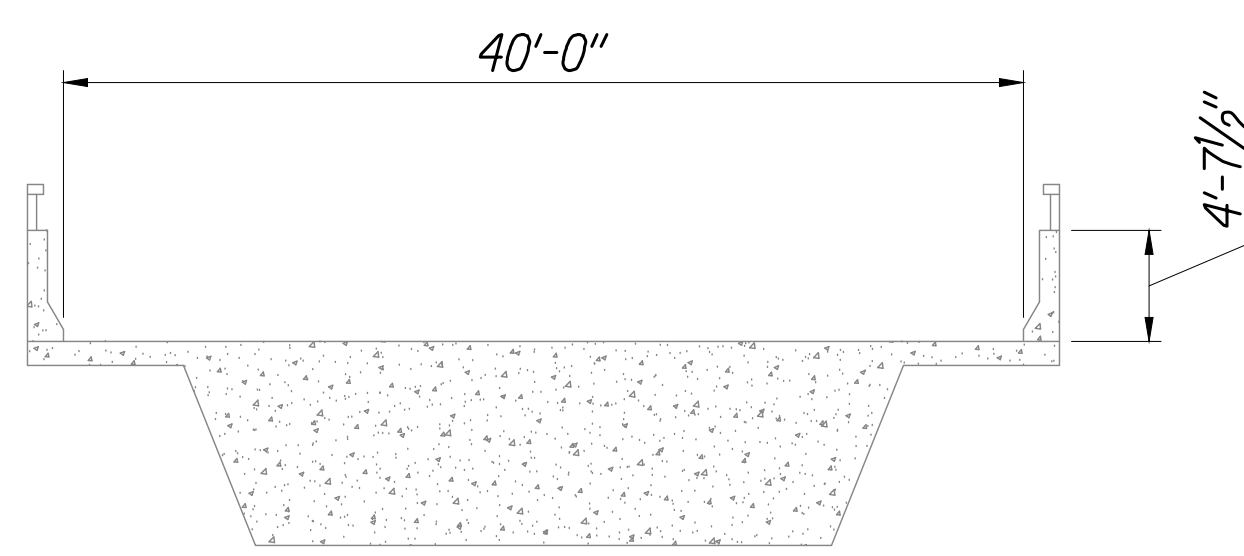
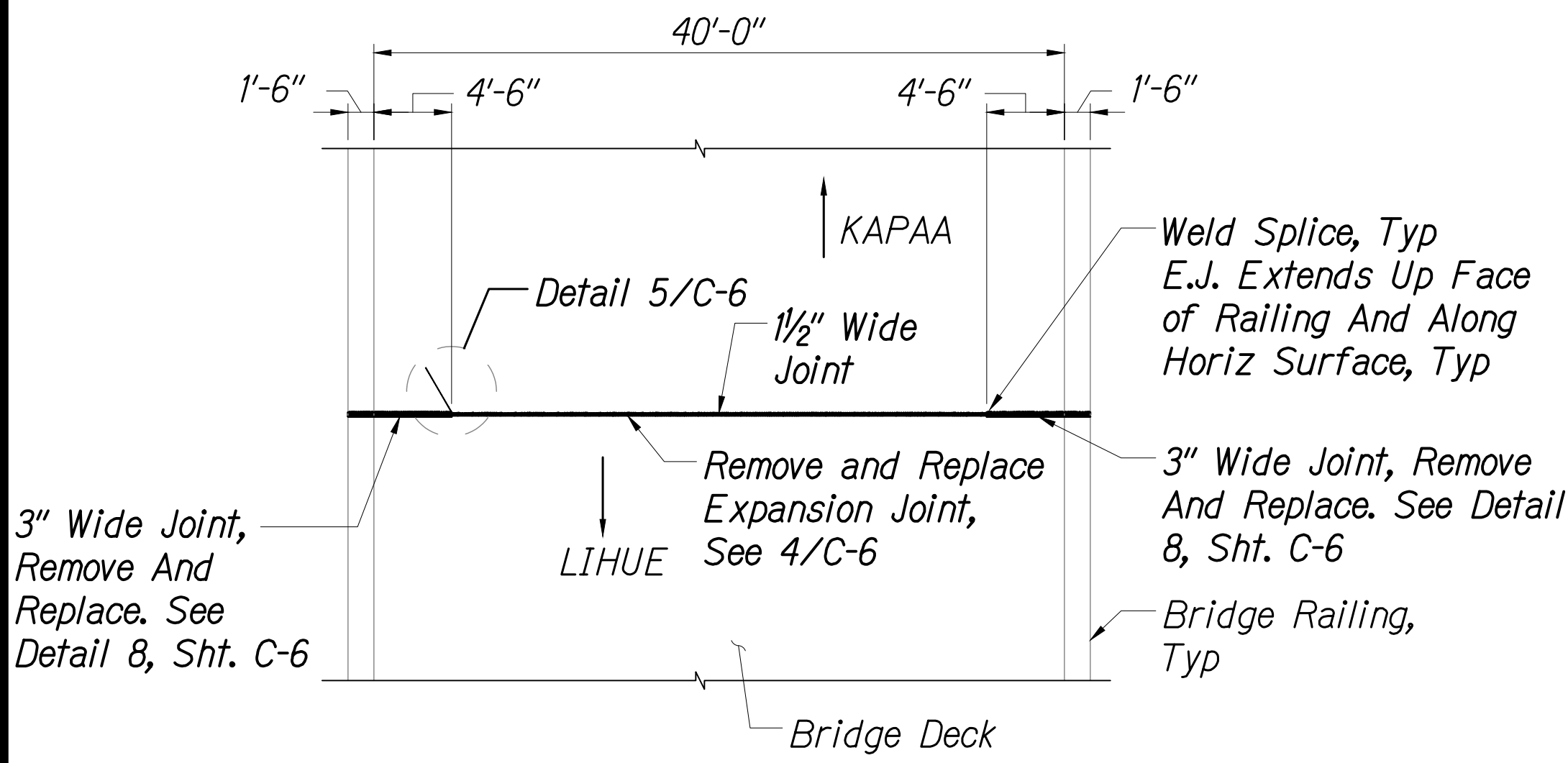


FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
KAUAI	HAW.	HWY-K-02-23M	2023	10	41



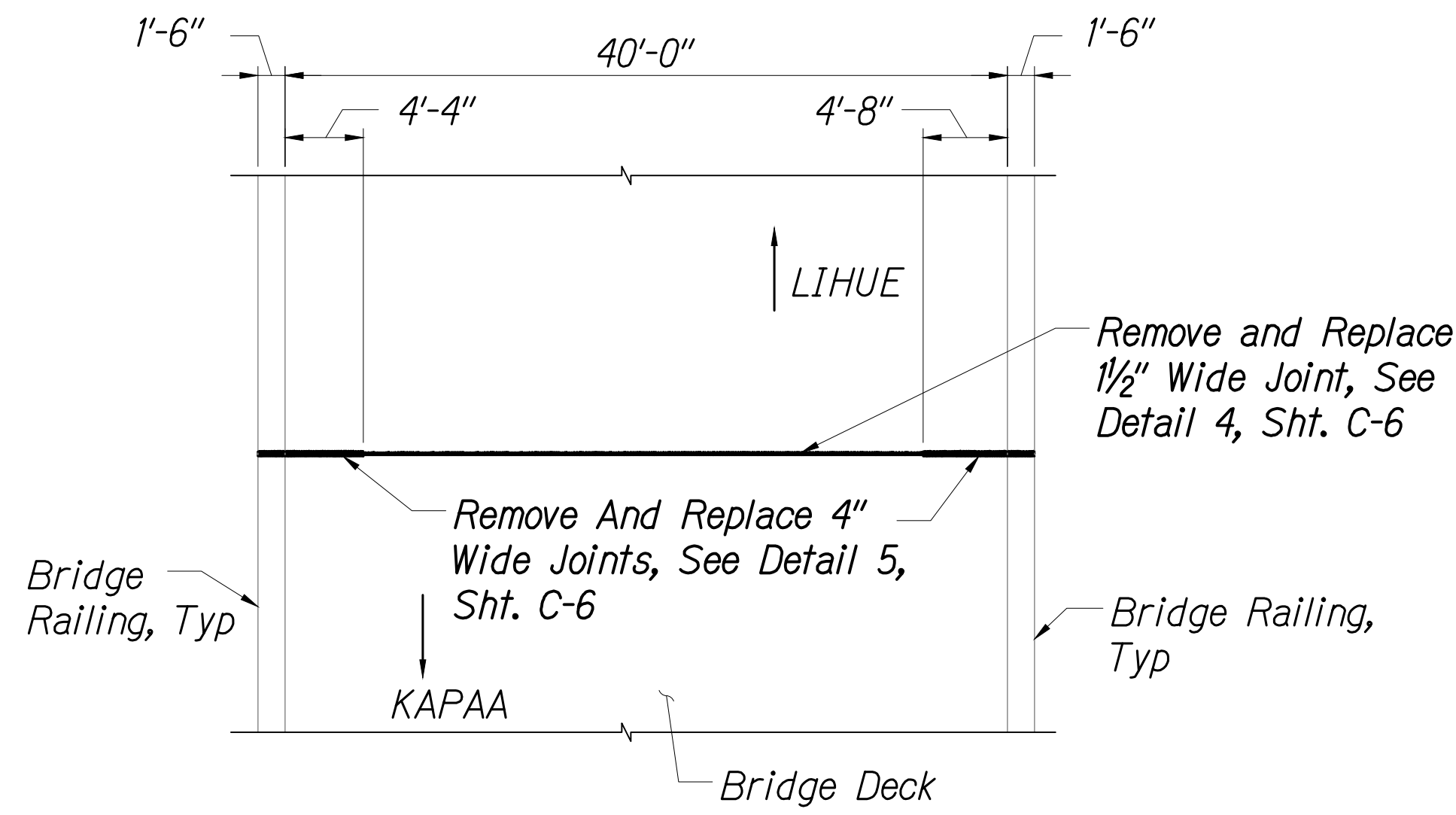
ABUTMENT ELEVATION VIEW
Scale: 1/8' = 1'-0"

1
C-6 | C-6



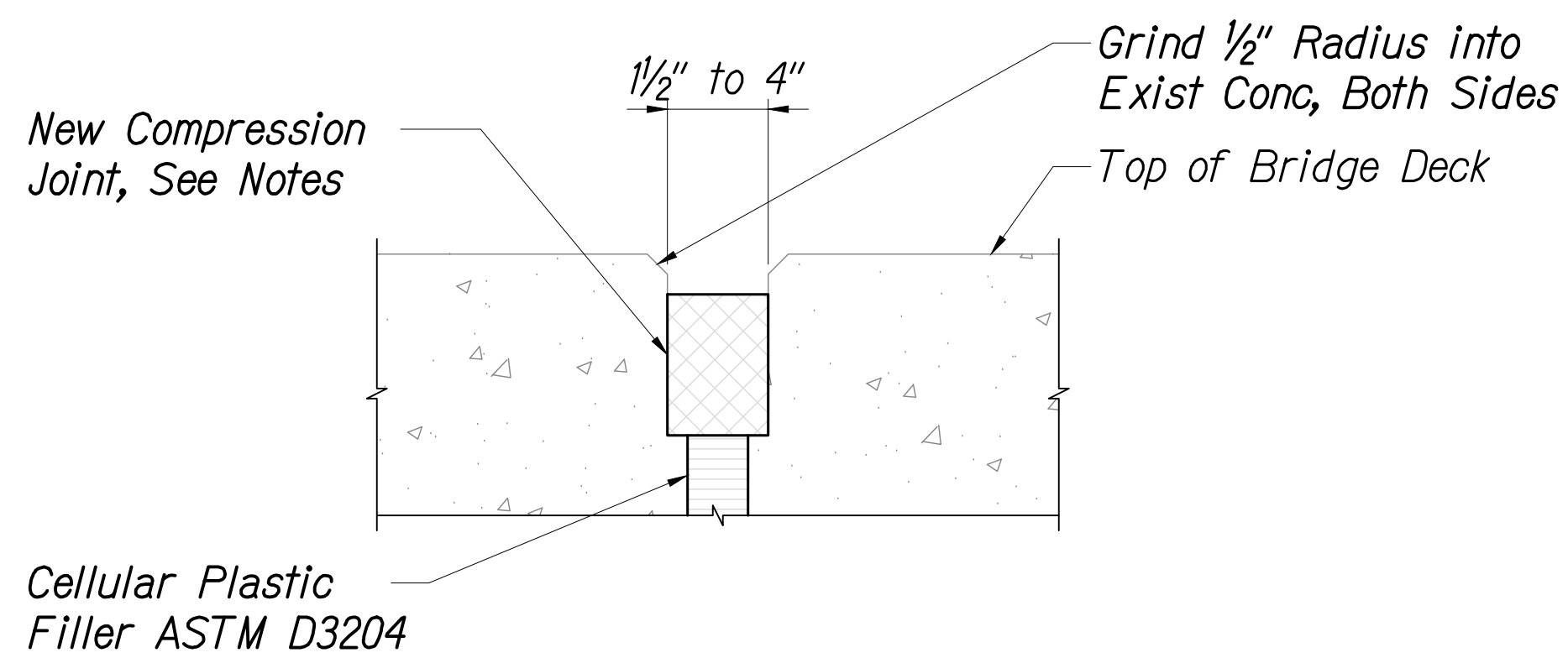
PLAN VIEW - KAPAA ABUTMENT
Scale: 1/8' = 1'-0"

2
C-6 | C-6



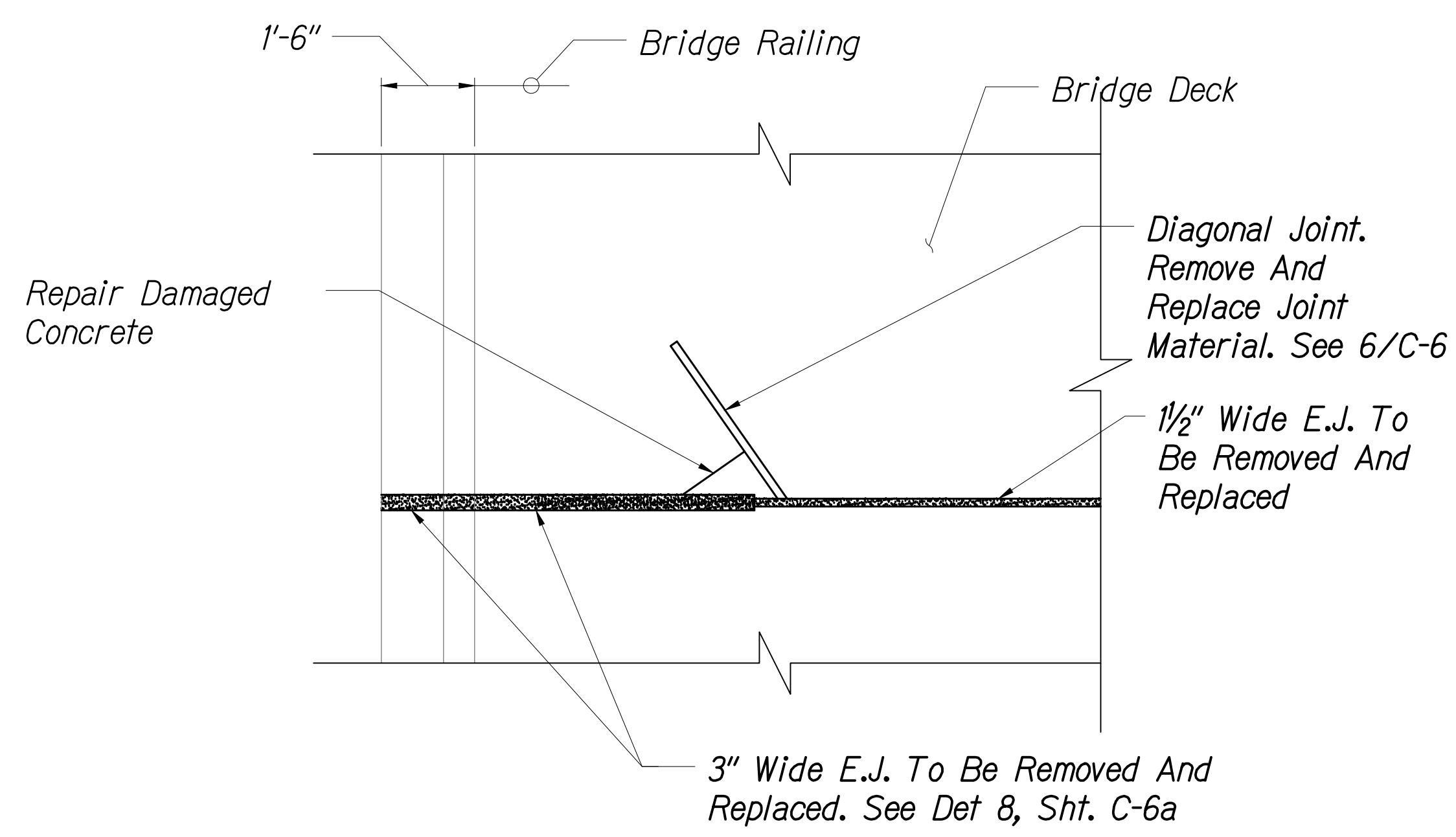
PLAN VIEW - LIHUE ABUTMENT
Scale: 1/8' = 1'-0"

3
C-6 | C-6



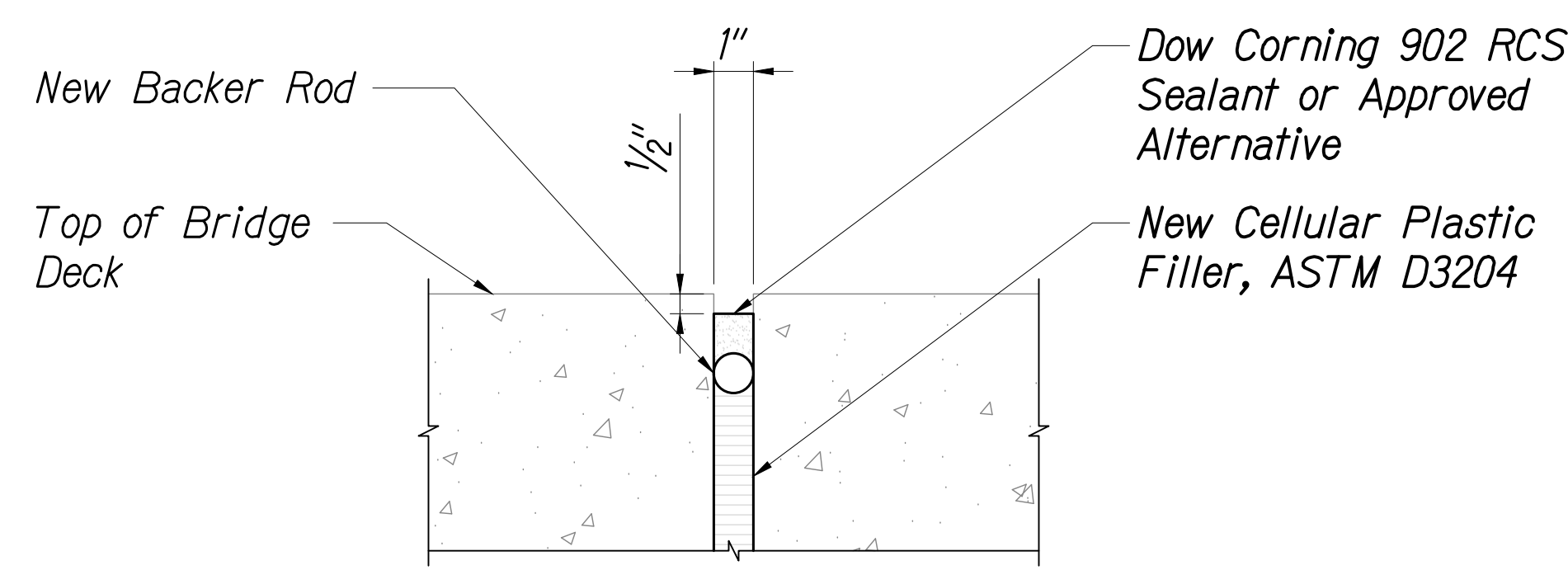
JOINT REPLACEMENT DETAIL AT ABUTMENTS
Scale: 3' = 1'-0"

4
C-6 | C-6



DIAGONAL JOINT REPAIR DETAIL
Scale: 1/2' = 1'-0"

5
C-6 | C-6



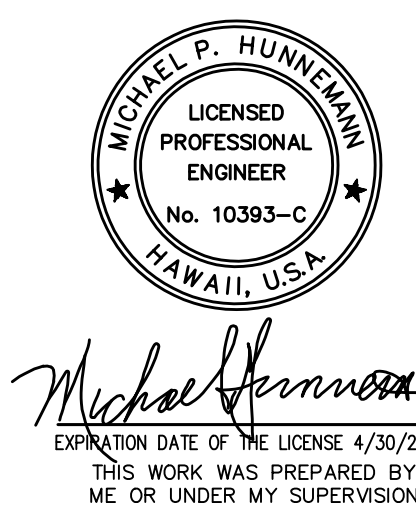
DIAGONAL JOINT REPLACEMENT DETAIL
Scale: 3' = 1'-0"

6
C-6 | C-6

- Deterioration Quantities and Repair Type:
- 1 - Type 1 Spall Repair in Deck (a=6", b=6") **
 - 2 - Type 1 Spall Repair in Deck (a=6", b=6") **
 - 3 - Type 1 Spall Repair in Deck (a=30", b=9") **
 - 4 - Type 1 Spall Repair in Deck (a=9", b=12") **
 - 5 - Type 1 Spall Repair in Deck (a=12", b=12") **
 - 6 - Type 1 Spall Repair in Deck (a=6", b=12") **
 - 7 - Type 1 Spall Repair in Deck (a=1.5', b=8') **
 - 8 - Type 1 Spall Repair in Deck (a=6", b=6") **
 - 9 - Type 1 Spall Repair in Deck (a=6", b=6") **
 - 10 - Type 1 Spall Repair in Deck (a=6", b=6") **
 - 11 - Type 1 Spall Repair in Deck (a=6", b=9") **
 - 12 - (3) Type 1 Spall Repair in Deck (a=6", b=18") **
 - 13 - Type 1 Spall Repair in Deck (a=6", b=9") **
 - 14 - Type 1 Spall Repair in Deck (a=12", b=12") **
 - 15 - Type 1 Spall Repair in Deck (a=6", b=12") **
 - 16 - Type 3 Spall Repair in Edge of Bearing (a=9", b=12", length=3')
 - 17 - Repair Weld in Base of Aluminum Railing Post
 - 18 - Spall in Vertical Face of Bridge Railing, Type 1 Spall Repair (a=9", b=9").
 - 19 - 2.5' x 1.5' Delamination in Downstream Face of Box Girder, Type 1 Spall Repair.
 - 20 - 9" x 12" Delamination, Type 1 Spall Repair.
 - 21 - 1.5' x 1.5' Delamination in Upstream Edge of Box Girder Soffit, Type 1 Spall Repair.
 - 22 - Spall in Upstream Edge of Parapet at Joint. Type 3 Spall Repair (a=6", b=6", length=2')
 - 23 - 18" X 18" Spall in Vertical Face of Box Girder at Drain, Type 1 Spall Repair.
- ** Groove All Repairs to Match Existing Deck. Patching Material shall be

Spall Repairs:
For Spall Repair Notes, See Sheet C-1E.
For Spall Repair Details, See Sheet C-1F.

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



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

JOINT REPAIR DETAILS

MINOR BRIDGE REPAIRS AT
VARIOUS LOCATIONS, PART 1
KAUAI, HAWAII
PROJECT NO. HWY-K-02-23M

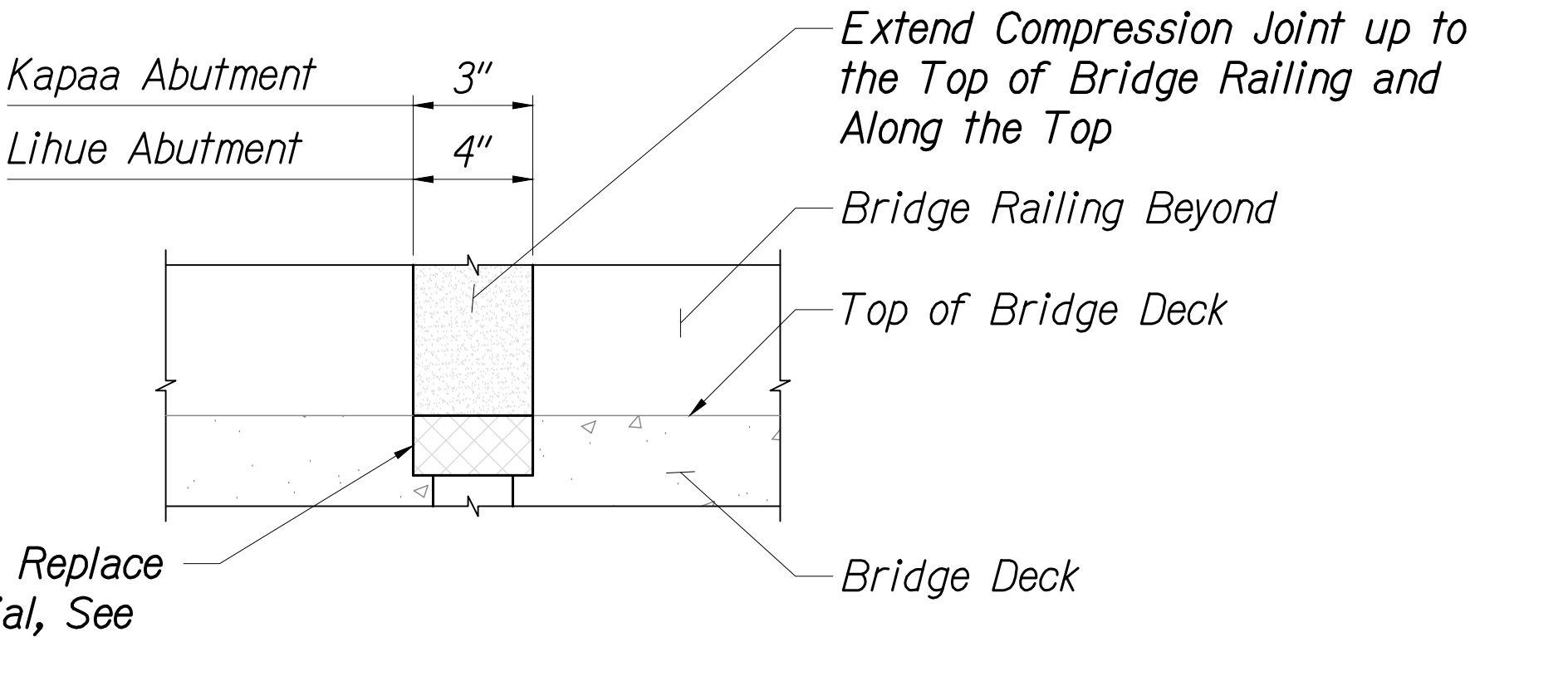
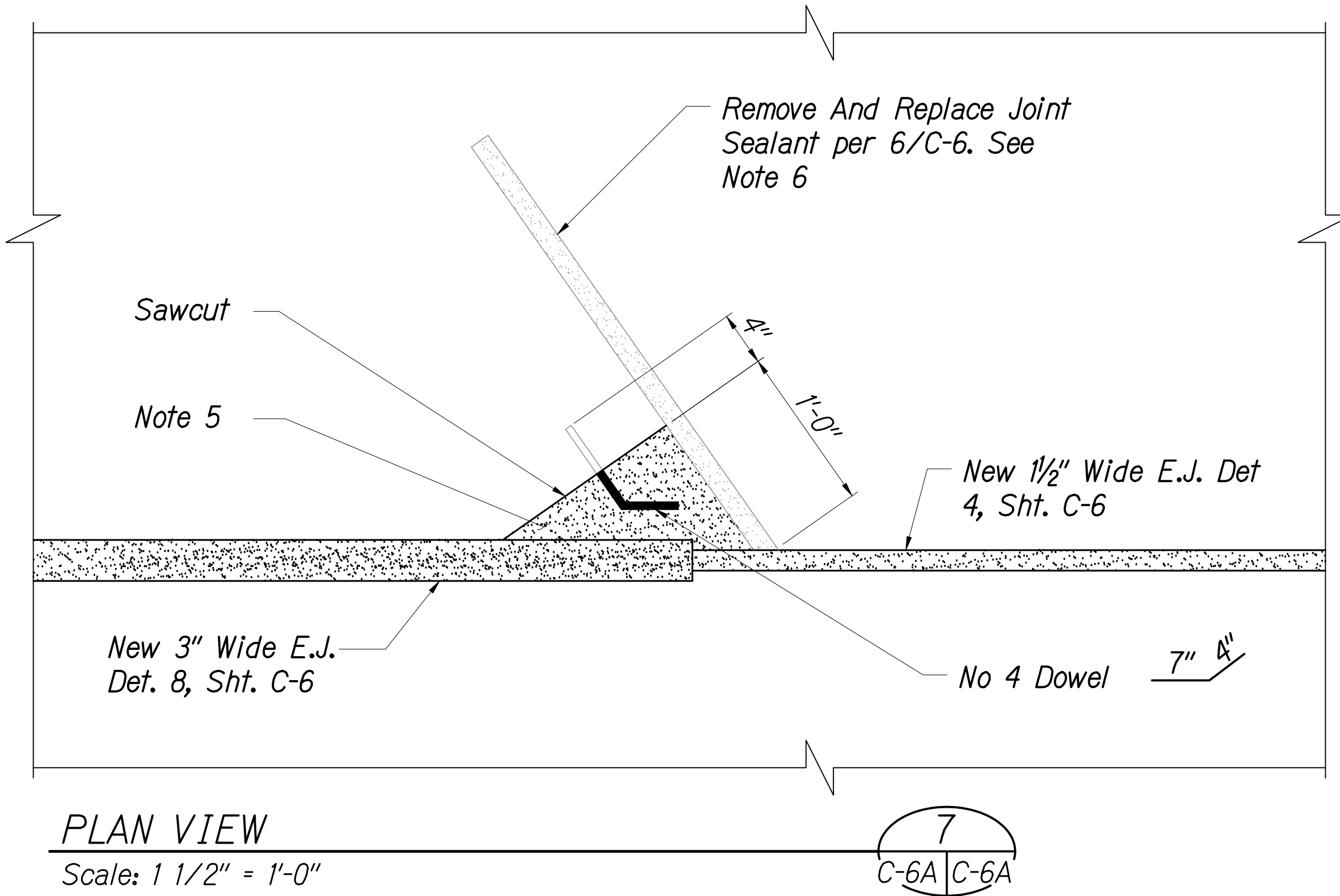
Scale: As Shown Date: May 2023

C-6 SHEET No. 15 OF 41 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
KAUAI	HAW.	HWY-K-02-23M	2023	11	41

Notes:

- Remove existing joint sealant, backer rods, compression seal, and preformed filler. Clean surfaces of concrete thoroughly of all dirt, oil, dust, adhesive, and all other bond-inhibiting materials. The contractor shall clean down to hard and sound concrete.
- Nosing material:
 - Remove the existing nosing material down to clean, sound concrete.
 - Prime nosing cavity according to manufacturer's specifications.
 - Form and install new nosing material. Ensure that the leading edge of the nosing material is tooled to have a 1/2" radius.
 - The nosing material shall be a 2-component polyurethane resin, mixed with silica-free sand and 4 LBS. Of chopped fiberglass, or 11% fiberglass by weight. The nosing material shall have a the following minimum physical properties:
 - Compressive strength of 4000 PSI, min. (ASTM D695)
 - Adhesion bond strength of 400 PSI (ASTM D7234)
 - Tensile strength and elongation of 450 PSI, 8% min. (ASTM D638).
 - A pre-approved nosing material is emcrete. All proposed alternatives shall have the minimum physical properties listed above, including the requirement for fiber reinforcement.
- Compression seal:
 - Grind leading edge of deck slab along joint to 1/2" radius.
 - Contractor shall measure the exact width of the joint gap before ordering new compression joint material.
 - Install new preformed filler, compression seal, and backer rod. The compression joint seal shall conform to ASTM D8138-18, and shall be one of the following or approved equal:
 - EMSEAL and BEJS-DS system
 - DELASTIC preformed compression seals
 - WABO FS bridge seal
 - The compression seal shall have a minimum 3/2" interface depth with the vertical joint surface. The adhesive shall completely cover the entire depth and length of the seal surface.
 - Use custom transitions or heat weld at all splices and turns in the compression joint material. All splices shall be water-tight.
 - Follow closely the manufacturers specifications for cleaning and installation, including adhesive.
- Joint sealant:
 - Joint sealant shall be Dow Corning 902 RCS or approved alternative.
- Sawcut perpendicular to diagonal joint. Remove damaged concrete. In-fill area according to detail 7, Sht. C-6. Drill and epoxy no. 4 dowel into 4" deep hole. In-fill area with 5,000 PSI concrete. Concrete dowel adhesive shall be Hilti Hit-Re 500-SD (ESR 2322); Powers PE 1000 (ESR 2583); Simpson Set XP (ESR 2508), or approved equal.
- Remove existing joint material. Clean sides of diagonal joint of all adhesives, dirt, dust, oil, and other bond-inhibiting materials. Install new preformed filler material, backer rod, and sealant per detail.
- All products noted above include the minimum performance requirements for their intended use, and are included for contractor's reference. Alternate products may be proposed for substitution. Submit all substitution requests to the engineer for approval.

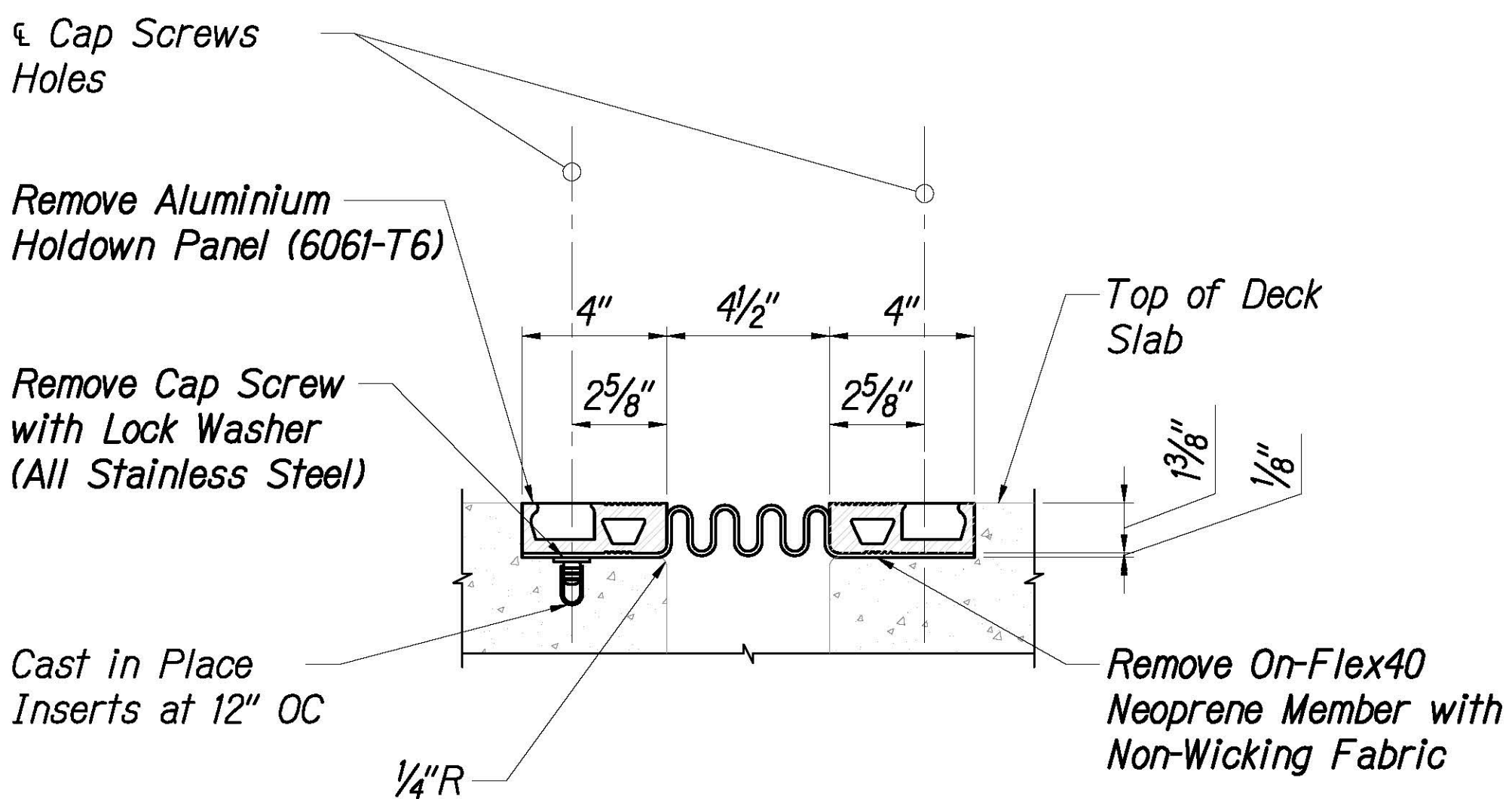


Michael P. Hunneman
EXPIRATION DATE OF THE LICENSE 4/30/2024
THIS WORK WAS PREPARED BY
ME OR UNDER MY SUPERVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
**JOINT REPAIR DETAILS
AND NOTES**
MINOR BRIDGE REPAIRS AT
VARIOUS LOCATIONS, PART 1
KAUAI, HAWAII
PROJECT NO. HWY-K-02-23M
Scale: As Shown Date: May 2023
C-6A SHEET No. 16 OF 41 SHEETS

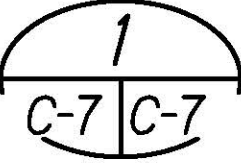
ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DRAWN BY	
No.	CHECKED BY	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
KAUAI	HAW.	HWY-K-02-23M	2023	ADD.17	41

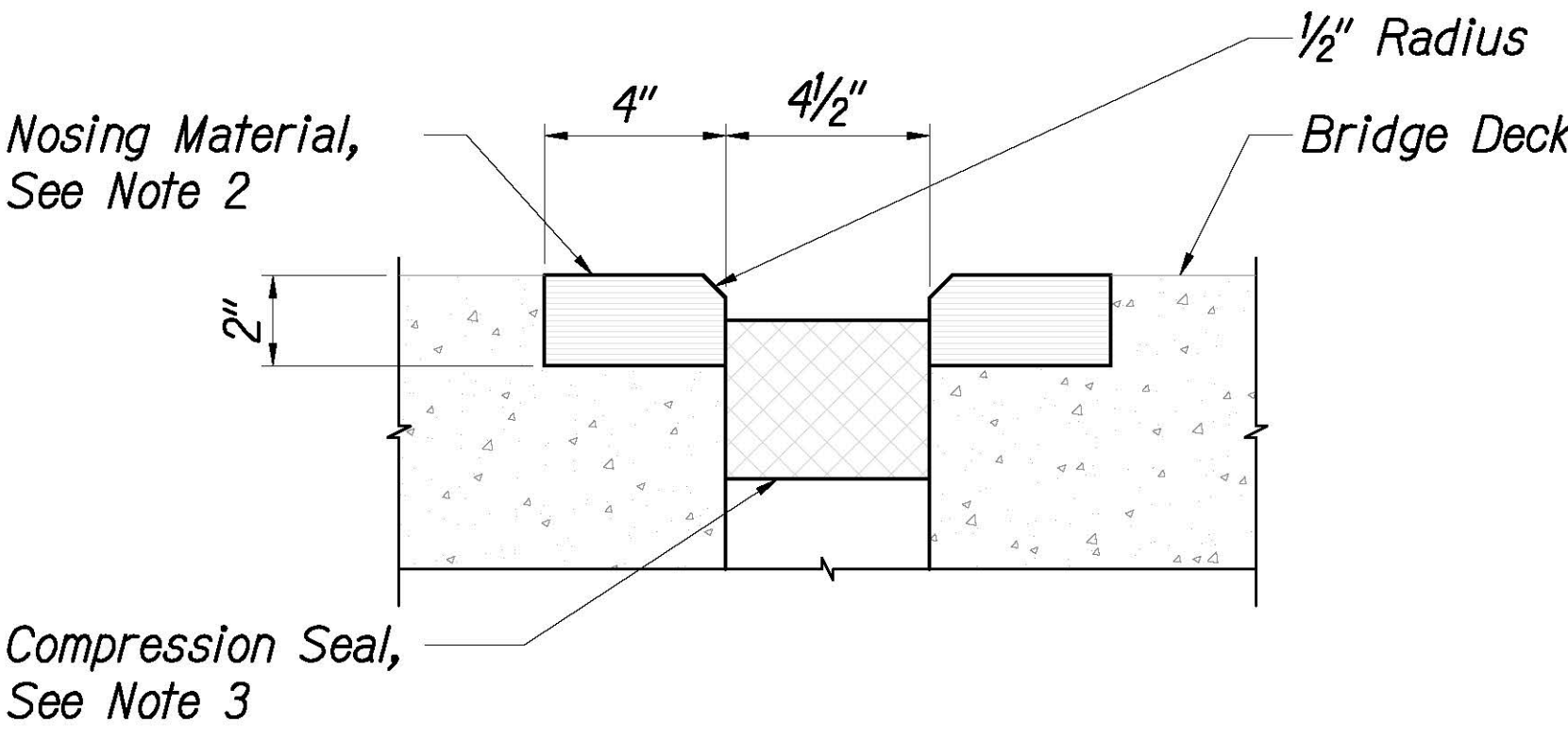


DEMOLITION OF EXISTING ON-FLEX JOINT DETAIL

Scale: 3' = 1'-0"

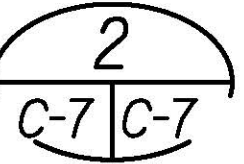


- Notes:**
1. Remove existing joint assembly. Cut or remove cap screws to be flush with the bottom of the nosing cavity. Clean surfaces of concrete thoroughly of all dirt, oil, dust, adhesive, and all other bond-inhibiting materials. The contractor shall clean down to hard and sound concrete. The contractor shall verify the joint opening and the nosing cavity sizes.
 2. Nosing material:
 - a. Prime nosing cavity according to manufacturer's specifications.
 - b. Form and install new nosing material. Ensure that the leading edge of the nosing material is tooled to have a 1/2" radius.
 - c. The nosing material shall be a 2-component polyurethane resin, mixed with silica-free sand and 4 lbs. Of chopped fiberglass, or 11% fiberglass by weight. The nosing material shall have a the following minimum physical properties:
 - i. Compressive strength of 4000 psi, min. (ASTM D695)
 - ii. Adhesion bond strength of 400 psi (ASTM D7234)
 - iii. Tensile strength and elongation of 450 psi, 8% min. (ASTM D638).
 - d. A pre-approved nosing material is Emcrete. All proposed alternatives shall have the minimum physical properties listed above, including the requirement for fiber reinforcement.
 3. Compression seal:
 - i. Contractor shall measure the exact width of the joint gap before ordering new compression joint material.
 - j. The compression joint seal shall conform to ASTM D8138-18, and shall be one of the following or approved equal:
 - i. Delastic preformed polychloroprene compression seal
 - k. Use custom transitions or heat weld at all splices and turns in the compression joint material. All splices shall be water-tight.
 - l. Follow closely the manufacturers specifications for cleaning and installation, including adhesive.
 4. All products noted above include the minimum performance requirements for their intended use, and are included for contractor's reference. Alternate products may be proposed for substitution. Submit all substitution requests to the engineer for approval.

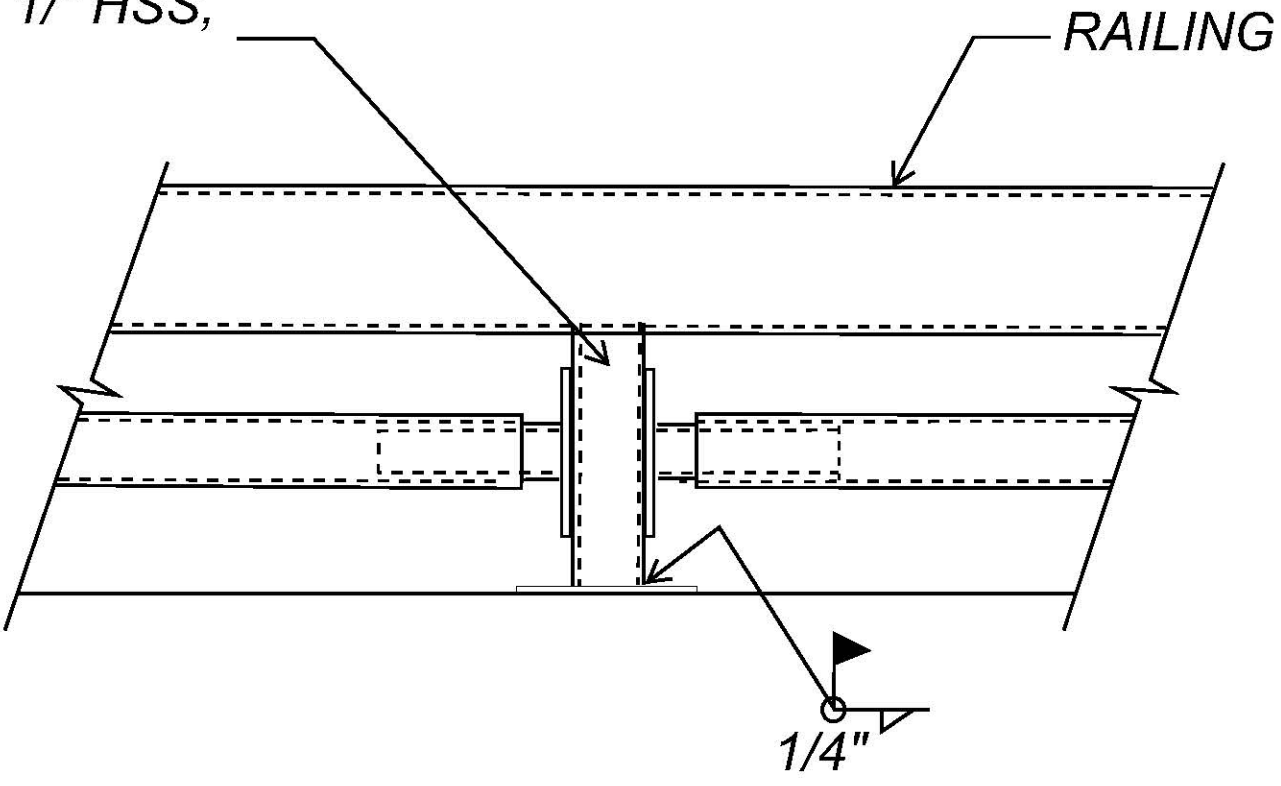


JOINT REPAIR DETAIL

Scale: 3' = 1'-0"

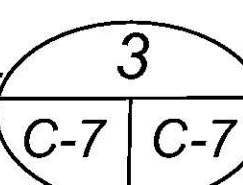


POST, 3" X 3" X 1/1" HSS, ALUMINUM

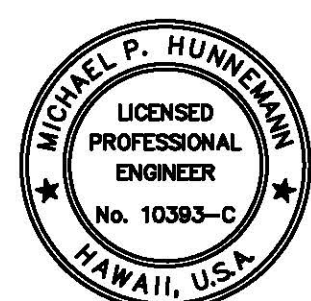


RAILING POST REPAIR DETAIL

1 1/2" = 1'-0"



- REPAIR NOTES:**
1. Remove existing cracked weld before welding.



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

6/9/23	1 - Added Detail
DATE	REVISION
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION JOINT REPAIR DETAILS AND NOTES MINOR BRIDGE REPAIRS AT VARIOUS LOCATIONS, PART 1 KAUAI, HAWAII PROJECT NO. HWY-K-02-23M Scale: As Shown Date: May 2023	
C-7	SHEET No. 17 OF 41 SHEETS

ADD.17