

WELLFIELD MODELING & PERMITTING

Services Provided

- Water Resource Evaluation
- Expert Testimony
- Variable Density Modeling
- Consumptive Use Permitting

Client

City of Titusville, FL

SDI Environmental Services, Inc. provided hydrologic modeling and expert testimony services to the City of Titusville. Titusville obtains its water from two surficial aquifer wellfields located in the City and purchases water from Cocoa Beach. Titusville began planning for a new Upper Floridan aquifer wellfield a few years ago. SDI assisted the Titusville and its consultants in permitting that new wellfield in northern Brevard County.

Hydrologic Data Analysis and MODFLOW Modeling

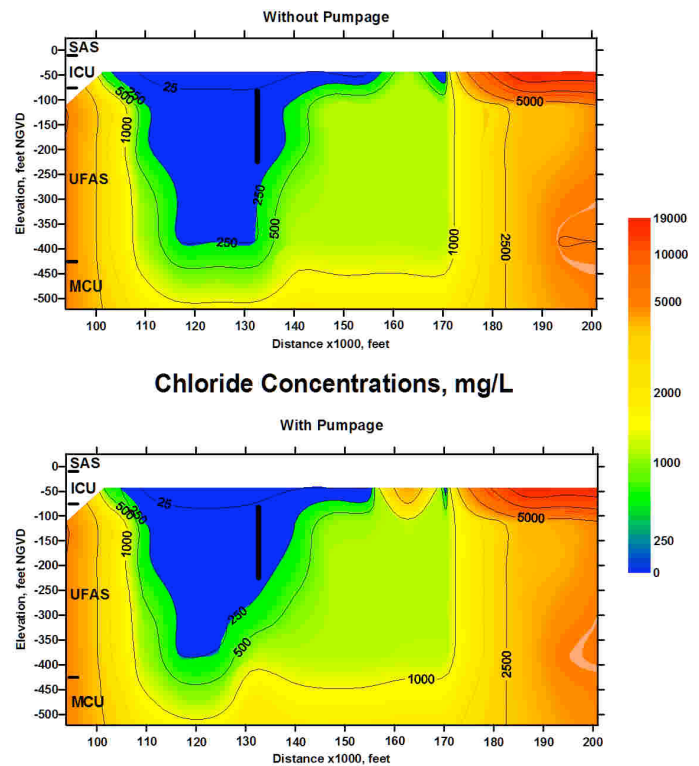
SDI reviewed aquifer performance tests using analytical techniques and groundwater flow modeling. SDI developed a calibrated local-scale MODFLOW model of the proposed wellfield to assess potential hydrologic impacts to wetlands and water resources of the area.

Water Quality Data Analysis and Variable-Density Modeling

In response to concerns about water quality issues of saltwater intrusion and upconing, SDI mapped the horizontal and vertical distribution of chloride concentrations in groundwater in northern Brevard County and southern Volusia County using observed data. SDI then utilized the USGS saltwater intrusion model SEAWAT 2000 to predict chloride concentration changes in response to the proposed wellfield production.

Consumptive Use Permitting and Expert Testimony

The Consumptive Use Permit application for the new wellfield was challenged in an Administrative Hearing by adjacent landowners. SDI professionals were deposed and provided expert testimony at the Hearing. A favorable ruling supported the capacity of the proposed wellfield at the requested quantity to complement Titusville's other wellfield water sources.



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