

Huntington Wastewater Treatment Plant

Huntington, New York



Project Summary

The Huntington wastewater treatment plant (WWTP) on Long Island, New York is challenged with improving its nitrogen removal efficiency in order to maintain compliance with ever-tightening restrictions on discharge loads. In order to meet this challenge the town initiated a collection system bioaugmentation program with the primary objectives of enhancing the nitrogen removal performance (particularly cold weather performance) and improving the overall operating and cost efficiency of the plant processes by reducing sludge production and energy consumption.

In-Pipe Treatment Strategy

In-Pipe designed a treatment strategy and provided, installed and maintains forty-two dosing units for the collection system which add a consortium of bacteria throughout the Town's wastewater collection system. The In-Pipe bacteria form a biofilm inside the sewer pipes which initiates treatment of the wastewater in the sewer system during conveyance to the WWTP. The bacteria also inoculate the influent wastewater with heterotrophic, facultative bacteria that enable a greater degradation of organics and removal of nitrogen in the WWTP.

Results

After 9 months of collection system bioaugmentation treatment the WWTP has observed the following changes:

- Effluent total nitrogen load has decreased by 67%, including performance during the coldest time of the year.
- The plant is able to sustain a higher mixed liquor suspended solids during cold weather to improve nitrogen removal without incurring upsets due to filamentous bacterial growth, a former problem.
- Energy consumption per pound of nitrogen removed is down by 26%.
- Influent BOD and total suspended solids (TSS) load is down by 27% and 20%, respectively.

Project Profile Summary at a Glance

Project Installed: April 2012

Plant Size: 2.5 MGD

Service Objectives:

- Reduce Effluent Nitrogen
- Reduce Sludge Production
- Improve Energy Efficiency of Wastewater Treatment

Performance Summary:

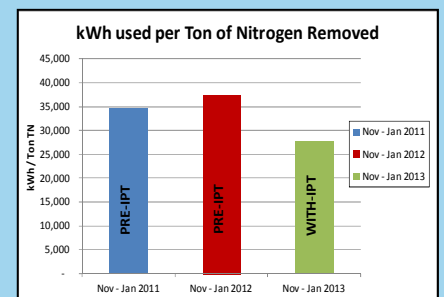
- 67% Effluent Total Nitrogen Load Reduction (From 203 lbs/day to 67 lbs/day)
- 26% Reduction in Specific Energy use for Nitrogen Removal
- 27% Reduction Inf. BOD Load
- 20% Reduction Inf. TSS Load
- 33% Reduction Eff. BOD Load
- 14% Reduction Eff. TSS Load

Annual Financial Payback:

- >\$68,000 Net Energy, Sludge and Chemical Savings (projected based on first 9 mos. operating performance)

Reference:

John Pavlik
Plant Operator
Town of Huntington, NY



Because Efficiency Counts

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