

Southwest Water Reclamation Facility Expansion

Project Owner: JEA

Client: CDM Smith

Markets: Utilities

Project Profile:

The site for the subject project was located at 5420 118th Street, in Jacksonville, Florida. This project included the expansion of the existing JEA Southwest WRF from a 14 MGD to a 16 MGD facility. We performed the geotechnical exploration to evaluate the general subsurface conditions within the existing Water Reclamation Facility and at specific locations within the adjacent southern undeveloped/wooded parcel, and to provide recommendations for foundation support and site preparation of the proposed construction. To explore the subsurface conditions within or near the areas of the proposed construction and stormwater maintenance pond, we located and performed 39 Standard Penetration Test borings, drilled to depths of up to 90 feet below the existing ground surface. To further determine the subsurface conditions within the area of the proposed stormwater maintenance pond, we located and performed 4 auger borings, each advanced to a depth of 6 feet below the existing ground surface. Two piezometers were installed within the planned stormwater maintenance pond to measure the groundwater level near the time of our field work, and to monitor fluctuations in the groundwater level over time. Cone Penetrometer Test (CPT) soundings were added to our field exploration to better define the lateral and vertical extent of clay soils, and four undisturbed samples were collected from the clay soils encountered at the site. To better delineate the vertical and horizontal extents of the encountered clay layer within the BNR structure location, a geophysical investigation was conducted using Electrical Resistivity Imaging methods. Quantitative laboratory testing, consolidation testing, and corrosion series testing were conducted on selected samples of the soils encountered during the field exploration.

Services: Geotechnical Engineering

