

At first glance, it’s a pleasant place to sit and let the kids play. But this wetland isn’t just a community amenity. It also cleans the water that runs off the Village’s grounds and streets.

“We developed a layout for the wetland in Hinge Park that’s linear and meanders, to reduce the water velocity,” says Garry Romanetz of Stantec. “Basically, the longer you are able to put the water through the wetland, the more it gets cleaned before it is discharged to False Creek.”

Silt and debris settle in the channel and get trapped by two levels of wetland plants. “They’ll keep the water fairly clean,” says John Clelland, the City’s Coordinator for Hinge Park. “It will never be crystal clear because you’re looking at natural water – there will be algae and water bugs and fish swimming around.” (Already, there are “tens of thousands” of native stickleback minnows.) The channel opens into a pond where contaminated sediments will collect. These can be pumped out periodically and taken to landfill, instead of entering the ocean.

The wetland also collects water from streams that were long ago paved over but still flow underground. This groundwater base flow will assist in keeping the system wet even during dry periods – with an irrigation system as a final backup if needed. A pumping system also ensures good circulation.

“We often dealt with competing issues when designing various components of the system,” says Wally Konowalchuk, the City engineer overseeing the project. “The pump is not needed for the functioning of the wetland itself, and on the face of it, it doesn’t sound very sustainable. But there are public health concerns about stagnant water and breeding mosquitoes, so we installed it.”

The entire system helps people see and understand the flows of water in their city. “The general public has no idea what’s under the road,” says Clelland. “Everyone knows there are pipes, but they don’t think about what they are or where they’re going. Here, we have taken rainwater that we usually hide and created a park. It helps prolong the life of the sewage treatment plant, plus we have birds, we’ll have animals. It will be a wonderful place to be, and also a great learning experience for people.

“In Olympic Village and in the park, we’re thinking about today and about future generations, by being sensible and practicing good stewardship.”



Two levels of aquatic plantings will help trap sediments and contaminants in the Hinge Park stormwater treatment wetland.



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John Clelland, City of Vancouver

A piece of conventional underground storm sewer pipe has been “brought to the surface” and used as a playful bridge.

CHALLENGE

To municipal planners and infrastructure designers: to increase the creative treatment of stormwater as a landscape-level public amenity, both to reduce demand on municipal stormwater infrastructure and to educate communities about water in our ecosystem.

PROFILE

Wally Konowalchuk

PEng
City of Vancouver

Over six years with the City of Vancouver, Wally Konowalchuk was involved with other sustainability-oriented projects before SEFC. Still, the complexity of building the Olympic Village has been a challenge, particularly trying to adapt current standards to allow for greener options.

“People developed those standards over time, for good reasons,” he says. “But they become ‘this is what you always have to do.’ People get concerned about who is liable, for instance.

“It’s evident now that to solve our issues, we have to think outside the box, outside of our own little silo, to come to a greater good. If you don’t, you lose a lot of the true functions of engineering – about taking science and applying it to overcome a problem, not just applying science as it was understood 20 years ago.

“Without taking risks, we won’t make improvements. We’ll just keep building the way we build now – which we know doesn’t work. We’ve got global warming and environmental problems, so we all have to scratch our heads and say, ‘How do we change that?’ Once people wrap their minds around that, they really get into it. They say, ‘What can we do, how can we overcome this challenge?’”