



Cake Receiving Facility

Cake Receiving Facility Expands Processing Capability

The Piscataway Bioenergy project will transform the Piscataway Water Resource Recovery Facility (WRRF) into a regional facility that processes biosolids from all five WRRFs in the WSSC water service area. The Cake Receiving Facility under construction is integral to the biosolids processing operation and will provide the additional functionality and capacity needed for the Piscataway WRRF to accept and process biosolids from the other facilities.

A DIFFERENT KIND OF CAKE

In the wastewater industry, the term “cake” refers to biosolids that have been compressed and dewatered. The drier the cake, the easier it is to process into Class A biosolids, which can be used for landscaping and as fertilizer.

When trucks arrive at the Bioenergy project site, they will back up to the Cake Receiving Facility and dump biosolids directly into the cake receiving hopper. The hopper is below ground level and enclosed by a pre-engineered metal structure which also houses an odor control system to minimize any potential odors.

In the hopper, a pre-determined amount of water will be added so the biosolids from all the facilities will be the same consistency, which is critical

to the thermal hydrolysis process (THP). Inside the hopper, progressive cavity pumps pump the biosolids into the cake storage bins where they are held until they are pumped to the THP system.

When completed, each of the two cake storage bins will be 55 feet tall, 25 feet in diameter and will hold 500 cubic yards. The bin components were delivered to the site in early April and will be constructed over the next 12 weeks. The bins are being constructed on the ground as large rings that are then welded together and hoisted to sit on cone-shaped bases.

How much is 500 cubic yards?



=1,000 washing machine loads



=150 pickup truck loads



=3,125 13-gallon trash bags

The THP system will require a near-constant feed of biosolids from the cake storage bins. The cake storage bins have been sized to hold enough biosolids to feed the THP system 24 hours a day, seven days a week, and during severe weather that might impede trucking biosolids to the site.

Progress Since Last Update (February 2022)



Set the blowers for the Sidestream Deammonification System



Installed the staircase and ladder on the digester tanks



Started pulling electrical feeders



Installed bridge cranes in the Solids Building and Digester Control Building



Built the pre-cast Medium Temperature Hot Water Building



Constructed the Solids Screening Building adjacent to the Solids Building



Cake Receiving Facility

PROJECT TIMELINE



PLANNING

Completed June 2018



DESIGN

Completed February 2020



DEMOLITION AND UTILITY RELOCATION

Completed December 2020



CONSTRUCTION

Underway
Began June 2020



TESTING

Spring 2022



COMPLETION

Late 2024

Upcoming Work

- Installation of the three Combined Heat and Power engines
- Begin testing the new Utility Water pumps
- Complete HVAC ductwork in the Solids Building
- Installation of mixing system and overflow piping in Digester #1
- Complete Cake Storage bins

The Piscataway Bioenergy Team

Your WSSC Water Piscataway Bioenergy Team includes:



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www.wsscwater.com



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