



True North Design Eastern Pine



Project Summary

Eastern Pine is a multi-unit residential building that is located in Toronto, Canada. The building has seven units that are designed for young adults and families that require close proximity to the downtown core at an affordable price. Eastern Pine has meet the low energy criteria of PHIUS and is renewable ready.

Relevance of Project to the Goals of the Competition

Eastern Pine exemplifies the spirit of urban sustainability. Eastern Pine demonstrates to the public the inherent positive impacts of a well-designed building by maximizing livable space and minimizing energy consumption at an affordable price. This project conveys the goals of the competition through its low energy usage, affordability, and quality of life. Eastern Pine will have a positive impact on its occupants and the general public through its intrinsic sustainable nature.



Design Strategy and Key Points

The primary design strategy behind Eastern Pine was the focus on passive features. Utilizing internal and solar gains and reducing heat loss through the envelope allows for less reliance on mechanical and electrical systems. This was ensured through PHIUS certification. The building will come renewable ready to allow for further reduction of grid consumed energy.

Project Data

- Location: Toronto, Ontario, Canada
- Climate Zone: ASHRAE Zone 6/HDD:3873/CDD:306
- Total Square Footage: 7040 sq. ft. (7-Units)
- Unit Descriptions:

Unit	# Bedroom	# Bathroom
B01 & B02	2 ea.	1&1/2 ea.
101	1	1&1/2
102	1	1
201&202	2	1&1/2
203	3	1&1/2
- HERS Index: 28-32 with renewables
- Estimated Monthly Energy Cost: \$360.72 (7-Units) WUFI Energy Model.

Technical Specifications

- Exposed Ceiling: R-73(RSI-12.86)
- Above Grade Wall: R42(RSI-7.4); Below Grade Wall: R-29(RSI-5.1)
- Foundation Insulation: R-32(RSI-5.7)
- Window U-Values: U-0.17 (U0.97)
- HVAC Specifications: Mini-Split indoor units for heating and cooling and ASHP DHW system with integrated VRF system. Mitsubishi -PURY-P72TKMU Outdoor unit. Electric resistance backup heaters. Ventilation: HRV Zehnder ComfoAir200 with 92% Heat Recovery