



United States
Environmental Protection
Agency

Region 10
1200 Sixth Avenue
Seattle WA 98101-1128

Federal Construction Projects Need Erosion and Sediment Controls



The U.S. Environmental Protection Agency (EPA) has issued a general permit containing requirements for construction activities on federal sites where runoff may enter nearby surface water.

If you are planning a construction project that will disturb more than one acre of land, you are required to have permit coverage. You should also have erosion and sediment controls in place for runoff from your site before construction begins.

The information in this brochure summarizes your responsibilities for permit coverage and for erosion and sediment controls, as required under the federal Clean Water Act to limit water pollution from construction sites.

To Learn More

To find out more about the storm water permit program, or to get copies of the **Construction General Permit**, the **Notice of Intent** application form, or other related guidance materials, check out the following EPA's websites:

www.epa.gov/r10earth/stormwater.htm

www.epa.gov/npdes/stormwater/cgp

Contact EPA:

Jeanne O'Dell
Region 10 Storm Water Program
(800) 424-4372, extension 6919
Email: odell.jeanne@epa.gov

More information on federal-specific requirements

Links to approved storm water management manuals, impaired waterways and other topics are available from the Department of Ecology web site at:
<http://www.ecy.wa.gov/programs/wq/stormwater>

Federal construction operators should also refer to Part 9 of the EPA Construction General Permit or contact Ecology.

Department of Ecology
Stormwater Unit
PO Box 47600
Olympia, WA 98504-7600
Phone: 360-407-6000

Other information resources

The International Erosion Control Association:
www.ieca.org

Note: Website addresses listed are case sensitive.

Notice: The statements in this document are intended solely as guidance to aid regulated entities in complying with the Clean Water Act's storm water requirements. The guidance is not a substitute for reading the Clean Water Act and its implementing regulations and understanding all its requirements as they apply to your facility. This guidance does not constitute rulemaking by the EPA and may not be relied on to create a substantive or procedural right or benefit enforceable, at law or in equity, by any person. EPA may decide to update this guide without public notice to reflect changes in EPA's approach to implementing the Clean Water Act. This document reflects information available in EPA's NPDES General Permit for Storm Water Discharges from Large and Small Construction Activities.

Erosion and sediment control practices are only as good as their installation and maintenance.

Tips for Managing Storm Water

Protect Natural Features and Minimize Erosion

- Minimize clearing and amount of exposed soil.
- Leave more vegetation in place and only disturb the smallest area of land possible.
- Protect streams, wild woodland, and wetlands from construction activity by fencing the areas. Divert runoff away from exposed areas.
- Use slope breaks, temporary lined diversion ditches or retention structures to slow runoff.



Terracing can be used to slow runoff. Lined diversion ditches direct flow away from exposed areas toward stable portions of the site.

Construction Phasing

- Sequence construction activities to minimize the amount of time soils remain disturbed.
- Install sediment controls before grading begins.
- Schedule or limit grading to small areas.
- Schedule construction so that large areas of bare soil are exposed only during the dry season.
- Use temporary mulching, seeding or other ground coverings on exposed areas, including all dirt stockpiles.
- Stabilize the area immediately after the land has been graded to its final contour.



In phased construction, completed portions are permanently stabilized before other areas are disturbed.



Covering dirt piles reduces storm water runoff velocity.



Exposed soils are very vulnerable to erosion. Mulch or other ground cover protects surfaces from wind and storm water erosion, as well as allowing vegetative growth.

Silt Fencing

- Bury the bottom of the silt fence in the ground.
- Use stakes to support the back of the silt fence.
- Silt fences or other sediment traps should capture sediment near its source.
- Inspect and maintain the fence after each storm.
- Don't place the silt fence in the middle of a waterway or use them as check dams.
- Make sure storm water is not flowing around or under the silt fence.



Silt fences prevent the offsite transport of sediment at construction sites.

More Tips for Managing Storm Water

Controlling Pollution

- Maintain a clean and orderly construction site to prevent storm water contamination from:
 - hazardous materials
 - cement/concrete truck washout
 - oil spills
 - waste and debris

Construction Entrances

- Install measures to remove dirt from tires of vehicles before they enter a paved roadway.
- Keep entrances from becoming buried in soil.
- Stabilize entrances and exits with rock or other materials.



Stabilized construction entrances allow dirt to be removed from tire treads as trucks leave construction sites.

The Construction General Permit (CGP)

The Clean Water Act requires operators of construction sites to obtain permit coverage to discharge storm water to a water body or to a municipal storm sewer. EPA has issued a general permit for storm water discharges from construction sites, which covers sites at federal facilities in Washington state.

If a construction project disturbs more than one acre of land (or is part of a larger common development that will disturb more than one acre), the operator is required to apply for permit coverage from EPA after developing a site-specific Storm Water Pollution Prevention Plan.

For more information, please call **Jeanne O'Dell** at **206-553-6919** or toll free at **1-800-424-4372**, extension **6919**.

EPA's Inspection Plans at Federal Facilities

As part of our effort to help restore and maintain the quality of the nation's lakes, rivers, and streams, EPA is increasing its inspections at construction sites.

If a site is found to be out of compliance with the permit or the Clean Water Act, EPA has a range of formal and informal responses, including: warning letters; compliance orders; and penalties.

Penalties for not complying with the permit requirements are determined on a case-by-case basis and can range from \$2,000 to \$27,500 per day for each violation. Criminal prosecution is also an option if operators are caught knowingly violating the Clean Water Act.



Improper management and disposal of wastes can result in polluted storm water discharges.

Construction Activities That May Need a Storm Water Permit

- Clearing & grubbing, except silviculture
- Grading
- Excavation and filling
- Road and bridge building and installation of other infrastructure

Sediment is Usually the Main Pollutant of Concern in Storm Water from Construction Sites

Too much sediment in the water can destroy aquatic habitat; interfere with fish rearing, feeding, migration and spawning; interfere with recreational uses; and threaten drinking water supplies. Along with sediment, eroding soils also release nutrients which act as pollutants once they enter waterways, causing algae blooms and low oxygen levels.

These pollutants affect water quality and can be harmful to humans, fish and wildlife habitat. For this reason, the federal Clean Water Act requires construction operators to have erosion and sediment controls in place before discharging storm water from construction sites and to get a storm water permit. Adequate pollution controls must be in place to prevent storm water runoff from moving soil and other pollutants into a nearby water body.



Lined sediment basins are used to collect runoff from disturbed areas on construction sites and allow heavier solids to settle out.

Other Common Pollutants in Construction Site Runoff

Construction materials and wastes can also release pollutants, especially metals and organic chemicals. Many of these are toxic to aquatic organisms and other life. These toxins include:

- Pesticides
- Solid and sanitary wastes
- Oil and grease (from fuel containers and equipment)
- Phosphorus and nitrogen (from soil and artificial fertilizers)
- High pH (from concrete truck washout)
- Metals (from pipe shavings, solder, etc.)
- Construction chemicals and debris (from poor housekeeping)

Storm Water Pollution Prevention Plan

EPA's permit requires operators to develop a site-specific Storm Water Pollution Prevention Plan (SWPPP). As a condition of permit coverage, the operator must document the erosion, sediment and pollution controls they intend to use, inspect those controls periodically, and maintain the best management practices (BMPs) through the life of the project. Operators must also update the plan as site conditions change, and keep a copy of the plan on-site.

There are many cost effective ways to prevent soil erosion and manage storm water runoff. Operators may use the most appropriate techniques for the site to protect water quality.

An ounce of prevention is worth a pound of cure! It's far more efficient and cost-effective to prevent pollution than it is to try to correct problems later. Installing and maintaining simple BMPs and pollution prevention techniques on site can greatly reduce the potential for storm water pollution and can also save you money!



Constructed wetlands can be an effective - and attractive - post-construction storm water control.

Other Related Requirements

The EPA Construction General Permit also contains state specific requirements for storm water discharges that must be met to be in compliance with this permit. The Washington Department of Ecology requires compliance with state water quality standards and specific actions related to any discharges to polluted or "impaired" waterways.

The technical basis for the design criteria used to select and design your storm water management practices must be documented in the Pollution Prevention Plan. The SWPPP must also include a reference to the manual used. Use of the practices contained in storm water technical manuals approved by Washington State is presumed to satisfy this requirement.

Approved Storm Water Technical Manuals

Stormwater Management Manual for Western Washington, August 2001, for sites west of the crest of the Cascade Mountains

Stormwater Management Manual for Eastern Washington, (completion expected in the fall of 2003) for sites east of the crest of the Cascade Mountains

Other equivalent storm water management guidance documents approved by Ecology