

Appendix D

Erosion and Sediment Control Standards For Projects Under One Acre

NOTE: Coverage under the Construction General Permit by submitting a Notice of Intent and a Storm Water Pollution Prevention Plan are required for projects under one acre if the activity is part of a larger construction project or plan of development.

EROSION AND SEDIMENT CONTROL STANDARDS

University of California, Santa Cruz

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1. PURPOSE. The purpose of this chapter is to eliminate and prevent conditions of accelerated erosion and sediment transport that have led to, or could lead to, degradation of water quality, loss of fish habitat, damage to property, loss of topsoil and vegetation cover, and disruption of water supply.

2. SCOPE. This chapter requires control of all existing and potential conditions of accelerated (human-induced) erosion; sets forth required provisions for project planning, preparation of erosion and sediment control plans, runoff control, land clearing, and winter operations; and establishes procedures for administering those provisions.

3. DEFINITIONS.

Accelerated Erosion. Erosion caused by a human-induced alteration of the vegetation, land surface, topography, or runoff pattern. Evidence of accelerated erosion is often indicated by exposed soils, gullies, rills, sediment deposits, or slope failures caused by human activities.

Access Envelope. An area delineated on the site plan to which all clearing and land disturbance for construction of access must be confined.

Certified Professional Erosion and Sediment Control Specialist. A specialist in the area of soil

erosion and sediment control as certified by the Soil and Water Conservation Society and the International Erosion Control Association.

Drainage Course. A natural or man-made channel which conveys runoff either year-round or intermittently.

Earth Material. Rock, natural soil, or combination thereof.

Erosion. The weathering away of the ground surface as a result of the movement of wind or water.

Erosion Hazard. The susceptibility of a site to erode, based on condition of slope, rock type, soil, and other site factors. Hazard may be determined based on a site-specific investigation.

Grading. Excavating, filling, leveling, or smoothing, or combination thereof.

Land Clearing. The removal of vegetation down to duff or bare soil, by any method.

Land Disturbance. Clearing, excavating, grading, or other manipulation of the terrain.

Limit of Work. An area delineated on the development plans to which all clearing and land disturbance for construction must be confined.

Onsite Detention. Temporary storage of runoff on the site.

Onsite Retention. Permanent holding of runoff on the site through percolation to the ground.

Person. Any person, firm, association, corporation, organization, partnership, business, trust company, public agency, school district, the State of California and its political subdivisions or instrumentalities.

Project Boundary. See Limit of Work

Responsible Person. Any person who creates a condition which may lead to accelerated erosion. This definition specifically includes, but is not limited to, any contractor or other person engaged in a construction project at the University.

Road or Roadway. An open way for vehicular traffic.

Runoff. The movement of water over the ground surface.

Sediment. Eroded earth material that is carried by runoff and/or deposited in a stream, drainage course, or other area.

Sensitive Habitat. Includes (a) those shown on the Local Coastal Plan Sensitive Habitat Map; (b) areas of biotic concern as shown on the Local Coastal Plan Resources and Constraints maps which contain concentrations of rare, endangered, threatened or unique species; (c) as defined in the Local Coastal Plan Glossary, and any areas designated Environmental Reserve, Protected Landscape, or Campus Reserve Lands; and (d) any undesignated areas which meet the criteria below and which are so identified through the CEQA review process or other means.

- A. Areas of Special Biological Significance as identified by the State Water Resources

Control Board or by the University.

- B. Areas which provide habitat for locally unique species, including but not limited to, the special forests and grasslands designated in the local Coastal Program Land Use Plan or as otherwise designated by the University.
- C. Areas adjacent to critical habitats of rare and endangered species.
- D. The habitat of rare, endangered, and threatened species as identified by the State Department of Fish and Game, United States Department of Interior Fish and Wildlife Service, the Smithsonian Institute, or the California Native Plant Society.
- E. All marine, wildlife, and education/research reserves. (This includes the University's Environmental Reserve Area.)
- F. Nearshore reefs, rocky intertidal areas, sea caves, islets, offshore rocks, kelp beds, marine mammal hauling grounds, shorebird roosting, resting, and nesting areas.
- G. Dune plant habitats.
- H. All lakes, wetlands, estuaries, lagoons, streams, and rivers.
- I. Riparian corridors.

Site. A parcel of land or contiguous parcels where land alterations, including grading, clearing, or construction are performed or proposed.

Soil. The unconsolidated mineral and organic material on the immediate surface of the earth.

Stream. Any watercourse designated by a solid line or dash and three dots symbol on the largest scale of the United States Geological Survey map most recently published, or as indicated by the University when it has been field-determined that a watercourse either:

- A. Supports fish at any time of the year; or
- B. Has a significant water flow thirty (30) days after the last significant storm; or
- C. Has a well-defined channel, free of soil and debris.

Ten-Year Storm. A storm of an intensity that would be exceeded on the average only once every ten years. The intensity for the site shall be determined according to standard civil engineering design methods. The duration of the storm used in runoff calculation shall be equivalent to the concentration time for the area which drains through the project.

4. GENERAL PROVISIONS. No person shall cause or allow the continued existence of a condition on any site that is causing or is likely to cause accelerated erosion as determined by the University. Such a condition shall be controlled and/or prevented by the responsible person by using appropriate measures outlined in subsequent sections of this chapter. Additional measures shall be applied if necessary by the responsible person. Specific additional measures may be required by the University.

5. PROJECT DESIGN. The design of new development shall be planned to be consistent with the characteristics and constraints of the site:
 - A. Building and access envelopes or non-buildable areas may be required to be delineated on the project plans so as to keep disturbance out of particularly erodible areas. Envelopes shall be required in areas of high erosion hazard.
 - B. Streams or drainage courses shall not be obstructed or disturbed except for approved road crossings, unless disturbance of a drainage course will improve overall site design and be consistent with the purpose of this chapter.
 - C. Erosion and sediment control measures specified in, or pursuant to, this chapter, shall be in place and maintained at all times.

6. EROSION AND SEDIMENT CONTROL PLAN.
 - A. Prior to beginning grading or site clearing operations, an Erosion and Sediment Control Plan (ESCP) indicating proposed methods for the control of runoff, erosion, and sediment movement shall be submitted by the Contractor and accepted by the University. The ESCP must, at a minimum, include all best management practices (BMP's) listed in Appendix E, Best Management Practices for Construction Projects Less Than 1 Acre in Area Involving Soil Disturbance Greater Than 50 Cubic Yards, which are applicable to the project. ESCP's may also be required by the University for other types of activities where erosion can reasonably be expected to occur. The ESCP may be incorporated into other required plans, provided it is identified as such. ESCP's shall include, as a minimum, the measures required under Sections 7, 8, 9 and 10 of this chapter. Additional measures or modification of proposed measures may be required by the University prior to acceptance of erosion control plan. No grading or clearing may take place on the site prior to acceptance of an ESCP for that activity. Progress payments, acceptance of project, and/or final payment may be delayed pending proper installation of measures identified in the accepted ESCP.
 - B. Applications for acceptance granted pursuant to this Chapter shall include two (2) sets of plans for each application. Additional components may be required by the University. Plans shall be *reproducible and* drawn to scale upon substantial material, minimum size 18" by 24", and shall be of sufficient clarity to indicate the nature and the extent of the work proposed and show in detail that it will conform to the provisions of this chapter and all relevant laws and regulations. The plans shall include the following information in writing and/or diagrams:
 - 1) General location of the proposed site.
 - 2) Limits of work and contours of the site including finish contours to be achieved by grading, details of terrain, and area drainage; proposed construction, proposed drainage channels, and other runoff control measures.
 - 3) Best Management Practices for erosion and sediment control to be constructed with, or as a part of, the proposed work. All measures required under this chapter shall be shown. Function of erosion control measures shall be consistent with the provisions of this chapter.

- 4) Delineation of areas to be cleared during development activities.
 - 5) Revegetation proposal for all surfaces exposed or expected to be exposed during development activities, including cut and fill slopes.
 - 6) Name, address and phone number of the responsible person(s).
 - 7) North arrow, scale, and name and location of nearest road intersection.
 - 8) Name, address, and phone number of person who prepared the plan.
 - 9) All applicable BMPs from Appendix E.
 - 10) Proposed inspection form and schedule
- C. For projects which are expected to commence or continue during the rainy season, the erosion control plan must be prepared by a registered civil engineer or by a Certified Professional Erosion and Sediment Control Specialist.
- D. Applications for activities where the University recognizes that land disturbance under 50 cubic yards will take place, may not be required to include an erosion control plan.
7. **RUNOFF CONTROL**. Runoff shall be properly controlled to prevent erosion. The following measures shall be used for runoff control, and shall be adequate to control runoff from a ten-year storm:
- A. On soils having high permeability (more than two inches/hour), all runoff in excess of predevelopment levels shall be retained on the site. This may be accomplished through the use of infiltration basins, percolation pits or trenches, or other suitable means. This requirement may be waived where the University determines that high groundwater, slope stability problems, etc., would inhibit or be aggravated by onsite retention, or where retention will provide no benefits for groundwater recharge or erosion and sediment control.
 - B. On projects where onsite percolation is not feasible, all runoff should be detained or dispersed over nonerodible vegetated surfaces so that the runoff rate does not exceed the predevelopment level. Onsite detention may be required by the University where excessive runoff would contribute to downstream erosion or flooding. Any policies and regulations for any drainage zones where the project is located will also apply.
 - C. Any concentrated runoff which cannot be effectively dispersed without causing erosion, shall be carried in nonerodible channels or conduits to the nearest drainage course designated for such purpose by the University or to onsite percolation devices. Where water will be discharged to natural ground or channels, appropriate energy dissipators shall be installed to prevent erosion at the point of discharge.
 - D. Runoff from disturbed areas shall be detained or filtered by berms, vegetated filter strips, catch basins, or other means as necessary to prevent the escape of sediment from the disturbed area.

- E. No earth or organic material shall be deposited or placed where it may be directly carried into a stream, marsh, slough, lagoon, or body of standing water.

8. LAND CLEARING. Land clearing shall be kept to a minimum. Vegetation removal shall be limited to that amount necessary for building, access, and construction as shown on the approved erosion and sediment control plan. The following provisions shall apply:

- A. The following extents of land clearing require approval of an erosion and sediment control plan regardless of size of disturbance:

- 1) Clearing in a sensitive habitat, as defined in Section 3 of these Standards.
- 2) Clearing in the Coastal Zone if also in a least-disturbed watershed, a water-supply watershed, or an area of high erosion hazard.

- B. Approval of land clearing shall meet the following conditions. All disturbed surfaces shall be prepared and maintained to control erosion and to establish native or naturalized vegetative growth compatible with the area. This control shall consist of:

- 1) Effective temporary planting of Campus approved seed mix as listed in Appendix A of Campus Standards, and mulching with rice straw and/or other slope stabilization material;
- 2) Permanent planting of native or naturalized drought-resistant species of shrubs, trees, etc., when the project is completed; such planting is to be incorporated into the project design;
- 3) Mulching, fertilizing, watering or other methods must be performed as necessary to establish new vegetation. On slopes less than 20 percent, topsoil shall be stockpiled and reapplied.

The protection required by this section shall be installed prior to calling for final approval of the project and at all times during the rainy season. Such protection shall be maintained for at least one winter until permanent protection is established.

- C. No land disturbance shall take place prior to acceptance of the erosion and sediment control plan. Vegetation removal during the rainy season shall not precede subsequent grading or construction activities by more than fifteen (15) days. During this period, erosion and sediment control measures shall be in place.

9. RAINY SEASON OPERATIONS.

- A. When winter operations are permitted, the following measures shall be taken to prevent accelerated erosion and/or sedimentation. Additional measures may be required.

- 1) During the Rainy Season, disturbed surfaces not involved in the immediate operations shall be protected by mulching and/or other effective means of soil protection as required by the University.

- 2) All roads and driveways shall have drainage facilities sufficient to prevent erosion on or adjacent to the roadway or on downhill properties. Erosion-proof surfacing may be required by the University in areas of high erosion hazard.
 - 3) Runoff from a site shall be detained or filtered by berms, vegetated filter strips, and/or catch basins to prevent the escape of sediment from the site. These drainage controls shall be maintained by the responsible person as necessary to achieve their purpose throughout the life of the project.
 - 4) Erosion and sediment control measures shall be in place at the end of each day's work.
 - 5) The University may stop operations during periods of inclement weather if it is determined that erosion problems are not being controlled adequately.
10. **OVERALL RESPONSIBILITY.** It shall be the responsibility of the responsible party to ensure that erosion does not occur from any activity during project construction. Additional measures, beyond those specified, may be required by the University as deemed necessary to control accelerated erosion and/or sedimentation.
11. **EXEMPTIONS.** The following work is exempted from all provisions of this chapter except Sections 4, 14, and 15.
- A. **Agricultural Activities.** Permitted agricultural grading, routine agricultural activities such as plowing, harrowing, disking, ridging, listing, land planning, and similar operations to prepare a field for a crop, including routine clearing to maintain existing rangeland.
 - B. **Timber Harvesting.** Work done pursuant to a valid timber harvest permit.
 - C. **Quarrying.** Quarrying done pursuant to a valid quarry permit.
 - D. **Septic Systems and Wells.** Work done pursuant to a valid permit for septic system installation and repair or well drilling; however, Sections 9.2 shall apply, and sediment from these activities shall not be allowed to enter any stream or body of water.
 - E. **Emergency Utility Repair** Work done to repair a broken utility. If repair work is expected to be prolonged, Best Management Practices shall be implemented.
12. **INSPECTION AND COMPLIANCE.** The University may conduct inspections to ensure compliance with this chapter.
- A. **Inspection.**
 1. Contractor is responsible for performing regular inspections of project site to ensure compliance with these standards. At a minimum, inspections should be performed:
 - a. Before, during, and after a 50% chance 0.25" forecast rain event.

- b. Once per week during rainy season (October-May).
 - c. Once per month during non rainy season (June-September)
 - 2. The following inspections may be performed by the University:
 - a. Pre-site Inspection. To determine the potential for erosion resulting from the proposed project.
 - b. Operation Progress Inspections. To determine ongoing compliance.
 - c. Final Inspection. To determine compliance with accepted plans and specifications.
 - B. Notification. The responsible person shall notify the University at least twenty-four hours prior to the start of the authorized work.
- 13. APPLICABLE LAWS AND REGULATIONS. Any person doing work in conformance with this chapter must also abide by all other applicable local, state, and federal laws and regulations,
- 14. STOP WORK NOTICES. If the University determines that activities are being carried out in violation of this Chapter or an approved variance, it may stop all work until corrective measures have been completed.
- 15. NOTIFICATION OF VIOLATIONS. Whenever the University determines that a violation of this Chapter exists, the University may notify the responsible person in writing. Such written notification may require that certain conditions be adhered to in the correction of the erosion problem. These may include, but are not limited to, the following:
 - A. Use of specific erosion and sediment control techniques.
 - B. Submittal of an erosion and sediment control plan, to be accepted by the University prior to the commencement or continuation of work.
 - C. Completion of work within a specified time period.