

IWA, The World Water
Congress & Exhibition 2022

SEPARATION OF RAINWATER IN HILLERØD CITY CENTRE

Introduction

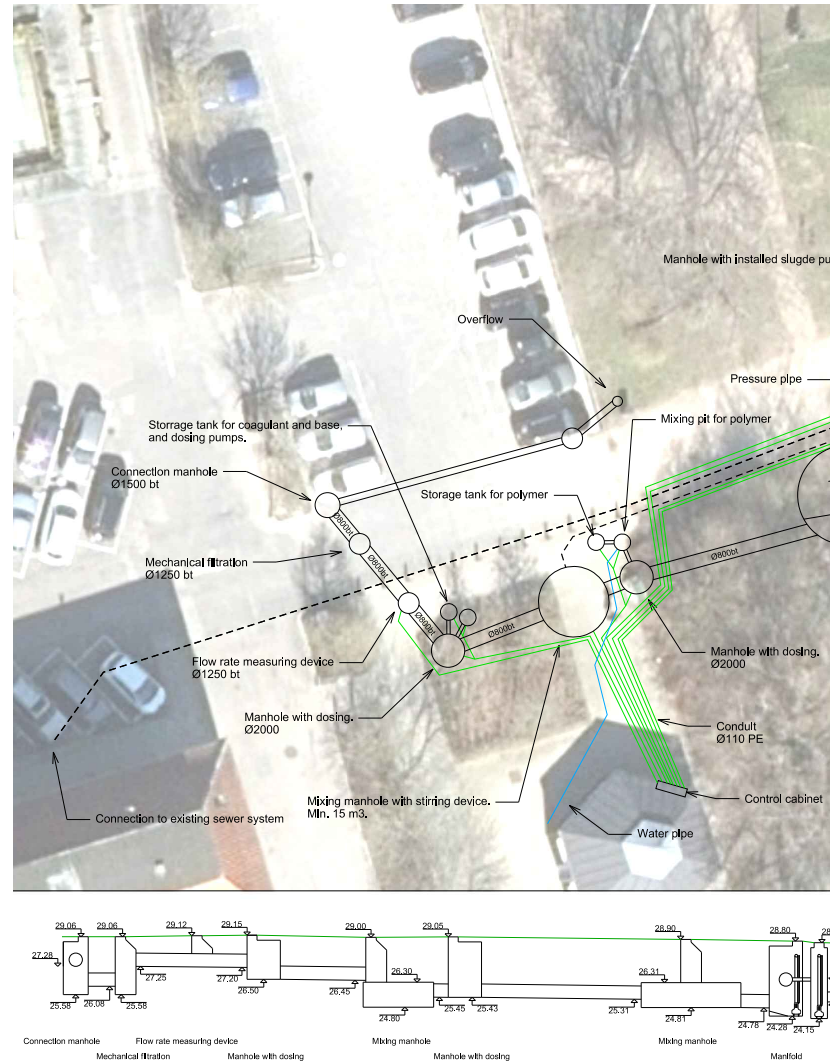
Hillerød City Centre is a strategic project, which addresses the urgent need to fulfil the Action Plan for the Aquatic Environment, under the EU Water Framework Directive. The proposed solution is to separate and divert stormwater, which will relieve pressure on the existing sewage system, resolve future climate challenges, improve downstream water quality and contribute to the cobenefit of enhancing Hillerød City Centre as a liveable city.

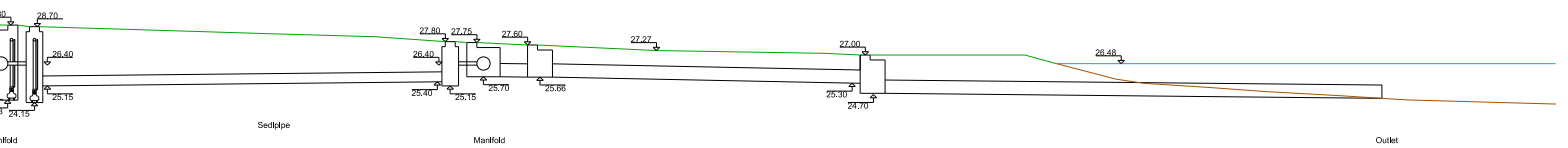
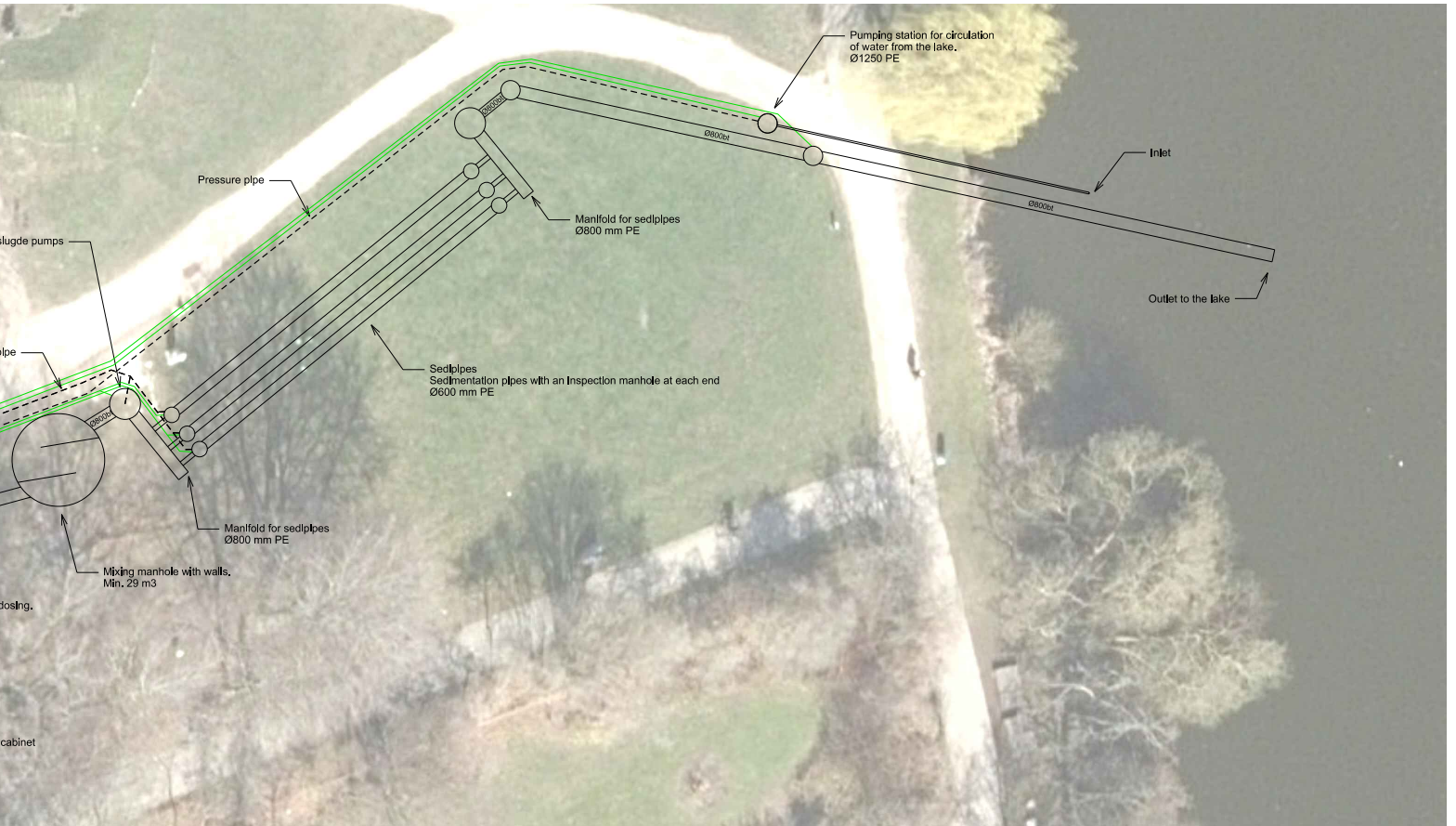
Keywords: *Aquatic restoration; co-benefit; liveable cities.*

Design criteria for the new rainwater system

There are three aspects of design:

1. Aesthetical: The view to/from the castle should not be hindered, that is, the system should be underground.
2. Awareness: The rainwater flowing through the drainage should be visible to public. Therefore, the rainwater system is only partly visible above the ground.
3. Technical: Improving condition of the lake by washing out/diluting P using rainwaters.





The water quality

The catchment area of 2.79 ha receives the rainwater with a concentration of 100 mg/L SS and 0.3 mg/L P from rooftop and ads. The regulatory values however are 18 mg/L & 0.05 mg/L for SS & P, respectively.

In-situ precipitation

The in-situ precipitation method uses aluminum to trap P from the rainwater to lower the P values below 0.05 mg/L. This means that there could also be a potential in using the plant in dry weather to clean up the highly polluted bottom sludge that has accumulated throughout time in the lake.

The pilot tests have demonstrated the efficiency of the process to get the values well below the regulations.



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