



MagnumStone Takes Off at Major Airport

Edmonton International Airport, one of Canada’s world-class travel hubs saw plenty of development and nearly eight million travelers in 2017. For many of those flight passengers, they had a birds-eye view of [Edmonton Airport Authority’s](#) newest addition to the property. The beautifully engineered lookout area also serves as a stormwater retention basin, thanks to [MagnumStone’s geogrid retaining wall system](#).

Total Block Installed	39,000 sq. ft. (3,623 sq. metre)
Fabric Used	Geogrid
MagnumStone Manufacturer	<u>D&M Concrete & Barkman Concrete</u>
MagnumStone Dealer	<u>Burnco Landscape Centre</u>
Owner	<u>Edmonton Airport Authority</u>
Installation Company	<u>Dufferin Construction</u>
Project Architect	<u>WSP</u>
Project Engineer	<u>Mike Staple</u>

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Edmonton, Alberta, Canada



■ MAGNUMSTONE TURNS ON THE JETS

Installed near the airport's Fairfield Inn & Suites, the sharp-looking canal includes a future walking bridge, manicured pathway and stairs leading to lower viewing platforms at each end of the J-shaped waterway. This unique project stands out as a gorgeous addition to the airport, reminiscent of the famous Rideau Canal in Canada's capital city of Ottawa. The project's retaining wall construction began in September 2016 and flew nonstop through the winter until its completion a year later.

Looking to install a durable, visually appealing retaining wall for its new aircraft viewing area, the Edmonton Airport Authority chose MagnumStone as its choice material. This decision was made thanks to MagnumStone's straightforward engineering, speed of installation and beautiful looks of the blocks' [facing](#). They were also reassured throughout the project's development by ongoing support from local MagnumStone manufacturers [Barkman Concrete](#). Though the retaining wall timeline - or runway - was short, MagnumStone was prepared and ready for take-off.

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■ SWIFT, SECURE INSTALLATION

With time of the essence, the Edmonton Airport Authority aimed to avoid unnecessary turbulence and construction delays for the proposed 39,000 sq. ft. (3,623 sq. metre) retaining wall. Having already encountered a few hold-ups before partnering with MagnumStone, the big block system was chosen in large part due to its simplicity and [efficient installation process](#).

With the support and expertise of Barkman Concrete, the Edmonton Airport Authority eagerly moved forward with blocks produced by [D&M Concrete](#) through their nearby dealer, [Burnco Landscape Centre](#). The installation team from [Dufferin Construction](#) performed an excellent job

building the MagnumStone retaining wall, especially considering it was their first big block retaining wall system project. Representatives from Barkman Concrete were able to provide on-site training and help jumpstart the construction process, making installation a breeze for all parties involved. MagnumStone's big block system allows installers to place blocks 8 sq. ft. (0.74 sq. metre) at a time, compared to 1 sq. ft. (0.092 sq. metre) when installing [segmented retaining wall \(SRW\) systems](#). Covering more ground with MagnumStone's [hollow core blocks](#) meant the installation would be completed at a [quicker pace and cost-efficient manner](#).

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■ SKY-HIGH STRENGTH OF MAGNUMSTONE

Peaking at 8 [courses](#) high (16.5 ft or 5.05 metres), structural integrity is key to any successful retaining wall of this size. The design engineers specified geogrids up to 11.5 ft (3.5 metres) long on each course of the tallest sections due to poor site soil conditions. To engineer walls that last in a clay base, retained soils similar to these require more advanced designs and materials like geogrid.

Given that the airport's geogrid retaining wall was a [water application](#) along the canal, [drainage](#) was a major concern for engineers since water is the main culprit behind most retaining wall failures.

This was successfully mitigated by filling the hollow core of MagnumStone blocks with [clear crush gravel](#). Through this more [permeable](#) solution, the retaining wall regained the critical mass needed for its stability.

It also benefitted from horizontal and vertical drainage, providing a free-flow effect that reduced blockages and sediment build-up behind the retaining wall. When water elevations change with large rain storms the rapid draw down of the water is critical to proper wall design. Keeping that water moving through the large hollow cores was essential to a pond water application.

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■ ARRIVAL & DEPARTURE OF STORMWATER RUNOFF

With the influx of development surrounding Edmonton International Airport, a stormwater management system upgrade was essential for the area. Thanks to clever engineering, the canal's lookout is a dual-purpose structure. While it's a beautiful space for plane spotting and waiting for flights, the waterway also acts as a [stormwater retention pond](#). This is vital for high-traffic areas and new developments which accumulate stormwater runoff from paved surfaces or melting snow.

Permanent stormwater storage systems like this help prevent flooding and by capturing and naturally treating runoff in an eco-friendly fashion. MagnumStone's retaining wall system is perfect for this application. Its precast wet-cast concrete blocks are designed for low water absorption. Better yet, MagnumStone blocks can endure any weather, from hot and dry climates to the harshest of Canadian winters.

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■ BEAUTIFUL LOOKS & SMOOTH LANDINGS

Speaking of appearance, MagnumStone's LedgeFace style blocks were the exact aesthetic that the Edmonton Airport Authority envisioned for their waterway lookout. Blending in perfectly with the airport's natural landscape, the blocks matched the airport's newly renovated, modern aesthetics.

MagnumStone's concrete blocks and beautiful facing have the versatility to adapt with the creativity of its engineers to build remarkable, long-lasting structures – as exemplified by the lookout's [curves](#), corners and detailed features. Coupled with emerging commercial development and the growing airport traffic, MagnumStone proudly offers a first-class impression for travelers visiting one of Canada's premiere international airports.

Complemented by MagnumStone's [step-by-step installation guides](#) and [Wall Design & Analysis Software](#), the retaining wall system's possibilities are truly endless. How can MagnumStone be the solution for your next project? The sky's the limit.

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RETAINING WALL SYSTEM

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