

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
Land Division
Honolulu, Hawaii 96813

December 10, 2021

Board of Land and Natural Resources
State of Hawaii
Honolulu, Hawaii

PSF No.: 21KD-082
Federal Aid Project No.: ER-24(004)
Kauai

Issuance of Construction and Management Right-of-Entry Permit to the Department of Transportation, Highways Division to Mitigate Sand Erosion at Wailua Beach, Wailua House Lots, Kawaihau, Kauai, Tax Map Keys: (4) 4-1-004: Seaward of 001 and (4) 4-1-005: Seaward of 004.

APPLICANT:

Department of Transportation, Highways Division

LEGAL REFERENCE:

Sections 171-53 and 171-55, Hawaii Revised Statutes (HRS), as amended.

LOCATION:

Portion of Government lands of Wailua situated at Wailua, Kawaihau (Puna), Kauai, identified by Tax Map Keys: : (4) 4-1-004: Seaward of 001 and (4) 4-1-005: Seaward of 004, as shown on the attached map labeled Exhibit A.

AREA:

0.07 acre, more or less.

ZONING:

State Land Use District:	Urban and Conservation
County of Kauai CZO:	Commercial

TRUST LAND STATUS:

Section 5(b) lands of the Hawaii Admission Act

DHHL 30% entitlement lands pursuant to the Hawaii State Constitution: NO

CURRENT USE STATUS:

Vacant and unencumbered.

CHARACTER OF USE:

Sand erosion mitigation.

TERM OF ROE PERMIT:

One (1) year, but authorizes the Chairperson to issue future right of entries to DOT in relation to its maintenance purposes or if more testing time is warranted.

COMMENCEMENT DATE:

To be determined by the Chairperson.

CONSIDERATION:

Gratis.

CHAPTER 343 - ENVIRONMENTAL ASSESSMENT:

This project is exempt under the Office of the Governor, State of Hawaii emergency proclamations related to heavy rains and flooding. See attached Exhibit B.

REMARKS:

By letter dated September 20, 2021, the Hawaii Department of Transportation, Highways Division (HDOT) requested a Right-of-Entry Permit to install a new patented beach nourishment technology called Sandsaver in the vicinity of the Wailua Beach, to mitigate sand erosion caused by flooding of the area. Much of the sand at Wailua Beach eroded as a result of heavy rains and flooding from March 8 to March 12, 2021, that resulted in damage to public property impacting Kuhio Highway and the County of Kauai's Bike Path.

Pursuant to Governor's Proclamation dated March 9, 2021, David Y. Ige, Governor of the State of Hawai'i, determined that an emergency or disaster contemplated by section 127A-14, Hawaii Revised Statutes, had occurred in the counties of Hawai'i, Maui, Kalawao, Kaua'i, and the City and County of Honolulu, State of Hawai'i. On May 6, 2021, the Governor issued a Second Proclamation Related to Heavy Rains and Flooding and extended the disaster emergency relief period through July 2021. On July 1, 2021, the Governor issued a Third Proclamation Related to Heavy Rains and Flooding and

extended the disaster emergency relief period through August 30, 2021. On August 30, 2021, the Governor issued a Fourth Proclamation Related to Heavy Rains and Flooding and extended the disaster emergency relief period through October 29, 2021. On October 29, 2021, the Governor issued a Fifth Proclamation Related to Heavy Rains and Flooding and extended the disaster emergency relief period through December 28, 2021.

Sandsaver works by using the energy of breaking waves to thrust suspended sand particles up the beach at the same time breaking down the energy of the waves, thereby building sand dunes back and reducing erosion to the beach and ultimately protecting the roadway. It comes in approx. 5'x5'x3' modules that are filled with concrete and placed side by side in arcs along the beach. The Sandsaver operates in 2 manners: First by breaking down the energy of the wave, therefore drastically reducing the erosion on the beach. Secondly, it enables the wave, which consists of large amounts of sand and beach sediment, to go through the tapered openings and onto the beach area. When the water retreats, it must pass through the smaller tapered open portion of the module enabling the sand sufficient time to settle into the coastline and not back into the surf, therefore building beach. Eventually, the modules will become completely immersed in sand and beach sediment, accreting large amounts of sand on both sides of the modules. See attached photos labeled Exhibit C.

This project is being done in coordination with University of Hawaii, which will work to monitor the performance of the devices after installation. Should the devices be ineffective, the modules can be removed from the beach. If they are effective, the DOT would apply for an easement to leave them in place permanently. In addition to installing the Sandsaver, DOT plans to remove the existing revetment rock and sandbags and re-construct an un-grouted rock revetment along the existing bike path and sand parking area on the north end of the beach to protect this area. See DOT plans attached Exhibit D.

The proclamation authorizes the expenditure of State monies and warrants rehabilitative assistance from the State and suspends certain statutes, including Chapter 343, Hawaii Revised Statutes, relating to environmental assessments. It should be noted that there is no EIS to evaluate the impacts to recreational users or the natural habitat/environment. Funding is available thru Department of Transportation, Highways Division and the Federal Highway Administration Emergency Relief Program funds. Federal permits and clearances include: USACE Section 404 permit, Section 7 of the Endangered Species Act, Section 106 of the National Historic Preservation Act, and National Environmental Policy Act clearance. OCCL concurred that the Governor's Emergency Proclamations waived any CDUP requirement.

This right-of-entry permit shall be issued at gratis as it is a potential safety hazard issue with all costs being paid by the Permittee and no entity involved intends to profit monetarily from its use. This right-of-entry shall remain in effect for one (1) year, subject to another one (1) year renewal by the Chairperson if more testing time is warranted. Should the DOT deem the Sandsaver as effective and wish to keep it in place, they will apply for a non-exclusive easement.

Applicant has not had a lease, permit, easement or other disposition of State lands terminated within the last five years due to non-compliance with such terms and conditions.

The following government agencies were consulted by DOT on this action with the results indicated:

Agency:	Comment:
Historic Preservation	DOT is proposing archaeological monitoring for the project to address comments.
Office of Hawaiian Affairs	No response by suspense date.
DLNR-Aquatic Resources	Not consulted pursuant to the emergency proclamation.
DLNR-Office of Conservation and Coastal Lands	No objections.
County of Kauai Public Works	Not consulted as improvements are not being done within the County right of way.
County of Kauai Planning Department	Not consulted pursuant to the emergency proclamation.
County of Kauai Parks Department	No objections.
US Fish and Wildlife	Consultations are ongoing through the Section 7 Endangered Species Act.
NOAA, National Marine Fisheries Service	Consultations are ongoing through the Section 7 Endangered Species Act.
US Army Corps of Engineers	Consultations are ongoing through the Section 404 permit.

Staff has no objections to the request.

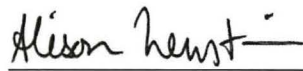
RECOMMENDATION: That the Board

1. Find that this project is exempt from Chapter 343, HRS, and Chapter 11-200.1, Hawaii Administrative Rules, under the Office of the Governor, State of Hawaii, emergency proclamations related to heavy rains and flooding.
2. Grant a management and construction right-of-entry permit to the Department of Transportation, Highways Division, covering the subject area under the terms and conditions cited above, which are by this reference incorporated herein and further subject to the following:
 - A. The standard terms and conditions of the most current management and construction right-of-entry form, as may be amended from time to time;
 - B. This management and construction right-of-entry is effective upon Land Board approval and shall remain in effect for one (1) year but authorizes the Chairperson to issue future right of entries to DOT in relation to its maintenance purposes or if more testing time is warranted. Should the

DOT deem the Sandsaver as effective and wish to keep it in place, they will apply with the Land Division for the issuance of a non-exclusive easement;

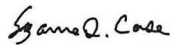
- C. The Department of Land and Natural Resources reserves the right to impose additional terms and conditions at any time if it deems necessary while this right-of-entry is in force; and
- D. Such other terms and conditions as may be prescribed by the Chairperson to best serve the interests of the State.

Respectfully Submitted,



Alison Neustein
District Land Agent

APPROVED FOR SUBMITTAL:



Suzanne D. Case, Chairperson

RT

EXHIBIT A

CORRECTED
MAY 8 1939
MAY 16 1939
JUN 1 1945
AUG 2 1940
DEC 1 1940

JUN 6 1945
OCT 1 1945
FEB 1 1946
OCT 1 1945
AUG 28 1946
JUN 23 1947

[illegible]

MAR 19 '59
MAR 20 '59
MAR 27 '59
MAR 29 '59
APR 06 '59
APR 10 '59
APR 13 '59
APR 21 '59
MAY 12 '59
MAY 22 '59
JUN 01 '59
JUN 02 '59

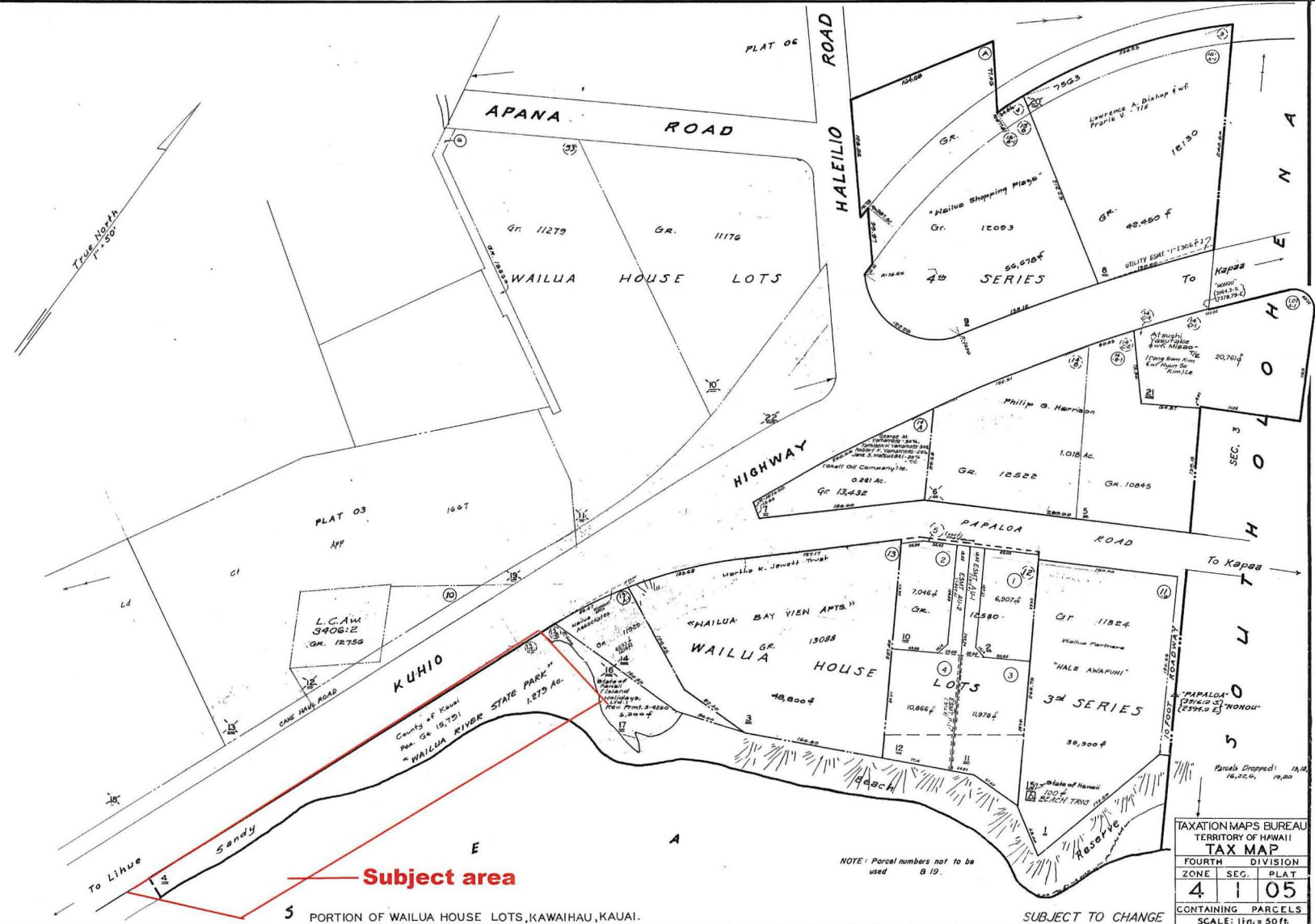
7827
DEC 11 1968
JAN 8 1969
APR 24 1969
AUG 7 1969
SEP 24 1969
FEB 19 1970
MAY 27 1971

1971
1972
1973
1974
1975
1976

1975
OCT 1 @ 1989
NOV 2 @ 1981
OCT 2 @ 1982
DEC 2 @ 1982
NOV 5 1981
DEC 2 1984
MAY 1 5 1985

850
x Maps Bur. & Sur. Dep.
H. & F. S. G. Aug. '36

Dwg. No: 2
Source: Ta
By: 1.H



TAXATION MAPS BUREAU		
TERRITORY OF HAWAII		
TAX MAP		
FOURTH		DIVISION
ZONE	SEG.	PLAT
4	1	05
CONTAINING PARCELS		
SCALE: 1 in. = 50 ft.		

EXHIBIT A



EXHIBIT A

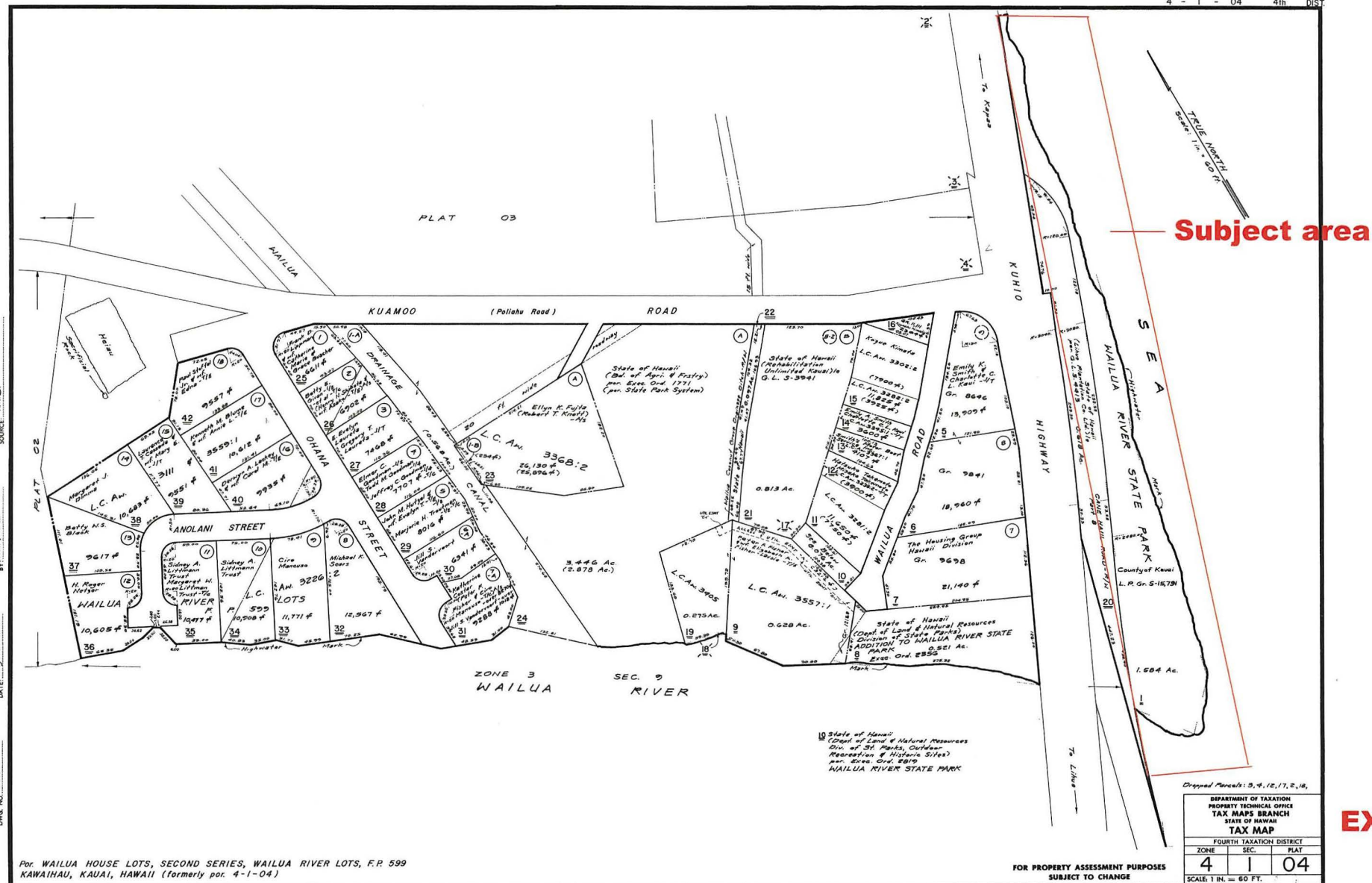


EXHIBIT
A

EXHIBIT B

OFFICE OF THE GOVERNOR
STATE OF HAWAII

PROCLAMATION

By the authority vested in me by the Constitution and laws of the State of Hawai'i, in order to provide relief for disaster damages, losses, and suffering, and to protect the health, safety, and welfare of the people, I, DAVID Y. IGE, Governor of the State of Hawai'i, hereby determine, designate and proclaim as follows:

WHEREAS, Hawai'i has suffered a disaster caused by heavy rains and flooding beginning March 8, 2021 and which are forecast to continue through March 12, 2021, that has caused localized flooding and lingering saturated ground conditions, and periods of heavy rains and flooding which has caused extensive damage to public and private property, impacting the counties of Hawai'i, Maui, Kalawao, Kaua'i, and the City and County of Honolulu, State of Hawai'i, thereby endangering the health, safety, and welfare of the people; and

WHEREAS, as a result of the heavy rains and flooding, in Maui County, State of Hawai'i, the Peahi Bridge on Peahi Road was completely washed out and the Kaupakalua Bridge on Kaupakalua Road was displaced thereby making these roads impassible along with other reported damage to roads and bridges in Maui County, State of Hawai'i; and

WHEREAS, the saturated ground conditions, degraded stability and lateral support of hillsides and areas of land, and the increased water levels in the reservoirs throughout the State of Hawai'i have increased the risk of erosion, seepage, piping, and fear of dam failure in the reservoirs of the State of Hawai'i; and.

WHEREAS, this disaster has caused damages, losses, and suffering of such character and magnitude to warrant rehabilitative assistance from the State; and

WHEREAS, the Legislature of the State of Hawai'i has appropriated from the general revenues of the State monies as may be necessary for expenditure by or under the direction of the Governor for the immediate relief of the conditions created by the emergency; and

EXHIBIT B

WHEREAS, in expending such monies, the Governor may allot any portion to any agency, office, or employee of the state or to any county for the most expeditious and efficient relief of the conditions created by the emergency; and

NOW, THEREFORE, I, DAVID Y. IGE, Governor of the State of Hawai'i, hereby determine that an emergency or disaster contemplated by section 127A-14, Hawaii Revised Statutes, has occurred in the counties of Hawai'i, Maui, Kalawao, Kaua'i, and the City and County of Honolulu, State of Hawai'i, and do hereby authorize and invoke the following emergency provisions which are expressly invoked, if not already in effect upon this declaration of an emergency:

I. Invocation of Laws

Sections 127A-12 and 127A-13, Hawaii Revised Statutes, in order for county and state agencies to provide emergency relief and engage in emergency management functions as defined in section 127A-2, Hawaii Revised Statutes, as a result of this event.

Sections 127A-3, 127A-12(a)(5), 127A-13(a)(5), and 127A-13(a)(6), Hawaii Revised Statutes, and the Director of Hawai'i Emergency Management and the Administrator of Emergency Management are directed to take appropriate actions to direct or control, as may be necessary for emergency management:

- a. Alerts, warnings, notifications, and activations;
- b. Warnings and signals for alerts and any type or warning device, system, or method to be used in connection therewith;
- c. Partial or full mobilization of personnel in advance of or in response to an actual emergency or disaster;
- d. The conduct of civilians and the movement and cessation of movement of pedestrians and vehicular traffic during, before, and after alerts, emergencies, or disasters;
- e. Shut off water mains, gas mains, electric power connections, or suspension of other services; and
- f. Mandatory evacuation of the civilian population.

Section 127A-13(a)(1), Hawaii Revised Statutes, and I find that the dangerous conditions of certain reservoirs in the State of Hawai'i and erosion, and fear of dam failure in certain reservoirs constitute a public nuisance which are dangerous to the public health or safety or to property and hereby authorize the Director of Hawai'i Emergency Management or the Administrator of Emergency Management to direct that any public nuisances be summarily abated, and if need be that the property be destroyed, by any police officer or any authorized person in order to protect the public health and safety.

Section 127A-12(b)(13), Hawaii Revised Statutes, requiring each public utility, or any person owning, controlling, or operating a critical infrastructure, to protect and safeguard its or the person's property, or to provide for the protection and safeguarding thereof, and provide for the protection and safeguarding of all critical infrastructure and key resources; provided that without prejudice to the generality of the foregoing two clauses, the protecting or safeguarding may include the regulation or prohibition of public entry thereon, or the permission of the entry upon terms and conditions as I may prescribe.

Section 127A-12(b)(16), HRS, directing all state agencies and officers to cooperate and extend their services, materials, and facilities as may be required to assist in emergency response efforts.

Section 127A-16, Hawaii Revised Statutes, by activating the Major Disaster Fund.

II. Suspension of Laws

The following specific provisions of law are suspended, as allowed by federal law, pursuant to section 127A-13(a)(3), Hawaii Revised Statutes, to the extent that the law impedes or tends to impede or be detrimental to the expeditious and efficient execution of, or to conflict with, emergency functions, including laws which by Chapter 127A, Hawaii Revised Statutes, specifically are made applicable to emergency personnel:

Chapter 6E, Hawaii Revised Statutes, **historic preservation**.

Section 37-41, Hawaii Revised Statutes, **appropriations to revert to state treasury; exceptions.**

Section 37-74(d), Hawaii Revised Statutes, **program execution**, except for subsections 37-74(d)(2) and 37-74(d)(3), Hawaii Revised Statutes, and any such transfers or changes considered to be authorized transfers or changes for purposes of section 34-74(d)(1) for legislative reporting requirements.

Section 40-66, Hawaii Revised Statutes, **lapsing of appropriations.**

Chapter 46, Hawaii Revised Statutes, **county organization and administration** with respect to any county ordinance, rule, regulation, law, or provision in any form relating to county permitting, licensing, zoning, variance, processes, procedures, fees, or any other requirements that hinders, delays, or impedes the purpose of this Proclamation.

Chapter 89, Hawaii Revised Statutes, **collective bargaining in public employment.**

Chapter 89C, Hawaii Revised Statutes, **public officers and employees excluded from collective bargaining.**

Section 103-2, Hawaii Revised Statutes, **general fund.**

Section 103-53, Hawaii Revised Statutes, **contracts with the State or counties; tax clearances, assignments.**

Section 103-55, Hawaii Revised Statutes, **wages, hours, and working conditions of employees of contractors performing services.**

Chapter 103D, Hawaii Revised Statutes, **Hawaii public procurement code.**

Chapter 104, Hawaii Revised Statutes, **wages and hours of employees on public works.**

Sections 105-1 to 105-10, Hawaii Revised Statutes, **use of government vehicles, limitations.**

Sections 142-2 to 142-12, Hawaii Revised Statutes, as these sections may apply to the arrival of dogs used by search and rescue teams approved by the State of Hawai'i, Department of Defense.

Chapter 171, Hawaii Revised Statutes, **public lands, management and disposition of.**

Chapter 174C, Hawaii Revised Statutes, **state water code.**

Chapter 179D, Hawaii Revised Statutes, **dams and reservoirs.**

Chapter 180C, Hawaii Revised Statutes, **soil erosion and sediment control.**

Chapter 183, Hawaii Revised Statutes, **forest reserves, water development, zoning.**

Chapter 183C, Hawaii Revised Statutes, **conservation district.**

Chapter 183D, Hawaii Revised Statutes, **wildlife.**

Chapter 195D, Hawaii Revised Statutes, **conservation of aquatic life, wildlife, and land plants.**

Chapter 205A, Hawaii Revised Statutes, **coastal zone management.**

Chapter 264, Hawaii Revised Statutes, **highways.**

Chapter 286, Hawaii Revised Statutes, **highway safety.**

Chapter 341, Hawaii Revised Statutes, **environmental quality control.**

Chapter 342B, Hawaii Revised Statutes, **air pollution control.**

Chapter 342D, Hawaii Revised Statutes, **water pollution.**

Chapter 342E, Hawaii Revised Statutes, **non-point source pollution management and control.**

Chapter 342F, Hawaii Revised Statutes, **noise pollution.**

Chapter 342H, Hawaii Revised Statutes, **solid waste pollution.**

Chapter 343, Hawaii Revised Statutes, **environmental impact statements.**

Chapter 344, Hawaii Revised Statutes, **state environmental policy.**

Section 464-4, Hawaii Revised Statutes, **public works required to be supervised by certain professionals.**

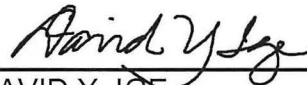
III. Severability

If any provision of this Proclamation is rendered or declared illegal for any reason, or shall be invalid or unenforceable, such provision shall be modified or deleted, and the remainder of this Proclamation and the application of such

provision to other persons or circumstances shall not be affected thereby but shall be enforced to the greatest extent permitted by applicable law.

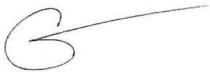
I FURTHER DECLARE that the disaster emergency relief period shall commence immediately and continue through May 8, 2021, unless terminated or superseded by separate proclamation, whichever shall occur first.

Done at the State Capitol, this
9th day of March, 2021.



DAVID Y. IGE,
Governor of Hawai'i

APPROVED:



Clare E. Connors
Attorney General
State of Hawai'i

OFFICE OF THE GOVERNOR
STATE OF HAWAII
**SECOND PROCLAMATION
RELATED TO HEAVY RAINS AND FLOODING**

By the authority vested in me by the Constitution and laws of the State of Hawai'i, in order to provide relief for disaster damages, losses, and suffering, and to protect the health, safety, and welfare of the people, I, DAVID Y. IGE, Governor of the State of Hawai'i, hereby determine, designate and proclaim as follows:

WHEREAS, pursuant to Chapter 127A, Hawaii Revised Statutes, emergency powers are conferred on the Governor of the State of Hawai'i to respond to disasters or emergencies, to maintain the strength, resources, and economic life of the community, and to protect the public health, safety, and welfare; and

WHEREAS, the conditions giving rise to the emergency continue in the Counties of Maui and Kaua'i, and the City and County of Honolulu, State of Hawai'i and are adversely impacting efforts to repair, reconstruct, improve, and otherwise perform work on various roadways, bridges, infrastructure, hillsides, and streams;

NOW, THEREFORE, I, DAVID Y. IGE, Governor of the State of Hawai'i, hereby determine that an emergency or disaster contemplated by section 127A-14, Hawaii Revised Statutes, continues in the Counties of Maui and Kaua'i, and the City and County of Honolulu, State of Hawai'i, and hereby incorporate the provisions of my Proclamation of March 9, 2021, relating to heavy rains and flooding, which shall remain in full force and effect and are included in the provisions of this proclamation unless amended herein, to the extent necessary for those engaged in emergency management functions to repair, reconstruct, improve, and otherwise perform work on various roadways, bridges, infrastructure, hillsides, and streams and authorize and invoke the following emergency provisions which are expressly invoked, if not already in effect upon this declaration of an emergency:

I. Suspension of Laws

The incorporated provisions of section II of my March 9, 2021 Proclamation are amended by suspending only the following specific provisions of law, as allowed by federal law, pursuant to section 127A-13(a)(3), Hawaii Revised Statutes, to the extent

that the law impedes or tends to impede or be detrimental to the expeditious and efficient execution of, or to conflict with, emergency functions, including laws which by Chapter 127A, Hawaii Revised Statutes, specifically are made applicable to emergency personnel:

Chapter 6E, Hawaii Revised Statutes, **historic preservation**, to the extent that compliance requires additional time detrimental to the expeditious and efficient execution of emergency repairs.

Section 37-41, Hawaii Revised Statutes, **appropriations to revert to state treasury; exceptions**, to the extent that appropriations lapse at the end of the fiscal year prior to completion of the emergency repairs.

Section 37-74(d), Hawaii Revised Statutes, **program execution**, except for subsections 37-74(d)(2) and 37-74(d)(3), Hawaii Revised Statutes, and any such transfers or changes considered to be authorized transfers or changes for purposes of section 34-74(d)(1) for legislative reporting requirements, to the extent that legislative authorization would likely delay appropriation transfers or changes between programs to provide necessary funding to complete the emergency repairs.

Section 40-66, Hawaii Revised Statutes, **lapsing of appropriations**, to the extent that the timing of the procurement of the construction of the emergency permanent repairs may occur the fiscal year following the original emergency proclamation.

Chapter 46, Hawaii Revised Statutes, **county organization and administration** with respect to any county ordinance, rule, regulation, law, or provision in any form relating to county permitting, licensing, zoning, variance, processes, procedures, fees, or any other requirements that hinders, delays, or impedes the purpose of this Proclamation, to the extent that compliance results in any delays involved in securing County permits.

Chapter 89, Hawaii Revised Statutes, **collective bargaining in public employment**, to the extent that compliance results in any delays involved with implementing procedures required under collective bargaining agreements which can delay immediate responses to emergencies.

Section 103-2, Hawaii Revised Statutes, **general fund**, to the extent that compliance results in any additional delays.

Section 103-55, Hawaii Revised Statutes, **wages, hours, and working conditions of employees of contractors performing services**, to the extent that compliance results in any additional delays.

Chapter 103D, Hawaii Revised Statutes, **Hawaii public procurement code**, to the extent that compliance results in any additional delays involved in meeting procurement requirements for selecting contractors in a timely manner to respond to emergency situations.

Chapter 104, Hawaii Revised Statutes, **wages and hours of employees on public works**, to the extent that compliance with this chapter requires additional time detrimental to the expeditious and efficient execution of emergency repairs.

Chapter 171, Hawaii Revised Statutes, **public lands, management and disposition of**, to the extent that compliance results in any additional delays involved with securing approvals from the Department of Land and Natural Resources.

Chapter 183, Hawaii Revised Statutes, **forest reserves, water development, zoning**, to the extent that any repair, reconstruction, improvement, or work is located within a forest reserve.

Chapter 183C, Hawaii Revised Statutes, **conservation district**, to the extent that any repair, reconstruction, improvement, or work is located within the conservation district.

Chapter 183D, Hawaii Revised Statutes, **wildlife**, to the extent that any repair, reconstruction, improvement, or work is located within any game management area, wildlife sanctuary, or public hunting area.

Chapter 205A, Hawaii Revised Statutes, **coastal zone management**, to the extent that compliance results in any additional delays involved with securing approvals from the counties or the Department of Land and Natural Resources for work within the special management area.

Chapter 264, Hawaii Revised Statutes, **highways**, to the extent that compliance results in any additional delays involved with securing approvals from the Department Transportation.

Chapter 286, Hawaii Revised Statutes, **highway safety**, to the extent that compliance results in allowing highway usage by vehicles which are not street legal may be beneficial to the community until such time as the highway is open to regular traffic.

Chapter 341, Hawaii Revised Statutes, **environmental quality control**, to the extent that compliance results in any additional delays involved with securing approvals from the Office of Environmental Quality Control.

Chapter 342B, Hawaii Revised Statutes, **air pollution control**, to the extent that compliance results in any additional delays involved with securing approvals from the Department of Health.

Chapter 342D, Hawaii Revised Statutes, **water pollution**, to the extent that compliance results in any additional delays involved with securing approvals from the Department of Health.

Chapter 342E, Hawaii Revised Statutes, **non-point source pollution management and control**, to the extent that compliance results in any additional delays involved with securing approvals from the Department of Health.

Chapter 342F, Hawaii Revised Statutes, **noise pollution**, to the extent that compliance results in any additional delays involved with securing approvals from the Department of Health.

Chapter 342H, Hawaii Revised Statutes, **solid waste pollution**, to the extent that compliance results in any additional delays involved with securing approvals from the Department of Health.

Chapter 343, Hawaii Revised Statutes, **environmental impact statements**, to the extent that compliance results in any additional delays involved with the environmental review process.

Chapter 344, Hawaii Revised Statutes, **state environmental policy**, to the extent that compliance results in any additional delays involved with the environmental review process.

Section 464-4, Hawaii Revised Statutes, **public works required to be supervised by certain professionals**, to the extent that compliance results in any additional delays involved with the completing of construction drawings to the point of stamping and signature by a professional engineer.

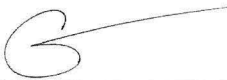
I FURTHER DECLARE that the disaster emergency relief period shall continue through July 5, 2021, unless terminated or superseded by separate proclamation, whichever shall occur first. Notwithstanding the termination of a disaster emergency relief period, any contracts, agreements, procurements, programs, or employment of personnel entered into, started, amended, or continued by reason of the provisions of the proclamations relating to this emergency shall continue in full force and effect.

Done at the State Capitol, this
6th day of May, 2021.



DAVID Y. IGE,
Governor of Hawai'i

APPROVED:



Clare E. Connors
Attorney General
State of Hawai'i

OFFICE OF THE GOVERNOR
STATE OF HAWAII
**THIRD PROCLAMATION
RELATED TO HEAVY RAINS AND FLOODING**

By the authority vested in me by the Constitution and laws of the State of Hawai'i, in order to provide relief for disaster damages, losses, and suffering, and to protect the health, safety, and welfare of the people, I, DAVID Y. IGE, Governor of the State of Hawai'i, hereby determine, designate and proclaim as follows:

WHEREAS, pursuant to Chapter 127A, Hawaii Revised Statutes, emergency powers are conferred on the Governor of the State of Hawai'i to respond to disasters or emergencies, to maintain the strength, resources, and economic life of the community, and to protect the public health, safety, and welfare; and

WHEREAS, on March 9, 2021, I issued my Proclamation declaring an emergency as a result of emergency conditions created by heavy rains and flooding; and

WHEREAS, the conditions giving rise to the emergency continue in the Counties of Maui and Kaua'i, and the City and County of Honolulu, State of Hawai'i and are adversely impacting efforts to repair, reconstruct, improve, and otherwise perform work on various roadways, bridges, infrastructure, hillsides, and streams;

NOW, THEREFORE, I, DAVID Y. IGE, Governor of the State of Hawai'i, hereby determine that an emergency or disaster contemplated by section 127A-14, Hawaii Revised Statutes, continues in the Counties of Maui and Kaua'i, and the City and County of Honolulu, State of Hawai'i, and hereby incorporate the provisions of my Proclamation of March 9, 2021, and my Second Proclamation of May 6, 2021, relating to heavy rains and flooding, which shall remain in full force and effect and are included in the provisions of this proclamation unless amended herein, to the extent necessary for those engaged in emergency management functions to repair, reconstruct, improve, and otherwise perform work on various roadways, bridges, infrastructure, hillsides, and streams and authorize and invoke the following emergency provisions which are expressly invoked, if not already in effect upon this declaration of an emergency:

I. Suspension of Laws

The following specific provisions of law are suspended, as allowed by federal law, pursuant to sections 127A-12(b)(8) and 127A-13(a)(3), Hawaii Revised Statutes, to the extent that the law impedes or tends to impede or be detrimental to the expeditious and efficient execution of, or to conflict with, emergency functions, including laws which by Chapter 127A, Hawaii Revised Statutes, specifically are made applicable to emergency personnel:

Chapter 6E, Hawaii Revised Statutes, **historic preservation**, to the extent that compliance requires additional time detrimental to the expeditious and efficient execution of emergency repairs.

Section 37-41, Hawaii Revised Statutes, **appropriations to revert to state treasury; exceptions**, to the extent that appropriations lapse at the end of the fiscal year prior to completion of the emergency repairs.

Section 37-74(d), Hawaii Revised Statutes, **program execution**, except for subsections 37-74(d)(2) and 37-74(d)(3), Hawaii Revised Statutes, and any such transfers or changes considered to be authorized transfers or changes for purposes of section 34-74(d)(1) for legislative reporting requirements, to the extent that legislative authorization would likely delay appropriation transfers or changes between programs to provide necessary funding to complete the emergency repairs.

Section 40-66, Hawaii Revised Statutes, **lapsing of appropriations**, to the extent that the timing of the procurement of the construction of the emergency permanent repairs may occur the fiscal year following the original emergency proclamation.

Chapter 46, Hawaii Revised Statutes, **county organization and administration** with respect to any county ordinance, rule, regulation, law, or provision in any form relating to county permitting, licensing, zoning, variance, processes, procedures, fees, or any other requirements that hinders, delays, or impedes the purpose of this Proclamation, to the extent that compliance results in any delays involved in securing County permits.

Chapter 89, Hawaii Revised Statutes, **collective bargaining in public employment**, to the extent that compliance results in any delays involved with implementing procedures required under collective bargaining agreements which can delay immediate responses to emergencies.

Section 103-2, Hawaii Revised Statutes, **general fund**, to the extent that compliance results in any additional delays.

Section 103-55, Hawaii Revised Statutes, **wages, hours, and working conditions of employees of contractors performing services**, to the extent that compliance results in any additional delays.

Chapter 103D, Hawaii Revised Statutes, **Hawaii public procurement code**, to the extent that compliance results in any additional delays involved in meeting procurement requirements for selecting contractors in a timely manner to respond to emergency situations.

Chapter 104, Hawaii Revised Statutes, **wages and hours of employees on public works**, to the extent that compliance with this chapter requires additional time detrimental to the expeditious and efficient execution of emergency repairs.

Chapter 171, Hawaii Revised Statutes, **public lands, management and disposition of**, to the extent that compliance results in any additional delays involved with securing approvals from the Department of Land and Natural Resources.

Chapter 183, Hawaii Revised Statutes, **forest reserves, water development, zoning**, to the extent that any repair, reconstruction, improvement, or work is located within a forest reserve.

Chapter 183C, Hawaii Revised Statutes, **conservation district**, to the extent that any repair, reconstruction, improvement, or work is located within the conservation district.

Chapter 183D, Hawaii Revised Statutes, **wildlife**, to the extent that any repair, reconstruction, improvement, or work is located within any game management area, wildlife sanctuary, or public hunting area.

Chapter 205A, Hawaii Revised Statutes, **coastal zone management**, to the extent that compliance results in any additional delays involved with securing approvals from the counties or the Department of Land and Natural Resources for work within the special management area.

Chapter 264, Hawaii Revised Statutes, **highways**, to the extent that compliance results in any additional delays involved with securing approvals from the Department Transportation.

Chapter 286, Hawaii Revised Statutes, **highway safety**, to the extent that compliance results in allowing highway usage by vehicles which are not street legal may be beneficial to the community until such time as the highway is open to regular traffic.

Chapter 341, Hawaii Revised Statutes, **environmental quality control**, to the extent that compliance results in any additional delays involved with securing approvals from the Office of Environmental Quality Control.

Chapter 342B, Hawaii Revised Statutes, **air pollution control**, to the extent that compliance results in any additional delays involved with securing approvals from the Department of Health.

Chapter 342D, Hawaii Revised Statutes, **water pollution**, to the extent that compliance results in any additional delays involved with securing approvals from the Department of Health.

Chapter 342E, Hawaii Revised Statutes, **non-point source pollution management and control**, to the extent that compliance results in any additional delays involved with securing approvals from the Department of Health.

Chapter 342F, Hawaii Revised Statutes, **noise pollution**, to the extent that compliance results in any additional delays involved with securing approvals from the Department of Health.

Chapter 342H, Hawaii Revised Statutes, **solid waste pollution**, to the extent that compliance results in any additional delays involved with securing approvals from the Department of Health.

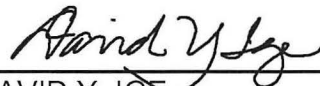
Chapter 343, Hawaii Revised Statutes, **environmental impact statements**, to the extent that compliance results in any additional delays involved with the environmental review process.

Chapter 344, Hawaii Revised Statutes, **state environmental policy**, to the extent that compliance results in any additional delays involved with the environmental review process.

Section 464-4, Hawaii Revised Statutes, **public works required to be supervised by certain professionals**, to the extent that compliance results in any additional delays involved with the completing of construction drawings to the point of stamping and signature by a professional engineer.

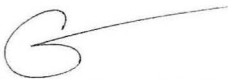
I FURTHER DECLARE that the disaster emergency relief period shall continue through August 30, 2021, unless terminated or superseded by separate proclamation, whichever shall occur first. Notwithstanding the termination of a disaster emergency relief period, any contracts, agreements, procurements, programs, or employment of personnel entered into, started, amended, or continued by reason of the provisions of the proclamations relating to this emergency shall continue in full force and effect.

Done at the State Capitol, this
1st day of July, 2021.



DAVID Y. IGE,
Governor of Hawai'i

APPROVED:



Clare E. Connors
Attorney General
State of Hawai'i

OFFICE OF THE GOVERNOR
STATE OF HAWAII
**FOURTH PROCLAMATION
RELATED TO HEAVY RAINS AND FLOODING**

By the authority vested in me by the Constitution and laws of the State of Hawai'i, in order to provide relief for disaster damages, losses, and suffering, and to protect the health, safety, and welfare of the people, I, DAVID Y. IGE, Governor of the State of Hawai'i, hereby determine, designate and proclaim as follows:

WHEREAS, pursuant to Chapter 127A, Hawaii Revised Statutes, emergency powers are conferred on the Governor of the State of Hawai'i to respond to disasters or emergencies, to maintain the strength, resources, and economic life of the community, and to protect the public health, safety, and welfare; and

WHEREAS, on March 9, 2021, I issued my Proclamation declaring an emergency as a result of emergency conditions created by heavy rains and flooding; and

WHEREAS, I subsequently issued my Second Proclamation Related to Heavy Rains and Flooding on May 6, 2021, and my Third Proclamation Related to Heavy Rains and Flooding on July 1, 2021; and

WHEREAS, the conditions giving rise to the emergency continue in the Counties of Maui and Kaua'i, State of Hawai'i and are adversely impacting efforts to repair, reconstruct, improve, and otherwise perform work on various roadways, bridges, infrastructure, hillsides, and streams;

NOW, THEREFORE, I, DAVID Y. IGE, Governor of the State of Hawai'i, hereby determine that an emergency or disaster contemplated by section 127A-14, Hawaii Revised Statutes, continues in the Counties of Maui and Kaua'i, State of Hawai'i, and hereby incorporate the provisions of my Proclamation of March 9, 2021, my Second Proclamation of May 6, 2021, and my Third Proclamation Related to Heavy Rains and Flooding of July 1, 2021 relating to heavy rains and flooding, which shall remain in full force and effect and are included in the provisions of this proclamation unless amended herein, to the extent necessary for those engaged in emergency management functions to repair, reconstruct, improve, and otherwise perform work on various roadways,

bridges, infrastructure, hillsides, and streams and authorize and invoke the following emergency provisions which are expressly invoked, if not already in effect upon this declaration of an emergency:

I. Suspension of Laws

The following specific provisions of law are suspended, as allowed by federal law, pursuant to sections 127A-12(b)(8) and 127A-13(a)(3), Hawaii Revised Statutes, to the extent that the law impedes or tends to impede or be detrimental to the expeditious and efficient execution of, or to conflict with, emergency functions, including laws which by Chapter 127A, Hawaii Revised Statutes, specifically are made applicable to emergency personnel:

Chapter 6E, Hawaii Revised Statutes, **historic preservation**, to the extent that compliance requires additional time detrimental to the expeditious and efficient execution of emergency repairs.

Section 37-41, Hawaii Revised Statutes, **appropriations to revert to state treasury; exceptions**, to the extent that appropriations lapse at the end of the fiscal year prior to completion of the emergency repairs.

Section 37-74(d), Hawaii Revised Statutes, **program execution**, except for subsections 37-74(d)(2) and 37-74(d)(3), Hawaii Revised Statutes, and any such transfers or changes considered to be authorized transfers or changes for purposes of section 34-74(d)(1) for legislative reporting requirements, to the extent that legislative authorization would likely delay appropriation transfers or changes between programs to provide necessary funding to complete the emergency repairs.

Section 40-66, Hawaii Revised Statutes, **lapsing of appropriations**, to the extent that the timing of the procurement of the construction of the emergency permanent repairs may occur the fiscal year following the original emergency proclamation.

Chapter 46, Hawaii Revised Statutes, **county organization and administration** with respect to any county ordinance, rule, regulation, law, or provision in any form relating to county permitting, licensing, zoning, variance, processes, procedures, fees, or any other requirements that hinders, delays, or impedes the purpose of this

Proclamation, to the extent that compliance results in any delays involved in securing County permits.

Section 103-2, Hawaii Revised Statutes, **general fund**, to the extent that compliance results in any additional delays.

Section 103-55, Hawaii Revised Statutes, **wages, hours, and working conditions of employees of contractors performing services**, to the extent that compliance results in any additional delays.

Chapter 103D, Hawaii Revised Statutes, **Hawaii public procurement code**, to the extent that compliance results in any additional delays involved in meeting procurement requirements for selecting contractors in a timely manner to respond to emergency situations.

Chapter 104, Hawaii Revised Statutes, **wages and hours of employees on public works**, to the extent that compliance with this chapter requires additional time detrimental to the expeditious and efficient execution of emergency repairs.

Chapter 171, Hawaii Revised Statutes, **public lands, management and disposition of**, to the extent that compliance results in any additional delays involved with securing approvals from the Department of Land and Natural Resources.

Chapter 183, Hawaii Revised Statutes, **forest reserves, water development, zoning**, to the extent that any repair, reconstruction, improvement, or work is located within a forest reserve.

Chapter 183C, Hawaii Revised Statutes, **conservation district**, to the extent that any repair, reconstruction, improvement, or work is located within the conservation district.

Chapter 205A, Hawaii Revised Statutes, **coastal zone management**, to the extent that compliance results in any additional delays involved with securing approvals from the counties or the Department of Land and Natural Resources for work within the special management area.

Chapter 264, Hawaii Revised Statutes, **highways**, to the extent that compliance results in any additional delays involved with securing approvals from the Department of Transportation.

Chapter 341, Hawaii Revised Statutes, **environmental quality control**, to the extent that compliance results in any additional delays involved with securing approvals from the Office of Environmental Quality Control.

Chapter 342B, Hawaii Revised Statutes, **air pollution control**, to the extent that compliance results in any additional delays involved with securing approvals from the Department of Health.

Chapter 342D, Hawaii Revised Statutes, **water pollution**, to the extent that compliance results in any additional delays involved with securing approvals from the Department of Health.

Chapter 342E, Hawaii Revised Statutes, **non-point source pollution management and control**, to the extent that compliance results in any additional delays involved with securing approvals from the Department of Health.

Chapter 342F, Hawaii Revised Statutes, **noise pollution**, to the extent that compliance results in any additional delays involved with securing approvals from the Department of Health.

Chapter 342H, Hawaii Revised Statutes, **solid waste pollution**, to the extent that compliance results in any additional delays involved with securing approvals from the Department of Health.

Chapter 343, Hawaii Revised Statutes, **environmental impact statements**, to the extent that compliance results in any additional delays involved with the environmental review process.

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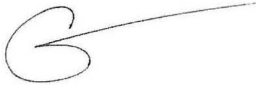
I FURTHER DECLARE that the disaster emergency relief period shall continue through October 29, 2021, unless terminated or superseded by separate proclamation, whichever shall occur first. Notwithstanding the termination of a disaster emergency relief period, any contracts, agreements, procurements, programs, or employment of personnel entered into, started, amended, or continued by reason of the provisions of the proclamations relating to this emergency shall continue in full force and effect.

Done at the State Capitol, this
30th day of August, 2021.



DAVID Y. IGE,
Governor of Hawai'i

APPROVED:



Clare E. Connors
Attorney General
State of Hawai'i

OFFICE OF THE GOVERNOR
STATE OF HAWAII
**FIFTH PROCLAMATION
RELATED TO HEAVY RAINS AND FLOODING**

By the authority vested in me by the Constitution and laws of the State of Hawai'i, in order to provide relief for disaster damages, losses, and suffering, and to protect the health, safety, and welfare of the people, I, DAVID Y. IGE, Governor of the State of Hawai'i, hereby determine, designate and proclaim as follows:

WHEREAS, pursuant to Chapter 127A, Hawaii Revised Statutes, emergency powers are conferred on the Governor of the State of Hawai'i to respond to disasters or emergencies, to maintain the strength, resources, and economic life of the community, and to protect the public health, safety, and welfare; and

WHEREAS, on March 9, 2021, I issued my Proclamation declaring an emergency as a result of emergency conditions created by heavy rains and flooding; and

WHEREAS, I subsequently issued my Second Proclamation Related to Heavy Rains and Flooding on May 6, 2021, my Third Proclamation Related to Heavy Rains and Flooding on July 1, 2021, and my Fourth Proclamation Relating to Heavy Rains and Flooding on August 30, 2021; and

WHEREAS, the conditions giving rise to the emergency continue in the Counties of Maui and Kaua'i, State of Hawai'i, and are adversely impacting efforts to repair, reconstruct, improve, and otherwise perform work on various roadways, bridges, infrastructure, hillsides, and streams;

NOW, THEREFORE, I, DAVID Y. IGE, Governor of the State of Hawai'i, hereby determine that an emergency or disaster contemplated by section 127A-14, Hawaii Revised Statutes, continues in the Counties of Maui and Kaua'i, State of Hawai'i, and hereby incorporate the provisions of my Proclamation of March 9, 2021, my Second Proclamation of May 6, 2021, my Third Proclamation Related to Heavy Rains and Flooding of July 1, 2021, and my Fourth Proclamation Relating to Heavy Rains and Flooding of August 30, 2021, relating to heavy rains and flooding, which shall remain in full force and effect and are included in the provisions of this proclamation unless

amended herein, to the extent necessary for those engaged in emergency management functions to repair, reconstruct, improve, and otherwise perform work on various roadways, bridges, infrastructure, hillsides, and streams and authorize and invoke the following emergency provisions which are expressly invoked, if not already in effect upon this declaration of an emergency:

I. Suspension of Laws

The following specific provisions of law are suspended, as allowed by federal law, pursuant to sections 127A-12(b)(8) and 127A-13(a)(3), Hawaii Revised Statutes, to the extent that the law impedes or tends to impede or be detrimental to the expeditious and efficient execution of, or to conflict with, emergency functions, including laws which by Chapter 127A, Hawaii Revised Statutes, specifically are made applicable to emergency personnel:

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Section 37-74(d), Hawaii Revised Statutes, **program execution**, except for sub-sections 37-74(d)(2) and 37-74(d)(3), Hawaii Revised Statutes, and any such transfers or changes considered to be authorized transfers or changes for purposes of section 34-74(d)(1) for legislative reporting requirements, to the extent that legislative authorization would likely delay appropriation transfers or changes between programs to provide necessary funding to complete the emergency repairs.

Section 40-66, Hawaii Revised Statutes, **lapsing of appropriations**, to the extent that the timing of the procurement of the construction of the emergency permanent repairs may occur the fiscal year following the original emergency proclamation.

Chapter 46, Hawaii Revised Statutes, **county organization and administration** with respect to any county ordinance, rule, regulation, law, or provision in any form relating to county permitting, licensing, zoning, variance, processes, procedures, fees,

or any other requirements that hinders, delays, or impedes the purpose of this Proclamation, to the extent that compliance results in any delays involved in securing County permits.

Section 103-2, Hawaii Revised Statutes, **general fund**, to the extent that compliance results in any additional delays.

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Chapter 342D, Hawaii Revised Statutes, **water pollution**, to the extent that compliance results in any additional delays involved with securing approvals from the Department of Health.

Chapter 342E, Hawaii Revised Statutes, **non-point source pollution management and control**, to the extent that compliance results in any additional delays involved with securing approvals from the Department of Health.

Chapter 342F, Hawaii Revised Statutes, **noise pollution**, to the extent that compliance results in any additional delays involved with securing approvals from the Department of Health.

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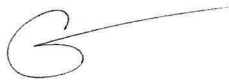
I FURTHER DECLARE that the disaster emergency relief period shall continue through December 28, 2021, unless terminated or superseded by separate proclamation, whichever shall occur first. Notwithstanding the termination of a disaster emergency relief period, any contracts, agreements, procurements, programs, or employment of personnel entered into, started, amended, or continued by reason of the provisions of the proclamations relating to this emergency shall continue in full force and effect.

Done at the State Capitol, this
29th day of October, 2021.



DAVID Y. IGE,
Governor of Hawai'i

APPROVED:



Clare E. Connors
Attorney General
State of Hawai'i

EXHIBIT C



EXHIBIT C

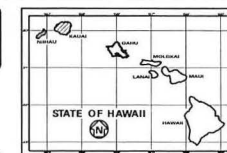
EXHIBIT D

INDEX TO DRAWINGS	
SHEET NO.	DESCRIPTION
1	TITLE SHEET
2-7	GENERAL NOTES
8	WATER POLLUTION AND EROSION CONTROL DETAILS
9-10	LAYDOWN YARD
11-14	EXISTING AND DEMOLITION PLAN
15-18	REVTMENT LAYOUT PLAN
19-22	REVTMENT DETAILS AND SECTIONS
23	DELINEATOR DETAILS
24	NEW CONCRETE SLAB DETAILS
25-26	TRITON MARINE MATTRESS DETAILS
27	KYOWA BAG FILTER UNIT TYPICAL DETAILS
28-31	GRADING AND SANDSAVER PLAN

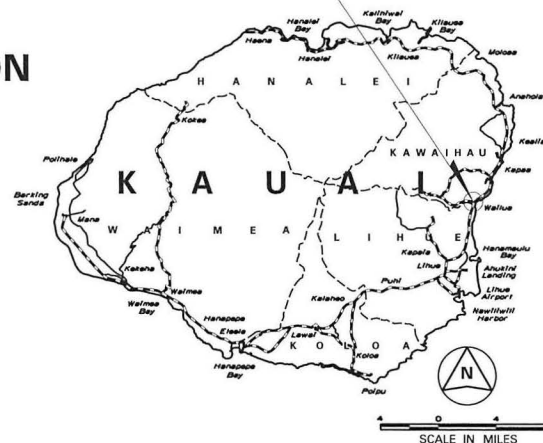
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
HONOLULU, HAWAII
PLANS FOR
KUHIO HIGHWAY
EMERGENCY SHORELINE MITIGATION
VICINITY OF WAILUA BEACH
FEDERAL AID PROJECT NO. ER-24(004)

DISTRICT OF LIHUE
ISLAND OF KAUAI

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	ER-24(004)	2021	1	XX

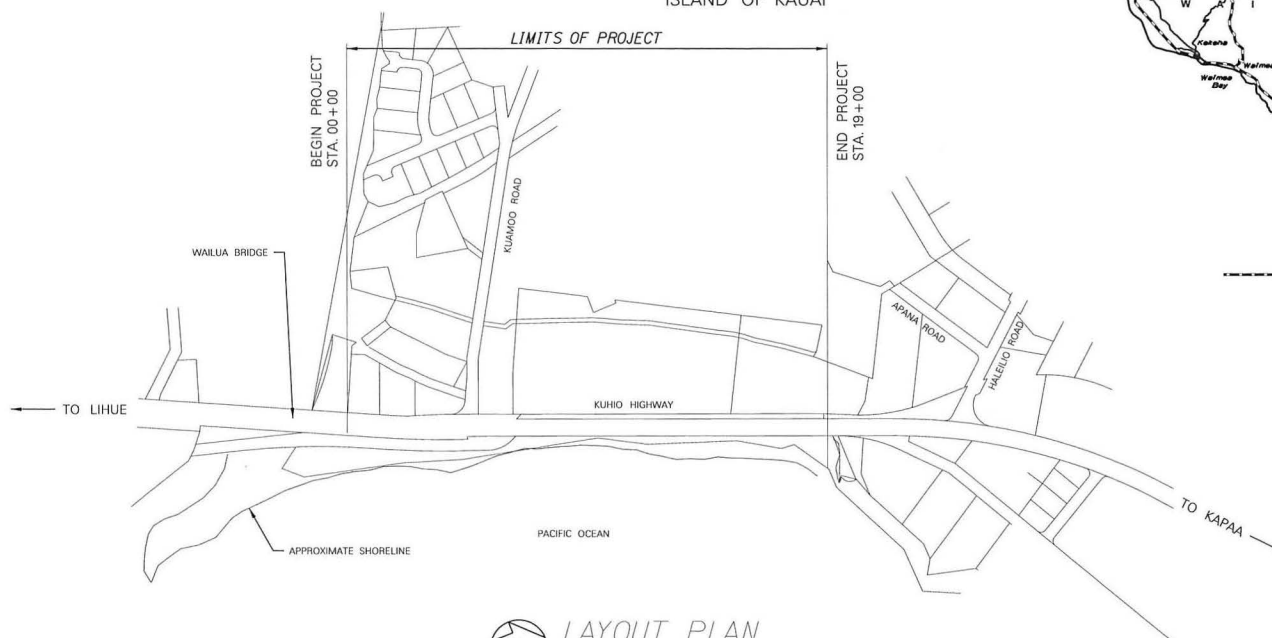


PROJECT LOCATION



----- FEDERAL AID PROJECTS PREVIOUSLY CONSTRUCTED OR UNDER CONSTRUCTION

MILE POST 5.8 TO MILE POST 6.1



LAYOUT PLAN
NOT TO SCALE

DEPARTMENT OF TRANSPORTATION STATE OF HAWAII	
APPROVED:	
DIR. OF TRANSPORTATION	DATE

EXHIBIT
D




















JUNE 2021
DATE
PHONE
P.S. & E.BY
DESIGNED BY
CONSOR ENGINEERS

GENERAL NOTES

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, Sand Savers, delineators, a concrete slab, boulders, and Naupaka plants.
2. 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.
3. 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 obstacles during the course of work is possible. Existing facilities and/or improvements including, fencing, gates, guardrails, walls, vegetation which are damaged by the Contractor shall be restored to its original condition at the Contractor's expense.
4. Contractor shall verify & investigate existing conditions at the site before proceeding with work and shall immediately report any discrepancy to the Engineer.
5. The Contractor shall protect structures and property from damages during construction.
6. 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.
7. 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.
8. The Contractor shall observe and comply with all federal, State and local laws required for the protection of public health, safety and environmental quality.
9. 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.
10. 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.
11. Prior to starting any excavation activities, the contractor shall contact the Hawaii One Call Center, at 811 or 1-866-423-7287.
12. 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.
13. 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.
14. 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 State Highways Division at telephone no. 808-241-3000.
15. 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.
16. 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. 241-1711).
17. 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.
18. The Contractor is to Comply with the directions of the State of Hawaii Safety and Health Law (DOSH).
19. 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.
20. 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.
21. 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.
22. Should it become necessary, any work required to relocate existing utility facilities shall be done by respective the utility company. The Contractor shall be responsible for coordination and payment of relocation cost.
23. Contractor shall comply with the requirements of 29 CFR 1926.106 working over or near water.
24. 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.
25. 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.

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	ER-24(004)	2021	2	X

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
- 00+00** 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

DESIGNED BY	DATE
CHECKED BY	DATE
IN CHARGE BY	DATE
APPROVED BY	DATE
REVISIONS	
NO.	

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION DATE: 6/1/21 DRAWN: 6/1/21	
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: June 2021
SHEET No. 6-J OF 9 SHEETS	

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:

1. 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.
2. 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.
3. 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:

1. 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).
2. 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.
3. There will be no clearing or pruning of vegetation.

SEABIRDS

1. 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.
2. 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 Kauai Seabird Habitat Conservation website (2013).

HAWAIIAN HOARY BAT (LASIURUS CINEREUS SEMOTUS)

1. Any fences that are erected as part of the project shall have barbed 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 barbed wire.
2. 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)

1. 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.
2. 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.
3. 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.
4. Temporary construction fencing shall be erected around the bridge construction zones to minimize the potential for nene to enter the project zones.

WATERBIRDS

1. 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.
2. 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.
3. Waterbird nests, chicks, or broods found in the survey area before or during construction shall be reported to the USFWS within 48 hours.
4. 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:

1. 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.
2. 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).
3. 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.
4. Workers shall not attempt to feed, touch, ride, or otherwise intentionally interact with any listed species.

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5. Shielded lighting shall be used to reduce direct and ambient light to potential nearby beach habitat. Lighting shall be directed away from the beach.
6. In-water work at night shall be avoided, unless emergency maintenance and repair of erosion and sediment controls are necessary to meet permit conditions.
7. All project-related materials and equipment placed in the water should be free of pollutants.
8. No project-related materials (fill, revetment rock, pipe, etc.) should be stockpiled in the water (intertidal zones, reef flats, stream channels, etc.).
9. 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.
10. 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.
11. Absorbent pads, containment booms, and skimmers will be stored on-site to facilitate the cleanup of petroleum spills.
12. Return flow or run-off from material stored at inland dewatering or storage sites should be prevented.

For Aquatic Ecosystems:

1. 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

1. 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.
2. 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.

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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.)

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.

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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-placed 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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WATER POLLUTION AND EROSION NOTES
(CONTINUED)

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 (SDSJ, 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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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:

1. Protect all Drainage Inlets receiving runoff from disturbed areas (SC-2).
2. Contain on-site runoff using Perimeter Sediment Controls
 - a. SC-1 Silt Fence or Filter Fabric Fence
 - b. SC-5 Vegetated Filter Strips and Buffers
 - c. SC-8 Compost Filter Berm
 - d. SC-13 Sandbag Barrier
 - e. SC-14 Brush or Rock Filter
3. Control offsite runoff from entering construction area
 - a. EC-8 Run-On Diversion
 - b. SC-6 Earth Dike
 - c. SC-7 Temporary Drains and Swales
4. Incorporate applicable Site Management BMP
 - a. SM-1 Employee Training
 - b. SM-2 Material Delivery and Storage
 - c. SM-3 Material Use
 - d. SM-4 Protection of Stockpiles
 - e. SM-6 Solid Waste Management
 - f. SM-7 Sanitary/Septic Waste Management
 - g. SM-9 Hazardous Waste Management
 - h. SM-10 Spill Prevention and Control
 - i. SM-11 Vehicle and Equipment Cleaning
 - j. SM-12 Vehicle and Equipment Maintenance
 - k. SM-13 Vehicle and Equipment Refueling
 - l. SM-14 Scheduling
 - m. SM-15 Location of Potential Sources of Sediment
 - n. SM-16 Preservation of Existing Vegetation
 - o. SM-18 Dust Control
5. 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.
6. 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.

1. 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.
2. 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.
3. 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.
4. 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.
5. 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.
6. Construction shall be sequenced to minimize the exposure time of the cleared surface area.
7. 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.
8. 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.
9. 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.
10. Return flow or run-off from material stored at inland dewatering or storage sites shall be prevented.
11. All project-related materials and equipment placed in the water shall be free of pollutants.
12. 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.
13. 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.
14. Portable toilets for sanitary waste management shall be serviced regularly.
15. A plan shall be developed to prevent debris and other wastes from entering or remaining in the marine environment during the project.
16. 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.
17. 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.
18. 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.).
19. 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.
20. Clearing and grubbing shall be held to the minimum necessary for grading, access, and equipment operation.
21. 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.
22. Concrete wash-outs shall be located 50 feet from storm drain inlets, open drainage areas, and waterbodies, and shall be maintained as needed.

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F. WATER QUALITY

23. 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 shall be conducted to determine if devices are operating effectively. When a device proves inadequate, work shall cease and it shall be immediately redesigned or replaced until it is effective.
24. 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.
25. 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.

MATERIAL SPECIFICATIONS GENERAL NOTES

1. All stone materials shall have a minimum specific gravity of 2.40 and a maximum absorption of 4%.
2. RIPRAP ARMOR STONES:

The riprap armor stones shall be placed using mechanical equipment to safely install as shown. The riprap armor stone layer shall be Class VIII and have the following minimum and maximum allowable particle sizes in inches:

Nominal Riprap Class by Median Particle Diameter		d_{15}		d_{50}		d_{85}		d_{100}
Class	Diameter	Min.	Max.	Min.	Max.	Min.	Max.	Max.
VIII	30 in.	18.5	26.0	28.5	34.5	39.0	46.0	60.0

and the minimum and maximum allowable particle weight in pounds is:

Nominal Riprap Class by Median Particle Weight		W_{15}		W_{50}		W_{85}		W_{100}
Class	Weight	Min.	Max.	Min.	Max.	Min.	Max.	Max.
VIII	1 ton	500	1450	1900	3300	4800	8000	17600

3. ROCK FILL MATERIAL FOR KYOWA BAGS:

Shall have a maximum dimension of 6 in and a minimum dimension of 3 in.

4. ROCK FILL MATERIAL FOR TRITON MARINE MATTRESS:

Shall have a maximum dimension of 6 in and a minimum dimension of 2 in. The average stone size shall not be greater than 4 in.

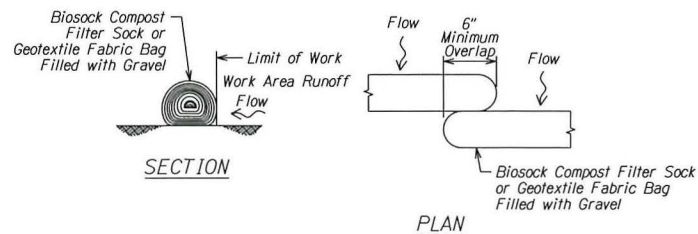
QUANTITIES TABLE

Approximate Total		
Type	cu. yd.	tons
Class VIII Riprap	7609	17306
Rock Material (Kyowa Bags)	47	106
Rock Material (Mattress)	2100	4776
Kyowa Bags	30 bags	
Triton Marine Mattresses	341 mattresses	
Sandsavers	1624 LF	
Cut	0.34 cu. yd.	
Fill	23 cu. yd.	
Excavation	19758 cu. yd.	

DESIGNED BY	REVIEWED BY
DRAWN BY	APPROVED BY
CHECKED BY	DATE
DATE	

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION	
1/26/22	
SIGNATURE	
DATE	
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION	
GENERAL NOTES	
KUHO HIGHWAY	
Emergency Shoreline Mitigation	
Fed. Aid Project No. ER-24(004)	
Scale: None	Date: June 2021
SHEET No. G-6 OF 9 SHEETS	

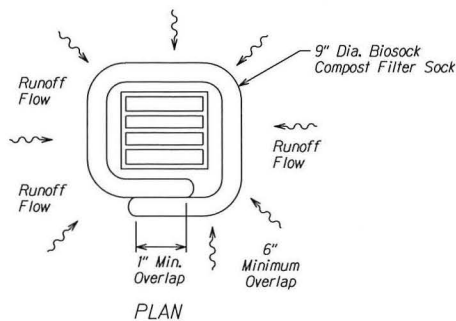
FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	ER-24(004)	2021	8	X



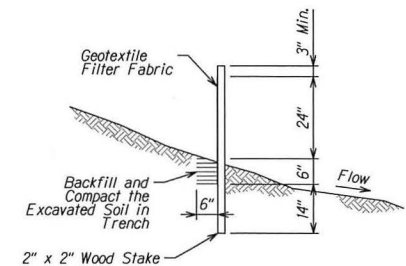
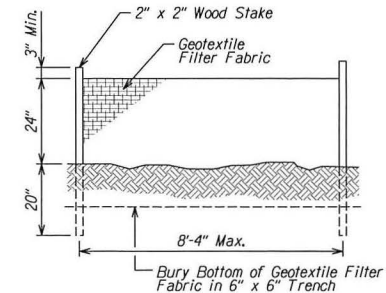
BIO SOCK COMPOST FILTER SOCK DETAIL
GRAVEL BAG DETAIL
 NOT TO SCALE

BIO SOCK COMPOST FILTER SOCK NOTES:

1. Remove accumulated sediment when the depth reaches 1/3 of the barrier height.
2. Biosock material and compost shall be removed at the completion of construction and shall be disposed of properly.
3. No staking is required for slopes < 4:1.
4. Compost shall not contain biosolids and should be consistent with united states environmental protection agency guidelines.



BIO SOCK COMPOST FILTER SOCK
DRAIN INLET PROTECTION DETAIL
 NOT TO SCALE



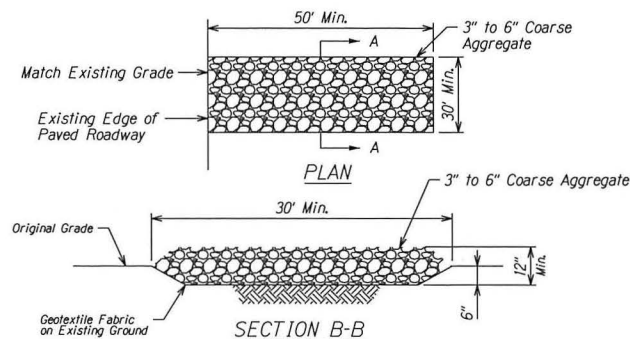
SILT FENCE NOTES:

1. The filter fabric shall be a minimum of 36" wide.
2. If silt fence is obtained from manufacturer as a package (i.e. fabric attached to post) the manufacturer's installation instructions shall be adhered to.

SILT FENCE DETAILS
 NOT TO SCALE

GENERAL NOTES:

1. Contractor shall extend biosock or silt fence limits to cover full length of storage/staging areas at no additional cost. Biosocks shown on plans are minimum.
2. Place and tack down geotextile fabric over sheet plastic at staging area.
3. Place drip pans under all vehicles and equipment.
4. Provide spill kits at all staging areas.
5. Secure and provide secondary containment for portable toilets.
6. Contractor to install temporary construction stabilization entrances for staging areas.

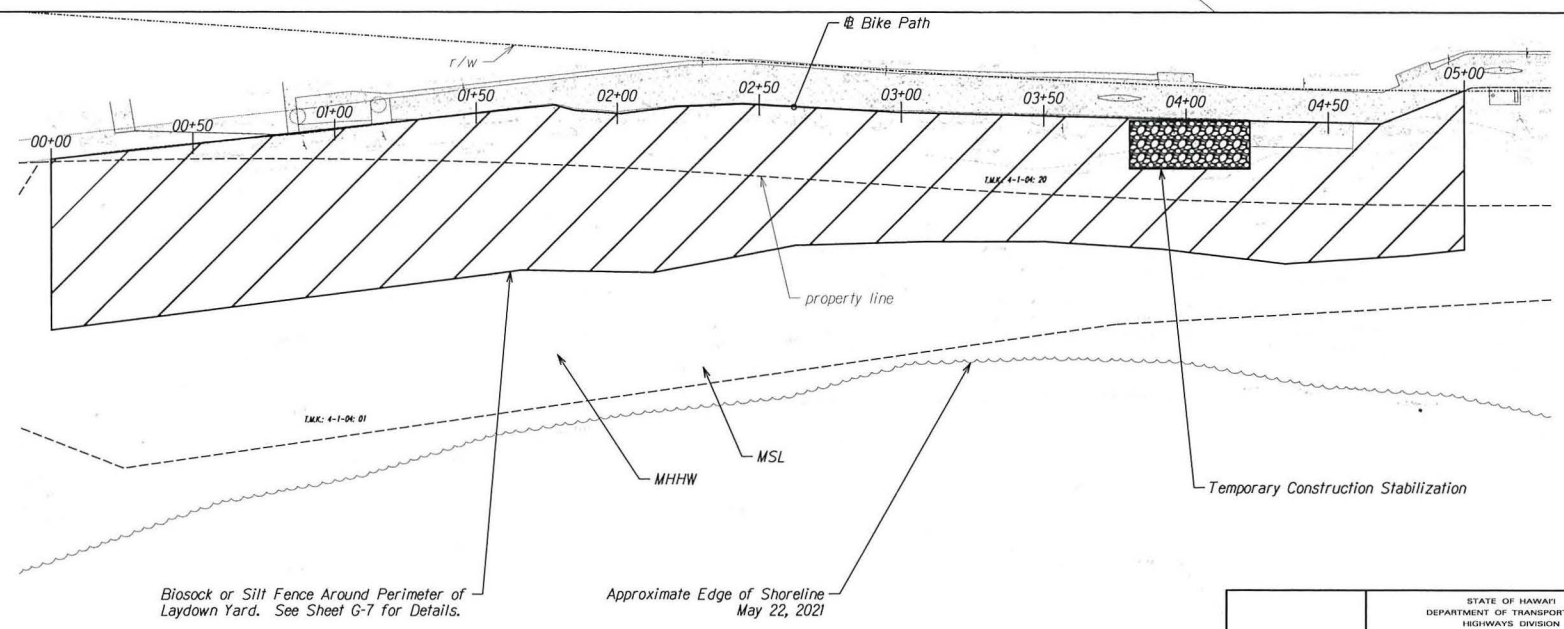
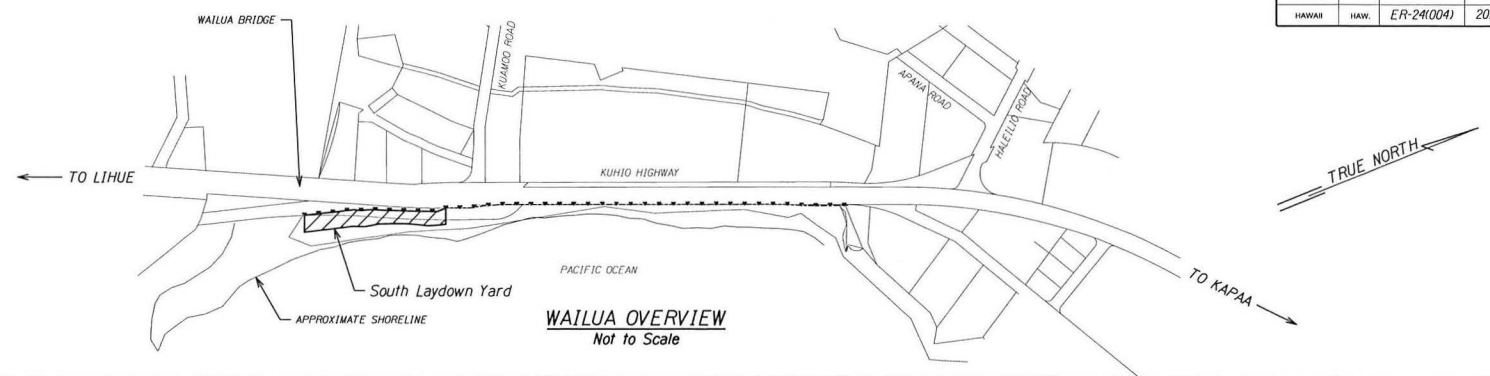


TEMPORARY CONSTRUCTION
STABILIZATION DETAIL
 NOT TO SCALE

DESIGNED BY	DATE
CHECKED BY	
APPROVED BY	
REVISIONS	
NO.	

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION DATE: 6/10/21 EXPIRATION DATE OF THE LICENSE	STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION
	WATER POLLUTION & EROSION CONTROL DETAILS
	KUHIO HIGHWAY
	Emergency Shoreline Mitigation
	Fed. Aid Project No. ER-24(004) Scale: Not to Scale Date: June 2021
SHEET No. 6-7 OF 9 SHEETS	

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	ER-24(004)	2021	9	X



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CHECKED BY	DATE
IN CHARGE	DATE

THIS WORK WAS PREPARED BY
ME OR UNDER MY SUPERVISION
DATE: 6/1/22
SCALE: (SEE SHEET 6 OF 10 SHEETS)

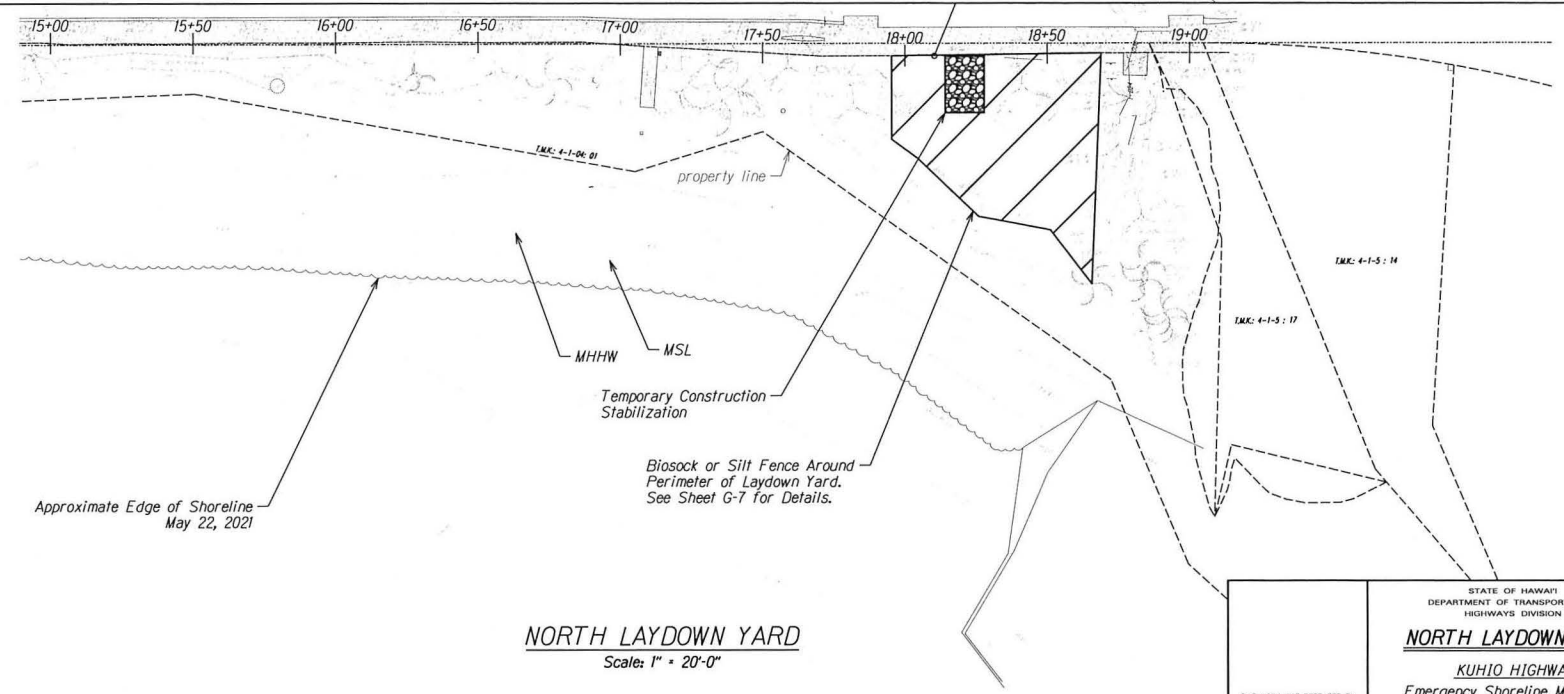
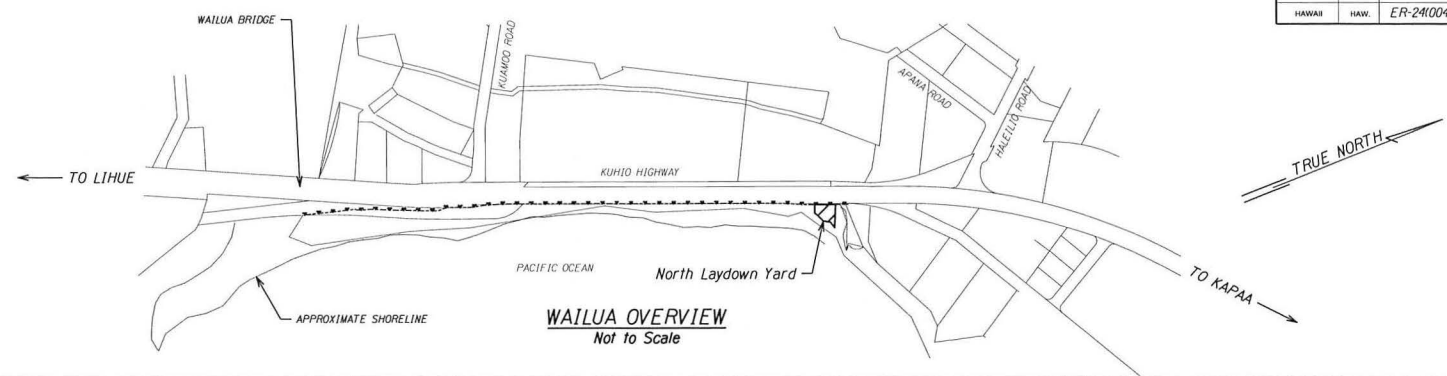
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

SOUTH LAYDOWN YARD

KUHIO HIGHWAY
Emergency Shoreline Mitigation
Fed. Aid Project No. ER-24(004)

Scale: As Noted Date: June 2021
SHEET No. G-8 OF 9 SHEETS

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	ER-24(004)	2021	10	X

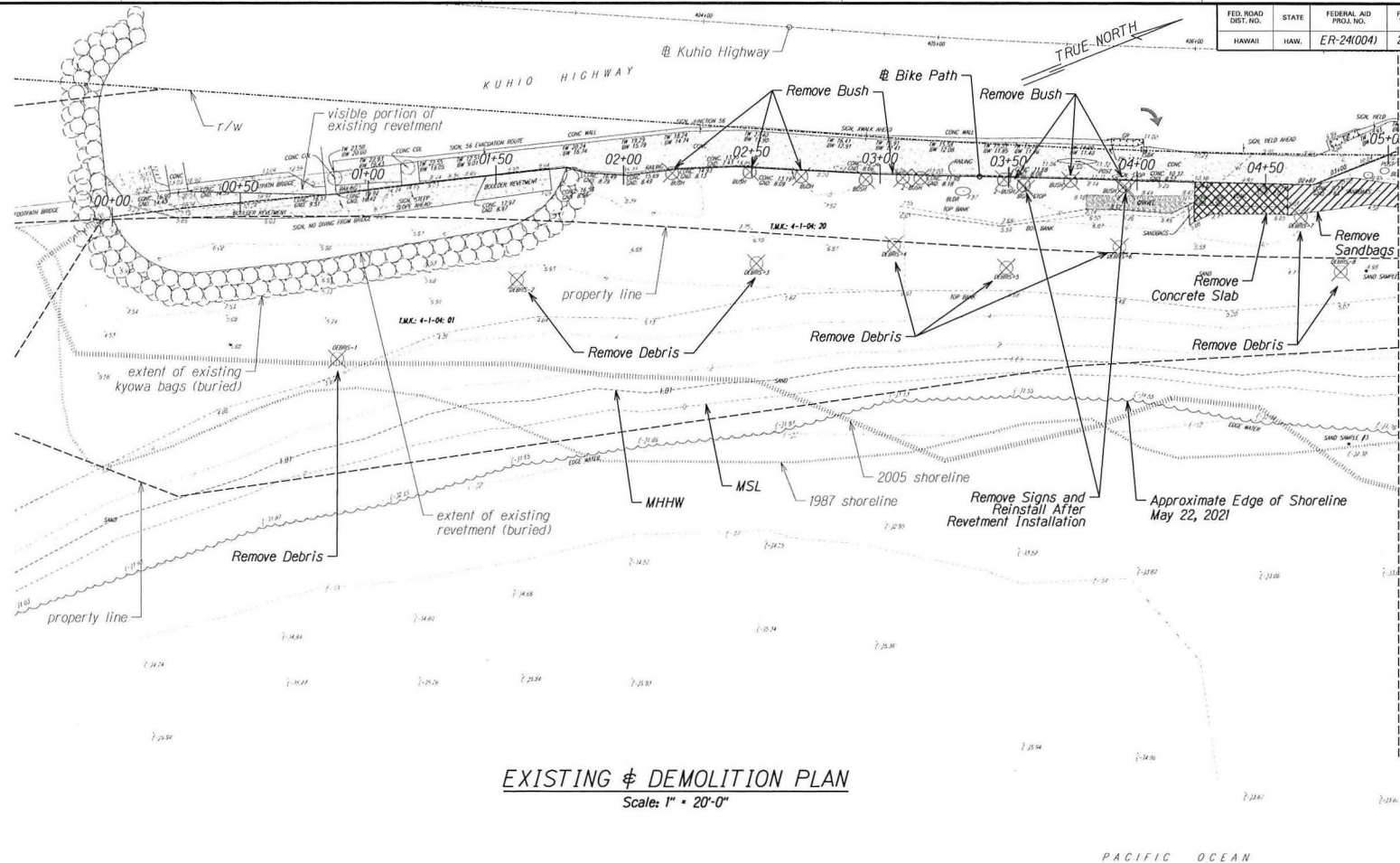


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DRAWN BY	DATE
CHECKED BY	DATE
IN CHARGE	DATE

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ME OR UNDER MY SUPERVISION
DATE: 6/1/21
SCALE: AS NOTED

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
NORTH LAYDOWN YARD
KUHO HIGHWAY
Emergency Shoreline Mitigation
Fed. Aid Project No. ER-24(004)
Scale: As Noted Date: June 2021
SHEET No. G-9 OF 9 SHEETS

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	ER-24(004)	2021	11	X



(See Sheet ED-2 for Continuation)
Match Line @ Sta. 05+04

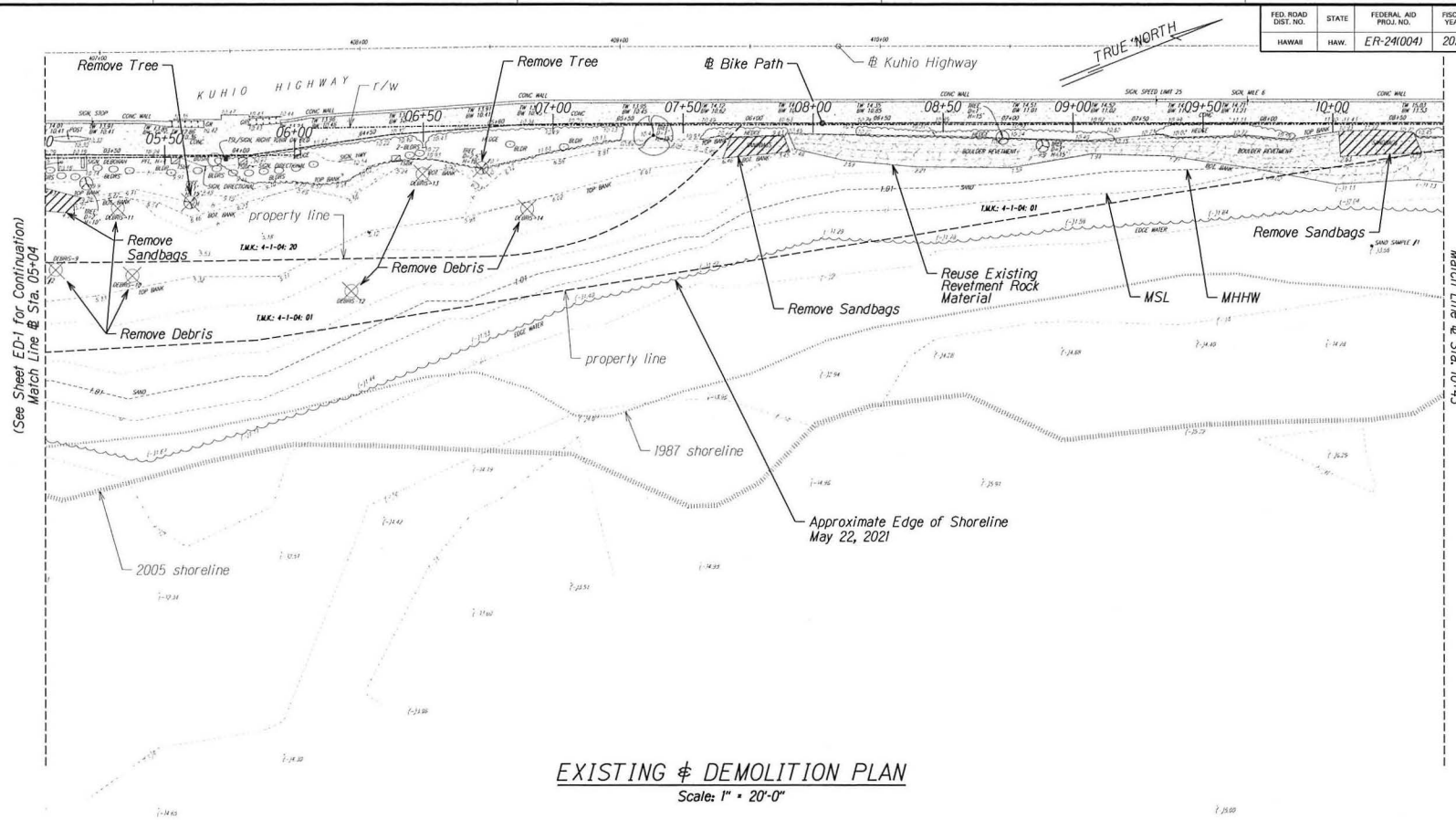
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CHECKED BY	_____
DATE	_____

NOTE:

The Total Amount of Debris May Differ from what is Shown here in the Plans when Construction Starts. Therefore, Debris Removal shall be Paid as a Force Account Item.

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION EXISTING & DEMOLITION PLAN <u>KUHIO HIGHWAY</u> <u>Emergency Shoreline Mitigation</u> <u>Fed. Aid Project No. ER-24(004)</u> Scale: As Noted Date: June 2021 SHEET No. ED-1 OF 4 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)	2021	12	X



EXISTING & DEMOLITION PLAN
Scale: 1" = 20'-0"

NOTE:
The Total Amount of Debris May Differ from what is Shown here in the Plans when Construction Starts. Therefore, Debris Removal shall be Paid as a Force Account Item.

DESIGNED BY	DATE
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CHECKED BY	DATE
APPROVED BY	DATE

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DATE: 6/1/2021

SIGNATURE: _____

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

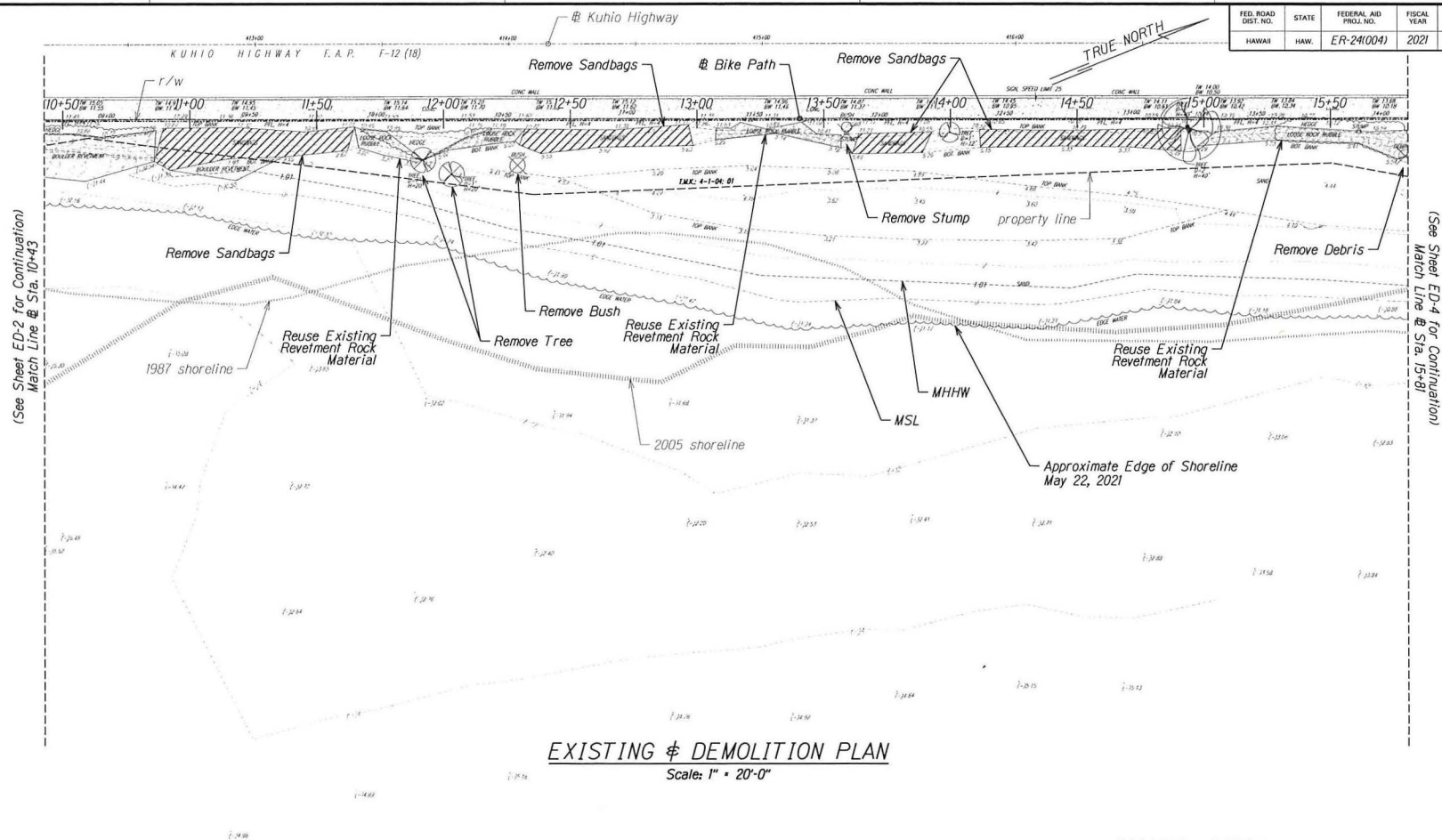
EXISTING & DEMOLITION PLAN

KUHIO HIGHWAY
Emergency Shoreline Mitigation
Fed. Aid Project No. ER-24(004)

Scale: As Noted Date: June 2021

SHEET No. **ED-2** OF **4** SHEETS

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	ER-24(004)	2021	13	X



(See Sheet ED-2 for Continuation)
Match Line @ Sta. 10+43

(See Sheet ED-4 for Continuation)
Match Line @ Sta. 15+81

EXISTING & DEMOLITION PLAN Scale: 1" = 20'-0"

NOTE:

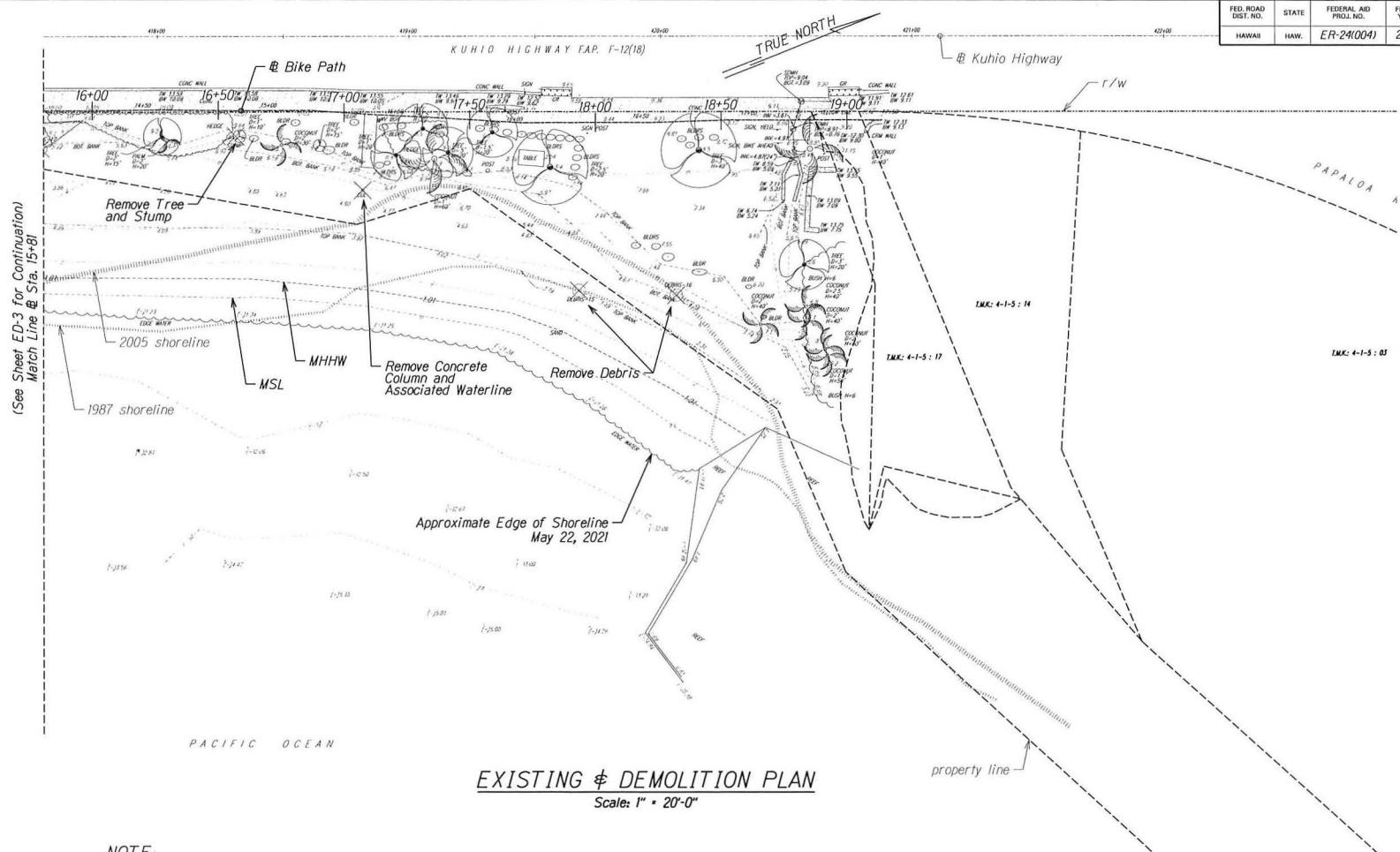
The Total Amount of Debris May Differ from what is Shown here in the Plans when Construction Starts. Therefore, Debris Removal shall be Paid as a Force Account Item.

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APPROVED BY	

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STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION EXISTING & DEMOLITION PLAN KUHIO HIGHWAY Emergency Shoreline Mitigation Fed. Aid Project No. ER-24(004) Scale: As Noted Date: June 2021 SHEET No. ED-3 OF 4 SHEETS	
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION SIGNATURE DATE OF THE RECORD	

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	ER-24(004)	2021	14	X



NOTE:
The Total Amount of Debris May Differ from what is Shown here in the Plans when Construction Starts. Therefore, Debris Removal shall be Paid as a Force Account Item.

DESIGNED BY	DATE
CHECKED BY	DATE
APPROVED BY	DATE
REVISIONS	

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DATE: 6/1/21

SIGNATURE: _____

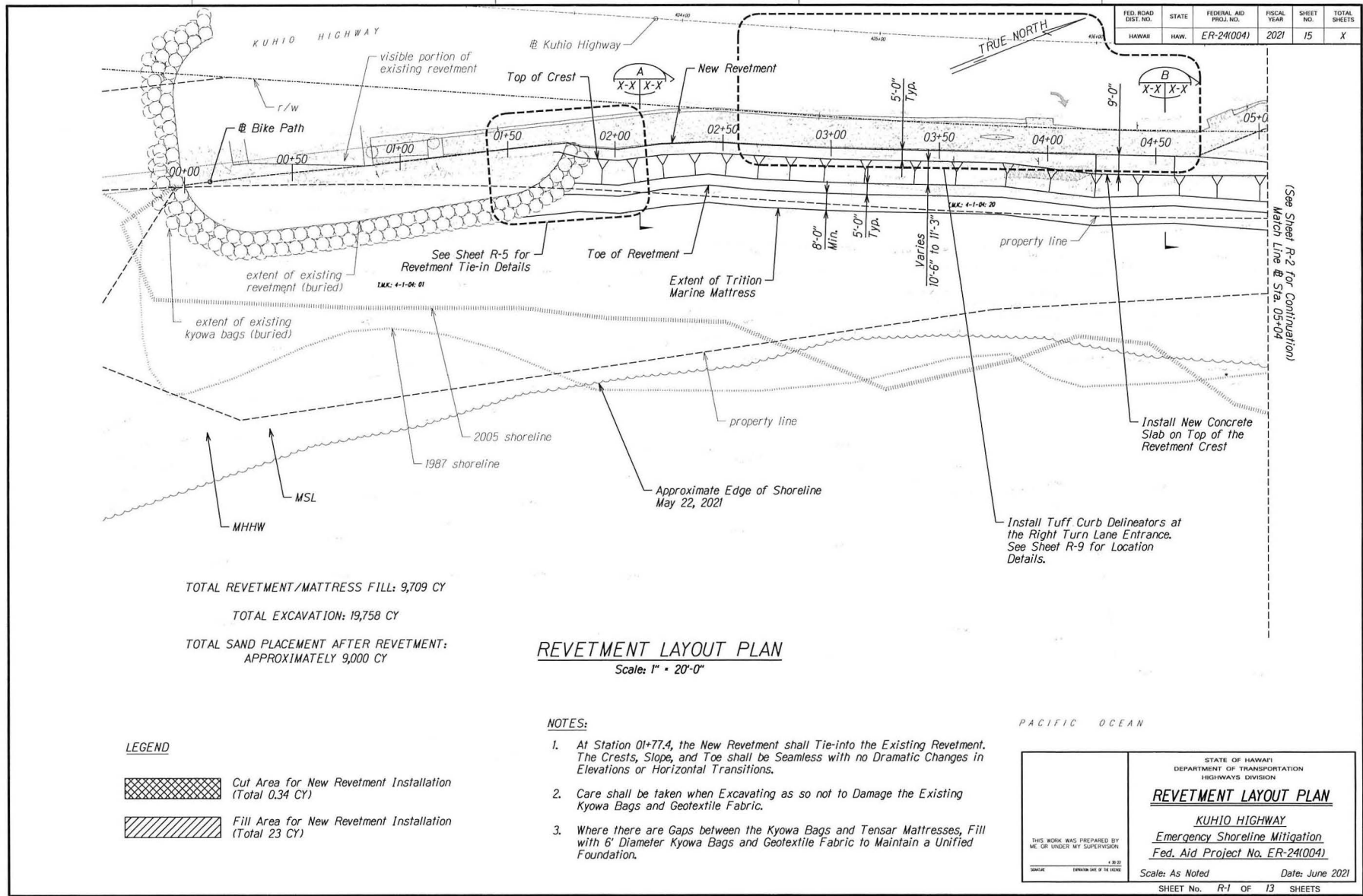
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

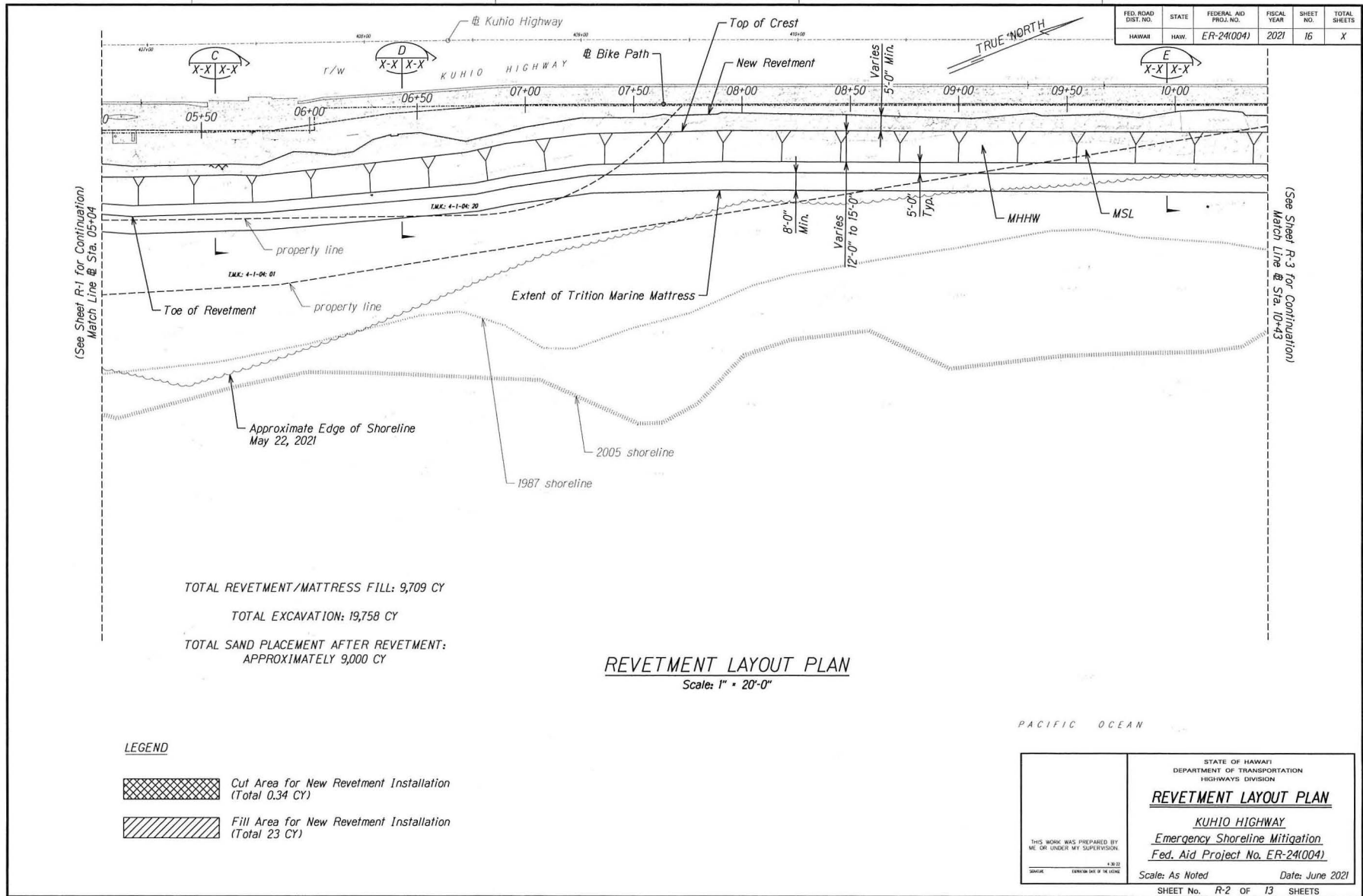
EXISTING & DEMOLITION PLAN

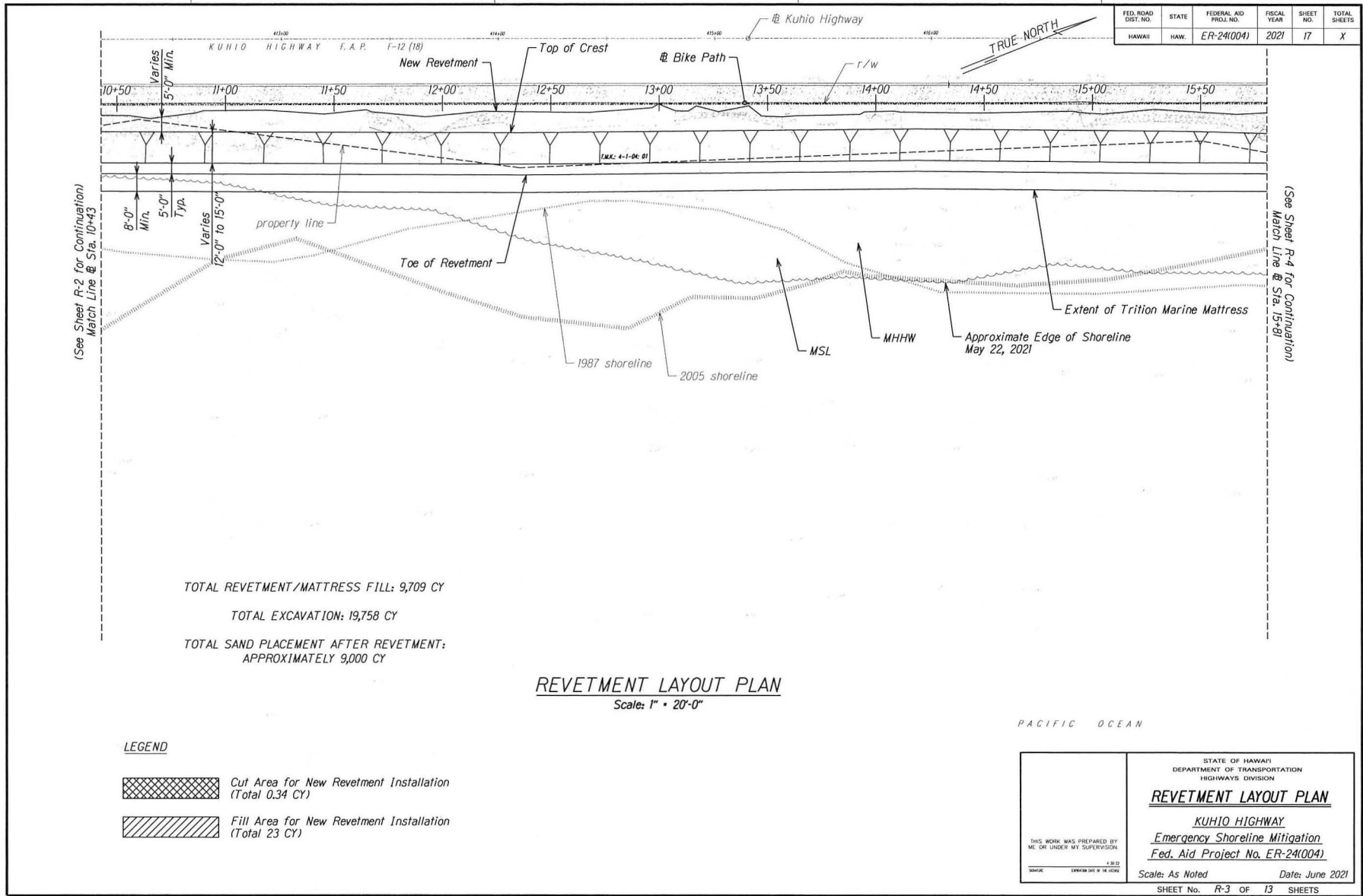
KUHIO HIGHWAY
Emergency Shoreline Mitigation
Fed. Aid Project No. ER-24(004)

Scale: As Noted Date: June 2021

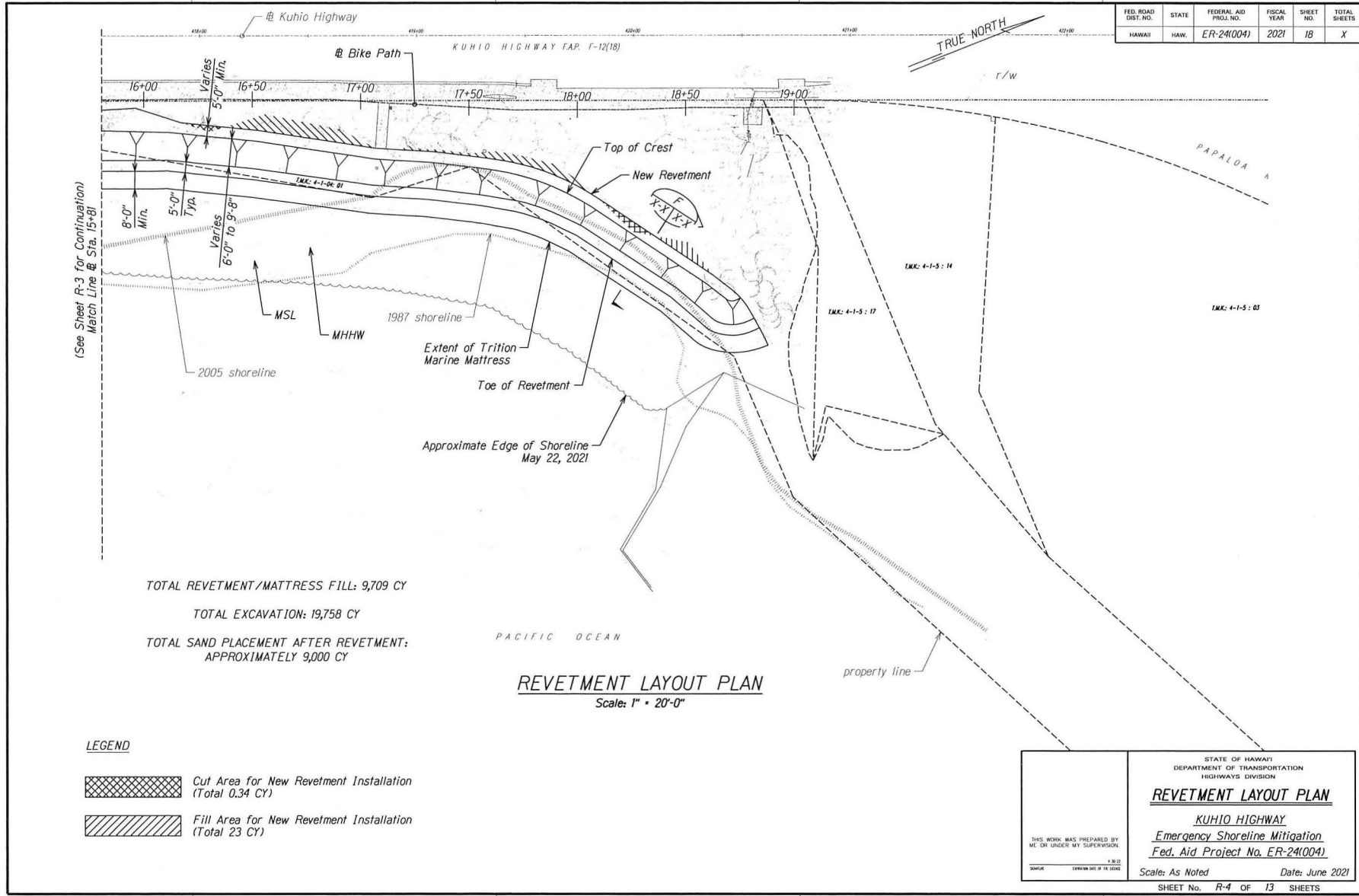
SHEET No. ED-4 OF 4 SHEETS



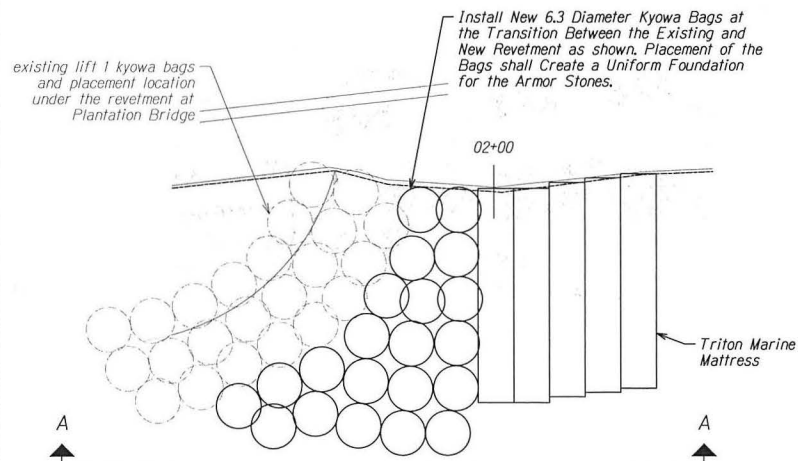




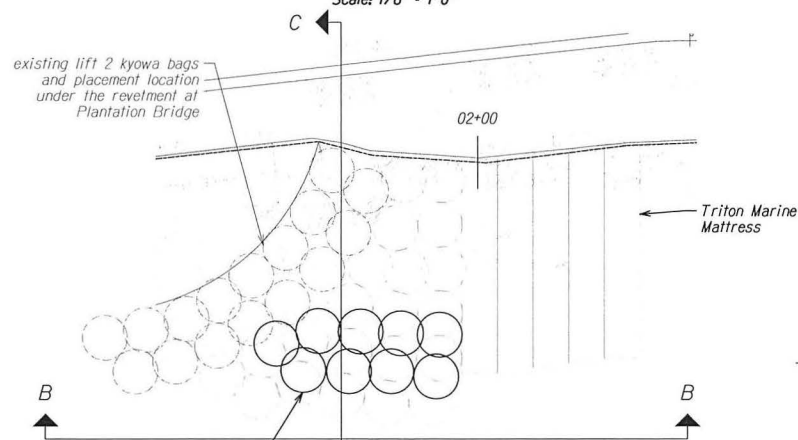
FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	ER-24(004)	2021	18	X



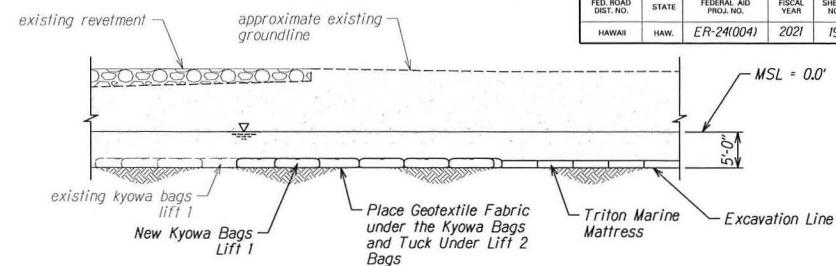
FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	ER-24(004)	2021	19	X



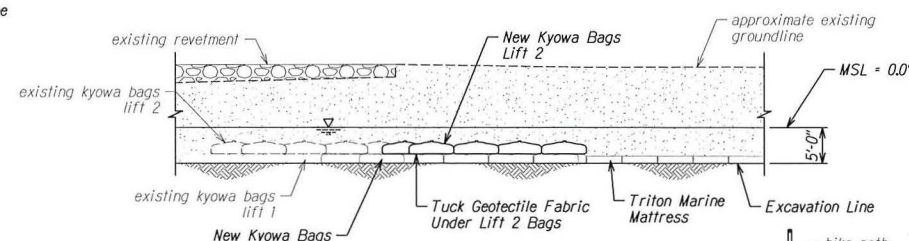
LIFT 1 - PLAN
Scale: 1/8" = 1'-0"



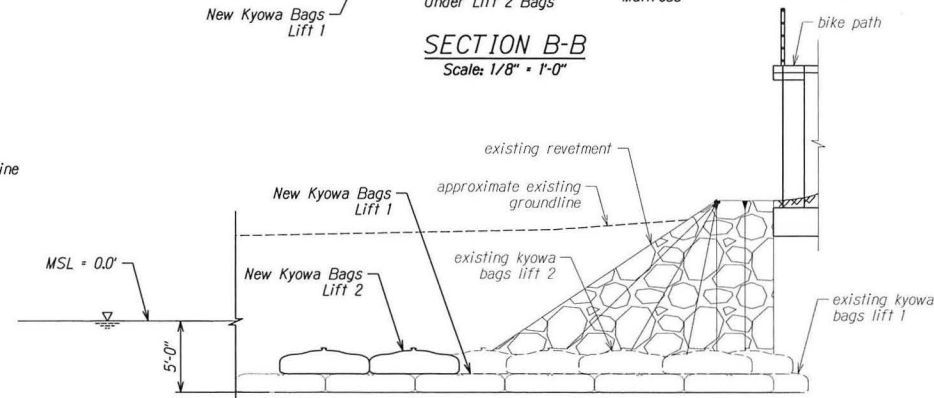
LIFT 2 - PLAN
Scale: 1/8" = 1'-0"



SECTION A-A
Scale: 1/8" = 1'-0"



SECTION B-B
Scale: 1/8" = 1'-0"



SECTION C-C
Scale: 1/4" = 1'-0"

TIE-IN AT STA. 01+77
TRITON MARINE MATTRESS & KYOWA BAG
FOUNDATION LAYOUT

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APPROVED BY	

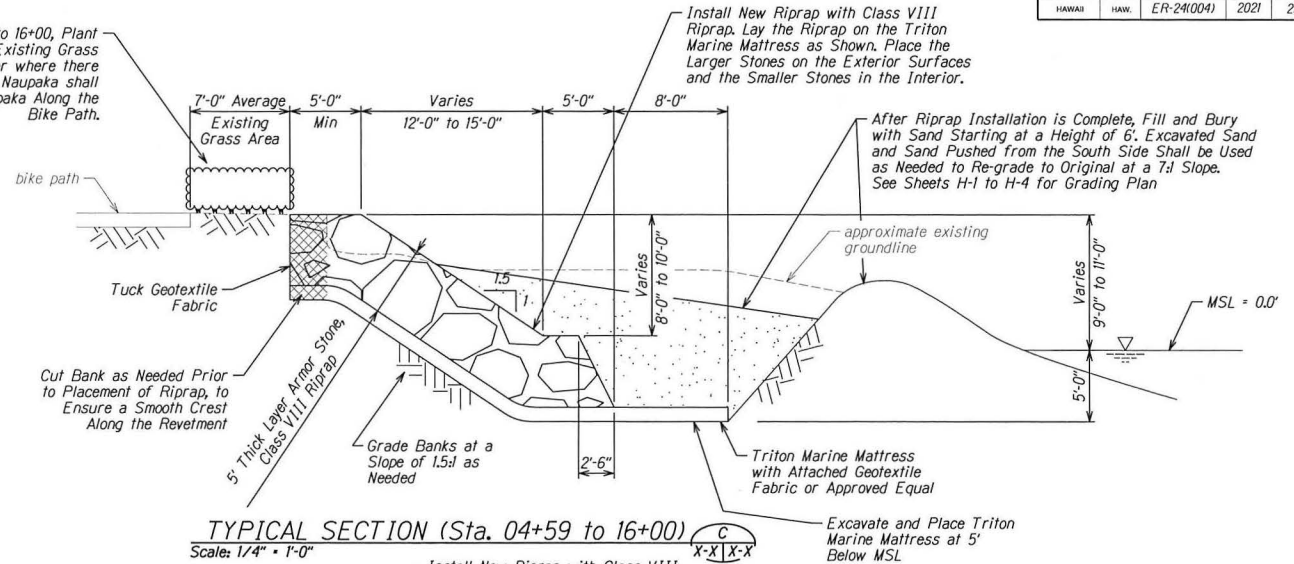
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION DATE: 4-30-22 SHEET NO. 19 OF 14 SHEETS	
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION REVETMENT TIE-IN DETAILS - STATION 01+77 KUHIO HIGHWAY Emergency Shoreline Mitigation Fed. Aid Project No. ER-24(004) Scale: As Noted Date: June 2021 SHEET No. R-5 OF 13 SHEETS	

TYPICAL SECTION (Sta. 01+77 to 04+22)
Scale: 1/4" = 1'-0"

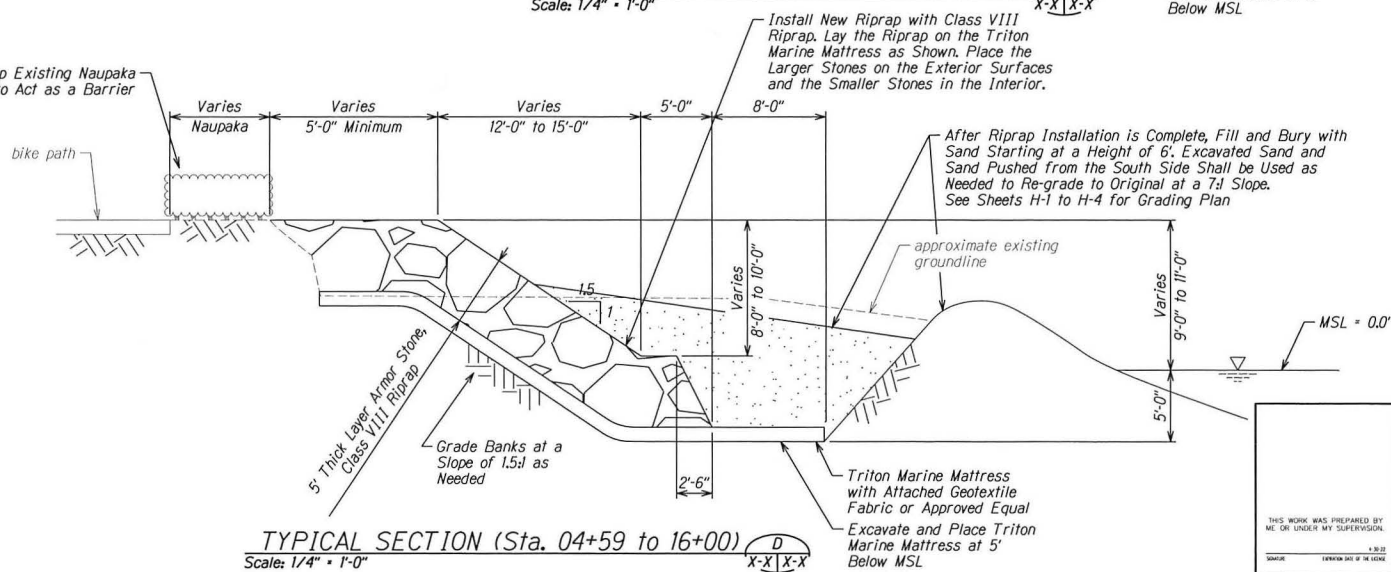
TYPICAL SECTION (Sta. 04+22 to 04+59)
Scale: 1/4" = 1'-0"

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	ER-24(004)	2021	21	X

Beginning at Sta. 06+00 to 16+00, Plant Naupaka Bush on the Existing Grass Area to Act as a Barrier where there are no Naupaka Bush. The Naupaka shall Line up with Existing Naupaka Along the Bike Path.



Keep Existing Naupaka Bush to Act as a Barrier



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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

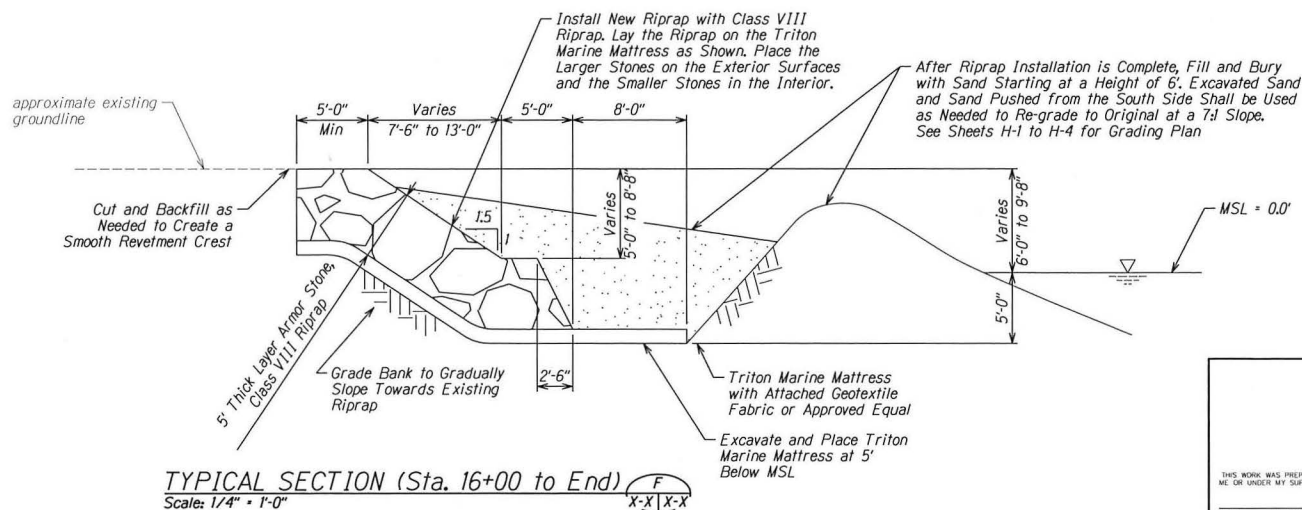
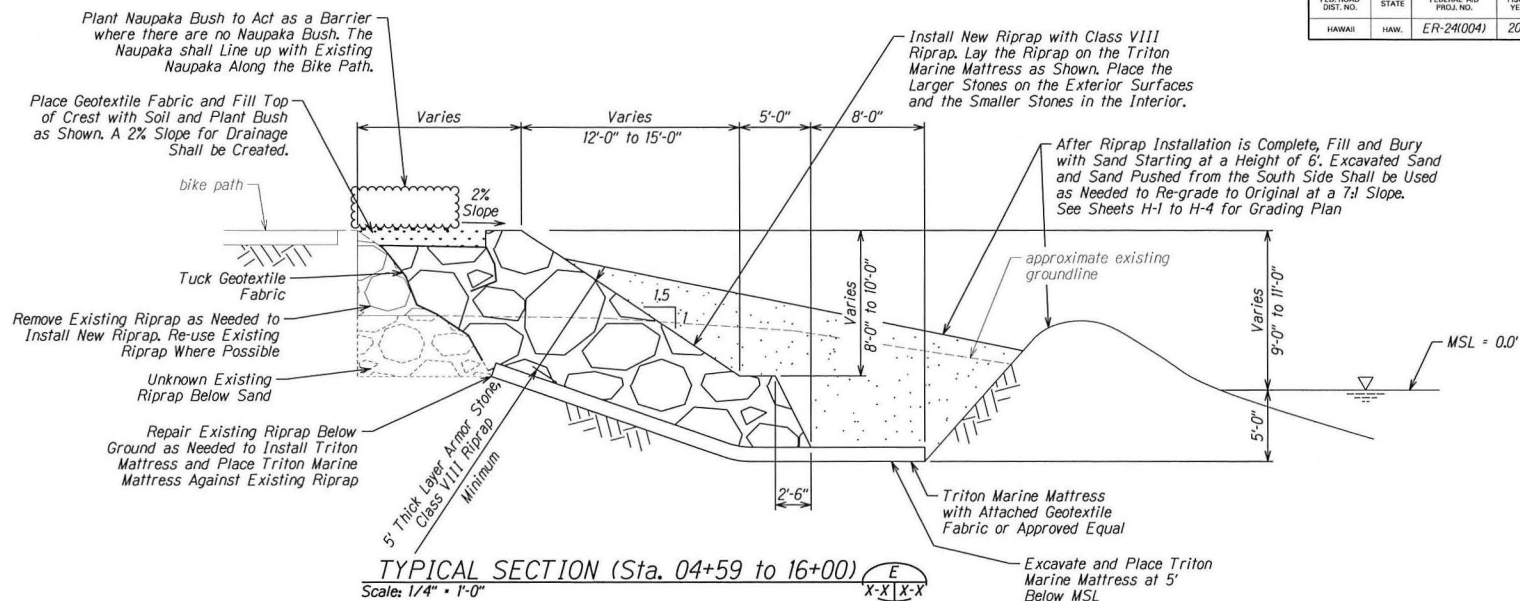
TYPICAL SECTIONS C & D

KUHIO HIGHWAY
Emergency Shoreline Mitigation
Fed. Aid Project No. ER-24(004)

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DATE: 4/30/22
SCALE: AS NOTED
SHEET No. R-7 OF 13 SHEETS

Date: June 2021

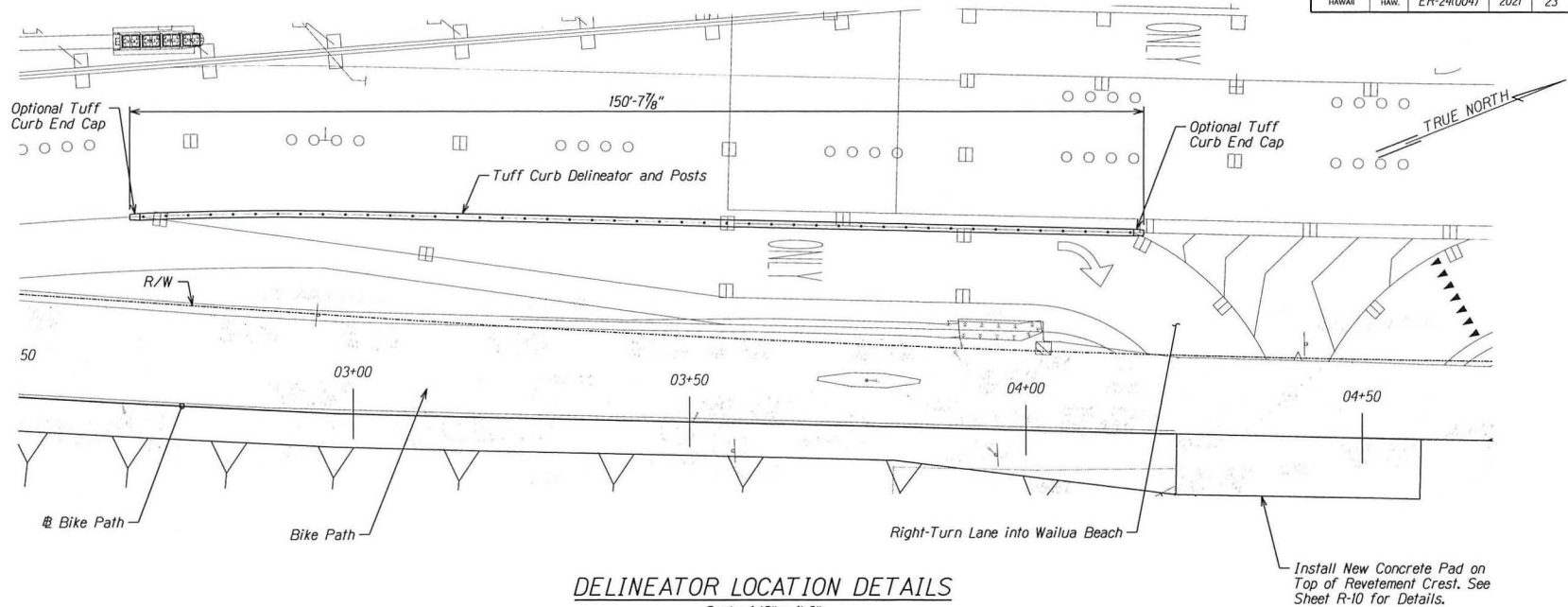
FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	ER-24(004)	2021	22	X



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DRAWN BY	
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IN CHARGE	
APPROVED BY	

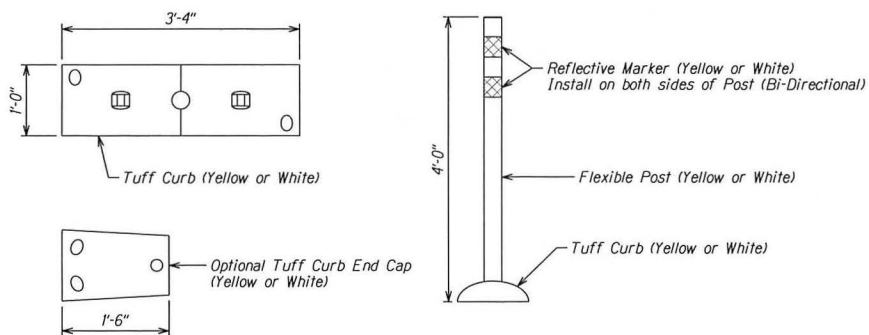
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION TYPICAL SECTIONS E & F KUHIO HIGHWAY Emergency Shoreline Mitigation Fed. Aid Project No. ER-24(004) Scale: As Noted Date: June 2021 SHEET No. R-8 OF 13 SHEETS	
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION DATE: EXPIRATION DATE OF REG. NO.	4 30 22 15 10 2022

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	ER-24(004)	2021	23	X



DELINEATOR LOCATION DETAILS

Scale: 1/8" = 1'-0"



DELINEATOR DETAILS

Not to Scale

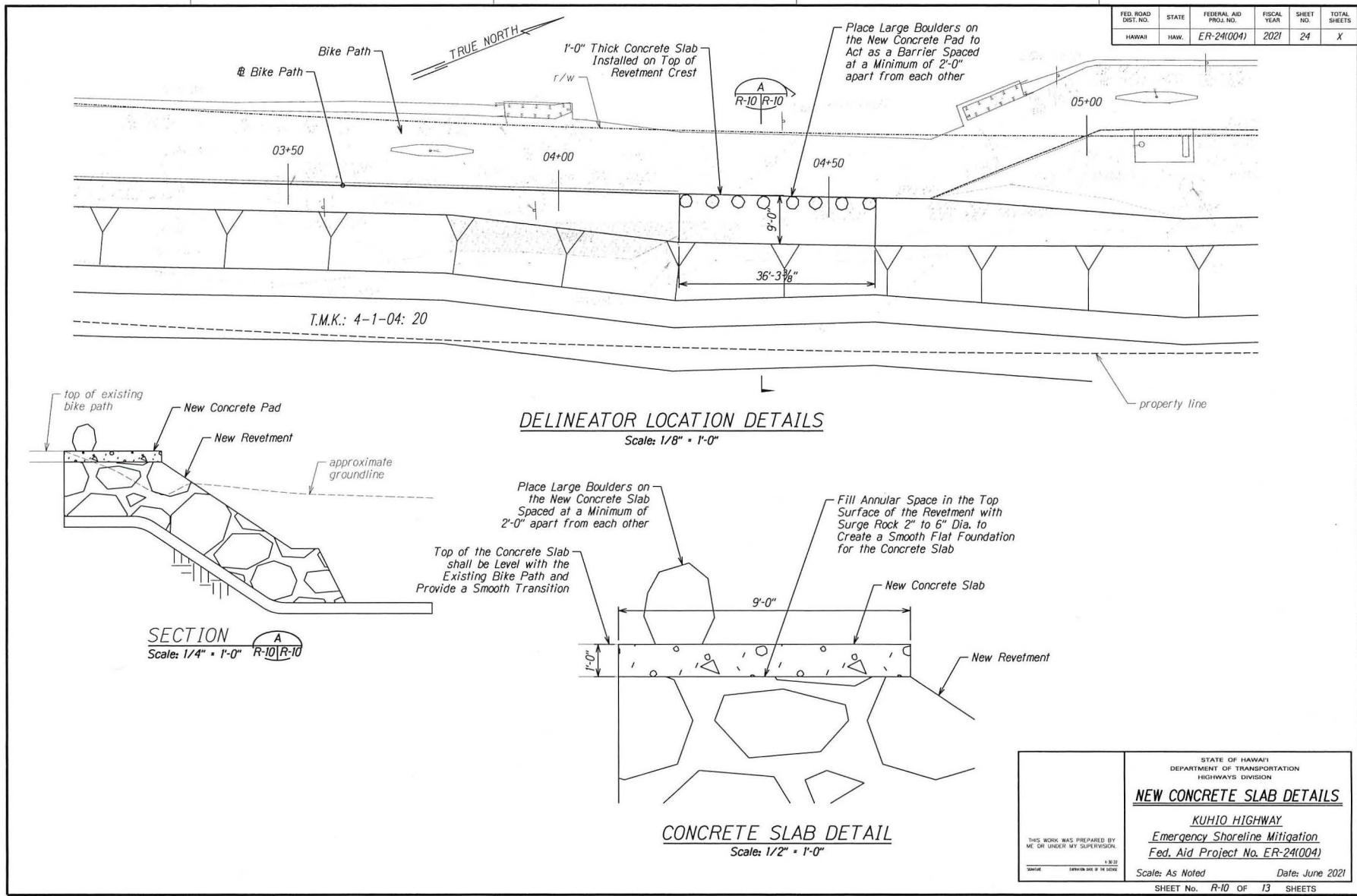
GENERAL NOTES:

1. Tuff Curb and Delineator Posts shall be Installed for the Full Length of the Right-Turn Lane to Block Vehicular Traffic from Entering the Right-Turn Lane and into Wailua Beach.
2. Delineator Posts shall be Furnished Complete with Attached Reflectors of Type III or IV Retro-Reflective Sheeting Facing both Directions.
3. Installation is to be Completed in Accordance with Manufacturer's Specifications.
4. Delineator Posts shall be in Accordance with 2005 HDOT Standard Specifications Section 750 - Traffic Control Sign and Marker Materials.

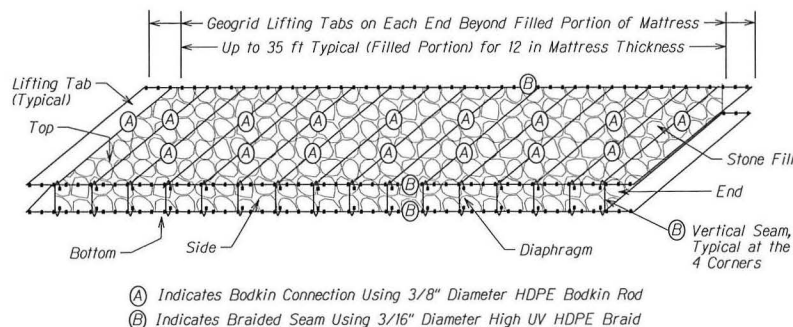
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INVESTIGATED BY	
APPROVED BY	
DATE	

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STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION DELINEATOR DETAILS KUHIO HIGHWAY Emergency Shoreline Mitigation Fed. Aid Project No. ER-24(004)	
Scale: As Noted	Date: June 2021
SHEET No. R-9 OF 13 SHEETS	

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	ER-24(004)	2021	24	X



FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	ER-24(004)	2021	24	X

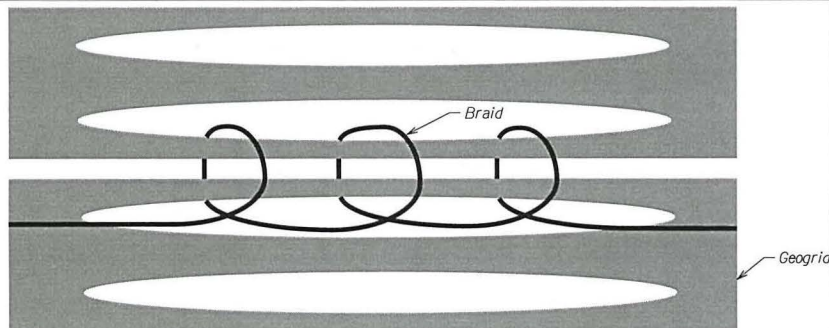


- (A) Indicates Bodkin Connection Using 3/8" Diameter HDPE Bodkin Rod
(B) Indicates Braided Seam Using 3/16" Diameter High UV HDPE Braid

TYPICAL CONFIGURATION OF FILLED MATTRESS UNITS

Notes:

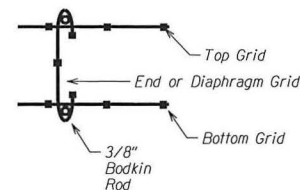
- Ends, top, bottom, sides, and any extra length used for lifting or anchoring purposes shall be composed of Tensar UXTrition200 Geogrid.
- Internal diaphragms shall be composed of Tensar UXTrition100 Geogrid.
- Nominal width of units: 5 ft (filled), 4.4 ft (unfilled).
- Nominal thickness (filled): 12 inches.
- Plastic cable ties may be used to secure bodkin connectors in position prior to tensioning or filling of mattress units.



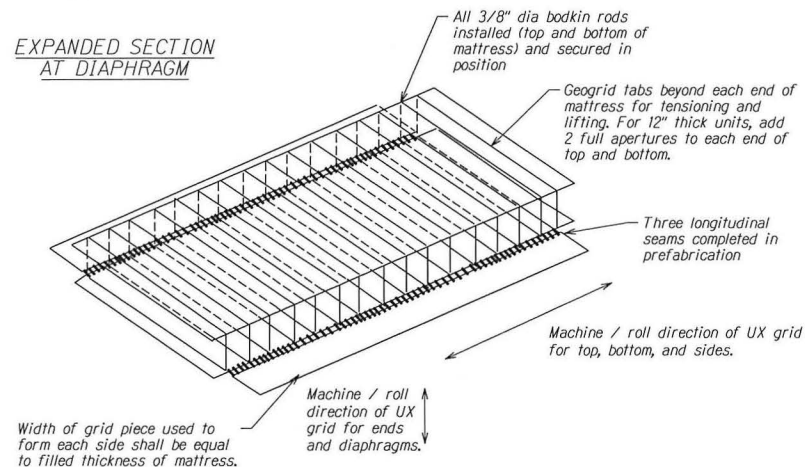
TYPICAL LOCK-STITCH BRAIDING CONFIGURATION FOR MATTRESS FABRICATION

Notes:

- All cut ends of braid material shall be knotted within 1/2" to 2" of the end to prevent raveling of braid.
- At all ends of all braided seams the braid shall be securely knotted to the geogrid.
- At all ends of all pieces of braid material used, the braid shall be knotted to splice it to the next piece of braid, or to secure it to the geogrid. Each braided seam shall be continuous, with securely knotted splices allowed. The braid shall be securely knotted to the geogrid at a spacing not to exceed 3 ft along any seam.
- The braid shall be stitched through each pair of apertures along the seam at least once, and the minimum number of stitches per foot along the seam shall be six (6). The spacing of stitches along each seam shall be reasonably uniform.
- All knots shall be tied in a manner to prevent slipping and cinching.
- The wraps along the seam shall be sufficiently tight to close the gap between the adjacent pieces of geogrid.



EXPANDED SECTION AT DIAPHRAGM



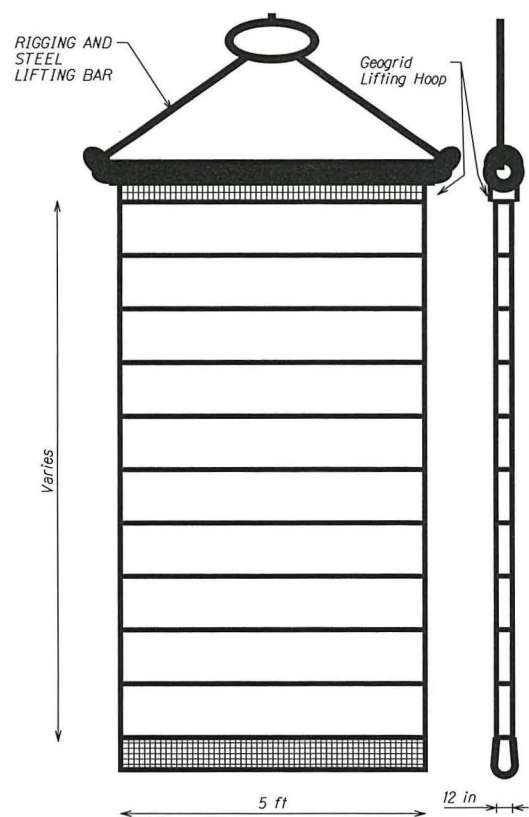
TYPICAL CONFIGURATION OF PREFABRICATED MATTRESSES

Note: Typical spacing of diaphragms is every three aperture lengths ($\pm 19"$). A shorter spacing may be used in order to match the required mattress length. Length of end pieces and internal diaphragm pieces shall be 2 grid apertures long for 12" (filled) mattress thickness.

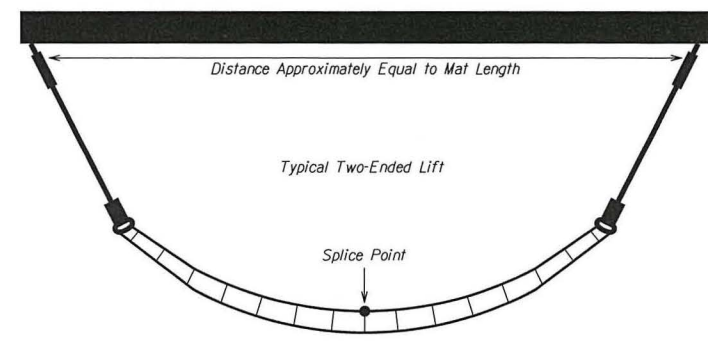
DESIGNED BY	DATE
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CHECKED BY	
APPROVED BY	

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION. DATE: 6/1/2021 DRAWN: 6/1/2021	
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION TRITON MARINE MATTRESS TYPICAL DETAILS KUHIO HIGHWAY Emergency Shoreline Mitigation Fed. Aid Project No. ER-24(004) Scale: Not to Scale Date: June 2021 SHEET No. R-10 OF 13 SHEETS	

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	ER-24(004)	2021	25	X



Typical One-Ended Lift



Typical Two-Ended Lift

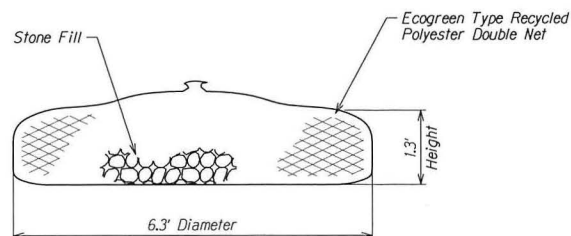
General Notes:

- Lifting bar, rigging and handling must be suitable to distribute the lifting loads uniformly to the geogrid. Lifting apparatus to be proposed by contractor. Handling and lifting of grid materials and mattresses shall be avoided when the ambient temperature is lower than 5 degrees below zero, c.
- Use a bodkin connection to form the lifting hoops.
- Use cable ties (or similar) to prevent the connector piece from sliding out when tension is not applied.
- The hoop may be configured in 2 ways:
 - On each end of the unit, connect the pair of lifting tabs directly to each other; or
 - On each end of the unit, use a separate piece of the same type of grid to form a longer hoop. Connect each end of the separate piece of grid to one of the lifting tabs. (This type of hoop may be more advantageous for some conditions.)
- See the project specifications regarding stonefill materials.
- Filling shall be accomplished such that the average thickness of each mattress does not exceed 12 inches.
- Marine Mattresses shall be lifted in accordance with the manufacturer's recommendations.

DESIGNED BY	DATE
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INVESTIGATED BY	DATE
REVIEWED BY	DATE
APPROVED BY	DATE

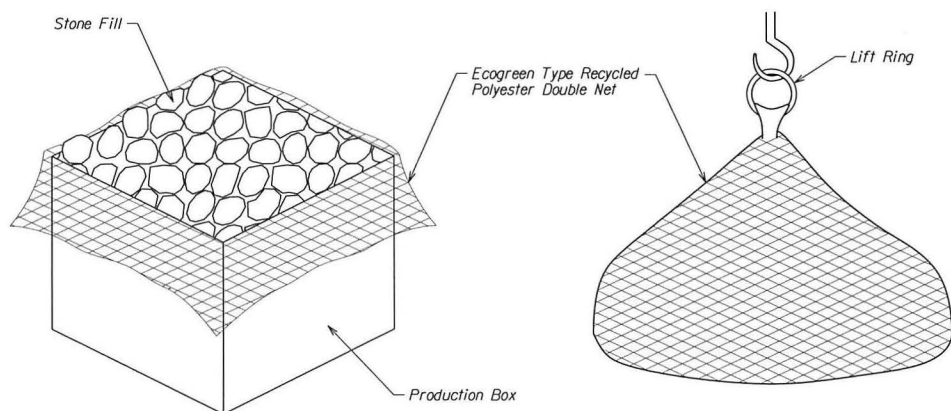
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION SIGNATURE _____ EXPIRATION DATE OF THE LICENSE _____	STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION TRITON MARINE MATTRESS TYPICAL LIFT DETAILS KUHIO HIGHWAY Emergency Shoreline Mitigation Fed. Aid Project No. ER-24(004) Scale: Not to Scale Date: June 2021 SHEET No. R-11 OF 13 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)	2021	27	X



2T ECOGREEN TYPE TYPICAL CONFIGURATION

Scale: 1" = 1'-0"



2T ECOGREEN TYPE FILL & LIFT CONFIGURATION

Not to Scale

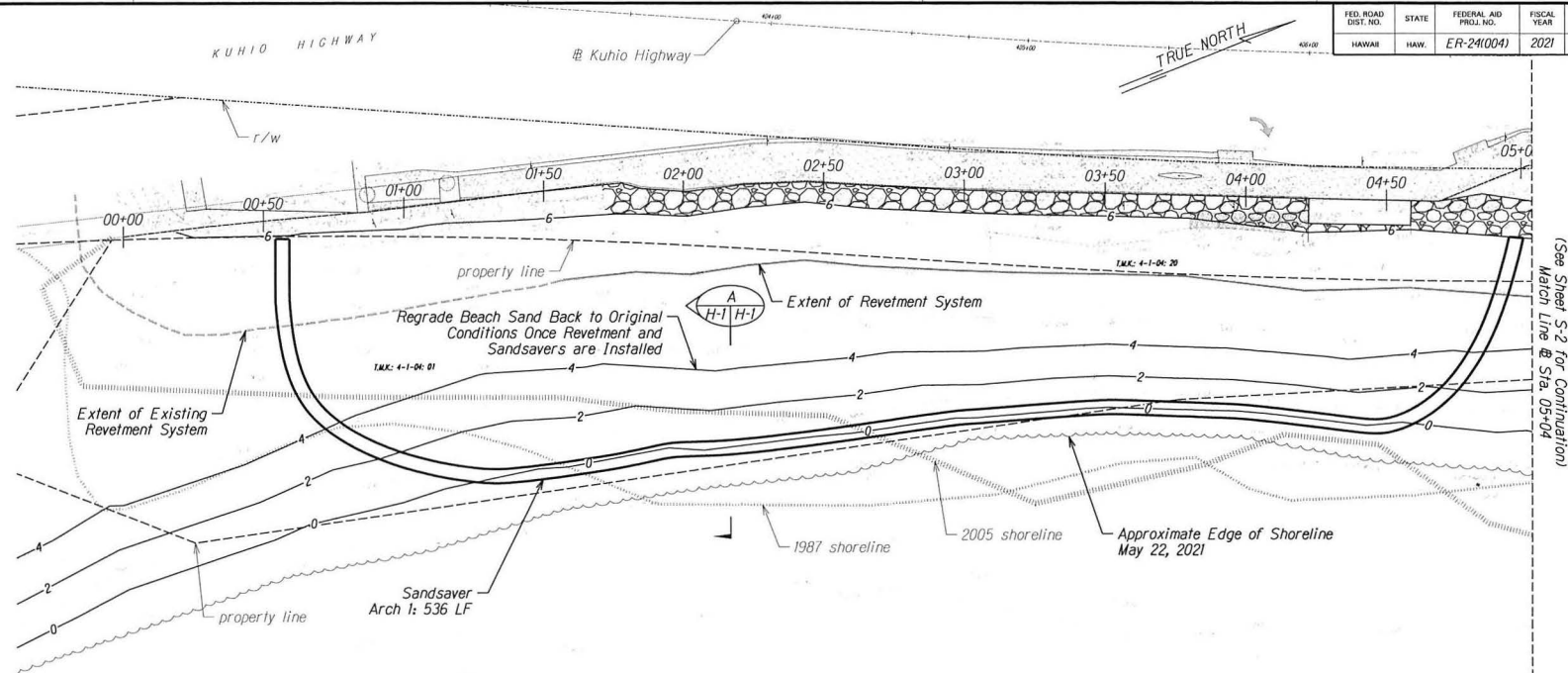
GENERAL NOTES:

1. The 2T Ecogreen Type Kyowa Bag Filter Unit shall be used.
2. Rock Fill Material for the Kyowa Bag shall have a Maximum Dimension of 6 in. and a Minimum Dimension of 3 in.
3. Kyowa Bags shall be set in a Production Box, then Filled with the Fill Material.
4. Close the Kyowa Bag and Attach the Ring.
5. Lift the Kyowa Bag using the Ring and Place in Position.
6. Kyowa Bags shall be Placed Tightly Together and Interlocked with Each Other.
7. Kyowa Bags shall be Filled and Lifted in Accordance with the Manufacturer's Recommendations.
8. Ensure the Lifting Apparatus is Suitable for Lifting the Kyowa Bags and Proper Placement.

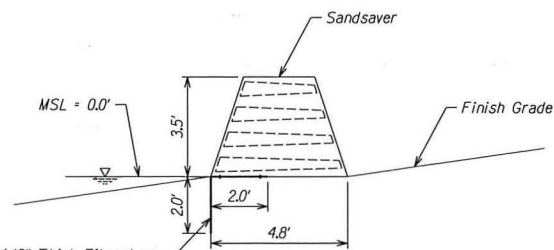
DESIGNED BY	DATE
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APPROVED BY	DATE
REVIEWED BY	DATE
MAINTAINED BY	DATE
PLANNED BY	DATE
CONSTRUCTED BY	DATE
NO.	

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION DATE: 6/10/22 SCALE: AS NOTED	
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION KYOWA BAG FILTER UNIT TYPICAL DETAILS KUHIO HIGHWAY Emergency Shoreline Mitigation Fed. Aid Project No. ER-24(004) Scale: As Noted Date: June 2021 SHEET No. R-13 OF 13 SHEETS	

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	ER-24(004)	2021	26	X



(See Sheet S-2 for Continuation)
Match Line @ Sta. 05+04



Attach 1/2" Thick Fiberglass Plate to Sandsaver as shown. See Sheet xx for Details.

TYPICAL SECTION A
Scale: 1/2" = 1'-0"

GRADING & SANDSAVER PLAN

Scale: 1" = 20'-0"

PACIFIC OCEAN

DESIGNED BY	DATE
DRAWN BY	
CHECKED BY	
IN CHARGE	

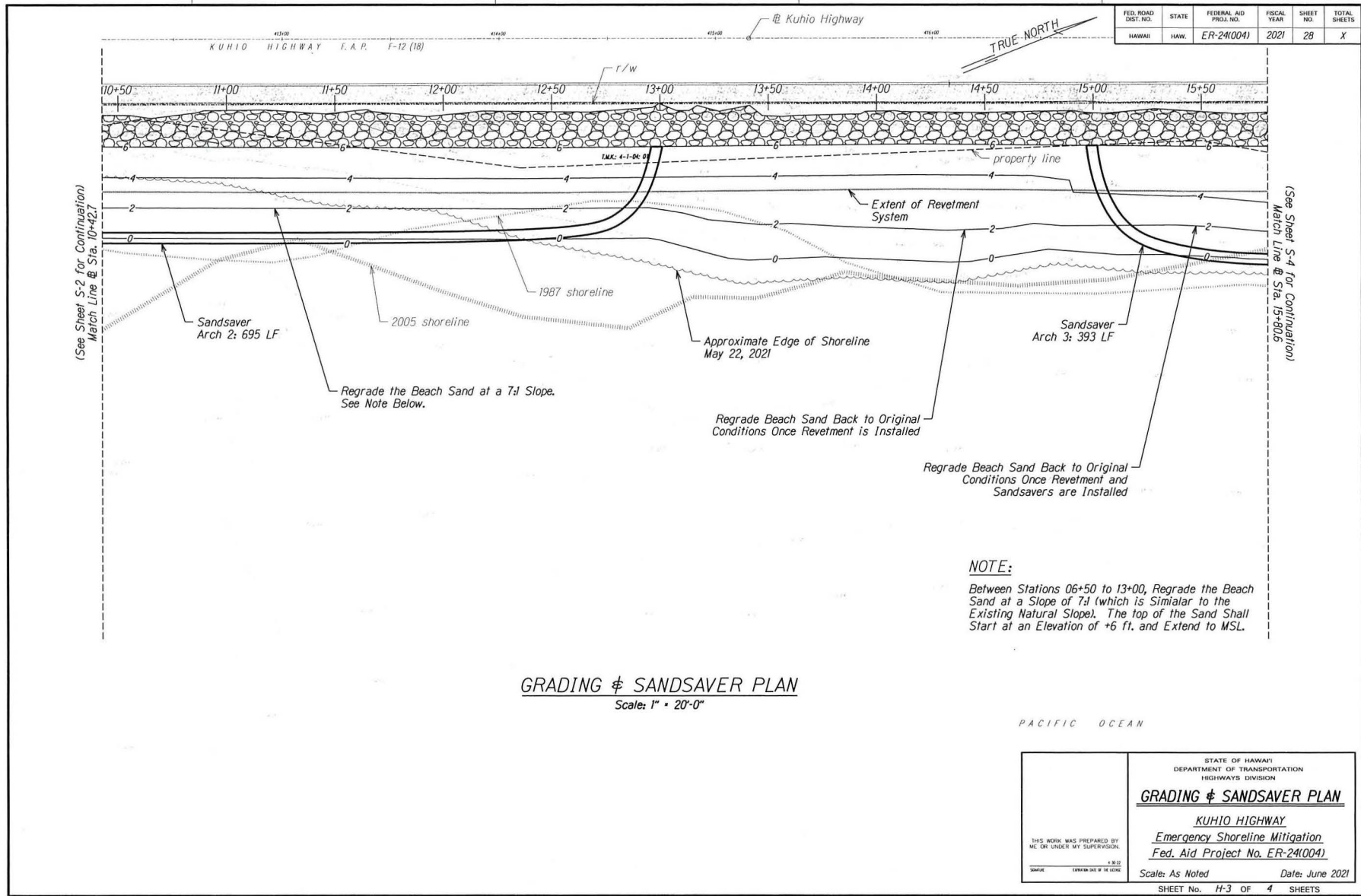
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION. DATE: 4/20/21 DRAWN BY: [Signature]	STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION
	GRADING & SANDSAVER PLAN
	KUHIO HIGHWAY Emergency Shoreline Mitigation Fed. Aid Project No. ER-24(004)
	Scale: As Noted Date: June 2021 SHEET No. H-1 OF 4 SHEETS

GRADING & SANDSAVER PLAN
Scale: 1" = 20'-0"

NOTE:
Between Stations 06+50 to 13+00, Regrade the Beach Sand at a Slope of 7:1 (which is Similar to the Existing Natural Slope). The top of the Sand Shall Start at an Elevation of +6 ft. and Extend to MSL.

GRADING & SANDSAVER PLAN
KUHIO HIGHWAY
Emergency Shoreline Mitigation
Fed. Aid Project No. ER-24(004)
Scale: As Noted Date: June 2021
SHEET No. H-2 OF 4 SHEETS

27



FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	ER-24(004)	2021	29	X

