



SOLENO

Mastering Storm Water

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DEVELOPER
OF SUSTAINABLE SOLUTIONS
FOR MASTERING STORM WATER

RECONSTRUCTION AND EXPANSION OF APRON II TO THE OTTAWA MACDONALD-CARTIER INTERNATIONAL AIRPORT

Gatic UltraSlot channels: an innovative linear collection solution for airport areas.

In the summer of 2018, Ottawa Macdonald-Cartier International Airport undertakes the reconstruction and expansion of Apron II, a parking area for aircraft. Satisfied with Gatic products for the drainage of its de-icing area, the Ottawa airport opts again for the Gatic UltraSlot brand of steel slot channels for the linear collection of stormwater for its new tarmac.

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THE CONTEXT

To accommodate six large aircrafts or a dozen small airplanes, the total surface area of the new tarmac was assessed to more than 50 000 m² (538 195 ft²). To execute this expansion, part of the former tarmac had to be destroyed and then completely rebuilt. For that reason, the development of new infrastructure, such as a new collection system, new lightning and pavement marking was necessary. Linear collection was chosen to effectively drain this new impervious surface with a very low slope (between 0.5% and 1.0%). Unlike traditional storm sewer systems which require greater slopes around the perimeter of the structures, linear collection requires a simple longitudinal slope on both sides of the channels. Also, the linear collection system had to be able to withstand extremely heavy loads, a constant traffic, without any moving parts.

THE SOLUTION

The consulting engineer selected to perform this project, Ian Rowbotham P. Eng., senior project manager at Avia NG Airport Consultants, specified the use of Gatic UltraSlot channels for the development of the linear collection system. The contractor, Tomlinson Group, therefore installed more than 300 linear meters of Gatic UltraSlot channels, 225 mm (8.85 in) to 500 mm (19.7 in) in width, in the poured-in-place concrete. The system was completed with the installation of 8 access wells and 8 exit wells.

THE BENEFITS

Originally, the family of Gatic SlotDrain galvanized steel channels was developed in collaboration with professionals from the airport sector. Installed on aircraft traffic areas, the channels must necessarily be in one piece, without any moving parts. Consistent with these criteria, the Gatic UltraSlot channels are recommended for pavements subjected to constant traffic, such as airports, ports and areas with heavy-duty vehicles. The main body of this channel, when installed in a deep layer of concrete, is designed to withstand ultra heavy-duty loads of 900 kN (depending on the system's type). Fitted with concrete anchors and stabilizing bars, the main body of the Gatic UltraSlot channel, when properly installed in the concrete structure, ensures a solid and durable structure. With its top edge channel, these channels enable the drainage to be perpendicular to the direction of the water flow over the full width of the surface to be drained, and channels it to an evacuation structure. Thanks to its hex profile, the Gatic UltraSlot channel allows you to capture and drain volumes of water equivalent to conventional channels, but unlike the latter, has no grate, an essential condition for use on a tarmac. In addition, this product is easy to maintain, since the V shape basis of the channel promotes quick drainage and cleaning.



The realization of this project was made possible thanks to: the contractor [Tomlinson Group](#).

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