

Belmont Residence

Belmont, MA

Project Information

- Square Footage: 12,000 sf
- Completion Date: Fall 2008

Design Engineering

- Six 400 foot closed loop wells with thermally enhanced grout for maximum heat transfer.
- Variable frequency drive engaged for well water flow control and energy efficiency.
- Water to water ground source heat pumps utilized in the central plant providing four stages of heating or cooling, depending on the current HVAC mode.
- Industrial geo-exchange control system with an extremely easy to use interface.
- High efficiency modulating boiler installed for back-up emergency heat, if needed. Periodic automatic operational tests included to ensure the emergency back-up boiler will operate if emergency heat is required.

System Integration

- Control panel design and fabrication
- Controller programming
- Furnished all instrumentation
- Commissioning the geo-exchange system.

This geo-exchange project, completed the fall of 2008, is a new high-end residential construction of approximately 12,000 square foot luxury home in Belmont, MA. **ICDS** provided the geo-exchange (a.k.a. geothermal) system design which included six 400 foot closed loop wells piped to a common manifold for four 5 ton water to water ground source heat pumps. The ground source heat pumps provide hot water or chilled water to air handlers strategically located throughout the house. In addition to the engineering, **ICDS** provided a complete turnkey solution by supplying an industrial grade automation system for the geo-exchange system.



ICDS

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