

# FORTWHYTE ALIVE BUFFALO CROSSING VISITORS CENTRE



**ZERO CARBON  
BUILDING STANDARD**  
Canada Green Building Council®



Located in Winnipeg's burgeoning southwest, north of a primary motorway into the city, Buffalo Crossing is situated on Muir Lake's south shore, the largest of five lakes formed in reclaimed clay and gravel pits abandoned by the Canada Cement Company.

The 18,000 sf two-story mass timber Visitor Centre consists of a gift shop, café, lobby, gender neutral washrooms, learning, pre-function and indigenous spaces, prep kitchen, and event space.

The marquee gateway to FortWhyte Alive's 660 acre nature campus, offering environmental education and recreation programs, Buffalo Crossing will be a living exhibit of climate resilience, reconciliation, and stewardship, facilitating expanded programming and revenue.

Amidst wispy aspens, perched between and over granite gabion walls concealing the 'natural garden' beyond, Buffalo Crossing frames views towards visitors' experience. Transparent, welcoming, Buffalo Crossing is designed to draw people in connecting them with nature.

Triangular in form with a minimal north facade with limited solar exposure, the northwest façade opens up to picturesque views, while the south façade addresses the motorway providing a strong physical presence. The upper volume shading the lower volume, stepping up at the event space. Rounded corners soften its presence within the aspen forest. Two ends of the upper volume are carved out to form balconies.

Interior features supporting indigenous culture were carefully curated including language, interpretive elements, and the Star Blanket pattern celebrating indigenous history and knowledge. The bison (buffalo) make an appearance in the Donor Wall.

Special consideration was given to south central Canada's extreme climate with conditions ranging from -40° C and 0% relative humidity to +40° C and 100% relative humidity and future projected climate data to inform the design of Buffalo Crossing achieving CaGBC's Zero Carbon Building Design Standard and targeting Passive House Certification - the first such projects in Manitoba to achieve these standards.

Large bird-friendly insulating glass units passively harvest solar heat during the heating season, while the overhang and operable screens, theatrically opening and closing in response to the sun, passively shade the interiors during the cooling season. Paired with a high-performance building enclosure, the heating energy demand is lowered by ~90%.

The building's HVAC system consists of a ground source heat pump, energy recovery ventilator, and in-floor heating/cooling.

Buffalo Crossing demonstrates FortWhyte Alive's commitment to climate action through the built environment, promoting an understanding of the natural world, inspiring actions towards sustainable living and a better future for all.

