

A close-up photograph of several tall, green reeds with dark brown, fuzzy seed heads. The reeds are set against a bright, slightly blurred background of green foliage and a clear sky. A semi-transparent grey horizontal band is overlaid across the middle of the image, containing the title text.

# THE "ECO-CITY AUGUSTENBORG"

- A walk along the path of storm water

## The "Eco-city Augustenborg"

When it was built in the 1950s for the municipal housing company MKB, the Augustenborg development was a popular neighbourhood in the spirit of the Swedish "people's home" movement. By the 1970s, the flats had started to feel old-fashioned and people began moving away from the area. Consequentially, the neighbourhood ended up in a socially challenged situation. Since the 1990s, MKB has been working to restore the status of the area, an effort that resulted in the "Eco-city Augustenborg" project.

The project – which started in 1998 – is a partnership between MKB and the City of Malmö. The goal was to transform Augustenborg into a socially, ecologically and economically sustainable neighbourhood. This makes the project a shining example of an ecologically sensitive urban renewal. One important aspect of the project has been to get neighbourhood residents involved and empowered to influence their own community.

### Open storm water management

The Eco-city project is made up of several sub-projects, one of which is the construction of an open storm water system in Augustenborg. The development was previously connected to a combined sewer network (waste water and storm water in the same pipe) and there were problems with basement flooding during heavy rainfall events. In order to eliminate those problems, the Malmö Department of Water and Wastewater decided to build a new ecological drainage system in which storm water is directed on the surfaces. Water from roofs and other impervious surfaces is collected in gutters and channelled on through canals, ditches, ponds and wetlands before finally draining into a traditional storm water system.

### Aesthetic and ecological

The primary purpose of the storm water system in Augustenborg is to detain and reduce the peak flows of the storm water runoff from the area. Choosing an open system in which the water is visible has also added a positive aesthetic and ecological contribution to the community. The goal is for 70% of all the rainwater in Augustenborg to be directed away or detained in the new storm water system.

The special feature of the storm water system in Augustenborg is that an open drainage system has been built in a pre-existing development. One of the objectives has been to test several different techniques of local disposal in the same area, in order to provide inspiration and ideas for continued development.





## Welcome to the eco-city Augustenborg!

You can use this key map to take a walk with the storm water around Augustenborg. Various techniques for open storm water solutions have been combined, resulting in technical and aesthetic advantages.



### Walk along the path of storm water:

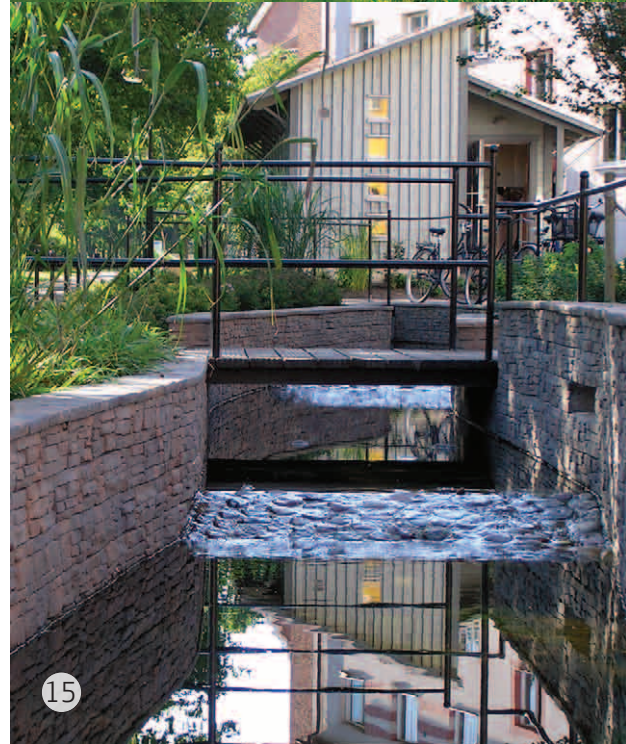
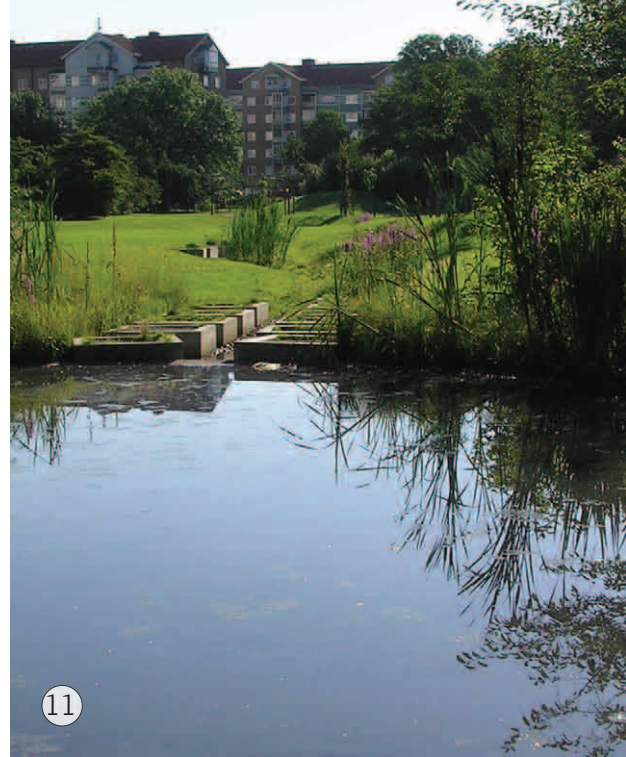
- ① "The Augustenborg Botanical Roof Garden" with some 10,000 m<sup>2</sup> of vegetated roofs has been created within the site of the municipal storage area. The rooftop vegetation both reduces and detains storm water and has an insulation effect on the buildings. The green roofs are a favourable contribution to the community and are encouraging greater biodiversity. Some research is conducted in the roof garden, which is open to the public.
- ② Storm water from the storage area is pumped under the road and conveyed into a canal system via this inlet pond.
- ③ Storm water is conveyed through the neighborhood in a concrete canal (see photo).
- ④ The water is allowed to spread out in this wetland.



- ⑤ The "onion gutters", as they are called, are found in a lot of places around Augustenborg. The gutters were designed in cooperation with Morten Ovesen, an expert in leisure studies and also a resident of Augustenborg. The gutters were designed to create movement in the water, which brings about a degree of self-purification (see photo).
- ⑥ The ponds constitute a detention volume. The water is pumped between the two ponds so that it does not become stagnant. When flows are high, storm water can spread out on the grass between the ponds.
- ⑦ This block of flats was built with a green roof. All the "eco-buildings" in the waste management area also have green roofs.
- ⑧ The water's path continues in this "cube canal", designed as a stylised brook (see photo).
- ⑨ The basketball court and amphitheatre in the school-yard are designed to be used as a detention reservoir when necessary. Storm water runs off from the school-yard into the ditch in the park (10).
- ⑩ The water runs in this ditch through the park. During extreme rainfall events, storm water can flow out over the lawns in the park.
- ⑪ This pond is the last stop of the southern passage. From here, the storm water runs off into a traditional storm water system in the street Lantmannagatan (see photo).
- ⑫ There are ponds of varied appearance in several courtyards in the neighbourhood, which were designed together with nearby residents. They have put their own stamp on "their" courtyard pond, which is why they all look somewhat different (see photo).



- ⑬ Along the street Lönngatan, the system consists mainly of the macadam-bottomed ditch.
- ⑭ The water is collected in this pond before it is led under the road and further down in the system. At heavy rain fall it is also possible to lead the excess water into the piped sewage system in Lönngatan. The inlet to the pond has been planted with vegetation, intended to work as a filter. The purpose of the plants is to absorb nutrients from the water.
- ⑮ In the final stretch of the northern passage, the water runs through constructed stone canals (see photo).
- ⑯ This is the last pond in the northern passage. From here, the storm water runs off into a piped sewage system.





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