**Construction Operations and Methods**

**Temporary Erosion Control**

The test will more than likely just have a basic word problem dealing with Erosion control, if it has anything on the test. So just review, this notes and if you want more detail review the California Stormwater Best Practices Handbook in the free Engineer Manual under Construction Engineering.

There are two main sections for StormWater Management, 1. Erosion Control and 2. Sediment Control.

**Erosion Control:** Is any control practice that protects the soil surface and prevents soil particles from being detached by rainfall, flowing water, or wind. These are forms of Erosion Control: Preservation of Existing Vegetation, Hydraulic Mulch, Hydroseeding, Soil Binders, Straw Mulch, Geotextiles and Mats, Wood Mulching, Earth Dikes and Drainage Swales, Velocity Dissipation Devices, Slope Drains, Streambank Stabilization, Polyacrylamide.

**Sediment Control:** Is any practice that traps soil particles after they have been detached and moved by rain, flowing water, or wind. Sediment control practices can consist of installing linear sediment barriers (such as silt fence, sandbag barrier, and straw bale barrier); providing fiber rolls, gravel bag berms, or check dams to break up slope length or flow; or constructing a sediment trap or sediment basin.
EROSION CONTROL

Preservation of Existing Vegetation: Carefully planned clearing and grubbing plans can protect soil from erosion.

Hydraulic Mulch: Consist of applying a mixture of shredded wood fiber and a stabilizing emulsion with hydro-mulching equipment.

Hydroseeding: Consist of applying a mixture of wood fiber, seed, fertilizer and a stabilizing emulsion with hydro-mulching equipment.

Soil Binders: Consist of applying and maintaining a soil stabilizer to exposed soil surfaces.

Straw Mulch: Consist of placing a uniform layer of straw and incorporating it into the soil with a studded roller or anchoring it with a tackifier stabilizing emulsion.
**EROSION CONTROL**

Geotextiles and Mats: Mattings of natural materials are used to cover the soil surface. Mattings may be used to stabilize soils until vegetation is established.

Wood Mulching: Consist of applying a mixture of shredded wood mulch, bark or compost to disturbed soils.

Earth Dikes and Drainage Swales: An earth dike is a temporary berm of compacted soil used to divert runoff or channel water to a desired location. A drainage swale is a shaped and sloped depression in the soil used to convey runoff to a desired location.

Velocity Dissipation Devices: A physical device composed of rock, riprap, or concrete rubble.

Slope Drains: A pipe used to intercept and direct surface runoff into a stabilized area. They are usually used with earth dikes and drainage ditches in order to direct the surface flow.
**EROSION CONTROL**

Streambank Stabilization: Streambank may require numerous measures to prevent any increase in sediment load to the stream.

Polyacrylamide: is a chemical that can be applied to disturbed soils at construction sites to reduce erosion and improve settling of suspended sediment.
SEDIMENT CONTROL

Silt Fence: is made of a filter fabric that has been entrenched, attached to supporting poles.

Sediment basin: temporary basin formed by excavation or by constructing an embankment.

Sediment trap: is a containment area where sediment-laden runoff is temporarily detained. Sediment traps are formed by excavating or constructing an earthen embankment across a waterway or low drainage area.

Check Dams: a small barrier constructed of rock, gravel bags, sandbags, fiber rolls, or reusable products. Check dams reduce the effective slope of the channel, thereby reducing the velocity of flowing water, allowing sediment to settle and reducing erosion.

Fiber Rolls: consists of straw, flax, or similar materials bound into a tight tubular roll.
SEDIMENT CONTROL

Gravel Bag Berms: is a series of gravel-filled bags placed on a level contour to intercept sheet flows.

Sandbag Barrier: is a series of sand-filled bags placed on a level contour to intercept sheet flows.

Straw Bale Barrier: is a series of straw bales placed on a level contour to intercept sheet flows.