

JOSH GREEN, M.D.
GOVERNOR OF HAWAII
KE KIA'ĀINA O KA MOKU'ĀINA 'O HAWAII



STATE OF HAWAII
DEPARTMENT OF HEALTH
KA 'OIHANA OLAKINO
P.O. BOX 3378
HONOLULU, HI 96801-3378

KENNETH S. FINK, MD, MGA, MPH
DIRECTOR OF HEALTH
KA LUNA HO'OKELE

In reply, please refer to:
File:

R10I121.FNL.26

July 28, 2026

Via e-mail lawrence.j.dill@hawaii.gov only

Mr. Lawrence Dill, P.E.
Administrator
State of Hawaii
Department of Transportation
Highways Division
869 Punchbowl Street
Honolulu, Hawaii 96813

Dear Mr. Dill:

**Subject: NOTICE OF GENERAL PERMIT COVERAGE (NGPC)
National Pollutant Discharge Elimination System (NPDES)
Seismic Retrofit, Haleakala Highway Route 377, Waiale Gulch,
Alae Gulch (Naalae Gulch), and Pulehu Gulch (Pohakuokala) Bridges
Kula, Island of Maui, Hawaii
File No. HIR10I121**

This letter is to notify you that:

**STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION**

(Permittee) is now covered under the NPDES General Permit authorizing discharges of storm water associated with construction activities. This only authorizes the Permittee to discharge to certain receiving State waters discharge point(s) from certain project location(s), as identified in the Notice of Intent (NOI) Form **HQM-NMHT-DV636** that was submitted at the e-Permitting Portal on , **provided that Permittee shall comply with applicable administrative rules¹ and the information submitted in the NOI (Administrative Requirements).**

¹ Hawaii Administrative Rules (HAR) Chapter 11-54; HAR Chapter 11-55; HAR Chapter 11-55, Appendix A; HAR Chapter 11-55, Appendix C. HAR Chapters 11-54 and 11-55 are available on the DOH, Clean Water Branch website at: <https://health.hawaii.gov/cwb/>.

Unauthorized Discharges. Discharges of any pollutants not authorized by or not in accordance with Hawaii Administrative Rules (HAR) Chapter 11-55, Appendix C, including unauthorized discharges of storm and non-storm water, process and non-process wastewater, toxics, nutrients, and other water pollutants to State waters are prohibited. This NGPC cannot be modified (not including changes to contact information), including additions of discharge point locations.

Term. This NGPC shall take effect on the date of this letter. **This NGPC shall expire at midnight, January 28, 2029**, or when amendments to HAR Chapter 11-55, Appendix C, are adopted, whichever occurs first.

Certain Requirements. As a reminder, this NGPC requires the Permittee, among other things, to do the following.

1. Notify the Department of Health (DOH) of the construction start date within seven (7) calendar days before the start of construction activities.
2. Complete and submit the Solid Waste Disclosure Form for Construction Sites to the DOH, Solid and Hazardous Waste Branch, Solid Waste Section, as specified on the form within seven (7) calendar days before the start of the construction activities. The form is available on the e-Permitting Portal at: <https://eha-cloud.doh.hawaii.gov/epermit>.
3. Implement the Storm Water Pollution Prevention Plan (SWPPP) in accordance with HAR Chapter 11-55, Appendix C. The Director of Health reserves the right to require the Permittee to modify the SWPPP.
4. In the event there are any revisions to the information submitted in the NOI (with the exception of changes to contact person information for non-transfer of ownership and changes to the SWPPP), submit a new NOI with filing fee and obtain a new NGPC.
5. Complete and submit the Notice of Cessation (NOC) within seven (7) calendar days after the end of the month that the subject project was completed.

Compliance Submittals. All NGPC compliance submittals, including the NOC, Notification of Start of Construction or Discharge, Discharge Monitoring Report, and other required information shall be submitted on the Electronic Signature CWB Compliance Submittal Form for Individual NPDES Permits and NGPCs. This form is available on the e-Permitting Portal at: <https://eha-cloud.doh.hawaii.gov/epermit>.

Other Authorizations. The Permittee is responsible for obtaining other Federal, State, or local authorizations as may be required by law.

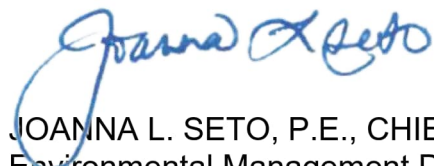
Failure to Comply. Failure to comply with Administrative Requirements is an enforceable violation and this NGPC may be terminated. Violations may be enforced pursuant to Hawaii Revised Statutes (HRS) Chapter 342D and are punishable by civil and criminal penalties thereunder.

Falsification of Information. Providing information (including in the NOI) that does not accurately describe what is actually occurring at the project site/facility, may result in criminal penalties for the Permittee and their authorized representative as provided in Clean Water Act², Section 309 and HRS § 342D-35.

DOH Survey. Please complete the DOH Customer Satisfaction Survey regarding your request for General Permit coverage. This brief survey is available on the e-Permitting Portal at: <https://eha-cloud.doh.hawaii.gov/epermit>. Please use the Application Finder button and search for the "Customer Satisfaction Survey."

If you have any questions, please contact the CWB Enforcement Section or Mr. Robert Phan of the CWB Engineering Section at (808) 586-4309.

Sincerely,



JOANNA L. SETO, P.E., CHIEF
Environmental Management Division

RTP:ra

- c: Mr. Randall Urasaki, WSP [via e-mail randall.urasaki@wsp.com only]
- Ms. Jillian Chen, State of Hawaii, Department of Transportation, Highways Division
[via e-mail jillian.m.chen@hawaii.gov only]
- Mr. Ty Fukuroku, State of Hawaii, Department of Transportation, Highways Division
[via e-mail ty.h.fukuroku@hawaii.gov only]
- Ms. Larissa Sato, WSP [via e-mail larissa.sato@wsp.com only]
- DOH-HEER [via e-mail heernotify@gmail.com only]
- CWB Maui District Health Office

² Federal Water Pollution Control Act, 33 USC § 1251, et seq.

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Electronic Signature CWB NOI Form

version 1.12

(Submission #: HQM-NMHT-DV636, version 3)

Details

Submission Alias	Seismic Retrofit, Haleakala Highway Route 377, Waiale Gulch, Alae Gulch (Naalae Gulch) and Pulehu Gulch (Pohakuokala) Bridges Electronic Signature CWB NOI Form
Originally Started By	Larissa Sato
Submitted	7/23/2026 (6 days ago) by Larry Dill
Project Name	Seismic Retrofit, Haleakala Highway Route 377, Waiale Gulch, Alae Gulch (Naalae Gulch) and Pulehu Gu
Reference #	HIR10121
Submission ID	HQM-NMHT-DV636
Status	Issued

Fees

Base Fee (non-refundable) \$500.00

Payments/Adjustments (\$500.00)

Balance Due \$0.00 (Paid)

NOTE (CREATED)

Online Payment

On 5/4/2026, online payment with transaction ID 39D95962U38434215 was made for filing fee.

Created on 5/4/2026 3:19 PM by **Robert Phan**

Form Input

NPDES General Permit Requirements

Select the general permit you are requesting coverage under.

Appendix C - Storm Water Associated with Construction Activity

Are you conducting earth-disturbing activities in response to a public emergency that meets the eligibility requirements under HAR, Chapter 11-55, Appendix C, Sections 1.3 and 7.2.3?

No

Notice of Intent (NOI) General Requirements

By submitting this NOI application, you are certifying the following statements:

- I read HAR, Chapters 11-54 and 11-55;
- I understand that State law prohibits any water pollutant to be discharged to a State water except in compliance with HAR, Chapters 11-54 and 11-55;
- I understand that the NPDES General Permits are a privilege and not my right or entitlement;
- I understand that the NPDES General Permits are rules, not permits to be issued;
- I understand that the NPDES General Permits only authorize a specific discharge/activity when I comply with all conditions of

the NPDES General Permit;

- I have read every condition of the NPDES General Permit I am requesting coverage under;
- I have determined that my project/activity and organization can, and will, comply with every condition of the applicable NPDES General Permit, and any and all legal obligations;
- I understand that I may only submit the NOI after determining that my project/activity and organization can, and will, comply with every condition of the applicable NPDES General Permit;
- I understand that if I cannot comply with any condition of the NPDES General Permit I need to either fix my organization so that I can comply or I cannot discharge water pollutants to State waters;
- I understand that the Notice of General Permit Coverage (NGPC) is not a permit; it is an authorization to comply with the already issued NPDES General Permit;
- I will design, implement, operate, and maintain appropriate treatment/controls to ensure that my activity/discharge will not violate HAR, Chapters 11-54 and 11-55;
- I have reported any "after the fact" discharges to the CWB enforcement section; and
- The information provided in this application does not include "after the fact" discharges/activities.

I certify under penalty of law that my proposed discharge will not impair any State waters (including but not limited to rivers, streams, wetlands, ponds, ground waters, and ocean), Native Hawaiian cultural resources (including but not limited to burial sites/iwi, heiau, and taro loi), or the exercise of traditional Native Hawaiian cultural practices.
Yes, I certify.

Is this an NOI to continue coverage under a newly re-adopted general permit? This means that you either have a currently effective or administratively extended NGPC under the previous general permit.
No

Is this an NOI to request new or amended coverage (including non-automatic transfers of ownership) for an already permitted facility? Please note that a new NGPC must be issued prior to the project commencing the new activities that are not covered under the currently issued NGPC or NPDES permit.
No

Permittee Information

Operator Applying to Obtain Permit Coverage on Behalf of Owner

Operators may apply for and receive NPDES permit coverage on behalf of the Owner provided that authorization is granted by the Owner.

If an Operator specifies that they are applying to obtain NPDES permit coverage on behalf of the Owner, the permit will be issued to the Operator and will be the legal entity that the permit coverage is issued to.

Do NOT specify that the Operator is applying on behalf of the Owner if the Operator is only preparing the NOI for the Owner and WILL NOT be designated as the Permittee.

This option is to allow for Operators to be designated as the Permittee for projects that are owned by a different entity.

Is the Permittee the operator of the project/activity applying for permit coverage on behalf of the owner of the project/activity?
No

Select the Permittee Organization Type
State

Permittee Legal Name
State of Hawaii

Permittee Department/Office
Department of Transportation

Permittee Division/Program (Optional)
Highways

Permittee Mailing Address
869 Punchbowl Street
Honolulu, HI 96813-5097

Permittee Street Address

869 Punchbowl Street
Honolulu, HI 96813-5097

Select the appropriate signatory type and confirm that the Certifying Person meets the requirements for the corresponding type. The Certifying Person has to meet the applicable requirement and be employed by the Owner.
State Agency

State Agency

I certify that for a state agency, I am a principal executive officer or ranking elected official.

Certifying Person Salutation

Mr.

Certifying Person Information

First Name	Last Name	
Lawrence	Dill	
Title		
Highways Administrator		
Phone Type	Number	Extension
Business	808-587-2220	

Certifying Person Email

lawrence.j.dill@hawaii.gov

Permittee Contact Salutation

Ms.

Permittee Contact Information

First Name	Last Name	
Jillian	Chen	
Title		
HDOT Project Manager		
Phone Type	Number	Extension
Business	808-692-8439	

Permittee Contact Email

jillian.m.chen@hawaii.gov

Do you wish to designate an authorized representative?

Yes

Authorization

The Certifying Person hereby authorizes the named individual or any individual occupying the named position of the company/organization listed below to act as our representative to submit information/documents necessary to complete the NOI or NPDES permit application to discharge to State waters from the subject facility. The Permittee hereby agrees to comply with and be responsible for all NPDES permit conditions.

Our representative is further authorized to submit information/documents for compliance with the NPDES permit conditions. The Authorized Representative is also granted any other signatory authorizations as identified in the applicable NPDES permit.

This authorization begins with NOI or NPDES permit application processing and ends upon authorization of a new authorized representative or receipt of the NOC by the CWB. The Permittee is responsible for all information/documents submitted by the duly authorized representative for completion of the NOI or NPDES permit application and for compliance with the NPDES permit conditions.

The Certifying Person attests that the authorized representative meets the requirements of HAR 11-55-07(b). Both the Certifying Person and authorized representative understand that they can be subject to civil and criminal liability for non-compliance with NPDES permit conditions, non-compliance with HAR Chapters 11-54 and 11-55, and for falsifying information.

Are you designating an individual or position?
Position

Authorized Representative Information

Title		
Maui District Engineer		
Organization Name		
Department of Transportation		
Phone Type	Number	Extension
Business	808-873-3535	

Authorized Representative Email
ty.h.fukuroku@hawaii.gov

Authorized Representative Mailing Address

650 Palapala Drive
Kahului, HI 96732

Authorized Representative Street Address

650 Palapala Drive
Kahului, HI 96732

Facility/Project Information

Facility/Project Type of Ownership
State

Facility Organization Formal Name
Department of Transportation

Facility Site or Project Name
Seismic Retrofit, Haleakala Highway Route 377, Waiale Gulch, Alae Gulch (Naalae Gulch) and Pulehu Gulch (Pohakuokala) Bridges

City where the project/facility is located.
Kula

Island where the project/facility is located.
Maui

Facility/Project Mailing Address
601 Kamokila Boulevard, Room 609
Kapolei, HI 96707

Provide the Facility/Project site address. If no formal street address exists (e.g., for projects constructing new developments with no currently existing roads) enter a location description instead. You must still enter a City, State, and ZIP Code.

Vicinity of Waiale Gulch Bridge, Vicinity of Alae Bridge, Vicinity of Pohakuokala Bridge
Kula, HI 96790

TMK Nos.

Division (e.g., 1)	Zone (e.g., 9)	Section (e.g., 7)	Plat (e.g., 025)	Portion, Parcel, or Lot (e.g., Lots 1-10, 15, & 20)
2	2	2	006	NONE PROVIDED
2	2	2	019	NONE PROVIDED
2	2	3	001	NONE PROVIDED
2	2	3	004	NONE PROVIDED

Division (e.g., 1)	Zone (e.g., 9)	Section (e.g., 7)	Plat (e.g., 025)	Portion, Parcel, or Lot (e.g., Lots 1-10, 15, & 20)
2	2	3	006	NONE PROVIDED
2	2	3	007	NONE PROVIDED
2	2	3	020	NONE PROVIDED
2	2	3	022	NONE PROVIDED
2	2	3	059	NONE PROVIDED

Facility/Project Site Front Gate Location Coordinates or Start of Linear Construction Location Coordinates

20.798216,-156.307966

Facility/Project Contact Affiliation

Owner

Facility/Project Contact Salutation

Mr.

Facility/Project Contact Person Information

First Name

Last Name

Randall

Urasaki

Title

Project Manager

Organization Name

WSP USA

Phone Type

Number

Extension

Business

808-531-7094

Facility/Project Contact Person Email

randall.urasaki@wsp.com

Standard Industrial Classification (SIC) and North American Industry Classification System (NAICS) Codes

Provide your primary SIC and NAICS code associated with your facility and any co-located activities. The primary SIC and NAICS code are the codes that best describe the primary economic activity at the facility. For co-located activities covered by multiple SIC codes, it is recommended that the primary industrial determination be based on the value of receipts or revenues or, if such information is not available for a particular facility, the number of employees or production rate for each process may be compared. The operation that generates the most revenue or employs the most personnel is the operation in which the facility is primarily engaged. In situations where the vast majority of on-site activity falls within one SIC code, that activity may be the primary industrial activity.

Sector and subsector information are only applicable for industrial storm water coverages.

For construction activities, the SIC code(s) are those that most accurately describe the activities of the Permittee.

SIC Codes

SIC Codes may be found at the link below.

[SIC Codes](#)

NAICS Codes

NAICS Codes may be found at the link below. Click on Concordances to access the SIC to NAICS code spreadsheets.

[NAICS Codes](#)

Primary SIC and NAICS Code

Primary SIC Code	Corresponding NAICS Code	Sector	Subsector
1622	237310		

Are there any additional SIC and NAICS codes?

No

Existing or Pending Permits, Licenses or Approvals

Provide the permit number for any applicable Federal, State, or County permits, licenses, or approvals for the project.

Other permits, licenses and approvals include but are not limited to:

- NPDES Individual Permit
- NPDES NGPC
- Section 401 WQC
- Individual Wastewater System Approval
- Recycled Water Reuse Permit
- Hazardous Waste Permit
- Solid Waste Management Permit
- Underground Storage Tank Permit
- Underground Injection Control Permit
- Agricultural Burning Permit
- Air Pollution Control Permit
- Department of the Army Permit (Section 404)

Note: If your project requires work in, above, under or adjacent to State waters, please contact the Army Corps of Engineers (USACE) Regulatory Branch at (808) 438-9258 regarding their permitting requirements.

Are there any other existing or pending NPDES permits/NGPCs associated with this project/facility?

No

Are there any other existing or pending (non-NPDES) permits, licenses or approvals associated with this project/facility?

Yes

Permits, Licenses, or Approvals

Permit, License, or Approval	Status	File Number (or Other Identifier) if Applicable
Department of the Army Permit (Section 404)	Pending	POH-2024-00181 (HDOT, Alae Bridge Scour Repair, Naalae Gulch, Kula, Maui, Hawaii)
Department of the Army Permit (Section 404)	Pending	POH-2026-00075 (HDOT, Pohakuokala Bridge Seismic Retrofit, Kula, Island of Maui, Hawaii 96720)
Department of the Army Permit (Section 404)	Pending	POH-2026-00074 (HDOT, Waiale Bridge Seismic Retrofit, Kula, Island of Maui, Hawaii 96720)

Is the facility on the Superfund Amendments and Reauthorization Act (SARA)313 list?

No

Topographic Map(s)

Attach a topographic map or maps to this submission of the area extending at least one mile beyond the property boundaries of the site which clearly show the following:

1. Island on which the project/facility is located;
2. Legal boundaries of the site;
3. Location and an identification number for each of the site's existing and proposed intake and discharge structures; and
4. Receiving state water(s) and receiving storm water drainage system(s) identified and labeled. If the receiving state water is a wetland, submit a map showing the delineated wetland.

Specify the names of the map(s) that identify these items below.

Topographic Maps

[4.0_TopoMap.pdf - 07/16/2026 07:56 PM](#)

[A-1_VicMap.pdf - 07/16/2026 07:56 PM](#)

[A-2_LegalBoundary.pdf - 07/16/2026 07:56 PM](#)

[A-3_StateWatersMap.pdf - 07/16/2026 07:56 PM](#)

[A-6_PermittedArea.pdf - 07/16/2026 07:56 PM](#)

Comment

NONE PROVIDED

Required Maps

Required Map	Submitted Map(s) Name(s)
Island on Which the Project/Facility is Located	Attachment A-1
Legal Boundaries of the Site	Attachment A-2
Location and an Identification Number for Each of the Site's Existing and Proposed Intake and Discharge Structures (i.e., discharge points/outfalls)	Attachment A-3 & Attachment A-6
Receiving State Water(s) and Receiving Storm Water Drainage System(s) Identified and Labeled and Wetland Delineations	Attachment A-3

Permitted Feature(s) Information (1 of 15)**Permitted Feature Type**

External Outfall

Receiving State Waters Name for Permitted Feature

Waiale Gulch

Watershed Name for Permitted Feature

Kalialinui

Receiving State Water Classification

Class 2, Inland

Receiving Water Type

Stream, Natural Ditch, Natural Gulch

Permitted Feature Identifier (Name, e.g., 001, 002, 003, etc.)

DP #1A

Permitted Feature Location

20.797775,-156.307945

Is the receiving State water on the Section 303(d) List?

No

Permitted Feature(s) Information (2 of 15)**Permitted Feature Type**

External Outfall

Receiving State Waters Name for Permitted Feature

Waiale Gulch

Watershed Name for Permitted Feature

Kalialinui

Receiving State Water Classification

Class 2, Inland

Receiving Water Type

Stream, Natural Ditch, Natural Gulch

Permitted Feature Identifier (Name, e.g., 001, 002, 003, etc.)

DP #1B

Permitted Feature Location

20.798108,-156.308768

Is the receiving State water on the Section 303(d) List?

No

Permitted Feature(s) Information (3 of 15)

Permitted Feature Type

External Outfall

Receiving State Waters Name for Permitted Feature

Waiale Gulch

Watershed Name for Permitted Feature

Kalialinui

Receiving State Water Classification

Class 2, Inland

Receiving Water Type

Stream, Natural Ditch, Natural Gulch

Permitted Feature Identifier (Name, e.g., 001, 002, 003, etc.)

DP #2

Permitted Feature Location

20.797743,-156.307866

Is the receiving State water on the Section 303(d) List?

No

Permitted Feature(s) Information (4 of 15)

Permitted Feature Type

External Outfall

Receiving State Waters Name for Permitted Feature

Waiale Gulch

Watershed Name for Permitted Feature

Kalialinui

Receiving State Water Classification

Class 2, Inland

Receiving Water Type

Stream, Natural Ditch, Natural Gulch

Permitted Feature Identifier (Name, e.g., 001, 002, 003, etc.)

DP #3

Permitted Feature Location

20.797564,-156.307928

Is the receiving State water on the Section 303(d) List?

No

Permitted Feature(s) Information (5 of 15)

Permitted Feature Type

External Outfall

Receiving State Waters Name for Permitted Feature

Waiale Gulch

Watershed Name for Permitted Feature

Kalialinui

Receiving State Water Classification

Class 2, Inland

Receiving Water Type

Stream, Natural Ditch, Natural Gulch

Permitted Feature Identifier (Name, e.g., 001, 002, 003, etc.)

DP #4

Permitted Feature Location

20.797665,-156.308058

Is the receiving State water on the Section 303(d) List?

No

Permitted Feature(s) Information (6 of 15)

Permitted Feature Type

External Outfall

Receiving State Waters Name for Permitted Feature

Naalae Gulch

Watershed Name for Permitted Feature

Hapapa

Receiving State Water Classification

Class 2, Inland

Receiving Water Type

Stream, Natural Ditch, Natural Gulch

Permitted Feature Identifier (Name, e.g., 001, 002, 003, etc.)

DP #5A

Permitted Feature Location

20.742268,-156.326077

Is the receiving State water on the Section 303(d) List?

No

Permitted Feature(s) Information (7 of 15)

Permitted Feature Type

External Outfall

Receiving State Waters Name for Permitted Feature

Naalae Gulch

Watershed Name for Permitted Feature

Hapapa

Receiving State Water Classification

Class 2, Inland

Receiving Water Type

Stream, Natural Ditch, Natural Gulch

Permitted Feature Identifier (Name, e.g., 001, 002, 003, etc.)

DP #5B

Permitted Feature Location

20.742466,-156.326232

Is the receiving State water on the Section 303(d) List?

No

Permitted Feature(s) Information (8 of 15)

Permitted Feature Type

External Outfall

Receiving State Waters Name for Permitted Feature

Naalae Gulch

Watershed Name for Permitted Feature

Hapapa

Receiving State Water Classification

Class 2, Inland

Receiving Water Type

Stream, Natural Ditch, Natural Gulch

Permitted Feature Identifier (Name, e.g., 001, 002, 003, etc.)

DP #6

Permitted Feature Location

20.742211,-156.326012

Is the receiving State water on the Section 303(d) List?

No

Permitted Feature(s) Information (9 of 15)

Permitted Feature Type

External Outfall

Receiving State Waters Name for Permitted Feature

Naalae Gulch

Watershed Name for Permitted Feature

Hapapa

Receiving State Water Classification

Class 2, Inland

Receiving Water Type

Stream, Natural Ditch, Natural Gulch

Permitted Feature Identifier (Name, e.g., 001, 002, 003, etc.)

DP #7

Permitted Feature Location

20.742159,-156.326062

Is the receiving State water on the Section 303(d) List?

No

Permitted Feature(s) Information (10 of 15)

Permitted Feature Type

External Outfall

Receiving State Waters Name for Permitted Feature

Naalae Gulch

Watershed Name for Permitted Feature

Hapapa

Receiving State Water Classification

Class 2, Inland

Receiving Water Type

Stream, Natural Ditch, Natural Gulch

Permitted Feature Identifier (Name, e.g., 001, 002, 003, etc.)

DP #8

Permitted Feature Location

20.742196,-156.326176

Is the receiving State water on the Section 303(d) List?

No

Permitted Feature(s) Information (11 of 15)**Permitted Feature Type**

External Outfall

Receiving State Waters Name for Permitted Feature

Kaonoulu Gulch

Watershed Name for Permitted Feature

Hapapa

Receiving State Water Classification

Class 2, Inland

Receiving Water Type

Stream, Natural Ditch, Natural Gulch

Permitted Feature Identifier (Name, e.g., 001, 002, 003, etc.)

DP #9

Permitted Feature Location

20.741731,-156.326702

Is the receiving State water on the Section 303(d) List?

No

Permitted Feature(s) Information (12 of 15)**Permitted Feature Type**

External Outfall

Receiving State Waters Name for Permitted Feature

Pulehu Gulch

Watershed Name for Permitted Feature

Waiakoa

Receiving State Water Classification

Class 2, Inland

Receiving Water Type

Stream, Natural Ditch, Natural Gulch

Permitted Feature Identifier (Name, e.g., 001, 002, 003, etc.)

DP #10

Permitted Feature Location

20.773350,-156.307927

Is the receiving State water on the Section 303(d) List?

No

Permitted Feature(s) Information (13 of 15)**Permitted Feature Type**

External Outfall

Receiving State Waters Name for Permitted Feature

Pohakuokala Gulch

Watershed Name for Permitted Feature

Waiakoa

Receiving State Water Classification

Class 2, Inland

Receiving Water Type

Stream, Natural Ditch, Natural Gulch

Permitted Feature Identifier (Name, e.g., 001, 002, 003, etc.)

DP #11

Permitted Feature Location

20.773313,-156.307840

Is the receiving State water on the Section 303(d) List?

No

Permitted Feature(s) Information (14 of 15)**Permitted Feature Type**

External Outfall

Receiving State Waters Name for Permitted Feature

Pohakuokala Gulch

Watershed Name for Permitted Feature

Waiakoa

Receiving State Water Classification

Class 2, Inland

Receiving Water Type

Stream, Natural Ditch, Natural Gulch

Permitted Feature Identifier (Name, e.g., 001, 002, 003, etc.)

DP #12

Permitted Feature Location

20.773267,-156.307840

Is the receiving State water on the Section 303(d) List?

No

Permitted Feature(s) Information (15 of 15)**Permitted Feature Type**

External Outfall

Receiving State Waters Name for Permitted Feature

Pulehu Gulch

Watershed Name for Permitted Feature

Waiakoa

Receiving State Water Classification

Class 2, Inland

Receiving Water Type

Stream, Natural Ditch, Natural Gulch

Permitted Feature Identifier (Name, e.g., 001, 002, 003, etc.)

DP #13

Permitted Feature Location

20.773312,-156.307928

Is the receiving State water on the Section 303(d) List?

No

Receiving Drainage System(s) Information (1 of 1)**Does the discharge enter a STORMWATER DRAINAGE SYSTEM before discharging into the receiving State Waters?**

No

NOI Form C**C.1 - General Information**

You are required to fulfill all requirements. By submitting the NOI, you are certifying the following statements:

- I prepared a Storm Water Pollution Prevention Plan (SWPPP) in accordance with HAR, Chapter 11-55, Appendix C, Section 7 prior to submitting this NOI;
- I will comply with all terms, conditions, and requirements in HAR Chapter 11-55, Appendix C;
- I will implement, operate, and maintain my SWPPP to ensure that storm water discharges associated with construction activities will not violate HAR, Chapter 11-54; HAR, Chapter 11-55; and HAR, Chapter 11-55, Appendix C;

C.2 - Existing Pollution Sources/History of Land Use**Describe the history of land use at the existing Facility/Project site:**

Waiale Gulch Bridge, Alae Bridge, and Pohakuokala Bridge service a mix of Agricultural (Zoning - Maui County Code AG), Rural (Zoning - Maui County Code RU-0.5), and Residential (Zoning - Maui County Code R-3).

Determine if the existing Facility/Project site may contain any existing pollution source(s) by using the following references. Select all references you utilized to determine existing pollution source(s). You are required to check at least one reference.

Past land use history

Describe any existing pollution source(s) identified in the references you selected above.

Pollution sources include fuel/oil, grease, sediment, concrete, A/C, debris, dust, and litter from motor vehicles using the roadway.

Hazard Evaluation and Emergency Response (HEER) Office

You are also required to check the Department of Health, Hazard Evaluation and Emergency Response (HEER) Office Sites, Incidents and Records through the  Viewer  in iHEER at the link below.

Note: The HEER Office is currently updating site information for sites. Most, but not all sites may be displayed on the viewer map. Site Document data upload is ongoing and not all documents may be currently available via this website. To get the complete record for the site, a record request form can be filled and submitted it to the HEER Office. The request form can be at: <https://eha-web.doh.hawaii.gov/eha-cma/Leaders/HEER/public-records>. Users will then be notified when they are able to download all information via the iHEER system website.

[iHEER](#)

Describe any existing pollution source(s) identified in the references you checked above and from HEER Office Sites, Incidents and Records

Pollution sources include fuel/oil, grease, sediment, concrete, A/C, debris, dust, and litter from motor vehicles using the roadway. There are no sites listed on the iHEER Incident Viewer near the project limits.

Describe any corrective measures that have been undertaken for any existing pollution source(s):

Corrective measures include periodic sweeping and other maintenance activities as required to minimize pollutants from entering receiving waters.

Note

You are required to contact the Department of Health, Office of Hazard Evaluation and Emergency Response at (808) 586-4249 and through e-permitting Form [Notification of Construction Activities](#) at Form Finder from the link below, if contaminated soil, vapor, or groundwater is known to be present at your project site. Notify at least 90 days prior to surface and subsurface disturbing activities (demolition, building/site configuration changes, grading, excavation, or prior to any other activities) that may disturb the ground surface at HEER sites. If you missed the 90 days notification time frame, notify the HEER Office as soon as possible to avoid any potential delays regarding your project.

[Notification of Construction Activities Form](#)

C.3 - Construction Site Estimates

Please provide the following estimates for the construction site.

Parameter	Area	Units
Total project area including areas to be left undisturbed	1.454	acres
Construction site area to be disturbed including storage and staging areas	1.454	acres
Impervious area before construction	1.454	acres
Impervious area after construction	1.454	acres

C.4 - Quantity of Storm Water Runoff

Estimate the quantity of storm water runoff during construction when the greatest and/or maximum area of disturbance occurs. Provide the supporting calculations.

Storm Water Runoff Quantity	Units
4.11	Cubic Feet per Second (CFS)

Storm Water Runoff Supporting Calculations

[A-5_CALCS.pdf](#) - 07/16/2026 09:15 PM

[A-6_PermittedArea.pdf](#) - 07/16/2026 09:15 PM

Comment

NONE PROVIDED

C.5 - Soil Characterization

Describe the nature of the soil on the project site (including the potential to encounter contaminated soil) and the nature of the fill material to be used.

The underlying soil of the project site consists of Pane silt loam, Rock land, Kula cobbly medial loam, and Kula loam. Fill material used in the seismic retrofit will consist of Polymer Modified Asphalt Concrete Pavement (PMA), Portland Cement Concrete, lightweight cellular concrete, and base course.

C.6 - Nature and Sequence of Construction Activity

What is the nature of the construction activity (Select all applicable activity(ies))?

Other: Bridge Retrofitting

What is being constructed?

Three bridges will be seismic retrofitted. The project will upgrade pier footings and abutments and address scour issues.

Describe the scope of work and major construction activities you wish to be covered in this NOI, including baseyards and staging areas. You may only include project areas where the locations of impervious structures are known; project areas where the final grades are known; and work areas that will be performed by one (1) general contractor. A separate NOI will be required for all other project areas.

The scope of work includes removal of debris, wrapping piers with carbon fiber to the top of footings, installation of soil nails, replacement of creep blocks at the bents, and pier footing upgrades.

Is a County-approved Erosion and Sediment Control Plan and/or Grading Permit, where applicable for the activity and schedule for implementing each control, required?

No

Please select and complete at least one (1) of the following items to demonstrate that a County-approved Erosion and Sediment Control Plan and/or Grading Permit, as appropriate for the activity and schedule for implementing each control, is not required.

Other: Other: This project is taking place on the HDOT right-of-way and does not require a grading permit.

C.7 - Project Site Maps and Construction Plans/Drawings

Attach, title, and identify all maps (pdf - minimum 300 dpi) listed below.

Please reference which maps account for the features listed below.

Project Site Maps and Construction Plans/Drawings

[A-1_VicMap.pdf - 07/16/2026 09:16 PM](#)

[A-4_FloodMap.pdf - 07/16/2026 09:16 PM](#)

[A-6_PermittedArea.pdf - 07/16/2026 09:16 PM](#)

[A-7_ConstDwgs.pdf - 07/16/2026 09:16 PM](#)

Comment

NONE PROVIDED

Vicinity of the project on the island.

Attachment A-1 Vicinity & Location Map

Boundaries of 100-Year flood plans.

Attachment A-4 Flood Map

Areas of soil disturbance.

Attachment A-6 Permitted Area & Project Topography

Location(s) of impervious structures (including buildings, roads, parking lots, etc.) after construction is completed.

Attachment A-6 Permitted Area & Project Topography and Attachment A-7 Construction Drawings

Pre-Construction Topography including approximate slopes and drainage patterns for the entire Facility/Project site to the receiving storm water drainage system (if applicable) or to the receiving State water(s) (with flow arrows).

Attachment A-6 Permitted Area & Project Topography and Attachment A-7 Construction Drawings

During-Construction Topography (after major grading activities) including approximate slopes and drainage patterns for the entire Facility/Project site to the receiving storm water drainage system (if applicable) or to the receiving State water(s) (with flow arrows).

Attachment A-6 Permitted Area & Project Topography and Attachment A-7 Construction Drawings

Post-Construction Topography including approximate slopes and drainage patterns for the entire Facility/Project site to the receiving storm water drainage system (if applicable) or to the receiving State water(s) (with flow arrows).

Attachment A-6 Permitted Area & Project Topography and Attachment A-7 Construction Drawings

C.8 - Construction Schedule

Provide the following estimated dates.

The date when construction activity will begin.

11/01/2026

The date when each major construction activity begins. This includes those activities identified in Section 7.2.5 of HAR 11-55 Appendix C.

Major Construction Activity	Major Construction Activity Begin Date
Bridge Retrofitting	11/01/2026

The date when the Notice of Cessation form will be submitted.

10/31/2028

Additional Information

Additional Information

NONE PROVIDED

Comment

NONE PROVIDED

Payment Information

How are you planning to pay the filing fee for this submission?

Offline Payment (check)

Attachments

Date	Attachment Name	Context	Confidential?	User
7/16/2026 9:16 PM	A-7_ConstDwgs.pdf	Attachment	No	Larissa Sato
7/16/2026 9:16 PM	A-6_PermittedArea.pdf	Attachment	No	Larissa Sato
7/16/2026 9:16 PM	A-4_FloodMap.pdf	Attachment	No	Larissa Sato
7/16/2026 9:16 PM	A-1_VicMap.pdf	Attachment	No	Larissa Sato
7/16/2026 9:15 PM	A-6_PermittedArea.pdf	Attachment	No	Larissa Sato
7/16/2026 9:15 PM	A-5_CALCS.pdf	Attachment	No	Larissa Sato
7/16/2026 7:56 PM	A-6_PermittedArea.pdf	Attachment	No	Larissa Sato
7/16/2026 7:56 PM	A-3_StateWatrMap.pdf	Attachment	No	Larissa Sato
7/16/2026 7:56 PM	A-2_LegalBoundary.pdf	Attachment	No	Larissa Sato
7/16/2026 7:56 PM	A-1_VicMap.pdf	Attachment	No	Larissa Sato
7/16/2026 7:56 PM	4.0_TopoMap.pdf	Attachment	No	Larissa Sato

Status History

	User	Processing Status
7/16/2026 7:07:42 PM	Larissa Sato	Draft
7/23/2026 7:53:54 AM	Larry Dill	Signing
7/23/2026 7:53:55 AM	Larry Dill	Submitting
7/23/2026 7:54:24 AM	Larry Dill	Submitted
7/24/2026 7:57:33 AM	Megan Ho	In Review
7/28/2026 10:39:03 AM	Robert Phan	Issued

Processing Steps

Step Name	Assigned To/Completed By	Date Completed
Application Submitted	Larry Dill	7/23/2026 7:54:24 AM

Step Name	Assigned To/Completed By	Date Completed
In Review	Megan Ho	7/24/2026 7:57:38 AM
Issue NGPC	Robert Phan	7/28/2026 10:39:03 AM

Revisions

Revision	Revision Date	Revision By
Revision 1	4/8/2026 9:24 AM	Larissa Sato
Revision 2	6/3/2026 1:54 PM	Larissa Sato
Revision 3	7/16/2026 7:07 PM	Larissa Sato

Agreements and Signature(s)

Certification Statement

Certification Requirements

By submitting this form, you certify the following statement:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

You also certify:

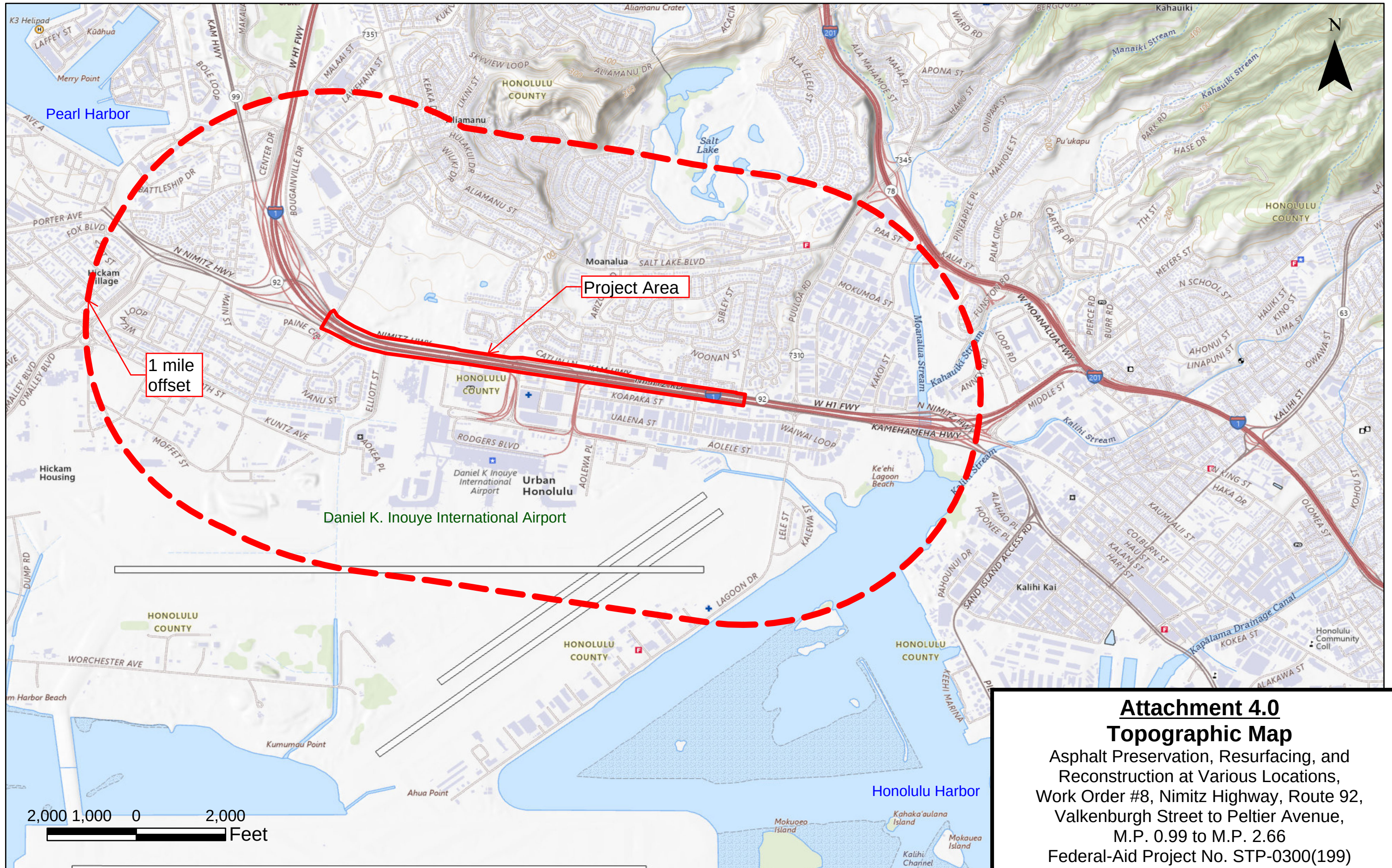
1. That for an initial or renewal application, the individual submitting this application meets the Certifying Person requirements as defined in HAR 11-55-07(a) and matches the Certifying Person identified in the Owner Information section.
2. That for a revised application (an application re-submitted at the request of the CWB) the individual submitting this revised application either:
 - Meets the Certifying Person requirements as defined in HAR 11-55-07(a) and matches the Certifying Person identified in the Owner Information section; or
 - Meets the Authorized Representative requirements as defined in HAR 11-55-07(b) and matches the Authorized Representative identified in the application, except when a revised application is requested to revise Certifying Person information.

Once you have finished reviewing this application and agree to certify the statements above, complete the submission agreements below then click on the submit button to complete the electronic submission of your application. The DOH-CWB will process all applications in the order received. Please note that the DOH-CWB will contact all relevant submission contacts if there are any deficiencies in your application, or if additional information is requested.

Submission Agreements

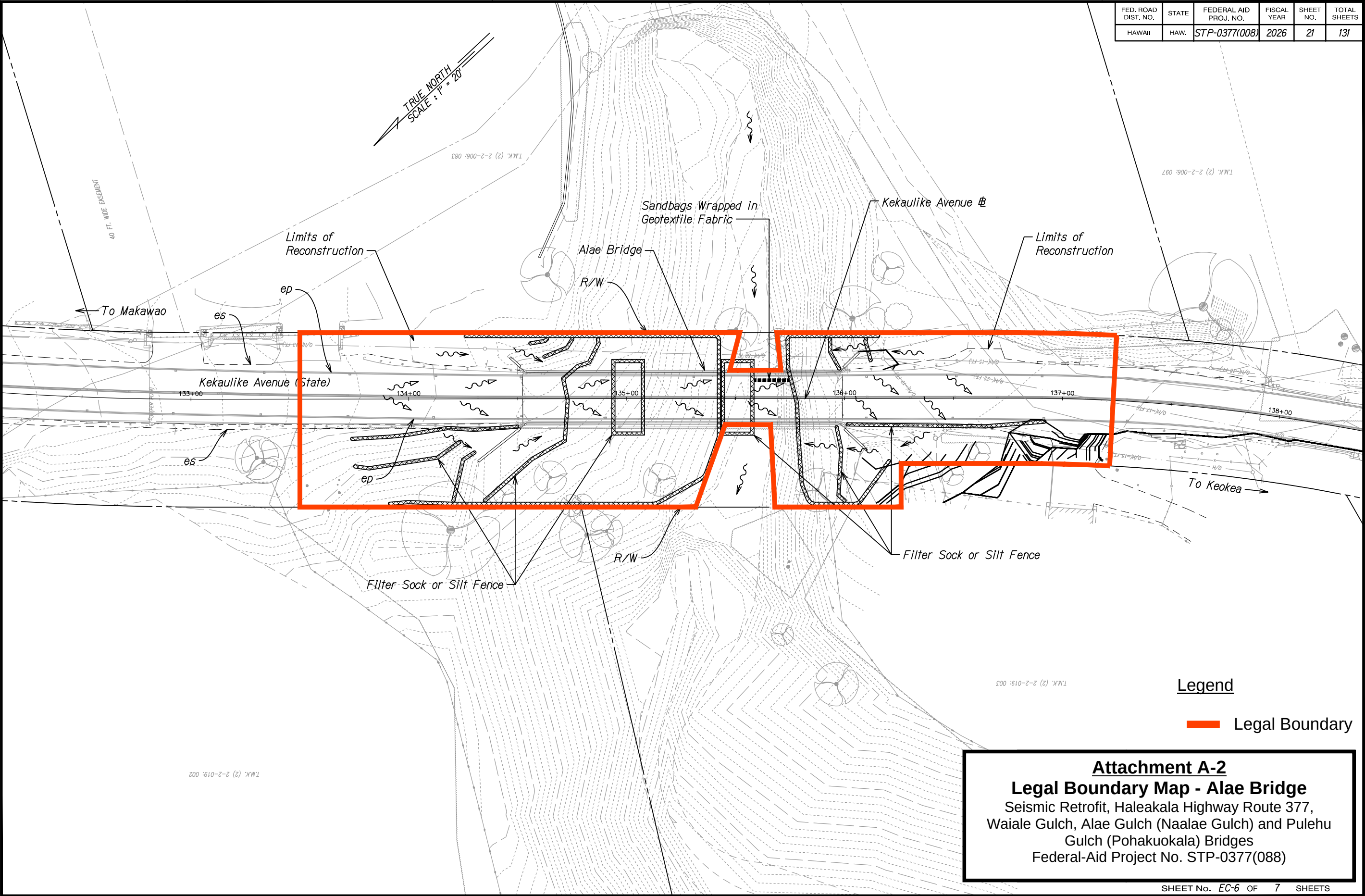
- ☒ I am the owner of the account used to perform the electronic submission and signature.
- ☒ I have the authority to submit the data on behalf of the facility I am representing.
- ☒ I agree that providing the account credentials to sign the submission document constitutes an electronic signature equivalent to my written signature.
- ☒ I have reviewed the electronic form being submitted in its entirety, and agree to the validity and accuracy of the information contained within it to the best of my knowledge.

Signed By Larry Dill on 07/23/2026 at 7:53 AM
01\$\$2a\$10\$FXShnI6aLR.Eye0BzRQQUuJYfsQNImefupVexSa9es4opsIGd5Eye



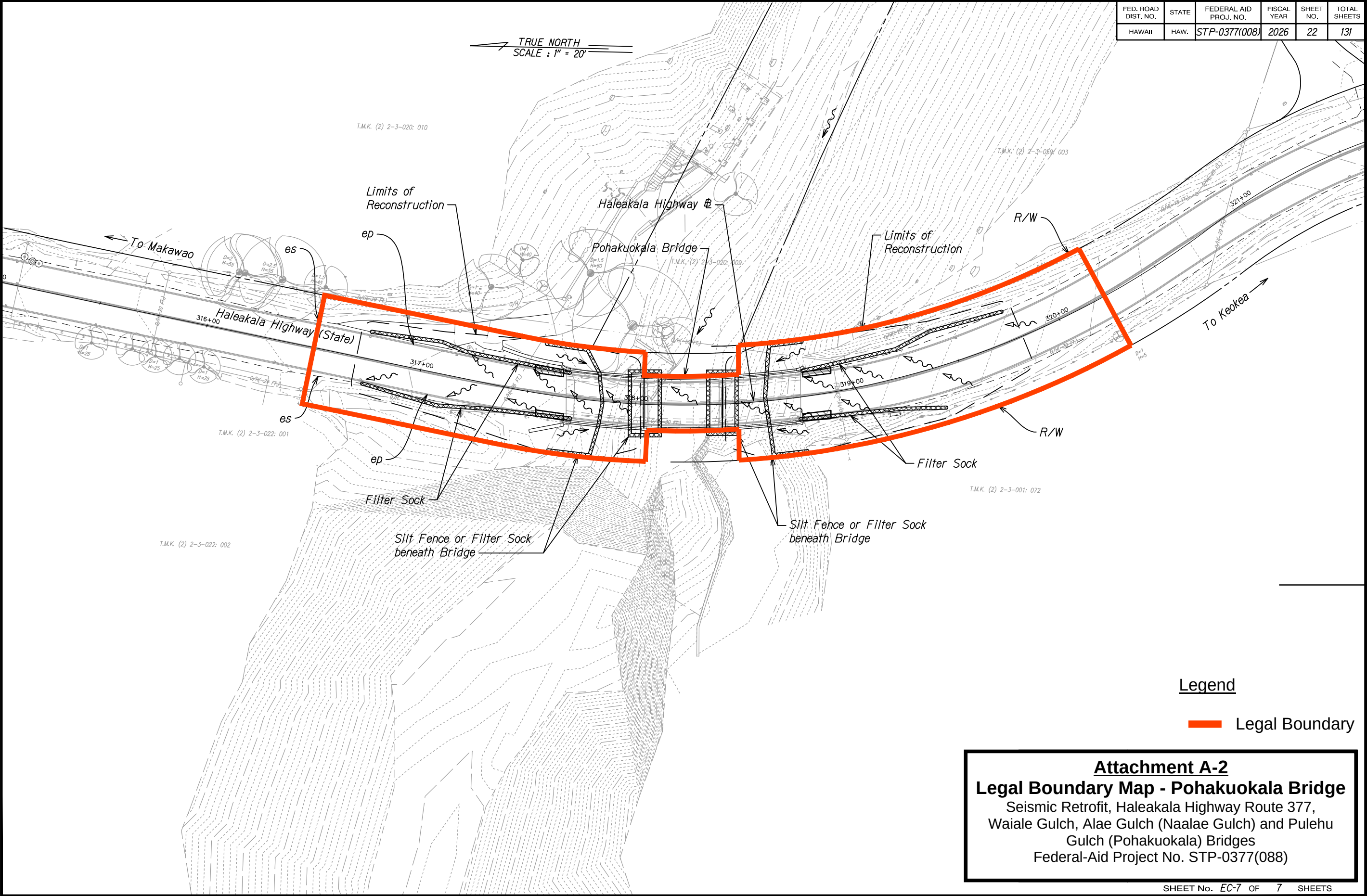
Attachment 4.0
Topographic Map
Asphalt Preservation, Resurfacing, and
Reconstruction at Various Locations,
Work Order #8, Nimitz Highway, Route 92,
Valkenburgh Street to Peltier Avenue,
M.P. 0.99 to M.P. 2.66
Federal-Aid Project No. STP-0300(199)

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0377(008)	2026	21	131



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

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0377(008)	2026	22	131

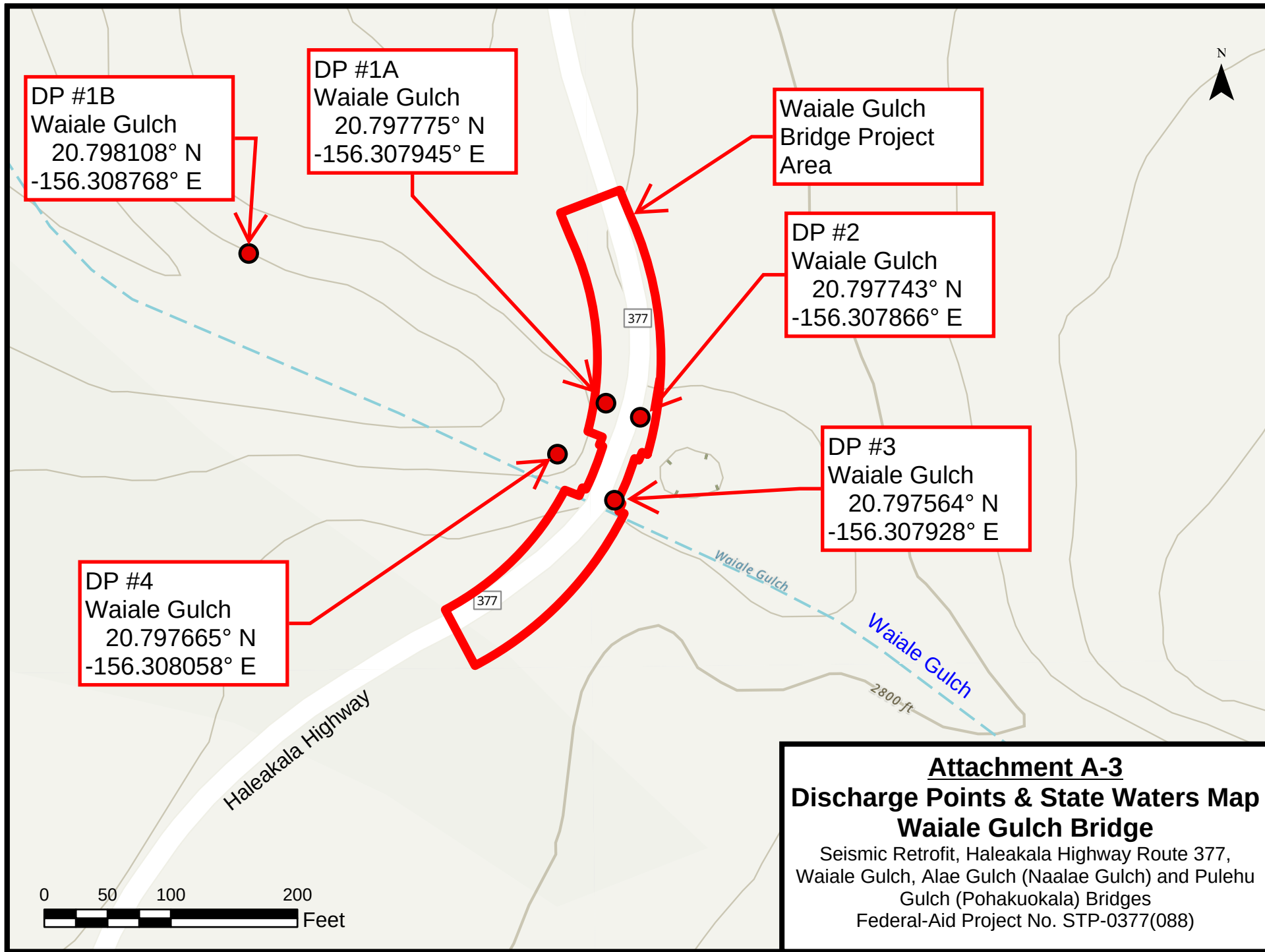


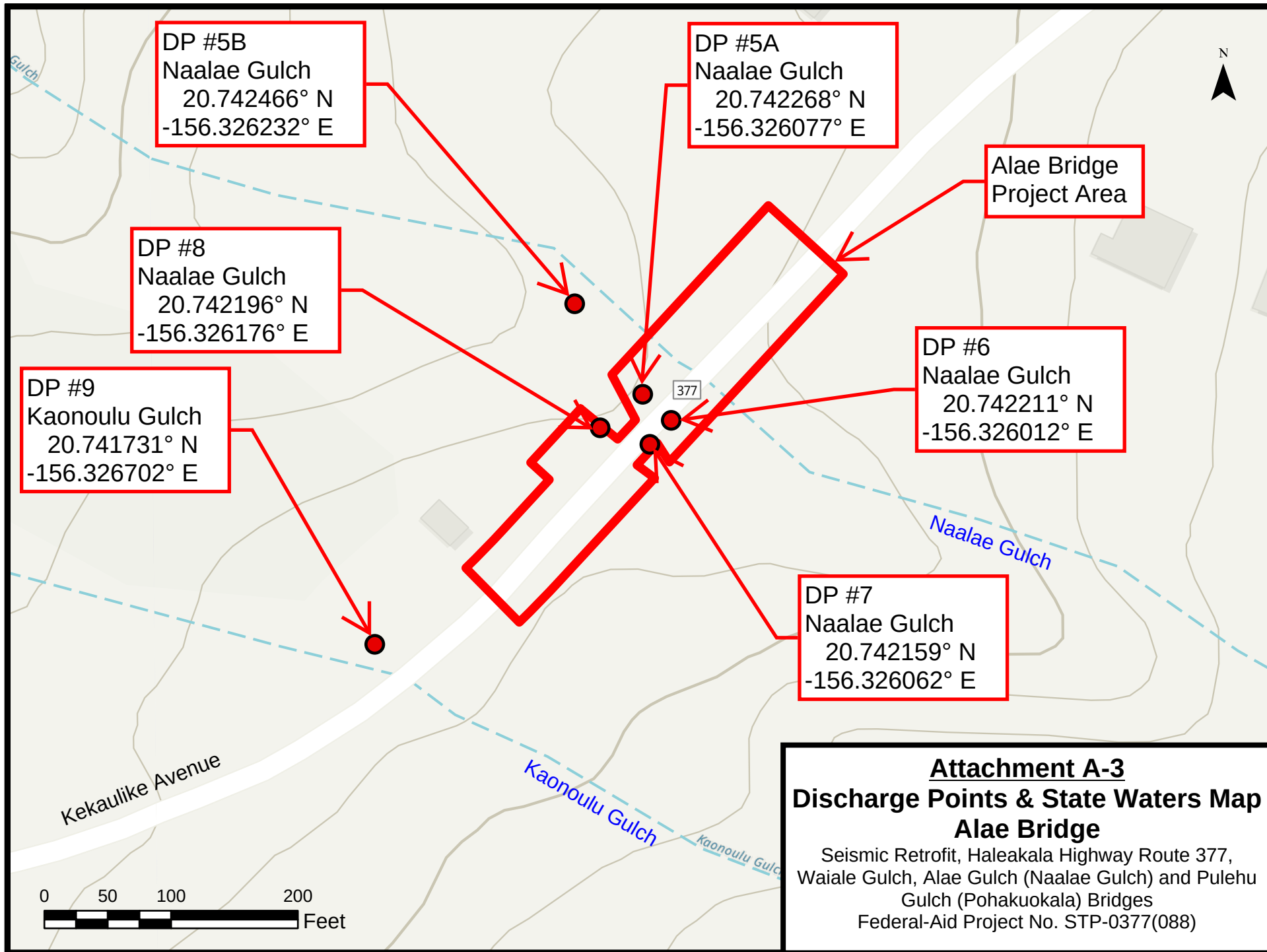
ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DESIGNED BY	
CHECKED BY	QUANTITIES BY	

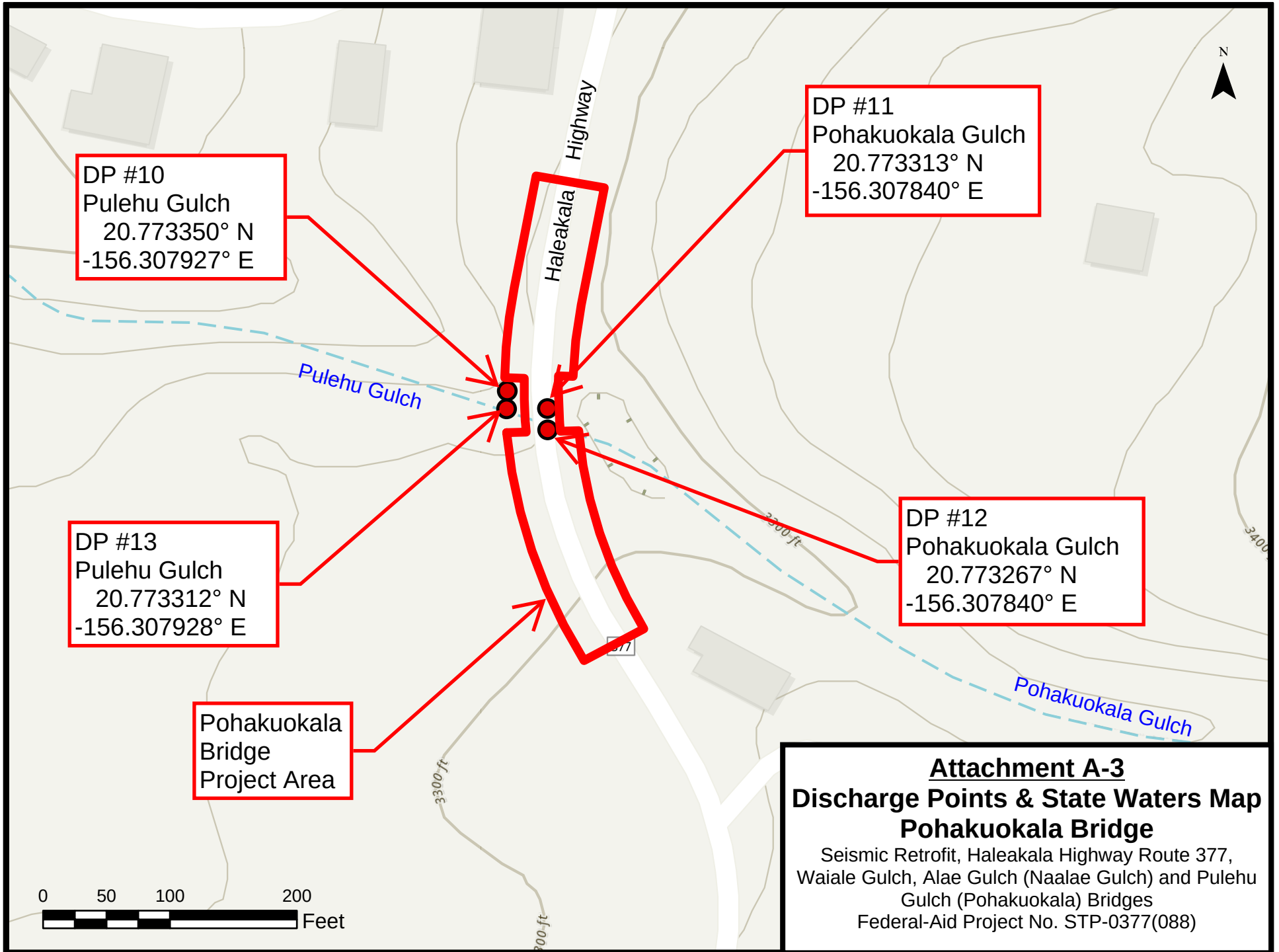
Legend

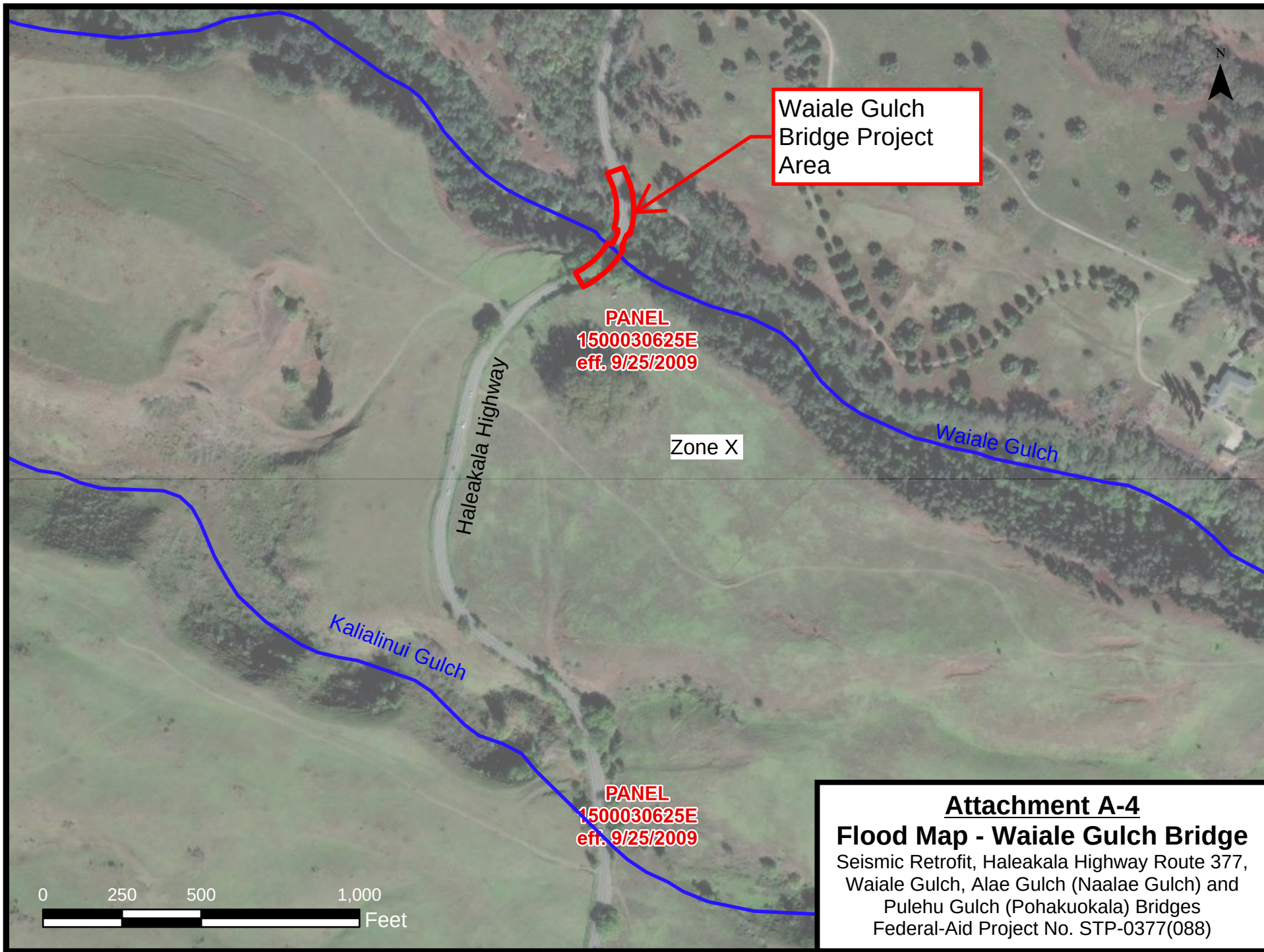
Legal Boundary

Attachment A-2
Legal Boundary Map - Pohakuokala Bridge
Seismic Retrofit, Haleakala Highway Route 377,
Waiale Gulch, Alae Gulch (Naalae Gulch) and Pulehu
Gulch (Pohakuokala) Bridges
Federal-Aid Project No. STP-0377(088)

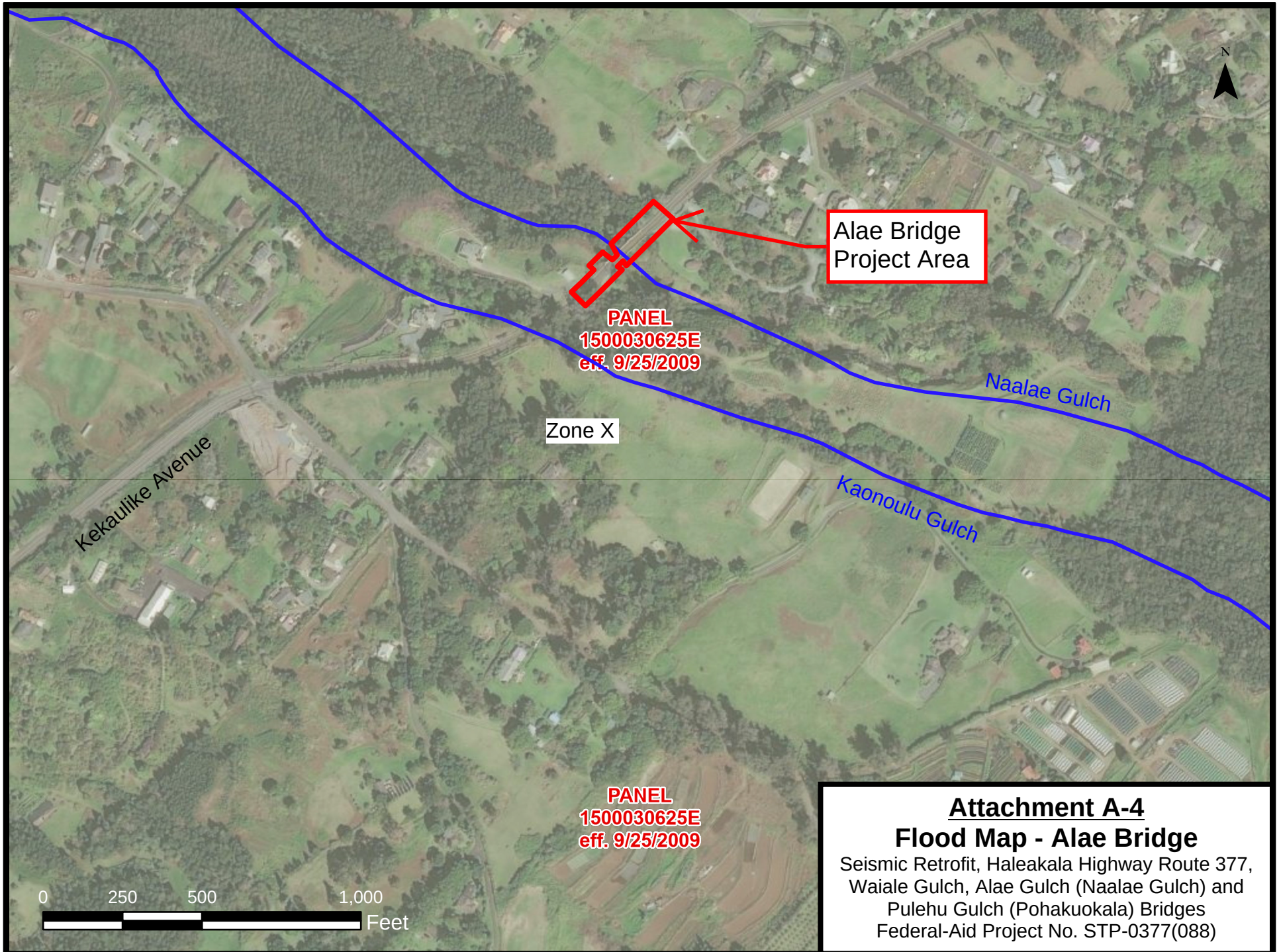


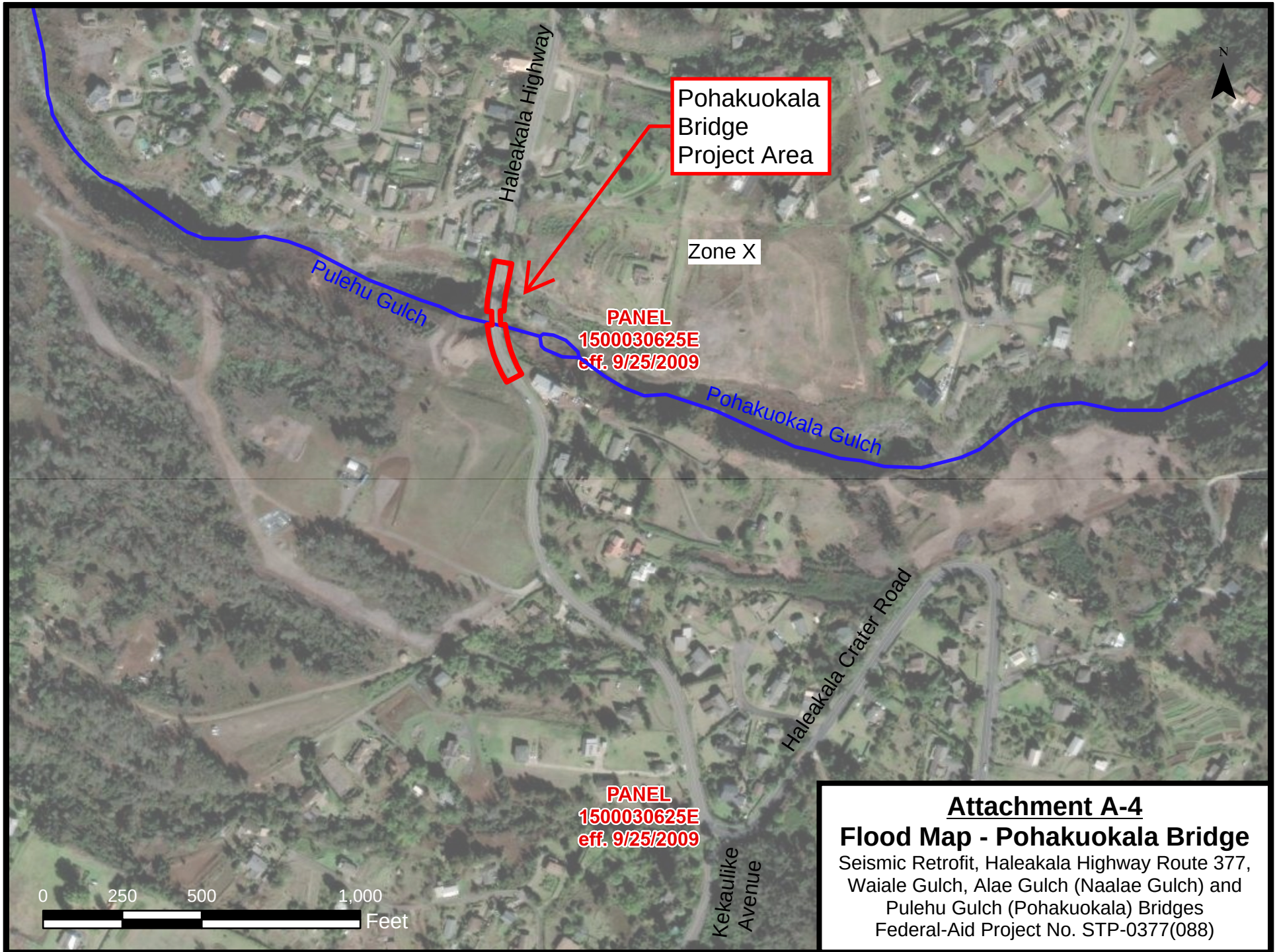






Attachment A-4
Flood Map - Waiale Gulch Bridge
Seismic Retrofit, Haleakala Highway Route 377,
Waiale Gulch, Alae Gulch (Naalae Gulch) and
Pulehu Gulch (Pohakuokala) Bridges
Federal-Aid Project No. STP-0377(088)





Attachment A-4
Flood Map - Pohakuokala Bridge
Seismic Retrofit, Haleakala Highway Route 377,
Waiale Gulch, Alae Gulch (Naalae Gulch) and
Pulehu Gulch (Pohakuokala) Bridges
Federal-Aid Project No. STP-0377(088)

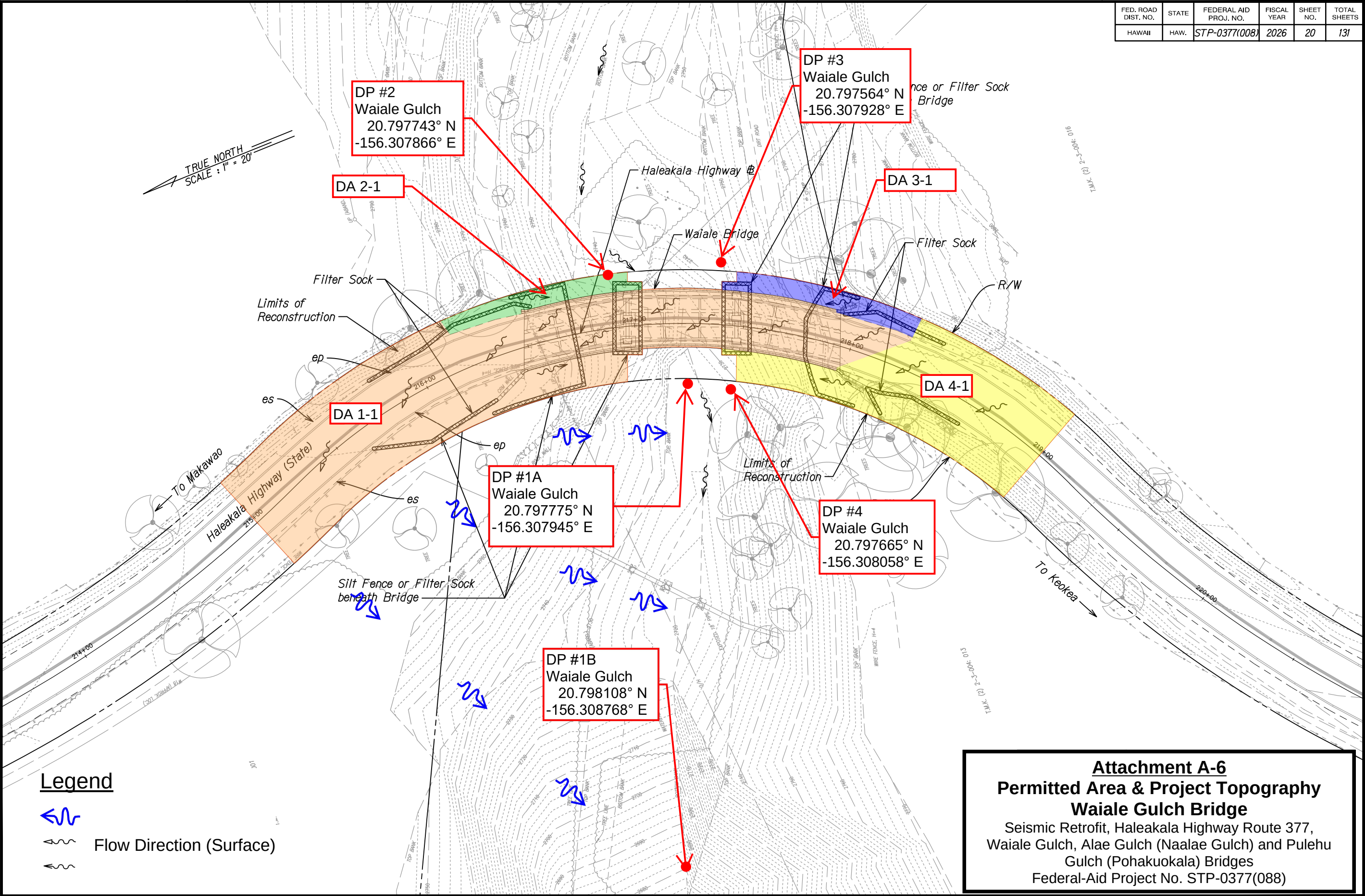
Attachment A-5 Drainage Area Calculations

Area Label (DA)	C	Area		*T _c	I ₁₀	Correction Factor	I ₁₀	Q (INC)	Discharge Point No.	Discharge Point Name	Discharge Point Location		Receiving Water Classification
		(SF)	(ac)	(min)	From Map		(in/hr)	(cfs)			Lat.	Long.	
1-1	0.9	12184.04	0.280	10	1.44	2.35	3.38	0.85	1A	Waiale Gulch	20.797775	-156.307945	Class 2, Inland
									1B		20.798108	-156.308768	
2-1	0.9	767.40	0.018	10	1.44	2.35	3.38	0.05	2	Waiale Gulch	20.797743	-156.307866	Class 2, Inland
3-1	0.9	824.58	0.019	10	1.44	2.35	3.38	0.06	3	Waiale Gulch	20.797564	-156.307928	Class 2, Inland
4-1	0.9	5129.64	0.118	10	1.44	2.35	3.38	0.36	4	Waiale Gulch	20.797665	-156.308058	Class 2, Inland
5-1	0.9	8405.65	0.193	10	1.24	2.35	2.91	0.51	5A	Naalae Gulch	20.742268	-156.326077	Class 2, Inland
									5B		20.742466	-156.326232	
6-1	0.9	4566.53	0.105	10	1.24	2.35	2.91	0.27	6	Naalae Gulch	20.742211	-156.326012	Class 2, Inland
7-1	0.9	687.48	0.016	10	1.24	2.35	2.91	0.04	7	Naalae Gulch	20.742159	-156.326062	Class 2, Inland
8-1	0.9	8416.04	0.193	10	1.24	2.35	2.91	0.51	8	Naalae Gulch	20.742196	-156.326176	Class 2, Inland
9-1	0.9	4421.61	0.102	10	1.24	2.35	2.91	0.27	9	Kaonoulul Gulch	20.741731	-156.326702	Class 2, Inland
10-1	0.9	3349.42	0.077	10	1.37	2.35	3.22	0.22	10	Pulehu Gulch	20.773350	-156.307927	Class 2, Inland
11-1	0.9	7527.85	0.173	10	1.37	2.35	3.22	0.50	11	Pohakuokala Gulch	20.773313	-156.307840	Class 2, Inland
12-1	0.9	6607.27	0.152	10	1.37	2.35	3.22	0.44	12	Pohakuokala Gulch	20.773267	-156.307840	Class 2, Inland
13-1	0.9	469.74	0.011	10	1.37	2.35	3.22	0.03	13	Pulehu Gulch	20.773312	-156.307928	Class 2, Inland

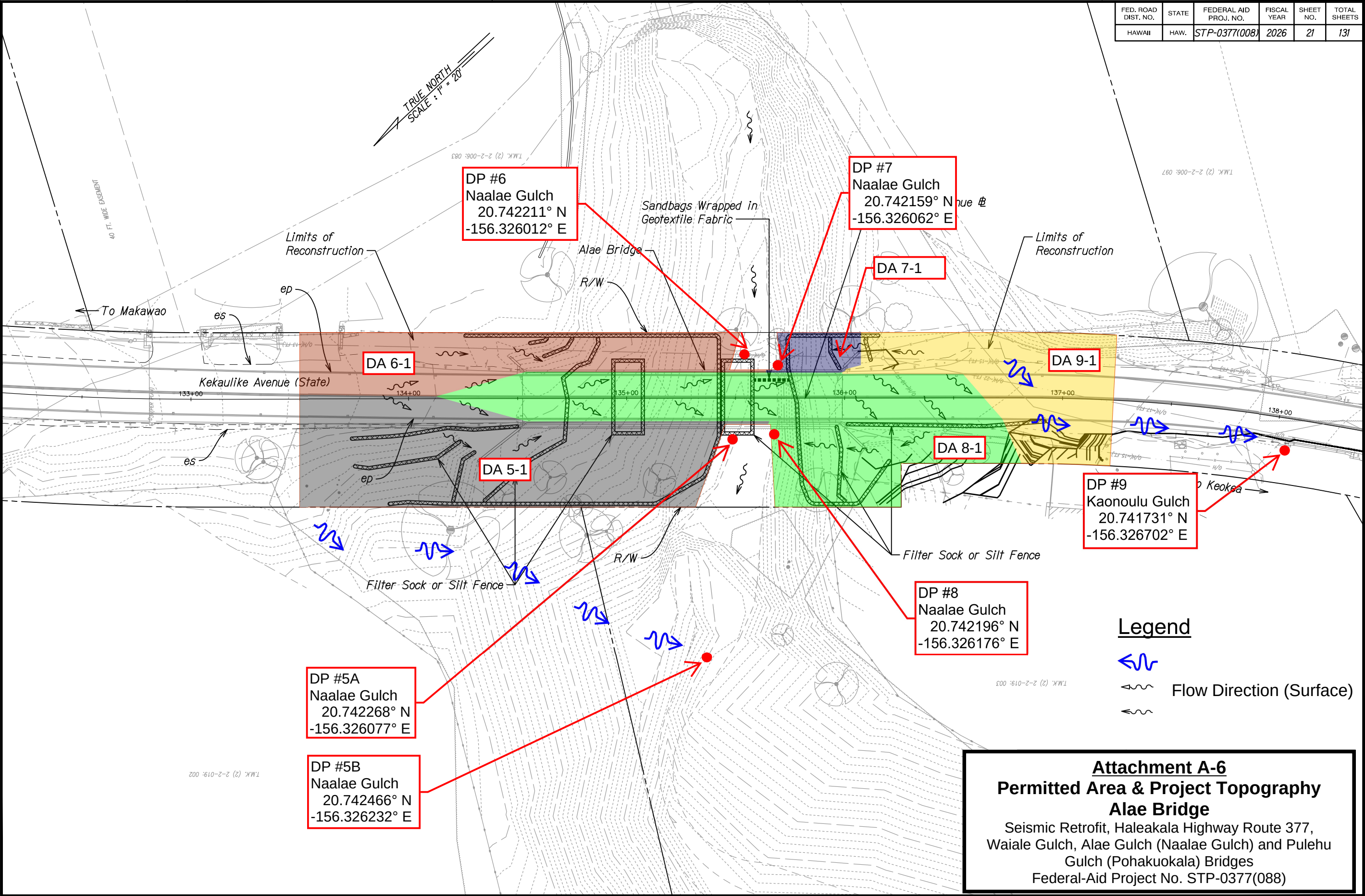
Total Area= 1.454 ac
Total Impervious Area= 1.454 ac

Total= 4.11

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0377(008)	2026	20	131

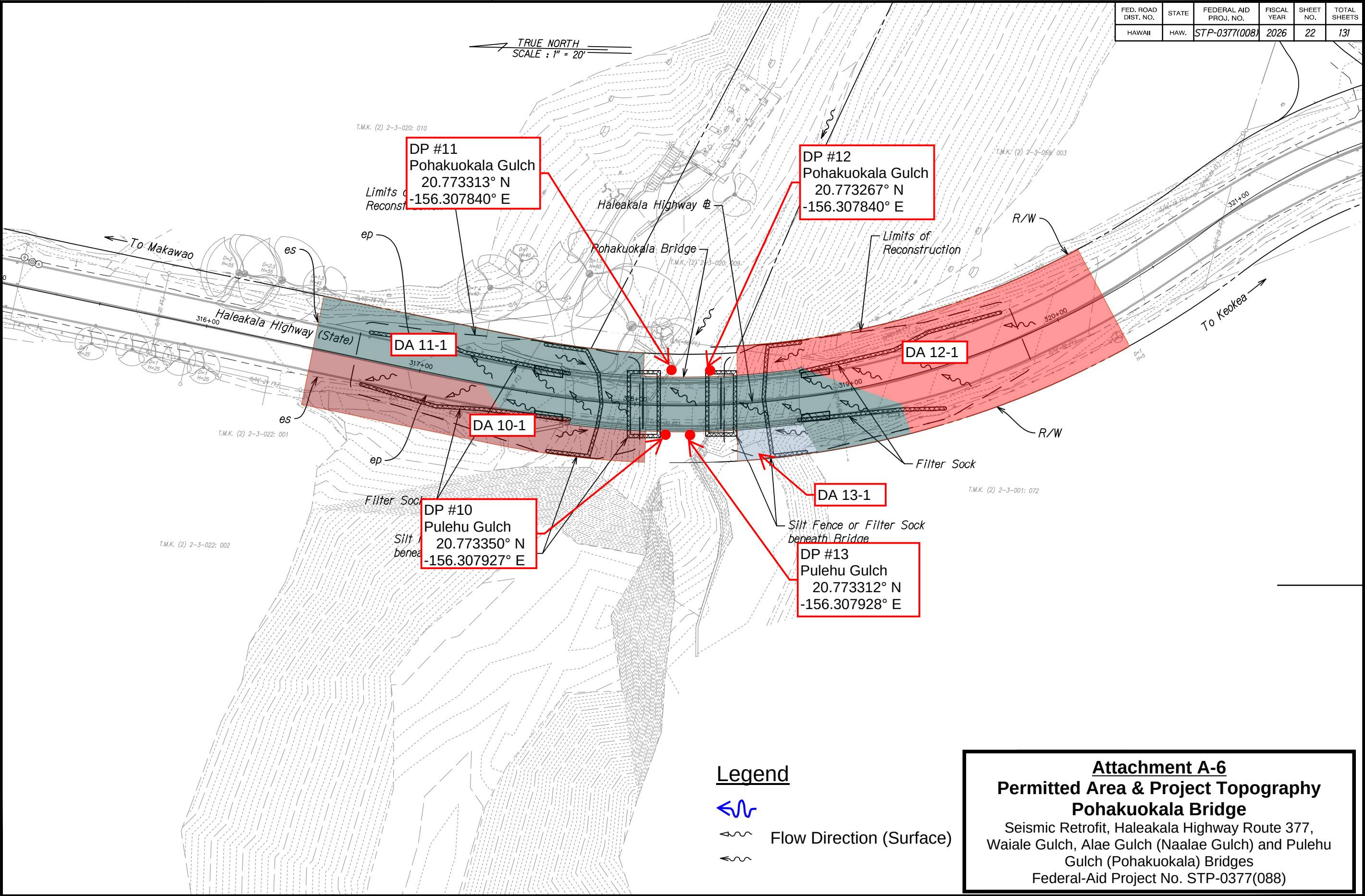


FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0377(008)	2026	21	131



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

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0377(008)	2026	22	131



ORIGINAL PLAN	DATE
NOTED BY	DATE
DESIGNED BY	DATE
CHECKED BY	DATE

Legend

- Flow Direction (Surface)
- Flow Direction (Subsurface)

Attachment A-6

Permitted Area & Project Topography

Pohakuokala Bridge

Seismic Retrofit, Haleakala Highway Route 377, Waiale Gulch, Alae Gulch (Naalae Gulch) and Pulehu Gulch (Pohakuokala) Bridges

Federal-Aid Project No. STP-0377(088)

Attachment A-7

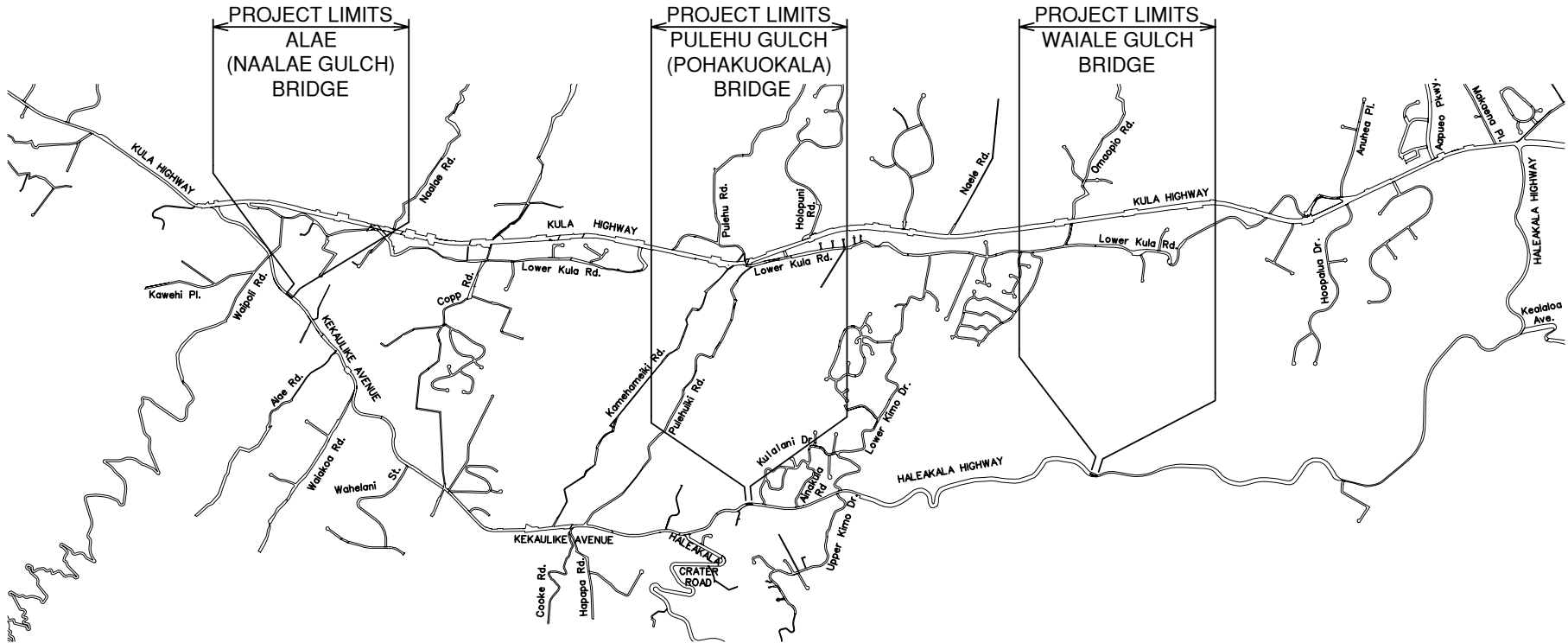
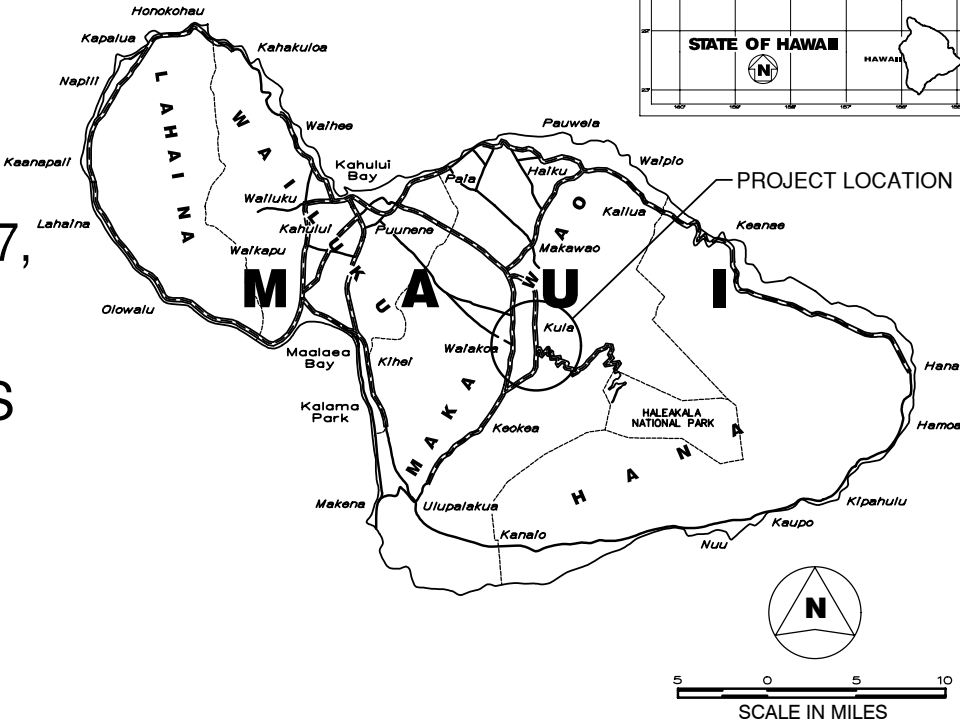
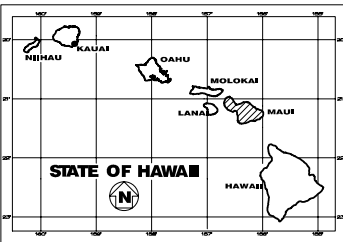
Construction Drawings

INDEX TO DRAWINGS	
SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	STANDARD PLAN SUMMARY
3 - 13	GENERAL NOTES
14	LEGEND AND ABBREVIATIONS
15	GENERAL LAYOUT PLAN
16 - 22	EROSION CONTROL NOTES, PLANS AND DETAILS
23 - 26	ALIGNMENT & ROADWAY PLANS
27 - 29	SCOUR PROTECTION PLANS
30 - 32	SIGNING AND STRIPING NOTES, PLANS
33 - 49	TRAFFIC CONTROL NOTES, PLANS
50 - 123	STRUCTURAL PLANS
124 - 131	BORING LOG NOTES, PLANS AND DETAILS

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
HONOLULU, HAWAII

PLANS FOR
SEISMIC RETROFIT, HALEAKALA HIGHWAY ROUTE 377,
WAIALE GULCH, ALAE (NAALAE GULCH),
AND PULEHU GULCH (POHAKUOKALA) BRIDGES
FEDERAL-AID PROJECT NO. STP-0377(008)
DISTRICT OF MAKAWAO
ISLAND OF MAUI

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0377(008)	2026	1	131



--- FEDERAL AID PROJECTS PREVIOUSLY CONSTRUCTED OR UNDER CONSTRUCTION

PROJECT SITES		
WAIALE GULCH BRIDGE	MILE POST	TO MILE POST
	3.71	3.74
ALAE (NAALAE GULCH) BRIDGE	MILE POST	TO MILE POST
	8.53	8.56
PULEHU GULCH (POHAKUOKALA) BRIDGE	MILE POST	TO MILE POST
	5.62	5.64

DESIGN DESIGNATION

Traffic Data	Haleakala Highway, Waiale Bridge - Waiale Gulch Kula Hwy to Haleakala Crater Road	Haleakala Highway, Pohakuokela Bridge - Pulehu Gulch Kula Hwy to Haleakala Crater Road	Kekaulike Avenue, Alae Bridge - Naalae Gulch Haleakala Crater Road to Kula Hwy
ADT (2024)	4,500	4,500	1,700
ADT (2034)	5,100	5,100	1,900
ADT (2044)	5,700	5,700	2,100
DHV (2034)	480	480	180
DHV (2044)	540	540	200
Design K	9.5	9.5	9.5
Design D	55/45	55/45	55/45
Design T	6.0	6.0	6.0
T24	6.0	6.0	6.0

DEPARTMENT OF TRANSPORTATION
STATE OF HAWAII

APPROVED:

HIGHWAYS ADMINISTRATOR DATE

LAYOUT PLAN

NOT TO SCALE

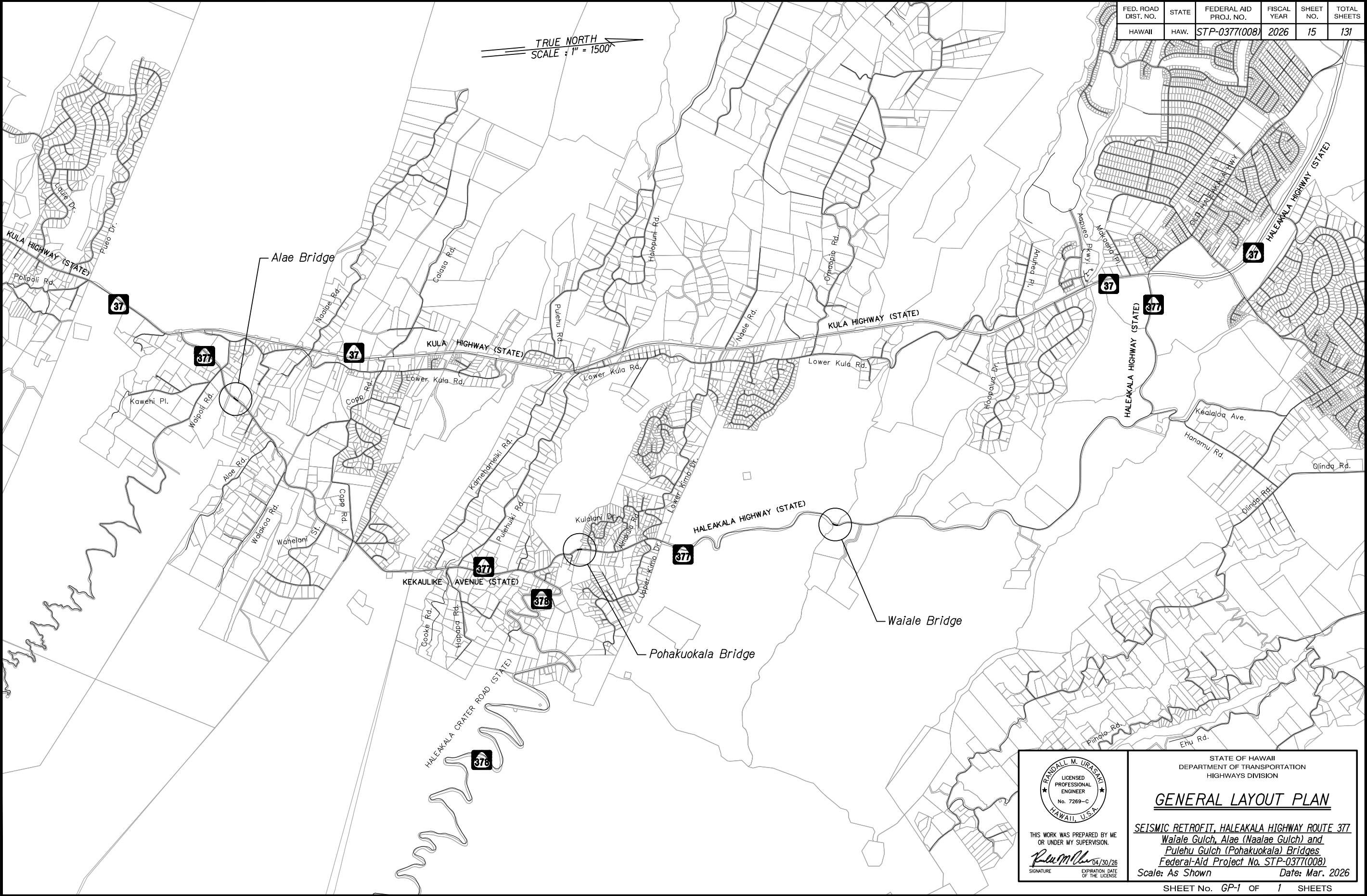
GROSS LENGTH OF PROJECT 5.00 MILES
NET LENGTH OF PROJECT 0.10 MILES



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

WSP USA
DESIGNED BY
HWY-DD
MANAGED BY
808-692-7570
PHONE
DATE

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0377(008)	2026	15	131



ORIGINAL PLAN	DATE
NOTED BY	
DESIGNED BY	
CHECKED BY	
IN CHARGE	

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

Randall M. Urasak 04/30/26
SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

GENERAL LAYOUT PLAN

SEISMIC RETROFIT, HALEAKALA HIGHWAY ROUTE 377
Waiale Gulch, Alae (Naalae Gulch) and
Pulehu Gulch (Pohakuokala) Bridges
Federal-Aid Project No. STP-0377(008)
Scale: As Shown Date: Mar. 2026

WATER POLLUTION AND EROSION CONTROL NOTES:

A. GENERAL:

1. See Special Provisions Section 209 - Water Pollution and Erosion Control. Section 209 describes but is not limited to: submittal requirements; scheduling of a water pollution and erosion control conference with the Engineer; construction requirements; method of measurement; and basis of payment. In addition, Appendix A lists potential pollutant sources and corresponding BMPs used to mitigate the pollutants.
2. Follow the guidelines in the current HDOT Construction Best Management Practices Field Manual in developing, installing and maintaining the Best Management Practices (BMP) for the project. For any conflicting requirements between the Manual and applicable bid documents, the applicable bid documents will govern. Should a requirement not be clearly described within the applicable bid documents, the Contractor shall notify the Engineer immediately for interpretation. For the purposes of clarification under Note A.2, "applicable bid documents" include the construction plans, standard specifications, Special Provisions, Permits, and the Storm Water Pollution Prevention Plan (SWPPP) when applicable.
3. Follow the guidelines in the Honolulu's City & County "Rules Relating to Soil Erosion Standards and Guidelines" along with applicable Soil Erosion Guidelines for projects on Maui, Molokai, Kauai, and Hawaii.
4. The Engineer may assess liquidated damages of up to \$27,500 for non-compliance of each BMP requirement and each requirement stated in Section 209 and special provisions, for every day of non-compliance. There is no maximum limit on the amount assessed per day.
5. The Engineer will deduct the cost from the progress payment for all citations received by the Department for non-compliance, or the Contractor shall reimburse the State for the full amount of the outstanding cost incurred by the State.
6. If necessary, install a rain gage prior to any field work including the installation of any site-specific best management practices. The rain gage shall have a tolerance of at least 0.05 inches of rainfall. Install the rain gage on the project site in an area that will not deter rainfall from entering the gage opening. Do not install in a location where rain water may splash into rain gage. The rain gage installation shall be stable and plumbed. Do not begin field work until the rain gage is installed and site-specific best management practices are in-place.
7. Submit Site-Specific BMP Plan to the Engineer along with a completed Site-Specific BMP Review Checklist within 21 calendar days of date of award. The Site-Specific BMP Review Checklist may be obtained from <http://www.stormwaterhawaii.com>.

B. WASTE DISPOSAL:

1. Waste Materials
Collect and store all waste materials in a securely lidded metal dumpster or roll off container with cover to keep rain out or loss of waste during windy conditions. The dumpster shall meet all local and State solid waste management regulations. Deposit all trash and construction debris from the site in the dumpster. Empty the dumpster weekly or when the container is two-thirds full, whichever is sooner. Do not bury construction waste materials onsite. The Contractor's supervisory personnel shall be instructed regarding the correct procedure for waste disposal. Post notices stating these practices in the office trailer, on a weatherproof bulletin board, or other accessible location acceptable to the Engineer. The Contractor shall be responsible for seeing that these procedures are followed. Submit the Solid Waste Disclosure Form for Construction Sites to the Engineer within 30 calendar days of contract execution. Provide a copy of all the disposal receipts from the facility permitted by the Department of Health to receive solid waste to the Engineer monthly. This should also include documentation from any intermediary facility where solid waste is handled or processed.
2. Hazardous Waste
Dispose all hazardous waste materials in the manner specified by local or State regulations and by the manufacturer. The Contractor's site personnel shall be instructed in these practices and shall be responsible for seeing that these practices are followed.

3. Sanitary Waste
Collect all sanitary waste from the portable units a minimum of once per week, or as required. Position sanitary facilities where they are secure and will not be tipped over or knocked down.

C. EROSION AND SEDIMENT CONTROL INSPECTION AND MAINTENANCE PRACTICES:

1. For projects with an NPDES Permit for Construction Activities, inspect at the following intervals. For construction areas discharging to nutrient or sediment impaired waters, inspect all control measures at least once each week and within 24 hours of any rainfall event of 0.25 inches or greater within a 24 hour period. For construction areas discharging to waters not impaired for nutrient or sediments, inspect all control measures weekly. Inspections are only required during the project's normal working hours. The discharge point water classification may be found in the SWPPP.
2. For projects without an NPDES Permit for Construction Activities, inspect all control measures weekly.
3. Maintain all erosion and sediment control measures in good working order. If repair is necessary, initiate repair immediately and complete by the close of the next work day if the problem does not require significant repair or replacement, or if the problem can be corrected through routine maintenance. When installation of a new erosion or sediment control or a significant repair is needed, install the new or modified control or complete the repair no later than 7 calendar days from the time of discovery. "Immediately" means the Contractor shall take all reasonable measures to minimize or prevent discharge of pollutants until a permanent solution is installed and made operational. If a problem is identified at a time in the day in which it is too late to initiate repair, initiation of repair shall begin on the following work day.
4. Remove built-up sediment from silt fence when it has reached one-third the height of the fence. Remove sediment from other perimeter sediment control devices when it has reached one-half the height of the device.
5. Inspect silt screen or fence for depth of sediment, tears, to verify that the fabric is securely attached to the fence posts or concrete slab and to verify that the fence posts are firmly in the ground. Inspect and verify the bottom of the silt screen is buried a minimum of 6 inches below the existing ground.
6. Inspect temporary and permanent seeding and planting for bare spots, washouts and healthy growth.
7. Complete and submit to the Engineer a maintenance inspection report within 24 hours after each inspection.
8. Provide a stabilized construction entrance at all points of exit onto paved roads to reduce vehicle tracking of sediments. Include stabilized construction entrance in the Water Pollution, Dust, and Erosion Control submittals. Minimum length should be 50 feet. Minimum width should be 30 feet. Minimum depth should be 12 inches or as recommended by the soils engineer and underlain with geo-textile fabric. If minimum dimensions cannot be met, provide other stabilization techniques that remove sediment prior to exit. Clean the paved street adjacent to the site entrance daily or as required to remove any excess mud, cold-planed materials, dirt or rock tracked from the site. Do not hose down the street without containing or vacuuming wash water. Cover dump trucks hauling material from the construction site with a tarpaulin. Remove sediment tracked onto the street, sidewalk, or other paved area by the end of the day in which the track-out occurs.
9. Include designated Concrete Washout Area(s) in the Water Pollution, Dust, and Erosion Control submittals.
10. Submit the name of a specific individual designated responsible for inspections, maintenance and repair activities and filling out the inspection and maintenance report.
11. Personnel selected for the inspection and maintenance responsibilities shall receive training from the Contractor. They shall be trained in all the inspection and maintenance practices necessary for keeping the erosion and sediment controls used onsite in good working order.

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

RANDALL M. URASKI

LICENSED PROFESSIONAL ENGINEER

No. 7269-C

HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

Signature

04/30/26

Signature

EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII

DEPARTMENT OF TRANSPORTATION

HIGHWAYS DIVISION

WATER POLLUTION & EROSION CONTROL NOTES

SEISMIC RETROFIT, HALEAKALA HIGHWAY ROUTE 377

Waiale Gulch, Alae (Naalae Gulch) and Pulehu Gulch (Pohakuokala) Bridges

Federal-Aid Project No. STP-0377(008)

Scale: None

Date: Mar. 2026

SHEET No. EC-1 OF 7 SHEETS

WATER POLLUTION AND EROSION CONTROL NOTES (Cont.):

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12. Contain, remove, and dispose slurry generated from saw cutting of pavement in accordance with approved BMP practices. Do not allow discharge into the drainage system or State waters.
13. For projects with an NPDES Permit for Construction Activities, immediately initiate stabilizing exposed soil areas upon completion of earth-disturbing activities for areas where earth-disturbing activities have permanently or temporarily ceased. Earth-disturbing activities have permanently ceased when clearing and excavation within any area of the construction site that will not include permanent structures has been completed. Earth-disturbing activities have temporarily ceased when clearing, grading, and excavation within any area of the site that will not include permanent structures will not resume (i.e., the land will be idle) for a period of 14 or more calendar days, but such activities will resume in the future. For construction areas discharging into waters not impaired for nutrients sediments, complete initial stabilization within 14 calendar days after the temporary or permanent cessation of earth-disturbing activities. For construction areas discharging into nutrient or sediment impaired waters, complete initial stabilization within 7 calendar days after the temporary or permanent cessation of earth-disturbing activities. Classification of water at the discharge point may be found in the SWPPP.
14. For projects without an NPDES Permit for Construction Activities, complete initial stabilization within 14 calendar days after the temporary or permanent cessation of earth-disturbing activities.

D. GOOD HOUSEKEEPING BEST MANAGEMENT PRACTICES:

1. Materials Pollution Prevention Plan

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

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

- b. Use Material Management Practices to reduce the risk of spills or other accidental exposure of materials and substances to storm water runoff. Make an effort to store only enough product as is required to do the job.
- c. Store all materials stored onsite in a neat, orderly manner in their appropriate containers and if possible under a roof or other enclosure.
- d. Keep products in their original containers with the original manufacturer's label.
- e. Do not mix substances with one another unless recommended by the manufacturer.
- f. Whenever possible, use a product up completely before disposing of the container.
- g. Follow manufacturer's recommendations for proper use and disposal.
- h. Conduct a daily inspection to ensure proper use and disposal of materials onsite.

2. Hazardous Material Pollution Prevention Plan

- a. Keep products in original containers unless they are not resealable.
- b. Retain original labels and Safety Data Sheets (SDS), formerly Material Safety Data Sheets (MSDS).
- c. Dispose of surplus products according to manufacturers' instructions and local and State regulations.

3. Onsite and Offsite Product Specific Plan

The following product specific practices shall be followed onsite:

a. Petroleum Based Products:

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

b. Fertilizers:

Apply fertilizers used only in the minimum amounts recommended by the manufacturer and federal, state, and local requirements. Avoid applying just before a heavy rain event. Apply at the appropriate time of year for the location, and preferably timed to coincide as closely as possible to the period of maximum vegetation uptake and growth. Once applied, work fertilizer into the soil to limit exposure to storm water. Do not apply to storm conveyance channels with flowing water. Storage shall be in a covered shed or in an area where fertilizer will not come into contact with precipitation or stormwater. Transfer the contents of any partially used bags of fertilizer to a sealable plastic bin to avoid spills.

c. Paints:

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

d. Concrete Trucks:

Washout or discharge concrete truck drum wash water only at a designated site as far as practicable from storm drain inlets or State waters. Do not discharge water in the drainage system or State waters. Disposal by percolation is prohibited. Clean disposal site as required or as requested by the Engineer.

4. Spill Control Plan

- a. Post a spill prevention plan to include measures to prevent and clean up each spill.
- b. The Contractor shall be the spill prevention and cleanup coordinator. Designate at least three site personnel who shall receive spill prevention and cleanup training. These individuals shall each become responsible for a particular phase of prevention and cleanup. Post the names of responsible spill personnel in the material storage area on a weatherproof bulletin board or other accessible location acceptable to the Engineer and in the office trailer onsite.
- c. Clearly post manufacturers' recommended methods for spill cleanup. Make site personnel aware of the procedures and the location of the information and cleanup supplies.
- d. Keep ample materials and equipment necessary for spill cleanup in the material storage area onsite.
- e. Clean up all spills immediately after discovery.
- f. Keep the spill area well ventilated. Personnel shall wear appropriate protective clothing to prevent injury from contact with a hazardous substance.
- g. Report spills of toxic hazardous material to the appropriate State or local government agency, regardless of the size. Where a leak, spill, or other release containing a hazardous substance or oil in an amount equal to or in excess of a reportable quantity established under either 40 CFR Part 110, 40 CFR Part 117, or 40 CFR Part 302 occurs during a 24-hour period, the Contractor shall notify the Engineer as soon as the Contractor has knowledge of the discharge. The Engineer will notify the National Response Center (NRC) at (800) 424-8802, the Clean Water Branch during regular business hours at (808) 586-4309, and the Hawaii State Hospital Operator at (808) 247-2191 and the Clean Water Branch (DOH-CWB) via email at cleanwaterbranch@doh.hawaii.gov during non-business hours immediately. The Contractor shall also provide to the Engineer, within 7 calendar days of knowledge of the release, a description of the release, the circumstances leading to the release, and the date of the release. The Engineer will provide this information to the DOH-CWB. The Engineer will provide information to the NRC if requested.

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Randall M. Urasaki
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04/30/26
OF THE LICENSE

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION	
WATER POLLUTION & EROSION CONTROL NOTES	
SEISMIC RETROFIT, HALEAKALA HIGHWAY ROUTE 377	
Waiale Gulch, Alae (Naalae Gulch) and Pulehu Gulch (Pohakuokala) Bridges	
Federal-Aid Project No. STP-0377(008)	
Scale: None	Date: Mar. 2026
SHEET No. EC-2 OF 7 SHEETS	

WATER POLLUTION AND EROSION CONTROL NOTES
(Cont.):

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E. PERMIT REQUIREMENTS:

- A National Pollutant Discharge Elimination System (NPDES) Permit for Construction Activities of one acre or more of disturbed area is required for this project. If the Contractor requires extra land disturbance, including staging and storage areas, that is not covered by the NPDES Permit obtained by the State, the Contractor shall be responsible for obtaining the required NPDES Construction Activities Permit to cover this additional disturbed area. See Hawaii Administrative Rules Chapter 11-55, Appendix C for definition of land disturbance. The Contractor's attention is directed to the applicable NPDES Permit documents on the bid package compact disc.
 - Deadlines for initiating and completing initial stabilization
 - Increased inspection frequency and installation of rain gage if applicable
 - Deadlines to initiate and complete repairs to BMPs
 - Reporting requirements and corrective action reports
- Comply with all applicable State and Federal Permit conditions. Permits may include, but not limited to the following:
 - NPDES Permit for Construction Activities
 - Section 404 Army Corps of Engineer Permit

F. SITE-SPECIFIC BMP REQUIREMENTS:

Each BMP below is referenced to the corresponding section of the current HDOT Construction Best Management Practices Field Manual and appropriate Supplemental Sheets. The Manual may be obtained from the HDOT Statewide Stormwater Management Program Website at <http://www.stormwaterhawaii.com/resources/contractors-and-consultants/> under Construction Best Management Practices Field Manual. Supplemental BMP sheets are located at <http://www.stormwaterhawaii.com/resources/contractors-and-consultants/storm-water-pollution-prevention-plan-swppp/> under Concrete Curing and Irrigation Water.

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

Follow the requirements below:

- Protect all Drainage Inlets receiving runoff from disturbed areas (SC-1).
- Contain on-site runoff using Perimeter Sediment Controls
 - SC-7 Silt Fence or Filter Fabric Fence
 - SC-2 Vegetated Filter Strips and Buffers
 - SC-6 Compost Filter Berm/Sock
 - SC-8 Sandbag Barrier
 - SC-9 Brush or Rock Filter
- Control offsite runoff from entering construction area
 - EC-3 Run-On Diversion
 - EC-5 Earth Dike, Swales, and Ditches
- Incorporate applicable Site Management BMP
 - SM-1 Construction BMP Training
 - SM-2 Material Storage and Handling
 - SM-3 Stockpile Management
 - SM-6 Solid Waste Management

- SM-7 Sanitary Waste Management
- SM-9 Hazardous Materials and Waste Management
- SM-10 Spill Prevention and Control
- SM-11 Vehicle and Equipment Cleaning
- SM-12 Vehicle and Equipment Maintenance
- SM-13 Vehicle and Equipment Refueling
- SM-14 Scheduling
- SM-15 Location of Potential Sources of Sediment
- SM-16 Staging Area
- SM-17 Preservation of Existing Vegetation
- SM-19 Dust Control

5. Contain pollutants within the Construction Staging/Storage Area BMP with applicable Perimeter Sediment Controls and Site Management BMP. Include a Stabilized Construction Entrance/Exit (SC-11) for all areas which exit onto a paved street. Restrict vehicle access to these points.

6. Manage Concrete Waste including installing a Concrete Washout Area (SM-4) and properly disposing of Concrete Curing Water (California Stormwater BMP Handbook NS-12 Concrete Curing).

7. Remove saw cut slurry and hydrodemolition water from the site by vacuuming. Provide storm drain protection and/or perimeter sediment controls during saw cutting and hydrodemolition work.

10. Contractor shall ensure the proper working order and conduct regular maintenance of all construction equipment. All construction equipment shall be serviced off-site, nd no oil or fuel shall be stored on the site.

11. The Contractor shall dispose of equipment and hydraulic oils off-site and in accordance with County, State, and Federal regulations.

12. At the end of construction, existing catch basins and drain inlets surrounding the project site shall be inspected and any accumulated sediment and debris found shall be removed. Flushing into the catch basins or drain inlets is prohibited.

13. Construction shall be staged and phased for large projects. Areas of one phase shall be stabilized before another phase is initiated. Stabilization shall be accomplished by temporary or permanent protecting the disturbed soil surface from rainfall impact and runoff.

14. Storm water flowing toward the construction area shall be diverted by using appropriate control measures, as practical.

15. Water must be discharged in a manner that the discharge shall not cause or contribute to a violation of the basic water quality criteria as specified in the Hawaii Administrative Rules, Section 11-54-04.

16. All grading work shall conform to Maui County Code Chapter 20.08 "Soil Erosion and Sediment Control", as amended and applicable provisions of Chapter 54, Water Quality Standards and Chapter 55, Water Pollution Control, Title II, Administrative Rules of the State Department of Health.

EROSION CONTROL/BEST MANAGEMENT PRACTICE
NOTES:

- The Contractor, at his own expense, shall keep the project areas and surround areas free from dust nuisance. The work shall be done in conformance with air pollution control standards contained in Hawaii Administrative Rules: Chapter 11-60, "Air Pollution Control"
- Measures to control erosion and other pollutants shall be in place before any grading work is initiated. These measures shall be properly constructed and maintained throughout the construction period of each site.
- Construction shall be sequenced to avoid disturbance at all project site at one time and minimize exposure time of the demolition and reconstruction areas.
- The Contractor shall observe and comply with the State Department of Health regarding storm water discharge.
- Inlet protection shall be implemented at all storm drain inlets and catch basin as indicated to prevent any sediment laden runoff from leaving the site. Inlet protection devices shall be removed during any event where flooding could occur if devices remain in place and replaced after the event has passed.
- Good Housekeeping shall be utilized to ensure protection of roadway from mud, dirt, and debris.
- The Contractor shall provide erosion control measures for their construction, staging, and storage areas and shall inspect and monitor his construction, staging, and storage areas to ensure that non-storm water discharges are emitted. Id such sources are identified, the Contractor shall provide immediate mitigative measures.
- No sediment laden runoff shall leave the site.
- Water trucks shall be utilized to minimize the amount of airborne dust.

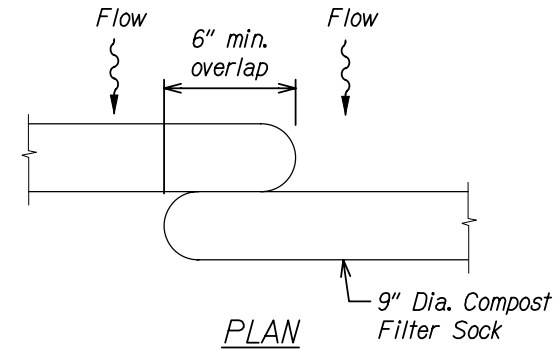
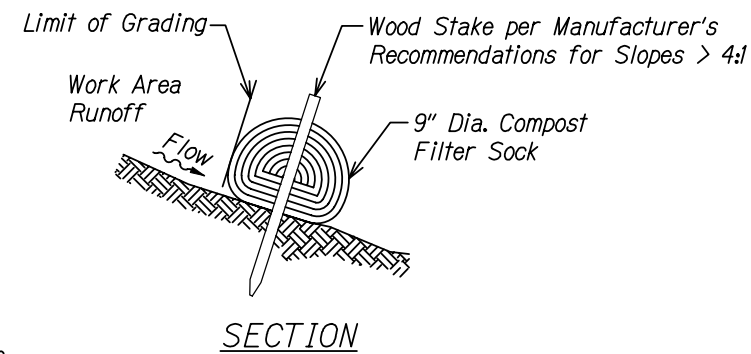
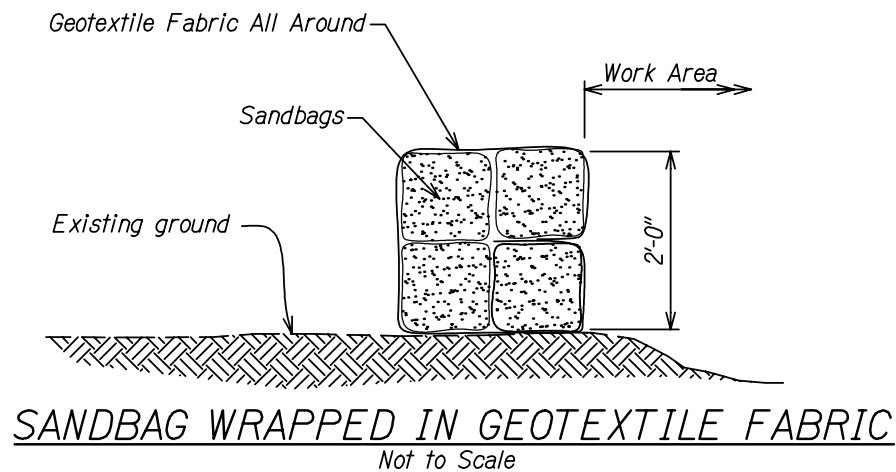


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EXPIRATION DATE
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
**WATER POLLUTION &
EROSION CONTROL NOTES**
SEISMIC RETROFIT, HALEAKALA HIGHWAY ROUTE 377
Waiale Gulch, Alae (Naalae Gulch) and
Pulehu Gulch (Pohakuokala) Bridges
Federal-Aid Project No. STP-0377(008)
Scale: None Date: Mar. 2026
SHEET No. EC-3 OF 7 SHEETS

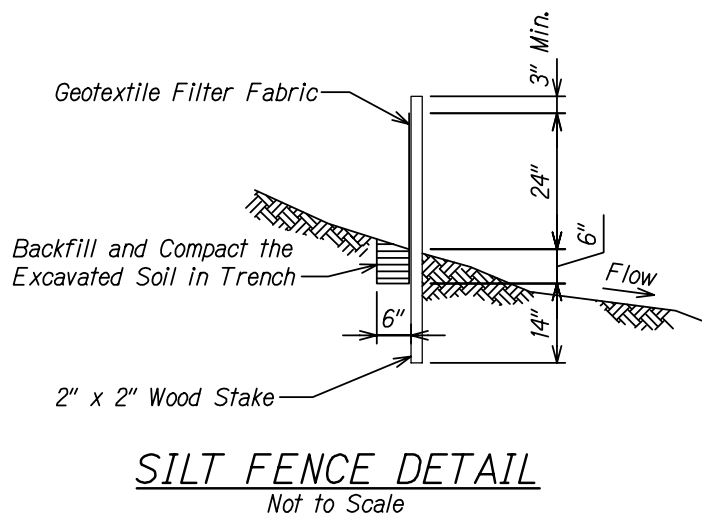
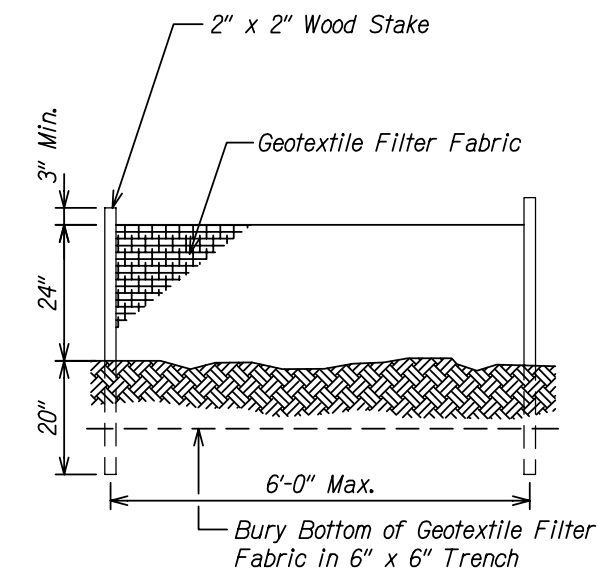
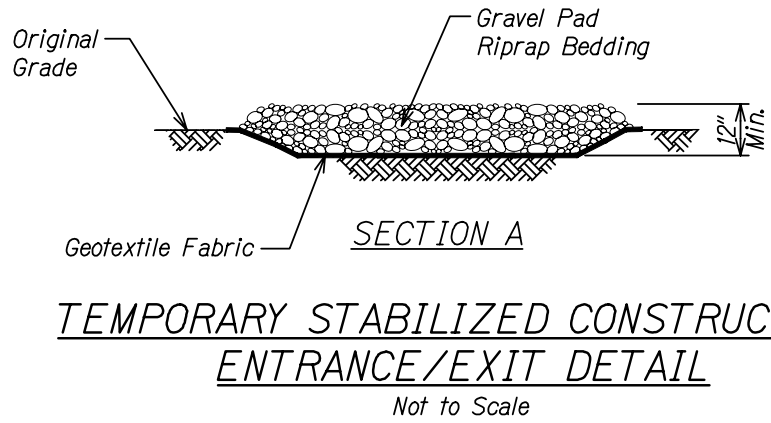
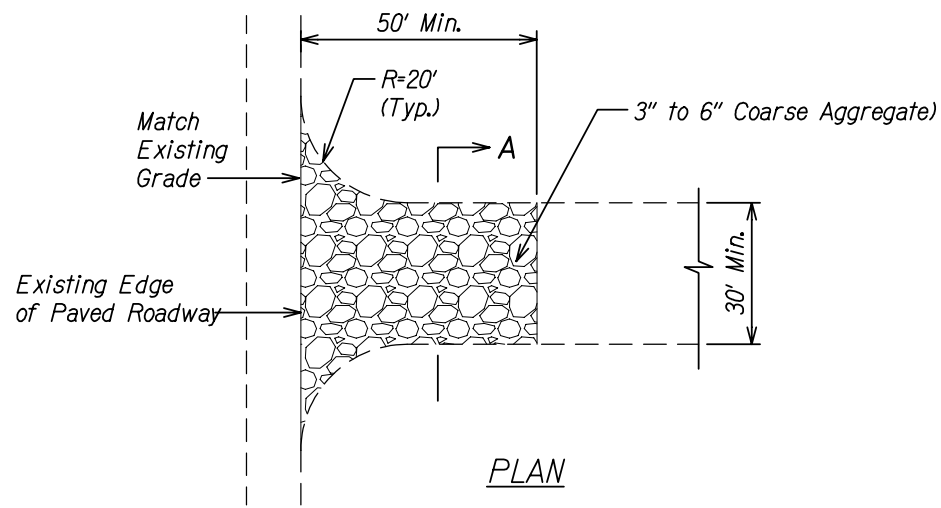
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BIOSOCK COMPOST FILTER SOCK PERIMETER CONTROL DETAIL
Not to Scale

- NOTES:**
- Compost filter socks should be either prefabricated or assembled at site.
 - Locate compost filter socks on level contours spaced as follows:
 - Slope inclination of 4:1 (H:V) or flatter. Compost filter and/or berms should be placed at a maximum interval of 20 ft.
 - Slope inclination between 4:1 and 2:1 (H:V). Compost filter socks (use of berms not recommended) should be placed at a maximum interval of 15 ft. (a closer spacing is more effective).
 - Turn the ends of the compost filter socks up slope to prevent runoff from going around the roll.
 - Stake compost filter socks with stakes with a minimum length of 14 in. and spaced 4 ft. on center, or as recommended by the manufacturer, whichever is greater.
 - If more than one compost filter socks is placed in a row, the rolls should be overlapped, not abutted.



- SILT FENCE NOTES:**
- The filter fabric shall be a minimum of 36 inches wide.
 - If silt fence is obtained from manufacturer as a package (i.e. fabric attached to post) the manufacturer's installation instructions shall be adhered to.

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TEMPORARY EROSION CONTROL DETAILS

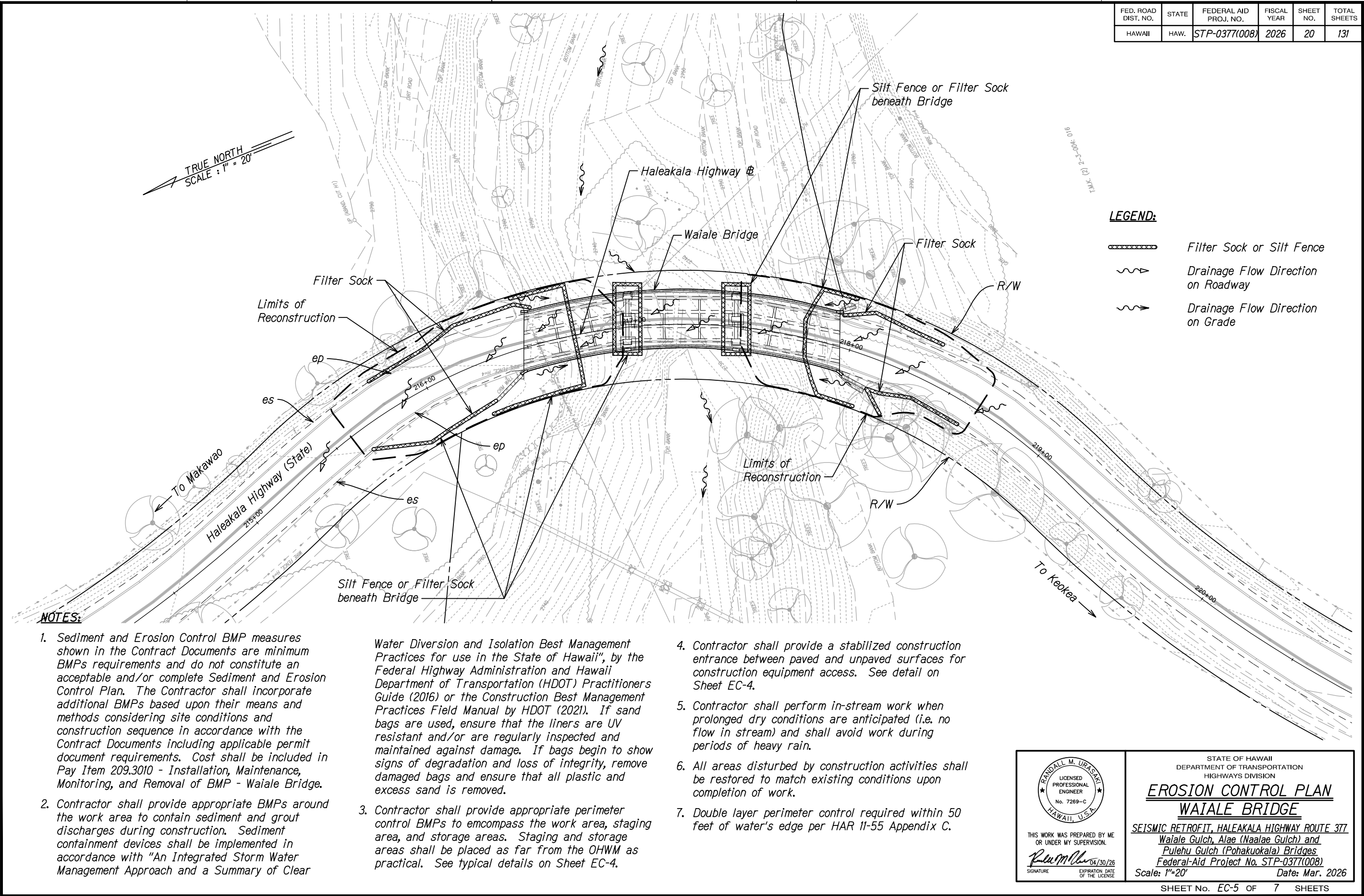
SEISMIC RETROFIT, HALEAKALA HIGHWAY ROUTE 377
Waiale Gulch, Alae (Naalae Gulch) and
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Federal Aid Project No. STP-0377(008)

Scale: As Shown Date: Mar. 2026

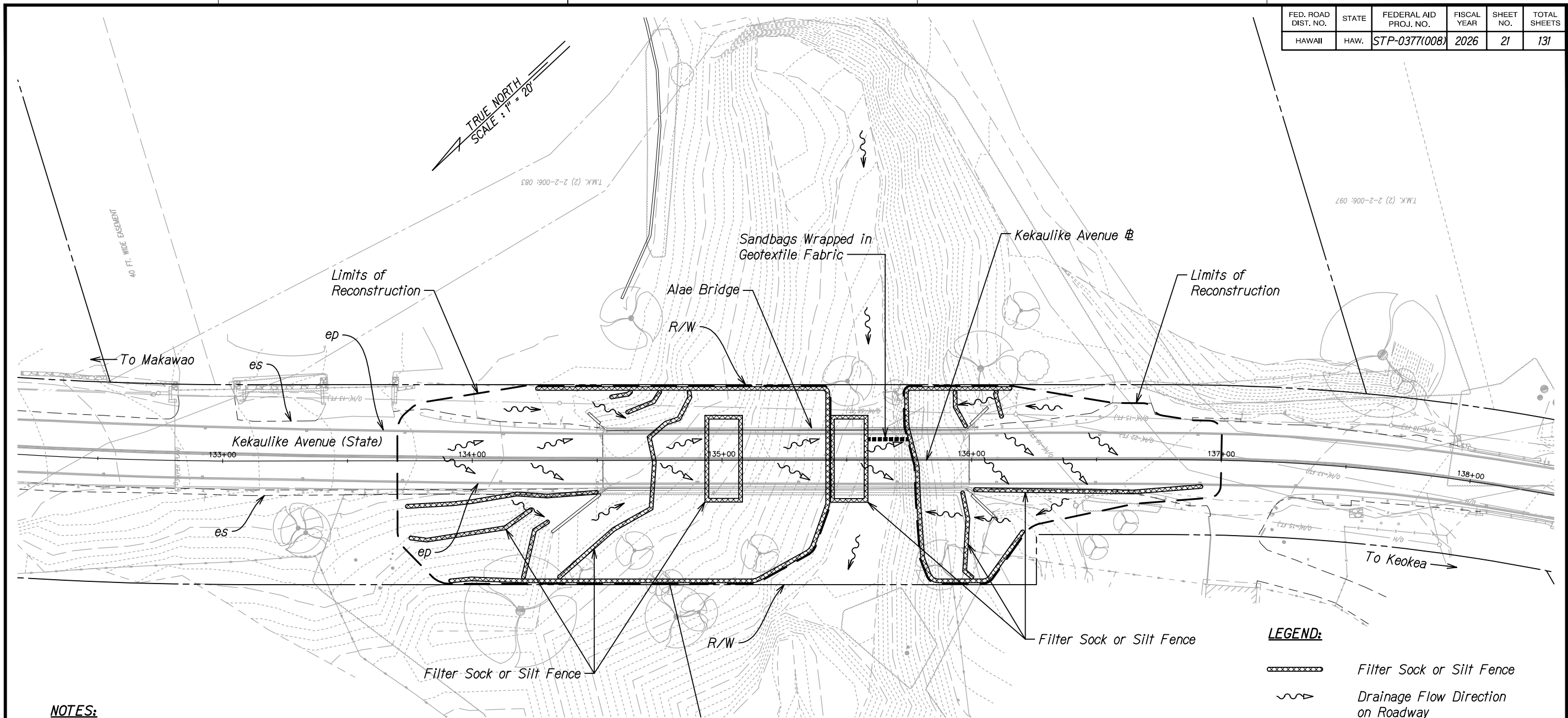
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NOTES:

1. Sediment and Erosion Control BMP measures shown in the Contract Documents are minimum BMPs requirements and do not constitute an acceptable and/or complete Sediment and Erosion Control Plan. The Contractor shall incorporate additional BMPs based upon their means and methods considering site conditions and construction sequence in accordance with the Contract Documents including applicable permit document requirements. Cost shall be included in Pay Item 209.1010 - Installation, Maintenance, Monitoring, and Removal of BMP - Alae Bridge.
2. Contractor shall provide appropriate BMPs around the work area to contain sediment and grout discharges during construction. Sediment containment devices shall be implemented in accordance with "An Integrated Storm Water Management Approach and a Summary of Clear

Water Diversion and Isolation Best Management Practices for use in the State of Hawaii", by the Federal Highway Administration and Hawaii Department of Transportation (HDOT) Practitioners Guide (2016) or the Construction Best Management Practices Field Manual by HDOT (2021). If sand bags are used, ensure that the liners are UV resistant and/or are regularly inspected and maintained against damage. If bags begin to show signs of degradation and loss of integrity, remove damaged bags and ensure that all plastic and excess sand is removed.

3. Contractor shall provide appropriate perimeter control BMPs to encompass the work area, staging area, and storage areas. Staging and storage areas shall be placed as far from the OHWM as practical. See typical details on Sheet EC-4.

4. Contractor shall provide a stabilized construction entrance between paved and unpaved surfaces for construction equipment access. See detail on Sheet EC-4.
5. Contractor shall perform in-stream work when prolonged dry conditions are anticipated (i.e. no flow in stream) and shall avoid work during periods of heavy rain.
6. All areas disturbed by construction activities shall be restored to match existing conditions upon completion of work.
7. Double layer perimeter control required within 50 feet of water's edge per HAR 11-55 Appendix C.

LEGEND:

- Filter Sock or Silt Fence
- Drainage Flow Direction on Roadway
- Drainage Flow Direction on Grade
- Sandbags Wrapped in Geotextile Fabric

ORIGINAL PLAN	DATE
NOTED BY	DATE
DESIGNED BY	DATE
CHECKED BY	DATE

RANDALL M. URASAKI
LICENSED PROFESSIONAL ENGINEER
No. 7269-C
HAWAII, U.S.A.

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Randall M. Urasaki
SIGNATURE

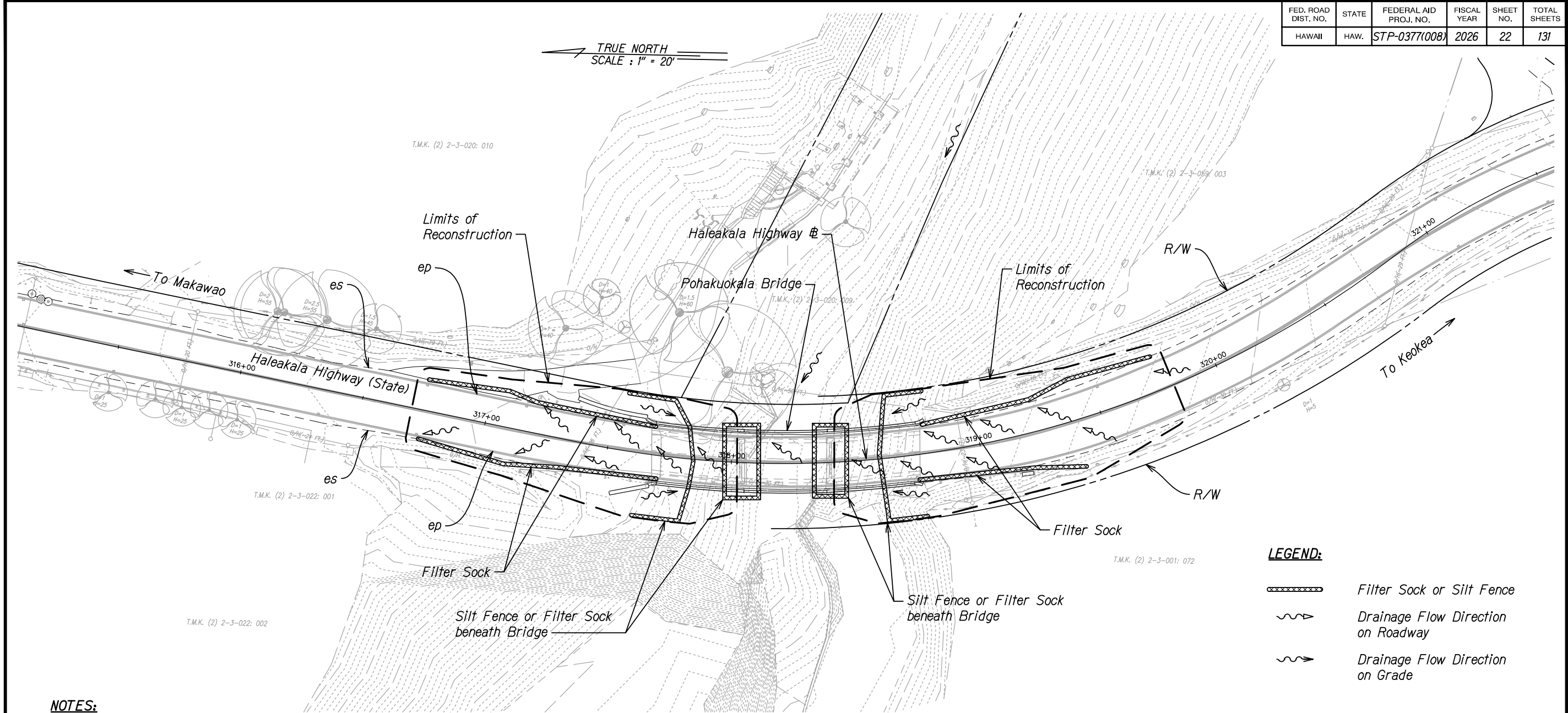
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STATE OF HAWAII
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HIGHWAYS DIVISION

EROSION CONTROL PLAN
ALAE BRIDGE

SEISMIC RETROFIT, HALEAKALA HIGHWAY ROUTE 377
Waiale Gulch, Alae (Naalae Gulch) and
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LEGEND:

	Filter Sock or Silt Fence
	Drainage Flow Direction on Roadway
	Drainage Flow Direction on Grade

NOTES:

- Sediment and Erosion Control BMP measures shown in the Contract Documents are minimum BMPs requirements and do not constitute an acceptable and/or complete Sediment and Erosion Control Plan. The Contractor shall incorporate additional BMPs based upon their means and methods considering site conditions and construction sequence in accordance with the Contract Documents including applicable permit document requirements. Cost shall be included in Pay Item 209.2010 - Installation, Maintenance, Monitoring, and Removal of BMP - Pohakuokala Bridge.
- Contractor shall provide appropriate BMPs around the work area to contain sediment and grout discharges during construction. Sediment containment devices shall be implemented in accordance with "An Integrated Storm Water

Management Approach and a Summary of Clear Water Diversion and Isolation Best Management Practices for use in the State of Hawaii", by the Federal Highway Administration and Hawaii Department of Transportation (HDOT) Practitioners Guide (2016) or the Construction Best Management Practices Field Manual by HDOT (2021). If sand bags are used, ensure that the liners are UV resistant and/or are regularly inspected and maintained against damage. If bags begin to show signs of degradation and loss of integrity, remove damaged bags and ensure that all plastic and excess sand is removed.

3. Contractor shall provide appropriate perimeter control BMPs to encompass the work area, staging area, and storage areas. Staging and storage areas shall be placed as far from the OHWM as practical. See typical details on Sheet EC-4.

- Contractor shall provide a stabilized construction entrance between paved and unpaved surfaces for construction equipment access. See detail on Sheet EC-4.
- Contractor shall perform in-stream work when prolonged dry conditions are anticipated (i.e. no flow in stream) and shall avoid work during periods of heavy rain.
- All areas disturbed by construction activities shall be restored to match existing conditions upon completion of work.
- Double layer perimeter control required within 50 feet of water's edge per HAR 11-55 Appendix C.

DATE	_____
DESIGNED BY	_____
CHECKED BY	_____
NOTED BY	_____
QUANTITIES BY	_____
PLANNED BY	_____
ORIGINAL PLAN	_____

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

Randall M. Urasaki

SIGNATURE EXPIRATION DATE OF THE LICENSE: 04/30/26

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

EROSION CONTROL PLAN
POHAKUOKALA BRIDGE

SEISMIC RETROFIT, HALEAKALA HIGHWAY ROUTE 377
Waiale Gulch, Alae (Naalae Gulch) and
Pulehu Gulch (Pohakuokala) Bridges
Federal-Aid Project No. STP-0377(008)

Scale: 1"=20' Date: Mar. 2026

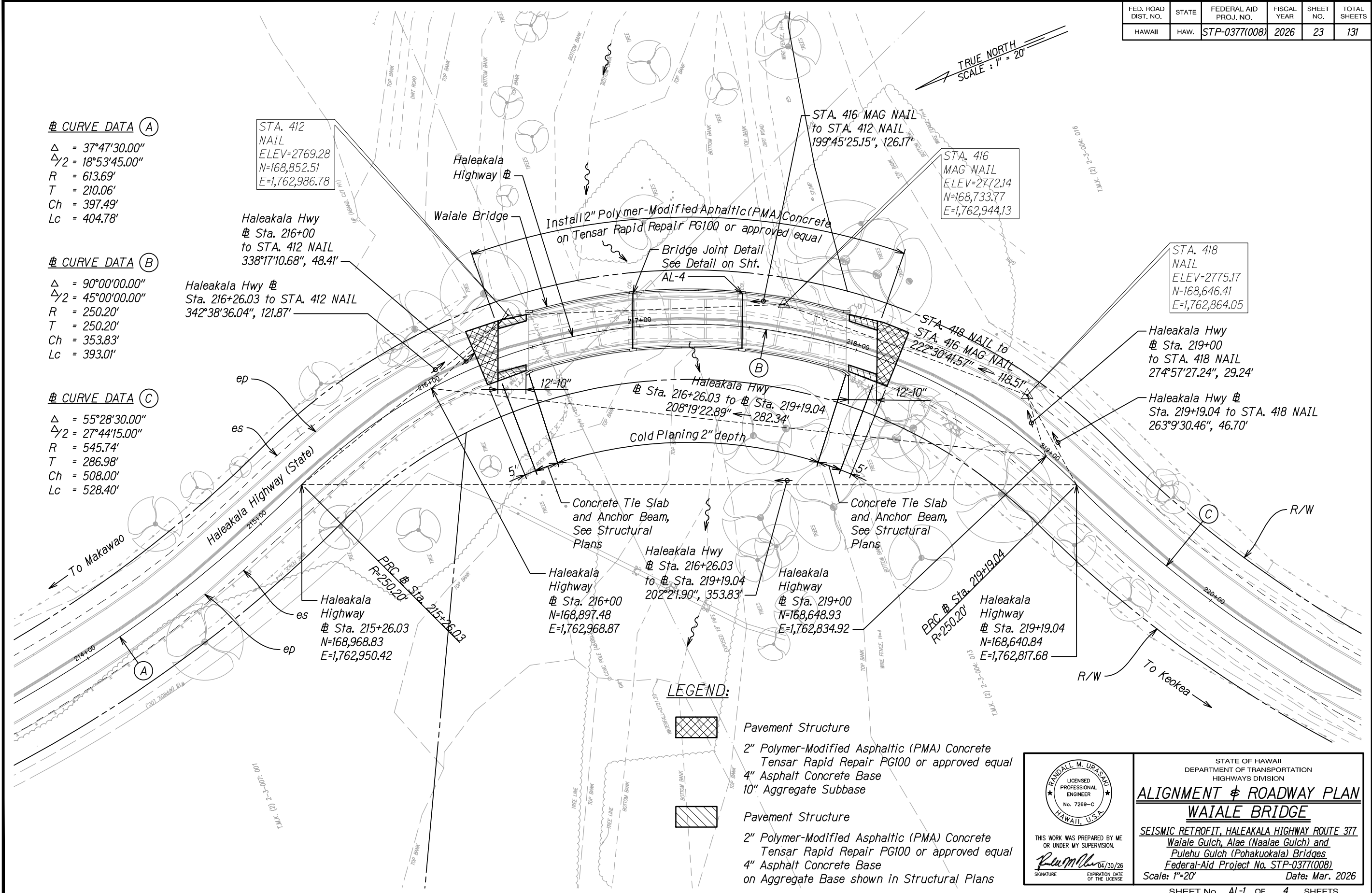
SHEET No. EC-7 OF 7 SHEETS

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0377(008)	2026	23	131

Ⓐ CURVE DATA Ⓐ
Δ = 37°47'30.00"
Δ/2 = 18°53'45.00"
R = 613.69'
T = 210.06'
Ch = 397.49'
Lc = 404.78'

Ⓑ CURVE DATA Ⓑ
Δ = 90°00'00.00"
Δ/2 = 45°00'00.00"
R = 250.20'
T = 250.20'
Ch = 353.83'
Lc = 393.01'

Ⓒ CURVE DATA Ⓒ
Δ = 55°28'30.00"
Δ/2 = 27°44'15.00"
R = 545.74'
T = 286.98'
Ch = 508.00'
Lc = 528.40'



DATE	DESIGNED BY	CHECKED BY
PLAN	NOTE BOOK	IN.

LEGEND:

- Pavement Structure
2" Polymer-Modified Asphaltic (PMA) Concrete
Tensor Rapid Repair PG100 or approved equal
4" Asphalt Concrete Base
10" Aggregate Subbase
- Pavement Structure
2" Polymer-Modified Asphaltic (PMA) Concrete
Tensor Rapid Repair PG100 or approved equal
4" Asphalt Concrete Base
on Aggregate Base shown in Structural Plans

RANDALL M. URASAKI
LICENSED PROFESSIONAL ENGINEER
No. 7269-C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.
Randall M. Urasaki 04/30/26
SIGNATURE EXPIRATION DATE OF THE LICENSE

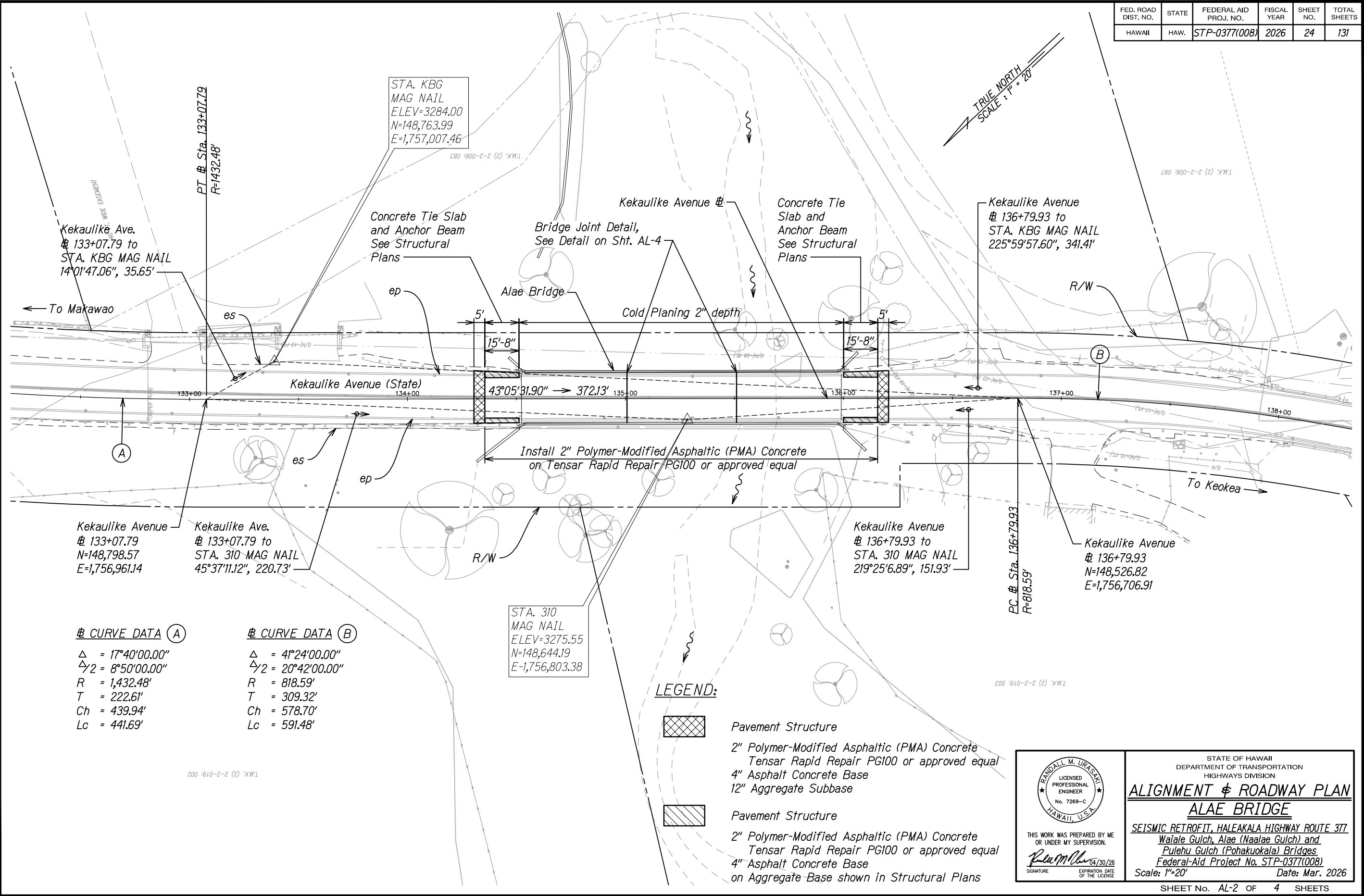
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ALIGNMENT & ROADWAY PLAN
WAIKALE BRIDGE

SEISMIC RETROFIT, HALEAKALA HIGHWAY ROUTE 377
Waiale Gulch, Alae (Naalae Gulch) and
Pulehu Gulch (Pohakuokala) Bridges
Federal-Aid Project No. STP-0377(008)
Scale: 1"=20' Date: Mar. 2026

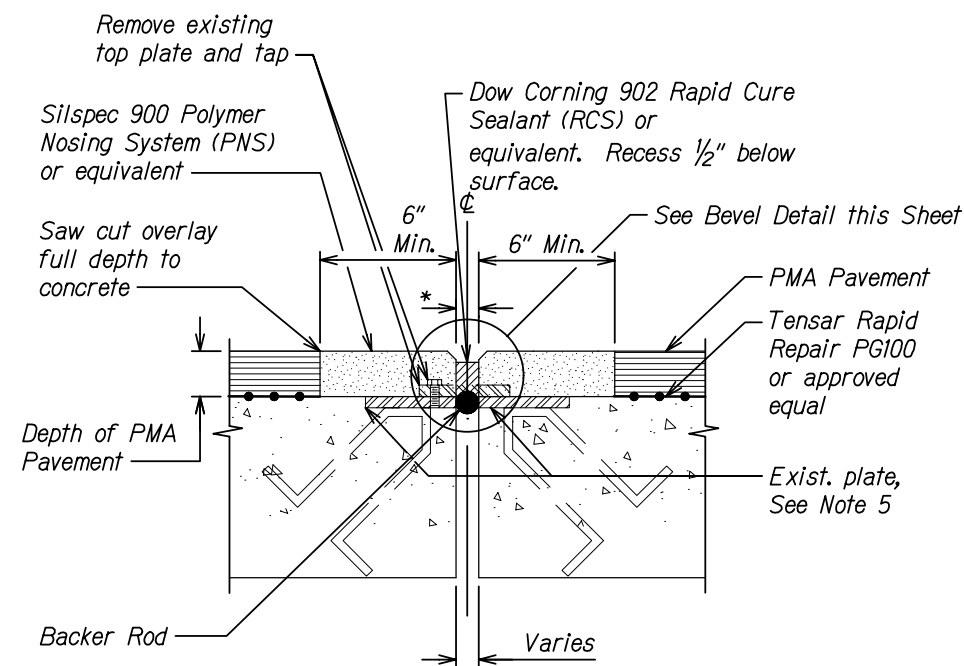
SHEET No. AL-1 OF 4 SHEETS

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0377(008)	2026	24	131



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

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0377(008)	2026	26	131

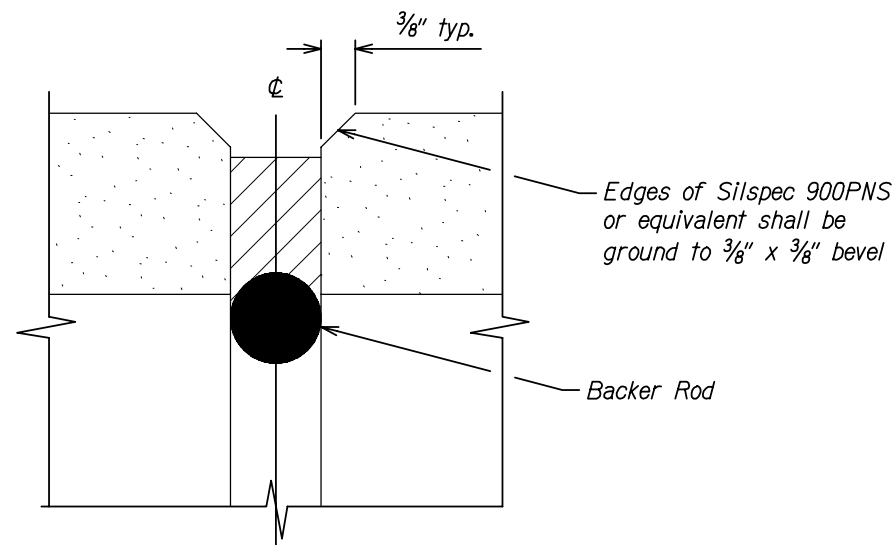


* - Width of joint opening.

BRIDGE JOINT DETAIL
Scale: NTS

NOTES FOR JOINT DETAILS AT BRIDGE DECK:

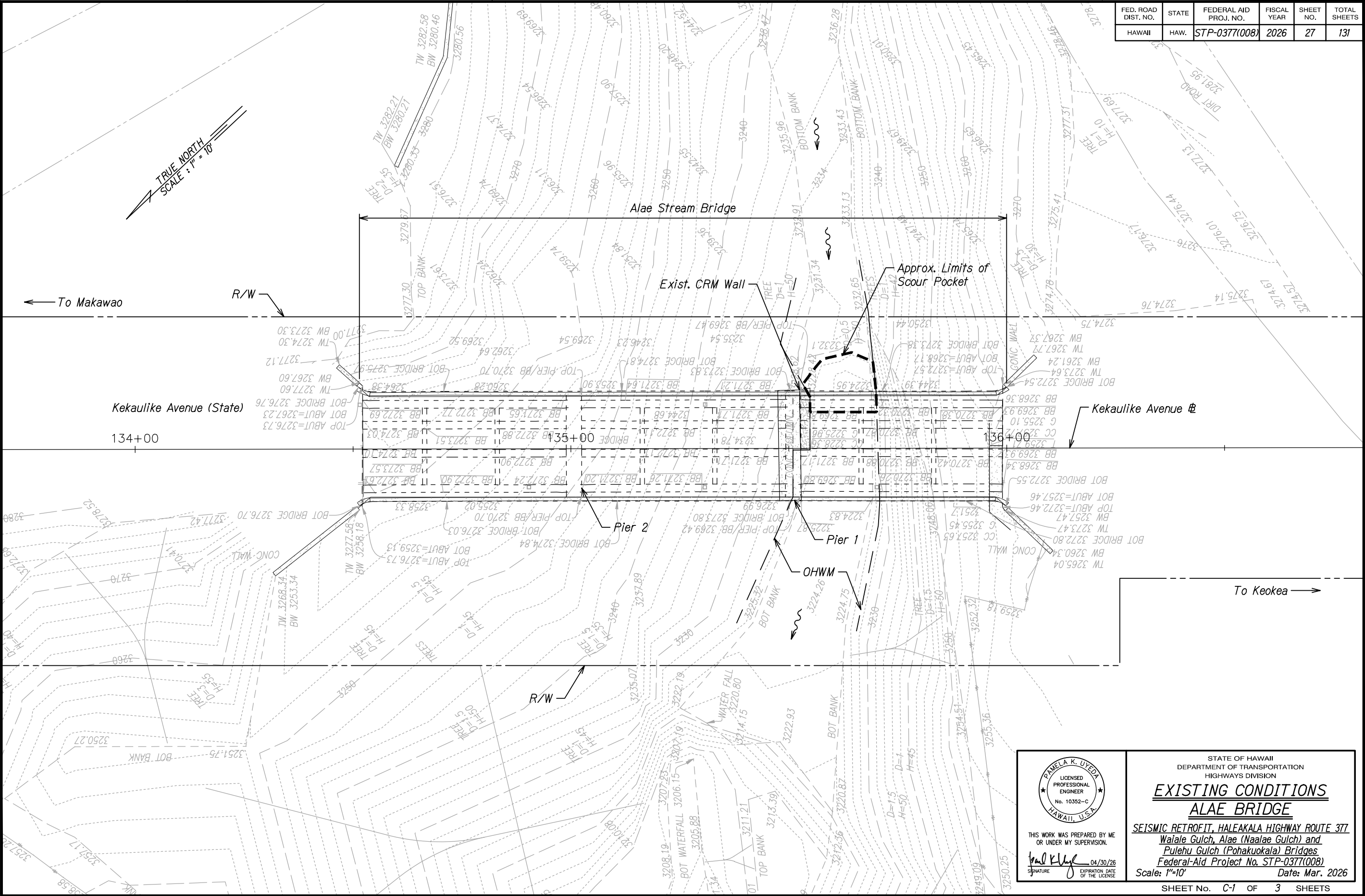
1. Remove asphalt concrete overlay and clean block-out per manufacturer's procedures.
2. Measure actual joint gaps prior to ordering of material.
3. Remove any cracked or weakened concrete sections exposed after the asphalt concrete overlay has been removed using methods as approved by the Engineer.
4. Inspect plate irons for any defects, especially for soundness of underlying concrete. If accepted by the Engineer as sound, the plate irons may remain in place. Otherwise, remove plate irons and any underlying damaged concrete using methods as accepted by the Engineer. Repair work shall be done on a force account basis with payment under appropriate bridge pay item 520.XXXX Removal and Repair of the Bottom Plate Irons - XXXX.
5. Use caution to avoid cutting any reinforcing steel. If any reinforcing steel is accidentally cut, immediately report the incident to the Engineer.
6. Repair all chipped, spalled, or damaged concrete in joint areas using methods as accepted by the Engineer. Repair work shall be done on a force account basis with payment under appropriate bridge pay item 520.XXXX Removal and Repair of the Bottom Plate Irons - XXXX.
7. Install Silspec 900 Polymer Nosing System or equivalent and Dow Corning 902 Rapid Cure Sealant or equivalent per manufacturers' recommendations.
8. A representative of the Polymer Nosing manufacturer shall be present at the start of work to demonstrate proper cleaning and installation techniques.
9. All work necessary for the complete installation of each joint system, including but not limited to ordering of materials, preparation of joints, installation of Silspec 900 Polymer Nosing System or equivalent, installation of Dow Corning 902 Rapid Cure Sealant or equivalent, installation of backer rod, clean up, disposal of debris, and furnishing of all materials, equipment, and labor (including expenses for manufacturer's representative) shall be paid under appropriate bridge pay item 520.XXXX Bridge Joint Repair - XXXX.



BEVEL DETAIL
Scale: NTS

 THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION. <i>Randall M. Urasaki</i> SIGNATURE EXPIRATION DATE OF THE LICENSE: 04/30/26	STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION BRIDGE JOINT REPAIR DETAILS SEISMIC RETROFIT, HALEAKALA HIGHWAY ROUTE 377 Waiale Gulch, Alae (Naalae Gulch) and Pulehu Gulch (Pohakuokala) Bridges Federal Aid Project No. STP-0377(008) Scale: As Noted Date: Mar. 2026
	SHEET No. AL-4 OF 4 SHEETS

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0377(008)	2026	27	131



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

PAMELA K. UYEDA
LICENSED PROFESSIONAL ENGINEER
No. 10352-C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

Paul K. Uyeda 04/30/26
SIGNATURE EXPIRATION DATE OF THE LICENSE

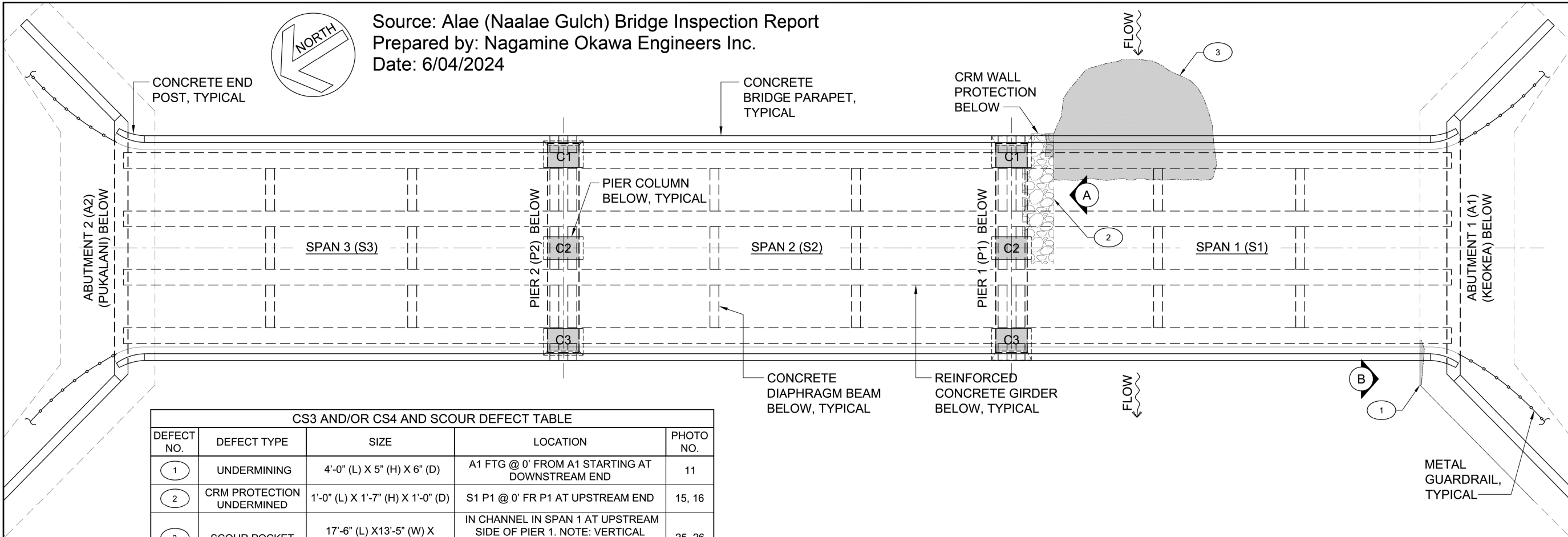
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

**EXISTING CONDITIONS
ALAE BRIDGE**

SEISMIC RETROFIT, HALEAKALA HIGHWAY ROUTE 377
Waiale Gulch, Alae (Naalae Gulch) and
Pulehu Gulch (Pohakuokala) Bridges
Federal-Aid Project No. STP-0377(008)
Scale: 1"=10' Date: Mar. 2026

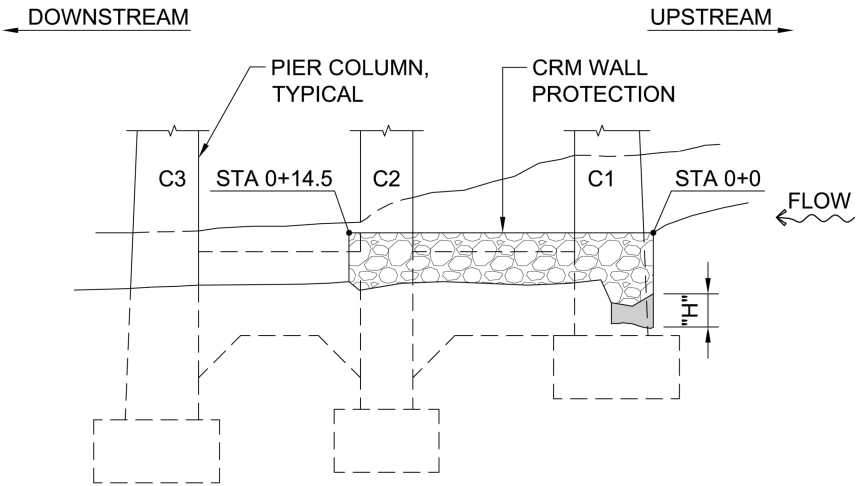


Source: Alae (Naalae Gulch) Bridge Inspection Report
Prepared by: Nagamine Okawa Engineers Inc.
Date: 6/04/2024



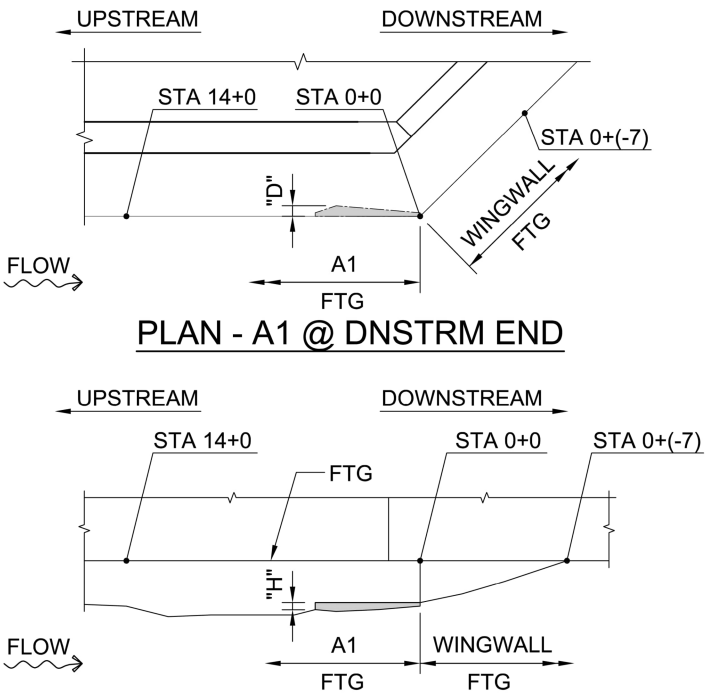
CS3 AND/OR CS4 AND SCOUR DEFECT TABLE				
DEFECT NO.	DEFECT TYPE	SIZE	LOCATION	PHOTO NO.
1	UNDERMINING	4'-0" (L) X 5" (H) X 6" (D)	A1 FTG @ 0' FROM A1 STARTING AT DOWNSTREAM END	11
2	CRM PROTECTION UNDERMINED	1'-0" (L) X 1'-7" (H) X 1'-0" (D)	S1 P1 @ 0' FR P1 AT UPSTREAM END	15, 16
3	SCOUR POCKET	17'-6" (L) X 13'-5" (W) X 6'-9" (H)	IN CHANNEL IN SPAN 1 AT UPSTREAM SIDE OF PIER 1. NOTE: VERTICAL SCOUR DIMENSION MEASURED FROM TOP OF CRM PROTECTION	25, 26

PIER 1 CRM PROTECTION SCOUR DIMENSIONS TABLE			
STATION (FEET)	"H" (HEIGHT)	"D" (DEPTH)	PHOTO
0	1'-7"	1'-0"	15, 16
1	10"	9"	
2	-	-	
2.5	1'-0"	1'-0"	
4	-	-	
6	-	-	
8	-	-	
10	-	-	
12	-	-	
14	-	-	
14.5	-	-	



A SCOUR DETAIL @ P1 CRM PROTECTION

A1 FTG @ DNSTRM END SCOUR DIMENSIONS TABLE				
NOTE	STATION (FEET)	"H" (HEIGHT)	"D" (DEPTH)	PHOTO
WINGWALL FTG	-7	0"	-	11, 12
	-6	4"	-	
	-4	1'-0"	-	
	-2	1'-7"	-	
A1 FTG	0	2'-0"	2"	
	2	2'-0"	4"	
	4	2'-0"	5"	
	5	2'-0"	4"	
	6	2'-7"	-	
	8	2'-7"	-	
	10	2'-7"	-	
	12	2'-8"	-	
	14	2'-2"	-	



PLAN - A1 @ DNSTRM END

ELEVATION - A1 @ DNSTRM END

B SCOUR DETAIL @ A1 FTG DNSTRM END

BRIDGE PLAN (DEFECTS AND SCOUR DETAILS)

Bridge Name: ALAE (NAALAE GULCH) BRIDGE

MONITOR
INSPECTION

State of Hawaii
Department of Transportation,
Maui District

Structure No. : 009003770500058

Scale: NTS

Route No.: 00377

Date of Inspection: 06/04/2024

TMK: 2-2-006

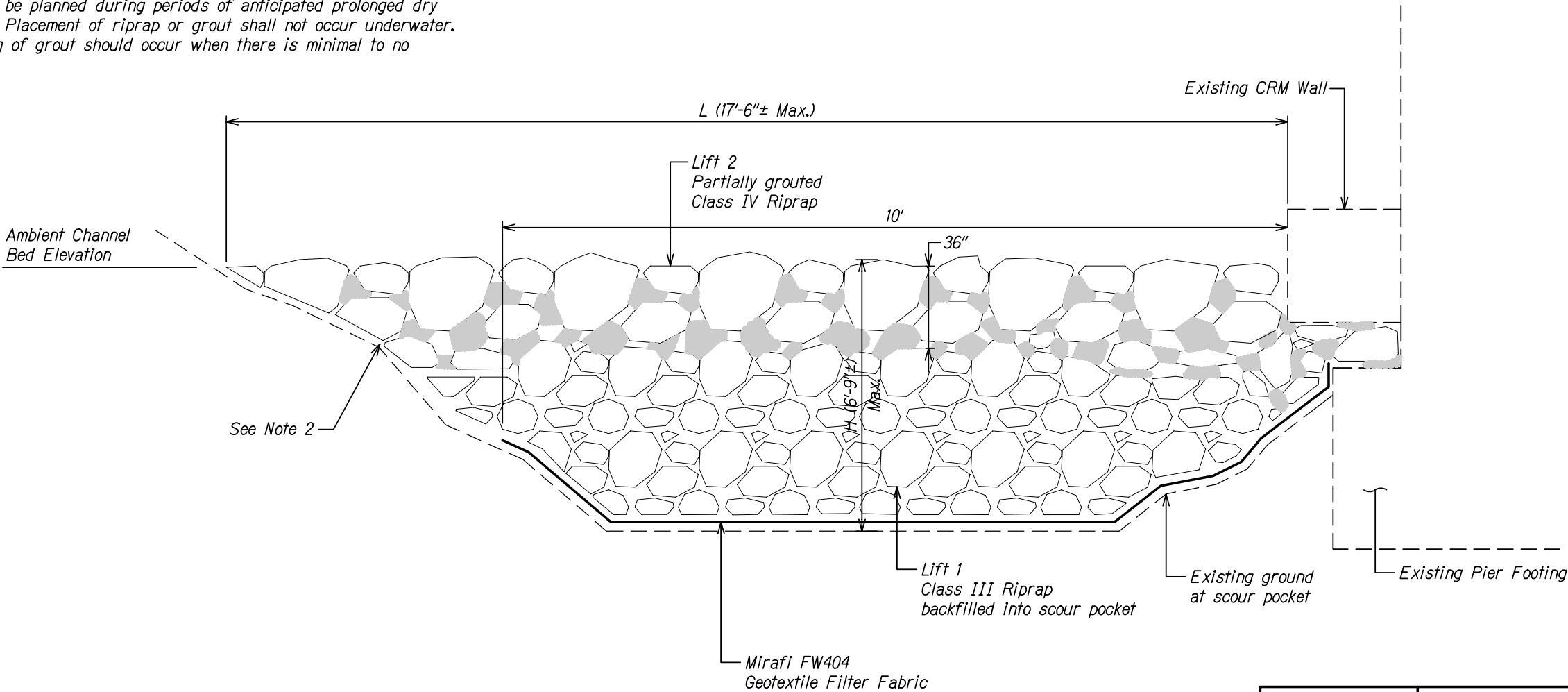
Mile Post: 8.57

SURVEY PLOTTED BY	DATE
DESIGNED BY	
TRACED BY	
NOTE BOOK	
QUANTITIES BY	
CHECKED BY	

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0377(008)	2026	29	131

NOTES:

1. Contractor can manufacture rock with concrete, provided the gradation is per the class of riprap specified and the individual rock elements are irregular in shape to simulate the interlocking characteristics of natural boulders.
2. Remove sediment and loose material in scour pocket prior to placement of riprap. Incorporate existing GRP matting where feasible. Dispose of excess material off-site at a DOH-permitted facility.
3. Top of riprap layer shall be flush with the ambient channel bed elevation. Do not mound riprap around pier.
4. Construction shall be planned during periods of anticipated prolonged dry stream conditions. Placement of riprap or grout shall not occur underwater. In addition, curing of grout should occur when there is minimal to no stream flow.



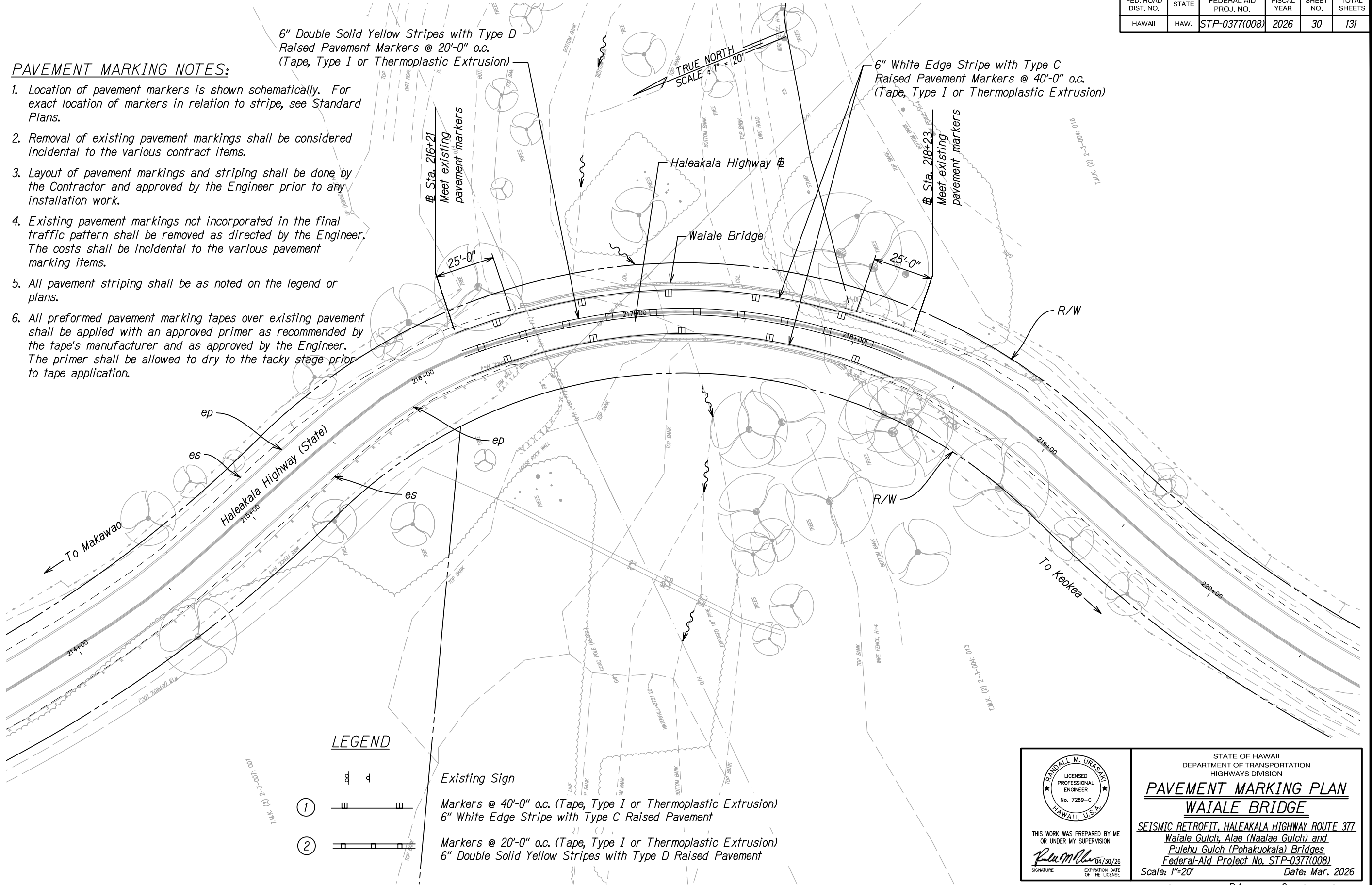
SCOUR PROTECTION DETAIL
Not to Scale

PAWELA K. UYEDA LICENSED PROFESSIONAL ENGINEER No. 10352-C HAWAII, U.S.A. THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION. <i>Paul K. Uyeda</i> 04/30/26 SIGNATURE EXPIRATION DATE OF THE LICENSE	STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION <u>SCOUR PROTECTION DETAIL</u> <u>ALAE BRIDGE</u> <u>SEISMIC RETROFIT, HALEAKALA HIGHWAY ROUTE 377</u> <u>Waiale Gulch, Alae (Naalae Gulch) and</u> <u>Pulehu Gulch (Pohakuokala) Bridges</u> <u>Federal-Aid Project No. STP-0377(008)</u> Scale: NTS Date: Mar, 2026
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FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0377(008)	2026	30	131

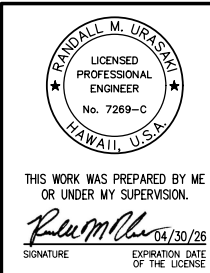
PAVEMENT MARKING NOTES:

1. Location of pavement markers is shown schematically. For exact location of markers in relation to stripe, see Standard Plans.
2. Removal of existing pavement markings shall be considered incidental to the various contract items.
3. Layout of pavement markings and striping shall be done by the Contractor and approved by the Engineer prior to any installation work.
4. Existing pavement markings not incorporated in the final traffic pattern shall be removed as directed by the Engineer. The costs shall be incidental to the various pavement marking items.
5. All pavement striping shall be as noted on the legend or plans.
6. All preformed pavement marking tapes over existing pavement shall be applied with an approved primer as recommended by the tape's manufacturer and as approved by the Engineer. The primer shall be allowed to dry to the tacky stage prior to tape application.



LEGEND

- Existing Sign
- Markers @ 40'-0" o.c. (Tape, Type I or Thermoplastic Extrusion)
6" White Edge Stripe with Type C Raised Pavement
- Markers @ 20'-0" o.c. (Tape, Type I or Thermoplastic Extrusion)
6" Double Solid Yellow Stripes with Type D Raised Pavement



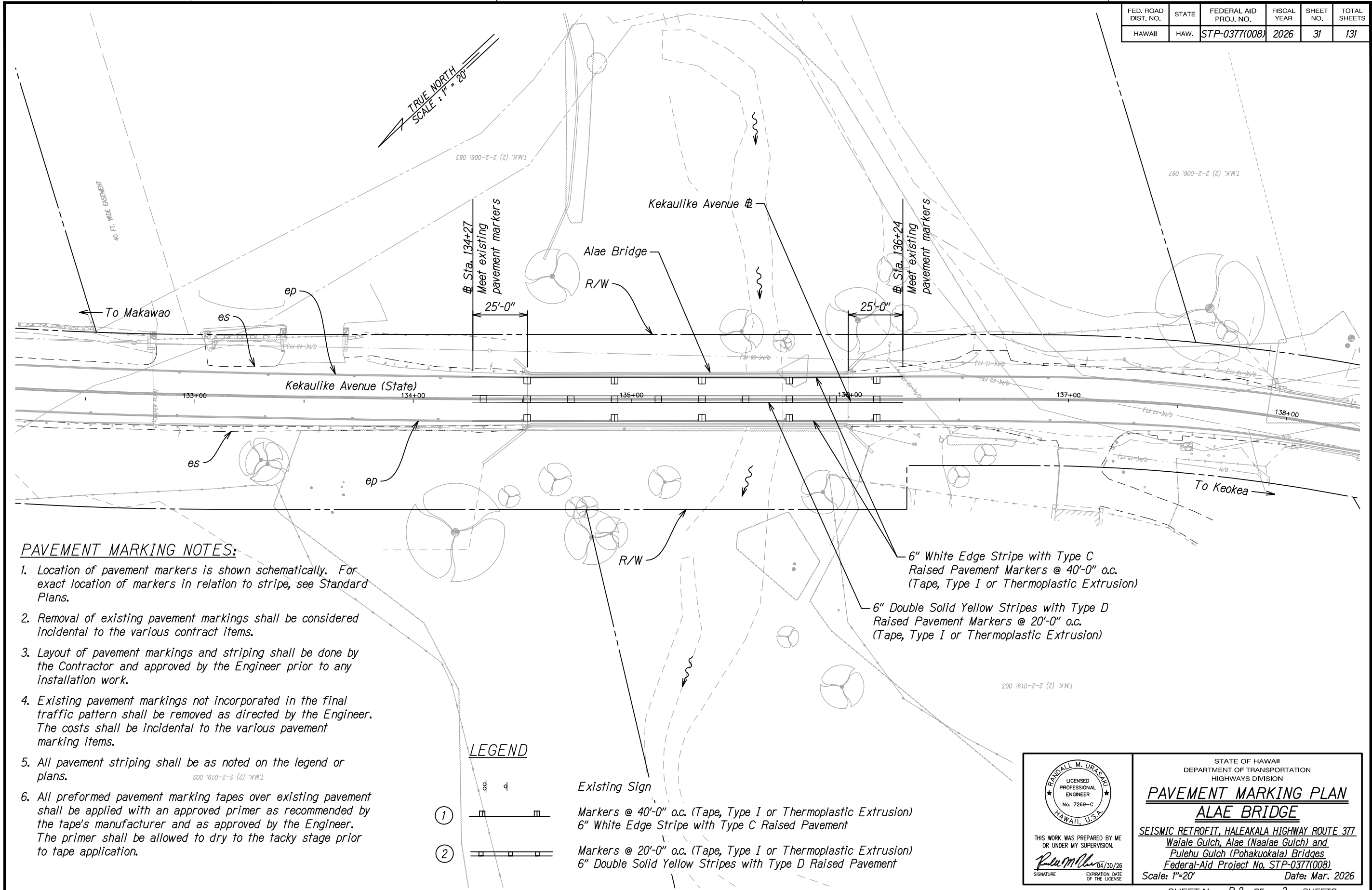
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PAVEMENT MARKING PLAN
WAIALE BRIDGE

SEISMIC RETROFIT, HALEAKALA HIGHWAY ROUTE 377
Waiale Gulch, Alae (Naalae Gulch) and
Pulehu Gulch (Pohakuokala) Bridges
Federal-Aid Project No. STP-0377(008)

Scale: 1"=20' Date: Mar. 2026

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0377(008)	2026	31	131



PAVEMENT MARKING NOTES:

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LEGEND

- ① Existing Sign
- ② Markers @ 40'-0" o.c. (Tape, Type I or Thermoplastic Extrusion) 6" White Edge Stripe with Type C Raised Pavement
- ③ Markers @ 20'-0" o.c. (Tape, Type I or Thermoplastic Extrusion) 6" Double Solid Yellow Stripes with Type D Raised Pavement

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.
Randall M. Urasaki
SIGNATURE EXPIRATION DATE OF THE LICENSE: 04/30/26

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

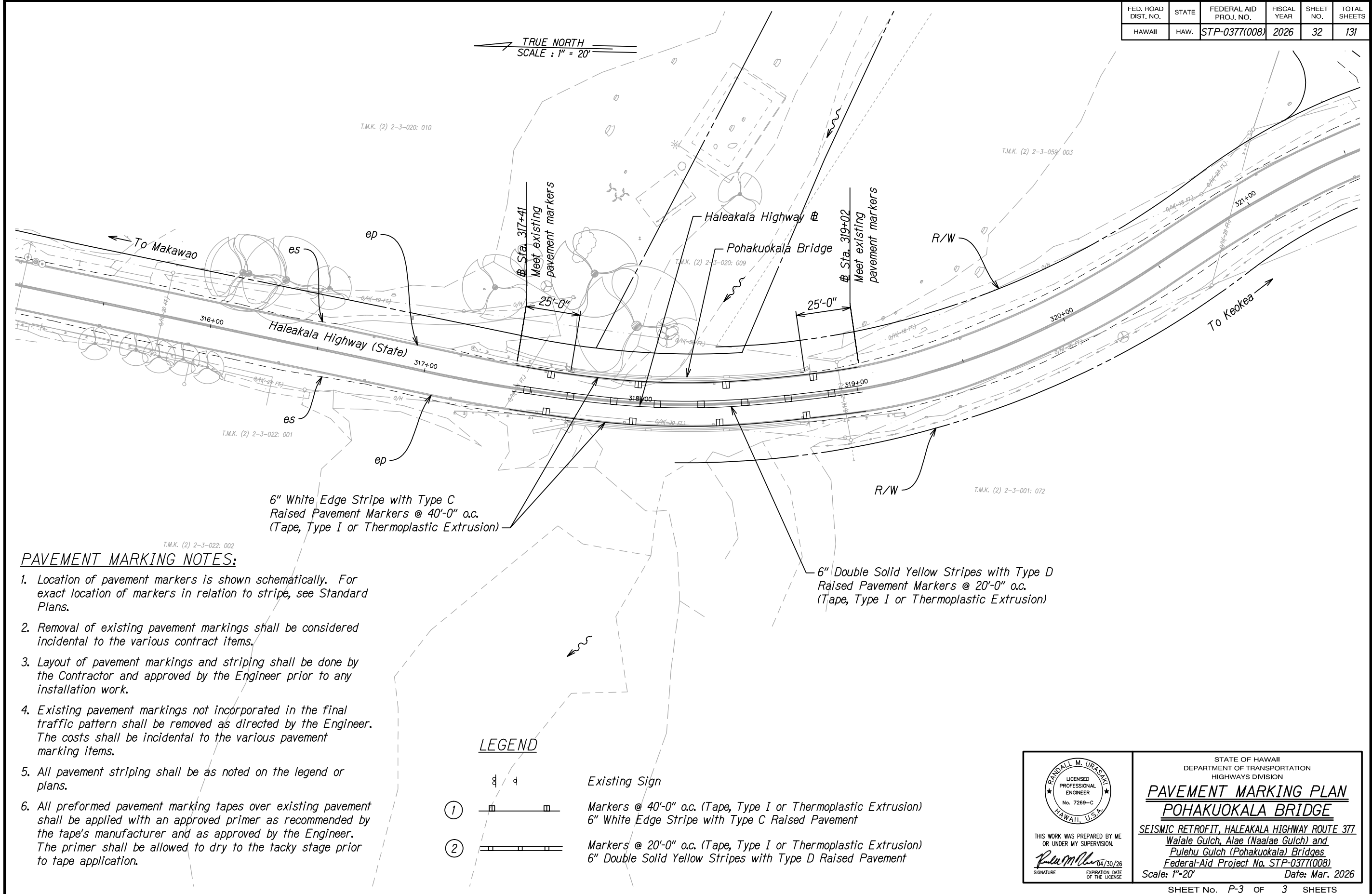
PAVEMENT MARKING PLAN
ALAE BRIDGE

SEISMIC RETROFIT, HALEAKALA HIGHWAY ROUTE 377
Waiale Gulch, Alae (Naalae Gulch) and
Pulehu Gulch (Pohakuokala) Bridges
Federal-Aid Project No. STP-0377(008)
Scale: 1"=20' Date: Mar. 2026

SHEET No. P-2 OF 3 SHEETS

DATE	____
DESIGNED BY	____
CHECKED BY	____
NOTED BY	____
PLANNED BY	____
ORIGINAL PLAN	____

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0377(008)	2026	32	131



PAVEMENT MARKING NOTES:

1. Location of pavement markers is shown schematically. For exact location of markers in relation to stripe, see Standard Plans.
2. Removal of existing pavement markings shall be considered incidental to the various contract items.
3. Layout of pavement markings and striping shall be done by the Contractor and approved by the Engineer prior to any installation work.
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LEGEND

- | | | |
|---|--|--|
| ① | | Existing Sign
Markers @ 40'-0" o.c. (Tape, Type I or Thermoplastic Extrusion)
6" White Edge Stripe with Type C Raised Pavement |
| ② | | Markers @ 20'-0" o.c. (Tape, Type I or Thermoplastic Extrusion)
6" Double Solid Yellow Stripes with Type D Raised Pavement |

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.
Randall M. Urasaki
SIGNATURE 04/30/26
EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PAVEMENT MARKING PLAN
POHAKUOKALA BRIDGE

SEISMIC RETROFIT, HALEAKALA HIGHWAY ROUTE 377
Waiale Gulch, Alae (Naalae Gulch) and
Pulehu Gulch (Pohakuokala) Bridges
Federal-Aid Project No. STP-0377(008)
Scale: 1"=20' Date: Mar. 2026

SHEET No. P-3 OF 3 SHEETS

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0377(008)	2026	50	131

INDEX TO STRUCTURAL DRAWINGS

<u>SHEET NO.</u>	<u>DESCRIPTION</u>
S0.1	INDEX TO STRUCTURAL DRAWINGS
S0.2	INDEX TO STRUCTURAL DRAWINGS
S0.3	STRUCTURAL GENERAL NOTES
S0.4	STRUCTURAL GENERAL NOTES
S0.5	STRUCTURAL GENERAL NOTES
S0.6	SYMBOLS AND ABBREVIATIONS
S1.1	TYPICAL SOIL NAIL DETAILS
S1.2	TYPICAL TIE SLAB, ANCHOR BEAM, AND CORBEL REINFORCING SECTION
S1.3	TYPICAL TIE SLAB AND CORBEL REINFORCING PLAN AND SECTION
S1.4	TYPICAL TIE SLAB AND ANCHOR BEAM REINFORCING SECTIONS
	<u>WAIALE GULCH BRIDGE</u>
SA1.1	WAIALE GULCH BRIDGE PLAN AND LONG. SECTION
SA2.1	WAIALE GULCH BRIDGE ABUTMENT NO. 1 PLAN
SA2.2	WAIALE GULCH BRIDGE ABUTMENT NO. 1 SECTION
SA2.3	WAIALE GULCH BRIDGE ABUTMENT NO. 1 SECTIONS
SA2.4	WAIALE GULCH BRIDGE ABUTMENT NO. 1 SECTIONS
SA2.5	WAIALE GULCH BRIDGE ABUTMENT NO. 2 PLAN
SA2.6	WAIALE GULCH BRIDGE ABUTMENT NO. 2 SECTION
SA2.7	WAIALE GULCH BRIDGE ABUTMENT NO. 2 SECTIONS
SA2.8	WAIALE GULCH BRIDGE ABUTMENT NO. 2 SECTIONS
SA3.1	WAIALE GULCH BRIDGE BENT NO. 1 AND NO. 2 ELEVATIONS
SA3.2	WAIALE GULCH BRIDGE BENT NO. 1 DEMOLITION PLAN, ELEV., AND SECT.
SA3.3	WAIALE GULCH BRIDGE BENT NO. 1 PLAN, SECTION, AND DETAIL
SA3.4	WAIALE GULCH BRIDGE BENT NO. 1 SECTIONS
SA3.5	WAIALE GULCH BRIDGE BENT NO. 1 REINFORCING PLANS
SA3.6	WAIALE GULCH BRIDGE BENT NO. 1 REINFORCING SECTION
SA3.7	WAIALE GULCH BRIDGE BENT NO. 1 REINFORCING SECTION
SA3.8	WAIALE GULCH BRIDGE BENT NO. 1 REINFORCING SECTIONS
SA3.9	WAIALE GULCH BRIDGE BENT NO. 1 CONSTRUCTION SEQUENCE
SA3.10	WAIALE GULCH BRIDGE BENT NO. 2 DEMOLITION PLAN AND SECTIONS
SA3.11	WAIALE GULCH BRIDGE BENT NO. 2 PLAN AND SECTIONS

INDEX TO STRUCTURAL DRAWINGS

<u>SHEET NO.</u>	<u>DESCRIPTION</u>
SA3.12	WAIALE GULCH BRIDGE BENT NO. 2 REINFORCING PLANS
SA3.13	WAIALE GULCH BRIDGE BENT NO. 2 REINFORCING SECTION
SA3.14	WAIALE GULCH BRIDGE BENT NO. 2 REINFORCING SECTIONS
SA3.15	WAIALE GULCH BRIDGE BENT NO. 2 CONSTRUCTION SEQUENCE
SA3.16	WAIALE GULCH BRIDGE TIE BEAM CFRP DETAILS
SA3.17	WAIALE GULCH BRIDGE TIE BEAM CFRP DETAILS
SA4.1	WAIALE GULCH BRIDGE CONSTRUCTION SEQUENCE
SA4.2	WAIALE GULCH BRIDGE CONSTRUCTION SEQUENCE
SA4.3	WAIALE GULCH BRIDGE CONSTRUCTION SEQUENCE
	<u>ALAE BRIDGE</u>
SB1.1	ALAE BRIDGE PLAN AND LONG. SECTION
SB2.1	ALAE BRIDGE ABUTMENT NO. 1 PLAN
SB2.2	ALAE BRIDGE ABUTMENT NO. 1 SECTION
SB2.3	ALAE BRIDGE ABUTMENT NO. 1 SECTIONS
SB2.4	ALAE BRIDGE ABUTMENT NO. 1 SECTIONS
SB2.5	ALAE BRIDGE ABUTMENT NO. 2 PLAN
SB2.6	ALAE BRIDGE ABUTMENT NO. 2 SECTION
SB2.7	ALAE BRIDGE ABUTMENT NO. 2 SECTIONS
SB2.8	ALAE BRIDGE ABUTMENT NO. 2 SECTIONS
SB3.1	ALAE BRIDGE DIAPHRAGM DEMOLITION DETAILS
SB3.2	ALAE BRIDGE PIER NO. 1 PLAN AND SECTIONS
SB3.3	ALAE BRIDGE PIER NO. 2 PLAN AND SECTIONS
SB3.4	ALAE BRIDGE DIAPHRAGM/CREEP BLOCK REINFORCING PLAN AND SECTIONS
SB4.1	ALAE BRIDGE ABUTMENT NO. 2 EROSION PROTECTION DETAILS
SB5.1	ALAE BRIDGE CONSTRUCTION SEQUENCE
SB5.2	ALAE BRIDGE CONSTRUCTION SEQUENCE
SB5.3	ALAE BRIDGE CONSTRUCTION SEQUENCE

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
	DRAWN BY	
	TRACED BY	
	NOTED BY	
NOTE BOOK	QUANTITIES BY	
	CHECKED BY	

DRAWING NAME: 2-800-DWG/01NGS2-003-3-3 MAUI BRIDGES SEISMIC RETROFIT (NSPIS01 CAD003-24-26 100X18MB-5000) INDEX.DWG PLOT TIME: 03:25:26, 5:00 PM



THIS WORK WAS PREPARED BY
ME OR UNDER MY SUPERVISION.

SIGNATURE: *Stephen T. Peters* 4-30-28
EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

INDEX TO STRUCTURAL DRAWINGS

SEISMIC RETROFIT, HALEAKALA HIGHWAY ROUTE 377
Waiale Gulch, Alae (Naalae Gulch) and
Pulehu Gulch (Pohakuokala) Bridges
Federal Aid Project No. STP-0377(008)

Scale: None Date: Mar, 2026

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0377(008)	2026	52	131

5. Reinforcement (Cont.):

- C. Threaded reinforcing placed in PT ducts shall be ASTM A615 Grade 75 bar with a continuous rolled rounded coarse thread form. Hex nuts shall be provided by the bar manufacturer.

2. Design Specifications:

- A. American Association of State Highway and Transportation Officials (AASHTO) "LRFD Bridge Design Specifications", 9th Edition as amended by HDOT document dated August 8, 2014 with the subject title "Design Criteria for Bridges and Structures".
- B. HDOT document dated August 8, 2014 with subject title "Design Criteria for Bridges and Structures" and HDOT memorandum dated January 8, 2018 with subject title "Changes to Design Criteria for Bridges and Structures".
- C. "Seismic Retrofit Guidelines for Bridges in California", California Department of Transportation (Caltrans) Memo 20-4, June 2016.

3. Loads:

- A. *Dead Load: 160 PCF for concrete elements*
- B. *Live Load: AASHTO HL-93 Truck Loading*
- C. *Seismic Loads:*

Design Earthquake = 7% Probability of Exceedance in 75 years
(1,000 year Return Period)

Waiale Gulch Bridge

PGA = 0.259 g $F_{PGA} = 1.14$ $A_s = 0.296$ g
Ss = 0.591 g $F_a = 1.17$ $S_{DS} = 0.687$ g
S₁ = 0.171 g $F_v = 1.63$ $S_{DI} = 0.279$ g
 Site Class = C Seismic Zone = 2

Alae Bridge

PGA = 0.258 g $F_{PGA} = 1.14$ $AS = 0.294$ g
Ss = 0.585 g $F_a = 1.17$ $S_{DS} = 0.681$ g
S₁ = 0.171 g $F_v = 1.63$ $S_{DI} = 0.279$ g
 Site Class = C Seismic Zone = 2

Pulehu Gulch Bridge

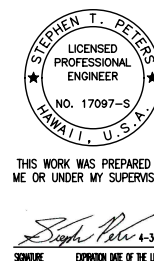
PGA = 0.259 g $F_{PGA} = 1.14$ $As = 0.296$ g
Ss = 0.589 g $Fa = 1.16$ $S_{DS} = 0.687$ g
S₁ = 0.172 g $Fv = 1.63$ $S_{DI} = 0.279$ g
 Site Class = C Seismic Zone = 2

- B. *The use of any calcium chloride in any concrete is prohibited.*
- C. *Amine carboxylate corrosion inhibiting water-based admixture such as Cortec MCI 2005 NS or approved equal shall be added at a dosage of 24 ounces per cubic yard.*
- D. *Shrinkage reducing admixture such as Masterlife SRA 35 or approved equal shall be added at a dosage of 128 ounces per cubic yard or as recommended by the manufacturer.*
- E. *Alkali resistant structural glass fiber such as CEMFIL ANTI-CRAK HP67/36 or approved equal shall be added to the concrete mix. The dosage rate shall be 15 lbs per cubic yard for CEMFIL or the equivalent amount of approved equal to achieve similar properties as the glass dosage. The fiber shall be added to the concrete as recommended by the Manufacturer during the mixing process.*
- F. *Contractor is not limited to only adding admixtures listed on these notes. Other admixtures may be added upon approval of the Engineer.*
- G. *All concrete exposed within 7 days of placement shall be cured using Sinak Lithium Cure 1000 or approved equal at a coverage rate of no less than 400 sq. ft. per gallon.*
- H. *Cure concrete as specified in the Contract documents. Remove curing that may affect bonding from all areas requiring future bonding unless a curing agent such as Sinak Lithium Cure 1000 or accepted equal that does not affect bond and provide equal or better curing is used.*
- I. *The Contractor has the option to design the concrete for all items to be pumpable and flowable. All concrete shall be designed for minimum segregation and separation.*

5. Reinforcement:

- A. All reinforcing steel shall be ASTM A 706 Grade 60 unless otherwise noted.
- B. Reinforcing steel shall be ASTM A 955 Type 2205 (UNS S31803) where stainless steel bars are required.

- D. The minimum cover measured from the surface of the concrete to the face of any reinforcing bars shall be as follows, except as otherwise shown:
 - (1) Concrete cast against and permanently exposed to earth = 3"
 - (2) All others unless otherwise noted = 2".
- E. Reinforcing bars shall be detailed in accordance with the latest edition of the "ACI Detailing Manual" unless otherwise noted.
- F. Reinforcing bars shall be placed and installed in accordance with the "CRSI Manual of Standard Practice" and "CRSI Placing Reinforcing Bars", unless otherwise noted.
- G. Reinforcing bars shall be securely tied at all intersections and lap splices except where the spacing of intersections is less than one foot in each direction, in which case alternate intersections shall be tied.
- H. Minimum clear spacing between parallel bars shall be 1 1/2 times the diameter of bars (for non bundled bars). In no case shall the clear distance between the bars be less than 1 1/2 times the maximum size of the coarse aggregate or 1 1/2".
- I. All dimensions relating to reinforcing bars are to centers of bars unless otherwise noted.
- J. Dissimilar metals in contact shall be avoided where possible. If unavoidable, wrap contact surface with several layers of a dielectric tape such as Teflon or polypropylene. Any type of reinforcing steel in contact with stainless steel shall be considered a dissimilar metal contact.
- K. Mechanical bar couplers shall be a headed-sleeve type capable of developing both 125% of the specified yield strength and 100% of the specified ultimate tensile strength of the reinforcement. The system shall be classified as a Type 2 mechanical splice per ACI 318 and the headed reinforcement shall be in accordance with ASTM A970. Installation shall be performed by hand-tightening in accordance with the Manufacturer's ICC-ES evaluation report. No rotation of the reinforcing bars shall be required for assembly. System shall be HRC-500/510 Xtender or approved equal.



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STRUCTURAL GENERAL NOTES

SEISMIC RETROFIT, HALEAKALA HIGHWAY ROUTE 377
Waiale Gulch, Alae (Naalae Gulch) and
Pulehu Gulch (Pohakuokala) Bridges
Federal-Aid Project No. STP-0377(008)

Scale: None Date: Mar. 2026

SHEET No. **50.3** OF **6** SHEETS

ORIGINAL
PLAN

NO. _____

SURVEY PLOTTED BY _____

DRAWN BY _____

DATE _____

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QUANTITIES BY _____

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DRAWING NAME: 2-800-DWG01652-003-3 MAUI BRIDGES SEISMIC RETROFIT (NSPISD) CAD003-24-26 100X\$1MB-50003-GE/NOTES.DWG PLOT TIME: 03-25-26 5:53 PM

6. Soil Nails:

- A.

Grout for soil nails shall be a pre-bagged neat cement, non-shrink grout with silica fume admixture and anti-washout additive in conformance with ASTM C 1107. Grout shall achieve minimum 7,000 psi compressive strength at 28-days such as Target 1118 Grout or approved equal.
- B.

Temperature of grout shall not exceed 85° F at the end of the grouting hose coupling to fill tube.
- C.

Soil nails shall be Triple Corrosion Protected. Each threaded steel bar shall be ASTM A615 Grade 75 and shall be hot-dip zinc galvanized in accordance with ASTM A123 and pre-grouted in a corrugated PVC or HDPE sheathing.

PregROUT, provided by manufacturer, shall contain an amine carboxylate corrosion inhibiting water-based admixture, Cortec MCI 2005 NS or approved equivalent corrosion inhibitor and shall be added at a dose of 24 oz. per cubic yard. Soil nails that are damaged shall either not be used or shall be repaired in accordance with manufacturer's recommendations.
- D.

Bearing plates, nuts, and welded shear connectors:

(1) Bearing plates: AASHTO M183/ASTM A36

(2) Nuts: AASHTO M291, Grade B, Hexagonal

(3) Washers: ASTM F436
- E.

All hardware for soil nails, such as plates, nuts, and washers, shall be hot-dip zinc galvanized after fabrication in accordance with ASTM A 123 and ASTM A 153, respectively.

7. Materials:

- A.

Steel Reinforced Elastomeric Bearing Pads shall be manufactured and installed in accordance with the Contract drawings and Special Provisions Section 506 - BRIDGE BEARINGS.
- B.

Anchoring adhesive for all post-installed threaded anchors and reinforcing bars shall conform to ASTM C 881 and carry a current ICC-ES Evaluation Service Report such as Simpson Strong-Tie SET-3G or approved equal. All cored and hammer-drilled holes shall be cleaned in accordance with adhesive Manufacturer's Printed Installation Instructions (MPII).
- C.

Leveling grout beneath bearings shall be a high performance, three component, pre-packaged epoxy grout capable of developing a minimum compressive strength of 9,000 psi in 1 day and 15,000 psi in 7 days in accordance with ASTM C579 at 75°F. Compressive Modulus of Elasticity shall be a minimum of 2,100,000 psi in accordance with ASTM C579. Material shall be FasTrac CE815 Epoxy Grout or approved equal.
- D.

Premolded joint filler shall be permanent, waterproof, self-healing, and asphalt impregnated meeting the requirements of AASHTO M33.

STRUCTURAL GENERAL NOTES

7. Materials (Cont.):

- E.

Lightweight Cellular Concrete (LCC) Backfill shall have an in-place density of less than 45 pounds per cubic foot and a maximum 28-day compressive strength of 90 pounds per square inch. See Special Provisions Section 627 - LIGHTWEIGHT CELLULAR CONCRETE (LCC) FILL.
- F.

LCC Backfill shall be placed in lifts not exceeding 2'-0" in height for every 24 hours.
- G.

Equipment and vehicles shall not be allowed to drive on LCC for a minimum of 32 hours after placement.
- H.

The carbon fiber reinforced polymer (CFRP) composite system shall consist of a uni-directional high-strength carbon fiber fabric bonded to the existing concrete substrate using a structural epoxy via the wet-layup method. The CFRP shall meet the following minimum test value material properties:

(1) Composite Gross Laminate Properties of one layer

(a) Tensile Strength - 130,000 psi ASTM D3039

(b) Tensile Modulus - 12.6 x 10⁶ psi - ASTM D3039

(c) Elongation at Break - 0.9% - ASTM D3039

(d) Nominal Laminate Thickness - 0.04 in. ASTM D1777
- I.

Concrete repair mortar shall be pre-blended, pre-bagged, shrinkage compensated, polymer-modified, fiber-reinforced material with an internal corrosion inhibitor capable of developing 4,5000 psi in 24-hours and 9,000 psi in 28-days, such as FasTrac V/O Mortar or approved equal.
- J.

Grout used in PT ducts shall be a high-flow, unsanded cementitious grout meeting the requirements of PTI M55 Class C Grout. Compressive strength at 28-days shall be minimum 12,000 psi such as Target 1121 Grout or approved equal.

8. Construction Notes:

- A.

The Contractor shall verify all dimensions and site conditions and not rely upon these plans for existing concrete element sizes, existing reinforcing steel placement, stream channel location, wingwall locations, guardrail placement, edge of pavement, etc. Existing dimensions and conditions shown on the plans are for the Contractor's convenience and may differ from actual site conditions. Report any discrepancies in writing to the Engineer before commencing work or ordering materials.
- B.

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

The Contractor shall verify the location of all utility lines and notify the respective owners before commencing with excavation, and any temporary piling or sheeting.

8. Construction Notes: (Cont.):

- D.

The existing concrete surfaces, which new concrete is poured against, shall be roughened to a full amplitude of 1/4 of an inch, pressure washed clean, and saturated surface dry (SSD)
- E.

Unless otherwise noted, all finish grades shall match existing grades.
- F.

Except as otherwise noted, all vertical dimensions are measured plumb.
- G.

For concrete finish see Standard Specifications and Special Provisions Section 503 - CONCRETE STRUCTURES.
- H.

Construction joints may be relocated or additional ones added subject to the approval of the Engineer.
- I.

Unless otherwise noted, all exposed concrete edges shall be chamfered 3/4" x 3/4".
- J.

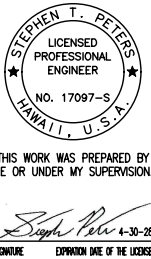
The Contractor shall scan all surfaces of existing concrete, using appropriate ground penetrating radar technology to locate all existing reinforcing bars prior to performing post-installed drilling work.
- K.

All post-installed threaded anchors and reinforcing bars shall be performed by ACI certified installers and shall be installed under the supervision of an ACI certified inspector.
- L.

The existence and location of underground utilities, manholes, monuments and structures as shown on the plans are from the latest available data but the accuracy is not guaranteed. The encountering of other obstacles during the course of work is possible. The Contractor shall be held liable for any damages incurred to the existing facilities and/or improvements as a result of his operations.
- M.

Smooth riding connections shall be constructed at all limits of resurfacing, including the beginning and end of project, connecting approaches, side streets and driveways as shown on the plans and/or as directed by the Engineer.
- N.

Existing drainage system on and off the bridge and within the construction work area shall be functional at all times during construction. The Contractor is to furnish materials, equipment, labor, tools and incidentals necessary to maintain flow. This work shall be considered incidental to the various contract items.



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STRUCTURAL GENERAL NOTES

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Waiale Gulch, Alae (Naalee Gulch) and
Pulehu Gulch (Pohakuokala) Bridges
Federal-Aid Project No. STP-0377(008)**

Scale: None Date: Mar. 2026

SHEET No. 50.4 OF 6 SHEETS

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FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
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STRUCTURAL GENERAL NOTES

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HAWAII	HAW.	STP-0377(008)	2026	54	131

8. Construction Notes: (Cont.)

- O. The Contractor shall provide for access to and from all existing nearby private driveways at all times.
- P. No material and/or equipment shall be stockpiled or otherwise stored within the highway right-of-way except at locations designated in writing and approved by the Engineer. If use of location is approved by the Engineer, the Contractor shall obtain a permit to use the property within the highway right-of-way from the State Right-of-Way Branch at telephone no. (808) 692-7332.
- Q. All items not listed in the proposal schedule shall be incidental to the various items of work and will not be paid for separately.
- R. Standard detail drawings refer to all structures in general, except for modifications as may be required for special conditions. For such modifications refer to the corresponding detailed drawings.
- S. As-built plans for the existing structures are available from the Highways Design Branch located at the Department of Transportation, Highways Division, Kakuhihewa Building, Room 609, 601 Kamokila Boulevard, Kapolei, HI 96707. The telephone no. is (808) 692-7583.
- T. The Contractor shall submit comprehensive working drawings and calculations for the proposed hydraulic jacking and shoring of the bridge superstructure that is needed to replace the bearings. Installation of jacks, shoring, dunnage, etc. shall not interfere with placement of reinforcing steel or concrete for work at the bent caps. Existing bridge elements shall be checked for structural adequacy against the revised temporary bearing locations. All drawings and calculations shall be prepared and stamped by a State of Hawaii licensed Structural Engineer. The above work, including working drawings and calculations, shall be incidental to the bearing replacement work. The drawings and calculations shall be found acceptable by the Engineer before any construction work is to proceed.
- U. The Contractor shall anticipate potential existing granular backfill behind abutments during excavation activities.

9. Foundations:

- A. The geotechnical parameters are based on the report titled: "Final Submission Geotechnical Engineering Exploration Waiale, Pohakuokala, and Alae Bridges Seismic Retrofit, Kula, Maui, Hawaii" dated March 25, 2026, and prepared by Geolabs, Inc.

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DRAWN BY	
No.	TRACED BY	
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	QUANTITIES BY	
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DRAWING NAME: 2-800-DWG/01NGS-2-003-3-3 MAUI BRIDGES SEISMIC RETROFIT (NSP)01 CAD003-25-26 100% \$MB-S0003-GE/NOTES.DWG PLOT TIME: 03-25-26 5:54 PM



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STRUCTURAL GENERAL NOTES

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Scale: None Date: Mar, 2026

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SYMBOLS AND ABBREVIATIONS

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¢	And	Dbl.	Double	GFRP	Glass Fiber Reinforced	Opn'g	Opening		
@	At	Demol.	Demolition		Polymer Rebar	O/S	Offset	Str.	Straight
Ø	Diameter	Det.	Detail	Gr.	Grade	OHWM	Ordinary High Water Mark	Struct.	Structure
≥	Greater Than or Equal to	DI	Drain Inlet, Ductile Iron	Grd.	Ground			SY	Square Yard
≤	Less Than or Equal to	Dia.	Diameter	GRP	Grouted Rubble Pavement	PB	Pull Box	Symm.	Symmetrical
#	Number	Diaph.	Diaphragm			PL	Plate		
		Dim.	Dimension	(H)	Hinge	PCCP	Portland Cement Concrete	T	Top
AB	Anchor Bolt	Dist.	Distance	HDPE	High Density Polyethylene		Pavement	T&B	Top and Bottom
Abut.	Abutment	Dn.	Down	HDOT	State of Hawaii Department	PC	Point of Curvature	Tan.	Tangent
Abbr.	Abbreviation	DO	Ditto		of Transportation	PCF	Pounds per Cubic Foot	TCE	Top of Column
AC	Asphaltic Concrete	DS	Drilled Shaft	HECO	Hawaiian Electric Company	P(e)	Effective Prestress Force		(and Bent Cap Soffit) Elevation
Add.	Additional	Dwg., Dwgs.	Drawing, Drawings	Horiz., H	Horizontal		After All Losses	Temp.	Temporary
Alt.	Alternate	Dwls.	Dowels	Ht.	Height	Perf.	Perforated	Term.	Terminal
Approx.	Approximate			HS	High strength	PI	Point of Intersection	TFE	Top of Footing Elevation
Az.	Azimuth	e	Existing				of Tangents	Thk.	Thick
		E	East	IB	Inbound	PIVC	Point of Intersection of	TOD	Top of Deck
Bal.	Balance	EA, Ea., ea.	Each	ID	Inside Diameter		Vertical Curve	TOP	Top of Pier
ℳ	Baseline	EF	Each Face	IF	Inside Face	PLF, plf	Pounds per Linear Foot	Tot.	Total
Bet.	Between	EFH	Each Face Horizontal	In.	Inch	PMA	Polymer Modified Asphalt	Transv.	Transverse
BF	Both Faces	EFV	Each Face Vertical	Int.	Interior	PPM	Parts Per Million	TS	Structural Tubing
BFE	Bottom of Footing Elevation	EJ	Expansion Joint	Inv.	Invert	PRC	Point of Reverse Curvature	TSS	Tendon For Girder in Simply
Bk.	Back	El., Elev.	Elevation			PVC	Polyvinyl Chloride		Supported Condition
Blf.	Bolt	Elec.	Electrical	Jt.	Joint	Prestr.	Prestressed	Typ.	Typical
Bm.	Beam	Emb.	Embankment			P/S	Prestressed Strands		
BOF	Bottom of Footing	EPE	Existing Edge of Pavement	K	Kips	PSF, psf	Pounds per Square Foot	Undergrd.	Underground
Bot., Bott., B	Bottom	EPS	Expanded Polystyrene	KF	Kip Foot	PSI, psi	Pounds per Square Inch		
Br.	Bridge	Eq.	Equal	KLF	Kips Per Linear Foot			Var.	Varies
Brg., Brgs.	Bearing, Bearings	ES	Edge of Shoulder	KSF	Kips Per Square Foot	PT	Point of Tangency	VC	Vertical Curve
BVC	Beginning of Vertical Curve	Est.	Estimated	KSI, ksi	Kips Per Square Inch	Pt., Pts.	Point, Points	VESLMC	Very Early Strength Latex
BW	Both Ways	EVC	End of Vertical Curve			R, Rad.	Radius		Modified Concrete
		EW	Each Way	L	Length	Rebar	Reinforcing Bar	Vert., V	Vertical
Cant.	Cantilever	Exc.	Excavation	lb., lbs., LBS.	Pound, Pounds	Ref.	Reference		
CBW	Concrete Barrier Wall	Excl.	Excluding	LCC	Lightweight Cellular Concrete	Reinf.	Reinforced, Reinforcing,	W	West
cc	Center to Center	Exist., Ex.	Existing	LF, Lin. Ft.	Linear Feet/Foot		Reinforcement	w/	With
CF	Cubic Feet	Exp., (E)	Expansion	Longit.	Longitudinal	Req'd.	Required	W/C	Water/Cementitious
CFCW	Continuous Flashing Compound	Ext.	Exterior	LS	Lump Sum	Ret.	Retaining	WP	Work Point, Working Point
	Waterproofing			Ltg. Std.	Lighting Standard	RF	Rear Face	WS	Water Surface
CG	Center of Gravity	(F)	Fixed			ROW	Right of Way	WW	Wingwall
CIP	Cast Iron Pipe, Cast in Place	FA	Force account	M	Modified	Rdwy.	Roadway	WWF	Welded Wire Fabric
CJ	Construction Joint	FB	Flat Bar	Max.	Maximum				
℄	Center line	FC	Compression Stresses	MH	Manhole	S	South	Yr.	Year
Cl.	Class	f'c	Specified Compressive Strength	Min.	Minimum	SBD	Special Bridge Deck Mix		
Clr.	Clearance		of Concrete at 28 days	Misc.	Miscellaneous	SE	Super Elevation		
CLSM	Controlled Low Strength	f'ci	Specified Compressive Strength	MPH	Miles Per Hour	Sect.	Section		
	Material		of Concrete at Time of Initial	MSL	Mean Sea Level	SF, sq. ft.	Square Feet		
CFRP	Carbon Fiber Reinforced		Prestress			Sht.	Sheet		
	Polymer	FF	Far Face, Front Face	N	North	Sim.	Similar		
CMU	Concrete Masonry Unit	Fig.	Figure	NF	Near Face	Sl.	Slope		
Cntl. Jt.	Control Joint	Fin. Gr.	Finish Grade	NIC	Not in Contract	Spes., Spg.	Spaces, Spacing		
CO	Clean Out	FRP	Fiberglass Reinforced Polymer	No.	Number	Spec.	Specification		
Col.	Column	FT	Tensile Stresses	NTS	Not to Scale	Sprd.	Spread		
Conc.	Concrete	Ft.	Feet, Foot			SRW	Segmental Retaining Wall		
Conn.	Connection	Ftg.	Footing	OB	Outbound	SS	Stainless Steel		
Const.	Construction			oc, o.c.	On Center	Std.	Standard		
Cont.	Continuous	G, Gir.	Girder	OD	Outside Diameter	Sta.	Station		
CSL	Crosshole Sonic Logging	Ga.	Gage, Gauge	OG	Outside Girder,	Stiff.	Stiffener		
CRM	Cement Rubble Masonry	Galv.	Galvanized		Outbound Girder	Stirr.	Stirrup		
CY, Cu. Yd.	Cubic Yard	GDI	Grated Drain Inlet			Stl.	Steel		

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TRACED BY	_____
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CHECKED BY	_____
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NOTE BOOK	_____
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DRAWING NAME: 2-800-DWG/MSR-003-3-3 MAUI BRIDGES SEISMIC RETROFIT (NPS) CAD003-24-26 100% 3MB-50006 SYMB-ABBREV.DWG PLOT TIME: 03-25-26 4:50 PM



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Signature: *Stephen T. Peters* 4-30-28
DATE: _____

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

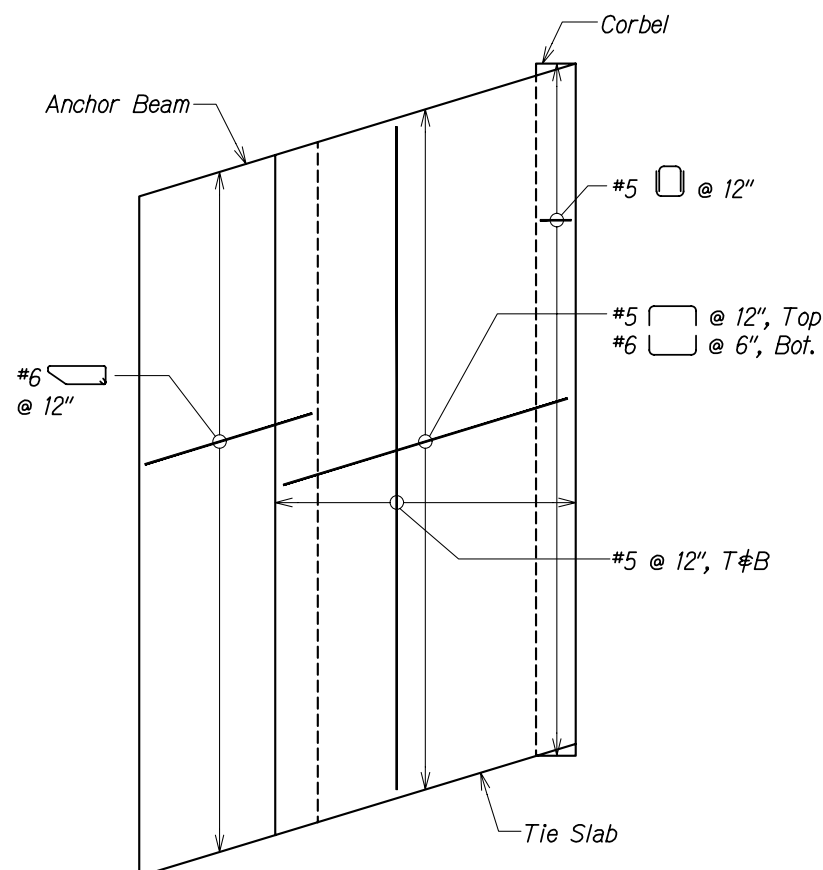
SYMBOLS AND ABBREVIATIONS

SEISMIC RETROFIT, HALEAKALA HIGHWAY ROUTE 377
Waiale Gulch, Alae (Naalae Gulch) and
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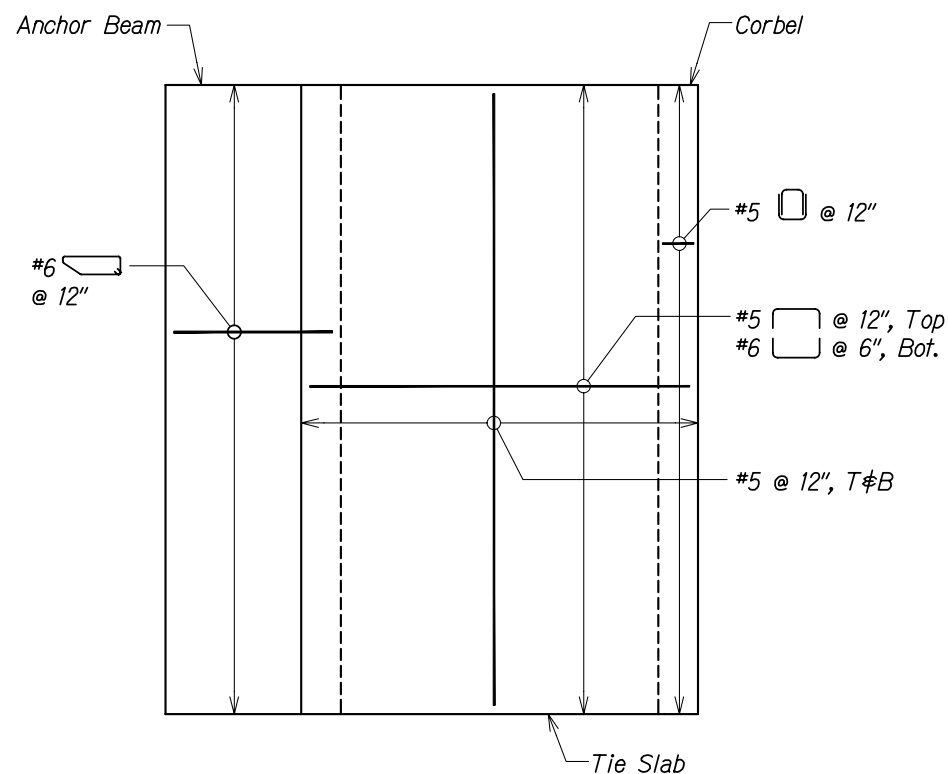
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SHEET No. 50.6 OF 6 SHEETS

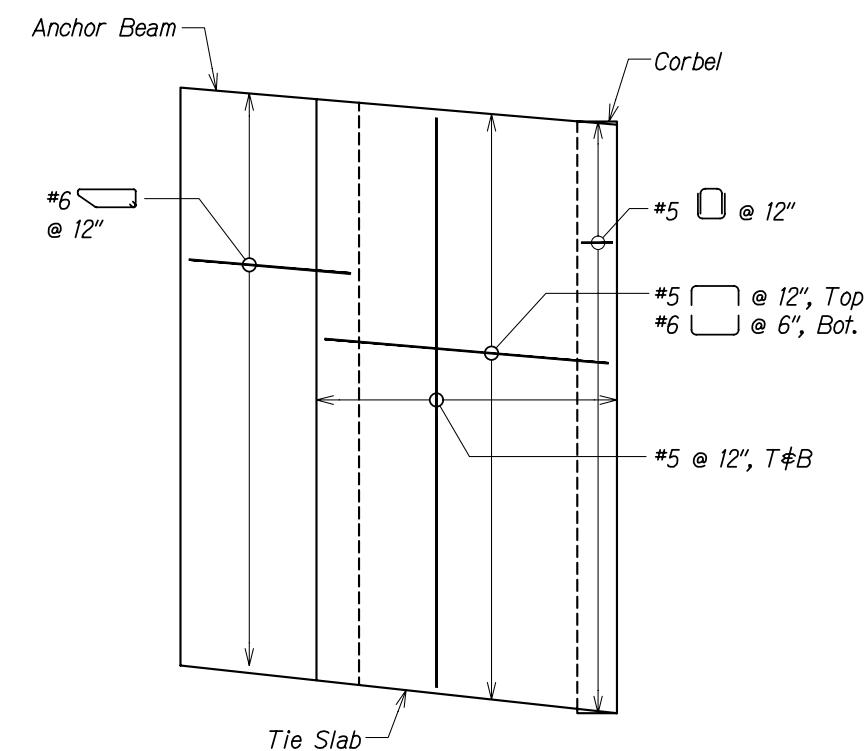
FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEET
HAWAII	HAW.	STP-0377(008)	2026	58	131



WAIALE GULCH BRIDGE



ALAE BRIDGE



PULEHU GULCH BRIDGE

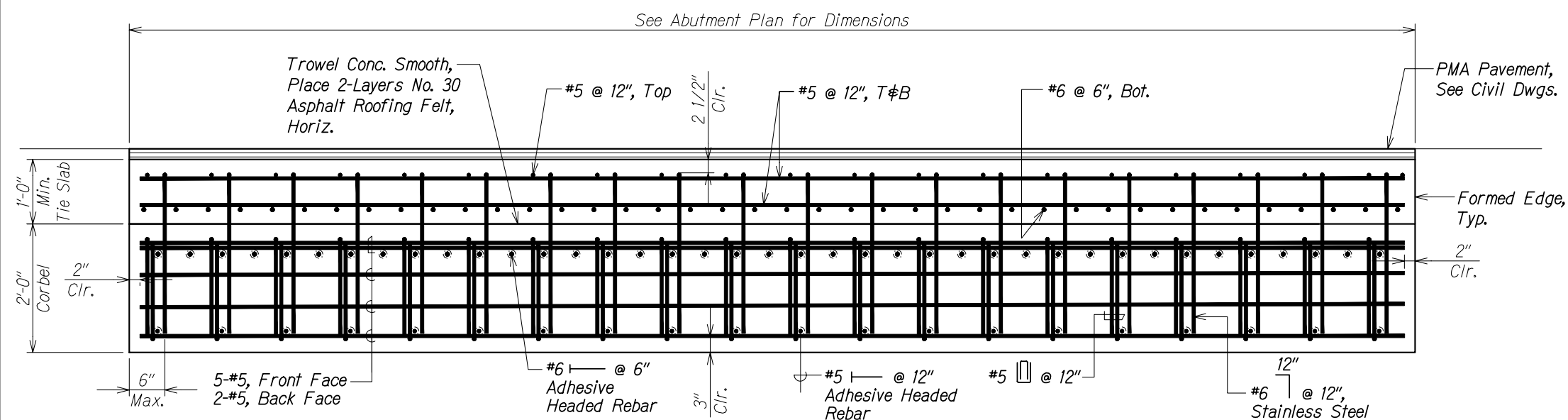
TIE SLAB REINFORCING PLAN (A)

Scale: $3/8'' = 1'-0''$

A diagram of a semi-circular arch. The horizontal span is 3.6m, indicated by a dimension line below the arch. The span is divided into two equal segments of 1.8m each, labeled S1.3. The arch is labeled A.

NOTES:

1. #6 Continuous Bundled, E.S. of dowel, GFRP not shown for clarity.
2. Tie Slab is shown level. See SA2.2, SA2.5, SB2.2, SB2.5, SC2.2 and SC2.5 for specific roadway crown/superelevation geometry



REINFORCING SECTION (B)

Scale: 1" = 1'-0"

A diagram of a semi-circular arch. The arch is labeled B . The horizontal base is divided into two segments, labeled $S12$ and $S13$.



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Joseph P. ... 4-30-28
SIGNATURE EXPIRATION DATE OF THE LICENSE

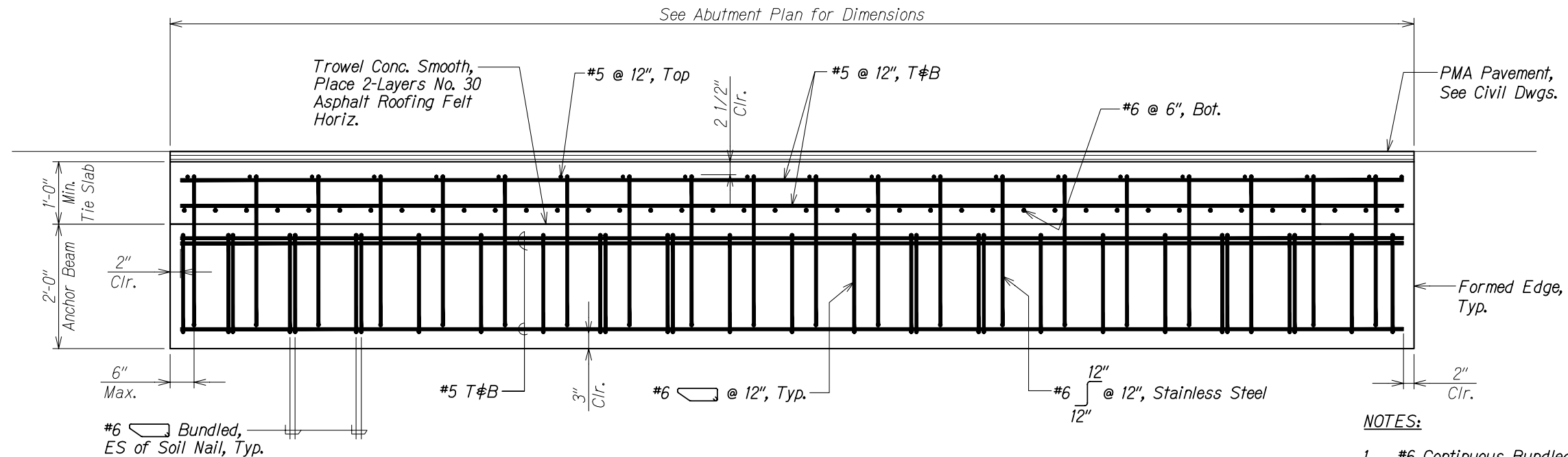
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

**TYPICAL TIE SLAB AND CORBEL
REINFORCING PLAN AND SECTION**

**SEISMIC RETROFIT, HALEAKALA HIGHWAY ROUTE 377
Waiale Gulch, Alae (Naalae Gulch) and
Pulehu Gulch (Pohakuokala) Bridges
Federal-Aid Project No. STP-0377(008)**

Scale: As Noted Date: Mar. 2026

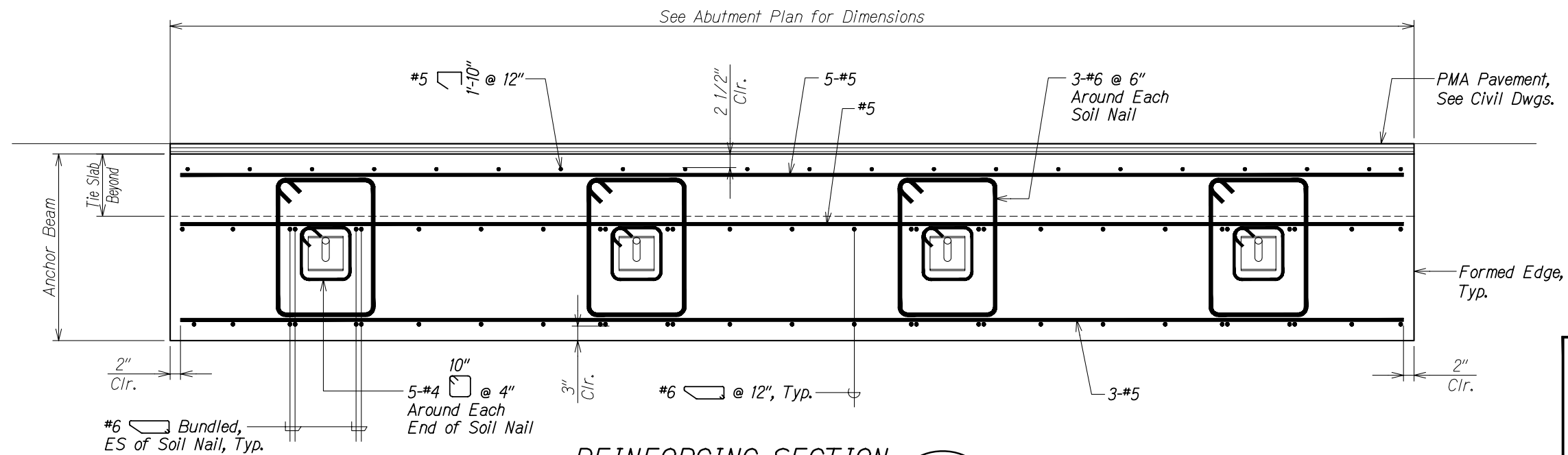
FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0377(008)	2026	59	131



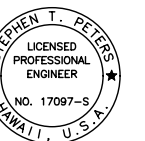
REINFORCING SECTION A
Scale: 1" = 1'-0"

NOTES:

- #6 Continuous Bundled, E.S. of dowel, GFRP not shown for clarity.
- Tie Slab is shown level. See SA2.2, SA2.5, SB2.2, SB2.5, SC2.2 and SC2.5 for specific roadway crown/superelevation geometry.



REINFORCING SECTION B
Scale: 1" = 1'-0"



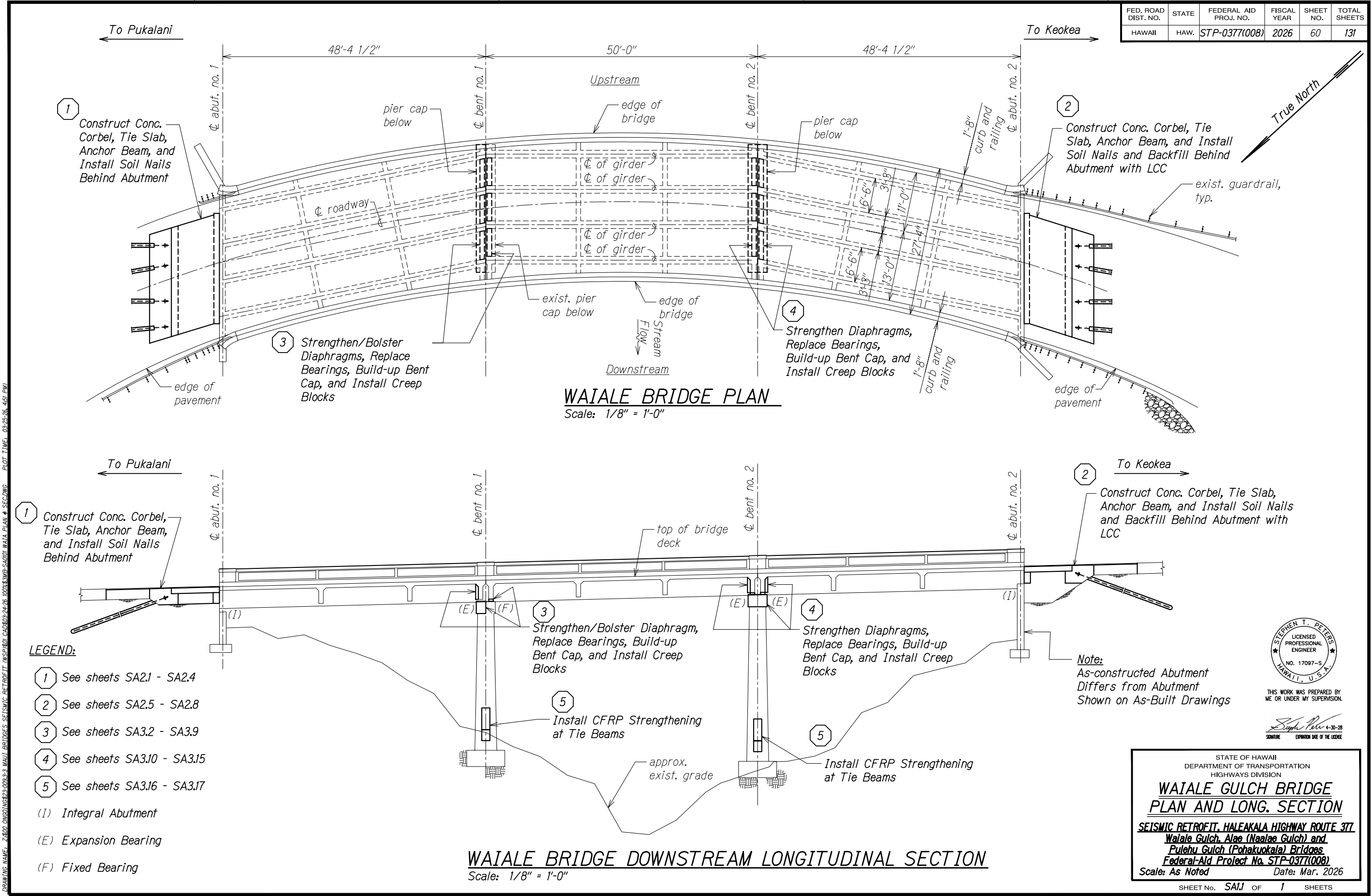
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Signature: Stephen T. Peters
Date: 4-30-28
Signature Date of the License

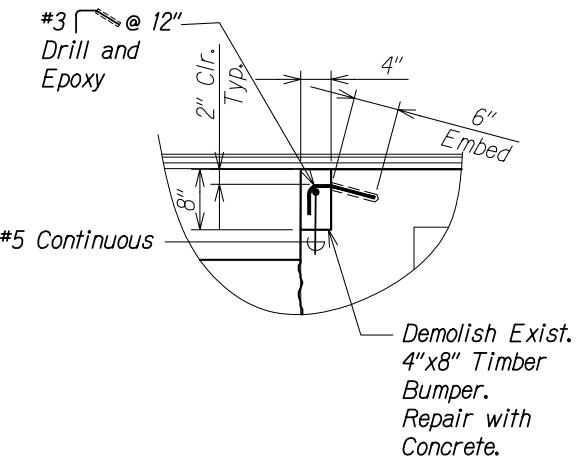
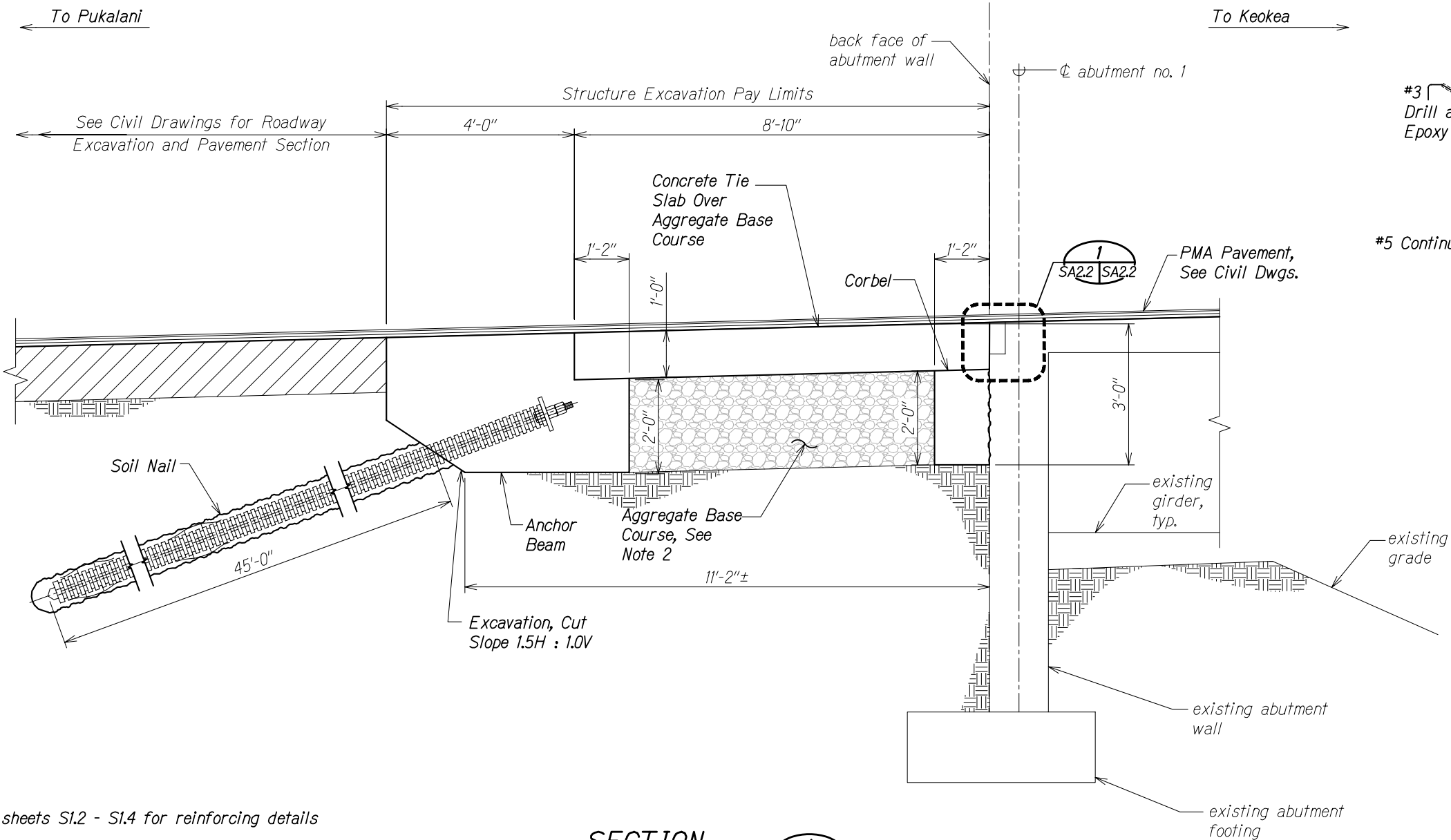
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
TYPICAL TIE SLAB AND ANCHOR BEAM REINFORCING SECTIONS
SEISMIC RETROFIT, HALEAKALA HIGHWAY ROUTE 377
Waiale Gulch, Alae (Naalae Gulch) and
Pulehu Gulch (Pohakuokala) Bridges
Federal Aid Project No. STP-0377(008)
Scale: As Noted Date: Mar. 2026

SHEET No. SI.4 OF 4 SHEETS

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0377(008)	2026	60	131



FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0377(008)	2026	62	131



- NOTES:**
- See sheets SI.2 - SI.4 for reinforcing details
 - Aggregate base course shall meet the material, placement, and compaction requirements of Standard Specification Section 304 - AGGREGATE BASE COURSE. Measurement and Payment shall not apply. Cost to be incidental to Concrete Tie Slab work.

SECTION
Scale: 3/4" = 1'-0"
SA2.1 | SA2.2

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DRAWN BY	
	TRACED BY	
	CHECKED BY	
	QUANTITIES BY	
	CHECKED BY	



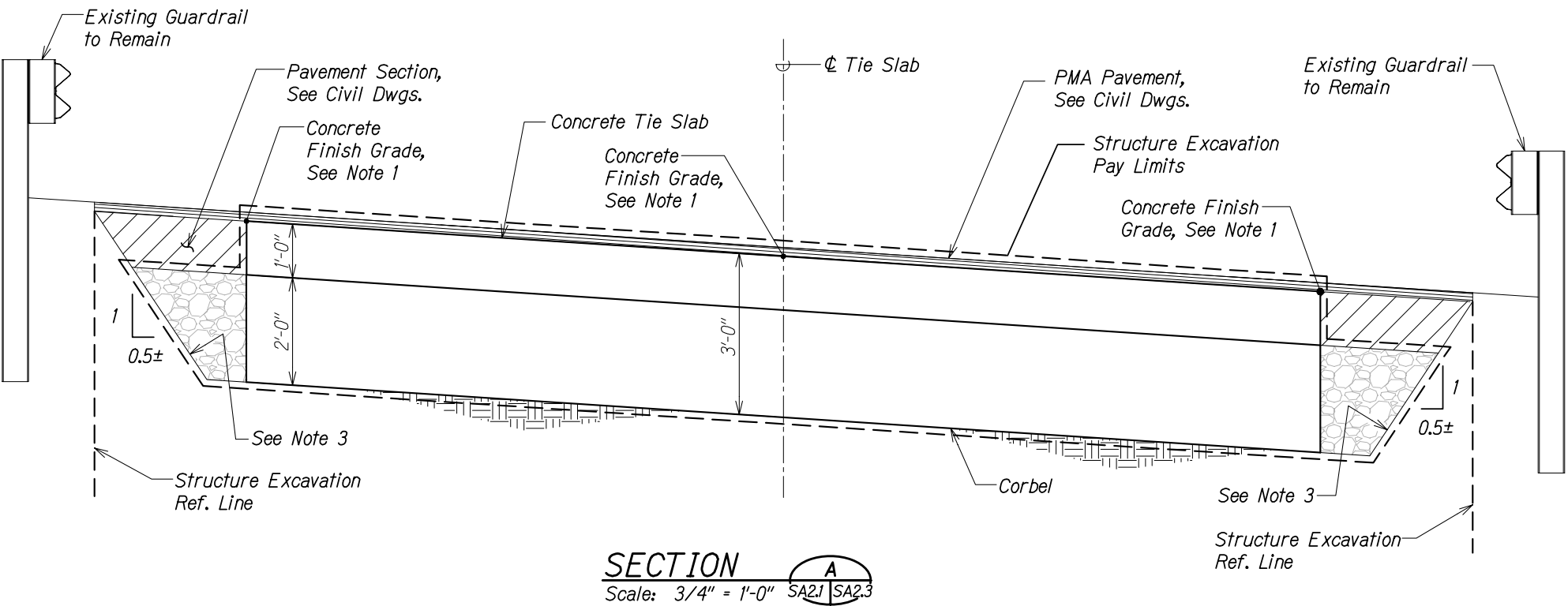
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Stephen T. Peters
4-30-28
SIGNATURE EXPIRATION DATE OF THE LICENSE

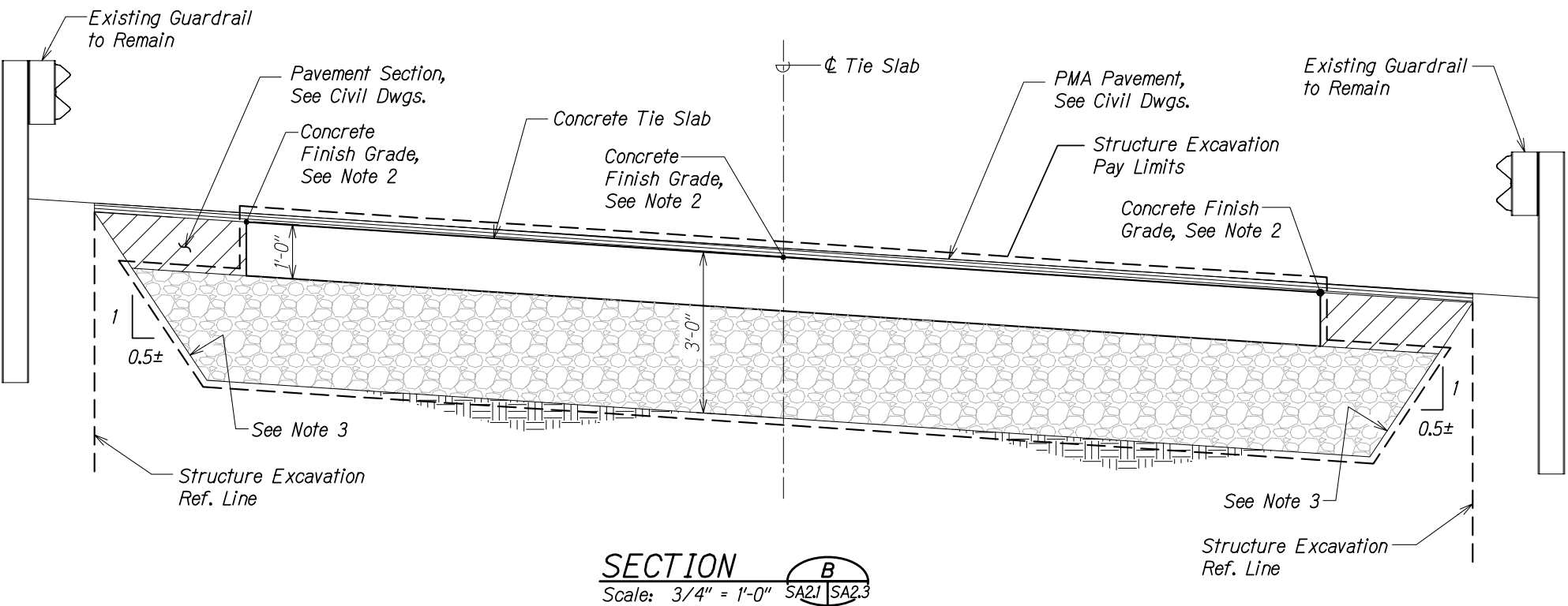
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

WAIALE GULCH BRIDGE
ABUTMENT NO. 1 SECTION
SEISMIC RETROFIT, HALEAKALA HIGHWAY ROUTE 377
Waiale Gulch, Alae (Naalae Gulch) and
Pulehu Gulch (Pohakuokala) Bridges
Federal Aid Project No. STP-0377(008)
Scale: As Noted Date: Mar. 2026

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0377(008)	2026	63	131



- NOTES:**
- Top of concrete tie slab shall be constructed with a superelevation. Finish grade shall match top of concrete bridge deck.
 - Top of concrete tie slab shall be constructed 2" below roadway finish grade. See Civil Drawings.
 - Contractor shall be responsible for providing a stable cut soil face as needed to prevent loss of soil around Guardrail posts.

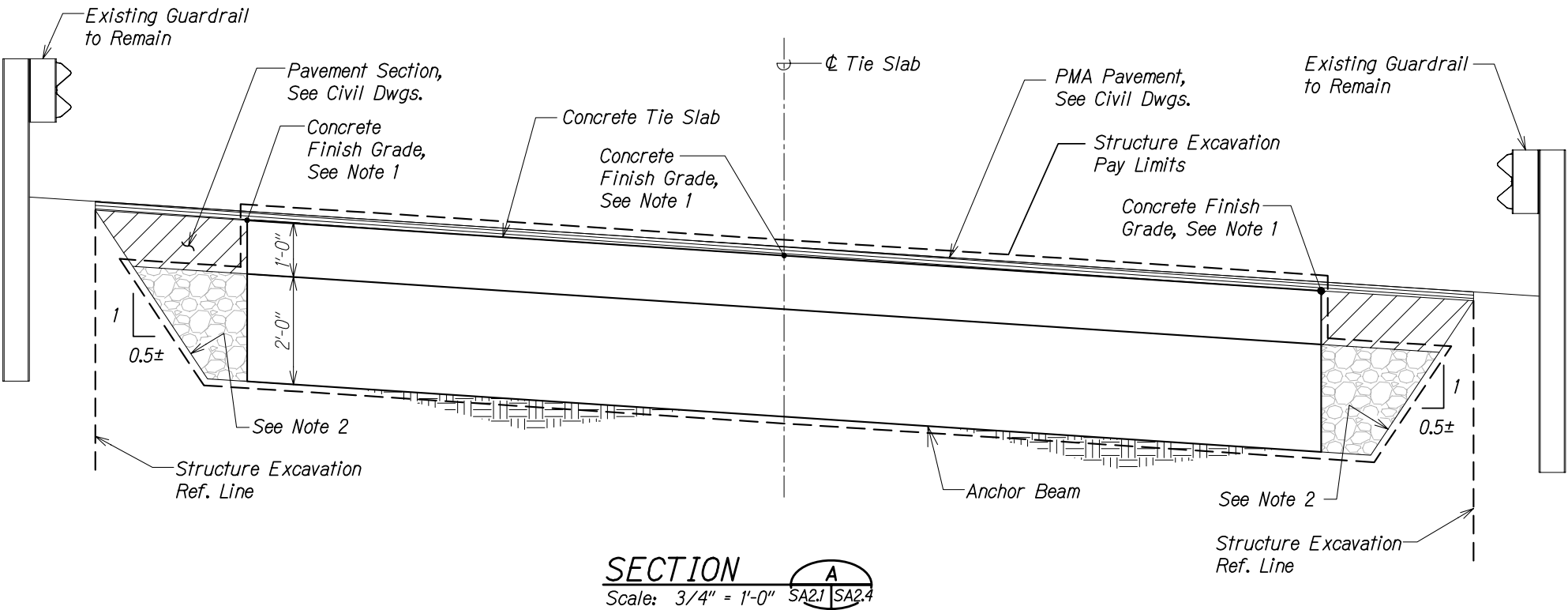


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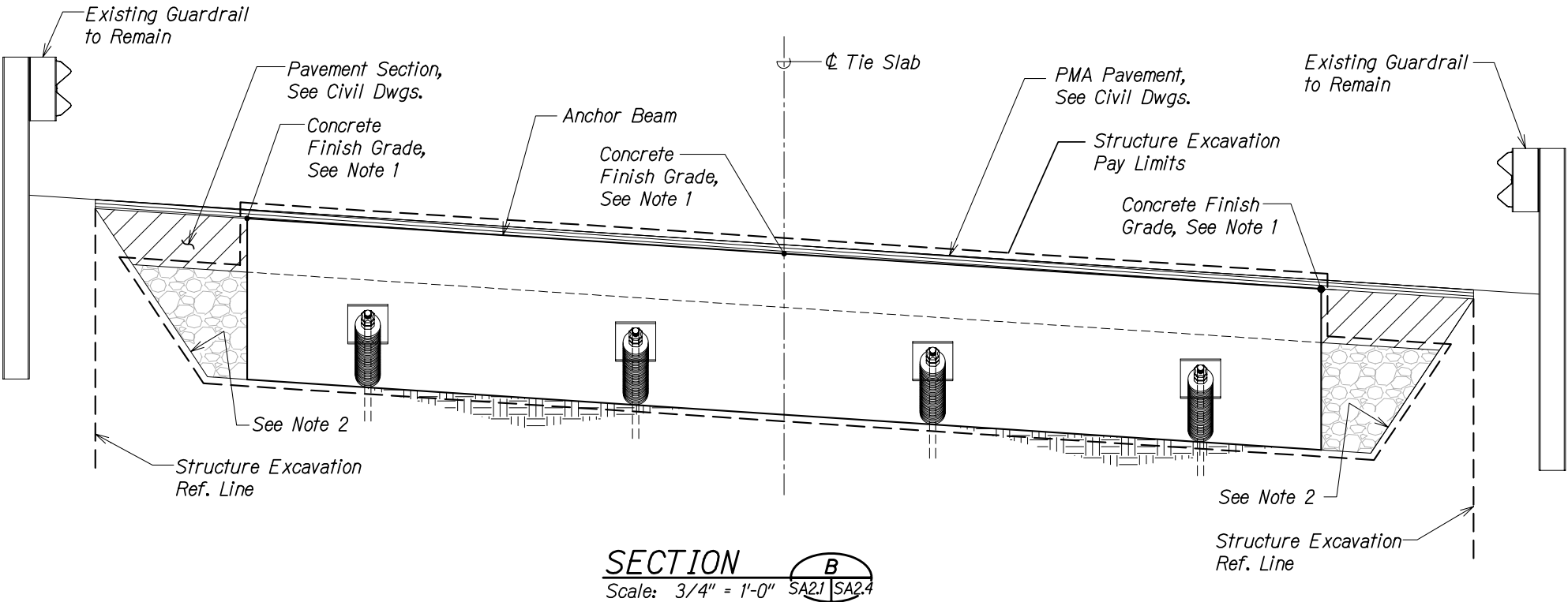
Stephen T. Peters
SIGNATURE EXPIRATION DATE OF THE LICENSE: 4-30-28

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
WAIALE GULCH BRIDGE
ABUTMENT NO. 1 SECTIONS
SEISMIC RETROFIT, HALEAKALA HIGHWAY ROUTE 377
Waiale Gulch, Alae (Naalae Gulch) and
Pulehu Gulch (Pohakuokala) Bridges
Federal Aid Project No. STP-0377(008)
Scale: As Noted Date: Mar. 2026

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0377(008)	2026	64	131



- NOTES:
- Top of concrete tie slab/anchor beam finish grade shall be constructed 2" below roadway finish grade. See Civil Drawings.
 - Contractor shall be responsible for providing a stable cut soil face as needed to prevent loss of soil around Guardrail posts.



STEPHEN T. PETERS
LICENSED PROFESSIONAL ENGINEER
NO. 17097-S
HAWAII, U.S.A.

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Signature: *Stephen T. Peters* 4-30-28
DATE: 4-30-28

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

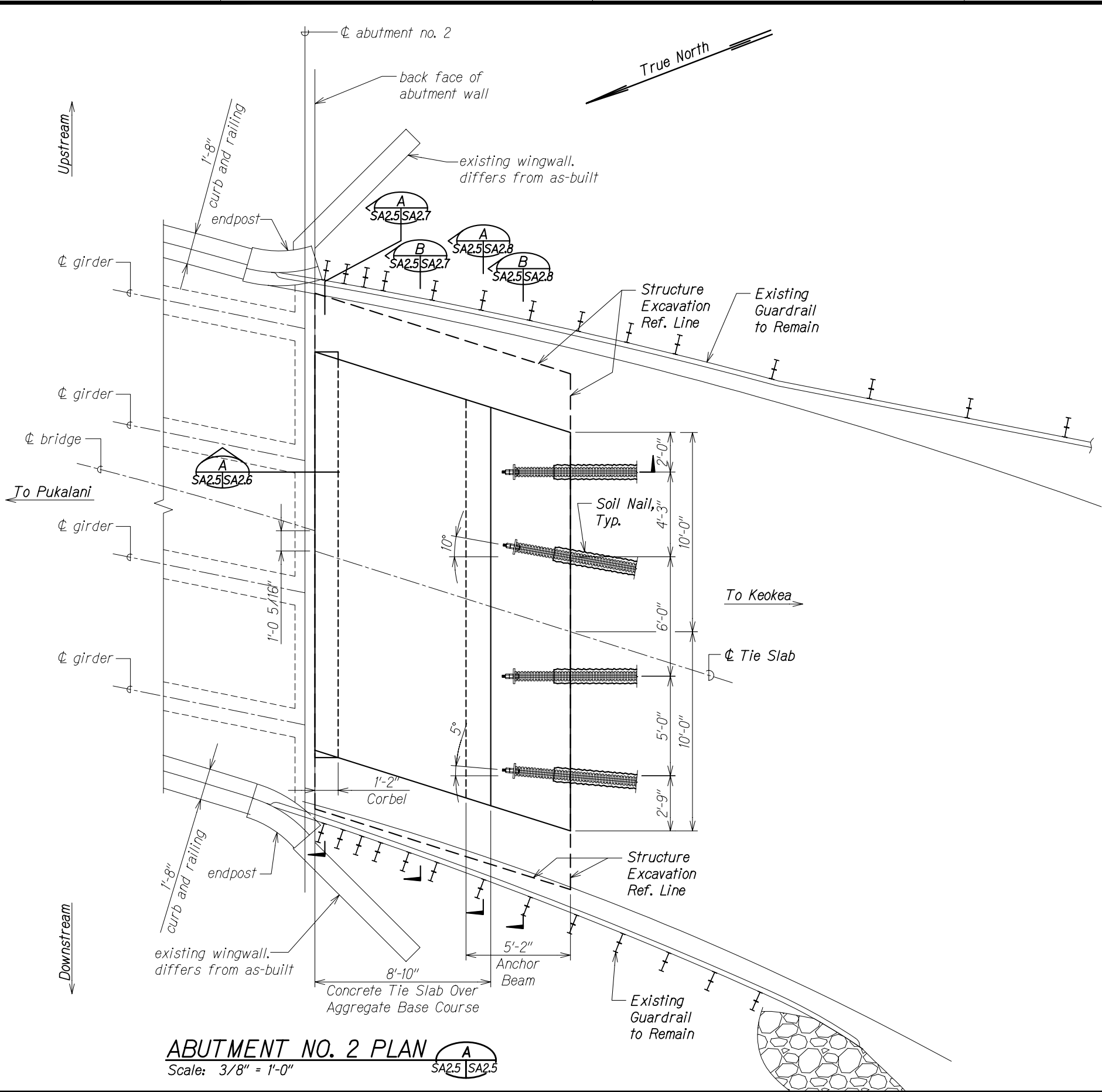
**WAIALE GULCH BRIDGE
ABUTMENT NO. 1 SECTIONS**

SEISMIC RETROFIT, HALEAKALA HIGHWAY ROUTE 377
Waiale Gulch, Alae (Naalae Gulch) and
Pulehu Gulch (Pohakuokala) Bridges
Federal Aid Project No. STP-0377(008)
Scale: As Noted Date: Mar. 2026

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0377(008)	2026	65	131

DRAWING NAME: 2-300 DINGDONGSIS-003-3.3 MAUI BRIDGES SEISMIC RETROFIT INSPISU CAD003-24-26 100%3-WB-SA2020 WALA ABUTS.DWG PLOT TIME: 03:25:26 4/23 PM

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DRAWN BY	
	TRACED BY	
	CHECKED BY	
	QUANTITIES BY	
	CHECKED BY	



NOTE:
Structure excavation line is shown for reference only. The Contractor shall be responsible for methods of excavation at the abutment to maintain a stable cut face and to avoid undermining the existing metal guardrails. Existing granular backfill material shall be anticipated. Temporary shoring/bracing necessary to perform work shall be taken into consideration at the time of bid.



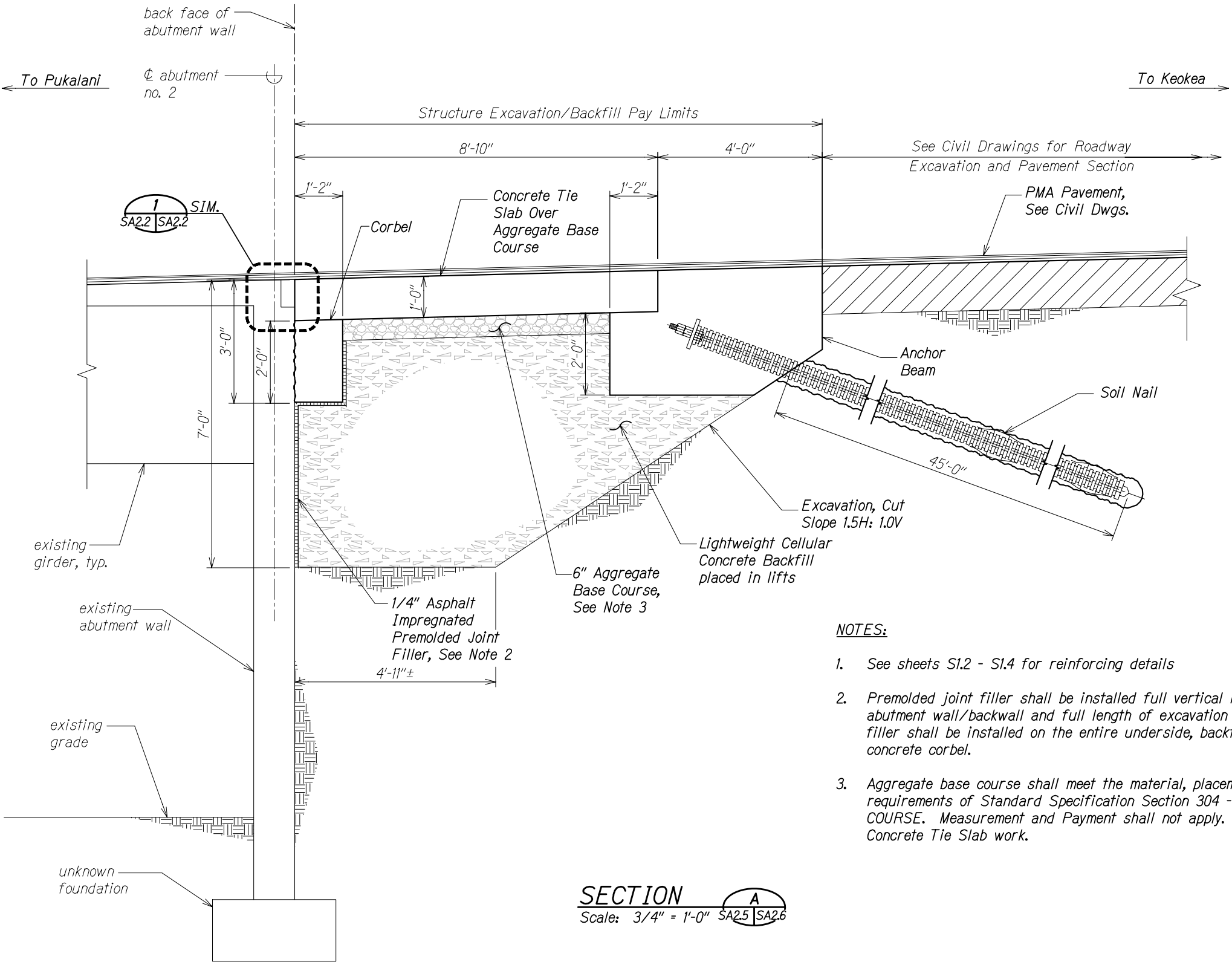
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

Signature: *Stephen T. Peters* 4-30-28
DATE: 4-30-28

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

WAIALE GULCH BRIDGE
ABUTMENT NO. 2 PLAN
SEISMIC RETROFIT, HALEAKALA HIGHWAY ROUTE 377
Waiale Gulch, Alae (Naalae Gulch) and
Pulehu Gulch (Pohakuokala) Bridges
Federal Aid Project No. STP-0377(008)
Scale: As Noted Date: Mar, 2026

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0377(008)	2026	66	131



- NOTES:**
- See sheets SI.2 - SI.4 for reinforcing details
 - Premolded joint filler shall be installed full vertical height of exposed abutment wall/backwall and full length of excavation limits. Premolded joint filler shall be installed on the entire underside, backface, and sides of the concrete corbel.
 - Aggregate base course shall meet the material, placement, and compaction requirements of Standard Specification Section 304 - AGGREGATE BASE COURSE. Measurement and Payment shall not apply. Cost to be incidental to Concrete Tie Slab work.

SECTION
Scale: 3/4" = 1'-0" SA2.5 | SA2.6

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DRAWN BY	
	TRACED BY	
	CHECKED BY	
	QUANTITIES BY	
	CHECKED BY	

DRAWING NAME: 2-800-DWG001NGS2-003-3 MAUI BRIDGES SEISMIC RETROFIT (NSP)01 CAD003-24-26 100%3-MB-SA2020 WAIA ABUTS.DWG PLOT TIME: 03:25:26 4/23 PM

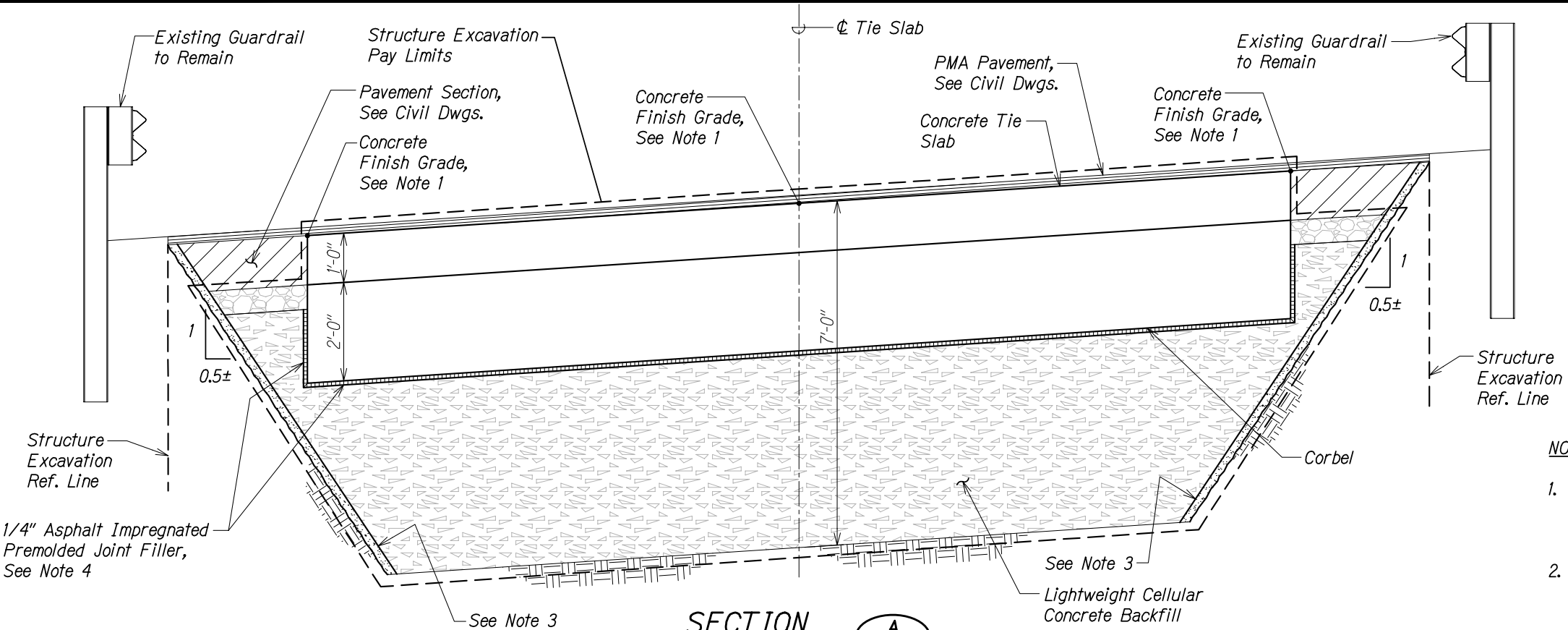


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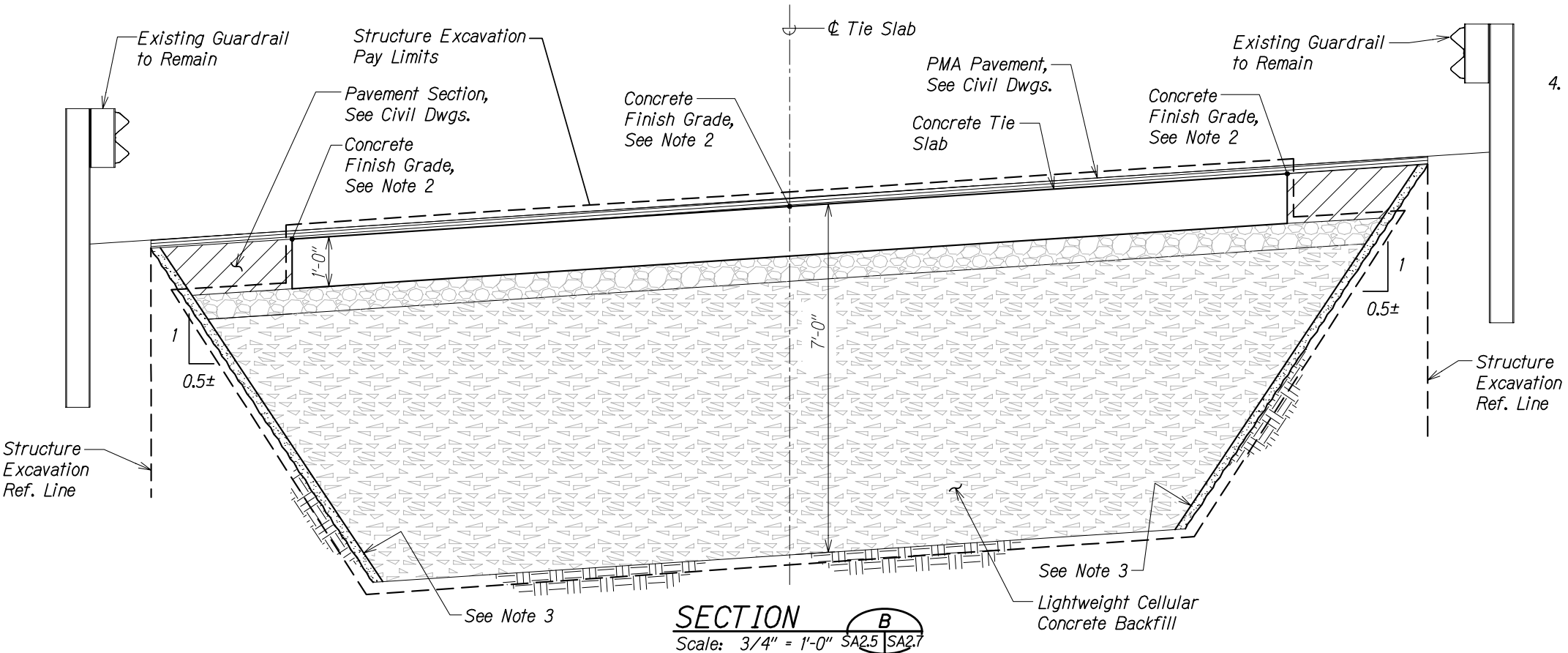
Stephen T. Peters
SIGNATURE EXPIRATION DATE OF THE LICENSE 4-30-28

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
**WAIALE GULCH BRIDGE
ABUTMENT NO. 2 SECTION**
SEISMIC RETROFIT, HALEAKALA HIGHWAY ROUTE 377
Waiale Gulch, Alae (Naalae Gulch) and
Pulehu Gulch (Pohakuokala) Bridges
Federal Aid Project No. STP-0377(008)
Scale: As Noted Date: Mar. 2026

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0377(008)	2026	67	131



- NOTES:**
- Top of concrete tie slab shall be constructed with a superelevation. Finish grade shall match top of concrete bridge deck.
 - Top of concrete tie slab finish grade shall be constructed 2" below roadway finish grade. See Civil Drawings.
 - A flash coat of shotcrete shall be applied on the face of the cut slope in front of the guard rails. Additional efforts to stabilize or brace the face shall be the responsibility of the Contractor.
 - Premolded joint filler shall be installed on the entire underside, backface, and sides of concrete corbel.



ORIGINAL PLAN	DATE
NO. _____	_____
SURVEY PLOTTED BY	DATE
DRAWN BY	_____
TRACED BY	_____
CHECKED BY	_____
QUANTITIES BY	_____
CHECKED BY	_____

DRAWING NAME: 2-800 DINGMAN ST. 003-3-3 MAUI BRIDGES SEISMIC RETROFIT (NPSISU) CAD003-24-26 100% 3/10/20 WALA ABUTS.DWG PLOT TIME: 03:25:26 4/23 PM



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Signature: *Stephen T. Peters* 4-30-28
 DATE: _____

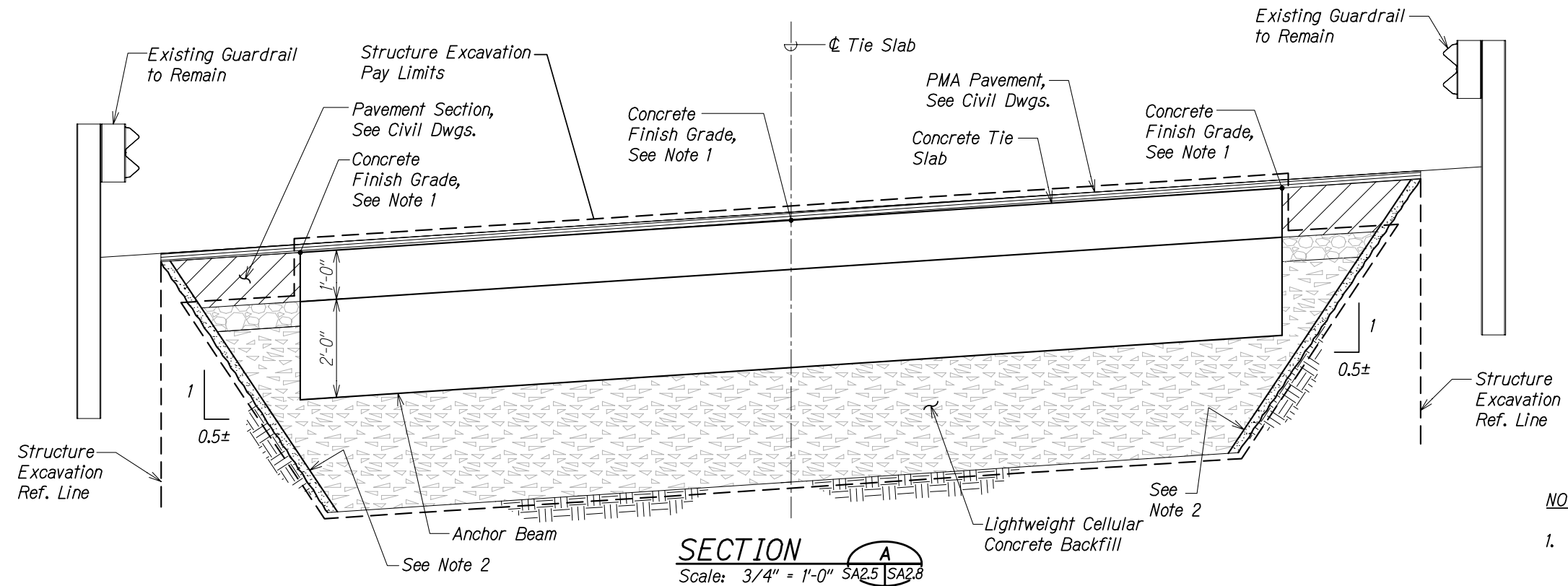
STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION

**WAIKALE GULCH BRIDGE
 ABUTMENT NO. 2 SECTIONS**

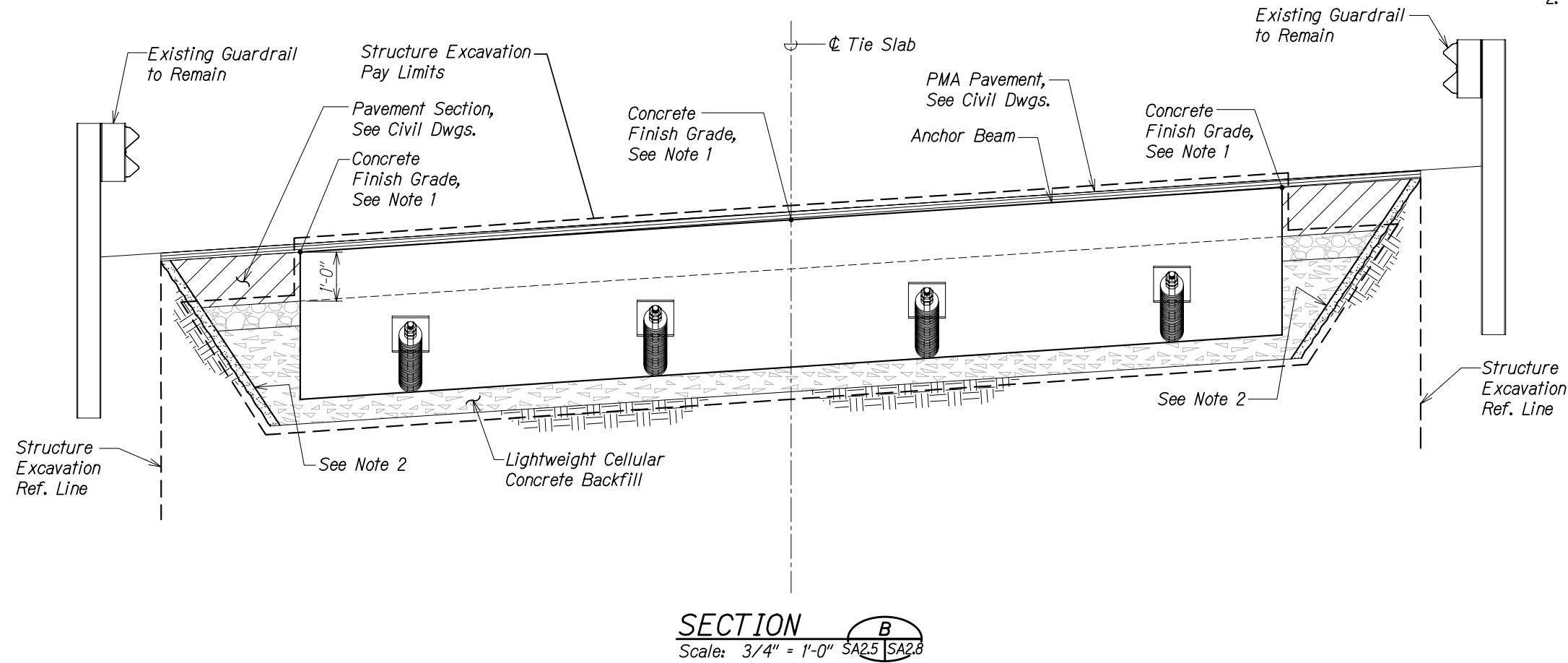
**SEISMIC RETROFIT, HALEAKALA HIGHWAY ROUTE 377
 Waiale Gulch, Alae (Naalae Gulch) and
 Pulehu Gulch (Pohakuokala) Bridges
 Federal Aid Project No. STP-0377(008)**

Scale: As Noted Date: Mar. 2026

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0377(008)	2026	68	131



- NOTES:**
- Top of concrete tie slab/anchor beam finish grade shall be constructed 2" below roadway finish grade. See Civil Drawings.
 - A flash coat of shotcrete shall be applied on the face of the cut slope in front of the guard rails. Additional efforts to stabilize or brace the face shall be the responsibility of the Contractor.



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Stephen T. Peters
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
WAIALE GULCH BRIDGE
ABUTMENT NO. 2 SECTIONS
SEISMIC RETROFIT, HALEAKALA HIGHWAY ROUTE 377
Waiale Gulch, Alae (Naalae Gulch) and
Pulehu Gulch (Pohakuokala) Bridges
Federal Aid Project No. STP-0377(008)
Scale: As Noted Date: Mar. 2026

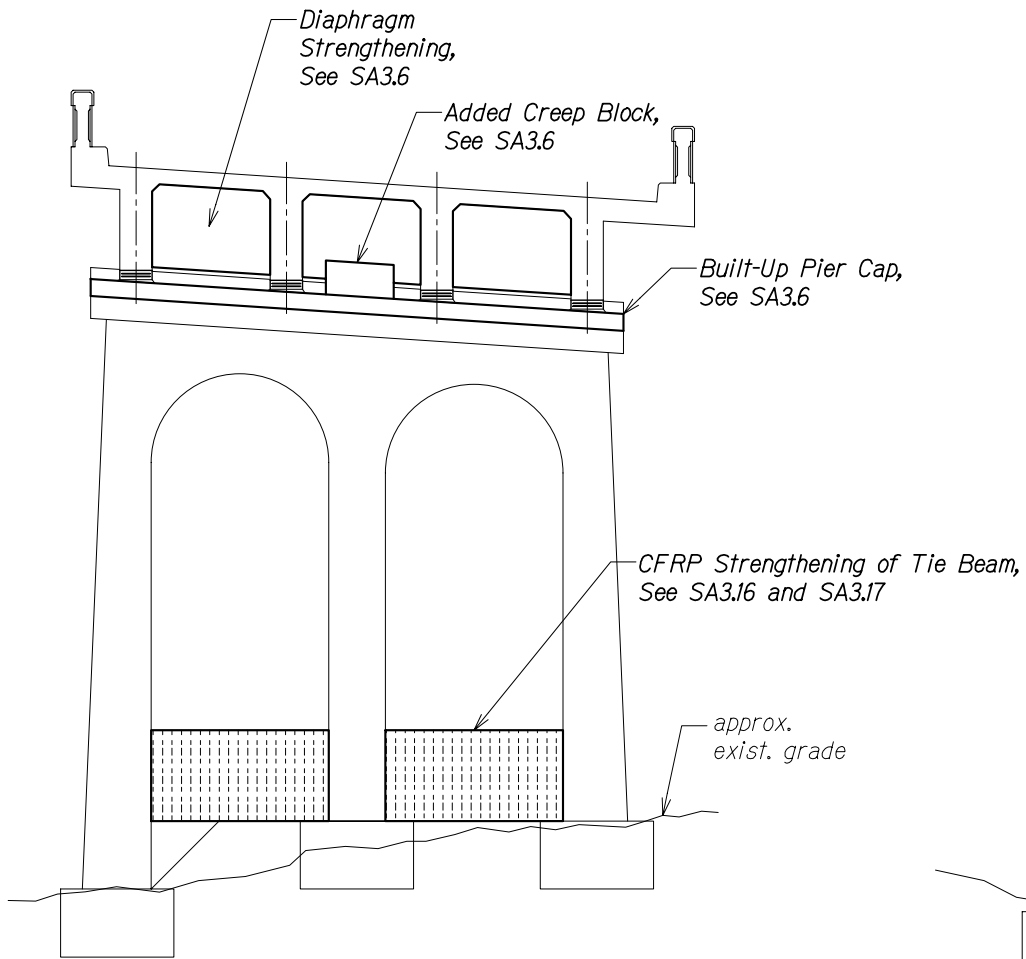
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HAWAII	HAW.	STP-0377(008)	2026	69	131

←Upstream

Downstream→

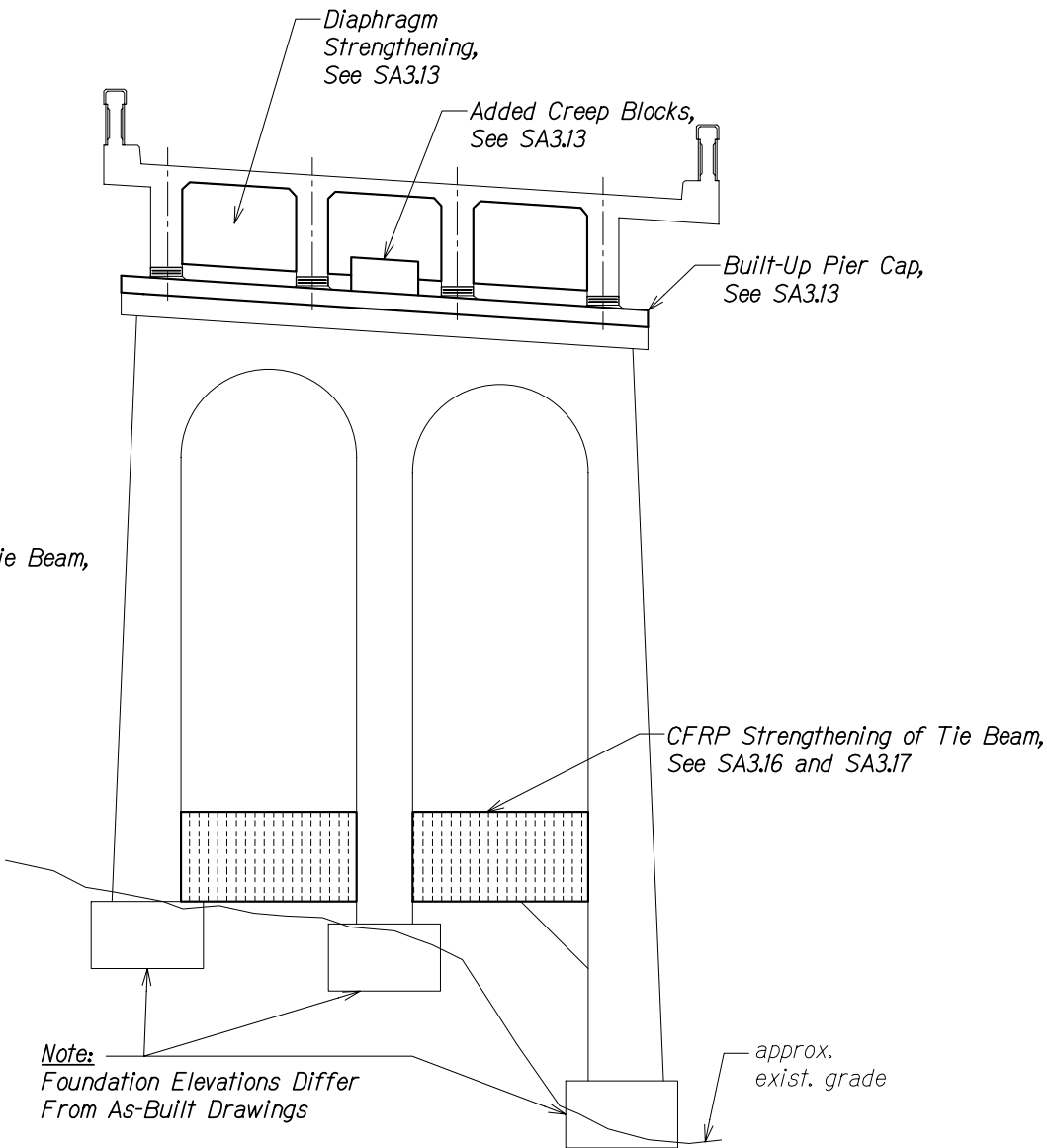
←Upstream

Downstream→



ELEVATION - BENT NO. 1

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



ELEVATION - BENT NO. 2

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

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DRAWN BY	
	TRACED BY	
	CHECKED BY	
	QUANTITIES BY	
	CHECKED BY	

DRAWING NAME: 2-800-DWG001NGS2-003-3-3 MAUI BRIDGES SEISMIC RETROFIT (NSPIS01 CAD003-24-26 100X3/16B-SA0301 WAIA BENTS ELEVATING PLOT TIME: 03:25:26 4/24 PM)



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DATE: 4-30-28

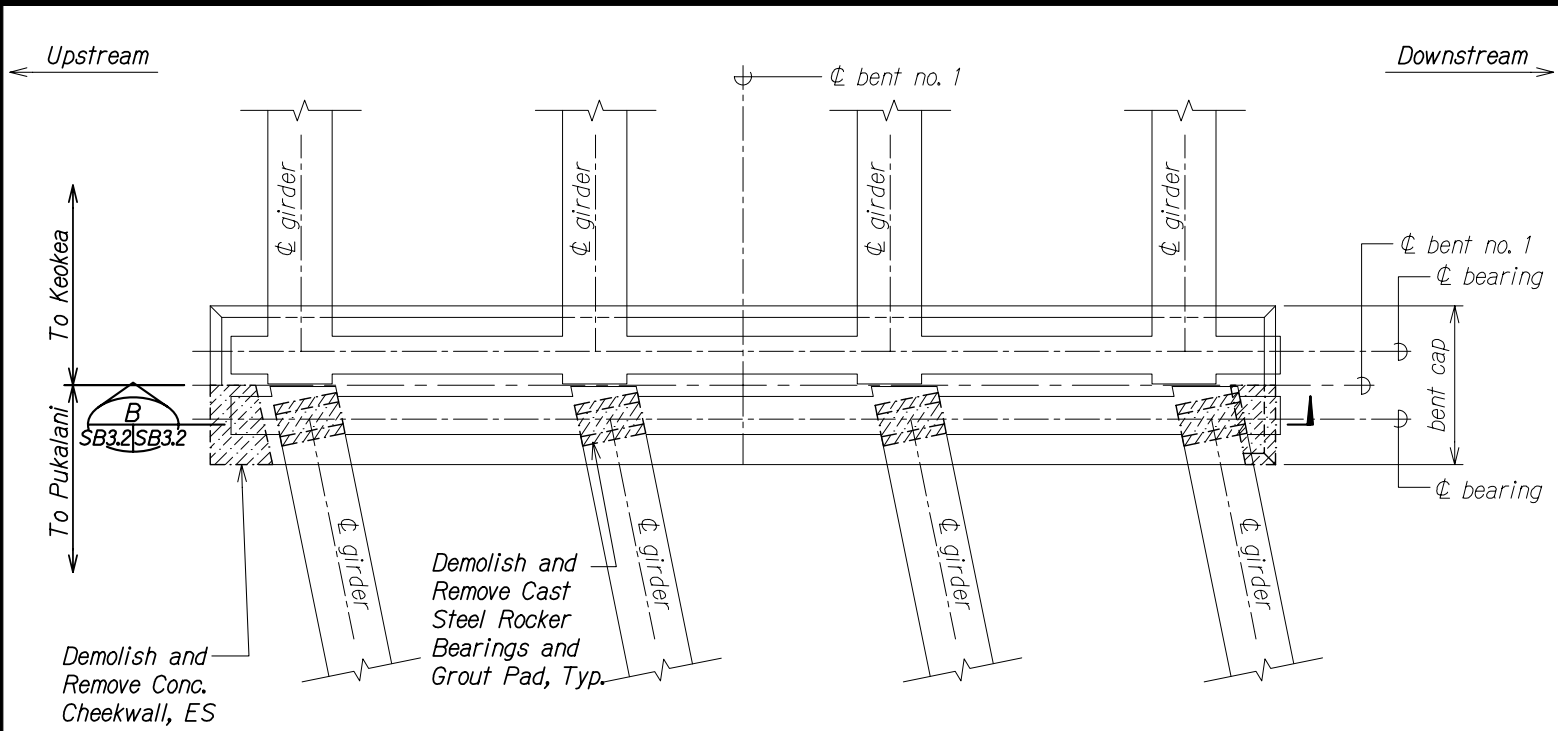
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

WAIALE GULCH BRIDGE
BENT NO. 1 & NO. 2 ELEVATIONS

SEISMIC RETROFIT, HALEAKALA HIGHWAY ROUTE 377
Waiale Gulch, Alae (Naalae Gulch) and
Pulehu Gulch (Pohakuokala) Bridges
Federal Aid Project No. STP-0377(008)

Scale: As Noted Date: Mar. 2026

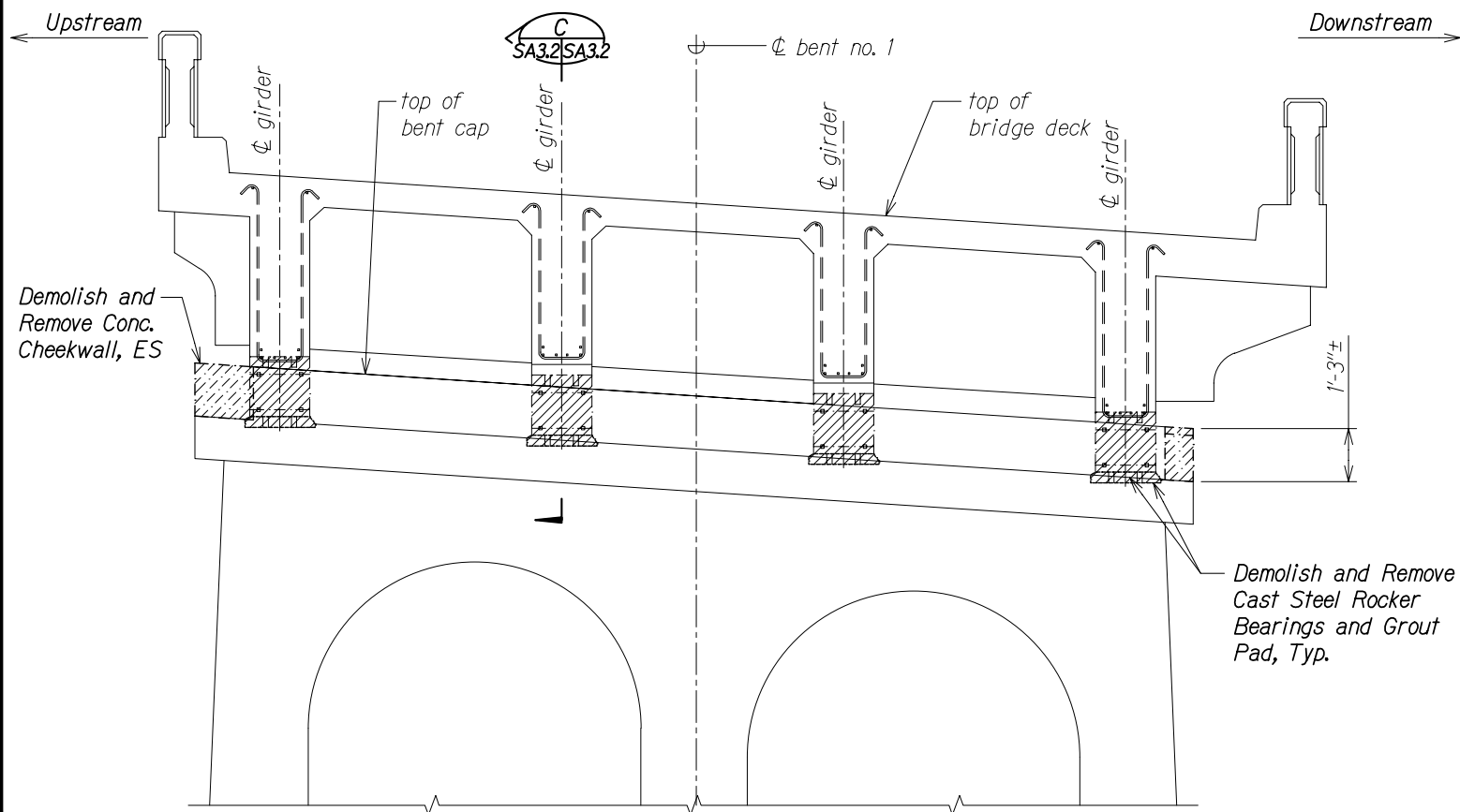
FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0377(008)	2026	70	131



DEMOLITION PLAN - BENT CAP NO. 1

Scale: 1/2" = 1'-0"

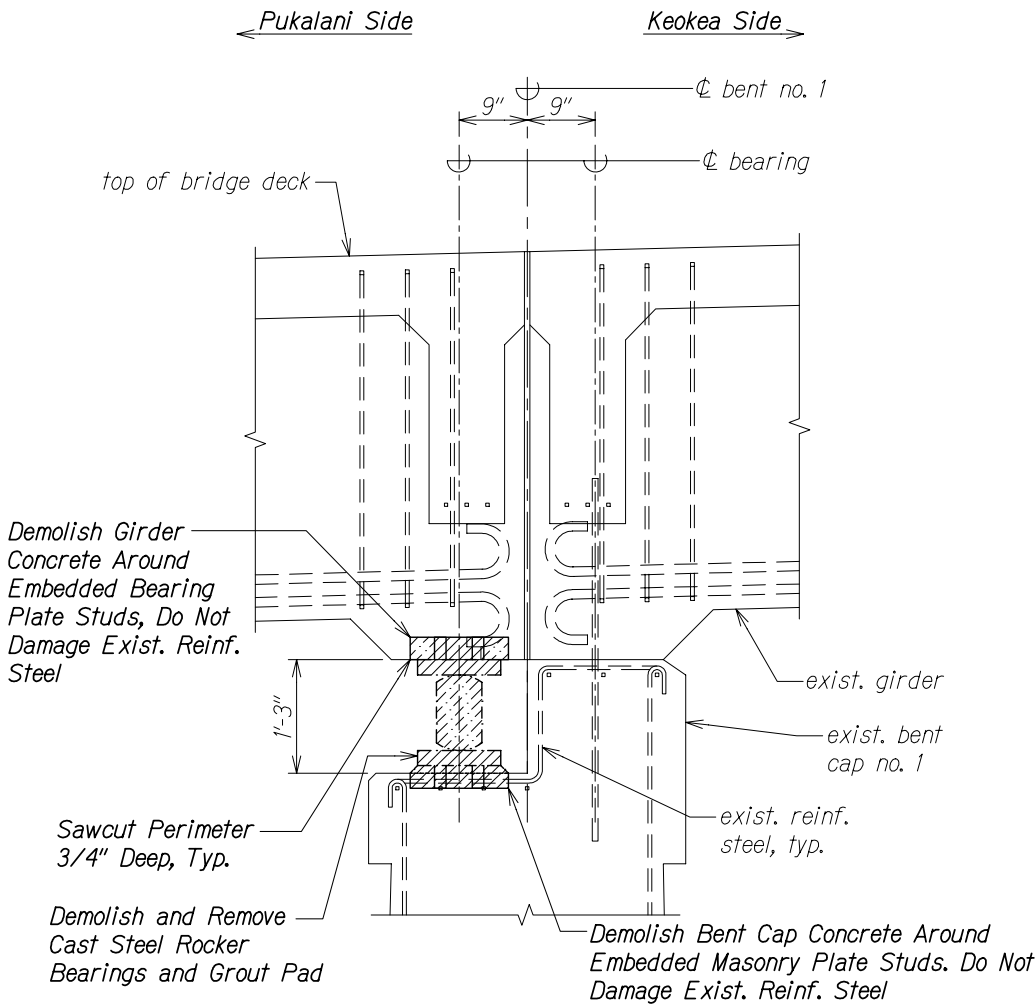
SA3.2 SA3.2



DEMOLITION SECTION - BENT CAP NO. 1

Scale: 1/2" = 1'-0"

SA3.2 SA3.2



DEMOLITION SECTION AT BENT NO. 1

Scale: 1" = 1'-0"

SA3.2 SA3.2

NOTES:

- Demolition work for cheek walls shall be incidental to removal of existing bearings.
- Do not damage any existing reinforcing steel.
- All concrete removed at this girder and bent cap shall be patched with an approved polymer modified repair mortar. Work shall be incidental to removal of existing bearings.



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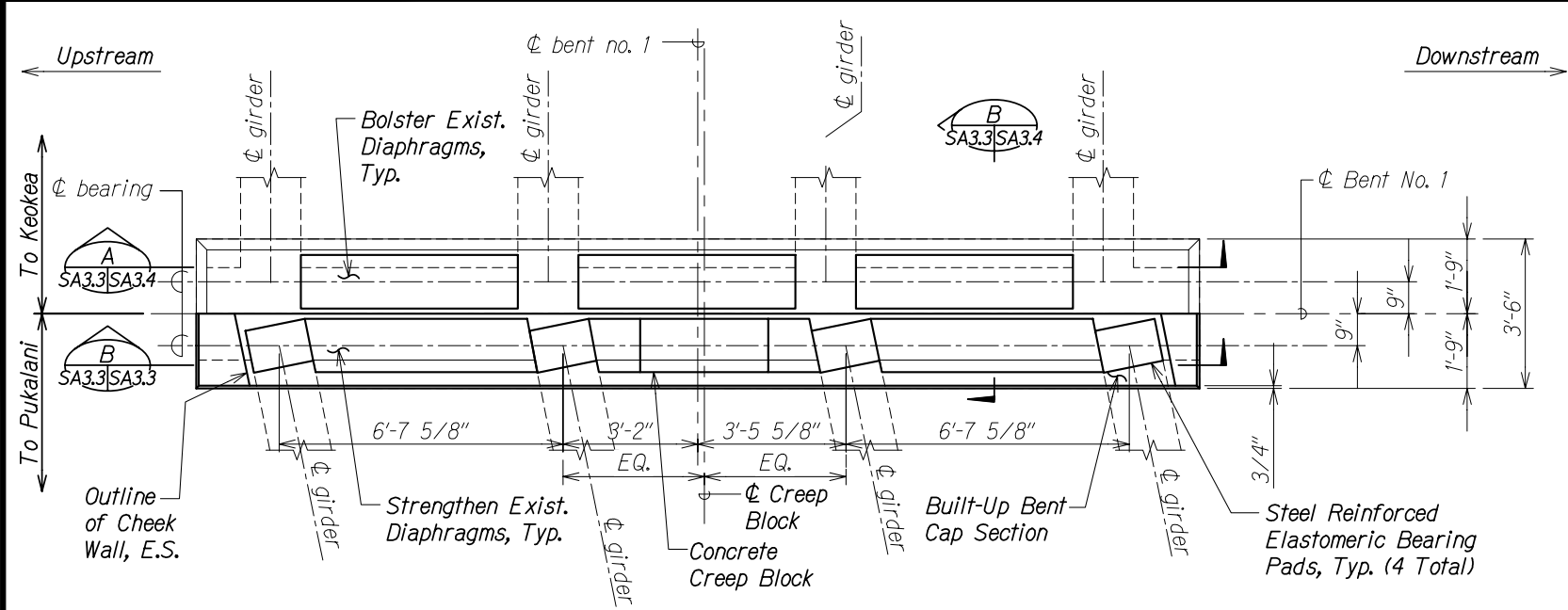
Signature: Stephen T. Peters
Date: 4-30-28
Signature Date of the License

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

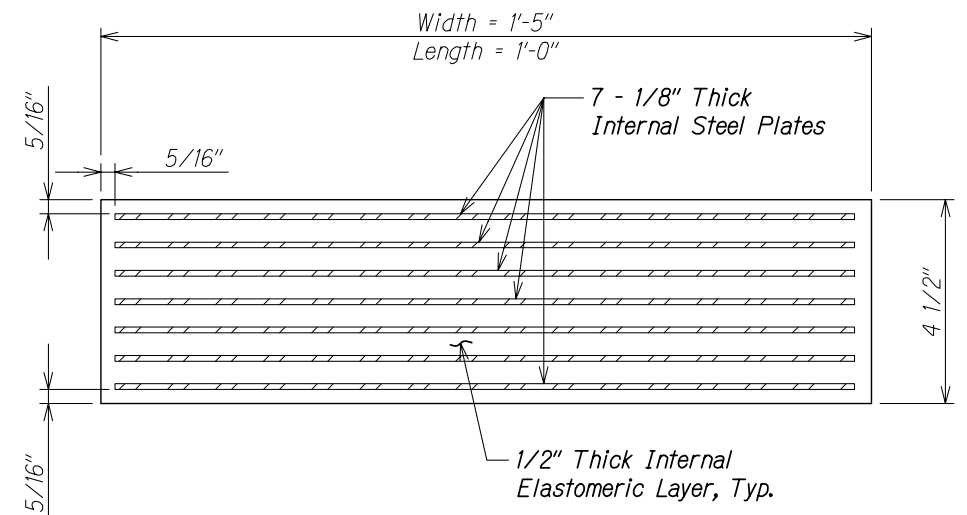
WAIKALE GULCH BRIDGE BENT NO. 1
DEMOLITION PLAN AND SECTIONS
SEISMIC RETROFIT, HALEAKALA HIGHWAY ROUTE 377
Waiale Gulch, Alae (Naalae Gulch) and
Pulehu Gulch (Pohakuokala) Bridges
Federal Aid Project No. STP-0377(008)
Scale: As Noted Date: Mar. 2026

SHEET No. SA3.2 OF 17 SHEETS

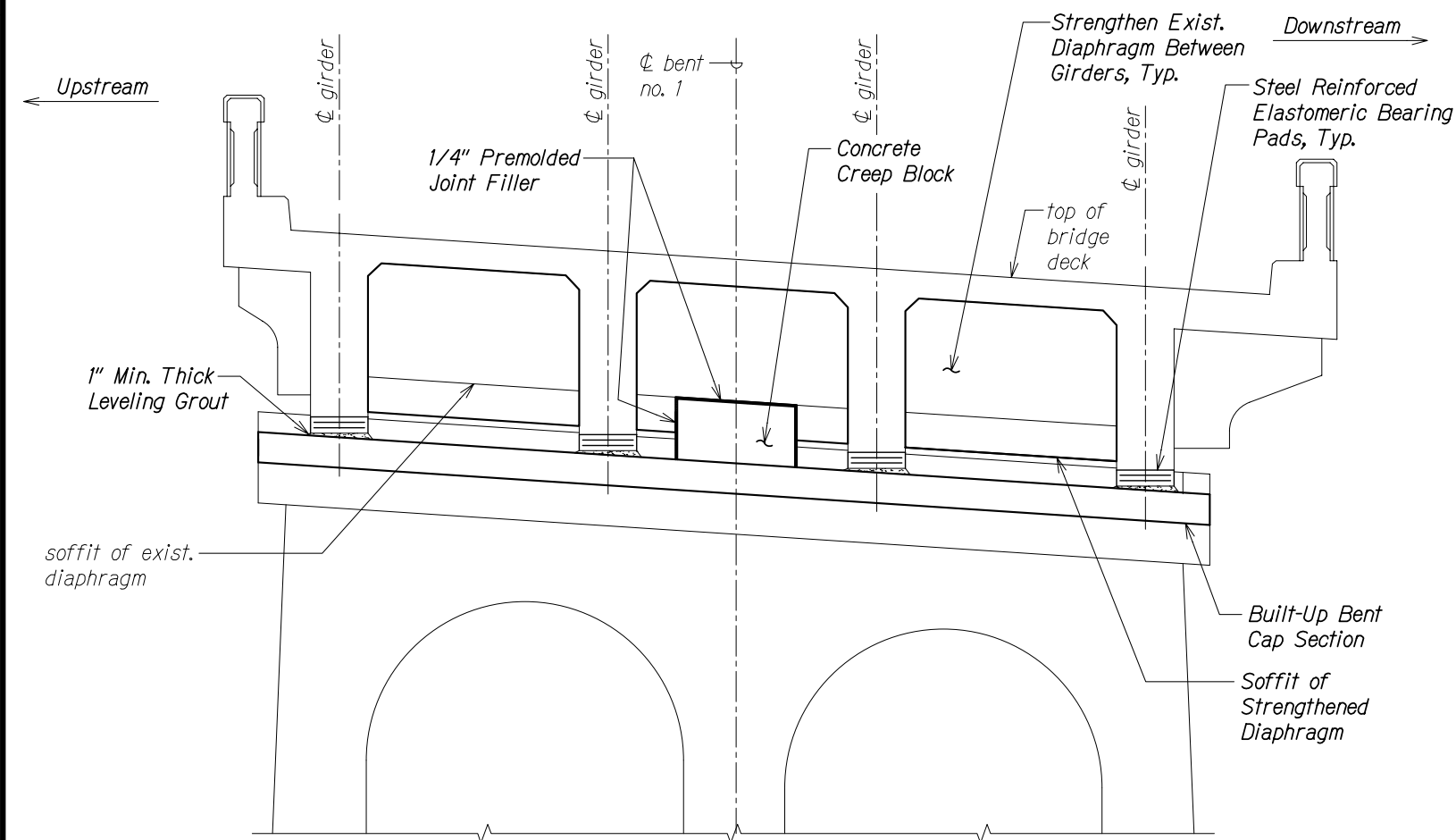
FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0377(008)	2026	71	131



BENT NO. 1 - BENT CAP PLAN
Scale: 1/2" = 1'-0"
SA3.3 SA3.4



ELASTOMERIC BEARING DETAIL
Scale: 6" = 1'-0"
SA3.3 SA3.3



BENT NO. 1 - SECTION
Scale: 1/2" = 1'-0"
SA3.3 SA3.3



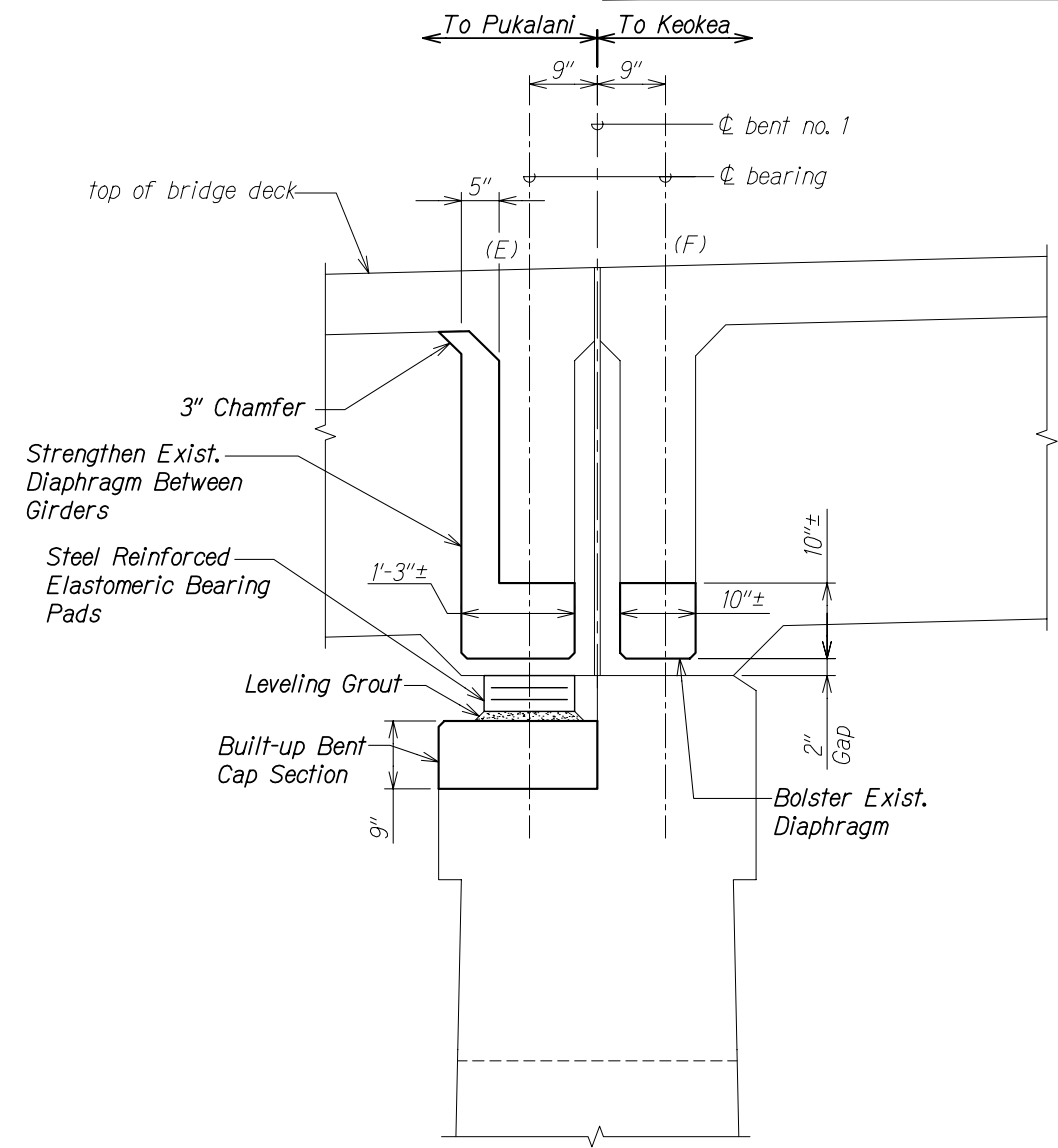
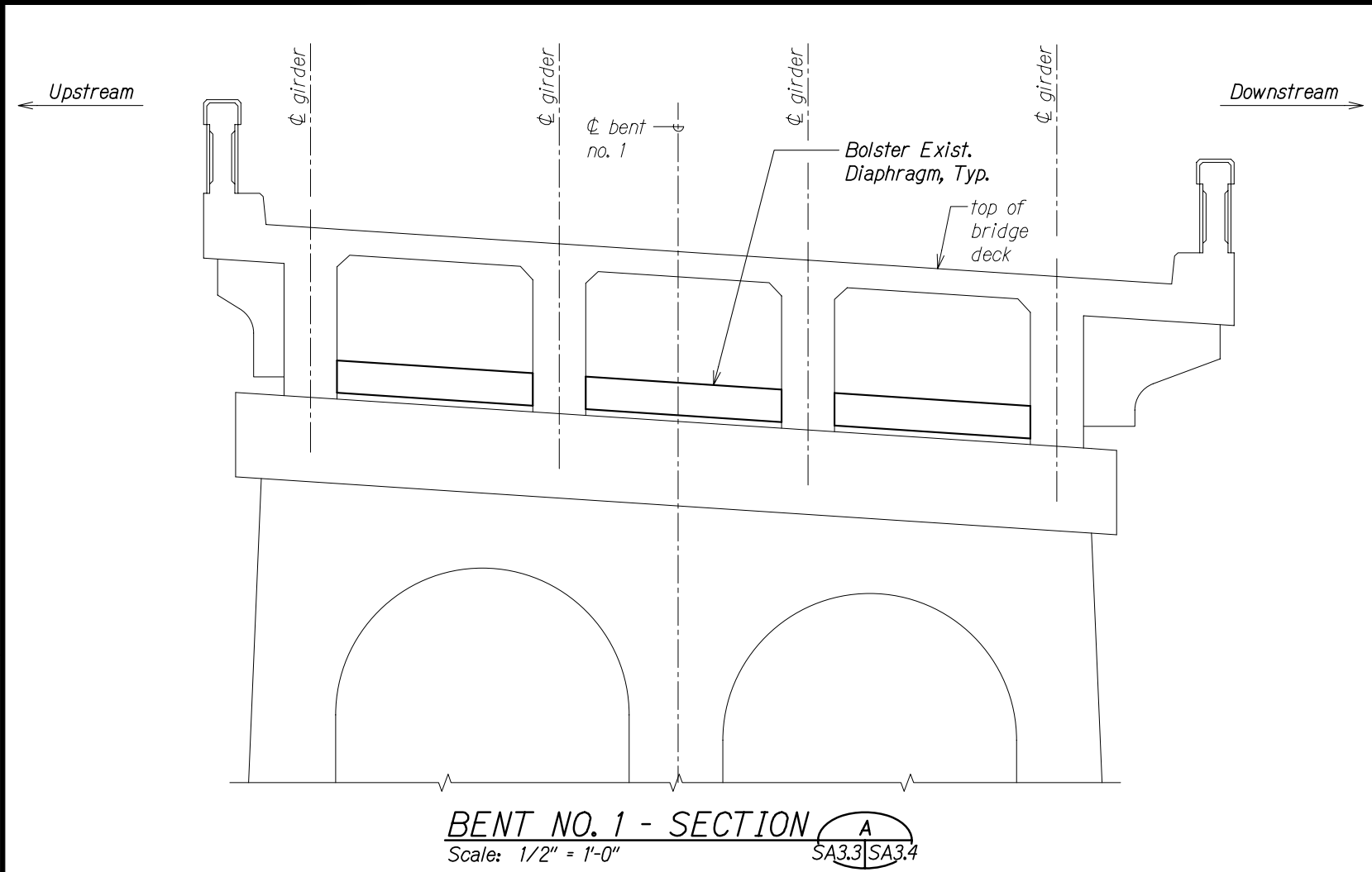
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Stephen T. Peters
SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

WAIALE GULCH BRIDGE BENT NO. 1
PLAN, SECTION, AND DETAIL
SEISMIC RETROFIT, HALEAKALA HIGHWAY ROUTE 377
Waiale Gulch, Alae (Naalae Gulch) and
Pulehu Gulch (Pohakuokala) Bridges
Federal Aid Project No. STP-0377(008)
Scale: As Noted Date: Mar. 2026

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0377(008)	2026	72	131



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Signature: *Stephen T. Peters* 4-30-28
 EXP. DATE OF THE LICENSE

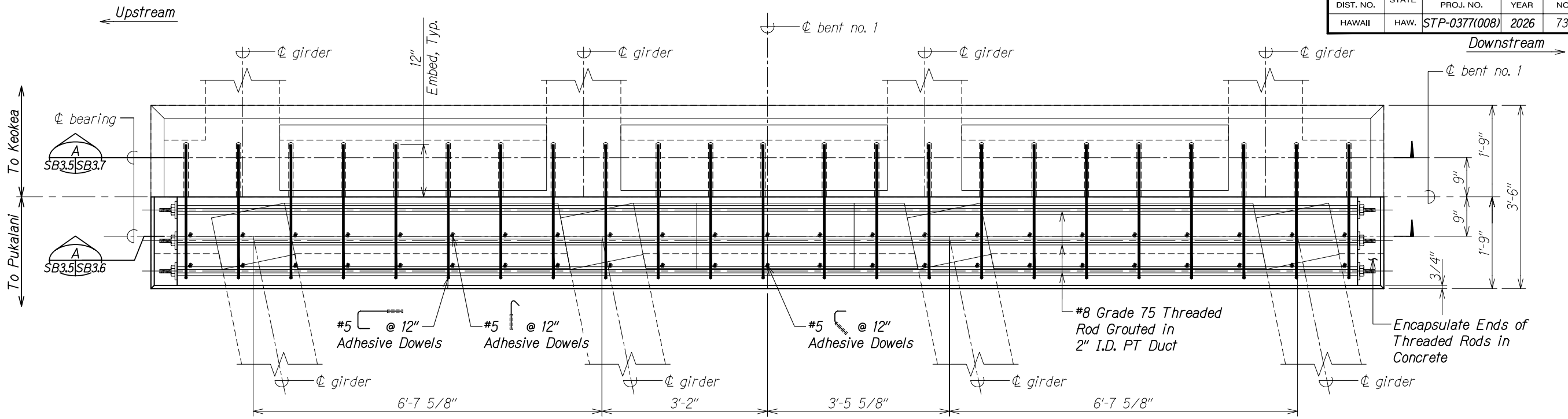
STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION

WAIALE GULCH BRIDGE
BENT NO. 1 SECTIONS
SEISMIC RETROFIT, HALEAKALA HIGHWAY ROUTE 377
Waiale Gulch, Alae (Naalae Gulch) and
Pulehu Gulch (Pohakuokala) Bridges
Federal Aid Project No. STP-0377(008)
 Scale: As Noted Date: Mar. 2026

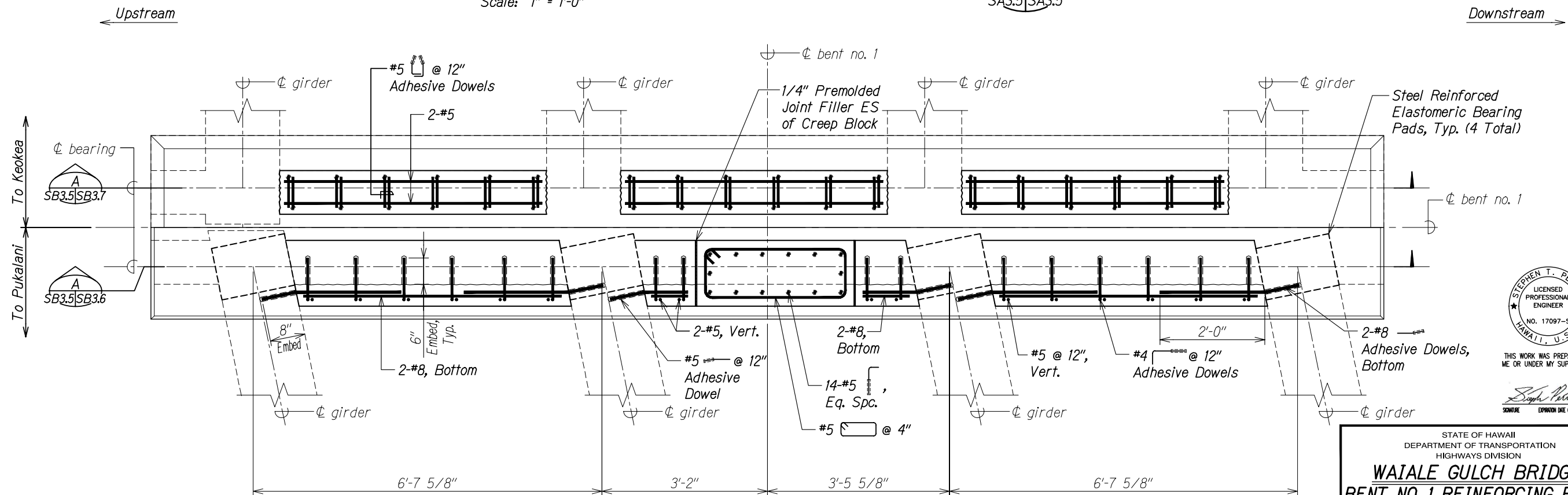
ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DRAWN BY	
No.	TRACED BY	
	CHECKED BY	
	QUANTITIES BY	
	CHECKED BY	

DRAWING NAME: 2-800-DWG00NGS2-003.3.3 MAUI BRIDGES SEISMIC RETROFIT (NSP)S01 CAD003-24-26 100%3MB-SAC003 MAIA BENT 1 PLAN & ELEVATION PLOT TIME: 03:25:26, 4:54 PM

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0377(008)	2026	73	131



BENT NO. 1 - BENT CAP REINFORCING PLAN
 Scale: 1" = 1'-0"
 SA3.5 SA3.5



BENT NO. 1 - DIAPHRAGM/CREEP BLOCK REINFORCING PLAN
 Scale: 1" = 1'-0"
 SA3.5 SA3.5

ORIGINAL PLAN	DATE
NOTE BOOK	
NO.	

DRAWING NAME: 2-800 DINGING/2-093.3-3 MAUI BRIDGES SEISMIC RETROFIT WSP/SHI CAD/03-24-26 100%3MB-SAC305 WAIA BENT 1 REINFORCING PLAN PLOT TIME: 03-25-26 4:53 PM



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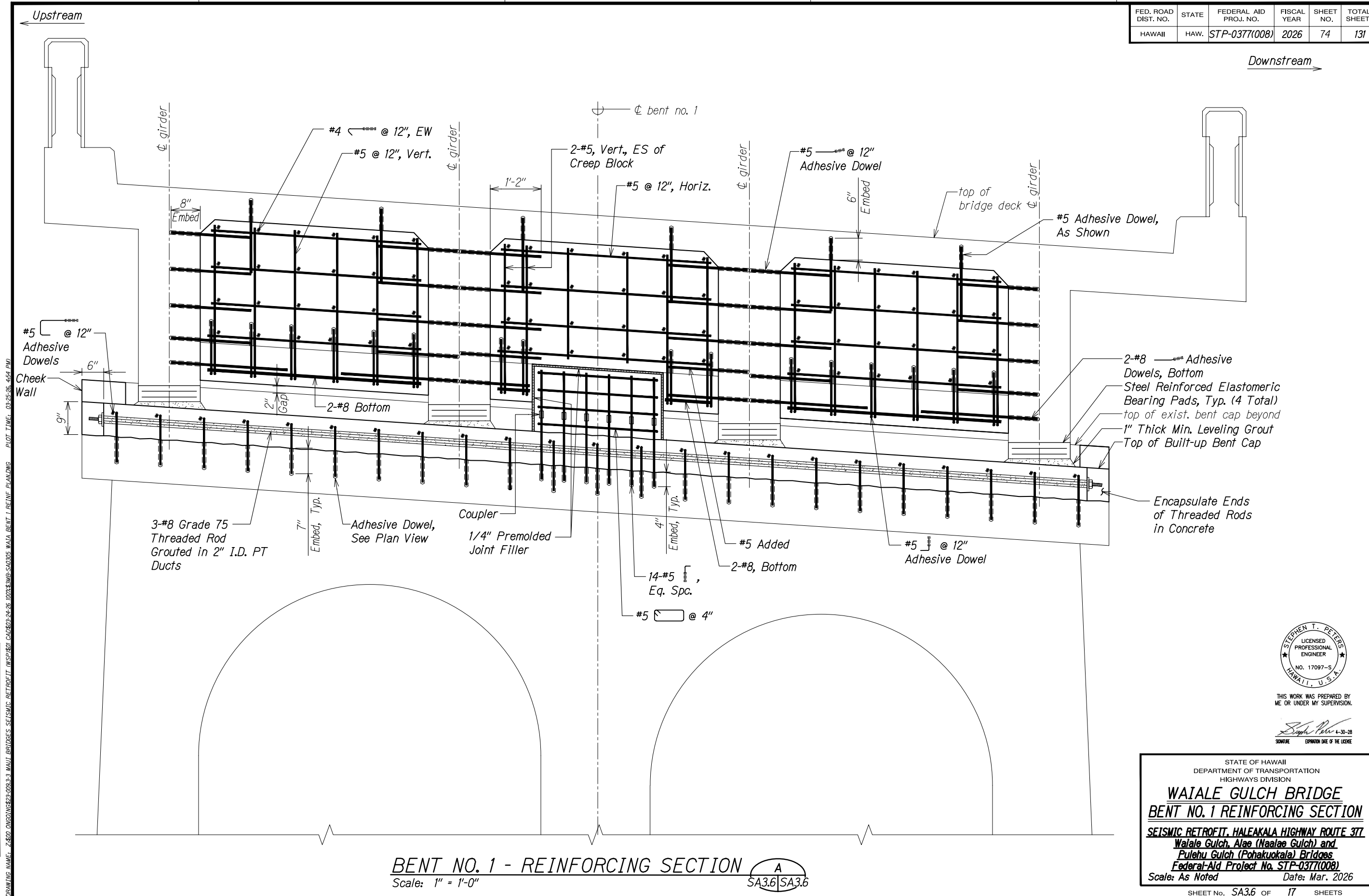
Stephen T. Peters
 SIGNATURE EXPIRATION DATE OF THE LICENSE 4-30-28

STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION

WAIALE GULCH BRIDGE
BENT NO. 1 REINFORCING PLANS

SEISMIC RETROFIT, HALEAKALA HIGHWAY ROUTE 377
Waiale Gulch, Alae (Naalae Gulch) and
Pulehu Gulch (Pohakuokala) Bridges
Federal Aid Project No. STP-0377(008)
 Scale: As Noted Date: Mar. 2026

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEET
HAWAII	HAW.	STP-0377(008)	2026	74	131



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



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ME OR UNDER MY SUPERVISION.

Joseph Petr 4-30-28
SIGNATURE EXPIRATION DATE OF THE LICENSE

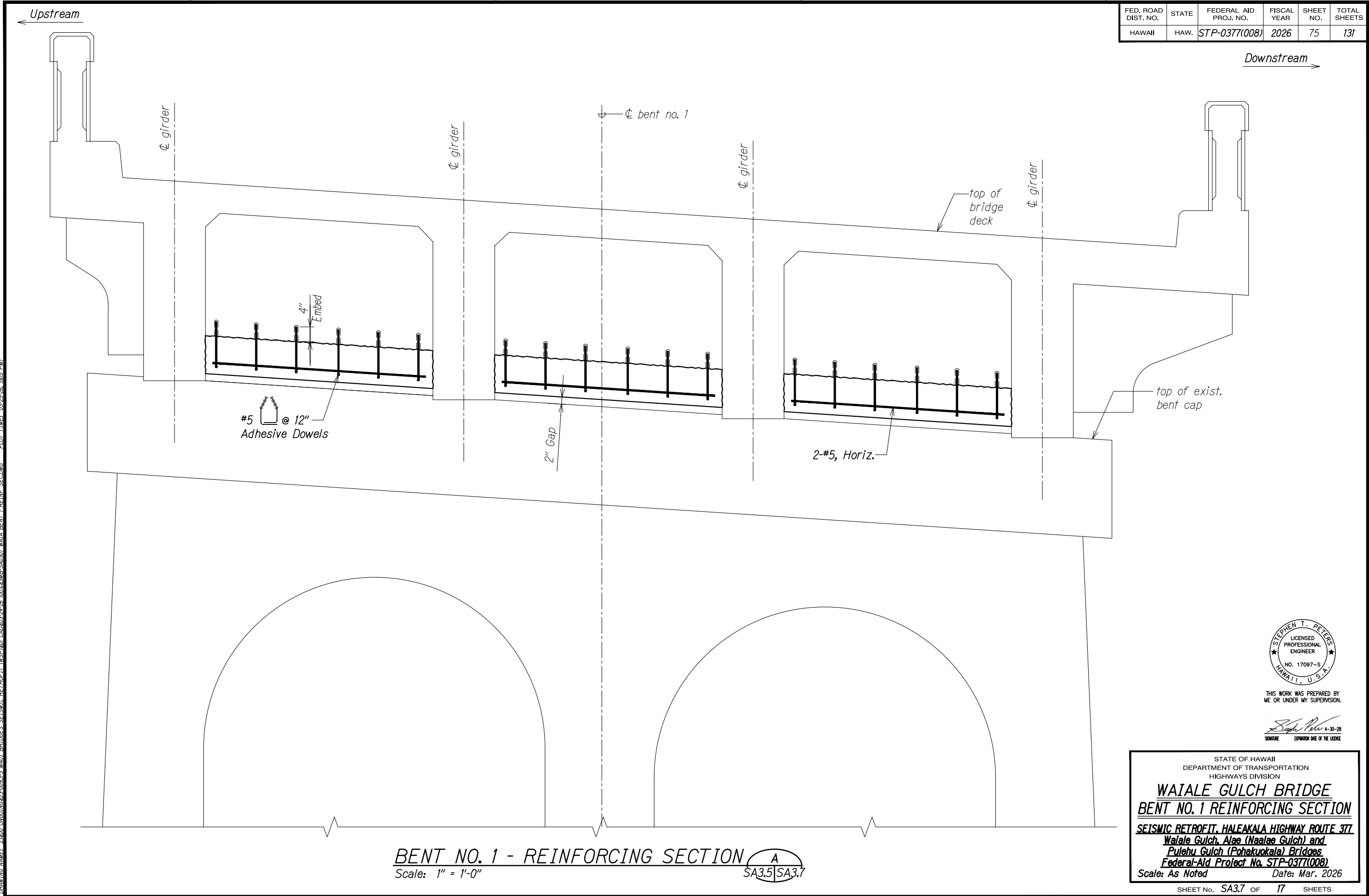
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

WAIALE GULCH BRIDGE
BENT NO. 1 REINFORCING SECTION

SEISMIC RETROFIT, HALEAKALA HIGHWAY ROUTE 377
Waiale Gulch, Alae (Naalae Gulch) and
Pulehu Gulch (Pohakuokala) Bridges
Federal-Aid Project No. STP-0377(008)

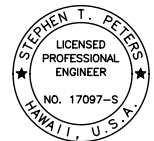
Scale: As Noted Date: Mar. 2026

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0377(008)	2026	75	131



ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DRAWN BY	
	TRACED BY	
	CHECKED BY	
	QUANTITIES BY	
	CHECKED BY	

DRAWING NAME: 2-300 DINGBONGS-2-003-3-3 MAUI BRIDGES SEISMIC RETROFIT (NPSID) CAD003-24-26 100%3-MB-SAC307 WAIA BENT 1 REINF. SECTION PLOT TIME: 08:25:26, 505 PM



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

Signature: Stephen T. Peters
Date: 4-30-28
Signature Date of the License

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
WAIALE GULCH BRIDGE
BENT NO. 1 REINFORCING SECTION
SEISMIC RETROFIT, HALEAKALA HIGHWAY ROUTE 377
Waiale Gulch, Alae (Naalee Gulch) and
Pulehu Gulch (Pohakuokala) Bridges
Federal Aid Project No. STP-0377(008)
Scale: As Noted Date: Mar. 2026

SHEET No. SA3.7 OF 17 SHEETS

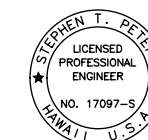
DRAWING NAME: Z:\\$00 ONGOING\23-009.3-3 MAUI BRIDGES SEISMIC RETROFIT (WSP)\\$01 CAD\203-24-26 100%\\$3MB-SA0308 WAJA BENT 1 RETNF SEC.DWG PLOT TIME: 03-25-26, 4:53 PM)

BENT NO. 1 - REINFORCING SECTION
Scale: 1" = 1'-0"

BENT NO. 1 - REINFORCING SECTION
Scale: 1" = 1'-0"

NOTE:

Adhesive dowels in built-up bent cap section not shown for clarity.



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Joseph P. ... 4-30-
SIGNATURE EXPIRATION DATE OF THE LICENSE

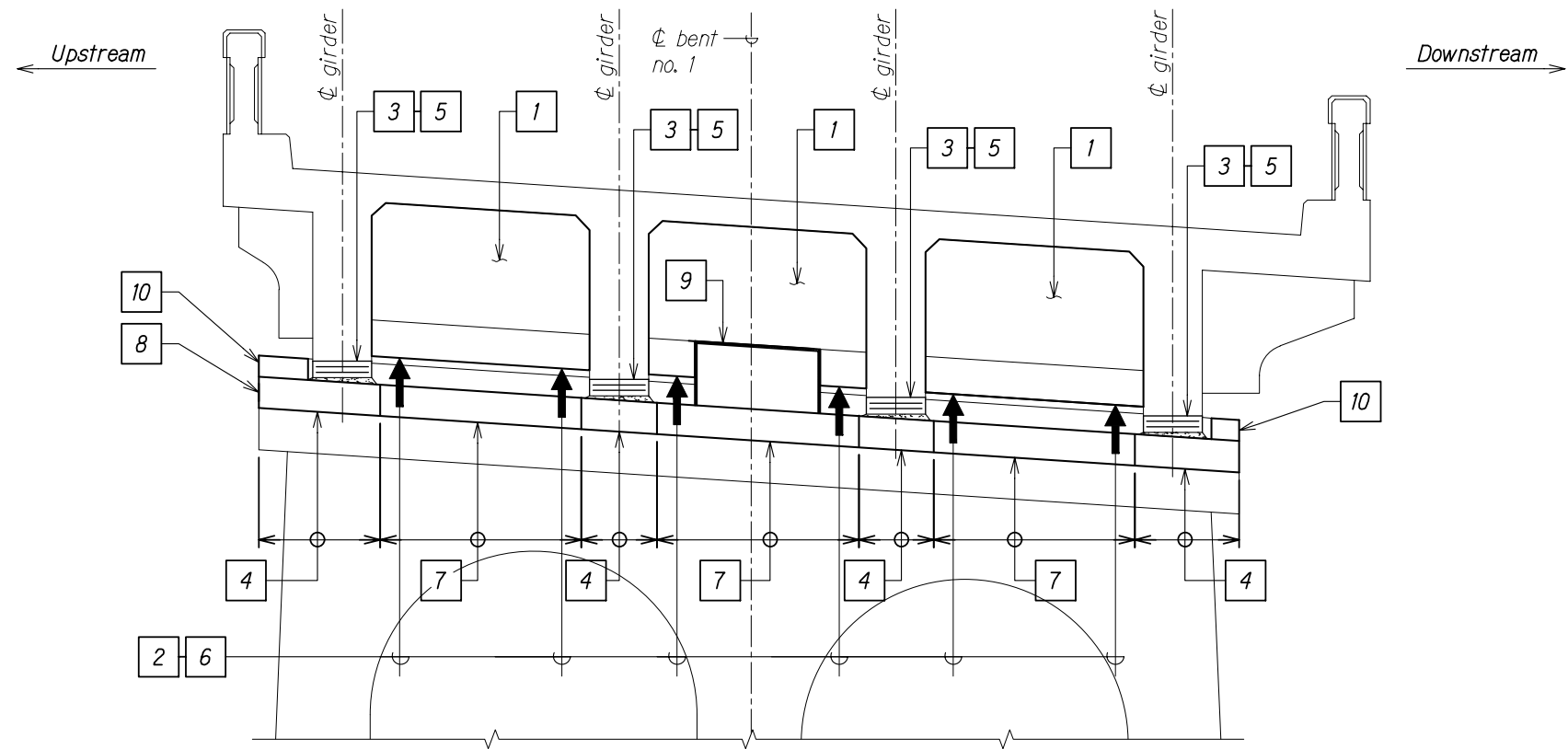
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

WAIALE GULCH BRIDGE
BENT NO. 1 REINFORCING SECTIONS

SEISMIC RETROFIT, HALEAKALA HIGHWAY ROUTE 377
Waiale Gulch, Alae (Naalae Gulch) and
Pulehu Gulch (Pohakuukala) Bridges
Federal-Aid Project No. STP-0377(008)

Scale: As Noted Date: Mar. 2026

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0377(008)	2026	77	131



BENT NO. 1 CONSTRUCTION SEQUENCE

CONSTRUCTION SEQUENCE:

- 1 Install Reinforcing Steel and Pour Concrete to Strengthen Existing Diaphragm
- 2 Install Hydraulic Jacks, Raise Bridge No More than 1/8"
- 3 Demolish Existing Cast Steel Bearing. Perform Concrete Repairs on Girder Soffit and Top of Bent Cap.
- 4 Install Ducts, Reinforcing Steel, and Pour Concrete at Built-up Bent Cap Sections
- 5 Install Steel Reinforced Elastomeric Bearings and Leveling Grout
- 6 Release Hydraulic Jacks and Remove
- 7 Couple Ducts, Install Reinforcing Steel, and Pour Concrete at Remaining Locations of Built-Up Bent Cap Sections
- 8 Install Reinforcing Steel Through Ducts and Grout
- 9 Install Reinforcing Steel and Pour Concrete at Creep Block
- 10 Install Reinforcing Steel and Pour Concrete at Cheek Walls

NOTES:

1. Construction Sequence applies to Pukalani side of Bent No. 1.
2. All work required for the temporary jacking of the bridge shall be done during times of full bridge traffic control closures. Jacking work shall be incidental to the removal of existing bearings.
3. All temporary jacking shall be done from the strengthened diaphragms and in-line with the existing bearings.



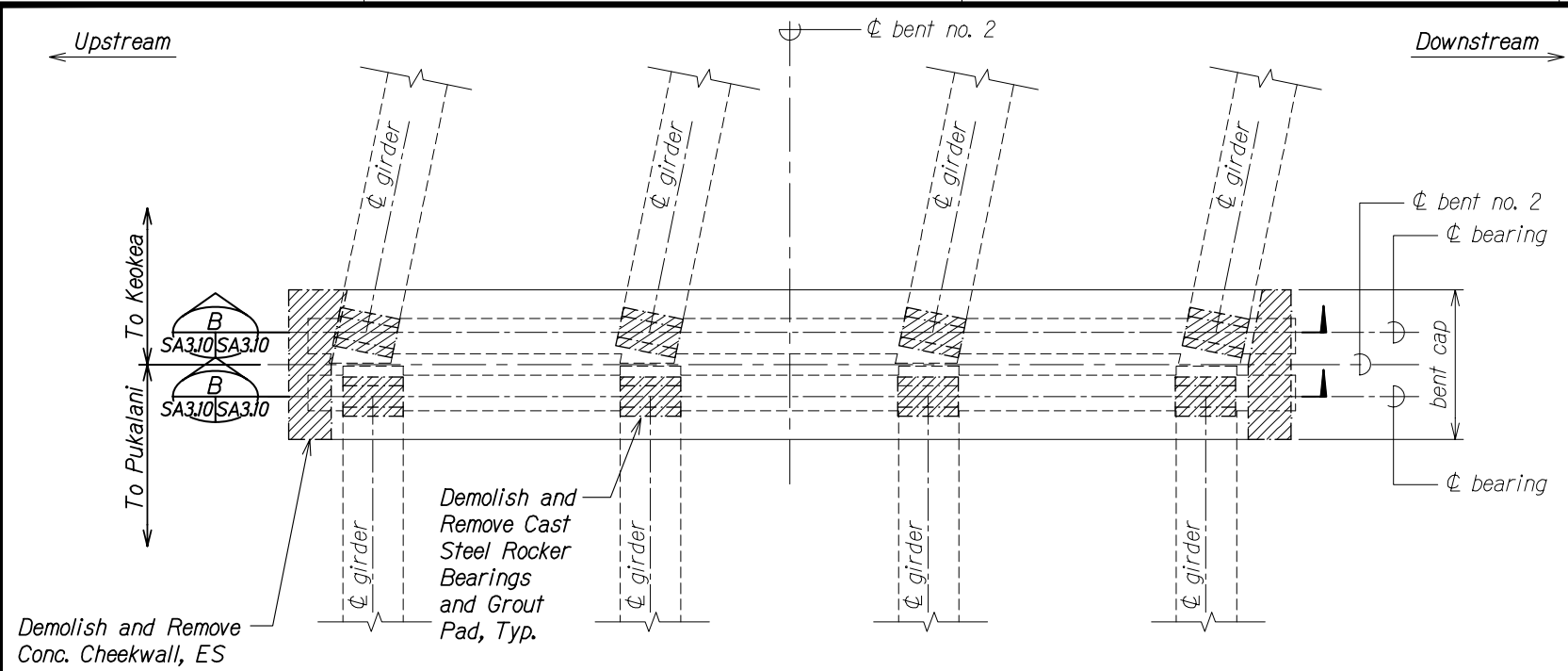
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Stephen T. Peters
SIGNATURE EXPIRATION DATE OF THE LICENSE 4-30-28

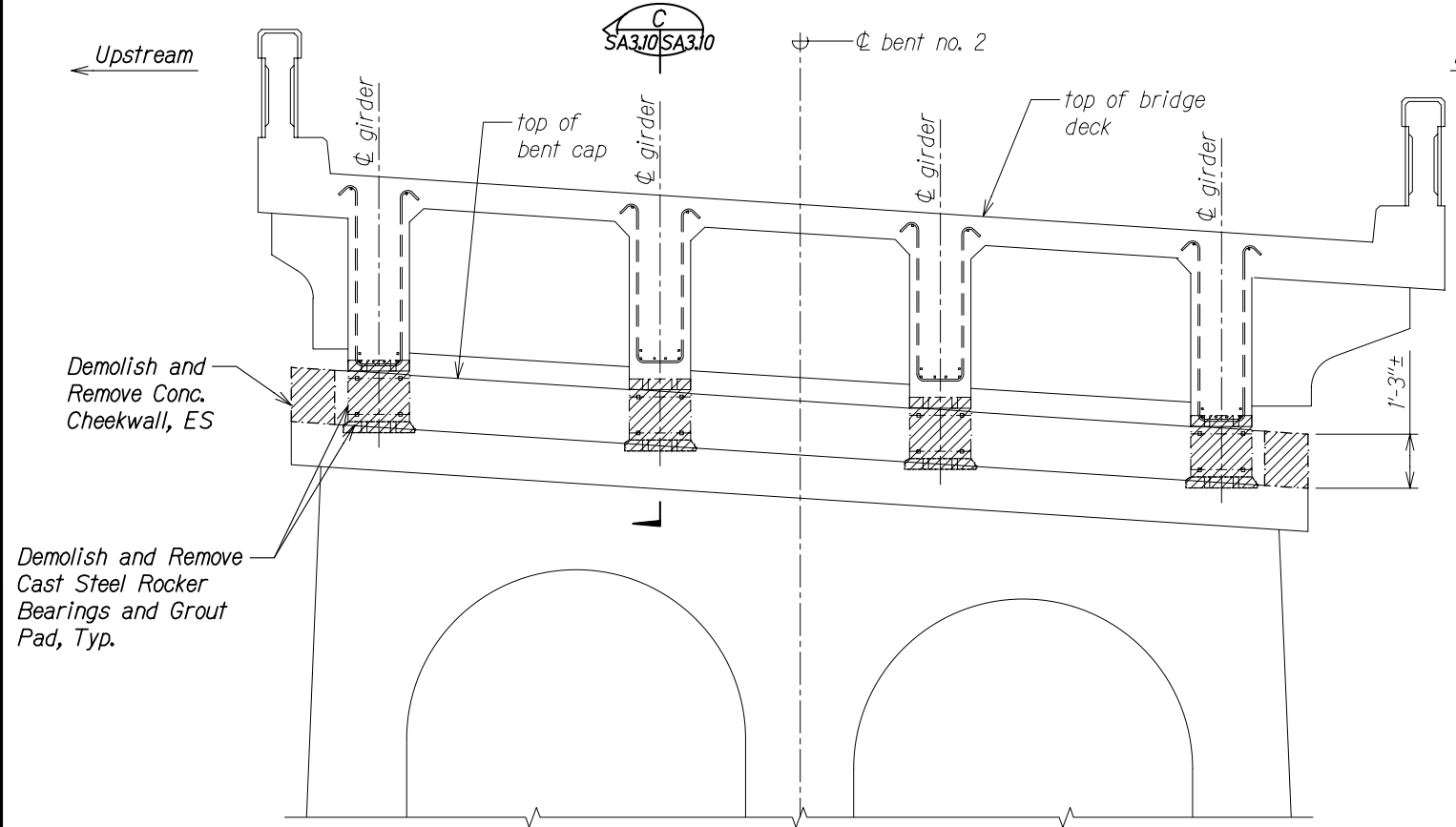
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
WAIALE GULCH BRIDGE
BENT NO. 1 CONSTR. SEQUENCE
SEISMIC RETROFIT, HALEAKALA HIGHWAY ROUTE 377
Waiale Gulch, Alae (Naalae Gulch) and
Pulehu Gulch (Pohakuokala) Bridges
Federal Aid Project No. STP-0377(008)
Scale: As Noted Date: Mar. 2026

SHEET No. SA3.9 OF 17 SHEETS

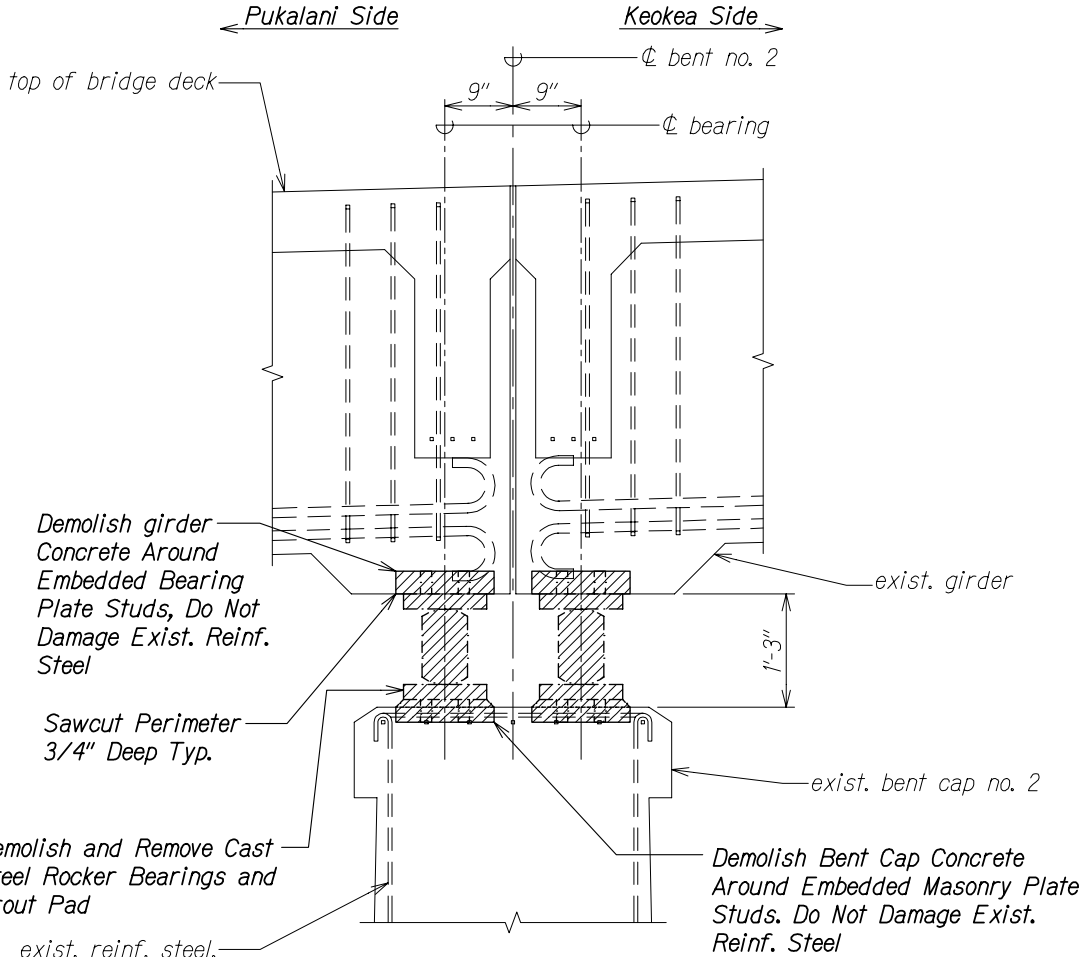
FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0377(008)	2026	78	131



DEMOLITION PLAN - BENT CAP NO. 2
Scale: 1/2" = 1'-0"

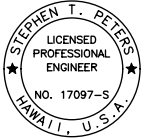


DEMOLITION SECTION - BENT CAP NO. 2
Scale: 1/2" = 1'-0"



DEMOLITION SECTION AT BENT NO. 2
Scale: 1" = 1'-0"

- NOTES:**
- Demolition work for cheek walls shall be incidental to removal of existing bearings.
 - Do not damage any existing reinforcing steel.
 - All concrete removed at this girder and bent cap shall be patched with an approved polymer modified repair mortar. Work shall be incidental to removal of existing bearings.



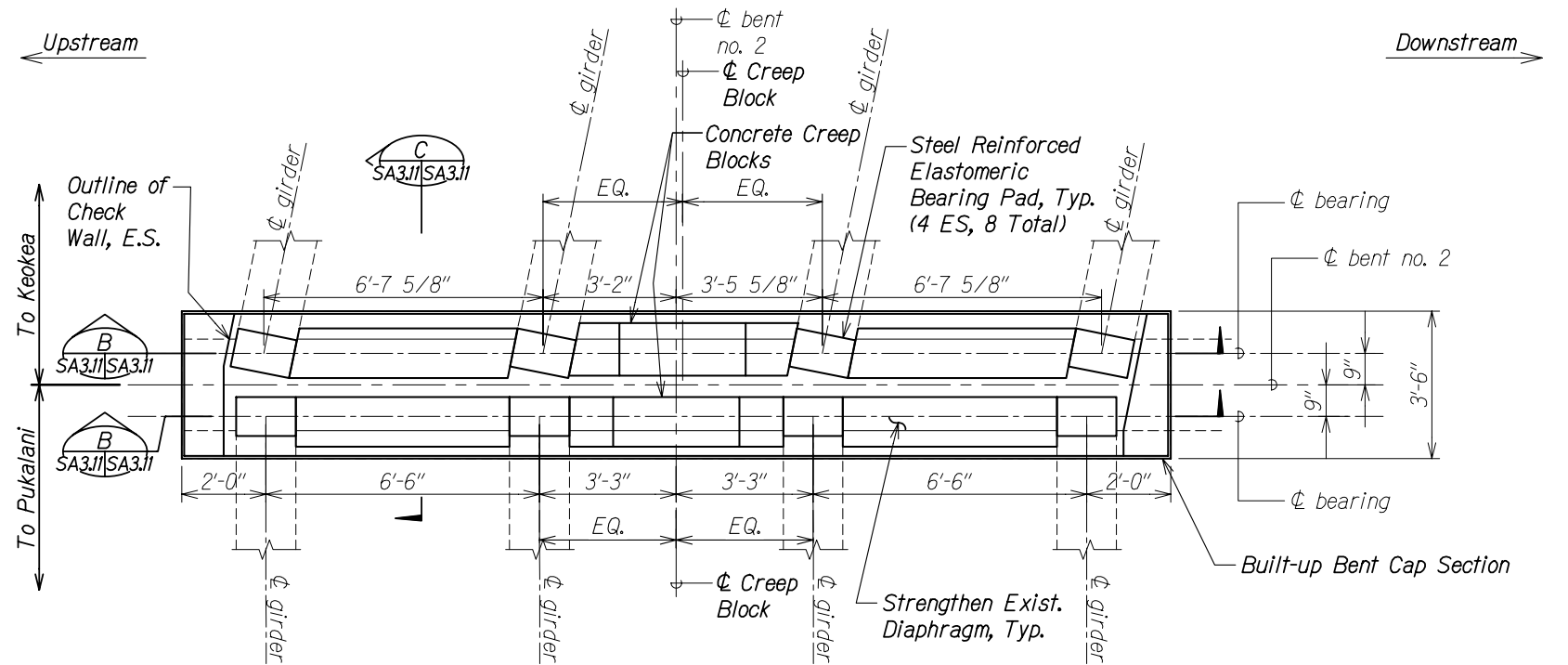
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

Signature: Stephen T. Peters
Date: 4-30-28
Signature Date of the License

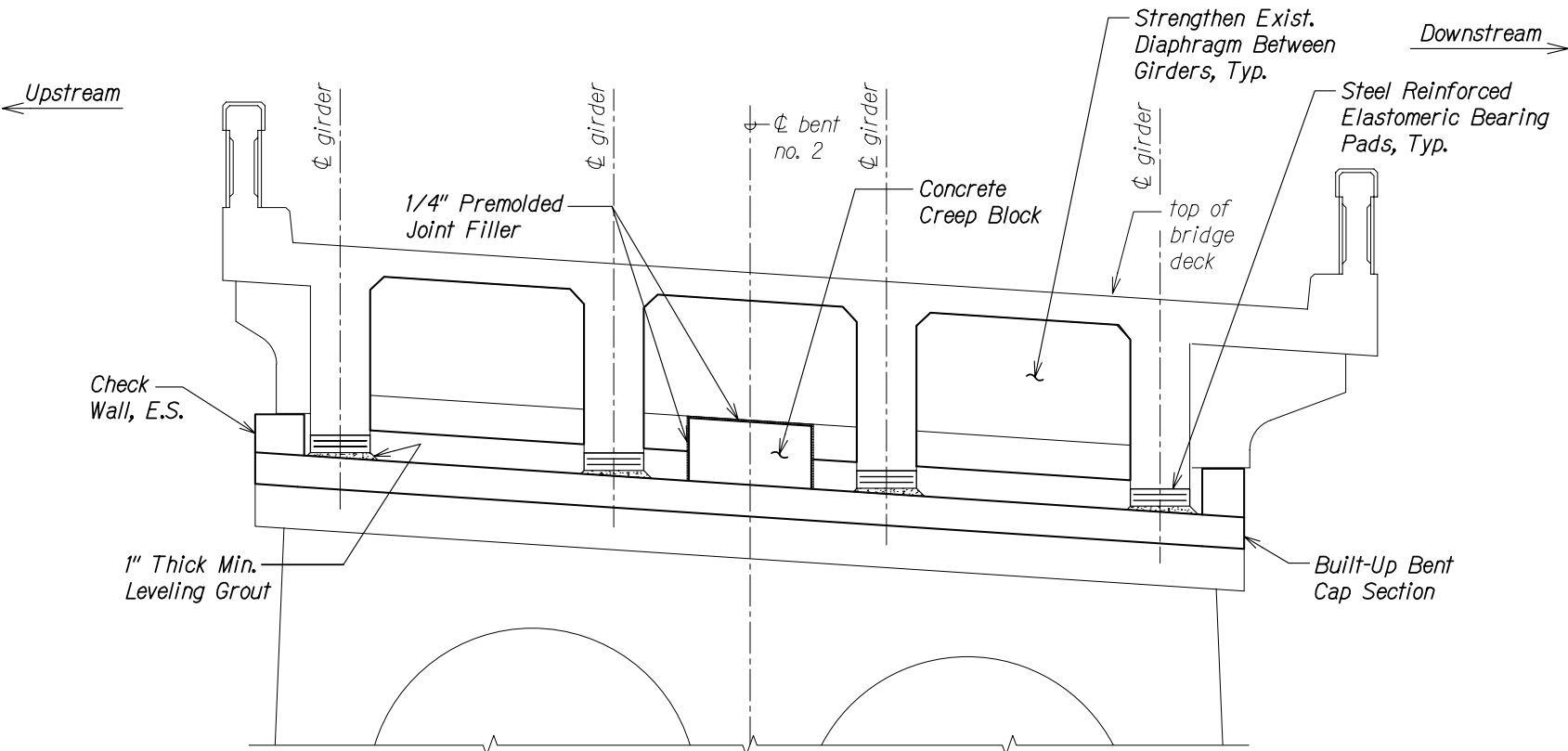
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

WAIKALE GULCH BRIDGE BENT NO. 2
DEMOLITION PLAN AND SECTIONS
SEISMIC RETROFIT, HALEAKALA HIGHWAY ROUTE 377
Waiale Gulch, Alae (Naalee Gulch) and
Pulehu Gulch (Pohakuokala) Bridges
Federal Aid Project No. STP-0377(008)
Scale: As Noted Date: Mar. 2026

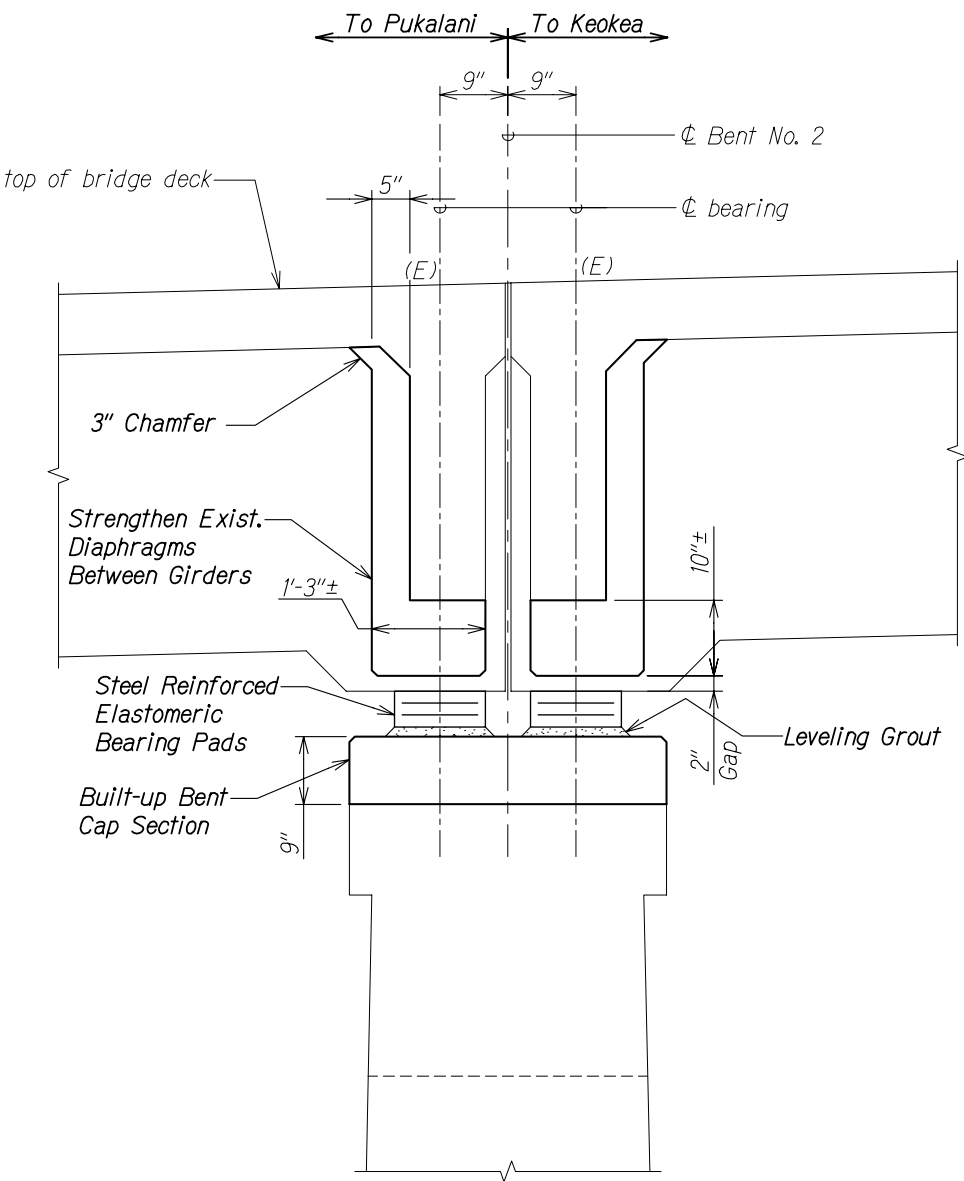
FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0377(008)	2026	79	131



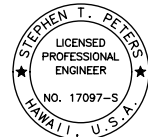
BENT NO. 2 - BENT CAP PLAN
Scale: 1/2" = 1'-0"



BENT NO. 2 - SECTION
Scale: 1/2" = 1'-0"



BENT NO. 2 - SECTION
Scale: 1" = 1'-0"

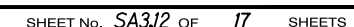


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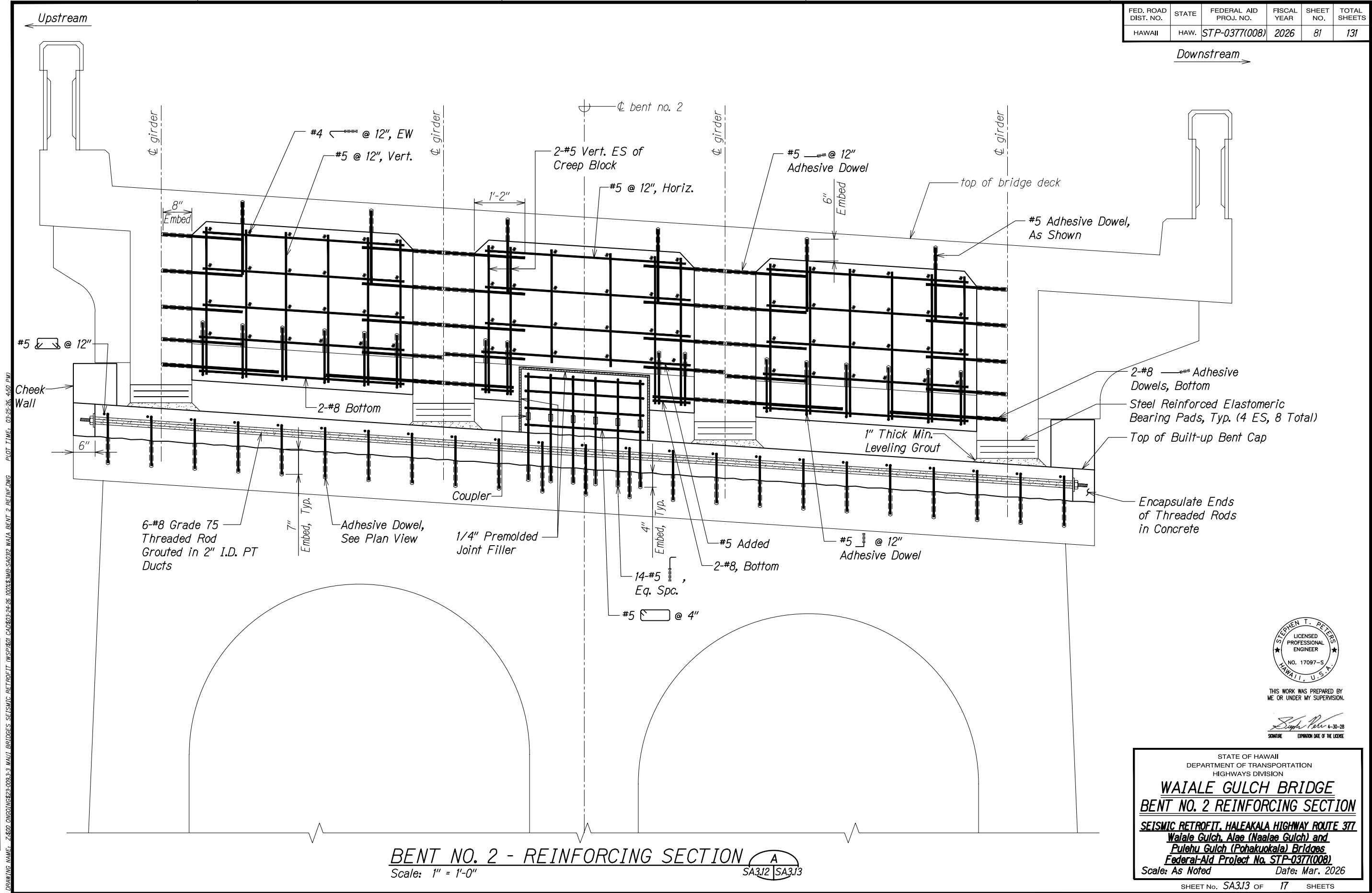
Signature: *Stephen T. Peters*
DATE: 4-30-28
EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
WAIALE GULCH BRIDGE
BENT NO. 2 PLAN AND SECTIONS
SEISMIC RETROFIT, HALEAKALA HIGHWAY ROUTE 377
Waiale Gulch, Alae (Naalae Gulch) and
Pulehu Gulch (Pohakuokala) Bridges
Federal Aid Project No. STP-0377(008)
Scale: As Noted Date: Mar. 2026

SHEET No. SA3.11 OF 17 SHEETS

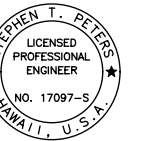
DRAWING NAME: Z:\\$00 ONGOING\23-009.3-3 MAUI BRIDGES SEISMIC RETROFIT (WSP)\\$01 CAD\03-24-26 100%\\$3MB-SA0312 WAJA BENT 2 REINF.DWG PLOT TIME: 03-25-26, 4:50 PM)

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0377(008)	2026	81	131



ORIGINAL PLAN	DATE
NO. _____	_____
DESIGNED BY _____	CHECKED BY _____
DRAWN BY _____	QUANTITIES BY _____
NOTED BY _____	DATE _____

DRAWING NAME: 2-800 DINGDONGS-2-093-3 MAUI BRIDGES SEISMIC RETROFIT (WSP) CAD003-24-26 100% 3MB-SAG3C WALA BENT & REINFORCING PLOT TIME: 03-25-26 4:50 PM



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Signature: *Stephen T. Peters* 4-30-28
 SIGNATURE EXPIRATION DATE OF THE LICENSE

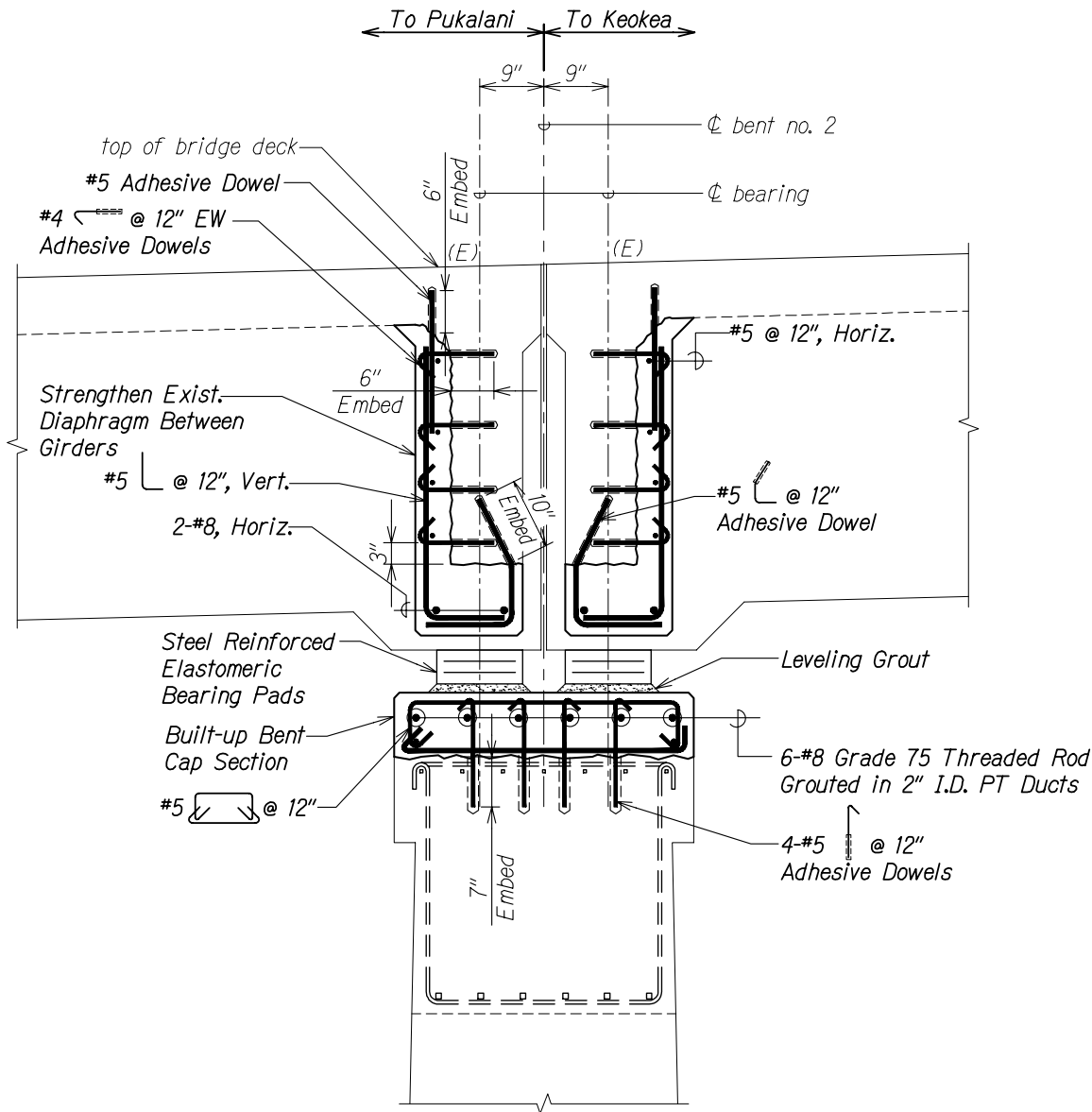
STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION

WALAIE GULCH BRIDGE
BENT NO. 2 REINFORCING SECTION

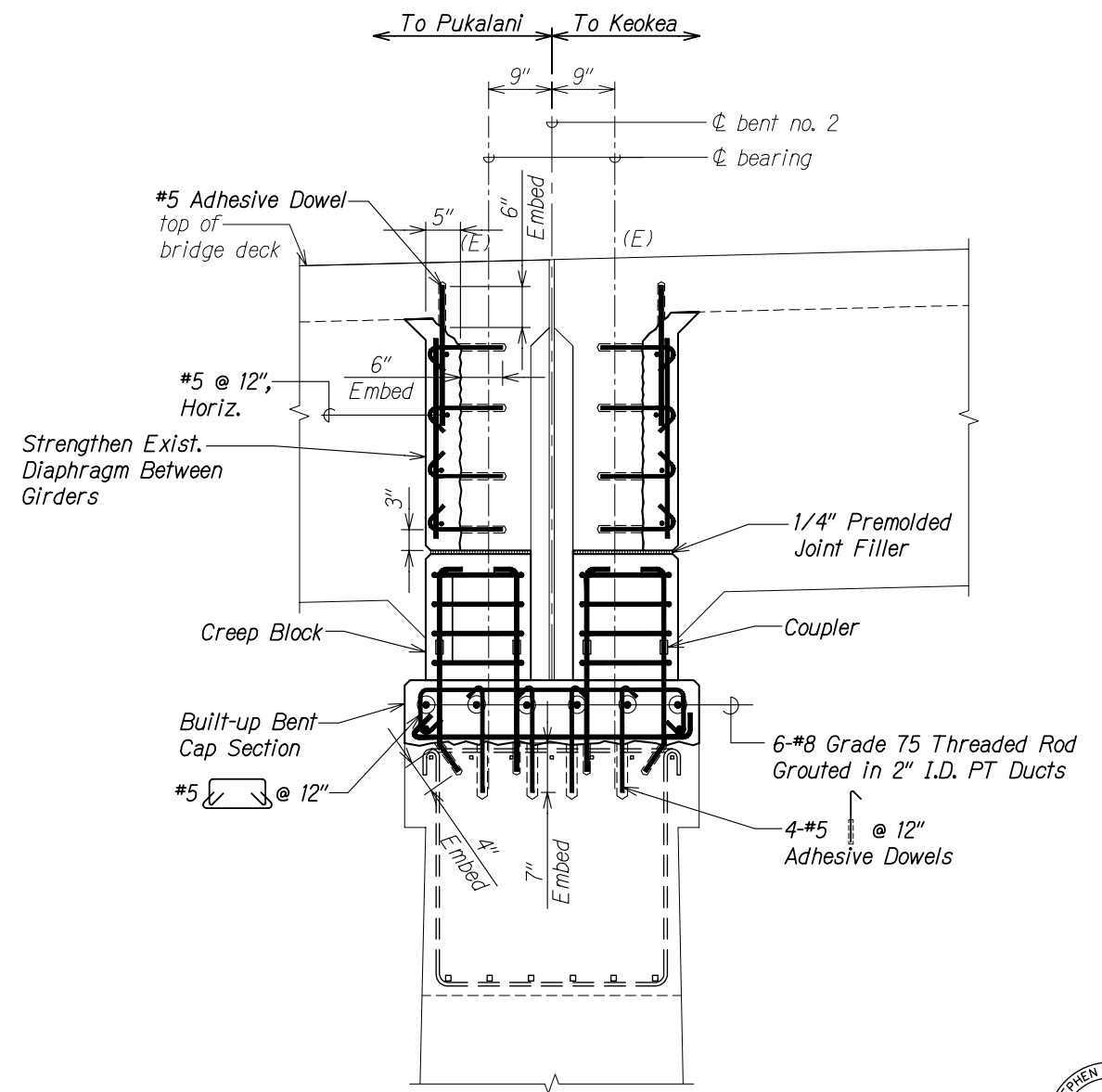
SEISMIC RETROFIT, HALEAKALA HIGHWAY ROUTE 377
Walaie Gulch, Alae (Naalae Gulch) and
Pulehu Gulch (Pohakuokala) Bridges
Federal Aid Project No. STP-0377(008)
 Scale: As Noted Date: Mar. 2026

SHEET No. SA3/3 OF 17 SHEETS

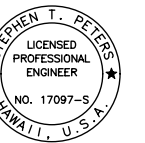
FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0377(008)	2026	82	131



BENT NO. 2 - REINFORCING SECTION A
Scale: 1" = 1'-0"
SA3.12|SA3.14



BENT NO. 2 - REINFORCING SECTION B
Scale: 1" = 1'-0"
SA3.12|SA3.14



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SIGNATURE EXPIRATION DATE OF THE LICENSE 4-30-28

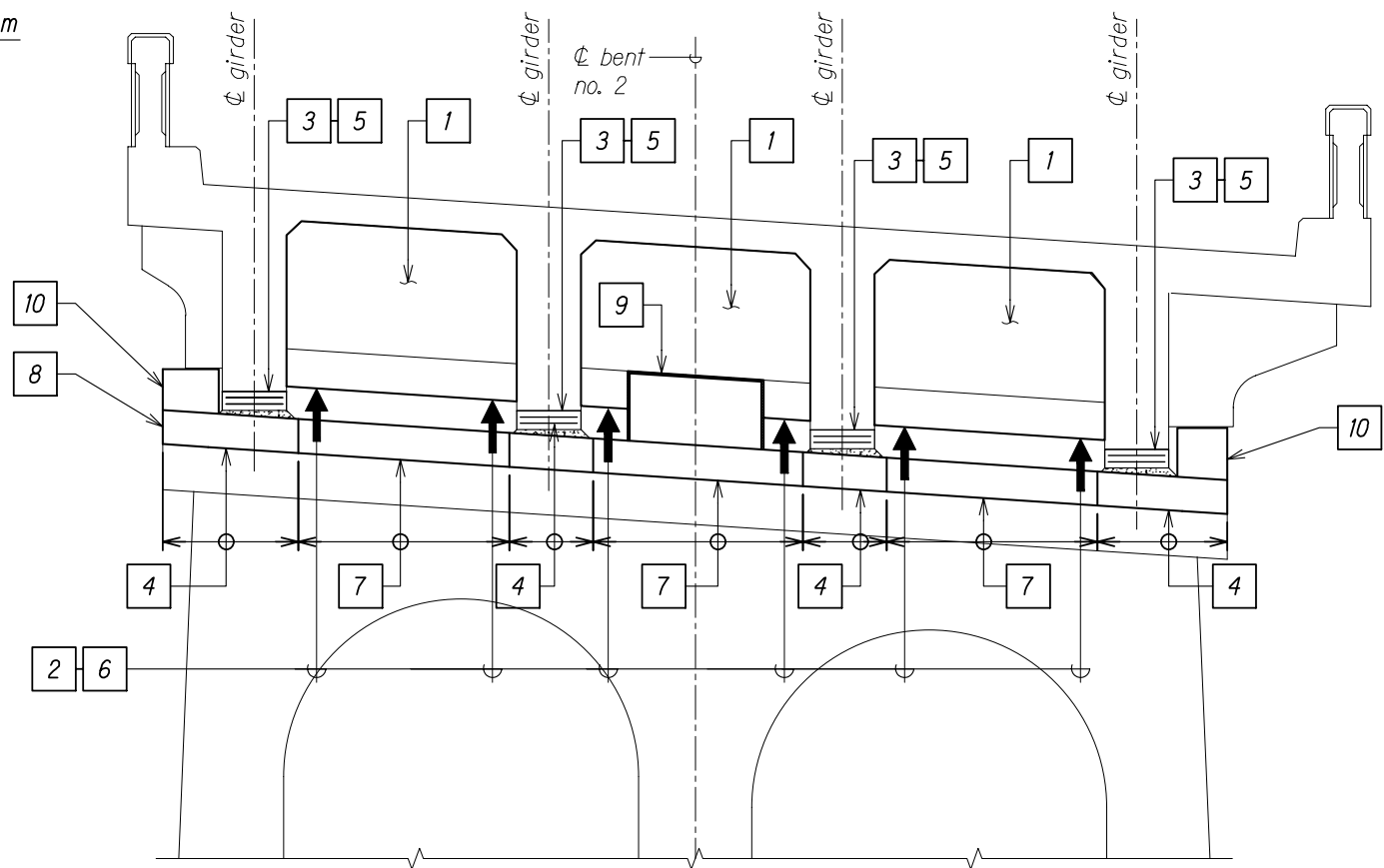
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
**WAIALE GULCH BRIDGE BENT NO. 2
REINFORCING SECTION AND DETAIL**
SEISMIC RETROFIT, HALEAKALA HIGHWAY ROUTE 377
Waiale Gulch, Alae (Naalae Gulch) and
Pulehu Gulch (Pohakuokala) Bridges
Federal Aid Project No. STP-0377(008)
Scale: As Noted Date: Mar. 2026

SHEET No. SA3.14 OF 17 SHEETS

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0377(008)	2026	83	131

Upstream

Downstream



BENT NO. 2 CONSTRUCTION SEQUENCE

CONSTRUCTION SEQUENCE:

- 1 Install Reinforcing Steel and Pour Concrete to Strengthen Existing Diaphragm
- 2 Install Hydraulic Jacks, Raise Bridge No More than 1/8"
- 3 Demolish Existing Cast Steel Bearing. Perform Concrete Repairs on Girder Soffit and Top of Bent Cap.
- 4 Install Ducts, Reinforcing Steel, and Pour Concrete at Built-up Bent Cap Sections
- 5 Install Steel Reinforced Elastomeric Bearings and Leveling Grout
- 6 Release Hydraulic Jacks and Remove
- 7 Couple Ducts, Install Reinforcing Steel, and Pour Concrete at Remaining Locations of Built-Up Bent Cap Sections
- 8 Install Reinforcing Steel Through Ducts and Grout
- 9 Install Reinforcing Steel and Pour Concrete at Creep Block
- 10 Install Reinforcing Steel and Pour Concrete at Cheek Walls

NOTES:

1. Construction Sequence applies to Pukalani Side and Keokea Side of Bent No. 2.
2. All work required for the temporary jacking of the bridge shall be done during times of full bridge traffic control closures. Jacking work shall be incidental to removal of existing bearings.
3. All temporary jacking shall be done from the strengthened diaphragms and in-line with the existing bearings.



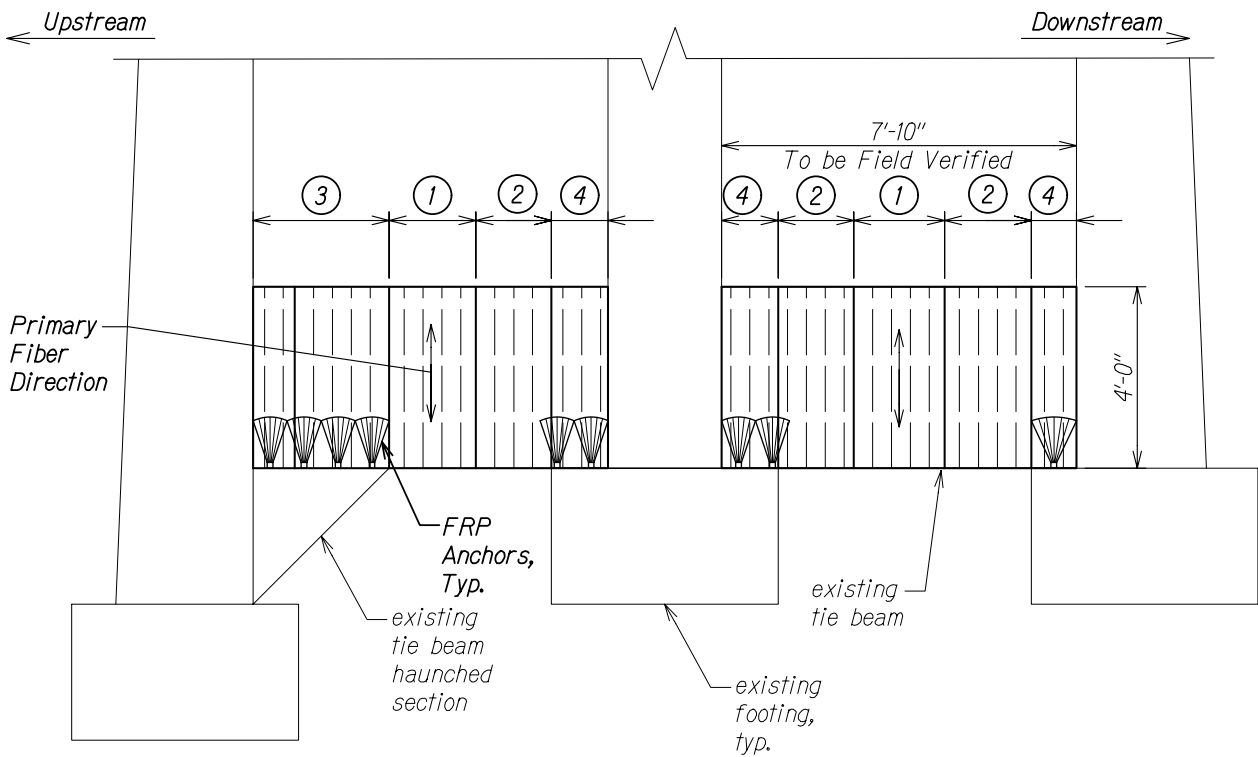
THIS WORK WAS PREPARED BY
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Date: 4-30-28
Signature Date of the License

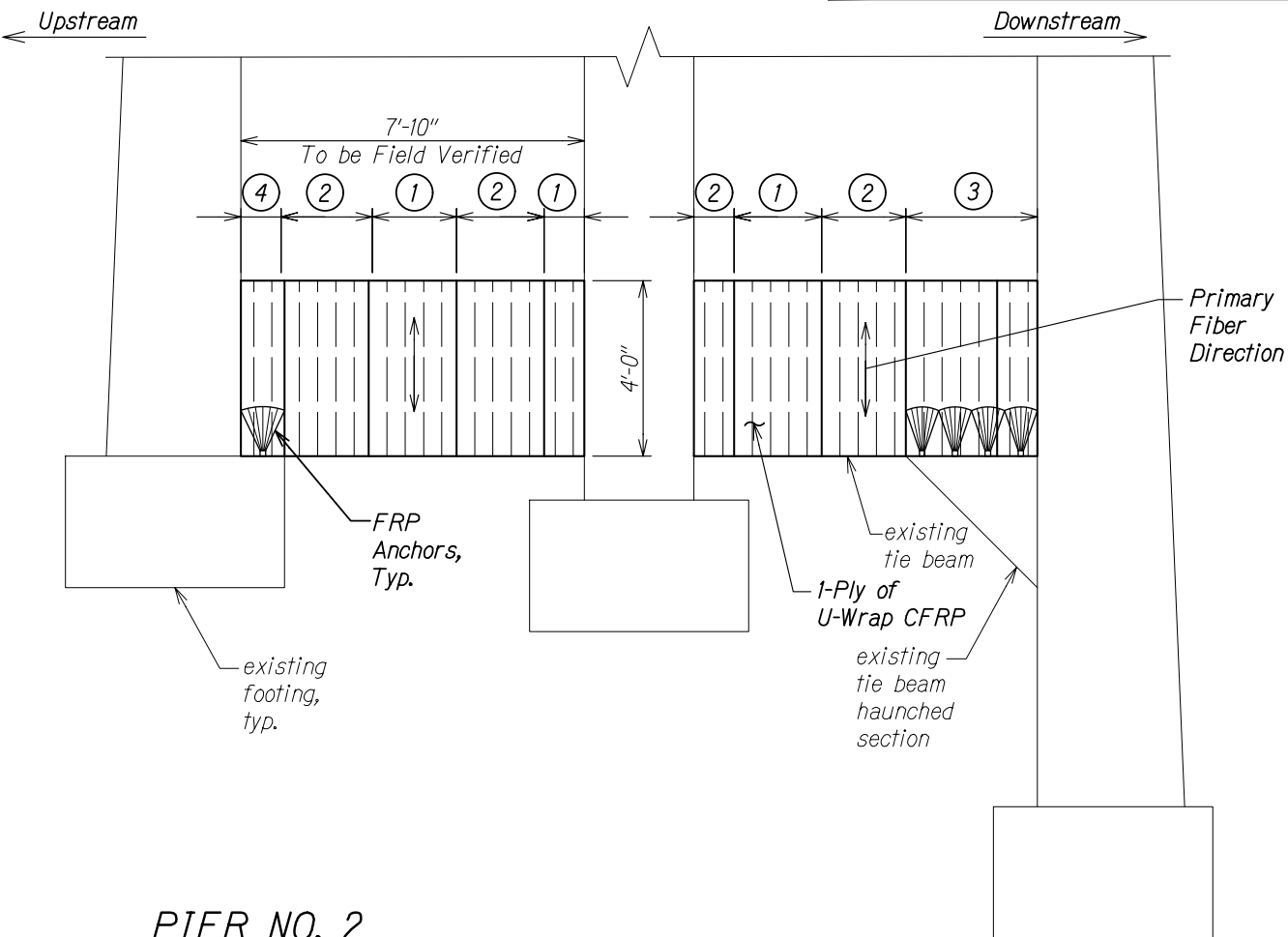
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
WAIALE GULCH BRIDGE
BENT NO. 2 CONSTR. SEQUENCE
SEISMIC RETROFIT, HALEAKALA HIGHWAY ROUTE 377
Waiale Gulch, Alae (Naalae Gulch) and
Pulehu Gulch (Pohakuokala) Bridges
Federal Aid Project No. STP-0377(008)
Scale: As Noted Date: Mar. 2026

SHEET No. SA3.15 OF 17 SHEETS

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0377(008)	2026	84	131



PIER NO. 1
CFRP STRENGTHENING DETAIL OF TIE BEAM A
Scale: 1/2" = 1'-0" SA3.16 SA3.16



PIER NO. 2
CFRP STRENGTHENING DETAIL OF TIE BEAM B
Scale: 1/2" = 1'-0" SA3.16 SA3.16

LEGEND:

- ① TYPE 1 - CFRP Fully Wrapped Bottom Lap
- ② TYPE 2 - CFRP Fully Wrapped Top Lap
- ③ TYPE 3 - CFRP U-Wrap with FRP Anchors
- ④ TYPE 4 - CFRP U-Wrap with FRP Anchors

NOTES:

- See sheet SA3.17 for Sections
- All materials shall be Carbon Fiber Reinforced Polymer (FRP) Composite installed via the wet-layup method.
- All concrete surfaces to which FRP will be bonded shall be considered "Bond Critical". See Special Provisions Section 577 for additional information.
- Each layer of FRP shall have a minimum thickness per layer of 0.04 inches. Use of a product having a thickness of 0.08 inches per layer is acceptable providing the minimum cumulative thickness (number of layers x 0.04 inches) as shown on these details is installed.

ORIGINAL PLAN	DATE
DRAWN BY	
CHECKED BY	
NOTED BY	
QUANTITIES BY	
CHECKED BY	

DRAWING NAME: 2-800 DINGUNGS-2-009-3-3 MAUI BRIDGES SEISMIC RETROFIT (WSP) 03/24/26 100X3MB-SAC316 WAIA BENT TIE BEAMING PLOT TIME: 03-25-26 4:49 PM



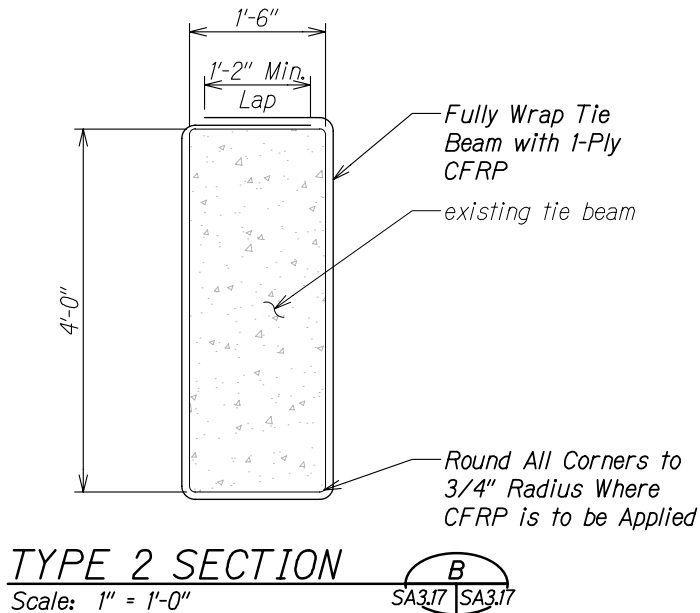
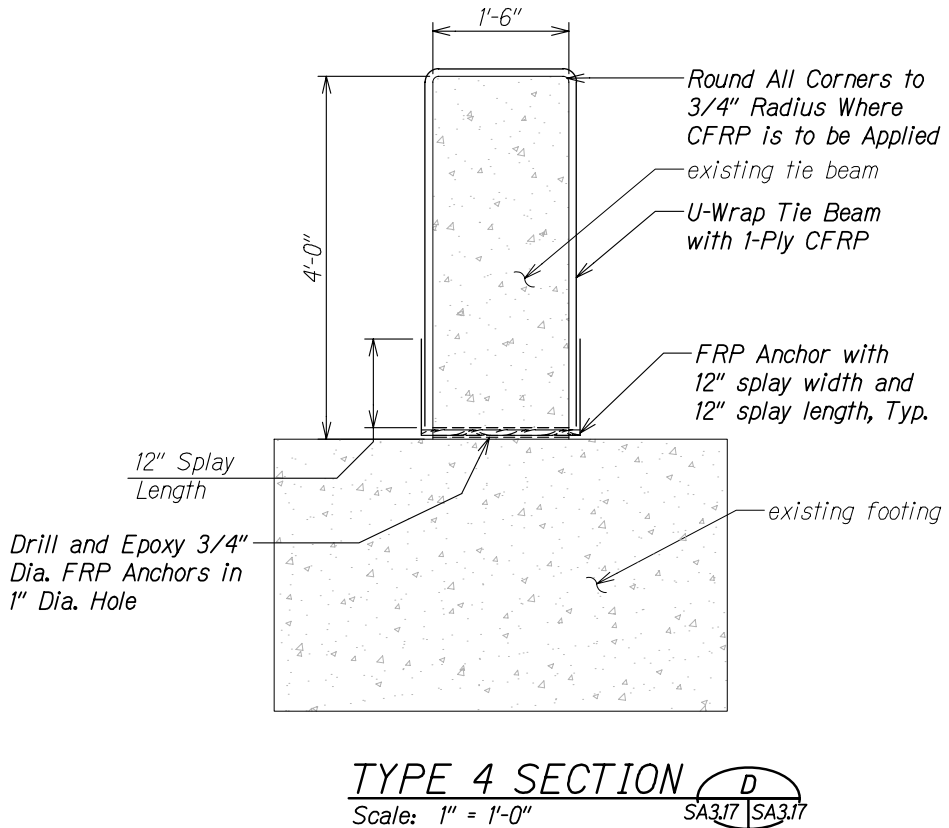
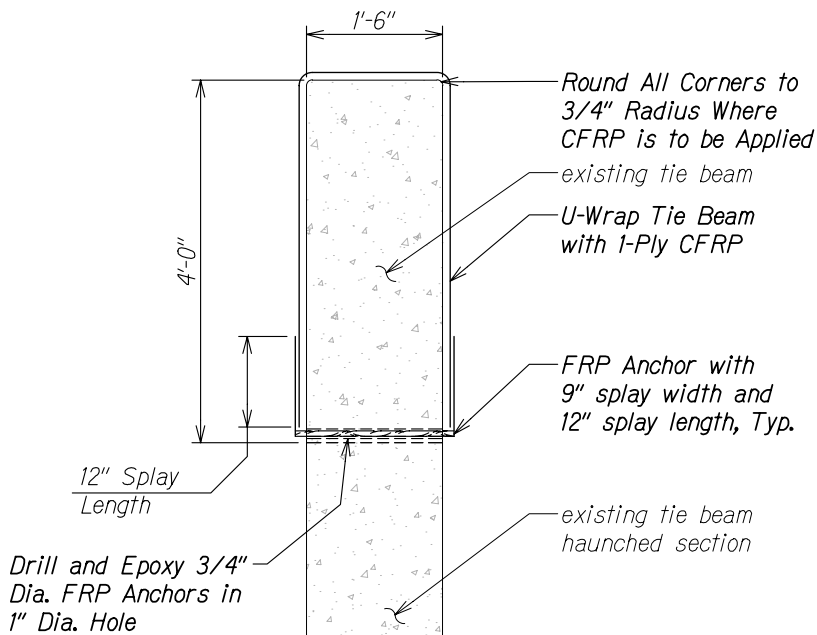
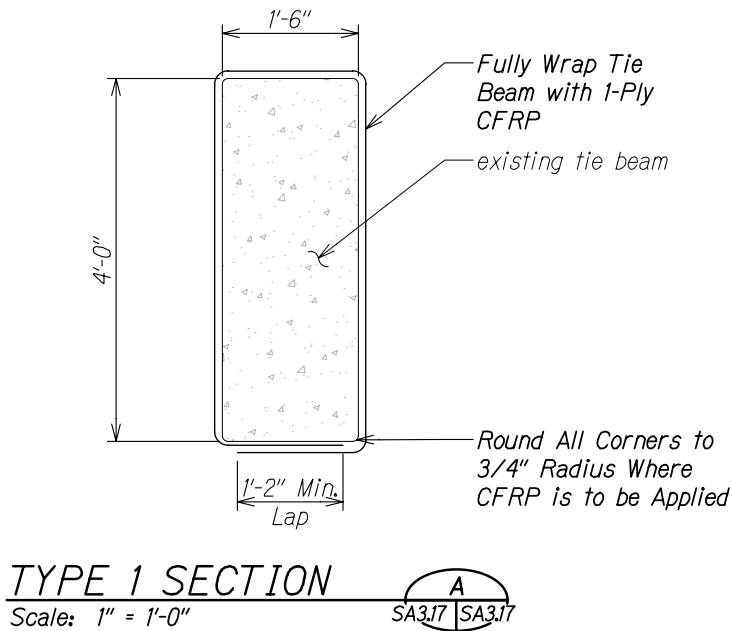
THIS WORK WAS PREPARED BY
ME OR UNDER MY SUPERVISION.

Stephen T. Peters
SIGNATURE EXPIRATION DATE OF THE LICENSE 4-30-28

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

WAIALE GULCH BRIDGE
TIE BEAM CFRP DETAILS
SEISMIC RETROFIT, HALEAKALA HIGHWAY ROUTE 377
Waiale Gulch, Alae (Naalae Gulch) and
Pulehu Gulch (Pohakuokala) Bridges
Federal Aid Project No. STP-0377(008)
Scale: As Noted Date: Mar. 2026

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0377(008)	2026	85	131



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

DRAWING NAME: 2-300 ONGOING/2-093.3.3 MAUI BRIDGES SEISMIC RETROFIT (WSP)00 CAD003-24-26 100X3MB-SAG316 WALA BENT TIE BEAMING PLOT TIME: 03-25-26, 4:49 PM



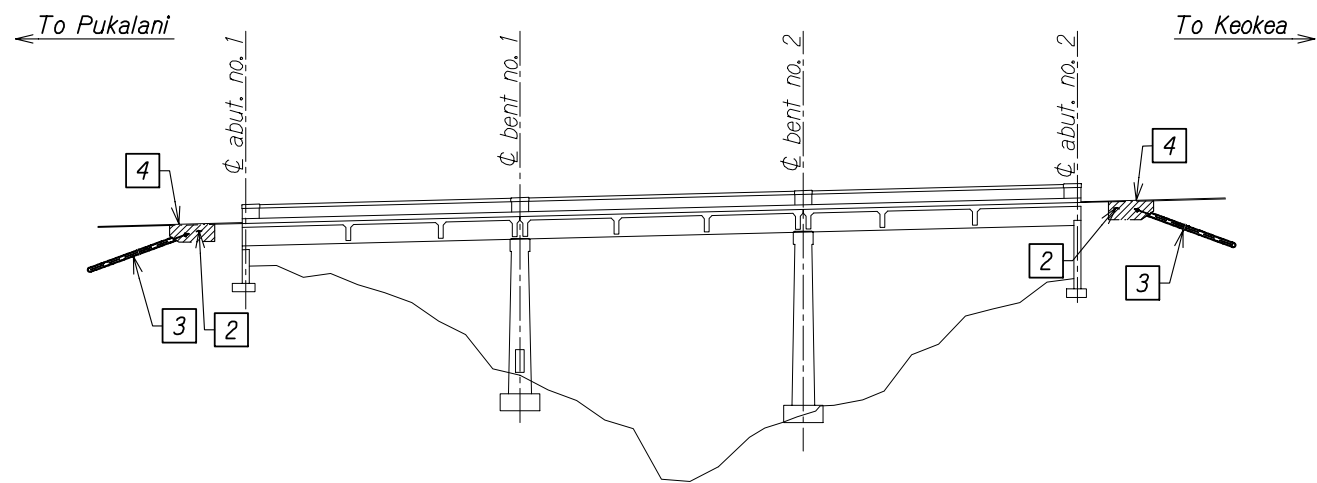
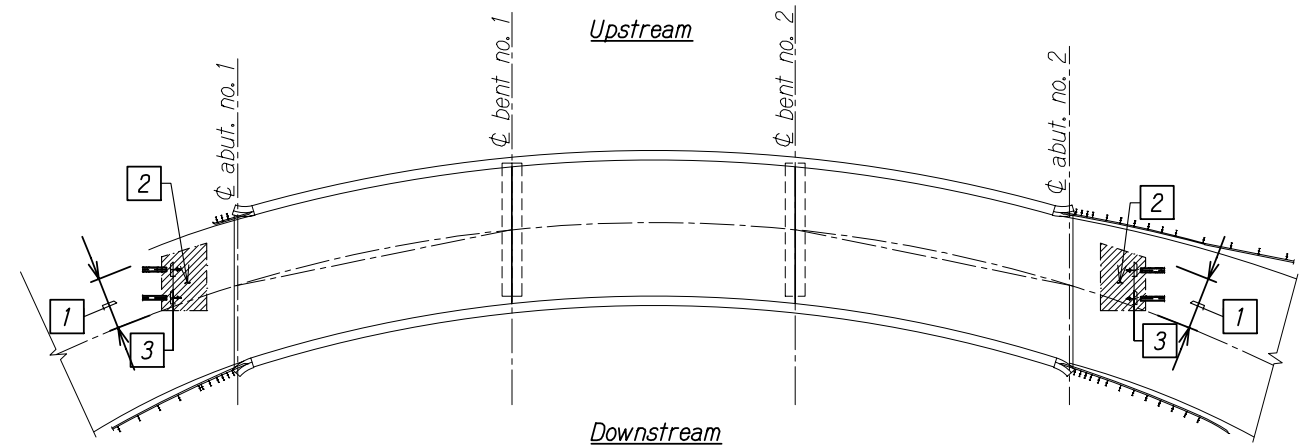
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

SIGNATURE: *Stephen T. Peters* EXPIRATION DATE OF THE LICENSE: 4-30-28

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

WAIALE GULCH BRIDGE
TIE BEAM CFRP DETAILS
SEISMIC RETROFIT, HALEAKALA HIGHWAY ROUTE 377
Waiale Gulch, Alae (Naalae Gulch) and
Pulehu Gulch (Pohakuokala) Bridges
Federal Aid Project No. STP-0377(008)
Scale: As Noted Date: Mar. 2026

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0377(008)	2026	86	131



CONSTRUCTION SEQUENCE - STAGE 1 (UPSTREAM CLOSURE)

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

CONSTRUCTION STAGE 1 (UPSTREAM LANE CLOSURE)

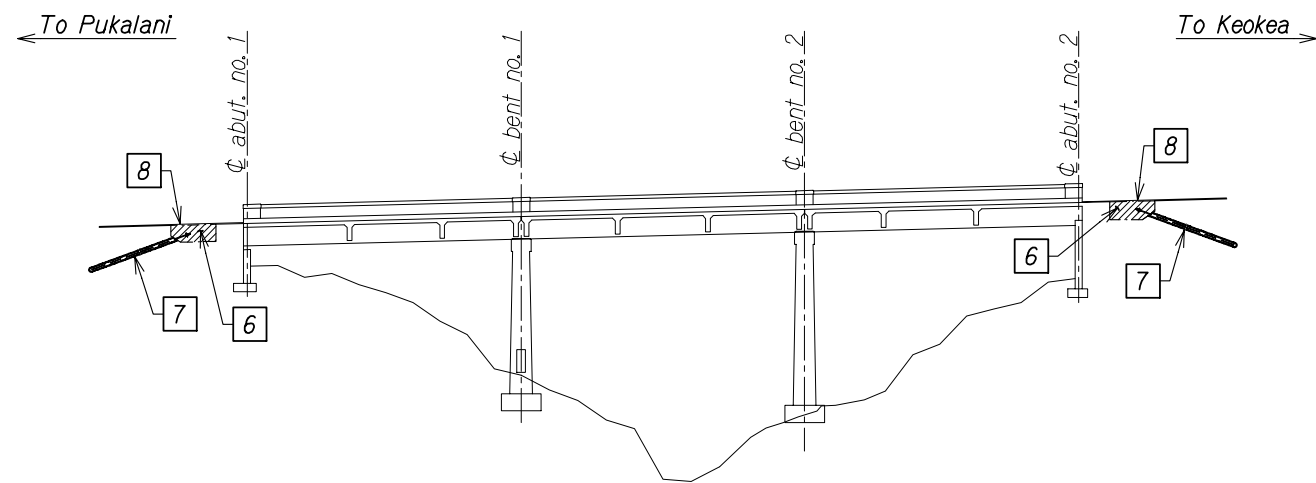
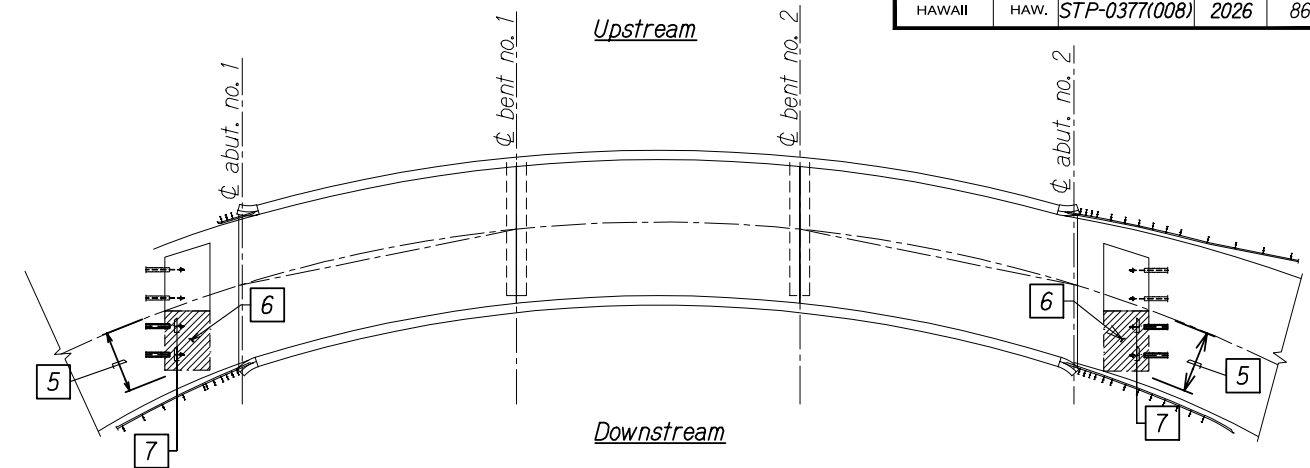
- 1 Install traffic control for Upstream side lane closure (see Civil drawings)
- 2 Excavate roadway on the backside of Abutments as needed
- 3 Drill, install soil nails, grout, and perform necessary proof testing in Upstream side lane
- 4 Install steel road plates over trench during non-working hours and open Upstream side lane to traffic

LEGEND

 Excavate and Dispose

NOTE:

1. Construction sequence is suggested. The Contractor may propose an alternative plan that allows for all work to be completed within the allotted full bridge closure timeframe.
2. Due to the curve in the bridge, the contractor will need to verify that drilling equipment does not affect vehicular traffic on the downstream side lane.
3. Pre-Production Sacrificial Soil Nail Installation and Testing Shall be completed prior to any Structure/Roadway Excavation.



CONSTRUCTION SEQUENCE - STAGE 2 (DOWNSTREAM CLOSURE)

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

CONSTRUCTION STAGE 2 (DOWNSTREAM LANE CLOSURE)

- 5 Install traffic control for Downstream side lane closure (See Civil drawings)
- 6 Excavate roadway on the backside of Abutments as needed
- 7 Drill, install soil nails, grout, grout and perform necessary proof testing in Downstream side lane
- 8 Install steel road plates over trench during non-working hours and open Downstream side lane to traffic



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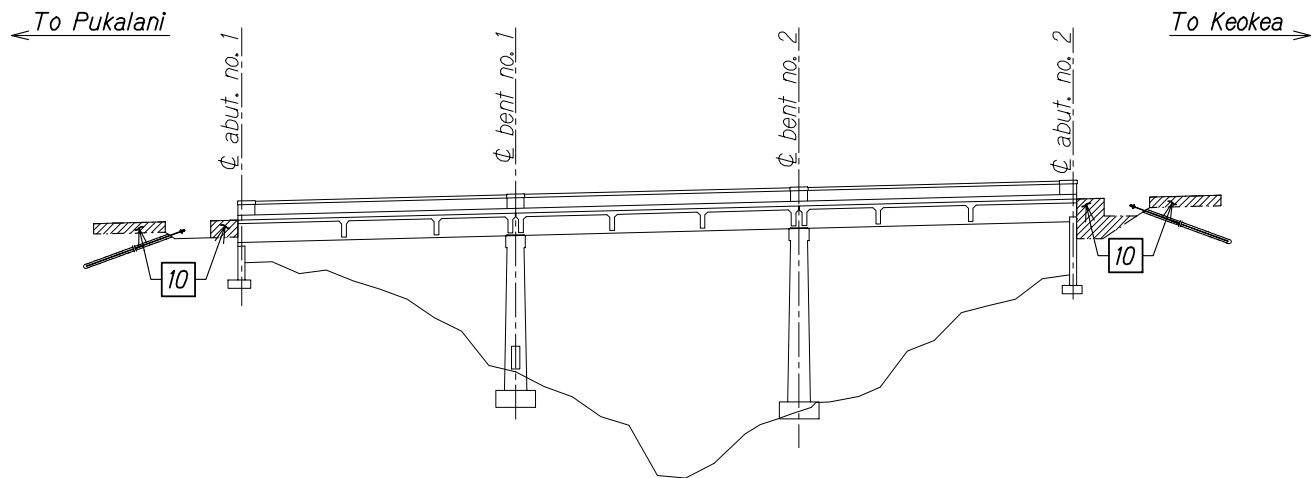
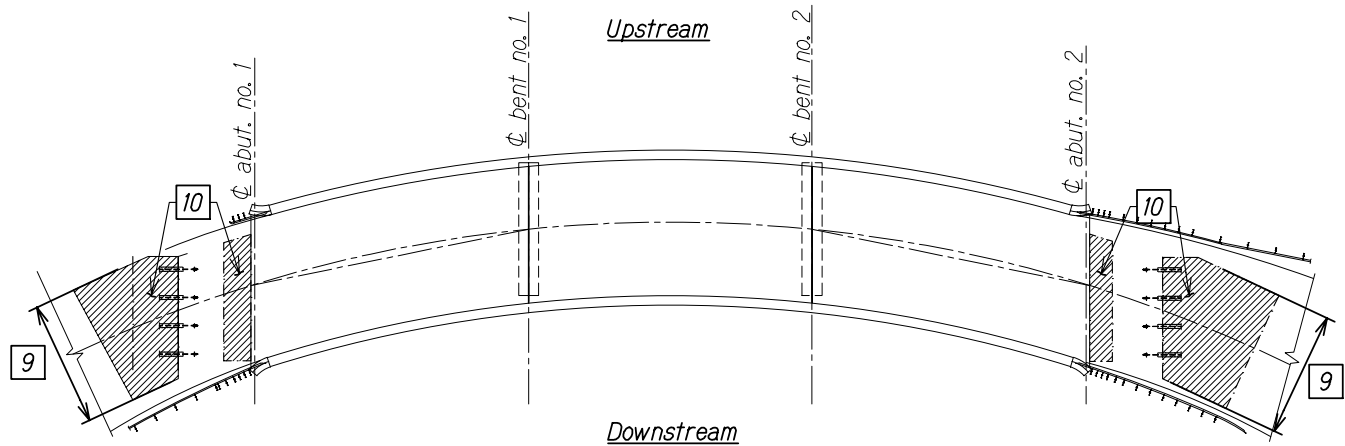

SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

WAIALE GULCH BRIDGE
CONSTRUCTION SEQUENCE
SEISMIC RETROFIT, HALEAKALA HIGHWAY ROUTE 377
Waiale Gulch, Alae (Naalae Gulch) and
Pulehu Gulch (Pohakuokala) Bridges
Federal Aid Project No. STP-0377(008)
Scale: As Noted Date: Mar. 2026

SHEET No. SA41 OF 3 SHEETS

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0377(008)	2026	87	131



CONSTRUCTION SEQUENCE - STAGE 3 (FULL CLOSURE)

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

CONSTRUCTION STAGE 3 (FULL BRIDGE CLOSURE)

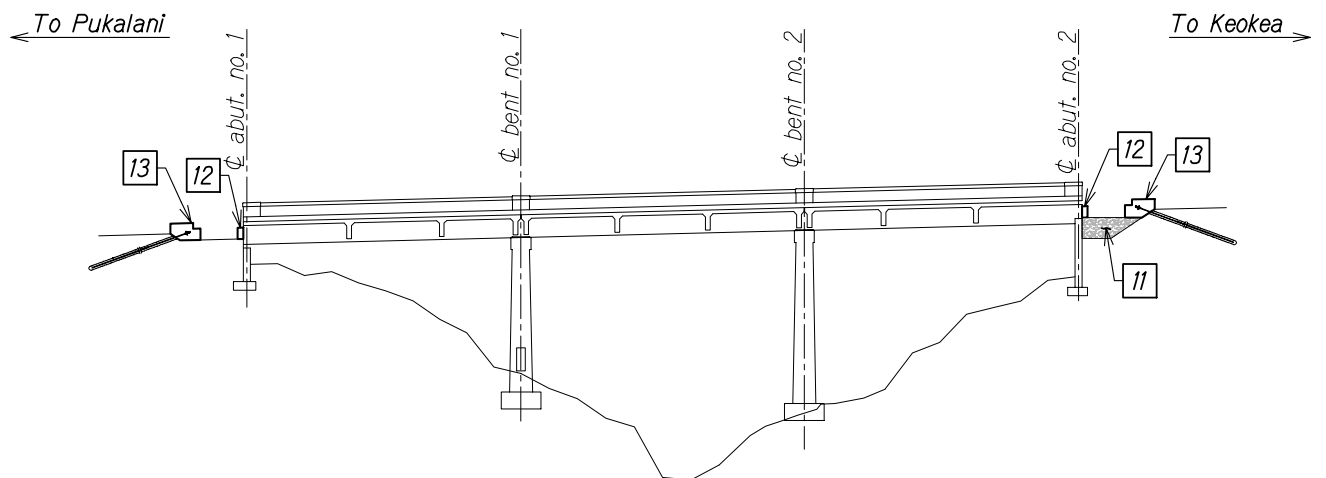
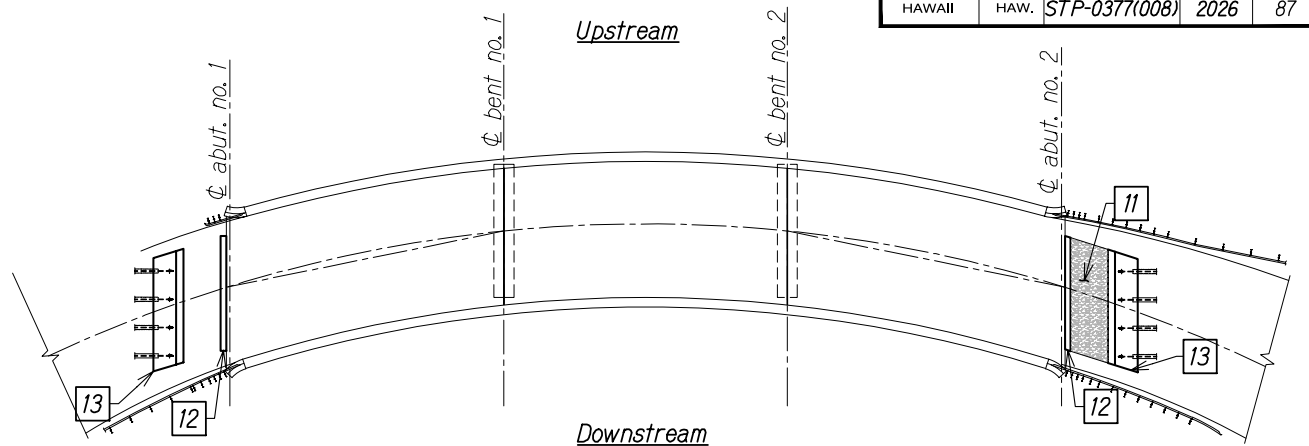
- 9 Install traffic control for full bridge closure
- 10 Excavate remaining roadway to limits as shown on contract drawings

LEGEND

-  Excavate and Dispose
-  LCC Backfill

NOTE:

During full bridge closure times, the Contractor shall perform all work at Abut. No. 1 and Abut. No. 2 simultaneously

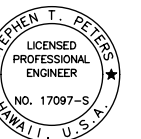


CONSTRUCTION SEQUENCE - STAGE 4 (FULL CLOSURE)

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

CONSTRUCTION STAGE 4 (FULL BRIDGE CLOSURE)

- 11 Place LCC backfill to the bottom of the corbel and anchor beam
- 12 Drill and epoxy dowels, install reinforcing steel, and pour concrete corbel
- 13 Install reinforcing steel and pour concrete anchor beam



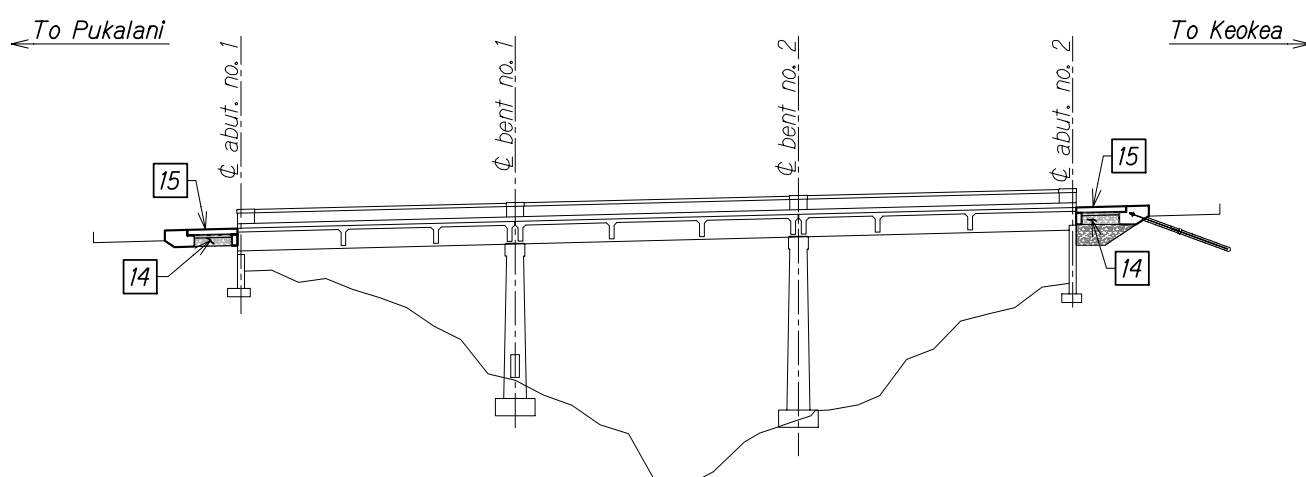
THIS WORK WAS PREPARED BY
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Stephen T. Peters
SIGNATURE EXPIRATION DATE OF THE LICENSE

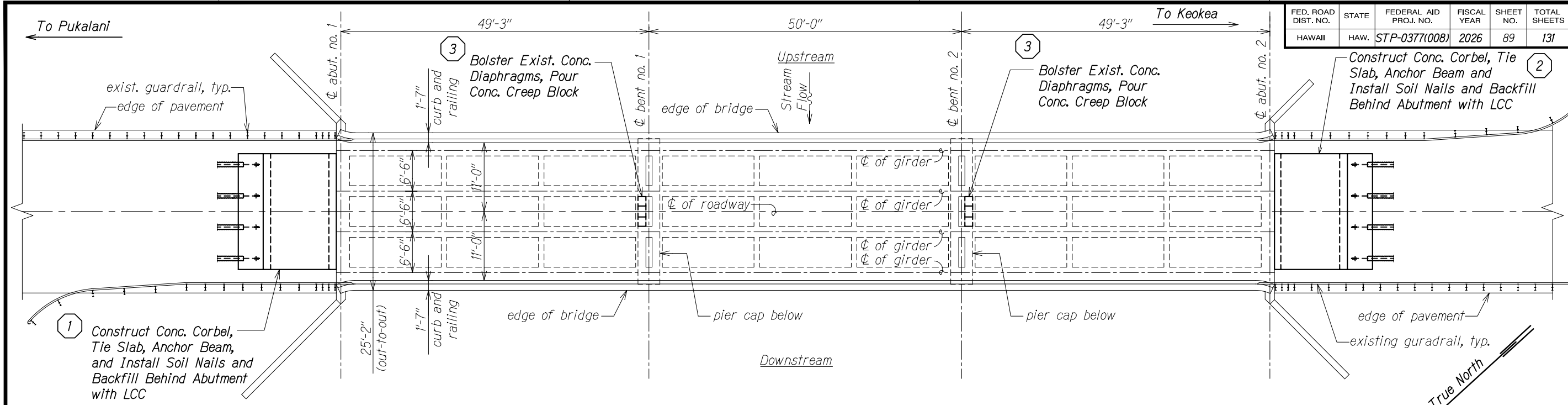
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

WAIALE GULCH BRIDGE
CONSTRUCTION SEQUENCE
SEISMIC RETROFIT, HALEAKALA HIGHWAY ROUTE 377
Waiale Gulch, Alae (Naalae Gulch) and
Pulehu Gulch (Pohakuokala) Bridges
Federal Aid Project No. STP-0377(008)
Scale: As Noted Date: Mar. 2026

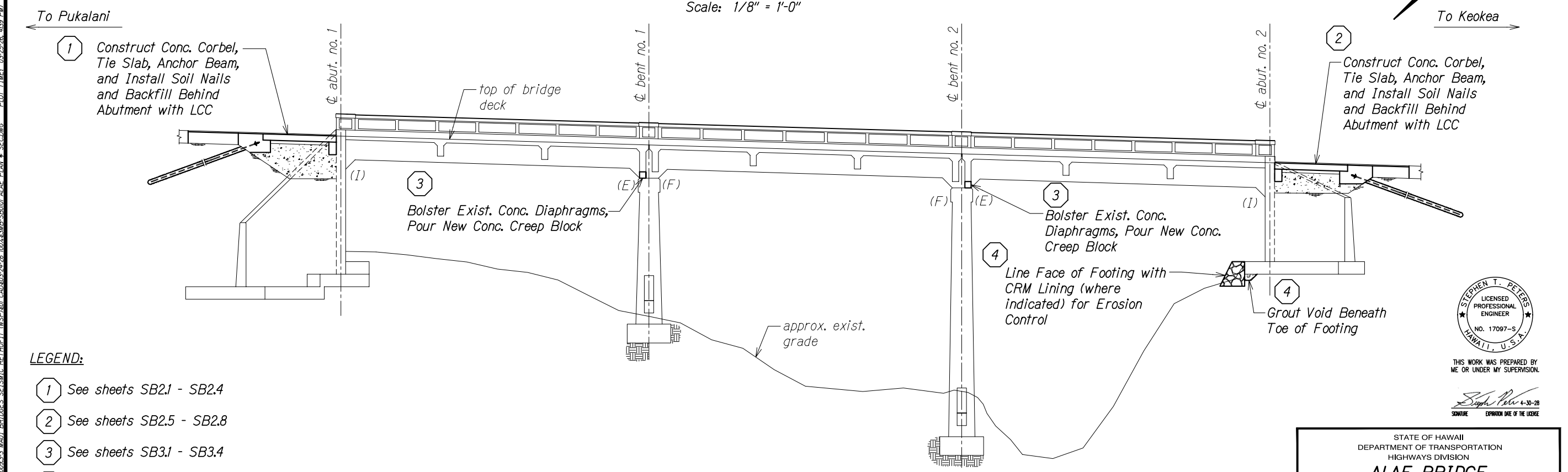
SHEET No. SA4.2 OF 3 SHEETS



FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0377(008)	2026	89	131



ALAE BRIDGE PLAN
Scale: 1/8" = 1'-0"



- LEGEND:**
- ① See sheets SB2.1 - SB2.4
 - ② See sheets SB2.5 - SB2.8
 - ③ See sheets SB3.1 - SB3.4
 - ④ See sheet SB4.1
 - (I) Integral Abutment
 - (E) Expansion Bearing
 - (F) Fixed Bearing

ALAE BRIDGE DOWNSTREAM LONGITUDINAL SECTION
Scale: 1/8" = 1'-0"

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

DRAWING NAME: 2-800-DWG/01562-003-3 MAUI BRIDGES SEISMIC RETROFIT (NPSISU) CAD003-24-26 100%3-MB-SB001 ALAE PLAN & SECTION PLOT TIME: 03-25-26, 4:39 PM



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Stephen Peters 4-30-28
SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ALAE BRIDGE
PLAN AND LONG. SECTION
SEISMIC RETROFIT, HALEAKALA HIGHWAY ROUTE 377
Waiale Gulch, Alae (Naalae Gulch) and
Pulehu Gulch (Pohakuokala) Bridges
Federal Aid Project No. STP-0377(008)
Scale: As Noted Date: Mar. 2026

SHEET No. **SBI.1** OF **1** SHEETS

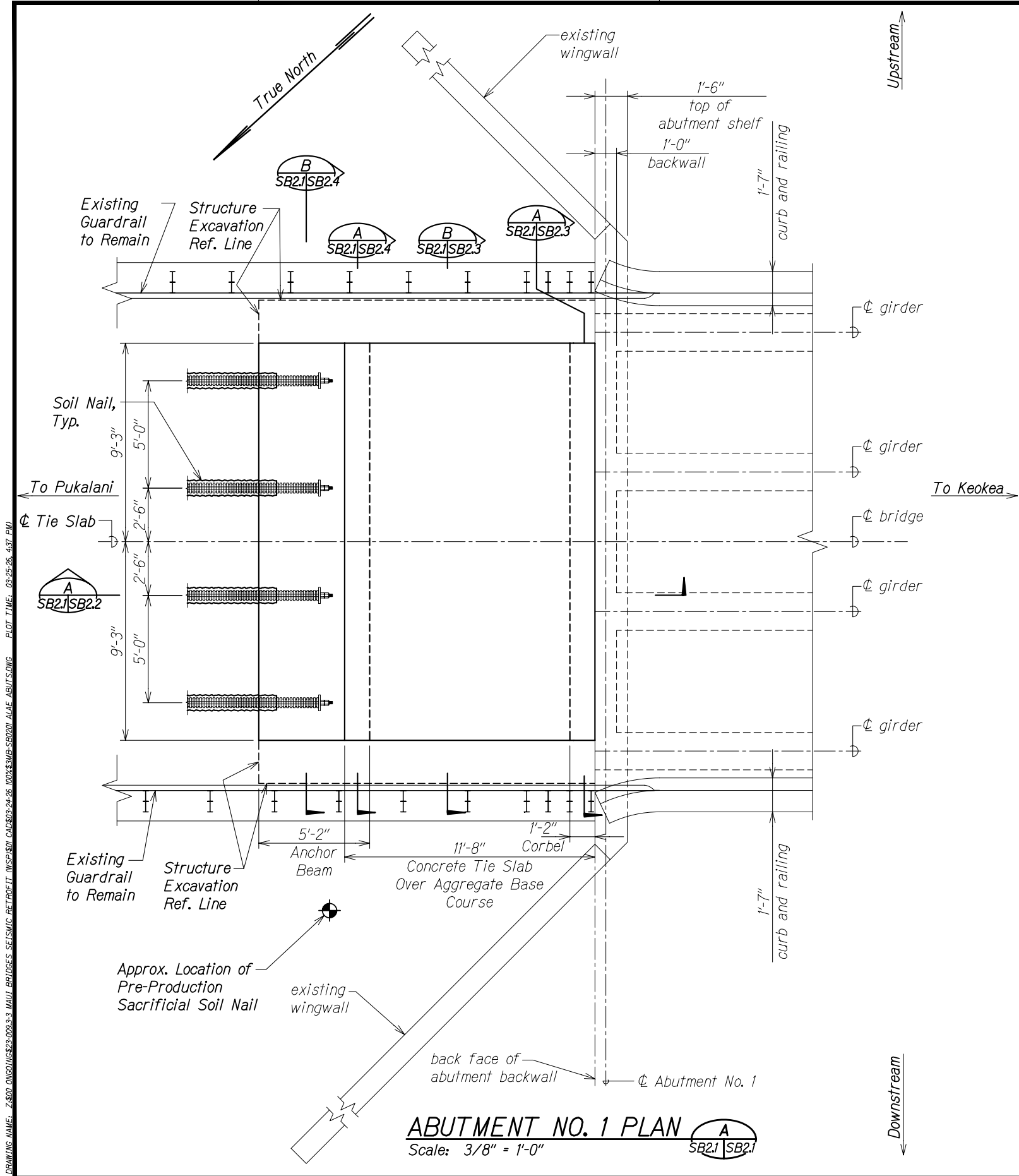
FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0377(008)	2026	90	131

NOTE:

Structure excavation line is shown for reference only. The Contractor shall be responsible for methods of excavation at the abutment to maintain a stable cut face and to avoid undermining the existing metal guardrails. Existing granular backfill material shall be anticipated. Temporary shoring/bracing necessary to perform work shall be taken into consideration at the time of bid.

LEGEND:

 Pre-Production Sacrificial Soil Nail



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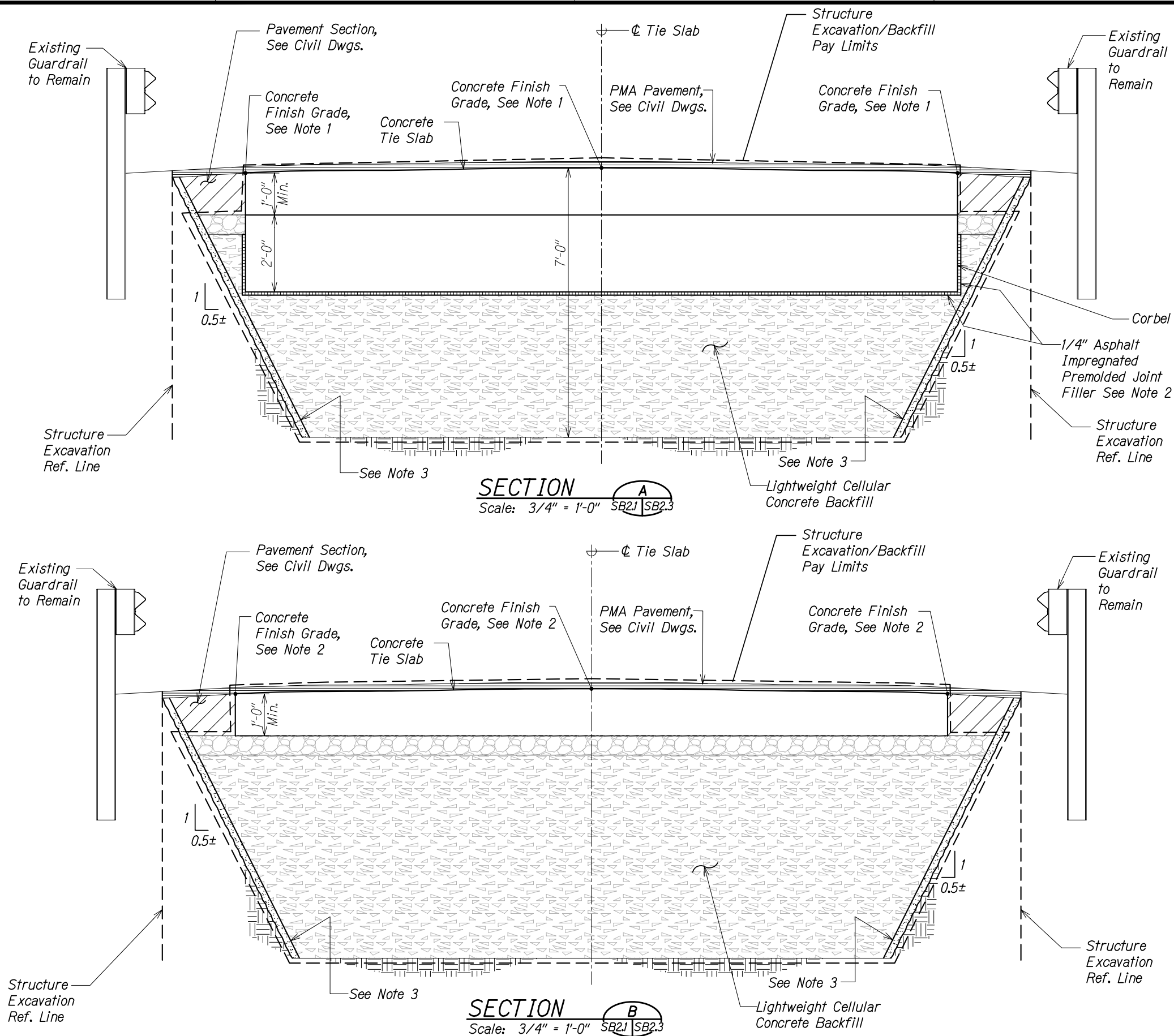
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ALAE BRIDGE
ABUTMENT NO. 1 PLAN
SEISMIC RETROFIT, HALEAKALA HIGHWAY ROUTE 377
Waiale Gulch, Alae (Naalae Gulch) and
Pulehu Gulch (Pohakuokala) Bridges
Federal Aid Project No. STP-0377(008)
Scale: As Noted Date: Mar, 2026

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0377(008)	2026	92	131

DRAWING NAME: 2-800-DWG/01652-003-3 MAUI BRIDGES SEISMIC RETROFIT (NPSISU CAD003-24-26 100% 3/10/20 ALAE ABUTMENT) PLOT TIME: 03:25:26 4/3/24

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DRAWN BY	
	TRACED BY	
	QUANTITIES BY	
	CHECKED BY	



- NOTES:**
- Top of concrete tie slab shall be constructed with a parabolic crown. Finish grade shall match top of concrete bridge deck.
 - Top of concrete tie slab finish grade shall be constructed 2" below roadway finish grade. See Civil Drawings.
 - A flash coat of shotcrete shall be applied on the face of the cut slope in front of the guard rails. Additional efforts to stabilize or brace the face shall be the responsibility of the Contractor.
 - Premolded joint filler shall be installed on the entire underside, backface, and sides of concrete corbel.



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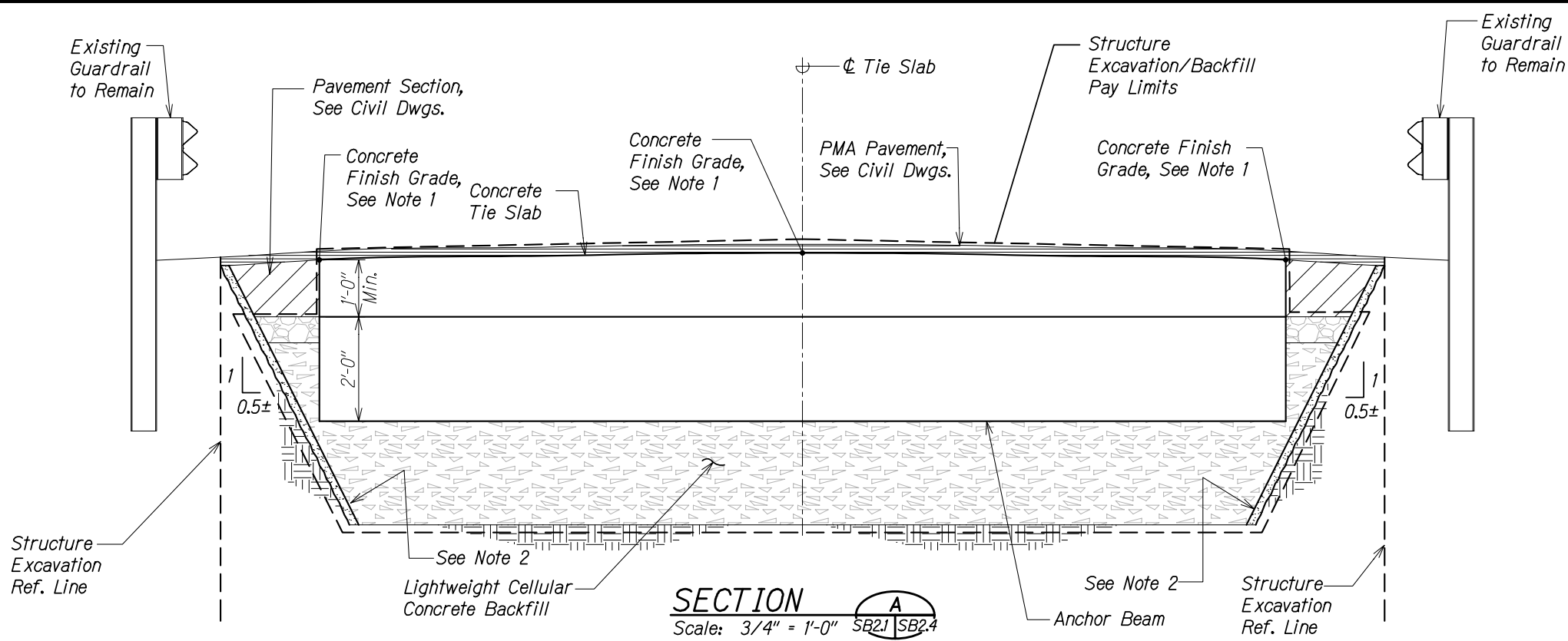
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ALAE BRIDGE
ABUTMENT NO. 1 SECTIONS

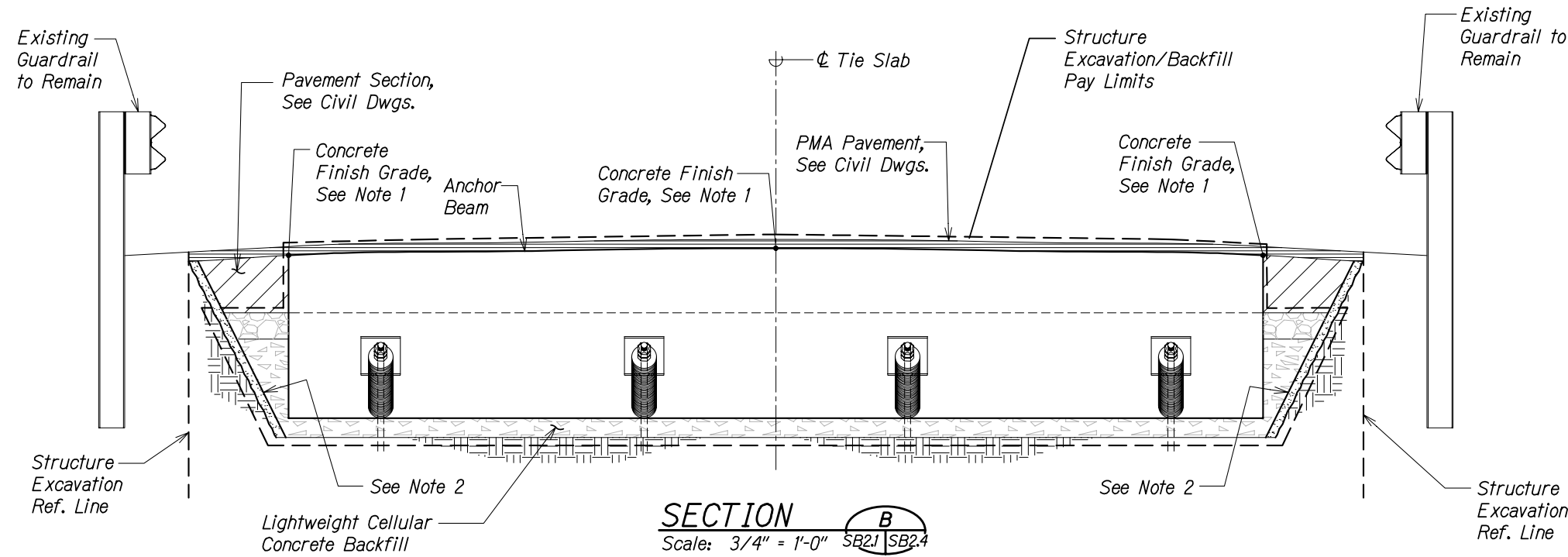
SEISMIC RETROFIT, HALEAKALA HIGHWAY ROUTE 377
Waiale Gulch, Alae (Naalae Gulch) and
Pulehu Gulch (Pohakuokala) Bridges
Federal Aid Project No. STP-0377(008)

Scale: As Noted Date: Mar. 2026

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0377(008)	2026	93	131



- NOTES:
1. Top of concrete tie slab/anchor beam finish grade shall be constructed 2" below roadway finish grade. See Civil Drawings.
 2. A flash coat of shotcrete shall be applied on the face of the cut slope in front of the guard rails. Additional efforts to stabilize or brace the face shall be the responsibility of the Contractor.



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

Signature: Stephen T. Peters
Date: 4-30-28
Signature Date of the License

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ALAE BRIDGE
ABUTMENT NO. 1 SECTIONS

SEISMIC RETROFIT, HALEAKALA HIGHWAY ROUTE 377
Waiale Gulch, Alae (Naalae Gulch) and
Pulehu Gulch (Pohakuokala) Bridges
Federal Aid Project No. STP-0377(008)

Scale: As Noted Date: Mar. 2026

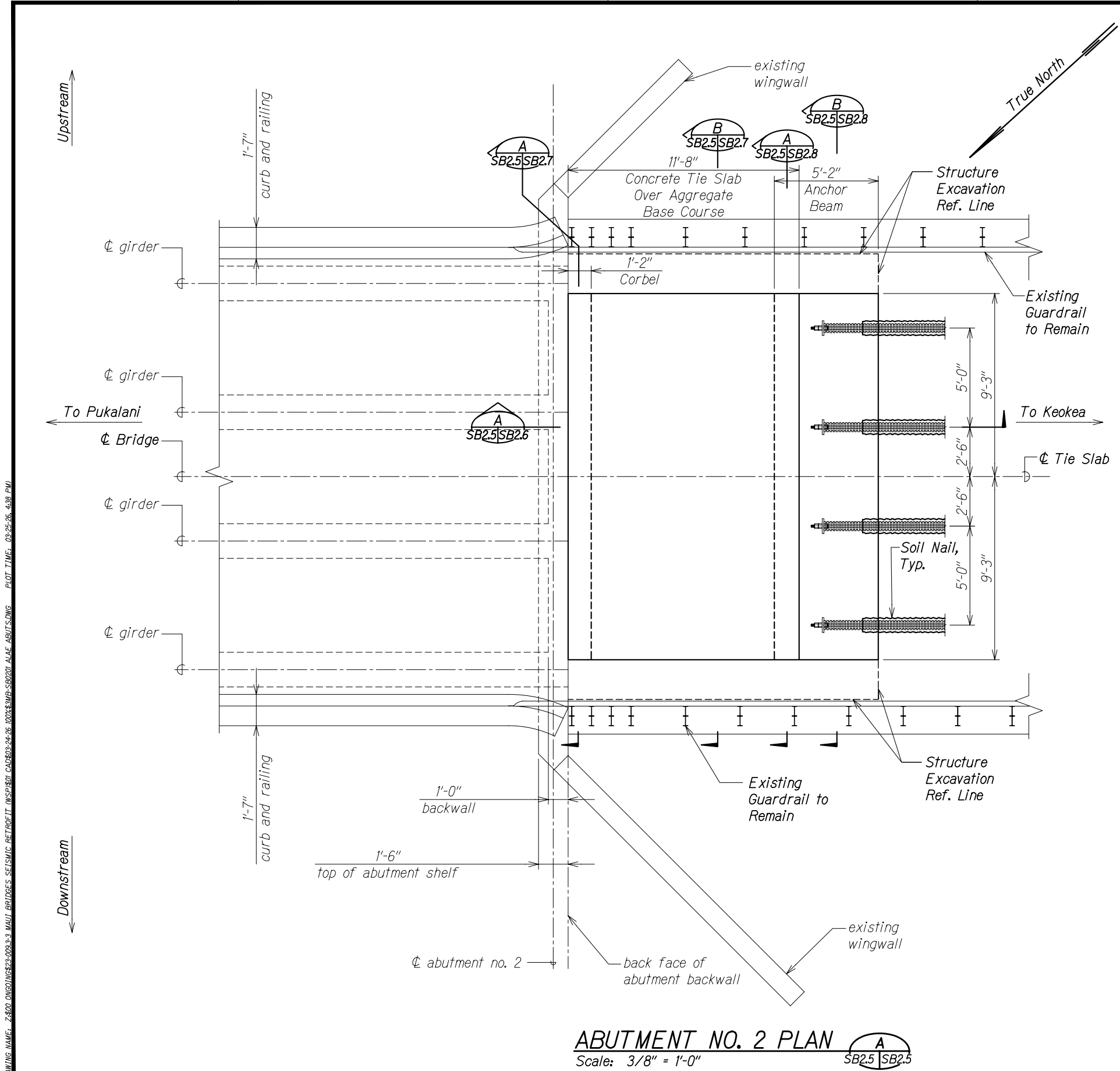
ORIGINAL PLAN	DATE
NOTED BY	
TRACED BY	
CHECKED BY	
DESIGNED BY	
QUANTITIES BY	
NO.	

DRAWING NAME: 2-800-DWG00152-003-3 MAUI BRIDGES SEISMIC RETROFIT (NSP) SB2.1 SB2.4 ALAE ABUTMENTS PLOT TIME: 03:25:26 4/30/28

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0377(008)	2026	94	131

NOTE:

Structure excavation line is shown for reference only. The Contractor shall be responsible for methods of excavation at the abutment to maintain a stable cut face and to avoid undermining the existing metal guardrails. Existing granular backfill material shall be anticipated. Temporary shoring/bracing necessary to perform work shall be taken into consideration at the time of bid.



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

DRAWING NAME: 2-800-DWG001NGS2-003.3-3 MAUI BRIDGES SEISMIC RETROFIT (NSP)001 CAD003-24-26 100%3-MB-SB0201 ALAE ABUTS.DWG PLOT TIME: 03:25:26 4/30 P.M.



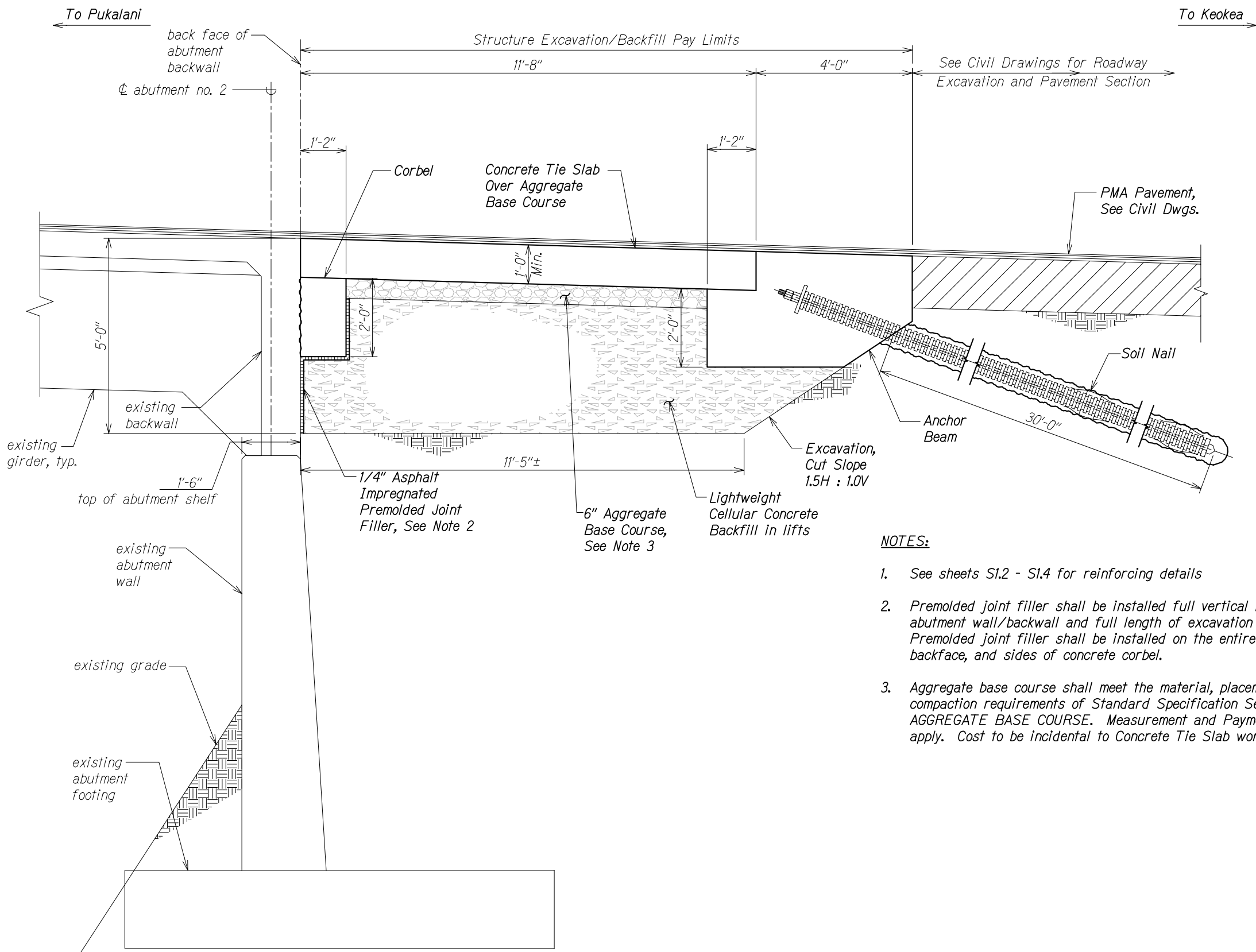
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

Signature: *Stephen T. Peters* 4-30-28
 SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ALAE BRIDGE
ABUTMENT NO. 2 PLAN
SEISMIC RETROFIT, HALEAKALA HIGHWAY ROUTE 377
Waiale Gulch, Alae (Naalae Gulch) and
Pulehu Gulch (Pohakuokala) Bridges
Federal Aid Project No. STP-0377(008)
Scale: As Noted Date: Mar. 2026

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0377(008)	2026	95	131



- NOTES:**
- See sheets S1.2 - S1.4 for reinforcing details
 - Premolded joint filler shall be installed full vertical height of exposed abutment wall/backwall and full length of excavation limits. Premolded joint filler shall be installed on the entire underside, backface, and sides of concrete corbel.
 - Aggregate base course shall meet the material, placement, and compaction requirements of Standard Specification Section 304 - AGGREGATE BASE COURSE. Measurement and Payment shall not apply. Cost to be incidental to Concrete Tie Slab work.



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Stephen T. Peters
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
ALAE BRIDGE
ABUTMENT NO. 2 SECTION
SEISMIC RETROFIT, HALEAKALA HIGHWAY ROUTE 377
Waiale Gulch, Alae (Naalae Gulch) and
Pulehu Gulch (Pohakuokala) Bridges
Federal Aid Project No. STP-0377(008)
Scale: As Noted Date: Mar, 2026

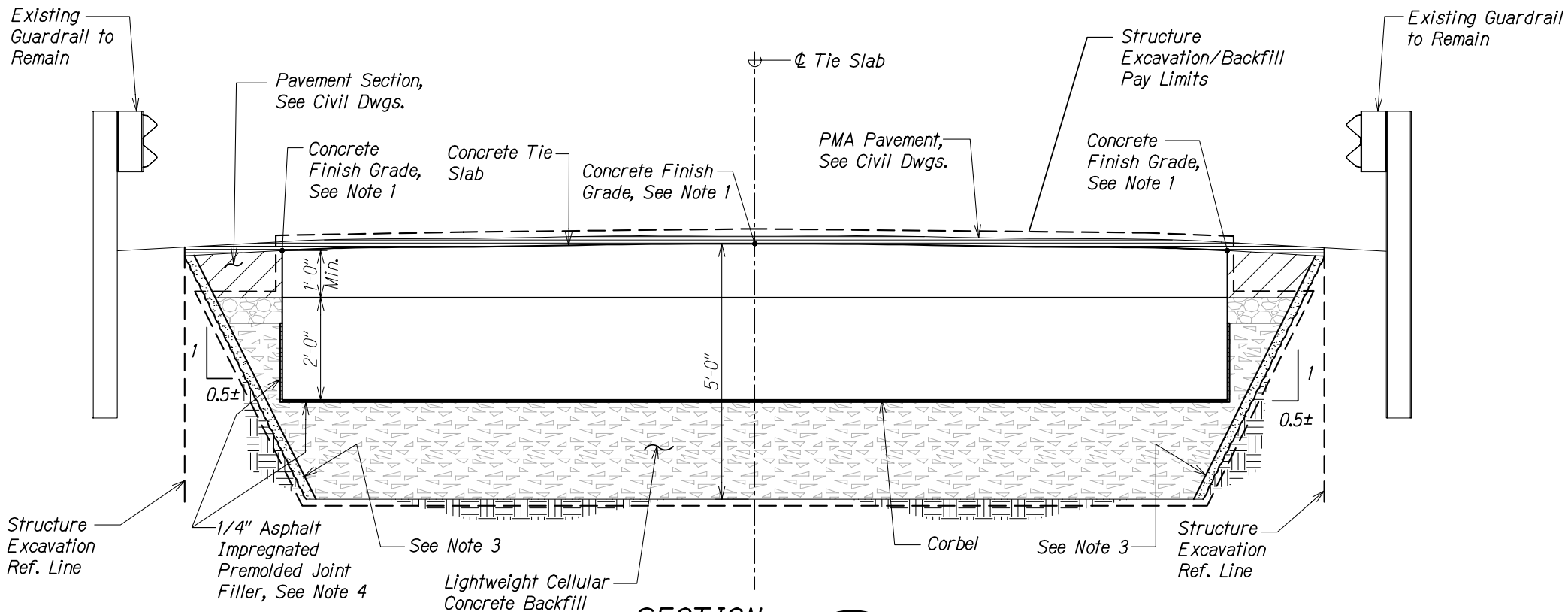
SHEET No. **SB2.6** OF **8** SHEETS

SECTION A
Scale: 3/4" = 1'-0" SB2.5 | SB2.6

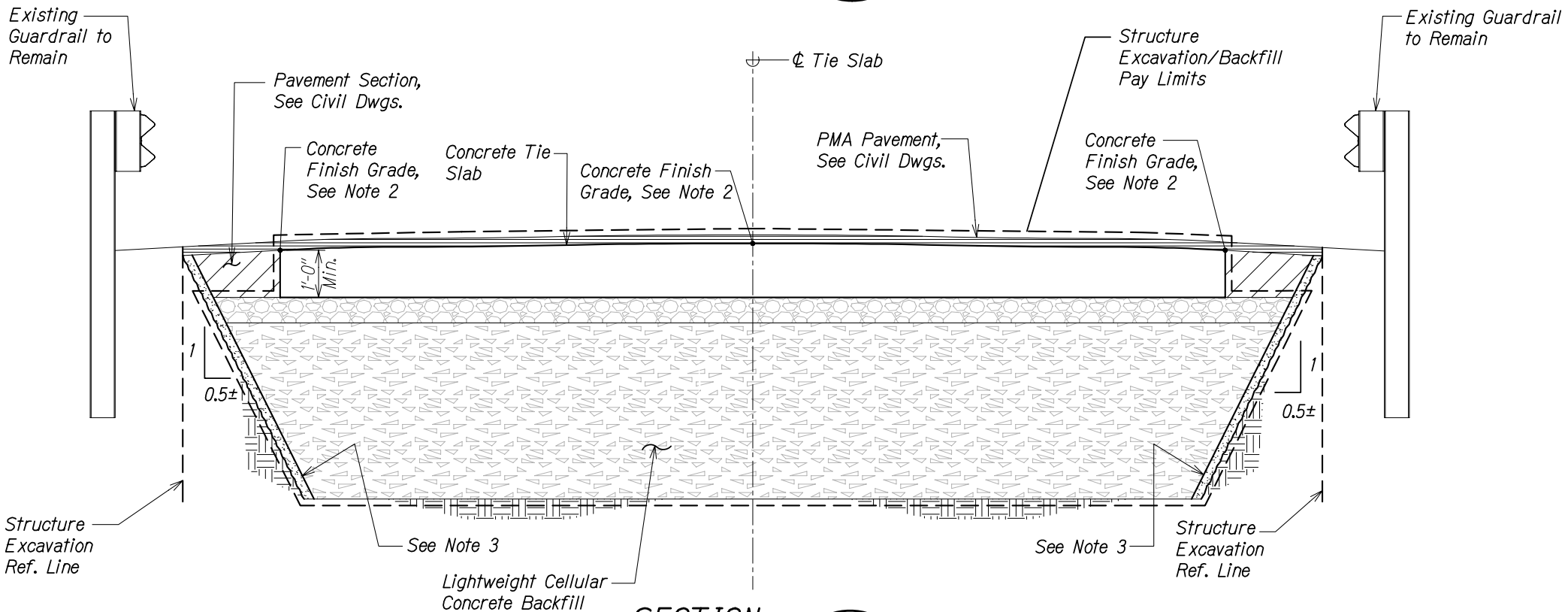
ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DRAWN BY	
	CHECKED BY	
	QUANTITIES BY	
	CHECKED BY	

DRAWING NAME: 2-800-DWG001NGS22-003-3-3 MAUI BRIDGES SEISMIC RETROFIT (NSP)S01 CAD003-24-26 100%3-MB-SB0201 ALAE ABUTS.DWG PLOT TIME: 03:25:26, 4:38 PM

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0377(008)	2026	96	131



SECTION A
Scale: 3/4" = 1'-0" SB2.5 | SB2.7



SECTION B
Scale: 3/4" = 1'-0" SB2.5 | SB2.7

- NOTES:**
- Top of concrete tie slab shall be constructed with a parabolic crown. Finish grade shall match top of concrete bridge deck.
 - Top of concrete tie slab finish grade shall be constructed 2" below roadway finish grade. See Civil Drawings.
 - A flash coat of shotcrete shall be applied on the face of the cut slope in front of the guard rails. Additional efforts to stabilize or brace the face shall be the responsibility of the Contractor.
 - Premolded joint filler shall be installed on the entire underside, backface, and sides of concrete corbel.



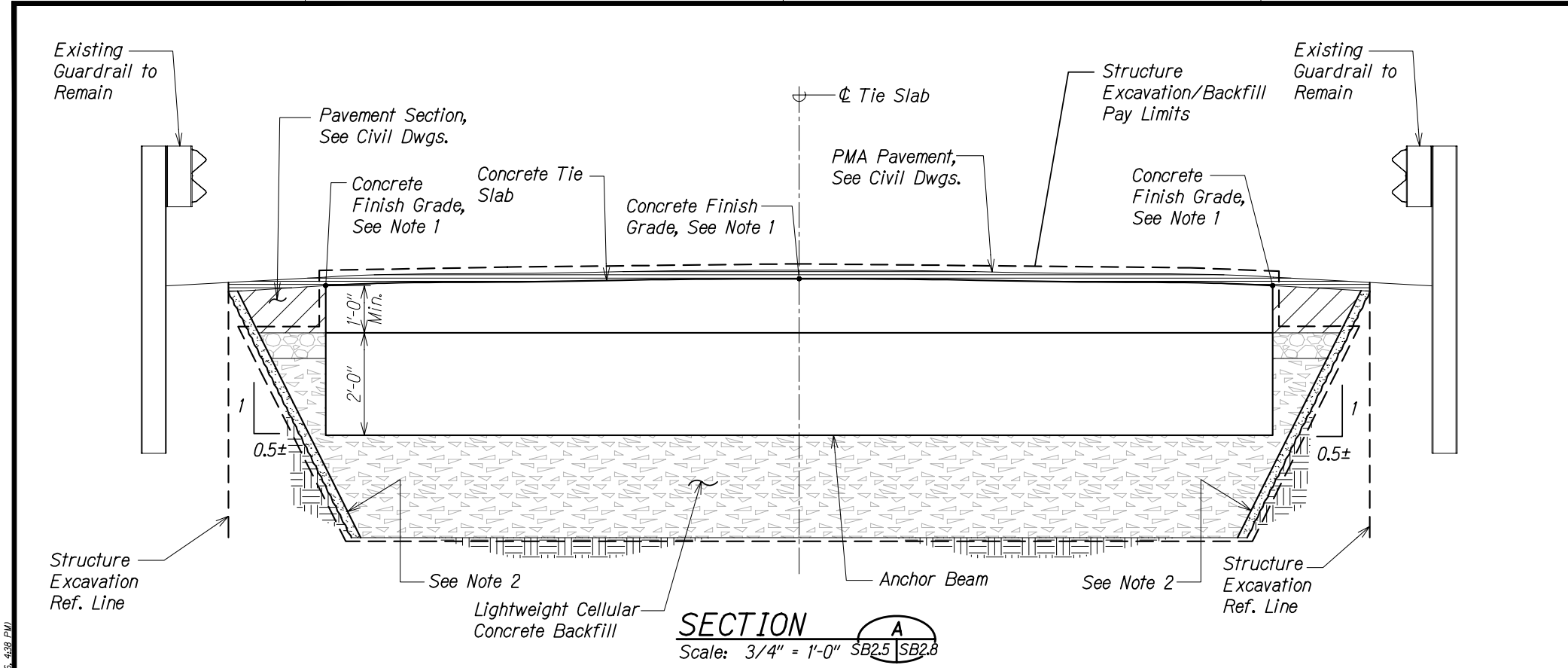
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SIGNATURE EXPIRATION DATE OF THE LICENSE

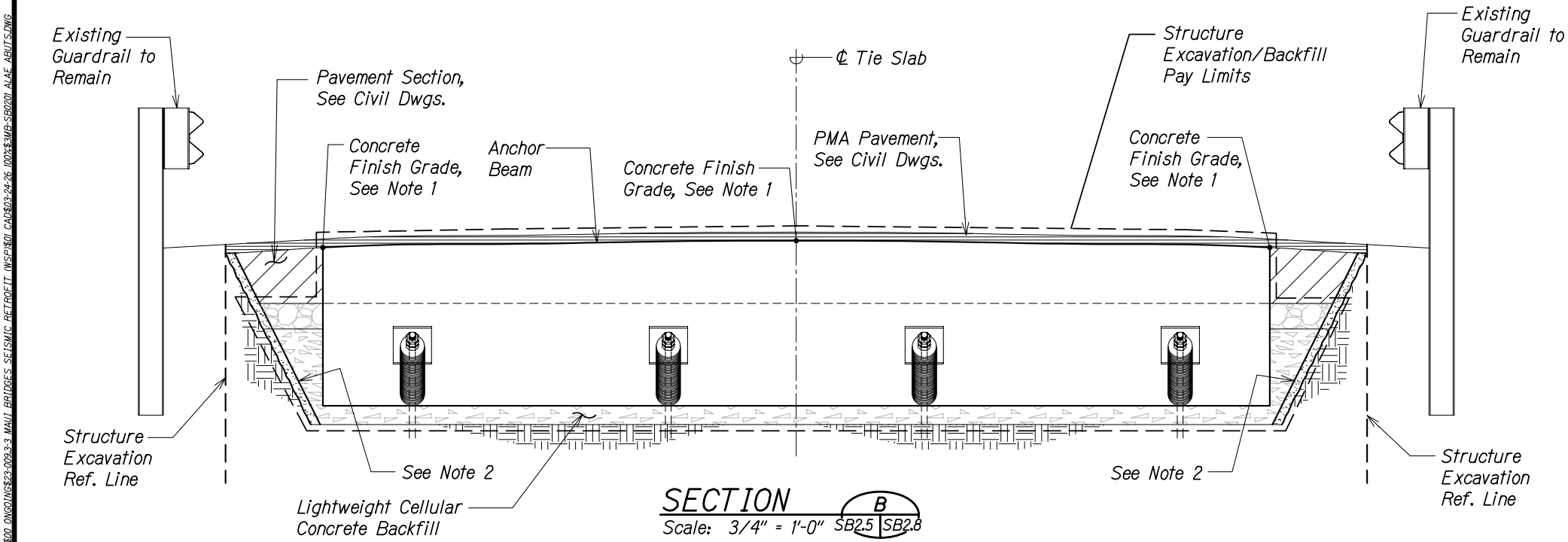
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ALAE BRIDGE
ABUTMENT NO. 2 SECTIONS
SEISMIC RETROFIT, HALEAKALA HIGHWAY ROUTE 377
Waiale Gulch, Alae (Naalae Gulch) and
Pulehu Gulch (Pohakuokala) Bridges
Federal Aid Project No. STP-0377(008)
Scale: As Noted Date: Mar. 2026

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0377(008)	2026	97	131



- NOTES:
- Top of concrete tie slab/anchor beam finish grade shall be constructed 2" below roadway finish grade. See Civil Drawings.
 - A flash coat of shotcrete shall be applied on the face of the cut slope in front of the guard rails. Additional efforts to stabilize or brace the face shall be the responsibility of the Contractor.



DATE	_____
SURVEY PLOTTED BY	_____
DRAWN BY	_____
TRACED BY	_____
CHECKED BY	_____
NOTED BY	_____
NO.	_____



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Signature: *Stephen T. Peters*
DATE: 4-30-28

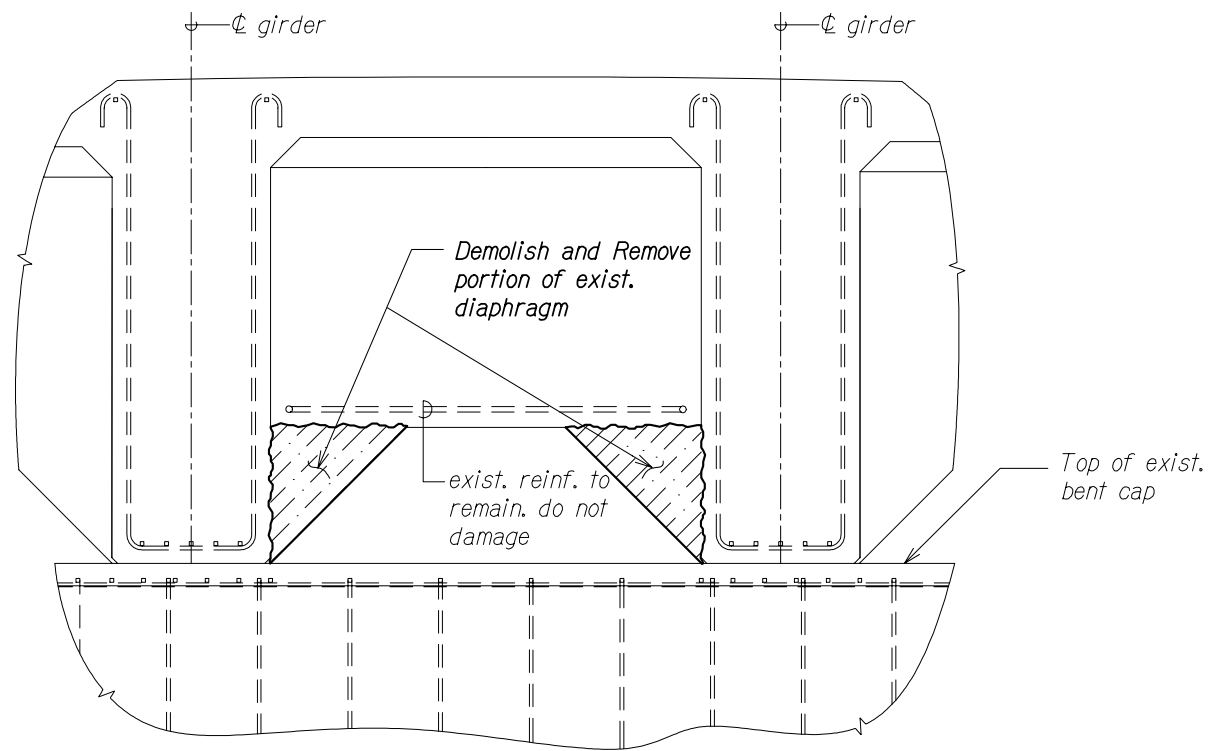
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ALAE BRIDGE
ABUTMENT NO. 2 SECTIONS

SEISMIC RETROFIT, HALEAKALA HIGHWAY ROUTE 377
Waiale Gulch, Alae (Naalae Gulch) and
Pulehu Gulch (Pohakuokala) Bridges
Federal Aid Project No. STP-0377(008)

Scale: As Noted Date: Mar. 2026

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0377(008)	2026	98	131



DIAPHRAGM
DEMOLITION DETAIL

Scale: 1" = 1'-0"

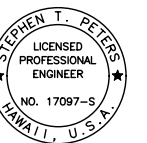


NOTE:

1. Demolition work shall be performed with no greater than 15-lb pneumatic demolition hammer
2. Roughen exist. concrete surfaces to 1/4" amplitude
3. The Contractor shall inform the Engineer if Reinforcing Steel is Encountered that is not shown on the plans.

LEGEND:

 Demolish and Remove



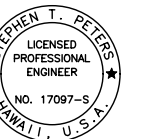
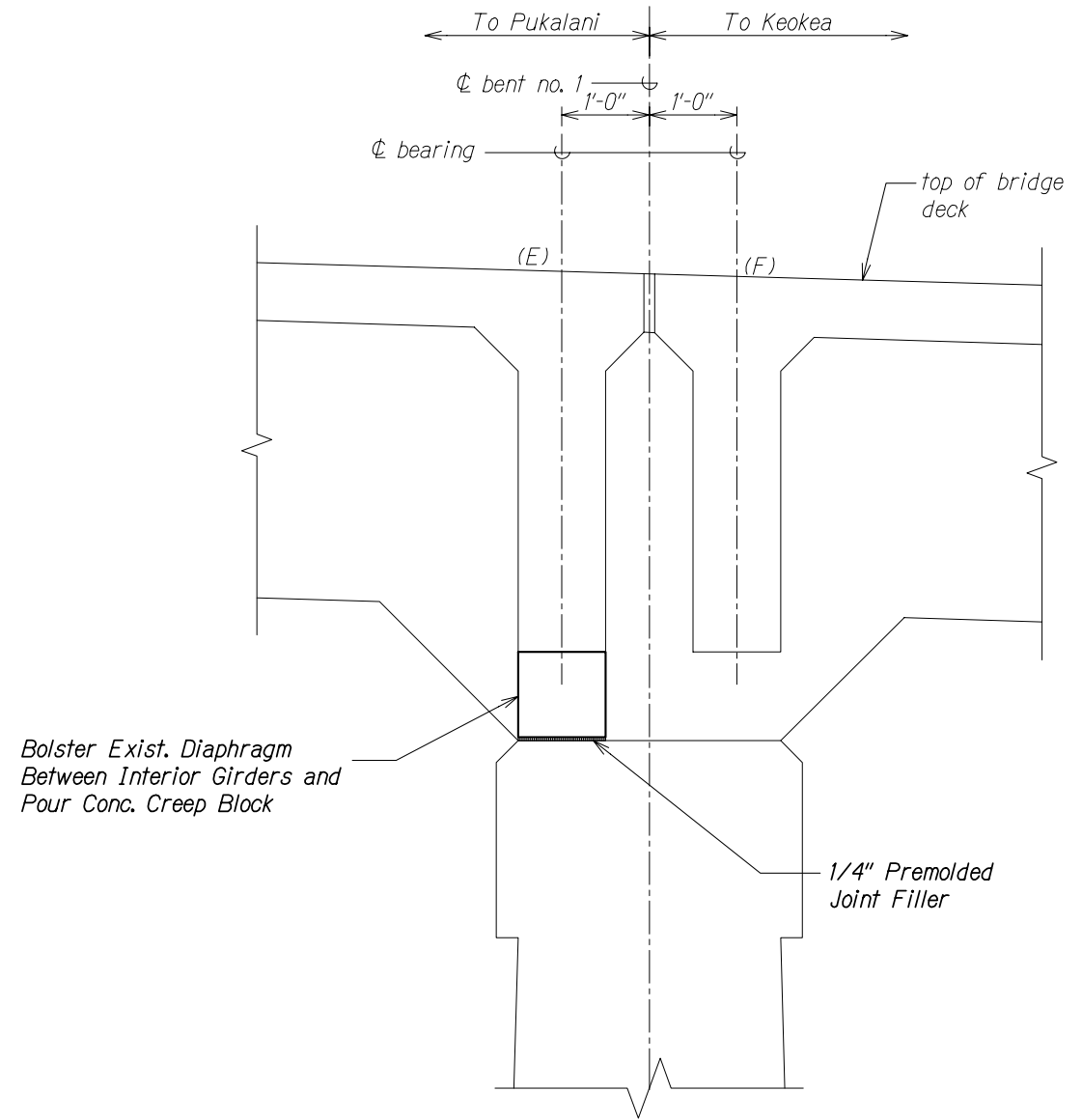
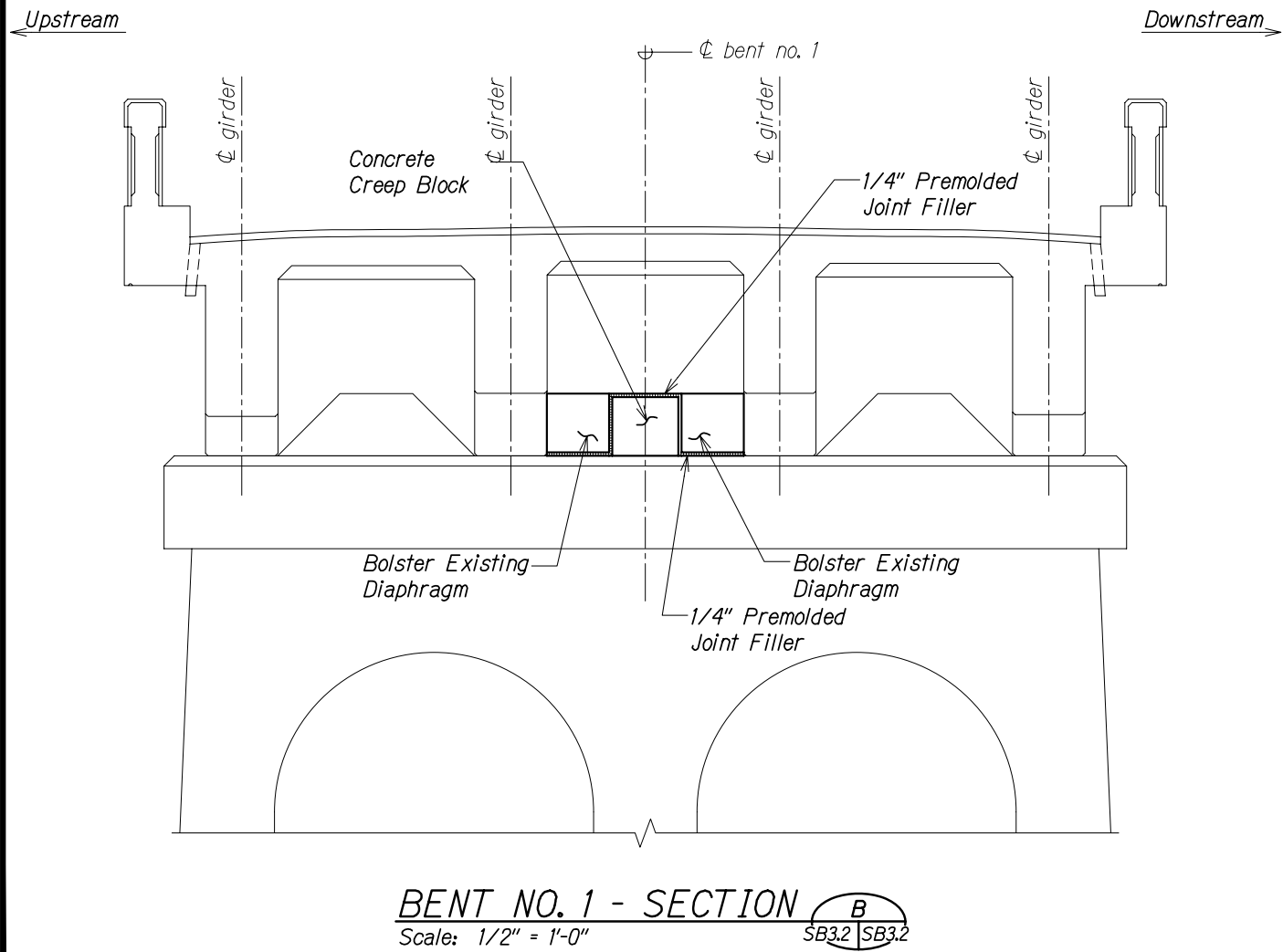
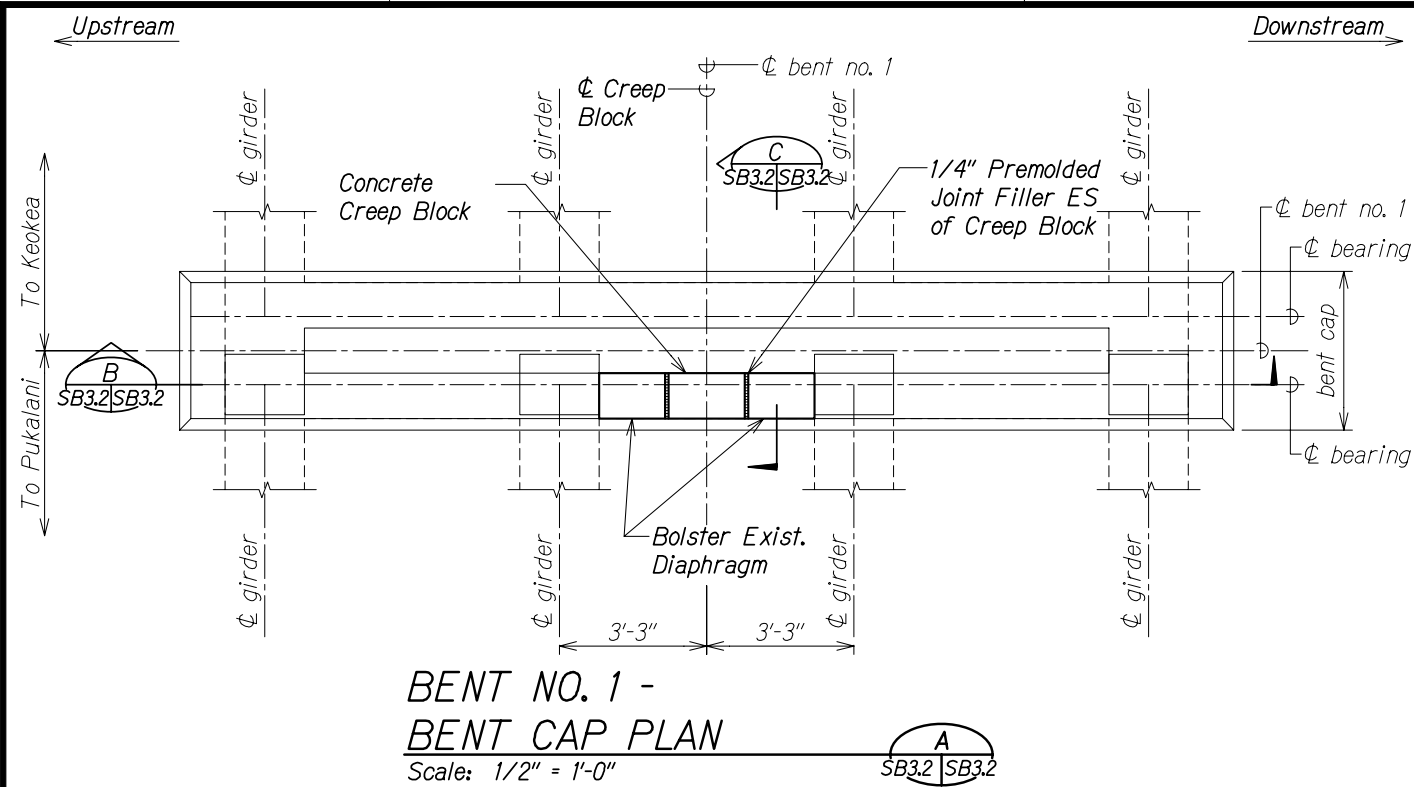
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
**ALAE BRIDGE DIAPHRAGM
DEMOLITION DETAILS**
**SEISMIC RETROFIT, HALEAKALA HIGHWAY ROUTE 377
Waiale Gulch, Alae (Naalae Gulch) and
Pulehu Gulch (Pohakuokala) Bridges
Federal Aid Project No. STP-0377(008)**
Scale: As Noted Date: Mar. 2026

SHEET No. SB3.1 OF 4 SHEETS

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0377(008)	2026	99	131



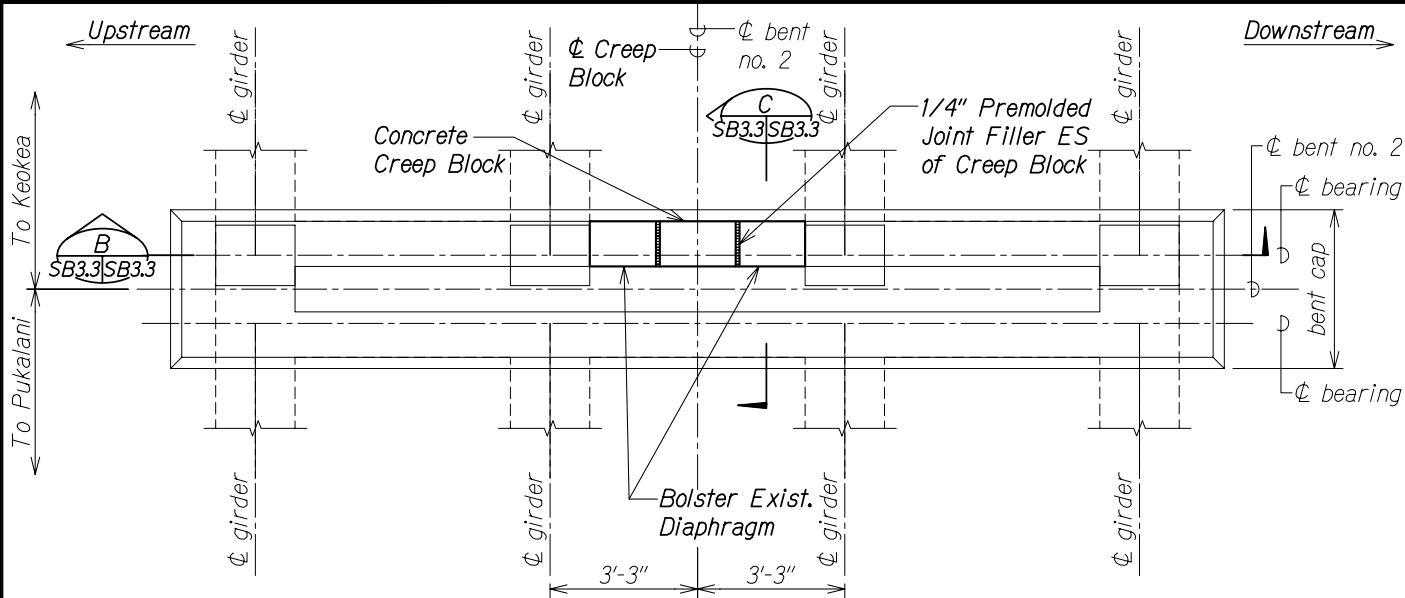
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

Signature: *Stephen T. Peters*
Date: 4-30-28
SEAL: EXP. DATE OF THE LICENSE

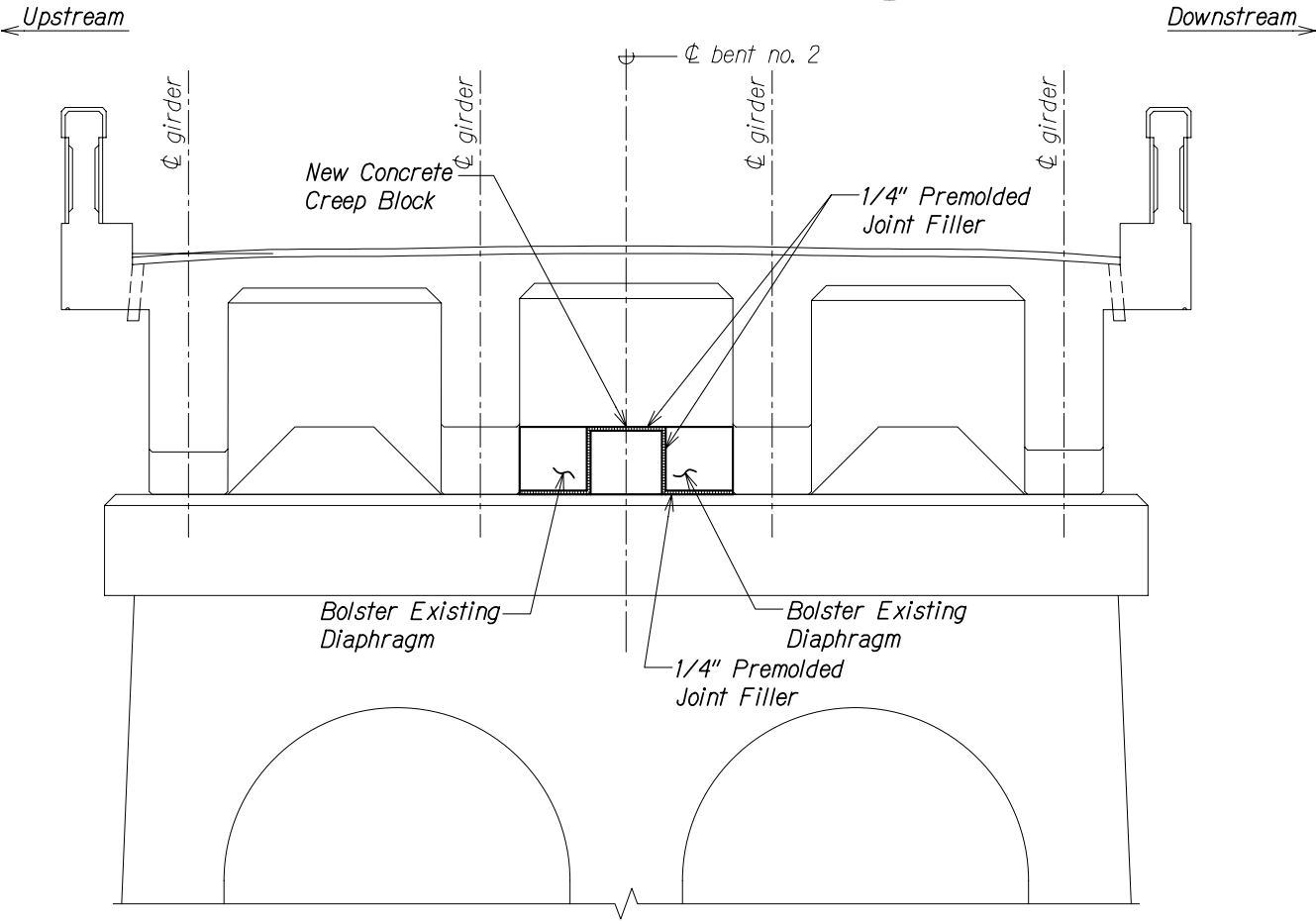
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
**ALAE BRIDGE BENT NO. 1
PLAN AND SECTIONS**
**SEISMIC RETROFIT, HALEAKALA HIGHWAY ROUTE 377
Waiale Gulch, Alae (Naalae Gulch) and
Pulehu Gulch (Pohakuokala) Bridges
Federal Aid Project No. STP-0377(008)**
Scale: As Noted Date: Mar. 2026

SHEET No. SB3.2 OF 4 SHEETS

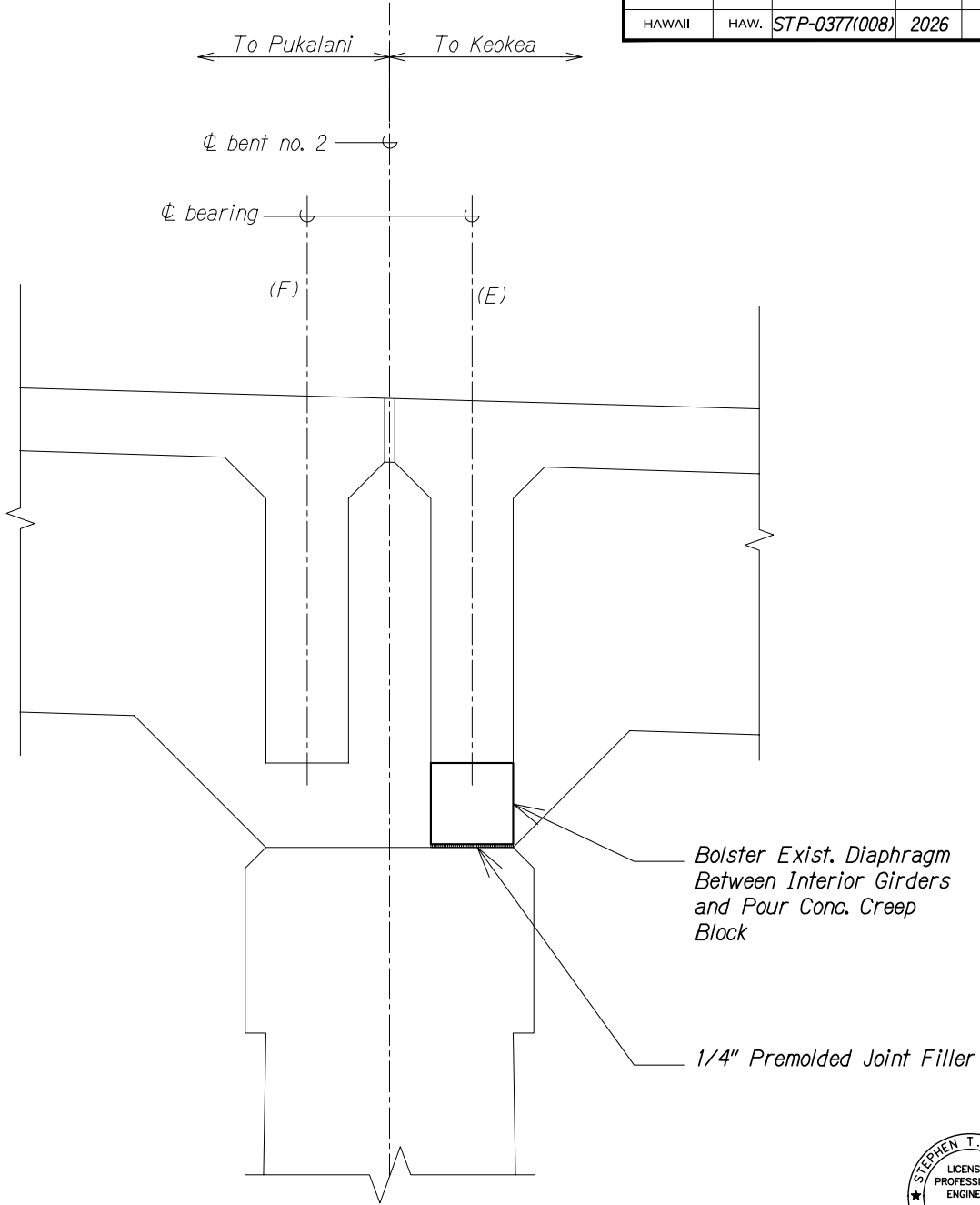
FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0377(008)	2026	100	131



**BENT NO. 2 -
BENT CAP DETAIL PLAN**
Scale: 1/2" = 1'-0"
A
SB3.3 SB3.3



BENT NO. 2 - SECTION
Scale: 1/2" = 1'-0"
B
SB3.3 SB3.3



BENT NO. 2 - SECTION
Scale: 1" = 1'-0"
C
SB3.3 SB3.3



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Stephen T. Peters
SIGNATURE EXPIRATION DATE OF THE LICENSE

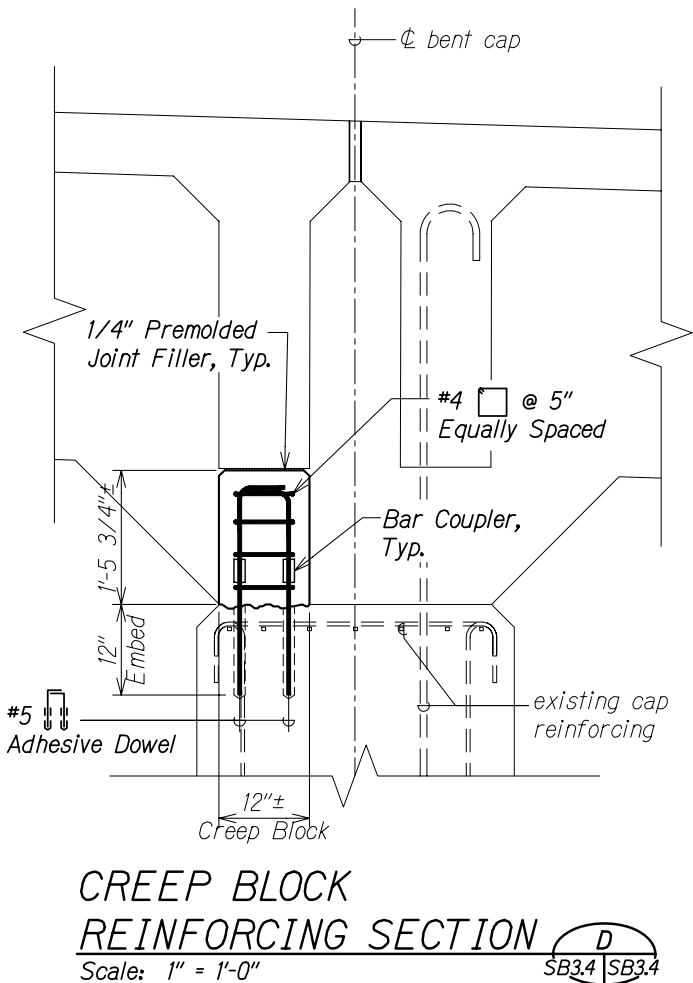
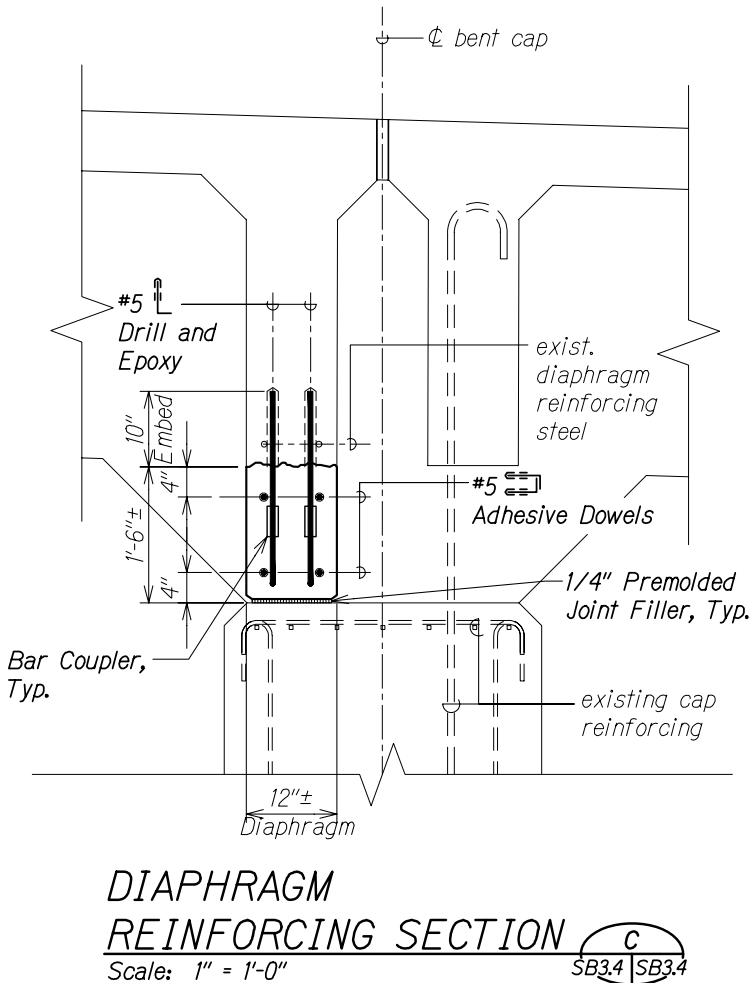
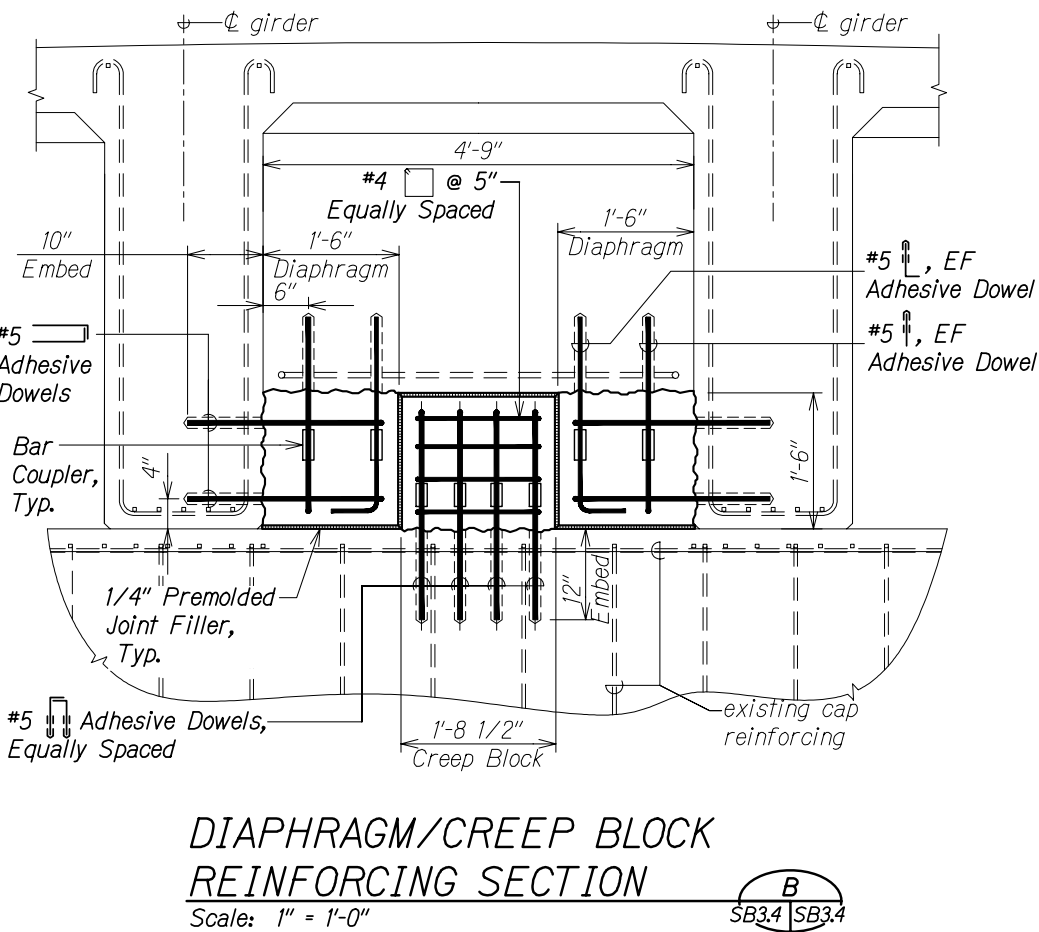
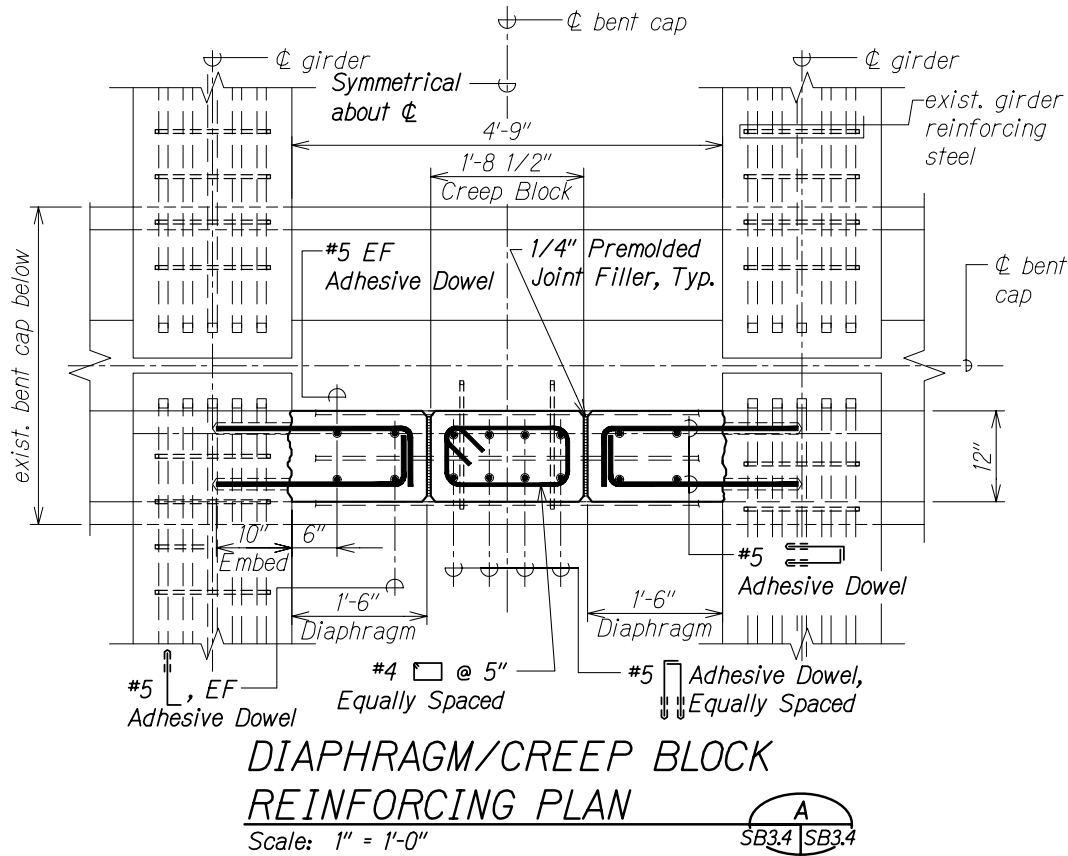
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ALAE BRIDGE BENT NO. 2
PLAN AND SECTIONS
SEISMIC RETROFIT, HALEAKALA HIGHWAY ROUTE 377
Waiale Gulch, Alae (Naalae Gulch) and
Pulehu Gulch (Pohakuokala) Bridges
Federal Aid Project No. STP-0377(008)
Scale: As Noted Date: Mar. 2026

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

DRAWING NAME: 2-800-DWG001NGS2-003-3-3 MAUI BRIDGES SEISMIC RETROFIT (NPSISU) CAD003-24-26 100% \$1MB-SB0301 ALAE DETAILING - PLOT TIME: 08:25:26, 436 PM

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0377(008)	2026	101	131



- NOTES:
1. The surface of all existing concrete substrates shall be roughened to a 1/4" amplitude, cleaned, and SSD prior to placement of subsequent concrete pour.
 2. All reinforcing steel clearances to face of concrete shall be 2".
 3. The Contractor shall scan the surfaces of all exist bent caps, girders, and diaphragms with a ground penetrating radar device, or approved equal, to locate exist. reinforcing steel prior to drilling holes.
 4. Dimensions to be field verified by the Contractor.

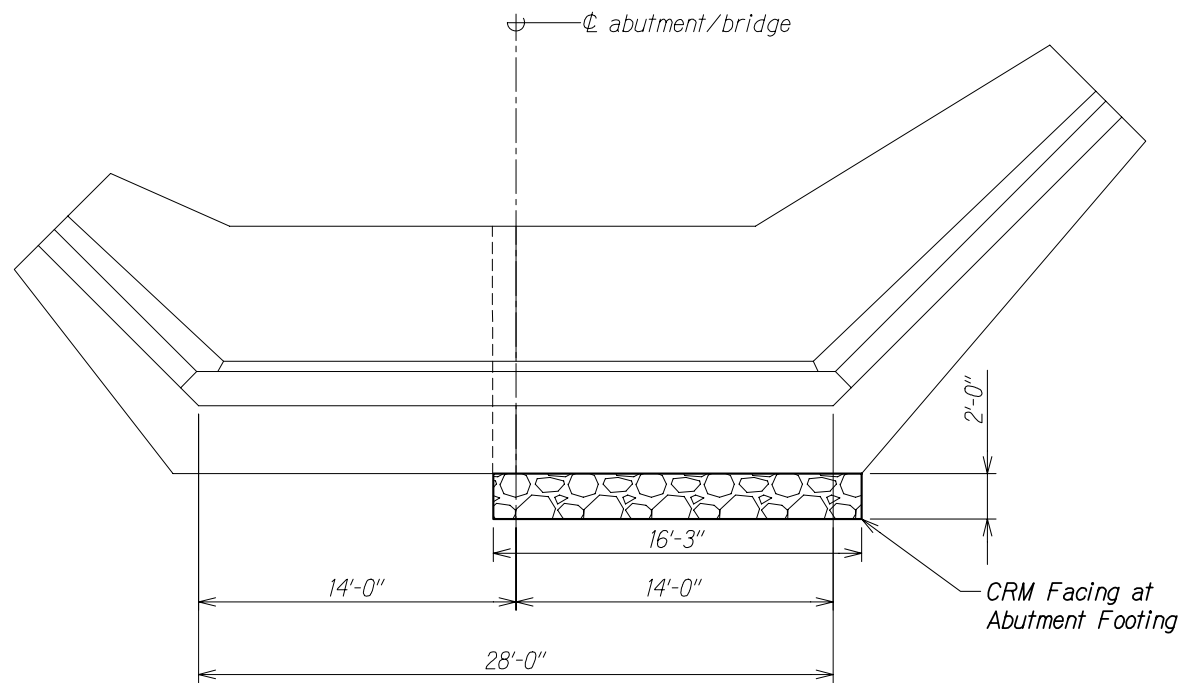


THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

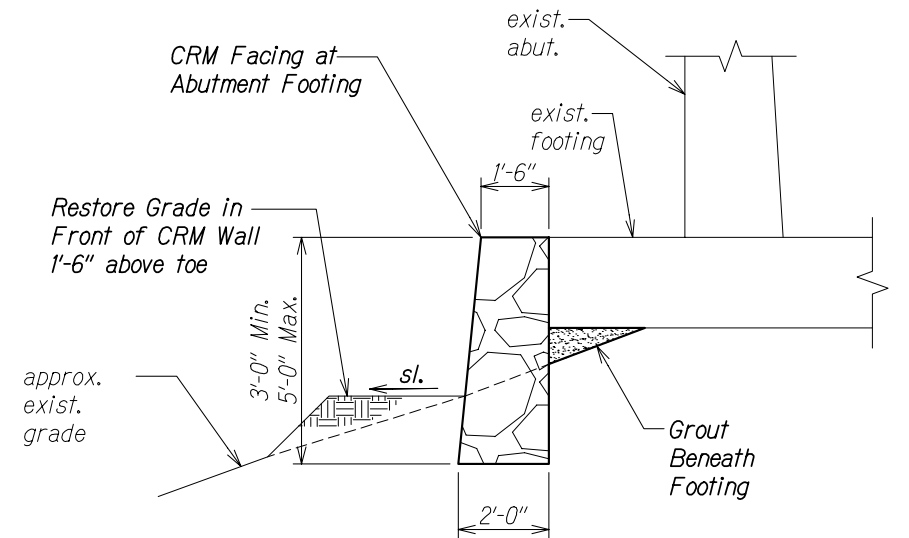
Signature: *Stephen T. Peters* 4-30-28
 EXP. DATE OF THE LICENSE

STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION
**ALAE BRIDGE DIAPHRAGM/
 CREEP BLOCK REIN. PLAN AND SECTIONS**
SEISMIC RETROFIT, HALEAKALA HIGHWAY ROUTE 377
Waiale Gulch, Alae (Naalae Gulch) and
Pulehu Gulch (Pohakuokala) Bridges
Federal Aid Project No. STP-0377(008)
 Scale: As Noted Date: Mar. 2026

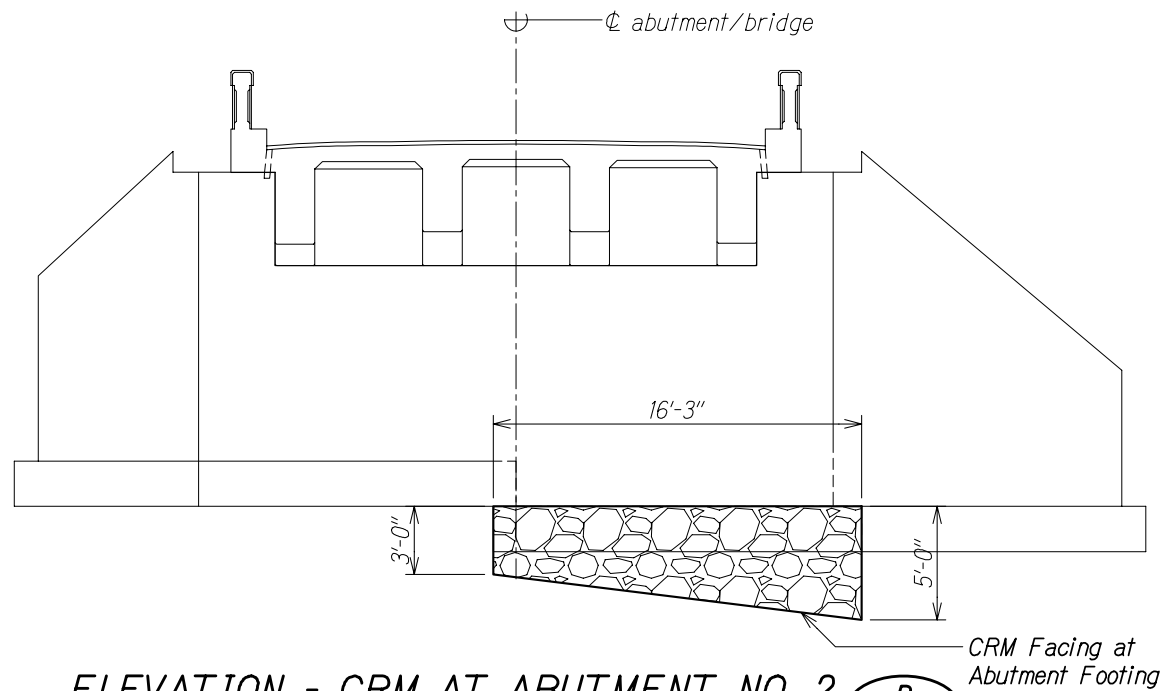
FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0377(008)	2026	102	131



PLAN - CRM AT ABUTMENT NO. 2
Scale: 1/4" = 1'-0"
A
SB4.1|SB4.1



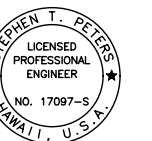
SECTION -
CRM AT ABUTMENT NO. 2
Scale: 1/2" = 1'-0"
C
SB4.1|SB4.1



ELEVATION - CRM AT ABUTMENT NO. 2
Scale: 1/4" = 1'-0"
B
SB4.1|SB4.1

NOTE:

CRM work shall be paid for under Pay Item 508.1000 - Cement Rubble Masonry. Grouting work beneath footing shall be incidental.



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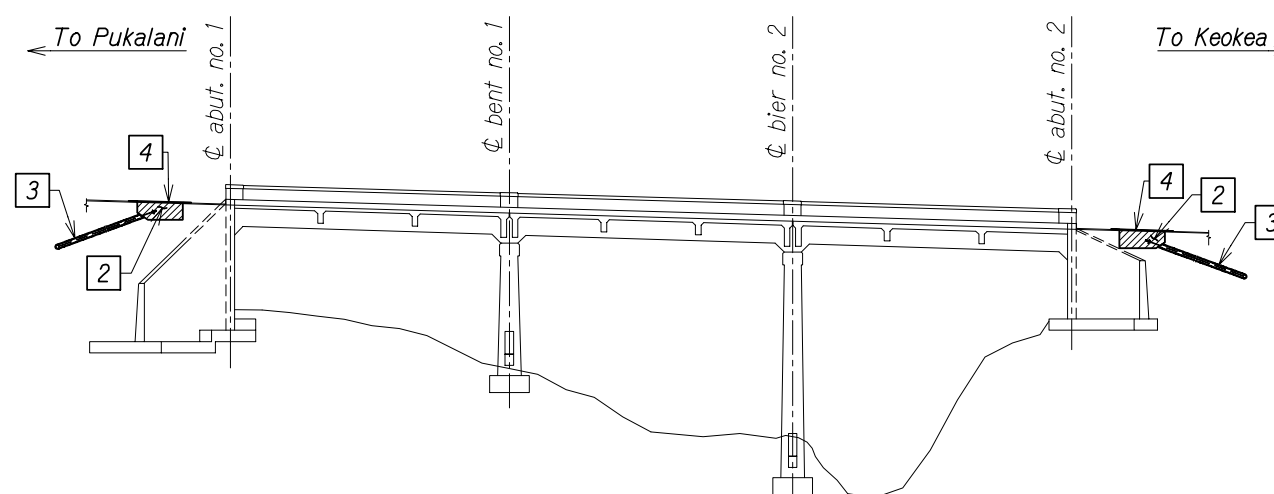
Signature: Stephen T. Peters
Date: 4-30-28
Signature Date of the License

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ALAE BRIDGE ABUT. NO. 2
EROSION PROTECTION DETAILS

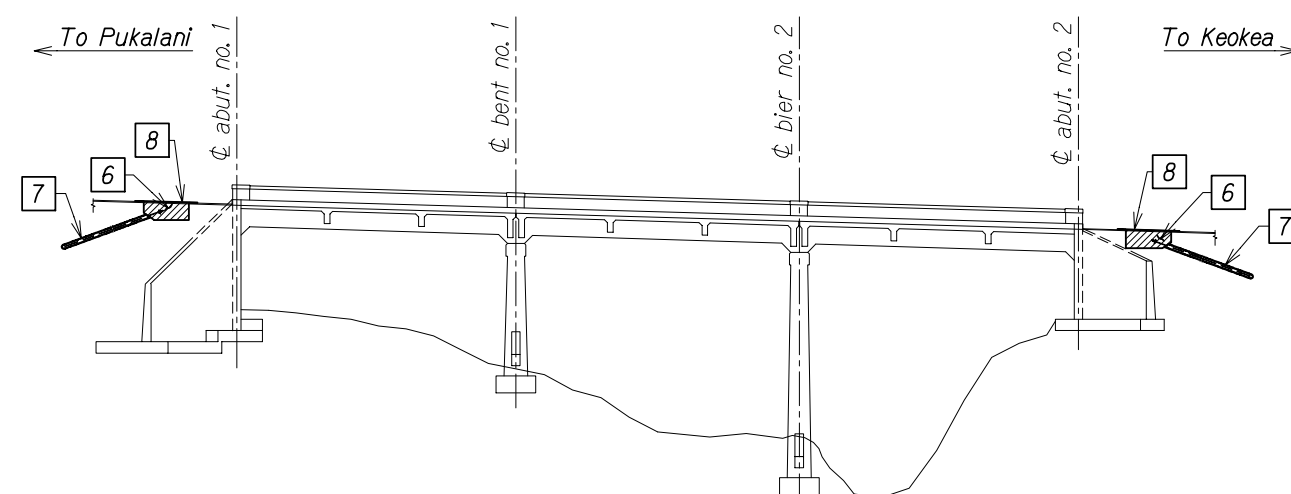
SEISMIC RETROFIT, HALEAKALA HIGHWAY ROUTE 377
Waiale Gulch, Alae (Naalae Gulch) and
Pulehu Gulch (Pohakuokala) Bridges
Federal Aid Project No. STP-0377(008)
Scale: As Noted Date: Mar. 2026

SHEET No. SB4.1 OF 1 SHEETS

DRAWING NAME: Z:\\$00 ONGOING\23-009.3-3 MAUI BRIDGES SEISMIC RETROFIT (WSP)\\$01 CAD\23-24-26 100%\\$3MB-SB0501 ALAE SEQ.DWG PLOT TIME: 03-25-26, 4:35 PM)

CONSTRUCTION STAGE 1 (UPSTREAM LANE CLOSURE)

- ☐ 1 Install traffic control for Upstream side lane closure (see Civil drawings)
- ☐ 2 Excavate roadway on the backside of Abutments as needed
- ☐ 3 Drill, install soil nails, grout, and perform necessary proof testing of Upstream side soil nails
- ☐ 4 Install steel road plates over trench during non-working hours and open Upstream side lane to traffic



CONSTRUCTION STAGE 2 (DOWNSTREAM LANE CLOSURE)

- 5

Install traffic control for Downstream side lane closure (See Civil drawings)
- 6

Excavate roadway on the backside of Abutments as needed
- 7

Drill, install soil nails, grout, and perform necessary proof testing of Downstream side soil nails
- 8

Install steel road plates over trench during non-working hours and open Downstream side lane to traffic

 Excavate and Dispose

1. Construction sequence is suggested. The Contractor may propose an alternative plan that allows for all work to be completed within the allotted full bridge closure timeframe.
2. Pre-Production Sacrificial Soil Nail Installation and Testing shall be completed prior to any Structure/Roadway Excavation

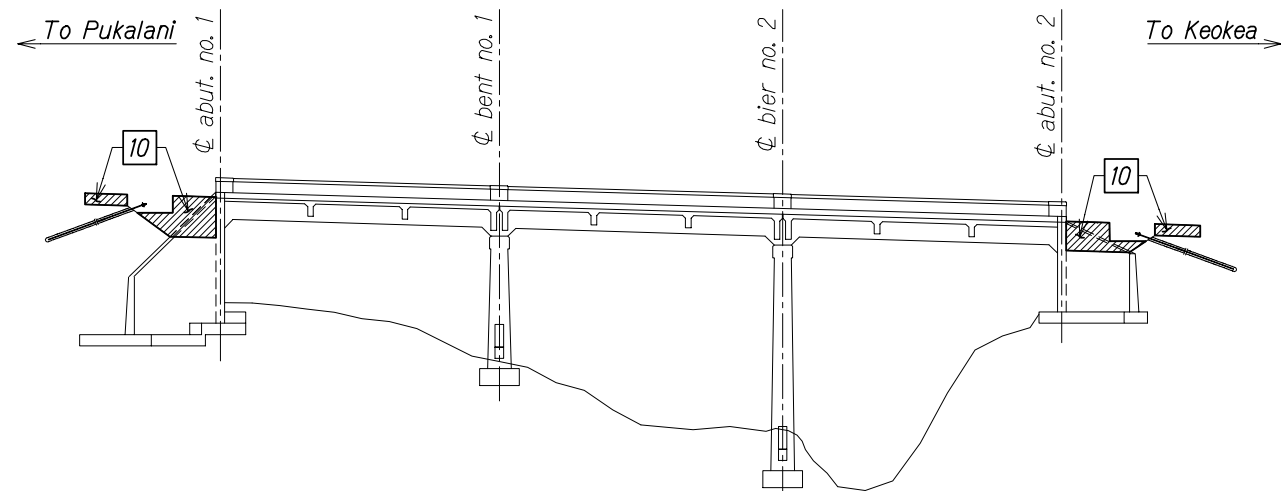
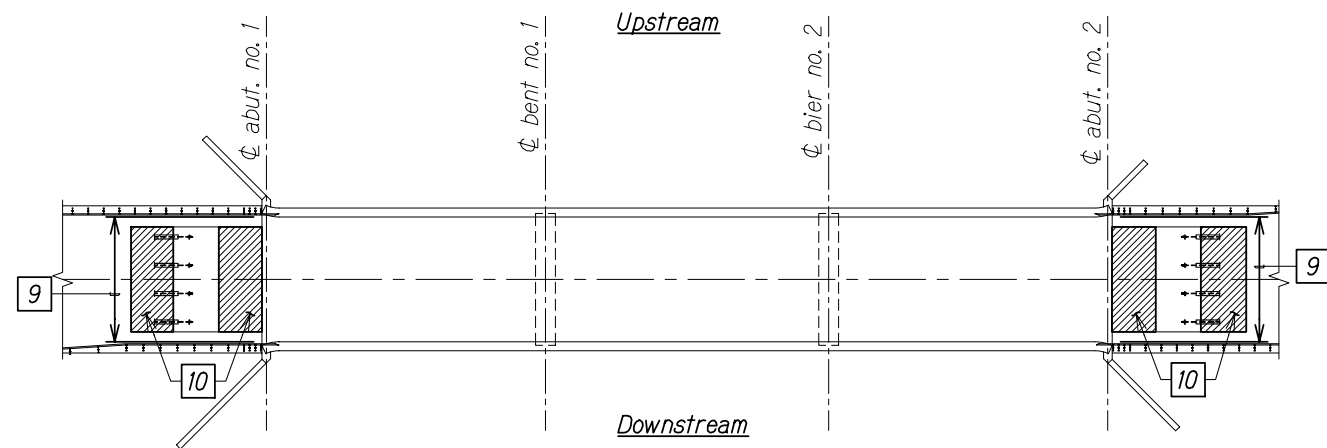


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Joseph Petr 4-30-
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SHEET No. *SB5.1* OF *3* SHEETS

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0377(008)	2026	104	131



CONSTRUCTION SEQUENCE - STAGE 3 (FULL CLOSURE)

CONSTRUCTION STAGE 3 (FULL BRIDGE CLOSURE)

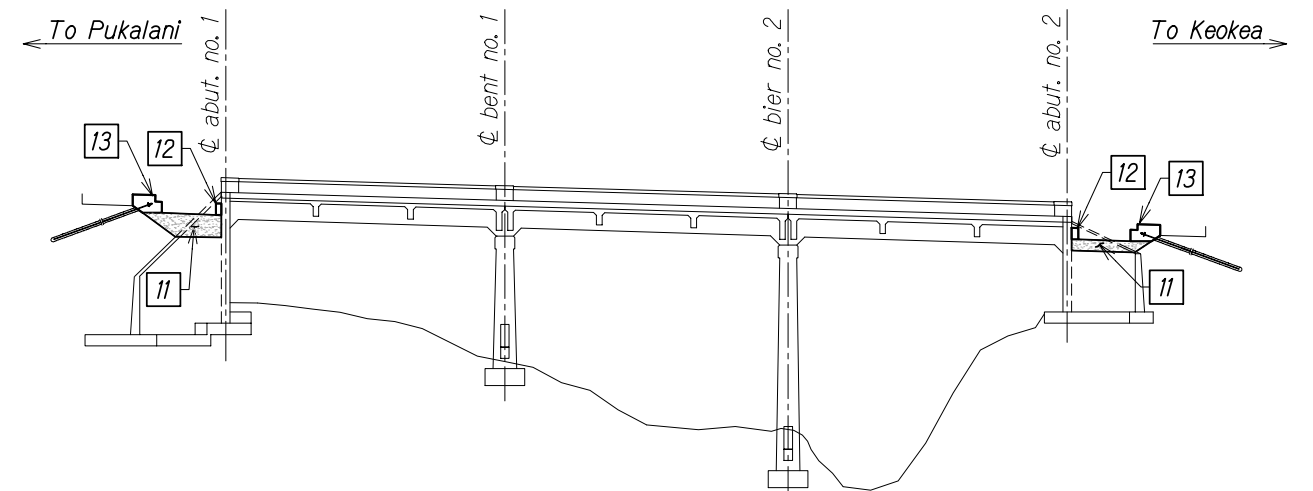
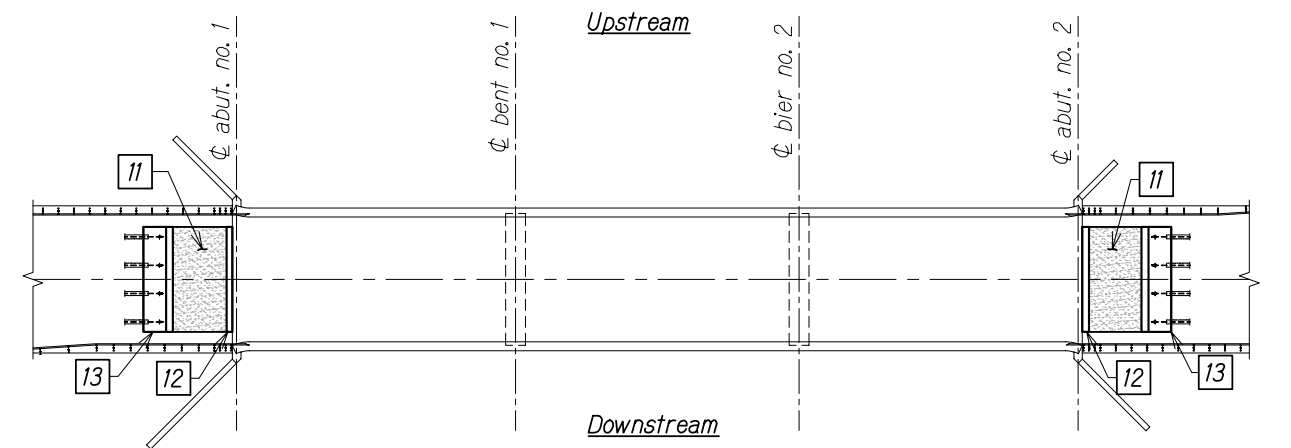
- 9 Install traffic control for full bridge closure (See Civil Drawings)
- 10 Excavate remaining roadway to limits as shown on contract drawings

LEGEND

-  Excavate and Dispose
-  LCC Backfill

NOTE:

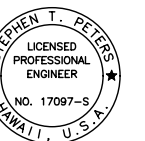
During full bridge closure times, the Contractor shall perform all work at Abut. No. 1 and Abut. No. 2 simultaneously



CONSTRUCTION SEQUENCE - STAGE 4 (FULL CLOSURE)

CONSTRUCTION STAGE 4 (FULL BRIDGE CLOSURE)

- 11 Place LCC backfill to the bottom of the corbel and anchor beam
- 12 Drill and epoxy dowels, install reinforcing steel, and pour concrete corbel
- 13 Install reinforcing steel and pour concrete anchor beam



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Stephen T. Peters
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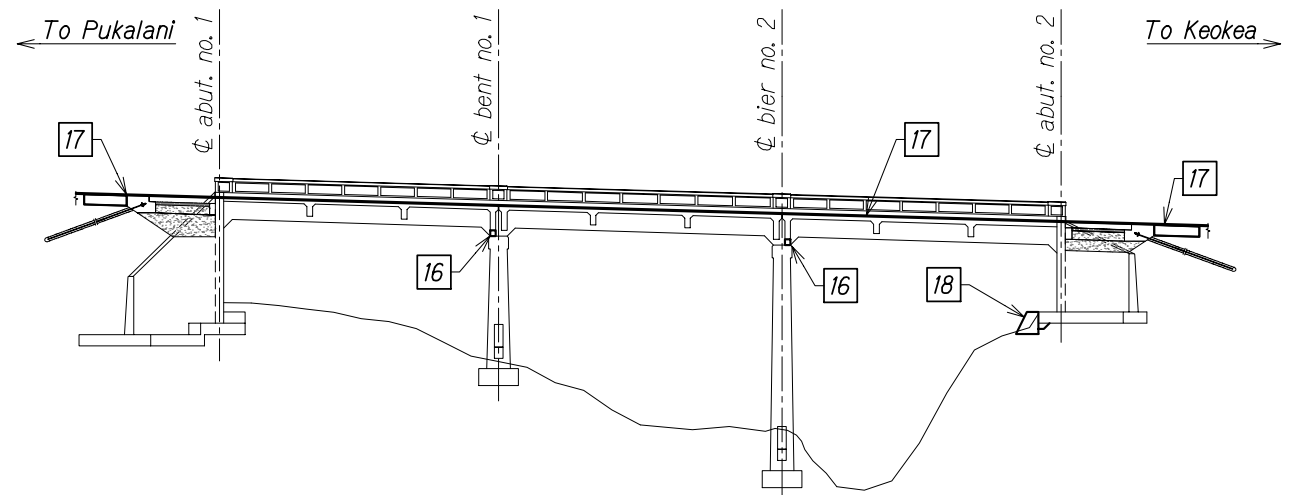
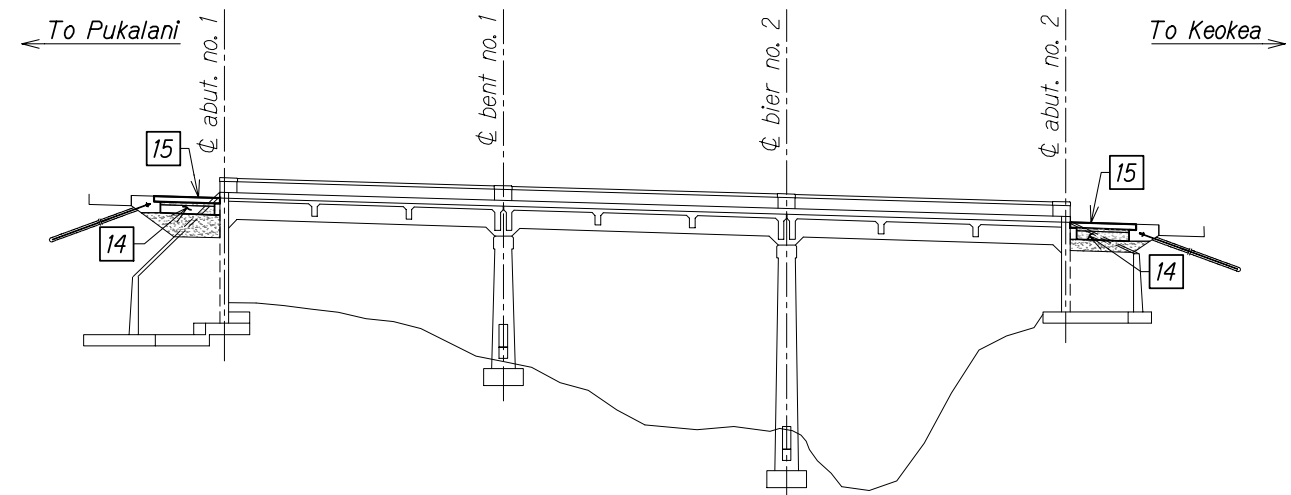
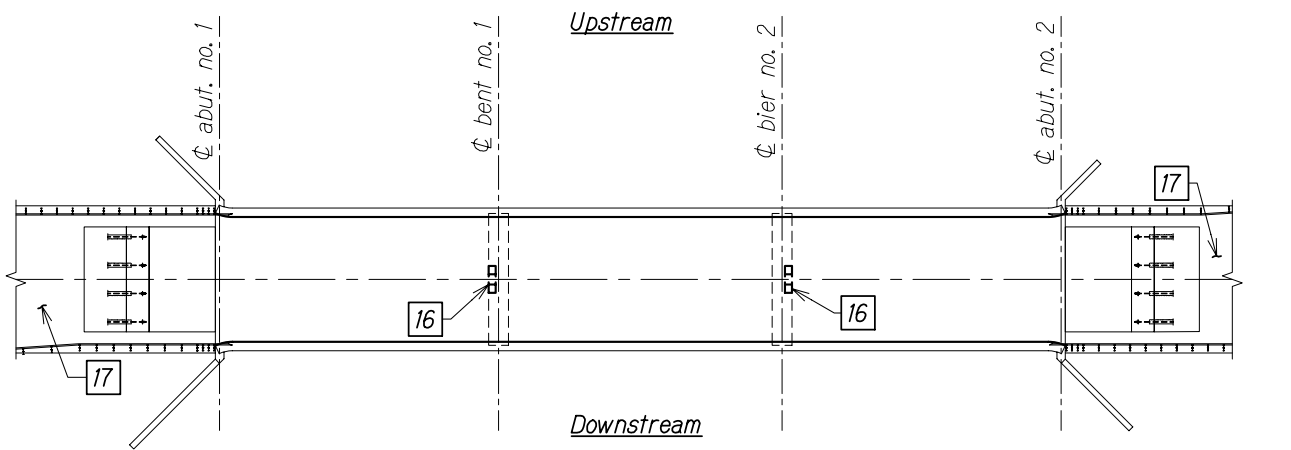
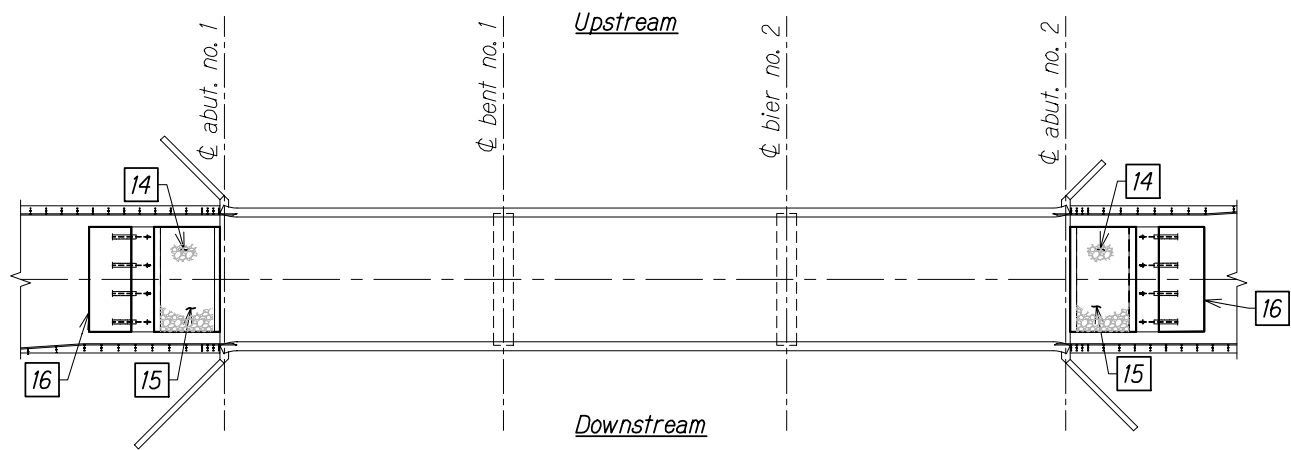
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ALAE BRIDGE
CONSTRUCTION SEQUENCE

SEISMIC RETROFIT, HALEAKALA HIGHWAY ROUTE 377
Waiale Gulch, Alae (Naalae Gulch) and
Pulehu Gulch (Pohakuokala) Bridges
Federal-Aid Project No. STP-0377(008)

Scale: None Date: Mar. 2026

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0377(008)	2026	105	131



CONSTRUCTION SEQUENCE - STAGE 5 (FULL CLOSURE)

CONSTRUCTION SEQUENCE - STAGE 6 (FULL CLOSURE)

CONSTRUCTION STAGE 5 (FULL BRIDGE CLOSURE)

- 14 Place remaining LCC backfill and aggregate base course beneath tie slab
- 15 Install reinforcing steel and pour concrete tie slab

CONSTRUCTION STAGE 6 (FULL BRIDGE CLOSURE)

- 16 Demolish portion of exist. diaphragms, install reinforcing steel and pour concrete diaphragms and creep blocks
- 17 Reconstruct roadway pavement section and place PMA pavement across bridge deck (See Civil Drawings)
- 18 Grout voids beneath footing and construct CRM erosion control facing (This work may be performed during times outside of full bridge closure)

LEGEND

- LCC Backfill
- Base Course

NOTE:

During full bridge closure times, the Contractor shall perform all work at Abut. No. 1 and Abut. No. 2 simultaneously



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Signature: *Stephen T. Peters*
Date: 4-30-28
Senior Engineer

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ALAE BRIDGE
CONSTRUCTION SEQUENCE
SEISMIC RETROFIT, HALEAKALA HIGHWAY ROUTE 377
Waiale Gulch, Alae (Naalae Gulch) and
Pulehu Gulch (Pohakuokala) Bridges
Federal-Aid Project No. STP-0377(008)

Scale: None
Date: Mar. 2026

DRAWING NAME: Z:\\$00 ONGOING\23-009.3-3 MAUI BRIDGES SEISMIC RETROFIT (WSP)\\$01 CAD\23-24-26 100%\\$3MB-SC0101 PULE PLAN & SEC.DWG PLOT TIME: 03-25-26, 4:34 PM)



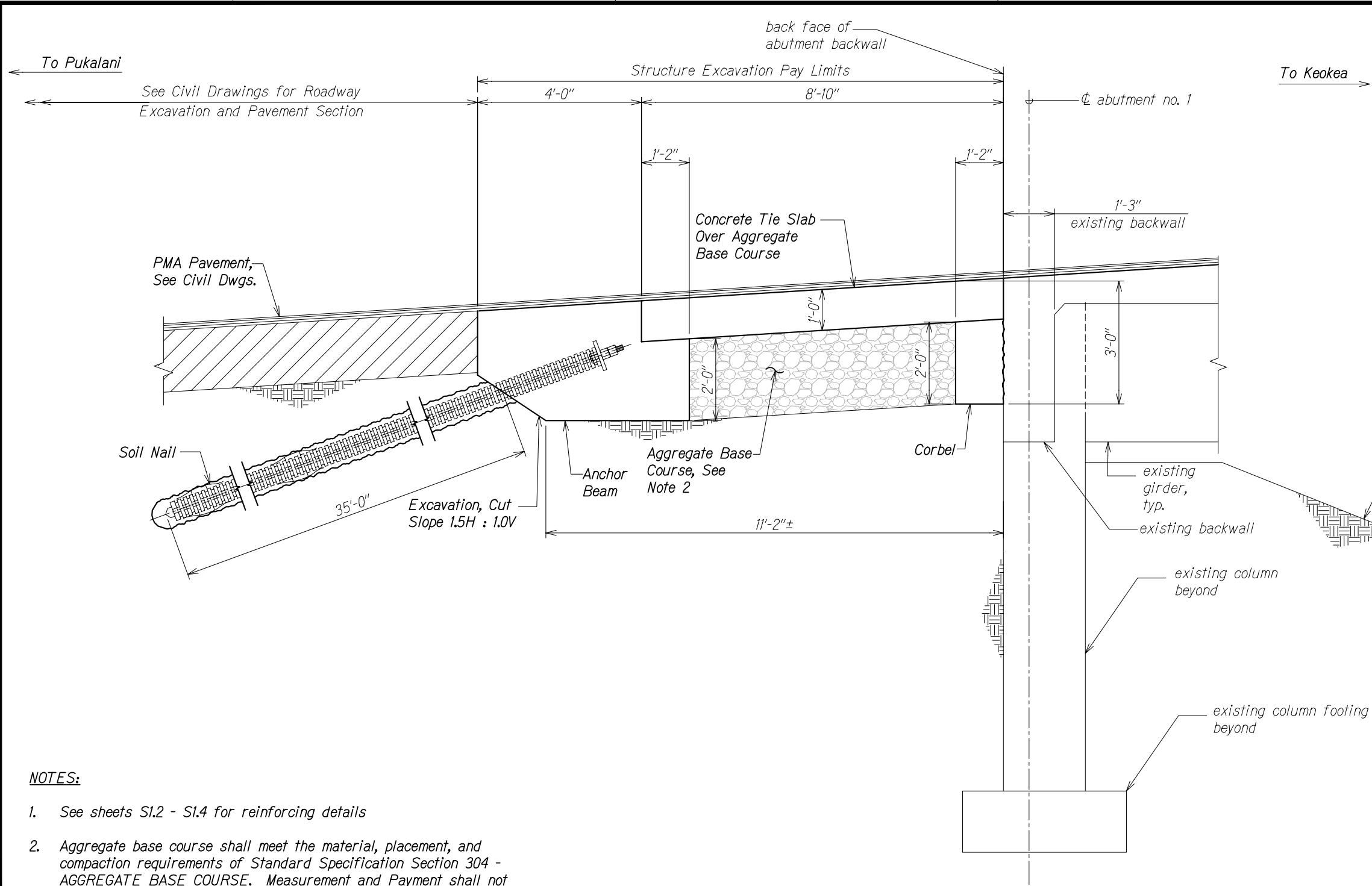
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Scale: $1/8'' = 1'-0''$

SHEET No. *SC11* OF *1* SHEETS

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0377(008)	2026	108	131



NOTES:

1. See sheets SI.2 - SI.4 for reinforcing details
2. Aggregate base course shall meet the material, placement, and compaction requirements of Standard Specification Section 304 - AGGREGATE BASE COURSE. Measurement and Payment shall not apply. Cost to be incidental to Concrete Tie Slab work.

SECTION
Scale: 3/4" = 1'-0" **A**
SC2.1 SC2.2

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

DRAWING NAME: 2-800-DWG/01NG/SE-003-3-3 MAUI BRIDGES SEISMIC RETROFIT (NSP)01 CAD003-24-26 100%3-MB-SC0201 PILE ABUTSDWG PLOT TIME: 03-25-26 4:32 PM



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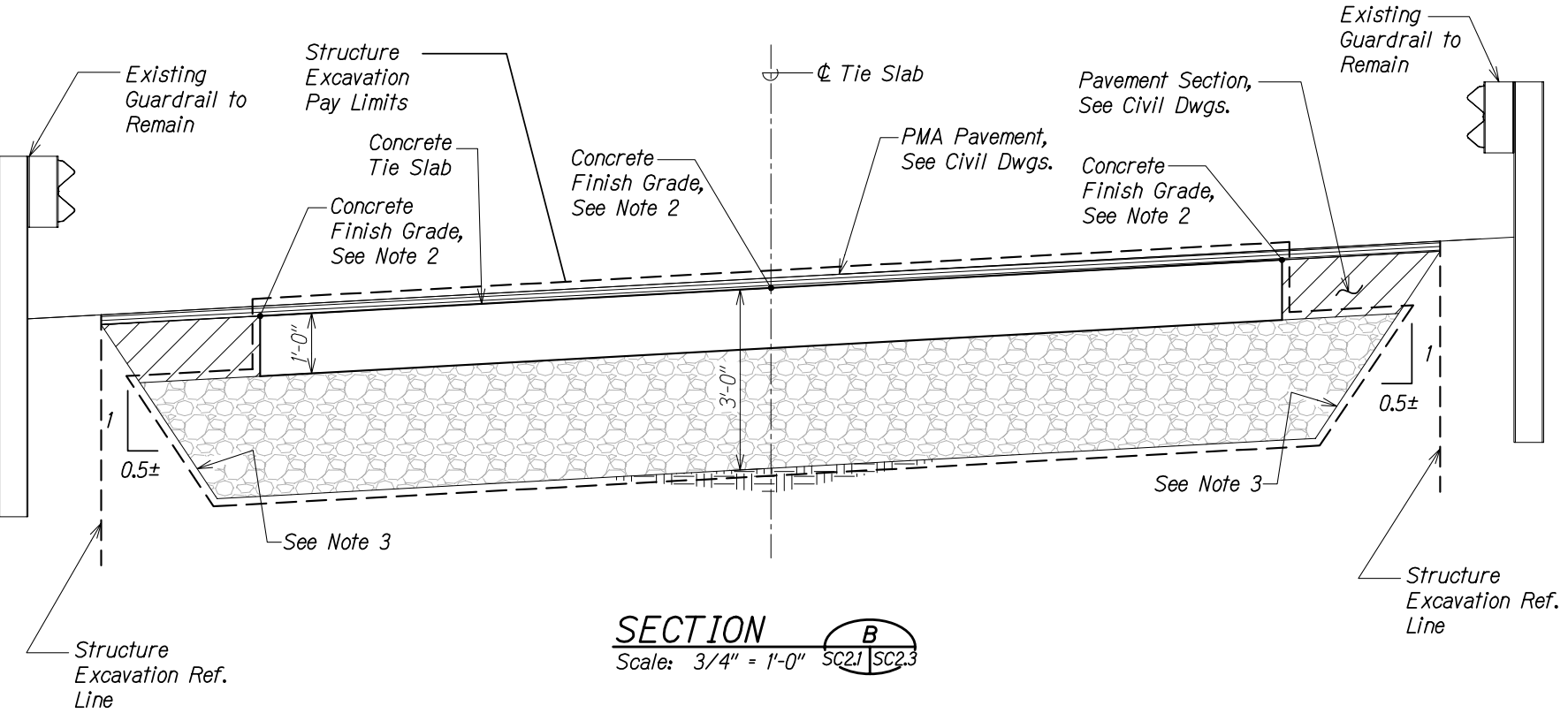
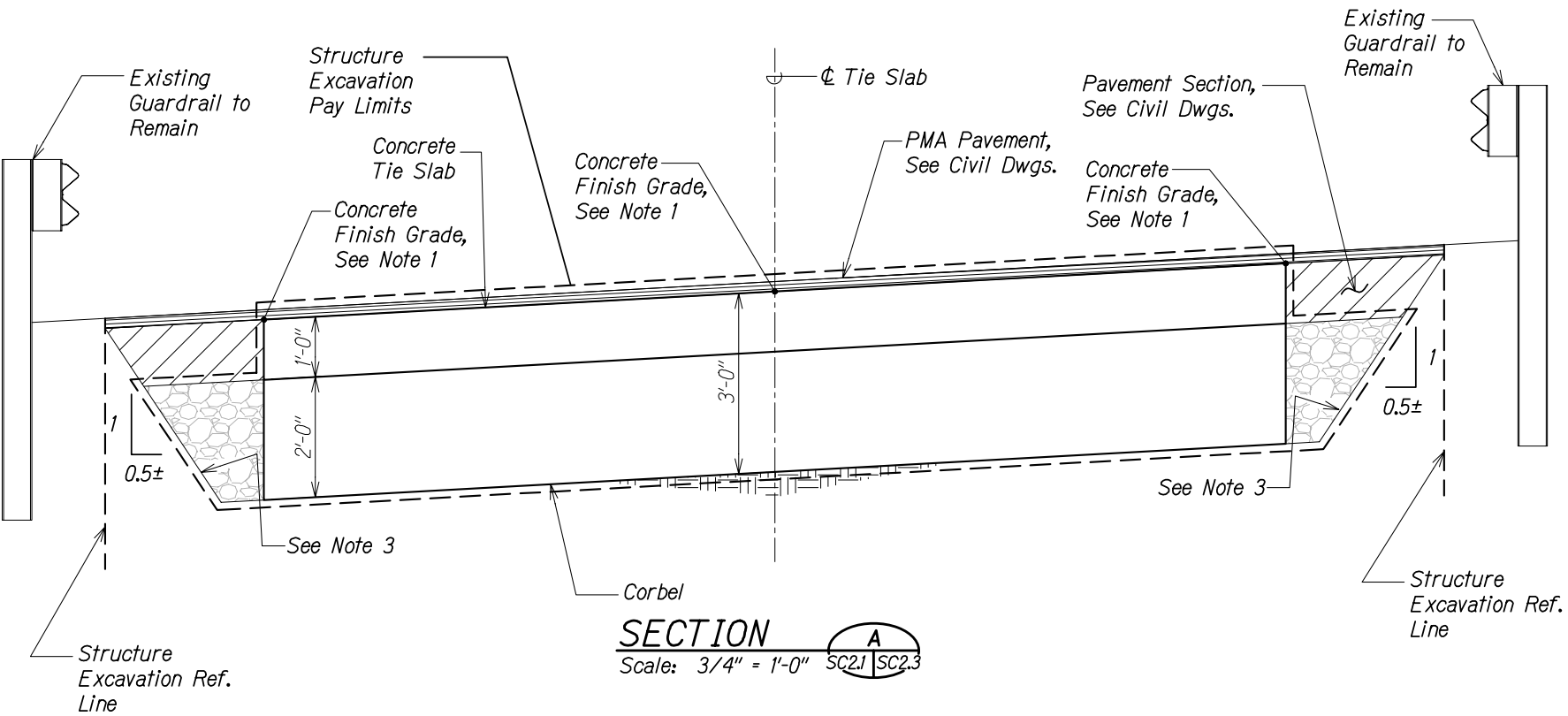
Signature: *Stephen T. Peters* 4-30-28
DATE: EXP. DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

**PULEHU GULCH BRIDGE
ABUTMENT NO. 1 SECTION**

SEISMIC RETROFIT, HALEAKALA HIGHWAY ROUTE 377
Waiale Gulch, Alae (Naalee Gulch) and
Pulehu Gulch (Pohakuokala) Bridges
Federal Aid Project No. STP-0377(008)
Scale: As Noted Date: Mar. 2026

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0377(008)	2026	109	131



- NOTES:**
- Top of concrete tie slab shall be constructed with a superelevation. Finish grade shall match top of concrete bridge deck.
 - Top of concrete tie slab finish grade shall be constructed 2" below roadway finish grade. See Civil Drawings.
 - Contractor shall be responsible for providing a stable cut soil face as needed to prevent loss of soil around Guardrail posts.



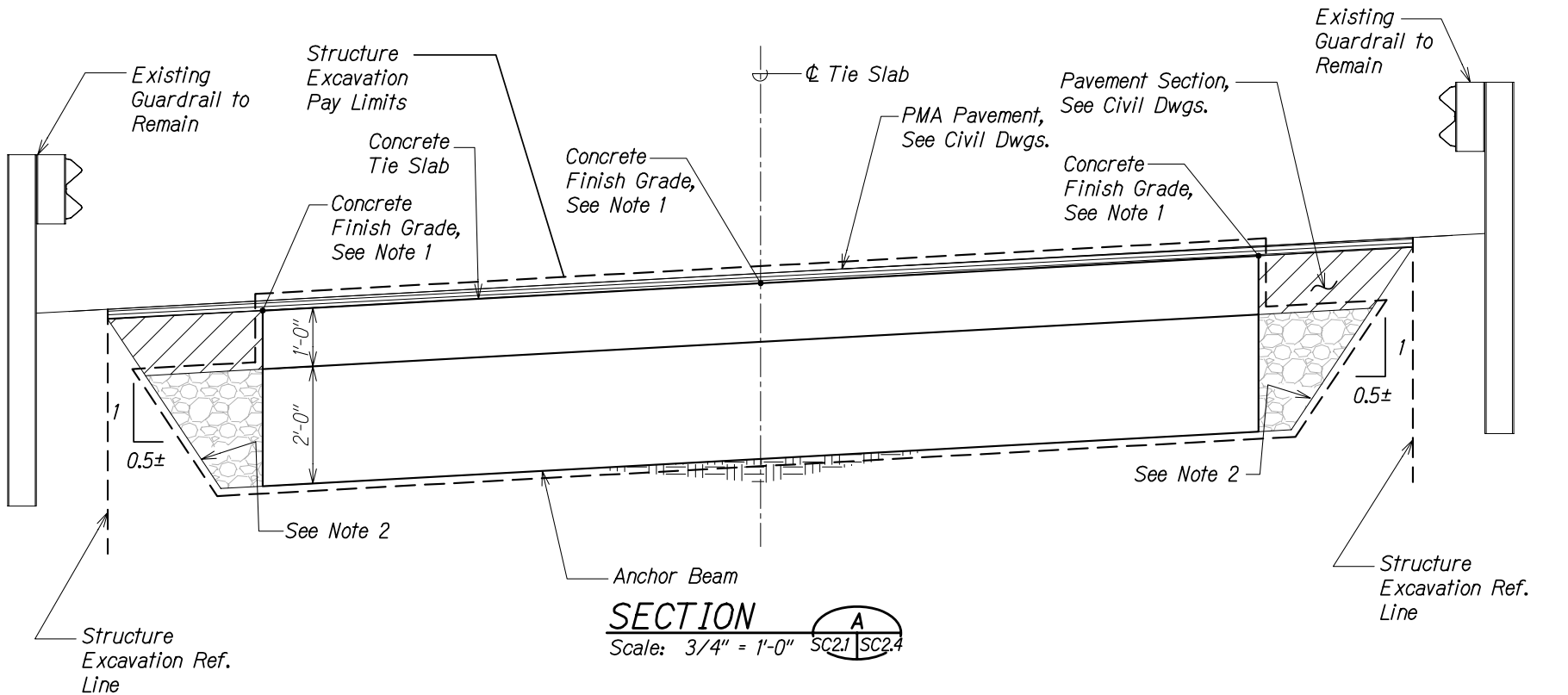
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SIGNATURE EXPIRATION DATE OF THE LICENSE: 4-30-28

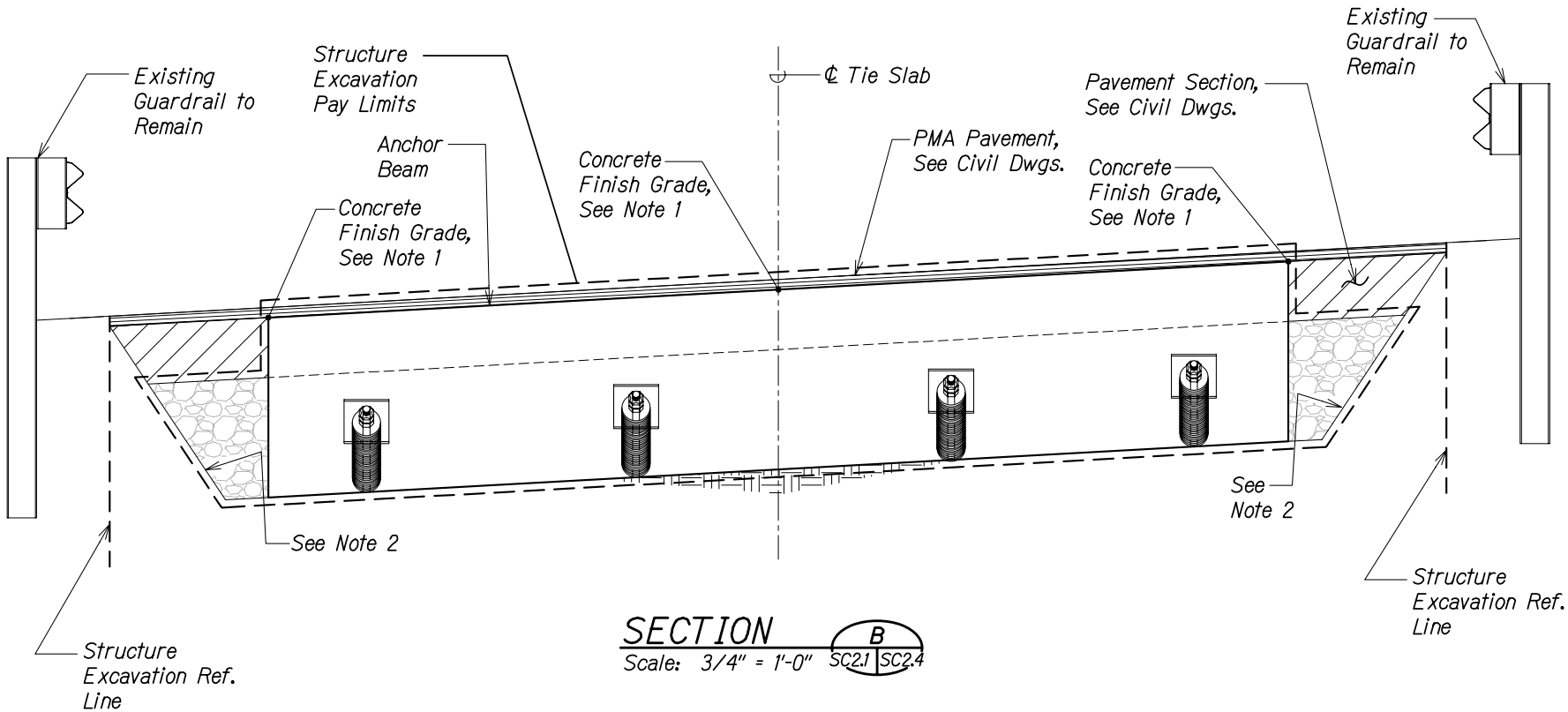
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

**PULEHU GULCH BRIDGE
ABUTMENT NO. 1 SECTIONS**
SEISMIC RETROFIT, HALEAKALA HIGHWAY ROUTE 377
Waiale Gulch, Alae (Naalae Gulch) and
Pulehu Gulch (Pohakuokala) Bridges
Federal Aid Project No. STP-0377(008)
Scale: As Noted Date: Mar. 2026

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0377(008)	2026	110	131



- NOTES:
- Top of concrete tie slab/anchor beam finish grade shall be constructed 2" below roadway finish grade. See Civil Drawings.
 - Contractor shall be responsible for providing a stable cut soil face as needed to prevent loss of soil around Guardrail posts.



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Date: 4-30-28
Signature Date of the License

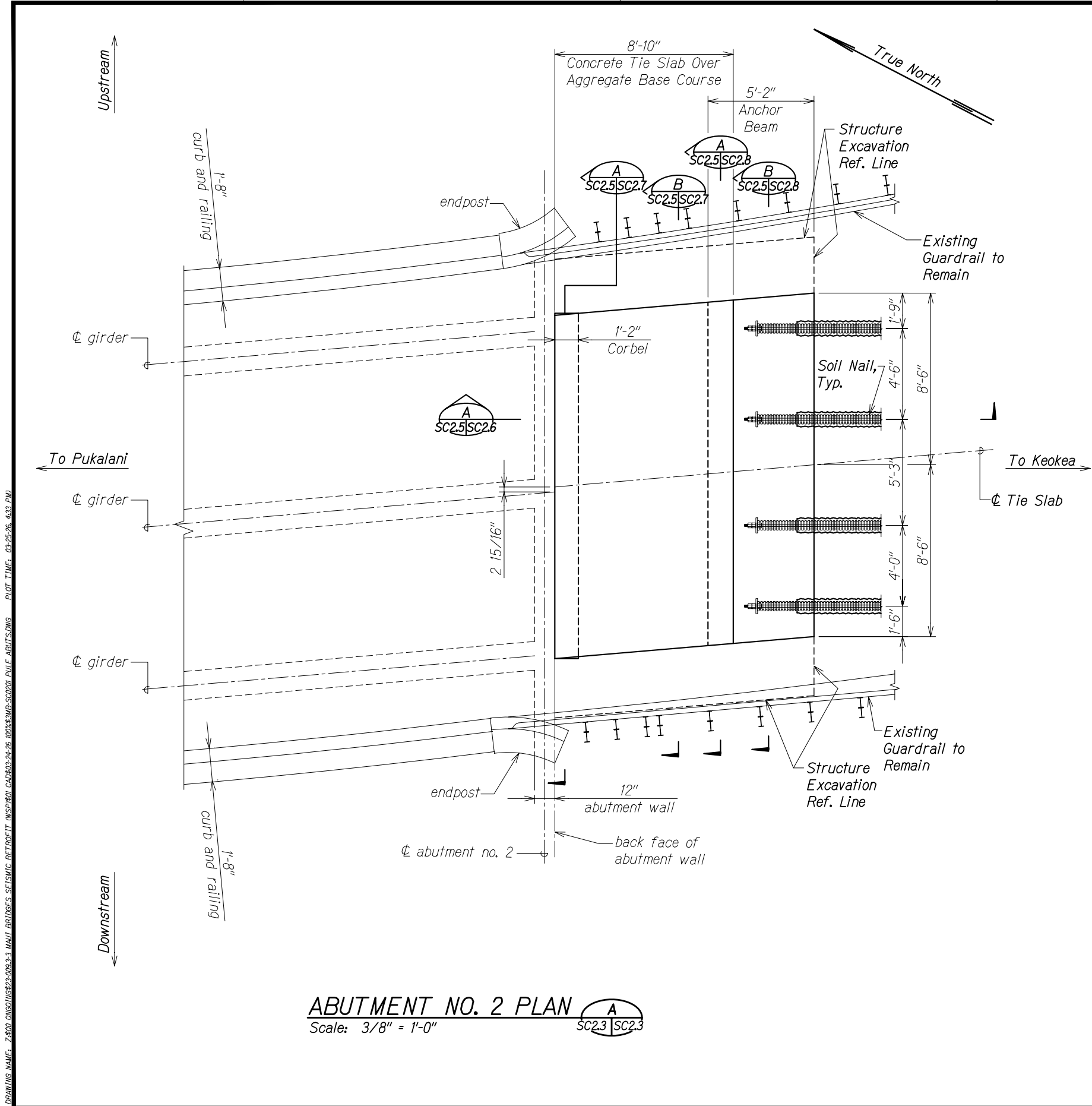
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

**PULEHU GULCH BRIDGE
ABUTMENT NO. 1 SECTIONS**
SEISMIC RETROFIT, HALEAKALA HIGHWAY ROUTE 377
Waiale Gulch, Alae (Naalae Gulch) and
Pulehu Gulch (Pohakuokala) Bridges
Federal Aid Project No. STP-0377(008)
Scale: As Noted Date: Mar. 2026

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0377(008)	2026	111	131

NOTE:

Structure excavation line is shown for reference only. The Contractor shall be responsible for methods of excavation at the abutment to maintain a stable cut face and to avoid undermining the existing metal guardrails. Existing granular backfill material shall be anticipated. Temporary shoring/bracing necessary to perform work shall be taken into consideration at the time of bid.



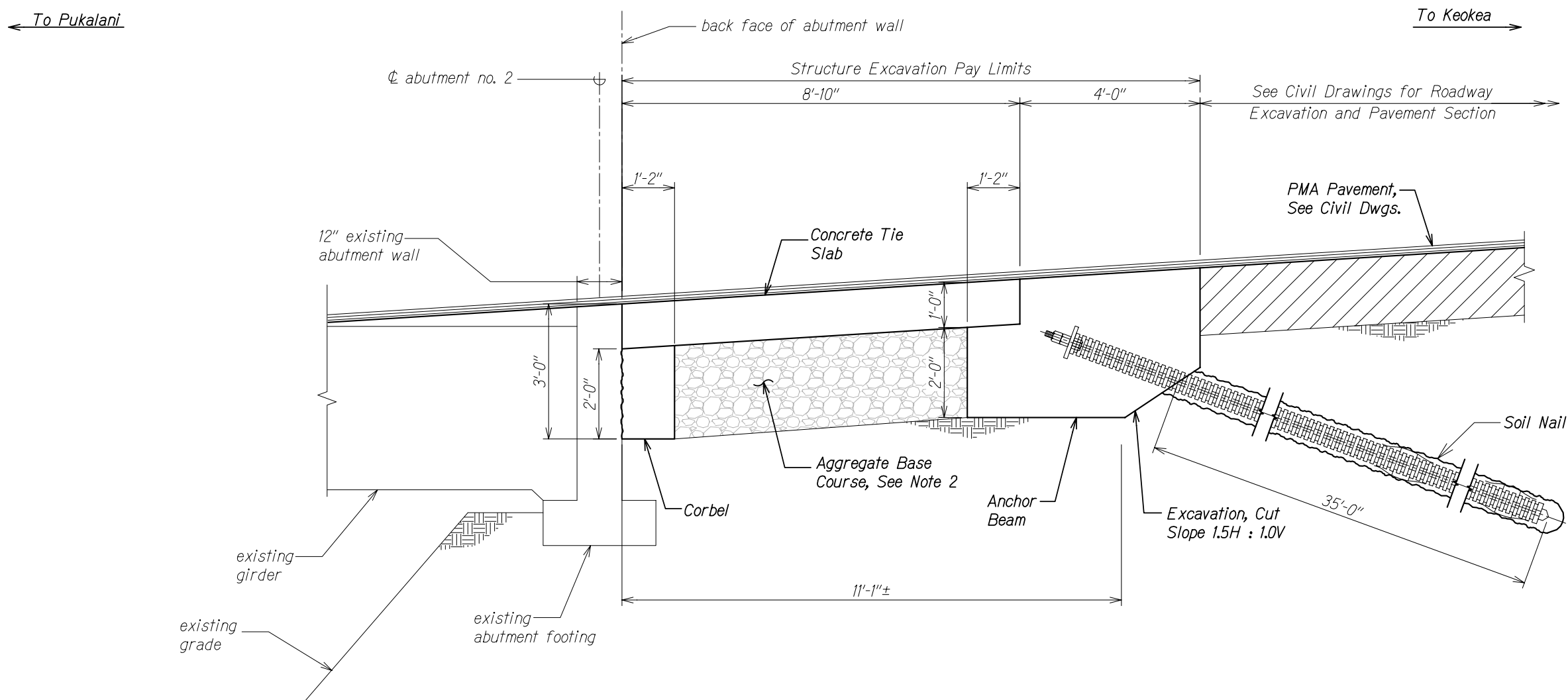
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PULEHU GULCH BRIDGE
ABUTMENT NO. 2 PLAN
SEISMIC RETROFIT, HALEAKALA HIGHWAY ROUTE 377
Waiale Gulch, Alae (Naalae Gulch) and
Pulehu Gulch (Pohakuokala) Bridges
Federal Aid Project No. STP-0377(008)
Scale: As Noted Date: Mar. 2026

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0377(008)	2026	112	131



NOTES:

1. See sheets SI.2 - SI.4 for reinforcing details
2. Aggregate base course shall meet the material, placement, and compaction requirements of Standard Specification Section 304 - AGGREGATE BASE COURSE. Measurement and Payment shall not apply. Cost to be incidental to Concrete Tie Slab work.

SECTION
Scale: 3/4" = 1'-0" **A**
SC2.5 | SC2.6

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DRAWN BY	
	TRACED BY	
	CHECKED BY	
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EXPIRATION DATE OF THE LICENSE: 4-30-28

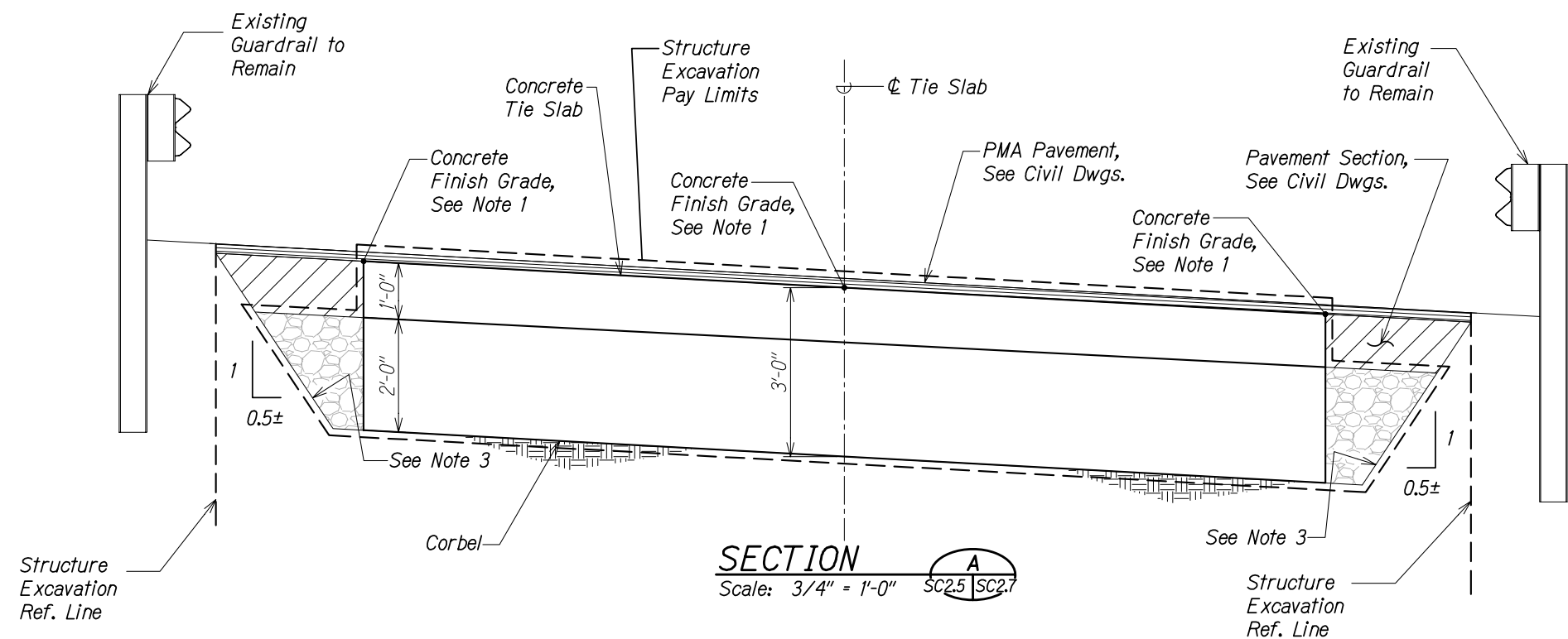
STATE OF HAWAII
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HIGHWAYS DIVISION

**PULEHU GULCH BRIDGE
ABUTMENT NO. 2 SECTION**

**SEISMIC RETROFIT, HALEAKALA HIGHWAY ROUTE 377
Waiale Gulch, Alae (Naalae Gulch) and
Pulehu Gulch (Pohakuokala) Bridges
Federal Aid Project No. STP-0377(008)**

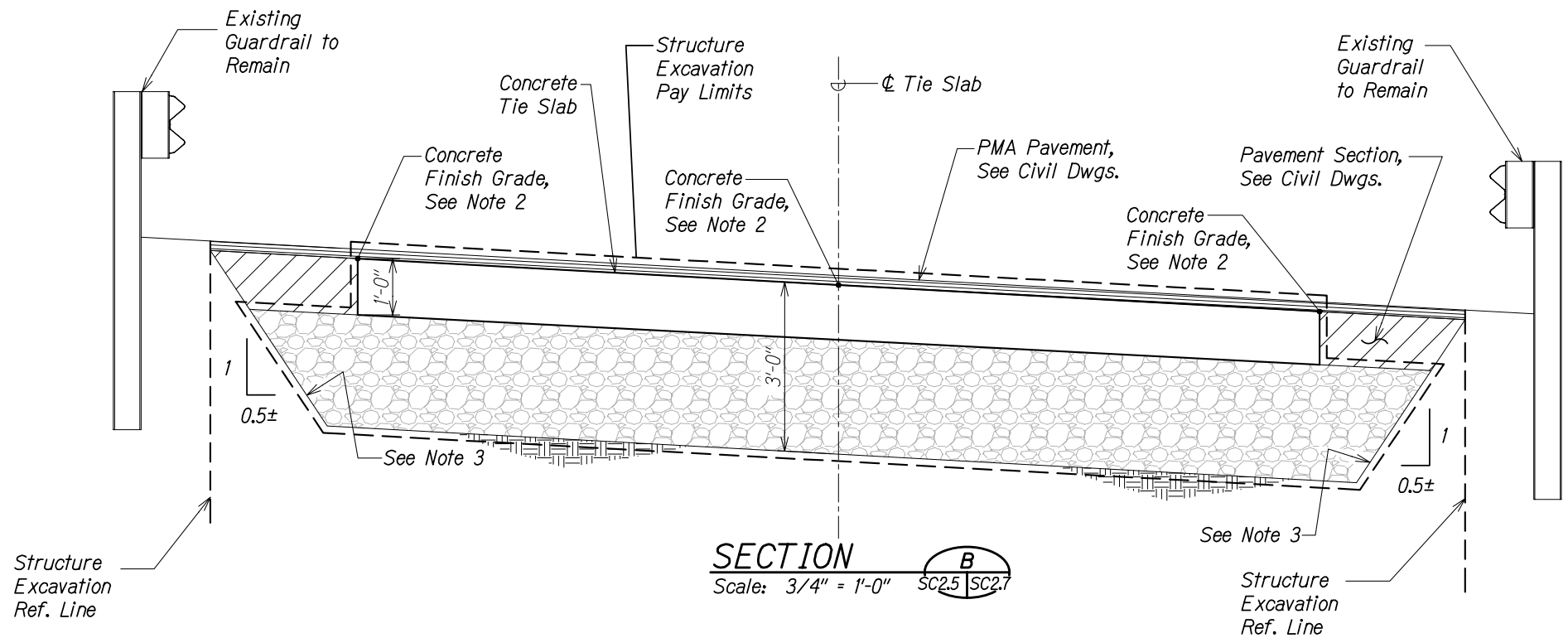
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FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0377(008)	2026	113	131



NOTES:

1. Top of concrete tie slab shall be constructed with a superelevation. Finish grade shall match top of concrete bridge deck.
2. Top of concrete tie slab shall be constructed with 2" below roadway finish grade. See Civil Drawings.
3. Contractor shall be responsible for providing a stable cut soil face as needed to prevent loss of soil around Guardrail posts.



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Date: 4-30-28
Signature Date of the License

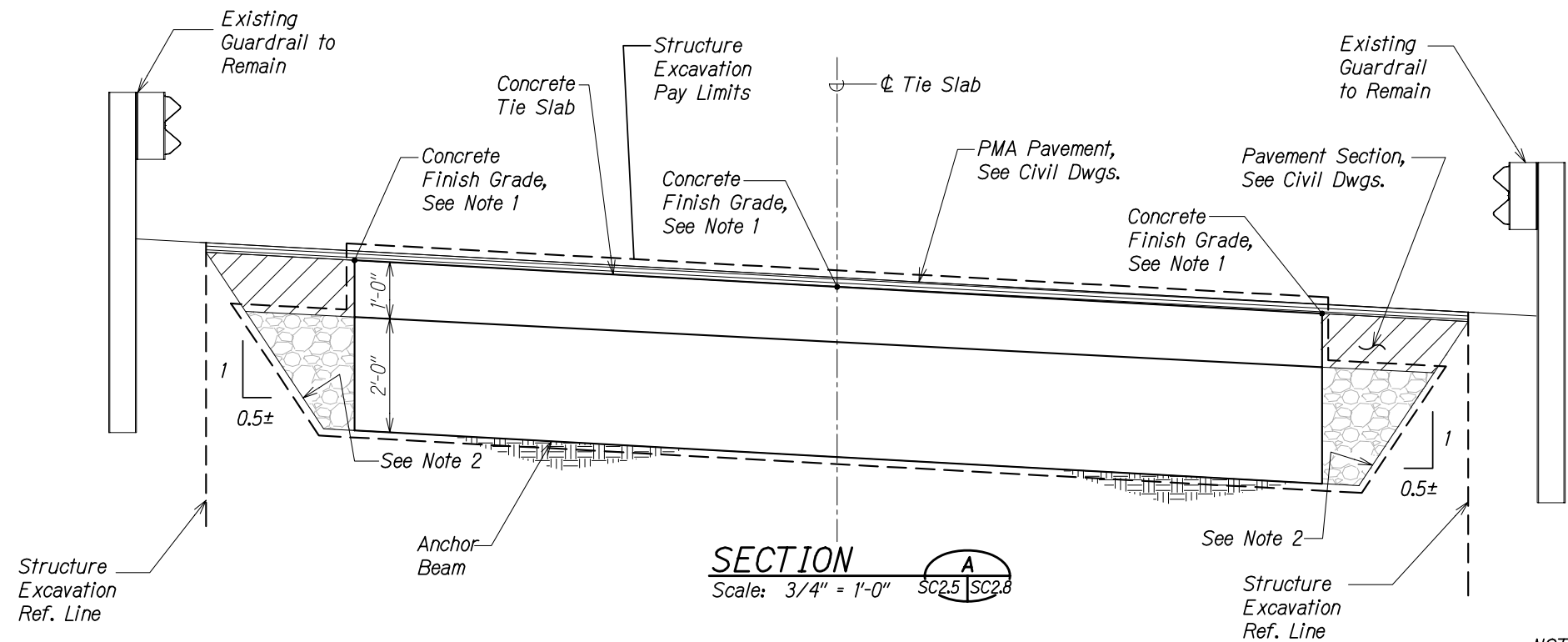
STATE OF HAWAII
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HIGHWAYS DIVISION

**PULEHU GULCH BRIDGE
ABUTMENT NO. 2 SECTIONS**

**SEISMIC RETROFIT, HALEAKALA HIGHWAY ROUTE 377
Waiale Gulch, Alae (Naalae Gulch) and
Pulehu Gulch (Pohakuokala) Bridges
Federal Aid Project No. STP-0377(008)**

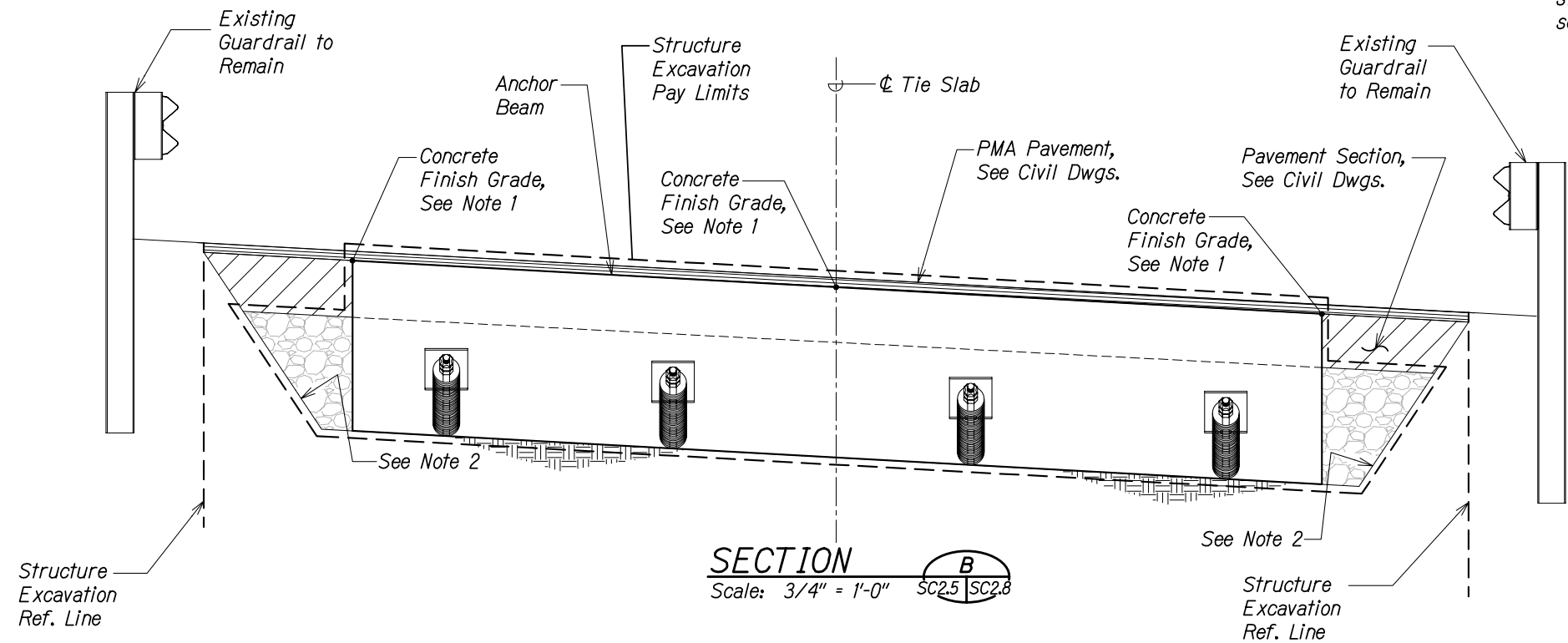
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FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0377(008)	2026	114	131



NOTES:

- Top of concrete tie slab/anchor beam finish grade shall be constructed 2" below roadway finish grade. See Civil Drawings.
- Contractor shall be responsible for providing a stable cut soil face as needed to prevent loss of soil around Guardrail posts.



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Signature Date of the License

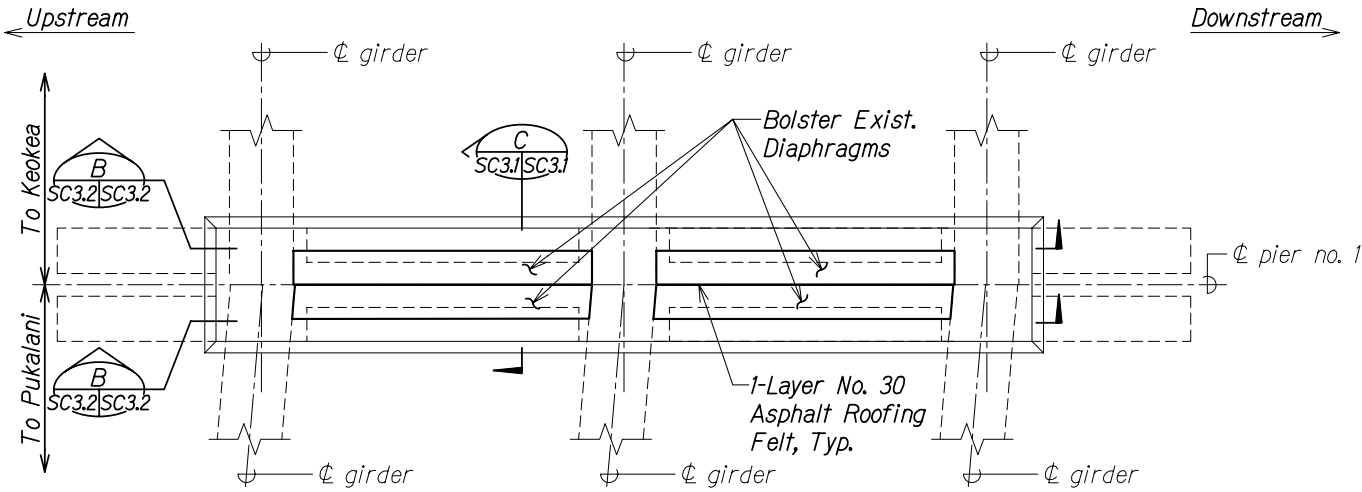
STATE OF HAWAII
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HIGHWAYS DIVISION

**PULEHU GULCH BRIDGE
ABUTMENT NO. 2 SECTIONS**

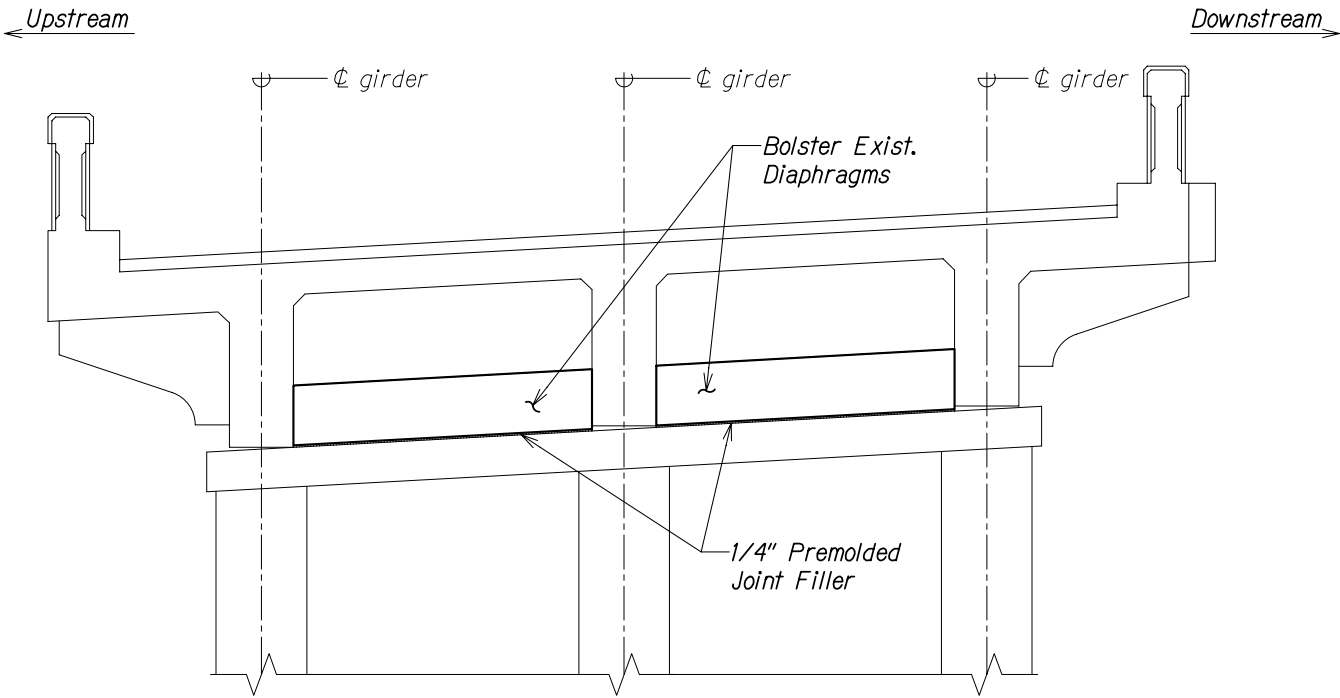
**SEISMIC RETROFIT, HALEAKALA HIGHWAY ROUTE 377
Waiale Gulch, Alae (Naalae Gulch) and
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Federal Aid Project No. STP-0377(008)**

Scale: As Noted Date: Mar. 2026

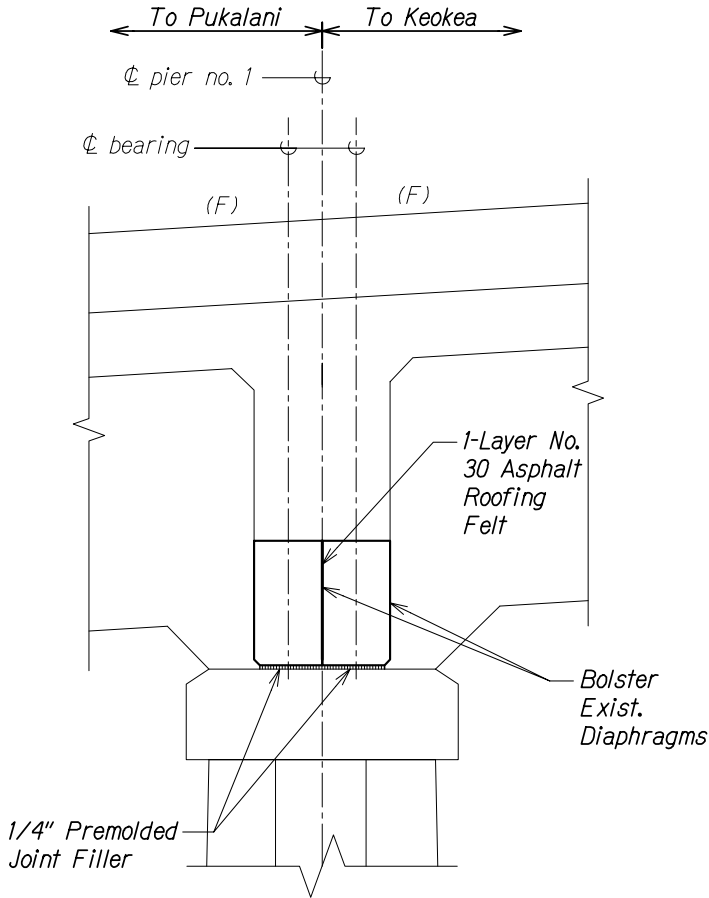
FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0377(008)	2026	115	131



PIER NO. 1 - PIER CAP PLAN A
 Scale: 1/2" = 1'-0" SC3.1 SC3.1



PIER NO. 1 - SECTION B
 Scale: 1/2" = 1'-0" SC3.1 SC3.1



PIER NO. 1 - SECTION C
 Scale: 1" = 1'-0" SC3.1 SC3.1

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DRAWN BY	
	TRACED BY	
	CHECKED BY	
	QUANTITIES BY	
	CHECKED BY	

DRAWING NAME: 2-800-DWG001NGS2-003-3-3 MAUI BRIDGES SEISMIC RETROFIT (NPSID) CAD003-24-26 100%3-MB-SC0301 PILE PIER PLANS SECS. & REINFORCING PLOT TIME: 03-25-26 4:30 PM



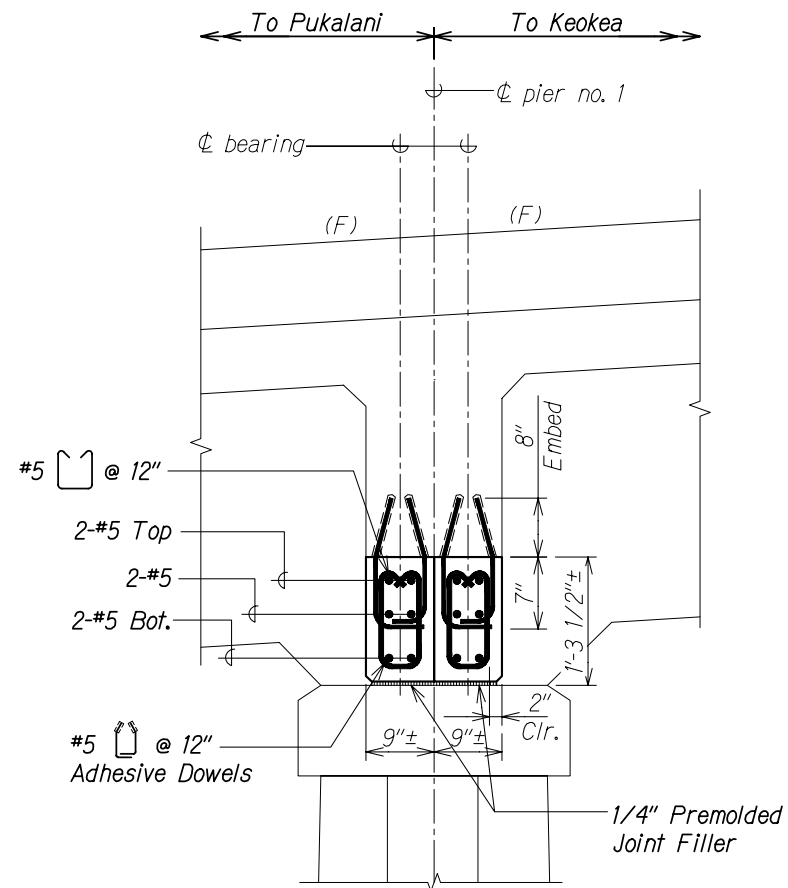
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Stephen T. Peters
SIGNATURE EXPIRATION DATE OF THE LICENSE 4-30-28

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PULEHU GULCH BRIDGE
PIER NO. 1 PLAN AND SECTIONS
SEISMIC RETROFIT, HALEAKALA HIGHWAY ROUTE 377
Waiale Gulch, Alae (Naalae Gulch) and
Pulehu Gulch (Pohakuokala) Bridges
Federal-Aid Project No. STP-0377(008)
Scale: As Noted Date: Mar. 2026

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0377(008)	2026	117	131



PIER NO. 1 - REINFORCING SECTION
Scale: 1" = 1'-0"



ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DRAWN BY	
	TRACED BY	
	CHECKED BY	
	QUANTITIES BY	
	CHECKED BY	

DRAWING NAME: 2-800-DWG-0165-2-003-3 MAUI BRIDGES SEISMIC RETROFIT INSP-801 CAD-803-24-26 100% 3-MB-SC0301 PULE PIER PLANS SECS. & REINFORCING PLOT TIME: 03-25-26, 5:01 PM



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ME OR UNDER MY SUPERVISION.

Signature: *Stephen T. Peters*
DATE: 4-30-26
SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
PULEHU GULCH BRIDGE
PIER NO. 1 REINFORCING SECTION
SEISMIC RETROFIT, HALEAKALA HIGHWAY ROUTE 377
Waiale Gulch, Alae (Naalae Gulch) and
Pulehu Gulch (Pohakuokala) Bridges
Federal Aid Project No. STP-0377(008)
Scale: As Noted Date: Mar, 2026

The diagram is a plan view of a bridge deck. It shows a central section with two concrete creep blocks. On either side of these blocks are bolster existing diaphragms. The deck is supported by girders, indicated by circles with 'G' and 'girder' labels. At the right end, there are clean existing expansion bearings at Pier No. 2 on the Pukalani side, with three total. The diagram also shows the layout of concrete creep blocks and the location of the existing diaphragms. The directions 'Upstream' and 'Downstream' are indicated at the top, and 'To Keokea' and 'To Pukalani' are indicated on the left. Various structural components are labeled, including 'Concrete Creep Block', 'Bolster Exist. Diaphragm', and 'Clean Exist. Expansion Bearings at Pier No. 2 Pukalani side (3 Total)'.

Upstream

Downstream

1/4" Premolded Joint Filler, Typ.

1/4" Premolded Joint Filler, Typ.

Bolster Exist. Diaphragms

Concrete Creep Block

1/4" Premolded Joint Filler, Typ.

The diagram illustrates a cross-section of a bridge pier with two vertical columns. A horizontal line at the top indicates the direction of traffic flow: "To Pukalani" to the left and "To Keokea" to the right. Key features and labels include:

- Centerlines:** A vertical dashed line marks the centerline of "pier no. 2". A horizontal line marks the centerline of the "bearing".
- Diaphragms:** Two vertical dashed lines, labeled (E) and (F), represent the locations of diaphragms.
- Construction Details:**
 - Bolster Exist. Diaphragms and Pour New Concrete Creep Blocks:** This label points to the upper portion of the pier, indicating existing diaphragms and new concrete creep blocks to be poured.
 - Bolster Exist. Diaphragms:** This label points to the lower portion of the pier, indicating existing diaphragms.
 - 1/4" Premolded Joint Filler:** This label points to the joint between the existing diaphragms and the new concrete creep blocks.



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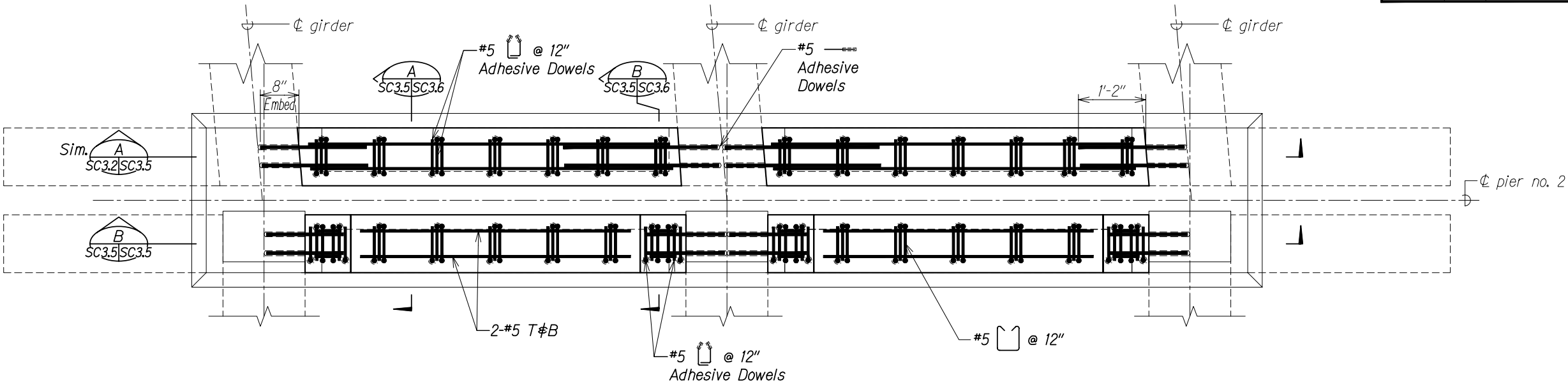
Joseph P. ... 4-30-
SIGNATURE EXPIRATION DATE OF THE LICENSE

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

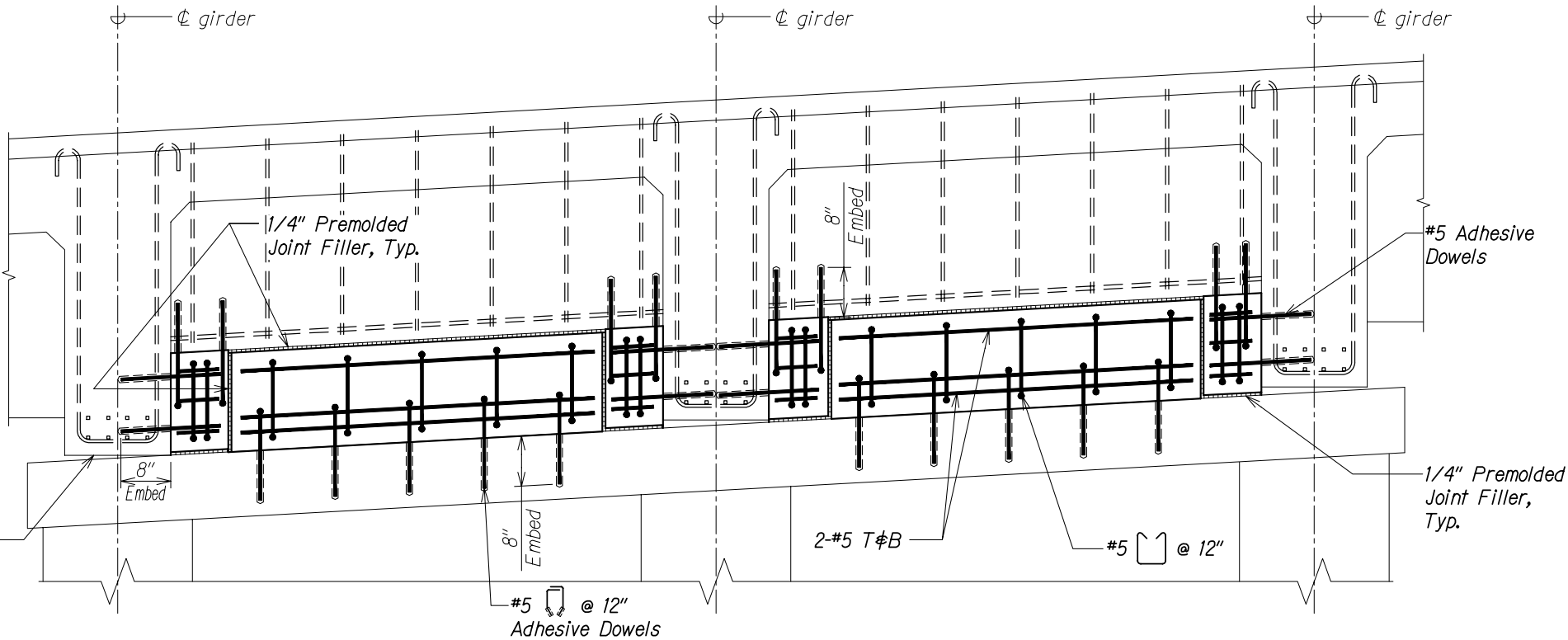
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SHEET No. SC3.4 OF 6 SHEET:

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0377(008)	2026	119	131



PIER NO. 2 - REINFORCING PLAN
Scale: 1" = 1'-0"



PIER NO. 2 - REINFORCING SECTION
Scale: 1" = 1'-0"

Clean Exist. Expansion Bearings at Pier No. 2 Pukalani Side (3 Total)

ORIGINAL PLAN	DATE
NOTE BOOK	
NO.	

DRAWING NAME: 2-300 DINGBONGS-003-3 MAUI BRIDGES SEISMIC RETROFIT (NSPISD CAD003-24-26 100%MB-SC030) PILE PIER PLANS SECS. & REINFORCING PLOT TIME: 03-25-26 4:05 PM



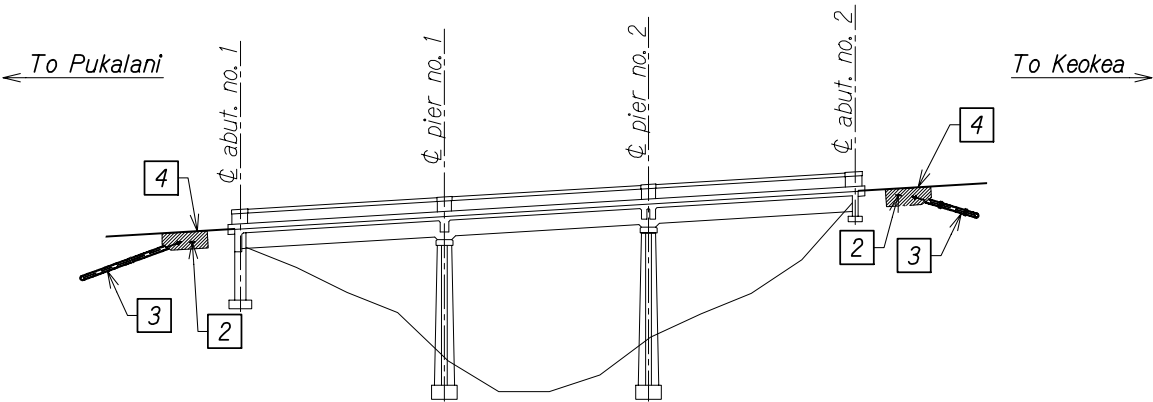
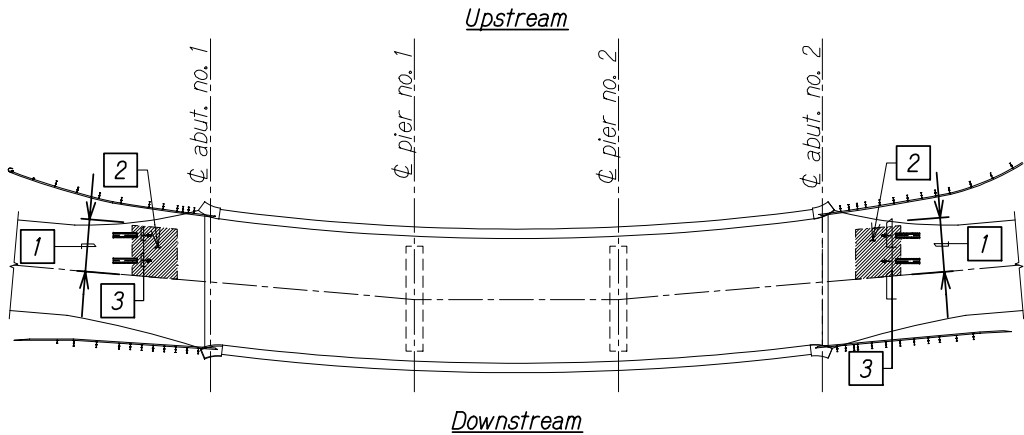
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

Signature: *Stephen T. Peters* 4-30-26
DATE: EXP. DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PULEHU GULCH BRIDGE
PIER NO. 2 REINF. PLAN AND SECTION
SEISMIC RETROFIT, HALEAKALA HIGHWAY ROUTE 377
Waiale Gulch, Alae (Naalae Gulch) and
Pulehu Gulch (Pohakuokala) Bridges
Federal Aid Project No. STP-0377(008)
Scale: As Noted Date: Mar. 2026

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0377(008)	2026	121	131



CONSTRUCTION SEQUENCE - STAGE 1 (UPSTREAM CLOSURE)

CONSTRUCTION STAGE 1 (UPSTREAM LANE CLOSURE)

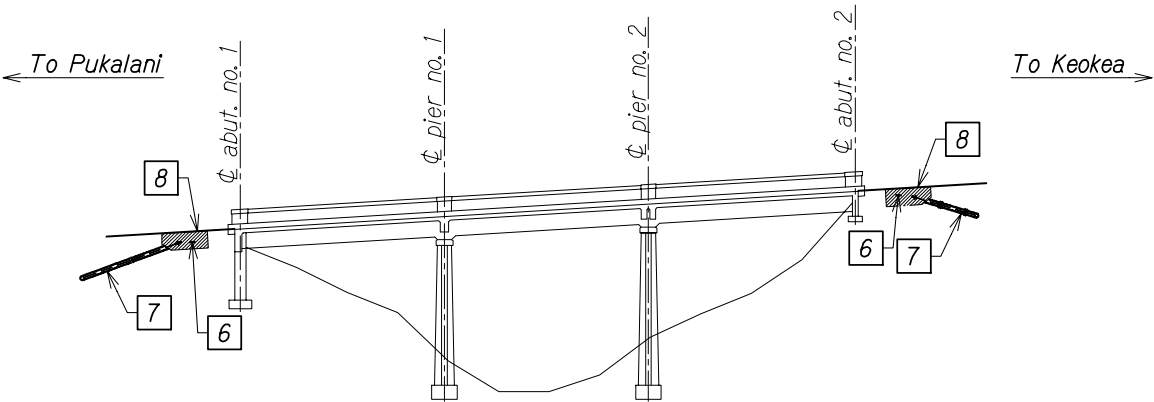
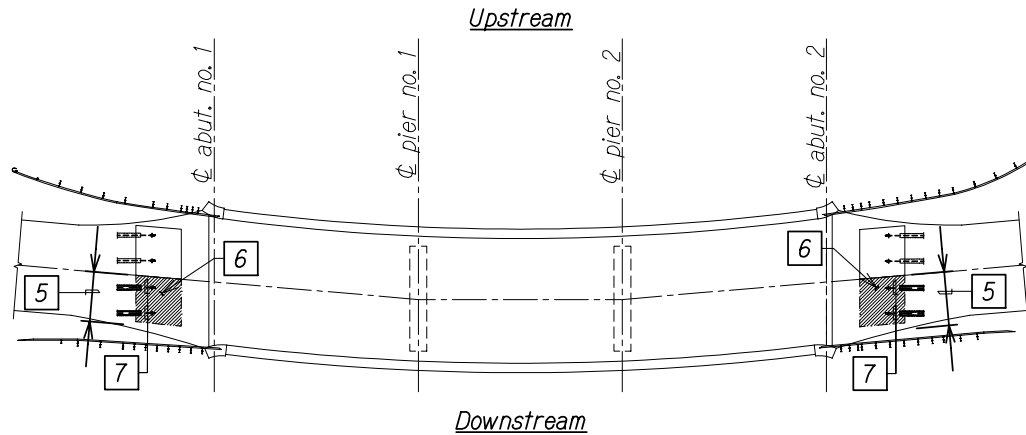
- 1 Install traffic control for Upstream side lane closure (see Civil drawings)
- 2 Excavate roadway on the backside of Abutments as needed
- 3 Drill, install soil nails, grout, and perform necessary proof testing in Upstream side lane
- 4 Install steel road plates over trench during non-working hours and open Upstream side lane to traffic

LEGEND

Excavate and Dispose

NOTE:

1. Construction sequence is suggested. The Contractor may propose an alternative plan that allows for all work to be completed within the allotted full bridge closure timeframe.
2. Due to the curve in the bridge, the contractor will need to verify that drilling equipment does not affect vehicular traffic on the upstream side lane.
3. Pre-Production Sacrificial Soil Nail Installation and Testing Shall be completed prior to any Structure/Roadway Excavation.



CONSTRUCTION SEQUENCE - STAGE 2 (DOWNSTREAM CLOSURE)

CONSTRUCTION STAGE 2 (DOWNSTREAM LANE CLOSURE)

- 5 Install traffic control for Downstream side lane closure (See Civil drawings)
- 6 Excavate roadway on the backside of Abutments as needed
- 7 Drill, install soil nails, grout, grout and perform necessary proof testing in Downstream side lane
- 8 Install steel road plates over trench during non-working hours and open Downstream side lane to traffic



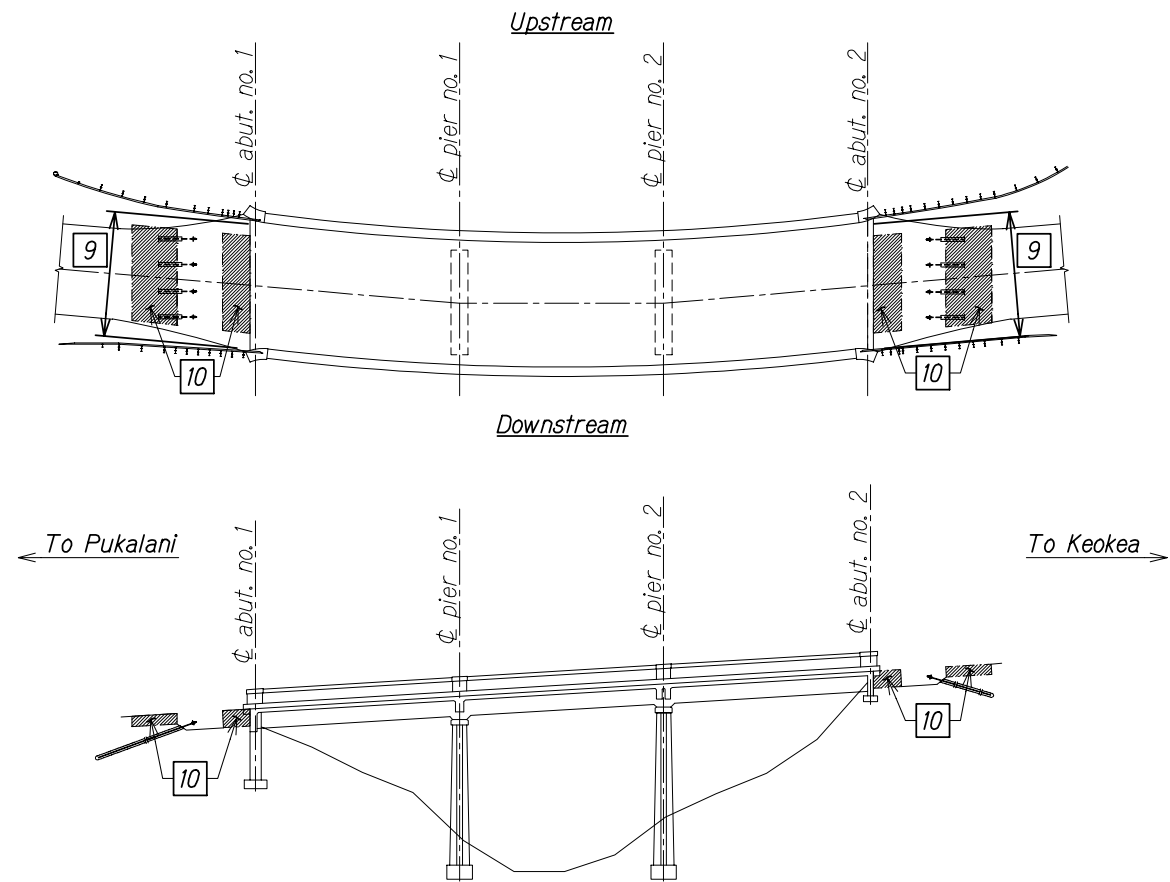
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4-30-28
SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PULEHU GULCH BRIDGE
CONSTRUCTION SEQUENCE
SEISMIC RETROFIT, HALEAKALA HIGHWAY ROUTE 377
Waiale Gulch, Alae (Naalae Gulch) and
Pulehu Gulch (Pohakuokala) Bridges
Federal-Aid Project No. STP-0377(008)
Scale: None Date: Mar. 2026

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0377(008)	2026	122	131



CONSTRUCTION SEQUENCE - STAGE 3 (FULL CLOSURE)

CONSTRUCTION STAGE 3 (FULL BRIDGE CLOSURE)

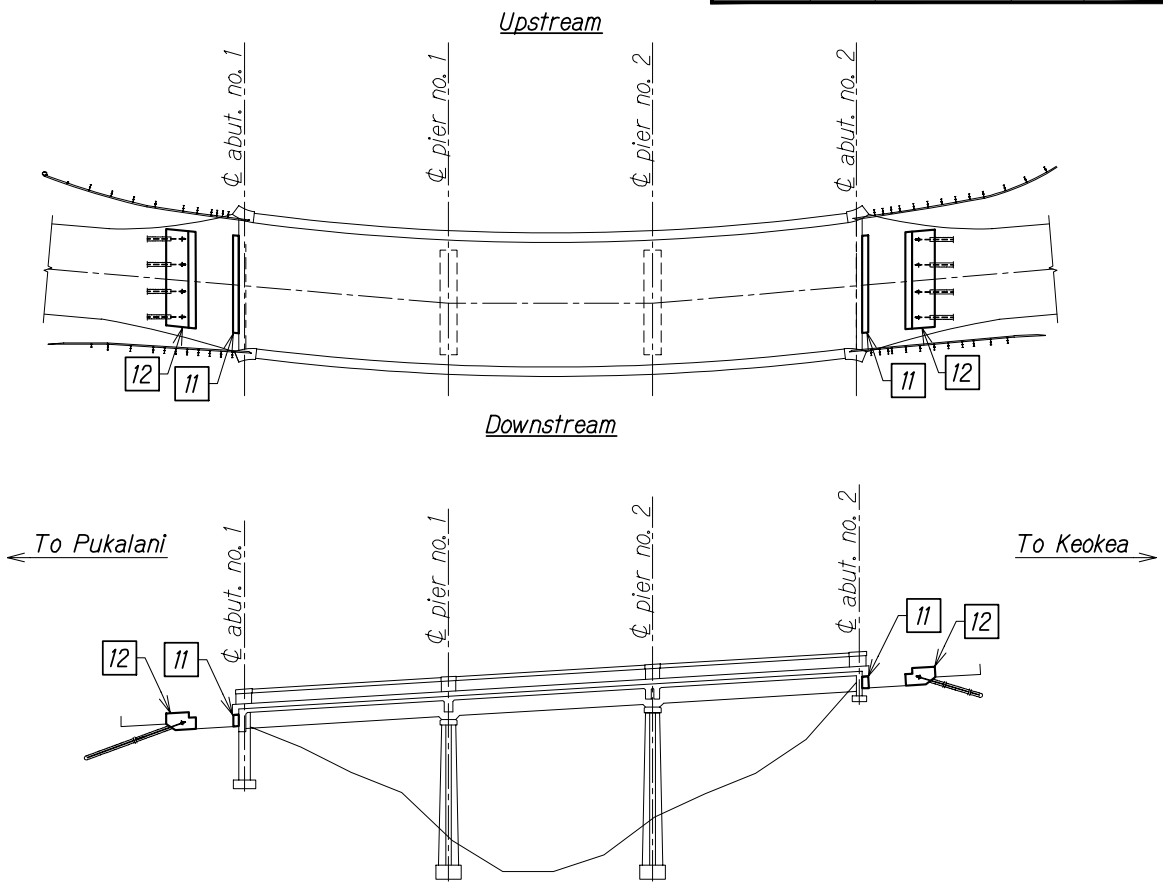
- 9 Install traffic control for full bridge closure
- 10 Excavate remaining roadway to limits as shown on contract drawings

LEGEND

Excavate and Dispose

NOTE:

During full bridge closure times, the Contractor shall perform all work at Abut. No. 1 and Abut. No. 2 simultaneously



CONSTRUCTION SEQUENCE - STAGE 4 (FULL CLOSURE)

CONSTRUCTION STAGE 4 (FULL BRIDGE CLOSURE)

- 11 Drill and epoxy dowels, install reinforcing steel, and pour concrete corbel
- 12 Install reinforcing steel and pour concrete anchor beam



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Date: 4-30-28

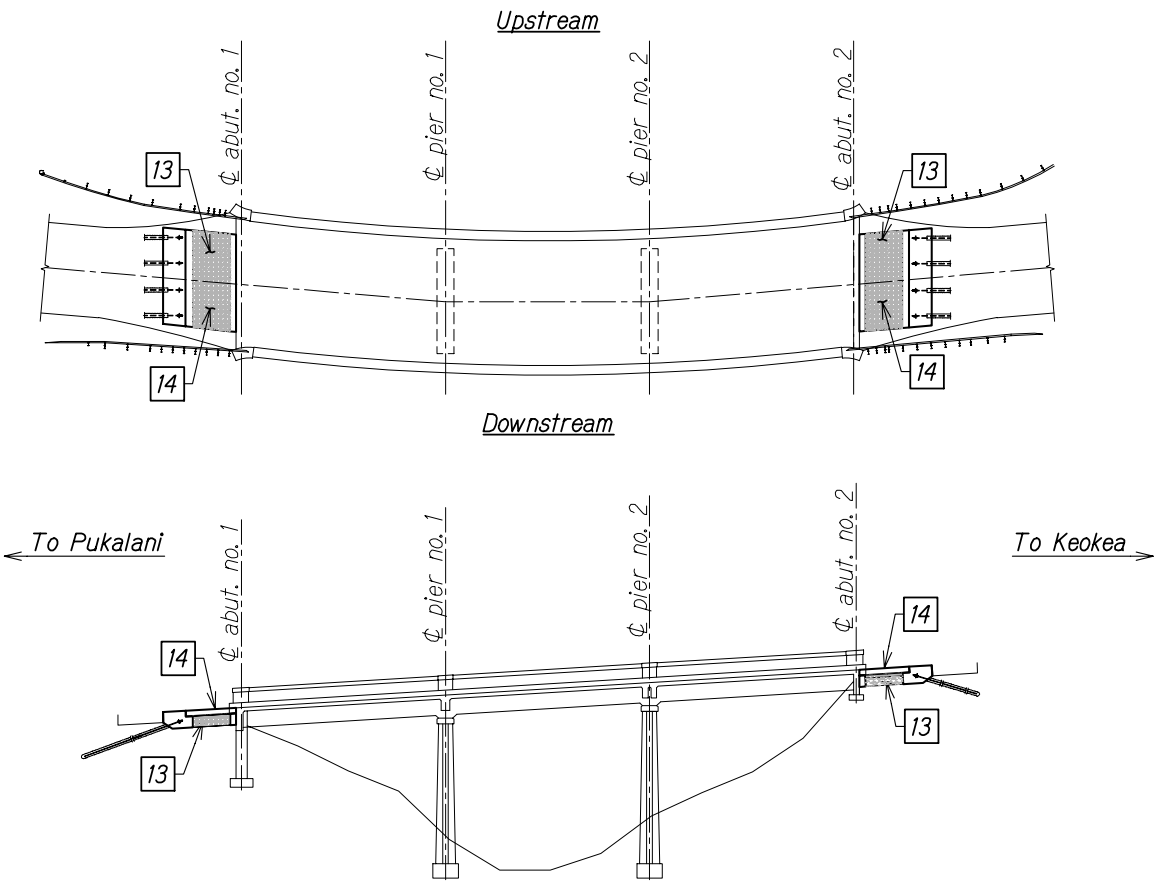
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PULEHU GULCH BRIDGE
CONSTRUCTION SEQUENCE

SEISMIC RETROFIT, HALEAKALA HIGHWAY ROUTE 377
Waiale Gulch, Alae (Naalee Gulch) and
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Scale: None Date: Mar. 2026

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0377(008)	2026	123	131



CONSTRUCTION SEQUENCE - STAGE 5 (FULL CLOSURE)

CONSTRUCTION STAGE 5 (FULL BRIDGE CLOSURE)

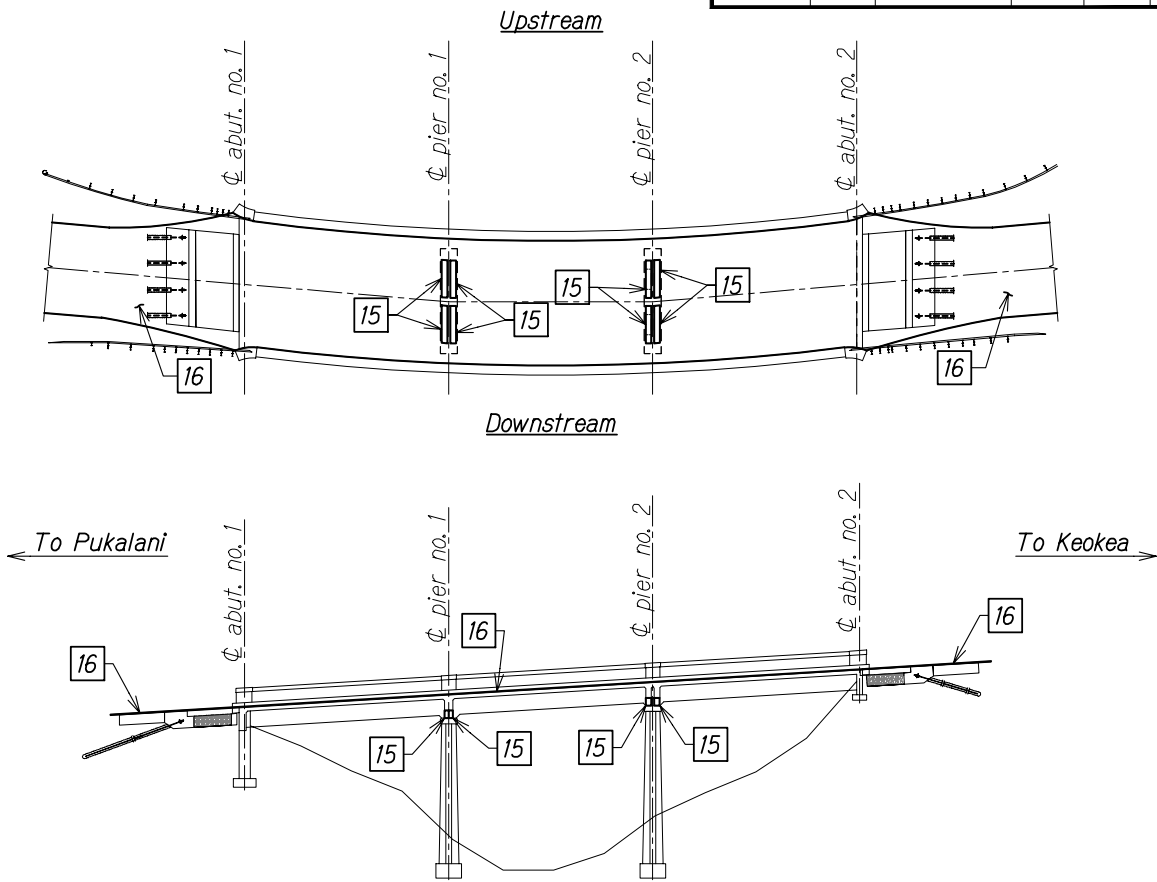
- 13 Place aggregate base course beneath tie slab
- 14 Install reinforcing steel and pour concrete tie slab

LEGEND

Base Course

NOTE:

During full bridge closure times, the Contractor shall perform all work at Abut. No. 1 and Abut. No. 2 simultaneously



CONSTRUCTION SEQUENCE - STAGE 6 (FULL CLOSURE)

CONSTRUCTION STAGE 6 (FULL BRIDGE CLOSURE)

- 15 Install reinforcing steel and pour concrete diaphragms and creep blocks
- 16 Reconstruct roadway pavement section and place PMA pavement across bridge deck and approach roadways (See Civil Drawings)

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

DRAWING NAME: 2-300-010601052-003.3 MAUI BRIDGES SEISMIC RETROFIT (NSPIS01 CAD003-24-26 100%3MB-SC040) PILE SEQ.DWG PLOT TIME: 03:25:26, 446 PM



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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PULEHU GULCH BRIDGE
CONSTRUCTION SEQUENCE
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Federal-Aid Project No. STP-0377(008)
Scale: None Date: Mar, 2026