

Town of Hillsborough

ANNUAL WASTEWATER QUALITY REPORT

Fiscal Year 2008 (July 2007-June 2008)

Released August 2008

Changes & Proposed Changes to the Wastewater Utility

Wastewater Treatment Plant Upgrade & Expansion

Currently the Town is awaiting comments on the revised upgrade/expansion wastewater treatment plant study resubmitted to the NC Construction Grants and Loans. The initial study was reviewed by the State and returned for additional clarification in some areas.

A grant application was submitted to the NC Clean Water Management Trust Fund for reimbursement of half the cost of the design of the wastewater treatment plant. A decision is expected some time in October this year. The requested amount is \$500,000 and if the grant is not awarded to the Town, a new source for the funds will have to be found.

Once the design process is funded, an engineering firm will be selected to begin in January of 2009. The complete design process is expected to last the entire year and will include the approval of the design by the Commissioners, as well as acquiring all the appropriate state permits.

The project is expected to be put up for bid in January 2010, with construction expected to last 2 years. It is projected that construction should begin in the Spring of 2010 and end in the Spring of 2012.

Polices & Procedures Improvements

- Record keeping & data management has been improved with a new computer network in house.
- A preventative maintenance program was implemented to keep track of & schedule maintenance.
- New sulfur dioxide & chlorine feed systems installed to automatically switch out empty containers.
- Now monitor total nitrogen to decrease chemical & aeration costs while producing a better effluent.

Pump Station Update (page 4)

Who Runs Your Wastewater Utility?

Points of Interest:

- *Definition of Treatment Process*
- *Proper Disposal of Grease*
- *System Performance Violations Table*
- *Pump Station Update*

The Town of Hillsborough owns and operates a wastewater treatment plant at 355 Elizabeth Brady Road. The plant is permitted to process up to 3 million gallons of wastewater per day. The average flow through the plant during FY08 was 0.739 million gallons per day. The plant discharged at less than 25 percent of its permitted capacity.

The Operator in Responsible Charge is Jeff Mahagan, and his backups are Greg Decker and David Lee. The phone number at the plant is 919-732-2681.

The Town of Hillsborough Wastewater Treatment Plant operates under Discharge Permit No. NC0026433, issued by the state. The Hillsborough Collection System operates under Permit No. WQCS00077.

Fats, Oils and Grease aren't just bad for your arteries and your waistline; they're bad for sewers, too.

Sewer overflows and backups can cause health hazards, damage home interiors and threaten the environment. An increasingly common cause of overflows is sewer pipes blocked by grease. Grease gets into the sewer from household drains as well as from poorly maintained grease traps in restaurants and other businesses.

Where does grease come from?

Most of us know grease as the byproduct of cooking. Grease is found in such things as:

- Meat fat
- Lard
- Cooking Oil
- Shortening
- Butter & margarine
- Food Scraps
- Baking goods
- Sauces
- Dairy Products

Too often, grease is washed into the plumbing system, usually through the kitchen sink. Grease sticks to the insides of sewer pipes (both on your property and in the streets). Over time, the grease can build up and block the entire pipe.

Home garbage disposals add grease to the plumbing system. These units shred solid material into smaller pieces and cause grease to go down the drain.

Commercial additives, including detergents, that claim to dissolve grease may pass grease down the line and cause problems in other areas.

Availability & Certification

This report is available to customers at Town Hall and the Town Hall Annex. Customers were notified of this report in the two local papers, *The News of Orange County* and *The Chapel Hill Herald*. Users also may obtain a copy of the report from the town's Web site at www.ci.hillsborough.nc.us.

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.

Julie E. Vance, Utilities Analyst — August 2008

The results can be:

- Raw sewage overflowing in your home or your neighbor's home;
- An expensive and unpleasant cleanup that often must be paid for by **you, the homeowner**;
- Raw sewage overflowing into parks, yards and streets;
- Potential contact with disease-causing organisms; and
- An increase in operation and maintenance costs for local sewer departments, which causes higher sewer bills for customers.

What can we do to help?

The easiest way to solve the grease problem and help prevent overflows of raw sewage is to keep this material out of the sewer system in the first place.

There are several ways to do this.

1. Never pour grease down sink drains or into toilets.
2. Scrape grease and food scraps from dishes, utensils, grills and cooking surfaces into a can or the trash for disposal (or recycling where available).
3. Do not put grease down garbage disposals. Put baskets/strainers in sink drains to catch food scraps and other solids, and empty the drain baskets/strainers into the trash disposal.
4. Speak with your friends and neighbors about the problem of grease in the sewer system and how to keep it out. Call one of the following numbers if you have any questions:
 - Wastewater Treatment Plant 919-732-2681
 - Sewer Department 919-732-9459

SYSTEM PERFORMANCE VIOLATIONS/NONCOMPLIANCES

Month	Violations/ Non-Compliances	Environmental Impact	Corrective Measures
Jul 2007	None		
Aug 2007	None		
Sep 2007	None		
Oct 2007	Results not logged 10/1/07 for stream sample location Orange County NCSR 1567	The employee is certain the test were performed, but not logged. The environmental impact is considered slight since both the fecal Coliform & conductivity results for the same site indicated normal water quality conditions.	The omission of logging the results was employee error. New procedures were implemented to help prevent similar errors in the future,
Nov 2007	None		
Dec 2007	None		
Jan 2008	None		
Feb 2008	None		
Mar 2008	None		
Apr 2008	None		
May 2008	None		
Jun 2008	None		

Wastewater Treatment Process

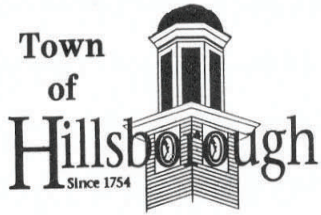
The town currently has 25 pump stations pumping to the Wastewater Treatment Plant through the collection system.

The flow passes through a grinder and then is pumped to the grit basin before it enters the primary aeration basin. The aeration basin mixes the wastewater and allows the bacteria to break down and consume the waste. The town's system is aerobic, meaning the bacteria need oxygen to survive and to stabilize the waste.

The mixed waste goes into the primary clarifier, where sludge settles to the bottom and water is skimmed off. The sludge is pumped out and re-circulated to the primary aerator to be processed again. The water goes into the secondary aeration basin, where more bacteria continues to break down the waste. The particles in the water are settled out again in the secondary clarifiers.

Once the wastewater has been through both aeration basins and clarifiers, it is pumped through a filtering process. It then is put in a chlorine contact chamber, where chlorine is added to the water for a minimum of 30 minutes. The chlorine is then removed from the water, and the water is discharged into the Eno River.

After recirculation, the sludge collected from the waste is passed through the sludge thickener, stored in one of three digesters and treated with lime. It then is removed with a tanker truck to be spread on agricultural lands as fertilizer.



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PO Box 429
101 E. Orange St.
Hillsborough, NC 27278

Update on Sewer Pump Stations

Lakeshore Drive

A grant from the EPA State and Tribal Assistance Grant (STAG) Program was awarded to the town to cover 55 percent of the installation cost for Lakeshore Outfall. The completion of the outfall allowed the town to remove Lakeshore Pump Station from service.

Elizabeth Brady Road

STAG will now be used to design and upgrade the pump station on Elizabeth Brady Road. Design for the upgrade is expected to begin next year.

Cates Creek

The pump station on Pointe Place will no longer be necessary once Phase II of Cates Creek Outfall is installed and operational. The generator formerly located at the Old Mill pump station will be relocated to another active pump station, now that this pump station has been abandoned during Phased I.

Phoebe Drive

The Waterstone development will upgrade an existing pump station on Phoebe Drive to serve the development's southeastern corner. The upgrade will include the installation of a larger wet well, along with a permanent generator.

Orange High School

Before the end of 2008, the new Corbinton Commons pump station will be operational and Orange High pump station will no longer be needed.

Generators

The town is continuing to purchase generators to meet a goal of having one at every pump station. A project will begin in 2008 to install generators at all remaining pump stations.

