



6355 Dean Parkway, Ontario, NY 14519 (585) 545 4096

## Homeowners Enjoy Clean, Quiet Comfort of Geothermal Heating, Cooling and Domestic Hot Water



These energy smart homeowners not only took time to optimize their 7,000sq ft home's spectacular views. They also took time to research the best heating and cooling solution to optimize their homes comfort. The design called for radiant floor heating of the main levels with additional air conditioning delivered to the home, and heat for domestic hot water. Against the available alternatives of fuel-oil or propane the homeowners chose to stop burning their money and to install a safe, clean and energy efficient Geothermal system.

A Geothermal system has two main components, a **ground source heat-pump** and a **ground heat-reservoir**. The **heat-pump** transfers heat energy between the home's interior and the **heat-reservoir**, heating the home in winter and cooling it in summer. In this installation 3 WaterFurnace heat pumps were used, two dedicated to generating radiant heat and a third unit can add additional forced air heating or central A/C for summer cooling and dehumidification.

The **heat-reservoir** for this home is the ground around it. Buried horizontal about 6 feet beneath the surface of ½ acre of land, is the network of pipes that form the heat exchange ground loop. The economics of this Geothermal system are that for every 4 units of energy delivered by the **heat-pump into the home**, 3 units are free energy obtained by the ground loop.

On average the ground around a home absorbs about 47% of the sun's energy that reaches it, far exceeding the needs of the home. In addition over a yearly cycle the system balances, extracting heat energy from the ground during the winter and returning heat energy, out of the home, in the summer. There is no combustion, so they're clean with no chance of carbon monoxide emission and only the heat-pumps quiet whisper marks their operation.

This Geothermal system delivers the fossil fuel independence, reliability and comfort required. And the low operating costs keep these energy smart homeowners talking and smiling about their choice.



WaterFurnace heat-pumps [ Left: forced air. Right: for radiant floor ]