

The Waterloo Memorial Recreation Complex Expansion

Waterloo, ON, Canada (2022)

PRODUCTS USED:

Krytol Internal Membrane™ (KIM®) Krytonite™ Swelling Waterstop

OWNER:

City of Waterloo

ARCHITECT/ENGINEER:

Parkin Architects Ltd.

GENERAL CONTRACTOR:

Collaborative Structures Ltd.

READY-MIX SUPPLIER:

Hanson Ready Mix, Inc.

DISTRIBUTOR:

Form & Build Supply

BACKGROUND

Having won several awards in the past for their Waterloo Memorial Recreation Complex, such as the Award of Merit in 1995 from *Athletic Business Magazine*, the City of Waterloo planned to continue the complex's trend of success. With that in mind, the city took note of their growing population and the increase in new recreation interests and decided that it was time to upgrade their complex.

Their upgrade would be extensive, costing around \$30.1 million. Expected to be complete by 2022, its design includes extra space for a lobby, an activity court and gymnasium, change rooms, and inclusive washrooms. There have also been some improvements to the complex so that it can provide more fitness programming via two exercise studios and a secondary indoor walking concourse. Adding to that, the City of Waterloo chose to construct an entirely new building to add to the complex's structure. Standing at two stories, this structure will be known as the Community Pavilion, and it has been designed to accommodate the recreation program for older adults.

Part of this upgrade required the construction of an elevator shaft. However, because it would be used to accommodate the Community Pavilion, the elevator's construction needed to remain reliable year-round. Without that reliability, a number of seniors would have some difficulty traversing the pavilion. So to give the elevator the structural and mechanical integrity it would need to provide consistent access, the city wanted to find the most effective waterproofing solution.

SOLUTION

Initially, the city's construction team had specified a brush-applied waterproofing membrane for the elevator shaft.



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However, Collaborative Structures Ltd., the city's general contractor, thought the labor required for this application might negatively affect the construction schedule.

Under normal circumstances, the construction team would have been able to better schedule the time and labor for the application of an external membrane. But at the time of construction, the team was also dealing with impacts from the pandemic. That included issues with access to labor, a compressed construction schedule, and a strained budget. As a result, the team decided to go with Form & Build Supply's recommendation: Kryton's KIM admixture.

As an integral waterproofing solution, KIM is simply added to the concrete mix, making the concrete itself permanently waterproof. Due to this feature, the team was able to accelerate their schedule as they no longer had to take the time or labor required for a surface-applied waterproofing solution.

Then, to make sure the elevator shaft's joints could also have protection from water ingress, Form & Build Supply recommended that the team also use Kryton's Krytonite Swelling Waterstop. They noted that the waterstop would offer superior swelling pressure and performance that would stop water better than other products available on the market, such as bentonite and other swelling waterstops.

In the end, this combination of Kryton solutions not only saved the construction team time, but it also left the City of Waterloo feeling confident that the structure would have better lasting impermeability, which would subsequently minimize the need for future repair and maintenance fees and keep the pavilion accessible to seniors for years to come.

