

Digester Rehabilitation and Gas Piping Replacement, SWRP

Project Number: 17-140-3P

Service Area: Stickney

Location: Stickney WRP

Engineering Consultant: In-House Design

Engineering Contractor: To be determined

Estimated Construction Cost: \$11,330,892.000.00 to \$13,716,343.00

Contract Award Date: October 2019

Substantial Completion Date: August 2021



Project Description

The work will remove all heavy solids in Digesters 11 and 12, which have accumulated and are not removable through the sludge draw-off system. It will include rehabilitation of Digesters 11 and 12 covers, replacement of internal gas piping with upsized stainless steel piping and restoring the mixing system components to a working condition. Also, the entire digester gas main in the western digester complex will be replaced with a dual 20 inch stainless steel piping. In addition, the following work will be performed: 12 sludge pumps will be replaced in the Gravity Thickening Building with lower horse power pumps; new steam, condensate, effluent and city water lines will be installed in Preliminary, AB, CD and Gallery A Tunnels; and 2 new macerator units will be installed in the Old Sludge Concentration Operating Gallery on an existing 12" sludge line for WASSTRIP process.

Project Justification

Anaerobic digesters accumulate dense solid deposits through the years of operation, which reduces the usable volume of the digester and requires periodic draining and cleaning. Recent work by the M&O Department uncovered extensive fouling of the existing digester gas piping and iron sulfide build up. Replacement of gas piping is required to ensure the safety of operations and adequate capacity to convey the additional digester gas expended from the conversion of the Imhoff Tanks to primary settling tanks.