

CITY OF ROXBORO

ANNUAL WASTEWATER COLLECTION AND TREATMENT SYSTEM REPORT

July 1, 2004-June 30, 2005

ANNUAL PERFORMANCE REPORT

In October 1999 the General Assembly of the State of North Carolina adopted House Bill 1160 requiring the owners and or operators of wastewater collection and treatment systems to provide an annual report to users or customers. The purpose of the report is to inform the system users of specific items such as the number of overflows, violations of permit conditions or environmental regulations, the impact of any such violations on the environment and corrective measures taken to

minimize recurrences. The report is made available to all customers and the City also submits the report to the North Carolina Department of Environment and Natural Resources. In doing this newsletter our goal is to not only give you the

facts as required by law, but inform you the customer concerning things such as, the treatment system history, current issues or problems, what the city has done over the past year or plans for the coming year.

Inside this issue:

Collection System Performance	2
Sanitary Sewer Overflows	2
Do's And Don'ts Of Residential Discharge	3
Wastewater Treatment Plant Performance	3
What The City Is Doing	4



THE CITY OF ROXBORO'S PUBLIC SERVICES DEPARTMENT IS COMMITTED TO PROVIDING THE CITIZENS OF ROXBORO WITH THE HIGHEST LEVEL OF SERVICE WHILE PROTECTING THE ENVIRONMENT

Your Wastewater System

The Collection System, consist of over 100 miles of sewer lines, manholes, ten lift stations and the Wastewater Treatment Plant. The Wastewater Treatment Plant has been in operation since 1965 and was upgraded to a 5.0 million gallon per day facility during the mid 1980's. Both the Collection System and the Wastewater

Treatment Plant are part of the City of Roxboro's Public Service's Department. As part of the Public Service's Department our goal is to provide better service to the citizens of Roxboro as well as customers outside the city limits, who are connected to the Treatment System. Along with providing this service, we are con-

stantly aware of and committed to protecting the environment. The Wastewater Treatment Plant is located at 902 Cavell-Chubb Lake Road and is regulated by the Environmental Protection Agency's National Pollutant Discharge Elimination System (NPDES) permit # NC0021024. North Carolina Stormwater General Permit No. NCG110000. North Carolina Collection System Permit No. WQCS00048.

COLLECTION SYSTEM PERFORMANCE

As evident by the Sanitary Sewer Overflow chart below, 83% of the sewer overflows that occurred between July 1, 2004 and June 30, 2005 were inflow/infiltration related. The rainfall amounts listed are approximate, during some rainfall events the entire Collection System may have been affected, while during other events some sections of the system got more rain than others. The rate at which the

rain falls, also has a direct impact on whether a spill occurs. One inch of rain in 30 min. to an hour will result in a spill more often than the same amount over several hours.

Roxboro experienced the effects of a 5-8 inch rain in July 2004, a tropical system came through in August, and the remnants of Hurricanes Francis and Ivan in September. In other instances the rainfall

totals were not as impressive, however the rate in which the rain fell resulted in a Sanitary Sewer Overflow.

On Wed. Aug. 4 2004 a state inspection of the Collection System (Permit # WQCS00048) was conducted by the North Carolina Division of Water Quality. No major deficiencies were noted in the inspectors follow-up report.

SANITARY SEWER OVERFLOWS

Location	Date	Volume	Cause	Rainfall (in.)	Impact
Wastewater Treatment Plant	7/29/04	6 100 gals	inflow/infiltration	5-8 in.	None Noted
Brooks Pump Station	7/29/04	2400 gals	inflow/infiltration	6 in.	None Noted
1342 Old Durham Rd.	8/18/04	600 gals	Broken force main		None Noted
206 North Foushee St.	8/25/04	1,620 gals	Broken Sewer line		None Noted
Wastewater Treatment Plant	8/30/04	26,600 gals	inflow/infiltration	4.5 in.	None Noted
Brooks Pump Station	8/30/04	11,700 gals	inflow/infiltration	6-7 in.	None Noted
Manhole 323 Depot St.	8/30/04	6,300 gals	inflow/infiltration	6-7 in.	None Noted
Manhole 1104 Main St.	8/30/04	6,000 gals	inflow/infiltration	6-7 in.	None Noted
Manhole at intersection of 158E & Old Durham Rd.	8/30/04	4,950 gals	inflow/infiltration	6-7 in.	None Noted
Manhole at intersection of Madison Blvd. and Ridge Rd.	8/30/04	900 gals	inflow/infiltration	6-7 in.	None Noted
Manhole 1501 Park St.	8/30/04	5,700 gals	inflow/infiltration	6-7 in.	None Noted
Manhole 1401 Longhurst St.	8/30/04	4,500 gals	inflow/infiltration	6-7 in.	None Noted
Southside Pump St.	8/30/04	19,500 gals	inflow/infiltration	6-7 in.	None Noted
Manhole 304 Morgan St.	9/8/04	1,800 gals	inflow/infiltration	.85 in.	None Noted
Brooks Pump St.	9/8/04	1,800 gals	inflow/infiltration	.85 in.	None Noted
Manhole 1404 Main St.	9/8/04	3,300 gals	inflow/infiltration	.85 in.	None Noted
Manhole 323 Depot St.	9/8/04	4,500 gals	inflow/infiltration	.85 in.	None Noted
Manhole at intersection of 158E & Old Durham Rd.	9/8/04	3,150 gals	inflow/infiltration	.85 in.	None Noted
Manhole 304 Morgan St.	9/8/04	1,800 gals	inflow/infiltration	.85 in.	None Noted
Brooks Pump St.	9/17/04	300 gals	inflow/infiltration	1.0 in.	None Noted
Southside Pump St.	9/17/04	750 gals	electrical relay damaged by lightning	1 in.	None Noted
Brooks Pump St.	10/19/04	750 gals	inflow/infiltration	1 in.	None Noted
Brooks Pump St.	11/12/04	2,700 gals	inflow/infiltration	2.2 in.	None Noted
Southside Pump St.	12/10/04	18,000 gals	inflow/infiltration	4 in.	None Noted
Brooks Pump St.	12/10/04	7,200 gals	inflow/infiltration	4 in.	None Noted
Main line 206 Foushee St.	12/15/04	780 gals	8 inch Bell Joint leak		None Noted
Brooks Pump St.	1/14/05	9,000 gals	inflow/infiltration	2.75 in.	None Noted
Southside Pump St.	1/14/05	4,750 gals	inflow/infiltration	2.75 in.	None Noted
Manhole at intersection of 158E & Old Durham Rd.	1/14/05	900 gals	inflow/infiltration	2.75 in.	None Noted
Manhole between Chub Lake St. & Reams Ave.	3/7/05	6,000 gals	clogged sewer line		None Noted

DO'S AND DON'TS OF RESIDENTIAL DISCHARGE

DO NOT:

- POUR GREASE, FATS AND OILS FROM COOKING DOWN THE SINK DRAINS OR TOILETS.
- USE THE TOILET AS A WASTEBASKET.
- USE THE SEWER AS A MEANS TO DISPOSE OF FOOD OR SCRAPS

DO:

- KEEP THE DRAIN ON A

LOWFAT DIET!

COLLECT GREASE, FATS AND OILS IN A CONTAINER AND DISPOSE OF IT IN THE GARBAGE.

- PUT A BASKET OR STRAINER IN THE SINK DRAIN TO CATCH FOOD SCRAPS AND OTHER SOLIDS AND EMPTY THE DRAIN BASKET OR STRAINER INTO THE TRASH FOR DISPOSAL.

- PLACE A WASTEBASKET IN EACH BATHROOM FOR THE DISPOSAL OF SOLID WASTE, DISPOSABLE DIAPERS, CONDOMS AND PERSONAL HYGIENE PRODUCTS.
- PLACE FOOD SCRAPS IN THE GARBAGE FOR DISPOSAL WITH SOLID WASTE, OR BETTER YET, START A COMPOST PILE.

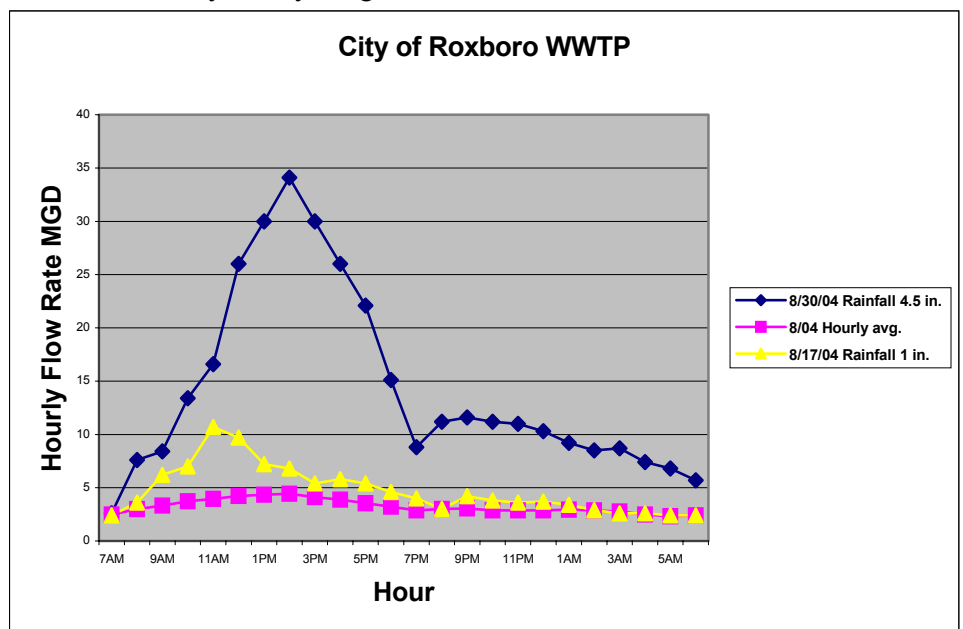
WASTEWATER TREATMENT PLANT PERFORMANCE

As we reported in last years annual report the replacement of the Marlowe's Creek Outfall line and the Tanyard Branch lines significantly reduced overflows in the collection system, however Collection System inflow/infiltration is still a major problem for the Wastewater Treatment Plant. The two days in August 2004, represented in the chart are just an example of what the influent flow (flow coming into the WWTP) does during heavy rains. As a result of the heavy rains on Aug. 30th 2004 the Wastewater Treatment Plant had a spill of approximately 26,600 gallons of untreated water. The increased flows due to heavy rains also caused operational problems for the Wastewater Treatment Plant staff as well as equipment damage. To improve the inflow/infiltration problem in the Collection System, the City spent \$250,000 on manhole rehab in 2004-2005 and has budgeted \$115,000 to replace the sewer line from Marlowe's Creek along Depot St. to Foushee St. in 2005-2006.

Roxboro's WWTP is required by it's NPDES permit # NC0021024 to test

it's effluent (treated water) for Toxicity quarterly. The effluent passed the Toxicity Test in Sept. 04, Dec. 04 and March of 2005, however the June 2005 test result was a failure. As required by our NPDES permit City WWTP staff will have the effluent re-tested for Toxicity in July, August and

September of 2005. A review of parameters analyzed on the same sample of effluent, did not reveal the reason for the failure. No impact to the receiving stream was noted due to the test failure.



The line with the diamond shapes and the line with the triangular shapes in the chart represent the hourly flow rate through the Wastewater Treatment Plant for two twenty four hour periods in August of 2004. The line with the square shapes in it represent the average hourly flow rate for the month of August 2004.



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WHAT THE CITY IS DOING

As we stated earlier, inflow/ infiltration is a problem within the City's Wastewater Collection System, however efforts such as the manhole rehab project and this years designated sewer line replacement are ongoing. There are a number of reasons why reducing the amount of inflow/ infiltration into the Wastewater Collection System is important to the City. Such as:

- A. Protecting the environment from potential spills.
- B. Avoiding potential spills & subsequent cleanup cost
- C. Possible fines by the state due to spills

- D. Cost of treating rain water
- E. Equipment damage & wear at both the Wastewater Treatment Plant and the 10 Lift Stations.
- F. Avoiding violations of the City's NPDES permit due to hydraulic overload.

As more of these type projects are funded and completed, a reduction in the amount of flow in gallons, will be evident at the Wastewater Treatment Plant, Lift Stations and in the Collection System itself, during rain events.



Typical older type manhole



Manhole after rehabilitation.