

## **Village of Granville Water Treatment Facility and Distribution System Improvements Project**

The Village of Granville (Village) engaged Lamont Engineers to study the Village's existing water supply infrastructure. Lamont Engineers summarized the findings of the study in the Preliminary Engineers Report (August 2008). The report described the Village's existing water treatment facility, groundwater production wells, and distribution system. The report also identified recommended improvements to the Villages water system. The improvements are summarized as follows:

- Provide (4) new groundwater production wells. The existing production wells and manifolds are in excess of thirty years old and experience frequent mechanical failure.
- Provide a new water treatment facility. The new treatment facility will be designed to treat the year 2030 projected maximum day demand as well as comply with NYSDOH Surface Water Treatment Requirements (SWTR).
- Install approximately 5,800 LF new water mains to provide improved flows and pressures to Village residents as well as provide service to the Village fairgrounds.
- Distribution system improvements will also include installation of approximately 500 LF of directionally drilled water mains.

Construction of the new groundwater production wells will replace the existing water source infrastructure. Construction of these new wells will be in the existing well field and are projected to yield 0.724 mgd, the estimated maximum day demand for the year 2030. Prior to preparing the Preliminary Engineers Report, alternative well sources as well as the existing well source were investigated by Village engineers. It was determined that the existing well field would be adequate to meet the required yield. See the attached map for the location of the existing well field.

Early in the evaluation process, NYSDOH determined that the Village's existing groundwater source was Ground Water Under the Direct Influence (GWUDI) of Surface Water. This requires further treatment and filtration than is currently provided by the Village treatment facility. Therefore a new treatment plant will be constructed to house the necessary filtration and disinfection equipment which will bring the Village into compliance with the State's Surface Water Treatment Requirements (SWTR). The new treatment facility shall have the capacity to meet the projected year 2030 maximum day demand.

The new treatment facility shall be in a 40 ft by 60 ft masonry building located between the existing well field facilities and Park Street. The facility will replace the existing water treatment building and upgrade the filtration and disinfection processes.

The project will also include installation of new water mains to improve water service to the Village. An 8" service main will be installed from the end of Grandview Avenue to the existing 8" service main adjacent to the existing treatment/pumping facility. This will improve flows and pressures along Grandview Avenue and provide a means for the local Fire Department to conduct training in the Village Fair Grounds. An 8" service main will be installed from the intersection of Irving and Columbus Streets, extend along Columbus Street to Mettawee Street, and then extend west to the end of Mettawee Street near NYS Rt. 22. This improvement will significantly improve pressures and fire flows along Mettawee and Columbus Streets. Distribution system improvements will also include the installation of an 8" water main to be directional drilled under Quaker Street near the intersection of Quaker Street and NYS Rt. 22. This installation will tie together the existing water mains on Quaker and Church streets on the south side of the Village.

In addition the project will replace 250 LF of 10" cast iron water main that crosses the Mettawee River near the existing pumping facilities. This crossing is currently exposed within the river bed and therefore must be replaced to bring it into compliance with regulatory standards. Replacement of this main will be conducted via directional drilling.

All distribution system improvements have been verified and coincide with the findings of Addendum #1 – Distribution System Hydraulic Analysis of the Preliminary Engineers Report. The mains considered for replacement are 4" cast iron mains in excess of seventy years old and possess inadequate flow carrying capacity. Additional distribution system improvements will be considered as funds become available for such improvements.

Funding for this project will be provided by New York State Environmental Facilities Corporation and possibly through the United States Department of Agriculture Rural Development programs. Funding will be utilized to pay for the above system improvements and to reimburse previous work conducted that evaluated water source locations and preliminary engineering studies associated with the development of this project.

The ultimate outcome of the proposed project will be to improve distribution system pressures and fire flows, bring the Village into compliance with treatment requirements, and upgrade other components of the Villages aging water infrastructure and groundwater supply. These improvements will improve service to approximately 1,020 homes and business within the Village. In addition, upgrades will allow for future expansion of the Villages commercial, industrial and manufacturing facilities and provide the flexibility for future growth by existing and prospective businesses relating to job creation within the Village and Washington County.

The estimated project cost is \$4,700,000 and is scheduled to be substantially completed by December 2010.