



Transmission Main Cut-In



16" Diameter Overflow Flare

The water treatment facility for Barre City is located in Orange, Vermont about 5 miles from the City. Although there is a 24-inch transmission main connecting the City to the City's 3.0 mg clear well, there were fire flow deficiencies due to the long transmission main. After ten years of searching, a site was found for locating a 1.0 MG water storage tank closer to the City. Staff from Dufresne Group performed the initial site selection and concept design using extensive computer modeling analysis to insure the tank was placed at the correct elevation to service the present and future needs of Barre. The analysis indicated the design had to be changed from an altitude valve tank level control to a source valve control system otherwise the tank would fill, but never provide water to the system.

The most critical operation during the construction phase involved the cut-in of a pre-tested, pre-disinfected, and pre-assembled forty foot piece of 20" water main, fittings, and valves into the existing 1931 cast iron main. Dufresne Group met with City and Town officials and prepared a detailed written procedure with contingency plans for the cut-in that involved both City employees and construction staff. The work began at 6 PM and was completed at 2 AM with a minimum of customer complaints.

Reference:
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KEY FEATURES

- 35% Vermont State Grant
- 2,350 feet of 16" and 24" diameter ductile iron water main
- 1.0 mg cast-in-place concrete tank, visibility minimized to meet Act 250 aesthetic standards
- Provisions to expand the tank to 4.0 MG
- SCADA system replacement with full open architecture and seven station radio base RTU's
- Source control vault