

GENERAL NOTES

FOUNDATIONS:
MAY BE ALTERED IF NECESSARY TO SUIT CONDITIONS OF CONSTRUCTION.
DATE & SEAL:
TO BE PLACED ON INSIDE FACES OF S.W. LY. END POST OF SPAN NO. 1 AND N.E. LY. END POST OF SPAN NO. 4. FOR EXACT LOCATION SEE SHEET #23 FOR SIZE AND CHARACTER OF NUMERALS, SEE ANOTHER SHEET.

DESIGN:
ACCORDING TO SPECIFICATIONS OF AMERICAN ASSOCIATION OF STATE HIGHWAY OFFICIALS (1944 ED.) FOR H20 LOADING.

BENCH MARKS:
GREENFIELD - STA. 49+35 LT. L.O.C. 2ND CONC. STEP HO. #165 EL. 148.97
MONTAGUE - STA. 57+93 - 103 ± RT. SPIKE 36' ELM. EL. 143.985
MONTAGUE - STA. 58+34 - 120 ± LT. COPPER PLUG TOP FOOTING R.R. ABUT. (N. LY. END) EL. 143.495

STRUCTURAL STEEL:
COLOR COAT OF ALL STRUCTURAL STEEL SHALL BE STRUCTURAL GREEN.
ALL RIVETS 3/8" AND ALL HOLES 1 1/16" EXCEPT AS NOTED.
ALL STEEL TO BE COPPER BEARING STRUCTURAL GRADE STEEL.

ESTIMATED QUANTITIES (NOT GUARANTEED)		
CLASS A ROCK EXCAVATION	10	CU. YDS.
BRIDGE EXCAVATION	760	CU. YDS.
UNCLASSIFIED EXCAVATION	2400	CU. YDS.
CLASS B ROCK EXCAVATION	100	CU. YDS.
GRAVEL BORROW	250	CU. YDS.
STRIPPING GRAVEL PITS	20	CU. YDS.
STEEL SHEETING	40000	POUNDS
TREES REMOVED (UNDER 24")	10	EACH
TREES REMOVED (24" & OVER)	8	EACH
LIGHTING SYSTEM	1	LUMP SUM
TREATED TIMBER PILES	750	LIN. FT.
CLASS I BIT. CONC. PAVEMENT - TYPE I-1	325	TONS
CLASS A CEM. CONC. MASONRY	925	CU. YDS.
CLASS B CEM. CONC. MASONRY	2620	CU. YDS.
CLASS D CEM. CONC. MASONRY	235	CU. YDS.
GRANITE FOR PIERS	1800	SQ. FT.
STEEL REINF. FOR STRUCTURES	260000	POUNDS
STRUCTURAL STEEL	3250000	POUNDS
MEMBRANE WATERPROOFING (3 PLY)	2350	SQ. YDS.
RIPRAP	3	EACH
MANHOLES FOR SNOW REMOVAL	3	EACH
REMOVAL OF EXISTING PIERS	2100	CU. YDS.
SCUPPERS	1	LUMP SUM
GRANITE CURB TYPE VA STR. (6' X 12')	70	EACH
GRANITE CURB TYPE VA CURVED (6' X 12')	1475	LIN. FT.
STEEL PILES	58	LIN. FT.
STEEL PILE SPLICES	6750	LIN. FT.
	10	EACH

INDEX OF SHEETS		
SHEET	MEMBER	DESCRIPTION
1		GENERAL PLAN - QUANTITIES - NOTES
2		KEY PLAN AND PROFILE
3		BORING PLAN - BORING DATA
4		BORING DATA (CONTINUED)
5	SPAN NO. 1 W/LY. ABUT.	PLAN & S/LY. ELEVATION
6	PIER NO. 1 W/LY. ABUT.	COMPLETE DETAILS
7	PIER NO. 2	TYPICAL SECTION
8	PIER NO. 3	COMPLETE DETAILS
9	E'LY. ABUT.	" "
10	SPAN NO. 1	STEEL LAYOUT & DETAILS
11	SPAN NO. 2	MAKE-UP OF SECTIONS - TRUSS DETAILS AT PINS
12	" "	STEEL LAYOUT & LATERAL BRACING
13	" "	CROSS-SECTION OF SUPERSTRUCTURE
14	" "	TYPICAL DETAILS OF TRUSSES
15	" "	END PORTALS
16	SPAN NO. 3	MAKE-UP OF SECTIONS - NOTES
17	" "	STEEL LAYOUT & LATERAL BRACING
18	" "	CROSS-SECTION OF SUPERSTRUCTURE - MANHOLES - SCUPPERS
19	" "	TYPICAL DETAILS OF TRUSSES
20	" "	TRUSS DETAILS AT PINS
21	" "	END PORTALS
22	SPANS NO. 2 & 3	TRUSS SHOES - ROLLERS - ETC.
23	SPAN NO. 4	COMPLETE DETAILS
24		EXPANSION JOINT AT PIER NO. 1
25		" NO. 2

9-17-47	5 & 8	REINFORCEMENT REVISED
DATE	SHEET NOS.	DESCRIPTION
LIST OF REVISIONS: USE ONLY PRINTS OF LATEST DATE		

THE COMMONWEALTH OF MASSACHUSETTS
PROPOSED BRIDGE
GREENFIELD-MONTAGUE
MONTAGUE CITY BRIDGE
OVER CONNECTICUT RIVER
SCALES AS NOTED

OFFICE OF
DEPARTMENT OF PUBLIC WORKS
100 NASHUA ST. - BOSTON, MASS.
MAY 1947

R. C. [Signature] BRIDGE ENGINEER
J. H. [Signature] CHIEF ENGINEER

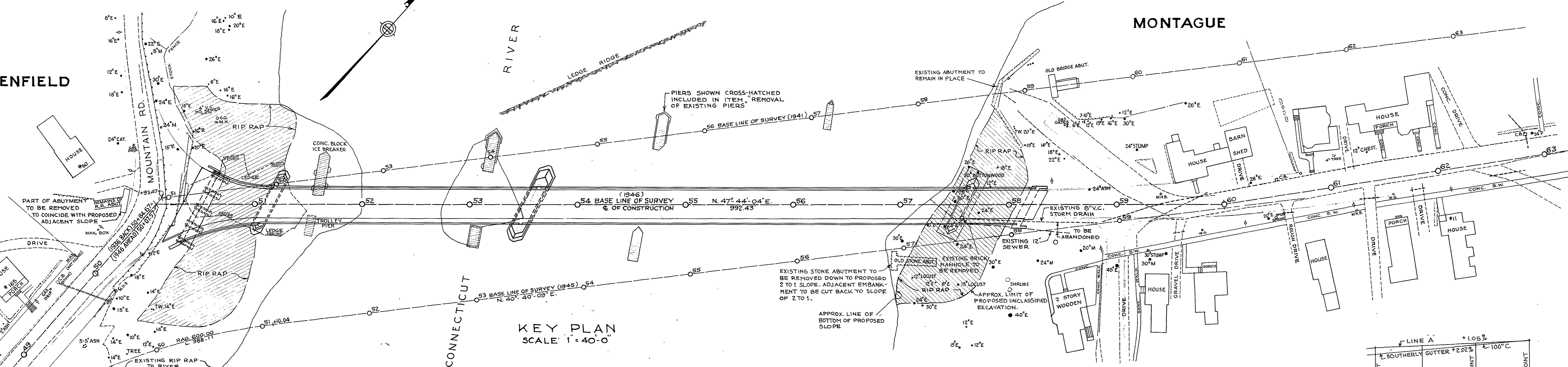
DESIGNED BY W.A.L.R. & TRACED BY N.E.B. 3125 CHECKED BY W.A.L.R. 128
DATE OF ISSUE

ADVERTISING CONSTRUCTION
5-24-47 16-25-47

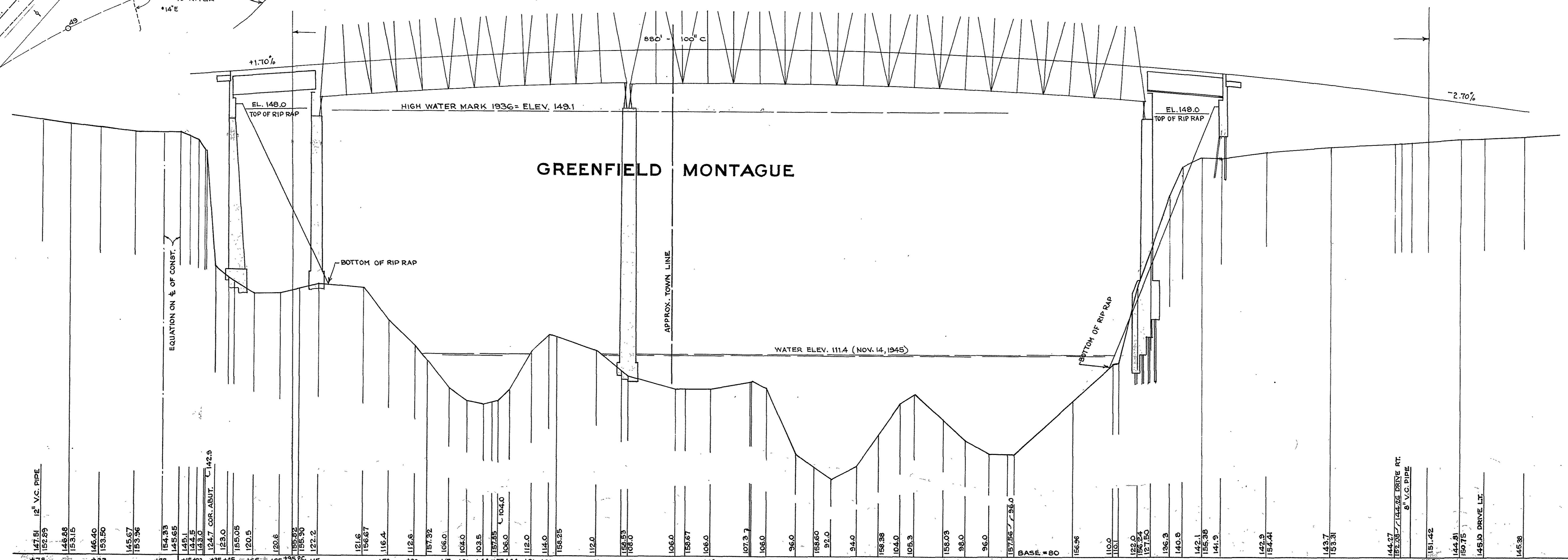
GREENFIELD

MONTAGUE

RIVER



KEY PLAN
SCALE: 1" = 40'-0"



GREENFIELD MONTAGUE

PROFILE
HOR. SCALE 1" = 40'-0"
VER. SCALE 1" = 8'-0"

LINE A +1.05%			
ANGLE POINT	SOUTHERLY GUTTER +2.02%	ANGLE POINT	ANGLE POINT
153.76			
154.90			
154.62			
155.35			
155.63			
155.87			
BASE = 135			

PROPOSED PROFILES - SPAN NO. 1

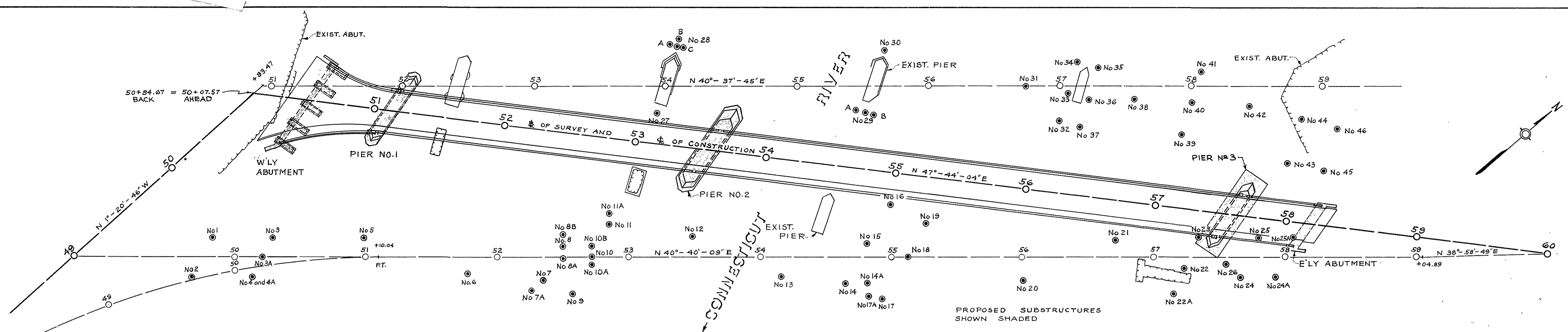
NORMAL PROFILE -1.05%			
ANGLE POINT	ANGLE POINT	ANGLE POINT	ANGLE POINT
156.40			
156.06			
155.61			
155.56			
155.32			
BASE = 140			

PROPOSED PROFILE OF
NORTHERLY GUTTER - SPAN NO. 1

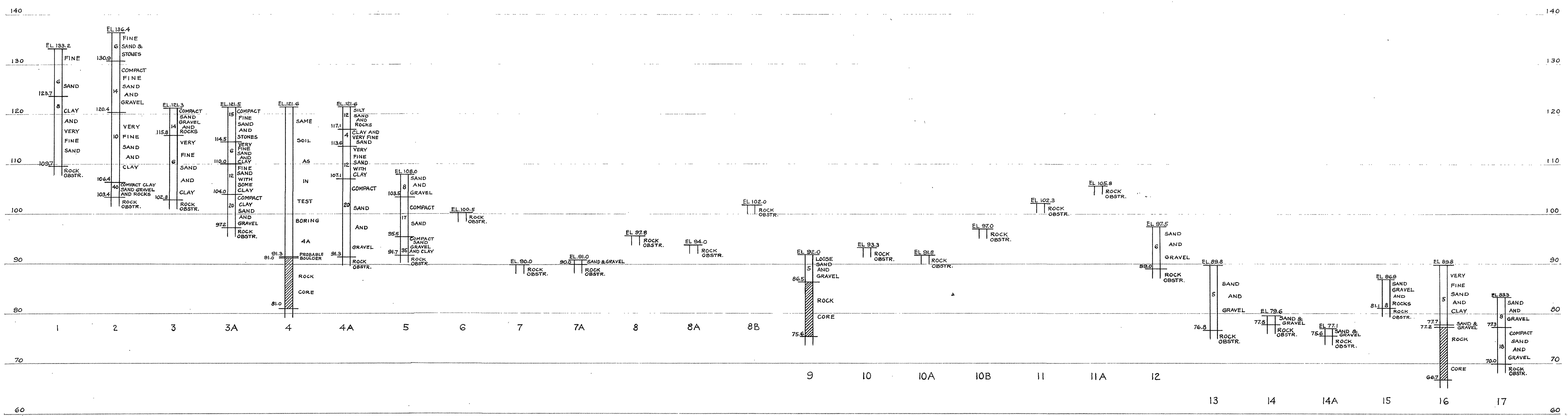
HOR. SCALE 1" = 40'-0"
VER. SCALE 1" = 8'-0"

KEY PLAN-PROFILE

6-25-47	CONSTRUCTION
5-24-47	ADVERTISING
DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE	



BORING LOCATION PLAN
SCALE: 1" = 40'



BORING DATA
SCALE 1" = 8'-0"

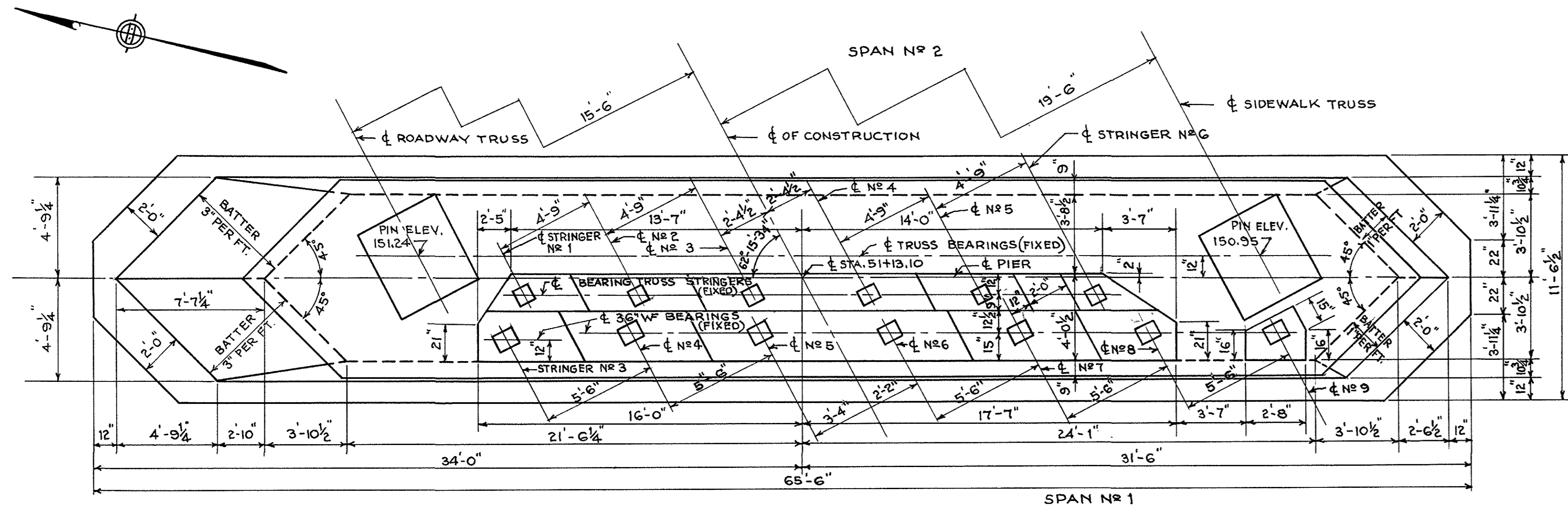
BORINGS NO. 1 TO NO. 26 INCL. TAKEN AUG., 1946.
" NO. 27 TO NO. 46 INCL. " NOV., 1941.

BORING NOTES:

LOCATION OF BORINGS SHOWN ON BORING LOCATION PLAN THUS ● BORINGS TAKEN FOR PURPOSE OF DESIGN AND SHOW CONDITIONS AT BORING POINTS ONLY, BUT DO NOT NECESSARILY SHOW NATURE OF MATERIAL TO BE ENCOUNTERED IN CONNECTION WITH THE CONSTRUCTION OF THE BRIDGE. FIGURES IN COLUMNS INDICATE BLOWS PER FOOT ON SPOON PRODUCED BY A 24" FALL OF A 140# HAMMER FOR BORINGS NO. 1 TO NO. 26 INCL. AND A 24" FALL OF A 125# HAMMER FOR BORINGS NO. 27 TO NO. 46 INCL. SAMPLES OF BORINGS ARE AVAILABLE AND MAY BE SEEN AT THE OFFICE OF THE BRIDGE ENGINEER MR. R.O. SPOFFORD ROOM 609, 100 NASHUA STREET, BOSTON.

BORING PLAN-DATA

DATE	DESCRIPTION
6-25-47	CONSTRUCTION
5-24-47	ADVERTISING
DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE	

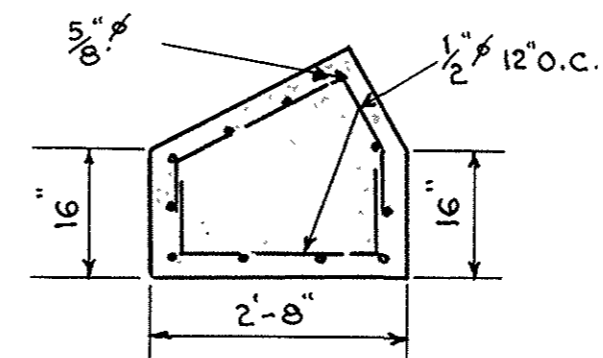


PLAN OF PIER NO. 1
SCALE 1/4" = 1'-0"

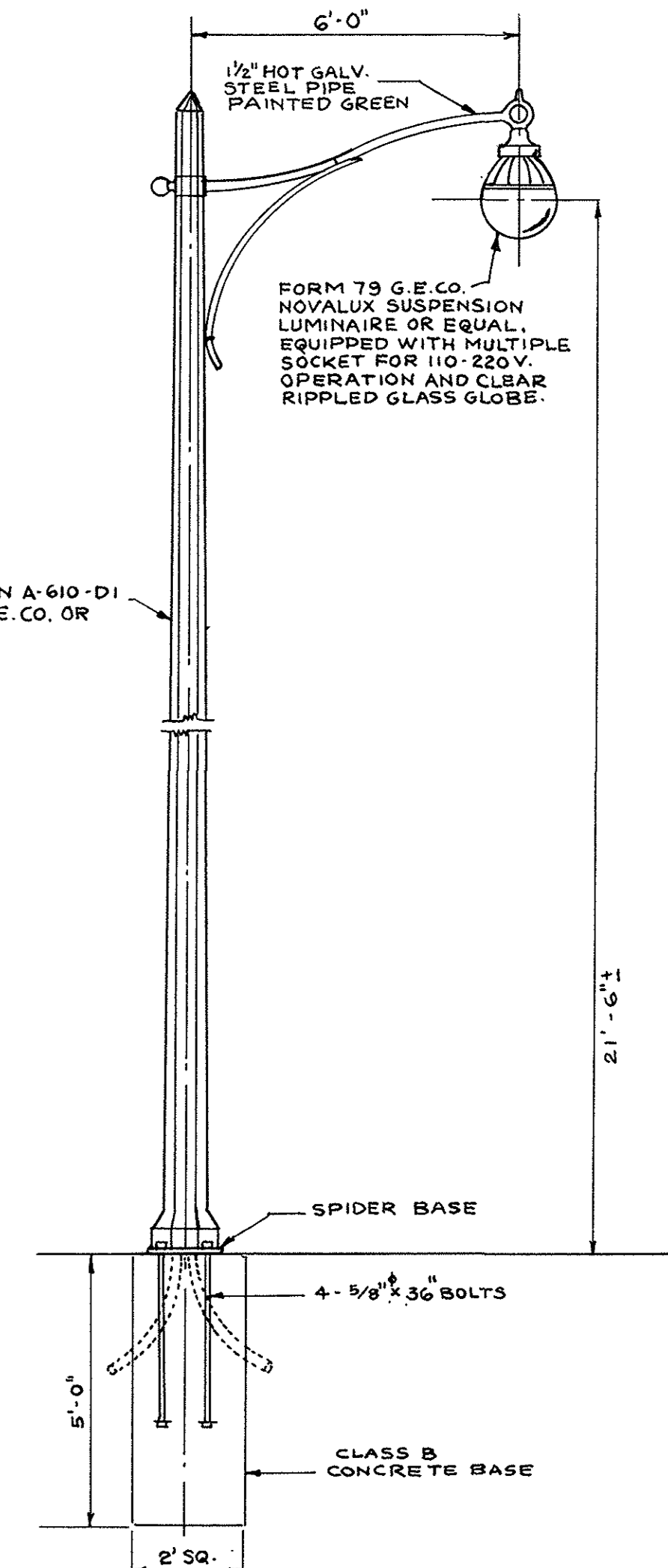
TABLE OF STRINGER & TRUSS ELEVATIONS FOR PIER NO. 1

36" STRINGER NO. 3	EL. 151.72
" " " 4	EL. 151.84
" " " 5	EL. 151.84
" " " 6	EL. 151.81
" " " 7	EL. 151.65
" " " 8	EL. 151.48
" " " 9	EL. 151.29
18" " " 1	EL. 153.63
" " " 2	EL. 153.68
" " " 3	EL. 153.69
" " " 4	EL. 153.65
" " " 5	EL. 153.51
" " " 6	EL. 153.37
ROADWAY TRUSS BEARING	EL. 148.57
SIDEWALK TRUSS BEARING	EL. 148.28

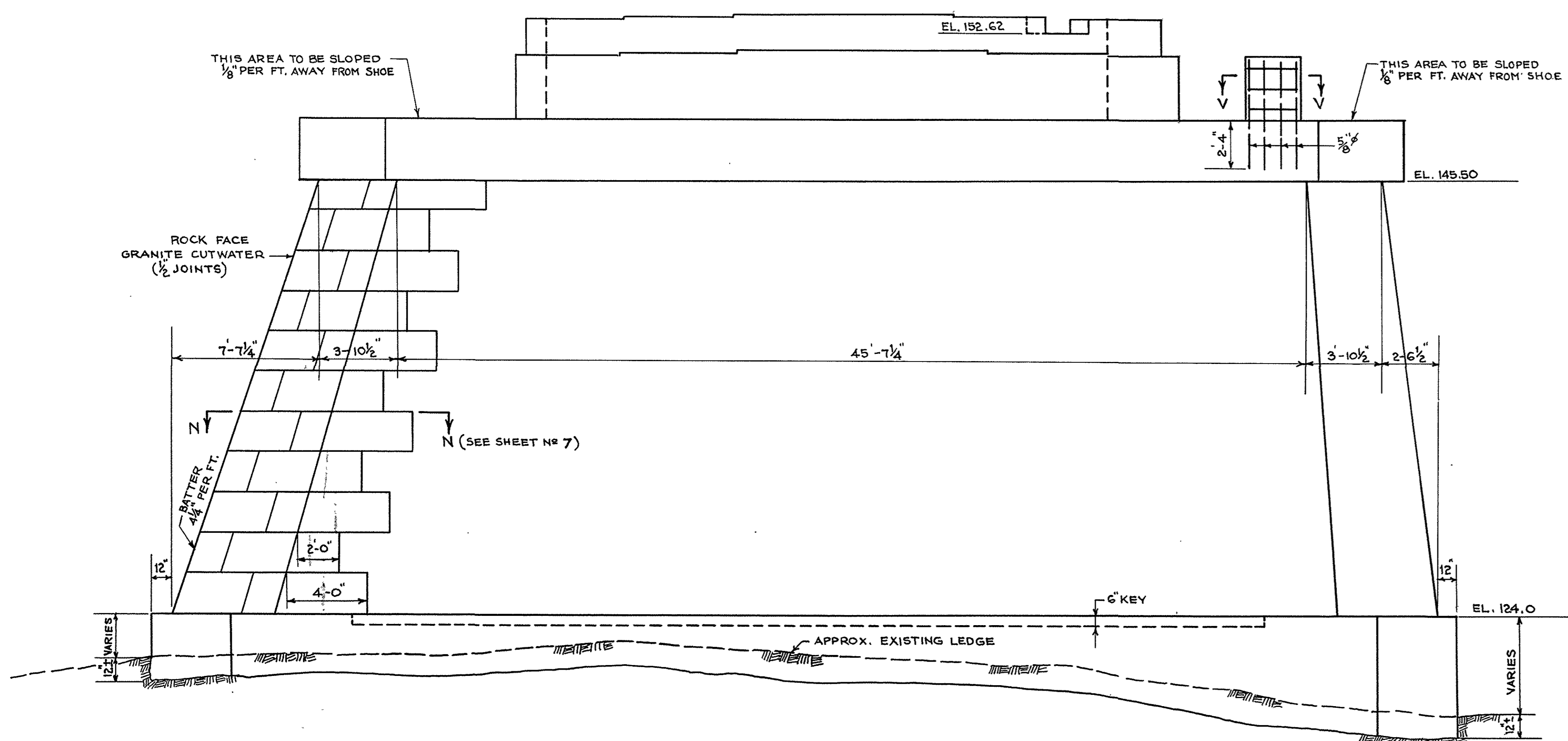
NOTE: ALL ELEVATIONS GIVEN TO BOTTOM OF MASONRY PLATES OR SHOES. (TOP OF CONCRETE)



SECTION V-V
SCALE 1/2" = 1'-0"

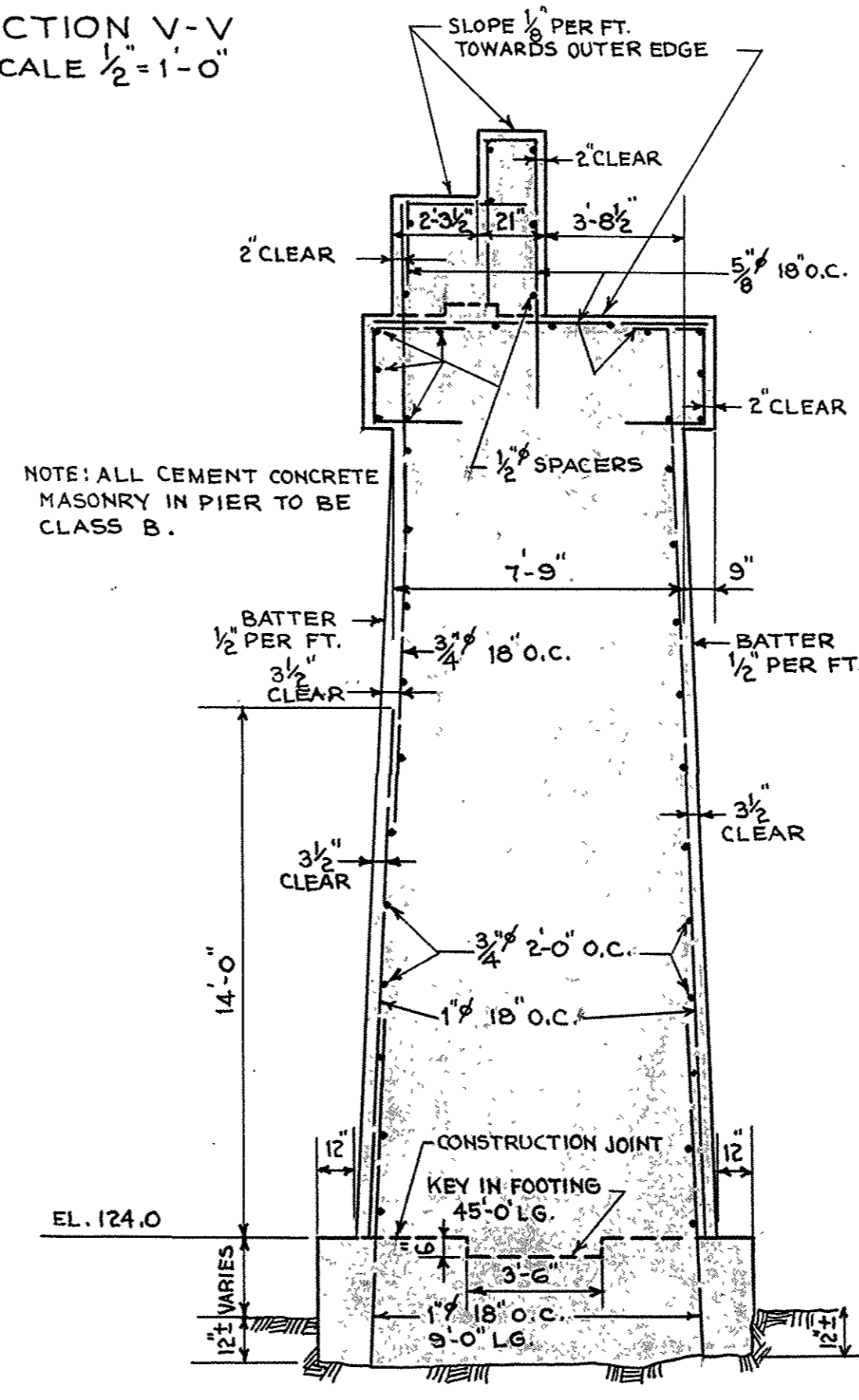


ELEVATION OF LIGHTING STANDARD
SCALE: 3/8" = 1'-0"

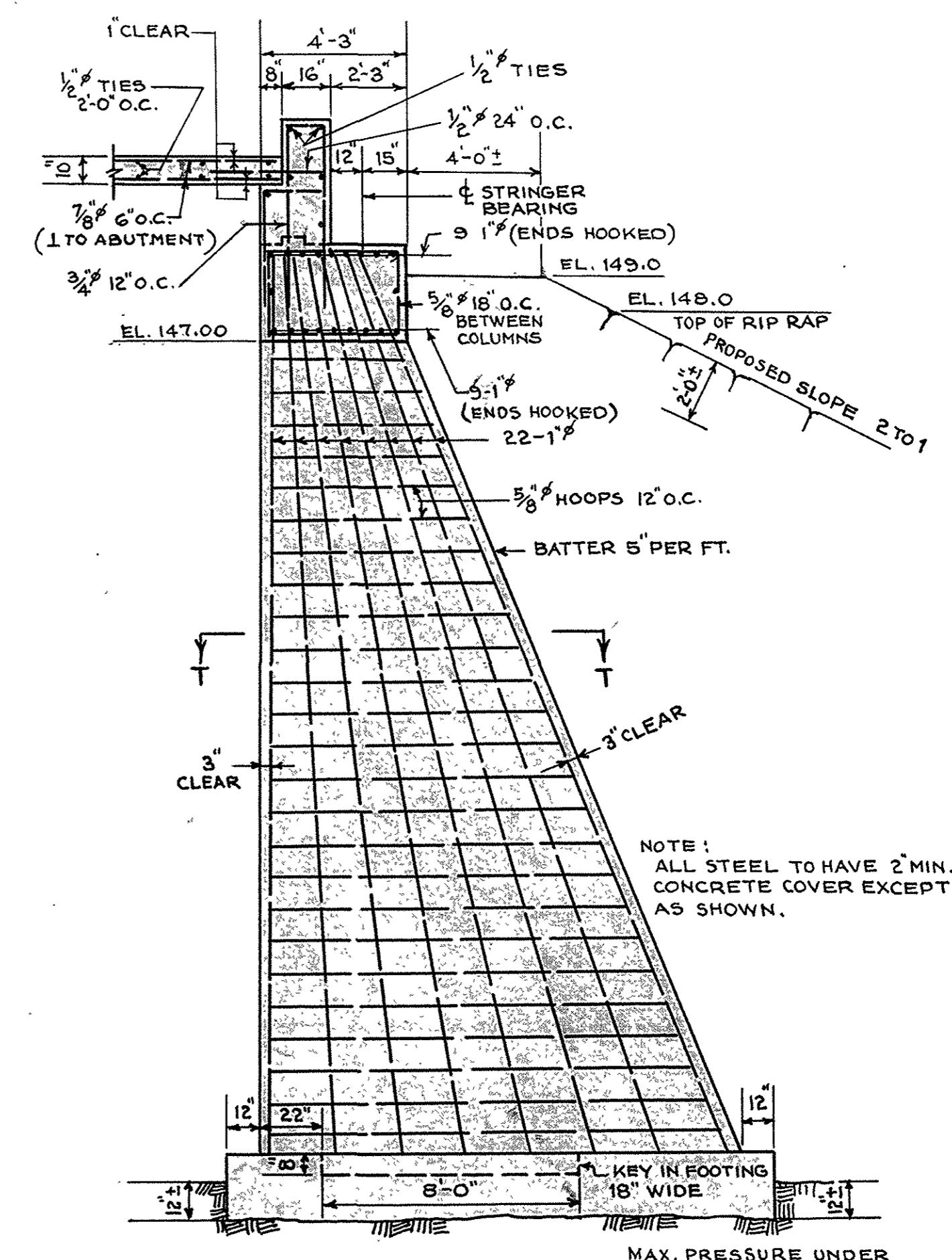


WESTERLY ELEVATION OF PIER NO. 1
SCALE 1/4" = 1'-0"

MAX. PRESSURE UNDER FOOTING
6 TONS PER SQ. FT.

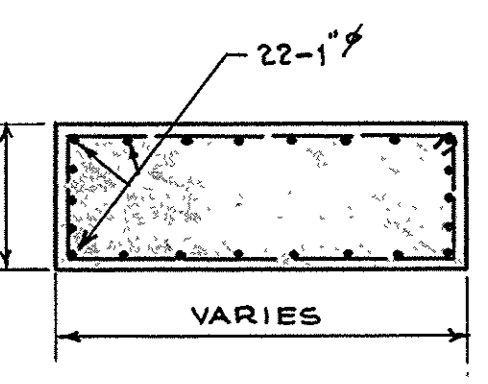


TYPICAL SECTION OF PIER NO. 1
SCALE 1/4" = 1'-0"



TYPICAL SECTION OF WEST ABUTMENT
SCALE 1/4" = 1'-0"

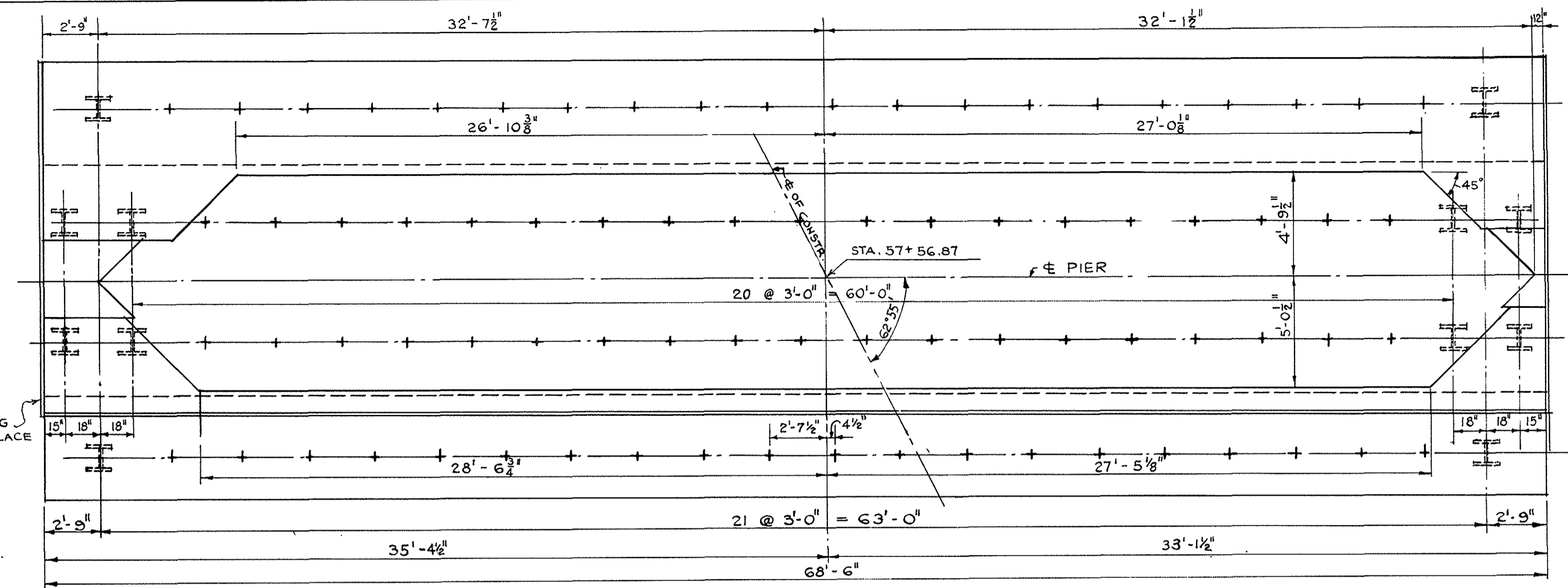
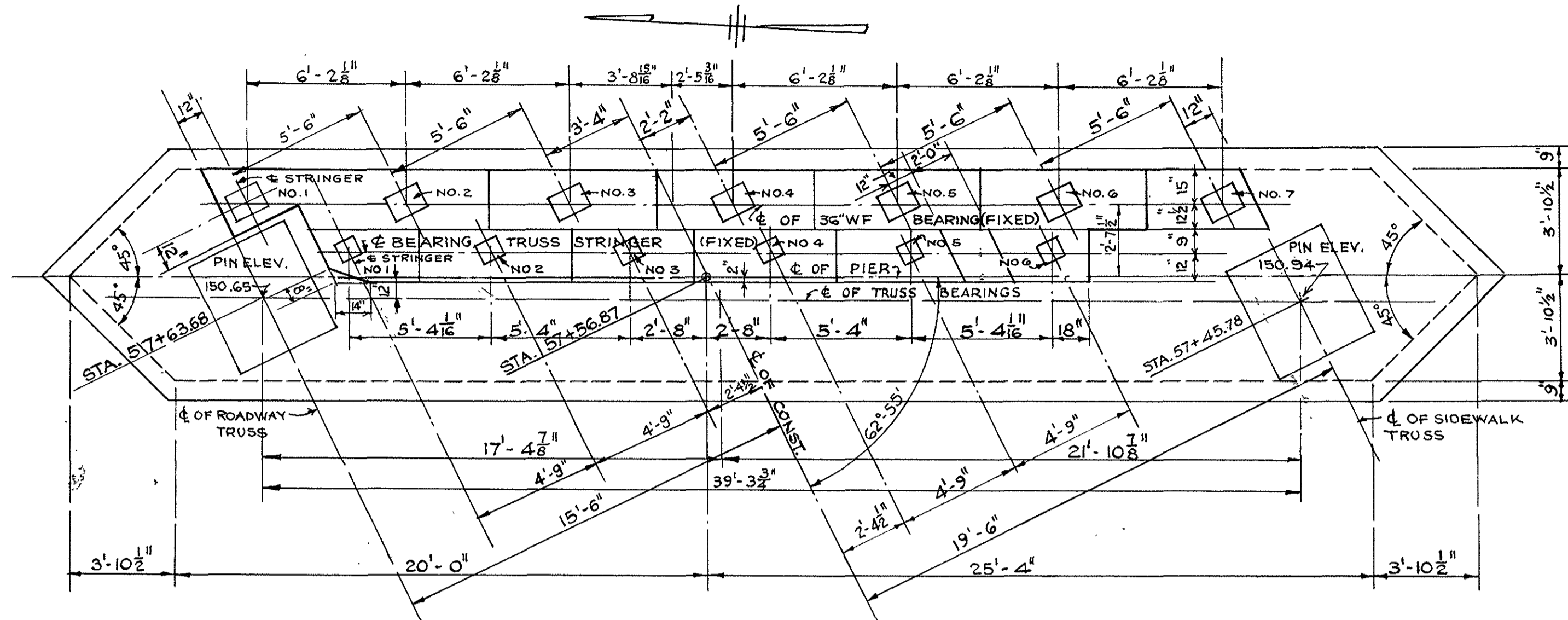
MAX. PRESSURE UNDER FOOTING
6 TONS PER SQ. FT.



SECTION T-T
SCALE 1/4" = 1'-0"

PIER NO. 1
COMPLETE DETAILS
W'LY. ABUT.
TYPICAL SECTION

6-25-47	CONSTRUCTION
5-24-47	ADVERTISING
DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE	



90 STEEL PILES
ALL PILES TO BE 14" BP 89"
MAX. LOAD PER. PILE = 55 TONS

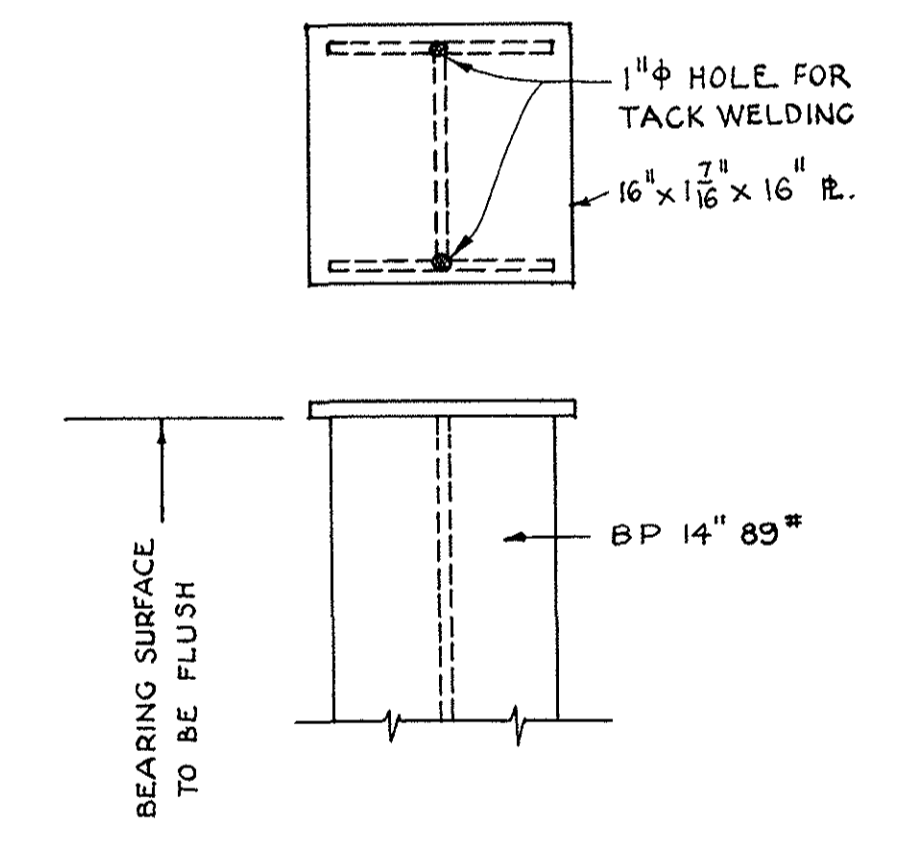
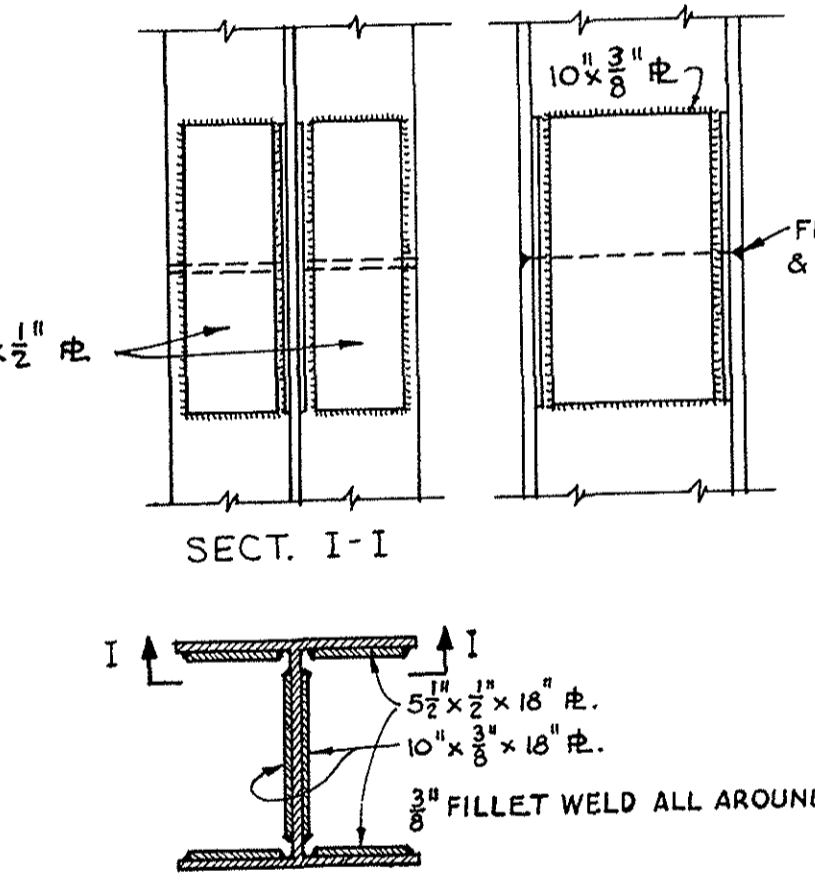
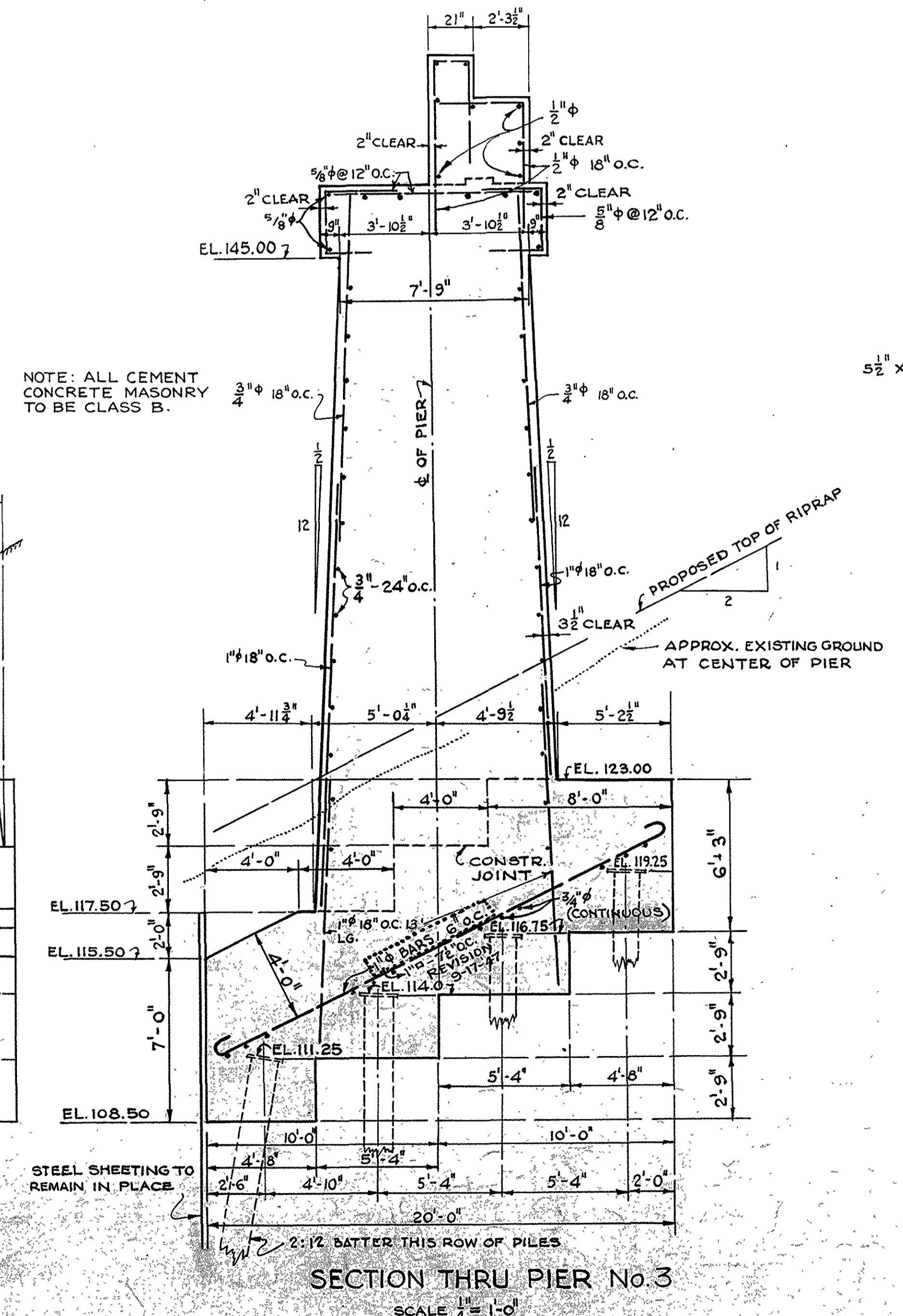
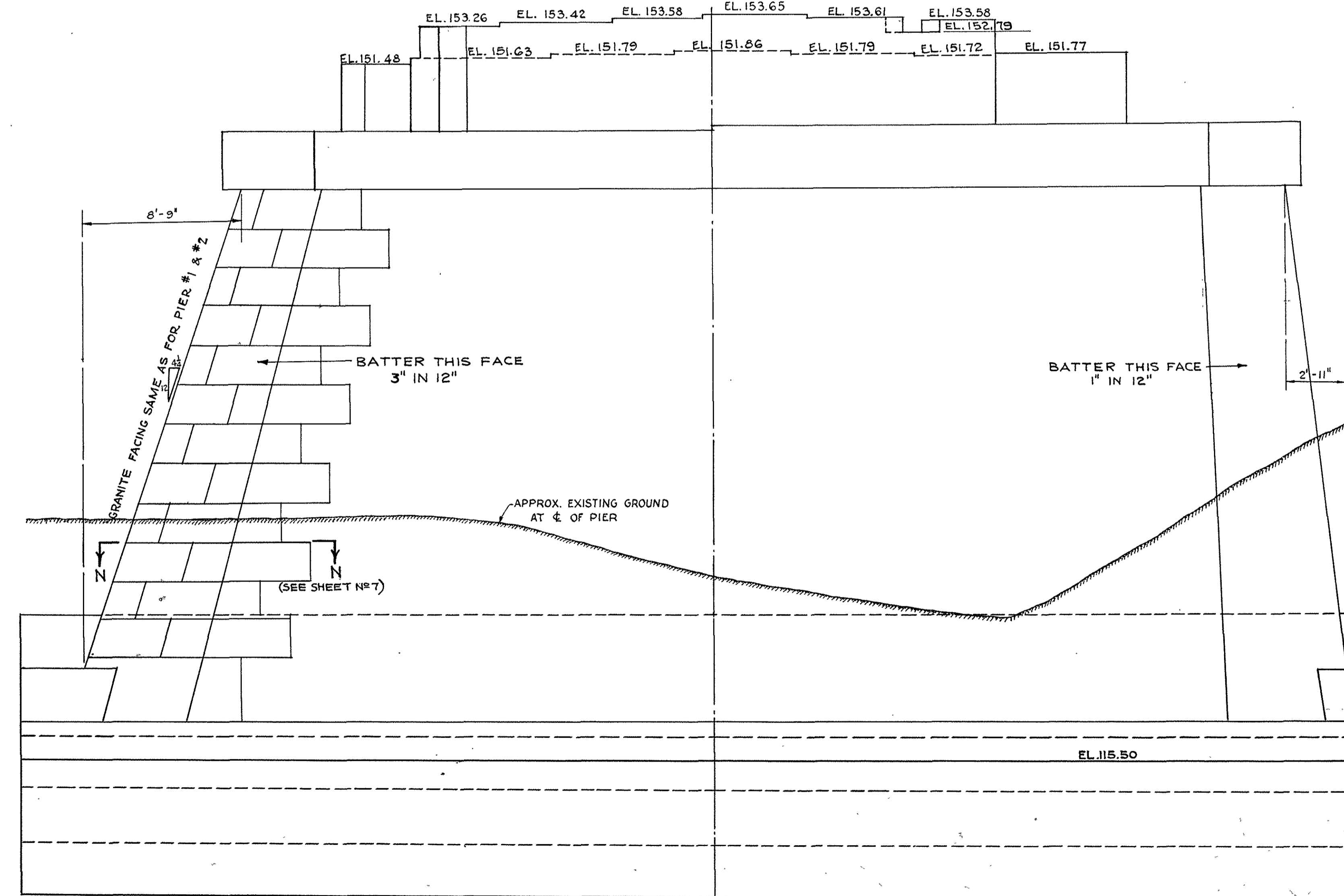


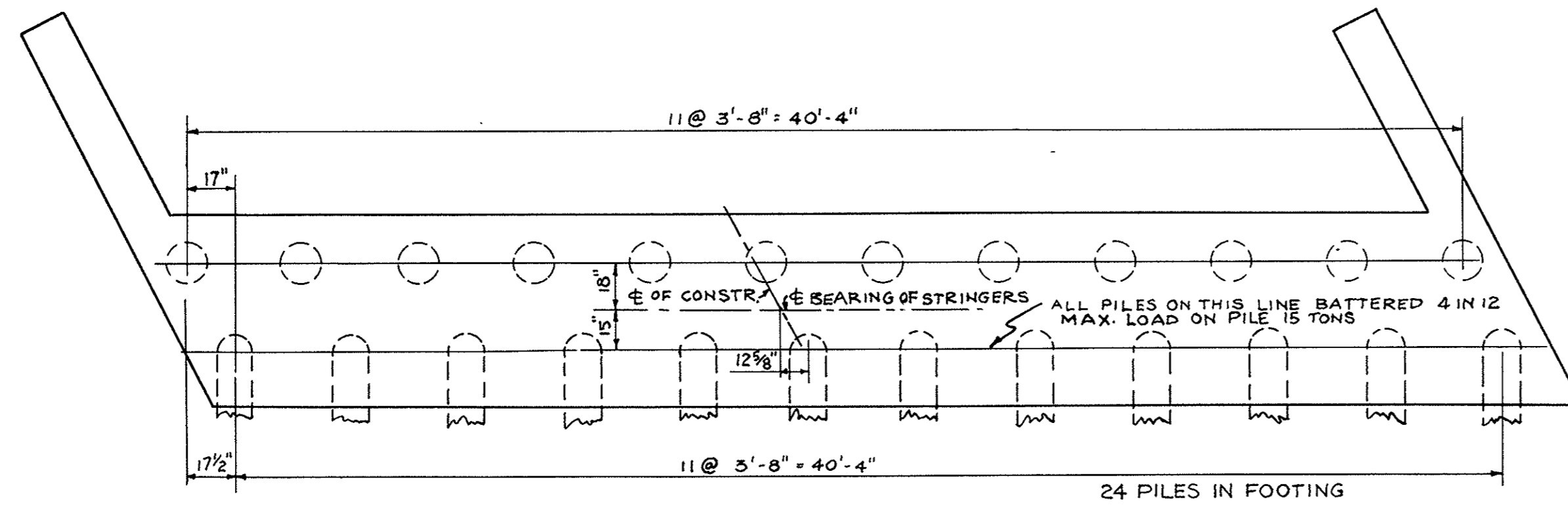
TABLE OF STRINGER & TRUSS ELEVATIONS FOR PIER No. 1

36" STRINGER NO. 1	EL. 151.48
" " " " 2	EL. 151.63
" " " " 3	EL. 151.79
" " " " 4	EL. 151.86
" " " " 5	EL. 151.79
" " " " 6	EL. 151.72
" " " " 7	EL. 151.77
18" STRINGER NO. 1	EL. 153.26
" " " " 2	EL. 153.42
" " " " 3	EL. 153.58
" " " " 4	EL. 153.65
" " " " 5	EL. 153.61
" " " " 6	EL. 153.58
ROADWAY TRUSS BEARING	EL. 147.98
SIDEWALK TRUSS BEARING	EL. 148.27

NOTE: ALL ELEVATIONS GIVEN TO BOTTOM OF MASONRY PLS. OR SHOES. (TOP OF CONCRETE).

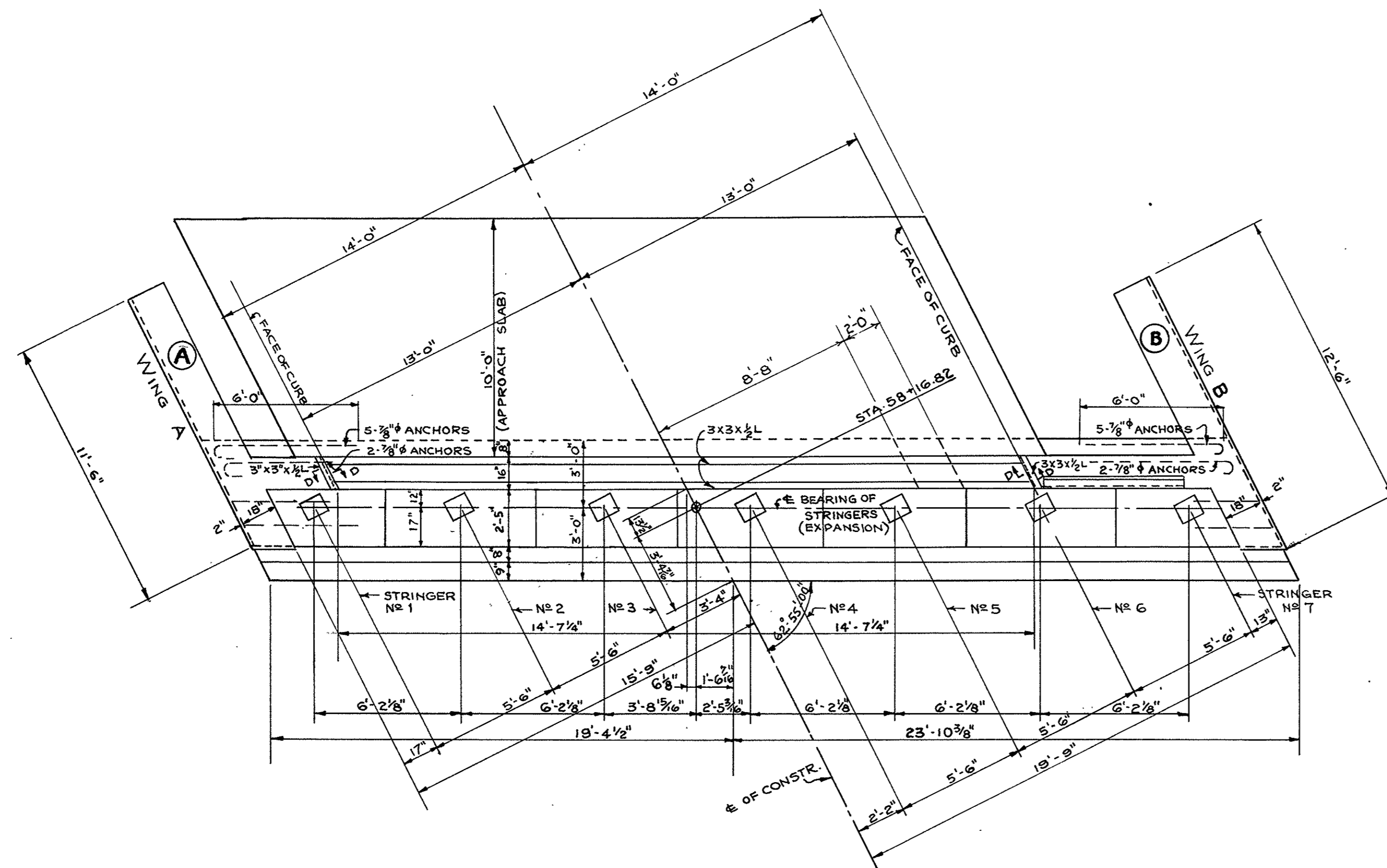
PIER No. 3
COMPLETE DETAILS

DATE	DESCRIPTION
9-17-47	REINFORCEMENT REVISED
6-25-47	CONSTRUCTION
5-24-47	ADVERTISING
DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE	



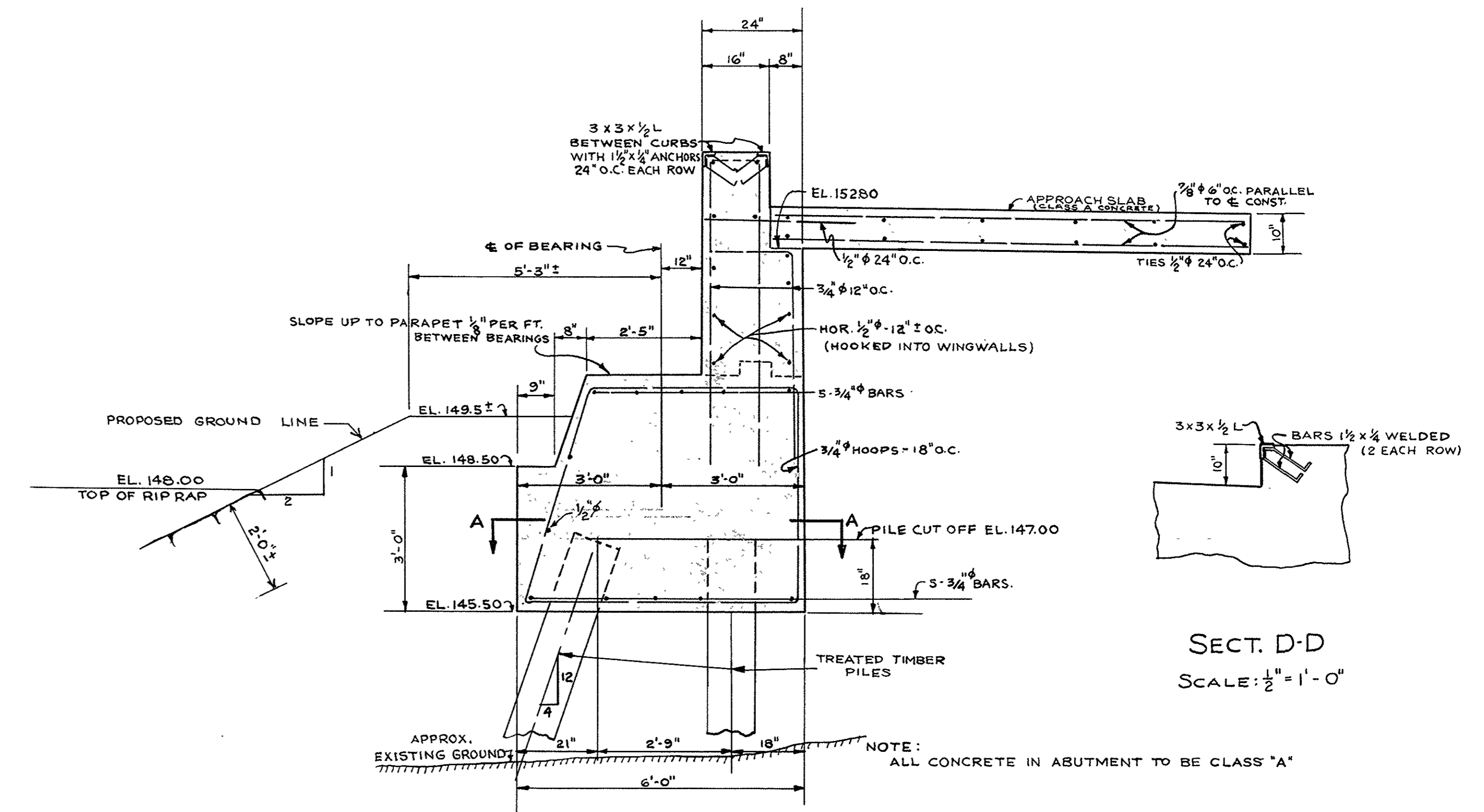
SECT. AA SHOWING LOCATION OF PILES

SCALE: $\frac{1}{4}'' = 1'-0''$



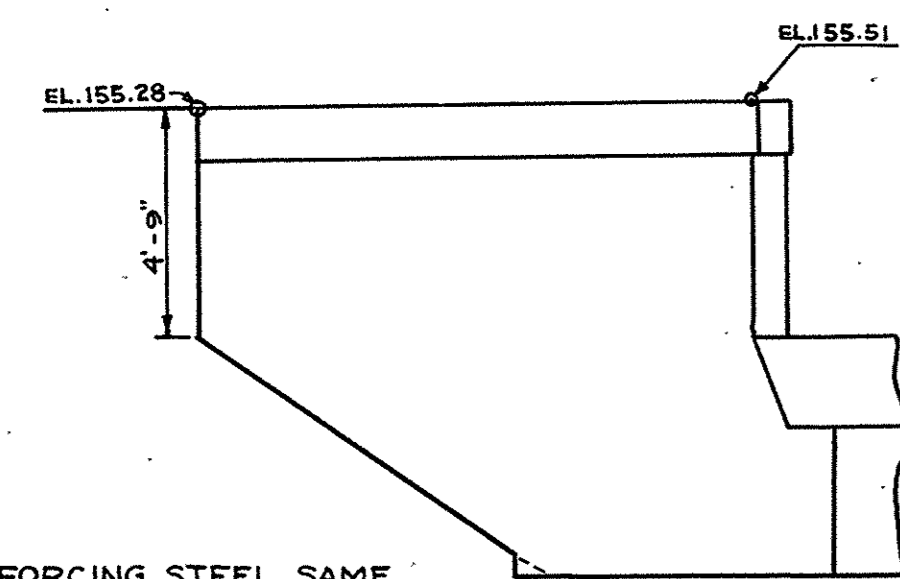
PLAN OF MONTAGUE ABUTMENT

SCALE: $\frac{1}{4}'' = 1'-0''$



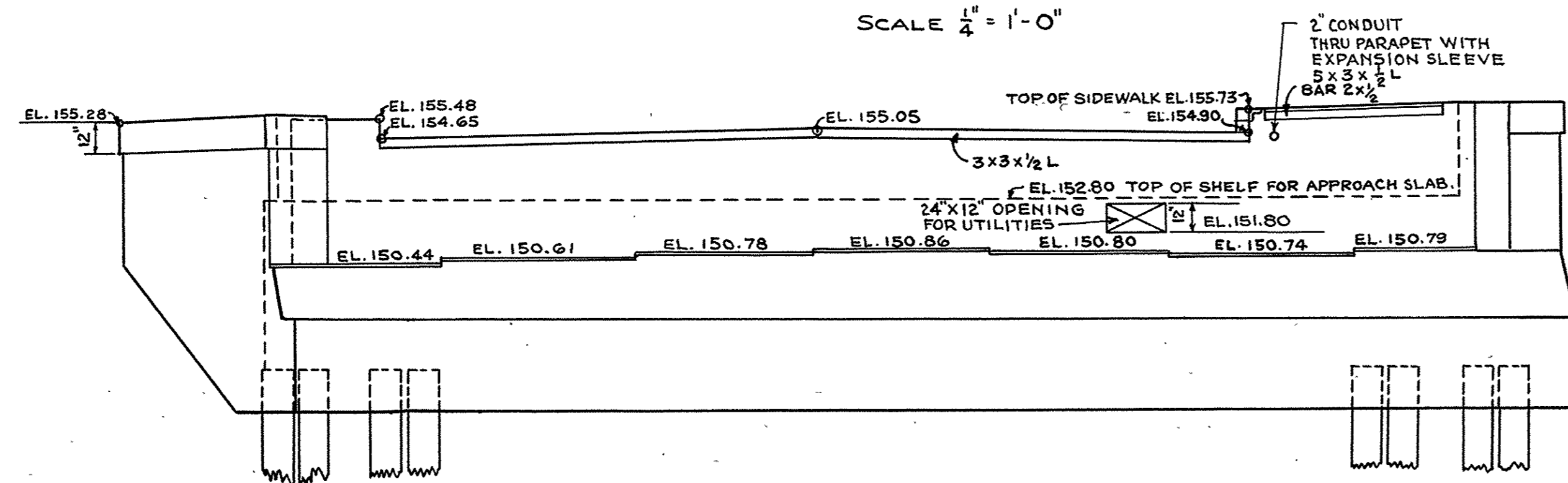
SECT. THRU MONTAGUE ABUTMENT AT ROADWAY

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



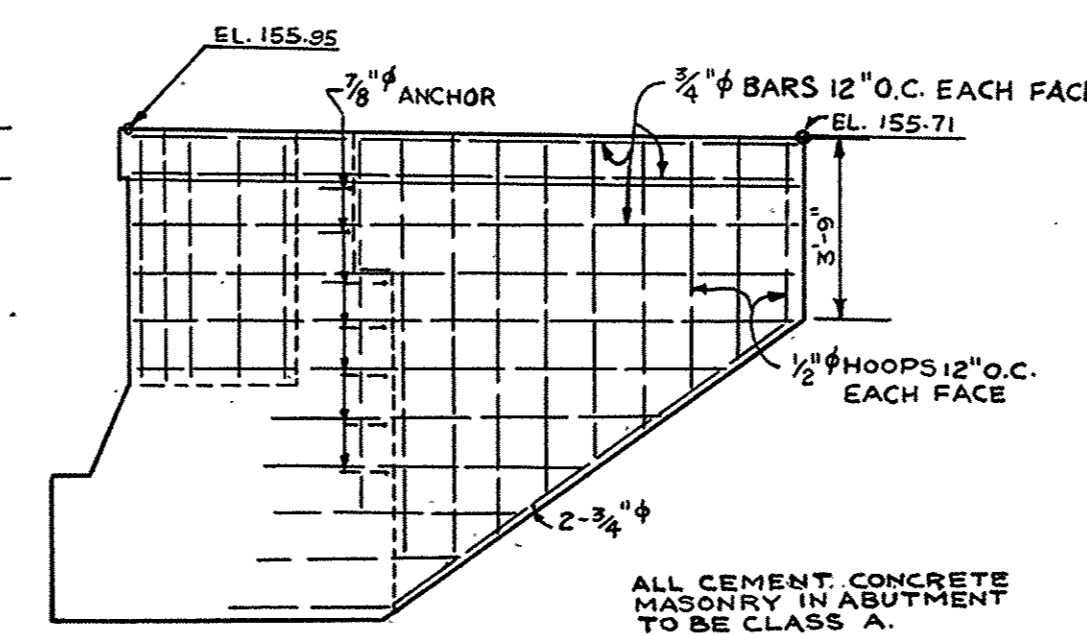
ELEVATION OF WING A

SCALE: $\frac{1}{4}'' = 1'-0''$



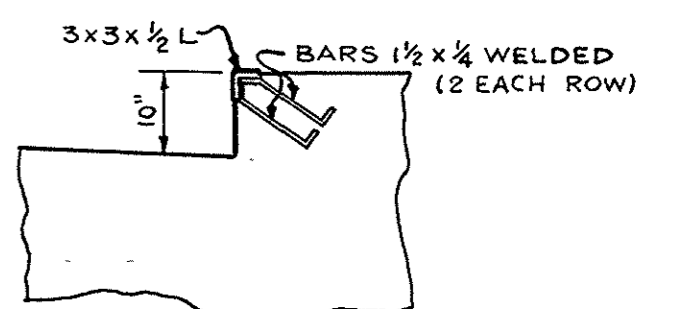
ELEVATION OF MONTAGUE ABUTMENT

SCALE: $\frac{1}{4}'' = 1'-0''$



ELEVATION OF WING B

SCALE: $\frac{1}{4}'' = 1'-0''$



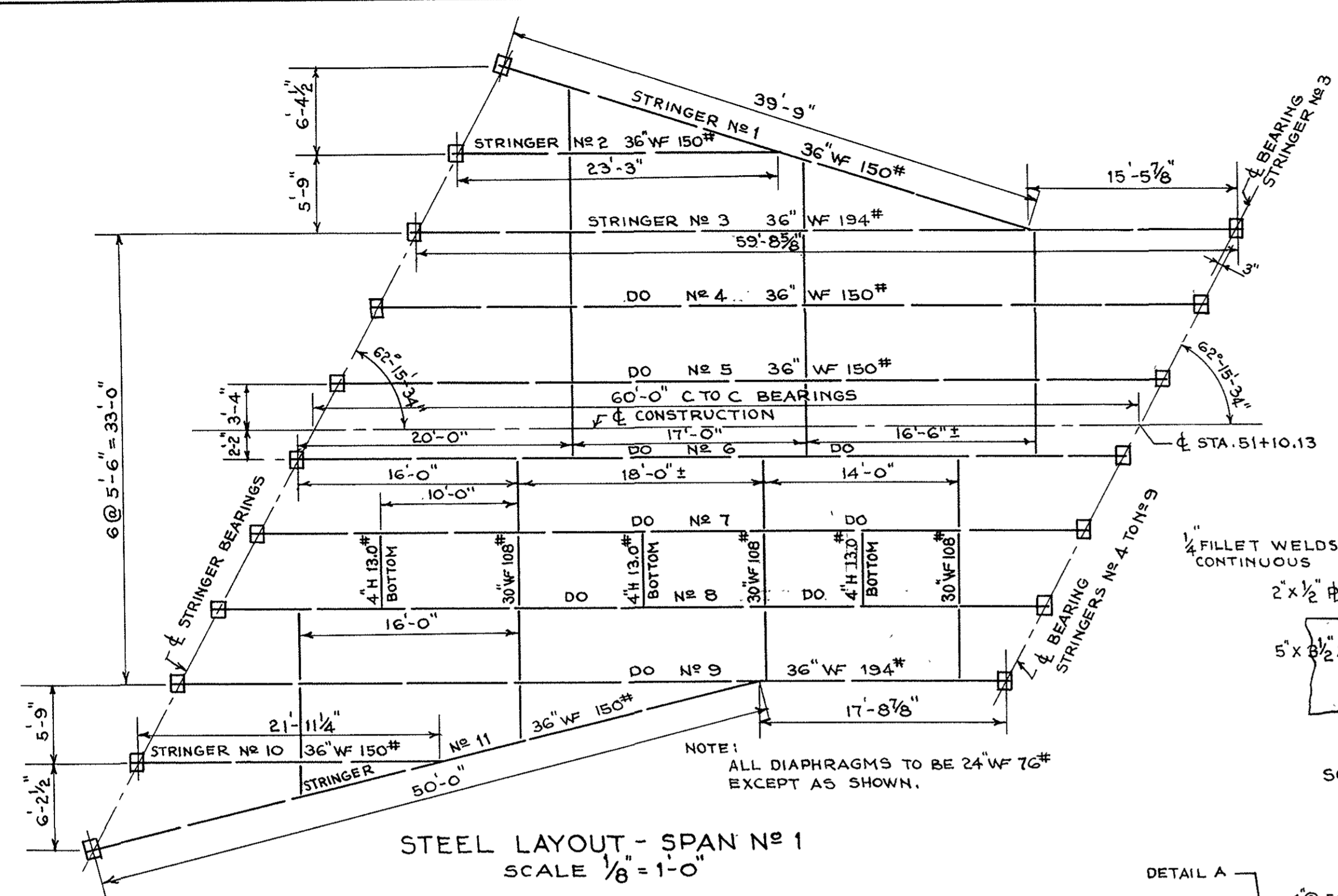
SECT. D-D

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

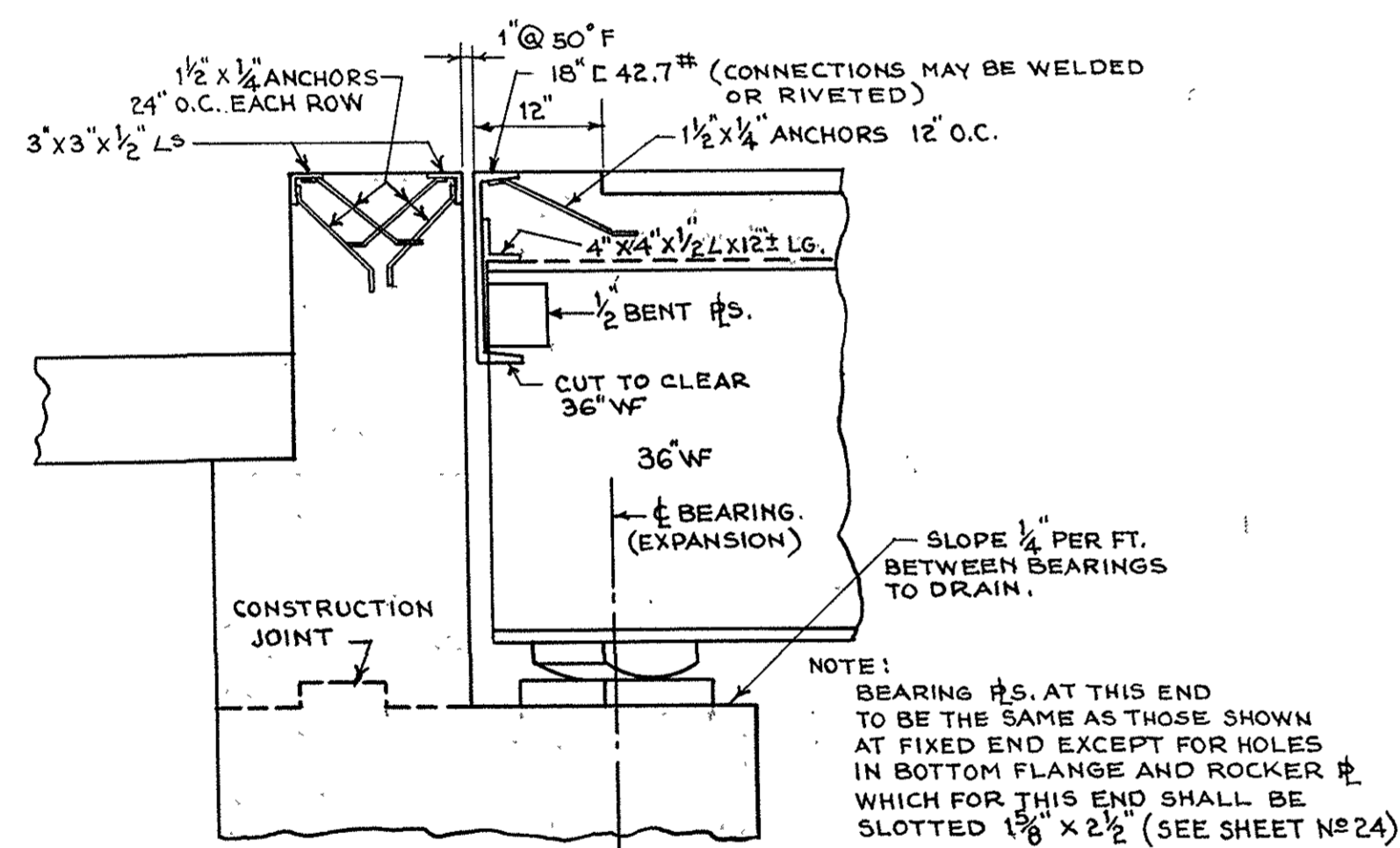
NOTE: ALL CONCRETE IN ABUTMENT TO BE CLASS 'A'

E'LY. ABUT. COMPLETE DETAILS

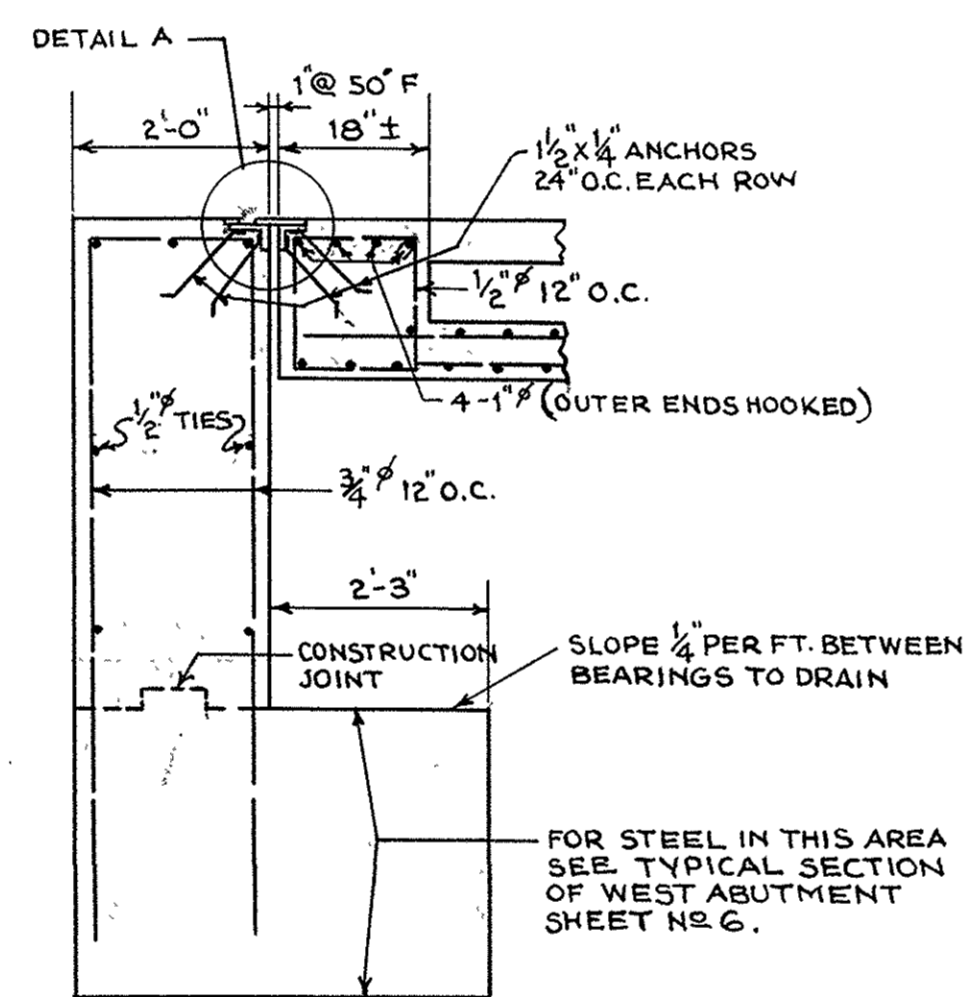
6-25-47	CONSTRUCTION
5-24-47	ADVERTISING
DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE	



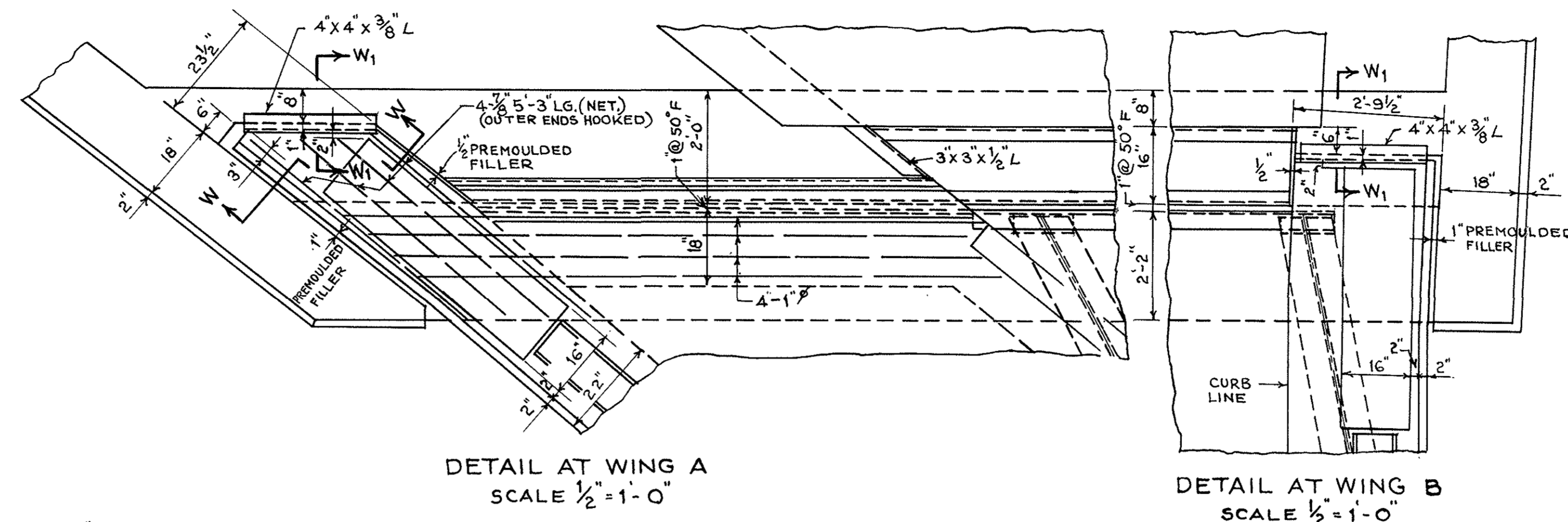
STEEL LAYOUT - SPAN No 1
SCALE 1/8" = 1'-0"



SECTION Z-Z (FROM SHEET No 5)
SCALE 3/4" = 1'-0"

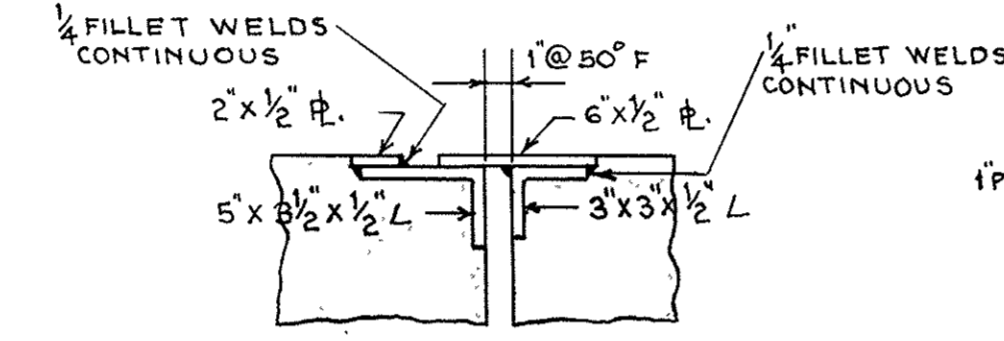


SECTION X-X (FROM SHEET No 5)
SCALE 1/2" = 1'-0"

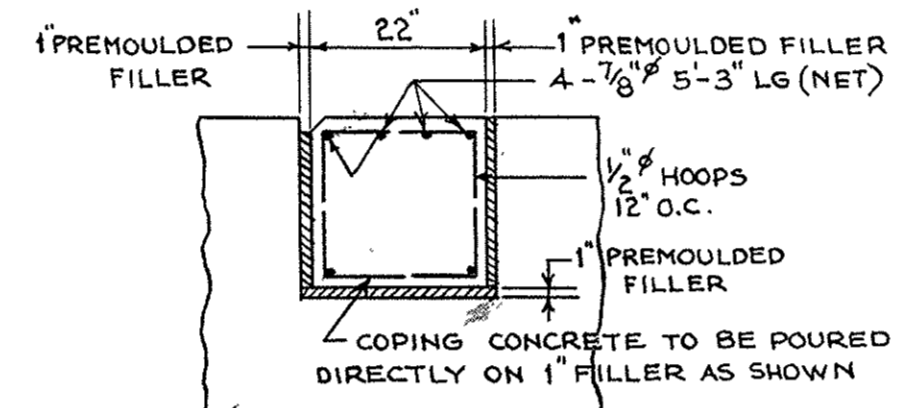


DETAIL AT WING A
SCALE 1/2" = 1'-0"

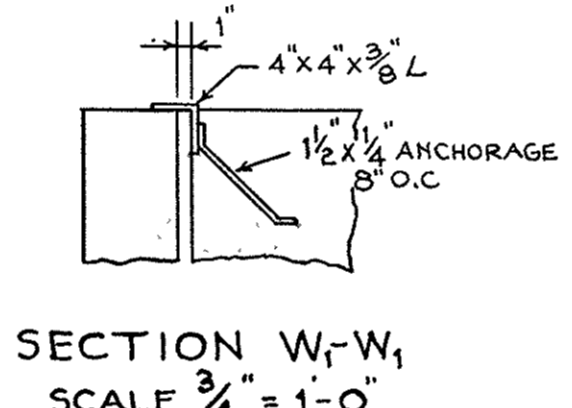
DETAIL AT WING B
SCALE 1/2" = 1'-0"



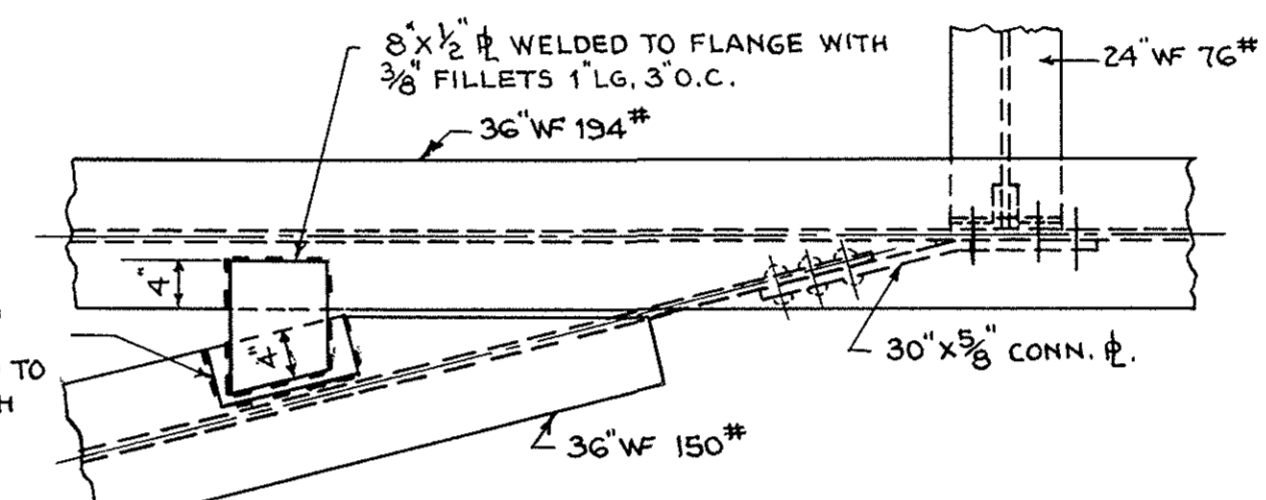
DETAIL A
SCALE 1 1/2" = 1'-0"



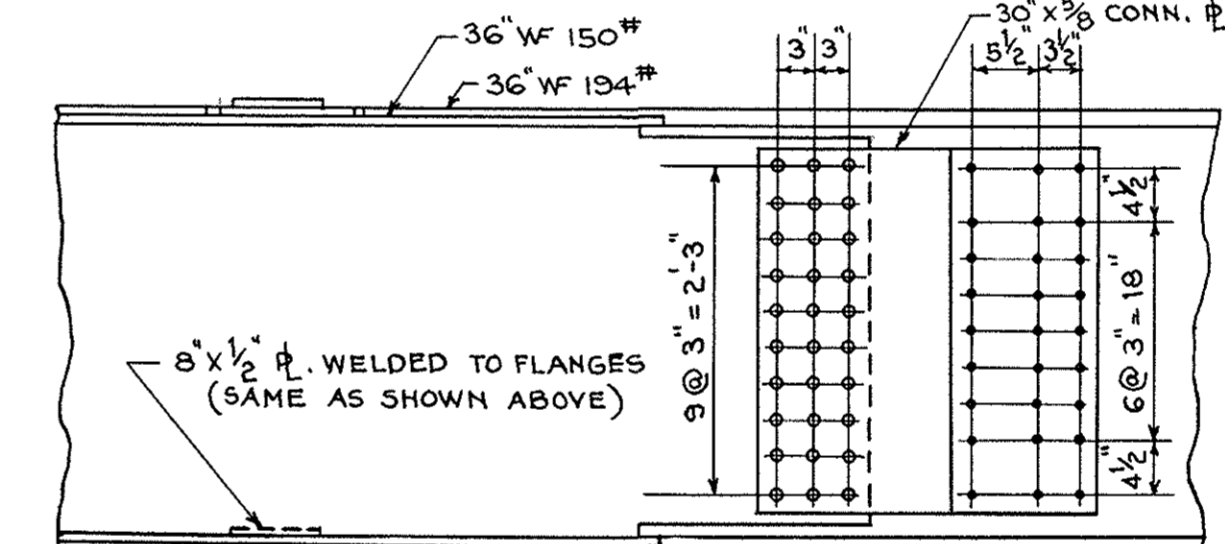
SECTION W-W
SCALE 1/2" = 1'-0"



SECTION W-W
SCALE 3/4" = 1'-0"

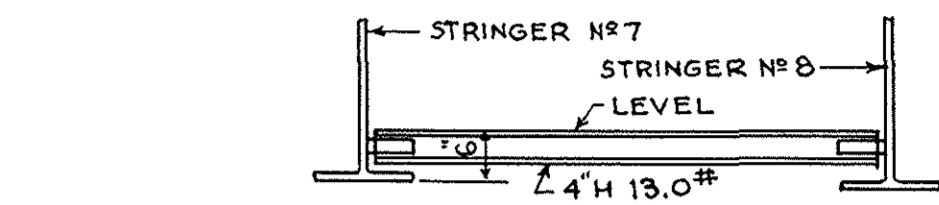


PLAN OF CONNECTION OF
STRINGER No 11 TO STRINGER No 9
SCALE 3/4" = 1'-0"

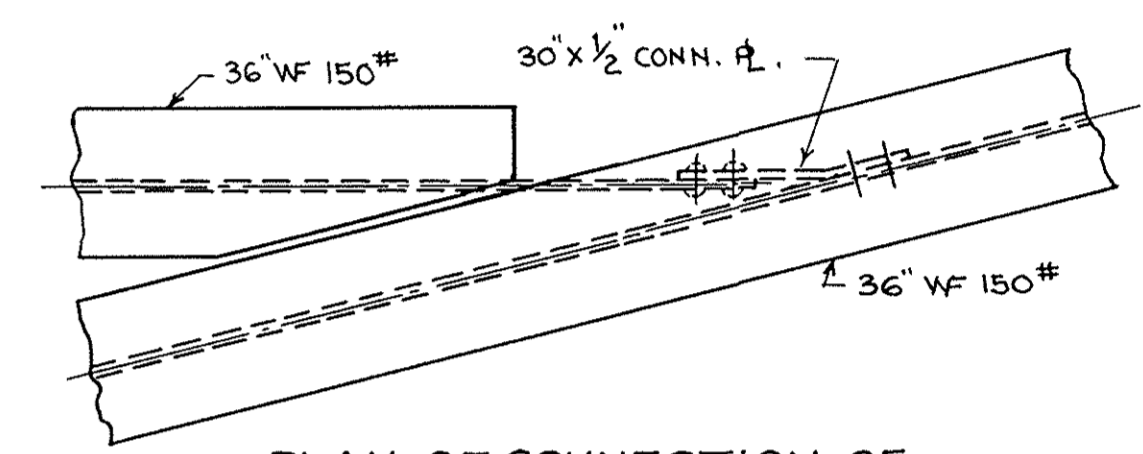


ELEVATION OF CONNECTION OF
STRINGER No 11 TO STRINGER No 9
SCALE 3/4" = 1'-0"

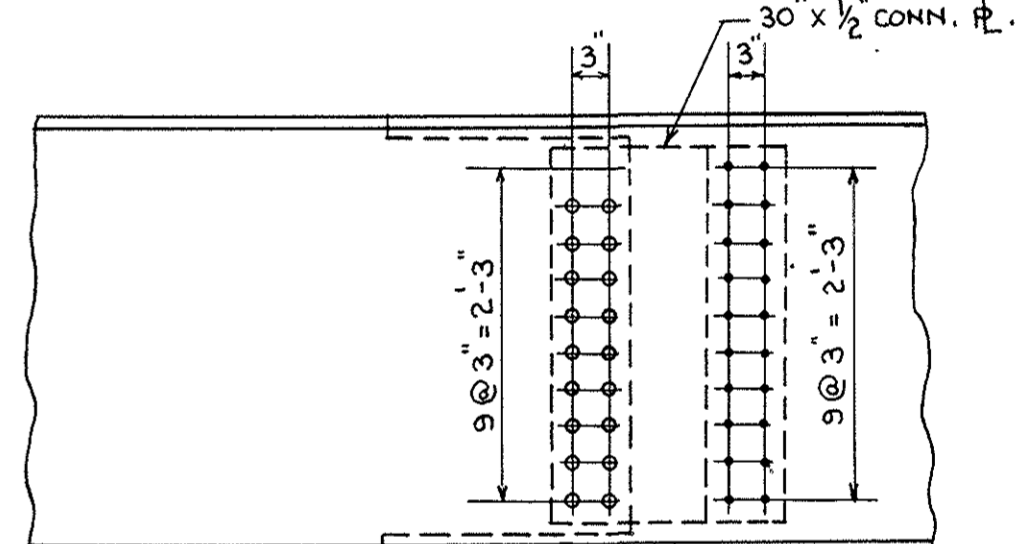
NOTE: CONNECTION OF STRINGER No 1 TO STRINGER No 3 TO BE SIMILAR.



SECTION SHOWING LOCATION OF
4" H 130# SUPPORT FOR UTILITIES
SCALE 1/2" = 1'-0"

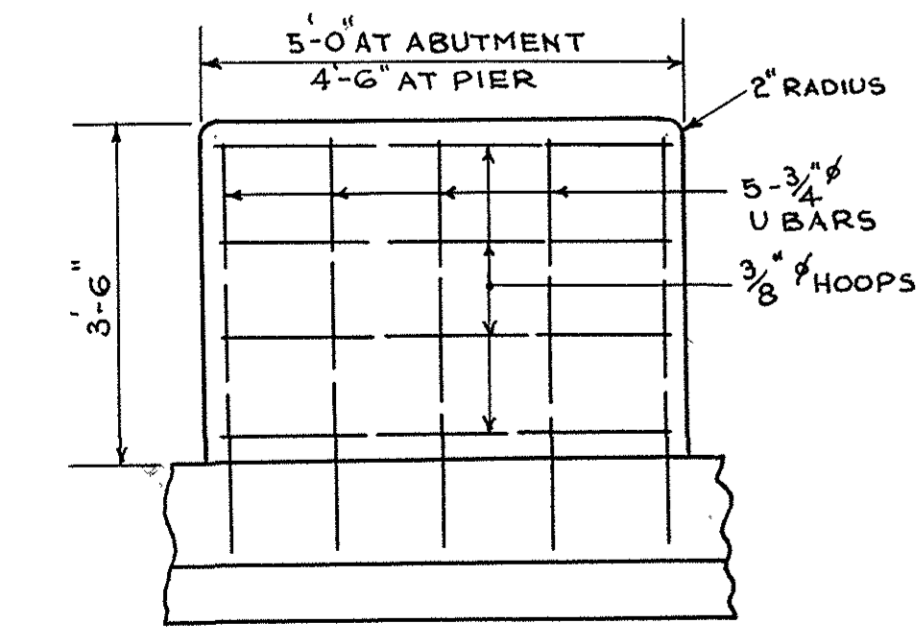


PLAN OF CONNECTION OF
STRINGER No 10 TO STRINGER No 11
SCALE 3/4" = 1'-0"



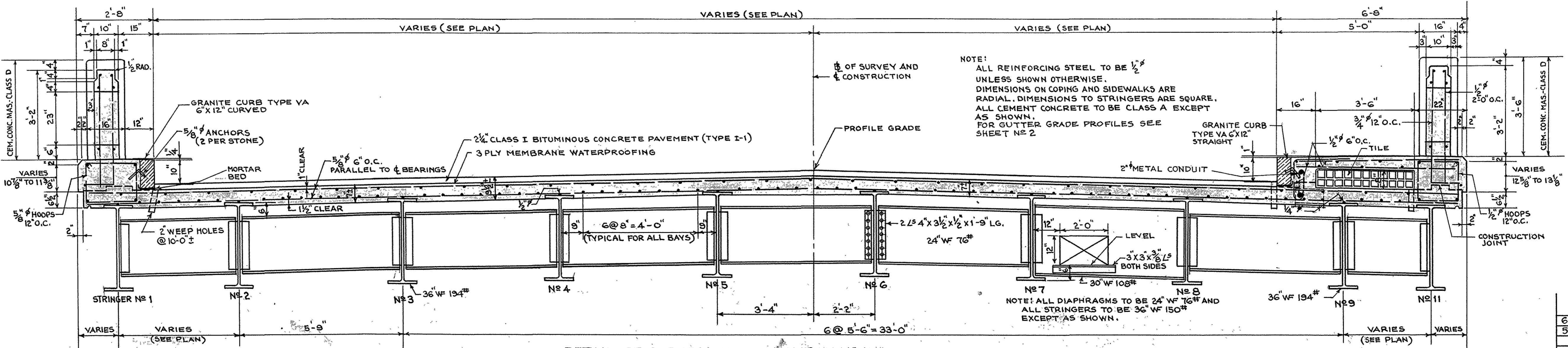
ELEVATION OF CONNECTION OF
STRINGER No 10 TO STRINGER No 11
SCALE 3/4" = 1'-0"

NOTE: CONNECTION OF STRINGER No 2 TO STRINGER No 1 TO BE SIMILAR.



DETAIL OF FENCE POST
SCALE 1/2" = 1'-0"

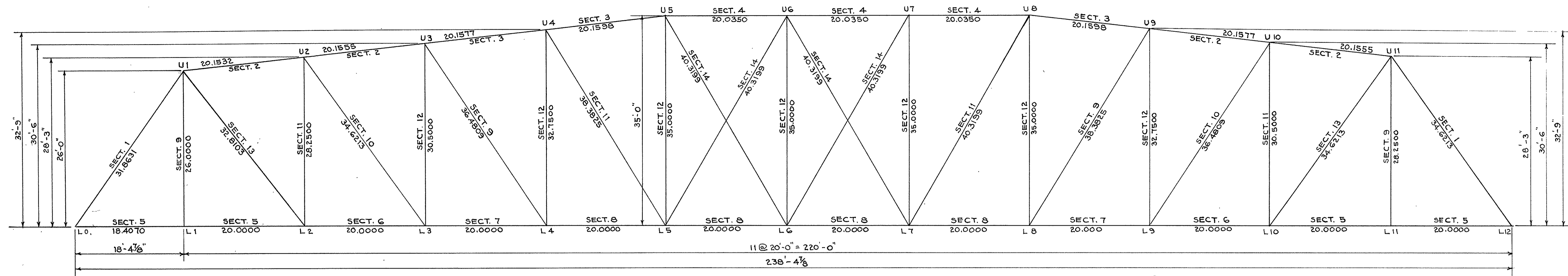
(FOR DATE & SEAL SEE SHEET No 23)



DETAIL OF SUPERSTRUCTURE - SPAN No 1
SCALE 1/2" = 1'-0"

DATE	DESCRIPTION
6-25-47	CONSTRUCTION
5-24-47	ADVERTISING
	USE ONLY PRINTS OF LATEST DATE

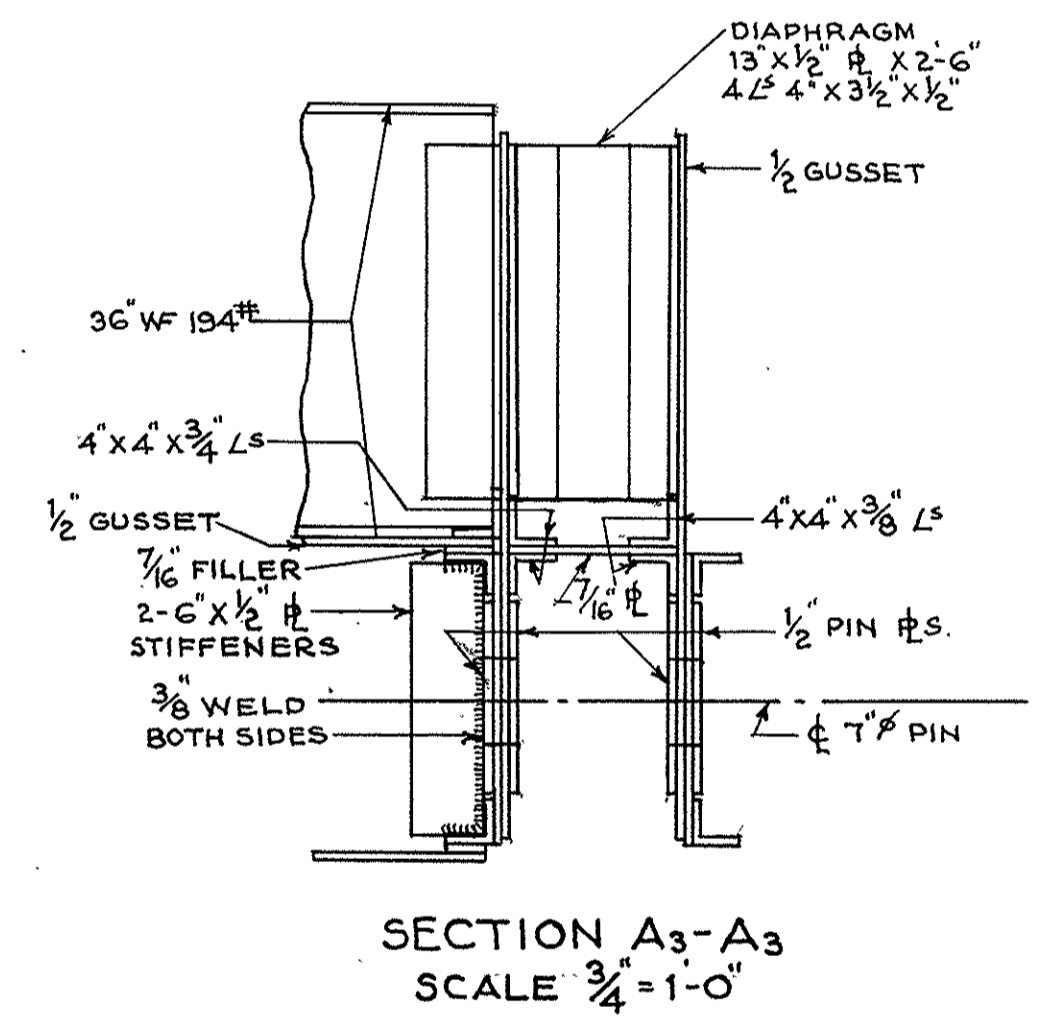
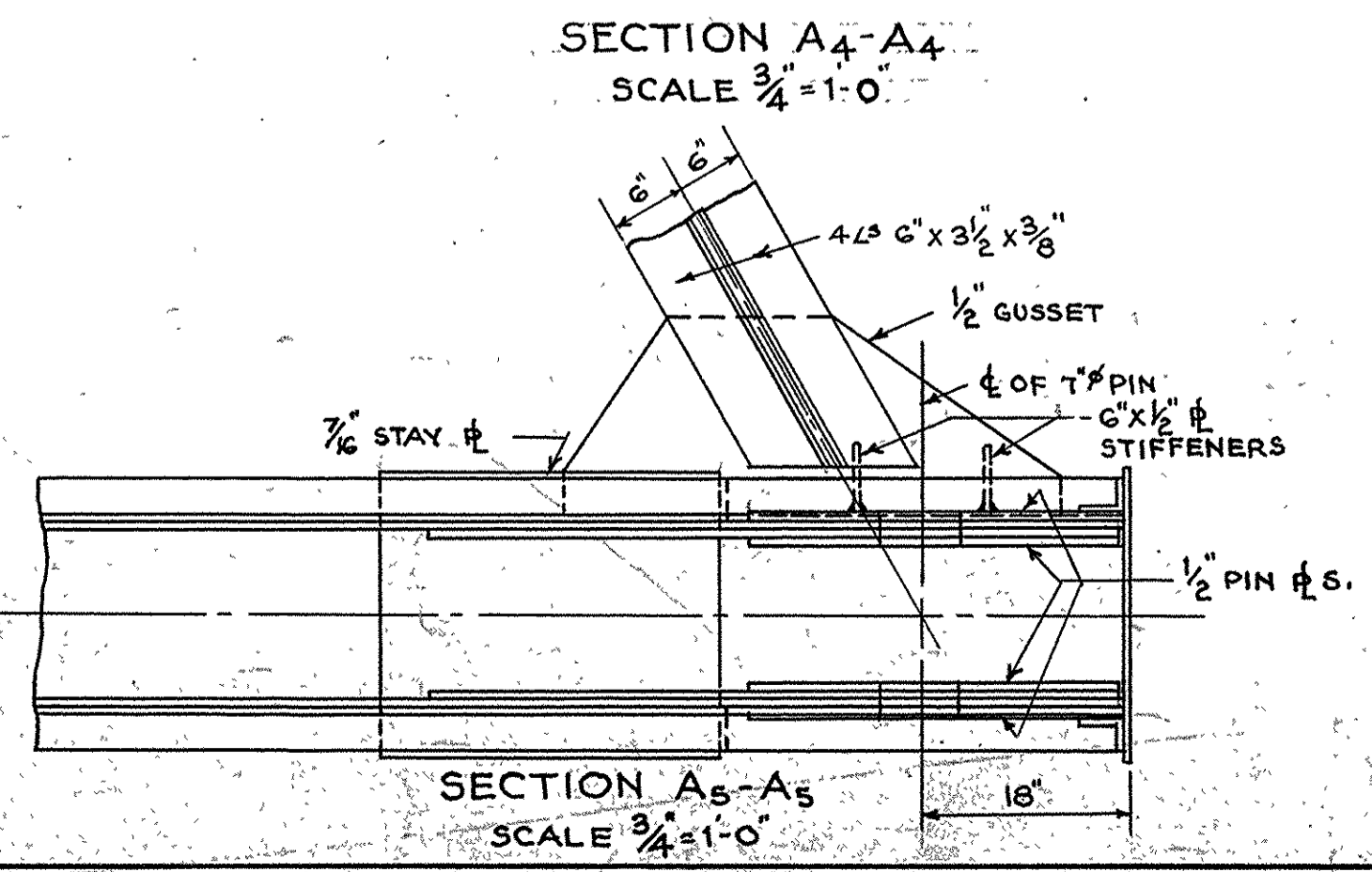
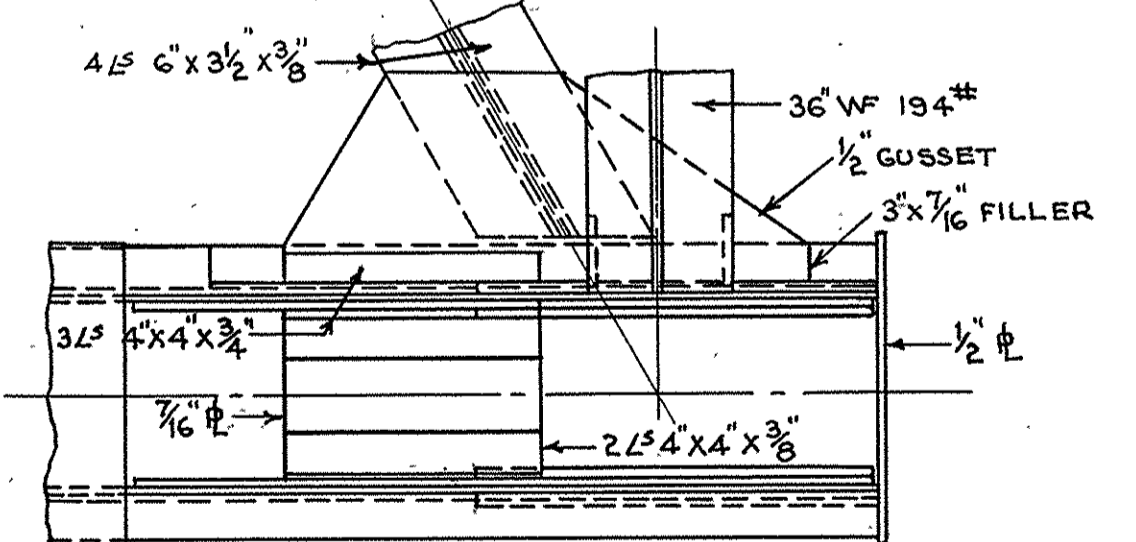
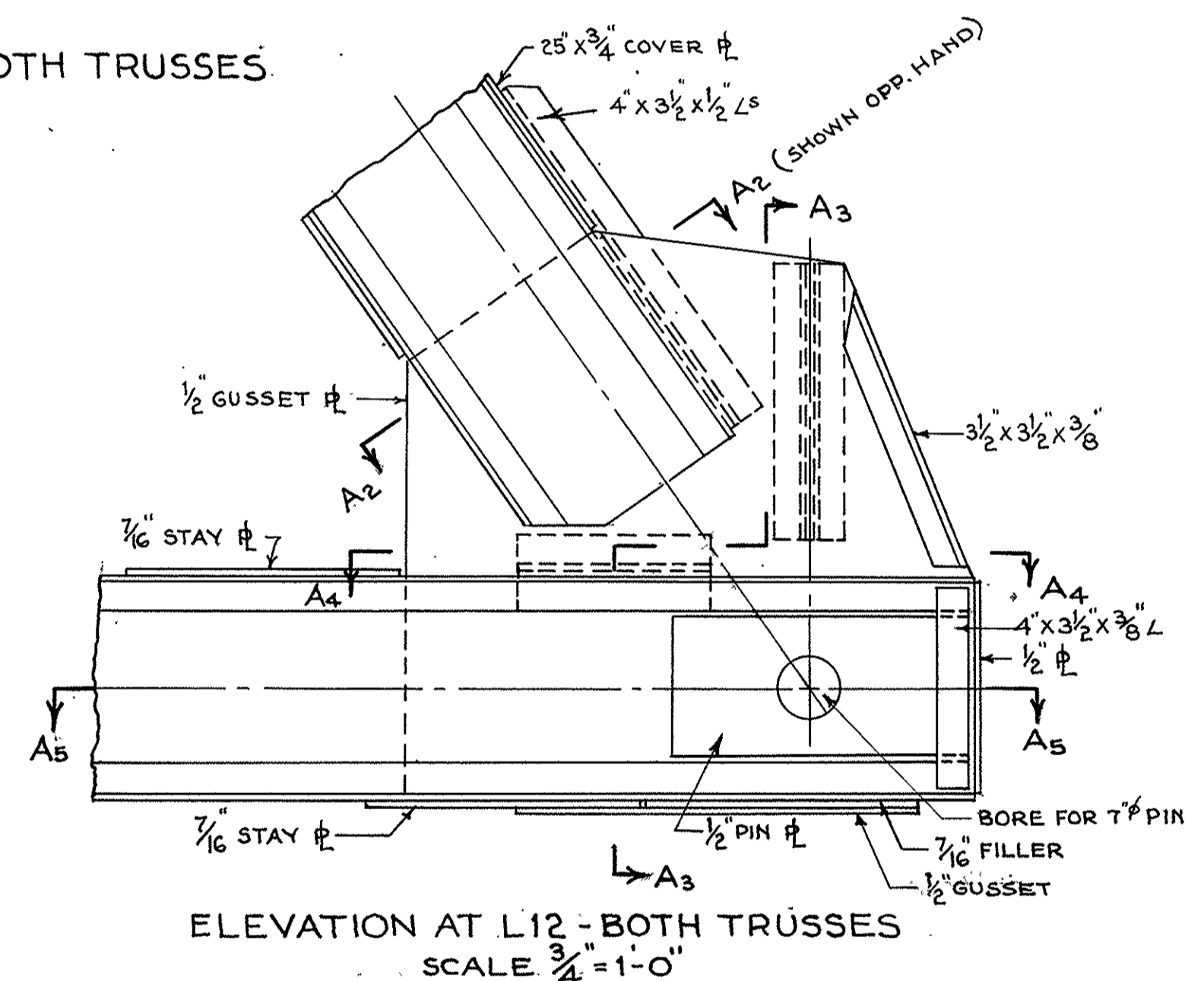
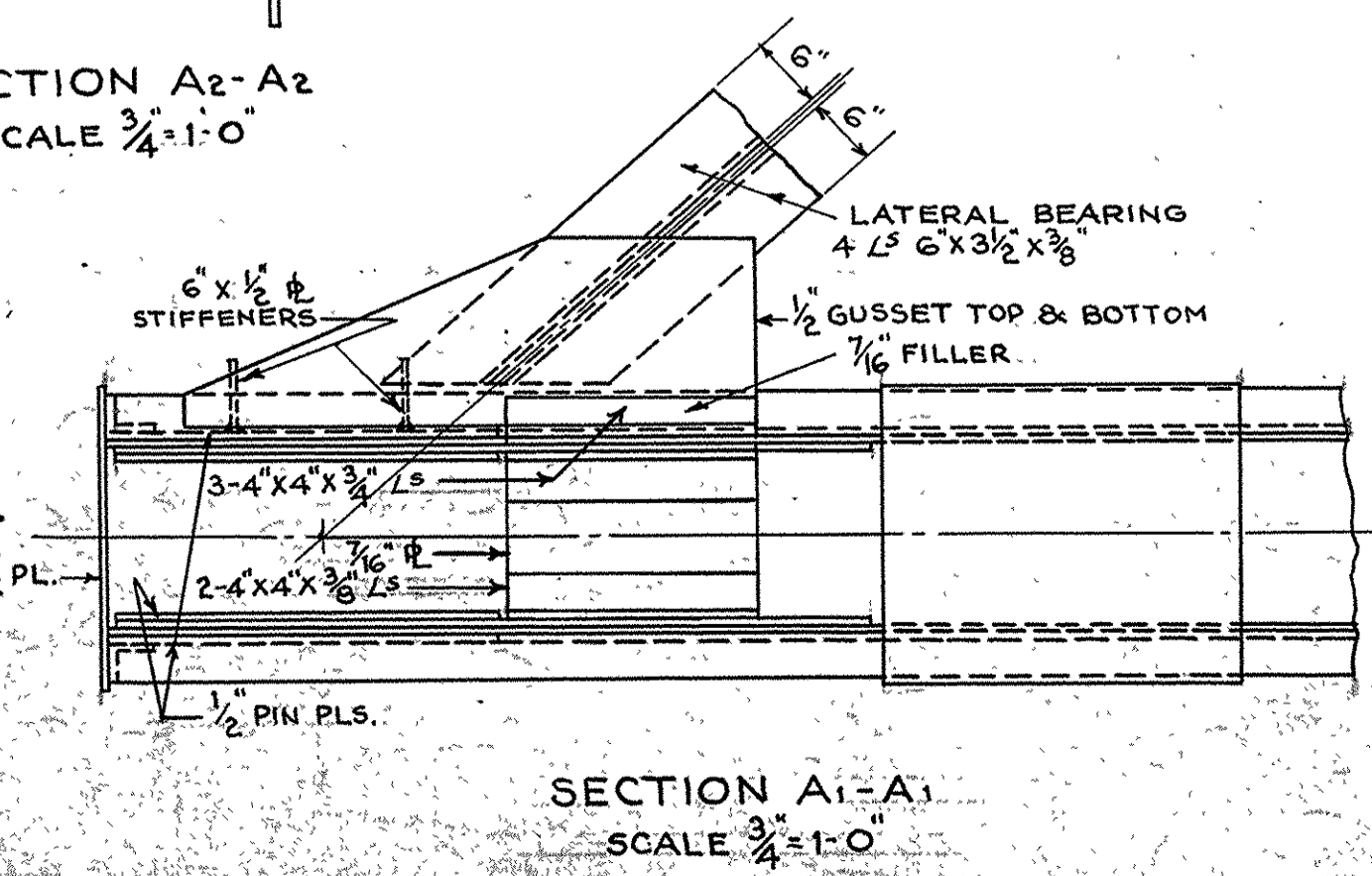
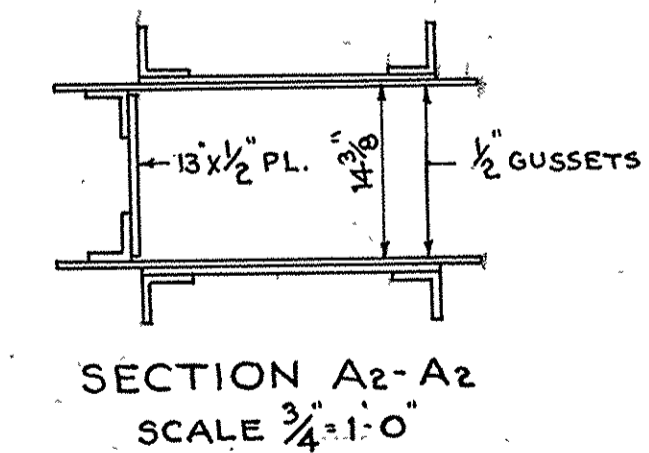
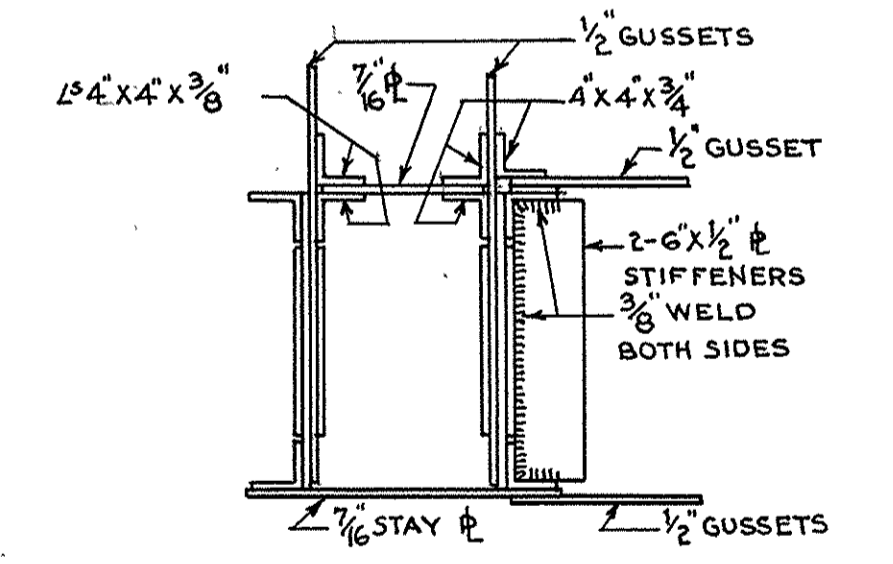
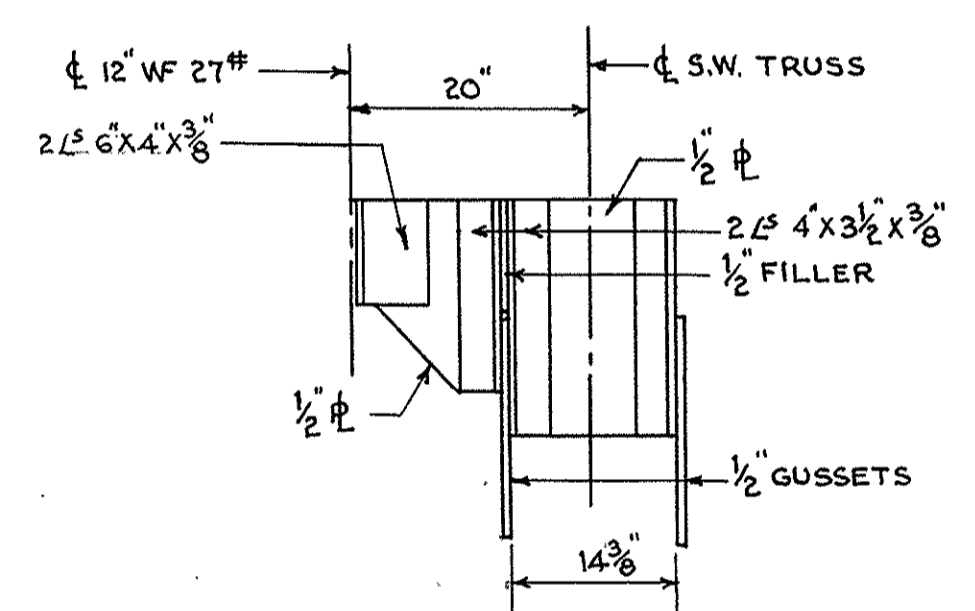
SPAN No 1
STEEL LAYOUT & DETAILS



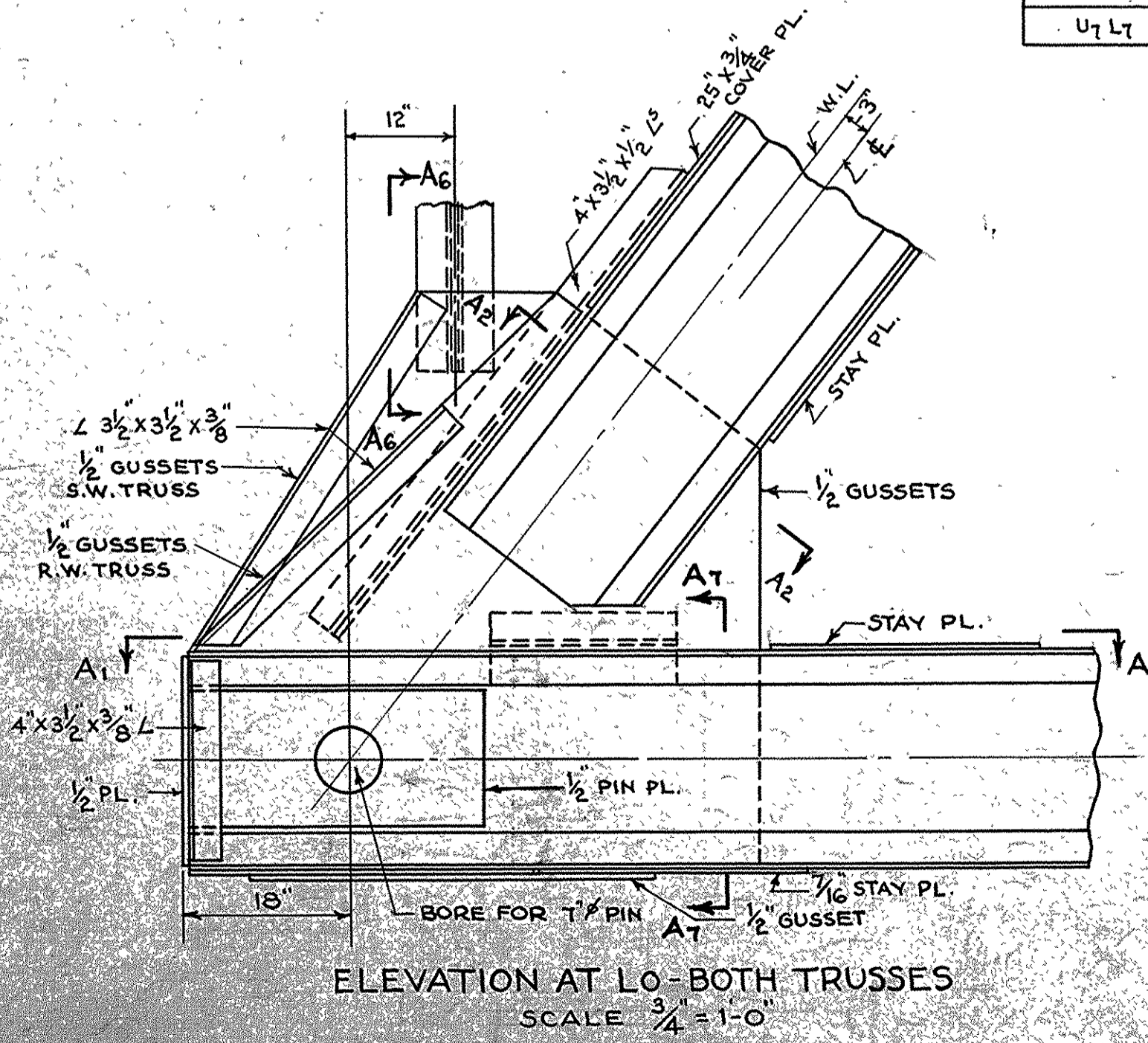
OUTSIDE ELEVATION OF BOTH TRUSSES
SCALE 1/8" = 1'-0"

SECT.	CONSISTS OF	MAKE UP	REMARKS
1	2 WEB PLS. 24 X 3/8 4 L 4 X 4 X 3/8 COVER PL. 25 X 3/8	15 3/8" CLEAR	5 X 3/8" DOUBLE LACING WITH 2-8 RIVETS. STAY PLS. 25 X 1/8" X 2-6 LG.
2	2 WEB PLS. 24 X 3/8 4 L 4 X 4 X 3/8 COVER PL. 25 X 3/8	15 3/8" CLEAR	5 X 3/8" DOUBLE LACING WITH 2-8 RIVETS. STAY PLS. 25 X 1/8" X 2-6 LG.
3	2 WEB PLS. 24 X 3/8 4 L 4 X 4 X 3/8 COVER PL. 25 X 3/8	15 3/8" CLEAR	5 X 3/8" DOUBLE LACING WITH 2-8 RIVETS. STAY PLS. 25 X 1/8" X 2-6 LG.
4	2 WEB PLS. 24 X 3/8 4 L 4 X 4 X 3/8 COVER PL. 25 X 3/8	15 3/8" CLEAR	5 X 3/8" DOUBLE LACING WITH 2-8 RIVETS. STAY PLS. 25 X 1/8" X 2-6 LG.
5	2 WEB PLS. 24 X 3/8 4 L 4 X 4 X 3/8	15 3/8" CLEAR	3 X 1/2" DOUBLE LACING. STAY PLS. 25 X 1/8" X 2-6 LG.
6	2 WEB PLS. 24 X 3/8 4 L 4 X 4 X 3/8	15 3/8" CLEAR	
7	2 WEB PLS. 24 X 3/8 4 L 4 X 4 X 3/8	15 3/8" CLEAR	
8	2 WEB PLS. 24 X 3/8 4 L 4 X 4 X 3/8	15 3/8" CLEAR	
9	14" X 10" WF 61#		
10	14" X 10" WF 74#		
11	14" X 14 1/2" WF 87#		
12	14" X 12" WF 78#		
13	14" X 14 1/2" WF 103#		
14	14" X 6 3/4" WF 30#		

MEMBERS	STRESS FOR CAMBER (KIPS)	DESIGN MEMBER & CONNECTION FOR (KIPS)
Lo U1, U11 L12	-581	-638
U1 U2, U9 U11	-597	-641
U2 U3, U9 U10	-746	-802
U3 U4, U8 U9	-824	-885
U4 U5, U7 U8	-843	-906
U5 U6, U6 U7	-870	-937
Lo L2, L9 L12	+332	+359
L2 L3, L9 L10	+577	+623
L3 L4, L9 L9	+730	+784
L4 L5, L7 L8	+817	+879
L5 L6, L6 L7	+830	+900
U1 L2, L10 U11	+391	+437
U2 L3, L9 U10	+257	+300
U3 L4, L8 U9	+140	+183
U4 L5, L7 U8	+98	+94
U5 L6, L6 U7	+49	+98
U5 U6, U6 U7	0	+45
U1 L1, U11 L11	+10	+115
U2 L2, U10 L10	-246	-284
U3 L3, U9 L9	-144	-180
U4 L4, U8 L8	-50	-93
U5 L5	+39	+59
U6 L6	-150	-40
U7 L7	-39	-86

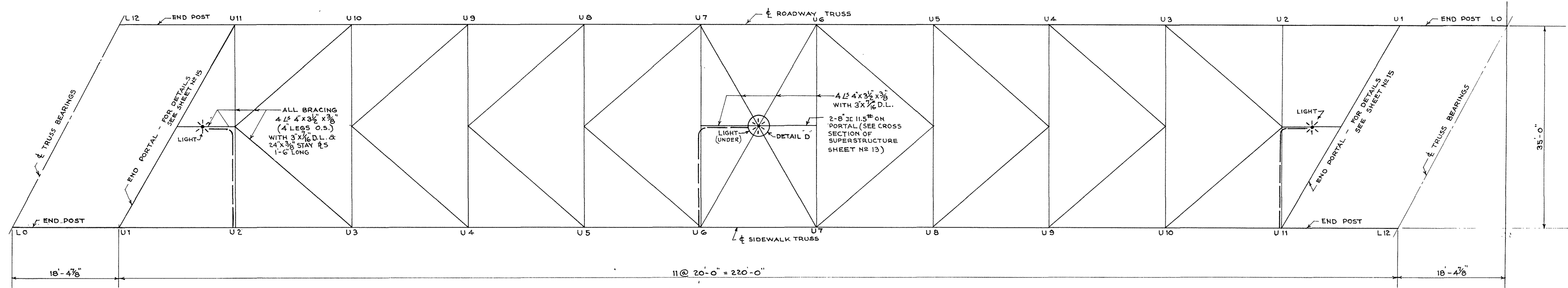


GENERAL NOTES
 TRUSSES : LOWER CHORD PANEL POINTS, EXCEPT L1 AND L11, ARE ON A CURVE WITH RADIUS OF 19,994.9792 FEET (5,020 FT. BELOW PROFILE). LOWER CHORD MEMBERS L0 L2 AND L10 L12 TO BE STRAIGHT. ALL VERTICALS ARE RADIAL. LENGTHS GIVEN ARE WITH FULL DEAD LOAD.
 SECONDARY STRESSES : NEED NOT BE CONSIDERED.
 ALL OTHER NOTES SAME AS FOR SPAN NO 2 (SEE SHEET NO 16)

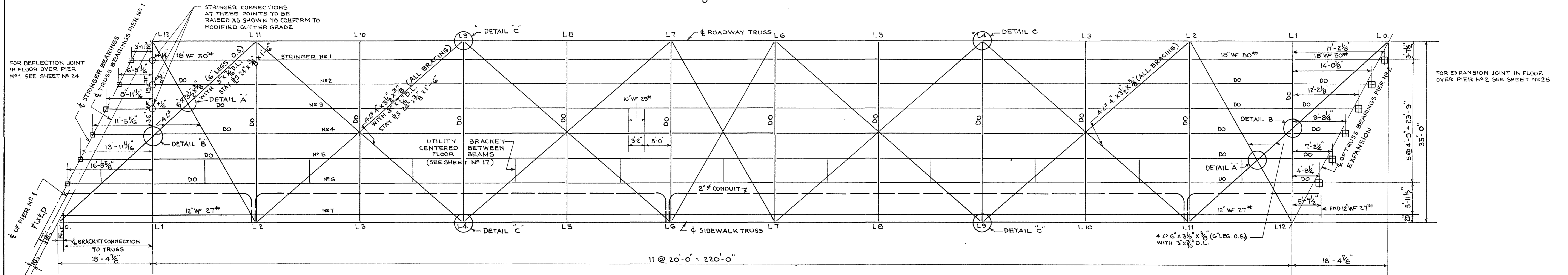


SPAN NO 2
MAKEUP OF SECTIONS
TRUSS DETAILS AT PINS

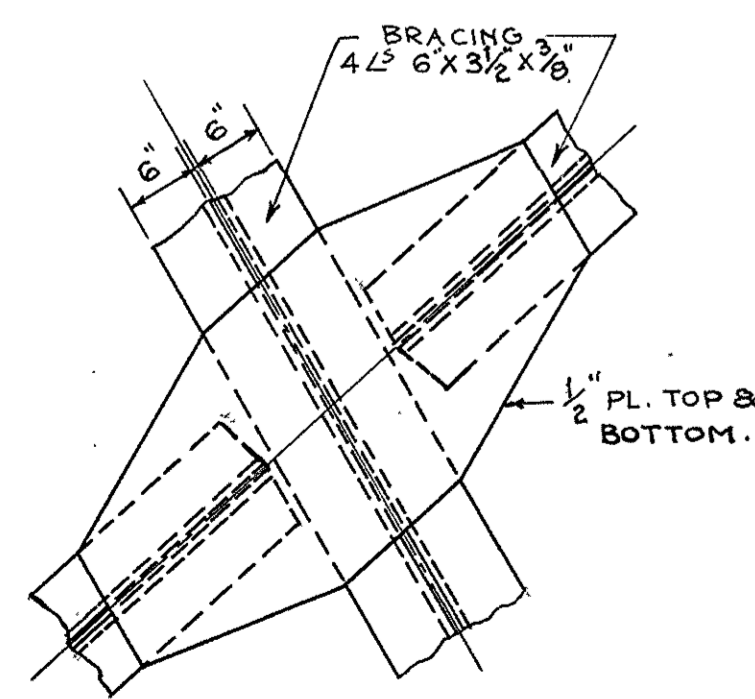
DATE	DESCRIPTION
6-25-41	CONSTRUCTION
5-24-47	ADVERTISING
DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE	



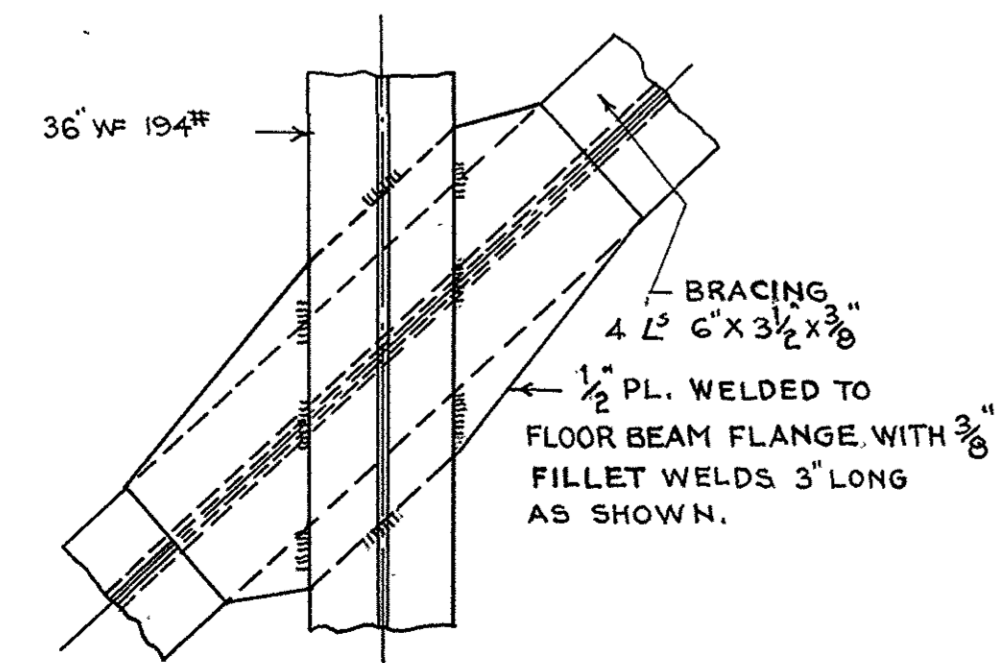
PLAN - TOP CHORD BRACING
SCALE 1/8" = 1'-0"



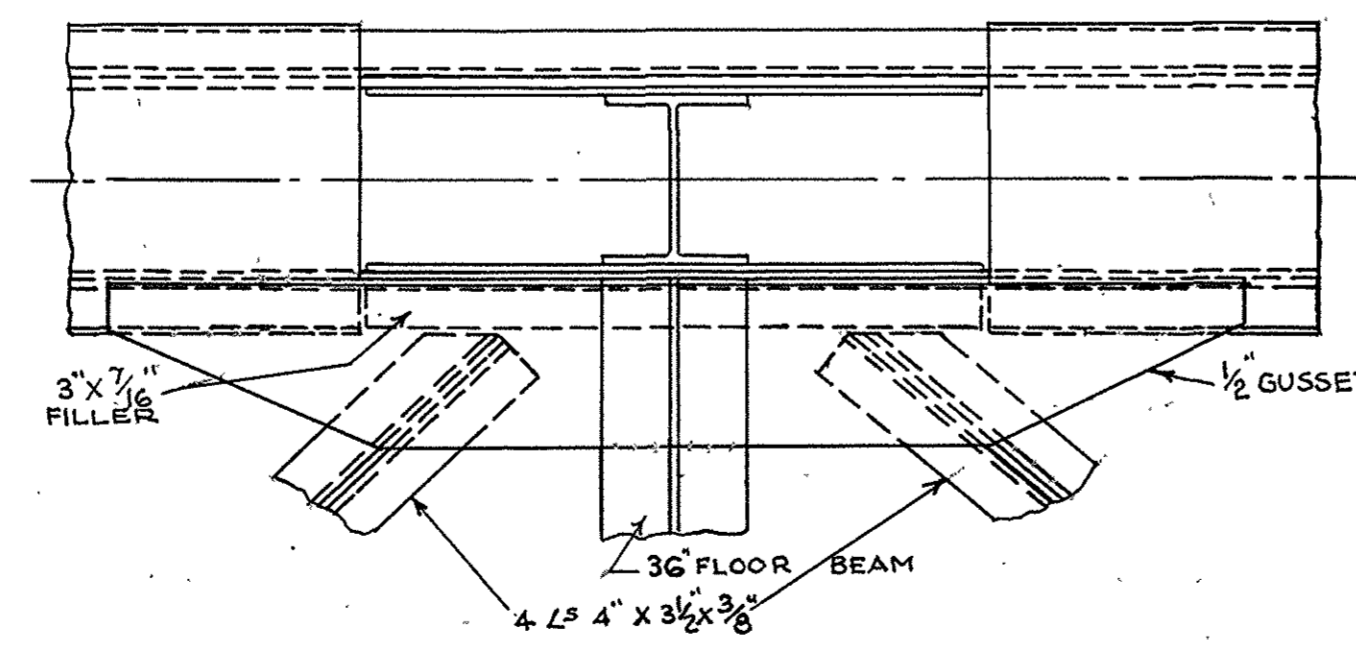
FLOOR PLAN & BOTTOM CHORD BRACING
SCALE 1/8" = 1'-0"



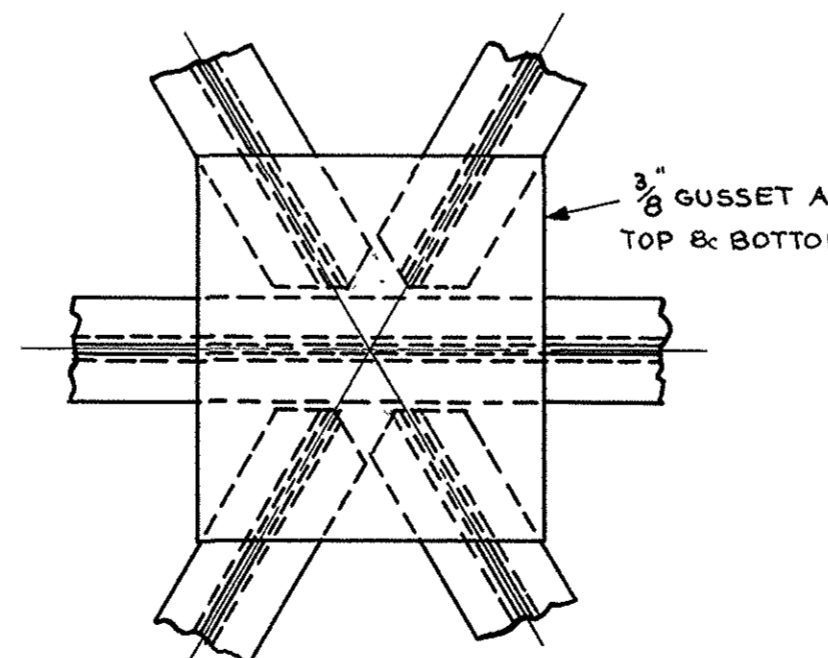
DETAIL A
SCALE 3/4" = 1'-0"



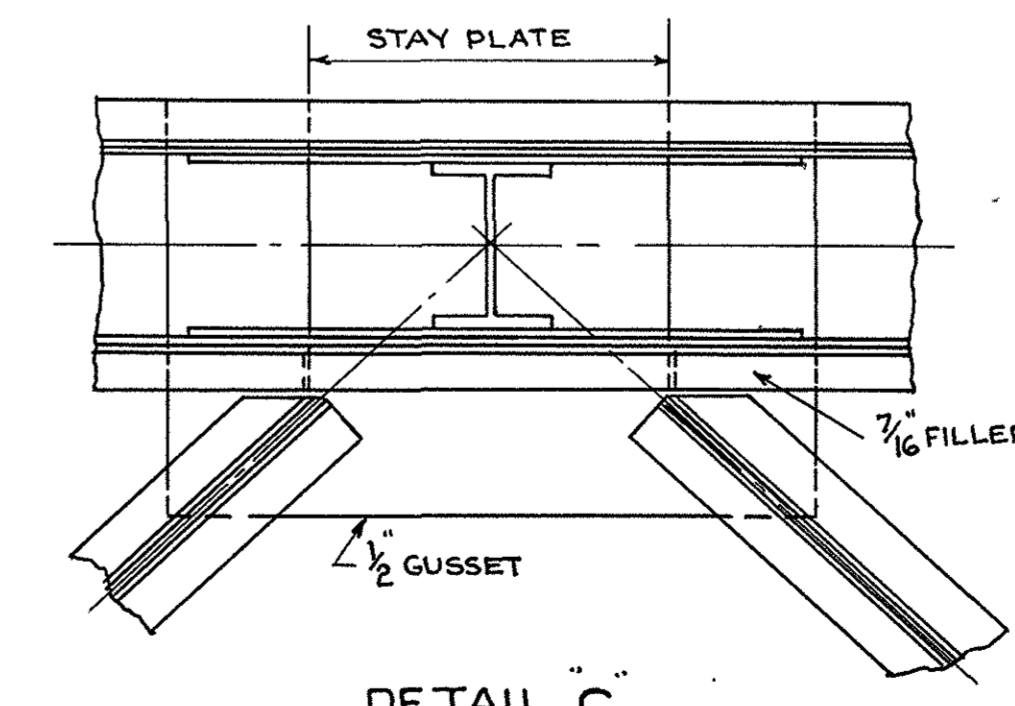
DETAIL B
SCALE 3/4" = 1'-0"



DETAIL C
SCALE 3/4" = 1'-0"
(TAKEN JUST ABOVE TOP OF BOTTOM CHORD)
ALL BOTTOM CHORD BRACING CONNECTIONS SIMILAR



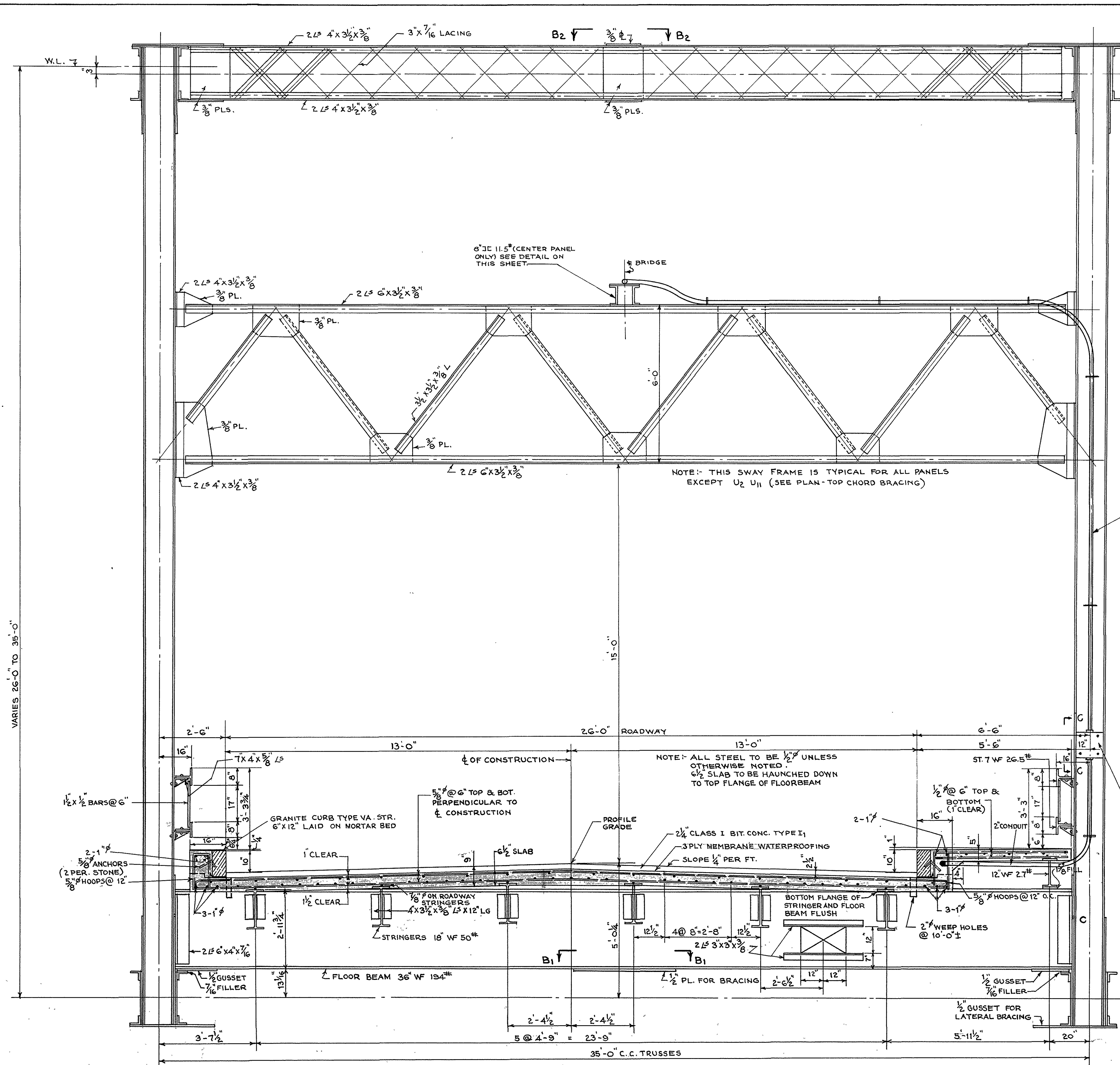
DETAIL D
SCALE 3/4" = 1'-0"



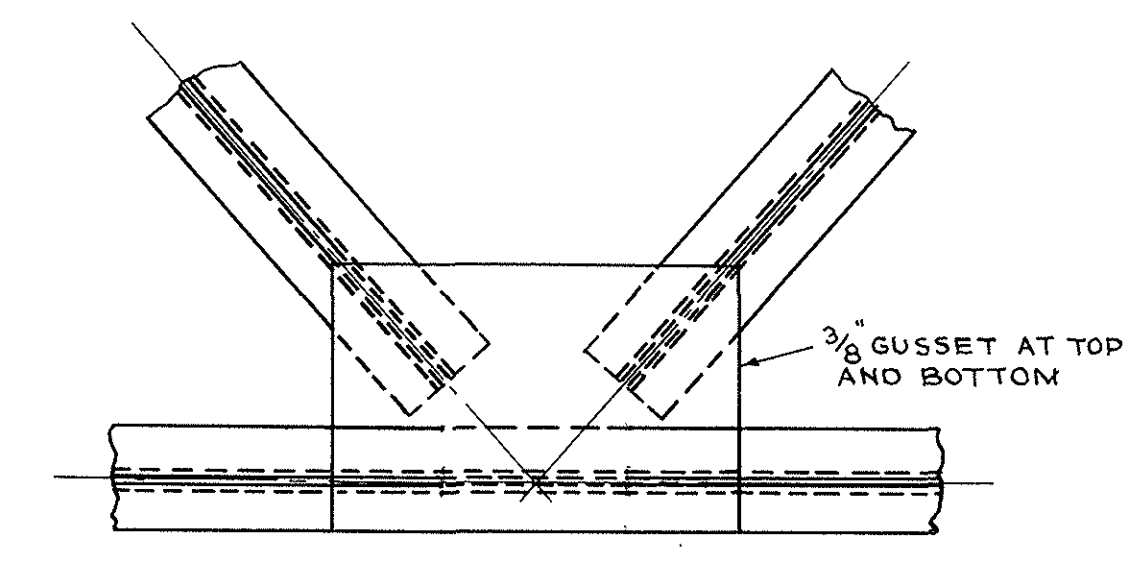
DETAIL C
SCALE 3/4" = 1'-0"
(TAKEN JUST ABOVE BOTTOM OF BOTTOM CHORD)

SPAN NO 2
STEEL LAYOUT &
LATERAL BRACING

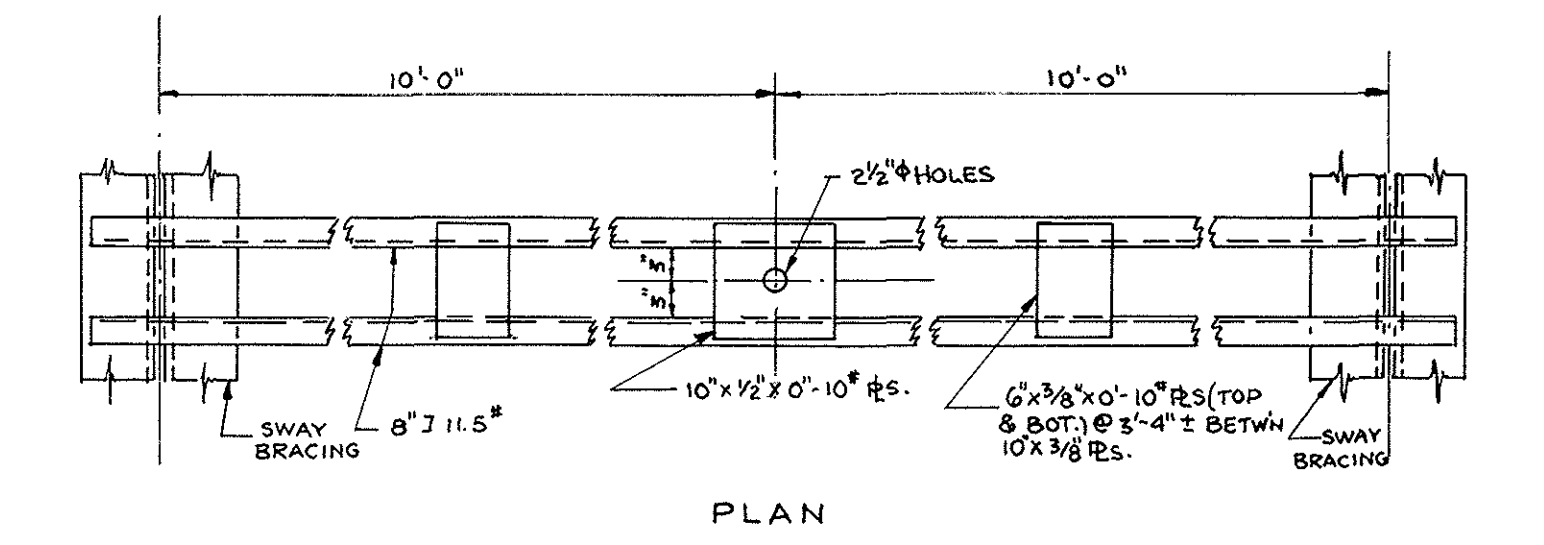
6-25-47	CONSTRUCTION
5-24-47	ADVERTISING
DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE	



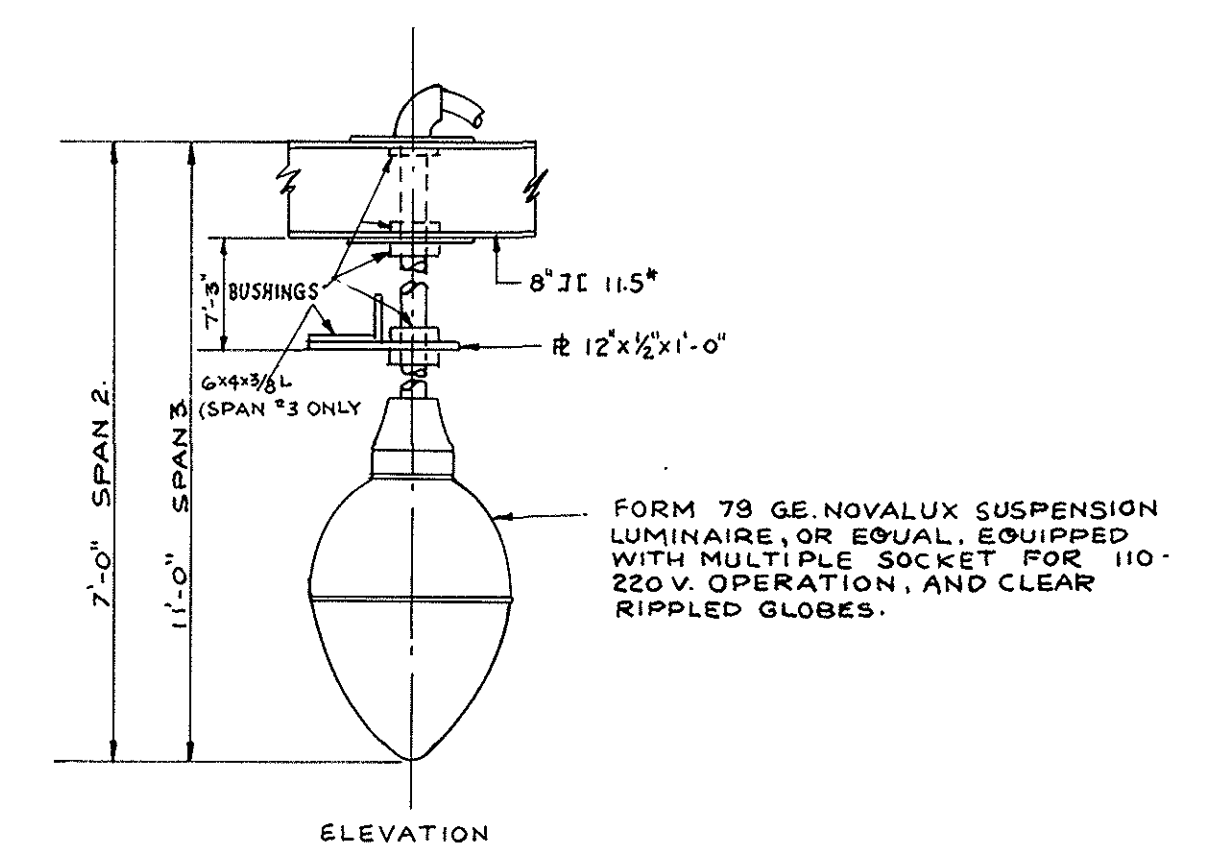
CROSS SECTION OF SUPERSTRUCTURE
SCALE 1/2" = 1'-0"



SECTION B2-B2
SCALE 3/4" = 1'-0"
NOTE: TYPICAL FOR ALL PANEL POINTS EXCEPT N6 G & N7



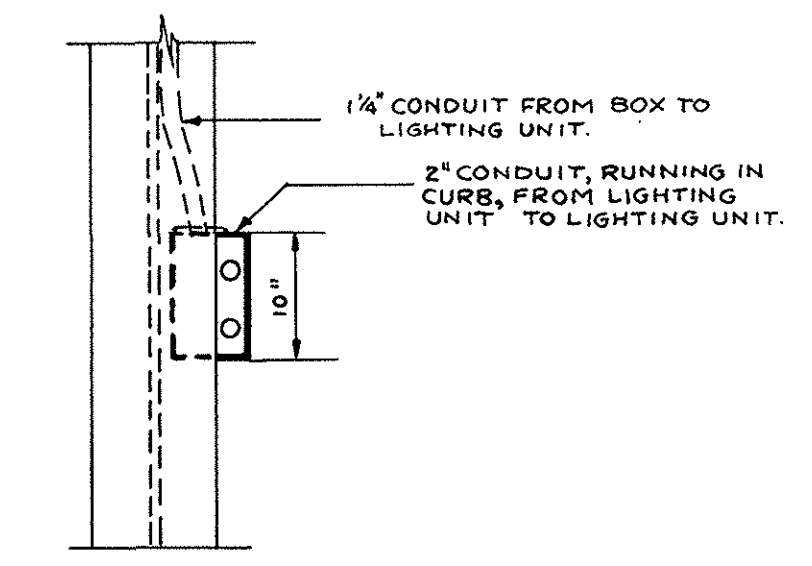
PLAN



DETAILS OF SUPPORTS FOR LIGHTS
SCALE: 3/4" = 1'-0"

ELECTRICAL NOTES

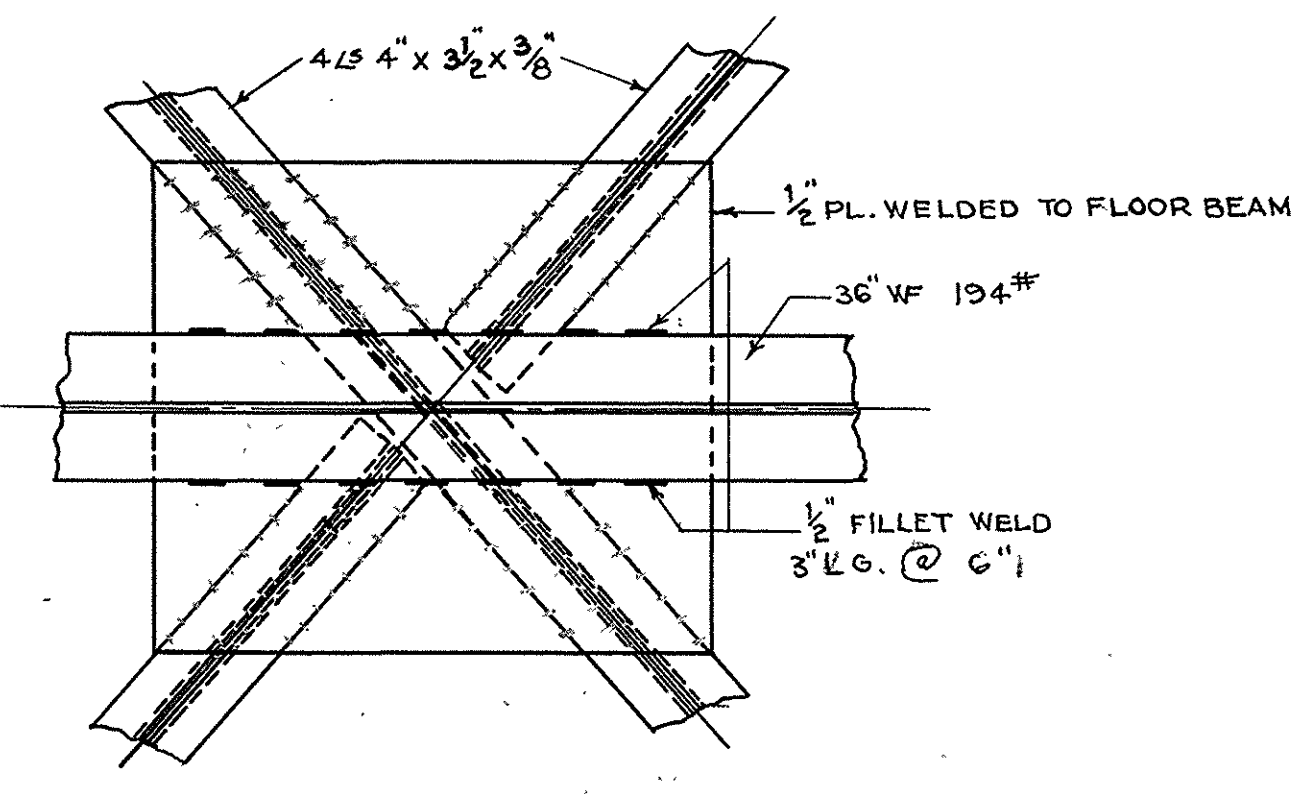
TWO RUBBER COVERED #4 A.W.G. COPPER CONDUCTORS SHALL RUN THE ENTIRE LENGTH OF THE BRIDGE, TOGETHER WITH A BARE STRANDED #4 A.W.G. COPPER NEUTRAL CONDUCTOR. RUNNING FROM JUNCTION BOXES TO EACH LIGHTING UNIT SHALL BE A SINGLE RUBBER COVERED #4 A.W.G. COPPER CONDUCTOR WITH A BARE #4 A.W.G. STRANDED COPPER NEUTRAL CONDUCTOR. ALL CABLES SHALL BE SATISFACTORY AS TO MAKER, TYPE OF INSULATION ETC. TO THE ENGINEER AND TO THE LOCAL LIGHTING COMPANY. ALL CONDUIT SHALL BE GALVANIZED STEEL RIGID CONDUIT AND SHALL HAVE NO BENDS SHARPER THAN 18" RADIUS. MAKE OF CONDUIT SHALL BE SATISFACTORY TO THE ENGINEER AND TO THE LOCAL LIGHTING COMPANY. AT ALL EXPANSION JOINTS, EXPANSION SLEEVES SHALL BE USED TO ALLOW UNRESTRAINED MOVEMENT OF CONDUITS AT THESE POINTS. NO TRANSFORMERS, SWITCHES OR PROTECTIVE EQUIPMENT WILL BE INCLUDED IN THE LIGHTING SYSTEM.



SECTION C-C
(NOT TO SCALE)

1 1/2" METAL CONDUIT (PULL BOX TO UNIT)

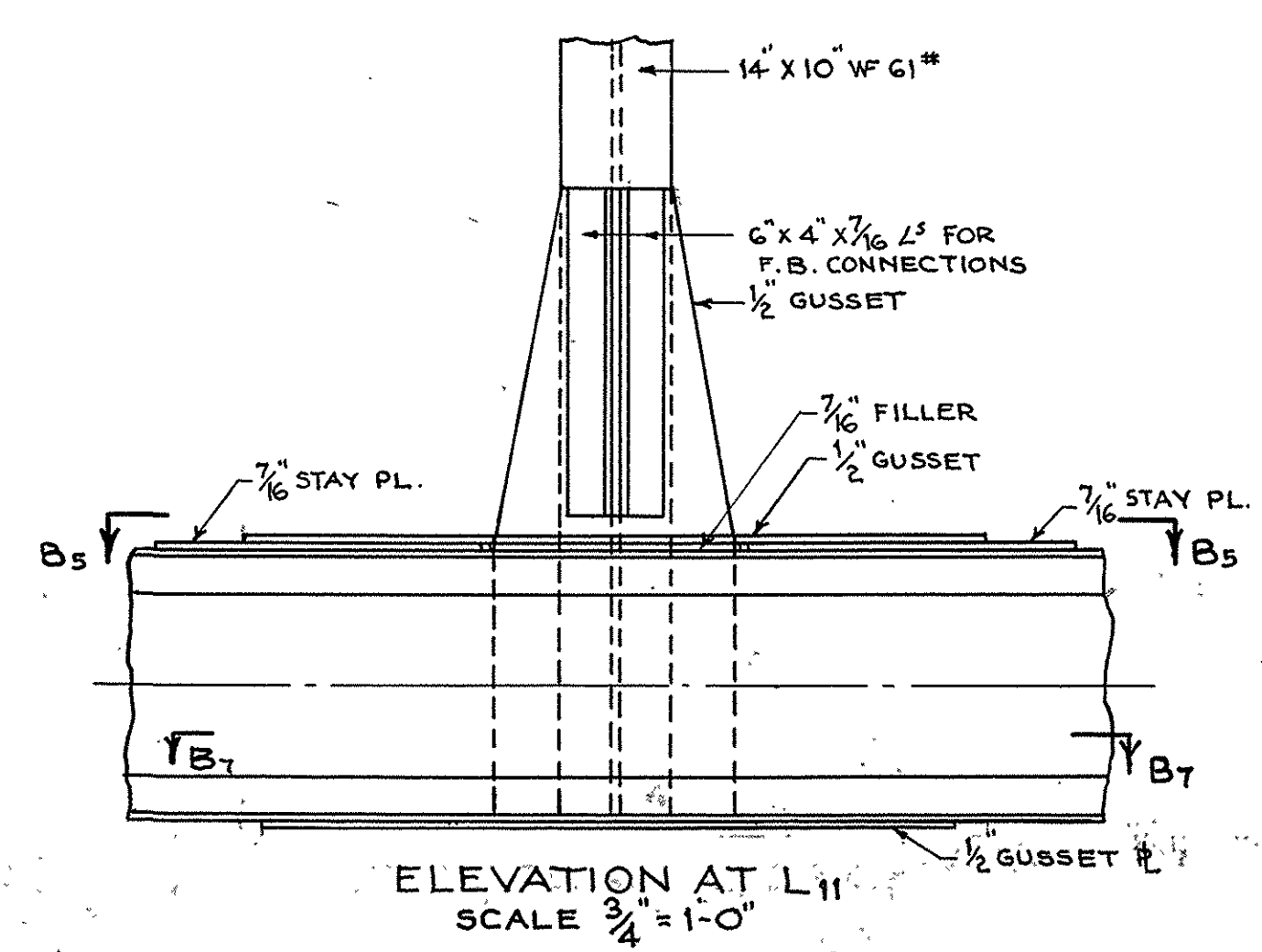
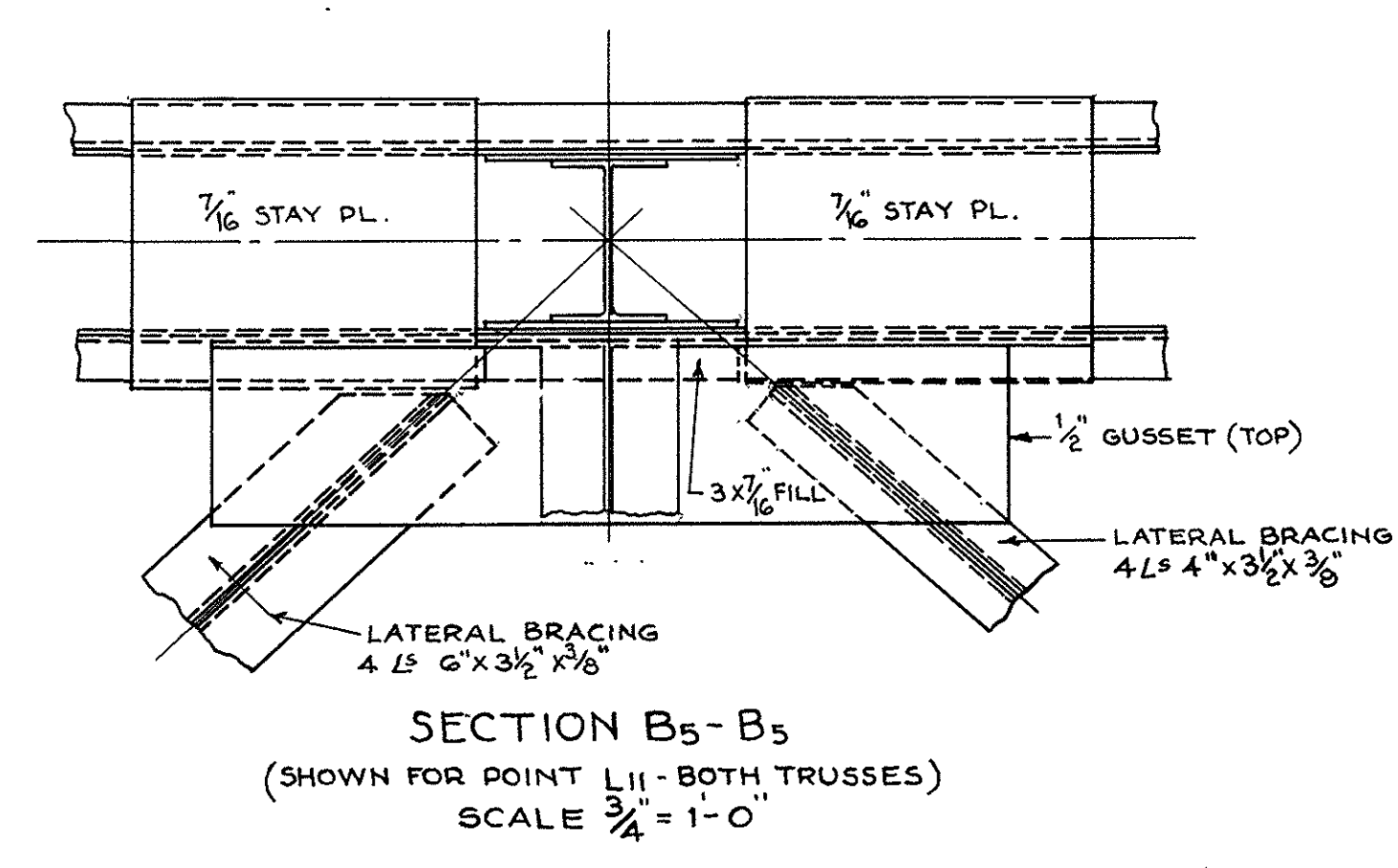
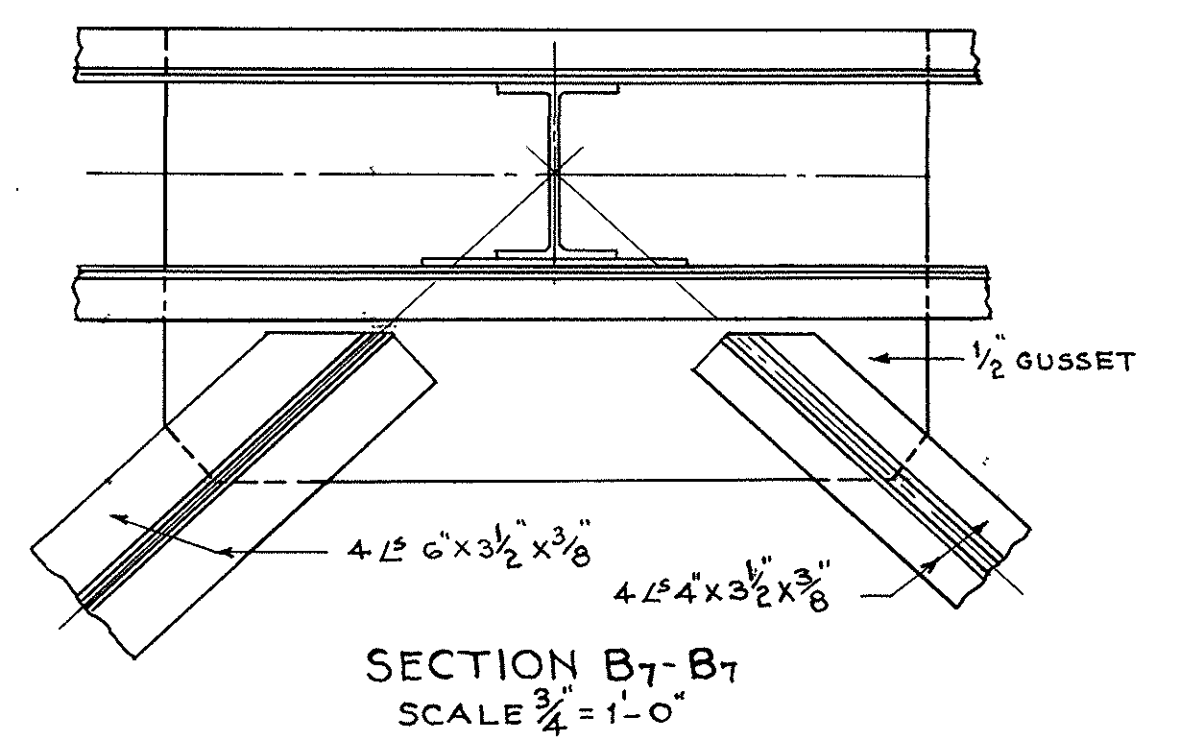
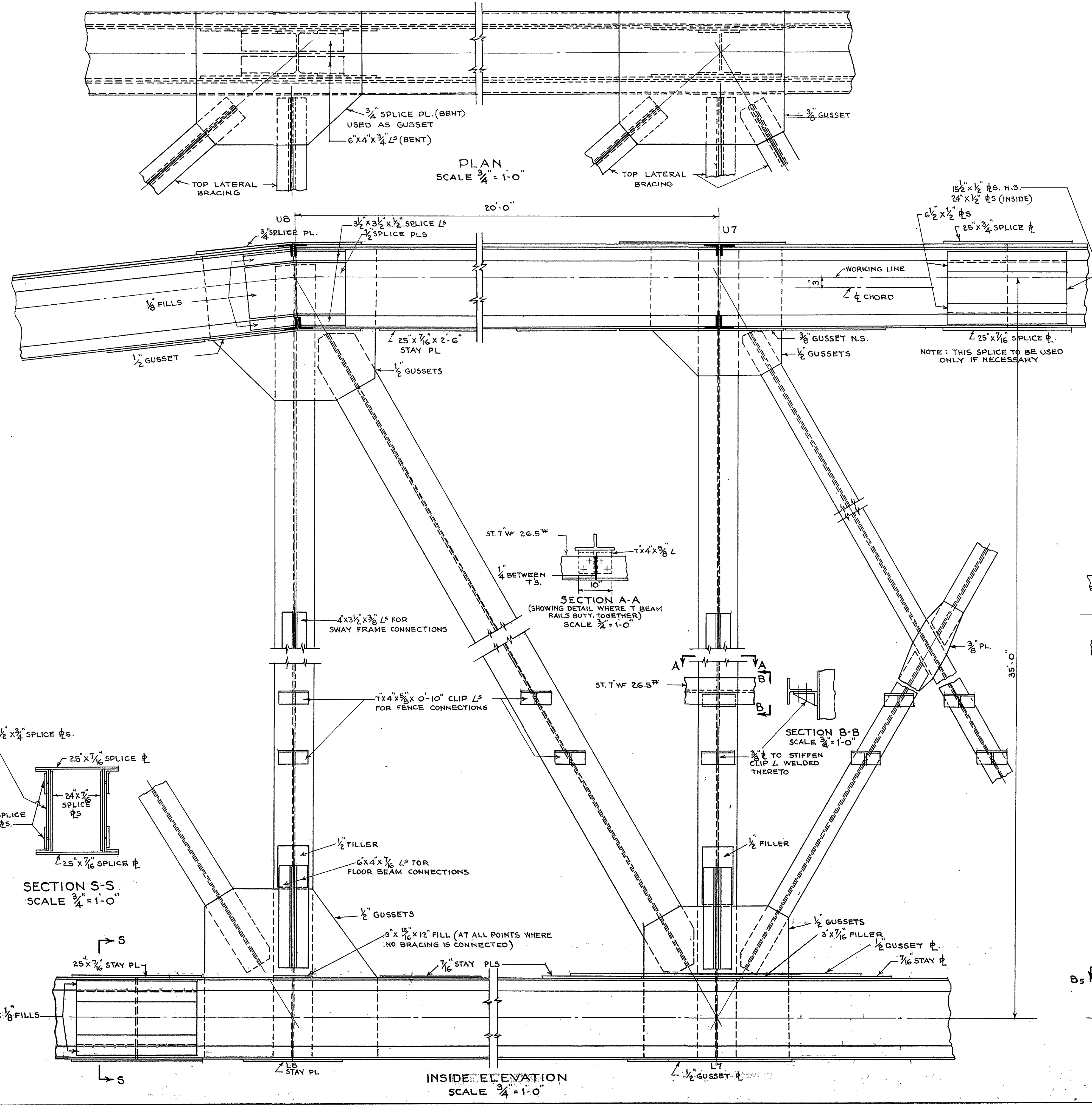
CAST IRON JUNCTION BOX WITH C.I. COVER, WATERPROOF GASKET AND NON-FERROUS SCREWS. MIN. THICKNESS OF METAL 1/8" FOR LOCATIONS SEE STEEL LAYOUT SHEET 12.



SECTION B1-B1
SCALE 3/4" = 1'-0"
NOTE: DETAIL OF CONNECTION AT BOTTOM OF BRACING SIMILAR TO DETAIL A

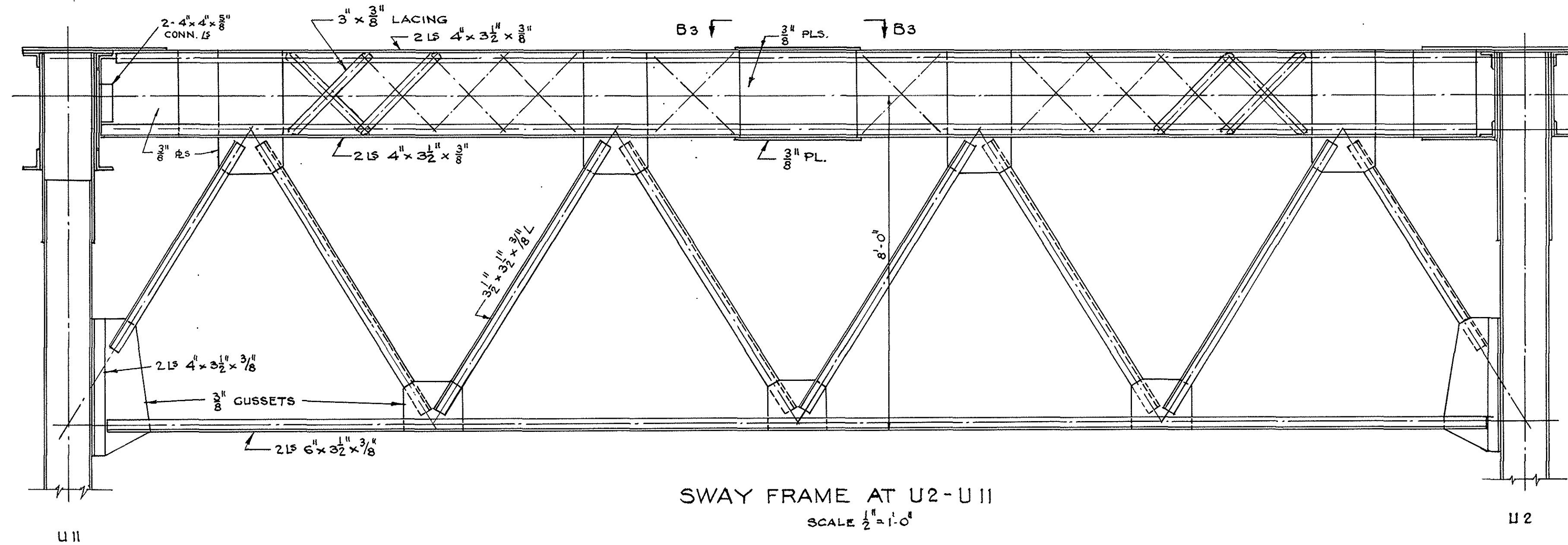
CROSS SECTION OF SUPERSTRUCTURE

6-25-47	CONSTRUCTION
5-24-47	ADVERTISING
DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE	

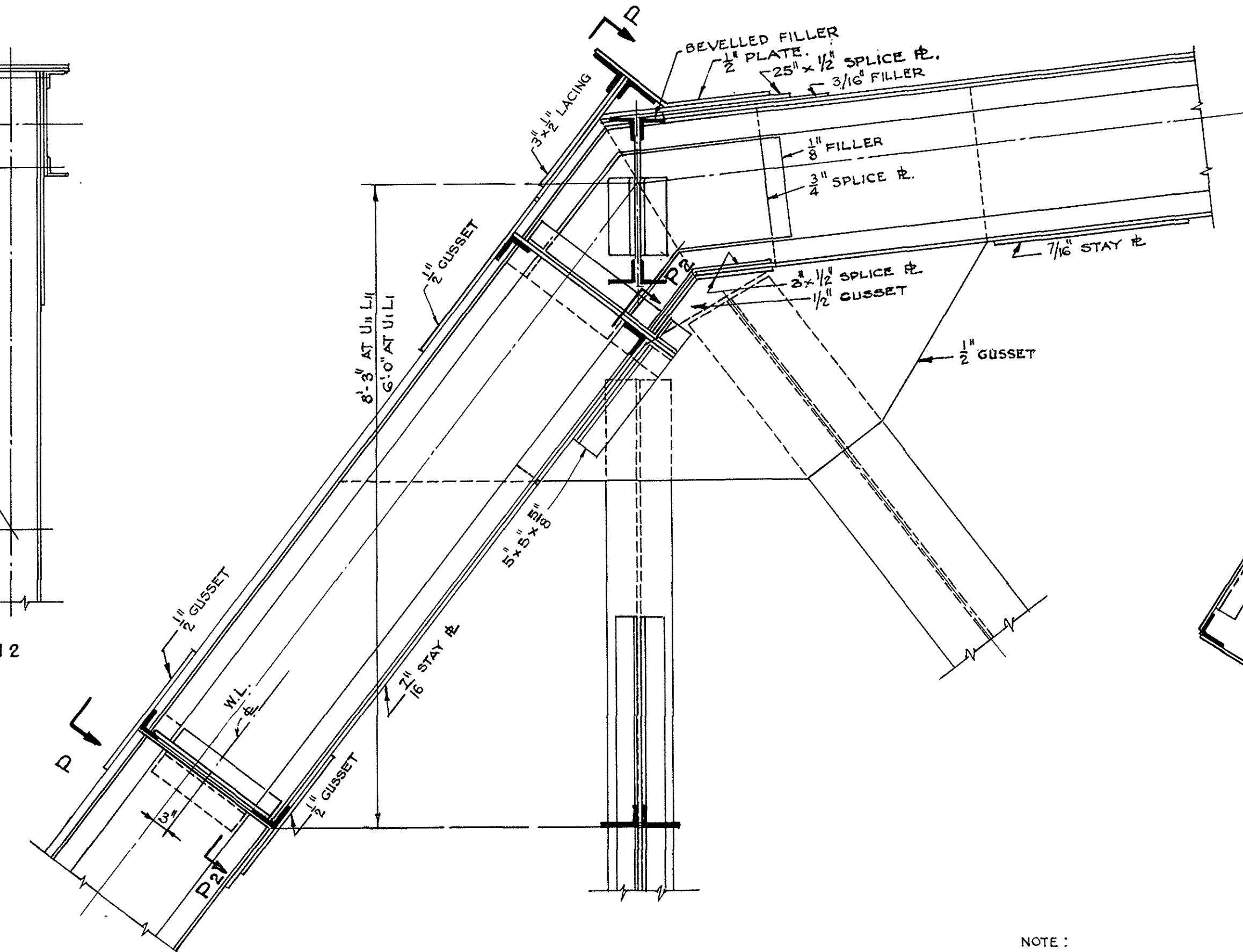


SPAN No 2
TYPICAL DETAILS OF TRUSSES

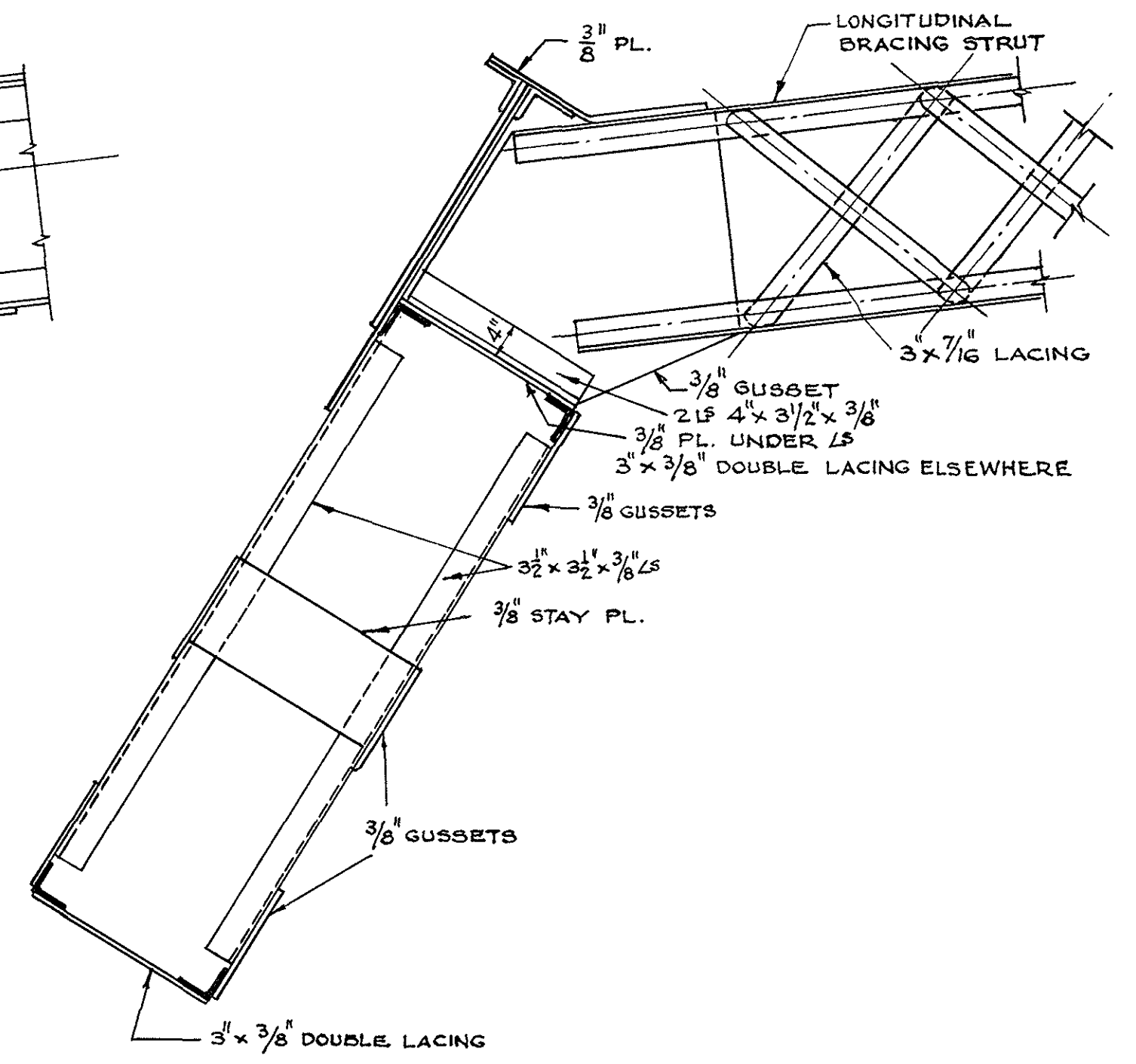
6-25-47	CONSTRUCTION
5-24-47	ADVERTISING
DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE	



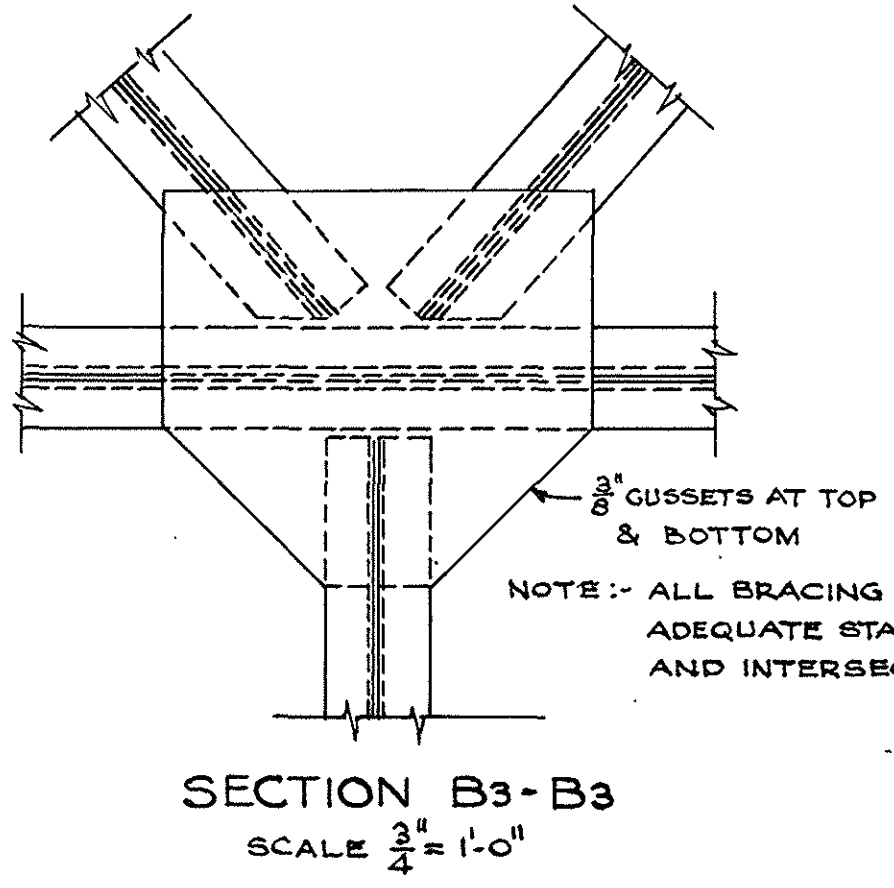
SWAY FRAME AT U2-U11
SCALE 1/2" = 1'-0"



INSIDE ELEVATION AT U11
SCALE 3/4" = 1'-0"

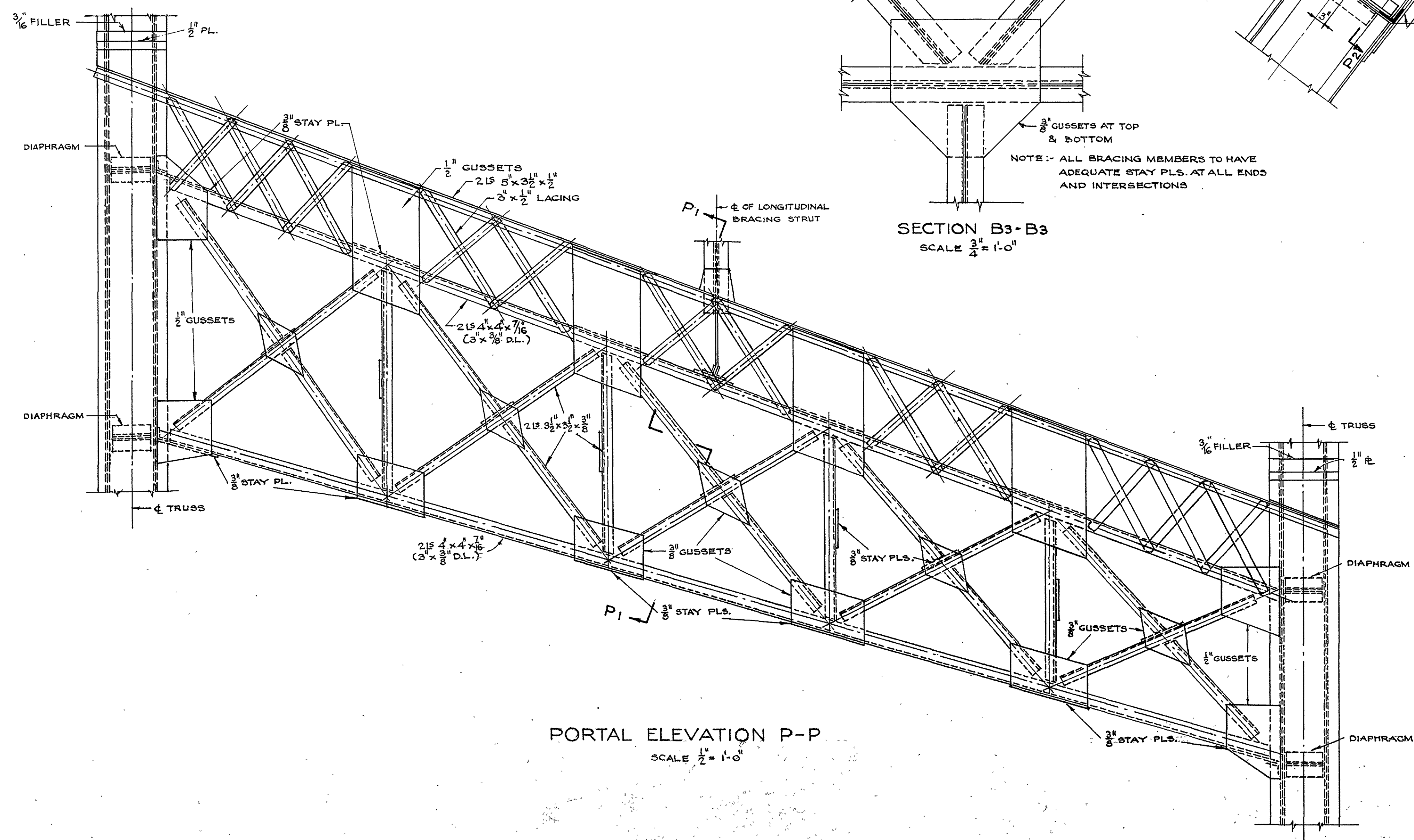


SECTION P1-P1
SCALE 3/4" = 1'-0"



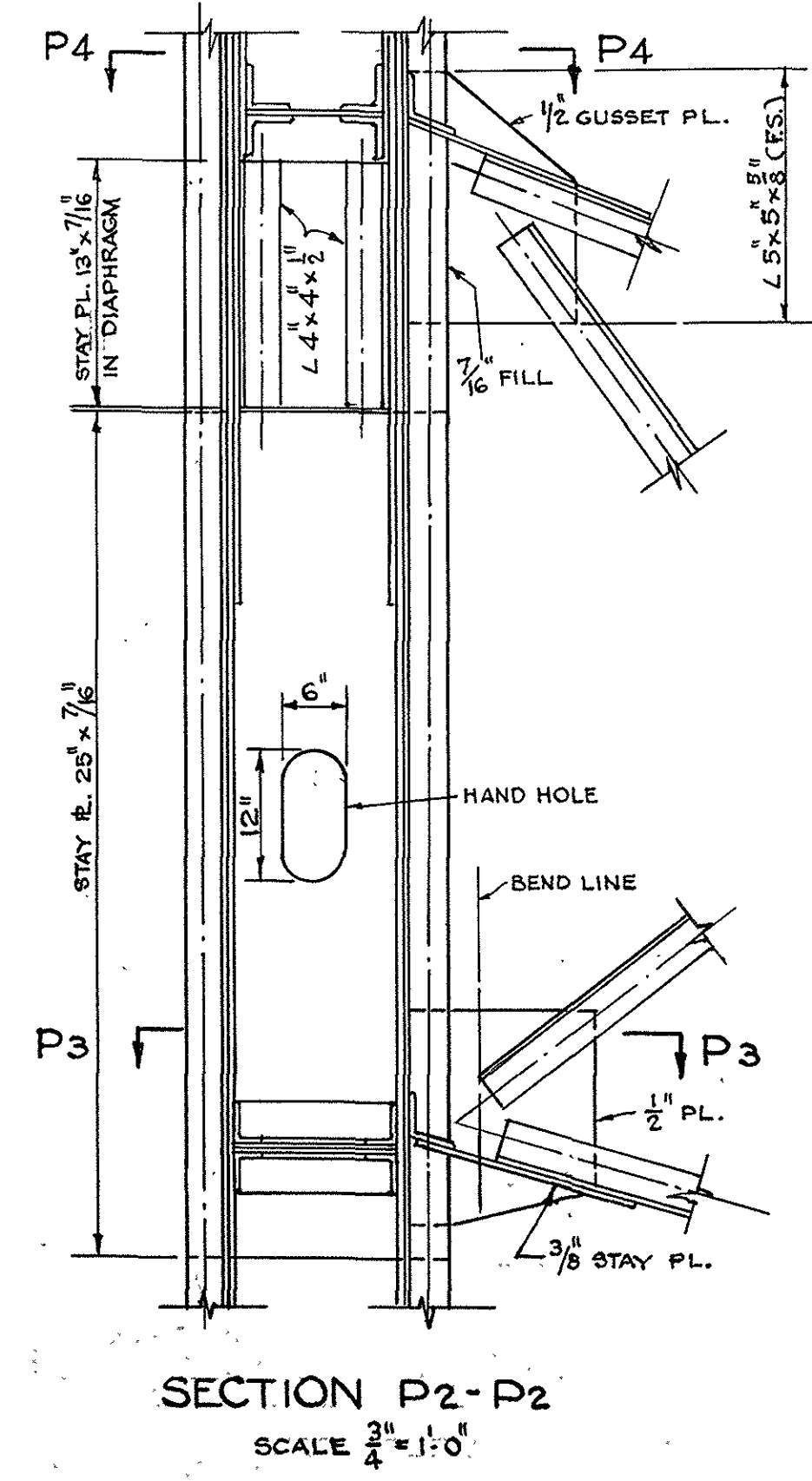
SECTION B3-B3
SCALE 3/4" = 1'-0"

NOTE: ALL BRACING MEMBERS TO HAVE ADEQUATE STAY PLS. AT ALL ENDS AND INTERSECTIONS

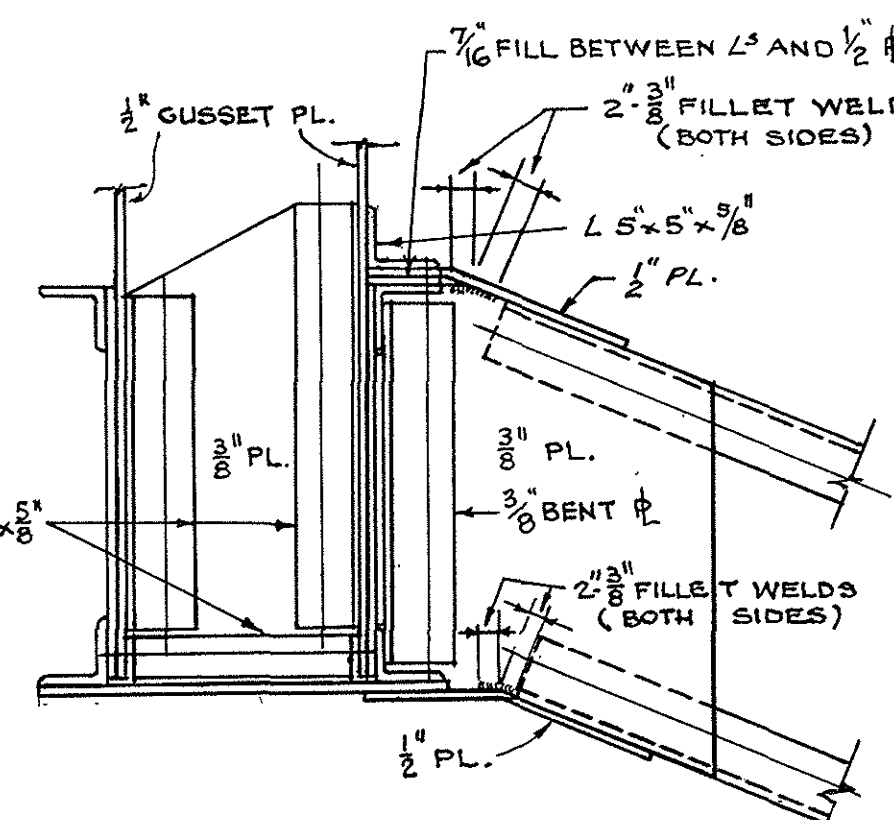


PORTAL ELEVATION P-P
SCALE 1/2" = 1'-0"

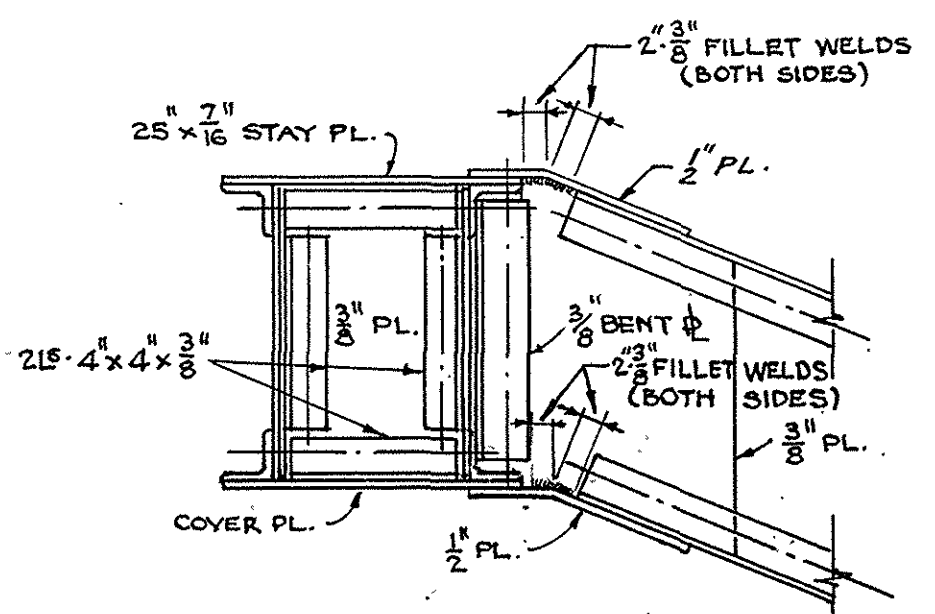
NOTE: CONNECTION DETAILS SHOWN IN SECTIONS P2-P2, P3-P3, AND P4-P4 TO BE USED AT BOTH ENDS OF PORTAL.



SECTION P2-P2
SCALE 3/4" = 1'-0"



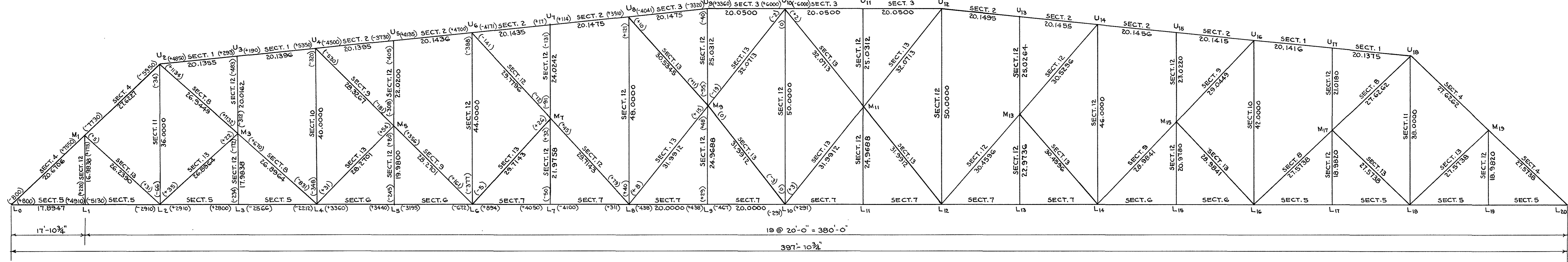
SECTION P4-P4
SCALE 1" = 1'-0"



SECTION P3-P3
SCALE 3/4" = 1'-0"

SPAN NO 2
END PORTALS

6-25-47	CONSTRUCTION
5-24-47	ADVERTISING
DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE	



OUTSIDE ELEVATIONS OF BOTH TRUSSES
(NOT TO SCALE)

SECTION	CONSISTS OF	MAKE UP	REMARKS
1	2 PL 32" X 1 1/8" 4 L5 6" X 6" X 3/8" COVER PL 34" X 1 1/8"		STAY PL 34" X 3/8" X 2'-10"
2	2 PL 32" X 1 1/8" 4 L5 6" X 6" X 3/8" COVER PL 34" X 1 1/8" 2 PL 20" X 3/8"		DOUBLE LACING 6" X 3/8" DISTANCE B-B OF L5 32 1/2" (VERT.)
3	2 PL 32" X 1 1/8" 4 L5 6" X 6" X 3/8" COVER PL 34" X 1 1/8" 2 PL 20" X 3/8"		6" X 3/8" LACING TO HAVE 5 RIVETS @ MAIN CON- NECTION AND 2 RIVETS @ INTERSECTIONS
4	2 PL 32" X 1 1/8" 4 L5 6" X 6" X 3/8" COVER PL 34" X 1 1/8" 2 PL 20" X 3/8"		STAY PL 34" X 3/8" X 2'-10"
5	2 PL 32" X 1 1/8" 4 L5 6" X 6" X 3/8"		DOUBLE LACING 3/8" X 3/8"
6	2 PL 32" X 1 1/8" 4 L5 6" X 6" X 3/8" 2 PL 20" X 3/8"		DISTANCE B-B OF L5 32 1/2" (VERT.)
7	2 PL 32" X 1 1/8" 4 L5 6" X 6" X 3/8" 2 PL 20" X 3/8" 2 PL 30" X 3/8"		
8	2 PL 24" X 1" 4 L5 4" X 4" X 3/8"		STAY PL 5 15" X 3/8" X 1'-4" SINGLE LACING 3" X 3/8" (SECT. 8 AND 9) SINGLE LACING 5" X 3/8" (SECT. 10) DISTANCE B-B OF L5 24 1/2" (SECT. 8 AND 20 1/2" SECTS. 9 AND 10)
9	2 PL 20" X 3/8" 4 L5 4" X 4" X 3/8"		
10	2 PL 20" X 3/8" 4 L5 4" X 4" X 3/8"		
11	2-15" C.J. 40#		STAY PL 5 17" X 3/8" X 1'-4" SINGLE LACING 3" X 3/8" (3/8" RIVETS IN FLANGES OF SECT. 13 ONLY)
12	2-15" C.J. 33.5#		
13	2-10" C.J. 20.0#		

MEMBERS	DESIGN CAMBER FOR (KIPS)	DESIGN CONNECTIONS FOR (KIPS)
L0 M1 M9 L20	-1380	-1697
M1 U2 U9 M19	-1305	-1605
U2 U4 U10 U18	-1560	-1897
U4 U6 U14 U16	-1860	-2260
U6 U8 U12 U14	-1950	-2372
U8 U10 U16 U18	-1940	-2361
L0 L2 L18 L20	+1024	+1241
L2 L4 L16 L18	+1024	+1290
L4 L6 L14 L16	+1602	+2072
L6 L8 L12 L14	+1897	+2440
L8 L10 L16 L18	+1897	+2460
U2 L2 U10 L18	+160	+246
U4 L4 U16 L16	-352	-453
U6 L6 U14 L14	-140	-210
U8 L8 U12 L12	-21	-97
U10 L10	0	-57
M1 L1-M3 L3-M5 L5 M7 L7-M9 L9-M11 L11 M13 L13-M15 L15 M17 L17-M19 L19	+72	+130
U1 M1-U3 M3-U5 M5 U7 M7-U9 M9-U11 M11 U13 M13-U15 M15-U17 M17	-23	-23
U9 M9	+179	+221
M1 L2-L2 M3-L4 M5 L6 M7-M7 L16 M16 M17 L18-L18 M19	-70	-114
U2 M3 M11 U18	+783	+984
M3 L4 L16 M11	+710	+900
U4 M5 M15 U16	+424	+564
M5 L6 L14 M15	+355	+493
U6 M7 M13 U14	+131	+225
M7 L8 L12 M13	+66	+171
L8 M9 M11 L12	+63	+164
U8 M9 M11 U12	0	+21
M9 L10 L10 M11	+63	+155
M9 U10	0	+30

NOTES

TRUSSES: LOWER CHORD PANEL POINTS WITH EVEN NUMBERS (L0-L4 ETC.) ARE ON A CURVE WITH RADIUS OF 19994.6457 FEET (5,3843 FT. BELOW PROFILE). ALL CHORD MEMBERS ARE STRAIGHT BETWEEN EVEN-NUMBERED PANEL POINTS. ALL VERTICALS ARE RADIAL. LENGTHS GIVEN ARE WITH FULL DEAD LOAD.

RIVETS: ALL RIVETS SHALL BE 5/8" EXCEPT WHERE NOTED. ALL OPEN HOLES SHALL BE 1/16" EXCEPT WHERE NOTED.

MILLED JOINTS: THE ENDS OF ALL TOP CHORD AND END POST MEMBERS SHALL BE MILLED AND PLACED COMPLETELY IN CONTACT BEFORE SPLICING.

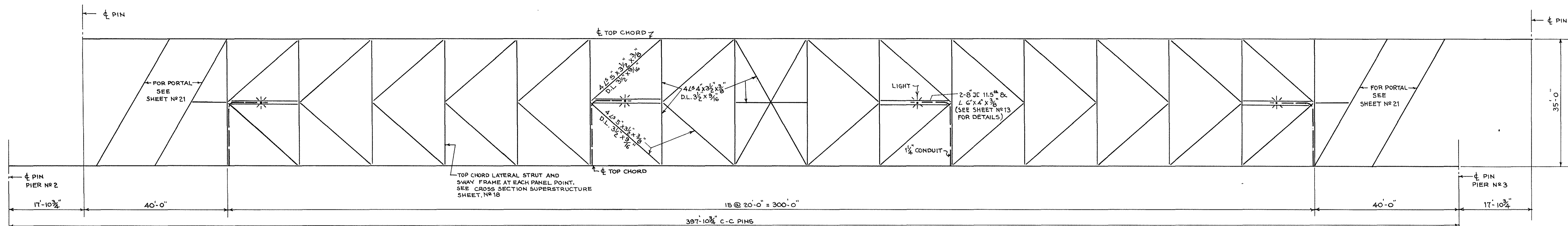
SPLICES: ALL SPLICES SHALL BE DESIGNED TO TRANSMIT THE ENTIRE FORCE ACROSS THE JOINT. SPLICES SHALL BE PLACED AS NEAR PANEL POINTS AS CONVENIENT AND ON THE SIDE OF THE PANEL POINT WHERE THE LIGHTER MEMBER OCCURS.

GUSSETS: ALL GUSSET PLATES FOR CONNECTING MAIN TRUSS MEMBERS SHALL BE SIMILAR IN SHAPE TO THOSE SHOWN ON THE PLANS.

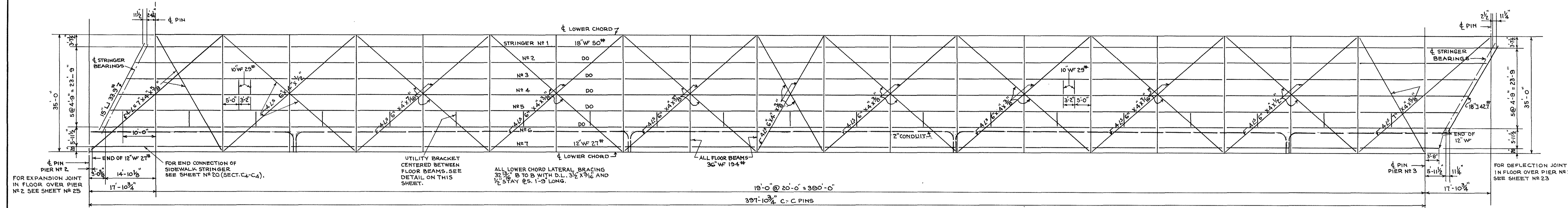
NAME PLATES: SHALL BE PLACED AS DIRECTED BY THE SPECIFICATIONS.

CAMBER: SHALL BE EQUAL TO THE DEFLECTION PRODUCED BY DEAD LOAD. SEE TABLE AT LEFT.

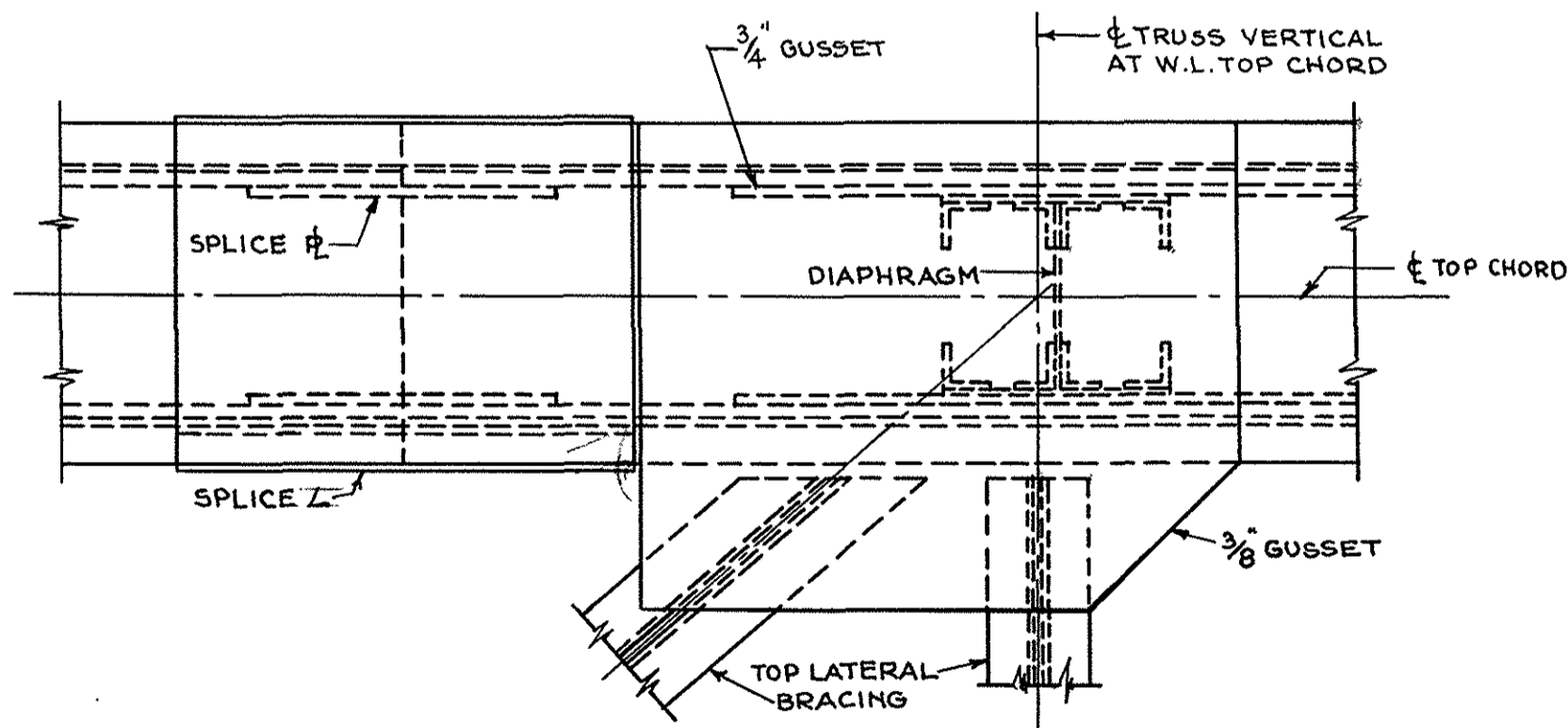
SECONDARY MOMENTS: FIGURES AT JOINTS [SHOWN THUS: (+400)] ARE DEAD LOAD SECONDARY MOMENTS, IN INCH-KIPS, WHICH MUST BE INCLUDED IN DESIGN OF CONNECTIONS. CONNECTIONS TO BE DESIGNED FOR DIRECT STRESSES (AS SHOWN IN TABLE) WITH NO OVER-STRESS, OR FOR DIRECT STRESSES PLUS SECONDARY MOMENTS WITH 25% MAXIMUM OVER-STRESS, WHICH EVER GIVES THE STRONGER CONNECTION. POSITIVE MOMENT DENOTES CLOCKWISE ROTATION ON OUT-SIDE ELEVATION OF TRUSS. MOMENTS ON RIGHT HAND HALF OF TRUSS SAME AS CORRESPONDING MOMENT ON LEFT-HAND HALF, BUT OF OPPOSITE SIGN.



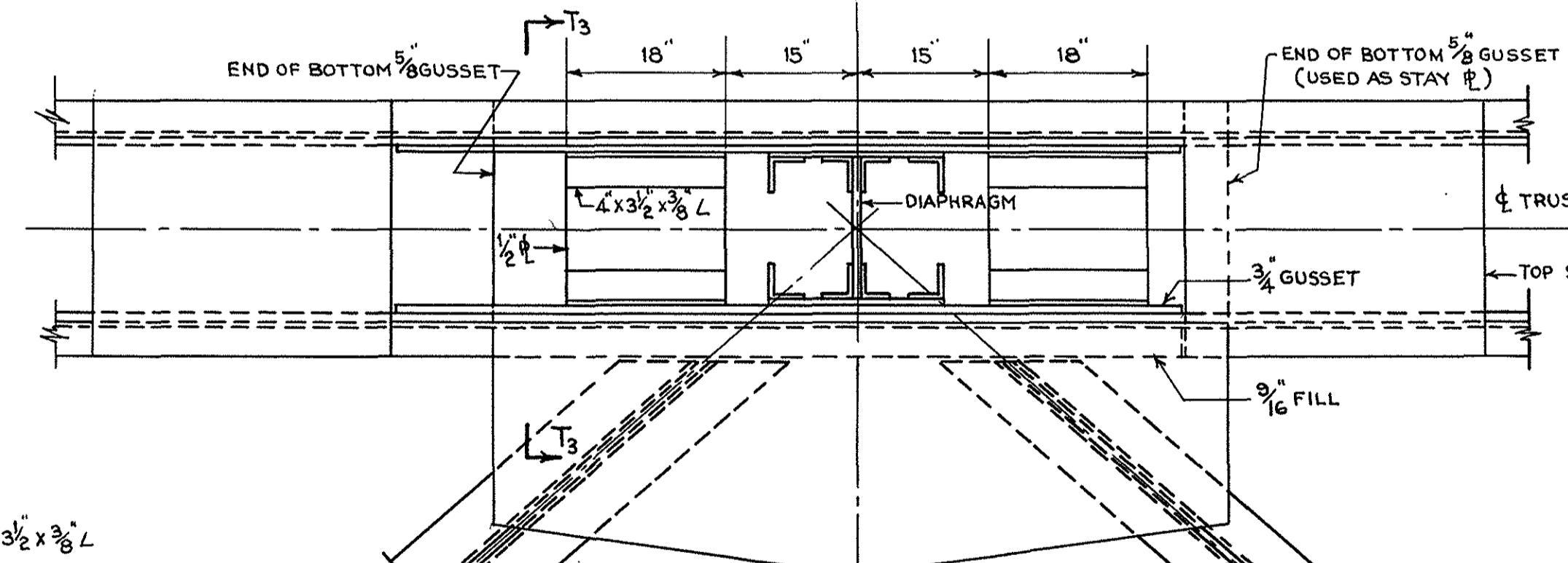
STEEL LAYOUT - TOP CHORD
NOT TO SCALE



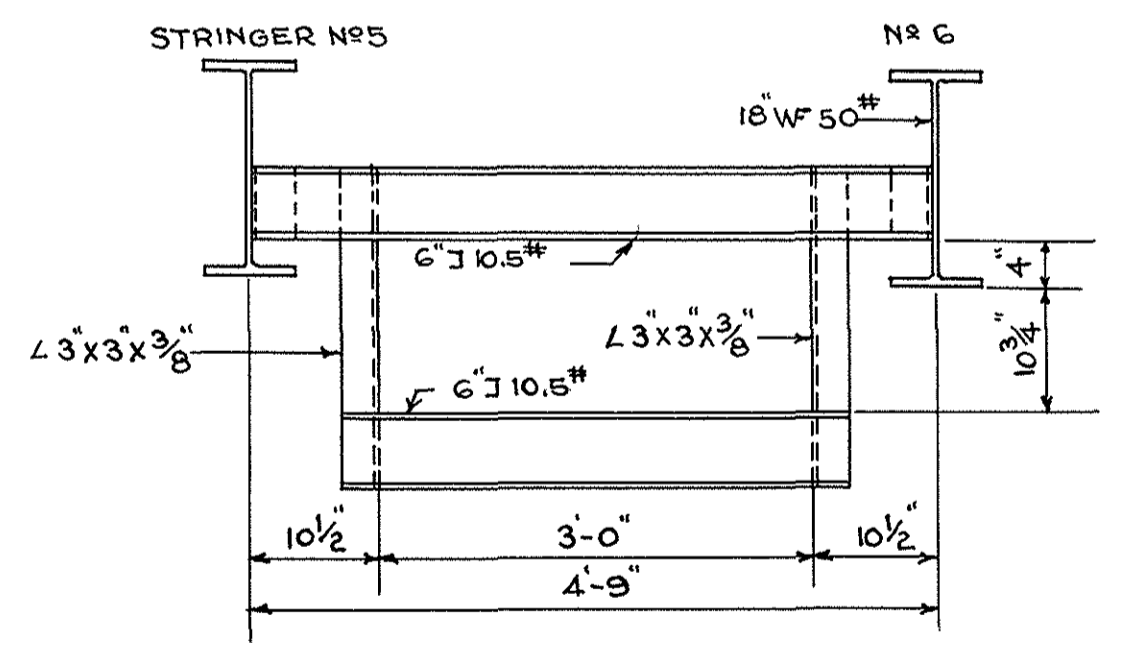
STEEL LAYOUT - LOWER CHORD
NOT TO SCALE



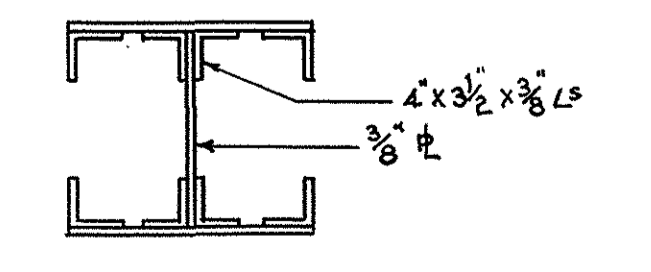
SECTION T₁-T₁ (FROM SHEET NO 19)
SCALE 3/4" = 1'-0"



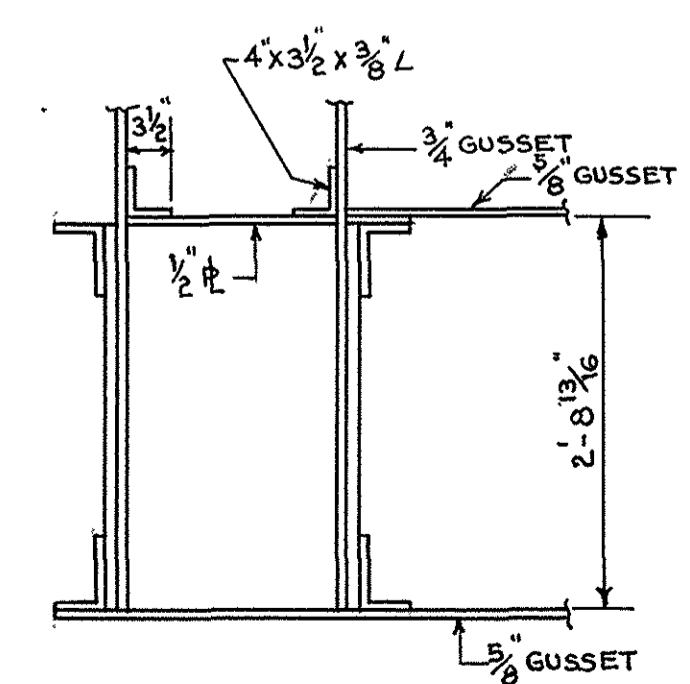
SECTION T₂-T₂ (FROM SHEET NO 19)
SCALE 3/4" = 1'-0"



DETAIL OF UTILITY BRACKET
SCALE 3/4" = 1'-0"



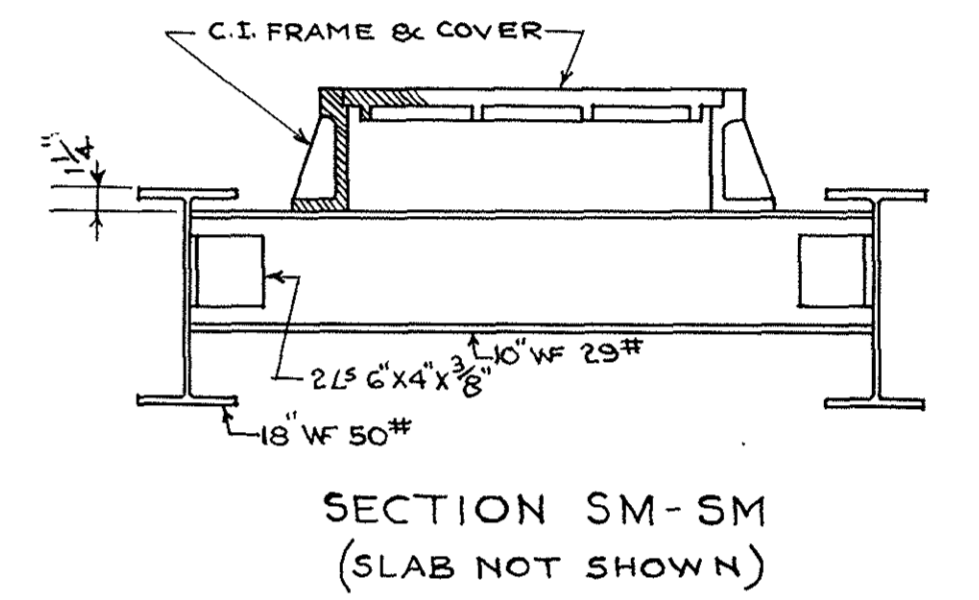
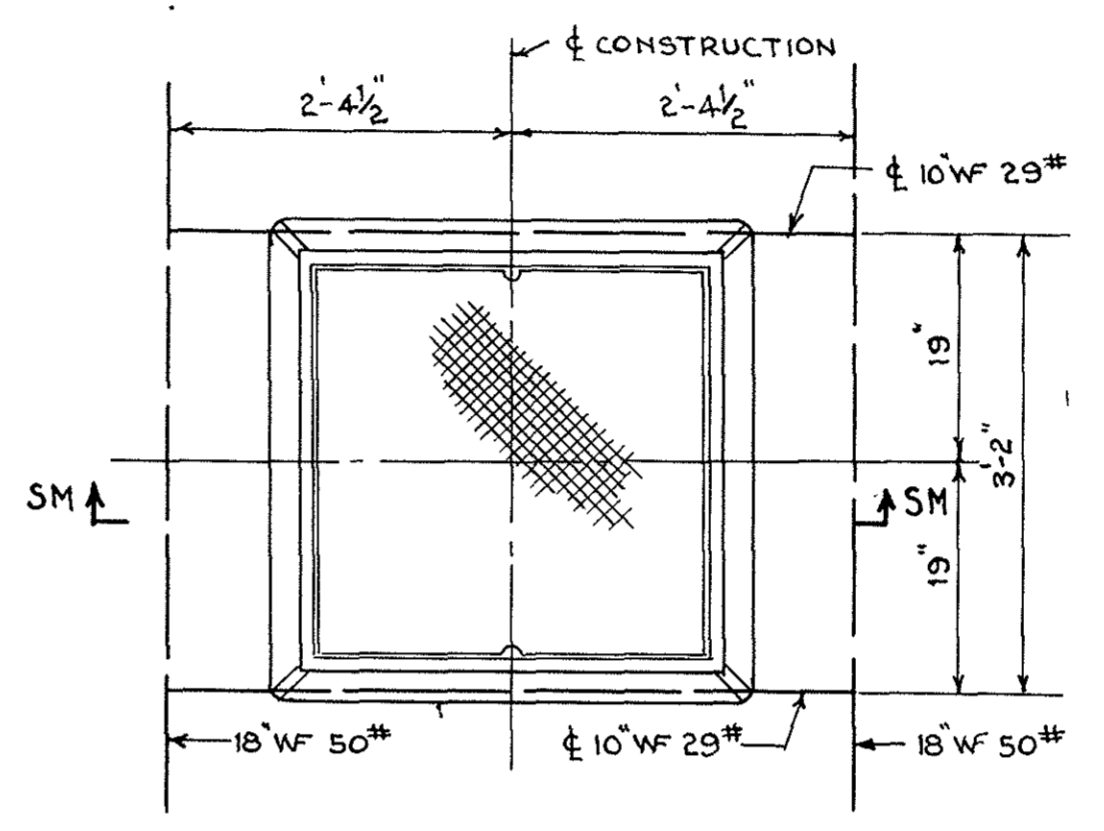
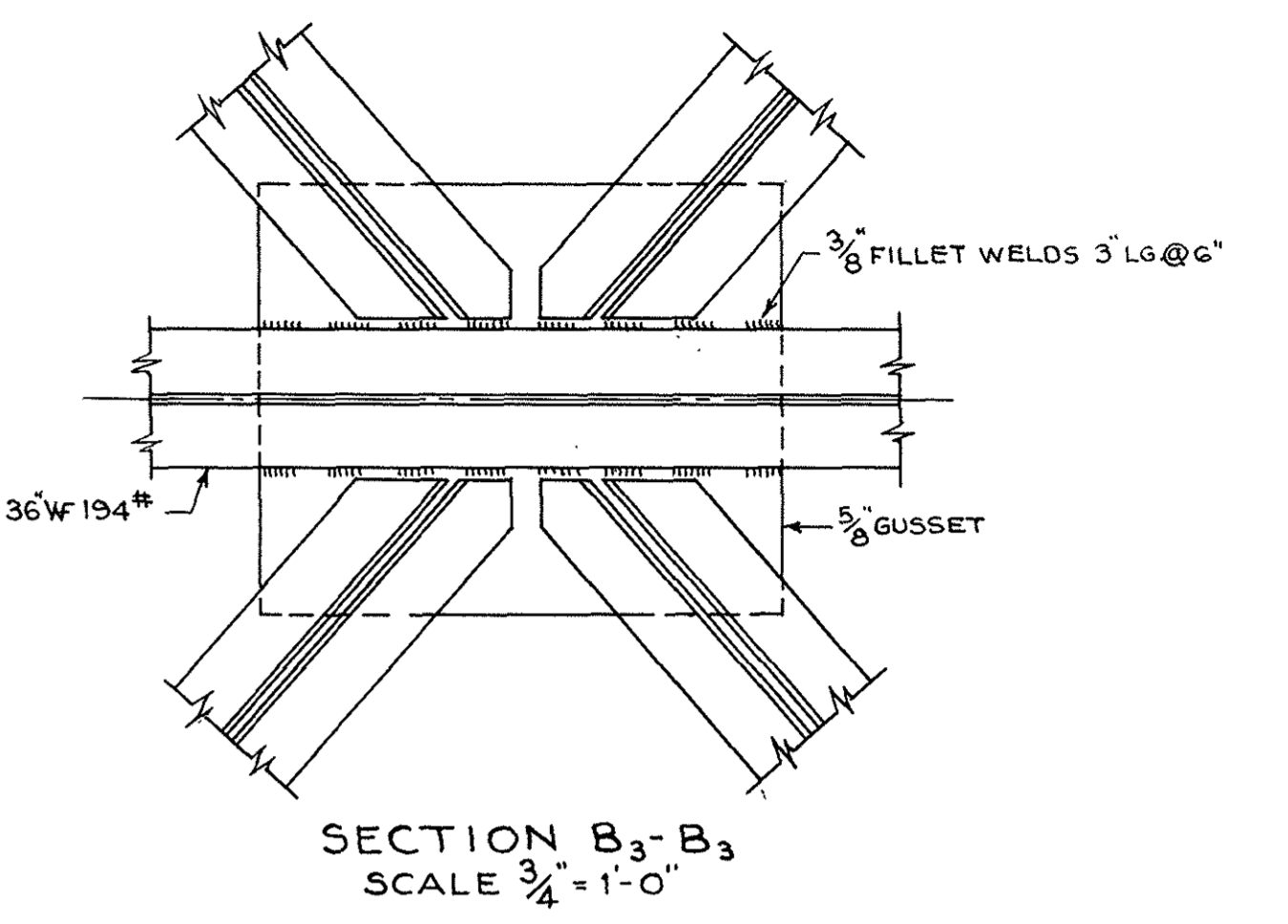
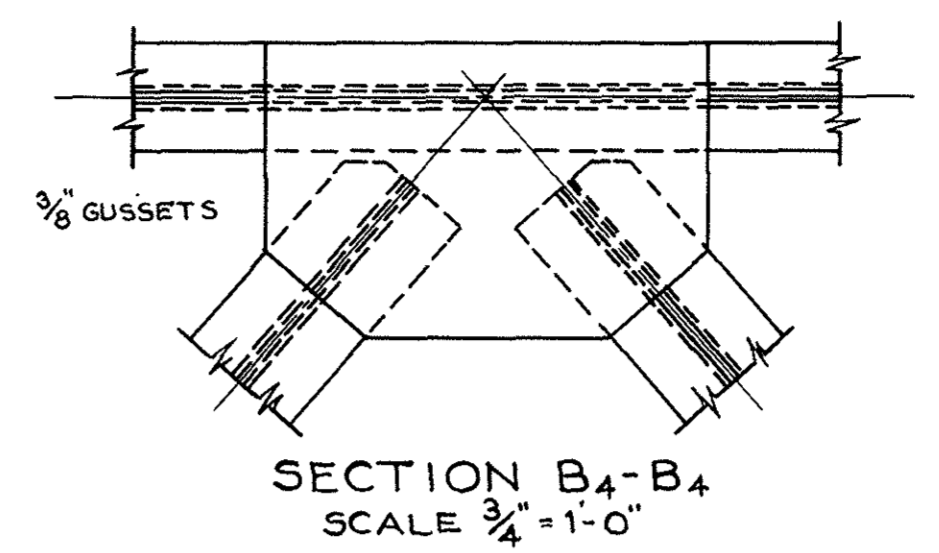
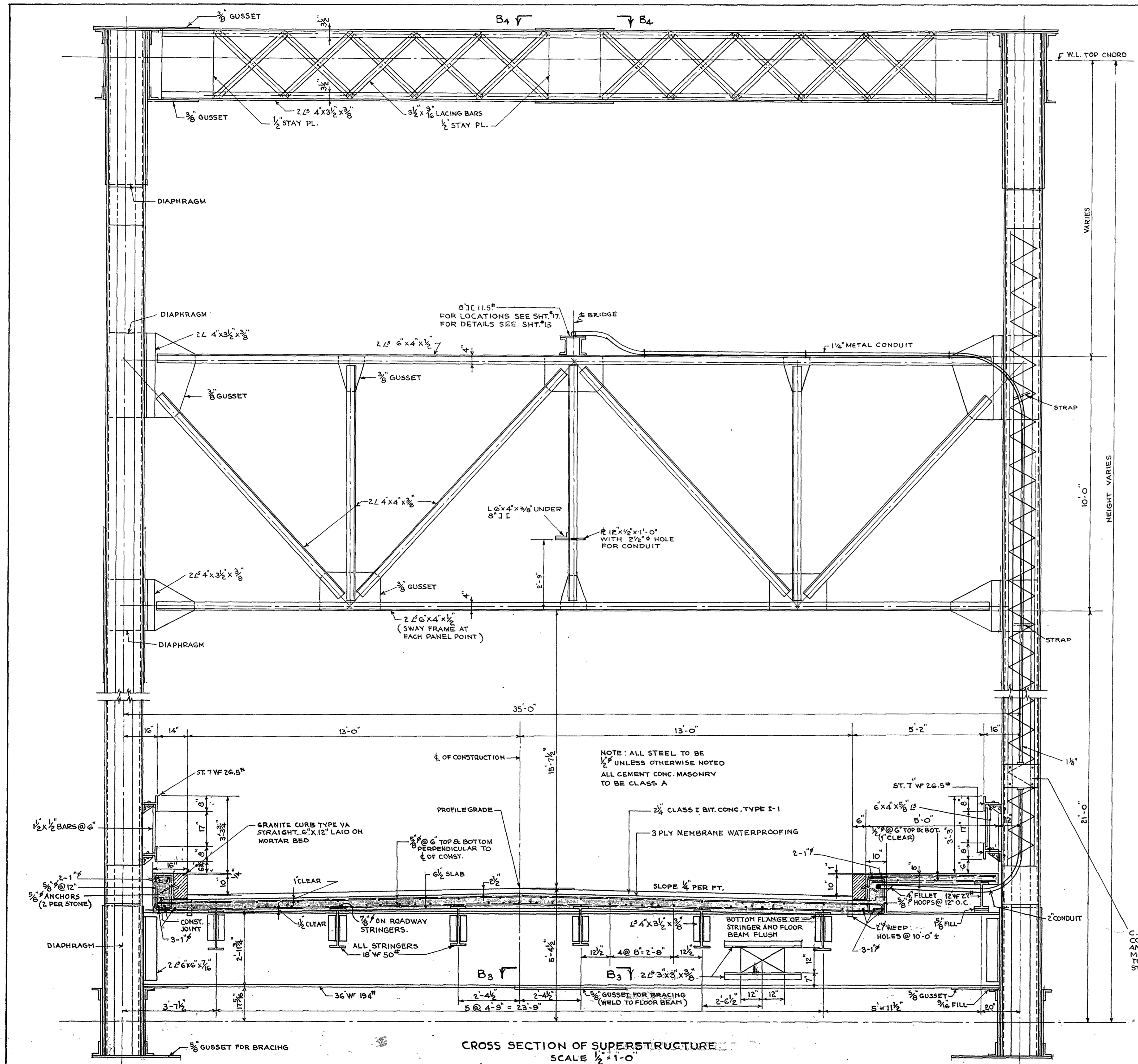
SECTION THRU TYPICAL DIAPHRAGM
SCALE 3/4" = 1'-0"



SECTION T₃-T₃
SCALE 3/4" = 1'-0"

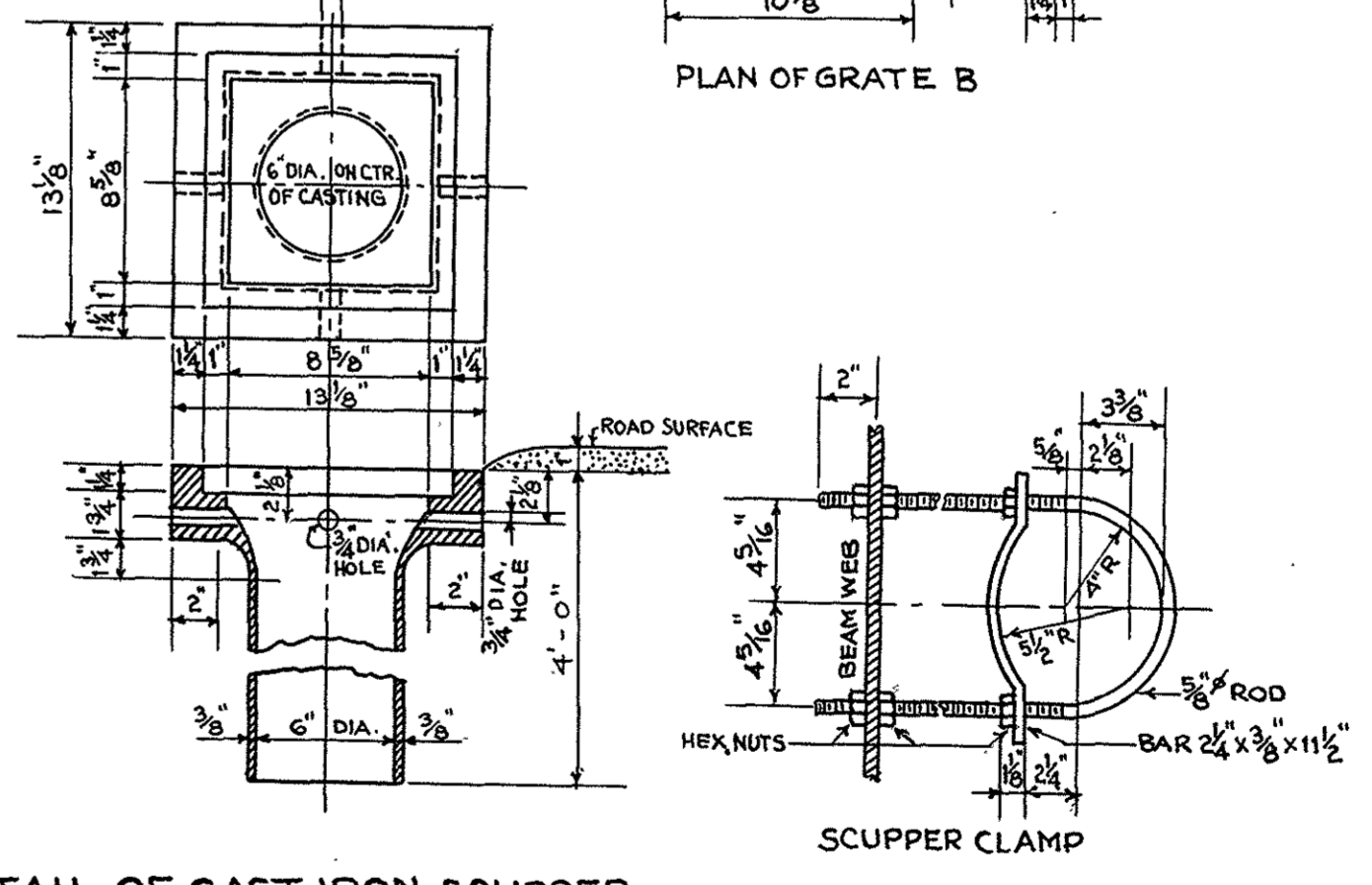
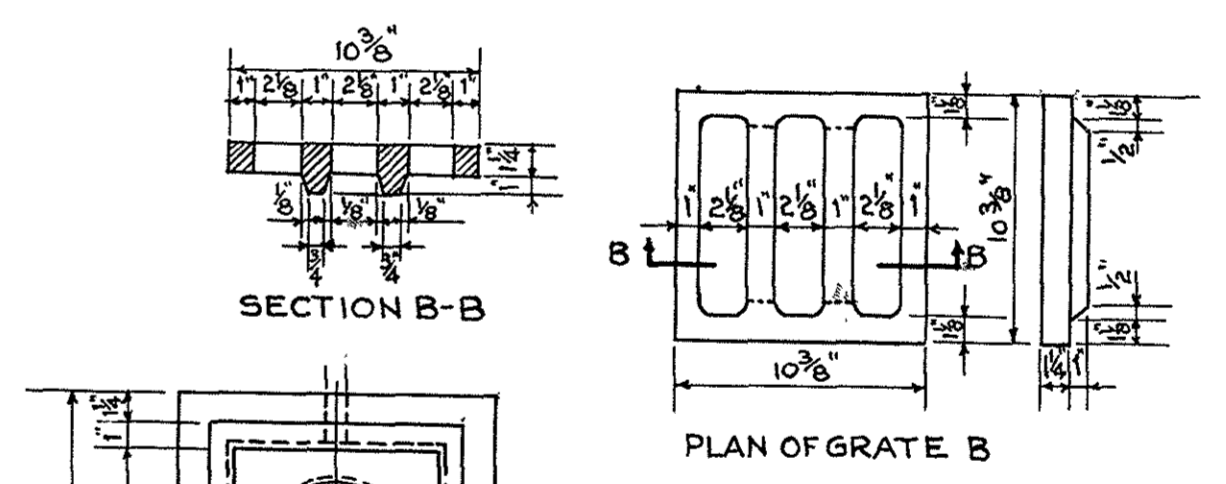
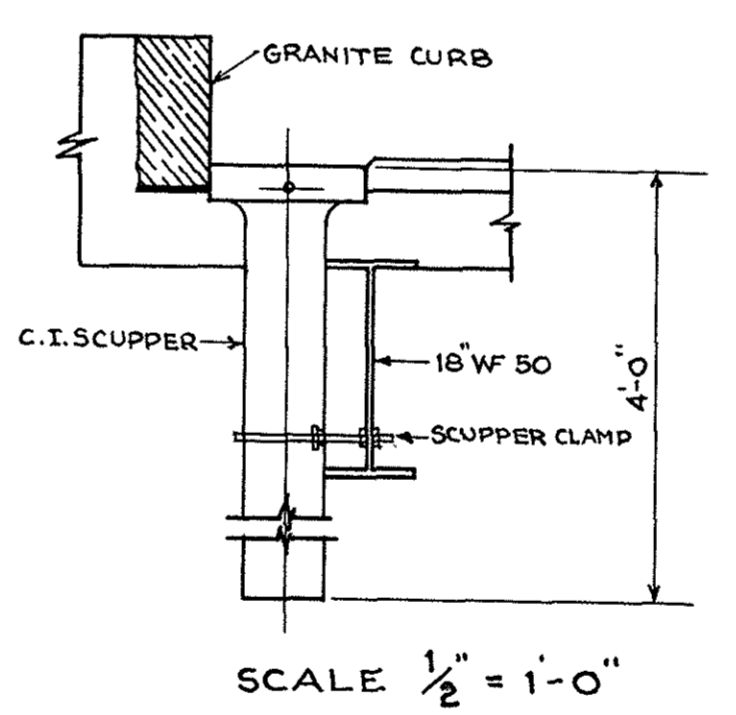
SPAN NO 3
STEEL LAYOUT &
LATERAL BRACING

6-25-47	CONSTRUCTION
5-24-47	ADVERTISING
DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE	



C.I. ROADWAY FRAME (CLEAR SQUARE OPENING 30")
WITH GRAVITY COVER, TYPE 165-C AS MANUFACTURED
BY FLOCKHART FOUNDRY CO., NEWARK, N.J. OR EQUIVALENT.

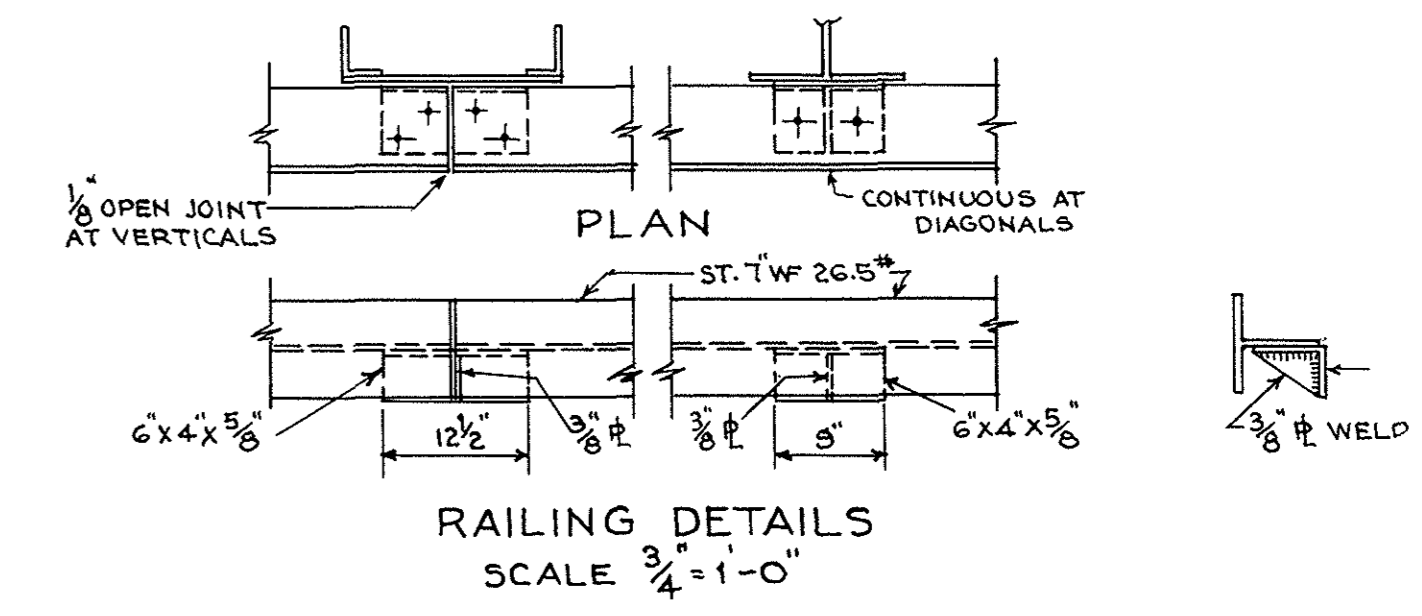
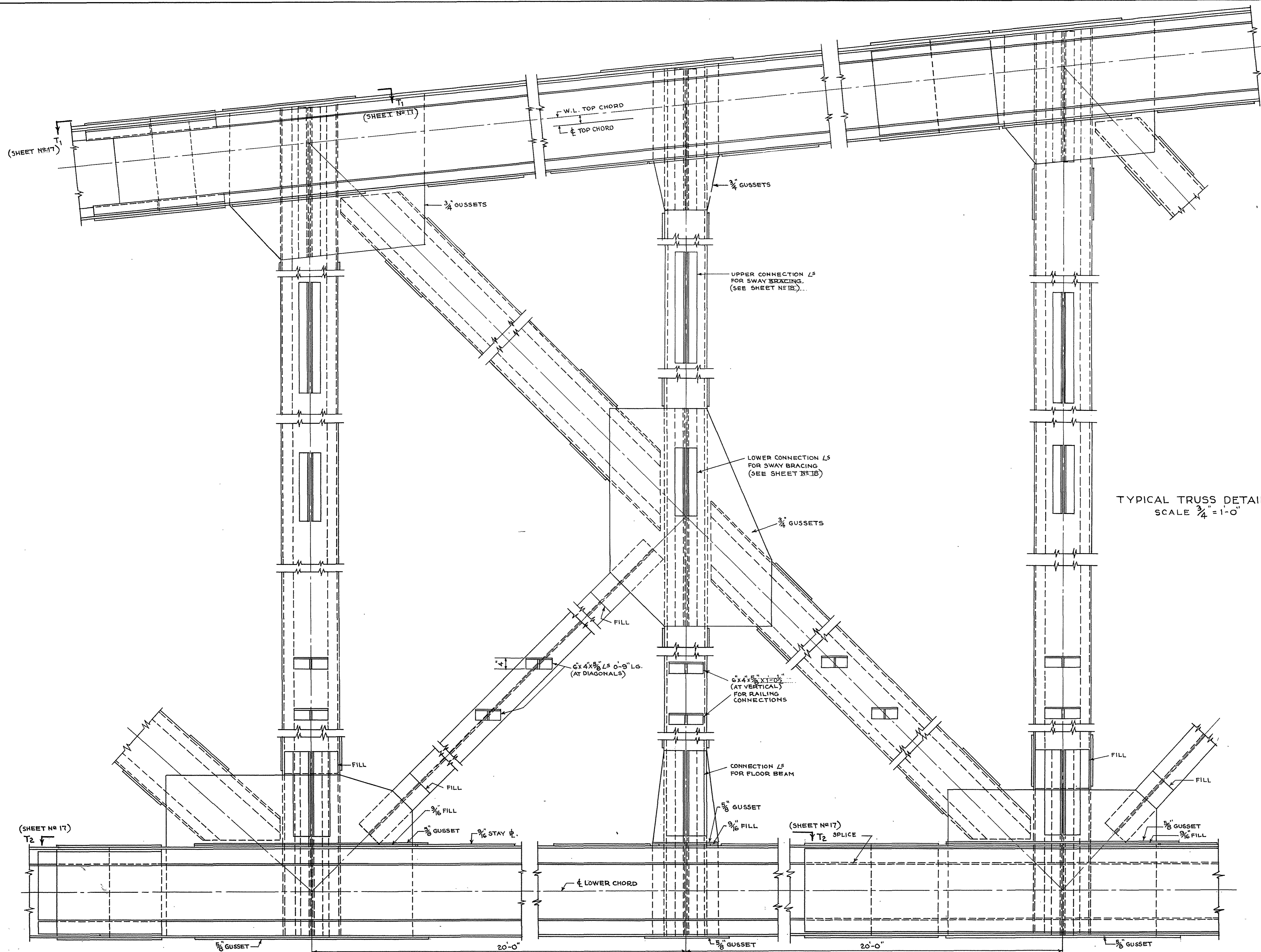
DETAILS OF MANHOLES FOR SNOW REMOVAL
SCALE $\frac{3}{4}'' = 1'-0''$
FOR APPROXIMATE LOCATIONS SEE PLAN, SHEET NO 1



C.I. JUNCTION BOX WITH C.I. COVER, WATERPROOF GASKET, AND NON-FERROUS SCREWS. MINIMUM THICKNESS OF METAL TO BE 1/4". FOR LOCATION SEE STEEL LAYOUT SHEET NO 17

SPAN NO 3
CROSS SECTION OF
SUPERSTRUCTURE
MANHOLES & SCUPPERS

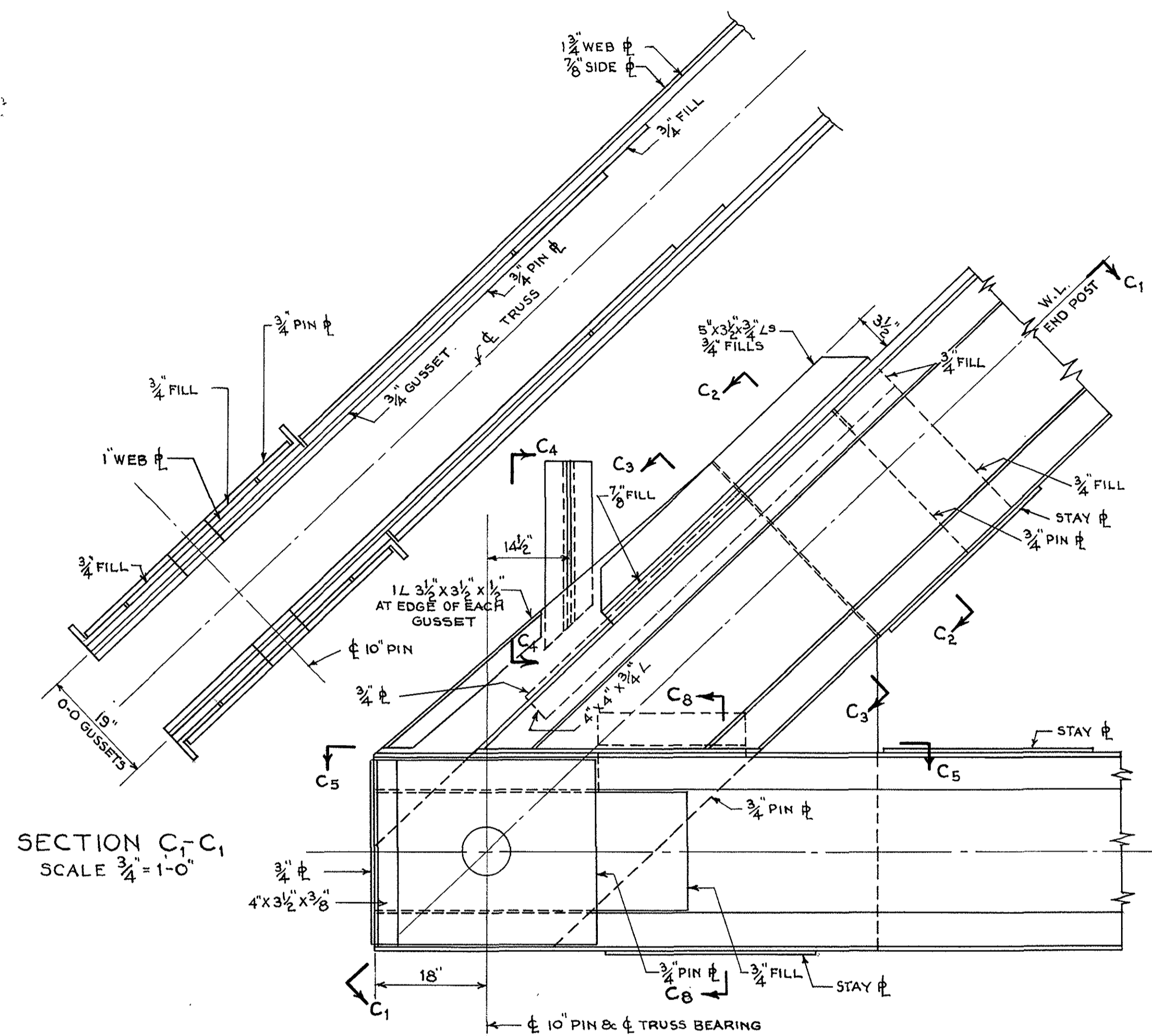
6-25-47	CONSTRUCTION
5-23-47	ADVERTISING
DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE	



TYPICAL TRUSS DETAILS
SCALE 3/4" = 1'-0"

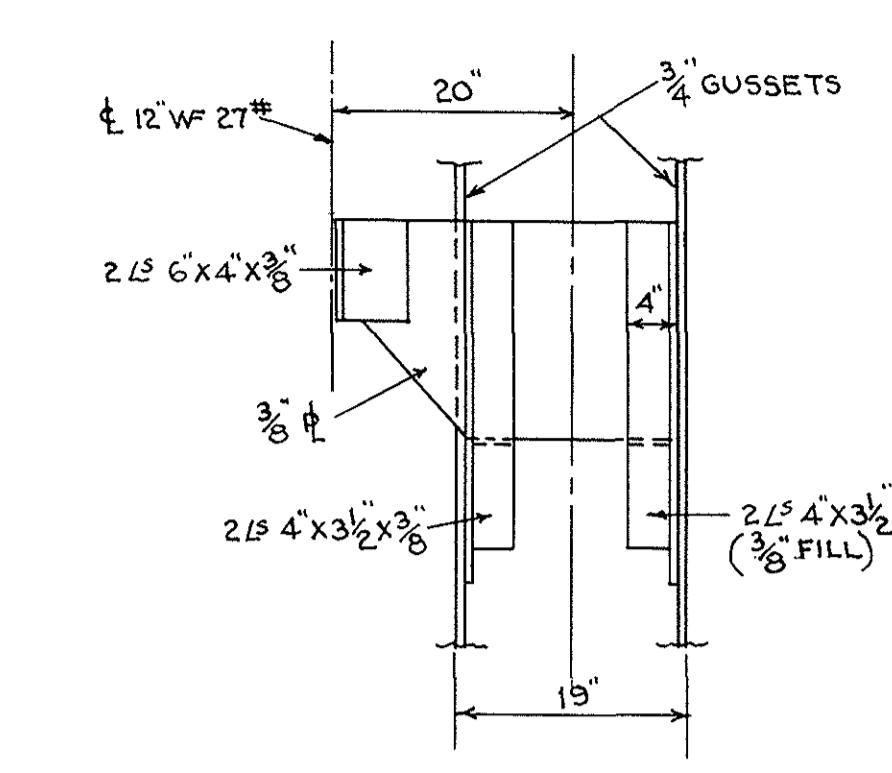
SPAN N° 3
TYPICAL DETAILS OF
TRUSSES

6-25-47	CONSTRUCTION
5-24-47	ADVERTISING
DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE	

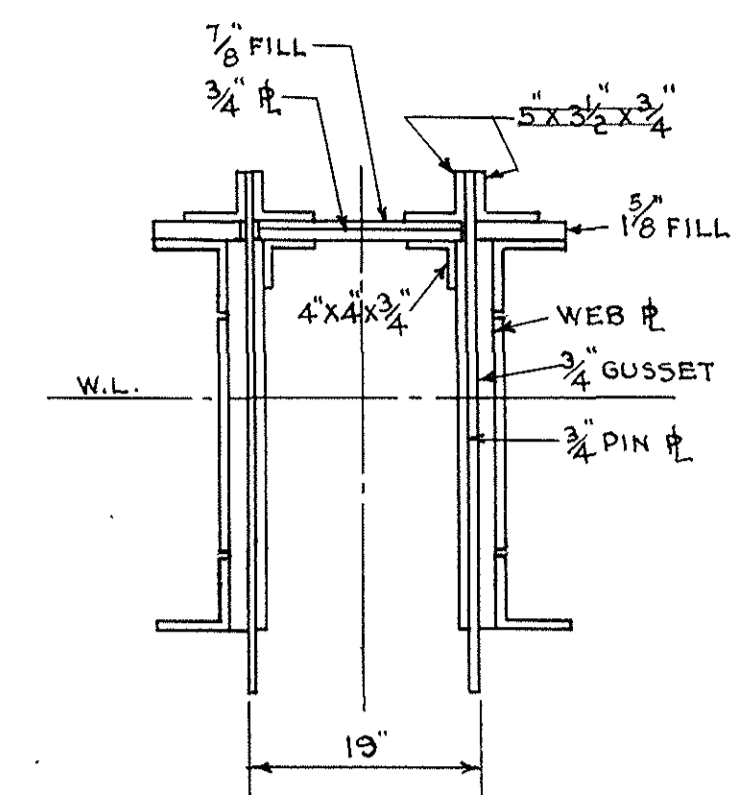


SECTION C₁-C₁
SCALE 3/4" = 1'-0"

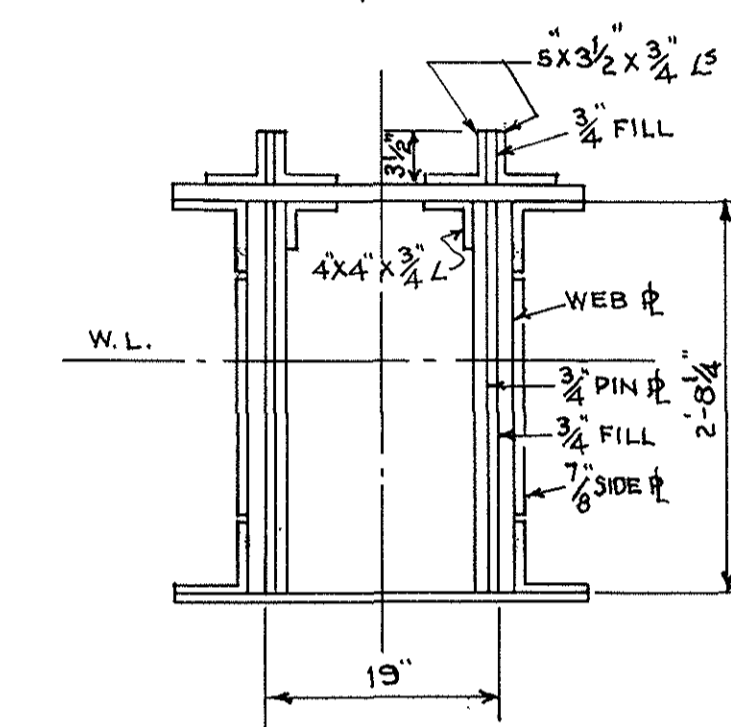
OUTSIDE ELEVATION AT WESTERLY END OF
SIDEWALK TRUSS & EASTERLY END OF ROADWAY TRUSS
SCALE 3/4" = 1'-0"



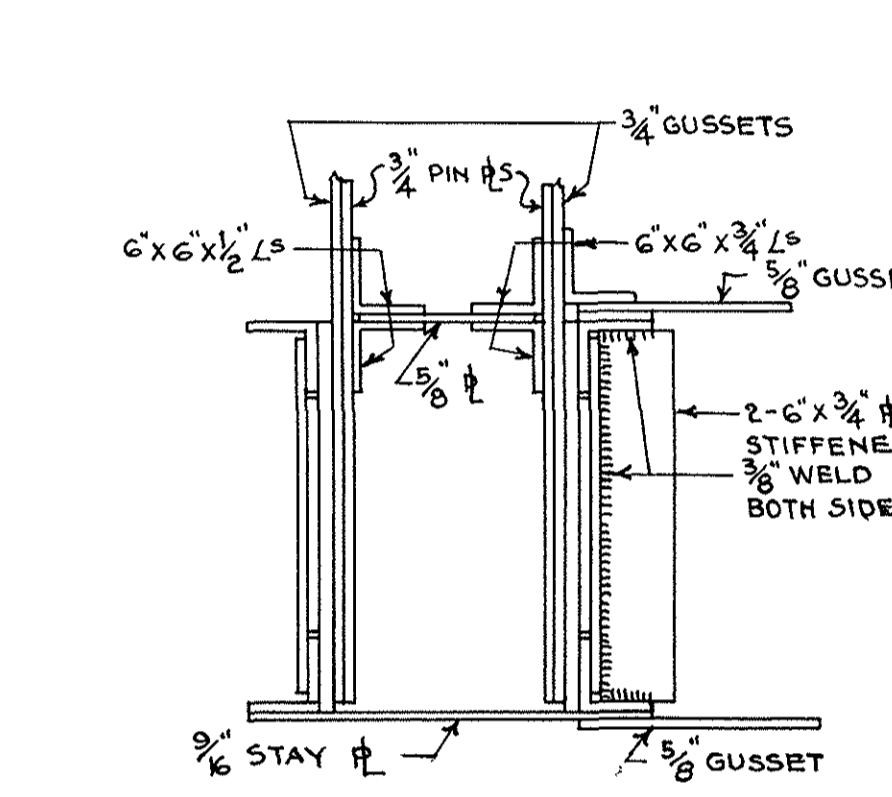
SECTION C₄-C₄
(SIDEWALK TRUSS ONLY)
SCALE 3/4" = 1'-0"



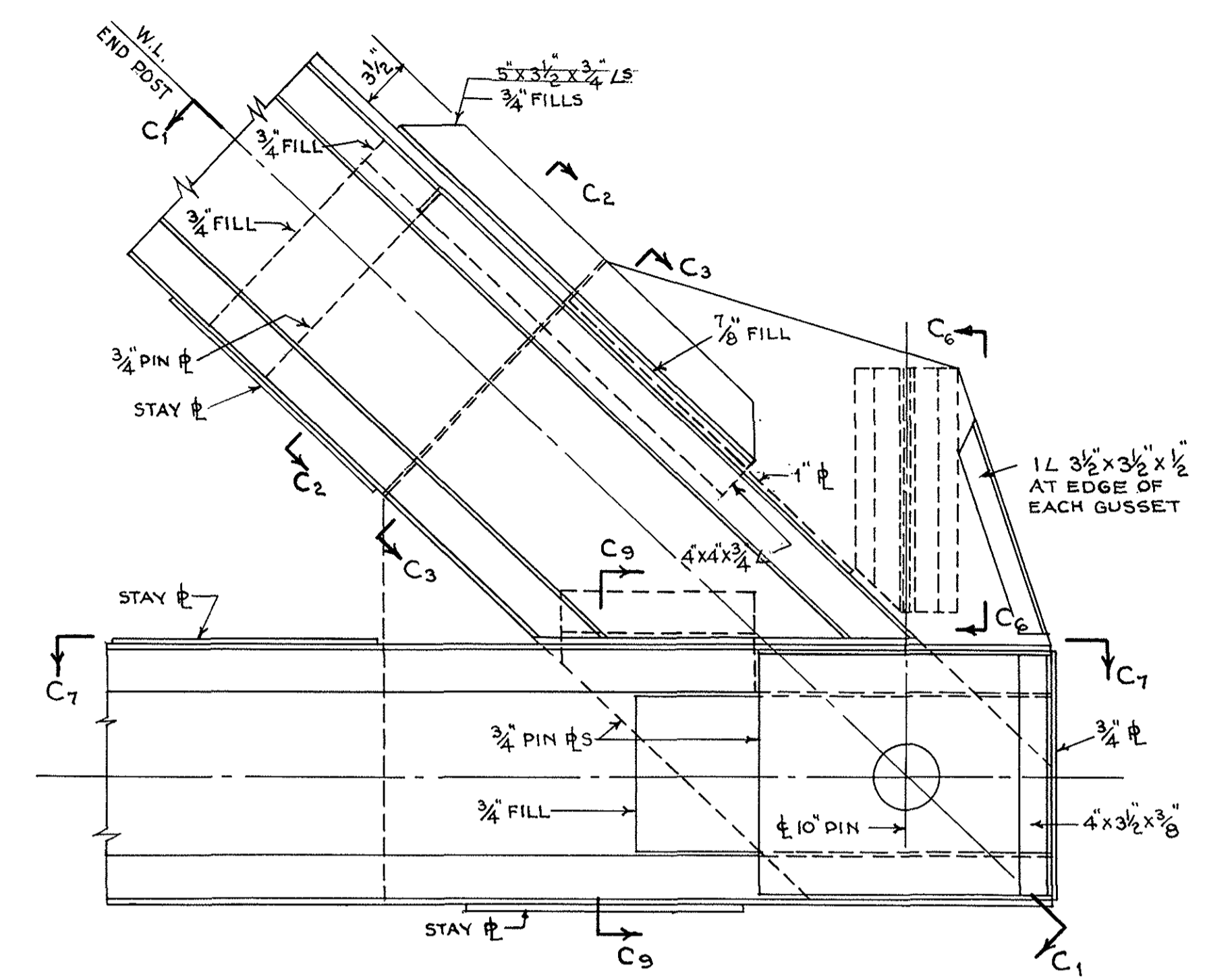
SECTION C₃-C₃
SCALE 3/4" = 1'-0"



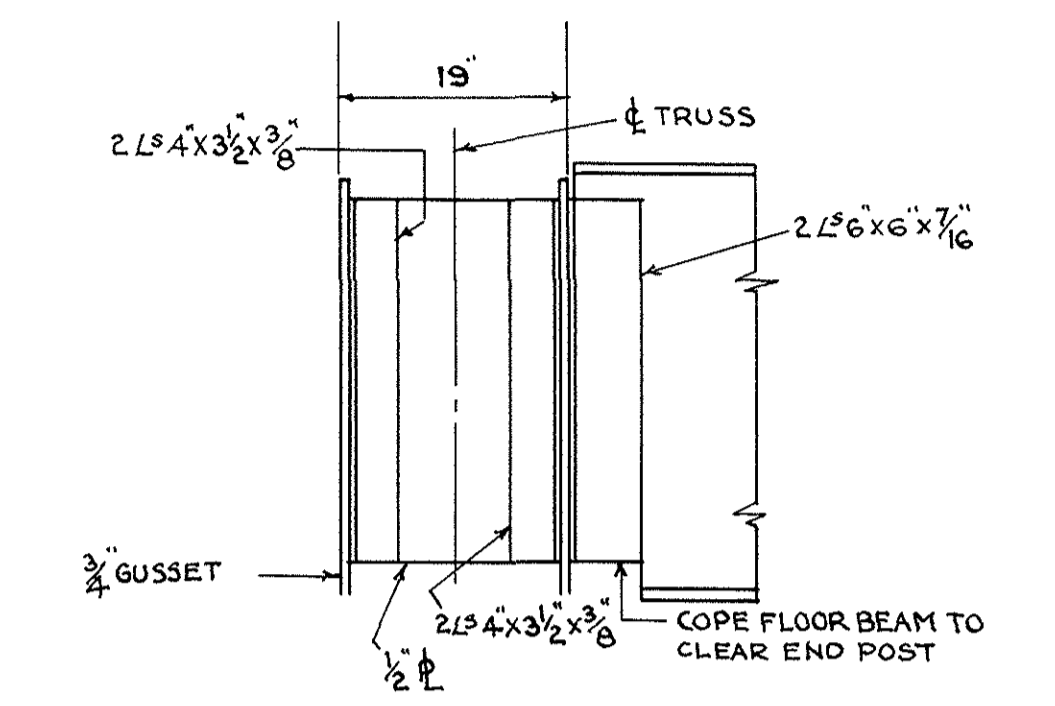
SECTION C₂-C₂
SCALE 3/4" = 1'-0"



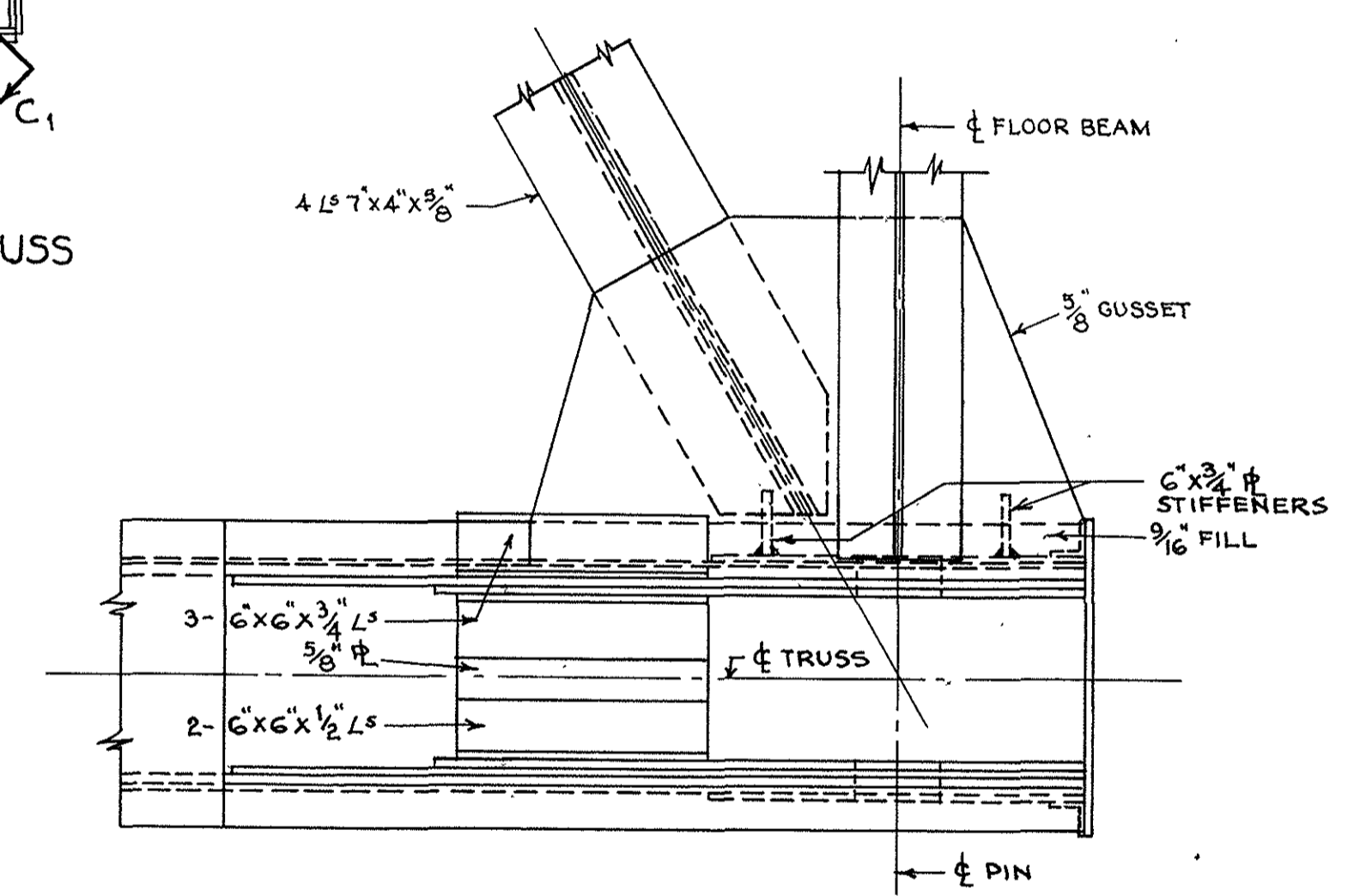
SECTION C₈-C₈ (AS SHOWN)
SECTION C₉-C₉ (OPP HAND)
SCALE 3/4" = 1'-0"



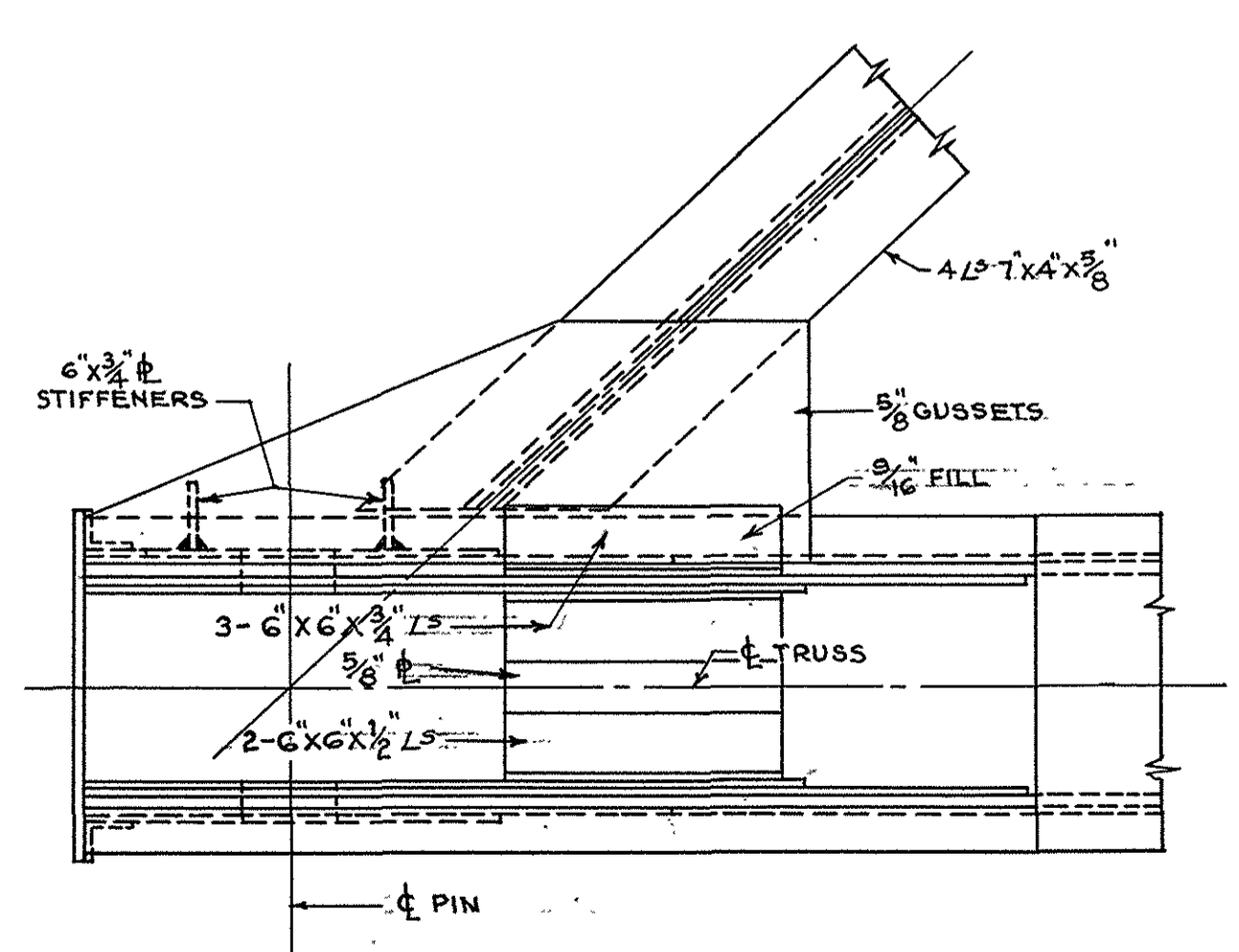
OUTSIDE ELEVATION AT EASTERLY END OF
SIDEWALK TRUSS & WESTERLY END OF ROADWAY TRUSS
SCALE 3/4" = 1'-0"



SECTION C₆-C₆
SCALE 3/4" = 1'-0"



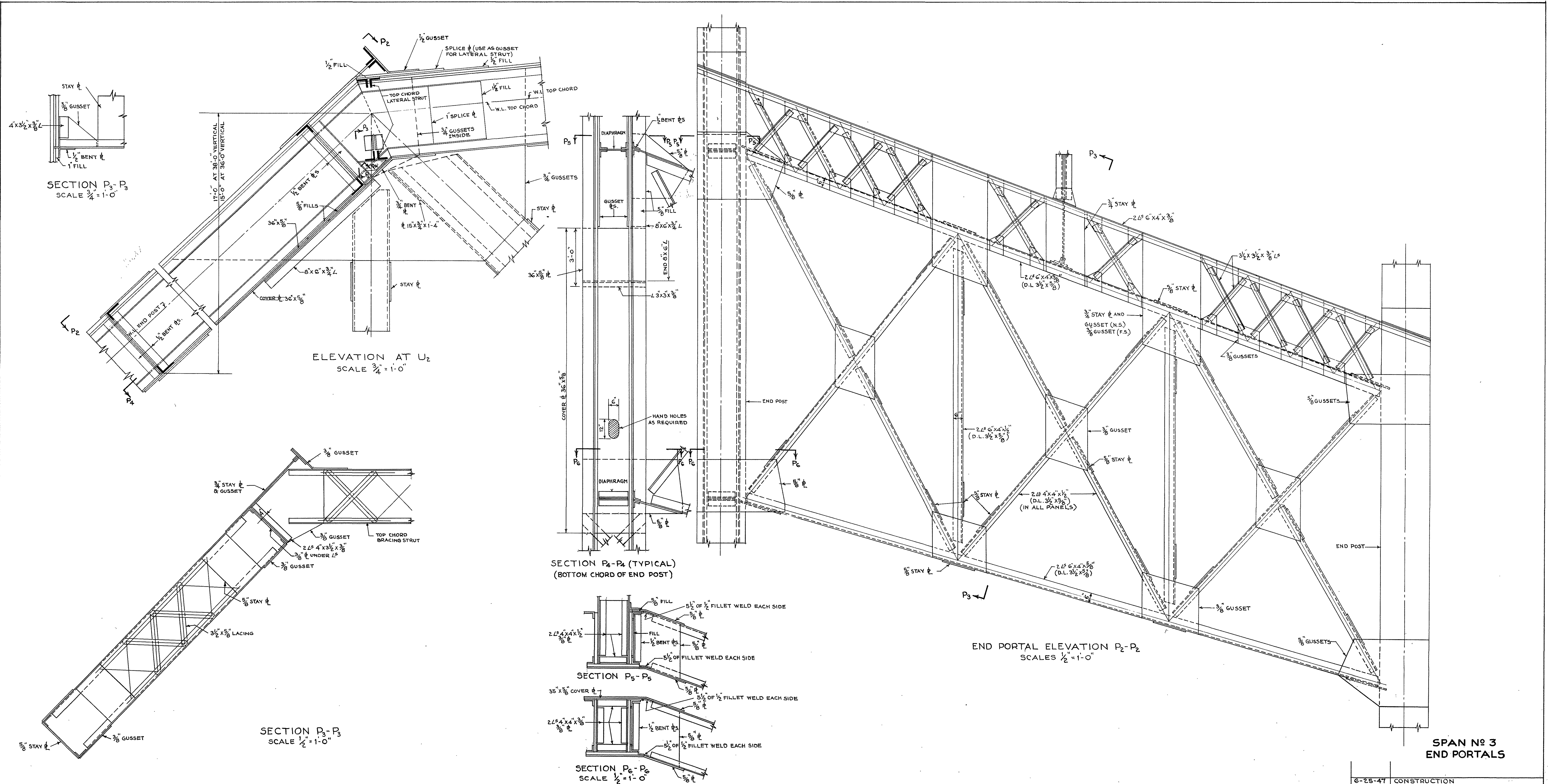
SECTION C₇-C₇
SCALE 3/4" = 1'-0"



SECTION C₅-C₅
SCALE 3/4" = 1'-0"

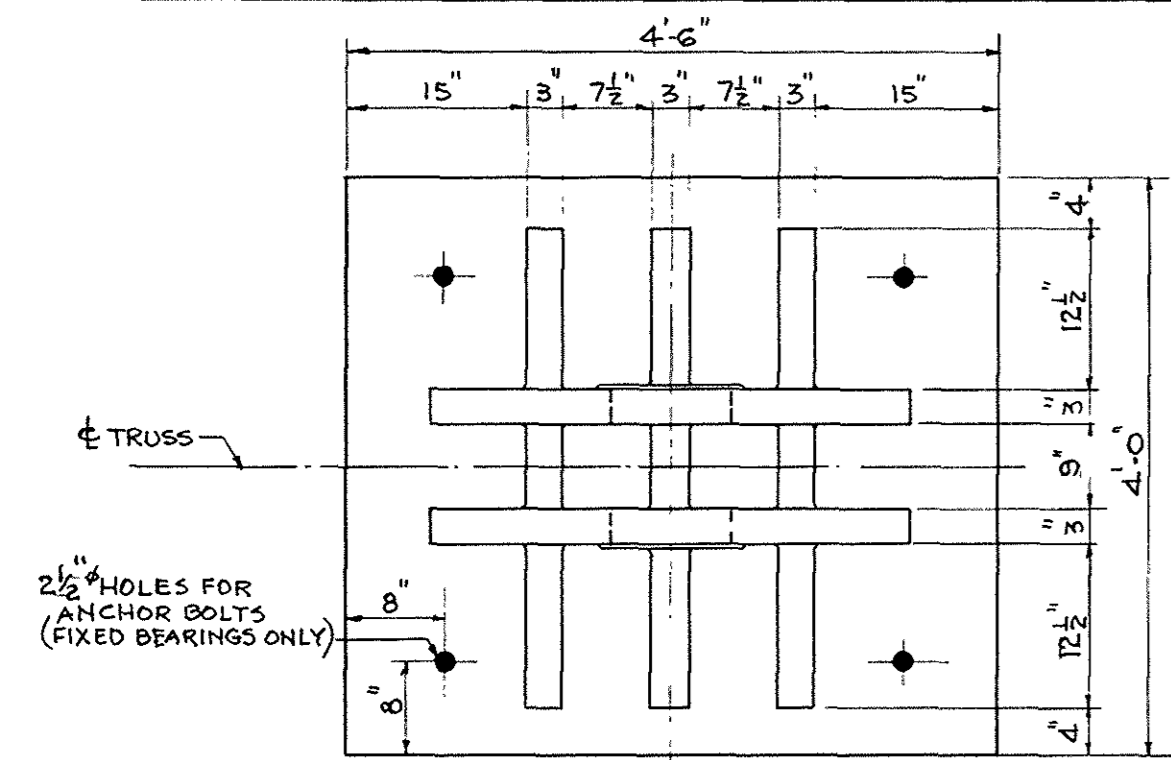
SPAN No 3
TRUSS DETAILS AT PINS

6-25-47	CONSTRUCTION
5-24-47	ADVERTISING
DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE	

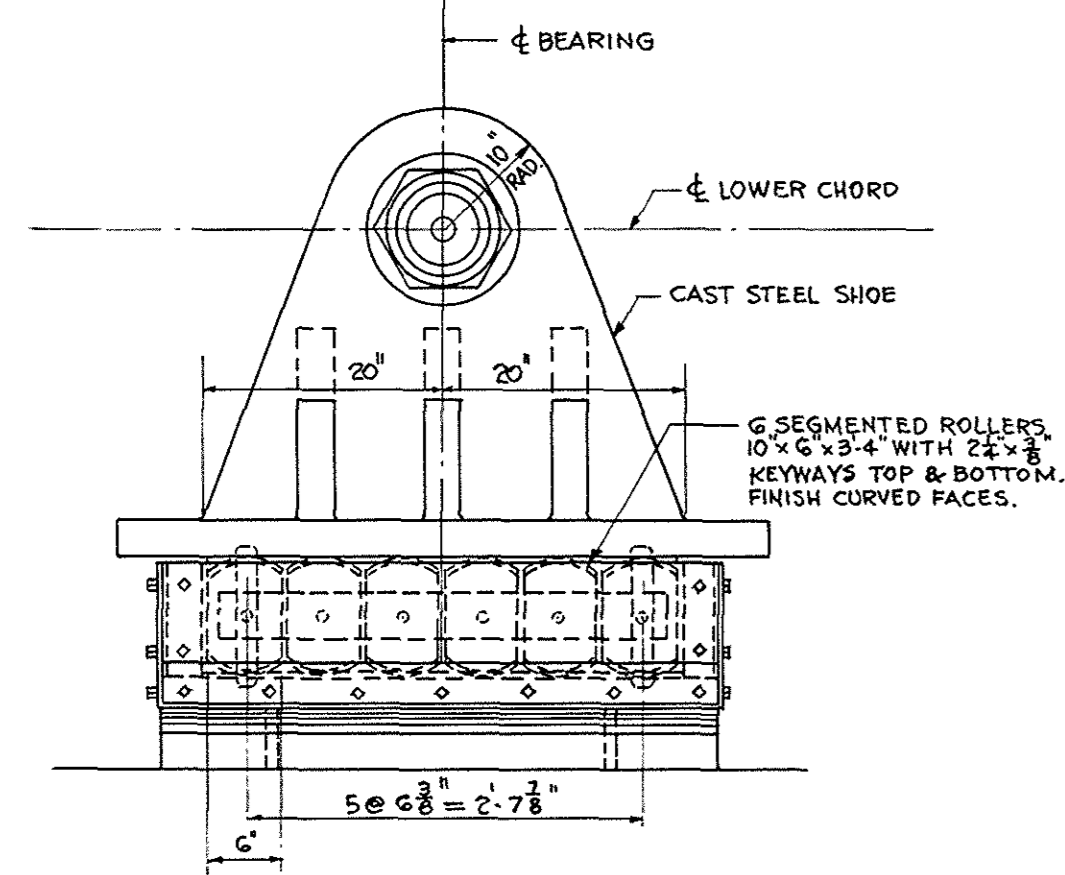


**SPAN No 3
END PORTALS**

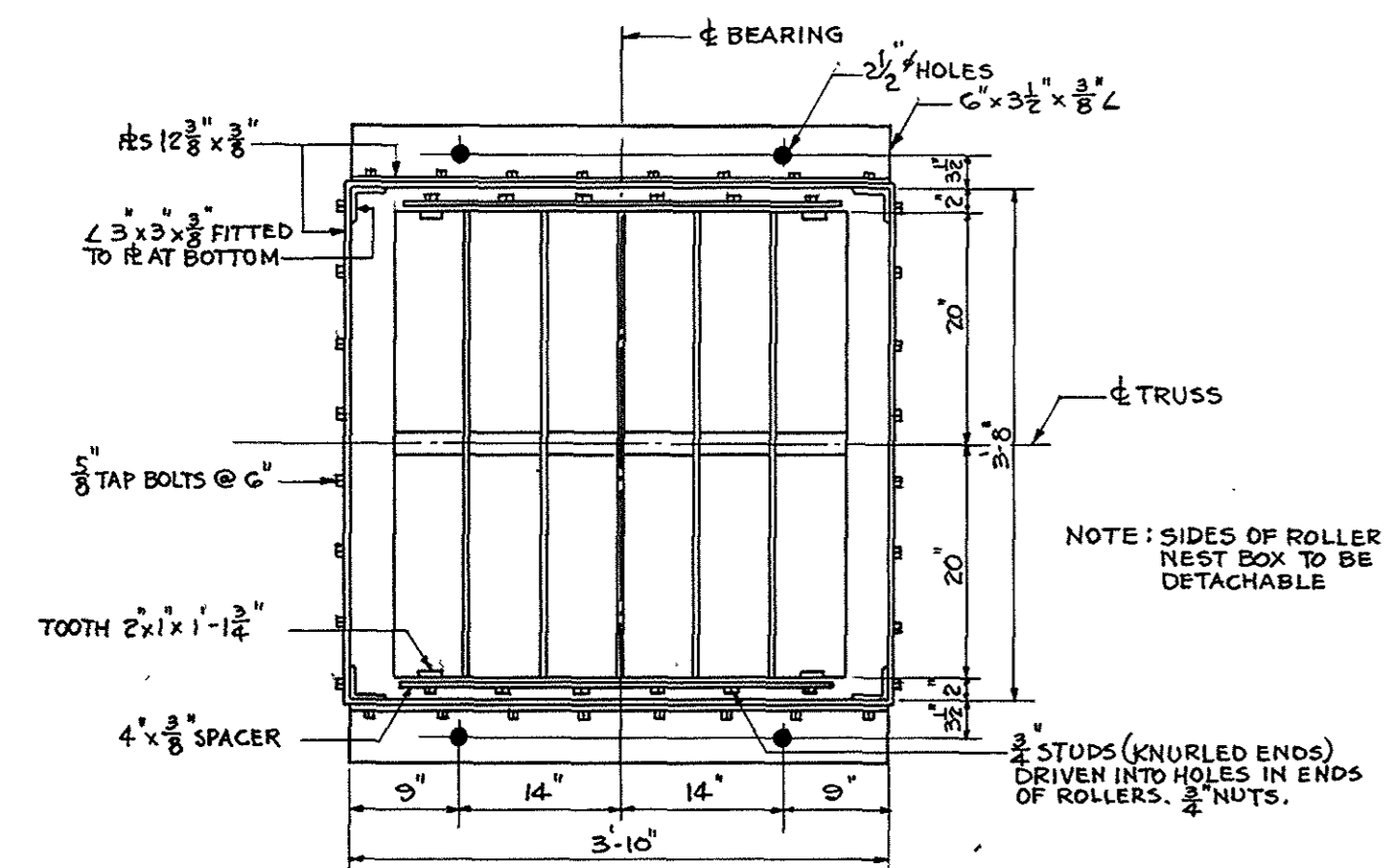
6-25-47	CONSTRUCTION
5-24-47	ADVERTISING
DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE	



PLAN OF SHOE
PIERS NO 2 AND NO 3 - SPAN NO 3



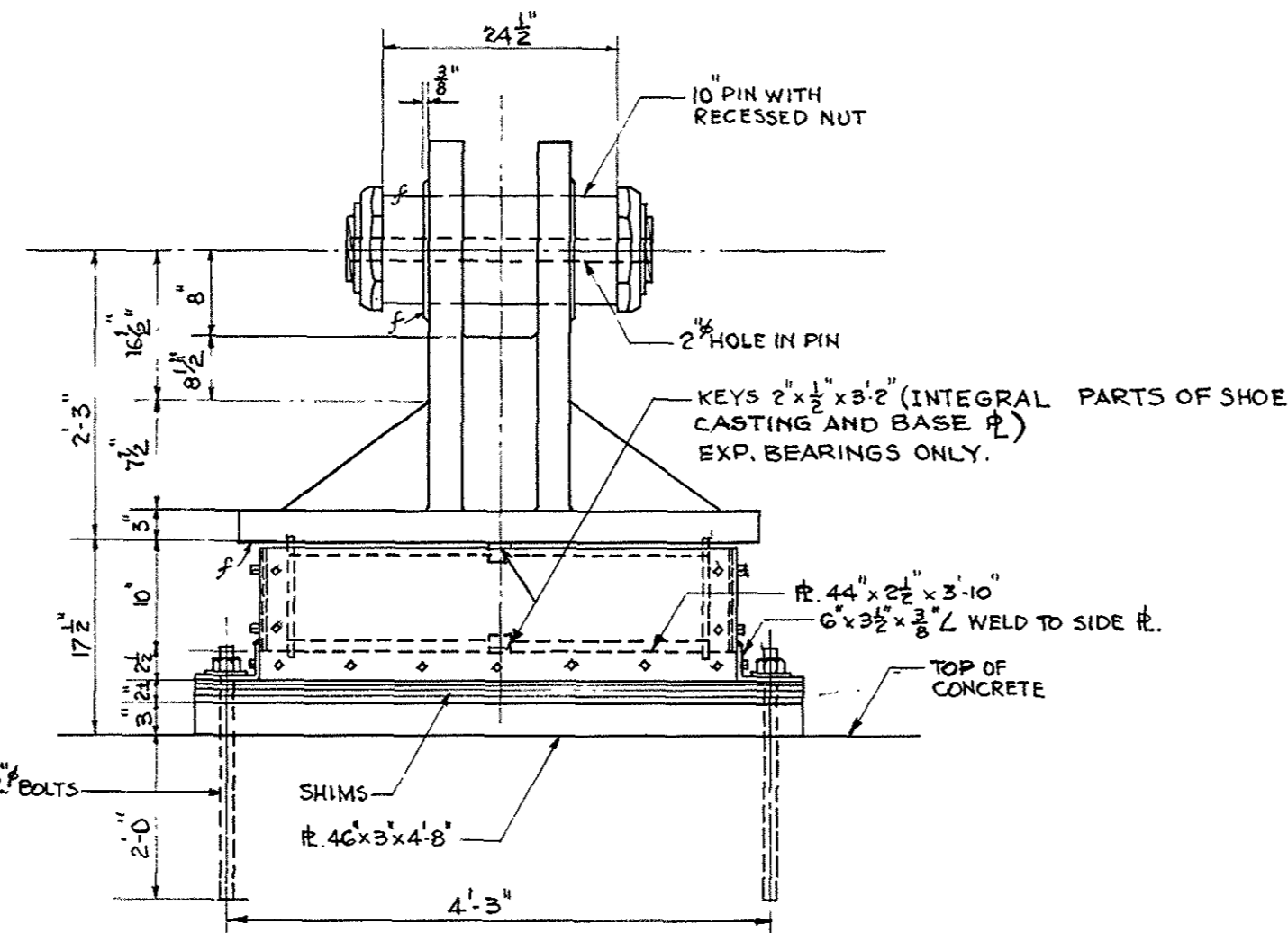
SIDE ELEVATION - EXPANSION BEARING
PIER NO 2 SPAN NO 3



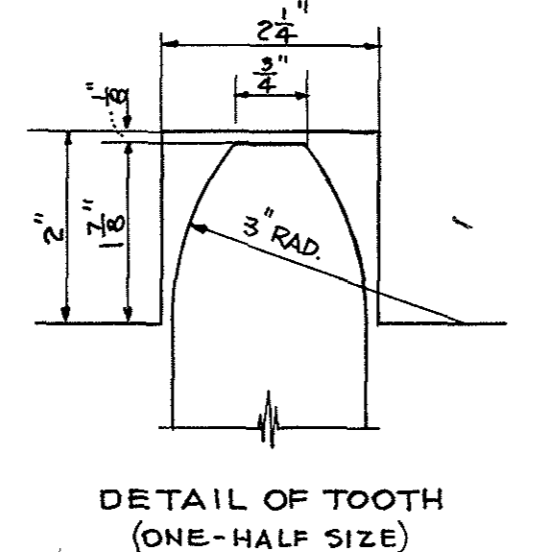
PLAN OF ROLLER NEST
PIER NO 2 - SPAN NO 3

DETAILS OF BEARINGS
SCALE 3/4" = 1'-0"
(EXCEPT AS NOTED)

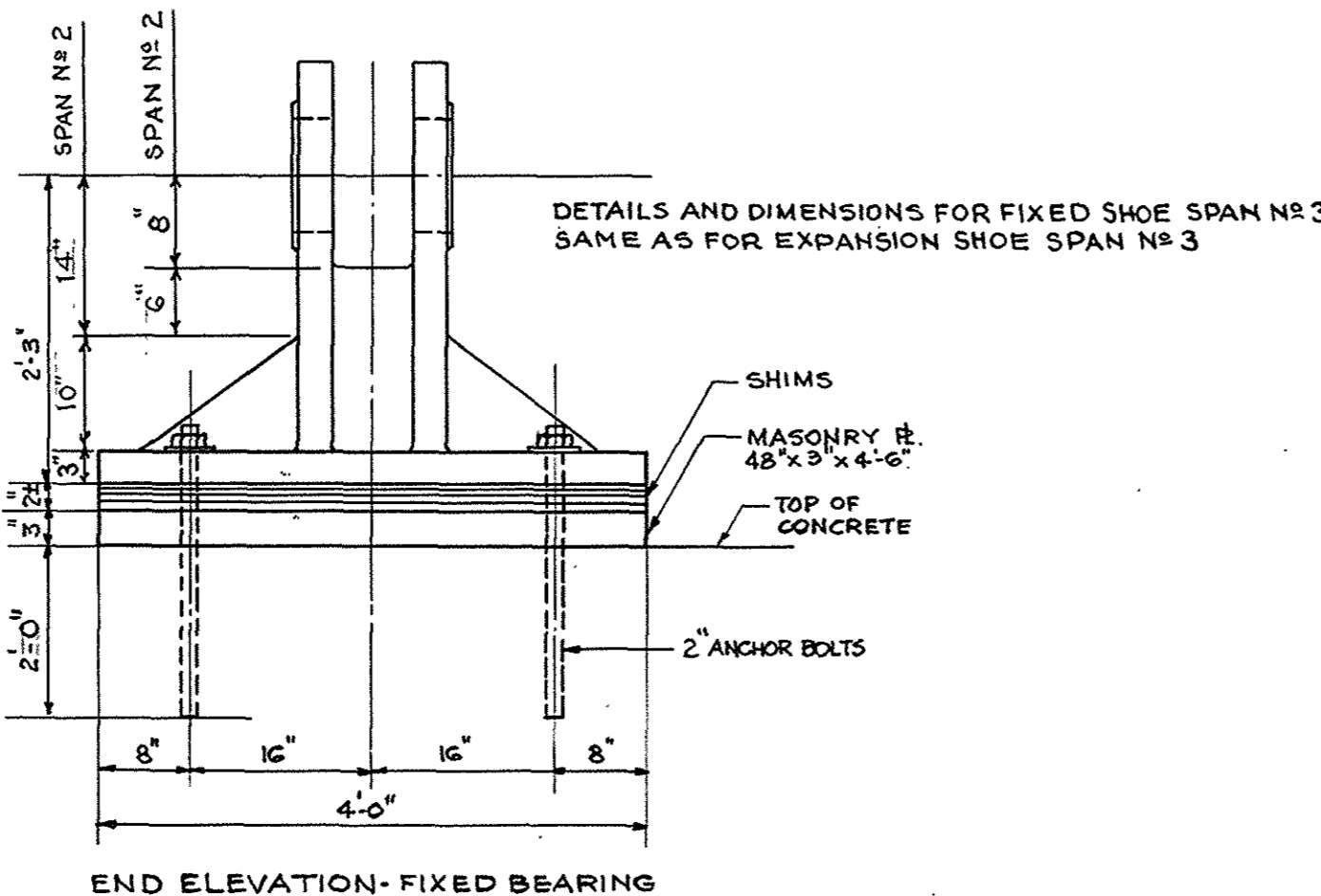
NOTES
ALL CONTACTING SURFACES OF GREASE BOXES ENCLOSING ROLLER NESTS SHALL BE WATERTIGHT AND SHALL BE PAINTED WITH RED LEAD BEFORE ASSEMBLING.
BOXES TO BE FILLED WITH GREASE AFTER ERECTION OF THE BRIDGE.
ROLLERS TO BE CENTERED AT 50°F.
TOP OF CONCRETE UNDER MASONRY RS TO BE BUSH HAMMERED TO GRADE AND RED LEAD PASTE AND DUCK APPLIED BEFORE MASONRY RS ARE SET.
POCKETS IN SHOES TO BE FILLED WITH CONCRETE.



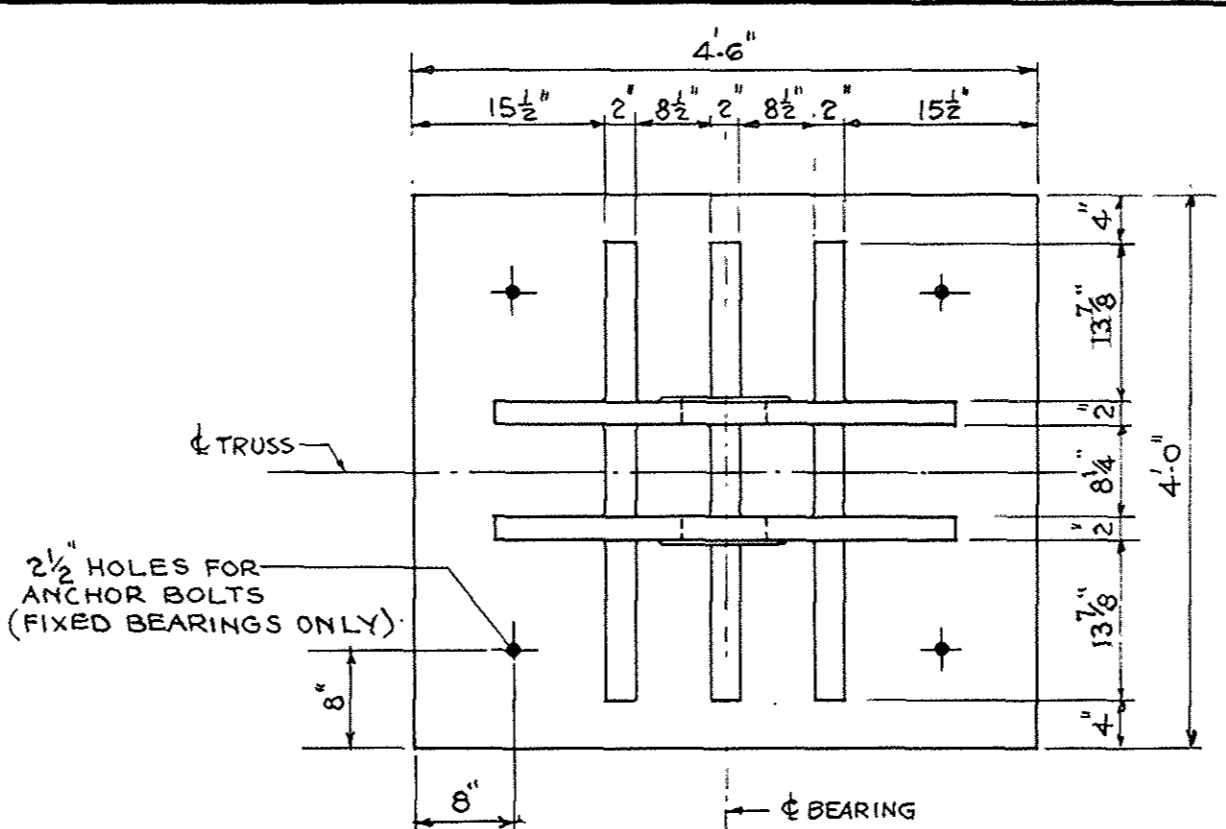
END ELEVATION - EXPANSION BEARING
PIER NO 2 - SPAN NO 3



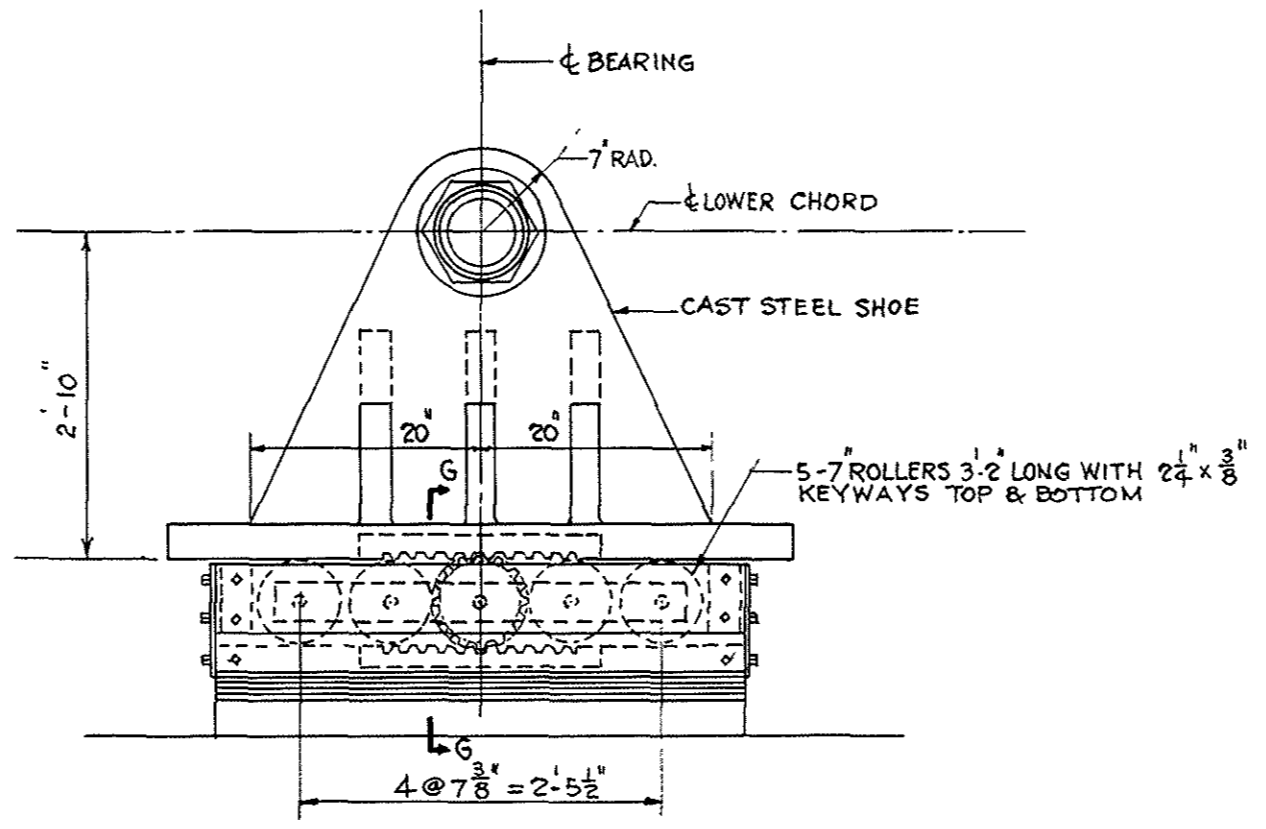
DETAIL OF TOOTH
(ONE-HALF SIZE)



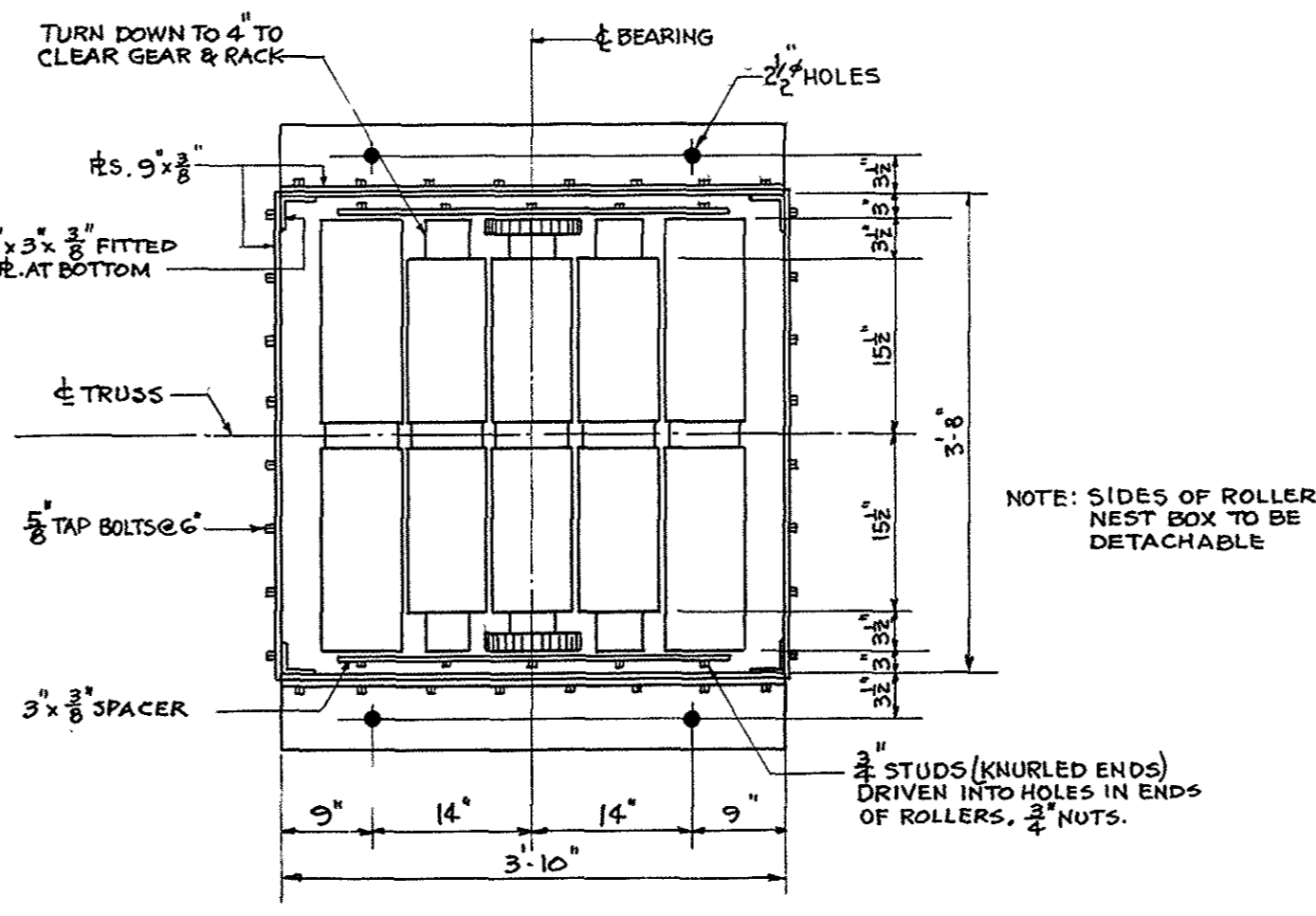
END ELEVATION - FIXED BEARING



PLAN OF SHOE
PIERS NO 1 AND NO 2 - SPAN NO 2

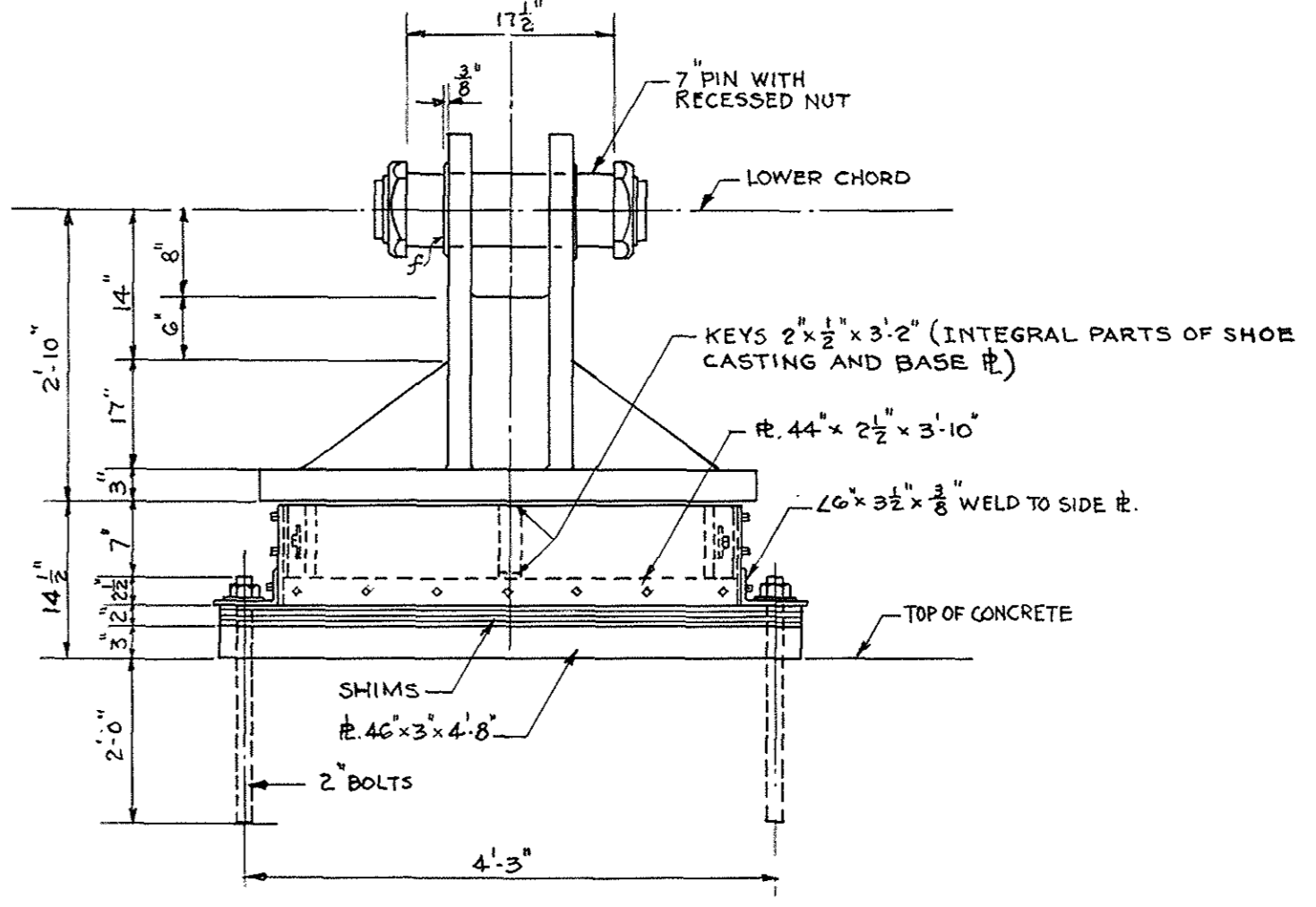


SIDE ELEVATION
PIER NO 2 - SPAN NO 2

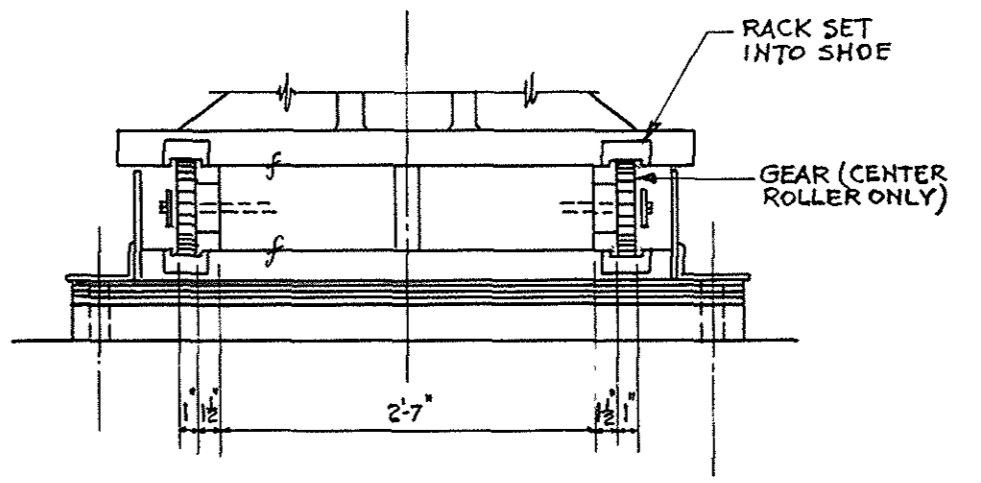


PLAN OF ROLLER NEST
PIER NO 2 - SPAN NO 2

DETAILS OF BEARINGS
SCALE 3/4" = 1'-0"



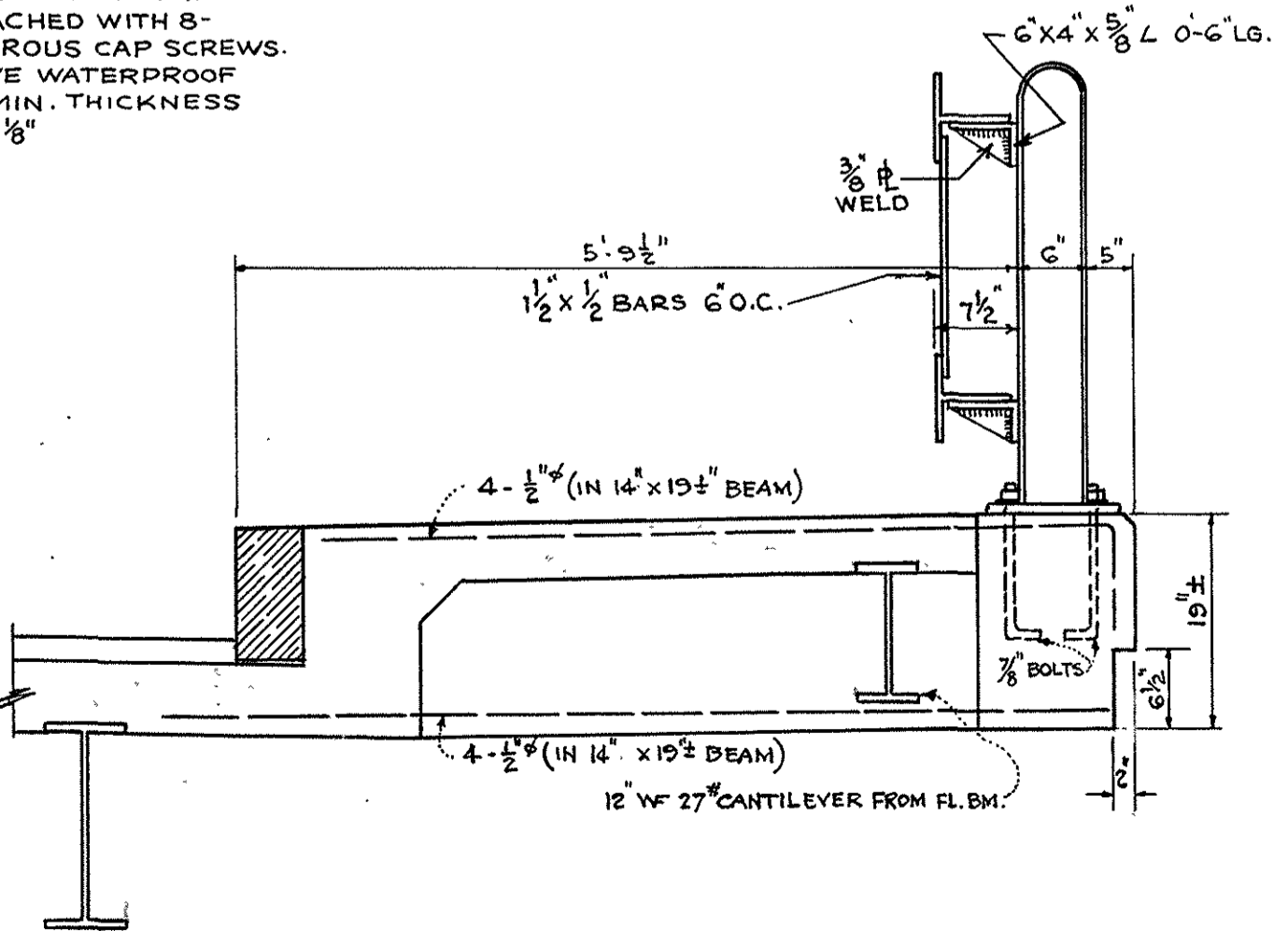
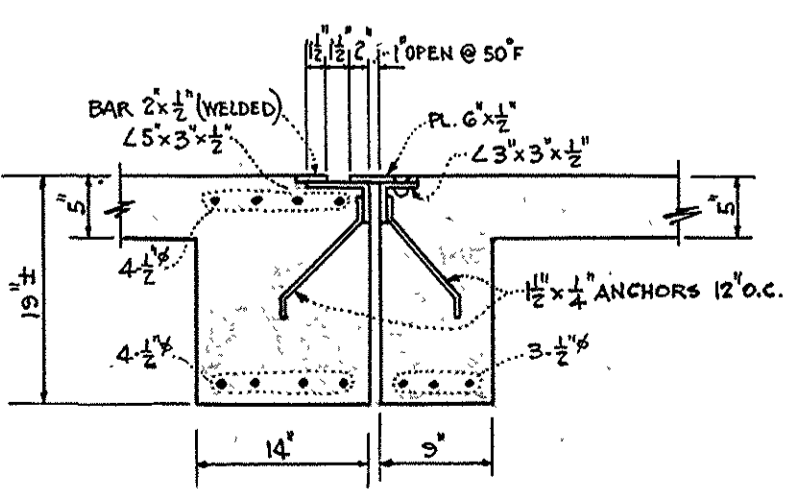
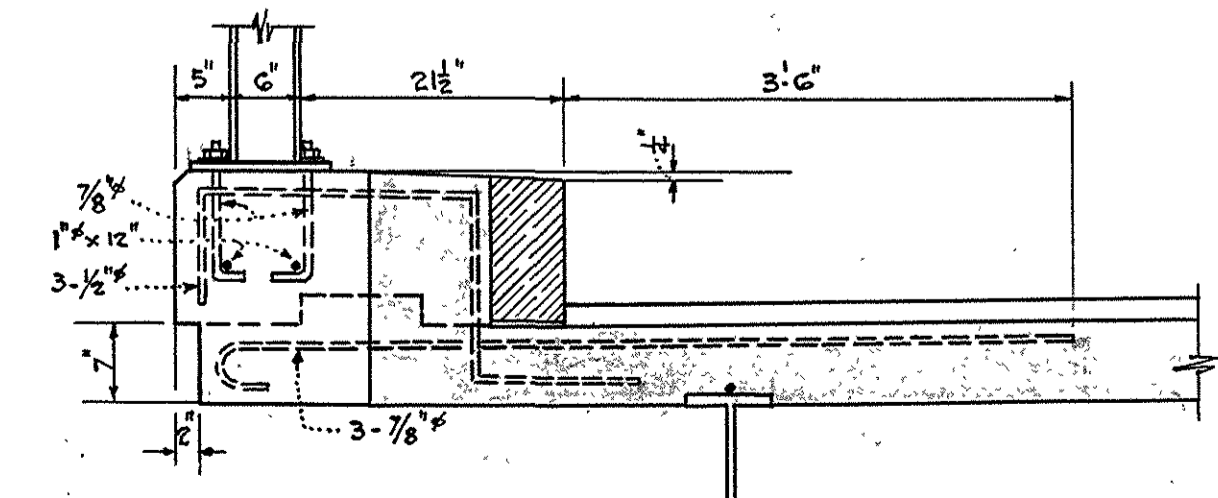
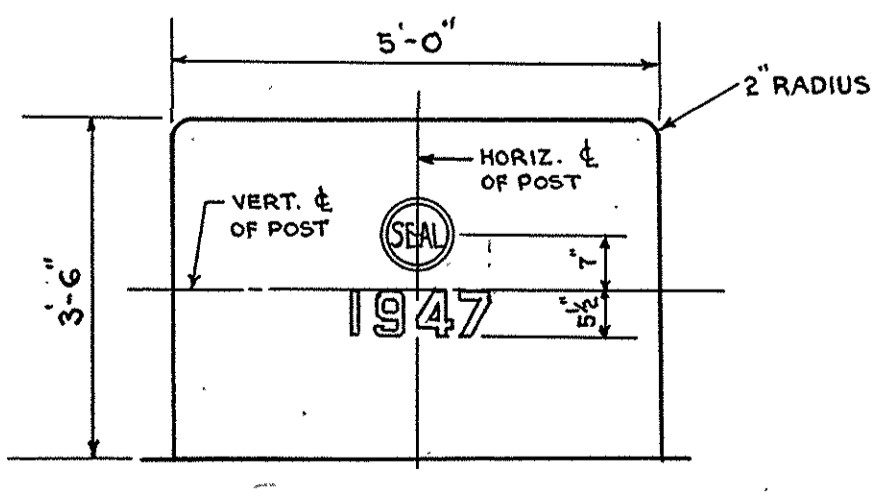
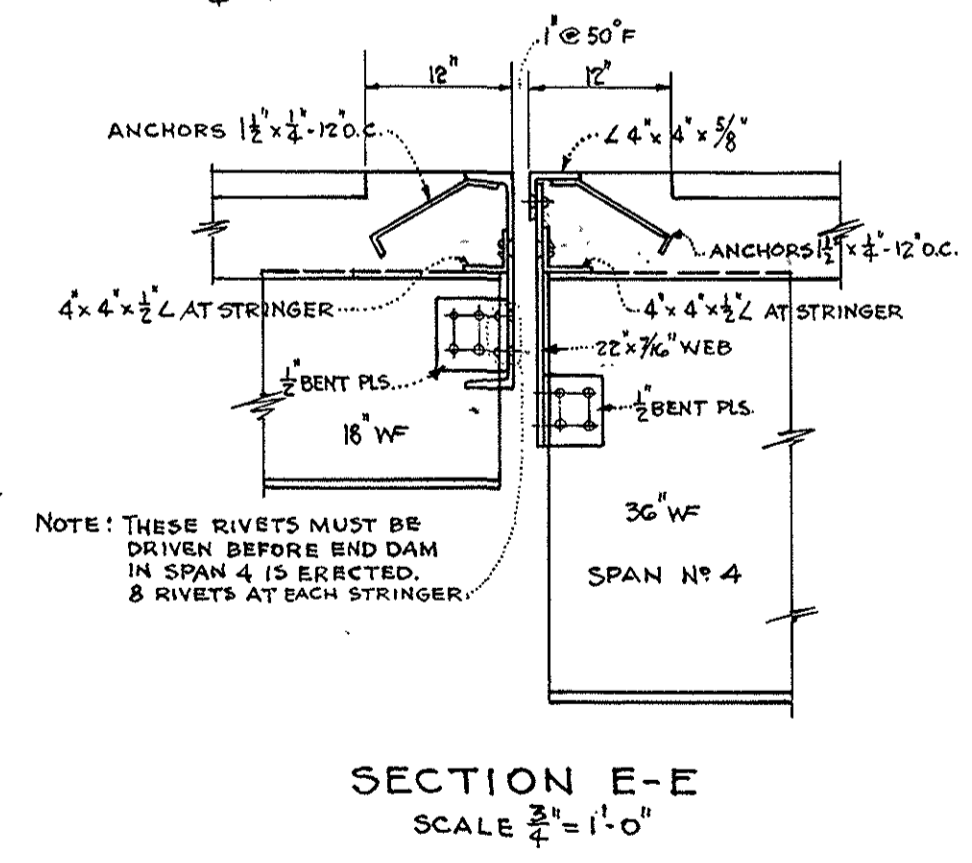
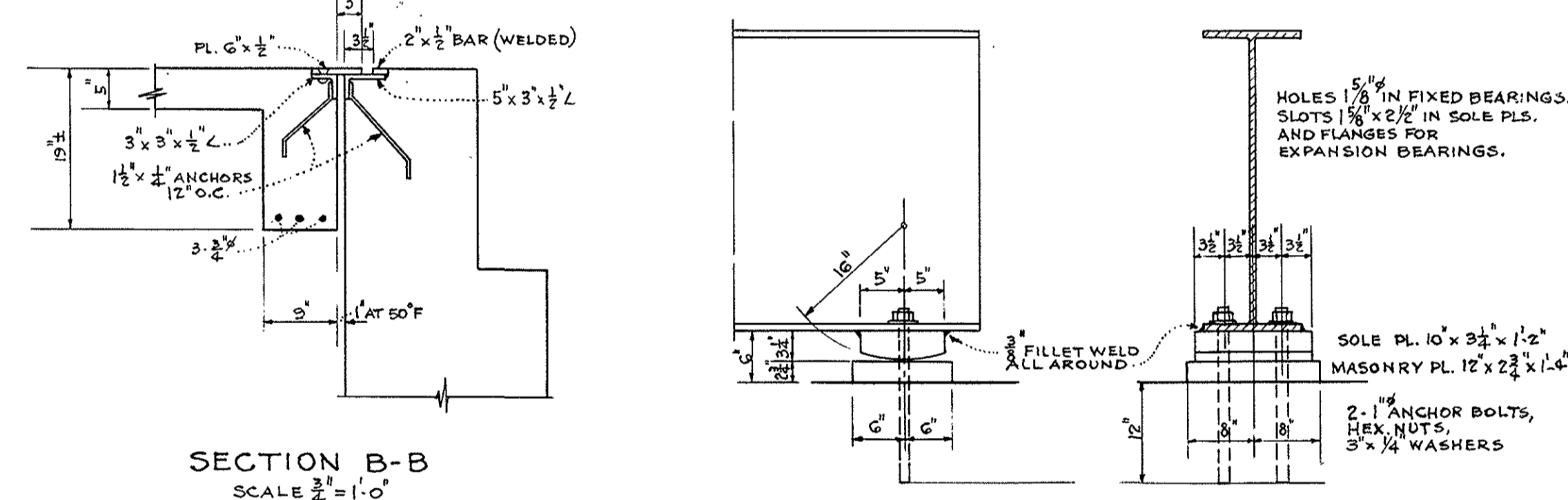
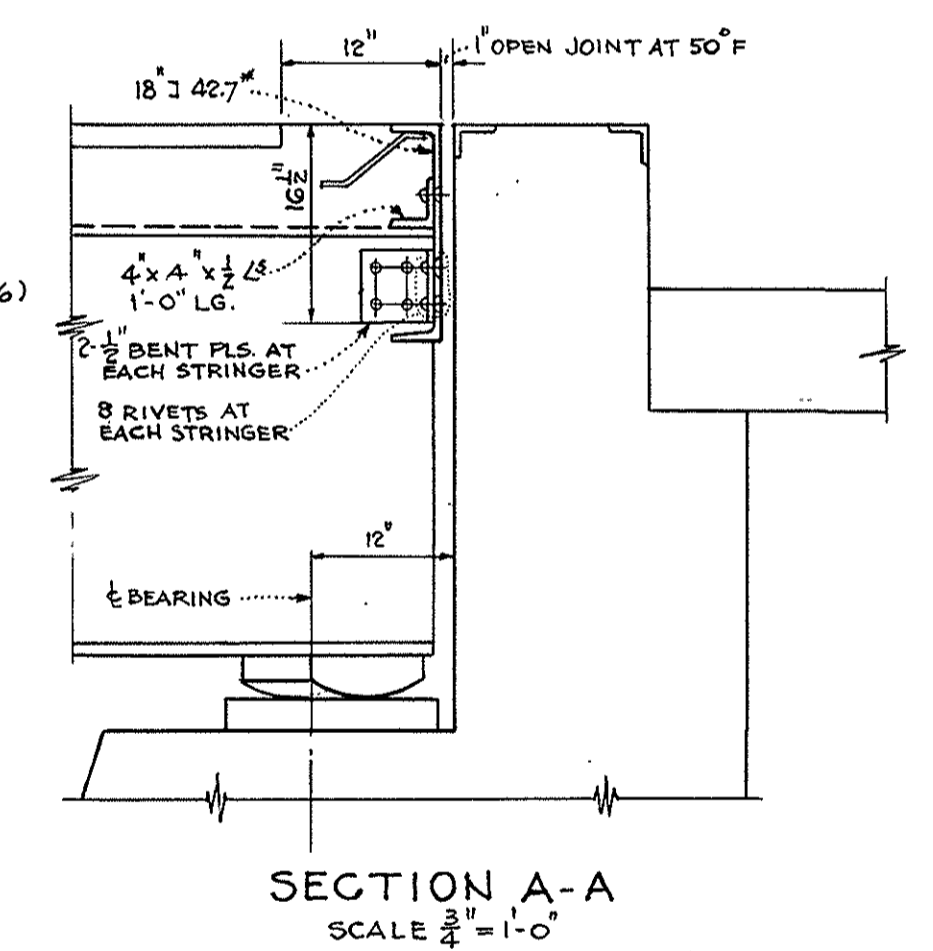
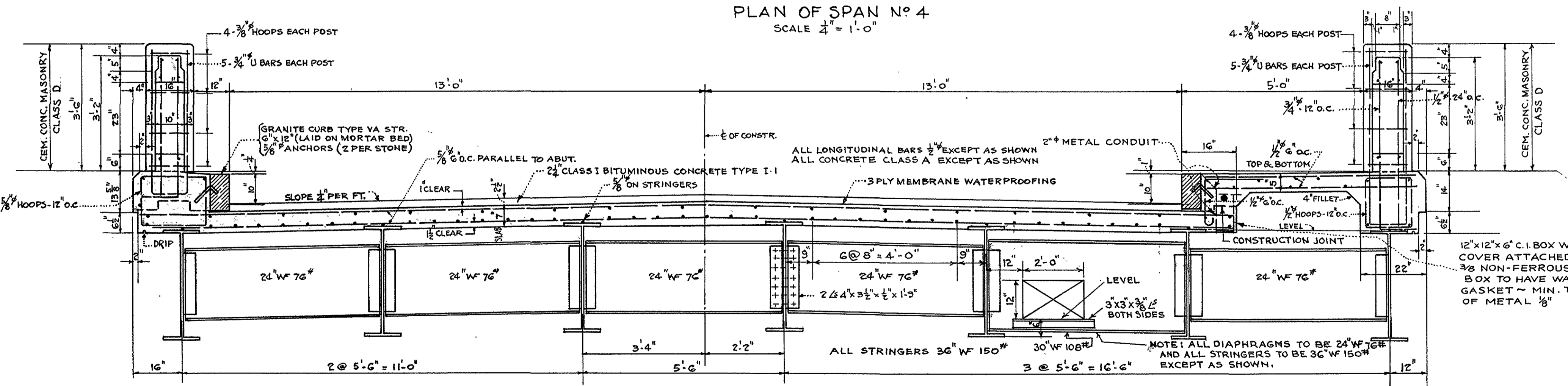
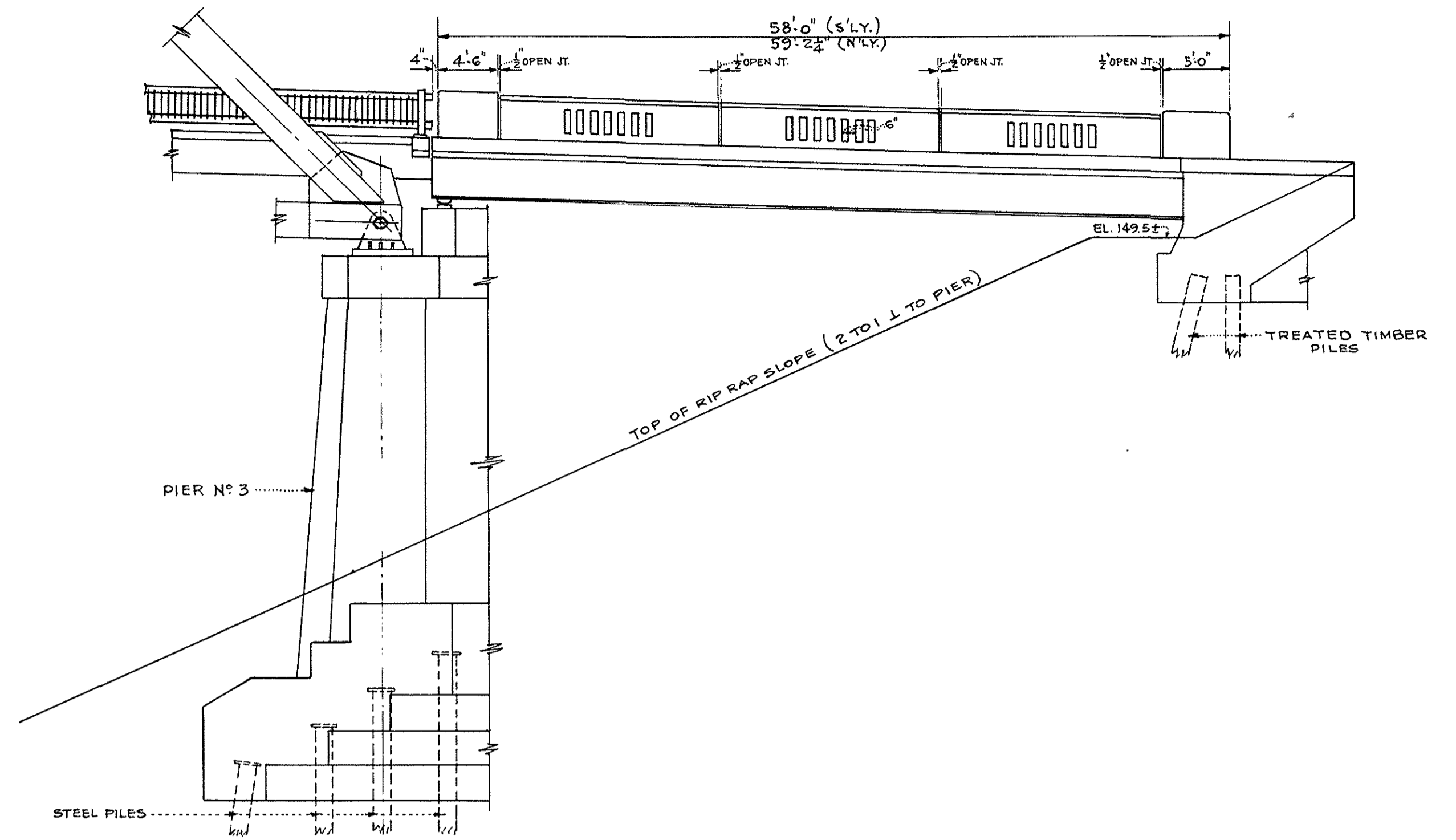
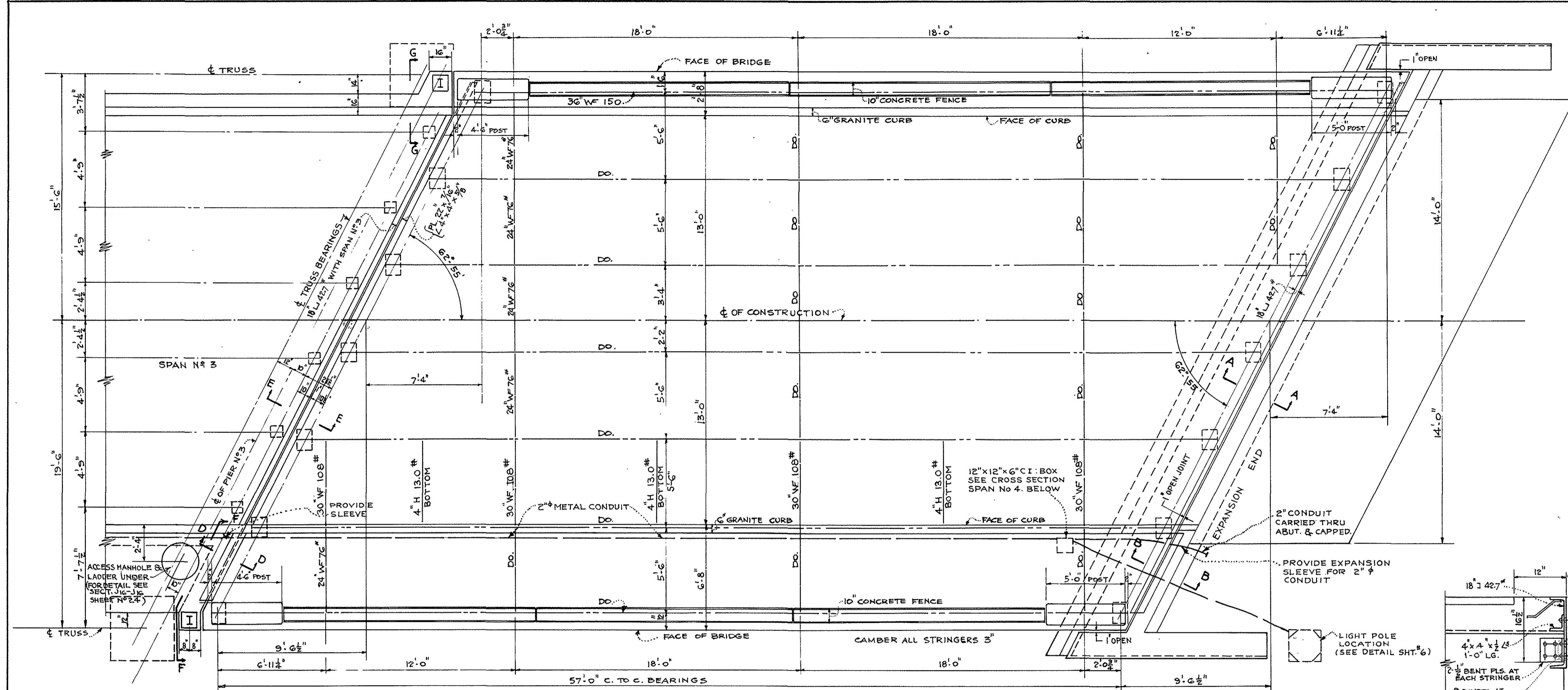
END ELEVATION
PIER NO 2 - SPAN NO 2



SECTION G-G

SPANS NO 2 & 3
TRUSS SHOES-ROLLERS ETC.

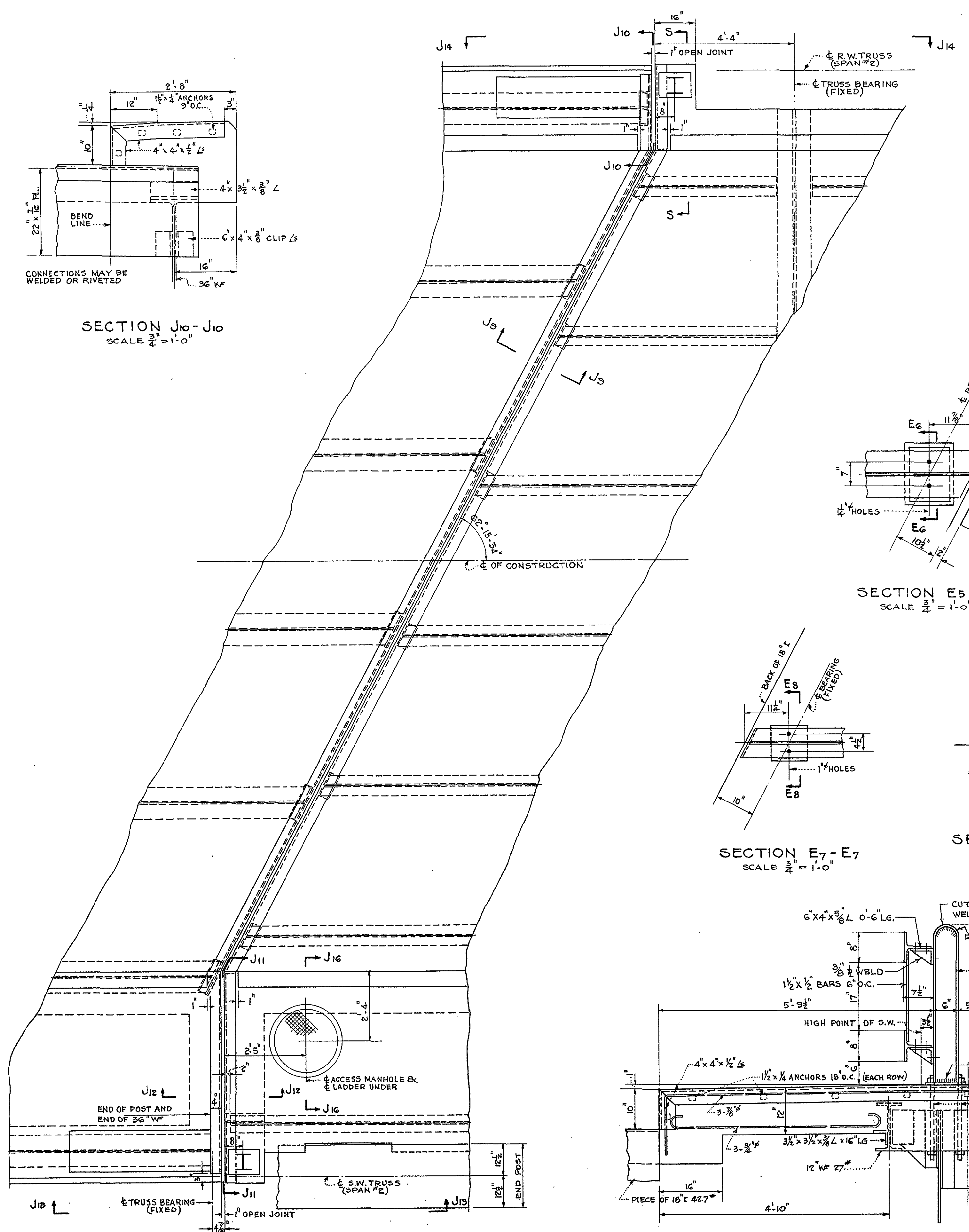
6-25-47	CONSTRUCTION
5-24-47	ADVERTISING
DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE	



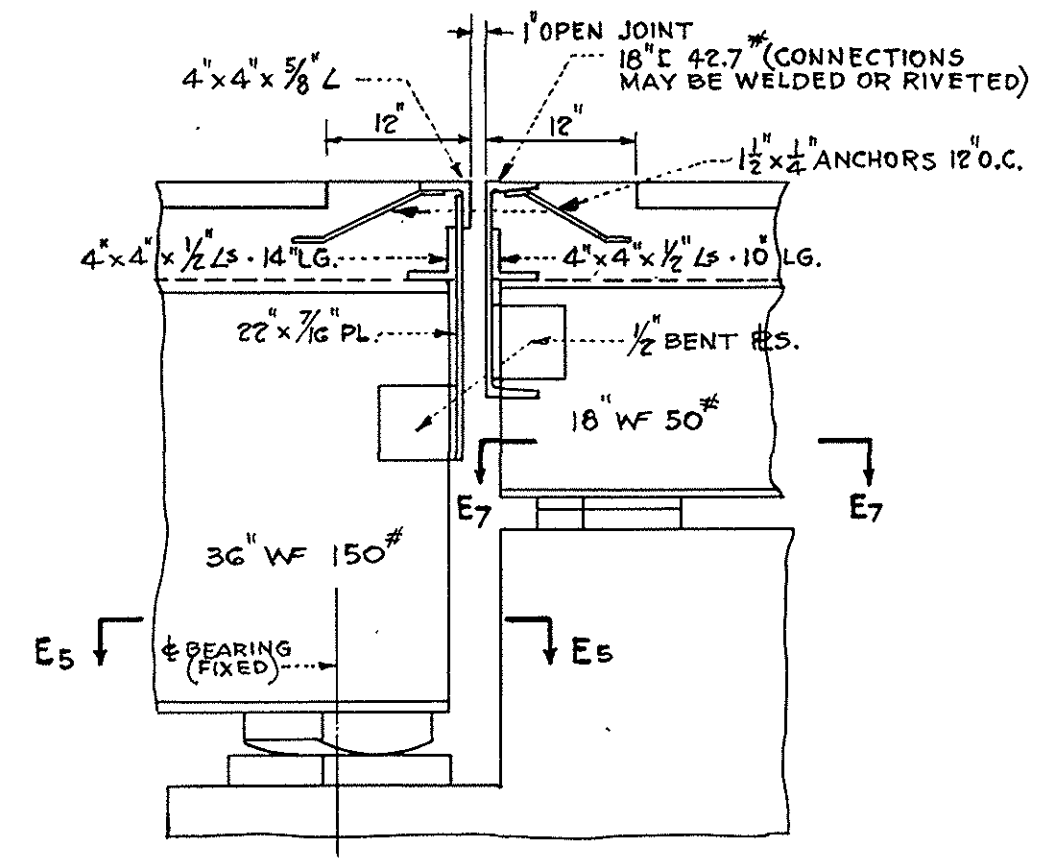
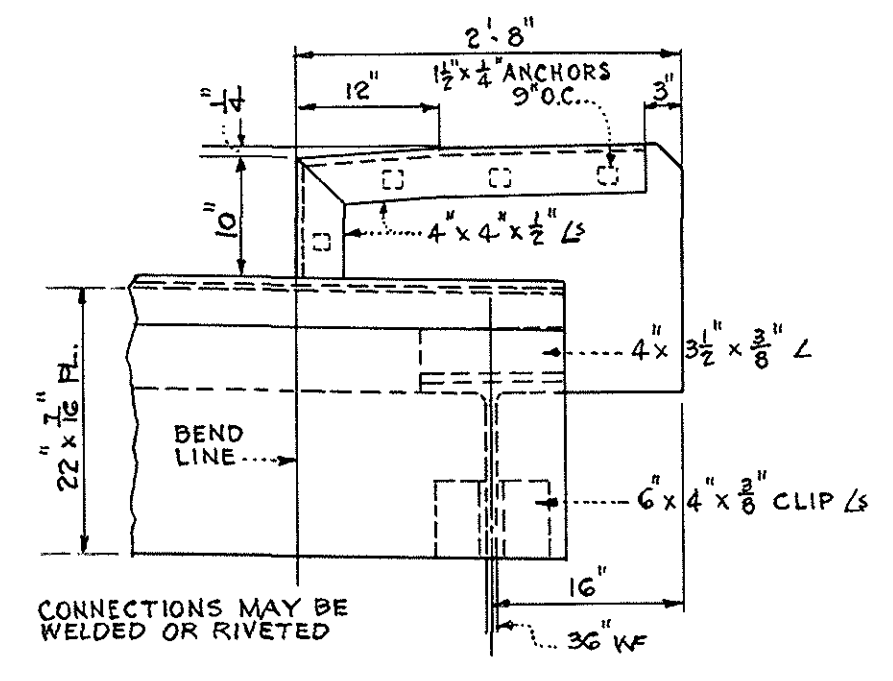
(FOR OTHER DETAILS OF FENCE POSTS SEE SHEET #10)

SPAN #4 COMPLETE DETAILS

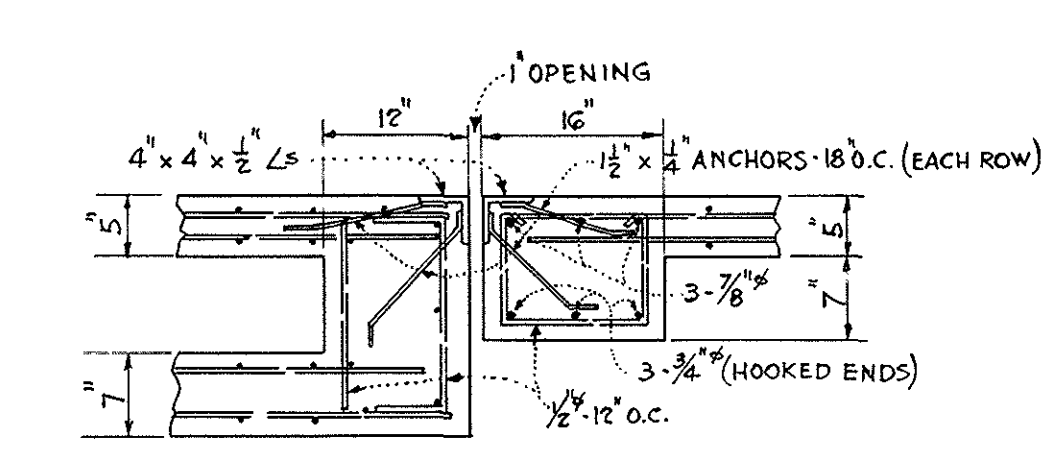
DATE	DESCRIPTION
6-25-47	CONSTRUCTION
5-24-47	ADVERTISING
DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE	



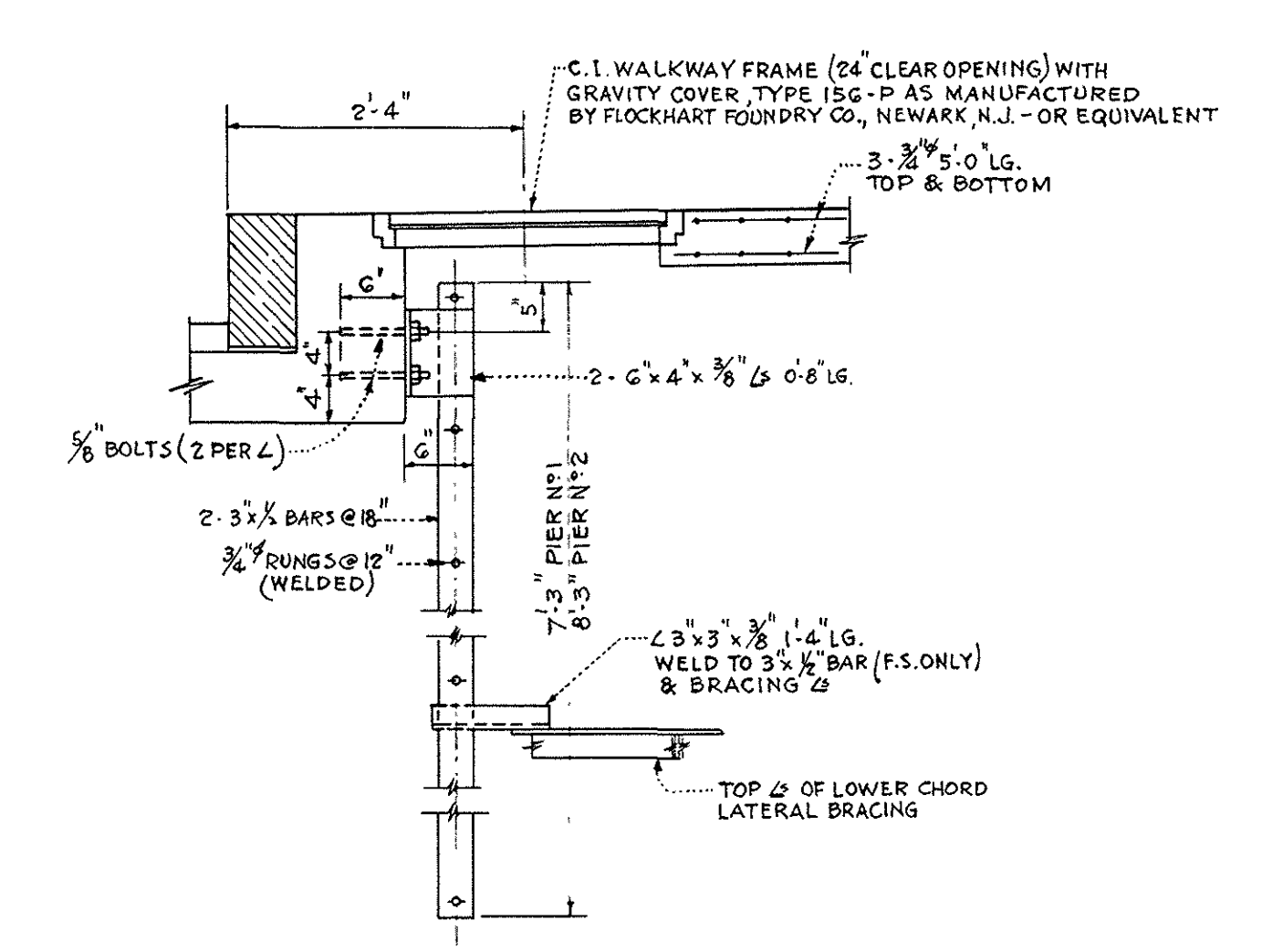
SECTION J10-J10
SCALE 3/4" = 1'-0"



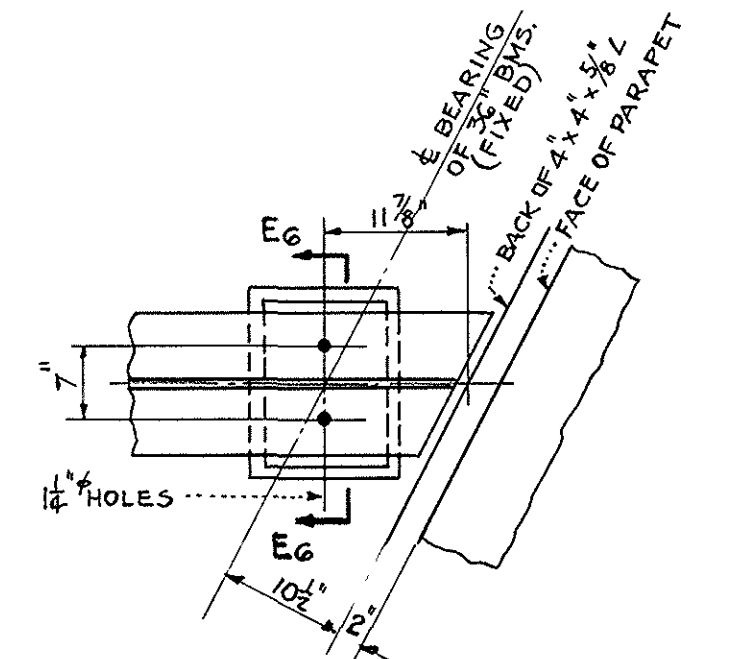
SECTION J9-J9
SCALE 3/4" = 1'-0"



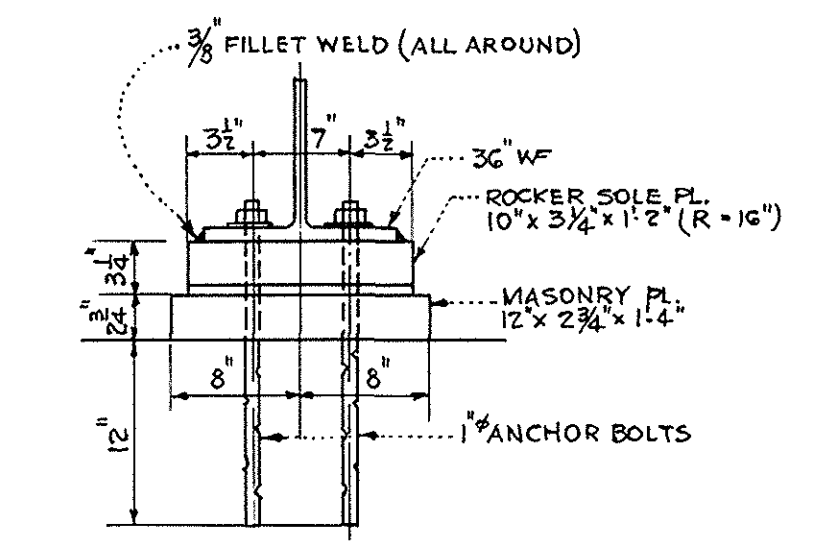
SECTION J12-J12
SCALE 3/4" = 1'-0"



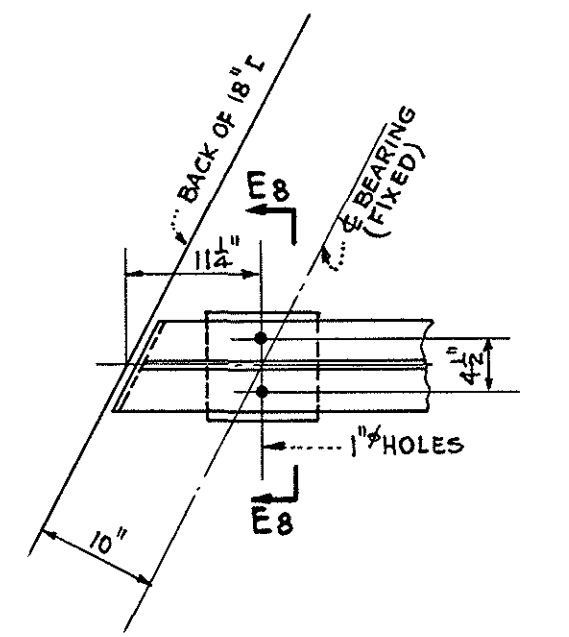
SECTION J16-J16
SCALE 3/4" = 1'-0"



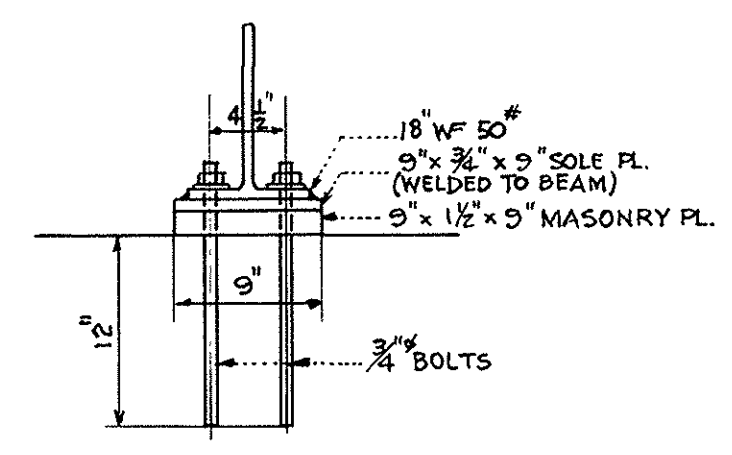
SECTION E5-E5
SCALE 3/4" = 1'-0"



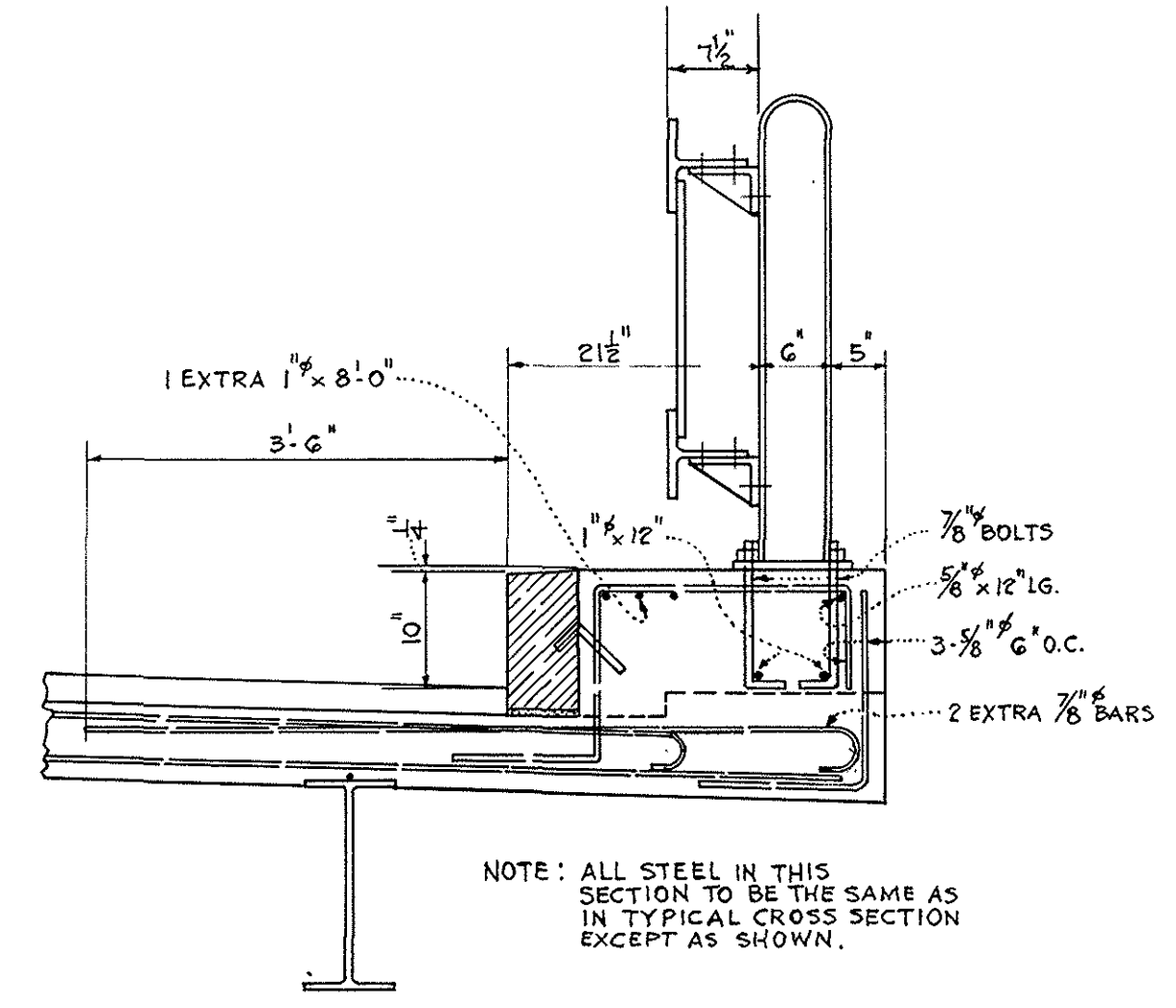
SECTION E6-E6
SCALE 1" = 1'-0"



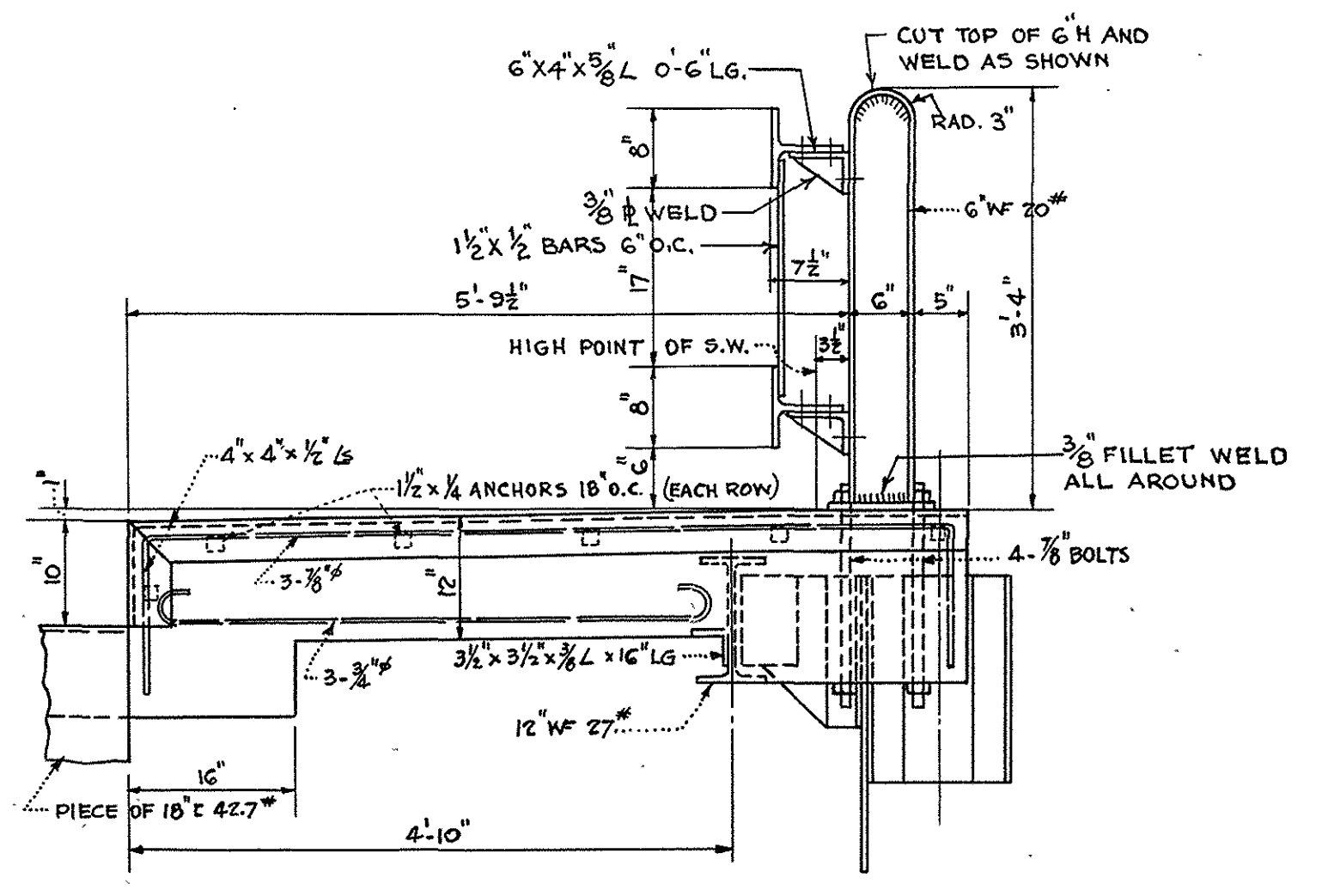
SECTION E7-E7
SCALE 3/4" = 1'-0"



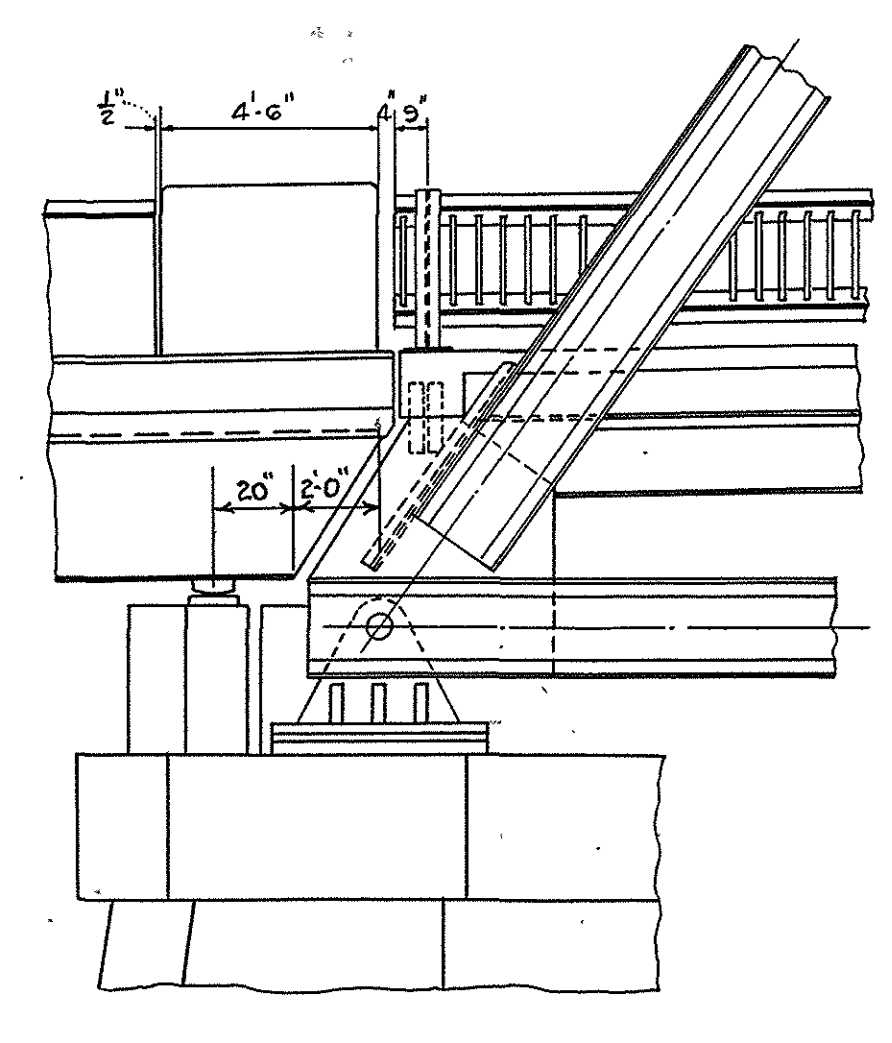
SECTION E8-E8
SCALE 1" = 1'-0"



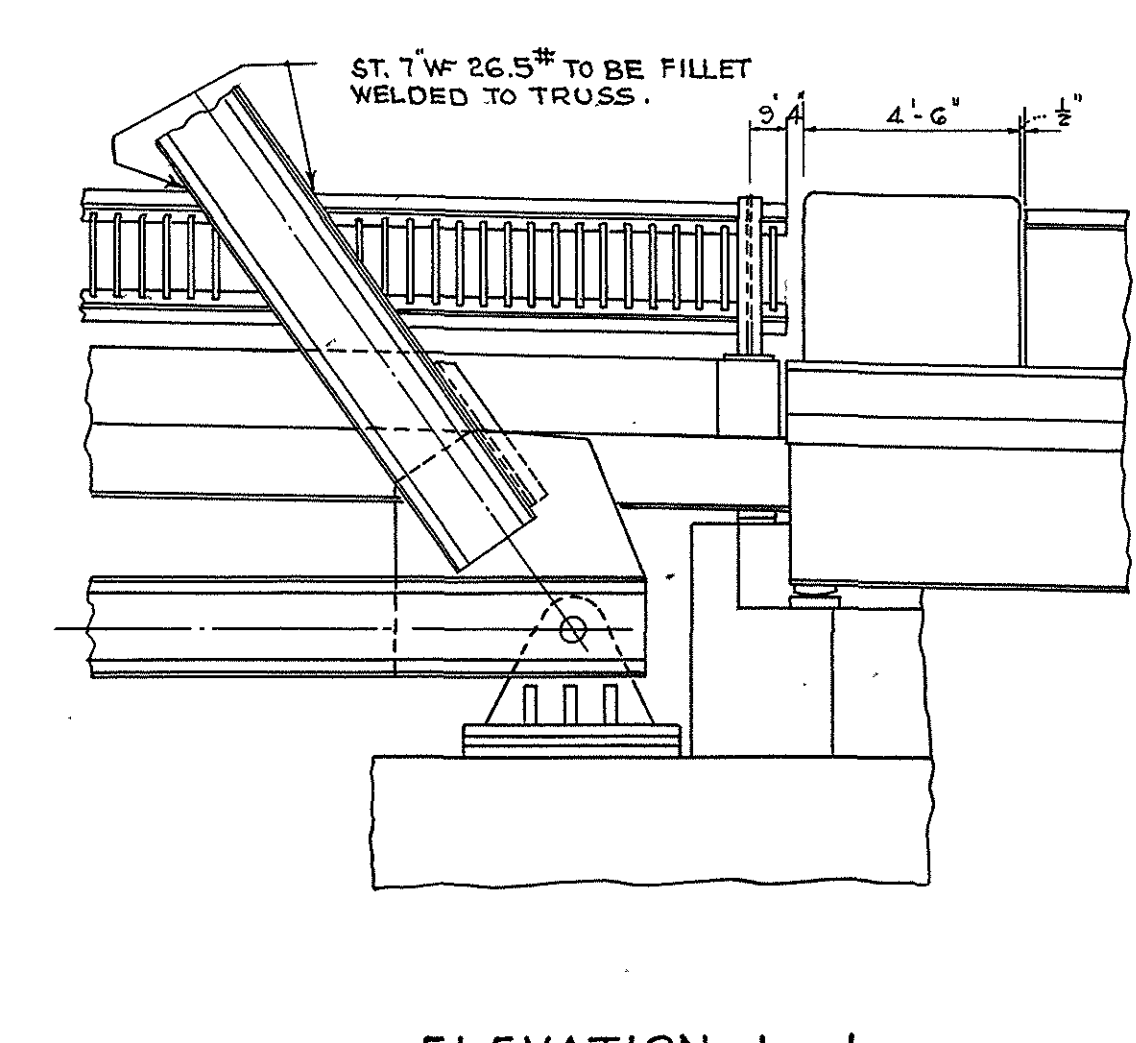
SECTION S-S
SCALE 3/4" = 1'-0"



SECTION J11-J11
SCALE 3/4" = 1'-0"



ELEVATION J13-J13
SCALE 3/4" = 1'-0"

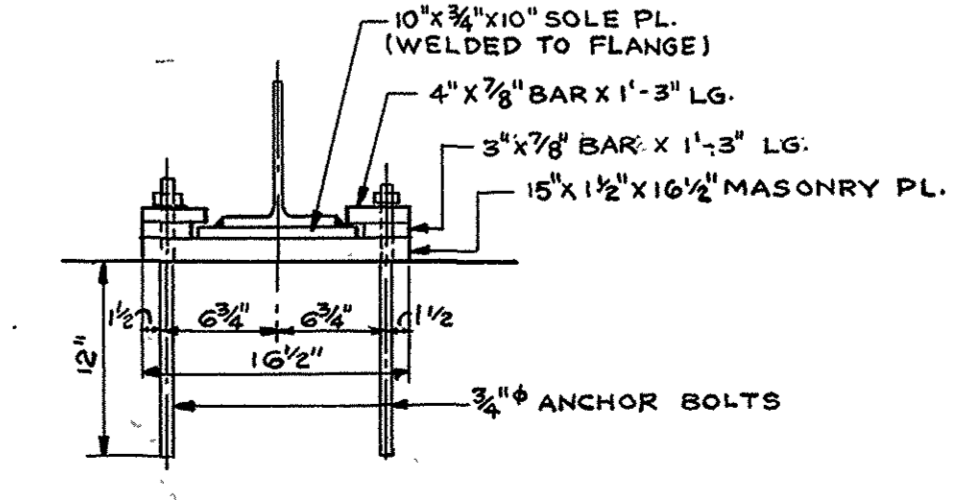
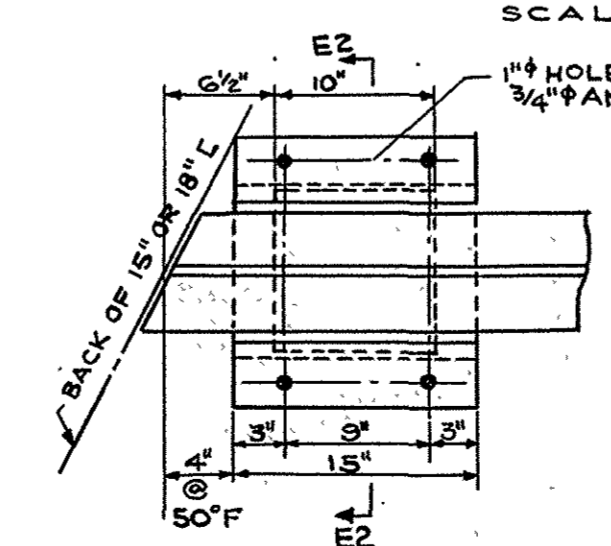
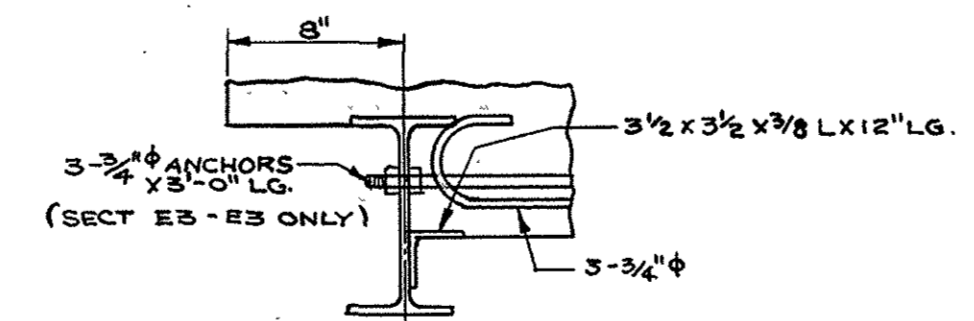
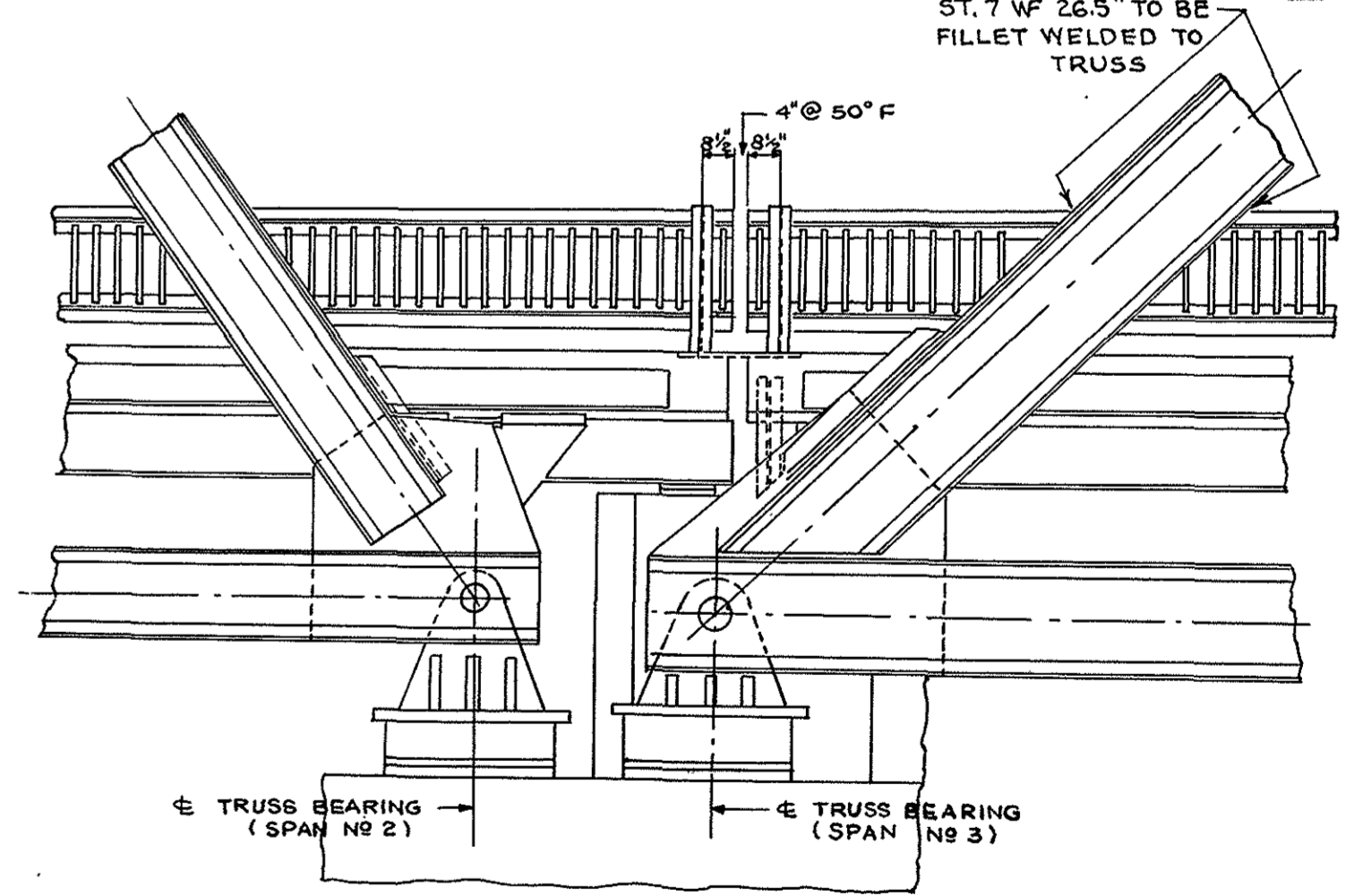
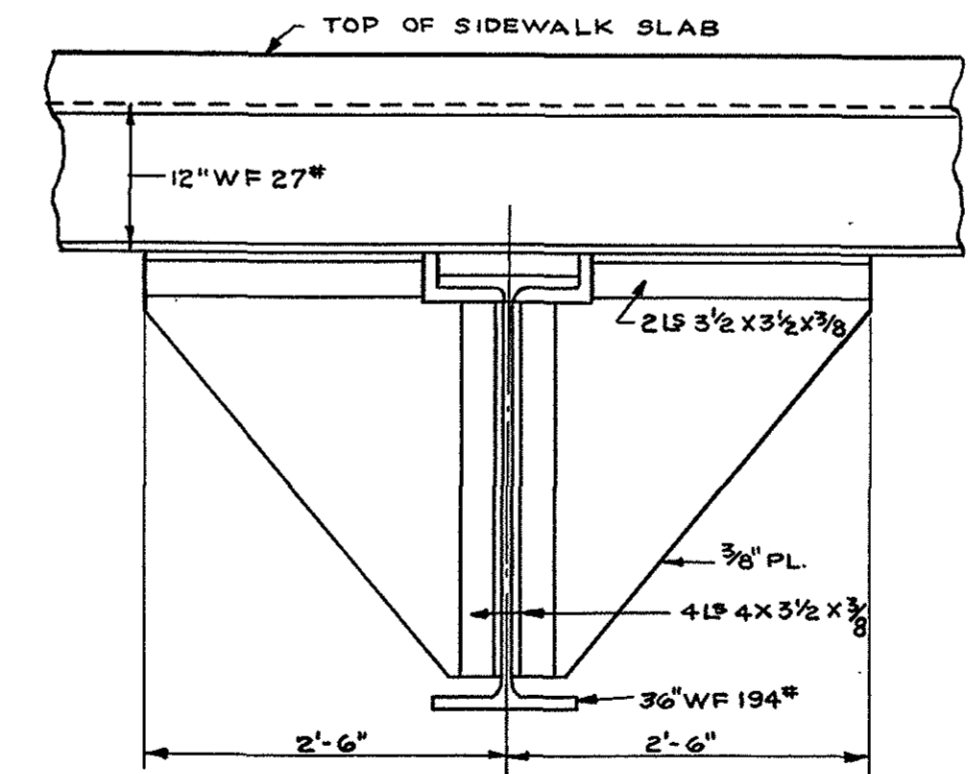
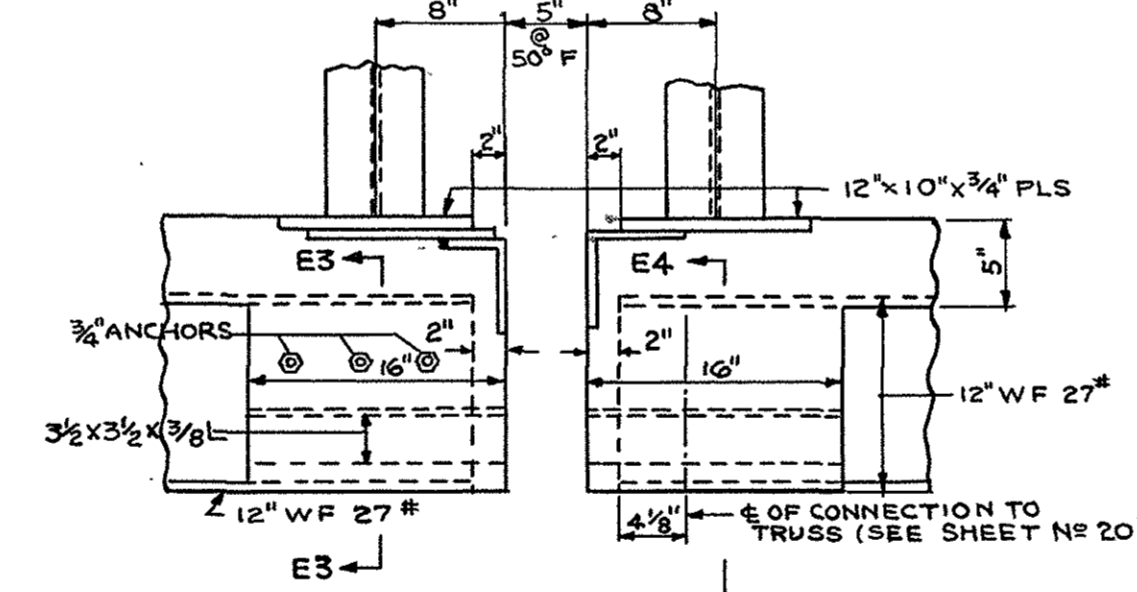
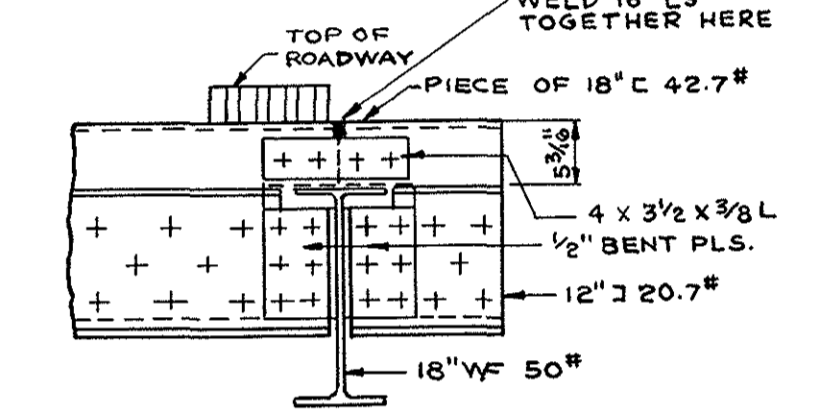
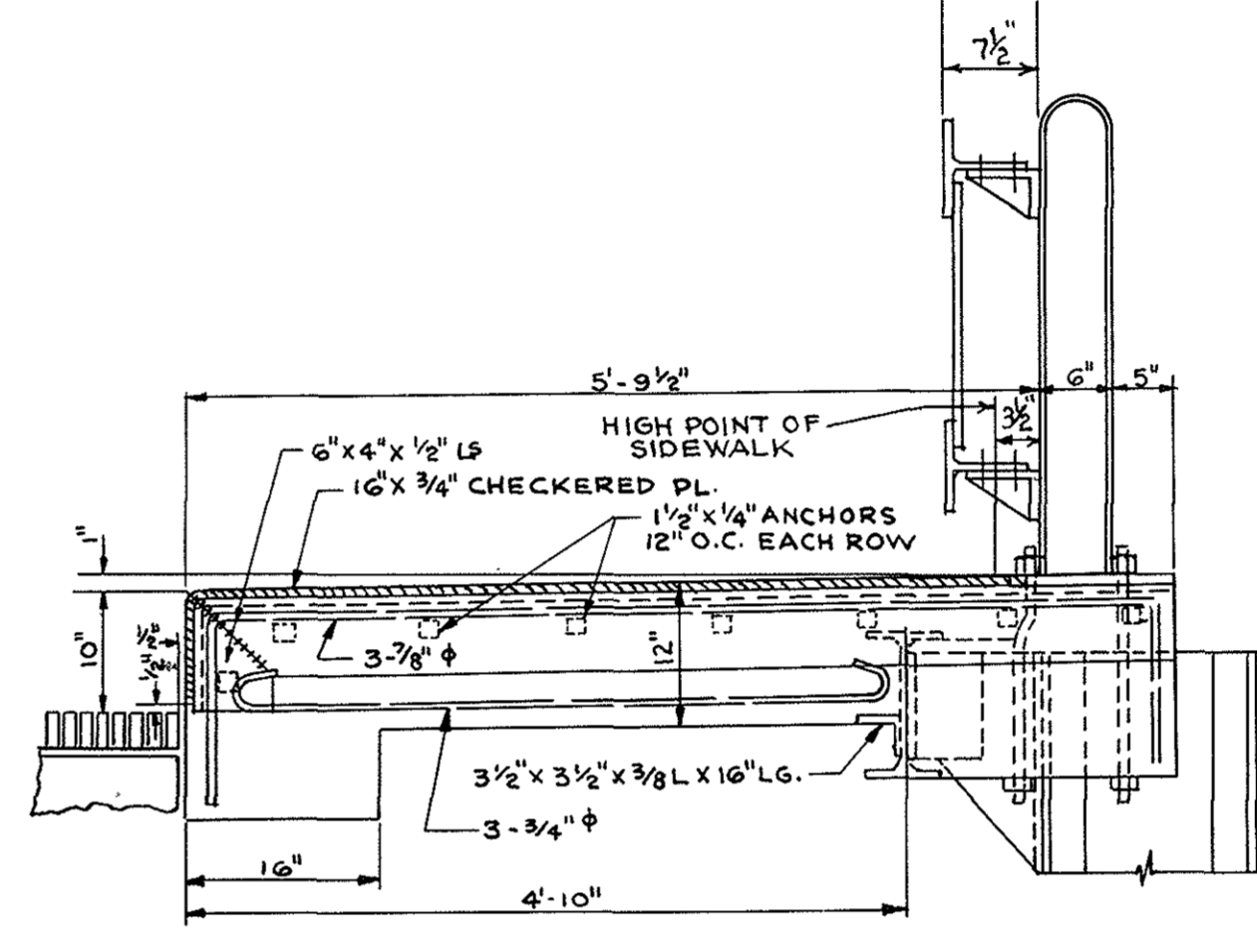
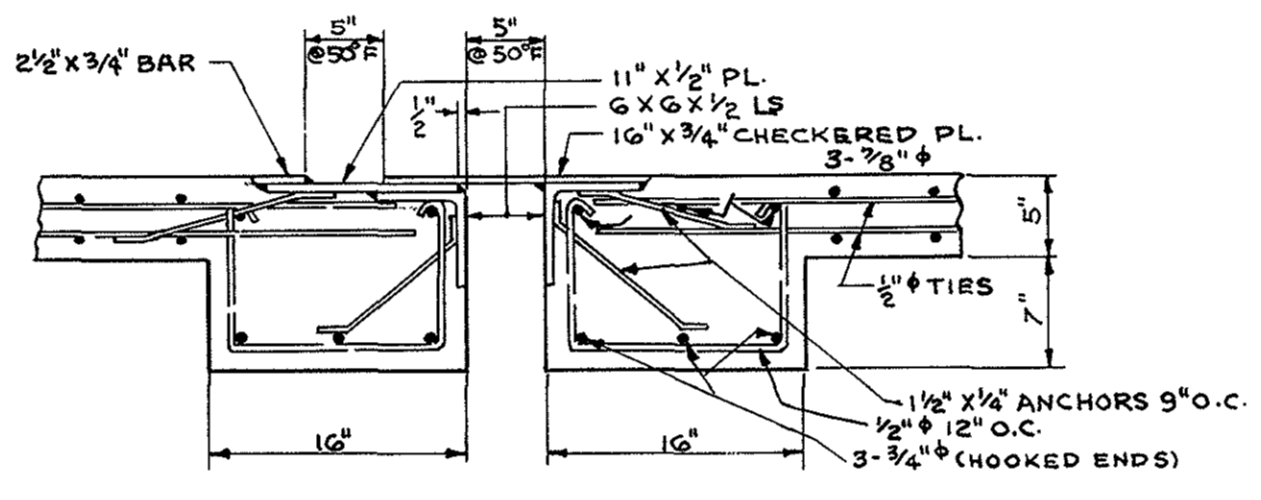
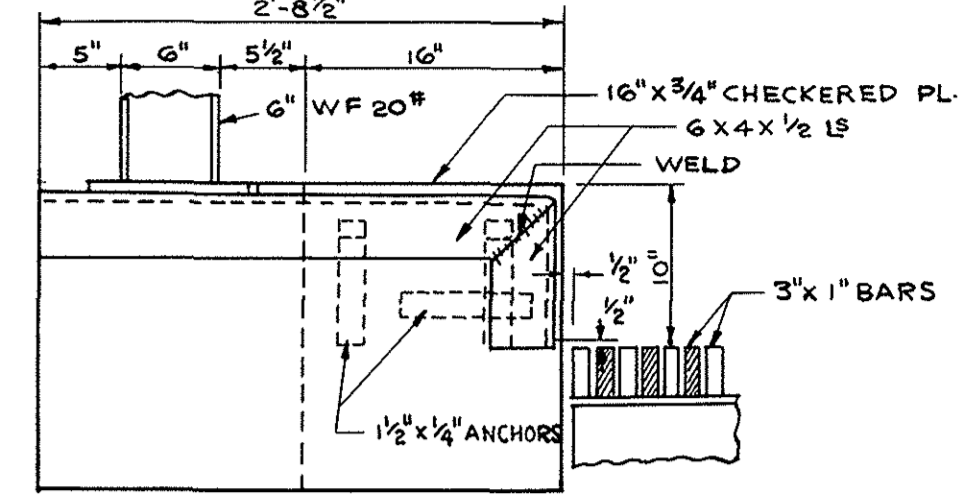
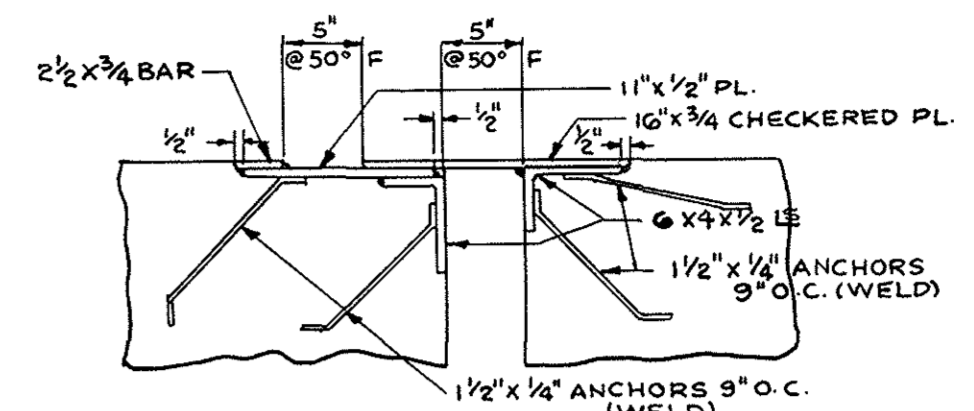
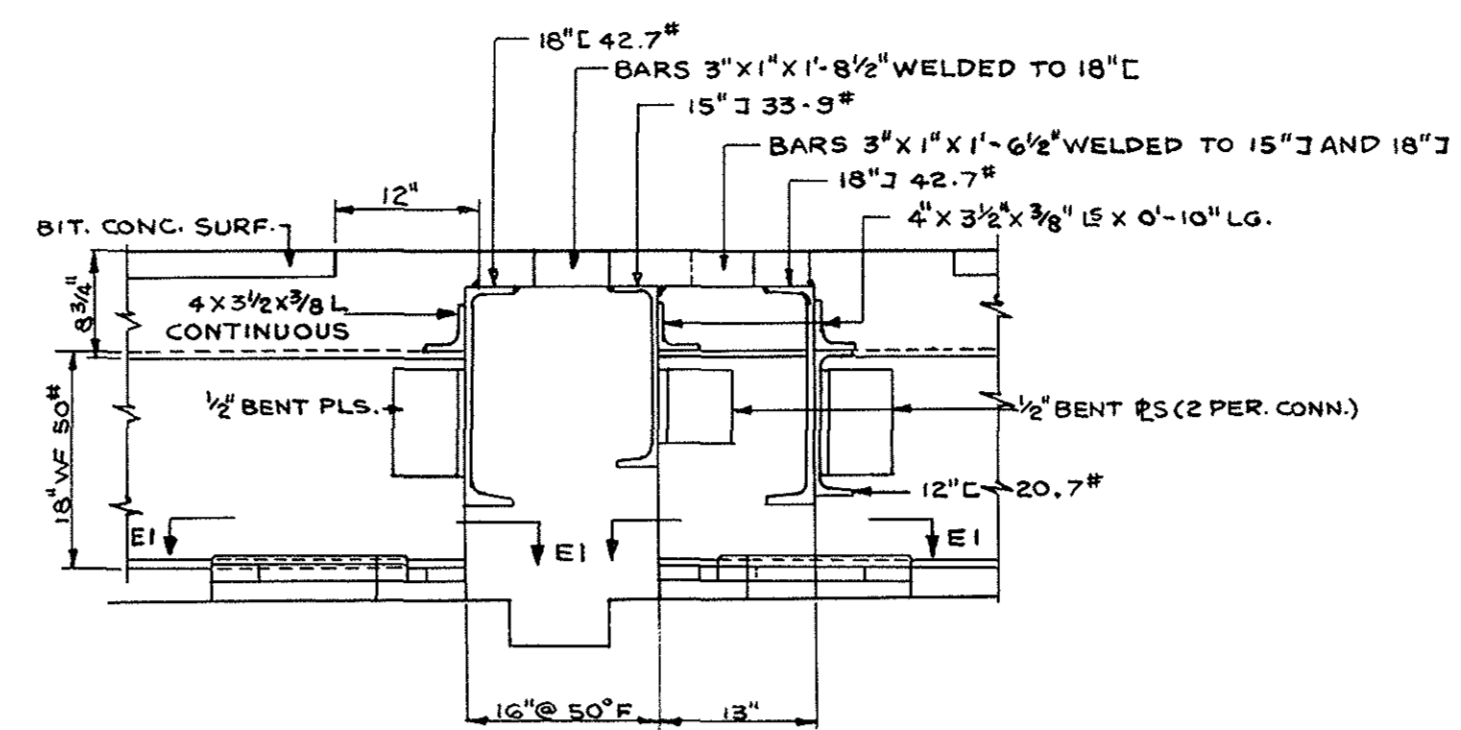
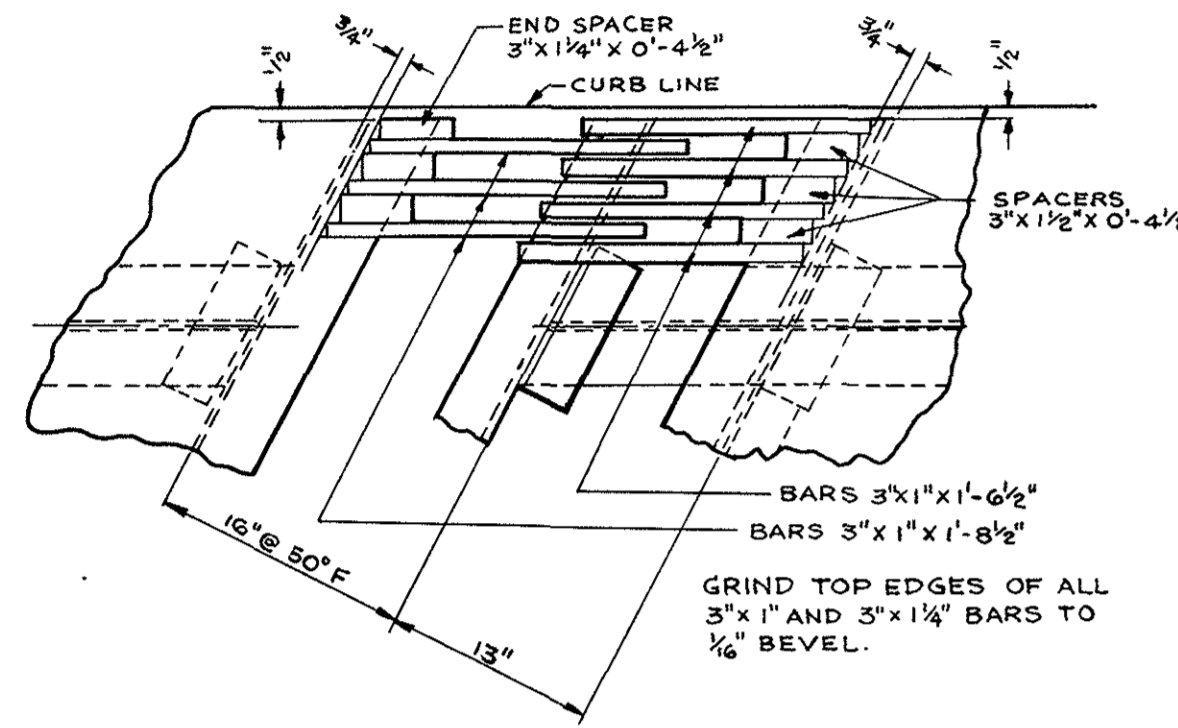
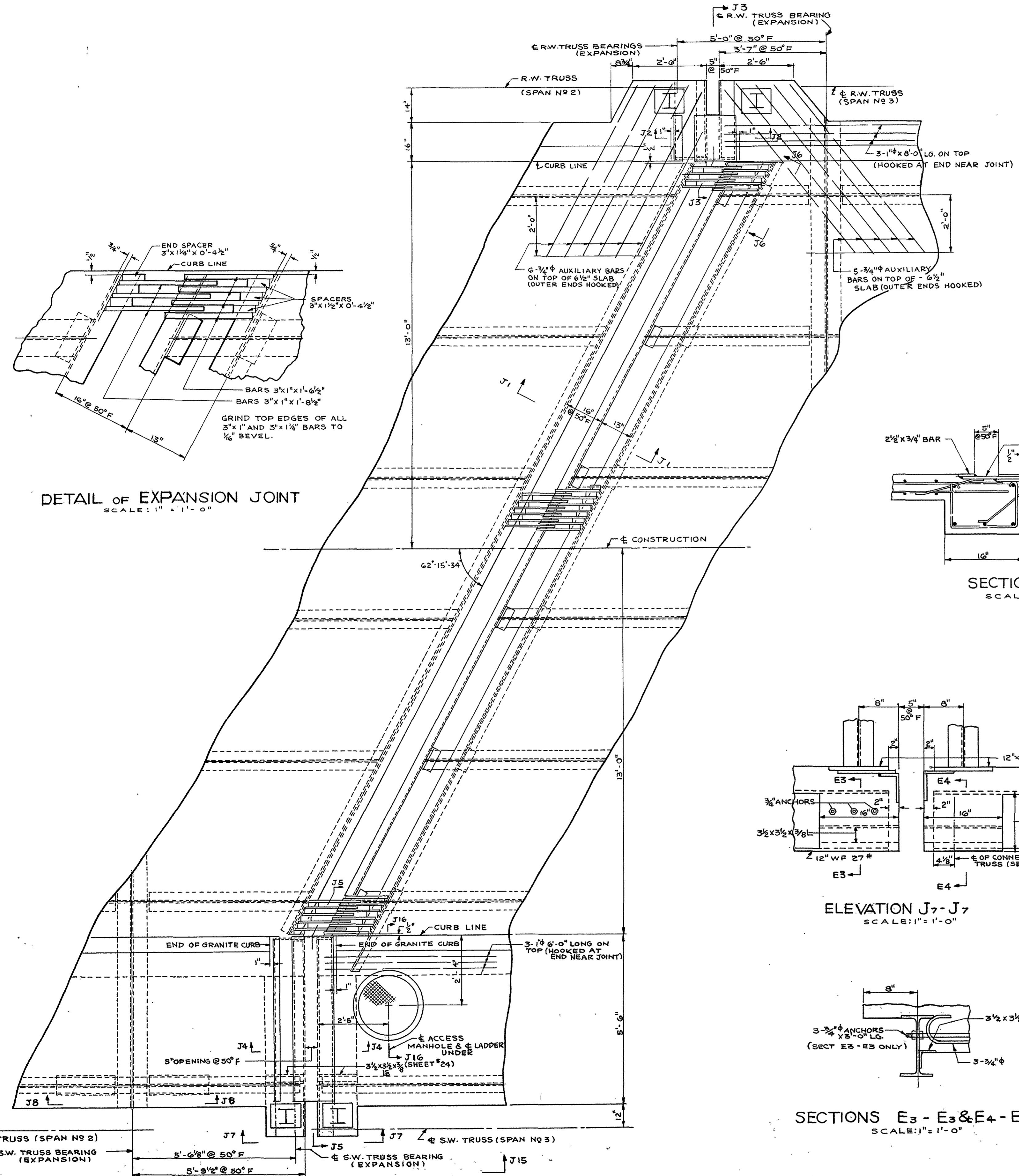


ELEVATION J14-J14
SCALE 3/4" = 1'-0"

PLAN OF DEFLECTION JOINT AT PIER No 1
SCALE 1/2" = 1'-0"

PIER No 1
EXPANSION JOINT

6-25-47	CONSTRUCTION
5-24-47	ADVERTISING
DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE	



PIER No. 2
EXPANSION JOINT

6-25-47	CONSTRUCTION
5-24-47	ADVERTISING
DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE	

ROW

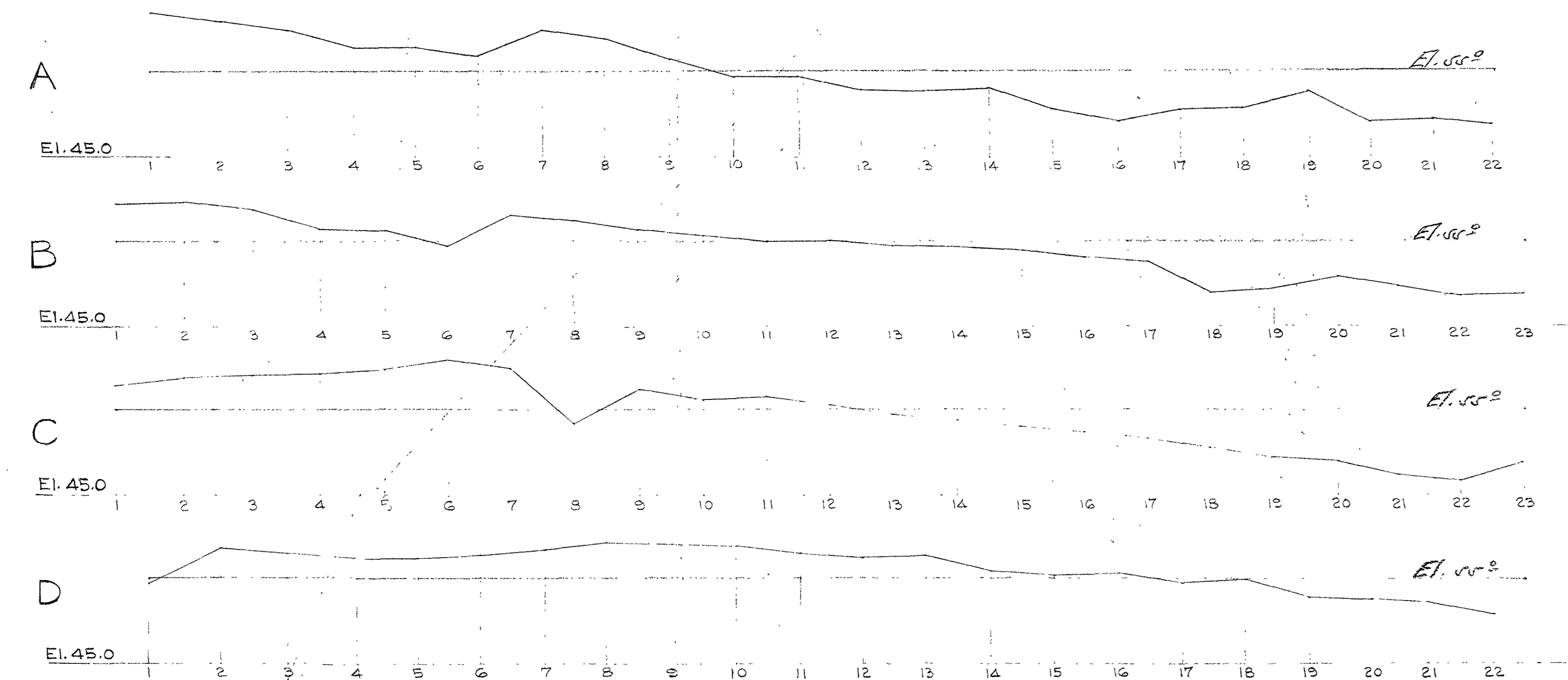
ROW	El. of Tip	L of Pile	El. of Tip	L of Pile	El. of Tip	L of Pile	El. of Tip	L of Pile	El. of Tip	L of Pile	El. of Tip	L of Pile	El. of Tip	L of Pile	El. of Tip	L of Pile	El. of Tip	L of Pile	El. of Tip	L of Pile	El. of Tip	L of Pile	El. of Tip	L of Pile																						
A	62.0	57.3	61.0	58.3	60.0	59.3	58.0	61.3	58.0	61.3	57.0	62.3	59.3	60.3	56.5	62.8	54.5	64.8	54.5	64.8	53.0	66.3	52.8	66.5	53.1	66.2	50.7	68.6	49.2	70.1	50.6	68.7	50.8	68.5	50.8	68.5	49.1	70.2	49.3	70.0	48.8	70.5				
B	59.6	57.2	59.8	57.0	58.8	58.0	56.5	60.3	56.3	60.5	54.5	62.3	58.1	58.7	57.4	59.4	56.3	60.5	55.8	61.0	55.1	61.7	55.1	61.7	54.5	62.3	54.4	62.4	53.3	62.9	53.1	63.7	52.5	64.3	48.8	68.0	49.4	67.4	50.9	65.9	49.7	67.1	48.7	68.1	48.9	67.9
C	58.0	56.0	58.9	55.1	59.2	54.8	59.4	54.6	59.9	54.1	61.0	53.0	60.0	54.0	60.5	57.6	56.4	57.8	56.2	57.8	56.8	57.2	55.7	58.3	54.7	59.3	53.9	60.1	53.0	61.0	52.4	61.6	51.7	62.3	50.5	63.5	49.4	64.6	49.0	65.0	47.3	66.7	46.6	67.4	48.8	65.2
D	54.3	57.0	58.6	52.7	58.0	53.3	57.5	53.8	57.8	53.8	58.0	53.3	58.7	52.6	59.3	52.1	59.2	52.3	59.0	52.3	59.1	53.2	57.6	53.7	57.8	53.5	55.3	55.3	55.8	55.5	54.4	56.3	54.9	56.4	54.9	56.4	50.8	58.5	52.6	58.7	52.2	59.1	50.9	60.4		

CUT OFF ELEV.	LENGTH ORDERED	TOTAL CUT OFF LENGTH OF PILES
119.25	90	554.1
116.75	84	493.7
114.00	78	425.5
111.25	72	373.9
		1847.2

River side →

PLAN OF FOOTING PIER No.3

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



PROFILE OF TIPS

SCALE: VERT. 1" = 10'-0"
HOR. 1/4" = 1'-0"

G-12-20=M-28-1

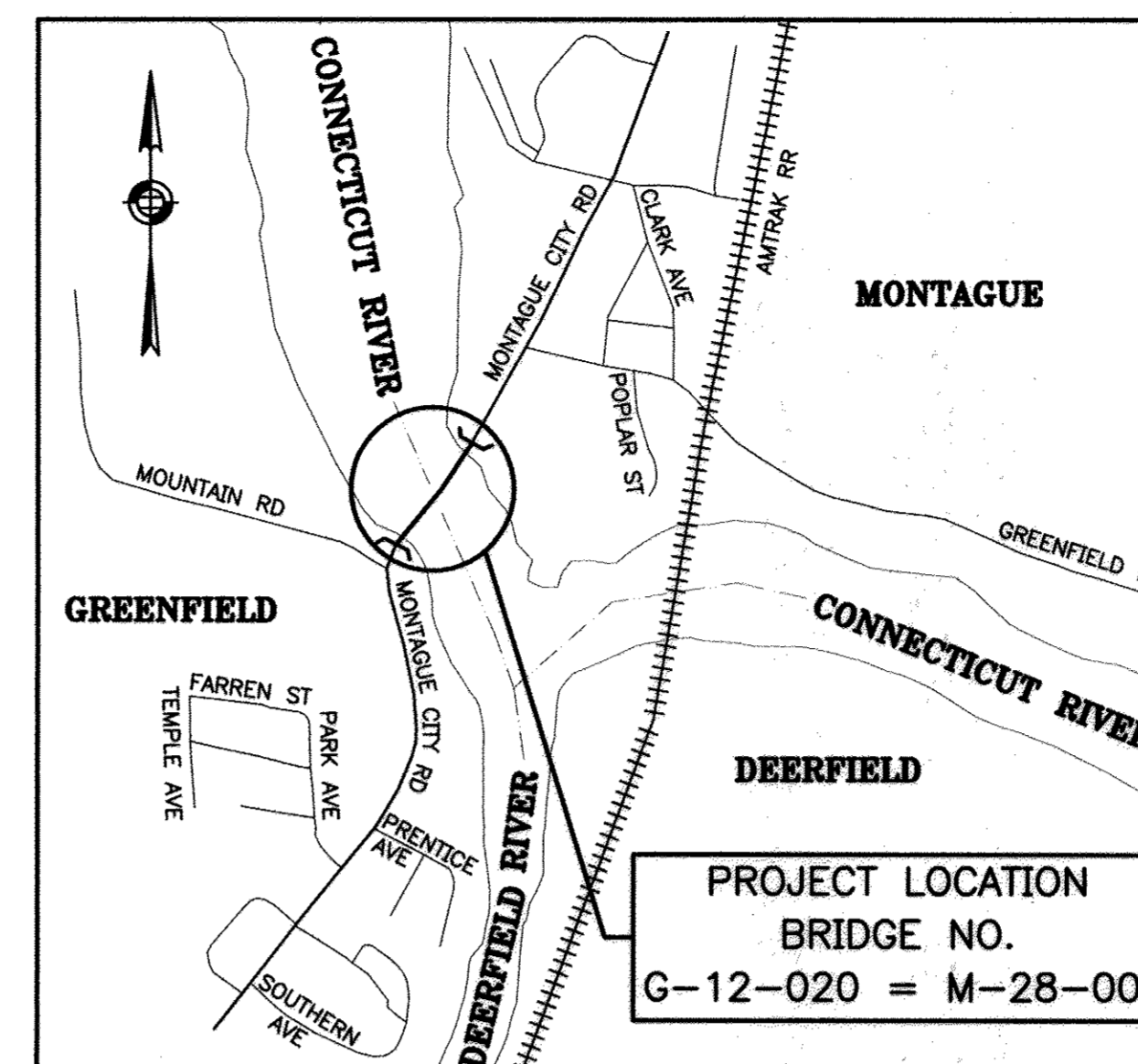
GREENFIELD-MONTAGUE BRIDGE
PIER No.3
PILES IN PLACE

SHEET 1 OF 1 SHEET BRIDGE N'

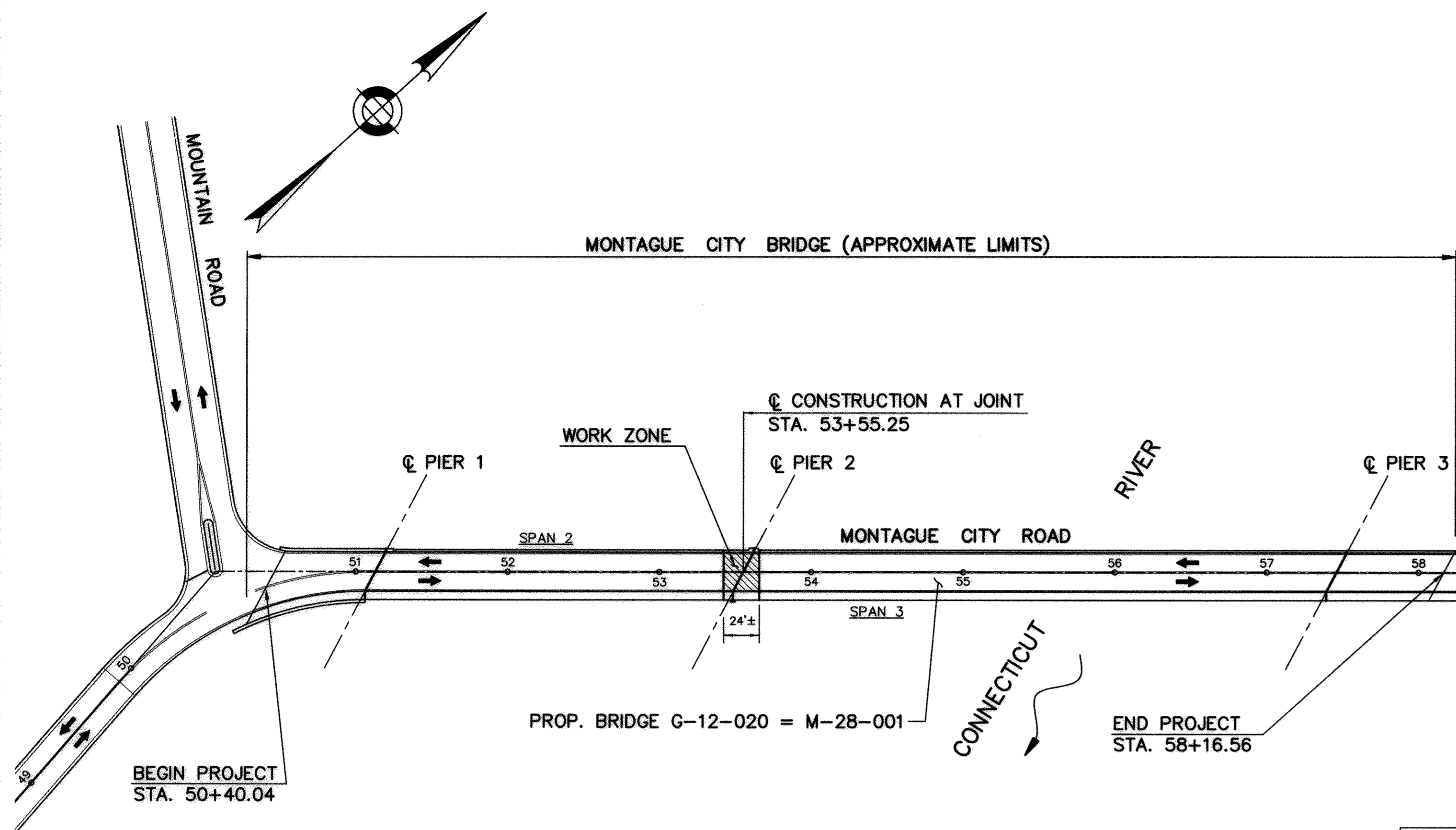
**GREENFIELD - MONTAGUE
MONTAGUE CITY ROAD OVER CT RIVER**

STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
MASS.	STP-001S(901)X		133	153
PROJECT FILE NO. 601585				

KEY PLAN AND PROFILE

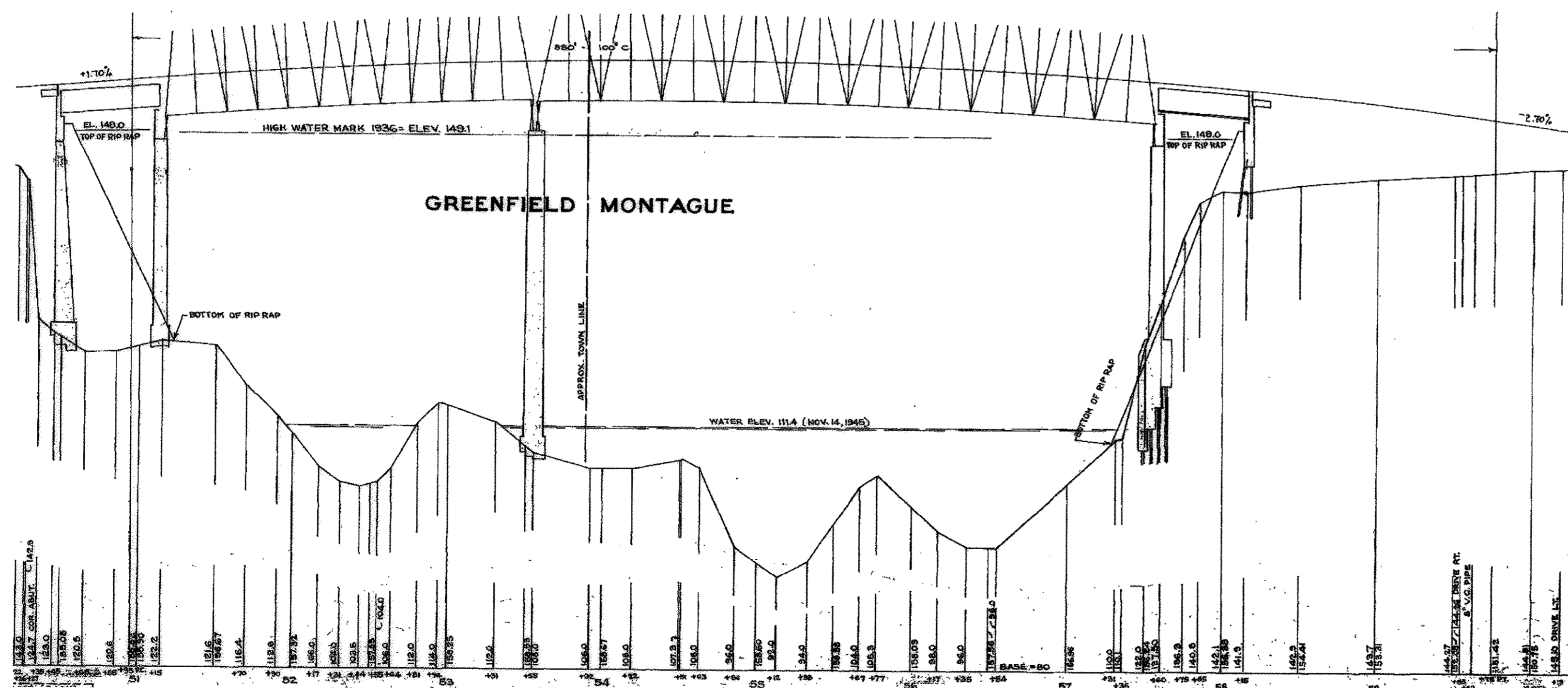


LOCUS MAP
SCALE 1 : 600



PLAN
SCALE: 1" = 60'

INDEX OF DRAWINGS	
SHEET NO.	DESCRIPTION
1	KEY PLAN AND PROFILE
2	GENERAL PLAN AND FRAMING PLAN AT PIER 2
3	JOINT DETAILS AT PIER 2
4	MODULAR JOINT DETAILS AND MISCELLANEOUS DETAILS
5	TYPICAL CROSS SECTION, STRINGER BEARINGS & CONN.
6-7	TRAFFIC MANAGEMENT PLAN



PROFILE
HORIZONTAL SCALE 1" = 60'
VERTICAL SCALE 1" = 12'

GENERAL NOTES:

DESIGN:

IN ACCORDANCE WITH THE 2002 SPECIFICATIONS OF THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO) WITH CURRENT INTERIM SPECIFICATIONS FOR HS20 LOADING.

EXISTING BRIDGE PLANS:

PLANS FOR EXISTING BRIDGE MAY BE SEEN AT THE OFFICE OF THE BRIDGE ENGINEER, MASSACHUSETTS HIGHWAY DEPARTMENT, 10 PARK PLAZA, BOSTON, MASSACHUSETTS.

EXISTING CONDITIONS:

DIMENSIONS SHOWN ON EXISTING DETAILS ARE TAKEN FROM ORIGINAL DESIGN DRAWINGS AND ARE NOT GUARANTEED. THE CONTRACTOR SHALL DETERMINE AND ESTABLISH ALL DIMENSIONS AND EXISTING DETAILS NECESSARY FOR COMPLETION OF ALL WORK BY FIELD MEASUREMENTS AND SURVEY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE ADEQUACY AND ACCURACY, THEREOF, AND SHALL NOT ORDER ANY MATERIAL OR COMMENCE ANY FABRICATION UNTIL HE HAS MADE THE REQUIRED MEASUREMENTS ON THE ACTUAL STRUCTURE AND EXTENT OF THE PROPOSED WORK HAS BEEN APPROVED BY THE ENGINEER.

REINFORCEMENT:

REINFORCING STEEL SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M31 GRADE 60. UNLESS OTHERWISE NOTED ON THE PLANS, ALL BARS SHALL BE LAPPED AS FOLLOWS:

MODIFICATION CONDITION	#4 BARS	#5 BARS
1. NONE	21"	26"
2. 1' OF CONCRETE BELOW BAR	29"	36"
3. COATED BARS, COVER < 3d _b , OR CLEAR SPACING < 6d _b	31"	39"
4. COATED BARS, ALL OTHER CASES	24"	30"
5. CONDITION 2, AND 3.	35"	44"
6. CONDITION 2, AND 4.	33"	41"

IF THE ABOVE BARS ARE SPACED AT 6" OR MORE ON CENTER, THE LAP LENGTH SHALL BE 80% OF THE LAP LENGTH GIVEN ABOVE. IF THE ABOVE BARS ARE IN LIGHTWEIGHT CONCRETE, THE LAP LENGTHS SHALL BE INCREASED BY 33%. ALL OTHER BARS SHALL BE LAPPED AS SHOWN ON THE PLANS.

EPOXY COATED BARS:

ALL REINFORCING BARS AND SUPPORTING DEVICES SHALL BE EPOXY COATED UNLESS NOTED OTHERWISE.

STRUCTURAL STEEL:

ALL STRUCTURAL STEEL SHALL CONFORM TO THE REQUIREMENTS OF AASHTO DESIGNATION M270 (ASTM A709) GRADE 50 EXCEPT AS OTHERWISE NOTED. STRUCTURAL STEEL USED AS MAIN LOAD CARRYING MEMBERS SHALL MEET THE LONGITUDINAL CHARPY REQUIREMENTS IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.

WELDING:

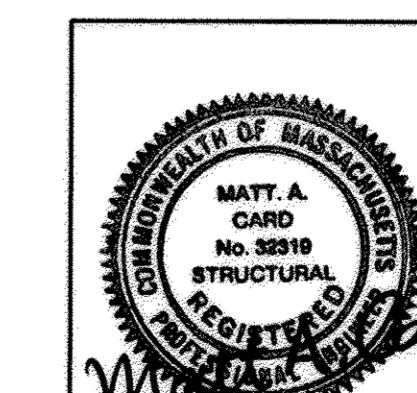
ALL WELDING AND THE PREPARATION AND ASSEMBLY OF MATERIAL FOR WELDING SHALL CONFORM TO THE STANDARD SPECIFICATION FOR HIGHWAYS AND BRIDGES, THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, AASHTO/AWS D1.5M/D1.5 BRIDGE WELDING CODE AND ALL INTERIM REVISIONS PUBLISHED BY AASHTO AS OF BID OPENING DATE.

UTILITIES:

ALL EXISTING UTILITIES SHALL BE LOCATED AND PROTECTED BY THE CONTRACTOR.

TRAFFIC:

ONE LANE OF BI-DIRECTIONAL TRAFFIC WILL BE MAINTAINED DURING THE STAGED CONSTRUCTION OF BRIDGE G-12-020 = M-28-001. TEMPORARY TRAFFIC SIGNALS WILL BE INSTALLED AT BOTH ENDS OF THE WORK ZONE.



PURCELL
ASSOCIATES
CONSULTING ENGINEERS - BOSTON, MA.

SEPT. 20, 2008 ISSUED FOR CONSTRUCTION

MASS HIGHWAY
PROPOSED BRIDGE REPAIRS
GREENFIELD - MONTAGUE
MONTAGUE CITY ROAD OVER
CONNECTICUT RIVER

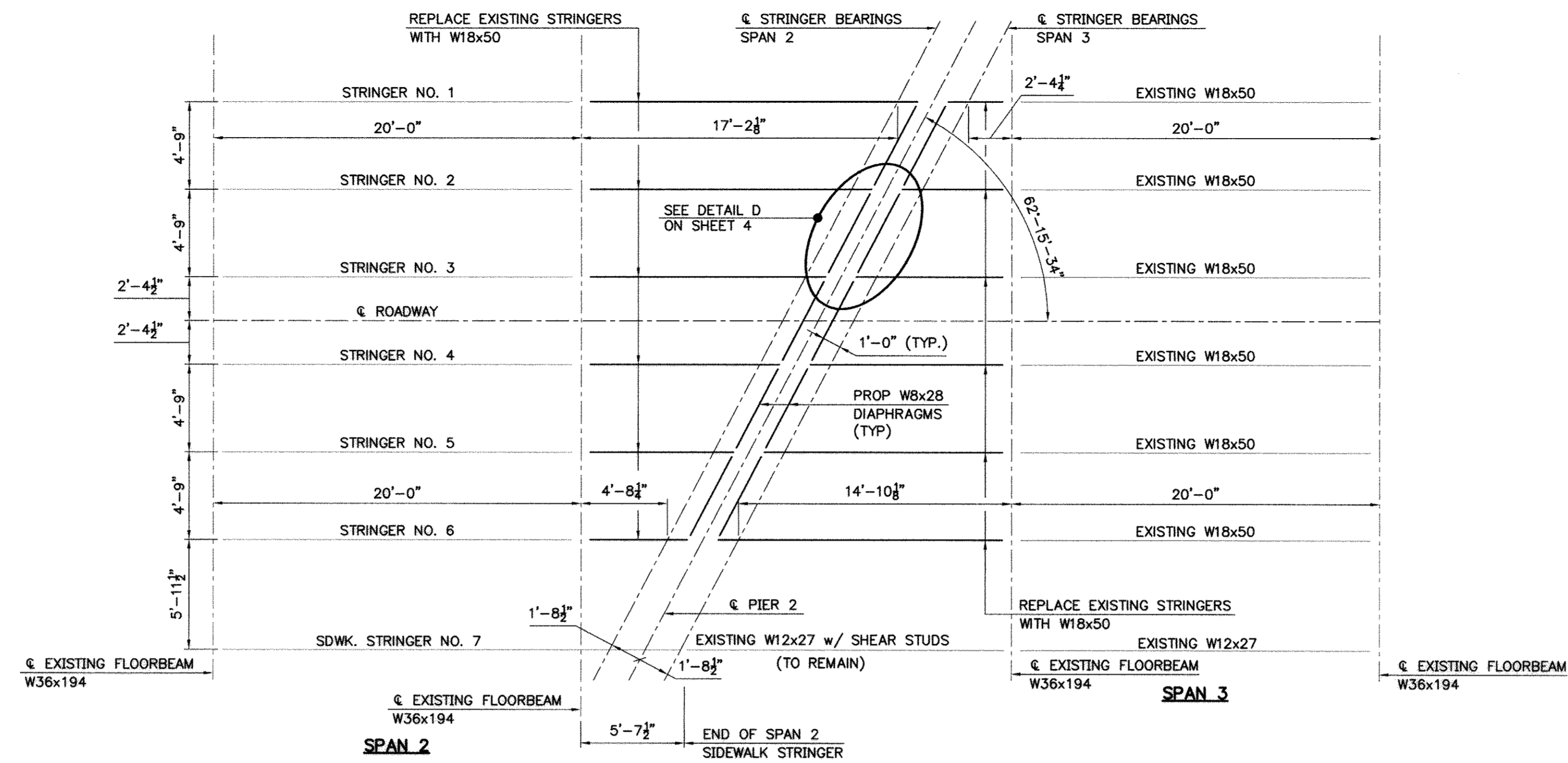
THE COMMONWEALTH OF MASSACHUSETTS
MASSACHUSETTS HIGHWAY DEPARTMENT
10 PARK PLAZA BOSTON, MASS.

Donald W. Vanden...
DIRECTOR OF BRIDGES AND STRUCTURES

Paul J....
CHIEF ENGINEER

STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
MASS.	STP-001S(901)X		134	153
PROJECT FILE NO. 601585				

GENERAL PLAN AND
FRAMING PLAN AT PIER 2

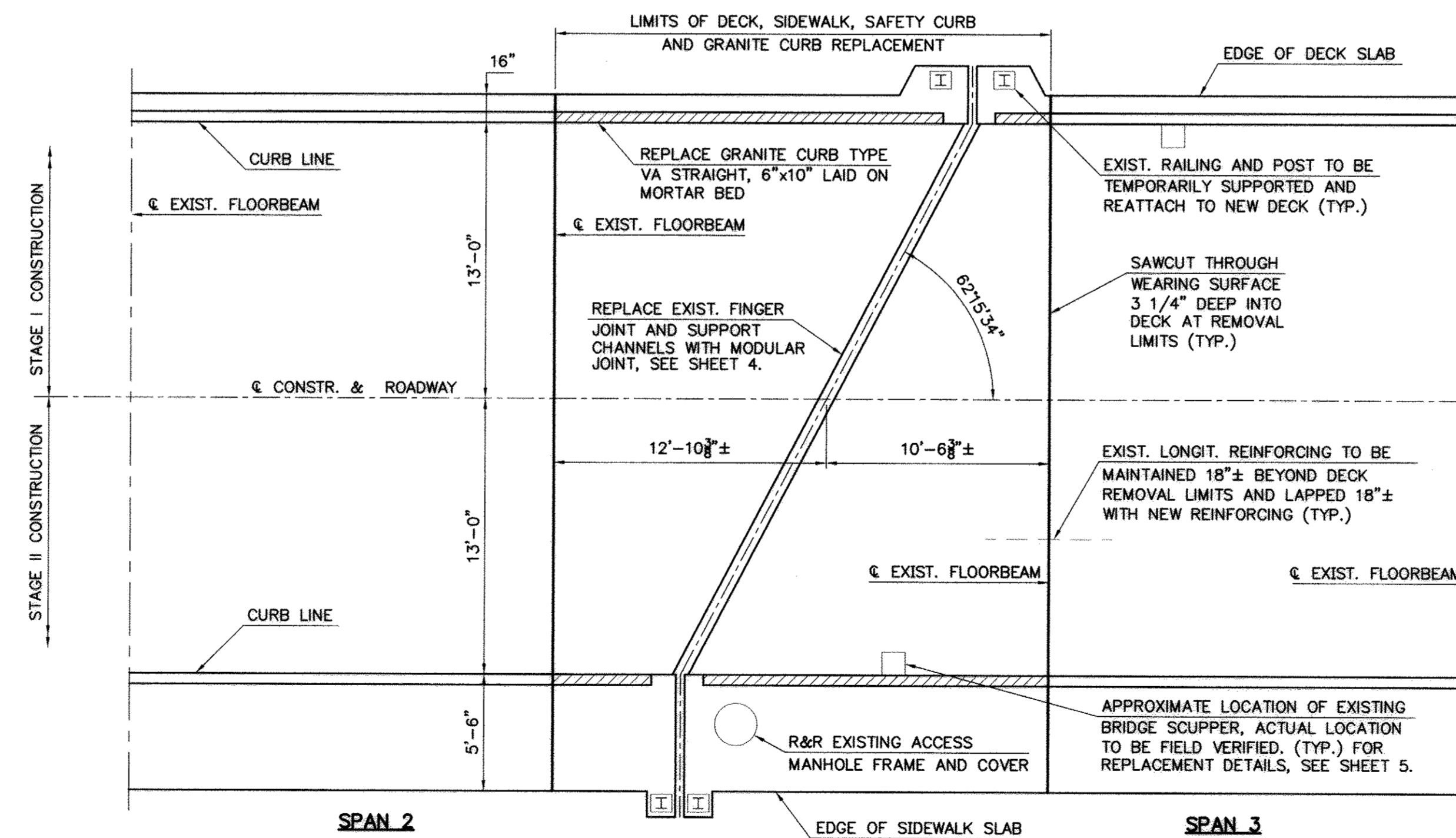


FRAMING PLAN AT PIER 2

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

STRUCTURAL STEEL NOTES:

1. STRUCTURAL STEEL SHALL CONFORM TO AASHTO M270 (ASTM A709) GRADE 50. ALL BOLTS SHALL BE 7/8" AND SHALL CONFORM TO AASHTO M164 (ASTM A325) TYPE 2.
2. ALL STRUCTURAL STEEL SHALL BE FABRICATED AND COATED IN ACCORDANCE WITH MHD STD. SPECIFICATIONS SECTION 960.
3. CONTRACTOR TO FIELD VERIFY ALL DIMENSIONS PRIOR TO FABRICATION.
4. TOP OF PROPOSED STEEL STRINGERS TO MATCH LOCATION OF EXISTING STEEL STRINGERS.



GENERAL PLAN AT PIER 2

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

NOTES:

1. EXISTING PIER 2 FINGER JOINT SUPPORT CHANNELS, ANGLES AND PLATES ARE TO BE REMOVED AND REPLACED WITH NEW MODULAR EXPANSION JOINT SYSTEM.
2. SEE EXISTING PLANS FOR EXISTING DETAILS NOT SHOWN.

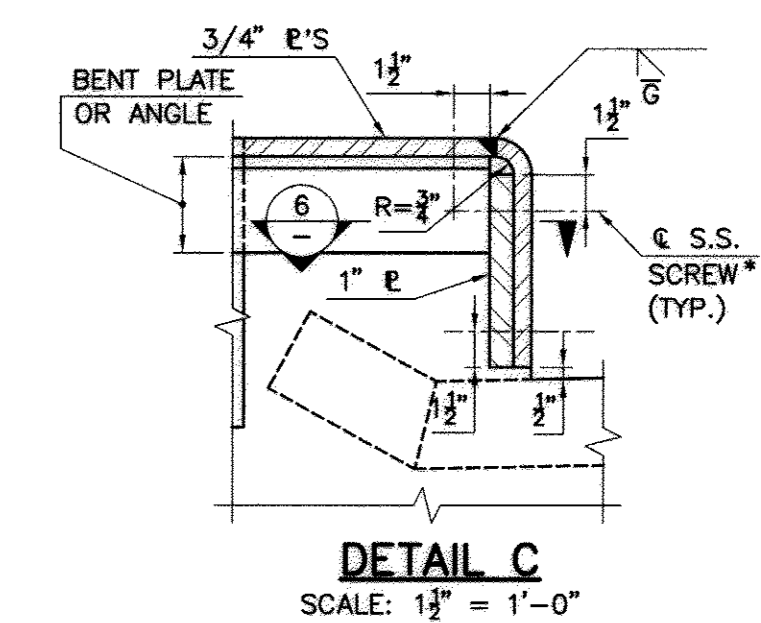
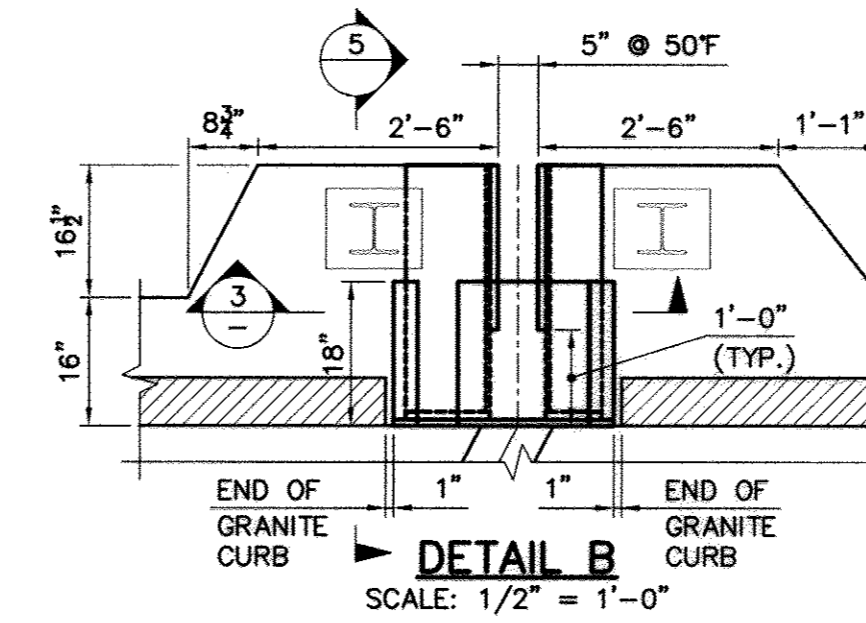
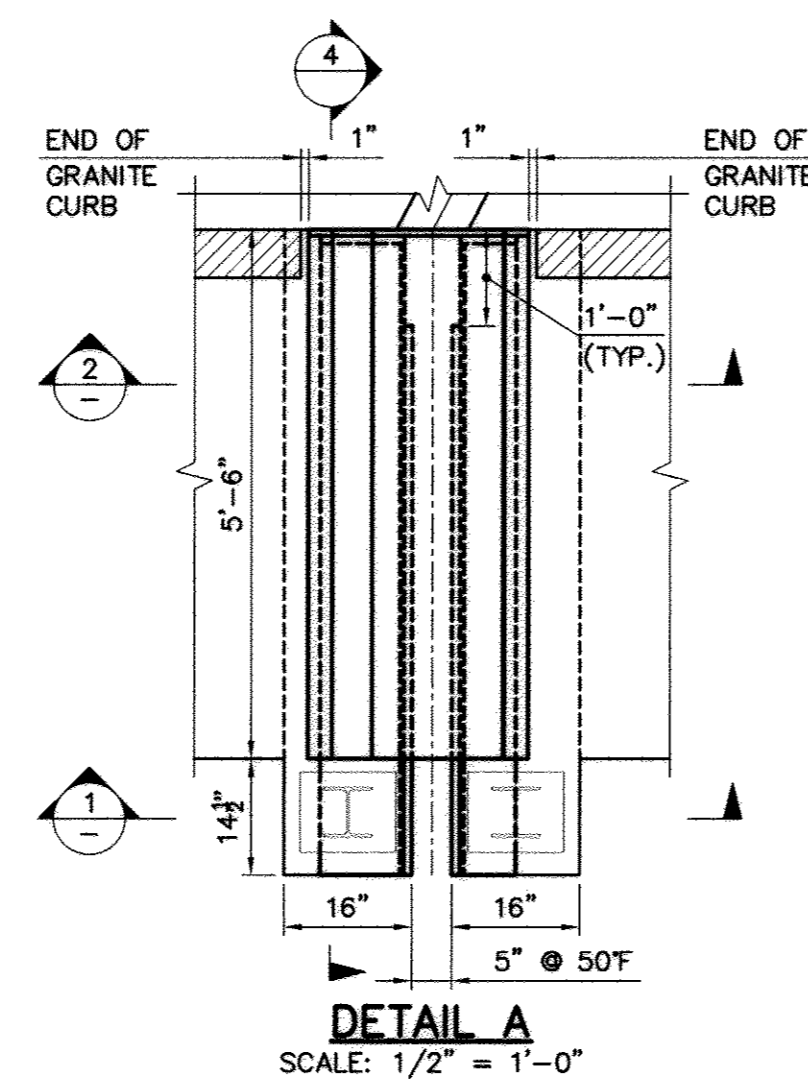
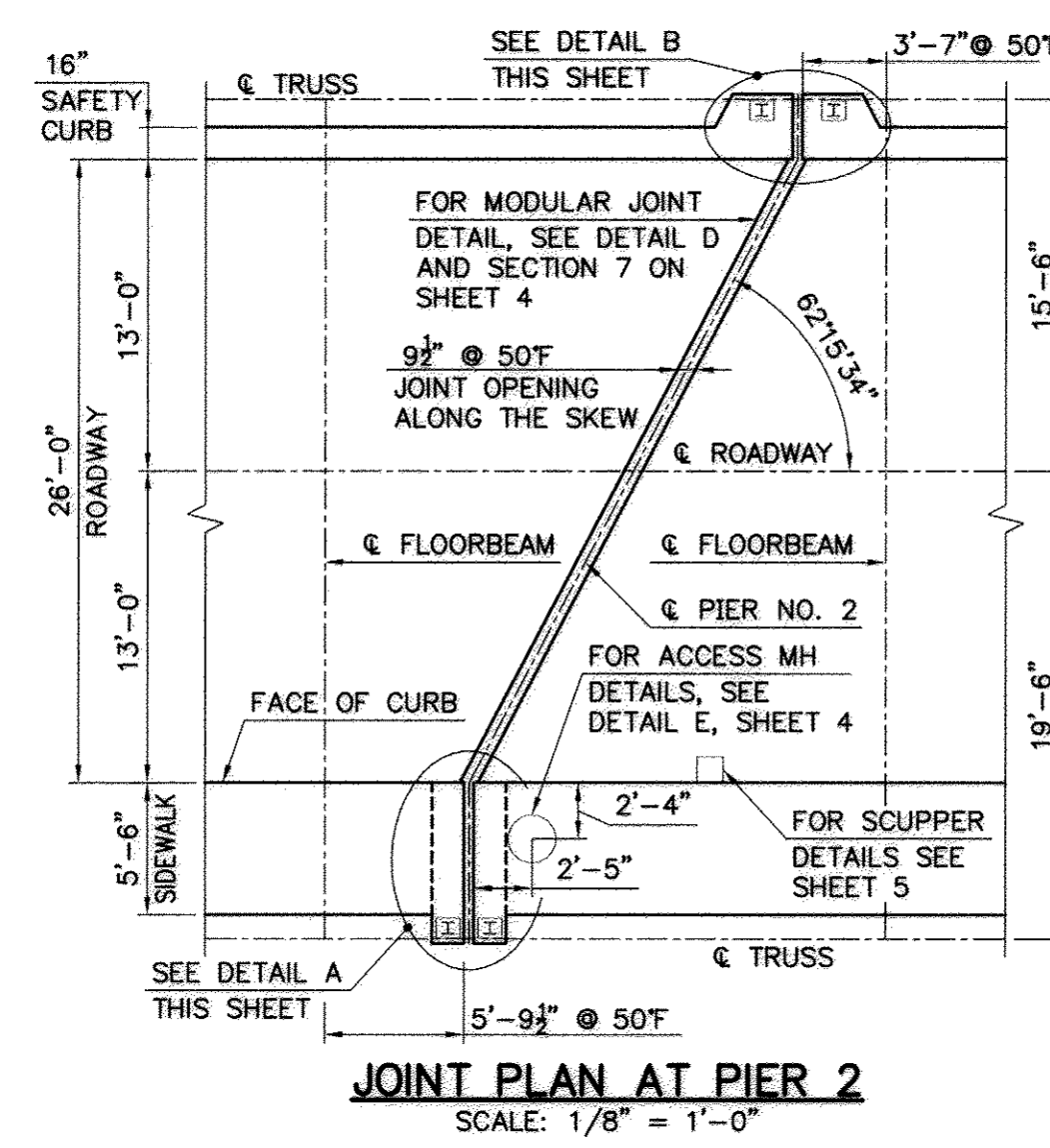
ESTIMATE OF QUANTITIES

DESCRIPTION	QUANTITY
PARTIAL DEMOLITION OF SUPERSTRUCTURE OF BRIDGE NO. G-12-020 = M-28-001	1 LS
TEMPORARY FENCE	260 LF
TEMPORARY TRAFFIC CONTROL SIGNAL	1 LS
SAFETY SIGNING FOR CONSTRUCTION OPERATIONS	200 SF
PORTABLE BREAKAWAY BARRICADE TYPE III	4 EA
TEMPORARY CONCRETE BARRIER	200 LF
TEMPORARY CONCRETE BARRIER REMOVED AND RESET	200 LF
TEMPORARY CONCRETE BARRIER ON BRIDGE	60 LF
TEMPORARY CONCRETE BARRIER ON BRIDGE R&R	60 LF
TEMPORARY PAVEMENT MARKINGS - 4" PAINTED	600 FT
PAVEMENT MARKING REMOVAL - PAINT	200 SF
PORTABLE CHANGEABLE MESSAGE SIGN	140 UD
REFLECTORIZED DRUM	2000 DD
ALTERATION TO BRIDGE STRUCTURE NO. G-12-020 = M-28-001	1 LS
TEMPORARY PROTECTIVE SHIELDING	1550 SF

SEPT. 20, 2008	ISSUED FOR CONSTRUCTION
DATE	
USE ONLY PRINTS OF LATEST DATE	

STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
MASS.	STP-001S(901)X		135	153
PROJECT FILE NO. 601585				

JOINT DETAILS AT PIER 2

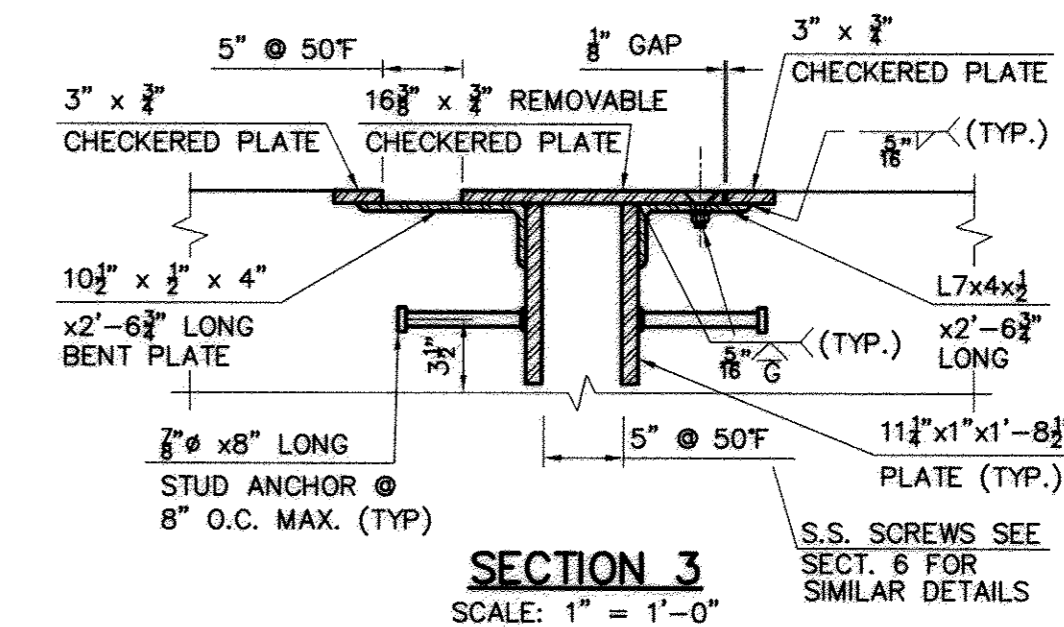
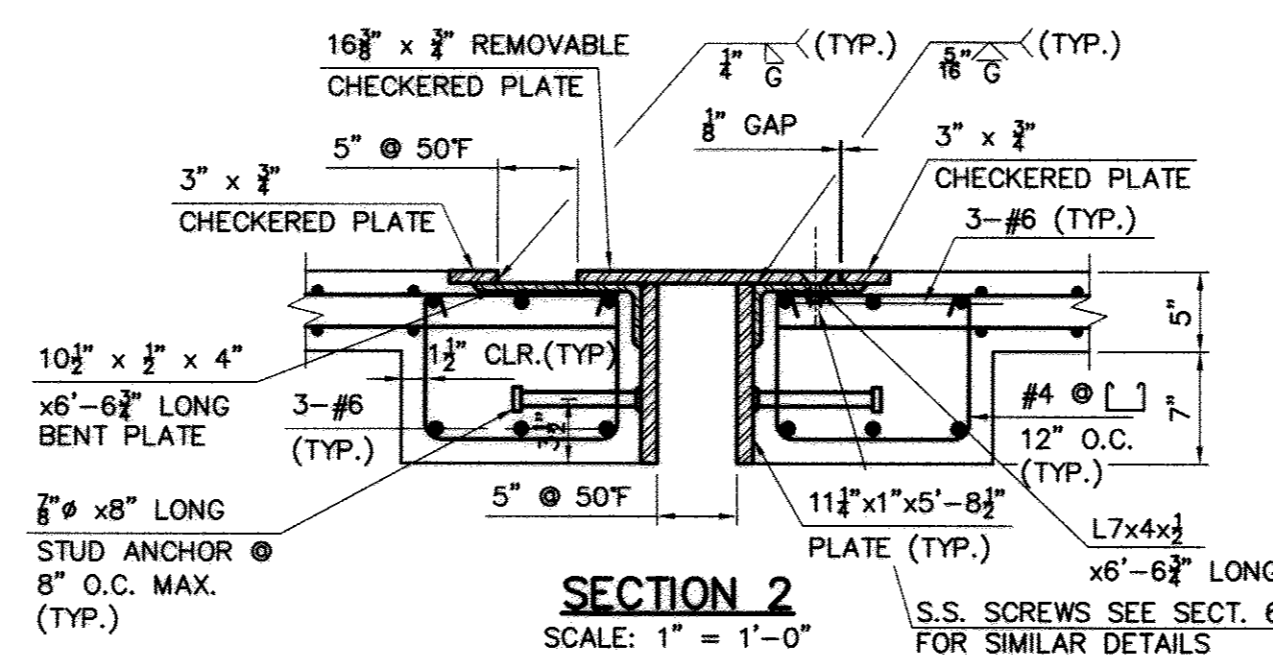
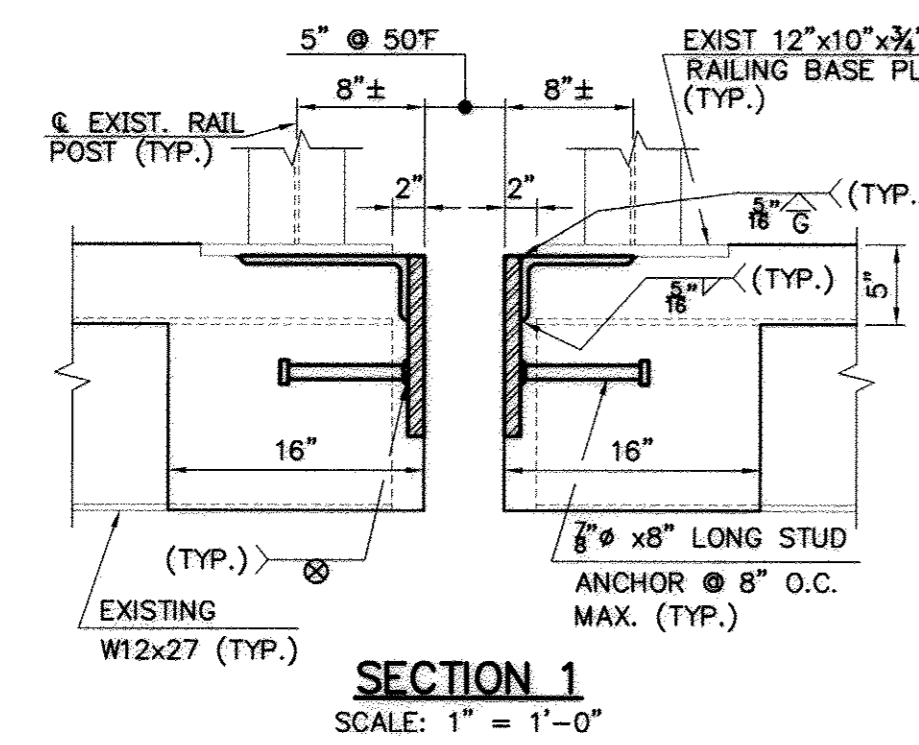


JOINT PLAN AT PIER 2
SCALE: 1/8" = 1'-0"

DETAIL A
SCALE: 1/2" = 1'-0"

DETAIL B
SCALE: 1/2" = 1'-0"

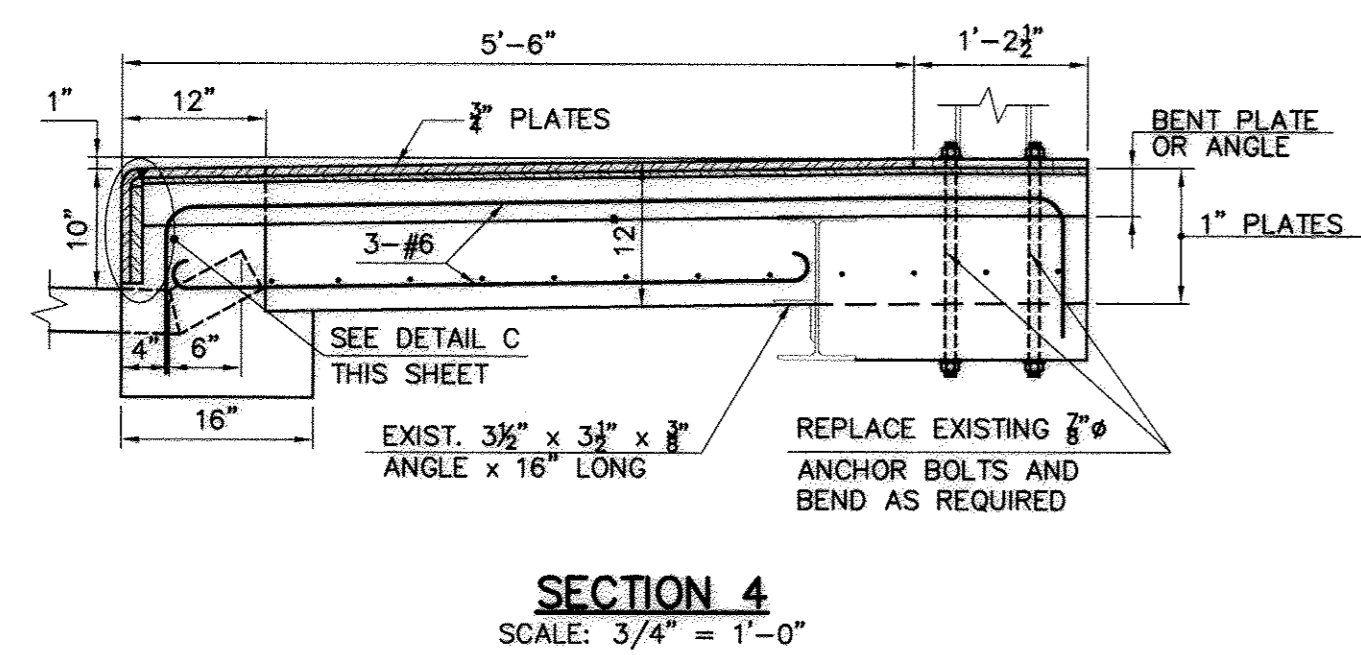
DETAIL C
SCALE: 1 1/2" = 1'-0"



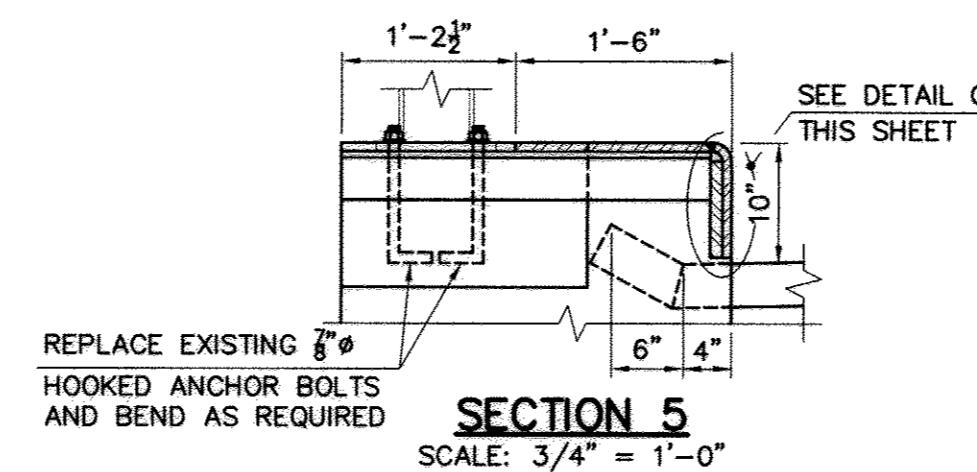
SECTION 1
SCALE: 1" = 1'-0"

SECTION 2
SCALE: 1" = 1'-0"

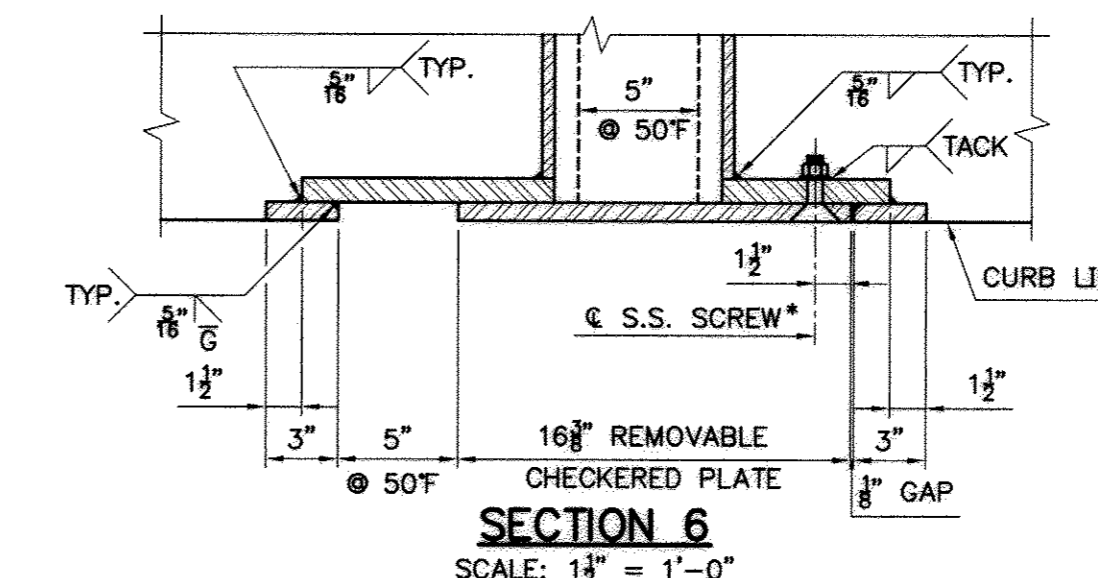
SECTION 3
SCALE: 1" = 1'-0"



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



SECTION 5
SCALE: 3/4" = 1'-0"



SECTION 6
SCALE: 1 1/2" = 1'-0"

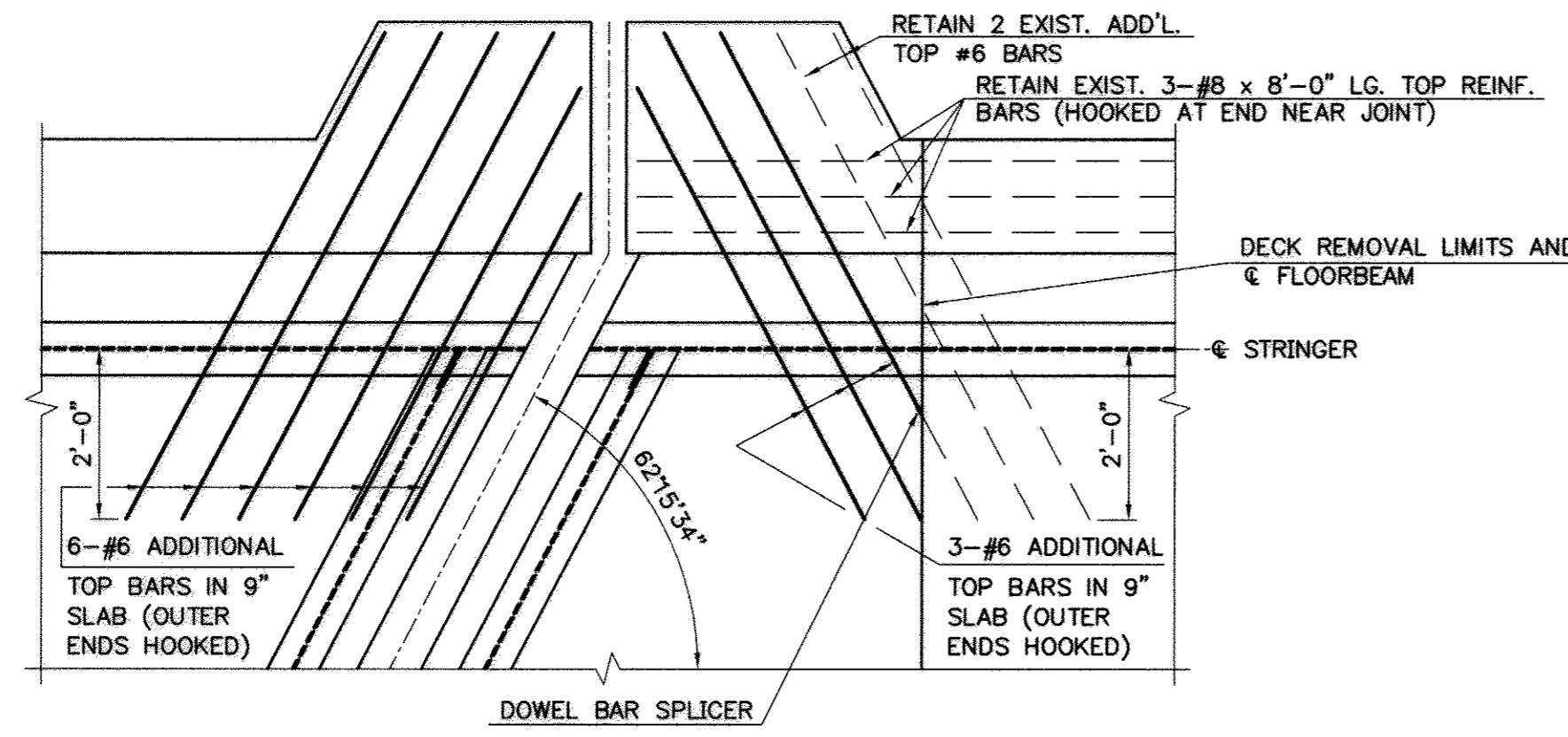
* 3/8" - N.C.S.S. MACHINE SCREWS, WITH S.S. NUTS. PRIOR TO PLACEMENT OF SIDEWALK/SAFETY CURB CONCRETE LUBRICATE, S.S. SCREWS WITH GRAPHITE AND SET SECURELY IN PLACE. MACHINE SCREWS TO BE TEMPORARILY REMOVED AFTER CONCRETE HAS ATTAINED FINAL SET.

SEPT. 20, 2008	ISSUED FOR CONSTRUCTION
DATE	
USE ONLY PRINTS OF LATEST DATE	

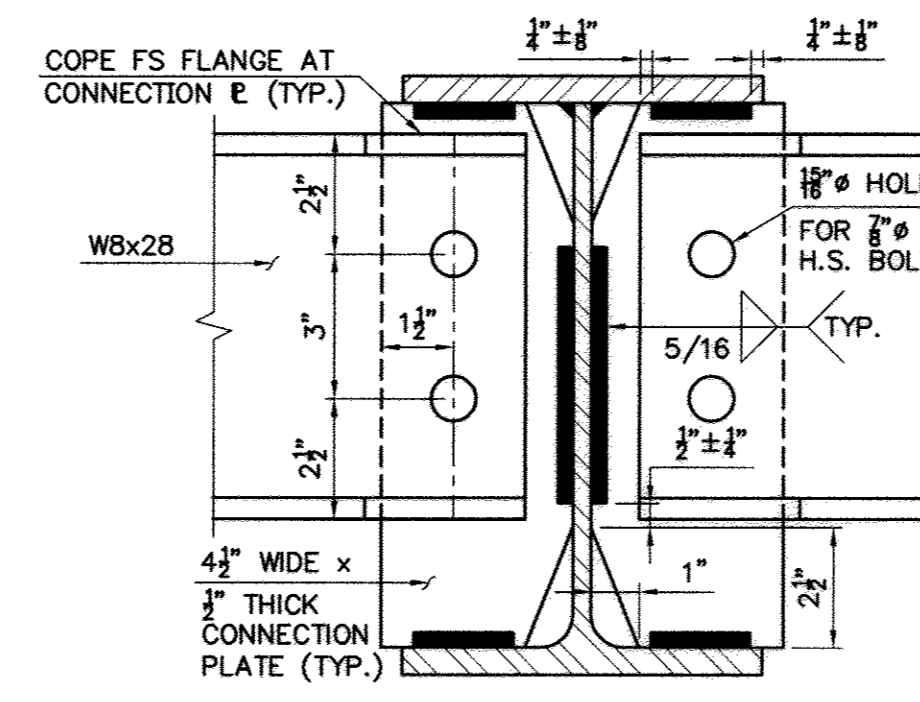
GREENFIELD - MONTAGUE
MONTAGUE CITY ROAD OVER CT RIVER

STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
MASS.	STP-001S(901)X		136	153
PROJECT FILE NO. 601585				

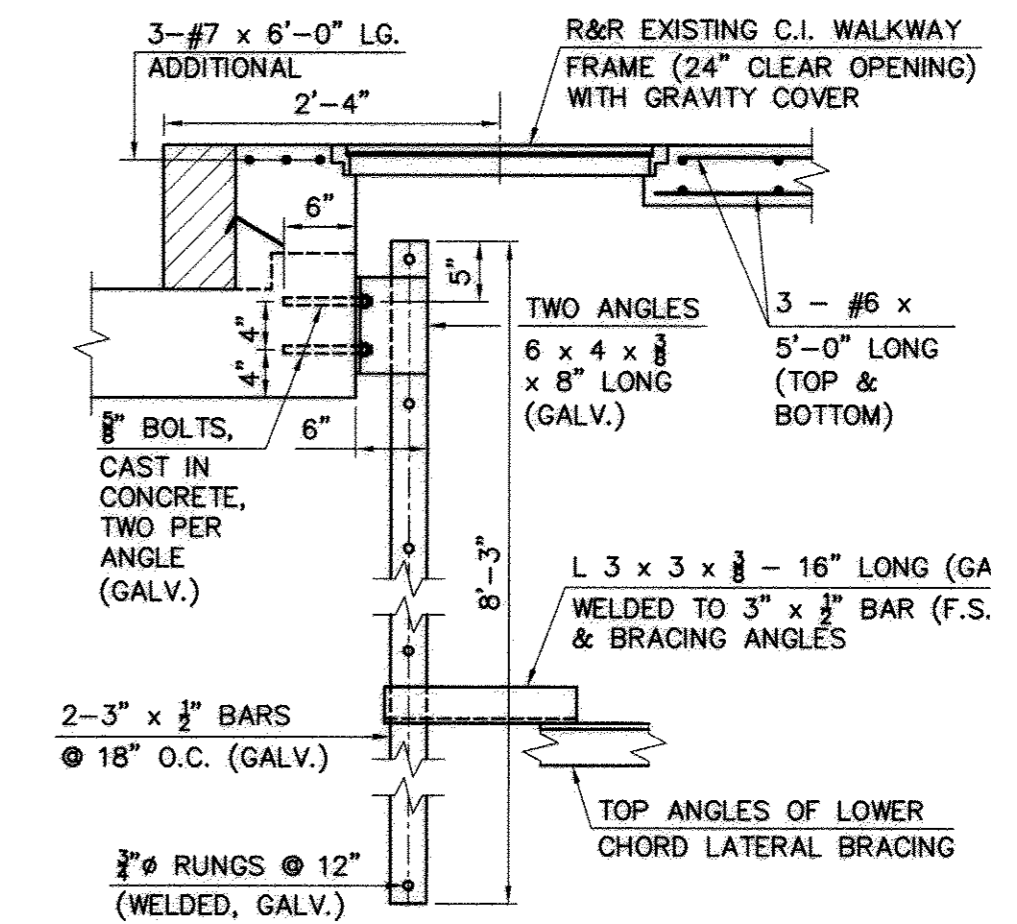
MODULAR JOINT DETAILS
AND MISCELLANEOUS DETAILS



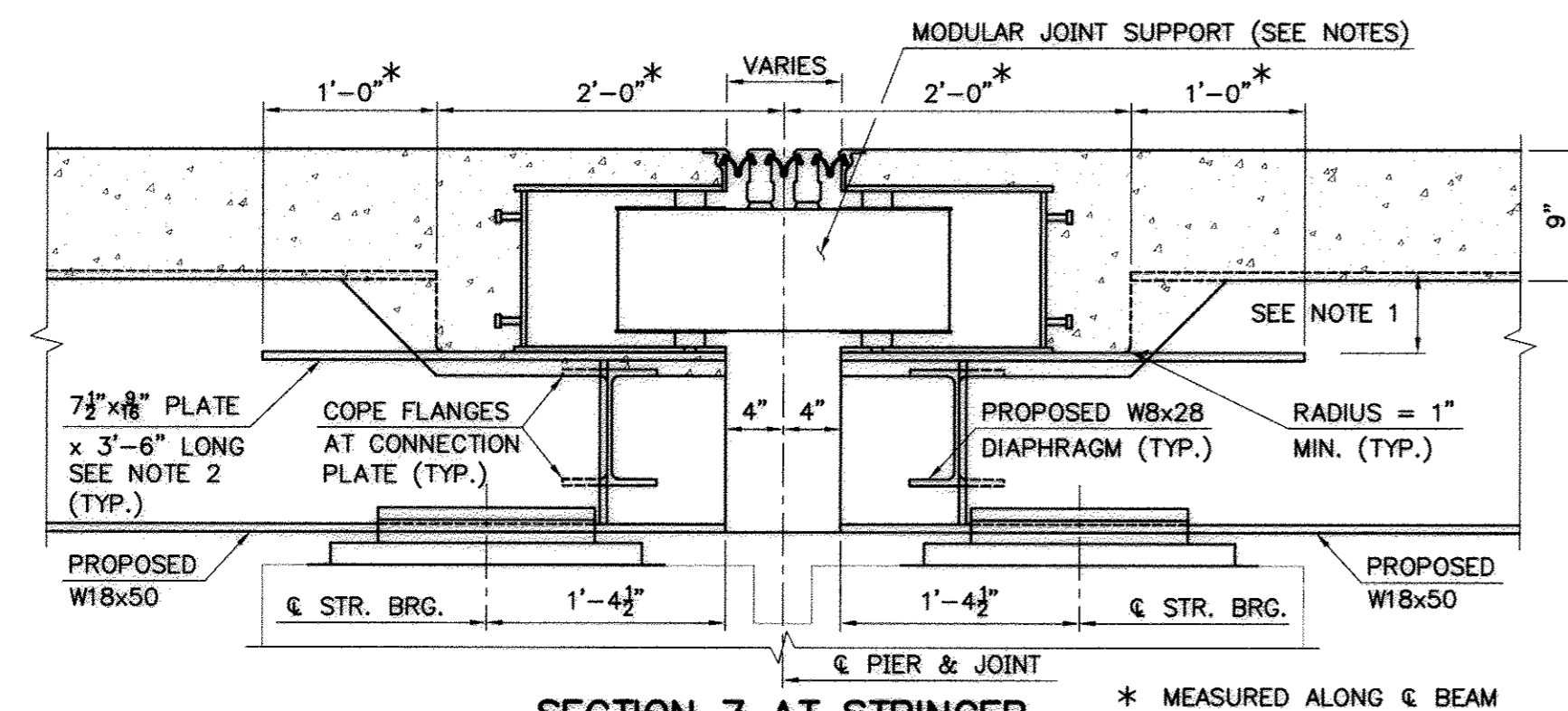
ADDITIONAL SLAB REINFORCING AT SAFETY CURB
SCALE: 1/2" = 1'-0"



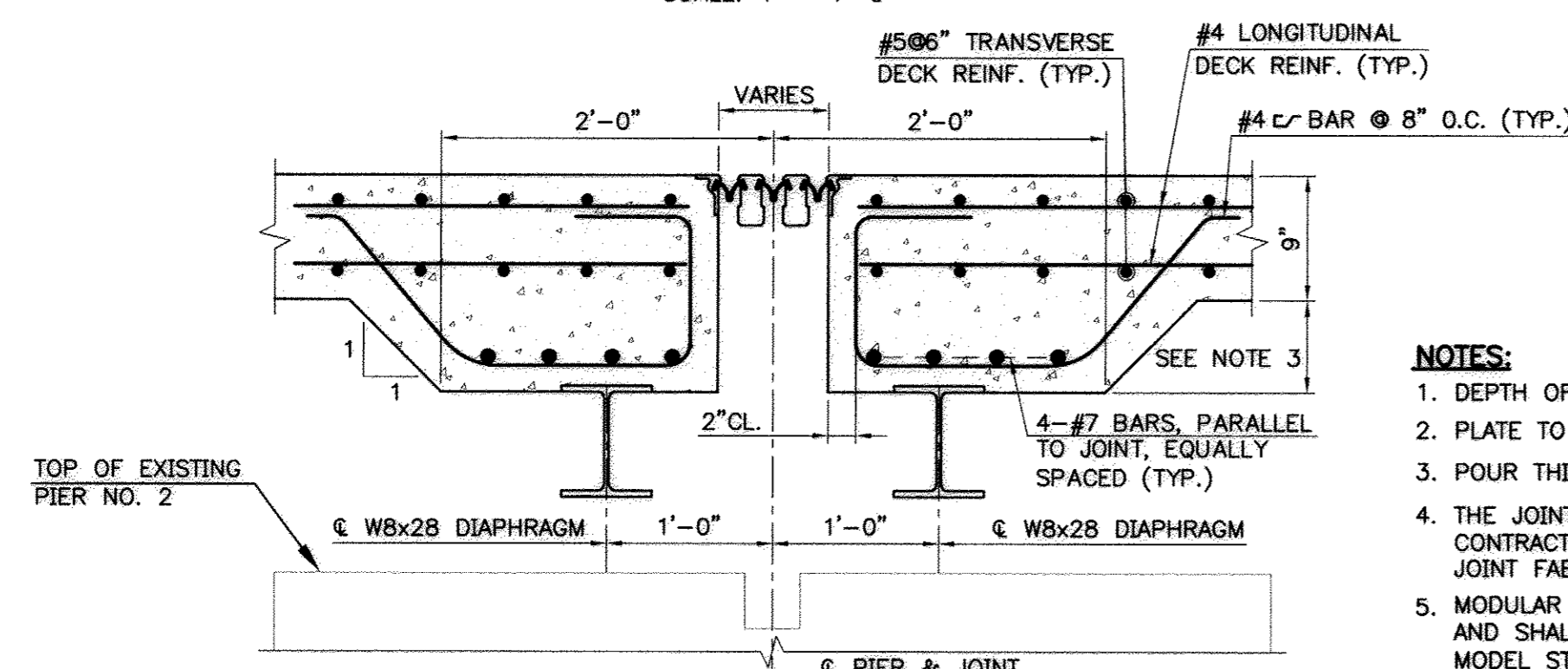
DIAPHRAGM CONNECTION DETAIL
SCALE: 3" = 1'-0"



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



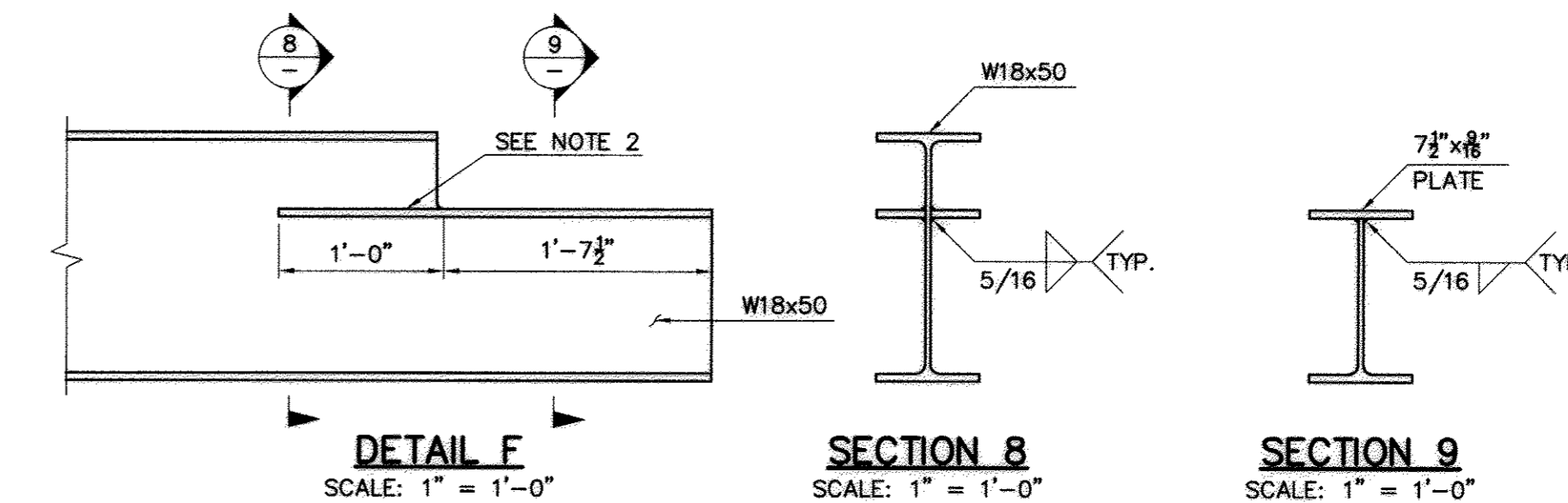
SECTION 7 AT STRINGER
SCALE: 1" = 1'-0"



SECTION 7 BETWEEN STRINGERS
SCALE: 1" = 1'-0"

NOTES:

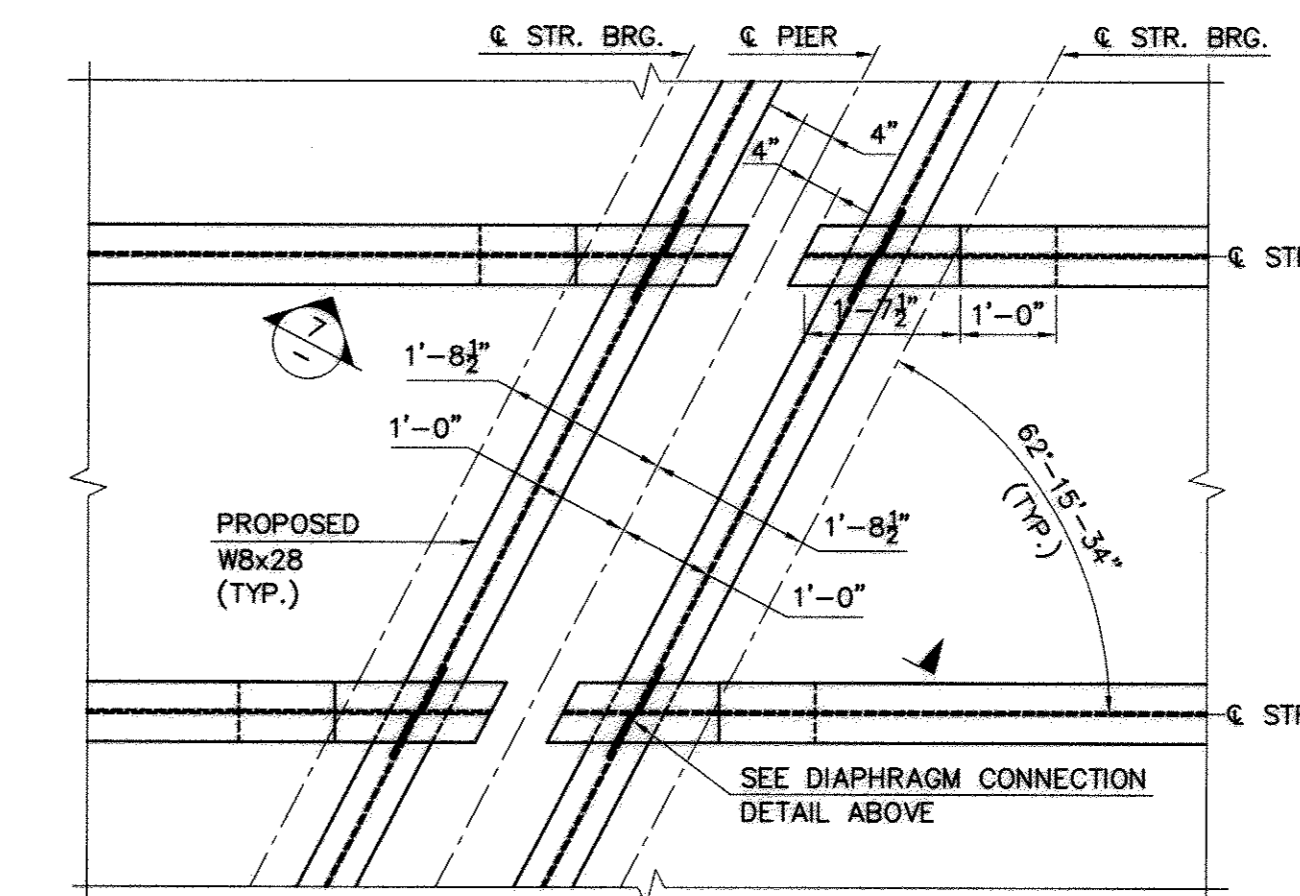
1. DEPTH OF COPE TO BE SET BY JOINT MANUFACTURER TO FIT MODULAR JOINT SUPPORT.
2. PLATE TO BE SLOTTED TO FIT AROUND PROPOSED W18x50 STRINGER, SEE DETAIL F.
3. POUR THICKENED SLAB TO BOTTOM OF TOP FLANGE OF PROPOSED W8x28 DIAPHRAGM.
4. THE JOINT SHALL BE FABRICATED TO MATCH THE ELEVATION OF THE EXISTING ROADWAY. CONTRACTOR TO FIELD MEASURE AND SURVEY EXISTING CONDITIONS PRIOR TO JOINT FABRICATION.
5. MODULAR EXPANSION JOINT SYSTEM SHALL PROVIDE FOR A TOTAL MOVEMENT OF 9" AND SHALL BE EITHER D.S. BROWN MODEL D-240, THE WATSON-BOWMAN ACME MODEL STM 900 OR APPROVED EQUAL. SEE SPECIFICATIONS.
6. INTERMEDIATE SUPPORT BOXES MAY BE REQUIRED BETWEEN STRINGERS DEPENDING UPON THE SUPPORT SPACING REQUIREMENTS OF THE JOINT MANUFACTURER.



DETAIL F
SCALE: 1" = 1'-0"

SECTION 8
SCALE: 1" = 1'-0"

SECTION 9
SCALE: 1" = 1'-0"



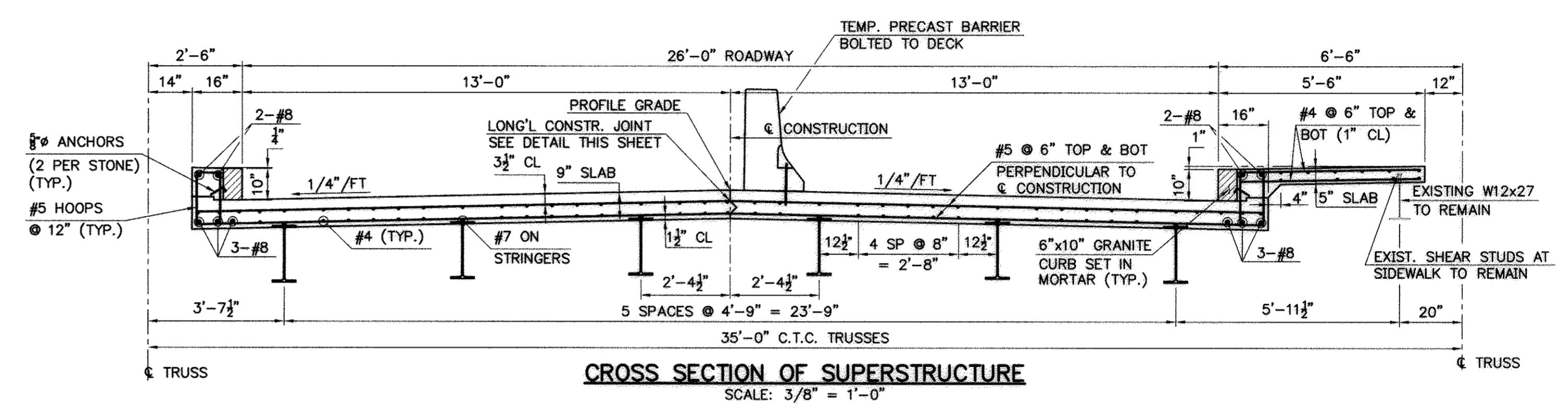
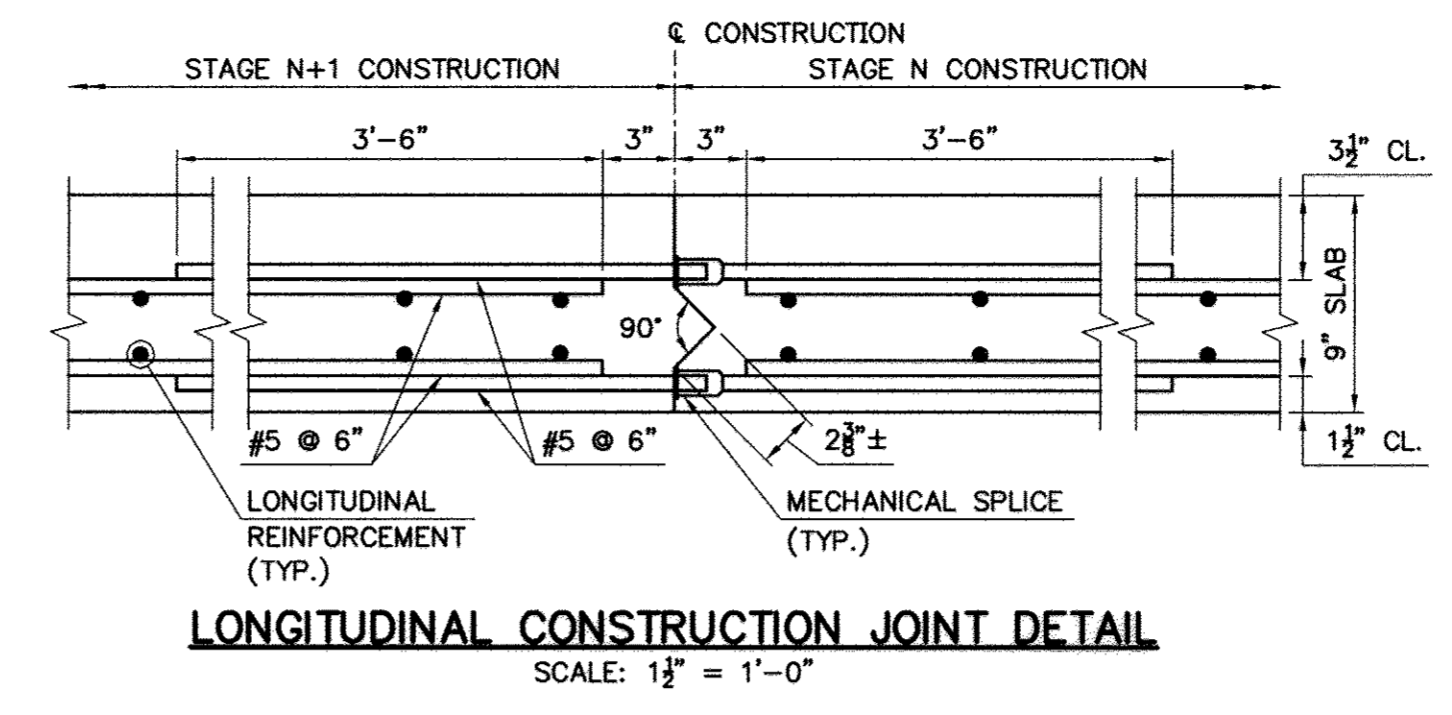
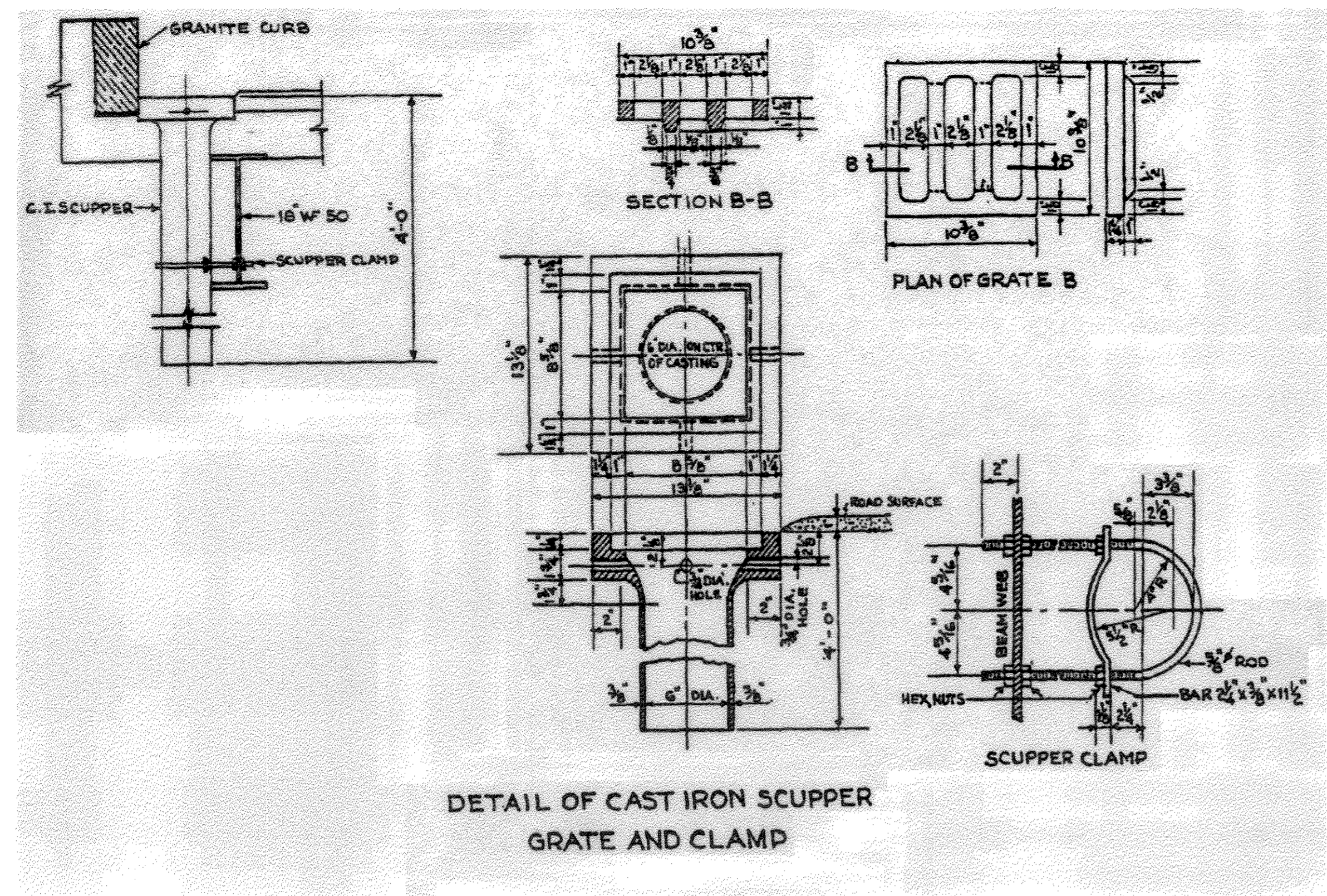
DETAIL D
SCALE: 1/2" = 1'-0"

SEPT. 20, 2008	ISSUED FOR CONSTRUCTION
DATE	USE ONLY PRINTS OF LATEST DATE

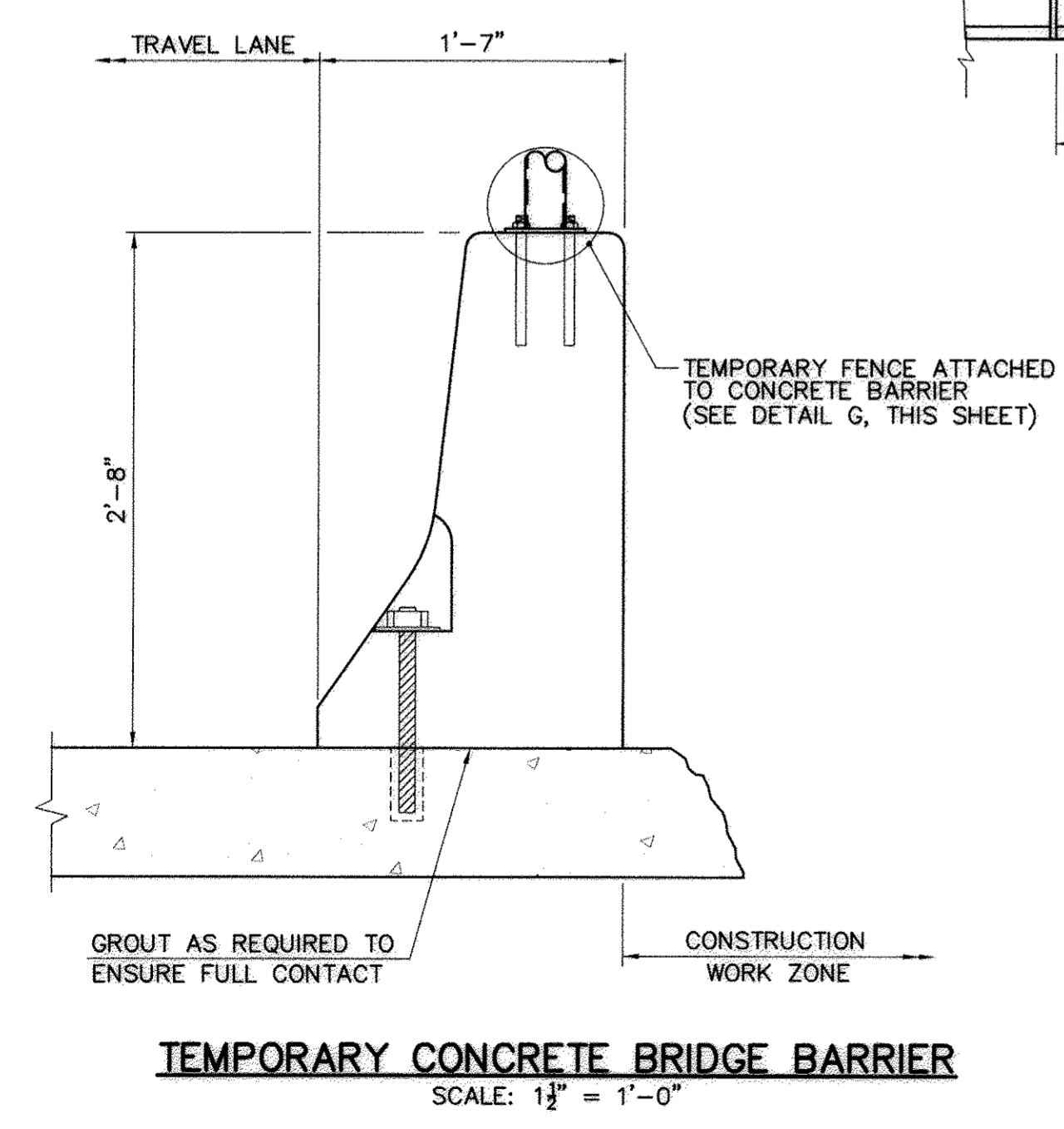
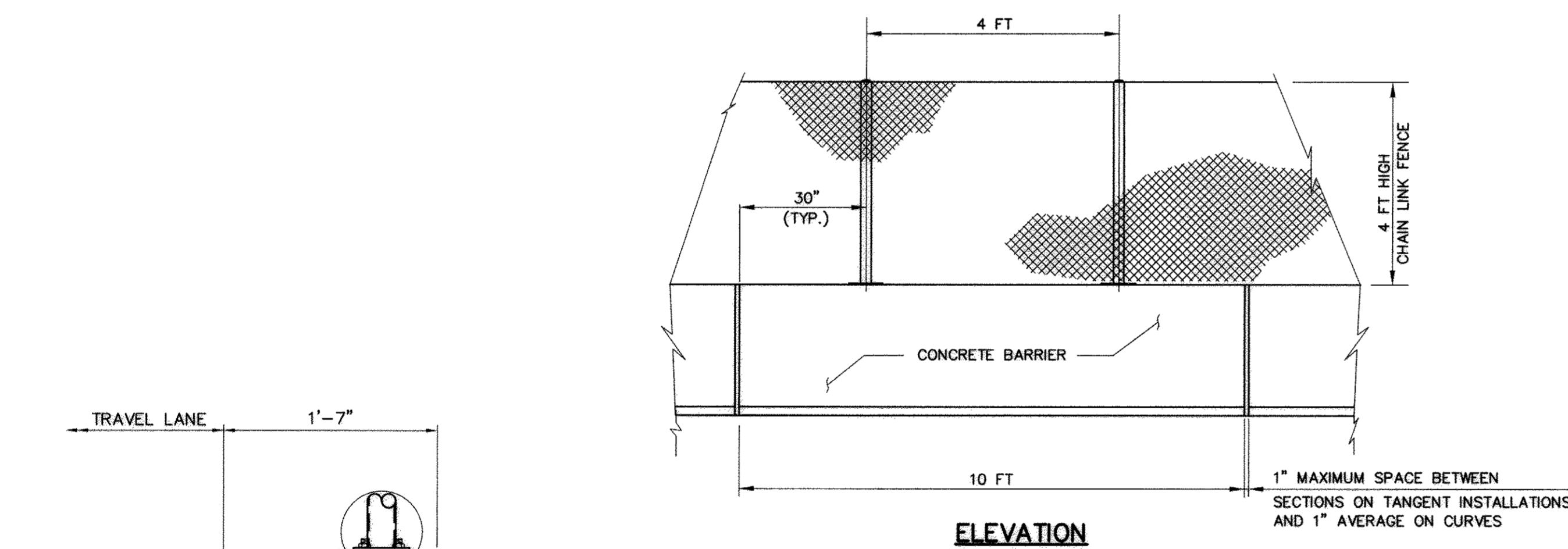
**GREENFIELD - MONTAGUE
MONTAGUE CITY ROAD OVER CT RIVER**

STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
MASS.	STP-001S(901)X		137	153
PROJECT FILE NO. 601585				

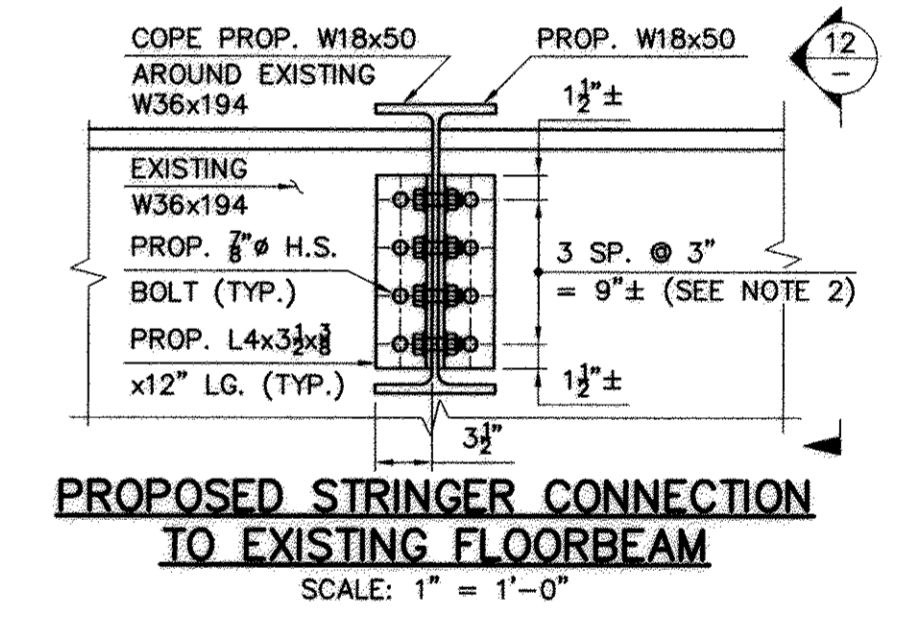
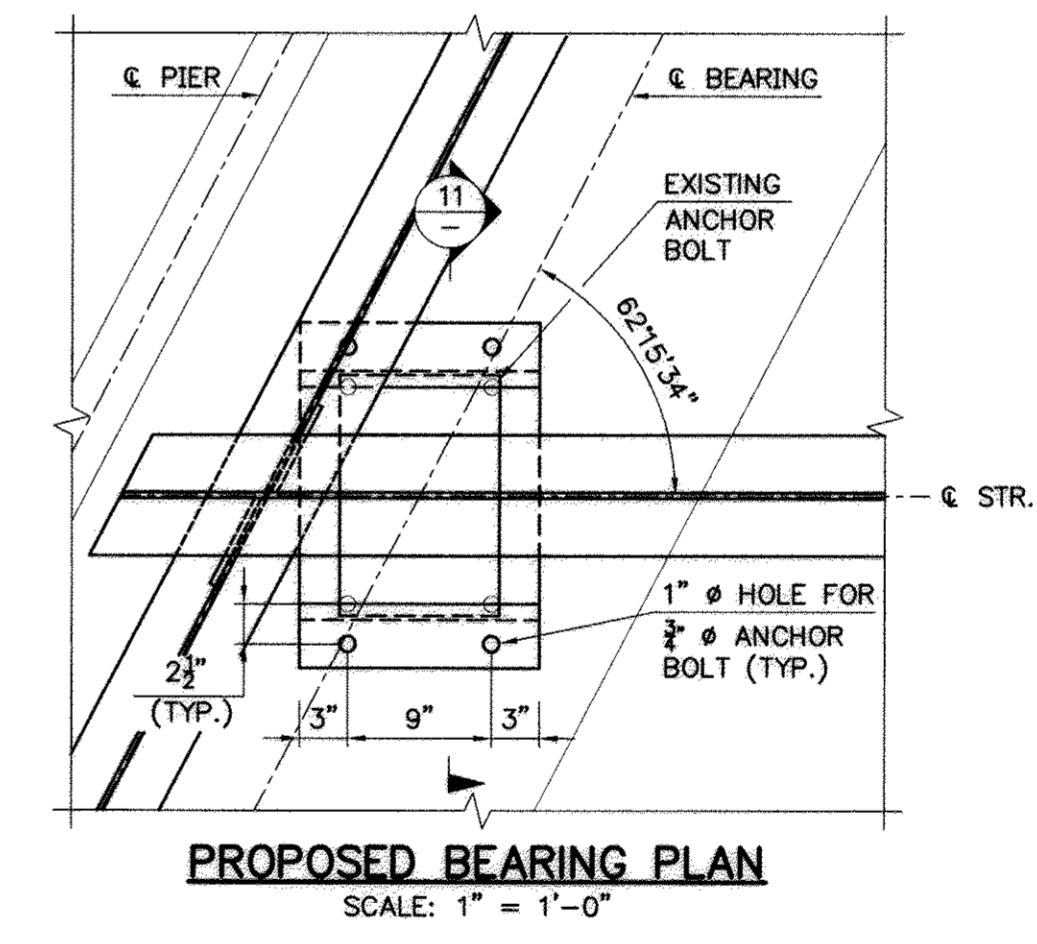
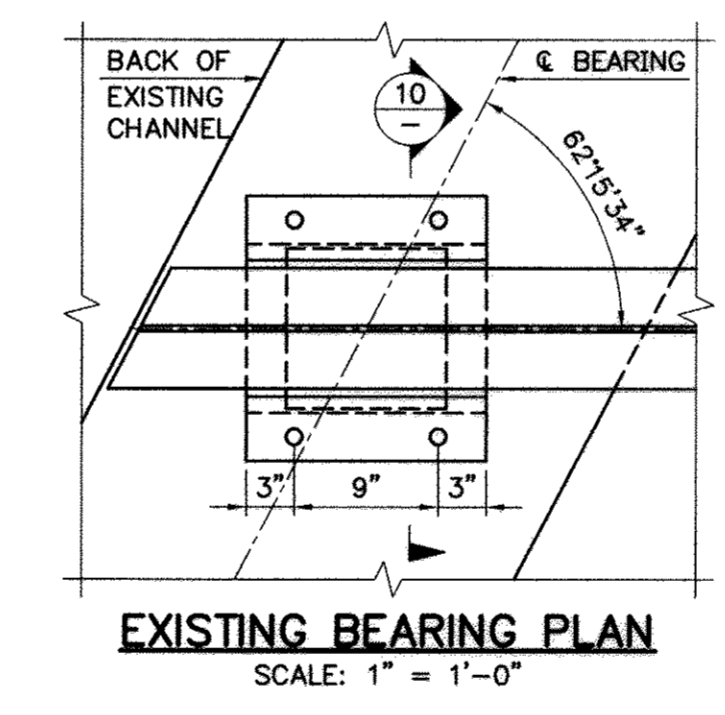
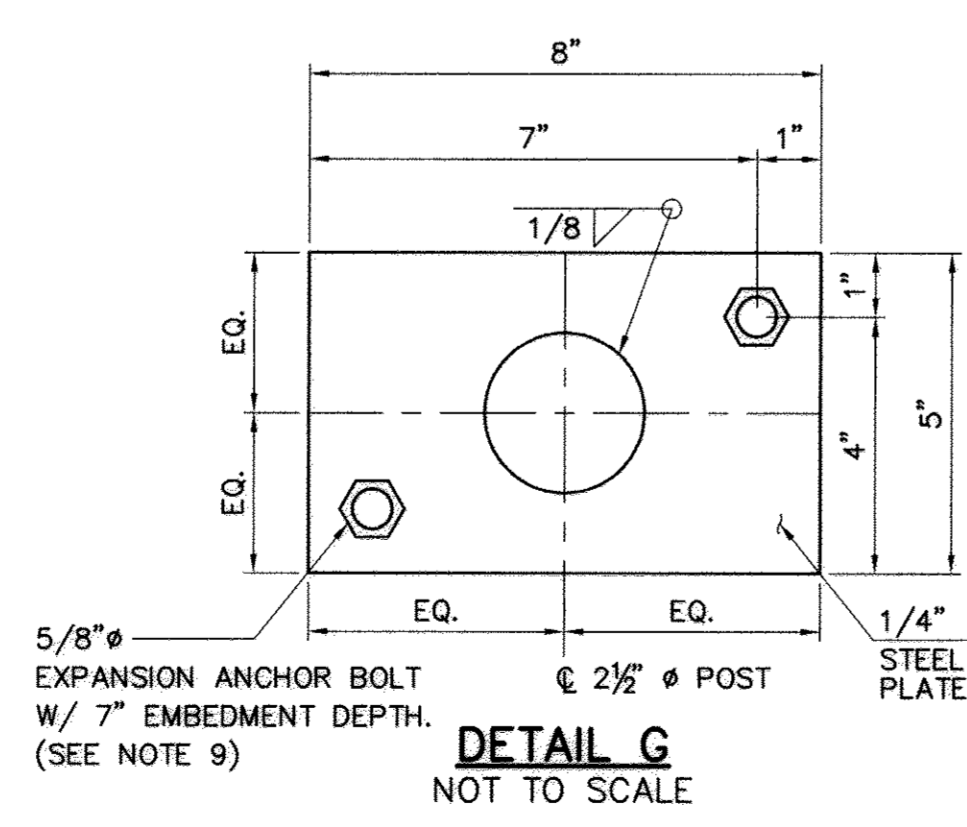
**TYPICAL CROSS SECTION,
STRINGER BEARINGS & CONNECTIONS**



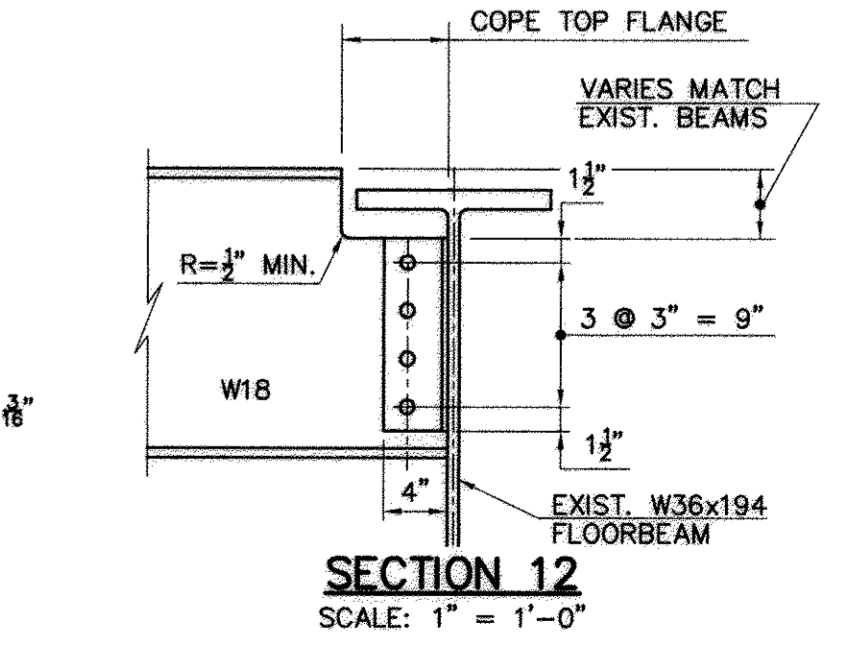
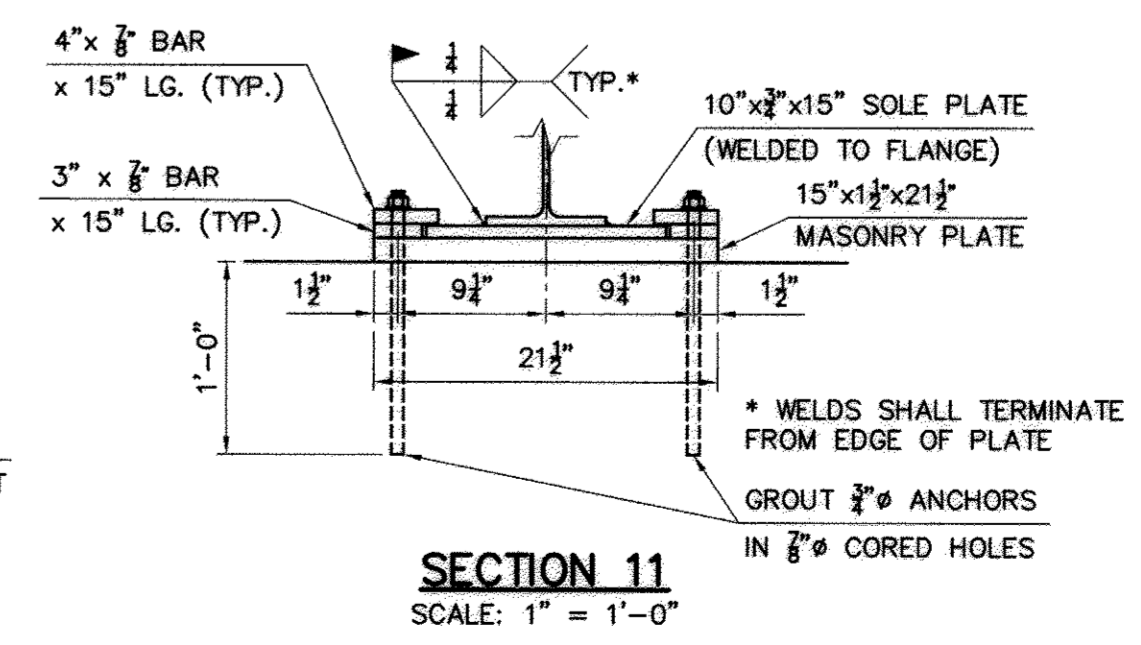
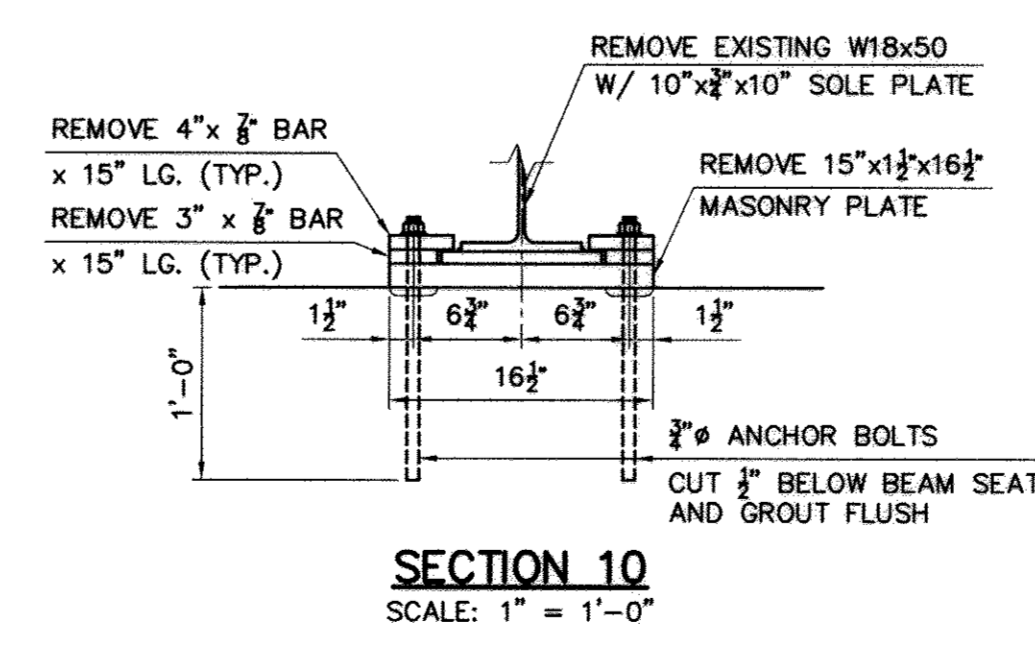
- NOTES:**
- 9" SLAB TO BE HAUNCHED DOWN TO TOP FLANGE OF FLOORBEAM.
 - PROPOSED DECK, SIDEWALK, AND SAFETY CURB TO BE 5000 P.S.I.-3/4"-685 HP CEMENT CONCRETE.
 - ALL LONGITUDINAL REINFORCEMENT SHALL BE PLACED PARALLEL TO THE C OF CONSTRUCTION.
 - ALL TRANSVERSE REINFORCEMENT SHALL BE PLACED PERPENDICULAR TO THE C OF CONSTRUCTION.
 - ALL REINFORCEMENT AND SUPPORT DEVICES SHALL BE COATED.



- TEMPORARY CONCRETE BARRIER NOTES:**
- ANCHORS FOR TEMPORARY FENCE TO BARRIER SHALL CONFORM TO FEDERAL SPECIFICATION FF-325, GROUP II, TYPE 4 CLASS 1 STAINLESS STEEL AND AISI TYPE 304.



- PROPOSED STRINGER CONNECTION NOTES:**
- PROVIDE TEMPORARY SUPPORT FOR STRINGERS IN ADJACENT BAYS
 - FIELD DRILL HOLES IN PROPOSED CONNECTION ANGLE TO MATCH EXISTING HOLES IN EXISTING FLOORBEAM.
 - BOLTED FIELD CONNECTIONS SHALL BE SLIP-CRITICAL CONNECTIONS TYPE "A".
- PROPOSED STRINGER BEARING NOTES:**
- STEEL PLATES SHALL CONFORM TO AASHTO M270 GRADE 36 AND SHALL BE HOT-DIP GALVANIZED IN ACCORDANCE WITH SUBSECTION 960.64.
 - ANCHOR BOLTS SHALL CONFORM TO ASTM A449. ANCHOR BOLTS, NUTS, AND WASHERS SHALL BE HOT-DIP GALVANIZED IN ACCORDANCE WITH AASHTO M232.



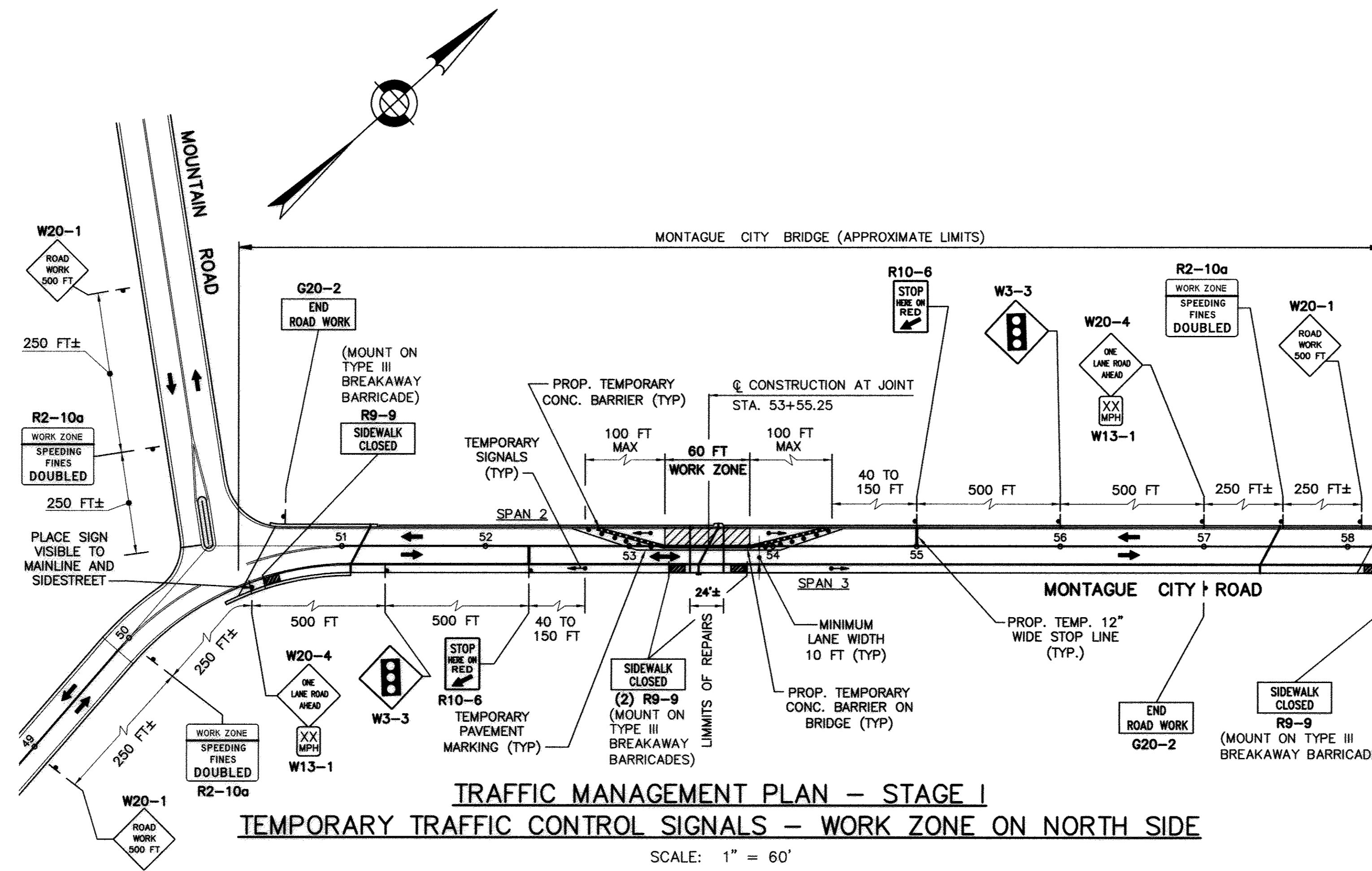
SEPT. 20, 2008	ISSUED FOR CONSTRUCTION
DATE	USE ONLY PRINTS OF LATEST DATE

FILE NAME: G-M-SM_5.dwg 07-02-08 12:05 srm/ils

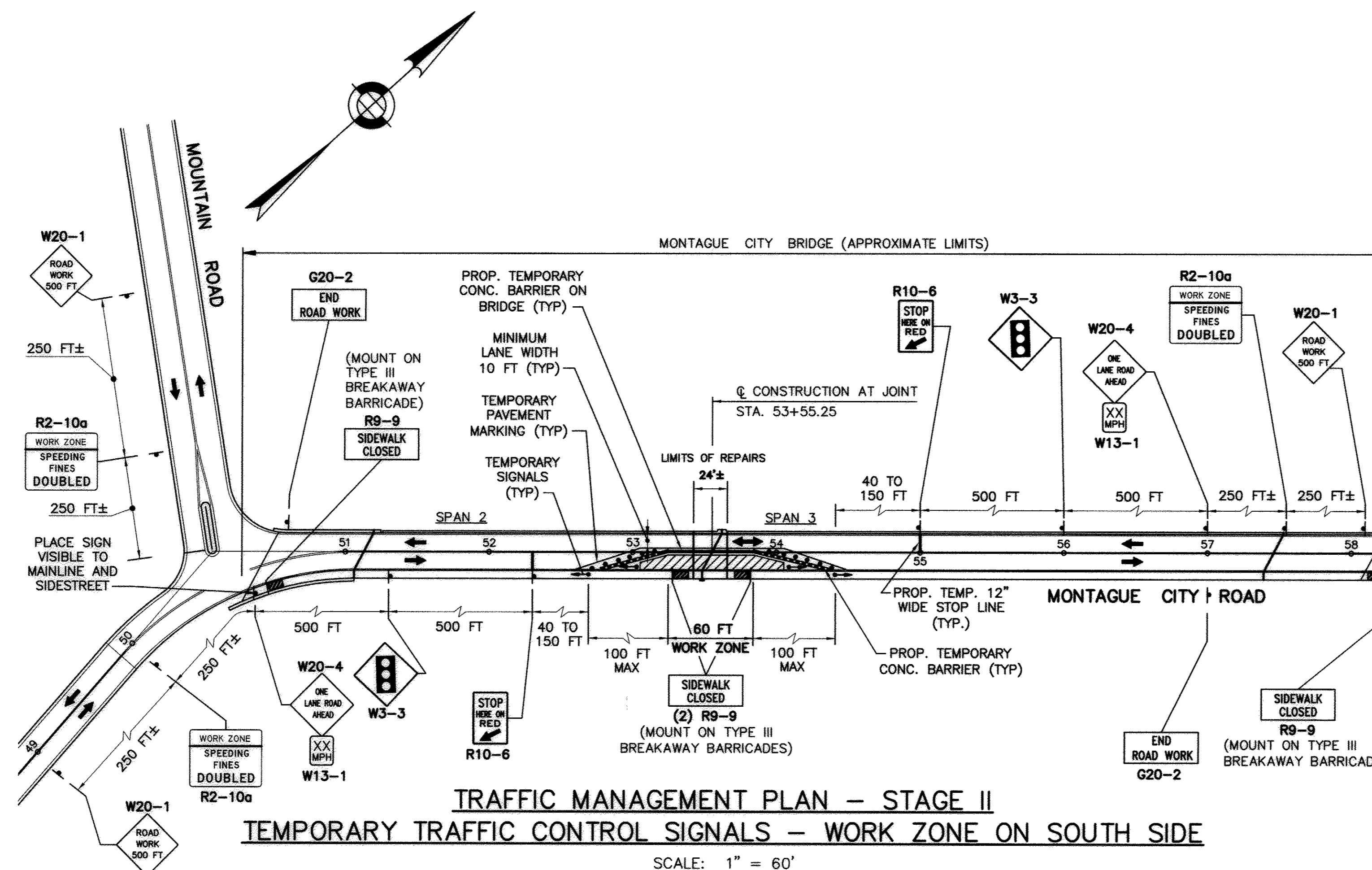
GREENFIELD - MONTAGUE
MONTAGUE CITY ROAD OVER CT RIVER

STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
MASS.	STP-0015(901)X		138	153
PROJECT FILE NO. 601585				

TRAFFIC MANAGEMENT PLAN



- LEGEND**
- ← DIRECTION OF TRAVEL
 - ⊥ PROPOSED SIGN
 - ▨ WORK AREA
 - ⬄ TEMPORARY TRAFFIC SIGNAL
 - TEMPORARY CONCRETE BARRIER
 - TEMPORARY CONCRETE BARRIER ON BRIDGE (SINGLE FACED)
 - ▨ TYPE III BREAKAWAY BARRICADE
 - REFLECTORIZED DRUM OR REFLECTORIZED DRUM WITH FLASHER (TYPE A)
- NOTE: THE FIRST 3 DRUMS ON EACH LANE CLOSURE TAPER SHALL BE REFLECTORIZED DRUMS WITH FLASHER (TYPE A).

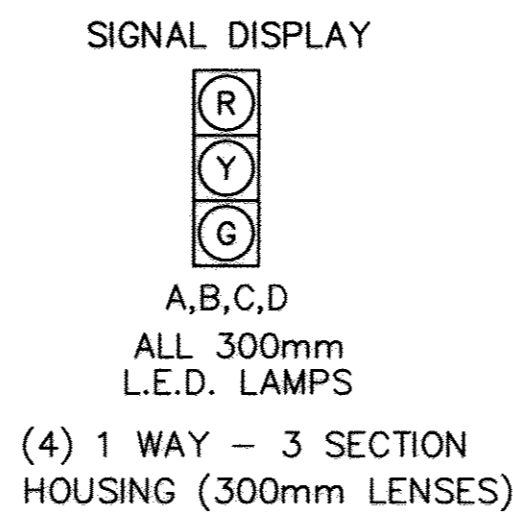


SEPT. 20, 2008	ISSUED FOR CONSTRUCTION
DATE	
USE ONLY PRINTS OF LATEST DATE	

STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
MASS.	STP-0015(901)X		139	153
PROJECT FILE NO. 601585				

TRAFFIC MANAGEMENT PLAN

			← →			← →			EMERGENCY FLASH OPERATION
			PHASE 1			PHASE 2			
STREET	DIR.	FACE	1	2	3	4	5	6	
Montague City Rd	EB	A,B	G	Y	R	R	R	R	R
Montague City Rd	WB	C,D	R	R	R	G	Y	R	R
TIMING IN SECONDS									
MINIMUM GREEN			10			10			
VEHICLE INTERVAL			2			2			
MAXIMUM GREEN I			25			25			
MAXIMUM GREEN II			25			25			
YELLOW CLEAR				2.1			2.1		
ALL RED CLEAR					7.3			7.3	
WALK INTERVAL									
PED CLEARANCE									
DETECTOR			LOCK			LOCK			
RECALL TO MINIMUM			OFF			OFF			



SEQUENCE NOTES:

- CONTROLLER TO BE SET TO "REST IN RED" I.E. AT THE END OF INTERVAL 3 OR INTERVAL 6.
- ALL SIGNALS SHALL FLASH "R" IN THE EVENT OF A SIGNAL MALFUNCTION. THE POLICE SHALL BE NOTIFIED IMMEDIATELY.

TRAFFIC MANAGEMENT PLAN
TEMPORARY TRAFFIC CONTROL SIGNALS - SEQUENCE AND TIMING

NOT TO SCALE

SIGNING FOR CONSTRUCTION OPERATIONS											
IDENTIFICATION NUMBER	SIZE OF SIGN		TEXT	TEXT DIMENSIONS (INCHES)		NO. OF SIGNS REQ'D	COLOR			UNIT AREA IN SQUARE FEET	AREA IN SQUARE FEET
	WIDTH (INCH)	HEIGHT (INCH)		LETTER HEIGHT	VERTICAL SPACING		BACK-GROUND	LEGEND	BORDER		
R2-10a	48	36	WORK ZONE SPEEDING FINES DOUBLED			3				12.00	36
R10-6	24	36	STOP HERE ON RED			2				6.00	12
W3-3	48	48				2				16.00	32
W13-1	24	24				2				4.00	8
W20-1 (500 FT)	48	48				3				16.00	48
W20-4 (AHEAD)	48	48				2				16.00	32
G20-2	48	24	END ROAD WORK			2				8.00	16
R9-9	24	12	SIDEWALK CLOSED			4				2.00	8

TOTAL = 192 SF

GENERAL TRAFFIC MANAGEMENT NOTES

- ALL TRAFFIC CONTROL MEASURES SHALL CONFORM TO THE 2003 MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (M.U.T.C.D.) AND AS AMENDED, THE STANDARD SPECIFICATIONS, AND THE FOLLOWING:
- THESE TRAFFIC MANAGEMENT PLANS ARE PROVIDED AS A GUIDE FOR TYPICAL WORK ZONE TRAFFIC CONTROL APPLICATIONS. THEY ARE NOT INTENDED TO COVER ALL POSSIBLE CONSTRUCTION OPERATIONS WHICH THE CONTRACTOR MAY EMPLOY. TRAFFIC CONTROL FOR OTHER CONSTRUCTION OPERATIONS, IF APPLICABLE, SHALL BE IN ACCORDANCE WITH THE 2003 M.U.T.C.D. (AS AMENDED), AND AS DIRECTED BY THE MHD RESIDENT ENGINEER.
- TRAFFIC CONTROL DEVICES THAT ARE NOT NECESSARY SHALL BE REMOVED SO AS NOT TO CAUSE CONFUSION OR BE A HAZARD TO MOTORISTS.
- ALL SIGNS, INCLUDING EXISTING, THAT ARE NOT REPRESENTATIVE OF ACTUAL WORK CONDITIONS SHALL BE EITHER COVERED OR REMOVED WHEN NOT APPLICABLE.
- A MINIMUM WIDTH OF 10' SHALL BE PROVIDED FOR EACH TRAVEL LANE DURING ALL PHASES OF CONSTRUCTION AS SHOWN ON THE TRAFFIC MANAGEMENT PLANS, UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
- FORMULAS FOR TAPER LENGTH ARE AS FOLLOWS:
FOR SPEED LIMITS OF 40mph OR LESS:
$$L = \frac{W \times S^2}{60}$$
FOR SPEED LIMITS OF 45mph OR GREATER:
$$L = W \times S$$
WHERE: L = TAPER LENGTH IN FEET
S = POSTED SPEED IN MPH
W = WIDTH OF OFFSET IN FEET
- ADVISORY SPEED LIMIT SIGNS (W13-1) SHALL BE SET IN THE FIELD BY THE ENGINEER, WHERE APPROPRIATE. SPEED LIMITS TO BE APPROVED BY MHD.
- PORTABLE CHANGEABLE MESSAGE SIGNS SHALL BE PLACED AT LOCATIONS DETERMINED BY THE RESIDENT ENGINEER INSTRUCTING WIDE LOADS TO SEEK ALTERNATE ROUTES.
- REFLECTORIZED DELINEATORS SHALL BE USED ON ALL TANGENT BARRIERS IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.
- THE MAXIMUM SPACING BETWEEN CHANNELIZATION DEVICES (IN FEET) SHALL BE 1.0 TIMES THE SPEED LIMIT IN MPH FOR TAPER CHANNELIZATION AND 2.0 TIMES THE SPEED LIMIT IN MPH FOR TANGENT CHANNELIZATION. IF AN ADVISORY SPEED LIMIT IS IMPLEMENTED, THEN THE SAME SHALL BE USED FOR MAXIMUM SPACING OF CHANNELIZING DEVICES.
- ALL SIGNS, SUPPORTS AND TRAFFIC CONTROL DEVICES SHALL CONFORM TO NCHRP REPORT 350.

FILE NAME: G-M_Sht 7.dwg, 07-02-08, 14:15, smillis

SEPT. 20, 2008	ISSUED FOR CONSTRUCTION
DATE	
USE ONLY PRINTS OF LATEST DATE	