

# **CITY OF CORNING**

## **WASTEWATER TREATMENT PLANT**

### **WASTEWATER TREATMENT PLANT AND COLLECTION SYSTEM INFORMATION**

The mission of the Wastewater Treatment Plant is to intercept and to purify the wastewaters of the City of Corning to contribute to the improvement of waterways so as to preserve resources.

The Wastewater Treatment facility is "permitted" by the New York State Department of Conservation to treat and discharge up to 3 million gallons per day. The collection system consists of 1,130 manholes, 46 miles of pipe, and 2 lift stations.

#### **CITY F.O.G. IS A PROBLEM**

F.O.G. isn't something that obscures vision or leaves your skin or windshield damp. It's an acronym that stands for "fats, oils, and grease". In wastewater treatment and collection system jargon F.O.G. represents an intruder and a problem. When food wastes are introduced into a liquid waste system (a liquid waste system in this case is anything from your home drain pipes, to large city sanitary sewer lines) only part of the food dissolves. The parts that don't dissolve will either sink, float or just stay suspended. F.O.G. is a problem in that it doesn't dissolve well and has the tendency to cling. Glycerol molecules, associated with F.O.G., are hydrophobic – meaning they repel water and thus grab onto anything they can when suspended in water, such as other waste particles and, more critically, the sides of the conduit in which they are flowing. They cling, gather and grow into blockages.

In order to get these hydrophobic molecules down a drain in the first place requires emulsification either by soaps, detergents or heat (usually hot water). But there is evidence that they do not stay that way. Though chemicals and solvents can alter the glycerol bond, and soaps can attach to oil and fat molecules to emulsify them, cooling and dilution reverse the process and causes grease to come back out of solution. This allows grease in the system to cling to and clog pipes, which can result in plugged up home drainage systems as well as underground city sanitary pipes, which in turn will plug up an entire neighborhood.

For example, a "sanitary sewer overflow" (S.S.O.) is an event of raw wastewater backed up in a dammed underground city sanitary sewer pipe due to a grease, or other blockage, that is not caught by maintenance personnel until it exposes itself with a back up into a building basement, or onto a street from a manhole cover. Though few overflows occur, the City's Department of Public Works reports that 80% of the S.S.O.s are due to

grease type blockages. Blockages that do not necessarily result in an overflow are a much more frequent event and grease, again, is routinely part of the problem.

Most grease and F.O.G. in general, come from kitchen activity such as the preparation, cooking, and disposal of food, and especially from the drained dishwater where the washing of serving and cookware leaves much grease suspended in hot soapy water. Being aware of the contribution that fats, oils, and grease make to the congestion of sanitary sewer pipes is step number one. Number two is to make an honest effort to limit that contribution.

Here are six suggested practices for managing the reduction of F.O.G. entering liquid waste disposal systems (drains):

Capture pan fats from cooked meat, allow them to cool, then deposit them into solid waste receptacles such as trash cans or garbage pails. (Save small disposable containers to store hot fats in, or simply allow them to cool in the pan and scrape it out later.)

Scrape or squeegee food remnants, like batters and frostings, and cheese or other dairy based foods, from surfaces of pots, pans and containers into solid waste.

Dry wipe (paper towel) heavy F.O.G. from plates, cookware, and utensils before placing them in hot water for washing.

Dispose of old food products into solid waste receptacles, or recycle it through animal feed or composting programs.

Be conservative by using fats, oils, and grease reasonably; avoid excesses and spills.

For non-domestic users, a grease interception device (grease trap) should be installed and regularly maintained as part of the business.

With the cooperation of City residences and businesses, the Department of Public Works expects to see a reduction in street overflows and home backups, and in the amount of unnecessary maintenance that is performed throughout the collection system each year.