Infiltration boxes and infiltration drains/wells

Infiltration wells and infiltration boxes require no above-ground space and offer more storage capacity than above-ground infiltration installations, meaning than more rainwater can be buffered for short spaces of time and gradually released into the groundwater. Infiltration boxes and infiltration wells come in all sizes, for individual homes to facilities for entire city districts. Boxes can be used under roads, sports fields and parking garages, for example, making it possible to use a single area of land for two purposes. The boxes are wrapped with filter cloth to prevent silting up. Wells are often large concrete or plastic tubes placed vertically to which the stormwater drain is attached. The bottom of both the boxes and wells are open so that the rainwater can infiltrate. The extra infiltration leads to less drought damage, subsidence and salinisation.

Rainwater storage beneath sports fields

An interesting form of multiple uses of single spaces is realising water storage beneath sports fields. The technical aspects are simple to achieve using storage boxes/bulbs or Aquaflow. The Physical Planning

Department of the City of Amsterdam summarised the various options for Amsterdam's Bijlmerpark.

Sports fields can be integrated into water systems in one of two ways:

• The water storage facility is connected directly to surface water. In this scenario, the water level below the sports fields rises according to the surface water level. This is a simple system to operationalise. Fluctuations in the water levels are limited by the maximum fluctuation of the surface water level.

• The water storage facility is not connected directly to surface water. In this scenario, the water that needs storing is fed in from elsewhere, stored and drained at a delayed pace. This allows for more water to be stored, since greater fluctuations in water levels are possible.

Various materials can be used for storing water under sports fields.

• Aquaflow or a stone-like material with large numbers of gaps. The storage capacity is approximately 50%.

• Synthetic boxes and bulbs. These products are light and offer a high storage capacity of around 95%.

[DRO, 2010]