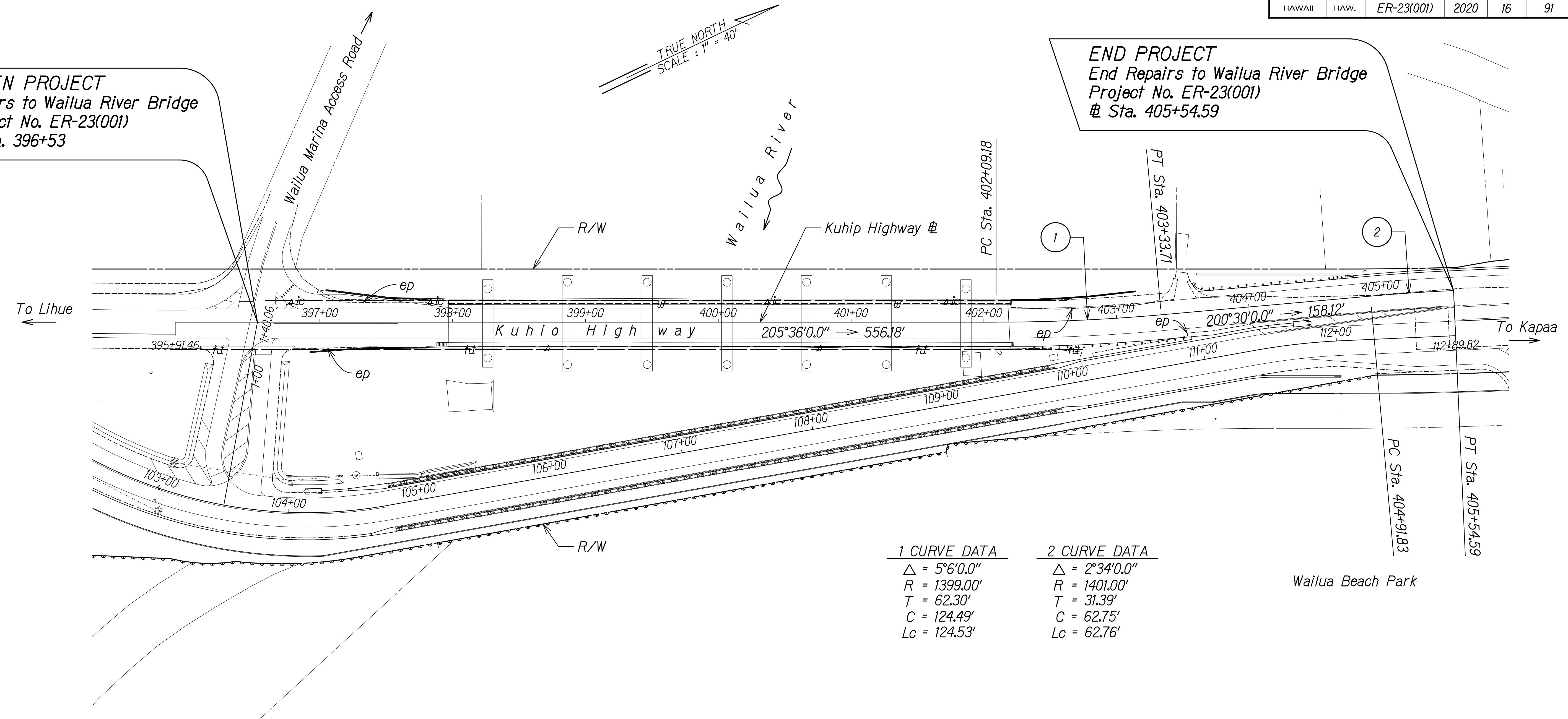


FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	ER-23(001)	2020	16	91

BEGIN PROJECT
Repairs to Wailua River Bridge
Project No. ER-23(001)
Sta. 396+53

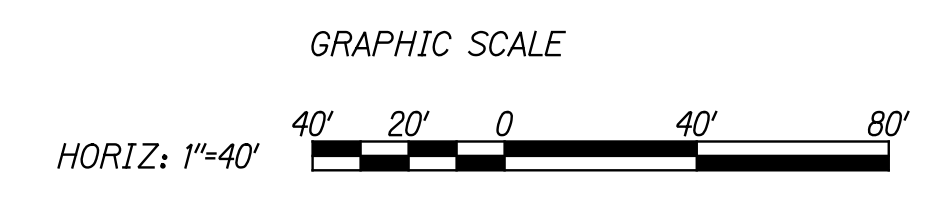
END PROJECT
End Repairs to Wailua River Bridge
Project No. ER-23(001)
Sta. 405+54.59

TRUE NORTH
SCALE: 1" = 40'



1 CURVE DATA	2 CURVE DATA
$\Delta = 5^{\circ}6'0.0''$	$\Delta = 2^{\circ}34'0.0''$
$R = 1399.00'$	$R = 1401.00'$
$T = 62.30'$	$T = 31.39'$
$C = 124.49'$	$C = 62.75'$
$Lc = 124.53'$	$Lc = 62.76'$

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



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Signature: *R. Urasaki*
Date: 04/30/22
EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ALIGNMENT PLAN

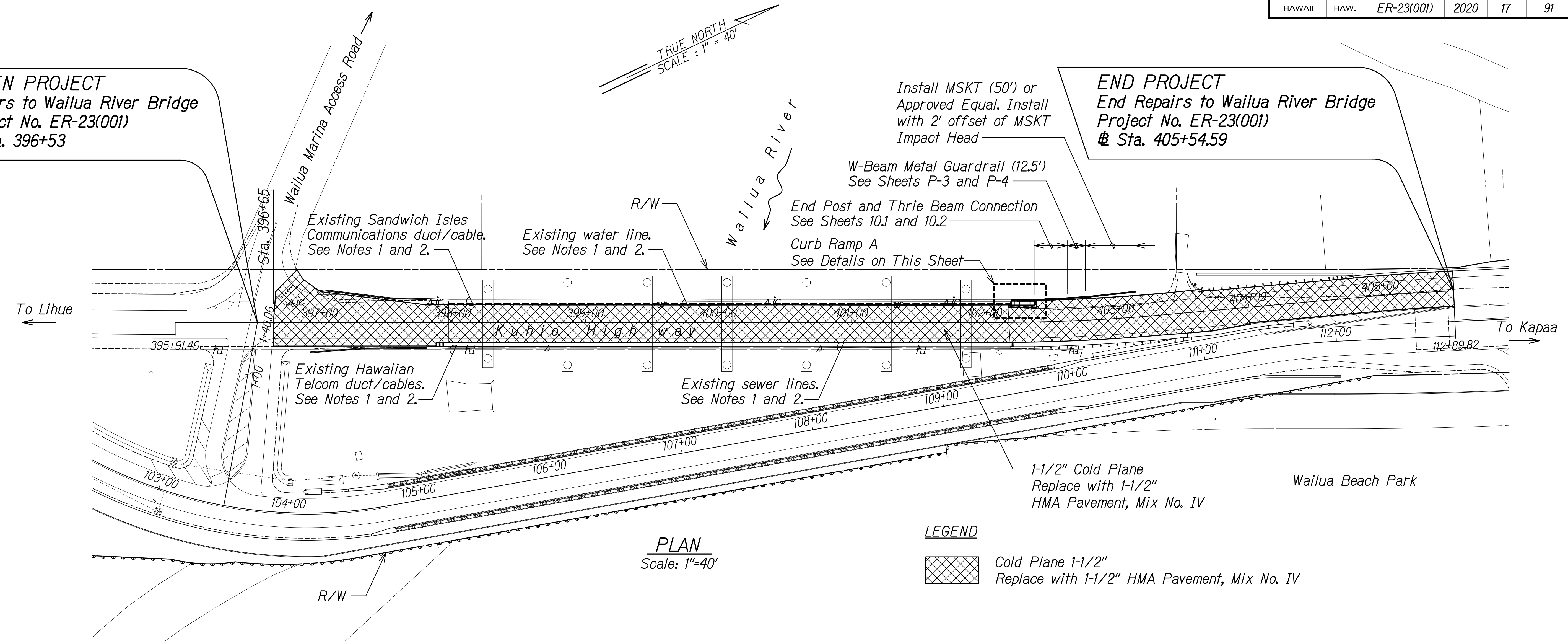
**KUHIO HIGHWAY
REPAIRS TO WAILUA RIVER BRIDGE
PROJECT NO. ER-23(001)**

Scale: 1"=40' Date: Oct. 2020

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	ER-23(001)	2020	17	91

BEGIN PROJECT
Repairs to Wailua River Bridge
Project No. ER-23(001)
@ Sta. 396+53

END PROJECT
End Repairs to Wailua River Bridge
Project No. ER-23(001)
@ Sta. 405+54.59

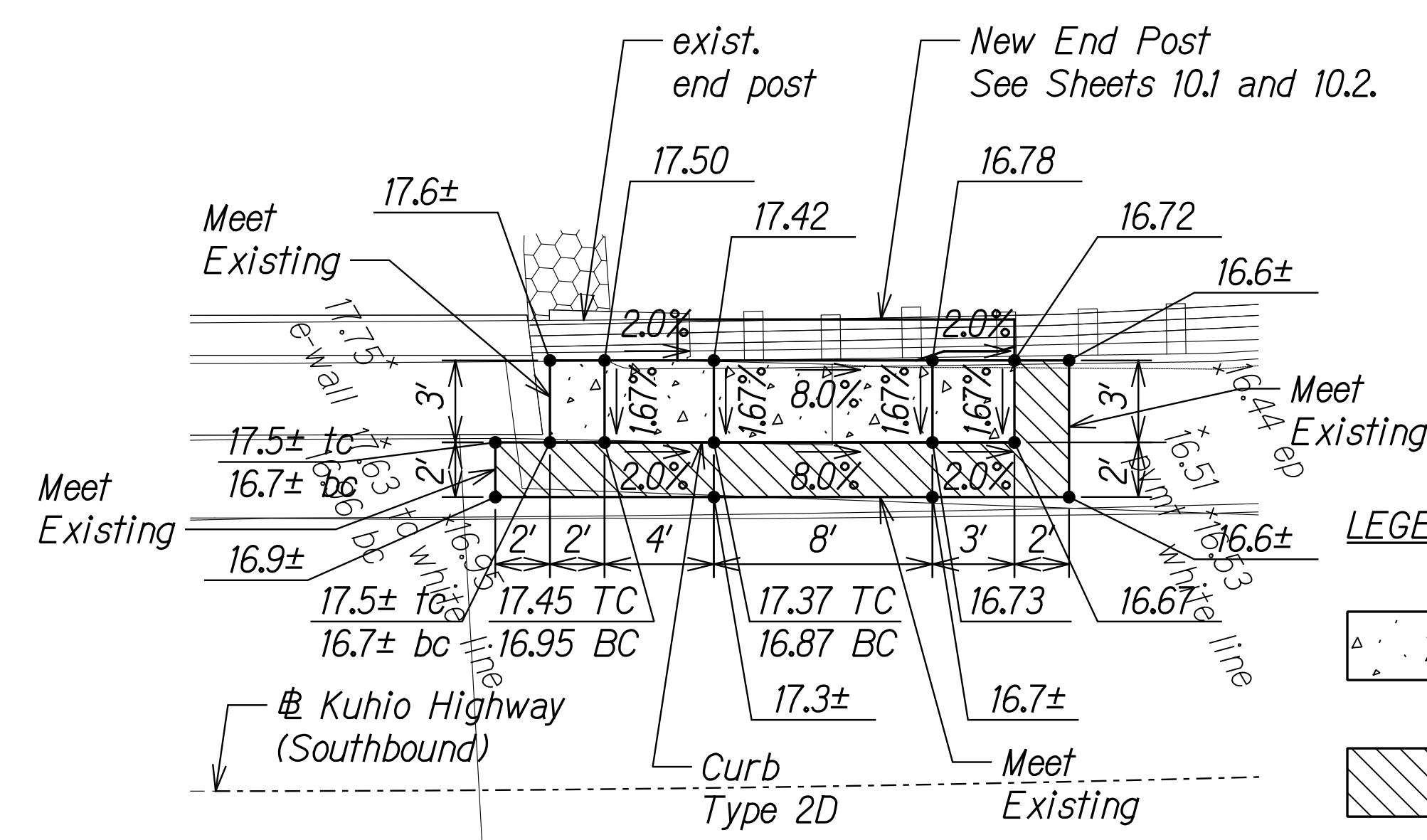


PLAN
Scale: 1"=40'

LEGEND
 Cold Plane 1-1/2"
 Replace with 1-1/2" HMA Pavement, Mix No. IV

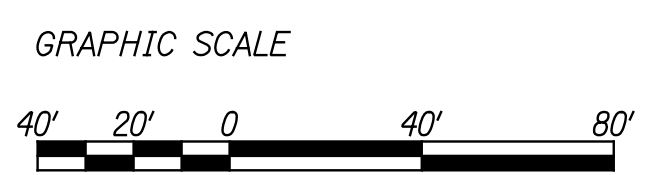
NOTE:

1. Contractor to coordinate bridge lifting operations with appropriate utility company.
2. Contractor to adjust strap hangers and connections to maintain existing pipe and conduit/cable elevations and slopes during bridge lifting/lowering operations. Payment is incidental to the various contract items.
3. @ Sta. 402+20 to 403+16 o/s Lt. Remove existing guardrail, steel posts and wooden posts including FLEAT-350.
4. Cold Plane and replace the entire existing ac pavement area within the stations provided.



CURB RAMP A
Scale: 1"=5'

LEGEND
 4" Portland Cement Concrete Sidewalk
 6" Bed Course
 Transition



DATE
SURVEY PLOTTED BY
DRAWN BY
TRACED BY
DESIGNED BY
CHECKED BY
ORIGINAL PLAN
NOTE BOOK
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 SIGNATURE: *Gerald D. Anderson* 04/30/22
 EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION

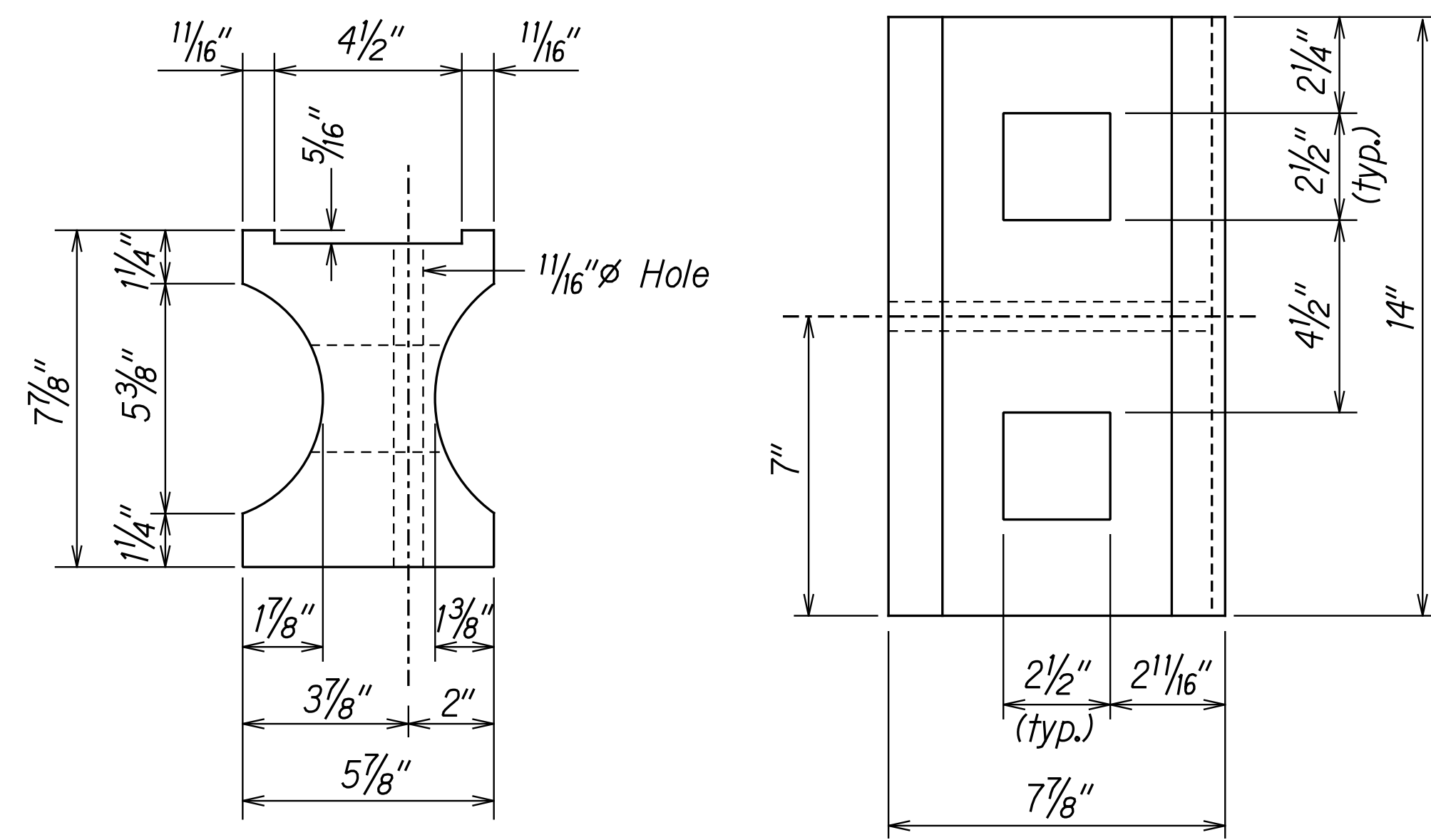
ROADWAY PLAN

**KUHIO HIGHWAY
 REPAIRS TO WAILUA RIVER BRIDGE
 PROJECT NO. ER-23(001)**

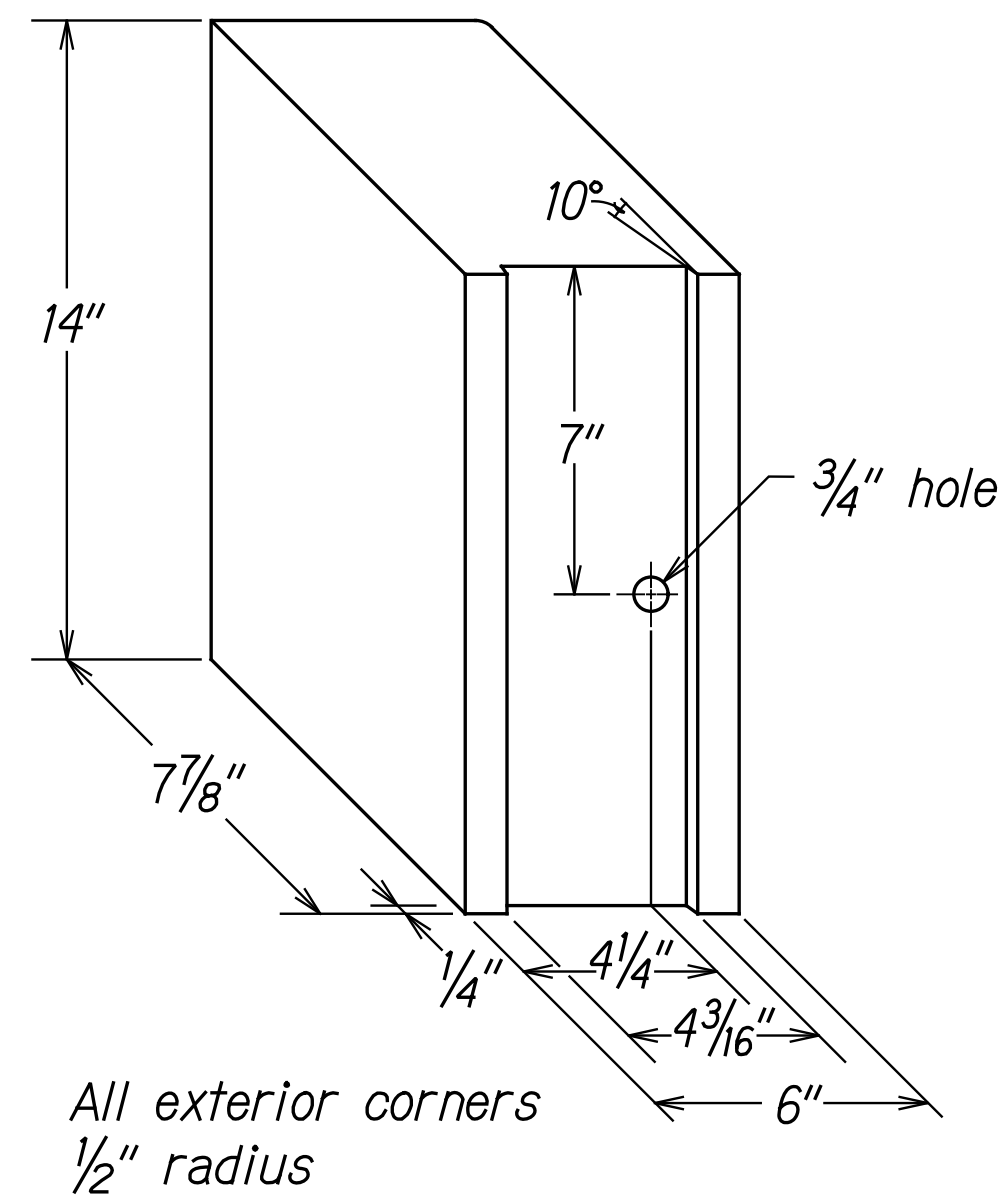
Scale: 1"=40' Date: Oct. 2020

SHEET No. P-2 OF 6 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	ER-23(001)	2020	18	91

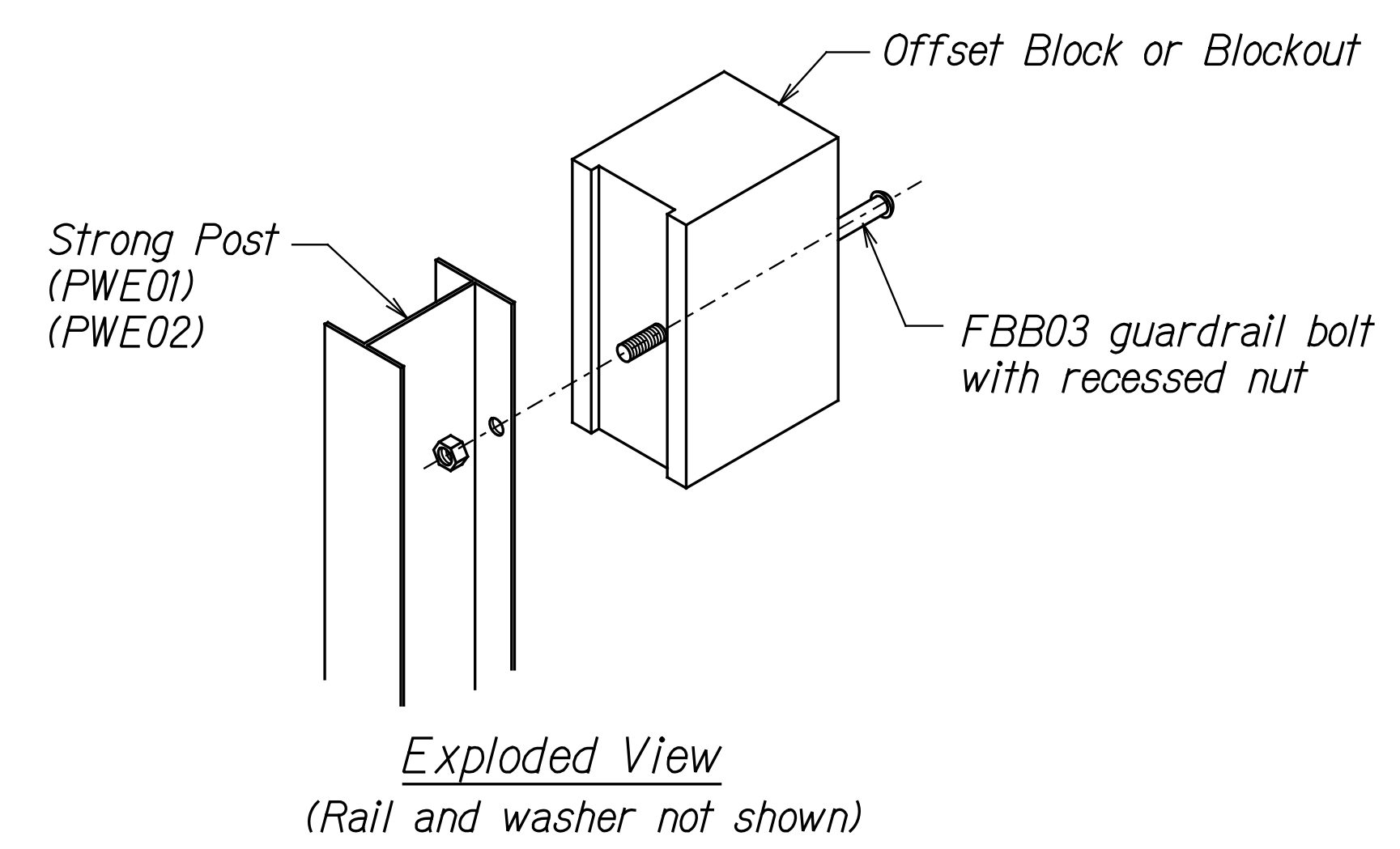


RECYCLED PLASTIC BLOCKOUT (TYPE I)

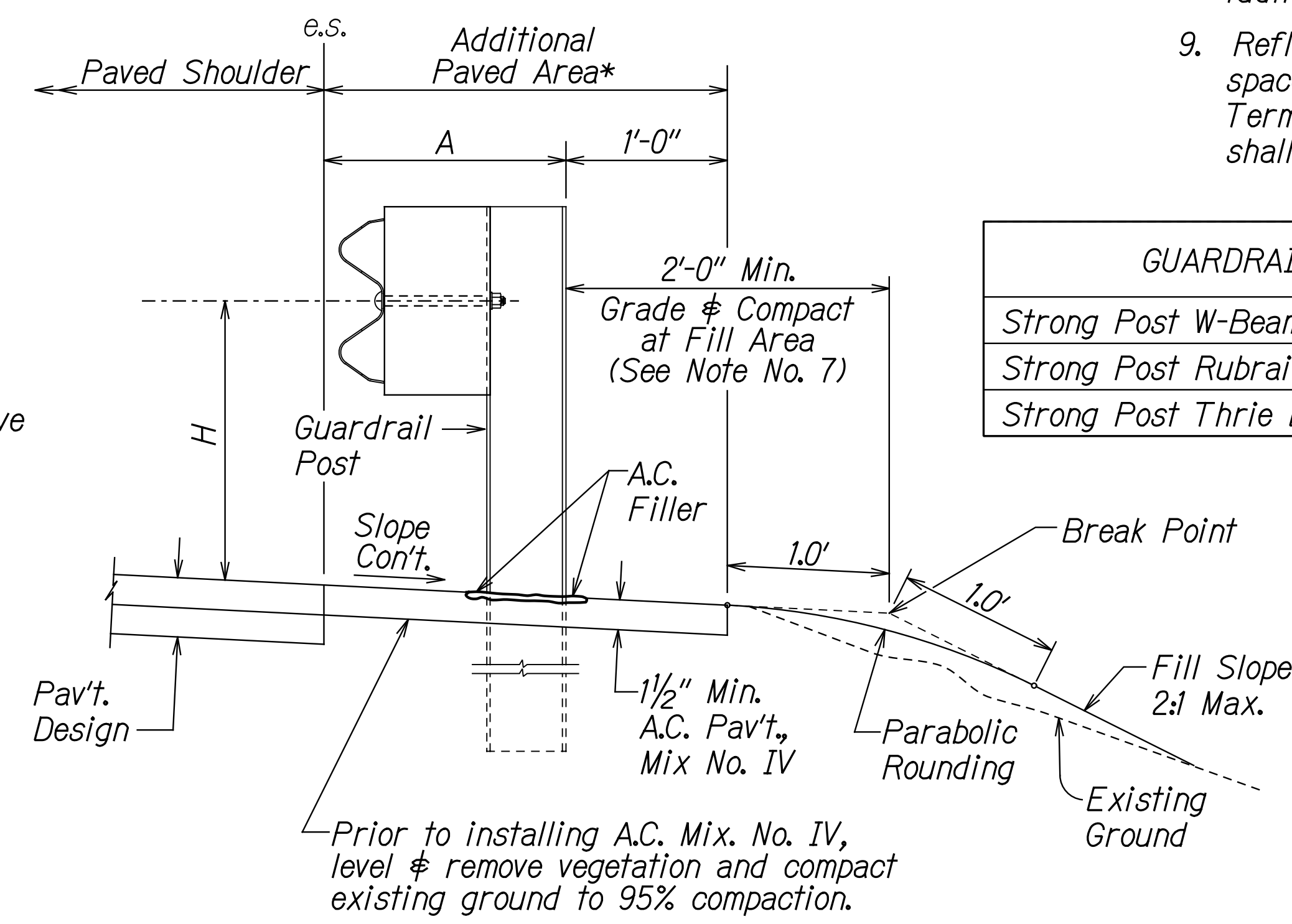
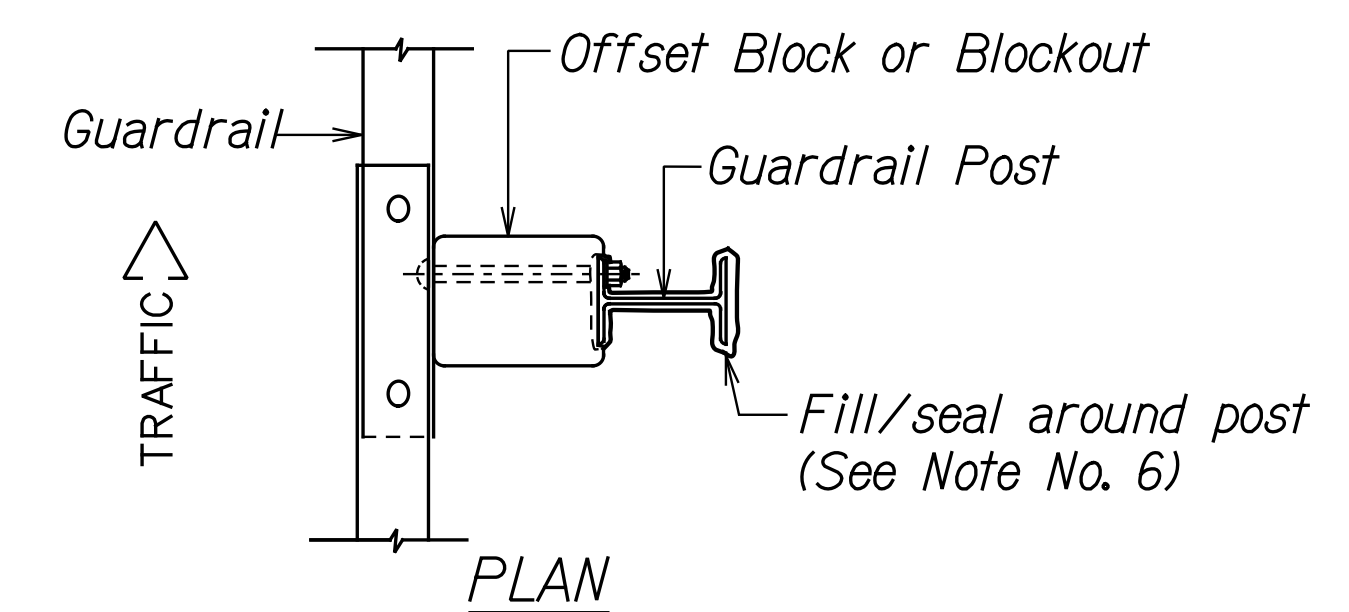


RECYCLED POLYETHYLENE OFFSET BLOCK (TYPE II)

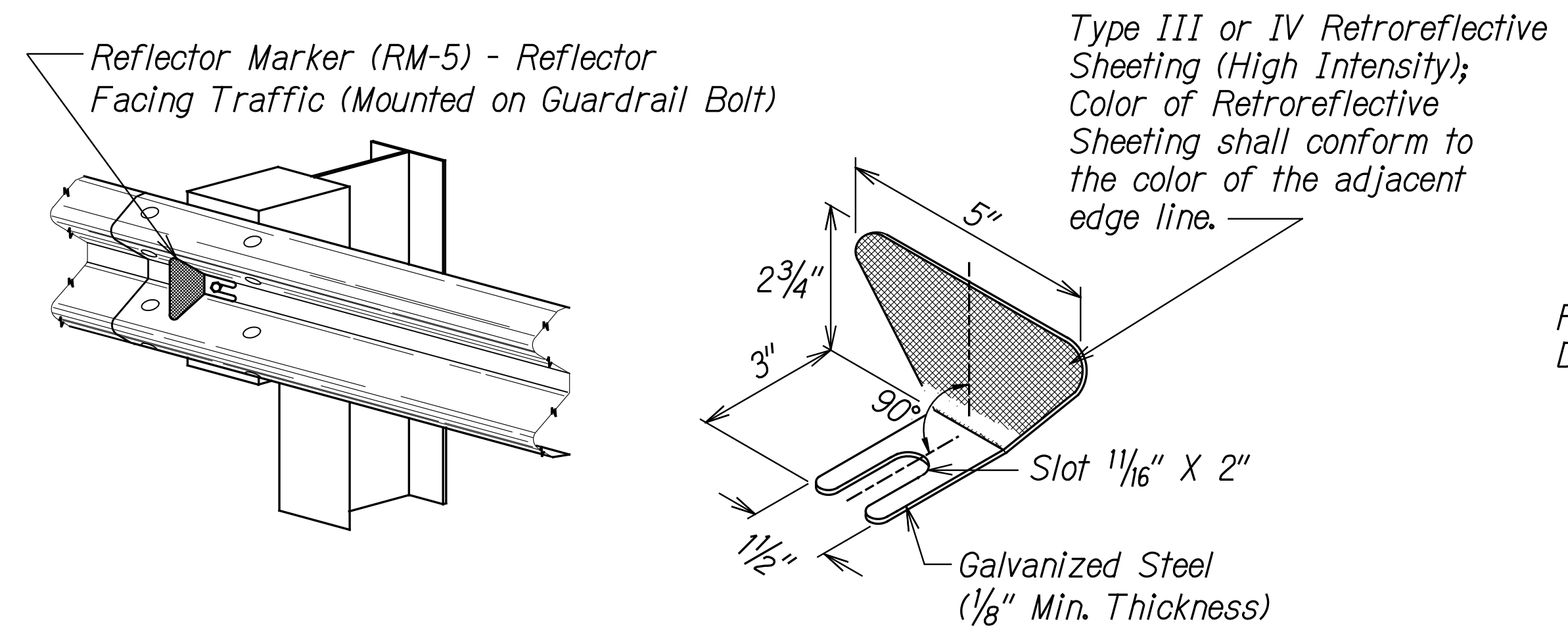
- GENERAL NOTES**
- All hardware, posts and fasteners shall be hot-dip zinc coated galvanized after fabrication. No punching, drilling or cutting will be permitted after galvanizing.
 - Where conditions require, special post lengths in increments of 6 inches may be specified.
 - All fasteners, posts, and rail elements (i.e. FBB03, PWE01, RWM02b, etc.) shall conform to the latest edition and amendments of "A Guide to Standardized Highway Barrier Rail Hardware", a report prepared and approved by the AASHTO-AGC-ARTBA Joint Cooperative Committee, Subcommittee On New Highway Materials, Task Force 13 Report. Dimensions of fasteners, posts and rail elements have been converted from metric units into their present form.
 - The Recycled Plastic Block or Offset Block shall be approved by the State.
 - All new guardrail systems (system consists of total length of guardrail including both end treatments) shall include the Additional Paved Area.
 - After the guardrail posts are installed in the paved area, the Contractor shall fill/seal around each guardrail post and all cracks in the paved area caused during the guardrail post installation. If required by the inspector/engineer, the Contractor shall tamper the paved area around the guardrail post prior to filling/sealing. All costs associated with this work shall not be paid for separately, but shall be considered incidental to the various guardrail items.
 - When standards for the fill slope area cannot be met, a site specific, engineer approved design may be used.
 - New A.C. pavement at guardrails shall extend 6 feet longitudinally beyond terminal ends.
 - Reflector Markers (RM-5) mounted on guardrails shall be spaced every 25 feet. RM-5's shall not be installed on Terminal Sections. Furnishing and installing of each RM-5 shall be considered incidental to the adjacent guardrail system.



STEEL POST AND BLOCK DETAIL



GUARDRAIL TYPE	DIMENSION	
	H	A
Strong Post W-Beam	1'-9 5/8"	1'-6"
Strong Post Rubrail (W-Beam)	2'-0"	1'-6"
Strong Post Thrie Beam	1'-9 5/8"	1'-6"



REFLECTOR MARKER (RM-5) DETAIL AND TYPICAL INSTALLATION

TYPICAL GUARDRAIL INSTALLATION

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

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R. Urasaki
 SIGNATURE
 04/30/22
 EXPIRATION DATE OF THE LICENSE

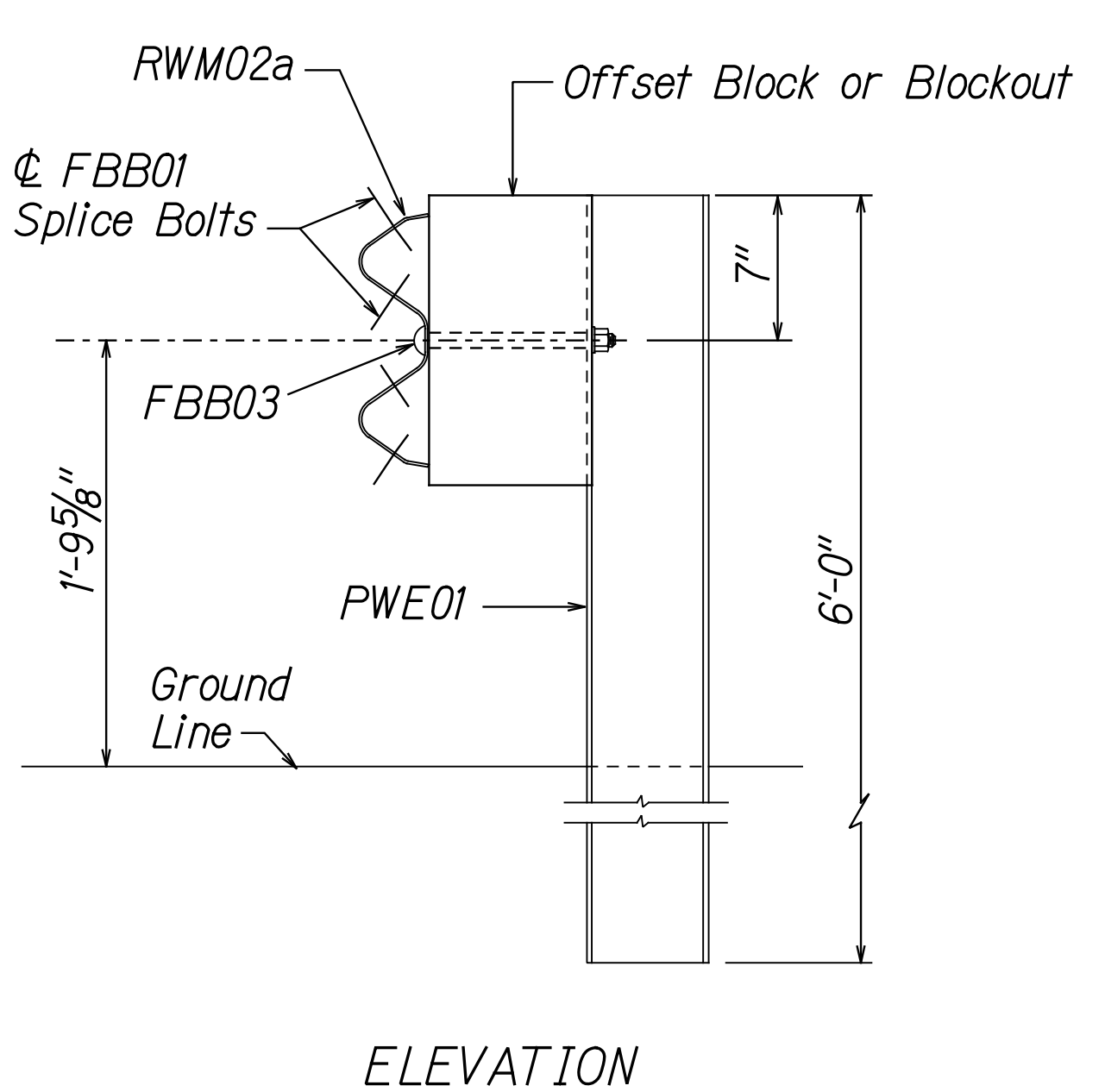
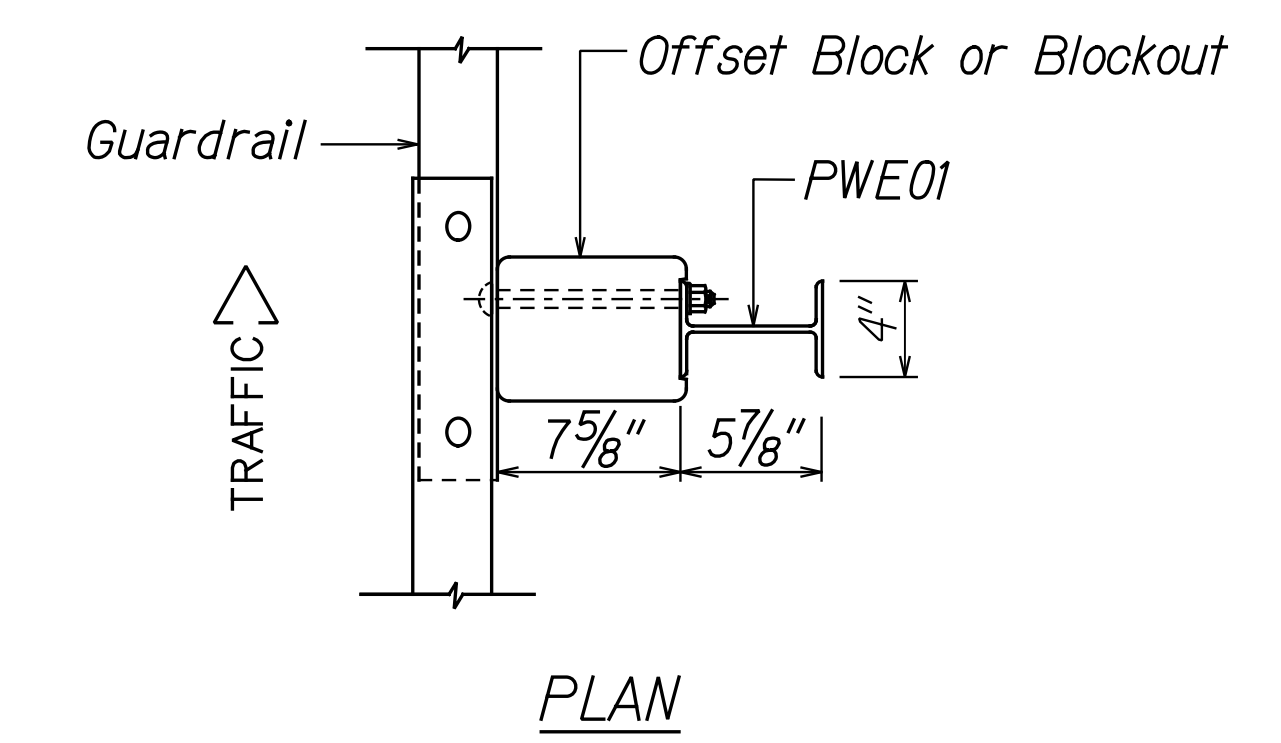
STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION

GUARDRAIL DETAILS & NOTES

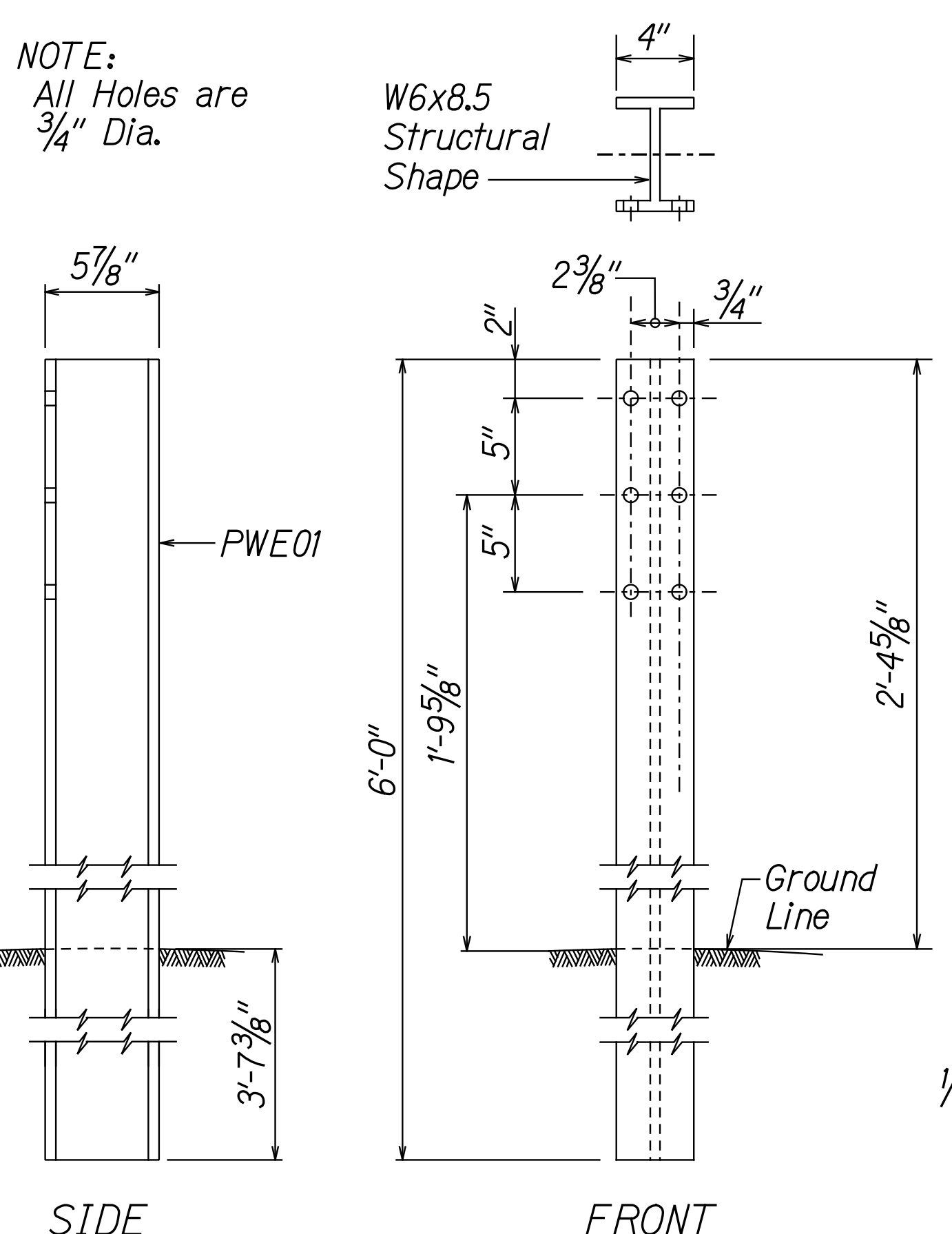
**KUHIO HIGHWAY
 REPAIRS TO WAILUA RIVER BRIDGE
 PROJECT NO. ER-23(001)**

Scale: Not to Scale Date: Oct. 2020

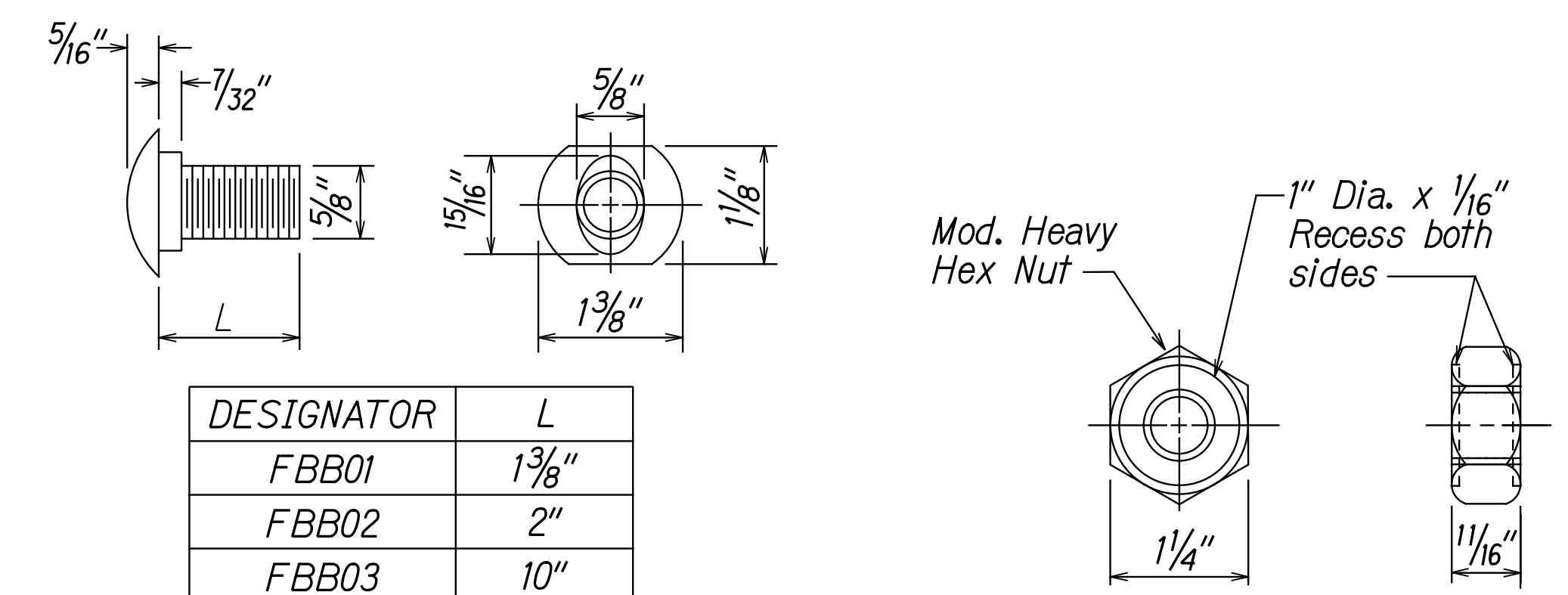
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	ER-23(001)	2020	19	91



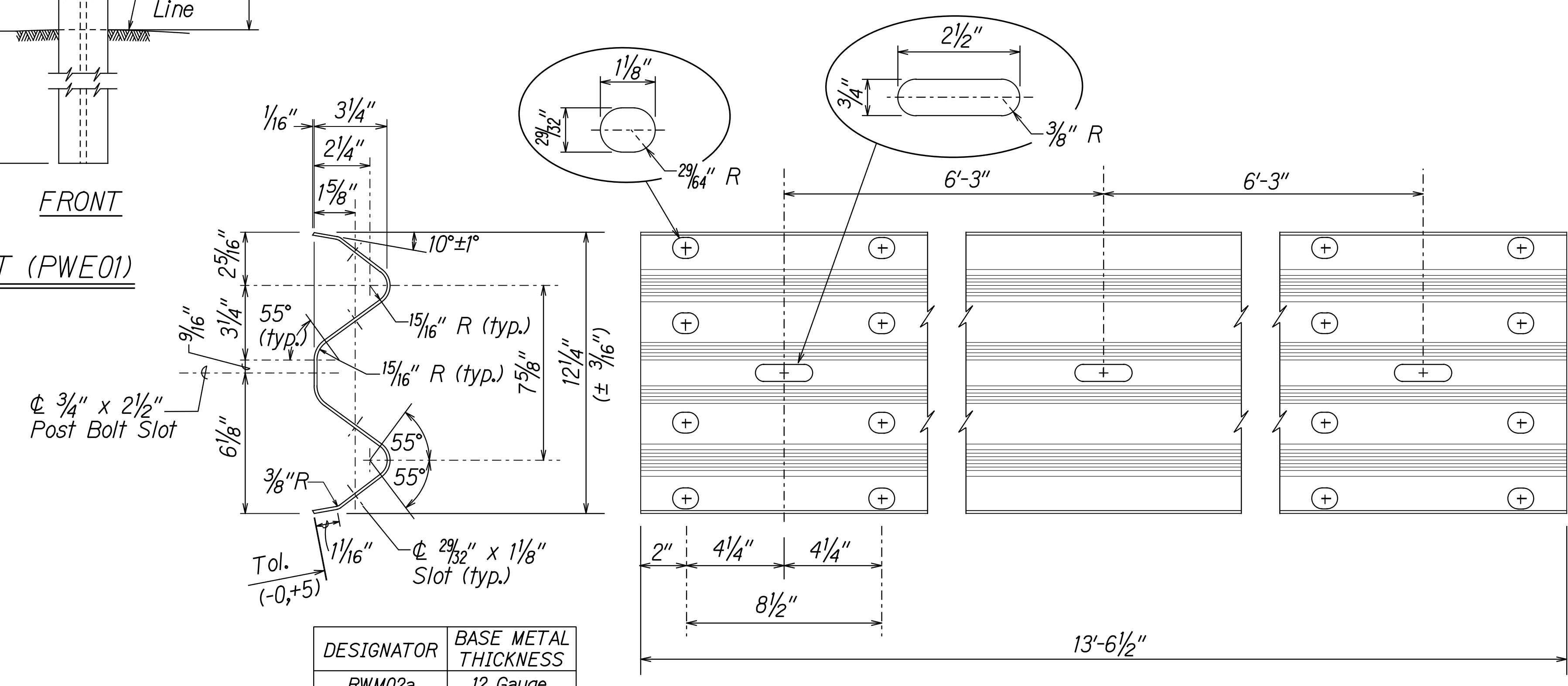
STRONG POST W-BEAM GUARDRAIL (SGR04a)



W-BEAM STRONG POST (PWE01)

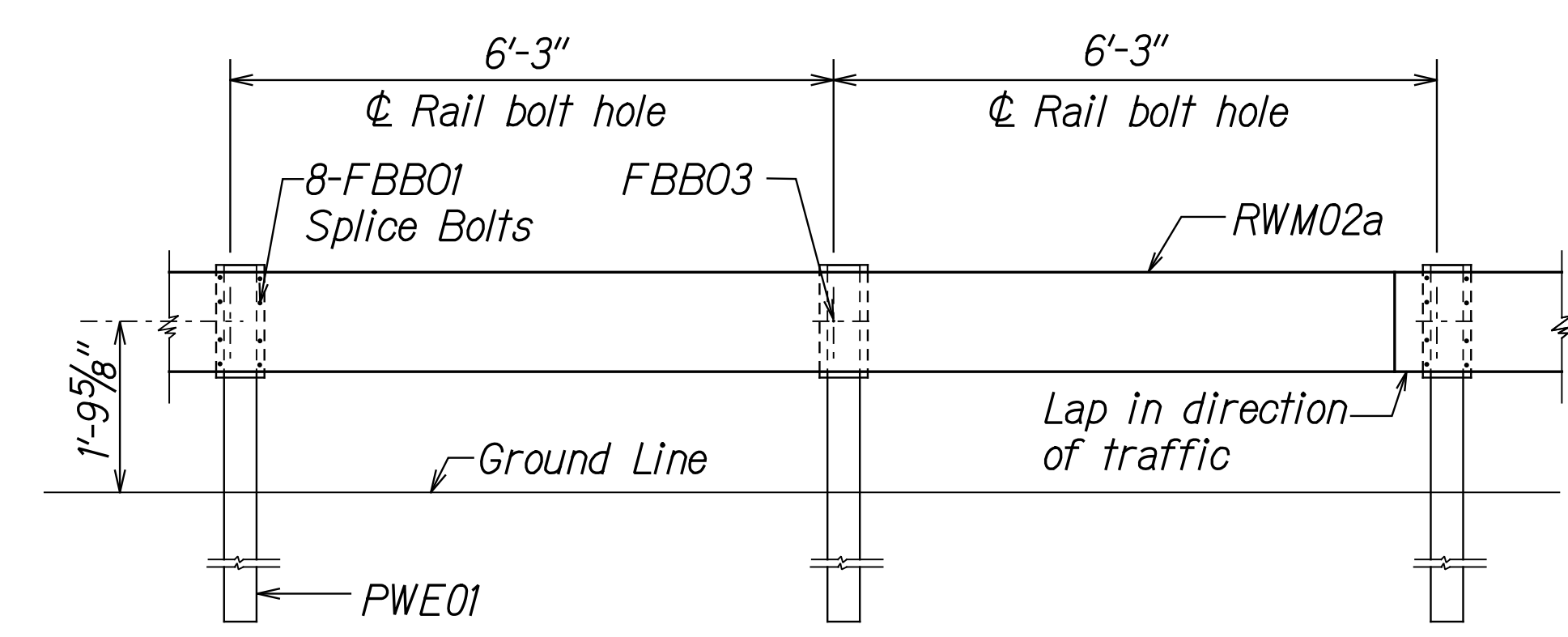


GUARDRAIL BOLTS AND RECESSED NUT



DESIGNATOR	BASE METAL THICKNESS
RWM02a	12 Gauge

2 SPACE W-BEAM GUARDRAIL (RWM02a)



STRONG POST W-BEAM GUARDRAIL WITH RECYCLED OFFSET BLOCK OR PLASTIC BLOCKOUT

DATE	_____
SURVEY PLOTTED BY	_____
DRAWN BY	_____
TRACED BY	_____
DESIGNED BY	_____
QUANTITIES BY	_____
CHECKED BY	_____

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R. Urasaki 04/30/22
SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STRONG POST W-BEAM GUARDRAIL

KUHIO HIGHWAY
REPAIRS TO WAILUA RIVER BRIDGE
PROJECT NO. ER-23(001)

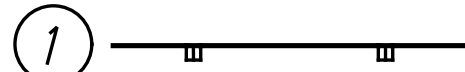

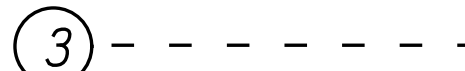
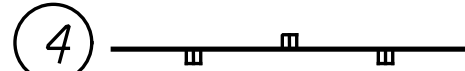









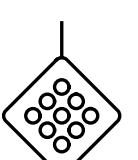
Scale: Not to Scale Date: Oct. 2020

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	ER-23(001)	2020	20	91

PAVEMENT MARKING and SIGNING NOTES:

- All sign panels shall conform to Section 630, 631 and 632 of Special Provisions, DOT standard plans, and the latest editions and amendments of the following FHWA publications:
 - "Manual on Uniform Traffic Control Devices for Streets and Highways" (MUTCD)
 - "Standard Highway Signs"
 - "Standard Alphabets for Highway Signs"
- The Contractor shall backfill all holes, depressions and pits left by the removal of the existing signs with embankment material and grass all areas exposed.
- Layout of pavement markings and striping shall be done by the Contractor and approved by the Engineer prior to any installation work.
- 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.
- Final locations of all signs shall be approved by the Engineer prior to any installation work.
- Existing signs, object markers and reflector markers not shown on these plans shall remain as posted unless otherwise directed by the Engineer. Removal and disposal of existing signs and/or posts as designated on these plans shall be incidental to the various signing items.
- All pavement striping shall be as noted on the legend or plans.
- 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.
- The Contractor shall erect advanced construction warning signs at the beginning and at the end of the project site. Construction warning signs shall be placed as indicated on the plans or as directed by the Engineer. The signs shall be kept in place for the duration of the project and shall be maintained by the Contractor. These signs shall be placed in addition to the required traffic control signs called for in Section 645 - Work Zone Traffic Control. The advanced construction warning signs shall be new and become the property of the State. The Contractor shall remove, clean and deliver the signs and posts to the Kauai District Baseyard or as directed by the Engineer of the project.
- Existing signs that are to be replaced shall not be removed until new signs are installed as replacements, or the messages are no longer necessary.
- Backing for all new regulatory and warning signs shall not be spliced.
- Removal of existing signs, delineators and posts, as directed by the Engineer or as shown on the plans, shall be considered incidental to the various signing items.
- Contractor shall replace all Reflector Markers shown on the plans.
- All pavement striping, legends and symbols shall be retroreflective thermoplastic compound pavement markings.
- Location of pavement markers is shown schematically. For exact location of markers in relation to stripe, see Standard Plans TE-26, TE-27 & TE-28.
- The Contractor shall remove all RM-2 Markers along the roadside and within the pavement area which conflict with the proposed construction.

PAVEMENT MARKING and SIGNING LEGEND:

-  8" White Edge Stripe with Type C Markers at 20' o.c. (Tape, Type I or Thermoplastic Extrusion)
-  4-Type J Markers and Type D Markers at 40' o.c.
-  4" White Guide Line (Tape, Type III or Thermoplastic Extrusion)
-  8" White Stripe with Type C Markers at 20' o.c. (Tape, Type I or Thermoplastic Extrusion)
-  12" Yellow Transverse Stripe (Tape, Type III or Thermoplastic Extrusion)
-  8" Yellow Edge Stripe with Type H Markers at 20' o.c. (Tape, Type I or Thermoplastic Extrusion)
-  4" Double Yellow Stripe with 2-Type H Markers at 20' o.c. (Tape, Type III or Thermoplastic Extrusion)
-  Yield Line
-  Pavement Arrow (Tape, Type III or Thermoplastic Extrusion)
-  New or Relocated Sign (Single & Double Post)
-  Existing Sign
-  Reflector Marker (RM-3) on New Post
-  Flexible Delineator Post w/ High Visibility Reflective Sheeting
-  Type I Object Marker (OM1-1) Mounted on Sign Post

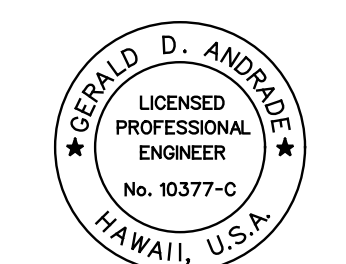
ABBREVIATIONS:

- OM Object Marker
RM Reflector Markers

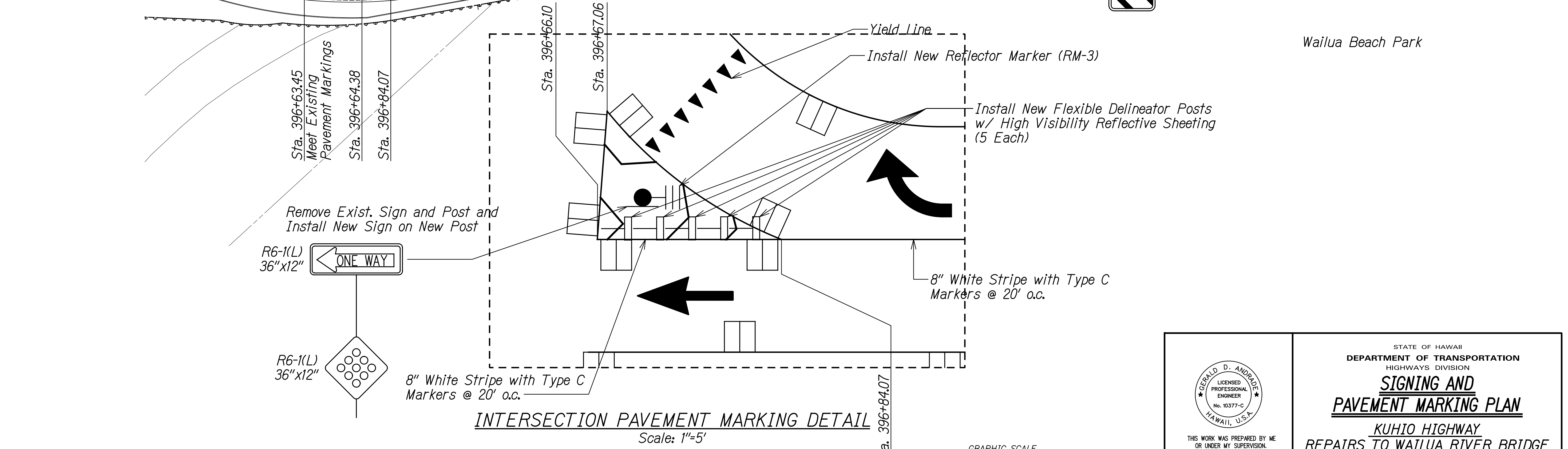
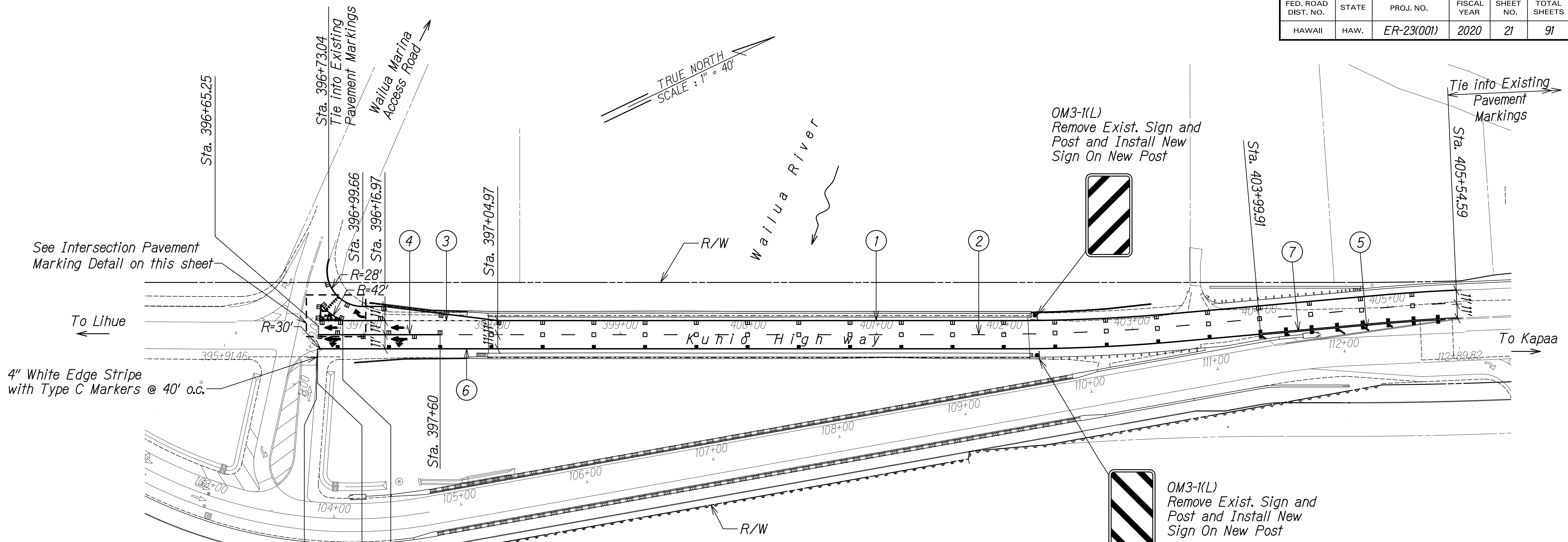
SIGNING LEGEND:

- (A) Remove existing sign and install new sign on new post
(B) Install new sign(s) on existing post(s)

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

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FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	ER-23(001)	2020	21	91



SURVEY PLOTTED BY	DATE
DRAWN BY	
TRACED BY	
DESIGNED BY	
CHECKED BY	
NOTE BOOK	
NO.	

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EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

SIGNING AND PAVEMENT MARKING PLAN

KUHIŌ HIGHWAY
REPAIRS TO WAILUA RIVER BRIDGE
PROJECT NO. ER-23(001)

Scale: 1"=40' Date: Oct. 2020