

WILLOUGHBY CREEK WATER QUALITY IMPROVEMENT PROJECT

Project Description

The Willoughby Creek Water Quality Improvement Project is located within Sections 14 and 15, Township 38 South, Range 41 East, in Stuart, east-central Martin County, Florida. The approximately 385-acre watershed is generally bound by Witham Airport to the north, SE Indian Street to the south, SE St. Lucie Boulevard and SE Dixie Highway to the east and west, respectively. The watershed consists primarily of medium to high-density commercial and industrial properties, the Martin County Fairgrounds, golf course facilities, the Martin County Field Operations / Public Works Complex, and a portion of Witham Airport.

The purpose of the project is to construct an approximately 8.24-acre combination deep, wet detention lakes and shallow water Stormwater Treatment Areas (STA), along with a set of control structures and a sheet pile weir, in order to provide water quality treatment for the upstream watershed. The “treatment train” system is to reduce velocities, maximize storage capacity, attenuation and hydraulic residents time in order to achieve the most possible pollutant load reductions with the deep, wet detention lakes, for physical settling of the suspended solids. Further polishing of the stormwater through the biological uptake of nutrients by the vegetation planted in the STAs will provide additional water quality treatment. The project is to provide ground water recharge and improve timing of fresh water discharges to the St. Lucie River and Estuary.

More particularly, the work includes, but is not limited to, demolition, clearing, grubbing, stripping and exotic removal, excavation, embankment, grading, importing of improved soils, planting, mulching and sodding the proposed lake and STA. Excavation, re-grading and sodding of approximately 450 linear feet of Willoughby Creek. Included in the work is the installation of various size drainage pipes, ranging from, 18” Reinforced Concrete Pipe (RCP) to 60” RCP, various FDOT Ditch Bottom Inlets, headwalls, Mitered End Sections (MES) and the installation of water control structures and a 114’ long sheet pile weir with a concrete cap. Additionally, included in the work is the removal and replacement of golf cart paths in two locations, removal and replacement of existing concrete structures, utility conflict adjustments, sodding, open cut and restore of roadway, asphalt patching and overlay, remove and replace miscellaneous signs, thermo-stripping, and reflective pavement markings. Other types of work include silt fencing and turbidity barriers, dewatering, maintenance of drainage, rip rap, sodding, golf course, school board, airport and utility coordination, holding of poles and adjustment of buried fiber optics, surveying and erosion / sediment controls and miscellaneous landscaping / irrigation restoration.