



SABMAG

2022 Canadian Green Building Awards

# Integral Group Calgary Design Studio

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MARCH 11, 2022



## Integral Group Calgary Design Studio

### Project Category

☒ **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.

### Project Details

Integral Group - Calgary Design Studio  
#2650, 685 Centre Street SW. Calgary, Alberta T2G 1S5

Completed in January 2021

### Program and Context

Office Space

### Project Site:

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

### Other Building Description:

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

### Statistics\*

Provide the following metrics as applicable to your project.

- Site Area: **2410** m<sup>2</sup>
- Building gross floor area (renovation area for tenant improvement): **632** m<sup>2</sup>
- Energy Intensity: **177** KWhr/m<sup>2</sup>/year [Include both base building and process energy]

[optional: report energy intensity separately as follows:

- Energy Intensity, base building: \_\_\_\_\_ KWhr/m<sup>2</sup>/year
- Energy Intensity, process energy: \_\_\_\_\_ KWhr/m<sup>2</sup>/year
- Reduction in energy intensity: **-7.2** %.
- State the reference standard on which the % reduction is based: MNECB, NECB or ASHRAE 90.1 [include version]: **NECB 2011 LEED ACP**
- Recycled materials content: **20**% by value
- Water consumption from municipal source: **7400** litres/occupant/year

[Include both base building and process consumption]

- Reduction in water consumption: **20**%
- State the reference on which the % reduction is based: LEED ☒ or other
- Construction materials diverted from landfill: **100**%
- Regional materials by value: **0**%

**\*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](http://www.walkscore.com)]. Also, a qualitative assessment of project performance should be included in the appropriate sections of the narrative.





*local and infinitely recyclable*

WHERE NEW MATERIALS WERE SOURCED THEY WERE CHOSEN FOR THEIR RECYCLABILITY AND LOCAL CONTENT, INCLUDING DEMOUNTABLE WALLS AND FLOORING.

# Integral Group Calgary Design Studio

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## *Project Summary*

Integral Group sought out to design their new Calgary Design Studio in the Telus Sky Building with the aim to be the greenest office fit out in Calgary. The Integral Group had goals of creating a 'granola-chic' office space that would speak to their commitment to sustainable design. The design was to target LEED Platinum Certification, FitWell, and shadow WELL standards. The most ambitious target of all was to achieve 100% waste diversion from landfills. This goal alone set the bar for materials selections as all off-cuts needed to be incorporated into the design or recyclable.

## *1. Strategic Decisions*

Even for an interior tenant fit out location is key. The Integral Group chose the location for their new offices based on walkability and proximity to transit. The specific building was chosen because it has been designed to LEED Platinum standards, incorporated operable windows, natural light, and displacement ventilation.

## *2. Community*

The office building is located directly at a light-rail transit station, and 500 meters from the regional pathway and river walkway. Shower facilities and bicycle parking along with transit access give staff and visitors every opportunity to use alternate modes of transportation.

The overall office design fosters a sense of community through a central kitchen and the inclusion of areas for social interaction. The space was designed as a fully inclusive working environment, all spaces within the floor plan, including meeting rooms and offices, were designed to be fully accessible. In addition, a lactation room was included to accommodate breastfeeding mothers.

## *3. Site Ecology*

Not applicable as this is an interior tenant fit-out.

## *4. Light and Air*

Floor-to-ceiling glazing provides breathtaking views across Calgary to the Rocky Mountains, giving occupants a connection to the natural outdoor environment, and reinforcing our bodies' natural circadian rhythm. 95% of desks are located within 7 meters of the exterior glazing and an operable window. This allows a reduction in electric lighting which consists of LED luminaires with occupancy and daylight sensors located throughout the office. The energy use from lights is expected to be approximately 14 kWh/m<sup>2</sup>.

Outdoor air is provided by an air handling unit located on the 29th floor which contains a heat wheel to recover energy and reduce the energy required for ventilation. This air handling unit utilizes minimum efficiency reporting value (MERV) 14 filters, removing particles between 0.3 and 1.0 microns with 98% efficiency. Ventilation is provided through in floor displacement ventilation providing fresh air without increased CO<sub>2</sub> levels or contaminants associated with recirculated air. The space has 1.2 air changes per hour and is equipped with balconies and operable windows throughout, allowing occupants to breathe natural, fresh air.

## *5. Wellness*

The location and building selection for the Integral Group office encourages alternative modes of transportation for staff to get to work. The main door to the office was shifted to be located equidistant and in visual connection to the stairs and elevator to encourage staff to take the stairs when possible.

Natural and re-used materials limit off gassing within the space, while operable windows and displacement ventilation allow for a more comfortable indoor environment. Social interaction is encouraged with a central kitchen and a boardroom table that converts to a pool table. In addition, a lactation room welcomes working mothers and doubles as a quiet room for those in need of a minute alone.

## *6. Water Conservation*

Not applicable as this is an interior tenant fit-out with the washrooms and water management on site as a part of the base building. The only plumbing in the space is for the kitchen sink which is a low flow fixture.

## Integral Group Calgary Design Studio



### *Resourceful Reuse.*

THIS FEATURE WALL WAS CREATED USING SEALED GLASS UNIT SAMPLES SALVAGED FROM SUPPLIERS, ARCHITECTS, AND ENVELOPE CONSULTANTS. THESE SAMPLES ARE CREATED FOR ALL PROJECTS AND CANNOT BE RECYCLED.

### *7. Operating Energy Present and Future*

The building has a triple-glazed curtain wall system with low emissivity coatings to allow daylight into the space while maintaining thermal comfort and reducing heating and cooling loads. Operable windows allow occupants to have fresh air, limiting the amount of mechanical ventilation required. A heat wheel reduces the heating and cooling load which reduces energy use.

Lighting consists of highly efficient LED luminaires with occupancy and daylight sensors located throughout the office to optimize occupant visual comfort and reduce energy use. The projected annual energy consumption for the office space is approximately 177 kWh/m<sup>2</sup>. While this interior fit-out did not have the opportunity to incorporate on-site renewables or tie-ins with district heating systems, the project could, in the future, financially support the development of offsite renewable energy through the purchase of green power certificates.

### *8. Materials and Resources*

The project had a lofty goal to exceed 100% of waste diversion from landfill, which meant diverting waste not related to this project from landfill. Through this process many of the materials selected were salvaged from other project sites or other uses and re-purposed for this project. These products have a low embodied carbon with very little travel from their first life to their new use in this space. For example:

- Solid fir moulding from a private club that was bound for landfill was milled into new baseboards for the space.
- Plywood from apple cider shipping crates was cleaned up, squared, and used as wall cladding as opposed to drywall.
- Leftover cork underlay was used as the finish on the backside of the kitchen island. Butcher block counters were reclaimed from a renovation project.
- Excess tile from another job site that was to be sent to landfill became the back-splash.
- Sealed glazing samples for new buildings that were no longer needed were gathered from architects, contractors, and suppliers to build feature walls within the space.

Sourced materials that were new were chosen for their natural content, recyclability, or local manufacturing. These included locally manufactured demountable walls, cradle-to-cradle certified carpet, and natural rubber floor tiles.



## Integral Group Calgary Design Studio



***100% waste diversion from landfills.***

**BUTCHER BLOCK COUNTER TOPS WERE RECLAIMED FROM A KITCHEN RENOVATION PROJECT, RECLAIMED PLYWOOD FROM PACKING CRATES REPLACED GYPSUM WALL BOARD, DEMOLISHED FIR PANELLING WAS MILLED INTO BASEBOARDS.**

### ***9. Building Life Cycle Considerations***

The base building is equipped with a raised flooring system and displacement ventilation which allows for easy reconfiguration of the space. Certain elements of the design were built to be more permanent including the kitchen and back of house storage and server spaces. All other elements are constructed with demountable walls to allow for easy reconfiguration if needed.

Finishing materials including wall cladding, flooring and baseboards were chosen for their recyclability or ability to be re-used.

### ***10. Education and Information Sharing***

Integral Group are an engineering consultant specializing in sustainable design. Teaching sustainable design is at the heart of what they do, and the design of their office space is an extension of that. Traces of labels from the reused materials are left in place to tell the story of reuse. A glass front 'fish tank' was incorporated into the design to display the construction waste that could not be diverted from landfill (which happens to be empty). Finally, they are looking to incorporate a display in the reception area that shows the typical energy use of an office space of the same size and updates real-time their actual energy use.

# Integral Group Calgary Design Studio



OPEN OFFICE AREA NEXT TO THE WINDOWS ENSURES ALL OCCUPANTS ARE WITHIN 6M OF DAYLIGHT AND VIEWS



## NATURAL RUBBER FLOORING, AND REPURPOSED APPLE CRATE PLYWOOD CLAD WALLS



CENTRAL KITCHEN FOR GATHERING CAN BE CLOSED OFF TO CONTAIN NOISE AND SMELLS IF NEEDED.





*reclaim, repurpose, reuse.*

RECLAIMED BACKSPLASH TILE, REPURPOSED CORK UNDERLAY FOR THE KITCHEN ISLAND, REUSED BUTCHERBLOCK COUNTERS FROM AN OLD COMMERCIAL KITCHEN.

