References

Pump structure secures stormwater system’s long life



Uponor involvement

- Uponor WehoPanel structure 11 x 7 x 5 metre

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Pump structure secures stormwater system's long life in Jyllinge Nordmark
Storm surges and flooding are a recurring problem in Jyllinge Nordmark on Roskilde Fjord, Denmark. New structure made of PE plastic secures the safety of local residents for the next 100 years.

Project Facts:

Location	Completion
Denmark	2021
Vrsta objekta	Product systems
Municipal	Storm water
Project Type	
New building	

New PE plastic structure ensures the safety of the area's residents for the next 100 years

When water levels rise and the wind gets up, Denmark’s fjord and coastal areas are in the danger zone for storm surges. The residents of Jyllinge Nordmark on Roskilde Fjord are painfully aware of this: far too many of them have been left standing in water up to their waist when the fjord and local streams flooded their homes. This has happened several times over the past

decade.

After several years of political toing and froing, since 2018 a major stormwater protection project has been under way to shield the area against flooding in the future. The various coastal protection initiatives include a new pumping plant. The pumps are placed in a Wehopanel structure with exterior frames measuring 11 x 7 x 5 metres, and the aim is to control the discharge of excess water.

Long life in a salty environment

Construction of the large coastal protection facility is now entering its final phase, with pump specialists from Sulzer putting the finishing touches on a brand new pumping plant. This will send excess water from the stream Værebro Å back into the fjord when the stream breaks its banks. Sulzer's pumps are being installed in the specially made Wehopanel structure of polyethylene (PE) plastic, from Uponor Infra. The choice settled on a Wehopanel for a specific reason:

''When we put our solution out to tender, we specified that the structure had to be made of PE plastic. The pump structure from Uponor has a design life of over 100 years, and thanks to the material it can withstand chemical influence from the very salty water passing through the system. The Wehopanel material is particularly well suited to the application. Due to the large dimensions, it is advantageous that the structure can be prefabricated in just four parts at the factory, and then quickly and easily welded together in the excavation. The lightweight plastic material simplifies and shortens the process. That's why we knew straight away that Uponor was the right company to deliver the necessary material,'' explains Kenneth Larsen, Technical Manager at Sulzer. He continues:

''A system of this kind must not go wrong. This is why it was so important for us that Uponor's solutions and results are so well documented, so we know we can rely on every component living up to our requirements. In combination with our state-of-the-art pumps, we're delivering a total solution with extremely high operational reliability and many years of useful life.''

A nationwide problem that's only getting worse

In connection with the new pump construction the stream Værebro Å has been diverted, and will be re-established later. Uponor is proud to be involved in the new coastal protection project in Jyllinge Nordmark – but is well aware, too, that the situation around Roskilde Fjord is far from the only one in Denmark.

''The residents of Jyllinge Nordmark have repeatedly been plagued by extreme weather, resulting in flooded basements and costly damage. And Roskilde Fjord is not even one of the biggest risk areas in Denmark,'' says Bent Rønfeldt, Project Engineer at Uponor Infra.

If you hope to find better news at the Danish Meteorological Institute, you'll be disappointed. A report on future climate change in Denmark concluded that ''climate changes are expected to increase towards 2100. This will mean higher temperatures, more winter precipitation, more frequent and more extreme weather events as well as sea level rise.'' And: we can expect that the most severe precipitation events to date will pale in comparison to future water volumes.''

Sulzer's pumping plant will be completed in February, and the coastal protection facility as a whole will be finished during the spring.

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