

## **Major Changes Coming to Canton's Water Reclamation Facility**

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The City of Canton Water Reclamation Facility (WRF) is about to embark on the largest plant upgrade in its history. Engineering evaluations have been performed to determine the impact of new phosphorus and potential total nitrogen limits in its National Pollution Discharge Elimination System (NPDES) permit. Current regulations by the USEPA Title V permit regarding air emissions standards, effective in May 2015, are also driving modifications to the existing solids handling process. Correlating final design is expected to be completed by the end of October 2013.

The final design includes a membrane bioreactor (MBR) installation utilizing space in the existing aeration tanks. All solids separation will be accomplished in the existing aeration tanks; therefore a final clarifier and tertiary filter expansion to increase peak hydraulic capacity is unnecessary. Biological Nutrient Removal (BNR) will be accomplished by reconfiguring the existing aeration tanks into industry proven treatment zones within the existing aeration tanks.

Extensive demolition and conversion of existing tanks to flow equalization will also be included in the project. The existing primary and secondary clarifiers will be converted to storage tanks to accommodate peak flows which occur during storm events. The tertiary filters will no longer be necessary since the MBR activated sludge system provides a better liquid-solid separation prior to the existing filters. Engineering studies have shown that the MBR system will also alleviate the need for the WRF's existing disinfection system, providing financial incentives and eliminating safety concerns with this type of chemical treatment.

Final design also includes elimination of the WRF's multiple hearth incineration process. Engineering studies have shown that renovations to the incineration system to convert to a fluidized bed system capable of meeting forthcoming USEPA regulations is not cost effective when compared to other options. Therefore, the WRF will be demolishing the existing incineration system and installing a new sludge conveying system and load out facility to haul dewatered sludge directly to a landfill.

Advertisement for this project is anticipated to occur on November 1, 2013 and bids are expected to be received by January 2, 2014. The City hopes to award a construction contract by February 2014.