

JONES FERRY CSO TREATMENT FACILITY

Chicopee, Massachusetts



Client

Department of Public Works

Description

The combined sewer overflow (CSO) located at the end of Jones Ferry Road is the largest remaining CSO in the City of Chicopee, MA. This CSO accounts for approximately 34% of the total CSO volume from the City, releasing an estimated 158 million gallons of untreated combined sewage to the Connecticut River on an average annual basis. A June 1999 Consent Order issued by U.S. EPA spurred the development of the City's Long-Term CSO Control Plan, which resulted in the selection of satellite treatment for abatement of this CSO.

The Jones Ferry CSO Treatment Facility has a design capacity of 40.7 MGD, which is the peak flow rate resulting from a 3-month design frequency storm at the CSO diversion structure plus a 25% factor of safety. The CSO treatment facility is designed to first maximize flow to the City's Water Pollution Control Facility to receive full secondary treatment. Additional flows up to the design capacity are diverted into the Jones Ferry CSO Treatment Facility, thus minimizing the amount of untreated combined sewage discharged to the river. The design incorporates a high flow bypass structure on the 72" combined sewer pipe, as well as an influent diversion structure at the inlet of the treatment facility. Treatment includes screening, pumping, high-rate chlorine disinfection, and dechlorination. The facility also includes flushing gates and wash down systems to simplify cleaning and

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dewatering at the completion of a storm event. A SCADA system developed by Tighe & Bond will provide integrated control and alarming for the facility.

Beyond the treatment process, many design features were driven by the City's desire to minimize the impact of the facility on the surrounding homes. Enclosed tankage and screening areas, an activated carbon odor control system, and a neighborhood-friendly architectural appearance have all helped to increase the facility's acceptance. The project also included sustainable design elements, including a rainwater reuse plant water system, stormwater infiltration, and a number of energy-efficient design elements.

Construction of the \$14.3 million Jones Ferry CSO Treatment Facility began in June 2007 and was substantially complete in September 2009. Tighe & Bond provided evaluation, design, permitting, and construction phase engineering services on this project.