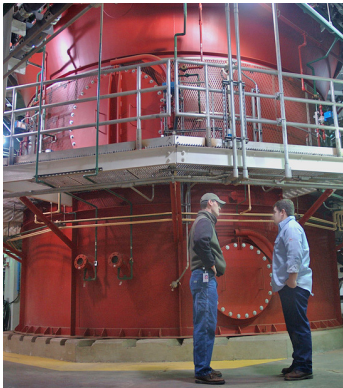


Metropolitan Wastewater Treatment Plant Solids Renewal & Improvements



Project Overview



This project includes renewal and improvements of three sewage sludge incinerators and associated energy recovery and air pollution control equipment including miscellaneous equipment related to processing wastewater solids.

PROJECT DRIVERS & OBJECTIVES

The primary driver of the project is to ensure reliability of existing solids processing facilities until the fourth incinerator is operational in 2024. The project scope items were selected to achieve the following objectives:

Preserve Wastewater Treatment Plant Infrastructure



The harsh environment inside the incinerators require regular renewals

Optimize and Improve Performance



Reduce operating costs, increase performance, and increase reliability

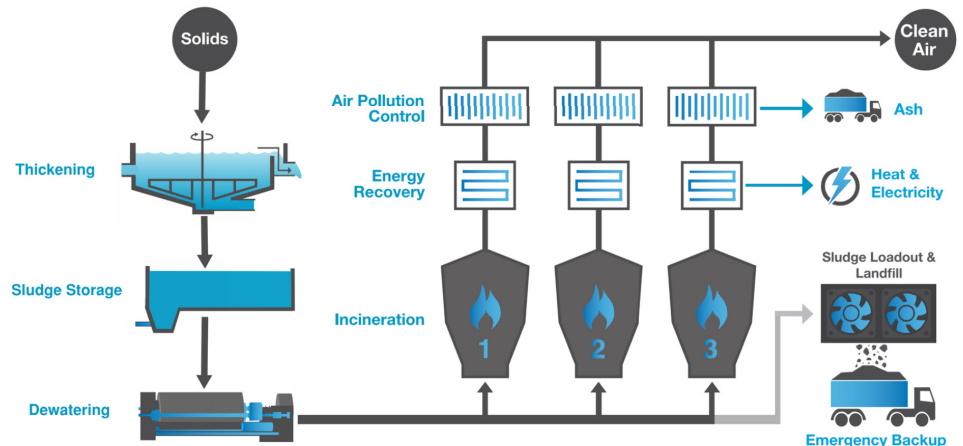
Metro Solids Program Schedule

The Metropolitan Wastewater Treatment Plant Solids Renewal & Improvements project is part of a larger program to increase solids processing capacity at the Metro Plant. This first renewal & improvements project will perform immediate work needed during shorter eight week incinerator shutdowns. The fourth incinerator will then be constructed from 2022-2024. The added capacity from the fourth incinerator will allow for more extensive renewal to occur on the existing incinerators from 2025-2027 as the existing incinerators will be 20 years and will need to be taken out of service for six months to one year at a time.



Processing Solids at the Metro Plant

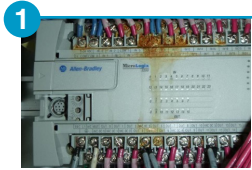
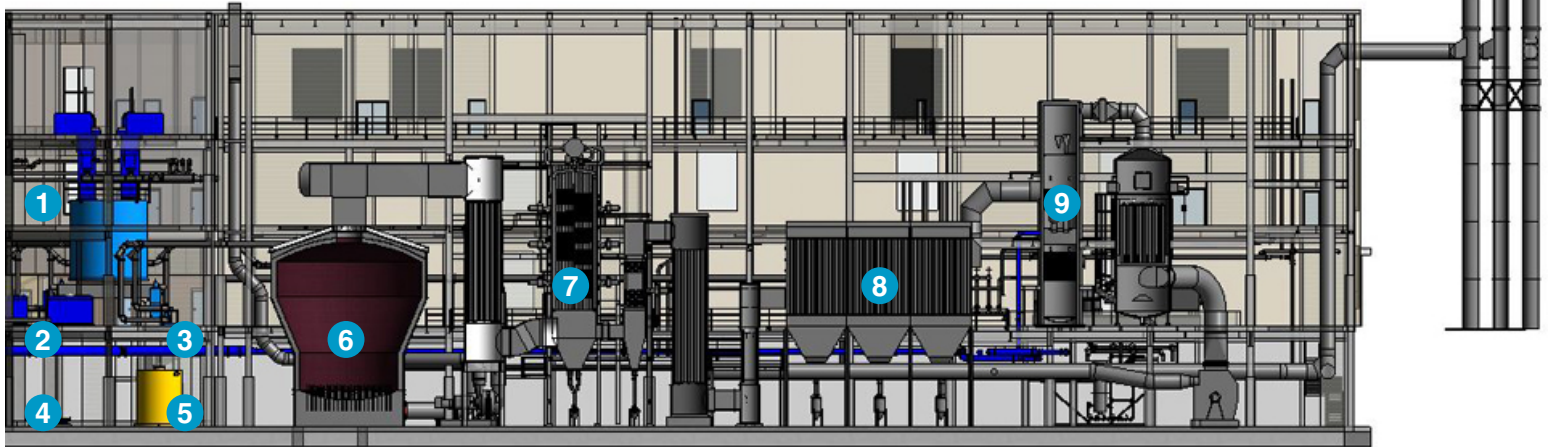
Solids collected at the bottom of settling tanks are sent to gravity thickeners and flotation thickeners. The thickened sludge is held temporarily in sludge storage tanks before being pumped to dewatering and three (3) incineration trains. Each incinerator train includes a fluidized bed incinerator, energy recovery equipment, and air pollution control equipment. The Metro Plant has an emergency backup sludge loadout and landfill system which can be used when incinerator capacity is not available.



Metropolitan Wastewater Treatment Plant Solids Renewal & Improvements

Project Scope

The majority of the project scope items in this project will be completed at the Solids Management Building (SMB) at the Metro Plant. The schematic below outlines the major project scope items and their corresponding project objective.



1 Sludge Loadout & Landfill Odor Control Renewal

Replace control panel, instrumentation, and provide new chemical dosing pumps.



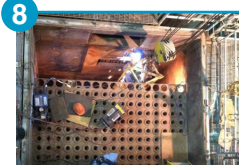
7 Waste Heat Boiler Tube Replacement

Replace waste heat boiler tubes to reduce boiler tube leaks and unplanned downtime.



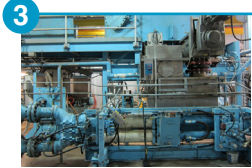
2 Sludge Loadout & Landfill Improvements

Install new ash and lime piping to allow for parallel operation of existing sludge loadout and landfill bays.



8 Baghouse Rehabilitation

Install stainless steel liner in baghouse modules to protect from dew point corrosion and reduce maintenance costs.



3 Cake Pump Piping Modifications

Install new cake pump piping to allow cake pumps 858 and 855 greater flexibility for incinerator feed and loadout.



9 Scrubber Modifications

Install piping and increase water flow to reduce caustic usage, increase ID fan capacity, and improve particulate removal.



4 Auxiliary Condenser Improvements

Replace existing auxiliary condenser, and install second parallel auxiliary condenser for increased steam condensing capacity.



Sludge Storage Mixing Improvements

Install air purge blower, air flow meters, radar level transmitters, and air control valves to improve sludge mixing.



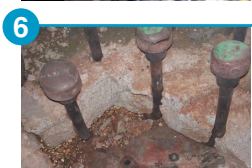
5 Instrumentation & Controls Improvements

Install new instrumentation for more automated controls, process optimization, and to reduce maintenance.



BF08 Vent Reroute

Install vertical piping to vent 408 transporters above silos to reduce piping plugging and maintenance costs.



6 Fluid Bed Incinerator Renewal

Renew fluid bed incinerator air distribution system to repair damage done from tuyeres moving into refractory.



Roof Replacements

Replace eight (8) roofs totaling more than 11,000 square feet with new roofs.



Project Items Outside of SMB

Learn More

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MCES Mission

Provide wastewater services and integrated planning to ensure sustainable water quality and water supply for the region.

