



## WHOLE VILLAGE: CALEDON, ONTARIO



### Firm's Role

Sustainability Community Design and Mechanical Engineering Design

### Description

The Whole Village, located in Caledon, ON, is a cooperative community dwelling designed to house about 30 people. At the outset, as environmental consultants, Sustainable EDGE informed the community design process with a broad range of sustainable design issues. Sustainable EDGE is responsible for the mechanical systems design of this sustainable community.

### Features

- Ground source heat pump system provides heating and cooling
- Wind turbine and photo voltaic panels provide renewable energy
- High performance envelope
- Passive solar design
- Solar thermal collectors provide domestic hot water
- On-site wastewater treatment
- Masonry wood fired heater
- Radiant hydronic heating improves occupant comfort
- Natural building materials improve indoor air quality
- Operable windows allow free cooling
- Windows located to maximize daylighting, reducing electricity consumption
- Vegetated roof reduces heating and cooling loads, prolongs the life of the roof membrane, mitigates stormwater runoff, and provides habitat for wildlife
- High efficiency lighting and appliances reduce electricity consumption
- Compost toilet reduces water consumption, simplifies wastewater treatment, and produces a valuable soil amendment and liquid fertilizer
- Heat recovery ventilator (75% efficient) reduces heating and cooling
- Fresh air supply preheated by ground tube in north bermed wall to avoid frosting of HRV

**Architect:** Denis Bowman Architect

**Owner:** Whole Village Cooperative