

# Waterloo North Hydro Head Office, Waterloo, Ontario



The Waterloo North Hydro Head Office and Fleet Service Centre is a 100,000 Ft<sup>2</sup> two storey facility that hosts the administrative headquarter and the maintenance and storage of service fleet.

To meet the client sustainability goals, careful consideration was given to the design process to ensure that the energy consumption of this facility is optimized. Several energy efficiency strategies were employed. The office uses advanced HVAC systems with heating and cooling fed from a geothermal field. Ground source heat pumps provide 70% of the heating needs and 100% of the cooling need during the summer. The garage and repair areas are equipped with an in-floor radiant heating system connected to the geothermal field. The remainder of the heating required is supplied by high efficiency natural gas condensing boilers.

In addition to the ground source heat pump plant, the project is equipped with operable windows that reduce the need for mechanical cooling in shoulder seasons i provide more controllability to the in addition to providing more control to the occupants about their environment. The building envelope provide high thermal performance values as compared to the energy code requirement to keep heat losses at a minimum during the winter.

The building is LEED Silver Certified and its annual energy consumption is approximately 64 per cent better when compared to the National Energy Code reference case. It was awarded 8 points out of 10 for the energy and Atmosphere Credit EACr1.

## Project Highlights

- Location: Waterloo, ON, Canada
- Architects: McCallum Sather Architects
- Year Built: 2012
- Total size: 100,000 sq. ft. / 9,300 sq. m.
- Certification: LEED Silver
- Energy performance: 64% better than National Code



## Responsibilities\*

We worked with the design team and the client to provide solutions that meet the client expectations and the projects goals.

We have assessed innovative HVAC technologies and made recommendations on energy conservation measures to achieve the energy efficiency target. The project was awarded a LEED Silver certification.

We have documented energy savings in line with the LEED® Canada-NC requirements. The project achieved 64% energy savings and 57% cost savings when compared to the National Energy Code.

## About us



Hayssam is a P.Eng licensed in Nova Scotia and Ontario. He holds a PhD in Building Energy Conservation with 17 years experience in the building services industry. His experience includes a wide range of skills including research and energy modelling as well as the selection and design of mechanical systems for buildings.

Hayssam identifies energy savings opportunities by assessing such factors as building envelope, site conditions lighting design, and HVAC systems.

\* Experience prior to ESBES

## Contact Us

To learn more about our services and how we can help you integrate energy efficiency, please contact us at:

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