



Aerial view of existing plant with new structures superimposed that will increase the plant's capacity from 36 to 54 million gallons per day.

Atlantic Wastewater Treatment Plant Expansion

Virginia Beach, VA

Mueser Rutledge Consulting Engineers (MRCE) is providing geotechnical engineering services to the HDR team for the Hampton Roads Sanitation District's \$100 million plant expansion. The project's goal is to increase the plant's wastewater treatment capacity from 36 to 54 million gallons per day by July 2009. The project will include improvements to existing facilities to enhance service life and operational efficiency.

MRCE's services include:

- ▶ Performed a subsurface investigation consisting of borings, CPTs, test pits, undisturbed sampling, laboratory testing to determine soil index properties, strength and consolidation parameters
- ▶ Investigated feasibility of pile foundations and surcharging by pre-loading to support new structures
- ▶ Analyzed feasibility of surcharge slopes, stability of surcharge slopes, mechanically stabilized earth embankments, settlements, shallow foundations, temporary underpinning, and requirements for geotechnical instrumentation and monitoring selected scheme was surcharging to pre-load the soft compressible clay prior to constructing the structural foundations.
- ▶ Monitored vertical and lateral movement of the surcharge piles and surface soils. Surcharge heights reached up to 40 feet and slopes as steep as 1H to 3.5V were employed in conjunction with the use of geosynthetic reinforced surcharge slopes.
- ▶ Provided recommendations for foundation support of structures