UI
An AVANGRID Company

Singer Substation Flood Mitigation Project

PROJECT OVERVIEW

The Singer Substation Floodwall is one of four ongoing flood mitigation projects designed to protect critical United Illuminating (UI) transmission assets against the risk of flooding and damage as a result of severe weather events. The other three projects are: New Pequonnock Substation Rebuild Project, Bridgeport, completed; Congress Substation Flood Mitigation Project Bridgeport, completed, and Grand Ave / Mill River Substation Flood Mitigation Project, New Haven, which is in the engineering phase.

PROJECT FACTS

Municipality: 120 Henry Street, Bridgeport, CT

ESTIMATED TIMETABLE (subject to change)

Start of Construction: Q1 2025

Completion / In-Service Date: Q4 2026

PROJECT PURPOSE AND NEED

Provide flood protection to this critical transmission asset during severe weather conditions. The project scope includes installation of flood walls and gates around the substation perimeter, reinforcement of the GIS building walls, as well as installation of a storm water management system. Severe floods that have occurred over the recent years along with revisions to Federal Emergency Management Agency (FEMA) flood maps, have necessitated UI to take action to evaluate the risk and potential impact of a single 100-year coastal flooding event on its coastal substations and develop mitigating solution alternatives.

The Singer Street Substation is one of the substations being “at-risk”. The Base Flood Elevation (BFE) at the Singer Substation is elevation 12.0 feet and this station is at risk as all critical equipment elevations are below the BFE (or FEMA 1% annual chance flood level). Due to its proximity to Seaside Park / Long Island Sound, on several occasions the Singer Substation has been affected by coastal storms. For example, during Tropical Storm Irene (August 2011), water rose rapidly to 1–2 feet above the yard elevation.

PROJECT SCOPE

The project scope includes installation of flood walls and gates around the substation perimeter, reinforcement of the Gas Insulated Substation(GIS) building walls, as well as installation of a storm water management system. The project will provide flood protection system for the UI Singer Substation which is at risk of major flooding.

The project consists of the following deliverables:

- Conceptual Engineering
- Detail Design Engineering
- Sheet pile flood wall (below & above grade) along the same path as the current fence line
- Flood gates with concrete foundations
- Stormwater system for runoff discharge
- Environmental, regulatory, and other permitting
- Soil excavation / transportation / disposal
- Testing & Commissioning
- Project Closeout

BENEFITS TO THE REGION

The impact of extreme weather events such as Tropical Storm Irene (2011) and Superstorm Sandy (2012) along with revisions to Federal Emergency Management Agency (FEMA) flood maps have necessitated the Company to evaluate the risk and potential impact of a single 100-year coastal flooding event on its coastal substations and develop mitigating solution alternatives. The Company commissioned a study, "Coastal Substation Flooding Asset Condition Review". The study revealed that five of the Company's coastal substations are at significant risk of being incapacitated and / or destroyed by a single FEMA 100-year flood event. The report further concluded the preferred solution to address flooding and protect the Singer substation is to construct a floodwall system along the substation perimeter. This project will construct a floodwall along the perimeter of the substation parcel to prevent risk of catastrophic damage due to coastal flooding which will enhance the reliability and resiliency of the electric grid.

CONTACT

Project Information Line: 888.848.3697
Refer to: Singer Substation Floodwall
Email: outreach@uinet.com
Website: UIFloodMitigationPrograms.com