

Using the New Dutch Waterline for sustainable watermanagement

Presentation At Fort 11 -11 - 2013 - Sander Booms, municipality of Culemborg

This presentation shows how we have come of a historic battle against the water to a defense system and finally end in the use of water in a contemporary challenge of sustainable watermanagement.

Many projects in the New Dutch Waterline focus on the forts . But in this project with the name Molenkadeproject (which you can translate as watermillquay, water is used where it actually comes to: water as a defense system: resisting the enemy with inundation of the country. On this site just beside the main defenseline the old inundation landscape is used to meet water challenges of our time.

It is good to tell about the principles of our watermanagement . With watermanagement , we want to achieve a healthy and sustainable watersystem . Culemborg is settled (and still is) in a low swampy riverarea . In our watermanagement we make use of all the old watercourses . Our strategy we called "historic waters" . With this in mind we differentiate four pillars of our watermanagement.

1. The old medieval town of Culemborg was designed as a fortress town to protect citizens against all threats from outside. Till the day of today it means that the city should be a safe place. Threat of high water we tackle by dike reinforcement. For the watermanagement inside the dykes, we have construct a water plan. With this plan we give insight into the watersystem and made a more integrated look at measures possible. The measures prevent flooding on streets.

2. A fortress feels responsibility for the surrounding country. This means that the city is not putting there water problems in to the surrounding countryside, because their watermanagement is healthy and sustainable shaped. This relationship is mainly reflected in the application of the principles of the national water policy : First as much as possible holding the water, than keeping it in waterstorages. Only when that is not longer possible discharging the water to the suurounding canals and rivers. Rainwater is retained as much as possible in urban areas . In addition, just outside the city major water storage areas are constructed to prevent rainwater is passed on surrounding areas .

Nowadays it is increasingly and harder raining . We often have to deal with peak situations . Heavy showers in July 2006 and 2007 showed how vulnerable the watersystem in Culemborg was. In the coming years therefore, a large number of measures and projects are build to prevent that water is flooding into houses, over streets and fields on places you do want to have it there.

3. By teaching about the relationship of Culemborg with water and linking watermeasures to community based projects it better support by citizins for measures in the waterplan .

4. We want to have a good quality watersystem : minimize sewer overflows (dirty mission with 50 %) isolation of rainwater from sewagewater , environmentally friendly landscaped banks.

The Molenkade Area , that I show , as an example is one of the lowest places of the river. The area gets its name from the quay which originated in the Middle Ages . The Duke of Gelre wanted to get rid of the excess water. His enemy, the Bishop of Utrecht, did not want have it and he build this Molenkade. With that quay he could stop the water and let it flow in another direction.

This low wetland area was in the course of centuries tamed by farmers by the construction of quays and canals . In times of heavy rainfall they discharged the water with locks to the river. This area was

therefore ideal to start using water as a defense system. For an inundated area is needed that it is divided into a number of polders with quays. Before that you need a complex system of waterworks such as locks, dams and divers to flood the land. Right here in our area this system arose since the Middle Ages. So the bottom layer was already there. From the 19th century, the New Dutch Waterline as defensive watermachine was working. But now the water was not brought to the river but conversely put on the land from the river.

The area Molenkade was the place where we could contribute to the overall task of the National Project and sustainable water management in the city by designing the former inundation fields. It lies just outside the city in the NDW and has become one of the main water storage areas of the region. The location was ideal: near to the main defenseline, in a visible location along the A2 motorway. Ideal was also that we could, as so to speak, plugging in cultural history in large spatial developments as the regional water system.

It was our vision that we should make clever function combinations in the construction of the water storage. Sustainability issues were plentiful: ecology, landscape, water and the watersystem. The elements reinforce each other and make the underlying development possible.

Nature development and waterstorage were the main goals of the project, including the discharge of water in situation of heavy rainfall, but also in a more ordinary situation of draining larger water quantities from the city. In wet periods, a larger part of the Molenkade-area is covered by water. Along with the permanent lake along the A2 these wetlands makes clear how the inundation functioned.

By construction of swamps, wet grassland and willowtoes the Molenkade area became part of the National Ecological Network. We have looked to the existing flora and fauna. Which plants were historically in the field at home and how can they be restored. The cultural history is reinforced with sight lines on the main defenseline, making visible the Molenkade itself, the quay on which the mills were situated and restoring ancient watercourses. The design for nature fits to the inundation system and the historic landscape structures. For protected species special habitats are made.

In the project 100.000 m³ water storage and 70 ha nature for EHS is landscaped. Together with that the Waterline Landscape has become recognizable.

The Molenkade project has been the success of good cooperating partners. They had together a lot of knowledge of the local and surrounding areas. The national Forestry and the Water Board should be the prospective managers of the fort. So they had directly their influence to the design. We, from the local government, kept the project in line with the vision.

The result is that not only sustainable water and nature are realized here, but also the context of this landscape is recognizable. And that's what we know from the At Fort meeting particularly important for UNESCO nominations.

We worked on a landscape that was great but because defense considerations invisible. We would like to make it visible and vital now by using the existing under layers of nature, water and cultural history. This works if you do not just tackle the individual elements but when you dare to think in terms of an area. Maybe we should rather speak about extracting the area than the development of the area. The whole impressive 'watermachine' of the New Dutch Waterline is visible again and working.

Not only for the individual elements but especially for the area as a whole we are always thinking in terms of spatial quality and liveability. In addition, the insight came that we were working on a grand monument of the future, a sustainable UNESCO landscape.