

JOSH GREEN, M.D.
GOVERNOR
KE KIA'ĀINA

DESIGN BRANCH, ROOM 688A
BRIDGE DESIGN SECTION, ROOM 611
CADASTRAL DESIGN SECTION, ROOM 600
ENVIRONMENTAL DESIGN SECTION,
ROOM 688A
HIGHWAY DESIGN SECTION, ROOM 609
HYDRAULIC DESIGN SECTION, ROOM 636
TECHNICAL DESIGN SECTION, ROOM 688



STATE OF HAWAII | KA MOKU'ĀINA 'O HAWAII
DEPARTMENT OF TRANSPORTATION | KA 'OIHANA ALAKAU
601 KAMOKILA BOULEVARD
KAPOLEI, HAWAII 96707

EDWIN H. SNIFFEN
DIRECTOR
KA LUNA HO'OKELE

Deputy Directors
Nā Hope Luna Ho'okele
DREANALEE K. KALILI
TAMMY L. LEE
CURT T. OTAGURO
ROBIN K. SHISHIDO

IN REPLY REFER TO:

HWY-DD 2.20351

July 1, 2024

TO: MICHAEL CAIN, ADMINISTRATOR
OFFICE OF CONSERVATION AND COASTAL LANDS
DEPARTMENT OF LAND AND NATURAL RESOURCES

ATTENTION: KARIANN STARK, PLANNER
OFFICE OF CONSERVATION AND COASTAL LANDS

FROM: HENRY KENNEDY *Henry Kennedy*
ENGINEERING PROGRAM MANAGER
DESIGN BRANCH

SUBJECT: CONSERVATION DISTRICT USE PERMIT APPLICATION (CDUA)
KAMEHAMEHA HIGHWAY DRAINAGE AND SAFETY
IMPROVEMENTS,
VICINITY OF LANIAKEA BEACH, MILEPOST (MP) 3.06 TO MP 3.54
KAWAILOA AHUPUAA, WAIALUA DISTRICT, HALEIWA,
ISLAND OF OAHU, HAWAII
PROJECT NO. 83B-01-09

The State of Hawaii Department of Transportation (HDOT) is providing information for the proposed Kamehameha Highway Drainage and Safety Improvements, Vicinity of Laniakea Beach (MP 3.06 to MP 3.54) project.

The information being provided is as requested by the Department of Land and Natural Resources (DLNR) Office of Conservation and Coastal Lands (OCCL) in two (2) ways. The first is from a Site Visit that occurred on April 30, 2024 with the HDOT and OCCL. In addition, HDOT is providing responses to Letter CDUA: OA-3950 dated May 7, 2024.

Site Visit: April 30, 2024 with HDOT and Project Team members:

During the site visit, the OCCL made some requests for additional information and/or clarification to be provided regarding the project's submittal.

The timeline is as provided below:

- June 5, 2023: HDOT inquiry to OCCL regarding permitting requirements
- October 13, 2023: OCCL Letter to HDOT requesting additional information
- March 8, 2024: HDOT Letter to OCCL providing additional information, as requested October 13, 2023
- April 30, 2024: Project Site Visit with OCCL, HDOT, and HDOT's Project Consultant WSP

OCCL Site Visit Comment 1:

What kind of maintenance does the grass growing in the grass pavers require?

(A portion of the shoulder area with the grass pavers is in the Conservation District.)

HDOT Response to Site Visit Comment 1:

The grass pavers are anticipated to be planted using Common Bermuda and will be maintained as noted below.

For best results Common Bermuda should be mowed to maintain a height of one-half of an inch (1/2-inch) to three-quarters of an inch (3/4-inch). Mowing intervals will vary depending on rainfall (because an irrigation system is not proposed to be installed), fertilizing schedule, and time of year. Growth rates increase during the summer months (provided there is adequate rainfall) and tends to slow during the winter months.

The HDOT will be responsible for the landscaping and will ensure that the grass pavers are maintained per the appropriate maintenance criteria after the project is complete.

Letter CDUA OA-3950:

Following the April 30, 2024, site visit with HDOT staff and their agents, the OCCL transmitted a letter to HDOT dated May 7, 2024 (REF: OCCL: KS, CDUA: OA-3950).

In the letter, the OCCL “suggests these items be addressed and information provided in the revised application.”; “these items” are listed as 1 through 6 below.

For clarity, the OCCL comments/requests for information as provided in Letter CDUA: OA-3950 are provided underlined below and the HDOT responses to those items are provided in *italics* below.

1. Please provide the current design of the project.
 - a. Provide more detailed site plans and figures that include the dimensions of the proposed parking lot and its grass pavers, landscaping/revegetated area, the new proposed bridge

and its wing wall, and the bike/pedestrian path. HDOT and their agents have noted that they are no longer pursuing the proposed private cattle gate on Pohakuloa Way. The OCCL requests that submitted project plans reflect this. For all components of the project, there should be a description of the component, its dimensions, and its construction methodology.

HDOT Response:

Please see enclosed PDF file "Enclosure Item 1. Revised Plan Sheets with additional details provided per OCCL Comment" (9 pages) with additional details provided per OCCL Comment.

- b. The project plans and visuals presented to staff during the April 30, 2024, site visit were much clearer and easier to understand than plans submitted with the current application. Please ensure submitted plans and visuals are clear, contain appropriate legends and references (i.e., directional arrows), and the narrative of the application appropriately references them as they are mentioned in the project description or relevant section of the application.

HDOT Response:

Please see enclosed PDF file "Enclosure Item 2. Grassed Paver Plan and Landscape Planting Plan" (8 pages) with additional details provided per OCCL Comment.

2. Please provide a landscape plan with the dimensions of the proposed vegetated area, and type(s) of proposed vegetation that might be planted. Any proposed landscaping or revegetation shall give preference to plant materials that are endemic or indigenous to Hawaii. The introduction of invasive plant species is prohibited in the Conservation District. HDOT and their agents may want to review the Hawaii Dune Restoration manual (2022) at <https://seagrant.soest.hawaii.edu/hi-dune-restoration-manual/> for appropriate vegetation for this shoreline and backshore environment. They may want to also consider consulting the University of Hawaii Sea Grant Extension Agents Wesley Crile at (808) 359-3689 and Amy Wirts at (808) 956-7031 regarding proposed revegetated areas for the project.

HDOT Response:

Please see enclosed PDF file "Enclosure Item 2. Grassed Paver Plan and Landscape Planting Plan" (8 pages) with additional details provided per OCCL Comment.

3. HDOT has stated that they plan to retain their jurisdiction of the Right-of-Way (ROW) regarding the proposed demolition of the makai portion of Kamehameha Highway and repurposing the mauka portion for the pedestrian and bike path. The revised application should clarify the agency or party that will assume responsibility for, and maintenance of

proposed improvements or structures outside of HDOT's ROW for the portions of the project in the Conservation District.

HDOT Response:

The HDOT will retain their current ROW which will be used as a multi-use path (pedestrian and bicyclists). The HDOT will be responsible for maintaining its existing ROW.

The HDOT will be responsible for the proposed improvements or structures outside of HDOT's ROW for the portions of the project within the Conservation District at this location.

4. Staff notes a portion of the rocks or erosion control devices were identified in the 2020 certified shoreline map in the HDOT ROW. OCCL would prefer the rocks be removed as part of the current project.

HDOT Response:

The HDOT will remove the rocks as part of the current project.

5. Please have all landowner(s) sign the application.

HDOT Response:

The HDOT has obtained the landowner's (DLNR) signature on the application.

6. Please note that the OCCL stands by our previous comments in support and recommendation for the "Most Realignment" alternative to address increasing hazards with anticipated sea level rise identified in previous correspondences regarding the proposed HDOT Kamehameha Highway Realignment project.

HDOT Response:

The HDOT acknowledges your comment(s).

If you have any questions or comments, please contact Mr. Robert Sun, Project Manager, of the Design Branch, Highways Design Section via email at robert.sun@hawaii.gov, or by U.S. Postal Service to State of Hawaii, Department of Transportation, 601 Kamokila Boulevard, Room 609, Kapolei, Hawaii 96707.

Enclosures



CONSERVATION DISTRICT USE APPLICATION (CDUA)

All permit applications shall be prepared pursuant to HAR 13-5-31

File No.:

Acceptance Date:

180-Day Expiration Date:

Assigned Planner:

for DLNR Use

PROJECT NAME Kamehameha Highway Drainage & Safety Improvements

Conservation District Subzone: 'Resource' subzone; HAR 13-5-13(b)(5), "Lands and state marine waters seaward of the shoreline to the extent of the State's jurisdiction, unless placed in a (P) or (L) subzone"; the Project is not considered 'P' or 'L' because it is actually located in 'Urban' and 'Agriculture' land use districts, except for the fact that the Project is subject to sea water inundation due to its proximity to the shoreline.

Identified Land Use: The Project is within State Land Use Districts 'Agriculture' and 'Urban' ; Land Use / Land Cover Type: 21: Cropland and Pasture.

The Project is identified as a 'Nonconforming' land use: "The lawful use of any building, premises, or land for any trade, industry, residence, or other purposes which is the same as and no greater than that established prior to October 1, 1964, or prior to the inclusion of the building, premises, or land within the Conservation District."

(Identified Land Uses are found in Hawai'i Administrative Rules (HAR) §13-5-22 through §13-5-25)

Project Address: Kamehameha Highway (vicinity of 61-560 Kamehameha Highway)

Haleiwa, HI 96712

Tax Map Key(s): Parcels within the Project Area: 6-1-005:023, 6-1-005:024; 6-1-009:002, 6 1 009:004, 6-1-009:014, 6-1-009:019, 6-1-009:020, 6-1-009:021, 6-1-009:022, 6-1-010:019, and 6 1 010:020

Ahupua'a: Kuikuiloloa and Punanue

District: Waialua

County: City and County of Honolulu

Island: Oahu

Proposed Commencement Date: Start of the Third Quarter of 2024

Proposed Completion Date: End of the Third Quarter 2026

Estimated Project Cost: \$21,317,000

TYPE OF PERMIT SOUGHT **Board Permit** **Departmental Permit**

ATTACHMENTS

\$ _____ Application Fee. 2.5% of project cost for Board Permits, but no less than \$250, up to a maximum of \$2500; \$250 for Departmental Permits (*ref §13-5-32 through 34*).

\$ _____ Public Hearing Fee (*\$250 plus publication costs; ref §13-5-40*)

20 copies of CDUA (*5 hard + 15 hard or digital copies*)

Draft / Final Environmental Assessment (EA) or Draft / Final Environmental Impact Statement (EIS) or Statement of Exemption

- State Historic Preservation Division HRS 6E Submittal Form
(dlnr.hawaii.gov/shpd/review-compliance/forms)
- Management Plan or Comprehensive Management Plan (*ref §13-5-39*) if required
- Special Management Area Determination (*ref Hawai'i Revised Statutes 205A*)
- Shoreline Certification (*ref §13-5-31(a)(8)*) if land use is subject to coastal hazards.
- Kuleana documentation (*ref §13-5-31(f)*) if applying for a non-conforming kuleana use.
- Boundary Determination (*ref §13-5-17*) if land use lies within 50 feet of a subzone boundary.

REQUIRED SIGNATURES

Applicant

Name: Mr. Edwin Sniffen
 Title; Agency: Director, Hawaii State Department of Transportation
 Mailing Address: 869 Punchbowl Street, Room 513
 Honolulu, HI 96813
 Contact Person & Title: Mr. Robert Sun, Project Manager
 Phone: 808-692-7578
 Email: Robert.Sun@hawaii.gov
 Interest in Property: Hawaii State Department of Transportation Project

Signature:  Date: May 31, 2024

Signed by an authorized officer if for a Corporation, Partnership, Agency or Organization

Landowner (if different than the applicant)

Name: Dawn N.S. Chang, Chairperson
 Title; Agency: Department of Land and Natural Resources
 Mailing Address: Kalanimoku Building, 1151 Punchbowl Street, Honolulu, HI 96813
 Phone: (808) 587-0400
 Email: dlnr@hawaii.gov

Signature: _____ Date: _____

For State and public lands, the State of Hawai'i or government entity with management control over the parcel shall sign as landowner.

Agent or Consultant

Agency: WSP USA
 Contact Person & Title: Mr. Todd Nishioka, Project Manager
 Mailing Address: 1001 Bishop Street, Suite 2400
 Honolulu, Hawaii 96813
 Phone: 808-566-2212
 Email: todd.nishioka@wsp.com

Digitally signed by Nishioka, Todd
(nishiokats)
DN: cn=Nishioka, Todd (nishiokats), ou=Active, email=Todd.Nishioka@wsp.com
Date: 2024.05.24 15:42:28 -10'00'

Signature: Nishioka, Todd (nishiokats) **Date:** _____

For DLNR Managed Lands

State of Hawai'i
Chairperson, Board of Land and Natural Resources
State of Hawai'i
Department of Land and Natural Resources
P.O. Box 621
Honolulu, Hawai'i 96809-0621

Signature: *Russell Tsuji* **Date:** Jun 12, 2024

for *KEM*

PROPOSED USE

Total size/area of proposed use (indicate in acres or sq. ft.): 6.09 acres / 265,403 square feet

Please provide a detailed description of the proposed land use(s) in its entirety. Information should describe what the proposed use is; the need and purpose for the proposed use; the size of the proposed use (provide dimensions and quantities of materials); and how the work for the proposed use will be done (methodology). If there are multiple components to a project, please answer the above for each component. Also include information regarding secondary improvements including, but not limited to, grading and grubbing, placement of accessory equipment, installation of utilities, roads, driveways, fences, landscaping, etc.

Attach any and all associated plans such as a location map, site plan, floor plan, elevations, and landscaping plans drawn to scale (*ref §13-5-31*).

The Project is located on the North Shore of Oahu. The site is roughly 2.3 miles from Haleiwa at approximately milepost 4. Kamehameha Highway (State Route 83), also referred to as "the Highway" throughout, is a two-lane rural highway functionally classified by HDOT as a "Principal Arterial" because it is the principal roadway used for mobility between surrounding urban areas.

The primary purpose of this Project is to improve safety for pedestrians and all modes of transportation at the section of Kamehameha Highway fronting Laniakea Beach.

- The Project will shift the Kamehameha Highway roadway mauka of the existing parking area, and removing the need for pedestrians to cross the busy highway.
- The Project's secondary initiative will also improve roadway reliability.

In the discussions that follow, there are references to the Final Environmental Assessment and Finding of No Significant Impact for the Kamehameha Highway Pedestrian Safety Project, Vicinity of Laniakea Beach, Haleiwa, Island of Oahu, Hawaii (December 2021).

For example, on Page 6 below, the response to 'Existing Access to Site' contains a reference to '3.9 Roadways and Traffic' that is intended to reference the reader to Section 3.9 of the Final Environmental Assessment and Finding of No Significant Impact document, where additional information to what is provided in this application can be found.

EXISTING CONDITIONS

Please describe the following, and attach maps, site plans, topo maps, colored photos, and biological or archaeological surveys as appropriate:

Existing access to site:

3.9 Roadways and Traffic

- The realigned highway will improve traffic congestion. Once constructed, cars will park on the makai side of the road to access the beach. There will be space to accommodate approximately 50-60 passenger cars in an open, dirt lot. Adequate parking spaces will be designated for lifeguards. The Project will provide a median storage lane to allow vehicles to queue while waiting for gaps in Haleiwa bound traffic and to act as a refuge lane for exiting traffic. The bus stops will be relocated and brought into compliance with Americans with Disabilities Act Accessibility Guidelines. Retaining the bus stops will help reduce individual vehicles parking when they visit the beach and reduce congestion on the Highway.
- The proposed Project is itself a mitigation measure for the undesirable pedestrian conditions and current traffic congestion in the area. Because the traffic impacts are anticipated to be beneficial in nature, no mitigation is proposed.

Existing buildings/structures:

3.3 Historic and Archaeological Resources

- The Lauhulu Stream Bridge itself will remain in place for pedestrian use. Thus, the overall recommended treatment for the Lauhulu Stream Bridge is preservation in the form of avoidance and protection (conservation). Due to the design modification and introduction of a new concrete cast-in-place wingwall, the HDOT is proposing data recovery in the form of Historic American Engineering Record (HAER) documentation as mitigation to the impact to the Lauhulu Stream Bridge wingwalls; this is further discussed below.

Existing utilities (electrical, communication, gas, drainage, water & wastewater):

3.11 Public Facilities and Services

- Water meters, utility poles and sewer manholes will remain accessible for maintenance along the currently existing highway. New poles for lighting will be installed every 120 feet along the new highway alignment.
- The Project may also create access controls at Pohaku Loa Way to prevent the private road from being used as overflow parking for beach access, as well as to discourage inadvertent motorized uses of the shared-use path.
- The proposed Project does not propose any additional mitigation measures.

The HDOT has coordinated with the following agencies:

- City and County of Honolulu, Department of Environmental Service regarding trash collection along Pohaku Loa Way (July 31, 2023)
- City and County of Honolulu Emergency Services Department (July 31, 2023)

- City and County of Honolulu Emergency Services Department - Ocean Safety Team (July 31, 2023)
- Honolulu Fire Department (August 1, 2023)
- Honolulu Police Department (August 1, 2023)
- United States Postal Service (August 1, 2023)

The Project received a response from:

- City and County of Honolulu Emergency Services Department - Ocean Safety Team (August 1, 2023): The Ocean Safety Team provided the following response:

"We have reviewed the proposed plan and have determined this will have very little impact on our operations for the City & County of Honolulu's Ocean Safety Division (lifeguards). We would like to have the code to the gate once it's installed, as this is a standard practice for us elsewhere around the island. But, our tower operations at Laniakea will not be impacted, nor will our mobile service (trucks and jet skis) be impacted by this Project for a cattle gate at Pohaku Loa Way."

Physiography (geology, topography, & soils):

3.1 Physical Geography and Coastal Processes

- The proposed Project does not propose any mitigation regarding physical geography and coastal processes.
- The proposed Project would mitigate the effects of some coastal processes upon the Kamehameha Highway at this location. Currently, there is potential for wave action to occur on the existing roadway. The proposed Project would move vehicle traffic out of wave action on the roadway.

Hydrology (surface water, groundwater, coastal waters, & wetlands):

3.6 Surface Water Resources

- The potential impacts to surface water resources due to the proposed Project will be less than significant. Work will be done within the U.S. Army Corps of Engineers' (USACE) jurisdiction.
- The Contractor will be required to illustrate how they would minimize placing materials in the stream.
- The proposed Project has coordinated with the United States Army Corps of Engineers (USACE) regarding the proposed placement of a pier within the Lahulu Stream. The USACE has authorized this component of the Project and the Contractor will implement appropriate Best Management Practices (BMPs) per agency review and direction.
- For land-based construction activities, the Contractor will implement the appropriate BMPs for all work activities.
- The Contractor will comply with the National Pollutant Discharge Elimination System (NDPES) permit, and associated BMPs to manage stormwater runoff during construction and ensure that there are no impacts to surface water resources in the vicinity of work.
- The proposed Project will employ BMPs during construction to minimize the potential impacts due to the Project to biological resources to less than significant.

Flora & fauna (indicate if rare or endangered plants and/or animals are present):

3.5 Biological Resources

- No threatened or endangered species were observed within the Project Area. Protected seabirds, Hawaiian Hoary Bats, and Hawaiian Green Sea Turtles may be affected by nighttime lighting and construction activities.
- The proposed Project will incorporate Site-Specific Construction Best Management Practices (BMPs) that will minimize the potential impacts due to the Project.
- The proposed Project will employ BMPs during construction to minimize the potential impacts due to the Project to biological resources to less than significant.

Natural hazards (erosion, flooding, tsunami, seismic, etc.):

3.1 Physical Geography and Coastal Processes

- Sea Level Rise: The proposed Project will minimize the extent of flooding on Kamehameha Highway anticipated to be caused by 3.2-foot sea level rise.
- Flood and Tsunami Hazard: No habitable structures would be affected by potential wave surface inundation. The detected changes would not be experienced at a scale that would require changes to flood or FIRM maps.
- The proposed Project does not propose any mitigation regarding physical geography and coastal processes; the Project's purpose is to create a safer pedestrian environment to access the beach.

Historic & cultural resources:

3.3 Historic and Archaeological Resources

- Both the change in use and the alterations of the immediate surrounding environment of Lauhulu Stream Bridge would be considered an effect as identified in HAR Chapter 13-275-7(b).
- The existing Cement Rubble Masonry (CRM) wingwalls on the mauka side of Lauhulu Stream Bridge will be removed and replaced with the wingwalls of the new bridge which will tie into the Lauhulu Stream Bridge. The existing CRM wingwalls were built on all four sides of the bridge to retain fill material from the top of the highway, stabilizing the roadway and preventing the supporting fill material from entering the stream or being eroded by the stream.
- During detailed design of the realigned roadway, to reduce right-of-way acquisition impacts to the surrounding private properties the realigned roadway was brought as close to the existing roadway as possible. This brought the new bridge very close to the existing bridge. The hydraulic contraction of the stream from the 100-foot-wide new bridge to the 60-foot-wide existing bridge for a 100-year storm resulted in scour depths of approximately 35 feet. This would mean that during a 100-year storm event the existing CRM walls would be scoured out and collapse and expose the existing bridge abutments. Once exposed the abutments could also experience scour and collapse. A new concrete cast-in-place wingwall was designed to better control the hydraulic contraction of the stream, protect against scour of the existing bridge, and not cause surcharge upstream of the new bridge as indicated in the Environmental Assessment.
- The Lauhulu Stream Bridge itself will remain in place for pedestrian use. Thus, the overall recommended treatment for the Lauhulu Stream Bridge is preservation in the form of avoidance and

protection (conservation). Due to the design modification and introduction of a new concrete cast in place wingwall, the HDOT is proposing data recovery in the form of Historic American Engineering Record (HAER) documentation as mitigation to the impact to the Lauhulu Stream Bridge wingwalls; this is further discussed below.

- At Site 08949, Project activities would avoid direct physical impacts and Kamehameha Highway's distance to the site would remain unchanged at approximately 1,300 feet makai of the site. Also, as noted above, the Project will implement a construction area delineation with perimeter tape, to ensure there will be no disturbance to this area, including Site 08949.
- In accordance with HAR Chapter 13-275-8(a)(1)(A), the proposed mitigation for the Lauhulu Stream Bridge is preservation in the form of avoidance and protection (conservation). The HDOT is also proposing data recovery in the form of HAER documentation as mitigation to the impact to the Lauhulu Stream Bridge wingwalls.
- Also, given the presence of Jaucus sand deposits within the current study corridor, as an additional precautionary mitigation, archaeological monitoring has been agreed upon between the HDOT and the SHPD. The SHPD provided email correspondence dated June 26, 2020 following a consultation that was conducted via teleconference on Monday, June 22, 2020; screenshots of the email correspondence are provided as Figure 4 and Figure 5.
- An archaeological monitoring plan has been prepared in accordance with HAR Chapter 13-279-4 and has been submitted to the SHPD for review and acceptance prior to initiating any ground-disturbing activity.
- As mentioned above, due to the design modification and introduction of a new concrete cast in place wingwall, the HDOT is proposing data recovery in the form of HAER documentation as mitigation to the impact to the Lauhulu Stream Bridge wingwalls. The proposed mitigation would include documentation of the extant bridge, to be undertaken by a Secretary of the Interior-qualified Architectural Historian, at a Level III HAER Recordation, which includes a sketch plan, photographs, and a short form historical report.
- The Project has advised SHPD that it may potentially texture the wingwalls.
- In addition, as discussed previously, Site 08949 will be delineated with perimeter tape during construction activities.
- Also, HDOT commits to implementing the following mitigation measures during construction to further avoid and minimize potential impacts to archaeological, cultural, and historic resources:
 - If cultural materials are discovered during construction, all earth-moving activity within and around the immediate discovery area will be diverted until a qualified archaeologist can assess the nature and significance of the find.
 - If previously unidentified non-burial historic properties, or unanticipated effects are discovered, HDOT shall follow HAR Chapter 13-280 "Rules Governing General Procedures for Inadvertent Discoveries of Historic Properties During a Project Covered by the Historic Preservation Review Process".
 - If human remains are discovered, HAR Chapter 13-300 states that further disturbances and activities shall cease in any area or nearby area suspected to overlie remains, and SHPD and the Honolulu Police Department will be contacted. The appropriate process would then proceed in conformance with HAR Chapter 13-300-31 to 43 "Procedures for Proper Treatment of Burial Sites and Human Skeletal Remains."
- HDOT will prevent the disturbance or taking of any historic property or resource to the extent

possible by instituting these mitigation measures identified.

- HDOT will coordinate with the SHPD further upon receiving the SHPD's response to the Project's submittal to ensure the Project's compliance with all of SHPD's comments and any potential mitigation or minimization requirements provided by the SHPD regarding the Project's efforts.
- Also, HDOT commits to implementing the following mitigation measures during construction to further avoid and minimize potential impacts to archaeological, cultural, and historic resources:
 - If cultural materials are discovered during construction, all earth-moving activity within and around the immediate discovery area will be diverted until a qualified archaeologist can assess the nature and significance of the find.
 - If previously unidentified non-burial historic properties, or unanticipated effects are discovered, HDOT shall follow HAR Chapter 13-280 "Rules Governing General Procedures for Inadvertent Discoveries of Historic Properties During a Project Covered by the Historic Preservation Review Process".
 - If human remains are discovered, HAR Chapter 13-300 states that further disturbances and activities shall cease in any area or nearby area suspected to overlie remains, and SHPD and the Honolulu Police Department will be contacted. The appropriate process would then proceed in conformance with HAR Chapter 13-300-31 to 43 "Procedures for Proper Treatment of Burial Sites and Human Skeletal Remains."
- HDOT will prevent the disturbance or taking of any historic property or resource to the extent possible by instituting these mitigation measures identified.
- HDOT will coordinate with the SHPD further upon receiving the SHPD's response to the Project's submittal to ensure the Project's compliance with all of SHPD's comments and any potential mitigation or minimization requirements provided by the SHPD regarding the Project's efforts.

3.4 Cultural Resources

- There were no cultural resources identified, except for Site T-1, which will be avoided. Although no iwi kupuna have been encountered, cultural practitioners expressed concerns for impacts to Kamehameha Schools property, and iwi kupuna.
- Archaeological monitoring will be conducted. Given the presence of Jaucus sand deposits within the current study corridor, as an additional precautionary mitigation, archaeological monitoring has been agreed upon between the HDOT and the SHPD. An archaeological monitoring plan has been prepared in accordance with HAR §13-279-4 and has been submitted to the SHPD for review and acceptance prior to initiating any ground-disturbing activity. If iwi kupuna are discovered during construction, all work shall be halted, the SHPD shall be contacted, and treatment of the site shall be conducted in accordance with HAR §13-300.

EVALUATION CRITERIA

The Department or Board will evaluate the merits of a proposed land use based upon the following eight criteria (*ref §13-5-30(c)*)

1. The purpose of the Conservation District is to conserve, protect, and preserve the important natural and cultural resources of the State through appropriate management and use to promote their long-term sustainability and the public health, safety, and welfare. (*ref §13-5-1*) How is the proposed land use consistent with the purpose of the conservation district?

The State of Hawaii Department of Transportation, Highways Division (HDOT) is proposing roadway improvements to address pedestrian safety and roadway reliability along Kamehameha Highway (Route 83) in the vicinity of Laniakea Beach on the island of Oahu. The Project reach is approximately 1,000 feet in length and lies at the Northeast end of Laniakea Beach.

2. How is the proposed use consistent with the objectives of the subzone of the land on which the land use will occur? (*ref §13-5-11 through §13-5-15*)

The proposed Project is a roadway improvements project, and includes work on an existing highway. The proposed Project is intended to address two (2) concerns, and will improve pedestrian safety and improve roadway reliability.

Because the proposed Project consists of improvements to an existing roadway facility, there will be no associated changes or impacts to the existing land uses, including their associated subzones and objectives.

3. Describe how the proposed land use complies with the provisions and guidelines contained in chapter 205A, HRS, entitled "Coastal Zone Management" (*see 205A objectives on p. 9*).

Per chapter 205A, HRS, "Coastal Zone Management":

(a) The objectives and policies in this section shall apply to all parts of this chapter.

(b) Objectives.

(1) Recreational resources;

(A) Provide coastal recreational opportunities accessible to the public.

The proposed Project will address pedestrian safety in the vicinity of the Project, and is intended to create a safer roadway and pedestrian environment.

(2) Historic resources;

(A) Protect, preserve, and, where desirable, restore those natural and manmade historic and prehistoric resources in the coastal zone management area that are significant in Hawaiian and American history and culture.

The proposed Project will avoid Site T 1, and Lauhulu Stream Bridge would not be directly affected, but the change in use and alteration of the surrounding environment would be considered an effect in accordance with HAR 13-275. The Project is proposed to have an 'Effect with mitigation' based on identified impacts to

Lauhulu Stream Bridge. The proposed mitigation is preservation in the form of avoidance and protection. Archaeological monitoring will be conducted as agreed upon between HDOT and the State Historic Preservation Division (SHPD).

(3) Scenic and open space resources;

(A) Protect, preserve, and, where desirable, restore or improve the quality of coastal scenic and open space resources.

The proposed Project would not result in any impacts to the scenic and open space resources in the vicinity.

(4) Coastal ecosystems;

(A) Protect valuable coastal ecosystems, including reefs, from disruption and minimize adverse impacts on all coastal ecosystems.

By moving the road inland, Kamehameha Highway will be less susceptible to erosion.

(5) Economic uses;

(A) Provide public or private facilities and improvements important to the State's economy in suitable locations.

Kamehameha Highway at this location is a key transportation facility for Oahu. Laniakea Beach is highly utilized by pedestrians for viewing turtles, swimming and surfing, and the project will enhance pedestestrain safety and improve roadway resilience.

(6) Coastal hazards;

(A) Reduce hazard to life and property from tsunami, storm waves, stream flooding, erosion, subsidence, and pollution.

The proposed Project is intended to address the existing Kamehameha Highway's susceptibility to potential impacts due to coastal erosion, sea level rise, and flood and tsunami effects.

(7) Managing development;

(A) Improve the development review process, communication, and public participation in the management of coastal resources and hazards.

Planning for the proposed Project has been ongoing for almost ten (10) years with significant public input. The Project Area and alternatives have been revised based on budget, input from various groups, and resource agencies.

(8) Public participation;

(A) Stimulate public awareness, education, and participation in coastal management.

The proposed Project has facilitated public participation in the Project's design and consideration of its potential impacts to the surrounding environment through public meetings and outreach efforts.

(9) Beach protection;

(A) Protect beaches for public use and recreation.

The proposed Project will allow for the continued use of Kamehameha Highway to access beaches for public use and recreation.

(10) Marine resources;

(A) Promote the protection, use, and development of marine and coastal resources to assure their sustainability.

The proposed Project is intended to minimize the potential for coastal erosion impacts to the area's surrounding marine and coastal resources.

4. Describe how the proposed land use will not cause substantial adverse impact to existing natural resources within the surrounding area, community or region.

The proposed Project involves roadway improvements to address pedestrian safety and roadway reliability along Kamehameha Highway (Route 83) in the vicinity of Laniakea Beach on the island of Oahu. The proposed Project does not involve any activities which could substantially adversely impact the existing natural resources within the surrounding area, community, or region.

5. Describe how the proposed land use, including buildings, structures and facilities, is compatible with the locality and surrounding areas, appropriate to the physical conditions and capabilities of the specific parcel or parcels.

As discussed above, the proposed Project is compatible with the surrounding land uses, including buildings, structures, and facilities, and the locality and surrounding areas appropriate to the physical conditions and capabilities of the specific parcel or parcels.

6. Describe how the existing physical and environmental aspects of the land, such as natural beauty and open space characteristics, will be preserved or improved upon.

The proposed Project is intended to address pedestrian safety in the vicinity of Laniakea Beach, but will also address roadway reliability, and provide pedestrian and bicycle facilities. The proposed Project minimizes the need for acquisition of land or changes to existing land use in this area, thereby preserving the surrounding areas and uses that exist in their current condition to the extent possible.

7. If applicable, describe how subdivision of land will not be utilized to increase the intensity of land uses in the Conservation District.

The proposed Project will not require any subdivision of land within the Conservation District. There will be no change to the level of intensity of land uses within the Conservation District.

8. Describe how the proposed land use will not be materially detrimental to the public health, safety and welfare.

The proposed Project will not result in any negative impacts to public health, safety, or welfare. The proposed Project is intended to ensure pedestrian safety and the continued safe operation of Kamehameha Highway at this location.

CULTURAL IMPACTS

Articles IX and XII of the State Constitution, other state laws, and the courts of the State, require government agencies to promote and preserve cultural beliefs, practices, and resources of Native Hawaiians and other ethnic groups.

Please provide the identity and scope of cultural, historical, and natural resources in which traditional and customary native Hawaiian rights are exercised in the area.

3.3 Historic and Archaeological Resources

- Both the change in use and the alterations of the immediate surrounding environment of Lauhulu Stream Bridge would be considered an effect as identified in HAR Chapter 13-275-7(b).
- The existing Cement Rubble Masonry (CRM) wingwalls on the mauka side of Lauhulu Stream Bridge will be removed and replaced with the wingwalls of the new bridge which will tie into the Lauhulu Stream Bridge. The existing CRM wingwalls were built on all four sides of the bridge to retain fill material from the top of the highway, stabilizing the roadway and preventing the supporting fill material from entering the stream or being eroded by the stream.
- During the detail design of the realigned roadway, to reduce right-of-way acquisition impacts to the surrounding private properties, the realigned roadway was brought as close to the existing roadway as possible. This brought the new bridge very close to the existing bridge. The hydraulic contraction of the stream from the 100-foot-wide new bridge to the 60-foot-wide existing bridge for a 100-year storm resulted in scour depths of approximately 35 feet. This would mean that during a 100-year storm event the existing CRM walls would be scoured out and collapse and expose the existing bridge abutments. Once exposed the abutments could also experience scour and collapse. A new concrete cast-in-place wingwall was designed to better control the hydraulic contraction of the stream, protect against scour of the existing bridge, and not cause surcharge upstream of the new bridge as indicated in the Environmental Assessment.
- The Lauhulu Stream Bridge itself will remain in place for pedestrian use. Thus, the overall recommended treatment for the Lauhulu Stream Bridge is preservation in the form of avoidance and protection (conservation). Due to the design modification and introduction of a new concrete cast in place wingwall, the HDOT is proposing data recovery in the form of Historic American Engineering Record (HAER) documentation as mitigation to the impact to the Lauhulu Stream Bridge wingwalls; this is further discussed below.
- At Site 08949, Project activities would avoid direct physical impacts and Kamehameha Highway's distance to the site would remain unchanged at approximately 1,300 feet makai of the site. Also, as noted above, the Project will implement a construction area delineation with perimeter tape, to ensure there will be no disturbance to this area, including Site 08949.
- In accordance with HAR Chapter 13-275-8(a)(1)(A), the proposed mitigation for the Lauhulu Stream Bridge is preservation in the form of avoidance and protection (conservation). The HDOT is also proposing data recovery in the form of HAER documentation as mitigation to the impact to the Lauhulu Stream Bridge wingwalls.

- Also, given the presence of Jaucus sand deposits within the current study corridor, as an additional precautionary mitigation, archaeological monitoring has been agreed upon between the HDOT and the SHPD. The SHPD provided email correspondence dated June 26, 2020 following a consultation that was conducted via teleconference on Monday, June 22, 2020; screenshots of the email correspondence are provided as Figure 4 and Figure 5.

- An archaeological monitoring plan has been prepared in accordance with HAR Chapter 13-279-4 and has been submitted to the SHPD for review and acceptance prior to initiating any ground-disturbing activity.

- As mentioned above, due to the design modification and introduction of a new concrete cast in place wingwall, the HDOT is proposing data recovery in the form of HAER documentation as mitigation to the impact to the Lauhulu Stream Bridge wingwalls. The proposed mitigation would include documentation of the extant bridge, to be undertaken by a Secretary of the Interior-qualified Architectural Historian, at a Level III HAER Recordation, which includes a sketch plan, photographs, and a short form historical report.

- In addition, as discussed previously, Site 08949 will be delineated with perimeter tape during construction activities.

- Also, HDOT commits to implementing the following mitigation measures during construction to further avoid and minimize potential impacts to archaeological, cultural, and historic resources:

- If cultural materials are discovered during construction, all earth-moving activity within and around the immediate discovery area will be diverted until a qualified archaeologist can assess the nature and significance of the find.

- If previously unidentified non-burial historic properties, or unanticipated effects are discovered, HDOT shall follow HAR Chapter 13-280 "Rules Governing General Procedures for Inadvertent Discoveries of Historic Properties During a Project Covered by the Historic Preservation Review Process".

- If human remains are discovered, HAR Chapter 13-300 states that further disturbances and activities shall cease in any area or nearby area suspected to overlie remains, and SHPD and the Honolulu Police Department will be contacted. The appropriate process would then proceed in conformance with HAR Chapter 13-300-31 to 43 "Procedures for Proper Treatment of Burial Sites and Human Skeletal Remains."

- HDOT will prevent the disturbance or taking of any historic property or resource to the extent possible by instituting these mitigation measures identified.

3.4 Cultural Resources

- The proposed Project will have a less than significant level of impact on cultural resources.

- There were no cultural resources identified, except for Site T-1, which will be avoided. Although no iwi kupuna have been encountered, cultural practitioners expressed concerns for impacts to Kamehameha Schools property, and iwi kupuna.

- Archaeological monitoring will be conducted. Given the presence of Jaucus sand deposits within the current study corridor, as an additional precautionary mitigation, archaeological monitoring has been agreed upon between the HDOT and the SHPD. An archaeological monitoring plan has been prepared in accordance with HAR §13-279-4 and submitted to the SHPD for review and acceptance prior to initiating any ground-disturbing activity. If iwi kupuna are discovered during construction, all work shall be halted, the SHPD shall be contacted, and treatment of the site shall be conducted in accordance with HAR §13-300.
- HDOT will continue to coordinate with Kamehameha Schools and affected lessees as design progresses.

Identify the extent to which those resources, including traditional and customary Native Hawaiian rights, will be affected or impaired by the proposed action.

The proposed action will affect resources as discussed above. The proposed Project will not affect or impact Native Hawaiian rights.

What feasible action, if any, could be taken by the Board of Land and Natural Resources in regards to your application to reasonably protect Native Hawai'i rights?

The proposed action will affect resources as discussed above. The proposed Project will not affect or impact Native Hawaiian rights.

OTHER IMPACTS

Does the proposed land use have an effect (positive/negative) on public access to and along the shoreline or along any public trail?

3.7 Parks and Recreational Resources

- The Pedestrian Shift Alternative, which is the Build Alternative for the proposed Project, was designed recognizing the City DPR's potential future park use. It will not preclude the City DPR from developing a formal parking area or beach support amenities.
- Laniakea Beach will remain open and accessible to the public throughout the duration of construction.
- Public access to a formal parking area, if one is developed, will be available during construction as coordinated around the Contractor's work areas. Any parking limitations will be temporary.

Does the proposed use have an effect (positive/negative) on beach processes?

The proposed Project will not affect beach processes.

Will the proposed use cause increased sedimentation?

The proposed Project will not cause increased sedimentation.

Will the proposed use cause any visual impact on any individual or community?

3.8 Visual and Aesthetic Resources

- All new roadway and auxiliary features are common visual elements within the existing Kamehameha Highway corridor and will be compatible with the existing visual environment.
- Moving the Highway 80 feet to the mauka side of the Highway will displace some of the vegetation at the edge of the existing ranchland; however, this vegetation is not in a natural condition. The makai half of the existing roadway will be demolished and rock and vegetation, and slope stabilization measures will be placed to prevent soil and beach erosion and add natural visual elements between the beach and proposed roadway. Revegetation and replanting efforts on both sides of the proposed roadway will provide erosion control and visual screening for neighbors, including viewers from the mauka cultural site.
- No residential structures, fencing, or other human-made elements will be impacted. Driveways to the existing residences on the Haleiwa side of the stream will be extended to the proposed highway pavement. The makai side of the existing Kamehameha Highway pavement will be naturalized, which may provide visual screening and buffering for the residential viewers. The resulting changes would provide beneficial effects to the natural environment for most viewers. The proposed Project will have no impact on visual and aesthetic resources.
- The mauka side of the existing road and the existing bridge will remain as separate pedestrian and bicycle facilities. This will allow these travelers to shift focus and attention from roadways and vehicular conflicts to the scenic natural features. Pedestrians and cyclists will have an excellent view from the repurposed highway.

- While most visual elements associated with the realigned road are existing in the highway corridor, the size and scale of widened road, refuge median, guardrails, and other ancillary elements may impose slight effects to motorists and residential neighbors; however, the human and Project environments will be orderly and coherent for neighbors and travelers.
- Views from the realigned road may still tempt drivers to slow down to enjoy the stunning sight of Laniakea Beach. The informal parking on the makai side will block some of the coastal view from the Highway. However, with installation of barriers on the mauka side to prevent parking, pedestrians will not be crossing the Highway and distracting drivers.
- Views of the Project from the mauka cultural site will be obscured by existing vegetation. Landforms and existing vegetation will likely obscure all views of the Project site for pedestrian travelers to the cultural site. Relocated utility poles and streetlights may be visible above the tops of existing trees and shrubs. Light spill from streetlights may be visible from the cultural site in nighttime conditions; however, these are existing visual elements and new lights will be full cutoff or shielded to reduce glare during nighttime hours.
- As described above, additional landscaping along the sides of the realigned highway will mitigate potential changes to visual conditions. Light spill from streetlights may be visible from the cultural site in nighttime conditions; however, these are existing visual elements and new lights would be shielded to reduce glare during nighttime hours.

Please describe any sustainable design elements that will be incorporated into the proposed land use (*e.g. the use of efficient ventilation and cooling systems; renewable energy generation; sustainable building materials; permeable paving materials; efficient energy and water systems; efficient waste management systems; etc.*).

n/a

If the project involves landscaping, please describe how the landscaping is appropriate to the Conservation District (*e.g. use of indigenous and endemic species; xeriscaping in dry areas; minimizing ground disturbance; maintenance or restoration of the canopy; removal of invasive species; habitat preservation and restoration; etc.*)

There is no proposed landscaping associated with the realignment of Kamehameha Highway. The proposed Project will minimize ground disturbance.

Please describe Best Management Practices that will be used during construction and implementation of the proposed land use.

3.16 Construction Impacts

Maintenance of Traffic and Parking

- The proposed Project may cause motorists traveling on Kamehameha Highway to experience some delay and inconvenience for approximately twenty-four months, the estimated duration of construction.
- Laniakea Beach will remain open and accessible to the public throughout the duration of construction. Public access to City DPR's parking area will be available during construction as coordinated around the Contractor's work areas. Parking limitations will be temporary during the duration of construction of up to 24 months. To minimize traffic and access problems on Kamehameha Highway and adjacent side streets (including the City DPR's parking area), construction phasing and traffic control plans

will be developed and implemented. Bus stops will be temporarily relocated as required. Traffic control signage such as “No Parking” or “Right Turn Only” signs will be installed as needed. All necessary signs, lights, barricades, and other safety equipment for motorists and pedestrians will be installed and maintained by the contractor during the construction phase of the Project.

- Most proposed construction activities that directly affect Kamehameha Highway will be restricted to off-peak nighttime hours due to the traffic impacts that may occur if they were performed during daytime hours.
- The public will be routinely informed of planned construction activities and lane closures throughout the construction period. Some construction work (i.e., shoulder activities such as placing signage) may take place at any time of the day (daytime and nighttime, 24-hours a day, 7 days a week), provided the activities require the closure of no more than one through lane for a short period of time.

Air Quality

- Air quality impacts during roadway construction for Project generally consist of fugitive dust and mobile source emissions from construction equipment. Frequent watering controls fugitive dust at construction sites. In addition, wind screens may be used in areas near residences and commercial districts, as well as limiting the areas of disturbance at any given time. Landscaping will be re-established as early as possible. To prevent haul trucks from tracking dirt onto paved streets, tire washing, or road cleaning may be appropriate. State regulations further stipulate that open-bodied trucks be covered at all times when in motion if they are transporting wind-erodible materials.
- Construction vehicles and equipment emit engine exhaust. The largest of this equipment is usually diesel-powered, which emit relatively high levels of NO_x in comparison to gasoline-powered equipment. However, standards for such pollutants are set on an annual basis and therefore not likely to be violated by short-term construction equipment emissions.

Noise

- Construction for the Project involves the use of heavy machinery that may cause temporary noise impacts to adjacent noise sensitive land uses. There is a range of noise levels for various construction equipment anticipated to be used during construction of the proposed Project. Equipment noise levels vary depending on the make and model of the equipment, the operation being performed, the condition of the equipment, and other variables. The noise levels listed are based on published measurements taken at a distance of 50 feet from the equipment.
- Since HDOH maintains community noise control standards (HAR Section 11-46) that apply to construction noise, these specifications will be followed. A noise permit will be obtained for construction activities performed during standard work hours (Monday through Friday 7:00 a.m. through 6:00 p.m. and Saturday 9:00 a.m. through 6:00 p.m.).
- A noise variance will be obtained to allow construction activities to occur beyond standard work hours. As discussed in Section 3.16.1 of the EA, construction may occur at night, weekend or holiday hours, beyond standard work hours due to the traffic impacts that would ensue, should the work be performed

during normal work hours. As part of obtaining the noise variance, HDOT may hold a public meeting, send notices to residents within 500 feet of the Project, and/or place an advertisement in the paper.

- The noise variance application outlines mitigation measures that may be employed to lessen noise disturbances during night work, including such tasks as:

- The contractor sending an informational flyer to all addresses within 500 feet of the Project Area roughly two weeks prior to the start of construction. The flyer will include general Project information and the name and phone number of a contractor representative to contact.

- Updating of HDOT's website with information regarding the time and location of night work as well as a name and phone number to contact with questions or complaints.

- Quiet work procedures will be employed to attenuate and control noise emissions emanating from the construction site, such as:

- Either ambient-sensing backup alarms or ground guides will be used for signaling when equipment backs up at night (8:00 p.m. to 6:00 a.m.).
 - Construction activity constraints for night work, where applicable.
 - The use of temporary noise barriers for both daytime and nighttime sensitive receptors, where feasible.
 - The strategic placement of stationary equipment such as compressors and generators.
 - All equipment will be maintained in good working order and with appropriate mufflers.
 - A job-site inspector will be designated to whom immediate complaints can be forwarded for prompt response and who will have the general responsibility of monitoring quiet work procedures.
 - Instructional meetings will be held with construction crews and truck drivers to discuss noise abatement procedures, including the use of engine brakes, loading and unloading cargo, shouting, use of signal callers, and other practices as required.
 - The selected contractor will have a corrective action program in place that lays out steps and responsibilities to respond to complaints and correct deficiencies.
 - Final noise mitigation measures will be specified in the noise variance granted by DOH.

Water Resources

- Laniakea Beach is well known for basking sea turtles and surf spots. Laniakea Beach will remain open to the public. Access to the City DPR's parking area will be available during construction as

coordinated around the Contractor's work areas. Accessing the beach during construction may require parking in other locations.

- The other primary potential for construction-phase water resource impacts is associated with erosion and sedimentation associated with the Project's earth disturbing activities. Preventing polluted run-off from impacting the nearshore waters is particularly important given the Project location adjacent to the nearshore reef. The Project will not alter existing drainage patterns.
- During construction, BMPs will be implemented to prevent debris and polluted run-off from stream or other natural waters. Storm water run-off and erosion during Project construction and landscaping will be mitigated through the use of construction BMPs established and permitted before work begins. The Project has obtained a Notice of General Permit Coverage (NGPC) from the HDOH as part of the National Pollutant Discharge Elimination System (NPDES) program.
- Generally accepted BMPs such as the following will be used:
 - Work area isolation devices, such as diversion dams;
 - Perimeter controls and sediment barriers, such as silt fences;
 - Minimizing disturbance area;
 - Excavated/Stockpiled material protection, including the covering of stockpiles;
 - Storm drain inlet and catch basin protection devices will be installed; and
 - Storm drain inlet and catch basin protection devices will be installed; and
- Interruptions to water service during driveway reconstructions or service line relocations, if needed, will be coordinated with the affected property owners and the Board of Water Supply (BWS). Construction drawings affecting BWS infrastructure, if any, will be submitted to BWS for approval.

Biological Resources

- Construction lighting will be directed to the ground to the extent possible to help avoid confusing seabirds and sea turtles. During the shearwater nesting season, September 15 until December 15, construction activities will be limited to daylight hours whenever possible, and only lighting that is required for safety and security concerns will be allowed. Any necessary lights will be positioned low to the ground, be motion triggered, when possible, and shielded. On-site staff will be educated about seabird fallout that occurs when birds flying at night are attracted to artificially lighted areas resulting in disorientation and exhaustion.
- The construction lighting plan will also take sea turtles resting, foraging, and their hatchlings into consideration. Shielded lighting to reduce direct and ambient lighting of beach habitats within and adjacent to the Project site will be used. When possible, night work near the beach will be avoided between May 1 and November 1, the sea turtle nesting and hatching season.

- To minimize the potential for impacts to the Hawaiian hoary bat, woody vegetation taller than 15 feet (4.6 meters) will not be cleared during the annual the bat pupping season between June 1 and September 15.
- To control the transfer of invasive plants and animals, HDOT will require the contractor to employ measures that include:
 - Construction equipment cleaning prior to the equipment arrival at the site, and prior to its moving to an offsite location;
 - Segregation of stockpiled and spoil materials. Excavated soils will be reused to the maximum extent practicable at the site from which it was removed; and
 - Sediment and erosion control measures to ensure that stockpiled or spoil materials will not result in spread of invasive species from one area to another via storm water run-off.

Solid Waste Management and Hazardous Waste

Good housekeeping BMPs will be required of the contractor, such as ensuring that:

- All waste materials be collected and stored in securely lidded dumpsters that are emptied before becoming overly full and not buried on site;
- Materials stored on-site be stored in a neat, orderly manner in appropriate containers (i.e., per manufacturers recommendations);
- All on-site vehicles be monitored for leaks and receive regular preventive maintenance to reduce the chance of leakage;
- A spill cleanup kit be located on-site where petroleum products, paints, or other hazardous materials are stored; and
- All sanitary waste generated during the construction phase will be collected from portable units as required and directed to a HDOH-permitted treatment facility.

Hazardous materials contamination is not likely to be uncovered during construction. However, during construction, personnel should be alert for signs of potential petroleum contamination when soil is excavated. If contamination were identified during construction, the contractor will report it immediately to HDOT. Handling of hazardous materials and possible site remediation will be required in accordance with applicable State and federal laws, specifying the handling, treatment, and disposal of contaminated materials.

Historic and Archaeological Resources

- For Site T-1, during construction, interim protective fencing be established around the potential ceremonial site and stay in place during the entire course of road construction activity. Once construction has been completed and the protective fencing removed, the long-term treatment of the site will remain the responsibility of the landowner (Kamehameha Schools).

- Construction activities have the potential to encounter undocumented burial and archaeological sites. A qualified archaeological monitor will be present during ground-disturbing activities associated with development of the proposed roadway. A monitoring plan compliant with HAR §13-279 will be prepared prior to construction. If undocumented burial and archaeological sites are uncovered during construction, work will stop and the appropriate authorities, including SHPD and the police, will immediately be notified. The treatment of burials shall be conducted in accordance with HAR §13-300. Construction in the area of the find will resume upon approval of the appropriate authorities.

Please describe the measures that will be taken to mitigate the proposed land use's environmental and cultural impacts.

Please see items presented above.

Discussion Below is intended to address items starting on Page 24 above.

Regarding Chapter 205A, HRS, "Coastal Zone Management":

(a) The objectives and policies in this section shall apply to all parts of this chapter.

(b) Objectives.

(1) Recreational resources;

(A) Provide coastal recreational opportunities accessible to the public.

The proposed Project will address pedestrian safety in the vicinity of the Project, and is intended to create a safer roadway and pedestrian environment, improve the reliability of Kamehameha Highway in this location, relieve roadway congestion, and provide pedestrian and bicycle facilities.

(2) Historic resources;

(A) Protect, preserve, and, where desirable, restore those natural and manmade historic and prehistoric resources in the coastal zone management area that are significant in Hawaiian and American history and culture.

The proposed Project will avoid Site T 1, and Lauhulu Stream Bridge would not be directly affected, but the change in use and alteration of the surrounding environment would be considered an effect in accordance with HAR 13-275. The Project is proposed to have an 'Effect with mitigation' based on identified impacts to Lauhulu Stream Bridge. The proposed mitigation is preservation in the form of avoidance and protection. Archaeological monitoring will be conducted as agreed upon between HDOT and the State Historic Preservation Division (SHPD).

(3) Scenic and open space resources;

(A) Protect, preserve, and, where desirable, restore or improve the quality of coastal scenic and open space resources.

The proposed Project would not result in any impacts to the scenic and open space resources in the vicinity.

(4) Coastal ecosystems;

(A) Protect valuable coastal ecosystems, including reefs, from disruption and minimize adverse impacts on all coastal ecosystems.

The proposed Project is intended to address the erosion of Kamehameha Highway that is occurring within the Project Area. This is intended to stabilize the surrounding environment and minimize the potential for erosion disruption to the coastal environment at this location.

(5) Economic uses;

(A) Provide public or private facilities and improvements important to the State's economy in suitable locations.

Kamehameha Highway at this location is a key transportation facility that is vital to the island's communities. Residents in the area use this roadway to access the rest of the island for various reasons, including jobs, schools, and shopping locations. This area is highly utilized by pedestrians for various reasons, and pedestrian safety is key to making this roadway operate in a manner that is compatible with the various needs and uses identified.

(6) Coastal hazards;

(A) Reduce hazard to life and property from tsunamis, storm waves, stream flooding, erosion, subsidence, and pollution.

The proposed Project is intended to address the existing Kamehameha Highway's susceptibility to potential impacts due to coastal erosion, sea level rise, and flood and tsunami effects.

(7) Managing development;

(A) Improve the development review process, communication, and public participation in the management of coastal resources and hazards.

The proposed Project intends to continue the use of the existing Kamehameha Highway at this location, thereby negating the need for the construction of an entirely new roadway facility and minimizing the potential for impacts to the existing environment that could result from such an effort.

(8) Public participation;

(A) Stimulate public awareness, education, and participation in coastal management.

The proposed Project has facilitated public participation in the Project's design and consideration of its potential impacts to the surrounding environment through public meetings and outreach efforts.

(9) Beach protection;

(A) Protect beaches for public use and recreation.

The proposed Project will allow for the continued use of Kamehameha Highway to access beaches for public use and recreation.

(10) Marine resources;

(A) Promote the protection, use, and development of marine and coastal resources to assure their sustainability.

The proposed Project is intended to minimize the potential for coastal erosion impacts to the area's surrounding marine and coastal resources.

CHAPTER 205A – COASTAL ZONE MANAGEMENT

Land uses are required to comply with the provisions and guidelines contained in Chapter 205A, Hawai'i Revised Statutes (HRS), entitled "Coastal Zone Management," as described below:

- **Recreational resources:** Provide coastal recreational opportunities accessible to the public.
- **Historic resources:** Protect, preserve, and, where desirable, restore those natural and manmade historic and prehistoric resources in the coastal zone management area that are significant in Hawaiian and American history and culture.
- **Scenic and open space resources:** Protect, preserve, and, where desirable, restore or improve the quality of coastal scenic and open space resources.
- **Coastal ecosystems:** Protect valuable coastal ecosystems, including reefs, from disruption and minimize adverse impacts on all coastal ecosystems.
- **Economic uses:** Provide public or private facilities and improvements important to the State's economy in suitable locations.
- **Coastal hazards:** Reduce hazard to life and property from tsunami, storm waves, stream flooding, erosion, subsidence, and pollution.
- **Managing development:** Improve the development review process, communication, and public participation in the management of coastal resources and hazards.
- **Public participation:** Stimulate public awareness, education, and participation in coastal management.
- **Beach protection:** Protect beaches for public use and recreation.
- **Marine resources:** Promote the protection, use, and development of marine and coastal resources to assure their sustainability.

CERTIFICATION

I hereby certify that I have read this completed application and that, to the best of my knowledge, the information in this application and all attachments and exhibits is complete and correct. I understand that the failure to provide any requested information or misstatements submitted in support of the application shall be grounds for either refusing to accept this application, for denying the permit, or for suspending or revoking a permit issued on the basis of such misrepresentations, or for seeking of such further relief as may seem proper to the Land Board.

I hereby authorize representatives of the Department of Land and Natural Resources to conduct site inspections on my property. Unless arranged otherwise, these site inspections shall take place between the hours of 8:00 a.m. and 4:30 p.m.

Henry Kennedy

Signature of authorized agent(s) or if no agent, signature of applicant

AUTHORIZATION OF AGENT

I hereby authorize _____ Henry Kennedy _____ to act as my representative and to bind me in all matters concerning this application.

[Handwritten Signature]

Signature of applicant(s)

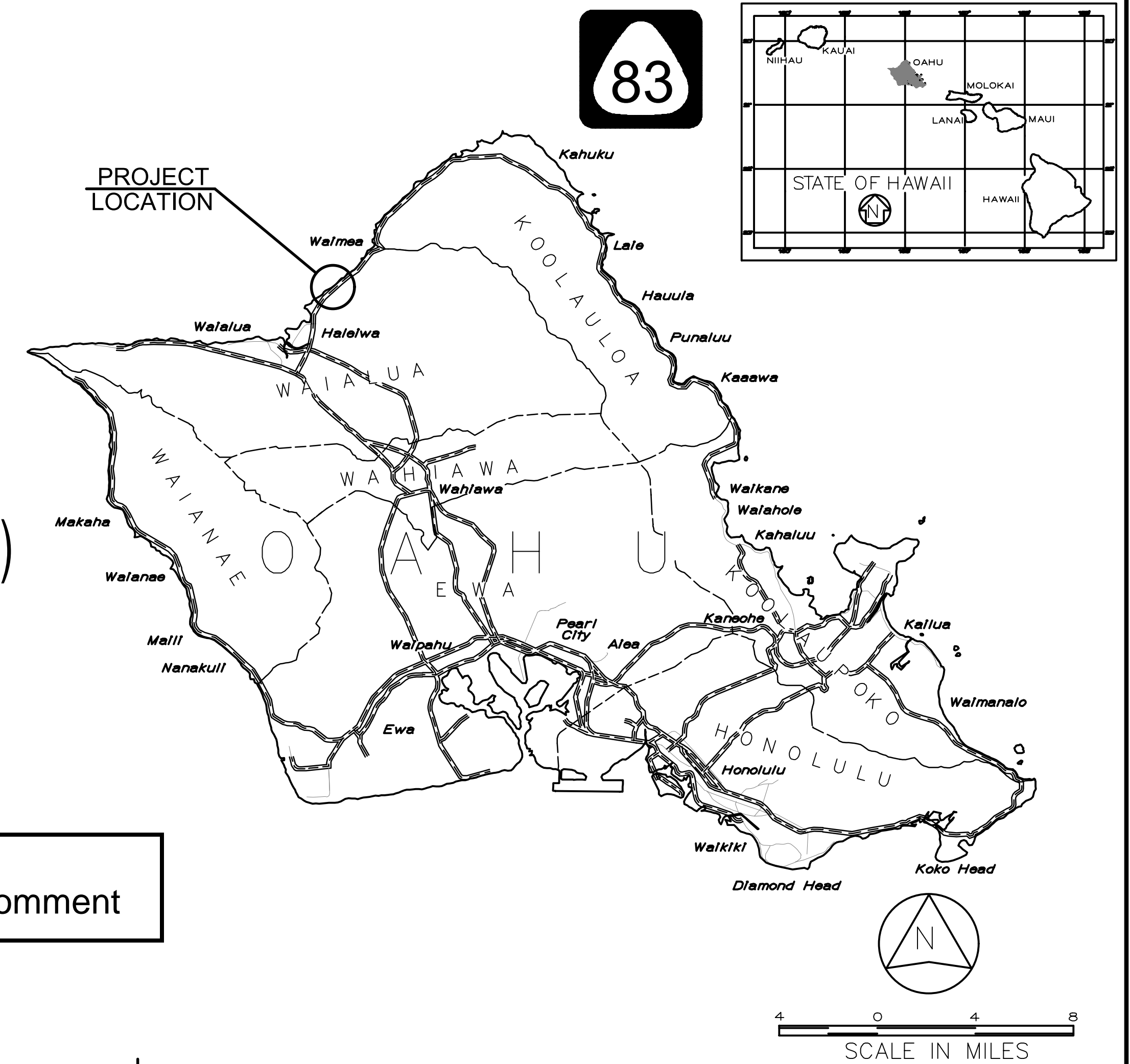
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6-11	UTILITY NOTES
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FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	83B-01-09	2023	1	231

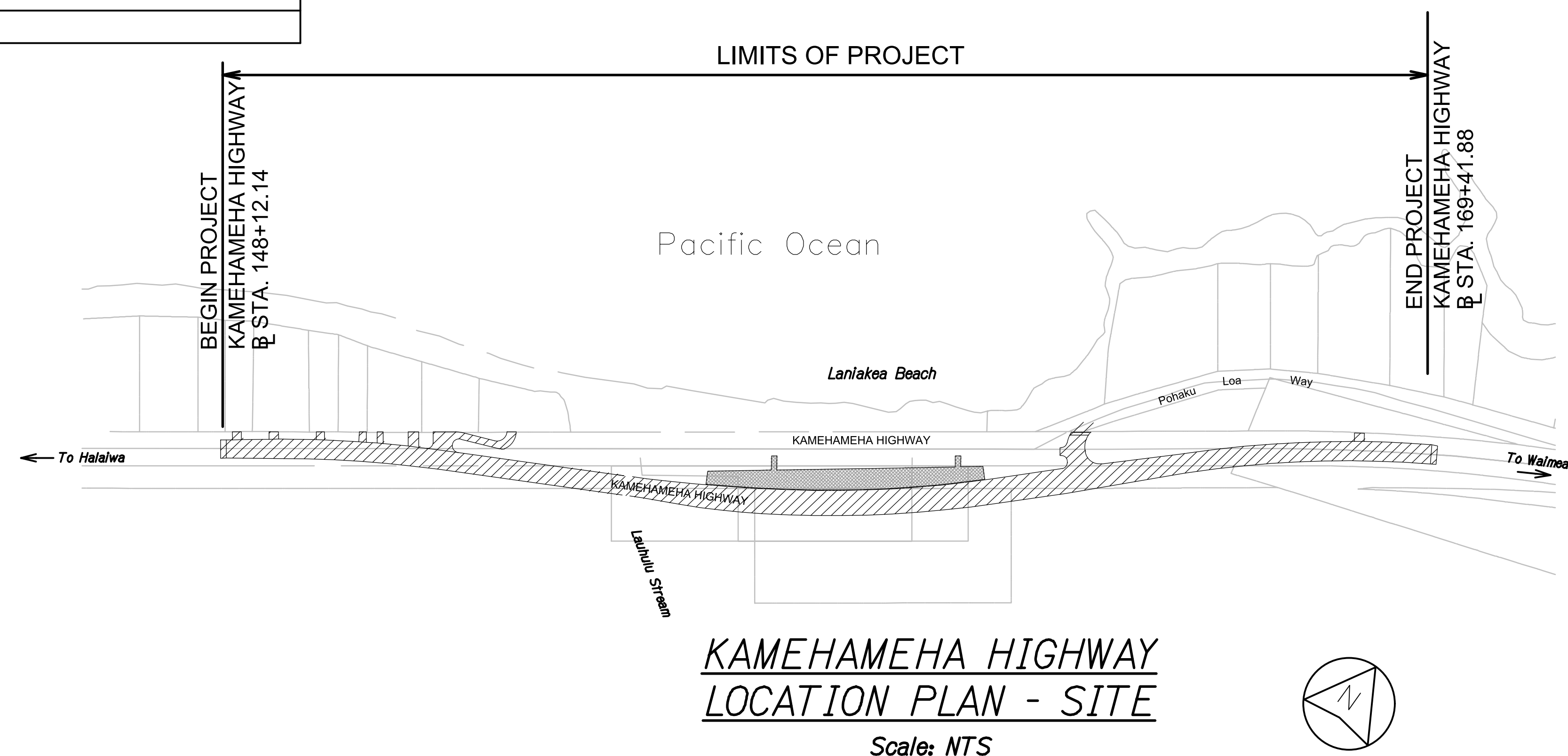
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
HONOLULU, HAWAII

PLANS FOR
**KAMEHAMEHA HIGHWAY DRAINAGE
AND SAFETY IMPROVEMENTS**
VICINITY OF LANIAKEA BEACH (MP 3.06 TO MP 3.54)
PROJECT NO. 83B-01-09

DISTRICT OF WAIALUA
ISLAND OF OAHU



Enclosure Item 1.
Revised Plan Sheets with additional details provided per OCCL Comment



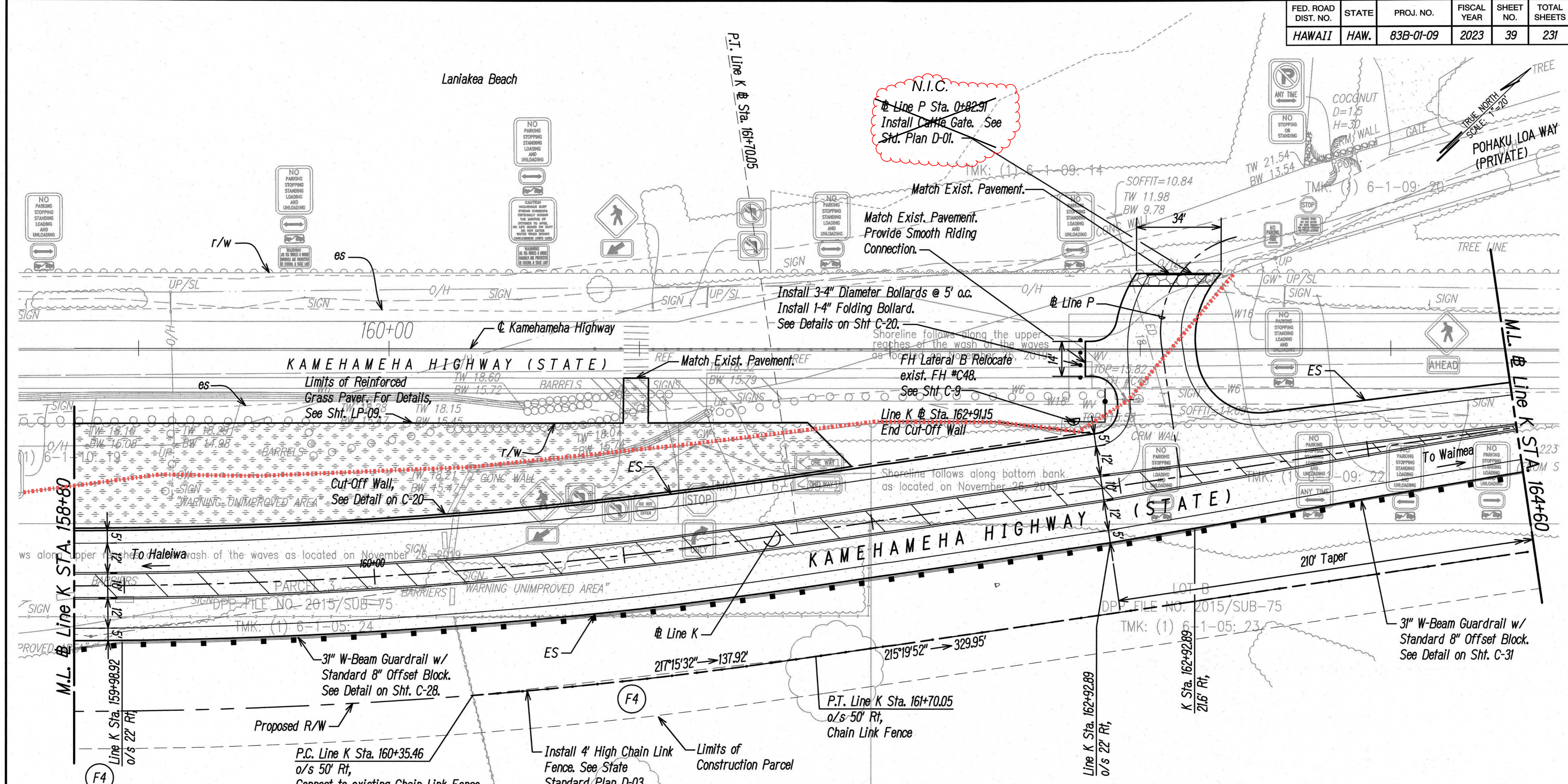
DEPARTMENT OF TRANSPORTATION
STATE OF HAWAII

APPROVED: Jun 14, 2023
DIR. OF TRANSPORTATION DATE

DESIGNED BY	DATE
DRAWN BY	
TRACED BY	
DESIGNED BY	
QUANTITIES BY	
CHECKED BY	

WSP USA DESIGNED BY _____
HWY-DD MANAGED BY _____
692-7578 PHONE _____
DEC. 2022 DATE _____

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	83B-01-09	2023	39	231

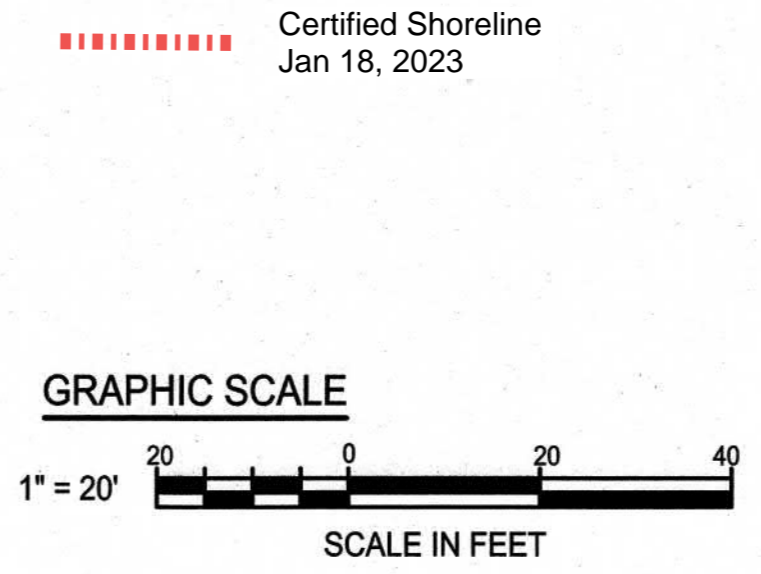


FENCE CURVE DATA
 $\Delta = 03^{\circ}51'20''$
 $R = 2050'$
 $T = 69.02'$
 $C = 137.92'$
 $Lc = 137.95'$

Approved:

 Manager and Chief Engineer, BWS*
 (For Work Affecting BWS Facilities in City/State R/W and BWS Easements Only)
 Date: 8/7/2023

- Legend:**
- Asphalt Pavement
 - Grass Pavers. See Detail on Sht. LP-09
 - Pavement Transition See detail on Sht. C-20.
 - 31" W-Beam Guardrail w/ Standard 8" Offset Block. See Detail on Sht. C-31

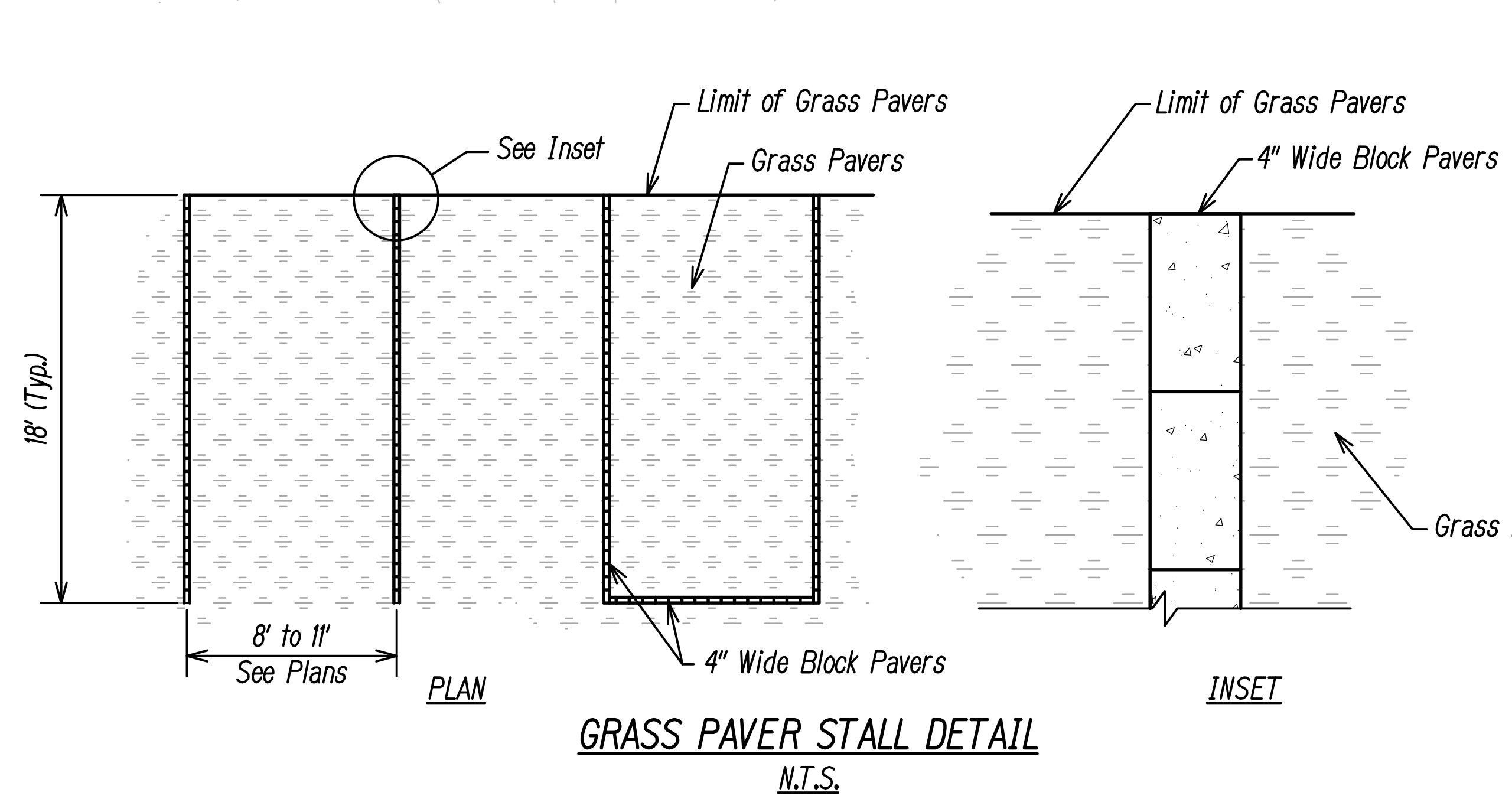
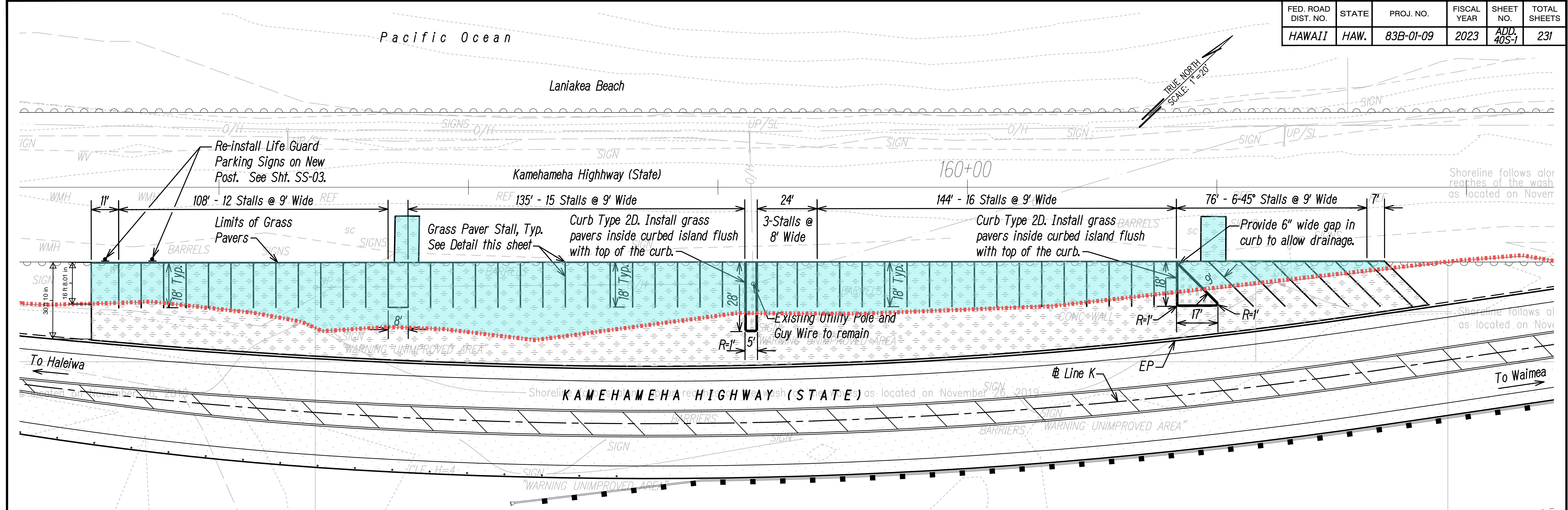


DEXTER S. EJI
 LICENSED PROFESSIONAL ENGINEER
 No. 4738-C
 HAWAII, U.S.A.
 THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.
 SIGNATURE:
 EXPIRATION DATE OF THE LICENSE: 04/30/24

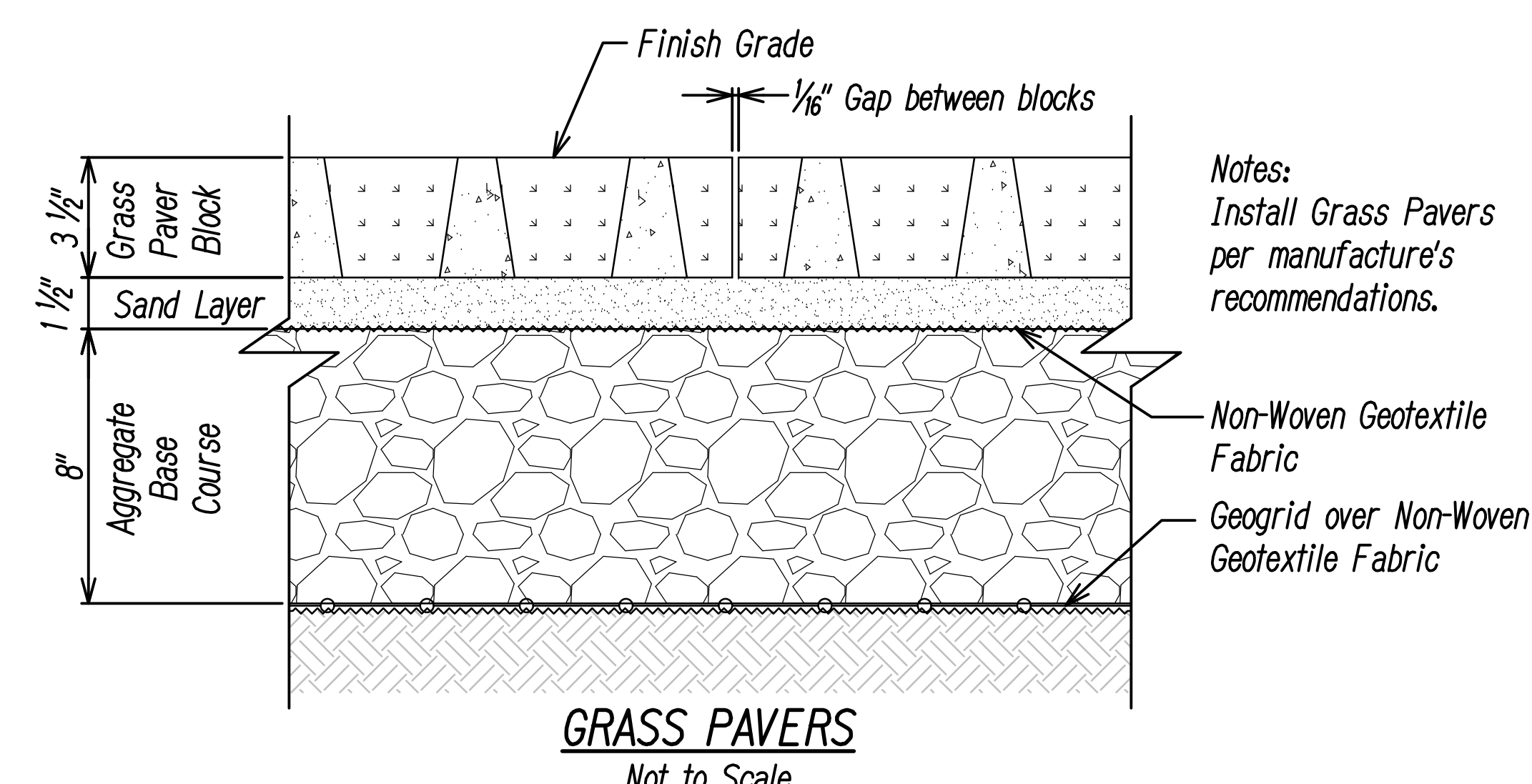
9/1/23	▲	Addendum 2 BWS Signature
DATE		REVISION
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION		
ROADWAY CONSTRUCTION PLAN		
KAMEHAMEHA HIGHWAY DRAINAGE AND SAFETY IMPROVEMENTS Vicinity of Laniakea Beach (MP 3.06 to MP 3.54) Project No. 83B-01-09		
Scale: 1"=20'	Date: December 2022	
SHEET No. C-6 OF 32 SHEETS		

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

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	83B-01-09	2023	ADD. 40S-1	231

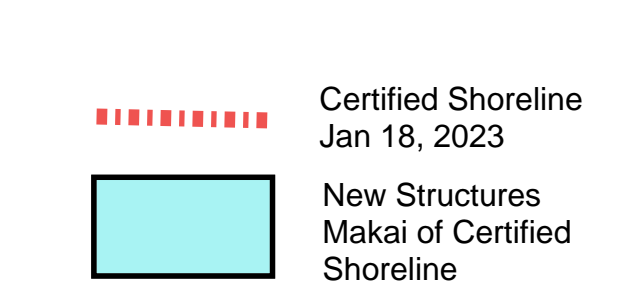


PLAN
Scale: 1"=20'



GRASS PAVERS
Not to Scale

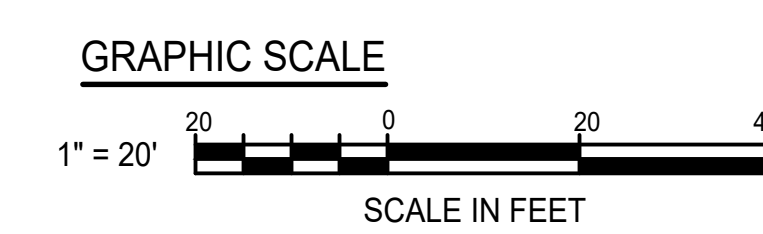
DATE	_____
DESIGNED BY	_____
TRACED BY	_____
NOTED BY	_____
CHECKED BY	_____
NO.	_____



Legend:

Grass Pavers [Symbol]

4" Wide Block Pavers [Symbol]



Dexter S. Eji
LICENSED PROFESSIONAL ENGINEER
No. 4739-C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

Signature: *Dexter S. Eji*
EXPIRATION DATE OF LICENSE: 04/30/24

9/1/23	▲ Addendum 2 New Sheet
DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

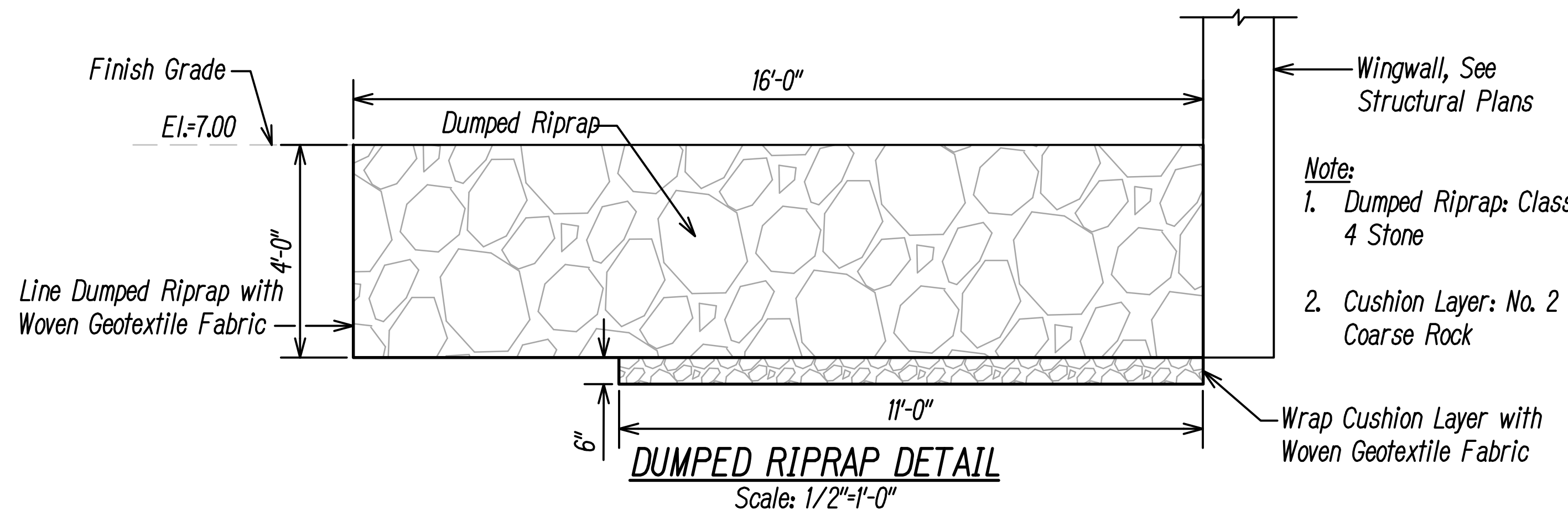
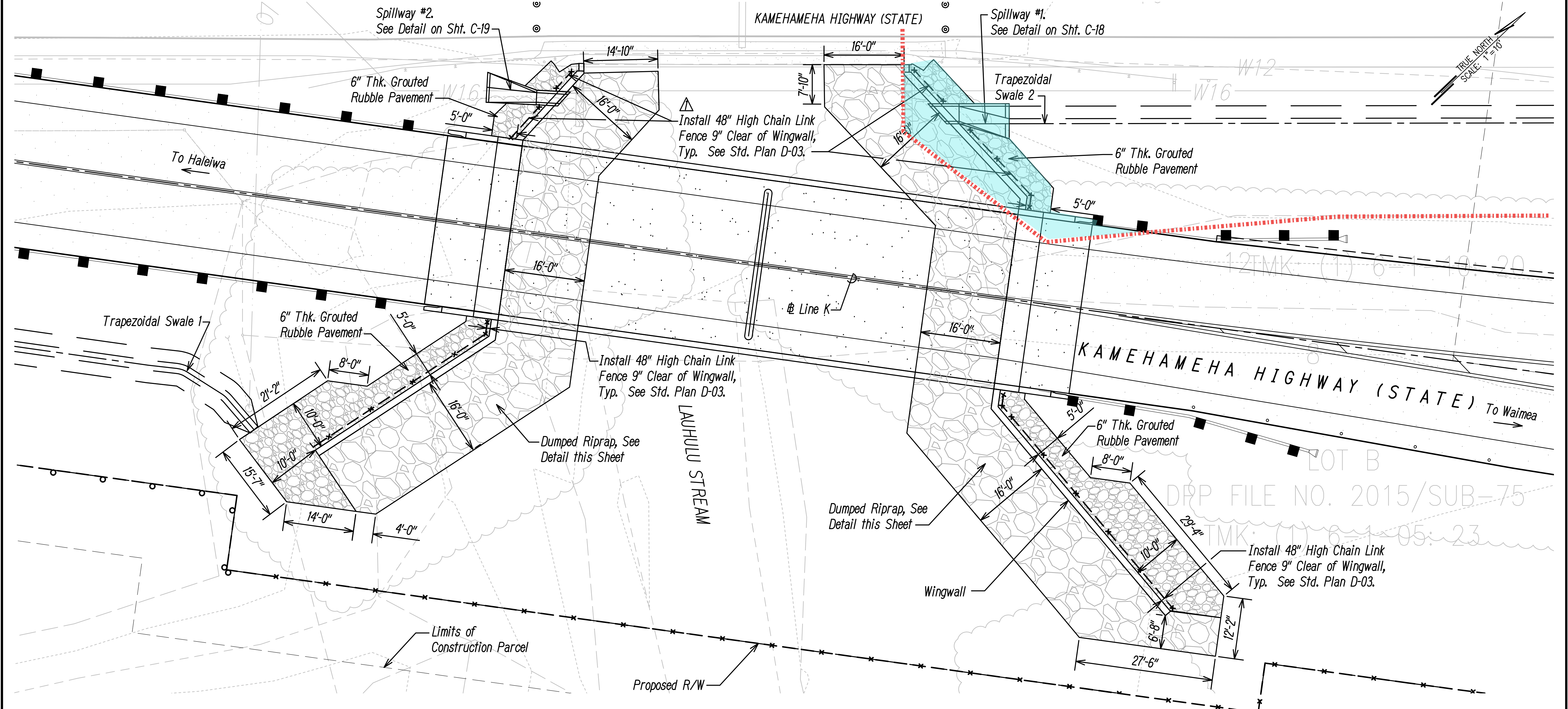
GRASS PAVER PLAN

KAMEHAMEHA HIGHWAY DRAINAGE AND SAFETY IMPROVEMENTS
Vicinity of Laniakea Beach (MP 3.06 to MP 3.54)
Project No. 83B-01-09

Scale: 1"=20' Date: December 2022

SHEET No. C-7A OF 32 SHEETS

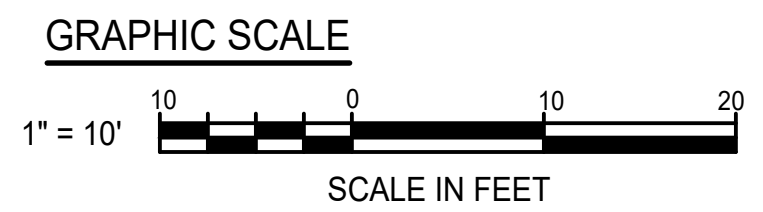
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	83B-01-09	2023	50	231



PLAN - DUMPED RIPRAP
Scale: 1"=10'

- Note:**
1. Dumped Riprap: Class 4 Stone
 2. Cushion Layer: No. 2 Coarse Rock

- Certified Shoreline
Jan 18, 2023
- New Structures
Makai of Certified Shoreline



DATE	
DESIGNED BY	
DRAWN BY	
CHECKED BY	
NOTED BY	
QUANTITIES BY	
NO.	

Dexter S. Eji
LICENSED PROFESSIONAL ENGINEER
No. 4739-C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.
SIGNATURE: *Dexter S. Eji* EXPIRATION DATE OF LICENSE: 04/30/24

9/1/23	△ Addendum 2 Revise CLF Callout
DATE	REVISION

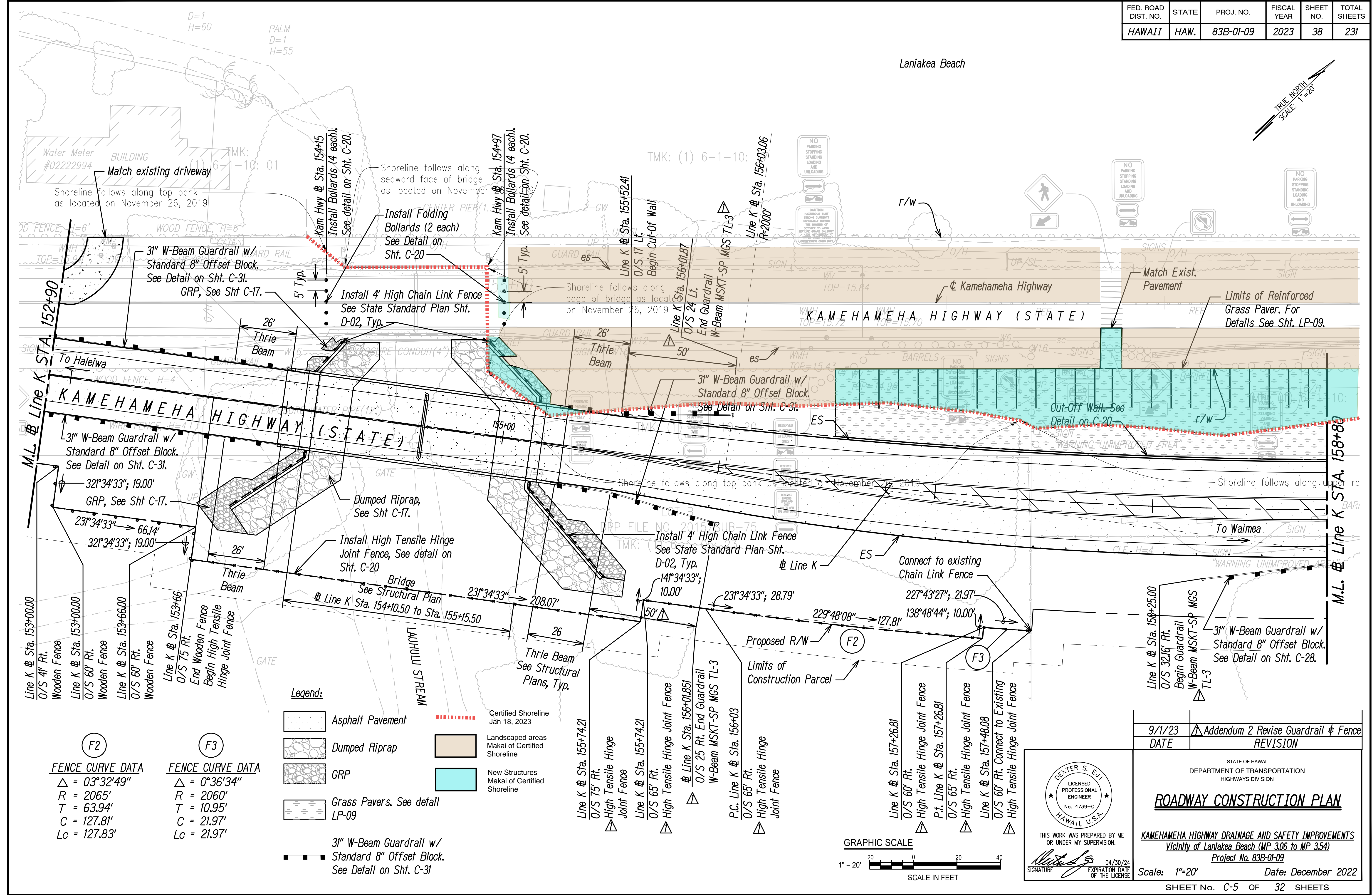
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PLAN - DUMPED RIPRAP

KAMEHAMEHA HIGHWAY DRAINAGE AND SAFETY IMPROVEMENTS
Vicinity of Lanikaea Beach (MP 3.06 to MP 3.54)
Project No. 83B-01-09

Scale: 1"=10' Date: December 2022

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	83B-01-09	2023	38	231



DATE	_____
DESIGNED BY	_____
CHECKED BY	_____
QUANTITIES BY	_____
NOTED BY	_____
NO.	_____

DEXTER S. EJI
 LICENSED PROFESSIONAL ENGINEER
 No. 4739-C
 HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.
 SIGNATURE: *[Signature]* 04/30/24
 EXPIRATION DATE OF THE LICENSE

9/1/23	ADDENDUM 2 REVISE GUARDRAIL & FENCE
DATE	REVISION

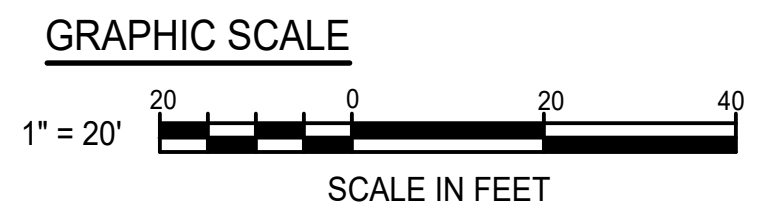
STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION

ROADWAY CONSTRUCTION PLAN

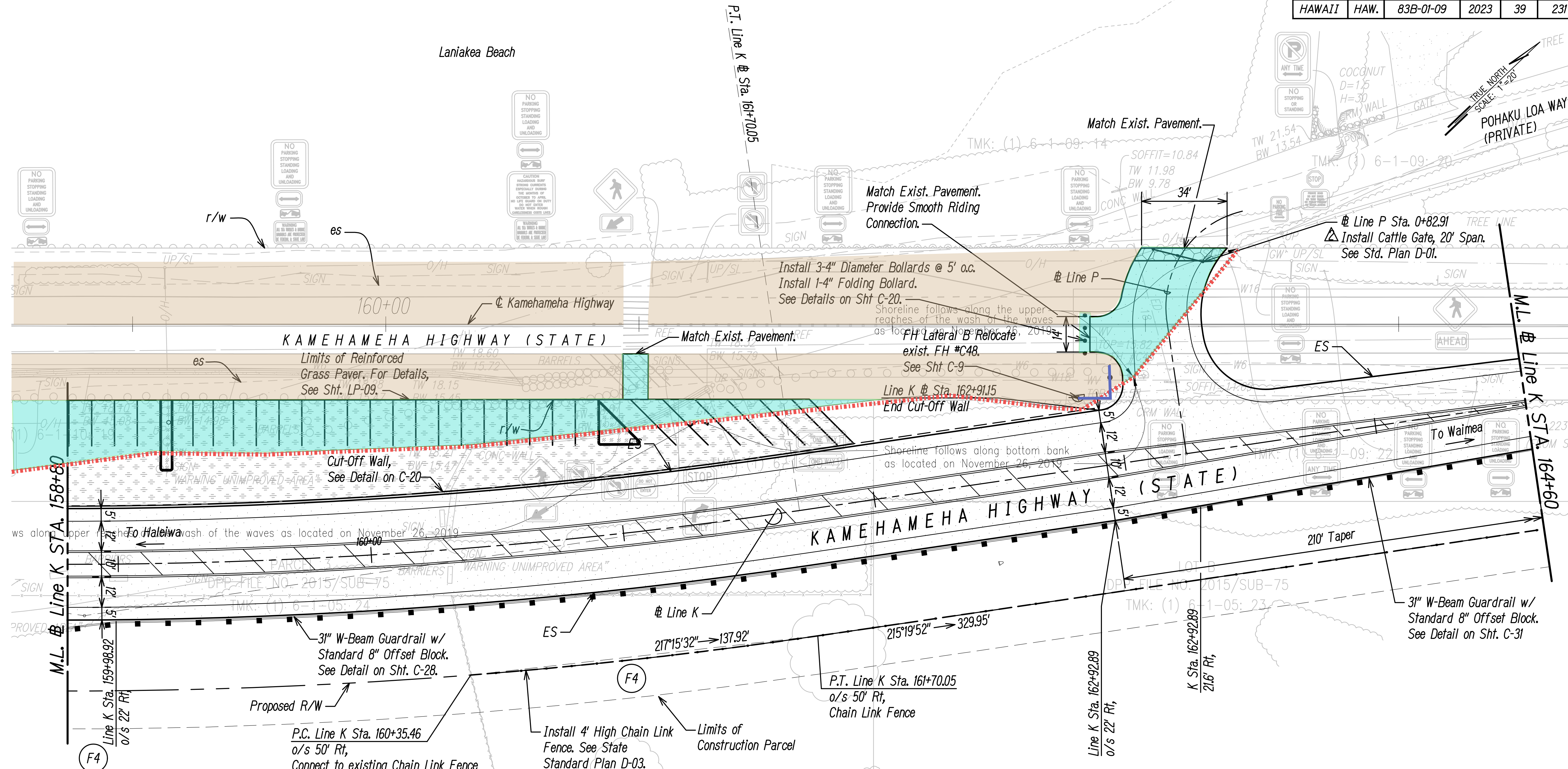
KAMEHAMEHA HIGHWAY DRAINAGE AND SAFETY IMPROVEMENTS
 Vicinity of Laniakea Beach (MP 3.06 to MP 3.54)
 Project No. 83B-01-09

Scale: 1"=20' Date: December 2022

SHEET No. C-5 OF 32 SHEETS



FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	83B-01-09	2023	39	231



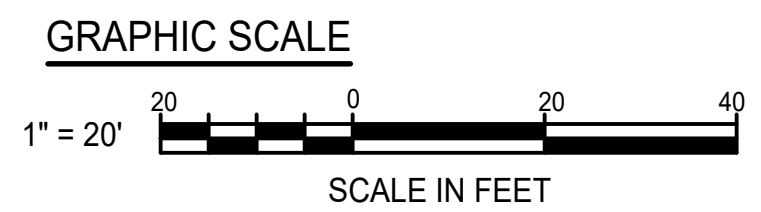
FENCE CURVE DATA
 $\Delta = 03^{\circ}51'20''$
 $R = 2050'$
 $T = 69.02'$
 $C = 137.92'$
 $Lc = 137.95'$

Approved:

 Manager and Chief Engineer, BWS
 (For Work Affecting BWS Facilities in City/State R/W and BWS Easements Only)
 _____ Date

Legend:

- Asphalt Pavement
- Grass Pavers. See Detail on Sht. LP-09
- Pavement Transition See detail on Sht. C-20.
- 3" W-Beam Guardrail w/ Standard 8" Offset Block. See Detail on Sht. C-31
- Certified Shoreline Jan 18, 2023
- Landscaped areas Makai of Certified Shoreline
- New Structures Makai of Certified Shoreline



8/12/23		ADD 2 Revise Cattle Gate
8/3/23		ADD 1 BWS Signature
DATE		REVISION

STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION

ROADWAY CONSTRUCTION PLAN

KAMEHAMEHA HIGHWAY DRAINAGE AND SAFETY IMPROVEMENTS
 Vicinity of Laniakea Beach (MP 3.06 to MP 3.54)
 Project No. 83B-01-09

Scale: 1"=20' Date: December 2022

SHEET No. C-6 OF 32 SHEETS

STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION

ROADWAY CONSTRUCTION PLAN

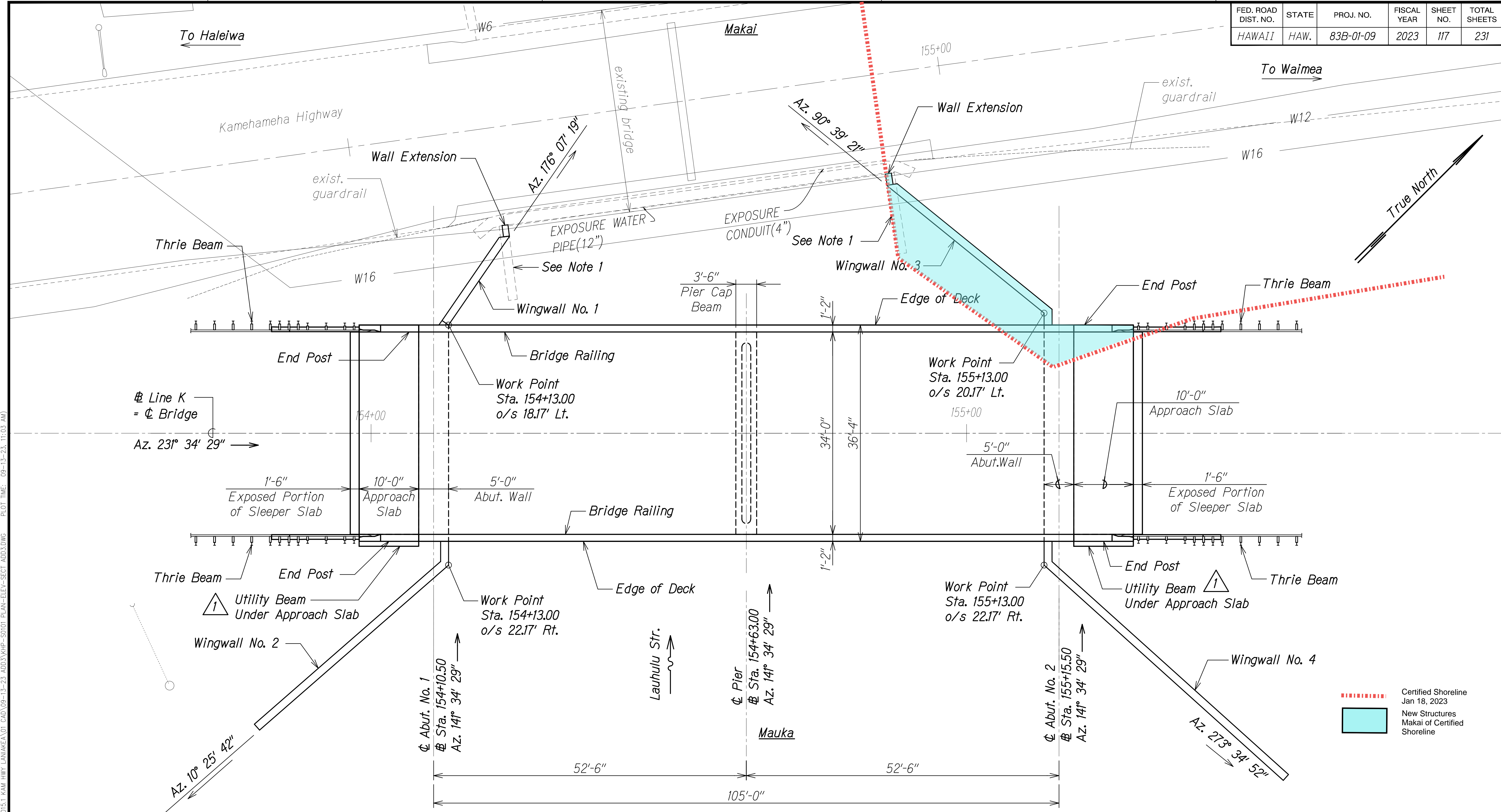
KAMEHAMEHA HIGHWAY DRAINAGE AND SAFETY IMPROVEMENTS
 Vicinity of Laniakea Beach (MP 3.06 to MP 3.54)
 Project No. 83B-01-09

Scale: 1"=20' Date: December 2022

SHEET No. C-6 OF 32 SHEETS

DATE	BY

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	83B-01-09	2023	117	231



NOTES:

- Existing CRM walls to be removed. See Shts. S2.1 to S2.3
- For new wingwalls, see Shts. S7.1 to S7.16.

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

SURVEY PLOTTED BY	DATE
DRAWN BY	
TRACED BY	
QUANTITIES BY	
CHECKED BY	
NO.	

DRAWING NAME: Z:\00_ONGOING\00_01_PROJECTS\22-015.1_KAM_Hwy_LANIARCA_DT_CAD\09-13-23_ADD3\KHP-30101_Plan-ELEV-SECT_ADD3.DWG PLOT TIME: 09-13-23 11:03 AM

9/19/23	1	Addendum 3 Utility Beam
DATE		REVISION

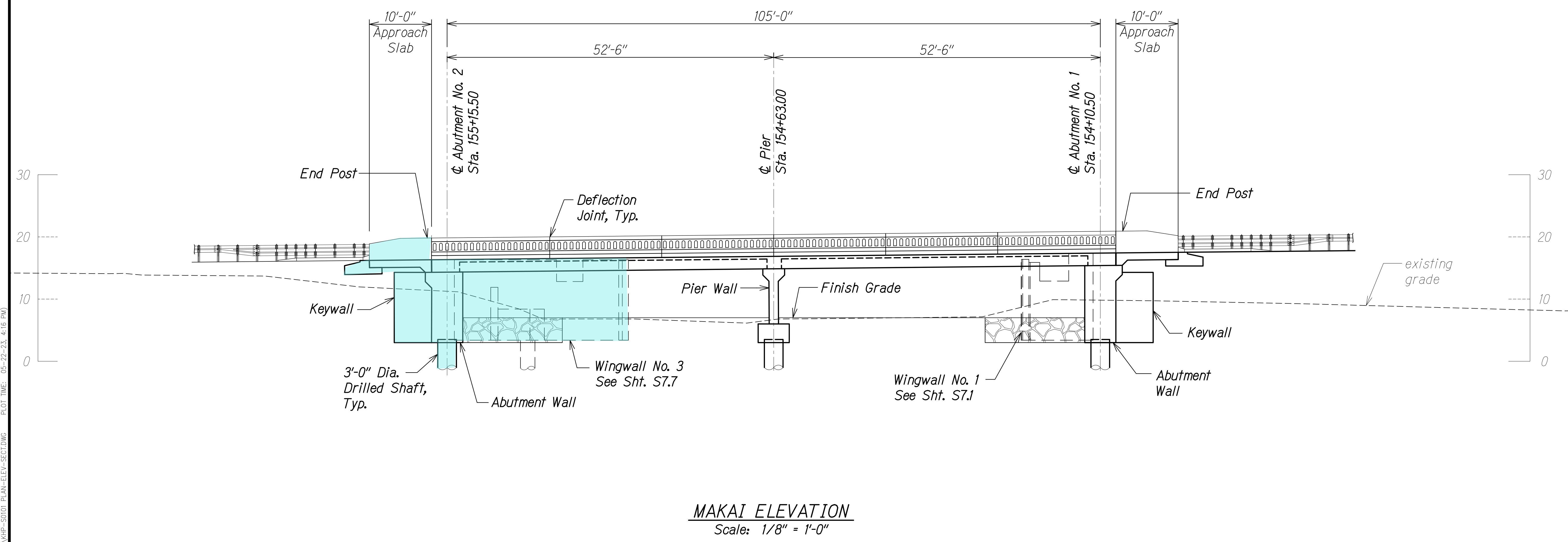
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.
 SIGNATURE: *Russ S. Miyahara*
 EXPIRATION DATE OF THE LICENSE: 12/31/24

STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION
LAYOUT PLAN
 KAMEHAMEHA HIGHWAY DRAINAGE AND SAFETY IMPROVEMENTS
 Vicinity of Laniarua Beach (MP 3.06 to MP 3.54)
 Project No. 83B-01-09
 Scale: As Noted Date: December 2022
 SHEET No. *SIJ* OF 11 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	83B-01-09	2023	119	231

To Waimea ←

→ To Haleiwa



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

New Structures
Makai of Certified Shoreline

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

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THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.
 SIGNATURE: *Russ S. Miyahara* 4-30-24
 EXPIRES: _____

STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION

MAKAI ELEVATION
 KAMEHAMEHA HIGHWAY DRAINAGE AND SAFETY IMPROVEMENTS
 Vicinity of Laniakea Beach (MP 3.06 to MP 3.54)
 Project No. 83B-01-09
 Scale: As Noted Date: December 2022

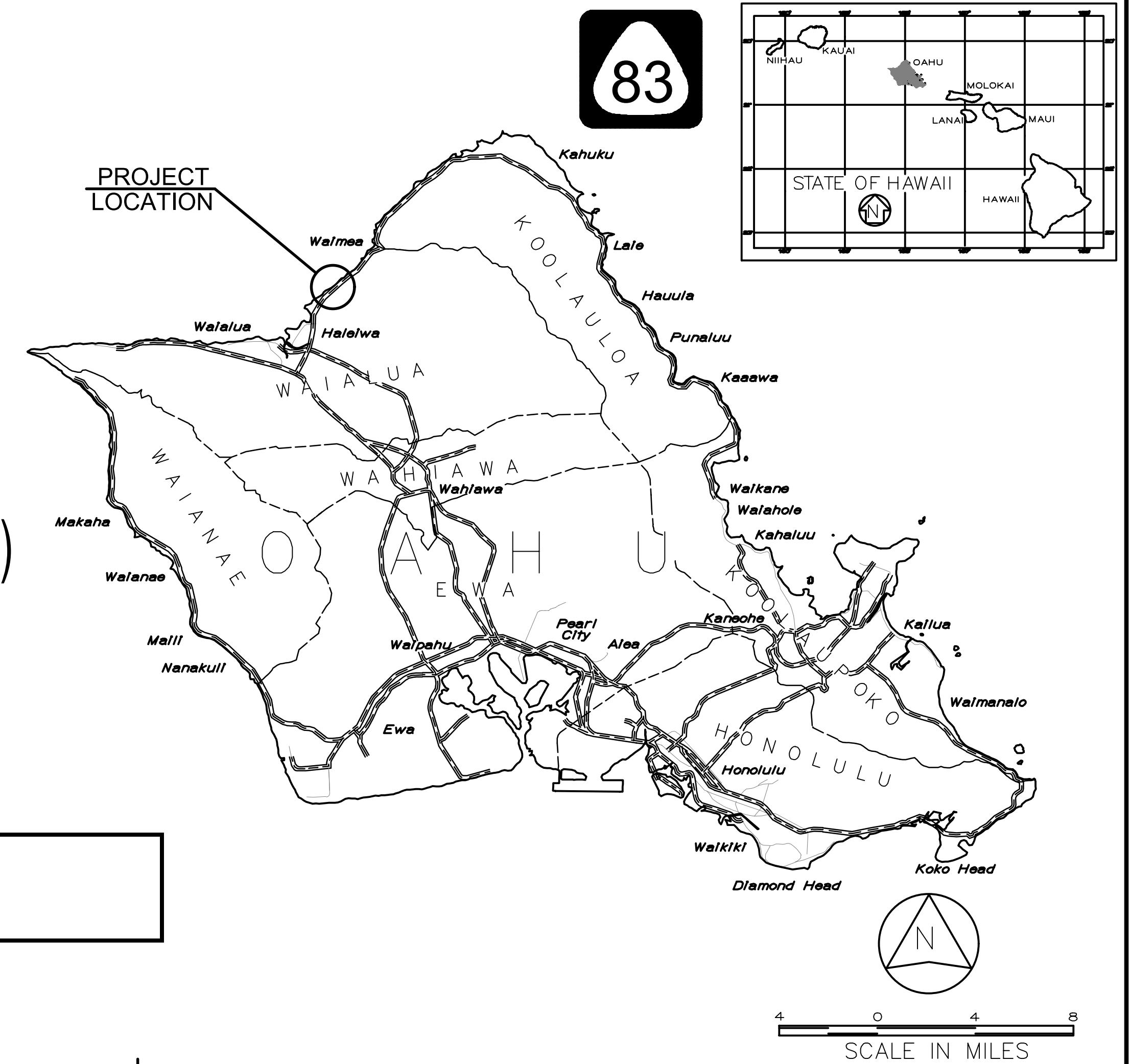
INDEX TO DRAWINGS	
SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	STANDARD PLAN SUMMARY
3-5	GENERAL NOTES, LEGEND AND ABBREVIATIONS
6-11	UTILITY NOTES
12-15	WATER POLLUTION AND EROSION CONTROL NOTES AND DETAILS
16	EROSION AND SEDIMENT CONTROL PLAN
17-22	BORING LOCATION PLAN, LEGEND, AND BORING LOGS
23	DEMOLITION PLAN
24	TEMPORARY FENCING PLAN
25-28	TYPICAL SECTIONS
29	SURVEY CONTROL PLAN
30-33	ALIGNMENT PLANS
34-35	ROADWAY PLAN AND PROFILE
36	SUPERELEVATION DIAGRAM
37-40	ROADWAY CONSTRUCTION PLANS
41	ELEVATION WINGWALL NO. 1, 2, 3 & 4
42	PLAN AND PROFILE FH LATERAL A,B & C
43	PLAN AND PROFILE TEMPORARY 12" WATERLINE
44-49	GRADING NOTES, GRADING AND DRAINAGE PLANS AND PROFILES
50	DUMPED RIPRAP PLAN AND DETAILS
51-55	MISCELLANEOUS DETAILS
56-58	MISCELLANEOUS DETAILS
59-62	SPOT ELEVATION PLANS
63-65	GUARDRAIL DETAILS
66	PAVEMENT MARKINGS NOTES AND LEGEND
67-73	SIGNING AND PAVEMENT MARKINGS PLANS & DETAILS
74	CONSTRUCTION PHASING PLAN
73-88	TRAFFIC CONTROL NOTES AND PLANS
89-111	ELECTRICAL PLANS
112-191	STRUCTURAL PLANS
192-201	LANDSCAPING PLANS
202-231	CROSS SECTIONS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	83B-01-09	2023	1	231

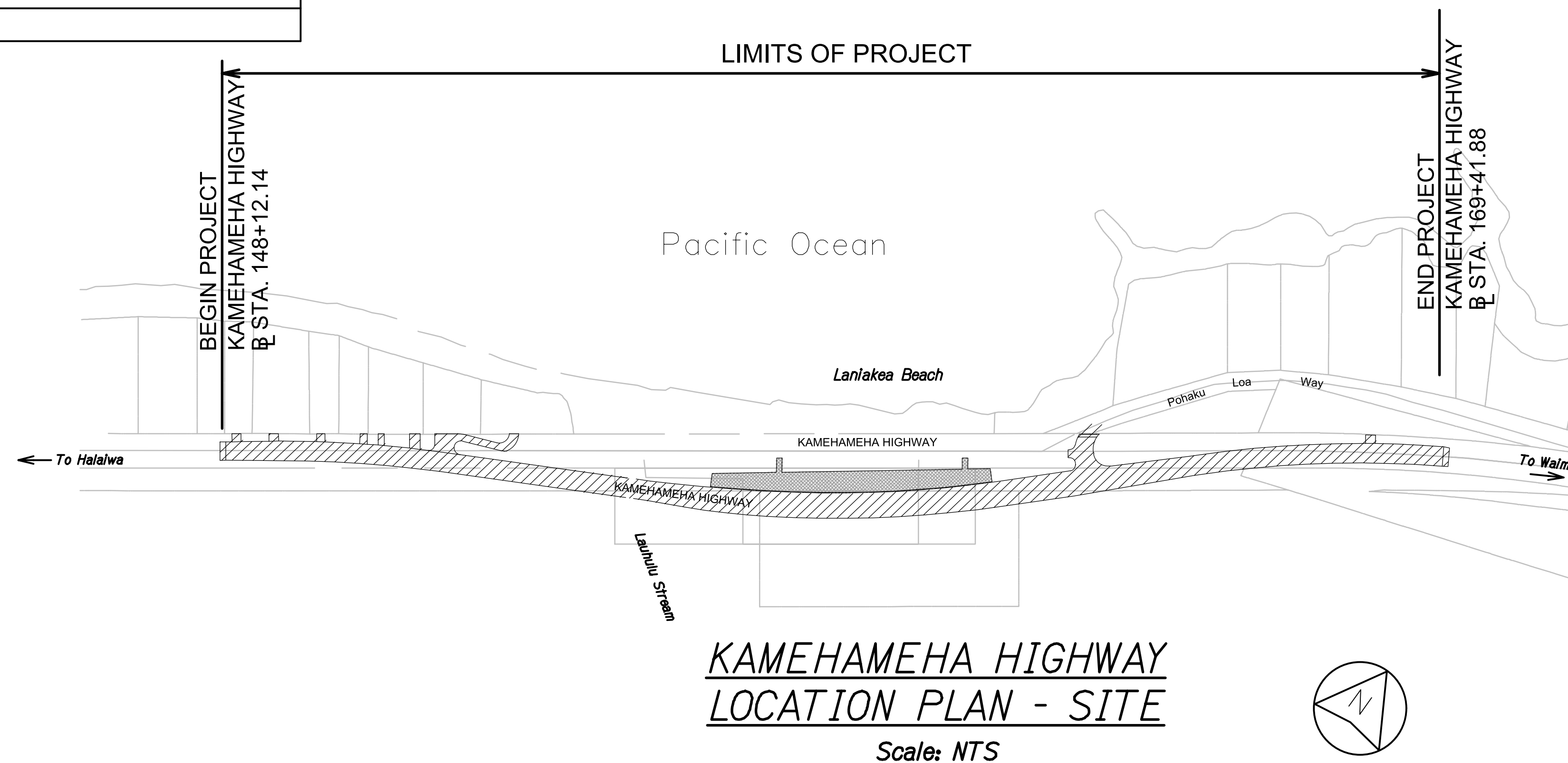
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
HONOLULU, HAWAII

PLANS FOR
**KAMEHAMEHA HIGHWAY DRAINAGE
AND SAFETY IMPROVEMENTS**
VICINITY OF LANIAKEA BEACH (MP 3.06 TO MP 3.54)
PROJECT NO. 83B-01-09

DISTRICT OF WAIALUA
ISLAND OF OAHU



Enclosure Item 2.
Grassed Paver Plan and Landscape Planting Plan



DEPARTMENT OF TRANSPORTATION
STATE OF HAWAII

APPROVED: *[Signature]* Jun 14, 2023
DIR. OF TRANSPORTATION DATE

DESIGNED BY	DATE
DRAWN BY	
TRACED BY	
DESIGNED BY	
QUANTITIES BY	
CHECKED BY	

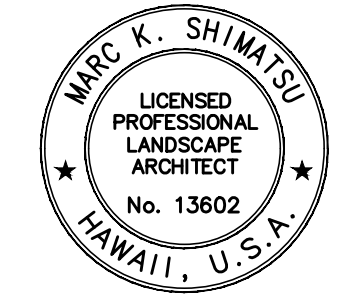
WSP USA DESIGNED BY _____
HWY-DD MANAGED BY _____
692-7578 PHONE _____
DEC. 2022 DATE _____

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	83B-01-09	2023	192	231

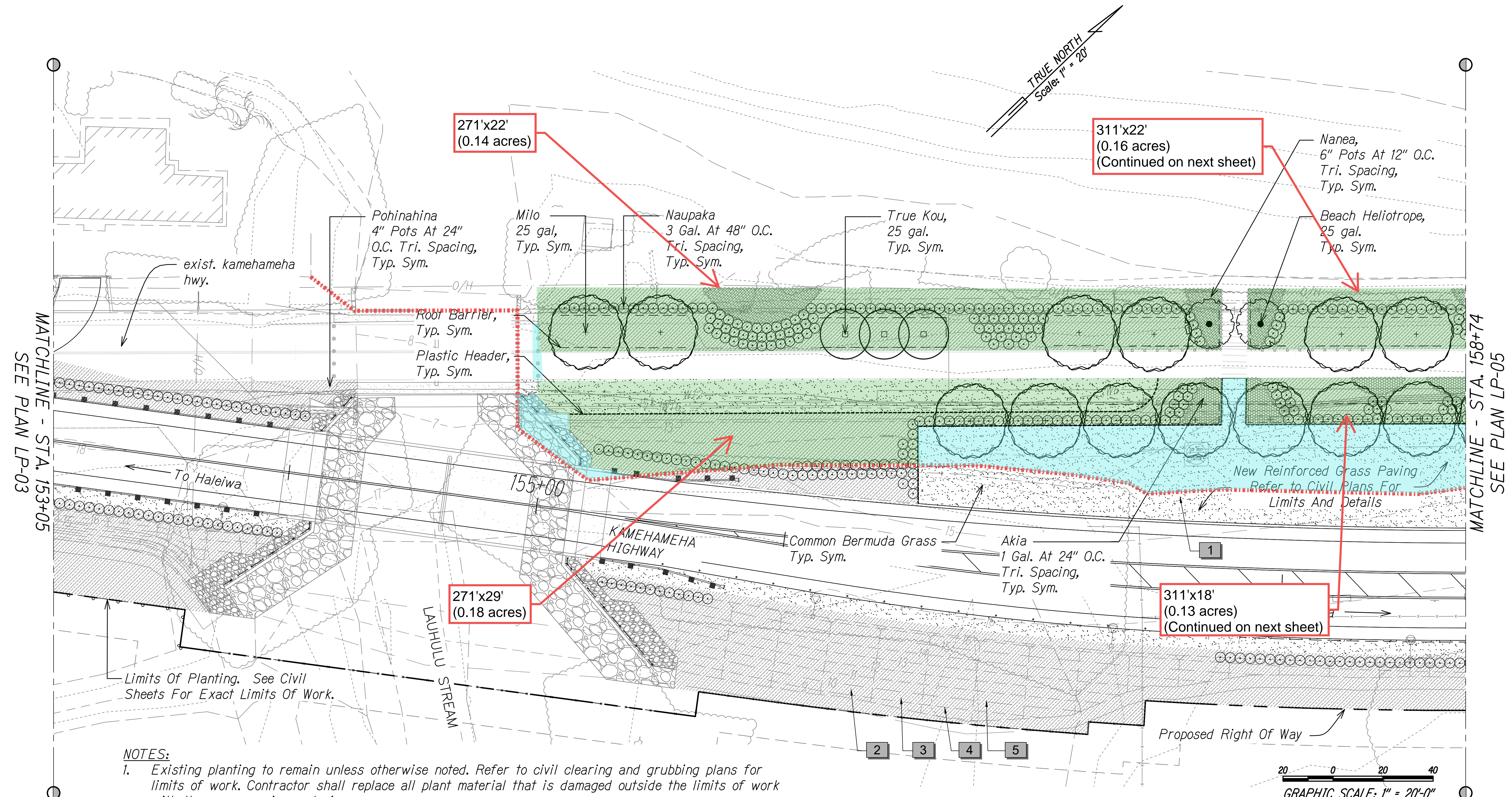
PLANT NOTES:

- Contractor shall field verify all plant quantities and dimensions prior to installation. Contractor shall determine quantities of plant materials to be provided. In all cases, Contractor shall install plant material on all areas affected by construction.
- Contractor shall be responsible for locating and protecting existing utilities.
- Prior to excavating for tree, shrub, or ground cover planting pits, all tree and shrub planting locations shall be staked out by Contractor for acceptance by Engineer. Do not plant until ground has been prepared and site is neat, orderly, and the Engineer accepts site for planting.
- Notify Engineer of any discrepancies in plant locations.
- Notify Engineer 30 days prior to planting operations for acceptance of all plant material at place of growth. All plant material not accepted by the Engineer will be subject to rejection.
- The Engineer will inspect plants at the place of growth and after delivery to the project.
- Plants shall meet size indicated. Plants shall be straight and uniformly shaped, unless unique or special characteristics are specified, and shall be undamaged, sound, healthy, vigorous and free of disease and insect infestation. Plants not conforming to these requirements on delivery to the project and at the end of the plant establishment period will be rejected.
- Contractor shall be solely responsible for the complete removal and damages resulting from planting any plant species listed on the Hawaii Department of Agriculture 'Noxious Weed Rules' as defined in the statute, Hawaii Administrative Rules 4:68:1 or the 'Federal Noxious Weed List' as defined in Title 7 of the Code of Federal Regulations (CFR), parts 360 and 361.
- All tree work must adhere to American National Standard Institute (or ANSI) - a300 Tree Care Standards and ANSI-z133 safety standards for tree work. Work shall be contracted to arborists that has been certified in good standings as an ISA certified arborist for at least 10 continuous years to assure that tree work is performed properly and trees are not damaged by practices such as topping, flush cuts, over-thinning, or climbing with spikes. Contractor shall submit a copy of the ISA arborist certification of good standing of 10 years to the Engineer minimum 7 days prior to tree pruning. The cost for arborist services shall be considered incidental to Specification Section 619 - Planting.
- For the duration of construction within the drip line of trees to remain there must be: no changes, alterations or disturbance to the grade by adding fill, excavating or scraping except as noted on plans; no storage of construction material or equipment; no stockpiling of any construction material or any excavated material no disposal of any liquids (E.G. Concrete slurry, gas, oil, paint); no vehicular traffic, equipment or excessive pedestrian traffic, no attachment of any wires, ropes, lights, or any other such attachment other than those of protective nature to any tree to be preserved; and no cleaning of equipment or material under the canopy of any tree or group of trees to remain. For slopes flatter than 3H:1V, till top six-inches of soil to evenly incorporate fertilizer and amendments. For slopes steeper than 3H:1V, no tilling is required.
- Representative samples of soil from project site shall be submitted to Crop Nutrient Solutions Inc., the University of Hawaii Agricultural Extension Service or laboratory acceptable to the Engineer for analysis of required soil amendments. Test results and fertilization schedule shall be presented to the Engineer for review and acceptance before placing planting soil or amending existing soil. Uniformly distribute fertilizer and amendments over planting areas as recommended by the soil analysis report. Contractor shall prepare separate soil samples and analysis results for each site. Refer to Specification Section 618 - Soil Preparation.
- Guy wires, flagging, stakes, windbreakers, etc. shall be maintained and replaced if necessary by the Contractor until the shrub is able to stand by itself. The Contractor shall remove and dispose of these items at the end of plant establishment period.
- Any planting that obstructs sight distance, signs or traffic lights shall be relocated or removed as determined by the Engineer.
- Provide water for all plant material for the duration of the project, including plant establishment period. Water trees, shrubs, ground cover and all grassed areas. Water for planting shall not cause erosion damage to the slopes. The Contractor shall be responsible for repairing any damage cause by the watering of plants. The Contractor shall gradually decrease the amount of water being provided to the plant material 8 weeks prior to final acceptance of plantings.
- Temporary irrigation shall be provided and installed by the Contractor for the duration of the project. Refer to Specification Sections 619.03(Q), 619.03(R), 641.03(B) and 641.03(C). Temporary irrigation system shall be considered incidental to Specification Sections 619 - Planting and 641 - Hydro-Mulch Seeding.
- Contractor shall be responsible for weeding throughout the 9-month plant establishment period. Refer to Specifications Section 619 - Planting.
- Tree roots greater than 2 inches in diameter shall not be disturbed. Cutting of tree roots larger than 2 inches in diameter must be approved by an ISA Certified Arborist with a minimum of 10 years of continuous licensure and experience. Contractor shall submit arborist's qualifications and a tree root assessment report to the Engineer for approval prior to cutting tree roots. Root pruning shall be done in conformance with ANSI a300 (Part 8) latest edition. Root pruning shall take place under the supervision of the approved arborist at all times.

ORIGINAL PLAN	SURVEY PROVIDED BY	DATE
NOTE BOOK	DRAWN BY	
No.	DESIGNED BY	
	QUANTITIES BY	
	CHECKED BY	

 <p>4/30/24 EMP. DATE</p> <p><i>Marc K. Shimazu</i> This work was prepared by me or under my supervision.</p>	<p>STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION</p> <p>LANDSCAPE NOTES</p> <p>KAMEHAMEHA HIGHWAY DRAINAGE AND SAFETY IMPROVEMENTS Vicinity of Laniakea Beach (MP 3.06 to MP 3.54) Project No. 83B-01-09</p>
	<p>Scale: None</p> <p>Date: Jan 2023</p>

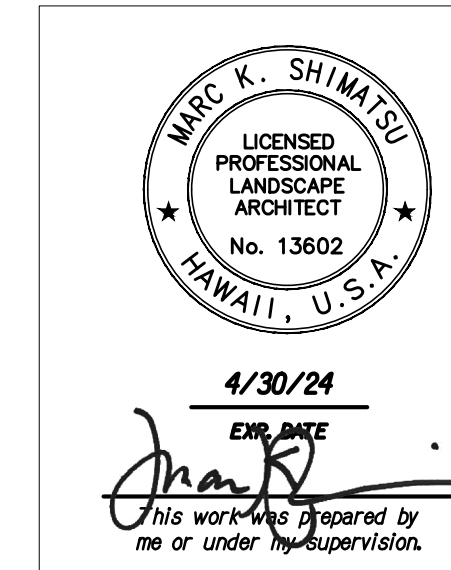
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	83B-01-09	2023	195	231



NOTES:

- Existing planting to remain unless otherwise noted. Refer to civil clearing and grubbing plans for limits of work. Contractor shall replace all plant material that is damaged outside the limits of work with the same species and size.
- Install root barriers for all trees within 10-feet of paving or underground utilities.
- Provide an automatic temporary irrigation system for all new planting areas.
- Plant and material quantities are provided for convenience only. Contractor is responsible for verifying all quantities and dimensions.
- Install a 4" layer of imported topsoil over all new planting areas.
- Install a 2" layer of wood chip mulch below all shrub and ground cover areas.
- Contractor is responsible for mowing, weeding, pruning, watering, fertilizing, and removal of trash from project area throughout the 3-month planting period and 9-month plant establishment period. Contractor shall remove weeds from all planting areas on a weekly basis and shall inform the contracting officer weekly to confirm weeding work has been completed.

- Certified Shoreline
Jan 18, 2023
- Landscaped areas
Makai of Certified Shoreline
- New Structures
Makai of Certified Shoreline



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

LANDSCAPE PLANTING PLAN

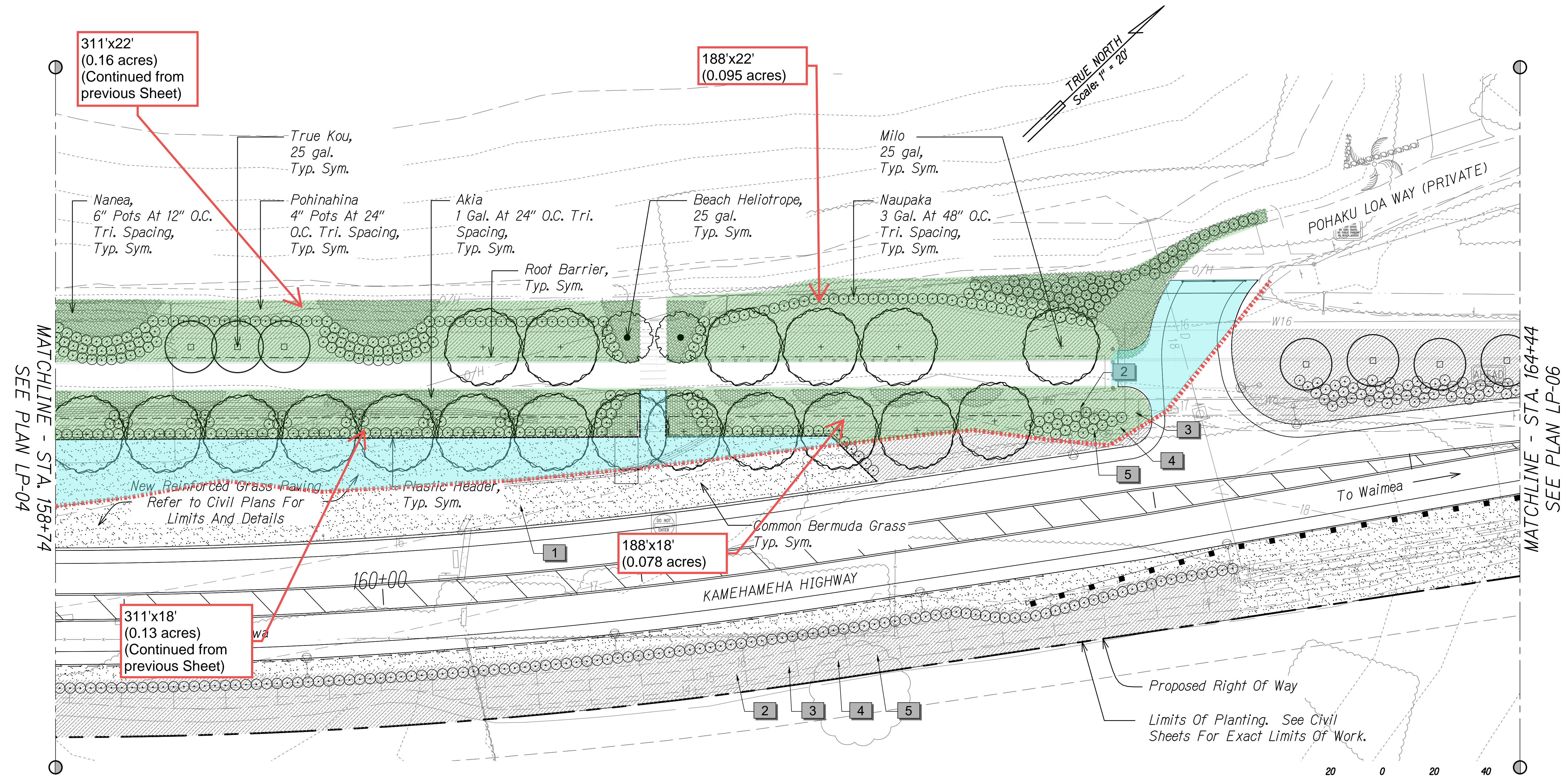
KAMEHAMEHA HIGHWAY DRAINAGE AND SAFETY IMPROVEMENTS
Vicinity of Laniakea Beach (MP 3.06 to MP 3.54)
Project No. 83B-01-09

Scale: 1" = 20'-0" Date: Jan 2023

SHEET No LP-04 OF 10 SHEETS

DATE	_____
SURVEY PROVIDED BY	_____
DRAWN BY	_____
DESIGNED BY	_____
QUANTITIES BY	_____
CHECKED BY	_____
ORIGINAL PLAN	_____
NOTE BOOK	_____
No.	_____

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	83B-01-09	2023	196	231



NOTES:

- Existing planting to remain unless otherwise noted. Refer to civil clearing and grubbing plans for limits of work. Contractor shall replace all plant material that is damaged outside the limits of work with the same species and size.
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- Install a 2" layer of wood chip mulch below all shrub and ground cover areas.
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- Certified Shoreline Jan 18, 2023
- Landscaped areas Makai of Certified Shoreline
- New Structures Makai of Certified Shoreline



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

**LANDSCAPE
PLANTING PLAN**

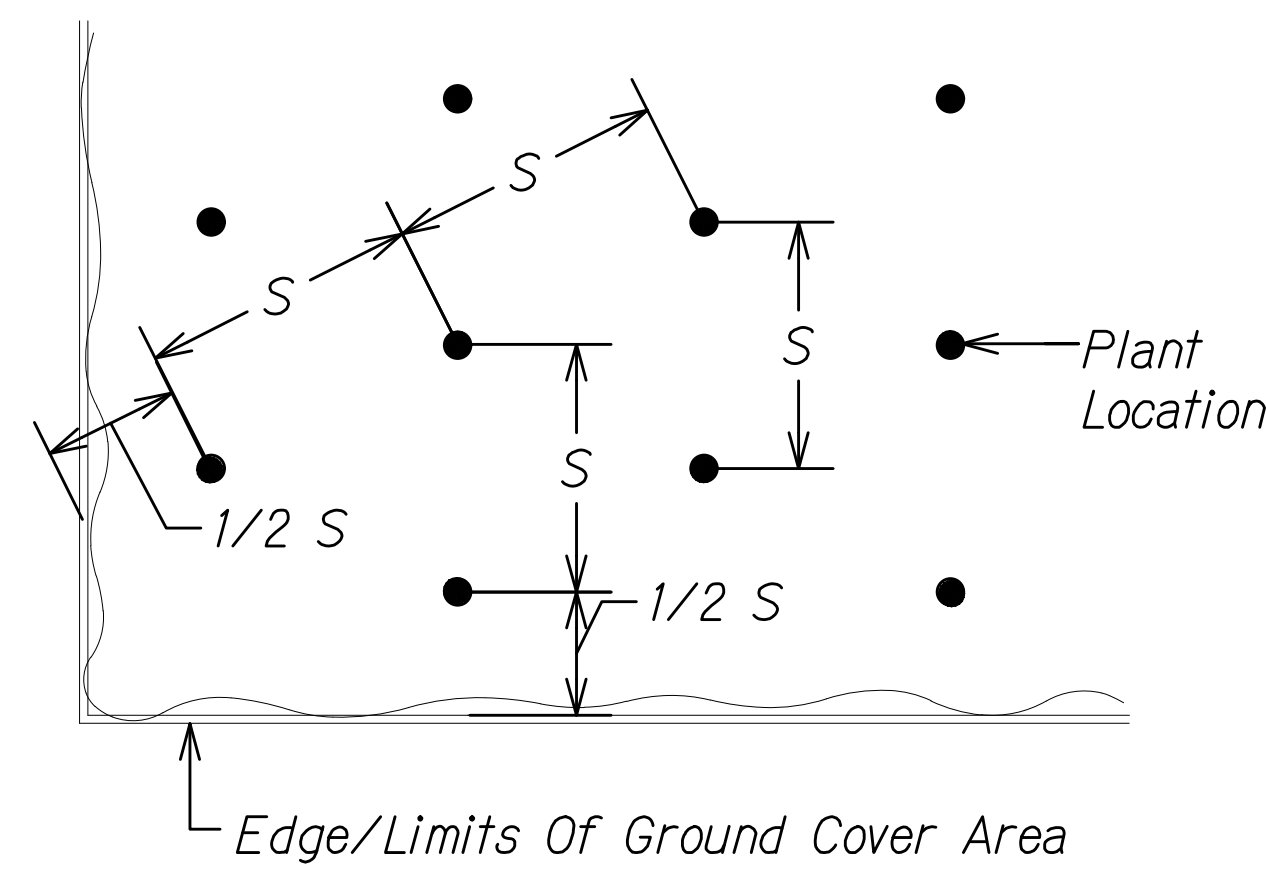
KAMEHAMEHA HIGHWAY DRAINAGE AND SAFETY IMPROVEMENTS
Vicinity of Laniakea Beach (MP 3.06 to MP 3.54)
Project No. 83B-01-09

Scale: 1" = 20'-0" Date: Jan 2023

SURVEY PROVIDED BY	DATE
DRAWN BY	
DESIGNED BY	
QUANTITIES BY	
CHECKED BY	
ORIGINAL PLAN	
NOTE BOOK	
No.	

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	83B-01-09	2023	198	231

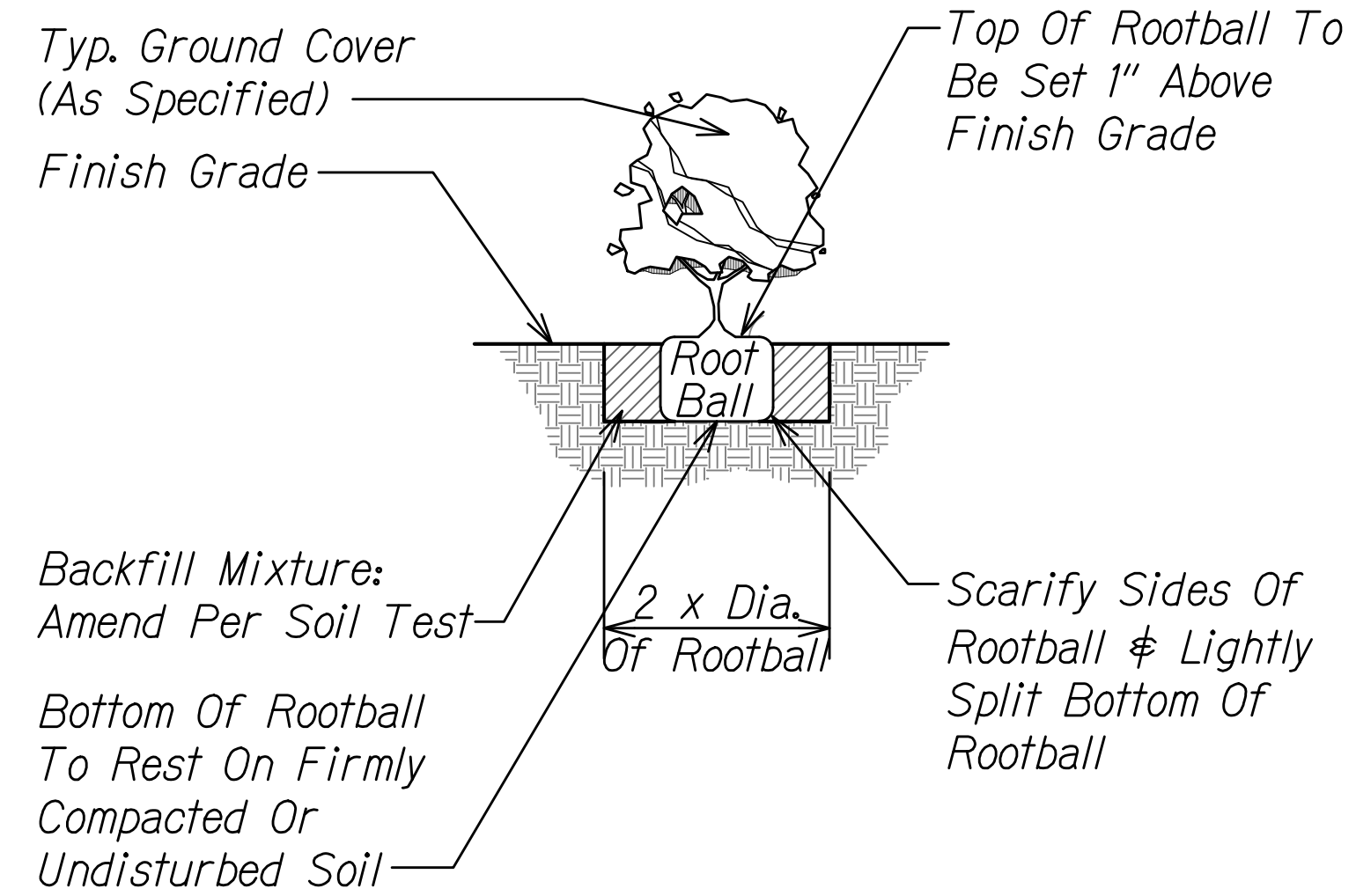
- Note:**
1. S = Spacing, (refer to plant list for spacing)
 2. Use spacing layout for shrubs, ground covers, and annuals



TRIANGULAR SPACING 1
 Scale: Not to Scale LP-07/LP-07

Notes:

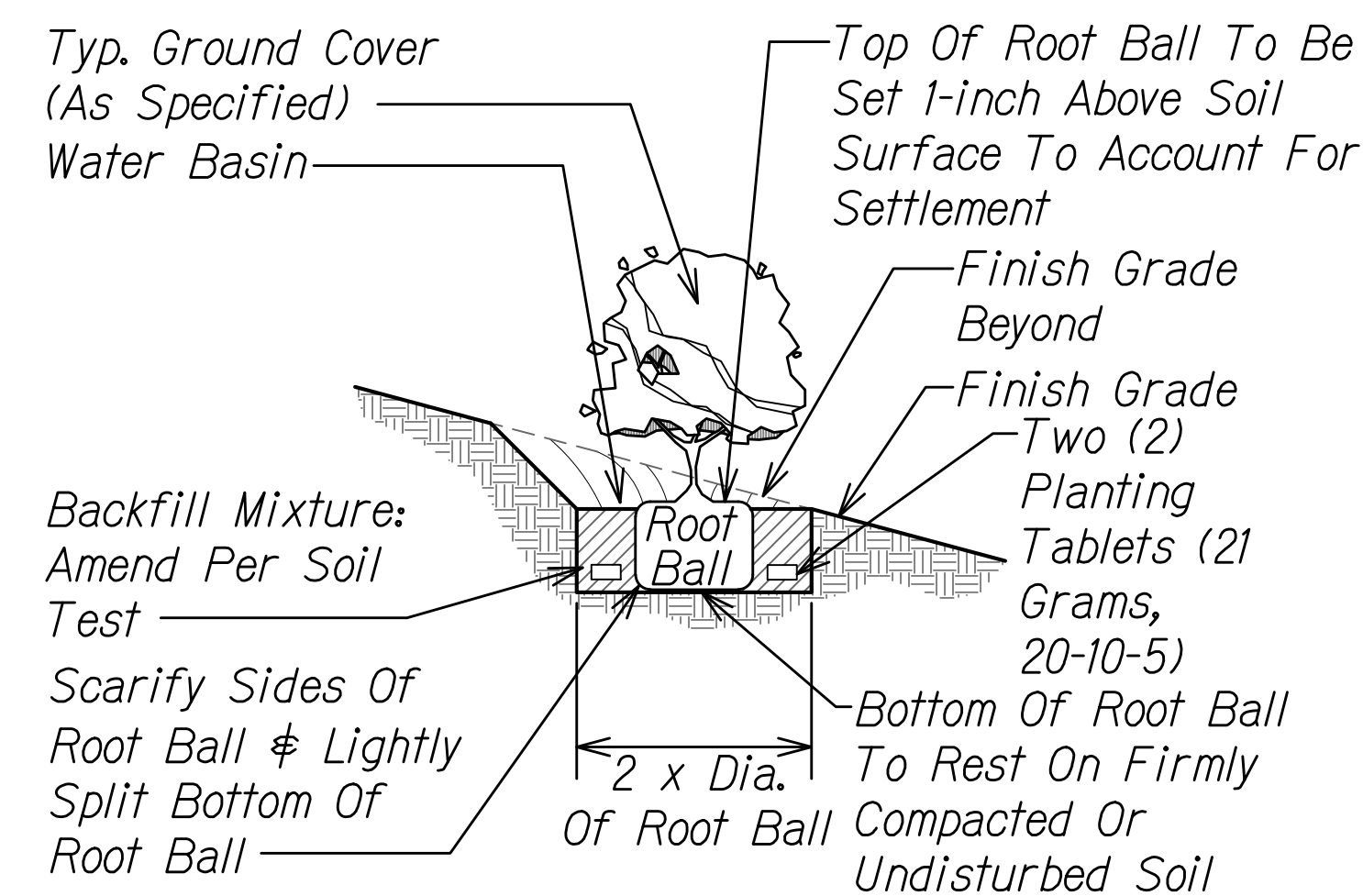
1. Ground covers shall be plumb. If ground cover is leaning at the end of the plant establishment period, it shall be replaced at the contractor's expense.
2. Immediately after planting, water heavily to ensure soil settles around roots.



GROUND COVER PLANTING 3
 Scale: Not to Scale LP-07/LP-07

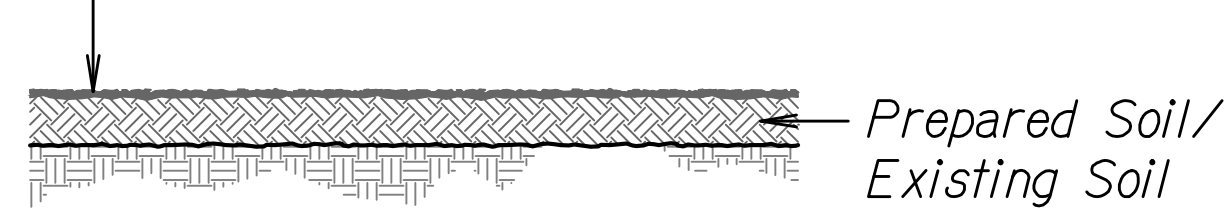
Notes:

1. Ground covers shall be plumb. If ground cover is leaning at the end of the plant establishment period, it shall be replaced at the contractor's expense.
2. Immediately after planting, water heavily to ensure soil settles around roots.



GROUND COVER PLANTING ON SLOPE 4
 Scale: Not to Scale LP-07/LP-07

Hydro-Mulch:
 Mulch Shall Be Specifically Processed Fiber Containing No Growth Or Germination Inhibiting Factors. It Shall Be Such That After Addition And Agitation In The Hydraulic Equipment With Seeds, Fertilizer, Water, Geobinders, And Other Additives Not Detrimental To Plant Growth, The Fibers Will Form A Homogeneous Slurry When Hydraulically Sprayed On The Soil. The Fibers Shall Form A Blotter-like Ground Cover Which Readily Absorbs Water And Allows Infiltration. Complete Coverage Of The Surface Shall Be Attained.



HYDRO-MULCHING DETAIL 2
 Scale: Not to Scale LP-07/LP-07

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4/30/24
 EXP. DATE
[Signature]
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STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION

**PLANTING
 DETAILS - 1**

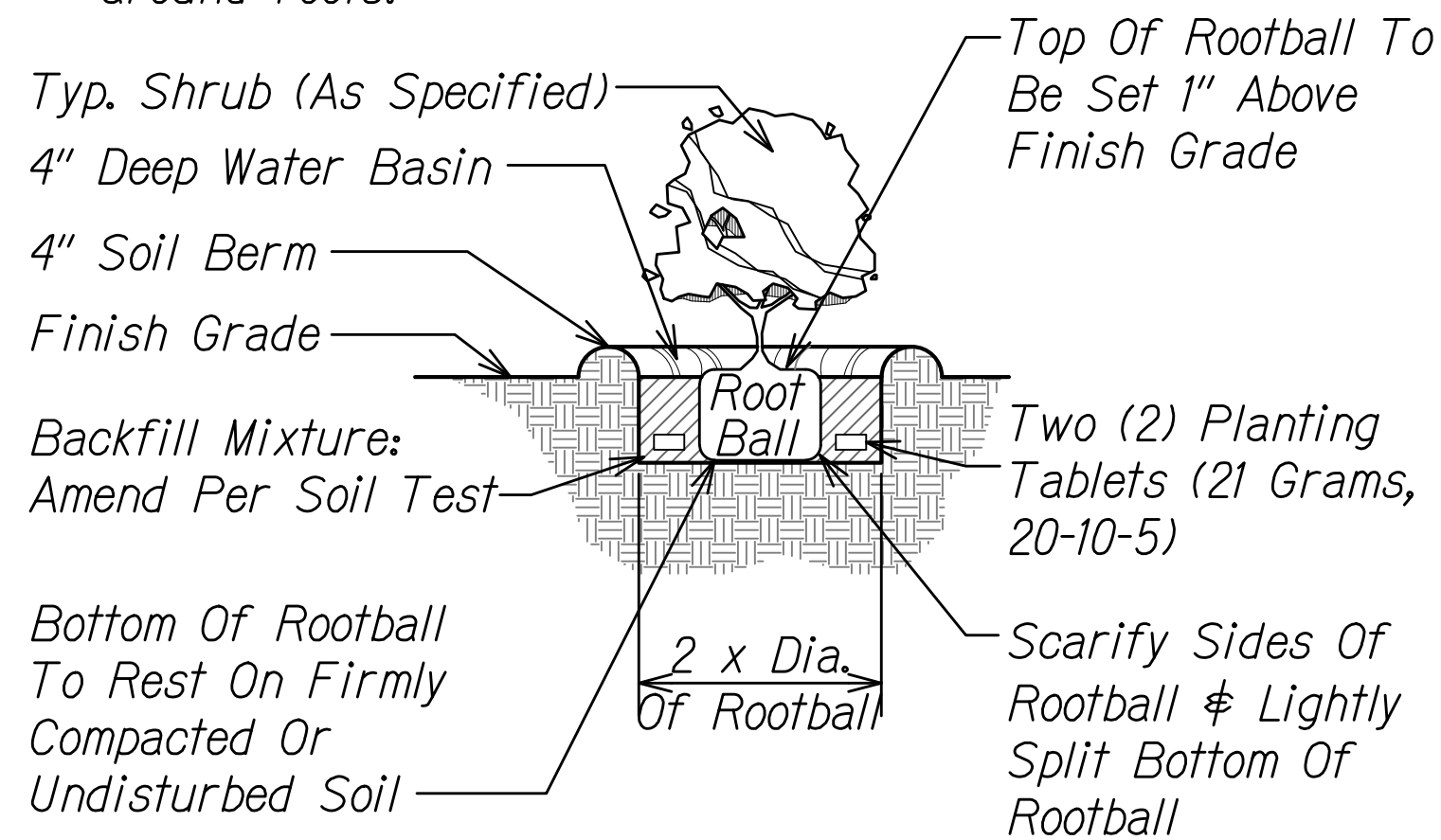
KAMEHAMEHA HIGHWAY DRAINAGE AND SAFETY IMPROVEMENTS
 Vicinity of Laniakea Beach (MP 3.06 to MP 3.54)
 Project No. 83B-01-09

Scale: Not To Scale Date: Jan 2023

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	83B-01-09	2023	199	231

Notes:

1. Single stem shrubs shall be plumb. If shrub is leaning at the end of the plant establishment period, it shall be replaced at the contractor's expense.
2. Immediately after planting, water heavily to ensure soil settles around roots.



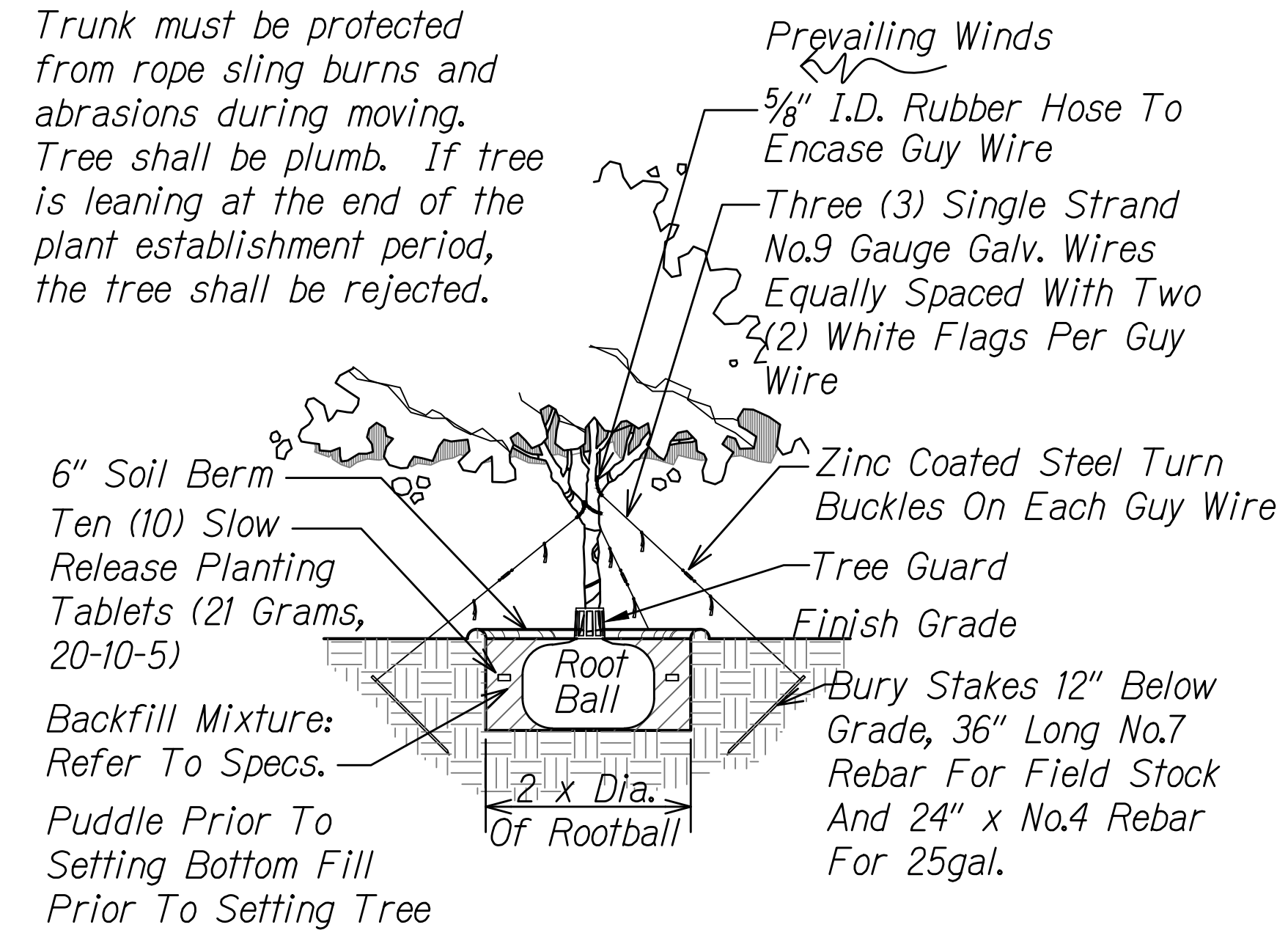
SHRUB PLANTING

Scale: Not to Scale

1
LP-08/LP-08

Note:

Trunk must be protected from rope sling burns and abrasions during moving. Tree shall be plumb. If tree is leaning at the end of the plant establishment period, the tree shall be rejected.



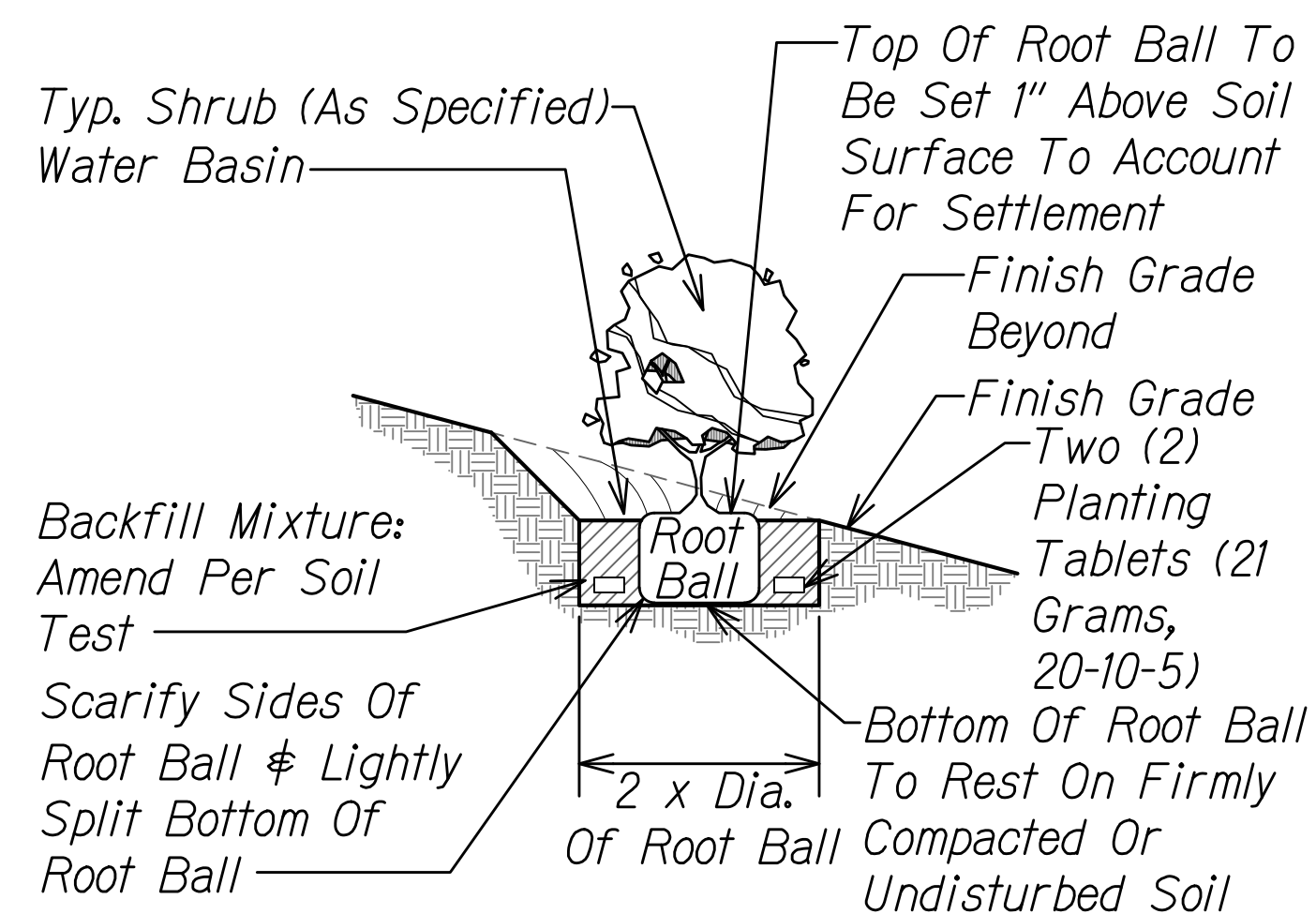
TREE PLANTING AND GUYING

Scale: Not to Scale

3
LP-08/LP-08

Notes:

1. Single stem shrubs shall be plumb. If shrub is leaning at the end of the plant establishment period, it shall be replaced at the contractor's expense.
2. Immediately after planting, water heavily to ensure soil settles around roots.

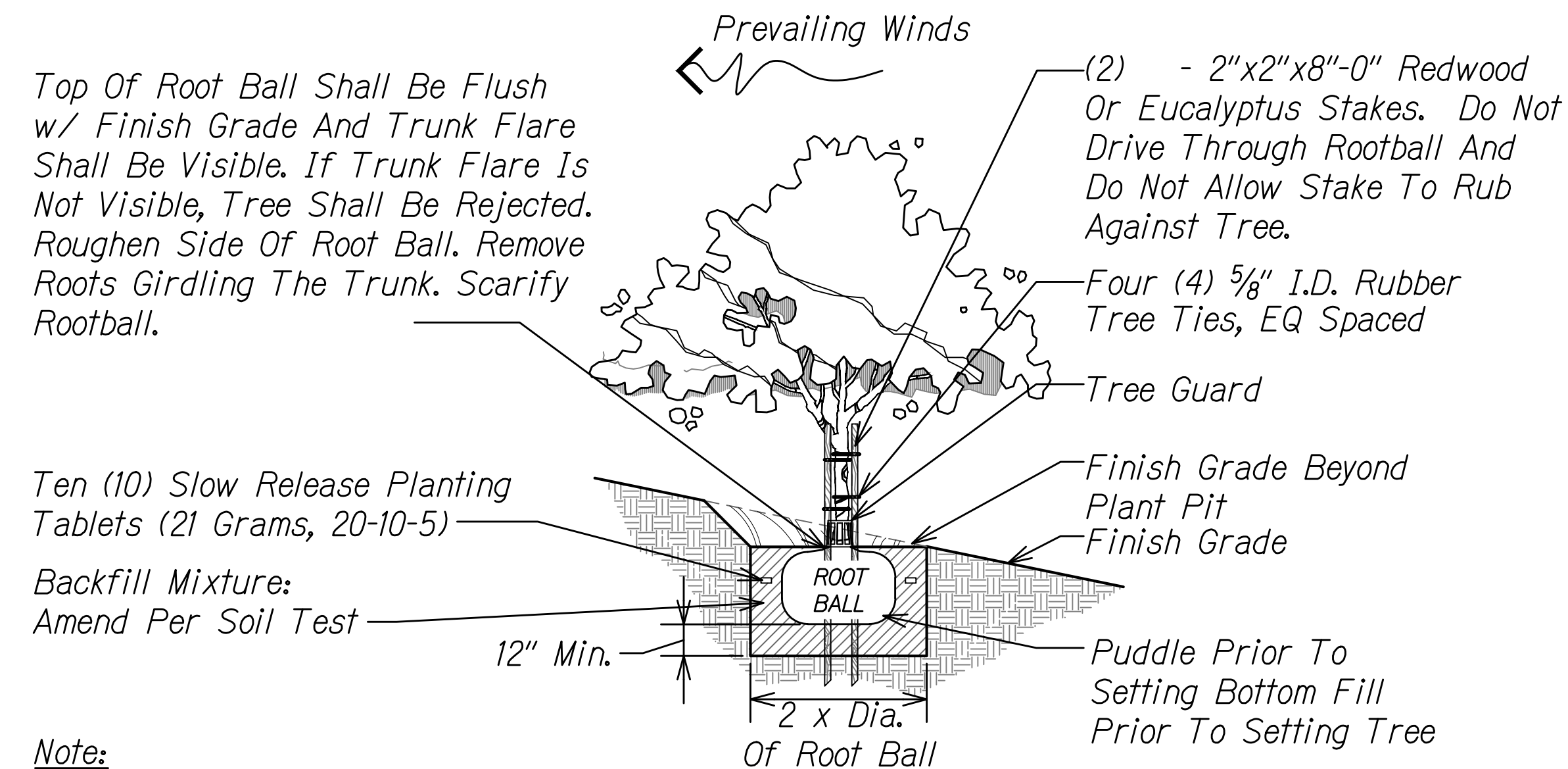


SHRUB PLANTING ON SLOPE

Scale: Not to Scale

2
LP-08/LP-08

Top Of Root Ball Shall Be Flush w/ Finish Grade And Trunk Flare Shall Be Visible. If Trunk Flare Is Not Visible, Tree Shall Be Rejected. Roughen Side Of Root Ball. Remove Roots Girdling The Trunk. Scarify Rootball.



TREE PLANTING ON SLOPE

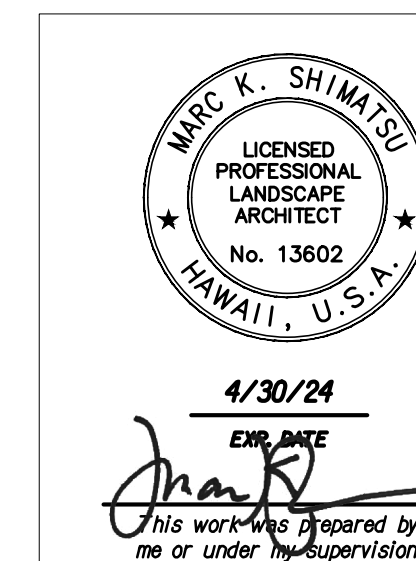
Scale: Not to Scale

4
LP-08/LP-08

Note:

Trunk must be protected from rope sling burns and abrasions during moving. tree shall be plumb. If tree is leaning at the end of the plant establishment period, the tree shall be replaced at the Contractor's expense.

DATE	_____
SURVEY PROVIDED BY	_____
DRAWN BY	_____
DESIGNED BY	_____
CHECKED BY	_____
ORIGINAL PLAN	_____
NOTE BOOK	_____
No.	_____



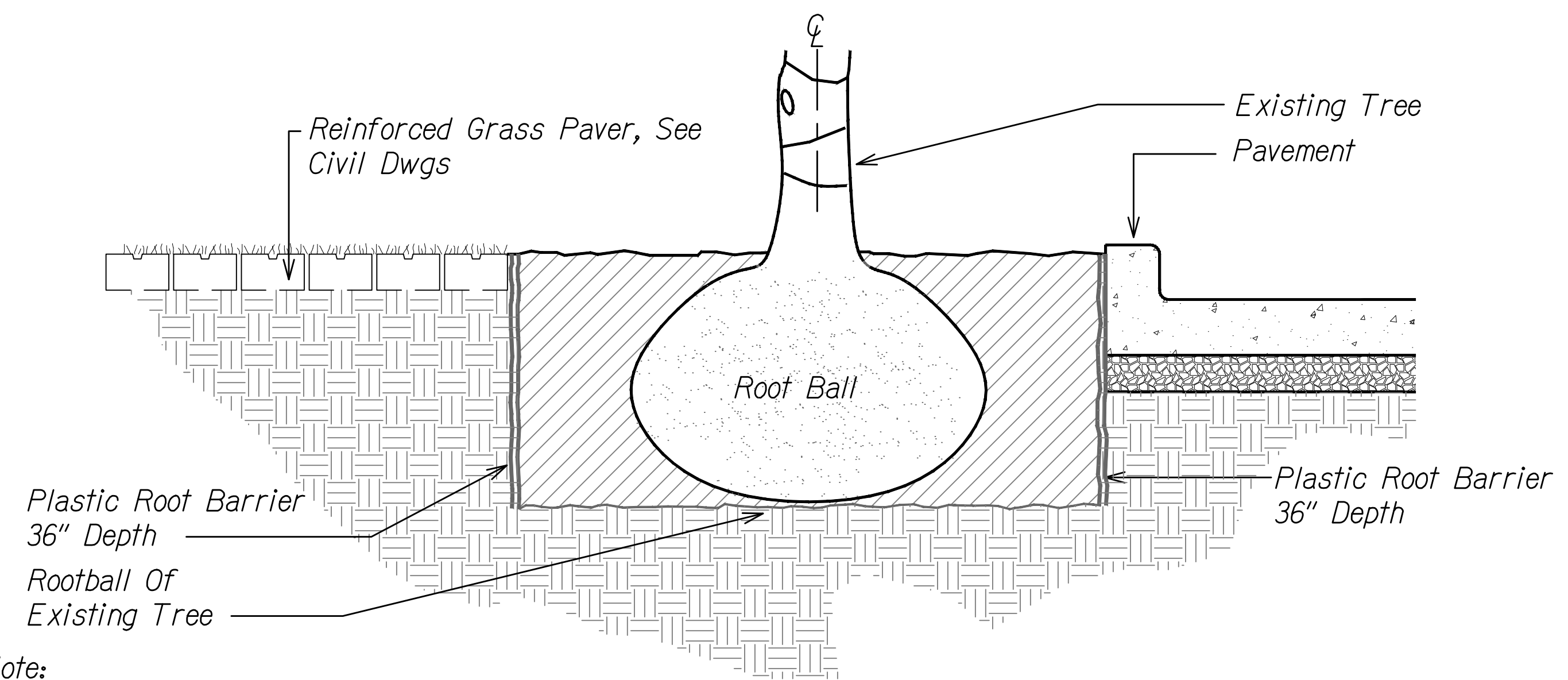
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

**PLANTING
DETAILS - 2**

KAMEHAMEHA HIGHWAY DRAINAGE AND SAFETY IMPROVEMENTS
Vicinity of Laniakea Beach (MP 3.06 to MP 3.54)
Project No. 83B-01-09

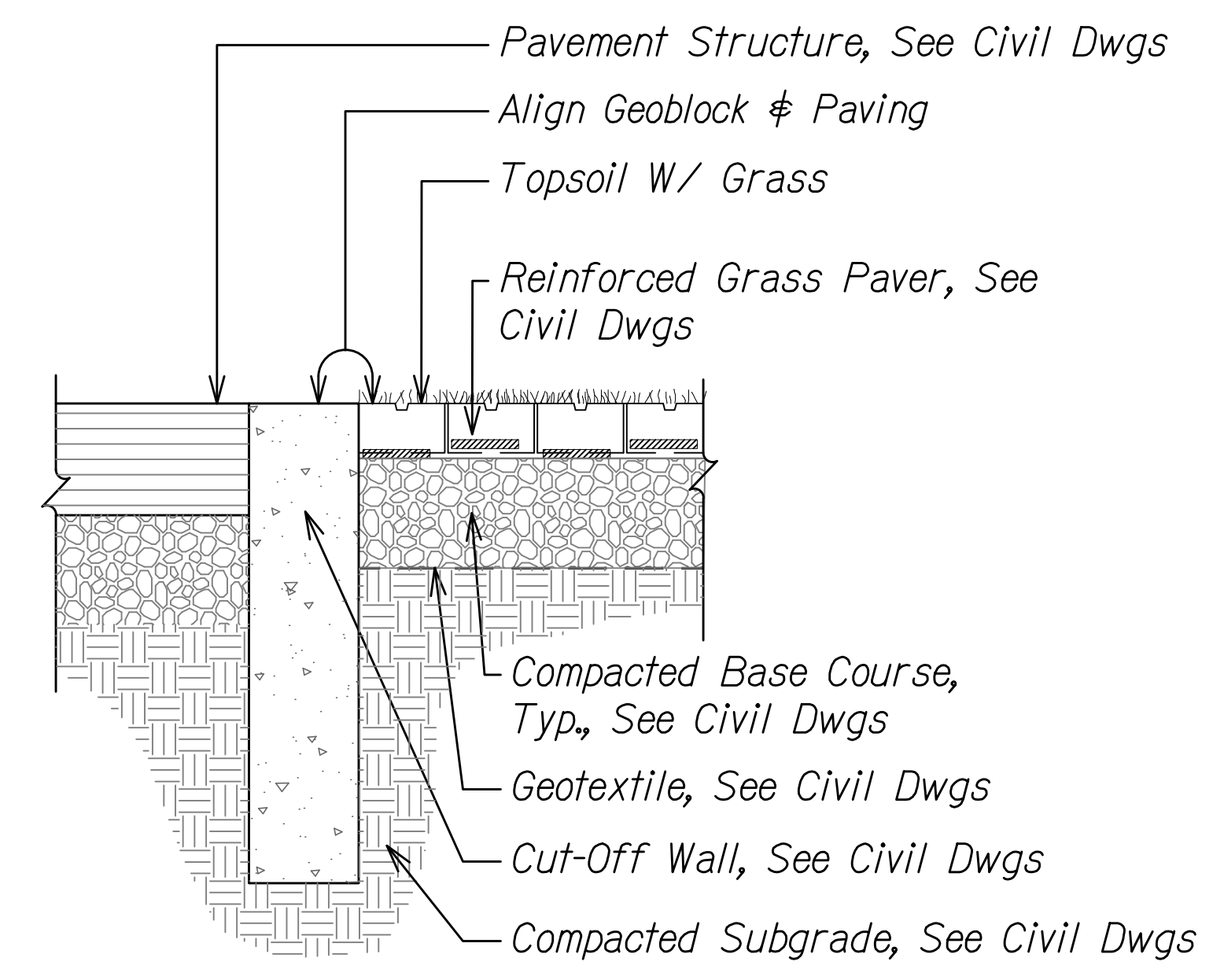
Scale: Not To Scale Date: Jan 2023

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	83B-01-09	2023	200	231



Note:
 Root Control Barriers Shall Be High Density, High Impact Polypropylene With Ultraviolet Inhibitor. Barriers Shall Have Minimum Thickness Of 0.06 Inch, Raised Vertical Ribs, And Locking Strips Made Of Same Material. Bio-chemical Root Control Barriers Are Allowable As Alternative If Acceptable To Engineer.

ROOT CONTROL BARRIER DETAIL 1
 Scale: Not to Scale LP-09/LP-09



REINFORCED GRASS PAVER 2
 Scale: Not to Scale LP-09/LP-09

ORIGINAL PLAN	DATE
SURVEY OBTAINED BY	
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QUANTITIES BY	
CHECKED BY	
NOTE BOOK	
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4/30/24
EXP. DATE
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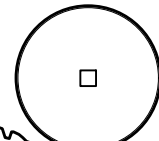
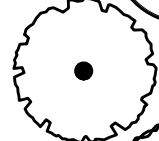
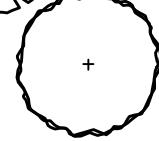

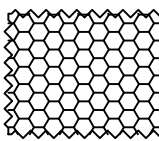
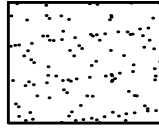
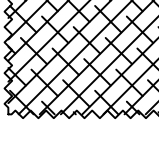
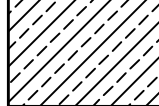
STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
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**PLANTING
 DETAILS - 3**





KAMEHAMEHA HIGHWAY DRAINAGE AND SAFETY IMPROVEMENTS
 Vicinity of Laniakea Beach (MP 3.06 to MP 3.54)
 Project No. 83B-01-09

Scale: Not To Scale Date: Jan 2023

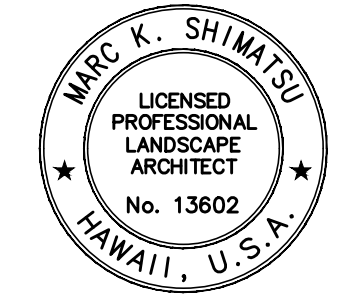
PLANT SCHEDULE

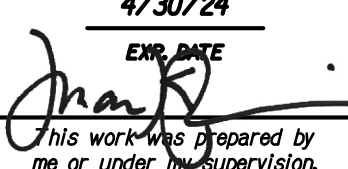
<u>Trees</u>	<u>Qty</u>	<u>Botanical Name</u>	<u>Common Name</u>	<u>Cont</u>	<u>Cal</u>	<u>Size</u>	<u>SPD</u>	<u>Remarks</u>
	10	<i>Cordia subcordata</i>	True Kou	25 gal	1.5" - 2" cal.	6'-8' clear trunk height	4'-6'	
	4	<i>Heliotropium foertherianum</i>	Beach Heliotrope	25 gal	1.5" - 2" cal.	6'-8' clear trunk height	4'-6'	
	32	<i>Thespesia populnea</i>	Milo	25 gal	1.5" - 2" cal.	6'-8' clear trunk height	4'-6'	
<u>Shrubs</u>	<u>Qty</u>	<u>Botanical Name</u>	<u>Common Name</u>	<u>Cont</u>	<u>Spacing</u>	<u>Remarks</u>		
	1,050	<i>Scaevola taccada</i>	Beach Naupaka	1 gal	30" o.c.	Bushy, 24" height min, with ground cover and 2" layer wood mulch below, typ.		
<u>Shrub Areas</u>	<u>Qty</u>	<u>Botanical name</u>	<u>Common name</u>	<u>Cont</u>	<u>Spacing</u>	<u>Remarks</u>		
	532	<i>Wikstroemia uva-ursi</i>	Akia	1 gal	24" o.c.	2" Layer wood mulch below, typ.		
<u>Ground Covers</u>	<u>Qty</u>	<u>Botanical Name</u>	<u>Common name</u>	<u>Cont</u>	<u>Spacing</u>	<u>Remarks</u>		
	55,900 sf	<i>Cynodon dactylon</i>	Bermuda Grass	Hydroseed				
	3,850 sf	<i>Vigna marina</i>	Nanea	6" pots	12" o.c.	2" Layer wood mulch below, typ.		
	71,050 sf	<i>Vitex rotundifolia</i>	Pohinahina	4" pots	24" o.c.	2" Layer wood mulch below, typ.		

REFERENCE NOTES SCHEDULE

<u>Symbol</u>	<u>Description</u>	<u>Qty</u>
	4" Layer Imported Topsoil	1,545 cy
	2" Layer Soil Amendments	124,900 sf
	2" Layer Imported Compost	124,900 sf
	2" Layer Wood Mulch Below All Shrubs And Groundcovers	525 cy
	Root Barrier	1,400 lf

SURVEY PROVIDED BY _____ DATE _____
 DRAWN BY _____
 TRACED BY _____
 DESIGNED BY _____
 QUANTITIES BY _____
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 No. _____



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STATE OF HAWAII
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PLANT SCHEDULE

KAMEHAMEHA HIGHWAY DRAINAGE AND SAFETY IMPROVEMENTS
 Vicinity of Laniakea Beach (MP 3.06 to MP 3.54)
 Project No. 83B-01-09

Scale: none Date: Jan 2023

SHEET No. LP-10 OF 10 SHEETS