

NEW ECOLOGY

Full Retrofit of an Outdated Senior Housing Complex

Plaza on the Green

Location: Waterbury, CT • Units: 157 • Owner: SHP Management Corporation

PROJECT BACKGROUND

Plaza on the Green is a 157-unit senior housing complex located in Waterbury, CT. In 2014 New Ecology (NEI) conducted an ASHRAE Level II audit on the property for SHP Management Corp., which was then updated in 2017 with another site visit and analysis of updated utility usage. From these visits, NEI produced a detailed report with recommendations for energy conservation and operating cost savings. NEI additionally prepared bid documents for a design/build renovation, which included a proposed electric to gas heating and hot water conversion, as well as lighting and water efficiency upgrades.

These recommendations were implemented in a water and energy retrofit project, completed in 2019. NEI acted as the owner's project representative (OPR) for this retrofit, providing bid solicitation, an opportunity assessment, owner's project requirements, requests for proposals, contract negotiations, design development, construction management, utility rebate verification, project close-out, and post-retrofit savings analysis.

Solutions and Services

- Conversion of electric heating and DHW systems to central, natural gas systems.
- Installation of a new highly-efficient central, hydronic heating system to replace cost-inefficient electric resistance heat.
- Two stand-alone, highly-efficient condensing hot water heaters replaced the old domestic hot water (DHW) system, which used individual electric hot water tanks in each apartment.
- Replacement of the rooftop unit HVAC system to improve the health and comfort of residents.
- Installation of a 150-kw generator to improve the building's climate change-resiliency.
- New temperature limiting thermostats to provide both comfortable and efficient heating.
- Replacement of showerheads and faucet aerators, and installation of 0.8 gallon per flush low-flow toilets in all units to reduce water usage.
- Replacement of in-unit lighting with LED, as well as installing new LED lighting to the building's exterior.



NEI coordinated with SHP and the contractors to compile and submit the required project documentation to the Eversource Home Energy Services - Income Eligible (HES-IE) program. This delivered natural gas and electric incentives, as well as Weatherization services, directly to the project. NEI provided coordination and quality control for the Weatherization services.

After the upgrades, the property's gas and electricity consumption decreased by 7%. The property's water consumption decreased by 30%, saving the owner \$15,470 in avoided annual operating expenses.

SAVINGS

- 7% gas and electric usage reduction
- 30% water usage reduction

Annual savings: \$15,470

