

Mosaic Centre for Conscious Community and Commerce

by [Alecsandru Vasiliu](#) / 2015-06-29 19:03:02 / International / 5734 / EN



New Construction

Primary energy need :

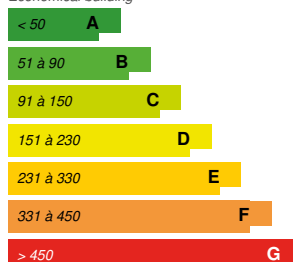
74.33 kWhpe/m².year

(Calculation method : Other)

ENERGY CONSUMPTION

Economical building

Building



Energy-intensive building

Building Type : Office building < 28m

Construction Year : 2015

Delivery year : 2015

Address 1 - street : 2003 91 Street SW T6X 0W8 EDMONTON, Canada

Climate zone : [Dfb] Humid Continental Mild Summer, Wet All Year

Net Floor Area : 2 477 m² Other

Construction/refurbishment cost : 8 800 000 €

Cost/m2 : 3552.68 €/m²

Certifications :



Proposed by :



General informations

The Mosaic Centre for Conscious Community and Commerce is going to more than an office building.

This new, 3000 m² building will be located at the threshold of a commercial strip and the emerging Edmonton community of Summerside. It will house the Mosaic Family of Companies, providing its staff not only an office, but important amenities including a child-care facility, wellness centre, lounge areas game rooms, and even a restaurant. Every detail of the building will work together to promote a healthy collaborative work environment that resonates with the unique ethos of its occupants. One of the primary goals is to create a Net zero Commercial building – a building that will generate as much energy on site as it will consume in a year. That isn't the only green goal – this building hopes to be the first Living Building Challenge petal certified building in Alberta!

The diversity of the Centre's programme provides us a complex design challenge, but one that we were excited to tackle. The various companies that form the Mosaic Family each have their own needs.

Additionally, small leasable office space, called “the beehive,” is hoping to assist local businesses and start-up companies grow. Facilities including the child-care centre, restaurant and wellness centre, will first be made available to the Mosaic staff, then neighbourhood residents, and workers in the surrounding commercial buildings. This will engage the Centre’s surrounding residents, make the building a gathering place and solidify its role as a community hub.

Mosaic desires the building to be less of an object, and more of a system. This collection of elements will function in a way that parallels biology, as the design creates interdependence between the disparate elements of the Centre’s programme. Three levels match the three categories of space that are required: public, private and shared space, expressing the relationship between the programmes, while a central, shared atrium provides an incidental meeting area-as-common space.

Like a biological system, the Centre will sustain life, with light, water and spatial systems creating a connective tissue along which programme needs would be met and energy requirements would be achieved. As a progressive organization, the Mosaic Family of Companies expressed that sustainability would be a fundamental consideration for the facility. Setting net zero energy as our goal, holistic sustainability strategies have been employed at every level of design. Net zero is challenging to achieve in our northern climate! However, by implementing key strategies, we hope to achieve Living Building as well as LEED® Platinum certification. These strategies include the provision of a high- performance building envelope and minimal mechanical/electrical systems that will work together to form an integrated response to the building’s physical environment

See more details about this project

<http://themosaiccentre.ca/>

Stakeholders

Stakeholders

Function : Designer

Manasc Isaac Architects

avasiliu@manascisaac.com

<http://www.manascisaac.com>

Function : Contractor

Function : Others

Contracting method

Other methods

Energy

Energy consumption

Primary energy need : 74,33 kWhpe/m².year

Primary energy need for standard building : 206,00 kWhpe/m².year

Calculation method : Other

Envelope performance

Envelope U-Value : 0,18 W.m⁻².K⁻¹

More information :

Exterior Wall Assembly: u=0.18

Roof: u=0.13

Floor assembly @ soffits & overhangs: u=0.194

Glazing: u=0.9 (overall value, including frames)

Renewables & systems

Systems

Heating system :

- Geothermal heat pump
- Low temperature floor heating
- Fan coil
- Others

Hot water system :

- Individual electric boiler

Cooling system :

- Geothermal heat pump
- Fan coil
- Others

Ventilation system :

- Double flow heat exchanger

Renewable systems :

- Solar photovoltaic
- Heat pump (geothermal)

Renewable energy production : 100,00 %

Environment

Urban environment

The Mosaic Centre for Conscious Community and Commerce will be located in a commercial/industrial zone adjacent to a burgeoning community in South Edmonton on the corner of 91 Street and Savaryn Drive. The site is in the Ellerslie Industrial Zone and is adjacent to the newly emerging Summerside Community. In observing current street patterns it is anticipated there will be a connection from 91 Street to 41 Avenue to the south and Savaryn Road will eventually lead to further commercial/ residential development and may connect to 101 Street to the west. There are existing multi-use trails immediately west and east of the site, hugging the boundary of the residential community. There is an existing storm water pond to the south east of the site.

Typically, key determinates of site planning are dominated by vehicular considerations such as parking demands and maintenance requirements. Primary to this site is solar access. Thorough analysis of present and future solar exposure was undertaken to site the building. We have taken special efforts to implement Low Impact Development (LID), blurring the pedestrian and vehicular zones, to create a multi-dimensional public realm that is very atypical for our built environment. Vehicular access to the site will come from the southeast, and parking requirements will be facilitated on the north and east side of the site (behind and beside the building).

A community space will be situated on the south west corner of the site, in the form of a public park/plaza. This will encourage the local community to come and use the public programmes operated inside the building.

In particular, the design of the tree canopy will define space and contribute to both human comfort and ecological function. While the landscaping must respond to parking constraints, we have created a more rigorous pattern of trees across the site than usual. These trees will organize and integrate present outdoor functions while accommodating future needs.

It is also anticipated that a future Mosaic building will be created on the site over the next 5–10 years, in alignment with the projected growth of the Mosaic Family of Companies.

Land plot area : 7 492,00 m²

Built-up area : 14,00 %

Green space : 46,00

Products

Product

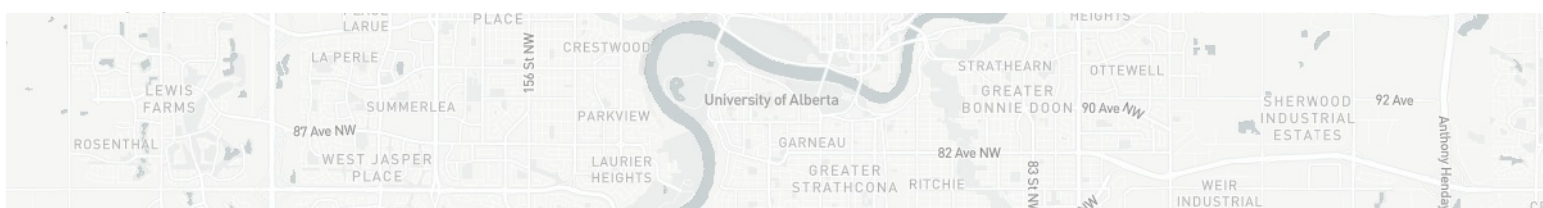
GlasCurtain

Product category :

Based in Alberta and launched at Greenbuild 2013 in Philadelphia, GlasCurtain offers strong, durable Fibreglass Composite Curtain Wall Framing Systems that reduce energy costs by 5-10%.

Exclusively designed for triple-glazed applications, GlasCurtain is dedicated to improving envelope performance, particularly on projects striving for LEED and LBC certifications.

GlasCurtain is a proud member of the Canada Green Building Council as well as the Alberta and Atlantic chapters.



But on The Mosaic Centre, curtain wall is to be found around the entire east end of the third story, on the east end of the main floor where the daycare centre will be, on the west end of the main floor where the restaurant will be, and most prominently, on both the north and south faces of the central atrium. Basically, glass is everywhere, largely thanks to the industry-leading U-value of the fiberglass composite framing we use!

Costs

Energy bill

Forecasted energy bill/year : 15 000,00 €
Real energy cost/m2 : 6.06
Real energy cost/Work station : 150

