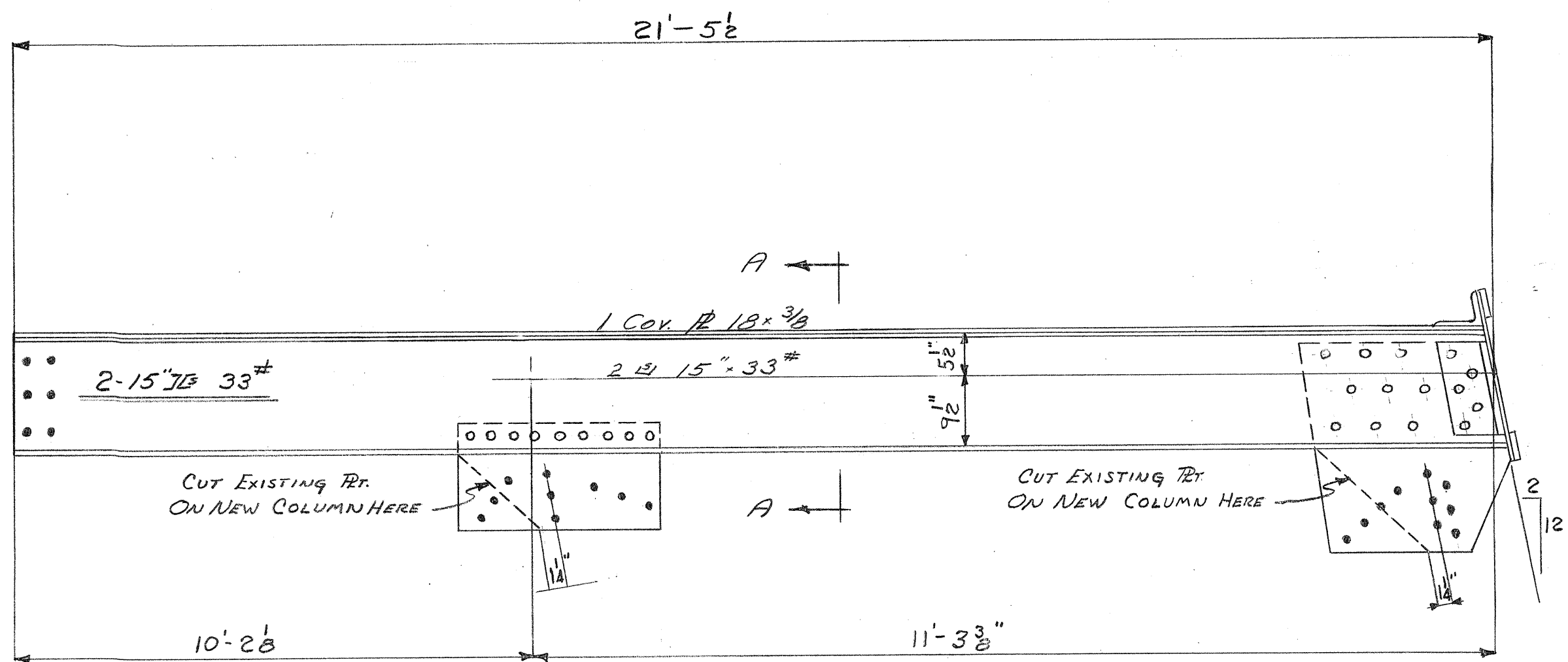
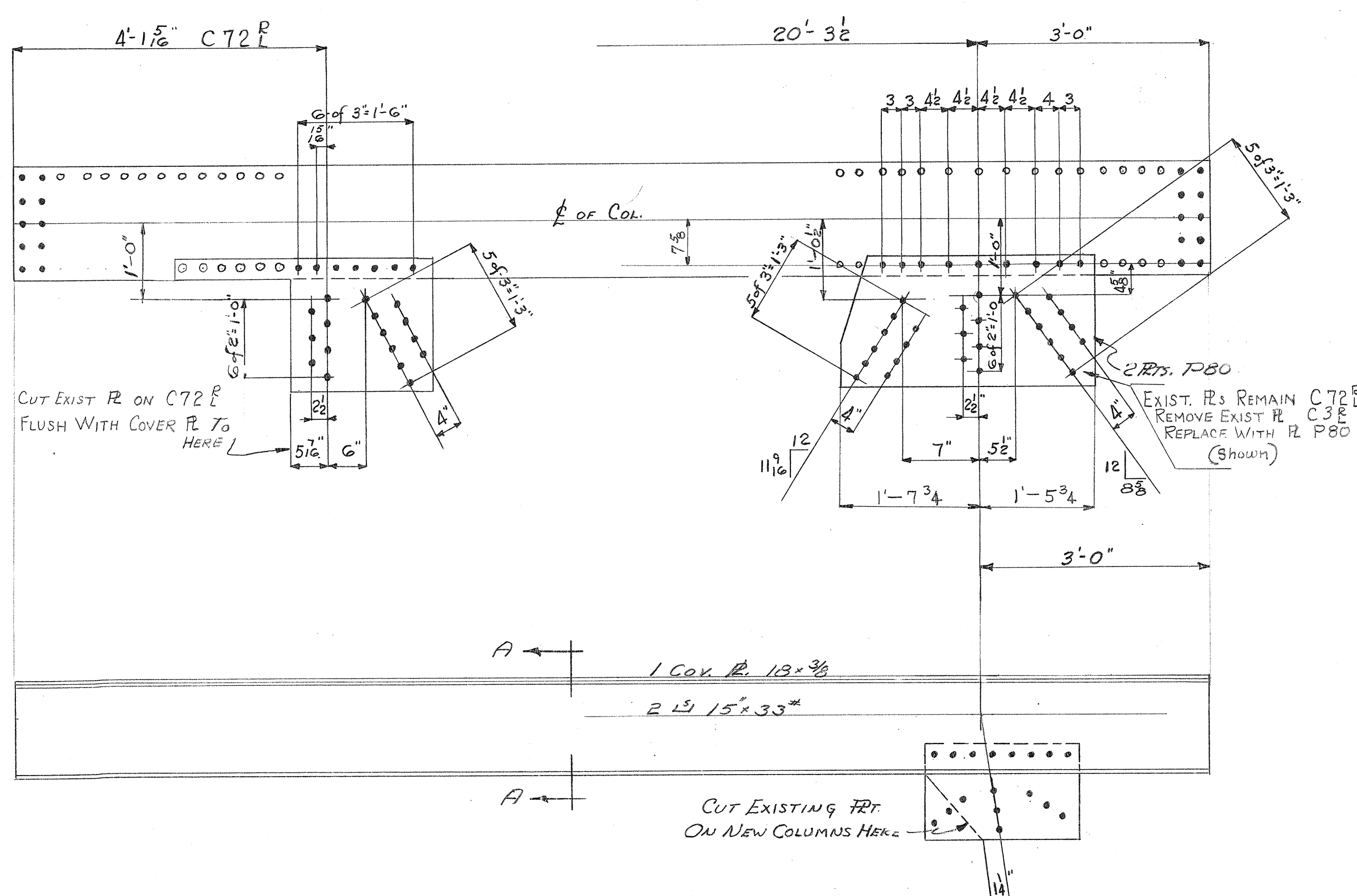
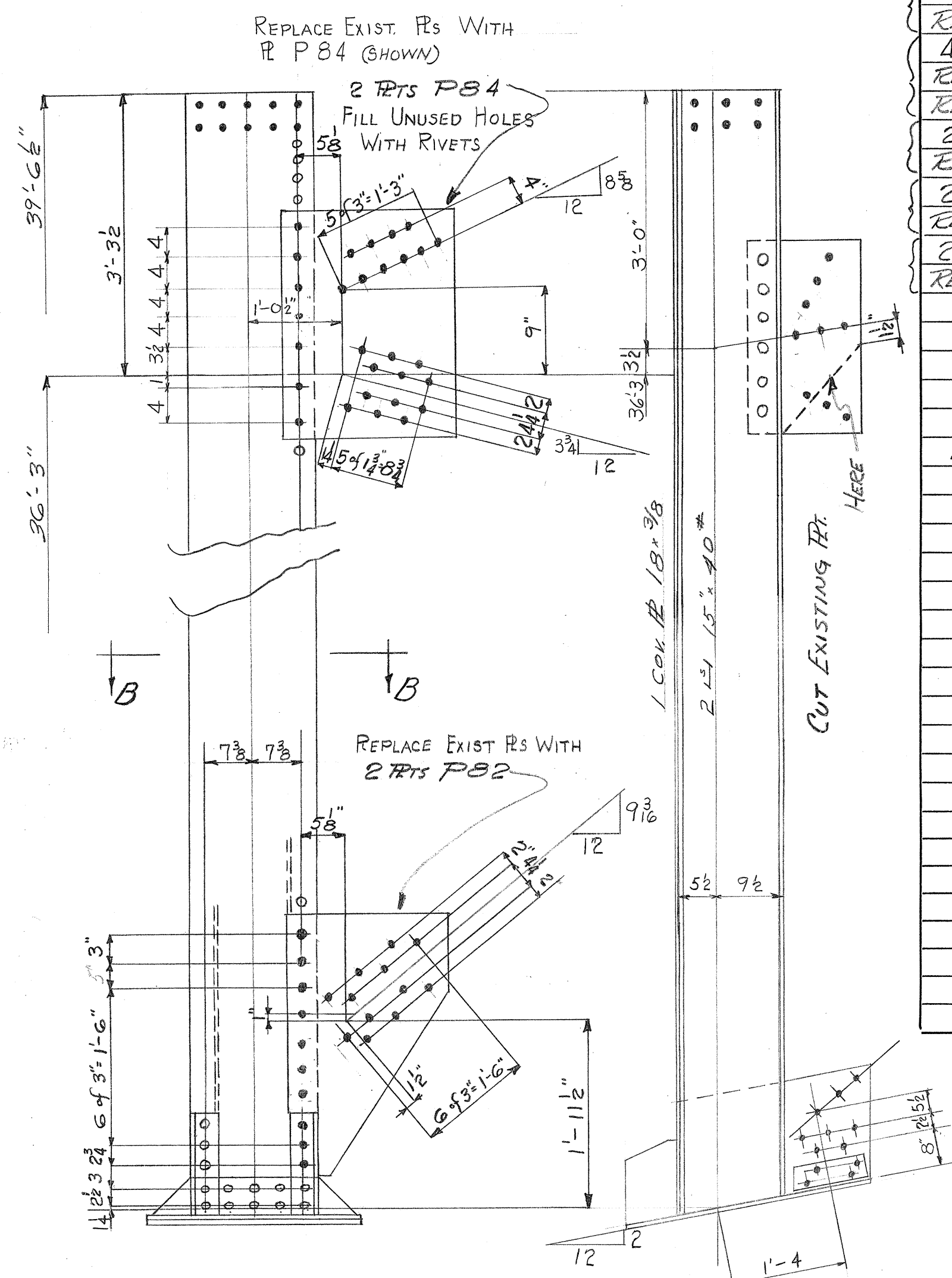




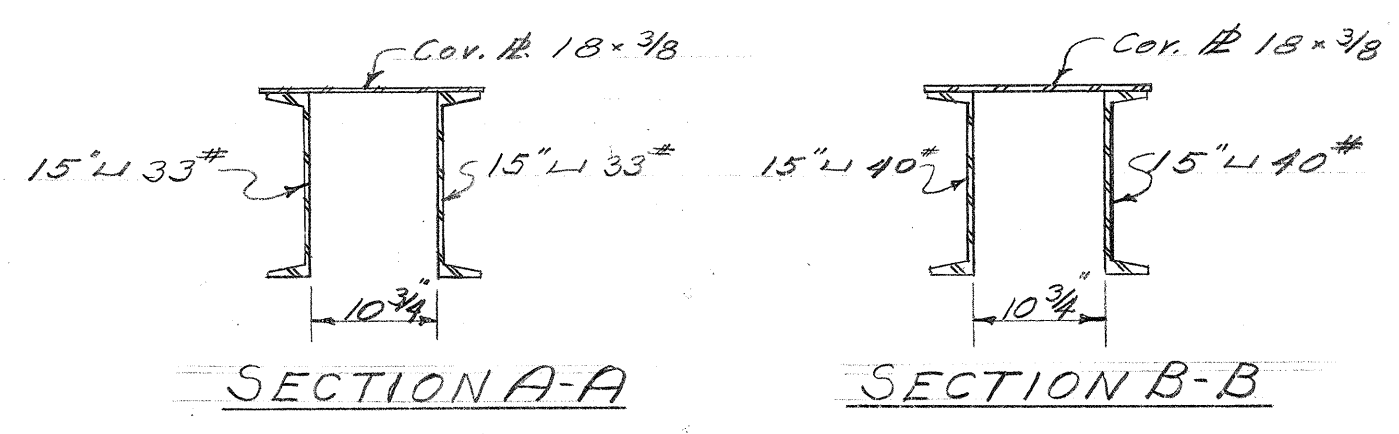
REVAMP 2 NEW COLUMNS FROM HONOLULU - MK C5 P-AS
 Do 2 Do Do Do KOLEKOLE MK C5 P-AS
 Do 2 Do Do Do Do MK C7 P-AS



REVAMP 2 NEW COLUMNS FROM HONOLULU - MK C3 P-AS
 1 Do 2 Do Do MK C63 P-AS FROM KOLEKOLE REMARK C72 P-AS



REVAMP 2 NEW COLUMNS FROM HONOLULU - MK C3 P-AS



No.	Description	Length	Mark	REMARKS
2	COLUMNS	39 6 1/2	C12	ALL C.O.S. SHOWN MATERIAL FROM HONOLULU
4	COLUMNS	21 5 1/2	C5	FROM HONOLULU
2	COLUMNS	21 5 1/2	C7	FROM KOLEKOLE
2	COLUMNS	23 3 1/2	C3	FROM HONOLULU
2	COLUMNS	23 3 1/2	C7	FROM KOLEKOLE
4	3/8" RS 20'	3 1 1/2	P80	REMA
4	3/8" RS 22'	2 7 1/2	P82	Do
4	3/8" RS 20'	2 5	P84	Do

NOTE:
 EXISTING SPLICE RS
 TO BE REVISED ALTHOUGH
 NOT SHOWN.

Rivets: 3/4"
 Holes: 1 1/8" Ø
 Paint:

INDUSTRIAL DEVELOPMENT CO.
 REVAMP COLUMNS
 PAHEEHEE BRIDGE
 HAWAII

INDEPENDENT IRON WORKS, INC.
 OAKLAND, CALIF.

MADE BY	AMB	G-14-49	ORDER NO.	3807
CHECKED BY	LC	B-3-49	SHEET NO.	718

5415.23

15th Unit

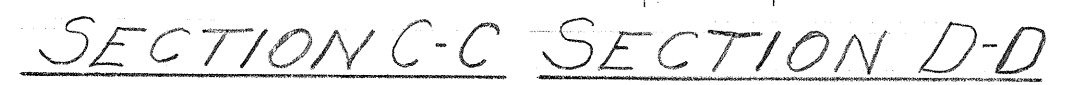
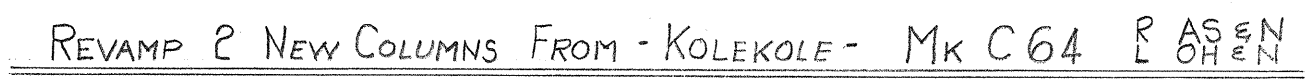
19'2"

3 3 3 2 1 3 3

REMOVE LATTICE

10'0"

SECTION BB

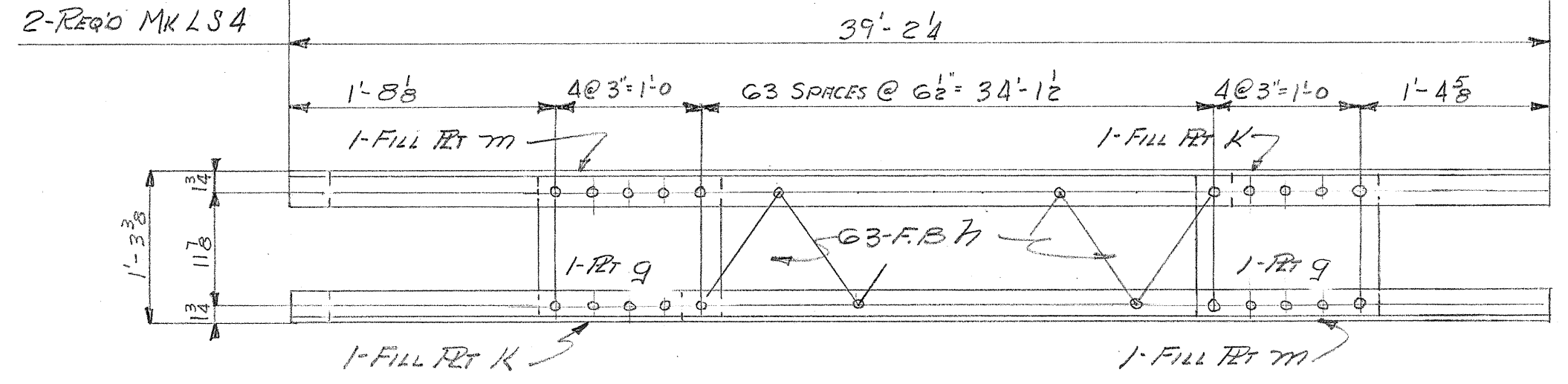
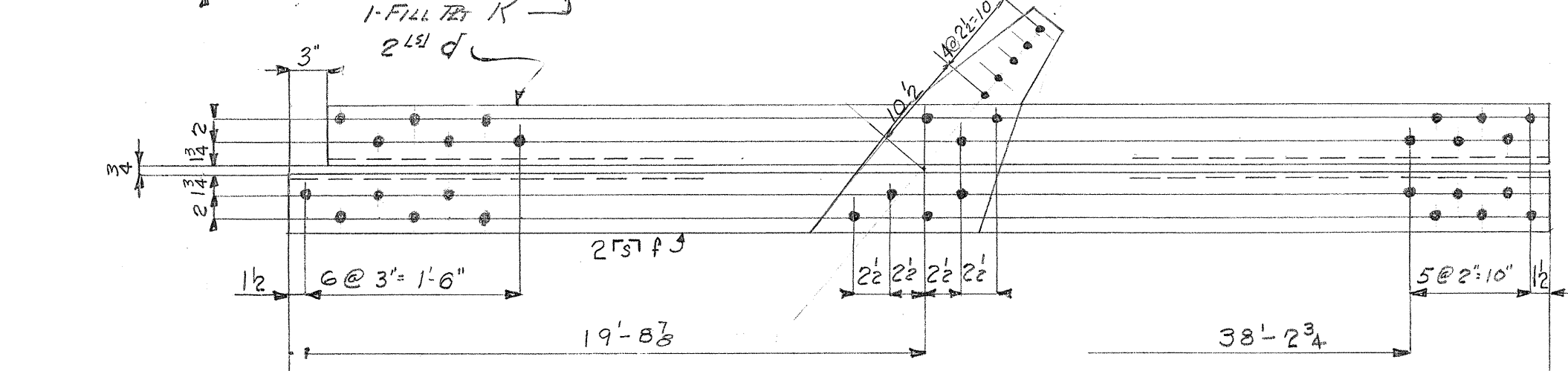
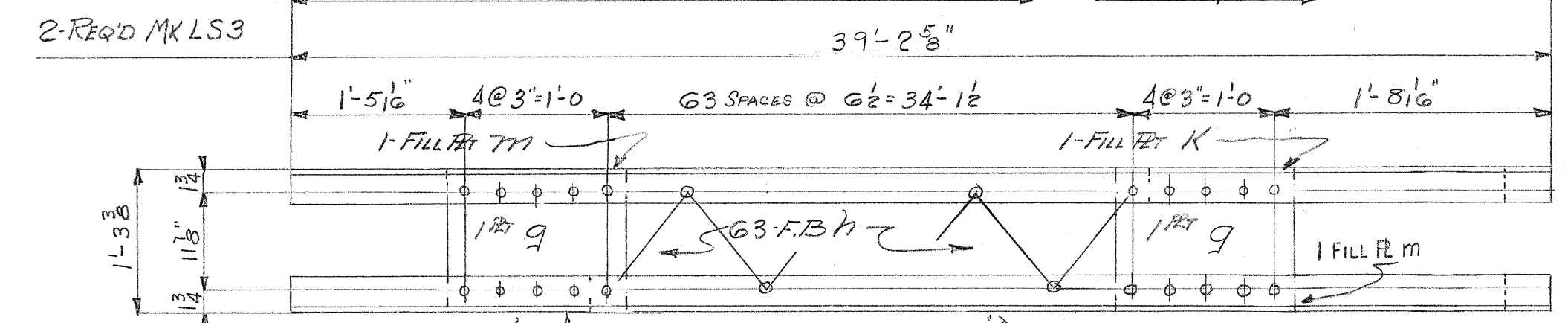
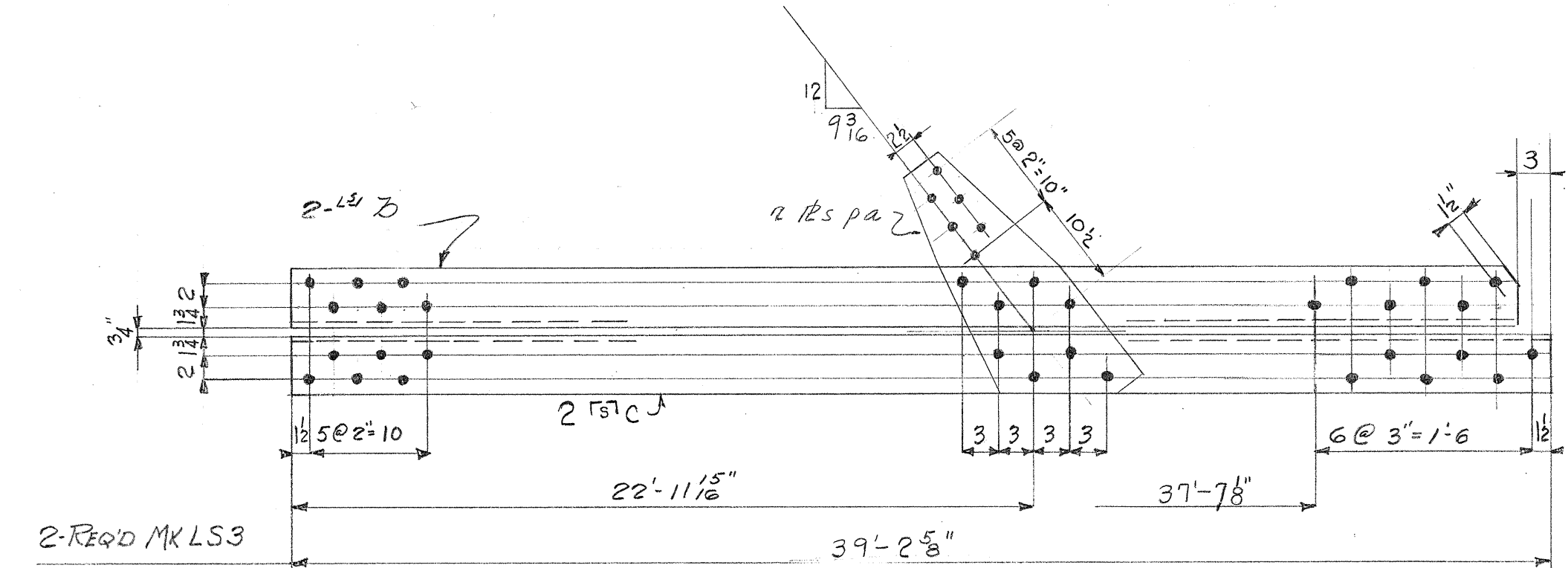
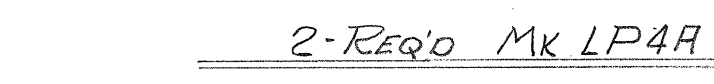
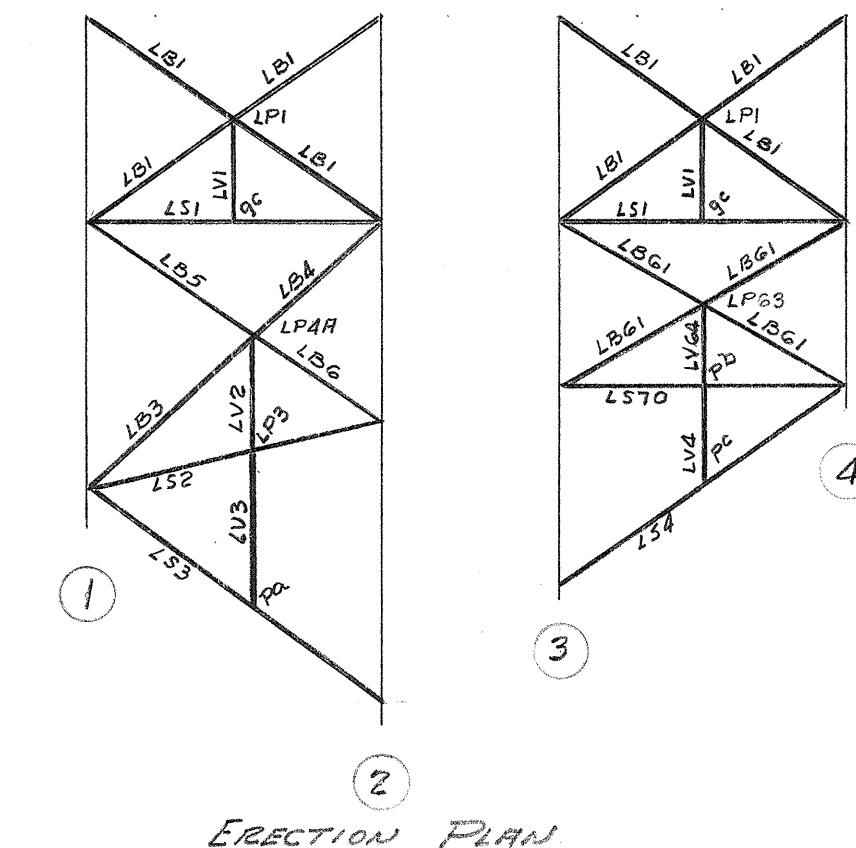


INDUSTRIAL DEV CO.			
REVAMP COLUMNS			
PAHEEHEE BRIDGE			
HAWAII			
INDEPENDENT IRON WORKS, INC.			
OAKLAND, CALIF.			
MADE BY	AMB	6-16-49	ORDER NO. 3807
CHECKED BY	LC	8-4-49	SHEET D-2-B

No.	Description	Length		Mark	REMARKS
		Ft.	In.		
16	DIAGONALS	18	10 $\frac{3}{4}$	LB1	FROM HONOLULU NO REVAMP
4	VERTICALS	10	9 $\frac{3}{4}$	LV1	FROM HONOLULU NO REVAMP
4	STRUTS	31	3	LS1	FROM HONOLULU NO REVAMP
8	$\frac{3}{8}$ " PYS 32"	3	1	LP1	FROM HONOLULU NO REVAMP
2	DIAGONALS	25	6 $\frac{3}{8}$	LB3	FROM HONOLULU NO REVAMP
8	DIAGONALS	16	10 $\frac{11}{16}$	LB61	FROM KOLE KOLE NO REVAMP
2	VERTICALS	7	8 $\frac{1}{2}$	LV64	FROM KOLE KOLE NO REVAMP
4	$\frac{3}{8}$ " PYS 25"	3	7	LP63	FROM KOLE KOLE NO REVAMP
2	DIAGONALS	18	1 $\frac{1}{16}$	LB4	
	REVAMP FROM 2-	20	1 $\frac{1}{8}$	LB4	FROM HONOLULU
2	DIAGONALS	22	3 $\frac{1}{2}$	LB5	
	REVAMP FROM 2-	22	9 $\frac{1}{2}$	LB5	FROM HONOLULU
2	DIAGONALS	15	5 $\frac{1}{2}$	LB6	
	REVAMP FROM 2-	17	11 $\frac{1}{8}$	LB6	FROM HONOLULU
4	$\frac{3}{8}$ " PYS 31"	3	3	LP4H	SALVAGE
4	$\frac{3}{8}$ " PYS 13	3	7 $\frac{1}{2}$	LP3	SALVAGE
2	STRUTS	31	3	LS70	
	REVAMP FROM 2-	31	3	LS1	FROM KOLE KOLE
8	$\frac{3}{8}$ " PYS 5 $\frac{1}{2}$ "	1	4	9c	FROM HONOLULU NO REVAMP
2	VERTICALS	12	8 $\frac{1}{2}$	LV2	
	REVAMP FROM ONE	31	3	LS1	FROM KOLE KOLE
2	VERTICALS	19	2 $\frac{1}{2}$	LV3	
	REVAMP FROM 2-	31	3	LS1	FROM KOLE KOLE
2	VERTICALS	11	5 $\frac{1}{2}$	LV4	
	REVAMP FROM 2-	18	10 $\frac{3}{8}$	LB1	FROM KOLE KOLE
4	$\frac{3}{8}$ " PYS 12"	3	1	pa	NEW MAT'L
4	$\frac{3}{8}$ " PYS 12"	2	5 $\frac{1}{2}$	pb	
4	$\frac{3}{8}$ " PYS 9"	2	9	pc	
2	STRUTS	32	5 $\frac{1}{2}$	LS2	
2	STRUTS	39	2 $\frac{1}{2}$	LS3	
2	STRUTS	39	2 $\frac{1}{2}$	LS4	
8	$4^5 5 \times 3 \times \frac{3}{8}$	32	5 $\frac{1}{2}$	a	NEW MAT'L
4	$4^5 5 \times 3 \times \frac{3}{8}$	38	11 $\frac{1}{8}$	b	NEW MAT'L
4	$4^5 5 \times 3 \times \frac{3}{8}$	39	2 $\frac{1}{2}$	c	NEW MAT'L
4	$4^5 5 \times 3 \times \frac{3}{8}$	38	11 $\frac{1}{4}$	d	NEW MAT'L
4	$4^5 5 \times 3 \times \frac{3}{8}$	39	2 $\frac{1}{2}$	f	NEW MAT'L
12	PYS. $\frac{3}{8} \times 15$	1	3	g	
356	F.B. $2\frac{1}{2} \times \frac{3}{8}$	1	1 $\frac{1}{2}$	h	
12	PYS $3 \times \frac{3}{8}$	1	0	k	
12	PYS $3 \times \frac{3}{8}$	1	3	m	

Revised 3-3-60

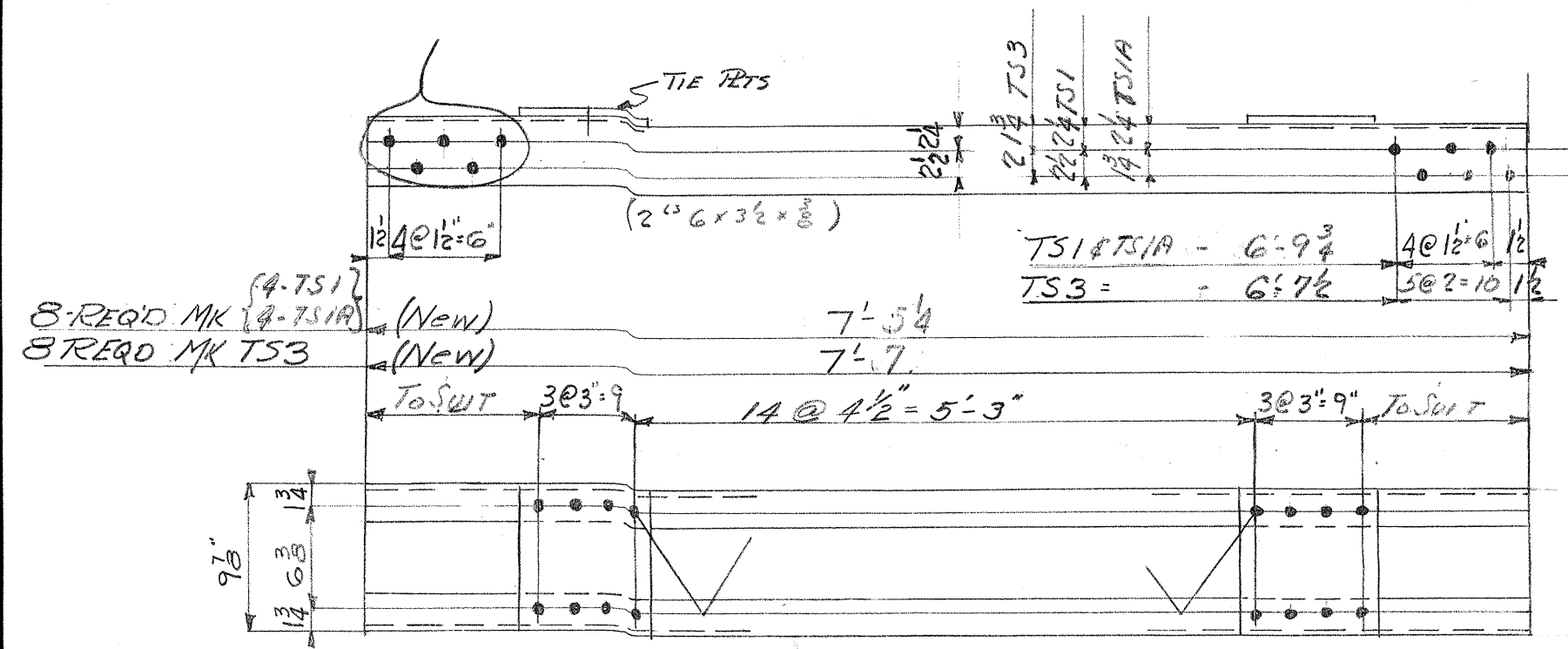
PAHEEHEE BRIDGE			
BRACING FOR BENTS			
HAWAII			
INDEPENDENT IRON WORKS, INC.			
OAKLAND, CALIF.			
MADE BY	AMS	G-22-49	ORDER NO. 3807
CHECKED BY	LK	S-4-49	SHEET NO. D3P



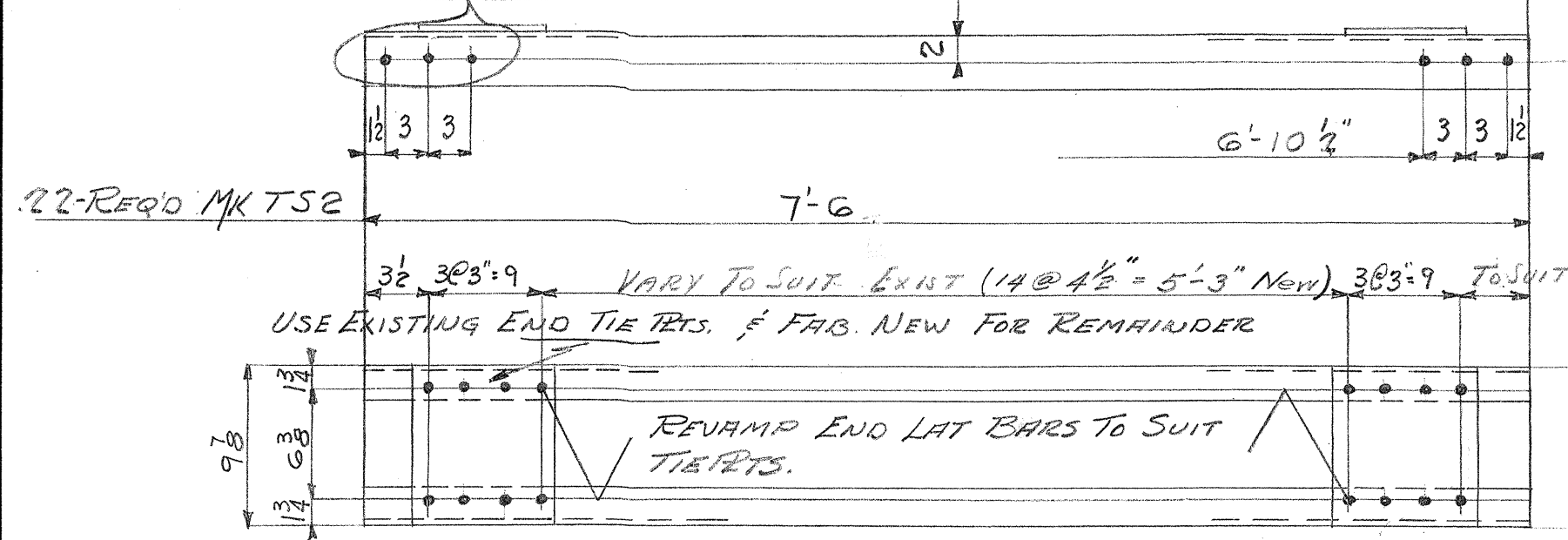
NO REVAMP	10	R 12 × 3/8	1	6	SP1	Honeii
	20	R 12 × 3/8	1	0	SP2	Do
	10	R 12 × 3/8	1	6	SP3	Kolekole

No.	Description	Length		Mark	REMARKS
		Ft.	In.		
8	STRUTS	7	7	TS3	NEW
4	STRUTS	7	5 $\frac{1}{2}$	TS1	Do
4	STRUTS	7	5 $\frac{1}{2}$	TS1A	Do
22	STRUTS	7	6	TS2	
Make 13 from existing struts					
M. TS-2, TS-3 & TS-6					
Make 9 from new material					
8	DIAGONALS	12	11 $\frac{13}{16}$	TB1	
CUT FROM	8	16	8 $\frac{1}{2}$	TB1B	FROM HAND IN
8	DIAGONALS	15	8 $\frac{1}{2}$	TB2	
CUT 8 FROM	8	16	8 $\frac{1}{2}$	TB1B	FROM HAND IN
2	DIAGONALS	18	3 $\frac{1}{2}$	TB3	*
2	DIAGONALS	19	0 $\frac{13}{16}$	TB4	*
4	DIAGONALS	24	9 $\frac{1}{2}$	TB5	
CUT 2 FROM	2	26	0 $\frac{3}{8}$	TB1B	FROM HAND IN
CUT 2 DO	2	26	0 $\frac{3}{8}$	TB1B	DO KILGORE
2	DIAGONALS	20	2 $\frac{1}{2}$	TB6	*
2	DIAGONALS	36	10 $\frac{11}{16}$	TB7	*
2	DIAGONALS	19	2 $\frac{1}{2}$	TB8	
CUT FROM	2	21	7 $\frac{1}{8}$	TB17	FROM HAND IN
8	12 3 $\frac{1}{2}$ x $\frac{3}{8}$	1	6	a	TEMP (NEW)
50	TIE 12 9 x $\frac{3}{8}$	1	0	La	TEMP (NEW)
18	1 $\frac{1}{2}$ x 3 x $\frac{9}{16}$	7	6		New
16	1 $\frac{1}{2}$ x 3 x $\frac{3}{8}$	7	5 $\frac{1}{2}$		Do
16	1 $\frac{1}{2}$ x 3 $\frac{1}{2}$ x $\frac{3}{8}$	7	7		Do
350	12 2 $\frac{1}{2}$ x $\frac{9}{16}$	0	10 $\frac{13}{16}$		Do

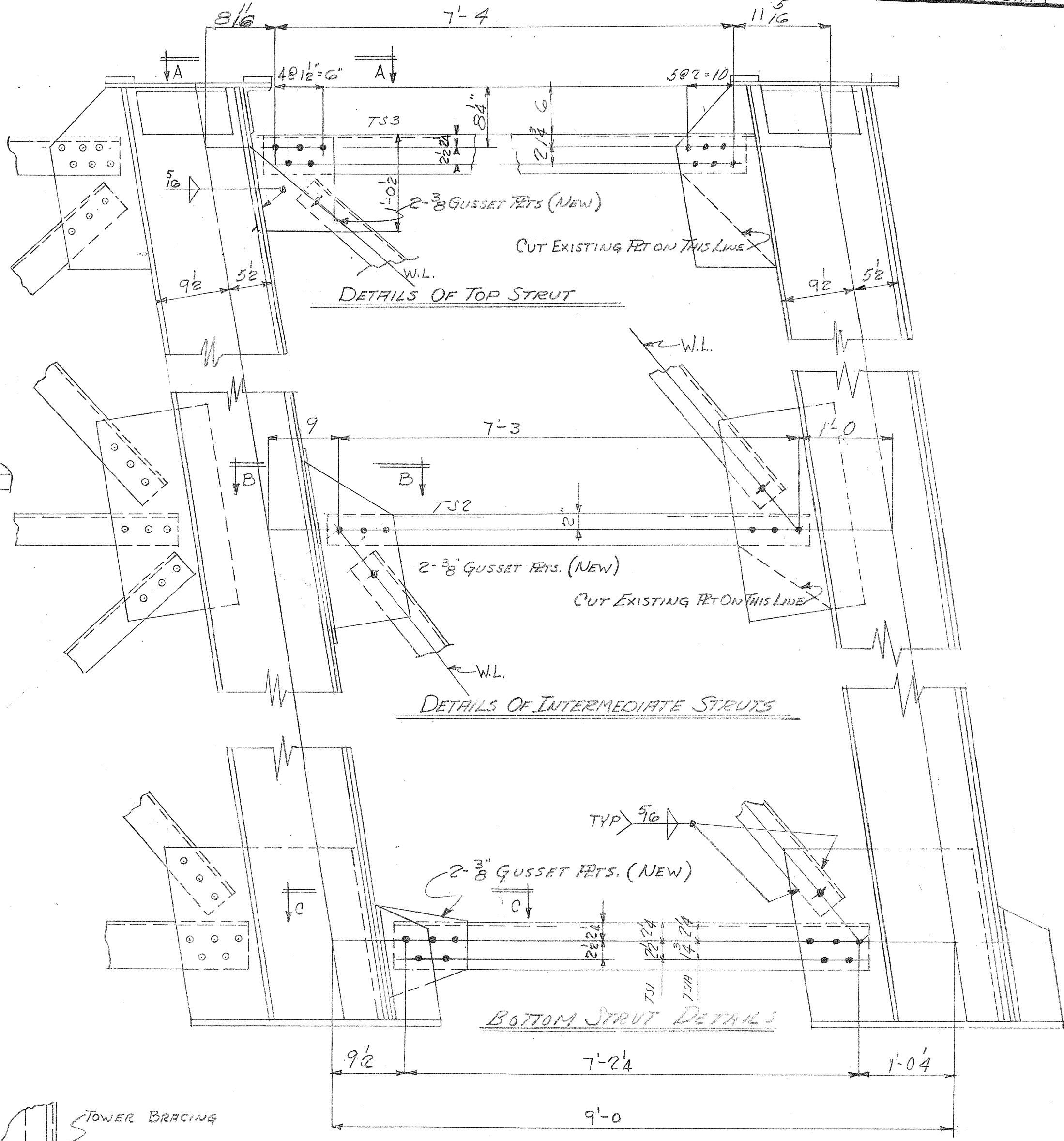
- * - Cut from existing members to be designated by Resident Engineer, Revamp to suit.



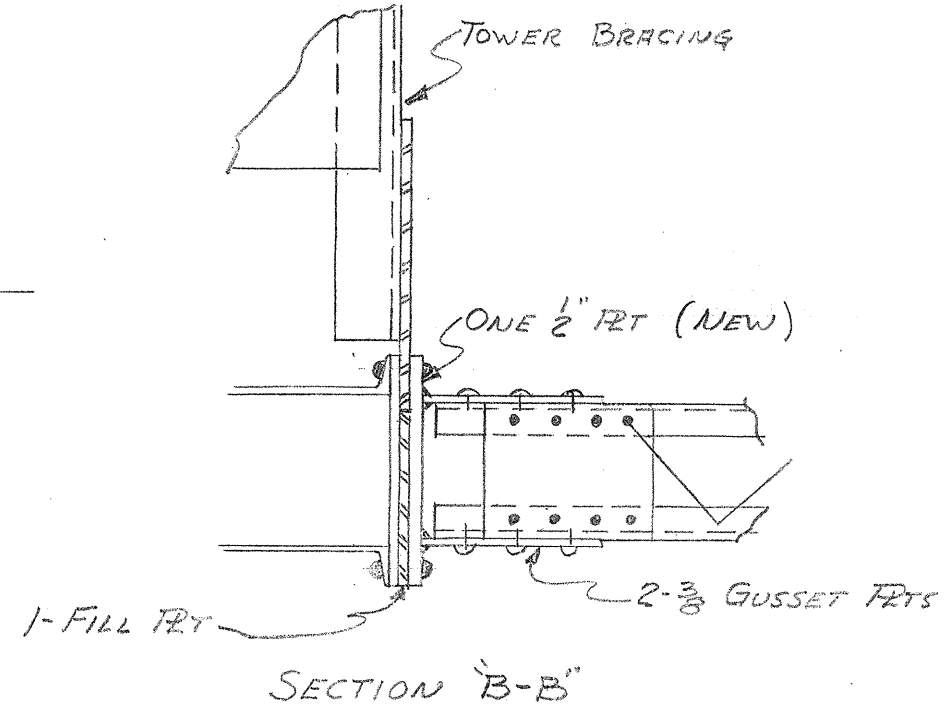
USE EXISTING HOLES IN ENDS OF BRACES



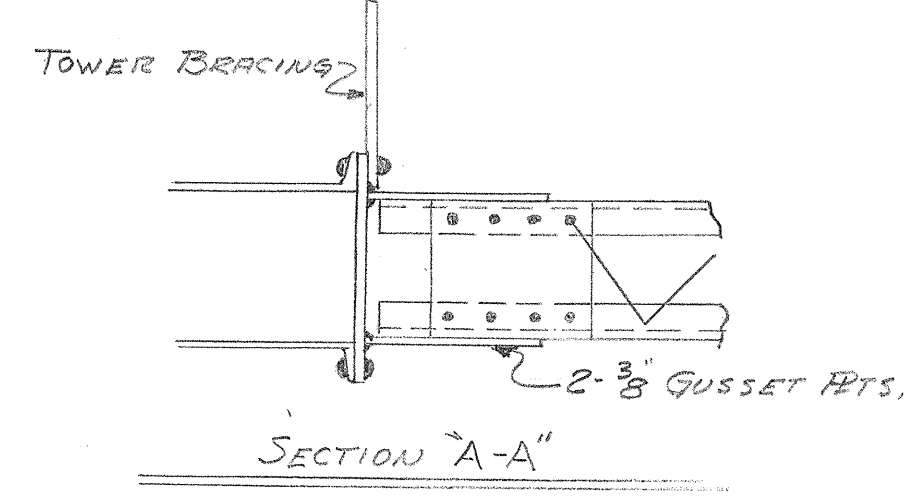
REVAMP 13 FROM TS-2, TS-3 & TS-6
MAKE 9 FROM NEW MAT'L.



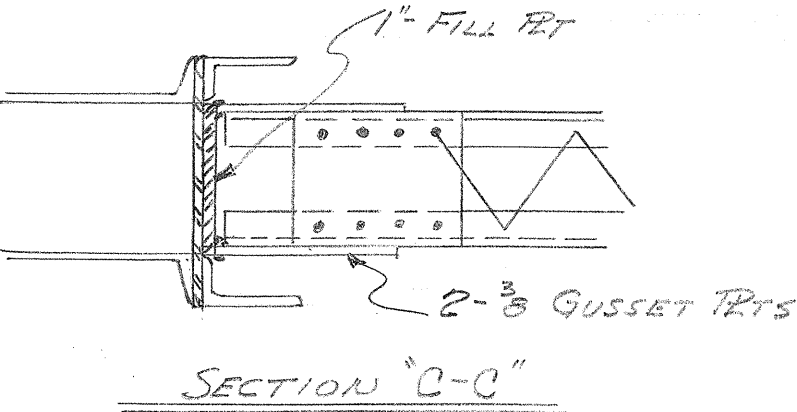
TYPICAL ASSEMBLY DETAILS @ COLUMN STRUTS



SECTION 'B-B'



Section "A-A'"



SECTION "C-C"

Hand-drawn diagram of a bridge deck cross-section showing 8 reinforcement bars (MK TB1 to MK TB8) and their elevations. The diagram includes a top view of the deck with a width of 26'-0" and a centerline offset of 10'-10 1/2". The elevation of the top of the deck is 12'-11 1/2". The elevations of the reinforcement bars are: MK TB1 at 15'-4 1/2", MK TB2 at 18'-3 5/8", MK TB3 at 19'-0 1/8", MK TB4 at 24'-9 1/2", MK TB5 at 20'-2 1/4", MK TB6 at 36'-10 1/2", and MK TB7 at 19'-2 1/2". The diagram also shows a 2' x 2' area of reinforcement bars (2' x 2' - TB7) and a 2' x 2' area of reinforcement bars (2' x 2' - TB7).

Bar	Elevation
8' REQ'D MK TB1	12'-11 1/2"
8' REQ'D MK TB2	15'-4 1/2"
2' REQ'D MK TB3	18'-3 5/8"
2' REQ'D MK TB4	19'-0 1/8"
4' REQ'D MK TB5	24'-9 1/2"
2' REQ'D MK TB6	20'-2 1/4"
2' REQ'D MK TB7	36'-10 1/2"
2' REQ'D MK TB8	19'-2 1/2"

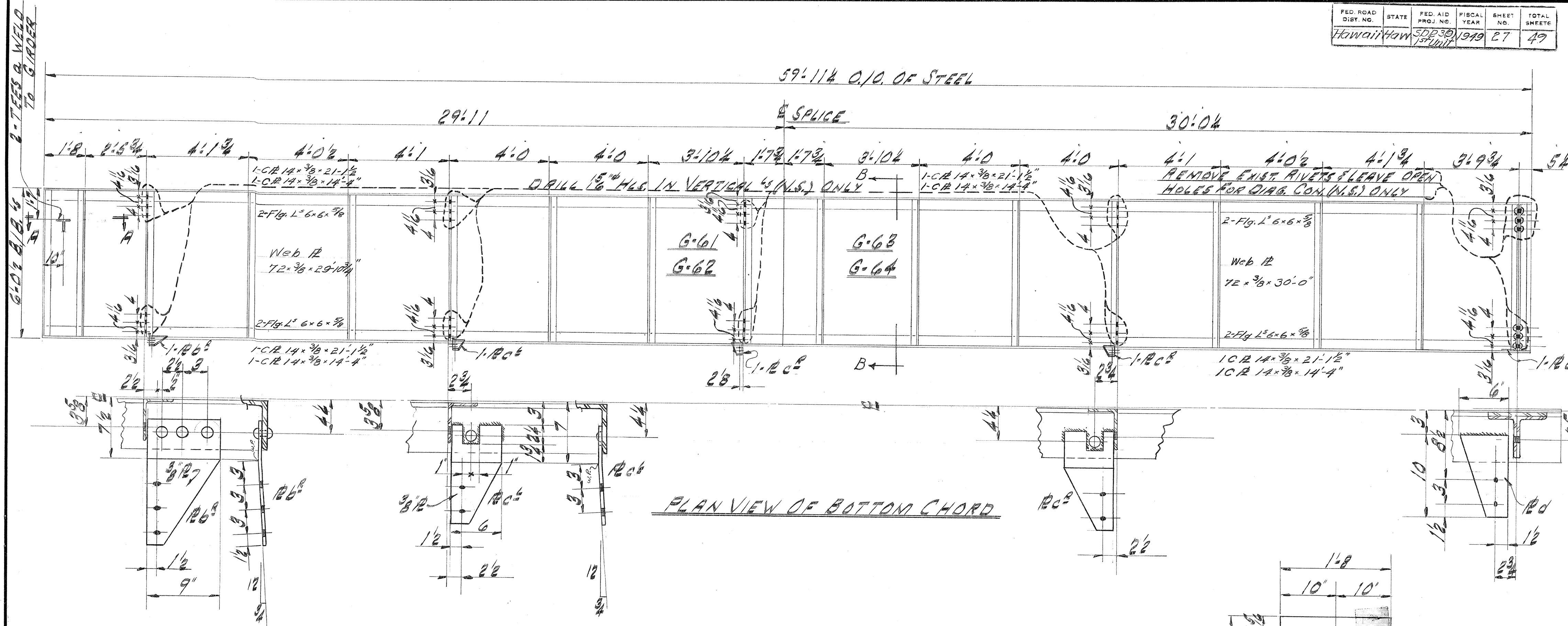
Rivets: $\frac{3}{4}$ "
Holes: $\frac{1}{16}$ " ϕ
Paint:

INDUSTRIAL DEV. CO.			
PAHEEHEE BRIDGE			
BENT BRACING			
HAWAII			
INDEPENDENT IRON WORKS, INC.			
OAKLAND, CALIF.			
MADE BY	AMB	G-29-49	ORDER NO. 3807
CHECKED BY	OC	R-9-49	SHEET DAP

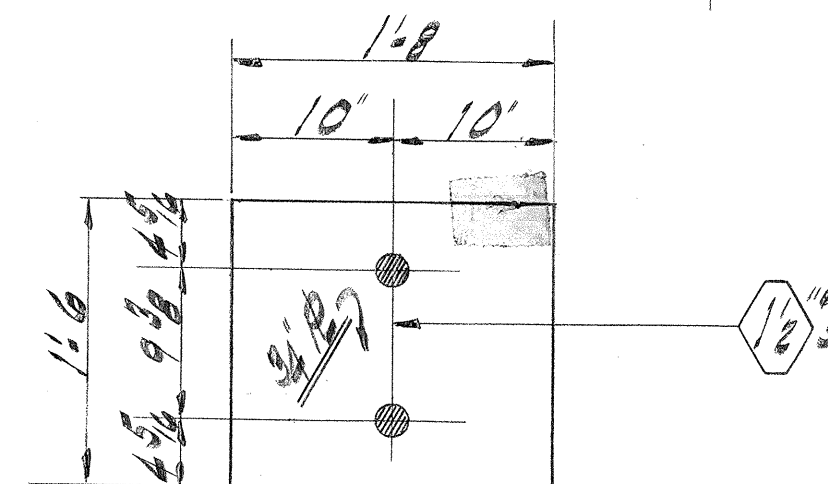
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
Hawaii	Haw	50230	1949	27	49

BILL OF MATERIAL INDUSTRIAL DEV. CO.

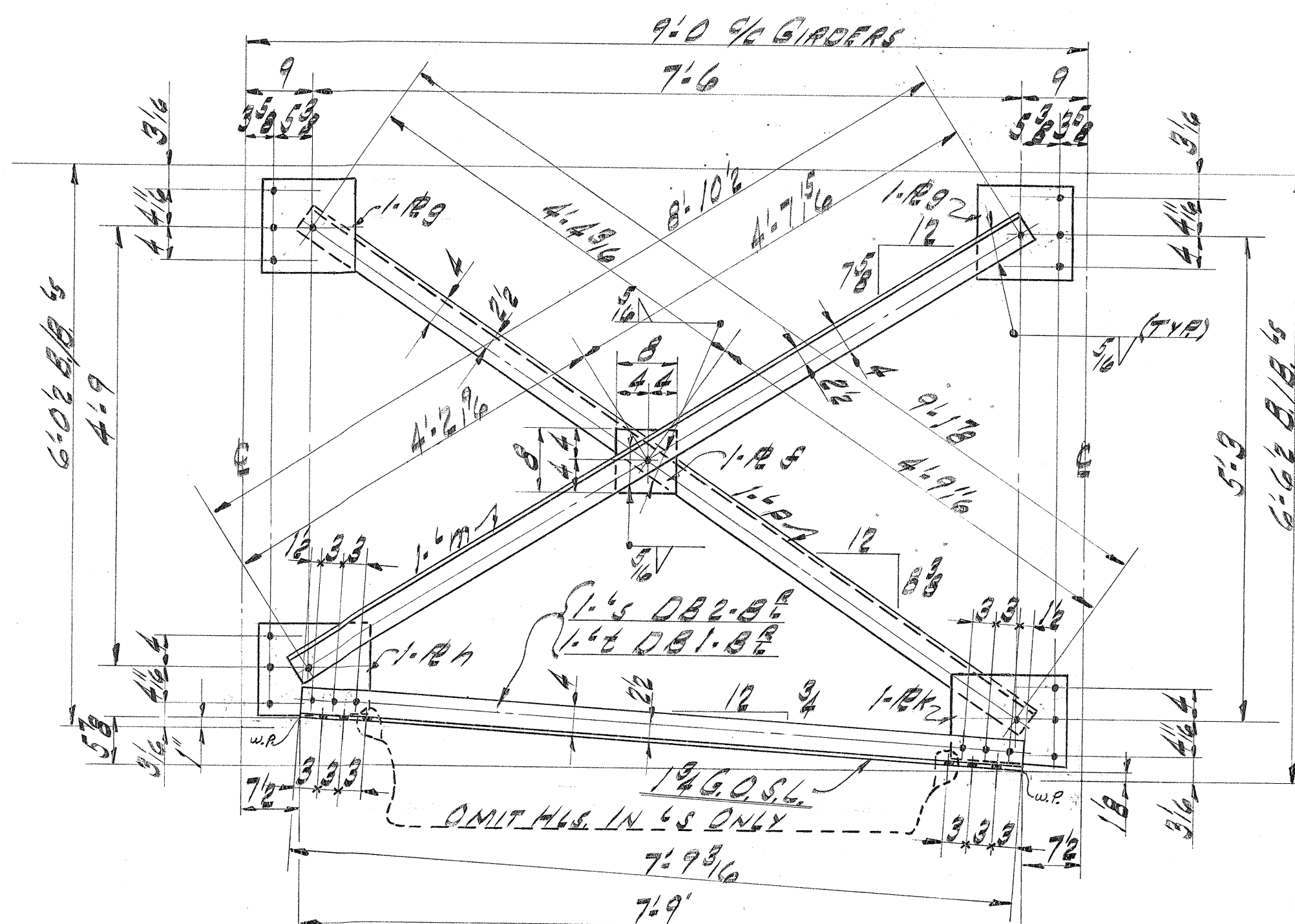
No.	Description	Length Ft.	Mark	REMARKS
4	EXIST. GIRDERS 2-662 & 2-664 (A.S.) ON DETAIL			
4	EXIST. GIRDERS 2-661 & 2-663 (A.S.) ON DETAIL			
4	DIAGONAL BRACES DB1-B			
12	DIAGONAL BRACES DB2-B			
4	4x3x3/8 B 6 S2-B			REMOVED FROM
12	4x3x3/8 B 7 S1-B			TOWER BRACING
	SEE SHT. D10-B			
8	ST6W22.5	0	6	a
4	12x3x3/8	1	2	b
12	12x3x3/8	0	11/2	c
4	12x3x3/8	0	10	d
16	12x3x3/8	0	8	e
32	12x3x3/8	1	0	g
16	12x3x3/8	1	3	h
16	12x3x3/8	1	3	k
16	4x3x3/8	9	1/2	m
16	4x3x3/8	9	4/8	p
12	4x3x3/8	7	9/4	s
4	4x3x3/8	7	9/4	t
20	12x3x3/8	0	7	v
	NEW MATL.			
4	12x3x3/8	1	8	LP-B
	NEW MATL.			



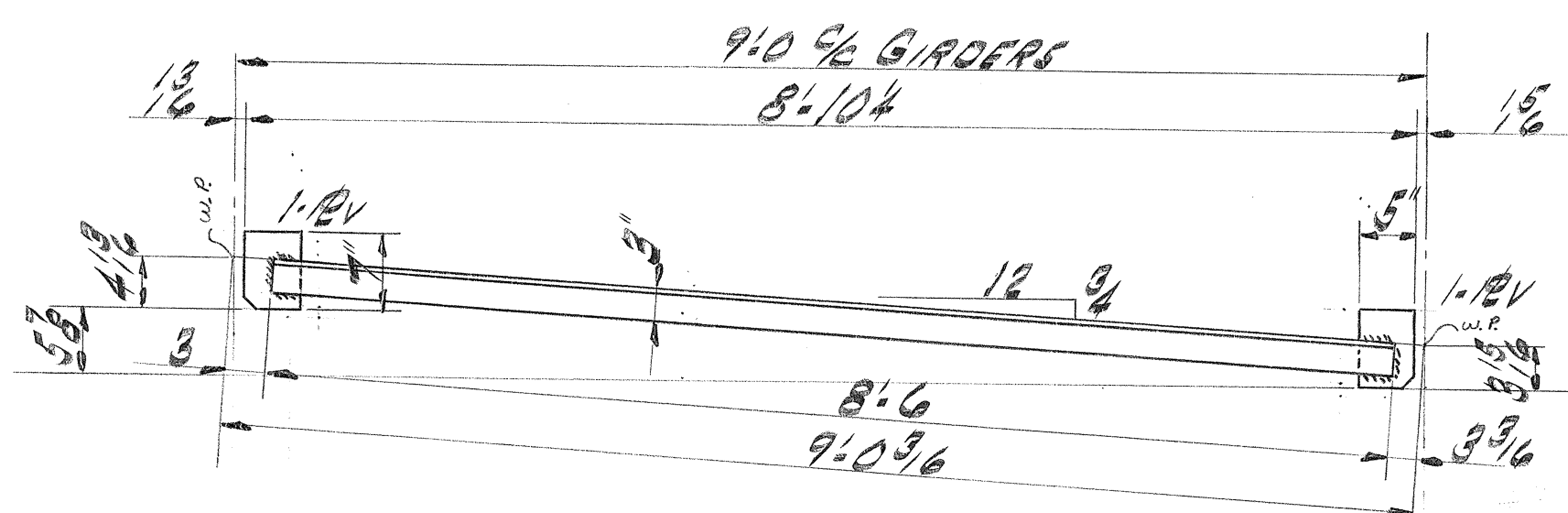
REVAMP-4- EXISTING GIRDERS 2-662 & 2-664 (A.S.) EN.
DO -4- DO DO 2-661 & 2-663 (O.H.) EN.



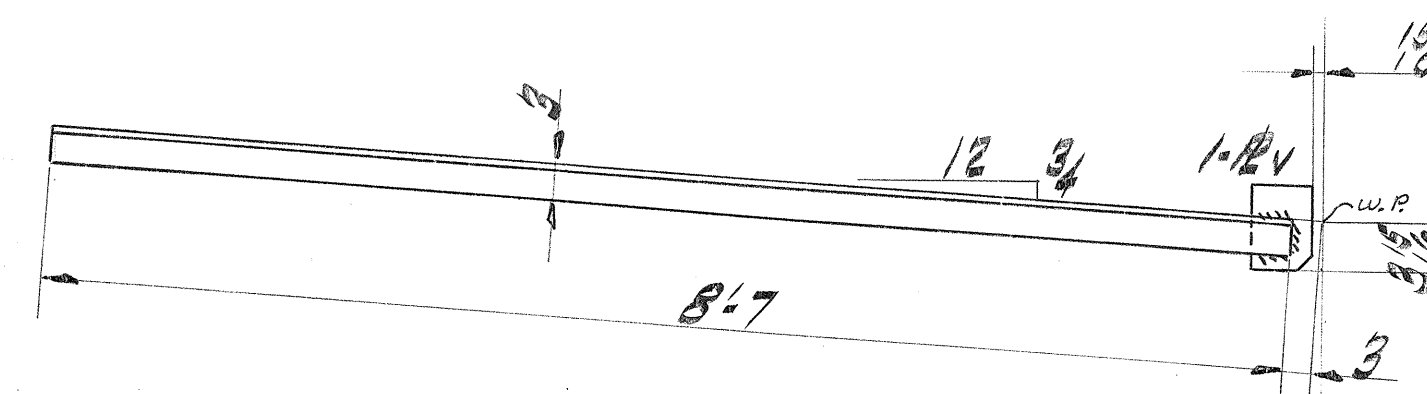
4-12x3x3/8 (A.S.) NK. LP-B



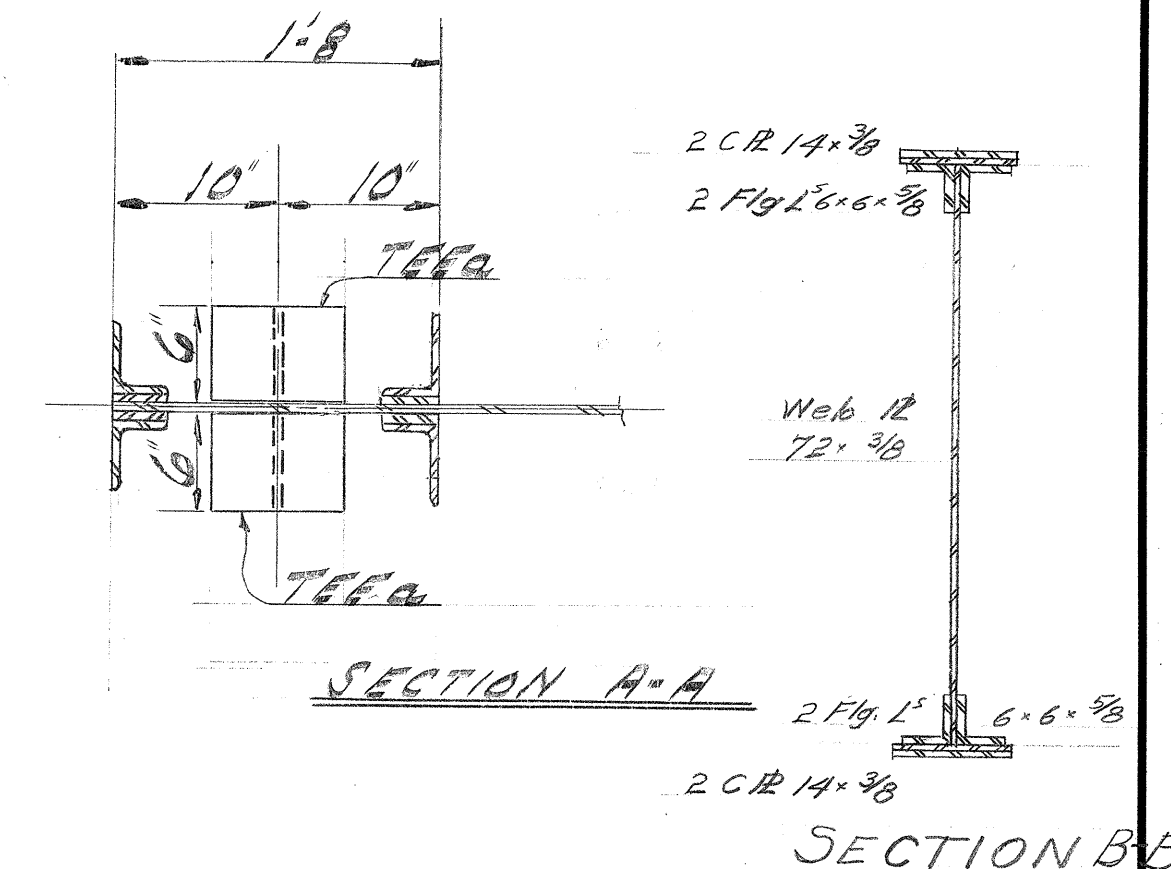
MAKE -2- DIAGONAL BRACES (A.S.) EN NK DB1-B
DO -2- DO DO (O.H.) EN DO DB1-B
DO -6- DO DO (A.S.) EN DO DB2-B
DO -6- DO DO (O.H.) EN DO DB2-B



2- STRUTS REDD. (A.S.) NK S2-B
2- DO DO (O.H.) DO S2-B



6- STRUTS REDD. (A.S.) NK S1-B
6- DO DO (O.H.) DO S1-B



Rivets: 3/4
Holes: 1 1/8
Paint:

INDUSTRIAL DEV. CO.
ADDITION TO THE PANACEER
BRIDGE - HAWAII -

INDEPENDENT IRON WORKS, INC. OAKLAND, CALIF.			
MADE BY	DO	8-12-49	ORDER NO. 3807
CHECKED BY	DO	8-18-49	SHEET NO. D5-B

5413.28

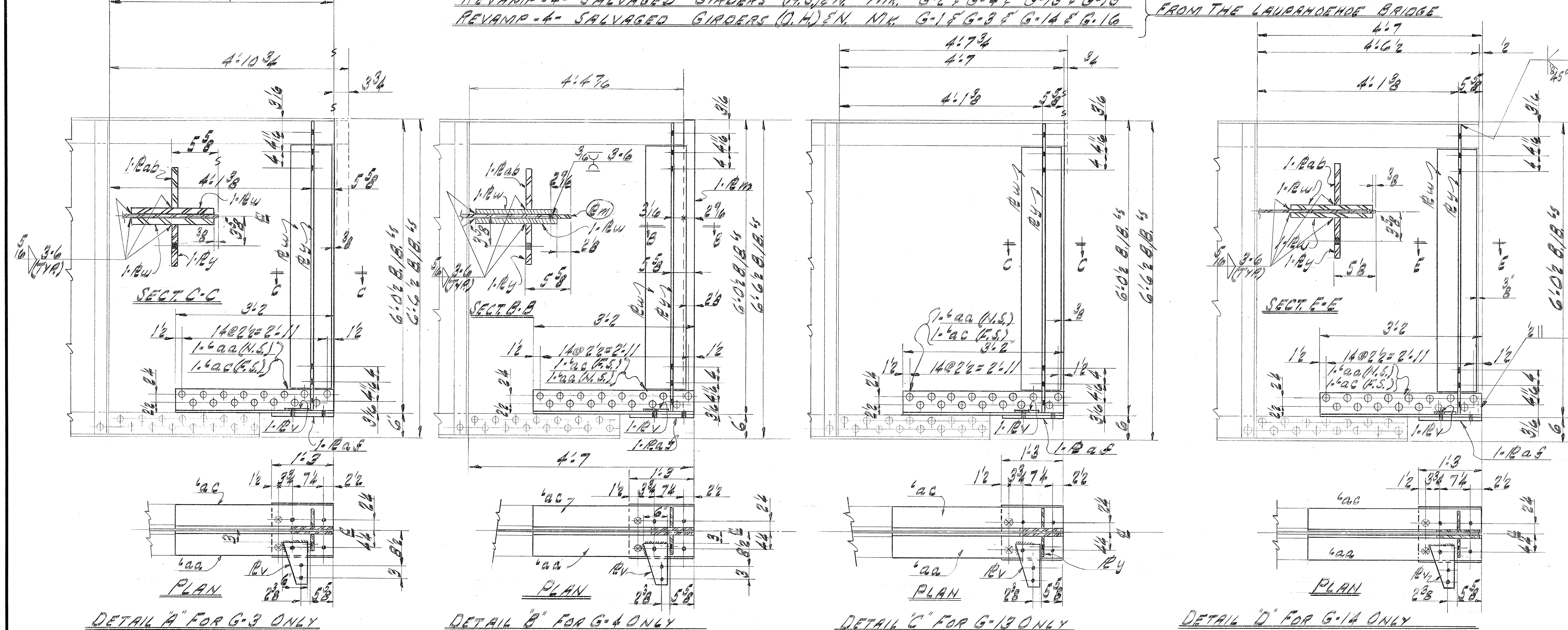
SECTION A-A
GENERAL NOTE: ALL OPEN H/L'S IN
TIRDER WEB ENDS ARE TO BE
FILLED WITH WELD BEFORE FILL
PLATE ARE INSTALLED

Rivets: 8 ^{11/16"}
Holes: 15 ^{11/16"} U.N.
Paint:

INDUSTRIAL DEV. CO.
ADDITION TO THE PAEEHEE
BRIDGE - HAWAII

INDEPENDENT IRON WORKS, INC.
OAKLAND, CALIF.

MADE BY	<i>DM</i>	<i>8-16-49</i>	ORDER NO.	<i>3507</i>
CHECKED BY	<i>N</i>	<i>8-18-49</i>	SHEET NO.	<i>D6-B</i>



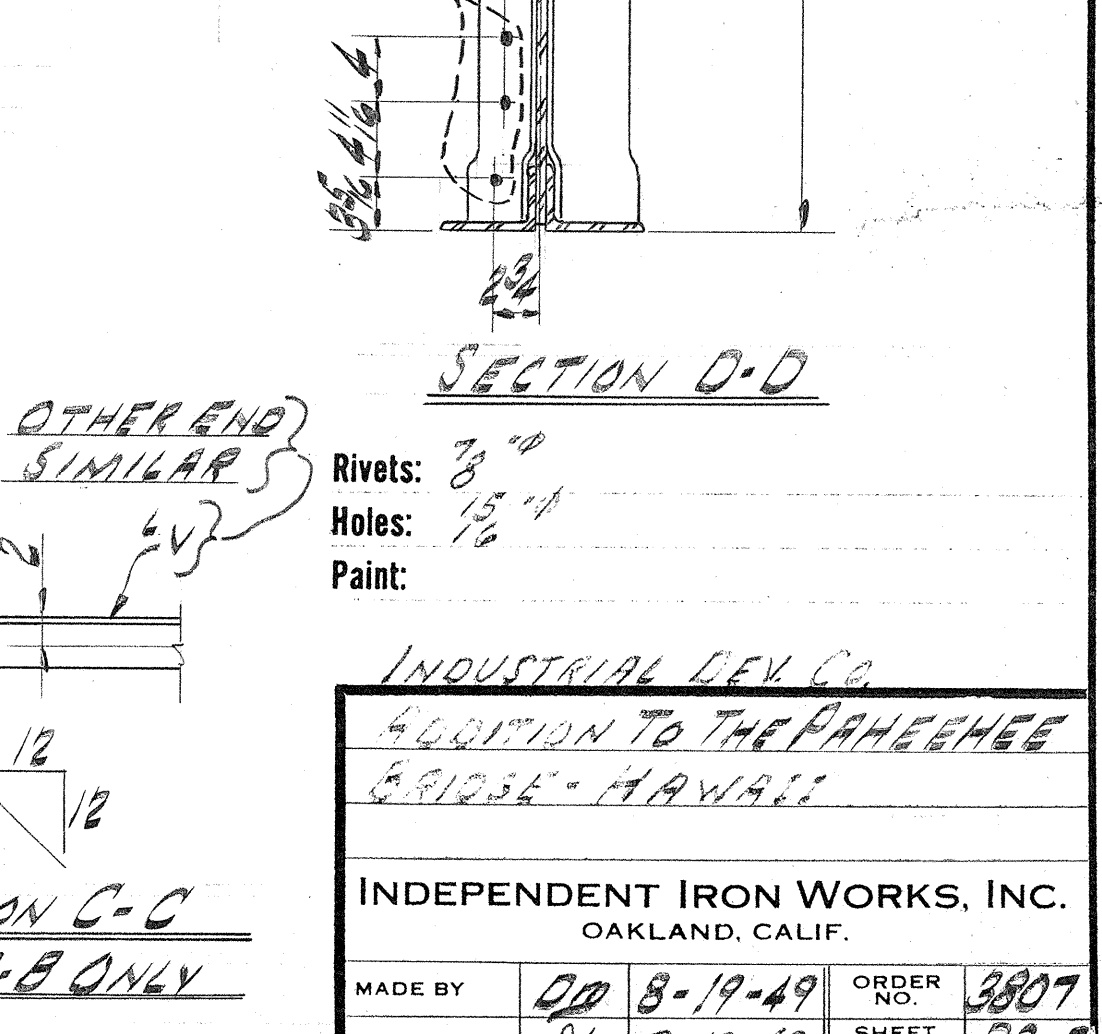
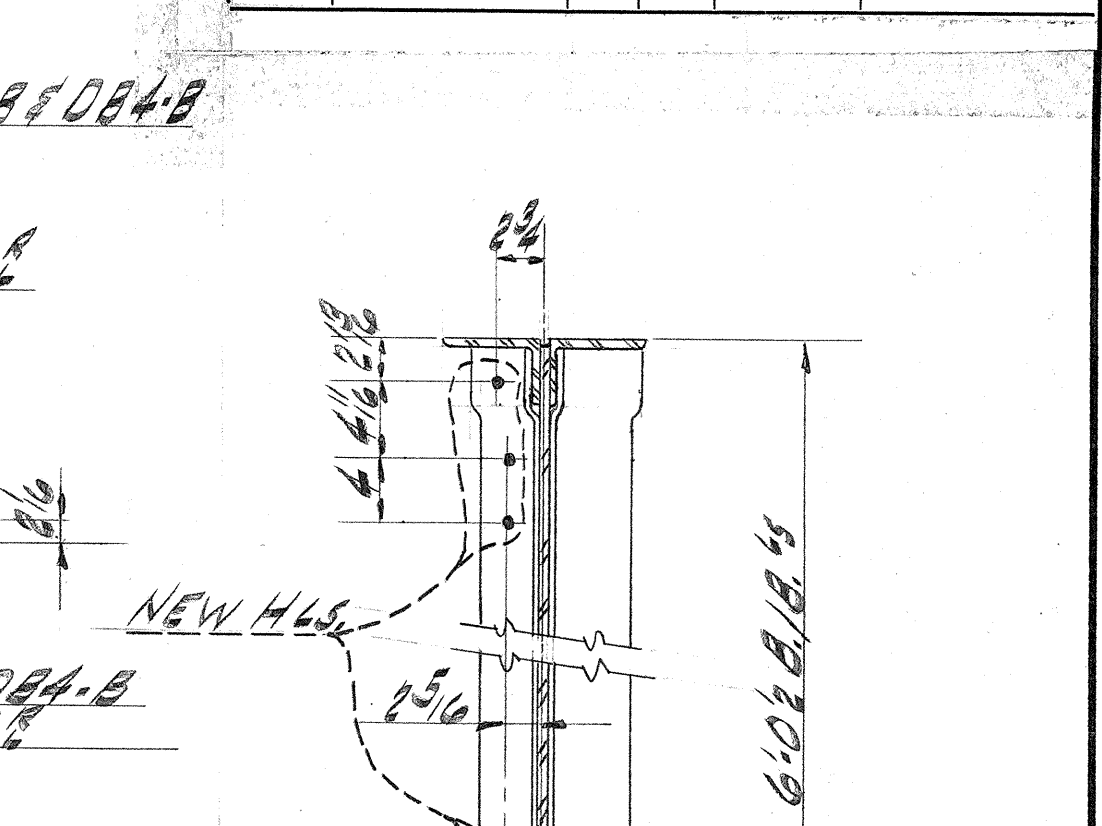
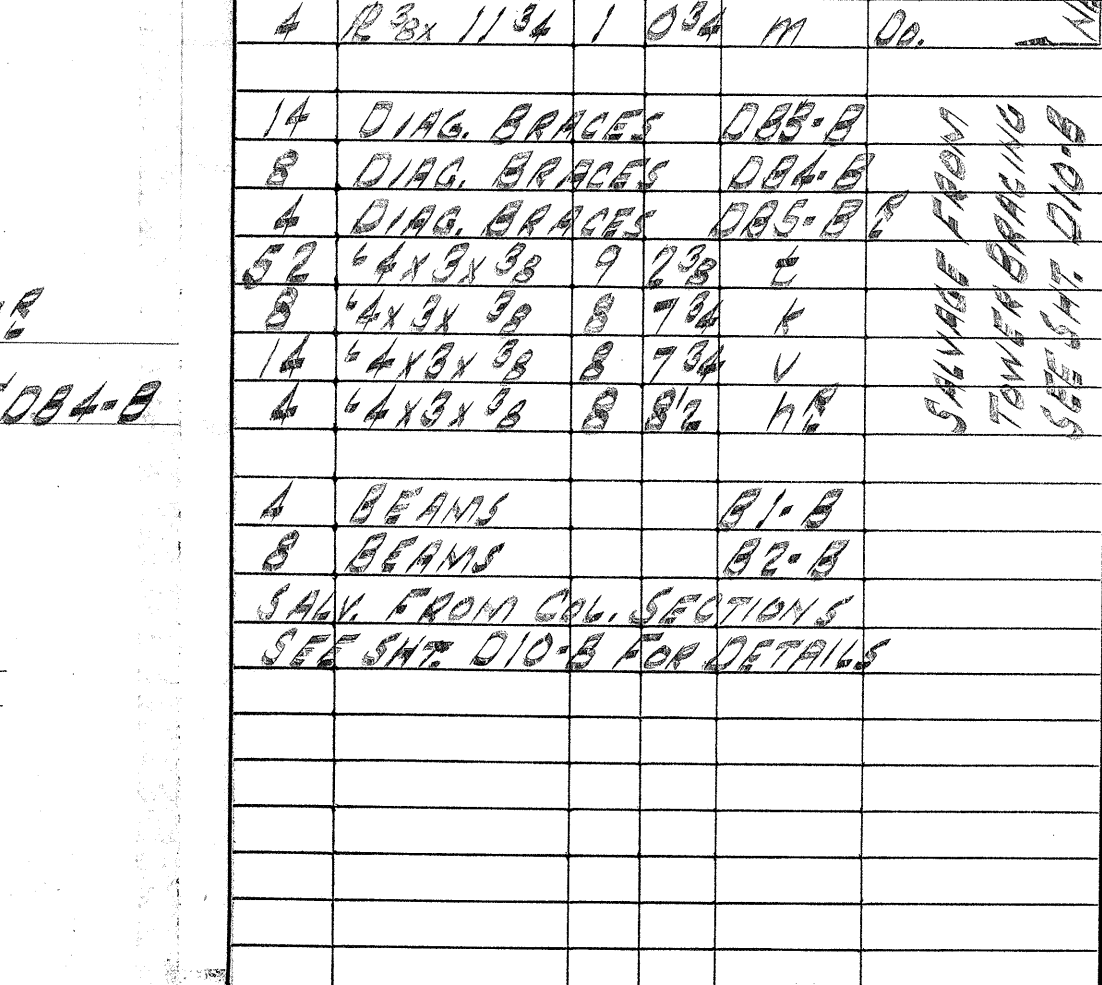
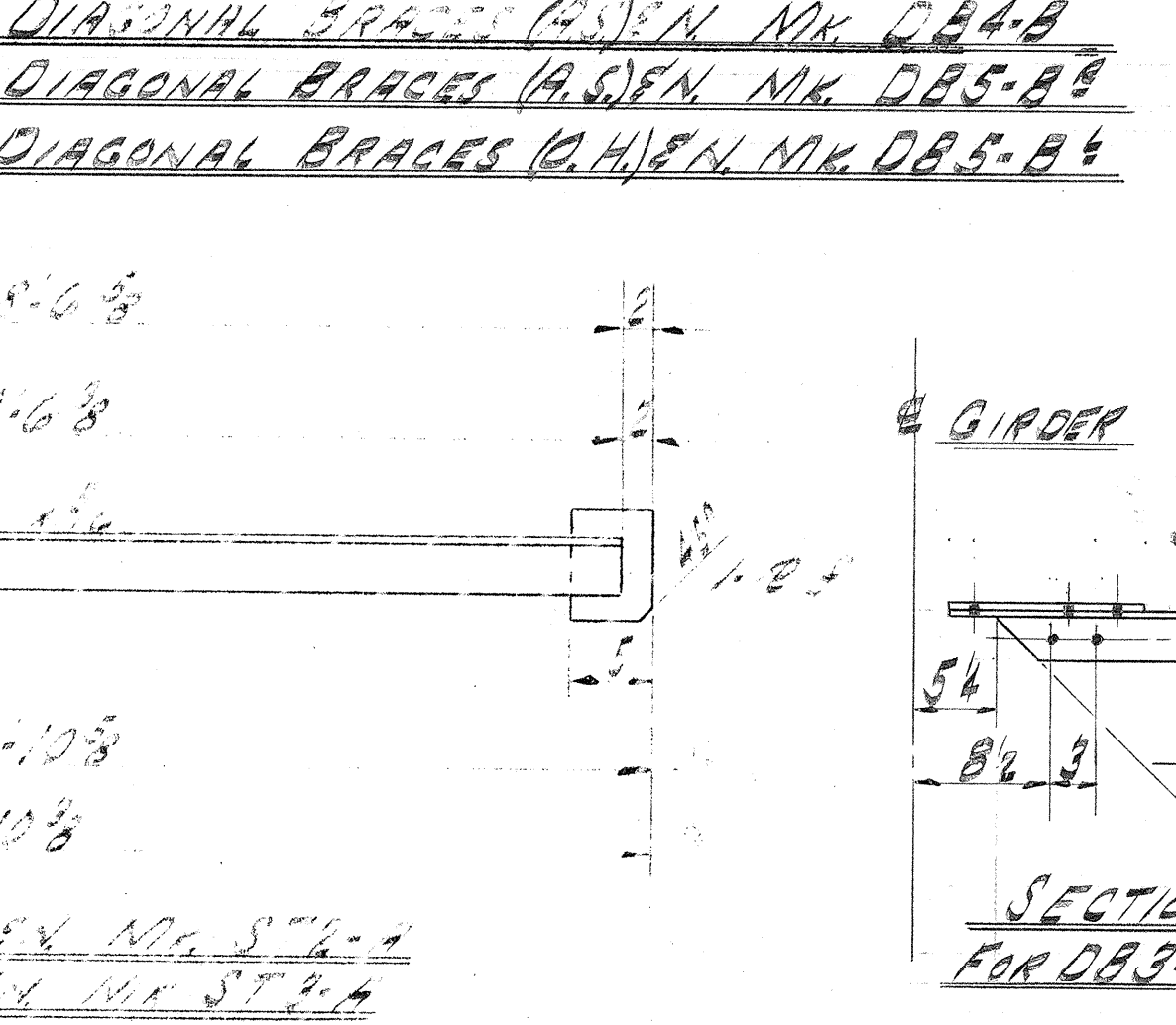
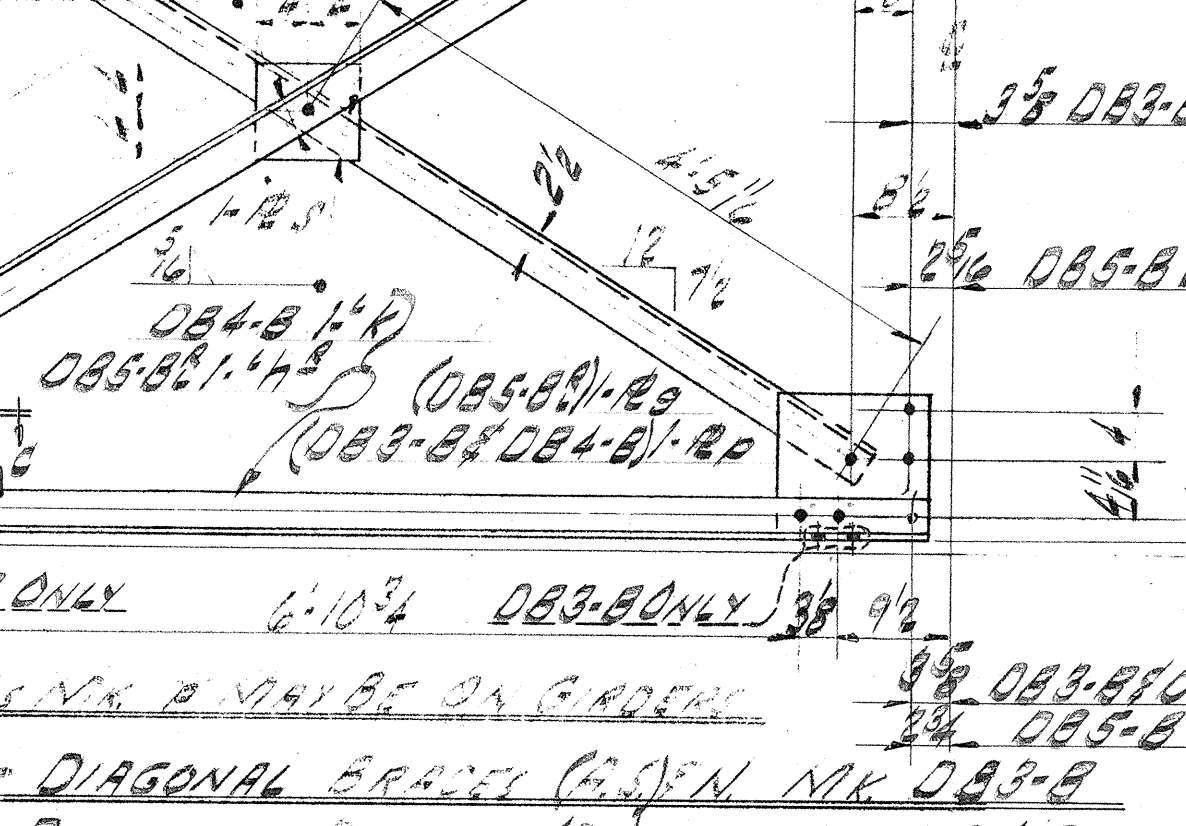
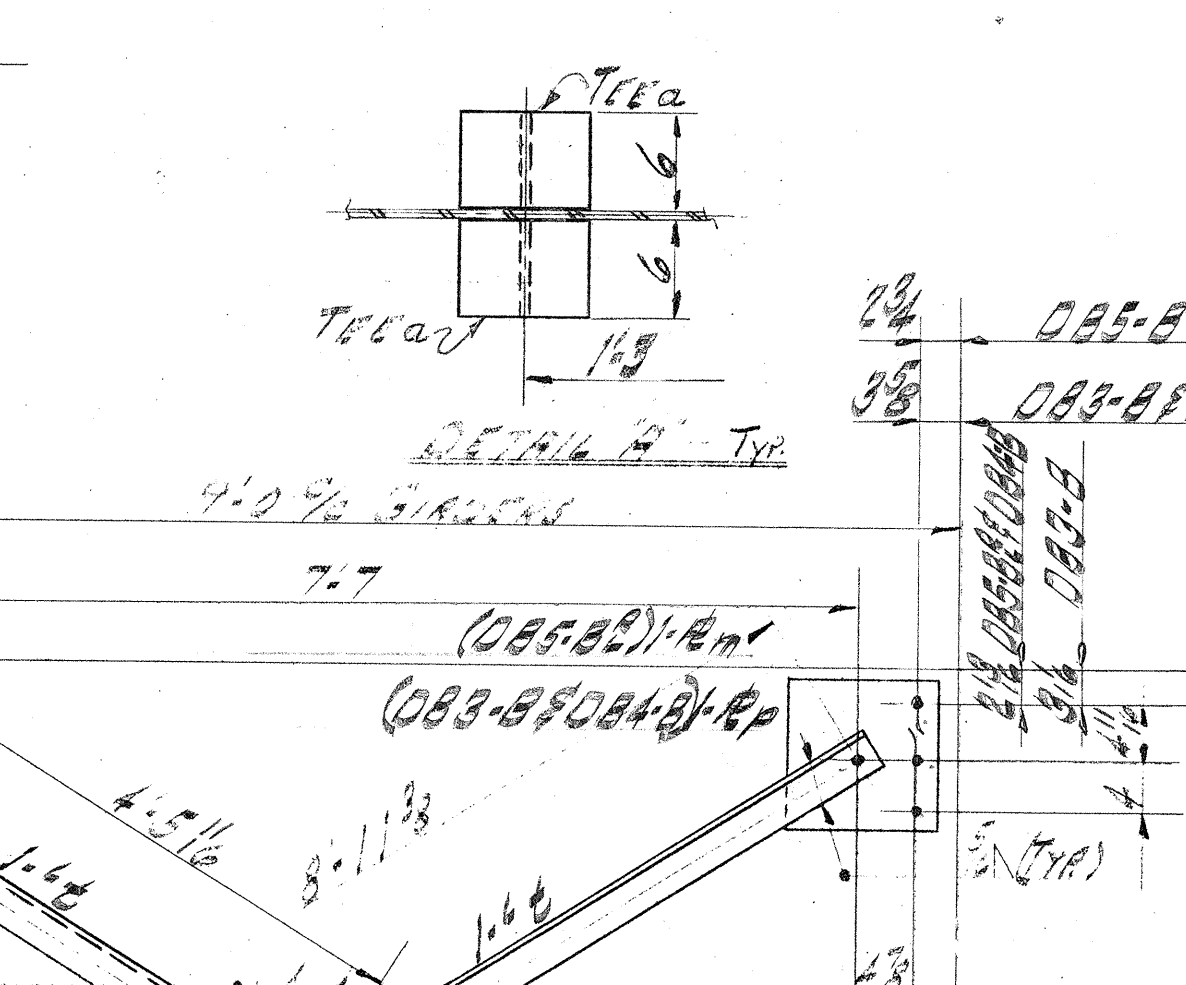
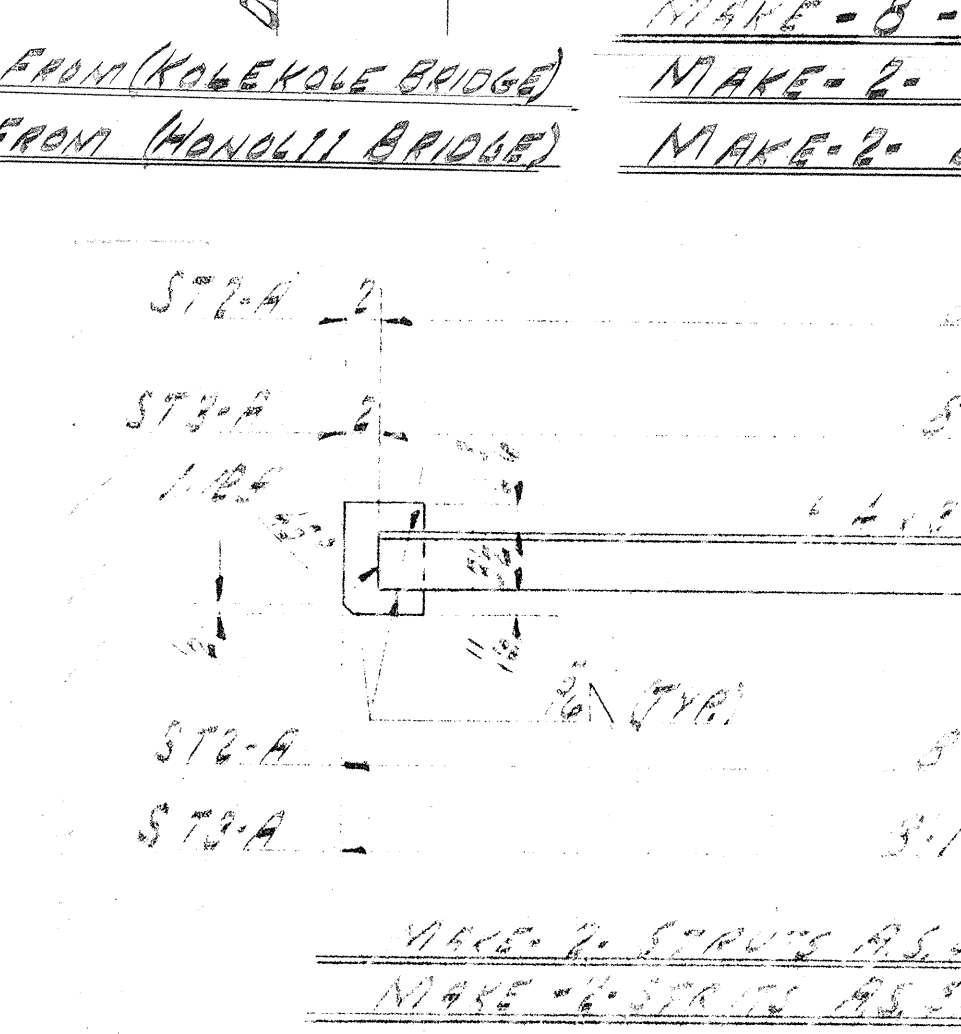
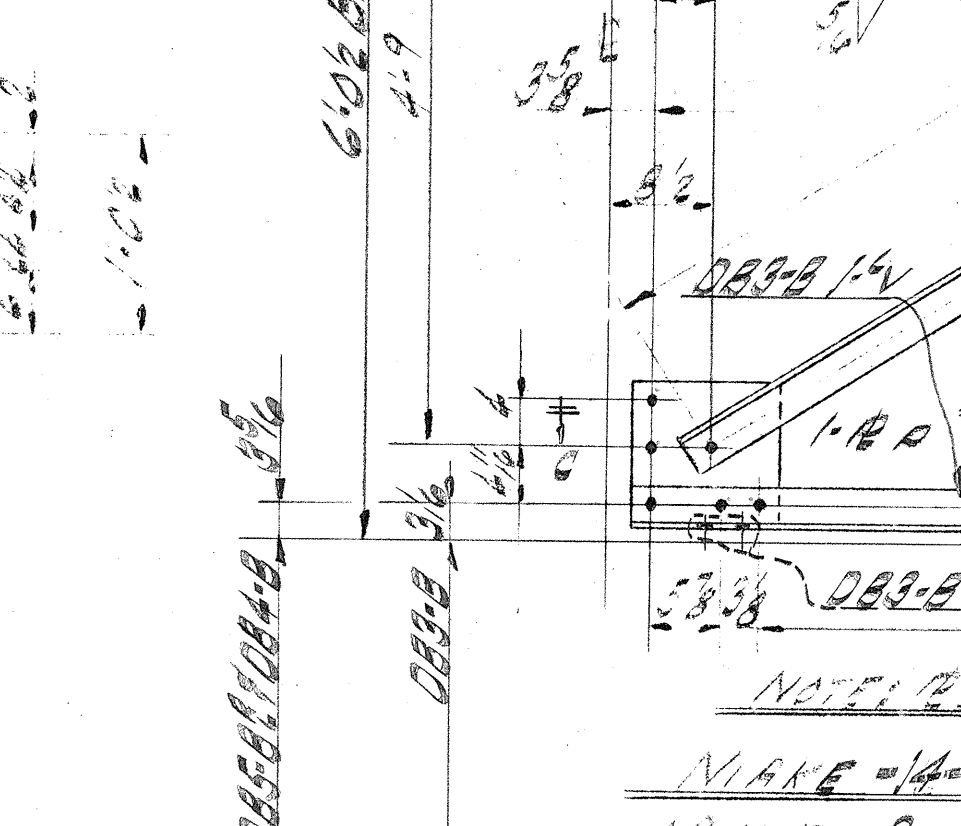
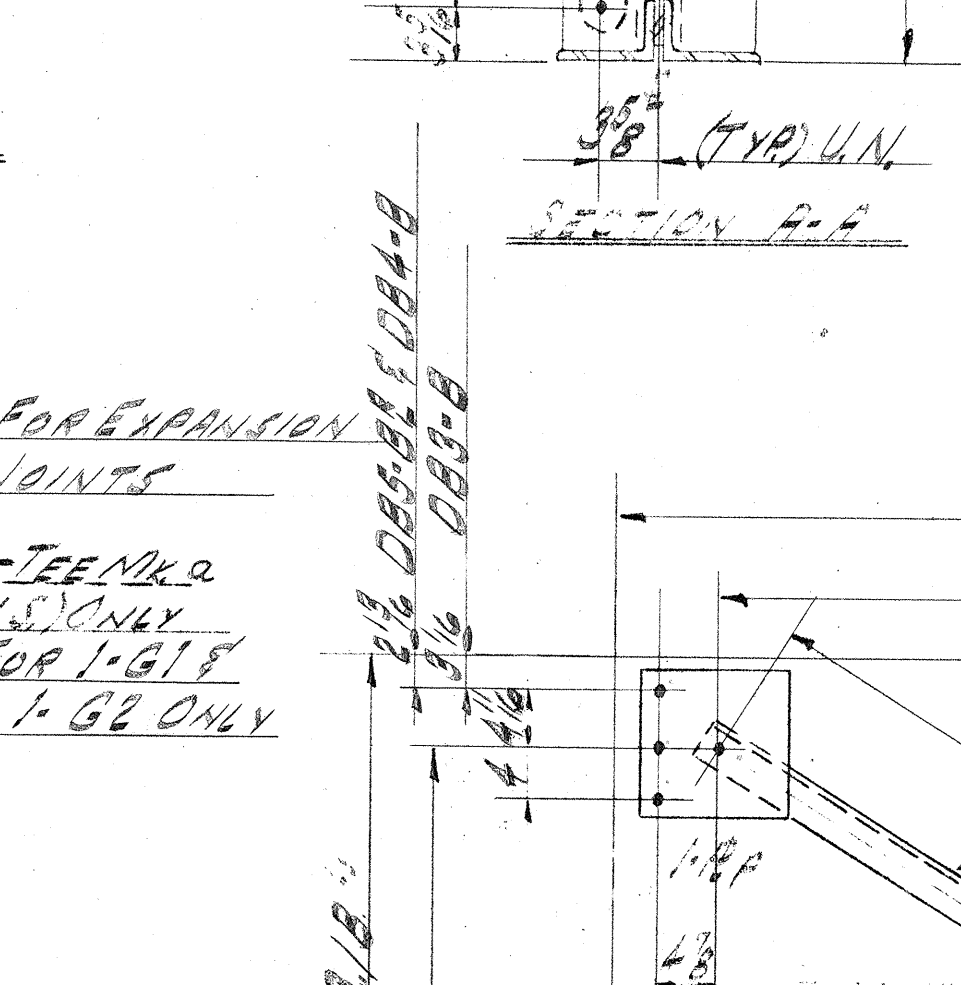
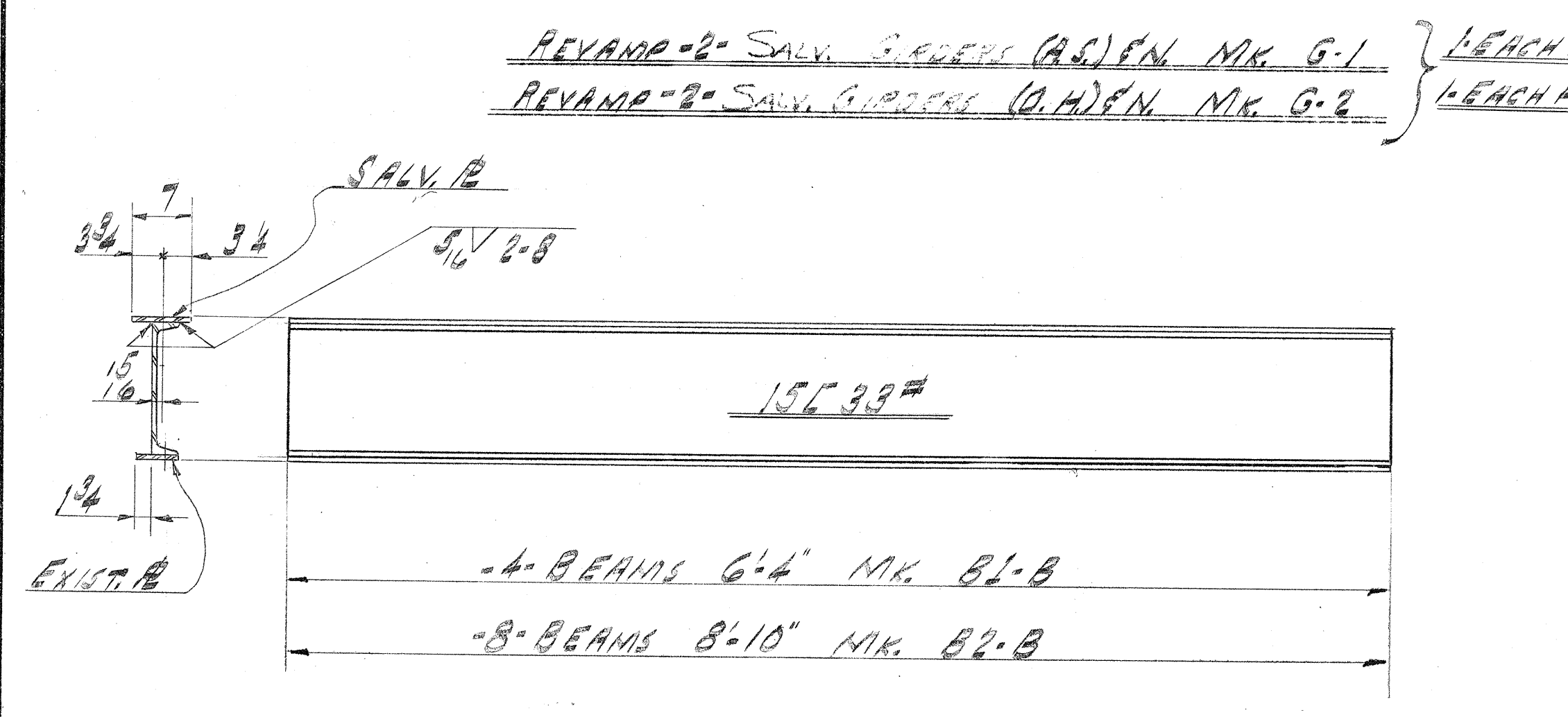
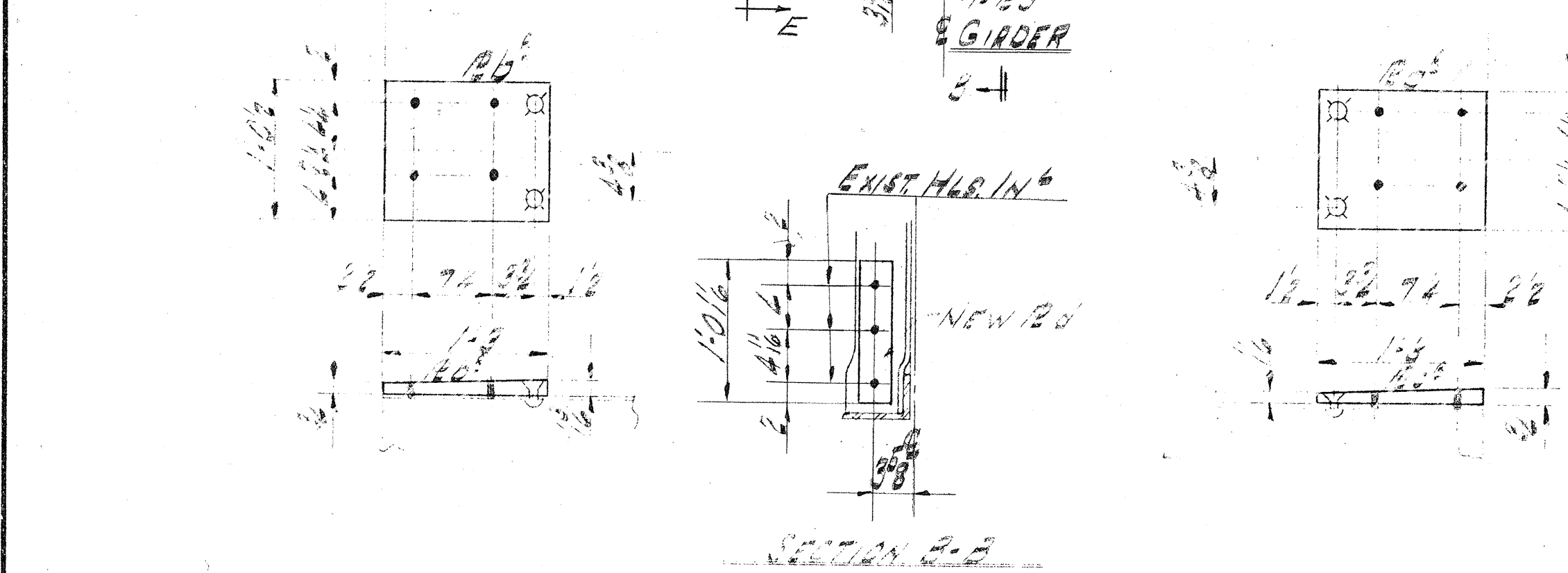
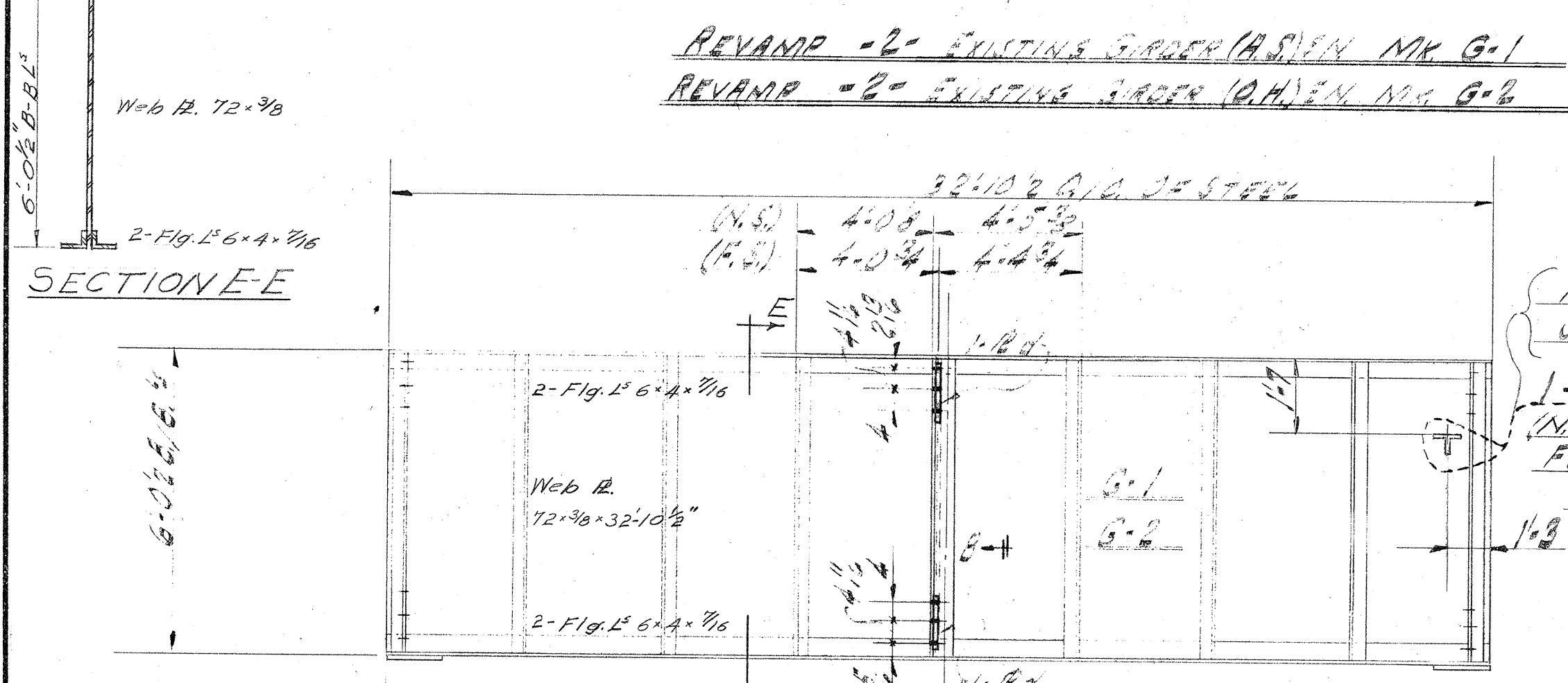
5415.28

Rivets: $\frac{3}{4}$
Holes: $\frac{13}{16}$
Paint:

INDEPENDENT IRON WORKS, INC.
OAKLAND, CALIF.

MADE BY	AMB	8-8-49	ORDER NO.	3807
CHECKED BY	N	8-9-49	SHEET NO.	078

No.	Description	Length		Mark	REMARKS
		Ft.	In.		
4	EXIST. GIRDERS	6-1	EG2		REV. CO.
	REMARKS) ON DET.				
2	SALVAGE GIRDERS	6-1	402		
	REMARKS) ON DET.				
	FROM THE (HONOLULU BRIDGE)				
2	SALVAGE GIRDERS	6-1	FG-2		
	REMARKS) ON DET.				
	FROM THE (KOLEKOLE BRIDGE)				
6	ST. 6WF225	0	6	a	
8	R 3x 3	1	0 1/2	d	TEMP
46	R 3x 11 3/4	1	0	p	DO.
26	R 3x 8	0	8	s	DO.
4	R 3x 11 3/4	1	0 3/4	g	DO.
4	R 3x 11 3/4	1	0 3/4	m	DO.
14	DIAG. BRACES	DB3-B			
8	DIAG. BRACES	DB4-B			
4	DIAG. BRACES	DB5-B			
52	4x 3x 3/8	9	2 3/8	E	
8	4x 3x 3/8	8	7 1/4	K	
16	4x 3x 3/8	8	7 3/4	V	
4	4x 3x 3/8	8	8 1/2	hE	
					SALVAGE FROM TOWER BRACING SEE DET. D10-B
4	BEAMS			R1-B	
8	BEAMS			R2-B	
	SALV. FROM COL. SECTIONS				
	SEE DET. D10-A FOR DETAILS				

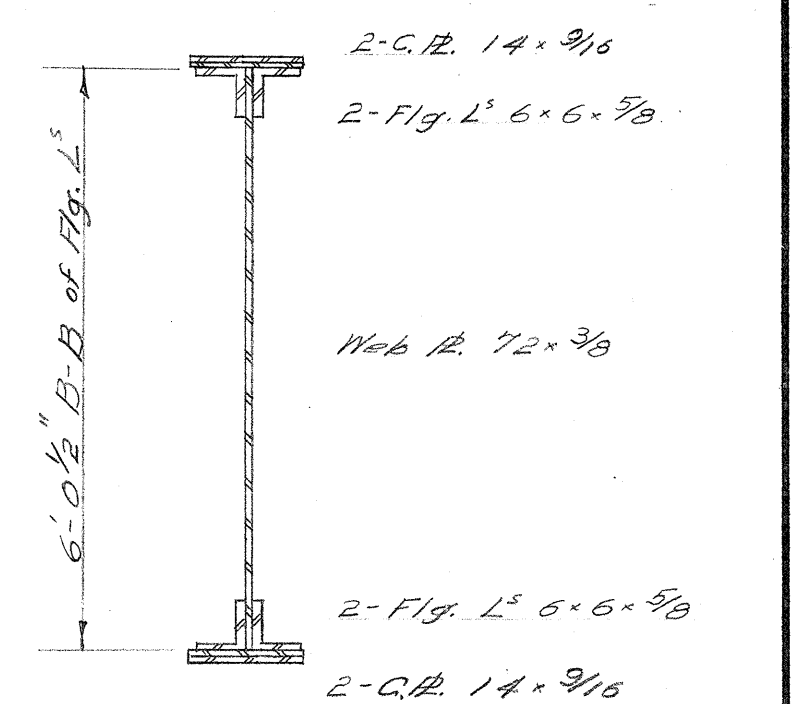
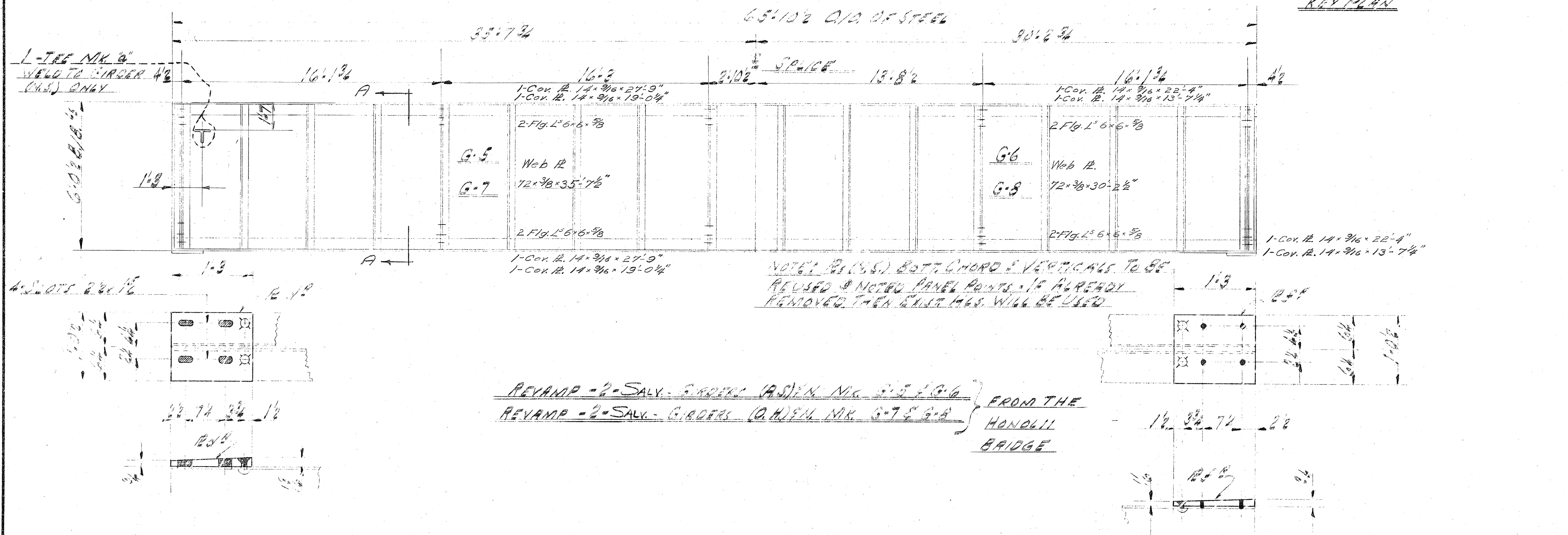
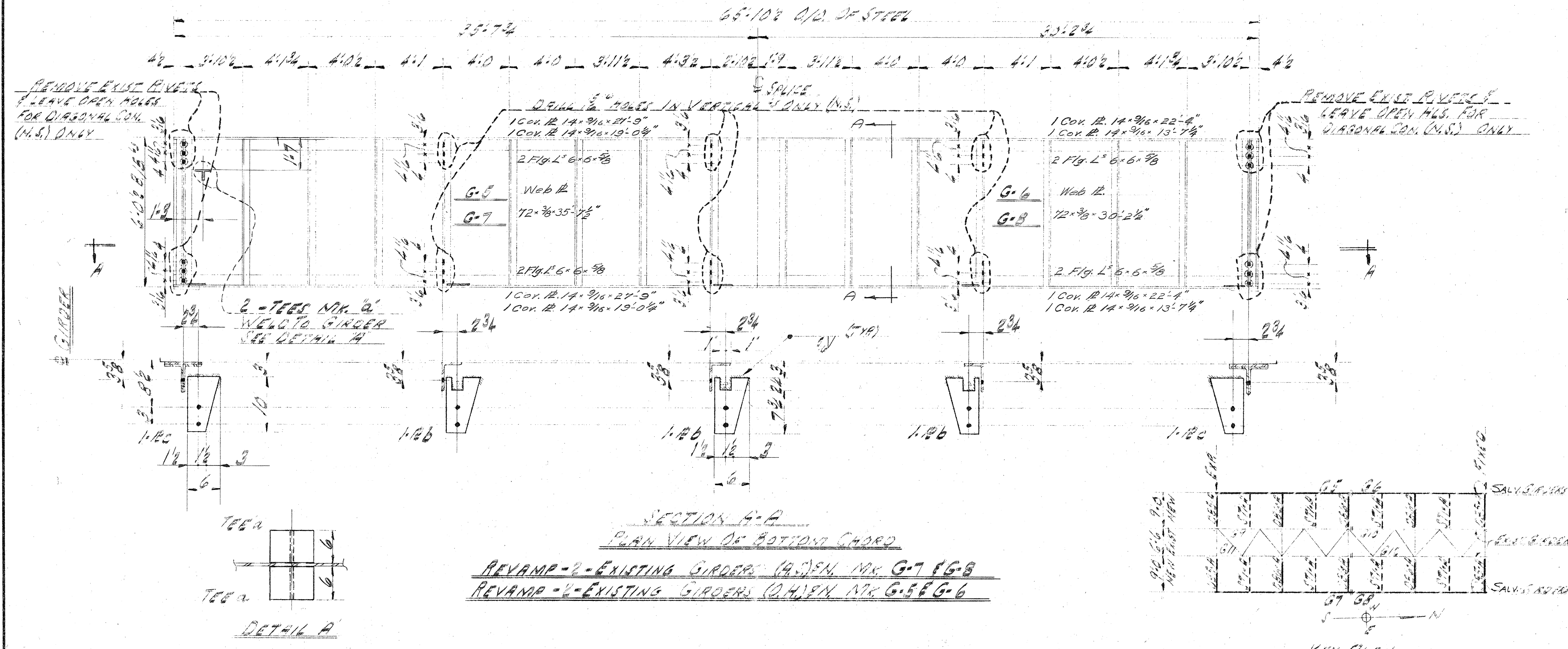


Order No. 3807 Sheet No. 09-B

1st Unit

BILL OF MATERIAL INDUSTRIAL DEV. CO.

No.	Description	Length Ft. In.	Mark	REMARKS
2	EXIST. GIRDERS	6-5'6-6		REINFORCED ON DET.
2	EXIST. GIRDERS	6-7'7-6-8		REINFORCED ON DET.
2	NEW GIRDERS	6-5'6-6 TO BE TAKEN		
2	NEW GIRDERS	6-7'7-6-8 FROM THE HONOLULU BRIDGE		
6	STEEL PLATE	0 6 2		
6	PLATE	0 10 6		TEMP.
4	PLATE	0 10 6		DA
16	4x3x3/8	8 8 33-8 (SALV.)		



Rivets: 78
Holes: 156
Paint:

INDUSTRIAL DEV. CO.
LOCATION TO THE PAPERWORK
BRIDGE - HAWAII

INDEPENDENT IRON WORKS, INC.
OAKLAND, CALIF.

MADE BY	DD 6-19-49	ORDER NO.	3807
CHECKED BY	DI 8-19-49	SHEET NO.	09-B

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
Hawaii	Haw	SPR 3(9) 1 st Unit	1949	32	49

BILL OF MATERIAL *INDUSTRIAL*

[illegible]

FINAL DRAWING

Rivets:
Holes:
Paint:

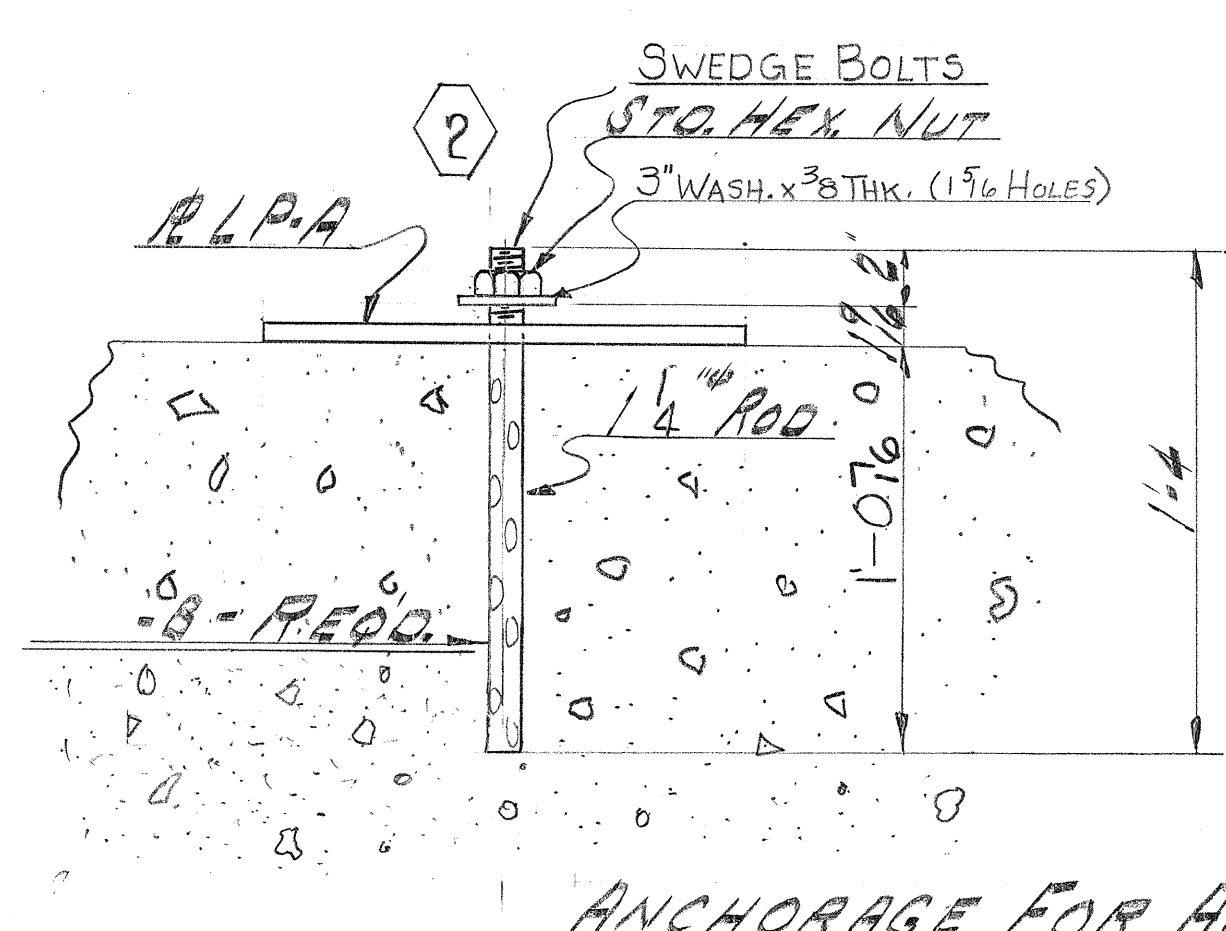
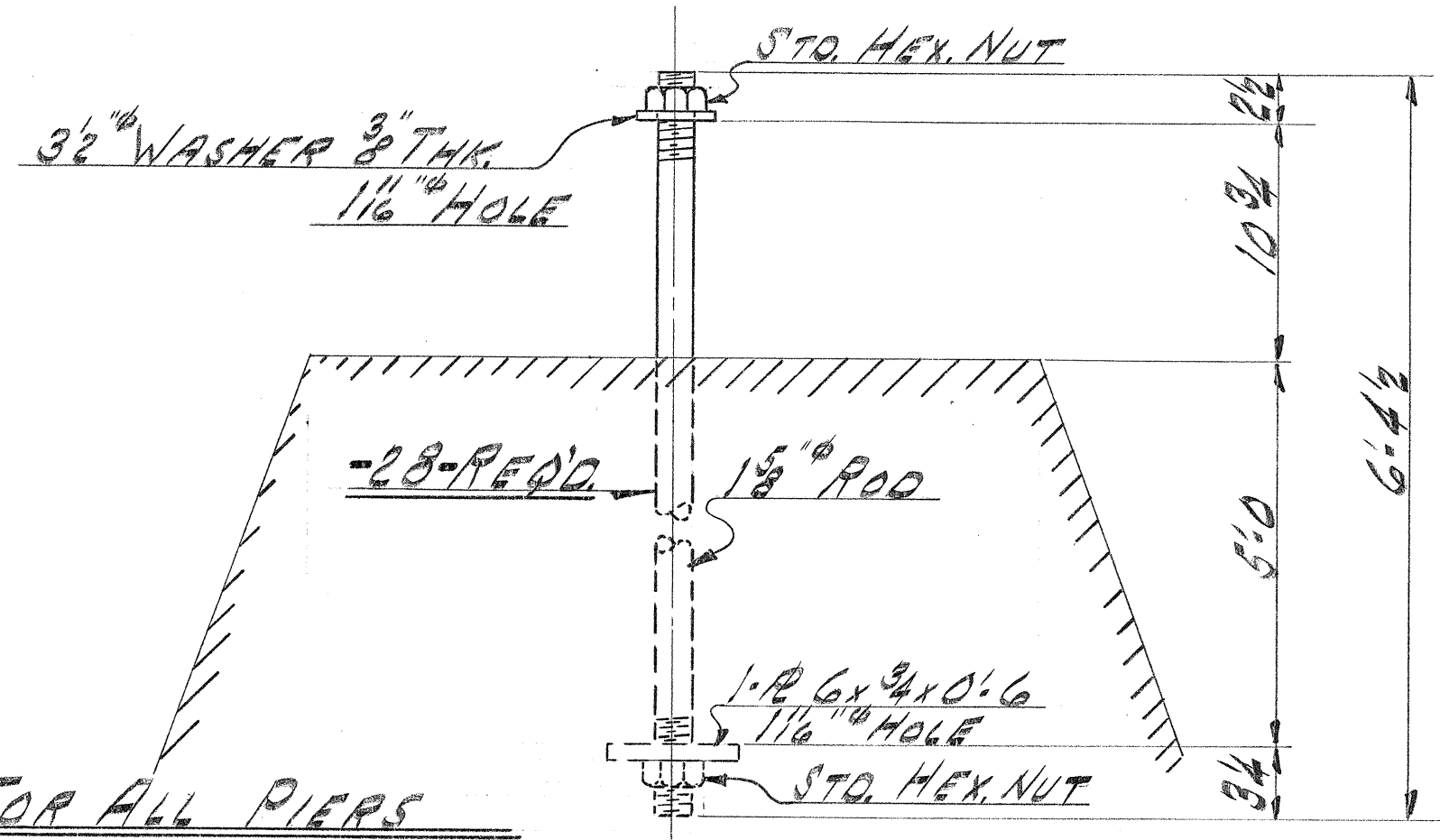
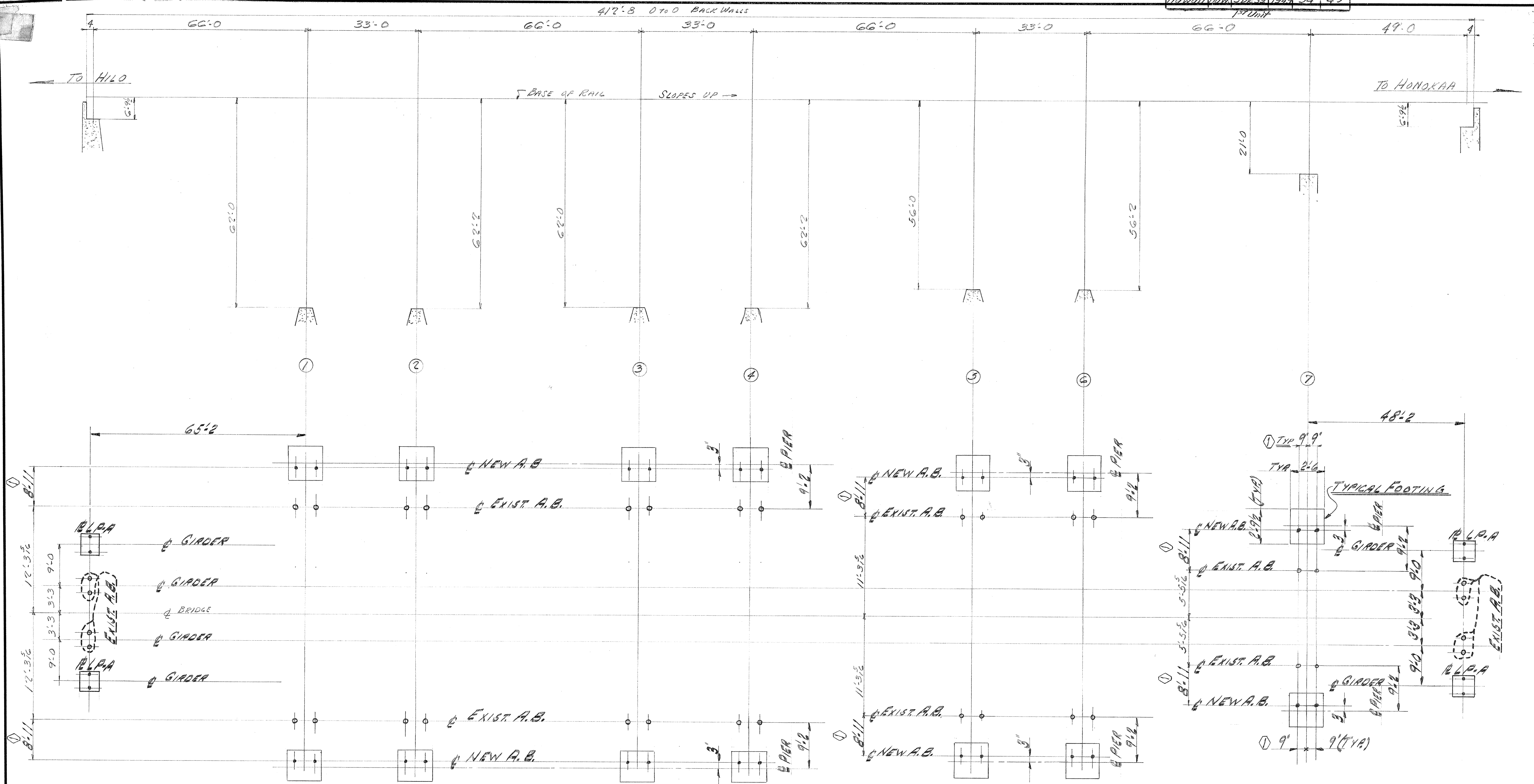
INDUSTRIAL DEV. CO
ADDITION TO THE PAHEEHEE
BRIDGE - HAWAII -

INDEPENDENT IRON WORKS, INC.
OAKLAND, CALIF.

MADE BY	<i>OW</i>	<i>8-23-49</i>	ORDER NO.	<i>3807</i>
CHECKED BY	<i>A</i>	<i>8-24-49</i>	SHEET NO.	<i>010</i>

5415.32





② REVISED: 8-15-49
ANCHOR BOLT CHANGE

① REVISED 8-11-49 DM
CORRECTED DIM.

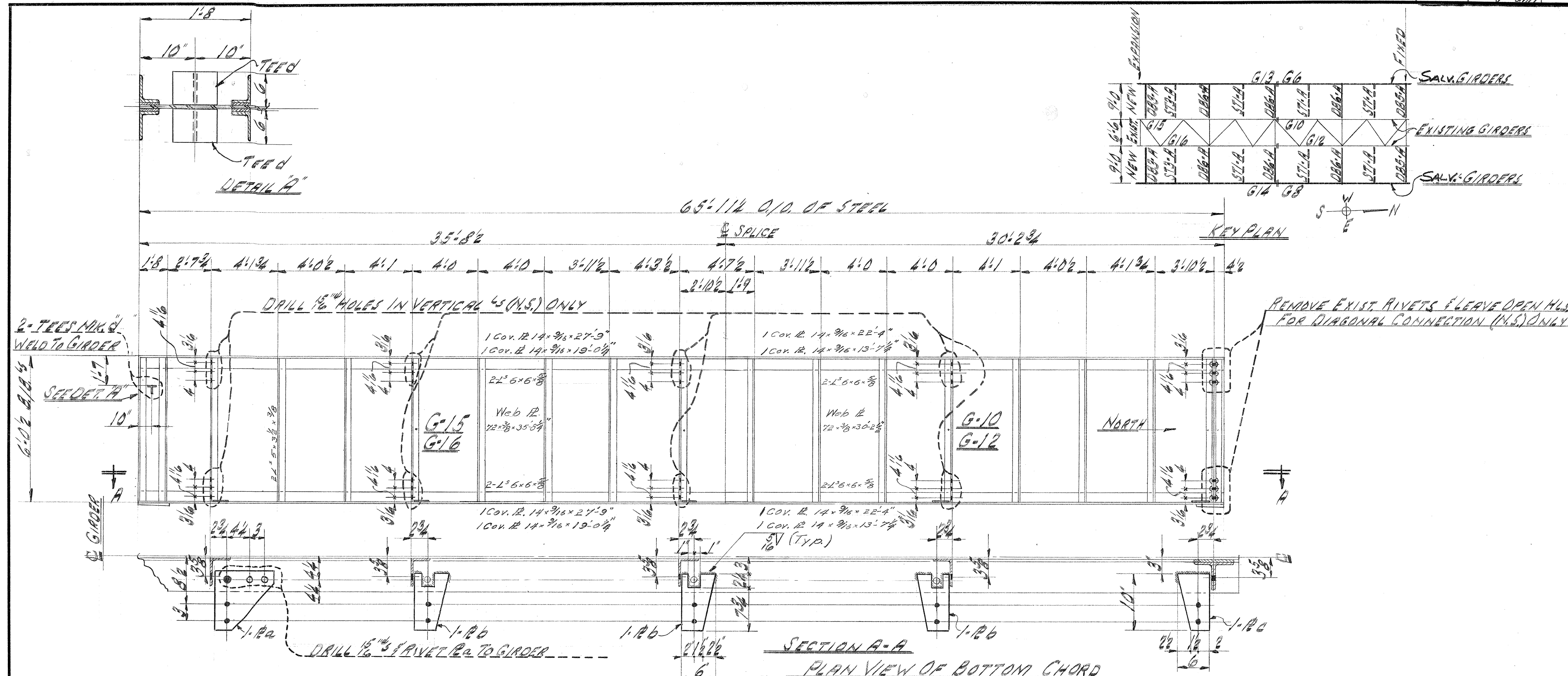
Rivets:
Holes: A.N.
Paint:

INDUSTRIAL DEV. CO.
ANCHOR BOLT SETTING PLAN
ADDITION TO THE KAPUE BRIDGE
-HAWAII-
INDEPENDENT IRON WORKS, INC.
OAKLAND, CALIF.
MADE BY: DM 8-7-49
CHECKED BY: 8-7-49
ORDER NO.: 3807
SHEET NO.: E2-A

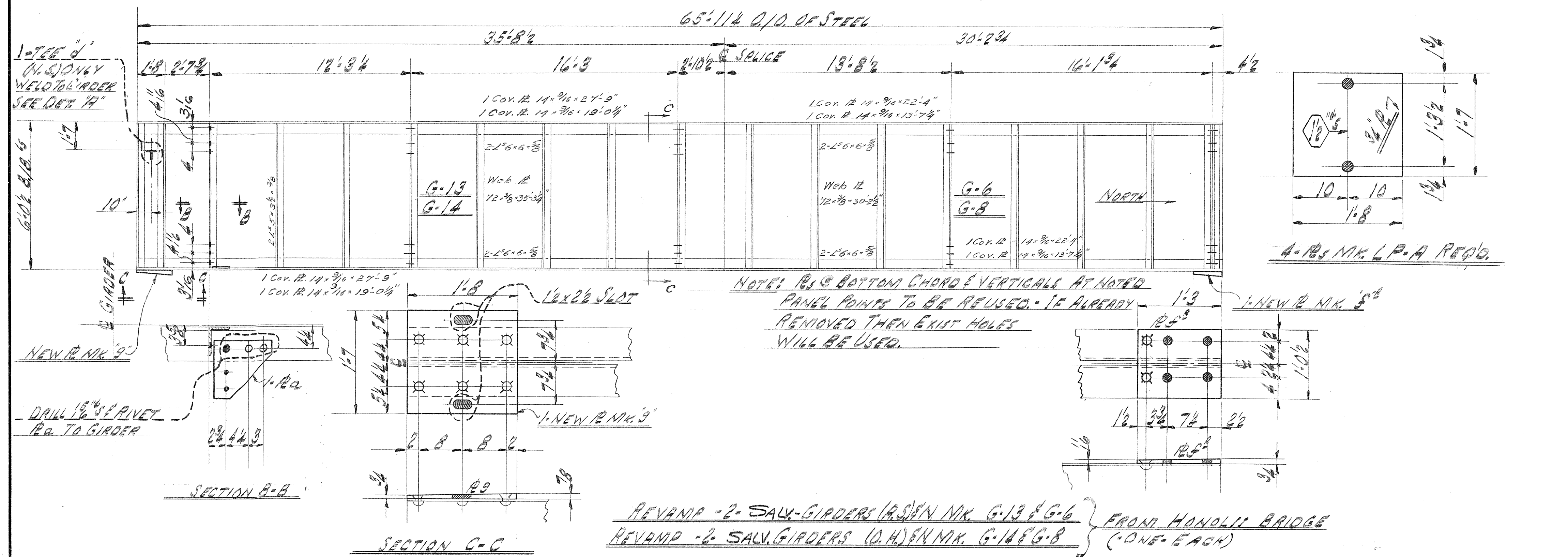
5415.34

BILL OF MATERIAL INDUSTRIAL DEV. CO.

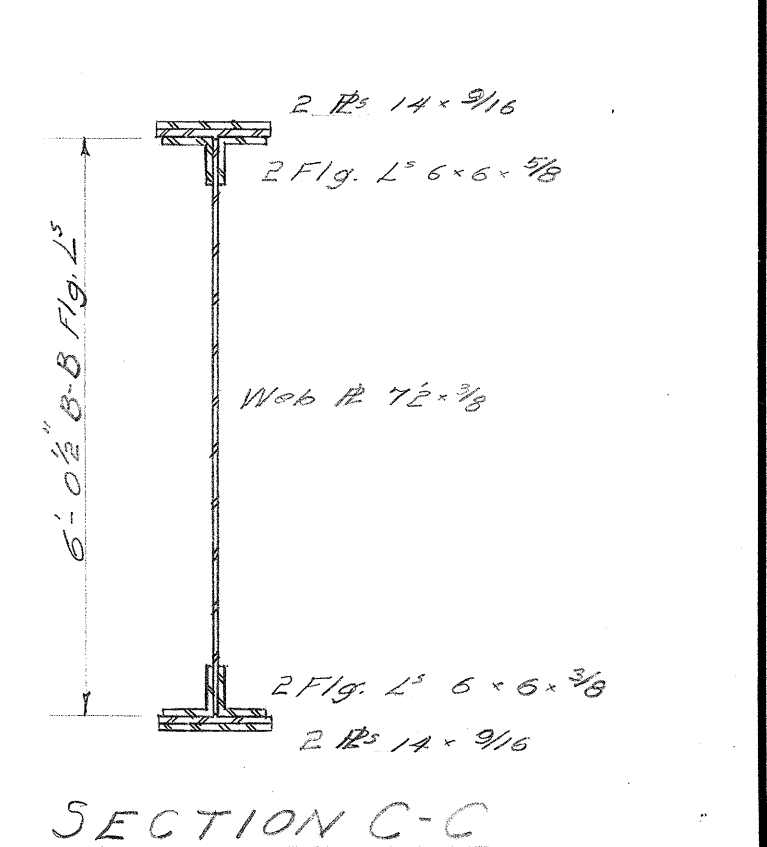
No.	Description	Length Ft. In.	Mark	REMARKS
2	EXIST. GIRDERS	6'-10 1/2"		REVAMP AS ON DET.
2	EXIST. GIRDERS	6'-5 5/8"		REVAMP AS ON DET.
2	SALV. GIRDERS	6'-13 1/2"		TO BE TAKEN FROM THE HONOLULU BRIDGE
2	SALV. GIRDERS	6'-14 5/8"		REVAMP AS ON DET.
4	R 38x104	0 10 4		NEW
6	R 38x6	0 10 6		
2	R 38x6	0 10 6		
6	1/2" x 6" x 22'-9"	0 6 8		(PLAIN)
2	R 38x12	1 3 8		
2	R 38x19	1 3 9		
4	R 34 19	1 8 19		NEW



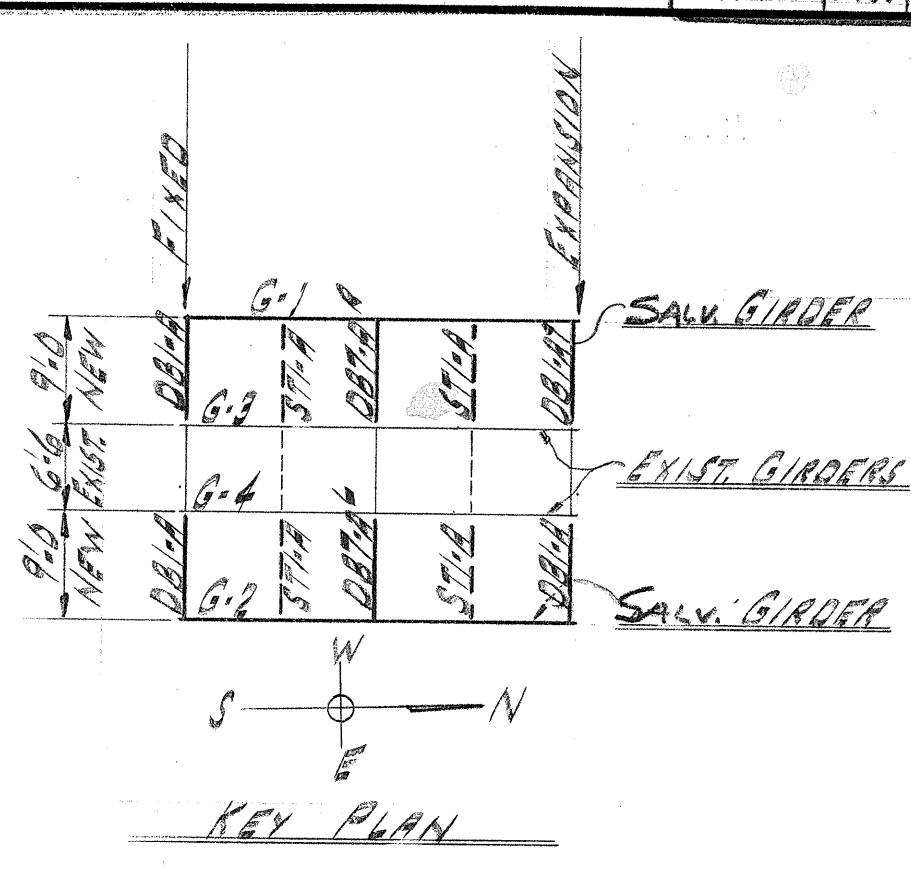
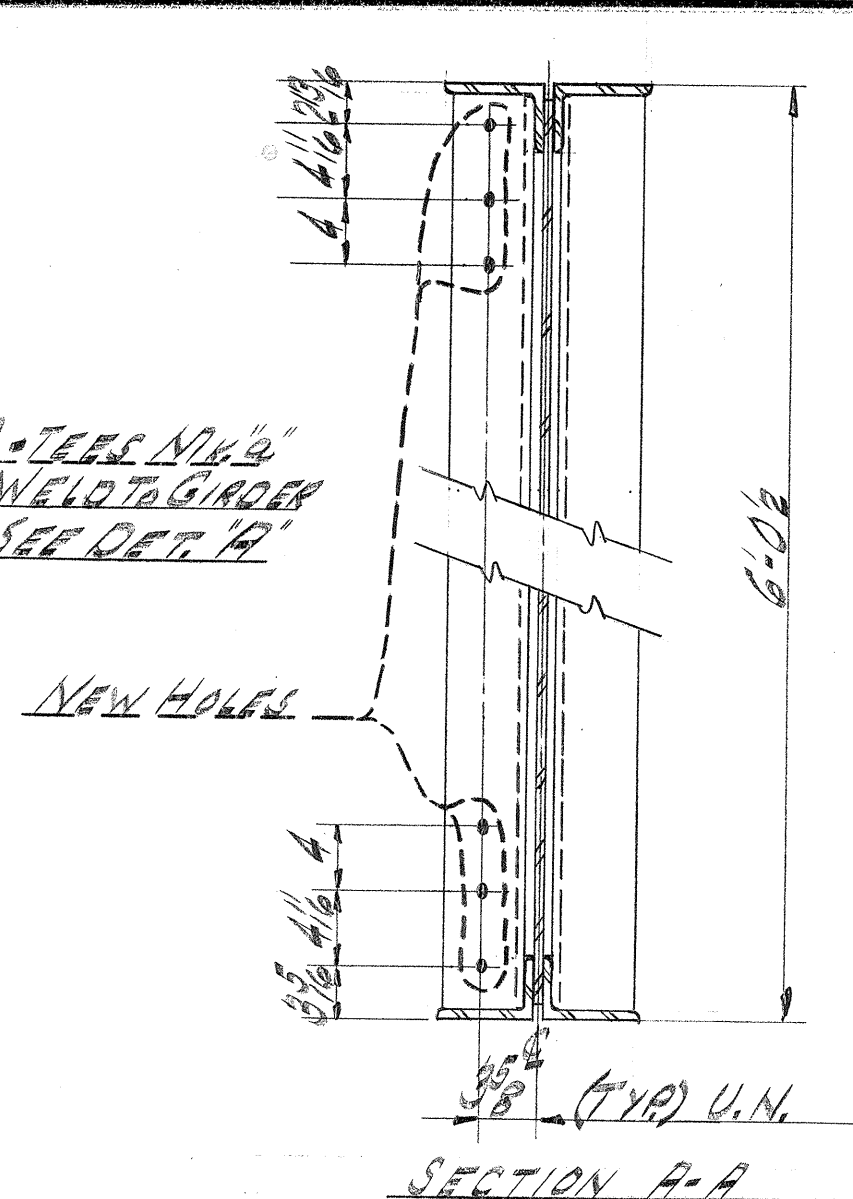
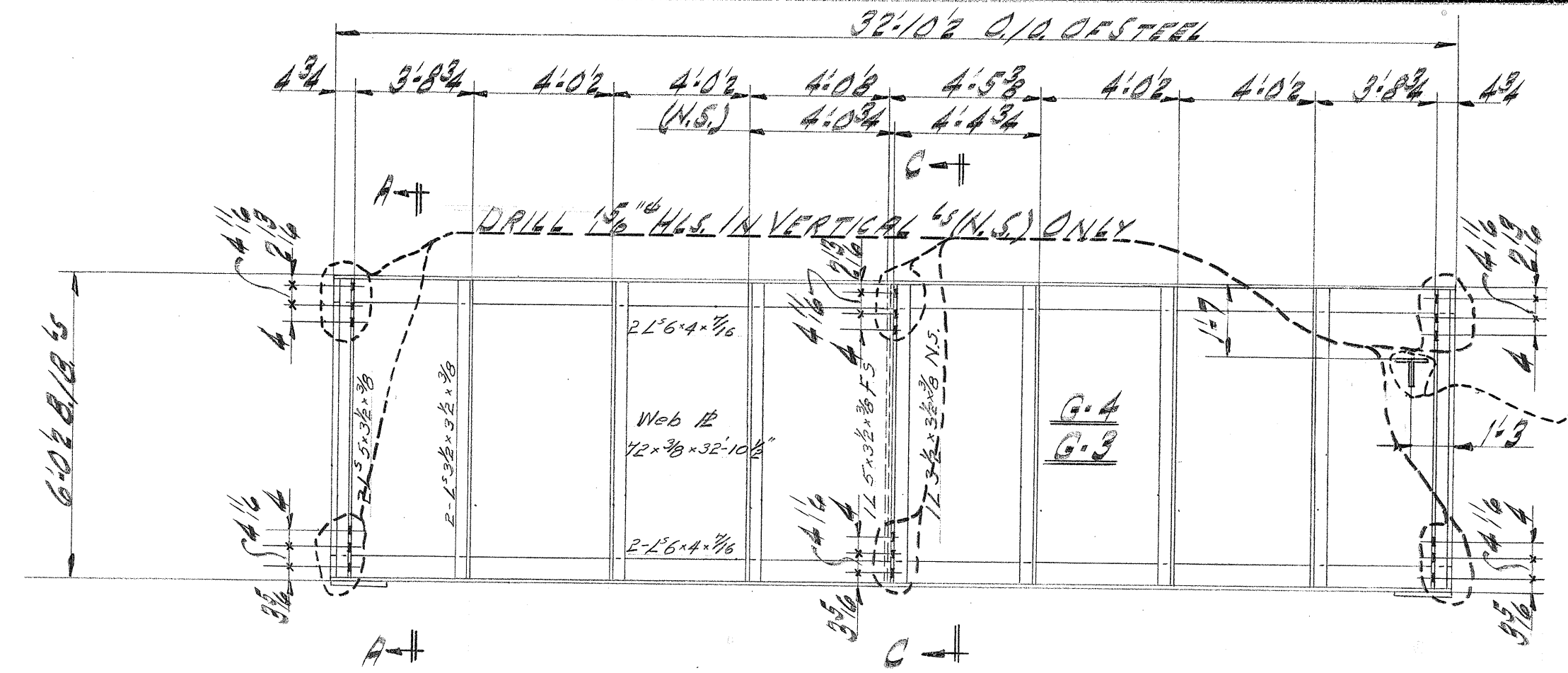
REVAMP - 2 EXISTING GIRDERS (A.S.) EN. MK. G-16 & G-12 } ONE EACH
REVAMP - 2 EXISTING GIRDERS (O.H.) EN. MK. G-15 & G-10 }



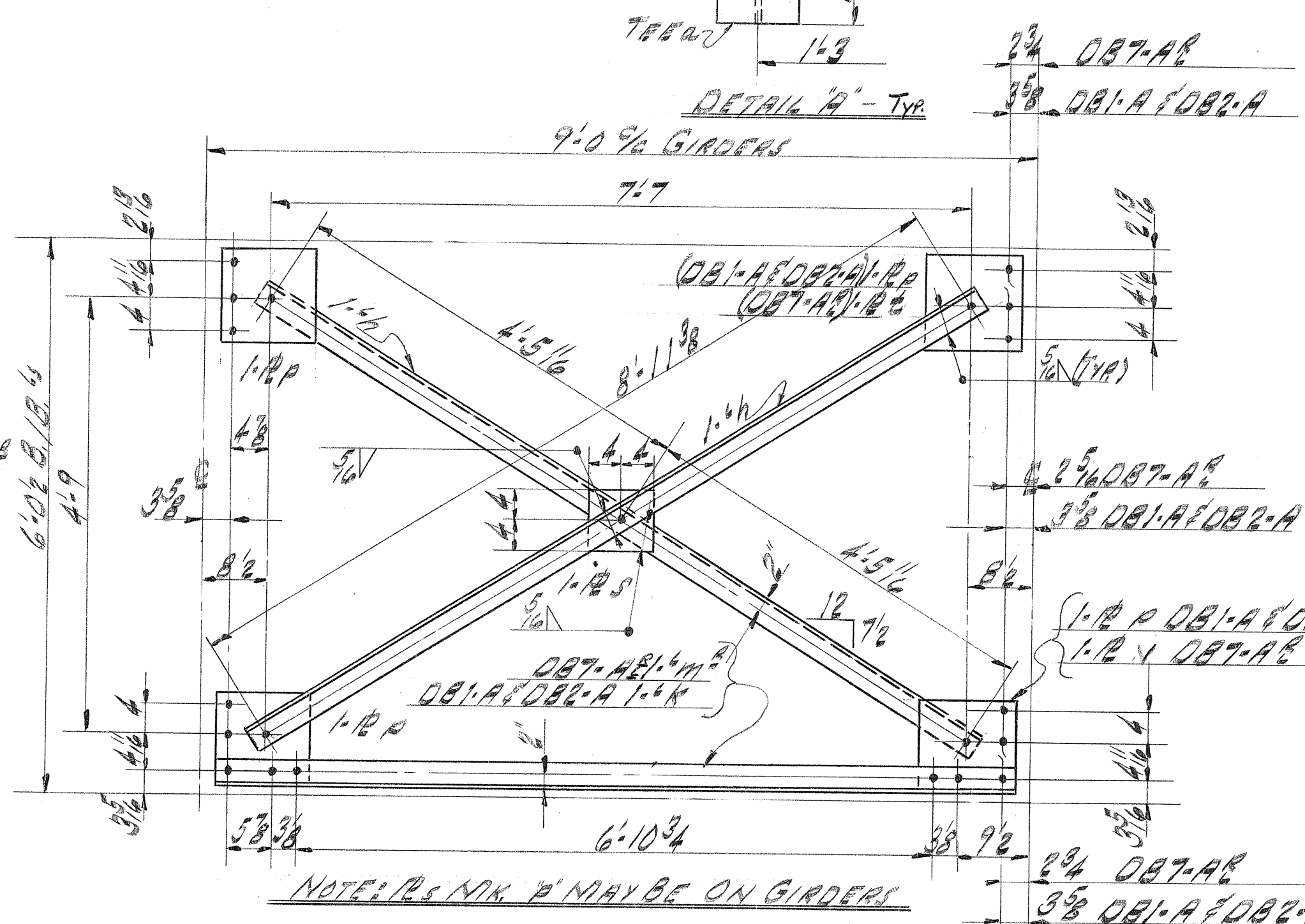
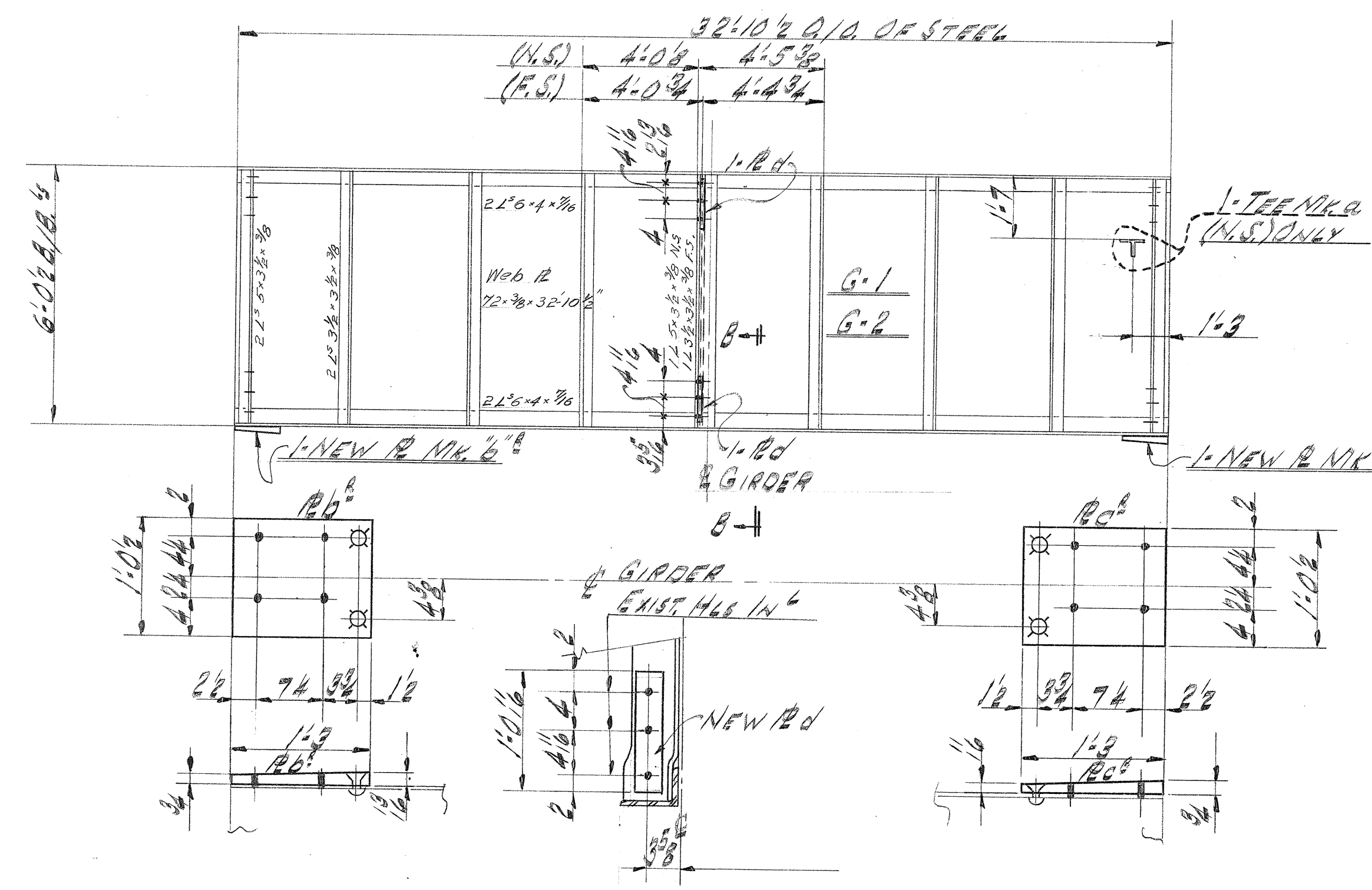
REVAMP - 2 SALV. GIRDERS (A.S.) EN. MK. G-13 & G-6 } FRONT HONOLULU BRIDGE
REVAMP - 2 SALV. GIRDERS (O.H.) EN. MK. G-14 & G-8 } (ONE EACH)



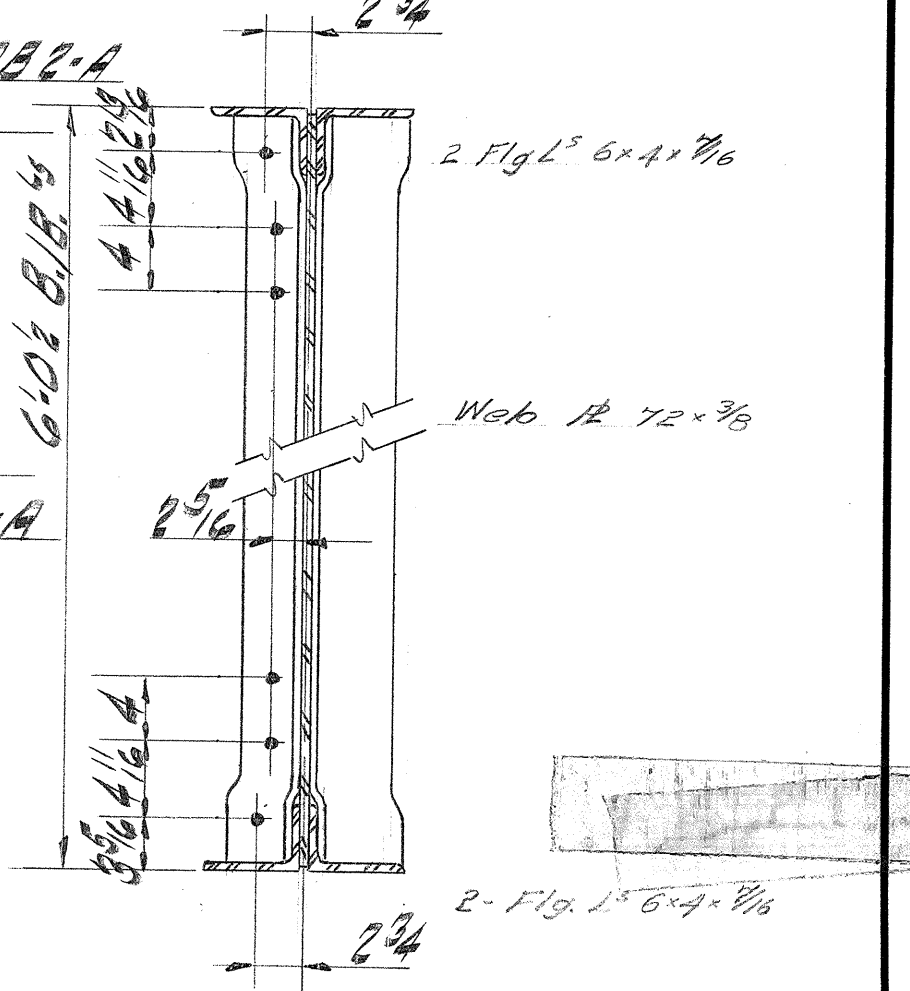
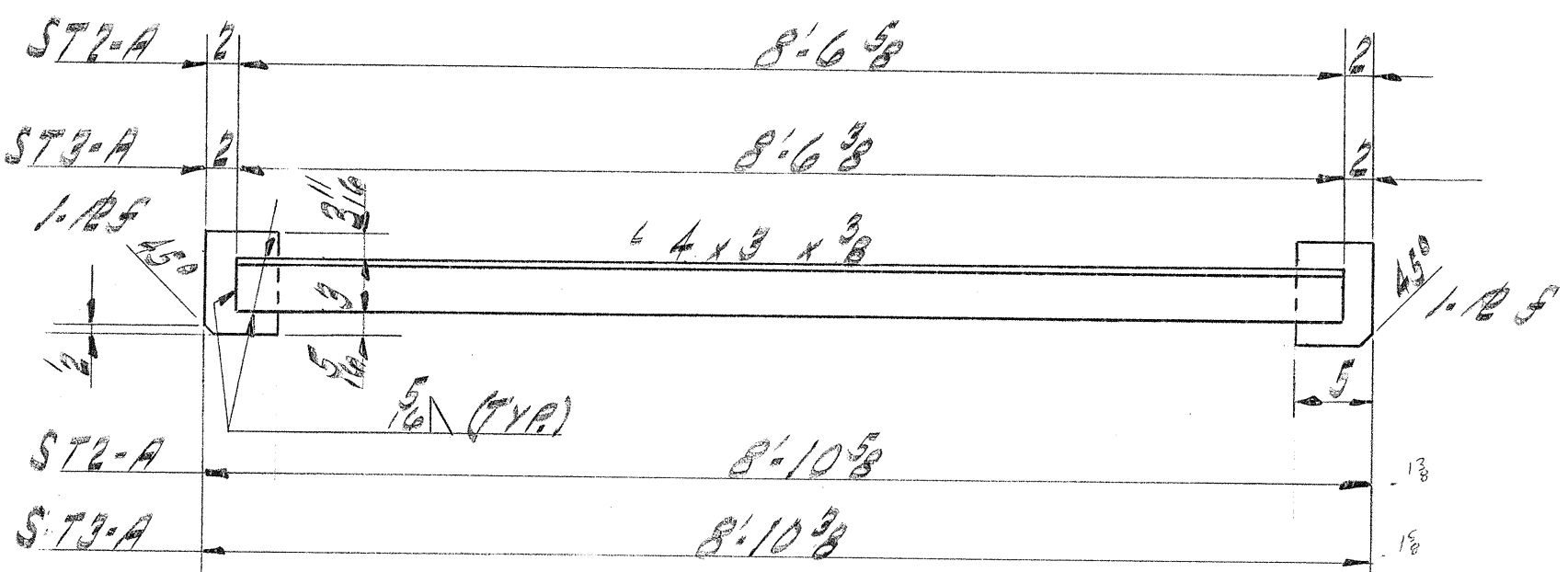
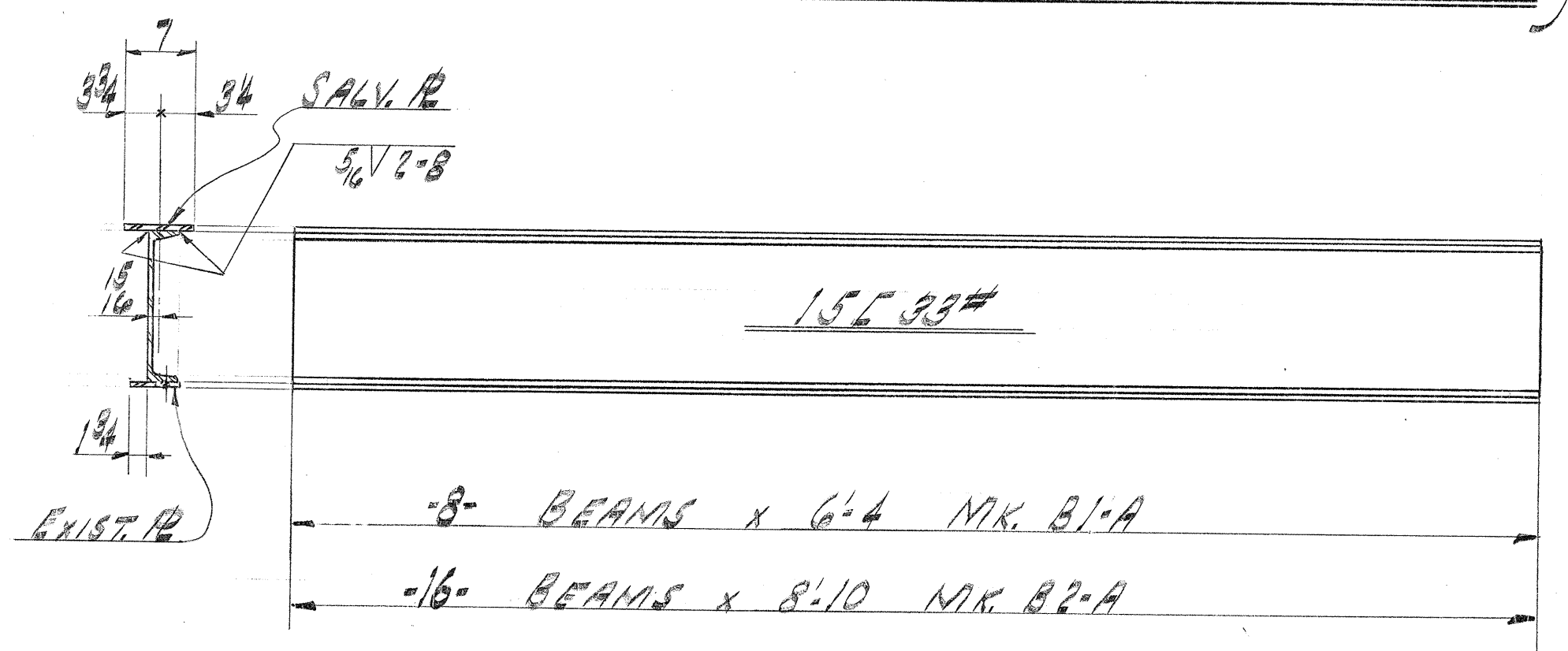
Rivets: 3/4"
Holes: 1 1/8"
Paint:
INDUSTRIAL DEV. CO.
ADDITION TO THE KAPUE BRIDGE - HAWAII
INDEPENDENT IRON WORKS, INC.
OAKLAND, CALIF.
MADE BY: DL 6-20-49 ORDER NO. 3807
CHECKED BY: DL 7-28-49 SHEET NO. 01-A



REPAIR -3- EXISTING GIRDER (A.S.) EN. NK. G-4
REPAIR -3- EXISTING GIRDER (O.H.) EN. NK. G-3



No.	Description	Length Ft.	Ins.	Mark	REMARKS
6	EXIST. GIRDER			G35G-4	
	REPAIR AS ON DET.				
6	SALV. GIRDER			G-18G-2	FROM THE HONOLULU BRIDGE
18	STAINLESS	0	6	a	
6	R 12x12	1	3	6	TEMP
6	R 12x12	1	3	6	DO
12	R 12x12	1	0	6	DO
8	BEAMS 6	4	8	1-A	
16	BEAMS 8	10	8	2-A	
	SALVAGE FROM COL. SECTIONS				SEE SAT. D13-A
8	DIAG. BRACES	0	7	5	NEW
16	DIAG. BRACES	0	8	5	DO
4	DIAG. BRACES	0	8	5	DO
52	4x3x3/8	9	2	5	h
6	4x3x3/8	8	8	5	h
20	4x3x3/8	8	7	5	k
92	R 12x12	1	0	8	TEMP-NEW
26	R 12x12	0	8	5	DO
6	R 12x12	1	0	8	DO
6	R 12x12	1	0	8	DO
9	4x3x3/8	6	2	5	h
46	4x3x3/8	8	10	5	h
2	4x3x3/8	8	6	5	h
2	4x3x3/8	8	6	5	h

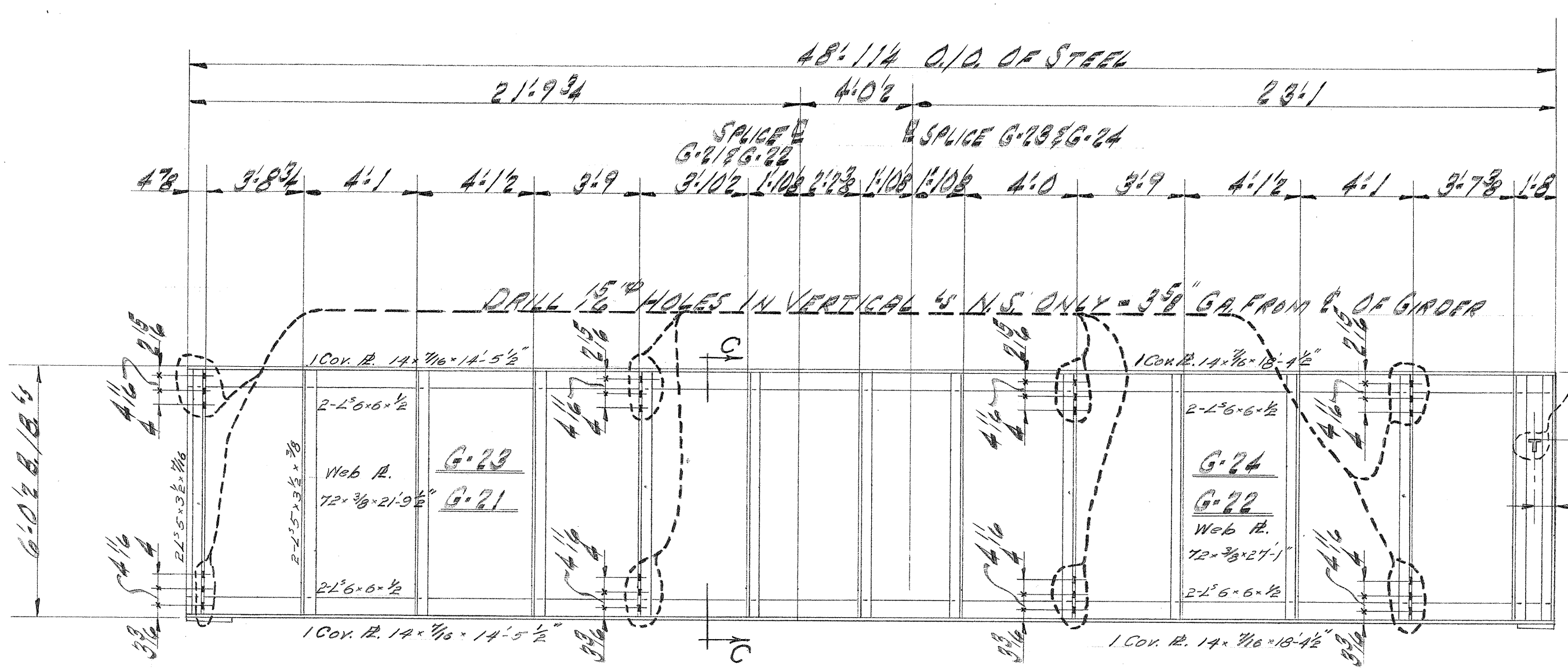


INDUSTRIAL DEV. CO.
ADDITION TO THE KAPUE
BRIDGE - HAWAII

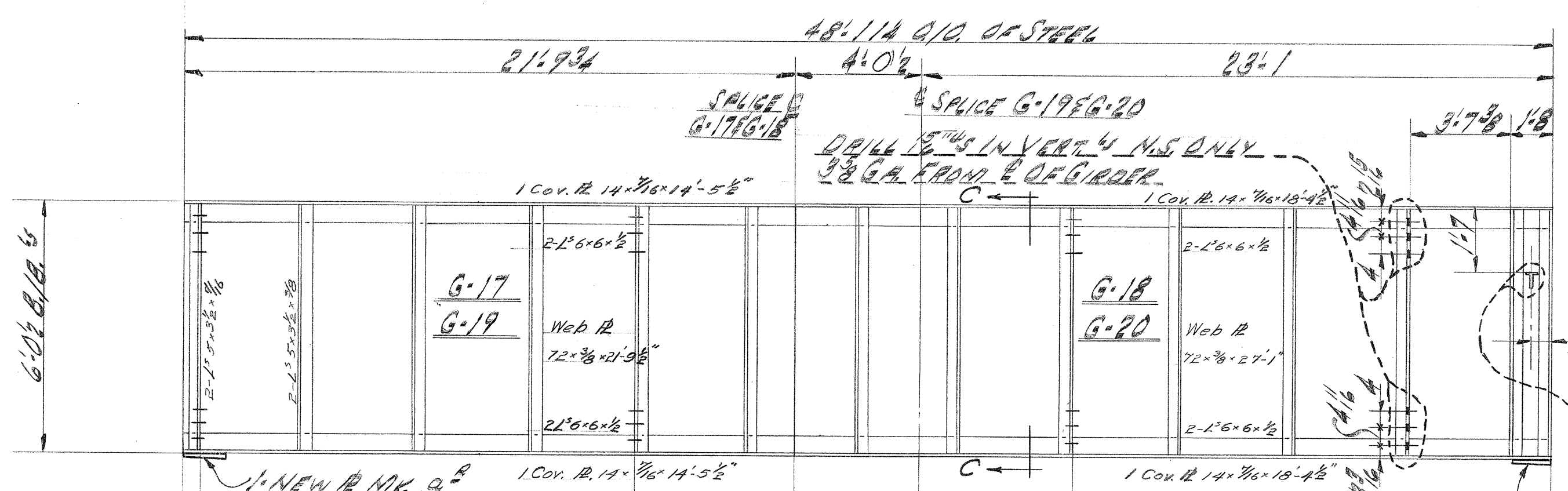
INDEPENDENT IRON WORKS, INC.
OAKLAND, CALIF.

MADE BY: [Signature] 6-21-49
CHECKED BY: [Signature] 7-28-49

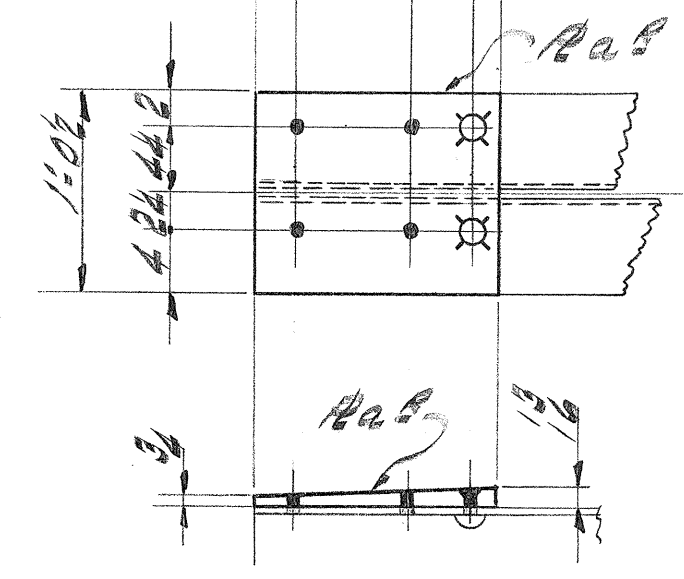
ORDER NO.: 3807
SHEET NO.: D2-A



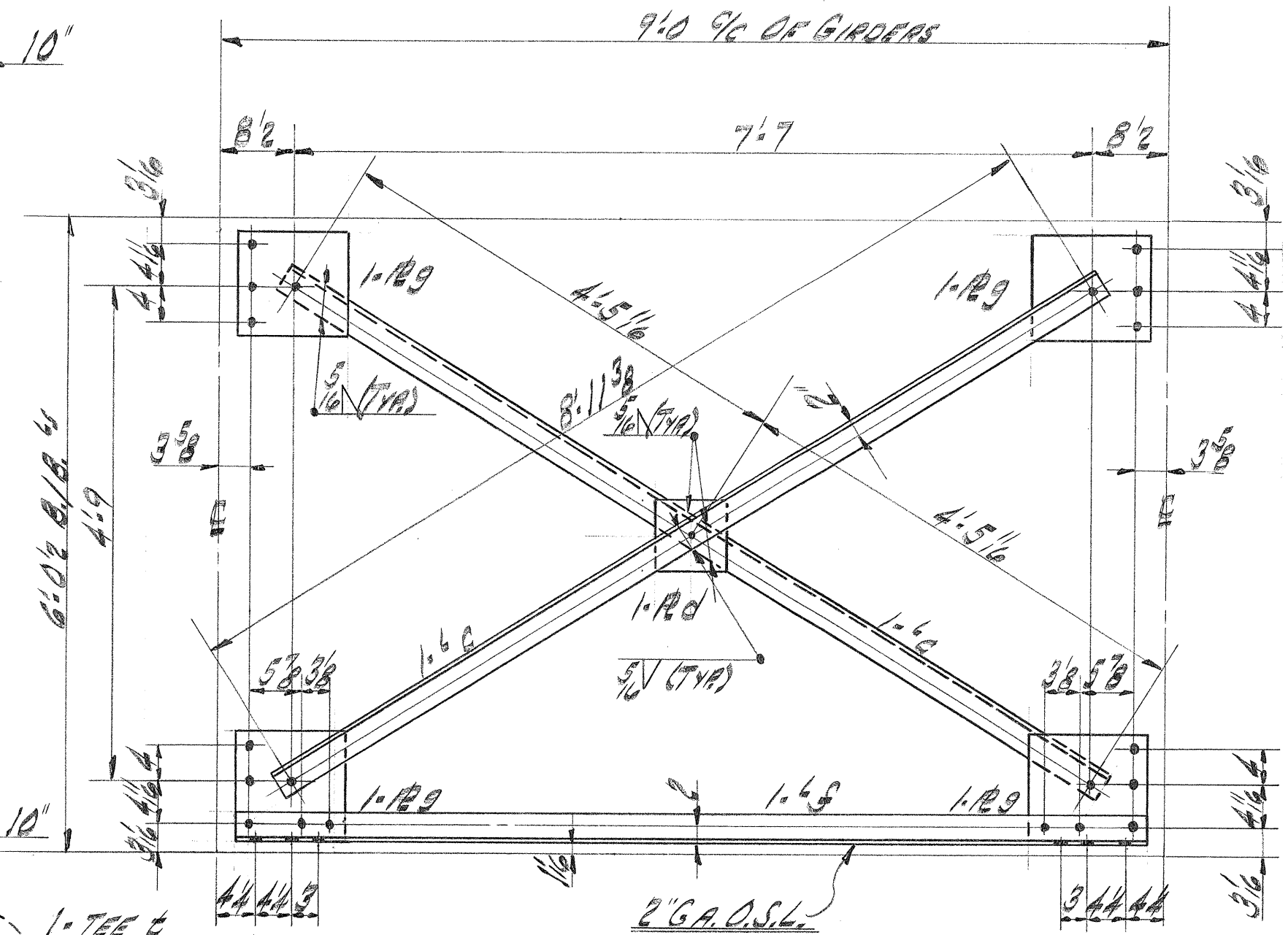
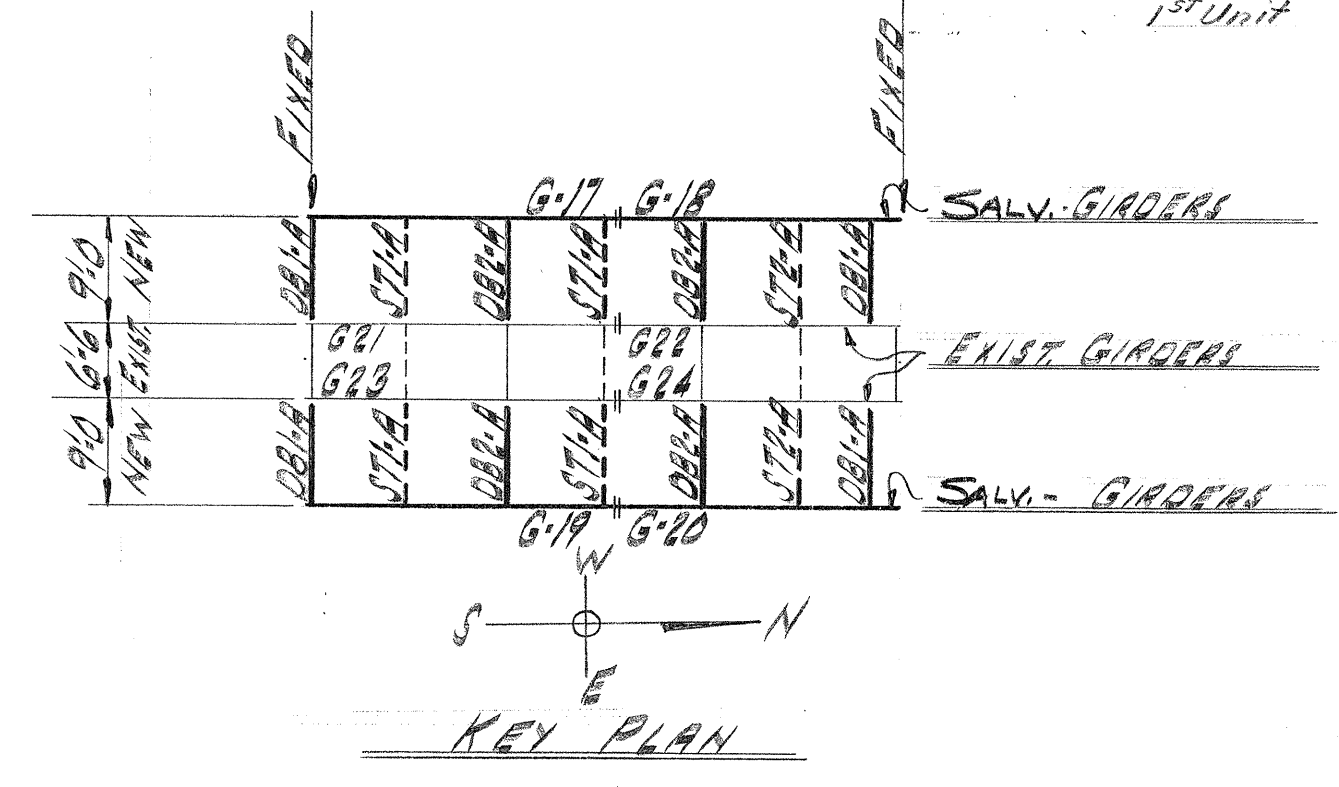
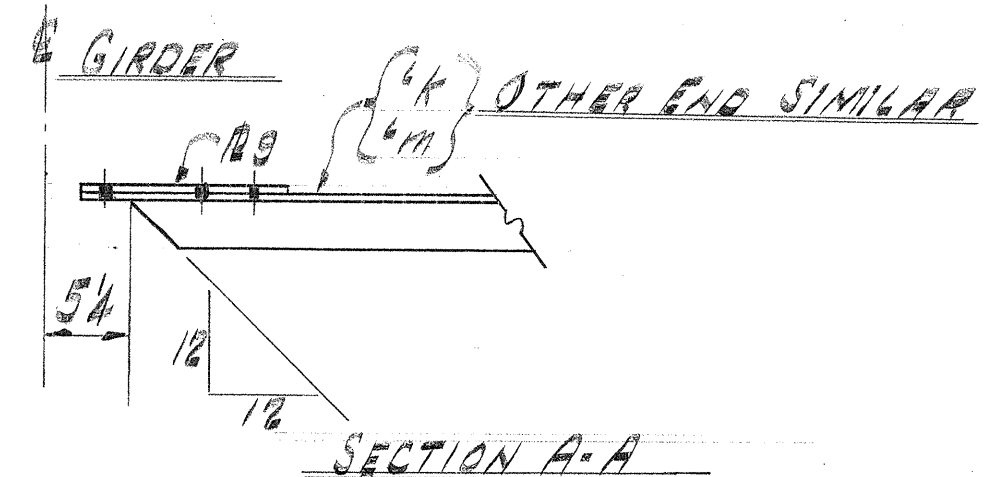
REVAMP - 2- EXISTING GIRDERS (A.S.) EN. NIK. G-23 & G-24 } ONE- EACH
 REVAMP - 2- EXISTING GIRDERS (O.H.) EN. NIK. G-21 & G-22 }



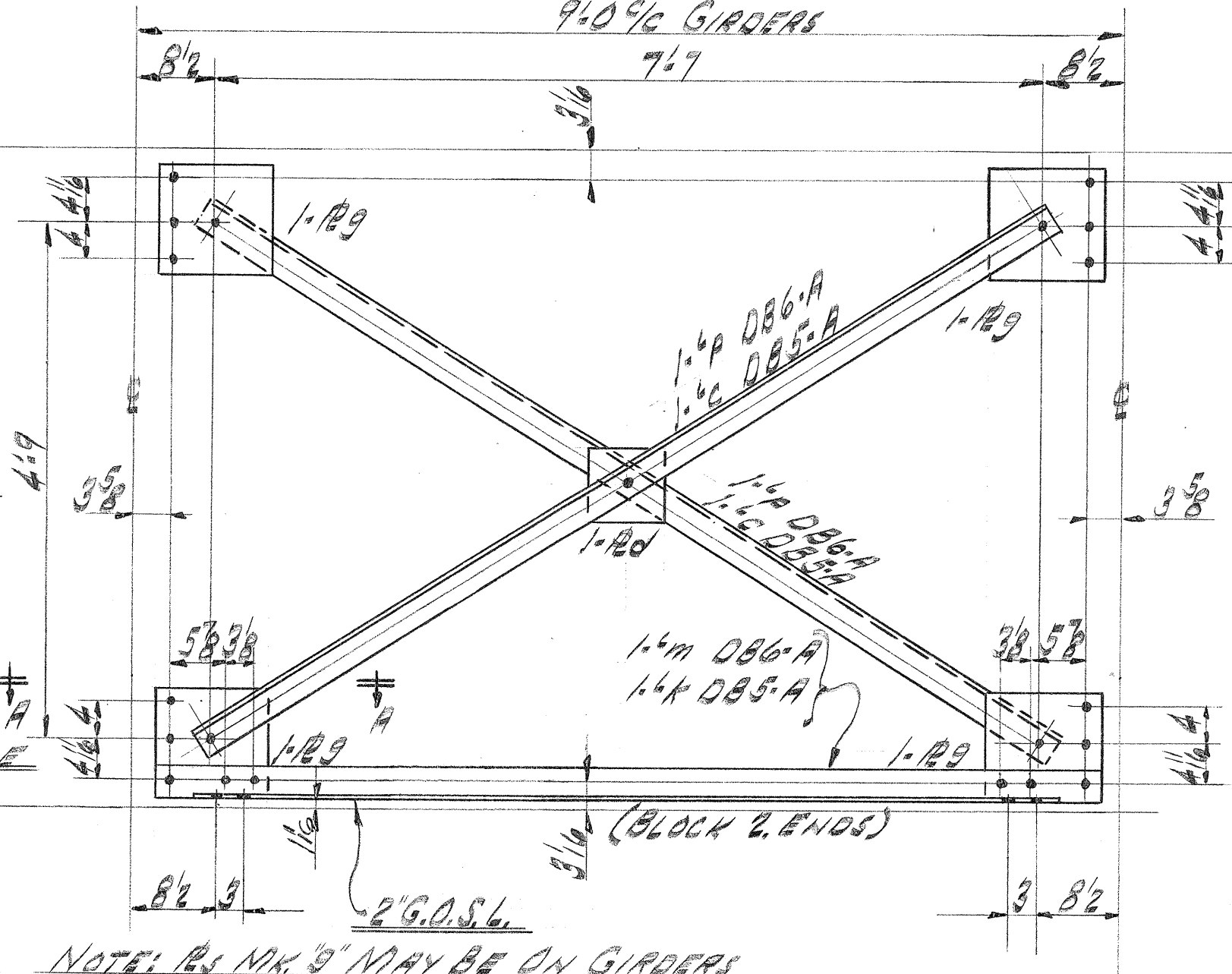
NOTE: RS ON VERTICALS @ NOTED PANEL POINTS TO BE REUSED - IF RS HAVE BEEN REMOVED THEN EXIST. HGS. TO BE REUSED
 1- NEW R. NIK. 2" 15'-8 1/4" 5'-8 1/2" 4'-0" 5'-10 1/8" 17'-2 3/8" 1- NEW R. NIK. 6"



REVAMP - 2- SALV. GIRDERS (A.S.) EN. NIK. G-17 & G-18 } FROM THE HONOLULU BRIDGE
 REVAMP - 2- SALV. GIRDERS (O.H.) EN. NIK. G-19 & G-20 } ONE- EACH



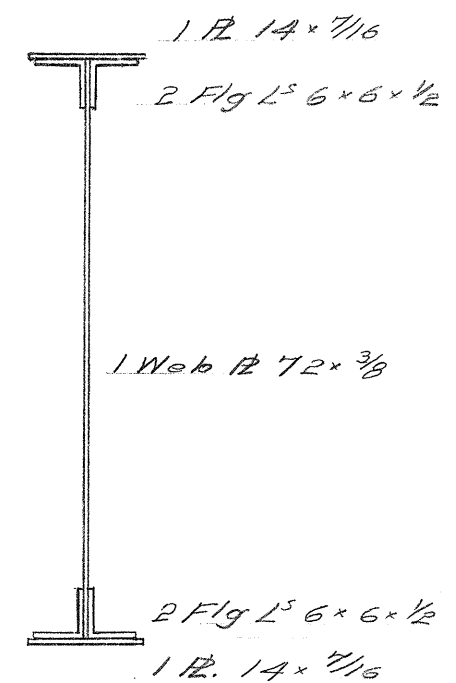
WELD TO GIRDER MAKE - 2- DIAGONAL BRACES NIK. DB3-A (N.S.) ONLY NOTE: RS NIK. 3" MAY BE ON GIRDERS



NOTE: RS NIK. 3" MAY BE ON GIRDERS

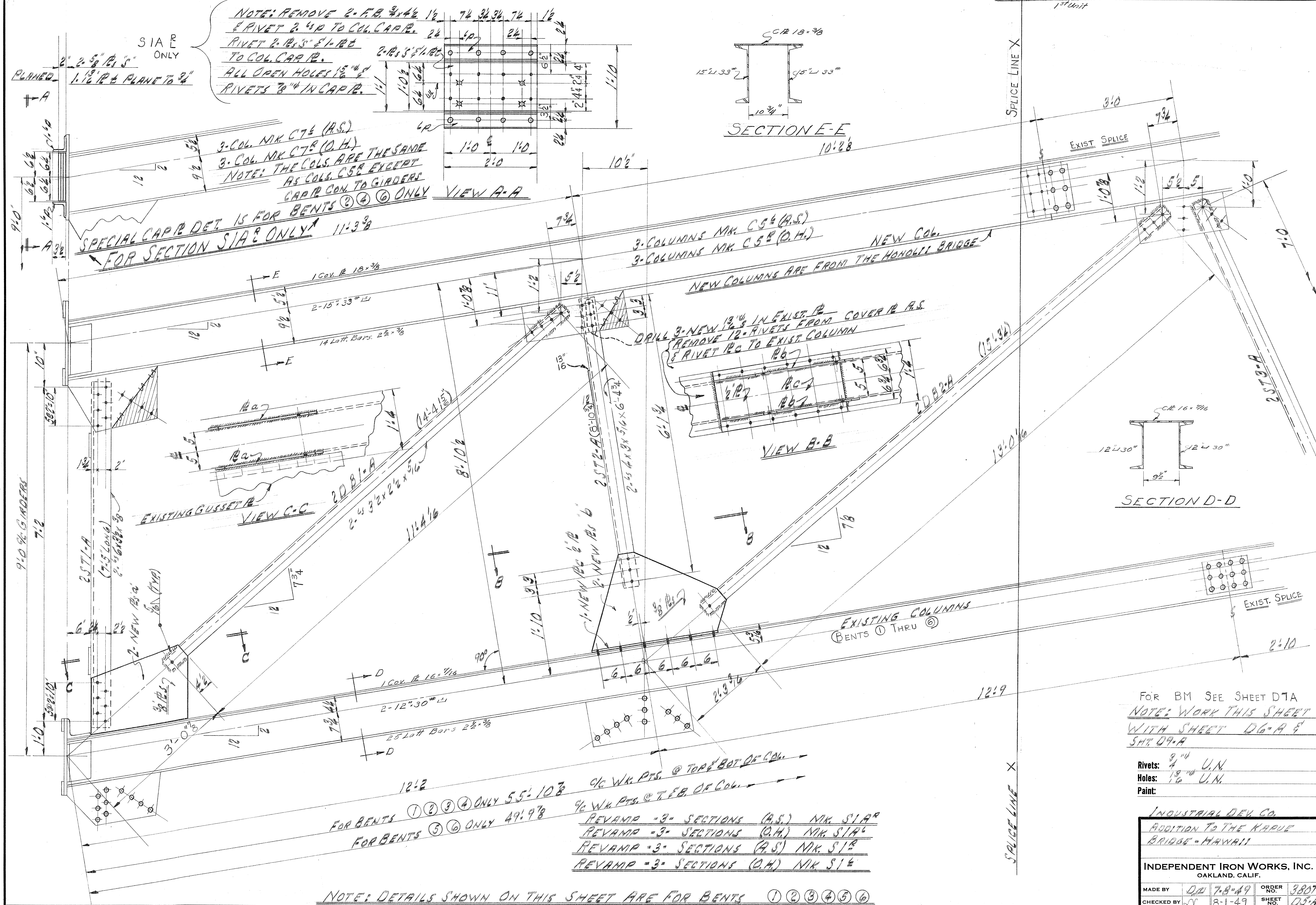
MAKE - 14- DIAGONAL BRACES A.S. EN. NIK. DB5-A
 MAKE - 24- DIAGONAL BRACES A.S. EN. NIK. DB6-A

BILL OF MATERIAL INDUSTRIAL DEV. CO.				
No.	Description	Length Ft. In.	Mark	REMARKS
2	EXIST. GIRDERS	6-23 & 6-24		REVAMP AS ON DET.
2	EXIST. GIRDERS	6-21 & 6-22		REVAMP AS ON DET.
2	SALV. GIRDERS	6-17 & 6-18	TO BE TAKEN	REVAMP AS ON DET.
2	SALV. GIRDERS	6-19 & 6-20	FROM THE HONOLULU BRIDGE	REVAMP AS ON DET.
2	DIAG. BRACES	DB3-A		
14	DIAG. BRACES	DB5-A		
24	DIAG. BRACES	DB6-A		
40	R 3/8 x 8	0 8	d	TEMP. NEW-
160	R 3/8 x 11 3/4	1 0	g	DO. NEW-
32	4 x 3 x 3/8	9 2 3/8	c	
2	4 x 3 x 3/8	8 7 3/4	s	
48	4 x 3 x 3/8	9 8 3/8	p	
14	4 x 3 x 3/8	8 7 3/4	k	
24	4 x 3 x 5/8	8 7 3/4	m	
6	5/16 WF 22.5	0 6	e	NEW NORTH.



Rivets: 3"
 Holes: 15"
 Paint:

INDUSTRIAL DEV. CO.
 ADDITION TO THE KAPUE BRIDGE-HAWAII
 INDEPENDENT IRON WORKS, INC.
 OAKLAND, CALIF.
 MADE BY: DM 6-24-49 ORDER NO. 3807
 CHECKED BY: LV 7-29-49 SHEET NO. DA-A



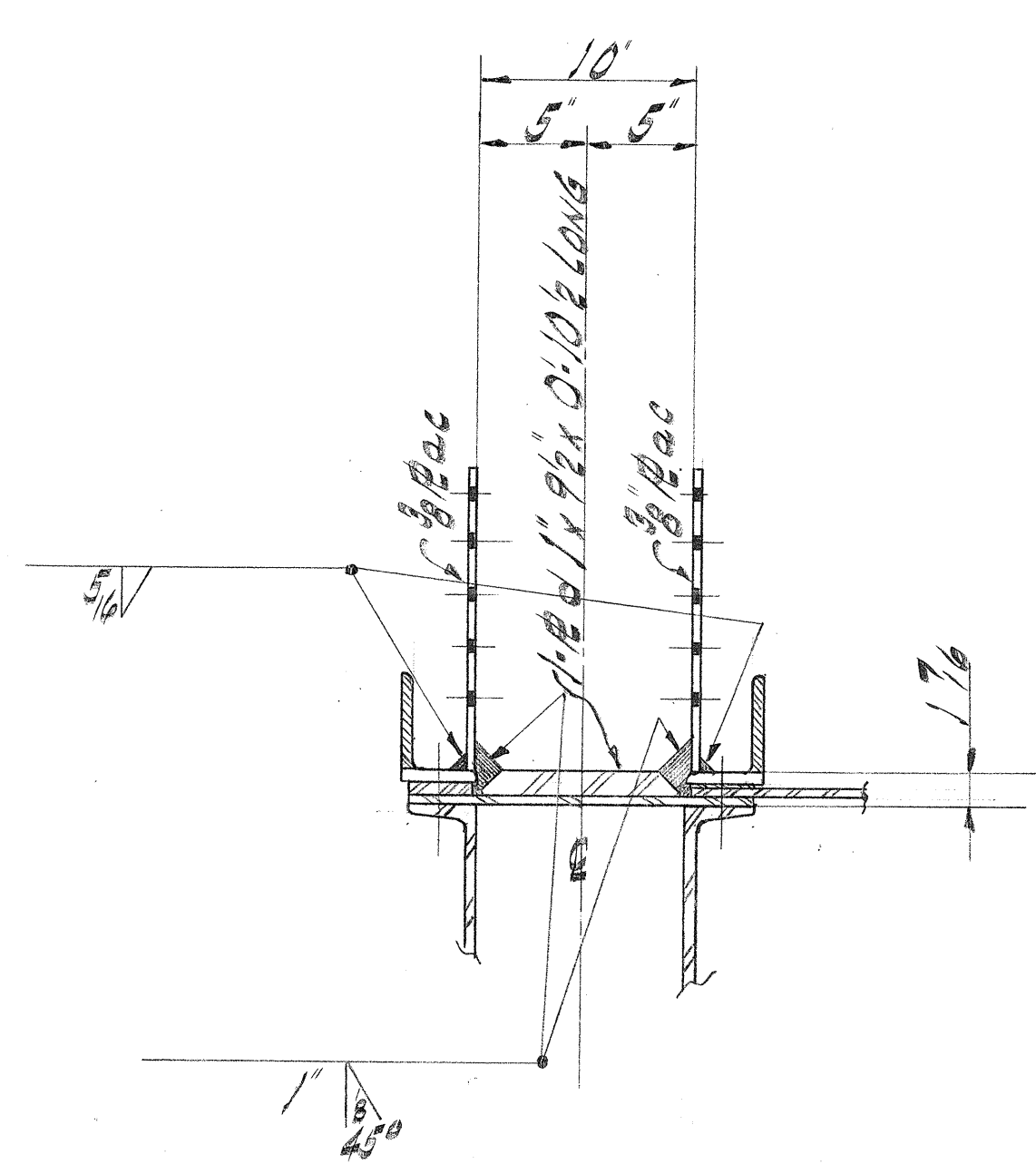
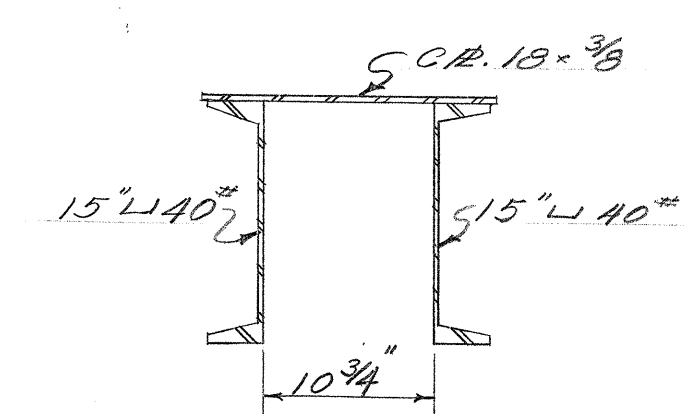
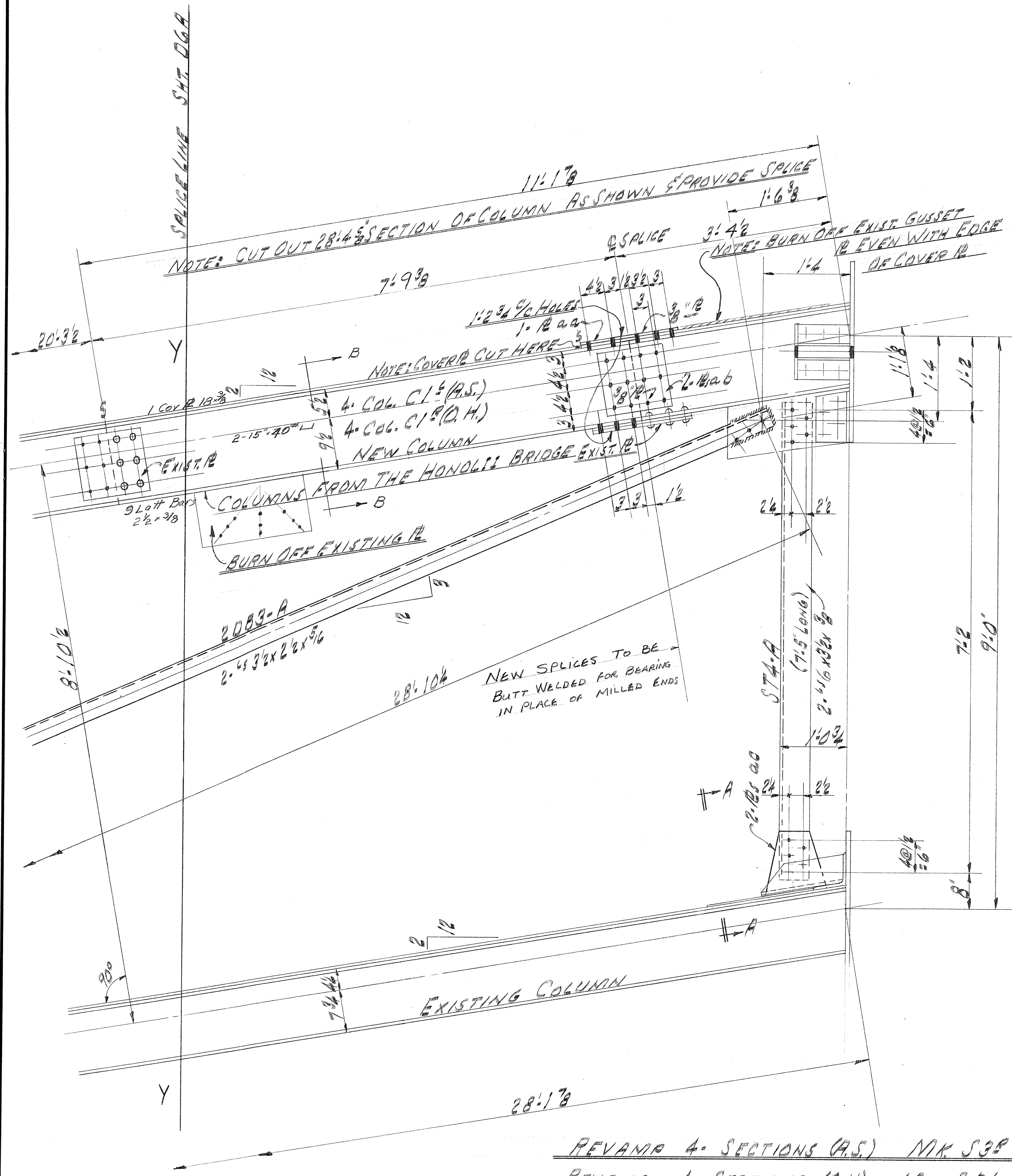
FOR BM SEE SHEET D7A
NOTE: WORK THIS SHEET
WITH SHEET D6-A &
SHT. D9-A

Rivets: 9/16" U.N.
 Holes: 1/2" U.N.
 Paint:

INDUSTRIAL DEV. CO.
 ADDITION TO THE KAPUE
 BRIDGE - HAWAII

INDEPENDENT IRON WORKS, INC.
 OAKLAND, CALIF.

MADE BY	D.D. 7-8-49	ORDER NO.	3807
CHECKED BY	8-1-49	SHEET NO.	D5-A



BILL OF MATERIAL					INDUSTRIAL DEV. CO.
No.	Description	Length		Mark	REMARKS
		Ft.	In.		
12	DIAG. BRACES	208	1/4		BRIDGE THAT WAS LISTED BELOW
	REVAMP 3-TVL 1-TVL				HONOLULU
	6-TB1 NO REVAMP REQ'D.				Do.
12	DIAG. BRACES	208	2-A		
	REVAMP 10-TB16				HONOLULU
	2-TVL NO REVAMP REQ'D.				Do.
8	DIAG. BRACES	208	3-A		
	8-TB15 REVAMP (AS) 012-A				HONOLULU
	8-TB6 REVAMP (AS) 012-A				Do.
12	STRUTS	257	1-A		NEW
12	STRUTS	252	2-A		
	6-TS3 CUT EACH INTO 2- PIECES & REVAMP				HONOLULU
12	STRUTS	253	3-A		
	8-TS2 REVAMP & 2-TS6 CUT IN HALF & REVAMP				HONOLULU
12	STRUTS	57	4-A		NEW
6	COLUMNS	67	2		HONOLULU
	REVAMP (AS) SH 105A				
6	COLUMNS	65	2		HONOLULU
	REVAMP (AS) SH 105A				
8	COLUMNS	63	2		HONOLULU
	NO REVAMP REQ'D.				
8	COLUMNS	61	2		HONOLULU
	REVAMP (AS) ON THIS SH.				
24	R 3/8 x 19 1/2	2	4	a	TENIA
24	R 3/8 x 23 3/4	3	0 1/2	b	Do.
12	R 2 x 16	2	9	c	Do.
12	2 1/4 x 3 1/2 x 1/2	2	0	a	Do.
12	R 5/8 x 20	2	0	s	Do.
6	R 3/4 x 20	2	0	t	Do.
16	R 3/8 x 12	1	9	g	Do.
8	R 2 x 16	2	6 1/2	h	Do.
8	R 3/8 x 19	2	9 1/2	m	Do.
8	R 3/8 x 16	1	6 1/2	a a	Do.
16	R 3/8 x 12	1	0	a b	Do.
16	R 3/8 x 11	1	0	a c	Do.
8	R 1 x 9 1/2	0	10 1/2	d	Do.

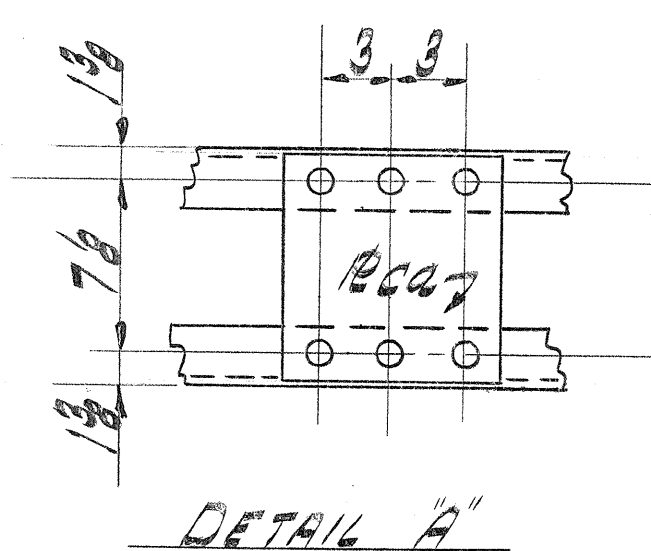
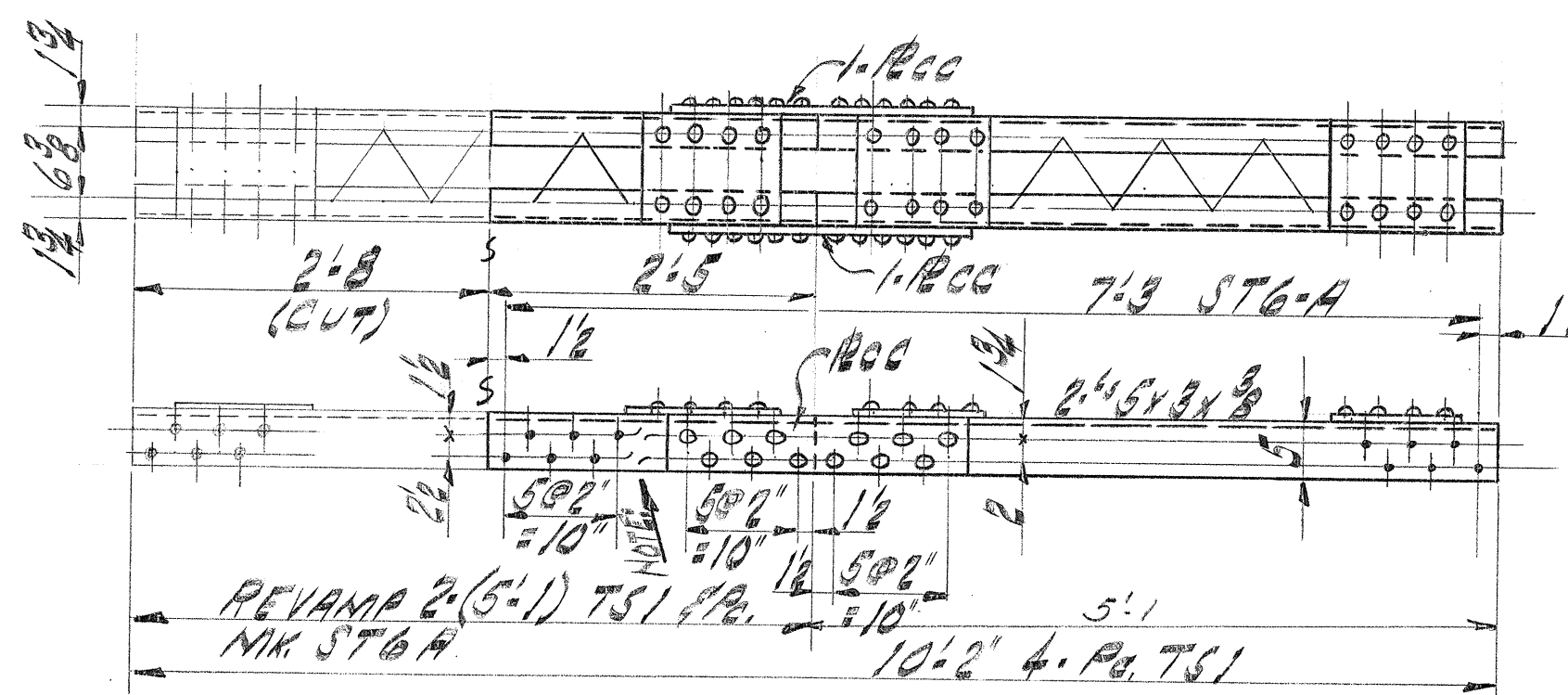
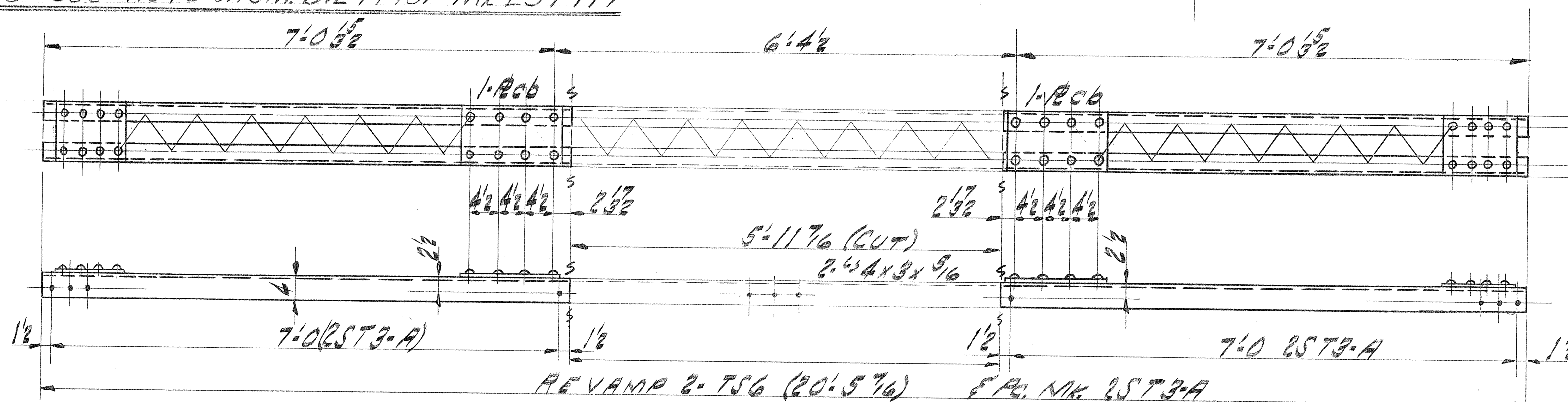
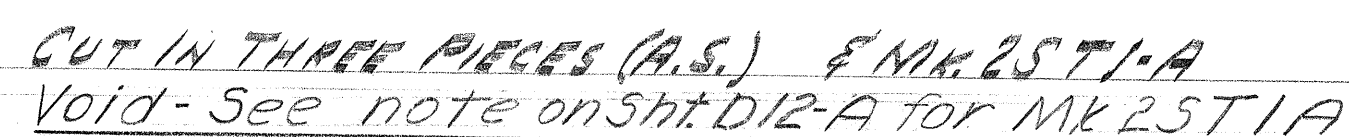
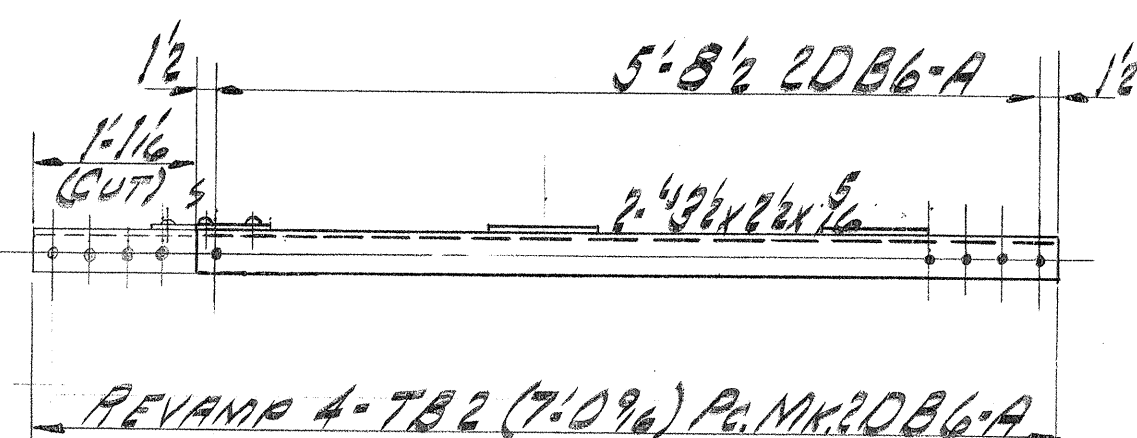
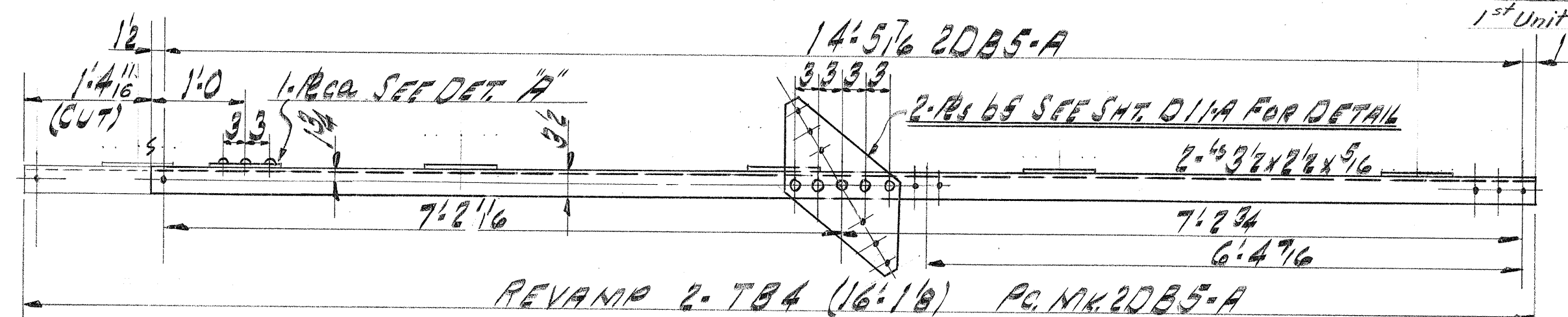
- NEW MATERIAL -

Rivets: 3/4" ϕ
Holes: 1 3/8" ϕ
Paint:

INDUSTRIAL DEV. CO.
ADDITION TO THE KAPUE
BRIDGE, - HAWAII

INDEPENDENT IRON WORKS, INC.
OAKLAND, CALIF.

MADE BY	<i>QW</i>	<i>7-12-49</i>	ORDER NO.	<i>3807</i>
CHECKED BY	<i>LV</i>	<i>8-1-49</i>	SHEET NO.	<i>07-A</i>

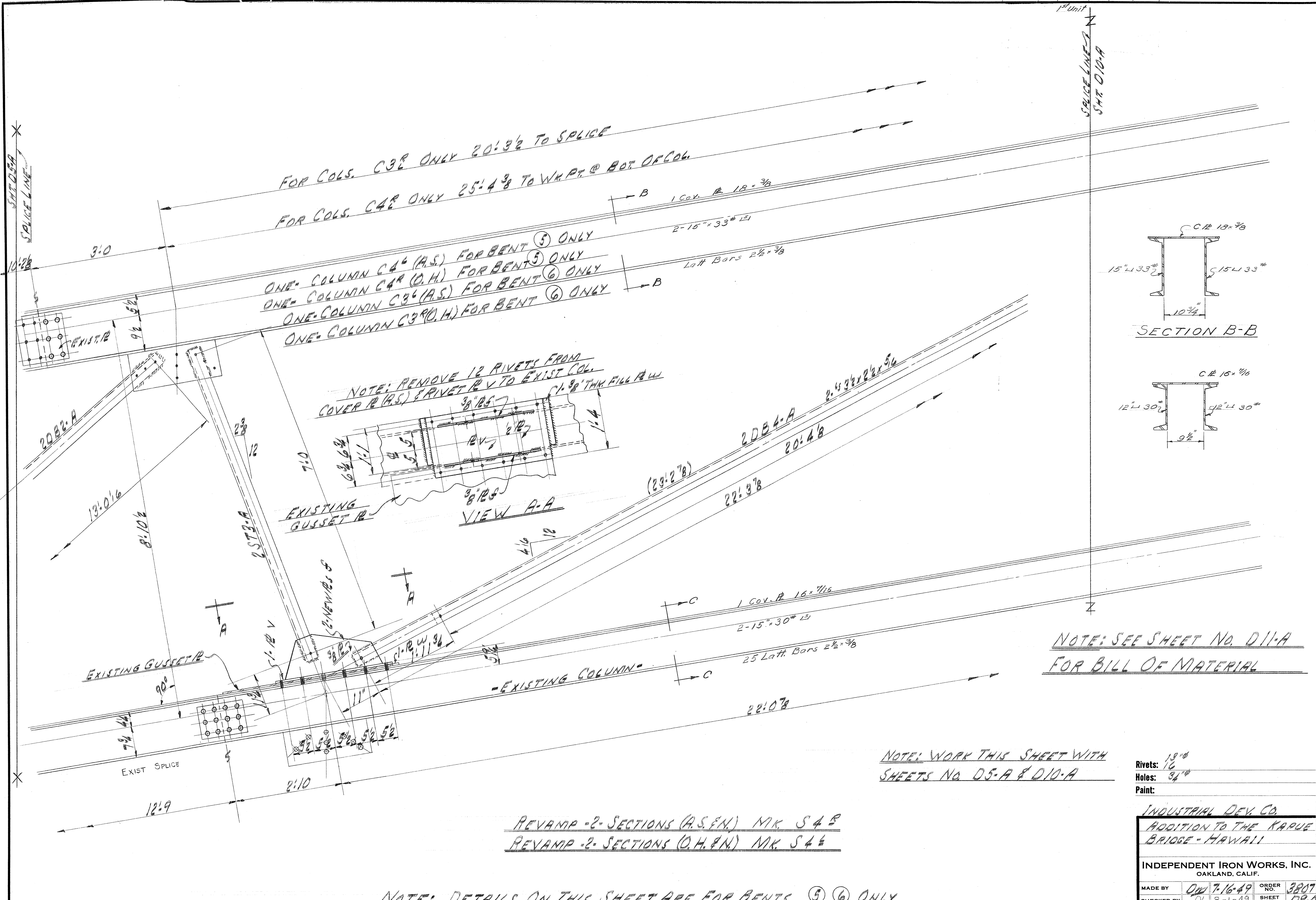


Rivets: 3/4" 10
Holes: 1 3/16" 10
Paint:

INDUSTRIAL DEV. CO.
ADDITION TO THE KARUE
BRIDGE - HAWAII

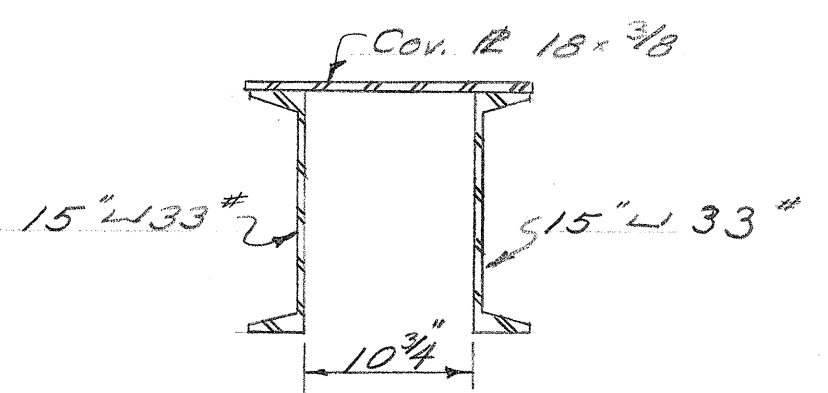
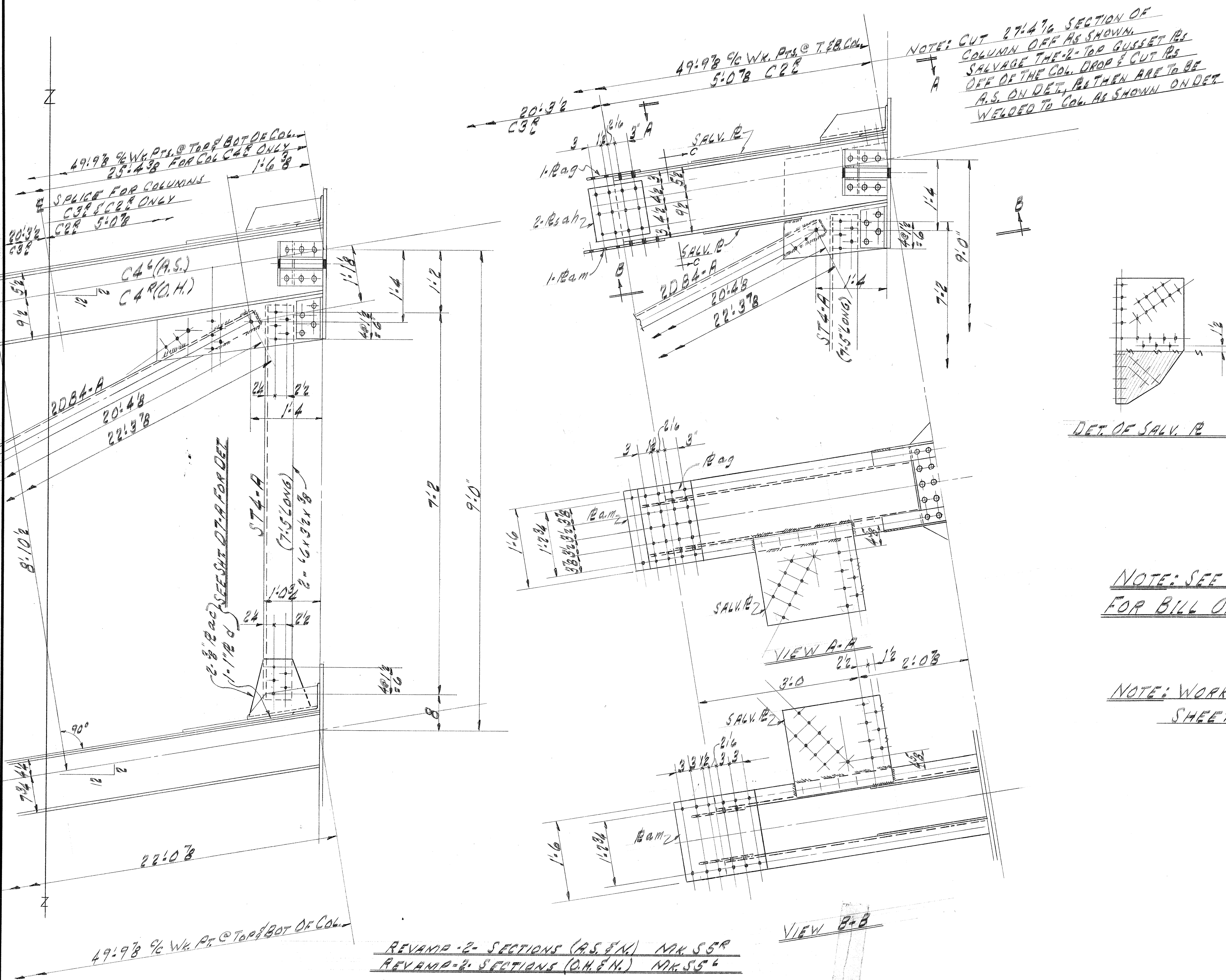
INDEPENDENT IRON WORKS, INC.
OAKLAND, CALIF.

MADE BY	<i>DP</i>	<i>7-28-49</i>	ORDER NO.	<i>3807</i>
CHECKED BY	<i>SK</i>	<i>8-2-49</i>	SHEET NO.	<i>08-4</i>

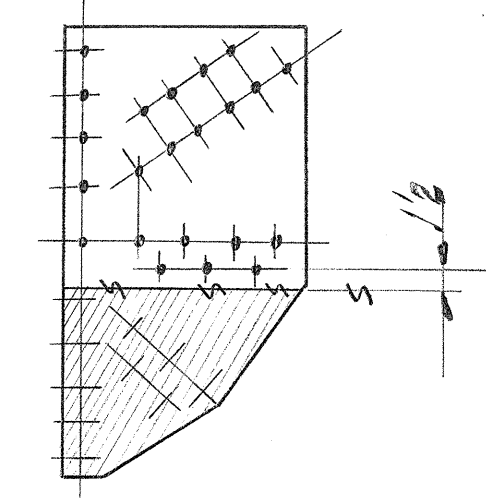


Rivets:	13" 10
Holes:	34" 10
Paint:	
INDUSTRIAL DEV. CO.	
ADDITION TO THE KARUE BRIDGE - HAWAII	
INDEPENDENT IRON WORKS, INC.	
OAKLAND, CALIF.	
MADE BY	OW 7-16-49
CHECKED BY	LV 8-1-49
ORDER NO.	3807
SHEET NO.	D9A

1st Unit



SECTION C-C



DET. OF SALV. PL.

NOTE: SEE SHEET NO. D11-A
FOR BILL OF MATERIAL

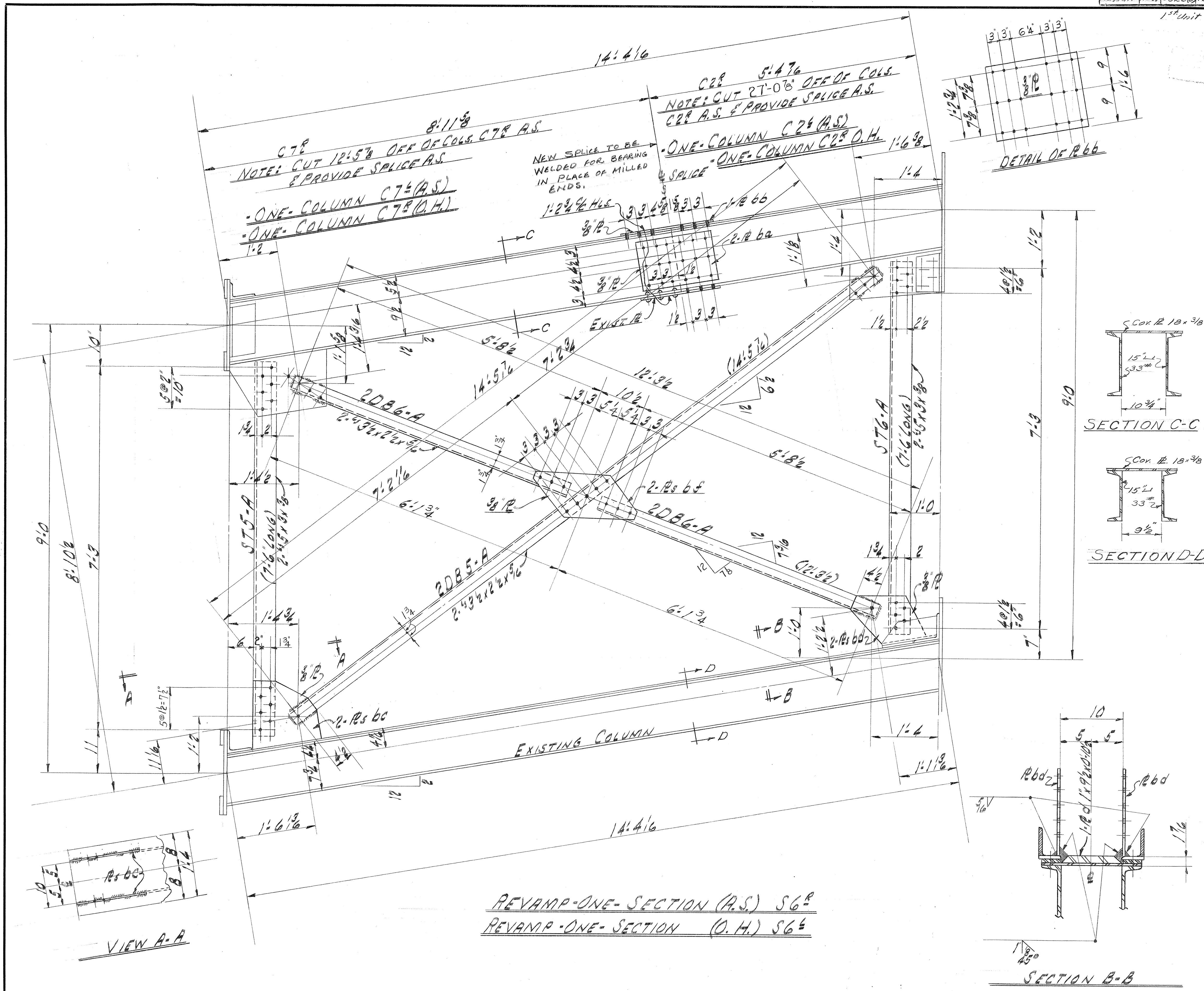
NOTE: WORK THIS SHEET WITH
SHEET NO. D9-A

REVISION - 2- SECTIONS (A.S.F.N.) MK. S5R
REVISION - 2- SECTIONS (O.H.F.N.) MK. S5L

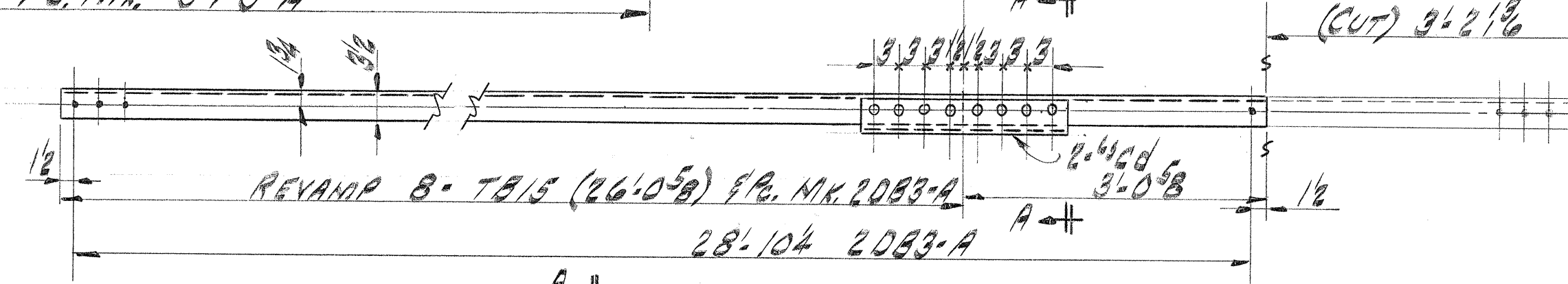
Rivets: 3/4" x 1/2"
Holes: 1/2" x 1/2"
Paint:

INDUSTRIAL DEV. CO.			
ADDITION TO THE KAPUE BRIDGE - HAWAII			
INDEPENDENT IRON WORKS, INC.			
OAKLAND, CALIF.			
MADE BY	DP	7-16-49	ORDER NO. 3807
CHECKED BY	CV	8-2-49	SHEET NO. D10-A

5415.44



BILL OF MATERIAL						INDUSTRIAL DEV. CO.
No.	Description	Length		Mark	REMARKS	
		Ft.	In.			
2	DIAG. BRACES REVAMP 2-TB4			2DB5-A	HONOLULI	
4	DIAG. BRACES REVAMP 4-TB2			2DB6-A	HONOLULI	
2	STRUTS REVAMP 1-TS7			ST5-A	HONOLULI	
2	STRUTS REVAMP 4-TS1			ST6-A	HONOLULI	
2	COLUMNS REVAMP (A.S.)			C7E	HONOLULI	
2	COLUMNS REVAMP (A.S.)			C2E	HONOLULI	
4	R ³ / ₈ x 12	1	6	6a	TEMP	
2	R ³ / ₈ x 18	1	9 1/4	6b	DO	
2	R ³ / ₈ x 16 1/2	1	42	6c	DO	
4	R ³ / ₈ x 13	1	42	6d	DO	
2	R ¹ / ₂ x 9 1/2	0	10 1/2	d		
4	R ³ / ₈ x 12 1/2	2	2	6e	TEMP	
BILL OF MATL. FOR SHTS. D9-A & D10-A BELOW						
4	DIAG. BRACES Revamp from Mat'l. to be designated by Resident Engineer			2DB4-A		
2	COLUMNS NO REVAMP REQD.			C4E	HONOLULI	
2	COLUMNS NO REVAMP REQD.			C3E	HONOLULI	
2	COLUMNS REVAMP A.S. ON SHT D10-A			C2E	HONOLULI	
8	R ³ / ₈ x 11	2	2	f	TEMP	
4	R ³ / ₈ x 16	2	6 1/2	g	DO	
4	R ³ / ₈ x 13	3	0 1/2	h	DO	
8	R ³ / ₈ x 11	1	0	ac	DO	
4	R ¹ / ₂ x 9 1/2	0	10 1/2	d		
2	R ³ / ₈ x 12 1/2	1	6	ag	TEMP	
4	R ³ / ₈ x 12	1	0 1/2	ah	DO	
2	R ³ / ₈ x 18	1	6 1/2	am	DO	
NOTE: SEE SHT DB-A FOR DETAILS OF R. NIK. DB5-A & 2DB6-A & ST6-A. SEE SHT D12-A FOR DET. OF R. DB4-A & ST 5A						
Rivets: 3" ⁴						
Holes: 1 1/2" ⁴						
Paint:						
INDUSTRIAL DEV. CO.						
ADDITION TO THE KARUE BRIDGE - HAWAII						
INDEPENDENT IRON WORKS, INC. OAKLAND, CALIF.						
MADE BY	DO	7.19.49	ORDER NO.	3807		
CHECKED BY	LV	8.2.49	SHEET NO.	D11A		



Technical drawing of a mechanical assembly, likely a shaft-hub connection. The drawing shows a cross-section of a shaft (top) and a hub (bottom) with a central hole. The shaft has a central section with a different diameter, indicated by a dashed line. Handwritten annotations include:

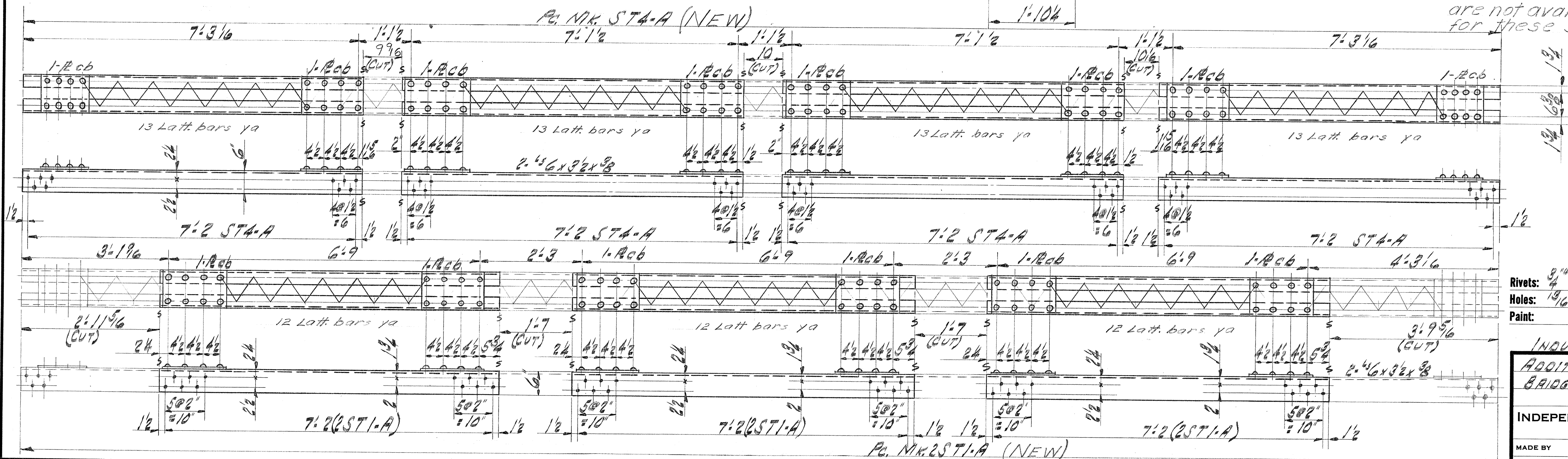
- $A \leftarrow$ with a double vertical line, pointing to the central section of the shaft.
- b_{cd} with an arrow pointing to the central section of the shaft.
- b_{cd} with an arrow pointing to the central section of the hub.
- $A \leftarrow$ with a double vertical line, pointing to the central section of the hub.
- S with an arrow pointing to the right end of the hub.
- $\$$ with an arrow pointing to the right end of the shaft.

Revamp from Mat'l. to be
designated by resident Eng. (20-78) & P. M. M. DB4-A

1/2" 1/4" 3/8" 2-5/8" x 2-1/2" 3/8"

22' 3" DB4-A

Struts ST4A & 2ST1-A are shown to be cut from 32'-1 $\frac{5}{8}$ " members. These members are not available, all material for these struts to be new.



Rivets: 3"⁴
Holes: 1 9/16"
Paint:

INDUSTRIAL DEV. CO.
ADDITION TO THE KAPUE
BRIDGE - HAWAII

INDEPENDENT IRON WORKS, INC.
OAKLAND, CALIF.

MADE BY	<i>DD</i>	<i>7-25-49</i>	ORDER NO.	<i>380</i>
CHECKED BY	<i>NI</i>	<i>8-2-49</i>	SHEET NO.	<i>512</i>

