

GENERAL NOTES

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	ER-24(004)	2024	2	49

1.

The scope of work for this project includes replacing signs and sand; removal of a concrete slab, sandbags, concrete column, trees and debris; installing riprap stones, geotextile fabric, Kyowa Bags, Triton Marine Mattresses, Sandsavers with scour protection, delineators, signs, and native plants with irrigation.
2.

The Contractor is reminded of the requirements of Subsection 105.16 - Subcontracts.
3.

The Contractor's attention is directed to the following Sections of the Special Provision: Subsection 107.06 - Contractor Duty Regarding Public Convenience; Subsection 104.11 - Utilities and Services; and Section 645 - Work Zone Traffic Control.
4.

Any work specified in the contract but not listed separately in the proposal schedule shall be considered incidental to various items and shall not be paid separately.
5.

The Contractor shall notify the Engineer in writing, through the E-Construction platform, two (2) weeks prior to starting of his operations.
6.

All lanes shall be open to traffic during peak hours of 6:30 a.m. to 8:30 a.m., during afternoon peak hours from 3:30 p.m. to 6:30 p.m., and during off work hours. Only one lane of the highway shall be closed at any other time. Failure of the Contractor to open all lanes of traffic during the times specified above shall result in assessment of rental fees as specified in Section 108.09 - Rental Fees for Unauthorized Lane Closure or Occupancy.
7.

All construction work is to be constructed in accordance with the publications "Hawaii Standard Specifications for Road and Bridge Construction, 2005" and its Amendments and the "Standard Details for Public Works Construction, September 1984", as amended by the Department of Public Works, City and County of Honolulu and the Counties of Kauai, Maui and Hawaii. The Standard Details are available at the County of Kauai Clerk's Office.
8.

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 be held liable for any damages incurred to the existing facilities and/or improvements as a result of his operations.
9.

Prior to construction, the Contractor shall contact the various utility agencies for location of existing utilities within the project limits. The Contractor shall locate and protect all existing utilities whether or not shown on the plans. Any cost incurred by damages to existing utilities will be borne by the Contractor. Contractor shall request from One-Call Center, Ph./866-423-7278. The Contractor shall also call the County of Kauai, Department of Water, PH (808) 245-5400 and the Wastewater Division, Ph. (808) 241-6642 for toning waterlines and sewerlines respectively. The Contractor shall document this effort in the e-construction platform.
10.

All works of toning, probing, hand digging, and all other means of utility verifications shall not be paid for separately, but shall be considered incidental to the various contract items.
11.

Contractor shall verify & investigate existing conditions at the site before proceeding with work and shall immediately report any discrepancy to the Engineer.

12.

The Contractor shall protect structures and property from damages during construction.
13.

Should the drawings disagree in themselves, the better quality or greater quantity of work or materials shall be estimated upon and unless otherwise ordered in writing shall be furnished.
14.

The Contractor shall provide for access to and from all existing driveways, sidewalk and ADA access routes, and side streets and cross streets at all time. This work shall be considered incidental to the various contract items.
15.

The Contractor and his Subcontractors shall, at intervals during the progress of work, remove and properly dispose of all accumulations of dirt, debris, trash, etc. outside the limits of the property. The cost shall be considered incidental to the various contract items.
16.

Existing drainage system will be functional at all times during construction. The Contractor shall furnish materials, equipment, labor, and tools to maintain flow. This work shall be considered incidental to the various contract items.
17.

Smooth riding connections shall be constructed at all limits of construction including the beginning and end of project, connecting approaches, side streets and driveways as shown on the plans, unless otherwise approved in writing by the Engineer.
18.

The Contractor shall observe and comply with all federal, State and local laws required for the protection of public health, safety and environmental quality.
19.

The Contractor, at his own expense, shall keep the project and its surrounding areas free from dust nuisance. The work shall be in conformance with the air pollution standards and regulations of the State of Hawaii, Department of Health. The Government shall require supplementary measures, if necessary.
20.

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 and pedestrians.
21.

Prior to starting any excavation activities, the contractor shall contact the Hawaii One Call Center, at 811 or 1-866-423-7287.
22.

Contractor shall utilize a physical barrier system to prevent 100% of debris and pollutants from entering the river, its banks, and waters of the U.S. Details for debris and pollutant barrier system and comprehensive site-specific BMP plan for the project shall be submitted to the Engineer for review and acceptance minimum 2 weeks prior to starting work. Refer to Section 209 - Temporary Water Pollution, Dust, and Erosion Control for additional requirements.
23.

No sections where guardrail has been removed shall be left unattended at the end of each work day. Open sections shall be shielded by Portable Concrete Barrier, unless otherwise approved by the Engineer. For Portable Concrete Barrier details, refer to Standard Plans TE-42 and TE-43, Furnishing, installing, and maintaining of these devices shall be considered incidental to the various contract items and will not be paid separately.
24.

All saw cutting work and removal shall be considered incidental to the various contract items and will not be paid separately.
25.

The Contractor, at his own expense shall hydro-mulch and maintain per Section 641 Hydro-Mulch Seeding of the HDOT Standard Specification all areas disturbed by his operations.
26.

Earth swale shall be graded to drain. Graded swales and shoulder shall be grassed. This work shall be considered incidental to the various contract items.

27.

Trimming and dressing of shoulder, sidewalk and bus turnout shall consist of clearing, grubbing, grading, reshaping and compacting the unpaved shoulders with suitable materials as shown on the plans and/or as directed by the Engineer. Suitable materials shall include materials from roadway excavation, including topsoil and base material therefrom, and if necessary, additional materials from borrow outside the limits of the right of way. Asphalt concrete removed from cold planning, reconstruction and roadway excavation shall not be used for dressing of shoulders, sidewalk or bus turnout. This work shall be considered incidental to the various contract items.
28.

The Contractor shall exercise extreme caution to preserve all existing right-of-way, centerline, as-built, construction, and NGS (horizontal and vertical in the NGS database) monuments located within the State of Hawaii right of way. If monuments are disturbed or destroyed, the Engineer shall be notified. Reconciliation to the Right-of-Way Baseline and/or a boundary study and determination may be required prior to re-installation of the disturbed or destroyed monuments. The Engineer shall be contacted for guidelines and procedures prior to construction.

A State of Hawaii Licensed Surveyor shall perform the location and staking of the reset monument. The DOT Standard Plans # Specifications, with the exception of NGS monuments which shall have a NGS approved "brass disk" marker, shall be referenced for the monument type and materials.

Any NGS vertical monuments that are deemed necessary for relocation due to construction shall follow the NGS benchmark reset procedures written by Curtis Smith dated September 2010 or newer. All work must be done by an electronic digital level that is acceptable by NGS for second-order class one or higher work. The surveyor must use two one-piece invar barcode rods with current certifications with struts with 15 lbs. turning plate or turtles; and/or turning pin with driving cap and temperature readings. Contact NGS prior to any work to ensure all equipment meets reset specifications. A State of Hawaii Licensed Surveyor shall perform the relocation. All work must be submitted both in electronic and hard copy formats to NGS and the Engineer.

All monument work shall be considered incidental to this project, unless noted otherwise.
29.

The Contractor is required to obtain a Permit to Perform Work Upon State Highways, and to attend a pre-construction meeting at Kauai District Office.
30.

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, prior to start of work, the Contractor shall obtain a permit to use the property within the highway right-of-way from the State Highways Division at telephone no. 808-241-3000 or dot.hwyk.permits@hawaii.gov.

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DRAWN BY	DATE
DESIGNED BY	DATE
CHECKED BY	DATE
ORIGINAL PLAN	
NOTE BOOK	
NA	

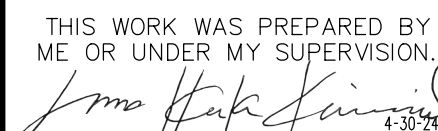
JAMES I. KINCAID

LICENSED PROFESSIONAL ENGINEER

No. 12562-CE

HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME, OR UNDER MY SUPERVISION



SIGNATURE

EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII

DEPARTMENT OF TRANSPORTATION

HIGHWAYS DIVISION

GENERAL NOTES

KUHIO HIGHWAY

Emergency Shoreline Mitigation

Fed. Aid Project No. ER-24(004)

Scale: None

Date: Dec. 2023

SHEET No. G-1 OF 11 SHEETS

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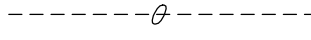
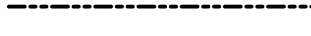


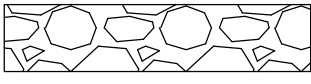
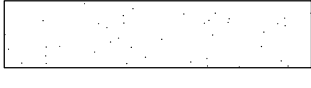
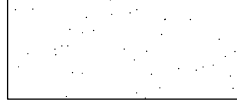




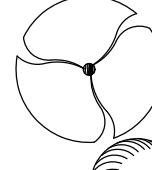
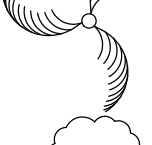

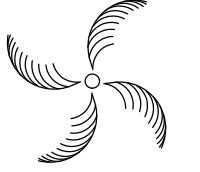

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	ER-24(004)	2024	3	49

## GENERAL NOTES



31. *Project construction-related materials (paint, steel members, concrete mix, etc.) should not be stockpiled in, or in close proximity to aquatic habitats and should be protected from erosion (e.g., with filter fabric, etc.), to prevent materials from being carried into Waters of the U.S. by wind, rain, or high surf.*
32. *Pursuant to Chapter 6E, HRS, in the event any artifacts or human remains are uncovered during construction operations, the Contractor shall immediately suspend work and notify the State Department of Land and Natural Resources - Historic Preservation Division (ph. 808-692-8015), and Kauai Police Department (ph. 808-241-1711).*
33. *All workers within the State right-of-way who are exposed to either vehicles using the roadway or to construction equipment shall wear high-visibility safety apparel that meets the Performance Class 2 or 3 requirements of ANSI/ISEA 107-2004. "Workers" is defined as people on foot whose duties place them with the State right-of-way, such as, but not limited to construction and maintenance forces, equipment operators, survey crews, utility crews, responders to incidents (e.g., EMT and firemen), and law enforcement personnel directing traffic, investigating accidents, handling lane closures and obstructed roadways.*
34. *The Contractor is to Comply with the directions of the State of Hawaii Safety and Health Law (DOSH).*
35. *The Contractor shall verify with the respective utility companies and Government agencies, the locations of all electric, telephone, roadway light, water, sewer, drain, and other lines crossing the project limits.*
36. *The Contractor shall notify all affected utility companies and Government agencies of their intent to begin construction at least two (2) weeks prior to the start of construction.*
37. *The location of overhead and underground facilities shown are from existing records with varying degrees of accuracy and are not guaranteed as shown. The Contractor shall exercise extreme caution whenever construction crosses or is in close proximity of underground lines and shall maintain adequate clearance when operating equipment within or under any overhead lines. Any damages to the existing facilities shall be repaired by the respective utility company and paid by the Contractor.*
38. *Should it become necessary, any work required to relocate existing utility facilities shall be done by the respective utility company. The Contractor shall be responsible for coordination and payment of relocation cost.*
39. *Contractor shall comply with the requirements of 29 CFR 1926.106 working over or near water.*
40. *Contractor shall submit a spill prevention plan for work that affects the water and sewer lines to the Engineer for review and approval. Payment for the plan shall be considered incidental to the various Pay Items.*
41. *The location and volume of debris as shown on the plans are from the latest available data, but may change greatly prior to the start of construction. Therefore, debris removal shall be paid as a Force Account Item.*

42. Slope protection should be established as soon as cut or fill slope is completed to reduce erosion potential.
43. No Contractor shall perform any grading work operations to cause rocks, soil, or debris in any form to fall, slide or flow onto adjoining properties, streets, or natural watercourse.
44. No Grading work shall be done on Saturdays, Sundays and Holidays, unless otherwise approved by the Engineer.
45. Temporary measures to control erosion and other pollutants shall be placed before any earth moving phase of the grading is initiated. Temporary erosion control shall not be removed before permanent erosion controls are in place and established. Temporary erosion control procedures shall be submitted to the Engineer for review and approval. This work shall be considered incidental to the various contract items and will not be paid separately.
46. A Grading Permit is required from the County "Department of Public Works" for the disposal of wasted excavated materials. Disposal site shall comply with the County's Sediment and Erosion Control Ordinances No. 808. This work shall be considered incidental to the various contract items and will not be paid separately.
47. No material or equipment shall be stored within County right-of-way, unless otherwise approved by the County and Engineer.
48. A Road Permit is required from the County "Department of Public Works" for the construction and warning sign installation within County right-of-way. Three (3) sets of the approved plans shall be submitted at the time when the Road Permit is applied for. Additionally, the applicant will need to provide Certificate of Liability Insurance naming the County as additionally insured. This work shall be considered incidental to the various contract items and will not be paid separately.
49. The Area of Potential Effects (APE) entails a 0.36-mile long stretch of Kuhio Highway with an area of approximately 63 acres and includes the following TMKs: (4) 3-9-006:012, 4-1-004:001, (4) 4-1-004:020, (4) 4-1-004:999, (4) 4-1-005:004, (4) 4-1-005:014, (4) 4-1-005:017, and (4) 4-1-005:999 along Kuhio Highway beginning in the vicinity of Kuamoo Road and extending toward the vicinity of Papaloa Road. The APE is roughly 2,030 feet wide throughout its length and extends from approximately the middle of Kuhio Highway's right-of-way, toward the ocean. The APE is situated along the coastal plain on the eastern side of Kauai Island between the Waialua River and the town of Waipouli. Elevations in this area range from sea level to approximately 40-feet above sea level. As required by the AMP, prior to work commencing within the affected areas the onsite archaeologist shall hold an orientation meeting for the construction crew about the requirements of the AMP. The Contractor is reminded that the onsite archaeologist(s) who will be implementing the AMP shall have the authority to stop work immediately in the area of any findings and also has the authority to slow and/or suspend construction activities as needed.

*LEGEND*

- |   |  |
|---|--|
|    | Existing Guard Rail                        |
|    | Existing Fence Line                        |
|    | Existing Railing                           |
|    | Existing Contour Line                      |
|    | Existing Right of Way                      |
|    | Existing Property Line                     |
|    | Approximate Edge of Shoreline May 22, 2021 |
|    | Existing Rock Wall (CRM)                   |
|    | Existing Concrete Wall                     |
|    | Existing Concrete Surface                  |
| <b>00+00</b>  | Stations (Along Existing Bike Path)        |
|    | Existing Storm Drain                       |
|   | Existing Traffic Signal Box                |
|  | Existing Traffic Signal Light              |
|  | Existing Water Valve Box                   |
|  | Existing Tree                              |
|  | Existing Palm                              |
|  | Existing Bush                              |
|  | Existing Coconut                           |
|  | Existing Hedges                            |

ORIGINAL PLAN	SURVEY PLOTTED BY _____ DATE _____	
	DRAWN BY _____	December 2023
NOTE BOOK	DESIGNED BY _____	
	TRACED BY _____	December 2023
No.	QUANTITIES BY _____	
	CHECKED BY _____	December 2023

	STATE OF HAWAII' DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION
	<u><b>GENERAL NOTES</b></u>
	<u>KUHIO HIGHWAY</u>
	<u>Emergency Shoreline Mitigation</u> <u>Fed. Aid Project No. ER-24(004)</u>
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.  SIGNATURE      EXPIRATION DATE OF THE LICENSE	Scale: None      Date: Dec. 2023
SHEET No.    G-2    OF    11    SHEETS	



FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	ER-24(004)	2024	4	49

EMERGENCY SCOUR REPAIRS SECTION 7  
ENDANGERED SPECIES ACT (ESA), AND MIGRATORY  
BIRD TREATY ACT (MBTA) AVOIDANCE.  
MINIMIZATION AND MITIGATION MEASURES

The following mitigation measures will be implemented, at a minimum:

All ESA and MBTA Species:

- All on-site project personnel, regardless of their project affiliation (contractor, subcontractor, County personnel) shall be apprised of the status of any protected species potentially present in the project area and the protections afforded to the species under federal law.
- The project foreman shall have in his, or her, possession at the jobsite a handout with photographs of protected species that may enter the project site to assist in identification of protected species.
- The project foreman shall designate an appropriate number of competent observers to survey the area adjacent to the proposed action for protected species prior to initiation of construction activities on a daily basis.

HAWAIIAN HAWK:

- Construction and repair activities will not occur within 1,600 feet of any Hawaiian hawk nest during the Hawaiian hawk breeding season (March through September).
- If work must be conducted during the breeding season, a nest search of the project footprint and surrounding areas will be performed within 14 days prior to disturbance.
- There will be no clearing or pruning of vegetation.

SEABIRDS

- Construction activity shall be restricted to daylight hours during the seabird peak fallout period (September 15 - December 15) to avoid the use of nighttime lighting that could attract seabirds. The limited temporary nighttime work outside of the peak seabird fallout period shall be shielded to prevent upward radiation and directed away from any nearby beach habitats.
- All outdoor lights shall be shielded to prevent upward radiation. This has been shown to reduce the potential for seabird attraction (Reed et al. 1985; Telfer et al. 1987). A selection of acceptable seabird friendly lights can be found online at the Kaua'i Seabird Habitat Conservation website (2013).

HAWAIIAN HOARY BAT (LASLURUS CINEREUS SEMOTUS)

- Any fences that are erected as part of the project shall have barbless wire to prevent entanglements of the Hawaiian hoary bat on barbed wire. No fences in the survey area were observed with barbed wire during the survey; however, if fences are present, the top strand of barbed wire shall be removed or replaced with barbless wire.
- No trees taller than 15 feet (4.6 m) shall be trimmed or removed as a result of this project between June 1 and September 15, when juvenile bats that are not yet capable of flying may be roosting in the trees.

NENE OR HAWAIIAN GOOSE (BRANTA SANVICENSIS)

- A qualified biologist shall survey the area for nesting nene before construction or as soon as the area is deemed safe and accessible (in coordination with the waterbird surveys), and after any subsequent delay in work of 3 or more days (during which birds may attempt nesting). The results of the pre-construction survey shall be submitted to the USFWS.
- If a nene is found in the area during ongoing activities, all activities within 100 feet (30 m) of the bird would cease, and the bird shall not be approached. If a nest is discovered, USFWS shall be notified. If a nest is not discovered, work may continue after the bird leaves the area of its own accord.
- All regular on-site staff shall be trained to identify nene and shall know the appropriate steps to take if nene are present on-site. Training would not be necessary if a biological monitor is present for the duration of the construction.
- Temporary construction fencing shall be erected around the bridge construction zones to minimize the potential for nene to enter the project zones.

WATERBIRDS

- In areas where vegetated streambanks would be disturbed, waterbird nest searches shall be conducted by a qualified biologist before any work is conducted and after any subsequent delay in work of 3 or more days (during which birds may attempt nesting). For vegetated streambanks where emergency work has already been initiated, a qualified biologist shall survey the area as soon as the area is deemed safe and accessible. The results of the pre-construction survey shall be submitted to the USFWS.
- If a waterbird nest with eggs or chicks/ducklings is discovered in the construction limits, work shall not begin until the chicks/ducklings have fledged.
- Waterbird nests, chicks, or broods found in the survey area before or during construction shall be reported to the USFWS within 48 hours.
- A biological monitor shall be present on the project site during all construction activities to ensure that Hawaiian waterbirds and nests are not adversely impacted.

HAWAIIAN MONK SEAL (NEOMONACHUS SCHAUINSLANDI) AND SEA TURTLES:

- All regular on-site staff shall be trained to identify the Hawaiian monk seal and sea turtles, and trained on appropriate steps to take if these species are present on-site.
- Construction activities shall not take place if a Hawaiian monk seal or sea turtle is in the construction area or within 150 feet (46 m) of the construction area. Construction can only begin after the animal voluntarily leaves the area. If a monk seal/pup pair is present, a minimum 300-foot (91-m) buffer shall be observed. If a Hawaiian monk seal or sea turtle is noticed after work has already begun, that work may continue only if, in the best judgement of the biological monitor, that there is no way for the activity to adversely affect the animal(s).
- Any construction-related debris that may pose an entanglement threat to Hawaiian monk seals and sea turtles shall be removed from the construction area at the end of each day and at the conclusion of the construction project.
- Workers shall not attempt to feed, touch, ride, or otherwise intentionally interact with any listed species.

- Shielded lighting shall be used to reduce direct and ambient light to potential nearby beach habitat. Lighting shall be directed away from the beach.
- In-water work at night shall be avoided, unless emergency maintenance and repair of erosion and sediment controls are necessary to meet permit conditions.
- All project-related materials and equipment placed in the water should be free of pollutants.
- No project-related materials (fill, revetment rock, pipe, etc.) should be stockpiled in the water (intertidal zones, reef flats, stream channels, etc.).
- No contamination (trash or debris disposal, alien species introductions, etc.) of marine environments (reef flats, lagoons, open ocean, etc.) adjacent to the project site should result from project-related activities.
- Fueling of project-related vehicles and equipment should take place away from the water. A contingency plan to control the accidental spills of petroleum products at the construction site should be developed.
- Absorbent pads, containment booms, and skimmers will be stored on-site to facilitate the cleanup of petroleum spills.
- Return flow or run-off from material stored at inland dewatering or storage sites should be prevented.

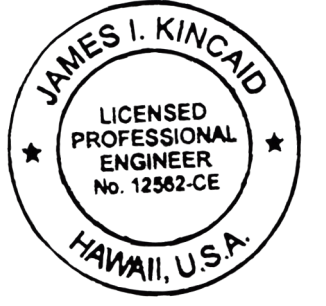
For Aquatic Ecosystems:

- Best Management Practices (BMPs), as advised in the USFWS Recommended Aquatic Best Management Practices information sheet, shall be incorporated to minimize water quality degradation and minimize the impacts to fish and wildlife resources.

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
	DRAWN BY	DATE
	DESIGNED BY	DATE
	CHECKED BY	DATE
NOTE BOOK	NO.	
	DATE	

 <p>THIS WORK WAS PREPARED BY ME, OR UNDER MY SUPERVISION. <i>James I. Kincaid</i> SIGNATURE      EXPIRATION DATE OF THE LICENSE</p>	<p>STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION</p> <p><b>GENERAL NOTES</b></p> <p><u>KUHIO HIGHWAY</u> <u>Emergency Shoreline Mitigation</u> <u>Fed. Aid Project No. ER-24(004)</u></p> <p>Scale: None      Date: Dec. 2023</p>
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EMERGENCY SCOUR REPAIRS SECTION 7  
ENDANGERED SPECIES ACT (ESA), AND MIGRATORY  
BIRD TREATY ACT (MBTA) AVOIDANCE.  
MINIMIZATION AND MITIGATION MEASURES (CONT.)

General Section 7 of the Endangered Species Act Notes:

1.

During all construction work in the project area, constant vigilance will be kept for the presence of ESA-listed sea turtles during all phases of the proposed actions.
2.

BMPs to avoid impacts to aquatic habitats will also be adopted. The following measures will be implemented to avoid and minimize indirect impacts to the marine habitat in the project area:

a.

Authorized dredging and filling-related activities that may result in the temporary or permanent loss of aquatic habitats will be designed to avoid indirect, negative impacts to aquatic habitats beyond the planned project area.

b.

Project construction-related materials (fill, revetment rock, pipe, etc.) will not be stockpiled in, or in close proximity to aquatic habitats and will be protected from erosion (e.g. with filter fabric, etc.) to prevent materials from being carried into waters by wind, rain, or high surf.

c.

All deliberately exposed soil or under-layer materials used in the project near water will be protected from erosion and stabilized as soon as possible with geotextile, filter fabric or native or non-invasive vegetative matting, hydroseeding, etc.

d.

All project construction-related materials and equipment (dredges, vessels, backhoes, silt curtains, etc.) to be placed in an aquatic environment will be inspected for pollutants including , but not limited to: marine fouling organisms, grease, oil, etc., and cleaned to remove pollutants prior to use.

e.

Daily pre-work inspections of heavy equipment will be conducted for cleanliness and leaks, with all heavy equipment operations postponed or halted until leaks are repaired and equipment is cleaned.

f.

Proper installation and maintenance of silt fences, biosocks/sausages, equipment diapers, and/or drip pans will be implemented.

g.

An approved contingency plan to control, contain, clean, and dispose of spilled petroleum products and other toxic materials will be implemented and the plan will be retained on-site with the person responsible for compliance with the plan.

h.

Appropriate materials to contain and clean potential spills will be stored in proper containment at the work site and be readily available.

i.

Fueling of project-related vehicles and equipment will take place at least 50 feet (15 m) away from the water, over an impervious surface.
- j.

A plan will be developed to prevent trash and debris from entering the marine environment during the project. For example, turbidity and siltation from project-related work will be minimized and contained within the project area by silt containment devices and work will be curtailed during flooding or adverse tidal and weather conditions. BMPs will be maintained for the life of the construction period until turbidity and siltation within the project area is stabilized. All project construction-related debris and sediment containment devices will be removed and disposed of at an approved site.
- k.

All construction discharge water (e.g., concrete washout, pumping for work area isolation, vehicle wash water, drilling fluids) will be treated before discharge.
- l.

Project related activities will not result in any debris disposal, nonnative species introductions, or attraction of non-native pests to the affected or adjacent aquatic or terrestrial habitats. A litter-control plan and a Hazard Analysis and Critical Control Point plan (see <https://www.fws.gov/policy/A1750fwl.html>) will be implemented to help prevent attraction and introduction of non-native species.
4.

Biological surveys of the work area will be conducted within three days prior to initiating any project activities occurring on land. These surveys will be conducted by a qualified biologists to determine whether there is visible evidence of sea turtle activity or presence in or around the terrestrial work area. During the project implementation phase, prior to the start of daily work, the designated competent observer will walk the beach looking for signs of any sea turtle activity including individual turtles or their tracks within the work area. The competent observer will also populate the daily monitoring log with relevant notes and details of any instances during a workday when turtles were observed, or work delays resulting from sea turtles being observed or reported in the vicinity of the project area. Project activities will commence only after the biologist finds no evidence that turtles are active or present in the terrestrial work area and following the competent observer training.
5.

To minimize entrapment hazards from staged equipment, temporary plastic fencing that will be a minimum of 3 ft in height and have individual holes no larger than 3 inches will be erected at the end of each workday.

a.

A combination of the following methods will be used to monitor for sea turtles and the perceived hazard presented by the Sandsaver

b.

A qualified biologist to monitor and train on or more competent observer(s)

c.

Trained competent observer(s) capable of performing monitoring requirements.

d.

Remote-virtual monitoring capacity using roadway-mounted surveillance video or still-camera imagery augmented by trained and competent observer(s)

e.

Effective outreach with the beach-going public using informational kiosks.

CRITERION A: >75 PERCENT VERTICAL AND >25 PERCENT CURVILINEAR  
ACCUMULATION OF SAND ON ARCH

One scenario where criterion A would apply is when the Sandsaver blocks are wherein most of the blocks in the arc are buried (>75 percent vertical and >25 percent curvilinear). Criterion A will exist whenever the arc is mostly or completely buried in sand. This set of conditions allows unrestricted movement for sea turtles into or out of the arc configuration. Once criterion A is validated by the biologist or trained or competent observer and concurred with HDOT, the monitoring will entail regular remote surveillance using the installed mobile camera system.

Cameras will be purchased and leased by HDOT; however the contractor will install the camera on the camera concrete pad. The camera will be used specifically for the purpose of monitoring for turtle activity and sand accumulation around the arch. The camera specifications should allow for clear remote observations and shall be able to move and zoom in as needed. The real-time footage can be virtually monitored from any computer connected to the internet. The operator of the camera will be able to move the camera and zoom in to identify small objects on the beach. The contractor will be responsible for monitoring the sand levels and for turtle activity for a duration of 12 months following the completion of the Sandsaver installation. The stainless-steel bandit straps will provide a visual determination for the vertical sand accumulation level. Two stainless-steel bandit straps will be used to secure the Sandsavers together, one placed in the top hole and a second one placed in the second hole down. The second bandit strap will be used as the 75 percent threshold height. Therefore, if the second bandit strap is covered by sand, this results in 75 percent of the vertical face of the Sandsavers are buried. The cameras will enable early detection of beach effects following high surf events that could temporarily remove some sand or cause a short-term entrapment or displacement risk. The loss of enough sand that falls below the second bandit strap (75 percent vertical) and 25 percent of the curvilinear length criteria, will trigger monitoring under criterion B (see below).

If a sea turtle is observed in the vicinity of the Sandsavers arch then the in-person monitoring described under criterion B (described below).


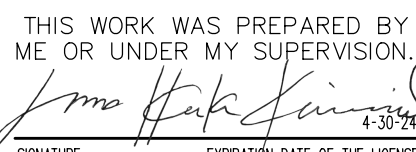
CRITERION B: <75 PERCENT VERTICAL AND <25 PERCENT  
CURVILINEAR ACCUMULATION OF SAND ON ARC

There could be several scenarios such as high surf events or storms that might cause sand to be removed or redistributed around the Sandsaver blocks that drops the level of sand below the second bandit strap (<75 percent vertical) and <25 percent curvilinear, an entrapment hazard for sea turtles would exist. In this situation a trained and competent observer will commence Sandsaver beach checks three days a week. One inspection is required per day on Mondays, Wednesdays, and Fridays (excluding holidays). The inspections will entail conducting a visual inspection of the entire length of the Sandsaver and adjacent beach, on foot, searching for evidence of activity or presence of sea turtles (individual or tracks). These inspections shall be performed at sunrise when turtle tracks are likely to remain visible to the observer.

If sea turtle tracks are found, monitoring will be increased to daily rather than three days a week. The camera system will also be used at this time to evaluate efficacy as a monitoring component and to augment the competent observer's inspections. Checks every two days will continue until the potential hazard of entrapment is low because the 75 percent or greater level of sand accumulation criterion has been reached along a cumulative 25 percent or greater curvilinear length of the Sandsaver arc (criterion A). For example, after a storm event, the Sandsaver blocks are expected to facilitate the process of restoring sand to the beach, and over time, the amount of exposed surface area presented by the Sandsaver blocks in the lower section of the arch should decrease, thereby lowering the overall hazard of entrapment or displacement for sea turtles.

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

 <small>THIS WORK WAS PREPARED BY ME, OR UNDER MY SUPERVISION</small>  <small>SIGNATURE</small> <small>EXPIRATION DATE OF THE LICENSE</small>	STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION  <b>GENERAL NOTES</b>  KUHIO HIGHWAY <u>Emergency Shoreline Mitigation</u> <u>Fed. Aid Project No. ER-24(004)</u>  Scale: None      Date: Dec. 2023
	SHEET No. G-4 OF 11 SHEETS



EMERGENCY SCOUR REPAIRS SECTION 7  
ENDANGERED SPECIES ACT (ESA), AND MIGRATORY  
BIRD TREATY ACT (MBTA) AVOIDANCE.  
MINIMIZATION AND MITIGATION MEASURES (CONT.)

Note that in the table below, the ADCP Deployment, Operational, and Removal phases will be conducted by others and not part of the construction project.

Table 1: Summary of Effects Determination for the Affected Species

Project Phase	Type of Monitoring	Estimated Duration
ADCP Deployment	Visual, exercise avoidance	2 days
ADCP Operational	Visual, exercise avoidance	60-90 day intervals
ADCP Removal	Visual, exercise avoidance	2 days
Debris Removal and Revetment Installation	<b>Preconstruction survey followed by daily inspection</b> of the beach and work area prior to construction activity; spot checks; trained competent observer on site	9 months
Sandsaver Installation	<b>Preconstruction survey followed by daily inspection</b> of the beach and work area prior to construction activity and spot checks by, trained competent observer on site	6-10 days
Sandsaver Operations	<b>Virtual monitoring using surveillance cameras</b> and as needed visual inspection on site by trained competent observer	As long as this criterion or entrapment risk remains low or no longer exists
≥75% vertical and ≥25% curvilinear accumulation of sand on arc		
≤75% vertical and ≤25% curvilinear accumulation of sand on arc	<b>Beach and Sandsaver arc inspections Monday, Wednesday, and Friday</b> (excluding holidays) combined with camera surveillance <b>until 75% vertical and 25% curvilinear sand accumulation threshold is achieved</b>	As long as this criterion or entrapment hazard is high

Note: ADCP = Acoustic Doppler Current Profilers.

The following terms and conditions, which implement the reasonable and prudent measures described above and outline required reporting/monitoring requirements. There terms and conditions are non-discretionary.

To implement the reasonable and prudent measures above, the following terms and conditions apply:

- The FHWA will notify the USFWS by telephone and email within 24 hours upon the discovery of an injured or dead sea turtle within the project area. FHWA will provide the USFWS a written notification (Sea Turtle Injury/Mortality Form, Appendix B), summarizing the event, within 30 days. Upon locating a dead or injured specimen, immediately notify USFWS's Law Enforcement Office at 808-861-8525 and the USFWS at 808-792-9420. Care must be taken in handling any dead or injured specimens of proposed or listed species to preserve biological material in the best possible state. In conjunction with the preservation of any dead specimens, the finder has the responsibility to ensure that evidence intrinsic to determining the cause of death of the specimen is not unnecessarily disturbed. The findings of dead or injured specimens does not imply enforcement proceedings pursuant to the ESA. This reporting requirement enables the USFWS to determine if take is reached or exceeded and to ensure that the terms and conditions are appropriate and effective.
- FHWA will submit bi-annual reports. The reports shall be submitted by January 31st and July 31st following the issuance of this biological opinion and will continue bi-annually throughout the life of the project. Annual reports will summarize any surveys, observations, and monitoring (as described in the project description), along with any details of the incident(s) that result in take.

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- The depository designated to receive specimens that are found is the B.P. Bishop Museum, 1525 Bernice Street, Honolulu, Hawaii, 96817 (telephone: 808-847-3511). If the B.P. Bishop Museum does not wish to accession the specimens, contact the USFWS's Division of Law Enforcement in Honolulu, Hawaii (telephone: 808/861-8525; fax: 808/861-8515) for instructions on disposition.

USFWS Conservation Measures

- Construction activities for this Project and similar future projects should be planned to take place outside of sea turtle nesting and hatching season to the maximum extent practicable.
- Educational signs should be placed where appropriate at beach access points explaining the importance of the area to sea turtle and/or life history of sea turtle species that nest in that area.
- Implement measures to minimize impacts to sea turtles from night lighting along the adjacent roadways, etc. The USFWS can provide guidance on conservation measures to minimize night lighting impacts on sea turtles.

Section 7 of the Endangered Species Act - National Marine Fishery Service

- Constant vigilance will be kept for the presence of ESA-listed species during all aspects of the permitted actions.
  - A responsible party, i.e. permittee/site manager/project supervisor, will designate a competent observer to search/monitor work sites and the areas adjacent to the authorized work area for ESA-listed species.
  - Surveys will be made prior to the start of work each day, including prior to resumption of work following any break of more than one-half hour.
- All work will be postponed or halted when ESA-listed marine species are within 50 m of the proposed work and will only begin/resume after the animals have voluntarily departed the area.
  - If listed species are noticed in the area after work has already begun, that work may continue only if, in the best judgement of the project supervisor, that there is no way for the activity to adversely affect the animal(s).
- Project-related personnel will NOT attempt to disturb, touch, ride, feed, or otherwise intentionally interact with any protected species.
- Avoid nighttime work during the nesting and hatching season, which extends from May through December.
- Turbidity and sediment from project-related work will be minimized and contained to the immediate vicinity of the project through the appropriate use of effective sediment containment devices and the curtailment of work during adverse tidal and weather conditions.
  - All silt fences, curtains, and other structures will be installed properly and maintained in a functioning manner for the life of the construction period and until the impact area is permanently stabilized , self-sustaining and/or turbidity levels, elevated due to construction, return to ambient levels.
- The project manager or heavy equipment operators will perform daily pre-work equipment inspections for leaks. All heavy equipment operations will be postponed or halted should a leak be detected and will not proceed until the leak is repaired and equipment cleaned.
  - Appropriate materials to contain and clean potential spills will be stored at the worksite and be readily available.

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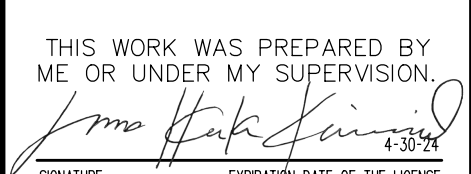
JAMES I. KINCAID

LICENSED PROFESSIONAL ENGINEER

No. 12562-CE

HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME, OR UNDER MY SUPERVISION



SIGNATURE

EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII

DEPARTMENT OF TRANSPORTATION

HIGHWAYS DIVISION

GENERAL NOTES

KUHIO HIGHWAY

Emergency Shoreline Mitigation

Fed. Aid Project No. ER-24(004)

Scale: None

Date: Dec. 2023







EMERGENCY SCOUR REPAIRS SECTION 7  
ENDANGERED SPECIES ACT (ESA), AND MIGRATORY  
BIRD TREATY ACT (MBTA) AVOIDANCE.  
MINIMIZATION AND MITIGATION MEASURES (CONT.)

BMPs to Minimize the Introduction and Spread of New Invasive Species:

1.

To avoid the unintentional introduction or transport of new terrestrial invasive species, all construction equipment and vehicles arriving from outside Hawaii shall be washed and inspected before entering the project area. In addition, construction materials arriving from outside Hawaii shall also 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 Hawaii to avoid introducing non-native species not present on the island. Inspection and cleaning activities shall be conducted at a designated location.
2.

All materials imported to the project site, including gravel, soil, rock, sand, and construction materials and forms, should be free of invasive species. Invasive species found on stockpiled materials should be removed mechanically.
3.

The area beyond the construction limits will not be disturbed. Trees, shrubs or vegetated areas temporarily damaged by construction operations will be re-vegetated.
4.

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

WATER POLLUTION AND EROSION NOTES

A. GENERAL:

1.

See Special Provisions 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. In addition, Appendix A lists potential pollutant sources and corresponding BMPs used to mitigate the pollutants.
2.

Follow the guidelines in the current HDOT Construction Best Management Practices Field Manual in developing, installing and maintaining the Best Management Practices (BMP) for the project. Should a requirement not be clearly described within the applicable documents, the Contractor shall notify the Engineer immediately for interpretation. For the purposes of clarification under Note A.2, "applicable documents" include the construction plans, standard specifications, Special Provisions, Permits, and the Storm Water Pollution Prevention Plan (SWPPP) when applicable.
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 and special provisions, 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 Agency for the full amount of the outstanding cost incurred.
6.

Submit Site-Specific BMP Plan to the Engineer along with a completed Site-Specific BMP Review Checklist within 30 calendar days of contract execution. The Site-Specific BMP Review Checklist may be obtained from <http://www.stormwaterhawaii.com>.

B. WASTE DISPOSAL:

1.

Waste Materials:  
  
Collect and store all waste materials in a securely lidded metal dumpster or roll off container with cover to keep rain out or loss of waste during windy conditions. 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 weekly or when the container is two-thirds full, whichever is sooner. 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, on a weatherproof bulletin board, or other accessible location acceptable to the Engineer. The Contractor shall be responsible for seeing that these procedures are followed. Submit the Solid Waste Disclosure Form for Construction Sites to the Engineer within 30 calendar days of contract execution. Provide a copy of all the disposal receipts from the facility permitted by the Department of Health to receive solid waste to the Engineer monthly. This should also include documentation from any intermediary facility where solid waste is handled or processed.
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. Position sanitary facilities where they are secure and will not be tipped over or knocked down.

C. EROSION AND SEDIMENT CONTROL INSPECTION AND MAINTENANCE PRACTICES:

1.

For projects with an NPDES Permit for Construction Activities, inspect at the following intervals. For construction areas discharging to nutrient or sediment impaired waters, inspect all control measures at least once each week and within 24 hours of any rainfall event of 0.25 inches or greater within a 24-hour period. For construction areas discharging to waters not impaired for nutrient or sediments, inspect all control measures weekly. Inspections are only required during the project's normal working hours. The discharge point water classification may be found in the SWPPP.
2.

For projects without an NPDES Permit for Construction Activities, inspect all control measures weekly.

3.

Maintain all erosion and sediment control measures in good working order. If repair is necessary, initiate repair immediately and complete 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. When installation of a new erosion or sediment control or a significant repair is needed, install the new or modified control or complete the repair no later than 7 calendar days from the time of discovery. "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.
4.

Remove built-up sediment from silt fence when it has reached one-third the height of the fence. Remove sediment from other perimeter sediment control devices when it has reached one-half the height of the device.
5.

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.
6.

Inspect temporary and permanent seeding and planting for bare spots, washouts and healthy growth.
7.

Complete and submit to the Engineer a maintenance inspection report within 24 hours after each inspection.
8.

Provide a stabilized construction entrance at all points of exit onto paved roads to reduce vehicle tracking of sediments. Include stabilized construction entrance in the Water Pollution, Dust, and Erosion Control submittals. Minimum length should be 26 feet. Minimum width should be 12 feet. Minimum depth should be 12 inches or as recommended by the soils engineer and underlain with geotextile fabric. If minimum dimensions cannot be met, provide other stabilization techniques that remove sediment prior to exit. Clean the paved street adjacent to the site entrance daily or as required to remove any excess mud, cold-planned materials, dirt or rock tracked from the site. Do not hose down the street without containing or vacuuming wash water. Cover dump trucks hauling material from the construction site with a tarpaulin. Remove sediment tracked onto the street, sidewalk, or other paved area by the end of the day in which the track-out occurs.
9.

Include designated Concrete Washout Area(s) in the Water Pollution, Dust, and Erosion Control submittals.

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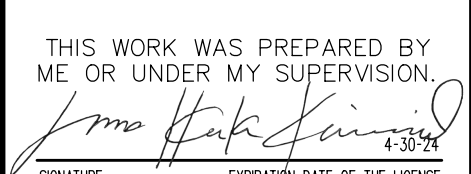
JAMES I. KINCAID

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SIGNATURE

EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

GENERAL NOTES

KUHIO HIGHWAY

Emergency Shoreline Mitigation

Fed. Aid Project No. ER-24(004)

Scale: None

Date: Dec. 2023



WATER POLLUTION AND EROSION NOTES  
(CONTINUED)

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
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C. EROSION AND SEDIMENT CONTROL INSPECTION AND MAINTENANCE PRACTICES:

10. Submit the name of a specific individual designated responsible for inspections, maintenance and repair activities and filling out the inspection and maintenance report.
11. 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.
12. Contain, remove, and dispose slurry generated from saw cutting of pavement in accordance with approved BMP practices. Do not allow discharge into the drainage system or State waters.
13. For projects with an NPDES Permit for Construction Activities, immediately initiate stabilizing exposed soil areas upon completion of earth-disturbing activities for areas where earth-disturbing activities have permanently or temporarily ceased. 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 (i.e., the land will be idle) for a period of 14 or more calendar days, but such activities will resume in the future. For construction areas discharging into waters not impaired for nutrients sediments, complete initial stabilization within 14 calendar days after the temporary or permanent cessation of earth-disturbing activities. 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. Classification of water at the discharge point may be found in the SWPPP.
14. 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.

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.
- i. Concrete
- ii. Detergents
- iii. Paints (enamel and latex)
- iv. Metal Studs
- v. Tar
- vi. Fertilizers
- vii. Cleaning solvents
- viii. Wood
- ix. Masonry Block
- x. Herbicides and Pesticides
- xi. Curing Compounds
- xii. Adhesives
- xiii. Petroleum Based Products
- 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 Safety Data Sheets (SDS), formerly Material Safety Data Sheets (MSDS).
- c. Dispose of surplus products according to manufacturers' instructions and local and State regulations.

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 and federal, state, and local requirements. Avoid applying just before a heavy rain event. Apply 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. Once applied, work fertilizer into the soil to limit exposure to storm water. Do not apply to storm conveyance channels with flowing water. Storage shall be in a covered shed or in an area where fertilizer will not come into contact with precipitation or stormwater. 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 drainage system, sanitary sewer system, or State waters. Dispose properly according to manufacturers' instructions and State and local regulations.
- d. **Concrete Trucks:**  
Washout or discharge concrete truck drum wash water only at a designated site as far as practicable from storm drain inlets or State waters. Do not discharge water in the drainage system or State waters. Disposal by percolation is prohibited. Clean disposal site as required or as requested by the Engineer.

4. Spill Control Plan

- a. Post a spill prevention plan to include measures to prevent and clean up each occurrence.
- 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 on a weatherproof bulletin board or other accessible location acceptable to the Engineer 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 ample 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. Where a leak, spill, or other release containing a hazardous substance or oil in an amount equal to or in excess of a reportable quantity established under either 40 CFR Part 110, 40 CFR Part 117, or 40 CFR Part 302 occurs during a 24-hour period, the Contractor shall notify the Engineer as soon as the Contractor has knowledge of the discharge. The Engineer will notify the National Response Center (NRC) at (800) 424-8802, the Clean Water Branch during regular business hours at 586-4309, and the Hawaii State Hospital Operator at 247-2191 and the Clean Water Branch (DOH-CWB) via email at cleanwaterbranch@doh.hawaii.gov during non-business hours immediately. The Contractor shall also provide to the Engineer, within 7 calendar days of knowledge of the release, a description of the release, the circumstances leading to the release, and the date of the release. The Engineer will provide this information to the DOH-CWB. The Engineer will provide information to the NRC if requested.

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 <small>THIS WORK WAS PREPARED BY ME, OR UNDER MY SUPERVISION. SIGNATURE: <i>James I. Kincaid</i> EXPIRATION DATE OF THE LICENSE: 12/31/25</small>	STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION  <b>GENERAL NOTES</b>  <u>KUHIO HIGHWAY</u> <u>Emergency Shoreline Mitigation</u> <u>Fed. Aid Project No. ER-24(004)</u>  Scale: None  Date: Dec. 2023



WATER POLLUTION AND EROSION NOTES  
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E. SITE-SPECIFIC BMP REQUIREMENTS:

Each BMP below is referenced to the corresponding section of the current HDOT Construction Best Management Practices Field Manual and 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.

The requirements for Water Pollution, Dust, and Erosion Control submittals are included in Section 209 of the Hawaii Standard Specifications for Road and Bridge Construction dated 2005 and applicable Special Provisions. A list of pollutant sources and corresponding BMP used to mitigate the pollutants are included in Section 209 of the Special Provisions under Appendix A.

Follow the requirements below:

- Protect all Drainage Inlets receiving runoff from disturbed areas (SC-2).
- Contain on-site runoff using Perimeter Sediment Controls
  - SC-1 Silt Fence or Filter Fabric Fence
  - SC-5 Vegetated Filter Strips and Buffers
  - SC-8 Compost Filter Berm
  - SC-13 Sandbag Barrier
  - SC-14 Brush or Rock Filter
- Control offsite runoff from entering construction area
  - EC-8 Run-On Diversion
  - SC-6 Earth Dike
  - SC-7 Temporary Drains and Swales
- Incorporate applicable Site Management BMP
  - SM-1 Employee Training
  - SM-2 Material Delivery and Storage
  - SM-3 Material Use
  - SM-4 Protection of Stockpiles
  - SM-6 Solid Waste Management
  - SM-7 Sanitary/Septic Waste Management
  - SM-9 Hazardous Waste Management
  - SM-10 Spill Prevention and Control
  - SM-11 Vehicle and Equipment Cleaning
  - SM-12 Vehicle and Equipment Maintenance
  - SM-13 Vehicle and Equipment Refueling
  - SM-14 Scheduling
  - SM-15 Location of Potential Sources of Sediment
  - SM-16 Preservation of Existing Vegetation
  - SM-18 Dust Control
- Contain pollutants within the Construction Staging/Storage Area BMP with applicable Perimeter Sediment Controls and Site Management BMP. Include a Stabilized Construction Entrance/Exit (EC-2) for all areas which exit onto a paved street. Restrict vehicle access to these points.
- Manage Concrete Waste including installing a Concrete Washout Area (SM-5) and properly disposing of Concrete Curing Water (California Stormwater BMP Handbook NS-12 Concrete Curing).

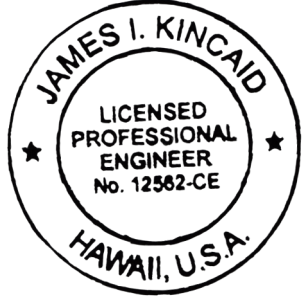
F. WATER QUALITY

In addition to the above measures, the following BMPs shall be implemented to protect water quality, as recommended by the NMFS Protected Resources Division (NOAA NMFS 2015a) and USFWS (USFWS 2014b). The applicability of these measures to the proposed project shall depend on the site-specific construction means and methods chosen. The project shall also adhere to the requirements of all applicable permits.

- Turbidity and siltation from project-related work shall be minimized and contained through the appropriate use of erosion control practices, effective silt containment devices, and the curtailment of work during adverse weather and tidal/flow conditions.
- Erosion and sediment control measures shall be in place before initiating earth-moving activities. Functionality shall be maintained throughout the construction period. For earth-moving activities initiated to address imminent health and safety concerns, erosion and sediment control measures shall be in place as soon as practicable.
- When it is not possible to schedule work to avoid times of the year when high rainfall is expected, then enhancing the capacity of existing controls, adding additional control measures, or installing contingency measures shall be implemented.
- Inspection shall be documented, and records for all inspections and repairs shall be maintained on-site. When a device proves inadequate, it shall be immediately redesigned or replaced until it is effective.
- Control measures (i.e., silt fences, sand bag barriers, sediment traps, geotextile mats, and other measures intended for soil/sediment trapping) shall be inspected and repaired as needed within 24 hours after a rainfall event of 0.25 inch or greater over a 24-hour period. During periods of prolonged rainfall, a daily inspection shall occur, unless extended heavy rainfall makes access impossible or hazardous.
- Construction shall be sequenced to minimize the exposure time of the cleared surface area.
- The contractor shall be required to prepare a spill prevention, control and countermeasure (SPCC) plan before beginning work or as soon as practicable. The SPCC shall describe preventative measures including the location of refueling and storage facilities and the handling of hazardous material. The SPCC shall describe actions to be taken in case of a spill. Hazardous materials shall be properly stored and managed in accordance with local, state, and Federal regulations.
- Appropriate materials to contain and clean potential spills shall be stored at the work site and be readily available. Spill kits shall be available on-site at locations where hazardous materials are used. Spill kits shall be inspected regularly and supplies replaced as needed. Staff shall be trained on spill prevention and cleanup.
- Absorbent pads shall be stored on-site to facilitate the cleanup of petroleum spills. At fueling sites, containment booms and skimmers shall be stored, in addition to absorbent pads.
- Return flow or run-off from material stored at inland dewatering or storage sites shall be prevented.

- All project-related materials and equipment placed in the water shall be free of pollutants.
- 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 shall be properly managed.
- Clearing and grubbing shall be held to the minimum necessary for grading, access, and equipment operation.
- Re-vegetation success shall be monitored 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.
- Concrete wash-outs shall be located 50 feet from storm drain inlets, open drainage areas, and waterbodies, and shall be maintained as needed.

SURVEY PLOTTED BY	DATE
DRAWN BY	DATE
DESIGNED BY	DATE
CHECKED BY	DATE
ORIGINAL PLAN	
NOTE BOOK	
FILE	

 <p>THIS WORK WAS PREPARED BY ME, OR UNDER MY SUPERVISION.</p> <p><i>James I. Kincaid</i></p> <p>SIGNATURE EXPIRATION DATE OF THE LICENSE</p>	<p>STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION</p> <p><b>GENERAL NOTES</b></p> <p><u>KUHIO HIGHWAY</u></p> <p><u>Emergency Shoreline Mitigation</u></p> <p><u>Fed. Aid Project No. ER-24(004)</u></p> <p>Scale: None Date: Dec. 2023</p>
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FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	ER-24(004)	2024	11	49

### QUANTITIES TABLE

- | <i>Approximate Total</i>          |                       |              |
|-----------------------------------|-----------------------|--------------|
| <i>Type</i>                       | <i>cu. yd.</i>        | <i>tons</i>  |
| <i>Class VIII Riprap</i>          | <i>8971</i>           | <i>15345</i> |
| <i>Rock Material (Kyowa Bags)</i> | <i>86</i>             | <i>204</i>   |
| <i>Rock Material (Mattress)</i>   | <i>2081</i>           | <i>4730</i>  |
| <i>Kyowa Bags</i>                 | <i>55 bags</i>        |              |
| <i>Triton Marine Mattresses</i>   | <i>340 mattresses</i> |              |
| <i>Sandsavers</i>                 | <i>183 each</i>       |              |
| <i>Cut</i>                        | <i>0.79 cu. yd.</i>   |              |
| <i>Fill</i>                       | <i>39.4 cu. yd.</i>   |              |
| <i>Excavation</i>                 | <i>24981 cu. yd.</i>  |              |

## LIDAR COLLECTION NOTES


1. *The Contractor shall conduct two LiDAR Surveys, the 1<sup>st</sup> one prior to moving sand for the berms and the 2<sup>nd</sup> after the completion of the sand berms are created and installed. The LiDAR Surveys shall include the full extent of the beach sand at Wailua Beach, from the north end of the beach to Wailua River.*
2. *LiDAR Survey Requirements.*
  - a. *The LiDAR sensor shall have a minimum range of 1,500 meters.*
  - b. *The LiDAR sensor shall have a minimum horizontal resolution of 10 centimeters.*
  - c. *The LiDAR sensor shall have a minimum vertical resolution of 10 centimeters.*
  - d. *The LiDAR data shall be collected in a minimum of 60% overlap between adjacent flightlines.*
  - e. *The LiDAR data shall be processed using a minimum of two returns per point.*

3. *The Contractor shall prepare (for both Pre- and Post-Surveys) a report outlining the LiDAR Survey process, means and methods for obtaining the data, and a visual representation of the data.*

*Additionally, the Contractor shall provide the Engineer the raw LiDAR data in LAS format and the processed final terrain data in CADD format (AutoCAD Civil3D). The final terrain surface shall maintain a minimum surface grid spacing of 10 ft throughout the surveyed area and be smooth and continuous.*

*The Pre-Survey will be used by the Engineer to determine the final sand dune grading plan. The Post-Survey will be used to obtain the final quantities for payment and the baseline for future surveys.*

4. *The Pre-Survey shall be conducted within three weeks of completing the Sandsaver installation work. The Post-Survey shall be conducted within three weeks of completing the final grading of the sand berms.*

	STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION
	<p align="center"><b><u>GENERAL NOTES</u></b></p> <p align="center"><u>KUHIO HIGHWAY</u></p> <p align="center"><u>Emergency Shoreline Mitigation</u></p> <p align="center"><u>Fed. Aid Project No. ER-24(004)</u></p> <p>THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION <i>James I. Kincaid</i> SIGNATURE      EXPIRATION DATE OF THE LICENSE      1-3-34</p> <p>Scale: None      Date: Dec, 2023</p>