







FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	ER-19(001)	2018	6	30

NOTES FOR PROTECTED SPECIES (CONT.):

The project manager or heavy equipment operators shall perform daily pre-work equipment inspections for cleanliness and leaks. All heavy equipment operations shall be postponed or halted should a leak be detected, and they shall not proceed until the leak is repaired and the equipment is cleaned.

Fueling of land-based vehicles and equipment shall take place at least 50 feet (15.24 m) away from the water, preferably over an impervious surface. Fueling of vessels shall be done at approved fueling facilities.

Portable toilets for sanitary waste management shall be serviced regularly.

A plan shall be developed to prevent debris and other wastes from entering or remaining in the marine environment during the project.

No project-related materials (fill, revetment rock, pipe, etc.) shall be stockpiled in the water (intertidal zones, reef flats, stream channels, wetlands, etc.) or on beach habitats.

No contamination (trash or debris disposal, invasive species introductions, attraction of non-native pests, etc.) of adjacent habitats (reef flats, channels, open ocean, stream channels, wetlands, beaches, forests, etc.) shall result from project-related activities.

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.).

All debris removed from the marine/aquatic environment shall be disposed of at an approved site. Solid waste and construction and demolition debris would be properly managed.

Clearing and grubbing would be held to the minimum necessary for grading, access, and equipment operation.

Revegetation success shall be monitored by Contractor to ensure sufficient vegetation cover has established. Relevant erosion and sediment control BMPs shall not be removed until sufficient vegetative cover is re-established. If vegetation fails to establish, corrective actions shall be taken where necessary.

Soil stockpiles shall be located away at least 50 feet from concentrated runoff and water features, covered with plastic or other waterproof material when practicable, and surrounded by silt fences or other erosion control BMPs.

Concrete wash-outs shall be located 50 feet from storm drain inlets, open drainage areas, and waterbodies, and shall be maintained as needed.

All in-water work areas shall be isolated and confined from open water habitats through the use of approved isolation techniques including filter fabrics, turbidity curtains, K-rails, Cofferdams, Sheet Piles, Gravel/Rock berms, Gravel/Sandbag berms, Stream diversions (Pumped, pipe/flume, or excavated) or other approved means. Frequent inspections of these BMPs would be conducted to determine if devices are operating effectively. When a device proves inadequate, work would cease and it would be immediately redesigned or replaced until it is effective.

Flow around the isolated and confined in-water work area shall be unimpeded to allow for aquatic animal migration and/or to prevent downstream flooding situations. The unimpeded flow shall be equivalent to a two (2) year, 24 hour duration storm event and/or the existing flow capacity of the stream, ditch, or gulch.

In addition to diversion and isolation of the project area, dewatering of work zones shall also be completed. Dewatering shall follow the procedures outlined in SM-17 of the 2008 HDOT Construction BMP Field Manual and Section 208 of the FP-14. Treatment of dewatering effluent shall conform to Federal, State, and local regulations.

7. BMPs TO PREVENT THE INTRODUCTION AND SPREAD OF INVASIVE SPECIES

The area beyond the construction limits shall not be disturbed. Trees, shrubs or vegetated areas temporarily damaged by construction operations shall be re-vegetated.

Temporarily disturbed areas shall be revegetated with non-invasive plant species appropriate for the project area.

To avoid the unintentional introduction or transport of new terrestrial invasive species, all construction equipment and vehicles arriving from outside Kaua'i shall be washed and inspected before entering the project area. In addition, construction materials arriving from outside Kaua'i shall be washed and/or visually inspected (as appropriate) for excessive debris, plant materials, and invasive or harmful non-native species (plants, amphibians, reptiles, and insects). When possible, raw materials (gravel, rock, and soil) shall be purchased from a local supplier on Kaua'i to avoid introducing non-native species not present on the island. Inspection and cleaning activities shall be conducted at a designated location.

8. ESSENTIAL FISH HABITAT

Contractor shall conduct a pre-construction biological survey to determine whether infrastructure materials (e.g., riprap, piles, boulders) are colonized with benthic communities. If infrastructure materials (e.g., riprap, piles, boulders) that are colonized with benthic communities will be removed or destroyed as part of permitted activities, Contractor shall prepare relocation plan for HDOT approval, and then relocate these materials to an appropriate receiving site.

Perform work outside of the main coral spawning period in summer (May to August) to minimize sedimentation and turbidity affects to coral eggs and larvae in the area.

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DESIGNED BY	
	QUANTITIES BY	
	CHECKED BY	

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION	
<u>GENERAL NOTES</u>	
<u>KAUAI EMERGENCY FLOOD REPAIRS &amp; CLEANUP</u> <u>AT VARIOUS LOCATIONS APRIL 2018, RTE 560</u> <u>Proj. No. ER-19(001)</u>	
Scale: None	Date: Mar. 2019
SHEET No. N-5 OF 7 SHEETS	