

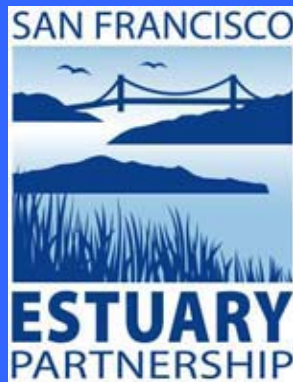
Stormwater Protection Requirements for Development Projects in Marin County



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Marin Construction Site Compliance Workshop
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Today's Workshop is a Cooperative Project:

- San Francisco Estuary Partnership
- San Francisco Bay Regional Water Quality Control Board
- Marin County Stormwater Pollution Prevention Program



TOPICS

- MCSTOPPP
- Phase II Municipal Stormwater Permit
- Requirements for construction sites from the MCSTOPPP Stormwater Management Plan
- MCSTOPPP website resources
- Ordinance examples in Marin County
- Post-construction requirements overview

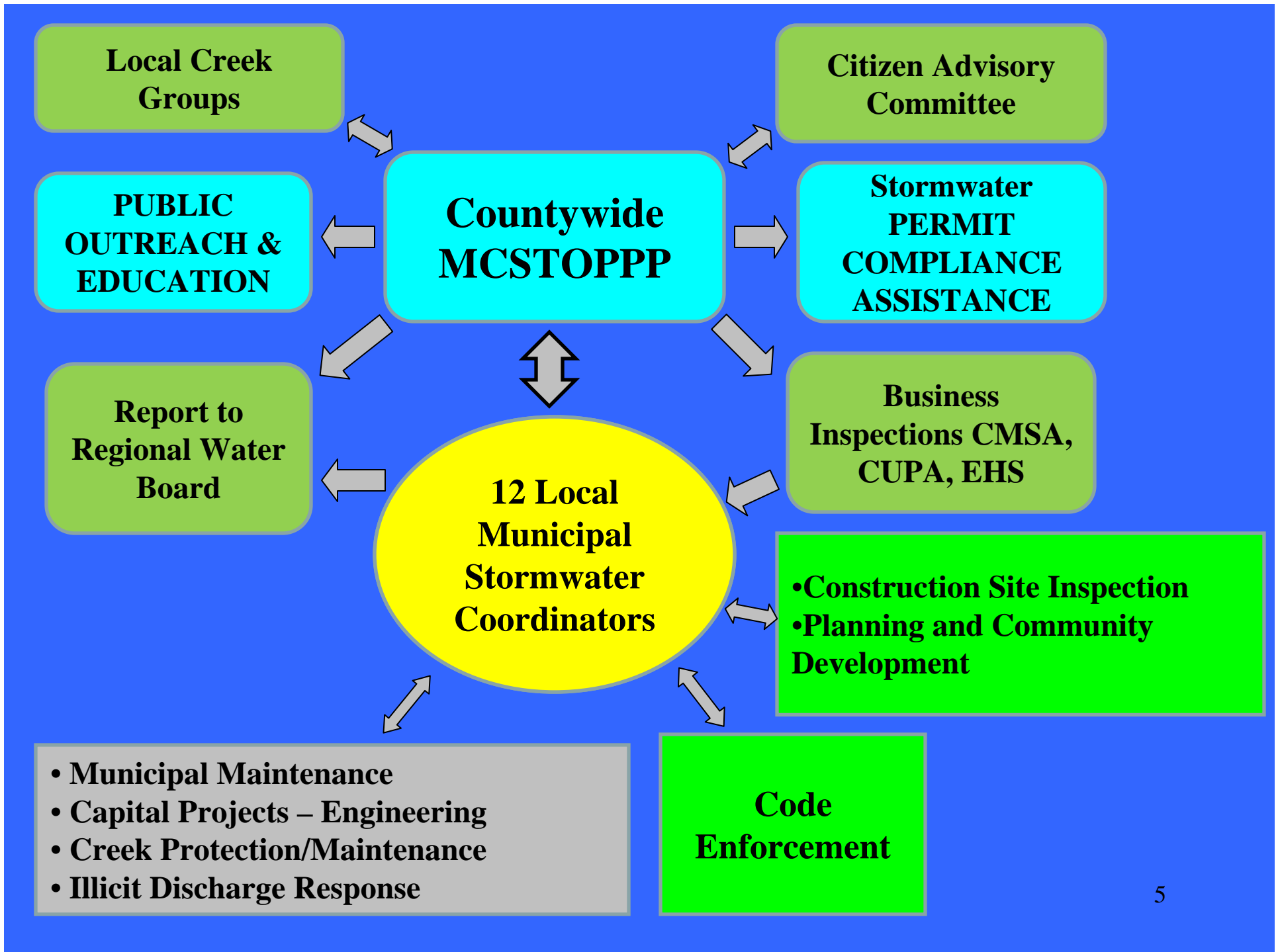




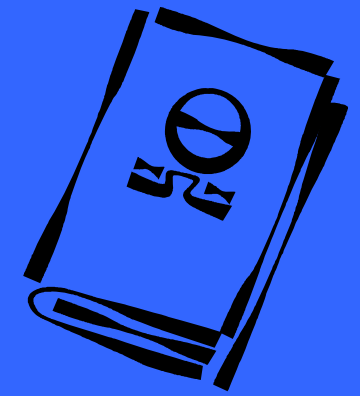
MCSTOPPPP

- Joint effort of Marin's cities, towns and unincorporated areas
- Program's goals
 - Prevent stormwater pollution
 - Protect water quality in creeks and wetlands
 - Comply with State and Federal regulations
 - Preserve beneficial uses of local waterways

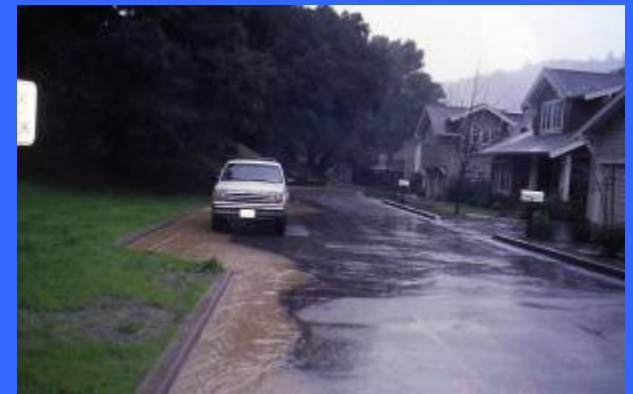




Marin's Municipalities are Regulated



- Clean Water Act => NDPES
- Statewide Phase II NPDES Municipal Stormwater Permit
- Permit: implement a plan
 - prevent stormwater pollution
 - reduce impacts from development
 - prohibit illicit discharges
 - Public outreach & education



PROTECT BENEFICIAL USES



Steelhead

Photo Credit: Thomas L. Taylor

Sensitive Creeks in Marin County



MCSTOPPP Stormwater Management Plan



- **Construction Activities**

- Require developers to control stormwater quality impacts during construction
- Require Erosion and Sediment Control Plan:
 - Projects with potential for significant erosion or wet season construction
 - Grading permits
- Require that projects disturbing 1 or more acre are permitted by state

(State Construction Activity Stormwater General Permit)

MCSTOPPP Stormwater Management Plan



- Provide training for inspectors
- Provide information for developers and contractors
- Require that construction contractors:
 - properly store, use, and dispose of construction materials, chemicals, and wastes
 - prevent illicit discharges to storm drains and watercourses
- Inspect construction sites: assess stormwater quality control measures
- Conduct wet season inspections of construction sites with erosion and sediment controls after storms



MCSTOPPP

Construction

Helpful Resources for Controlling Pollutants During Construction

Urban storm water runoff is a significant source of pollution to the nation's waters, including our creeks and the San Francisco Bay. In 1987 Congress began to address this problem by requiring municipal storm water programs to obtain National Pollutant Discharge Elimination System (NPDES) permits. This, along with State requirements, has resulted in local requirements for the control of runoff from development projects. Also see [New and Redevelopment Projects/Attachment 4 Requirements](#)

Construction Brochures

[MCSTOPPP Best Management Practices for Trench Dewatering](#) - Covers requirements for dewatering discharges from minor street excavations.

[Minimum Erosion/Sediment Control Measures](#) - A schematic of typical Erosion and Sediment Control Practices for Single Family Home construction.

[Fresh Concrete and Mortar Application](#) - Fresh concrete and mortar are considered pollutants in stormdrains, creeks and bays because they are toxic to fish and the aquatic environment. Learn proper procedures to prevent illegal discharges.

[Pollution Prevention - Its Part of the Plan](#) - A Flier on Best Management Practices for specific activities in the construction industry.

[Prevención de la Contaminación - es Parte del Plan - Spanish Version](#) - A Flier on Best Management Practices for specific activities in the construction industry.

[Erosion and Sediment Control Field Manual \(revised 2002\)](#) - This manual, developed by the San Francisco Bay Regional Water Quality Control Board (SFRWQCB), provides descriptions and schematic drawings of best management practices (BMPs) for construction site planning and management, erosion and sediment control, pollution prevention and sampling guidelines. The new General Construction Permit Phase II regulations, the State Board sampling and monitoring guidelines, and long-term BMP maintenance information are also included. This manual may be purchased through [ABAG](#) (Association of Bay area Governments).

[Blueprint for a Clean Bay \(revised 2004\)](#) - This useful pamphlet by the Bay Area Stormwater Management Agencies Association provides a summary of best management practices to prevent stormwater pollution from construction-related activities. Also offers information on requirements for discharges, general site maintenance, demolition waste management, and contaminated ponded stormwater.

[Stormwater Best Management Practice \(BMP\) Handbooks \(revised 2004\)](#) - These handbooks have provided excellent guidance to the stormwater community since their publication by the Stormwater Quality Task Force (SWQTF) in 1993. The SWQTF is now known as the California Association of Stormwater Quality Agencies (CASQA) and has revised and updated the Handbooks to reflect current practices, standards, and knowledge gained about the effectiveness of Best Management Practices (BMPs), and has made the Handbooks more accessible.

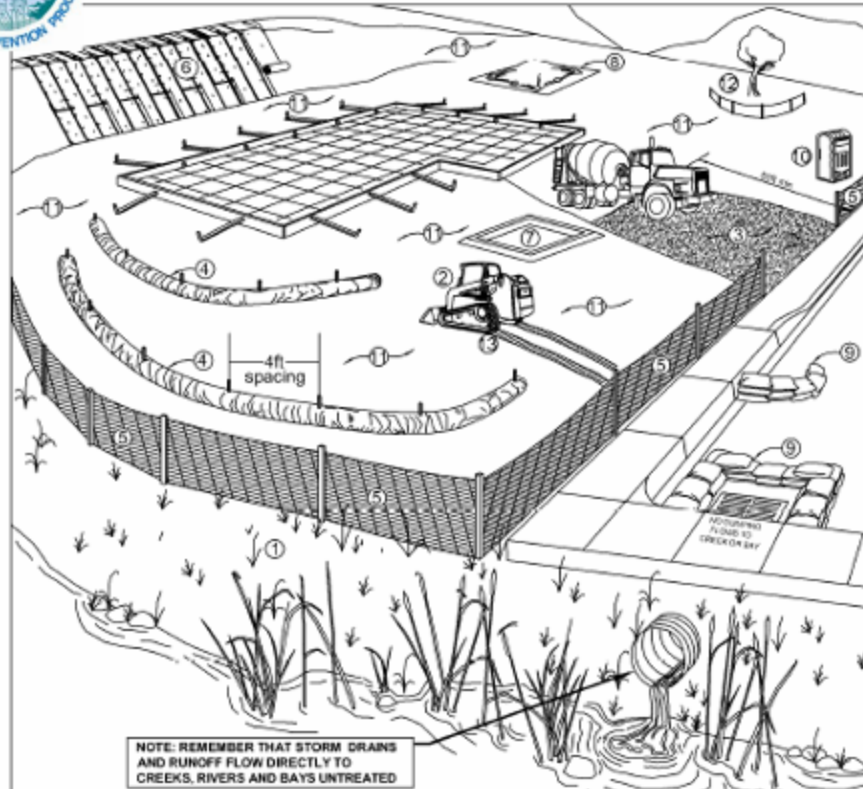
Developing a SWPPP

Need help developing your Stormwater Pollution Prevention Plan (SWPPP)? - The State Water Resources Control Board has some good guidance for preparing a SWPPP. For a comprehensive list of issues to consider during the development of a SWPPP, [click here](#). For the State Water Resources Control Board's Construction General Permit, [click here](#).



Marin County Stormwater Pollution Prevention Program

Minimum Erosion/Sediment Control Measures For Small Construction Projects



- (1) Check with your local Planning and Public Works departments for creek setback requirements. Grading and/or building may be limited within creekside buffers.
- (2) During grading phase, track-walk up and down slopes (not parallel to them).
- (3) Stabilize site entrance and temporary driveway – use 3-4" crushed rock for a minimum of 50' (or as far as possible) to prevent tracking soil offsite. This can be used in conjunction with a tire wash or rumble plates.
- (4) Use straw wattles along contours of short slopes or slopes 3:1 or flatter, keyed into ground at least 3" deep (typically 25' apart).
- (5) Install silt fence along contours as secondary measure to keep sediment onsite and to minimize vehicle and foot traffic beyond limits of site disturbance. Silt fencing must be keyed in.
- (6) Install erosion control blankets (or equivalent) on any disturbed site with 3:1 slopes or steeper, keyed into the ground at least 3".
- (7) Construct a concrete washout site adjacent to stabilized entrance. Clean as needed and remove at end of project.
- (8) Cover all stockpiles and landscape material and burn properly with straw wattles or sand bags. Keep behind silt fence, away from water bodies. Hazardous materials must be kept in closed containers that are covered and utilize secondary containment, not directly on soil.
- (9) Use pea-gravel bags, (or similar product) around drain inlets located both onsite and in gutter as last line of defense.
- (10) Place port-a-potty near stabilized site entrances, behind the curb and away from gutters, storm drain inlets, and water bodies.
- (11) Cover all exposed soil with straw mulch and tackifier (or equivalent).
- (12) Existing vegetation should be preserved as much as possible. Areas of disturbed soil/vegetation should be revegetated as soon as practical.
- (13) Prevent equipment fluid leaks onto ground by placing drip pane or plastic tarps under equipment.

Note: Schedule construction activities to reduce erosion potential. Sediment and erosion control shall be continually maintained throughout the rainy season (October 15th – April 15th) and must remain effective through the construction and landscape phases. Inspect and maintain Best Management Practices (BMPs) before and after rain events. *See reverse for detail drawings. Visit www.mcstopp.org for more information on construction site management.

County of Marin Code Example (24.04.625 summary)

- *Disturbed surfaces shall be protected against erosion*
- *Some projects require an erosion and sediment control plan*
- *Grading operations shall not be conducted during the rainy season without approval*
- *If approved, a phasing plan and work schedule shall be required to insure that the smallest practicable area of erodible land is exposed at any one time and the time of exposure is minimized.*

San Rafael's Urban Runoff Pollution Prevention Ordinance (Summary of Chapter 9.30)

- *Construction contractors shall implement appropriate BMPs to prevent the discharge of construction wastes or contaminants... from entering the storm drain system.*
- *All construction plans and applications for building permits... shall include appropriate erosion and sedimentation controls.*

Use a Treatment Train



Don't rely on one BMP

Post Construction Stormwater Treatment and Control

- Municipal stormwater programs must address runoff from development
- For applicable projects, developers must apply design standards, including runoff treatment and control
- Attachment 4 of the Phase II Permit-
 - Development categories
 - Design standards



- MCSTOPPP *Guidance for Applicants*

<http://www.mcstoppp.org/newdevresources.htm>

Attachment 4- Development Categories

- Auto Repair Shops
- Retail Gasoline Outlets
- Restaurants
- Commercial $\geq 100,000$ SF impervious area
- Residential subdivisions with 10 or more lots
- Parking lots ≥ 25 spaces
- Single-family hillside residences



Design Standards

Subject projects must:

- Minimize imperviousness
- Protect slopes and channels
- Control potential pollutant sources
- Treat stormwater before discharge
- Match runoff peaks to pre-project conditions
- Maintain treatment and flow-control facilities in perpetuity



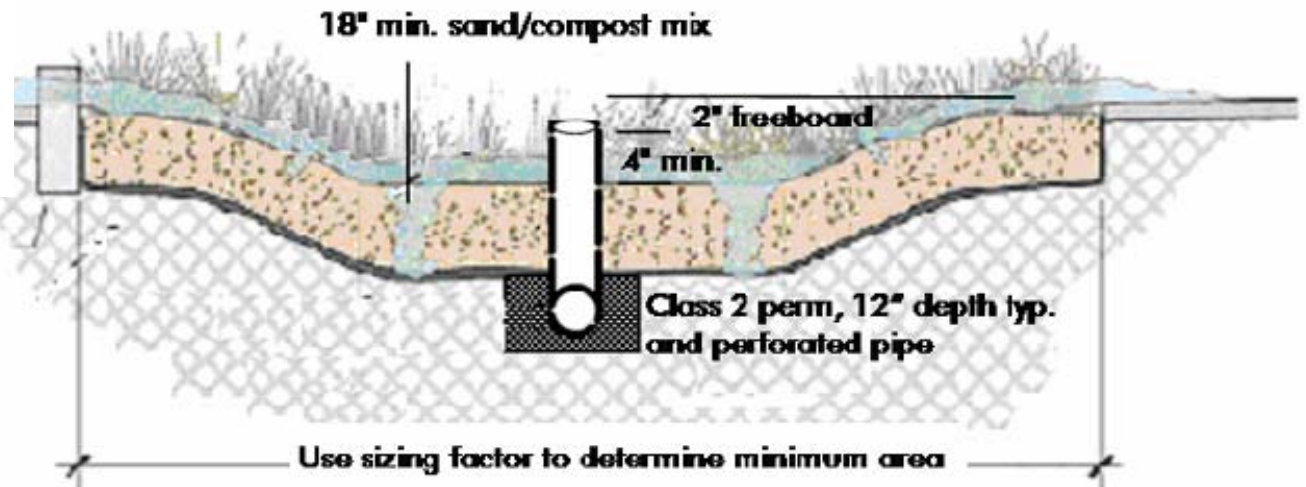
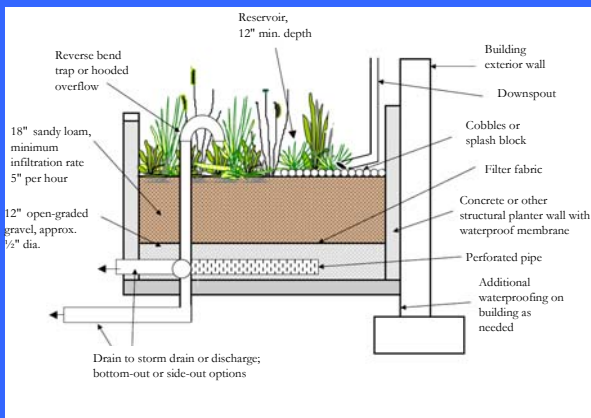
Low Impact Development

- Design the site to mimic natural drainage.
- Disperse runoff to landscape where possible.
- Use Bioretention Facilities distributed around the site.



Design Criteria for Facilities

- 18 inches sand/compost mix
- Class 2 permeable drainage layer
- Perforated pipe underdrain
- Overflow at least 4" above soil surface



Thank you – Please enjoy the rest of the workshop

For more info: WWW.MCSTOPPP.ORG

•Under “**About MCSTOPPP**”

➤“**Stormwater Ordinances**” and “**Action Plan 2010**”

•Under “**Resources for**”

➤“**New Development/Construction**”