

SEAN.

NET ZERO

MULTI-UNIT RESIDENTIAL BUILDING



PROFILE #5



BUILDER SEAN.

Energy Advisor Angela Bustamante, Building Knowledge Canada

Location Barrie, ON (Climate Zone 6)

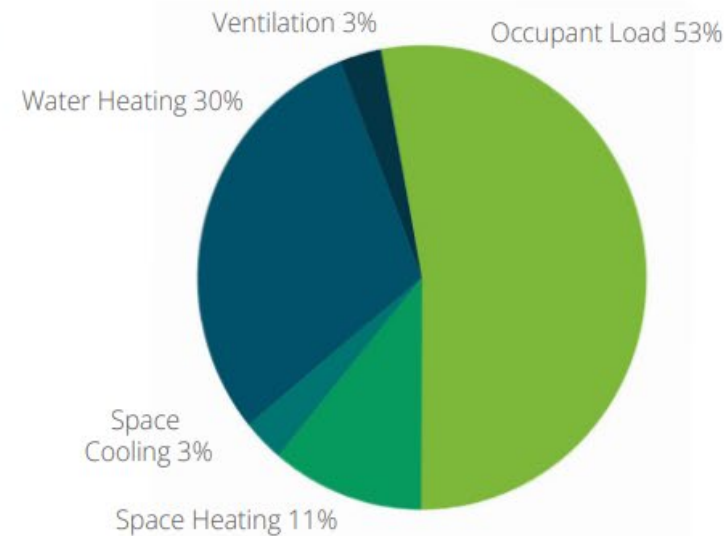


Code-Built
MURB:
468 GJ/yr

This MURB:
253 GJ/yr



Modelled Energy Use Breakdown



Energy modelling results are from HOT2000 version 11.11. The total modelled operational GHG emissions are 4.06 tonnes/CO₂e/yr.



BUILDING ENCLOSURE

Windows:

Inline Fibreglass, U 1.25, SHGC 0.31

Walls:

R22 batt + R5 XPS

(24"O.C on 2nd and 3rd floors)

Ceiling:

R-60 & R-31

Foundation:

Slab on grade, R-10 under slab

Airtightness:

2.0 ACH@50

Envelope:

46% better than NRCan ref (avg.)

MECHANICALS

Fuel Source:

All-Electric

Heating & Cooling:

WaterFurnace Versatec

500 Geothermal

Water Heating:

Electric Tank

Ventilation:

VanEE ERVs, 75% SRE

OTHER FEATURES

Units:

10 units

Prefabrication Approach:

Off-site wall panelization

Labelling Approach:

Single Unit

Common Area:

N/A

Building Ownership:

Condo Ownership

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RAIN WATER @ 339 VETERANS

Barrie, ON



- Participated in the Enbridge Savings By Design which conducted a charrette that led us through the process to push the boundaries of our conventional design targeting a minimum 20% reduction in energy use vs. OBC.
- The townhomes will be dual labelled Net Zero Ready (Performance Path) and Energy Star for New Homes (Prescriptive Path).
- In partnership with Enbridge Sustain, geothermal bore holes have been dug up to 360 feet deep to supply the towns with HVAC and hot water.
- Exterior insulation R-5, advanced window systems, low-flow water fixtures, smart home technology to control energy usage, 4.5 m concrete roads with 1.5 m of permeable paving on the downstream side, storm water infiltration chambers within the park, and EV chargers, modern xeriscaping, soak away pits and rain gardens
- OVE framing at 24" o.c. on second and third floors as appropriate, panelized off-site in our yard, including Tyvek and outboard insulation installed off-site
- Air tightness best practices to surpass the CHBA NZR target of 2.0ach/0.15 NLR , with the inclusion of Aerobarrier technology.