

Bioretention Construction Inspection Checklist

Layout <i>(To be confirmed prior to beginning excavation)</i>		
1	Square footage of the facility meets or exceeds minimum shown in SWCP.	<input type="checkbox"/>
2	Site grading and grade breaks are consistent with the boundaries of the tributary Drainage Management Area(s) (DMAs) shown in the SWCP.	<input type="checkbox"/>
3	Inlet elevation of the facility is low enough to receive drainage from the entire tributary DMA.	<input type="checkbox"/>
4	Locations and elevations of overland flow or piping, including roof leaders, from impervious areas to the facility have been laid out and any conflicts resolved.	<input type="checkbox"/>
5	Rim elevation of the facility is laid out to be level all the way around, or elevations are consistent with a detailed cross-section showing location and height of interior dams.	<input type="checkbox"/>
6	Locations for vaults, utility boxes, and light standards have been identified so that they will not conflict with the facility.	<input type="checkbox"/>
7	Location for signage is identified.	<input type="checkbox"/>
8	Facility is protected as needed from construction-phase runoff and sediment.	<input type="checkbox"/>

Excavation <i>(To be confirmed prior to backfilling or pipe installation)</i>		
9	Excavation conducted with materials and techniques to minimize compaction of soils within the facility area.	<input type="checkbox"/>
10	Excavation is to accurate area and depth.	<input type="checkbox"/>
11	Slopes or side walls protect from sloughing of native soils into the facility.	<input type="checkbox"/>
12	Vertical moisture barrier, if specified, has been added to protect adjacent pavement or structures.	<input type="checkbox"/>
13	Native soils at bottom of excavation are ripped or loosened to promote infiltration.	<input type="checkbox"/>

Overflow or Surface Connection to Storm Drainage. <i>(To be confirmed prior to backfilling with any materials)</i>		
14	Overflow is at specified elevation.	<input type="checkbox"/>
15	No knockouts or side inlets are in overflow riser.	<input type="checkbox"/>
16	Overflow location selected to minimize surface flow velocity (near, but offset from, inlet recommended).	<input type="checkbox"/>
17	Grating excludes mulch and litter (beehive or atrium-style grates with 1/4" openings recommended).	<input type="checkbox"/>
18	Overflow is connected to storm drain via appropriately sized piping.	<input type="checkbox"/>

Bioretention Construction Inspection Checklist (cont'd)

Underground connection to storm drain/outlet orifice. <i>(To be confirmed prior to backfilling with any materials)</i>		
19	Perforated pipe underdrain (PVC SDR 35 or approved equivalent) is installed with holes facing down.	<input type="checkbox"/>
20	Perforated pipe is connected to storm drain at specified elevation (typ. bottom of soil elevation).	<input type="checkbox"/>
21	Cleanouts are in accessible locations and connected via sweep bends.	<input type="checkbox"/>
22	Monitoring well, if required, is installed.	<input type="checkbox"/>
23	Structures (arches or large diameter pipes) for additional surface storage are installed as shown in plans and specifications and have the specified volume.	<input type="checkbox"/>

Drain Rock/Subdrain. <i>(To be confirmed prior to installation of soil mix)</i>		
24	Rock is installed as specified. Class 2 permeable, Caltrans specification 68-2.02(F)(3) recommended, or 4"-6" depth of pea gravel is installed at the top of the crushed rock layer to prevent migration of fines into gravel layer.	<input type="checkbox"/>
25	Rock is smoothed to a level top elevation. Depth and top elevation are as shown in plans.	<input type="checkbox"/>
26	Slopes or side walls protect from sloughing of native soils into the facility.	<input type="checkbox"/>
27	No filter fabric is placed between the subdrain and soil mix layers.	<input type="checkbox"/>

Soil Mix		
28	Soil mix is as specified.	<input type="checkbox"/>
29	Mix installed in lifts not exceeding 12".	<input type="checkbox"/>
30	Mix is not compacted during installation but may be thoroughly wetted to encourage consolidation.	<input type="checkbox"/>
31	Mix is smoothed to a level top elevation. Depth of mix (24" min.) and top elevation are as shown in plans, accounting for depth of mulch to follow and required reservoir depth.	<input type="checkbox"/>

Irrigation		
32	Irrigation system is installed so it can be controlled separately from other landscaped areas. Smart irrigation controllers and drip emitters are recommended.	<input type="checkbox"/>
33	Spray heads, if any, are positioned to avoid direct spray into outlet structures.	<input type="checkbox"/>

Bioretention Construction Inspection Checklist (cont'd)

Planting		
34	Plants are installed consistent with approved planting plan.	<input type="checkbox"/>
35	Any trees and large shrubs are staked securely.	<input type="checkbox"/>
36	No fertilizer is added; compost tea may be used.	<input type="checkbox"/>
37	No native soil or clayey material are imported into the facility with plantings.	<input type="checkbox"/>
38	1"-2" mulch may be applied following planting; mulch selected to avoid floating.	<input type="checkbox"/>
39	Final elevation of soil mix maintained following planting.	<input type="checkbox"/>
40	Curb openings are free of obstructions.	<input type="checkbox"/>

Final Engineering Inspection		
41	Drainage Management Area(s) are free of construction sediment and landscaped areas are stabilized.	<input type="checkbox"/>
42	Inlets are installed to ensure entry of runoff from adjoining pavement, have sufficient reveal (drop from the adjoining pavement to the top of the mulch or soil mix, and are not blocked).	<input type="checkbox"/>
43	Rock or other energy dissipation at piped or surface inlets is adequate.	<input type="checkbox"/>
44	Inflows from roof leaders and pipes are connected and operable.	<input type="checkbox"/>
45	Temporary flow diversions are removed.	<input type="checkbox"/>
46	Overflow outlets are configured to allow the facility to flood and fill to near rim before overflow.	<input type="checkbox"/>
47	Plantings are healthy and becoming established.	<input type="checkbox"/>
48	Irrigation is operable.	<input type="checkbox"/>
49	Facility drains rapidly; no surface ponding is evident.	<input type="checkbox"/>
50	Any accumulated construction debris, trash, or sediment is removed from facility.	<input type="checkbox"/>
51	Permanent signage is installed and is visible to site users and maintenance personnel.	<input type="checkbox"/>