



County of Huron Bennett Street Triplexes

Building efficient and sustainable affordable housing in Huron

County of Huron | Triplexes

Project Design Features

The County of Huron Triplexes are a stunning example of intensification done well within an established neighbourhood. Featuring a sensitive design, two single-detached dwellings were replaced with two triplex dwellings on 50 foot wide corner lots within the Town of Goderich. Site and building design prioritized high quality outdoor space featuring a wrap-around porch for the main level units and a large private rooftop patio for the second floor unit.

In addition, the County's *High Performance Building Standard* was implemented which prioritized efficiency, resiliency in product choice, and sustainability in these new builds.





Windows and Doors

- Constructed of fiberglass instead of vinyl.
- Improved strength and durability.
- Weather resistance: unlike vinyl, fiberglass is moisture resistant and can better withstand extreme weather conditions.
- Energy savings: In addition to the triplepane construction we specified, fiberglass is also a natural insulator and better resists thermal bridging.
- Environmental: Fiberglass windows and doors and recyclable and require 80% less energy to produce.

Building Envelope Construction

- Structure: The triplexes were constructed using a 2x6 stud system instead of the traditional minimum 2x4 stud construction required by the Ontario building code. This allows for additional wall cavity insulation to increase the building's overall R-value.
- Air barrier: The air barrier membrane installed on the triplexes is a high performance building product, that unlike traditional air barriers, provides a permanent windtight seal, but also allows moisture to escape the wall cavity. This product is a self-adhering membrane that utilizes a pressure sensitive glue for direct bonding to the substrate, critical in providing a level of air-tightness required for the buildings to perform optimally.
- Roofing: The standing seam metal roof has exceptional strength and durability and is the most water-tight roofing product available. Additionally, metals roofs better reflect the suns UV and infrared light rays that contribute to roof surface radiant heat which can reduce cooling costs. Metal roofs will last a minimum of 40 years when

installed correctly, whereas traditional asphalt shingles have an estimated life expectancy of just 12-20 years. Metal roofs are also 100% recyclable at the end of their life.

 Insulation: In addition to the 5-1/2" of batt insulation inside the wall cavity, we have installed 4" of rigid board insulation on the exterior of the buildings. This provides more than twice the minimum insulation requirements of the Ontario building code. Same for the attic insulation, we have provided enough insulation here to achieve R-80 (more than twice the minimum by code).

Systems

- Heating and cooling: There is no natural gas service to either building. All heating and cooling is electric, using heat pump technology for maximum efficiency. These heat pumps can pull heat from winter air down to -25 degrees Celsius, requiring little additional energy to provide heat to the tenants.
- Energy recovery ventilator systems: Also reduces energy consumption while ventilating the homes.

All of these design considerations work together in providing maximum energy efficiency and durability.

