

The sluice

The Aarhus area is situated in a river valley, which makes the area vulnerable to flooding. Due to climate changes, the sea level in the Bay of Aarhus rising and more intense storms increase the risk of flooding. At the same time, a more frequent and intense precipitation increases the need for an effective drainage of the water by the river of Aarhus. In fact, the river has on more than one occasion threatened to flood parts of the city centre during the last decade.

Therefore, the Municipality of Aarhus decided to build a sluice with a pump system at the outlet of Aarhus River. The building process started in January 2013 and was completed at the end of 2015.

HOW IT WORKS

The sluice has a twofold function in order to protect the city: On the one hand, it ensures that high sea levels in the bay do not raise the water level in the city and cause flooding. On the other hand, it also secures that excessive water from e.g. cloudbursts coming from the river is quickly pumped into the harbour. This hereby prevents areas near the river from being flooded.

Besides the sluice, an “invisible” dyke has been created as the area around the sluice has been elevated and hereby constitutes a 300-meter-long dyke. The sea level in the harbour can hereby rise up to 2.5 meters above normal water level without flooding the city.

DAILY OPERATION

Aarhus Water (*Aarhus Vand*) operates the sluice. It is a limited company owned by the Municipality of Aarhus.

FINANCING

The project cost of the sluice and pump system is around 46 million DKK. A more traditional solution with an underground rainwater reservoir would have costed more than 10 times as much.



Source: Aarhus Vand

FACTS:

- The pumping station is one of the largest in Denmark.
- The capacity of the pumps is 18,000 liters of water per second.
- 6 pumps are leading water from the river to the bay when the sluice is closed.
- The sluice closes automatically when the water level is 1.4 meters above normal water level.
- It is expected that the sluice is closed 1 day a year in total and maximum 8 hours at a time. The closing time is being limited in consideration of the fish passing between river and sea.

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