

60'-0" R/W Width

Provide 2 Lanes of Traffic (20'-0" Wide Minimum) During PHASE II CONSTRUCTION at all times.

PHASE I CONSTRUCTION

6'-0"

12'-0"

Demolish Hatched Portion of Existing Bridge

New A.C. Pavement-Thickness Varies Typical for Whole Bridge - 1" Min.

Continue Existing Pavement Slope

1'-0" ~ Remove Existing Pavement (Typical)

Exist. Transverse Steel to remain Clean Exposed Steel (Typical)

± R/W of New Bridge

1'-0" ~ Remove Existing Pavement (Typical)

Exist. Transverse Steel to remain

PHASE II CONSTRUCTION

12'-0"

6'-0"

Demolish Hatched Portion of Existing Bridge

New Pavement-Thickness Varies Typical for Whole Bridge

Continue Existing Pavement Slope

1/8" Elastomeric Pad or Preformed Fabric between conc. & bot. of each post.

2-3/4"x1-3/8" Anchor Bolt w/ 1/2"x3'-6" Plate

#4@12

#5@9"

#4@9"

3" Clr.

1'-0" R/W

Double Aluminum Bridge Railing

2'-0"

1'-0"

1 1/2" Clr. min.

4" #4 Cont.

#4@12

#4@18

3" Typ.

3" x 4" x 8"

2" Clr. (Typ.)

2" x 4" x 3'-6"

#9@6"

#7@10"

See SECTION @ MIDSPAN, this sht.

Typical Key See Standard Plans B-01

1/2"x1/2" Sealant See Detail at right. (Typ.)

#8

See SECTION @ MIDSPAN, this sht.

#7@10"

#9@18" Cont.

#4@12

New Bridge Deck

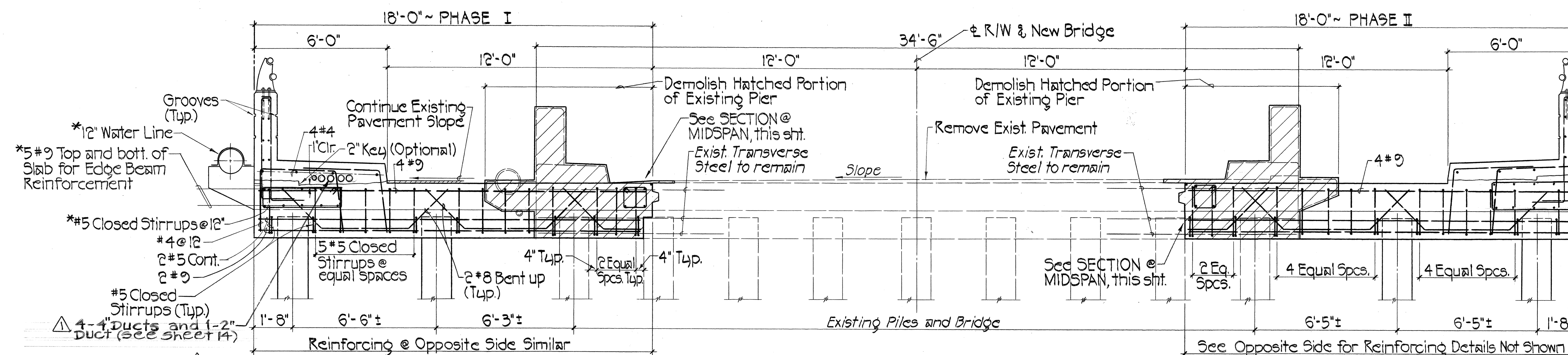
New Piles

Existing Piles and Bridge

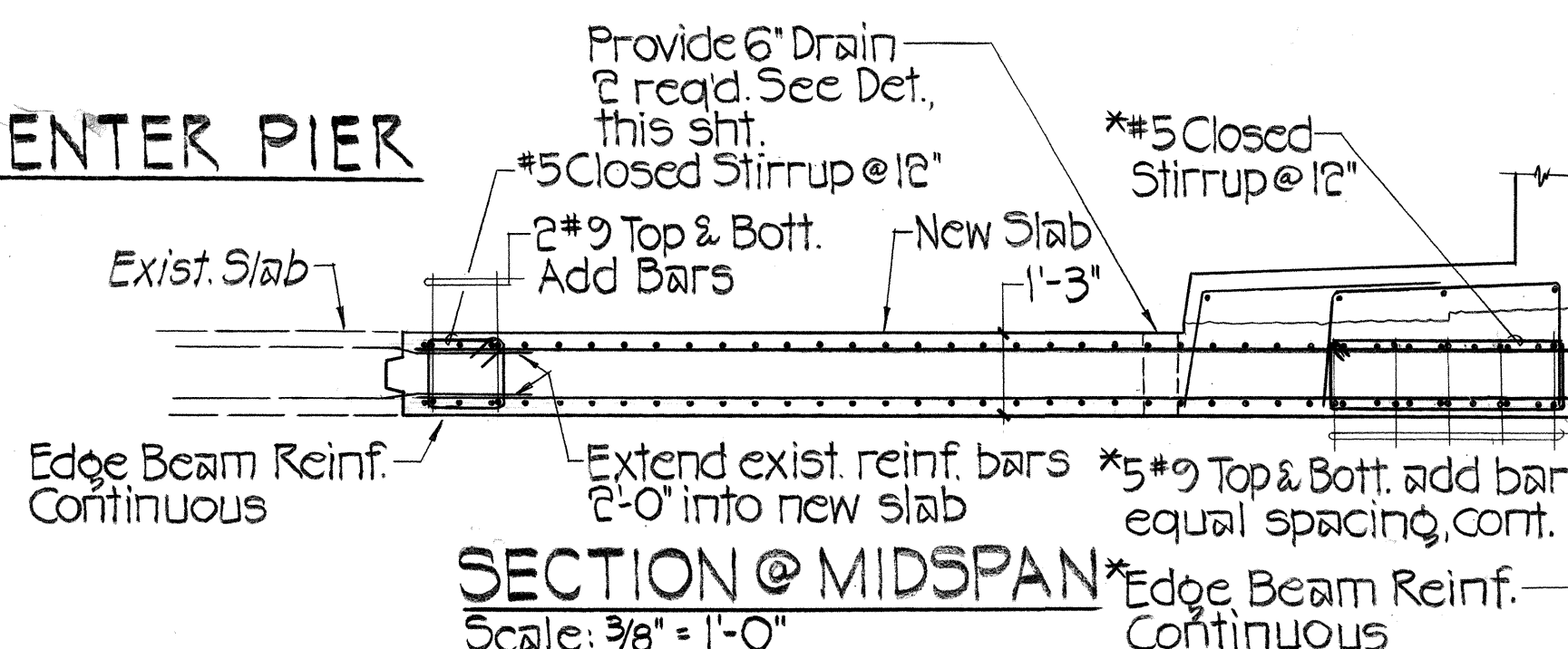
AT MIDSPAN

AT PIER SUPPORT

Scale: $\frac{1}{2}" = 1'-0"$



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



The diagram shows a cross-section of a concrete slab joint. A vertical line separates the 'Existing' structure on the left from the 'New Construction' on the right. A horizontal line represents the 'New A.C.' (Asphalt Concrete) surface. Below this, a hatched area represents the 'Std. Slab Joint'. A vertical line with a hook at the bottom indicates the '1/2" x 1/2" Sealant' applied at the joint. The bottom of the diagram is labeled 'Std. Slab Joints. See Std. Plans. B-01'.

TYP. SLAB JOINTING DETAIL

NOTE:

1. Sealant shall not be measured for payment separately but shall be considered incidental to various item of work in the Proposal.
2. See sht. no. 11 for Uhelekawawa Bridge Site Plan.

12/7/95 **"As-Built" Posting of Field Changes**
6/2/96 *Add. Plan-6 Drain, enlarged edge beam & moved 12" W.L. & conc. bracket

DATE	REVISION
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
DEMOLITION, PHASING PLAN &
SLAB REINFORCEMENT

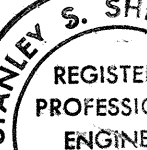
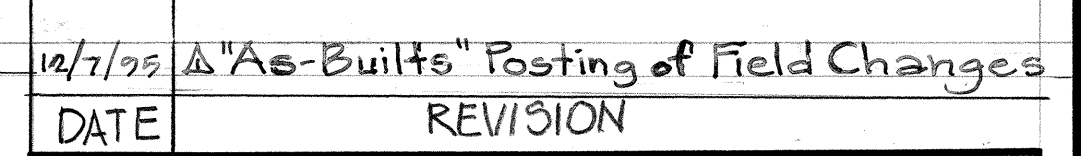
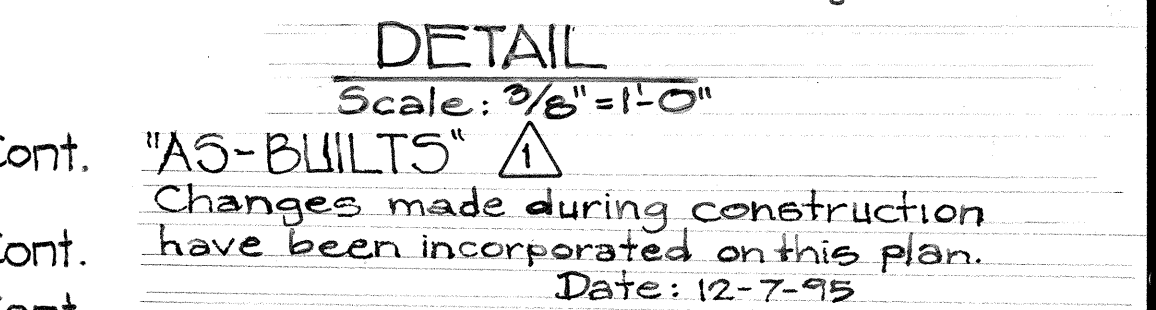
KUHIO HIGHWAY IMPROVEMENTS
HALEILIO RD. TO UHELEKAWAWA BRIDGE
PROJECT NO. 56A-01-92

SCALE: AS NOTED DATE: JAN. 1992

SHEET No. 1 OF 6 SHEETS

ADD. 13

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



STANLEY S. SHIMABUKURO
REGISTERED
PROFESSIONAL
ENGINEER
No. 1522-S
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR
UNDER MY SUPERVISION
Stanley S. Shimabukuro
SHIMABUKURO, ENGINEER & ARCHT. INC.
1126 12th Avenue
Honolulu, Hawaii 96816

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ELEVATION ~ ABUTMENT #1 & #2
KUHIO HIGHWAY IMPROVEMENTS
HALEILIO RD. TO UHELEKAWAWA BRIDGE
PROJECT NO. 56A-01-92

SCALE: AS NOTED DATE: JAN. 1992

SHEET NO. 2 OF 6 SHEETS

- I. DESIGN DATA FOR BRIDGE
 - A. Live loads - AASHTO H20-516-44
 - B. Materials:
 - Reinforcing steel - $f_s = 20,000$ psi
 - Concrete strength = 3,000 psi
 - C. Foundations:
 - 16 1/2" Standard State Piles - 80 Tons
 - Soil report by Ernest Hirtz & Associates, Jan. 29, 1991.
 - D. See Standard Plan B-12 for pile details and B-01 for additional miscellaneous bridge details.

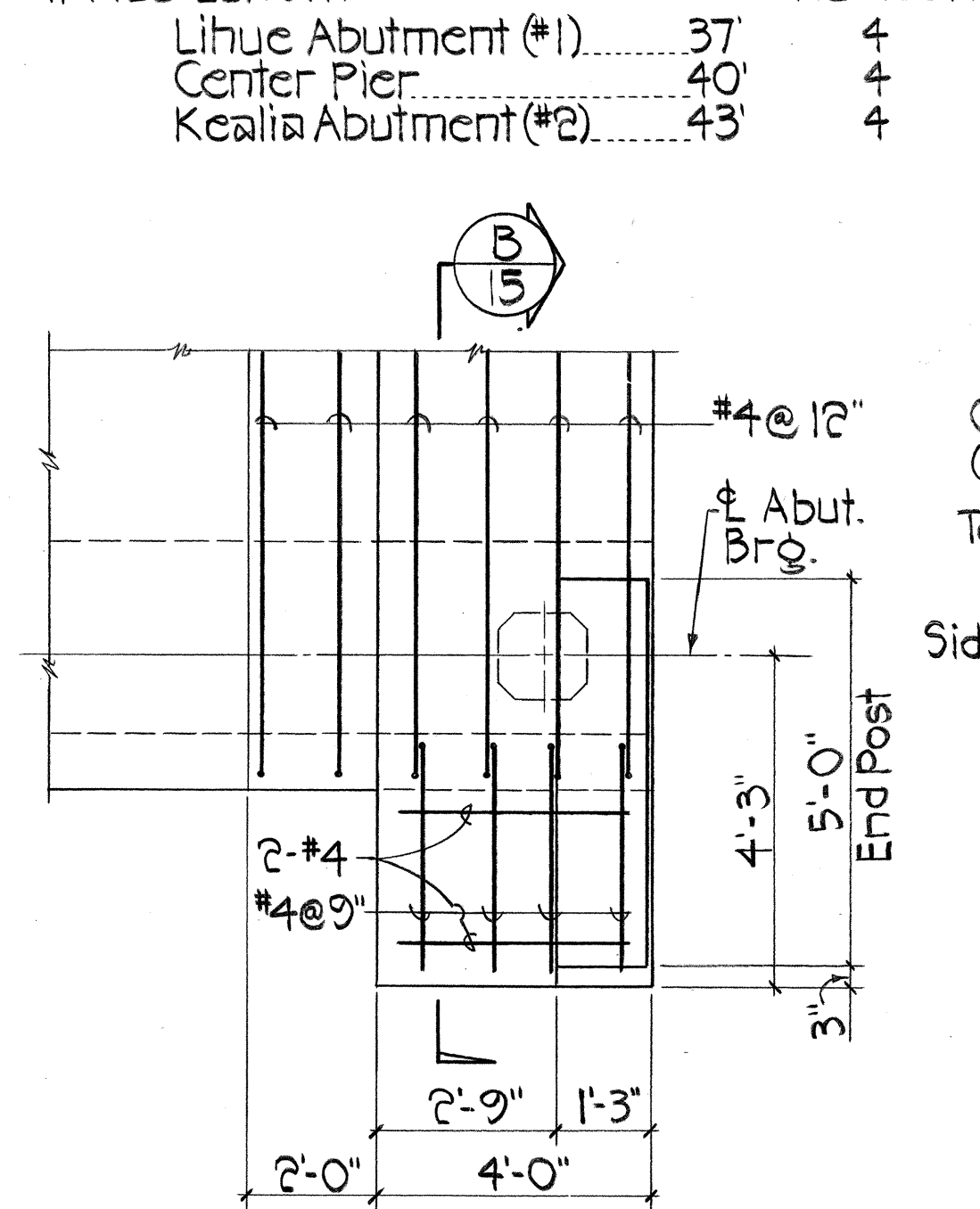
Standard Specifications for Highway
Bridges, 14TH Edition, AASHTO.

4. PILE LENGTH

Lihue Abutment (#1).....	37'	4
Center Pier.....	40'	4
Kealia Abutment (#2).....	43'	4

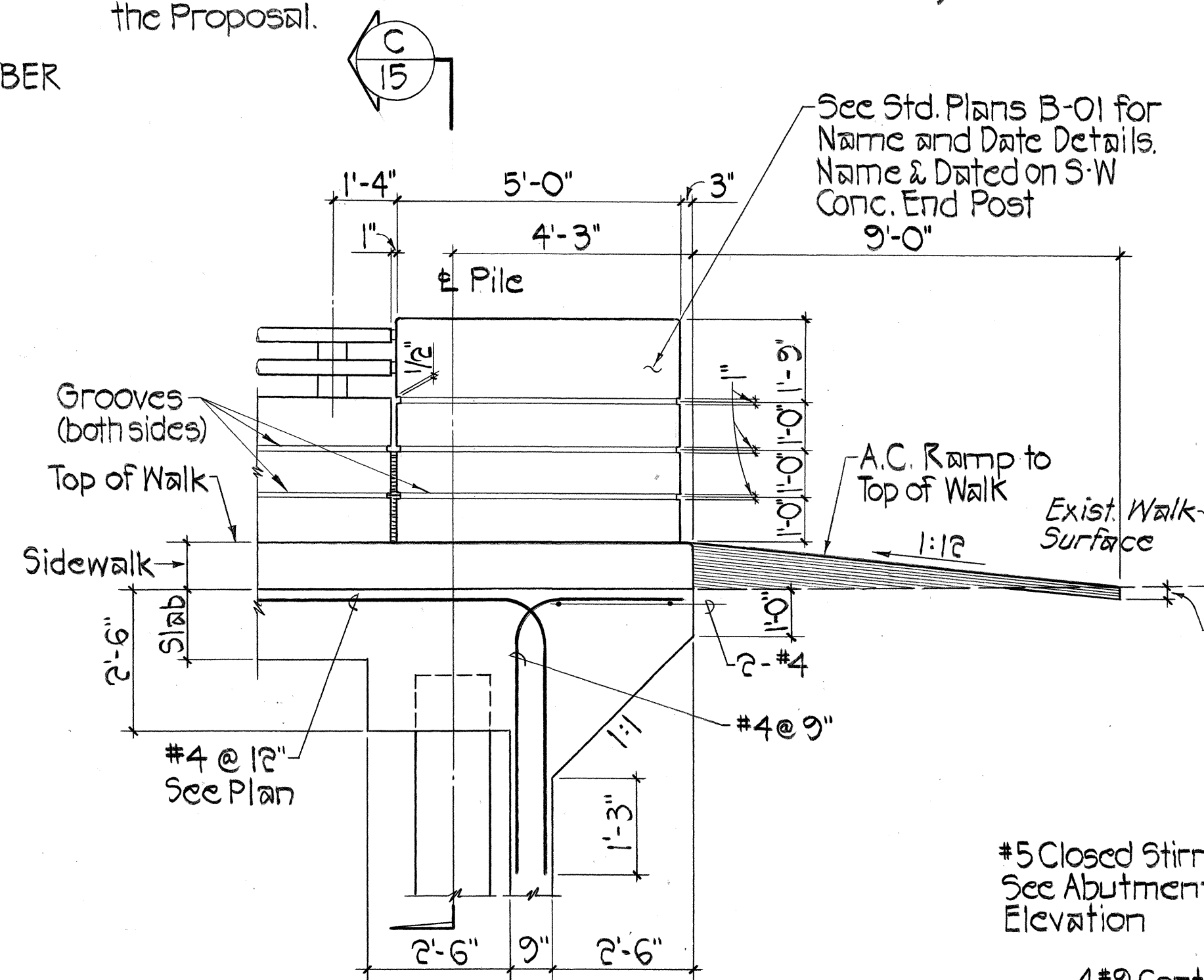
Proposal Item No.	Item	Unit	Quantity
206.6000	Structural Excavation for Bridges	Cu Yd	64
503.1092	Concrete for Bridge	Cu Yd	165
505.3001	Precast Concrete Piles, furnished and driven, including Test Piles	Lin Ft	480
505.6000	Drilled Holes	Lin Ft	120
507.1500	Metal Bridge Railing, Two Rails on Parapet	Lin Ft	90
602.0090	Reinforcing Steel in Bridge	Lb.	76,000

Note: Demolition work shall not be measured for payment but shall be considered incidental to various items of bridge work in the Proposal.



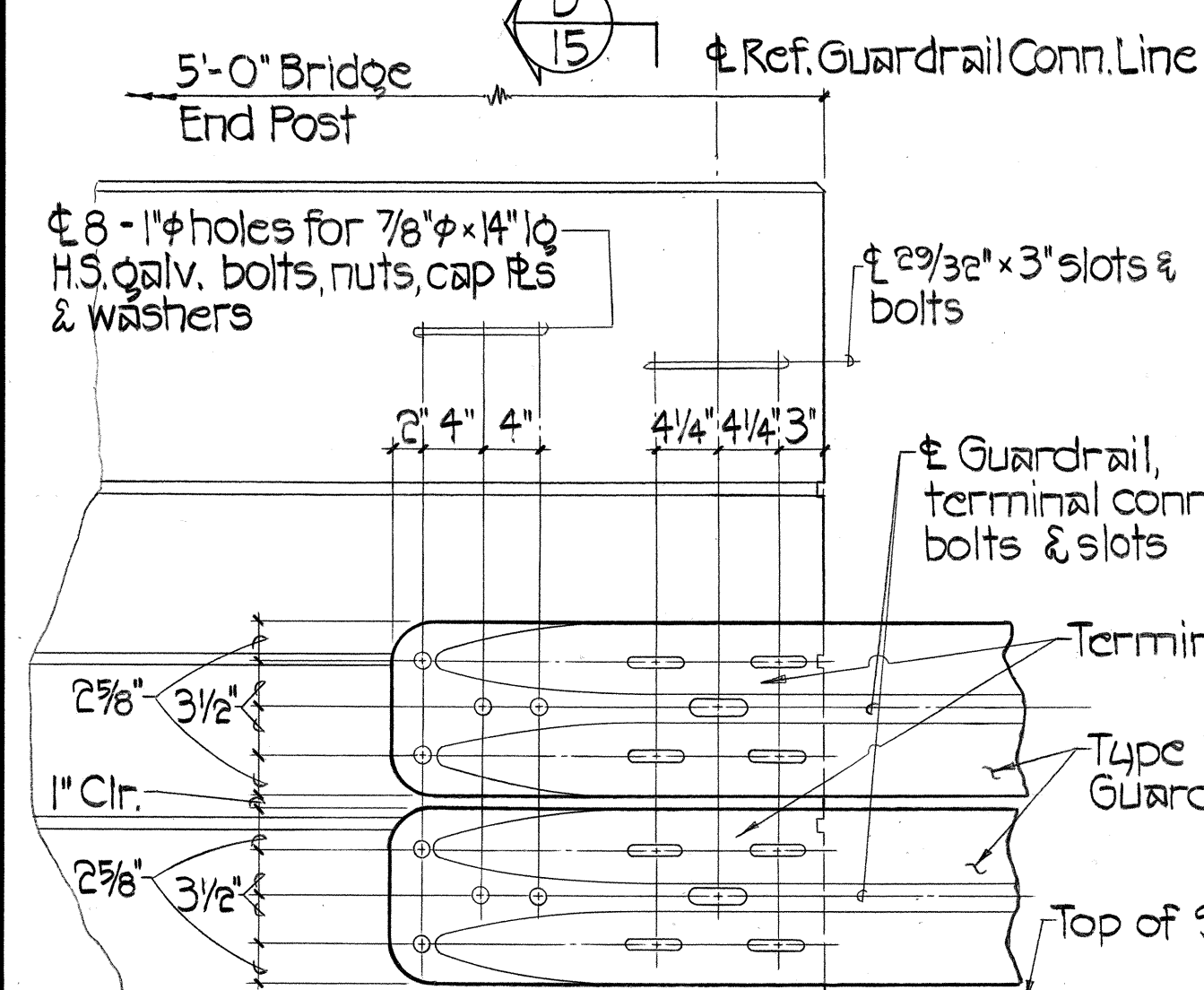
TYPICAL END POST DETAIL

ଟିକିଆଳ: $3/8" = 1'-0"$



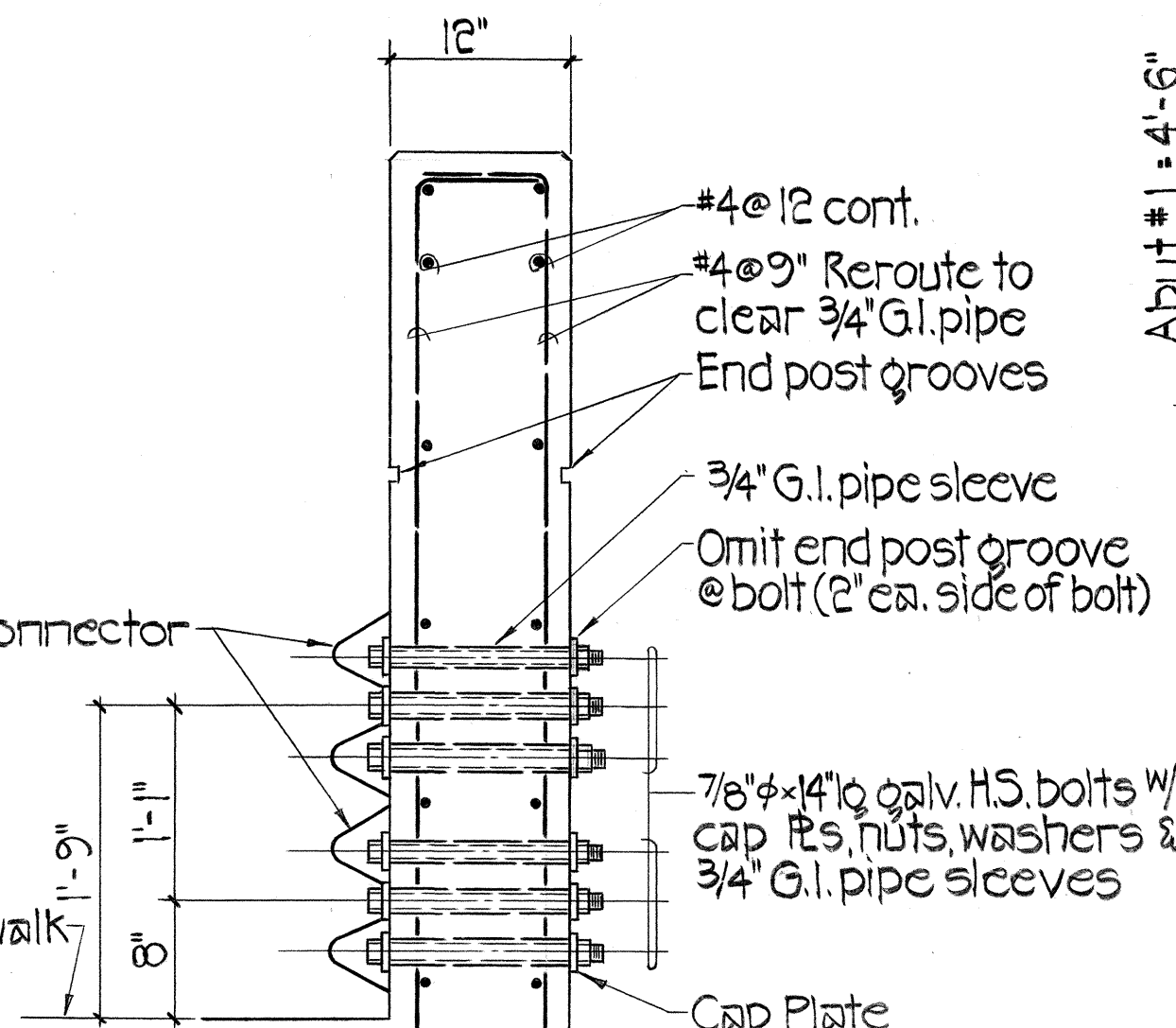
15

ଟିକିଆଳ: $3/8" = 1'-0"$



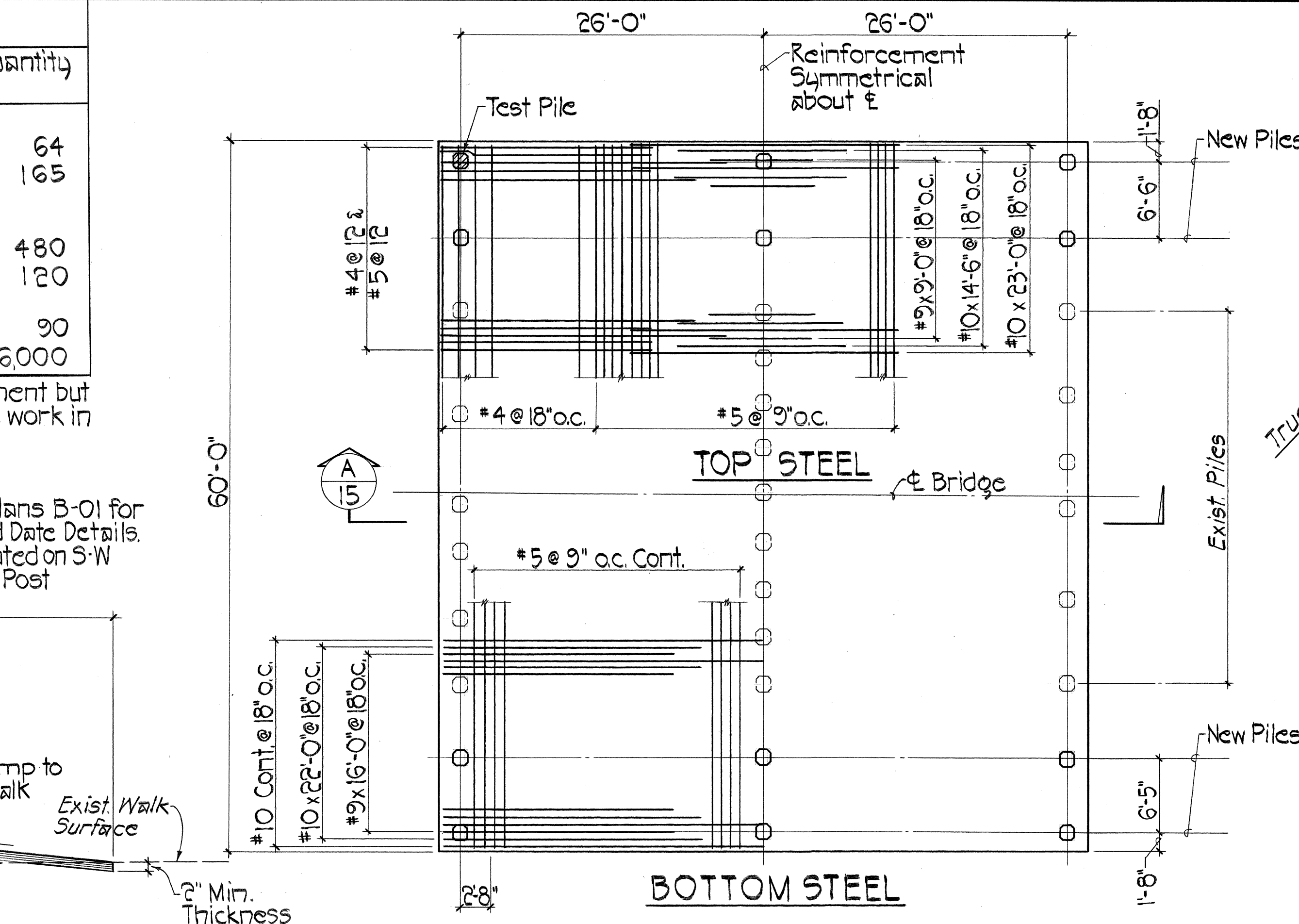
*TYPICAL GUARDRAIL TERMINAL CONNECTOR
Scale: 1"=1'-0"

Scale: 1" = 1'-0"

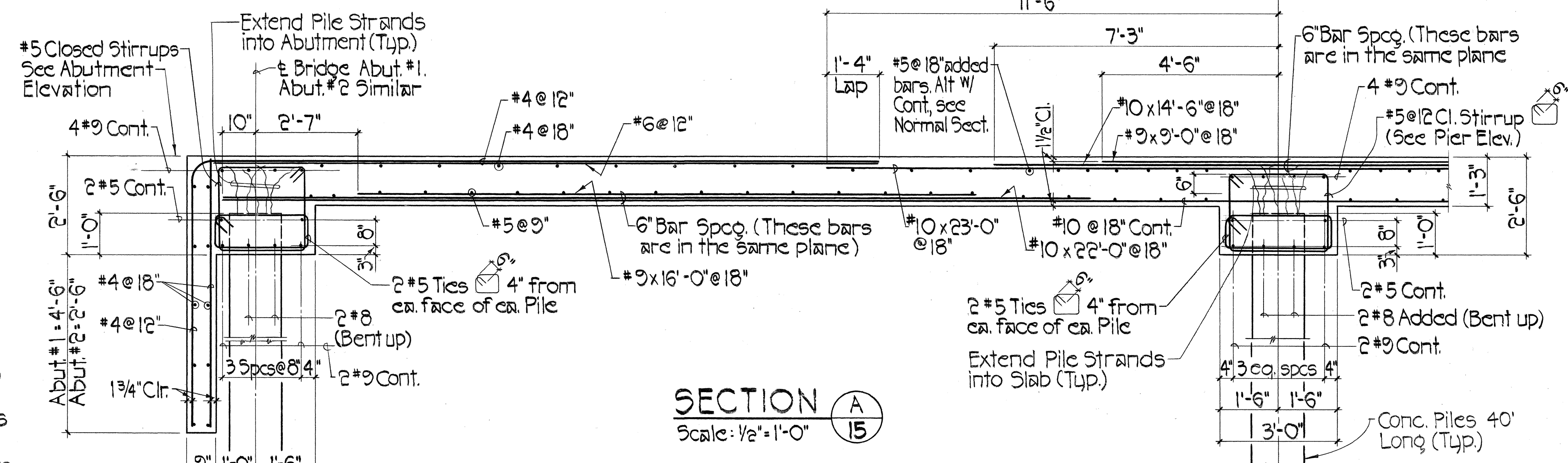


CONNECTOR (15)

CONNECTOR (15)



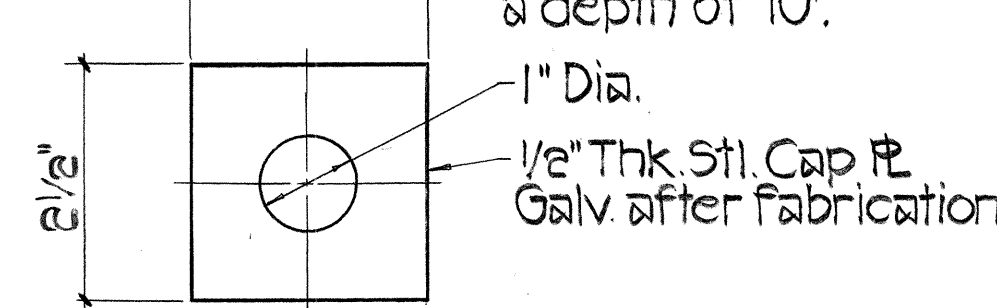
Scale: $\frac{1}{8}'' = 1'-0''$



Scale: $\frac{1}{2}" = 1'-0"$ 15

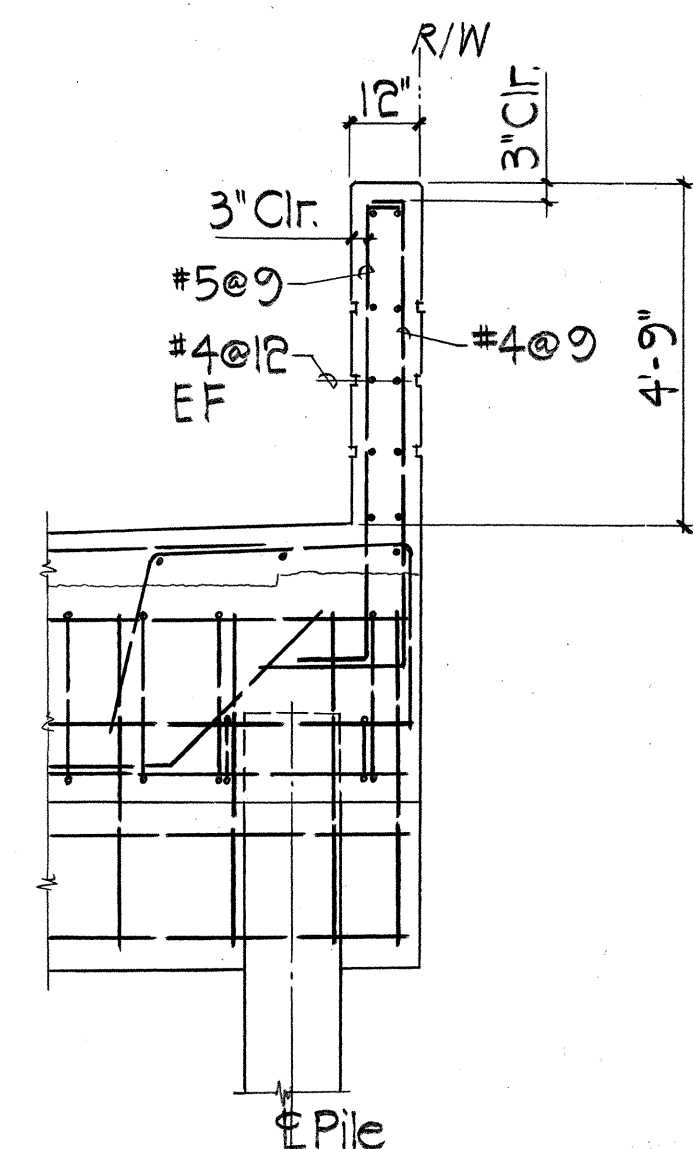
Contractor shall predrill all pile locations to a depth of 10'.

- 1" Dia.
- 1/2" Thk. Stl. Cap Pz
- Galy. after fabrication



Not to Scale

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	56A-01-92	1992	15	22



*SECTION C
Scale: 3/8" = 1'-0" 15

6/2/92	*Add. Estimated Quantities, Section C/15 & Typical Guardrail Terminal Connector detail
DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PILE, END POST & SLAB REINFORCEMENT

KUHIO HIGHWAY IMPROVEMENTS
HALEILIO RD. TO UHELEKAWAWA BRIDGE
PROJECT NO. 56A-01-92

SCALE: AS NOTED DATE: JAN. 1992

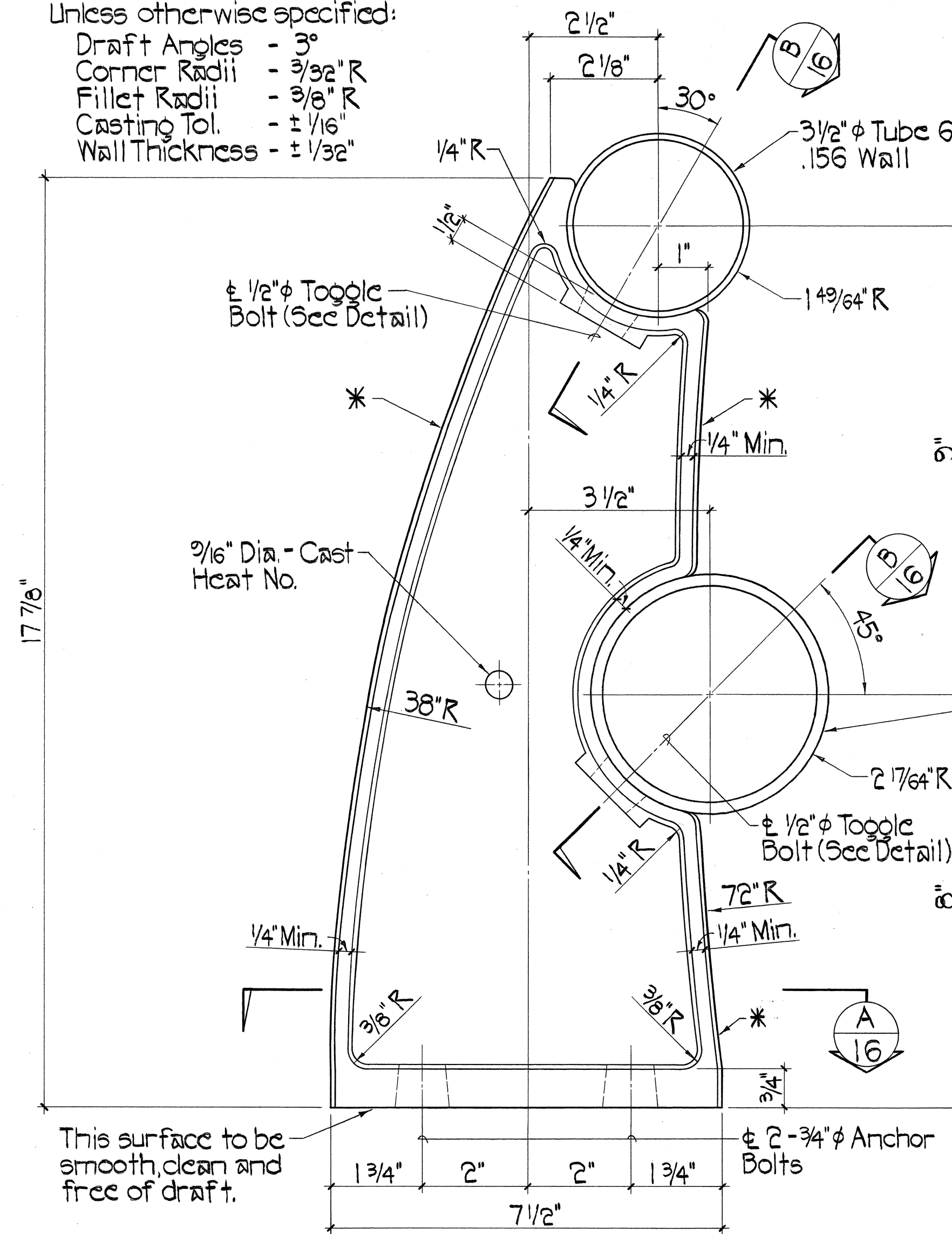
SHEET No. 3 OF 6 SHEETS



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Shimabukuro, Endo & Yoshizaki, Inc.
SHIMABUKURO, ENDO & YOSHIKAZAKI, INC.
1126 12th Avenue
Honolulu, Hawaii 96816

NOTE:

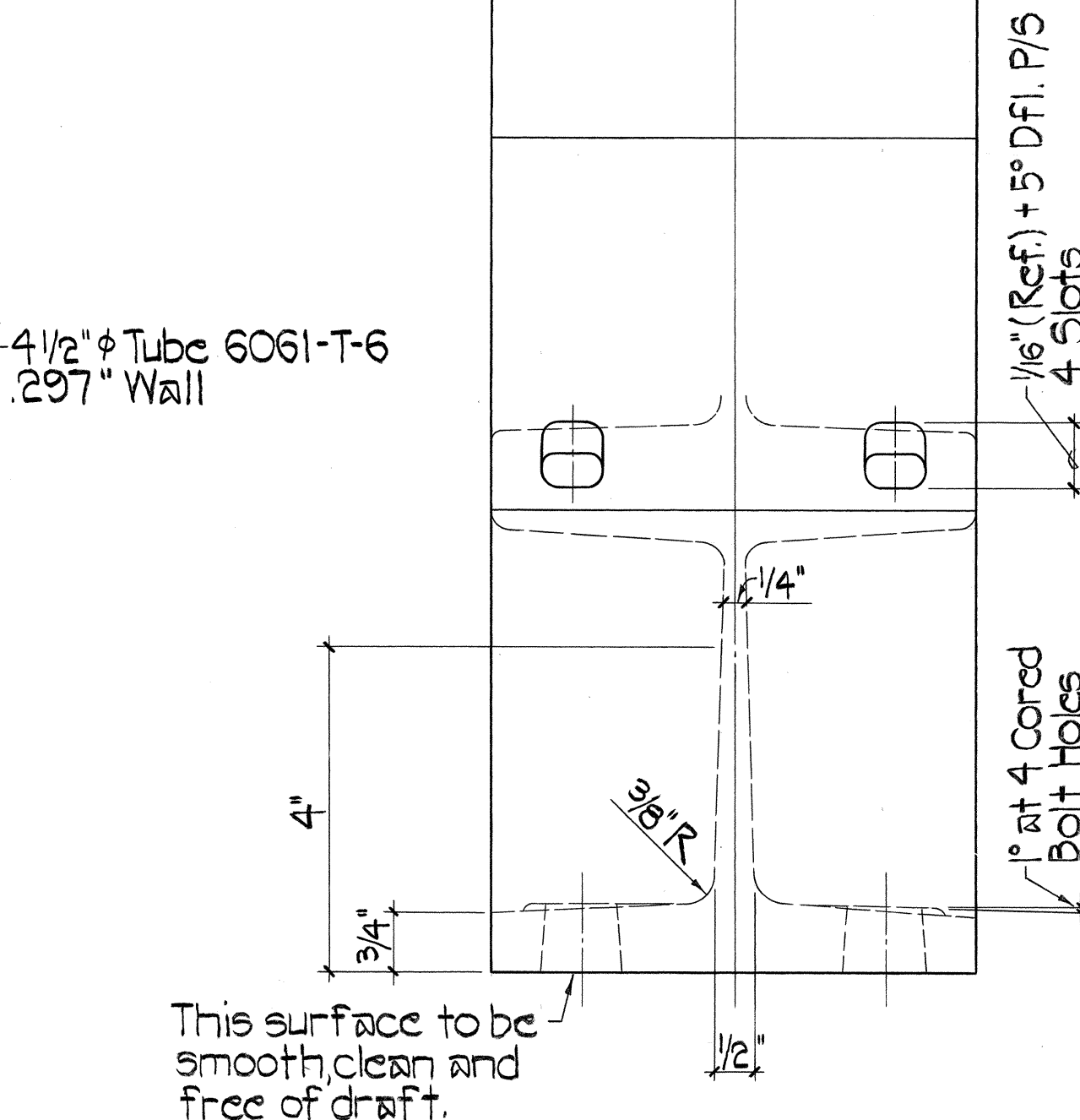
Unless otherwise specified:
 Draft Angles - 3°
 Corner Radii - 3/32" R
 Fillet Radii - 3/8" R
 Casting Tol. - ± 1/16"
 Wall Thickness - ± 1/32"



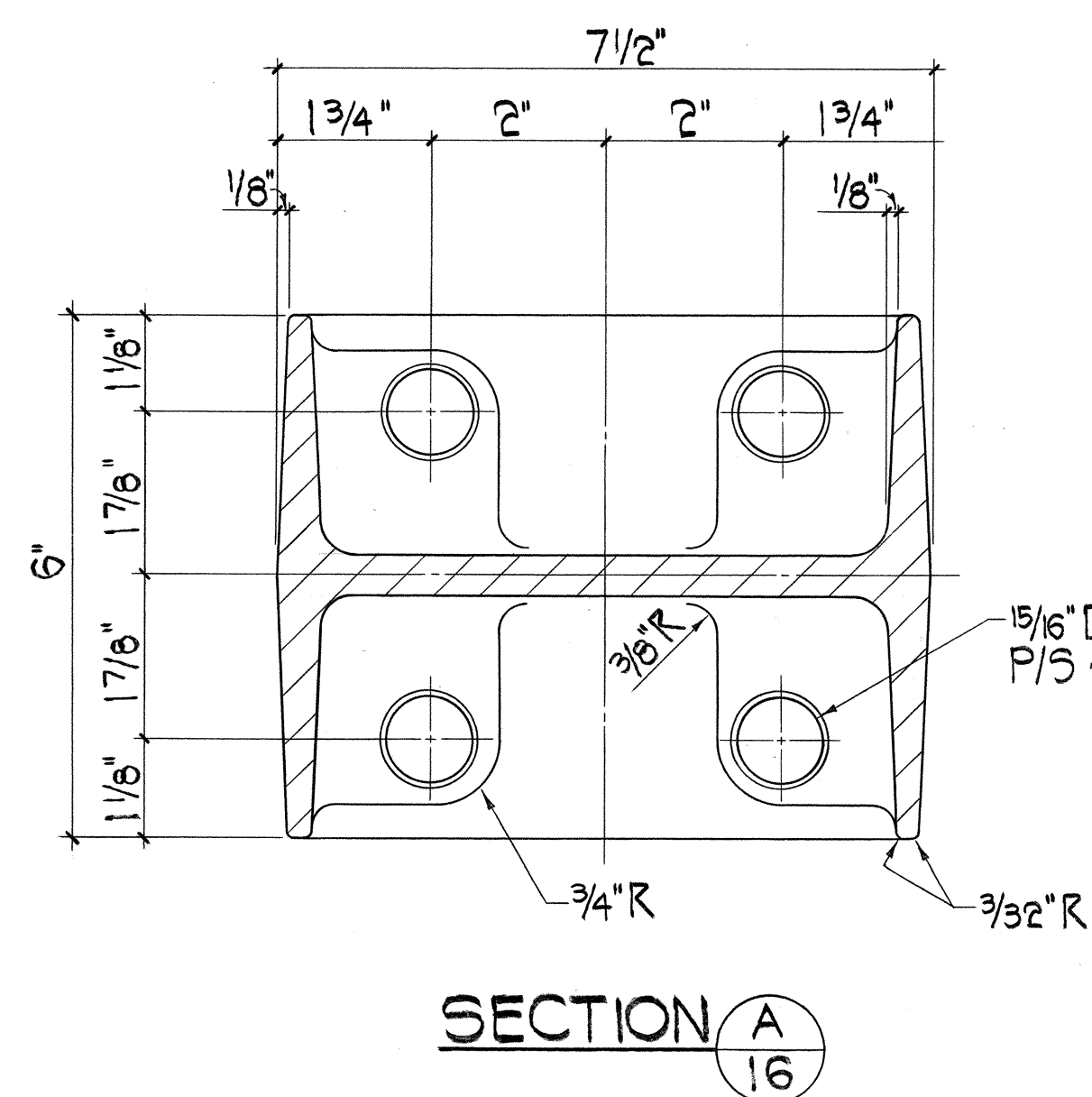
SIDE ELEVATION

NOTE:

Casting to be supplied with a std. scratch brush finish on entire casting rib surface as indicated by an asterisk *. Finish shall be approved by the Engineer.

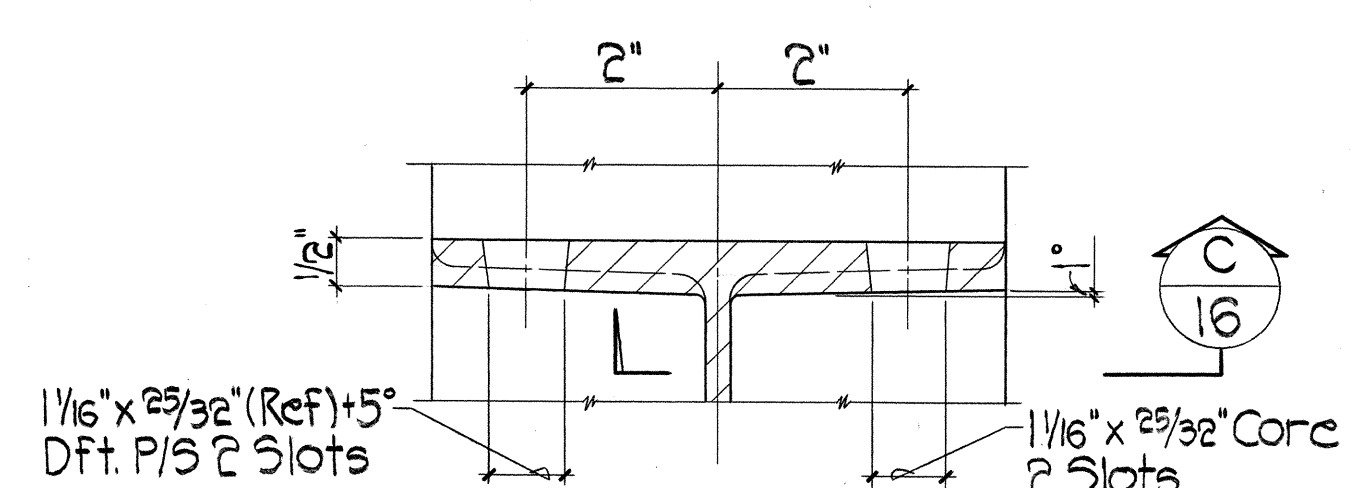


END ELEVATION

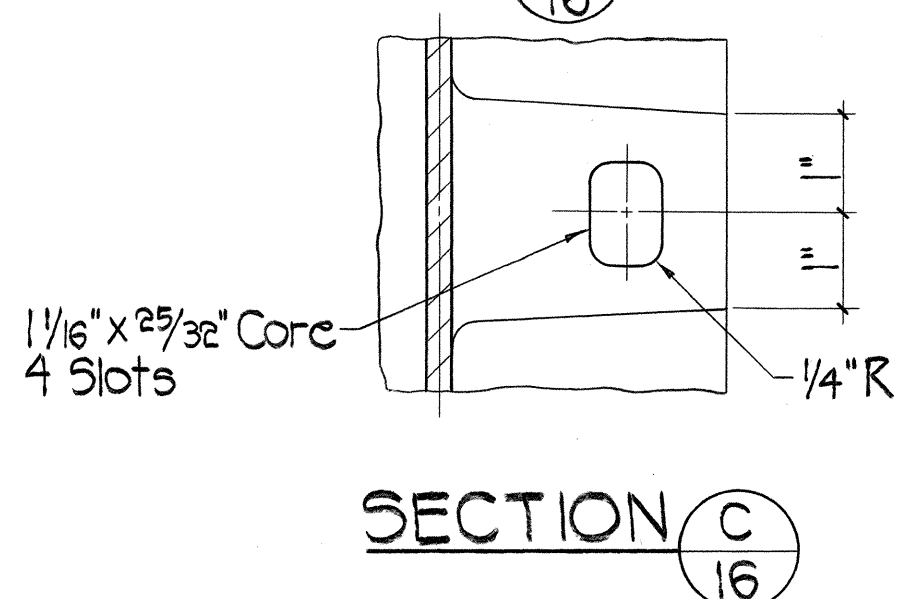


SECTION A-A

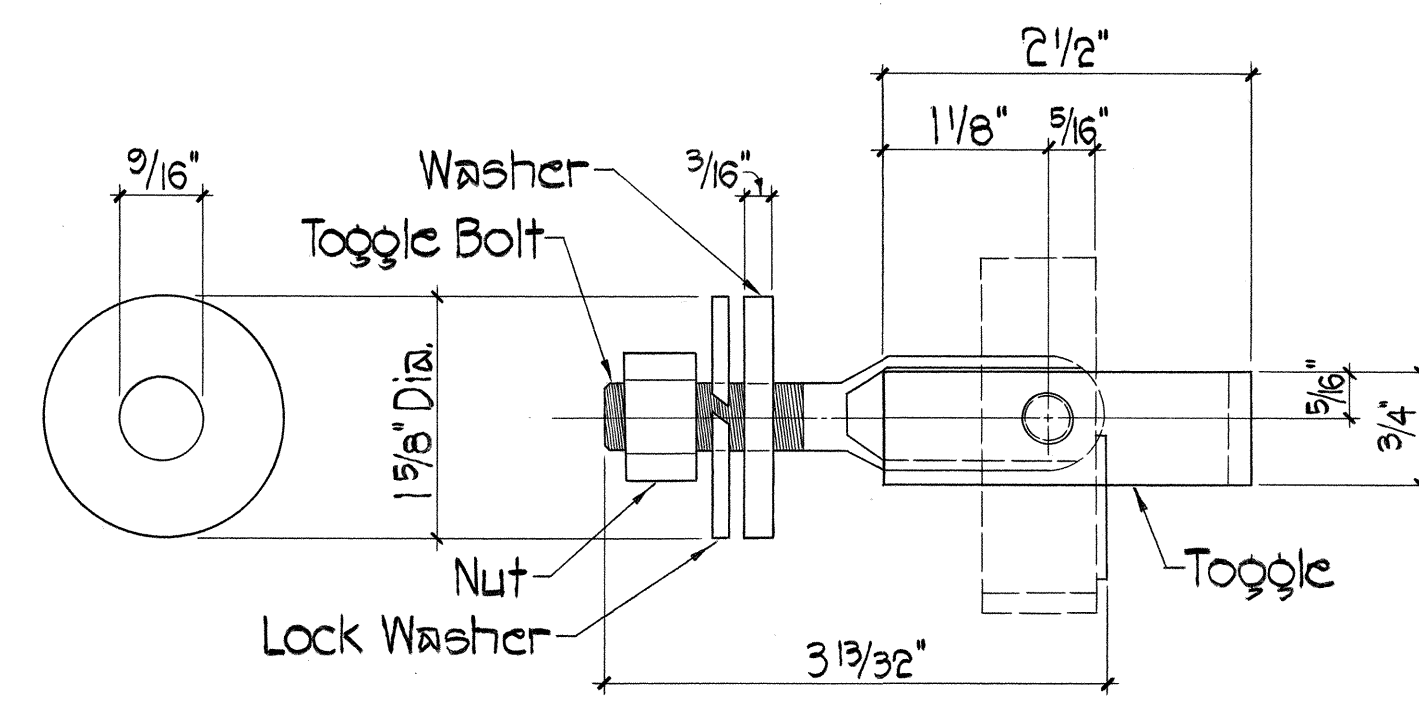
TYPICAL RAIL POST DETAILS
 Scale: 6" = 1'-0"



SECTION B-B

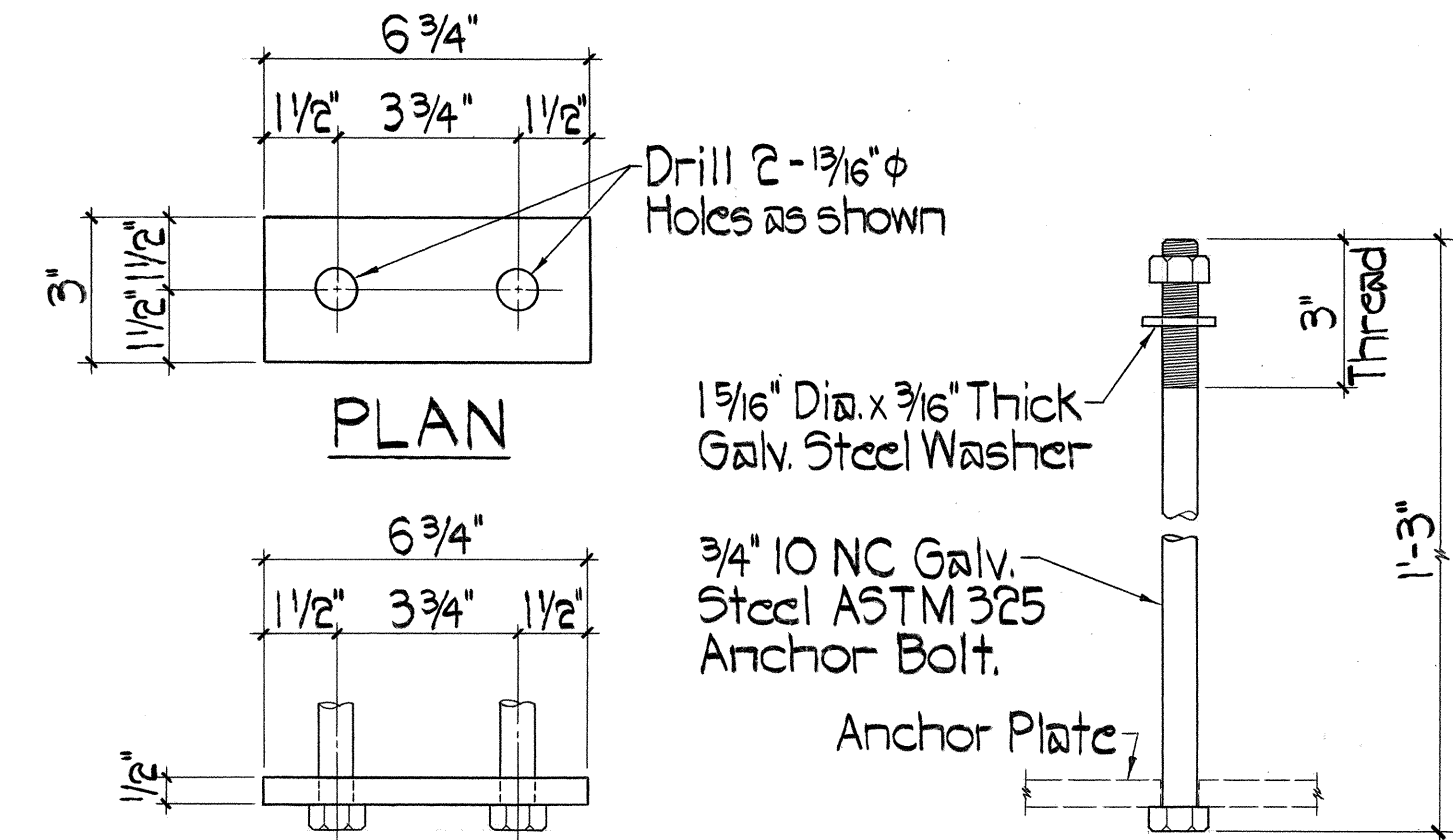


SECTION C-C



WASHER SIDE ELEVATION ASSEMBLY

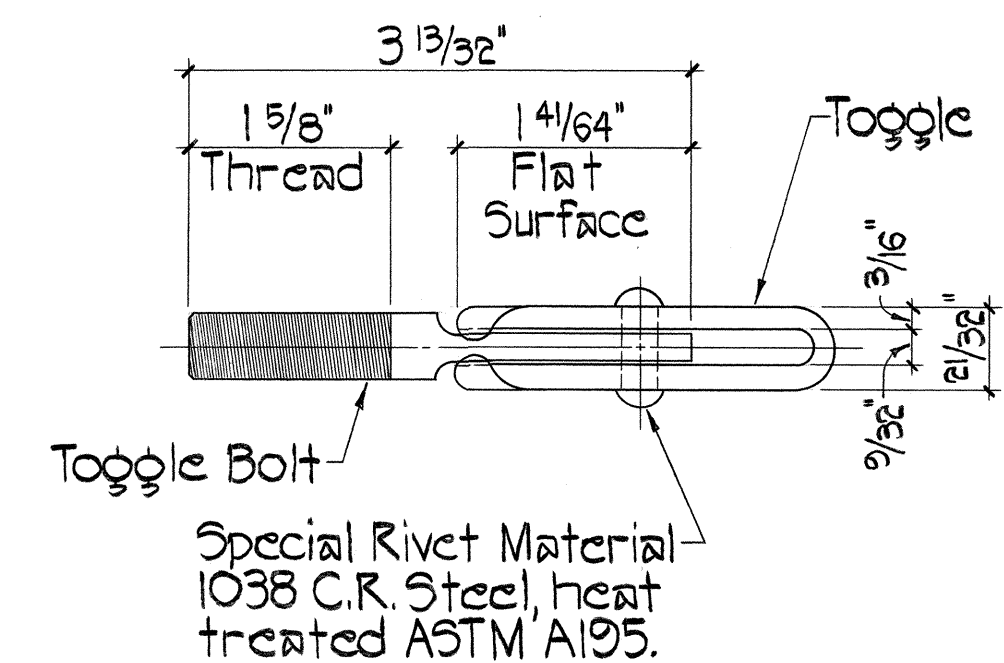
Toggle Bolt Assembly, see Standard Specification Section 710.09, Aluminum Bridge Railing.



ELEVATION ANCHOR BOLT

TYPICAL RAIL POST STEEL ANCHOR BOLT ASSEMBLY

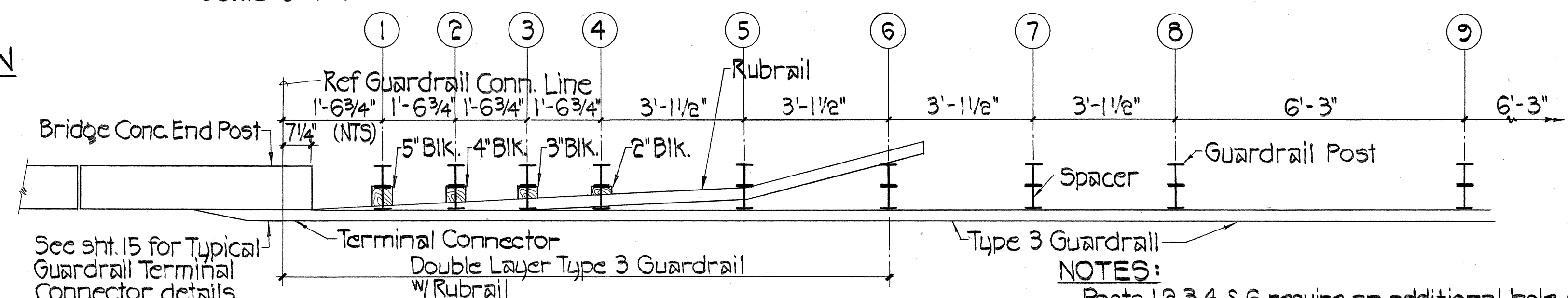
Scale: 3" = 1'-0"



TOP PLAN

1/2" φ STEEL TOGGLE BOLT DETAIL

Scale: 3" = 1'-0"



*TYPICAL GUARDRAIL PLAN @ BRIDGE END POST

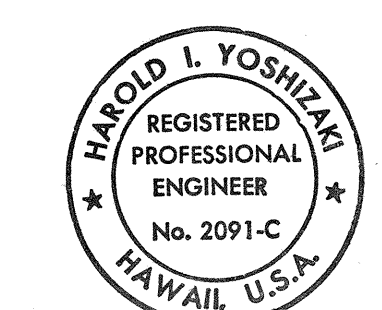
Scale: 1/2" = 1'-0"

NOTES:

Posts 1, 2, 3, 4, & 6 require an additional hole to attach lower blocks and/or lower beam.

6/2/92 Add Typ. Guardrail Plan @ Bridge End Post & Removed Rail Cap Detail

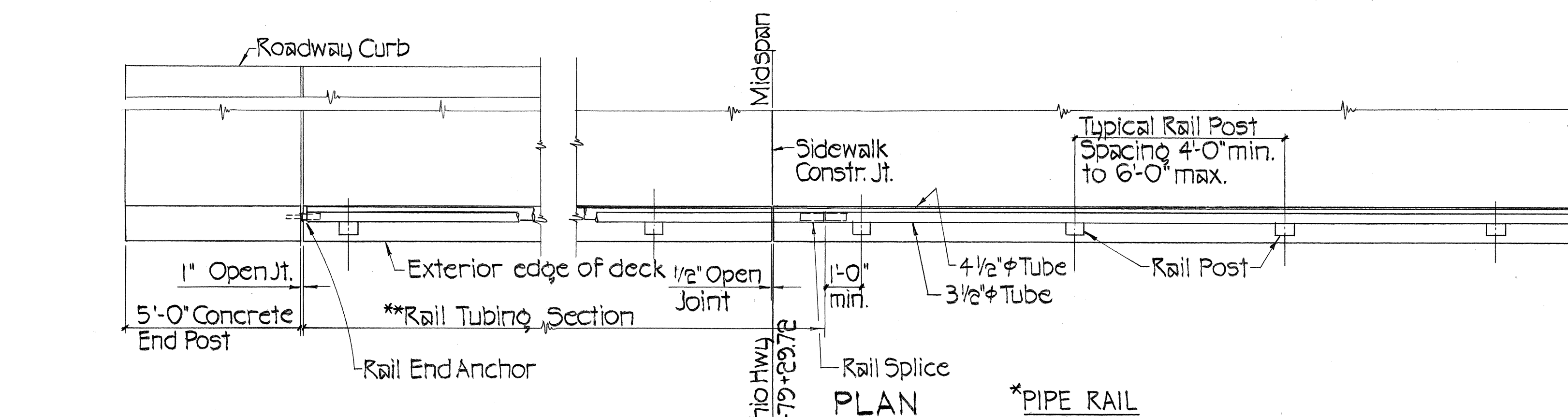
DATE REVISION



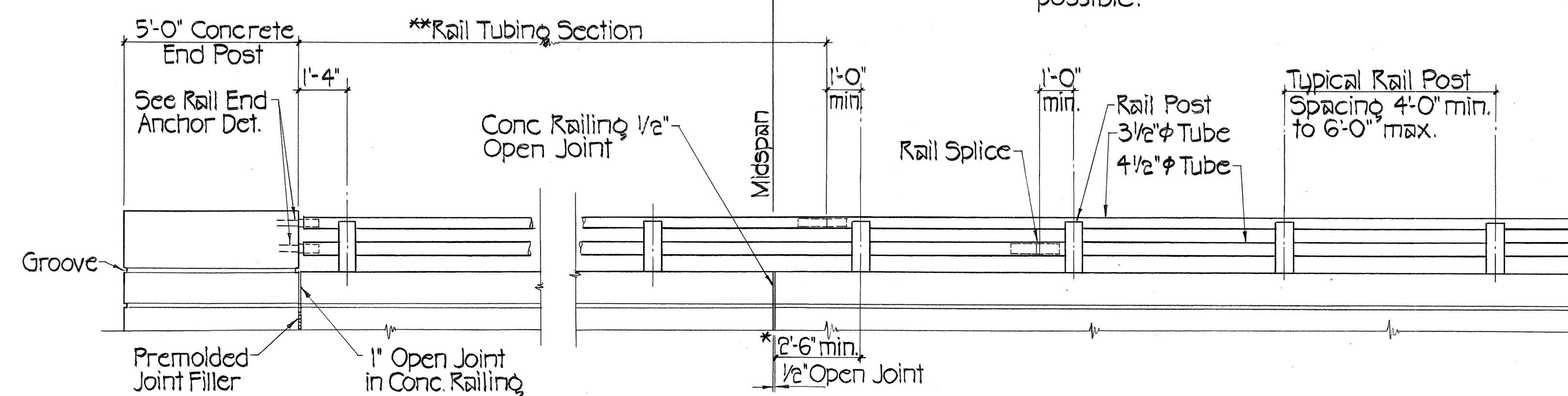
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 Honolulu, Hawaii 96816

STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION
DOUBLE RAIL ALUMINUM BRIDGE
RAILING DETAILS
 KUHIO HIGHWAY IMPROVEMENTS
 HALEILIO RD. TO UHELEKAWAWA BRIDGE
 PROJECT NO. 56A-01-92
 SCALE: AS NOTED DATE: JAN. 1992
 SHEET NO. 4 OF 6 SHEETS

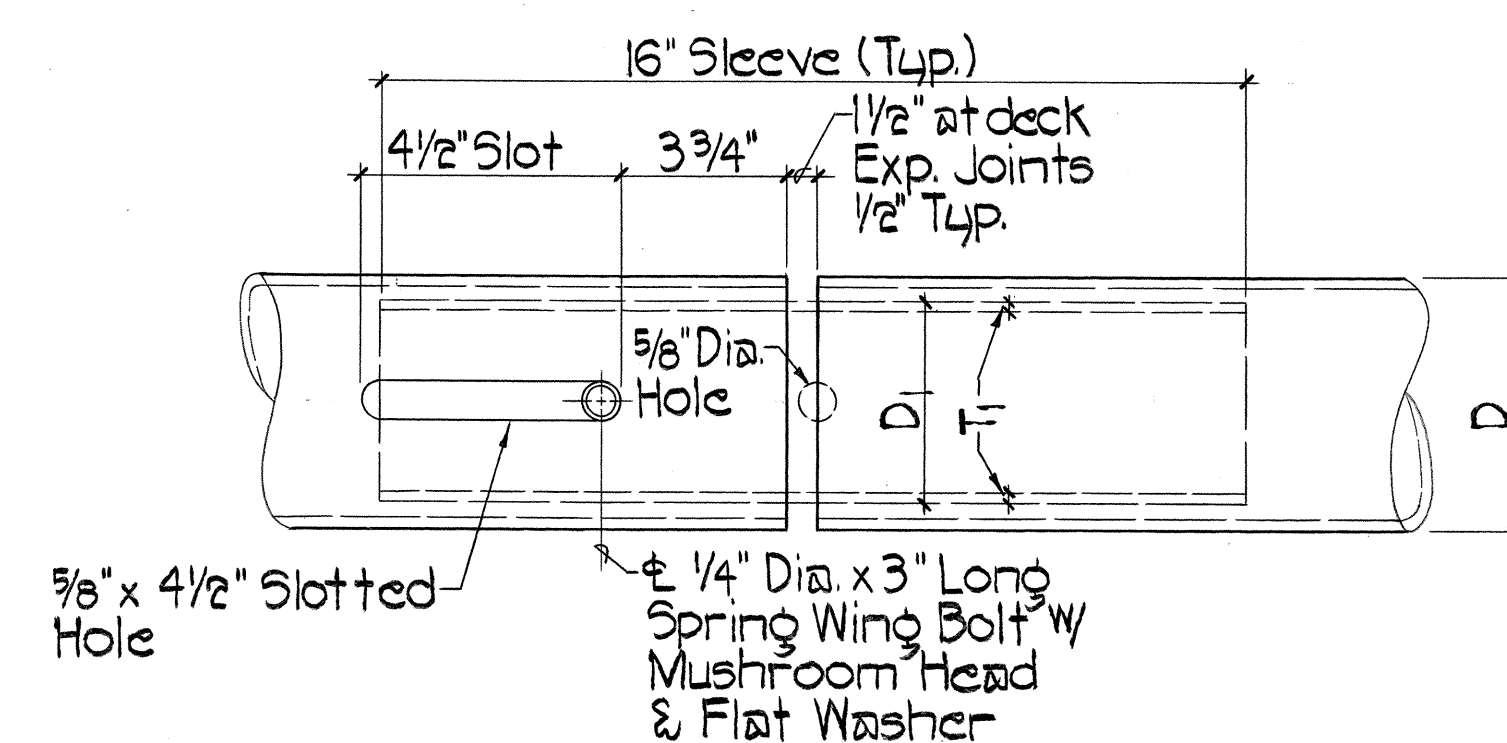
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	56A-01-92	1992	17	22



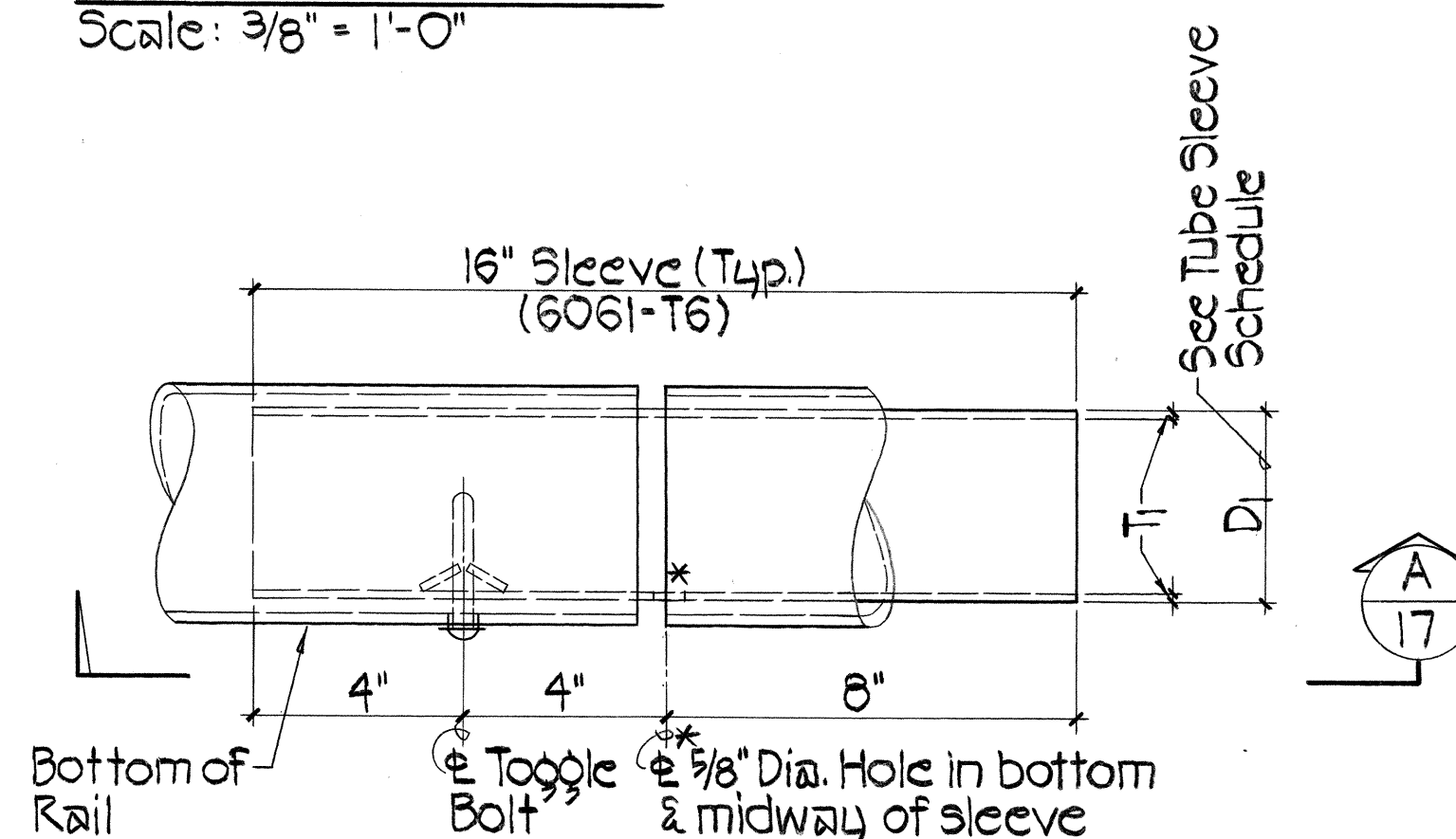
*PIPE RAIL
** The Contractor shall lay out the rail tubing continuous over not less than 4 posts whenever possible.



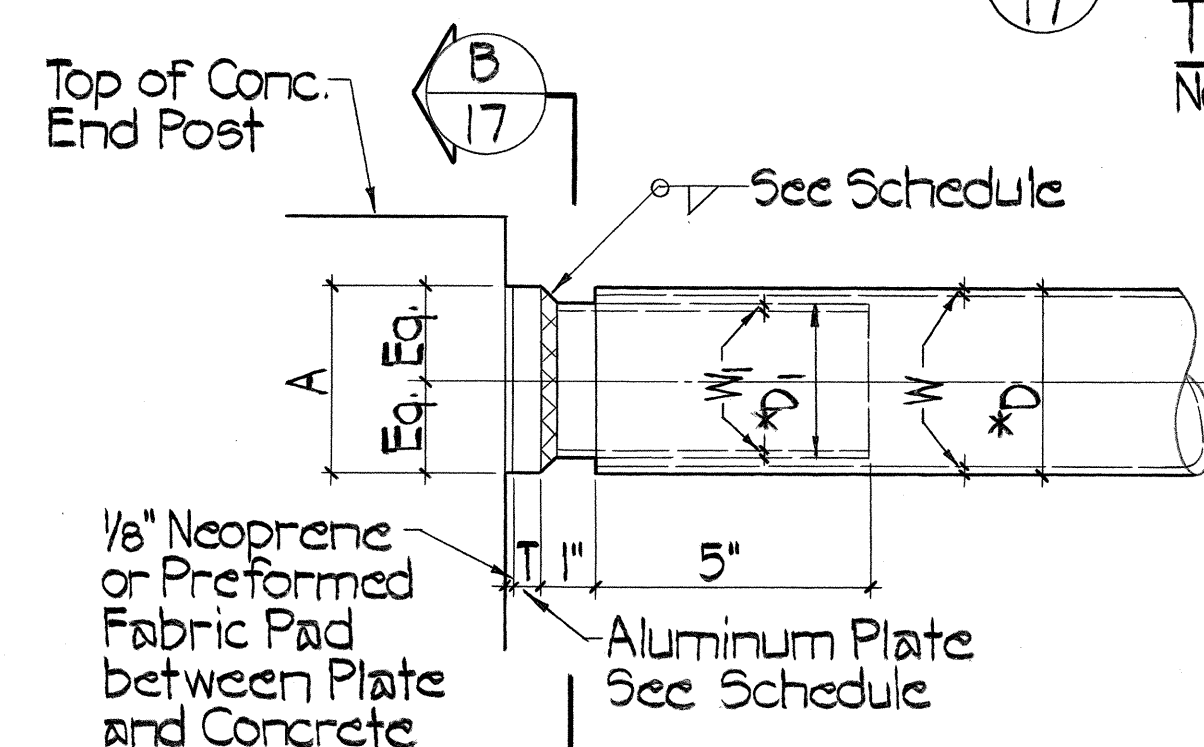
EXTERIOR ELEVATION
RAILING LAYOUT
Scale: $\frac{3}{8}" = 1'-0"$



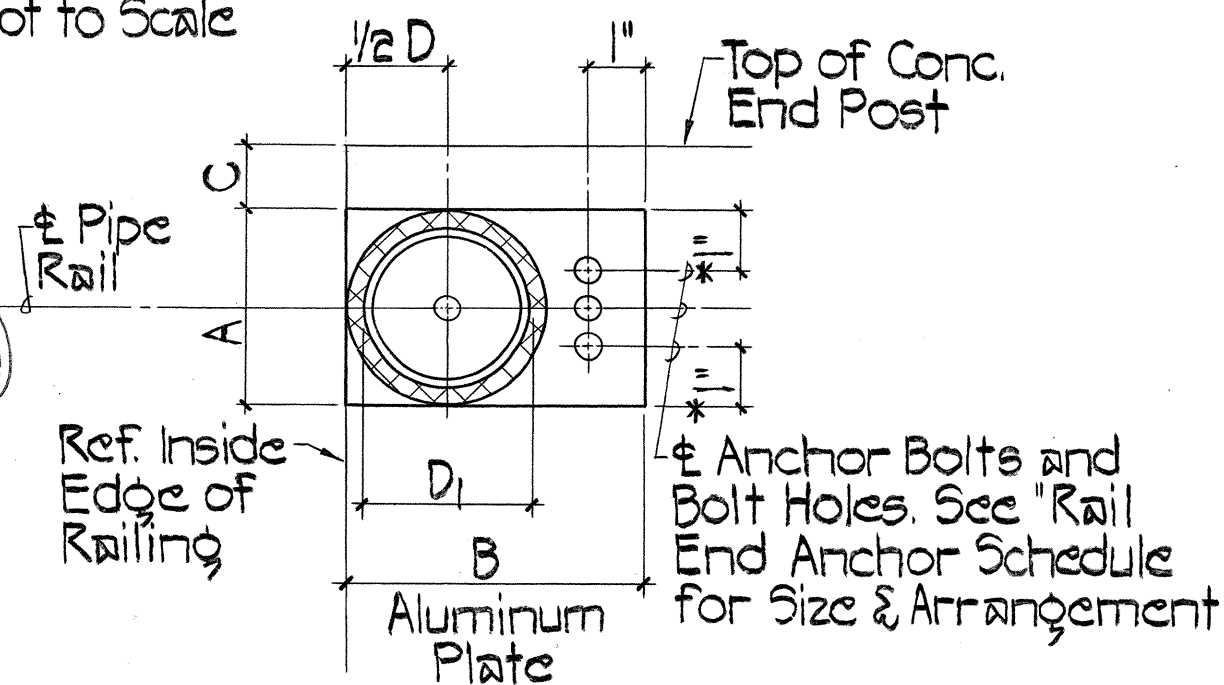
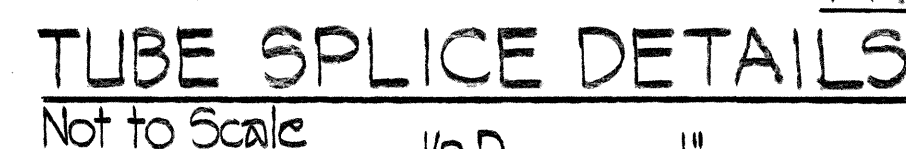
ELEVATION A
17



FRONT VIEW ~ SLEEVE



ELEVATION

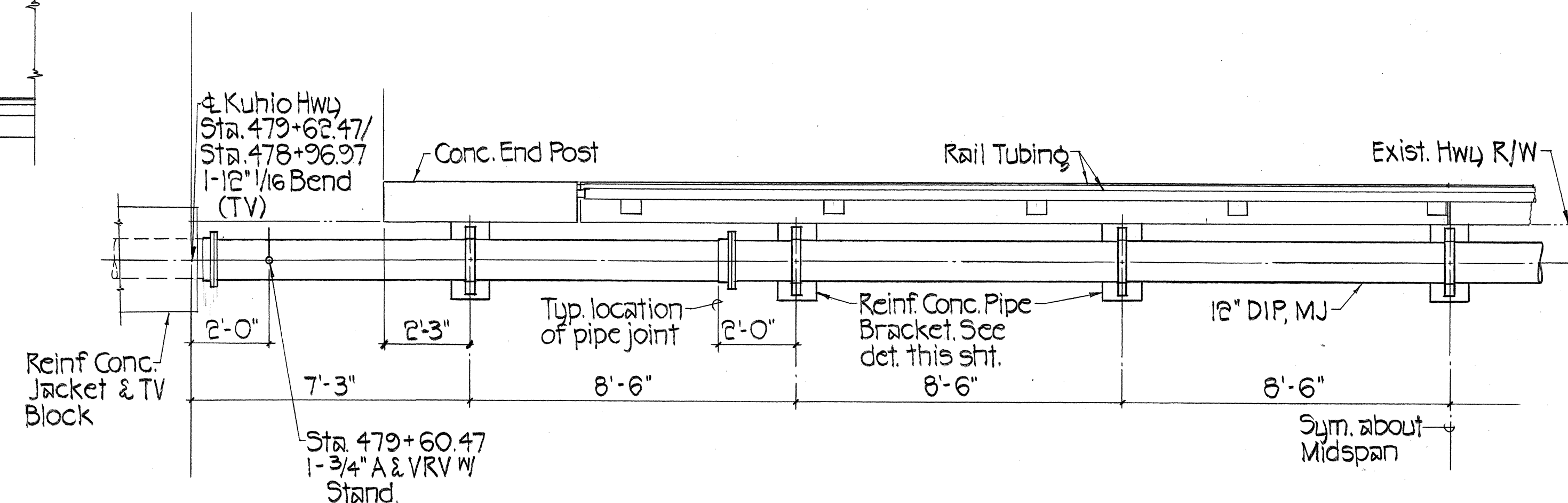


SECTION B
17

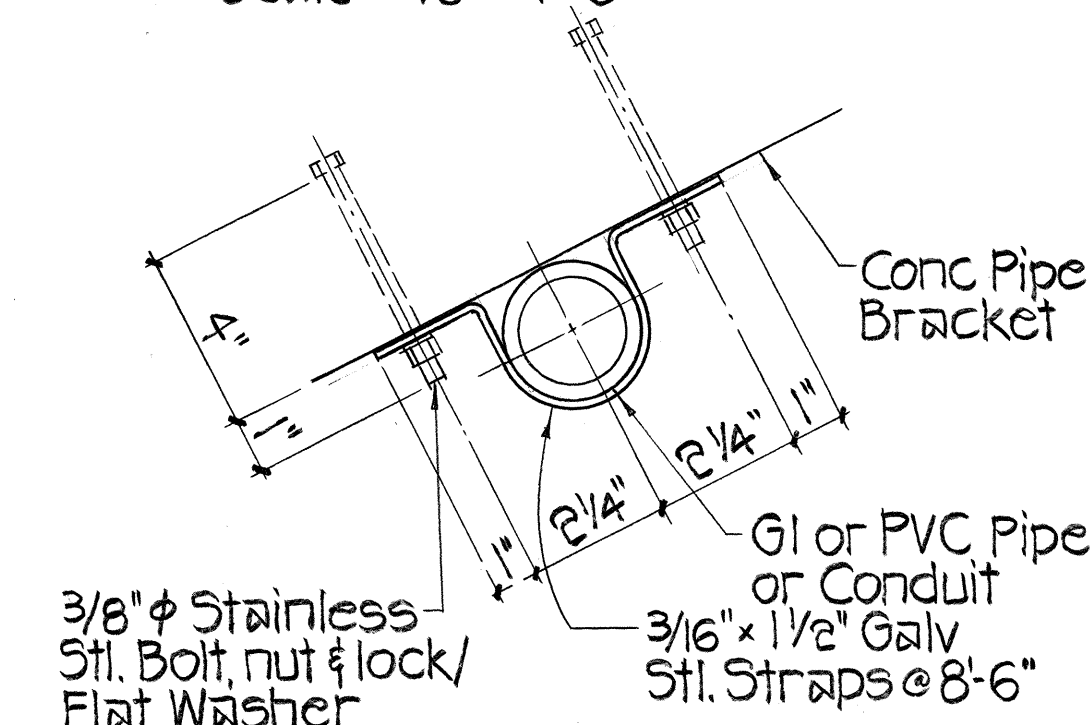
RAIL END ANCHOR DETAILS

*TUBE SLEEVE SCHEDULE		
D	D ₁	T ₁
3 1/2"	3"	1/8"
4 1/2"	3 3/4"	3/8"

RAIL END ANCHOR SCHEDULE									
6061-T6 ALUMINUM TUBE				6061-T6 ALUMINUM PLATE				A 325 ANCHOR BOLT SIZE & ARRANGEMENT	
D	W	D ₁	W ₁	D	A	B	T	WELD SIZE	
3 1/2"	5 3/32"	3"	1 5/8"	3 1/2"	3 1/2"	5 1/2"	1/2"	1/4"	 2- 3/8" x 1'-0" lg Anchor Bolts
4 1/2"	13/64"	3 1/2"	5/8"	4 1/2"	4 1/2"	6 3/4"	1 1/8"	1/2"	 2- 5/8" x 1'-0" lg Anchor Bolts
									 3- 1/4" x 1'-3" lg Anchor Bolt

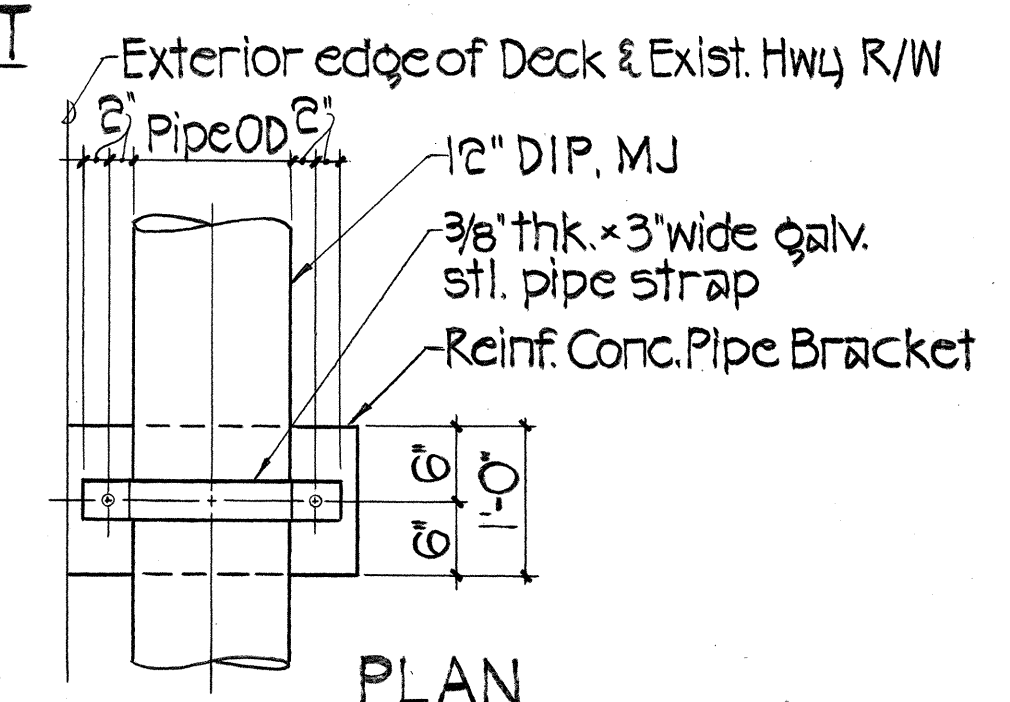


12-INCH W. L. BRACKET LAYOUT
Scale: $\frac{3}{8}" = 1'-0"$

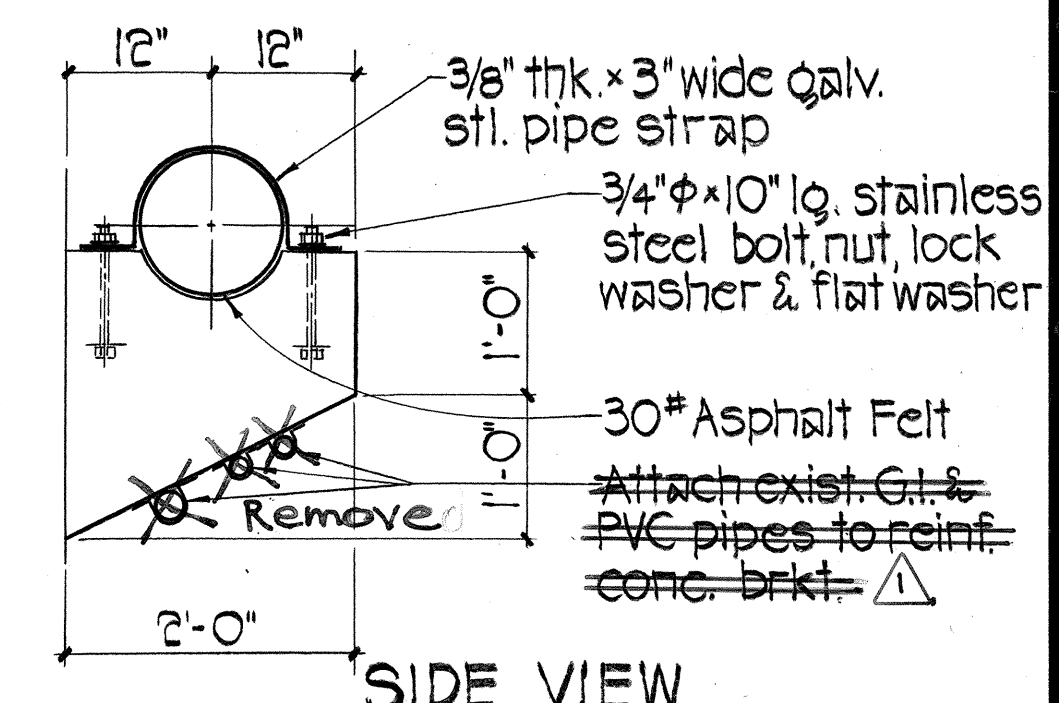


GI OR PVC PIPE BRACKET DET.
Not to Scale

"A5-BUILTS" 
Changes made during construction
have been incorporated on this plan.
Date: 12-7-95



PLAN



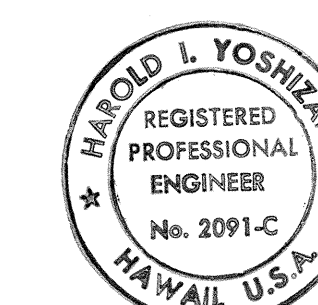
SIDE VIEW

REINF. CONC. PIPE BRKT. DET.

*Note: $\frac{3}{8}$ " thk. x 3" wide galv. stl. pipe straps
nuts and washers shall be coated with a
bituminous coating.

12/17/92	"As-Built" Posting of Field Changes
10/20/92	** Bituminous coating (CO)
6/2/92	* Add. Tube Sleeve Schedule, Pipe Rail note and changes to Railing details (ADD.)
DATE	REVISION

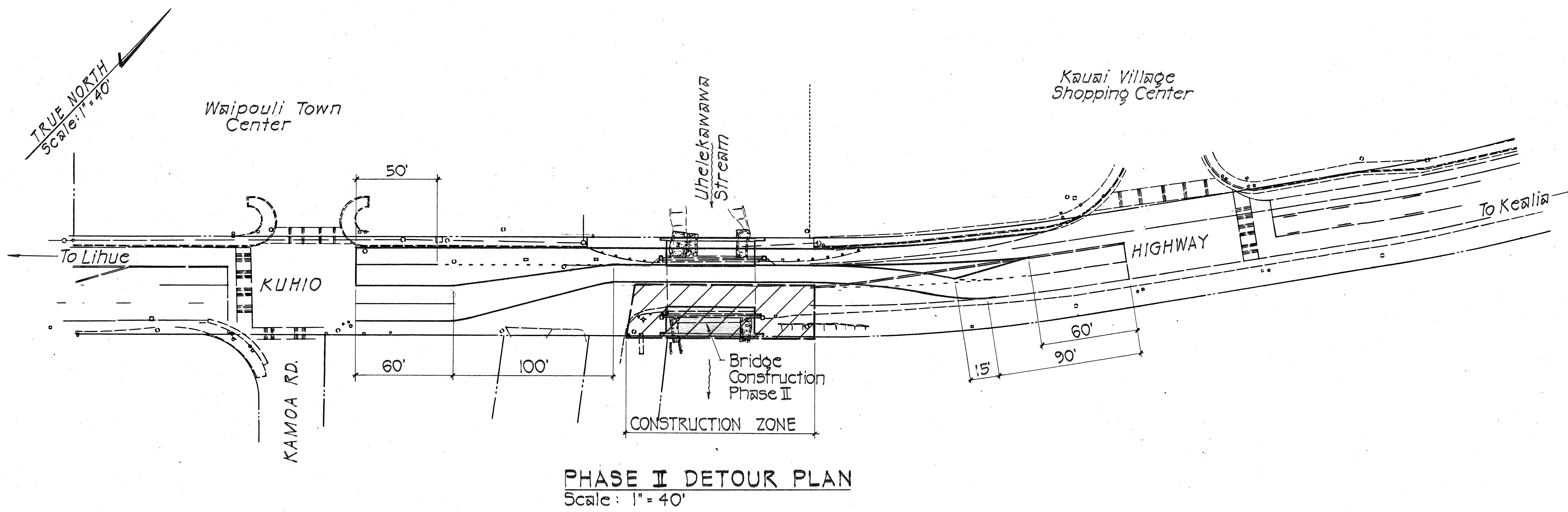
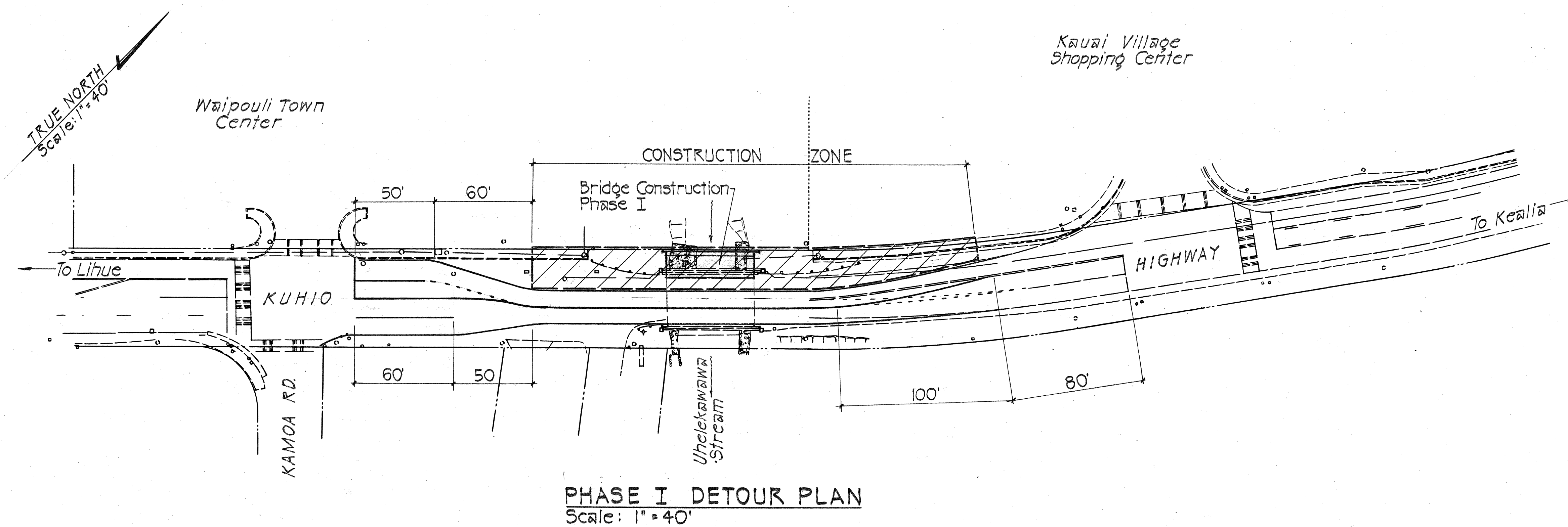
DATE: _____ REVISION: _____
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
DETAILS
KUHIO HIGHWAY IMPROVEMENTS
HALEILO ROAD TO UHELEKAWA BRIDGE
PROJECT NO. 56A-01-92
SCALE: AS NOTED DATE: JAN. 1992
SHEET No. 5 OF 6 SHEETS



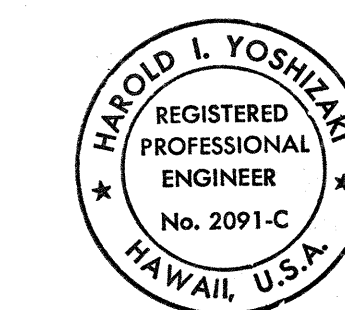
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Harold J. Yoshizaki
SHIMABUKURO, ENDO & YOSHIKAKI, INC.
1126 12th Avenue
Honolulu, Hawaii 96814

CO ADD. 17

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	56A-01-92	1992	18	22



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



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 SHIMABUKURO, ENDO & YOSHIYAKI, INC.
 1126 12th Avenue
 Honolulu, Hawaii 96816

STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION
UHELEKAWAWA BRIDGE
DETOUR PLAN
 KUHIO HIGHWAY IMPROVEMENTS
 HALEILIO RD. TO UHELEKAWAWA BRIDGE
 PROJECT NO. 56A-01-92
 SCALE: AS NOTED DATE: JAN. 1992
 SHEET No. 6 OF 6 SHEETS