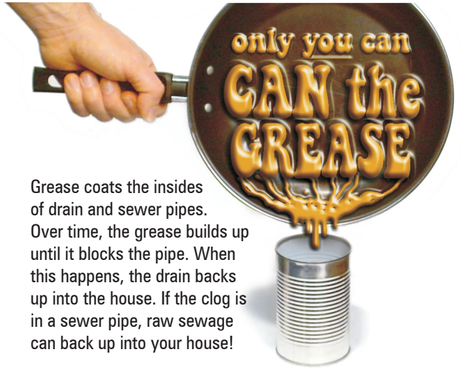


Grease coats the insides of drain and sewer pipes. Over time, the grease builds up until it blocks the pipe. When this happens, the drain backs up into the house. If the clog is in a sewer pipe, raw sewage can back up into your house!

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.*

To report a sewer spill, please call our Construction and Maintenance Office at 650-7650 or, if after hours, call our 24-hour Emergency Number at (336)727-2345.

Reducing sewage overflows

During FY 2005-2006, blocked sewer lines accounted for the majority of sewer overflows. Almost half of these blockages – 55.8 percent – were caused by the accumulation of fats, oils, and grease in sewer pipes. During the year 86 sewer overflows were caused by fats, oils and grease, an 11 percent drop from the 97 overflows caused by fats oils and grease the previous year. This reduction is the result of the commission's Grease Interceptor Ordinance, which has been in place for three years. During FY 2005-2006 the commission expanded its public-education efforts to include distribution of educational materials (in English and Spanish) to targeted apartment houses. In addition, advertisements were placed in local newspaper and on WSTV 13, the city cable TV channel. The reduction also can be attributed to the ongoing program of cleaning the publicly maintained portion of sewer connections and keeping sewer main lines clean and free of grease as well as tree roots and debris, the other major contributors to line blockages.

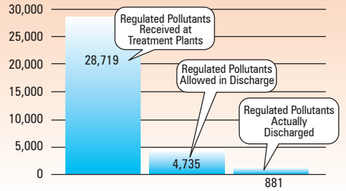
In addition, in FY 2005-2006 the commission continued its proactive efforts to reduce sewer overflows by spending more than $3 million to refurbish 29,735 feet of gravity-flow sewer mains ranging in size from 6 to 12 inches. The commission also refurbished 1,685 vertical feet of manholes and 150 service laterals. This effort not only contributed to the reduction of sewer overflows, but also reduced infiltration of ground water and storm water into the sewer system.

Further, the staff continues to plan and implement projects to reduce sewer overflows and infiltration into the sewer system. These projects have the added benefit of decreasing the amount of sewage to be treated, thereby reducing the overall cost of operating our wastewater treatment plants.

As always, customers can help prevent overflows of raw sewage into their home or business by keeping debris, fats, oils and other improper materials out of their sinks and toilets.

Wastewater Treatment Plant Efficiency

Tons of Pollutants per Year - FY 2005-2006



The treatment process removed approximately 30,110 tons of regulated pollutants during the period ending June 30, 2006.

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.

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, 2005 through June 30, 2006. 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) 727-8418. Copies of this report may be obtained by calling the Utilities Administration office at (336) 727-8418. 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.cityofwws.org.

Winston-Salem

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

2005~2006 Wastewater Report

Elledge Wastewater Treatment Plant

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 that can treat up to 51 million gallons of sewage a day. The collection and treatment system includes 1,448 miles of sewer lines and 51 pumping stations. The Utility Commission and its staff work hard to meet or exceed all state and federal regulations for operating wastewater treatment plants and disposing of biosolids (sludge).

This brochure includes information about the performance of the Utility Commission's wastewater treatment plants and the 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, 2005.

System Performance

From July 1, 2005 to June 30, 2006, the commission's sewage plants treated 12.18 billion gallons of wastewater, a decrease of 438 million gallons from the previous year. Much of this reduction can be attributed to the Utility Commission's ongoing efforts to reduce the amount of rain water that seeps into sewer lines.

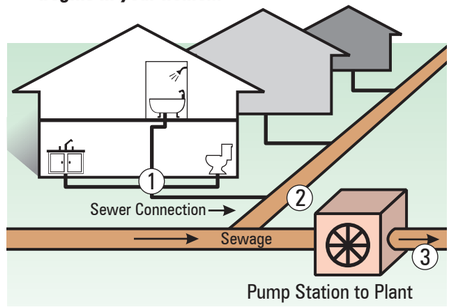
The Archie Ellege treatment plant operated all year within the parameters established by its state and federal permits. The Muddy Creek Wastewater plant received three violations of its permit when flood conditions interfered with its ability to adequately treat water discharged at its secondary location.

Our two sewage treatment plants removed 96.9 percent of the regulated pollutants they received. On average, they discharged less than a fifth of the regulated pollutants allowed by law.

During the fiscal year there were 154 overflows in the sanitary sewer collection system, a drop of 27 percent from the 221 overflows in FY 2004-2005.

The Wastewater Treatment Process

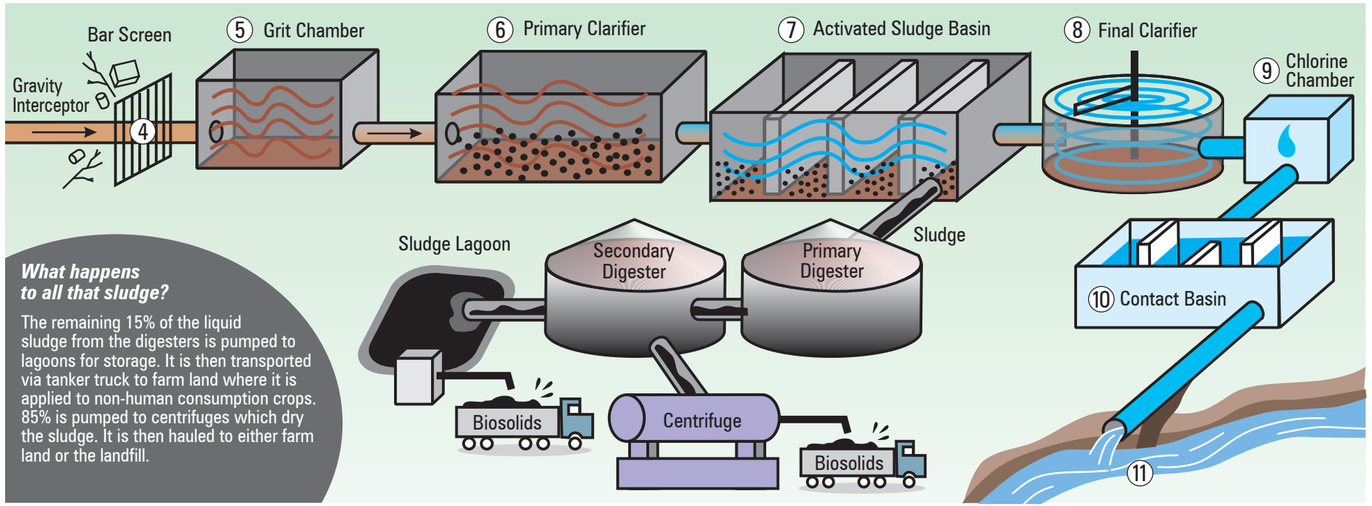
The collection system begins in your home...



1. **Sewer connections** drain water from toilets, showers, baths and sinks in buildings to a gravity sewer.
2. **Gravity sewers** flow downhill to sewer interceptors.
3. Interceptors send wastewater to the treatment plant. **Pump stations** along the way help keep the sewage flowing to the plant.
4. The sewage flows through a **bar screen** to remove branches, limbs, and other objects.
5. In the **grit chamber** the flow of sewage is slowed to allow sand and rocks to settle to the bottom for removal.
6. In the **primary clarifier**, solids fall to the bottom and form a sludge. That, along with scum floating on the surface, are removed and sent to large tanks called **digesters**.
7. The primary clarified wastewater now goes to an **activated sludge basin**, where microbes remove contaminants. Air is pumped into the water to speed the process.
8. The **final clarifier** separates water from solids formed in the activated sludge basin.
9. **Chlorine** is added to kill any remaining bacteria.
10. The wasterwater then flows through a **contact basin** that holds the water for about 90 minutes while the chlorine disinfects the water.
11. The treated wastewater is dechlorinated to prevent impacting aquatic life and then **discharged to a stream**.

The two treatment plants that the Utility Commission operates have a combined capacity of treating 51 million gallons a day.

The Archie Elledge Wastewater Treatment Plant operates under NPDES Permit NC0037834 and the Muddy Creek Wastewater Treatment Plant operates under NPDES permit NC0050342. The residual biosolids produced by the plants are processed by anaerobic digester and disposed by a combination of application onto farm land or burial in a lined landfill. Biosolids applied to farm fields are regulated by the North Carolina Division of Water Quality under Permit Ws0000094.



What happens to all that sludge?

The remaining 15% of the liquid sludge from the digesters is pumped to lagoons for storage. It is then transported via tanker truck to farm land where it is applied to non-human consumption crops. 85% is pumped to centrifuges which dry the sludge. It is then hauled to either farm land or the landfill.

FY 2005-2006 Performance Summary of Wastewater Treatment and 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 05	10	0	3	18,116	1,054.26	0.0017%
August 05	7	0	5	13,038	1,062.23	0.0012%
September 05	8	0	1	10,401	949.77	0.0011%
October 05	10	0	2	54,135	1,051.26	0.0051%
November 05	20	0	5	23,835	986.10	0.0024%
December 05	15	3	4	13,599	1,116.45	0.0012%
January 06	20	0	2	11,391	1,103.89	0.0010%
February 06	16	0	4	18,402	937.46	0.0020%
March 06	12	0	3	14,730	1,003.09	0.0015%
April 06	14	0	7	22,545	961.26	0.0023%
May 06	11	0	2	12,714	978.60	0.0013%
June 06	11	0	7	39,024	977.88	0.0040%
TOTAL	154	3	45	251,930	12,182.25	0.0021%

* 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 per day (mgd).

Sanitary Sewer Overflows attributable to:

Grease	58.80%
Roots	20.80%
Debris in line	7.80%
Surcharging	0.70%
Severe Nat. Cond.	1.3%
Other	13.60%

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

Location	Spill Volume
July 05	
7109 Donegal Ct.	1,670
1848 Runnymeade Rd	2,925
220 Meadow View Dr.	9,900
1300 South Main St.	1,271
Aug 05	
100 Glenn Ave.	4,650
1829 Runnymeade Rd.	1,050
949 Crawford St.	1,228
5630 Shattalon Dr.	3,810
3010 Wendover Cr.	1,400
Sept 05	
119 Brookstown Ave.	6,900
Oct 05	
4744 Baux Mountain Rd.	50,000
316 Gregory St.	1,840
323 Gregory St.	1,200
November 05	
3200 Renon Rd.	9,750
2600 14th St.	2,505
380 Knollwood St.	1,300
4229 Brownsboro Rd.	1,150
400 N. Cherry St.	2,145
3656 Reynolda Rd.	1,670
700 Walnut Forest Rd.	1,200
December 05	
2624 Piedmont Cr.	1,670
380 S. Cherry St.	1,150
3101 Country Club Rd.	1,252
900 Cranford St.	1,950
200 Twenty- Fifth St.	1,270
367 Lower Mall Dr.	3,810
January 06	
4270 Tise Ave.	1,670
5 Shorefair Dr.	1,400
700 Piney Grove Rd.	2,000
February 06	
1616 Trinity Garden Cr.	6,680
304 Century Blvd.	2,000
550 Kinard Dr.	2,112
1203 Neva Ln	1,270
818 Gold Floss St.	1,200
4570 Southland Ave.	200
3212 Ridgewood Place Dr.	1,200
March 06	
Wake Forest University	3,300
5 Brimmers Place	1,380
5 Jackson Ave. (Rh)	4,875
2848 Regency Dr.	1,270
April 06	
1836 Virginia Rd	1,250
5 Perth Road	1,950
10 Perth	1,950
5262 Cherry St	2,000
2159 New Castle Drive	1,125
5 Renon Street	2,900
2159 New Castle Drive	8,550
May 06	
5 Jackson Street	1,300
1201 Kenwood Street	3,400
5 Bowen Blvd	5,700
June 06	
5 Hanes Mall Blvd.	3,000
833 Cross Creek Road	10,221
833 Cross Creek Road	10,608
2700 Buena Vista Dr.	1,670
1001 Reynolda Rd.	8,350
150 Springdale Ave.	1,005
4744 Baux Mountain Rd,	950