

PROTOTYPE LANEWAY HOUSING

University of Toronto, ON

Jury Comment

The municipality, the University of Toronto and the design team are all to be commended for attempting this kind of gentle densification in a heritage district. The success of the project enables faculty, staff and other potential

residents to benefit from the transportation, commercial and cultural infrastructure already in place in this neighbourhood. The resulting livable lane environment and the remarkable achievement of Passive House performance in such a tight urban context, takes Toronto's laneway housing to the next level.



PROJECT PERFORMANCE

Energy intensity (building and process energy) = 47.3KWhr/m²/year

Energy intensity reduction relative to reference building under ASHRAE 90.1 = 54%

Water consumption from municipal sources = 44,880 litres/occupant/year

Reduction in water consumption relative to reference building under LEED = 51%

Regional materials (800km radius) by value = 15.25%

Construction waste diverted from landfill = 85%

PROJECT CREDITS

ARCHITECT BSN Architects

OWNER/DEVELOPER University of Toronto

GENERAL CONTRACTOR Index Construction

CIVIL ENGINEER MTE Consultants

ELECTRICAL ENGINEER Runge Engineering

STRUCTURAL AND MECHANICAL ENGINEER Local Impact Design

PHOTOS Tom Arban Photography



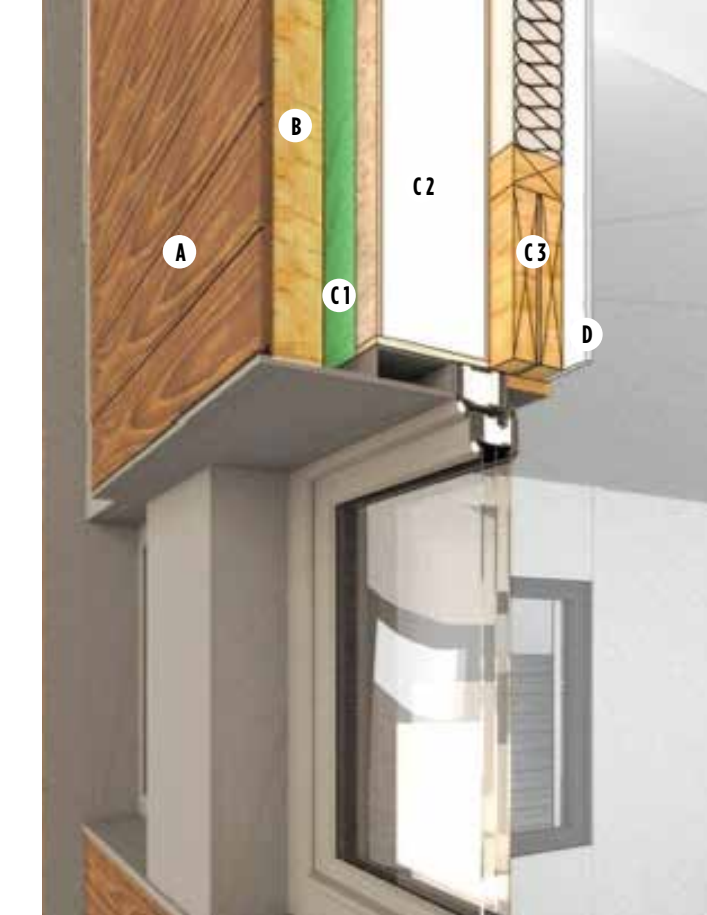
These prototypes are the vanguard of 40 laneway and infill homes proposed for the Huron Sussex Neighbourhood, a historic precinct adjacent to the University of Toronto's downtown campus. The project advances urban intensification in a location well served by public transit and existing municipal infrastructure, while revitalizing and helping to sustain its immediate heritage context.

Mandated to deliver affordable, sustainable housing for family living and co-habitation, the project utilizes a prefabrication approach to reduce community impacts during construction and enhance performance outcomes.

The three prototypes include: 3 bedroom + 2 study (2,100 gross sq.ft.), 2 bedroom + study, (1,100 gross sq.ft.), and 1 bedroom + study, (900 gross sq.ft.). Sympathetic to scale, massing, and neighbourhood context, the prototypes provide 'accessibility through proximity' and are clustered to create a shared outdoor courtyard and to initiate a 'Living Laneway' concept with homes accessed from the lane.

1. Of three different sizes, the Passive House prototype laneway houses provide 'accessibility through proximity' and are clustered around a shared outdoor courtyard.

2. Plentiful natural light gives bright interiors. An earth tube system preheats ventilation air in winter and pre-cools and removes humidity from it in summer.



- A Thermal treated ash siding
- B Ventilated cavity space
- C1 Zip wall weather resistive barrier
- C2 EPS insulation
- C3 Sheathing / VB
- C4 2x4 framing with field applied M.F. insulation
- D Drywall



Aerial view
Guelph Solar installed LG 365 Watt solar panels.



Perspective section

3. Detail of Passive House certified window and thermally-treated ash cladding. Supplied by **CFP Woods**, the ash cladding exhibits numerous grain patterns while displaying the natural beauty of its rich brown colour tones. Left to weather naturally, it will turn a beautiful patina grey.

4. **Leggett** provided three engineered GEO-Passive Slabs with ThermaSill PH thresholds, as well as sub grade preparation supervision for this challenging high density urban fill site with zero clearance lot lines.

5. Installing the earth tubes.