PART 1
PROJECT DESCRIPTION

Use for all categories. Projects are judged based on criteria of sustainable design, architectural merit and innovation. **Please submit Part 1 and Part 2 as separate pdf files.**

2025
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: Nova Scotia Native Women's Association Administration Office and Resiliency Centre
Address: Lot 28 Power Centre, Millbrook, Nova Scotia
Year completed: 2024

PROGRAM AND CONTEXT

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

Business, personal services (D) and assembly (A2).

Project site: [Check all that apply]

- [x] 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: 15,600 m^2
- Building gross floor area: 860 m^2
- Energy Intensity: 64 KWhr/m^2/year [Include both base building and process energy]

[optional: report energy intensity separately as follows:

- Energy Intensity, base building: 64 KWhr/m^2/year
- Energy Intensity, process energy: N/A KWhr/m^2/year

- Reduction in energy intensity: 51 %.
- State the reference standard on which the % reduction is based: MNECB, NECB or ASHRAE 90.1

[include version]: NECB 2017

- Recycled materials content: 5% % by value
- Construction materials diverted from landfill: N/A %
- Regional materials by value: $1,041,845
- Water consumption from municipal source: 1,435 litres/occupant/year

[Include both base building and process consumption]

- Reduction in water consumption: 10.96 %
- State the reference on which the % reduction is based: [■] LEED or other [ ]

*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.

Nova Scotia Native Women's Association

Administration Office and Resiliency Centre

Advancing Sustainable Architectural Design Through Cultural Collaboration

Part 1

Project Description

Project Summary

The Nova Scotia Native Women's Association (NSNWA) Administration Office and Resiliency Centre embodies a progressive vision of sustainability, cultural significance, and inclusivity. This project, designed with the "Two-Eyed Seeing" approach, uses the strengths of Mi'kmaq knowledge together with the strengths of Western knowledge to create a facility that serves as a model for the design of sustainable Indigenous architecture.

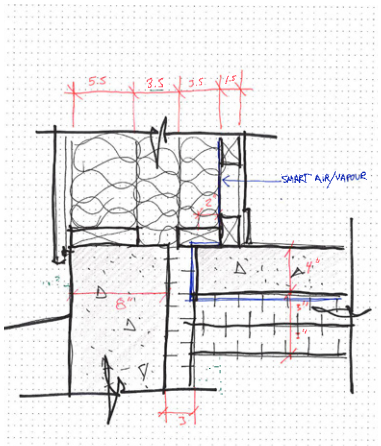
From its inception, the project prioritized sustainability through its design and material selection. The facility achieves Net-Zero Operational Energy by employing passive solar strategies, a high-performance building envelope, and a rooftop solar photo-voltaic system. The NSNWA building is certified in Canada's Green Building Council's Zero Carbon Building Design V3 standard.

Creating a platform for meaningful engagement, and ensuring that the resulting design reflects the collective input and values of the Mi'kmaq women was critical foundation. The design team engaged elders, community members, and cultural experts to incorporate Indigenous knowledge and traditions into the facility's architecture. Project collaborative artists Jennifer Denny and Jordan Bennett were pivotal members of the design team and their visions shaped the building's exterior, which is inspired by the Mi'kmaq ribbon skirt and the traditional eight-pointed star pattern, also the NSNWA insigne. This collaborative approach ensured the Centre authentically reflects and supports Mi'kmaq culture and values as well as fostering a sense of ownership and pride within the community.

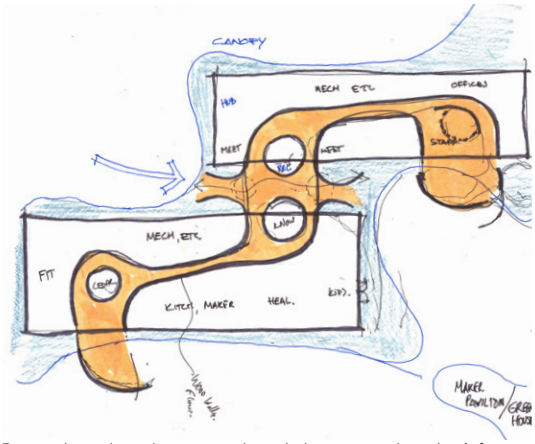
Main Project Description

1-Strategic Decisions

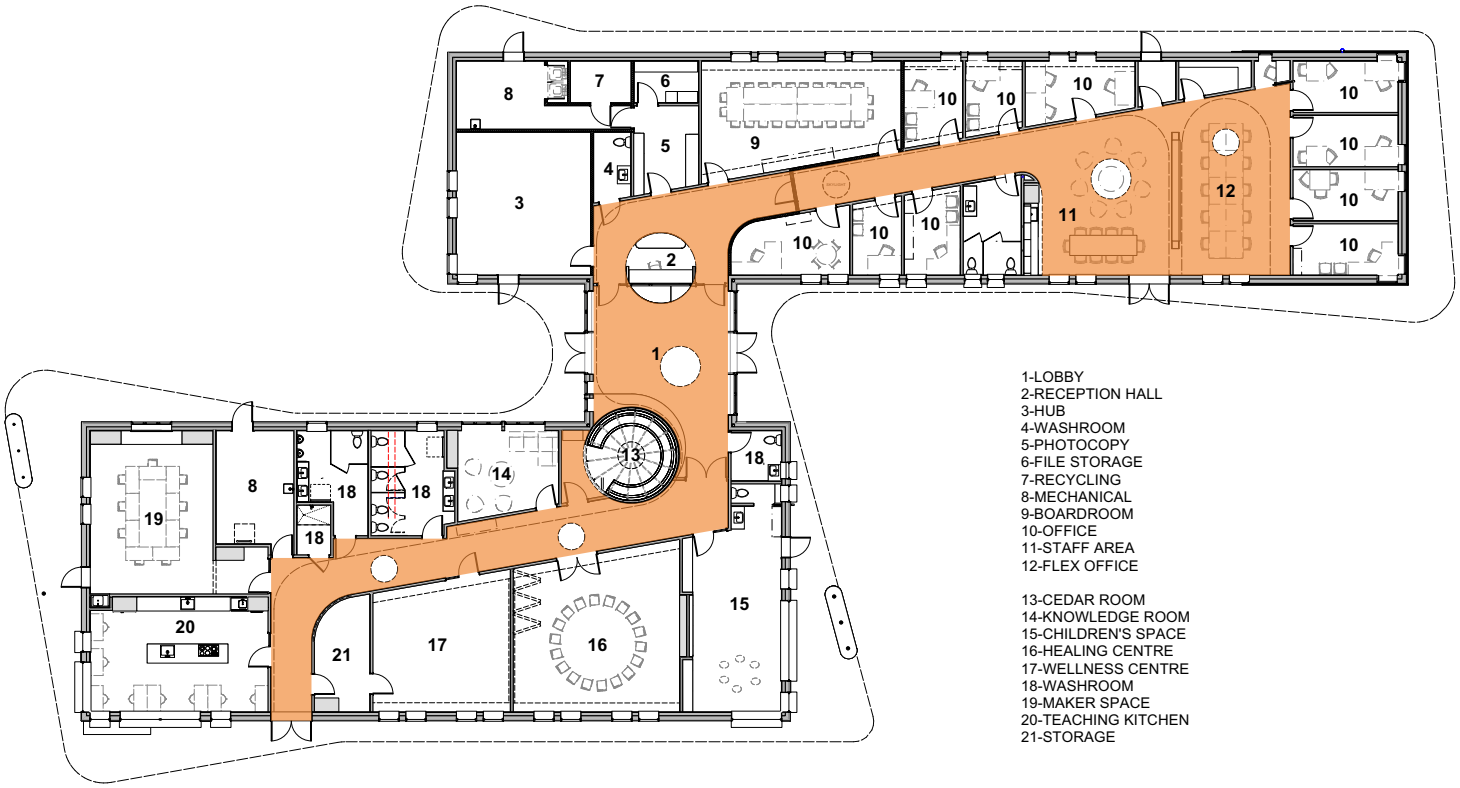
The site was selected as central to the community between the commercial and residential zones. The placement of the building addresses the street and maintained the wooded lot behind which is the site of a new sweat lodge and walking trail. The two building masses are oriented east-west to create entry and playground courtyards and maximize passive solar to key spaces. The program is split into two rectangular volumes. The office wing, dedicated for NSNWA staff to support women and children, and the Resiliency Centre wing (to the south) supports gathering and healing practices for families and the wider community. The culturally significant material of cedar was used to clad the central circulation "river" that connects the two building wings.



Early sketch to illustrate slab-to-wall transition including slab thermal breaks and high performance envelope.



Two rectangular volumes are placed along an east-west axis for passive solar exposure. The volumes are offset to create entry and playground courtyards. The circulation through the two building wings were conceptualized as a "river" flowing around key programatic "stones". Circular skylights bring focus to these key program spaces.



1-LOBBY
2-RECEPTION HALL
3-HUB
4-WASHROOM
5-PHOTOCOPY
6-FILE STORAGE
7-RECYCLING
8-MECHANICAL
9-BOARDROOM
10-OFFICE
11-STAFF AREA
12-FLEX OFFICE

13-CEDAR ROOM
14-KNOWLEDGE ROOM
15-CHILDREN'S SPACE
16-HEALING CENTRE
17-WELLNESS CENTRE
18-WASHROOM
19-MAKER SPACE
20-TEACHING KITCHEN
21-STORAGE

Floor plan showing program distribution and circulation strategy.

2-Community

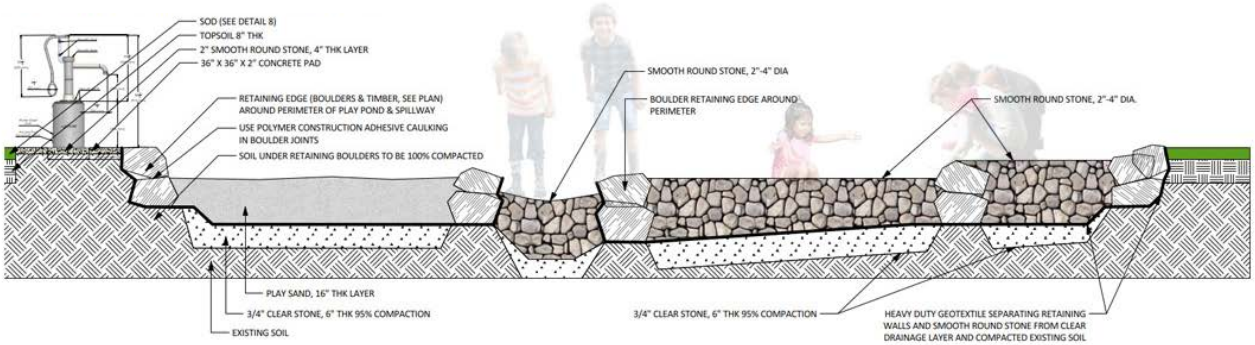
The project embraces a 'Two-Eyed Seeing' approach to design – weaving the sustainable design team expertise with the traditional and cultural knowledge of community collaborators. Developed by Elder Albert Marshall from Eskasoni, Nova Scotia, 'Two-Eyed Seeing' requires "learning to see from one eye with the strengths of Indigenous ways of knowing, and from the other eye with the strengths of Western ways of knowing ... and learning to use both these eyes together, for the benefit of all." In this way, the new NSNWA facility achieve sustainable, healthful workspaces as well as a design that supports equity, diversity and inclusion, specifically to Mi'kmaq women and their families.

Dance circle and entry to the forest belt paths leading to the medicine walk beyond.

3-Site Ecology

During early investigations it was found that the existing forest cover allowed the site to absorb the majority of rainwater on the property. A plan was implemented to preserve storm-water flows, natural soil conditions and vegetated habitats. The existing site ecology creates opportunities for land-based healing, learning and connection to the land. Outdoor spaces are connected via footpaths, that continue into the Medicine Walk, including traditional medicinal plants, and sweat lodge in the forest belt. The children's play zone incorporates naturalized surfaces, a rainwater riverbed and untreated wood canoe, fishing boat, drum circle and lodge play structures.

Diagram illustrating the siting strategy of major outdoor functions with focus on minimizing impact on the land while maximizing connection with nature.

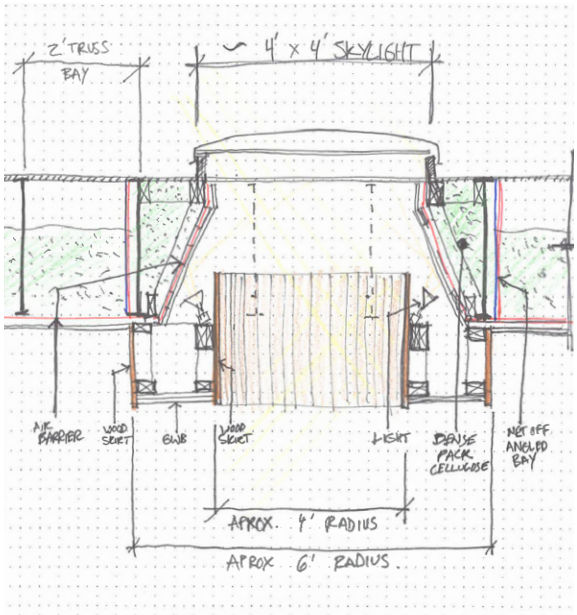


Water play spillway detail showing landscape elements integrated with existing site drainage.

4-Light and Air

The building has an elongated rectilinear form positioned on an east-west axis, providing excellent southern solar exposure. Daylighting and interior air-quality is of primary concern in the NSNWA building and specific elements were implemented to maximize natural light and ventilation such as:

- Expansive exterior glazing throughout occupied areas.
- Group meeting spaces have large south-facing windows with views of the retreat courtyards.
- The Knowledge Room and the Healing Centre are daylit with clerestory windows and skylights for privacy.
- Triple-glazed windows.
- All occupied spaces to have at least one operable window.
- Circulation "river" is daylit with skylights.



Early sketch of skylights construction and air/vapour barrier strategy.

Main circulation "river" uses the skylights natural light as a way-finding feature.

Healing Centre space supports community gatherings and support groups. Culturally significant south facing eight-pointed star inspired operable windows.

5-Wellness

Low-toxicity materials including low-VOC paints and coatings meeting LEED requirements incorporated throughout the building. Linoleum flooring considered antibacterial, made from bio-based raw materials and C2C RSL V4 compliant, was chosen in biophilic patterns. Cedar was chosen as an interior and exterior cladding material for its warmth and cultural significance. Health and wellness are supported by the teaching kitchen which is focused on healthy, culturally relevant cuisine. The building systems were designed to allow smudging ceremonies to take place inside the building to support the significant Mi'kmaq cultural practice. The exterior landscape including play spaces, walking trails, ceremonial and dance circles and sweat lodge can be seen from every public space in the building and was considered critical to the total building program of cultural, physical and spiritual wellness.

Cedar room with circular seating and skylight was designed to allow and support smudging ceremonies.

Lobby seating area with access to both Resiliency Centre and Administration Office.

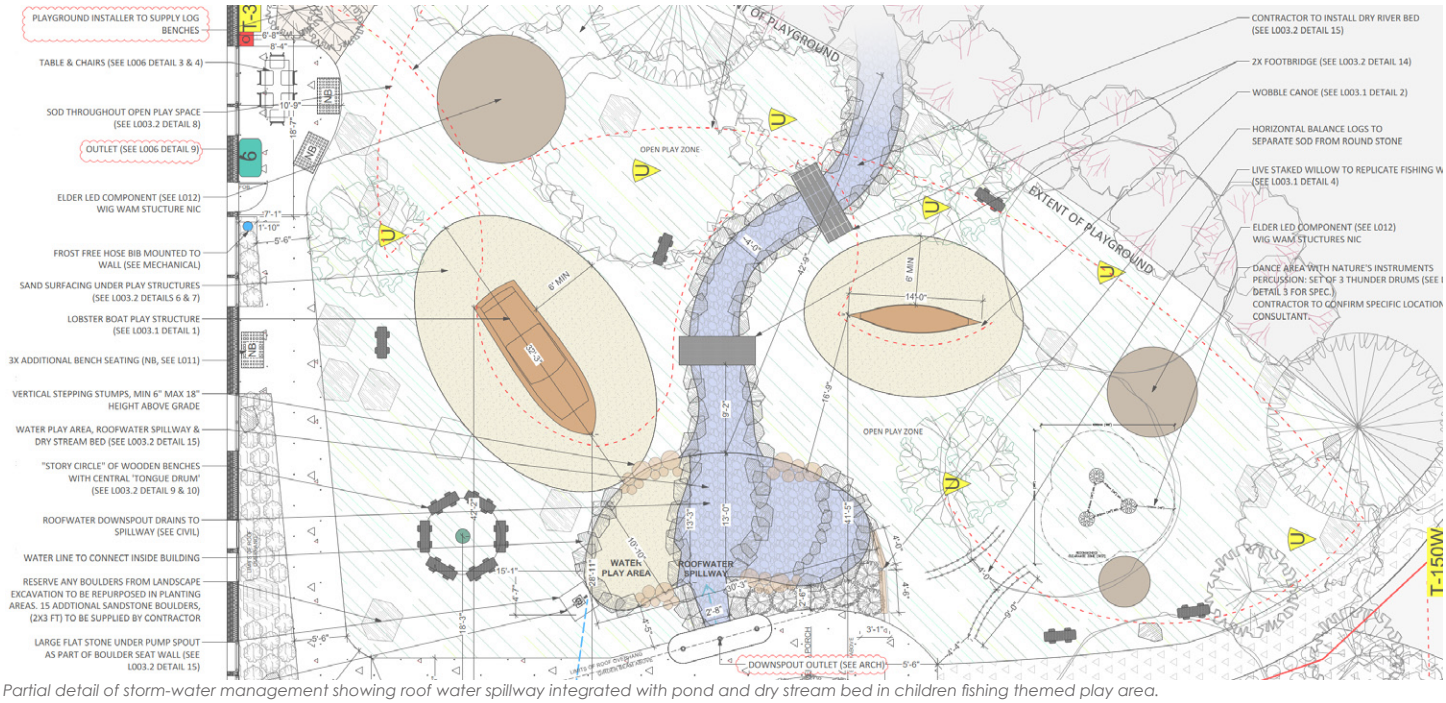
Bridge over drainage swale connecting Maker's Space to outdoor ceremonial fire space.

Children's outdoor play area adjacent to children space.

6-Water Conservation

The site drainage strategy optimizes stormwater infiltration. Native and adapted plants were used to eliminate irrigation with potable water. Roof water runoff is utilized to passively irrigate landscape areas and it is integrated into landscape design features such as the children's play area pond and stream.

Dual-flush toilets (1.9L/3.6L per flush), low-flow lavatories (1.9 L/min) and showers (5.7 L/min) maximize water efficiency and reduce the burden on municipal water supply and wastewater systems by 10%.



Partial detail of storm-water management showing roof water spillway integrated with pond and dry stream bed in children fishing themed play area.

Water-themed children's outdoor play area with wooden canoe, fishing boat, log shelter, drum circle, rainwater stream and natural woven birch fencing.

7-Operating Energy Present and Future

High-efficiency heat pumps for heating and cooling were installed paired with ERV's for an all electric building. The envelope utilizes an increased insulation package with:

- R24 sub-slab insulation with insulated strip footings complete with thermal breaks.
- R48 thermally broken and panelized double-stud exterior wall.
- R75 roof insulation (vented roof).
- Exterior air barrier tested for airtightness.

The project target is a 65.8% reduction in energy consumption compared to th NECB 2017 baseline model and an EUI of 64kWh/m2/yr. A roof mounted 58 kW-DC solar PV system offsets the remaining energy demands.

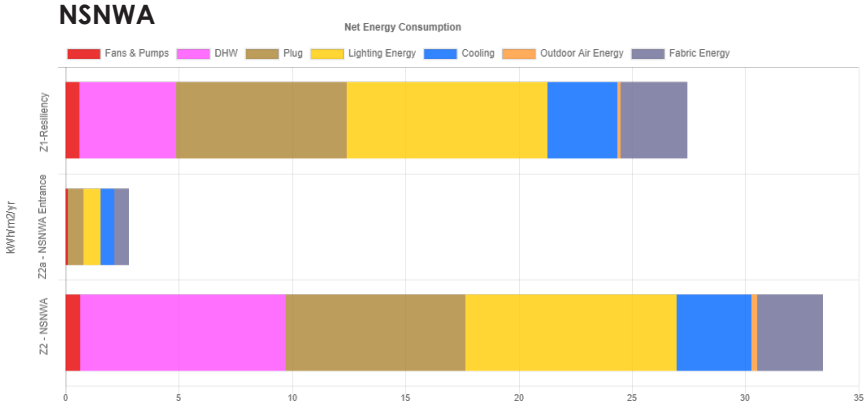
Model indicates that the NSNWA building results in a TEDI of only 24 kWh/m2. The building is expected to be able to maintain an indoor temperature of between 17-19 degrees Celsius over a 72-hour power outage and between 14-18 degrees Celsius for a 2-week period.

	Envelope					Mechanical Equipment		
	Roof	Wall	Glazing	Slab	[illegible]	Energy Recovery	Heating	Cooling
	ft² °F hr/Btu	ft² °F hr/Btu	ft² °F hr/Btu	ft² °F hr/Btu	AC/h	%	cop	cop
NSNWA	75	44	5	30	0.10	80	2.8	3.8
Baseline	40	24	2.5	15	0.10	0	0.85	0.85

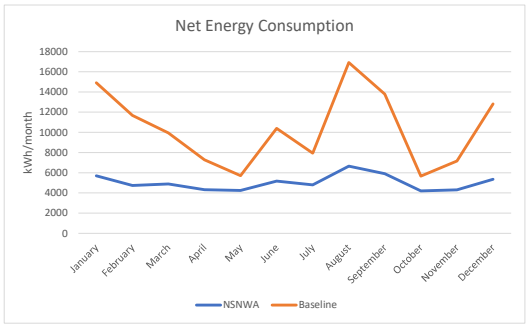
Energy model envelope and mechanical equipment performance comparison.

	Net EUI:	Net Total:	Greenhouse Gas Intensity	Net GHG
	kWh/m² yr	kWh/yr	kgCO2e/m² yr	kgCO2e/yr
NSNWA	64	60,309	50.3	47,654
Baseline	131	124,227	103.7	98,159
% difference	51%	51%	51%	51%

NSNWA

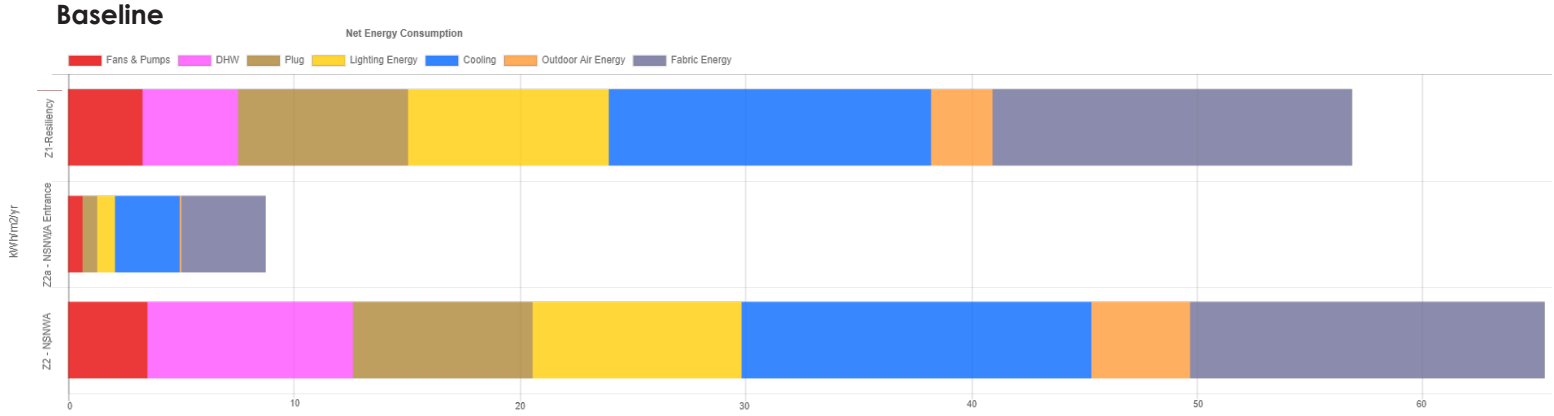


NSNWA building net energy consumption of zones 2, and 3.



Energy use consumption reduction of 51% when compared to a baseline model.

Baseline



Baseline reference building model to NECB 2017 requirements.

8-Materials and Resources

Materials were selected based on their aesthetics, affordability and environmental aspects including life cycle, cost, embodied carbon, toxicity, durability, recycled content, and their designation as a renewable resource. Local eastern white cedar was chosen as the primary interior and exterior cladding as a low carbon and culturally significant material.

The design team prioritized local and materials that naturally sequester carbon. The building consists mainly of regionally harvested wood construction, utilizing a super-insulated, panelized double stud wall assembly and wood roof trusses filled with loose-fill cellulose insulation. Flooring, interior finishes and coatings were chosen to meet LEED IAQ requirements or other benefits such as local, recycled or low carbon content.

Regionally harvested wood frame structure.

Cedar room with skylight above.

Roof structure in locally harvested pre-fabricated wood trusses

9-Building Life Cycle Considerations

The NSNWA building achieved an improvement beyond the minimum level of performance required for embodied carbon by Canada Green Building Council Zero Carbon Building (ZCB). The impact and innovation credit was demonstrated by achieving an absolute embodied carbon intensity less than 240kg CO2e/m2. The project's total embodied carbon was 197.74kg CO2e/m2, as seen in the LCA Project Report tables and graphs below.

Embodied Carbon

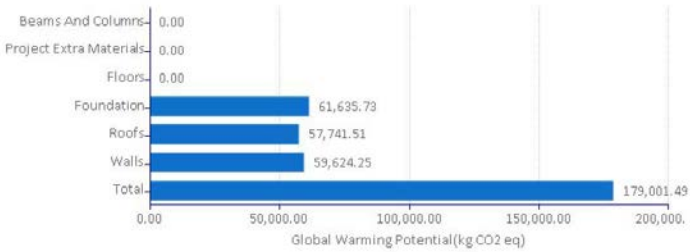
Embodied Carbon		
	Modules A to C	Module D
Lifetime GWP intensity (kg CO2e/m2)	208.21	-134.23
Annual GWP intensity (kg CO2e/m2-yr)	3.47	-2.24
Total project lifetime GWP (kg CO2e)	179,001.49	-115,397.54

Project total area (m2): 859.72 m2

Project life (years): 60

Project Total Embodied Carbon: 197.7kg CO2e/m2

Global Warming Potential by Assembly Group (A to C)



LCA results by life cycle stage - Condensed table

		PRODUCT (A1 to A3)	CONSTRUCTION PROCESS (A4 to A5)	USE (B2, B4 & B6)			END OF LIFE (C1 to C4)	BEYOND BUILDING LIFE (D)	TOTAL EFFECTS	
LCA Measures	Unit	Total	Total	Replacement Total	Operational Energy Use Total	Total	Total	Total	A to C	A to D
Global Warming Potential	kg CO2 eq	9.83E+004	2.30E+004	4.97E+004	0.00	4.97E+004	7.92E+003	-1.15E+005	**1.79E+005**	**6.36E+004**
Acidification Potential	kg SO2 eq	6.24E+002	2.52E+002	4.16E+002	0.00	4.16E+002	9.47E+001	-1.87E+002	**1.39E+003**	**1.20E+003**
HH Particulate	kg PM2.5 eq	2.95E+002	2.09E+001	4.43E+002	0.00	4.43E+002	3.82E+000	-1.78E+001	**7.63E+002**	**7.45E+002**
Eutrophication Potential	kg N eq	4.35E+001	1.63E+001	1.72E+001	0.00	1.72E+001	5.77E+000	-3.09E+000	**8.28E+001**	**7.97E+001**
Ozone Depletion Potential	kg CFC-11 eq	9.29E-004	2.85E-004	6.08E-004	0.00	6.08E-004	3.66E-007	-1.26E-006	**1.82E-003**	**1.82E-003**
Smog Potential	kg O3 eq	9.17E+003	6.98E+003	5.96E+003	0.00	5.96E+003	3.03E+003	-1.46E+003	**2.51E+004**	**2.37E+004**
Total Primary Energy	MJ	1.61E+006	3.20E+005	1.08E+006	0.00	1.08E+006	1.16E+005	-2.68E+005	**3.12E+006**	**2.86E+006**
Non-Renewable Energy	MJ	1.38E+006	3.01E+005	1.06E+006	0.00	1.06E+006	1.16E+005	-2.66E+005	**2.85E+006**	**2.58E+006**
Fossil Fuel Consumption	MJ	1.30E+006	2.99E+005	1.05E+006	0.00	1.05E+006	1.15E+005	-2.60E+005	**2.76E+006**	**2.50E+006**

Ribbon skirt pattern at Nova Scotia Women's Association Administration Office and Resiliency Centre.

10-Education and Information Sharing

The Nova Scotia Native Women's Association (NSNWA) Resiliency Centre exemplifies an approach to architecture, celebrating **sustainability, equity, diversity, and inclusion.** Rooted in the "Two-Eyed Seeing" approach, the Centre integrates Mi'kmaq knowledge systems with contemporary design principles, demonstrating how architecture can indigenize spaces to reflect cultural identity and community needs.

By relying on the indigenous client and consultants expertise in culturally relevant programming, aesthetics and green building approaches, we were able to work together to provide the NSNWA with a whole site geared towards healing and the service of women and families that will have generational impacts and benefits.

This project embodies the Mi'kmaq concept of Netukulimk, emphasizing balance with nature and long-term resource stewardship. Sustainability measures further elevate the project. The building achieves Net-Zero Operational Energy through passive design, renewable energy, and locally sourced materials with low embodied carbon.

The Nova Scotia Native Women's Association's Resiliency Centre is a living example of *Engagement*, Research, and Collaboration with indigenous groups during an important period of reconciliation. We hope to be able to share the lessons learned with the design and building community across these lands we share.

Dance circle at the Nova Scotia Women's Association Administration Office and Resiliency Centre.