



**CHARLOTTE**  

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**CHARLOTTE-MECKLENBURG  
UTILITY DEPARTMENT**

# Wastewater Performance Report

**July 1, 2011 – June 30, 2012**

**Charlotte-Mecklenburg Utility Department**

4222 Westmont Drive  
Charlotte, NC 28217

Phone: 704-336-4407  
Website: [www.cmutilities.com](http://www.cmutilities.com)

## **I. General Information**

### **Name of Regulated Entity and Responsible Person:**

City of Charlotte  
Barry Gullet, Director  
Charlotte-Mecklenburg Utility Department (CMUD)  
Administration Division  
4222 Westmont Drive  
Charlotte, NC 28217  
704-336-4407

### **Applicable Permits:**

There are five wastewater treatment facilities (WWTF) owned and operated by Charlotte-Mecklenburg Utility Department (CMUD). Below is a list of these facilities and their applicable NPDES (National Pollutant Discharge Elimination System) permit number. Included with the list of facilities is the name of the Operator in Responsible Charge (ORC) at the facilities and the site telephone numbers.

<b><u>WWTF</u></b>	<b><u>NPDES Permit Number</u></b>	<b><u>ORC</u></b>	<b><u>Phone</u></b>
Irwin Creek WWTP	NC0024945	Michael Lingerfelt	704-357-1344
Mallard Creek WRF	NC0030210	Darrell DeWitt	704-547-0680
McAlpine Creek WWMF	NC0024970	Sandy Kim Neely	704-542-0736
McDowell Creek WWTP	NC0036277	Joseph Lockler	704-875-6443
Sugar Creek WWTP	NC0024937	Billy Allen	704-553-2124

In addition to those five plants, CMUD sends wastewater to the Rocky River Regional Wastewater Treatment Plant through an agreement with The Water and Sewer Authority of Cabarrus County (WSACC). CMUD also accepts flow from Union County to McAlpine Creek WWMF.

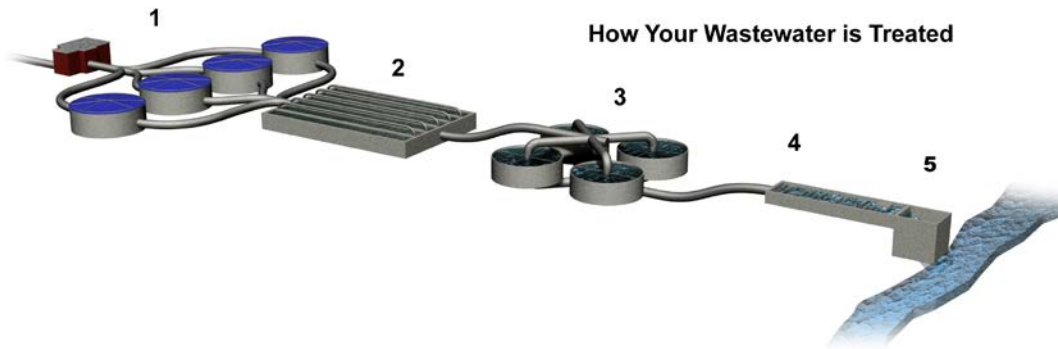
<b><u>WW COLLECTION</u></b>	<b><u>NCDWQ Permit Number</u></b>	<b><u>ORC</u></b>	<b><u>Phone</u></b>
4100 W. Tyvola Road	WQCS00001	Stuart Rosenberger	704-432-4376

### **Description of collection and treatment systems:**

Charlotte-Mecklenburg Utility Department (CMUD) collects wastewater from approximately 235,157 households and businesses throughout the county. Wastewater is collected and directed (via gravity flow supported by sewage lift stations) to one of five CMUD wastewater treatment plants or the Rocky River Regional Plant (owned and operated by the Water and Sewer Authority of Cabarrus County) where it is treated. An average of 77.1 million gallons of wastewater is treated and discharged each day from CMUD plants. CMUD contributes an average of 3.45 million gallons a day (MGD) to the Rocky River Plant.

More than 150 of CMUD's 746 employees work to maintain 4,180 miles of collection pipelines and 79 sewage lift stations throughout the county. The gravity sewer pipes in this system range in size from 8 inches in diameter to 78 inches in diameter.

Each of CMUD's wastewater treatment plants applies primary, secondary and advanced treatment to the waste stream. Large solid particles and inorganic materials are removed by screening and settling. The wastewater is treated biologically to remove dissolved pollutants. Disinfection reduces bacterial and pathogenic materials. Finally, the waste stream passes through granular filters to remove very small particles that may not have been removed through the settling process. The treated water is released to the stream.



**1. Primary Treatment**

Solid particles & objects are captured by screens, grit chambers, and primary clarifiers.

**2. Aeration/Secondary Treatment**

Wastewater is aerated to support growth of microorganisms that remove harmful pollutants.

**3. Clarification**

Solids and microorganisms settle out in large basins.

**4. Advanced Treatment**

Wastewater flows through granular filters to remove fine particles. Nutrient levels are reduced at McDowell and McAlpine Creek Wastewater Treatment Plants.

**5. Disinfection**

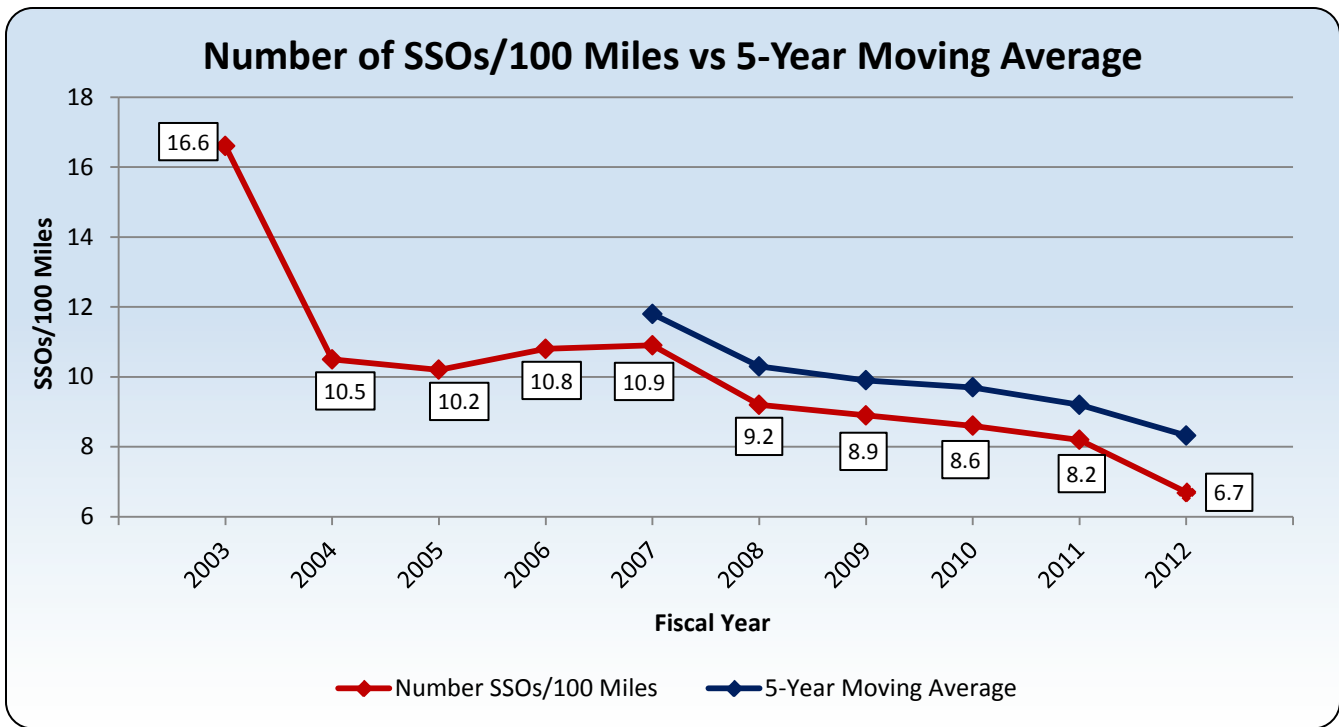
Water is disinfected to remove any remaining pathogens, and then the treated water is released into creeks.

**II. Summary of System Performance**

**How did we do?**

We are meeting all reporting deadlines and requirements of the federal EPA Administrative Order to reduce spills, and the EPA approved Capacity, Management, Operations and Maintenance (CMOM) Programs.

We successfully collected and treated 99.9977 percent of the more than 28 billion gallons of wastewater the community produced last year. There were 281 sanitary sewer overflows (SSOs) in our community, a decrease of 54 spills compared to the year before. In fact, the number of spills per 100 miles of pipe continued to decline from 10.9 in 2007 to 6.7 spills in fiscal year 2012 as illustrated by the table on page 3.



CMUD employees work 24 hours a day, 365 days per year, to prevent and respond to overflows. Crews prevent overflows by clearing pipes of tree roots and grease, as well as replacing broken and aging pipes. CMUD has increased its efforts to educate customers about properly disposing of fats, oils and grease (FOG).

### **Performance Highlights**

Charlotte-Mecklenburg Utility Department (CMUD) celebrated some important milestones even as it took numerous actions to prevent overflows and protect water quality through effective wastewater treatment.

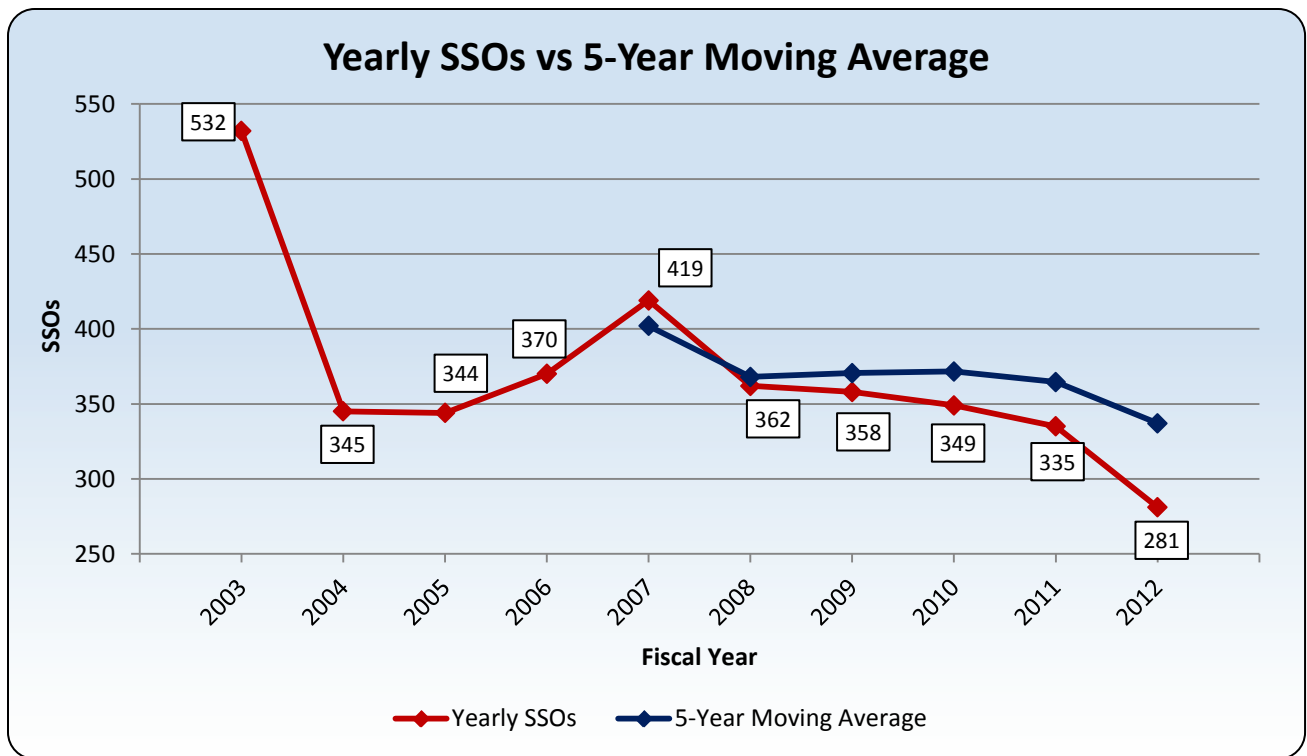
- Our wastewater treatment plants met 99.91 percent of all permitted discharge limits.
- All five wastewater treatment plants earned Peak Performance Awards from the National Association of Clean Water Agencies (NACWA) for the calendar year ending 2011. NACWA Peak Performance Awards recognize wastewater treatment professionals throughout the nation for protecting the environment and public health through outstanding treatment and discharge regulatory compliance. McDowell Creek Wastewater Treatment Plant earned a Platinum Award for a fourth year, which means eight consecutive years of perfect compliance. Mallard Creek Wastewater Treatment Plant received a Platinum Award for seven consecutive years of perfect compliance. McAlpine Creek Wastewater Treatment Plant was awarded its fourth Gold Award in a row for perfect compliance. Sugar Creek Wastewater Treatment Plant and Irwin Creek Wastewater Treatment Plant earned Silver Awards for five or fewer violations in a one-year period.
- 12 miles of sewer pipe and 350 manholes were rehabilitated, repaired or replaced.
- 239.6 miles of sewer pipe were treated with root control chemicals.
- More than 800 miles of sewer lines were cleaned (including some multiple cleanings in the same location) by CMUD Field Operations Staff and an additional 37 miles of pipe were cleaned by contractors. One mile of large diameter pipe was cleaned by contractors.
- 150 sewer service connections were replaced.
- More than 154 miles of rights of way were cleared by Field Operations and contractors to maintain access to off-street sanitary sewer pipes and to help prevent root intrusions.
- CMUD completed the initial phase of the Work & Asset Management (WAM) Program's implementation of Azteca Cityworks, utilizing field deployed work management capabilities in an

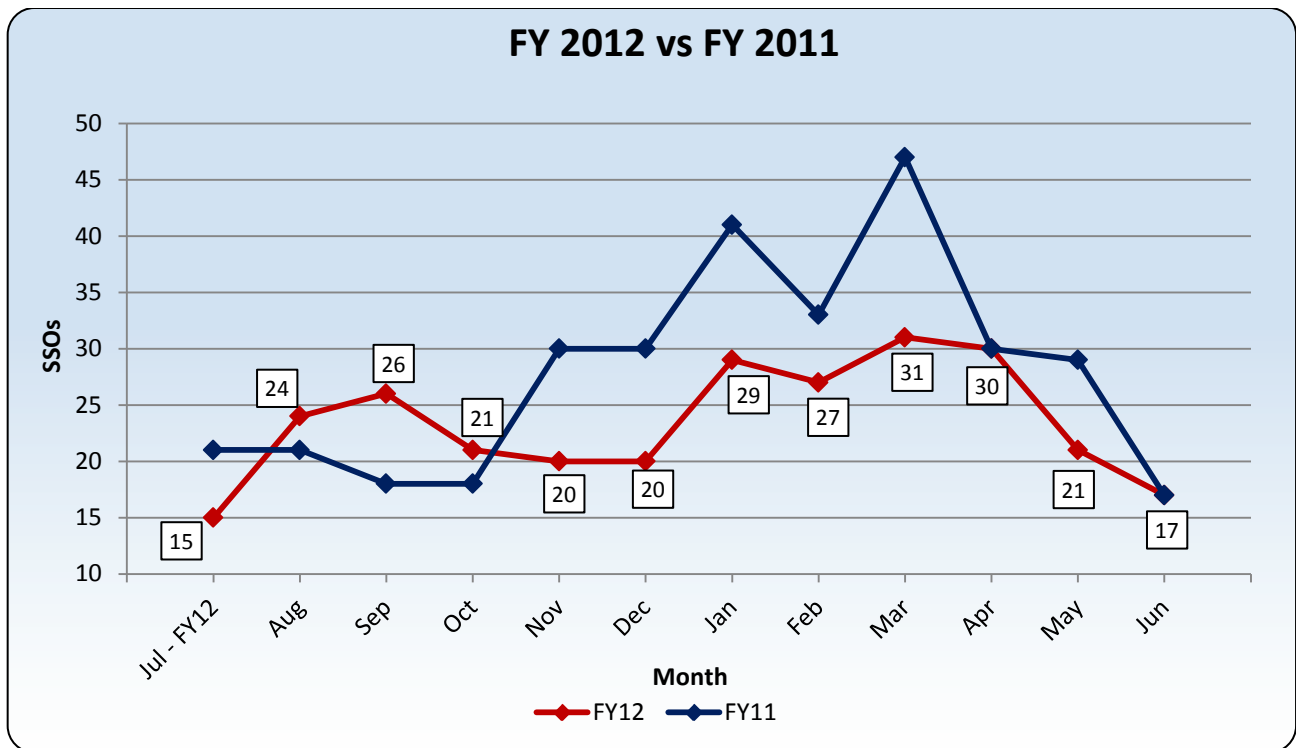
integrated GIS-based environment. All field crews in the CMUD Field Operations Division now use Cityworks to conduct their day-to-day maintenance, repair and overhaul activities throughout Mecklenburg County, including seamless interactions with billing and customer service systems for near-real time updates to 311 Customer Service Representatives. The WAM Team also supported and participated in Field Operations' annual inventory process, utilizing the Storeroom module of Cityworks to effectively speed the completion of materials management audit processes by 93% with an accuracy of greater than 98%. The WAM Team conducted classroom as well as one-on-one training and mentoring to more than 130 Cityworks users and continues to support them in the field and hone the toolset for future phases and releases. Work and asset management implementation for the Water Treatment and Environmental Management Divisions is scheduled to begin in fall and winter of 2012.

- The GIS Foundation Project developed processes and implemented technology to collect, store, maintain and distribute GIS data for the water and wastewater systems. The GIS Foundation project came to a close, as scheduled, on Dec 31<sup>st</sup> 2011 with the completion of Phase IV – Data Collection and Conversion. The data collection and conversion consisted of a field survey of the entire water and wastewater systems and data conversion based on as-builts, record drawings and legacy system maps. The results are an actively maintained dataset that supports WAM, hydraulic modeling, capacity assurance, regulatory reporting and CMUD daily operations. Since the completion of the project GIS staff has been focused on refining maintenance processes, data management and data distribution.
- CMUD expanded continuous improvement and optimization efforts utility wide in FY2012. CMUD has increased performance levels using continuous improvement processes and techniques coordinated at the department level and implemented at the division level. Continuous improvement is used to achieve and maintain operational and economic competitiveness and is coordinated with the Balanced Scorecard/Business Planning process. These processes encourage and support operations and management of the Utility in accordance with recognized best practice standards such as ISO, AWWA, NELAP, and others as appropriate. Compliance with recognized standards are measured and confirmed by the establishment and implementation of periodic and recurring audit procedures, along with monitoring key performance indicators (KPI) and metrics. In 2007, Mallard Creek WRF was the first City of Charlotte government facility to earn the prestigious ISO 14001:2004 certification. The ISO 14000 international certification program focuses on sustainable optimized operations that first seek to minimize negative impacts on the environment. This first initiative has helped to launch a refocused effort on instituting best practice standards with ongoing audits to all CMUD operations. Corporate ISO 14001:2004 certification was obtained in May 2010. This corporate certification currently covers Mallard Creek WRF, McDowell Creek WWTP, and the Biosolids program, and was recertified by external audit for FY2012. Obtaining and maintaining the certification is a collaborative effort among many employees throughout CMUD. This ongoing effort serves as a continuous improvement model as we move towards greater sustainability. Additional recent continuous improvement approaches include obtaining certification through the National Environmental Laboratory Accreditation Program (NELAP) for Lab Services in July 2012, with 2 sections of the laboratory now fully certified, and 4 more sections working towards certification within the next 18 months. CMUD is also participating in the AWWA Partnership for Safe Water certification process for our water treatment facilities and distribution system, along with instituting reliability centered maintenance (RCM) practices in our sewer collection service, and implementing new quality assurance metrics in our customer service division.
- In FY2012, CMUD completed a collaborative effort with UNC-Charlotte, Centralina Council of Governments, and CPCC to assess the feasibility of using problematic fats, oil and grease (FOG) as biodiesel feedstock. This feasibility study of alternative fuel was supported in part by grant funds from the Biofuels Center of NC and the NC Green Fund. The study investigated brown grease use as an alternative fuel product to determine if it will save on fuel costs, avoid disposal costs, and reduce pollution for local governments. The economic analysis considered conventional costs and total life cycle impact assessment. Final reporting, which indicated new potential operational approaches for wastewater utilities, was submitted in FY2012. Presentation of the results and the possibilities of

identified sustainability practices, are being given throughout the state by members of the collaboration. Additionally, new study work on Fuel Analysis for CMUD field operations, other City of Charlotte and UNC- Charlotte Alternative Fuels Feasibility Study work, and several other energy management and air quality initiatives, such as the installation of an electric vehicle charging station at one CMUD facility and the purchase of an electric vehicle, are all steps in the evolution towards greater sustainability within clean, efficient, cost effective utility operation.

- There are 79 Wastewater Lift Stations serving portions of the CMUD service area. Staff performed 130 preventative maintenance tasks for a total of 2359 work hours. This does not include twice weekly station checks, wet well cleaning, emergency generator testing, or emergency/routine repairs. Williams Station, Brandywine, Turtle Rock, Avensong, Stewart’s Crossing, Bristol Farms, Woodbury, Satterwythe, and Win Hollow lift stations were added due to recent annexations.
- Construction of the Briar Creek Relief Sewer Project (Phase Two) began in Spring 2012. Phase Three is being designed and will begin after Phase Two is complete.
- Construction contracts for McAlpine Creek Relief Sewer Project (Phase Three) have been awarded and construction will begin in fall 2012.





- CMUD and the NC Urban Water Consortium worked with UNC-Charlotte to analyze how to reach multi-family and Latino customers with the Grease Free messages. UNC-C staff and students conducted focus groups and surveys to form a strategic communications plan. The UNC-C research team presented the plan to CMUD’s Fats, Oils, & Grease Team and the NC Urban Water Consortium in October 2011. The plan was reviewed and parts implemented during calendar year 2012.
- City staff inspected grease-handling facilities at 3,752 food service establishments and restaurants (not including follow-up inspections) to ensure proper grease disposal.
- The City continued its Grease Free education program to teach proper disposal of this pipe-blocking menace. Inspectors mailed information to more than 5,001 customers near spill sites and handed out information to 9,371 customers in apartments / multi-family complexes.
- Staff conducted more than 16 presentations to more than 210 children and adults. Multiple Earth Day events also provided opportunities to distribute Grease Free scrapers, pens and other items.
- CMUD continues to use door-hangers specifically for maintenance personnel or property managers of apartment or multi-family complexes. This reinforces best management practices for prevention.
- Staff continues to provide bilingual door hangers and promotional items for property managers to give to new residents.

**Grease Free radio and billboard advertisements**

CMUD combined advertising dollars with Charlotte-Mecklenburg Storm Water Services to promote clean creeks by reducing sewer spills. The advertising campaign invested \$33,000 on radio, billboard

and online advertising as described below. The total media value including added value promotions from advertisers equals \$79,755 in retail value.

#### Radio Advertisements:

1. WKQC-FM + WNKS-FM - total of 525 spots.
2. Traffic sponsorships: WBAV-FM + WPEG-FM - total of 161 spots.
3. Spanish Radio WGSP-FM + WOLS-FM + WGSP-AM) - total of 252 spots.
4. There were a total of 306 additional public service announcements (15-seconds each) on the above radio stations.
5. A Public Service Interview with Bea Thompson (on both WBAV and WPEG) aired November 27.

#### Billboards:

Twenty-nine billboards (10 feet by 22 feet) reminded people to toss grease in trash along streets that have had grease spills within last 18-months. Locations included Albemarle Road, North Graham Street, Wilkinson Boulevard, West Carson Boulevard, Old Steel Creek Road, Freedom Drive, Old Pineville Road, Camden Road, and Hawthorne Lane.



#### Advertising Online:

1. Video advertisement on wbtv.com before users can view "Video On Demand" during November. There was also a small static ad on the side when the video plays. There were 40,000 impressions or views of the advertisement.
2. Streaming spots with a synced banner and video pre-roll on the "Listen Live" section of WNKS and WKQC websites. There were 50,000 impressions or views of the advertisement.
3. Banner advertisement (below) on WNKS home page expanded into a large advertisement during the week of November 14. There were 523,195 impressions or views of this advertisement.



#### Social Media Alerts from Radio Stations:

1. CBS I-Net Traffic posted Grease Free messages on their radio Facebook page eight times (4 for WBAV & 4 for WPEG). These efforts equaled 190,012 impressions or views.
2. WNKS promoted Grease Free via a Facebook post, a Twitter tweet, and an email to subscribers during November & December. These efforts equaled 127,680 impressions or views.
3. WKQC promoted Grease Free via a Facebook post, a Twitter tweet, and an email to subscribers during November & December. They also added a Green Page including our logo, fixed banner & a fixed video. These efforts equaled 27,847 impressions or views.

#### Additional Communication Efforts

- Two news releases were sent to media on November 21 and December 19. Media coverage included articles in Charlotte Weekly, WSOC-TV, WFAE, South Charlotte Weekly, and Huntersville Herald.
- CMUD used Twitter to notify 1,861 City of Charlotte followers about tossing grease and other leftovers in the trash. These messages were sent on November 22, 23, December 2, 3, 19, 20, 23 to coincide with holidays that historically have seen higher incidents of grease blockages.
- Advertised in a popular direct mail coupon book (right), WelcomeMat, that new single-family and multi-family





residents receive monthly. The CMUD “coupon” explains proper disposal methods and offers a free grease lid. The ads ran from July 2011 through December 2011.

- Grease Free Public service announcement video aired in November on Government Channel 16.
- During this reporting period we had 1,304 visits to our grease free website.
- In preparation of the holiday radio campaign, customer service representatives were trained on the advertisements and proper grease disposal.
- A large advertisement light box was added on the second floor of City Hall, near the conference rooms. One of the advertisements is proper grease disposal (right).
- Email to 1,394 community leaders, neighborhood associations and others via email newsletter on November 9 and 23, 2011.
- Grease disposal tips were featured in the November newsletter given to 6,600 City Employees.
- Bill inserts in November and December mailed (example on next page) to 250,000 customer account holders each month. These also were repurposed as messages on our web site, and extra inserts were used at events during those months.



**Don't Pour Any More...**

Fats, oils, grease, dairy products and other foods clog plumbing and lead to expensive repairs when they are poured down kitchen sinks or dishes aren't properly cleaned before being placed in dishwashers.

You can help protect local water supplies by following these proper disposal tips:

- After cooking, never pour grease down any drain.
- Freeze cooking grease and oils in a coffee can, or mix liquid vegetable fats with kitty litter or coffee grounds in a lidded container. Deposit it in the trash, or at a full-service recycling center.
- Wipe cookware and utensils with a paper towel to remove greasy residue before washing or placing in a dishwasher.

Kitchen grease isn't the only household item to block sewer lines. For more information about keeping pipes Grease Free and a complete list of items that should not be flushed or poured down drains, visit [www.cmutilities.com](http://www.cmutilities.com).

**GREASE FREE**  
Charlotte-Mecklenburg Utilities



## Don't Pour Any More...

Fats, oils, grease, dairy products and other foods clog your plumbing and lead to expensive repairs when they are poured down kitchen sinks or dishes aren't properly cleaned before putting them in the dishwasher.

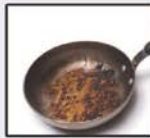
When grease goes down the drain, your pipes and the pipes on the street become blocked as the grease hardens and makes it impossible for untreated sewage to flow to treatment plants. Eventually, this raw sewage with nowhere else to go overflows from manholes and ends up in our streams and creeks.

Kitchen grease isn't the only household item to block sewer lines. Baby wipes, paper towels, mail and medication are also items that should never go down drains.



# Reduce Plumbing Costs and Protect the Environment

**These items should NEVER be flushed or poured down any drain:**



*Remains in frying pans, turkey fryers or deep fryers*



*Fatty meats, lard, shortening, butter and margarine*



*Oils (olive, cooking, motor)*



*Paper products other than toilet paper (Paper towels, babywipes, diapers, mail or regular papers)*



*Prescription medication or over-the-counter drugs*



*Leftover cleaning supplies*

### Here are tips to properly dispose of these items and protect your water supply:

- After cooking, never pour grease down any drain.
- Freeze cooking grease and oils in a coffee can, or mix liquid vegetable fats with kitty litter or coffee grounds in a lidded container. Deposit it in the trash, or at a full-service recycling center.

For more information, visit [www.cmutilities.com](http://www.cmutilities.com) or call 311.

30320-1-0144



**Grease clogs pipes!  
Prevent costly repairs.**

# Toss in the Trash

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

**¡Nunca tires la grasa y aceites usados  
de cocinar en el drenaje!**

**Stop sewer spills from  
reaching our creeks by tossing these in  
the trash, *not* down sinks, drains,  
dishwashers or toilets.**

Paper towels, diapers, wipes, mail and regular paper

• Prescription medication or over-the-counter drugs

• Oils (olive, cooking, salad dressings, motor)

• Fatty meats, butter and margarine

• Leftover food and remains in frying pans,  
turkey fryers or deep fryers



## Take To Recycling Centers...

Leftover cleaning supplies

• Large amounts of leftover grease and  
oils in sealed containers



Learn more at [www.charmeck.org](http://www.charmeck.org).

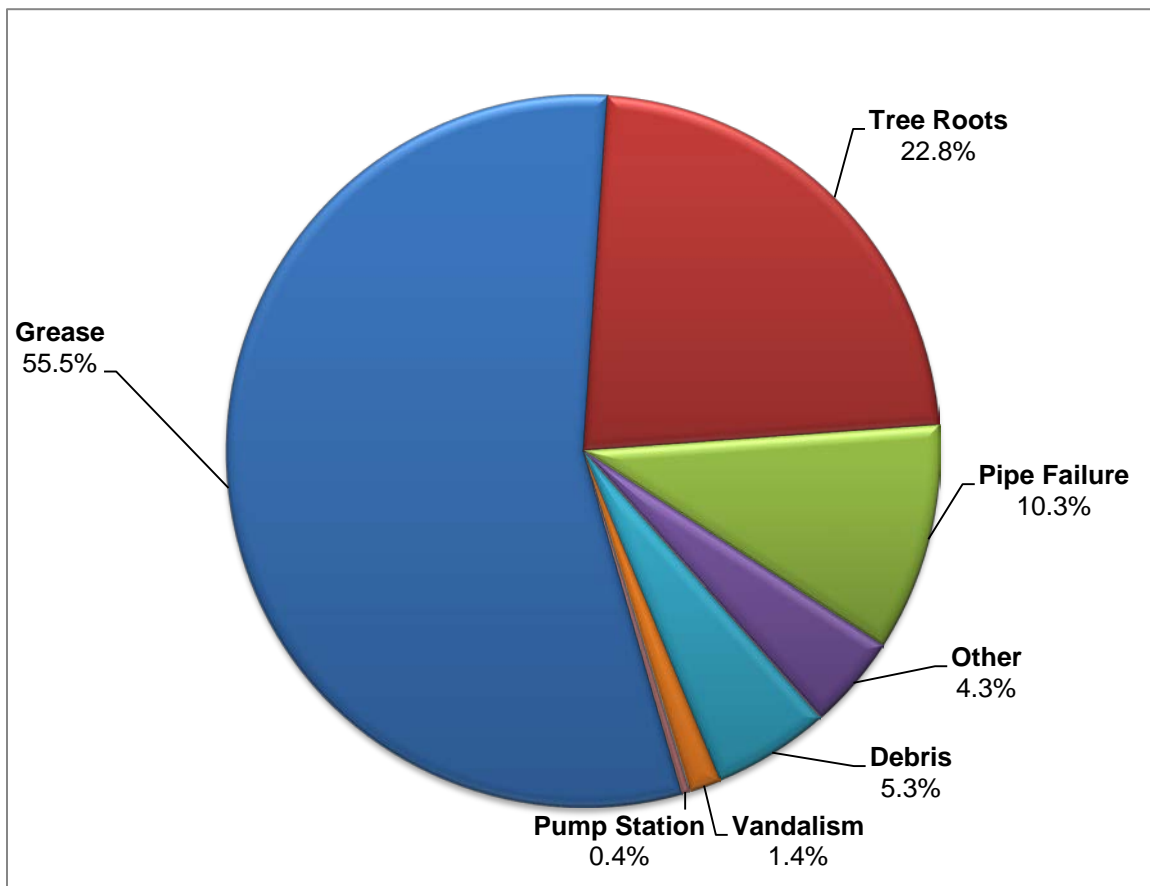
## Continuing Challenges

### *Wastewater Collection Challenges*

Although the number of spills is decreasing, eight of the year 2012 spills combined (378,893 gallons) were larger than the entire amount spilled in fiscal year 2011 (378,865 gallons). The total volume of wastewater that spilled in fiscal year 2012 was 646,471 gallons.

The greatest continuing wastewater challenge in this community – and in others across the U.S. – is sewage overflows. Of the 281 sewer spills that occurred, more than half were due to hardened grease clogging pipes. Other spill causes included the infiltration of tree roots into pipes, broken pipes, debris, and vandalism.

## **Fiscal Year 2012 Overflows by Primary Cause**



Grease and other blockages that lead to sewer overflows are cleared by CMUD crews, using various cleaning methods, including mechanical rodders and truck-mounted water jets. If damaged pipe or other infrastructure is discovered it is repaired. The spilled sewage can sometimes be captured and pumped back into the sewer system.

Inspection crews and our customers find overflows. Reports of overflows where 1,000 or more gallons reach surface waters are distributed to the media in an effort to notify the public. A legal notice is posted when overflows of 15,000 gallons or more reach surface waters. Crews also use door hangers to notify customers when appropriate.

CMUD Rapid Response Crews are quick to respond when notified of a possible spill. Crews responded to more than 94 percent of the spills within 60 minutes and more than 97 percent of the spills within 120 minutes. The state standard for response is 120 minutes or less.

CMUD continues to evaluate and refine sewer cleaning operation. CMUD initiated a Consolidated Cleaning Project in January 2009. Under the direction of the Field Operations Senior Engineer, and using our SSO data base and GIS, sub-basins with high concentrations of system failures and SSOs are being identified. Resources from each of the Field Operation Zones are pooled or consolidated in these problematic sub-basins and deliberate and focused cleaning, inspection, and repair efforts are directed from the top to the bottom of the sub-basins.

Year over year comparisons of aggregate cleaning footage maintained through the consolidated approach are not meaningful this year. CMUD has been production-testing sewer condition testing equipment developed in partnership with private industry and the University of North Carolina at Charlotte. The equipment uses acoustic signals to assess existing pipe flow conditions in real time. Only pipe segments that fail acoustical performance test experimental parameters are cleaned or further evaluated, so comparisons of maintenance effort with prior periods are not meaningful, but that effort is now applied to the pipe segments where it is needed most.

Historically, maintenance programs available to collection system operators have been limited to time-dependent (TD) maintenance programs. TD maintenance programs are based upon an estimated time interval required between maintenance activities to sustain performance and those time intervals are based upon extrapolations from historical data. The maintenance work does not take current actual condition into account.

Condition-dependent (CD) maintenance programs can be more economical than TD programs to deliver the same or better performance sustainability. CD programs are designed to eliminate unnecessary maintenance and take into account current actual condition. CD maintenance programs can only be used to determine whether maintenance work is needed when a test exists that is substantially less expensive than the maintenance task.

The acoustical test developed through partnerships between CMUD, UNCC, and private enterprise demonstrates a unit cost that is 1/10<sup>th</sup> to 1/20<sup>th</sup> the unit cost of cleaning maintenance. The acoustic testing technology is designed to improve the relevance and effectiveness of gravity collection system maintenance tasks and reduce wasted resources. CMUD is carefully evaluating the impacts to resource effectiveness and sustainability offered by the use of acoustic technology for condition-dependent collection system maintenance.

CMUD has extended its use of acoustic technology and associated migration potential from time-dependent maintenance programs to condition-dependent maintenance programs for its gravity wastewater collection system. Approximately 1,000,000 feet of sewer pipeline that would otherwise have been cleaned as part of a time-dependent program was assessed for maintenance need. Typically, 16% to 33% of sewer segments from the experimental population failed performance testing, depending on the parameters used to determine minimum acceptable operational performance. Only those segments failing performance testing were subjected to cleaning and/or further evaluation. The Department believes that the condition-dependent approach can increase the effectiveness of maintenance resources and provide a more reliable estimate of the resource capacity required to sustain performance than time-dependent maintenance programs.

CMUD tracks, trends, and analyzes the effectiveness of its efforts in reducing SSOs. On a monthly basis CMUD studies SSOs trends, including: a comparison of the current month's SSO total and SSOs

experienced the same month during the previous year, SSOs per 100 miles of pipe, SSOs versus the five year average number of SSOs, and SSO volume.

***U.S. Environmental Protection Agency (EPA) Administrative Order Update***

Charlotte-Mecklenburg Utility Department (CMUD) performed a voluntary Management, Operation, and Maintenance (MOM) Audit in 1999-2000 at the EPA's request. During 2003, frequent heavy rains contributed to Charlotte's worst year of wastewater overflows. At that point the EPA and CMUD met several times to review the audit and actions taken since 2000. CMUD also worked with North Carolina Department of Environment and Natural Resources (NCDENR) to receive a state collection system permit.

In March 2007, the U.S. EPA issued a formal Administrative Order for Charlotte-Mecklenburg Utility Department. This Administrative Order is a regulatory enforcement action that includes a series of steps CMUD must take to reduce overflows in our community. These steps included paying a civil penalty for past spills and assuring that certain construction projects would be completed on time.

Charlotte is the first major city in the Carolinas to face EPA enforcement as it relates to overflows. Quite a few other communities in the southeast, including Atlanta, Mobile and Knoxville have already received a much more severe EPA enforcement action known as a judicial Consent Decree.

Preventing sewer spills has been a high priority in Charlotte-Mecklenburg for more than a decade. The administrative order helped further guide our ongoing efforts to address a community problem. We have increased preventative line maintenance, capital improvements and other programs.

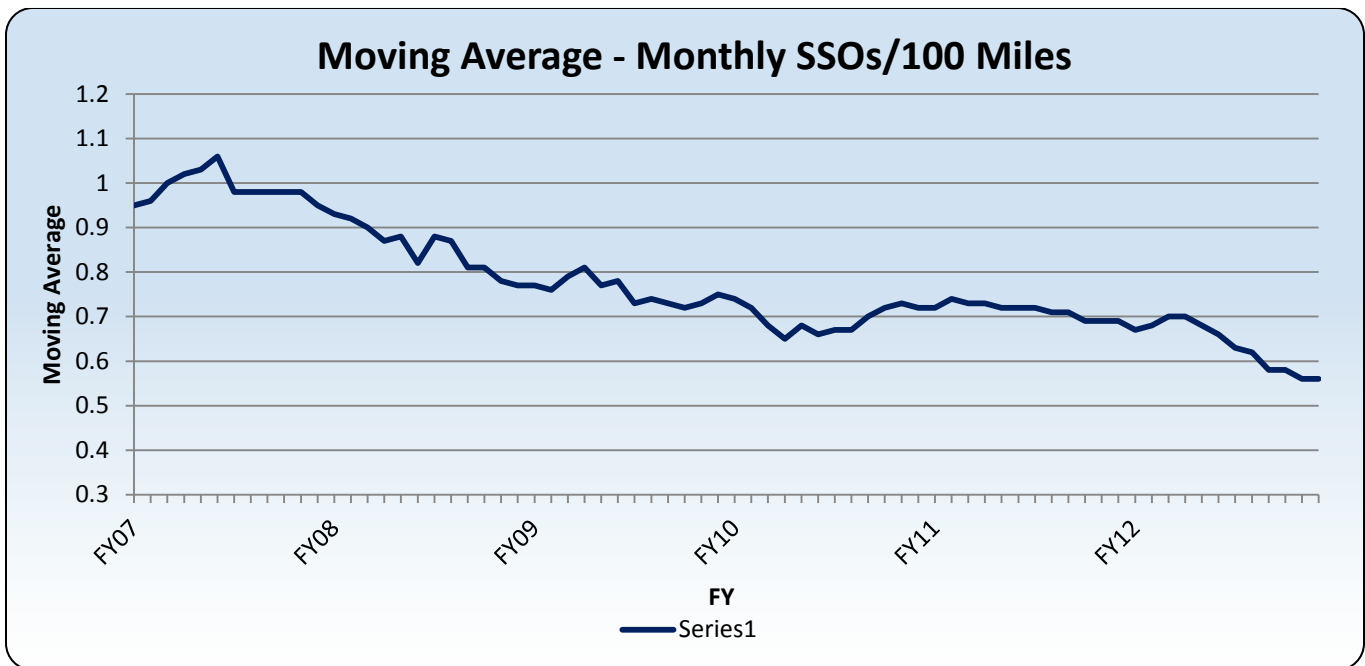
Comparing FY 2011 with FY 2012 SSOs, shows that CMUD has experienced a 16% decrease in total annual SSOs. Since 2007, CMUD's annual SSO count has reduced as follows:

FY 2007	419
FY 2008	362
FY 2009	358
FY 2010	349
FY 2011	335
FY2012	281

The reduction in SSOs since the effective date of the Environmental Protection Agency Administration Order is 138 SSOs annually, or a 33% decrease.

As of June 30, 2012, CMUD has completed all requirements set forth by the EPA order. A final report and request to EPA to close the order will be submitted in July.

The below graph demonstrates the reduction in monthly SSOs / 100 Miles of collection system and the downward trend of the moving average over the course of the Order.



The City of Charlotte and Charlotte-Mecklenburg Utility Department is committed to the continuous improvement of our Management, Operations, and Maintenance Programs, to prevent SSOs.

***Wastewater Treatment Plant Challenges***

Charlotte-Mecklenburg Utility Department’s five wastewater treatment plants met 99.91 percent of all discharge limit tests set forth by our NPDES permits but our commitment is 100 percent compliance. Staff continues to improve maintenance capabilities and overall performance. Major rehabilitation and improvement projects help maintain compliance. Future upgrades and expansions are being added.

During this fiscal year there were six (6) permit limit violations out of a potential of 7,009 compliance tests. These violations were for fecal coliform and toxicity testing. The toxicity violations are very unusual and have raised questions about potential sampling or testing errors that could have contributed to these failures. Please see Section IIB of this report for additional details of these violations.

Discharge of wastewater that had not completed all of the treatment processes occurred once. During this event, the wastewater was treated with the exception of the final ultra-violet disinfection process. This bypass of partially treated water was caused by an electrical and contractor error. Operators on-site quickly responded to the bypass and took appropriate steps to repair equipment and clean up area. No dead fish were found associated with this bypass.

CMUD Environmental Management Division operates the System Protection Section to help maintain our infrastructure. System Protection consists of the Industrial Pretreatment Program and the Commercial Source Program.

The Pretreatment Program identifies, permits, and regulates Industrial Users and others to keep unsuitable discharges out of the Publicly Owned Treatment Works (POTW). The Commercial Source Program inspects and regulates Commercial Users, such as food service establishments, to keep unsuitable discharges such as fats oils and grease out of the POTW.

While industrial and commercial compliance is extremely high in Charlotte-Mecklenburg, identifying sources of potentially harmful discharges is an ongoing challenge. In fiscal year 2012, the Trunkline

Monitoring and Grease Free programs also continued, enabling CMUD's System Protection and Water Quality staff to closely observe what industrial, institutional, and commercial customers discharge into the POTW, identify potential problem areas, and protect the collection system, sewer line workers, treatment plants and the Environment.

### **Wastewater Capacity Needs**

In 2007 a study of the McAlpine, Irwin and Sugar creek basins was completed to help identify our community's future wastewater treatment capacity needs through the year 2030. Construction activity resulting from the study includes extensive rehabilitation and upgrades to Irwin Creek Wastewater Treatment Plant. These activities will improve overall efficiency at the plant. At McAlpine Creek Wastewater Treatment Plant, the first CMUD Design Build Project will add filters. This will improve reliability and provide redundancy. These projects will not increase treatment capacities or permits.

The study suggested changing a current pump station into a new regional wastewater treatment plant along the Catawba River, near its intersection with Long Creek. The Environmental Impact Statement was submitted to the State of North Carolina during Fiscal Year 2012.

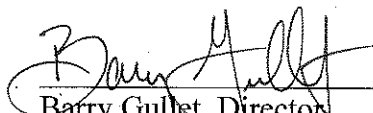
### **III. Notification**

Sanitary sewer overflow and wastewater treatment plant details are included in Sections IIA and IIB.

This report is available to the users or customers of this system by clicking on the 'Education' link of the CMUD homepage at [www.cmutilities.com](http://www.cmutilities.com). Printed copies are available at the Charlotte-Mecklenburg Utility Department Buildings at 4222 Westmont Drive, Charlotte, NC 28217 and at 5100 Brookshire Boulevard, Charlotte, NC 28216. Customers of this system will receive a summary version of this report and will be notified of the availability of this comprehensive version via a bill insert in the September water/sewer bill. A news release will be issued before September 1 about this report. In addition, the summary version will be translated into Spanish and advertised during the month of September in a regional Spanish-speaking newspaper. The Spanish version will also be on the website.

### **IV. Certification**

I certify under penalty of law that this report is complete and accurate to the best of my knowledge. I further certify that this report has been made available to the users or customers of the named system and that those users have been notified of its availability.

  
\_\_\_\_\_  
Barry Gullet, Director  
Charlotte-Mecklenburg Utility Department

8-27-2012  
Date



## IIA. Listing of Sewer Spills

The following is a list of spills (in gallons) from the public wastewater system that occurred between July 1, 2011 and June 30, 2012.

DATE	BLOCK	DIR	STREET NAME	STREET TYPE	DIR	SPILL CAUSE	GALLONS	SURFACE WATER
7/1/2011	102		HIGGINS	CT		GREASE	60	
7/7/2011	2200		OLDE CHANTILLY	CT		ROOTS	3140	BRIAR CREEK
7/8/2011	1721		KENILWORTH	AV		PIPE FAILURE	360	LITTLE SUGAR CREEK
7/10/2011	4923		GREENBROOK	DR		GREASE	860	
7/13/2011	3600		PHILEMON	AV		ROOTS	1230	LITTLE SUGAR CREEK
7/13/2011	6600		PROVIDENCE	RD		DEBRIS IN LINE	1920	MCALPINE CREEK
7/14/2011	1629		HERRIN	AV		ROOTS	910	BRIAR CREEK
7/15/2011	10924		PRESERVATION PARK	DR		PIPE FAILURE	600	
7/16/2011	2200		SARDIS	RD	N	PIPE FAILURE	4575	BEARD CREEK
7/17/2011	224	W	ARROWOOD	RD		GREASE	600	SUGAR CREEK
7/18/2011	2812		BALTIMORE	AV		GREASE	160	IRWIN CREEK
7/24/2011	224	E	ARROWOOD	RD		ROOTS	41	
7/25/2011	4950		MORRIS FIELD	DR		GREASE	135	TAGGART CREEK
7/25/2011	7016		FOXWORTH	DR		PIPE FAILURE	276	MCALPINE CREEK
7/30/2011	204		PINE CREEK	DR		GREASE	258	MCALPINE CREEK
8/1/2011	3059		EASTWAY	DR		ROOTS	183	BRIAR CREEK
8/1/2011	1109		OAKDALE WOODS	DR		GREASE	216	
8/5/2011	21626		NORMAN SHORES	DR		PIPE FAILURE	38	
8/5/2011	914	W	SUGAR CREEK	RD		DEBRIS IN LINE	80	
8/5/2011	3401		REID	AV		ROOTS	3480	IRWIN CREEK
8/7/2011	10615		KETTERING	DR		GREASE	200	MCMULLEN CREEK TRIB
8/9/2011	3000		MAPLEGROVE	DR		PIPE FAILURE	655	IRWIN CREEK TRIB
8/9/2011	3023		CENTRAL	AV		GREASE	900	BRIAR CREEK
8/10/2011	2439		NEWBERRY	ST		GREASE	1750	COFFEY CREEK
8/14/2011	2200		REXFORD	RD		ROOTS	2050	BRIAR CREEK
8/14/2011	10009		FOUR MILE CREEK	RD		ROOTS	10710	FOUR MILE CREEK
8/15/2011	1308		WEST	BV		ROOTS	965	IRWIN CREEK
8/15/2011	7105		IDLEWILD BROOK	LN		GREASE	345	
8/15/2011	3934		PLAINVIEW	RD		GREASE	462	IRWIN CREEK
8/15/2011	10745		TRADITION VIEW	DR		ROOTS	2670	STONEY CREEK
8/15/2011	2811		ALLEN	RD	S	ROOTS	810	IRWIN CREEK
8/16/2011	6500		SHARON HILLS	RD		OTHER	1500	MCMULLEN CREEK

8/16/2011	4838		QUAIL CANYON	DR		PIPE FAILURE	2800	MCMULLEN CREEK
8/18/2011	7007		SPRING MORNING	LN		VANDALISM	66	MCALPINE CREEK
8/22/2011	2931		BELLAIRE	DR		DEBRIS	1050	IRWIN CREEK
8/19/2011	6100		MCILWAINE	RD		GREASE	510	
8/23/2011	445		WHISPERING PINES	DR		ROOTS	195	COFFEY CREEK
8/24/2011	5827		CHARING	PL		GREASE	3900	MCMULLEN CREEK
8/31/2011	8919		SIX POINT	LN		GREASE	550	
9/2/2011	1600		PAVILION	BV		GREASE	39	
9/3/2011	6935		SHINNECOCK HILL	LN		ROOTS	120	FOUR MILE CREEK
9/5/2011	3401		DRIFTWOOD	DR		GREASE	275	EDWARDS BRANCH
9/7/2011	5628		LANSING	DR		GREASE	1335	MCALPINE CREEK
9/8/2011	701		SILVERLEAF	RD		GREASE	6600	KINGS BRANCH
9/9/2011	8939		PRISTINE	CT		GREASE	112	
9/10/2011	9027		TIBBLE CREEK	WY		GREASE	840	MCALPINE CREEK
9/10/2011	6601		MONROE	RD		GREASE	62	MCALPINE CREEK
9/12/2011	2114		PINEWOOD	CR		ROOTS	46	
9/14/2011	5926		GATE POST	RD		ROOTS	600	MCMULLEN CREEK
9/15/2011	10600		SPRUCE MOUNTAIN	RD		GREASE	2760	LONG CREEK
9/15/2011	7440		DENALI	LN		GREASE	960	LONG CREEK
9/15/2011	18810		HALYARD POINTE	LN		PIPE FAILURE	90	
9/16/2011	1716		BROOKSVALE	ST		OTHER	910	
9/16/2011	18720		JOHN CONNOR	RD		OTHER	225	LAKE NORMAN
9/17/2011	19133		PENINSULA POINT	DR		PIPE FAILURE	985	LAKE NORMAN
9/19/2011	4220		BLACKWOOD	AV		GREASE	10	
9/19/2011	5421		SWINSTEAD	PL		GREASE	43	
9/20/2011	10130		MALLARD CREEK	RD		GREASE	110	MALLARD CREEK
9/20/2011	2817		O'HARA	DR		GREASE	1800	STEELE CREEK
9/23/2011	3404		CAMPBELL	DR		OTHER	2750	BRIAR CREEK
9/25/2011	18316		HARBOR LIGHT	BV		PIPE FAILURE	135	
9/26/2011	304		HONEYWOOD	AV		DEBRIS IN LINE	380	IRWIN CREEK
9/27/2011	2901		CLEMSON	AV		GREASE	339	
9/28/2011	1323		TOWNES	RD		GREASE	900	SUGAR CREEK
9/28/2011	4100		CHEVINGTON	RD		ROOTS	1150	LITTLE SUGAR CREEK
10/2/2011	540		BRAMLET	RD		PIPE FAILURE	183500	EDWARDS BRANCH
10/3/2011	1432		SHANNONHOUSE	DR		GREASE	120	BRIAR CREEK
10/5/2011	2300		MIROW	PL		GREASE	73	
10/5/2011	9940		MONROE	RD		ROOTS	3165	

10/8/2011	5809		IDLEBROOK	DR		GREASE	470	
10/10/2011	9600		GREEN GABLE	CT		ROOTS	955	MCALPINE CREEK
10/10/2011	1916		RENNER	ST		GREASE	600	IRWIN CREEK
10/10/2011	2700		EASTWAY	DR		GREASE	660	BRIAR CRK TRIB
10/10/2011	17831		MOLLYPOP	LN		OTHER	690	
10/14/2011	739		GLENDORA	DR		GREASE	1200	
10/15/2011	818		EAGLEWOOD	AV		GREASE	210	MCALPINE CREEK
10/16/2011	17800		KINGS POINT	DR		GREASE	33	
10/22/2011	4812		QUAIL CANYON	DR		GREASE	52	
10/23/2011	3621		SEDGEWOOD	CR		GREASE	142	BRIAR CREEK
10/24/2011	9122		KINGS CANYON	DR		GREASE	86	
10/27/2011	6226		WOODLEIGH OAKS	DR		GREASE	1480	MCALPINE CREEK
10/27/2011	2700		WESTINGHOUSE	BV		GREASE	3016	STEELE CREEK
10/27/2011	2710		PINE CHASE	LN		GREASE	255	MCALPINE CREEK
10/28/2011	5316		KIMMERLY GLEN	LN		GREASE	330	MCALPINE CREEK TRIB
10/31/2011	617		PENNSYLVANIA	AV		GREASE	350	IRWIN CREEK
10/31/2011	525		KATONAH	AV		PIPE FAILURE	32	
11/6/2011	4723		MEADOWRIDGE	DR		GREASE	110	MCMULLEN CREEK
11/8/2011	19133		PENINSULA POINT	DR		PIPE FAILURE	70	
11/9/2011	1814		MCALLISTER	DR		PIPE FAILURE	144	IRWIN CREEK
11/14/2011	4801		HIGHLAKE	DR		GREASE	60	
11/14/2011	4426		STALLINGS	RD		PIPE FAILURE	108960	CROOKED CREEK
11/15/2011	700		SILVERLEAF	RD		ROOTS	2100	COFFEY CREEK
11/19/2011	4900		MINUTEMAN	WY		ROOTS	980	TAGGART CREEK
11/19/2011	7800		HEATHERDALE	CT		GREASE	55	
11/19/2011	17625		DELMAS	DR		GREASE	550	CALDWELL STATION
11/20/2011	5436	E	W T HARRIS	BV		GREASE	92	REEDY CREEK
11/21/2011	2630	E	7TH	ST		GREASE	6750	BRIAR CREEK
11/22/2011	1315		RANCH	RD		GREASE	108	COFFEY CREEK TRIB
11/23/2011	2100		EASTWAY	DR		GREASE	230	BRIAR CREEK TRIB
11/24/2011	4105		COLUMBINE	CR		GREASE	4380	MCMULLEN CREEK
11/24/2011	9100		MONROE	RD		VANDALISM	240	MCALPINE CREEK
11/26/2011	7311		PLOTT	RD		GREASE	408	REEDY CREEK
11/28/2011	630		NEAL	DR		GREASE	800	TRIB TO ROCKY RIVER
11/28/2011	9800		MARY ALEXANDER	RD		VANDALISM	118	MALLARD CREEK TRIB
11/29/2011	2325		EASTWAY	DR		GREASE	9000	BRIAR CREEK
11/30/2011	12025		WINGET	RD		OTHER	64	

12/2/2011	1408	W	SUGAR CREEK	RD		GREASE	1900	UPPER LITTLE SUGAR
12/4/2011	5523		HAYBRIDGE	RD		GREASE	195	MALLARD CREEK
12/1/2011	10914		PRESERVATION PARK	DR		OTHER	31	
12/6/2011	2946		WHEELOCK	RD		ROOTS	285	BRIAR CREEK TRIB
12/6/2011	714	E	18TH	ST		PIPE FAILURE	2394	LITTLE SUGAR CREEK TRIB
12/7/2011	6418		SANTA CRUZ	TL		ROOTS	1680	MCALPINE CREEK
12/7/2011	4528		WILDWOOD	AV		GREASE	40	STEWART CREEK TRIB 2
12/9/2011	3121		CENTRAL	AV		PIPE FAILURE	1200	BRIAR CREEK TRIB
12/12/2011	4955		WHITMORE POND	LN		GREASE	4230	FOUR MILE CREEK
12/16/2011	3711		HILL TREE	CR		GREASE	420	MCDOWELL CREEK TRIB
12/16/2011	920	W	TREMONT	AV		ROOTS	228	
12/19/2011	1822		CAVENDISH	CT		ROOTS	1920	MCMULLEN CREEK
12/20/2011	11313		GOLD PAN	RD		GREASE	1100	
12/21/2011	5039		AIRPORT CENTER	PY		ROOTS	113	TAGGART CREEK
12/23/2011	10028		BRASS EAGLE	LN		DEBRIS IN LINE	204	MCMULLEN CREEK
12/26/2011	3441		JASON	AV		ROOTS	486	
12/28/2011	6565		LOUGLEN	CR		GREASE	820	BRIAR CREEK
12/30/2011	4826		RIDGELEY	DR		GREASE	900	PAW CREEK
12/31/2011	4137		PEPPERIDGE	DR		ROOTS	185	MCMULLEN CREEK
12/31/2011	4501		PINE VALLEY	RD		GREASE	66	LITTLE SUGAR CREEK TRIB
1/2/12	6941		ROLLINGRIDGE	DR		ROOTS	3260	MCMULLEN CREEK
1/2/12	2501		MASSEY	CT		GREASE	500	LITTLE SUGAR CREEK
1/2/12	6707		PALOVERDE	LN		GREASE	90	MCALPINE CREEK
1/3/12	4216		MAUREEN	DR		PIPE FAILURE	1380	BRIAR CREEK
1/7/12	15528		FISHERMAN'S REST	CT		PIPE FAILURE	212	LAKE NORMAN
1/10/12	5700		FARM POND	LN		GREASE	190	CAMPBELL CREEK
1/10/12	4500		DENVER	AV		GREASE	1650	TAGGARK CREEK TRIB
1/11/12	2800		KILBORNE	DR		GREASE	855	BRIAR CREEK
1/11/12	614		MORAVIAN	LN		ROOTS	1200	LITTLE SUGAR CREEK TRIB
1/12/12	2801		RANDOLPH	RD		GREASE	4475	BRIAR CREEK
1/12/12	955		BRIDLEPATH	LN		ROOTS	3000	MCMULLEN CREEK
1/13/12	366	N	CASWELL	RD		GREASE	35	LITTLE SUGAR CREEK
1/15/12	5700		GLENKIRK	DR		OTHER/BYPASS PMP	555	SUGAR CREEK TRIB
1/16/12	3937		ROUNDING RUN	RD		ROOTS	80	MCALPINE CREEK
1/17/12	1817		RUSSELL	AV		ROOTS	765	IRWIN CREEK TRIB

1/18/12	2135		WEYLAND	AV		GREASE	1050	IRWIN CREEK
1/19/12	4001		PARK	RD		PIPE FAILURE	480	LITTLE SUGAR CREEK
1/21/12	2940		REA	RD		ROOTS	240	MCALPINE CREEK
1/22/12	12040		PARKS FARM	LN		GREASE	50	FLAT BRANCH
1/22/12	7609		BRITISH GARDENS	LN		DEBRIS	540	FOUR MILE CREEK
1/24/12	3335		GRESHAM	PL		PIPE FAILURE	3915	MCMULLEN CREEK
1/25/12	1800		WEST	BV		GREASE	28	SUGAR CREEK
1/28/12	204		MATTRIDGE	RD		ROOTS	540	MCALPINE CREEK
1/28/12	3026		EASTBURN	RD		ROOTS	215	MCALPINE CREEK
1/29/12	6224		SHARON ACRES	RD		ROOTS	321	MCMULLEN CREEK TRIB
1/30/12	2004		LYNDHURST	AV		PIPE FAILURE	1530	UPR LITTLE SUGAR CREEK
1/31/12	2004		LYNCHESTER	PL		GREASE	530	IRWIN CREEK
1/31/12	3908		MANCHESTER	DR		GREASE	3750	IRWIN CREEK
1/30/12	2300		YORKDALE	DR		GREASE	630	COFFEY CREEK
2/1/12	4042		CONWAY	AV		GREASE	900	LITTLE SUGAR CREEK
2/2/12	632		CLAREMONT	RD		GREASE	1200	PAW CREEK
2/2/12	6812		SUNVIEW	DR		ROOTS	490	LITTLE SUGAR CREEK
2/3/12	5700		WESTPARK	DR		PIPE FAILURE	1795	KINGS BRANCH
2/3/12	4223		SOMERDALE	LN		PIPE FAILURE	22	BRIAR CREEK TRIB
2/6/12	800	E	SUGAR CREEK	RD		GREASE	54	UPR LITTLE SUGAR CREEK
2/6/12	300	E	WORTHINGTON	AV		PIPE FAILURE	33000	LITTLE SUGAR CREEK
2/7/12	5801		NATIONS FORD	RD		GREASE	900	KINGS BRANCH
2/7/12	3745		ATLAS	DR		GREASE	1455	IRWIN CREEK
2/10/12	3020		COLFAX	ST		GREASE	260	IRWIN CREEK
2/11/12	4101		INSLEY	CT		GREASE	62	MCMULLEN CREEK
2/11/12	5830		DONEGAL	DR		GREASE	4230	MCALPINE CREEK
2/12/12	115		SANDY MEAD	RD		VANDALISM	700	FOUR MILE CREEK
2/12/12	3740		ASTER	DR		GREASE	216	MCALPINE CREEK TRIB
2/15/12	9601		CHINA GROVE CHURCH	RD		GREASE	1	KINGS BRANCH
2/16/12	1116		SCALEYBARK	RD		GREASE	2280	LITTLE HOPE CREEK
2/17/12	7032		WINDING CEDAR	TL		GREASE	3475	MCALPINE CREEK
2/18/12	6101		LAKE FOREST	RD	E	GREASE	300	MCALPINE CREEK
2/19/12	5720		NICHOLAS	AV		GREASE	3000	SUGAR CREEK
2/20/12	8215		KAPPLEWOOD	CT		GREASE	770	MCALPINE CREEK

2/21/12	205		HUNTER	LN		GREASE	106	MCMULLEN CREEK
2/22/12	1327		BOONE	ST		ROOTS	120	IRWIN CREEK
2/24/12	4741		NIJINSKY	CT		GREASE	2440	LONG CREEK
2/26/12	6800		IDLEWILD	RD		GREASE	64	MCALPINE CREEK
2/26/12	9500		BERNEWAY	DR		GREASE	1100	MCALPINE CREEK
2/24/12	3017		ARCHDALE	DR		GREASE	210	SUGAR CREEK
2/28/12	4119		SOUTH STREAM	BV		GREASE	860	SUGAR CREEK
3/1/12	6151		LOCH ARBOR	LN		GREASE	675	MCALPINE CREEK
3/2/12	6022		FARM POND	LN		GREASE	114	CAMPBELL CREEK
3/3/12	9503		WINDSONG	DR		ROOTS	142	SUGAR CREEK
3/5/12	1925		SHARON	RD	W	GREASE	90	MCALPINE CREEK
3/5/12	1932		MARLWOOD	CIR		ROOTS	90	MCALPINE CREEK
3/5/12	14513		NEW HAVEN	DR		GREASE	4180	S. PRG CLARKE CREEK
3/5/12	712		MORROW	AV		ROOTS	1070	LITTLE SUGAR CREEK
3/8/12	4816		FAIRHEATH	RD		GREASE	3950	LITTLE SUGAR CREEK
3/10/12	5327		STALLWORTH	DR		GREASE	315	REA BRANCH
3/10/12	3616		TRAPPERS RUN	DR		DEBRIS	930	MCALPINE CREEK
3/10/12	5577		FIVE KNOLLS	DR		GREASE	305	MCALPINE CREEK TRIB
3/11/12	9112		MOORES CHAPEL	RD		GREASE	1800	PAW CREEK TRIB
3/13/12	20844		CATAWBA	AV		ROOTS	219	MCDOWELL CREEK
3/13/12	1802		VILLAGE LAKE	DR		GREASE	5350	MCALPINE CREEK
3/13/12	9925		GLENBURN	LN		GREASE	2290	BEAVER DAM CREEK TRIB
3/14/12	8501		BELLHAVEN	BV		GREASE	590	GUM BRANCH
3/14/12	5330		FIVE KNOLLS	DR		ROOTS	108	MCMULLEN CREEK TRIB
3/15/12	6100		CHANNING	CT		ROOTS	11	BRIAR CREEK TRIB
3/15/12	9432		HUNTING	CT		DEBRIS	2646	MCALPINE CREEK
3/19/12	4300		PARLIAMENT	CT		ROOTS	80	IRWIN CREEK
3/21/12	2900		WEST	BV		GREASE	92	COFFEY CREEK
3/21/12	303		HOUSTON	ST		ROOTS	80	DAVIDSON CREEK
3/21/12	6421		VIRGINIA	AV		GREASE	940	TRICER BRANC
3/21/12	4730	N	TRYON	ST		ROOTS	465	UPPER SUGAR CREEK
3/21/12	605		MORROW	AV		DEBRIS	56	LWR LITTLE SUGAR CREEK
3/20/12	5928		TIMBERTOP	LN		LIFT STA. PWR FAIL	300	REEDY CREEK

3/22/12	3112		MARKLAND	DR		GREASE	385	TAGGART CREEK
3/27/12	11026		SHANDON WAY	LN		ROOTS	140	MALLARD CREEK
3/28/12	8326		BRISTOL FORD	PL		ROOTS	34	REEDY CREEK
3/29/12	2801		HORSESHOE	LN		GREASE	2400	COFFEY CREEK
3/30/12	4000		WESTINGHOUSE	BV		ROOTS	280	STEELE CREEK
4/1/12	12142		HARPLEY	CT		PIPE FAILURE	6835	MCKEE CREEK
4/2/12	5624		GLENKIRK	RD		GREASE	1875	LITTLE SUGAR CREEK
4/3/12	1516		MT. ISLE HARBOR	DR		OTHER/LP Valve	60	CATAWBA RIVER
4/3/12	500	E	MALLARD CRK CHURCH	RD		ROOTS	29640	TOBY CREEK
4/3/12	2600		LYNBRIDGE	DR		GREASE	2330	MCALPINE CREEK TRIB
4/3/12	7029		BURLWOOD	RD		ROOTS	268	MCALPINE CREEK
4/3/12	7110		FOREST RADAR	DR		GREASE	265	IRVINS CREEK
4/4/12	1232		FORDHAM	RD		GREASE	1200	TAGGART CREEK
4/5/12	11117		WILLIAM PORTER	RD		GREASE	800	FLAT BRANCH
4/7/12	5319		TWIN	LN		GREASE	485	LITTLE SUGAR CREEK
4/4/12	5210		NEVIN	RD		GREASE	330	IRWIN CREEK
4/8/12	7110		BENITA	DR		ROOTS	133	MCALPINE CREEK
4/6/12	1333		ROSERIDGE	PL		GREASE	450	IRWIN CREEK TRIB 1
4/9/12	611		BELLOWS	LN		GREASE	935	SARDIS BRANCH
4/10/12	715		CHARLOTTETOWNE	BV		PIPE FAILURE	374	LITTLE SUGAR CREEK
4/13/12	219		TWAIN	AV		GREASE	51	W. BR. ROCKY RIVER
4/13/12	2315		BRIAR GROVE	DR		GREASE	44	BRIAR CREEK TRIB
4/16/12	7214		OLD PLANK	RD		GREASE	320	IRWIN CREEK
4/16/12	1814		BENTLEY	PL		DEBRIS	90	BRIAR CREEK
4/17/12	2033		KIMWAY	DR		OTHER/FM Air Rel.	603	NORTH FORK
4/20/12	1916		GILBERT	ST		GREASE	865	KENNEDY BRANCH
4/24/12	5821		REDDMAN	RD		GREASE	1500	CAMPBELL CREEK
4/24/12	629		CREEKWOOD	CT		GREASE	1215	BRIAR CREEK TRIB
4/24/12	2033		KIMWAY	DR		OTHER/FM Air Rel.	402	NORTH FORK
4/25/12	8225		INVERARY	PL		GREASE	1080	MCMULLEN CREEK
4/26/12	8336		CRICKET LAKE	DR		GREASE	395	FOUR MILE CREEK
4/28/12	8022		KNOLLWOOD	CIR		GREASE	2150	TOBY CREEK
4/28/12	4010		HIDDENBROOK	DR		GREASE	5340	EDWARDS BRANCH
4/28/12	13120		GRAND PALISADES	PKWY		GREASE	3210	STEELE CREEK TRIB

4/30/12	6534		COVECREEK	DR		ROOTS	918	UPR LITTLE SUGAR CREEK
5/1/12	11021		TRAVIS GULCH	DR		GREASE	3120	SIX MILE CREEK
5/2/12	6300		PELLA	RD		GREASE	168	MCALPINE CREEK
5/2/12	401	E	ARROWOOD	RD		GREASE	84	KINGS BRANCH
5/4/12	6805		FAWNVIEW	DR		ROOTS	510	MCINTYRE CREEK
5/6/12	636		ARCHDALE	DR		GREASE	138	KINGS BRANCH
5/6/12	747		CHARTER	PL		GREASE	126	MCALPINE CREEK TRIB
5/7/12	6614		RONDA	AV		ROOTS	465	MCALPINE CREEK
5/7/12	2001	S	WENDOVER	RD		GREASE	795	BRIAR CREEK
5/7/12	800		OLD BELL	RD		ROOTS	1970	MCALPINE CREEK
5/10/12	210	N	CHURCH	ST		GREASE	900	IRWIN CREEK
5/11/12	5522		HAYBRIDGE	RD		DEBRIS	250	MALLARD CREEK TRIB
5/11/12	1525		SENECA	PL		ROOTS	800	LITTLE HOPE CREEK
5/15/12	8100		ENGLAND	ST		GREASE	565	KINGS BRANCH
5/16/12	1123		LYNBROOK	DR		GREASE	900	MCMULLEN CREEK
5/18/12	10319		GOLD PAN	RD		GREASE	540	REEDY CREEK
5/19/12	3401		CRANBERRY NOOK	CT		DEBRIS	116	MALLARD CREEK
5/19/12	2932		ROCK SPRINGS	RD		ROOTS	48	MCALPINE CREEK
5/22/12	6713		MOUNTAIN MAJESTY	WY		GREASE	108	MCDOWELL CREEK
5/24/12	9623	E	INDEPENDENCE	BV		GREASE	170	IRVINS CREEK
5/24/12	6000		FAIRVIEW	RD		DEBRIS	12	MCMULLEN CREEK
5/28/12	300		HUNTERS	RD		DEBRIS	182	TORRENCE CREEK
6/2/12	5604		BETHESDA	CT		GREASE	685	REA BRANCH
6/3/12	6700		WHEELER	RD		DEBRIS	77	MCALPINE CREEK
6/4/12	6601		HORACE MANN	RD		GREASE	3260	IRWIN CREEK TRIB
6/9/12	440	S	FREMONT	ST		ROOTS	62	FOUR MILE CREEK
6/12/12	9609		TRINITY	RD		GREASE	192	LONG CREEK
6/12/12	9835		STEPHEN THOMPSON	LN		GREASE	840	BACK CREEK
6/16/12	324		SARDIS	LN		ROOTS	620	MCALPINE CREEK TRIB
6/17/12	7813		BONDHAVEN	DR		GREASE	184	MCKEE CREEK
6/18/12	6636		HEMSWORTH	TRAIL		PIPE FAILURE	2400	MCALPINE CREEK
6/19/12	20500		BETHEL CHURCH	RD		PIPE FAILURE	95	LAKE NORMAN
6/23/12	4300		WANAMASSA	DR		GREASE	231	KENNEDY BRANCH
6/23/12	1601		BEAR BROOK	DR		GREASE	110	LONG CREEK



6/25/12	366	N	CASWELL	RD		GREASE	7	LITTLE SUGAR CREEK
6/25/12	601		CRESTDALE	RD		ROOTS	201	CROOKED CREEK
6/25/12	6227		SARDIS	RD		GREASE	62	MCMULLEN CREEK
6/28/12	2923		YOUNGBLOOD	ST		ROOTS	208	IRWIN CREEK
6/28/12	11700		STEELE CREEK	RD		OTHER/IND.USER	13083	STOWE BRANCH

**TOTAL NUMBER OF FY2012 COLLECTION SYSTEM SPILLS: 281**

Volume Safely Collected, Treated & Discharged During Fiscal Year 2012: 28,229,280,000 Gallons  
Volume Spilled: 646,471 Gallons

**PERCENTAGE OF WASTEWATER SAFELY COLLECTED, TREATED AND RELEASED DURING**

FY12: more than 99.9977%  
FY11: more than 99.9986%  
FY10: more than 99.9973%  
FY09: more than 99.9987%  
FY08: more than 99.9982%

**SECTION IIB. Permit Compliance and Reporting Violations, by plant**

**Irwin Creek WWTP -- NPDES Permit #NC0024945**

<b>MONTH</b>	<b>PERMIT LIMIT COMPLIANCE</b>	<b>REPORTING REQUIREMENT COMPLIANCE</b>
July, 2011	None	None
August, 2011	None	None
September, 2011	None	None
October, 2011	None	None
November, 2011	None	None
December, 2011	None	None
January, 2012	In January, Irwin Creek WWTP and McDowell Creek WWTP both failed the required Whole Effluent Toxicity tests. This was the first failure at Irwin Creek WWTP in over five years and the first failure at McDowell Creek WWTP in over 10 years. We have looked at what was occurring at the plants at the time, and have reviewed all available data, and there does not appear to be a reason for these failures. It seems highly unlikely that both plants would have this issue in the same week, particularly, when the organism used to determine toxicity - ceriodaphnia dubia (water flea) is found in prolific amounts on the final clarifiers at McDowell Creek WWTP. The plants will be collecting effluent Whole Effluent Toxicity Tests and submitting them for testing at the outside lab for the next three months, as a follow up to these failures.	None
February, 2012	None	None
February, 2012	None	None
March, 2012	None	None
April, 2012	Irwin Creek failed toxicity in the month of April. Further investigation was conducted, but a definitive source was not found. Further sampling was conducted in May and June as required in the Permit.	None
May, 2012	None	None
June, 2012	None	None

**Mallard Creek WRF -- NPDES Permit #NC0030210**

<b>MONTH</b>	<b>PERMIT LIMIT COMPLIANCE</b>	<b>REPORTING REQUIREMENT COMPLIANCE</b>
July, 2011	None	None
August, 2011	None	None
September, 2011	None	None
October, 2011	None	None
November, 2011	None	None
December, 2011	None	None
January, 2012	None	None
February, 2012	None	None
March, 2012	None	None
April, 2012	None	None
May, 2012	None	None
June, 2012	None	None

**McAlpine Creek WWTF -- NPDES Permit #NC0024970**

<b>MONTH</b>	<b>PERMIT LIMIT COMPLIANCE</b>	<b>REPORTING REQUIREMENT COMPLIANCE</b>
July, 2011	None	None
August, 2011	None	None
September, 2011	None	None
October, 2011	None	None
November, 2011	None	None
December, 2011	None	None
January, 2012	None	None
February, 2012	None	None
March, 2012	None	None
April, 2012	None	None
May, 2012	None	None
June, 2012	None	None

**McDowell Creek WWTP -- NPDES Permit #NC0036277**

<b>MONTH</b>	<b>PERMIT LIMIT COMPLIANCE</b>	<b>REPORTING REQUIREMENT COMPLIANCE</b>
July, 2011	None	In the first week of July, 2011 the conductivity tests were not collected at the Creek Above (CA) and Creek Below (CB) sites. This is a violation of the sampling requirements. There are no permit limits for conductivity and no water quality standards for this parameter. Sampling was missed due to an internal mis-communication and was corrected as soon as the issue was noted.
August, 2011	None	None
September, 2011	None	None
October, 2011	None	None
November, 2011	None	None
December, 2011	None	None
January, 2012	In January, Irwin Creek WWTP and McDowell Creek WWTP both failed the required Whole Effluent Toxicity tests. This was the first failure at Irwin Creek WWTP in over five years and the first failure at McDowell Creek WWTP in over 10 years. We have looked at what was occurring at the plants at the time, and have reviewed all available data, and there does not appear to be a reason for these failures. It seems highly unlikely that both plants would have this issue in the same week, particularly, when the organism used to determine toxicity - ceriodaphnia dubia (water flea) is found in prolific amounts on the final clarifiers at McDowell Creek WWTP. The plants will be collecting effluent Whole Effluent Toxicity Tests and submitting them for testing at the outside lab for the next three months, as a follow up to these failures.	None
February, 2012	None	None
March, 2012	None	None
April, 2012	None	None
May, 2012	None	Monitoring for a second low level mercury sample was not conducted as required for the permit. The permit has a monitoring requirement for two days

		per month. The first sample was collected, but the second sample was missed. There is not a limit for low level mercury in the McDowell Creek WWTP's Discharge Permit.
June, 2012	None	None

**Sugar Creek WWTP -- NPDES Permit #NC0024937**

<b>MONTH</b>	<b>PERMIT LIMIT COMPLIANCE</b>	<b>REPORTING REQUIREMENT COMPLIANCE</b>
July, 2011	On July 5, 2011, the daily maximum fecal coliform limit was exceeded due to higher than normal TSS concentrations in the effluent. The weekly and monthly limits for this pollutant were in compliance with permitted limits.	None
August, 2011	None	None
September, 2011	None	None
October, 2011	None	None
November, 2011	None	None
December, 2011	None	None
January, 2012	None	None
February, 2012	The toxicity samples collected on February 14th and 16th for ceriodaphnia failed. Sample collected on the same dates to analyze for toxicity on Pimephales promelas passed using 100% of the effluent from the treatment plant. It is not known what caused the sample to fail with the first species and pass with the second species.	None
March, 2012	The toxicity samples collected on March 6th and 8th failed again for Whole Effluent Toxicity. The cause of this failure is unknown. In April 2012, we collected toxicity samples again, as required, and split the sample between three labs, including the lab that has been failing Sugar Creek WWTP in February and March. In April, Sugar again failed at the same lab, but passed at >100% at the two new labs. We do not know what is causing this discrepancy.	None
April, 2012	None	None
May, 2012	None	None
June, 2012	None	None