



Stormwater Quality Control Requirements

Information for Developers, Builders and Project Proponents

Why Control Stormwater Quality?

Stormwater runoff from urbanized areas is the largest source of pollution to the nation's waters. Local agencies in urbanized portions of the San Francisco Bay Area are responsible for controlling stormwater pollution by complying with municipal stormwater National Pollutant Discharge Elimination System (NPDES) permits, issued by the Regional Water Quality Control Board (Water Board).

Importance of Development Projects

The development or redevelopment of property represents an opportunity to incorporate controls that can reduce water quality impacts, not only during construction, but also over the life of the project. The countywide NPDES permit includes substantial new requirements for new development and redevelopment projects, similar to other Bay Area municipal stormwater NPDES permits.



Rooftop runoff drains to bubbler in landscaped area, Fremont

Summary of Requirements

During the development review process, local agencies apply stormwater requirements to projects, as described below:

⇒ **Apply to all projects, as appropriate:**

- Site design measures to maximize pervious areas.
- Source control measures to help keep pollutants out of stormwater.
- Construction best management practices (BMPs).
- Post-construction treatment measures, to the maximum extent practicable.
- Reporting on the amount of impervious surface created/replaced.

⇒ **Applicable based on project size/location:**

- Larger projects require post-construction treatment measures.
- Projects with treatment measures require maintenance agreements.
- In most locations (but not Emeryville), larger projects will require hydro-modification controls.

Contact the city where your project is located for specific application requirements.

Site Design for Water Quality

Some of the ways to reduce water quality impacts through site design include:

- Reduce impervious surfaces.
- Drain rooftop downspouts to splash blocks or "bubblers."
- Use landscaping as a storm drainage and treatment feature.



Parking lot drains to vegetated swale, Union City

Source Controls

Source controls are practices that prevent potential pollutant sources from contacting rainfall and stormwater. Examples include:

- Roofed trash enclosures.
- Pest-resistant landscaping.
- Sanitary sewer drains for vehicle wash areas (with sewer district approval).

ACCWP's Source Control Model List can be found at www.cleanwaterprogram.org/uploads/Source_Control_Model_List.pdf.

Construction Site Controls

Project sites are required to use construction BMPs, such as:

- Prepare and use sediment and erosion control plans.
- Minimize exposed soil by stabilizing slopes.
- Maintain filter materials at storm drain inlets.

Projects disturbing one acre or more must comply with the Statewide Construction NPDES General Permit, and submit a Notice of Intent to the State Water Resources Control Board.

Stormwater Treatment Measures

Stormwater treatment measures are engineered systems that remove pollutants before stormwater reaches the storm drain system, and ultimately San Francisco Bay. The county-wide NPDES permit specifies hydraulic sizing criteria for treatment measures. Examples of treatment measures include:

- Bioretention units (also called “rain gardens”),
- Flow-through planter boxes,
- Pervious pavement with subsurface treatment,
- Vegetated swales,
- Detention basins.



Ungrouted modular pavers promote infiltration, Berkeley

Is Stormwater Treatment Required for My Project?

All projects require post-construction stormwater treatment measures to the maximum extent practicable. Treatment measures must be incorporated in projects that create and/or replace **one acre or more of impervious surface**, including the project’s roof area, streets, sidewalks, parking lots, etc. As of August 15, 2006, treatment measures will be required for projects that create and/or replace **10,000 square feet or more of impervious surface**.

Maintaining Treatment Measures

Post-construction treatment measures need ongoing maintenance to keep working properly. During project review, applicants must prepare a maintenance plan and enter into a maintenance agreement with the applicable local agency to assure long-term maintenance of treatment measures.

Site Design in Emeryville

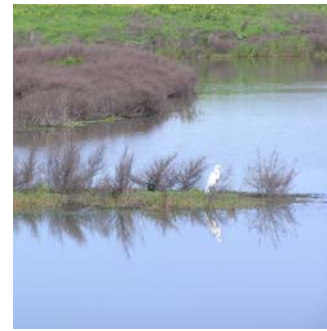
Some land-intensive site design measures are difficult to use in dense projects. Site design measures that work on dense sites include trees, structural soil, permeable paving, structured parking, podium and roof landscaping, and landscape strips.

Stormwater Treatment in Emeryville

Emeryville has dense development patterns, heavy soils, an industrial history and high groundwater levels. Stormwater treatment features for this urban bayside setting include bio-retention features such as flow-through planter boxes and rain gardens, infiltration with sub-drainage, permeable paving, bio-filtration swales, podium and roof plantings, and water storage.

Contacts for More Information:

- ACCWP: 510/670-5543, www.cleanwaterprogram.com
- Water Board staff :
Jan O’Hara,
510/622-5681
- Emeryville staff:
Peter Schultze-Allen,
510/596-3728



Runoff is treated in detention basin, Pleasanton

Resources on the Web

⇒ **Stormwater Guidelines for Green, Dense**

Redevelopment, City of Emeryville, 2005. Site design and stormwater treatment ideas and sizing worksheet.

http://www.ci.emeryville.ca.us/planning/pdf/stormwater_guidelines.pdf

http://www.ci.emeryville.ca.us/planning/df/sizing_worksheet_v8.xls

⇒ **Guidebook of Post-Construction BMPs**,

ACCWP, 2005. Post-construction BMPs used in local projects.

http://cleanwaterprogram.org/uploads/ACCWP_Site_Design_Guidebook_final.pdf

⇒ **Start at the Source**, Bay Area Stormwater Management Agencies Association (BASMAA), 1999. Overview of site design measures.

http://www.cleanwaterprogram.org/uploads/SAS_Manual_index.pdf

⇒ **List of Qualified Consultants**, BASMAA, 2005. Consultants with qualifications to design treatment measures.

<http://www.basmaa.org/resources/files/BASMAA%20Qualified%20Consultant%20List.pdf>

⇒ **Stormwater BMP Handbook – New Development**, California Stormwater Quality Association, 2003.

<http://www.cabmphandbooks.org/Development.asp>