Amend **Section 209 - TEMPORARY WATER POLLUTION, DUST, AND EROSION CONTROL** to read as follows:

"SECTION 209 - TEMPORARY WATER POLLUTION, DUST, AND EROSION CONTROL

209.01 Description. This section describes the following:

(A) Including detailed plans, diagrams, and written Site-Specific Best Management Practices (BMP); constructing, maintaining, and repairing temporary water pollution, dust, and erosion control measures at the project site, including local material sources, work areas and haul roads; removing and disposing hazardous wastes; control of fugitive dust (defined as uncontrolled emission of solid airborne particulate matter from any source other than combustion); and complying with applicable State and Federal permit conditions.

(B) Work associated with construction stormwater, dewatering, and hydrotesting activities and complying with conditions of the National Pollutant Discharge Elimination System (NPDES) permit(s) authorizing discharges associated with construction stormwater, dewatering, and hydrotesting activities.

(C) Potential pollutant identification and mitigation measures are listed in Appendix A for use in the development of the Contractor's Site-Specific BMP.

Requirements of this section also apply to construction support activities including concrete or asphalt batch plants, rock crushing plants, equipment staging yards/areas, material storage areas, excavated material disposal areas, and borrow areas located outside the State Right-of-Way. For areas serving multiple construction projects, or operating beyond the completion of the construction project in which it supports, the Contractor shall be responsible for securing the necessary permits, clearances, and documents, and following the conditions of the permits and clearances, at no cost to the State.

209.02 Materials. Comply with applicable materials described in Chapters 2 and 3 of the HDOT "Construction Best Management Practices Field Manual" dated January 2008. In addition, the materials shall comply with the following:

(A) Grass. Grass shall be a quick growing species such as rye grass, Italian rye grass, or cereal grasses. Grass shall be suitable to the area and provide a temporary cover that will not compete later with permanent cover. Alternative grasses are allowable if acceptable to the Engineer.

(B) Fertilizer and Soil Conditioners. Fertilizer and soil conditioners shall be a standard commercial grade acceptable to the Engineer. Fertilizer shall conform to Subsection 619.02(H)(1) - Commercial Fertilizer.

(C) Hydro-mulching. Hydro-mulching used as a temporary vegetative stabilization measure shall consist of materials in Subsections 209.02(A) - Grass, and 209.02(B) – Fertilizer and Soil Conditioners. Mulches shall be recycled materials including bagasse, hay, straw, wood cellulose bark, wood chips, or other material acceptable to the Engineer. Mulches shall be clean and free of noxious weeds and deleterious materials. Potable water shall meet the requirements of Subsection 712.01 - Water. Submit alternate sources of irrigation water for the Engineer's acceptance if deviating from 712.01 - Water. Installation and other requirements shall be in accordance with portions of Section 641- Hydro-Mulch Seeding including 641.02(D) - Soil and Mulch Tackifier, 641.03(A) – Seeding, and 641.03(B) - Planting Period. Install non-vegetative controls including mulch or rolled erosion control products while the vegetation is being established. Water and fertilize grass. Apply fertilizer as recommended by the manufacturer. Replace grass the Engineer considers unsuitable or sick. Remove and dispose of trash and debris. Remove invasive species. Mow as needed to prevent site or signage obstructions, fire hazard, or nuisance to the public. Do not remove down stream sediment control measures until the vegetation is uniformly established, including no large bare areas, and provides 70 percent of the density of pre-disturbance vegetation. Temporary vegetative stabilization shall not be used longer than one year.

(D) Silt Fences. Comply with ASTM D6462, Standard Practice for Silt Fence Installation.

Alternative materials or methods to control, prevent, remove and dispose pollution are allowable if acceptable to the Engineer.

209.03 Construction.

(A) Preconstruction Requirements.

(1) Water Pollution, Dust, and Erosion Control Meeting. Schedule a water pollution, dust, and erosion control meeting with the Engineer after Site-Specific BMP is accepted in writing by the Engineer. Meeting shall be scheduled a minimum of 14 calendar days prior to the issuance of Notice to Proceed. Discuss sequence of work, plans and proposals for water pollution, dust, and erosion control.

(2) Water Pollution, Dust, and Erosion Control Submittals. Submit a Site-Specific BMP Plan within 30 calendar days of contract

execution. Submission of complete and acceptable Site-Specific BMP Plan is the sole responsibility of the Contractor and additional contract time will not be issued for delays due to incompleteness. Include the following:

(a) Written description of activities to minimize water pollution and soil erosion into State waters, drainage or sewer systems. BMP shall include the following:

1. An identification of potential pollutants and their sources.

2. A list of all materials and heavy equipment to be used during construction.

3. Descriptions of the methods and devices used to minimize the discharge of pollutants into State waters, drainage or sewer systems.

4. Details of the procedures used for the maintenance and subsequent removal of any erosion or siltation control devices.

5. Methods of removing and disposing hazardous wastes encountered or generated during construction.

6. Methods of removing and disposing concrete and asphalt pavement cutting slurry, concrete curing water, and hydrodemolition water.

7. Spill Control and Prevention and Emergency Spill Response Plan.

8. Fugitive dust control, including dust from grinding, sweeping, or brooming off operations or combination thereof.

9. Methods of storing and handling of oils, paints and other products used for the project.

10. Material storage and handling areas, and other staging areas.

11. Concrete truck washouts.

12. Concrete waste control.

13. Fueling and maintenance of vehicles and other equipment.

14. Tracking of sediment offsite from project entries and exits.

15. Litter management.

16. Toilet facilities.

17. Other factors that may cause water pollution, dust and erosion control.

(b) Provide plans indicating location of water pollution, dust and erosion control devices; provide plans and details of BMPs to be installed or utilized; show areas of soil disturbance in cut and fill, indicate areas used for construction staging and storage including items (1) through (17) above, storage of aggregate (indicate type of aggregate), asphalt cold mix, soil or solid waste, equipment and vehicle parking, and show areas where vegetative practices are to be implemented. Indicate intended drainage pattern on plans. Include flow arrows. Include separate drawing for each phase of construction that alters drainage patterns. Indicate approximate date when device will be installed and removed.

(c) Construction schedule.

(d) Name(s) of specific individual(s) designated responsible for water pollution, dust, and erosion controls on the project site. Include home, cellular, and business telephone numbers, fax numbers, and e-mail addresses.

(e) Description of fill material to be used.

(f) For projects with an NPDES Permit for Construction Activities, submit information to address all sections in the NPDES Form C and Attachments.

(g) Information required for compliance with the conditions of the NPDES Permit.

(h) Site-Specific BMP Review Checklist. The checklist may be downloaded from HDOT's Stormwater Management website at http://stormwaterhawaii.com.

Date and sign Site-Specific BMP Plan. Keep accepted

copy on site or at an accessible location so that it can be made available at the time of an on-site inspection or upon request by the Engineer/HDOT Third Party Inspector/DOH/EPA. Amendments to the Site-Specific BMP Plan shall be included with original Site-Specific BMP Plan. Modify Site-Specific BMP plan to conform to revisions. Include date of installation and removal of Site-Specific BMP measures. Obtain written acceptance by the Engineer before implementing revised Site-Specific BMPs in the field.

Follow the guidelines in the current HDOT "Construction Best Management Practices Field Manual" dated January 2008, in developing, installing, and maintaining Site-Specific BMPs for all projects. For any conflicting requirements between the Manual and applicable bid documents, the applicable bid documents will govern. Should a requirement not be clearly described within the applicable bid documents, notify the Engineer immediately for interpretation. For the purposes of clarification "applicable bid documents" include the construction plans, standard specifications, special provisions, Permits, and the NPDES Form C and Attachments.

Follow Honolulu's City and County "Rules for Soil Erosion Standards and Guidelines" for all projects on Oahu. Use respective Soil Erosion Guidelines for Maui, Kauai and Hawaii projects.

(B) Construction Requirements. Do not begin work until submittals detailed in Subsection 209.03(A)(2) - Water Pollution, Dust, and Erosion Control Submittals are completed and accepted in writing by the Engineer.

Install, maintain, monitor, repair and replace site-specific BMP measures, such as for water pollution, dust and erosion control; installation, monitoring, and operation of hydrotesting activities; removal and disposal of hazardous waste indicated on plans, concrete cutting slurry, concrete curing water; or hydrodemolition water. Site-Specific BMP measures shall be in place, functional and accepted by HDOT personnel prior to initiating any ground disturbing activities.

If necessary, furnish and install rain gage in a secure location prior to field work including installation of site-specific BMP. Provide rain gage with a tolerance of at least 0.05 inches of rainfall. Install rain gage on project site in an area that will not deter rainfall from entering the gate opening. Do not install in a location where rain water may splash into rain gage. The rain gage installation shall be stable and plumbed. Maintain rain gage and replace rain gage that is stolen, does not function properly or accurately, is worn out, or needs to be relocated. Do not begin field work until rain gage is

installed and Site-Specific BMPs are in place. Rain gage data logs shall be readily available. Submit rain gage data logs weekly to the Engineer.

Address all comments received from the Engineer.

Modify and resubmit plans and construction schedules to correct conditions that develop during construction which were unforeseen during the design and pre-construction stages.

Coordinate temporary control provisions with permanent control features throughout the construction and post-construction period.

Limit maximum surface area of earth material exposed at any time to 300,000 square feet. Do not expose or disturb surface area of earth material (including clearing and grubbing) until BMP measures are installed and accepted in writing by the Engineer. Protect temporarily or permanently disturbed soil surface from rainfall impact, runoff and wind before end of the work day.

Immediately initiate stabilizing exposed soil areas upon completion of earth disturbing activities for areas permanently or temporarily ceased on any portion of the site. Earth-disturbing activities have permanently ceased when clearing and excavation within any area of the construction site that will not include permanent structures has been completed. Earth-disturbing activities have temporarily ceased when clearing, grading, and excavation within any area of the site that will not include permanent structures will not resume for a period of 14 or more calendar days, but such activities will resume in the future. The term "immediately" is used in this section to define the deadline for initiating stabilization measures. "Immediately" means as soon as practicable, but no later than the end of the next work day, following the day when the earth-disturbing activities have temporarily or permanently ceased.

Complete initial stabilization within 14 calendar days after the temporary or permanent cessation of earth-disturbing activities.

Any of the following types of activities constitutes initiation of stabilization:

(1) Prepping the soil for vegetative or non-vegetative stabilization;

(2) Applying mulch or other non-vegetative product to the exposed area;

(3) Seeding or planting the exposed area;

(4) Starting any of the activities in items (1) – (3) above on a portion of the area to be stabilized, but not on the entire area; and

(5) Finalizing arrangements to have stabilization product fully installed in compliance with the deadline for completing initial stabilization activities.

Any of the following types of activities constitutes completion of initial stabilization activities:

(1) For vegetative stabilization, all activities necessary to initially seed or plant the area to be stabilized; and/or

(2) For non-vegetative stabilization, the installation or application of all such non-vegetative measures.

If the Contractor is unable to meet the deadlines above due to circumstances beyond the Contractor's control, and the Contractor is using vegetative cover for temporary or permanent stabilization, the Contractor may comply with the following stabilization deadlines instead as agreed to by the Engineer:

(1) Immediately initiate, and complete within the timeframe shown above, the installation of temporary non-vegetative stabilization measures to prevent erosion;

(2) Complete all soil conditioning, seeding, watering or irrigation installation, mulching, and other required activities related to the planting and initial establishment of vegetation as soon as conditions or circumstances allow it on the site; and

(3) Notify and provide documentation to the Engineer the circumstances that prevent the Contractor from meeting the deadlines above for stabilization and the schedule the Contractor will follow for initiating and completing initial stabilization and as agreed to by the Engineer.

Follow the applicable requirements of the specifications and special provisions including Section 619 - Planting and Section 641 – Hydro-Mulch Seeding.

Immediately after seeding or planting the area to be vegetatively stabilized, to the extent necessary to prevent erosion on the seeded or planted area, select, design, and install non-vegetative erosion controls that provide cover (e.g., mulch, rolled erosion control products) to the area while vegetation is becoming established.

Protect exposed or disturbed surface area with mulches, grass seeds or hydromulch. Spray mulches at a rate of 2,000 pounds per acre. Add tackifier to mix at a rate of 85 pounds per acre. Apply grass seeds at a rate of 125 pounds per acre. For hydro-mulch, use the ingredients and rates required for mulches and grass seeds. Submit recommendations from a licensed Landscape Architect when deviating from the application rates above.

Apply fertilizer to mulches, grass seed or hydromulch per manufacturer's recommendations. Submit recommendations from a licensed Landscape Architect when deviating from the manufacturer's recommendations.

Install velocity dissipation measures when exposing erodible surfaces greater than 15 feet in height.

BMP measures shall be in place and operational at the end of work day or as required by Section 209.03(B) – Construction Requirements.

Install and maintain either or both stabilized construction entrances and wheel washes to minimize tracking of dirt and mud onto roadways. Restrict traffic to stabilized construction areas only. Clean dirt, mud, or other material tracked onto the road, sidewalk, or other paved area by the end of the same day in which the track-out occurs. Modify stabilized construction entrances to prevent mud from being tracked onto road. Stabilize entire access roads if necessary.

Chemicals may be used as soil stabilizers for either or both erosion and dust control if acceptable to the Engineer.

Provide temporary slope drains of rigid or flexible conduits to carry runoff from cuts and embankments. Provide portable flume at the entrance. Shorten or extend temporary slope drains to ensure proper function.

Protect ditches, channels, and other drainageways leading away from cuts and fills at all times by either:

(1) Hydro-mulching the lower region of embankments in the immediate area.

(2) Installing check dams and siltation control devices.

(3) Other methods acceptable to the Engineer.

Provide for controlled discharge of waters impounded, directed, or controlled by project activities or erosion control measures.

Cover exposed surface of materials completely with tarpaulin or similar device when transporting aggregate, soil, excavated material or material that may be source of fugitive dust.

Cleanup and remove any pollutant that can be attributed to the Contractor.

Install or modify Site-Specific BMP measures due to change in the Contractor's means and methods, or for omitted condition that should have been allowed for in the accepted Site-Specific BMP or a Site-Specific BMP that replaces an accepted Site-Specific BMP that is not satisfactorily performing. Modifications to Site-Specific BMP measures shall be accepted in writing by the Engineer prior to implementation.

Properly maintain all Site-Specific BMP measures.

Inspect, prepare a written report, and make repairs to BMP measures at the following intervals:

(a) Weekly.

(b) Within 24 hours of any rainfall of 0.5 inch or greater which occurs in a 24-hour period.

(c) Daily during periods of prolonged rainfall.

(d) When existing erosion control measures are damaged or not operating properly as required by Site-Specific BMP.

Temporarily remove, replace or relocate any Site-Specific BMP that must be removed, replaced or relocated due to potential or actual flooding, or potential danger or damage to project or public.

Maintain records of inspections of Site-Specific BMP work. Keep continuous records for duration of the project. Submit copy of Inspection Report to the Engineer within 24 hours after each inspection.

The Contractor's designated representative specified in Subsection 209.03(A)(2)(d) shall address any Site-Specific BMP deficiencies brought up by the Engineer immediately, including weekends and holidays, and complete work to fix the deficiencies by the close of the next day if the problem does not require significant repair or replacement, or if the problem can be corrected through routine maintenance. Address any Site-Specific BMP deficiencies brought up by the State's Third Party Inspector in the timeframe above or as specified in the Consent Decree or MS4 NPDES Permit, whichever is more stringent. The Consent Decree timeframe requirement applies statewide. The MS4 NPDES Permit only applies to

Oahu. In this section, "immediately" means the Contractor shall take all reasonable measures to minimize or prevent discharge of pollutants until a permanent solution is installed and made operational. If a problem is identified at a time in the day in which it is too late to initiate repair, initiation of repair shall begin on the following day. When installation of a new pollution prevention control or a significant repair is needed, complete installation or repair no later than seven calendar days from the time of notification/Contractor discovery. Notify the Engineer and document why it is infeasible to complete the installation or repair within seven calendar days and complete the work as soon as practicable and as agreed to by the Engineer. Address Site-Specific BMP deficiencies discovered by the Contractor within the timeframe above. The Contractor's failure to satisfactorily address these Site-Specific BMP deficiencies, the Engineer reserves the right to employ outside assistance or use the Engineer's own labor forces to provide necessary corrective measures. The Engineer will charge the Contractor such incurred costs plus any associated project engineering costs. The Engineer will make appropriate deductions from the Contractor's monthly progress estimate. Failure to apply Site-Specific BMP measures may result in one or more of the following: assessment of liquidated damages, suspension, or cancellation of Contract with the Contractor being fully responsible for all additional costs incurred by the State.

(C) Discharges of Storm Water Associated with Construction Activities. If work includes disturbance of one acre or more, an NPDES Permit authorizing Discharges of Storm Water Associated with Construction Activity (CWB-NOI Form C) or Individual Permit authorizing storm water discharges associated with construction activity is required from the Department of Health Clean Water Branch (DOH-CWB).

Do not begin construction activities until all required conditions of the permit are met and submittals detailed in Subsection 209.03(A)(2) – Water Pollution, Dust, and Erosion Control Submittals are completed and accepted in writing by the Engineer.

(D) Discharges Associated with Hydrotesting Activities. If hydrotesting activities require effluent discharge into State waters or drainage systems, an NPDES Hydrotesting Waters Permit (CWB-NOI Form F) or Individual Permit authorizing discharges associated with hydrotesting from DOH-CWB is required from the DOH-CWB.

Do not begin hydrotesting activities until the DOH-CWB has issued an Individual NPDES Permit or Notice of General Permit Coverage (NGPC). Conduct Hydrotesting operations in accordance with the conditions of the permit or NGPC.

(E) Discharges Associated with Dewatering Activities. If

dewatering activities require effluent discharge into State waters or drainage systems, an NPDES Dewatering Permit (CWB-NOI Form G) or Individual Permit authorizing discharges associated with dewatering from DOH-CWB is required from the DOH-CWB.

Do not begin dewatering activities until the DOH-CWB has issued an Individual NPDES Permit or Notice of General Permit Coverage (NGPC). Conduct dewatering operations in accordance with the conditions of the permit or NGPC.

(F) Solid Waste. Submit the Solid Waste Disclosure Form for Construction Sites to the Engineer within 30 calendar days of contract execution. Provide a copy of all the disposal receipts from the facility permitted by the Department of Health to receive solid waste to the Engineer monthly. This should also include documentation from any intermediary facility where solid waste is handled or processed, or as directed by the Engineer.

(G) Construction BMP Training. The Contractor's representative responsible for development of the Site-Specific BMP Plan and implementation of Site-Specific BMPs in the field shall attend the State's Construction Best Management Practices Training. The Contractor shall keep training logs updated and readily available.

209.04 Measurement.

(A) Installation, maintenance, monitoring, and removal of BMP will be paid on a lump sum basis. Measurement for payment will not apply.

(B) The Engineer will only measure additional water pollution, dust and erosion control required and requested by the Engineer on a force account basis in accordance with Subsection 109.06 – Force Account Provisions and Compensation.

209.05 Payment. The Engineer will pay for accepted pay items listed below at contract price per pay unit, as shown in the proposal schedule. Payment will be full compensation for work prescribed in this section and contract documents.

The Engineer will pay for each of the following pay items when included in proposal schedule:

Pay Item	**Pay Unit**
Installation, Maintenance, Monitoring, and Removal of BMP	Lump Sum
Additional Water Pollution, Dust, and Erosion Control	Force Account

An estimated amount for force account is allocated in proposal schedule under 'Additional Water Pollution, Dust, and Erosion Control', but actual amount to be paid will be the sum shown on accepted force account records, whether this sum be more or less than estimated amount allocated in proposal schedule. The Engineer will pay for BMP measures requested by the Engineer that are beyond scope of accepted Site-Specific BMP on a force account basis.

No progress payment will be authorized until the Engineer accepts in writing Site-Specific BMP or when the Contractor fails to maintain project site in accordance with accepted BMP.

For all citations or fines received by the Department for non-compliance, including compliance with NPDES Permit conditions, the Contractor shall reimburse State within 30 calendar days for full amount of outstanding cost State has incurred, or the Engineer will deduct cost from progress payment.

The Engineer will assess liquidated damages up to $27,500 per day for non-compliance of each BMP requirement and all other requirements in this section.

Appendix A

The following list identifies potential pollutant sources and corresponding BMPs used to mitigate the pollutants. Each BMP is referenced to the corresponding section of the current HDOT Construction Best Management Practices Field Manual or appropriate Supplemental Sheets. The Manual may be obtained from the HDOT Statewide Stormwater Management Program Website at *http://www.stormwaterhawaii.com/resources* under Construction Best Management Practices Field Manual. Supplemental BMP sheets are located at *http://stormwaterhawaii.com/contractors/contractors_BMPmanual.aspx* under Concrete Curing and Irrigation Water.

Pollutant Source	*Appropriate Site-Specific BMP to be Implemented*	*BMP Requirements*
Construction debris, green waste, general litter	• *Separate contaminated clean up materials from construction and demolition (C&D) wastes.* • *Provide waste containers (e.g., dumpster or trash receptacle) of sufficient size and number to contain construction and domestic wastes.* • *Inspect construction waste and recycling areas regularly.* • *Schedule solid waste collection regularly.* • *Schedule recycling activities based on construction/demolition phases.* • *Empty waste containers weekly or when they are two-thirds full whichever is sooner.* • *Do not allow containers to overflow. Clean up immediately if they do.* • *On work days, clean up and dispose of waste in designated waste containers.* • *See Solid Waste Management Section SM-6 for additional requirements.* • *Provide Storm Drain Inlet Protection and/or Perimeter Sediment Controls as applicable.*	*See Solid Waste Management Section SM-6. Protect Storm Drain Inlets SC-2, and Perimeter Sediment Controls where applicable.*
Materials associated with the operation and maintenance of equipment, such as oil, fuel, and hydraulic fluid leakage	• *Use off-site wash racks, repair and maintenance facilities, and fueling sites when practical.* • *Designate bermed wash area if cleaning on site is necessary.* • *Place drip pans or drop cloths under vehicles and equipment to absorb spills or leaks.* • *Provide an ample supply of readily available spill cleanup materials.*	*See Vehicle and Equipment Cleaning, Maintenance, and Refueling, Sections SM-11, SM-12, and SM-13, and Material Delivery, Storage and Material Use*

Pollutant Source	*Appropriate Site-Specific BMP to be Implemented*	*BMP Requirements*
	• *Clean up spills immediately, using dry clean-up methods where possible, and dispose of used materials properly.* • *Do not clean surfaces or spills by hosing the area down.* • *Eliminate the source of the spill to prevent a discharge or a continuation of an ongoing discharge.* • *Inspect on-site vehicles and equipment regularly and immediately repair leaks.* • *Regularly inspect fueling areas and storage tanks.* • *Train employees on proper maintenance and spill practices and procedures and fueling and cleanup procedures.* • *Store diesel fuel, oil, hydraulic fluid, or other petroleum products or other chemicals in water-tight containers and provide cover or secondary containment.* • *Do not remove original product labels and comply with manufacturer's labels for proper disposal.* • *Dispose of containers only after all the product has been used.* • *Dispose of or recycle oil or oily wastes according to Federal, State, and Local requirements.* • *Store soaps, detergents, or solvents under cover or other means to prevent contact with rainwater.* • *See Vehicle and Equipment Cleaning, Maintenance, and Refueling, Sections SM-11, SM-12, and SM-13 and Material Use Section*	*Sections SM-2 and SM-3, and Spill Prevention and Control SM-10.*

Pollutant Source	*Appropriate Site-Specific BMP to be Implemented*	*BMP Requirements*
	SM-3 for additional requirements.	
Soil erosion from the disturbed areas	• *Provide Soil Stabilization, Slope Protection, Storm Drain Inlet Protection SC-2, Perimeter Controls and Sediment Barriers, Sediment Basins and Detention Ponds, Check Dams SC-9 ,Level Spreader SC-10, Paving Operations SM-19, Construction Road Stabilization EC-1, Controlling Storm Water Flowing Onto and Through the Project, Post-Construction BMPs, and Non-Structural BMPs (Employee Training SM-1, Scheduling SM-14, Location of Potential Sources of Sediment SM-15, Preservation of Existing Vegetation SM-16) .* • *Delineate, and clearly mark off, with flags, tape, or other similar marking device all natural buffer areas defined in the SWPPP.* • *Preserve native topsoil where practicable.* • *In areas where vegetative stabilization will occur, restrict vehicle/equipment use in areas to avoid soil compaction or condition soil to promote vegetative growth.* • *For Storm Drain Inlet Protection, clean, or remove and replace, the protection measures as sediment accumulates, the filter becomes clogged, and/or performance is compromised.* • *Where there is evidence of*	*Soil Stabilization* 1. *SM-21 Topsoil Management* 2. *EC-5 Seeding and Planting* 3. *EC-6 Mulching* 4. *EC-7 Geotextiles and Mats* *Slope Protection* 1. *EC-5 Seeding and Planting* 2. *EC-6 Mulching* 3. *EC-7 Geotextiles and Mats* 4. *EC-9 Slope Roughening, Terracing, and Rounding* 5. *SC-11 Slope Drains and Subsurface Drains* 6. *SC-12 Top and Toe of Slope Diversion Ditches and Berms* *SC-2 Storm Drain Inlet Protection* *Perimeter Controls and Sediment Barriers* 1. *SC-1 Silt*

Pollutant Source	Appropriate Site-Specific BMP to be Implemented	BMP Requirements
	sediment accumulation adjacent to the inlet protection measure, remove the deposited sediment by the end of the same day in which it is found or by the end of the following day if removal by the same day is not feasible. • *Sediment basins shall be designed and maintained in accordance with HAR 11-55.* • *Minimize disturbance on steep slopes (Greater than 15% in grade).* • *If disturbance of steep slopes are unavoidable, phase disturbances and use stabilization techniques designed for steep grades.* • *For temporary drains and swales use velocity dissipation devices within and at the outlet to minimize erosive flow velocities.*	*Fence* 2. *SC-5 Vegetated Filter Strips and Buffers* 3. *SC-8 Compost Filter Berm* 4. *SC-13 Sandbag Barrier* 5. *SC-14 Brush or Rock Filter* *Sediment Basins and Detention Ponds* 1. *SC-15 Sediment Trap* 2. *SC-16 Sediment Basin* *SC-9 Check Dams* *SC-10 Level Spreader* *SM-19 Paving Operations EC-1 Construction Road Stabilization* *Controlling Storm Water Flowing onto and Through the Project* 1. *EC-8 Run-On Diversion* 2. *SC-6 Earth Dike* 3. *SC-7*

Pollutant Source	*Appropriate Site-Specific BMP to be Implemented*	*BMP Requirements*
		Temporary Drains and Swales *Post Construction BMPs* 1. *EC-4 Flared Culvert End Sections* 2. *SC-3 Rip-Rap and Gabion Inflow Protection* 3. *SC-4 Outlet Protection and Velocity Dissipation Devices* 4. *SM-21 Topsoil Management* *Non-Structural BMPs* 1. *SM-1 Employee Training* 2. *SM-14 Scheduling* 3. *SM-15 Location of Potential Sources of Sediment* 4. *SM-16 Preservation of Existing Vegetation*

Pollutant Source	Appropriate Site-Specific BMP to be Implemented	BMP Requirements
Sediment from soil stockpiles	• *Locate stockpiles a minimum of 50 feet or as far as practicable from concentrated runoff or outside of any natural buffers identified on the SWPPP.* • *Place bagged materials on pallets and under cover.* • *Provide physical diversion to protect stockpiles from concentrated runoff.* • *Cover stockpiles with plastic or comparable material when practicable.* • *Place silt fence, fiber filtration tubes, or straw wattles around stockpiles.* • *Do not hose down or sweep soil or sediment accumulated on pavement or other impervious surfaces into any storm water conveyance (unless connected to a sediment basin, sediment trap, or similarly effective control), storm drain inlet, or state water.* • *Unless infeasible, contain and securely protect stockpiles from the wind.* • *Provide Storm Drain Inlet Protection and/or Perimeter Sediment Controls as applicable.* • *See Protection of Stockpiles Section SM-4 for additional requirements.*	*See Protection of Stockpiles Section SM-4. Protect Storm Drain Inlets SC-2, and Perimeter Sediment Controls where applicable.*
Emulsified asphalt or prime/tack coat	• *Provide training for employees and contractors on proper material delivery and storage practices and procedures.* • *Restrict paving operations during wet weather to prevent paving materials from being discharged.*	*See Material Delivery and Storage Section SM-2 and Material Use Section SM-3, Paving*

Pollutant Source	*Appropriate Site-Specific BMP to be Implemented*	*BMP Requirements*
	• *Use asphalt emulsions such as prime coat when possible.* • *Protect drain inlet structures and manholes during application of tack coat, seal coat, slurry seal, and fog seal.* • *Keep ample supplies of drip pans and absorbent materials on site.* • *Inspect inlet protection devices.* • *See Material Delivery and Storage Section SM-2 and Paving Operations Section SM-19 for additional requirements.* • *Provide Storm Drain Inlet Protection and/or Perimeter Sediment Controls as applicable.*	*Operations Section SM-19, Protect Storm Drain Inlets SC-2, and Perimeter Sediment Controls where applicable.*

Pollutant Source	Appropriate Site-Specific BMP to be Implemented	BMP Requirements
Materials associated with painting, such as paint and paint wash solvent	• *Hazardous chemicals shall be well-labeled and stored in original containers.* • *Keep ample supply of cleanup materials on site.* • *Dispose container only after all of the product has been used.* • *Remove as much paint from brushes on painted surface.* • *Rinse from water-based paints shall be discharged into the sanitary sewer system where possible. If not, direct all washwater into a leak-proof container or leak-proof pit. The container or pit must be designed so that no overflows can occur due to inadequate sizing or precipitation.* • *Locate on-site wash area a minimum of 50 feet away or as far as practicable from storm drain inlets, open drainage facilities, or water bodies.* • *. Do not dump liquid wastes into the storm drainage system.* • *Filter and re-use solvents and thinners.* • *Dispose of oil-based paints and residue as a hazardous waste.* • *Ensure collection, removal, and disposal of hazardous waste complies with regulations.* • *Immediately clean up spills and leaks.* • *Properly store paints, solvents, and epoxy compounds.* • *Properly store and dispose waste materials generated from painting and structure repair and construction activities.* • *Mix paints in a covered and contained area when possible to*	*See Material Delivery and Storage Section SM-2, Material Use Section SM-3, Hazardous Waste Management Section SM-9, Waste Management, Spill Prevention and Control Section SM-10, and Structure Construction and Painting Section SM-20, Protect Storm Drain Inlets SC-2, and Perimeter Sediment Controls where applicable.*

Pollutant Source	*Appropriate Site-Specific BMP to be Implemented*	*BMP Requirements*
	minimize adverse impacts from spills. • *Do not apply traffic paint or thermoplastic if rain is forecasted.* • *See Material Delivery and Storage Section SM-2, Material Use SM-3, Waste Management, Hazardous Waste Management Section SM-9, Waste Management, Spill Prevention and Control Section SM-10, and Structure Construction and Painting Section SM-20 for additional requirements.* • *Provide Storm Drain Inlet Protection and/or Perimeter Sediment Controls as applicable.*	

Pollutant Source	Appropriate Site-Specific BMP to be Implemented	BMP Requirements
Industrial chemicals, fertilizers, and/or pesticides	• *Hazardous chemicals shall be well-labeled and stored in original containers.* • *Keep ample supply of cleanup materials on site.* • *Clean up spills immediately, using dry clean-up methods where possible, and dispose of used materials properly.* • *Do not clean surfaces or spills by hosing the area down.* • *Eliminate the source of the spill to prevent a discharge or a furtherance of an ongoing discharge.* • *Dispose container only after all of the product has been used.* • *Retain a complete set of material safety data sheets on site.* • *Store industrial chemicals in water-tight containers and provide either cover or secondary containment.* • *Provide cover when storing fertilizers or pesticides to prevent these chemicals from coming into contact with rainwater.* • *Restrict amount of pesticide prepared to quantity necessary for the current application.* • *Do not apply fertilizers or pesticides during or just before a rain event.* • *Do not apply to stormwater conveyance channels with flowing water.* • *Comply with fertilizer and pesticide manufacturer's recommended usage instructions.* • *Follow federal, state, and local laws regarding fertilizer application.* • *Do not dispose of toxic liquid wastes (solvents, used oils, and paints) or chemicals (additives,*	*See Material Delivery and Storage Section SM-2, Material Use Section SM-3, and Hazardous Waste Management Section SM-9, and Spill Prevention and Control SM-10*

Pollutant Source	*Appropriate Site-Specific BMP to be Implemented*	*BMP Requirements*
	acids, and curing compounds) in dumpsters allocated for construction debris. • *Ensure collection, removal, and disposal of hazardous waste complies with regulations. Hazardous waste that cannot be reused or recycled shall be disposed of by a licensed hazardous waste hauler.* • *See Material Delivery and Storage Section SM2, Material Use SM-3, and Waste Management, Hazardous Waste Management Section SM-9 for additional requirements.*	
Hazardous waste (Batteries, Solvents, Treated Lumber, etc.)	• *Do not dispose of toxic materials in dumpsters allocated for construction debris.* • *Ensure collection, removal, and disposal of hazardous waste complies with regulations.* • *Hazardous waste that cannot be reused or recycled shall be disposed of by a licensed hazardous waste hauler.* • *Segregate and recycle wastes from vehicle/equipment maintenance activities such as used oil or oil filters, greases, cleaning solutions, antifreeze, automotive batteries, and hydraulic and transmission fluids.* • *Store waste in sealed containers, which are constructed of suitable materials to prevent leakage and corrosion, and which are labeled in accordance with applicable Resource Conservation and Recovery Act (RCRA) requirements and all other applicable federal, state, and local requirements.*	*See Hazardous Waste Management Section SM-9 and Vehicle and Equipment Maintenance SM-12*

Pollutant Source	*Appropriate Site-Specific BMP to be Implemented*	*BMP Requirements*
	• *All containers stored outside shall be kept away from surface waters and within appropriately-sized secondary containment (e.g., spill berms, decks, spill containment pallets). Provide cover if possible.* • *Clean up spills immediately, using dry clean-up methods where possible, and dispose of used materials properly.* • *Do not clean surfaces or spills by hosing the area down.* • *Eliminate the source of the spill to prevent a discharge or a continuation of an ongoing discharge.* • *Ensure collection, removal, and disposal of hazardous waste complies with manufacturer's recommendations and is in compliance with federal, state, and local requirements.* • *See Hazardous Waste Management Section SM-9 and Vehicle and Equipment Management, Vehicle and Equipment Maintenance SM-12 for additional requirements.*	

Pollutant Source	Appropriate Site-Specific BMP to be Implemented	BMP Requirements
Metals and Building Materials	• *Inspect construction waste and recycling areas regularly.* • *Schedule solid waste collection regularly.* • *If building materials or metals are stored on site (such as rebar or galvanized poles) store under cover under tarps or in containers.* • *Minimize the amount of material stored on site.* • *Do not stockpile uncovered metals or other building materials in close proximity to discharge points.* • *See Solid Waste Management Section SM-6 for additional requirements.*	*See Solid Waste Management Section SM-6*
Contaminated Soil	• *See Waste Management, Contaminated Soil Management Section SM-8 and/or Hazardous Waste Management Section SM-9 for additional requirements.* • *At minimum contain contaminated material soil by surrounding with impermeable lined berms or cover exposed contaminated material with plastic sheets.*	*See Waste Management, Contaminated Soil Management Section SM-8 and/or Hazardous Waste Management Section SM-9*
Dust Control Water	• *Do not over spray water for dust control purposes which will result in runoff from the area.* • *Apply water as conditions require.* • *Washing down of debris or dirt into drainage, sewage systems, or State waters is not allowed.* • *See Dust Control Section SM-18 for additional requirements.*	*See Dust Control Section SM-18*

Pollutant Source	*Appropriate Site-Specific BMP to be Implemented*	*BMP Requirements*
Concrete Truck Wash Water	• *Disposal of concrete truck wash water via percolation is prohibited.* • *Wash concrete-coated vehicles or equipment off-site or in the designated wash area.* • *Locate on-site wash area a minimum of 50 feet away or as far as practicable from storm drain inlets, open drainage facilities, or water bodies.* • *Runoff from the on-site concrete wash area shall be contained in a temporary pit or level bermed area where the concrete can set.* • *Design the area so that no overflow can occur due to inadequate wash area sizing or precipitation.* • *The temporary pit shall be lined with plastic to prevent seepage of wash water into the ground.* • *Allow wash water to evaporate or collect wash water and all concrete debris in a concrete washout system bin.* • *Do not dump liquid wastes into storm drainage system.* • *Dispose of liquid and solid concrete wastes in compliance with federal, state, and local standards.* • *See Waste Management, Concrete Waste Management Section SM-5 for additional requirements.*	*See Waste Management, Concrete Waste Management Section SM-5*

Pollutant Source	Appropriate Site-Specific BMP to be Implemented	BMP Requirements
Sediment Track-Out	• *Include Stabilized Construction Entrance at all points that exit onto paved roads.* • *A sediment trapping device is required if a wash rack is used in conjunction with the stabilized construction entrance/exit.* • *The pavement shall not be cleaned by washing down the street.* • *If sweeping is ineffective or it is necessary to wash the streets, wash water must be contained either by construction of a sump, diverting the water to an acceptable disposal area, or vacuuming the wash water.* • *Use BMPs for adjacent drainage structures.* • *Remove sediment tracked onto the street by the end of the day in which the track-out occurs.* • *Restrict vehicle use to properly designated exit points.* • *Include additional BMPs which remove sediment prior to exit when minimum dimensions can not be met.* • *See Stabilized Construction Entrance Section EC-2 for additional requirements.*	*See Stabilized Construction Entrance Section EC-2*
Irrigation Water	• *Consider irrigation requirements.* • *Where possible, avoid species which require irrigation.* • *Design timing and application*	*See Seeding and Planting Section EC-5 and California*

Pollutant Source	*Appropriate Site-Specific BMP to be Implemented*	*BMP Requirements*
	methods of irrigation water to eliminate the runoff of excess irrigation water into the storm water drainage system. • *See Seeding and Planting Section EC-5 and California Stormwater BMP Handbook SD-12 Efficient Irrigation at http://stormwaterhawaii.com/contractors/ contractors_BMPmanual.aspx under Irrigation Water for additional requirements.*	*Stormwater BMP Handbook SD-12 Efficient Irrigation*

Pollutant Source	*Appropriate Site-Specific BMP to be Implemented*	*BMP Requirements*
Hydrotesting Effluent	• *If work includes removing, relocation or installing waterlines, and Contractor elects to flush waterline or discharge hydrotesting effluent into State waters or drainage systems, the Contractor shall prepare and obtain HDOT acceptance of a NOI/NPDES Permit Form F application for HDOT submittal to DOH CWB at least 30 calendar days prior to the start of Hydrotesting Activities if necessary. Site-Specific BMPs will be included in the NOI/NPDES Permit Form F submittal.*	*Site-Specific BMPs will be included in the NOI/NPDES Permit Form F submittal.*
Dewatering Effluent	• *If excavation or backfilling operations require dewatering, and Contractor elects to discharge dewatering effluent into State waters or existing drainage systems, Contractor shall prepare and obtain HDOT acceptance of a NOI/NPDES Permit Form G application for HDOT submittal to DOH CWB at least 30 calendar days prior to the start of Dewatering Activities if necessary. See Site Planning and General Practices, Dewatering Operations Section SM-17 for additional requirements.*	*See Dewatering Operations SM-17. Site-Specific BMPs will be included in the NOI/NPDES Permit Form G submittal.*
Saw-cutting Slurry	• *Saw cut slurry shall be removed from the site by vacuuming.* • *Provide storm drain protection during saw cutting. See Paving*	*See Paving Operations Section SM-19, Storm Drain Inlet*

Pollutant Source	Appropriate Site-Specific BMP to be Implemented	BMP Requirements
	Operations Section SM-19 for additional requirements. • *Provide Storm Drain Inlet Protection and/or Perimeter Sediment Controls as applicable.*	*Protection SC-2, Perimeter sediment controls where applicable*
Concrete Curing Water	• *Avoid overspraying of curing compounds.* • *Apply an amount of compound that covers the surface, but does not allow any runoff of the compound.* • *See California Stormwater BMP Handbook NS-12 Concrete Curing at http://stormwaterhawaii.com/contractors/ contractors_BMPmanual.aspx under Concrete Curing for additional requirements.*	*See California Stormwater BMP Handbook NS-12 Concrete Curing*
Plaster Waste Water	• *Direct all washwater into a leak-proof container or leak-proof pit. The container or pit must be designed so that no overflows can occur due to inadequate sizing or precipitation.* • *Locate on-site wash area a minimum of 50 feet away or as far as practicable from storm drain inlets, open drainage facilities, or water bodies.* • *Any significant residual materials remaining on the ground after the completion of construction shall be removed and properly disposed. If the residual materials contaminate the soil, then the contaminated soil shall also be removed and properly*	*See Material Delivery and Storage Section SM-2, Material Use Section SM-3, and Hazardous Waste Management Section SM-9*

Pollutant Source	*Appropriate Site-Specific BMP to be Implemented*	*BMP Requirements*
	disposed of. • *Plaster waste water shall not be allowed to flow into drainage structures or State waters.* • *See Material Delivery and Storage Section SM-2, Material Use SM-3, and Hazardous Waste Management Section SM-9 for additional requirements.*	

Pollutant Source	*Appropriate Site-Specific BMP to be Implemented*	*BMP Requirements*
Water-Jet Wash Water	• *For Water-Jet Wash Water used to clean vehicles, use off site wash racks or commercial washing facilities when practical.* • *See Vehicle and Equipment Cleaning Section SM-11 for additional information.* • *For Water-Jet Wash Water used to clean impervious surfaces, the runoff shall not be allowed to flow into drainage structures or State Waters.*	*See Vehicle and Equipment Cleaning Section SM-11*
Sanitary/Septic Waste	• *Locate Sanitary facilities in a convenient place away from drainage facilities.* • *Position sanitary facilities so they are secure and will not be tipped over or knocked down.* • *Wastewater shall not be discharged to the ground or buried.* • *A licensed service provider shall maintain sanitary/septic facilities in good working order.* • *Schedule regular waste collection by a licensed transporter.* • *See Sanitary/Septic Waste Section SM-7 for additional requirements.*	*See Sanitary/Septic Waste Section SM-7.*

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END OF SECTION 209