

This report is published in accordance with the requirements of the North Carolina Clean Water Act of 1999 and provides information on the publicly operated treatment works and collection system operated by the Winston-Salem/Forsyth County Utility Commission. It covers the period from July 1, 2010 through June 30, 2011. This report is published and released to our customers annually.

If you have questions regarding the commission's programs or need additional information regarding this report, please call (336) 727-8000. Copies of this report may be obtained by calling the Utilities Administration office at (336) 727-8000. This report is also available at all branches of the Forsyth County public libraries and it is posted on the City of Winston-Salem's website at www.cityofws.org.

The Archie Elledge WWTP operates under NPDES Permit NC0037834. Muddy Creek WWTP operates under NPDES permit NC0050342. The land application of biosolids is regulated by the North Carolina Division of Water Quality under Permit WQ0000094. The Thermal Biosolids Dryer operates under DRS permit Wq0029804. The collection system is regulated under permit WQCS00003

City of Winston-Salem

Mayor: Allen Joines; City Council: Vivian H. Burke, Mayor Pro Tempore, Northeast Ward; Denise D. Adams, North Ward; Dan Besse, Southwest Ward; Robert C. Clark, West Ward; Molly Leight, South Ward; Wanda Merschel, Northwest Ward; Derwin L. Montgomery, East Ward; James Taylor Jr., Southeast Ward; City Manager: Lee D. Garrity

Forsyth County

County Commissioners: Richard V. Linville, Gloria D. Whisenbunt; Debra Conrad, Walter Marshall, David R. Plyler, Bill Whiteheart; Everette Witherspoon; County Manager: Dudley Watts

City/County Utility Commission

David Neill, Chairman; James E. Lowe, Vice Chairman; Janeen Lalik; Toyoko "Toy" Beaty; Harold R. Holmes; C. Douglas Jewell, II; Paul S. McGill; Al H. Seymour; Stephen M. Shelton; J. Hill Stockton; Randall S. Tuttle

Published by the
Winston-Salem/Forsyth County Utilities Division
101 N. Main Street, Suite 357
Winston-Salem, N.C. 27102
(336) 727-8000



Designed by City of Winston-Salem
Marketing and Communications Department

To view this document on the Internet go to www.cityofws.org



Winston-Salem • Forsyth County
City/County Utilities
Water • Sewer • Solid Waste Disposal

**2010~2011
Wastewater
Report**

**New primary clarifying basins
were built at the Elledge Plant as
part of a \$62.5 million upgrade.**

**The Winston-Salem/Forsyth
County wastewater treatment
system exceeds all state and
federal treatment standards**

The Winston-Salem/Forsyth County Utility Commission operates two wastewater treatment plants with a combined treatment capacity of 51 million gallons per day. The collection and treatment system includes approximately 1,701 miles of sewer lines, 49 pumping stations and three chemical odor control stations. The Utility Commission and its staff work hard to meet or exceed the requirements mandated by the North Carolina Clean Water Act and the requirements of the National Pollutant Discharge Elimination System (NPDES) permits that regulate the actual operation of the treatment plants and the disposal of biosolids.

This brochure includes information about the performance of the Utility Commission's wastewater treatment plants and sewer overflows in the collection system. It also includes details about the commission's preventative maintenance program to prevent potential problems, and compliance with state and federal standards during the fiscal year that ended June 30, 2011.

System Performance

From July 1, 2010, to June 30, 2011, the commission's sewage plants treated 11.33 billion gallons of wastewater. The Muddy Creek and Archie Elledge wastewater treatment plants and the Thermal Biosolids Dryer facility operated all year within the parameters established by state and federal permits. By removing 96.7 percent of regulated pollutants they received, the commission's two wastewater treatment plants well exceed state and federal requirements.

During the fiscal year there were 109 overflows in the sanitary sewer collection system, three more than the 106 overflows reported in FY 2009-10. The 95,342 gallons of sewage that spilled out of the collection system amounted to 0.0008 percent of the wastewater collected and treated during the year, and was 95 percent less than the 1.84 million gallons that overflowed in FY 2009-10. There were four overflows from the treatment plants and pumping stations, totaling 2,140 gallons, or 0.0000162 percent of the sewage collected.

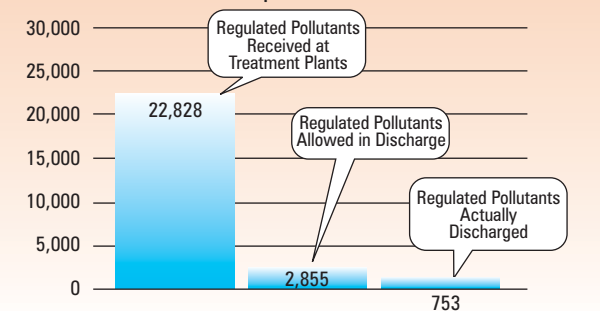
The treatment and disposal of residual biosolids produced by the wastewater treatment plants is accomplished by anaerobic digestion followed by a combination of land application onto farm land or burial in a lined landfill. The Thermal Biosolids Dryer at the Elledge plant produced 5,431 dry tons of pelletized biosolids.

**FY 2010-2011
Treatment Plant & Pump Station
Overflow/Spill Information**

Month/Year	Flow Discharged from Treatment Plants, MGal	Overflows/Spills	Overflow Volume, gallons
July 10	952.01	0	0
August 10	991.07	0	0
September 10	906.00	0	0
October 10	1,010.29	0	0
November 10	927.00	0	0
December 10	944.88	0	0
January 11	941.16	1	120
February 11	854.84	2	1,800
March 11	1,031.68	0	0
April 11	942.90	0	0
May 11	954.18	1	220
June 11	872.40	4	0
TOTAL	11,328.41	4	2,140

Date	Location	Spill vol. (gal)	Cause
01-14-11	Salem Creek	120	Hose ruptured
02-13-11	Salem Creek	1500	Centrate line ruptured
02-26-11	Ground	300	Irrigation pipe ruptured
05-12-11	Muddy Creek	220	Broken line

**Wastewater Treatment Plant Efficiency
Tons of Pollutants per Year - FY 2010-2011**



The treatment process removed approximately 22,075 tons of regulated pollutants during the year ending June 30, 2011.

Reducing sewage overflows

During FY 2010-11, blocked sewer lines accounted for the majority of sewer overflows. Of the 109 sewer overflows, 49 overflows were caused by the accumulation of fats, oils, and grease in sewer pipes. This is down from 52 overflows attributed to fats, oils and grease in FY 2009-10 and 55 such overflows the year before that.

This ongoing reduction reflects the effectiveness of the commission's Grease Interceptor Ordinance, which was put in place in 2003, and on-going public education efforts.

The commission's pro-active approach to cleaning sewer lines also contributed to the reduction in grease-related blockages. During FY 2010-11, a total of 903,269 feet of sewer lines were cleaned. To address root infiltration – the second leading cause of overflows – a chemical root-control contract is expected to treat about 125,000 feet of sewer mains during FY 2011-12.

The commission also spent more than \$1.8 million to rehabilitate 19,110 feet of gravity-flow sewer mains, 60 manholes, and 175 service laterals. The enhanced condition of these sewer mains and manholes not only contributed to the reduction of sewer overflows, but also reduced infiltration of storm water runoff and groundwater into the sewer collection system.

In addition, 85,457 feet of sewer mains were cleaned and inspected by closed-circuit TV. Staff and contractors improved the access to collection system easements by inspecting, and mowing and clearing approximately 45 miles of easements.

The City/County Utility Commission's goal is to have no overflows from the sewage collection system. As always, customers can help prevent sewage overflows by not dumping debris and fats, oils, or grease in to their sinks and toilets.

What you can do

Our wastewater collection system is designed to handle three things: used water, human body waste, and toilet paper. It's very important to keep all foreign materials, such as grease and other household debris, from entering the system because they can cause blockages that lead to sewage spills.



DON'T use the toilet as a waste basket. Put a waste basket in each bathroom for disposing of trash, disposable diapers, and personal hygiene or contraceptive products.

FY 2010-2011 Performance Summary of Wastewater Collection System

Month/ Year	Total No. of SSO's	Permit or Reporting Violations	SSO w/ > 1000 gal. in water*	Total SSO Volume (gallons)	Total Sewer Collected** (M gallons)	SSO Percentage of Total
July 10	7	0	1	11,159	952.01	0.0012%
August 10	7	0	0	2,382	991.07	0.0002%
September 10	5	0	1	3,844	906.00	0.0004%
October 10	8	0	1	2,760	1,010.29	0.0003%
November 10	13	0	2	19,065	927.00	0.0021%
December 10	8	0	2	6,851	944.88	0.0007%
January 11	15	0	4	18,853	941.16	0.0020%
February 11	8	0	1	5,915	854.84	0.0007%
March 11	17	0	2	6,610	1,031.68	0.0006%
April 11	6	0	1	4,720	942.90	0.0005%
May 11	5	0	0	1,352	954.18	0.0001%
June 11	10	0	3	11,831	872.40	0.0014%
TOTAL	109	0	18	95,342	11,328.41	0.0008%

*See details below.

**This is the total volume of treated waste discharged from the plant but is assumed to be equal to what is collected. This measurement is in million gallons.

Sanitary Sewer Overflows attributable to:

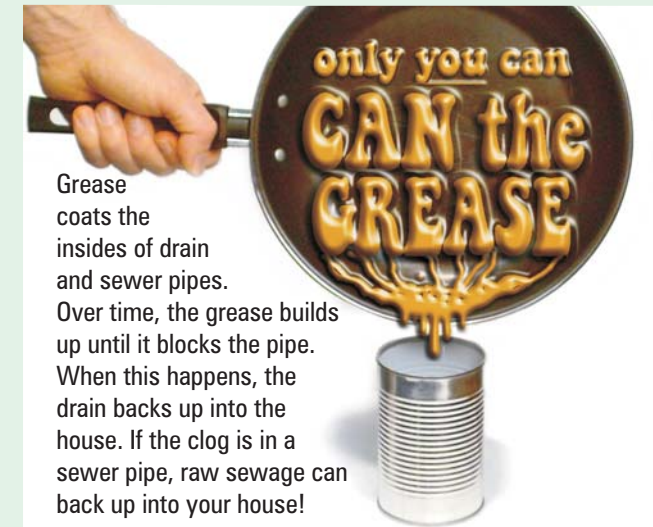
Grease	45.0%
Roots	35.8%
Debris in line	8.3%
Pipe Failure	6.4%
Vandalism	0.0%
Pump Station Equipment Failure	0.0%
Other	4.6%

Individual Listing of Overflows Greater Than 1,000 Gallons That Reached Surface Waters

Location	Spill Volume	Location	Spill Volume	Location	Spill Volume
July-2010 2560 Willard Road	8,437	January-2011 5012 Hutchins Street 1001 Salem Lake Road 3700 Reidsville Road 475 Arbor Hill Road, Kernersville	1,670 3,758 1,000 4,000	June-2011 1800 E. Twenty-fifth Street 1251 Terry Road 4182 Malbeth Court	1,840 1,670 5,428
August-2010 No spills over 1,000 gals.		February-2011 5003 Winster Drive	2,200		
September-2010 4360 Maranda Road	1,673	March-2011 3410 Buena Vista Road 334 Walls Street, Rural Hall	1,670 1,670		
October-2010 2244 New Castle Drive	1,670	April-2011 3799 Hartford Street	2,300		
November-2010 2201 S Broad Street 2900 Lowery Street	11,075 2,200	May-2011 No spills over 1,000 gals.			
December-2010 103 Luzelle Drive 4981 Huntcliff Road	2,340 2,000				



To report a sewer spill, please call City Link at 727-8000, 24 hours a day, 7 days a week.



Grease coats the insides of drain and sewer pipes. Over time, the grease builds up until it blocks the pipe. When this happens, the drain backs up into the house. If the clog is in a sewer pipe, raw sewage can back up into your house!

Follow these steps for clog-free drains:

1. Pour or scrape grease from pots and pans into a can.



2. Store the can in your refrigerator.

3. When the can is full and the grease is chilled solid, throw it in the garbage.



4. Pour used liquid frying oil into containers that can be capped and thrown in the garbage.