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URBAN WATER BUFFER

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Innovation by Nature

URBAN WATER BUFFER (UWB)

The UWB is part of RESCIDO, the Toolbox in which we have collected our designers' multiple solutions to complex urban water problems. The combined implementation of these solutions can make cities more resilient and thus more sustainable.

TOO MUCH AND TOO LITTLE WATER

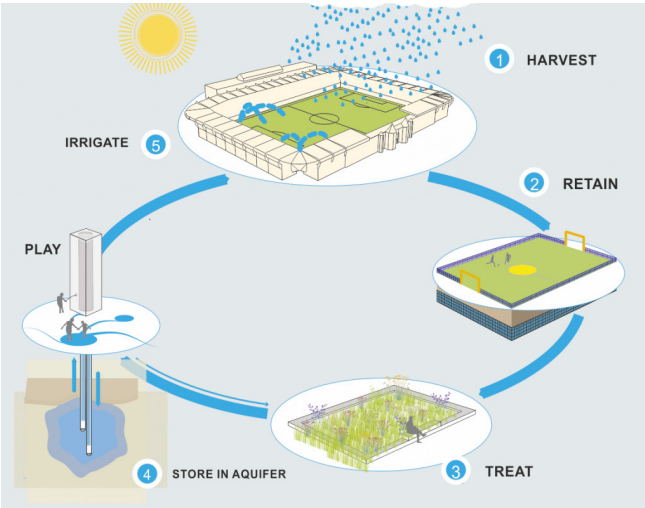
Urban areas increasingly have to deal with serious flooding or with water shortages, because the relationship between the supply and demand of water is becoming more and more unpredictable. The supply-demand imbalances are a product of increasingly heavy downpours as well as increasingly lengthy drought periods. This leads to flooding but also to drought damage to urban green spaces. Up until now, we have dealt with these situations by bringing water into or discharging

Urban Water Buffer Spangen

water from a given area – the former often involves costly transport over relatively large distances. The mostly local collection and storage of water could therefore help address the increasing variation in local water availability. The UWB NG is an innovative design that makes it possible to do this in a cost-effective manner. The UWB NG is integrated into local water management and makes optimal use of the existing infrastructure. The result is balanced local water management, with no flooding and with healthier urban green spaces.

HOW DOES THE UWB WORK?

The UWB is a storage system that combines the harvest, treatment, retention and reuse of rainwater. The storage can be adjusted according to whether the water system needs more or less water. In periods of drought, relatively clean water can be recovered for the watering of urban green spaces. But it can also be used to preserve the humidity of the shallow



Flow Chart Urban Water Buffer

subsurface; for instance, for the local control of drought-sensitive foundations. The UWB concept is both scalable and multi-functional. For instance, the Sparta Rotterdam stadium uses the UWB to sprinkle its pitches; in Rhenen it is being used to expand the discharge capacity; and we are currently thinking about local groundwater recharge possibilities with the residents of Pijnacker. In all of this, the UWB also contributes to increasing the water awareness of residents.

IMPLEMENTABILITY OF THE UWB

The UWB is a powerful design with a unifying philosophy. The philosophy is to use existing and new technology to achieve an urban water management that is resilient. The key consideration is the UWB's implementability in a complex urban environment. Many components of the UWB design are based on existing or adapted techniques (sewer systems, infiltration systems, lagoons, wadis, sand filters, wells, etc.) for the purpose of achieving optimal subsurface water storage. The implementation frequently involves very specific urban situations that demand an optimal alignment of the components with the stakeholders. In other words, it often calls for dialogue and coordination with residents and local authorities, along with the application of multiple professional skills. The management of complex urban challenges is in our genes – and has been for more than 50 years. It constitutes our contribution to the sustainable city.

DO YOU HAVE A UWB IDEA?

Do you have your own idea about how a UWB can be implemented in your specific situation? Are you wondering about how you could get such a complex project underway? We would be happy to share our experiences with you.

More about Dareius and what we can do for you?

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