References

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Uponor involvement

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Uponor IQ stormwater solution was installed in the Rakokivi's new community centre in Nastola, Lahti, so quickly that it surprised everyone involved.
Rakokivi’s new community centre is rapidly taking shape in the Nastola district of Lahti and the building’s new tenants are set to move in by early autumn 2021 at the latest.
The installation of the plot's stormwater system was carried out at a rate that surprised everyone involved in the work. In fact, the site’s new Uponor IQ infiltration and retention pipes were in place within a few days.

Project Facts:

Location
Nastola, Finland

Completion
2019

Vrsta objekta
Municipal

Product systems
Storm water

Project Type
New building

Construction of the Rakokivi Community Centre began in summer 2019, and the building is expected to be completed by late summer 2021. In addition to the existing primary school and daycare centre, the Nastola Library will also call the three-storey

building its home by early autumn. The new community centre will also provide rental spaces suitable for meetings and classrooms, handicraft activities, and sports and exercise.

Special attention is being paid in the Rakokivi project to the quality of the build, moisture management, and clean indoor air. In particular, careful management of the dry chain and weather protection is important to reducing the risk of moisture damage throughout the building's life cycle. The Terve betonirakenteinen koulu (Healthy concrete school) development project is also being carried out during the new building's construction process.

New groundwater with infiltration

The construction work is also progressing well in the site's outdoor yard area, where the new community centre's stormwater system was installed in March. Uponor IQ infiltration and retention pipes were chosen, as the decision had been made for the rain and stormwater to be mainly infiltrated into the soil.

"The new building is situated in the groundwater recharge area, so we don't want to drain the stormwater away. Instead, it's infiltrated into the sandy ridge to form new groundwater", says Local Application Manager at Uponor, Tomi Kurhinen.

The new community centre will be bordered by an asphalted and paved outdoor yard area, for which a 100m3 infiltration and a 26m3 retention field was designed to handle the stormwater run-off. In this area, the run-off area consists of about 10,000m2 of paved surfaces and roof areas.

Installations with one pair of hands

The decision to use Uponor IQ infiltration and retention pipes was influenced by the speed of installation, as well as the system's long life span and low maintenance costs. In fact, the work was so rapid it even surprised everyone involved in the job. Tomi Kurhinen had intended to get a photographer on site to capture the installation work in progress, but the contractor soon realised that the pipes had already been installed.

According to the installer in charge of the installation, Joni Fält from Kuljetus- ja Maansiirtoliike K. Timonen Oy, the IQ pipes were put in place within a few days. Even faster than he had thought possible. The job went smoothly, even though Fält had no previous experience of working on such a large construction project.

''The pipes were really easy to install. I could have done the job alone, but I was helped by the drivers of the two excavators involved in the contract.'' After completing the 5-metre-deep trench, the pipes were lifted into place by excavator.

"The geotextile was not even needed at the bottom of the trench, as the pipes could be installed directly on top of the trench bottom.'' Tomi Kurhinen also noted that using other solutions would have taken much more time to put in place.

"Installing pipe systems is bread and butter for municipal engineers, which naturally makes it even easier to install the IQ pipes," he remarks.

Easy maintenance

Kurhinen reveals that the solution's convenience has already been noted by many others, and the number of contacts is constantly increasing. Installers do not need much supervision when installing the IQ pipes. And once the pipe selection had gone through the usual approval process with the contractor, customer, designer, and supervisor, it was not long before the installation work got under way in Nastola, too. Among other things, Kurhinen has heard the IQ pipe system praised for not needing a large excavation, as would be the case with stormwater cassettes, for example. Once the pipe has been installed, it can be covered immediately, ready for the next one to be installed.

"The benefits of IQ pipes also include their long life span, up to 100 years, as well as their ease of serviceability. If necessary, the pipes can even be serviced with scrubber machines and vacuum trucks."

Support for design

Designer Simo Suurnäkki from Etteplan Oyj had never previously designed a stormwater solution using IQ pipes. "I contacted Uponor's experts and got great support and help with the planning.''

"The job was straightforward and went ahead with ease.'' The pipefitter also praised the system for the speed and ease of working with it. Suurnäkki says he will be happy to continue using IQ pipes.

"From a designer's point of view, one of the main advantages of using the IQ pipes is the clear information on what load they can withstand and how deep they need to be in the ground."

According to Suurnäkki, asphalted surfaces are becoming increasingly common and the capacity of stormwater networks is no longer sufficient."Real estate plots must have solutions that infiltrate and retain stormwater run-offs.''

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