PART 1
PROJECT DESCRIPTION

Use for all categories. Projects are judged based on criteria of sustainable design, architectural merit and innovation.

2021
CANADIAN GREEN BUILDING AWARDS
THE NATIONAL PROGRAM OF SUSTAINABLE ARCHITECTURE & BUILDING MAGAZINE SABMag

Project categories

Identify which Award category you are entering

☐ **1. Residential [small]**
Open to new or renovated buildings less than 600m² in area, of which a minimum of 75% is dedicated to single-family or multi-family residential uses.

☐ **2. Residential [large]**
Open to new or renovated buildings [typically multi-unit buildings or groups of related buildings] greater than 600m² in area, of which at least 75% is dedicated to residential uses.

☐ **3. Commercial/Industrial [small]**
Open to new or renovated buildings up to 2,000m² in area, of which more than 75% is dedicated to commercial or industrial uses.

☐ **4. Commercial/industrial [large]**
Open to new or renovated buildings [or groups of related buildings] greater than 2,000m² in area, of which at least 75% of the floor area is dedicated to commercial or industrial uses.

☐ **5. Institutional [small]**
Open to new or renovated buildings up to 2,000m² in area, of which more than 75% is dedicated to institutional uses.

☐ **6. Institutional [large]**
Open to new or renovated buildings [or groups of buildings] greater than 2,000m² in area, of which at least 75% of the floor area is dedicated to institutional uses.

☑ **7. Mixed Use**
Open to new or renovated buildings [or groups of related buildings] of any size, in which no individual use exceeds 75% of the overall floor area.

☐ **8. Existing Building Upgrade**
Open to buildings of any size or type in which the primary focus of the work has been to enhance the performance or extend the life of an existing structure. Entries in this category are required to respond only to the submission criteria appropriate to the project.

☐ **9. Interior Design**
Open to interior design projects of any size or type. Entries in this category are required to respond only to the submission criteria appropriate to the project.

An award will be given in each category at the discretion of the jury.

PROJECT DETAILS

Project name: North End Landing

Address: 500 James St. N, Hamilton, ON L8H 1J4

Year completed: 2020

PROGRAM AND CONTEXT

Project type: [Identify all uses occupying 10% or more of gross floor area]

The 500 James is a mixed use building. The building has three levels of dwelling units. Community use in basement and ground level includes church, gymnatorium, commercial kitchen/servery, office spaces, nursery and multi-use class/rooms.

Project site: [Check all that apply]

- ☐ Previously undeveloped land
- ☒ Previously developed land
- ☒ Urban
- ☐ Suburban
- ☐ Rural

Other Building description: [Check only one]

- ☒ New
- ☐ Renovation
- ☐ Both [If both, list __% new and __% renovation]

STATISTICS* Provide the following metrics as applicable to your project.

- Site Area: 2639 m^2
- Building gross floor area: 5813 m^2
- Energy Intensity: 45.1 KWhr/m^2/year [Include both base building and process energy]

[optional: report energy intensity separately as follows:

- Energy Intensity, base building: _____ KWhr/m^2/year
- Energy Intensity, process energy: _____ KWhr/m^2/year

- Reduction in energy intensity: 73.5 %.
- State the reference standard on which the % reduction is based: MNECB, NECB or ASHRAE 90.1

[include version]: NECB 2015 + SB10

- Recycled materials content: _____ % by value
- Water consumption from municipal source: _____ litres/occupant/year

[Include both base building and process consumption]

- Reduction in water consumption: ____ %
- State the reference on which the % reduction is based: LEED ☐ or other ☐
- Construction materials diverted from landfill: ____ %
- Regional materials by value: _____ %

***NOTE FOR PART 9 RESIDENTIAL PROJECTS: PROVIDE THE STATISTICS ABOVE IF AVAILABLE.** Include in the Executive Summary [see next page] the EnerGuide or the Home Energy Rating System [HERS] ratings if available, and the WalkScore rating [see www.walkscore.com]. Also, a qualitative assessment of project performance should be included in the appropriate sections of the narrative.

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North End Landing

HAMILTON, ONTARIO

It was a shared vision of what makes a 'home' that brought church together with local non-profit housing provider, to redevelop an underutilized urban site in Hamilton, Ontario. This mixed-use redevelopment includes space for the growing congregation with 3 storeys of affordable housing above. The contemporary church focuses on neighbourly hospitality and sports ministries, and the building provides forty-five affordable apartments for households facing displacement in this quickly gentrifying area.

The building is one of Canada's largest mixed-use projects designed to achieve Passive House International certification. Air-source heat pumps and energy recovery ventilation help the building dramatically reduce the use of natural gas while maximizing control and comfort for building users.

The one and two-bedroom apartments above the church are designed to empower tenants to improve their personal sustainability. Rents are set at roughly $525/month to reflect tenants' stable, but lower incomes, and sustainable strategies help minimize utility costs for tenants.

This site's redevelopment provided the opportunity to substantially remediate a brownfield former industrial site, addressing the ecological sustainability of the neighbourhood. The end result is a new, community-focused building that provides much-needed gathering, recreation, and hospitality spaces to the congregation and community, along with stable and supported homes for renters in the area.

Strategic Decisions

1

The project allowed a growing, urban Christian congregation to realize their intention to build a new church that responds to the local challenge of the economic gentrification and social dislocation of aging and lower-income residents, while also minimizing their long-term environmental impacts through sustainable design. The building's siting and Passive House certification goal inspired strategic decisions to minimize energy needs and maximize GHG reductions in order to meet 2050 emission targets.

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Community

2

The project transformed a run-down commercial plaza and parking lot into a new landmark. The building is designed to maximize openness, welcoming the community through its entrance, windows, and amenity glazing treatments, while providing expansive spaces for children, youth, and adults to gather for a wide variety of activities. The building houses a full-sized gymnasium and is one of few fully-accessible community buildings. In addition, integrating affordable housing helps reduce the associated stigma. Site parking is limited to twenty spaces and significant public and private bike storage is provided; these strategies, along with adjacency to a bus stop, help promote active transportation.

◀ View of private bike Storage on 2nd floor.

▼ View of multi- use room on 2nd floor.

▲ Interior view of church's auditorium/ gymnasium

▶ Up: Interior view of church's auditorium/ gymnasium

Down: Interior view showing church's kitchen.

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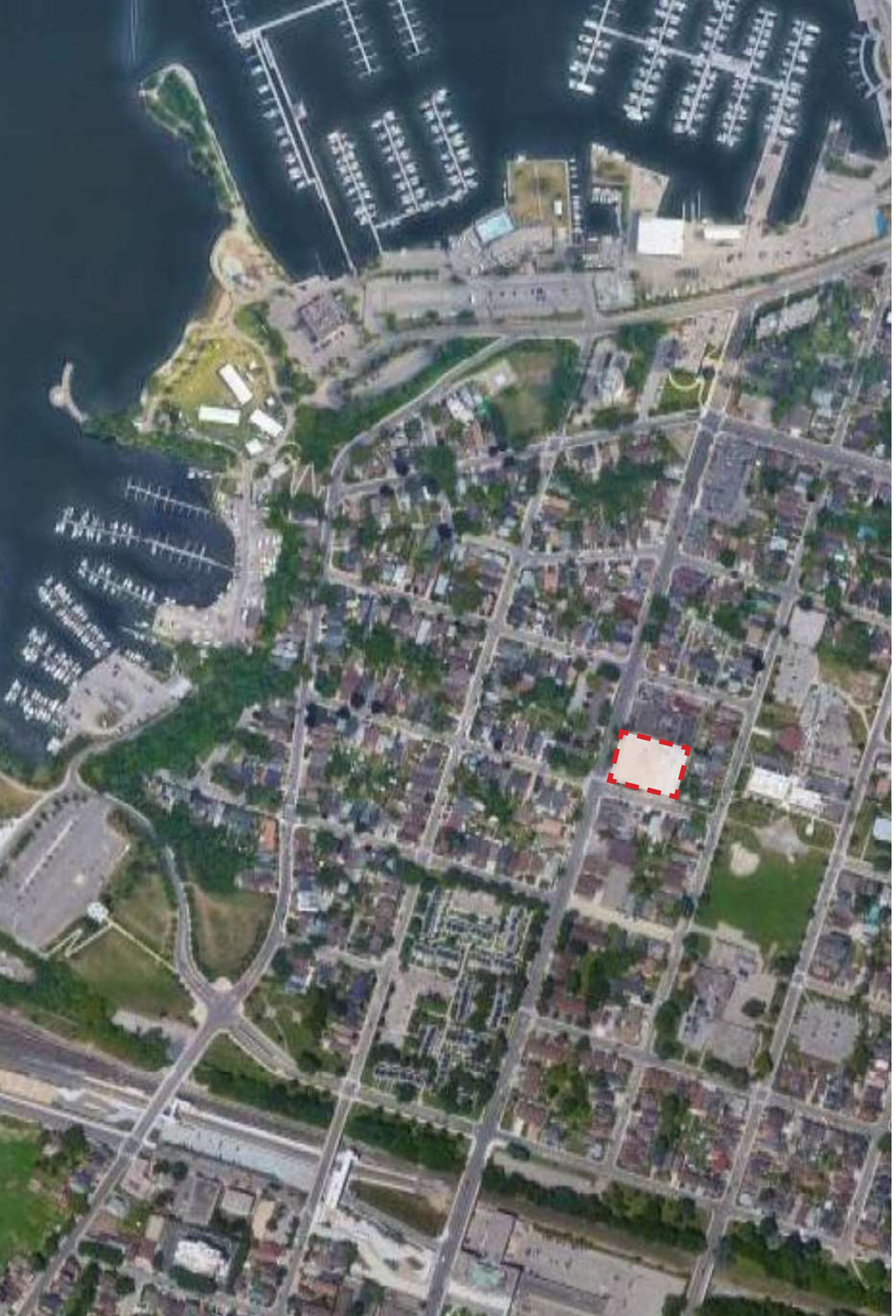
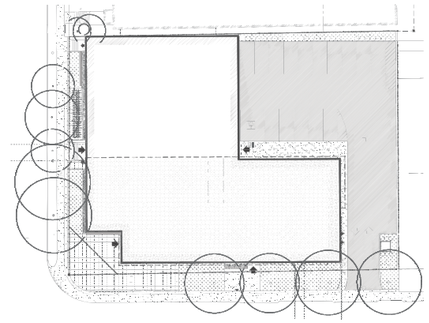
Site Ecology

3

The project significantly restored the site's ecology through remediating extensive industrial contamination via off-site soil removal. The raft-slab foundation design also minimized the need for extensive and deep pilings to address marginal bearing capacities. Careful landscape design and execution allowed all but one street tree to remain, despite the project's broad scope of remediation and construction activities. New plantings include native and low-water species that visually enhance the urban site with little maintenance. Also, limiting the overall scale of the project to four stories minimized any impacts on shade, wind, or other factors on neighbours.





◀ Context - Site is located relatively close to the harbour.

▼ Exterior view of North End Landing

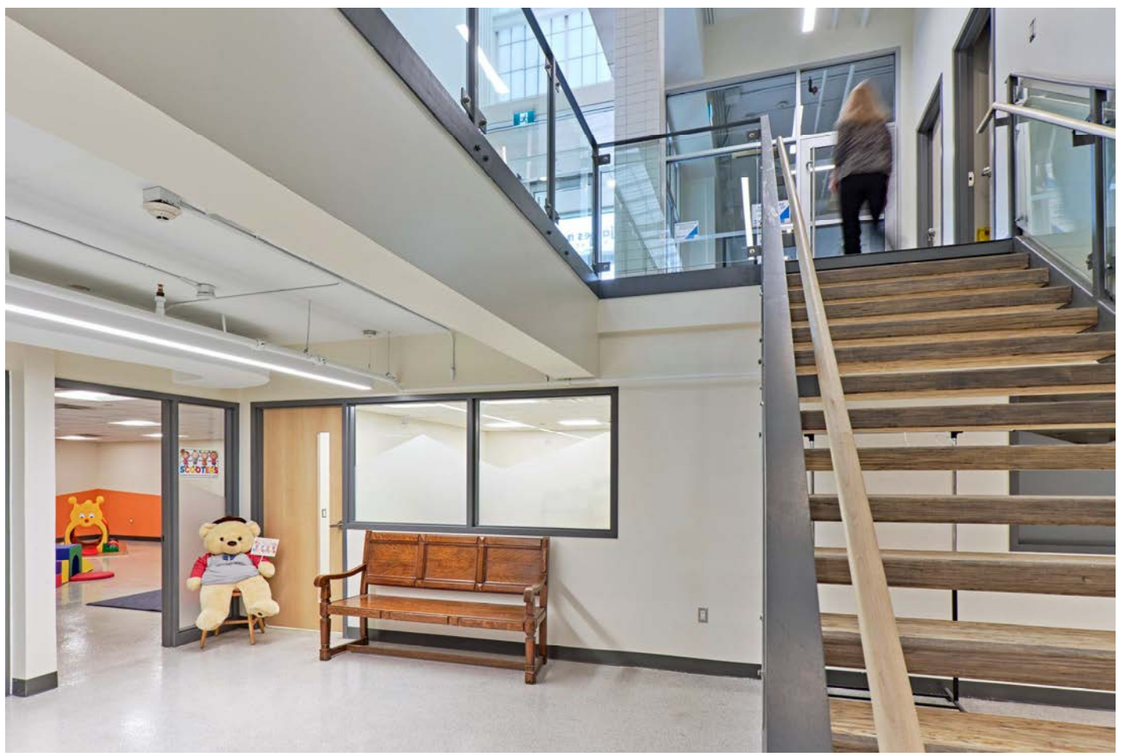
Light and Air

4

Daylight and fresh air ventilation define the project. All areas regularly occupied by tenants are within 7 metres of operable windows, while Passive House-certified HVAC equipment provides constant fresh air supply to all occupied rooms throughout the building (not just corridors). An atrium cuts through the centre of the church's facilities, with large-scale translucent skylights flood the auditorium/gymnasium with natural light. The project has a modelled TEUI of 45 kwh/m2/year (according to PHPP).

◀ View of church's main entrance atrium.

▼ Interior view showing central atrium floods natural light to the basement level.



Wellness

5

The project's intention is to promote health, wellness, and belonging. In the church and gathering areas, natural wood finishes and ample daylight create a biophilic environment promoting calm and positive emotions. Food is central to human gatherings, and the church's kitchen and hospitality area enable easy and regular gatherings of neighbours which may spill directly out onto a patio forecourt. Sports and physical activity are central to the church's ministry model, so the full-size gymnasium is designed to host a wide variety of sports and may be booked for use by community members. Indwell's supportive housing approach helps ensure tenants can achieve their best potential to participate in the broader community, regardless of income, age, or abilities

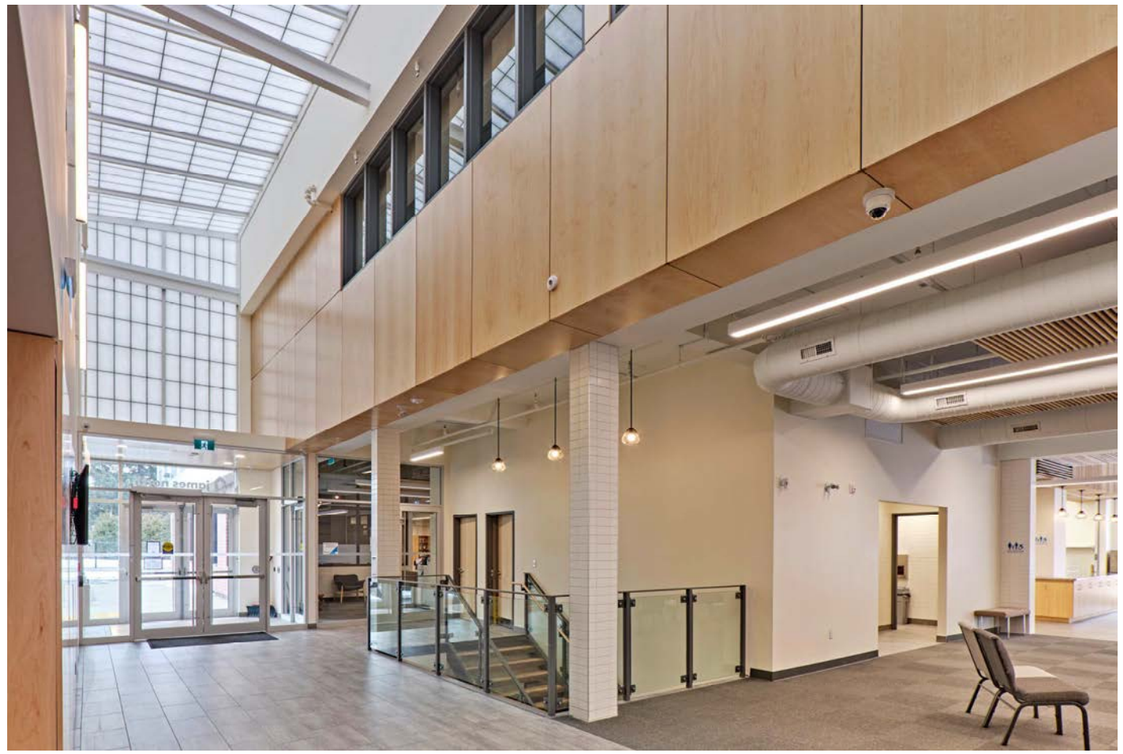
◀ Interior view showing church's kitchen servery.

▼ Interior view showing church's food bank.

Water Conservation

6

The building's design addresses water quality from the ground up. Off-site sources of groundwater contamination were addressed through risk management measures that minimize any exposure for biologic or human receptors. Water usage is reduced through low-flow fixtures and fittings, eliminating hydronic heating systems, native plantings so irrigation is not needed, and minimizing domestic hot water recirculation loops. The facility's commercial dishwasher uses high-temperature sanitization rather than chemicals, significantly reducing contaminants entering the aquatic ecosystem as wastewater.



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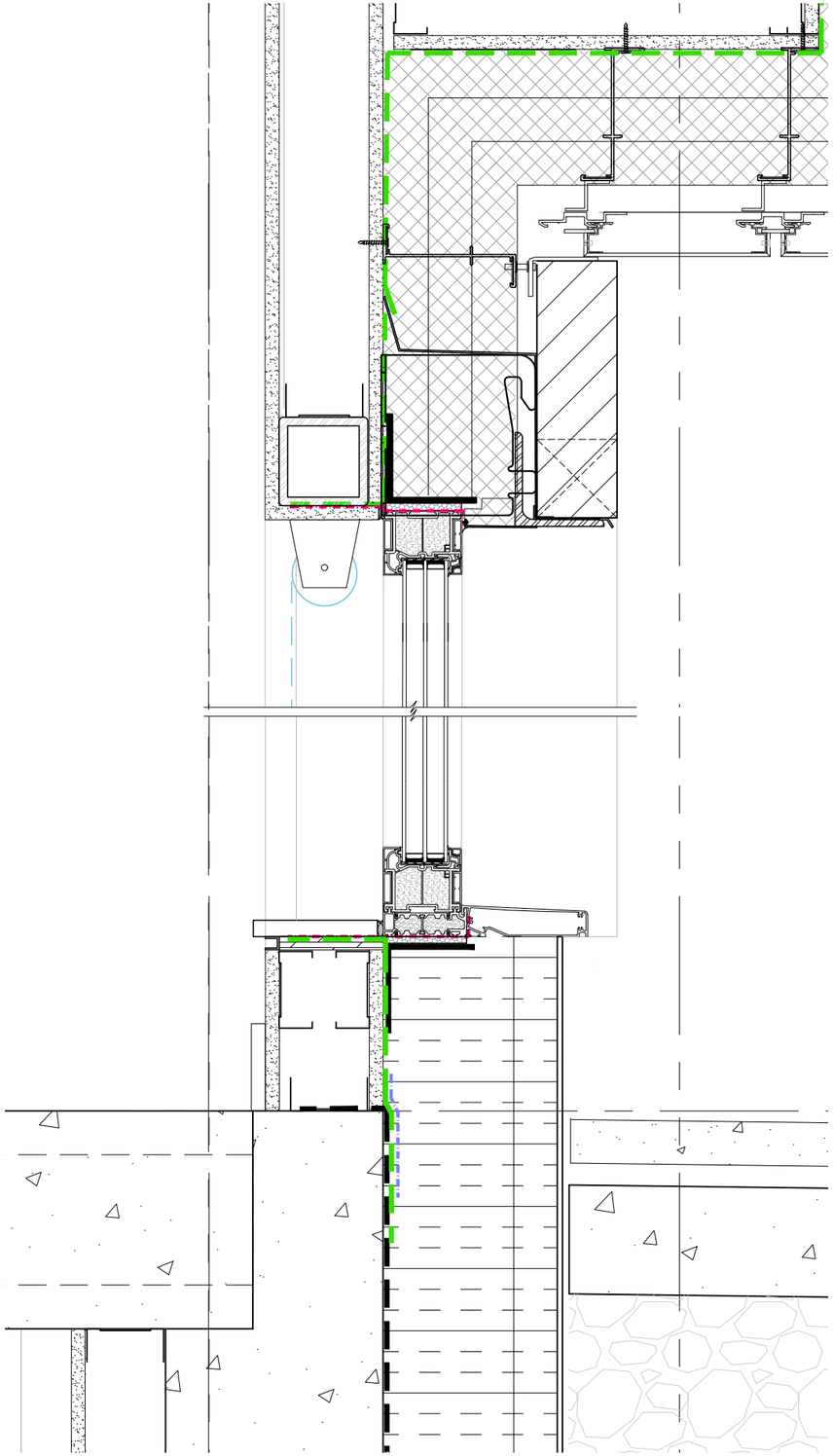


Operating Energy Present and Future

One of Canada's largest Passive House-standard mixed-use buildings, it is designed to operate on 45kWh/m2/year, with dramatic reductions in GHG emissions versus a typical new building. Air-source heat pumps and energy recovery ventilators are used for heating, cooling, and ventilation in most areas. Gas usage is limited to heating domestic hot water and large volume areas in the auditorium/gymnasium. The concrete raft-slab foundation is thermally broken by 8" of EPS insulation, and acts as a thermal mass moderating indoor temperature shifts through all seasons. PH-certified triple-glazed windows improve thermal performance and comfort while maximizing the solar benefits of natural light. A dramatic reduction in reliance on gas mechanical equipment ensures the building is resilient against future shifts in fossil fuel costs or, availability, or other factors.

◀ Passive House window section detail.

▼ Images from construction phase capturing some of Passive House Details.

Materials and Resources

8

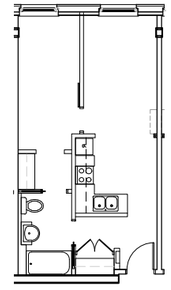
The project attempted to minimize materials' negative impacts on the environment while meeting code requirements, site conditions, and ensuring occupant/tenant comfort. The superstructure is steel with concrete hollow-core decks. Large, Canadian glulam wooden beams and decking provide the structure for the auditorium. Outbound mineral wool insulation with fiberglass girts provide a barrier to heat-loss. Indoor finishes were selected to minimize VOCs and other off-gassing impacts.

◀ Exterior view of North End Landing and the chapel.

▼ Exterior view showing separate/direct entrance to gymnatorium.

Building Life Cycle Considerations

This building was constructed to last at least 100 years, providing a new home for the church, which had outgrown their previous 1880s building. While the building was required to be built of non-combustible materials, the concrete and steel were mined, made, or manufactured locally in Hamilton's industrial sector within 10 km of the site. Life-cycle factors were considered for all components, including roofing systems, elevators, building envelope detailing, flooring, electrical components, and even the parking lot asphalt. The building's design reflects the permanency intended for its uses, while acknowledging that future generations may need to alter or renovate with relative ease, given the durability of the base structural elements.



◀ Up: Kitchen in one of barrier fee units.
Down: View of the bedroom.

▼ Interior view showing inside one of the units

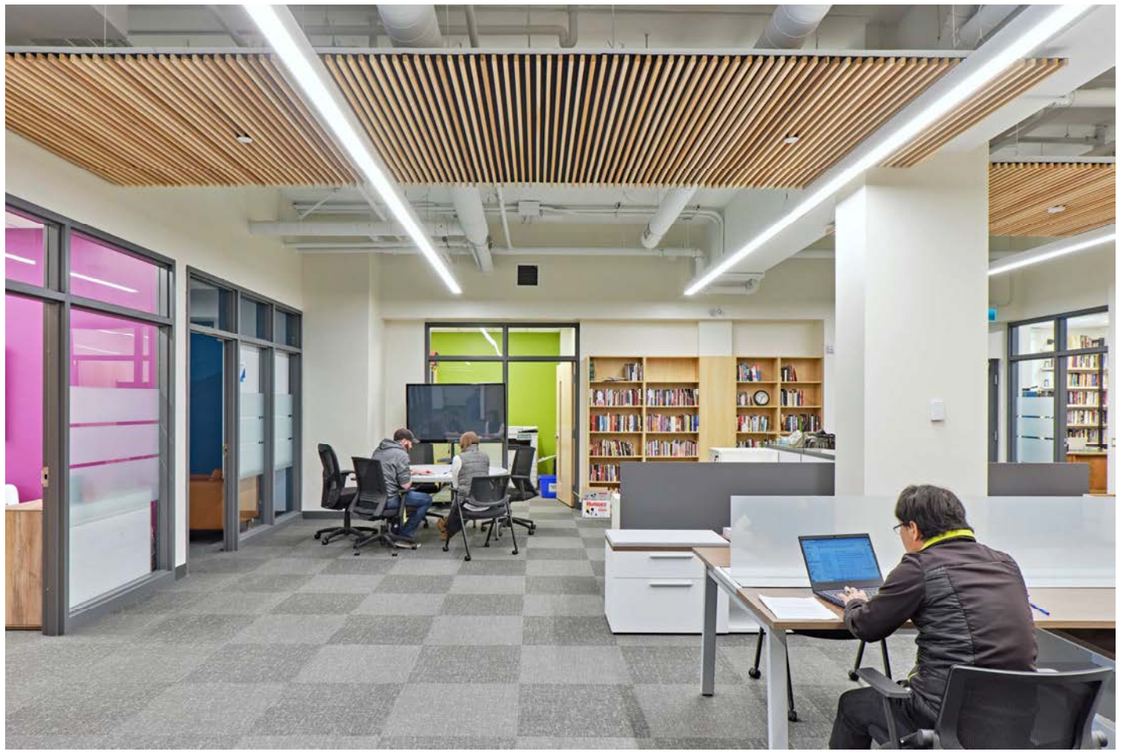
Education and Information Sharing

10

The building is intended to uplift the spirits and lives of its users and tenants, as well as provide inspiration to the design and construction community about how feasible it is to design sustainably. As the first large-scale, Passive House, mixed-use building constructed in Ontario, there was a learning curve for all parties involved. Both clients' and consultants' experiences have been routinely shared with other design professionals, constructors, and the broader public through conferences, presentations, website features, short videos, and site visits. Indwell published a guidebook on development, Making Housing Affordable, that discusses decision-making for this project. While the pandemic has limited some dissemination activities, public education continues toward the goal of inspiring confidence that low-energy, low-emissions buildings are more than possible.

◀ View of the elevator lobby with Hamilton's historic map printed on the wall.

▼ Interior view showing open office/library space on ground floor.



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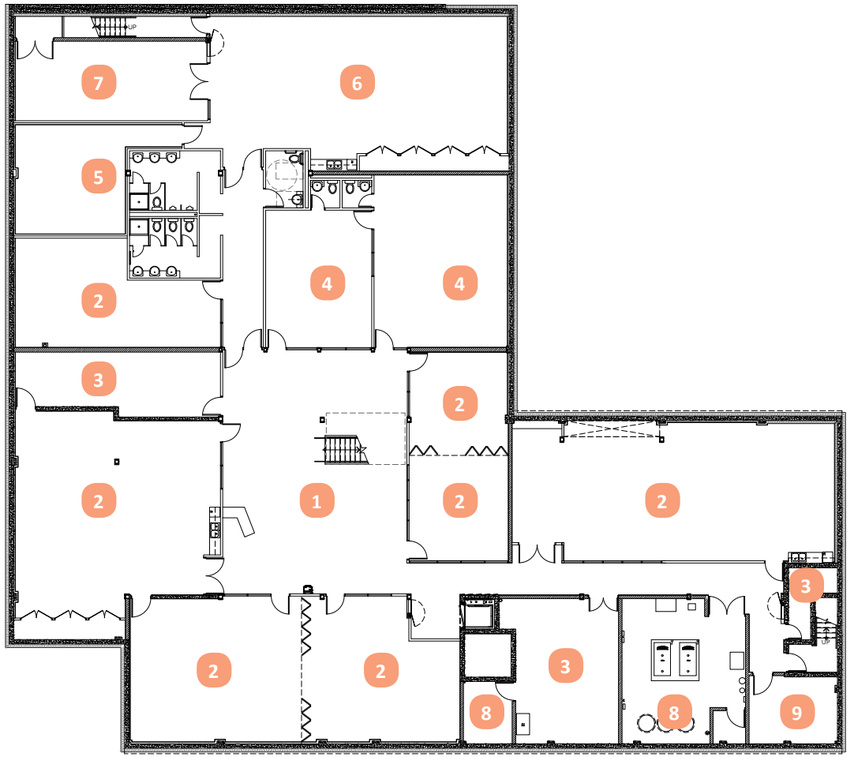
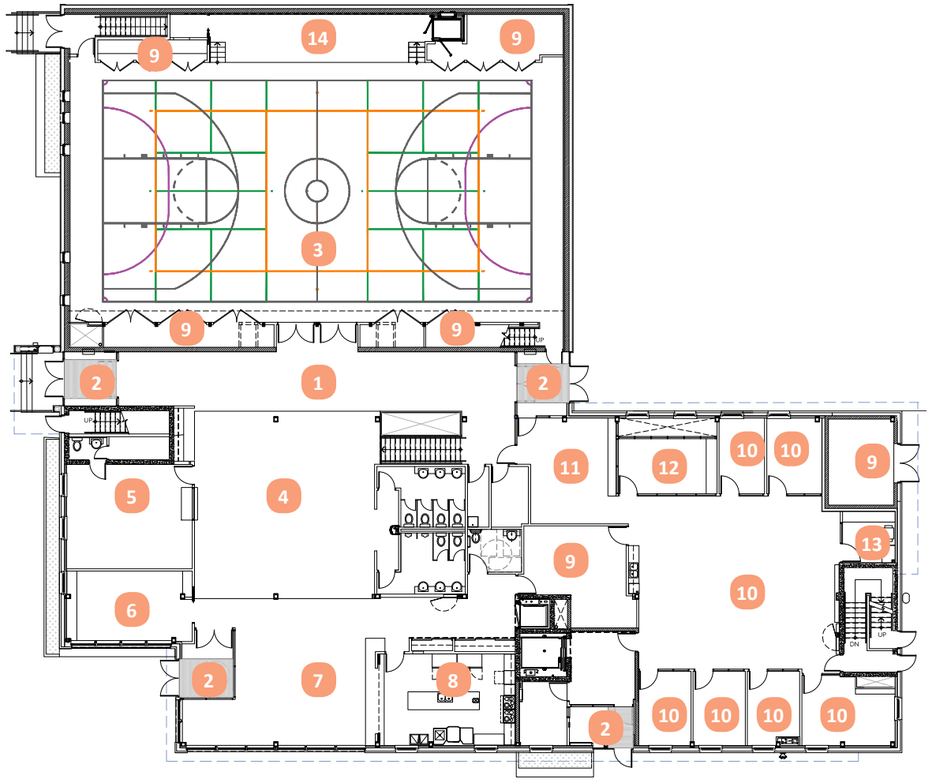


Basement Floor Plan

1. Lobby
2. Classroom
3. Storage
4. Playroom
5. Band Practice
6. Youth Multi-Use
7. Youth Games
8. Mechanical Room
9. Electrical Room



Level One Floor Plan

1. Atrium
2. Vestibule
3. Gymnatorium
4. Foyer
5. Nursery
6. Chapel
7. Multi-Use
8. Servery
9. Storage
10. Office
11. Reception
12. Meeting Room
13. Printing Room
14. Stage

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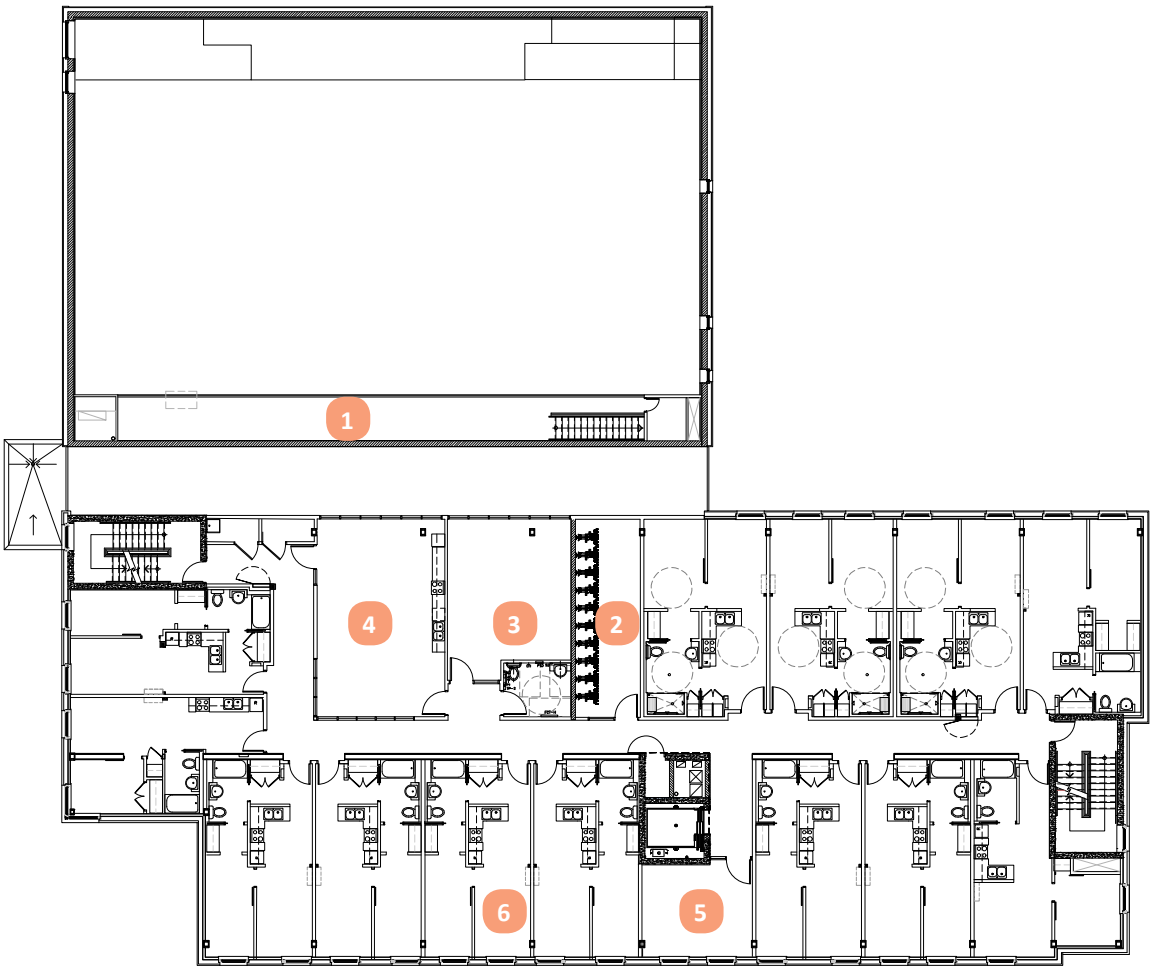

Level Two Floor Plan

1. Mezzanine
2. Bike Storage
3. Office
4. Multi-Use
5. Amenity
6. Residential Unit