Background & Project Challenges

The City of Salem is making significant improvement to its stormwater protection system. The system upgrades include the construction of a 4,000,000-gallon underground stormwater storage tank, a below-grade pump house, associated drainage utility lines, and earthen, sheet pile levees. The project involves significant geotechnical challenges including large areas of soft, compressible soils, potential construction impacts on adjacent structures, and the need for ground improvement under the proposed stormwater storage tank.

Geocomp Role & Accomplishments

Geocomp is the geotechnical engineer of record for the City of Salem for the proposed stormwater improvements. The roles performed by Geocomp on this project included:

- Design, coordination and supervision of an extensive subsurface investigation program
- Geotechnical laboratory testing of collected soil samples
- Geotechnical recommendations for subsurface storage tank, pump house, and associated drainage structures
- Levee and earthen embankment design
- Structural design of storage tank mat foundation
- Provided geotechnical specifications
- Construction oversight of initial phase of construction
- Design of geotechnical monitoring plan to reduce risk of construction impacts on adjacent structures
- Performed preliminary design of support of excavation requirements for a deep excavation.

Client:
Woodard and Curran

Location:
Salem, MA

Value Provided:
- Provided value engineering of storage tank foundation, resulting in significant cost saving
- Performed risk assessment for construction of storage tank foundation
- Reduced risk associated with excavation and dewatering for construction of pump house and storage tank through optimization of proposed construction sequence

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