

Sioux Mountain Elementary School



OWNER: Keewatin Patricia District School Board

LOCATION: Sioux Lookout, ON

DESIGN TEAM:

- Mechanical Consultants**
MCW/AGE Consulting Professional Engineers
- Electrical Consultants**
MCW/AGE Consulting Professional Engineers
- Architect**
Prairie Architects Inc.

PROJECT DESCRIPTION:

MCW/AGE provided complete mechanical and electrical design services for this energy efficient 6,076 square meter educational facility. On this project, MCW/AGE used the EE4 software to prove that the Sioux Mountain School exceeded the requirements of the Model National Energy Code by 26.5% and working closely with the Owner's representative obtained an incentive of \$37,324.00 on behalf of the Keewatin-Patricia District School Division.

This new school incorporates a geothermal multi-heat pump system, heat recovery ventilation, T-8 energy efficient lighting, controls via occupancy sensor and LED exit lighting systems.

Additional highlights include:

- In-floor heat in Kindergarten classroom.
- Coil to coil heat recovery for ventilation systems pre-heating of outside air.
- Native BACNET DDC control system that is interfaced with school division intranet for monitoring trend logging and emergency call out, along with security system.
- Air-to-water heat pumps in the classrooms and water-to-water heat pumps feeding air handling units for common areas.
- A vertical geothermal heat transfer field minimizes site footprint and disruption during construction.
- Domestic water consumption and heating is minimized by automatic low flow plumbing fixtures.

For every kW of energy provided to the heating system, the heat pumps provide 3 kW of heating or cooling to the occupied space.

