FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-0-01-12	2012	13	123

WATER POLLUTION AND EROSION CONTROL NOTES

A. GENERAL:

1. See Section 209 - Water Pollution and Erosion Control. Section 209 describes but is not limited to: submittal requirements; scheduling of a water pollution and erosion control conference with the Engineer; construction requirements; method of measurement; and basis of payment.
2. Effective October 1, 2008, follow the guidelines in the "Construction Best Management Practices Field Manual", dated January 2008 in developing, installing and maintaining the Best Management Practices (BMP) for the project.
3. Follow the guidelines in the Honolulu's City & County "Rules Relating to Soil Erosion Standards and Guidelines" along with applicable Soil Erosion Guidelines for projects on Maui, Molokai, Kauai, and Hawaii.
4. The Engineer may assess liquidated damages of up to $27,500 for non-compliance of each BMP requirement and each requirement stated in Section 209, for every day of non-compliance. There is no maximum limit on the amount assessed per day.
5. The Engineer will deduct the cost from the progress payment for all citations received by the Department for non-compliance, or the Contractor shall reimburse the State for the full amount of the outstanding cost incurred by the State.
6. For projects that require an NPDES Permit from the Department of Health, install a rain gage prior to any field work including the installation of any site-specific best management practices. The rain gage shall have a tolerance of at least 0.05 inches of rainfall, and have an opening of at least one-inch in diameter. Install the rain gage on the project site in an area that will not deter rainfall from entering the gage opening. The rain gage installation shall be stable and plumbed. Do not begin field work until the rain gage is installed and site-specific best management practices are in-place.

B. WASTE DISPOSAL:

1. Waste Materials
   Collect and store all waste materials in a securely lidded metal dumpster. The dumpster shall meet all local and State solid waste management regulations. Deposit all trash and construction debris from the site in the dumpster. Empty the dumpster a minimum of twice per week or as often as is deemed necessary. Do not bury construction waste materials onsite. The Contractor's supervisory personnel shall be instructed regarding the correct procedure for waste disposal. Post notices stating these practices in the office trailer and the Contractor shall be responsible for seeing that these procedures are followed.
2. Hazardous Waste
   Dispose all hazardous waste materials in the manner specified by local or State regulations and by the manufacturer. The Contractor's site personnel shall be instructed in these practices and shall be responsible for seeing that these practices are followed.
3. Sanitary Waste
   Collect all sanitary waste from the portable units a minimum of once per week, or as required.

C. EROSION AND SEDIMENT CONTROL INSPECTION AND MAINTENANCE PRACTICES:

1. Inspect all control measures at least once each week and within 24 hours of any rainfall event of 0.5 inches or greater within a 24 hour period.
2. Maintain all measures in good working order. If repair is necessary, it shall be initiated within 24 hours after the inspection.
3. Remove built-up sediment from silt fence or fiber roll when it has reached one-third the height of the fence or the full height of the fiber roll.
4. Inspect silt screen or fence for depth of sediment, tears, to verify that the fabric is securely attached to the fence posts or concrete slab and to verify that the fence posts are firmly in the ground. Inspect and verify the bottom of the silt screen is buried a minimum of 6 inches below the existing ground.
5. Inspect temporary and permanent seeding and planting for bare spots, washouts and healthy growth.
6. Make a maintenance inspection report promptly after each inspection. Submit a copy to the Engineer no later than one week from the date of the inspection.
7. Provide a stabilized construction entrance to reduce vehicle tracking of sediments. Include stabilized construction entrance in the Water Pollution, Dust, and Erosion Control submittals. Minimum length should be 50 feet. Minimum width should be 30 feet. Minimum depth should be 12 inches or as recommended by the soils engineer and underlain with geo-textile fabric. Clean the paved street adjacent to the site entrance daily or as required to remove any excess mud, cold planed materials, dirt or rock tracked from the site. Cover dump trucks hauling material from the construction site with a tarpaulin.
8. Include designated Concrete Washout Area(s) in the Water Pollution, Dust, and Erosion Control submittals.
9. Submit the name of a specific individual designated responsible for inspections, maintenance and repair activities and filling out the inspection and maintenance report.
10. Personnel selected for the inspection and maintenance responsibilities shall receive training from the Contractor. They shall be trained in all the inspection and maintenance practices necessary for keeping the erosion and sediment controls used onsite in good working order.
11. Contain, remove, and dispose slurry generated from saw cutting of pavement in accordance with approved BMP practices. Payment for confinement, removal, and disposal of slurry shall be considered incidental to the various contract items.

D. GOOD HOUSEKEEPING BEST MANAGEMENT PRACTICES:

1. Materials Pollution Prevention Plan
   a. Applicable materials or substances listed below are expected to be present onsite during construction. Other materials and substances not listed below shall be added to the inventory.

Concrete	Fertilizers
Detergents	Petroleum Based Products
Paints (enamel and latex)	Cleaning Solvents
Masonry Block	Wood
Tar	

   b. Use Material Management Practices to reduce the risk of spills or other accidental exposure of materials and substances to storm water runoff. Make an effort to store only enough product as is required to do the job.
   c. Store all materials stored onsite in a neat, orderly manner in their appropriate containers and if possible under a roof or other enclosure.
   d. Keep products in their original containers with the original manufacturer's label.
   e. Do not mix substances with one another unless recommended by the manufacturer.
   f. Whenever possible, use a product up completely before disposing of the container.
   g. Follow manufacturer's recommendations for proper use and disposal.
   h. Conduct a daily inspection to ensure proper use and disposal of materials onsite.
2. Hazardous Material Pollution Prevention Plan
   a. Keep products in original containers unless they are not resealable.
   b. Retain original labels and material safety data sheets (MSDS).
   c. Dispose of surplus products according to manufacturers' instructions and local and State regulations.

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4/30/12
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

WATER POLLUTION AND EROSION CONTROL NOTES

SLOPE IMPROVEMENTS FOR EROSION CONTROL AT VARIOUS SITES ON OAHU, PHASE 5
Project No. HWY-0-01-12

Scale: None Date: April 2012

SHEET No. N-7 OF 15 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-O-01-12	2012	14	123

WATER POLLUTION AND EROSION CONTROL NOTES (CON'T.)

D. GOOD HOUSEKEEPING BEST MANAGEMENT PRACTICES (CON'T.):

3. Onsite and Offsite Product Specific Plan

The following product specific practices shall be followed onsite:

a. Petroleum Based Products:
Monitor all onsite vehicles for leaks and perform regular preventive maintenance to reduce the chance of leakage. Store petroleum products in tightly sealed containers which are clearly labeled. Apply asphalt substances used onsite according to the manufacturer's recommendation.

b. Fertilizers:
Apply fertilizers used only in the minimum amounts recommended by the manufacturer. Once applied, work fertilizer into the soil to limit exposure to storm water. Storage shall be in a covered shed. Transfer the contents of any partially used bags of fertilizer to a sealable plastic bin to avoid spills.

c. Paints:
Seal and store all containers when not required for use. Do not discharge excess paint to the highway drainage system. Dispose properly according to manufacturer's instructions or State and local regulations.

d. Concrete Trucks:
Wash out or discharge concrete truck drum wash water only at designated site. Do not discharge water in the highway drainage system or waters of the United States. Contact Drinking Water Branch, Department of Health at 586-4258 to receive permission to designate a disposal site. Clean disposal site as required or as requested by the Owner's representative.

4. Spill Control Plan

a. Post a spill prevention plan to include measures to prevent and clean up each spill.

b. The Contractor shall be the spill prevention and cleanup coordinator. Designate at least three site personnel who shall receive spill prevention and cleanup training. These individuals shall each become responsible for a particular phase of prevention and cleanup. Post the names of responsible spill presonnel in the material storage area and in the office trailer onsite.

c. Clearly post manufacturers' recommended methods for spill cleanup. Make site personnel aware of the procedures and the location of the information and cleanup supplies.

d. Keep materials and equipment necessary for spill cleanup in the material storage area onsite.

e. Clean up all spills immediately after discovery.

f. Keep the spill area well ventilated. Personnel shall wear appropriate protective clothing to prevent injury from contact with a hazardous substance.

g. Report spills of toxic hazardous material to the Project Engineer regardless of size and notify appropriate State or local government agencies when any release of hazardous substances, pollutants, or contaminants in quantities equal or exceed their reportable quantities.

E. PERMIT REQUIREMENTS:

1. If a National Pollutant Discharge Elimination System (NPDES) Permit is required for Construction Activities of one acre or more, submit to the Engineer six sets of the Water Pollution and Erosion Control Submittals as detailed in Subsection 209.03 of the specifications. The Contractor's attention is directed to the applicable NPDES Permit documents on the bid package compact disc.

2. If an NPDES Permit or Construction Dewatering is required, the Contractor shall be responsible to obtain the Permit from the Department of Health, Clean Water Branch.

3. Comply with all applicable State and Federal Permit conditions. Permits may include but are not limited to the following:

a. NPDES Permit for Construction Activities

ORIGINAL PLAN
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TRACED BY _____
DESIGNED BY _____
QUANTITIES BY _____
CHECKED BY _____

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

WATER POLLUTION AND EROSION CONTROL NOTES

SLOPE IMPROVEMENTS FOR EROSION CONTROL AT VARIOUS SITES ON OAHU, PHASE 5
Project No. HWY-O-01-12

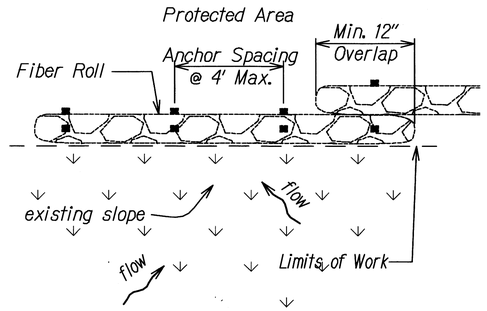
Scale: None Date: April 2012

SHEET No. N-8 OF 15 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-O-01-12	2012	15	123

EROSION CONTROL/BEST MANAGEMENT PRACTICES NOTES

1. The Contractor, at his own expense, shall keep the project areas and surrounding areas free from dust nuisance. The work shall be done in conformance with air pollution control standards contained in Hawaii Administrative Rules: Chapter 11-60, "Air Pollution Control".
2. Measures to control erosion and other pollutants shall be in place before any grading work is initiated. These measures shall be properly constructed and maintained throughout the construction period of each site.
3. Construction shall be sequenced to avoid disturbance at all project sites at one time and minimize exposure time of the cleared surface area.
4. The Contractor shall observe and comply with the State Department of Health regulations regarding storm water discharge.
5. All erosion control measures shall be checked and repaired as necessary, for example, weekly in dry periods and within twenty-four hours after any rainfall of 0.5 inches or greater within a 24-hour period. During prolonged rainfall, daily checking is necessary. During an event of above normal rainfall, the contractor shall remove the sediment and drain inlet filter and reinstall them after the event has passed. The Contractor shall maintain records of all checks and repairs.
6. Catch basin/inlet protection shall be implemented at all storm drain inlets and catch basins as indicated to prevent any sediment laden runoff from leaving the site. Catch basin and inlet protection devices shall be removed during periods of above normal rainfall and replaced after the event has passed. For catch basin and drain inlet protection details see this sheet.
7. The Contractor shall install fiber rolls and silt fence as shown on plans.
8. Good housekeeping shall be utilized to ensure protection of roadways from mud, dirt, and debris.
9. The Contractor shall provide erosion control measures for their construction, staging, and storage areas and shall inspect and monitor his construction, staging, and storage areas to ensure that no non-storm water discharges are emitted. If such sources are identified the Contractor shall provide immediate mitigative measures.
10. No sediment laden runoff shall leave the site.
11. Water trucks shall be utilized to minimize the amount of airborne dust.
12. Contractor shall ensure the proper working order and conduct regular maintenance of all construction equipment. All construction equipment shall be serviced offsite and no oil or fuel shall be stored on the site.
13. The Contractor shall dispose of vegetation and equipment and hydraulic oils off-site.
14. At the end of the grading operation, existing catch basins and drain inlets surrounding the project site shall be inspected and any accumulated sediment and debris found shall be removed. Flushing into the catch basins or drain inlets is prohibited.
15. Grass shall be established on disturbed areas which are at final grade or will not be worked on for longer than 14 days. Alternatives to grass include 2" minimum straw mulch cover, erosion blankets with anchors, 6-mil plastic sheets, chemical soil stabilizer, sediment traps or ponds, or interceptor dikes/swales.
16. The Contractor shall designate a specific individual to be responsible for erosion and sediment controls on each project site.
17. For silt fence, the Contractor shall bury the bottom of the geotextile filter fabric in the trench.



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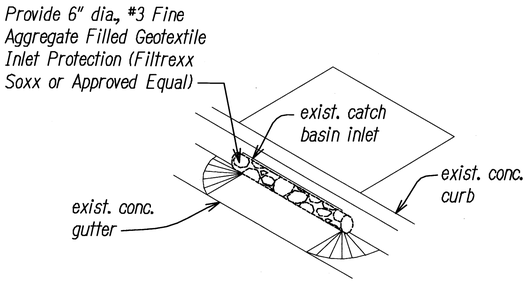

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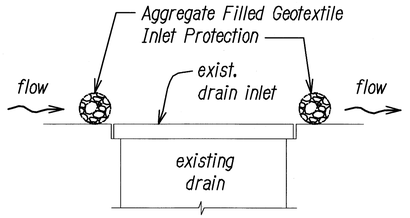

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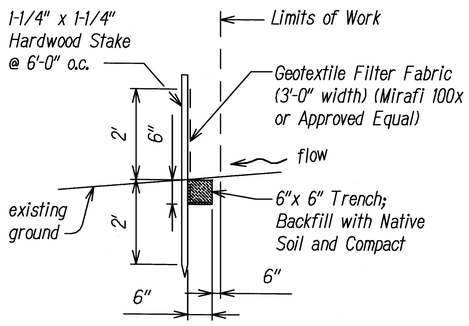

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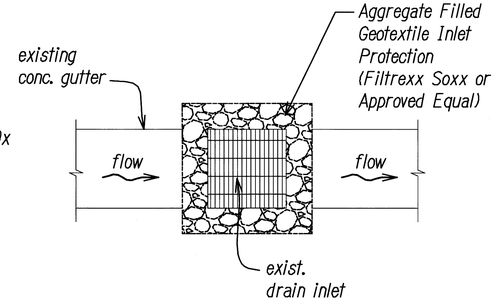

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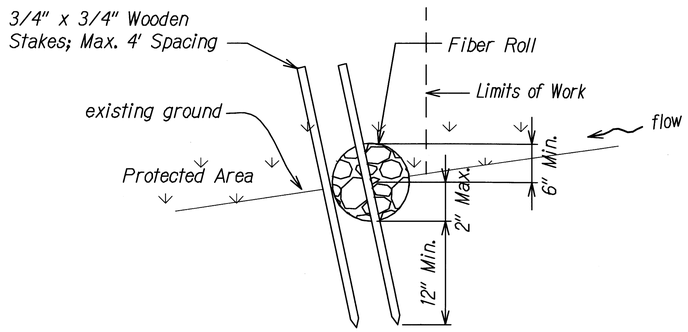

ENTRENCHMENT DETAIL
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WATER POLLUTION AND EROSION CONTROL NOTES

SLOPE IMPROVEMENTS FOR EROSION CONTROL AT VARIOUS SITES ON OAHU, PHASE 5
Project No. HWY-O-01-12

Scale: None Date: April 2012

SHEET No. N-9 OF 15 SHEETS

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