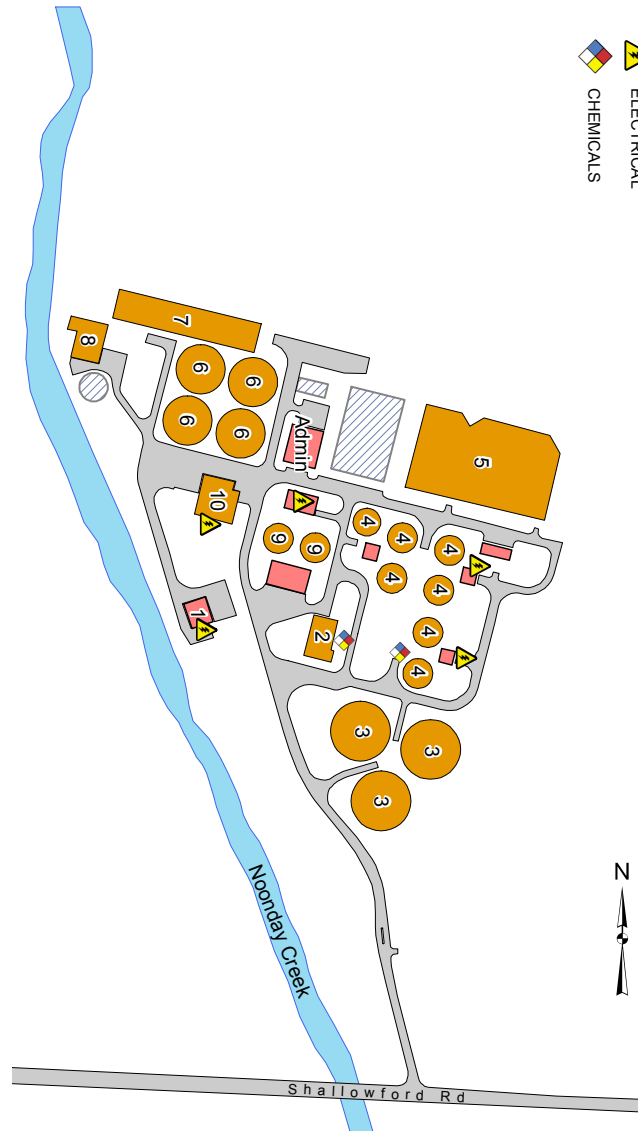


HISTORY

The Noonday Creek Water Reclamation Facility was originally constructed in 1971. Situated on 20 acres along Shallowford Road and alongside Noonday Creek, it was sized to treat 12 million gallons per day (mgd). At conception, the plant provided advanced liquid treatment and included a pump station, primary and secondary clarifiers, aeration basins, and chlorine disinfection. Solids were treated for disposal with aerobic digesters, thickener tanks and drying beds.

In 1999, the plant capacity was increased to a capacity of 20 mgd. It currently releases 10 million gallons of clean water into Noonday Creek each day.

While continuing to operate and serve Northeastern Cobb County, the Noonday Creek WRF is currently undergoing improvements to increase safety and efficiency by upgrading the chemical tanks, pumps, and piping. These enhancements will increase safety and environmental protection, ensuring Noonday WRF continues to provide responsible treatment and a safe work environment for staff.



NOONDAY CREEK

WATER RECLAMATION FACILITY



Clean water is for everyone. We use it every day in our homes, schools, and businesses. Wastewater is collected in sewer pipes and through a series of pipes is transmitted to water reclamation facilities where it is cleaned and treated before it is released back into the environment, for us to enjoy again.

For more than 50 years, the Noonday Creek WRF has been treating wastewater for our citizens in the northeast corner of Cobb County and portions of Cherokee County.

PRIMARY TREATMENT

SECONDARY TREATMENT

TERTIARY AND SOLIDS TREATMENT

1 • INFLUENT PUMP STATION

The station collects wastewater flow from two regional sanitary sewer interceptors. The treatment process starts here as flow enters the station. Then, it goes through bar screen devices to remove large debris. Ferrous chloride is added for solid coagulation and phosphorous removal. The pump station consists of six 350 horsepower pumps that lift the raw sewage to the *Headworks* of the facility.

2 • HEADWORKS

Four vortex grit collectors remove granular debris from the liquid waste stream.

3 • EQUALIZATION TANKS

The treatment plant operators have the option to divert a portion of the liquid waste stream to the equalization tanks during high flow time periods. The liquid waste is stored in these tanks until lower flow time periods and then is routed through the normal treatment process.

4 • PRIMARY CLARIFIERS

Six 80-foot diameter concrete tanks separate out the scum and primary biosolids. Scum is collected and discharged to the primary scum pump station, while solids are swept off the bottom and discharged to the primary biosolids pump station. The liquid stream is transmitted to the *Aeration Basins*.

The primary scum and biosolids are pumped to the biosolids holding tanks in the solids treatment process.

5 • AERATION BASINS

Biological treatment is used to further remove solid waste from the liquid stream. Blowers pump air into the liquid stream through fine bubble diffusers in three basins to maintain an aerobic environment for bacteria to consume the solids.

Lime (to raise pH) is added to the liquid stream. Liquid stream is transmitted to the *Secondary Clarifiers*.

6 • SECONDARY CLARIFIERS

Four 105-foot diameter concrete tanks separate the remaining scum and settled biosolids from the liquid stream.

Secondary scum is pumped to *Biosolids Holding Tanks*.

A portion of the settled biosolids, called Return Activated Sludge (RAS), is pumped back to the *Aeration Basins* for continued biological activity.

The remaining biosolids, known as Waste Activated Sludge (WAS), is pumped to *Biosolids Holding Tanks*. The liquid stream is transmitted to the *Effluent Filters* through an 54-inch diameter pipe.

7 • EFFLUENT FILTERS

Liquid chlorine is added to the liquid stream to prevent algae growth in the filters. Fourteen filters remove fine particles from the liquid stream as it percolates through granular media (sand & anthracite). Liquid stream is transmitted to the *Ultraviolet Disinfection* structure.

8 • ULTRAVIOLET DISINFECTION

The liquid stream is disinfected as it passes through closed vessels containing high intensity mercury vapor lamps. The effluent is discharged to Noonday Creek.

9 • BIOSOLIDS HOLDING TANKS

Primary and thickened WAS biosolids are mixed and stored in two 70-foot diameter tanks. Biosolids is pumped to the *Dewatering System*.

10 • DEWATERING SYSTEM

Two dewatering centrifuges remove the majority of the liquid from the biosolids. Dewatered biosolids are sent to a landfill.

