

Project Overview

Originally constructed in 1939 as a primary treatment plant, the Torrington Water Pollution Control Facility (WPCF) was expanded in the late 1960s to include secondary treatment. The WPCF was further expanded in 1994 to provide additional capacity and meet more stringent regulatory requirements, including a reduction in the discharge of ammonia to the Naugatuck River. A regional fats, oils and grease (FOG) facility was constructed in 2010. The Torrington WPCF currently treats on average 5.6 million gallons per day (mgd) of sewage, with a peak flow in excess of 22.5 mgd.

Planning for Future Needs

The Torrington WPCF has served the Town well for nearly 80 years, but is facing several issues to continue to meet the needs of the community. To identify these needs, the Torrington Water Pollution Control Authority conducted a wastewater facilities planning study. This study has recently been updated and identifies recommendations for improving the WPCF to meet the needs of the community including:

- Nitrogen Removal

The Department of Energy and Environmental Protection (DEEP) established strict annual nitrogen removal limits for all wastewater facilities in the state in order to improve the quality of Long Island Sound. The Torrington WPCF must upgrade its treatment capabilities to reduce its discharge of nitrogen to the Naugatuck River and eventually Long Island Sound from 1000 to 248 lbs/day.

- Phosphorus Removal

The DEEP has also been working with the Environmental Protection Agency (EPA) to establish local water quality limits for phosphorus discharges from WPCFs to fresh water receiving streams such as the Naugatuck. The Torrington's National Pollutant Discharge Eliminate System (NPDES) permit which will include a compliance schedule to meet new phosphorus limits by 2020.

- Aging Equipment and Systems

Portions of the existing facility have been in continuous service for over 20 years and some for over 40 years. Much of the existing equipment is aging and approaching or exceeding their expected service life. Replacement or modifications to these systems are required to maintain reliable operation of the facility.

- Storm Resiliency/Flood Protection Measures

Flood control measures to protect facility to the 100 year plus 2, 3 or 5 feet marks.



If you would like additional information:

Contact:

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CITY OF TORRINGTON, CONNECTICUT WATER POLLUTION CONTROL AUTHORITY

140 Main Street

Torrington, Connecticut 06790



Torrington Water Pollution Control Facility Upgrade



Torrington, Connecticut

Water Pollution Control Facility Upgrade

Benefits of Removing Nitrogen

Effluent from the Torrington WPCF ultimately reaches Long Island Sound. Nitrogen is the primary cause of a low dissolved oxygen condition, or hypoxia, in the Sound which can lead to severe ecological and economic impacts. Because Long Island Sound has an estimated value to the local economy of \$5.5 billion per year, it is important to reduce the nitrogen to levels in order to protect the marine environment.

To improve water quality, the Torrington WPCF will be converted to a state-of-the-art nitrogen removal process that will remove approximately 800 lb/d of nitrogen from the raw wastewater.

Benefits of Removing Phosphorus

Nutrient enrichment (nitrogen and phosphorus) has been identified as one of the most pressing water quality issues facing the nation by the EPA. Similar to the effect of excess nitrogen in Long Island Sound, excess phosphorus in local fresh waters such as the Naugatuck river can contribute to low dissolved oxygen conditions and other water quality concerns. Because of this, the DEEP will be imposing effluent phosphorus limits for the Torrington WPCF. To comply with these limits, the Torrington WPCF will utilize a combination of biological phosphorus removal followed by a tertiary chemical precipitation and ballasted flocculation settling process to remove phosphorus.

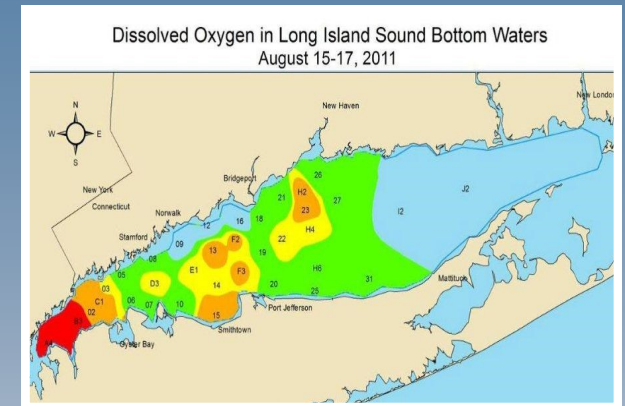


Energy Savings

Water Pollution Control Facilities are typically one of the highest energy users of any municipal facility. As part of the upgrade, the Torrington WPCF will implement a variety of energy related improvements to provide significant electrical cost savings including more modern energy-efficient motors, the use of variable speed drives and a new computerized control system to utilize only the power necessary to maintain adequate treatment as conditions at the WPCF vary throughout the day.

Next Steps

To move forward with the project and take advantage of the CWF funding, the Town must appropriate funding for the project. The total project is currently estimated to cost \$72.26 million. The design and construction phases of the project are eligible for approximately a 22% grant and a 2% interest loan from the State but the full construction cost must be appropriated to take advantage of the funding. It is anticipated that the project would be advertised for bids in 2017 and that construction would take approximately three years.



SEPTAGE RECEIVING

Provide stand-alone septage screening and metering facility. Modify existing septage storage and transfer system to improve maintenance

New Electrical Distribution

Construct new electrical distribution system to meet flood protection requirements. Replace antiquated equipment. New Emergency Power System

SOLIDS HANDLING

Upgrade solids handling process to produce dewatered sludge cake. Install two new dewatering screw presses in the existing garage area.

Admin/Lab/Maintenance

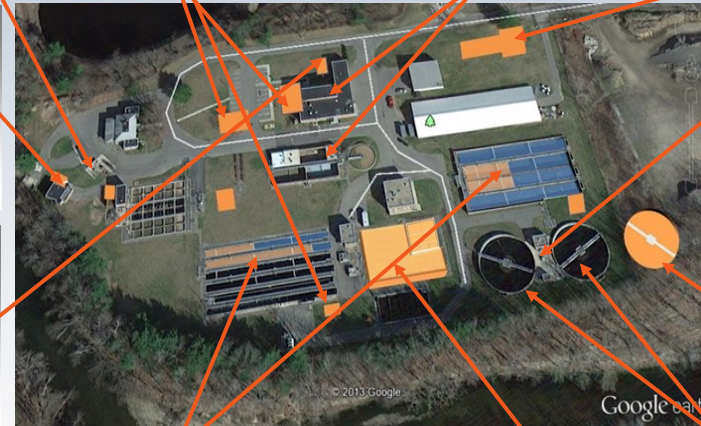
Construct new Administration/ Laboratory / Maintenance garage to replace space lost to dewatering system upgrade and to equipment

SCREENINGS BUILDING

New building to accommodate finer screens and new screenings processing system.
New Electrical system

ODOR CONTROL

Sludge Dewatering System



SLUDGE PUMPING

Provide new RAS and WAS pumps for new final clarifier and upgrade existing equipment.

NEW FINAL CLARIFIER

Provide third final clarifier for increased nutrient removal capacity.

Storm Resiliency

Installation of flood protection throughout facility to meet 500 year flood requirements

MODIFY AERATION TANKS

Modify existing aeration tanks to operate in Bardenpho process for biological nutrient removal. Structural Improvements to increase hydraulic capacity.

PHOSPHORUS REMOVAL

Provide tertiary system for phosphorus removal along with necessary equipment and chemical storage and feed systems. UV Disinfection, effluent pumping station.

FINAL CLARIFIERS

Reuse existing final clarifiers. Rehabilitate concrete surfaces and provide full-radius scum removal mechanisms.