Bioswales

Managing rainwater naturally

Bioswales are a type of **Sustainable Drainage System** (SuDS) designed to manage surface water runoff during rainfall. They are shallow, planted features that slow, store and filter rainwater before it enters the drains. Bioswales are commonly used along roads and in green spaces to reduce pressure on drains and help **manage flood risk** when rainfall is heavier and more intense.

Why bioswales are used

Bioswales are used to manage rainwater at source rather than sending it straight into drains and watercourses. By **slowing runoff**, they help reduce pressure on drainage networks during storms. They also improve water quality by **filtering pollutants**, provide visual and biodiversity benefits, and can be designed to fit neatly into streets and green spaces.

Bioswales are one part of a wider approach, working alongside other drainage and flood-management measures across the Pix Brook catchment area to manage flood risk during heavy rainfall.

What bioswales look like

Most of the time, bioswales appear as **planted landscape features** similar to rain gardens or shallow verges. They are designed to be tidy, low-maintenance and in keeping with their surroundings. Below ground, they include **layers of soil and stone** that allow water to be stored and released slowly into drains.

How they work

Bioswales manage rainwater in stages:

Rainwater flows from **roads or paths** into the bioswale.

Water is **temporarily stored** in the planted basin.

Engineered soils and gravel layers **filter pollutants**.

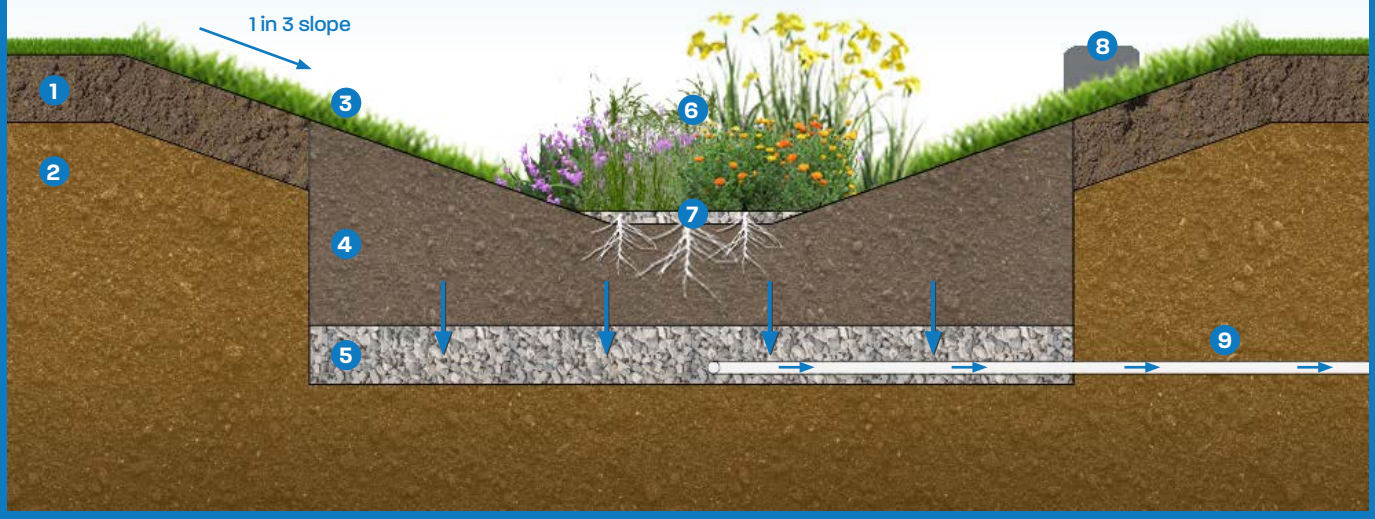
Water **drains slowly** back into the ground or drainage system.

During **heavy rainfall** excess water is released gradually.

They are designed to cope with wet and dry periods and usually **remain dry** between rainfall events.

Bioswale design: artist impression

1. Topsoil
2. Existing sub grade
3. SuDs wild flower turf
4. Engineered soil to filter pollutants
5. Water storage layer
6. Herbaceous planting
7. Stone mulch layer
8. Exceedance gully outlet
9. Outlet to existing storm water connection



Frequently asked questions

Do bioswales hold water all the time?

No. Bioswales are usually dry and only hold water temporarily during and after rainfall. Water is stored below ground and released slowly back into the drainage system.

What happens during heavy rainfall?

Bioswales can take in water faster than traditional drains and have **capacity** to manage larger rainfall events. If they reach capacity during very extreme storms, built-in overflow points safely direct excess water away.

Are bioswales safe?

Yes. They are shallow landscaped depressions, designed for public spaces, and maintained regularly by the local authority.

Will bioswales attract mosquitoes, rats or other pests?

No. Bioswales are designed to drain and are usually dry, so they do not create standing water where mosquitoes can breed. Drainage connections are designed to prevent nesting, and regular inspection and maintenance will keep the area clean and well managed.

Maintenance

Bioswales are designed to be **low-maintenance**. Any maintenance will be carried out by the **local authority** as part of routine grounds and drainage care.