

City Square Parkside Condominium, Hamilton, On

Green Facts - Unique & Innovative Vertical GeoExchange Solution under Building Foot Print. Geothermal heat pump system cut a building annual Energy use by 60-70%.

LOCATION : 90 Charlton Ave, West, Hamilton, Ontario

CLIENT REFERENCE: Golder Associates Ltd.
2390 Argentia Road, Mississauga, Ontario.

CONSULTANT: **Geothermal**
ABS GREEN INC.

Imran Majeed, P.Eng
Consulting Engineer

PROJECT SERVICES:

- Geothermal System Design & Engineering.
- Sustainable & Energy Efficient Design
- System Integration with Building Mechanical Systems.



PROJECT DESCRIPTION:

Hamilton-based development company New Horizon led by Jeff Paikin has partnered with Dundurn Edge Developments, another Hamilton builder on the project, plans to build three new condominium buildings in Hamilton which will be known as CITY SQUARE PARKSIDE CONDOMINIUM. The first building is approximately 9-storey high with 75 suites, amenity area, one level of underground parking and equipped with energy efficient geothermal system.

With the 'big dig' beginning in Summer 2011 CITY SQUARE Condominium, will not only help transform uptown Hamilton's emerging core but this project will also be a huge step towards low carbon footprint residential building.

GEOHERMAL SYSTEM DESCRIPTION:

Geothermal is a renewable energy source that comes naturally from the ground. It is highly sustainable and environmentally friendly because it reduces the use of fossil fuels (Natural Gas), thus reducing the release of harmful emissions that pollute the air.

Geothermal free energy reduces Purchasers carbon foot print & annual energy cost.

The geothermal system consists of a network of pipes planted deep into the ground where the earth temperature remains at a constant 10°C all year round.

Glimmering in Green, CITY SQUARE fuses Geothermal Energy with Urban-Chic Design.

Thermal fluid circulates through the geothermal pipes to heat or cool the building as needed, for all year round. To help maximize energy efficiency, each suite is equipped with individual thermostats and geothermal heat pumps to provide personalized climate control.

ABS Green Inc., is retained by Golder Associates to provide Geothermal - System Design, Analysis & Engineering Services to their Clients.

NOTABLE FEATURES: The Geothermal System features include:

- Vertical geothermal system is provided under the building and fully coordinated with footings, plumbing piping, electrical duct bank, and shoring. This system support 100% building energy requirement including heating, cooling, snow melting, and fresh air cooling.
- Due to tight spacing at footing levels and to avoid structural interferences some of the bore holes are designed at an angle.
- Loops to be connected in reverse return arrangements to have better flow control.
- System flow in pipes has high turbulence effect to have better heat transfer.
- Geothermal System to be integrated with other mechanical systems.

The Entire GEOEXCHANGE Field is financed by the New Horizon Developer to keep the ownership of Energy Field and to sell energy back to Condo Corporation which will be cheaper than applied utility rates.

