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Minimum Construction Site Storm Water Management Practices (Below 3000 Foot Elevation)

The storm water management practices described below are the minimum, required water quality protection measures applicable to all construction sites below 3000 feet in elevation, within Western El Dorado County. This listing does not include the various inspection, record keeping, training and reporting requirements. Additionally, there will be instances where project and site conditions require supplementing or deviating from these minimum protection requirements. The contractor is expected to deploy measures sufficient to achieve compliance with the County's Grading Ordinance; and, as applicable (projects which involve one acre or more of disturbed soil or are part of a larger common plan of development that encompasses one acre or more of disturbed soil), with the State Water Resources Control Board's (SWRCB) NPDES General Permit for Storm Water Discharges Associated with Construction Activity.

Scheduling

Construction shall be scheduled to minimize construction activities in "high-risk areas" and the amount of active disturbed soil areas, during the rainy season (Oct. 15th to May 1st). "High-risk areas" include those areas within 50 feet of USGS watercourses, 100-year flood plains, regulated wetlands, and where slopes exceed 16%.

Unless specifically authorized by the County's on-site representative, during the rainy season the contractor shall not schedule construction activities in "high risk areas" or schedule to have more than 5 acres of active disturbed soil area. As an alternative to these restrictions, the contractor may elect to assure that these areas are fully protected by "Sediment Basins" or "Treatment", in addition to the normally required "effective combination" of soil stabilization, sediment barriers and basins / traps.

Where permanent storm water treatment devices are to be constructed, these devices should, whenever feasible, be constructed as an early work item.

Preservation of Existing Vegetation and Protect Environmentally Sensitive Areas

Prior to the commencement of soil-disturbing activities, areas of existing vegetation that are to remain and environmentally sensitive areas (i.e. wetlands, protected habitats, etc) shall be fenced for protection. In general, site designs shall preserve existing vegetation to the maximum extent possible; and during construction, existing vegetation shall be preserved (and protected by fencing) for as long as possible to minimize erosion.

Storm Water Run-On and Concentrated Flows

Existing watercourses shall be protected; and if diverted, handled in a non-eroding fashion. To the extent feasible, all concentrated water flows shall be channeled away from disturbed soil areas / stockpiles. Concentrated water flows shall be conveyed in a non-eroding fashion.

Stockpile Management

Stockpiles shall be managed as follows:

- Soil stockpiles
 - Rainy season:
 - Covered, or protected with soil stabilization measures & perimeter sediment barriers

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Non-rainy season:

- Covered or protected with perimeter sediment barriers
- Concrete/asphalt rubble, rock and aggregate base/sub-base
 - Covered or protected with perimeter sediment barriers
- “Cold mix” asphalt
 - Covered

Sediment Tracking Control

Appropriate measures shall be deployed to minimize any tracking of sediment off-site by vehicles and/or equipment. These measures include stabilized construction entrances/exits & roadways, and tire washing. Where tracking occurs, streets shall be swept using a pickup sweeper with water supply.

Non-Storm Water Management

Non-storm water discharges shall be minimized to the extent feasible. Sediment-laden non-storm water is required to be filtered (or equivalent treatment) prior to discharging. Measures required to manage non-storm water discharges include: water conservation practices, dust control, material storage practices, vehicle/equipment operation and maintenance requirements, waste management practices, and spill prevention/control measures.

Disturbed Soil Area Management

Disturbed soil areas (DSA) shall be protected with an “effective combination” of measures including soil stabilization, sediment barriers and basins / traps. There may be situations where “Sediment Basins” or “Treatment” are able to substitute as alternative control measures to the normally required “effective combination” of soil stabilization, sediment barriers and basins / traps. However, when substituting these measures, the contractor must be prepared to demonstrate that the sediment load within storm water discharges from the construction site does not exceed natural or pre-construction levels.

Soil stabilization measures include:

- Hydraulic mulch (ref. CASQA BMP # EC-3)
- Hydroseeding (ref. CASQA BMP # EC-4)
- Suitably stabilized, non-polluting straw / wood / organic mulch (ref. CASQA BMP #'s EC-6 & EC-8)
- Geotextiles, mats, plastic covers and erosion control blankets (ref. CASQA BMP # EC-7)
- Stabilized construction roadways (ref. CASQA BMP # TR-2)

Sediment barriers include:

- Silt fences (ref. CASQA BMP # SE-1)
- Sand/gravel bag barriers (ref. CASQA BMP #'s SE-6 & SE-8)
- Straw bale barriers (ref. CASQA BMP # SE-9)
- Fiber rolls (ref. CASQA BMP # SE-5)

Basin / traps include:

- Desilting basins (ref. Caltrans BMPs)
- Sediment traps (ref. Caltrans BMPs)

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On DSAs with slope lengths greater than 10 feet, the following measures shall be deployed:

Rainy season (Oct. 15th to May 1st):

- Non-active areas (no soil disturbing activities for 21 or more days)
 - On slopes equal to or flatter than 1:20 (V/H), soil stabilization
 - On slopes steeper than 1:20 (V/H), soil stabilization and sediment barriers
- Active areas
 - On slopes steeper than 1:20 (V/H), sediment barriers
 - On slopes steeper than 1:2 (V/H) with slope lengths greater than 50 feet: soil stabilization; sediment barriers; and where feasible, basins / traps

Non-rainy season:

- Non-active areas (no soil disturbing activities for 21 or more days)
 - On slopes steeper than 1:2 (V/H), sediment barriers

General:

- Protection shall be deployed on non-active DSAs within 14 days from the cessation of soil-disturbing activities or one day prior to the predicted (40% or more chance) onset of significant precipitation, whichever occurs first. Protection shall be deployed on active DSAs prior to the predicted (40% or more chance) onset of significant precipitation.
- Properly drained terraces, at least 8 feet wide, shall be provided at intervals not more than every 25 feet in height on all permanent slopes and non-active DSAs exceeding 30 feet in height.
- “Sediment Basin:” A basin with a capacity equivalent to at least 3600 cubic feet of storage (as measured from the bottom of the basin to the principal outlet) per acre draining into the basin. The length of the basin shall be more than twice the basin’s width (length is determined by measuring the distance between the inlet and the outlet). The depth of the basin must not be less than three feet nor greater than five feet.
- “Treatment”: A combination of basin and treatment engineered to capture and treat (to remove 0.01 mm sized particles and larger) the 10-year, 6-hour rain event using $Q=CxIxA$ where $C=0.5$ and I ranges from 0.286 (El Dorado Hills) to 0.500 (Sly Park).

General reference: El Dorado County “Storm Water Management Plan”, October 2004.

Available online at: <http://www.co.el-dorado.ca.us/emd/solidwaste/storm.html>

Detailed references:

1. California Stormwater Quality Association (CASQA) “Construction Handbook”, January 2003, Errata September 2004. Available online at: <http://www.cabmphandbooks.com/>
2. Caltrans “Statewide Storm Water Quality Practice Guidelines”, May 2003. Available online at: <http://www.dot.ca.gov/hq/env/stormwater/special/newsetup/index.htm>