

[REDACTED]

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STRUCTURAL GENERAL NOTES

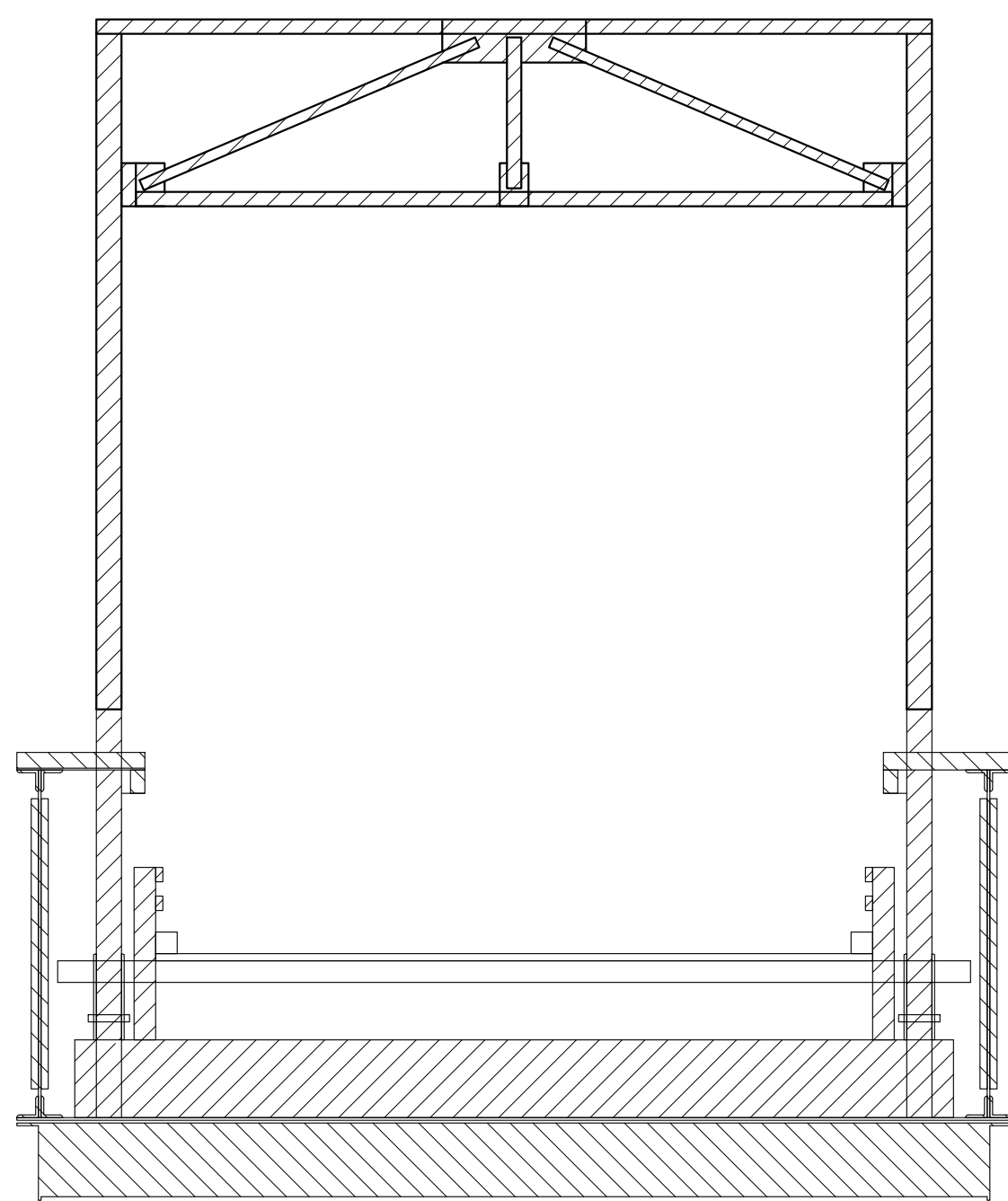
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	BR-0560(016)	2022	21	34

4. Construction Notes (Cont.):

- E. The total weight of the work platform (including Dead and Live Load) shall not exceed 15,000 lbs when factored using AASHTO LRFD unless determined by the Contractor's Engineer that it may be increased.
- F. The hanging work platform beneath the bridge shall not extend more than 20'-0" across the river at any given time. The Contractor shall take this into consideration during bidding. The Contractor shall be aware that the freeboard height between the river's Ordinary High Water mark and the soffit of the bridge is limited and river elevations fluctuate.
- G. The Contractor shall field verify all existing conditions, dimensions, and member sizes prior to fabrication of any bridge elements. The Engineer shall be notified immediately regarding any change of conditions or discrepancies between the plans and field investigation.
- H. The structural repair details shown on the plans are based on the Engineer's findings during the latest site investigation. If existing bridge members that are to remain, have significant deterioration or are so corroded such that they cannot be bolted or welded to, the Engineer shall be notified immediately. Revisions to the repair details or additional repairs that need to be made shall be paid for under Item 501.2000 - Additional Structural Steel Repairs.
- I. The Contractor shall coordinate all traffic control and lane closure requirements with the State DOT Highways Division. The Contractor shall notify the State a minimum of 11 days prior to any requests for traffic control or lane closures. Lane closures may be scheduled on weekdays from 9:00 PM to 4:00 AM.
- J. The Contractor shall be responsible for retaining the services of a Quality Control inspector to oversee all high strength bolting and welding inspection, including any non-destructive testing. Cost shall be incidental to the repair work. Reports shall be submitted to the Engineer for review and approval. All deficient work shall be corrected with no increase in cost to the State.
- K. The Contractor may obtain for review available As-Built drawings of the existing structure from the HDOT Highways Division, Design Branch located at Kakuhihewa Building, Room 609, 601 Kamokila Boulevard, Kapolei, HI 96707.

5. Painting:

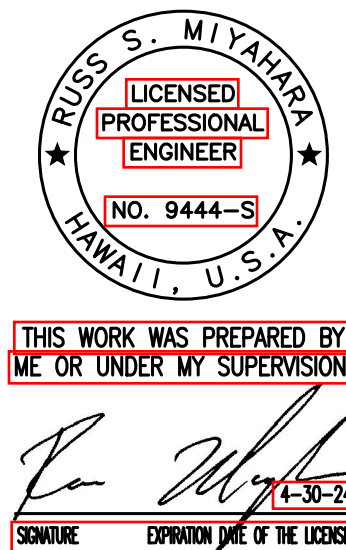
- A. See Special Provisions Section 697 for all coating requirements.
- B. The Contractor shall phase the timber decking work with the painting work such that the topside of all W21X93 transom beams are properly cleaned and coated.
- C. The specific coating requirements for the different areas of the bridge shall be as shown below:



- See Special Provisions Section 697 - Pratt Truss Coating Requirements
- See Special Provisions Section 697 - Warren Truss Coating Requirements

DATE	000000
SURVEY PLOTTED BY	
DRAWN BY	
DESIGNED BY	
QUANTITIES BY	
CHECKED BY	
ORIGINAL PLAN	
NOTE BOOK	
No.	

DRAWING NAME: Z:\00 ONGOING\00_00 PROJECTS\21-009.1-HANALEI BR RPR-DOT\A01 CAD\09-28-22 BID SET\HTR-50001 GEN NOTES 1.DWG PLOT TIME: 09-28-22, 4:10 PM



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

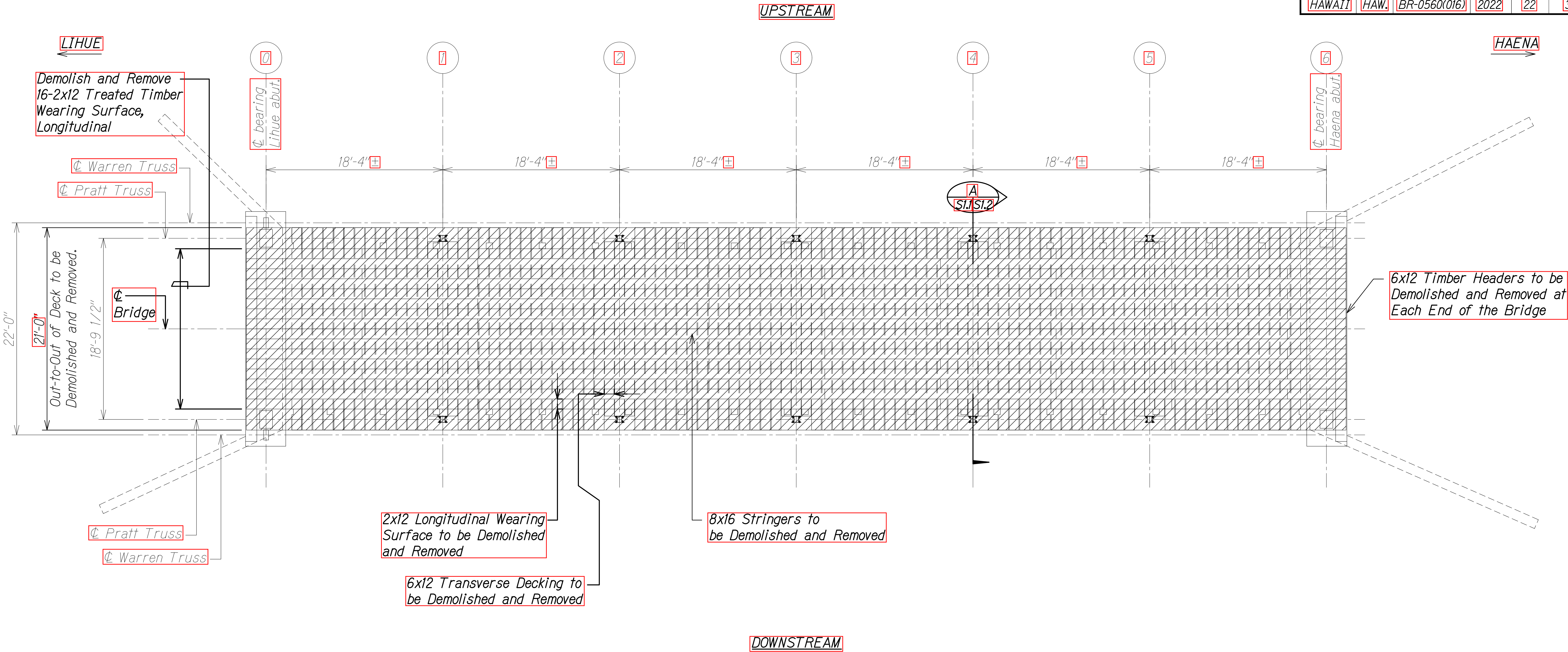
STRUCTURAL GENERAL NOTES

KUHIO HIGHWAY
Hanalei Bridge Repair
FAP Proj. No. BR-0560(016)

Scale: None Date: July 2022

SHEET No. **S02** OF **2** SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	BR-0560(016)	2022	22	34



Legend:

Demolish and Remove 2x12 Apitong timber Wearing Surface, 6x12 treated timber transverse decking, 8x16 treated timber stringers, 6x6 timber curbs, and 6x12 timber headers.

Note:

The Contractor will need to phase the demolition work of the timber decking with the new timber decking work and painting requirements of the under deck steel transoms. See Structural General Notes, 4. Construction Notes I. for lane closure times. A work plan, detailing the specifics of the planned phasing shall be submitted to the Engineer for review and approval.

DECK DEMOLITION PLAN

Scale: 3/16" = 1'-0"

Professional Engineer Seal for Russ S. Miyahara, License No. 9444-S, State of Hawaii. Signature of Russ S. Miyahara, dated 7/30/24.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DECK DEMOLITION PLAN

KUHIO HIGHWAY
Hanalei Bridge Repair
FAP Proj. No. BR-0560(016)

Scale: As Noted Date: July 2022

SHEET No. **21** OF **2** SHEETS

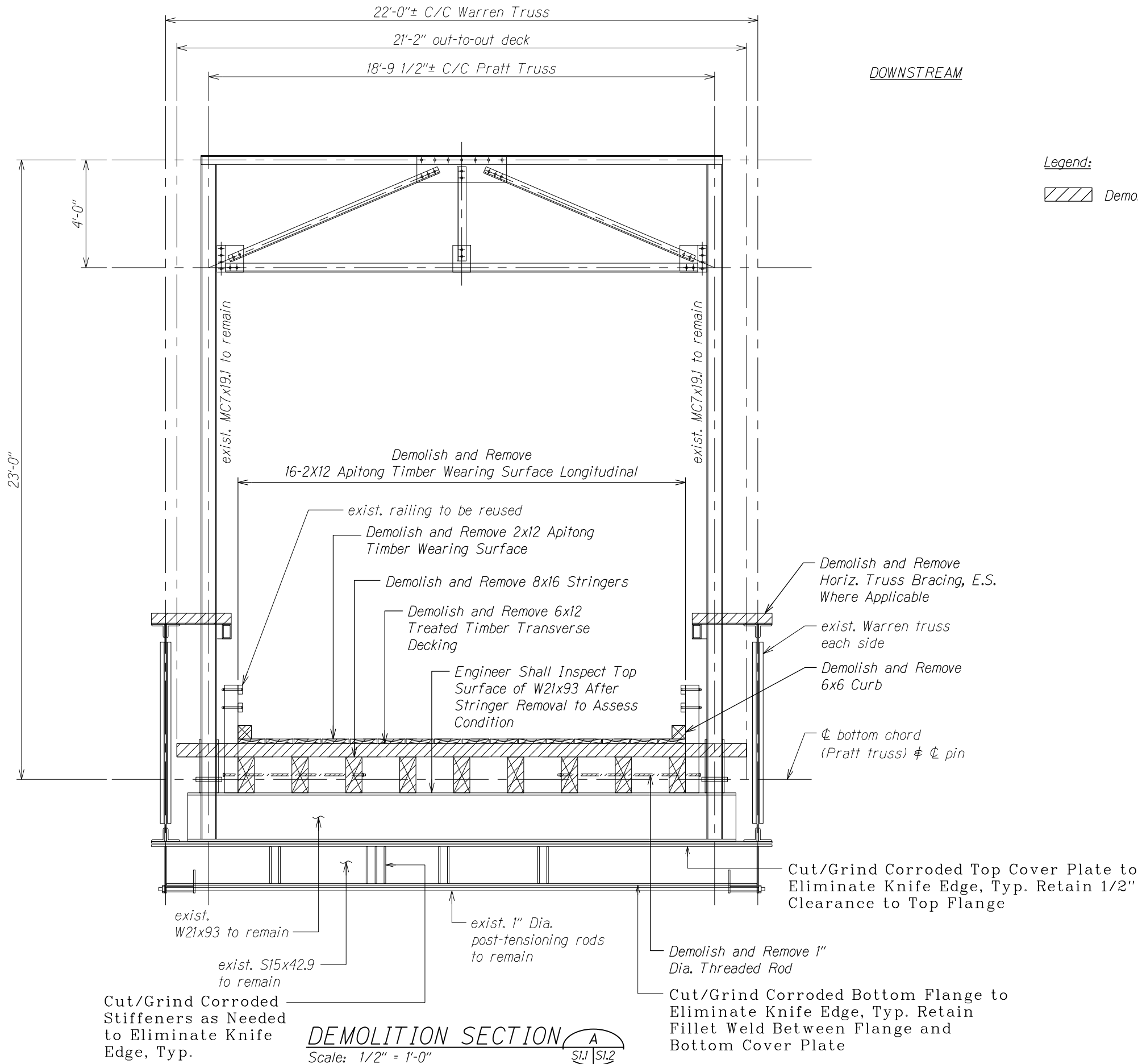
DATE	09-28-22
SURVEY PLOTTED BY	
DRAWN BY	
DESIGNED BY	
QUANTITIES BY	
CHECKED BY	
ORIGINAL PLAN	
NOTE BOOK	
No.	

DRAWING NAME: Z:\00 ONGOING\00 IF PROJECTS\21-009.1-HANALEI BR RPR-DOT\A.01 CAD\09-28-22 BID SET\HTR-S0101-S0102 DEMO.DWG PLOT TIME: 09-28-22, 4:13 PM

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	BR-0560(016)	2022	23	34

UPSTREAM

DOWNSTREAM



Legend:
Demolish and Remove

LEGEND FOR
AS-BUILT POSTINGS

	Squiggly line for as-built deletion
	Double line for as-built deletion
Roadway	Text for as-built posting

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DEMOLITION SECTION

KUHIO HIGHWAY
Hanalei Bridge Repair
FAP Proj. No. BR-0560(016)

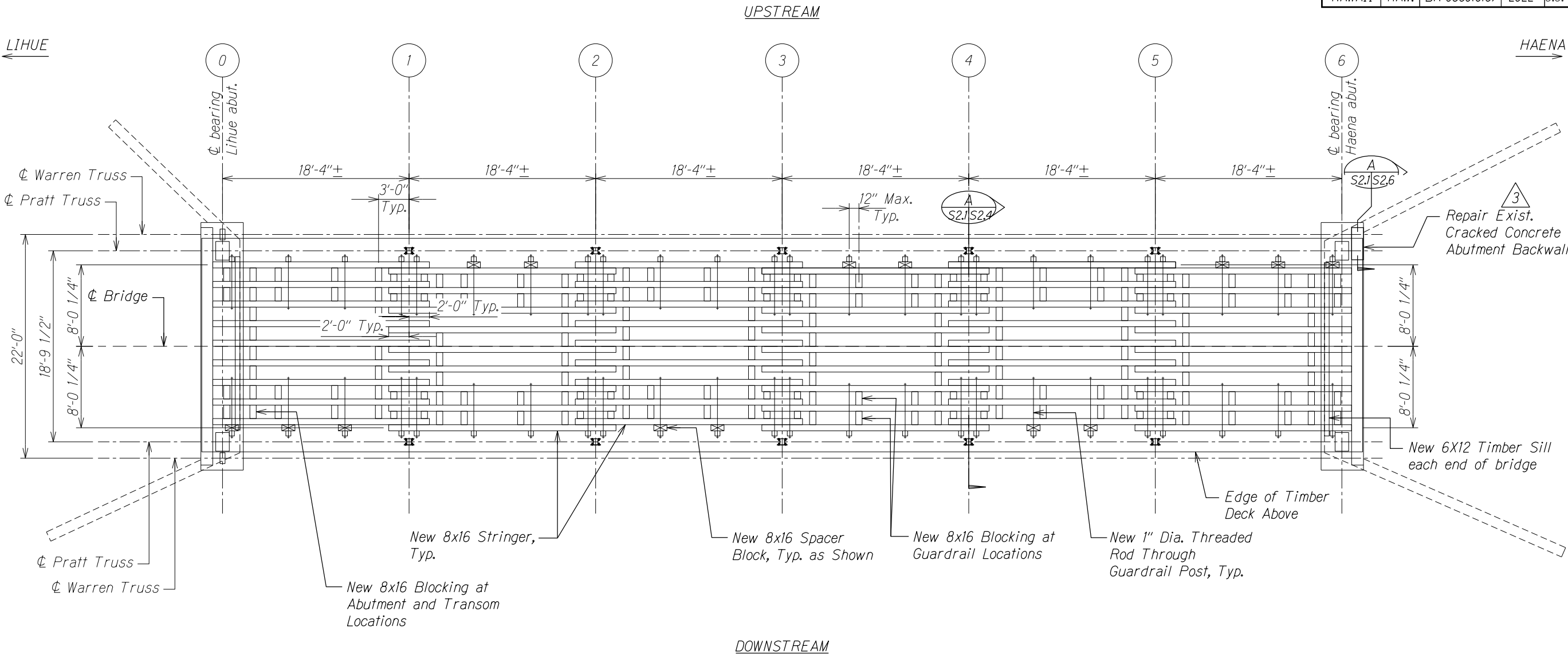
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SHEET No. S1.2 OF 2 SHEETS

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DRAWN BY	
DESIGNED BY	
QUANTITIES BY	
CHECKED BY	
ORIGINAL PLAN	
NOTE BOOK	
No.	

"AS-BUILT"

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	BR-0560(016)	2022	C.O. 24	34



STRINGER PLAN
Scale: 3/16" = 1'-0"

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

08-28-23	3 C.O. for Backwall Repair
DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

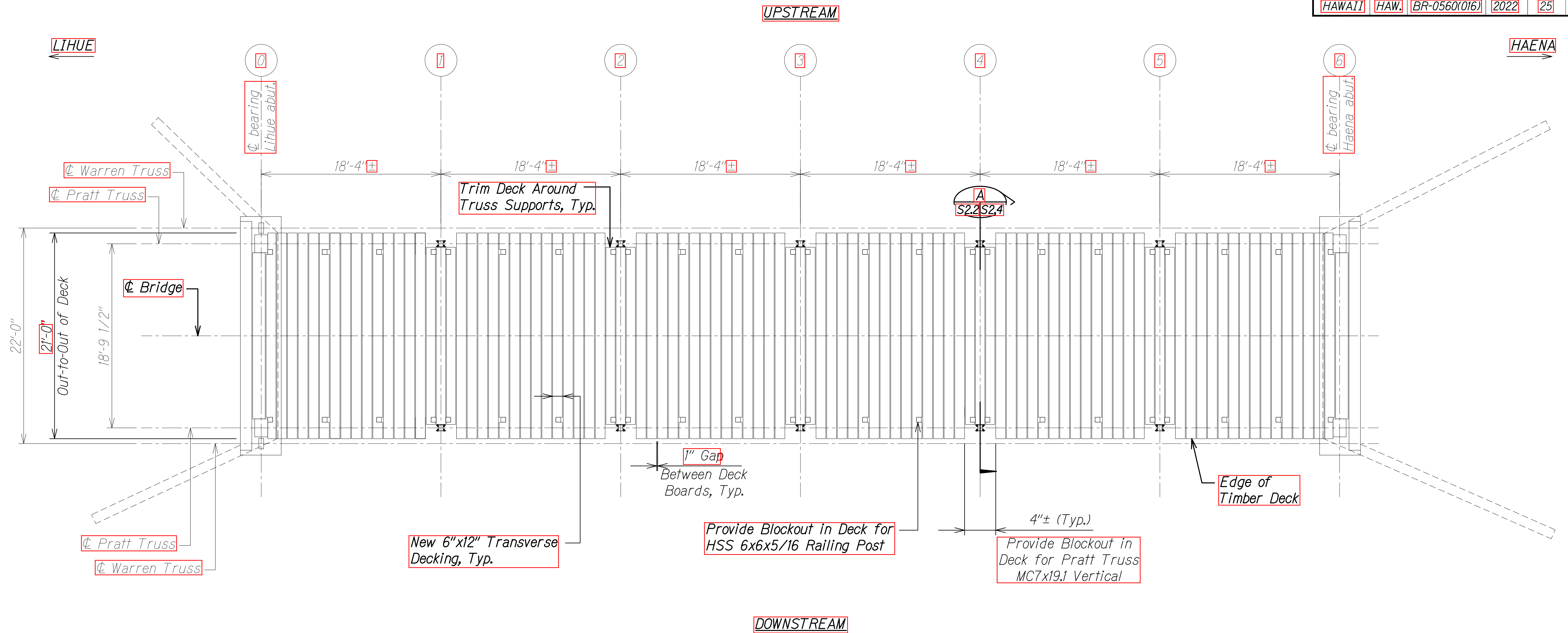
STRINGER PLAN

KUHIO HIGHWAY
Hanalei Bridge Repair
FAP Proj. No. BR-0560(016)

Scale: As Noted Date: July 2022

SHEET No. S2.1 OF SHEETS

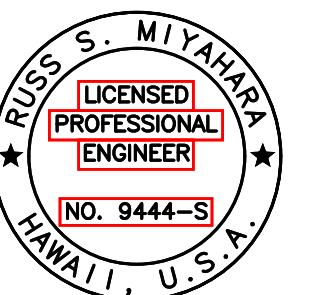
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	BR-0560(016)	2022	25	34



DECKING PLAN
Scale: 3/16" = 1'-0" A S2.2 S2.2

DATE	000000
SURVEY PLOTTED BY	
DRAWN BY	
DESIGNED BY	
QUANTITIES BY	
CHECKED BY	
ORIGINAL PLAN	
NOTE BOOK	
No.	

DRAWING NAME: Z:\00 ONGOING\00 IF PROJECTS\21-009.1-HANAIEI BR RPR-DOT\A.01 CAD\09-28-22 BID SET\HTR-S0201-S0204 REPAIR.DWG PLOT TIME: 09-28-22, 4:08 PM



THIS WORK WAS PREPARED BY
ME OR UNDER MY SUPERVISION.

Signature: Russ S. Miyahara
EXPIRATION DATE OF THE LICENSE: 7-30-24

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

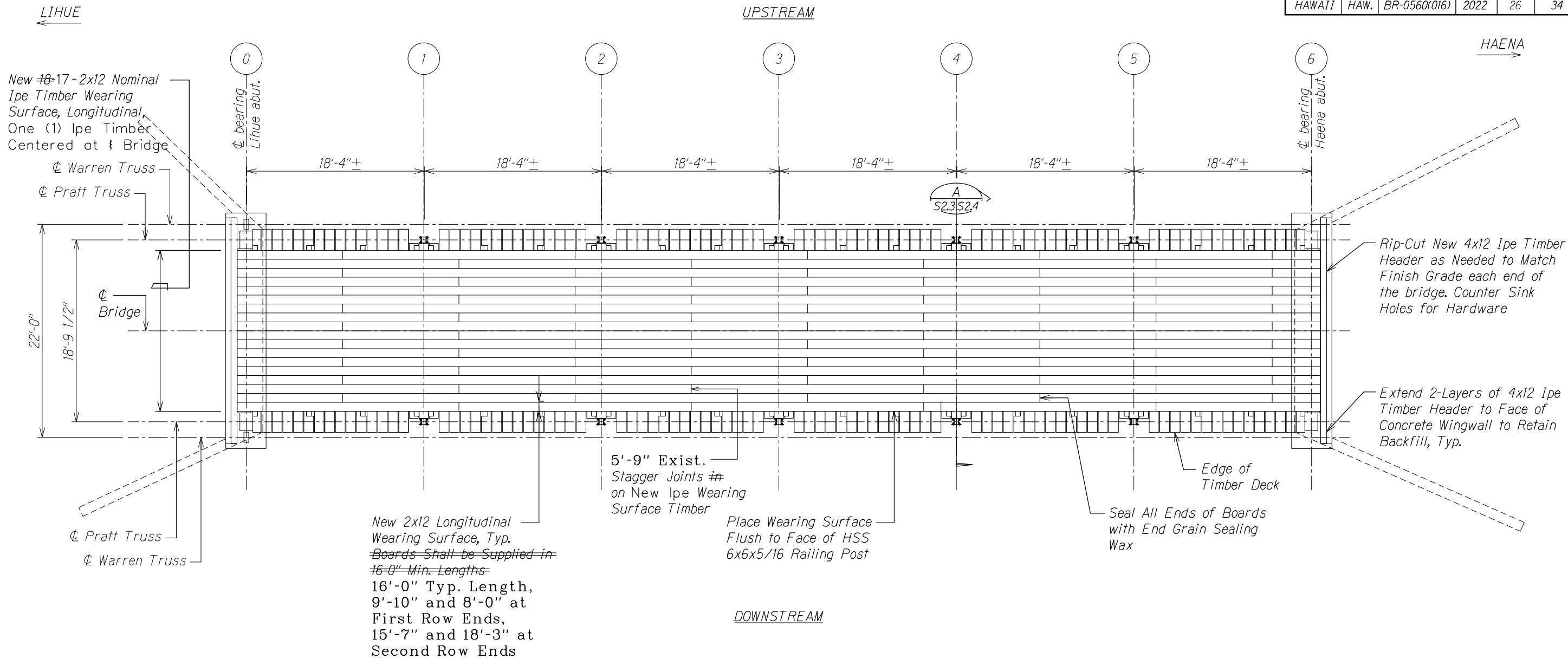
DECKING PLAN

KUHIO HIGHWAY
Hanaiei Bridge Repair
FAP Proj. No. BR-0560(016)

Scale: As Noted Date: July 2022

SHEET No. **25** OF **5** SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	BR-0560(016)	2022	26	34



WEARING SURFACE PLAN
Scale: 3/16" = 1'-0"

LEGEND FOR AS-BUILT POSTINGS	
	Squiggly line for as-built deletion
	Double line for as-built deletion
Roadway	Text for as-built posting

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

WEARING SURFACE PLAN

KUHIO HIGHWAY
Hanalei Bridge Repair
FAP Proj. No. BR-0560(016)

Scale: As Noted Date: July 2022

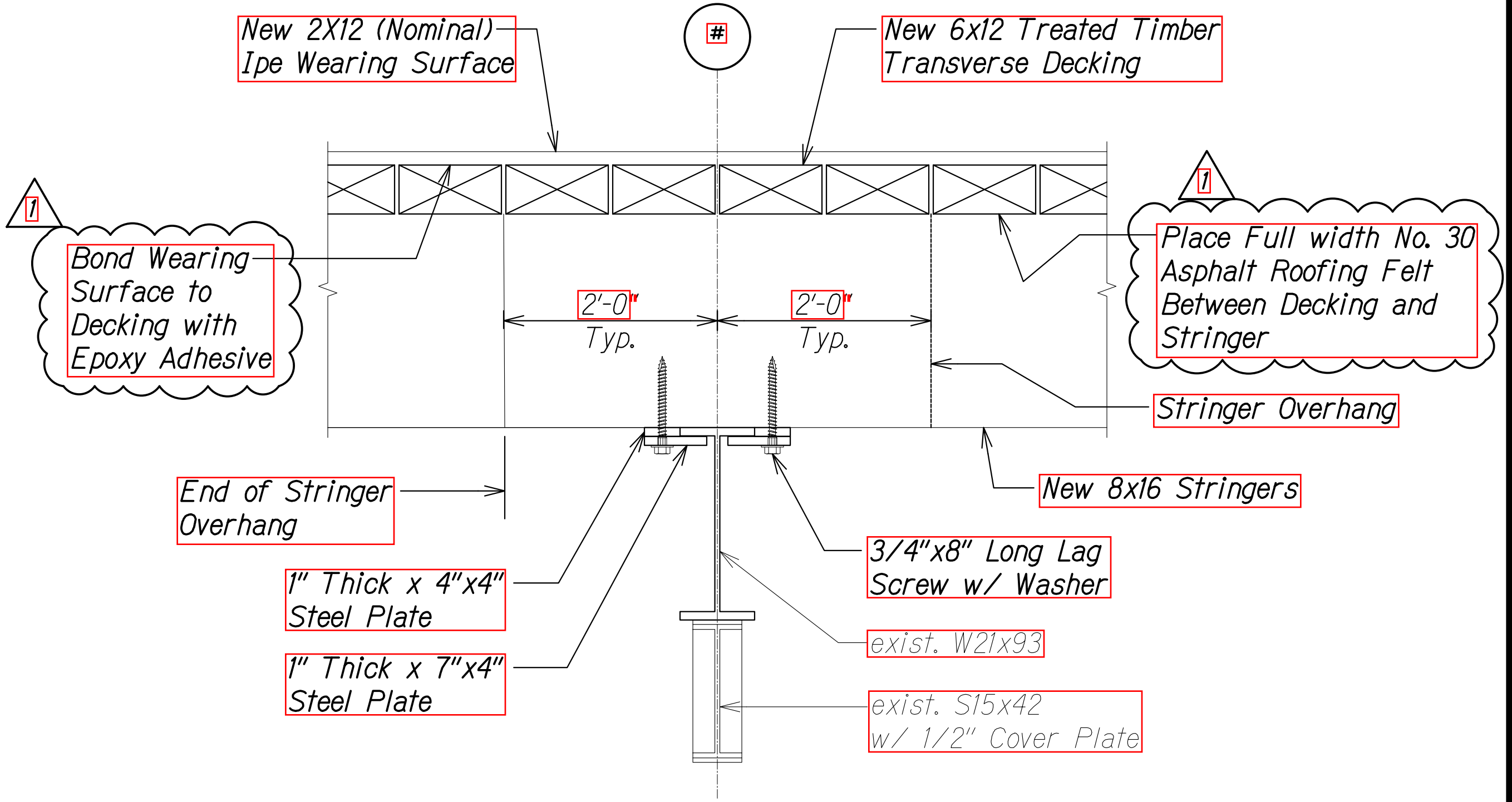
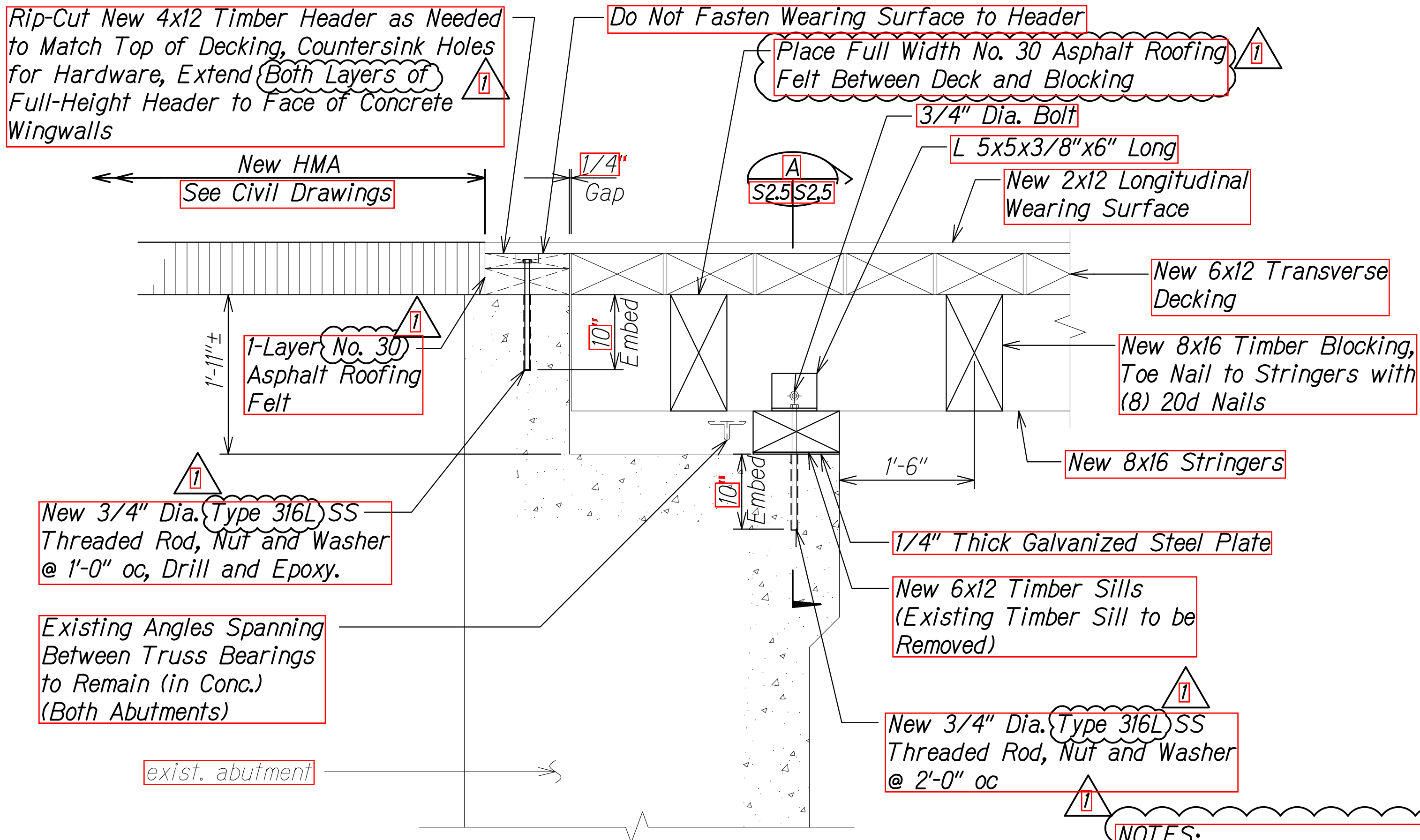
SHEET No. S2.3 OF 5 SHEETS

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DESIGNED BY	
QUANTITIES BY	
CHECKED BY	

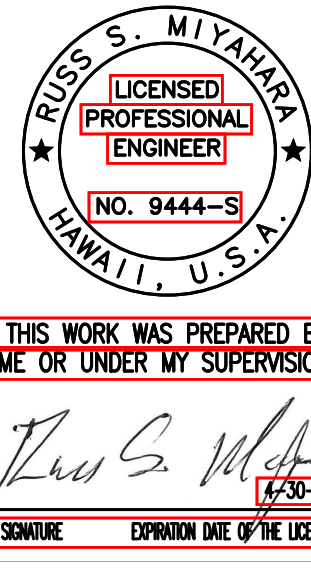
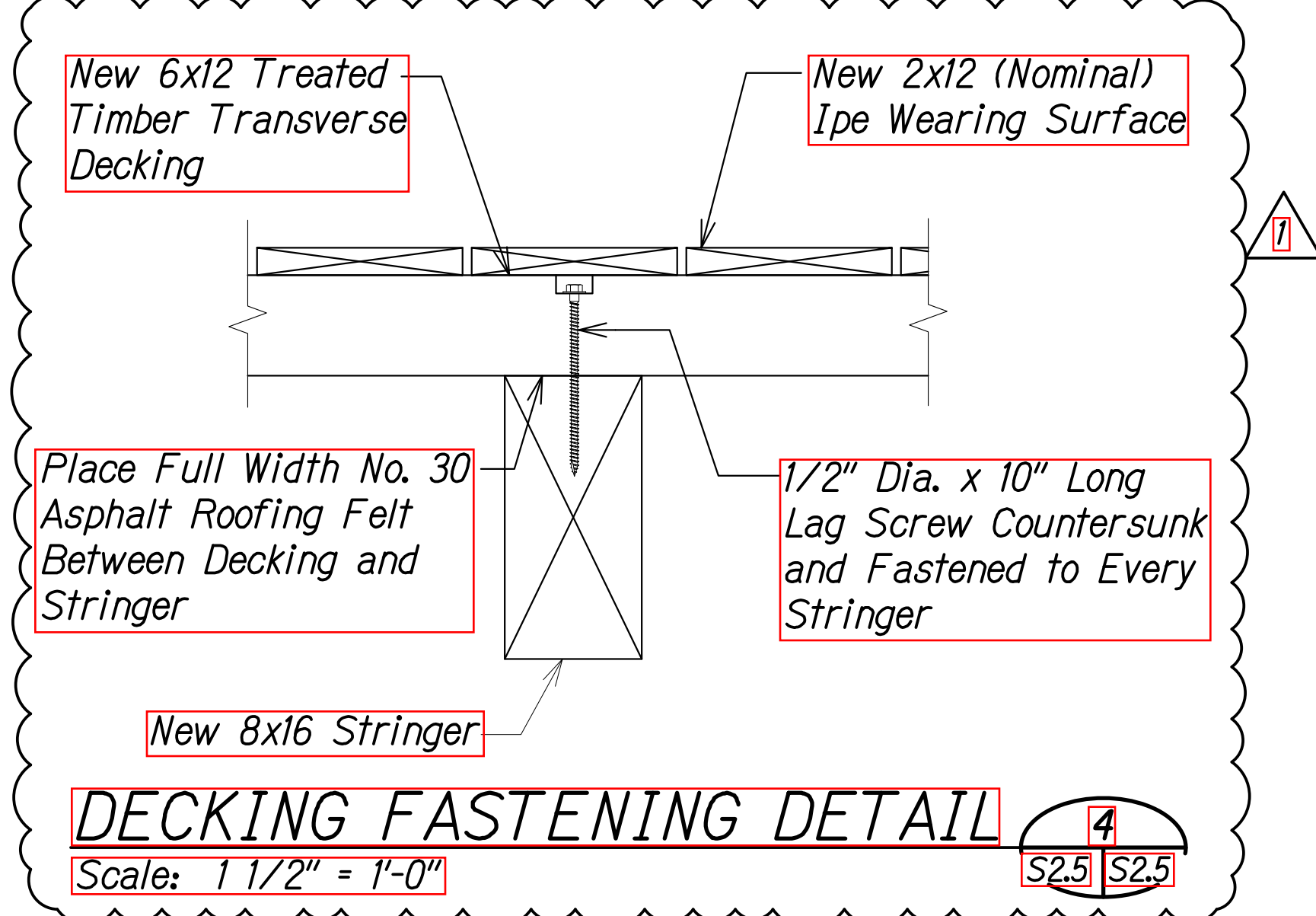
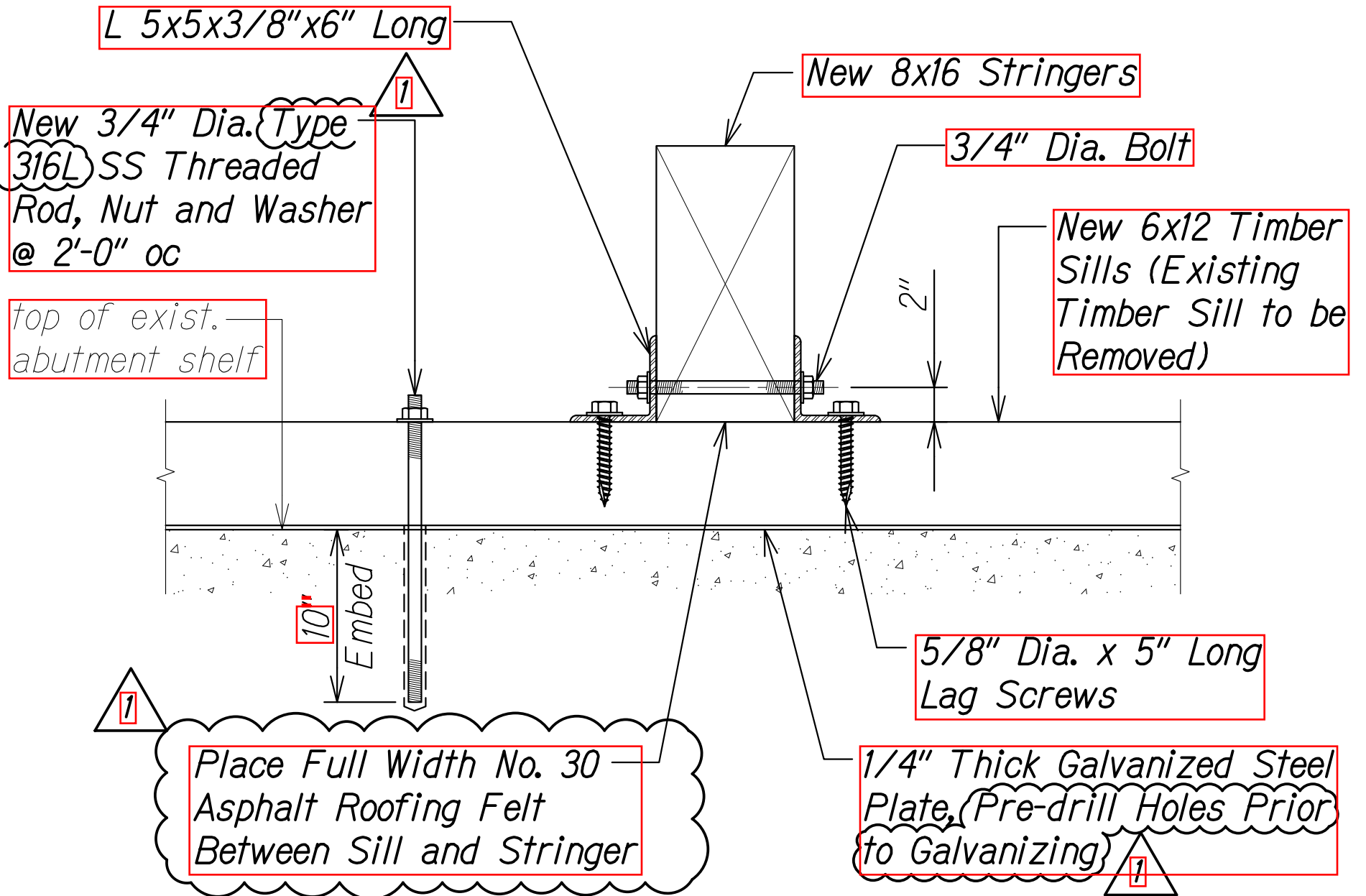
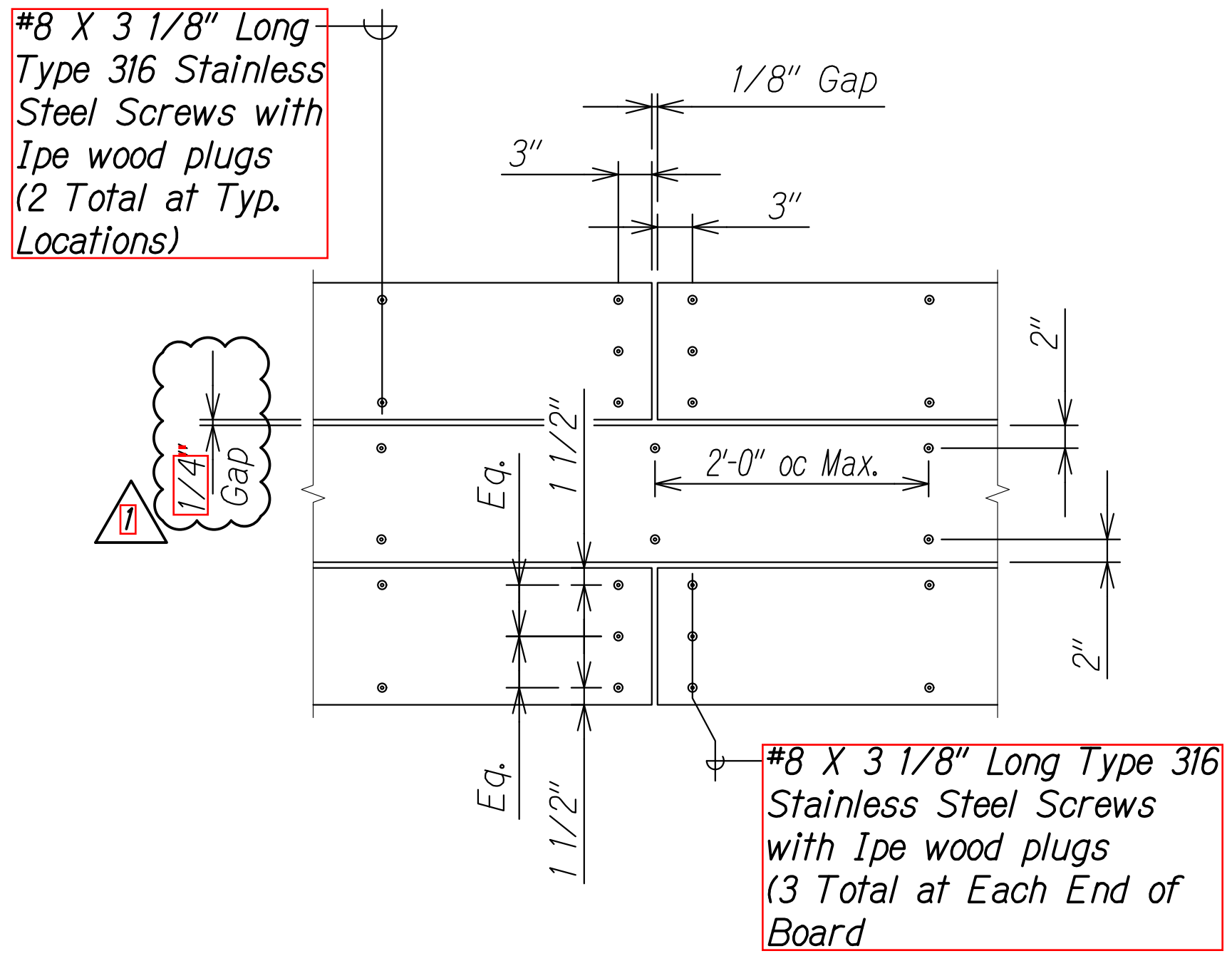
ORIGINAL PLAN	NOTE BOOK
No.	No.

"AS-BUILT"

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	BR-0560(016)	2022	ADD. 28	34



- NOTES:**
- Steel plates, bonding adhesive, roofing felt, and hardware shall be incidental to installation of timber members.
 - All hardware, steel plates, and angles shall be hot-dip galvanized unless otherwise specified as stainless steel.



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TYPICAL DETAILS AND SECTION

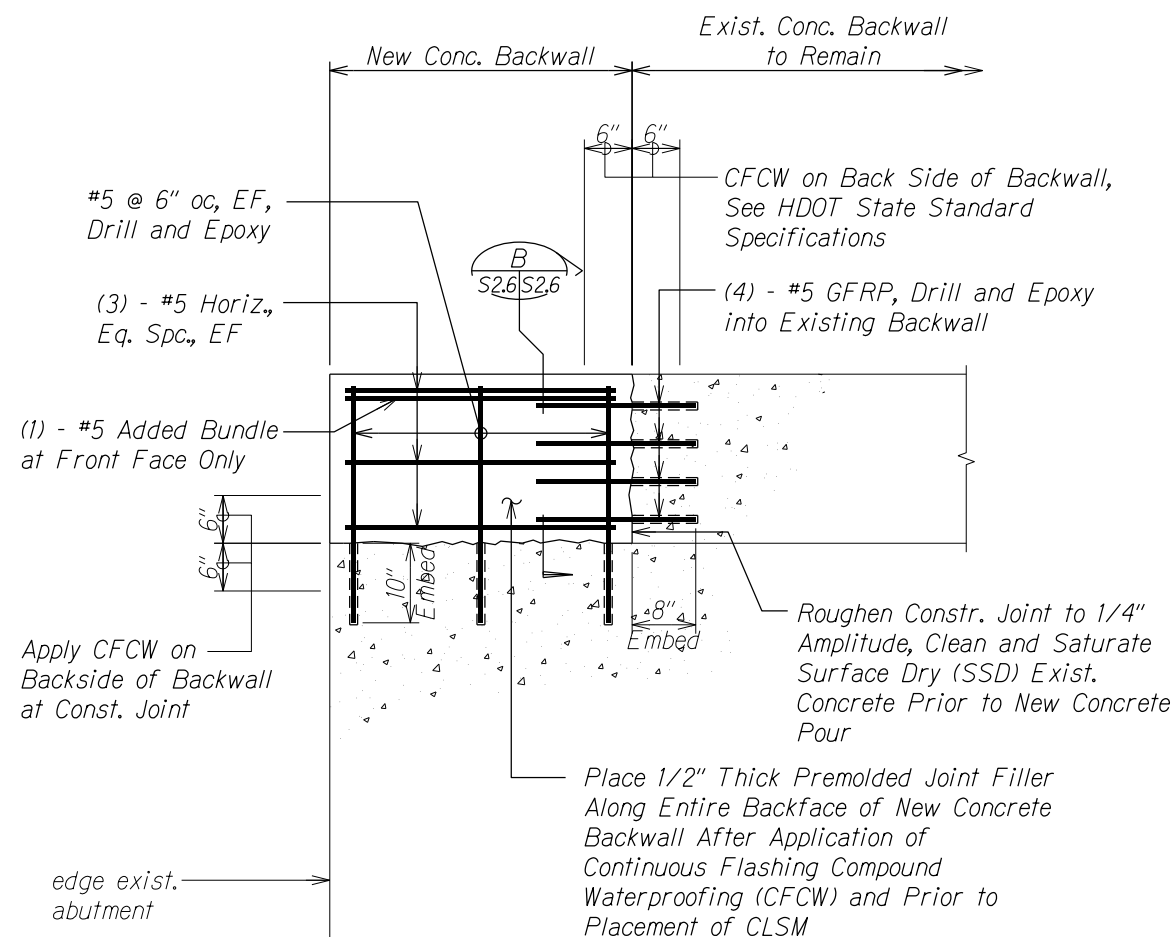
KUHIO HIGHWAY
Hanalei Bridge Repair
FAP Proj. No. BR-0560(016)

Scale: As Noted Date: July 2022

SHEET No. **S2.5** OF **5** SHEETS

DATE	REVISION
10/20/22	1 Addendum 1

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	BR-0560(016)	2022	C.O. 285-I	34



ABUTMENT BACKWALL
REPAIR SECTION

Scale: 1" = 1'-0"

SECTION



Scale: 1" = 1'-0"

Diagram of a semi-circular arch with a horizontal span of 5.2m, divided into two equal segments of 2.6m each. The arch is labeled 'B'.

- NOTES:

1. *Salvage all existing vertical reinforcing and incorporate into new pour.*
2. *Excavation of backfill material behind backwall shall be done carefully so as not to disturb nearby guardrail post.*
3. *Concrete for backwall repairs shall have a maximum w/c ratio of 0.40 and a maximum cementitious material content of 670 lbs/cyd of concrete. Concrete shall also contain 24 fluid ounces of Cortec MCI 2005 NS migrating amine carboxylate water-based corrosion inhibitor per cyd of concrete, 128 ounces of ~~Masterlife-SRA-20~~ GCP Eclipse 4500 shrinkage reducing admixture per cyd of concrete, and 15 lbs of Cemfil Anti-Crak 67/36 alkali resistant glass fibers per cyd of concrete.*

LEGEND FOR
AS-BUILT POSTINGS

	Squiggly line for as-built deletion
	Double line for as-built deletion
Roadway	Text for as-built posting

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION


BACKWALL REPAIR SECTIONS

KUHIO HIGHWAY
Hanalei Bridge Repair
FAP Proj. No. BR-0560(016)

Scale: As Noted

Date: July 2022

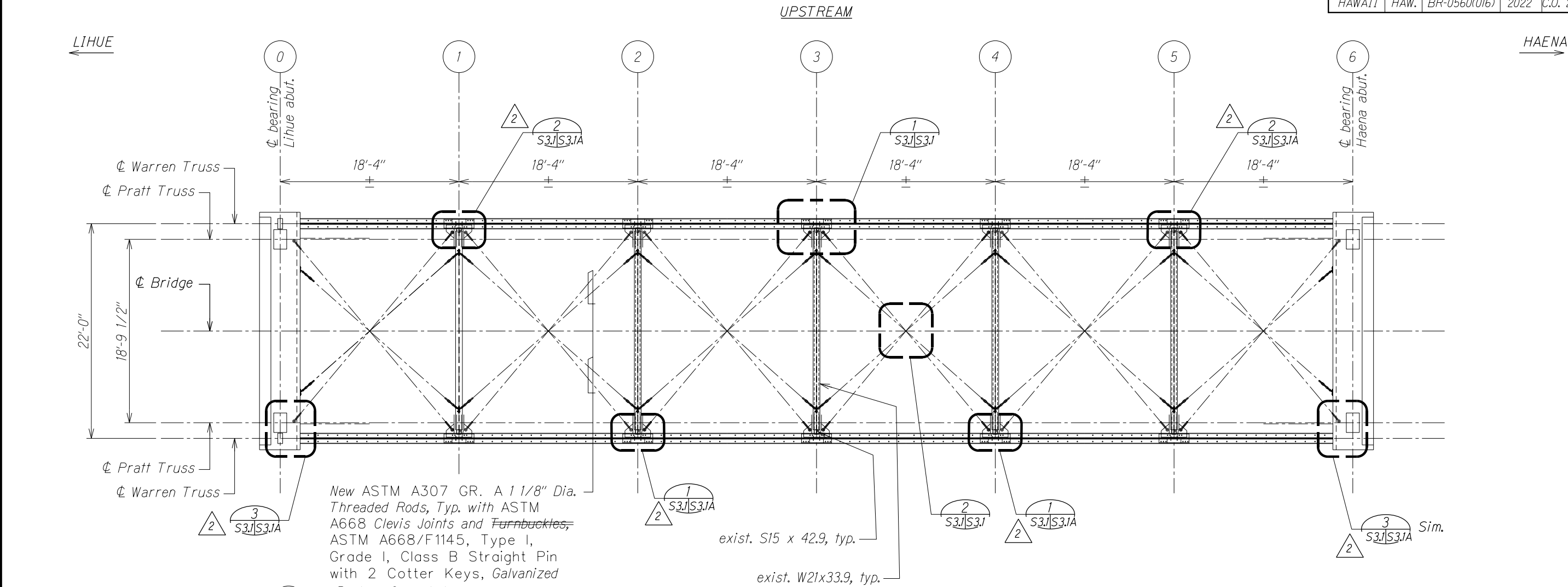
SHEET No. *S2.6* OF 5 SHEETS

08-28-23	 <i>New Sheet - C.O. for Backwall Repair</i>
DATE	REVISION

"AS-BUILT"

3 C.O. 28S-1

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



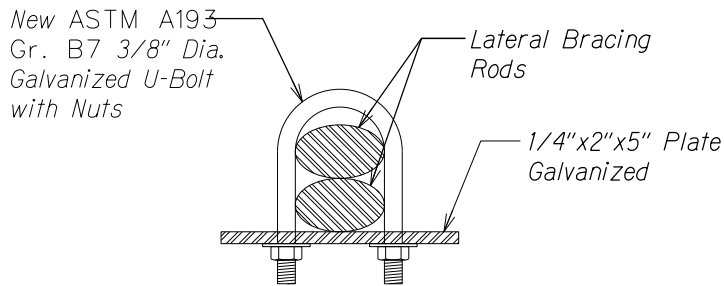
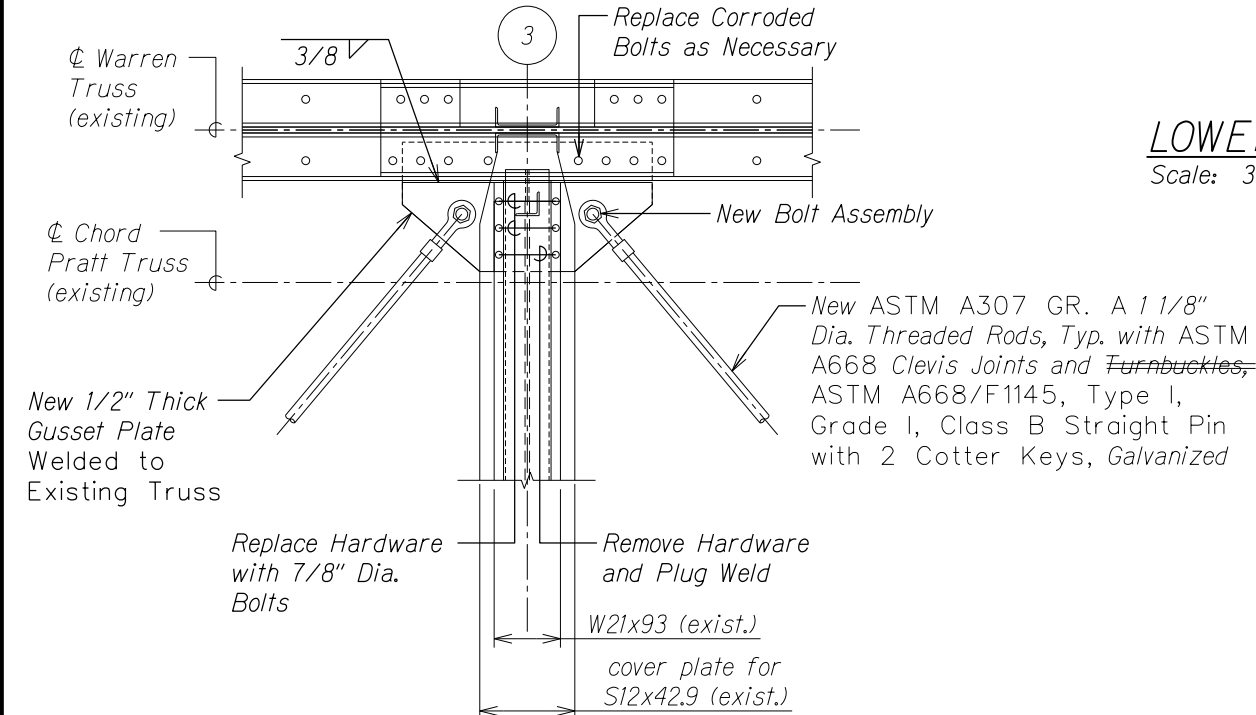
DOWNSTREAM

LOWER CHORD BRACING PLAN

Scale: 3/16" = 1'-0"

A

S3.1 S3.1



DETAIL

Scale: 6" = 1'-0"

2

S3.1 S3.1

LEGEND FOR AS-BUILT POSTINGS	
	Squiggly line for as-built deletion
	Double line for as-built deletion
Roadway	Text for as-built posting

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION	
LOWER CHORD BRACING PLAN	
KUHIO HIGHWAY Hanalei Bridge Repair FAP Proj. No. BR-0560(016)	
Scale: As Noted	Date: July 2022
SHEET No. S3.1 OF 5 SHEETS	

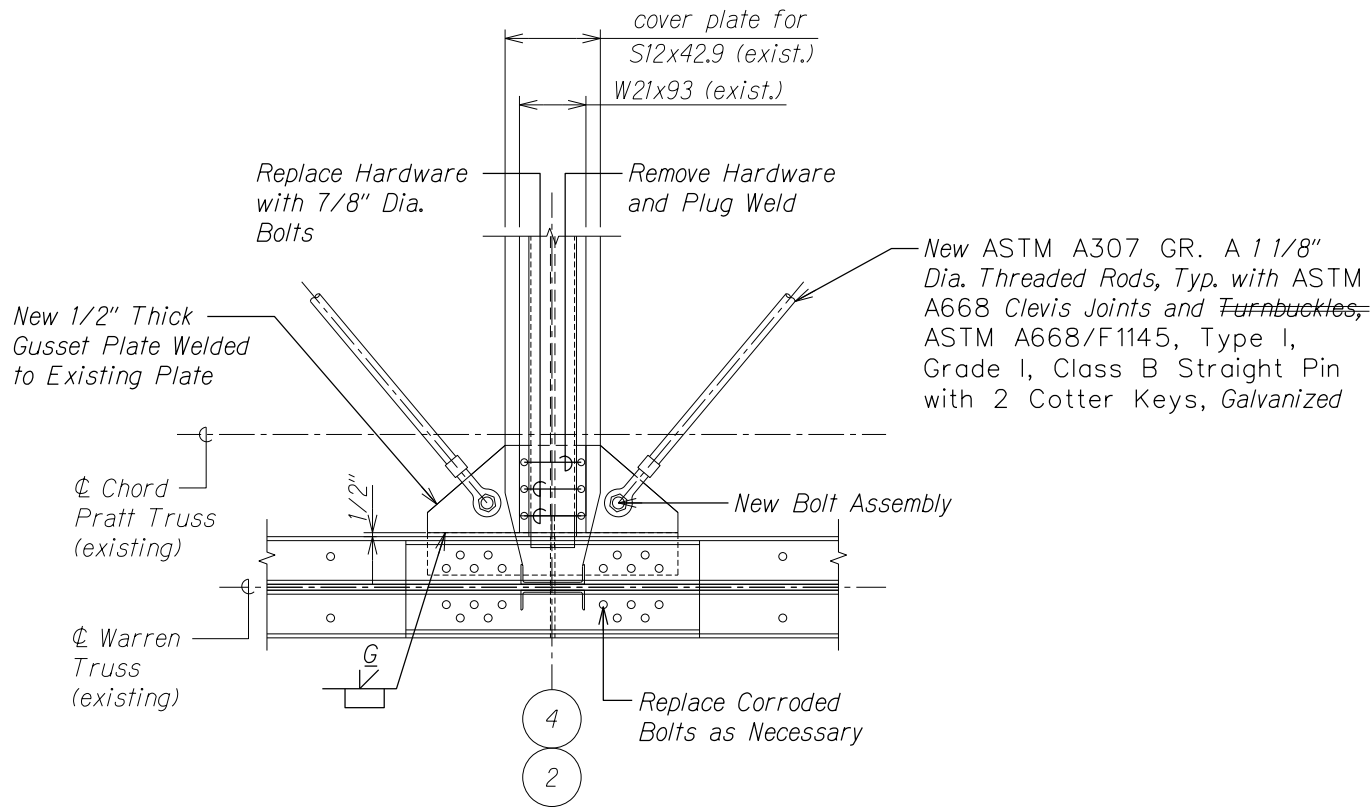
08-11-23	2	C.O. for Gusset Plate Repairs
DATE	REVISION	

"AS-BUILT"

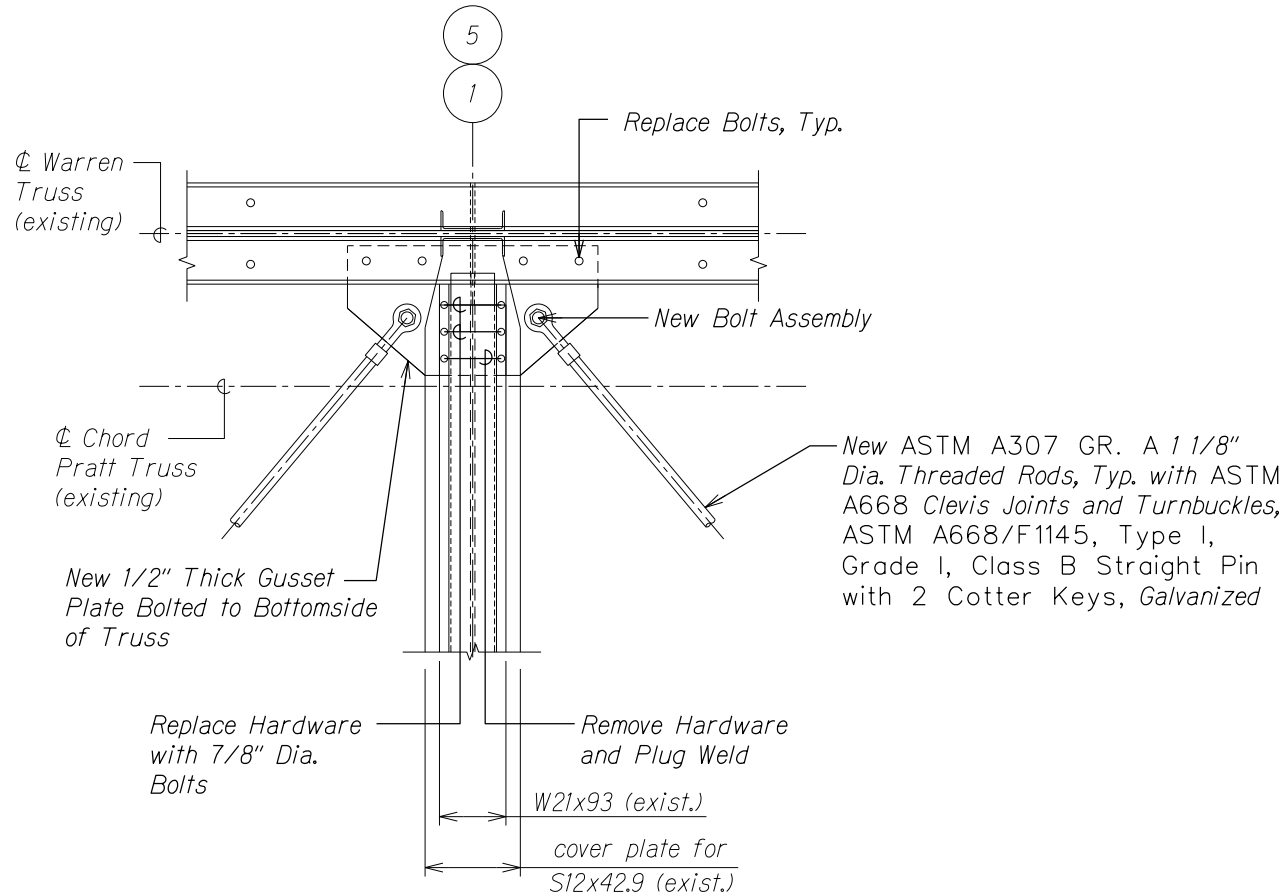
C.O. 29

SURVEY PLOTTED BY	DATE
DRAWN BY	
TRACED BY	
DESIGNED BY	
QUANTITIES BY	
CHECKED BY	
ORIGINAL PLAN	
NOTE BOOK	
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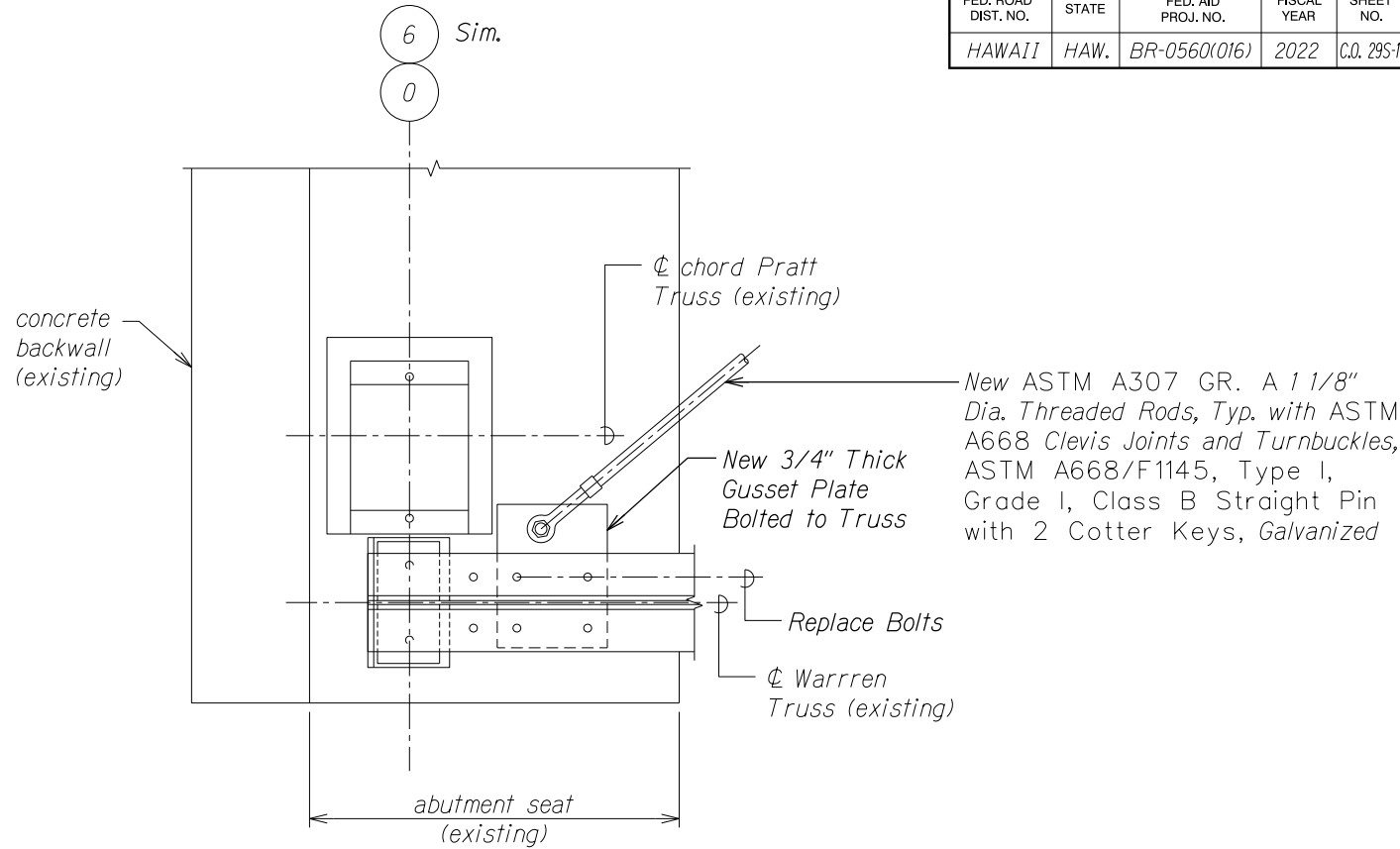
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	BR-0560(016)	2022	C.O. 29S-1	34



DETAIL 1
Scale: 1" = 1'-0" S3J | S3JA



DETAIL 2
Scale: 1" = 1'-0" S3J | S3JA



DETAIL 3
Scale: 1" = 1'-0" S3J | S3JA

LEGEND FOR AS-BUILT POSTINGS	
	Squiggly line for as-built deletion
	Double line for as-built deletion
Roadway	Text for as-built posting

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

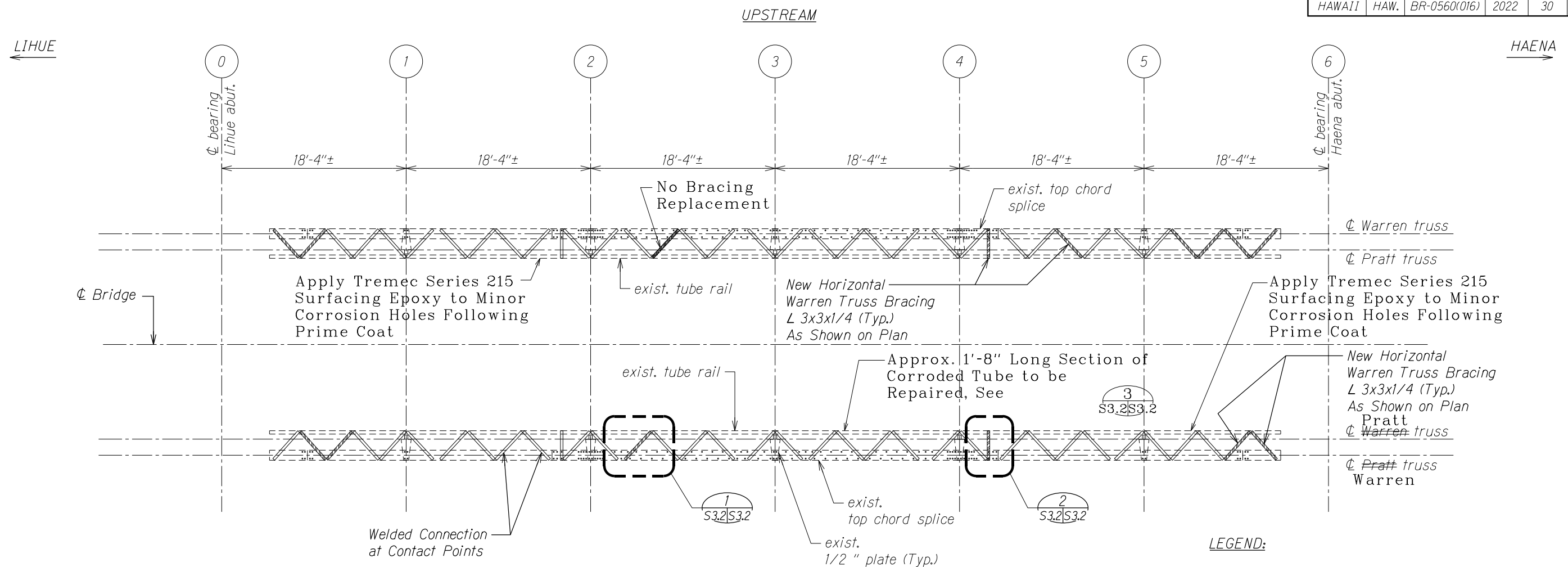
08/11/23	2	New Sheet - C.O. for Gusset Plate Repairs
DATE	REVISION	

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION	
BRACING CONNECTION DETAILS	
KUHIO HIGHWAY Hanalei Bridge Repair FAP Proj. No. BR-0560(016)	
Scale: As Noted	Date: July 2022
SHEET No. S3JA OF 5 SHEETS	


"AS-BUILT"

2 C.O. 29S-1

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	BR-0560(016)	2022	30	34



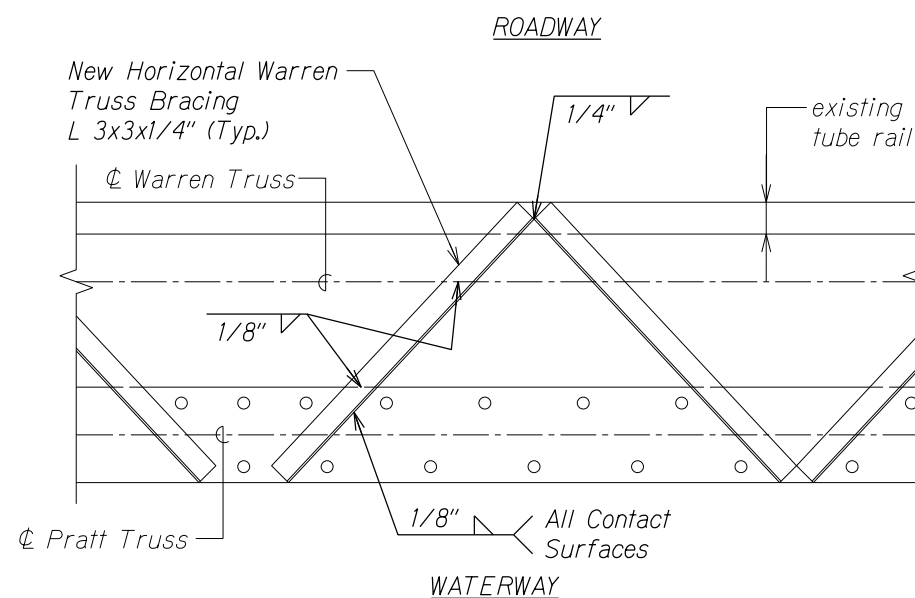
LEGEND FOR AS-BUILT POSTINGS

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100.00	Double line for as-built deletion
Roadway	Text for as-built posting

DOWNSTREAM

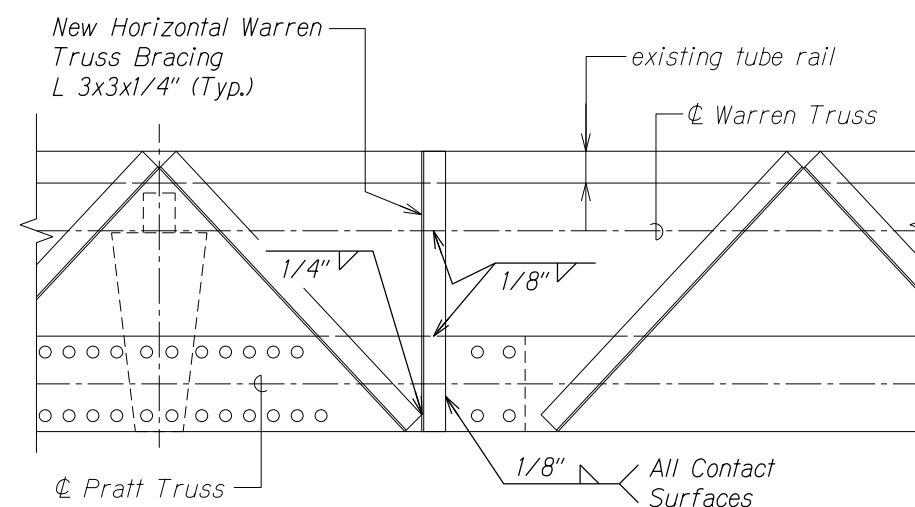
UPPER WARREN CHORD PLAN

Scale: $3/16'' = 1'-0''$



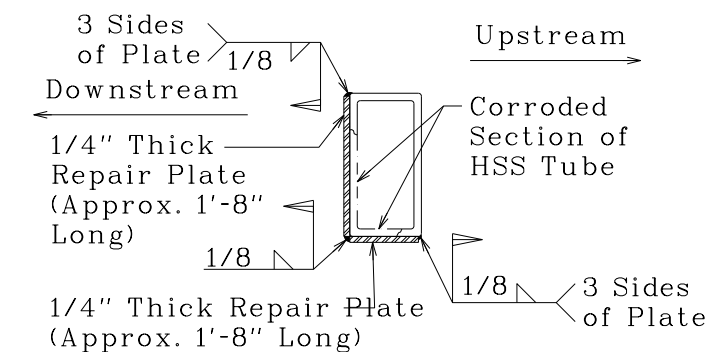
DETAIL

Scale: 1" = 1'-0" S3.2 | S3.2



DETAIL

Scale: 1" = 1'-0" S3.2 S3.2

REPAIR SECTION
THRU CORRODED HSS

Not to Scale

S	3	
	S3.2	S3.2

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

UPPER WARREN CHORD
PLAN AND DETAILS

KUHIO HIGHWAY
Hanalei Bridge Repair
FAP Proj. No. BR-0560(016)

Scale: As Noted

Date: July 2022

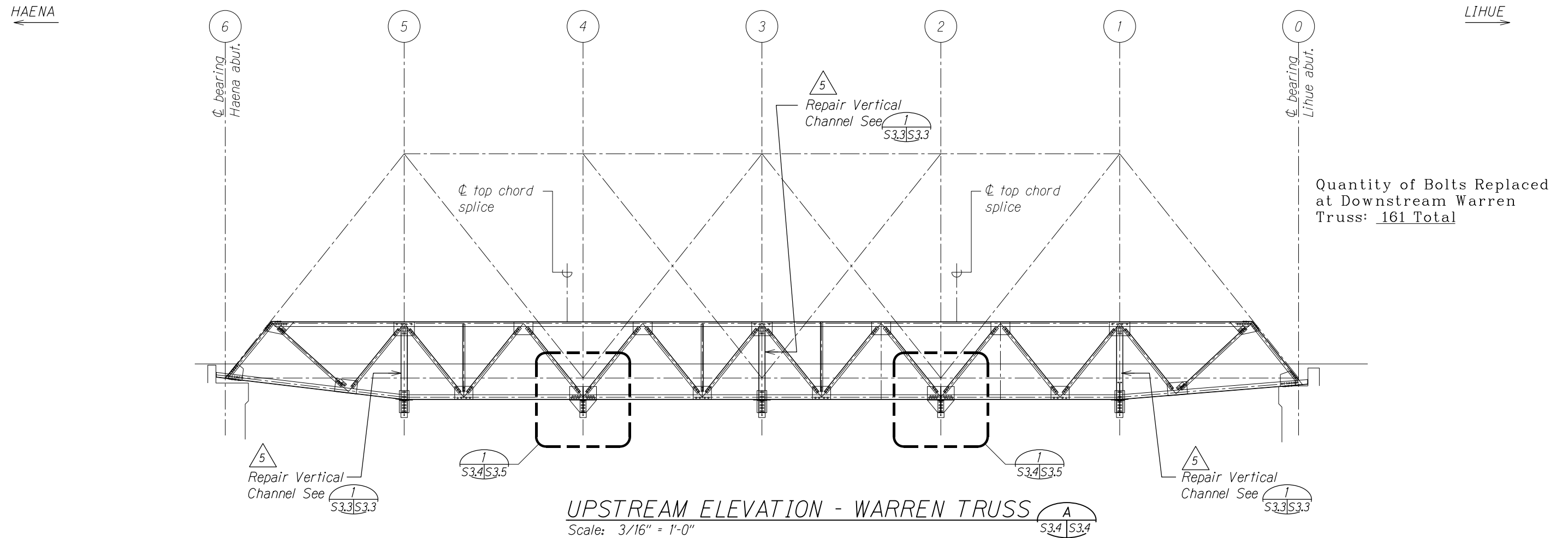
SHEET No. S3.2 OF 5 SHEETS


"AS-BUILT"

30

ORIGINAL PLAN	SURVEY PLOTTED BY _____ DATE _____
NOTE BOOK	DRAWN BY _____ " _____
	TRACED BY _____ " _____
	DESIGNED BY _____ " _____
	QUANTITIES BY _____ " _____
do.	CHECKED BY _____

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	BR-0560(016)	2022	C.O. 32	34




LEGEND FOR AS-BUILT POSTINGS	
	Squiggly line for as-built deletion
100-00	Double line for as-built deletion
Roadway	Text for as-built posting

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

UPSTREAM WARREN TRUSS
ELEVATION
KUHIO HIGHWAY
Hanalei Bridge Repair
FAP Proj. No. BR-0560(016)

Scale: As Noted Date: July 2022

SHEET No. S3.4 OF 5 SHEETS

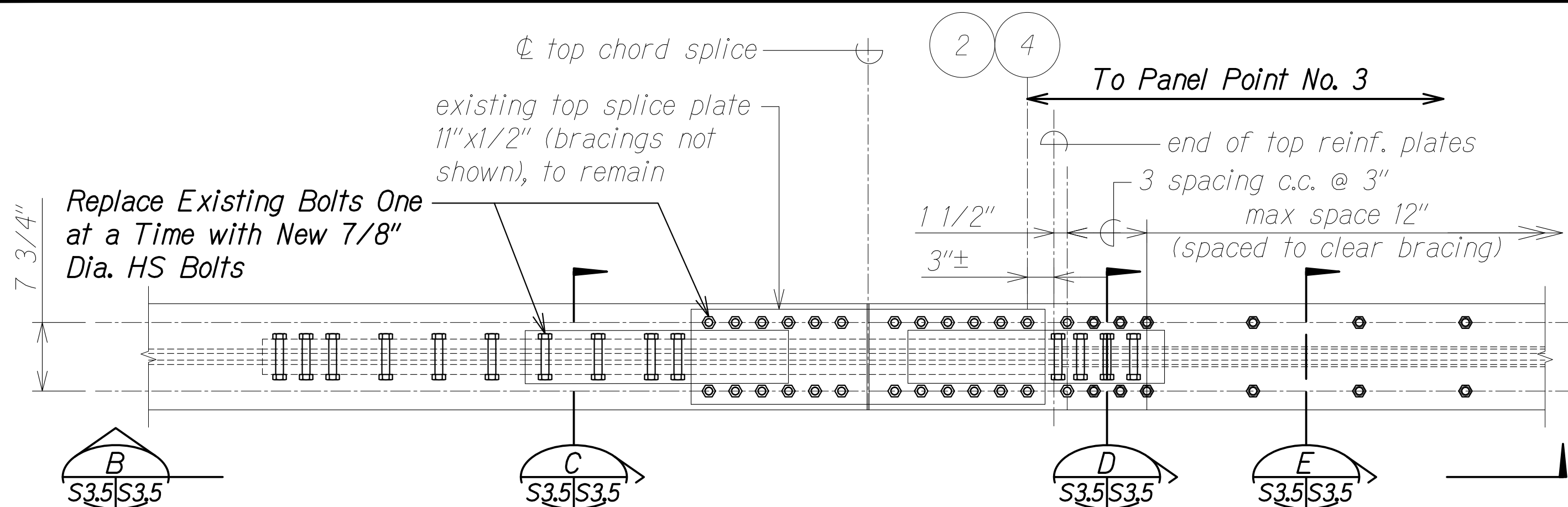
09-01-23	 C.O. for Channel Repairs
DATE	REVISION

"AS-BUILT"

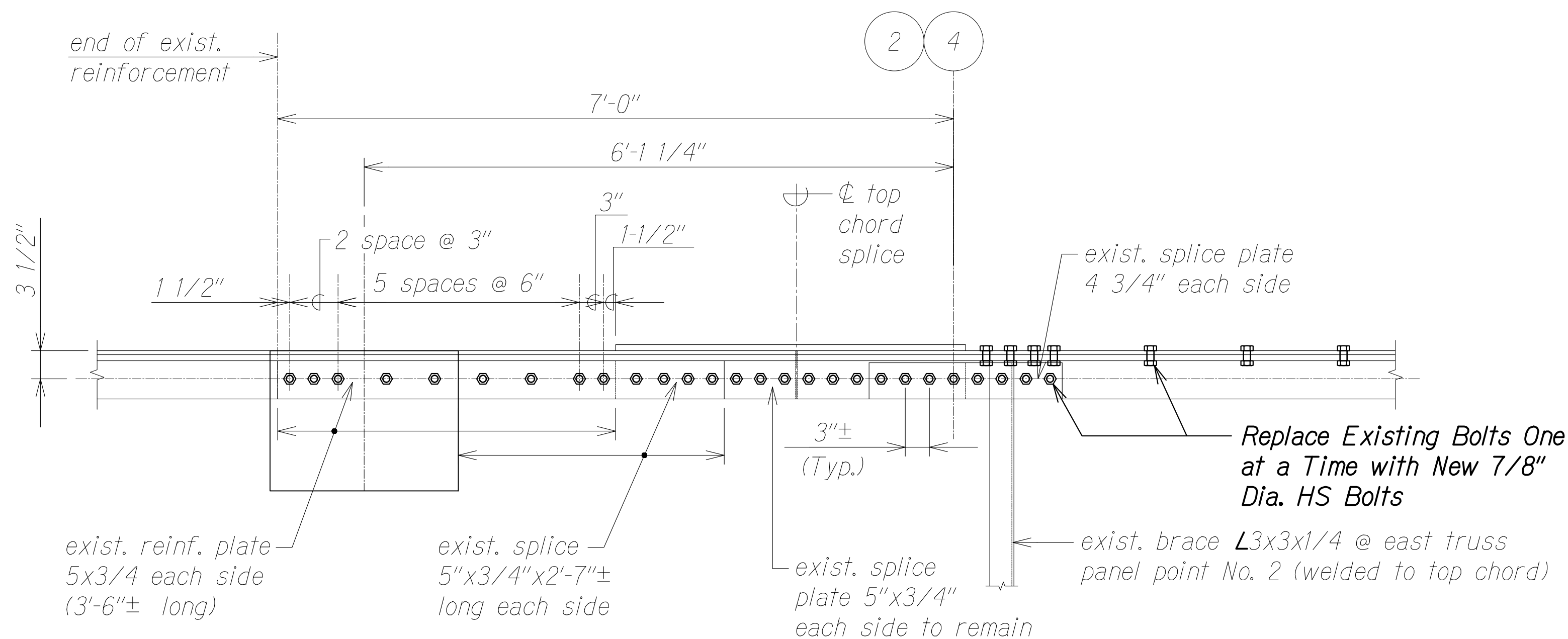
C.O. 32

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	QUANTITIES BY _____
No. _____	CHECKED BY _____

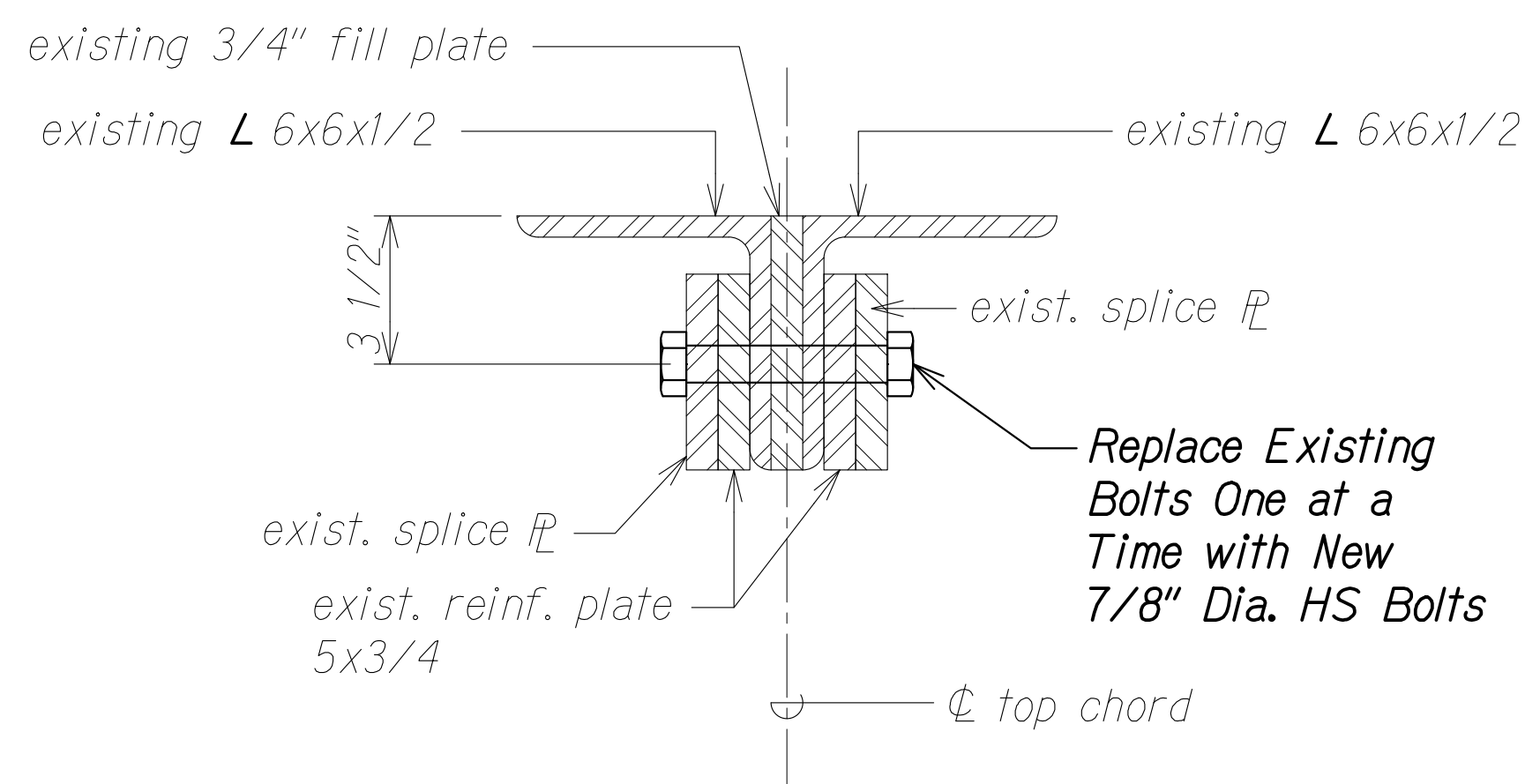
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	BR-0560(016)	2022	33	34



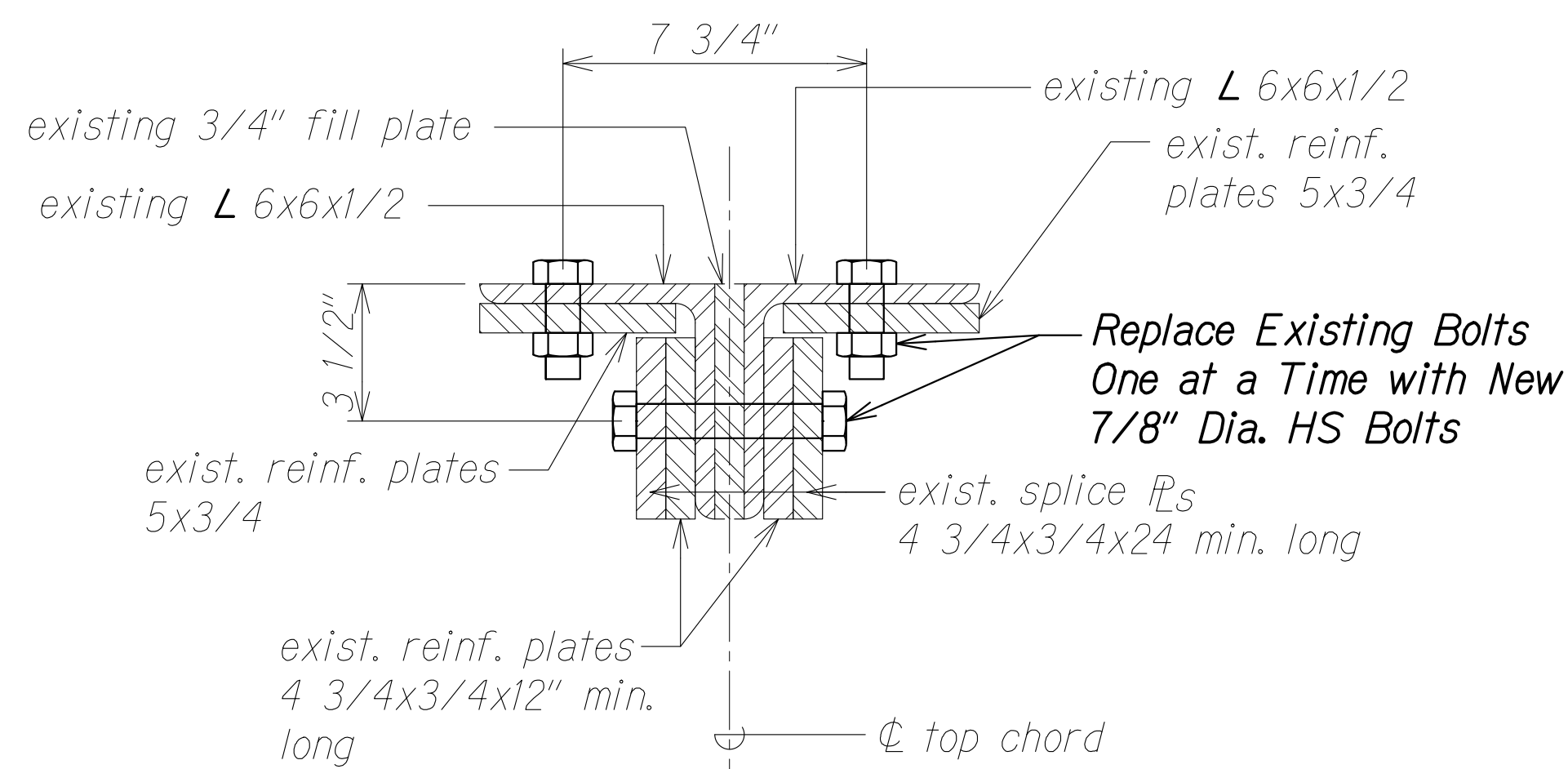
TOP CHORD PARTIAL PLAN
Scale: 1" = 1'-0"



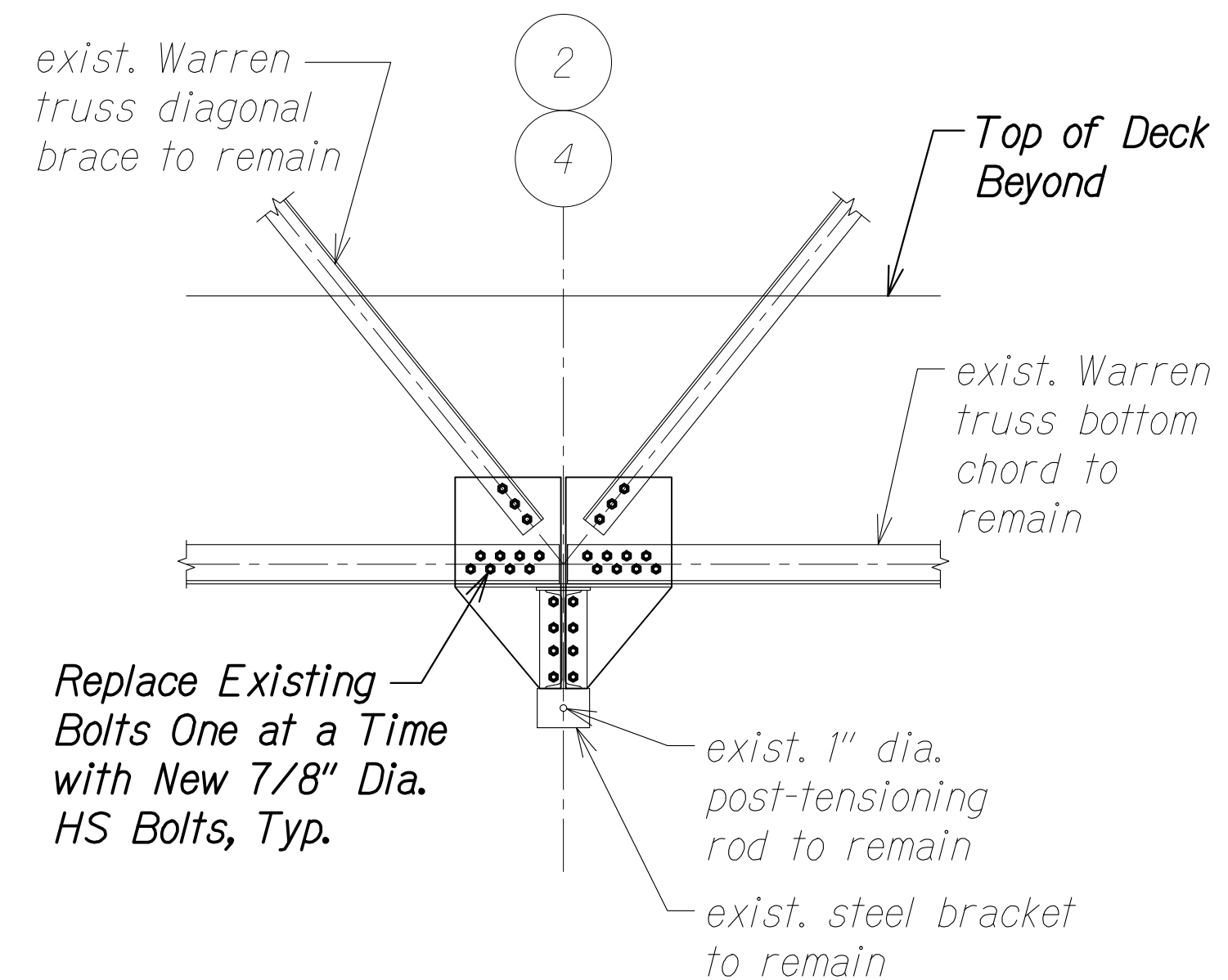
TOP CHORD SECTION - ELEVATION
Scale: 1" = 1'-0"



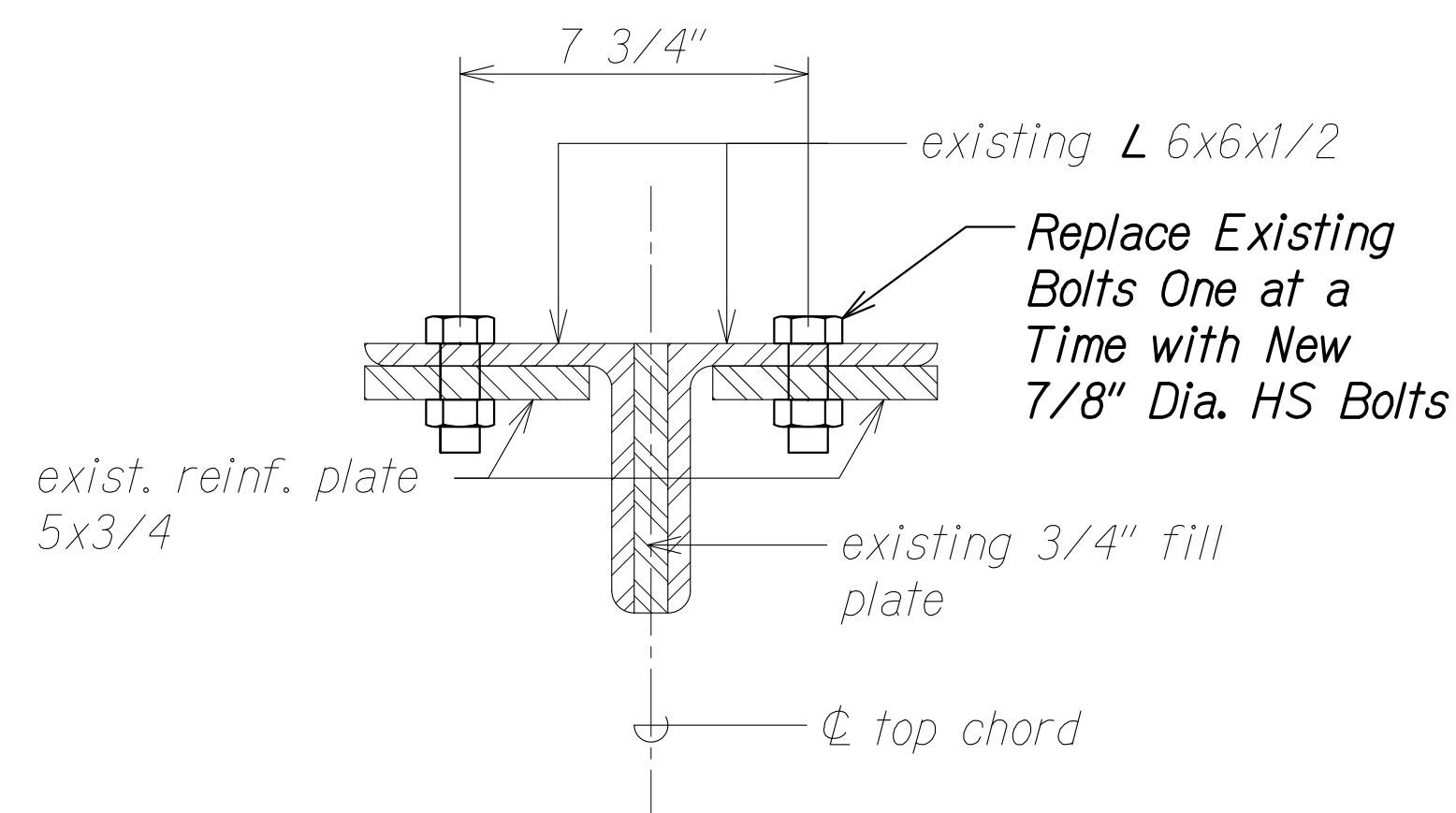
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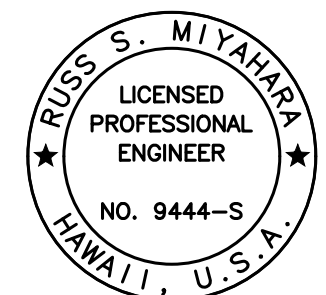
SECTION D
Scale: 3" = 1'-0"



BOTTOM CHORD DETAIL
Scale: 1/2" = 1'-0"



SECTION E
Scale: 3" = 1'-0"



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

[Signature]
SIGNATURE EXPIRATION DATE OF THE LICENSE 4-30-24

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TOP AND BOTTOM CHORD REPAIR DETAILS

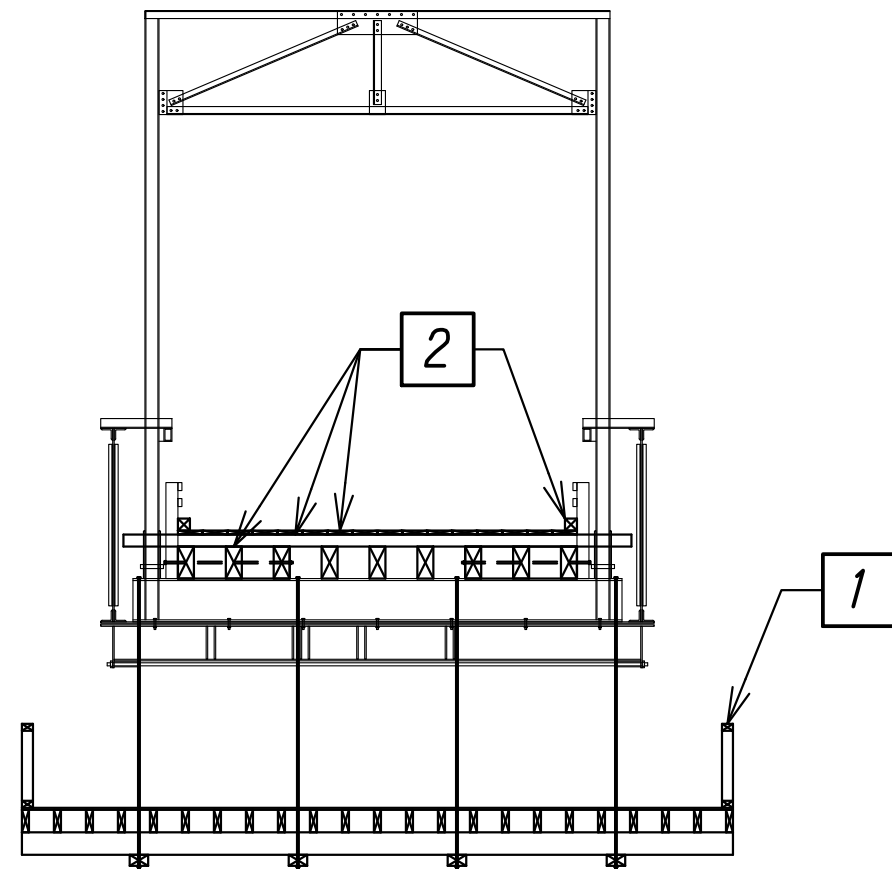
KUHIO HIGHWAY
Hanalei Bridge Repair
FAP Proj. No. BR-0560(016)

Scale: As Noted Date: July 2022

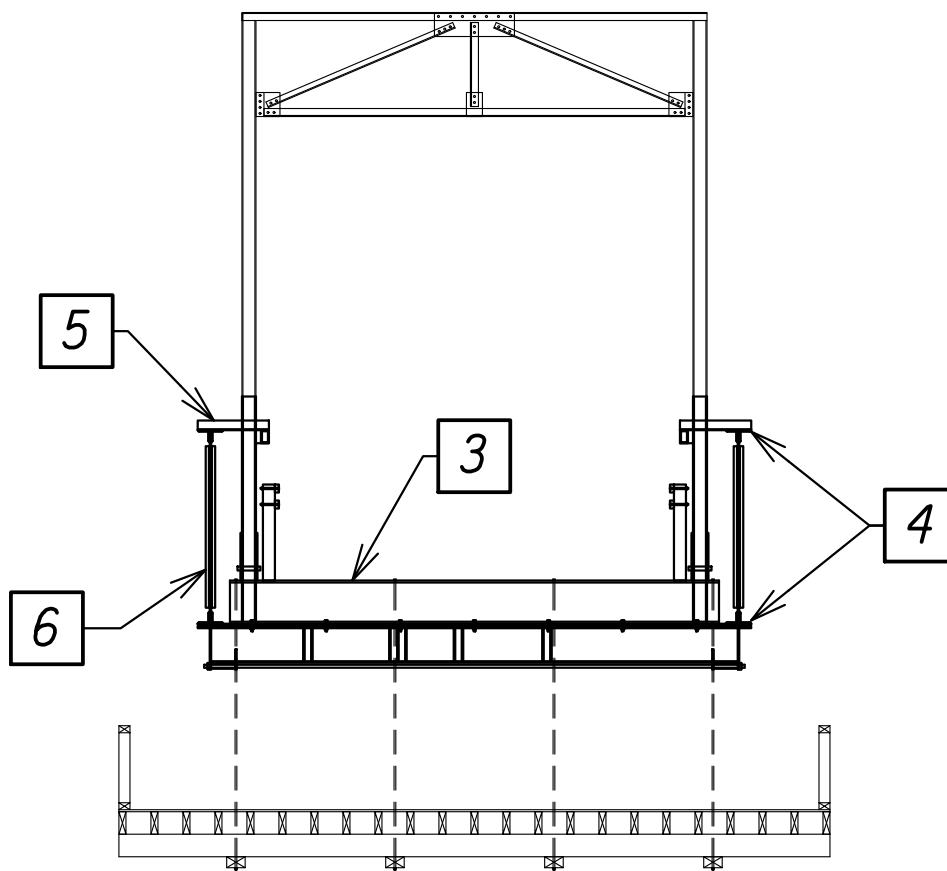
SHEET No. S3.5 OF 5 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	BR-0560(016)	2022	34	34

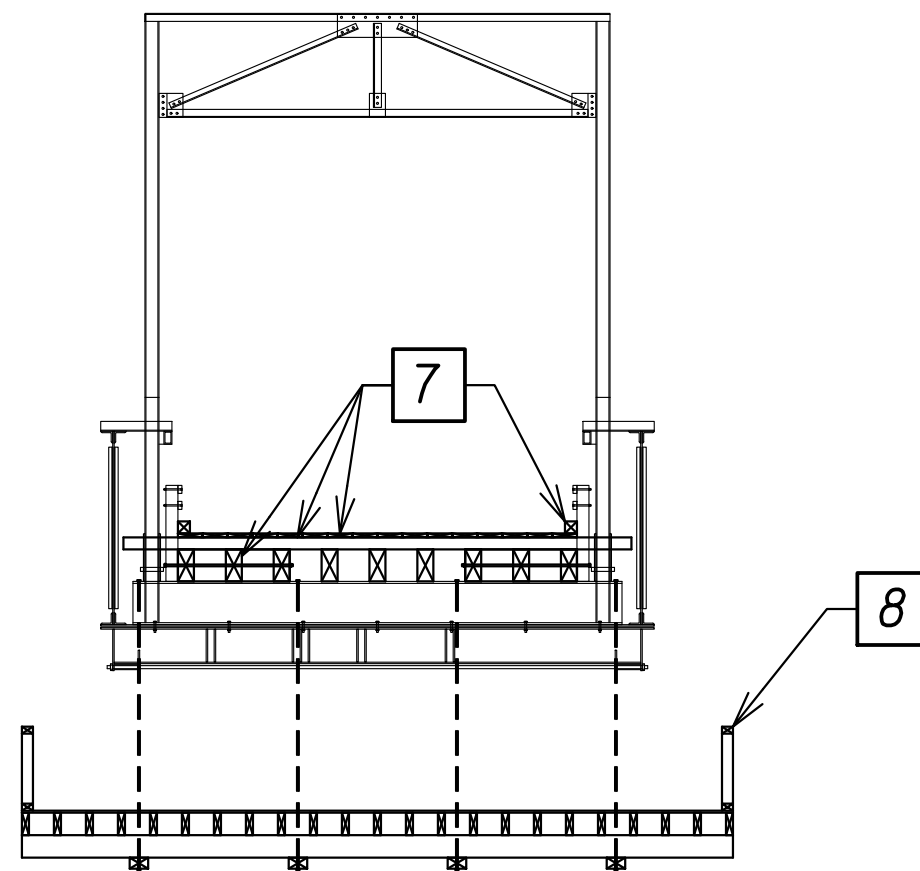
STAGE 1



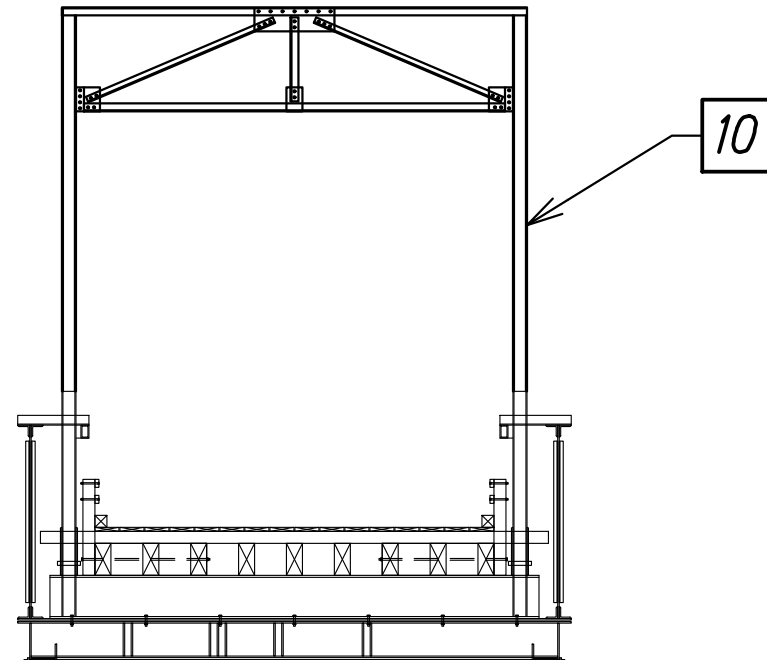
STAGE 2



STAGE 3



STAGE 4



CONSTRUCTION STAGE 1

- 1 Install work platform and BMP containment.
- 2 Demolish and remove timber stringers, blocking, decking, wearing surface, and curb.

CONSTRUCTION STAGE 2

- 3 Repair top of steel floorbeam, if necessary, following removal of timber stringers.
- 4 Repair upper and lower chords of Warren Truss.
- 5 Replace horizontal bracing on top chord of Warren Truss.
- 6 Clean and paint lower section of bridge members.

CONSTRUCTION STAGE 3

- 7 Install new timber stringers, blocking, decking, wearing surface, and curb.
- 8 Remove work platform.
- 9 Repeat steps 1 through 8 as needed until full bridge span is completed.

CONSTRUCTION STAGE 4

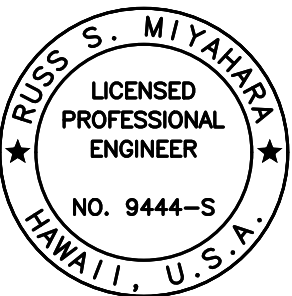
- 10 Paint bridge members above deck level.

CONSTRUCTION SEQUENCE NOTE:

1. The Contractor shall submit a construction phasing plan detailing the order of operation of all activities. This includes phasing of deck demolition, deck replacement, and painting operations taking into account the limited lane closure times.

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

DRAWING NAME: Z:\00 ONGOING\00 IF PROJECTS\21-009.1-HANALEI BR RPR-DOT\A.01 CAD\09-28-22 BID SET\HTR-S0401 CON SEQ.DWG PLOT TIME: 09-28-22, 4:18 PM



THIS WORK WAS PREPARED BY
ME OR UNDER MY SUPERVISION.

Russ S. Miyahara
SIGNATURE
4-30-24
EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

CONSTRUCTION SEQUENCE

KUHIO HIGHWAY
Hanalei Bridge Repair
FAP Proj. No. BR-0560(016)

Scale: As Noted Date: July 2022

SHEET No. **S4.1** OF **1** SHEETS