

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

3
4
5 **“SECTION 209 - TEMPORARY WATER POLLUTION, DUST, AND EROSION**
6 **CONTROL**

7
8 **209.01 Description.** This section describes the following:

9
10 **(A)** Including detailed plans, diagrams, and written Site-Specific Best
11 Management Practices (BMP); constructing, maintaining, and repairing
12 temporary water pollution, dust, and erosion control measures at the project
13 site, including local material sources, work areas and haul roads; removing
14 and disposing hazardous wastes; control of fugitive dust (defined as
15 uncontrolled emission of solid airborne particulate matter from any source
16 other than combustion); and complying with applicable State and Federal
17 permit conditions.

18
19 **(B)** Work associated with construction stormwater, dewatering, and
20 hydrotesting activities and complying with conditions of the National Pollutant
21 Discharge Elimination System (NPDES) permit(s) authorizing discharges
22 associated with construction stormwater, dewatering, and hydrotesting
23 activities.

24
25 **(C)** Potential pollutant identification and mitigation measures are listed in
26 Appendix A for use in the development of the Contractor's Site-Specific BMP.

27
28 Requirements of this section also apply to construction support
29 activities including concrete or asphalt batch plants, rock crushing plants,
30 equipment staging yards/areas, material storage areas, excavated material
31 disposal areas, and borrow areas located outside the State Right-of-Way.
32 For areas serving multiple construction projects, or operating beyond the
33 completion of the construction project in which it supports, the Contractor
34 shall be responsible for securing the necessary permits, clearances, and
35 documents, and following the conditions of the permits and clearances, at no
36 cost to the State.

37
38 **209.02 Materials.** Comply with applicable materials described in Chapters 2 and
39 3 of the current HDOT “Construction Best Management Practices Field Manual”. In
40 addition, the materials shall comply with the following:

41
42 **(A) Grass.** Grass shall be a quick growing species such as rye grass,
43 Italian rye grass, or cereal grasses. Grass shall be suitable to the area and
44 provide a temporary cover that will not compete later with permanent cover.
45 Alternative grasses are allowable if acceptable to the Engineer.

46 **(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 7 calendar days prior to the Start Work Date. Discuss sequence of work, plans and proposals for water pollution, dust, and erosion control.

89 **(2) Water Pollution, Dust, and Erosion Control Submittals.**

90 Submit a Site-Specific BMP Plan within 21 calendar days of date of
91 award. Submission of complete and acceptable Site-Specific BMP
92 Plan is the sole responsibility of the Contractor and additional contract
93 time will not be issued for delays due to incompleteness. Include the
94 following:

95
96 **(a)** Written description of activities to minimize water
97 pollution and soil erosion into State waters, drainage or sewer
98 systems. BMP shall include the following:

- 99
100 1. An identification of potential pollutants and their
101 sources.
102
103 2. A list of all materials and heavy equipment to be
104 used during construction.
105
106 3. Descriptions of the methods and devices used to
107 minimize the discharge of pollutants into State waters,
108 drainage or sewer systems.
109
110 4. Details of the procedures used for the
111 maintenance and subsequent removal of any erosion or
112 siltation control devices.
113
114 5. Methods of removing and disposing hazardous
115 wastes encountered or generated during construction.
116
117 6. Methods of removing and disposing concrete and
118 asphalt pavement cutting slurry, concrete curing water,
119 and hydrodemolition water.
120
121 7. Spill Control and Prevention and Emergency Spill
122 Response Plan.
123
124 8. Fugitive dust control, including dust from grinding,
125 sweeping, or brooming off operations or combination
126 thereof.
127
128 9. Methods of storing and handling of oils, paints
129 and other products used for the project.
130
131 10. Material storage and handling areas, and other
132 staging areas.
133
134 11. Concrete truck washouts.

135 **12.** Concrete waste control.

136
137 **13.** Fueling and maintenance of vehicles and other
138 equipment.

139
140 **14.** Tracking of sediment offsite from project entries
141 and exits.

142
143 **15.** Litter management.

144
145 **16.** Toilet facilities.

146
147 **17.** Other factors that may cause water pollution, dust
148 and erosion control.

149
150 **(b)** Provide plans indicating location of water pollution, dust
151 and erosion control devices; provide plans and details of BMPs
152 to be installed or utilized; show areas of soil disturbance in cut
153 and fill, indicate areas used for construction staging and
154 storage including items (1) through (17) above, storage of
155 aggregate (indicate type of aggregate), asphalt cold mix, soil or
156 solid waste, equipment and vehicle parking, and show areas
157 where vegetative practices are to be implemented. Indicate
158 intended drainage pattern on plans. Include flow arrows.
159 Include separate drawing for each phase of construction that
160 alters drainage patterns. Indicate approximate date when
161 device will be installed and removed.

162
163 **(c)** Construction schedule.

164
165 **(d)** Name(s) of specific individual(s) designated responsible
166 for water pollution, dust, and erosion controls on the project
167 site. Include home, cellular, and business telephone numbers,
168 fax numbers, and e-mail addresses.

169
170 **(e)** Description of fill material to be used.

171
172 **(f)** For projects with an NPDES Permit for Construction
173 Activities, submit information to address all sections in the
174 Storm Water Pollution Prevention Plan (SWPPP).

175
176 **(g)** For projects with an NPDES Permit, information required
177 for compliance with the conditions of the Notice of General
178 Permit Coverage (NGPC)/NPDES Permit.

180 (h) Site-Specific BMP Review Checklist. The checklist may
181 be downloaded from HDOT's Stormwater Management
182 website at <http://stormwaterhawaii.com>.
183

184 Date and sign Site-Specific BMP Plan. Keep accepted
185 copy on site or at an accessible location so that it can be made
186 available at the time of an on-site inspection or upon request by
187 the Engineer, HDOT Third-Party Inspector, and/or DOH/EPA
188 Representative. Amendments to the Site-Specific BMP Plan
189 shall be included with original Site-Specific BMP Plan. Modify
190 SWPPP if necessary to conform to revisions. Include date of
191 installation and removal of Site-Specific BMP measures.
192 Obtain written acceptance by the Engineer before
193 implementing revised Site-Specific BMPs in the field.
194

195 Follow the guidelines in the current HDOT "Construction
196 Best Management Practices Field Manual", in developing,
197 installing, and maintaining Site-Specific BMPs for all projects.
198 For any conflicting requirements between the Manual and
199 applicable bid documents, the applicable bid documents will
200 govern. Should a requirement not be clearly described within
201 the applicable bid documents, notify the Engineer immediately
202 for interpretation. For the purposes of clarification "applicable
203 bid documents" include the construction plans, standard
204 specifications, special provisions, Permits, and the SWPPP
205 when applicable.
206

207 Follow Honolulu's City and County "Rules for Soil
208 Erosion Standards and Guidelines" for all projects on Oahu.
209 Use respective Soil Erosion Guidelines for Maui, Kauai and
210 Hawaii projects.
211

212 **(B) Construction Requirements.** Do not begin work until submittals
213 detailed in Subsection 209.03(A)(2) - Water Pollution, Dust, and Erosion
214 Control Submittals are completed and accepted in writing by the Engineer.
215

216 Install, maintain, monitor, repair and replace site-specific BMP
217 measures, such as for water pollution, dust and erosion control; installation,
218 monitoring, and operation of hydrotesting activities; removal and disposal of
219 hazardous waste indicated on plans, concrete cutting slurry, concrete curing
220 water; or hydrodemolition water. Site-Specific BMP measures shall be in
221 place, functional and accepted by HDOT personnel prior to initiating any
222 ground disturbing activities.
223

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.

For projects with an NPDES Permit for Construction activities:

(1) For construction areas discharging into waters not impaired for nutrients or sediments, complete initial stabilization within 14 calendar days after the temporary or permanent cessation of earth-disturbing activities.

(2) For construction areas discharging into nutrient or sediment impaired waters, complete initial stabilization within 7 calendar days after the temporary or permanent cessation of earth-disturbing activities.

For projects without an NPDES Permit for Construction activities, 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 hydromulch, 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.

357 Install and maintain either or both stabilized construction entrances
358 and wheel washes to minimize tracking of dirt and mud onto roadways.
359 Restrict traffic to stabilized construction areas only. Clean dirt, mud, or other
360 material tracked onto the road, sidewalk, or other paved area by the end of
361 the same day in which the track-out occurs. Modify stabilized construction
362 entrances to prevent mud from being tracked onto road. Stabilize entire
363 access roads if necessary.
364

365 Chemicals may be used as soil stabilizers for either or both erosion
366 and dust control if acceptable to the Engineer.
367

368 Provide temporary slope drains of rigid or flexible conduits to carry
369 runoff from cuts and embankments. Provide portable flume at the entrance.
370 Shorten or extend temporary slope drains to ensure proper function.
371

372 Protect ditches, channels, and other drainageways leading away from
373 cuts and fills at all times by either:
374

375 (1) Hydro-mulching the lower region of embankments in the
376 immediate area.
377

378 (2) Installing check dams and siltation control devices.
379

380 (3) Other methods acceptable to the Engineer.
381

382 Provide for controlled discharge of waters impounded, directed, or
383 controlled by project activities or erosion control measures.
384

385 Cover exposed surface of materials completely with tarpaulin or
386 similar device when transporting aggregate, soil, excavated material or
387 material that may be source of fugitive dust.
388

389 Cleanup and remove any pollutant that can be attributed to the
390 Contractor.
391

392 Install or modify Site-Specific BMP measures due to change in the
393 Contractor's means and methods, or for omitted condition that should have
394 been allowed for in the accepted Site-Specific BMP or a Site-Specific BMP
395 that replaces an accepted Site-Specific BMP that is not satisfactorily
396 performing. Modifications to Site-Specific BMP measures shall be accepted
397 in writing by the Engineer prior to implementation.
398

399 Properly maintain all Site-Specific BMP measures.
400

401 For projects with an NPDES Permit for Construction Activities:
402

(1) For construction areas discharging into nutrient or sediment impaired waters, 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 0.25 inch or greater which occurs in a 24-hour period.

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

(2) For construction areas discharging to waters not impaired for nutrients or sediments, inspect, prepare a written report, and make repairs to BMP measures at the following intervals:

(a) Weekly.

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

For projects without an NPDES Permit for Construction activities, inspect, prepare a written report, and make repairs to BMP measures at the following intervals:

(a) Weekly.

(b) 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 work 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 work day. When installation of a new pollution prevention control or a significant repair is needed, complete installation or repair no later than 7 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 7 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 21 calendar days of date of award. 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

541 Additional Water Pollution, Dust, and Erosion
542 Control _____

Force Account

543
544 An estimated amount for force account is allocated in proposal schedule
545 under 'Additional Water Pollution, Dust, and Erosion Control', but actual amount to
546 be paid will be the sum shown on accepted force account records, whether this sum
547 be more or less than estimated amount allocated in proposal schedule. The
548 Engineer will pay for BMP measures requested by the Engineer that are beyond
549 scope of accepted Site-Specific BMP on a force account basis.

550
551 No progress payment will be authorized until the Engineer accepts in writing
552 Site-Specific BMP or when the Contractor fails to maintain project site in accordance
553 with accepted BMP.

554
555 For all citations or fines received by the Department for non-compliance,
556 including compliance with NPDES Permit conditions, the Contractor shall reimburse
557 State within 30 calendar days for full amount of outstanding cost State has incurred,
558 or the Engineer will deduct cost from progress payment.

559
560 The Engineer will assess liquidated damages up to \$27,500 per day for non-
561 compliance of each BMP requirement and all other requirements in this section.
562

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/contractors-and-consultants/> under Construction Best Management Practices Field Manual. Supplemental BMP sheets are located at <http://www.stormwaterhawaii.com/resources/contractors-and-consultants/storm-water-pollution-prevention-plan-swppp/> under Concrete Curing and Irrigation Water.

Pollutant Source	Appropriate Site-Specific BMP to be Implemented	BMP Requirements
Construction debris, green waste, general litter	<ul style="list-style-type: none"> • 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. • Collect and dispose of all waste materials in trash dumpsters. Place dumpsters, with secure watertight lids, away from storm water conveyances and drains, in a covered materials storage area. • Dispose of construction and non- construction solid waste in accordance with State DOH regs. • Load removed non- recyclable vegetation directly onto trucks; cover and transport to a licensed facility 	See Solid Waste Management Section SM-6. Storm Drain Inlet Protection SC-1, and Perimeter Sediment Controls where applicable.

Pollutant Source	Appropriate Site-Specific BMP to be Implemented	BMP Requirements
Materials associated with the operation and maintenance of equipment, such as oil, fuel, and hydraulic fluid leakage	<ul style="list-style-type: none"> • 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. • 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 Storage and Handling Section SM-2 for additional requirements. 	See Vehicle and Equipment Cleaning, Maintenance, and Refueling, Sections SM-11, SM-12, and SM-13, and Material Storage and Handling, Section SM-2, and Spill Prevention and Control SM-10.

Pollutant Source	Appropriate Site-Specific BMP to be Implemented	BMP Requirements
Soil erosion from the disturbed areas	<ul style="list-style-type: none"> • Provide Soil Stabilization, Slope Protection, Storm Drain Inlet Protection SC-1, Perimeter Controls and Sediment Barriers, Sediment Basins and Detention Ponds, Check Dams SC-3 ,Level Spreader EC-6, Paving Operations SM-20, Construction Roads and Parking Area Stabilization SC-10, Controlling Storm Water Flowing Onto and Through the Project, Post-Construction BMPs, and Non-Structural BMPs (Construction BMP Training SM-1, Scheduling SM-14, Location of Potential Sources of Sediment SM-15, Preservation of Existing Vegetation SM-17). • 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 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 work day if removal by the same day is not feasible. • Sediment basins shall be designed and maintained in accordance with HAR Chapter 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. 	<p>Soil Stabilization</p> <ol style="list-style-type: none"> 1. SM-22 Topsoil Management 2. EC-12 Seeding and Planting 3. EC-14 Mulching 4. EC-11 Geotextiles and Mats <p>Slope Protection</p> <ol style="list-style-type: none"> 1. EC-12 Seeding and Planting 2. EC-14 Mulching 3. EC-11 Geotextiles and Mats 4. EC-4 Slope Roughening, Terracing, and Rounding 5. EC-7 Slope Drains and Subsurface Drains 6. EC-9 Slope Interceptor or Diversion Ditches/Berms <p>SC-1 Storm Drain Inlet Protection</p>

<i>Pollutant Source</i>	<i>Appropriate Site-Specific BMP to be Implemented</i>	<i>BMP Requirements</i>
		<p><i>Perimeter Controls and Sediment Barriers</i></p> <ol style="list-style-type: none"> <i>1. SC-7 Silt Fence or Filter Fabric Fence</i> <i>2. SC-2 Vegetated Filter Strips and Buffers</i> <i>3. SC-6 Compost Filter Berm/Sock</i> <i>4. SC-8 Sandbag Barrier</i> <i>5. SC-9 Brush or Rock Filter</i> <p><i>Sediment Basins and Detention Ponds</i></p> <ol style="list-style-type: none"> <i>1. SC-4 Sediment Trap</i> <i>2. SC-5 Sediment Basin</i> <p><i>SC-3 Check Dams</i></p> <p><i>EC-6 Level Spreader</i> <i>SM-20 Paving Operations</i> <i>SC-10 Construction Roads and Parking Area Stabilization</i></p>

<i>Pollutant Source</i>	<i>Appropriate Site-Specific BMP to be Implemented</i>	<i>BMP Requirements</i>
		<p><i>Controlling Storm Water Flowing onto and Through the Project</i></p> <ol style="list-style-type: none"> <i>1. EC-3 Run-On Diversion</i> <i>2. EC-5 Earth Dike, Swales and Ditches</i> <p><i>Post Construction BMPs</i></p> <ol style="list-style-type: none"> <i>1. EC-2 Flared Culvert End Sections</i> <i>2. EC-10 Rip-Rap and Gabion Inflow Protection</i> <i>3. EC-8 Outlet Protection and Velocity Dissipation Devices</i> <i>4. SM-22 Topsoil Management</i> <p><i>Non-Structural BMPs</i></p> <ol style="list-style-type: none"> <i>1. SM-1 Construction BMP Training</i> <i>2. SM-14 Scheduling</i> <i>3. SM-15 Location of Potential Sources of Sediment</i> <i>4. SM-17 Preservation of Existing Vegetation</i>

Pollutant Source	Appropriate Site-Specific BMP to be Implemented	BMP Requirements
<i>Sediment from soil stockpiles</i>	<ul style="list-style-type: none"> • <i>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.</i> • <i>Place bagged materials on pallets and under cover.</i> • <i>Provide physical diversion to protect stockpiles from concentrated runoff.</i> • <i>Cover stockpiles with plastic or comparable material when practicable.</i> • <i>Place silt fence, fiber filtration tubes, or straw wattles around stockpiles.</i> • <i>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.</i> • <i>Unless infeasible, contain and securely protect stockpiles from the wind.</i> • <i>Provide Storm Drain Inlet Protection and/or Perimeter Sediment Controls as applicable. See Stockpile Management Section SM-3 for additional requirements.</i> 	<i>See Stockpile Management Section SM-3. Storm Drain Inlet Protection SC-1, and Perimeter Sediment Controls where applicable.</i>
<i>Emulsified asphalt or prime/tack coat</i>	<ul style="list-style-type: none"> • <i>Provide training for employees and contractors on proper material delivery and storage practices and procedures.</i> • <i>Restrict paving operations during wet weather to prevent paving materials from being discharged.</i> • <i>Use asphalt emulsions such as prime coat when possible.</i> • <i>Protect drain inlet structures and manholes during application of tack coat, seal coat, slurry seal, and fog seal.</i> • <i>Keep ample supplies of drip pans and absorbent materials on site.</i> • <i>Inspect inlet protection devices.</i> • <i>See Material Storage and Handling Section SM-2 and Paving Operations Section SM-20 for additional requirements.</i> • <i>Provide Storm Drain Inlet Protection and/or Perimeter Sediment Controls as applicable.</i> 	<i>See Material Storage and Handling Section SM-2, and Stockpile Management Section SM-3, Paving Operations Section SM-20, Storm Drain Inlet Protection SC-1, and Perimeter Sediment Controls where applicable.</i>

Pollutant Source	Appropriate Site-Specific BMP to be Implemented	BMP Requirements
<i>Materials associated with painting, such as paint and paint wash solvent</i>	<ul style="list-style-type: none"> • <i>Hazardous chemicals shall be well-labeled and stored in original containers.</i> • <i>Keep ample supply of cleanup materials on site.</i> • <i>Dispose container only after all of the product has been used.</i> • <i>Remove as much paint from brushes on painted surface.</i> • <i>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.</i> • <i>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.</i> • <i>Do not dump liquid wastes into the storm drainage system.</i> • <i>Filter and re-use solvents and thinners.</i> • <i>Dispose of oil-based paints and residue as a hazardous waste.</i> • <i>Ensure collection, removal, and disposal of hazardous waste complies with regulations.</i> • <i>Immediately clean up spills and leaks.</i> • <i>Properly store paints, solvents, and epoxy compounds.</i> • <i>Properly store and dispose waste materials generated from painting and structure repair and construction activities.</i> • <i>Mix paints in a covered and contained area, when possible, to minimize adverse impacts from spills.</i> • <i>Do not apply traffic paint or thermoplastic if rain is forecasted.</i> • <i>See Material Storage and Handling Use SM-2, Hazardous Materials and Waste Management Section SM-9, Spill Prevention and Control Section SM-10, and Structure Construction and Painting Section SM-21 for additional requirements.</i> <p><i>Provide Storm Drain Inlet Protection and/or Perimeter Sediment Controls as applicable.</i></p>	<i>See Material Storage and Handling Use Section SM-2, Stockpile Management Section SM-3, Hazardous Materials and Waste Management Section SM-9, Waste Management, Spill Prevention and Control Section SM-10, and Structure Construction and Painting Section SM-21, Storm Drain Inlet Protection SC-1, and Perimeter Sediment Controls where applicable.</i>

Pollutant Source	Appropriate Site-Specific BMP to be Implemented	BMP Requirements
<i>Industrial chemicals, fertilizers, and/or pesticides</i>	<ul style="list-style-type: none"> • <i>Hazardous chemicals shall be well-labeled and stored in original containers.</i> • <i>Keep ample supply of cleanup materials on site.</i> • <i>Clean up spills immediately, using dry clean-up methods where possible, and dispose of used materials properly.</i> • <i>Do not clean surfaces or spills by hosing the area down.</i> • <i>Eliminate the source of the spill to prevent a discharge or a furtherance of an ongoing discharge.</i> • <i>Dispose container only after all of the product has been used.</i> • <i>Retain a complete set of safety data sheets (formerly MSDS) on site.</i> • <i>Store industrial chemicals in water-tight containers and provide either cover or secondary containment.</i> • <i>Provide cover when storing fertilizers or pesticides to prevent these chemicals from coming into contact with rainwater.</i> • <i>Restrict amount of pesticide prepared to quantity necessary for the current application.</i> • <i>Do not apply fertilizers or pesticides during or just before a rain event.</i> • <i>Do not apply to stormwater conveyance channels with flowing water.</i> • <i>Comply with fertilizer and pesticide manufacturer's recommended usage and disposal instructions. Document departures from manufacturer's specifications in Attachment J.</i> • <i>Apply fertilizers at the appropriate time of year for the location, and preferably timed to coincide as closely as possible to the period of maximum vegetation uptake and growth.</i> • <i>Follow federal, state, and local laws regarding fertilizer application.</i> • <i>Do not dispose of toxic liquid wastes (solvents, used oils, and paints) or chemicals (additives, acids, and curing compounds) in dumpsters allocated for construction debris.</i> 	<i>See Material Storage and Handling Use Section SM-2, Stockpile Management Section SM-3, and Hazardous Materials and Waste Management Section SM-9, and Spill Prevention and Control SM-10</i>

Pollutant Source	Appropriate Site-Specific BMP to be Implemented	BMP Requirements
	<ul style="list-style-type: none"> • 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 Storage and Handling Use SM-2, and Hazardous Materials and Waste Management Section SM-9 for additional requirements. 	
Hazardous waste (Batteries, Solvents, Treated Lumber, etc.)	<ul style="list-style-type: none"> • 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. • 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. 	See Hazardous Materials and Waste Management Section SM-9 and Vehicle and Equipment Maintenance SM-12

Pollutant Source	Appropriate Site-Specific BMP to be Implemented	BMP Requirements
	<ul style="list-style-type: none"> • 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 Materials and Waste Management Section SM-9 and Vehicle and Equipment Management, Vehicle and Equipment Maintenance SM-12 for additional requirements. 	
<i>Metals and Building Materials</i>	<ul style="list-style-type: none"> • 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
<i>Contaminated Soil</i>	<ul style="list-style-type: none"> • See Waste Management, Contaminated Soil Management Section SM-8 and/or Hazardous Materials and 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 Materials and Waste Management Section SM-9

Pollutant Source	Appropriate Site-Specific BMP to be Implemented	BMP Requirements
<i>Fugitive Dust Control and Dust Control Water</i>	<ul style="list-style-type: none"> • 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. • Minimize exposed areas through the schedule of construction activities. • Utilize vegetation, mulching, sprinkling, and stone/gravel layering to quickly stabilize exposed soil. • Direct construction vehicle traffic to stabilized roadways. • Cover dump trucks hauling material from the site with a tarpaulin. <p>See Dust Control Section SM-19 for additional requirements.</p>	See Dust Control Section SM-19
<i>Concrete Truck Wash Water</i>	<ul style="list-style-type: none"> • 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 Wash and Waste Management Section SM-4 for additional requirements. 	See Waste Management, Concrete Wash and Waste Management Section SM-4

Pollutant Source	Appropriate Site-Specific BMP to be Implemented	BMP Requirements
<i>Sediment Track-Out</i>	<ul style="list-style-type: none"> • <i>Include Stabilized Construction Entrance at all points that exit onto paved roads.</i> • <i>A sediment trapping device is required if a wash rack is used in conjunction with the stabilized construction entrance/exit.</i> • <i>The pavement shall not be cleaned by washing down the street.</i> • <i>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.</i> • <i>Use BMPs for adjacent drainage structures.</i> • <i>Remove sediment tracked onto the street by the end of the day in which the track-out occurs.</i> • <i>Restrict vehicle use to properly designated exit points.</i> • <i>Include additional BMPs that remove sediment prior to exit when minimum dimensions cannot be met.</i> <p><i>See Stabilized Construction Entrance/Exit Section SC-11 for additional requirements.</i></p>	<i>See Stabilized Construction Entrance/Exit Section SC-11</i>
<i>Irrigation Water</i>	<ul style="list-style-type: none"> • <i>Consider irrigation requirements.</i> • <i>Where possible, avoid species which require irrigation.</i> • <i>Design, timing and application methods of irrigation water to eliminate the runoff of excess irrigation water into the storm water drainage system.</i> <p><i>See Seeding and Planting Section EC-12 and California Stormwater BMP Handbook SD-12 Efficient Irrigation included in SWPPP Attachment A for additional requirements.</i></p>	<i>See Seeding and Planting Section EC-12 and California Stormwater BMP Handbook SD-12 Efficient Irrigation</i>
<i>Hydrotesting Effluent</i>	<ul style="list-style-type: none"> • <i>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.</i> 	<i>Site specific BMPs will be included in the NOI/NPDES Permit Form F submittal.</i>

Pollutant Source	Appropriate Site-Specific BMP to be Implemented	BMP Requirements
<i>Dewatering Effluent</i>	<i>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-18 for additional requirements.</i>	<i>See Dewatering Operations SM-18. Site specific BMPs will be included in the NOI/NPDES Permit Form G submittal.</i>
<i>Saw-cutting Slurry</i>	<ul style="list-style-type: none"> • <i>Saw cut slurry shall be removed from the site by vacuuming.</i> • <i>Provide storm drain protection during saw cutting. See Paving Operations Section SM-20 for additional requirements. Provide Storm Drain Inlet Protection and/or Perimeter Sediment Controls as applicable.</i> 	<i>See Paving Operations Section SM-20, Storm Drain Inlet Protection SC-1, Perimeter sediment controls where applicable</i>
<i>Concrete Curing Water</i>	<ul style="list-style-type: none"> • <i>Avoid overspraying of curing compounds.</i> • <i>Apply an amount of compound that covers the surface, but does not allow any runoff of the compound.</i> <i>See California Stormwater BMP Handbook NS-12 Concrete Curing included in SWPPP Attachment A for additional requirements.</i>	<i>See California Stormwater BMP Handbook NS-12 Concrete Curing</i>

Pollutant Source	Appropriate Site-Specific BMP to be Implemented	BMP Requirements
Plaster Waste Water	<ul style="list-style-type: none"> • Direct all wastewater 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 disposed of. • Plaster waste water shall not be allowed to flow into drainage structures or State waters. See Material, Storage and Handling Use SM-2, Stockpile Management Use Section SM-3, and Hazardous Materials and Waste Management Section SM-9 for additional requirements. 	See Material, Storage and Handling Use Section SM-2, Stockpile Management Use Section SM-3, and Hazardous Materials and Waste Management Section SM-9
Water-Jet Wash Water	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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 Waste Section SM-7 for additional requirements. 	See Sanitary Waste Section SM-7.

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END OF SECTION 209

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