



MINERVA PLACE CONDOMINIUM

Program	Multifamily Performance Program (Low Rise New Construction Pilot)
Funding Entity	NYSERDA, White Plains Affordable Housing Fund, NYS Affordable Housing Corporation grants to homebuyers
Sector	Multifamily (Affordable Housing), New Construction
Energy Conservation Measures Implemented	Geothermal/Ground Source Heat Pump
Annual Cost Savings ; Annual Cost Savings	57,487 kWh, 45% less energy usage ; 37% reduction in annual cost
Owner	Community Housing Innovations, Inc.
Solution Provider	Buffalo Geothermal Heating (BGH)
Location	5 Minerva Place, White Plains NY 10601
No.of Units/ Square Footage	14 units, 3-story, 15,0698 sq ft

Project Background

The featured project is a multifamily housing development located in White Plains, NY that was completed in 2007. The building utilizes geothermal heat pumps for heating, and has no natural gas or oil service. As such, the building is fully electrified. The aim of the project was to achieve a 20% performance target under NYSERDA's Multifamily Performance program and the inspiration came from a Geoexchange system installed in 2008. This project enables the building to achieve an ENERGY STAR label.

Project Highlights

Minerva Place Condominiums were the first project in White Plains to use geothermal heat pumps for heating and cooling. A closed loop system with water and 20% glycol was used with holes drilled about 450' deep. Analysis was done by TRC of actual performance. TRC calculated the total in-unit annual estimated energy usage of the building as 70,058 kWh, based on the actual usage of a sample of 4 units for a year (from Nov-09 to Oct-10). The energy usage from the 4 units was compared to the building model and RECS. The RECS tool was used to estimate the performance of buildings relative to HUDs database of residential buildings. It was found that the an-



nual proposed electricity consumption was 127,544 kWh, as simulated by the final proposed building model. This was 57,487 kWh higher than actual usage, and the actual building is using about 45% less energy than the modeled building. The building scored a 98 on the RECS tool, which means it performs better than 99% of buildings in HUDs database. The total project cost was \$4,050,000.