



CLIENT:

Norwich Public Utilities

16 South Golden St, Norwich CT 06360

Reference:

Christopher LaRose

General Manger / Operations Manager

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CLA Project Engineer:

Kyle Haubert, P.E.

PROJECT HIGHLIGHTS:

Status: Completed 2014

Project Cost: \$2,300,000

Services: Planning, Survey, Permitting, Design, Construction Administration & Inspection

KEY FEATURES:

- Water & gas mains installed in parallel
- Replacement of an existing water system while maintaining service
- 13,000 Linear feet of water main
- High pressure areas
- Shallow to ledge
- Demolition of an existing booster pump station

KEY CHALLENGES:

- Local government permitting
- Funded by the State of Connecticut Drinking Water State Revolving Fund

Plain Hill Road & Royal Oaks Water and Gas System Improvements

Norwich, Connecticut

PROJECT DESCRIPTION:

The Plain Hill Road & Royal Oaks Water and Gas System Improvement project was design primarily to alleviate low water pressure concerns within the Royal Oaks subdivision in Norwich, Connecticut. The royal oaks subdivision was developed during the 1950's and consists of approximately 50 residences. The neighborhood was serviced by and existing 6" water main and booster pump station. The elevation difference within the neighborhood is over 120 feet and presents large variations in water pressure; this combined with fluctuations during the booster pump station operation created significant problems for homeowners and Norwich Public Utilities staff.

Norwich Public Utilities has an existing storage tank on Plain Hill Road located up-grade of the Royal Oaks neighborhood that could provide more consistent water pressures for this area. CLA Engineers performed the initial base mapping and conceptual water main routings for an extension of an existing water main served by this tank. Proposed water system modeling was performed to determine the optimal pipe sizing for the residential services, fire protection service and potential future extensions. Additionally, pressure zones were analyzed to determine where individual pressure regulating valves would be required. Due to the neighborhood configuration and variations in topography it was determined that a pressure regulating station would not be efficient and the use of individual pressure regulating valves in each residence would be more effective.

The planned water extension allowed Norwich Public Utilities the opportunity to expand the gas distribution system along the same routing. CLA Engineers laid out the new gas main piping to be installed in parallel with the new water main and designed the proposed utility crossings to avoid conflict and provide adequate separation to meet State codes.

The water construction portion of the contract was funded by the State of Connecticut Drinking Water Revolving Fund. Plans and specifications were reviewed by the State Department of Health as required by the funding and the bid and construction process was coordinated with their staff.