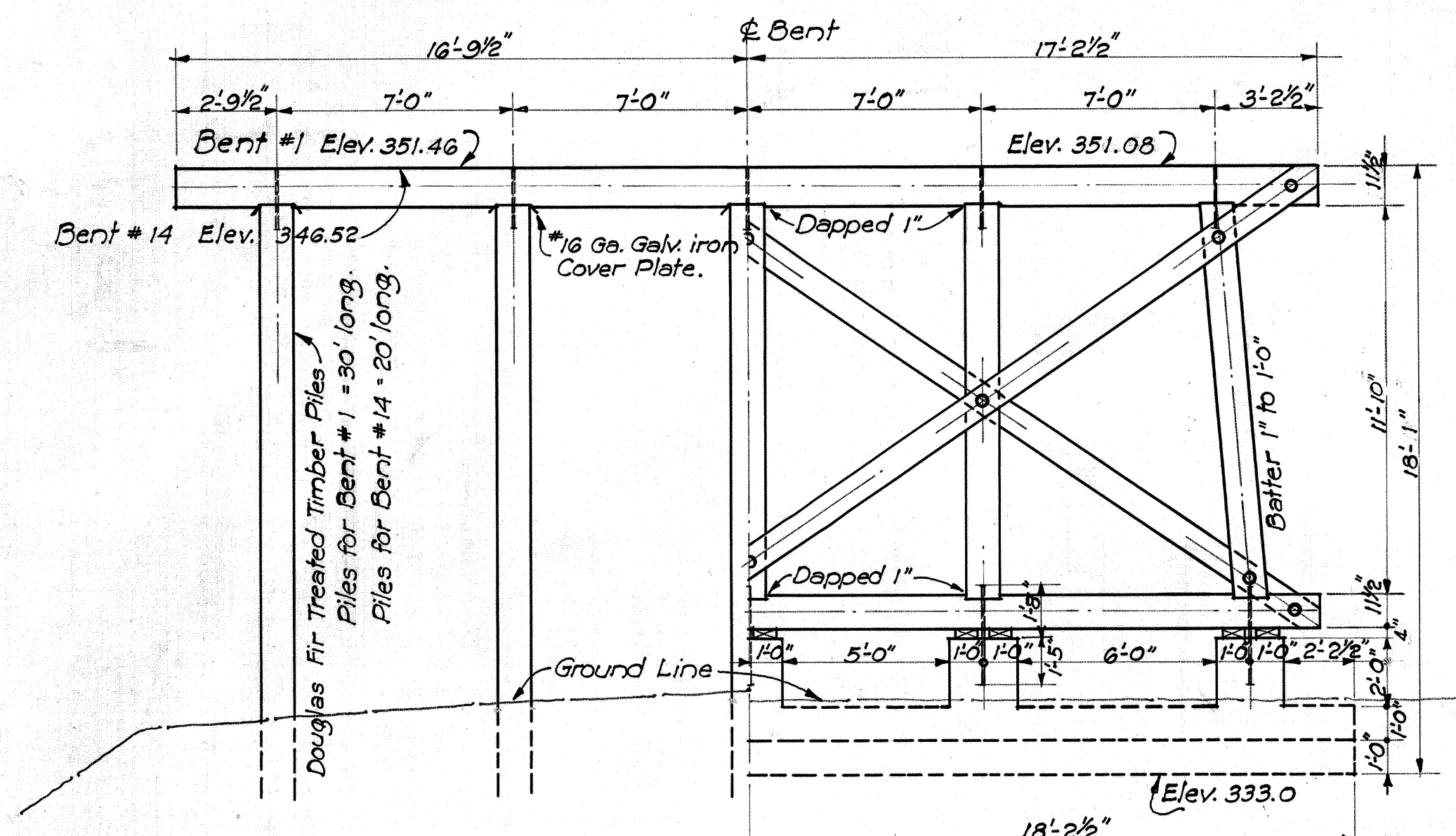


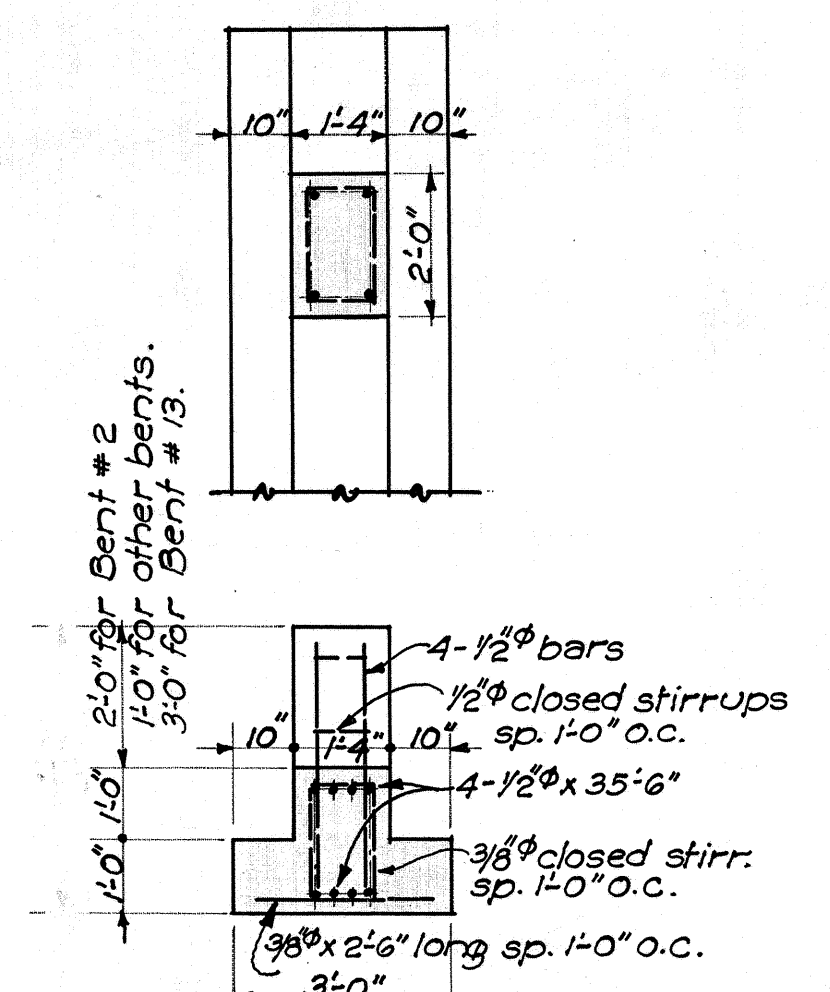
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW	12 I	1937	10	20



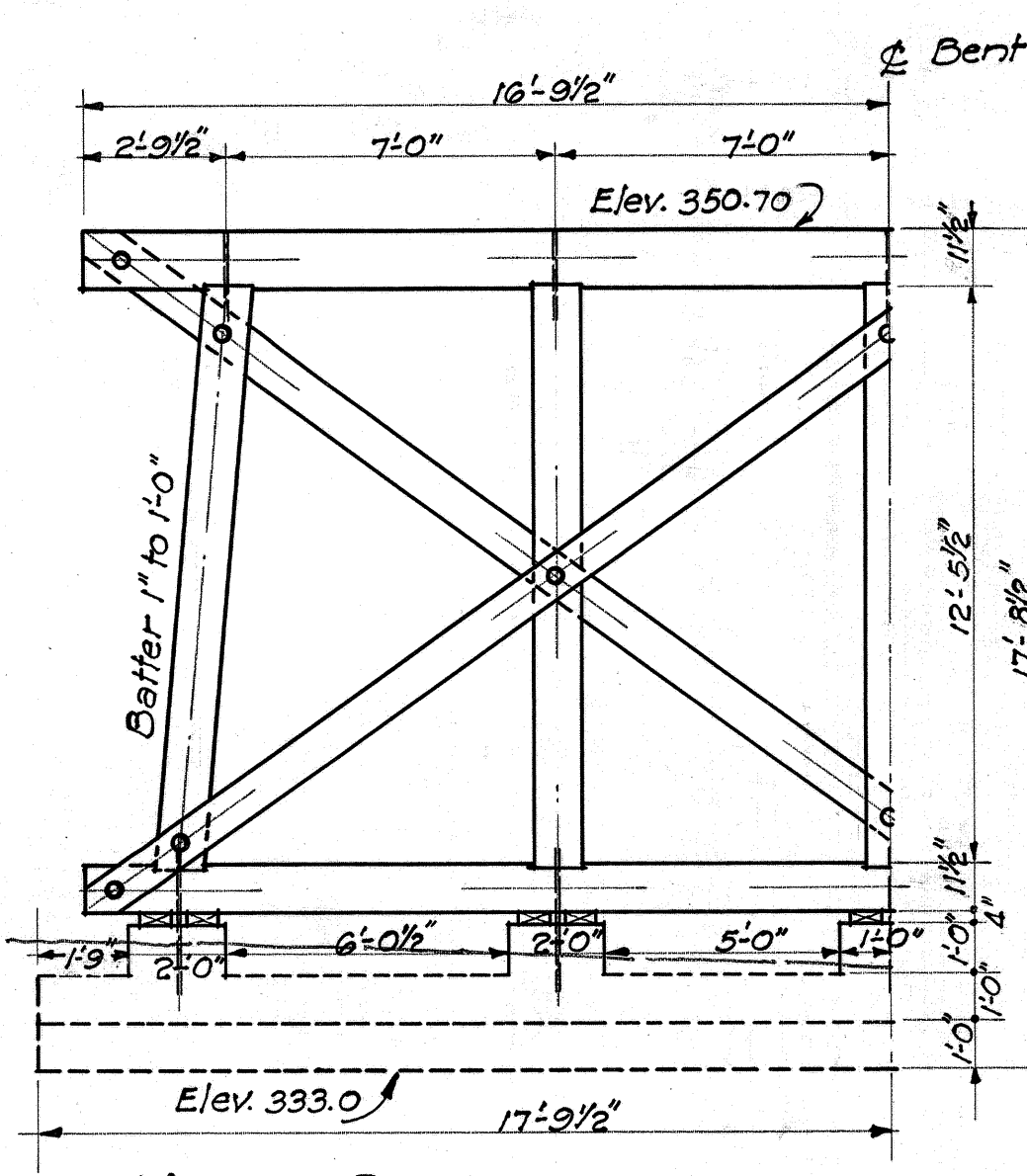
HALF BENT NO 1.
1/4" Scale.

HALF BENT NO 2.
1/4" Scale.

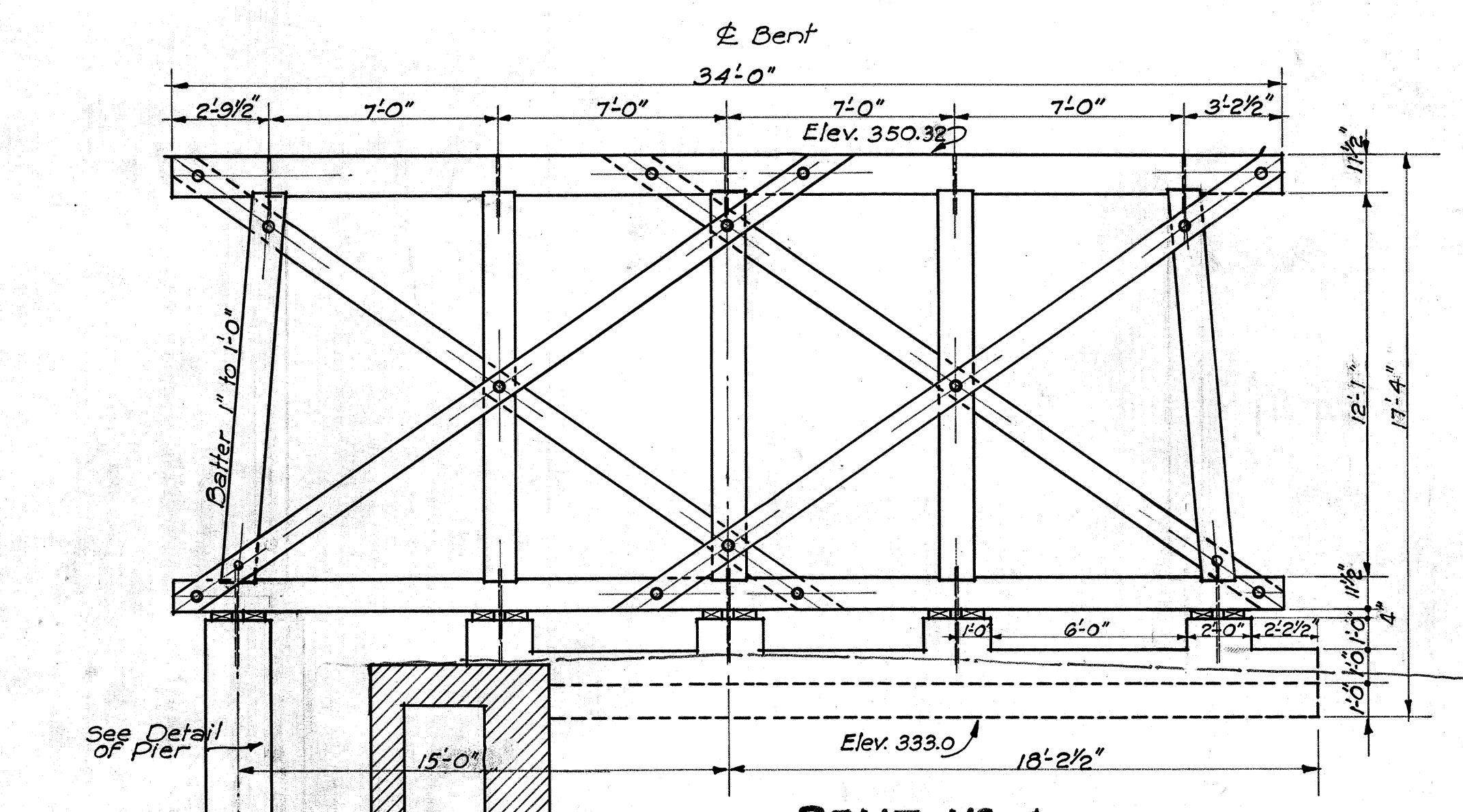
BENT NO 14 IS SIMILAR.



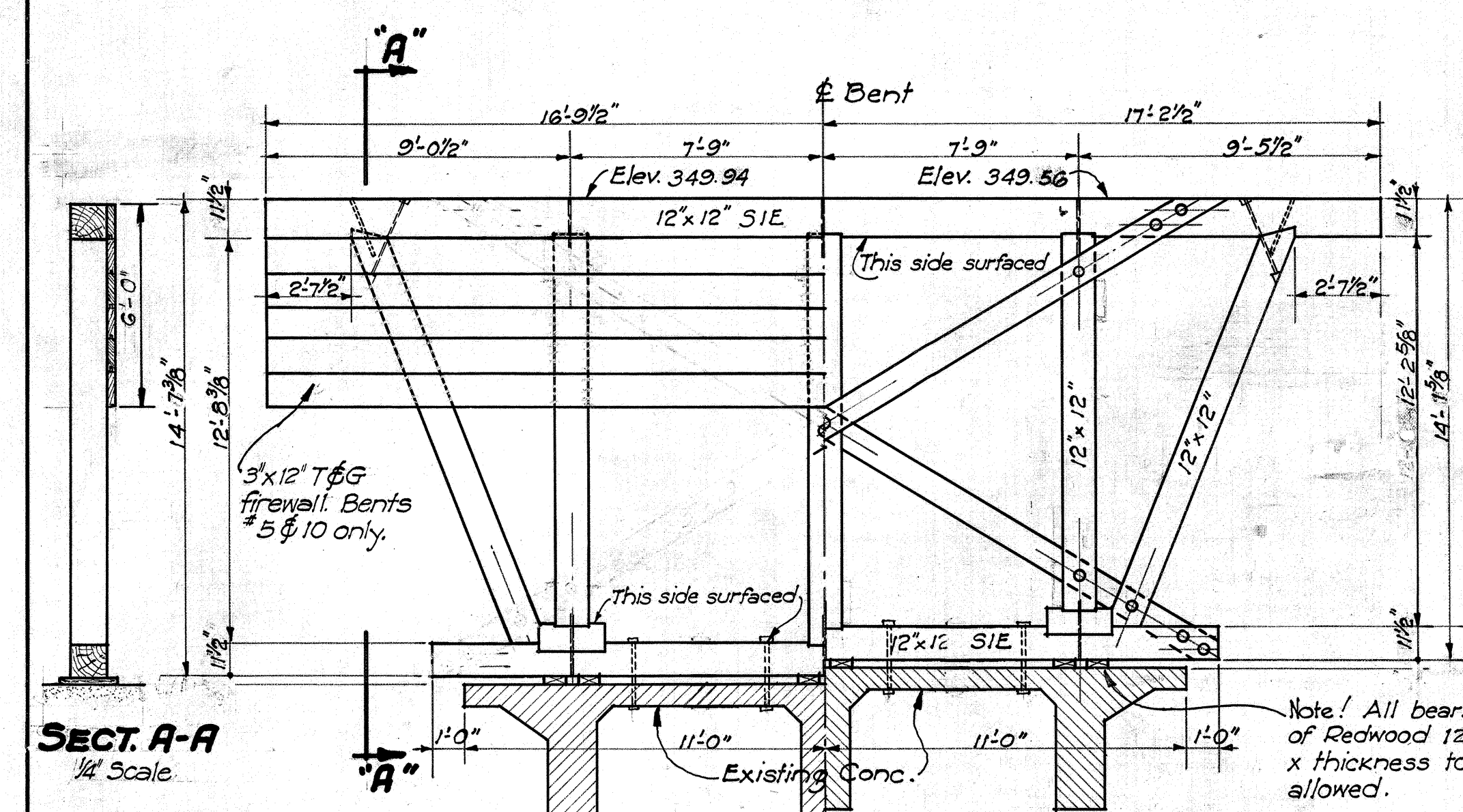
FOOTING DETAILS.
3/8" Scale.



HALF BENT NO 3.
1/4" Scale.

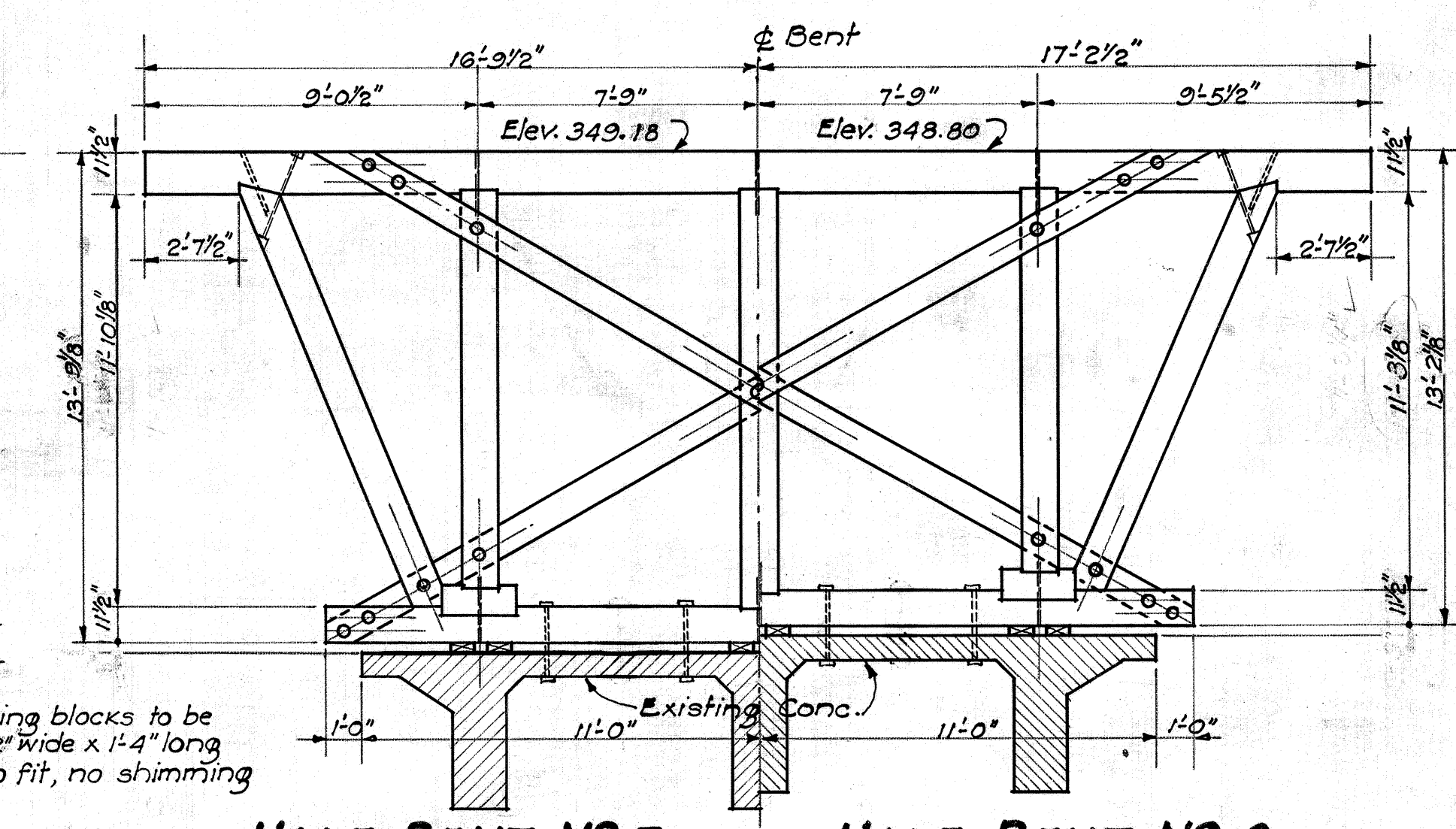


BENT NO 4.
1/4" Scale.



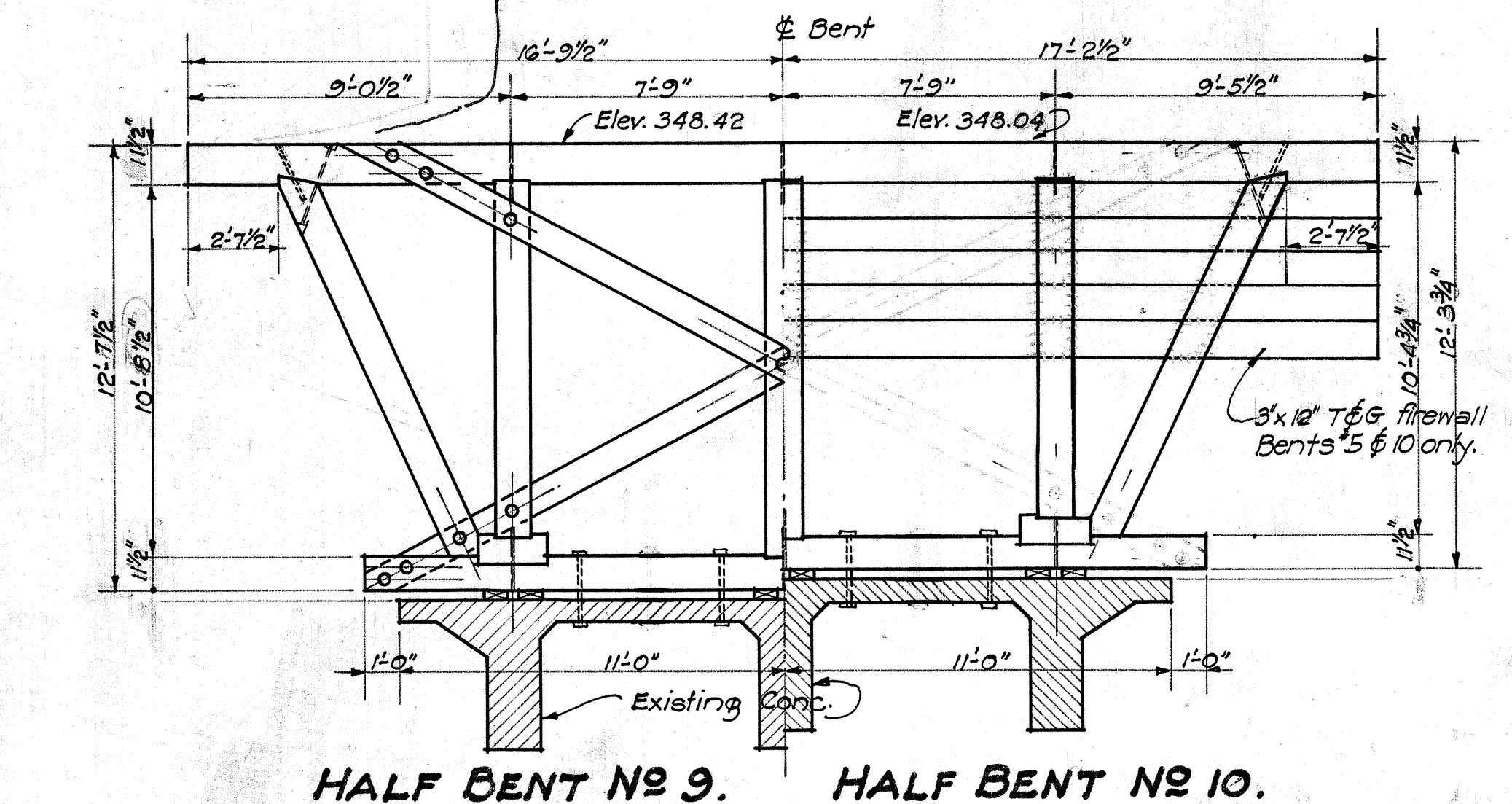
HALF BENT NO 5.
1/4" Scale.

HALF BENT NO 6.
1/4" Scale.



HALF BENT NO 7.
1/4" Scale.

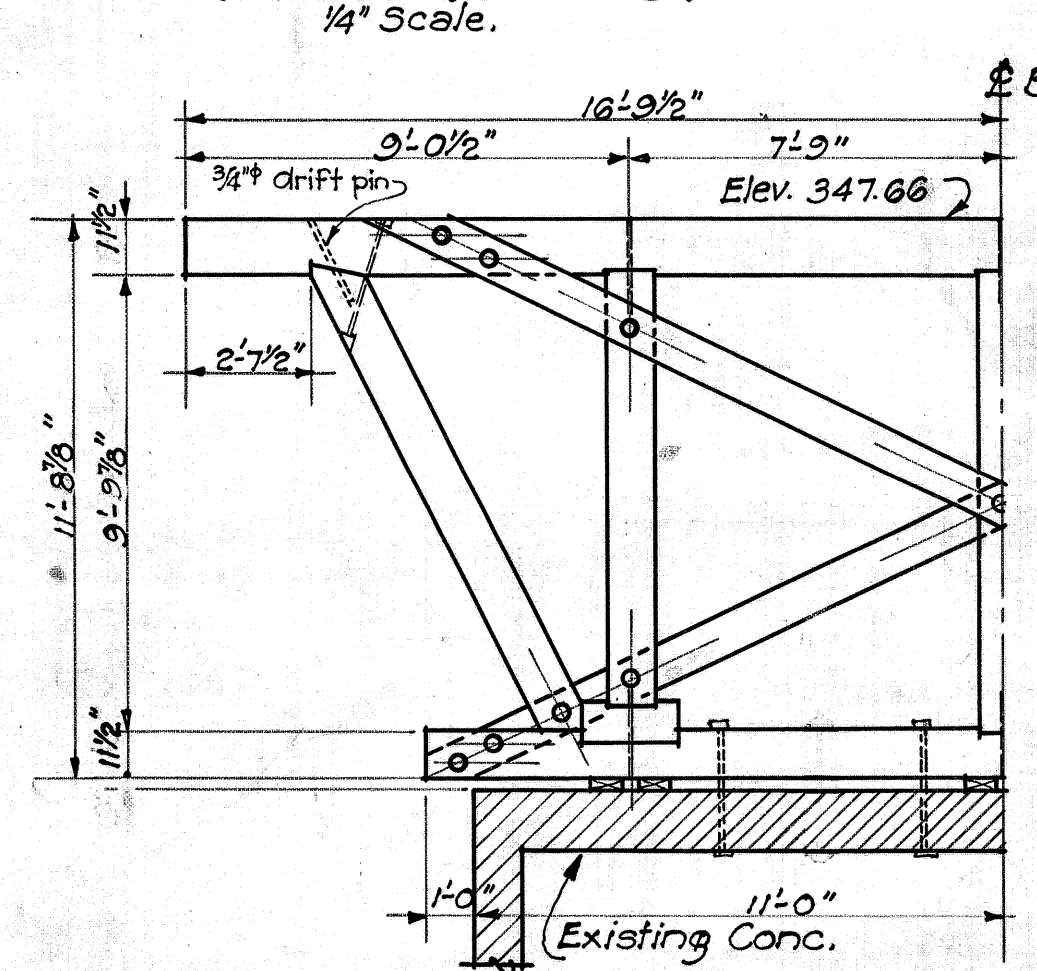
HALF BENT NO 8.
1/4" Scale.



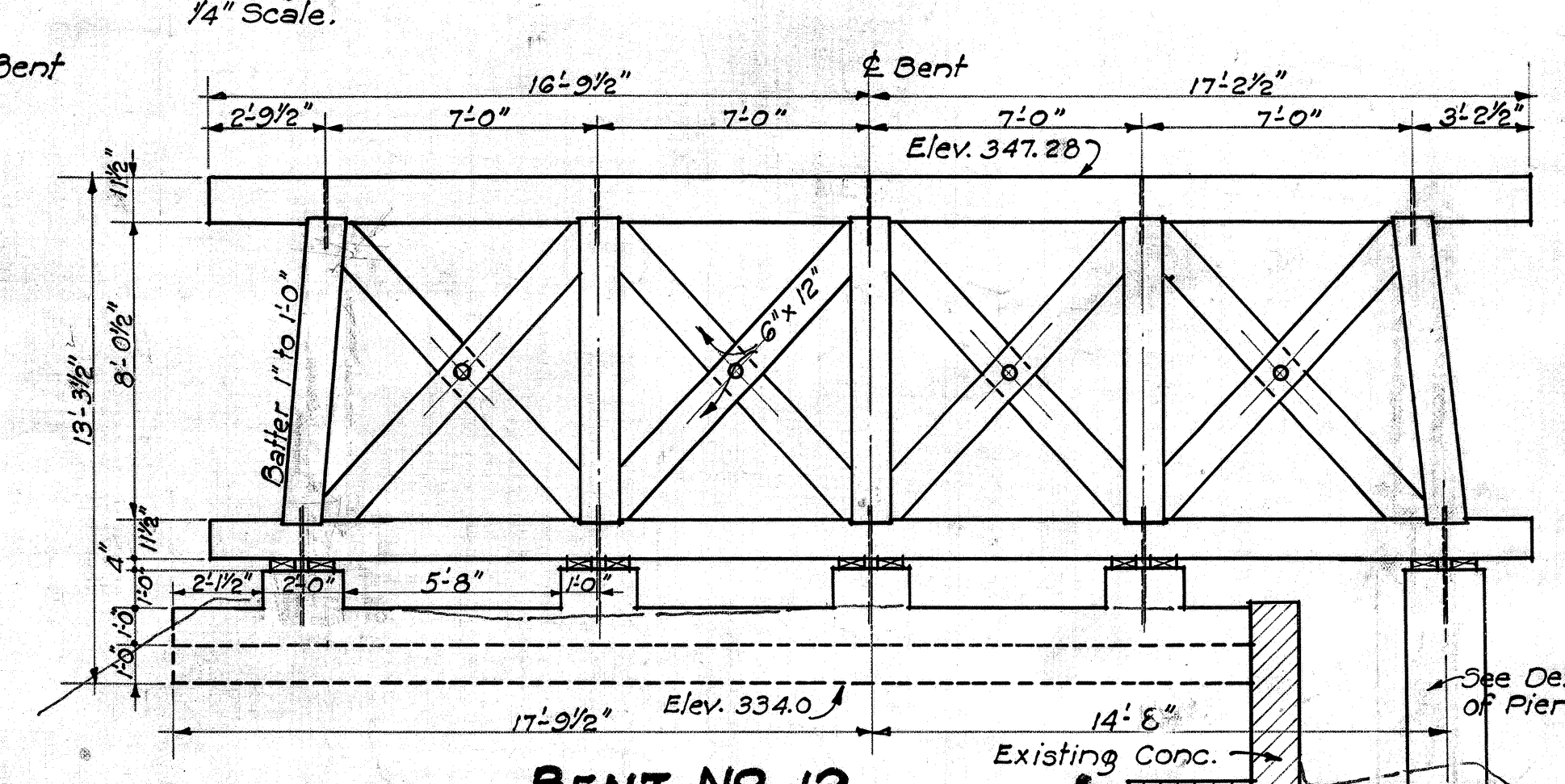
HALF BENT NO 9.
1/4" Scale.

HALF BENT NO 10.
1/4" Scale.

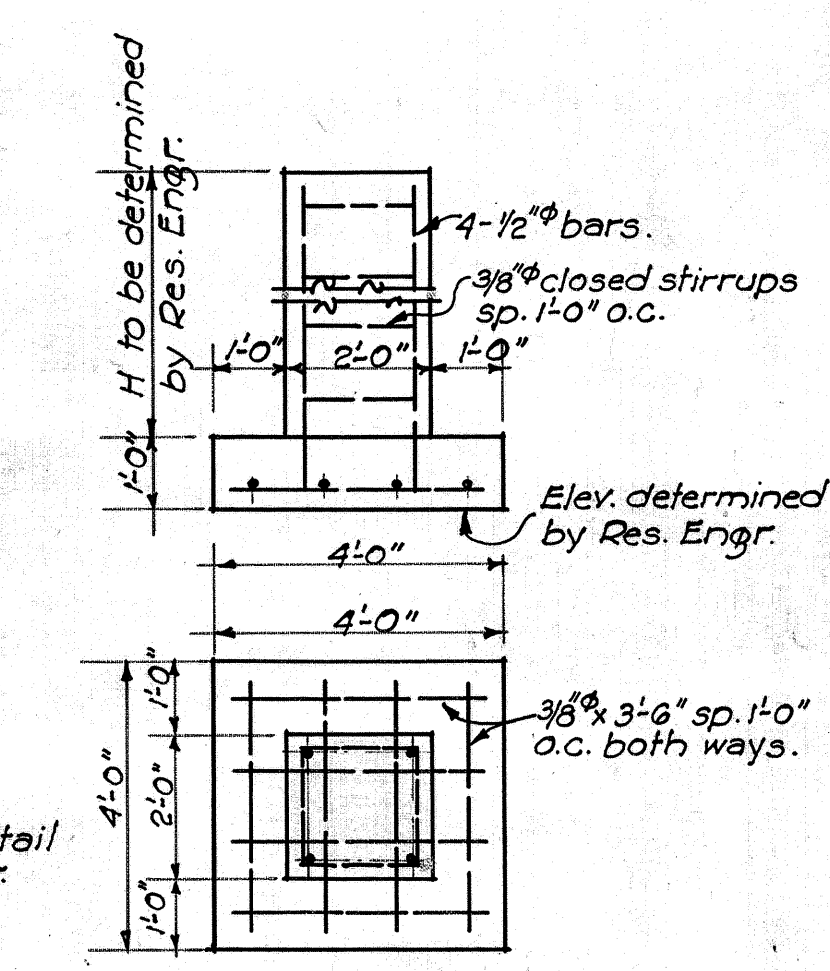
SECT. A-A
1/4" Scale.



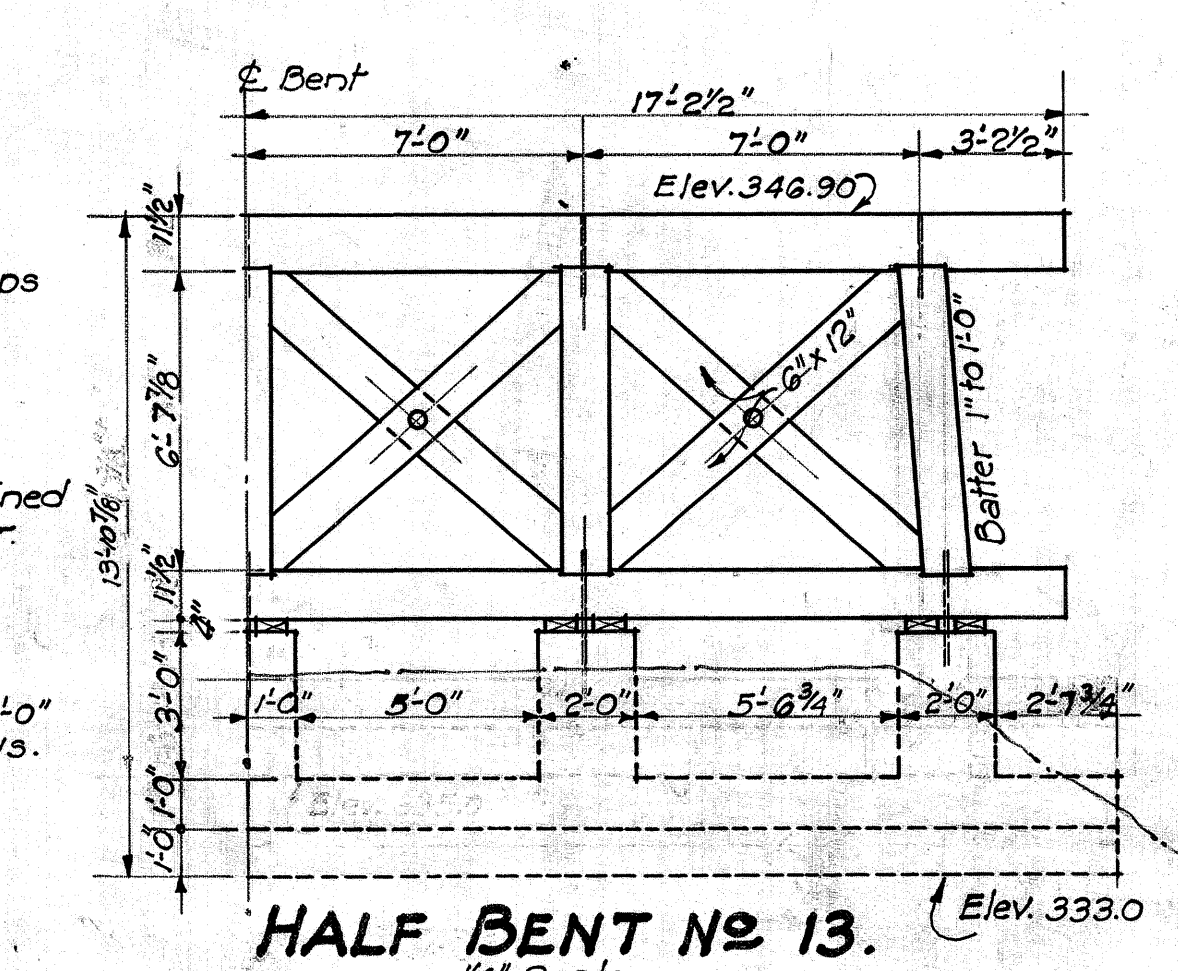
HALF BENT NO 11.
1/4" Scale.



BENT NO 12.
1/4" Scale.



DETAIL OF PIER
3/8" Scale.



HALF BENT NO 13.
1/4" Scale.

CONSTRUCTION NOTES

All bearing blocks to be sized as noted. All sills to be 12"x12". All posts to be 12"x12". All caps to be 12"x12". All bracing to be 3"x10" unless otherwise noted. All thrust blocks to be 10"x12"x2'-0" long. All bracing bolts to be 3/4"x1'-0" long with C.I. washers. All drift bolts at bottom of posts to be 3/4"x3'-1" long. All drift bolts at top of posts to be 3/4"x1'-0" long. Over existing concrete bridge bolt sill to conc. with bolts 1" length to fit. Use 1" expansion bolts where necessary. All bolts, washers, nuts etc. to be galvanized. All bolts to have C.I. Ogee washers except as noted. Holes for bolts to be bored 1/16" larger than bolt; holes for drift pins to be bored 1/16" smaller than pins.

TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII

HULEIA BRIDGE.

KAUAI BELT ROAD F.A.P. 12-I.
BRIDGE NO 8 STA. 260+25.38 to 262+74.94
DATE NOV. 1936 SCALES AS NOTED.

SHEET NO 2 OF 4 SHEETS

DATE	Oct. 1936
SURVEY PLOTTED BY	W. E. Partels
DESIGNED BY	C. F. Wagner
DRAWN BY	C. F. Wagner
NOTED BY	C. F. Wagner
CHECKED BY	W. E. Partels

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW	121	1937	11	20

MEMBERS	No. Req'd	Size & Length	Grade of lumber	Millwork	Ft. B. M.
Piers & Abutment					
Tower Bracing	6	3"x10"x22'-0"	1200# Joist & Plank	Rough	330
Firewall	12	3"x10"x24'-0"	"	"	720
	12	3"x12"x34'-0"	No. 1 Dimension	T & G	1224
Bearing Blocks (Untreated) R.W.	24	4"x12"x1'-0"	1000# C structural posts & timbers	SIS	312
Sills	5	12"x12"x34'-0"	1000# C structural post & timbers	"	2040
"	7	12"x12"x24'-0"	"	"	2016
Posts	20	" "x12'-0"	"	Rgh.	2880
"	22	" "x14'-0"	"	"	3096
"	3	" "x10'-0"	"	"	360
"	10	" "x6'-0"	"	"	960
Thrust blocks	14	10"x12"x2'-0"	"	SIS	280
Cap	14	12"x12"x34'-0"	"	SIE	5712
Bracing	12	3"x10"x26'-0"	1200# Joist & Plank	Rgh.	780
"	10	" "x28'-0"	"	"	700
"	16	6"x12"x10'-0"	"	"	960
Treated Timber					22,658
Sub Total					638
Superstructure					
Stringers	156	6"x18"x20'-0"	1200# F structural beams & stringers	SIS	28,080
Solid bridging *	13	4"x18"x24'-0"	1200# F Joist & Plank	SIE	1872
Splice Blocks	24	6"x18"x3'-0"	"	SIE	648
"	12	6"x18"x3'-0"	"	SIE	324
Sidewalk Joist blocks	14	12"x14"x3'-5 7/8"	"	SIE	686
Cross bridging *	13	2"x4"x20'-0"	No. 1 Dimension	Rgh.	174
"	26	" "x16'-0"	"	"	274
Sidewalk plank *	34	2"x8"x16'-0"	"	SIS2E	2000
End sidewalk timber	2	8"x10"x4'-10 3/8"	1000# C structural posts & timbers	SISIE	67
Int. Rail Post blocks	26	6"x8"x1'-5 7/8"	1200# F Joist & Plank	SIS2E	151
Bumper	2	4"x6"x14'-0"	"	SIE	56
"	2	" "x20'-0"	"	"	80
Decking	1832	2"x6"x26'-0"	1200# F structural Joist and plank	SISIE	47,632
Bulkhead	3	4"x12"x20'-0"	1200# F Joist & Plank	Rgh.	240
"	3	" "x14'-0"	"	"	168
Wheel Guard	13	8"x8"x20'-0"	1000# C structural posts & timbers	SISIE	1,386
"	13	10"x12"x20'-0"	"	SISIE	2,600
Treated Timber					86,438
Sub Total					250
Railing					
Rail Post	40	8"x8"x12'-0"	1200# F structural Joist & Plank	S4S	2560
Railing	26	4"x8"x20'-0"	"	"	1387
"	26	8"x8"x20'-0"	"	"	1040
Untreated Timber					4,987
Sub Total					114,461
Treated Timber Piling					
Abut. No. 1	5	30' long			150 lin. ft.
Abut. No. 2	5	20' "			100 "
Total					250 "

NOTE! 8"x12" Bearing blocks are to be shaped to fit roadway crown. Timbers marked * are given to commercial lengths and must be cut to fit before treatment. Stringers having butt joints to be cut to length shown on framing plan.

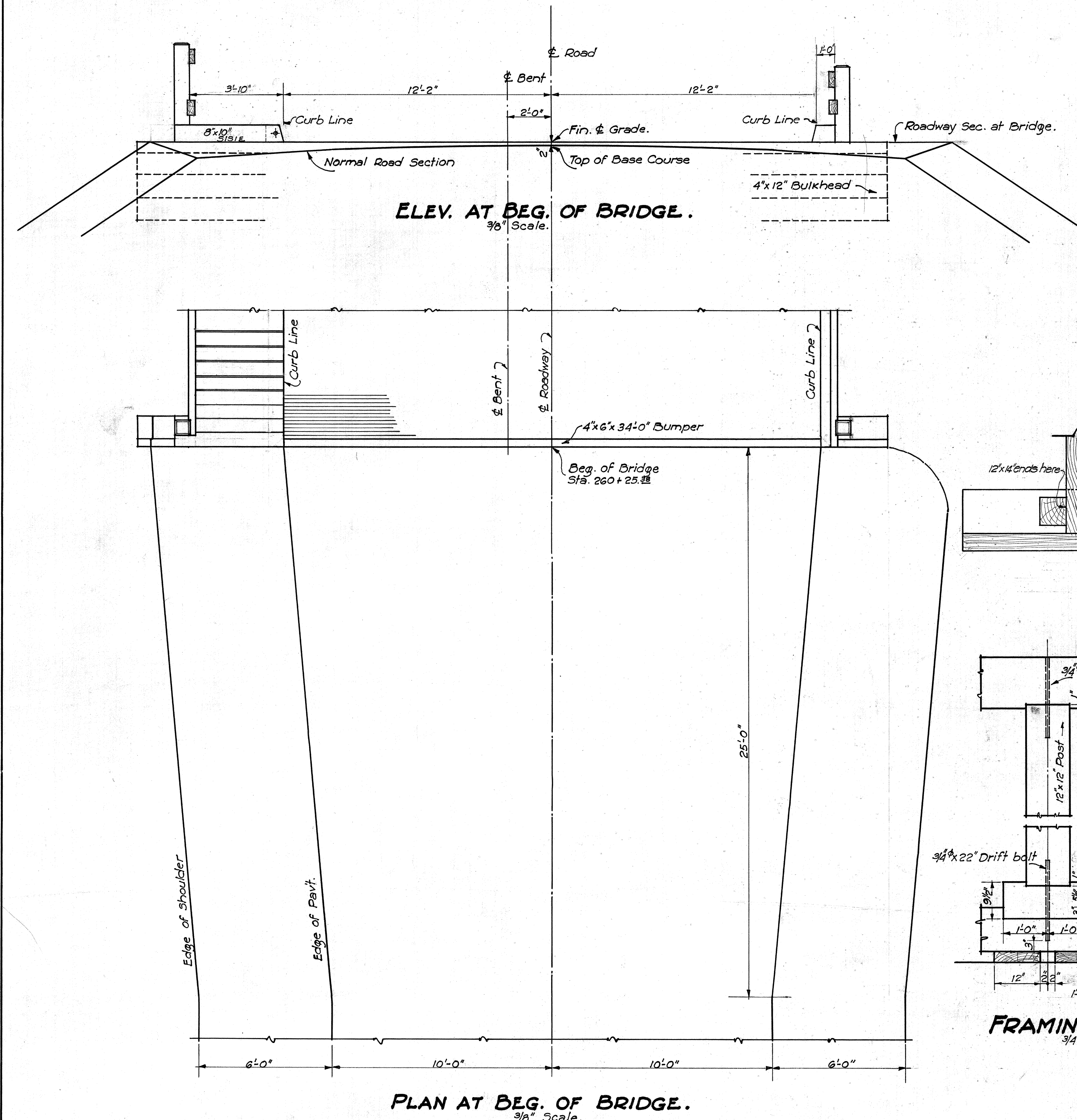
LIST OF ITEMIZED QUANTITIES.

LOCATION	Str. Exc. C.Y.	Concr. C.Y.	Reinf. Steel lbs.	1" Asphalt Sp. Ft.	Treated Timber lin. ft.	Untreated Timber ft. B.M.	Treated Timber ft. B.M.	C.R.M. C.Y.
Footings	49.5	34.6	1876					
Piers & Abuts.					5'-30" 5'-20" 0	B.W. 638	22,658	142.32
Superstructure				6034			86,438	
Railing						4,987		
Total	49.5	34.6	1876	6034	250	5,625	109,096	142.32

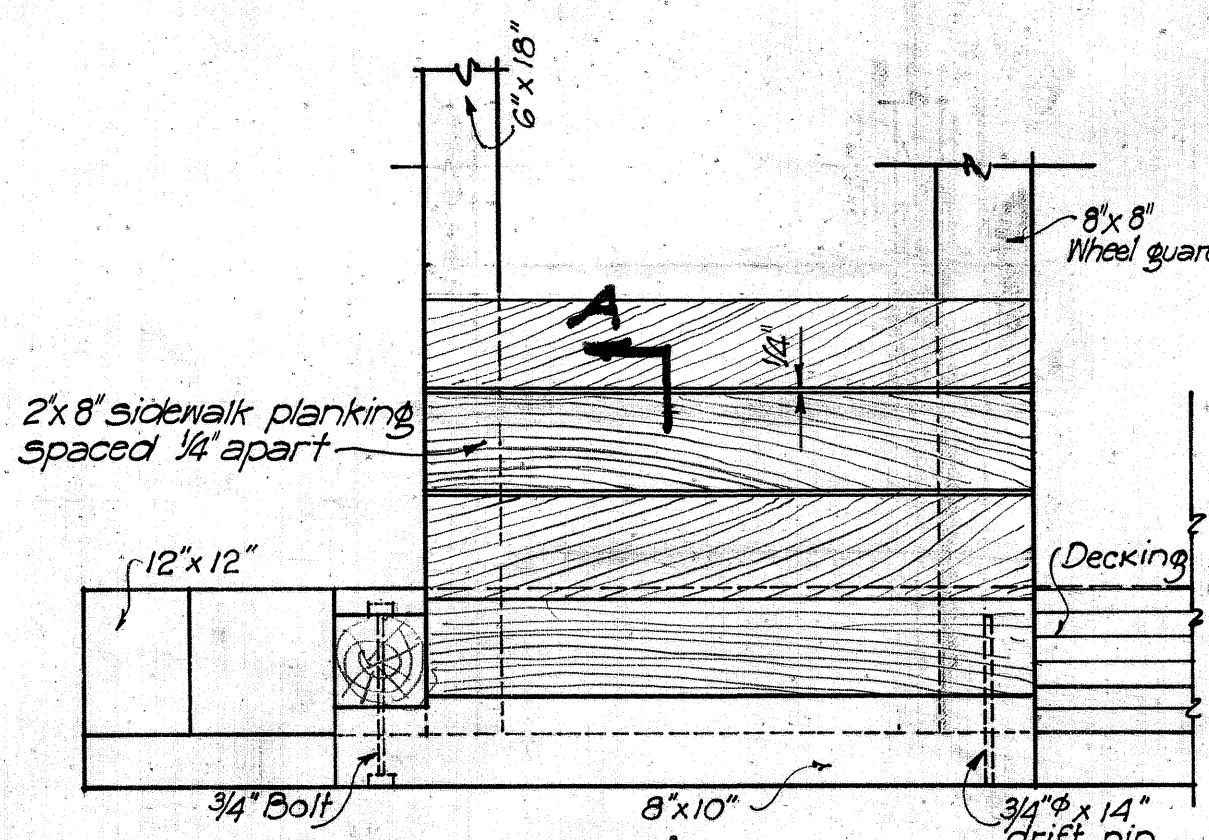
TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII
HULEIA BRIDGE.
KAUAI BELT ROAD F.A.P. 12-1.
BRIDGE NO 8 STA. 260+25.28 TO 262+74.94
DATE NOV. 1936 SCALES AS NOTED.

SHEET NO 3 OF 4 SHEETS

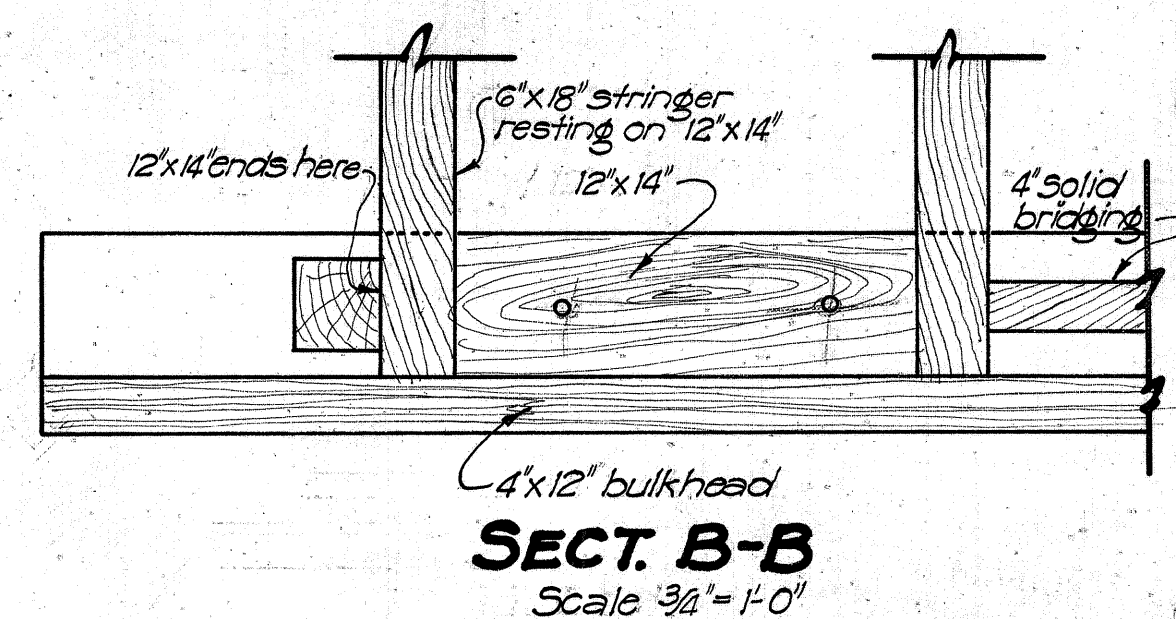
4389.11



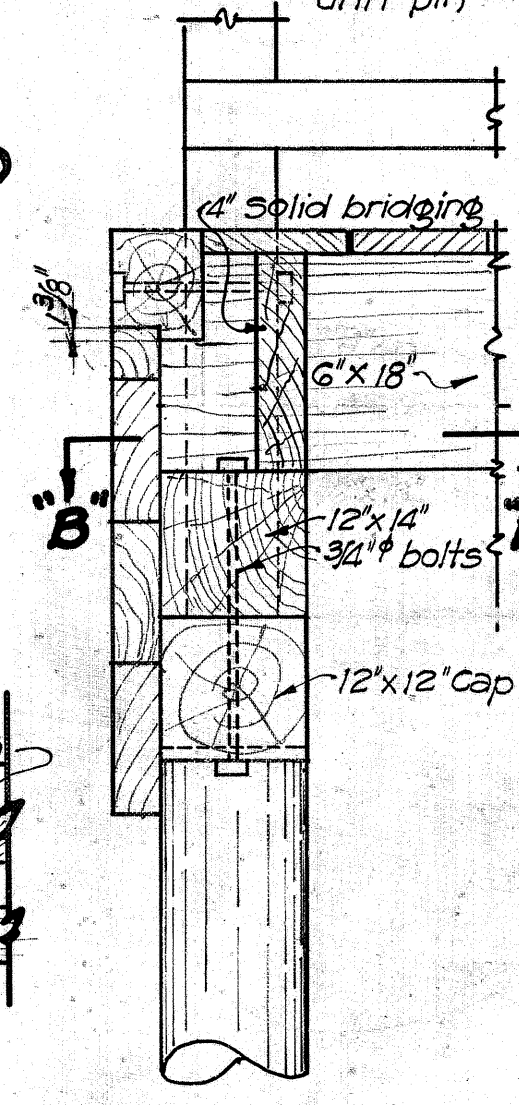
ELEV. AT BEG. OF BRIDGE.
3/8" Scale.



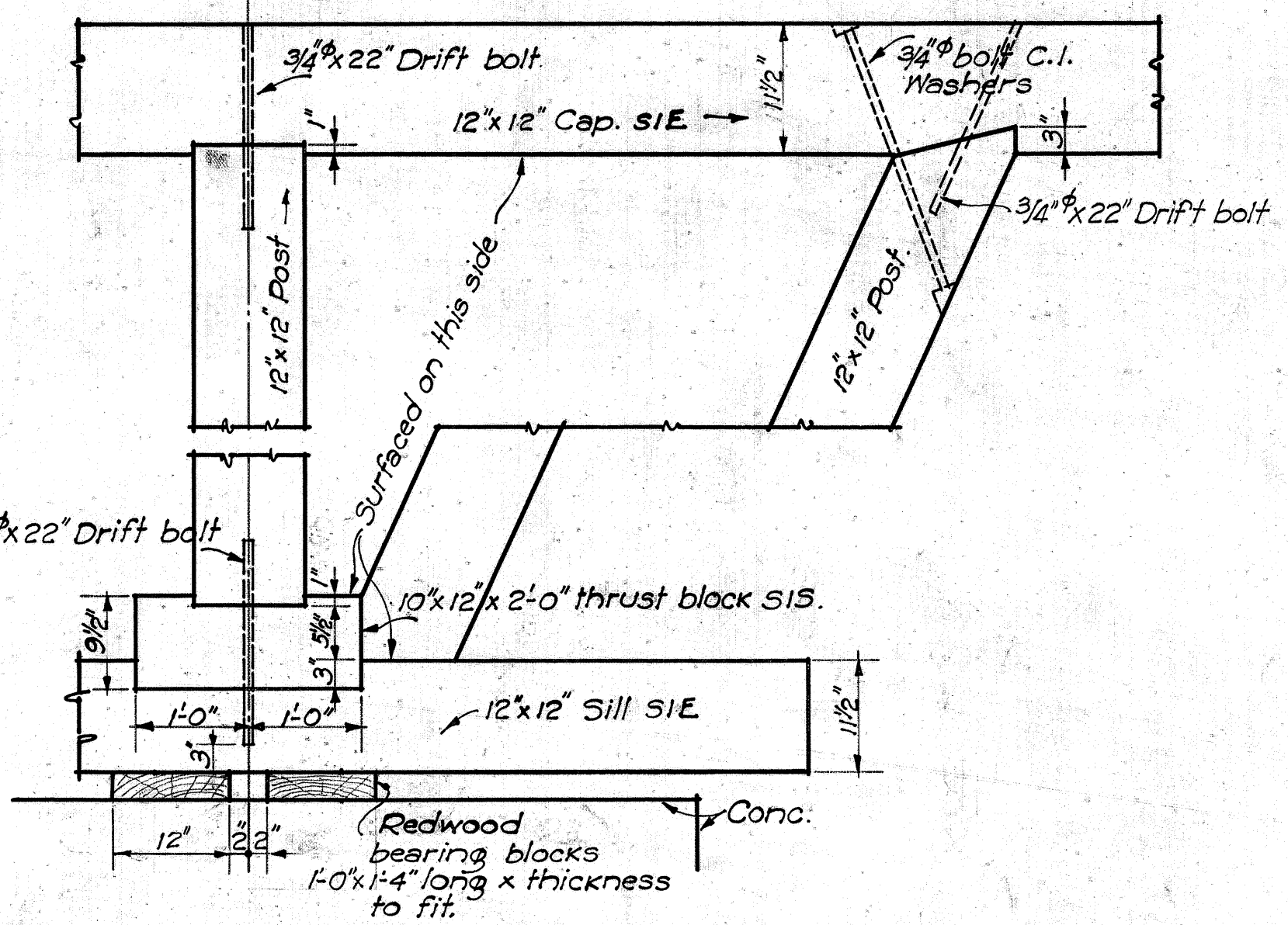
FRAMING AT END OF SIDEWALK
3/4" Scale



SECT. B-B
Scale 3/4" = 1'-0"



SECTION A-A.
3/4" Scale.

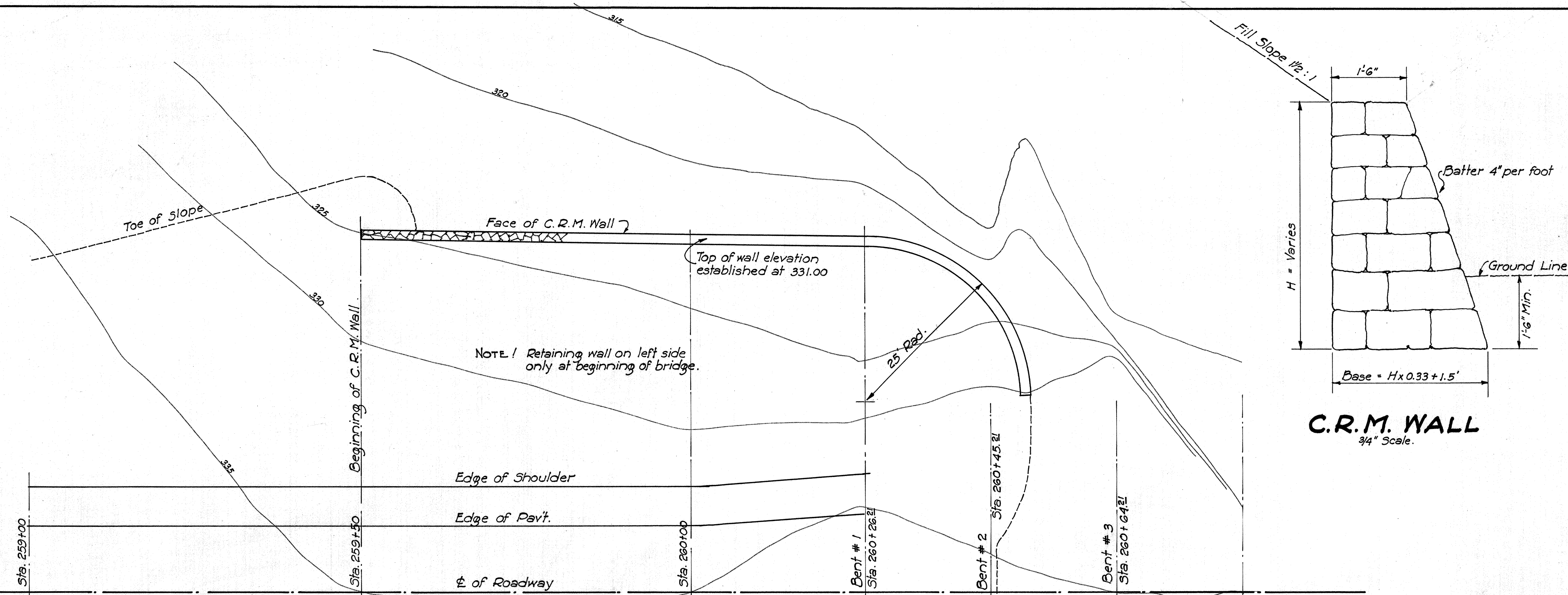


FRAMING DETAILS.
3/4" Scale.

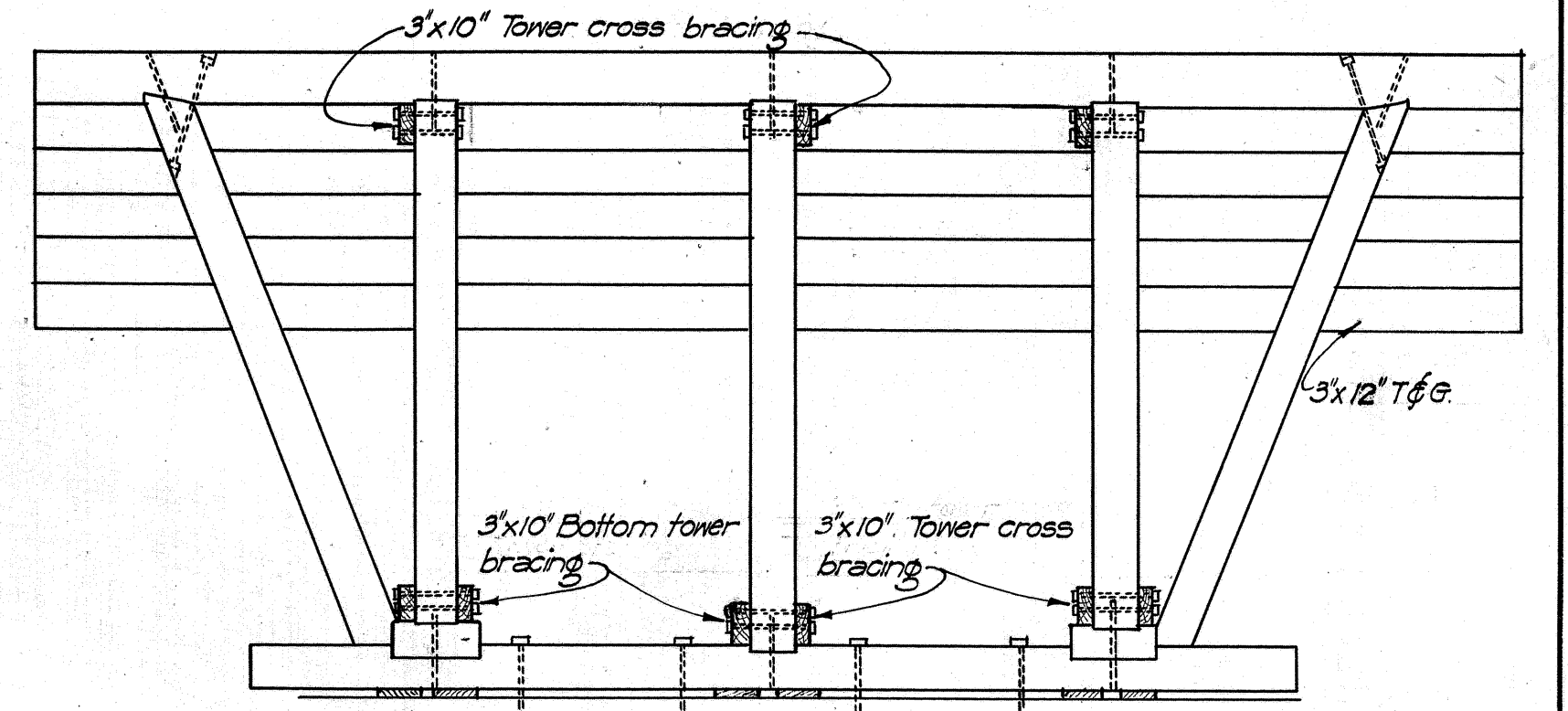
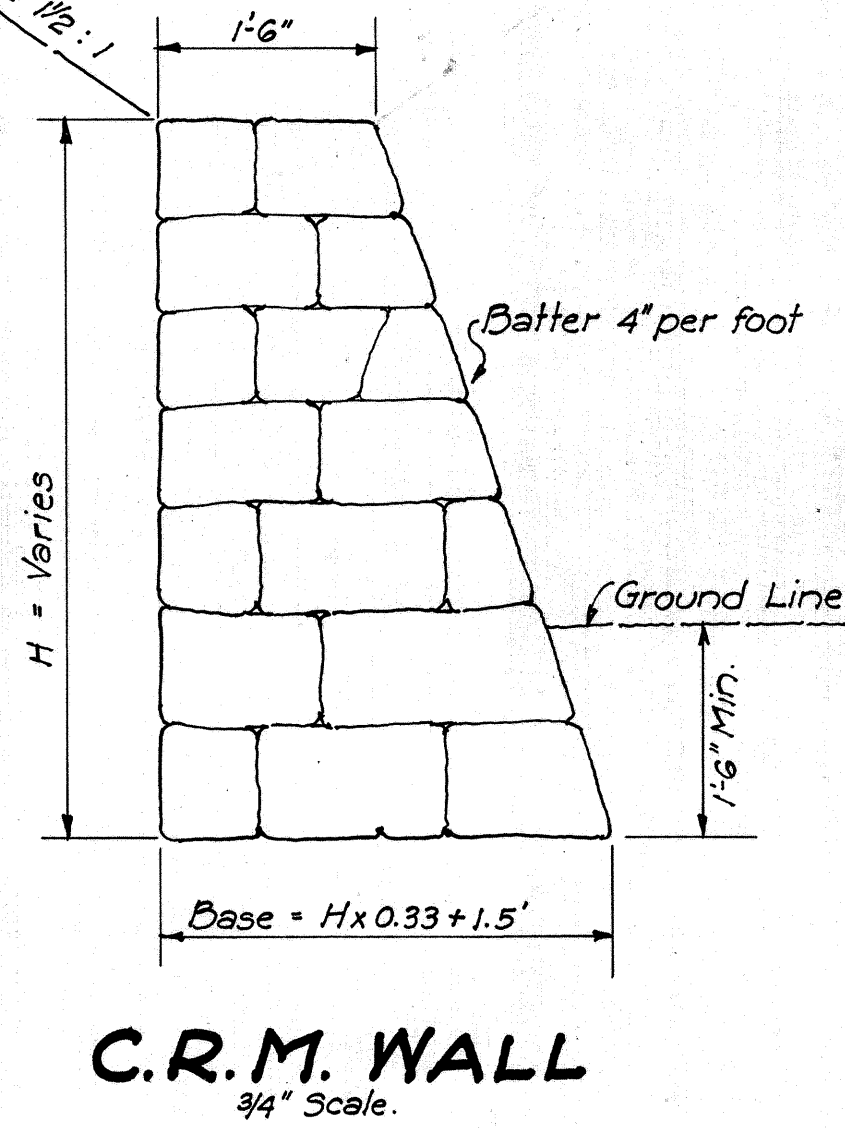
PLAN AT BEG. OF BRIDGE.
3/8" Scale.

DESIGNED BY W.P. Daniels
DRAWN BY C.F. Wagner
CHECKED BY M.A. Daniels
DATE: Oct. 1936
REV. Nov. 1936
ORIGINAL PLAN
NOTE BOOK
No.

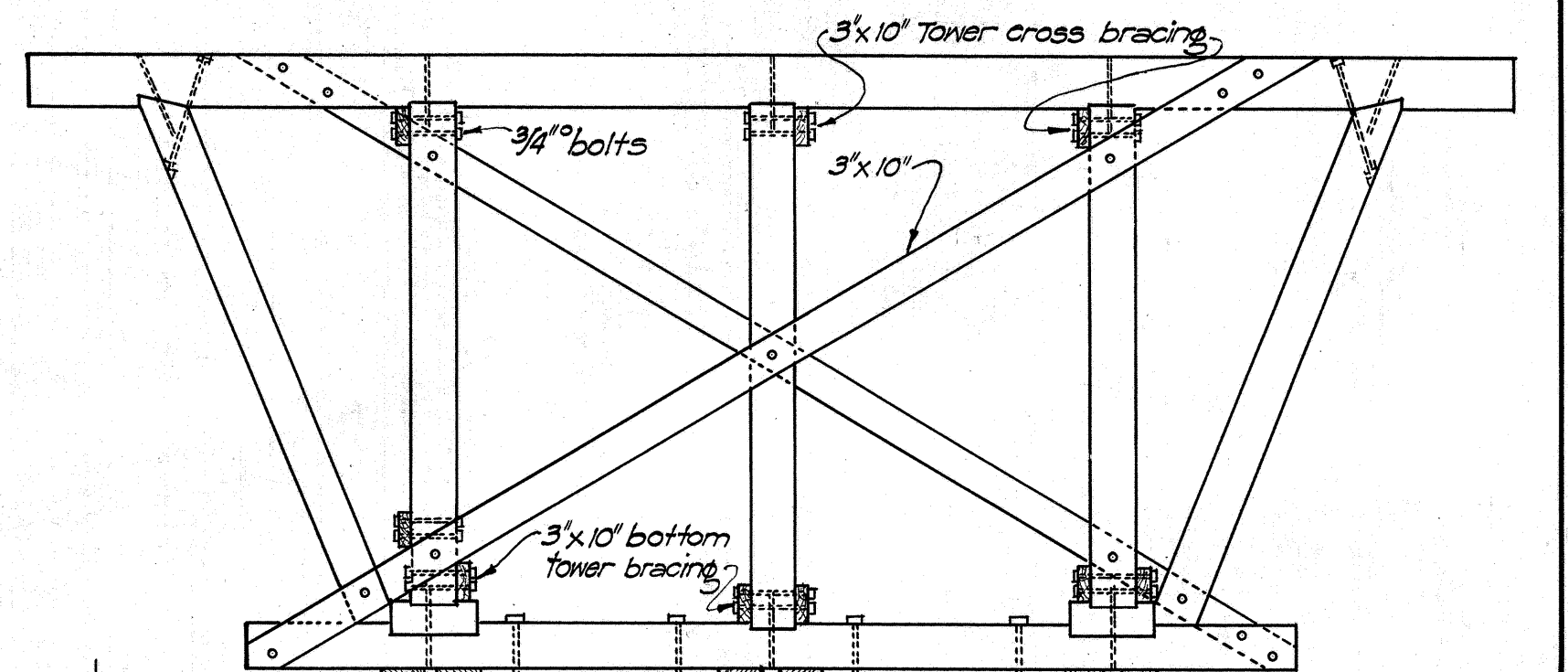
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW	121	1937	12	20



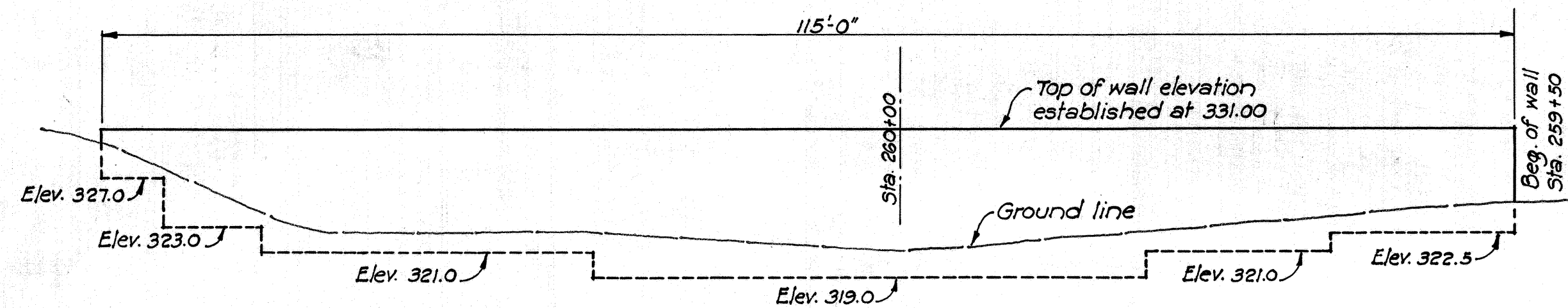
RETAINING WALL LAYOUT.
Scale 1"=10'



BENT #5 SHOWING TOWER BRACING.
(LOOKING TOWARDS BEG. OF BRIDGE)
1/4" Scale



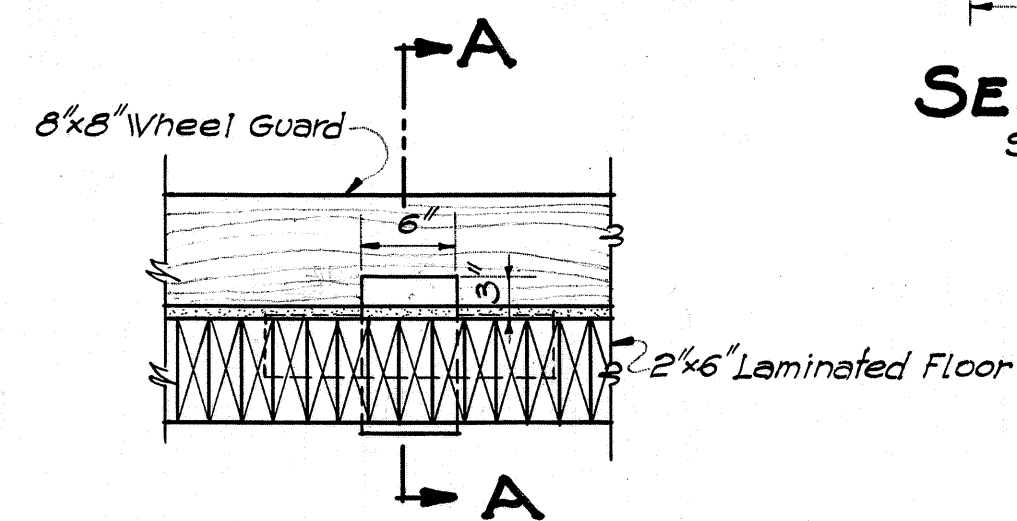
BENT #6 SHOWING TOWER BRACING
1/4" Scale



ELEVATION ALONG FACE OF RETAINING WALL.
Scale 1"=10'

NOTE! Footing elevations indicated are for estimating purposes only. Res. Engr. to establish final elevations where suitable bearing material is encountered.

3"x6" scuppers cut in wheel guard. Scuppers Sp. Approx. 6'-4" o.c. Notch flooring at scuppers as shown.

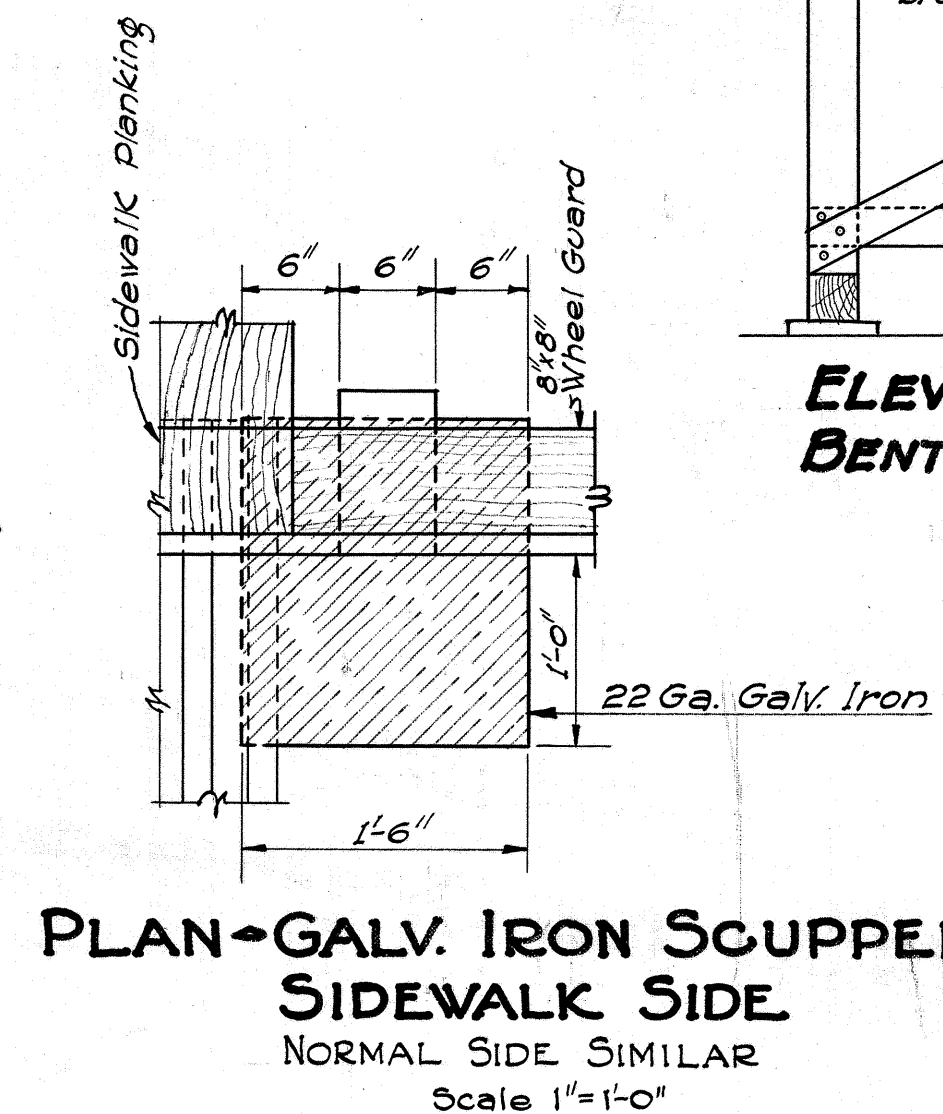


DETAIL OF SCUPPER, SIDEWALK SIDE.
NORMAL SIDE SIMILAR
Scale 1"=1'-0"

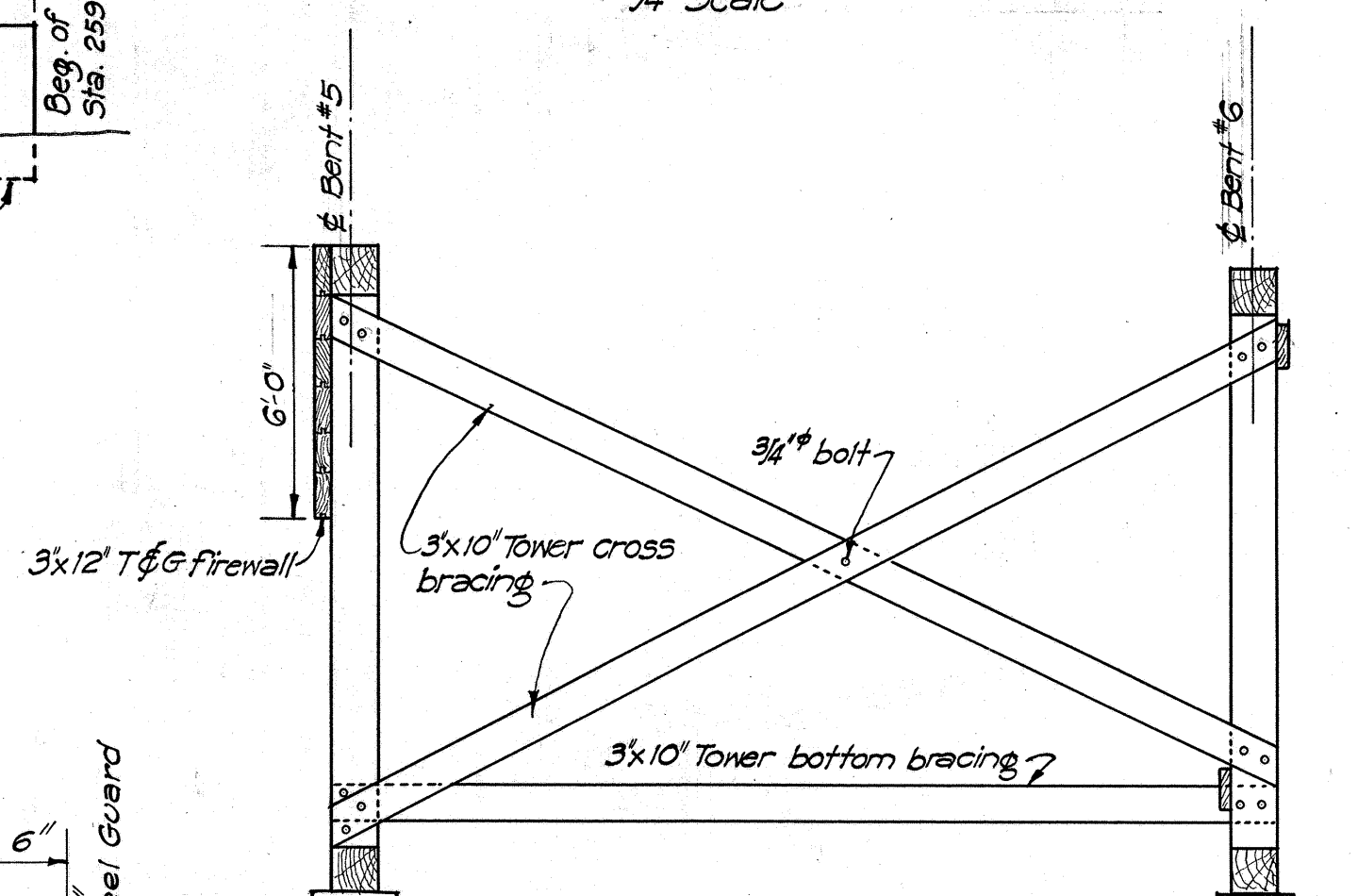
SECT. A-A
Scale 1"=1'-0"

SECT. B-B

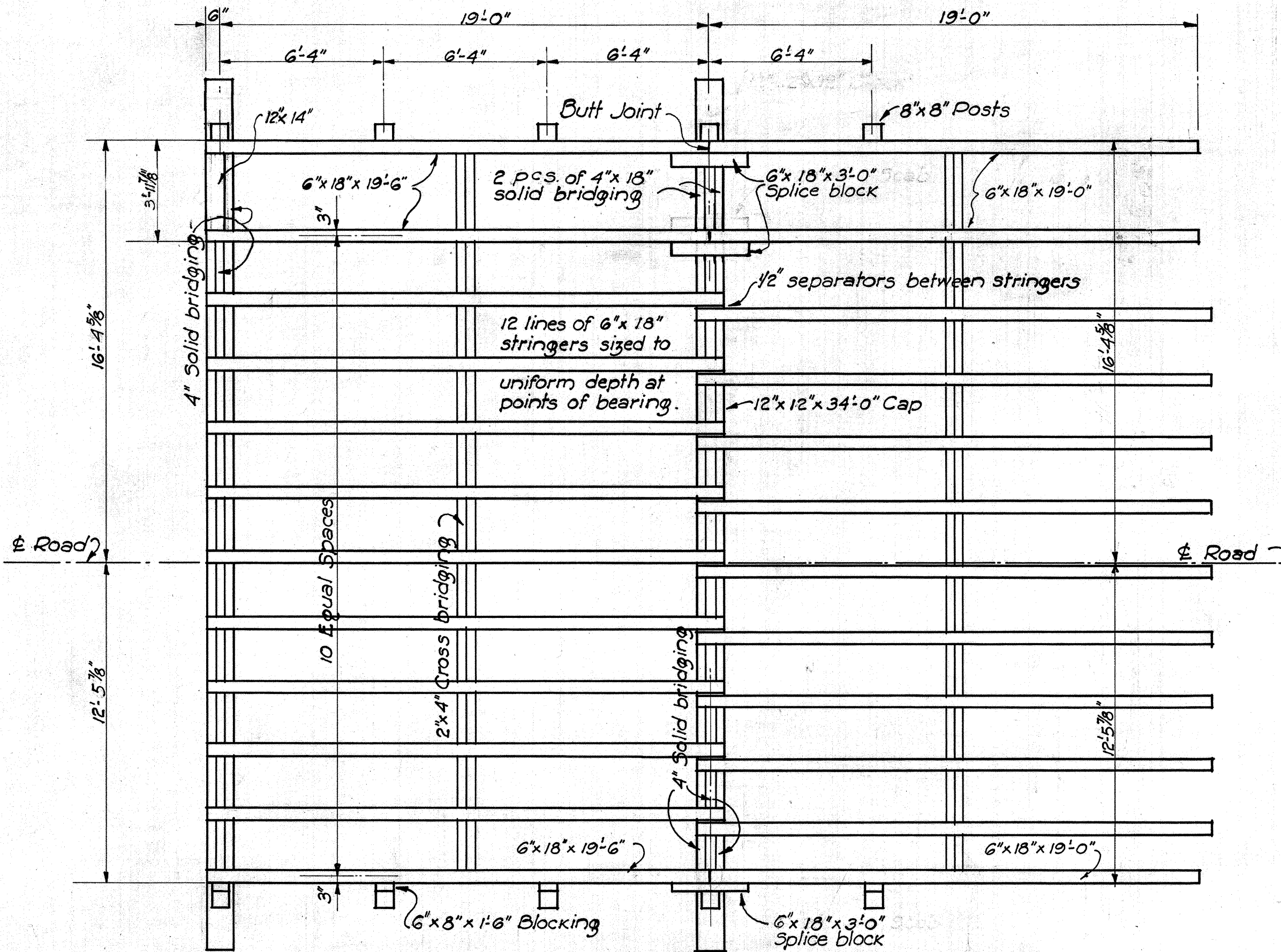
SECT. C-C
Scale 1"=1'-0"



PLAN - GALV. IRON SCUPPER SIDEWALK SIDE.
NORMAL SIDE SIMILAR
Scale 1"=1'-0"



ELEVATION SHOWING TOWER BRACING BENTS #5 TO #6. BENTS #9 TO #10 SIMILAR
1/4" Scale



PART FRAMING PLAN.
1/4" Scale

TERRITORIAL HIGHWAY DEPARTMENT TERRITORY OF HAWAII	
HULEIA BRIDGE.	
KAUAI BELT ROAD	F.A.P. 12-1.
BRIDGE NO 8	STA. 260+25.38 TO 262+74.94
DATE NOV. 1936	SCALES AS NOTED.

SHEET NO 4 OF 4 SHEETS

4389.12

Scupper detail added May 19, 1937 R.L.
C.R.M. Wall revised Feb. 26, 1937. C.F.W.

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DRAWN BY	" Oct. 1936
	DESIGNED BY	" Dec. 1936
	TRACED BY	" "
	QUANTITIES BY	" "
No.	CHECKED BY	" "
		" "