

ATTACHMENT "E"

BEST MANAGEMENT PRACTICES PLAN

The purpose of the Best Management Practices (BMP) plan is to evaluate potential sources of sediment and other pollutants at the construction site and put controls in place that will effectively prevent pollutant discharges to surface and ground waters. The following general pollution control elements should be addressed in the BMP Plan:

1. retain soil and sediment on the construction site;
2. prevent non-storm water discharges that would discharge pollutants off site;
3. prevent the discharge of other pollutants associated with construction activities to land or surface waters;
4. permanently stabilize disturbed soils; and
5. minimize the effects of increased storm water runoff from impervious surfaces.

For detailed information on construction related BMPs, the EPA document Storm Water Management for Construction Activities: Developing Pollution Prevention Plans and Best Management Practices may be found at the following website:

http://cfpub.epa.gov/npdes/pkeyword.cfm?keywords=BMPs&program_id=0

Additional information may be also be obtained by contacting the Lahontan Regional Water Quality Control Board.

Specific guidance for completing the Best Management Practices (BMP) Plan is provided below. The BMP Plan must be submitted with the Notice of Intent (NOI) to obtain coverage under the General Permit. Use the attached form for preparing the BMP plan.

Temporary Erosion Control

This element of the BMP Plan addresses temporary erosion control or soil stabilization measures to be implemented during the time while active construction and land disturbing work is active. The most efficient way to address erosion control is to preserve existing vegetation where feasible, limit disturbance, and stabilize and revegetate disturbed areas as soon as possible after grading or construction. Use of temporary erosion control measures is especially important on large graded sites where soil exposure to rainfall and wind can cause significant soil loss if left unprotected during the time active construction activities are conducted. Some of these measures may overlap with the permanent soil stabilization measures discussed later in the section. Until permanent vegetation is established, temporarily covering the soil is the most cost-effective and expeditious method to prevent and minimize erosion.

Indicate on the BMP Plan what methods will be used to prevent erosion from cut and fill slopes and other disturbed areas after grading activities are completed, but before permanent soil stabilization measures can be implemented. Options may include, but are not limited to:

- **Covering with mulch**
- **Temporary seeding or planting**
- **Applying soil stabilizers or binders (tackifier)**

- **Placing fiber rolls/logs on bare slopes**
- **Covering surfaces with erosion control blankets**
- **Diverting run off around disturbed areas using stabilized conveyances**

Sediment Control

Sediment control BMPs are required at appropriate locations along the site perimeter and at all internal inlets to the storm drain system. Sediment controls used in combination with the erosion controls described above can effectively prevent the discharge of pollutants off site. Effective filtration devices, barriers, and settling devices shall be selected, installed and maintained properly. The sediment control plan must also include provisions to temporarily stabilize construction access points such that soil, sediment, and other construction related materials are not tracked out beyond the site perimeter.

Indicate on the BMP Plan what sediment controls will be used at the site. Options may include, but are not limited to:

Filter barriers -

- **fiber rolls/logs**
- **silt fence**
- **straw bale barriers**
- **gravel inlet filters**

Retention structures -

- **sediment traps**
- **settling basins**

Stabilized access points/good housekeeping –

- **crushed rock**
- **mulch**
- **landing mats**
- **frequent sweeping**

Stabilization

All disturbed areas of the construction site must be stabilized once construction is complete. Disturbed areas include drainage ditches or channels. Stabilization means implementing permanent rather than temporary erosion controls. It is recommended to stabilize disturbed areas in inactive (no further land disturbance planned) portions of the site as soon as feasible. Final stabilization for the purposes of submitting a Notice of Termination (NOT) is satisfied when all soil disturbing activities are completed AND EITHER OF THE TWO FOLLOWING CRITERIA ARE MET:

1. A uniform vegetative cover with 70 percent coverage has been established OR:
2. equivalent stabilization measures have been employed. These measures include the use of such BMPs as mulch, erosion blankets, rip rap, fiber treatments, or other erosion resistant soil coverings or treatments.

Where background native vegetation covers less than 100 percent of the surface, such as in arid areas, the 70 percent coverage criteria is adjusted as follows: if the native vegetation on adjacent undisturbed areas covers 50 percent of the ground surface, 70 percent of 50 percent (.70 X .50=.35) would require 35 percent total uniform surface coverage.

Indicate on the BMP Plan what stabilization measures will be used at the site. Options may include, but are not limited to:

- **Seeding and/or planting (including hydro mulching/seeding)**
- **Mulching (wood chips, gravel, other) in combination with seeding/planting**
- **Installing erosion blankets (typically used on steeper disturbed slopes or unlined drainage ditches in combination with permanent seeding/planting)**
- **Placing rip rap**

Non-Storm Water Management

Non-storm water discharges should be eliminated or reduced to the extent feasible. Certain non-storm water discharges (e.g. irrigation of vegetative erosion control measures, pipe flushing and testing) may be necessary for the completion of some construction projects and are authorized by this General Permit. Other non-storm water discharges such as concrete washout, and driveway and street washing that would flush sediment or other pollutants to storm drains or surface waters are not allowed and would be a violation of this General Permit. De-watering waste should be discharged to land and infiltrated. A separate permit may be necessary if de-watering waste must be discharged to surface waters due to site constraints.

Indicate on the BMP Plan how unauthorized non-storm water discharges will be controlled. Options include, but are not limited to:

- **Approved off-site wash-out and wash-down areas**
- **Lined wash-out containment basins/traps**
- **De-watering waste infiltration or containment**

Spill Prevention and Control

The BMP Plan must describe measures to prevent and control potential leaks/spills of petroleum products such as fuels and lubricating materials, and other potentially hazardous materials. Secured storage areas for fuels and chemicals should be established and sufficient spill cleanup materials should be at the site to respond to accidental spills.

Indicate on the BMP Plan what spill prevention and control measures will be used. Options include, but are not limited to:

- **Covered material storage**
- **Material storage containment (berms, lined surfaces, secondary containment devices etc.)**
- **Regular equipment leak inspections**
- **Drip pans**
- **Absorbents**

Post-Construction Storm Water Management

Post-construction storm water controls are needed to reduce the impacts of adding impervious surfaces to the landscape and adding potential pollutant sources within storm water drainage areas. Additional impervious surfaces reduce storm water infiltration and storage and increase the volume and velocity of run off down stream from developed sites. Whenever possible, use of infiltration and treatment devices is encouraged. Specific requirements for infiltration or treatment of storm water runoff volume from a 20-year, 1-hour storm from all impervious surfaces in the Truckee River, Little Truckee River, and Mammoth Lakes watersheds must be met (see Attachment “G”) Design approaches that limit overall land disturbance and reduce the amount of impervious surfaces are encouraged. Additional post-construction BMPs should also be incorporated into projects as appropriate and be properly maintained.

Indicate on the BMP Plan what post-construction BMPs will be implemented. Options include, but are not limited to:

- **Infiltration structures**
- **Detention/retention basins**
- **Storm water treatment vaults**
- **Biofilter BMPs (typically vegetated swales, strips, and buffers)**
- **Energy dissipation devices (structures designed to prevent erosion and slow water velocity associated with conveyance systems)**
- **Efficient irrigation systems**
- **Proper drain plumbing (e.g. ensuring that interior drains are not connected to a storm sewer system)**

Maintenance, Inspection, and Repair

BMPs implemented at the site must be properly maintained to be effective. The BMP plan shall include provisions to inspect and maintain all BMPs identified in the plan throughout the duration of the project. Sites that are inactive and winterized through the wet season should be checked periodically to ensure the site remains stable. For sites where construction activity is conducted through the wet season, the Discharger must ensure that BMPs remain effective.

Indicate on the BMP Plan how BMPs will be inspected and repaired in accordance with the following minimum program:

For inactive construction sites during wet season -

- **Cease construction through wet season and winterize (see Attachment “G”)**

For active construction sites during wet season -

- **Inspect BMPs before and after storm events**
- **Inspect BMPs once each 24-hour period during extended storm events**
- **Implement repairs or design changes as soon as feasible depending upon worker safety and field conditions**
- **Have provisions to respond to failures and emergencies**

BEST MANAGEMENT PRACTICES PLAN

Discharger Name: _____

Site Name: _____

Street Address: _____

City: _____

County: _____

Use the template provided below to identify BMPs to be implemented at the construction site. Check the boxes next to the BMPs that will be used. If other BMPs will be used, describe them in the space provided for "Other BMP." Attach additional sheets if needed.

TEMPORARY EROSION CONTROL

Erosion from graded or disturbed areas, including cut and fill slopes, will be temporarily protected once soil disturbing activities are completed by the following method(s):

- Covering with mulch**
- Temporary seeding or planting**
- Applying soil stabilizers or binders (tackifier)**
- Placing fiber rolls/logs on bare slopes**
- Covering surfaces with erosion control blankets**
- Diverting run off around disturbed areas using stabilized conveyances**
- Other (describe below)**

BEST MANAGEMENT PRACTICES PLAN

SEDIMENT CONTROL

Excess sediment will be prevented from running off the site or to storm drain inlets by the following method(s):

Filter barriers -

- fiber rolls
- silt fence
- straw bale barriers
- gravel inlet filters

Retention structures -

- sediment traps
- settling basins

Stabilized access points/good housekeeping –

- crushed rock
- mulch
- landing mats
- frequent sweeping

- Other (describe below)

BEST MANAGEMENT PRACTICES PLAN

STABILIZATION

Disturbed soil areas not covered with impervious surfaces will be permanently stabilized by the following method(s):

- Seeding and/or planting (including hydro mulching/seeding)**
- Mulching (wood chips, gravel, other) in combination with seeding/planting**
- Installing erosion blankets (typically used on steeper disturbed slopes or unlined drainage ditches in combination with permanent seeding/planting)**
- Placing rip rap (describe location)**
- Other (describe below)**

NON-STORM WATER MANAGEMENT

Unauthorized non-storm water discharges will be controlled using the following method(s):

- Approved off-site wash-out and wash-down areas (describe location)**
- Lined wash-out containment basins/traps (describe location)**
- De-watering waste infiltration or containment (describe location)**
- Other (describe below)**

BEST MANAGEMENT PRACTICES PLAN

POST-CONSTRUCTION STORM WATER MANAGEMENT

The following post-construction BMPs will be implemented to reduce impacts from additional impervious surfaces and pollutant sources (include design calculations used to size BMPs):

- Infiltration structures**
- Detention/retention basins**
- Storm water treatment vaults**
- Biofilter BMPs (typically vegetated swales, strips, and buffers)**
- Energy dissipation devices (structures designed to prevent erosion and slow water velocity associated with conveyance systems)**
- Efficient irrigation systems**
- Proper plumbing design (e.g. ensuring that interior drains are not connected to a storm sewer system)**
- Other (describe below)**

BEST MANAGEMENT PRACTICES PLAN

MAINTENANCE, INSPECTION, AND REPAIR

BMPs will be inspected and repaired in accordance with the following minimum program:

For inactive construction sites during wet season (October 15 – May 1) –

- Cease construction through wet season and winterize (see Attachment “G”)**

For active construction sites during wet season (October 15 – May 1) –

- Inspect BMPs, and repair if needed, before and after storm events**
- Inspect BMPs once each 24-hour period during extended storm events**
- Implement repairs or design changes as soon as feasible depending upon worker safety and field conditions**
- Have provisions to respond to failures and emergencies**
- Other (describe below)**