUSTOMER CLEANED THE IMPACTED AREA	INVESTIGATION INDICATED THAT ADDITIONAL REPAIRS WERE NOT REQUIRED BY MSD
MORRIS FORMAN	KY0022411	1326 TENNESSEE AVE	06/29/09 2:15: PM	06/29/09 02:26 PM	1 GAL	Sewer Service Line	063A01140000A	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	924436	CUSTOMER CLEANED THE IMPACTED AREA	INVESTIGATION INDICATED THAT ADDITIONAL REPAIRS WERE NOT REQUIRED BY MSD
MORRIS FORMAN	KY0022411	1314 HOMEVIEW DR	06/27/09 11:30: AM	06/27/09 11:53 AM	1 GAL	Sewer Service Line	063H00680000A	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	924134	CUSTOMER CLEANED THE IMPACTED AREA	INVESTIGATION INDICATED THAT ADDITIONAL REPAIRS WERE NOT REQUIRED BY MSD
MORRIS FORMAN	KY0022411	1013 CHESLEY DR	01/01/09 10:30: PM	01/01/09 10:30 PM	5 GAL	Sewer Service Line	065101950000A	ROOTS IN THE MAIN SEWER	ROOTS	860324	CUSTOMER CLEANED THE IMPACTED AREA	WORK ORDER 860323 - ROOT CUT THE MAIN SEWER
MORRIS FORMAN	KY0022411	1012 CHESLEY DR	01/01/09 10:30: PM	01/01/09 10:30 PM	40 GAL	Sewer Service Line	065101980000A	ROOTS IN MAIN SEWER	ROOTS	860321	MSD CONTRACTOR CLEANED AND SANITIZED THE IMPACTED AREA	WORK ORDER 860320 - ROOT CUT THE MAIN SEWER
MORRIS FORMAN	KY0022411	3665 LENTZ AVE	05/11/09 8:30: AM	05/11/09 08:45 AM	1 GAL	Sewer Service Line	065B01950000A	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	906588	CUSTOMER CLEANED THE IMPACTED AREA	INVESTIGATION INDICATED THAT ADDITIONAL REPAIRS WERE NOT REQUIRED BY MSD
MORRIS FORMAN	KY0022411	3700 LENTZ AVE	05/08/09 6:35: PM	05/08/09 06:35 PM	3 GAL	Sewer Service Line	065C01100000A	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	906151	CUSTOMER CLEANED THE IMPACTED AREA	INVESTIGATION INDICATED THAT ADDITIONAL REPAIRS WERE NOT REQUIRED BY MSD

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Associated Wastewater Treatment Plant Name	Associated Treatment Plant KPDES #	Overflow Location	Overflow Start Date & Time	Overflow Stop Date & Time	Volume of Overflow	Source Asset Type	Source Asset ID	Cause of Overflow	Due To	WO #	Cleanup Efforts by MSD	Repair Efforts by MSD
MORRIS FORMAN	KY0022411	3516 WHEELER AVE	05/11/09 11:30: PM	05/11/09 11:56 PM	1 GAL	Sewer Service Line	065F0090000A	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	906634	CUSTOMER CLEANED THE IMPACTED AREA	INVESTIGATION INDICATED THAT ADDITIONAL REPAIRS WERE NOT REQUIRED BY MSD
MORRIS FORMAN	KY0022411	6609 MANSCLICK RD	01/17/09 4:00: PM	01/17/09 04:06 PM	1 GAL	Sewer Service Line	067L00080000A	ROOTS IN MAIN SEWER	ROOTS	864962	CUSTOMER CLEANED THE IMPACTED AREA	WORK ORDER 864968 - ROOT CUT MAIN
MORRIS FORMAN	KY0022411	205 MERIDIAN AVE	03/23/09 3:45: PM	03/23/09 06:15 PM	1 GAL	Sewer Service Line	073M01370000A	OBSTRUCION IN MAIN SEWER	OBSTRUCTION-NOT GREASE / ROOTS	886561	CUSTOMER CLEANED THE IMPACTED AREA	WORK ORDER 886563 - FLUSHED THE MAIN SEWER
MORRIS FORMAN	KY0022411	2579 TAYLORSVILLE RD	04/27/09 1:30: PM	04/27/09 03:30 PM	7 GAL	Sewer Service Line	078L01710000A	OBSTRUCTION IN THE MSD MAIN SEWER	OBSTRUCTION-NOT GREASE / ROOTS	900050	MSD CONTRACTOR CLEANED AND SANITIZED THE IMPACTED AREA	WORK ORDERS 899916 AND 899918 - FLUSHED AND OPENED THE MAIN SEWER
MORRIS FORMAN	KY0022411	3510 BROCKTON LN	06/04/09 9:30: AM	06/04/09 10:56 AM	1 GAL	Sewer Service Line	081G01430000A	OBSTRUCTION IN MAIN SEWER	ROOTS	914667	CUSTOMER CLEANED THE IMPACTED AREA	WORK ORDER 914683 - ROOT CUT THE MAIN SEWER
MORRIS FORMAN	KY0022411	2622 WENDELL AVE	12/11/08 1:15: PM	12/11/08 01:33 PM	1 GAL	Sewer Service Line	081H01880000A	A PORTION OF THE MAIN SEWER IS BROKE	STRUCTURAL FAILURE	854692	CUSTOMER CLEANED THE IMPACTED AREA	REFERRED TO SUPERVISOR FOR REPAIRS, SEE WO 805954 FOR SEWER REPAIR
MORRIS FORMAN	KY0022411	3512 GLADDEN DR	12/02/08 11:00: PM	12/02/08 11:43 PM	1 GAL	Sewer Service Line	087F00120000A	ROOTS IN THE MAIN SEWER	ROOTS	853120	CUSTOMER CLEANED THE IMPACTED AREA	WORK ORDER 853121 - FLUSHED THE OBSTRUCTION FROM THE SEWER
MORRIS FORMAN	KY0022411	2818 COLEEN CT	06/15/09 12:00: PM	06/15/09 02:30 PM	1 GAL	Sewer Service Line	088H00810000A	OBSTRUCTION IN THE MAIN SEWER	OBSTRUCTION-NOT GREASE / ROOTS	919919	CUSTOMER CLEANED THE IMPACTED AREA	WORK ORDER 919922 - ROOT CUT THE MAIN SEWER
MORRIS FORMAN	KY0022411	2828 COLEEN CT	06/18/09 4:45: PM	06/18/09 06:30 PM	2 GAL	Sewer Service Line	088H00860000A	OBSTRUCTION IN THE MAIN SEWER	OBSTRUCTION-NOT GREASE / ROOTS	921258	CUSTOMER CLEANED THE IMPACTED AREA	WORK ORDER 921240 - FLUSHED THE MAIN SEWER AND OPENED THE LINE
MORRIS FORMAN	KY0022411	21 CANTERBURY DR	06/17/09 7:52: PM	06/17/09 07:56 PM	8 GAL	Sewer Service Line	089C00530000A	ROOTS AND GREASE IN MAIN SEWER	ROOTS	920673	MSD CONTRACTOR CLEANED AND SANITIZED THE IMPACTED AREA	WORK ORDERS 921145 AND 921276 - ROOT CUT THE MAIN SEWER
MORRIS FORMAN	KY0022411	4437 SANDERS LN	03/21/09 9:00: AM	03/21/09 09:53 AM	1 GAL	Sewer Service Line	090C01630000A	OBSTRUCTION IN MAIN SEWER	OBSTRUCTION-NOT GREASE / ROOTS	886179	CUSTOMER CLEANED THE IMPACTED AREA	WORK ORDER 886178 - ROOT CUT MAIN SEWER
MORRIS FORMAN	KY0022411	1591 SADIE LN	08/19/08 6:30: PM	08/19/08 07:38 PM	1 GAL	Sewer Service Line	090D00780000A	OBSTRUCTION IN THE MAIN SEWER	OBSTRUCTION-NOT GREASE / ROOTS	817832	CUSTOMER CLEANED THE IMPACTED AREA	WORK ORDER 817833 - FLUSHED THE OBSTRUCTION FROM THE SEWER
MORRIS FORMAN	KY0022411	4312 NANEEN DR	05/15/09 3:45: PM	05/15/09 05:00 PM	10 GAL	Sewer Service Line	090F00780000A	ROOTS IN MAIN SEWER	ROOTS	908329	MSD CONTRACTOR CLEANED AND SANITIZED THE IMPACTED AREA	WORK ORDERS 908325 AND 908327 - ROOT CUT AND FLUSHED MAIN SEWER
MORRIS FORMAN	KY0022411	2905 BUTLER CT	03/30/09 3:30: PM	03/30/09 04:00 PM	1 GAL	Sewer Service Line	091E03010000A	OBSTRUCTION IN MAIN SEWER	OBSTRUCTION-NOT GREASE / ROOTS	889765	CUSTOMER CLEANED THE IMPACTED AREA	WORK ORDER 889773 - FLUSHED THE OBSTRUCTION FROM SEWER
MORRIS FORMAN	KY0022411	3320 TAYLOR BLVD	05/12/09 1:00: PM	05/12/09 01:45 PM	1 GAL	Sewer Service Line	102848	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	907021	CUSTOMER CLEANED THE IMPACTED AREA	INVESTIGATION INDICATED THAT ADDITIONAL REPAIRS WERE NOT REQUIRED BY MSD
MORRIS FORMAN	KY0022411	3009 BUSHMILL PARK	02/05/09 3:30: PM	02/05/09 04:41 PM	1 GAL	Sewer Service Line	103153009	OBSTRUCION IN MAIN SEWER	OBSTRUCTION-NOT GREASE / ROOTS	869793	MSD PERSONNEL CLEANED THE IMPACTED AREA	WORK ORDER 869805 - ROOT CUT THE MAIN SEWER
MORRIS FORMAN	KY0022411	4428 TAYLOR BLVD	05/08/09 5:14: PM	05/08/09 05:22 PM	2 GAL	Sewer Service Line	103620	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	906150	CUSTOMER CLEANED THE IMPACTED AREA	INVESTIGATION INDICATED THAT ADDITIONAL REPAIRS WERE NOT REQUIRED BY MSD
MORRIS FORMAN	KY0022411	1323 TRINITY PARK DR	07/08/08 12:30: PM	07/08/08 06:00 PM	1 GAL	Sewer Service Line	104713	ROOTS IN MAIN SEWER	ROOTS	805323	CUSTOMER CLEANED THE IMPACTED AREA	WORK ORDERS 805318 AND 805316 - FLUSHED THE PROPERTY SERVICE LINE; ROOT CUT THE MAIN SEWER
MORRIS FORMAN	KY0022411	4517 VARBLE AVE	06/26/09 12:25: PM	06/26/09 12:35 PM	1 GAL	Sewer Service Line	105648	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	924087	CUSTOMER CLEANED THE IMPACTED AREA	INVESTIGATION INDICATED THAT ADDITIONAL REPAIRS WERE NOT REQUIRED BY MSD
MORRIS FORMAN	KY0022411	4021 VERMONT AVE	06/26/09 4:30: PM	06/26/09 05:14 PM	5 GAL	Sewer Service Line	106298	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	924055	CUSTOMER CLEANED THE IMPACTED AREA	INVESTIGATION INDICATED THAT ADDITIONAL REPAIRS WERE NOT REQUIRED BY MSD

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MORRIS FORMAN	KY0022411	1816 ARGONNE AVE	04/25/09 12:00: PM	04/25/09 01:03 PM	1 GAL	Sewer Service Line	108800310000A	ROOTS IN MAIN SEWER	ROOTS	899650	CUSTOMER CLEANED THE IMPACTED AREA	WORK ORDERS 899716 AND 899717 - ROOT CUT THE MAIN SEWER
MORRIS FORMAN	KY0022411	3429 YOUNG AVE	05/08/09 10:25: PM	05/08/09 10:59 PM	3 GAL	Sewer Service Line	115534	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	906154	CUSTOMER CLEANED THE IMPACTED AREA	INVESTIGATION INDICATED THAT ADDITIONAL REPAIRS WERE NOT REQUIRED BY MSD
MORRIS FORMAN	KY0022411	1480 S 3RD ST	05/09/09 5:10: AM	05/09/09 05:37 AM	1 GAL	Sewer Service Line	117158	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	906160	CUSTOMER CLEANED THE IMPACTED AREA	INVESTIGATION INDICATED THAT ADDITIONAL REPAIRS WERE NOT REQUIRED BY MSD
MORRIS FORMAN	KY0022411	2917 S 6TH ST	05/09/09 7:30: AM	05/09/09 08:00 AM	1 GAL	Sewer Service Line	120108	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	906025	CUSTOMER CLEANED THE IMPACTED AREA	INVESTIGATION INDICATED THAT ADDITIONAL REPAIRS WERE NOT REQUIRED BY MSD
MORRIS FORMAN	KY0022411	306 LOTIS WAY	05/09/09 3:08: AM	05/09/09 03:20 AM	2 GAL	Sewer Service Line	12123304	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	906087	CUSTOMER CLEANED THE IMPACTED AREA	INVESTIGATION INDICATED THAT ADDITIONAL REPAIRS WERE NOT REQUIRED BY MSD
MORRIS FORMAN	KY0022411	612 S 18TH ST	06/26/09 8:00: AM	06/26/09 08:30 AM	1 GAL	Sewer Service Line	122901	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	924061	CUSTOMER CLEANED THE IMPACTED AREA	INVESTIGATION INDICATED THAT ADDITIONAL REPAIRS WERE NOT REQUIRED BY MSD
MORRIS FORMAN	KY0022411	424 S 28TH ST	06/26/09 12:45: PM	06/26/09 01:00 PM	1 GAL	Sewer Service Line	125117	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	923835	MSD ADVISED CUSTOMER THEY ARE RESPONSIBLE FOR CLEANING THE IMPACTED AREA	INVESTIGATION INDICATED THAT ADDITIONAL REPAIRS WERE NOT REQUIRED BY MSD
MORRIS FORMAN	KY0022411	145 N 37TH ST	06/30/09 5:00: PM	06/30/09 05:29 PM	1 GAL	Sewer Service Line	127650	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	924992	CUSTOMER CLEANED THE IMPACTED AREA	INVESTIGATION INDICATED THAT ADDITIONAL REPAIRS WERE NOT REQUIRED BY MSD
MORRIS FORMAN	KY0022411	840 S 37TH ST	06/28/09 1:30: AM	06/28/09 03:30 AM	1 GAL	Sewer Service Line	127823	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	924164	CUSTOMER CLEANED THE IMPACTED AREA	INVESTIGATION INDICATED THAT ADDITIONAL REPAIRS WERE NOT REQUIRED BY MSD
MORRIS FORMAN	KY0022411	129 N 38TH ST	06/26/09 12:20: PM	06/26/09 12:35 PM	1 GAL	Sewer Service Line	127893	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	923787	CUSTOMER CLEANED THE IMPACTED AREA	INVESTIGATION INDICATED THAT ADDITIONAL REPAIRS WERE NOT REQUIRED BY MSD
MORRIS FORMAN	KY0022411	110 N 39TH ST	06/26/09 11:15: AM	06/26/09 11:30 AM	3 GAL	Sewer Service Line	128205	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	923901	MSD PERSONNEL ADVISED CUSTOMER THEY ARE RESPONSIBLE FOR CLEANING THE IMPACTED AREA	INVESTIGATION INDICATED THAT ADDITIONAL REPAIRS WERE NOT REQUIRED BY MSD
MORRIS FORMAN	KY0022411	101 S 39TH ST	06/26/09 3:45: PM	06/26/09 04:15 PM	1 GAL	Sewer Service Line	128265	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	924043	ADVISED CUSTOMER THEY ARE RESPONSIBLE FOR CLEANING THE IMPACTED AREA	INVESTIGATION INDICATED THAT ADDITIONAL REPAIRS WERE NOT REQUIRED BY MSD
MORRIS FORMAN	KY0022411	732 S 39TH ST	06/30/09 1:15: PM	06/30/09 02:06 PM	1 GAL	Sewer Service Line	128423	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	924839	CUSTOMER CLEANED THE IMPACTED AREA	INVESTIGATION INDICATED THAT ADDITIONAL REPAIRS WERE NOT REQUIRED BY MSD
MORRIS FORMAN	KY0022411	803 S 39TH ST	06/26/09 10:10: AM	06/26/09 10:30 AM	4 GAL	Sewer Service Line	128462	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	923993	MSD PERSONNEL ADVISED CUSTOMER THEY ARE RESPONSIBLE FOR CLEANING THE IMPACTED AREA	INVESTIGATION INDICATED THAT ADDITIONAL REPAIRS WERE NOT REQUIRED BY MSD
MORRIS FORMAN	KY0022411	807 S 39TH ST	06/26/09 10:25: AM	06/26/09 10:35 AM	1 GAL	Sewer Service Line	128464	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	924008	CUSTOMER CLEANED THE IMPACTED AREA	INVESTIGATION INDICATED THAT ADDITIONAL REPAIRS WERE NOT REQUIRED BY MSD
MORRIS FORMAN	KY0022411	741 S 40TH ST	06/26/09 11:40: AM	06/26/09 12:00 PM	1 GAL	Sewer Service Line	128676	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	924067	CUSTOMER CLEANED THE IMPACTED AREA	INVESTIGATION INDICATED THAT ADDITIONAL REPAIRS WERE NOT REQUIRED BY MSD
MORRIS FORMAN	KY0022411	814 S 40TH ST	06/26/09 12:10: PM	06/26/09 12:30 PM	1 GAL	Sewer Service Line	128720	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	924062	ADVISED CUSTOMER THEY ARE RESPONSIBLE FOR CLEANING THE IMPACTED AREA	INVESTIGATION INDICATED THAT ADDITIONAL REPAIRS WERE NOT REQUIRED BY MSD
MORRIS FORMAN	KY0022411	216 S 41ST ST	06/26/09 2:00: PM	06/26/09 02:10 PM	1 GAL	Sewer Service Line	128973	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	924086	CUSTOMER CLEANED THE IMPACTED AREA	INVESTIGATION INDICATED THAT ADDITIONAL REPAIRS WERE NOT REQUIRED BY MSD
MORRIS FORMAN	KY0022411	1013 S 41ST ST	06/26/09 1:10: PM	06/26/09 01:24 PM	1 GAL	Sewer Service Line	129167	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	923807	CUSTOMER CLEANED THE IMPACTED AREA	INVESTIGATION INDICATED THAT ADDITIONAL REPAIRS WERE NOT REQUIRED BY MSD
MORRIS FORMAN	KY0022411	5502 BRUNS DR	12/15/08 9:00: PM	12/15/08 09:39 PM	2 GAL	Sewer Service Line	135500720000A	ROOTS IN MAIN SEWER	ROOTS	856919	CUSTOMER CLEANED THE IMPACTED AREA	WORK ORDER 856930 - ROOT CUT MAIN SEWER

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Associated Wastewater Treatment Plant Name	Associated Treatment Plant KPDES #	Overflow Location	Overflow Start Date & Time	Overflow Stop Date & Time	Volume of Overflow	Source Asset Type	Source Asset ID	Cause of Overflow	Due To	WO #	Cleanup Efforts by MSD	Repair Efforts by MSD
MORRIS FORMAN	KY0022411	3903 JENICA WAY	05/12/09 11:15: AM	05/12/09 11:44 AM	1 GAL	Sewer Service Line	138738	OBSTRUCTION IN MAIN SEWER	OBSTRUCTION-NOT GREASE / ROOTS	906930	CUSTOMER CLEANED THE IMPACTED AREA	WORK ORDER 906932 - FLUSHED AND OPENED MAIN SEWER
MORRIS FORMAN	KY0022411	403 AMY AVE	06/26/09 8:00: AM	06/26/09 08:30 AM	5 GAL	Sewer Service Line	1395	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	924027	MSD CONTRACTOR CLEANED AND SANITIZED THE IMPACTED AREA	INVESTIGATION INDICATED THAT ADDITIONAL REPAIRS WERE NOT REQUIRED BY MSD
MORRIS FORMAN	KY0022411	4102 RETREAT RD	10/24/08 2:00: PM	10/24/08 02:00 PM	5 GAL	Sewer Service Line	139799	GREASE IN MAIN SEWER	GREASE BLOCKAGE	836156	MSD CONTRACTOR CLEANED AND SANITIZED THE AFFECTED AREA	WORK ORDER 836041 - ROOT CUT THE MAIN SEWER
MORRIS FORMAN	KY0022411	4014 LELAND RD	04/05/09 6:00: PM	04/05/09 06:18 PM	1 GAL	Sewer Service Line	144384	ROOTS IN MAIN SEWER	ROOTS	893687	CUSTOMER CLEANED THE IMPACTED AREA	WORK ORDER 893725 - ROOT CUT THE MAIN SEWER
MORRIS FORMAN	KY0022411	4147 MONROE AVE	09/25/08 10:52: PM	09/25/08 10:53 PM	5 GAL	Sewer Service Line	144523	ROOTS IN MAIN SEWER	ROOTS	827441	MSD CONTRACTOR CLEANED AND SANITIZED THE IMPACTED AREA	WORK ORDERS 827553 AND 827439 - ROOT CUT AND FLUSHED THE MAIN SEWER
MORRIS FORMAN	KY0022411	3235 LARKWOOD AVE	06/27/09 11:22: PM	06/28/09 12:01 AM	5 GAL	Sewer Service Line	146366	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	924161	CUSTOMER CLEANED THE IMPACTED AREA	INVESTIGATION INDICATED THAT ADDITIONAL REPAIRS WERE NOT REQUIRED BY MSD
MORRIS FORMAN	KY0022411	202 CAMBRIDGE DR	02/27/09 8:22: PM	02/27/09 09:13 PM	2 GAL	Sewer Service Line	147448	OBSTRUCTION IN THE MAIN SEWER	OBSTRUCTION-NOT GREASE / ROOTS	878497	CUSTOMER CLEANED THE IMPACTED AREA	WORK ORDER 882568 - FLUSHED THE MAIN SEWER
MORRIS FORMAN	KY0022411	1029 THRUSTON AVE	01/21/09 10:22: PM	01/22/09 12:01 AM	1 GAL	Sewer Service Line	154126	OBSTRUCTION ON MAIN SEWER	OBSTRUCTION-NOT GREASE / ROOTS	865622	CUSTOMER CLEANED THE IMPACTED AREA	WORK ORDER 865620 - FLUSHED THE MAIN SEWER
MORRIS FORMAN	KY0022411	1029 THRUSTON AVE	02/02/09 10:51: AM	02/02/09 10:52 AM	5 GAL	Sewer Service Line	154126	OBSTRUCTION IN MAIN SEWER	OBSTRUCTION-NOT GREASE / ROOTS	868894	CUSTOMER CLEANED THE IMPACTED AREA	WORK ORDER 869434 - FLUSHED THE MAIN SEWER
MORRIS FORMAN	KY0022411	1527 BELMAR DR	01/25/09 4:38: PM	01/25/09 05:07 PM	1 GAL	Sewer Service Line	154500	ROOTS IN THE MAIN SEWER	ROOTS	866199	CUSTOMER CLEANED THE IMPACTED AREA	WORK ORDER 866190, 867729 AND 869572 - FLUSHED AND ROOT CUT THE MAIN SEWER
MORRIS FORMAN	KY0022411	310 EXCHANGE AVE	10/21/08 2:30: PM	10/21/08 05:00 PM	1 GAL	Sewer Service Line	158817	MUD AND SEWAGE IN THE MAIN SEWER	OBSTRUCTION-NOT GREASE / ROOTS	833660	CUSTOMER CLEANED THE IMPACTED AREA	WORK ORDER 833663 - FLUSHED AND OPENED THE MAIN SEWER
MORRIS FORMAN	KY0022411	3805 BENJE WAY	03/23/09 9:45: AM	03/23/09 11:20 AM	1 GAL	Sewer Service Line	160600530000A	OBSTRUCTION IN THE MAIN SEWER	OBSTRUCTION-NOT GREASE / ROOTS	886395	CUSTOMER CLEANED THE IMPACTED AREA	WORK ORDER 886396 - FLUSHED AND OPEN THE MAIN SEWER
MORRIS FORMAN	KY0022411	217 TYNE RD	06/18/09 3:15: PM	06/18/09 03:30 PM	1 GAL	Sewer Service Line	163534	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	921252	CUSTOMER CLEANED THE IMPACTED AREA	INVESTIGATION INDICATED THAT ADDITIONAL REPAIRS WERE NOT REQUIRED
MORRIS FORMAN	KY0022411	602 STIVERS RD	01/28/09 1:30: PM	01/28/09 02:15 PM	7 GAL	Sewer Service Line	171849	POWER AT PUMP STATION OUT DUE TO SNOW/ICE STORM (AFFECTING LG&E POWER LINES)	POWER OUTAGE (LG&E)	868066	ADVISED CUSTOMER TO CALL CUSTOMER SERVICE ONCE WATER HAS RECEDED	INVESTIGATION INDICATED THAT ADDITIONAL REPAIRS WERE NOT REQUIRED BY MSD
MORRIS FORMAN	KY0022411	7501 KING ARTHUR CT	02/25/09 11:21: PM	02/25/09 11:33 PM	2 GAL	Sewer Service Line	177501	LOUISVILLE WATER COMPANY BORED THRU THE MAIN SEWER	UTILITY DAMAGED MSD ASSET	877802	CUSTOMER CLEANED THE IMPACTED AREA	WORK ORDER 877962 - REPAIRED THE MAIN SEWER
MORRIS FORMAN	KY0022411	3815 W BROADWAY	06/26/09 5:00: PM	06/26/09 05:33 PM	5 GAL	Sewer Service Line	17758	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	924066	CUSTOMER CLEANED THE IMPACTED AREA	INVESTIGATION INDICATED THAT ADDITIONAL REPAIRS WERE NOT REQUIRED BY MSD
MORRIS FORMAN	KY0022411	3918 W BROADWAY	06/26/09 10:10: AM	06/26/09 10:30 AM	1 GAL	Sewer Service Line	17875	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	923699	CUSTOMER CLEANED THE IMPACTED AREA	INVESTIGATION INDICATED THAT ADDITIONAL REPAIRS WERE NOT REQUIRED BY MSD
MORRIS FORMAN	KY0022411	9709 LANESBORO WAY	07/06/08 3:00: PM	07/06/08 03:40 PM	1 GAL	Sewer Service Line	179525	ROOTS IN MAIN SEWER	ROOTS	803869	CUSTOMER CLEANED THE IMPACTED AREA	WORK ORDER 804582 - ROOT CUT MAIN SEWER
MORRIS FORMAN	KY0022411	11101 BERWICK PL	11/19/08 9:40: PM	11/19/08 10:37 PM	2 GAL	Sewer Service Line	182900520000A	OBSTRUCTION IN THE MAIN SEWER	OBSTRUCTION-NOT GREASE / ROOTS	845514	CUSTOMER CLEANED THE IMPACTED AREA	WORK ORDER 845657 - ROOT CUT THE MAIN SEWER
MORRIS FORMAN	KY0022411	2500 BALLANTRAE CIR	09/16/08 10:00: AM	09/16/08 10:56 AM	75 GAL	Sewer Service Line	240700230000A	POWER OUTAGE LIFT STATION NOT WORKING	POWER OUTAGE (LG&E)	823612	MSD CONTRACTORS CLEANED AND SANITIZED THE IMPACTED AREA	MSD OPERATIONS DEPARTMENT REPAIRED LIFT STATION

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Associated Wastewater Treatment Plant Name	Associated Treatment Plant KPDES #	Overflow Location	Overflow Start Date & Time	Overflow Stop Date & Time	Volume of Overflow	Source Asset Type	Source Asset ID	Cause of Overflow	Due To	WO #	Cleanup Efforts by MSD	Repair Efforts by MSD
MORRIS FORMAN	KY0022411	659 CURRY CT	06/26/09 2:30: PM	06/26/09 03:00 PM	3 GAL	Sewer Service Line	26292	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	923995	ADVISED CUSTOMER THAT THEY ARE RESPONSIBLE FOR CLEANING THE IMPACTED AREA	INVESTIGATION INDICATED THAT ADDITIONAL REPAIRS WERE NOT REQUIRED BY MSD
MORRIS FORMAN	KY0022411	3017 EAGLE PASS	07/14/08 1:15: PM	07/14/08 01:45 PM	1 GAL	Sewer Service Line	26792	MSD PERSONNEL PERFORMING PREVENTIVE MAINTENANCE ON SEWERS	OBSTRUCTION-NOT GREASE / ROOTS	806425	CUSTOMER CLEANED THE IMPACTED AREA	NO REPAIRS WARRANTED
MORRIS FORMAN	KY0022411	1233 DIXIE HWY	05/08/09 6:40: PM	05/08/09 06:58 PM	1 GAL	Sewer Service Line	27045	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	906152	CUSTOMER CLEANED THE IMPACTED AREA	INVESTIGATION INDICATED THAT ADDITIONAL REPAIRS WERE NOT REQUIRED BY MSD
MORRIS FORMAN	KY0022411	1553 DUMESNIL ST	06/26/09 1:20: PM	06/26/09 01:35 PM	1 GAL	Sewer Service Line	27620	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	924098	ADVISED CUSTOMER THEY ARE RESPONSIBLE FOR CLEANING THE IMPACTED AREA	INVESTIGATION INDICATED THAT ADDITIONAL REPAIRS WERE NOT REQUIRED BY MSD
MORRIS FORMAN	KY0022411	2146 ALGONQUIN PKY	05/11/09 9:00: AM	05/11/09 09:15 AM	1 GAL	Sewer Service Line	279600160000A	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	906592	CUSTOMER CLEANED THE IMPACTED AREA	ADVISED CUSTOMER TO CONTACT A PLUMBER
MORRIS FORMAN	KY0022411	211 W FAIRMONT AVE	02/23/09 1:15: PM	02/23/09 02:30 PM	1 GAL	Sewer Service Line	32969	GREASE AND DEBRIS IN MAIN SEWER	GREASE BLOCKAGE	875069	CUSTOMER CLEANED THE IMPACTED AREA	WORK ORDERS 875079, 876299, 876306 AND 877733 - FLUSHED AND VACTORED GREASE AND DEBRIS FROM MAIN SEWER
MORRIS FORMAN	KY0022411	1143 EUCLID AVE	06/30/09 8:45: AM	06/30/09 09:21 AM	2 GAL	Sewer Service Line	33093	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	924697	ADVISED CUSTOMER THAT THEY ARE RESPONSIBLE FOR CLEANING THE IMPACTED AREA	INVESTIGATION INDICATED THAT ADDITIONAL REPAIRS WERE NOT REQUIRED BY MSD
MORRIS FORMAN	KY0022411	1147 EUCLID AVE	05/09/09 1:11: AM	05/09/09 01:33 AM	1 GAL	Sewer Service Line	33104	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	906085	CUSTOMER CLEANED THE IMPACTED AREA	INVESTIGATION INDICATED THAT ADDITIONAL REPAIRS WERE NOT REQUIRED BY MSD
MORRIS FORMAN	KY0022411	1147 EUCLID AVE	06/30/09 10:00: AM	06/30/09 10:30 AM	1 GAL	Sewer Service Line	33104	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	924738	CUSTOMER CLEANED THE IMPACTED AREA	INVESTIGATION INDICATED THAT ADDITIONAL REPAIRS WERE NOT REQUIRED BY MSD
MORRIS FORMAN	KY0022411	1674 TRIGG AVE	01/03/09 2:00: PM	01/03/09 02:30 PM	1 GAL	Sewer Service Line	34091674	ROOTS IN MAIN SEWER	ROOTS	861698	CUSTOMER CLEANED THE IMPACTED AREA	WORK ORDER 860525 ROOT CUT MAIN SEWER AND REFERRED TO BE INCLUDED IN PM PROGRAM
MORRIS FORMAN	KY0022411	3628 FINCASTLE RD	04/07/09 12:15: PM	04/07/09 12:46 PM	1 GAL	Sewer Service Line	3409A3628	OBSTRUCTION IN MAIN SEWER	OBSTRUCTION-NOT GREASE / ROOTS	894256	CUSTOMER CLEANED THE IMPACTED AREA	WORK ORDER 894252 - ROOT CUT THE MAIN SEWER
MORRIS FORMAN	KY0022411	1122 GARVIN PL	11/13/08 1:20: PM	11/13/08 02:40 PM	2 GAL	Sewer Service Line	35740	GREASE AND DEBRIS IN THE MAIN SEWER	GREASE BLOCKAGE	843528	CUSTOMER CLEANED THE IMPACTED AREA	WORK ORDER 843524 AND 844290 - FLUSHED THE MAIN SEWER
MORRIS FORMAN	KY0022411	2611 GRAND AVE	06/26/09 10:45: AM	06/26/09 11:06 AM	1 GAL	Sewer Service Line	36108	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	923720	CUSTOMER CLEANED THE IMPACTED AREA	INVESTIGATION INDICATED THAT ADDITIONAL REPAIRS WERE NOT REQUIRED BY MSD
MORRIS FORMAN	KY0022411	3519 HERMAN ST	06/26/09 10:45: AM	06/26/09 11:00 AM	6 GAL	Sewer Service Line	40150	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	924049	MSD PERSONNEL ADVISED CUSTOMER THEY ARE RESPONSIBLE FOR CLEANING THE IMPACTED AREA	INVESTIGATION INDICATED THAT ADDITIONAL REPAIRS WERE NOT REQUIRED BY MSD
MORRIS FORMAN	KY0022411	2206 HALE AVE	05/08/09 6:00: PM	05/08/09 07:30 PM	1 GAL	Sewer Service Line	40657	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	906756	CUSTOMER CLEANED THE IMPACTED AREA	INVESTIGATION INDICATED THAT ADDITIONAL REPAIRS WERE NOT REQUIRED BY MSD
MORRIS FORMAN	KY0022411	2641 ALGONQUIN PKY	06/26/09 3:00: PM	06/26/09 03:15 PM	1 GAL	Sewer Service Line	4169	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	924100	CUSTOMER CLEANED THE IMPACTED AREA	INVESTIGATION INDICATED THAT ADDITIONAL REPAIRS WERE NOT REQUIRED BY MSD
MORRIS FORMAN	KY0022411	737 S 8TH ST	06/26/09 11:45: AM	06/26/09 12:00 PM	1 GAL	Sewer Service Line	4181729	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	924089	CUSTOMER CLEANED THE IMPACTED AREA	INVESTIGATION INDICATED THAT ADDITIONAL REPAIRS WERE NOT REQUIRED BY MSD
MORRIS FORMAN	KY0022411	722 HEYWOOD AVE	05/08/09 10:57: PM	05/08/09 11:00 PM	2 GAL	Sewer Service Line	42179	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	906156	CUSTOMER CLEANED THE IMPACTED AREA	INVESTIGATION INDICATED THAT ADDITIONAL REPAIRS WERE NOT REQUIRED BY MSD
MORRIS FORMAN	KY0022411	211 HARLAN AVE	05/11/09 1:00: PM	05/11/09 01:15 PM	1 GAL	Sewer Service Line	48087	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	906616	CUSTOMER CLEANED THE IMPACTED AREA	ADVISED CUSTOMER TO CONTACT A PLUMBER
MORRIS FORMAN	KY0022411	1122 FISCHER AVE	06/26/09 5:14: PM	06/26/09 05:18 PM	5 GAL	Sewer Service Line	49790	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	924074	CUSTOMER CLEANED THE IMPACTED AREA	INVESTIGATION INDICATED THAT ADDITIONAL REPAIRS WERE NOT REQUIRED BY MSD

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MORRIS FORMAN	KY0022411	723 IOWA AVE	12/24/08 2:00: AM	12/24/08 09:30 AM	100 GAL	Sewer Service Line	50873	OBSTRUCTION IN MAIN SEWER	OBSTRUCTION-NOT GREASE / ROOTS	858885	MSD CONTRACTOR CLEANED & SANITIZED THE IMPACTED AREA	WORK ORDER 858867 - REPAIRED MAIN SEWER
MORRIS FORMAN	KY0022411	2863 KLONDIKE LN	12/28/08 4:00: PM	12/28/08 04:24 PM	5 GAL	Sewer Service Line	53086	OBSTRUCTION IN THE MAIN SEWER	OBSTRUCTION-NOT GREASE / ROOTS	859322	MSD CONTRACTOR CLEANED AND SANITIZED THE IMPACTED AREA	WORK ORDER 859323 - ROOT CUT MAIN SEWER
MORRIS FORMAN	KY0022411	2624 W KENTUCKY ST	06/30/09 5:00: PM	06/30/09 05:19 PM	1 GAL	Sewer Service Line	55534	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	924986	CUSTOMER CLEANED THE IMPACTED AREA	INVESTIGATION INDICATED THAT ADDITIONAL REPAIRS WERE NOT REQUIRED BY MSD
MORRIS FORMAN	KY0022411	3021 LEMAN DR	03/20/09 1:15: PM	03/20/09 02:00 PM	1 GAL	Sewer Service Line	58714	OBSTRUCTION IN MAIN SEWER	OBSTRUCTION-NOT GREASE / ROOTS	886070	CUSTOMER CLEANED THE IMPACTED AREA	WORK ORDER 886066 - FLUSHED THE OBSTRUCTION FROM SEWER
MORRIS FORMAN	KY0022411	1765 W LEE ST	06/26/09 1:05: PM	06/26/09 01:15 PM	1 GAL	Sewer Service Line	58735	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	924091	ADVISED CUSTOMER THEY ARE RESPONSIBLE FOR CLEANING THE IMPACTED AREA	INVESTIGATION INDICATED THAT ADDITIONAL REPAIRS WERE NOT REQUIRED BY MSD
MORRIS FORMAN	KY0022411	2295 LEXINGTON RD	07/01/08 4:15: PM	07/01/08 05:00 PM	1 GAL	Sewer Service Line	59445	MSD PERSONNEL CLEANING THE SEWERS	OBSTRUCTION-NOT GREASE / ROOTS	803119	CUSTOMER CLEANED THE IMPACTED AREA	NO REPAIRS WARRANTED
MORRIS FORMAN	KY0022411	645 LINDELL AVE	06/26/09 8:30: AM	06/26/09 09:00 AM	1 GAL	Sewer Service Line	60475	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	923509	CUSTOMER CLEANED THE IMPACTED AREA	INVESTIGATION INDICATED THAT ADDITIONAL REPAIRS WERE NOT REQUIRED BY MSD
MORRIS FORMAN	KY0022411	632 LINDELL AVE	06/26/09 5:00: PM	06/26/09 05:37 PM	1 GAL	Sewer Service Line	60497	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	924068	CUSTOMER CLEANED THE IMPACTED AREA	INVESTIGATION INDICATED THAT ADDITIONAL REPAIRS WERE NOT REQUIRED BY MSD
MORRIS FORMAN	KY0022411	4012 BERKSHIRE AVE	01/11/09 4:49: PM	01/11/09 05:53 PM	15 GAL	Sewer Service Line	6472	UTILITY POLE ON KMART'S PROPERTY WAS PUSHED THROUGH THE MAIN SEWER	UTILITY DAMAGED MSD ASSET	863005	MSD CONTRACTOR CLEANED AND SANITIZED THE IMPACTED AREA	WORK ORDERS 863114, 863129, AND 863179 - ROOT CUT AND REPAIRED THE MAIN SEWER
MORRIS FORMAN	KY0022411	626 MYRTLE ST	12/24/08 9:15: AM	12/24/08 10:44 AM	10 GAL	Sewer Service Line	73944	ROOTS IN THE MAIN SEWER	ROOTS	860280	CUSTOMER CLEANED THE IMPACTED AREA	WORK ORDERS 859001, 859096 AND 859097 - ROOT CUT THE MAIN SEWER
MORRIS FORMAN	KY0022411	4199 BLENHEIM RD	02/17/09 12:30: PM	02/17/09 01:30 PM	3 GAL	Sewer Service Line	7402	OBSTRUCTION IN THE MSD MAIN SEWER	OBSTRUCTION-NOT GREASE / ROOTS	873877	MSD CONTRACTOR CLEANED AND SANITIZED THE IMPACTED AREA	WORK ORDER 873885-FLUSHED & OPENED MAIN SEWER
MORRIS FORMAN	KY0022411	4314 NANEEN DR	05/15/09 3:45: PM	05/15/09 05:00 PM	10 GAL	Sewer Service Line	74246	ROOTS IN MAIN SEWER	ROOTS	908331	MSD CONTRACTOR CLEANED AND SANITIZED THE IMPACTED AREA	WORK ORDERS 908325 AND 908327 - ROOT CUT AND FLUSHED MAIN SEWER
MORRIS FORMAN	KY0022411	4316 NANEEN DR	05/15/09 12:00: AM	05/15/09 11:44 PM	15 GAL	Sewer Service Line	74248	OBSTRUCTION IN MAIN SEWER	OBSTRUCTION-NOT GREASE / ROOTS	908356	MSD CONTRACTOR CLEANED AND SANITIZED THE IMPACTED AREA	WORK ORDERS 908325 AND 908327 - ROOT CUT AND FLUSHED MAIN SEWER
MORRIS FORMAN	KY0022411	326 NORTHWESTERN PKY	06/29/09 9:45: AM	06/29/09 10:19 AM	1 GAL	Sewer Service Line	75895	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	924320	CUSTOMER CLEANED THE IMPACTED AREA	INVESTIGATION INDICATED THAT ADDITIONAL REPAIRS WERE NOT REQUIRED BY MSD
MORRIS FORMAN	KY0022411	3608 NORBOURNE BLVD	05/04/09 10:00: AM	05/04/09 10:45 AM	1 GAL	Sewer Service Line	76032	MSD PERSONNEL FLUSHING THE MAIN SEWER	OBSTRUCTION-NOT GREASE / ROOTS	901524	CUSTOMER CLEANED THE IMPACTED AREA	MSD FLUSHED OBSTRUCTION FROM THE SEWER
MORRIS FORMAN	KY0022411	1000 E OAK ST	05/10/09 11:04: PM	05/10/09 11:05 PM	5 GAL	Sewer Service Line	77430	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	906193	CUSTOMER CLEANED THE IMPACTED AREA	INVESTIGATION INDICATED THAT ADDITIONAL REPAIRS WERE NOT REQUIRED BY MSD
MORRIS FORMAN	KY0022411	1127 ORCHARD AVE	11/11/08 2:15: PM	11/11/08 03:10 PM	1 GAL	Sewer Service Line	78422D	OBSTRUCTION IN MAIN SEWER	OBSTRUCTION-NOT GREASE / ROOTS	843098	CUSTOMER CLEANED THE IMPACTED AREA	WORK ORDER 843097 - FLUSHED THE MAIN SEWER AND REMOVED THE BLOCKAGE
MORRIS FORMAN	KY0022411	3802 ORMOND RD	06/20/09 12:26: AM	06/20/09 12:26 AM	5 GAL	Sewer Service Line	78850	OBSTRUCTION IN THE MAIN SEWER	OBSTRUCTION-NOT GREASE / ROOTS	921666	MSD CONTRACTOR CLEANED AND SANITIZED THE IMPACTED AREA	WORK ORDERS 921618,921622, AND 921640 - ROOT CUT THE MAIN SEWER AND REPAIR PROPERTY SERVICE CONNECTION
MORRIS FORMAN	KY0022411	3808 ORMOND RD	06/18/09 1:50: PM	06/18/09 02:15 PM	1 GAL	Sewer Service Line	78860	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	921233	CUSTOMER CLEANED THE IMPACTED AREA	WORK ORDERS 921618,921622 AND 921640 - ROOT CUT THE MAIN SEWER AND REPAIR PROPERTY SERVICE CONNECTION
MORRIS FORMAN	KY0022411	641 E ORMSBY AVE	05/08/09 7:32: PM	05/08/09 07:53 PM	3 GAL	Sewer Service Line	79075	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	906153	CUSTOMER CLEANED THE IMPACTED AREA	INVESTIGATION INDICATED THAT ADDITIONAL REPAIRS WERE NOT REQUIRED BY MSD

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MORRIS FORMAN	KY0022411	2118 OSAGE AVE	06/26/09 12:45: PM	06/26/09 01:00 PM	1 GAL	Sewer Service Line	79220	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	924095	CUSTOMER CLEANED THE IMPACTED AREA	INVESTIGATION INDICATED THAT ADDITIONAL REPAIRS WERE NOT REQUIRED BY MSD
MORRIS FORMAN	KY0022411	7915 OSBORNE DR	07/17/08 7:15: PM	07/17/08 08:15 PM	1 GAL	Sewer Service Line	79444	OBSTRUCTION IN MAIN SEWER	OBSTRUCTION-NOT GREASE / ROOTS	807847	CUSTOMER CLEANED THE IMPACTED AREA	WORK ORDER 807848 - ROOTCUT THE MAIN SEWER
MORRIS FORMAN	KY0022411	4104 PIXLEY WAY	01/06/09 6:00: PM	01/06/09 06:55 PM	1 GAL	Sewer Service Line	82902	OBSTRUCTION IN MAIN SEWER	OBSTRUCTION-NOT GREASE / ROOTS	861393	CUSTOMER CLEANED THE IMPACTED AREA	WORK ORDER 861395 - ROOT CUT MAIN SEWER
MORRIS FORMAN	KY0022411	2717 RODMAN ST	06/26/09 1:40: PM	06/26/09 01:55 PM	1 GAL	Sewer Service Line	89308	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	924099	ADVISED CUSTOMER THEY ARE RESPONSIBLE FOR CLEANING THE IMPACTED AREA	INVESTIGATION INDICATED THAT ADDITIONAL REPAIRS WERE NOT REQUIRED BY MSD
MORRIS FORMAN	KY0022411	323 SHAWNEE DR	06/26/09 4:30: PM	06/26/09 04:51 PM	5 GAL	Sewer Service Line	93470	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	924042	CUSTOMER CLEANED THE IMPACTED AREA	INVESTIGATION INDICATED THAT ADDITIONAL REPAIRS WERE NOT REQUIRED BY MSD
MORRIS FORMAN	KY0022411	4301 SHELBYVILLE RD	10/24/08 5:00: PM	10/24/08 05:14 PM	1 GAL	Sewer Service Line	93538	ROOTS IN MAIN SEWER	ROOTS	836182	CUSTOMER CLEANED THE IMPACTED AREA	WORK ORDER 836242 - ROOT CUT THE MAIN SEWER
MORRIS FORMAN	KY0022411	4607 W JEFFERSON ST	06/26/09 9:15: AM	06/26/09 09:30 AM	5 GAL	Sewer Service Line	B06955019	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	923845	MSD PERSONNEL ADVISED CUSTOMER THEY ARE RESPONSIBLE FOR CLEANING THE IMPACTED AREA	INVESTIGATION INDICATED THAT ADDITIONAL REPAIRS WERE NOT REQUIRED BY MSD
MORRIS FORMAN	KY0022411	4607 W JEFFERSON ST	06/26/09 9:45: AM	06/26/09 10:00 AM	1 GAL	Sewer Service Line	B06955019	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	923690	ADVISED CUSTOMER THEY ARE RESPONSIBLE FOR CLEANING THE IMPACTED AREA	INVESTIGATION INDICATED THAT ADDITIONAL REPAIRS WERE NOT REQUIRED BY MSD
MORRIS FORMAN	KY0022411	320 SHAWNEE DR	06/29/09 9:45: AM	06/29/09 10:21 AM	1 GAL	Sewer Service Line	B07011019	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	924323	ADVISED CUSTOMER THEY ARE RESPONSIBLE FOR CLEANING THE IMPACTED AREA	INVESTIGATION INDICATED THAT ADDITIONAL REPAIRS WERE NOT REQUIRED BY MSD
MORRIS FORMAN	KY0022411	320 S SHAWNEE TER	06/26/09 4:00: PM	06/26/09 04:30 PM	5 GAL	Sewer Service Line	B07071019	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	924033	CUSTOMER CLEANED THE IMPACTED AREA	INVESTIGATION INDICATED THAT ADDITIONAL REPAIRS WERE NOT REQUIRED BY MSD
MORRIS FORMAN	KY0022411	315 S 38TH ST	06/26/09 2:35: PM	06/26/09 02:45 PM	1 GAL	Sewer Service Line	B07874059	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	924039	CUSTOMER CLEANED THE IMPACTED AREA	INVESTIGATION INDICATED THAT ADDITIONAL REPAIRS WERE NOT REQUIRED BY MSD
MORRIS FORMAN	KY0022411	313 S 38TH ST	06/26/09 12:50: PM	06/26/09 01:03 PM	1 GAL	Sewer Service Line	B07875049	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	923794	CUSTOMER CLEANED THE IMPACTED AREA	INVESTIGATION INDICATED THAT ADDITIONAL REPAIRS WERE NOT REQUIRED BY MSD
MORRIS FORMAN	KY0022411	3336 BRECKENRIDGE LN	05/09/09 1:11: AM	05/09/09 01:33 AM	2 GAL	Sewer Service Line	BJ13087049	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	906101	CUSTOMER CLEANED THE IMPACTED AREA	INVESTIGATION INDICATED THAT ADDITIONAL REPAIRS WERE NOT REQUIRED BY MSD
MORRIS FORMAN	KY0022411	4506 LANDSIDE DR	08/05/08 9:00: PM	08/05/08 10:00 PM	1 GAL	Sewer Service Line	BJ14763019	OBSTRUCTION IN MAIN SEWER	OBSTRUCTION-NOT GREASE / ROOTS	813516	CUSTOMER CLEANED THE IMPACTED AREA	WORK ORDER 813522 - FLUSHED MAIN SEWER
MORRIS FORMAN	KY0022411	4507 LANDSIDE DR	08/05/08 9:00: PM	08/05/08 10:00 PM	100 GAL	Sewer Service Line	BJ14767019	ROOTS IN MAIN SEWER	ROOTS	813519	MSD CONTRACTOR CLEANED AND SANITIZED THE IMPACTED AREAS	WORK ORDERS 813577 AND 813585 - ROOT CUT THE MAIN SEWER
MORRIS FORMAN	KY0022411	3413 NEWBURG RD	06/08/09 11:30: AM	06/08/09 12:27 PM	1 GAL	Sewer Service Line	BU06973029	BLOCKAGE IN THE MAIN SEWER	OBSTRUCTION-NOT GREASE / ROOTS	915468	CUSTOMER CLEANED THE IMPACTED AREA	WORK ORDER 916431 - ROOT CUT MAIN SEWER TO OPEN
MORRIS FORMAN	KY0022411	1947 MEADOWCREEK DR	06/16/09 5:30: PM	06/16/09 05:47 PM	1 GAL	Sewer Service Line	BU07058029	OBSTRUCTION IN MAIN SEWER	OBSTRUCTION-NOT GREASE / ROOTS	920245	CUSTOMER CLEANED THE IMPACTED AREA	WORK ORDER 920246 - ROOT CUT THE MAIN SEWER
MORRIS FORMAN	KY0022411	2245 FAIRLAND AVE	10/24/08 2:45: PM	10/24/08 02:46 PM	1 GAL	Sewer Service Line	BU09565019	ROOTS IN MAIN SEWER	ROOTS	836138	CUSTOMER CLEANED IMPACTED AREA	WORK ORDER 836136 - ROOT CUT THE MAIN SEWER
MORRIS FORMAN	KY0022411	5301 RANGELAND RD	06/11/09 3:45: PM	06/11/09 05:30 PM	1 GAL	Sewer Service Line	CD06922239	OBSTRUCTION IN MAIN SEWER	OBSTRUCTION-NOT GREASE / ROOTS	917309	CUSTOMER CLEANED THE IMPACTED AREA	WORK ORDER 917309 FLUSHED OBSTRUCTION FROM SEWER
MORRIS FORMAN	KY0022411	4432 MALCOLM RD	08/24/08 10:45: PM	08/24/08 11:00 PM	1 GAL	Sewer Service Line	DE34244039	GREASE BLOCKAGE IN THE MANHOLE	GREASE BLOCKAGE	818428	CUSTOMER CLEANED THE IMPACTED AREA	WORK ORDER 818427 - FLUSHED THE MAIN SEWER

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Associated Wastewater Treatment Plant Name	Associated Treatment Plant KPDES #	Overflow Location	Overflow Start Date & Time	Overflow Stop Date & Time	Volume of Overflow	Source Asset Type	Source Asset ID	Cause of Overflow	Due To	WO #	Cleanup Efforts by MSD	Repair Efforts by MSD
MORRIS FORMAN	KY0022411	7010 QUAIL BRACE CT	06/08/09 9:30: PM	06/08/09 09:52 PM	1 GAL	Sewer Service Line	EP33575019	OBSTRUCTION IN MAIN SEWER	OBSTRUCTION-NOT GREASE / ROOTS	916272	CUSTOMER CLEANED THE IMPACTED AREA	WORK ORDERS 916492 AND 916820 - ROOT CUT AND FLUSHED THE MAIN SEWER
MORRIS FORMAN	KY0022411	7106 GREENGATE CT	05/28/09 9:15: AM	05/28/09 11:15 AM	1 GAL	Sewer Service Line	EP34105029	OBSTRUCTION IN MSD'S PORTION OF THE PROPERTY SERVICE CONNECTION	OBSTRUCTION-NOT GREASE / ROOTS	912807	CUSTOMER CLEANED THE IMPACTED AREA	WORK ORDER 912814 - FLUSHED THE PROPERTY SERVICE LINE
MORRIS FORMAN	KY0022411	6202 RACCOON RUN CT	01/29/09 2:15: PM	01/29/09 04:45 PM	8 GAL	Sewer Service Line	EP58045029	ROOTS IN THE MSD MAIN SEWER	ROOTS	868275	CUSTOMER CLEANED THE IMPACTED AREA	WORK ORDER 868276 - ROOT CUT THE MAIN SEWER
MORRIS FORMAN	KY0022411	205 LINDEN LN	06/10/09 12:15: PM	06/10/09 02:19 PM	4 GAL	Sewer Service Line	G10920029	HEAVY DEBRIS IN MAIN SEWER	OBSTRUCTION-NOT GREASE / ROOTS	916800	CUSTOMER CLEANED THE IMPACTED AREA	WORK ORDERS 916803, 916809 AND 917131 - ROOT CUT, VACTOR AND FLUSHED THE MAIN SEWER
MORRIS FORMAN	KY0022411	3408 CROSS POINTE RD	04/09/09 2:15: PM	04/09/09 03:30 PM	1 GAL	Sewer Service Line	HP11073029	OBSTRUCTION IN THE MAIN SEWER	OBSTRUCTION-NOT GREASE / ROOTS	895087	CUSTOMER CLEANED THE IMPACTED AREA	WORK ORDER 895086 - ROOT CUT THE MAIN SEWER
MORRIS FORMAN	KY0022411	3102 STONINGTON CT	04/09/09 12:00: PM	04/09/09 01:30 PM	1 GAL	Sewer Service Line	HP11496029	OBSTRUCTION IN MAIN SEWER	OBSTRUCTION-NOT GREASE / ROOTS	895079	CUSTOMER CLEANED THE IMPACTED AREA	WORK ORDER 895080 - ROOTCUT AND OPENED THE MAIN SEWER
MORRIS FORMAN	KY0022411	2906 GOOSE CREEK RD	03/11/09 6:20: PM	03/11/09 06:56 PM	2 GAL	Sewer Service Line	HP11632019	ROOTS IN THE MAIN SEWER AND AT THE TAP OF THE PROPERTY SERVICE LINE	ROOTS	882624	CUSTOMER CLEANED THE IMPACTED AREA	WORK ORDERS 882695, 882696 AND 882749 - ROOT CUT THE MAIN SEWER
MORRIS FORMAN	KY0022411	8411 TURNSIDE DR	04/21/09 7:00: PM	04/21/09 07:13 PM	1 GAL	Sewer Service Line	HP12223079	OBSTRUCTION IN THE MAIN SEWER	OBSTRUCTION-NOT GREASE / ROOTS	898650	CUSTOMER CLEANED THE IMPACTED AREA	WORK ORDER 898651 - ROOT CUT MAIN SEWER TO OPEN
MORRIS FORMAN	KY0022411	2400 LEXFORD CT	02/22/09 5:23: PM	02/22/09 05:34 PM	6 GAL	Sewer Service Line	HP12899029	ROOTS IN MAIN SEWER	ROOTS	874877	MSD CONTRACTOR CLEANED AND SANITIZED THE IMPACTED AREA	WORK ORDERS 874875 AND 875047 - FLUSHED AND ROOT CUT THE MAIN SEWER
MORRIS FORMAN	KY0022411	2520 LANGDON DR	05/09/09 2:43: AM	05/09/09 02:54 AM	2 GAL	Sewer Service Line	HP15313019	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	906103	CUSTOMER CLEANED THE IMPACTED AREA	INVESTIGATION INDICATED THAT ADDITIONAL REPAIRS WERE NOT REQUIRED BY MSD
MORRIS FORMAN	KY0022411	701 VANNAH AVE	01/14/09 8:53: PM	01/14/09 09:45 PM	2 GAL	Sewer Service Line	HU22560019	OBSTRUCTION IN THE MAIN SEWER	OBSTRUCTION-NOT GREASE / ROOTS	864196	MSD CONTRACTOR CLEANED AND SANITIZED THE IMPACTED AREA	WORK ORDER 864567 - FLUSHED THE MAIN SEWER
MORRIS FORMAN	KY0022411	1222 CHEROKEE RD	05/11/09 11:45: AM	05/11/09 12:15 PM	1 GAL	Sewer Service Line	J07617029	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	906711	CUSTOMER CLEANED THE IMPACTED AREA	INVESTIGATION INDICATED THAT ADDITIONAL REPAIRS WERE NOT REQUIRED BY MSD
MORRIS FORMAN	KY0022411	3812 ILLINOIS AVE	10/03/08 9:30: AM	10/03/08 10:11 AM	1 GAL	Sewer Service Line	KK09652019	MSD PERSONNEL PERFORMING PREVENTIVE MAINTENANCE ON SEWERS	OBSTRUCTION-NOT GREASE / ROOTS	829591	MSD CONTRACTORS CLEANED AND SANITIZED THE IMPACTED AREA	INVESTIGATION INDICATED THAT ADDITIONAL REPAIRS WERE NOT REQUIRED BY MSD
MORRIS FORMAN	KY0022411	3298 ILLINOIS AVE	11/22/08 1:30: PM	11/22/08 02:04 PM	15 GAL	Sewer Service Line	KK09875019	OBSTRUCTION IN MAIN SEWER LINE	OBSTRUCTION-NOT GREASE / ROOTS	851397	MSD CONTRACTOR CLEANED AND SANITIZED IMPACTED AREA	WORK ORDER 851398 - ROOT CUT LINE AND WAS ABLE TO GET OPEN
MORRIS FORMAN	KY0022411	1610 QUARRY HILL RD	06/11/09 12:45: PM	06/11/09 01:15 PM	1 GAL	Sewer Service Line	KK10029019	ROOTS IN MAIN SEWER	ROOTS	917291	CUSTOMER CLEANED THE IMPACTED AREA	WORK ORDERS 917516 AND 917522 - ROOT CUT THE MAIN SEWER
MORRIS FORMAN	KY0022411	957 MCKINLEY AVE	05/08/09 10:35: PM	05/08/09 10:54 PM	1 GAL	Sewer Service Line	KK11047039	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	906027	CUSTOMER CLEANED THE IMPACTED AREA	INVESTIGATION INDICATED THAT ADDITIONAL REPAIRS WERE NOT REQUIRED BY MSD
MORRIS FORMAN	KY0022411	931 PACKARD AVE	02/26/09 9:45: PM	02/26/09 11:14 PM	5 GAL	Sewer Service Line	KK11412019	OBSTRUCTION IN THE MAIN SEWER	OBSTRUCTION-NOT GREASE / ROOTS	878045	CUSTOMER CLEANED THE IMPACTED AREA	WORK ORDERS 878047 AND 878203 - FLUSHED AND ROOT CUT THE MAIN SEWER
MORRIS FORMAN	KY0022411	1218 MORGAN AVE	05/16/09 3:30: PM	05/16/09 04:12 PM	1 GAL	Sewer Service Line	KK13370259	OBSTRUCTION IN MAIN SEWER	OBSTRUCTION-NOT GREASE / ROOTS	908431	CUSTOMER CLEANED THE IMPACTED AREA	WORK ORDER 908433 - ROOT CUT THE MAIN SEWER
MORRIS FORMAN	KY0022411	1218 MORGAN AVE	05/30/09 12:47: PM	05/30/09 02:30 PM	100 GAL	Sewer Service Line	KK13370259	OBSTRUCTION IN MAIN SEWER	OBSTRUCTION-NOT GREASE / ROOTS	913339	CUSTOMER CLEANED THE IMPACTED AREA	WORK ORDERS 913347, AND 913444 - ROOT CUT THE MAIN SEWER
MORRIS FORMAN	KY0022411	1244 SPRINGDALE DR	04/30/09 9:45: AM	04/30/09 10:45 AM	1 GAL	Sewer Service Line	KK13390319	OBSTRUCTION IN MAIN SEWER	OBSTRUCTION-NOT GREASE / ROOTS	900871	CUSTOMER CLEANED THE IMPACTED AREA	WORK ORDER 900869 - FLUSHED OBSTRUCTION FROM SEWER

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Associated Wastewater Treatment Plant Name	Associated Treatment Plant KPDES #	Overflow Location	Overflow Start Date & Time	Overflow Stop Date & Time	Volume of Overflow	Source Asset Type	Source Asset ID	Cause of Overflow	Due To	WO #	Cleanup Efforts by MSD	Repair Efforts by MSD
MORRIS FORMAN	KY0022411	1573 BELMAR DR	06/19/09 3:11: PM	06/19/09 04:08 PM	5 GAL	Sewer Service Line	KK14608089	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	921630	MSD CONTRACTOR CLEANED AND SANITIZED THE IMPACTED AREA	INVESTIGATION INDICATED THAT ADDITIONAL REPAIRS WERE NOT REQUIRED BY MSD
MORRIS FORMAN	KY0022411	1451 INDIANA AVE	01/15/09 12:30: PM	01/15/09 02:30 PM	10 GAL	Sewer Service Line	KK14749029	ROOTS IN MAIN SEWER	ROOTS	864636	MSD CONTRACTOR CLEANED AND SANITIZED THE IMPACTED AREA	WORK ORDER 864638 - ROOT CUT THE MAIN SEWER
MORRIS FORMAN	KY0022411	1451 INDIANA AVE	01/15/09 1:30: PM	01/15/09 02:30 PM	10 GAL	Sewer Service Line	KK14749029	ROOTS IN MAIN SEWER	ROOTS	864637	MSD CONTRACTOR CLEANED AND SANITIZED THE IMPACTED AREA	WORK ORDER 864638 - REPAIRED THE PROPERTY SERVICE CONNECTION & INSTALLED A 2-WAY CLEANOUT
MORRIS FORMAN	KY0022411	1569 MCKAY AVE	05/08/09 10:25: PM	05/08/09 10:50 PM	1 GAL	Sewer Service Line	KK14818019	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	906023	CUSTOMER CLEANED THE IMPACTED AREA	INVESTIGATION INDICATED THAT ADDITIONAL REPAIRS WERE NOT REQUIRED BY MSD
MORRIS FORMAN	KY0022411	4107 LEE AVE	07/23/08 9:15: AM	07/23/08 09:48 AM	1 GAL	Sewer Service Line	KK14855239	MSD PERSONNEL CLEANING THE SEWERS	OBSTRUCTION-NOT GREASE / ROOTS	808701	CUSTOMER CLEANED THE IMPACTED AREA	NO REPAIRS WARRANTED
MORRIS FORMAN	KY0022411	1621 REDWOOD DR	09/22/08 10:00: PM	09/22/08 10:30 PM	2 GAL	Sewer Service Line	KK14882019	ROOTS IN MAIN SEWER	ROOTS	824922	CUSTOMER CLEANED THE IMPACTED AREA	WORK ORDER 824931 - ROOT CUT THE MAIN SEWER.
MORRIS FORMAN	KY0022411	4224 CLARK ST	02/05/09 12:15: PM	02/05/09 01:25 PM	1 GAL	Sewer Service Line	KK15243089	OBSTRUCTION IN MAIN SEWER	OBSTRUCTION-NOT GREASE / ROOTS	869683	MSD CONTRACTOR CLEANED AND SANITIZED THE IMPACTED AREA	WORK ORDER 869681 - ROOT CUT THE MAIN SEWER
MORRIS FORMAN	KY0022411	224 W BURNETT AVE	05/11/09 4:15: PM	05/11/09 05:00 PM	1 GAL	Sewer Service Line	L06202059	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	906698	CUSTOMER CLEANED THE IMPACTED AREA	ADVISED CUSTOMER TO CONTACT A PLUMBER
MORRIS FORMAN	KY0022411	4007 PLYMOUTH RD	11/27/08 4:00: PM	11/27/08 05:31 PM	1 GAL	Sewer Service Line	MA11369039	OBSTRUCTION IN MAIN SEWER	OBSTRUCTION-NOT GREASE / ROOTS	852228	CUSTOMER CLEANED THE IMPACTED AREA	WORK ORDER 852229 - FLUSHED MAIN SEWER AND OPEN LINE
MORRIS FORMAN	KY0022411	1622 HEMLOCK CT	06/27/09 10:30: AM	06/27/09 10:55 AM	1 GAL	Sewer Service Line	O00755539	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	924132	CUSTOMER CLEANED THE IMPACTED AREA	INVESTIGATION INDICATED THAT ADDITIONAL REPAIRS WERE NOT REQUIRED BY MSD
MORRIS FORMAN	KY0022411	2327 MAPLE ST	06/26/09 4:00: PM	06/26/09 04:30 PM	3 GAL	Sewer Service Line	O01513529	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	924038	CUSTOMER CLEANED THE IMPACTED AREA	INVESTIGATION INDICATED THAT ADDITIONAL REPAIRS WERE NOT REQUIRED BY MSD
MORRIS FORMAN	KY0022411	908 SOUTHWESTERN PKY	06/30/09 7:30: PM	06/30/09 08:09 PM	1 GAL	Sewer Service Line	P06097019	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	924995	CUSTOMER CLEANED THE IMPACTED AREA	INVESTIGATION INDICATED THAT ADDITIONAL REPAIRS WERE NOT REQUIRED BY MSD
MORRIS FORMAN	KY0022411	842 SUTCLIFFE AVE	06/26/09 3:00: PM	06/26/09 03:30 PM	1 GAL	Sewer Service Line	P08398089	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	924037	CUSTOMER CLEANED THE IMPACTED AREA	INVESTIGATION INDICATED THAT ADDITIONAL REPAIRS WERE NOT REQUIRED BY MSD
MORRIS FORMAN	KY0022411	660 S 22ND ST	06/26/09 12:05: PM	06/26/09 12:20 PM	1 GAL	Sewer Service Line	P5472	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	924085	CUSTOMER CLEANED THE IMPACTED AREA	INVESTIGATION INDICATED THAT ADDITIONAL REPAIRS WERE NOT REQUIRED BY MSD
MORRIS FORMAN	KY0022411	3912 DELLAFAY DR	09/15/08 11:00: PM	09/15/08 11:32 PM	4 GAL	Sewer Service Line	PA07205039	POWER OUTAGE PUMP STATION DOWN	POWER OUTAGE (LG&E)	823509	CUSTOMER CLEANED THE IMPACTED AREA	MSD'S OPERATIONS DEPARTMENT PUMPING THE PUMP STATION
MORRIS FORMAN	KY0022411	4104 SERENE WAY	09/16/08 1:45: AM	09/16/08 02:40 AM	1 GAL	Sewer Service Line	PA07267019	POWER OUTAGE PUMP STATION DOWN	POWER OUTAGE (LG&E)	823518	CUSTOMER CLEANED THE IMPACTED AREA	MSD'S OPERATIONS DEPARTMENT SERVICING THE PUMP STATION
MORRIS FORMAN	KY0022411	4005 SERENE WAY	09/16/08 2:20: PM	09/16/08 02:45 PM	1 GAL	Sewer Service Line	PA07280019	POWER OUTAGE AT THE PUMP STATION	POWER OUTAGE (LG&E)	823754	CUSTOMER CLEANED THE IMPACTED AREA	MSD OPEARATIONS PUMPING SEWAGE FROM PUMP STATION
MORRIS FORMAN	KY0022411	6108 OAKNOLL DR	09/15/08 11:00: PM	09/15/08 11:40 PM	4 GAL	Sewer Service Line	PA07299539	POWER OUTAGE PUMP STATION DOWN	POWER OUTAGE (LG&E)	823510	CUSTOMER CLEANED THE IMPACTED AREA	MSD'S OPERATIONS DEPARTMENT PUMPING THE PUMP STATION
MORRIS FORMAN	KY0022411	6205 OAKNOLL DR	09/15/08 9:30: PM	09/15/08 09:46 PM	2 GAL	Sewer Service Line	PA07303059	POWER OUTAGE PUMP STATION DOWN	POWER OUTAGE (LG&E)	823506	CUSTOMER CLEANED THE IMPACTED AREA	MSD'S OPERATIONS DEPARTMENT PUMPING THE PUMP STATION
MORRIS FORMAN	KY0022411	6205 OAKNOLL DR	01/28/09 8:30: AM	01/28/09 09:15 AM	10 GAL	Sewer Service Line	PA07303059	POWER AT PUMP STATION OUT DUE TO SNOW/ICE STORM (AFFECTING LG&E POWER LINES)	POWER OUTAGE (LG&E)	868091	MSD CONTRACTOR CLEANED AND SANITIZED THE IMPACTED AREA	INVESTIGATION INDICATED THAT ADDITIONAL REPAIRS WERE NOT REQUIRED BY MSD

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Associated Wastewater Treatment Plant Name	Associated Treatment Plant KPDES #	Overflow Location	Overflow Start Date & Time	Overflow Stop Date & Time	Volume of Overflow	Source Asset Type	Source Asset ID	Cause of Overflow	Due To	WO #	Cleanup Efforts by MSD	Repair Efforts by MSD
MORRIS FORMAN	KY0022411	4103 GLEN VALLEY RD	09/15/08 9:45: AM	09/15/08 09:55 AM	1 GAL	Sewer Service Line	PA07315039	POWER OUTAGE PUMP STATION DOWN	POWER OUTAGE (LG&E)	823610	MSD CONTRACTOR CLEANED AND SANITIZED THE IMPACTED AREA	MSD OPERATIONS DEPARTMENT PUMPING SEWAGE
MORRIS FORMAN	KY0022411	4103 GLEN VALLEY RD	01/28/09 9:20: AM	01/28/09 10:00 AM	1 GAL	Sewer Service Line	PA07315039	POWER AT PUMP STATION OUT DUE TO SNOW/ICE STORM (AFFECTING LG&E POWER LINES)	POWER OUTAGE (LG&E)	868092	CUSTOMER CLEANED THE IMPACTED AREA	INVESTIGATION INDICATED THAT ADDITIONAL REPAIRS WERE NOT REQUIRED BY MSD
MORRIS FORMAN	KY0022411	4101 GLEN VALLEY RD	09/15/08 11:50: PM	09/16/08 12:08 AM	1 GAL	Sewer Service Line	PA07316019	POWER OUTAGE PUMP STATION DOWN	POWER OUTAGE (LG&E)	823512	CUSTOMER CLEANED THE IMPACTED AREA	MSD'S OPERATIONS DEPARTMENT PUMPING THE PUMP STATION
MORRIS FORMAN	KY0022411	4101 GLEN VALLEY RD	01/28/09 10:00: AM	01/28/09 10:15 AM	10 GAL	Sewer Service Line	PA07316019	POWER AT PUMP STATION OUT DUE TO SNOW/ICE STORM (AFFECTING LG&E POWER LINES)	POWER OUTAGE (LG&E)	868093	MSD CONTRACTOR CLEANED AND SANITIZED THE IMPACTED AREA	INVESTIGATION INDICATED THAT ADDITIONAL REPAIRS WERE NOT REQUIRED BY MSD
MORRIS FORMAN	KY0022411	6101 JEANINE DR	09/16/08 1:45: PM	09/16/08 02:04 PM	5 GAL	Sewer Service Line	PA07328029	POWER OUTAGE PUMP STATION NOT WORKING	POWER OUTAGE (LG&E)	823698	MSD CONTRACTOR CLEANED AND SANITIZED THE IMPACTED AREA	MSD PERSONNEL ON SITE AT THE PUMP STATION PUMPING SEWAGE
MORRIS FORMAN	KY0022411	6101 JEANINE DR	10/24/08 9:30: AM	10/24/08 11:09 AM	25 GAL	Sewer Service Line	PA07328029	GREASE OBSTRUCTION IN THE MAIN SEWER	GREASE BLOCKAGE	836046	MSD CONTRACTOR CLEANED AND SANITIZED THE IMPACTED AREA	WORK ORDER 836041 - ROOT CUT THE MAIN SEWER
MORRIS FORMAN	KY0022411	6011 JEANINE DR	10/24/08 2:00: PM	10/24/08 02:13 PM	1 GAL	Sewer Service Line	PA07330019	OBSTRUCTION IN THE MAIN SEWER	OBSTRUCTION-NOT GREASE / ROOTS	836115	CUSTOMER CLEANED THE IMPACTED AREA	WORK ORDER 836041 - ROOT CUT MAIN SEWER
MORRIS FORMAN	KY0022411	1305 BERNHEIM LN	06/26/09 5:00: PM	06/26/09 05:19 PM	5 GAL	Sewer Service Line	R04350069	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	924057	CUSTOMER CLEANED THE IMPACTED AREA	INVESTIGATION INDICATED THAT ADDITIONAL REPAIRS WERE NOT REQUIRED BY MSD
MORRIS FORMAN	KY0022411	1426 S 3RD ST	05/09/09 5:48: AM	05/09/09 05:59 AM	2 GAL	Sewer Service Line	R06441029	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	906157	CUSTOMER CLEANED THE IMPACTED AREA	INVESTIGATION INDICATED THAT ADDITIONAL REPAIRS WERE NOT REQUIRED BY MSD
MORRIS FORMAN	KY0022411	6405 SOUTHSIDE DR	01/09/09 6:50: PM	01/09/09 07:18 PM	1 GAL	Sewer Service Line	Y10066059	ROOTS IN THE MAIN SEWER, ROOTS ON MSD'S PORTION OF THE PROPERTY SERVICE CONNECTION	ROOTS	862903	CUSTOMER CLEANED THE IMPACTED AREA	WORK ORDERS 862962 AND 863154 - ROOT CUT MAIN;REPAIRED THE PROPERTY SERVICE LINE AND INSTALLED A 2-WAY CLEANOUT; ADVISED CUSTOMER TO CONTACT A PLUMBER
MORRIS FORMAN	KY0022411	208 CAMBRIDGE DR	02/27/09 8:22: PM	02/27/09 09:13 PM	2 GAL	Sewer Service Line	Y11349039	OBSTRUCTION IN THE MAIN SEWER	OBSTRUCTION-NOT GREASE / ROOTS	878498	CUSTOMER CLEANED THE IMPACTED AREA	WORK ORDER 882568 - FLUSHED THE MAIN SEWER
CEDAR CREEK	KY0098540	11026 PERWINKLE LN	09/17/08 8:30: AM	09/17/08 09:00 AM	1 GAL	Sewer Service Line	1440325	POWER OUTAGE AT THE PUMP STATION	POWER OUTAGE (LG&E)	823826	CUSTOMER CLEANED THE IMPACTED AREA	WAITING FOR LG&E TO RESTORE POWER
CEDAR CREEK	KY0098540	8012 ZELMA FIELDS AVE	01/29/09 9:30: PM	01/29/09 09:45 PM	10 GAL	Sewer Service Line	BW05259019	POWER FAILURE AT SHOBE PUMP STATION DUE TO ICE STORM	POWER OUTAGE (LG&E)	868318	MSD CONTRACTOR CLEANED AND SANITIZED THE IMPACTED AREA	INVESTIGATION INDICATED THAT ADDITIONAL REPAIRS WERE NOT REQUIRED BY MSD
CEDAR CREEK	KY0098540	8312 AUTUMNWOOD WAY	04/13/09 10:30: AM	04/13/09 01:00 PM	1 GAL	Sewer Service Line	BW05448049	OBSTRUCTION IN MAIN SEWER	OBSTRUCTION-NOT GREASE / ROOTS	895679	CUSTOMER CLEANED THE IMPACTED AREA	WORK ORDER 895677 AND 895678 - FLUSHED AND ROOT CUT THE MIAN SEWER
CEDAR CREEK	KY0098540	7307 STONEMILL CT	12/27/08 1:22: PM	12/27/08 03:30 PM	10 GAL	Sewer Service Line	BW06148049	MSD PERSONNEL CLEANING THE SEWERS	OBSTRUCTION-NOT GREASE / ROOTS	859261	MSD CONTRACTOR CLEANED AND SANITIZED THE IMPACTED AREA	INVESTIGATION INDICATED THAT ADDITIONAL REPAIRS WERE NOT REQUIRED BY MSD
CEDAR CREEK	KY0098540	6705 SANTOM LN	08/29/08 9:30: AM	08/29/08 10:01 AM	1 GAL	Sewer Service Line	BW0719504	ROOTS IN MSD'S MAIN SEWER	ROOTS	820502	CUSTOMER CLEANED THE IMPACTED AREA	WORK ORDER 820911 - ROOT CUT MAIN SEWER
CEDAR CREEK	KY0098540	6900 BARDSTOWN RD	10/23/08 4:30: PM	10/23/08 05:31 PM	1 GAL	Sewer Service Line	BW08091029	OBSTRUCTION IN MAIN SEWER	OBSTRUCTION-NOT GREASE / ROOTS	835948	CUSTOMER CLEANED THE IMPACTED AREA	WORK ORDER 835947 - FLUSHED THE MAIN SEWER
HUNTING CREEK SOUTH	KY0029114	8000 MONTERO CT	11/24/08 3:00: PM	11/24/08 03:45 PM	1 GAL	Sewer Service Line	EP48000019	ROOTS IN MAIN SEWER	ROOTS	851668	CUSTOMER CLEANED THE IMPACTED AREA	WORK ORDER 851736 - ROOT CUT MAIN SEWER
FLOYDS FORK	KY0102784	14707 LANDIS LAKES DR	05/30/09 2:55: PM	05/30/09 05:30 PM	35 GAL	Sewer Service Line	14378118	OBSTRUCTION IN THE MAIN SEWER	OBSTRUCTION-NOT GREASE / ROOTS	913343	MSD CONTRACTOR WILL CLEAN AND SANITIZE THE IMPACTED AREA	WORK ORDERS 913346 AND 913781 - FLUSHED THE MAIN SEWER
SHADOW WOOD	KY0031810	5807 RIVER CREEK DR	09/20/08 2:45: PM	09/20/08 03:30 PM	25 GAL	Sewer Service Line	112783A	POWER OUTAGE, PUMP STATION OUT	POWER OUTAGE (LG&E)	824575	MSD CONTRACTOR CLEANED AND SANITIZED THE IMPACTED AREA	TRUCK ON SITE TO PUMP SEWAGE

APPENDIX C - ANNUAL AVERAGE OVERFLOW VOLUME

Louisville MSD
Existing Condition AAOV

CSO	CSO NAME	RECEIVING STREAM	Drainage Area (Acres)	October 2008 IWCS (ver8.0)		January 2009 IWCS (ver 9.5)		Change in AAOV (MG/YR) Jan-Oct
				AAOV (MG/YR)	OF Incidents (# OF/YR)	AAOV (MG/YR)	OF Incidents (# OF/YR)	
015	SOUTHWESTERN PS	OR	7,496.7	1177.03	56	845.75	66	-331.28
016	MILES PARK BYPASS	OR		82.38	37	29.94	30	-52.44
018	NIGHTINGALE PS	SF BGC		49.00	16	44.93	16	-4.07
019	34th STREET PS	OR	1,094.0	297.92	60	305.40	60	7.48
020	BUCHANAN PS	OR	86.6	6.46	14	6.60	12	0.14
022	FOURTH ST PS	OR	100.9	0.95	4	0.96	4	0.00
023	ORI @ 4th ST PS	OR		85.96	26	76.78	28	-9.18
026	CRD 6th & BROADWAY	OR	8.4	0.00	0	0.00	0	0.00
027	CRD 7th & BROADWAY	OR	10.1	0.00	0	0.00	0	0.00
028	CRD 6th & YORK	OR	6.1	0.00	0	0.00	0	0.00
029	CRD 8th & YORK	OR	34.8	5.66	33	5.66	33	0.00
030	CRD 9th & YORK "A"	OR	Eliminated					
031	CRD 6th & BRECKINRIDGE	OR	3.7	0.00	0	0.00	0	0.00
032	CRD 4th & BRECKINRIDGE	OR	Eliminated					
033	CRD ON YORK E OF 4th	OR	Eliminated					
034	CRD 4th & YORK	OR	5.1	0.00	0	0.00	0	0.00
035	CRD 2nd & BROADWAY NO 1	OR	14.3	0.23	11	0.23	11	0.00
036	CRD 3rd & BROADWAY	OR	23.1	0.03	4	0.03	4	0.00
038	CRD 5th & BROADWAY	OR	9.5	0.00	0	0.00	0	0.00
049	PRESTON ST	OR	Eliminated					
050	12th STREET	OR	36.3	43.75	42	39.77	41	-3.98
051	11th STREET	OR	6.3	4.95	27	3.90	28	-1.05
052	10th STREET	OR	8.7	9.81	33	8.66	30	-1.15
053	8th STREET	OR	34.1	4.61	23	4.54	23	-0.07
054	7th STREET	OR	7.1	0.11	32	0.11	23	0.00
055	6th STREET	OR	18.0	21.10	34	19.17	31	-1.93
056	5th STREET	OR	22.0	2.91	18	2.81	18	-0.10
057	FIRST STREET OVFL WEIR	OR		0.00	0	0.00	0	0.00
058	PRESTON ST OVFL WEIR	OR	105.4	121.51	51	124.16	51	2.65
062	LOGAN COMPANY	OR		0.00	0	0.00	0	0.00
065	LAMPTON STREET	SF BGC	Eliminated					
080	PAYNE STREET	MF BGC	Eliminated					
081	LETTERLE	SF BGC	Eliminated					
082	BGI AT BGC	SF BGC		1.16	24	1.13	24	-0.03
083	BRENT ST & BROADWAY CONNEC	SF BGC	38.1	0.00	0	0.00	0	0.00
084	BRENT ST @ BGC	SF BGC	125.1	17.96	34	17.94	34	-0.02
086	PAYNE AT SPRING	MF BGC	6.1	0.00	0	0.00	0	0.00
087	BLUEHORSE	SF BGC	Eliminated					
088	MELLWOOD AVE INT	SF BGC	18.8	0.58	6	0.58	6	0.00
091	SCHILLER AVE OVFL	SF BGC	15.0	1.62	34	1.62	34	0.00
092	ST CATHERINE @ BGC	SF BGC	7.7	0.00	0	0.00	0	0.00
093	SPRING STREET	SF BGC	20.8	1.81	37	1.81	37	0.00
097	CANTONMENT SIPHON NO 2	SF BGC		16.19	44	16.07	45	-0.12
104	SW PKWY SEWER @ BROADWAY	OR	62.0	0.20	5	0.20	5	0.00
105	WESTERN OUTFALL @ BROADWAY	OR	1,881.2	21.43	19	21.46	19	0.03
106	ROYAL - NEFF	SF BGC	11.8	0.34	17	0.34	17	0.00
108	REG N0 1 - NEWBURG	SF BGC	485.2	31.83	13	36.07	27	4.24

Louisville MSD
Existing Condition AAOV

CSO	CSO NAME	RECEIVING STREAM	Drainage Area (Acres)	October 2008 IWCS (ver8.0)		January 2009 IWCS (ver 9.5)		Change in AAOV (MG/YR) Jan-Oct
				AAOV (MG/YR)	OF Incidents (# OF/YR)	AAOV (MG/YR)	OF Incidents (# OF/YR)	
109	REG NO 2 - DEER PARK	SF BGC	95.4	0.27	3	0.27	3	0.00
110	REG NO 3 - GOSS AVE	SF BGC	73.0	30.49	44	30.39	43	-0.10
111	EMERSON STREET SEWER	SF BGC	99.4	0.00	0	0.00	0	0.00
113	ELLISON AVENUE SEWER	SF BGC	67.6	7.74	37	7.74	37	0.00
117	REG NO 11 - DRY RUN	SF BGC	74.2	94.99	41	94.13	41	-0.86
118	REG NO 15 - E BRDWY	SF BGC	354.1	100.49	39	100.17	39	-0.32
119	BRENT STREET SEWER	SF BGC	7.6	12.59	40	12.51	40	-0.08
120	PHOENIX HILL SEWER	SF BGC	16.5	9.24	51	9.24	51	0.00
121	REG NO 18 - GREEN ST	SF BGC	107.2	11.26	28	11.23	28	-0.03
123	REG NO 20 - RUTH-SULGRV	MF BGC	Eliminated					
125	REG NO 24 - GRINSTEAD DR	MF BGC	391.0	48.58	55	48.63	54	0.05
126	REG NO 26 - RAYMOND AVE	MF BGC	35.3	0.55	13	0.55	13	0.00
127	ETLEY AVENUE	MF BGC	192.3	4.63	21	4.63	21	0.00
130	WEBSTER STREET	SF BGC	28.4	0.86	10	0.85	10	-0.01
131	REG NO 33 - MELWD & FRANKFOR	SF BGC	50.3	0.06	3	0.06	3	0.00
132	REG NO 35 - BROWNSBORO	MudF BGC	674.0	149.39	56	149.36	56	-0.03
137	CALVARY CEMETARY	SF BGC	26.7	3.94	37	3.93	37	-0.01
140	LOCUST STREET	MF BGC	75.5	17.01	54	17.01	54	0.00
141	BAXTER AVE @ BGC	SF BGC	7.7	5.07	27	5.06	27	-0.01
143	KENTUCKY ST BLOW-OFF	SF BGC	Eliminated					
144	VANCE ST REGULATOR	MF BGC	16.4	0.00	0	0.00	0	0.00
145	POINT PUMP STATION	SF BGC	Eliminated					
146	SNEADS BRANCH DIVERSION	SF BGC	112.6	50.45	46	52.57	58	2.12
147	SWAN STREET DIVERSION	SF BGC	Eliminated					
148	EASTERN PKWY DIVERSION	SF BGC	24.9	1.27	26	1.27	26	0.00
149	DRY RUN DIVERSION	SF BGC	226.5	56.93	38	56.78	37	-0.15
150	8th ST @ COMMON PLACE	OR	1.8	8.50	35	7.95	32	-0.55
151	REG NO 5 - CASTLEWOOD	SF BGC	219.7	85.00	56	86.01	57	1.01
152	REG NO 7 - SOUTHEASTERN	SF BGC	260.6	76.43	52	76.34	52	-0.09
153	COOPER STREET	SF BGC	41.7	15.67	56	15.66	56	-0.01
154	MELLWOOD @ SCHOEFFEL	MudF BGC	31.0	1.96	16	1.96	16	0.00
155	ROWAN ST @ 12th ST	OR	11.9	2.06	39	2.05	39	-0.01
156	6th & WASHINGTON SAN DIV	OR		0.12	12	0.10	11	-0.02
160	SEWER IN ALLEY SAN DIV	OR	2.0	0.28	28	1.24	76	0.96
161	MARKET ST SAN DIV	OR	2.5	0.01	1	0.001	1	-0.01
162	BEALS BRANCH HW REG	MF BGC	Eliminated					
166	BEALS BRANCH SAN DIV	MF BGC	696.6	10.09	19	10.13	19	0.04
167	BROWNSBORO LAT NO 2	MudF BGC	11.0	1.00	12	0.95	12	-0.05
172	ADAMS STREET	OR	13.7	1.28	31	1.28	31	0.00
178	CRD 9th & YORK "B"	OR	58.0	1.44	16	1.44	16	0.00
179	KENTUCKY ST SEWER OVFL	SF BGC	456.2	0.00	0	0.00	0	0.00
181	CRD 2nd & BROADWAY NO 2	OR	22.6	0.27	11	0.01	3	-0.26
189	NORTHWESTERN SAN DIV	OR	1,148.7	184.41	38	175.86	37	-8.55
190	SEVENTEENTH ST SAN DIV	OR	145.4	36.19	49	36.19	49	0.00
191	ALGONQUIN PKWY SAN DIV	OR	339.7	51.08	30	40.26	21	-10.82
192	CRD S 6th & GARLAND	OR	9.0	0.00	0	0.00	0	0.00

Louisville MSD
Existing Condition AAOV

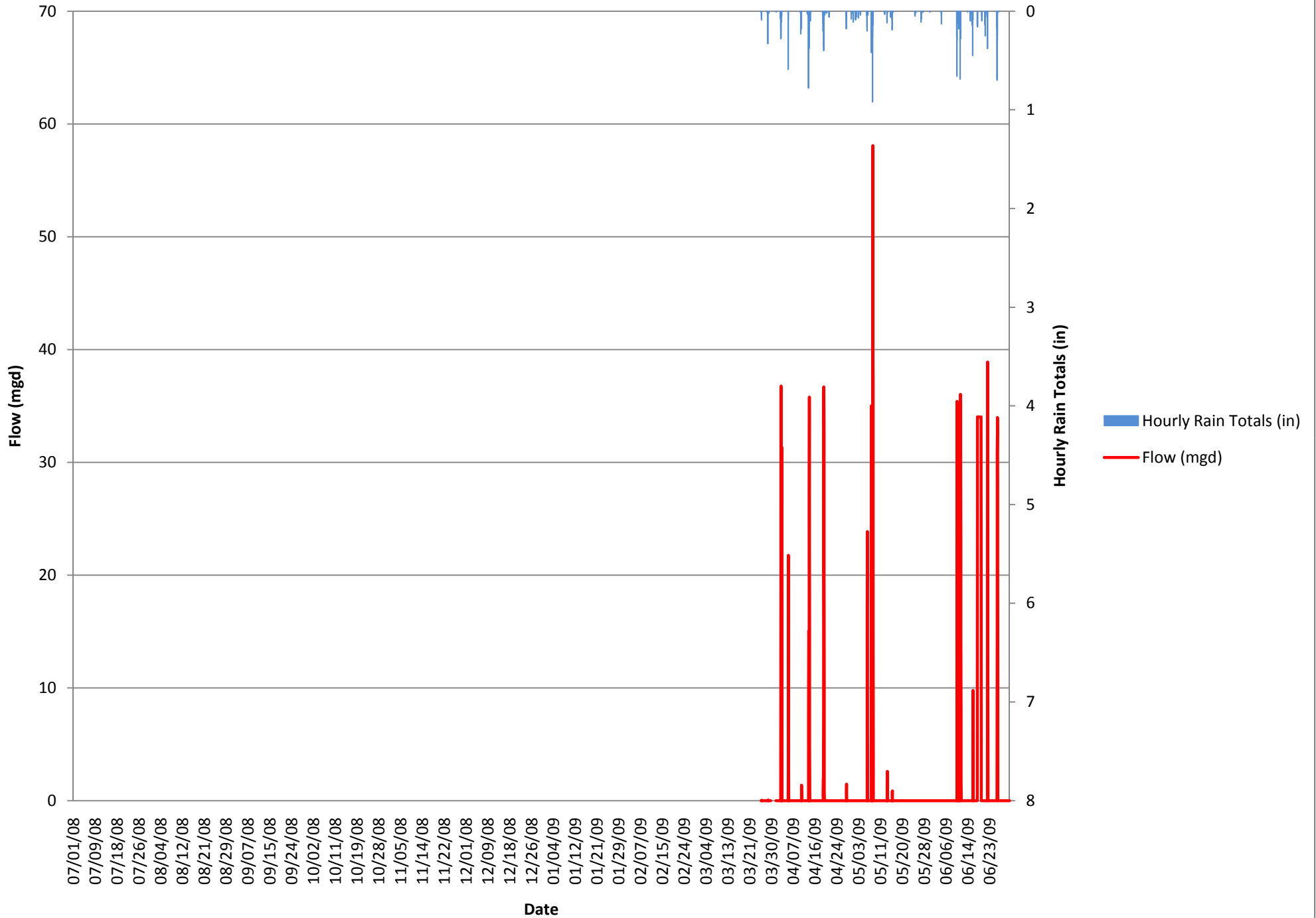
CSO	CSO NAME	RECEIVING STREAM	Drainage Area (Acres)	October 2008 IWCS (ver8.0)		January 2009 IWCS (ver 9.5)		Change in AAOV (MG/YR) Jan-Oct
				AAOV (MG/YR)	OF Incidents (# OF/YR)	AAOV (MG/YR)	OF Incidents (# OF/YR)	
193	CRD S 6th & KENTUCKY	OR	22.7	0.04	5	0.04	5	0.00
194	CRD S OAK W OF 4th	OR	Eliminated					
195	CRD S 4th & OAK	OR	7.3	2.19	55	2.19	55	0.00
196	CRD S 3rd & OAK	OR	2.2	0.24	19	0.13	11	-0.11
197	CRD S 3rd S OF OAK	OR	4.5	4.17	53	3.02	47	-1.15
198	CRD S 3rd & ORMSBY	OR	4.4	0.00	5	0.00	2	0.00
199	CRD S 3rd N OF MAGNOLIA	OR	8.6	0.46	45	0.46	45	0.00
200	CRD S 3rd & MAGNOLIA	OR	10.3	4.91	65	4.91	65	0.00
201	CRD S 5th & KENTUCKY	OR	8.3	0.00	0	0.00	0	0.00
202	CRD S ORMSBY W OF 3rd	OR	5.3	0.09	13	0.09	13	0.00
203	CRD S 4th & ORMSBY	OR	14.2	0.00	0	0.00	0	0.00
204	CRD S FIFTH & BRECKINRIDGE	OR	Eliminated					
206	CHEROKEE PARK @ SPRING DR	MF BGC	464.6	8.64	39	19.91	52	11.27
207	2nd & JEFFERSON	OR	2.3	0.05	2	0.04	1	-0.02
208	12th & JEFFERSON	OR	11.2	0.33	11	0.33	11	0.00
209	CHEROKEE PK @ PARK BD RD	MF BGC	Eliminated					
210	45th STREET-GREENWOOD	OR	166.7	503.73	52	197.29	51	-306.44
211	MAIN DIVERSION STRUCTURE	OR	3,554.9	465.55	29	377.61	29	-87.94
SBR	CSOs 142,174,180,182,183,184,185,186,187,188,205			12.15	9	12.14	9	-0.01
Total				4,092	2,326	3,299	2,359	
				Total AAOV Difference (MG/YR)	613.94	-793.04		
				Total AAOV Difference (Percentage)	15%	-19%		

Details of Individual SBR CSOs

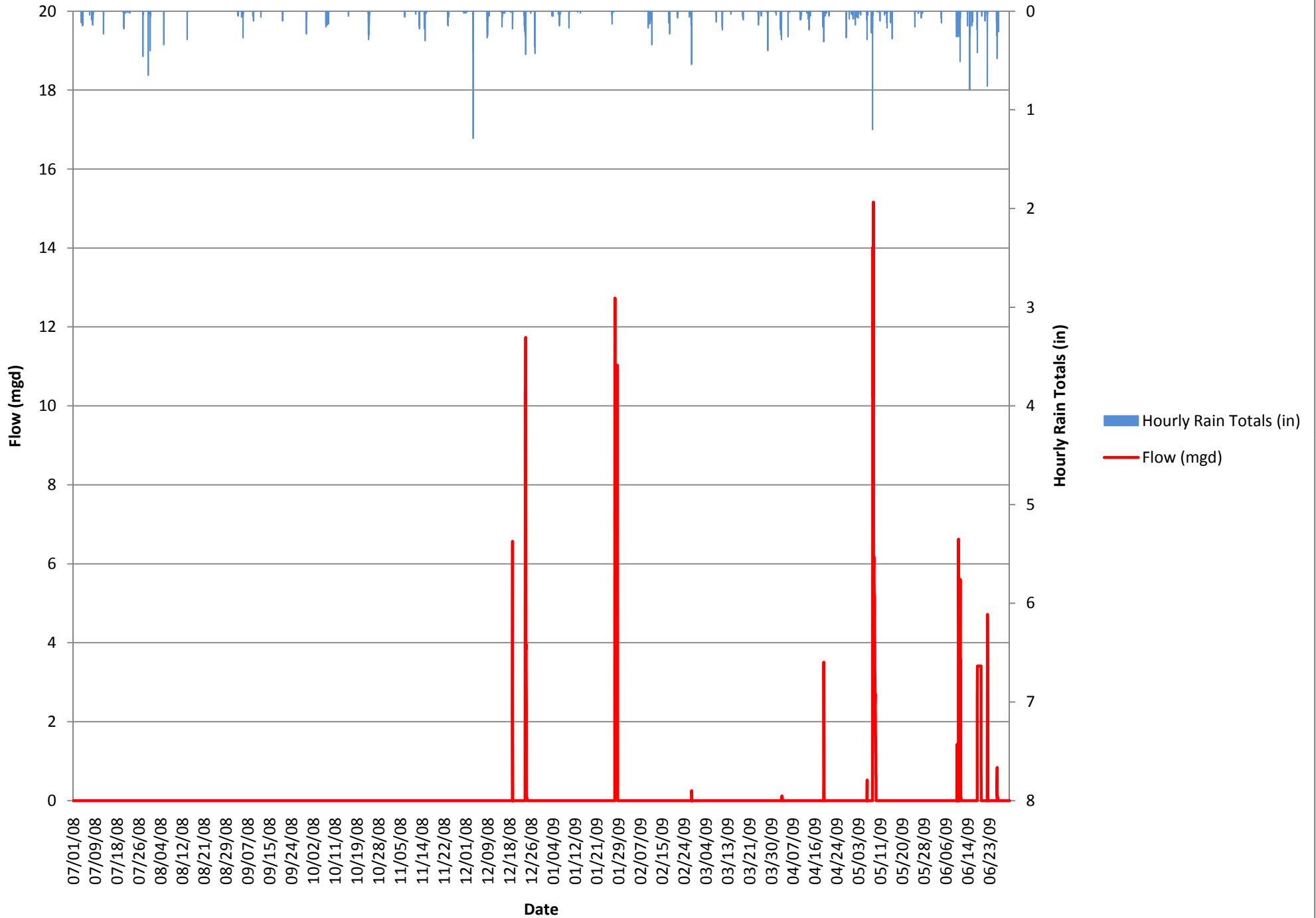
SBR	CSOs 142,174,180,182,183,184,185,186,187,188,205						
142	SBR LOGAN ST @ ST CATHERINE	SF BGC	157.5	0.00	0	0.00	0
174	SBR GOSS & BOYLE	SF BGC	6.8	37.31	57	37.30	57
180	SBR ORMSBY AVE RELIEF	SF BGC	221.6	0.27	11	0.27	11
182	SBR SHELBY & BURNETT	SF BGC	3.6	44.75	44	44.76	44
183	SBR ALEXANDER & KESWICK	SF BGC	104.8	0.00	0	0.00	0
184	SBR FETTER & ALEXANDER	SF BGC	108.2	0.43	13	0.43	13
185	SBR SHELBY & KESWICK	SF BGC	4.7	0.55	7	0.55	7
186	SBR LOGAN & OAK	SF BGC	7.2	0.00	0	0.00	0
187	SBR SHELBY & CAMP	SF BGC	13.1	0.00	0	0.00	0
188	SBR SHELBY & CLAY	SF BGC	11.5	0.03	8	0.03	8
205	SBR MORGAN STREET RELIEF	SF BGC	9.5	0.00	0	0.00	0

APPENDIX D - CSO FLOW MONITORING DATA

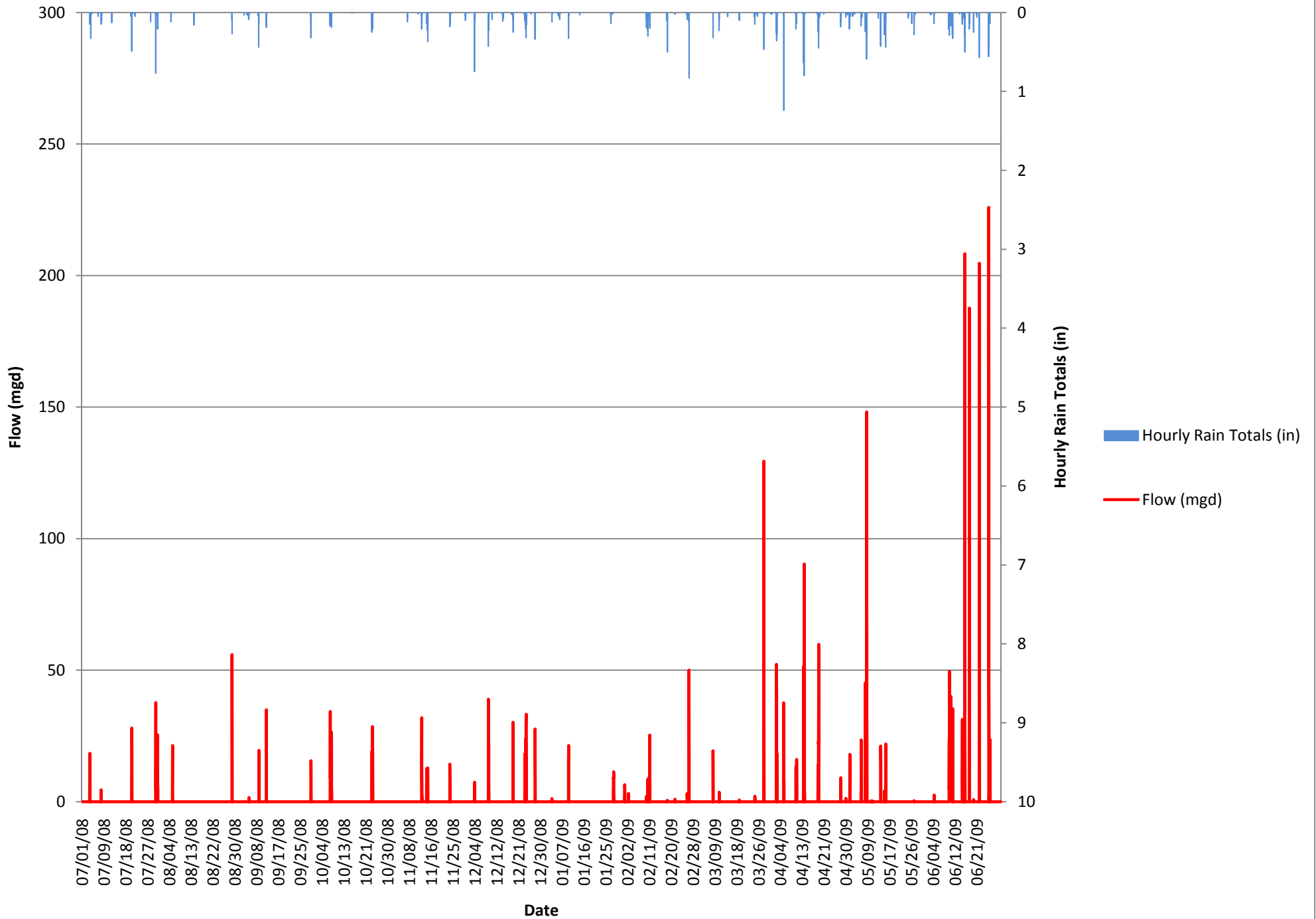
CSO016 Flow Data 7/1/08 - 6/30/2009



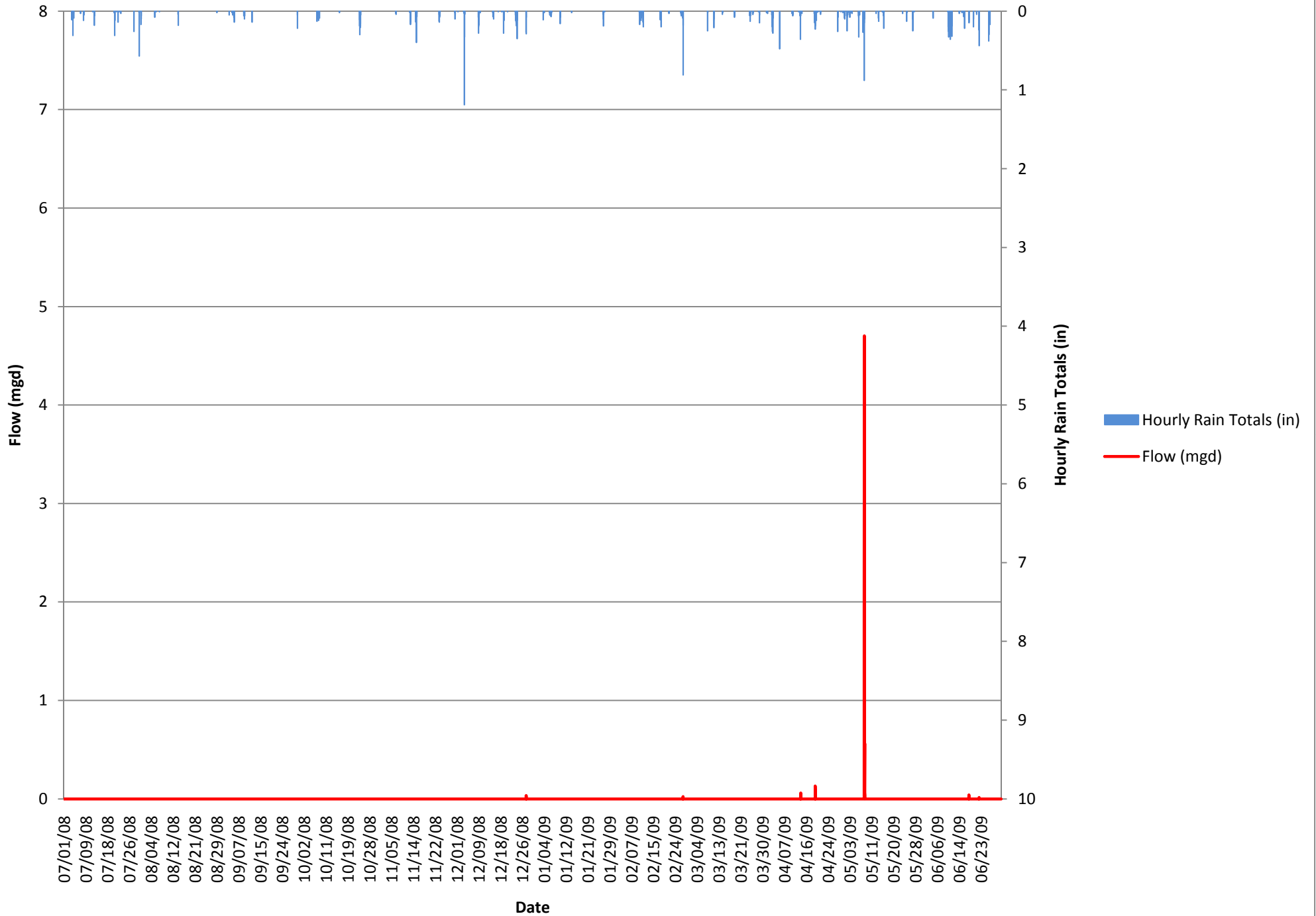
CSO018 Flow Data 7/1/08 - 6/30/2009



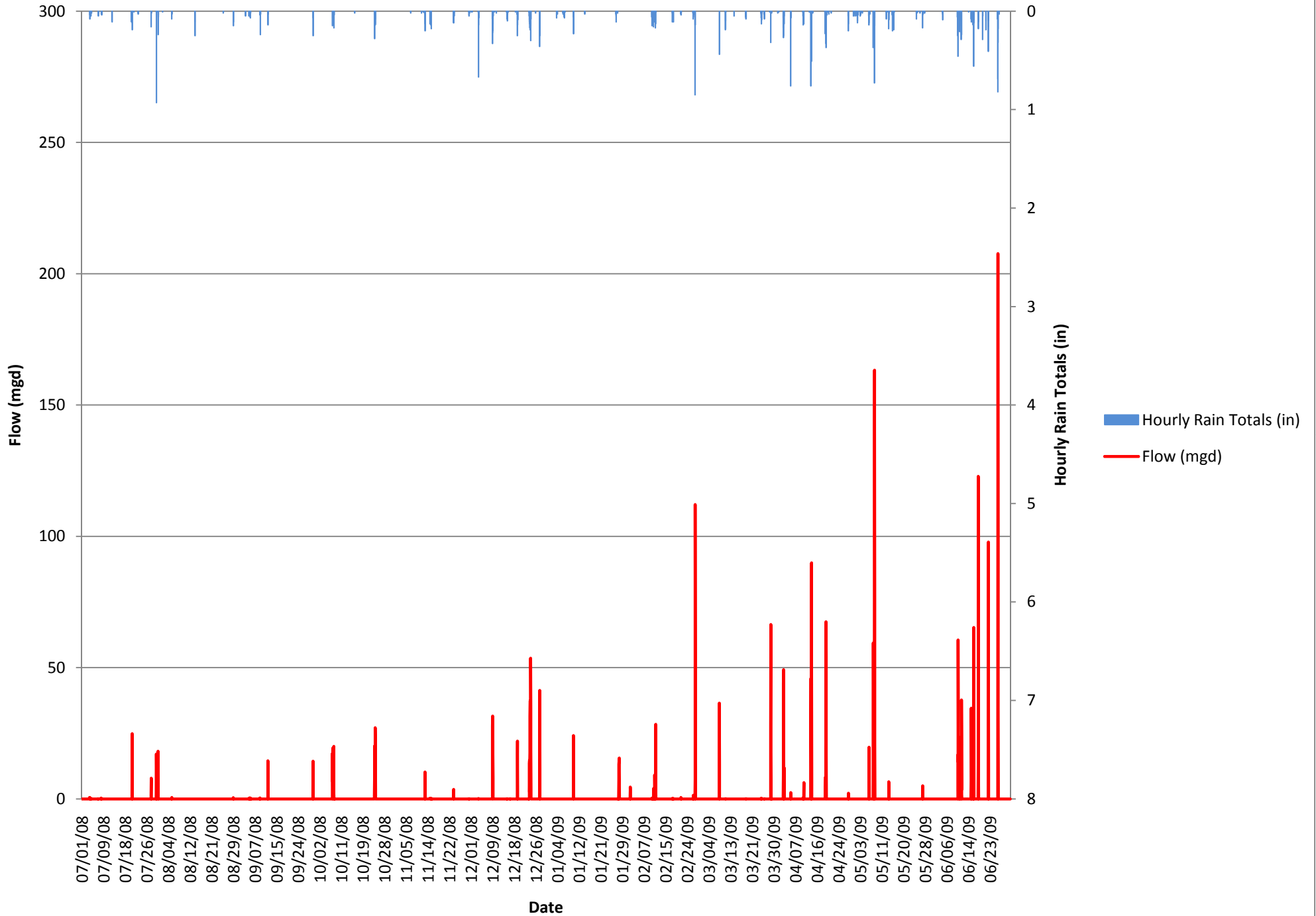
CSO019 Flow and Rain Data 7/1/08 - 6/30/2009



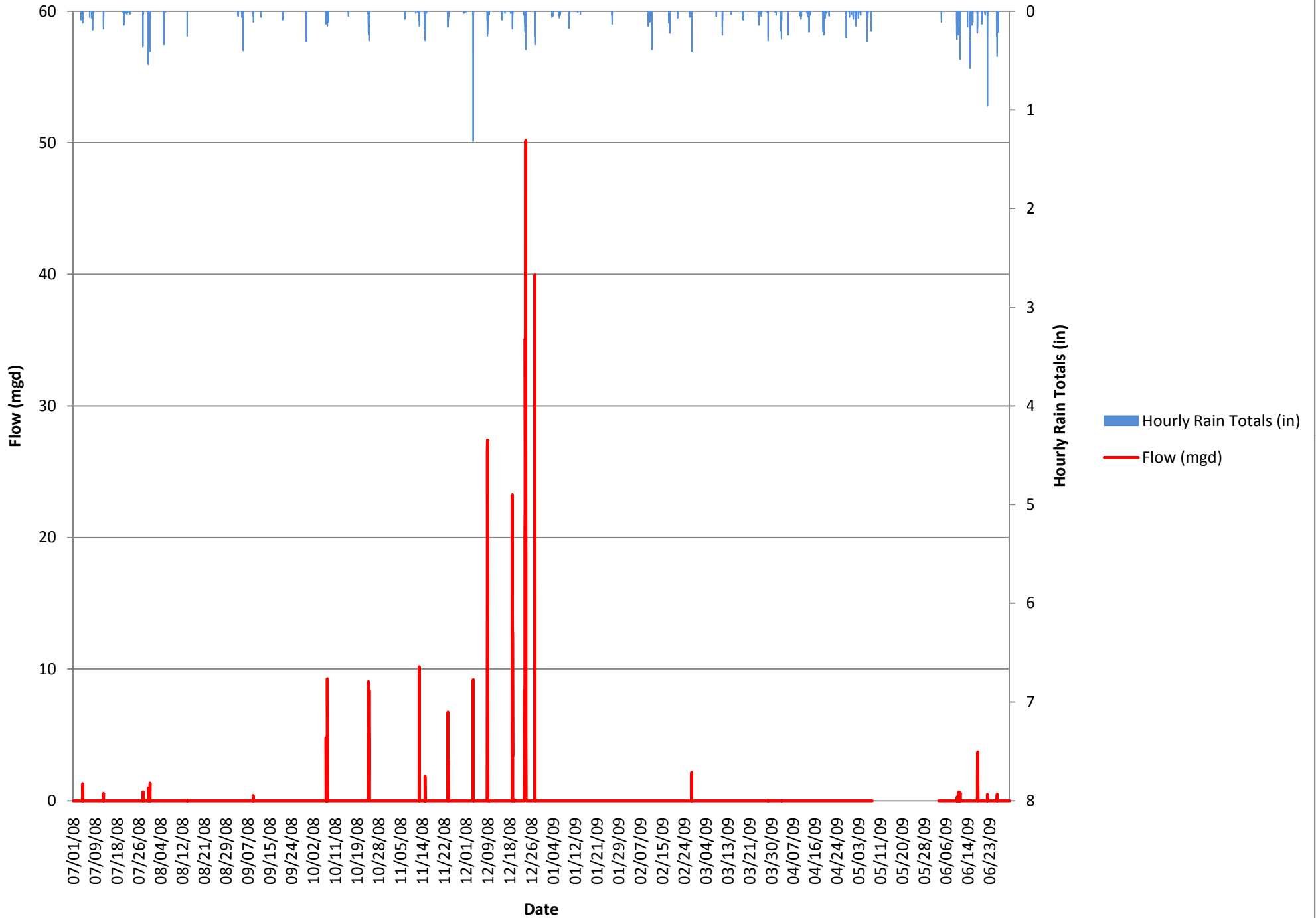
CSO088 Flow Data 7/1/08 - 6/30/2009



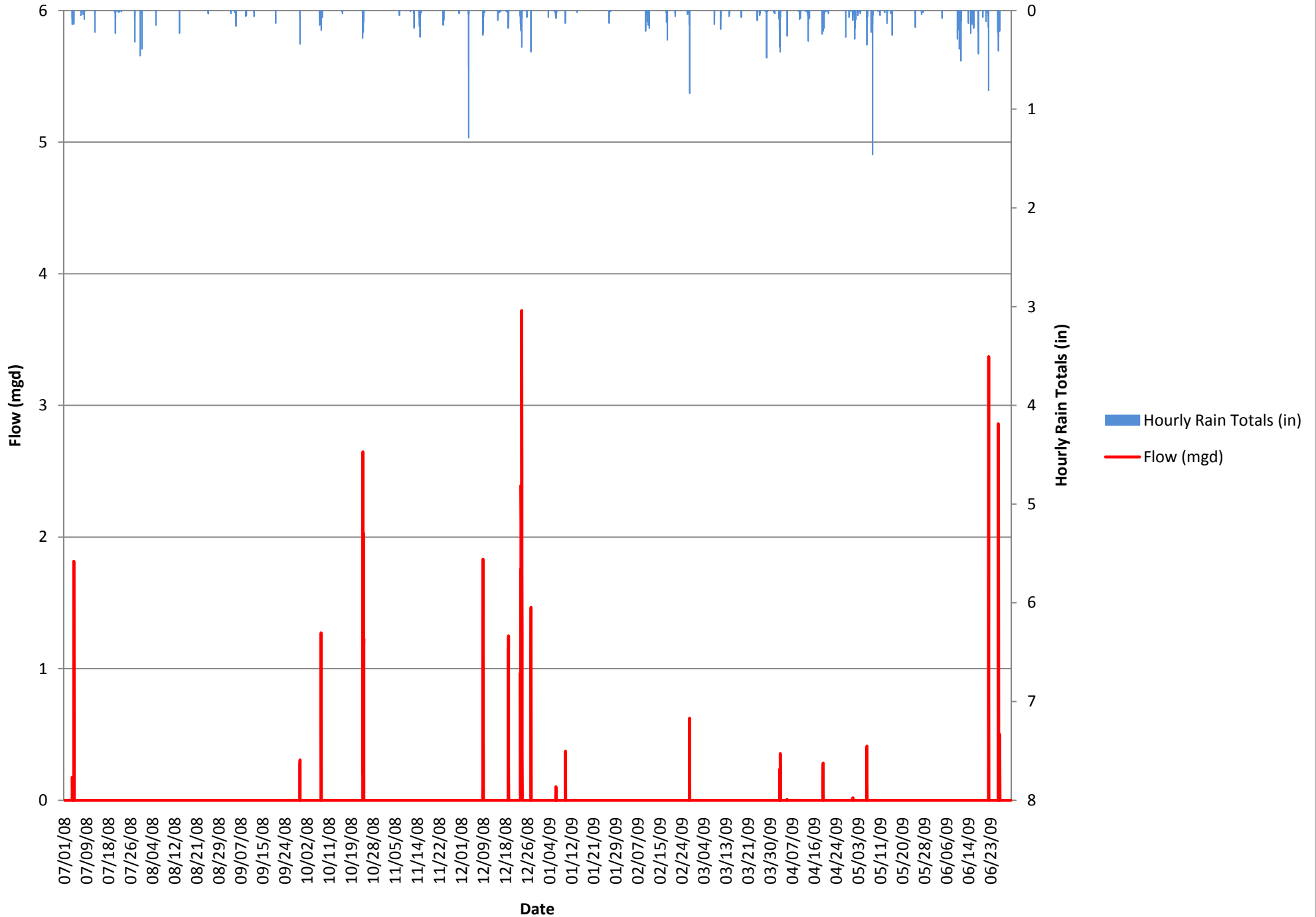
CSO105 Flow Data 7/1/08 - 6/30/2009



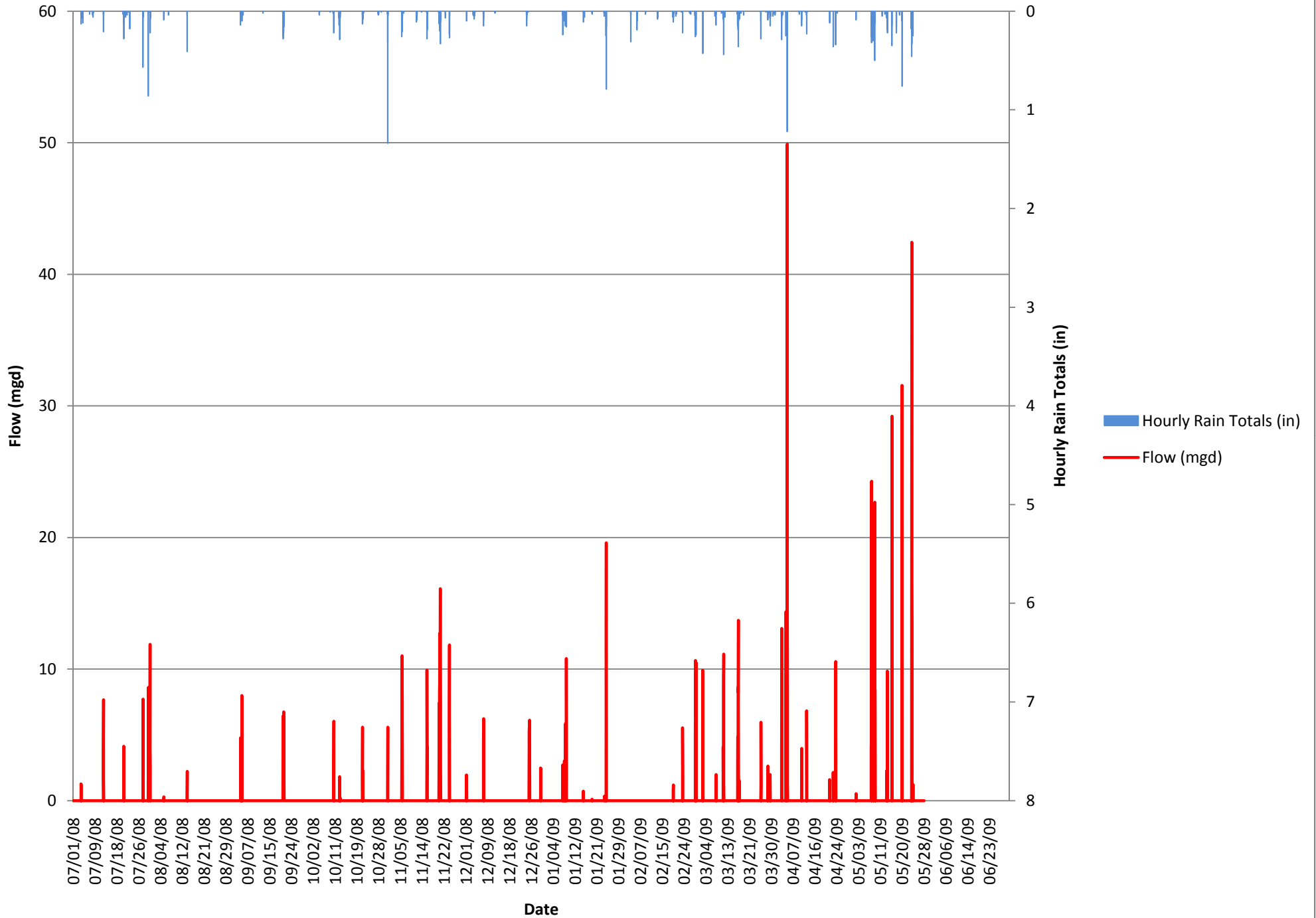
CSO108 Flow Data 7/1/08 - 6/30/2009



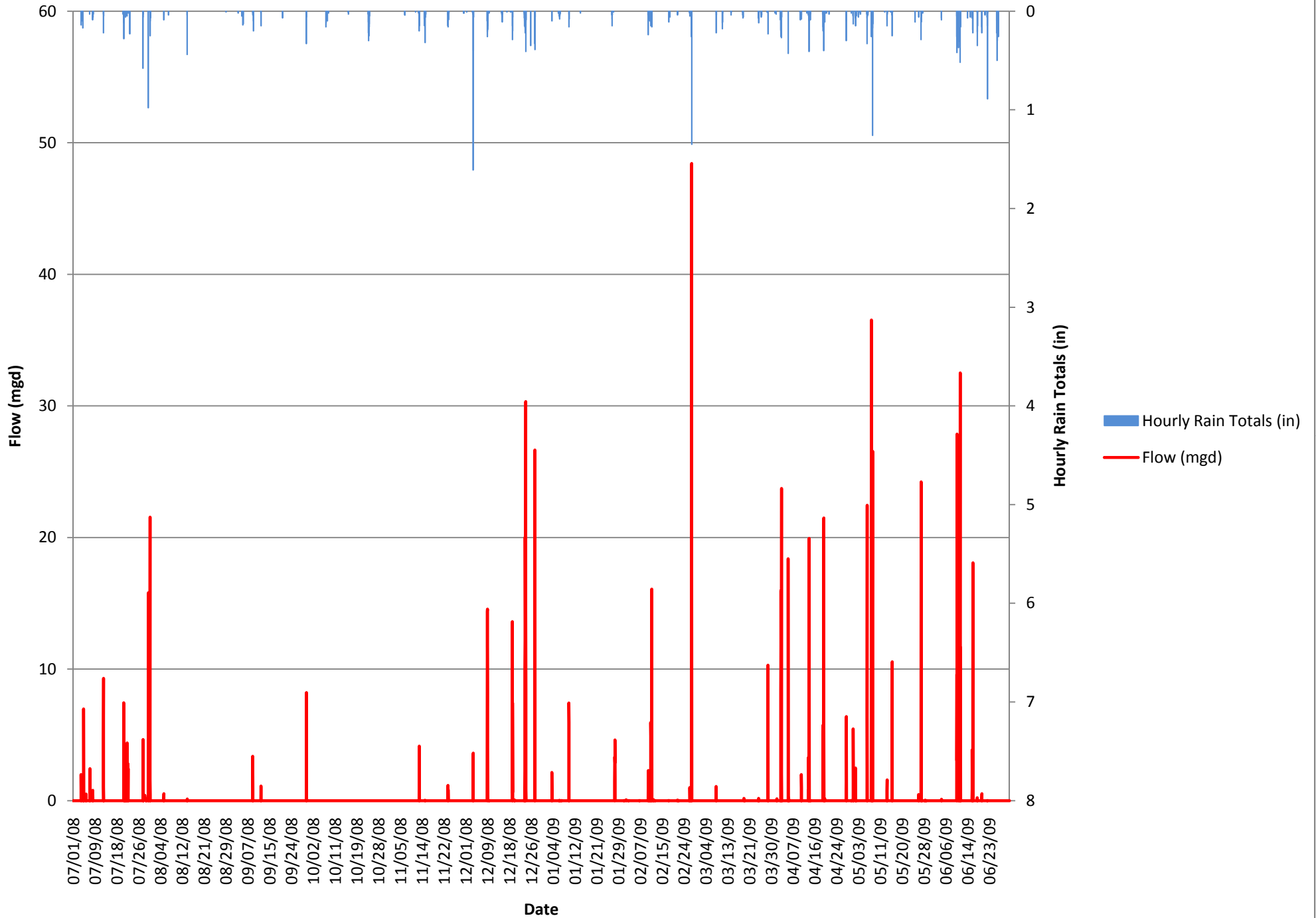
CSO110 Flow Data 7/1/08 - 6/30/2009



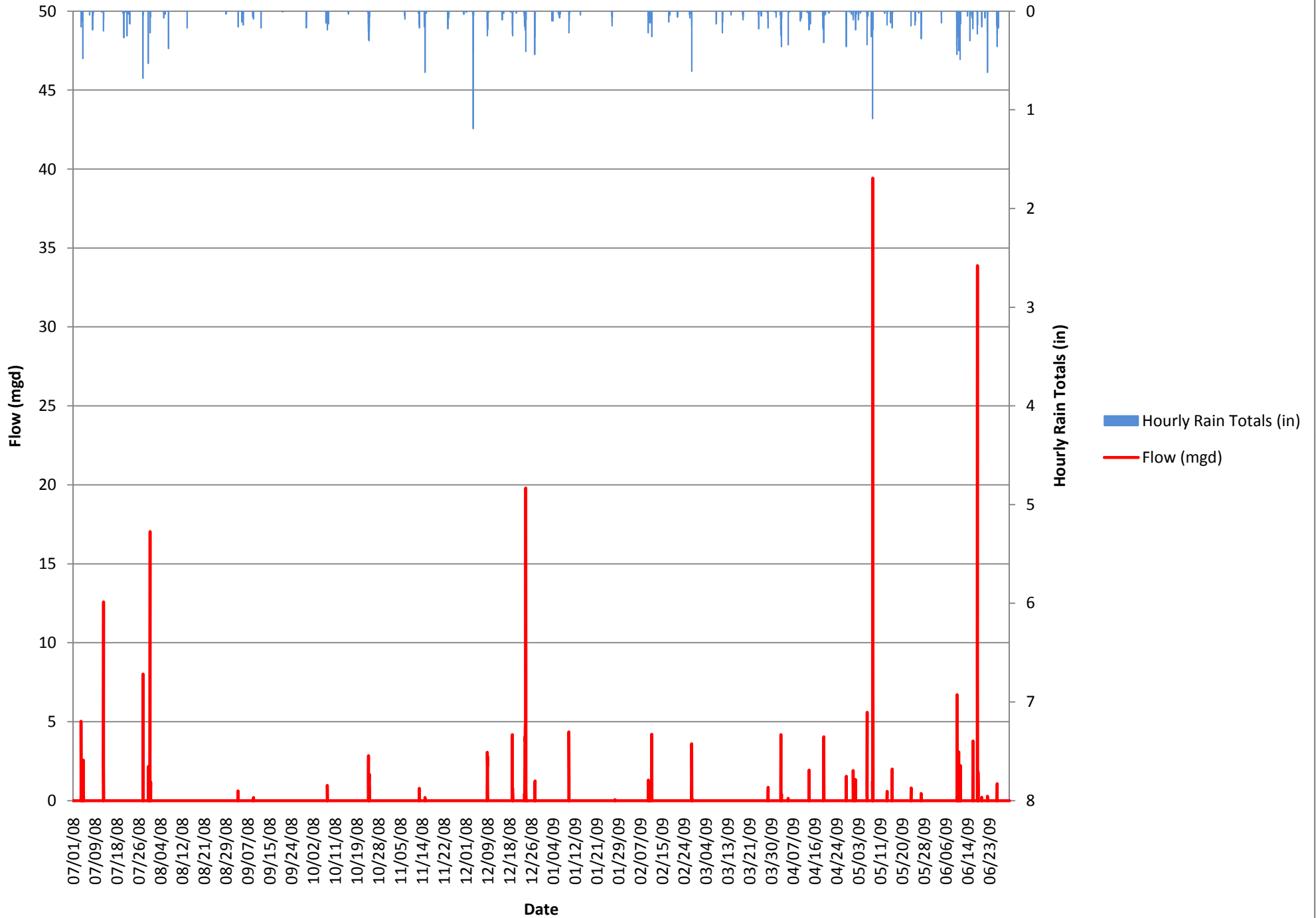
CSO117 Flow Data 7/1/08 - 6/30/2009



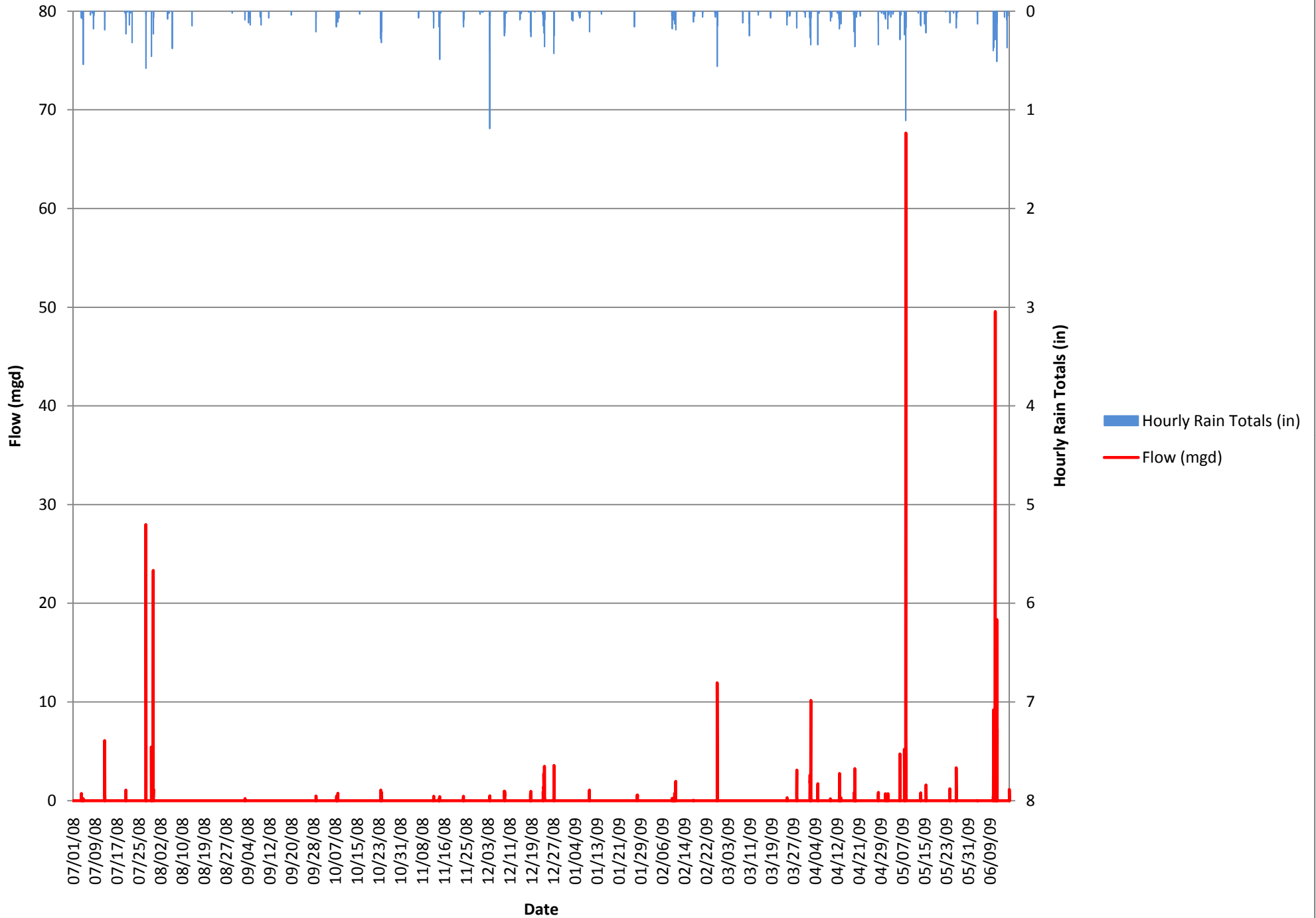
CSO118 Flow Data 7/1/08 - 6/30/2009



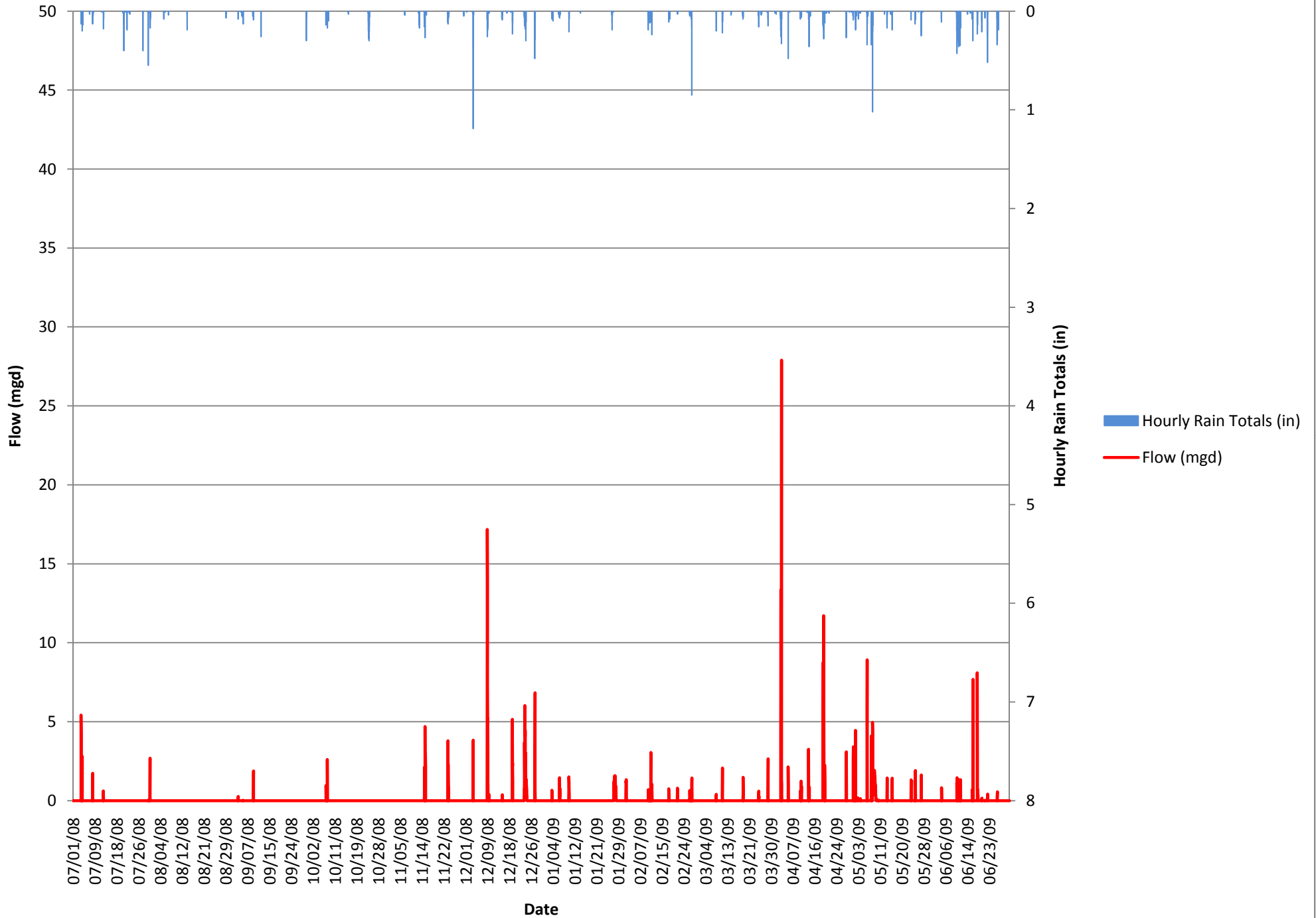
CSO125 Flow Data 7/1/08 - 6/30/2009



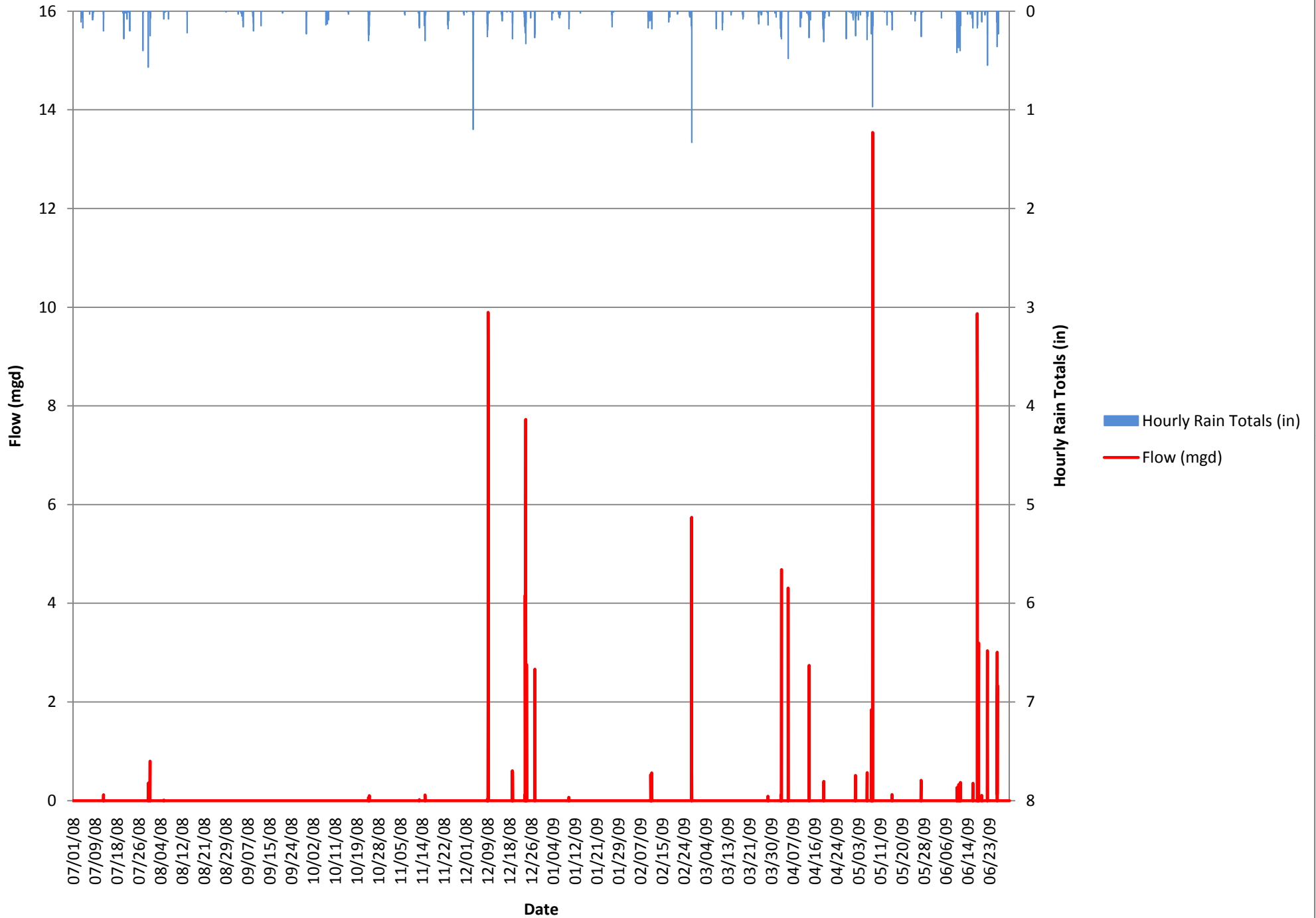
CSO127 Flow Data 7/1/08 - 6/16/2009



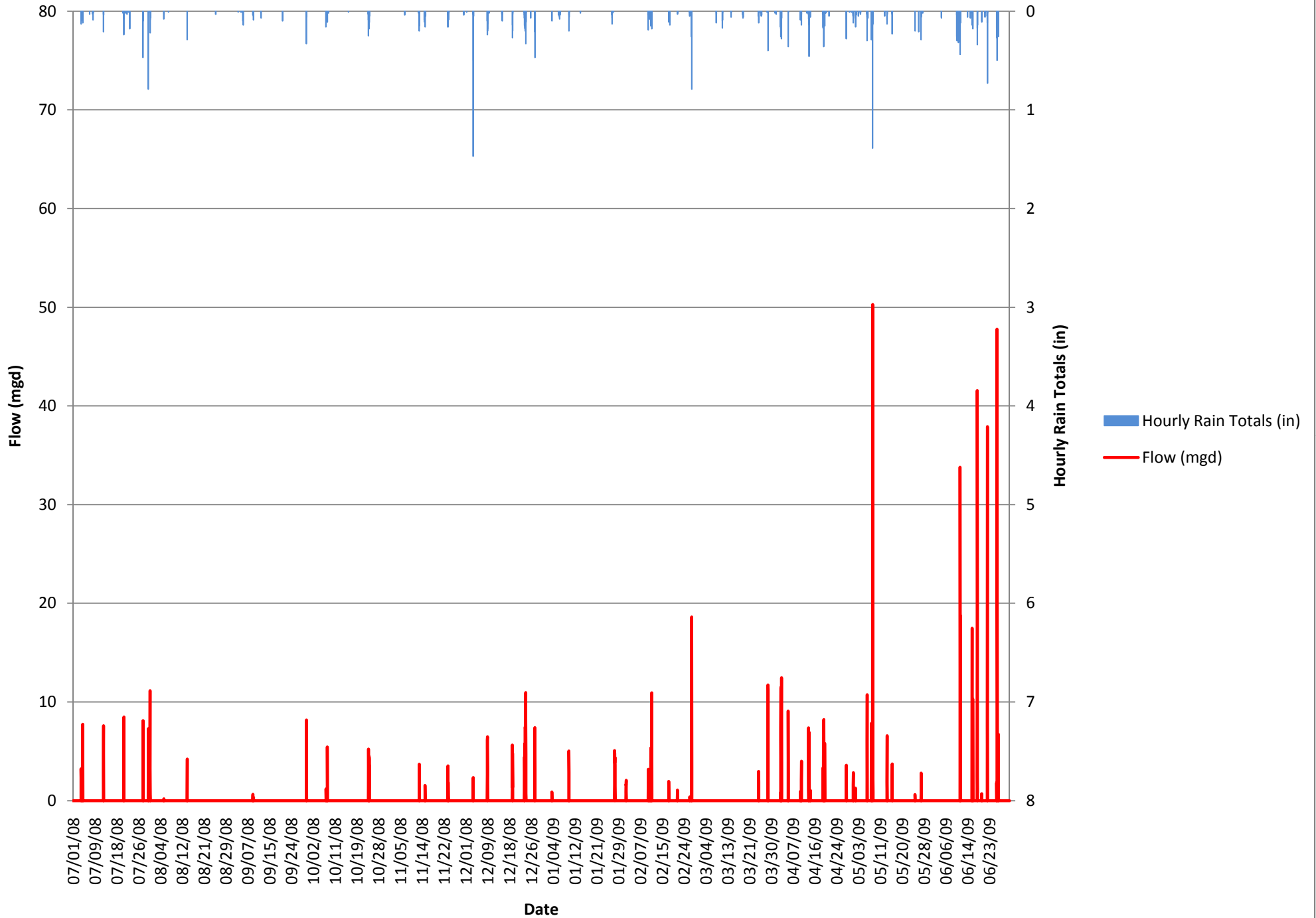
CSO132 Flow Data 7/1/08 - 6/30/2009



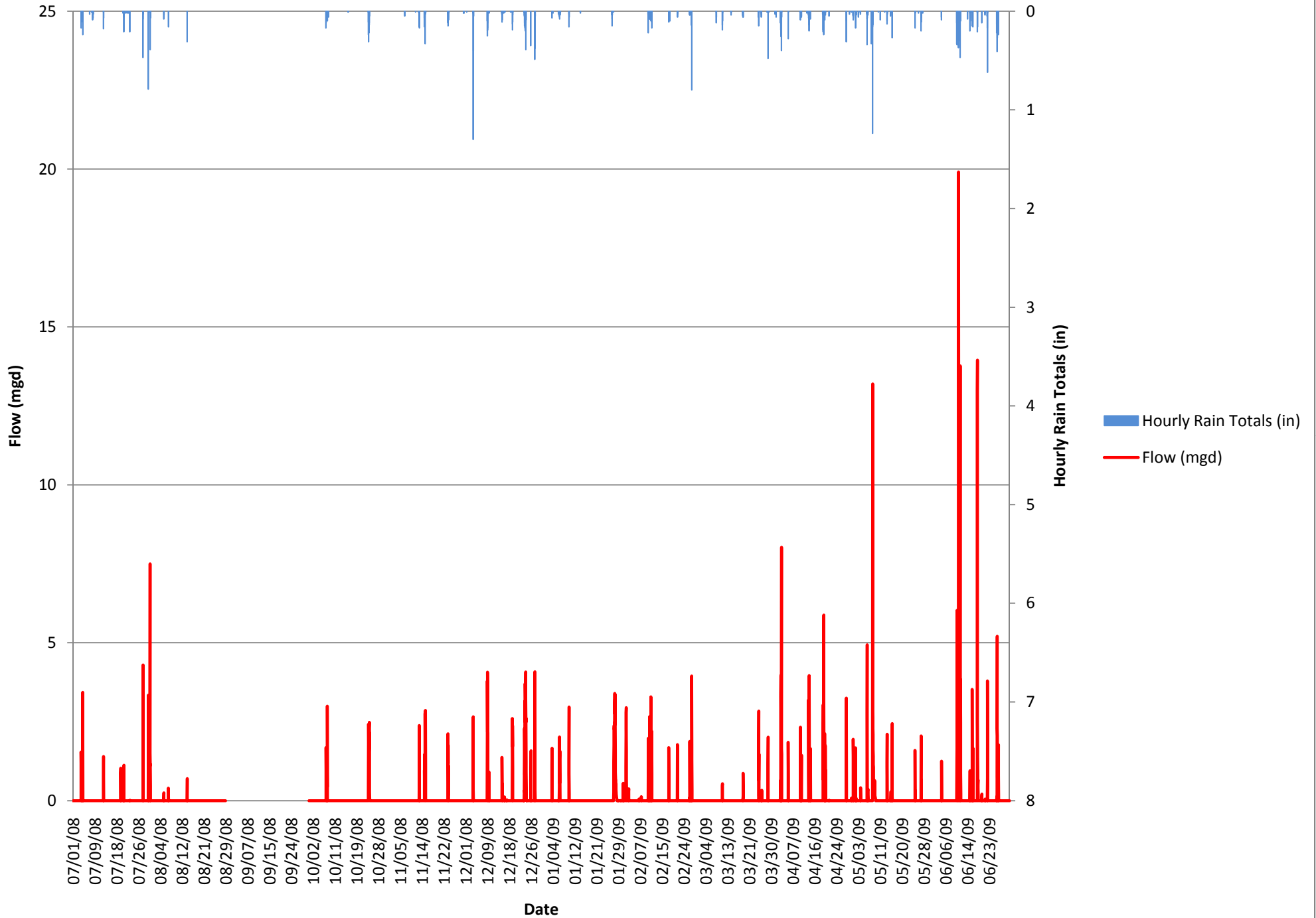
CSO140 Flow Data 7/1/08 - 6/30/2009



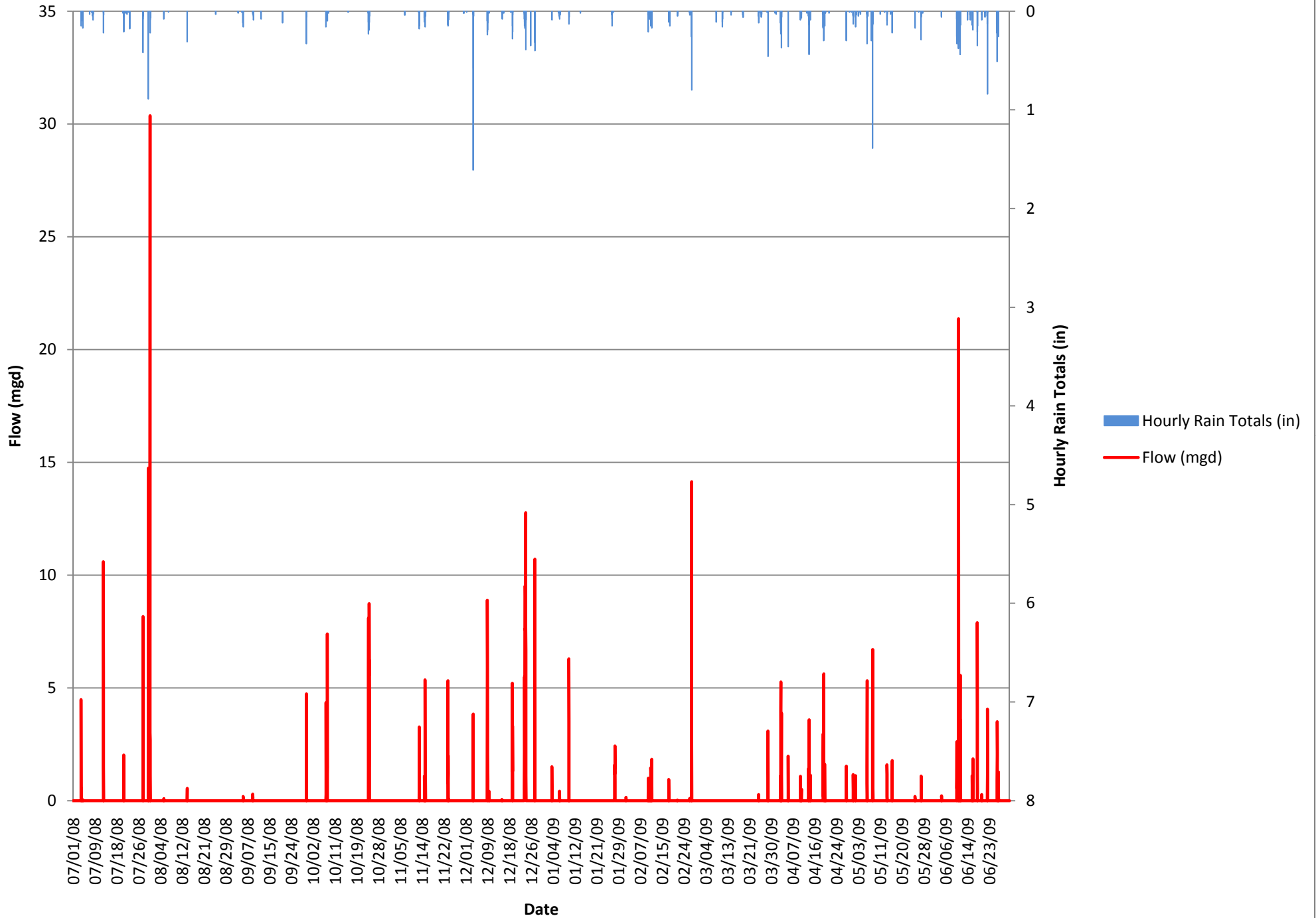
CSO146 Flow Data 7/1/08 - 6/30/2009



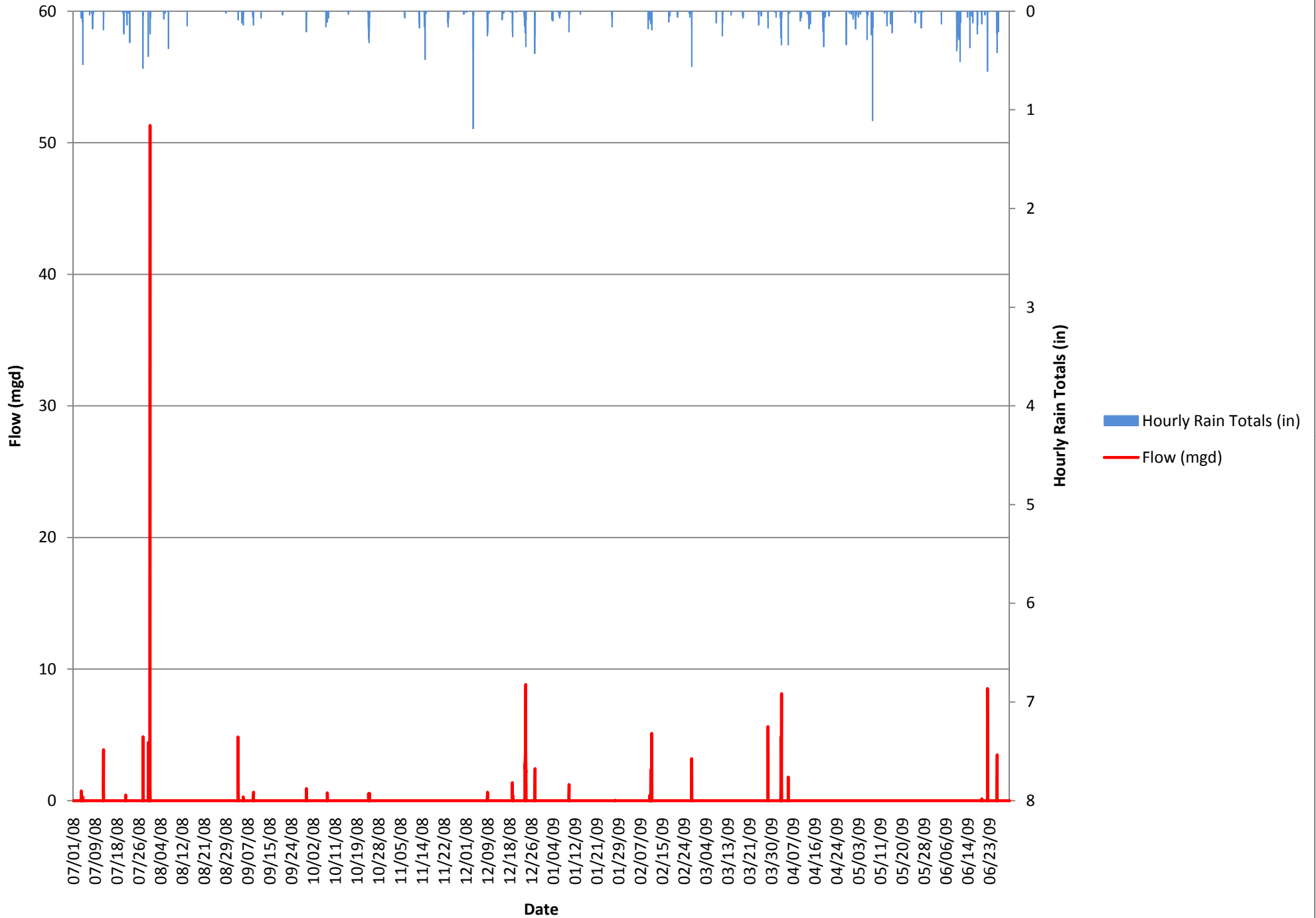
CSO151 Flow Data 7/1/08 - 6/30/2009



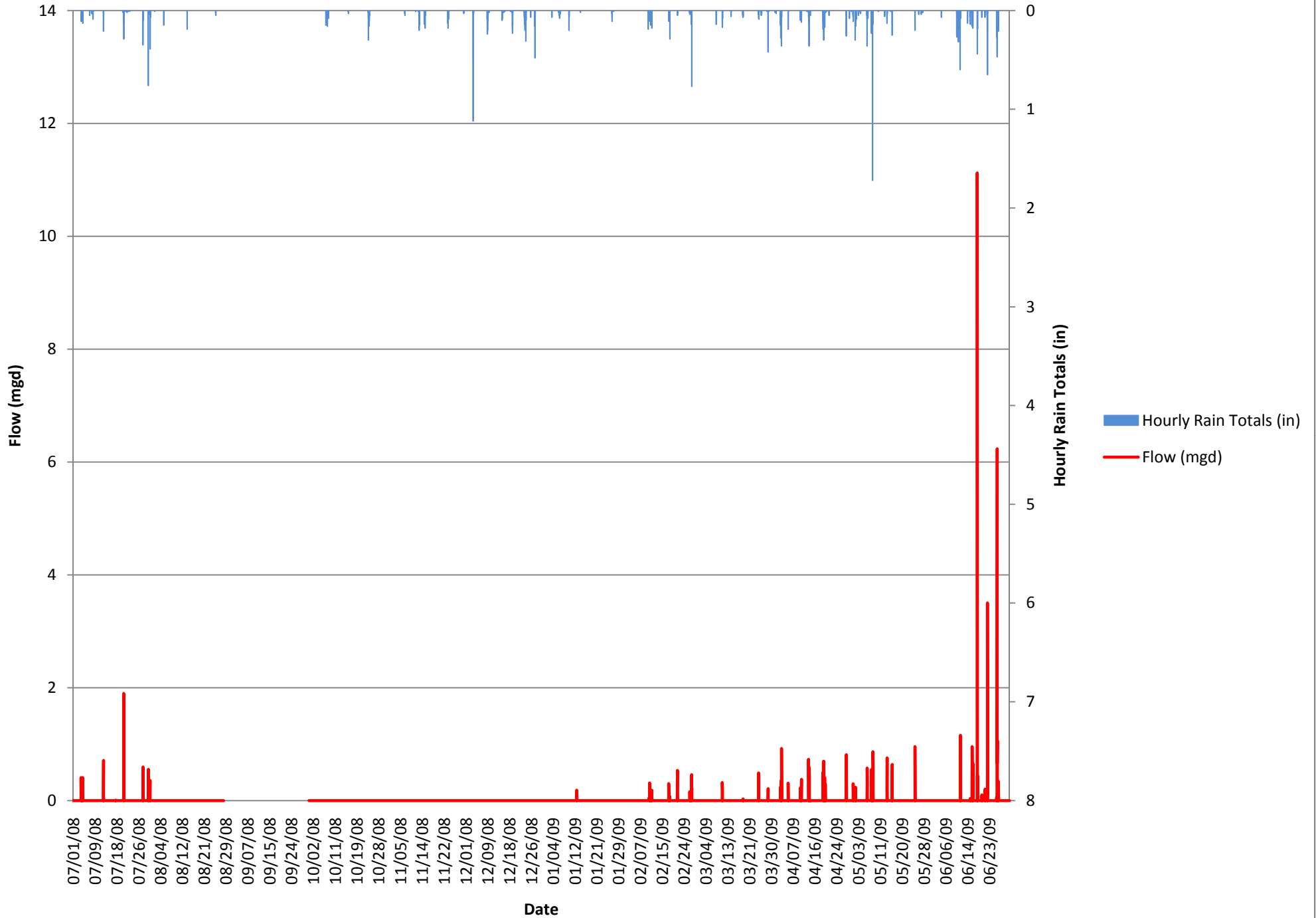
CSO152 Flow Data 7/1/08 - 6/30/2009



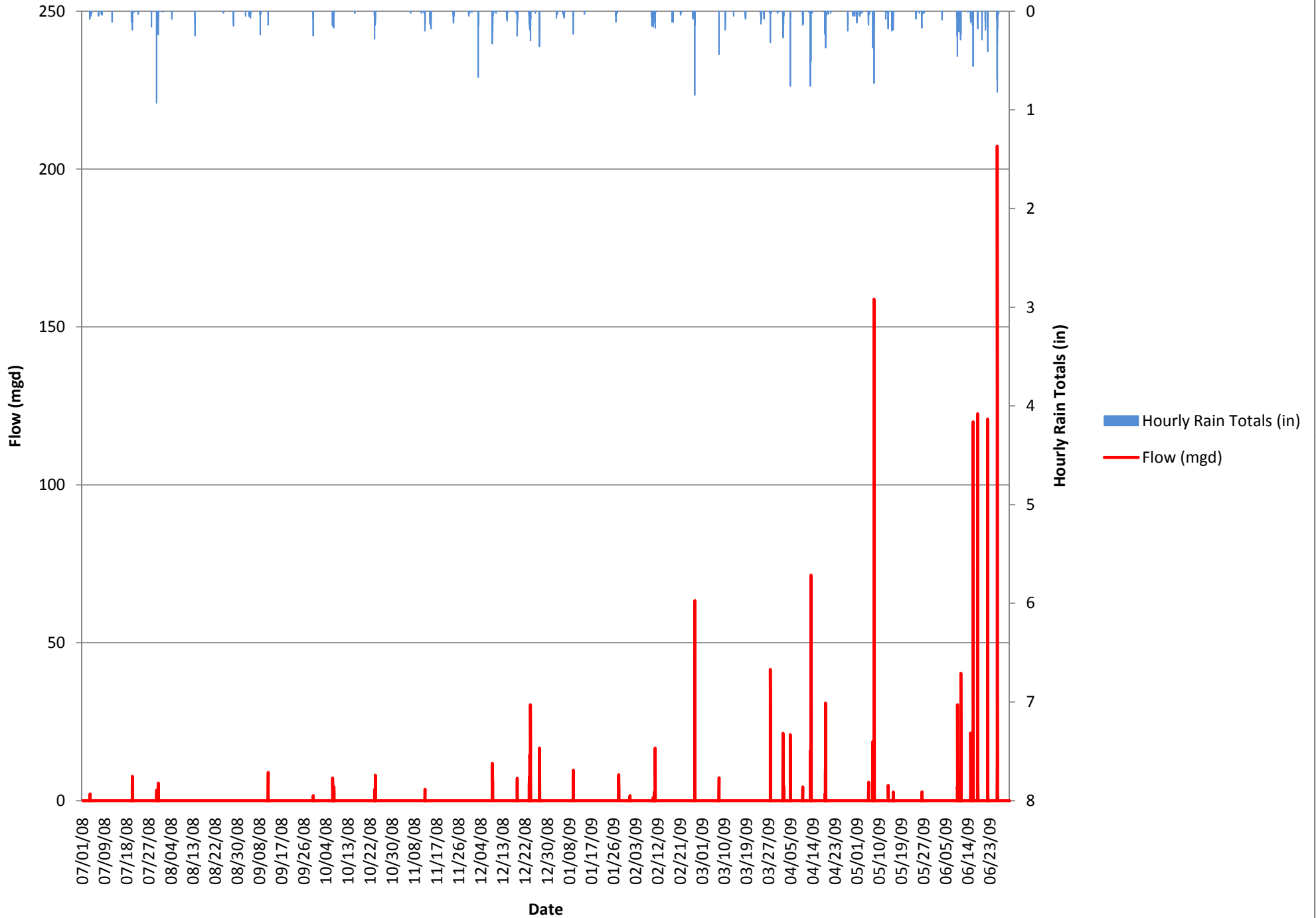
CSO166 Flow Data 7/1/08 - 6/30/2009



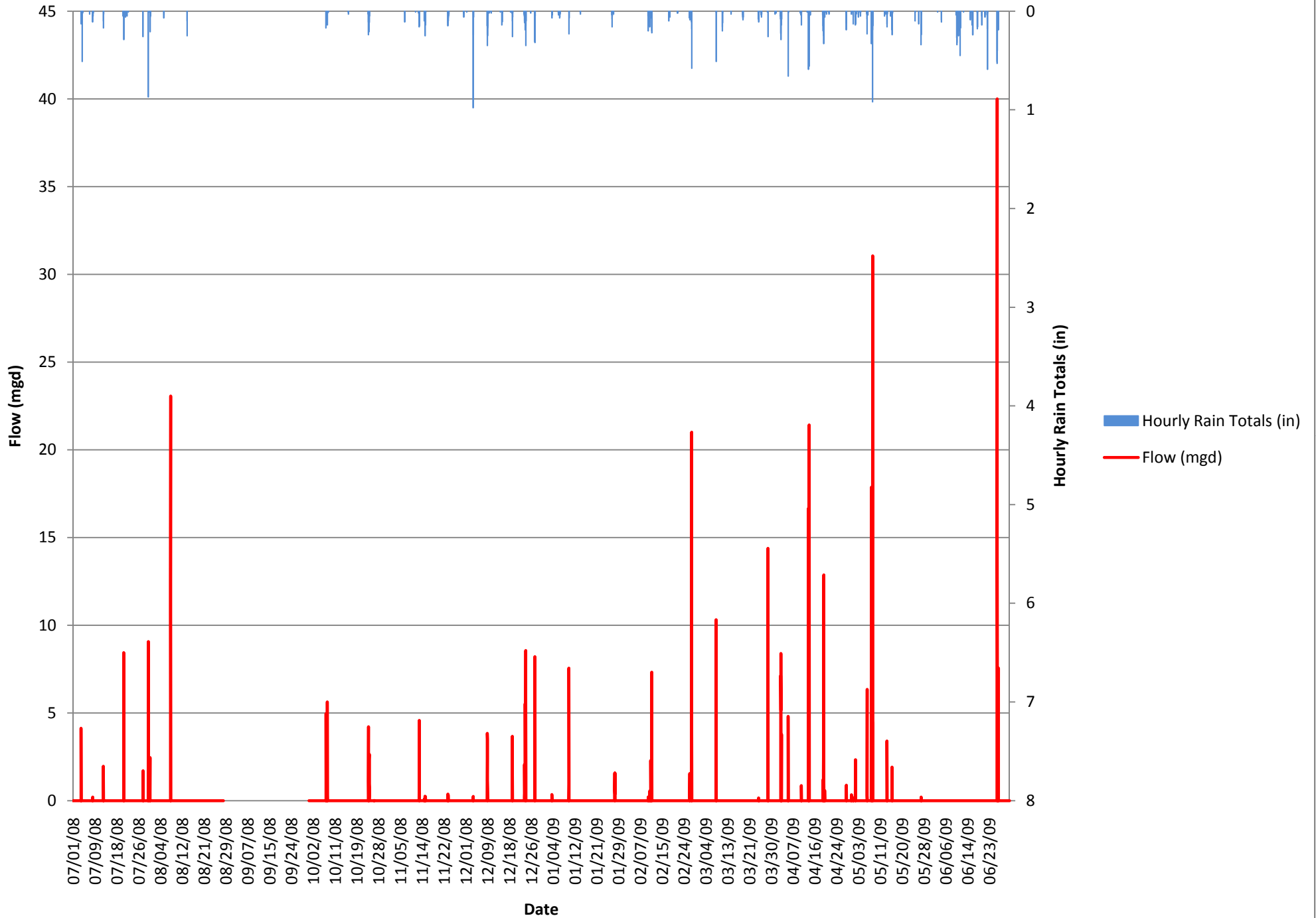
CSO182 Flow Data 7/1/08 - 6/30/2009



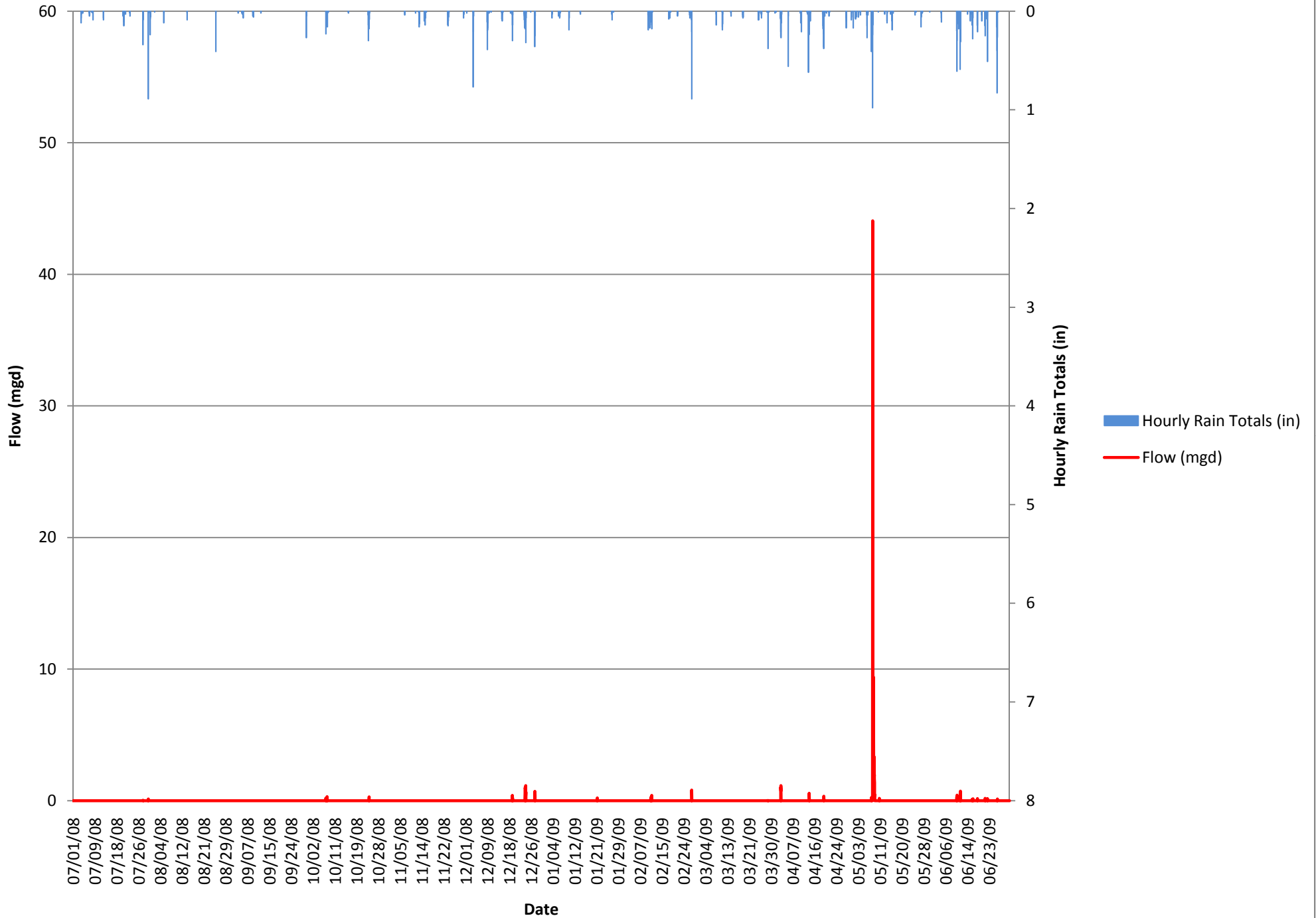
CSO189 Flow Data 7/1/08 - 6/30/2009



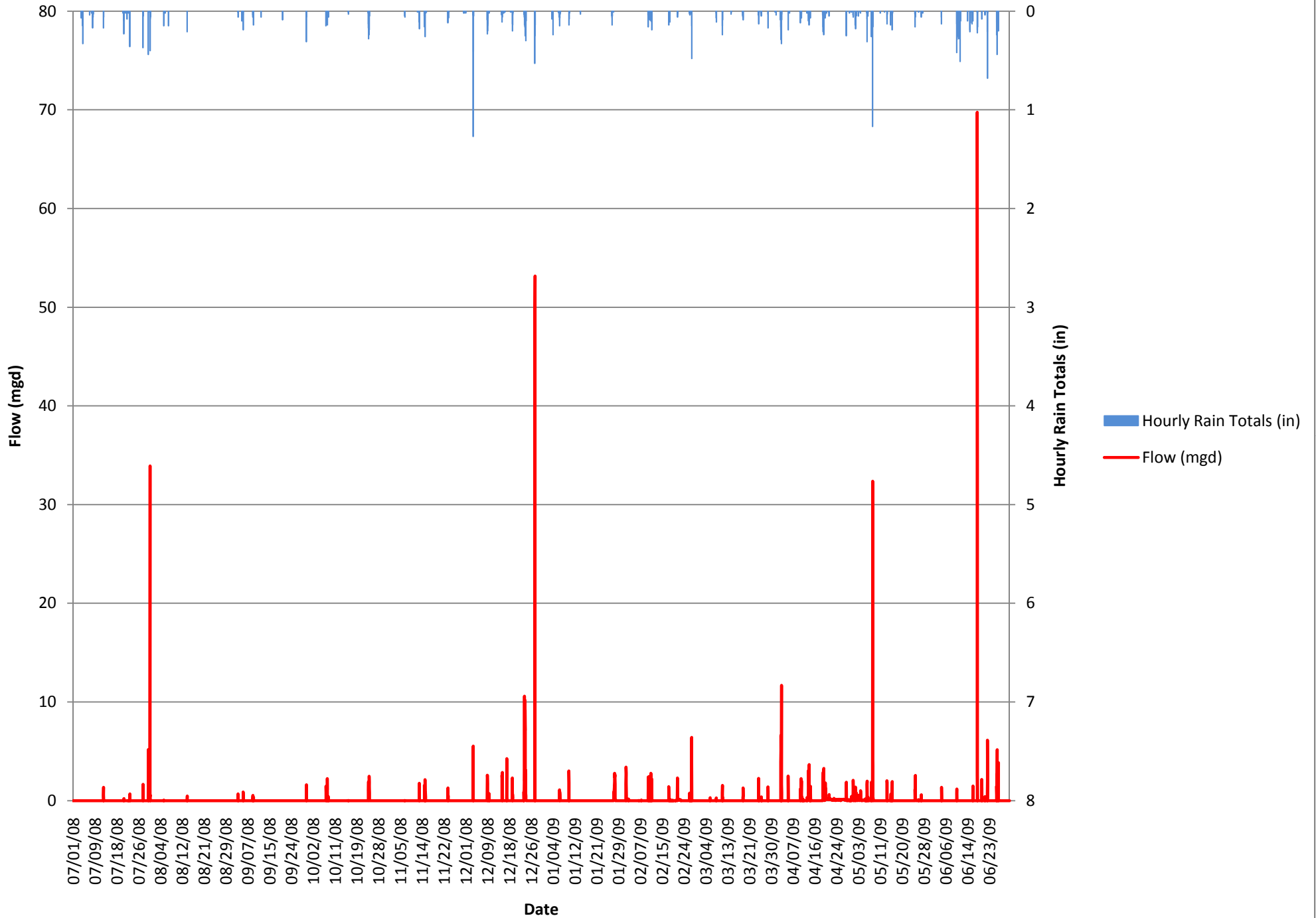
CSO190 Flow Data 7/1/08 - 6/30/2009



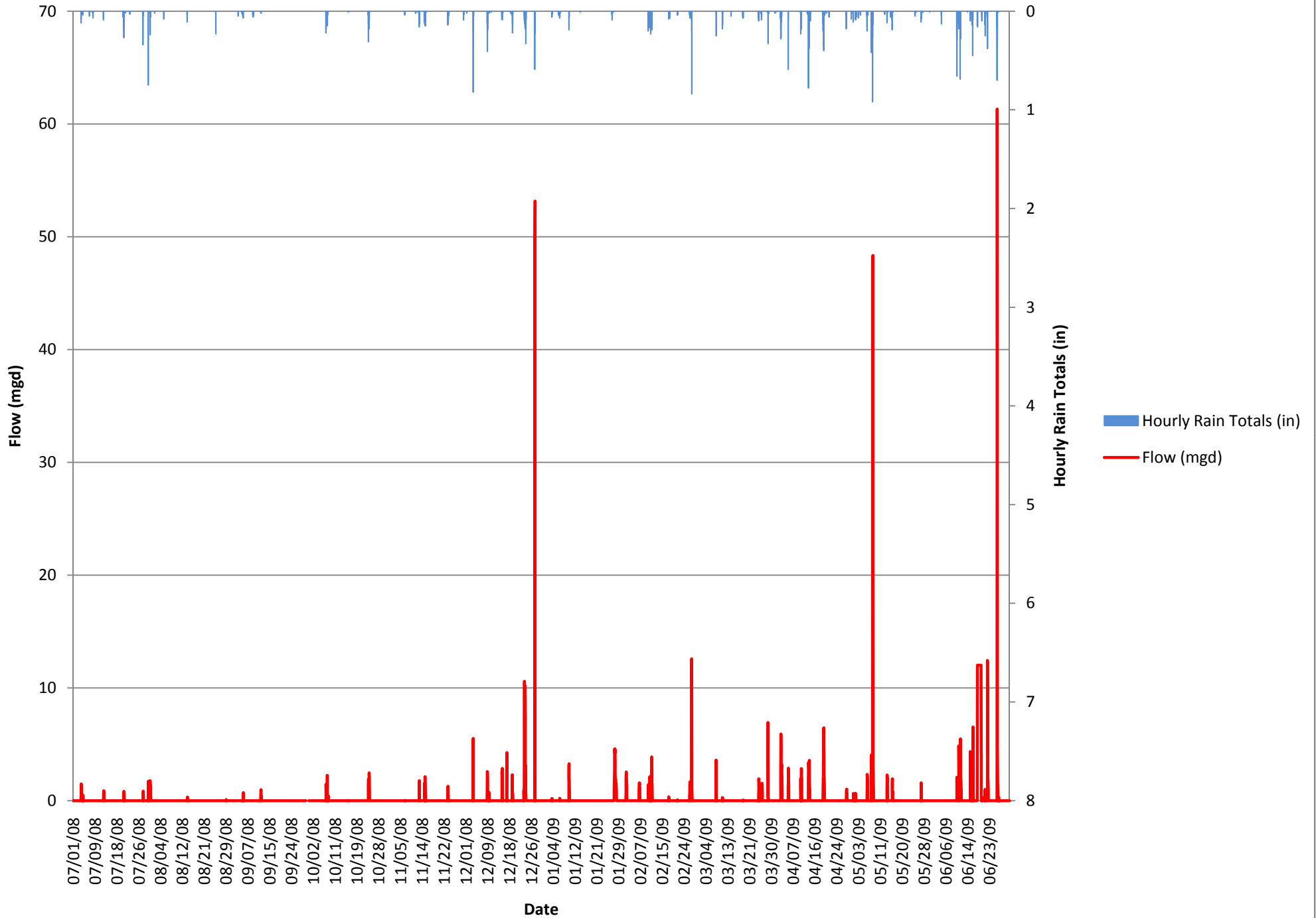
CSO191 Flow Data 7/1/08 - 6/30/2009



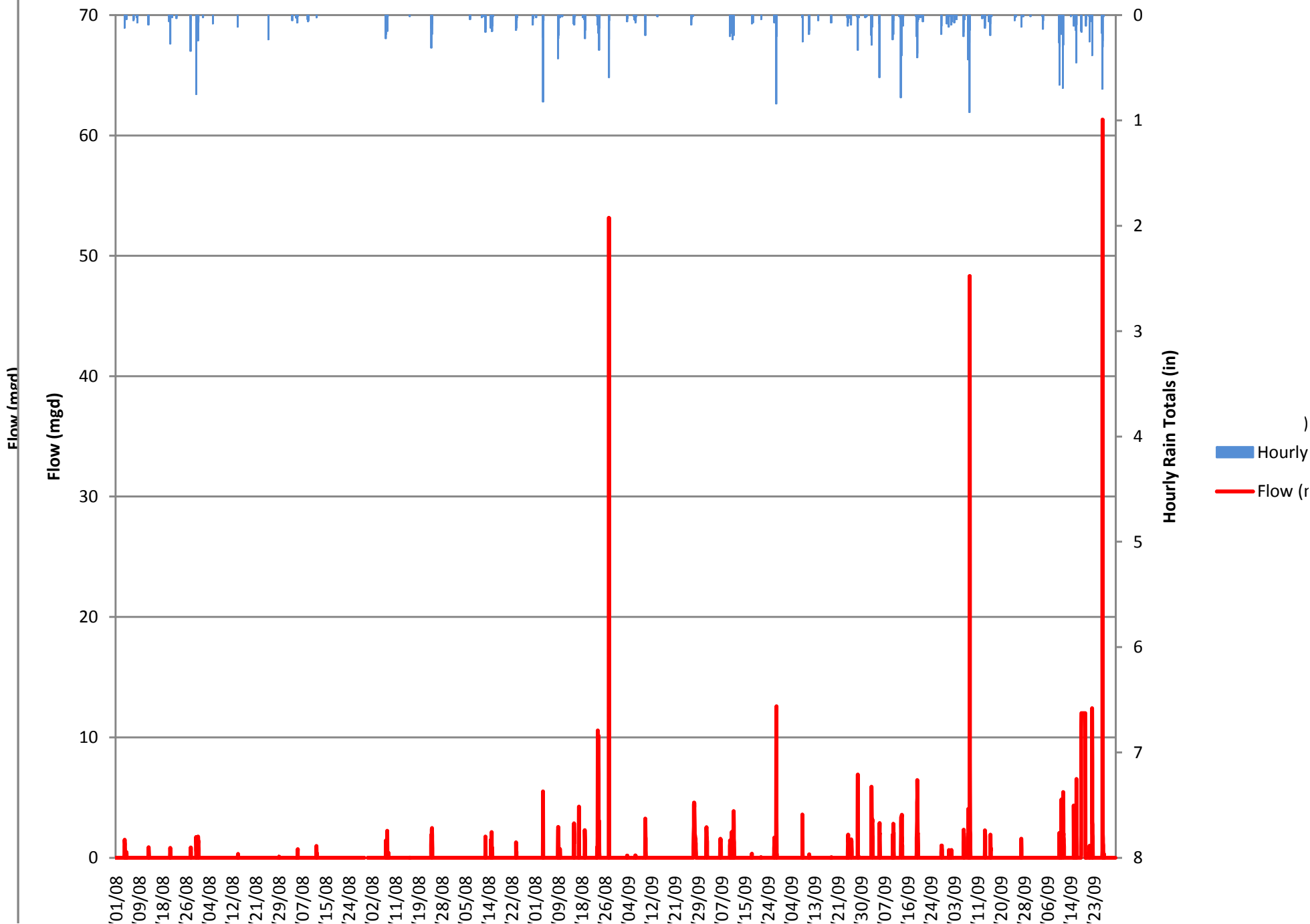
CSO206 Flow Data 7/1/08 - 6/30/2009



CSO210 Flow Data 7/1/08 - 6/30/2009



CSO211 Flow Data 7/1/08 - 6/30/2009



APPENDIX E – ACRONYMS

Appendix E - Acronyms for Project WIN Annual Report

AAM	Advanced Asset Management
AAOV	Average Annual Overflow Volume
ADAPS	Automated Data Processing System
BAP	Blockage Abatement Program
BGC	Beargrass Creek
BMP	Best Management Practices
BUD	Before "U" Dig
CCP	Composite Correction Plan
CCTV	Closed Caption Television
CD	Consent Decree
CDS	
CIPP	Cured in Place Pipe
CMF	Central Maintenance Facility
CMMS	Computerized Maintenance Management System
CMOM	Capacity Management Operations and Maintenance
CPE	Comprehensive Performance Evaluations
CSO	Combined Sewer Overflow
CSOFT	Software Name
CSS	Combined Sewer System
CSSA	Continuing Sewer System Assessment
DMR	Discharge Monitoring Report
DO	Dissolved Oxygen
DWO	Dry Weather Overflow
eB	Enterprise Bridge (Enterprise Informatics scanning software for document management)
EGIS	Emergency Geographic Information System
EMC	Event Mean Concentration
EPA	Environmental Protection Agency
ERP	Enforcement Response Plan
ERPI	Emergency Response Pretreatment Inspectors
FCN	Field Correction Notice
FEMA	Federal Emergency Management Agency
FM	Force Main
FMIS	Fleet Management Information System
FOG	Fats, Oil & Grease
FPS	Flood Pump Station
FSE	Food Service Establishment
FY	Fiscal Year
GCE	Grease Control Equipment
GIS	Geographic Information System
GLPM	Gravity Line Preventive Maintenance
GPD	Gallons per Day
HMI	Human Machine Interface
HR	Human Resources
I&FP	Infrastructure & Flood Protection (MSD Division)
ICA	Interceptor Condition Assessment
ID	Identification
I&I	Inflow and Infiltration
IMS	Information Management System

Appendix E - Acronyms for Project WIN Annual Report

IOAP	Integrated Overflow Abatement Plan
ISSDP	Interim Sanitary Sewer Discharge Plan
ID	Identification
IT	Information Technology
IWD	Industrial Waste Department
JCPS	Jefferson County Public Schools
KDEP	Kentucky Department of Environmental Protection
KPDES	Kentucky Pollutant Discharge Elimination System
KY	Kentucky
LE	Lateral Extension
LF	Linear Feet
LID	Low Impact Development
LIMS	Laboratory Information Management System
LMDPHW	Louisville Metro Department of Public Health and Wellness
LMPD	Louisville Metro Police Department
LTC	Long Term Control
LTCP	Long Term Control Plan
LOJIC	Louisville and Jefferson County Information Consortium
MDS	Main Diversion Structure
MEB	Main Equipment Building
MG	Million Gallons
MGD	Million Gallons Per Day
MH	Manhole
MO	Metro Operations
MOA	Memorandum of Agreement
MOR	Monthly Operating Report
MOU	Memorandum of Understanding
MSD	Metropolitan Sewer District (Louisville and Jefferson County)
NACWA	National Association of Clean Water Agencies
NDD	Non-Domestic Dischargers
NMC	Nine Minimum Controls
NOV	Notice of Violation
NPR	National Public Radio
MC	Mission Critical
ORD	Office of Research and Development
ORSANCO	Ohio River Valley Water Sanitation Commission
PACP	Pipeline Assessment and Certification Program
PCM	Post Construction Monitoring
PI	Plant Information System
PM	Preventive Maintenance
POC	Pollutants of Concern
PRIDE	Personal Responsibility in a Desirable Environment
PS	Pump Station
PSC	Property Service Connection
QA/QC	Quality Assurance/Quality Control
RDII	Rainfall-Derived Infiltration and Inflow
RS	Regulatory Services
RTC	Real Time Control

Appendix E - Acronyms for Project WIN Annual Report

S&F	Solids and Floatables
SAP	Software Name
SCADA	Supervisory Control And Data Acquisition
SCAP	System Capacity Assurance Plan
SEP	Supplemental Environmental Projects
SIU	Significant Industrial User
SNC	Significant not compliance
SOP	Standard Operating Procedure
SORP	Sewer Overflow Response Protocol
SSDP	Sanitary Sewer Discharge Plan
SSES	Sanitary Sewer Evaluation Study
SSO	Sanitary Sewer Overflow
SSOP	Sanitary Sewer Overflow Plan
SWO	Stop Work Order
SWOR2	Southwestern Outfall Relief - Phase 2
SWPS	Southwestern Pump Station
TISCIT	Totally Integrated Sonar and CCTV Inspection Technique
TM	Technical Memorandum
TMDL	Total Maximum Daily Load
TV	Television
UDR	Unusual Discharge Request
UIM	Utility Information Management
UK	University of Kentucky
USACE	U.S. Army Corps of Engineers
USGS	United States Geological Survey
WDR	Wastewater Discharge Regulators
WIN	Waterway Improvements Now
WQT	Water Quality Tool
WQTC	Water Quality Treatment Center
WW	Wet Weather
WWT	Wet Weather Team

APPENDIX F - RTC REPORT



Louisville/Jefferson County
Metropolitan Sewer District

Appendix F



WET WEATHER STORAGE IN THE MORRIS FORMAN SEWER SYSTEM VIA GOP RTC July 1, 2008 through June 30, 2009

Period	
From :	7/1/2008
To :	6/30/2009

Event Number	Wet Weather Event			Rainfall			Wet Weather Storage Volume (MG)						High River Levels	
	Start Date	End Date	Duration	Average*	Max**		SWPS SG Chamber	SWOR2	Brady Lake and Executive Inn Storage	Southern Outfall	Ohio River Interceptor	Sneads Branch		Total
				TRFD (in)	TRFD (in)	Rain Gauge								
2008-042	7/4/2008 4:57	7/5/2008 5:57	25:00	0.980	2.600	TR15	10.10						10.10	
2008-045	7/8/2008 7:52	7/9/2008 6:48	22:56	0.213	0.440	TR14	5.20						5.20	
2008-046	7/12/2008 22:37	7/13/2008 20:27	21:50	0.399	0.510	TR13	21.60						21.60	
2008-047	7/20/2008 20:48	7/23/2008 13:00	64:12	0.393	0.920	TR13	7.50						7.50	
2008-048	7/28/2008 8:51	7/28/2008 18:06	9:15	0.346	0.540	TR12	16.30		2.60				18.90	Yes
2008-049	7/30/2008 9:01	7/31/2008 15:49	30:48	1.486	1.980	TR13	33.20		7.30				40.50	Yes
2008-051	8/14/2008 13:52	8/15/2008 2:59	13:06	0.246	0.760	TR15	11.70						11.70	
2008-054	9/3/2008 8:55	9/4/2008 0:20	15:25	0.147	0.330	TR11	4.35						4.35	
2008-055	9/4/2008 11:35	9/6/2008 0:10	36:35	0.469	0.810	TR05	1.80						1.80	
2008-056	9/9/2008 3:05	9/9/2008 18:00	14:55	0.267	0.550	TR15	1.60						1.60	
2008-058	9/30/2008 0:03	9/30/2008 9:12	9:09	0.344	0.430	TR14	13.15						13.15	
2008-059	10/7/2008 14:50	10/8/2008 23:40	32:50	1.020	1.420	TR04	23.55		0.40				23.95	
2008-060	10/16/2008 10:25	10/16/2008 18:35	8:10	0.000	0.000		5.10						5.10	
2008-061	10/24/2008 3:30	10/28/2008 16:15	108:45	1.360	1.460	TR14	25.25		2.00				27.25	
2008-064	11/12/2008 18:45	11/13/2008 8:35	13:50	0.311	0.380	TR04	8.00		0.10				8.10	
2008-065	11/14/2008 9:50	11/16/2008 11:55	50:05	0.979	1.180	TR15	12.50		0.10				12.60	
2008-066	11/24/2008 8:50	11/25/2008 7:25	22:35	0.137	0.200	TR15	16.55		0.05				16.60	

Event Number	Wet Weather Event			Rainfall			Wet Weather Storage Volume (MG)						High River Levels	
	Start Date	End Date	Duration	Average*	Max**		SWPS SG Chamber	SWOR2	Brady Lake and Executive Inn Storage	Southern Outfall	Ohio River Interceptor	Sneads Branch		Total
				TRFD (in)	TRFD (in)	Rain Gauge								
2008-069	12/9/2008 8:55	12/11/2008 4:45	43:50	1.273	1.570	TR14	16.25		0.65				16.90	
2008-072	12/18/2008 11:15	12/20/2008 19:15	56:00	0.589	0.690	TR04	15.95		1.90				17.85	
2008-073	12/23/2008 17:50	12/27/2008 2:10	80:20	2.429	2.830	TR15	16.65		6.35				23.00	
2008-074	12/27/2008 22:25	12/29/2008 16:30	42:05	0.586	0.680	TR04	16.65		0.85				17.50	
2009-001	1/3/2009 16:05	1/4/2009 9:40	17:35	0.246	0.370	TR14	3.75	0.00	0.00	0.00	0.00	0.00	3.75	No
2009-002	1/6/2009 5:05	1/7/2009 11:10	30:05	0.476	0.590	TR14	8.05	0.55	0.00	0.00	0.00	0.00	8.60	No
2009-003	1/10/2009 6:45	1/11/2009 2:25	19:40	0.364	0.430	TR15	12.65	0.85	0.00	0.00	0.00	0.00	13.50	No
2009-007	1/27/2009 2:05	1/29/2009 16:10	62:05	0.377	2.080	TR04	12.95	1.45	0.70	0.00	0.00	0.00	15.10	No
2009-008	1/30/2009 14:10	1/30/2009 22:20	8:10	0.000	0.000		0.00	1.75	0.00	0.00	0.00	0.00	1.75	No
2009-009	1/31/2009 13:45	2/3/2009 7:55	66:10	0.506	1.500	TR14	14.85	2.55	0.00	0.00	0.00	0.00	17.40	No
2009-010	2/10/2009 12:25	2/14/2009 13:30	97:05	0.869	1.050	TR05	10.55	2.65	0.10	0.00	0.00	0.00	13.30	No
2009-011	2/14/2009 13:30	2/16/2009 8:05	42:35	0.000	0.000		4.55	1.00	0.65	0.00	0.00	0.00	6.20	No
2009-012	2/18/2009 4:45	2/19/2009 7:20	26:35	0.273	0.360	TR14	2.70	2.50	0.10	0.00	0.00	0.00	5.30	No
2009-013	2/21/2009 13:40	2/22/2009 7:40	18:00	0.214	0.260	TR14	6.40	0.00	0.00	0.00	0.00	0.00	6.40	No
2009-015	2/25/2009 16:50	3/1/2009 8:10	87:20	1.091	1.310	TR04	13.15	0.00	1.80	0.00	0.00	0.00	14.95	No
2009-021	3/25/2009 2:30	3/25/2009 19:25	16:55	0.444	0.590	TR14	1.10	0.00	0.40	0.00	0.00	0.00	1.50	No
2009-023	3/28/2009 13:40	3/29/2009 14:50	25:10	0.439	0.700	TR04	12.90	0.00	0.65	0.00	0.00	0.00	13.55	No
2009-025	4/2/2009 16:40	4/4/2009 1:00	32:20	1.687	2.362	TR15	12.60	0.50	1.50	0.00	0.00	0.00	14.60	No
2009-026	4/5/2009 17:20	4/6/2009 15:25	22:05	3.100	3.470	TR04	6.10	0.00	0.05	0.00	0.00	0.00	6.15	No
2009-026	4/5/2009 17:20	4/6/2009 15:25	22:05	0.274	0.420	TR05	6.10	0.00	0.05	0.00	0.00	0.00	6.15	No
2009-027	4/9/2009 9:00	4/9/2009 17:10	8:10	0.007	0.040	TR12	0.00	6.55	0.00	0.00	0.00	0.00	6.55	No
2009-028	4/10/2009 6:40	4/11/2009 5:10	22:30	0.449	0.620	TR04	5.85	0.00	0.10	0.00	0.00	0.00	5.95	No
2009-029	4/13/2009 1:10	4/14/2009 20:20	43:10	0.763	1.080	TR04	14.15	0.00	2.15	0.00	0.00	0.00	16.30	No
2009-030	4/19/2009 3:50	4/21/2009 4:30	48:40	1.471	1.870	TR15	12.55	0.35	1.35	0.00	0.00	0.00	14.25	No
2009-033	4/28/2009 7:45	4/28/2009 18:20	10:35	0.321	0.390	TR11	6.20	3.50	0.10	0.00	0.00	0.00	9.80	No

Event Number	Wet Weather Event			Rainfall			Wet Weather Storage Volume (MG)							High Rivet Levels
	Start Date	End Date	Duration	Average*	Max**		SWPS SG Chamber	SWOR2	Brady Lake and Executive Inn Storage	Southern Outfall	Ohio River Interceptor	Sneads Branch	Total	
				TRFD (in)	TRFD (in)	Rain Gauge								
2009-034	4/29/2009 13:05	4/29/2009 21:40	8:35	0.026	0.120	TR11	0.00	4.10	0.40	0.00	0.00	0.00	4.50	No
2009-035	4/30/2009 16:55	5/1/2009 10:05	17:10	0.323	0.480	TR14	3.20	1.95	0.30	0.00	0.00	0.00	5.45	No
2009-037	5/3/2009 1:05	5/4/2009 11:05	34:00	0.344	0.440	TR14	0.00	1.90	0.20	0.00	0.00	0.00	2.10	No
2009-038	5/6/2009 8:35	5/7/2009 13:00	28:25	0.606	0.690	TR12	14.05	1.75	1.35	0.00	0.00	0.00	17.15	No
2009-040	5/10/2009 15:35	5/11/2009 15:10	23:35	0.046	0.080	TR14	7.40	3.05	0.90	0.00	0.00	0.00	11.35	Yes
2009-041	5/11/2009 15:10	5/12/2009 2:55	11:45	0.001	0.010	TR12	10.15	1.70	0.00	0.00	0.00	0.00	11.85	Yes
2009-042	5/13/2009 7:05	5/13/2009 15:15	8:10	0.023	0.050	TR12	0.00	1.30	0.00	0.00	0.00	0.00	1.30	Yes
2009-043	5/14/2009 5:25	5/14/2009 18:30	13:05	0.400	0.480	TR15	6.45	2.90	0.30	0.00	0.00	0.00	9.65	Yes
2009-044	5/15/2009 16:35	5/16/2009 14:30	21:55	0.431	0.680	TR13	1.55	3.45	0.10	0.00	0.00	0.00	5.10	No
2009-045	5/25/2009 2:25	5/25/2009 15:10	12:45	0.297	0.560	TR11	5.80	3.85	0.60	0.00	0.00	0.00	10.25	No
2009-048	6/4/2009 4:40	6/4/2009 19:55	15:15	0.309	0.490	TR14	0.00	1.70	0.10	0.00	0.00	0.00	1.80	No
2009-050	6/10/2009 9:25	6/12/2009 22:10	60:45	2.556	3.490	TR12	31.40	7.95	11.90	0.00	0.00	0.00	51.25	No
2009-052	6/15/2009 12:15	6/17/2009 22:25	58:10	0.741	1.070	TR04	10.00	6.80	1.50	0.00	0.00	0.00	18.30	No
2009-053	6/18/2009 9:30	6/18/2009 19:10	9:40	1.309	2.880	TR15	0.00	13.45	4.00	0.00	0.00	0.00	17.45	No
2009-055	6/21/2009 9:35	6/23/2009 8:15	46:40	0.930	1.850	TR14	22.40	14.05	3.60	0.00	0.00	0.00	40.05	No
2009-056	6/25/2009 22:15	6/27/2009 9:35	35:20	1.237	2.590	TR04	15.65	1.45	7.40	0.00	0.00	0.00	24.50	No
Total				36.923			578.15	95.55	64.65				738.35	

*Average Total Rainfall Depth Based on Rain Gauge TR04, TR05, TR11, TR12, TR13, TR14 and TR15

**Maximum Total Rainfall Depth Measurement and its Location during the Wet Weather Event

APPENDIX G - PHOSPHORUS MONITORING DATA

Timberlake Wastewater Treatment Plant KY0043087 Quarterly Effluent Total Phosphorus Results

SAMPLE DATE	TEST METHOD	PARAMETER	RESULT	UNIT	LABORATORY
4/2/2009	EPA 200.7	Total Phosphorous via ICP	0.777	mg/l	MSD
4/7/2009	EPA 200.7	Total Phosphorous via ICP	0.703	mg/l	MSD
4/8/2009	EPA 200.7	Total Phosphorous via ICP	0.689	mg/l	MSD
4/9/2009	EPA 200.7	Total Phosphorous via ICP	0.7	mg/l	MSD
4/14/2009	EPA 200.7	Total Phosphorous via ICP	0.587	mg/l	MSD
4/15/2009	EPA 200.7	Total Phosphorous via ICP	0.619	mg/l	MSD
4/16/2009	EPA 200.7	Total Phosphorous via ICP	0.541	mg/l	MSD
4/21/2009	EPA 200.7	Total Phosphorous via ICP	0.61	mg/l	MSD
4/22/2009	EPA 200.7	Total Phosphorous via ICP	0.488	mg/l	MSD
4/23/2009	EPA 200.7	Total Phosphorous via ICP	0.499	mg/l	MSD
Monthly Average			0.62	mg/l	
5/5/2009	EPA 200.7	Total Phosphorous via ICP	0.832	mg/l	MSD
5/12/2009	EPA 200.7	Total Phosphorous via ICP	0.395	mg/l	MSD
5/19/2009	EPA 200.7	Total Phosphorous via ICP	0.711	mg/l	MSD
5/26/2009	EPA 200.7	Total Phosphorous via ICP	0.725	mg/l	MSD
Monthly Average			0.67	mg/l	
6/3/2009	EPA 200.7	Total Phosphorous via ICP	0.657	mg/l	MSD
6/10/2009	EPA 200.7	Total Phosphorous via ICP	0.578	mg/l	MSD
6/17/2009	EPA 200.7	Total Phosphorous via ICP	0.681	mg/l	MSD
6/24/2009	EPA 200.7	Total Phosphorous via ICP	0.956	mg/l	MSD
Monthly Average			0.72	mg/l	

Shadow Wood Wastewater Treatment Plant KY0031810 Quarterly Effluent Total Phosphorus Results

SAMPLE DATE	TEST METHOD	PARAMETER	RESULT	UNIT	LABORATORY
4/2/2009	EPA 200.7	Total Phosphorous via ICP	0.313	mg/l	MSD
4/7/2009	EPA 200.7	Total Phosphorous via ICP	0.432	mg/l	MSD
4/8/2009	EPA 200.7	Total Phosphorous via ICP	0.44	mg/l	MSD
4/9/2009	EPA 200.7	Total Phosphorous via ICP	0.707	mg/l	MSD
4/14/2009	EPA 200.7	Total Phosphorous via ICP	0.575	mg/l	MSD
4/15/2009	EPA 200.7	Total Phosphorous via ICP	0.549	mg/l	MSD
4/16/2009	EPA 200.7	Total Phosphorous via ICP	0.556	mg/l	MSD
4/21/2009	EPA 200.7	Total Phosphorous via ICP	0.535	mg/l	MSD
4/22/2009	EPA 200.7	Total Phosphorous via ICP	0.6	mg/l	MSD
4/23/2009	EPA 200.7	Total Phosphorous via ICP	0.72	mg/l	MSD
Monthly Average			0.54	mg/l	
5/5/2009	EPA 200.7	Total Phosphorous via ICP	1.07	mg/l	MSD
5/12/2009	EPA 200.7	Total Phosphorous via ICP	2.51	mg/l	MSD
5/19/2009	EPA 200.7	Total Phosphorous via ICP	1.21	mg/l	MSD
5/22/2009	EPA 200.7	Total Phosphorous via ICP	0.362	mg/l	MSD
5/23/2009	EPA 200.7	Total Phosphorous via ICP	0.242	mg/l	MSD
5/24/2009	EPA 200.7	Total Phosphorous via ICP	0.094	mg/l	MSD
5/25/2009	EPA 200.7	Total Phosphorous via ICP	0.135	mg/l	MSD
5/26/2009	EPA 200.7	Total Phosphorous via ICP	0.098	mg/l	MSD
5/28/2009	EPA 200.7	Total Phosphorous via ICP	0.07	mg/l	MSD
5/29/2009	EPA 200.7	Total Phosphorous via ICP	0.06	mg/l	MSD
5/30/2009	EPA 200.7	Total Phosphorous via ICP	0.06	mg/l	MSD
Monthly Average			0.54	mg/l	
6/3/2009	EPA 200.7	Total Phosphorous via ICP	0.153	mg/l	MSD

Shadow Wood Wastewater Treatment Plant KY0031810
Quarterly Effluent Total Phosphorus Results

6/10/2009	EPA 200.7	Total Phosphorous via ICP	0.262	mg/l	MSD
6/17/2009	EPA 200.7	Total Phosphorous via ICP	0.375	mg/l	MSD
6/24/2009	EPA 200.7	Total Phosphorous via ICP	0.578	mg/l	MSD
Monthly Average			0.34	mg/l	

North Hunting Creek Wastewater Treatment Plant KY0029106 Quarterly Effluent Total Phosphorus Results

SAMPLE DATE	TEST METHOD	PARAMETER	RESULT	UNIT	LABORATORY
4/2/2009	EPA 200.7	Total Phosphorous via ICP	0.497	mg/l	MSD
4/7/2009	EPA 200.7	Total Phosphorous via ICP	0.775	mg/l	MSD
4/8/2009	EPA 200.7	Total Phosphorous via ICP	0.448	mg/l	MSD
4/9/2009	EPA 200.7	Total Phosphorous via ICP	0.326	mg/l	MSD
4/14/2009	EPA 200.7	Total Phosphorous via ICP	0.886	mg/l	MSD
4/15/2009	EPA 200.7	Total Phosphorous via ICP	0.441	mg/l	MSD
4/16/2009	EPA 200.7	Total Phosphorous via ICP	0.733	mg/l	MSD
4/21/2009	EPA 200.7	Total Phosphorous via ICP	0.577	mg/l	MSD
4/22/2009	EPA 200.7	Total Phosphorous via ICP	0.485	mg/l	MSD
4/23/2009	EPA 200.7	Total Phosphorous via ICP	0.61	mg/l	MSD
Monthly Average			0.58	mg/l	
5/5/2009	EPA 200.7	Total Phosphorous via ICP	0.341	mg/l	MSD
5/12/2009	EPA 200.7	Total Phosphorous via ICP	0.208	mg/l	MSD
5/19/2009	EPA 200.7	Total Phosphorous via ICP	0.402	mg/l	MSD
5/26/2009	EPA 200.7	Total Phosphorous via ICP	0.506	mg/l	MSD
Monthly Average			0.36	mg/l	
6/3/2009	EPA 200.7	Total Phosphorous via ICP	0.425	mg/l	MSD
6/10/2009	EPA 200.7	Total Phosphorous via ICP	0.292	mg/l	MSD
6/17/2009	EPA 200.7	Total Phosphorous via ICP	0.338	mg/l	MSD
6/24/2009	EPA 200.7	Total Phosphorous via ICP	0.571	mg/l	MSD
Monthly Average			0.41	mg/l	

Ken Carla Wastewater Treatment Plant KY0022497 Quarterly Effluent Total Phosphorus Results

SAMPLE DATE	TEST METHOD	PARAMETER	RESULT	UNIT	LABORATORY
4/2/2009	EPA 200.7	Total Phosphorous via ICP	0.494	mg/l	MSD
4/7/2009	EPA 200.7	Total Phosphorous via ICP	0.48	mg/l	MSD
4/8/2009	EPA 200.7	Total Phosphorous via ICP	0.487	mg/l	MSD
4/9/2009	EPA 200.7	Total Phosphorous via ICP	0.444	mg/l	MSD
4/14/2009	EPA 200.7	Total Phosphorous via ICP	0.339	mg/l	MSD
4/15/2009	EPA 200.7	Total Phosphorous via ICP	0.928	mg/l	MSD
4/16/2009	EPA 200.7	Total Phosphorous via ICP	0.499	mg/l	MSD
4/21/2009	EPA 200.7	Total Phosphorous via ICP	0.112	mg/l	MSD
4/22/2009	EPA 200.7	Total Phosphorous via ICP	0.173	mg/l	MSD
4/23/2009	EPA 200.7	Total Phosphorous via ICP	0.345	mg/l	MSD
Monthly Average			0.43	mg/l	
5/18/2009	EPA 200.7	Total Phosphorous via ICP	0.391	mg/l	MSD
	EPA 200.7	Total Phosphorous via ICP		mg/l	MSD
	EPA 200.7	Total Phosphorous via ICP		mg/l	MSD
	EPA 200.7	Total Phosphorous via ICP		mg/l	MSD
Monthly Average			0.39	mg/l	
6/3/2009	EPA 200.7	Total Phosphorous via ICP	0.092	mg/l	MSD
	EPA 200.7	Total Phosphorous via ICP		mg/l	MSD
	EPA 200.7	Total Phosphorous via ICP		mg/l	MSD
	EPA 200.7	Total Phosphorous via ICP		mg/l	MSD
Monthly Average			0.09	mg/l	

Hunting Creek South Wastewater Treatment Plant KY0029114 Quarterly Effluent Total Phosphorus Results

SAMPLE DATE	TEST METHOD	PARAMETER	RESULT	UNIT	LABORATORY
4/2/2009	EPA 200.7	Total Phosphorous via ICP	0.466	mg/l	MSD
4/7/2009	EPA 200.7	Total Phosphorous via ICP	0.432	mg/l	MSD
4/8/2009	EPA 200.7	Total Phosphorous via ICP	0.381	mg/l	MSD
4/9/2009	EPA 200.7	Total Phosphorous via ICP	0.436	mg/l	MSD
4/14/2009	EPA 200.7	Total Phosphorous via ICP	0.215	mg/l	MSD
4/15/2009	EPA 200.7	Total Phosphorous via ICP	0.481	mg/l	MSD
4/16/2009	EPA 200.7	Total Phosphorous via ICP	0.47	mg/l	MSD
4/21/2009	EPA 200.7	Total Phosphorous via ICP	0.436	mg/l	MSD
4/22/2009	EPA 200.7	Total Phosphorous via ICP	0.414	mg/l	MSD
4/23/2009	EPA 200.7	Total Phosphorous via ICP	0.523	mg/l	MSD
Monthly Average			0.43	mg/l	
5/5/2009	EPA 200.7	Total Phosphorous via ICP	0.591	mg/l	MSD
5/12/2009	EPA 200.7	Total Phosphorous via ICP	0.487	mg/l	MSD
5/19/2009	EPA 200.7	Total Phosphorous via ICP	0.444	mg/l	MSD
5/26/2009	EPA 200.7	Total Phosphorous via ICP	0.558	mg/l	MSD
Monthly Average			0.52	mg/l	
6/3/2009	EPA 200.7	Total Phosphorous via ICP	0.453	mg/l	MSD
6/10/2009	EPA 200.7	Total Phosphorous via ICP	0.448	mg/l	MSD
6/17/2009	EPA 200.7	Total Phosphorous via ICP	0.385	mg/l	MSD
6/24/2009	EPA 200.7	Total Phosphorous via ICP	1.03	mg/l	MSD
Monthly Average			0.58	mg/l	

APPENDIX H - ORGANIZATIONAL CHART



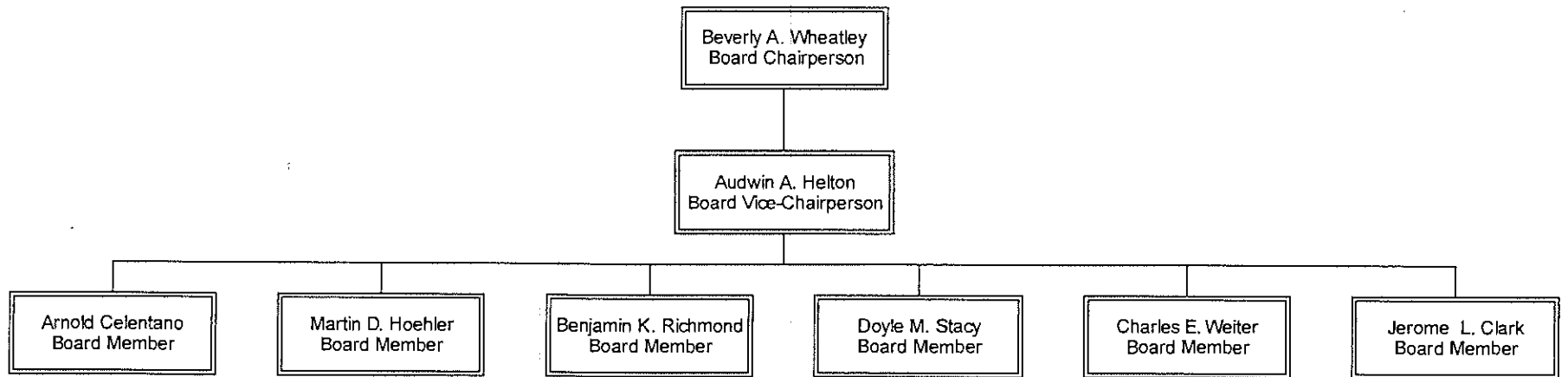
Louisville and Jefferson County
Metropolitan Sewer District

Organizational Chart
October 26, 2009



Organizational Summary

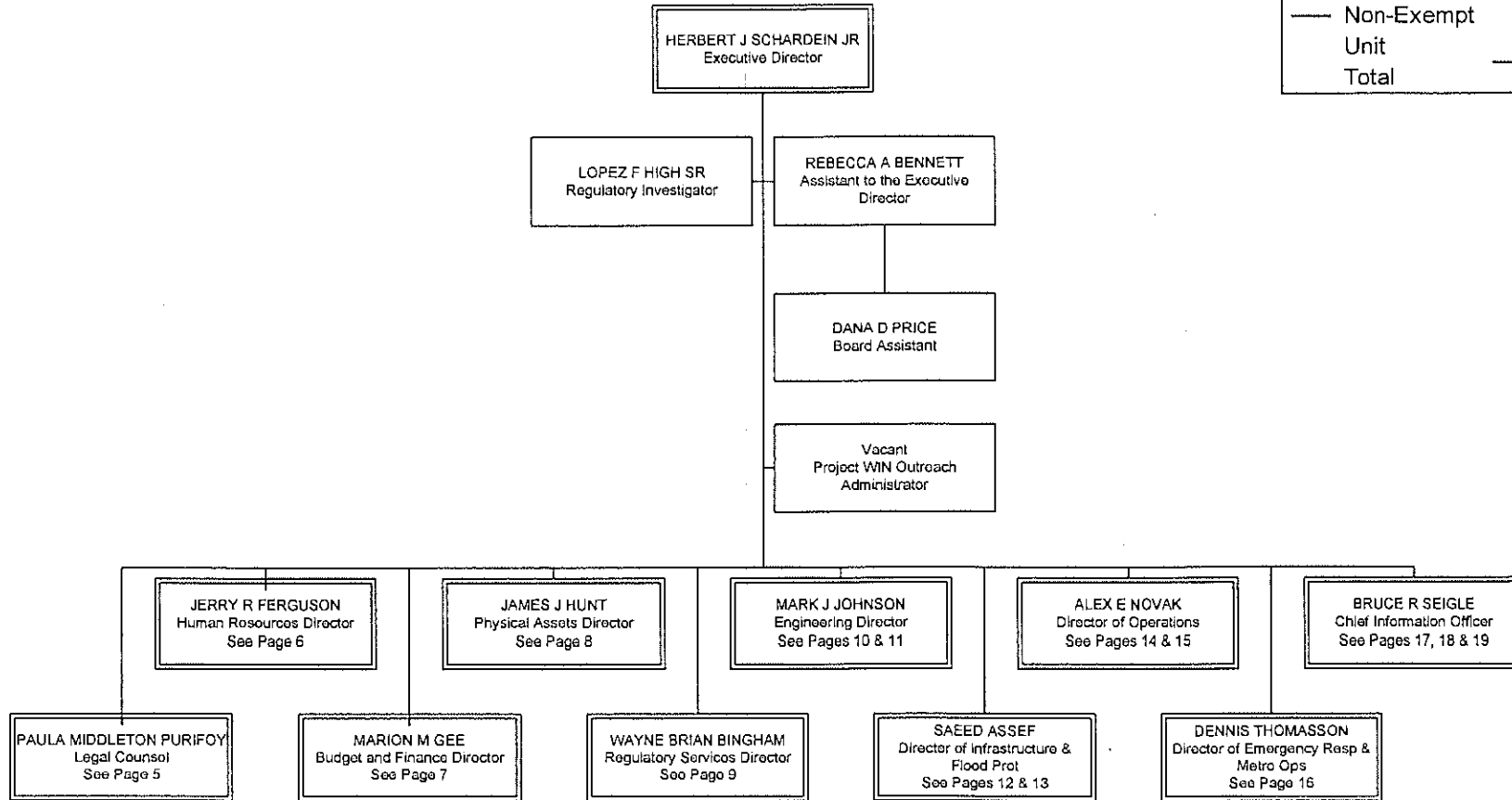
	<u>Authorized</u>	<u>Actual</u>	<u>Vacant</u>	<u>Exempt</u>	<u>Non-Exempt</u>	<u>Unit</u>	<u>Overbudget</u>
Executive Offices Division	5	4	1	3	2	0	0
Legal Division	7	6	1	5	2	0	0
Human Resources Division	19	19	0	12	7	0	0
Finance Division	18	18	0	9	9	0	0
Physical Assets Division	40	40	0	8	14	18	0
Regulatory Services Div	56	50	6	24	31	1	0
Engineering Division							
Development/Plan Review	24	21	3	12	12	0	0
Design/Construction	21	19	2	15	6	0	0
Infrastructure & Flood Prot Division							
Administration & Support Services	61	59	2	11	15	35	0
Sewer/Flood Prot. & Stormwater Drain.	150	143	7	12	4	134	0
Operations Division							
MFWTP Operations	55.5	55.5	0	10	9.5	36	0
MFWTP Maintenance	38	38	0	5	6	27	0
Metro Operations & Maintenance	75	72	3	14	8	53	1
Information Technology Division							
Information Technology	35	32	3	22	13	0	0
Customer Relations	20	20	0	1	19	0	0
LOJIC	11	11	0	10	1	0	0
DISTRICT TOTAL	635.5	607.5	28	173	158.5	304	1

Board Members





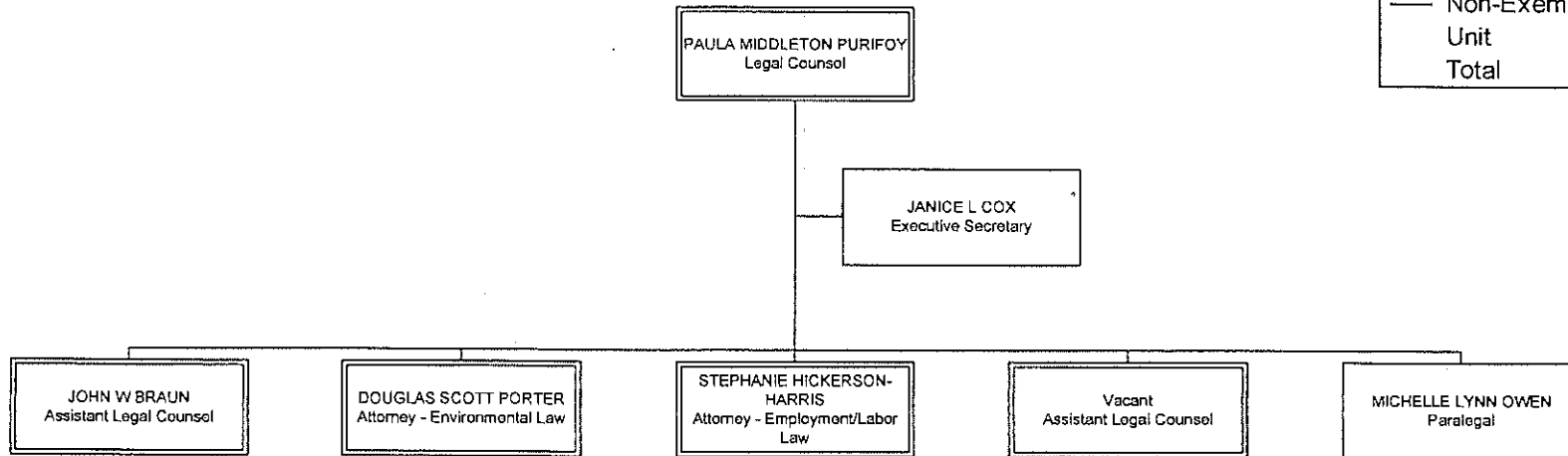
Executive Offices Division

BUDGET STATUS	
Actual	4
Vacant	1
Authorized	5
<hr/>	
 Exempt	3
 Non-Exempt	2
Unit	0
Total	5



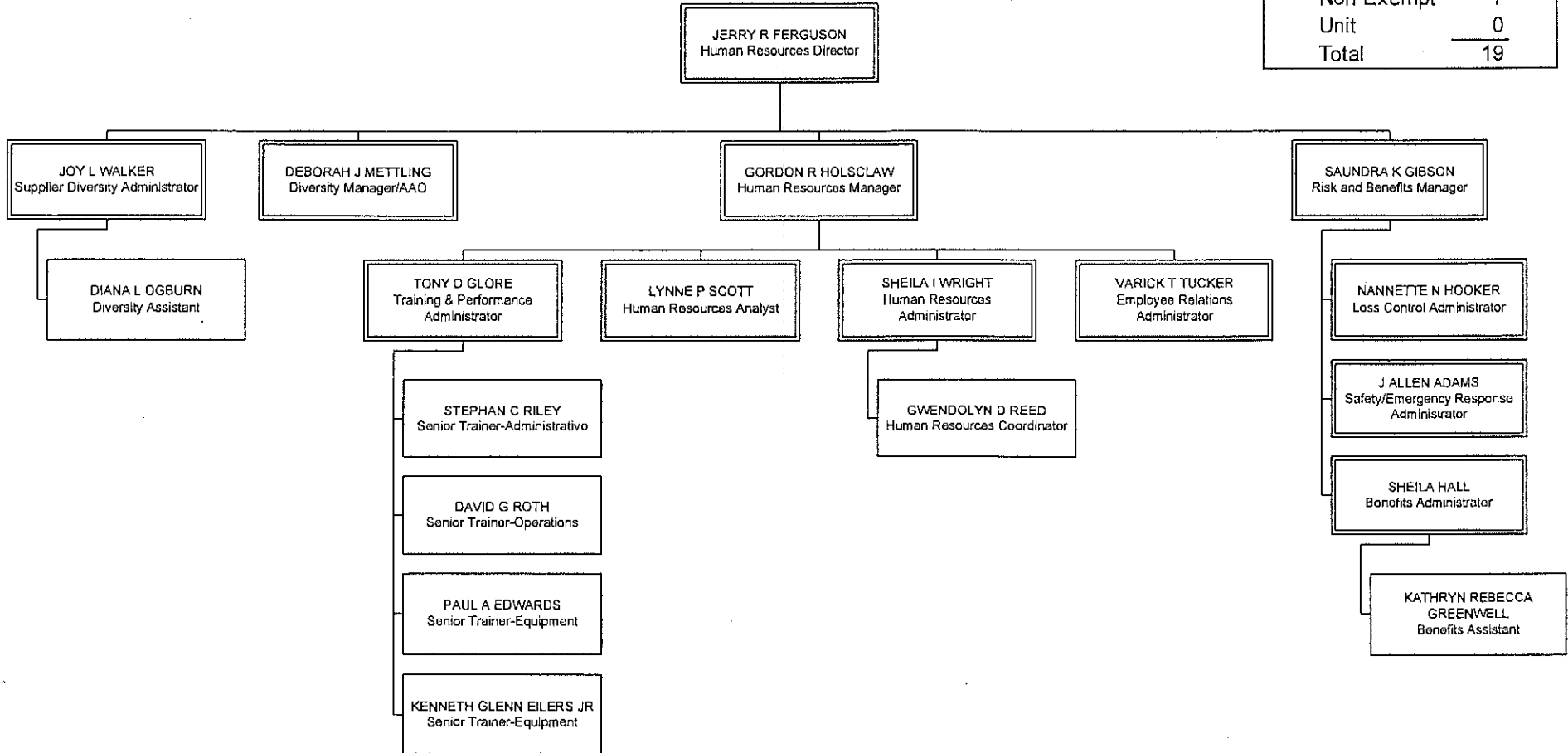
Legal Division

BUDGET STATUS	
Actual	6
Vacant	1
Authorized	<u>7</u>
 Exempt	5
 Non-Exempt	2
Unit	0
Total	<u>7</u>



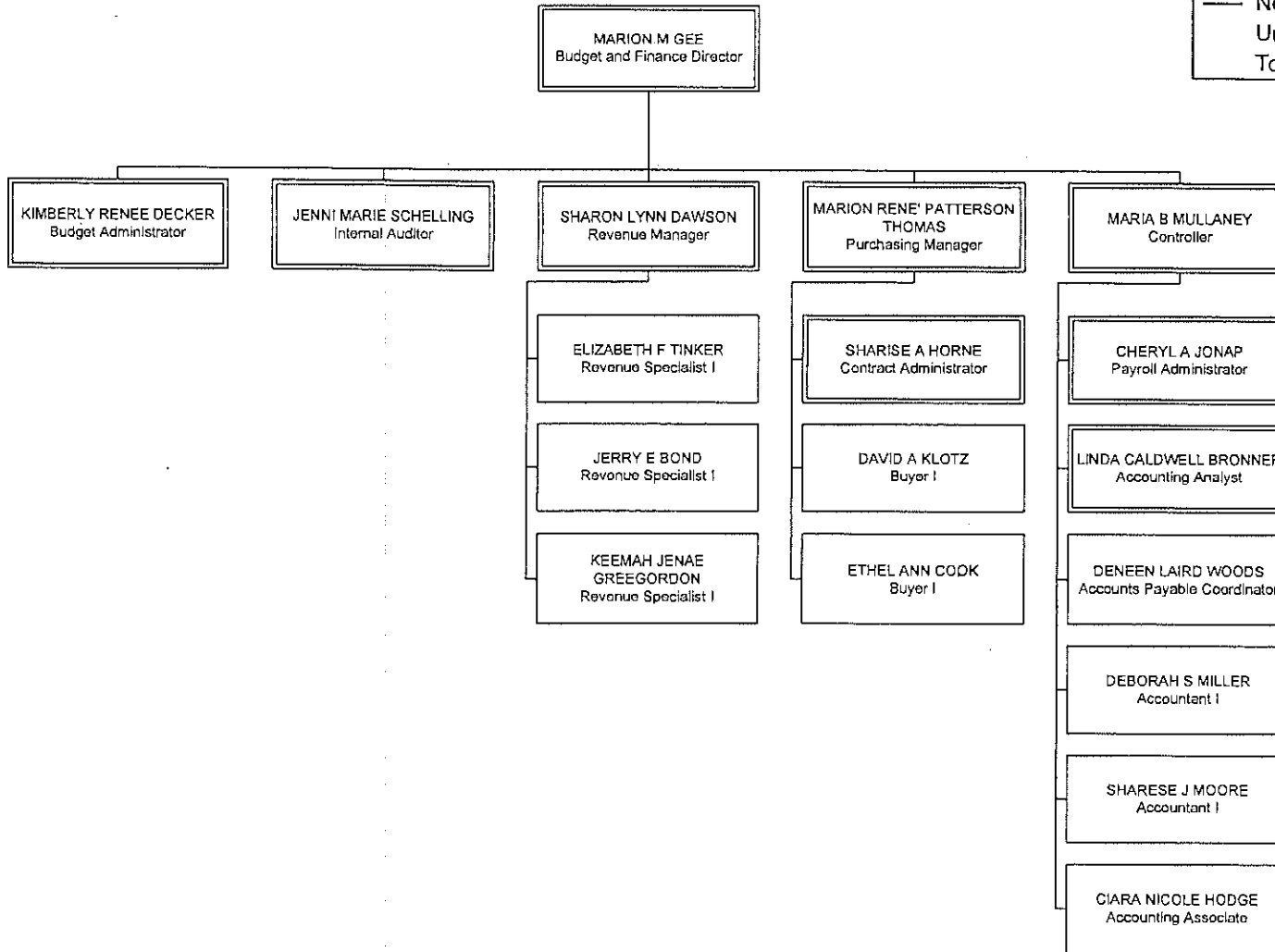
Human Resources Division

BUDGET STATUS	
Actual	19
Vacant	0
Authorized	19
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Exempt	12
Non-Exempt	7
Unit	0
Total	19



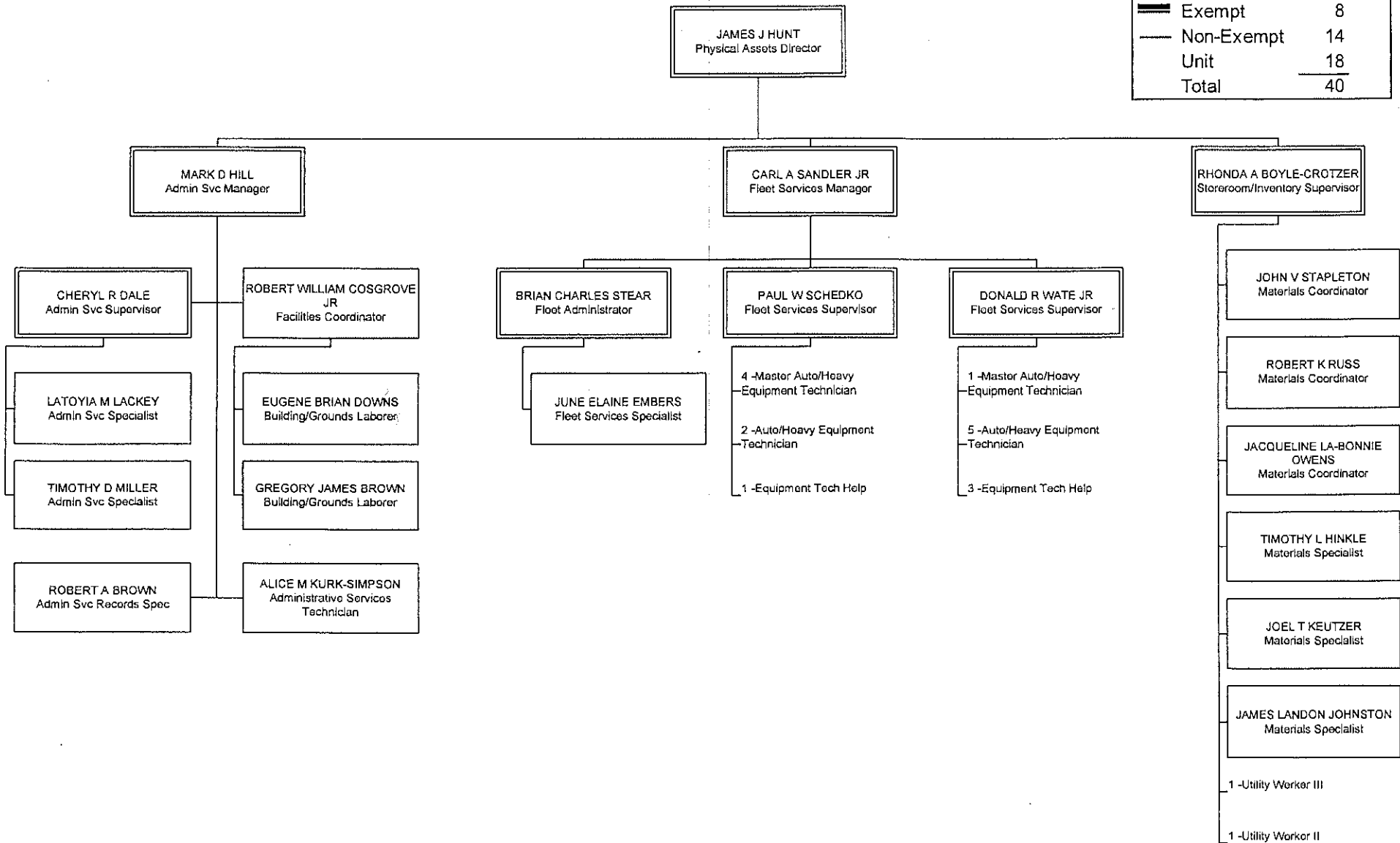
Finance Division

BUDGET STATUS	
Actual	18
Vacant	0
Authorized	18
— Exempt	9
— Non-Exempt	9
Unit	0
Total	18



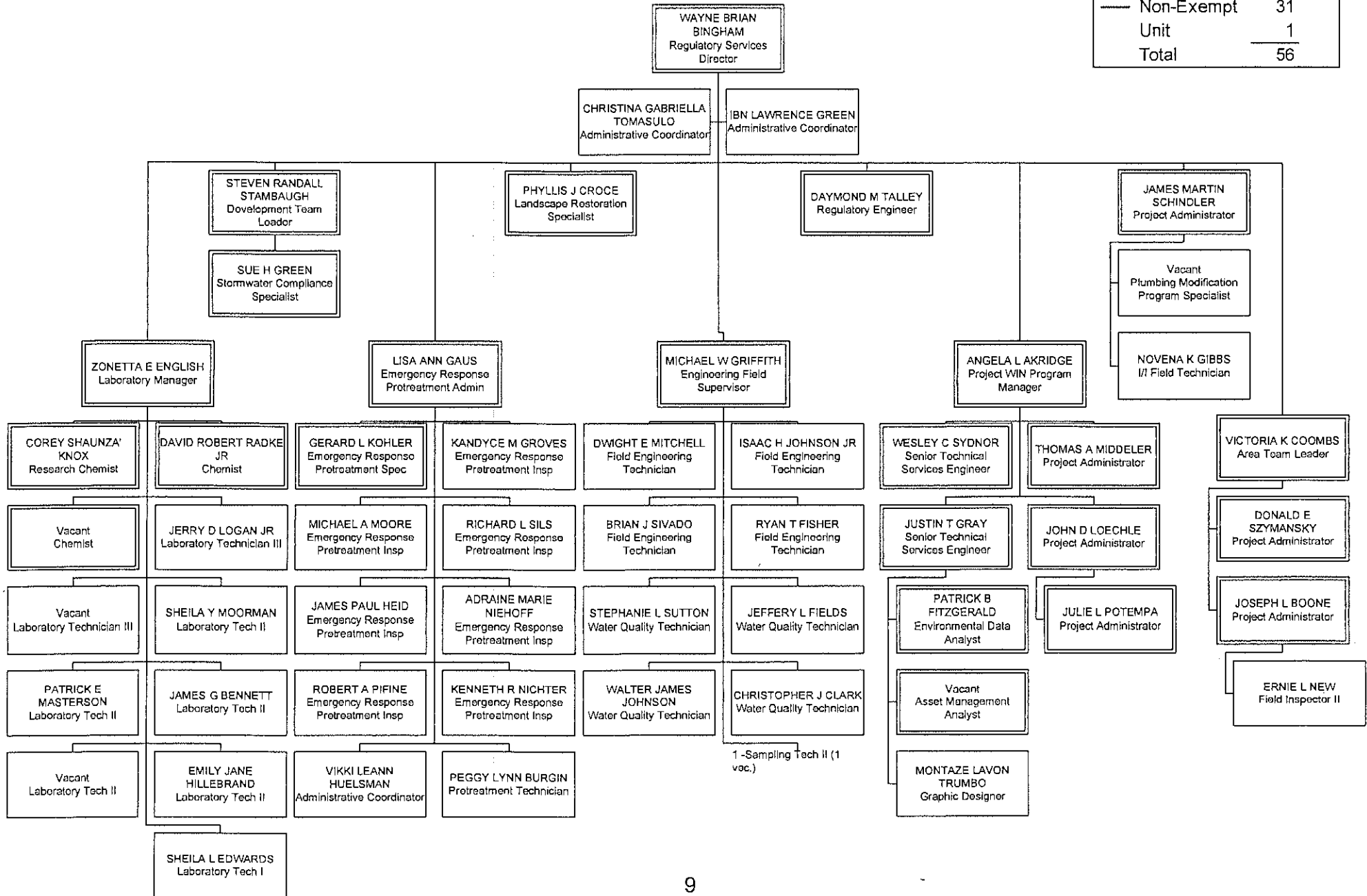
Physical Assets Division

BUDGET STATUS	
Actual	40
Vacant	0
Authorized	40
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Exempt	8
Non-Exempt	14
Unit	18
Total	40



Regulatory Services Division

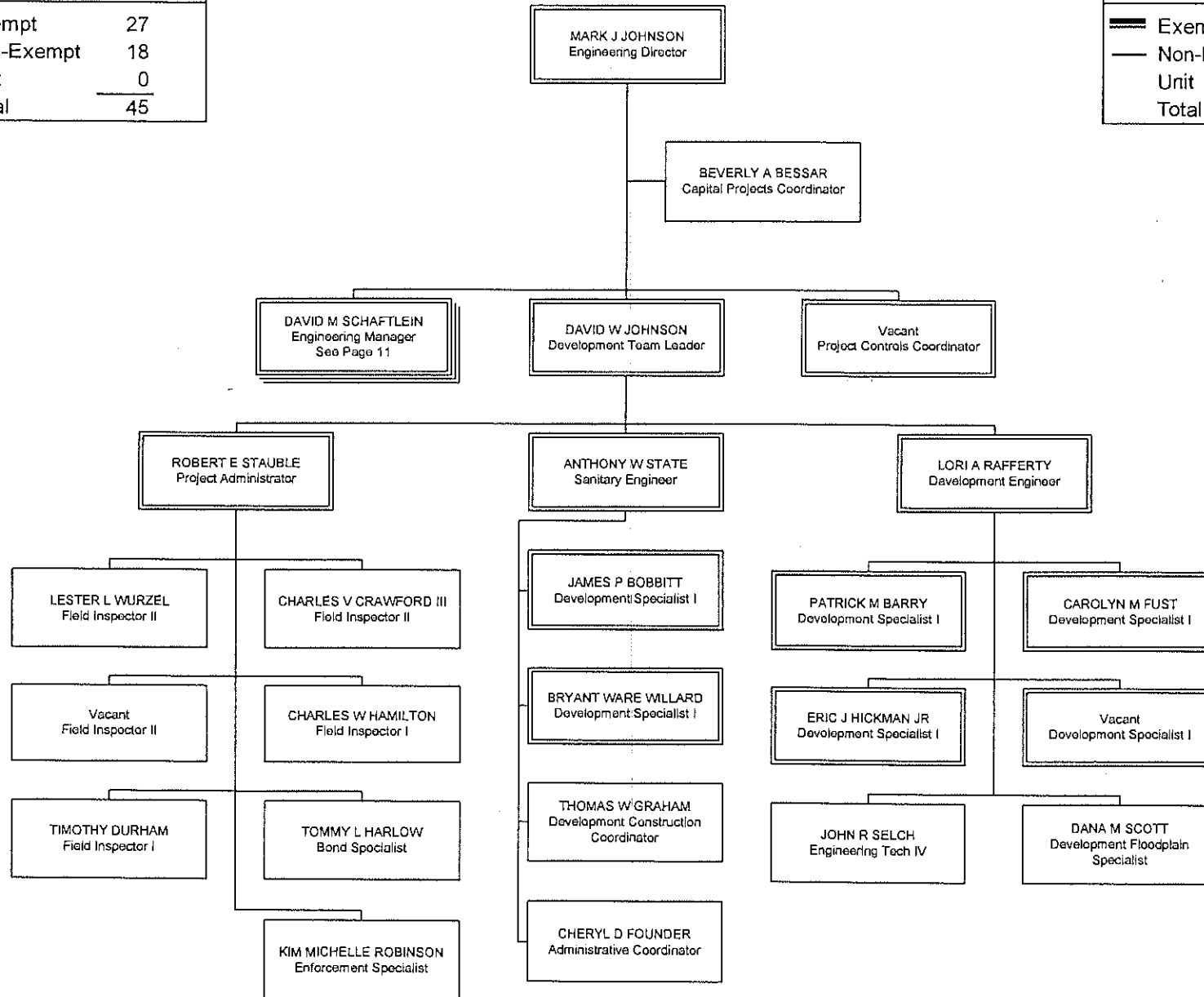
BUDGET STATUS	
Actual	50
Vacant	6
Authorized	56
Exempt	24
Non-Exempt	31
Unit	1
Total	56



Engineering Division Development Plan/Review

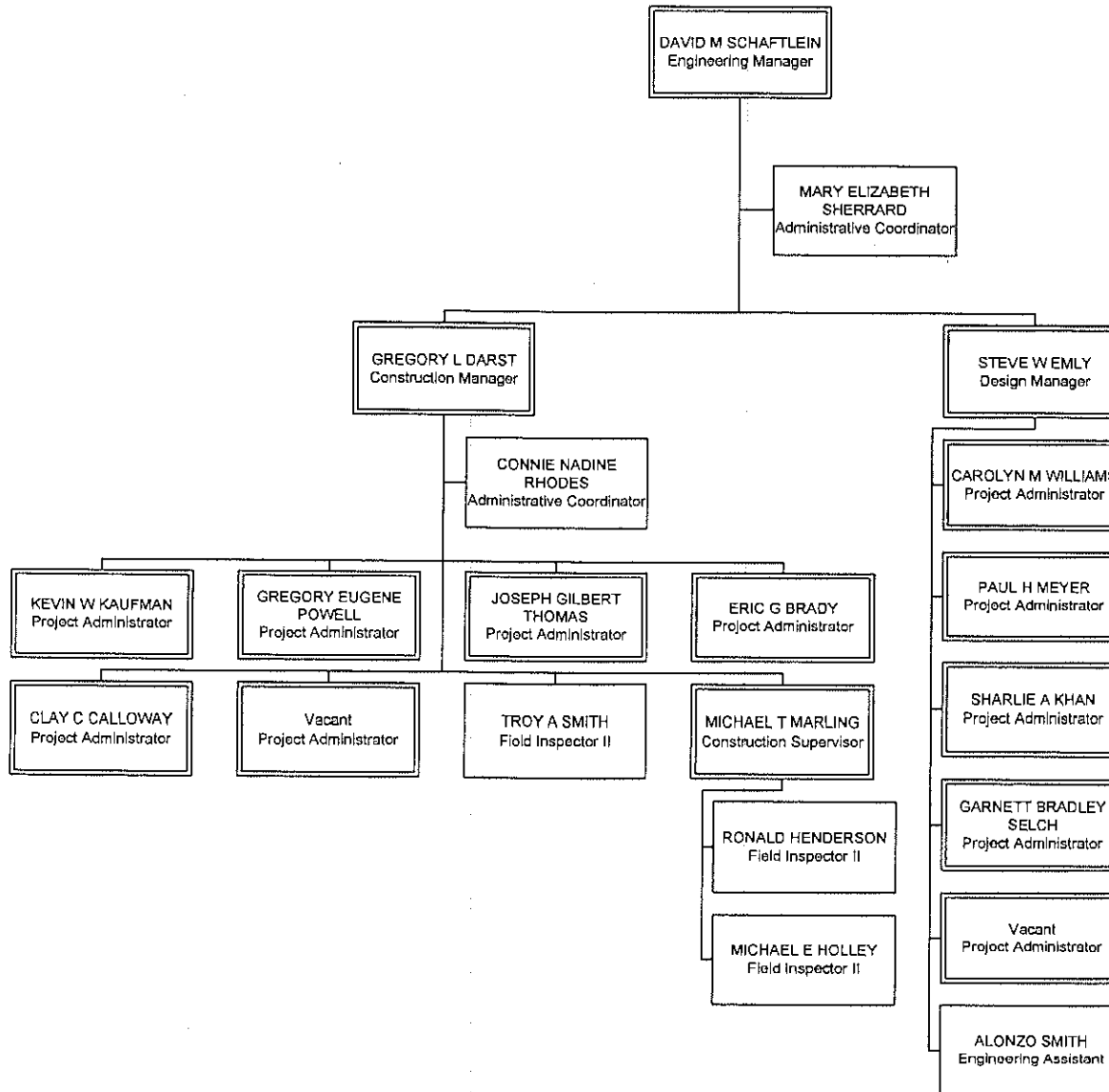
DIVISION BUDGET STATUS	
Actual	41
Vacant	4
Authorized	<u>45</u>
Exempt	27
Non-Exempt	18
Unit	<u>0</u>
Total	<u>45</u>

BUDGET STATUS	
Actual	21
Vacant	<u>3</u>
Authorized	24
Exempt	12
Non-Exempt	12
Unit	<u>0</u>
Total	<u>24</u>



Engineering Division Design/Construction

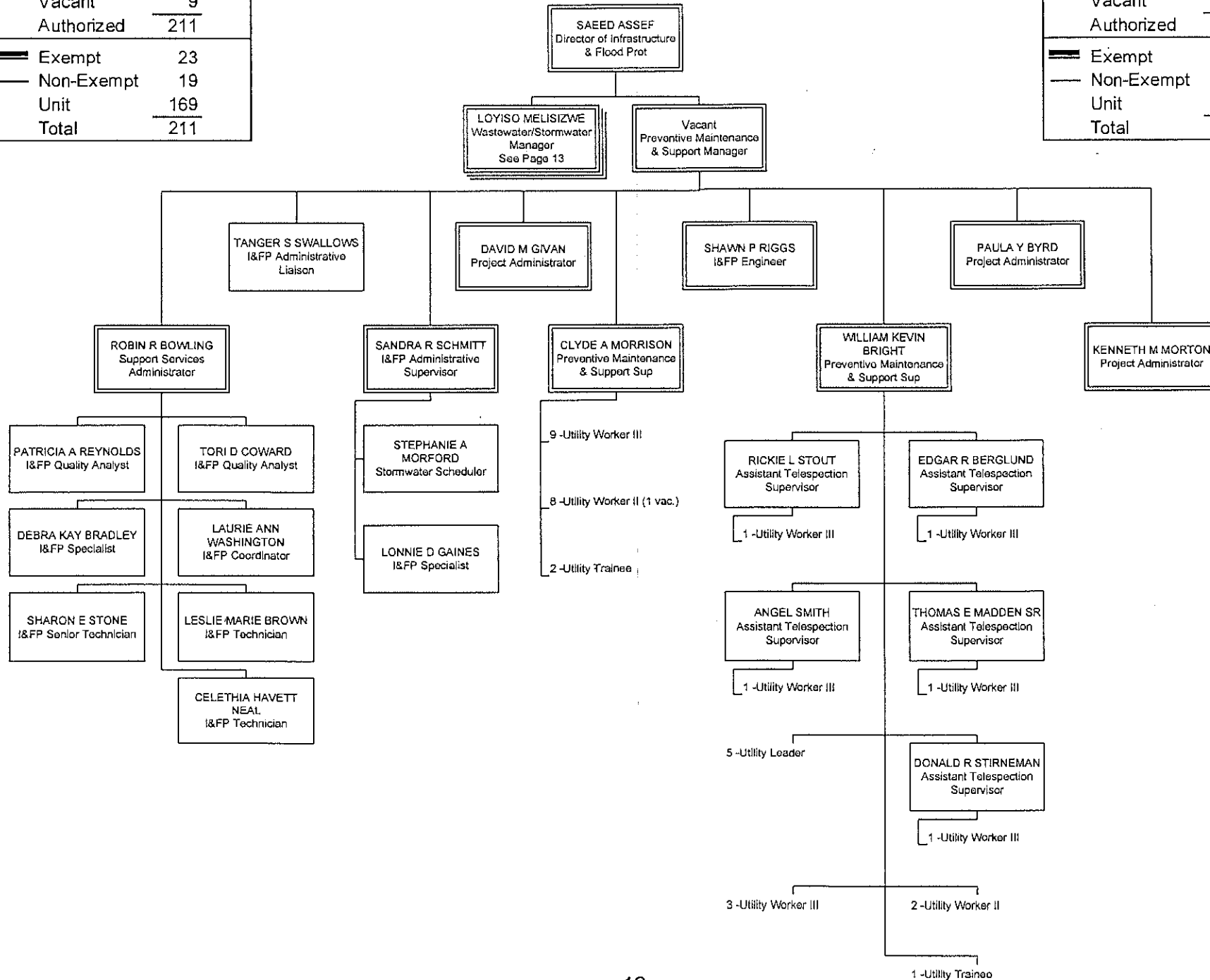
BUDGET STATUS	
Actual	19
Vacant	2
Authorized	<u>21</u>
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█ Exempt	15
— Non-Exempt	6
Unit	0
Total	<u>21</u>



Infrastructure & Flood Protection Division Administration & Support Services

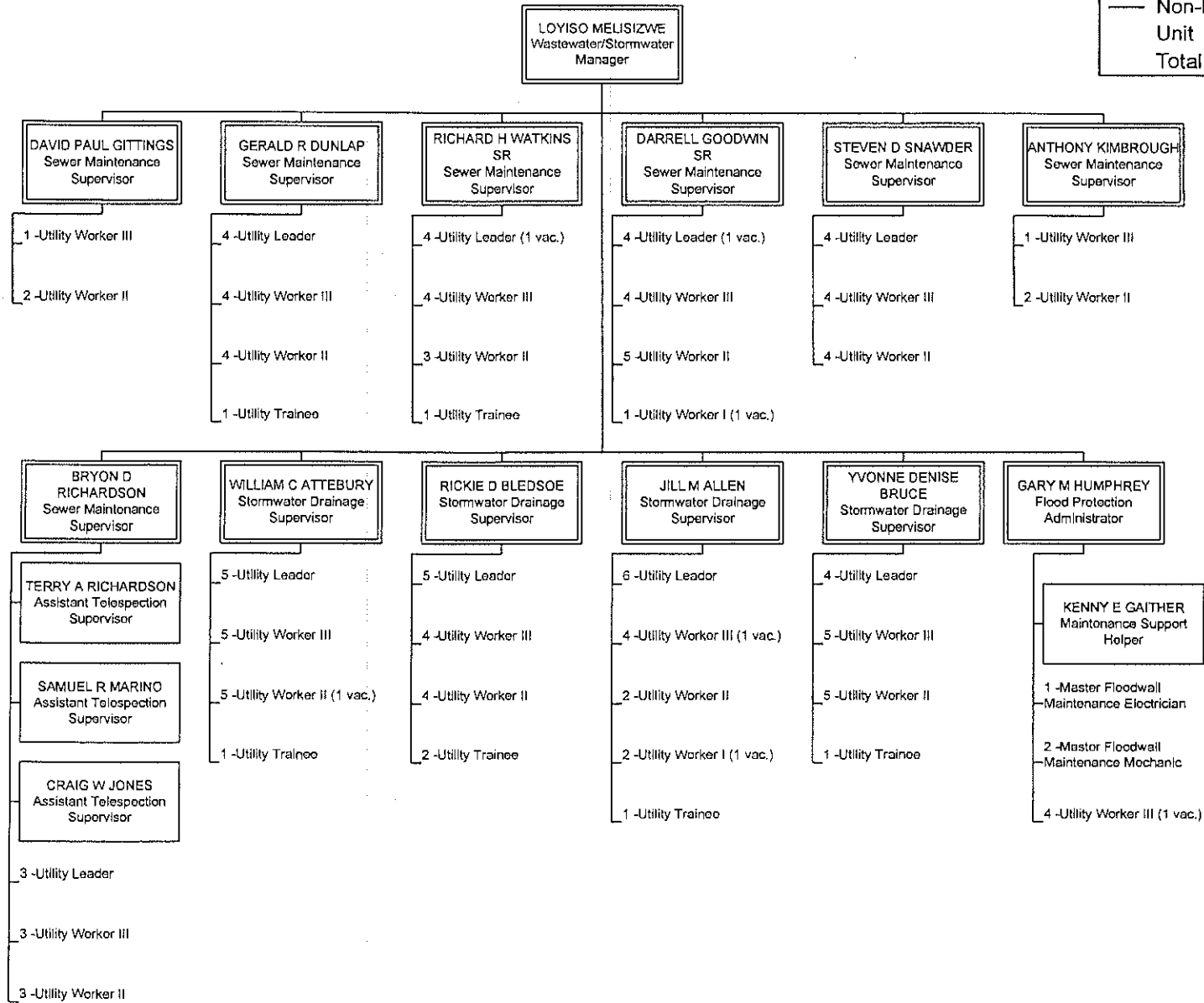
DIVISION BUDGET STATUS	
Actual	202
Vacant	9
Authorized	211
Exempt	23
Non-Exempt	19
Unit	169
Total	211

BUDGET STATUS	
Actual	59
Vacant	2
Authorized	61
Exempt	11
Non-Exempt	15
Unit	35
Total	61



Infrastructure & Flood Protection Division Sewer/Flood Protection & Stormwater Drainage

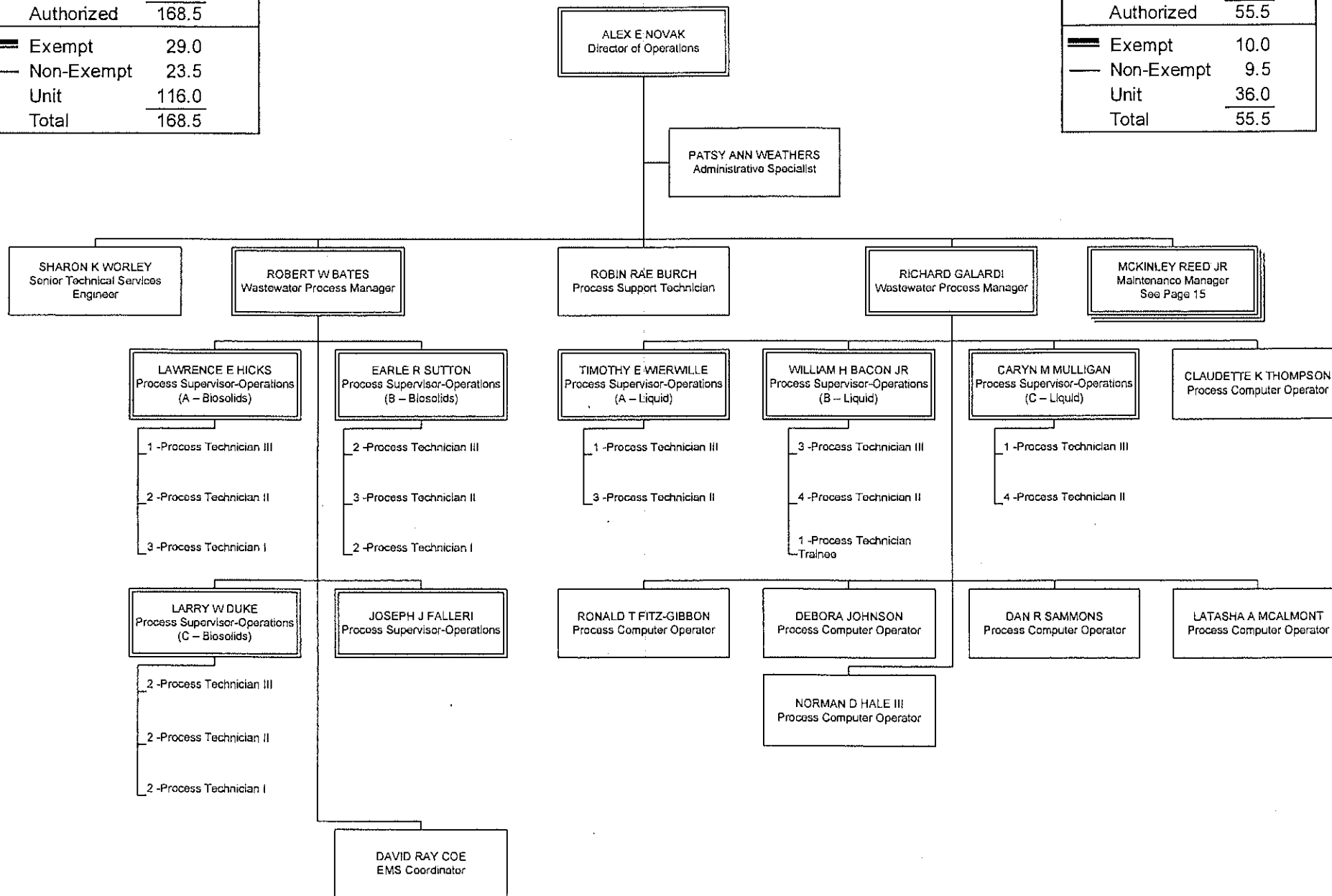
BUDGET STATUS	
Actual	143
Vacant	7
Authorized	150
— Exempt	12
— Non-Exempt	4
Unit	134
Total	150



Operations Division MFWTP Operations

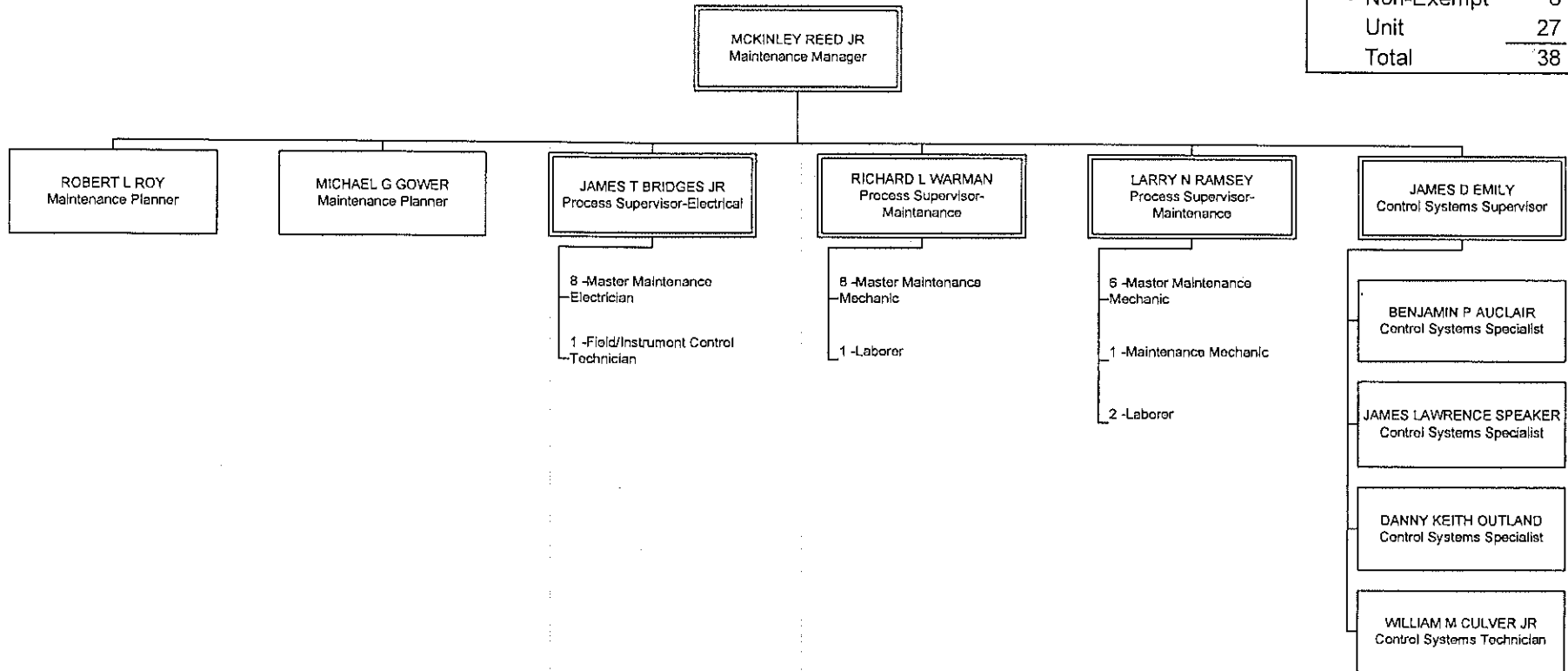
DIVISION BUDGET STATUS	
Actual	165.5
Vacant	<u>3.0</u>
Authorized	168.5
<hr/>	
== Exempt	29.0
— Non-Exempt	23.5
Unit	<u>116.0</u>
Total	168.5

BUDGET STATUS	
Actual	55.5
Vacant	<u>0.0</u>
Authorized	55.5
<hr/>	
== Exempt	10.0
— Non-Exempt	9.5
Unit	<u>36.0</u>
Total	55.5



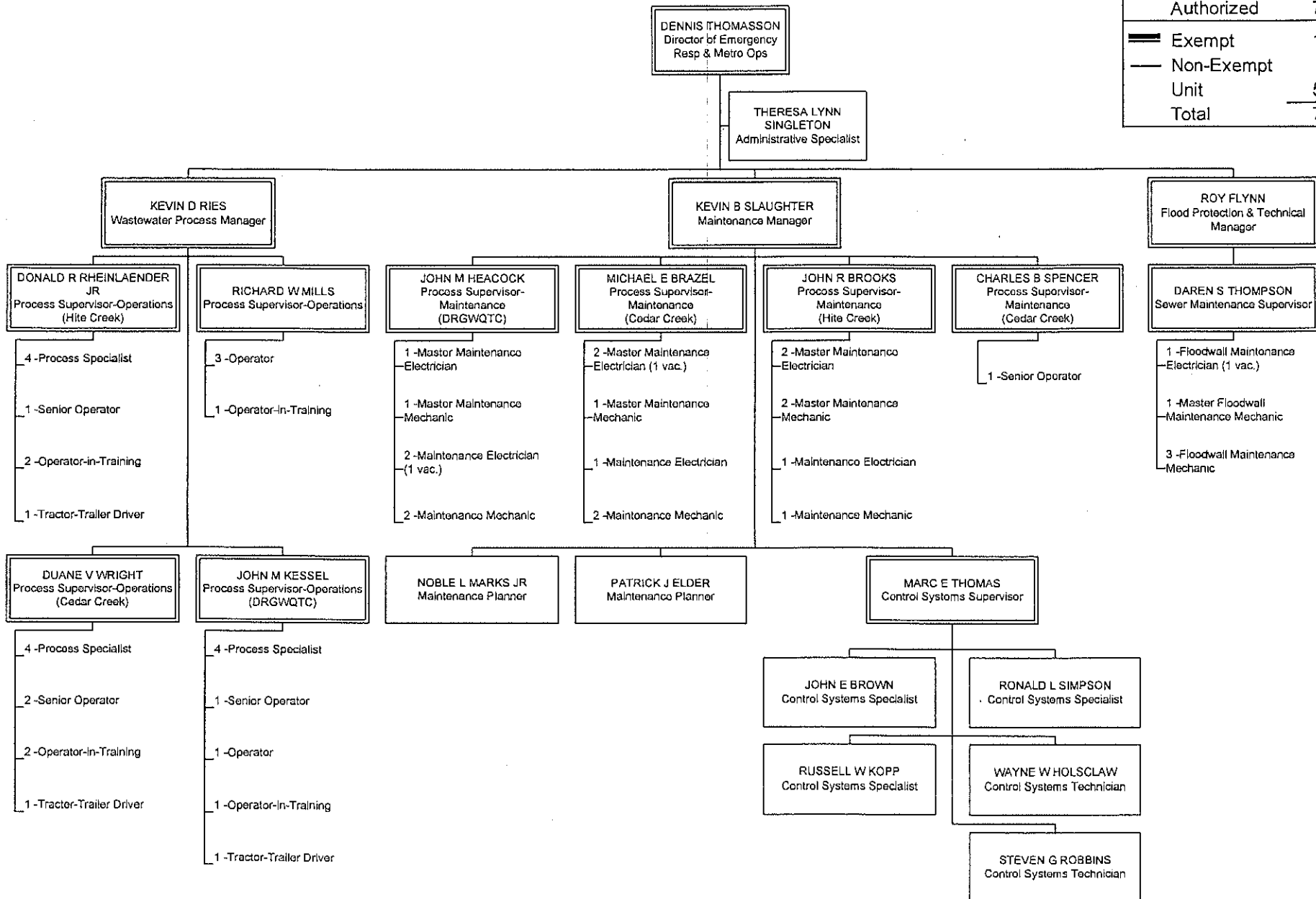
Operations Division MFWTP Maintenance

BUDGET STATUS	
Actual	38
Vacant	0
Authorized	38
█ Exempt	5
— Non-Exempt	6
Unit	27
Total	38



Operations Division Metro Operations & Maintenance

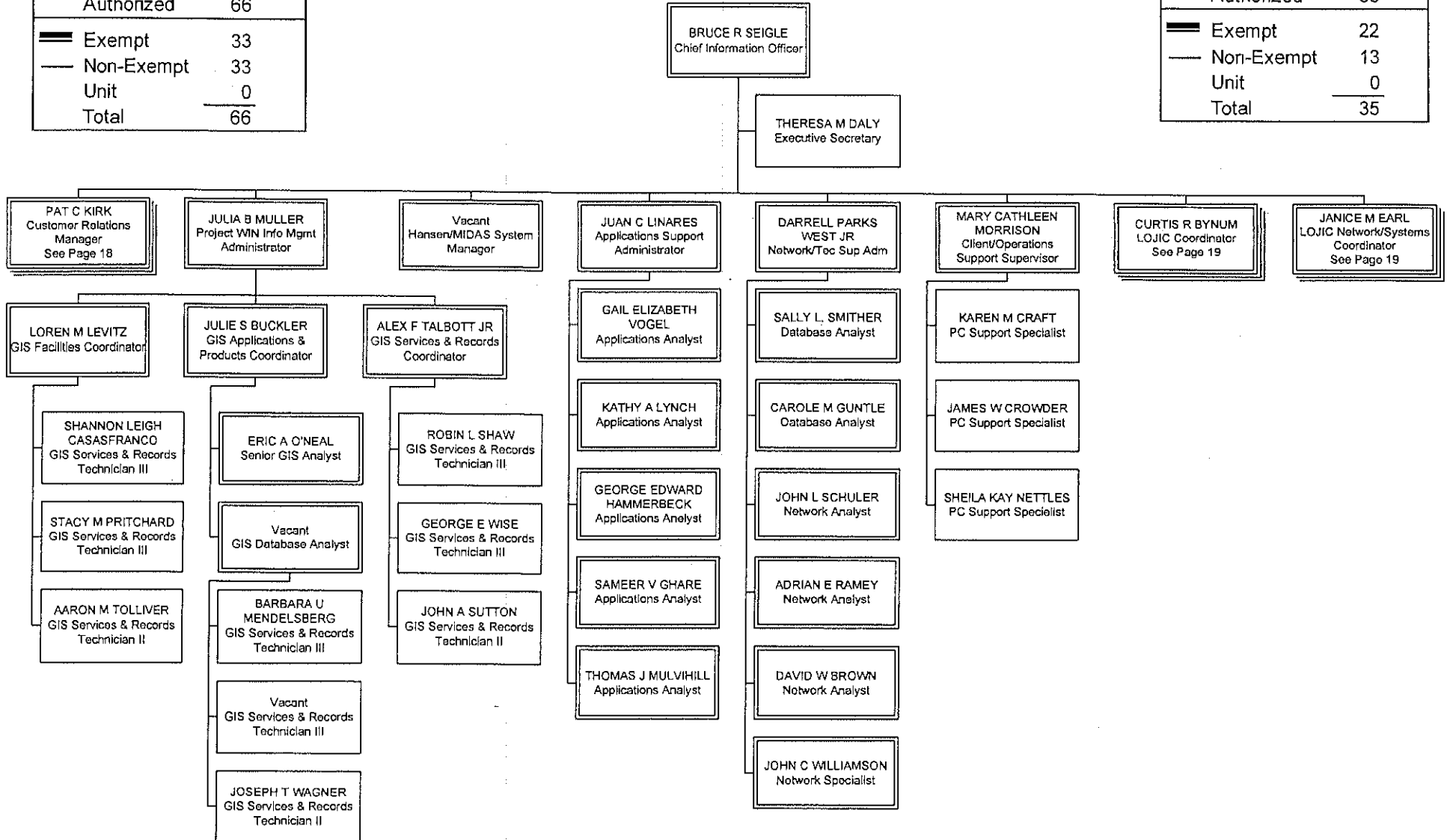
BUDGET STATUS	
Actual	72
Vacant	<u>3</u>
Authorized	75
<hr/>	
Exempt	14
Non-Exempt	8
Unit	<u>53</u>
Total	75



Information Technology Division Information Technology

DIVISION BUDGET STATUS	
Actual	63
Vacant	3
Authorized	66
█ Exempt	33
— Non-Exempt	33
Unit	0
Total	66

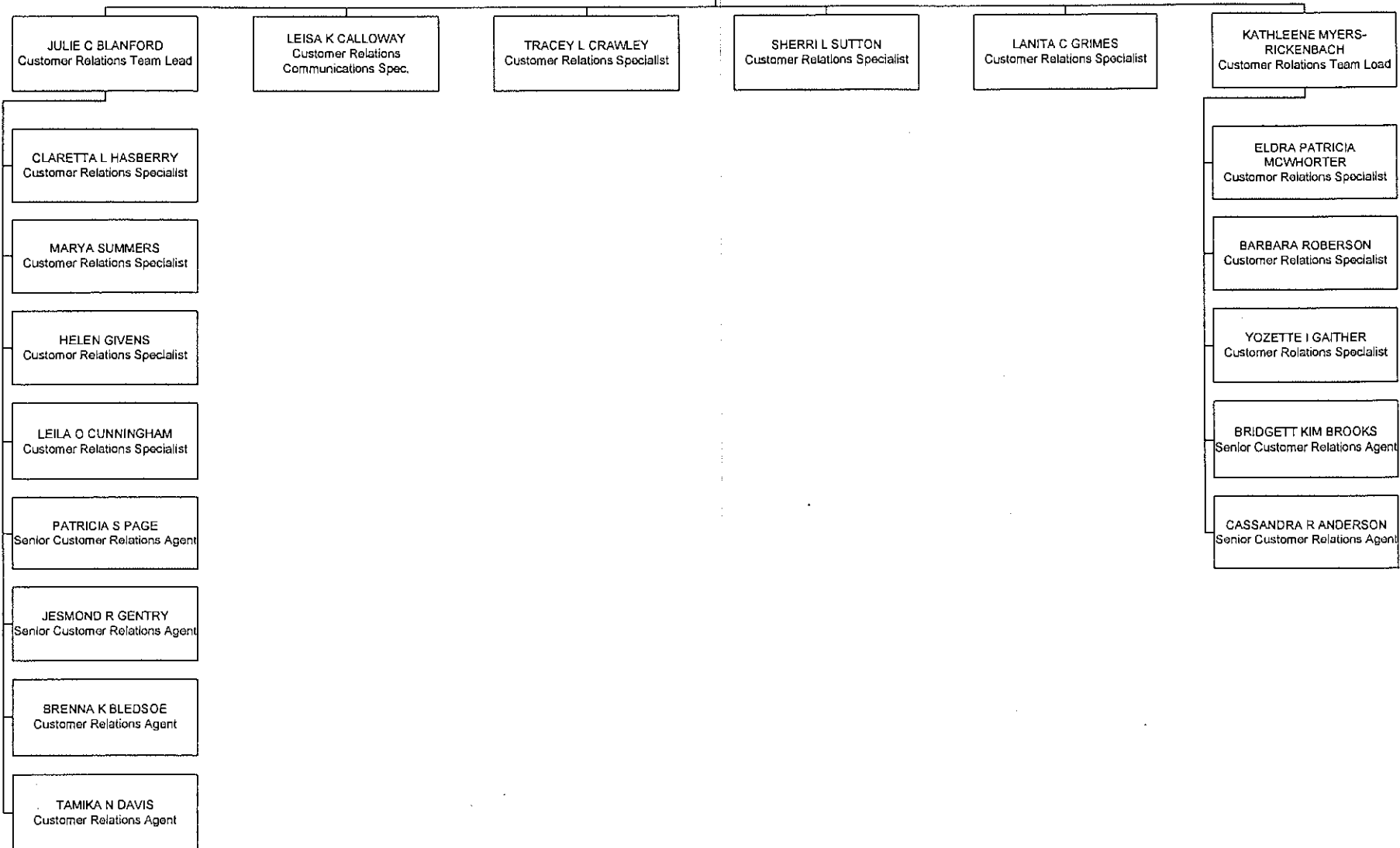
BUDGET STATUS	
Actual	32
Vacant	3
Authorized	35
█ Exempt	22
— Non-Exempt	13
Unit	0
Total	35



Information Technology Division Customer Relations

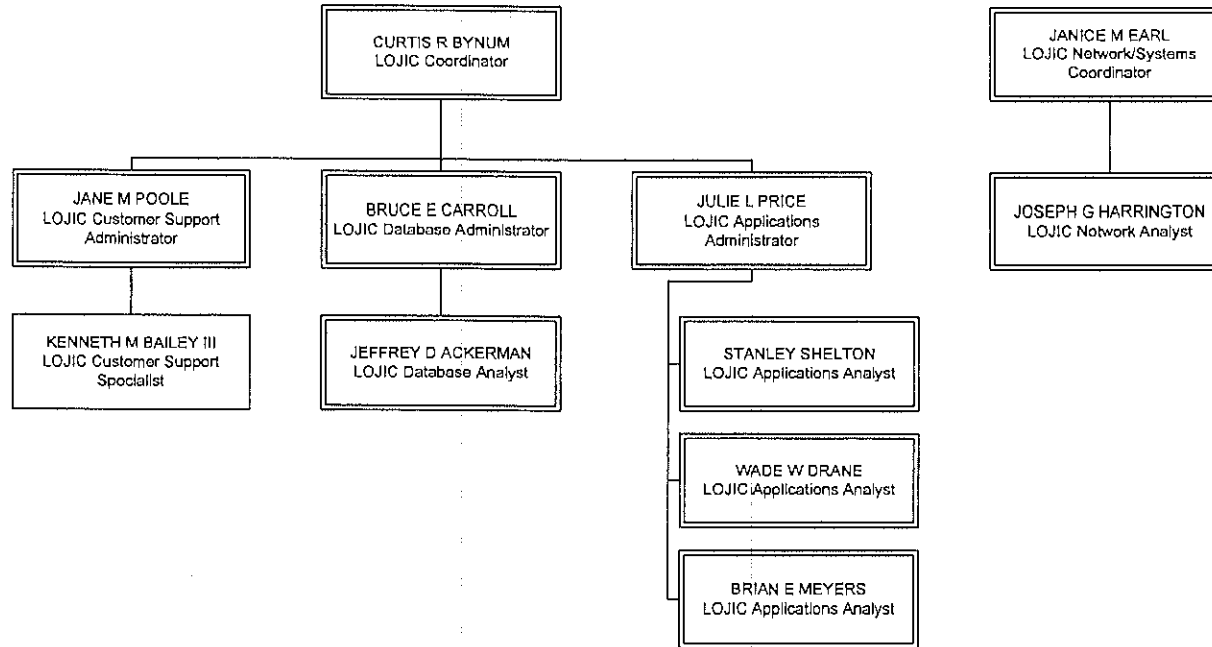
BUDGET STATUS	
Actual	20
Vacant	0
Authorized	20
— Exempt	1
— Non-Exempt	19
Unit	0
Total	20

PAT C KIRK
 Customer Relations Manager



Information Technology Division LOJIC

BUDGET STATUS	
Actual	11
Vacant	0
Authorized	11
■ Exempt	10
— Non-Exempt	1
Unit	0
Total	11





APPENDIX I - FY09 CSSA ANNUAL REPORT





Fiscal Year 2009 Annual Report

Continuing Sewer System Assessment & Gravity Line Preventive Maintenance Programs

Louisville and Jefferson County Metropolitan Sewer District
Written December 2009
Progress Reported through June 30, 2009

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Acronyms and Abbreviations

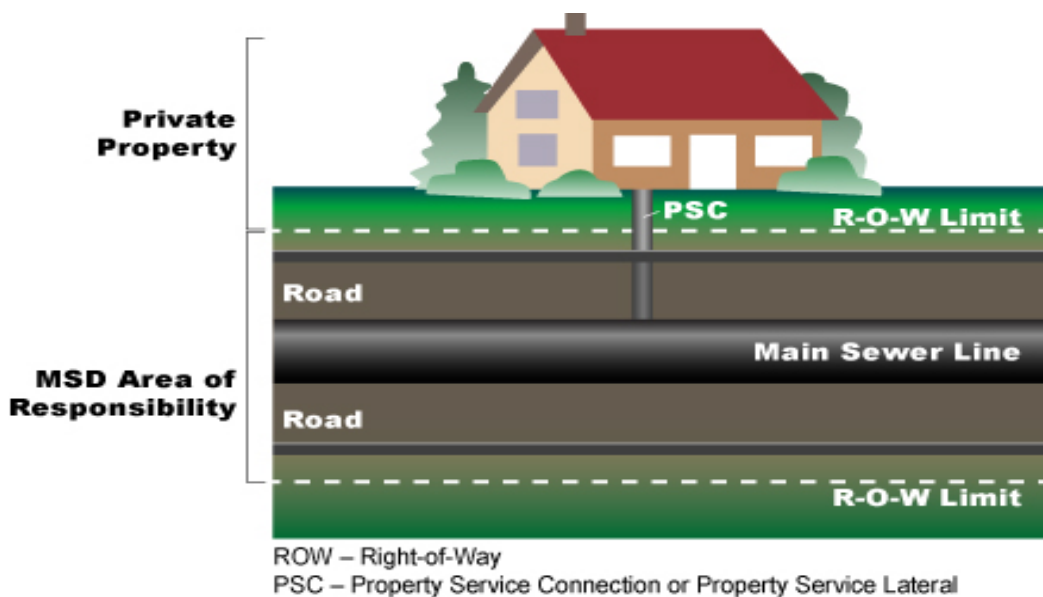
AAM	Advanced Asset Management
BAP	Blockage Abatement Program
CCTV	Closed-circuit television
CMOM	Capacity, Management, Operation and Maintenance
CSO	Combined Sewer Overflow
CSS	Combined Sewer System
CSSA	Continuing Sewer System Assessment
DISDW	Sewer Discharge during Dry Weather
DISREV	Rain Event related Sewer Discharge
GIS	Geographical Information System
GLPM	Gravity Line Preventive Maintenance Program
ICA	Interceptor Condition Assessment
IOAP	Integrated Overflow Abatement Plan
IT	Information Technology
IFP	Infrastructure and Flood Protection Division
I/I	Inflow and Infiltration
LOJIC	Louisville Jefferson County Information Consortium
LTCP	Long-Term Control Plan
MSD	Louisville and Jefferson County Metropolitan Sewer District
NMC	Nine Minimum Controls
PACP	Pipeline Assessment Certification Program
PM	Preventive Maintenance
PSC	Property Service Connection
RS	Regulatory Services
SCAP	System Capacity Assurance Plan
SMFTVI	Sewer Main Formula-based Television Inspection
SOP	Standard Operating Procedure
SSDP	Sanitary Sewer Discharge Plan
SORP	Sewer Overflow Response Plan
SSES	Sanitary Sewer Evaluation Study
SSO	Sanitary Sewer Overflow
TISCIT	Total Integrated Sonar and CCTV Inspection Technology
TM	Technical Memorandum

Introduction

1.1 Introduction, Purpose and Goals

MSD is responsible for the sewer system within the public right-of-way and dedicated easements, which includes a portion of the property service connection (PSC), as depicted in Figure 1-1. The Continuing Sewer System Assessment (CSSA) and Gravity Line Preventive Maintenance (GLPM) programs focus on maintaining the conveyance capacities of the main line sewers and interceptors in the collection system.

FIGURE 1-1
MSD Area of Responsibility



Typically, blockages or structural problems can reduce hydraulic capacity and performance of the collection system. Most blockages, such as roots, sediment, fats, oils, and grease, reduce the hydraulic capacity of the pipe. Sewer cleaning and source control activities are directed toward preventing or reducing the impacts of blockages on the collection system.

Structural defects, such as collapse, cracking, and joint separation, involve the degradation of the sewer pipe itself. Serious structural deficiencies can lead to pipe failure and cause sanitary sewer overflows (SSOs) and backups. Sewer repair and rehabilitation activities are focused on restoring the structural integrity of the pipe.

Through MSD's CMOM Self-Assessment, which was performed as part of the 2005 Consent Decree, the Continuing Sewer System Assessment (CSSA) and Gravity Line Preventive Maintenance (GLPM) programs are currently being defined and implemented. The programs require a defined approach to prioritize, perform, and track the inspection, cleaning, rehabilitation, and replacement of separate sanitary sewer assets on a consistent and prioritized cycle. The two programs are also intended to help achieve compliance with Nine Minimum Controls (NMC) 1 and 2, which require the proper operation, regular maintenance, and maximum use of MSD's combined sewer system.

The CSSA program, of which the GLPM is a part, is an asset management program with the purpose of maintaining the functional and structural integrity of MSD's sewer assets, both combined and separate. The primary function of the CSSA is to prioritize the inspection of all sewer assets based on risk (both probability and consequence of sewer failure) and other programmatic obligations; capture sewer defect data in a standardized, centralized format; analyze data and prioritize and facilitate cleaning and rehabilitation efforts.

As part of the CSSA, the GLPM program implements the sewer inspection and cleaning priorities from the CSSA. The program includes the implementation of the Blockage Abatement Program.

CSSA Program Objectives

The program objectives of the CSSA include:

- Prioritize annual inspection of 10% of sewer system infrastructure balancing various regulatory and operational program needs until entire system has been inspected
- Inspect sewer lines based on the CSSA priority using the standard PACP defect coding criteria and catalog video in a library system
- Capture inspection and rehabilitation data in a manner that facilitates prioritization of assets, life cycle analyses, and reporting for quarterly and annual reporting to the EPA and KDEP
- Analyze condition data for sewer infrastructure to identify systems with structural deficiencies, maintenance issues, inflow and infiltration (I/I) sources, and other wet weather capacity issues
- Identify structural or other system defects and address those that require immediate attention through in-house efforts or capital contract
- Build a sewer video library interface to facilitate viewing access
- For those defects not requiring immediate or emergency action, prioritize those that require rehabilitation or replacement through in-house efforts or bidding through capital means
- Based upon inspection data, prioritization and budget analysis, perform sewer repairs, rehabilitation, or replacement through in-house means, where equipment and personnel capability allow, or through capital projects
- Analyze customer requests, overflow records, and inspection data to define sewer lines for the Blockage Abatement Program and recommend cleaning frequency

- Develop life cycle analysis based on inspected sewer condition and criticality. Assign anticipated inspection cycles to sewer segments based on results (e.g. clean, small diameter PVC lines may have longer inspection cycle than old, large brick sewers with sedimentation and minor structural defects)
- Paired with preventive maintenance, abate sewer overflows and service interruptions caused by structural failures while also removing I/I entering the system through manhole and pipe defects

Gravity Line Program Objectives

- From CSSA inspection data analysis, define the Blockage Abatement Program to periodically clean and/or treat sewers demonstrating moderate or heavy sedimentation, root problems, or blockage from fats, oils, or grease
- Respond consistently and periodically to prevent maintenance-related SSOs from occurring or recurring

Program Implementation

Successfully implementing the CSSA and GLPM programs will require significant effort and coordination among several MSD divisions. Regulatory Services will be charged with the prioritization of sewer assets for inspection, inspection data analysis, sewer maintenance and in-house rehabilitation coordination with IFP and contractors, and rehabilitation prioritization and bidding.

Infrastructure and Flood Protection (IFP) will be responsible for implementing the Blockage Abatement Program and inspecting small-diameter sewers based on CSSA priorities to the extent that customer response demands allow. IFP will also be responsible for cleaning sewers within their equipment capability and availability as identified by the inspection data analysis.

Infrastructure and Flood Protection (IFP) Division

The IFP Division has equipment and staff capable of accessing, inspecting, and cleaning sewers 18-inches in diameter and smaller. The first priority of IFP TV crews, however, is in response to customer requests. IFP also has capability to contract portions of this work beyond MSD crew availability to respond to planned and unplanned (emergency or special conditions) situations for sewers of this size and larger. Under the CSSA and GLPM programs, IFP responsibilities include the following:

- Respond to customer requests for backup investigations
- Implement the Blockage Abatement Program to reduce overflows by periodically cleaning lines that are susceptible to blockages due to fat, oils, grease, roots or sediment
- Flush, clean and inspect sewers less than 18-inches in diameter based on CSSA priority with MSD crews, as availability allows
- Administer the contract for inspection of sewers of various diameters beyond their current internal capabilities for areas assigned in the CSSA prioritization

- Capture standard, PACP sewer defect codes on inspected sewers with entry into Hansen or through data capture means identified by GIS Records and Services
- Distribute video files to the library for cataloging
- Administer contract for chemical root control in sewers up to 48-inches in diameter.
- Inspect, clean, and maintain combined sewer overflow (CSO) structures, controls, and siphons
- Respond to emergency inspection requests, such as, cave-ins, collapses, and damages caused by other utilities.
- Perform emergency repairs if within equipment and resource capability

Regulatory Services (RS) Division

The RS Division is responsible for implementing programs required by regulatory agencies and reporting progress to these agencies on various regulatory programs such as CMOM and NMC. RS has engineering staff sufficient to prioritize and manage multiple capital projects with varying degrees of inspection and rehabilitation needs. CSSA and GLPM responsibilities include the following:

- Coordinate multiple programs (e.g. CMOM, NMC, LTCP, SSDP, SCAP, SSES, SORP) related to combined and sanitary sewer maintenance and operation, and to identify programmatic needs as they relate to CSSA and GLPM activities
- Report quarterly and annually for regulatory compliance
- Prioritize inspections for all gravity sewers related to programmatic needs and on an annual basis, and define 10% of the sewer system for inspection (100% over a 10-year period)
- Develop and administer projects to inspect sewers 18-inches in diameter and greater (or smaller if in an SSES area) as well as sewers with high flow or limited access
- Perform quality assurance/quality control of sewer inspection data including video
- Analyze sewer inspection data to identify and prioritize cleaning locations, sewer rehabilitation and replacement projects
- Develop and administer capital projects to perform cleaning, rehabilitation and replacement
- Perform flow monitoring related to rehabilitation efficacy in I/I reduction
- Identify and prioritize sewers to be placed in the Blockage Abatement Program (BAP)
- Administer the force main inspection program
- Develop and implement life cycle analyses based on inspected sewer condition and criticality
- Identify and implement training needs to successfully implement programs

Information Technology Division – (GIS Services & Records and Information Systems)

The GIS Services and Records and IS departments manage the Hansen asset management system and generate and track GIS information related to MSD assets. CSSA and GLPM responsibilities include the following:

- Direct and identify inspection and rehabilitation data capture requirements and procedures

- Provide training to meet Pipeline Assessment Certification Program (PACP) as well as Hansen record keeping needs
- Provide Crystal and Hansen report development and support
- Develop reports to support rehabilitation scoping and bidding as well as quarterly, annual, and audit reporting to regulatory agencies
- Provide mapping products to support IFP, RS, SSES project and inspection scopes, bid packages, and prioritization activities

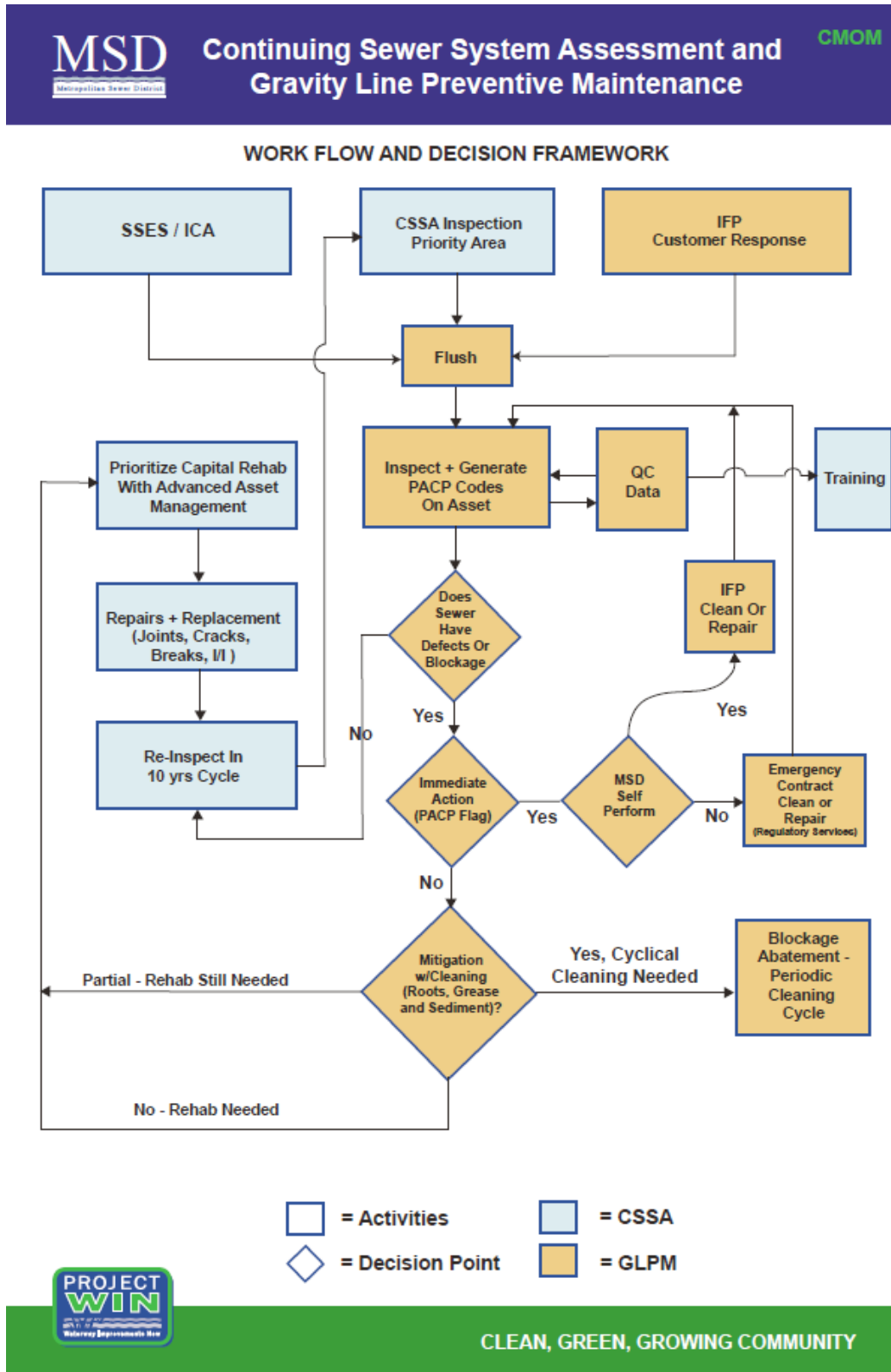
1.2 Continuing Sewer System Assessment Program

Over the next 10 years, MSD will perform an initial system characterization of the gravity sewer system as part of the CSSA Program. The initial system characterization is performed using closed circuit television (CCTV) inspections (or other appropriate technology dependent on flow conditions) in conjunction with manhole inspections. In large diameter sewers, the inspection may be performed by manual entry using confined space procedures. In sewers where the wastewater flow is typically too high for television inspection alone, the CCTV inspection is combined with sonar technology to produce Total Integrated Sonar and CCTV Inspection Technology (TISCIT).

The integration of the CSSA and GLPM Programs is illustrated in Figure 1-2. Sewers are prioritized for inspection through the CSSA Program. The inspections identify structural and operational defects that can affect the performance of the collection system, which then generates cleaning and/or rehabilitation of specific sewer lines. As the system condition assessment is performed, a sewer segment will be assigned a life cycle and criticality, which will then be used to establish a re-inspection cycle. For example, small, clean PVC sewers in neighborhoods will have a much longer re-inspection cycle than 100-year old, brick sewers with minor structural and maintenance defects underneath busy thoroughfares. Sewers that require maintenance will be cleaned and/or repaired based on the severity of the defects or blockages.

MSD has several programs that also require sewer rehabilitation and repair, such as the System Capacity Assurance Plan (SCAP) and Sanitary Sewer Discharge Plan (SSDP). The sewer rehabilitation needs for these programs are considered in the CSSA prioritization and introduce new inspection catalysts such as inflow and infiltration (I/I) reductions, rehabilitation credit needs, and sanitary sewer overflow (SSO) eliminations. Primarily, MSD's Capital Improvement Program funds cleaning, rehabilitation and replacement of the sewers, although some of this work is performed through operational funding on sewer lines under 18-inches in diameter as IFP resources allow.

FIGURE 1-2
Preventive Maintenance Program Decision Process



1.3 Gravity Line Preventive Maintenance Program

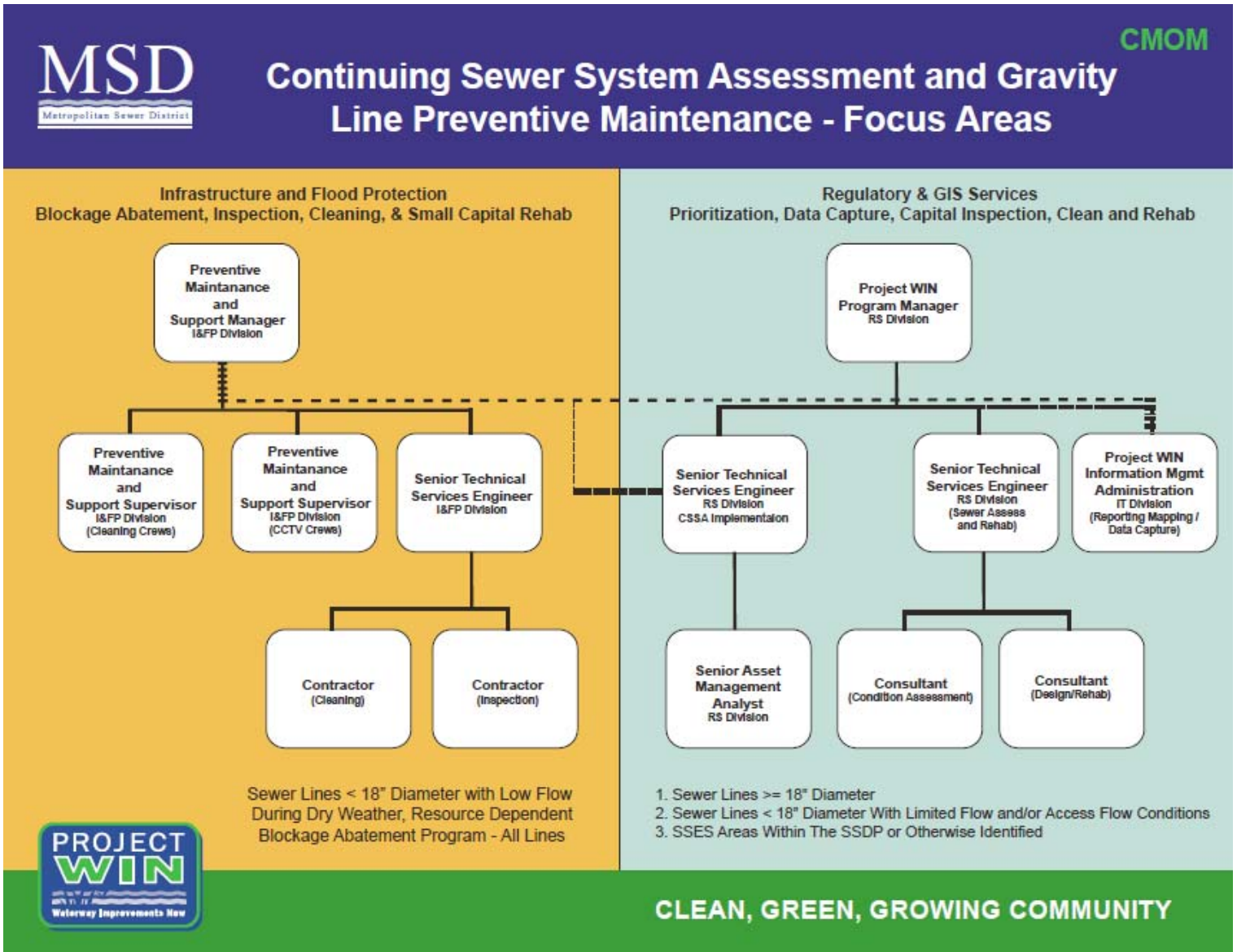
The intent of the Gravity Line Preventive Maintenance Program (GLPM) is to prevent blockages from occurring and to maintain the sewers in the collection system at their design capacities. Under the GLPM, the Blockage Abatement Program (BAP) is the mechanism for accomplishing this objective. It provides a preventive maintenance approach for addressing operational issues. It uses previous event history (i.e. SSOs and back-ups) and condition assessment information to implement activities that prevent or reduce system disruptions from reoccurring. Also, the BAP incorporates results from the CSSA Program to indicate the need for regular hydraulic cleaning and inspection. The BAP discussed in greater detail in Section 2: Blockage Abatement Program.

Program Resources

The GLPM and CSSA programs include a combination of internal and external resources. The staff currently implementing these programs are shown in Figure 1-3. The Regulatory Services (RS) Division provides overall management of the Capacity, Management, Operation & Maintenance (CMOM), Sewer Overflow Response Plan (SORP) and Nine Minimum Control (NMC) Programs. These programs incorporate the GLPM, CSSA, and Sewer Rehabilitation initiatives. The RS Division is supplemented by consultants that perform sewer condition assessment and engineering functions. RS manages the manhole inspections, inspection of larger diameter sewers and sewer inspections related to Sanitary Sewer Evaluation Surveys (SSES) and Interceptor Condition Assessments (ICA) Program. The RS Division also manages sewer rehabilitation projects.

The IFP Division manages the routine maintenance, cleaning, customer response, blockage abatement and overflow response related to gravity sewers. In January 2008, MSD prepared the *Capacity, Management, Operations, and Maintenance Resource and Staffing Impact on Infrastructure and Flood Protection Division* report, which identified the resources needed to meet MSD's cleaning and inspection objectives. The IFP crews are supplemented by contractors that perform CCTV inspection and sewer cleaning services. IFP manages the cleaning and inspection of sewers up to 18-inches in diameter (sometimes larger) based on CSSA priority and customer response needs. The capacity of the crews varies based upon the level of customer response needed.

Figure 1-3 Program Organization Chart



The MSD staff roles as they pertain to the CSSA and GLPM Programs are described below:

1. Project WIN Program Manager – The Project WIN Program Manager in the Regulatory Services division directs and monitors the Capacity, Maintenance, Operations and Maintenance (CMOM), Nine Minimum Controls (NMC) and the Sewer Overflow Response Plan (SORP) Programs. The Manager works closely with other MSD divisions, contractors and consultants.
2. Preventive Maintenance and Support Manager - The Preventive Maintenance and Support Manager in the Infrastructure and Flood Protection Division manages the inspection and cleaning of a portion of the sanitary and combined sewers less than 18-inches in diameter, as resources allow. Contract administrator for assigned inspection areas that exceed IFP's internal resource availability.
3. Preventive Maintenance and Support Supervisors – The Preventive Maintenance and Support Supervisors are assigned to the IFP Division. They supervise MSD's inspection and cleaning crews for a portion of MSD sewers less than 18-inch in diameter, as their resources allow.
4. Senior Technical Services Engineer – One Senior Technical Service Engineer is assigned to the IFP Division and two are assigned to the RS Division. The IFP Senior Technical Service Engineer oversees the contractors performing cleaning and inspection services for sewers assigned to this division through the CSSA program, where internal resources are limited.

The RS Senior Technical Service Engineers administer the CSSA and GLPM programs, which prioritize combined and separate sewers for inspection, cleaning and rehabilitation, as well as the capital inspection, cleaning, and rehabilitation projects outside of IFP resource capability. The engineers assist in managing the SCAP, LTCP, and SSDP for the division, which have sewer rehabilitation needs.

5. Project WIN Information Management Administrator – The Project WIN Information Management Administrator maintains the Hansen system, which tracks inspection work orders, system defects, and rehabilitation work for MSD sewer assets. In addition, this Administrator facilitates report production, generates GIS data and mapping to support these CMOM and NMC efforts.

Communication and cooperation between staff of the various divisions is critical for the successful implementation of these programs.

Continuing Sewer System Assessment

2.1 Introduction

The purpose of the Continuing Sewer System Assessment (CSSA) Program is to proactively manage the structural and functional integrity of MSDs collection system and reduce sewer overflows by developing a sewer maintenance program based on the probability and consequence of failure of its collection system assets. This section documents the methodologies for condition assessment, prioritization and the proposed projects for Fiscal Year 2010. At present, MSD expects to implement a system-wide inspection of all combined and separate sewer lines 8-inches in diameter or greater by inspecting approximately 10 percent of the system each year for 10 years. Information such as pipe condition and defects gathered from these inspections will be entered into the Hansen system. The Hansen system and its AAM software extension are discussed subsequently in this report.

2.2 Condition Assessment Methodology

2.2.1 Role of Sewer Condition Assessment

Sewer condition assessments are performed by MSD to identify sewer performance status and possible impacts relative to emergency or system failure situations. Also, MSD must assess conveyance performance through inspection and prioritize sewer cleaning and rehabilitation in relation to other sewer assets. As an industry practice, condition assessments are usually expressed using a numerical scale. The scale is bounded by the condition of the sewer pipe at the time it was installed versus the sewer's condition at the point where it fails to perform its intended function, such as a collapsed pipe for example. MSD has chosen National Association of Sewer Service Companies' Pipeline Assessment Certification Program (PACP) to score sewer defects using their grading scale of 1 to 5. MSD also has documented a large amount of sewer defects rated through an internally defined system that will be converted into the PACP scale to create a common scale throughout the asset system.

A cursory assessment using sewer age and material enables MSD to determine if the sewer might be performing as expected or underperforming based on its age and material. If the sewer is determined to be highly probable for underperforming (in poor condition), condition assessment inspection activities can identify if it is truly in poor condition, reveal the defects causing the condition, and allow corrective actions to be prioritized and scheduled relative to other sewer assets.

This prioritization process is formalized using a risk-based approach that not only considers the condition (a primary input parameter for computing Probability of Failure) of the sewer but also the impact (Consequence of Failure) of failure upon the affected surroundings. Post construction condition assessment of rehabilitation projects and selected major cleaning projects can be used to confirm the asset was installed properly and reset the sewer rating to a better

condition. As the CSSA Program is implemented across the entire system, inspection of new sewers will be prioritized for inspection along with other sewer assets. The result of prioritization will likely indicate the presence of higher risk assets of older age to which MSD must direct inspection resources for condition assessment.

MSD is able to make better corrective action decisions when it considers both the Probability of Failure and Consequence of Failure of its sewer assets rather than just the Probability of Failure. Risk, the product of Probability of Failure and the Consequence of Failure, is described in the sections below.

2.2.2 Condition Assessment Data and Sources

The condition assessment process does not rely on data strictly from detailed closed circuit television (CCTV) inspections of the pipe's interior. If it did, then MSD would be delayed from implementing the asset management prioritization program because it would take years to gather the data. Rather, MSD has a choice of three condition assessment data source integrity levels to employ for the calculation of Probability of Failure (POF) in the risk equation. The approaches are sequenced and listed below according to a progressive knowledge level of the pipe's condition.

- **Level 1:** POF curves and tables based on pipe material and pipe service life age. The pipe material and installation date are readily available or assumed and the POF quickly computed from MSD's existing Hansen database information. This level is primarily used to direct inspection efforts combined with other programmatic pressures (e.g. SSDP, SCAP).
- **Level 2:** Level 1 conditions are overridden based on the condition assigned to the pipe from the staff's institutional knowledge of pipe condition gained from work performed on the sewers and captured in the Hansen work order and SAP financial data systems. Maintenance and engineering staff collectively discuss and document their knowledge and experiences with the sewers and assign condition grades using common criteria and examples as guidance for Level 2 to work effectively. Again, this level is primarily used to direct inspection efforts combined with other programmatic pressures (e.g. SSDP, SCAP).
- **Level 3:** Level 1 and 2 conditions are modified based on the aggregate of available information gathered from multiple activities associated with the sewers, including actual condition assessment. Information will include the pipe's attribute information, investigation data, external factors and stresses acting on the pipe, and internal pipe condition obtained based on CCTV, sonar, TISCIT, inclinometer, or other testing data. Sewer modeling and flow monitoring will also provide condition data on areas that experiences high levels of inflow and infiltration, which may move areas up in priority. This level is usually developed over the long term after data management systems and training are in place and can be automated using more robust features of asset management software. Level 3 data will be used primarily to prioritize and implement the ongoing cleaning and rehabilitation programs at MSD.

2.2.3 Advanced Asset Management (AAM) Software Module

MSD recently expanded Hansen with the Advanced Asset Management (AAM) module, which is an add-on analysis tool for the baseline condition inspection data stored in Hansen. This extension provides a more complete tool for proactively managing MSD's assets. The software assists in life cycle planning and budgeting by managing risks associated with the failure of each sewer asset and determining the most cost-effective timing for rehabilitation or replacement.

Once enough inspection data is gathered, AAM will provide infrastructure decision support, predictive modeling, and renewal analysis for long-range capital planning of assets. For a basic analysis of inspection priority, sewer age, size and material are used to determine those most in need of condition assessment. This basic analysis is then combined with other programmatic needs analyses, such as those done for the SSDP, SCAP, or NMC, to determine the 10% of the system to be inspected in a fiscal year.

Following inspection, with the proper data imports, AAM reports will help optimize the rehabilitation or replacement prioritization process as assets approach the end of their useful life. The software uses the condition assessment information to identify those assets with the most severe defects and highest consequence of failure, which demand the highest priority of MSD funds. For example, a 120" sewer with documented, severe structure defects underneath a major street artery or near a stream may be given a higher funding and rehabilitation priority than an 8" sewer in a residential neighborhood with similar severe defects.

To do this, the AAM module uses sewer condition tables to calculate the Probability of Failure (POF) of an asset. A sewer Consequence of Failure (COF) rating is also identified by MSD to calculate the asset's COF Score. The AAM combines the POF and COF scores to produce the risk score for particular sewer assets.

2.2.4 POF and COF Development

MSD developed a Technical Memorandum (TM) titled, *Basis for Development of Probability of Failure Curves and Tables for MSD's Application with Hansen's Advanced Asset Management Module*, which present, in considerable detail, the assumptions and basis for the recommended POF tables.

The TM produced POF curves and tables for the following pipe materials: concrete, clay, asbestos cement, and PVC. A generic relationship table was developed for the remaining pipe materials. Figure 2-1 shows an example POF curve for concrete pipe based on the pipe's service life age taken from the TM.

The remaining service life may be computed from the pipe's condition rating. Figure 2-2 shows an example Remaining Service Life curve for concrete pipe based on the pipe's condition.

The COF of an asset is half of the risk equation. COF of an asset measured by developing a spreadsheet table that included MSD's Wet Weather Team's stakeholder consensus values on

one axis and developed criteria that was scaled on the other axis to measure the severity to each value under the presumption that the asset had failed.

FIGURE 2-1
Example POF curve for concrete pipe based on service life

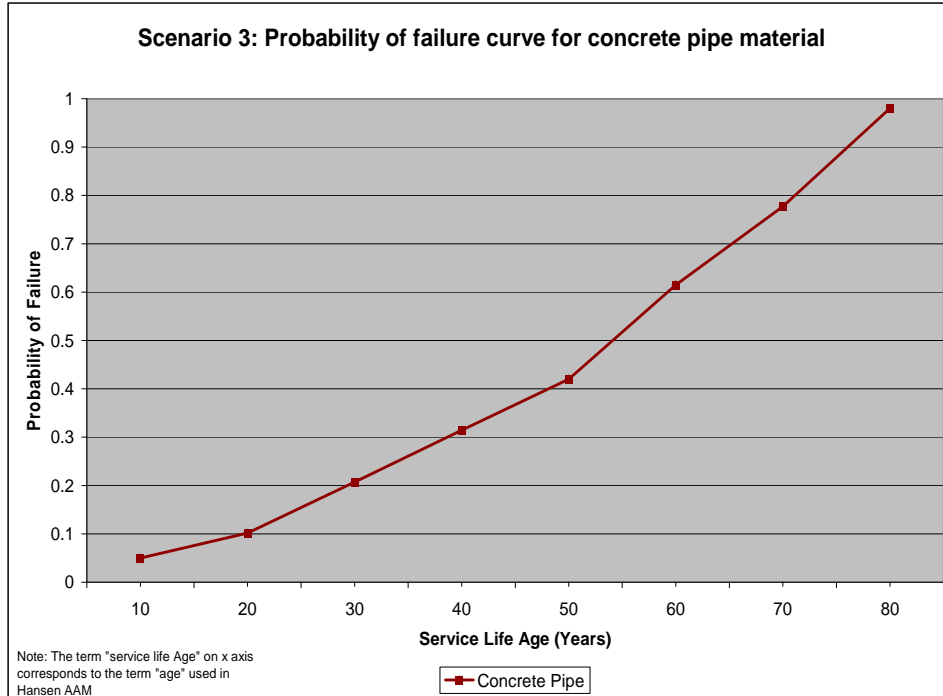
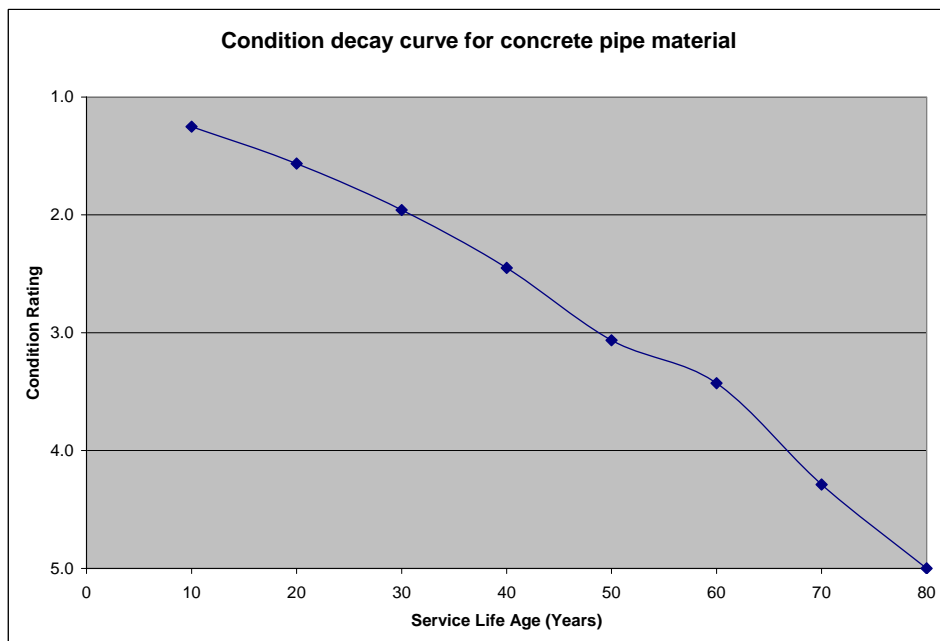


FIGURE 2-2
Example Remaining Service Life curve for concrete pipe



2.3 Ongoing Continuing Sewer System Condition Assessment

MSD's approach to its CSSA Program is to streamline the asset management process so that the inherent value of the inspection, cleaning, and rehabilitation data would be readily and efficiently available for evaluation and decision-making. As illustrated from the above discussion, there are numerous MSD programs and activities that contribute to the data flow and that must integrate with Hansen and AAM. In addition, data collection protocols and practices have to be verified or revised to support more advanced and proactive asset management requirements.

MSD made several assumptions such as the pipe material service life; how to organize the assets in the AAM; what would be the replacement cost; what overall data was needed to support the risk computations; and what level of data integrity approach should be used. A list of the basic assumptions are listed and explained in the sections below.

Pipe material service life: Service life is commonly defined as the length of time until the sewer pipe ceases to provide the required level of service because of physical deterioration or performance limitation of the pipe. Capacity limitations were not considered and will be evaluated as part of MSD's wet weather planning.

The determination of service life age of a sewer pipe requires a combination of engineering judgment, review of technical analysis results, and/or an understanding of the general failure history of the pipe material in the particular system. It involves deciding on the probability that any given asset of a specific pipe material is going to fail in a specific period because we know there is actually a time distribution of failures for the pipe material. Service life age will vary for the same pipe material depending on multiple factors influencing the pipe, for instance, pipe-bedding material, pipe bedding compaction techniques, pipe depth, temperature of the wastewater, character of the wastewater, and ground water fluctuations,. Results of this type of analysis are shown in Table 5-1.

TABLE 5-1:
Pipe Service Life Age

Pipe material	Service Life Age (Years)
Concrete	80
Vitrified Clay/Brick	100
Asbestos Cement	80
PVC	75
Generic Pipe	80

Asset Grouping: Even though the Hansen and AAM software are integrated and the risk calculation will eventually be automated, approximately 100,000 sewer main assets exist in Hansen and would initially take considerable time to populate the data required by the AAM module to run effectively for each individual line segment. A common practice in asset

management programs is to group assets according to common functions, characteristics, or traits because they exhibit the same probability of failure.

Replacement Cost Data: Asset Replacement cost tables have been developed for pipes and manholes of various size ranges.

Data Integrity Level Approach: The CSSA Program is intended to help guide MSD organizational activities that lead to having Level 3 data integrity for all the assets over the coming years. The initial service area processing through AAM allowed MSD to go through the data programming and setup where all three condition data levels existed and decide how that data knowledge should best be distributed to each asset. In the early stages of the work, all three data integrity levels were assumed to be needed and therefore resultant POF curves related to service life were developed. MSD's intent was that the level of condition data would supersede the lower level as it became available for an asset, effectively combining the 'remaining life' risk assessment and 'condition-based' risk assessment.

After reviewing the capabilities of the AAM software, MSD discovered that either risk assessment based on condition inspection data or on remaining life (age/material driven) must be chosen without mixing the two methods within the AAM. MSD chose the condition based risk assessment in order to use the more detailed data. For the initial service area, this limitation required MSD to assume a condition of '1' or 'Excellent' for any asset that had no inspection data, which is not an accurate representation of condition or risk. If implemented system wide, this assumption would skew risk results for approximately 75% of MSD's system that had no inspection data.

In moving toward full system implementation, MSD may create a method of coding an 'assumed' condition based on age/material/location within Hansen on each asset prior to importing into the AAM system, to facilitate the prioritization of sewer inspections to obtain higher levels of data. The 'assumed' condition would be superseded in IMS when an inspection work order was completed on the asset. This approach will allow a more factual condition and risk to be associated with assets with no condition inspection data and provide a more accurate, system-wide view of risk. If this is not feasible, MSD will still use assumed condition by other means in combination with other program needs to identify an annual 10% of the sewer system for inspection, and subsequent prioritization of rehabilitation using this data.

2.4 Proposed FY2010 Projects

MSD has identified approximately 615 miles of sewer for inspection in fiscal year 2010 (see following map). This mileage will be initiated through various internal and capital efforts in FY10 and MSD will complete at least 320 miles throughout the fiscal year. If the 615 miles not all inspection in FY10, remaining mileage will be counted toward FY11 mileage along with additional FY11 priority lines and areas that will be identified in FY10. In some cases, the sewers in these areas will have only an internal condition assessment performed using CCTV, sonar, TISCIT, or man-entry technology while others will at least begin an additional level of detail gathered using manhole, smoke and dye testing, as well as private property investigations for illicit connections as part of Sanitary Sewer Evaluation Studies. The CSSA/GLPM programs will be implemented and reported on a fiscal year basis in conjunction with annual reports submitted by December 31st and to fit with MSD budgetary cycles. Prior to

FY10, MSD completed approximately 110 miles of formula-based television inspection (see second map below).

In order to identify the sewers for inspection for FY2010, the following programs are considered:

- Continuing Sewer System Assessment (CSSA)
- Integrated Overflow Abatement Plan (IOAP)
- Nine Minimum Controls 1 & 2
- Sanitary Sewer Discharge Plan (SSDP)
- System Capacity Assurance Plan (SCAP)

Through the CSSA, those assets with the highest risk of failure will be the basic principle used to prioritize MSD sewers for inspection and, if necessary, cleaning and rehabilitation. The CSSA inspection areas will be prioritized based on those sewers having both the highest probability and consequence of failure based on pipe age, material and location as well as system knowledge. For the coming fiscal year, this basic principle for prioritization will be roughly applied to identify both separate sanitary and combined sewers for inspection, in order to serve both CMOM and NMC objectives. In future fiscal years, as the CSSA program matures, this principle will be applied in a more detailed manner.

In order to address sanitary sewer overflows in the collection system, MSD has prepared a Final SSDP, which was submitted in December 2008 as Volume 3 of the Integrated Overflow Abatement Plan (IOAP). The SSDP has identified areas within the collection system that require Sanitary Sewer Evaluation Surveys (SSESs) to eliminate, either wholly or partially, sanitary sewer overflows. An SSES is an inspection process that identifies sources of infiltration/inflow (I/I) in the collection system, both through sewer defects and illicit, private connections. These areas will be given an appropriate priority within MSD's CSSA and GLPM Programs for inspection and rehabilitation to meet regulatory obligations for FY2010.

MSD has also developed a System Capacity Assurance Plan (available through the Project WIN website), which requires I/I reduction credits in areas that have capacity limitation, at a 3:1 offset to new flow requests by development (i.e. 3 gallons of I/I removed for each gallon of new flow approved into the sewer system). Areas needing these credits will be considered in assigning inspection, cleaning, and rehabilitation priorities for FY2010.

In addition to these programs, MSD will encounter situations requiring modifications to the sewer prioritization due to operational issues and event based incidents. The priority will be adjusted to direct resources where deemed most important.

The upcoming priority sewer inspection areas have been identified in the following map. As previously mentioned, these areas and sewer lines encompass more than 615 miles of MSD's overall conveyance system, which will cover the FY10 mileage targets and carry into FY11 efforts. As previously stated, the areas identified may be modified during the year to address more immediate needs as they arise.

In addition to the inspection projects, cleaning, rehabilitation and replacement projects will be performed utilizing inspection data that was gathered during Interceptor Condition Assessment

(ICA) Phases I, II, and III (ongoing) as well as newly gathered data throughout the year. Additional inspection data from MSD crews will also be utilized in defining rehabilitation projects.

SECTION 3

Gravity Line Preventive Maintenance Program

3.1 Introduction

As part of the CSSA, the GLPM program implements the sewer inspection and subsequent cleaning priorities from the CSSA, and maintains sewer lines in the Blockage Abatement Program for routine cleaning. The lines in this program will be identified through activities and analysis in the CSSA program.

- Inspect sewer lines based on the CSSA priority using the standard PACP defect coding criteria and catalog video in library system
- Based on CSSA recommendations, clean selected sewer lines on schedule outlined in the Blockage Abatement Plan to prevent overflows or backups from recurring due to FOG, roots, or sedimentation
- From CSSA inspection data analysis, clean sewers demonstrating moderate or heavy sedimentation, root problems, or blockage from fats, oils, or grease
- Based upon inspection data analysis from CSSA, perform immediate sewer repairs through in-house means, where equipment and personnel capability allows, or through capital project
- Respond consistently and periodically to prevent blockage-related SSOs from occurring or recurring

3.2 Blockage Abatement Program

The primary objective of MSD's Blockage Abatement Program (BAP) is to prevent recurring blockages from causing SSOs or back-ups in the wastewater collection system. To meet that objective, MSD will perform inspections, hydraulic cleaning, and/or root removal on a more frequent basis based on condition assessment and system performance criteria.

Prior to the implementation of the CSSA and GLPM programs, MSD implemented a Preventive Maintenance (PM) program that targeted specific areas for periodic cleaning, based upon overflow history. MSD also grouped assets together for routine flushing on a more frequent basis. These 'PM Clean' areas and routine sewer flush groups did not encompass an analysis of the entire gravity system, as is now required by the CMOM and NMC programs. Over the next 10 years, the CSSA and GLPM programs will capture initial conditions for MSD's collection systems and identify areas in need of cleaning and rehabilitation. Using this inspection data along with customer request and discharge records, the blockage abatement program is intended to replace the PM cleaning and routine sewer flushing program by specifically defining a list of sewers for periodic cleaning due to recurring sediment, roots, or grease problems.

3.3 Prioritization System

Since the amount of sewer inspection data is currently limited to a small portion of MSD's system, past customer requests, overflow records, PM cleaning data, and sewer flushing data will be reviewed to generate a list of the sewers to be initially included in the Blockage Abatement Program (BAP). The sewer assets included in this program will be based on reported and documented overflows that were due to blockages in the sewer lines caused by sediment, roots, or grease. MSD will assess the data to ascertain which sewer lines have had multiple overflow reports that were identified as being caused by a sewer blockage.

MSD will add a line segment to the BAP when work order, customer service or inspection data supports that the segment has a maintenance related defect that should be addressed periodically. Sewer lines included in the BAP will be assigned an inspection and maintenance frequency to address the defects supported by this information. Prescribed maintenance activities assigned to the line segment will be determined by the nature of the system problem (i.e. roots, grease, sediment, debris, etc). The initial cycle assigned to a sewer line will be adjusted as deemed appropriate after subsequent activities on the line provide additional information on the recurrence and severity of the maintenance issue. MSD will review the segments within the BAP to determine if a capital project could cost-effectively correct the recurrence and eliminate the need for frequent maintenance.

SECTION 5

Data Management and Reporting

To support the CSSA and GLPM programs, MSD is developing data management and reporting tools that will facilitate the implementation and tracking of the programs.

4.1 Information Management Systems

The GIS Services & Records and Information Systems Departments provide support to the GLPM and CSSA Programs and routinely provide geographic and database (Hansen and LOJIC) information, tracking and coding tools, quality assurance/quality control (QA/QC) tools, and custom reporting. This data consists primarily of the following:

- Sewer location, slope, depth, material, age, diameter, flow direction, and catchment area along with a history of customer service requests and work orders
- Sewer main formula-based television inspection work orders and video that capture data in Pipeline Assessment Certification Program (PACP) coding format
- Work orders tracking cleaning and rehabilitation efforts on each asset
- Custom reporting and mapping to support the implementation, quality control, and progress reporting for both programs

In addition, a procedure manual entitled *Infrastructure and Flood Protection Procedures* is used by relevant MSD staff and contains detailed Hansen instructions and procedures for work order and service request completion. IFP work orders are generated in Hansen based on specific assets and activities to be performed. In addition, a history of all customer service requests, inspections, and work orders is maintained in the system attached to each asset. This data is integrated with GIS information to display a geographic view of assets and work order location.

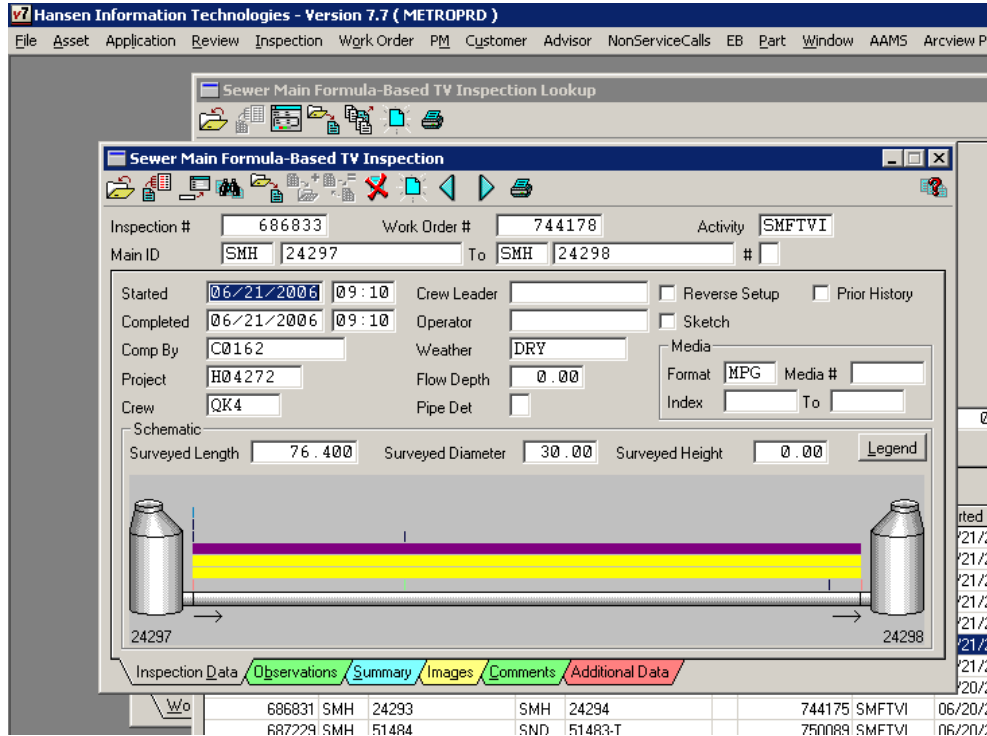
MSD has divided the collection system into 11 credit catchments that correlate to catchments defined for the SCAP and roughly correspond to the extent of each of MSD's sewer models. Each catchment area is subdivided into sub-basins. Sewer inspection, cleaning and rehabilitation activities are planned, managed and tracked using these sub-catchment areas.

As mentioned above, Hansen directly interacts with the countywide GIS system (LOJIC). The integration of these two systems enables MSD to spatially display the information contained in Hansen on maps for analysis and presentation purposes, which aids considerably in the successful implementation of many MSD programs.

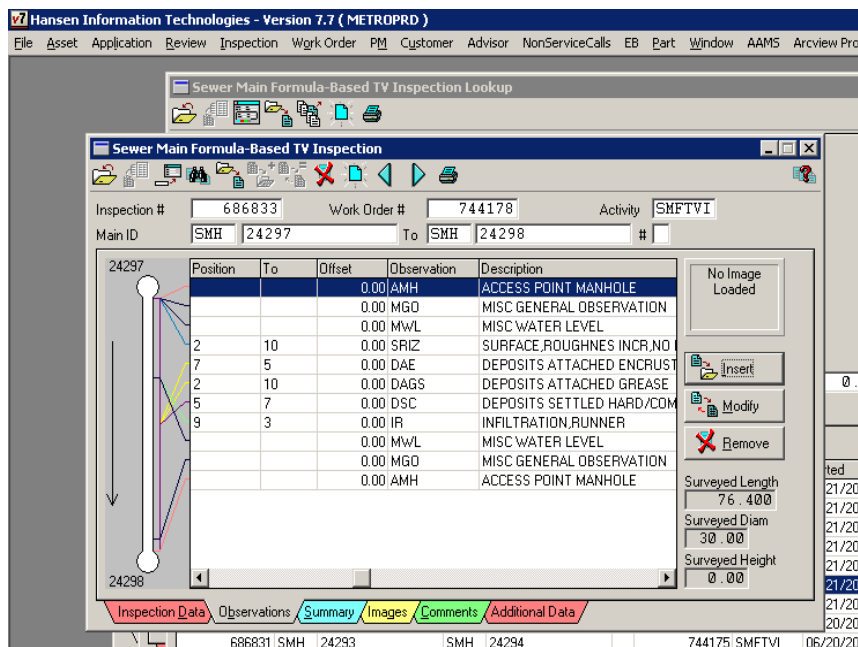
Data and information gathered from the initial system characterization is entered into the Hansen database for storage using Sewer Main Formula-Based Television Inspection (SMFTVI) work orders. Hansen uses a graphical user interface through which MSD enters critical observations such as pipe segment identification, pipe defects, and any additional information useful for assessing the pipe's condition. As the amount of data increases, inspection data will

be analyzed using the Advanced Asset Management software discussed previously. Figures 5-1 and 5-2 below illustrate two of Hansen’s typical graphical user interfaces, as used by MSD staff.

**FIGURE 5-1
Hansen’s Graphical User Interface; Inspection Data**



**FIGURE 5-2
Hansen Graphical User Interface; Observations**



Additional data capture measures, storage, and quality control procedures will be implemented in FY10 to ensure the quality of the information on which MSD is basing cleaning and rehabilitation activities.

4.2 Performance Measures

MSD's has developed performance goals for these programs. Performance goals include an annual reduction of overflows due to blockages (roots, obstacles, or grease) as well as reducing capacity limitations.

Performance Goal Measurements (Outcomes)



- # Discharge WOs with an Activity Code DISREV (discharge during a rain event)
- # Discharge WOs with an Activity Code DISDW (discharge during dry weather)
- # Discharge WOs with a Problem Code of OBST (obstruction)
- # Discharge WOs with a Problem Code of ROOT (roots)
- # Discharge WOs with a Problem Code of GB (grease blockage)
- # Discharge WOs with a Problem Code of STRUCT (structural)
- # Reoccurring WOs associated with main line problems

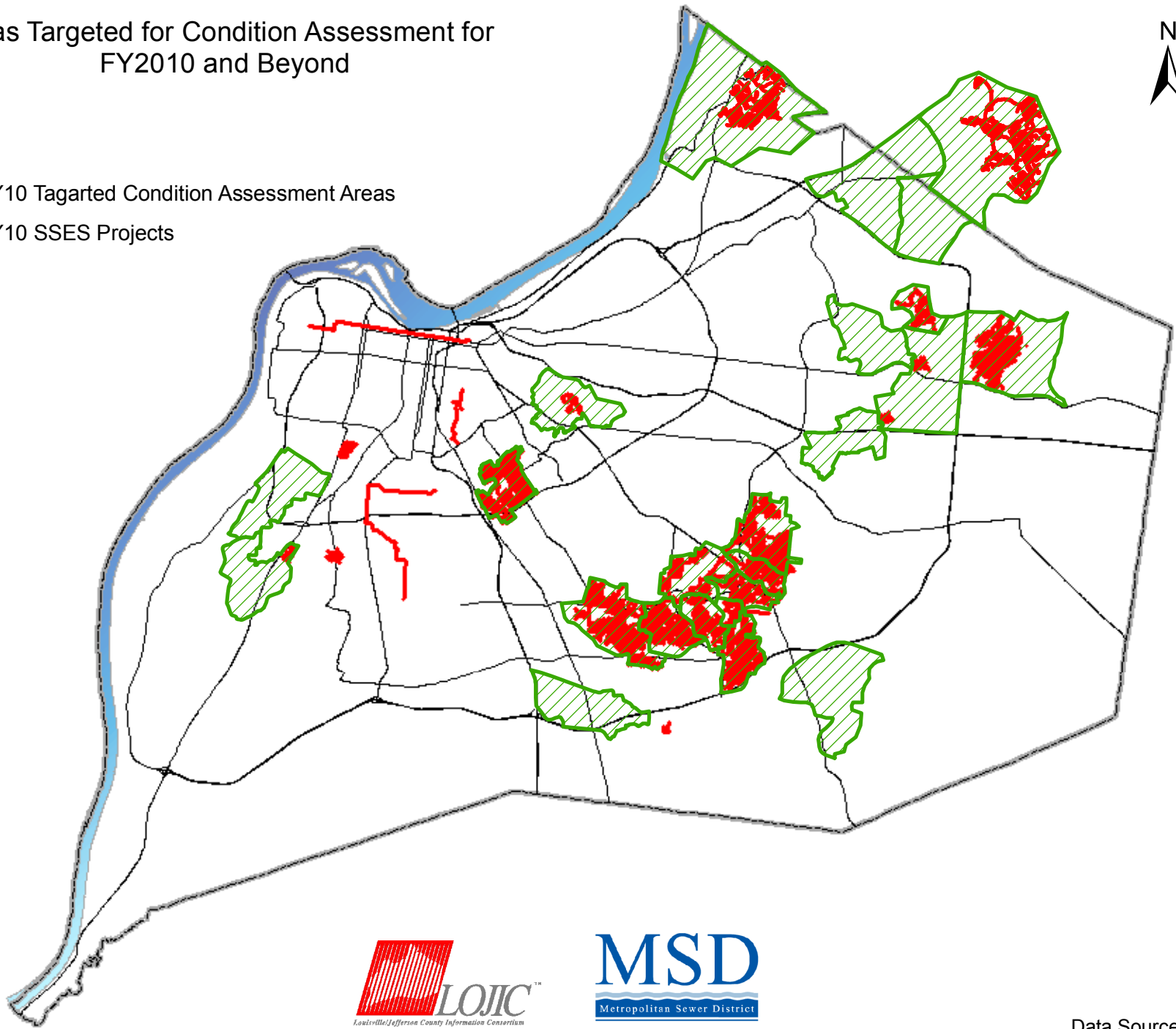
To ensure the accomplishment of these goals, MSD also monitors the performance metrics for various activities described in this document and adjust resources accordingly, as follows:

- Linear feet (LF) of main lines flushed
- Linear feet of main lines inspected with SMFTVI
- # manholes inspected
- LF of main lines vactored
- LF of main lines root cut
- LF of main lines chemically treated
- # manholes repaired
- % scheduled preventive maintenance
- # corrective maintenance work orders on main sewer line

Areas Targeted for Condition Assessment for FY2010 and Beyond



-  FY10 Tagarted Condition Assessment Areas
-  FY10 SSES Projects

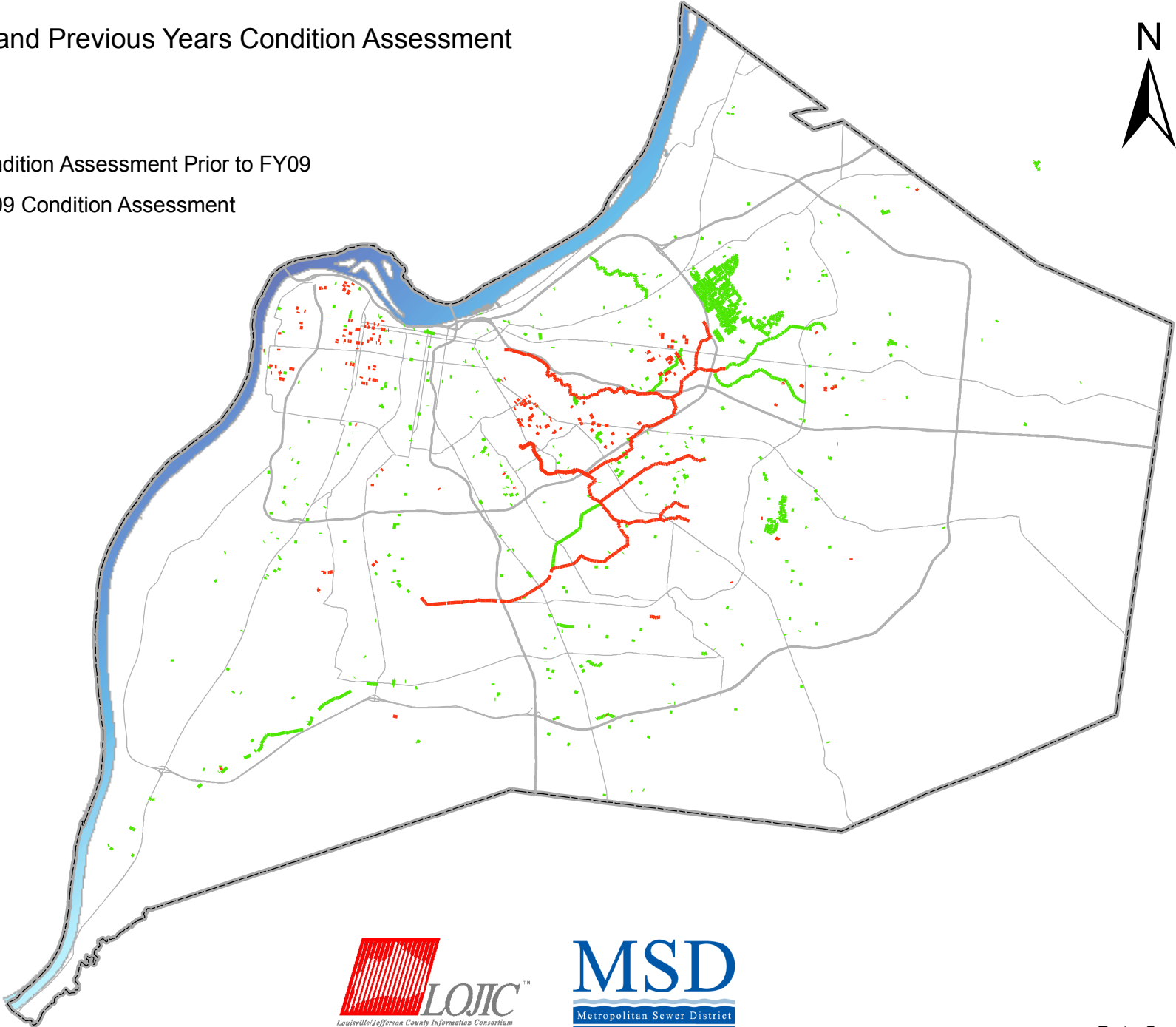


Data Source: LOJIC

FY09 and Previous Years Condition Assessment



- Condition Assessment Prior to FY09
- FY09 Condition Assessment



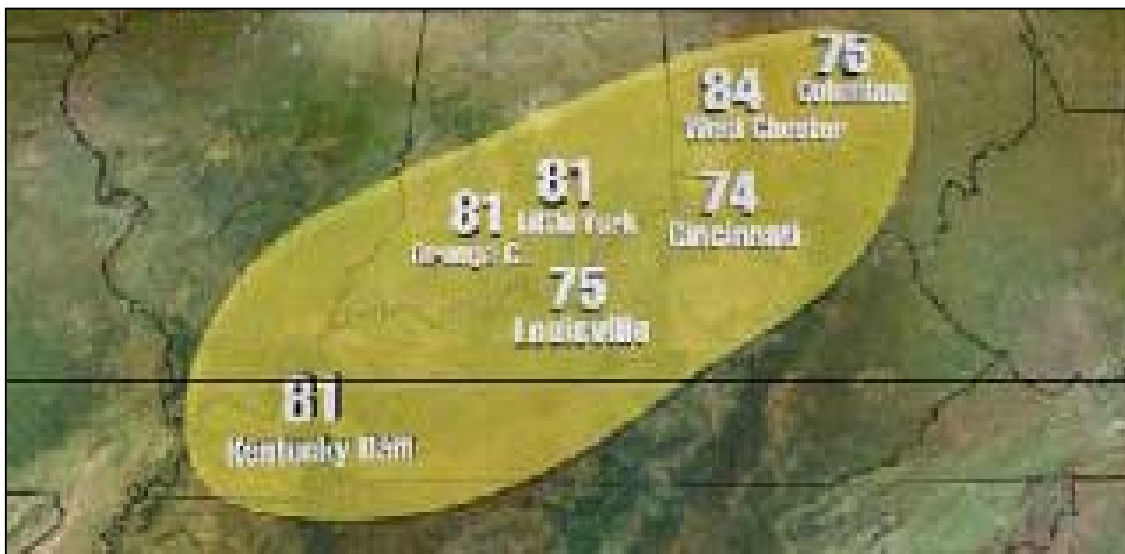
Data Source: LOJIC

APPENDIX J – SEPTEMBER 2008 WIND STORM

Hurricane Ike Wind Storm September 14, 2008

This report is offered as the written report related to the extreme wind event that Louisville experienced on September 14, 2008, due to Hurricane Ike.

On Sunday, September 14th, 2008, the remnants of Hurricane Ike swept through central Illinois and Indiana to the north of Kentuckiana. Hurricane Ike also teamed up with a cold front crossing the Mississippi Valley region. This created one large area of low pressure. This mixing created a channel for the low-level jet to reach the ground, thus generating 75-84 mph wind gusts.



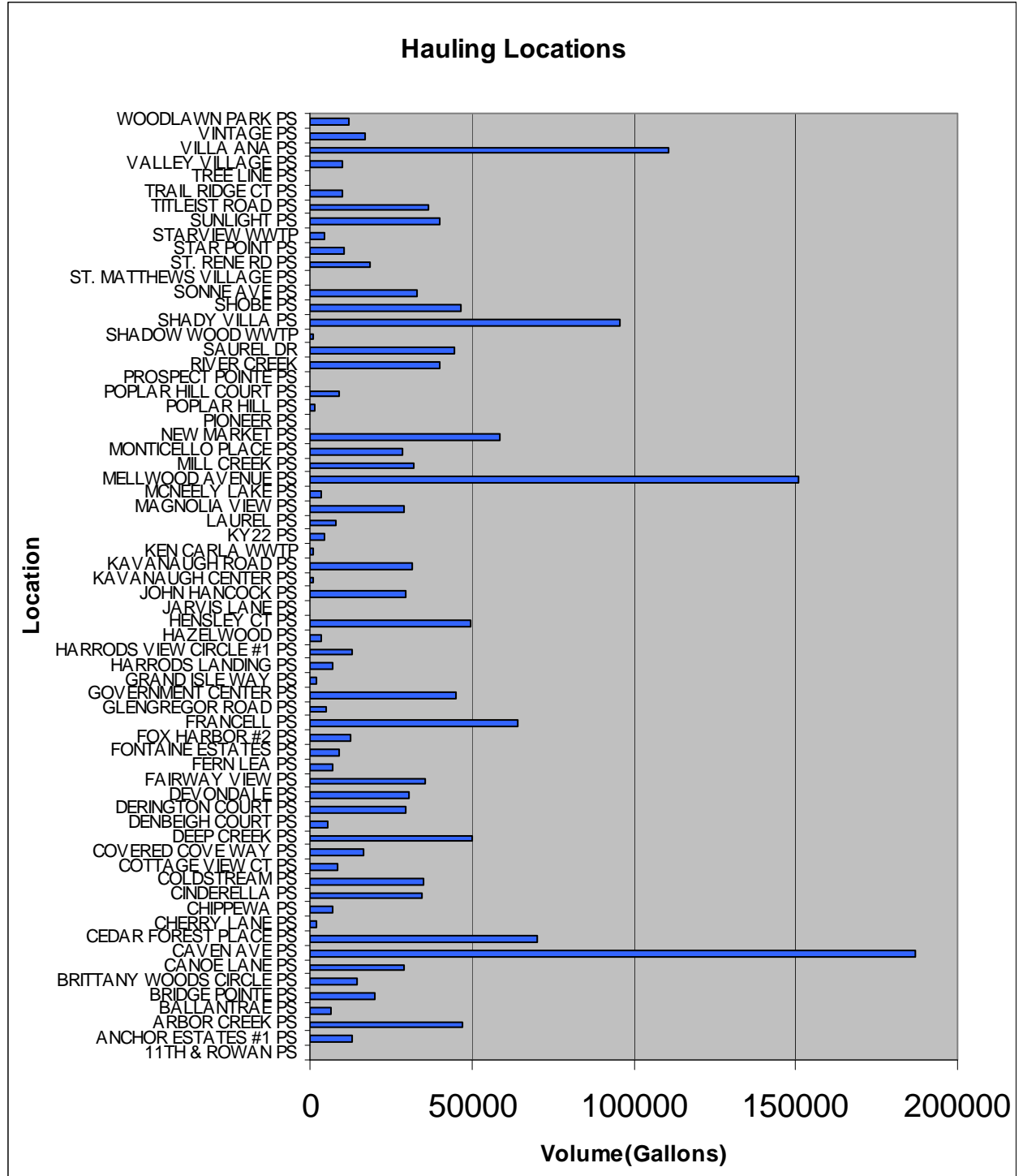
The wind storm resulted in power outages for more than 300,000 customers of the Louisville Gas and Electric Company. This represents the largest electric service disruption ever for our community.

More than 200 MSD-operated pump stations were without primary power for multiple days as a result of this wind storm. There were a limited number of portable generators available in the county due to the wide-spread nature of the event. MSD staff orchestrated a monumental, comprehensive, interdivisional effort to minimize the dry weather overflow of untreated sewage throughout the duration of this event. This effort involved the use of portable generators and tanker trucks. Generators were brought into the community from around the region, as far away as Northern Indiana, Missouri and West Virginia. MSD placed temporary generators at 74 different locations. These generators, coupled with the MSD generator fleet, were moved among the stations with the addition of hauling where feasible. Approximately 50 generators were in service at the peak of the event. During the wind storm MSD, assisted by two hauling companies, hauled over 1,781,350 gallons from 66 different locations (63 different pump stations and 3 treatment plants). Refer to the table below titled "Hauling Locations".

MSD had previously completed the implementation of a CMOM task to install permanent generators at vulnerable sites. This project was completed prior to the windstorm and all of the new generators were operational except for the Wind Ridge Pump Station site. During this wind storm, a tree fell on the generator and it was no longer operational. This site has since been repaired.

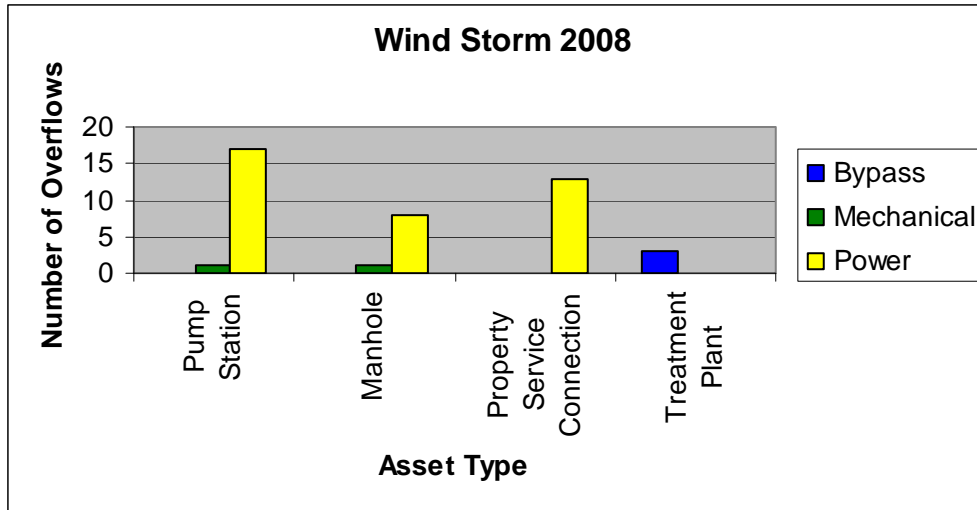
Hurricane Ike Wind Storm September 14, 2008

During this timeframe, three previously unknown “Flooder” pump stations were identified, Treeline Pump Station, Ballantrae Pump Station and Perwinkle Way Pump Station. A flooder pump station is a pump station that will overflow into a home or building in the event of a failure instead of onto the ground as would normally be the case. These three sites will be incorporated into our pump station Greenline analysis project.



Hurricane Ike Wind Storm September 14, 2008

In addition, the Derek R. Guthrie Water Quality Treatment Center (formerly the West County Wastewater Treatment Plant) lost both primary power feeds on Sunday, September 14. Primary power was restored to this facility within 3.5 hours. There were three treatment plants that reported bypasses during this windstorm. MSD documented a total of 43 overflows, of these only 13 reached Waters of the United States. There were 18 overflows associated with pump stations, 13 overflows associated with property service connections, 3 overflows (bypass) associated with treatment plants and 9 overflows associated with manholes.



The situation was continuously changing. Some of the issues addressed by the power company were that additional lines continued to fall relative to weakened trees along with cascading problems that occur as they energize various lines. Several factors that must be considered when trying to understand the overflow situation include:

- 1) ground was dry prior to the Wind Storm,
- 2) no measurable rain was associated with the Wind Storm
- 3) hundreds of thousands of people were without power, so there were reduced wastewater flows (less washing machines, dish washers, showers, and water use in general),
- 4) additional stationary generators were in place,
- 5) some of the mobile generators being routed through a circuit of pump stations to keep them each pumped down (we are able to get to many more than normal due to low flows as previously described),
- 6) tankers hauled more stations due to the low flows,
- 7) reports included only overflows to Waters of US; there were several overflows that were contained on the ground and will be reported in annual report, and
- 8) coordinated and dedicated staff utilized systems and processes strategically put in place to minimize overflows.

In summary, 200 pumping stations were maintained with emergency generators and tanker hauling. MSD staff worked 12 hour shifts over 24 hour days. Trucks and personnel assisted Louisville Metro Public Works staff to help clear and haul debris from roadways. Less than 150,000 gallons of sewage discharged from our pumping stations as unauthorized discharges. More than 1,000,000 gallons of wastewater was hauled from disabled pumping stations to wastewater treatment plants.

Hurricane Ike Wind Storm September 14, 2008

Some electronic reporting did not occur within the required 24 hour period of becoming aware of the situation. Staff reviewed associated records for accuracy and completeness. The MSD telemetry system experienced a significant failure due to failures by our three wireless service providers. Per the WWTP Monitoring and Recordkeeping Report, MSD has applied for participation in the Telecommunications Service Priority (TSP) System through the Nation Communication System (NCS). This service, if approved, will allow our circuit to have a higher priority put on it in case of a disaster which would have communication service restored much sooner than we currently experience.

The chart below shows the rainfall totals before, during and after this tremendous event.

MSD Rain Gauge Network

Daily Rain Totals (inches) between the dates of 9/1/08 and 9/21/08

Date	TR01	TR02	TR03	TR04	TR05	TR06	TR07	TR08	TR09	TR10	TR11	TR12	TR13	TR14	TR15
9/1/2008	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9/2/2008	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9/3/2008	0.15	0	0.02	0.16	0.02	0.03	0.66	0.16	0.06	1.1	0.34	0.09	0.16	0.27	0
9/4/2008	0.04	0.04	0.03	0.05	0.77	0.04	0	0	0.04	0.07	0.04	0.03	0.04	0.04	0
9/5/2008	0.26	0.42	0.40	0.42	0.1	0.36	0.27	0.14	0.23	0.49	0.33	0.26	0.49	0.53	0.24
9/6/2008	0	0.01	0.01	0.01	0	0.01	0	0	0	0	0	0	0.01	0	0.01
9/7/2008	0.01	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9/8/2008	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9/9/2008	0.09	0.25	0.17	0.2	0.29	0.36	0.42	0.19	0.05	0.38	0.1	0.2	0.27	0.26	0.55
9/10/2008	0	0	0	0	0	0	0.01	0	0.01	0	0	0	0	0	0
9/11/2008	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9/12/2008	0.01	0.03	0.01	0.1	0.33	0.81	0.02	0.01	0.02	0.02	0	0.07	0.05	0	0.02
9/13/2008	0	0.01	0.01	0	0	0	0	0	0	0	0	0	0	0	0
9/14/2008	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9/15/2008	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9/16/2008	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9/17/2008	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9/18/2008	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9/19/2008	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9/20/2008	0	0	0	0	0	0.08	0	0	0	0	0	0.01	0	0.1	0
9/21/2008	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

The following table provides a partial timeline of MSD response activities and associated events.

Hurricane Ike Wind Storm September 14, 2008

Partial Timeline of Response Activities

Date	Time	Action / Update / Comment
9/13/2008	22:02	Emergency e-mail was sent calling for sustained winds of 30MPH with gust to 40MPH.
9/14/2008	11:14	First power outages reported in northeast portion of county.
9/14/2008	11:34	Metro Operations staff started responding to power outages in northeast portion of county
9/14/2008	12:14	Contract haulers are called for ALL available units.
9/14/2008	12:30	17 pump stations without power.
9/14/2008	12:39	24 pump stations without power.
9/14/2008	13:33	Numerous road blocked by down trees and power lines.
9/14/2008	13:42	Emergency e-mail updated to sustained winds of 40MPH with gust to 65MPH.
9/14/2008	13:59	Central Maintenance Facility (CMF) & Starkey Pump Station facility lose power, approx 200 pump stations without power.
9/14/2008	15:32	Infrastructure staff starting to report.
9/14/2008	15:36	Rental generators are secured from Whayne Supply, 2 additional units coming from St Louis.
9/14/2008	16:25	DRGWQTC (WCWWTP) loses all power, 120" gates is closed by staff.
9/14/2008	16:46	Rental generators are secured from Sunbelt Rental, 2 additional units in route from Lexington.
9/14/2008	17:07	Rental generators in route from Cummings Rental from Bowling Green & West Virginia.
9/14/2008	18:40	Brian Bingham leaves messages with EPA and KDEP, requesting Force Majeure with relief from reporting and fines.
9/14/2008	19:10	DRGWQTC (WCWWTP) restores power to both feeds.
9/14/2008	19:22	Fleet provides fuel truck to keep generators fleet fueled.
9/14/2008	19:38	Starkey PS restored power by LG&E
9/14/2008	20:05	Thortons provides a list of fuel stations that have power & fuel available.
9/15/2008	6:50	Some of SCADA system is down due to communication issue.
9/15/2008	8:36	Base 1 & all CMF Admin staff are sent to Main Office to work due to CMF power outage.
9/15/2008	9:24	All CMF Admin staff & Base 1 are in place at Main Office
9/15/2008	10:12	All SCADA system is down.
9/15/2008	11:48	While all WWTPs have some level of power, several have to be rotated from air to pumping capacity.
9/15/2008	13:46	All Metro staff assigned to Emergency 12 hour shifts. All vacations and off days are cancelled.
9/15/2008	14:18	SCADA system is down due to Sprint & ATT communication failures.
9/15/2008	14:25	All Metro Operations staff must visually check each station on their route until SCADA system is restored.

Hurricane Ike Wind Storm September 14, 2008

Partial Timeline of Response Activities

9/16/2008	4:50	Supervisors fuel cards reaching their limits. Finance to increase limits ASAP.
9/16/2008	6:00	All staff working wind event response start working 12 hour shifts.
9/16/2008	10:33	First reports of flooded basements in Ballantre area.
9/16/2008	13:03	Regulatory Services field staff began assisting with checking routes & reporting discharges.
9/16/2008	18:26	Some power restored in southwest portion of county.
9/17/2008	2:38	SCADA system is partially restored.
9/17/2008	11:33	Marine Electric sends 4 Electricians to assist in moving generators as needed.
9/17/2008	12:44	CMF sends Truck drivers to assist with hauling efforts.
9/17/2008	13:08	HR staff reports to assist with routes & discharge reporting.
9/17/2008	16:08	CMF is powered by rental generator, and loaner from local FBI.
9/18/2008	9:57	A total of 12 basement back-ups have been attributed to power outages.
9/18/2008	10:59	Metro Ops is down to 79 power outages from 225.
9/18/2008	14:22	NH# concentrations start increase on WWTP's. Additional air will be supplied ASAP.
9/19/2008	6:58	5-day letters prepared for plant by-passes on 9/14/08.
9/19/2008	13:09	Started allowing Metro Ops staff 1 shift off of 12 hour rotation.
9/19/2008	13:55	Gov. Steve Beshear request Presidential Disaster Declaration for Ky.
9/20/2008	11:02	Metro Ops staff informed to return to normal 8 hour shifts on 9/22/08 @ 6:30.
9/21/2008	7:30	Total of 50 power outages most in northeast portion of county.
9/21/2008	13:55	All non-Metro Operations staff should return to their normal shifts & duties.
9/22/2008	5:40	Meeting with EON (power company) officials to prioritize remaining 35 power outages
9/22/2008	5:58	Meeting with EON to prioritize remaining 21 power outages.
9/22/2008	9:51	20 pump stations on emergency power, started returning large rental units.
9/22/2008	11:48	Down to 13 pump stations without power.
9/22/2008	13:52	Down to 11 power outages, most in NE portion of county.
9/22/2008	13:56	Initial cost estimates @ \$390,000.00 for overtime, contractors, and rentals.
9/24/2008	6:40	9 power outages.
9/24/2008	13:56	Down to 1 power outage.
9/25/2008	10:49	All power restored.

APPENDIX K - 1 THE BEARGRASS GREENWAY



Michael J. Heltz, AIA
Director



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40118

tel 502/368-5404
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web www.memorialforest.com
www.metro-parks.org
email forest@louisvilleky.gov



Jerry E. Abramson
Mayor
Louisville
Metro Council

December 7th, 2009

Bennett Knox, Parks Administrator
Louisville Metro Parks – Natural Areas Division
P.O. Box 467
Fairdale, KY 40118

Phyllis Croce, Landscape Restoration Specialist
Louisville Metropolitan Sewer District
700 West Liberty Street
Louisville, KY 40203

RE: Final Report – Beargrass Creek Restoration Project

Ms. Croce,

Please find below the SEP report for the Riparian Buffer SEP (Beargrass Creek Restoration - Lexington Road and Grinstead Drive).

Description of the SEP as implemented:

In January 2006, Metro Parks received \$25,000 from MSD for a project involving naturalization, environmental education, and interpretive signage at the Beargrass Creek Greenway near the intersection of Lexington Road and Grinstead Drive. The primary purpose of this project was to provide seed funding so that Metro Parks could initiate a longer term project to restore riparian habitat in a degraded and high profile area; introduce area high school students to practical applications of ecological and environmental science principles; and to raise awareness of watershed issues affecting Beargrass Creek. Since award of funding, Metro Parks has initiated a partnership (now in its third year) with the Male High School Advanced Placement science class and conducted numerous volunteer days in order to advance the goals of this project. In addition, Metro Parks has used this SEP money to leverage additional partnerships and funding so that the program can continue in 2010 and beyond and ultimately result in the complete restoration of this 38 acre site. Since project initiation, focus has been on necessary removal of invasive shrub honeysuckle (*Lonicera mackii*) mainly within the entrance to the project area (approximately 5 acres) in concert with performance of water quality, soil analysis, and initial biological inventory with the assistance of Male High School students. The final portion of the project is to prepare detailed plans and construction documents for restoration of a degraded intermittent drainage crossing the property and emptying into Beargrass Creek. This portion of the project is necessary so that we can continue restoration activities down stream of the initial project area funded by this SEP.

Description of any operating problems encountered and the solutions thereto:

Since submittal of the 4th quarter 2008 progress report, Metro Parks has moved forward towards completion of this project and there are no operating problems to report beyond those reported in previous progress reports. Over the past year, those issues previously reported have been resolved. Metro Parks has secured the support of Girls Scouts of America to help with the removal of invasive plants (culminating in a large volunteer event for National Public Lands Day in September 2009). In addition, Metro Parks worked with MSD on associated reconstruction of a wetland/stormwater retention basin within the project area. This associated project was completed in the spring of 2009. Construction of this wetland was necessary before moving to the final project under this SEP. As of the date of this report, the final project component (preparation of planning and construction documents for restoration of an intermittent stream) is underway. Construction activities related to restoration of the intermittent stream will commence in 2010 and will be funded using other funding sources secured independently by Metro Parks.

Description of the environmental and public health benefits resulting from the implementation of the SEP:

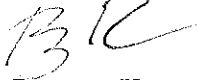
This SEP has increased awareness of the value of Beargrass Creek watershed to those citizens passing the site at the heavily travelled intersection of Lexington Road and Grinstead Drive as well as those citizens travelling the Beargrass Creek Greenway through the project site. Prior to initiation of this project the entrance to the project area (and to the Beargrass Creek) was completely blocked from public view by a dense understory of invasive bush honeysuckle and other noxious species. Passersby in vehicles were given not indication of the presence of Beargrass Creek and therefore an opportunity was missed to connect passersby to their potential impact on the watershed. In addition, the degraded nature of the landscape prior to initiation of this project made the area unattractive for recreational users of the Greenway. This project, along with complimentary improvements to the multi-use trails in the local area, has drastically increased the number of people passing through the project area along the greenway. Passersby and visitors to this signature Greenway entrance are able to appreciate Beargrass Creek and view the man-made features (stormwater culverts, Storm sewer overflow outlets, and created wetlands) that are a part of the landscape and contribute to the health of the Beargrass Creek. The initial signage for the project area, installed in 2008 as part of the Male High School environmental partnership, highlights human impact on this environment and our steps to improve this area through the Riparian SEP.

The following spreadsheet shows the allocation of funding spent to close out this SEP project by December 31, 2009.

Budget Item	Original Budget	Revised Budget	Previous Expenditures	Revised Expenditures June 2006 to December 2007	Revised Expenditures January 2008 to December 2008	Expenditures January 2009 to December 2009	Total Expenditures
Planning and Design	\$400.00	\$400.00				\$10,161.00	\$10,161.00
Site Preparation	\$3,780.00	\$3,790.00				\$10,240.00	\$10,240.00
Plant Material	\$15,000.00	\$14,330.00				\$1,520.60	\$1,520.60
Student Transportation	\$1,650.00	\$900.00		\$240.00	\$870.00		\$1,110.00
Supplies	\$0.00	\$2,000.00		\$723.89	\$574.51		\$1,298.40
Interpretive Signage	\$0.00	\$670.00			\$670.00		\$670.00
Totals	\$20,840.00	\$22,090.00	\$0.00	\$963.89	\$2,114.51	\$21,921.60	\$25,000.00

Please feel free to contact me if you should have any additional questions or require any additional information.

Sincerely,



Bennett Knox, Parks Administrator

APPENDIX K - 2 WOODLAND RESTORATION IN CHEROKEE PARK



OLMSTED PARKS
CONSERVANCYSM

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Supplemental Environmental Program Summary Report for The Louisville Olmsted Parks Conservancy

**Project sites: Nettelroth management area, Cherokee Park
Ohio River riparian zone, Shawnee Park**

The Louisville Olmsted Parks Conservancy (LOPC) has completed this project with the funds made available through the Louisville Metropolitan Sewer District and the Environmental Protection Agency.

This project focused on riparian restoration and enhancement in two of Louisville's Historic Olmsted designed parks, Cherokee Park and Shawnee Park. The riparian zones are situated along Beargrass Creek in Cherokee Park and the Ohio River in Shawnee Park. Invasive trees and shrubs were removed from both of these areas to make room for native vegetation planting. Approximately 1152 trees and shrubs were planted in both parks with 1781 Olmsted Conservancy man-hours spent on these clearing and planting efforts.

Approximately 50,000 citizens/yr pass by the riparian zone in Cherokee Park where they can see the direct impact of this project along the creek bank. Approximately 10,000 citizens/yr pass by the Shawnee Park river vistas and a hiking trail leads individuals directly through the newly planted areas.

There was a very short time delay in completion of the project due to a change in the project manager during the spring of 2007. Once this position was filled in the summer of 2007, the project was back on track. The project met no resistance from the general public and in fact we received many compliments on the work that Louisville Olmsted Parks Conservancy is doing to restore some of our critical riparian zones.

Sincerely,

Major Waltman
Project Director

Louisville Olmsted Parks Conservancy Final report for the SEP requirements.

Activity summary for **Nettelroth**.

1. Report submitted on November 6, 2007:

To date, the majority of the grant money has been applied to invasive plant removal, primarily *Lonicera mackii*, and the creation of two small wetland areas to capture stormwater runoff. Both of these activities are directed to improving water quality in the Middle Fork of Beargrass Creek. Research has proven that reduction of *L. mackii* can reduce the amount of available Nitrogen in the soil as NO_3 and NH_4^+ which potentially can find its way into the creek.

Collection of Stormwater runoff in wet depressions is a proven technique for improving the quality and reducing the quantity of runoff into streams.

In the near future LOPC intends to continue the theme of water quality improvement in Beargrass Creek by decreasing the amount of open area in Nettleroth Sanctuary by clearing invasive vine species such as *Ampelopsis*, *Celastrus*, English Ivy, *Euonymus*, and *Akebia* and planting trees to re-establish a closed canopy woodland. This should help reduce the quantity of runoff and promote infiltration of water that reaches the ground. Hopefully, the increased canopy and decreased sunlight to the woodland floor will discourage the growth of the vine species.

2. Final report as of November 30, 2008:

In 2008, 652 trees and shrubs were planted in the Nettleroth Management indicated on the map provided. Approximately 1048 man hours were spent on planting and irrigation in 2008. A detailed list of plants and quantities has been submitted with this report. As illustrated on the planting map provided, the riparian zone was enhanced with numerous plantings to help stabilize the banks of Beargrass Creek and upslope areas were stabilized with plantings to prevent the loss of soil and subsequent sedimentation of the stream. This will benefit the aquatic organisms.

All Bush honeysuckle has been successfully removed from the management area which should decrease the amount of potential nitrate entering Beargrass Creek. This will benefit the stream by reducing the potential for eutrophication during the summer months.

There have been no particular challenges with this project.

The following is a general itemized budget illustrating how the \$35,000 for the Nettelroth was expended.

Purpose: Stabilize upslope areas and restore riparian zones along Beargrass Creek to prevent the loss of soil to the receiving waters.

Grant Amount:		\$	35,000.00
various employees time on project - 2006	\$	(7,465.00)	
Hunt Tractor (bobcat rental) - 2006	\$	(404.00)	
various employees time on project - 2007	\$	(8,475.51)	
various employees time on project - Jan-Nov 08	\$	(9,760.10)	
planting materials purchased November 2008	\$	(8,895.39)	

Current remaining amount available: 0.00

The following is a detailed list of the trees and shrubs planted in the management area:

<u>Plant Species</u>	<u>Quantity</u>
Nettelroth	<i>22 species</i>
Cornus amomum	70
Cornus drummondii	6
Cornus stolonifera	2
Gymnocladus dioica	41
Juniperus virginiana	14
Liquidambar styraciflua	11
Liriodendron tulipifera	15
Nyssa sylvatica	9
Platanus occidentalis	260
Quercus alba	4
Quercus bicolor	5
Quercus borealis	25
Quercus coccinea	2
Quercus lyrata	4
Quercus macrocarpa	39
Quercus muehlenbergii	8
Quercus palustris	23
Quercus shumardii	25
Salix nigra	65
Staphylea trifolia	6
Viburnum prunifolium	9
Viburnum rufidulum	9
	652

Labor provided by LOPC personnel:

	<u>Crew Hours</u>	<u>Volunteer Hours</u>	
Nettelroth	1034	14	1048

Activity summary for **Shawnee**:

1. 2006: Greenhaven Tree Care, Inc. removed invasive species from the upper river bank terrace in Shawnee Park. They also removed some dead and diseased trees to make room for planting.
2. 2007: Greenhaven Tree Care, Inc. continued their work on invasive tree and shrub removal. Louisville Olmsted Parks Conservancy (LOPC) staff also contributed to this removal effort.
3. 2008: LOPC planted 500 shrubs (refer to table below for list of species) on the cleared upper terrace of the Ohio River Bank in an effort to stabilize the slope and prevent soil loss to the river.
4. There have been no particular challenges with this project.

The Louisville residents that use this park will benefit from this work in several ways:

1. The original vista to the river has been restored by removal of some invasive trees species such as Tree of Heaven and White Mulberry and removal of the invasive shrub Bush Honeysuckle.
2. The process for restoring native species that once flourished along the river banks is initiated thanks to funds from this grant.
3. The upper terrace of the river bank is being stabilized by these and other plantings reducing the amount of soil loss to the river.

Purpose: Stabilization of the upper terrace of the Ohio River channel in Shawnee Park.

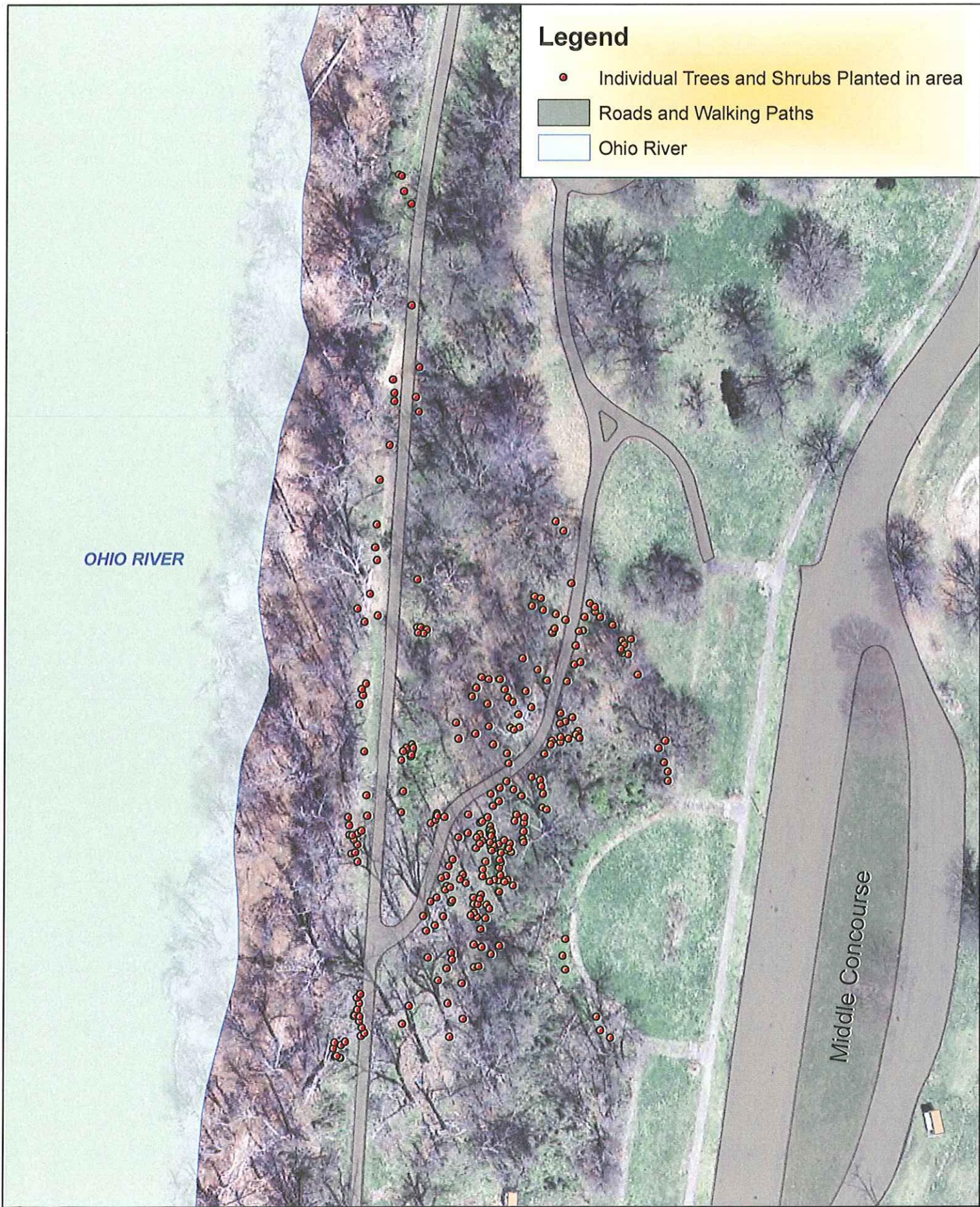
Grant Amount:		\$32,067.00
Greenhaven Tree Care, Inc. - 2006	(\$10,000.00)	
Greenhaven Tree Care, Inc. - 2007	(\$10,000.00)	
E. Mortenson time on project - 2007	(\$565.07)	
A. Nations time on project - 2007	(\$1,560.30)	
Phelps Hardware (dingo rental) - 2007	(\$280.00)	
Phelps Hardware (supplies) - 2007	(\$46.44)	
various employees time on project - 2008	(\$4,062.69)	
Woody Warehouse - 2008	(\$5,552.50)	
Remaining amount available:		\$0.00

Shrub species list:

Shawnee	<i>3 species</i>
Lindera benzoin	140
Sambucus canadensis	200
<u>Symphoricarpos orbiculatus</u>	<u>160</u>
	500

Labor provided by LOPC staff:

	<u>Crew Hours</u>	<u>Volunteer Hours</u>	
Shawnee	<u>82</u>	<u>651</u>	733



Legend

- Individual Trees and Shrubs Planted in area
- ▬ Roads and Walking Paths
- ▭ Ohio River

OHIO RIVER

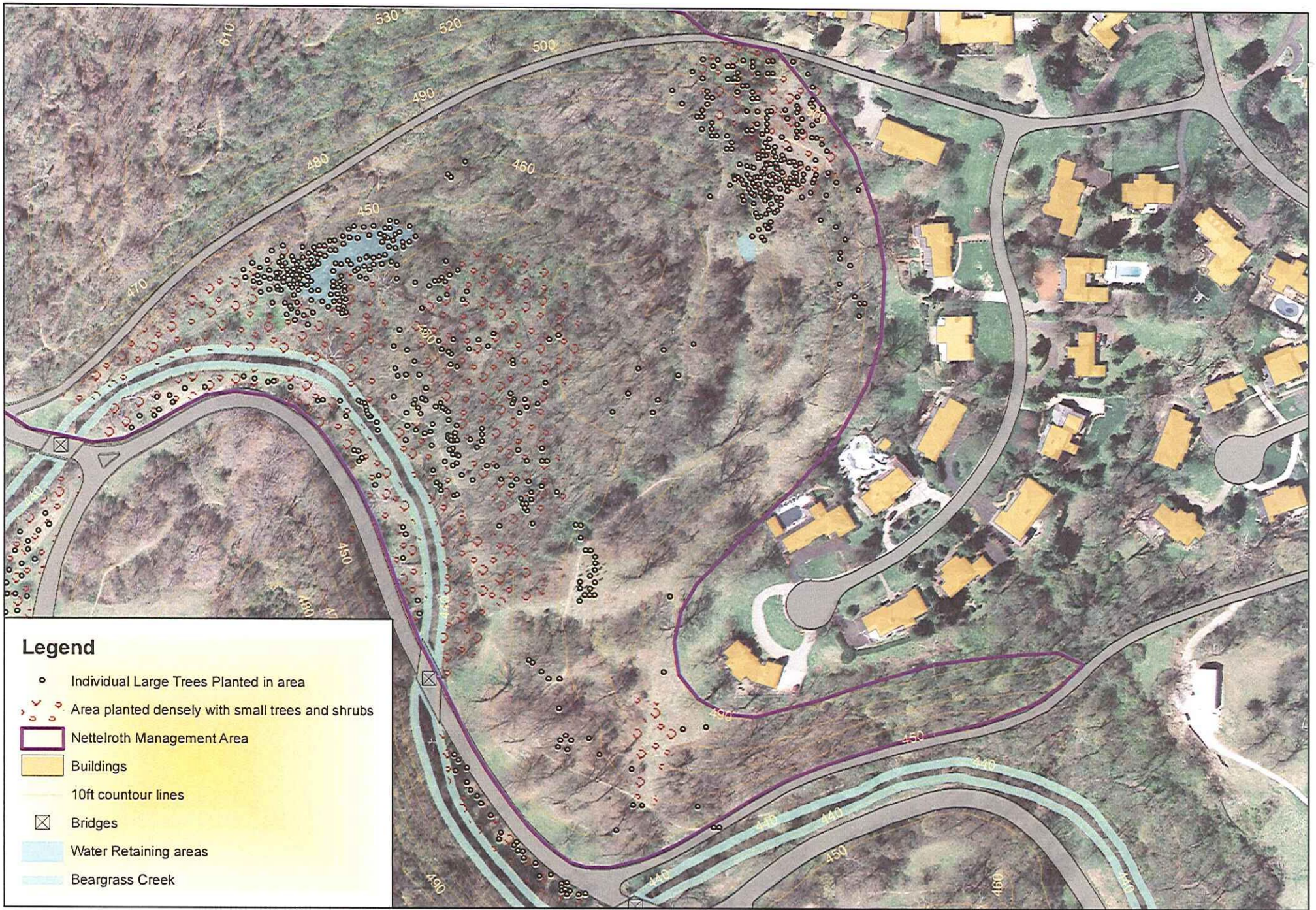
Middle Concourse

**Tree and Shrub Planting
in Shawnee Park**



In 2008, 500 plants of three species were planted and 733 hours were worked in this area.

0 50 100 200 300 Feet



Tree and Shrub Planting in Nettelroth Bird Sanctuary Management Area (Cherokee Park)



In 2008, 652 plants of 22 species were planted and 1,048 hours were worked in this area.

0 100 200 400 600 Feet

APPENDIX K - 3 DOCTORAL SUPPORT FOR "ASSESSING THE EFFECTS OF URBANIZATION ON RIPARIAN FUNCTIONS AND DETERMINING STREAM BANK NITRATE REMOVAL POTENTIAL ALONG AN IMPERVIOUS SURFACE GRADIENT IN HARRODS, GOOSE AND BEARGRASS CREEKS".

UNIVERSITY of LOUISVILLE

dare to be great

**Final Report to Metropolitan Sewer District
Supplemental Environmental Program Requirements
Consent Decree Civil Action No 3:05 CV-236-5
December 5, 2009**

**Prepared by
Professor Margaret Carreiro
Department of Biology
University of Louisville**

Assessing the Effect of Urbanization on Riparian Functions

Background Riparian zones function in several ways to improve the quality of water entering streams from non-point surface run-off and from ground water flow paths. In forested catchments where streambank height is low, riparian soils are regularly inundated, and hence often wet and anaerobic. Therefore in such riparian areas, the microbial process of denitrification occurs at high rates and serves to remove nitrate (NO_3^-) from groundwater by converting nitrate to N_2 or N_2O gases that move the nitrogen into the atmosphere. However, urbanization often raises streambank height due to high current flows in urban and suburban streams during storm events. This results in longer periods of drying for streambank soils in urban and suburban catchments, and this in turn should greatly reduce denitrification rates. Decreased denitrification rates would allow greater entry of nitrate from groundwater and surface run-off into streams, exacerbating eutrophication of receiving water bodies. The actual rates of denitrification in wet soils, however, would also depend on the concentration of dissolved organic carbon (DOC) in groundwater and surface run-off, since DOC fuels denitrifier microbe activity. The amount of DOC could also vary with degree of urbanization in the catchment and with local site factors, like amount and type of vegetation in the riparian area. In addition, higher and drier streambanks interacting with the amount and kind of riparian vegetation may influence the rates of carbon dioxide (CO_2) and methane (CH_4) leaving the streambanks, and the production of these greenhouse gases could to some extent be influenced by DOC in groundwater as well.

The objectives for this study were to: **1)** measure the rates of greenhouse gas efflux (N_2O , CO_2 and CH_4) from riparian sites adjacent to streams draining catchments that vary in degree of impervious cover (degree of urbanization), **2)** measure the concentrations of nitrate and dissolved organic carbon (DOC) in groundwater adjacent to the same streams, and **3)** measure the depth to groundwater using piezometer wells, as a measure of how dry or wet the soil column would be in these riparian sites.

Accomplishments We received permission from landowners at 13 riparian locations distributed in different catchments in the Middle Fork of Beargrass Creek, Goose Creek and Harrods Creek in Jefferson and Oldham counties. The impervious cover in the catchments ranged from 1% to 42%. Urban catchments were defined as having >30% impervious cover, suburban from 10 to 29% cover, and rural from 1 to 9% cover. We established one piezometer well and two soil gas flux chambers at

each of these riparian sites. Depth to groundwater was measured in the wells every two weeks from November 2007 to October 2008. Groundwater in the wells was sampled for DOC once per month during that one-year interval. Nitrate in wells was measured once per month from November 2007 to February 2008 and from September to October 2008, but every two weeks from March to August 2008. The rate of efflux of CO₂ and CH₄ from riparian soils were measured in the chambers once per month from November 2007 to February 2008, but every two weeks thereafter until August 2008, followed by once per month intervals in September and October 2008. We encountered technical difficulties with measuring N₂O flux (explained below) and so only obtained robust data at two time points (August and October 2008), although we obtained samples for N₂O analysis in June and July 2008 as well.

Operating Problems We had initially intended to measure N₂O flux ourselves using a gas chromatograph (GC; SRI Inc., model# 8610) available to us in the Biology Department at the University of Louisville. The GC had been purchased in 2003 by a professor colleague who had left our department in 2005 for another position in Washington, D.C., and it had been used successfully by students in my lab for measuring CO₂ and CH₄. This colleague had also set up the GC to measure N₂O, and since I have been in frequent touch with this colleague following his departure, he was willing to assist with technical information for using the instrument for measuring N₂O. This was because the company that sold the GC was located in California and does not make site visits to trouble-shoot problems. After four months of difficulties trying to measure N₂O with this GC, which involved many phone calls with the GC company and even one visit to UofL by my colleague, it was determined that the Electron Capture Detector for measuring N₂O was faulty and beyond warranty. We could not replace the unit on this grant, because it cost approximately \$6000 and our total working funds were approximately \$11,000. I made the decision to search for a lab that would measure N₂O for us. No local labs in Louisville or Lexington were set up with an ECD for measuring N₂O. I inquired of colleagues throughout the nation and finally found one lab that was not only set up for this measurement, but would also contract with us to do the measurements. This was the lab of Professor William H. McDowell, Director, New Hampshire Water Resources Research Center (<http://www.wrrc.unh.edu/>) at the University of New Hampshire. We determined that we would have enough funds to sample and measure N₂O four times. Because gas samples had to be shipped to New Hampshire we determined that we had some sample leakage occurred from vials in our June and July 2008 sampling dates and will not use those data. We solved our leakage problems and did obtain robust N₂O data for the August and October 2008 sampling dates.

Budget The total grant amount from MSD was \$15,000 with 26% going to F&A costs to the university. Most of the remaining \$11,905 was used for supplies and a small amount (about \$650) for travel to the sites. Supplies covered the costs for 28 gas chambers, a peristaltic pump to remove groundwater, replacement piezometer wells, and chemical analysis for nitrate, DOC, CH₄, CO₂ and N₂O.

Results

Depth to Groundwater

Our initial hypothesis that depth to groundwater would on average be greater in urban riparian areas appears to hold true (Figure 1). Therefore, on average more of the soil column in urban streambanks would be drier (less saturated) over the year than those in suburban and rural

sites. Depth to groundwater in the 5 urban sites remained deeper than 80 cm throughout the year and progressively declined down to 120 cm as the dry spell in our area worsened from mid-July through October. Depth to groundwater for the four suburban sites were intermediate and ranged from a high of 50 cm to a low of 100 cm. On average the soils in the rural riparian sites were more saturated than those of suburban and urban sites, and ranged from a high of approximately 20 cm to groundwater to a low of 100 cm during the height of the summer dry spell. The shallowest depth to ground water across all sites occurred after a period of high rainfall in March and April 2008.

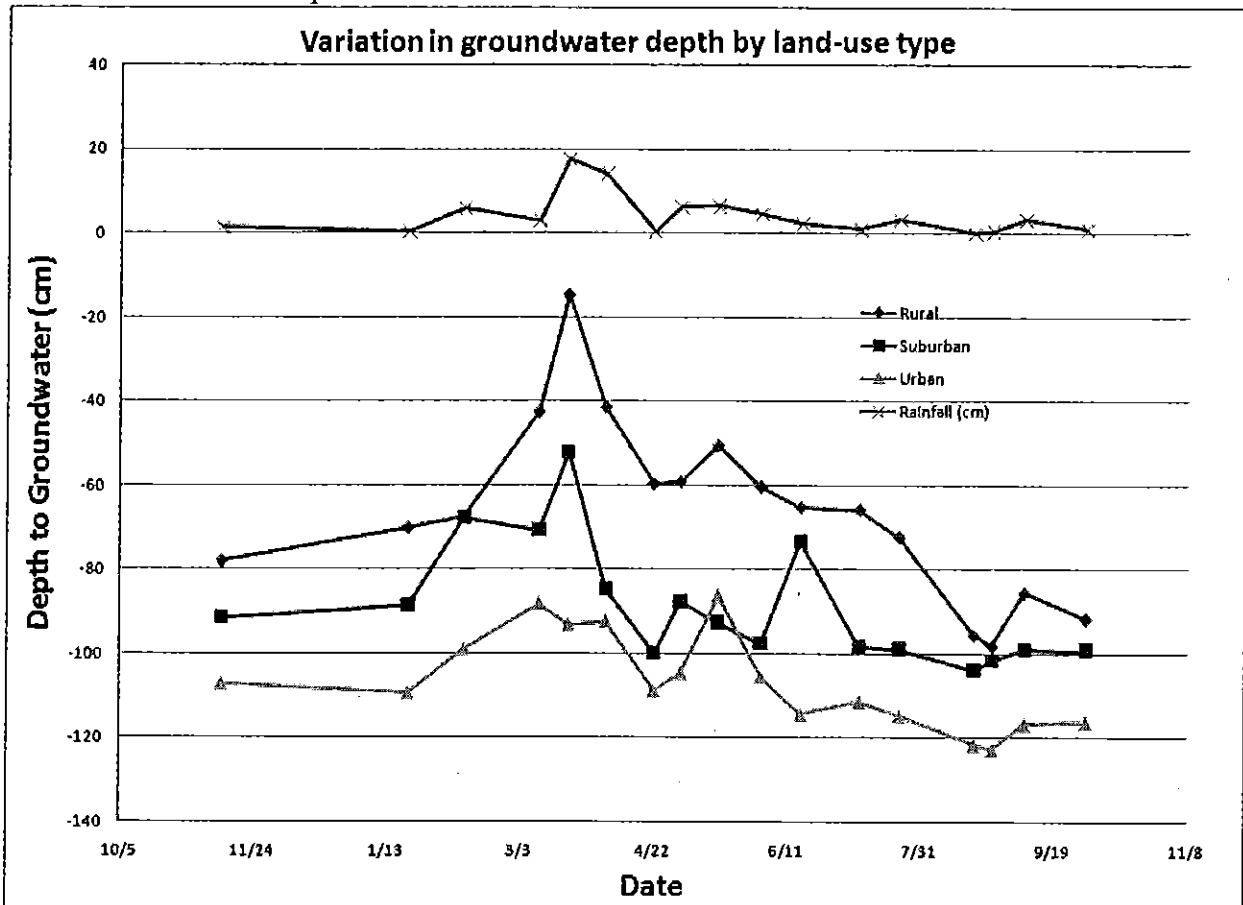


Fig. 1. Mean groundwater depth at urban, suburban, and rural riparian sites. Rainfall is indicated in total cm. by month. Samples were obtained biweekly from November 2007 to October 2008.

NO₃ and DOC concentrations in groundwater wells

Consistent urban, suburban and rural trends throughout the entire year are not apparent and data averaged by land use are presented in Tables 1 and 2. From November 2007 to April 2008, nitrate concentrations in urban groundwater were often two orders of magnitude higher than those in suburban and rural areas. However, from May to October 2008 rural nitrate concentrations were equivalent to or greater than those in urban groundwater. From July to October nitrate concentrations fell by one or two orders of magnitude from those measured from January to June. Interestingly, nitrate concentrations at the suburban sites were lowest of all and not as responsive to change over this one year interval. Land use and vegetation cover and activity levels at scales smaller than that of the catchment will be examined for their potential to explain these variations in nitrate concentration.

Unlike nitrate concentrations, DOC concentrations neither varied greatly by land-use type nor over the one year period (Table 2).

Table 1. Mean \pm 1 S.E. nitrate-nitrogen concentrations in riparian piezometer wells in catchments that vary by land-use type in Jefferson and Oldham counties. Data were obtained from November 2007 to October 2008.

Month	Nitrate - mg NO ₃ -N/L (SE)		
	Urban	Suburban	Rural
November	0.80 (.29)	0.33 (0.16)	0.35 (0.07)
January	13.17 (8.51)	0.0823 (0.01)	0.23 (0.09)
March	13.84 (8.34)	0.12 (0.01)	0.144 (0.06)
April	6.60 (6.53)	0.10 (0.02)	0.087 (0.02)
May	6.66 (4.83)	0.049 (0.01)	7.29 (4.71)
June	14.50 (8.09)	0.068 (0.02)	12.76 (9.35)
July	0.11 (0.02)	0.066 (0.01)	0.16 (0.07)
August	0.107 (0.02)	0.072 (0.02)	4.91 (0.48)
September	0.189 (0.07)	0.054 (0.02)	17.67 (0.03)
October	0.187 (0.07)	0.036 (0.01)	8.20 (8.09)

Table 2. Mean \pm 1 S.E. of DOC concentrations in riparian piezometer wells in catchments that vary by land-use type in Jefferson and Oldham counties.

Month	DOC - mg/L (SE)		
	Urban	Suburban	Rural
November	6.23 (1.07)	7.31 (1.53)	9.89 (1.39)
January	8.06 (1.94)	5.48 (0.48)	4.58 (0.21)
March	4.17 (0.60)	4.58 (1.18)	4.69 (0.85)
April	5.75 (0.44)	6.74 (0.53)	6.08(1.40)
May	4.28 (1.10)	5.27 (0.81)	6.29 (1.38)
June	8.76 (0.88)	7.43 (0.27)	6.59 (0.83)
July	6.73 (1.36)	5.59 (0.48)	10.51 (6.33)
August	5.85 (0.74)	5.57 (0.22)	5.62
September	NA	NA	NA
October	5.99 (0.79)	5.683 (0.19)	6.92 (0.87)

Riparian Soil Gas Flux

Soil CO₂ flux varied by site and by season (Figure 2) for the sites that have been analyzed thus far. It was lowest in winter months and highest in summer and fall months. A nearly 4-fold variation occurred between the lowest and highest flux in June, with the gap narrowing heading into September and October as the drought progressed. Likely factors influencing flux rates include soil temperature, anaerobic vs. aerobic microbial respiration, plant root respiration, and rainfall. Methane flux data across all sites from January to October 2008 are currently being analyzed, as are the flux data for N₂O emissions. However, robust N₂O data were gathered across all sites for only two dates due to the difficulties we encountered, as explained in the above section on Operating Problems.

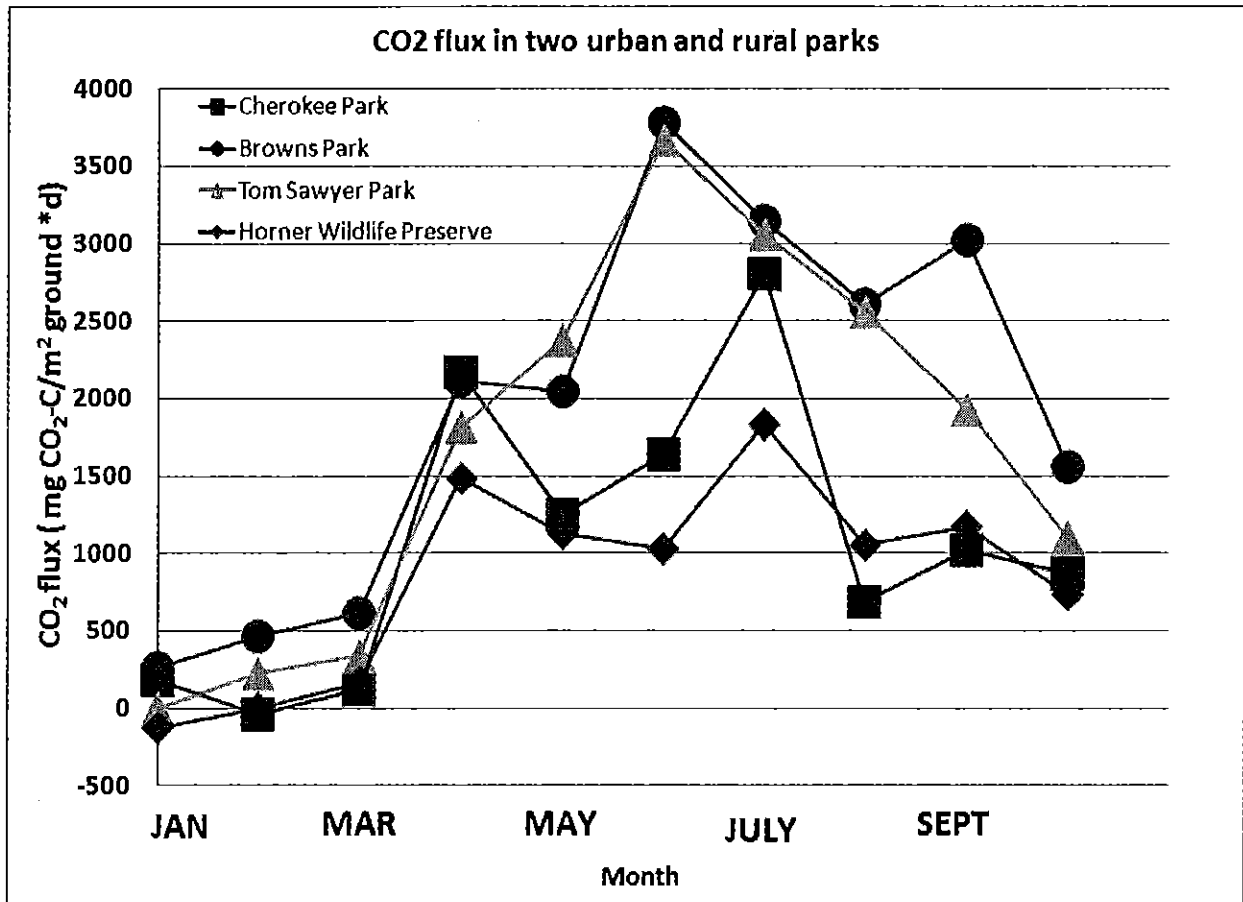


Fig. 2. Mean CO₂ flux at four riparian sites in Jefferson and Oldham counties, KY. Points are the average of flux rates from two chambers per park site. Data were obtained from January to October 2008.

Environmental benefits We will not only provide information on the amount and variation of nitrate and DOC concentrations in groundwater, but also estimates of the variation in the ability of riparian soils to remove these chemicals before they enter stream water. We will not only be analyzing the extent to which catchment scale factors may predict these riparian characteristics and processes, but also the extent to which more localized site factors may do so. If the analysis indicates that that some catchments with similar impervious surface can vary a great deal in depth to water table, nitrate concentration in groundwater and gas fluxes in riparian zones, it

suggests that factors *operating at scales that can be dealt with by riparian restoration projects*, might reduce problems caused at the larger catchment scale. Restoring or reducing negative impacts to riparian functioning could become part of assessment protocols for determining optimal riparian buffer *widths* depending on land-use type and impervious surface coverage in their respective catchments.

APPENDIX

Supplies:	Soil Gas Chambers and Sampling Equipment	\$4000
	Environmental Analysis Lab	3250
	Nitrous Oxide (N ₂ O) sampling	4005
	Travel	650
	Total Direct Costs	\$11905
	Indirect Costs (27% of Direct Costs)	3095

APPENDIX K - 4 GRINSTEAD/LEXINGTON RD INFILTRATION BASIN



MSD

*Louisville and Jefferson County Metropolitan Sewer District
700 West Liberty Street
Louisville Kentucky 40203-1911
502-540-6000
www.msdlouisky.org*

March 2, 2009

Chief, Environmental Enforcement Section
Environmental and Natural Resources Division
U.S. Department of Justice
Post Office Box 7611
Washington DC 20044-7611

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

Chief, Water Programs Enforcement Branch
Water Management Program
US EPA Region 4
Atlanta Federal Center
61 Forsyth Street SW
Atlanta, GA 30303

SUBJECT: Supplemental Environmental Program (SEP) Riparian Buffer
Final Report for Grinstead/Lexington Road Infiltration Basin

The Grinstead/Lexington Infiltration Basin, adjacent to Beargrass Trail, is a storm water quality improvement project developed per Exhibit G of the draft Amended Consent Decree. It is the last of the projects in the Riparian Buffer section deadline December 31, 2008.

Description Summary

Adjacent to the Middle Fork of Beargrass Creek, this half-acre site is located in the northwest quadrant of the intersection of Lexington Road and Grinstead Drive in Jefferson County. MSD partnered with Metro Parks and Louisville Metro Public Works to remove noxious weeds and invasive vegetation from the area. Louisville Metro Public Works relocated the entry section of the multi-use path and installed a trailhead.

Several goals were accomplished for this project;

- increase the capacity of temporary storage for this existing storm water basin thereby reducing non-point source runoff to the Middle Fork section of Beargrass Creek,
- enhance and increase the existing remnant wetland,
- interpret the improvements through educational signage based on National Parks standards,
- monitor the run off both coming into and leaving the site,
- provide a long term management plan to Metro Parks,



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- increase public awareness and volunteer involvement by holding volunteer events such as planting native plants to augment the wetland vegetation, planting native trees and shrubs on the existing storm basin banks, and under Metro Parks supervision periodically remove invasive vegetation.

Operating Problems and Solutions, Project Completion, and Description of the Environmental and Public Health Benefits

The main challenge of this project was to see if the basin could function as an infiltration basin with some modifications. The plan had potential for not only providing the public with an example of urban storm water infiltration but enhancing the remnant wetland. The area had fallen into neglect and contained a large amount of invasive non-native vegetation.

In 2005, the realignment of the path and installation of a trail head adjacent to the project area resulted in noticeable changes. Before the improvements, the entry to the trail started in an obscure location presenting both visual and operational challenges. The trail now emphasizes the existence of natural features; the creek, wetland restoration and introduction of native riparian plants appropriate for this ecosystem. The trail took on an official title "the Beargrass Trail" named after the watershed. Now it is not only for recreational/fitness users but also provides transportation options for the broader community. The enhancement of the neglected basin adds an amenity to the existing trail with two native flower restoration plots on the upper sections. In 2007 and 2008, MSD and Metro Parks held several volunteer events to remove invasive vegetation and replant with native stock.

The trail basin is located in a neighborhood with several visible CSOs. Interpretive signage will educate the public about;

- the history and channelization of this section along the Muddy Fork of Beargrass Creek,
- the wetland and floodplain that were lost as a result of highway construction impacts,
- the enhancement of the remnant wetland and floodplain, and
- actions citizens may undertake to keep polluted runoff from ever reaching the stream.

At the end of May, as part of an extensive countywide clean sweep, MSD will again partner with Metro Parks, Natural Resource Conservation District, Metro Public Works and Living Lands and Waters, to conduct a volunteer wetland planting day for the basin. With volunteers, we will plant additional wetland plants and shrubs according to the plan and will continue supporting the effort to eradicate the invasive vegetation along the basin sides.

Associated Costs

Redwing Design, Phase I	\$19,000.00
Redwing Ecological Services Phase II	
Construction Oversight and Native Plant Installation	\$48,100.00
Leong Construction	\$17,000.00
Native plants, shrubs and trees (Woody Warehouse, Spence Restoration Nursery, Dropseed Nursery)	
Management Plan for Metro Parks	\$29,000.00

Certification Letter to Chiefs and Director
March 2, 2009
Page 3 of 3

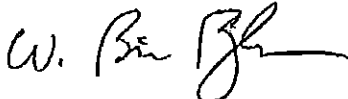
Redwing Ecological Services 3 year Monitoring through 2013 for pollutants	\$28,000.00
Interprtive Signs (graphic explanation of basin design, Wetland function and enhancement, native plants CSO/storm water impacts to water quality	\$37,000.00
TOTAL	\$178,100.00

Attachment A contains a final copy of the completed plan. This plan is also available on compact disc.

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.

If you have questions or need additional information, please contact me at (502) 649-3850.

Sincerely,



W. Brian Bingham
Regulatory Services Director

cc: H. J. Schardein, Jr. Paula Purifoy Laurence J. Zielke

APPENDIX K - 5 MORE KIDS IN THE WOODS



Michael J. Heitz, AIA
Director



11311 Mitchell Hill Road
Post Office Box 467
Fairdale, Kentucky
40118

tel 502/368-5404
fax 502/368-6517

web www.memorialforest.com
www.metro-parks.org
email forest@louisvilleky.gov

December 7th, 2008

Bennett Knox, Parks Administrator
Louisville Metro Parks – Natural Areas Division
P.O. Box 467
Fairdale, KY 40118

Phyllis Croce, Landscape Restoration Specialist
Louisville Metropolitan Sewer District
700 West Liberty Street
Louisville, KY 40203

RE: Final Report – Environmental Education SEP – More Kids in the Woods

Ms. Croce,

With this letter I am reporting on the status of the \$4,000 in funds that MSD provided to Metro Parks in support of our More Kids in the Woods Grant with U.S. Forest Service. This grant was initiated in early September of 2008 and initially ran through the end of the school year in May 2009. We subsequently received additional funding support from the U.S. Forest Service in 2009 and therefore the project has been extended through the 2010 school year. As part of this grant we are exposing 200 4th grade students from three urban schools in west Louisville to multiple experiences in nature.

As of the date of this letter we have expended the entire \$4,000 in SEP funding provided by MSD.

Description of the SEP as implemented:

This Environmental Education SEP supported Metro Parks application to the U.S. Forest Service under their More Kids in the Woods Program. Metro Parks project as initially written involved offering six field investigations to each 4th grade student at three urban elementary schools. The overall purpose of the program is to introduce urban youth to nature at an early age in order to develop within them the beginning of a lifelong relationship to nature and a stewardship ethic. The activities associated with the program included free-play opportunities as well as inquiry-based field investigations within forest, meadow, and riparian habitats in support of school curriculum. SEP funds were used to pay for various expenses related to these activities (e.g., food, travel, and supplies).



Jerry E. Abramson
Mayor
Louisville
Metro Council

Description of any operating problems encountered and the solutions thereto:

There were not operating problems encountered during the SEP project.

Description of the environmental and public health benefits resulting from the implementation of the SEP:

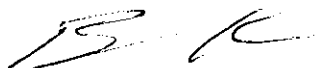
As a result of this SEP funding Metro Parks has successfully launched important environmental education initiative which is currently in it's second year. To day nearly 500 school children have been impacted by this program. Most of these children come from families living at or below the poverty line and most of these students have had few significant opportunities to experience nature and w have few positive role models to help nurture a positive relationship to nature and the local environment. Feedback from the children as well as their teachers and school administrators has been very positive.

The following table shows the expenditures under this SEP.

Expenditure Item	Expenditures January 2008 to December 2008	Expenditures January 2009 to December 2009	Total Expenditures
Teacher Professional Development		\$1,499.00	\$1,499.00
Plant Material		\$944.04	\$944.04
Student Transportation		\$225.00	\$225.00
Student Lunches/Dinners		\$1,331.96	\$1,331.96
Totals	\$0.00	\$4,000.00	\$4,000.00

Please feel free to contact me if you should have any additional questions or require any additional information.

Sincerely,



Bennett Knox, Parks Administrator

APPENDIX K - 6 JEFFERSONTOWN ELEMENTARY SCHOOL

TO: Phyllis Croce, MSD
From: Fife Wicks, JCPS
Re: \$500.00 Grant Money
Date: 12/1/09

Jeffersontown Elementary has over 800 students that have access to and help plant and maintain, a growing outdoor classroom that includes a Sensory Garden for Kindergarten, vegetable garden and butterfly gardens to enhance learning of life cycles, a weather station, and an Energy Garden.

Since 6/16/08, \$327.85 was used to purchase items to improve the Outdoor Classroom that is used to enhance the Life Sciences program at Jeffersontown Elementary and to make the campus more ecological sustainable through the planting of native species. In addition, \$172.15 was used toward the purchase of pin oak trees which were planted in schoolyard in December of 2008.

The total expenditures were as follows:

Before June 30, 2008


6/16/08 Dropseed Nursery native plants for native plant garden	97.00
--	-------

After June 30, 2008

From 8/16/08 to 12/08/08

8/16/08 Edging	34.84
8/16/08 Reel and Garden Hose to help water 6 gardens	84.97
8/6/08 Garden Treasures 10-3/4" weathered Copper Tube Thermometer	12.97
8/16/08 Garden Treasures Digital Indoor/Outdoor Thermometer	8.97
9/17/08 50 Tulip bulbs	22.85
11/08/08 35 markers to Go Style "C"	67.25
12/08/08 Pin Oaks trees	171.15

Total Expenditures	\$500.00
--------------------	----------


Fife Wicks
Classroom Teacher
Jeffersontown Elementary

APPENDIX K - 7 MALE HS ADVANCED PLACEMENT ENVIRONMENTAL SCIENCE CLASS

TO: Phyllis Croce, MSD
From: Angela Page, JCPS
Re: 2008 Grant Money
Date: 12/01/09

The Advanced Placement (AP) Environmental Science class at Louisville Male High School has been involved in the monitoring and restoration of Beargrass Creek Greenway at Irish Hill for over three years. The teacher and her students chose to work on the Greenway to apply classroom learning to real world issues. The purpose of the project is to have students learn the processes of analyzing a site, determining the steps needed to improve the site, and completing the work to create a public education and interpretive center on the creek. The funds received from Louisville and Jefferson County Metropolitan Sewer District were utilized to buy up-date, high level, environmental science textbooks for the classroom to provide the students the technical knowledge and skills to implement their projects. Current textbooks available to students did not include the technical knowledge and background information needed for watershed monitoring, planning, and design plan implementation needed for the projects. The funds provided the *Holt Environmental Science* textbooks for three AP environmental science courses taught at Louisville Male. In addition students in these three classes are sharing the *Living in the Environment* textbooks to gain additional skills for watershed studies. The textbooks support, and are approved by the Kentucky Department of Education by providing opportunity for inquiry and research, requiring students to use higher-level cognitive skills such as evaluating information, analyzing and synthesizing data, communicating findings, and providing opportunities for implementing the learning.

6/12/09 Holt Environmental Science Student Editions and interactive
on-line edition with live ink online reading help (2008)
ISBN No. 9780030931178
120 @ 66.95 each \$8,034.00

Holt Environmental Science textbooks provide students with complete content coverage and encourages students to develop the decision-making, critical-thinking, and laboratory skills they need to examine environmental issues for themselves.

7/25/09 Living in the Environment: Principles, Connections and Solutions
by G. Tyler Miller
ISBN No. 9780495556718
30 @127.46 \$3,823.80

Living In The Environment, 15th Edition" is the most comprehensive and up-to-date environmental science text on the market. It has the most balanced approach to environmental science instruction and included comparative diagrams throughout with a focus on prevention of and solutions to environmental problems.

Total expenditures of grant funds \$11,063.70
Service and Delivery fees paid by the school 1,903.50



School, Trade & Reference, Religion and International Publishers, Holt McDougal, Riverside Publishing, Great Source, Rigby Saxon, Steck-Vaughn, Learning Technology

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Less Payment Received	\$0.00
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Jefferson County Public Schools

C.B. Young, Jr., Service Center
 3001 Crittenden Drive
 Louisville, Kentucky 40209-1120
 502-485-3543

Fiscal Year 2010

Page 11

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HOLT RINEHART & WINSTON INC
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 ORLANDO, FL 32887

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001	TEXTBOOK, HOLT ENVIRONMENTAL SCIENCE STUDENT EDITION AND INTERACTIVE ONLINE EDITION WITH LIVE INK ONLINE READING HELP (CONTRACT LENGTH SUBSCRIPTION) 2008 GRADE 9-12 (TYPE P2) Vendor Item 9780030931178	120.0 EACH	66.95000	8034.00
002	SERVICE, SHIPPING & HANDLING (FREIGHT) ** Commodity 4600650-1702197	1.0 EA	803.40000	803.40
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 Director of Purchasing

APPENDIX K - 8 PROPOSED PLAN



Louisville and Jefferson County Metropolitan Sewer District
700 West Liberty Street
Louisville Kentucky 40203-1911
502-540-6000
www.msdlouky.org

May 14, 2009

Chief, Environmental Enforcement Section
Environmental and Natural Resources Division
U.S. Department of Justice
Protection
Post Office Box 7611
Washington DC 20044-7611

Jeff Cummins, Acting Director
Division of Enforcement
Department of Environmental
300 Fair Oaks Lane
Frankfort, KY 40601

Chief, Water Programs Enforcement Branch
Water Management Program
US EPA Region 4
Atlanta Federal Center
61 Forsyth Street SW
Atlanta, GA 30303

Subject: Supplemental Environmental Project
Stream Restoration
DOJ Case No. 90-5-1-1-08254

Attention Chiefs and Director:

I am writing to present our proposal for committing the \$400,000.00 in our Supplemental Environmental Project (SEP) Fund for stream restoration in accordance with Paragraph 34 of our amended Consent Decree. For the maximum benefit for our community, MSD is planning to participate in two separate stream restorations plan, partnering with local government and federal parties. Both projects shall follow the obligations and guidelines established in Exhibit H of the amended Consent Decree.

Plan I: Pond Creek/Mill Creek Trail Corridor and Ecosystem Restoration Plan (\$200,000.00)

This is a joint project between the Louisville Metro Government and the United States Army Corps of Engineers (USACE). The USACE initiated the project, completing a conceptual plan in 2008 that analyzed potential trail and ecosystem restoration opportunities along the Pond Creek and Mill Creek stream corridors. The plan was completed following the guidelines set forth under Section 22 of the Water Resources Development Act (WRDA). Both Pond Creek and Mill Creek are 303(d) listed streams. A major goal of the project is to improve water quality by the restoration of riparian ecosystems and improvements to the wildlife habitat along Pond Creek and Mill Creek corridors.

MSD plans to participate in the next phase of this project by providing funds to support clean up of streams and stream beds, removing debris and trash, improving habitat, stabilizing banks, creating vegetative buffers and/or removing invasive vegetation. Louisville Metro and the USACE have created a conceptual plan for shared use paths along these streams and some areas will require bank stabilization and/or vegetative buffers. Within six months of receipt of EPA's approval, MSD will



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coordinate with Louisville Metro to prioritize areas from their Pond Creek/Mill Creek Study for design completion and start of construction. Prior to start of construction, all necessary federal state and local permits will be obtained for the selected plan construction. All parties agree to complete the selected improvements within one year of starting construction.

Plan 2: Cherokee Park Stream Restoration Plan (\$200,000.00)

The proposed project is located on the Middle Fork of Beargrass Creek in Louisville, Kentucky. The Middle Fork is a 303(d) listed stream. We propose the restoration of a 400-ft. reach of the Middle Fork, in the vicinity of Bridge 7, on Beargrass Road in Cherokee Park, as shown in Attachment "A". The site provides an excellent opportunity for stream restoration, habitat and water quality improvements, and public outreach within the confines of the most popular of Louisville's historic Olinsted Parks.

The project will improve aquatic and riparian habitat by stabilizing eroding stream banks along the reach using natural channel design principles and soil bioengineering techniques. The design will include the excavation of a bankfull bench, restoration of riffle and pool complexes, and construction of log vanes and/or j-hooks, cross vanes, wood toe sod mat, and other soil bioengineering treatments.

The bankfull bench will reduce stresses on stream banks by providing floodplain access along the reach. The bench will be planted with native grasses, forbs, shrubs, and trees that will be selected based upon their abilities to thrive at the site; provide food and cover for wildlife; and shade for the stream. The natural channel design will include the creation of riffle, run, and pool habitat that are necessary for the stream to support a diverse fish population. In addition, aeration of water in the riffles will improve water quality. Log, j-hook, and cross vanes will protect stream banks by stilling water along the banks, will help maintain pools, and create holding areas for fish. Turbulent flow over the vane structures will also help aerate the stream. Wood toe sod mats will provide shelter for fish, support vegetation on the stream banks, and will help control bank erosion. Open areas between branches and limbs under the sod mats provide shelter for fish.

If you have question or need additional information, please contact Angela Akridge at (502) 540-6136 or Brian Bingham at (502) 649-3850.

Sincerely,



W. Brian Bingham
Regulatory Services Director

SEP Proposal EPA 5-12-09


cc: H. J. Schardein, Jr.
Mark Johnson
Paula Purifoy
Laurence J. Zielke



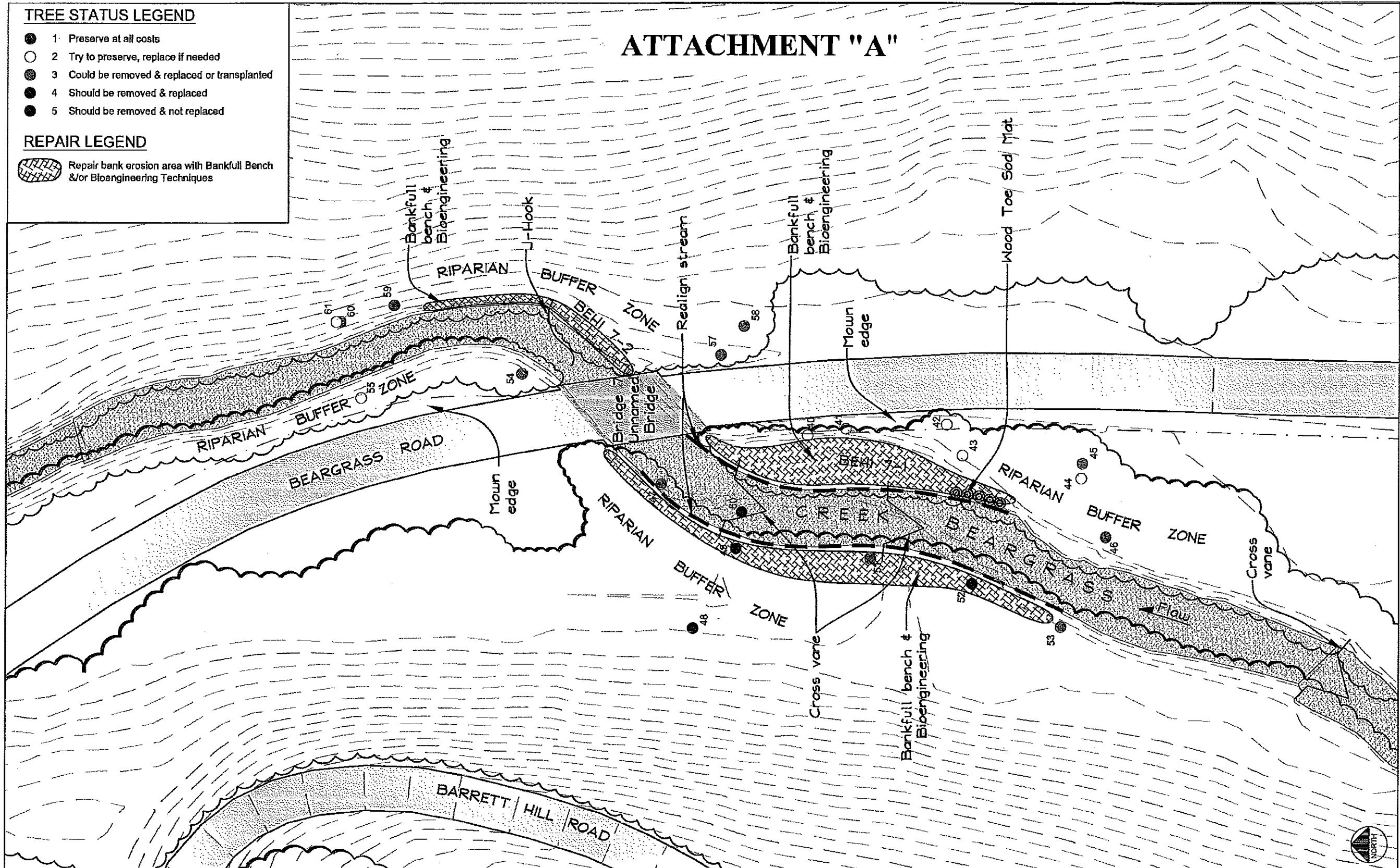
TREE STATUS LEGEND

- 1- Preserve at all costs
- 2- Try to preserve, replace if needed
- 3- Could be removed & replaced or transplanted
- 4- Should be removed & replaced
- 5- Should be removed & not replaced

REPAIR LEGEND

-  Repair bank erosion area with Bankfull Bench &/or Bioengineering Techniques

ATTACHMENT "A"



April, 2009

Proposed Supplemental Environmental Project - Cherokee Park



GEOWORKS

APPENDIX K - 9 APPROVED PLAN



Louisville and Jefferson County Metropolitan Sewer District
700 West Liberty Street
Louisville Kentucky 40203-1911
502-540-6000
www.msdlouky.org

July 23, 2009

Chief, Environmental Enforcement Section
Environmental and Natural Resources Division
U.S. Department of Justice
Post Office Box 7611
Washington DC 20044-7611

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

Chief, Water Programs Enforcement Branch
Water Management Program
US EPA Region 4
Atlanta Federal Center
61 Forsyth Street SW
Atlanta, GA 30303

Subject: Supplemental Environmental Project
Stream Restoration
DOJ Case No. 90-5-1-1-08254

Attention Chiefs and Director:

I am writing this letter as an update to the May 14, 2009, letter which outlined MSD's commitment for implementing Supplemental Environmental Project (SEP) Funds for stream restoration valued at \$400,000 in accordance with Paragraph 34 of our Amended Consent Decree for. The project scope and budget has been enhanced for the Pond Creek/Mill Creek Trail Corridor and Ecosystem Restoration Project (Project #2). The project details for the Cherokee Park Stream Restoration Project (Project #1) remain the same. Both projects will follow the obligations and guidelines established in Exhibit H of the Amended Consent Decree.

Project #1: Cherokee Park Stream Restoration Project (\$200,000.00)

The proposed project is located on the Middle Fork of Beargrass Creek in Louisville, Kentucky. The Middle Fork is a 303(d) listed stream. We propose the restoration of approximately 400 linear feet of the Middle Fork, in the vicinity of Bridge 7, on Beargrass Road in Cherokee Park, as shown in Attachment "A". The site provides an excellent opportunity for stream restoration, habitat and water quality improvements, and public outreach within the confines of the most popular of Louisville's historic Olmsted Parks.

The project will improve aquatic and riparian habitat by stabilizing eroding stream banks along the reach using natural channel design principles and soil bioengineering techniques. The design will include the excavation of a bank full bench, restoration of riffle and pool complexes, and construction of log vanes and/or j-hooks, cross vanes, wood toe sod mat, and other soil bioengineering treatments. The bank full bench will reduce stresses on stream banks by providing floodplain access along the reach. The bench will be planted with native grasses, forbs, shrubs, and trees that will be selected based upon their abilities to thrive at the site; provide food and cover for wildlife; and shade for the stream.



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www.louisvillegreen.com

The natural channel design will include the creation of riffle, run, and pool habitat that are necessary for the stream to support a diverse fish population. In addition, aeration of water in the riffles will improve water quality. Log, j-hook, and cross vanes will protect stream banks by stilling water along the banks, will help maintain pools, and create holding areas for fish. Turbulent flow over the vane structures will also help aerate the stream. Wood toe sod mats will provide shelter for fish, support vegetation on the stream banks, and will help control bank erosion. Open areas between branches and limbs under the sod mats provide shelter for fish.

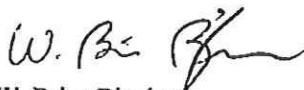
Project #2: Pond Creek/Mill Creek Trail Corridor and Ecosystem Restoration Plan (\$200,000.00)

This is a joint project between the Louisville Metro Government and the United States Army Corps of Engineers (USACE). The USACE initiated the project, completing a conceptual plan in 2008 that analyzed potential trail and ecosystem restoration opportunities along the Pond Creek and Mill Creek stream corridors. The plan was completed following the guidelines set forth under Section 22 of the Water Resources Development Act (WRDA). Both Pond Creek and Mill Creek are 303(d) listed streams. A major goal of the project is to improve water quality by the restoration of riparian ecosystems and improvements to the wildlife habitat along Pond Creek and Mill Creek corridors.

Two sites have been selected along the potential trail for stream restoration and invasive species removal along the Pond Creek corridor in southwestern Jefferson County as shown in Attachment "B". Site A is located along Pond Creek and will consist of removing invasive species along 1,200 feet of stream bank and adjacent floodplain (approximately 15 acres). The plan is to help restore the riparian corridor by planting up to 500 native species in the area once the invasive material is removed. Site B is an intermittent tributary of Pond Creek adjacent to Site A. The tributary is located in a wooded corridor and has been channelized. The goal for this area will be to restore the stream channel along approximately 1,800 feet of this tributary by constructing a new channel, installing in-stream natural structures and establishing native vegetation along the new stream bank. Both these areas will be completed with MSD funds, no grant funds will be used to complete the projects.

For both projects, MSD will spend the \$400,000 SEP funds. In the event that bid prices come in lower than the construction estimates, project areas will be expanded. If you have question or need additional information, please contact Angela Akridge at (502) 540-6136 or Brian Bingham at (502) 649-3850.

Sincerely,



W. Brian Bingham
Regulatory Services Director

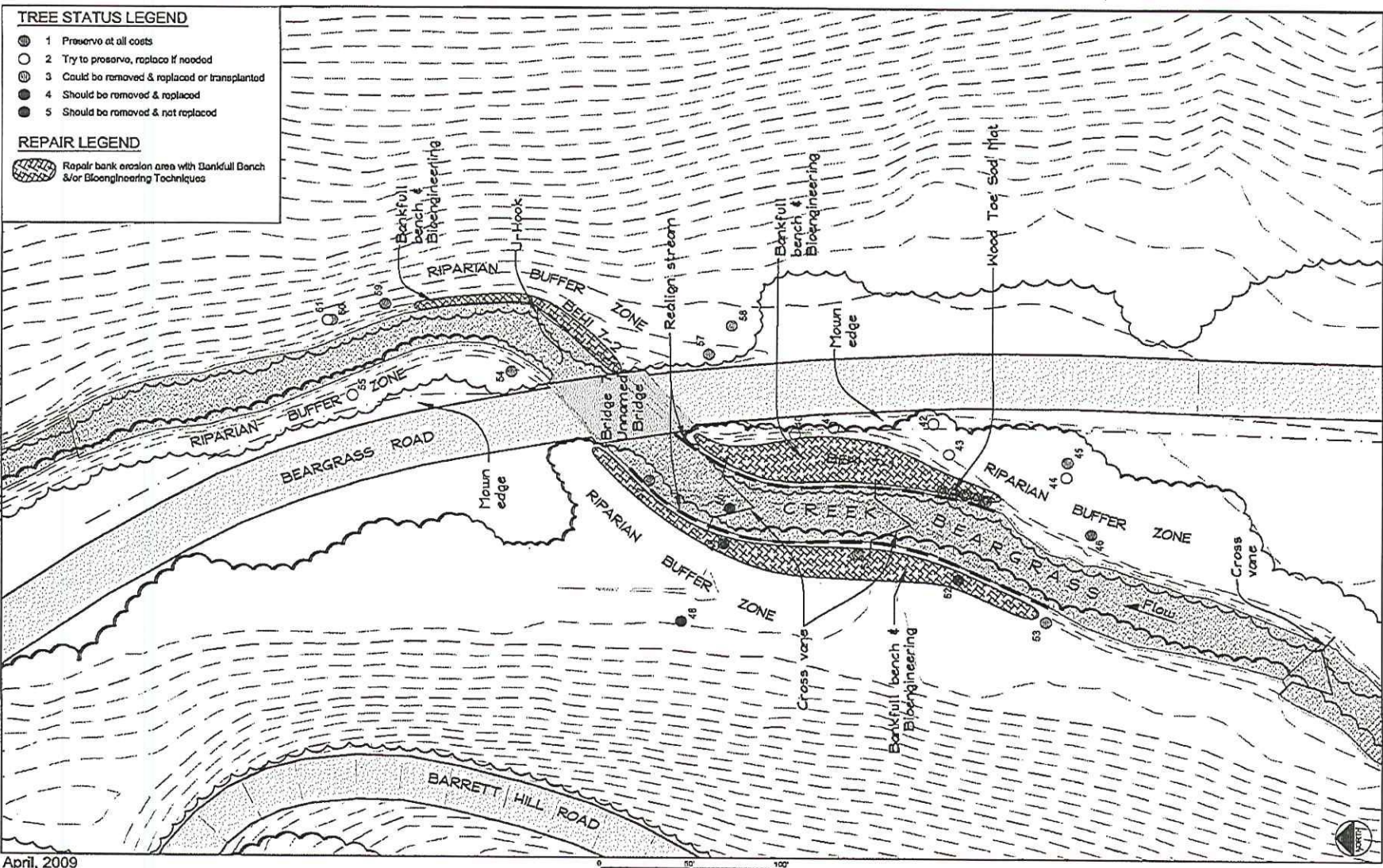
Attachments

Jdl/SEP Revised Proposal EPA 7-22-09.doc

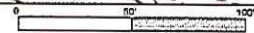
cc: H. J. Schardein, Jr.
Mark Johnson
Paula Purifoy
Laurence J. Zielke



Attachment "A"



April, 2009



Cherokee Park Bridges Study

Bridge #7 - Unnamed Bridge



Project #1: Cherokee Park Stream Restoration Project

Preliminary Opinion of Cost for Construction.

<u>Item</u>	<u>Unit</u>	<u>Quantity</u>	<u>Unit Price</u>	<u>Item Cost</u>
Mobilization/Demobilization	LS	1	\$ 18,700.00	\$ 18,700.00
Construction Entrance	EA	3	\$ 3,000.00	\$ 9,000.00
Bench Excavation and Grading	CY	853	\$ 20.00	\$ 17,060.00
Channel Excavation/Filling	CY	2133	\$ 15.00	\$ 31,995.00
Riparian Seed Mix	SY	4787	\$ 1.15	\$ 5,505.05
Erosion Control Blanket	SY	1160	\$ 3.75	\$ 4,350.00
Live Stakes	EA	5120	\$ 4.50	\$ 23,040.00
Trees and Shrubs (3 gallon container)	EA	267	\$ 35.00	\$ 9,345.00
Cross Vanes	EA	3	\$ 12,000.00	\$ 36,000.00
J-Hooks	EA	1	\$ 6,000.00	\$ 6,000.00
Wood Toe Sod Material	LF	40	\$ 100.00	\$ 4,000.00
Silt Fence	LF	1220	\$ 2.00	\$ 2,440.00
Pump-Around	EA	3	\$ 10,000.00	\$ 30,000.00
Clearing/Grubbing	LS	1	\$ 8,750.00	\$ 8,750.00
Educational Signage	LS	1	\$ 10,000.00	\$ 10,000.00

Project Total: \$ 216,185.05



Attachment "B"

1139 South Fourth Street • Louisville, KY 40203 • Phone 502.625.3009 • Fax 502.625.3077

MEMORANDUM – VIA EMAIL

DATE:	July 20, 2009	DATE:	July 20, 2009
TO:	John Swintosky – Metro Parks John.Swintosky@louisvilleky.gov	TO:	John.Swintosky@louisvilleky.gov
CC:	Lisa Hite – Metro Parks – Lisa.Hite@louisvilleky.gov; Milano Boz – Metro Parks – Milano.Boz@louisville.gov	CC:	Lisa.Hite@louisvilleky.gov; Milano.Boz@louisville.gov
FROM:	Ron Thomas and Shella Broughton Redwing Ecological Services, Inc.	FROM:	Ron Thomas and Shella Broughton Redwing Ecological Services, Inc.
SUBJECT:	Project Overview Pond Creek SEP – Stream Restoration Jefferson County, Kentucky Redwing Project 07-122	SUBJECT:	Project Overview Pond Creek SEP – Stream Restoration Jefferson County, Kentucky Redwing Project 07-122

Per your request and our recent discussions, Redwing Ecological Services, Inc. (Redwing), is pleased to provide an overview of proposed SEP stream restoration activities in the Pond Creek corridor in southwestern Jefferson County, Kentucky. The purpose of this memo is to provide an outline of existing conditions, proposed restoration efforts, project benefits, and approximate costs for restoration efforts on two sites.

EXISTING CONDITIONS

Two sites have been identified for potential stream restoration activities along a portion of the Pond Creek corridor. They are located on the north and south side of the Gene Snyder Parkway, approximately 1.3 miles east of Dixie Highway. This portion of the Pond Creek corridor has been adversely impacted by adjacent development activities in the past and offers various restoration opportunities. The sites are depicted on the attached Figures 1 and 2 and their existing conditions are described below.

Site A is located on the east side of Pond Creek between the Gene Snyder Freeway on the south and CSX Railroad on the north. The site is located within the 100-year floodplain of Pond Creek and consists primarily of medium age bottomland forest. It contains an abandoned ox-bow of Pond Creek and several wooded wetlands in low-lying depressions. Although it has the potential to be a high quality riparian forest, this site has substantial amounts of bush honeysuckle (*Lonicera maackii*), which is taking over the understory and preventing native shrubs and forbs from becoming established.

Site B consists of a riparian corridor along an intermittent tributary of Pond Creek flowing out of Dodge Gap, located on the south side of Gene Snyder Freeway across from Site A. Although this stream is located within a wooded corridor, it has been channelized along the southwest side of a gravel access road leading to a lake. It has begun to headcut, with a channel depth of over five feet in the northern (downstream) portion. These past impacts have removed natural stream morphology, limited the available aquatic habitat, and degraded water quality primarily due to increased storm flows and sedimentation from the vertical eroding banks.

RESTORATION PLANS

Restoration plans for the sites have been identified to improve a variety of stream functions. Major activities include riparian corridor restoration and stream channel restoration. The goal of these activities is to establish stable stream corridors, dominated by native vegetation, which provide improved wildlife/aquatic habitat, water quality and outdoor recreation/education opportunities. Major restoration activities are provided below.

SITE	GOAL	ACTIVITIES
A	Restore Riparian Corridor	Remove (cut and herbicide) invasive bush honeysuckle along 1,200 feet of streambank and adjacent floodplain within 500 feet of channel (approximately 15 acres).
B	Restore Stream Channel	Utilize natural channel assessment and design techniques to re-establish approximately 1,800 feet of high quality, stable stream corridor to replace channelized "ditch". Work includes constructing a new channel, installing in-stream structures, and establishing native vegetation.

PROJECT BENEFITS

The proposed restoration projects will help improve water quality and wildlife/aquatic habitat in the Pond Creek corridor, as well as support increased opportunities for outdoor education/recreation. Additional benefit will be gained from these projects due to: their location adjacent to Jefferson County Memorial Forest (surrounding Site B); complementary wetland and natural area restoration activity that has been proposed on portions of these sites by a private entity; and the commitment of that private entity to donate these sites to Metro Parks.

These sites are located along the future Pond Creek section of the Louisville Loop county public loop trail (see Figure 1 and 2). The Pond Creek trail section will connect with proposed sections along Floyds Fork to the east and with existing trail sections along the Ohio River to the west. It will also enter Jefferson Memorial Forest through the Site B stream restoration corridor proposed for this SEP. Extended post-construction monitoring will be provided by the private entity, and the ownership of the sites by Metro Parks will help ensure long-term stewardship through on-going maintenance and management.

ESTIMATED COSTS

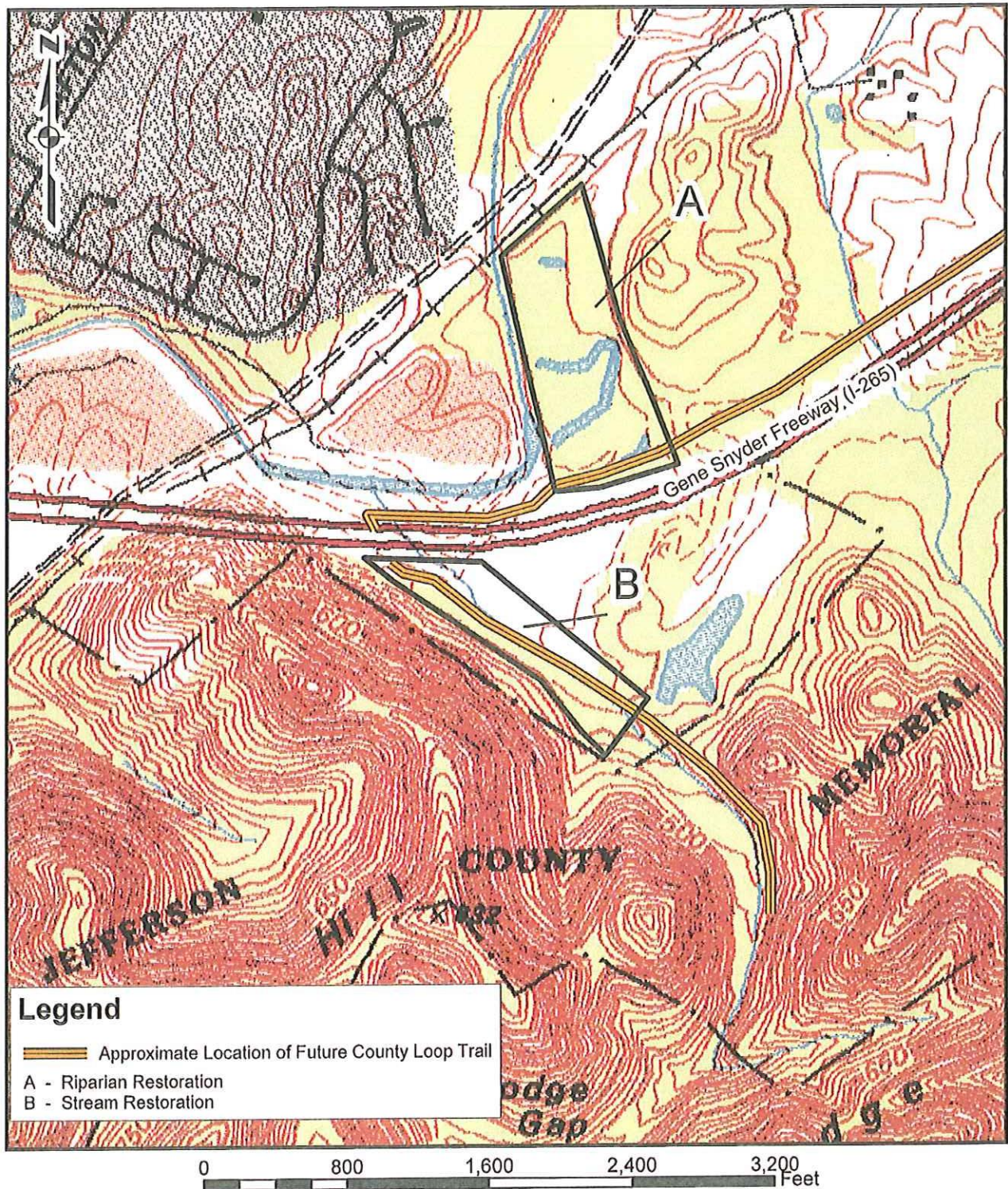
Actual costs of the proposed restoration efforts cannot be determined until more detailed construction (grading and planting) plans are developed and approved. However, we are providing ballpark estimates for completing this work based on experience from similar projects to assist Metro Parks meet preliminary planning needs. The estimates are as follows:

SITE	ASSUMPTIONS	COST ESTIMATE
A	Bush honeysuckle removal/treatment of 15 acres at approximately \$700 to \$1,000 / acre with second/third follow-up treatments. Planting 300 to 500 native shrub (material and labor) approximately \$30 / three-gallon pot Extended monitoring/maintenance completed by outside entity.	\$25,000 to \$35,000
B	Natural channel assessment. Construction (grading, structure installation, and planting) of 1,800 feet of stream at approximately \$70 to \$100 / foot. Post-construction monitoring completed by outside entity.	\$126,000 to \$180,000
TOTAL		\$151,000 to \$215,000


Thus, it appears that the proposed restoration activities can be completed for between \$151,000 and \$215,000. However, a detailed budget will be forthcoming, which more narrowly defines project tasks and their associated costs.

We trust this overview adequately describes the proposed stream restoration projects at this time. More detailed design plans and costs will be provided as the projects proceed. Please contact Ron Thomas at (502) 625-3009 to discuss this memo or the overall project further.

Source: USGS 7.5-minute topographic quadrangle, Valley Station, KY



Legend

-  Approximate Location of Future County Loop Trail
- A - Riparian Restoration
- B - Stream Restoration

POND CREEK SEP RESTORATION
JEFFERSON COUNTY, KENTUCKY

FILE: Redwing/07-122/Figures/SEP Site Location

REDWING PROJECT 07-122

PRINT DATE 7/20/09

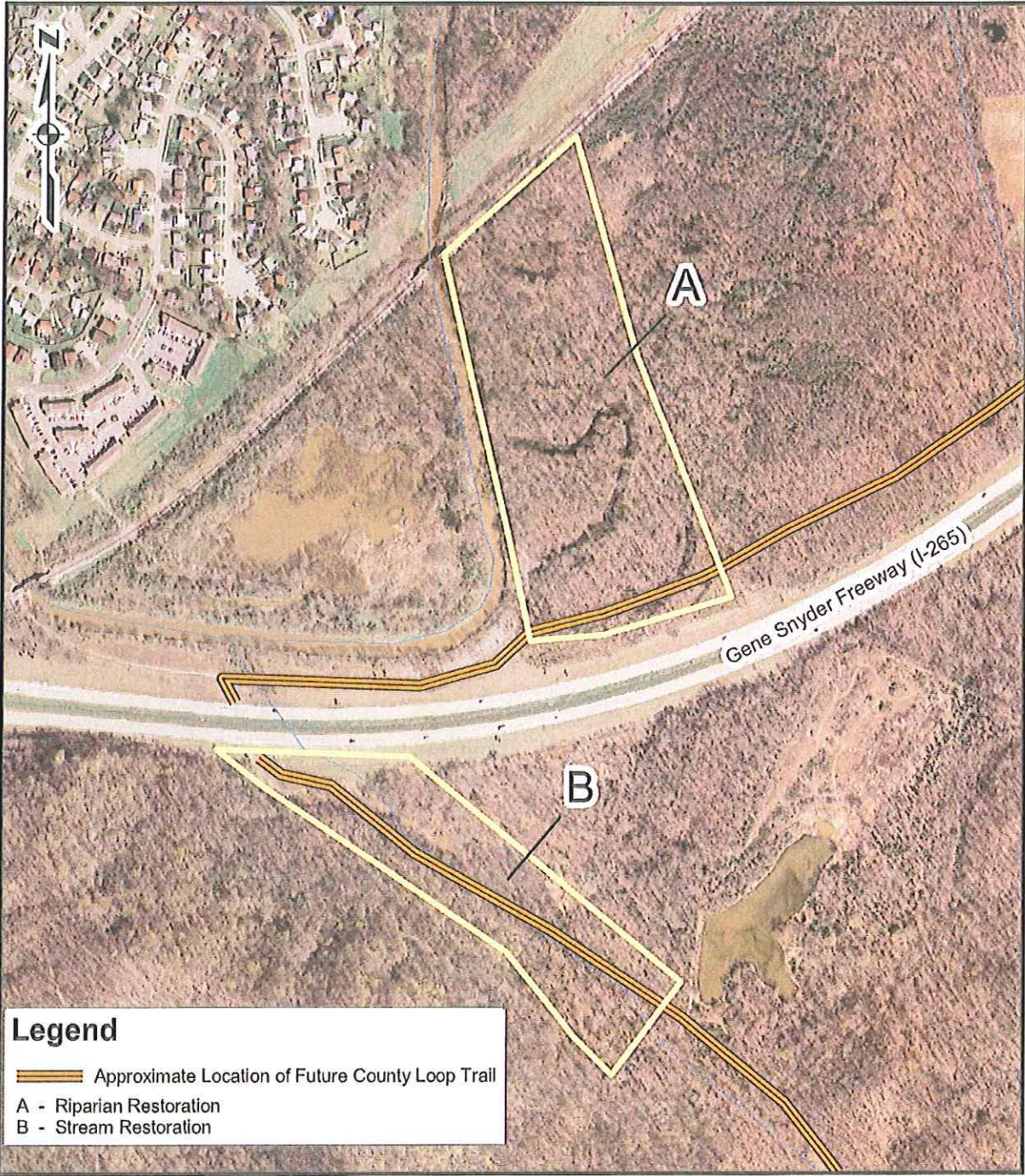
DRAWN BY LAD-M



STREAM RESTORATION SITES -
LOCATION MAP

FIGURE 1

Source: FSA NAIP Ortho Imagery from kygeonet.ky.gov (2008)



0 500 1,000 1,500 2,000 Feet

POND CREEK SEP RESTORATION
JEFFERSON COUNTY, KENTUCKY

FILE: Redwing/07-122/Figures/SEP Aerial
REDWING PROJECT 07-122
PRINT DATE 7/20/09

DRAWN BY LAD-M



STREAM RESTORATION SITES -
AERIAL PHOTOGRAPH

FIGURE 2

APPENDIX L – JANUARY 2009 ICE STORM

Snow and Ice Storm January 26, 2009 – February 6, 2009

THE STORM

This report is offered as the written report related to the extreme snow and ice event that Louisville experienced during the time frame January 26, 2009 through February 6, 2009.

The Louisville Metro area experienced its second severe storm within a six-month period when a devastating snow-and-ice storm struck our community January 26, 2009 through February 6, 2009.



Late Monday evening, on January 26, 2009 the snow started to fall. On Tuesday the ice started. By 7:30 a.m. on Thursday, LG&E reported that over 205,000 customers in Jefferson County were without power. This represents the second largest electric service disruption ever for our community. This storm was compounded by subfreezing temperatures. Local residences, businesses, schools and churches lost power because of the snow and ice.

THE RESPONSE

MSD staff immediately pulled their resources together. Metro Operations, Infrastructure and Flood Protection, Engineering and Regulatory Services went to work to get generators in place for the 105 MSD facilities that lost power.

Infrastructure and Flood Protection coordinated with Louisville Metro Public Works staff to summon drivers and designate shifts for snow removal and salting. MSD crews cover a route of approximately 185 miles.

During this cleanup effort, I&FP drivers and supervisors worked 16-hour shifts in constant rotation throughout the week to clear and salt roads and remove limbs and debris from roadways for performing snow-removal tasks. They also cleared snow and ice from catch basins, and then added salt around those basins to prevent refreezing.

The Customer Relations Department Call Center fielded a significant number of both MSD calls and after-hours MetroCalls. Department staff handled 2,100 MSD calls and more than 3,800 MetroCalls from January 26, 2009 through February 6, 2009.



Snow and Ice Storm January 26, 2009 – February 6, 2009

Metro Operations prevented discharges or home flooding with the use of generators and tanker trucks. Metro Operations and I&FP worked in tandem to isolate the nature of the problems and swiftly aid MSD customers wherever they were needed. Only 17 MSD customers experienced backups during the storm due to power. An additional 9 customers had a backup during this time that was related to a blockage.

Metro Operations staff members worked extended shifts to maximize increased flows through treatment facilities during the event—at times when primary power was not available.

I&FP employees staffed 34th Street and Starkey Flood Pumping Stations because of massive power outages.

MSD crews continue to help Metro Public Works by removing limbs and debris from fallen trees. On February 9, 2009, I&FP began providing 12 crews to assist with this cleanup effort six days each week.

There were 105 MSD-operated pump stations/treatment plants without primary power for multiple days as a result of this snow and ice storm. There were a limited number of portable generators available in the county due to the wide-spread nature of the event. MSD staff



orchestrated a monumental, comprehensive, interdivisional effort to minimize the dry weather overflow of untreated sewage throughout the duration of this event. This effort involved the use of portable generators and tanker trucks. Generators were brought into the community from around the region, as far away as Northern Indiana, Missouri, Alabama and West Virginia. MSD placed temporary generators at 53 different locations. These generators,

coupled with the MSD generator fleet, were moved among the stations, along with hauling where feasible. Approximately 50 generators were in service at the peak of the event.

During the snow and ice storm MSD was assisted by two hauling companies. Over 1,347,800 gallons of sewage from 36 different locations (34 different pump stations, 1 manhole and 1 treatment plant) was hauled to prevent overflows. Refer to the table below titled “**Hauling Locations**”.

Engineering staff coordinated the involvement of available contractors and equipment to aid in the removal of snow, ice and downed trees at critical pump-stations and water quality treatment centers. In addition, various staff members ran routes to furnish fuel to those stations running on generators.

Snow and Ice Storm January 26, 2009 – February 6, 2009

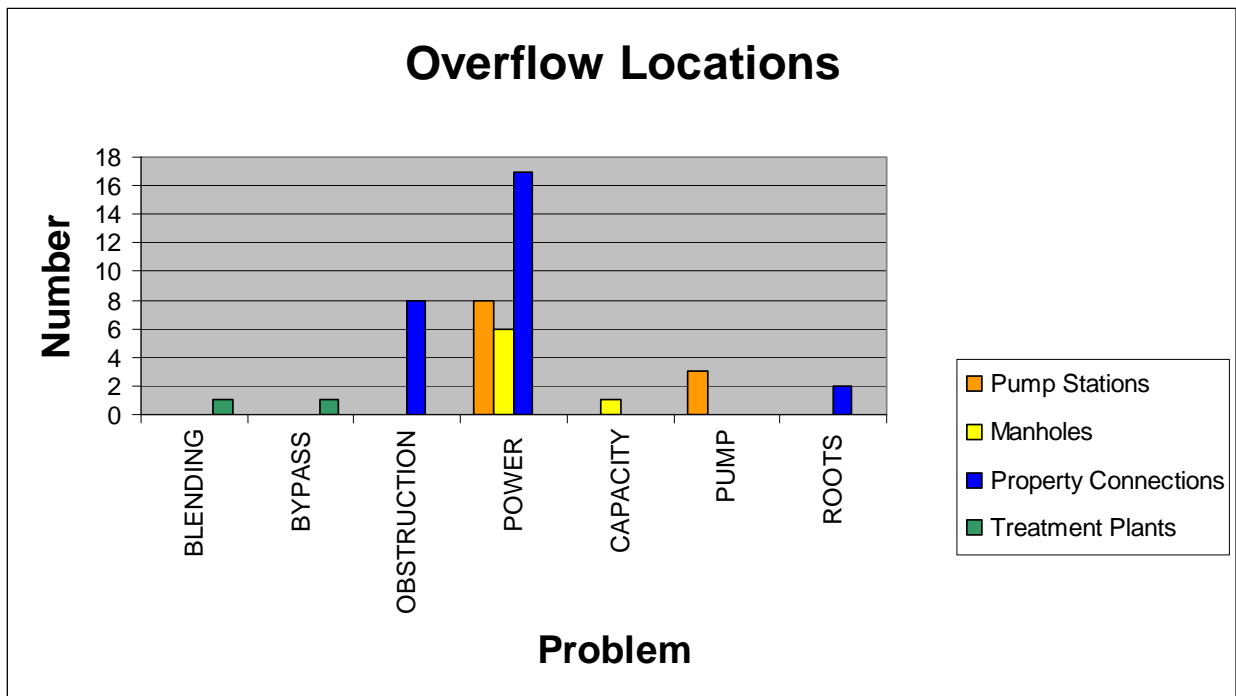
Manual inspections were performed by staff from Engineering, Metro Operations, GIS Services and RS at WQTCs and PS to look for overflows since the telemetry system was down.

THE DATA

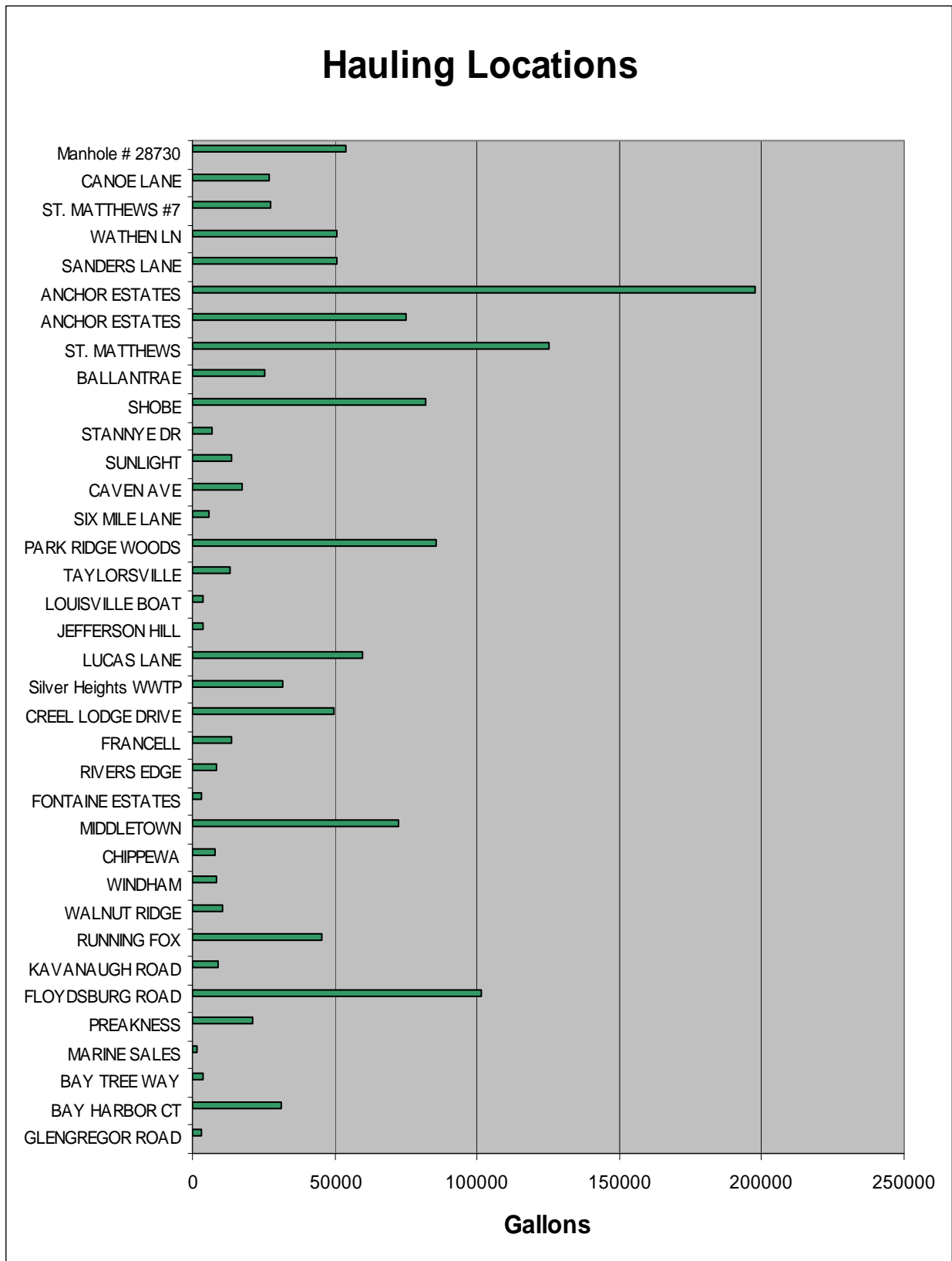
MSD documented a total of 46 reportable overflows, of these only 17 reached Waters of the United States, 3 reached the ground and 26 were in the interior. (See attached discharge report for details on the WUS).

For the 46 reportable overflows, there were 11 overflows associated with pump stations, 26 overflows associated with property service connections, 2 overflows (1 bypass and 1 blending) associated with treatment plants and 7 overflows associated with manholes.

The cause associated with the 46 overflows varied. Power was the major problem reported with 33 overflows recorded. There were 7 obstructions, 1 pumped location, 2 root issues, 1 capacity issue, 1 bypass event and 1 blending event during this ice and snow storm.



Snow and Ice Storm January 26, 2009 – February 6, 2009



Snow and Ice Storm January 26, 2009 – February 6, 2009

THE SUMMARY

The situation following the storm was continuously changing. Some of the issues addressed by LG&E were that additional lines continued to fall because of weakened trees along with cascading problems that occur as they energize various lines. Several factors must be considered when trying to understand the overflow situation.

- 1) hundreds of thousands of people were without power, so there were reduced wastewater flows (less washing machines, dish washers, showers, and water use in general),
- 2) additional stationary generators were in place within the MSD system,
- 3) some of the mobile generators were routed through a circuit of pump stations to keep each pumped down and we were able to get to many more than normal due to low flows as previously described,
- 4) tankers hauled more stations due to the low flows,
- 5) reports included only overflows to Waters of US; there were several overflows that were contained on the ground and will be reported in annual report, and
- 6) Coordinated and dedicated staff utilized systems and processes strategically put in place to minimize overflows.

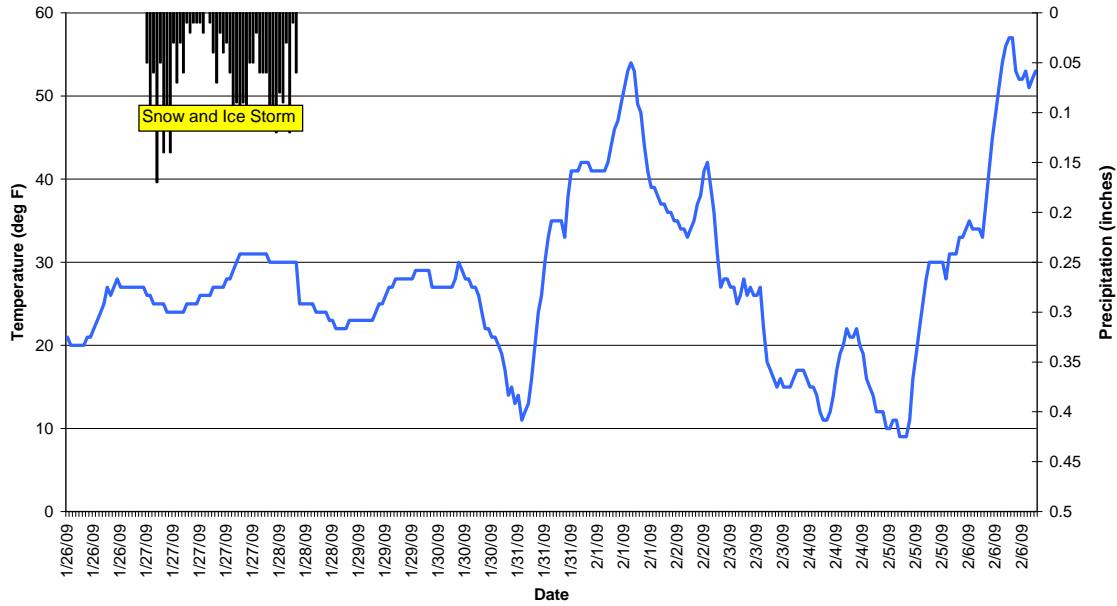
In summary, 105 pumping stations/treatment plants that lost power were maintained with emergency generators and tanker hauling. (See attached map) MSD staff worked 12 hour shifts over 10 days. I&FP trucks and personnel assisted Louisville Metro Public Works staff to help clear snow and ice and haul debris from roadways. Less than 955,546 gallons of sewage discharged from our pumping stations as unauthorized discharges. More than 1,000,000 gallons of wastewater was hauled from disabled pumping stations to wastewater treatment plants.

Only two of the 17 initial discharge reports required for overflows that reached the WUS did not occur within the required 24 hour period. Notifications on these two events were sent as soon as staff identified the missing data. There were two, 5-day letters needed and both were sent in the required time frame. Quality control was performed on all data entries to review the associated records for accuracy and completeness.

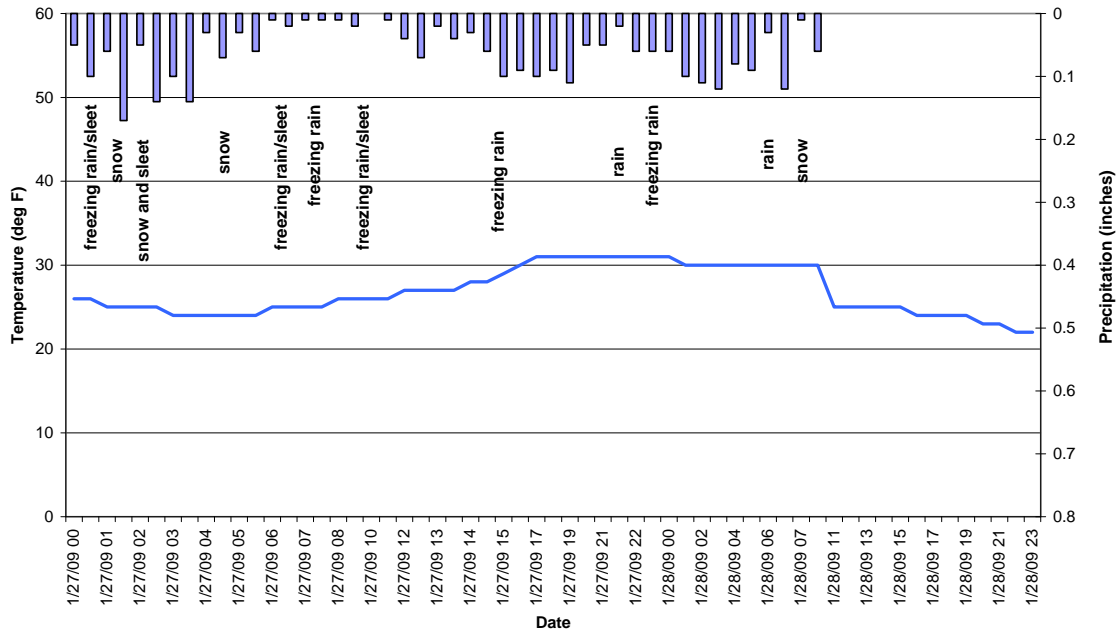
Snow and Ice Storm January 26, 2009 – February 6, 2009

Graphs that show the specifics for snowfall and temperature are shown below. A total of 2.86 inches of wintry mix was recorded between January 27, 2009 and January 28, 2009.

January 26 - February 6, 2009
Louisville KY Precipitation and Temperature vs. Date
Readings taken at Louisville International Airport



January 26 - 28, 2009
Louisville KY Precipitation and Temperature vs. Date
Readings taken at Louisville International Airport



Snow and Ice Storm January 26, 2009 – February 6, 2009

The timeline of MSD response activities and associated events is provided below.

1/27/2009	9:44:40 AM	Should see a break in the action for a few hours. Expect sleet/snow moving back in this afternoon. 1-2" of accumulation overnight tonight.
1/27/2009	3:10:29 PM	Primary roads in good shape, still some secondary roads snow covered. Expect 1"-1.5" overnight, and 1"-2" tomorrow morning. WWTP's all look good.
1/28/2009	5:49:53 AM	FYI, power fail at Nightingale. CSO discharge start @ 0530. Expecting high volume discharge (>50000 gal).
1/28/2009	8:01:48 AM	40+ power fails. WWTP flows are high & still increasing. Crews primary role should be protecting homes at this point. Report discharges as possible.
1/28/2009	8:03:33 AM	LG&E reports 75,000 customers without power currently. Still losing transformers every hour.
1/28/2009	8:13:59 AM	Setting up 8 pumps in Beechwood & Highgate at this time.
1/28/2009	8:46:08 AM	94 power fails, plant flows high. Heavy snow will cover Metro for the next couple of hours.
1/28/2009	9:55:45 AM	Contractors cleaning entrance to Highgate Springs, and removing trees @ Hitt Lane, and Hunting Creek South WWTP.
1/28/2009	10:14:20 AM	Prospect Police will not allow our vehicles into Hunting Creek Subdivision due to downed power lines.
1/28/2009	10:16:15 AM	2 power blips.
1/28/2009	10:16:17 AM	Prospect Police will not allow our vehicles into Hunting Creek Subdivision due to downed power lines.
1/28/2009	10:19:11 AM	Power down at Starkey. Sending electrician. Will report back. Inform CMF when 34th Street diesel tank is filled.
1/28/2009	10:30:29 AM	Currently working 97 power outages in Metro Ops. Staff extra Ops coverage for C & A shifts tonight. Also need 1 electrician and 1 mechanic on each shift.
1/28/2009	10:40:48 AM	Starkey on LG&E power. Was a temporary glitch.
1/28/2009	11:14:25 AM	Generator just powered on to main building at CMF.
1/28/2009	11:17:24 AM	Currently working nearly 100 power outages. Schedule fuel runs as needed. Protect homes first, report discharges.
1/28/2009	3:00:11 PM	Prospect Police Chief advises entrance to Hunting Creek may now be passable.
1/28/2009	5:52:38 PM	Remind customers that report basement flooding to field crews to contact Customer Relations @ 587-0603.
1/28/2009	5:55:54 PM	Temperatures should drop to 10 or lower overnight. Expect freeze ups. Make sure WWTP's get checked for disinfection processes.
1/28/2009	6:10:33 PM	Currently 81 power outages. WWTP's flows stabilized.
1/28/2009	8:18:11 PM	Currently working 80 power outages. Plant flows decreasing.
1/29/2009	10:37:37 AM	Currently working 62 power outages. Slight chance of snow overnight, and possible wind gust of 25MPH on Friday. Document EVERYTHING as it occurs.
1/29/2009	2:49:30 PM	Currently working 61 power outages. Anyone doing PS inspections should take SORP signage with them before leaving to do inspections.
1/30/2009	2:35:18 PM	Currently working 55 power outages. Monday storm is currently tracking along the 3" route.
1/30/2009	4:30:55 PM	Currently working 52 power outages. LG&E reporting 174,000 customers w/o power. Metro Ops is staffed 24-7 Monday.
1/30/2009	8:03:18 PM	Currently working 43 power outages.
1/31/2009	9:03:20 AM	Currently working 32 power outages, several stations were restored last night.
1/31/2009	2:41:10 PM	Currently working 47 power outages.
1/31/2009	6:04:00 PM	Currently working 49 power outages. LG&E has restored both feeds to DRGWQTC.

Snow and Ice Storm January 26, 2009 – February 6, 2009

2/1/2009	8:48:42 AM	Currently working 40 power outages. 3 rental generators have arrived from Birmingham, Al.
2/1/2009	3:19:01 PM	Still working 40 power outages, plant flow increasing.
2/1/2009	3:33:03 PM	DRGWQTC staff switching plant back to Mill Creek power feeder.
2/1/2009	3:35:40 PM	Metro Ops staff should plan to return to normal 8 hr shifts on Monday 2/2/09.
2/1/2009	4:19:54 PM	DRGWQTC is back on both power feeds.
2/2/2009	6:16:01 AM	Currently working 40 power outages. Expect melting today to increase plant flows.
2/2/2009	1:39:45 PM	Metro Ops should schedule 1 electrician & 1 Mechanic C & A shift. East & West areas should schedule 1 extra operator for A shift.
2/3/2009	9:59:51 AM	Currently working 22 power outages. Expect wind gust this afternoon up to 30MPH. DO NOT return rental generators yet.
2/4/2009	11:49:37 AM	J-Town clarifier still breaking chains, RAS pumped air locked last night & cross collector still being drained. So far found a large piece of concrete.
2/5/2009	7:16:20 AM	Bridge closed due to being struck by barge.
2/5/2009	9:59:34 AM	Down to 3 power outages. Hopeful those will restore today. Returning rental generators today.
2/6/2009	9:31:43 AM	Currently resolving final power outage for this event. Expect significant melting today that will increase plant flows.
2/6/2009	1:59:40 PM	Plant flows stable, all power restored. 30% chance of rain Sunday with estimate of .10" to .25" totals.

