

Bay Park STP Flood Mitigation Upgrade Program

Eric Mills, PE
Greg Bazydola, PE

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Overview

- Bay Park Sewage Treatment Plant
- Hurricane Sandy Impact
- Program Structure
- Program Scope
- Program Schedule
- Future Elements
- Discussion

Bay Park STP Location



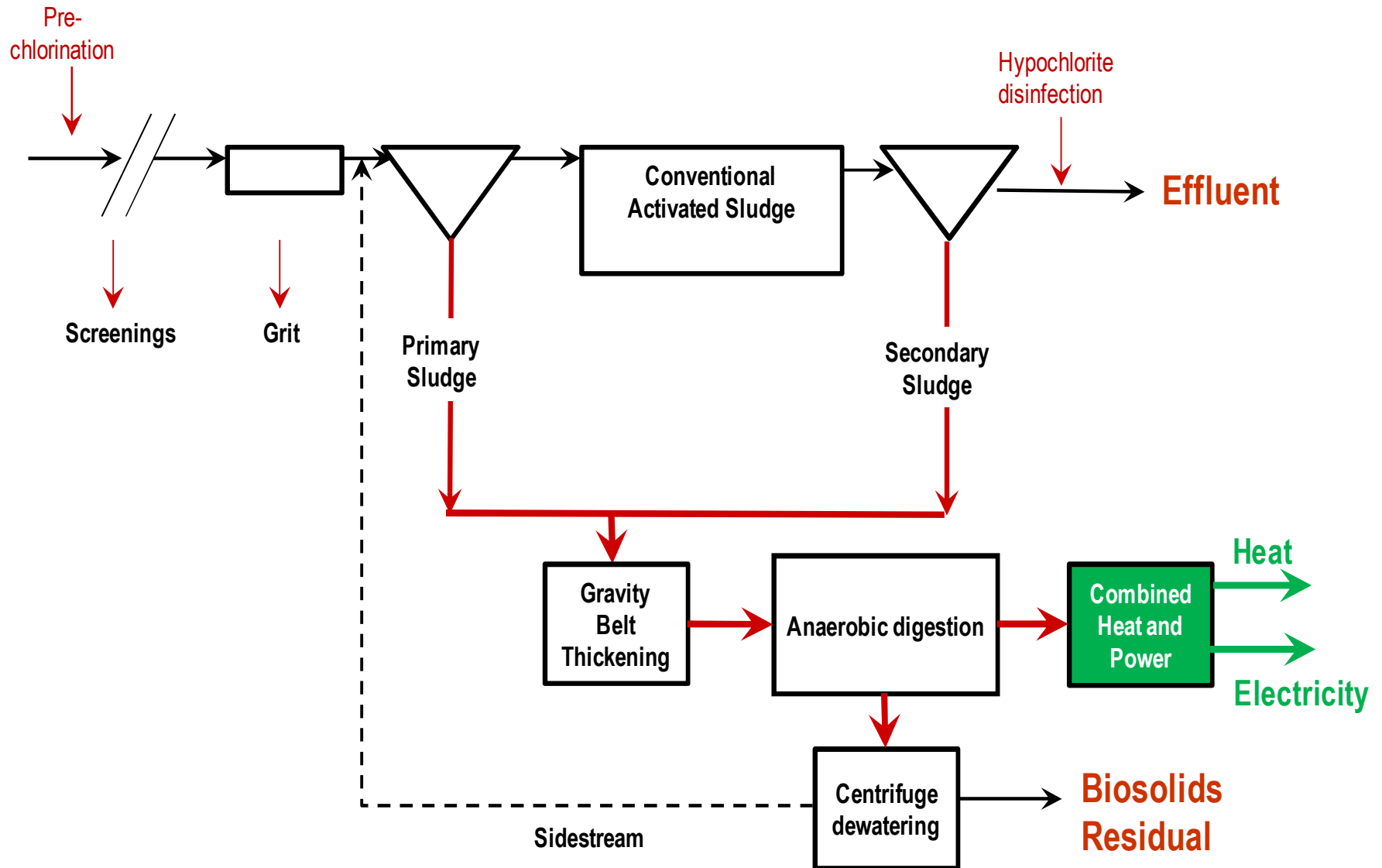
Bay Park STP Background

- Owned by The Nassau County Department of Public Works (NCDPW), post-Sandy entered into operating contract with Suez
- 70-mgd Bay Park STP located in East Rockaway, New York. Serves a Population of 550,000.
- Conventional secondary treatment for the southwestern portion of Nassau County.
- Separate Sewer System

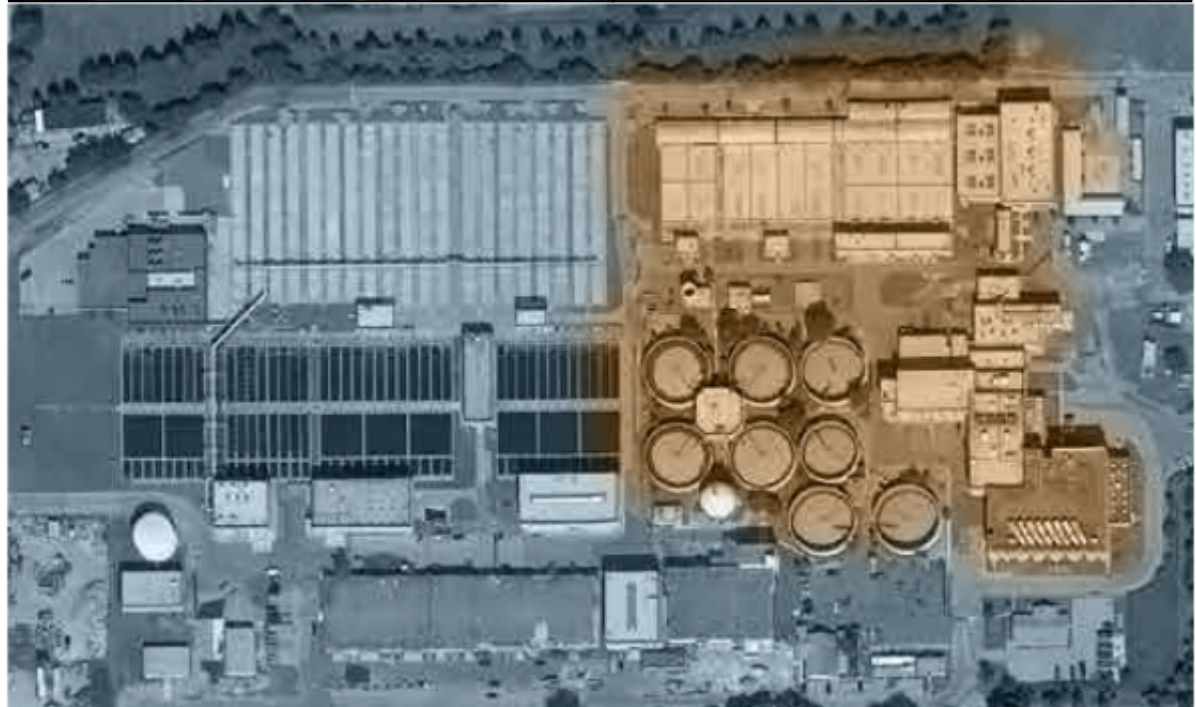
Bay Park STP Aerial





Bay Park STP Process Flow Diagram



Hurricane Sandy Damage



Bay Park STP Flood Zones

-  Basement and Tunnel Flooding due to Surcharged Storm and Plant Drain Systems
-  3 - 7 foot Tidal Surge above ground Elevation

First High Tide Looking North



First High Tide Looking East



Effluent Service Water Pumps

- Cooling Water for Generators
- Process Water for Thickening and Dewatering



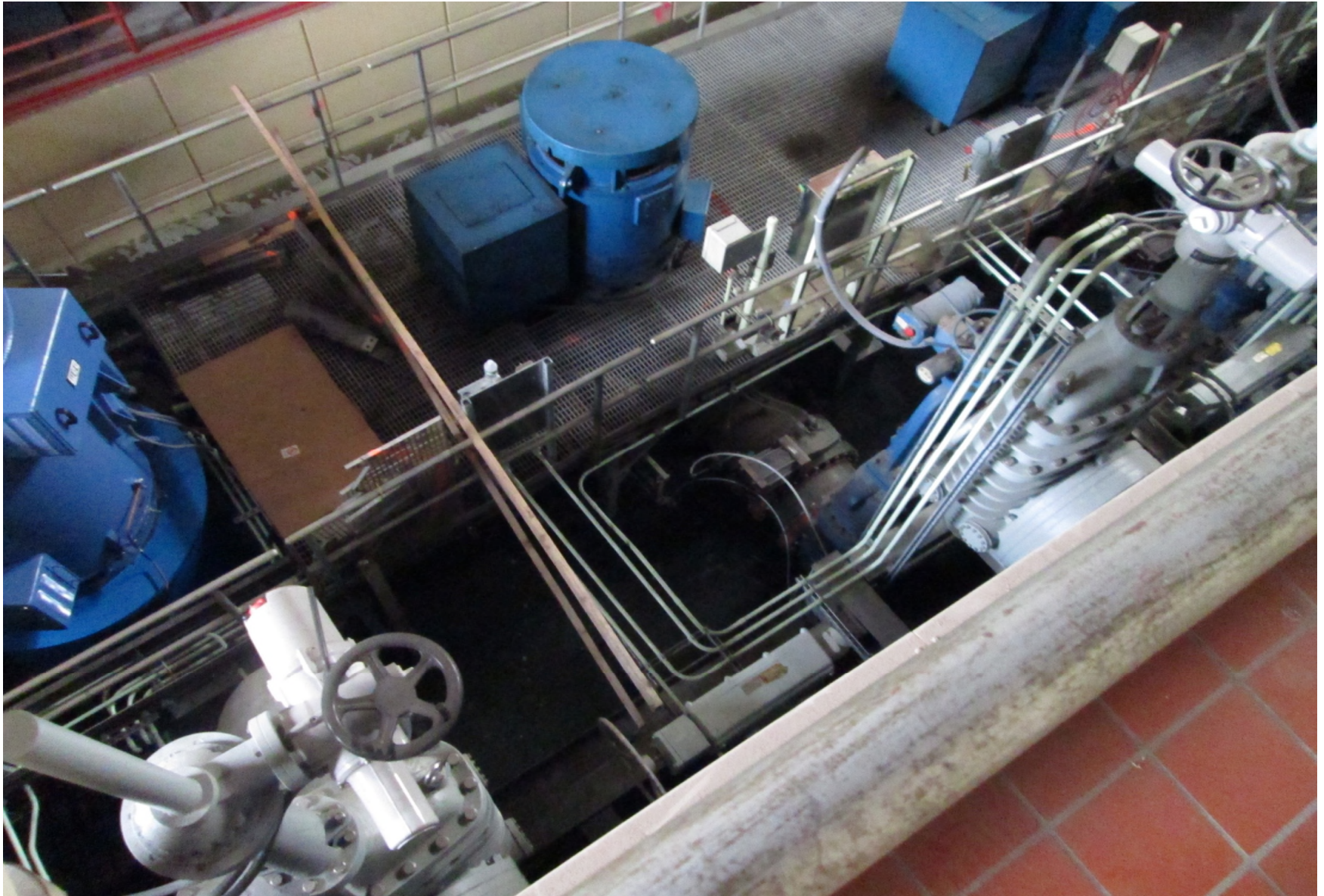
Main Building Basement Areaway



Galleries and Tunnels



Raw Sewage Pump Station



Raw Sewage Pump Station



The Morning After Sandy





Program Goals

- Protect the facility from future storm surges
- Maintain plant operation during surge events to lessen the impact on the community
- Improve local community infrastructure
- Improve effluent quality

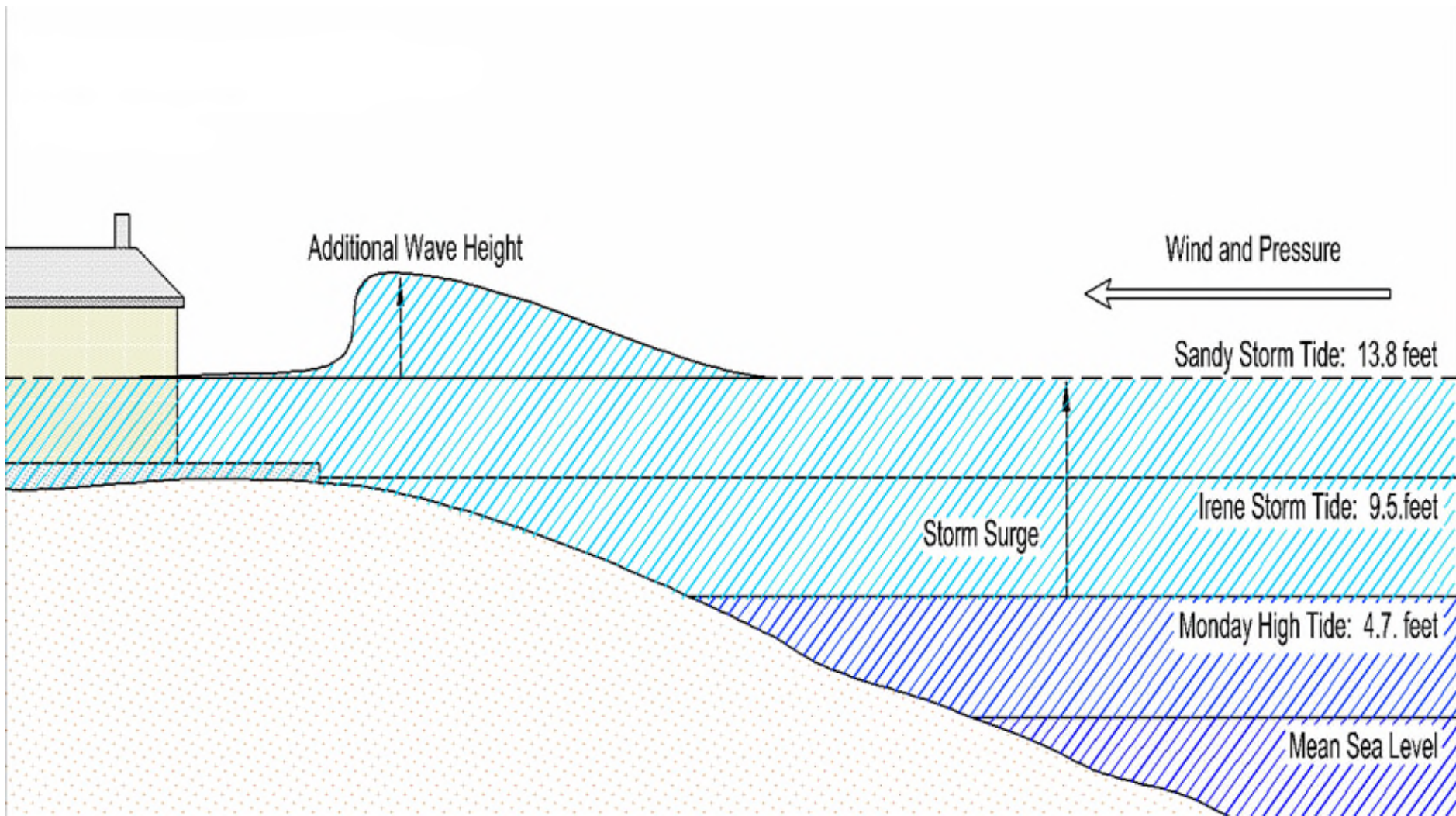
Program Scope

- Plant perimeter berm and flood wall system with stormwater pumping
- All systems critical to liquid train to be elevated or submersible
- Permanent repairs to all flood damaged elements
- Community repairs/improvements to surrounding parkland
- \$830M (\$810M FEMA, \$20M other)

Program Components

- Master planning, preliminary design and site CM by the JV
- 15 Final Design Contracts
- 18 Construction Management Contracts
- 35 Construction Contracts
- Additional County-funded capital projects

Design Flood Elevation



Perimeter Flood Protection System



Flood Protection Berm



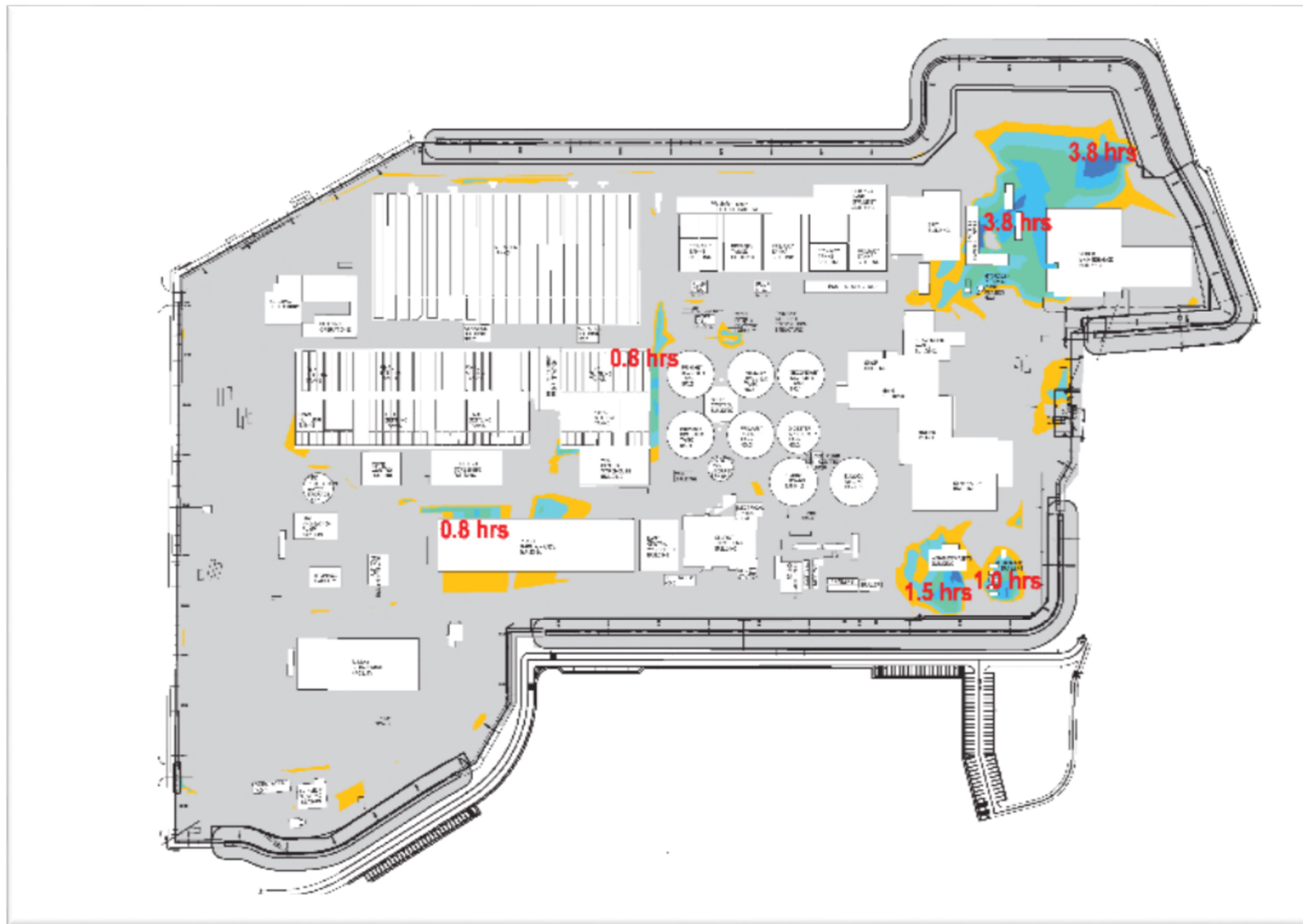
Nassau County DPW - 535121-17G - Part 1600 - Flood Protection
Minor Progression - November 30, 2015 - 6/16/16

Flood Protection: Flood Wall

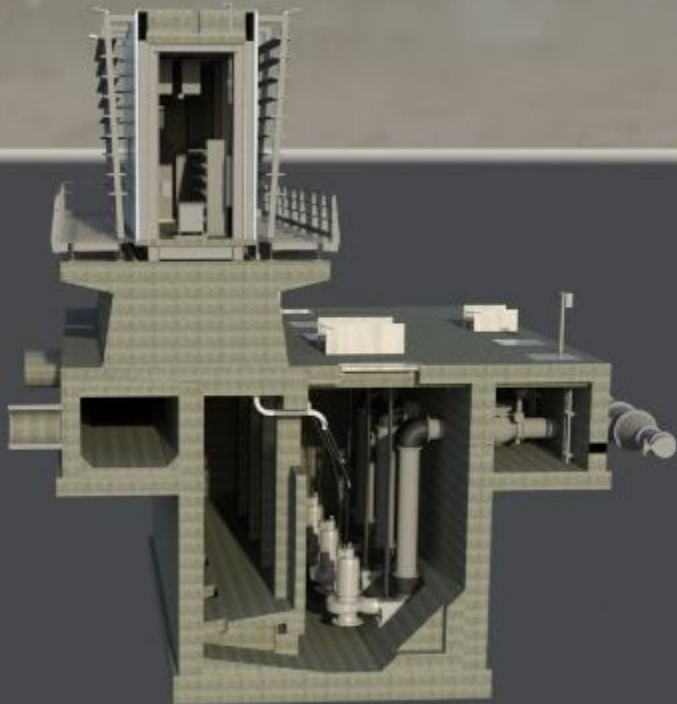


Warren County DPW - 82612-176 - Perimeter Flood Protection
Flood Protection - November 30, 2015 - Page 2 - 33

Stormwater Modeling



Stormwater Pump Stations



Electrical Distribution Unit Substations



Electrical Distribution Main Substation



Effluent Pump Station



Sludge Dewatering Facility

- Belt filter press facility inoperable post-Sandy
- Mobile temp filter presses in the interim
- New facility with centrifuges with all critical MCCs and process equipment on second floor



Collection System Pump Stations



Program Schedule

- Design start Summer 2013
- First contract advertised August 2013
- First construction NTP October 2013
- Preliminary designs complete by spring 2014
- 8 construction NTPs to date, 10 more imminent
- 10 additional contracts in the design phase
- Mitigation contracts to be complete by Q1 2019.

Future Elements

- Facility Outfall
- Longbeach WPCP Conversion
- BNR Improvements
- Digester Gas CHP Facility

Discussion & Questions

