



\$271M Design-Build Bio-Energy Project Underway at WSSC's Piscataway WRRF

The \$271 million green-energy project in Accokeek, Maryland is WSSC Water's largest and most technologically advanced to date. At the heart of the project is how WSSC Water handles biosolids produced by the wastewater treatment process.

This new bio-energy facility will use thermal hydrolysis process (THP) and anaerobic digestion to treat the biosolids and a sidestream process to treat the nutrient rich effluent from the dewatering process. The project is also designed to capture and clean the digester gas to feed back to the Washington Gas pipeline and/or to be used in the new CHP facility to generate electricity and steam to feed the THP process. Surplus electricity generated can also be fed back to the electrical grid.

The facility has been designed to meet WSSC Water's anticipated 2040 capacity with the THP's capacity of 88 dry tons per day. The two digesters have a combined volume/capacity of more than 3 million gallons.

In addition to the major process facilities, the project also includes gravity thickening, a cake receiving facility that will accept solids from WSSC Water's other WRRF's, pre- and post-dewatering facilities, digested sludge storage, odor control facilities, a cake storage facility for the Class A biosolids, and a gas storage and cleaning facilities.

Using cutting-edge "green" technology, the new facility will significantly reduce the amount of biosolids resulting from the treatment process, thus reducing costs to haul and dispose of

the product. The remaining biosolids will be significantly cleaner (Class A), making the disposal process much easier and allowing the final product to be suitable for sale and distribution as fertilizer. This new process will reduce operating costs and is anticipated to save WSSC Water customers more than \$3 million per year. Additionally, by recovering the digester gas and using it to help run the facility, WSSC Water will reduce their greenhouse gas emissions by 15 percent.

Since September 2019, PC Construction has been underway with the Early Work Package scope, which included demolition, upgrading and moving site utilities and preparing the site for construction. We are now shifting focus to the Phase 2 construction of the new bio-energy facility with completion of the overall project scheduled for July 2024.

As the design-builder, PC is teaming with leaders in these specialized facilities – Stantec and Hazen and Sawyer. This winning combination brings together PC's construction experience – including the largest THP facility in the world – with Stantec's history of designing nearly half of the world's THP facilities and Hazen and Sawyer's biosolids and sidestream treatment expertise.

Owner: WSSC Water

Design-Builder: PC Construction

Design Team: Stantec / Hazen and Sawyer

Project Delivery: Progressive Design-Build