FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	BR-0450(8)	2011	3	93

GENERAL NOTES

1. The scope of work for this project consists of but not limited to removal of the existing bridge structure and construction of a new bridge, including temporary detour road, relocation of overhead utilities, new waterline, stream improvements, stream access ramp, highway improvements and pavement striping.

2. The Contractor shall perform all applicable construction work in accordance with the "Department of Transportation, Highways Division, Standard Plans", as amended and "Hawaii Standard Specifications for Road and Bridge Construction, 2005", as amended for the State of Hawaii.

3 The Contractor shall verify the location of all existing utilities, whether shown on the plans or not, and shall be responsible for the repair of replacement of the same in the event of damages due to his construction practices, at no cost to the State.

4. All dimensions and details shown on the drawings shall be checked and verified prior to the start of construction, and any discrepancies shall be immediately brought to the attention of the Engineer for clarification.

5. Wherever crossings or connections of new utilities to existing utilities are shown on the plans, the Contractor shall expose the existing lines to verify their locations and depths prior to the facilities whether shown or not on the plans.

6. The Contractor's attention is directed to the following Sections: Subsection 104.11 - Utilities and Services; Subsection 107.06 - Contractor Duty Regarding Public Convenience; and Section 645 - Work Zone Traffic Control.

7. The Contractor is reminded of the requirements of Subsection 105.16 - Subcontracts, which requires him to perform work to not less than 30 percent of the total contract cost less deductible items. Non-compliance with the Subsection may be grounds for rejection of bid.

8. At the end of each day's work, the Contractor shall remove all equipment and other obstructions to permit free and safe passage of public traffic.

9. The existence and location of underground utilities, manholes, monuments and structures as shown on the plans are from the latest available data, but the accuracy is not guaranteed. The encountering of other obstacles during the course of work is possible. The Contractor shall tone for the exact locations and depths of all underground facilities, either shown on or omitted from the plans, in areas where work, such as the placement of sign posts, traffic signal conduits, etc. may affect these properties. Toning shall be considered incidental to the various contract items and will not be paid for separately. The Contractor shall be held liable for any damages incurred to the existing facilities and/or improvements as a result of his operations.

10. The Contractor shall notify the Engineer in writing two (2) weeks prior to starting construction operations.

11. Earth swale shall be graded to drain. This work shall be considered incidental to various contract items.

12. The Contractor shall obtain a Community Noise Permit from the State Department of Health, Noise and Radiation Branch, 591 Ala Moana Blvd., Room 136, Honolulu, HI 96813-2498; Telephone No. 586-4700. This shall be considered incidental to the various contract items and will not be paid for separately.

13. The Contractor shall indemnify and be solely responsible for the protection of adjacent properties, utilities and existing structures from damages due to construction. Repairing any damage shall be at the Contractor's own expense and to the satisfaction of the Engineer.

14. Existing drainage system will be functional at all times during construction. The Contractor shall furnish materials, equipment, labor, tools and incidentals necessary to maintain flow. This work shall be considered incidental to any culvert work or the various contract items and will not be paid for separately.

15. Smooth riding connections shall be constructed at all limits of project, including the beginning and end of project, connecting approaches, side streets, walkways and driveways as shown on the plans and/or as directed by the Engineer. This work shall be considered incidental to asphalt concrete and will not be paid for separately.

16. The Contractor shall clean and remove any accumulation of aggregates along the roadside within 10 feet of the edge of pavement. This work shall be considered incidental to bulk of work or the various contract items and will not be paid for separately.

17. Removal and disposal of existing asphalt concrete pavement, concrete bridge structure, guardrails and any debris shall be considered incidental to their respective bid items.

18. All saw cutting work shall be considered incidental to Roadway Excavation or Asphalt Concrete or various contract items or their respective bid items.

19. Prior to placement of new aggregate subbase course, the existing subbase shall be compacted to a relative compaction greater than or equal to 95%.

20. The top of the Plant Mix Glassphalt Concrete Base Course prior to placement of the new A.C. pavement, Mix No. IV shall comply with the ten-foot straight edge requirement. The variation of the surface from a straight edge with two contacts with the surface shall not exceed 3/16".

21. All guardrail post shall be 8.0 feet long. (Normal length is 6.0 feet. Designer should evaluate for guardrail post length.)

22. The Contractor shall provide and maintain for access to and from all existing driveways, sidewalks and ADA access routes, and side streets and cross streets at all times. This work shall be considered incidental to curb ramps, or sidewalk, or the various contract items and will not be paid for separately.

23. The Contractor shall provide and maintain a temporary pedestrian-safe and easily accessible route or detour with barricades in or near the work zone. This temporary route or detour shall be paved with at least an inch of Asphalt Concrete Pavement, Mix No. V or steel and/or wood planks and shall be American With Disabilities Act (ADA) compliant (This is only applicable if existing surface is dirt and/or if existing surface is non-ADA compliant.) This work shall be incidental to curb ramps, or sidewalk, or the various contract items and will not be paid for separately.

24. The Contractor shall remove and dispose of all existing raised pavement markers, thermoplastic line markings, traffic tape, and epoxy adhesives prior to the overlaying of Asphalt Concrete. This work shall be considered incidental to Asphalt Concrete Pavement, Mix No. V and will not be paid for separately.

25. No material and/or equipment shall be stockpiled or otherwise stored within the Highway Right-of-Way except at locations designated in writing and approved by the Engineer. If use of location is approved by the Engineer, the Contractor shall obtain a permit to use the property within the Highway Right-of-Way from the Maui District Office at telephone no. 873-3535.

26. Except during actual working hours, all signs which do not pertain to the construction activity, such as "MEN WORKING" and "FLAGMEN AHEAD" shall be covered or laid down. However, all signs necessary for the safety of the public shall be maintained.

27. The Contractor shall employ a Hawaii Registered Professional Surveyor to perform all construction stakeouts, the cost of which shall be borne by the Contractor.

28. The Contractor shall make his own arrangements for, and pay for all temporary utilities required for his work.

29. The Contractor shall procure and pay for all licenses and permits and shall give all notices necessary and incidental to the due and lawful prosecution of the work.

30. The Contractor shall remove and dispose all silt and debris deposited in drainage facilities, roadways and other areas resulting from his work. The cost incurred for any necessary remedial action ordered by the Engineer shall be paid for by the Contractor.

31. In the event that damage is caused to the road/detour road within the construction limits due to heavy rains and flooding, the Contractor is responsible for making the necessary repairs to the roadway. Road closure due to damage from flooding and heavy rains shall be no longer than a 24-hour period, including weekends and holidays. The Contractor shall submit a contingency plan that outlines how the damage will be addressed, what kind of equipment and material will be on-site at all times to make the repairs, and how their labor force will be able to address the damage if it occurs over a weekend. The contingency plan shall be addressed to:

    County of Maui
    Department of Planning
    250 South High Street
    Wailuku, Maui, Hawaii 96793
    Attn: Kathleen Ross Aoki
    Planning Director

    Payment from roadway repairs due to heavy rains and flooding will be made under "Additional Water Pollution, Dust, and Erosion Control" pay item as a Force Account.

32. Construction activities shall be limited to normal working daylight hours and weekdays.

33. The Contractor shall not damage any roots of the protected trees during roadway excavation.

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

CONSTRUCTION NOTES

KAMEHAMEHA V HIGHWAY
Kawela Bridge Replacement
Federal Aid Project No. BR-0450(8)

Scale: AS NOTED Date: Oct. 2010

SHEET No. C1.02 OF 93 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	BR-0450(8)	2011	4	93

NOTES FOR CONSTRUCTION WITHIN STATE R.O.W.

1. The Contractor shall obtain a construction permit from the State's Highway District Engineer at 650 Palapala Drive, Kahului, Maui, prior to commencement of work within State Highway Right-of-Way.

2. Construction and restoration of all existing Highway Facilities within State Right-of-Way shall be done in accordance with all applicable sections of the current "Standard Specifications for Road and Bridge Construction, 2005", as amended of the State of Hawaii.

3. A minimum of one lane shall be open to traffic at all times. The entire width of pavement, including the paved shoulders, may be utilized for traffic purposes. All lanes shall be open to traffic during the peak periods of 6:00 a.m. to 8:30 a.m. and 3:30 p.m. to 6:00 p.m. and during non-working hours.

4. The Contractor shall provide, install, and maintain all necessary signs, lights, flares, barricades, markers, cones and other protective facilities and shall take all necessary precautions for the protection and for the convenience and safety of public traffic. All such protective facilities and precautions to be taken shall conform with the "Administrative Rules of Hawaii Governing the use of Traffic Control Devices at Work Sites on or adjacent to Public Streets and Highways" adopted by the Director of Transportation, and the current U.S. Federal Highway Administration "Manual on Uniform Traffic Control Devices for Streets and Highway, Part VI Traffic Controls for Street and Highway Construction and Maintenance. A traffic control plan shall be incorporated into the construction plans and must be approved by the Division prior to the issuance of the permit.

5. No material and/or equipment shall be stockpiled or otherwise stored within Highway Rights-of-Way except at locations designated in writing and approved by the District Engineer.

6. Compaction test shall be taken in accordance with the "Specifications for Installation of Miscellaneous Improvements within State Highways", as follows:

   A. Subbase: 1 compaction test for each 300 lineal feet or fraction thereof.

   B. Base Course: 1 compaction test for each 200 lineal feet of fraction thereof.

   C. One compaction test for each 300 lineal feet of trench or fraction thereof. A copy of the results shall be submitted to the District Engineer.

7. The Contractor shall be required to provide adequate, safe, non-skid bridging material over the trench, including shoring, when trenching in pavement areas, to handle all types of vehicular traffic.

8. Longitudinal drainage along the highway shall be maintained.

9. Pavement striping shall be done by the Contractor. Pavement marking and striping shall be Thermoplastic Extrusion.

10. Approval of permit construction plans shall be valid for a period of one year thereof from the date of notification of approval to the applicant. In the event construction does not commence within the one-year period, the applicant will be required to re-submit his construction plans for Division's review and approval.

11. All regulatory, guide and construction signs and barricades shall be of high-intensity reflective sheeting.

12. The Contractor shall exercise care when excavating in this area. Damages to the existing facilities shall be immediately reported to the respective Utility Companies, County and State Agency. The repair work shall be done at the Contractor's expense.

13. The Contractor shall notify the Highway Lighting and Traffic Signal Supervisor, Department of Transportation (State) three (3) working days prior to commencing work in this area (phone no. 873-3535).

14. Contractor shall inform the State Permit Office (phone no. 873-3535) at least two (2) days prior to closing any lanes.

15. Where pedestrian walkways exist, they shall be maintained in passable and accessible condition complying with ADAAG 4.3 as required by ADAAG 4.1.1(4). Walkways at intersections shall be likewise provided.

16. Plastic marking tape: Provide plastic marking tape that is acid and alkali resistant polyethylene film 6 inches wide with minimum thickness of 0.004 inch. Provide tape with minimum strength of 1750 psi crosswise. Manufacture tape with integral wires, foil, backing or other means to enable detection by a metal detector when the tape is buried up to 3 feet deep. Manufacture tape specifically for marking and locating underground utilities. Provide the metallic core of the tape encased in a protective jacket or provided with other means to protect it from corrosion. Conform to the following tape color and bear a continuous printed inscription describing the specific utility.

   Red: Electric
   Yellow: Gas, Oil, Dangerous Materials
   Orange: Telephone, Telegraph, Television, Police, Fire and Communications
   Blue: Water Systems
   Green: Sewer Systems

17. The Contractor shall provide the District Engineer with As-Built plans upon completion of the work done in the State Right-of-Way. This shall be done prior to the Department's release of the performance bond.

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DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

CONSTRUCTION NOTES

KAMEHAMEHA V HIGHWAY
Kawela Bridge Replacement
Federal Aid Project No. BR-0450(8)

Scale: AS NOTED Date: Oct. 2010

SHEET No. C1.03 OF 93 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	BR-0450(8)	2011	5	93

WATER NOTES

1. The Contractor shall notify Department of Water Supply (DWS) in writing, one (1) week prior to commencement of work.

2. All materials used and method of construction of water system facilities shall be in accordance with the latest revisions of Department of Water Supply (DWS) Standards. The Contractor shall obtain the latest revisions of the DWS Standard Details before commencing construction.

3. Concrete for reaction blocks and anchor blocks shall be DWS class 2500.

4. The maximum distance between valve nut and top of manhole cover shall be three (3) feet.

5. The exact depth and location of existing waterlines, service laterals and other utilities are not known. It shall be the contractor's responsibility to locate same prior to trenching for the new waterline. The cost of lowering, relocating or adjusting existing waterlines, service laterals and other utilities shall be considered incidental to the cost of the new waterline, unless noted otherwise, and will not be paid for separately.

6. The Contractor shall submit a materials list to DWS for approval prior to construction.

7. Connection to DWS System:

   A. The Contractor shall verify the exact location, depth, type, and condition of the existing line before ordering materials for the hook-up. He shall, however, check with DWS before excavating for verification purposes. He shall be responsible for furnishing all necessary fittings and other materials required for the hook-up.

   B. Whenever feasible, mechanical joint fittings shall be used for buried applications, and flanged joint fittings shall be used for exposed applications.

   C. Authorized DWS personnel will make the final connection to the existing line. The Contractor shall be responsible for all costs incurred by DWS for said work, including the cost of pressure testing.

   D. The Contractor shall be responsible for furnishing all material, equipment and labor for chlorination, trench excavation, backfilling, paving, and other work necessary to complete the hook-up, as directed by, and to the satisfaction of DWS.

8. For 316 stainless steel bolting, heavy duty stainless steel nuts shall be furnished with Tripac 2000 Blue Coating System. Anti-seize shall not be used.

9. Minimum cover over water main, 6" diameter or larger, shall be 3'-0". Minimum cover for 4" diameter shall be 2'-6". Minimum cover for diameters less than 4" shall be 1'-6".

10. All buried metals shall be wrapped with poly-wrap. For all buried installations of ductile iron pipe and fittings, poly-wrap is required except within concrete jackets.

11. Water mains and appurtenances shall be subject to hydrostatic testing in accordance with the latest revision of AWWA C600, under the "Hydrostatic Testing" section, to a pressure of at least 1.5 times the working pressure. Unless otherwise stated in the construction documents or limited by the pressure rating equipment, the pressure test and leakage test shall be performed at 225 pounds per square inch pressure.

12. The Contractor shall submit two (2) sets of record drawings via a consultant prior to acceptance of the water system. An electronic image file in TIF format shall be provided to the DWS for all projects.

CHLORINATION OF WATER SYSTEMS

1. Liquid Chlorine or Calcium Hypochlorite conforming to AWWA standards, shall be used for the chlorination of the project.

2. Prior to chlorination, the project pipelines shall be thoroughly cleaned. Cleaning of lines 8" and larger shall be by pigging using foam pigs. Smaller lines can be flushed in accordance with AWWA requirements if adequate water supply is provided, otherwise by pigging. The Contractor shall submit his plan for pipeline cleaning, including fitting requirements for pigging, for approval prior to proceeding.

3. The interior surfaces of the project shall be exposed to the chlorinating solution for a minimum of 24 hours and the chlorine residual shall not be less than 10 PPM after such time.

4. Should Calcium Hypochlorite be used, no solid and/or undissolved portion of the compound shall be introduced into any section of the project to be chlorinated.

5. At the end of the 24-hour disinfection period, representative samples shall be taken and analyzed to assure a chlorine residual of at least 10 PPM.

6. Should the results indicate adequate chlorination, the project shall be thoroughly flushed and filled with potable water from the existing system and again tested for chlorine residual. The flushing shall be considered adequate if the test results indicate that the water in the project has a compatible chlorine residual as the water in the existing system.

7. Following the acceptable flushing of the project, two consecutive sets of acceptable samples, shall be taken at least 24 hours apart from representative points in the project and subjected to microbiological tests. At least one set of samples shall be collected from every 1,200 feet of the new water main, plus one set from each branch. Positive results will not be acceptable and the process will be repeated.

PUBLIC HEALTH, SAFETY AND CONVENIENCE NOTES

1. The Contractor shall observe and comply with all Federal, State, and Local Laws required for the protection of public health and safety and environmental quality.

2. The Contractor, at his own expense, shall keep the project and its surrounding areas free from dust nuisance. The work shall be in accordance with the Air Pollution Standards and Regulations of the State Department of Health. The County of Maui shall require supplemental measures as necessary.

3. The Contractor shall provide, install, and maintain all necessary signs, lights, flares, barricades, markers, cones and other protective facilities and shall take all necessary precautions for the protection, convenience and safety of the public.

4. The Contractor shall submit a Noise Pollution Control Plan when applying for a construction permit.

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

CONSTRUCTION NOTES

KAMEHAMEHA V HIGHWAY
Kawela Bridge Replacement
Federal Aid Project No. BR-0450(8)

Scale: AS NOTED Date: Oct. 2010

SHEET No. C1.04 OF 93 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	BR-0450(8)	2011	6	93

TRAFFIC NOTES FOR TRAFFIC CONTROL PLAN

1. The permittee shall make minor adjustments at intersections, driveways, bridges, structures, etc., to fit field conditions.
2. Cones or delineators shall be extended to a point where they are visible to approaching traffic.
3. Traffic control devices shall be installed such that the sign or device farthest from the work area is placed first. The others shall then be placed progressively toward the work area.
4. Regulatory and warning signs within the construction zone that are in conflict with the traffic control plans shall be removed or covered.
5. Flaggers and/or police officers shall be in sight of each other or in direct communications at all times.
6. When required by the issuing office, the permittee shall install a flashing arrow signal as shown on the traffic control plans.
7. All traffic lanes shall be a minimum of 10 feet wide.
8. All construction warning signs shall be promptly removed or covered whenever the message is not applicable or not in use.
9. The backs of all signs used for traffic control shall be appropriately covered to preclude the display of inapplicable sign message (i.e., when signs have messages on both faces).
10. Lane closure shall be limited only to the extent of accomplishing each day's work. As soon as each day's work is completed, the permittee shall remove all traffic control devices no longer needed to permit free and safe passage of public traffic. Removal shall be in the reverse order of installation. Existing faded or obliterated pavement markings that are necessary for safe traffic flow in the construction area shall be replaced with temporary or permanent markings before opening the roadway to public traffic each day.
11. Permanent pavement markings and traffic signs shall be placed upon completion of each phase of work.
12. Cones and delineators shall be spaced at a maximum distance of 20 feet apart. A minimum of six channelizing devices shall be used for each taper length.
13. Driveways shall be kept open unless the owners of the property using the Right-of-Way are otherwise provided for satisfactorily. Further, the permittee shall control traffic going in and out of driveways.
14. Buffer and taper areas on approach to any work shall be kept clear of vehicles and equipment.
15. A high level warning device (Flag Tree) shall be installed on approach to all work areas.
16. "No Parking" signs shall be posted within any work area and for the buffer and taper areas approaching to work area.
17. All work zone traffic control devices shall comply with the "State Wide Guideline for Work Zone Traffic Control Devices", Dated September 13, 2000.

GRADING NOTES

1. All grading and stockpiling work shall be in accordance with Maui County Code, Title 20, Chapter 8.
2. All debris shall be removed from the site and premises left in a "Raked Clean" condition.
3. The Contractor shall be responsible for the cleaning and removal of all silt debris generated and accumulated within downstream waterways. The Contractor agrees to reimburse the County of Maui for all costs expended in the performance of the above work, if required for public health and safety, or made necessary by non-performance by the Contractor.
4. All grading operations shall be performed in accordance with the applicable provisions of Chapter 54, Water Quality Standards, and Chapter 55, Water Pollution Control, of Title 11, Administrative Rules of the State Department of Health.
5. All existing utilities, whether or not shown on the plans, shall be protected at all times, unless noted otherwise.
6. All slopes and exposed areas shall be sodded or planted as soon as final grades have been established. Planting shall not be delayed until all grading work has been completed. Grading to final grade shall be continuous, and any area within which work has been interrupted or delayed shall be planted. Planting shall be maintained to minimize erosion, cost to be borne by the Contractor. Temporary Erosion Controls shall not be removed before Permanent Erosion Controls are in place.
7. Temporary Erosion Control Procedures shall be submitted for approval prior to application for a grading permit.
8. The Contractor shall obtain a grading permit from the Division of Land Use and Codes Administration two (2) weeks prior to commencement of any clearing and grubbing work.

STATE HISTORIC PRESERVATION DIVISION REQUIREMENTS NOTES

1. Should Historic Sites such as walls, platforms, pavements, and mounds, or remains such as artifacts, burials, concentration of charcoal or shells be encountered during construction work, work shall cease in the immediate vicinity of the find and the find shall be protected from further damage. The Contractor shall immediately contact the State Historic Preservation Division at 692-8015, which will assess the significance of the find and recommend an appropriate mitigation measure, if necessary.

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CONSTRUCTION NOTES

KAMEHAMEHA V HIGHWAY
Kawela Bridge Replacement
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Scale: AS NOTED Date: Oct. 2010

SHEET No. C1.05 OF 93 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	BR-0450(8)	2011	7	93

WATER POLLUTION AND EROSION CONTROL NOTES:

A. GENERAL:

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

B. WASTE DISPOSAL:

1. Waste Materials

   Collect and store all waste materials in a securely lidded metal dumpster. The dumpster shall meet all local and State solid waste management regulations. Deposit all trash and construction debris from the site in the dumpster. Empty the dumpster a minimum of twice per week or as often as is deemed necessary. Do not bury construction waste materials onsite. The Contractor's supervisory personnel shall be instructed regarding the correct procedure for waste disposal. Post notices stating these practices in the office trailer and the Contractor shall be responsible for seeing that these procedures are followed.

2. Hazardous Waste

   Dispose all hazardous waste materials in the manner specified by local or State regulations and by the manufacturer. The Contractor's site personnel shall be instructed in these practices and shall be responsible for seeing that these practices are followed.

3. Sanitary Waste

   Collect all sanitary waste from the portable units a minimum of once per week, or as required.

C. EROSION AND SEDIMENT CONTROL INSPECTION AND MAINTENANCE PRACTICES:

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

D. GOOD HOUSEKEEPING BEST MANAGEMENT PRACTICES:

1. Materials Pollution Prevention Plan

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

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

   b. Use Material Management Practices to reduce the risk of spills or other accidental exposure of materials and substances to storm water runoff. Make an effort to store only enough product as is required to do the job.

   c. Store all materials stored onsite in a neat, orderly manner in their appropriate containers and if possible under a roof or other enclosure.

   d. Keep products in their original containers with the original manufacturer's label.

   e. Do not mix substances with one another unless recommended by the manufacturer.

   f. Whenever possible, use a product up completely before disposing of the container.

   g. Follow manufacturer's recommendations for proper use and disposal.

   h. Conduct a daily inspection to ensure proper use and disposal of materials onsite.

2. Hazardous Material Pollution Prevention Plan

   a. Keep products in original containers unless they are not resealable.

   b. Retain original labels and material safety data sheets (MSDS).

   c. Dispose of surplus products according to manufacturers' instructions and local and State regulations.

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WATER POLLUTION AND EROSION CONTROL NOTES

KAMEHAMEHA V HIGHWAY
Kawela Bridge Replacement
Federal Aid Project No. BR-0450(8)

Scale: AS NOTED Date: Oct. 2010

SHEET No. C1.06 OF 93 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
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WATER POLLUTION AND EROSION CONTROL NOTES: -Cont.

D. GOOD HOUSEKEEPING BEST MANAGEMENT PRACTICES: -Cont.

3. Onsite and Offsite Product Specific Plan

The following product specific practices shall be followed onsite:

a. Petroleum Based Products:

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

b. Fertilizers:

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

c. Paints:

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

d. Concrete Trucks:

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

4. Spill Control Plan

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

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

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

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

e. Clean up all spills immediately after discovery.

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

g. Report spills of toxic hazardous material to the appropriate State or local government agency, regardless of the size.

E. PERMIT REQUIREMENTS:

1. If a National Pollutant Discharge Elimination System (NPDES) Permit is required for Construction Activities of one acre or more, submit to the Engineer six sets of the Water Pollution and Erosion Control Submittals as detailed in Subsection 209.03 of the specifications.

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

3. Comply with all applicable State and Federal Permit conditions. Refer to Specification Section 209. Permits may include but are not limited to the following:

a. NPDES Permit for Construction Activities
b. NPDES Permit for Construction Dewatering
c. NPDES Permit for Hydrotesting Waters
d. Section 401 Water Quality Certification
e. Stream Channel Alteration Permit
f. Section 404 Army Corps of Engineer Permit
g. SMA
h. CDUA

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THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

WATER POLLUTION AND EROSION CONTROL NOTES

KAMEHAMEHA V HIGHWAY
Kawela Bridge Replacement
Federal Aid Project No. BR-0450(8)

Scale: AS NOTED Date: Oct. 2010

SHEET No. C107 OF 93 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	BR-0450(8)	2011	9	93

ENVIRONMENTAL PROTECTION NOTES

1. The Contractor, at his own expense, shall provide effective measures for the control of fugitive dust emissions from the project and surrounding areas caused by his operations. These measures shall meet the requirements of State Administrative Rules, Department of Health, Air Pollution Control (11-60.1).

2. All grading operations shall be performed in conformance with the applicable provisions of the grading ordinance to prevent violation of the State Administrative Rules, Department of Health, Water Pollution Control and Water Quality Standards (11-54, 11-55) due to erosion and run off to State waters.

3. Grub material, and construction wastes shall be disposed of at an authorized site having a Department of Health Solid Waste Management Permit. Open burning is prohibited.

4. Permits Required:

   A. A NPDES Permit is required to be obtained from the Clean Water Branch of the Department of Health for storm water discharge, hydrotesting and dewatering.

   B. Permit must be obtained prior to start of construction.

5. Environmental protection notes pertaining to air and water pollution shall be administered and monitored by the Department of Health.

6. The Contractor shall remove all silt and debris resulting from his work and deposited in drainage facilities, roadways and other areas. The cost incurred for any necessary remedial action by the Engineer shall be payable by the contractor.

7. All excess material shall be removed from the project site.

8. Planting and maintenance of grass shall conform to section 641 "Hydro-Mulch Seeding" of the "Hawaii Standard Specifications for Road and Bridge Construction", 2005, as amended.

TEMPORARY DUST CONTROL MEASURES

1. The graded or project site that is cleared of vegetation shall be kept damp for seven (7) days a week. At the end of each day, the site shall be sufficiently dampened so that the site will remain moistened during the night.

2. The Contractor shall conduct his operations so that excavation, embankment, and imported material shall be dampened to prevent dust problems.

3. In applying for a grading permit, the Contractor shall submit plans, schedules and/or written measures which provide for dust control. The Dust Control Measures shall contain positive statements which require actions or work that prevent dust problems. No permits will be issued unless the State is assured that dust problems will be minimized.

4. The Contractor shall maintain a suitable water system and dampen the graded or grubbed site with water.

U.S. FISH AND WILDLIFE SERVICE RECOMMENDED STANDARD BEST MANAGEMENT PRACTICES

The Fish and Wildlife Service recommends that the following measures be incorporated into projects to minimize the degradation of water quality and adverse impacts to fish and wildlife resources.

1. The Turbidity and siltation from project-related work shall be minimized and contained to within the vicinity of the site through the appropriate use of effective silt containment devices and the curtailment of work during adverse tidal and weather conditions.

2. Dredging/filling in the marine environment shall be scheduled to avoid coral spawning and recruitment period and sea turtle nesting and hatching periods.

3. Dredging and filling in the marine/aquatic environment shall be designed to avoid or minimize the loss of special aquatic site habitat (coral reefs, wetlands etc.) and any ecological function unavoidably lost as a result of the project shall be replaced.

4. All project-related materials and equipment (dredges, barges, backhoes etc.) to be placed in the water shall be cleaned of pollutants prior to use.

5. No project-related materials (fill, revetment rock, pipe etc.) should be stockpiled in the water (intertidal zones, reef flats, stream channels, wetlands etc.)

6. All debris removed from the marine/aquatic environment shall be disposed of at an approved upland or ocean dumping site.

7. No contamination (trash or debris disposal, non-native species introductions attraction of non-native pests etc.) of adjacent marine/aquatic environments (reef flats, channels, open ocean, stream channels, wetlands, beaches, forests etc.) shall result from project-related activities. This shall be accomplished by implementing a litter-control plan and developing a Hazard Analysis and Critical Control Point Plan (HACCP - see http://www.haccp-nrm.org/Wizard/default.asp) to prevent attraction and introduction of non-native species.

8. Fueling of project-related vehicles and equipment should take place away from the water and a contingency plan to control petroleum products accidentally spilled during the project shall be developed. Absorbent pads and containment booms shall be stored on-site, if appropriate, to facilitate the clean-up of accidental petroleum releases.

9. Any under-layer fills used in the project shall be protected from erosion with stones (or core-loc units) as soon after placement as practicable.

10. Any soil exposed near water as part of the project shall be protected from erosion (with plastic sheeting, filter fabric etc.) after exposure and stabilized as soon as practicable (with native or non-invasive vegetation matting, hydroseeding etc.).

TEMPORARY NATIVE IN-STREAM BAG BERM NOTES

1. The temporary bag berm shall be completely constructed and stabilized before the stream is diverted.

2. The stream should not be diverted until all necessary equipment and materials are on site so the work can proceed quickly and without delay.

3. Contractor shall perform inspection daily and before, during, and after the work day to ensure the structure is being maintained and not damaged. If the depth of sediment accumulation reaches one-third of berm height, Contractor shall remove and dispose of sediment in accordance with NPDES and 401 WQC Permit.

4. The bags should be removed by hand to prevent breakage and further disturbance of the streambed.

5. Because the potential for washout is high, the berm shall be carefully monitored and not be left unattended for any 24 hour period. Weather reports must be followed. If a storm event is expected, the site must be stabilized in preparation for it.

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
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EROSION CONTROL NOTES

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Scale: AS NOTED Date: Oct. 2010

SHEET No. C1.08 OF 93 SHEETS