| FED. ROAD DIST. NO. | STATE | PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | HI E-01-07M | 2007 | 5 | 20 |

# INDEX TO OVERPASS DRAWINGS



# OVERPASS STRUCTURAL NOTES

1. General Specifications:

   (A) Hawaii Department of Transportation, Standard Specifications for Road and Bridge Construction, 2005, together with Special Provisions prepared for this contract.

2. Design Specifications:

   (A) AASHTO 2004 LRFD Bridge Design Specifications (Third Edition) and its subsequent interim specifications with interim supplements.

3. Loads:

   (A) Live Load: 85 psf

4. Materials:

   (A) All concrete strengths shall be as noted below:

| Item No. | Structural Parts | Classes of Concrete | Specified Compressive Strength, f'c (28 Days) |
|---|---|---|---|
| (1) | Box Girder | - | 5000 PSI |
| (2) | Topping | - | 5000 PSI |
| (3) | Curb | - | 5000 PSI |
| (4) | Pier | - | 4000 PSI |
| (5) | Except as noted otherwise, all others | A | 3000 PSI |

   All concrete with the exception of Class A concrete shall have a maximum W/C Ratio of 0.45. The W/C Ratio for Class A concrete shall follow the Standard Specifications.

   (B) Tetraguard AS20 shrinkage reducing admixture (SRA) shall be included in the concrete mix for the precast girder, curb and topping. The required dosage shall be 128 ounces per cubic yard of concrete and follow all manufacturer's recommendations. CORTEC MCI-2005 NS Corrosion Inhibitor shall be added to the curbing and topping at the rate of 1.5 pints per cubic yard of concrete.

   (C) All reinforcing steel shall be ASTM A615 Grade 60 unless otherwise noted.

   (D) Reinforcing steel shall be ASTM A706 where welded connections are required.

   (E) All structural steel shall be ASTM A36 hot dip galvanized after fabrication, unless otherwise noted.

   (F) All anchor bolts, washers and nuts shall be ASTM A325 hot dip galvanized after fabrication, unless otherwise specified.

   (G) Steel tube shall be ASTM A 500, Grade B hot dip galvanized after fabrication.

5. Reinforcement:

   (A) The minimum covering measured from the surface of the concrete to the face of any reinforcing bars shall be 1 ½" unless otherwise noted.

   (B) Minimum clear spacing between parallel bars shall be 1 ½ times the diameter of bars (for non bundled bars). In no case shall the clear distance between the bars be less than 1 ½ times the maximum size of the coarse aggregate or 1 ½".

   (C) All dimensions relating to reinforcing bars are to centers of bars unless otherwise noted.

   (D) 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.

6. Construction Notes:

   (A) Unless otherwise noted, all exposed concrete edges shall be chamfered ¾"x3/4".

   (B) Pier texture shall match existing.

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

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NO. 8104-S
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INDEX TO OVERPASS DRAWINGS AND OVERPASS STRUCTURAL NOTES

Repair of Mauka Span of Mahiko Street Pedestrian Overpass
Project No. HI E-01-07M

Scale: None Date: Nov. 2006

SHEET No. S1.1 OF 3 SHEETS

| FED. ROAD DIST. NO. | STATE | PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
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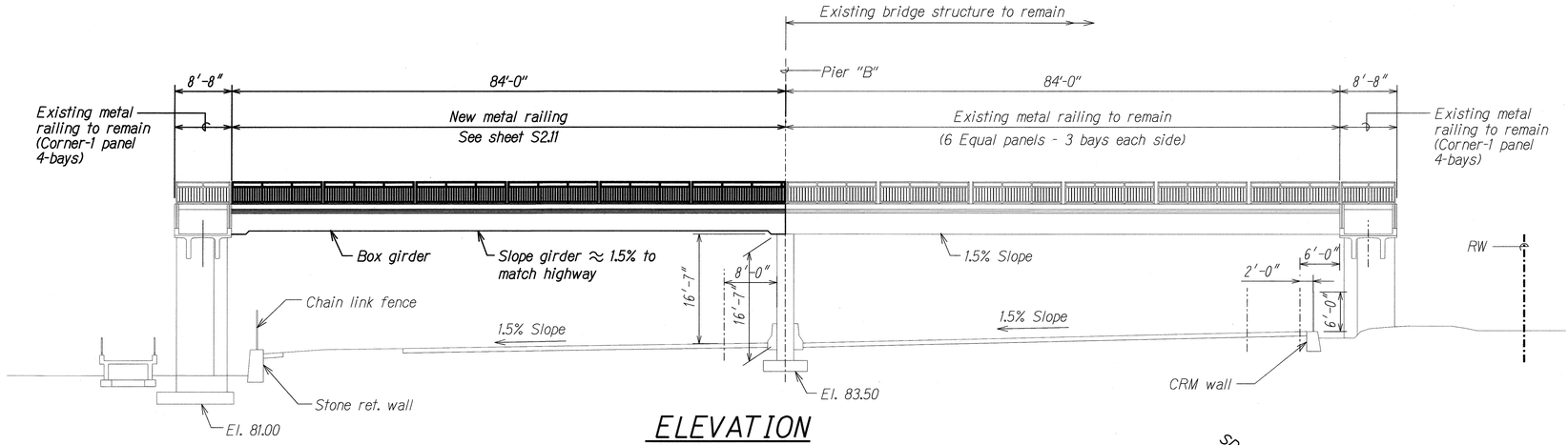
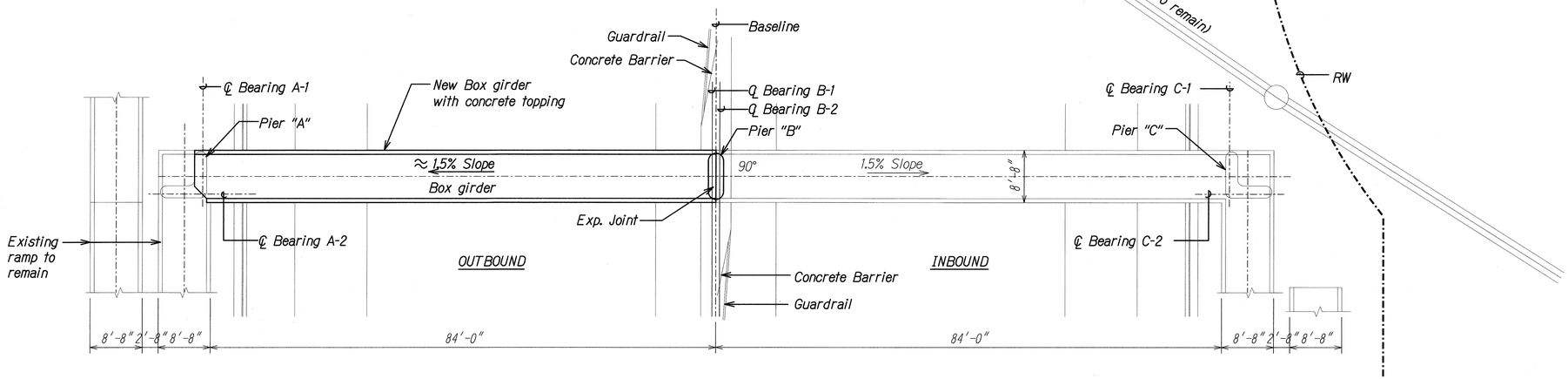



## ELEVATION

SCALE: 1" = 10'-0"




## LAYOUT PLAN

SCALE: 1" = 10'-0"

| ORIGINAL PLAN | SURVEY PLOTTED BY | DATE |
|---|---|---|
| FIELD BOOK NO. | DRAWN BY | |
| NOTE BOOK | TRACED BY | |
| | DESIGNED BY | |
| | QUANTITIES BY | |
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# LAYOUT PLAN AND ELEVATION

Repair of Mauka Span of
Mahiko Street Pedestrian Overpass
Project No. HI E-01-07M

Scale: As Noted Date: Nov. 2006

SHEET No. S2.1 OF 16 SHEETS

| FED. ROAD DIST. NO. | STATE | PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
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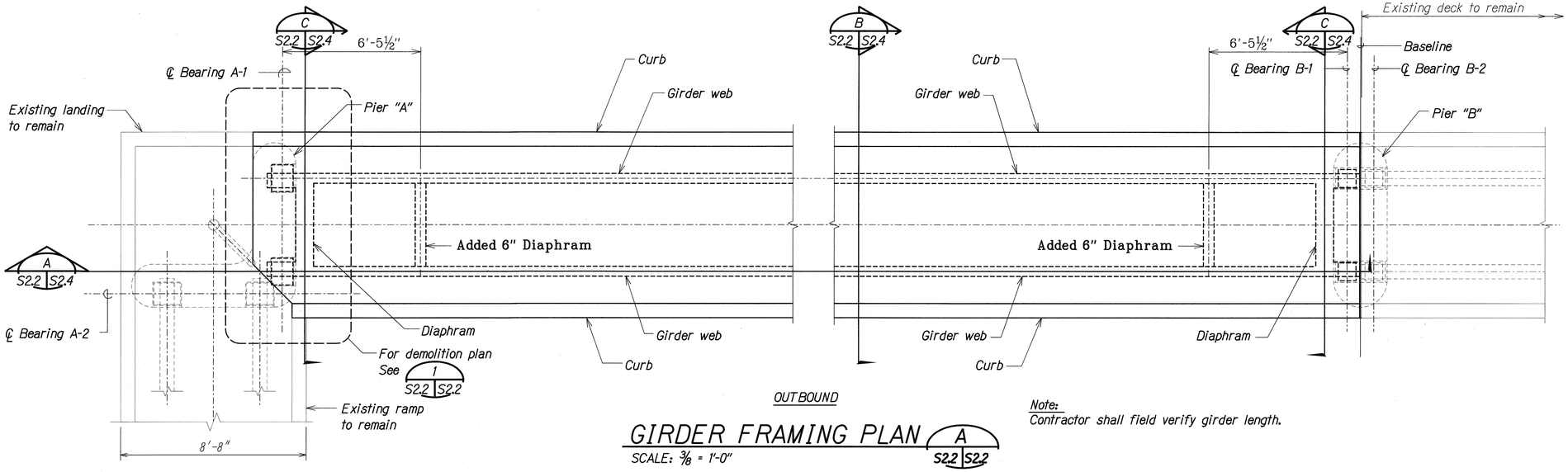
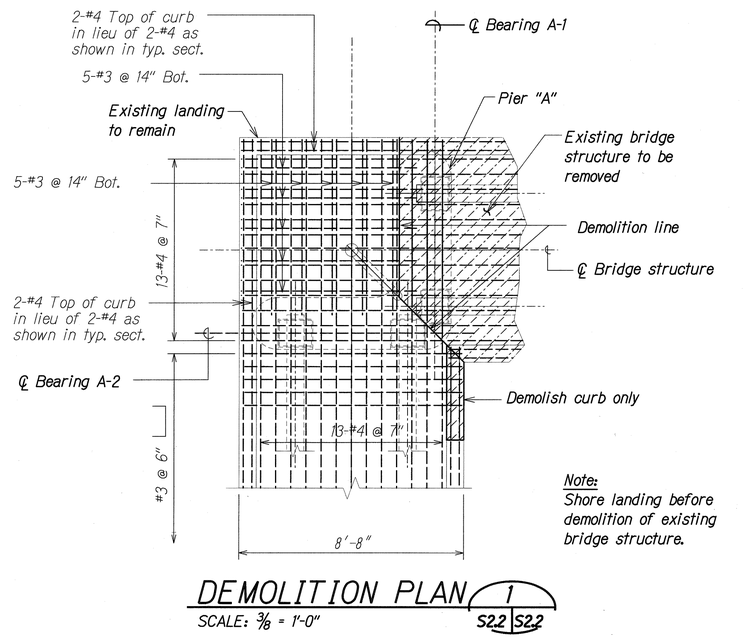



OUTBOUND

## GIRDER FRAMING PLAN A S2.2 S2.2

SCALE: 3/8 = 1'-0"

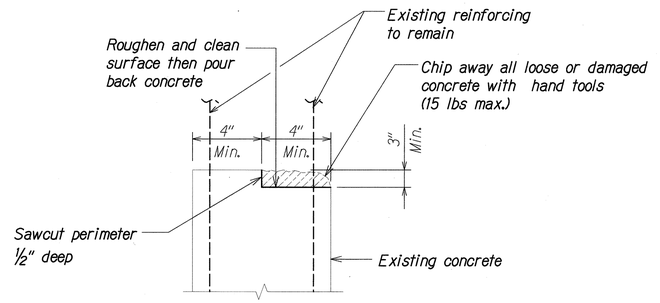
Note:
Contractor shall field verify girder length.




Note:
Shore landing before demolition of existing bridge structure.

## DEMOLITION PLAN 1 S2.2 S2.2

SCALE: 3/8 = 1'-0"




## TYPICAL REPAIR CONCRETE DETAIL 2 S2.8 S2.2

SCALE: 1" = 1'-0"

### LEGEND FOR AS-BUILT POSTINGS

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| Roadway | Text for as-built posting |

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## DEMOLITION PLAN AND GIRDER FRAMING PLAN

Repair of Mauka Span of Mahiko Street Pedestrian Overpass
Project No. HI E-01-07M

Scale: As Shown Date: Nov. 2006

SHEET No. S2.2 OF 16 SHEETS

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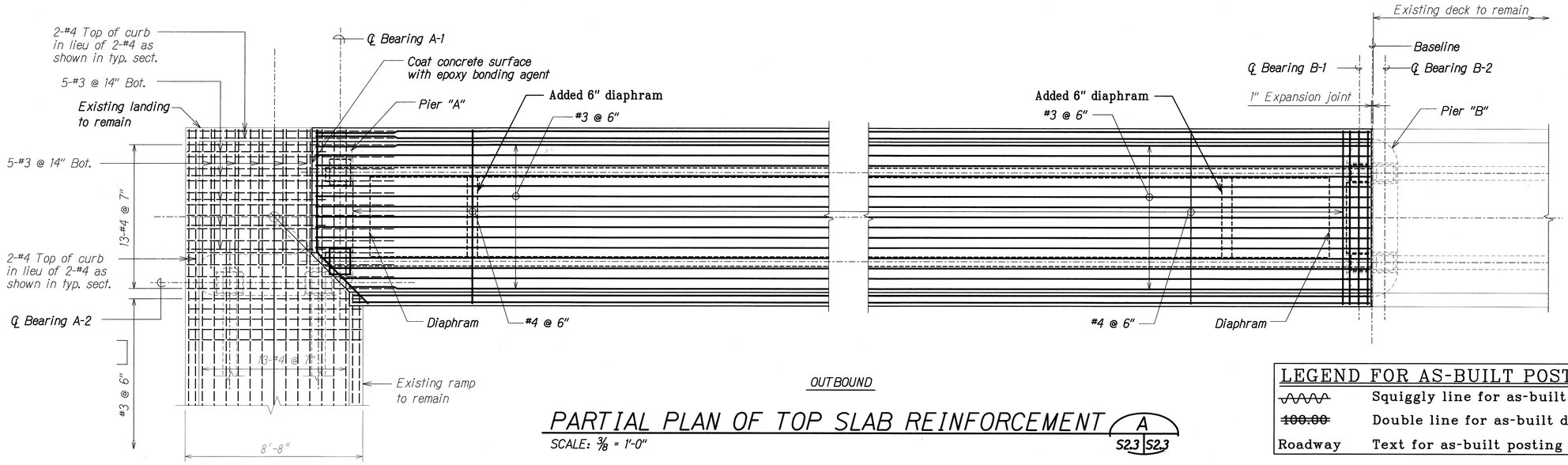


OUTBOUND

## PARTIAL PLAN OF TOP SLAB REINFORCEMENT (A)

SCALE: 3/8 = 1'-0"

S2.3 | S2.3

| LEGEND FOR AS-BUILT POSTINGS | |
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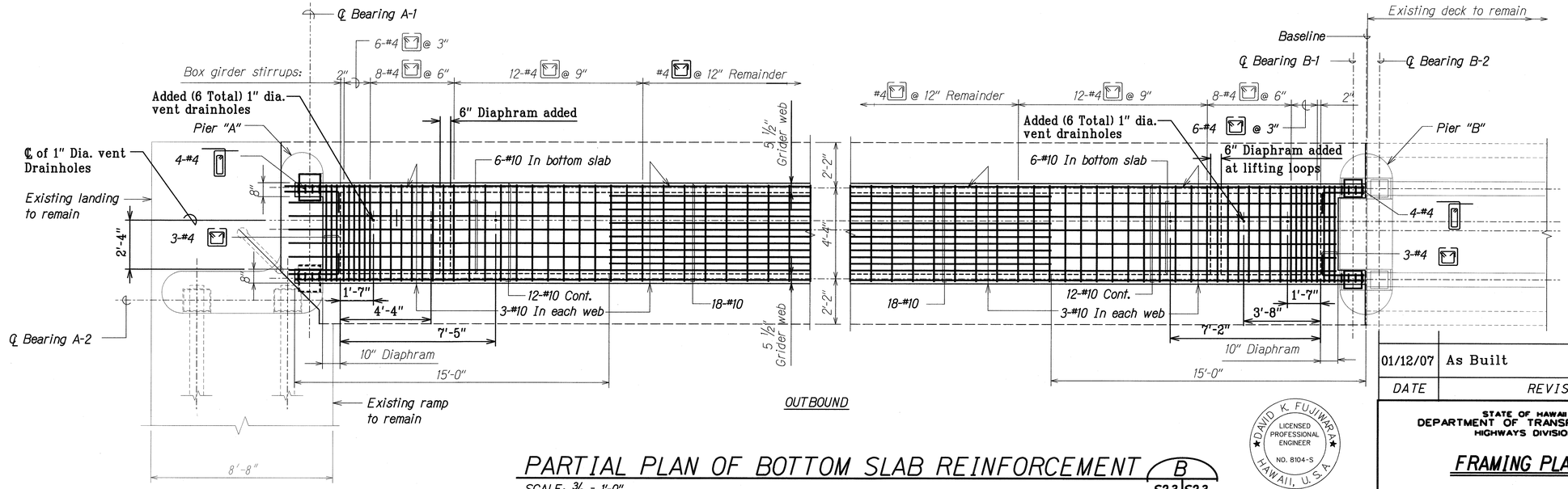


OUTBOUND

## PARTIAL PLAN OF BOTTOM SLAB REINFORCEMENT (B)

SCALE: 3/8 = 1'-0"

S2.3 | S2.3

| ORIGINAL PLAN | SURVEY PLOTTED BY | DATE |
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**FRAMING PLANS**

Repair of Mauka Span of
Mahiko Street Pedestrian Overpass
Project No. HI E-01-07M

Scale: As Noted Date: Nov. 2006

SHEET No. S2.3 OF 16 SHEETS

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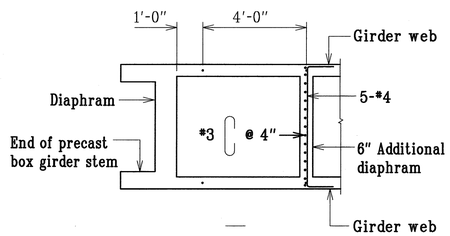
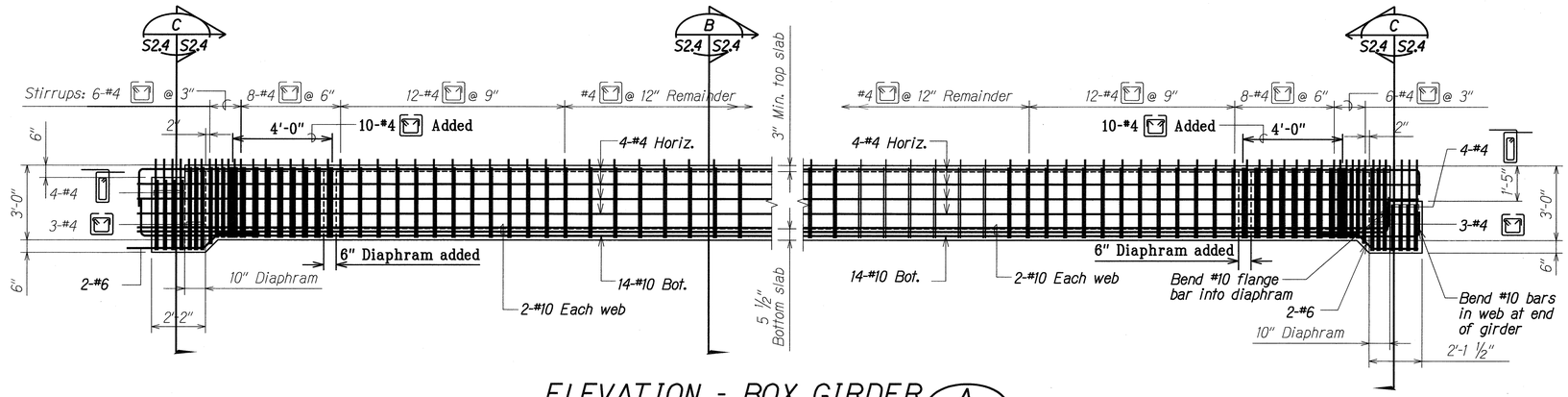


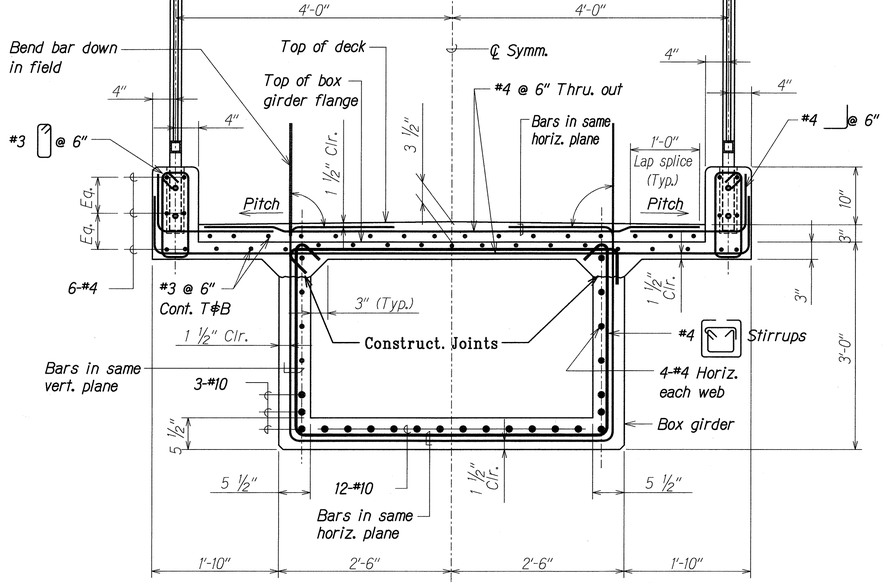

## PLAN - 6" DIAPHRAMS

SCALE: 3/8 = 1'-0"




## ELEVATION - BOX GIRDER (A S2.2 S2.4)

SCALE: 3/8 = 1'-0"




## TYPICAL DECK SECTION (B S2.2, S2.4 S2.4)

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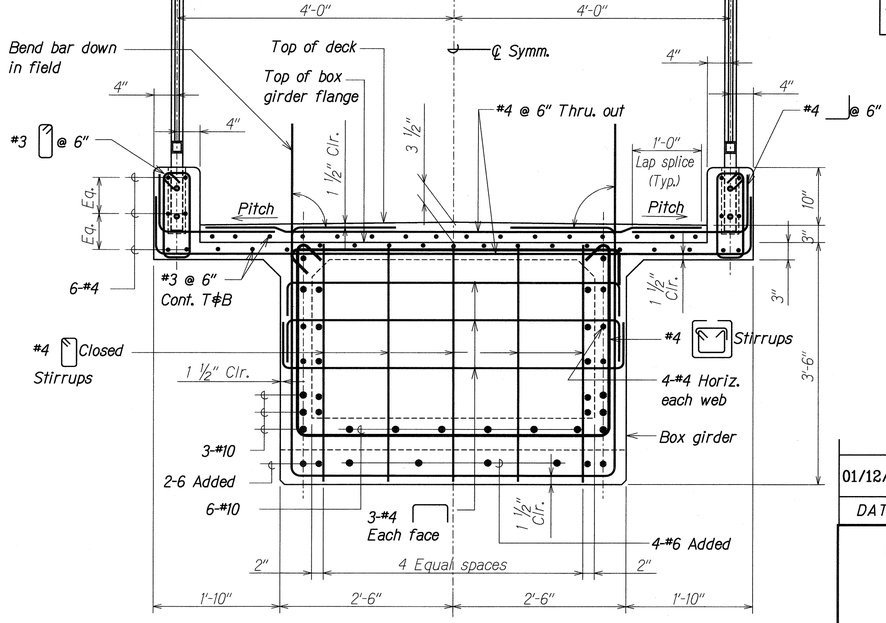


## SECTION AT DIAPHRAM (C S2.2, S2.4 S2.4)

SCALE: 1" = 1'-0"

### LEGEND FOR AS-BUILT POSTINGS

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**BOX GIRDER ELEVATION AND SECTIONS**

Repair of Mauka Span of Mahiko Street Pedestrian Overpass
Project No. HI E-01-07M

Scale: As Noted Date: Nov. 2006

SHEET No. S2.4 OF 16 SHEETS

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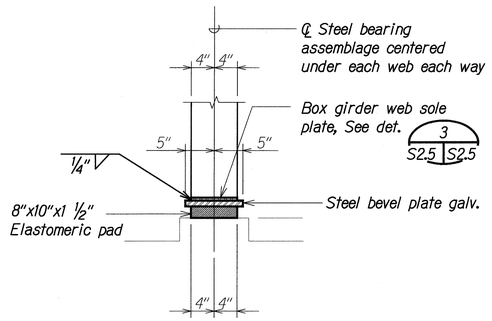
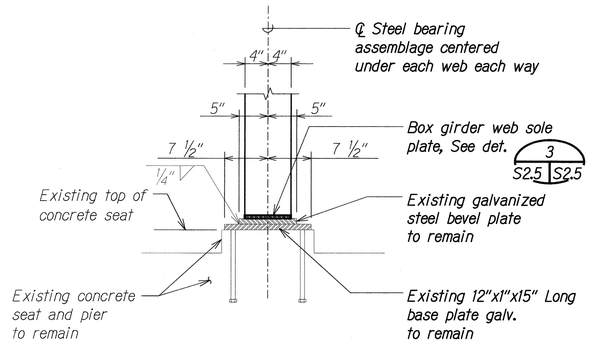



## BEARING DETAIL 1

SCALE: 1" = 1'-0"

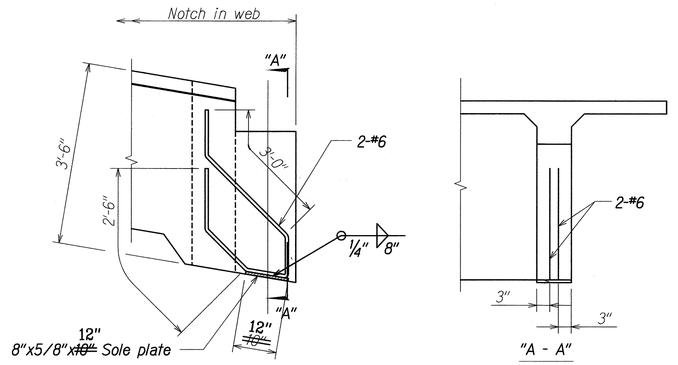
S2.9 | S2.5




## BEARING DETAIL 2

SCALE: 1" = 1'-0"

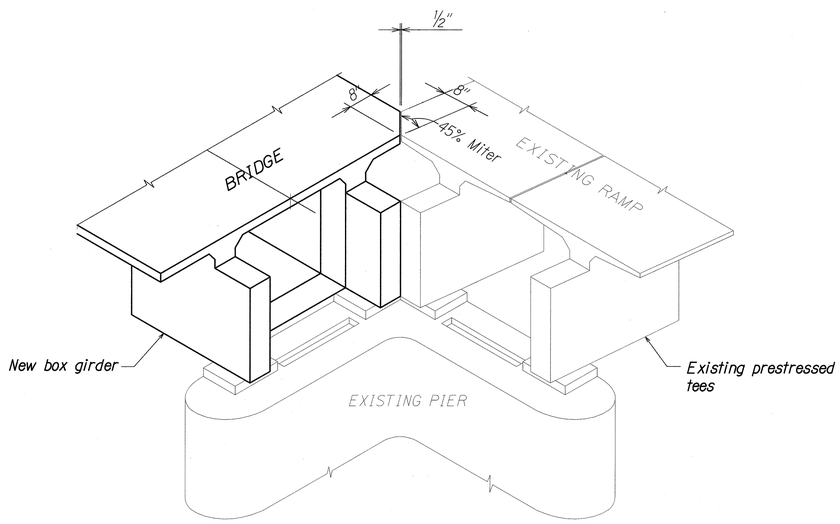
S2.9 | S2.5




## TYP. SOLE PLATE ANCHOR DETAIL 3

SCALE: 3/4" = 1'-0"

S2.5, S2.6, S2.7 | S2.5




## ISOMETRIC

SCALE: Not to scale

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# BEARING DETAILS AND ISOMETRIC

Repair of Mauka Span of
Mahiko Street Pedestrian Overpass
Project No. HI E-01-07M

Scale: As Noted Date: Nov. 2006

SHEET No. S2.5 OF 16 SHEETS

## LEGEND FOR AS-BUILT POSTINGS

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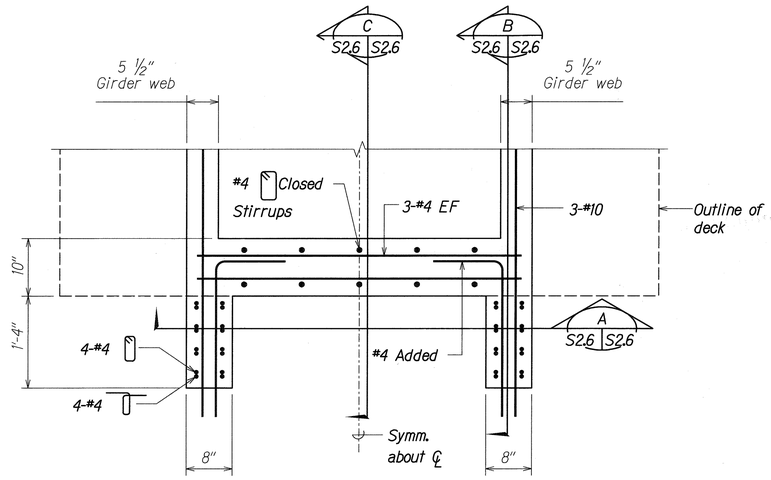
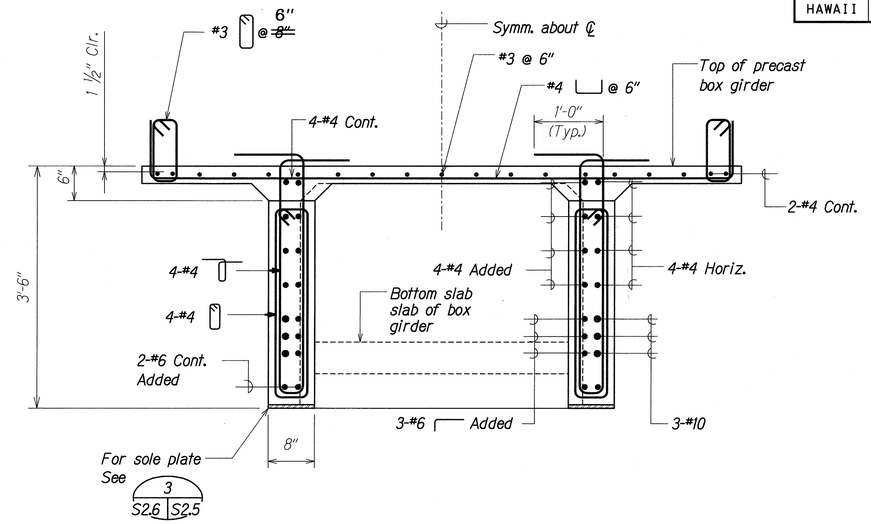
| HAWAII | HAW. | HI E-01-07M | 2007 | 11 | 20 |



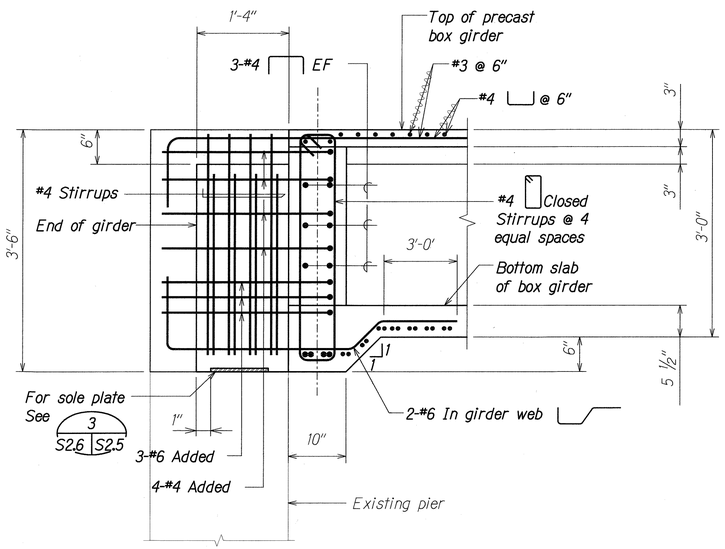

## PLAN - FIXED END BOX GIRDER

SCALE: 1" = 1'-0"



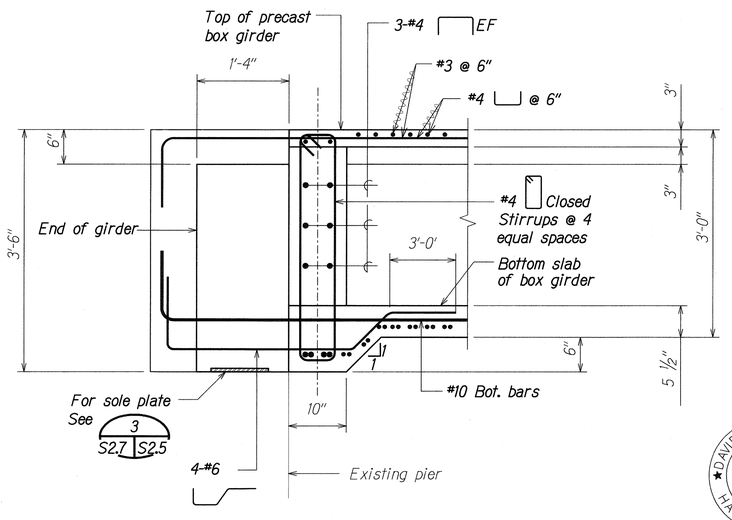

## FIXED END ELEVATION A

SCALE: 1" = 1'-0" S2.6 S2.6




## SECTION B

SCALE: 1" = 1'-0" S2.6 S2.6




## SECTION C

SCALE: 1" = 1'-0" S2.6 S2.6

### LEGEND FOR AS-BUILT POSTINGS

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# FIXED END BOX GIRDER PLAN AND SECTIONS

Repair of Mauka Span of Mahiko Street Pedestrian Overpass
Project No. HI E-01-07M

Scale: As Shown Date: Nov. 2006

SHEET No. S2.6 OF 16 SHEETS

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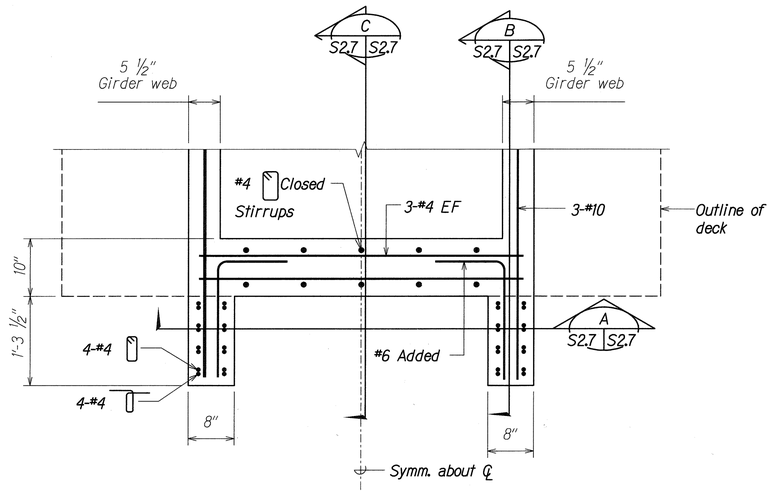
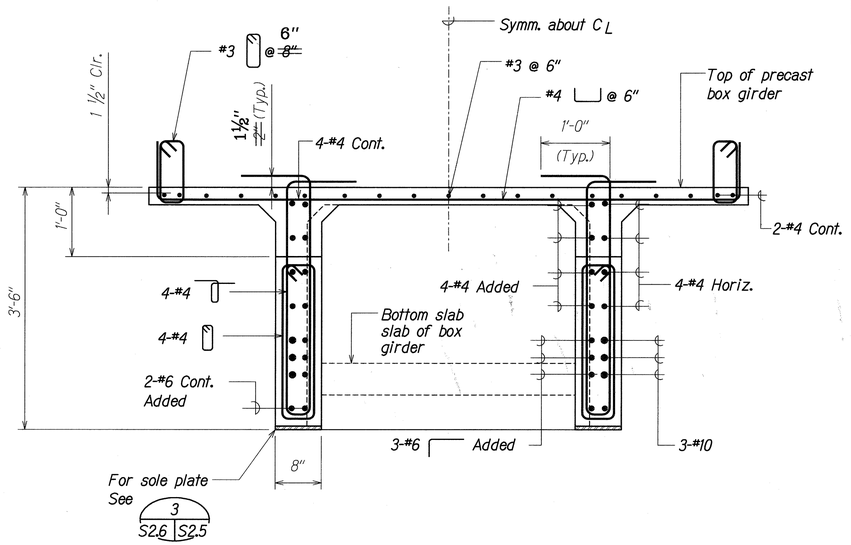
| HAWAII | HAW. | HI E-01-07M | 2007 | 12 | 20 |




## PLAN - EXPANSION END BOX GIRDER

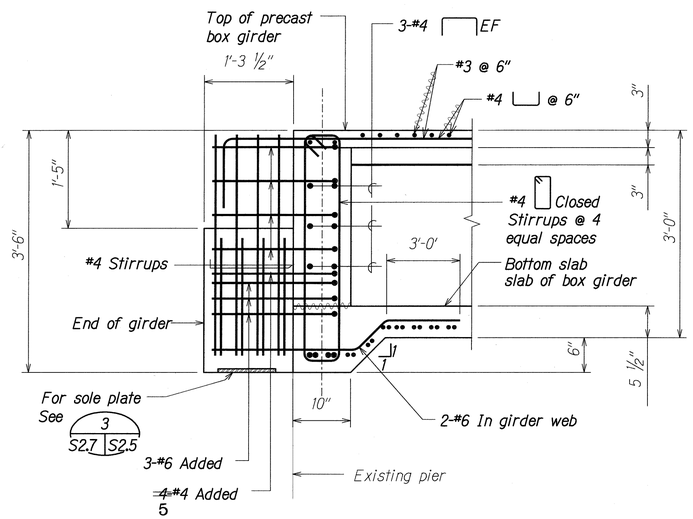
SCALE: 1" = 1'-0"




## EXPANSION END ELEVATION A

SCALE: 1" = 1'-0"

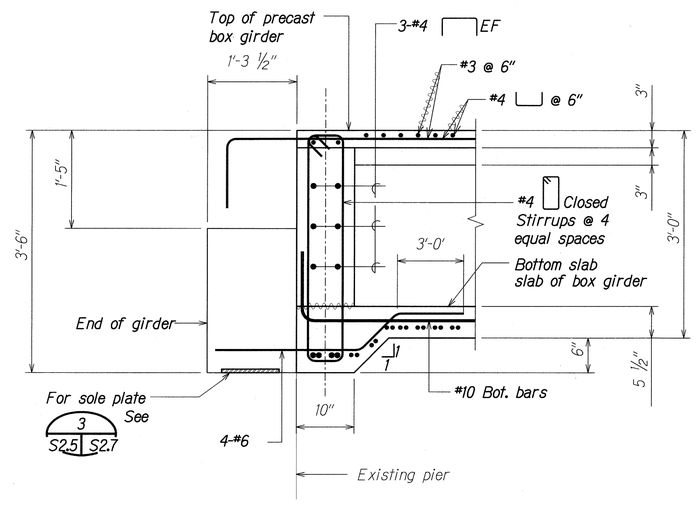
S2.7 S2.7




## SECTION B

SCALE: 1" = 1'-0"

S2.7 S2.7




## SECTION C

SCALE: 1" = 1'-0"

S2.7 S2.7

### LEGEND FOR AS-BUILT POSTINGS

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STATE OF HAWAII
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HIGHWAYS DIVISION

**EXPANSION END BOX GIRDER PLAN AND SECTIONS**

Repair of Mauka Span of Mahiko Street Pedestrian Overpass
Project No. HI E-01-07M

Scale: As Shown Date: Nov. 2006

SHEET No. S2.7 OF 16 SHEETS

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CHECKED BY
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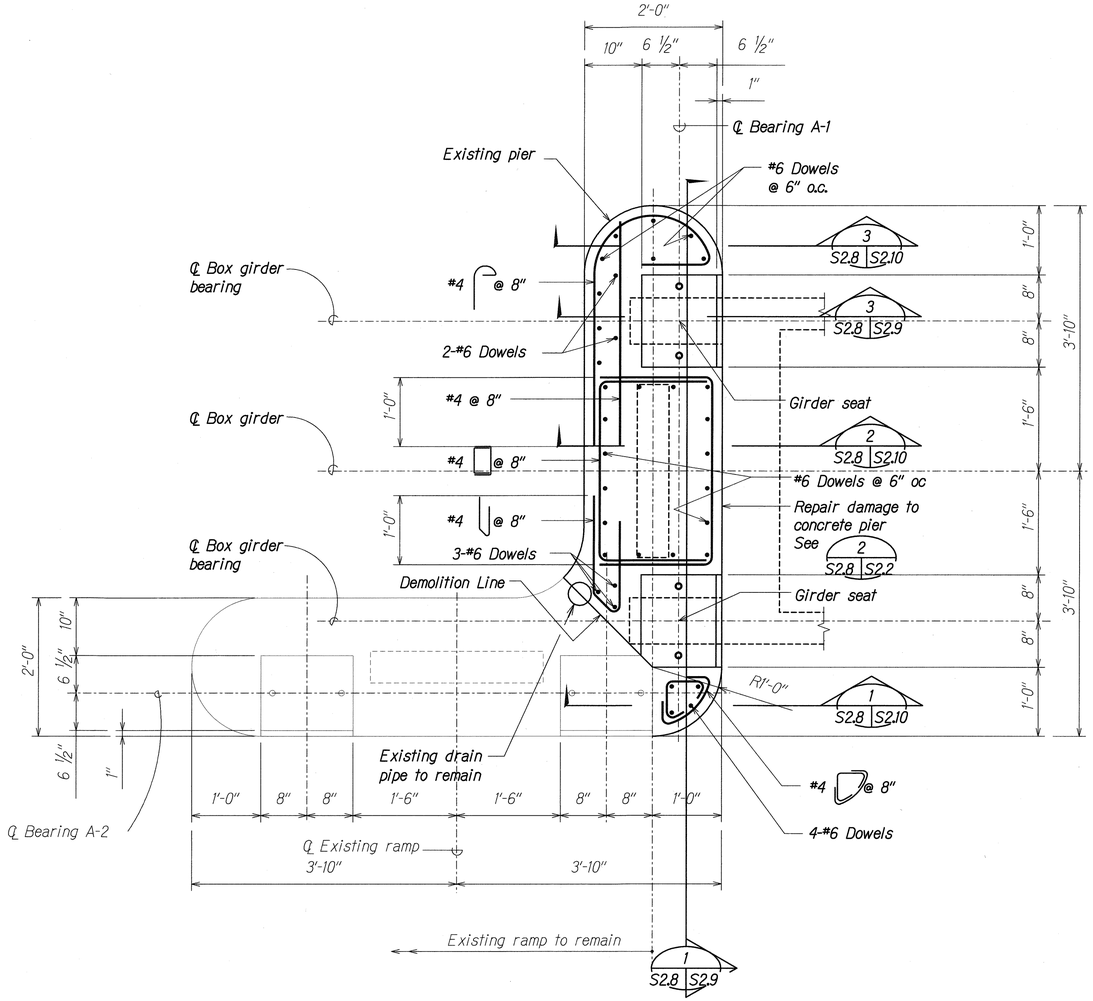
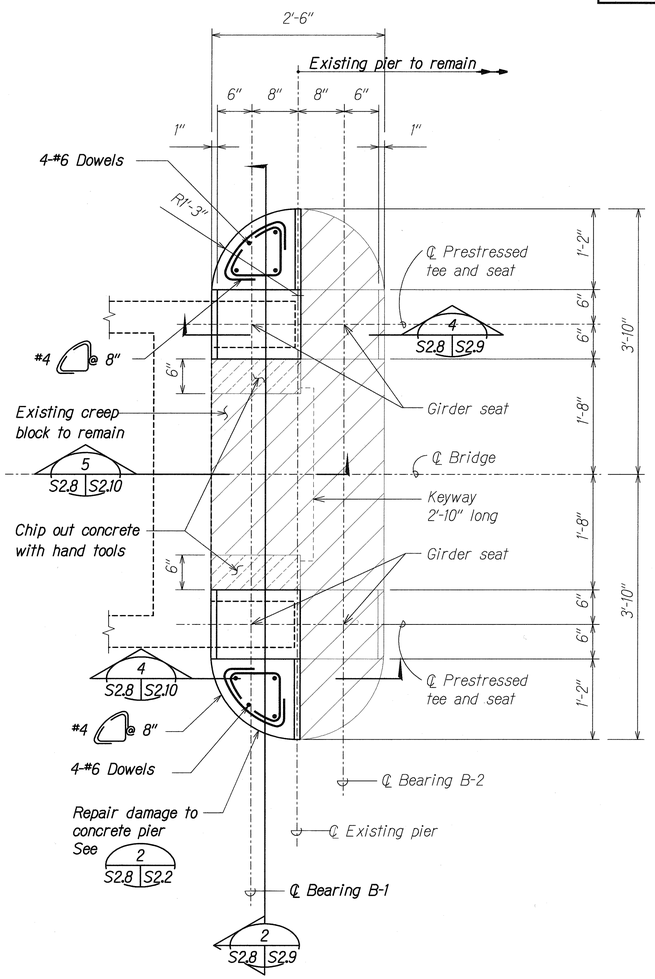
| HAWAII | HAW. | HI E-01-07M | 2007 | 13 | 20 |




## PLAN - PIER "A"

SCALE: 1" = 1'-0"

A S2.8 S2.8




## PLAN - PIER "B"

SCALE: 1" = 1'-0"

B S2.8 S2.8

| ORIGINAL PLAN | SURVEY PLOTTED BY | DATE |
|---|---|---|
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| | DESIGNED BY | |
| No. | QUANTITIES BY | |
| | CHECKED BY | |

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David K. Fujiwara 4-30-08

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

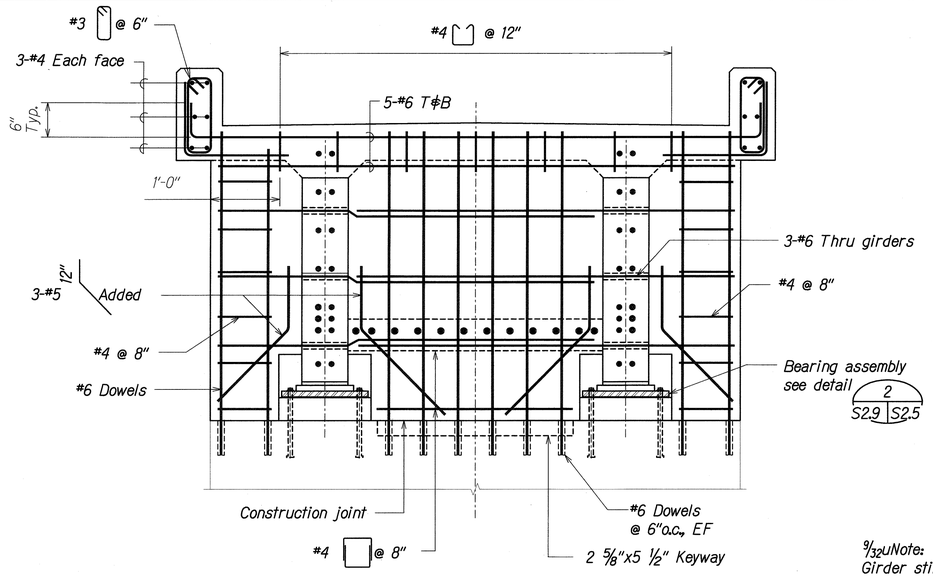
# PIER PLANS

Repair of Mauka Span of
Mahiko Street Pedestrian Overpass
Project No. HI E-01-07M

Scale: As Noted Date: Nov. 2006

SHEET No. S2.8 OF 16 SHEETS

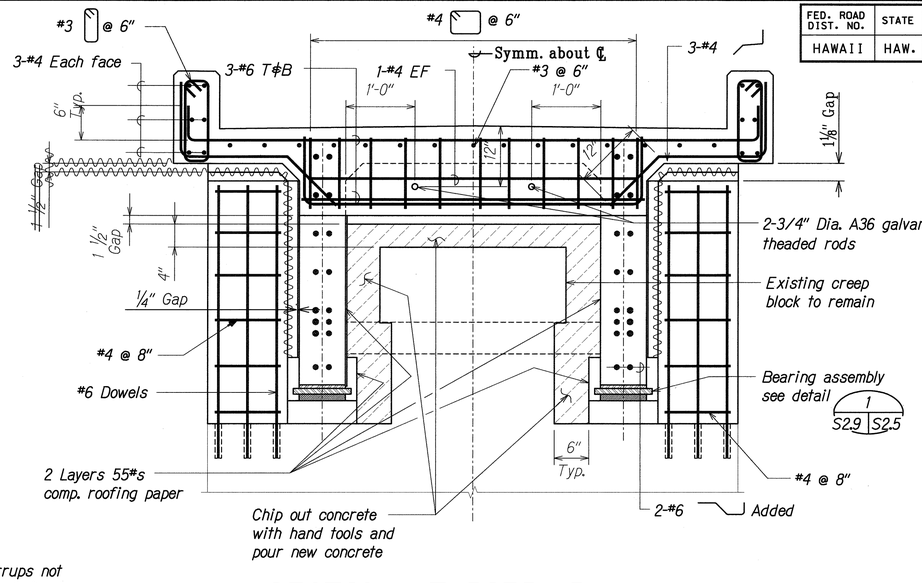
| FED. ROAD DIST. NO. | STATE | PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | HI E-01-07M | 2007 | 14 | 20 |




SECTION AT PIER "A" 1 S2.8 S2.9

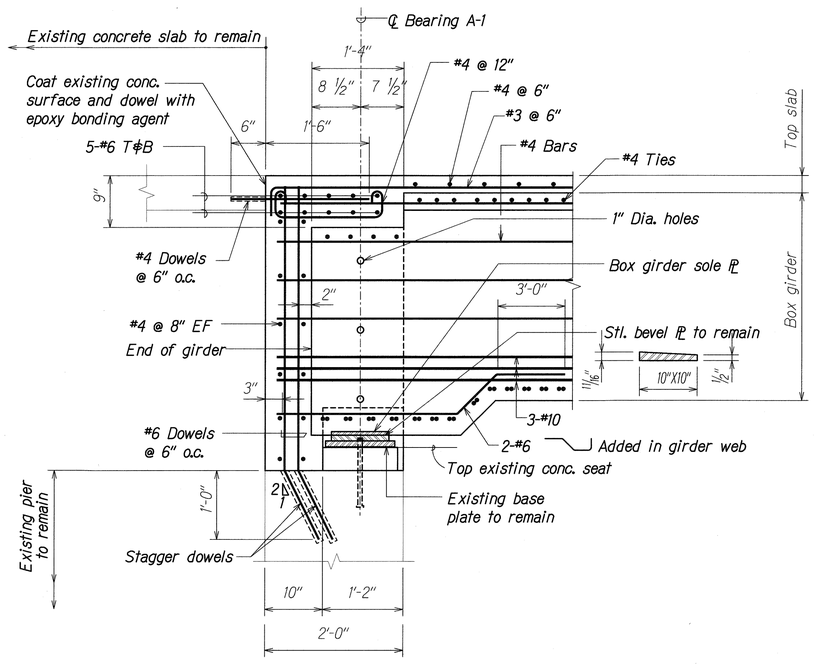
SCALE: 1" = 1'-0"

9/32u Note: Girder stirrups not shown for clarity.



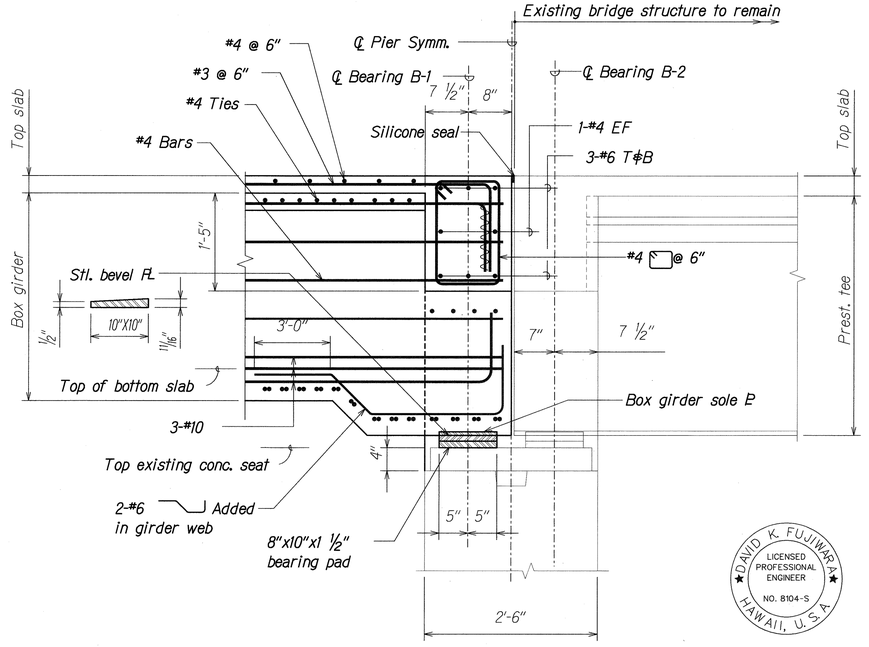

SECTION AT PIER "B" 2 S2.8 S2.9

SCALE: 1" = 1'-0"




SECTION AT PIER "A" 3 S2.8 S2.9

SCALE: 1" = 1'-0"




SECTION AT PIER "B" 4 S2.8 S2.9

SCALE: 1" = 1'-0"

| ORIGINAL PLANS | SURVEY PLOTTED BY | DATE |
|---|---|---|
| | DRAWN BY | |
| | TRACED BY | |
| NOTE BOOK | DESIGNED BY | |
| | QUANTITIES BY | |
| No. | CHECKED BY | |

## 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 |

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DAVID K. FUJIWARA LICENSED PROFESSIONAL ENGINEER NO. 8104-S HAWAII, U.S.A.

| DATE | REVISION |
|---|---|
| 01/12/07 | As Built |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

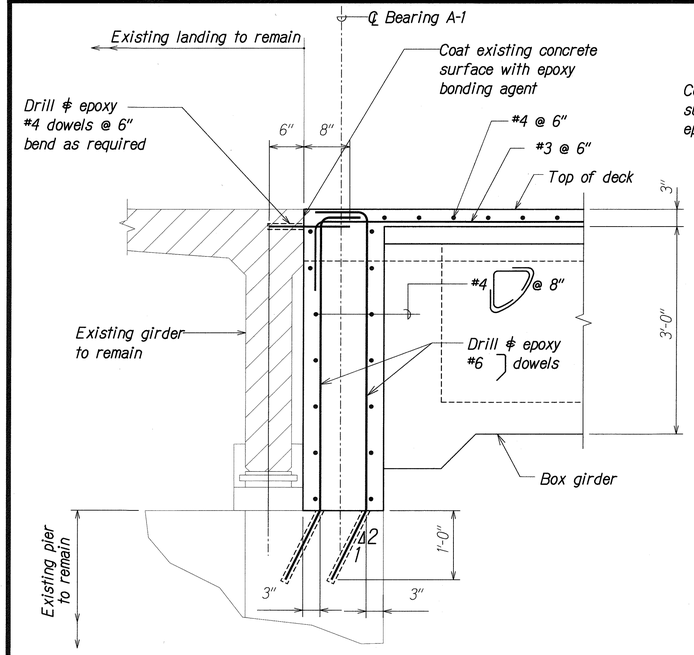
# PIER SECTIONS

Repair of Mauka Span of Mahiko Street Pedestrian Overpass
Project No. HI E-01-07M

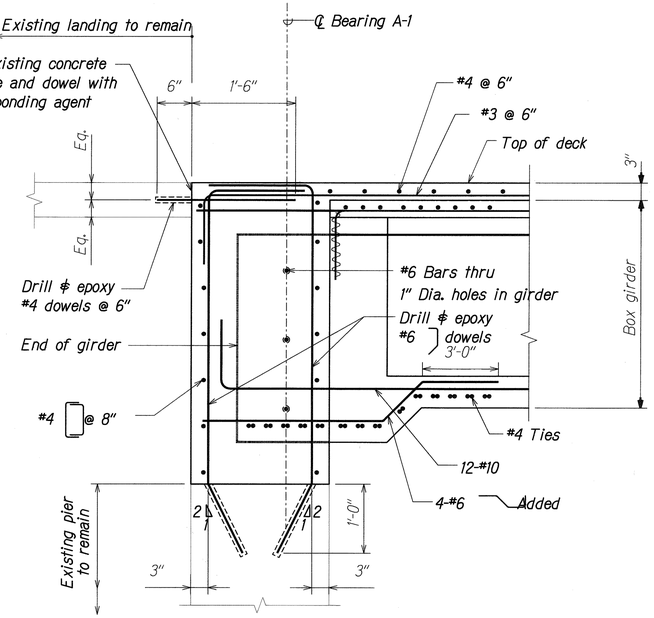
Scale: As Noted Date: Nov. 2006

SHEET No. S2.9 OF 16 SHEETS

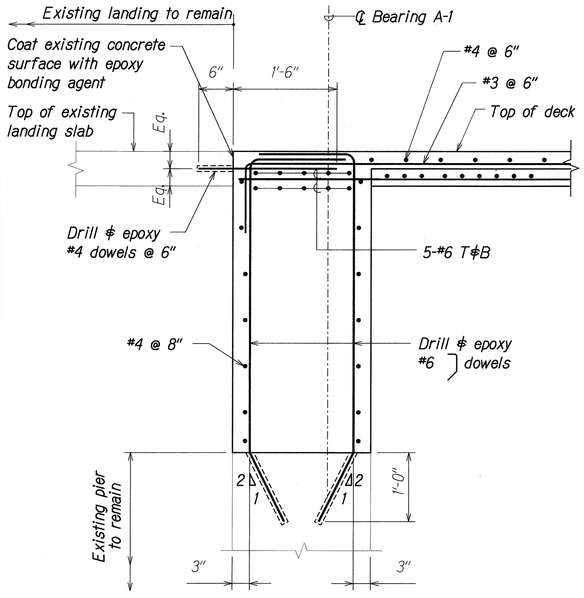
| FED. ROAD DIST. NO. | STATE | PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | HI E-01-07M | 2007 | 15 | 20 |



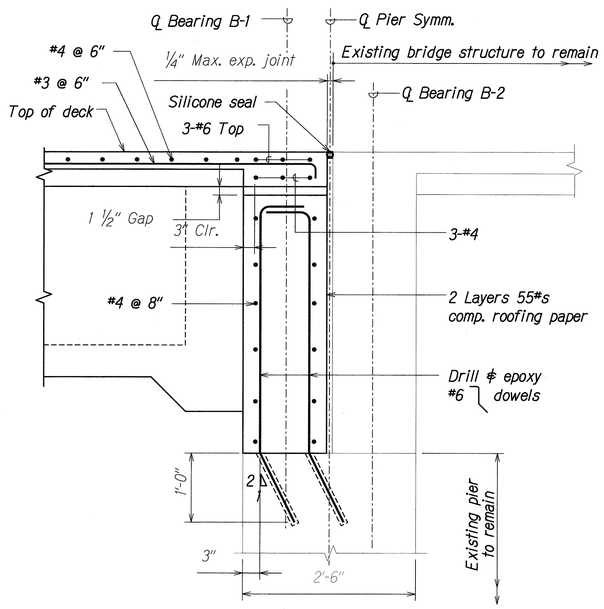

SECTION AT PIER "A" 1
SCALE: 1" = 1'-0"
S2.8 | S2.10



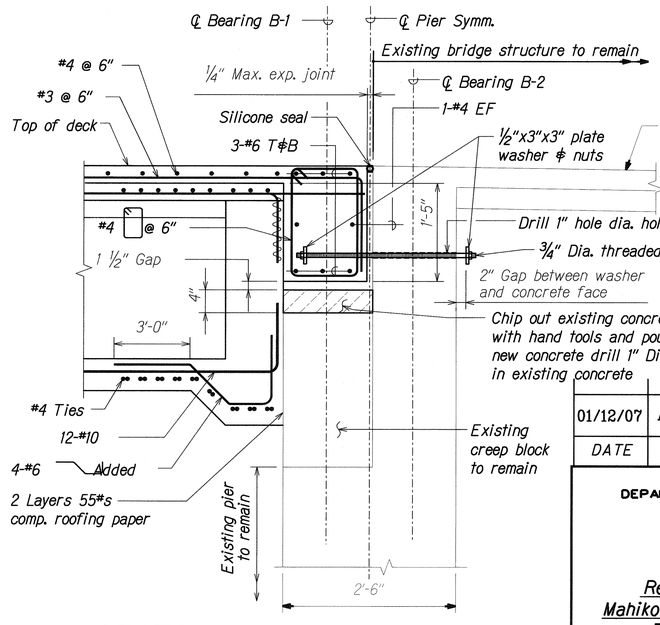

SECTION AT PIER "A" 2
SCALE: 1" = 1'-0"
S2.8 | S2.10




SECTION AT PIER "A" 3
SCALE: 1" = 1'-0"
S2.8 | S2.10




SECTION AT PIER "B" 4
SCALE: 1" = 1'-0"
S2.8 | S2.10




SECTION AT PIER "B" 5
SCALE: 1" = 1'-0"
S2.8 | S2.10

## 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 |

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

DAVID K. FUJIWARA ★ LICENSED PROFESSIONAL ENGINEER NO. 8104-S HAWAII, U.S.A. ★

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SIGNATURE — EXPIRATION DATE OF THE LICENSE

| DATE | REVISION |
|---|---|
| 01/12/07 | As Built |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

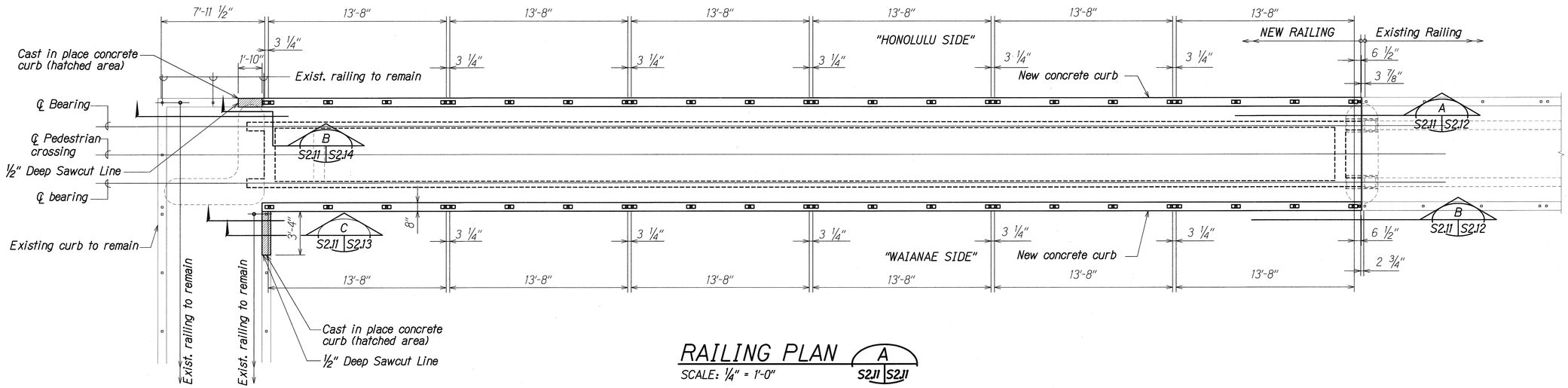
# PIER SECTIONS

Repair of Mauka Span of Mahiko Street Pedestrian Overpass
Project No. HI E-01-07M

Scale: As Noted — Date: Nov. 2006

SHEET No. S2.10 OF 16 SHEETS

| FED. ROAD DIST. NO. | STATE | PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | H1 E-01-07M | 2007 | 16 | 20 |




## RAILING PLAN (A S2.11 | S2.11)

SCALE: ¼" = 1'-0"

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

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

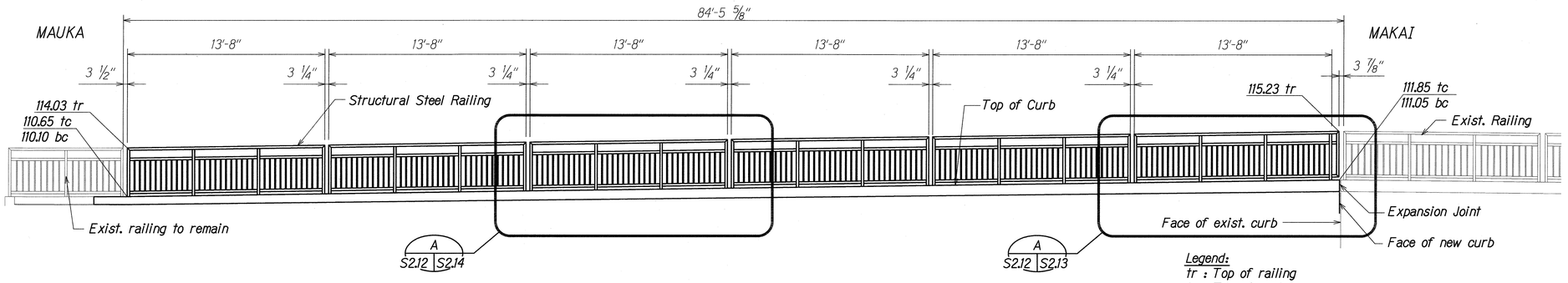
**RAILING PLAN**

Repair of Mauka Span of
Mahiko Street Pedestrian Overpass
Project No. H1 E-01-07M

Scale: As Shown Date: Nov. 2006

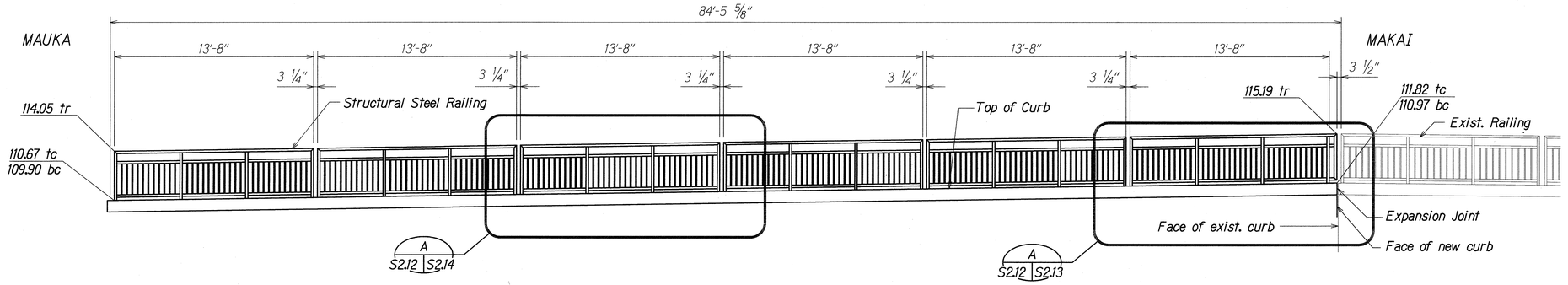
SHEET No. S2.11 OF 16 SHEETS

| FED. ROAD DIST. NO. | STATE | PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | H1 E-01-07M | 2007 | 17 | 20 |




## RAILING ELEVATION "HONOLULU SIDE" (A S2.11 S2.12)

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




## RAILING ELEVATION "WAIANAE SIDE" (B S2.11 S2.12)

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

ORIGINAL PLAN

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

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HIGHWAYS DIVISION

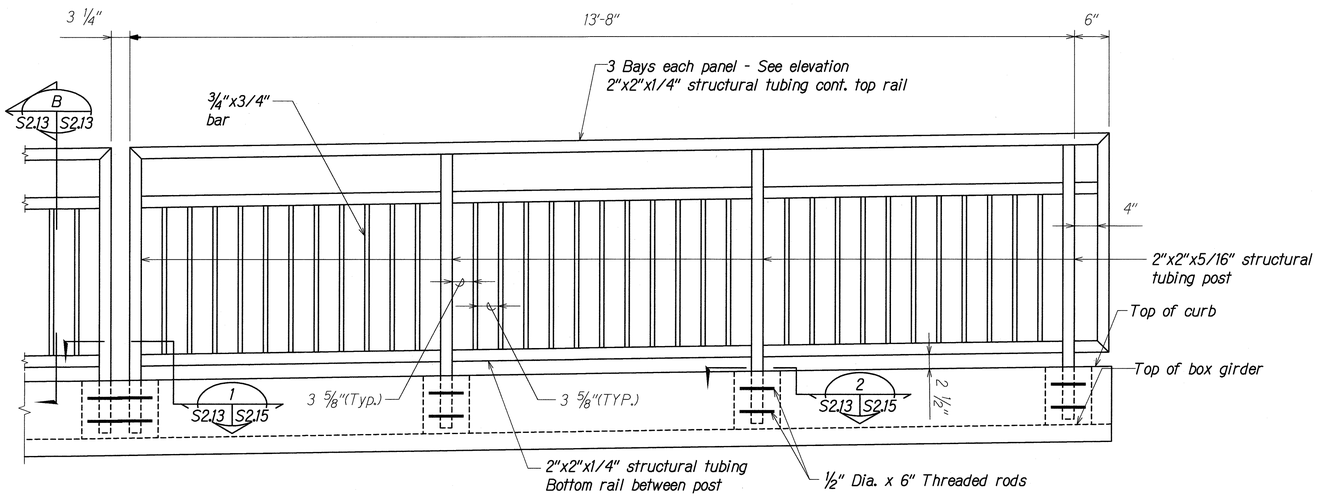
# RAILING ELEVATIONS

Repair of Mauka Span of
Mahiko Street Pedestrian Overpass
Project No. H1 E-01-07M

Scale: As Shown Date: Nov. 2006

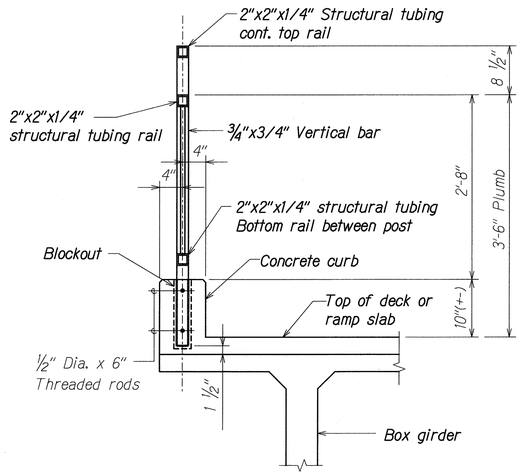
SHEET No. S2.12 OF 16 SHEETS

| FED. ROAD DIST. NO. | STATE | PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | HI E-01-07M | 2007 | 18 | 20 |



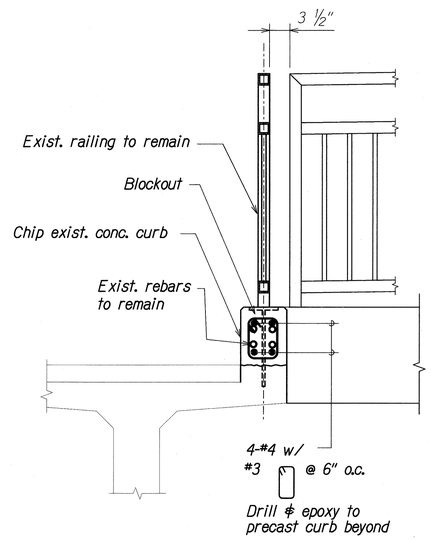

## ELEVATION- METAL HANDRAIL (A S2.12 | S2.13)

SCALE: 1" = 1'-0"




## TYPICAL RAIL SECTION (B S2.13, S2.14 | S2.13)

SCALE: 1" = 1'-0"




## SECTION (C S2.11 | S2.13)

SCALE: 1" = 1'-0"

ORIGINAL PLAN

SURVEY PLOTTED BY ____ DATE
DESIGN BY ____
TRACED BY ____
DESIGNED BY ____
QUANTITIES BY ____
CHECKED BY ____
NOTE BOOK ____
No. ____

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

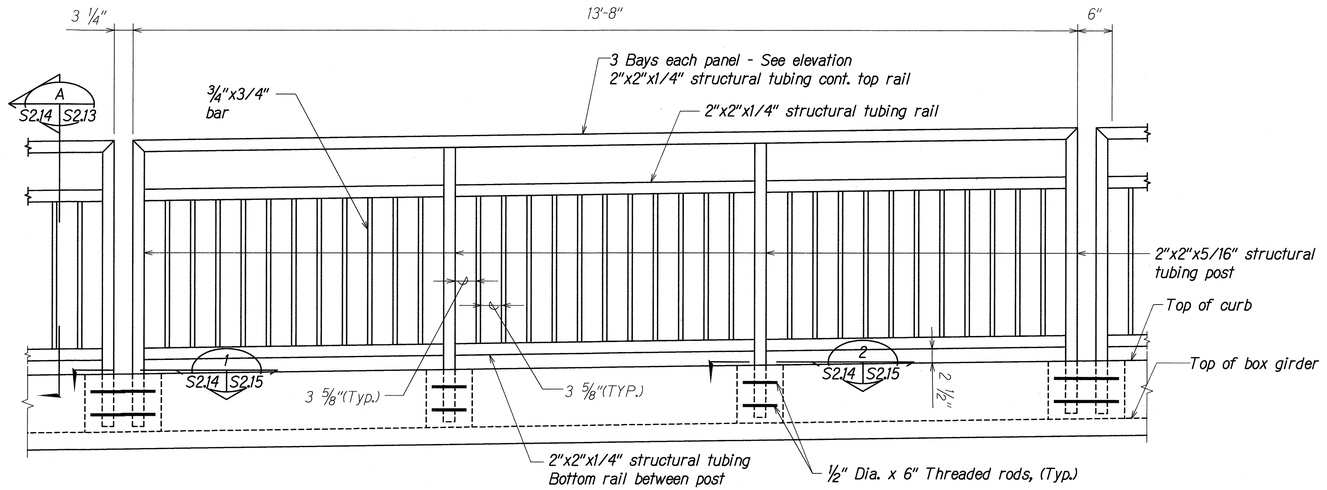
# RAILING ELEVATION AND SECTIONS

Repair of Mauka Span of
Mahiko Street Pedestrian Overpass
Project No. HI E-01-07M

Scale: As Shown Date: Nov. 2006

SHEET No. S2.13 OF 16 SHEETS

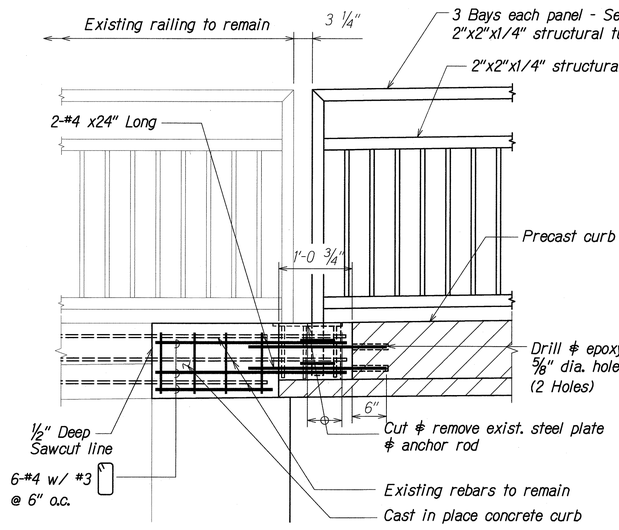
| FED. ROAD DIST. NO. | STATE | PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | HI E-01-07M | 2007 | 19 | 20 |




## ELEVATION- METAL HANDRAIL

SCALE: 1" = 1'-0"

A S2.12 S2.14




## ELEVATION- METAL HANDRAIL

SCALE: 1" = 1'-0"

B S2.11 S2.14

ORIGINAL PLANS

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

NOTE BOOK _____ No. _____

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DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

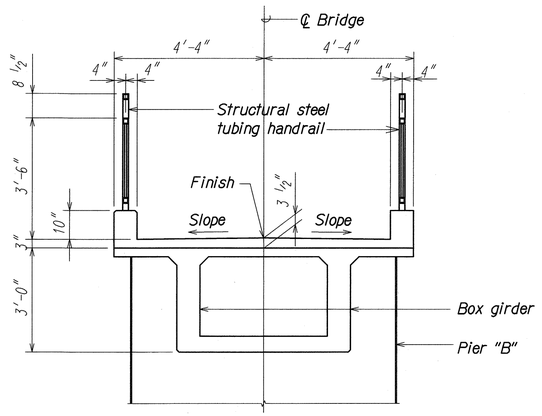
# RAILING ELEVATION AND SECTION

Repair of Mauka Span of
Mahiko Street Pedestrian Overpass
Project No. HI E-01-07M

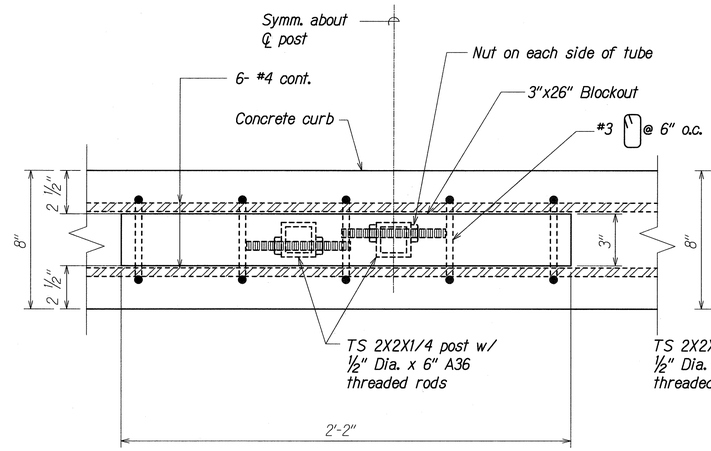
Scale: As Shown Date: Nov. 2006

SHEET No. S2.14 OF 16 SHEETS

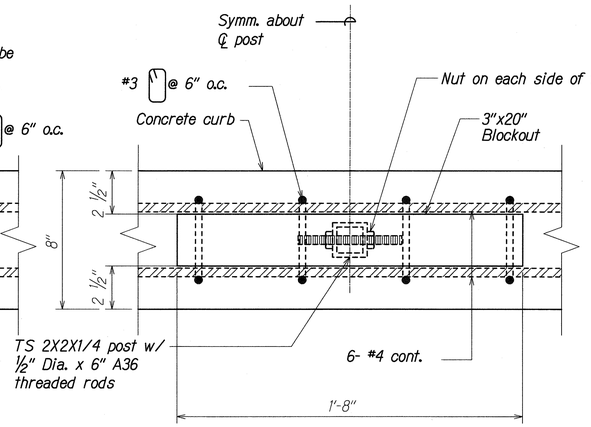
| FED. ROAD DIST. NO. | STATE | PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | HI E-01-07M | 2007 | 20 | 20 |




SECTION A
SCALE: ½" = 1'-0"
S2.15 | S2.15




RAILING DETAIL 1
SCALE: 3" = 1'-0"
S2.14 | S2.15




RAILING DETAIL 2
SCALE: 3" = 1'-0"
S2.14 | S2.15

*Notes:*

1. *Railings shall be hot-dip galvanized after fabrication and then painted with color to match existing railing (See Specification Section 501.03 (F) and 708.01.*
2. *See Specifications for galvanizing and welding requirements.*
3. *Existing portion of railings shall be protected from splatter during welding operations. All damage to existing or new galvanizing shall be repaired by applying stick from material on heated surfaces as noted in Specifications.*
4. *All intersecting members to be full weld & grind smooth.*
5. *All rods and nuts shall be galvanized.*

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

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HIGHWAYS DIVISION

# RAILING SECTION AND DETAILS

Repair of Mauka Span of
Mahiko Street Pedestrian Overpass
Project No. HI E-01-07M

Scale: As Shown Date: Nov. 2006

SHEET No. S2.15 OF 16 SHEETS