



Rainwater Wall for storage of large volumes of rainwater

In short

The 'Rainwater Wall' (RwW) is a thin, long tank installed immediately next to a blind wall of sheds, general buildings or larger villa's. The RwW is applied to store rainwater collected from the roofs of that building. The water stored can be used for instance for gardening/irrigation, washing, cleaning and filling of a swimming pool. In addition the tank is used to store and buffer water during heavy rainfall in order to prevent overloading of the sewer system.

Dimensions

The thickness of the RwW is at least 0,8 meter width, the length is 5-20 meter and the height of the tank ranges up to about 2,5 meter. As such, a RwW is capable of storing 5-100 m³ of rainwater, dependant on local conditions, rainfall patterns and the total area of the roof available.

Construction and liner

The structure is modular based and constructed using galvanized standard steel segments joint together using an ingenious and proven bolts/nuts system. This method has been long applied in horticulture to capture water in round water tanks. The difference with the Rainwater Wall in that the 'Wall' is thin and long. A strong frame is added in order to stabilize the construction. A plastic liner is placed inside the tank resulting in a 100% water tight situation. The lifetime of the RwW is expected to be 10-15 years.

Application of the RwW

Below 4 pictures provide an overview of situations in which the RwW can be well suited.

Picture 1 displays that individual RwW units can be located around a typical warehouse unit dependant on one's needs. In this particular example 20 m³ of water is captured.



Picture 1: Rainwater Wall, total volume 16 m³

Picture 2 proofs that RwW's can be applied in existing urban conditions capturing rainwater from nearby roofs for buffering or later usage.

The RwW is coupled to existing piping and sewer systems. A separate foundation is not needed other than levelling the ground underneath and tiling the floor before installation of the RwW.



Picture 2: Rainwater Wall, total volume 25 m³



Picture 3 shows an impression of a RwW installed in front of a traditional estate. This RwW is able to capture up to 40 m³ water during the rainy season.

The water is utilized for gardening, agricultural activities, cleaning and filling of the swimming pool.



Picture 3: Rainwater Wall, total volume 40 m³

Picture 4 exhibits a RwW integrated in public pathways to capture rainwater falling in nearby large public buildings, shopping malls and stations.

Once captured, the water can -at a later stage- sprinkle public lawns and gardens.



Picture. 4: Rainwater Wall, total volume 60 m³

The RwW is modular and is easily fit in exiting situations

RwW's are modular and can be situated flexible in nearly all situations. RwW's are dimensioned upon ones needs and can be ordered in different colours dependant on peoples taste. It can even be decided to place a wooden- or flower fence in front of the RwW to increase the 'green' nature of the structure or a locala artist could be hired to decorate the RwW.

RwW target groups

The RwW concept is most appealing to:

1. Owners of (large) estates and buildings, administrators of housing cooperatives and business parks;
2. Building advisors, project developers and construction companies; and
3. Municipalities and Water Authorities.

Increasing water security and and preventing a high water bill

A RwW is capable of storing large volumes of rainwater increasing the water security in those regions were drought periods can be expected. In a number of counties the water bill is based on a block-tariff resulting in high water cost for owners consuming large volumes of water. Installing a RwW helps to reduce the water bill and at the same time gives the owners an opportunity to comply with sustainability regulations introduced.

Buffering of water reduces pressure on public sewer system

Buffering of rainwater in RwW's reduces the strain -during heavy rainfall- on the stormwater runoff infrastructure often resulting in flooding and disrupture of the society. As such public funds can be spared and used for solving other pressing issues.



RwW in line with government rules and regulations

Rules and regulations on handling of rainwater often demand home owners to add sufficient rainwater storage capacity to newly delivered constructions.. The RwW concept is in line with these demands and offers a discount for the home-owner if such subsidies scheme are available.

Interested?

For more information, questions and quotations, please let us know.

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