

How to Maintain Your Green Stormwater Facility

Did you know that your property includes a landscaped area designed to help reduce flooding and protect the water quality of local creeks and the San Francisco Bay? This flyer explains how to properly maintain your green stormwater facility. Maintaining your facility helps protect your local creeks and the Bay!

Why is this green stormwater facility on my property?

Water flowing into storm drains travels directly to local creeks and then to San Francisco Bay, with no treatment to remove pollutants. The green stormwater treatment facility on your property is designed to remove pollutants such as motor oil, pesticides, and sediment from stormwater runoff collected from your roof, driveway, and other impervious areas.

What is a green stormwater facility and how does it work?

Your green stormwater facility uses plants, “biotreatment” soil (a fast-draining special soil mix composed of compost and sand), and an underdrain to slow down, filter, and absorb stormwater runoff on your property after it rains. Your green stormwater facility may be a “bioretention area” or a “flow-through planter.”

In bioretention areas (see the top photos at right), the underdrain is positioned within the rock layer below the biotreatment soil to allow some of the collected water to infiltrate to the underlying soil. On the other hand, flow-through planters (lower photo at right) are lined with concrete or heavy, durable plastic, so runoff that is not absorbed by plants and soil within the planter flows through the underdrain to the storm drain system.

Can I remove it?

No, any green stormwater facilities that were installed on your property or in the street right-of-way adjacent to your property cannot be removed. These structures are required to meet stormwater permit mandates and play a critical role in local and regional flood prevention and water quality protection efforts. Contact your local jurisdiction if you would like to discuss options for modifying your facility.



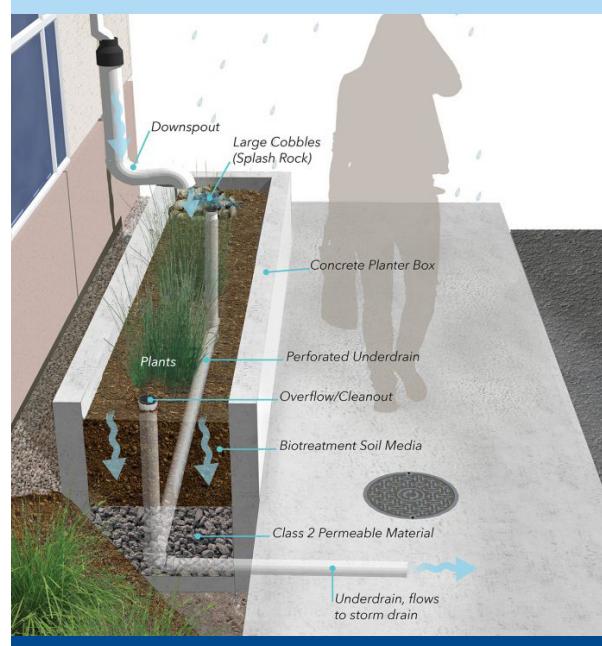
What a facility looks like

The above photo is a bioretention area in Albany, which is designed to treat stormwater run-off. The illustration below shows how stormwater infiltrates through the fast-draining soil mix in a bioretention area.



Is it a Bioretention Area or Flow-Through Planter?

Flow-through planters and bioretention areas both include biotreatment soil that is placed above a rock layer and underdrain. However, a flow-through planter is lined with concrete to keep stormwater from infiltrating into the native soil, as shown below.



How do I maintain my stormwater facility?

These facilities require simple maintenance similar to other landscaped areas, which includes: weeding, pruning, mulching, and removal of trash and debris. For maintaining your stormwater facility, see the “Top Tips: Do’s and Don’ts” at right.

Troubleshooting common issues

Standing water – The facility’s biotreatment soil could be clogged, or the underdrain could be blocked. If sediment has accumulated on the surface, try removing it and replenishing the facility with new mulch and biotreatment soil, as recommended in the guidance below.

Erosion or bare soil – Stormwater may be flowing too fast through the facility, or vegetation may have died. Plant new vegetation to help stabilize the soil. Gravel or cobble stones can be used at the entrance to the facility to slow down the stormwater flow.

Dead or dying plants – Plants may not be suitable for your site’s specific conditions. Re-plant vegetation as recommended in the Plant List and Planting Guidance at the link provided below.

No mulch or not enough mulch - Mulch will decompose over time and can be washed or blown away during large storms. Replenish mulch approximately once a year following the instructions provided below.

Plant, soil, and irrigation guidance

Stormwater facilities require a combination of special plants, mulch, and fast-draining biotreatment soil to achieve water quality benefits and to reduce maintenance. Ideal plant selection can be influenced by local microclimates and conditions such as sun exposure, proximity to saltwater, and rainfall patterns. When replacing or adding plants, use native and/or drought tolerant plants and avoid invasive species.

Irrigation is generally required; drip emitters should be used instead of spray irrigation. For more information, please visit:

www.cleanwaterprogram.org/businesses/development.html:

- For plant selection, click on “C.3 Technical Guidance” and scroll to “Appendix B, Plant List and Planting Guidance”
- Click on “Popular Development Related Documents” for:
 - List of soil providers (scroll to “Biotreatment Soils”)
 - Irrigation information (scroll to “Irrigation Resources”)

Mulch selection and guidance

Mulch is a critical component of a green stormwater facility, and selecting the correct type of mulch can help minimize maintenance, maximize water quality benefits, and keep the facility functioning well. Cover bare soil with a 3-inch layer of arbor, aged or composted mulch between plantings and maintain this level throughout the year. Washed and clean pea gravel, rock, cobble, or other mulches may also be used, however, they can heat the soil and increase soil water evaporation rates during the hot summer months. Bark and “gorilla hair” mulches are not recommended. Only non-dyed mulch should be used in your stormwater facility.

Top Tips: Do’s and Don’ts

Do...

Monthly

- Regularly inspect the facility. If you see signs of clogging, erosion, or unhealthy vegetation, refer to “Troubleshooting common issues” (at left).
- Remove weeds and invasive plants.
- Remove any trash that has washed in.
- Check the facility a few days after a rain storm to make sure that there is no standing water.

As-Needed

- Cut back dead stems on plants in March and remove from the facility.
- Water new plants during initial establishment of plant growth (first 18 months) and as needed. See irrigation guidance at left.
- Check the irrigation timing. See irrigation guidance at left for more information.
- Replenish and redistribute mulch to a total depth of 3 inches, keeping the facility concave to allow temporary ponding. Repair any signs of erosion.
- In the Fall, remove fallen leaves from the entrances to the facility. Leaves may block the flow of stormwater.

Don’t...

- Store leaves or grass clippings on top of the bioretention area.
- Use pesticides or quick-release fertilizers.
- Add topsoil (per soil guidance at left).

Additional Resources

To learn more about caring for your green stormwater facility, contact:

Clean Water Program

510-670-6548

www.cleanwaterprogram.org/businesses/development.html

For contact info for local agencies, go to the link listed above, click on “Popular Development Related Documents,” then “Local Agency Stormwater Contacts.”