

## **WASTEWATER DEPARTMENT – 2011**

Due to the record setting rainfall for the year we received 22.1% more flow than the year 2010. We treated 1.015 billion gallons of residential, commercial and industrial wastewater with an average flow of 2.79 million gallons per day (MGD). Removal rates of 96.79 % for carbonaceous biochemical oxygen demand, 95.2 % for total suspended solids, and 95.97 % for ammonia have been achieved consistently through the treatment plant.

216 total dry tons of sludge was removed from the Wastewater Treatment Plant between January 1, and December 31, 2011. This is an average of 18 dry tons per month. This sludge was applied to farm ground as fertilizer.

The wastewater environmental laboratory's mission is to provide accurate and precise data for our wastewater facility ensuring compliance with the National Discharge Elimination System (NPDES) permit, the Clean Water Act and State of Ohio regulations.

We are currently set up to perform as many as 32 different parameters utilizing diverse methodology such as microbiological, spectrophotometric, specific ion, gravimetric and various wet chemistry methods. The inherent advantage of an in-house laboratory is the ability to provide analytical results quickly and accurately.

Our lab features a stringent Quality Control/Quality Assurance Program that enables us to produce analytical data that is of legally defensible quality. It is our goal to produce the most accurate data possible to protect our environment and the community's best interests.

As a result of our efforts, we have received the highest rating during the state regulatory authority's inspections for the past 21 years. Additionally, we have again passed all of the parameters in the annual United States EPA Federal Quality Assurance Study.

The operation of the pretreatment program continues to be successful and received another "Satisfactory" rating from the Ohio EPA. The occurrence of upset, interference or pass-through violations is almost nonexistent. In light of the current economy, the City is down to four Significant Industrial Users, as defined by Ohio EPA.

The City of Wilmington "Storm Water Management Program" is up and running. The City is covered under the "General Permit" and has five years to implement the program. A Storm Water Advisory Committee has been formed, meeting quarterly, to discuss all aspects of the program. As a part of the SWMP, City crews have walked nearly 3 miles of streams and waterways, documenting discharge pipes and obstructions.

**The sewer crew is working out of building No. 1 at the Textron facility at 494 S. Nelson Avenue. This property was purchased in 2010 with a CORF Grant obtained by the Mayor's office. After demolition of 30,000 sq. ft. we still have 70,000 sq. ft. under roof. The picture to the right shows the section of building No. 1 that was demolished.**



We spent \$189,254 in rehabbing the sanitary sewer system by lining 410 ft. of sanitary sewer at a cost of \$15,544, grouting 108 laterals at a cost of \$54,503, and spent \$119,207 in point repairs such as replacing manholes, sewer connections, and sewer lines. Through rehabilitation we are removing inflow and infiltration (I/I), which can put a strain on our sewer system during wet weather.

We also spent over \$34,000 in rehabbing and replacing storm sewers, catch basins, and culverts.

The sewer crew employees were busy maintaining the operation and management of the sanitary and storm water collection systems, which consist of more than 72 miles of sanitary and over 100 miles of storm sewers, over 2,000 manholes, over 2,400 catch basins, driveway approaches, sidewalks, and curb replacements. There were 146 sewer complaints reported and resolved. These problems included not only sewer backups and odor complaints, but also stopped up floor drains and a clogged kitchen sink drain.

The sewer crew, with the aid of a consultant performed sanitary smoke testing for the remaining areas not previously smoke tested in the last four years. The most significant area was the downtown area. They identified a total of 322 problems of which 163 or 50.6% of the problems were private issues or individual property owner's responsibility to repair. The remaining 159 or 49.4% were identified as public problems. In the City of Wilmington the property owner is responsible for maintaining the sewer lateral from the building to the right of way or easement.



**Picture to the left is Fife Avenue Project where 330 feet of 8-inch sanitary sewer was replaced.**

The Wastewater Department continues to take the proactive approach to safety by conducting periodic safety meeting and enforcing the policies already in place. We believe the City's greatest assets are its' employees and the citizens they serve, and do not wish to

jeopardize the health and well-being of either.

The Maintenance Department has been busy with the following:

- Purchased new waste activated sludge valve and actuator for 2012 replacement
- Rebuilt screen and grit holding bins and added new skid steer attachment plates for easy dumping
- Minor roof repair to sludge handling building (sealed rubber seems and around flashing)
- On trickling filters, cleaned and installed splash guards, sealed windows, installed and sealed water shield pockets to outside wall joints to run water back into trickling filters
- Cleaned sludge holding tanks #1 and #2 removing grit and debris from tank floors
- Replaced backflow preventer in main water feed to wastewater plant located in screen and grit building
- Installed backflow preventer in main water feed to administration building and added water shut off valve
- Replaced backflow preventer in main water feed to secondary building
- For Underground Utilities Services (Gene Rigby): Trenched in and installed conduit for groundwater pressure probe at wastewater treatment plant. Installed groundwater pressure probe and related equipment for remote monitoring at Wal-Mart lift station for I & I study
- Poured 65 cu.yds. of concrete in building #2 (Textron)
- Replaced six driveway approaches
- Replaced 400 feet of sidewalk
- Replaced 174 feet of curb
- Replaced 36 catch basins
- Replaced three manholes
- Rebuilt ultra violet disinfection system, replacing 160 lamps
- Inspected 15 laterals
- Replaced 330 feet of 8-inch sanitary sewer on Fife Ave.
- Televised 723 feet of sanitary sewer laterals
- Televised 22,043 feet of sanitary sewer
- Televised 1,409 feet of storm sewer
- Cleaned 1,591 feet of sanitary sewer laterals
- Cleaned 116,600 feet of sanitary sewer
- Cleaned 1,087 feet of storm sewer
- Replaced 300 feet of storm sewer on Walnut Street
- 830 utility locates
- Treated 8,028 feet of sanitary sewer for root control
- Mapping the storm sewer collection system
- Addressed a total of 146 sewer complaints (water in basement, sewer backups, blocked laterals, odor complaints among others)

*Submitted by:*

*Harry J. McVey, Wastewater Department Superintendent*