

COMBINED SEWER SEPARATION

CSS 4D

Fitchburg, Massachusetts

The city of Fitchburg has a population of about 40,000 people and is located in north-central Worcester County, Massachusetts. As part of a Consent Decree, the City hired Wright-Pierce to provide design and construction administration services for two sewer separation projects, totaling more than 30,000 linear feet (LF) of gravity sewers (new storm and new sanitary) ranging in size from 8-inch to 30 by 48-inch in diameter and rehabilitation of manholes and sewers. The CSS 4D project area is located in the eastern section of the City, while the Beech and Hazel Street project area is located on the southwest side of the City.

Both projects consisted of SRF funding assistance, permitting approvals, significant utility coordination with gas and water programs, and regulatory compliance. The Consent Decree portion of the work for the CSS4D area sewer separation, was required to be completed by December 31, 2014, and this milestone was successfully met. Final construction of all aspects of the CSS4D project, including rehabilitation of manholes and pipes, was completed in 2015.

Project scope for both assignments also included Preliminary Engineering Report (PER) development, design, bidding, and construction administration.

Client

City of Fitchburg

Project at a Glance

Background

- Client under Consent Order
- Area identified by EPA for I/I reduction and separation
- Use of existing system after separation requires rehabilitation

Challenges

- Large diameter combination system
- Large egg-shaped brick sewer
- Deep service laterals and private connections
- Working around other utilities
- Sewer in center of roadway, pipe at capacity
- Comprehensive bypass pumping plan needed

Solutions

- Mixed approach to separation – remove existing brick sewer and replace with appropriately sized storm and sanitary sewer
- Consider pipe bursting
- Manhole and pipe replacement, lining and point repairs recommended

