

Hinkston Creek Wastewater Treatment Plant

project description | wastewater treatment

location

Mt. Sterling, Kentucky

client contact

Mount Sterling Water &
Sewer System (MSWSS)
Dave Pearce
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period of services

2000-2003

construction cost

\$8,015,900



The wastewater system improvements project provides for the long-term wastewater treatment needs for the Mount Sterling Water & Sewer System (MSWSS) planning area as defined by the 1997 Wastewater Facilities Plan. This required decommissioning of the existing wastewater treatment plant (WWTP) located near downtown on East High Street, construction of a major trunk sewer adjacent to Hinkston Creek, and construction of a new 3.0 million gallon per day (MGD) wastewater treatment plant (WWTP) on a site approximately one mile north of I-64 and 3.3 miles northeast of downtown. The project was funded through the Kentucky Infrastructure Authority (KIA) with their first 1% low interest loan. The existing WWTP was taken out of service in November 2003.

The new Hinkston Creek WWTP includes a 12.0 MGD influent pump station designed to provide complete pumping redundancy and influent flow measurement. Preliminary treatment includes a screenings building with two mechanical fine screens with integral screw conveyors and a manual bypass coarse bar screen. Following preliminary treatment, the wastewater passes through a flow control/diversion structure to the biological treatment systems. Anaerobic and anoxic basins, designed to promote the growth of phosphorus-storing microorganisms, provides biological phosphorus removal as required by the Kentucky Division of Water. Two large oxidations ditches provide aerobic treatment following the phosphorus removal system. Following the biological processes, two 90-foot diameter final clarifiers remove suspended solids. The clarified effluent is disinfected using ultraviolet light and oxygenated in a re-aeration basin. Effluent from the facility is measured using a Parshall flume prior to being discharged into Hinkston Creek. Waste solids are injected with polymer, dewatered using a belt filter press, and hauled to an approved landfill.

The Administration and Solids Processing Buildings house administrative offices, laboratory facilities, operations/control center, records storage, equipment maintenance and storage, chemical storage and feed systems, solids processing and conveyance equipment, and electrical control centers.