

CONSTRUCTION WORK

Best Management Practices

Best Management Practices Manual for the
City's Storm Water Management Program



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Municipal Code Chapter 13.16

In the City of Capitola, water in streets, gutters, and storm drains flows directly to local creeks and Monterey Bay without any treatment. When debris, paint, concrete and other harmful pollutants from construction sites and small home construction projects get spilled, leaked or washed into the street or storm drain they can damage sensitive creek habitats and end up polluting our bay and ocean.

In order to reduce the amount of pollutants reaching local storm drains and waterways the City developed "Best Management Practices" (BMPs) for construction work. All types of construction projects are required to abide by the following mandatory BMPs. Construction work includes, but is not limited to, clearing, grading, excavation, stockpiling, building, masonry, concrete work and roadwork. These BMPs apply to both new and remodeled commercial, retail, industrial, and residential projects.

In addition, the State Water Resources Control Board (SWRCB) regulates requires construction sites equal to or greater than one acre (or less than one acre but part of a larger common plan of develop or sale) to obtain the state's Construction Activities Storm Water General Permit. The landowner is responsible for filing a Notice of Intent (NOI) under the Regional Water Quality Control Board (RWQCB) and for developing a Storm Water Pollution Prevention Plan (SWPPP) prior to commencement of any soil disturbing activities. For more information about the Construction Activities Storm Water General Permit, please call the State Water Quality Control Board at 916.341.5537 or refer to their website at: <http://www.swrcb.ca.gov/stormwtr/industrial.html>

1. Planning Construction Projects:

- a. Site development shall be fitted to the topography and soils in order to minimize the potential for erosion.
- b. Conduct grading operations in phases in order to reduce the amount of disturbed areas and exposed soil at any one time. Additionally, unless specifically approved on the project's Erosion control Plan, clearing, excavation, and grading shall not be conducted during rainy weather. All rainy season grading must be in accordance with Capitola Municipal Code Chapter 15.28.
- c. Clearing limits, easements, setbacks, sensitive or critical areas, trees, drainage courses, and buffer zones must be delineated to prevent excessive or unnecessary disturbances and exposure prior to construction.
- d. Align roads and driveways, whether temporary or permanent, along slope contours as feasible.
- e. Plan to route construction traffic over areas that must be disturbed for other construction activities in order to reduce the amount of area that must be cleared.
- f. Access roads and entrances must be constructed to minimize the tracking of soil, mud, or hazardous materials into the roadway and drains. Wash down facilities for construction vehicles must be installed on any site greater than one acre and on a case-by-case basis for smaller sites. Mud, dirt, gravel, sand and other materials tracked or dropped on city streets must be cleaned up to prevent washing into the storm drains. Heavy equipment that is not rubber wheeled or smooth-tracked must be offloaded on the construction site, not in the street.

2. Erosion and Sediment Control - Minimizing Land Disturbance and Vegetation Removal

- a. Erosion and sediment control BMP's shall be in place and implemented, prior to commencing grading or vegetation removal. Such measures shall be maintained on all disturbed areas in order to prevent a new a net increase of sediment load in a site's storm water discharge relative to pre-construction levels.

- b. All on-site, erosion control measures and structural devices, both temporary and permanent, shall be properly installed and maintained. If damaged during construction, they shall be promptly repaired or reinstalled.
- c. Minimize land disturbance such as cuts and fills. Stabilize slopes and all disturbed areas as soon as grading is finished or cut-and-fills are made.
- d. Use one or more of the following to reduce the erosion potential for bare, exposed, or disturbed soil: filter fabric, erosion control blankets, geotextiles, mulching, seeding, vegetation planting, or other appropriate cover material. If vegetative cover is used, a uniform vegetative cover with a minimum of 70 percent coverage must be established.
- e. Vegetation removal shall be limited to the amount necessary and according to approved erosion control plans.
- f. Prior to commencing vegetation or topsoil removal, clearly mark the proposed limits of land disturbance to ensure that only the required land is cleared.
- g. Cleared vegetation may not be disposed of in a creek gully, or waterway.
- h. As permanent vegetation is maturing, temporary vegetation shall be established on all disturbed areas as needed to stabilize the soil and as each grading phase is completed.
- i. Jute netting, mulching, fertilizing, and irrigation must be used to protect new plantings. When planting trees for retention, protect tree crowns and root zones.

3. Preventing Water & Sediment Runoff:

- a. Effective erosion and sediment control measures must be implemented and maintained on all disturbed areas in order to prevent a net increase of sediment load in the site's storm water discharge relative to pre-construction levels.
- b. During the rainy season, erosion control measures must also be located at all appropriate locations along the site's perimeter and at all inlets to the storm drain system. Effective methods to protect storm drain inlets include sand bag barriers, heavy rubber mats to cover and seal the inlet, and sediment traps or basins.
- c. Effective filtration devices, barriers, and settling devices shall be selected, installed and maintained properly.
- d. Silt fences must be installed so that the drainage around each fence does not create additional erosion and rills down slope of the fence.
- e. If straw bales are used to filter sediment from runoff, ensure that the bales are actually filtering the water (and not just causing the water to travel around the bale) and that straw pieces are not carried into the storm drain system.
- f. Whenever possible, use terracing, surface roughening (e.g. with a dozer), and energy dissipaters (such as riprap, sand bags, and rocks) on slopes to reduce runoff velocity and trap sediments. Do not use asphalt rubble or other demolition debris for this purpose.

g. All on-site erosion control measures and structural devices, both temporary and permanent, shall be properly maintained so that they do not become nuisances with stagnant water, odors, insect breeding, heavy algae growth, debris, and/or other safety hazards.

h. A qualified person should conduct inspections of all on-site BMPs during each rainstorm and after a storm is over to ensure that the BMPs are functioning properly. For sites greater than one-acre, onsite inspections are required in accordance with the State Water Quality Control Board Construction Activities Storm Water General Permit.

4. Landscaping:

a. Existing trees or tree stands located on a site for which a discretionary permit is required shall not be removed until such a permit is approved by the city.

b. Never dump or leave soil, mulch, vegetation, and other landscape products in the street, gutter, or storm drain system.

c. At the end of each day, sweep up soil and other landscape products that remain on pavements, such as the sidewalk, driveway or street.

5. Painting:

a. Paint, paint thinner, and rinse water containing these fluids may never be discharged into the storm drain system. Wastewater or runoff containing paint or paint thinner may never be discharged into the storm drain system.

b. When there is a risk of a spill reaching the storm drain, nearby storm drain inlets must be protected prior to starting painting.

c. When work is conducted on a bridge or wharf, take precautions to prevent runoff from reaching the water body below.

d. Clean up spills immediately.

e. Paintbrushes and containers may never be cleaned or rinsed into a street, gutter, creek or storm drain.

f. Clean excess paint out onto newspaper or cardboard. If using latex paints, the brush or roller may be rinsed in a sink that is plumbed to the sanitary sewer. If using oil-based paints, the brush or roller will require cleaning with paint thinner. Paint thinners cannot be discharged to the sanitary sewer and must be disposed of as hazardous waste.

g. Recycle, return to supplier or donate unwanted water-based (latex) paint. Dried latex paint and empty paint cans may be disposed of in the garbage. Leftover oil-based paint may be recycled or disposed of as hazardous waste. Paint thinners must be disposed of as hazardous waste.

h. Non-hazardous paint chips and dust from dry stripping and sand blasting may be swept up or collected and disposed of as trash. Chemical paint stripping residue, chips, and dust from marine paints or paints containing lead or tributyltin must be disposed of as hazardous waste.

i. Cover or berm nearby storm drain inlets when stripping or cleaning building exteriors with high-pressure water prior to painting. The wastewater may not be discharged to the storm drain

system. The non-hazardous wastewater must be collected and may be discharged to the sanitary sewer. If paint containing lead or mercury was used, the wastewater must be disposed of as hazardous waste.

j. If grinding or blasting is used to remove old paint, protect nearby storm drain inlets with a protective cover such as a heavy rubber mat. Paint dust, particles, and other debris must be completely cleaned up at the end of the job.

k. When the job is completed, collect all unused or waste materials and dispose of properly. Never leave or abandon materials onsite, and ensure that nothing has "drifted" towards the street, gutter, or catch basin.

6. Masonry & Concrete Work:

a. Concrete and cement may never be discharged into or allowed to reach the storm drain system.

b. Sediment or pollutant laden water may not be discharged into the storm drain system.

c. Do not mix fresh concrete or cement mortar in a gutter, over a storm drain inlet, or immediately adjacent to a water body.

d. During tile cutting, ensure that the slurry water does not run off into the street or storm drain system. The discharge of slurry to the storm drain system is prohibited. Dried slurry must be clean up and properly disposed so that it will not be carried into the storm drain system by wind, traffic, or rainfall.

e. Never wash or rinse mixing containers and tools into the gutter, storm drain inlets, drainage ditches, or water body.

f. Wash out from concrete mixers may never be disposed of in the storm drain system, including street, gutters, drainage ditches, and creeks. If possible, pump the washout back into the mixer for reuse.

g. Store materials under cover and protected from wind, rain, and runoff. Open bags of particulate, granular, or powder materials (such as plaster or concrete) should be stored indoors if possible. If stored outside, they must be covered or closed, and during the rainy season they must be kept within secondary containment.

h. Small amounts of excess concrete, grout, and mortar may be disposed of in the garbage.

i. If conducting sidewalk work, material stockpiles must be removed and cleaned up by the end of each day. Sweep or collect unused materials and debris that remain on pavement and dispose of properly.

j. When the job is completed, collect all unused or waste materials and dispose of properly. Never leave or abandon materials onsite. Ensure that nothing has "drifted" towards the street, gutter, or catch basin.

7. Roadwork & Paving:

a. Protect nearby storm drain inlets and adjacent water bodies prior to breaking up asphalt or concrete.

- b. The discharge of saw cut slurry to the storm drain system is prohibited. Take measures to contain the slurry and protect nearby catch basins or gutters. If slurry enters the storm drain system, remove material immediately.
- c. Dried saw cut slurry must be cleaned up and properly disposed so that it will not be carried into the storm drains system by wind, traffic or rainfall.
- d. After breaking up old pavement, sweep up materials and recycle as much material as possible. Properly dispose of non-recyclable materials.
- e. Cover and seal nearby storm drain inlets and manholes before applying seal coat, slurry seal, etc. Leave cover in place until the oil sealant is dry.
- f. In the event of rain during construction, divert runoff around work areas and cover materials to prevent pollution of storm water runoff.
- g. Park paving machines over drip pans or absorbent materials.
- h. Never wash sweepings from exposed aggregate concrete into a street or a storm drain inlet. Collect and return to aggregate base stockpile or dispose of in the trash.
- i. Remove and clean up material stockpiles (i.e. asphalt and sand) by the end of each week or, if during the rainy season, the end of each day. Stockpiles must be removed by the end of each day if they are located in the public right-of-way.

8. Equipment, Vehicle Maintenance & Cleaning:

- a. Inspect equipment and vehicles frequently and repair any leaks as soon as possible. Perform major maintenance and repairs off-site.
- b. Clean up leaks, drips, and spills immediately. Use dry clean-up methods if possible.
- c. If refueling or repair of vehicles and equipment must be done on-site, use a designated location away from storm drain inlets, water bodies, and other sensitive area.
- d. If equipment is washed on-site, wash water may not be discharged to the storm drain system. If possible, wash vehicles at an appropriate off-site facility.
- e. Recycle used motor oil, other vehicle fluids and vehicle parts.

9. Material, Soil Stockpiles & Storage:

- a. Material and soil stockpiles must be located away from gutters, storm drain inlets, and water bodies. In addition, keep stockpiles away from steep slopes and unstable soil in order to minimize the change of an accidental release to the environment. Stockpiles may never be stored on a street or in an alley unless specifically approved by the City.
- b. Store materials, including stockpiles and excavation spoils, under cover and protected from wind, rain, and runoff. Cover piles of soil, construction materials and wastes with plastic sheeting or tarps so that wind or rain will not carry them into the street or storm drain. Open bags of particulate, granular, or powder materials, such as plaster or concrete, should be stored indoors, if possible. If stored outside, then cover the materials at all times and during the rainy season, kept within secondary containment.

- c. Paints, chemicals, solvents, and other hazardous materials must be stored inside or within a shed with secondary containment.
- d. During the rainy season, after October 15th or sooner if rain is forecast, control measures must be implemented for the items listed below if stored outside in order to prevent sediment, litter, and other pollutants from leaving the site and/or being discharged into the storm drain system.
 - ◆ Material stockpiles
 - ◆ Soil stockpiles
 - ◆ Excavation spoils
 - ◆ Construction materials

10. Waste Disposal: Vegetation, Building Materials & Demolition Wastes:

- a. Waste vegetation, discarded building materials and demolition wastes must never be left in a street, gully, or waterway.
- b. Wastes should be stored in containers or a dumpster whenever possible. Piles of uncontained wastes should be covered and protected from wind and rain.
- c. Waste vegetation should be disposed of through Green Waste Recovery at 831.768.9505.
- d. Recycle demolition waste whenever possible. Call Green Waste Recovery at 831.768.9505 for information about what may be recycled and debris box rentals for mixed waste, construction debris, yard trimmings and other items.
- e. Construction projects at commercial or industrial sites must obtain detached roll-off boxes, dumpsters, debris-boxes or other containers for collection of waste materials (to be disposed of or recycled) from Green Waste Recovery 831.768.9505.
- f. Recycle broken concrete and recycle appliances through Green Waste Recovery at 831.768.9505.
- g. Asbestos and other debris containing hazardous materials must be disposed of as hazardous waste. For more information about hazardous waste disposal, contact Environmental Health Services at 831.454.2022.

11. Site Clean Up:

- a. Clean up by sweeping instead of hosing down whenever possible. Dispose of litter and debris in the garbage.
- b. The street, sidewalk and other paved areas may not be cleaned by washing or by directing sediment, concrete, asphalt, or other particles into the storm drain system. If water is used to flush sediment or particles from pavement, the water must be directed to a landscaped or grassy area large enough to absorb all the water.
- c. If conducting road or sidewalk work, materials stockpiles must be removed and cleaned up by the end of each work day.
- d. Discarded building materials and demolition wastes must never be left in a street, gully, or waterway. Dispose of all wastes properly including leftover paint and chemicals. Materials that cannot be reused or recycled must be taken to the landfill or disposed of as hazardous waste.

12. Good Housekeeping Practices:

- a. Prior to beginning a project, identify all storm drains, drainage swales, and creeks located at and nearby the construction site. Ensure all subcontractors are aware of these locations.
- b. Protect vegetation and trees from accidental damages from construction activities by surrounding them with fencing, tree armoring, or retaining walls.
- c. Clean up leaks, drips, and other spills immediately. Use dry cleanup methods if possible.
- d. Leaks, spills, and drips of hazardous materials and chemicals must be contained and cleaned up as quickly as possible to minimize run-off or soak in. This includes fuel, motor oil, hydraulic fluid, and glycol based anti-freeze from vehicles. Encountered abandoned fuel/oil tanks and their contents must be removed in a manner consistent with methodology approved by both the City and Environment Health Services at 831.454.2022.
- e. Place trash cans around the site to reduce litter. Dispose of non-hazardous construction wastes in covered dumpsters or recycling receptacles.
- f. Keep dumpster lids closed and secured. For dumpsters or bins that don't have a lid, cover them with plastic sheeting or a tarp during rainy or windy weather.
- g. If portable toilets are used, ensure that the leasing company properly maintains the toilets and promptly makes repairs. Conduct visual inspections for leaks.

13. Training:

- a. Train your employees on these BMPs and familiarize them with storm water issues prior to beginning work. Inform your subcontractors about storm water requirements and be sure that they also abide by these BMPs.
- b. If the Regional Water Quality Control Board has required implementation of a Storm Water Pollution Prevention Plan (SWPPP), ensure that the individuals responsible for SWPPP preparation, implementation, and permit compliance are appropriately trained, and that this training is documented. This includes those personnel responsible for installation, inspection, maintenance, and repair of BMPs. Those responsible for overseeing, revision, and amending the SWPPP must also document their training.

Additional Reference Manual

For general state guidelines and more in-depth information on erosion and sediment control practices to protect water quality during construction projects, please refer to the Erosion and Sediment Control Field Manual, Fourth Edition August 2002, produced by the CA Regional Water Quality Control Board, San Francisco Bay Region. This manual may be obtained by contacting the San Francisco Estuary Project at 510.622.2465, or ordering online at the ABAG (Association of Bay Area Governments) web store at: <http://store.abag.ca.gov/construction.asp>.