

Nature-friendly bioswales

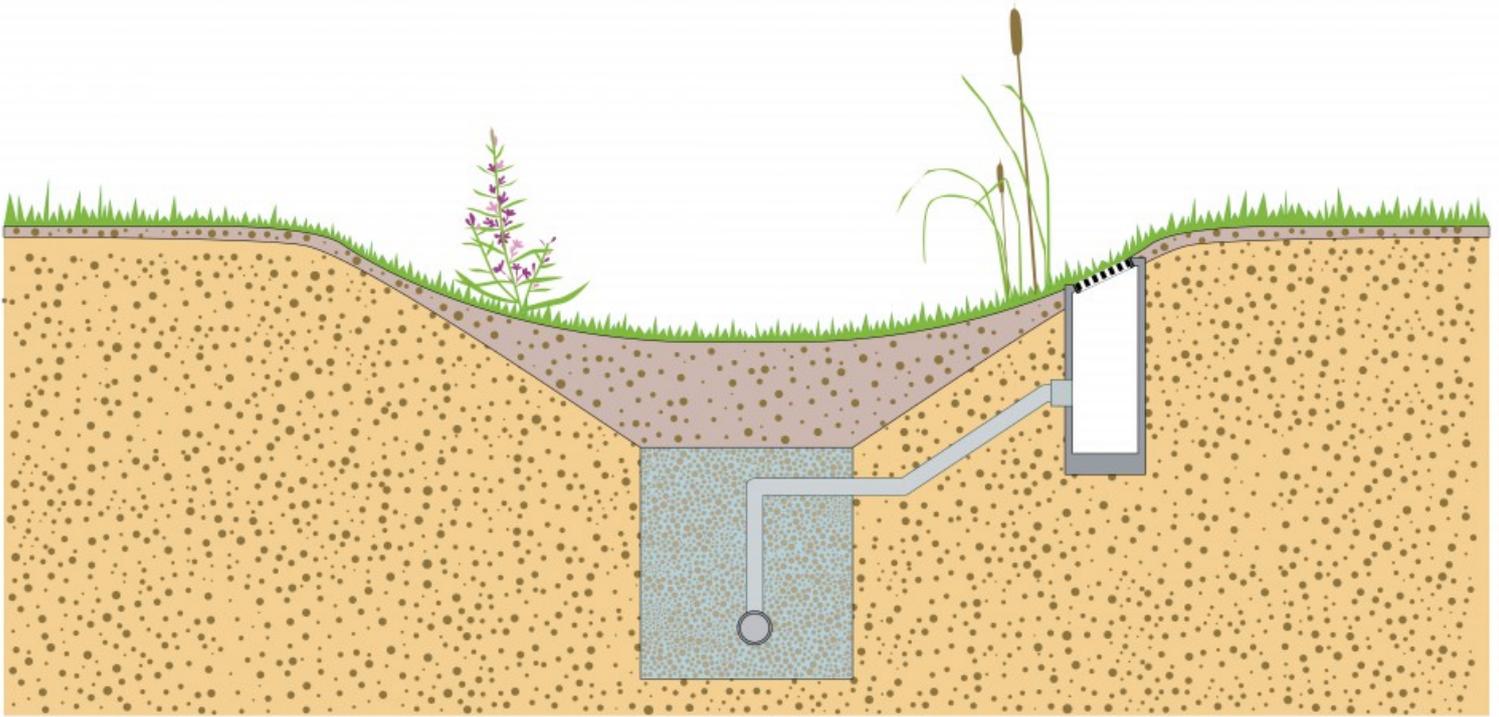


Planting more specifically suited vegetation in bioswales can allow bioswales to play a greater part in enhancing the town or city's biodiversity and affords them a more diverse and pleasing appearance.

More naturally designed bioswales can play a part as ecological connection zones in districts and in towns and cities. What is particularly important is that the vegetation rise high enough to shelter and camouflage the movements of small mammals, amphibians and insects such as butterflies and grasshoppers. Deliberately designed and linked green-blue veins running through the town or city are of great importance to the town or city's biodiversity and quality of life.

Unlike what is now common practice, more use could be made in bioswales of plants that are suited to fluctuating water levels as occur naturally in stream valleys and along banks. The most common choice now is for strong grass mixtures that can survive being walked on and extended dry spells. These grass mixtures are less capable of surviving extended wet spells. More varied vegetation, with grass for playing on and with higher plants for the diversity of flora and fauna, will add to the aesthetic appeal of bioswales. Bioswales can then fulfil more functions than water management alone. More diverse vegetation also improves the root systems in the ground, which will then remain more permeable in the long term. However, the increased plant volume will reduce storage capacity by 1% (a negligible amount).

Primarily natural bioswales require different kinds of maintenance. Whereas bioswales sown with grass mixtures need mowing at least once every fortnight, more natural bioswales demand more attention in terms of litter. [Boogaard et al., 2003]



Species that can be applied in a natural bioswale

Woody plants (trees and shrubs)

Alnus glutinosa

Salix spec.

Sambucus nigra

Helophytes

Alisma plantago-aquatica

Butomus umbellatus

Phragmites australis

Scirpus lacustris lacustris

Typha latifolia

Typha angustifolia

Higher growing plant species (no helophytes)

Angelica sylvestris
Berula erecta
Centaurea jacea
Chamaerion angustifolium
Eupatorium cannabinum
Filipendula ulmaria
Galium palustre
Lathyrus pratensis
Lotus pedunculatus
Lythrum salicaria
Mentha aquatica
Myosotis scorpioides
Sparganium erectum
Thalictrum flavum
Valeriana officinalis

Other plant species (staying low)

Ajuga reptans
Cardamine pratensis
Lysimachia nummularia
Ranunculus flammula
Scutellaria galericulata
Stellaria graminea
Stellaria palustris
Veronica beccabunga
Veronica chamaedrys

[Boogaard et al., 2003]