WITHLACOOCHEE WPCP

OPERATION AND MAINTENANCE STANDARD OPERATING PROCEURES (SOPS)

PLANT O/M INFORMATION:

Treatment Process

The Withlacoochee WPCP provides wastewater treatment for an ADF of 12 MGD, with the capability to treat peak flows of 18 MGD. When needed with high flows the plant has two EQ basins, one with approximately 6.5 MG capacity and a second basin with approximately 7 MG capacity. The plant uses a Sequencing Batch Reactor (SBR) System to treat wastewater while effectively removing nutrients and reducing phosphorous. The SBR system utilizes the activated sludge process, the most advanced biological treatment method used to treat domestic wastewater. As opposed to the conventional activated sludge process, in which wastewater treatment takes place in various, linearly arranged tanks, the SBR process occurs sequentially in the same tank. The SBR process is extremely flexible and suited to all types of wastewater and plant capacities.

Treatment process systems:

- Coarse/Fine Screening; Grit Removal; EQ Basin, (2); Sequencing Batch Reactors (4); Cloth Disk Filtration; Sodium Hypochlorite Disinfection; Sodium Bisulfate De-chlorination; Post-Aeration; Effluent Flow Meters; Process Service Water (reuse water); Aerobic Digestion Solids Holding; Sludge thickening and Dewatering; Plant Drain Pumps; Chemical Storage/Metering; Emergency Power Generators (diesel)

Treatment Plant Operation and Maintenance (O/M)

Treatment begins at the plant headworks where mechanical bar screens remove sticks, plastics, and other large solids from incoming raw wastewater (influent), as well as grit through vortex grit basin. The wastewater then enters one of the four SBRs to begin the activated sludge process. There, in a carefully controlled environment, the wastewater is mixed with air and live bacteria to oxidize organic material and remove inorganic solids through adsorption. After settling for solids removal, the partially treated wastewater then enters a process known as a tertiary treatment, where it is filtered through a cloth media disk filtration system. Finally, treatment includes disinfection with hypochlorite followed by chemical neutralization (de-chlorination) to remove residual chlorine before the treated wastewater (effluent) is dispersed into the Withlacoochee River.

The operation of the WW treatment plant is 24/7, with three eight-hour shifts. Operational/process control of plant is directed by the Plant Superintendent and Asst. Supt.
Superintendent and Asst. Supt. are Class 1 State of Georgia Wastewater Treatment System Operators.
All WW treatment plant operators are Class 3 or higher certified State of Georgia Wastewater Treatment System Operators.

All equipment maintenance at the facility performed by Central Maintenance Division personnel using a Computer Management Maintenance System (CMMS) based program. Scheduled maintenance performed as per equipment manufacturer's recommendations. Central Maintenance Superintendent and Asst. Supt. manages division.