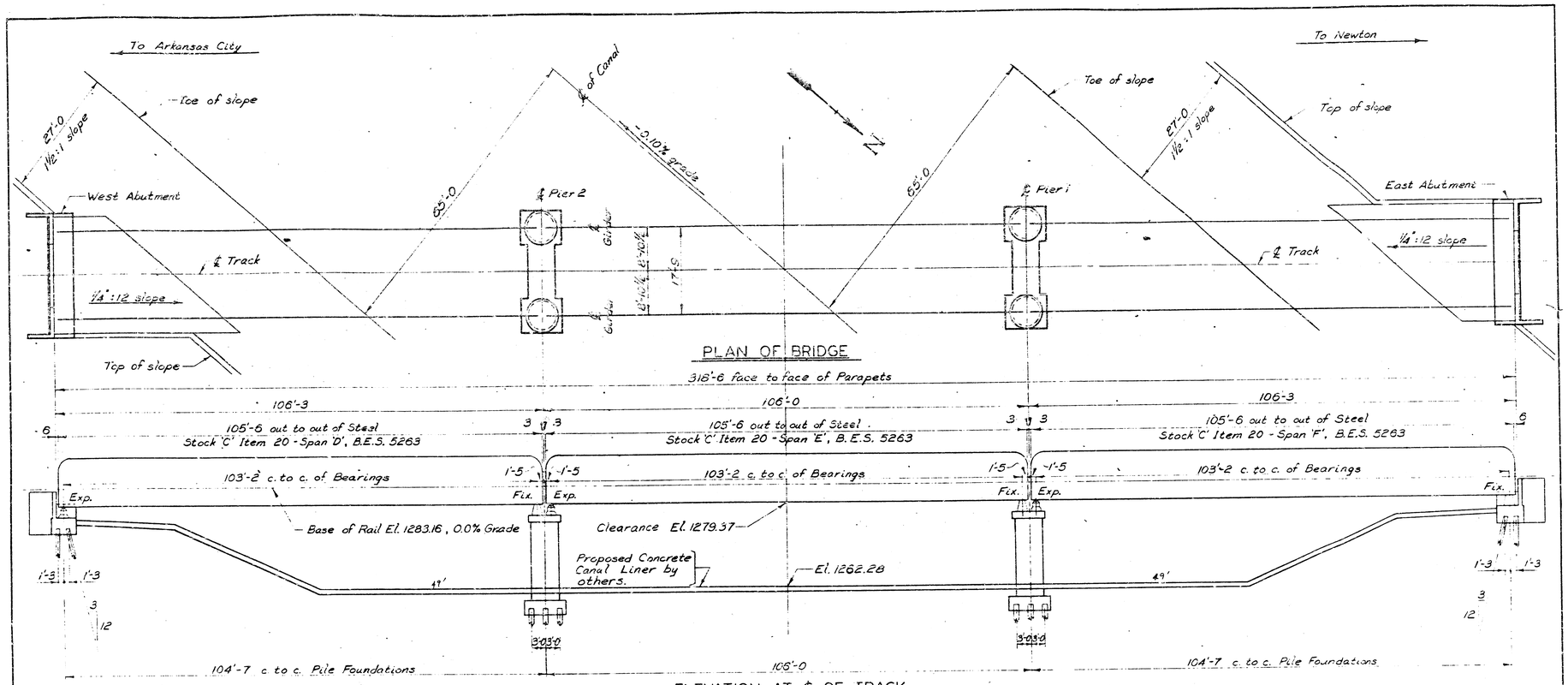


Base of Rail	To Masonry	To Clearance
Tie & Tie Plate	7¾	7¾
Ballast	8	8
Deck	4	4
Floorbeam	1'-8	1'-8
To back of Flange ∠	2⅛	2⅛
Sole Plate	0⅞	2⅞ (4-Cov. Pl's)
Cast Shoe	2'-2⅛	0¾ Rivet Hd.
Total	5'-8⅞	3'-9½

468-76-245-81104 - 000-000-907

3-105'-6 S.T. 'DD'-Spans on Tangent

SHEET 2 OF 6 DRAWINGS

B.E.S. 2215

THE A. T. & S. F. RY. COMPANY

BR. 215.9, 3RD DIST., MIDDLE DIVISION

GENERAL PLAN

SCALE: NONE

CHICAGO, ILL., MAY 1979

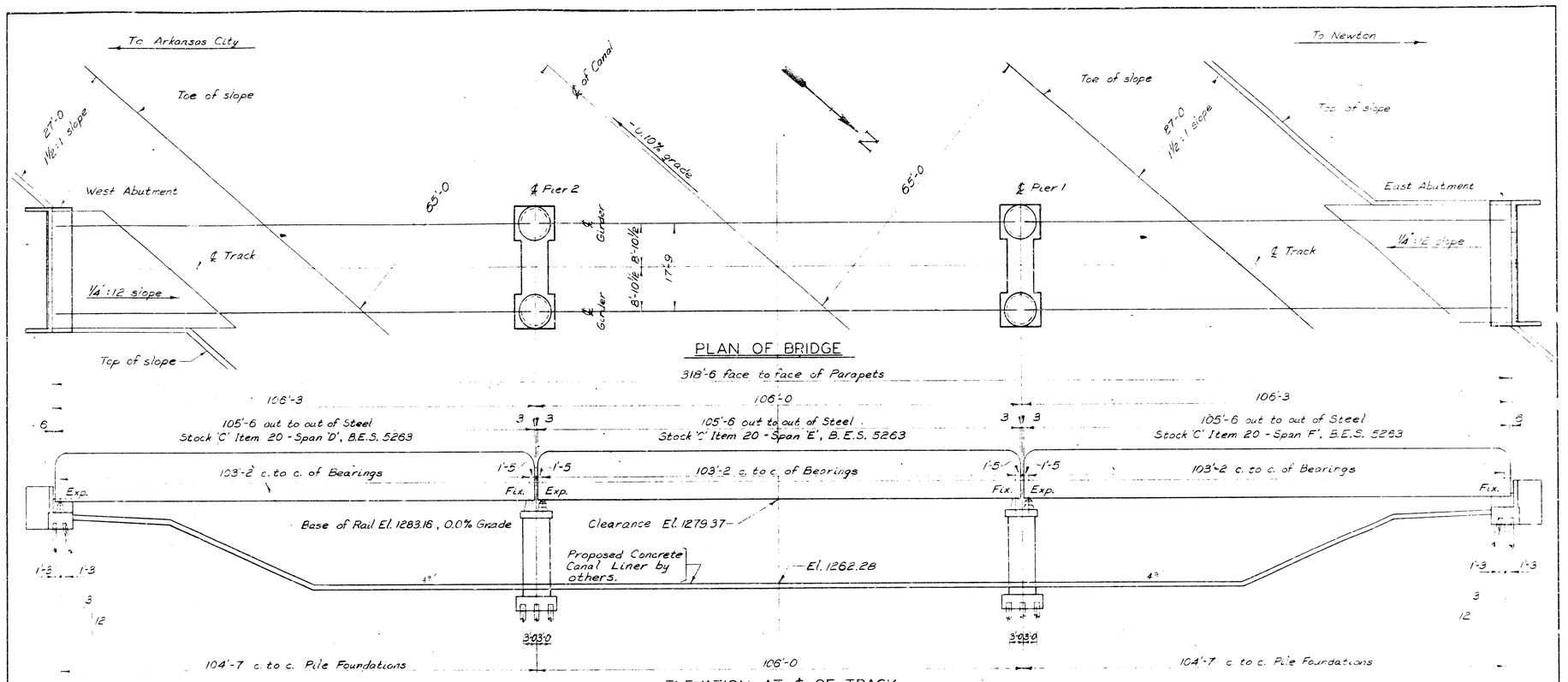
CORRECT:

APPROVED:

BRIDGE ENGINEER SYSTEM

CHIEF ENGINEER

Made by: WPW
Checked by: FMS
Examined by: CAH



BASE OF RAIL	TO MASONRY	TO CLEARANCE
Tie & Tie Plate	7¾	7¾
Ballast	8	8
Deck	4	4
Floorbeam	1'-8	1'-8
To back of Flange ∠	2⅛	2⅛
Sole Plate	0⅞	2⅞ (4-Con. R's)
Cast Shoe	2'-2⅛	0¾ Rivet Hd.
Total	5'-8⅞	3'-9½

458-76-245-8110.1 - 040-000-007

3-105'-6 S.T. 'DD'-Spans on Tangent

SHEET 2 OF 6 DRAWINGS

B.E.S. 2215

THE A.T. & S.F. RY. COMPANY

BR. 215.9, 3RD DIST., MIDDLE DIVISION

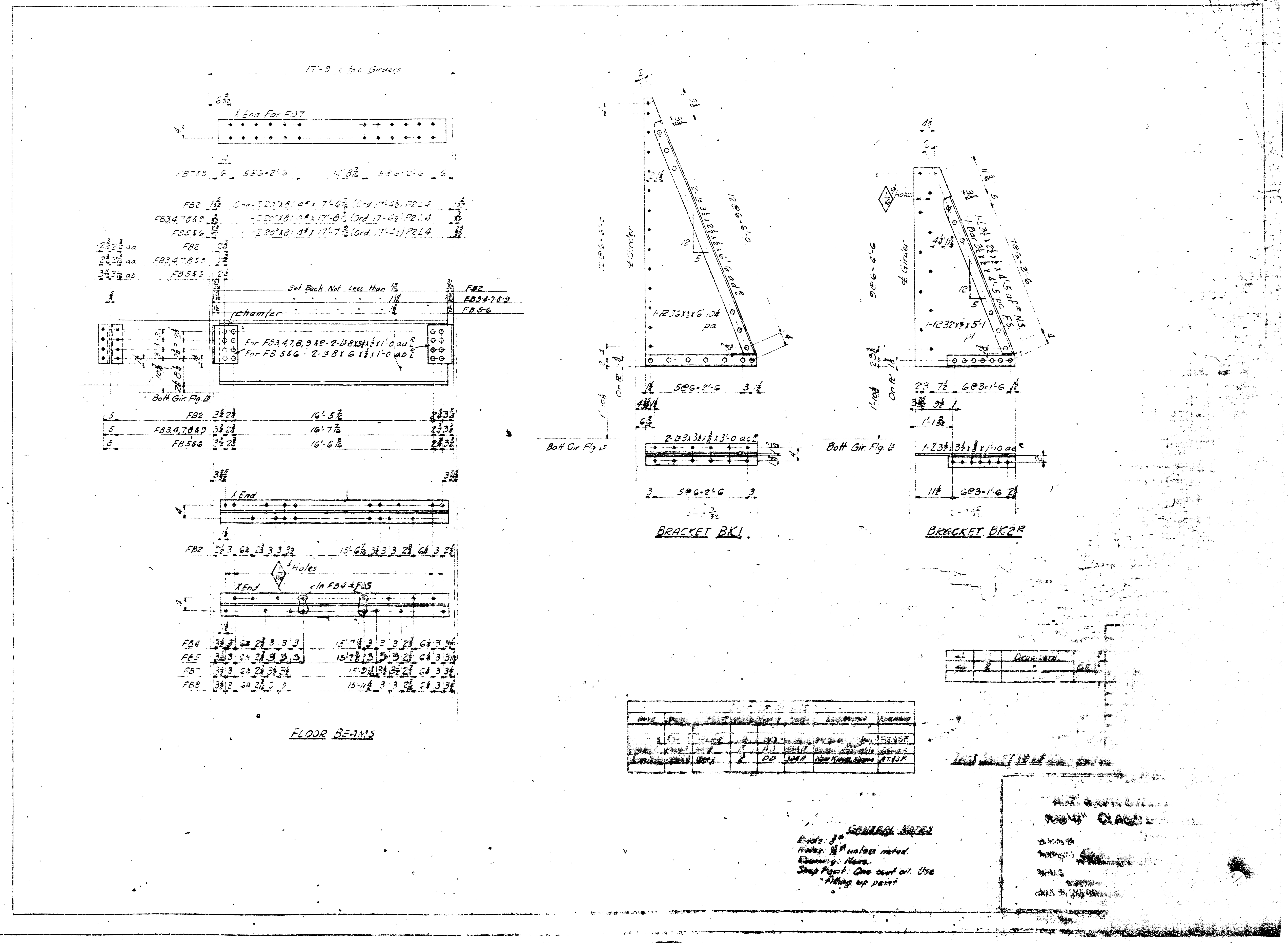
GENERAL PLAN

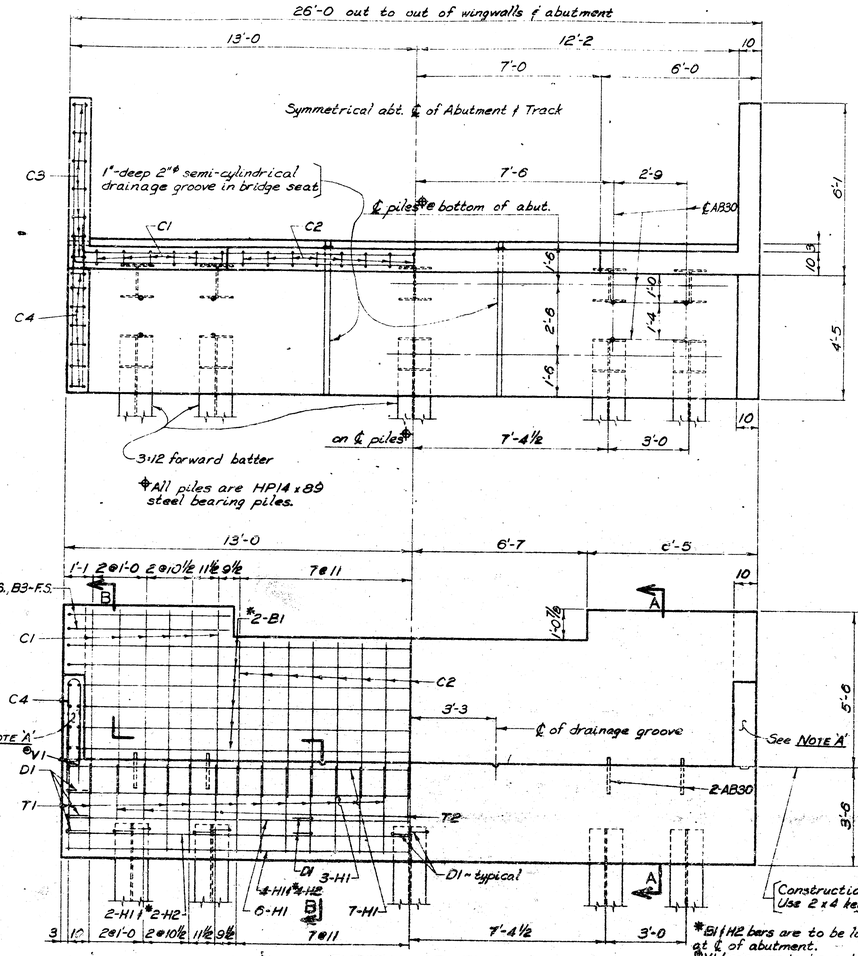
SCALE: NONE CHICAGO, ILL., MAY 1979

CORRECT: APPROVED: 2/15

BRIDGE ENGINEER SYSTEM CHIEF ENGINEER

Made by: WPW
Checked by: DHE
Examined by: CAA


17'-3 c to c Girders
X End For FB7
FB2 One-I 20"x81.4#x17'-6⅝ (Ord 17'-6⅝) PL4
FB3,4,7,8&9 -I 20"x81.4#x17'-8⅞ (Ord 17'-4⅞) PL4
FB5&6 -I 20"x81.4#x17'-7⅝ (Ord 17'-4⅝) PL4
Set Back Not Less than ½
chamfer
For FB3,4,7,8,9 &2-2-L8x3½x⅞x1'-0 aa
For FB 5&6 - 2-L8x6x1⅛x1'-0 ab
Bott Gir Flg L
X End
X End
c/n FB4 & FB5
Holes
FLOOR BEAMS
¢ Girder
1-PL36x⅝x6'-10⅝ pa
On R
Bott Gir Flg L
BRACKET BK1
¢ Girder
Holes
1-PL32x⅝x5'-1 pf
Bott Gir Flg L
BRACKET BK2R
GENERAL NOTES
Holes: ⅞" unless noted.
Shop Paint: One coat oil. Use fitting up paint.



REINFORCEMENT REQUIRED FOR ONE ABUTMENT

NO.	MARK	SIZE	LENGTH	SHAPE	GRADE
22	H1	#6	25' 8	STRAIGHT	60
12	H2	#6	13' 7	"	60
16	H3	#4	6' 11	"	40
16	H4	#4	5' 8	"	40
16	H5	#4	4' 3	"	40
24	V1	#4	2' 0	"	40
24	B1	#4	14' 4	SEE DETAIL	40
4	B2	#4	7' 1	"	40
4	B3	#4	6' 8	"	40
12	C1	#5	13' 5	"	40
15	C2	#5	11' 3	"	40
14	C3	#4	10' 5	"	40
12	C4	#4	5' 11	"	40
20	D1	#4	6' 7	"	40
22	T1	#4	17' 6	"	40
7	T2	#4	15' 4	"	40

PILES AND ANCHOR BOLTS AB30 ARE ORDERED ON SHEET 5.

SEE SHEET 4 FOR NOTES.

ESTIMATED QUANTITIES FOR ONE ABUTMENT

REINFORCEMENT - GRADE 40	1384 LBS.
REINFORCEMENT - GRADE 60	1093 LBS.
3500 p.s.i. CONCRETE	25.1 CU. YDS.

SHEET 3 OF 6 DRAWINGS

B.E.S. 2215

THE A.T. & S.F. RY. COMPANY

BR. 215.9, 3RD DIST., MIDDLE DIVISION

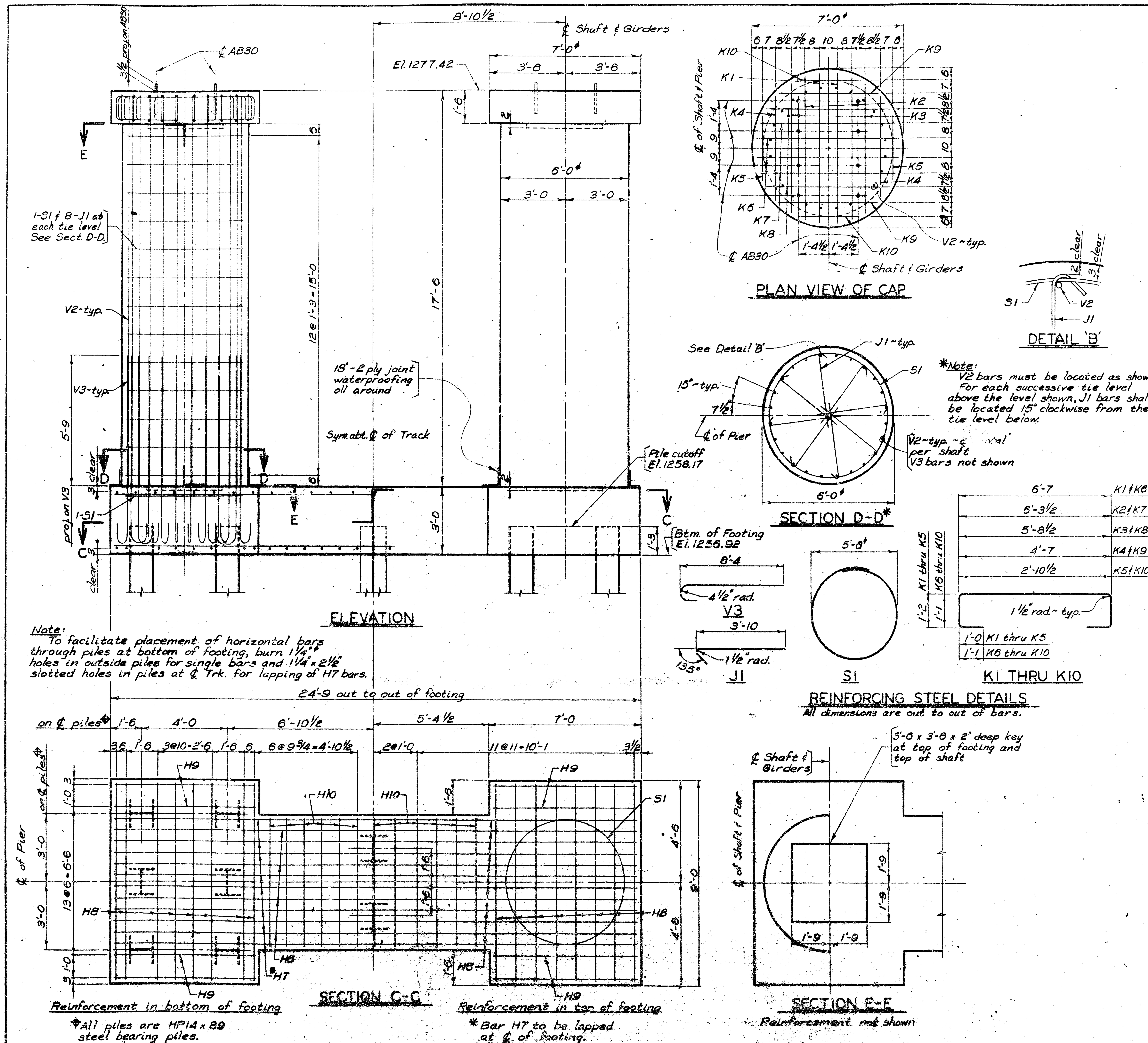
TYPICAL ABUTMENT

SCALE: NONE CHICAGO, ILL., MAY 1979

CORRECT: APPROVED:

BRIDGE ENGINEER, SYSTEM CHIEF ENGINEER

Made by: WPW Checked by: PHH Examined by: CEH



REQUIRED FOR ONE PIER					
REINFORCEMENT					
NO.	MARK	SIZE	LENGTH	SHAPE	GRADE
48	V2	#9	17'- 4	STRAIGHT	60
48	V3	#9	9'- 8	do	60
16	H6	#9	24'- 5	do	60
16	H7	#9	15'- 1	do	60
32	H8	#6	8'- 8	do	60
16	H9	#6	6'- 8	do	60
23	H10	#6	5'- 8	do	60
208	J1	#4	4'- 5	SEE DETAIL	40
28	S1	#4	18'- 6	do	40
4	K1	#4	10'-11	do	40
4	K2	#4	10'- 8	do	40
4	K3	#4	10'- 1	do	40
4	K4	#4	8'-11	do	40
4	K5	#4	7'- 3	do	40
4	K6	#4	10'-11	do	40
4	K7	#4	10'- 8	do	40
4	K8	#4	10'- 1	do	40
4	K9	#4	8'-11	do	40
4	K10	#4	7'- 3	do	40

MISCELLANEOUS	
1	GALLON ASPHALTIC PRIMER, A.S.T.M. D-41
43	LBS. ASPHALT, A.S.T.M. D-449, TYPE B
76	LIN. FT. OF 18" WIDE ASPHALT TREATED COTTON FABRIC A.S.T.M. D-173

PILES AND ANCHOR BOLTS AB30 ARE ORDERED ON SHEET 5.

NOTES:

STEEL BEARING PILES: PILES SHALL BE DRIVEN IN ACCORDANCE WITH SECTION 4 OF THE A.T. & S.F. STANDARD SPECIFICATIONS C.E. 50153-58, TO REFUSAL IF POSSIBLE, OR TO A MINIMUM ULTIMATE RESISTANCE OF 200 TONS BY THE HILEY FORMULA.

THAT PORTION OF PILES WHICH IS TO BE ENCASED IN CONCRETE SHALL, FOR THE PURPOSE OF BOND, BE CLEANED OF ALL DIRT, OIL AND GREASE AND ALL LOOSE SCALE AND RUST BEFORE CONCRETE IS PLACED.

REINFORCEMENT: MILD STEEL REINFORCEMENT SHALL BE AS PER A.S.T.M. DESIGNATION: A615 OR A617, GRADE 40 OR 60, AS DESIGNATED ON THE PLANS.

FABRICATION OF REINFORCEMENT SHALL BE AS PER CHAPTER 7 OF THE C.R.S.I. MANUAL OF STANDARD PRACTICE.

PLACEMENT OF REINFORCEMENT SHALL BE AS PER SECTION 6 OF THE A.T. & S.F. STANDARD SPECIFICATIONS C.E. 50153-58. UNLESS OTHERWISE NOTED, THE MINIMUM CONCRETE COVER ON REINFORCEMENT SHALL BE TWO INCHES.

CAST-IN-PLACE CONCRETE: ALL CONCRETE AND CONCRETE WORK SHALL BE AS PER SECTION 6 OF THE A.T. & S.F. STANDARD SPECIFICATIONS C.E. 50153-58.

ALL CONCRETE SHALL BE AIR-ENTRAINED CONTAINING NOT LESS THAN 4 PERCENT NOR MORE THAN 6 PERCENT AIR BY VOLUME AND SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3500 p.s.i. AT 28 DAYS. MAXIMUM SIZE OF COARSE AGGREGATE SHALL BE ONE INCH.

ALL CONSTRUCTION JOINTS SHALL BE CLEANED TO THE EXTENT THAT AGGREGATE IS EXPOSED BEFORE FRESH CONCRETE IS PLACED AGAINST THE SURFACE OF THE JOINT.

BRIDGE SEATS SHALL BE FINISHED LEVEL WITH A WOOD FLOAT.

ANCHOR BOLTS: ANCHOR BOLTS AB30 MAY BE CAST-IN-PLACE OR SET IN 2-1/4" DIA. DRILLED HOLES WITH NON-SHRINK GROUT.

JOINT WATERPROOFING AT PIERS: JOINT WATERPROOFING FOR THE CONSTRUCTION JOINT BETWEEN THE FOOTINGS AND PIER SHAFTS SHALL BE AS PER PARAGRAPH 6.14 OF SECTION 6 OF THE A.T. & S.F. STANDARD SPECIFICATIONS C.E. 50153-58.

ESTIMATED QUANTITIES FOR ONE PIER

REINFORCEMENT - GRADE 40	1215	LBS.
REINFORCEMENT - GRADE 60	7335	LBS.
3500 p.s.i. CONCRETE	59.0	CU. YDS.
JOINT WATERPROOFING	38	LIN. FT.

For 'Typical Pile Splice' detail, see Sheet 3.

SHEET 4 OF 6 DRAWINGS

B.E.S. 2215

THE A.T. & S.F. RY. COMPANY

BR. 215.9, 3RD DIST., MIDDLE DIVISION

PIERS 1 & 2

SCALE: NONE
CHICAGO, ILL., MAY 1979
CORRECT: [illegible]
APPROVED:
ENGINEER SYSTEM
CHIEF ENGINEER

Made by: WHW
Checked by: PHz
Examined by: CLG

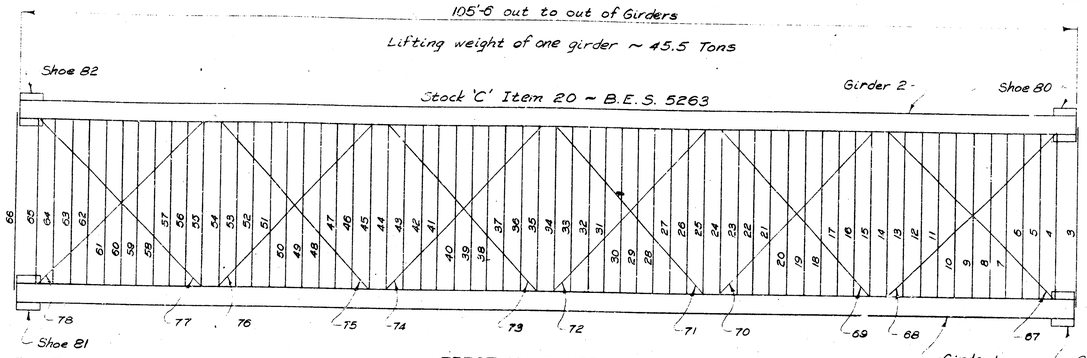
To Arkansas City

To Newton

105'-6 out to out of Girders

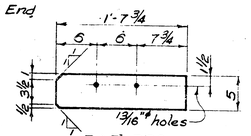
Lifting weight of one girder ~ 45.5 Tons

Stock 'C' Item 20 ~ B.E.S. 5263



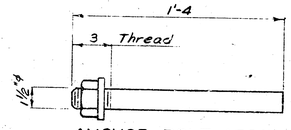
ERECTION DIAGRAM

Marks for the 3-105'-6 spans will be preceded by a 'D', 'E' or 'F' indicating the span to which parts so marked belong. Piece marks are on the fixed end of girders and on the end of floorbeams and lateral bars which connect to Girder 1. For location of 105'-6 Spans D, E and F, see Sheet 2.



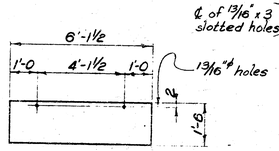
BAR B30

1-Bar 5 x 1/2 x 1'-7 3/4



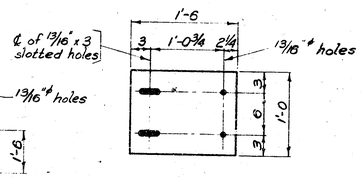
ANCHOR BOLT AB30

1-Bar 1 1/2 ø x 1'-4
1-Std. Hex. Nut, 1 1/2" ø tap
1-Std. Washer, 1 5/8" ø hole



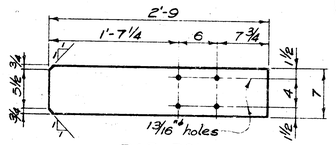
APRON PLATE AP30

1-Pl 3/8 x 18 x 6'-1 1/2



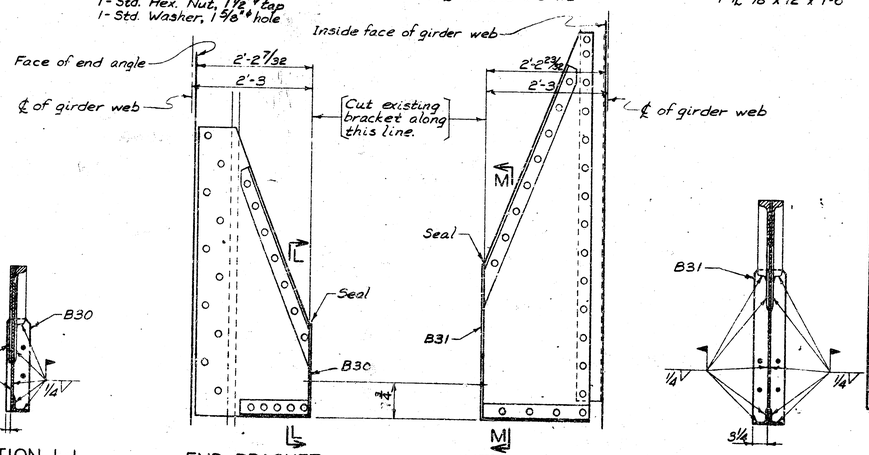
CURB SPLICE CS30

1-Pl 3/8 x 12 x 1'-6



BAR B31

1-Bar 7 x 1/2 x 2'-9



SECTION L-L

END BRACKET

INTERIOR BRACKET

SECTION M-M

REVAMPING FLOORBEAM BRACKETS

ERECTOR'S LIST OF HUCKBOLT FASTENERS FOR ONE 105'-6 SPAN				
NO. REQ'D.	DIAMETER INCHES	GRIP NO.		LOCATION
32	1	32	20	END FLOORBEAMS TO GIRDER ENDS
8	1	32	48	FLOORBEAMS & LATERAL PLATES TO GIRDER BOTTOM FLANGE
16	1	32	72	do
24	1	32	92	do
768	7/8	28	16	FLOORBEAMS TO GIRDER WEB
64	7/8	28	20	FLOORBEAMS TO GIRDER WEB + STIFFENER
64	7/8	28	20	FLOORBEAMS TO GIRDER WEB + FILL AT WEB SPLICE
64	7/8	28	28	FLOORBEAMS TO GIRDER WEB + SPLICE PLATES
16	7/8	28	32	FLOORBEAMS TO GIRDER WEB + FILL AT END STIFFENER
16	7/8	28	48	FLOORBEAMS TO GIRDER WEB + PLATES AT END STIFFENER
20	7/8	28	12	END BRACKETS TO FLOORBEAMS
128	7/8	28	20	INTERIOR BRACKETS TO FLOORBEAMS
100	7/8	28	20	FLOORBEAM TO LATERAL PLATES
8	7/8	28	28	LATERALS TO LATERAL PLATES AND FLOORBEAMS
8	7/8	28	28	do
8	7/8	28	28	do
32	7/8	28	12	LATERALS TO LATERAL PLATES
72	7/8	28	12	do
72	7/8	28	12	do
16	7/8	28	20	CLIPS TO LATERALS
16	7/8	28	20	do
16	7/8	28	24	do

REQUIRED NO.	DESCRIPTION	LOCATION
	PILING	
48	HP14" X 89# STEEL BEARING PILES	ABUTMENTS AND PIERS
	STOCK "C" STEEL	
3	105'-6 DISASSEMBLED CLASS DD SPANS DESIGNATED D, E AND F. STOCK "C" ITEM 20. STORED AT SAN BERNARDINO	STR. STRUCTURE
	NEW STRUCTURAL STEEL	
48	ANCHOR BOLTS AB30	BRIDGE SEATS
8	APRON PLATES AP30	ENDS OF DECKS
12	BARS B30	END FLOORBEAM BRACKETS
48	BARS B31	INTERIOR FLOORBEAM BRACKETS
4	CURB SPLICES CS30	JOINING CURBS BETWEEN SPANS
	HARDWARE	
48	1-1 4" X 6-1 4" MACHINE BOLTS H.H. & N.	SHOES TO GIRDERS
	HIC" TENSILE HUCKBOLT FASTENERS *	
101	C50LR-BR32-20	SEE ERECTOR'S LIST
25	C50LR-BR32-48	do
50	C50LR-BR32-72	do
76	C50LR-BR32-92	do
618	C50LR-BR28-12	do
2419	C50LR-BR28-16	do
1223	C50LR-BR28-20	do
50	C50LR-BR28-24	do
277	C50LR-BR28-28	do
50	C50LR-BR28-32	do
50	C50LR-BR28-48	do
	INDUSTRIAL HUCKBOLT COLLARS *	
252	LC-2R32	1" DIA. FASTENERS
4687	LC-2R28	7/8" DIA. FASTENERS
	PAINT	
85	GALLONS, CHEM FLEX 100 * *	

* 5% ADDED. ORDER FROM HUCK MFG. CO.

* * MANUFACTURED BY STERLING LACQUER MFG. CO.

NOTES:

STEEL BEARING PILES: STEEL BEARING PILES SHALL MEET THE MATERIAL REQUIREMENTS OF SECTION 4 OF THE A.T. & S.F. STANDARD SPECIFICATIONS C.E. 50153-58.

NEW STRUCTURAL STEEL: ALL MATERIAL AND WORKMANSHIP SHALL BE AS PER CURRENT A.R.E.A. SPECIFICATIONS FOR STEEL RAILWAY BRIDGES.

SHOP NOTES: OPEN HOLES: AS NOTED.
SHOP PAINT: NONE

STEEL ERECTION: STEEL ERECTION SHALL BE AS PER SECTION 7 OF THE A.T. & S.F. STANDARD SPECIFICATIONS C.E. 50153-58.

EXPANSION SHOES SHALL BE DISASSEMBLED, CLEANED AND OILED BEFORE ERECTION.

PAINTING: ALL EXPOSED SURFACES OF THE STEEL SPANS, INCLUDING AREAS TO BE IN CONTACT WITH THE TIMBER DECK, ARE TO BE PAINTED WITH CHEM FLEX 100, MANUFACTURED BY STERLING LACQUER MANUFACTURING CO., APPLIED IN ONE FIELD COAT TO A WET FILM THICKNESS OF 10 MILS.

ALL AREAS TO BE PAINTED ARE TO BE ABRASIVE BLAST CLEANED. AREAS WHERE PETROLATUM IS PRESENT SHALL RECEIVE A "NEAR WHITE BLAST CLEANING" AND ALL OTHER AREAS SHALL RECEIVE A "COMMERCIAL BLAST CLEANING." BOTH IN ACCORDANCE WITH THE APPLICABLE STEEL STRUCTURES PAINTING COUNCIL SURFACE PREPARATION SPECIFICATION.

CHEM FLEX 100 IS TO BE MIXED AND APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. THE STEEL MEMBERS MAY BE PAINTED BEFORE ERECTION, IF ALL FAYING SURFACES ARE MASKED, WITH FINAL TOUCHUP AND REPAIR OF DAMAGED COATING AFTER ERECTION. ALL PAINTING ON THE INSIDE OF THE SPANS LOCATED BELOW TOP OF RAIL MUST BE COMPLETED BEFORE THE TIMBER DECK IS PLACED.

ESTIMATED QUANTITIES FOR THREE SPANS

STOCK "C" STEEL	438.96 TONS
NEW STRUCTURAL STEEL	1.68 TONS

3-105'-6 S.T. 'D-D'-Spans on Tangent

SHEET 5 OF 6 DRAWINGS

B.E.S. 2215

THE A.T. & S.F. RY. COMPANY

BR. 215.9, 3RD DIST., MIDDLE DIVISION

ERECTION OF STEEL & MISC. STEEL

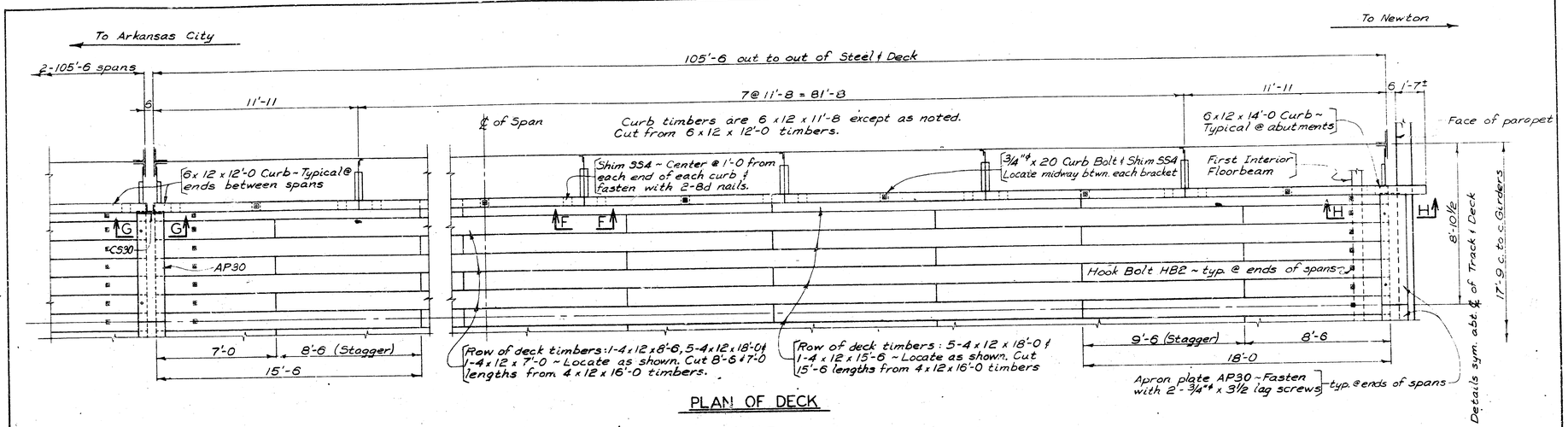
SCALE: NONE
CORRECT:

CHICAGO, ILL., MAY 1979
APPROVED:

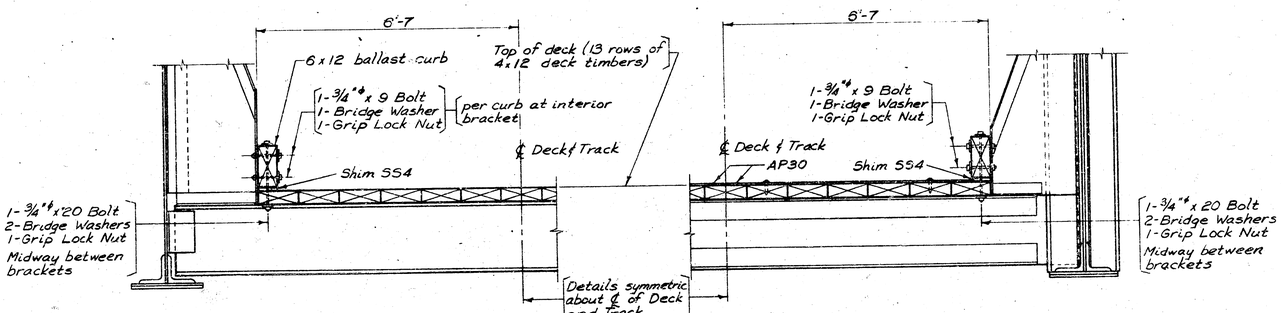
BRIDGE ENGINEER SYSTEM

CHIEF ENGINEER

Made by: WPW
Checked by: PHY
Examined by: CLA



PLAN OF DECK



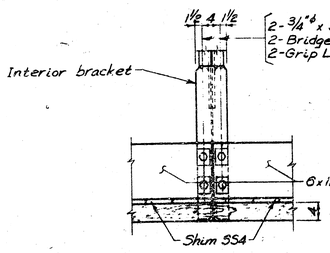
HALF SECTION THRU DECK AT INTERIOR BRACKET

HALF SECTION THRU DECK AT END BRACKET

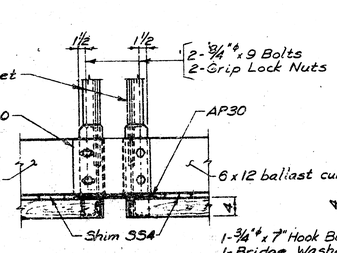
BILL OF MATERIAL (EXACT QUANTITIES)		
NO.	DESCRIPTION	LOCATION
	TREATED TIMBER	
195	4 X 12 X 18'-0	DECK TIMBERS
39	4 X 12 X 16'-0	DECK TIMBERS
4	6 X 12 X 14'-0	BALLAST CURBS
50	6 X 12 X 12'-0	BALLAST CURBS
162	SHIM SS4, C.E.S. 5282-A, SHEET 7	UNDER CURB
	HARDWARE	
78	3/4"ø X 7" HOOK BOLTS HB2, C.E.S. 5288	DECK TO FLOORBEAMS
216	3/4"ø X 9" BOLTS WITH NUT	CURB TO BRACKETS
54	3/4"ø X 20" do	CURB TO DECK
386	BRIDGE WASHERS, C.E.S. 5279	3/4"ø BOLTS
348	GRIP LOCK NUTS, 3/4"ø TAP	3/4"ø BOLTS
16	3/4"ø X 3-1/2" LAG SCREWS	AP30 TO DECK
2	LBS. 8d NAILS	SHIMS SS4 TO CURBS
	MISCELLANEOUS	
5	GALS. PETROLATUM	AP30, CS30 AND HARDWARE

PRESERVATIVE, PLASTIC CEMENT AND TREATED WOODEN PLUGS ARE TO BE ORDERED AS REQUIRED.

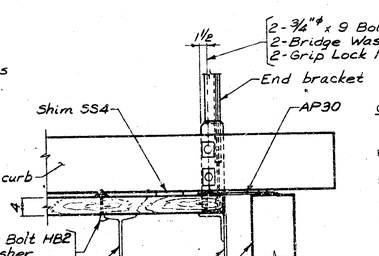
APRON PLATES AP30 AND CURB SPLICES CS30 ARE ORDERED AND DETAILED ON SHEET 5.



SECTION F-F
At Interior Brackets



SECTION G-G
Between Spans



SECTION H-H
At Abutments

GENERAL NOTES:

ALL TIMBER SHALL HAVE A PRESERVATIVE TREATMENT.

FOR GENERAL NOTES ON HANDLING OF TREATED TIMBER, HARDWARE AND GRIP LOCK NUTS, SEE C.E.S. 5282-A, SHEET 5.

APRON PLATES AP30, CURB SPLICES CS30 AND HARDWARE SHALL BE GIVEN A HEAVY COATING OF PETROLATUM BEFORE BEING PLACED IN POSITION.

LONGITUDINAL DECK TIMBERS SHALL BE JACKED AS TIGHT AS PRACTICAL.

USE GRIP LOCK NUTS ON ALL 3/4"ø BOLTS.

3-105'-6 S.T. 'DD'-Spans on Tangent

SHEET 6 OF 6 DRAWINGS

B.E.S. 2215

THE A.T. & S.F. RY. COMPANY

BR. 215.9, 3RD DIST., MIDDLE DIVISION

BALLAST DECK

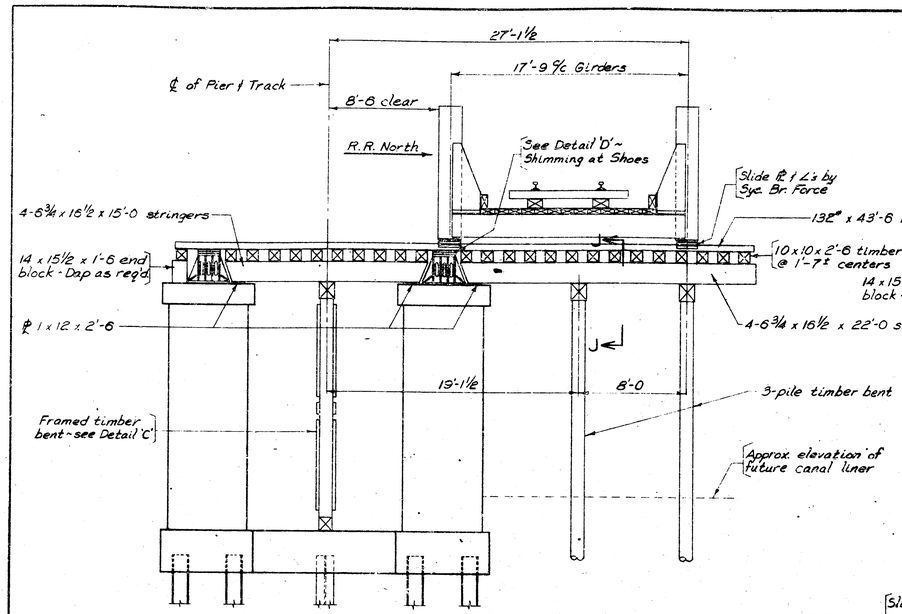
SCALE: NONE

CHICAGO, ILL., MAY 1979

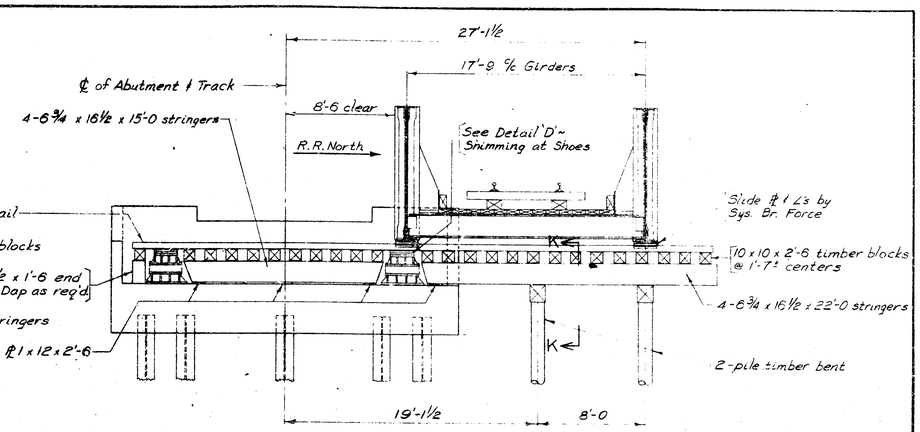
CORRECT: W. L. Hymo
BRIDGE ENGINEER SYSTEM

APPROVED: 7/13
CHIEF ENGINEER

Made by WPW
Checked by FMH
Examined by LEG



FALSEWORK AT PIERS



FALSEWORK AT WEST ABUTMENT

6¾ x 16½ stringers separated slightly on bridge seat at end of abutment to avoid reinforcement steel dowels.

Face of parapet

Slide ℞ ⫫ L's are to be connected to girders beneath sole ℞ by System Bridge Force.

1'-8

132" x 43'-0 rail - typical

10 x 10 x 2'-6 block

14 x 15½ x 8'-0 cap

℞ 1 x 12 x 2'-8 on pier cap under stngrs.

Bridge Seat

℞ 1 x 12 x 2'-6 on abut. ⫫ under stringers

Pier

1'-5 1'-5

℄ of bearing

Abutment

℄ of Bent ⫫ bearing

℄ of Bent ⫫ pier

3'-0 3'-0

6'-0

2'-6 2'-6

5'-0

SECTION J-J

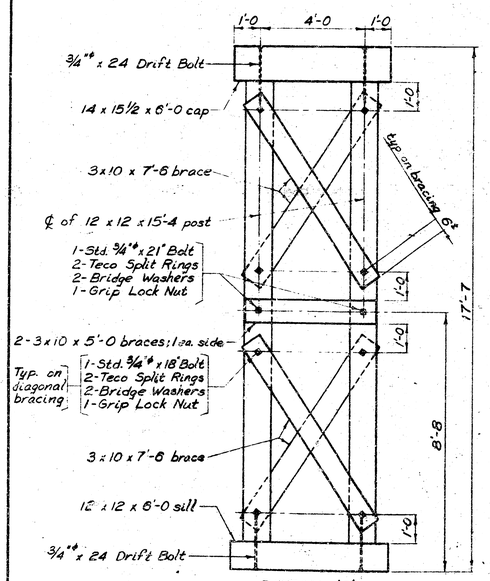
SECTION K-K

Note: Any required bracing of bents; tying in of bents to pier shafts and abutments due to possible high water; and anchorage of 6-¾ x 16½ stringers to piers, abutments, and falsework bent caps to be by Field Forces.

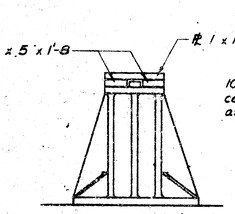
LOADS

WEIGHT OF ONE GIRDER	45.5 TONS
JACKING LOAD PER SHOE	45.0 TONS
MAXIMUM PILE LOAD	81.3 TONS

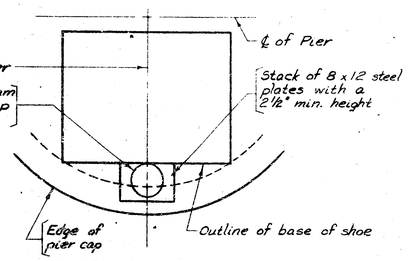
NOTE: MATERIAL FOR FALSEWORK TO BE ORDERED AS REQUIRED BY THE DIVISION.



DETAIL 'C'
FRAMED TIMBER BENT



DETAIL 'D'
SHIMMING AT SHOES



JACKING AT PIER
(Plan View)

Made by: WPW
Checked by: PHZ
Examined by: CEA

SHEET 7 OF 6 DRAWINGS

B.E.S. 2215

THE A.T. & S.F. RY. COMPANY

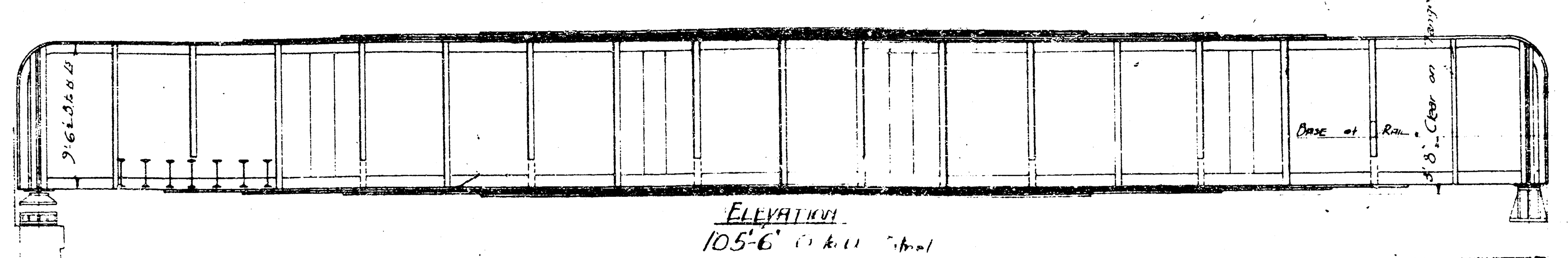
BR. 215.9, 3RD DIST., MIDDLE DIVISION

FALSEWORK

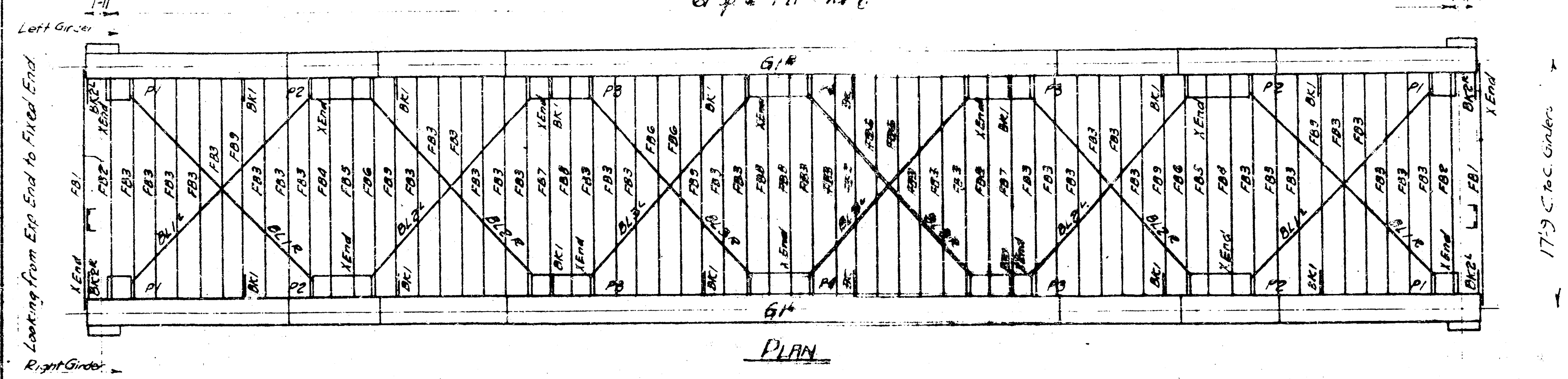
SCALE: NONE CHICAGO, ILL., MAY 1979

CORRECT: APPROVED: 8/13

BRIDGE ENGINEER SYSTEM CHIEF ENGINEER

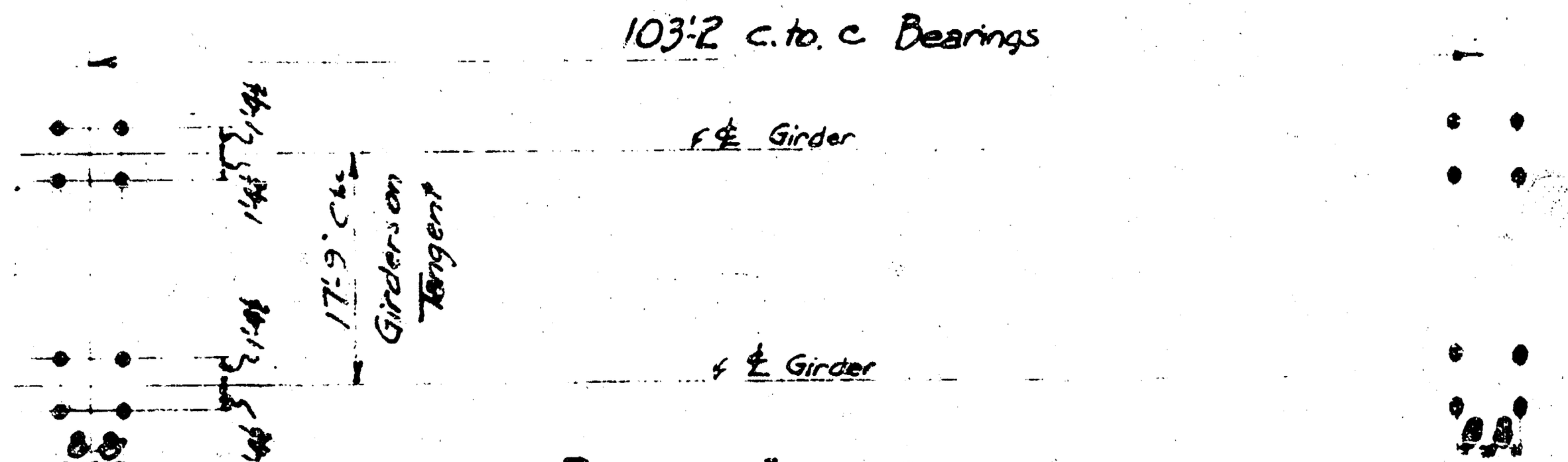


ELEVATION
105'-6" C. to C. Steel
103'-2" C. to C. Bearings

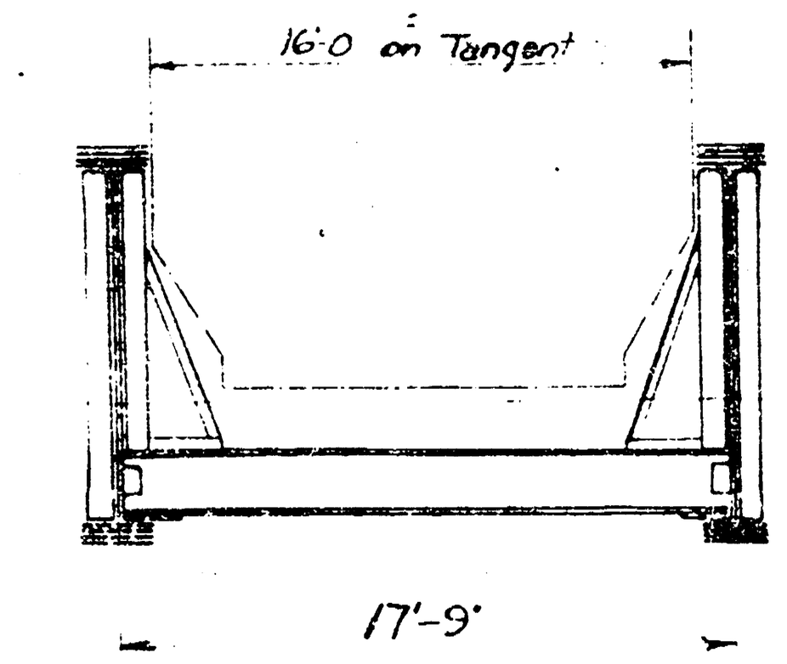


PLAN

103'-2 c. to c. Bearings



PLAN OF ANCHOR BOLTS



17'-9"

SECTION

LIST OF DRAWINGS

Sh No	Description
1	Castings, Roller Nests, Anchor Bolts
2AB	Girders
2B	"
3	Lateral Bracing, End Floor Bms.
4	Interior Floor Bms., Brackets.
E1	Erection & Masonry Plans Rivet Lists

ERECTOR'S LIST of FIELD RIVETS ONE SPAN

No.	Diam.	Grip	Length	Connecting
32	1	1½	3½	End Fl. Bms. to Girs.
8	1	3⅛	5⅛	Fl. Bms. & Lat. Pls. to Girs.
16	1	4⅝	6⅝	" " " " " "
24	1	6	8⅛	" " " " " "
16	1	2⅛	4	Lat. Pls. to Girs.
32	1	3⅝	5⅝	" " "
46	1	5	7⅛	" " "
16	⅞	2¹⁄₁₆	3⅛	Fl. Bms. to Girs.
768	"	1⅞	2⅞	" " "
64	"	1⅞	3⅛	" " "
64	"	1½	3⅛	" " "
224	"	⅞	2⅛	Brackets to Girs.
28	"	1	2½	End Bkts. to End Fl. Bms.
192	"	1⅜	2⅞	Brackets to Fl. Bms.
88	"	1⅜	2⅜	Fl. Bms. to Lat. Pls.
8	"	2	3⅛	Lats. to Lat. Pls. & Fl. Bms.
8	"	1⅞	3⅞	" " " " " "
72	"	1	2⅞	Lats. to Lat. Pls.
72	"	⅞	2⅛	" " "
16	"	1⅝	3⅞	Clips to Lats.
16	"	1⅜	3⅛	" " "
16	"	1⅜	2⅞	" " "
32	"	⅞	2⅛	Lats. to Lat. Pls.
16	"	3¹⁄₁₆	5	Fl. Bms. to Girs.
64	"	1⅞	3⅞	" " "
8	"	1⅜	3½	Lats. to Lat. Pls. & Fl. Bms.
40	1	1⅜	3	End Bkts. to Girs.

SUMMARY OF FIELD RIVETS - ONE SPAN

Act. No.	No. Req.	Diam.	Length	Remarks
32	45	1	3½	
16	30	1	4	
8	20	1	5⅛	
32	45	1	5⅝	
16	30	1	6⅝	No. Req. = Act. No. + 15% + 10
46	65	1	7⅛	
24	4[illegible]		8⅛	
256	305	⅞	2⅛	
72	95	"	2⅜	
100	125	"	2½	
768	890	"	2⅞	
296	350	"	2⅞	
144	175	"	3⅛	
16	30	"	3⅛	
8	20	"	3⅜	
72	95	"	3⅞	
16	30	"	3⅞	
8	20	"	3½	
16	30	"	5	

SPANS ON TANGENT

TABLE OF HEIGHTS

Base of Rail to Clearance		Base of Rail to Masonry	
Tie & Tie Pl.	7½	Tie & Tie Pl.	7½
Ballast	6¾	Ballast	6¾
Timber	4	Timber	4
Floor I	1-8	Floor I	1-8
Clearance	1⅛	Clearance	1⅛
Flange L	1	Flange L	1
Cover Pl.	2⅜	Sole Pl.	0⅞
Rivet Head	0⅞	Shoe	2-2⅛
Total	3-8	Total	5-7⅜

	MOMENT	SHEAR	WEB	FLANGE
FLOOR I Tangent	D. 13000; L. 90000; I. 90000; T. 193000	D. 2800; L. 14100; I. 14100; T. 31000	20" I @ 81.4# U.S. - 15800#	
MAIN GIRDER	D. 3720000; L. 5530000; I. 4090000; T. 13340000	D. 144000; L. 250000; I. 185000; T. 579000	114 × 9/16	2 Ls 8 × 8 × 1 (2 m); 1 Cov. Pl. 21 × ¾ × F.L. Top 84-0 Bottom; 1 " " × 73-0 Top & "; 1 " " × 57-0 " "; 1 " 21 × ⅝ × 41-0 " "

HAND-RAIL

Girders are called "Right" and "Left" on Account of Handrail to be furnished in the Future.
In ordering Handrail they are "Right" and "Left" looking from Expansion to Fixed End. Handrail will be ordered in the Future by Railroad Co. for "Right" or "Left" Girder.
Handrail to be riveted in the Field.
Provide Future Conns. for Handrail.

LIST OF SPANS

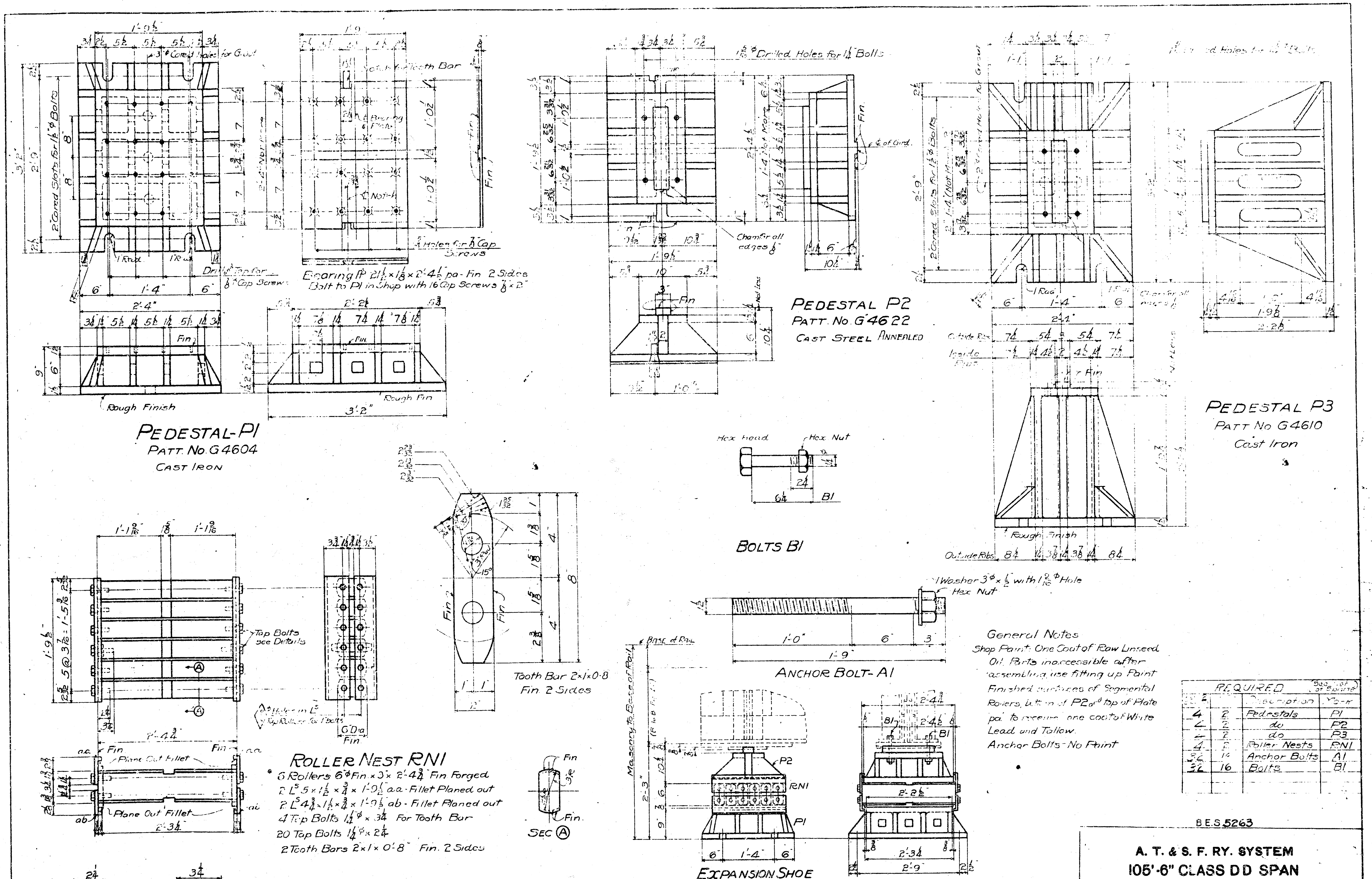
DATE	ORDER No.	Fab. Pt.	No. Spans	Br. No.	LOCATION	RAILROAD	Apr. Pts.	Class	Ends	Skew
July 13	E7418	"	3	A748	Arizona Div.	"	3	"	"	"
Apr. 25	E8549	Gary	5	376A	Plains Div. Near Alston Okla.	A.T. & S.F.	6	DD	Round	~~~
June 1925	E8668	Gary	2	304A	Near Kiowa Kansas	A.T. & S.F.	3	D.D.	Round	----

NOTES:

Specifications - AREA 1920 [illegible]
Live Load - E65 70,000 Axle Load [illegible]
Dead Load - Assumed Deck 2640 [illegible]
Total 5600#
Rivets 1" diam. Rivets for [illegible]
Assumed D.L. Rails & Fastenings [illegible]
Ballast [illegible]
Timber [illegible]
Steel [illegible]
D.L. Total [illegible]
Lateral Force on [illegible]
On Structure [illegible]
On Train [illegible]
Horz. Impact [illegible]
Total [illegible]

THIS SHEET TO BE USED FOR BRIDGE ON TANGENT ONLY B.E.S. 5263

A. T. & S. F. [illegible]
105'-6" CLASS DD SPAN
Details by
Approved [illegible signature]
SCALE
AMERICAN [illegible]
GARY PLANT [illegible]



General Notes

Shop Paint: One Coat of Raw Linseed Oil. Parts inaccessible after assembling use fitting up Paint. Finished surfaces of Segmental Rollers, bottom of P2 and top of Plate pa. to receive one coat of White Lead and Tallow.

Anchor Bolts - No Paint

REQUIRED (See List of Spans)			
		Description	Mark
4	2	Pedestals	P1
4	2	do	P2
4	2	do	P3
4	2	Roller Nests	RN1
32	16	Anchor Bolts	A1
32	16	Bolts	B1

LIST OF SPANS

DATE	ORDER No	FABRICATING PLANT	No. SPANS REQ'D	BRIDGE No.	LOCATION	RAILROAD	CLASS	APRON PLS REQ'D
July 1923	E7418	Gary	3	A748	Third, Arizona	A.T.&S.F.	DD	3
Apr. 1925	E8543	Gary	5	376 A	First, Plains	A.T.&S.F.	DD	
June 1925	E8668	Gary	2	304 A	First, Panhandle	A.T.&S.F.	DD	3
1924				339-C	First, Oklahoma		DD*	
1925				636-A	Denver, Colorado		DD	
1924				646-B	" "		DD	

This sheet to be used for all future spans.

B.E.S. 5263

A. T. & S. F. RY. SYSTEM

105'-6" CLASS DD SPAN

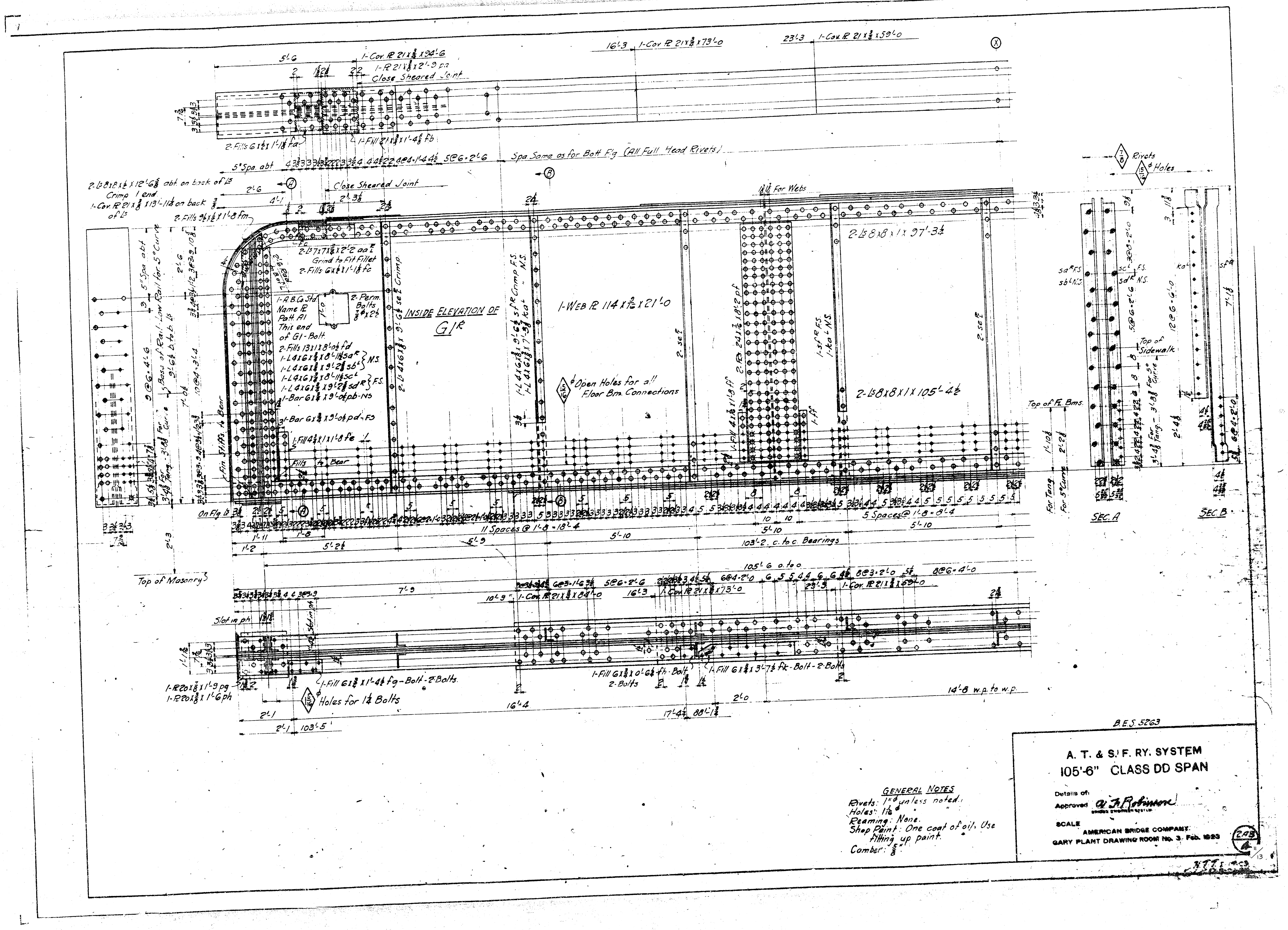
Details of:

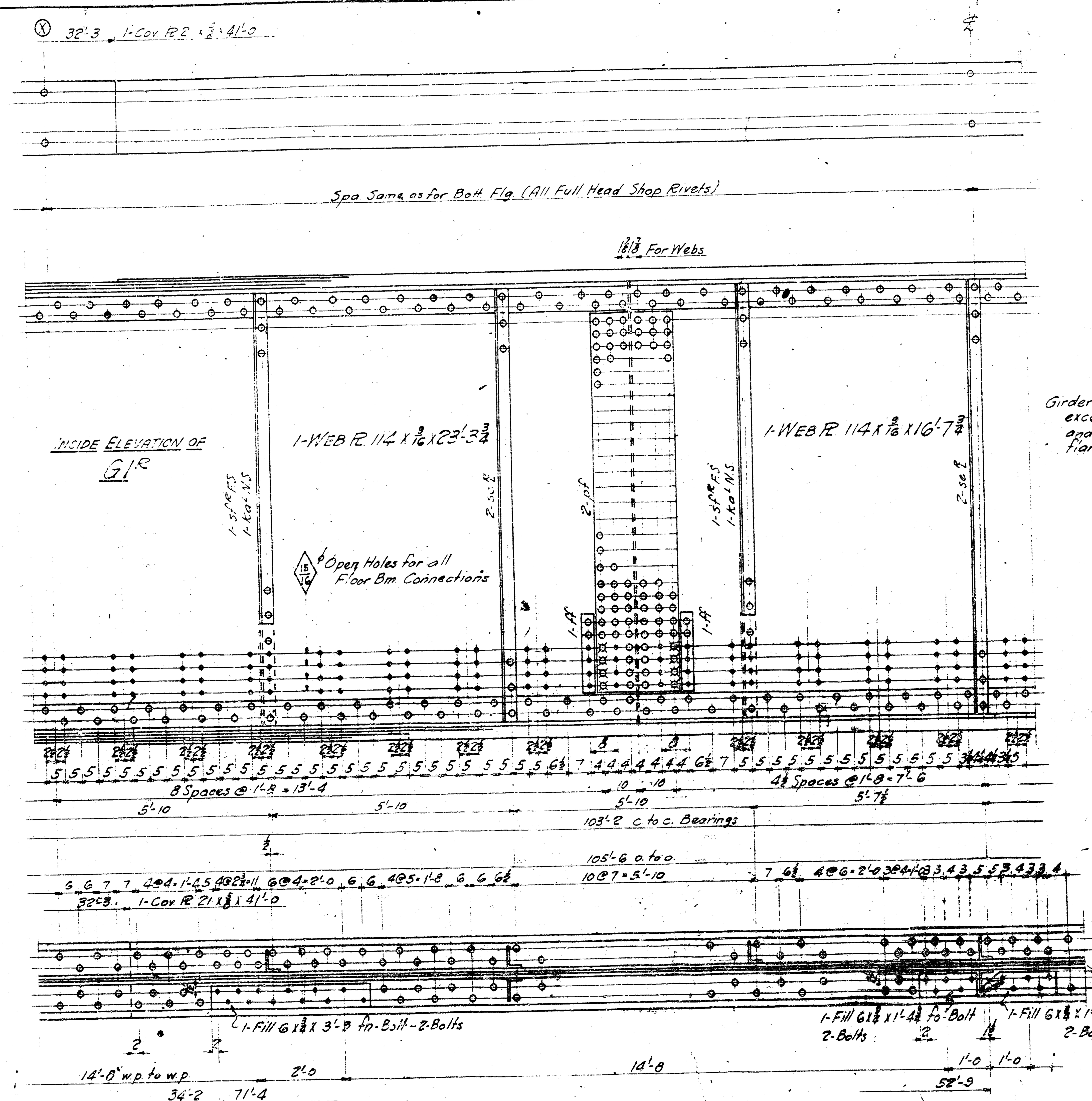
Approved A. F. Robinson
BRIDGE ENGINEER SYSTEM

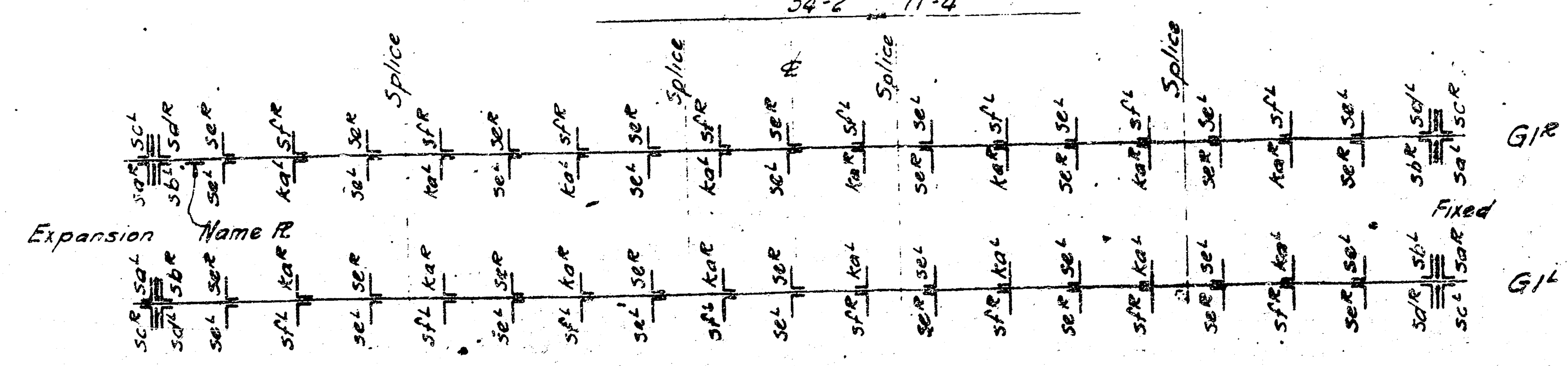
SCALE

AMERICAN BRIDGE COMPANY
GARY PLANT DRAWING ROOM No. 3 Feb. 1923

1/4


INSIDE ELEVATION OF G1R
1-Web PL 114 x 7/16 x 21'-0
Open Holes for all Floor Bm. Connections
Close Sheared Joint
Top of Masonry
Top of Sidewalk
Top of Fl. Bms.
103'-2 c. to c. Bearings
105'-6 o. to o.
11 Spaces @ 1'-8 = 18'-4
5 Spaces @ 1'-8 = 8'-4
14'-8 w.p. to w.p.
Holes for 1 1/8 Bolts
SEC. A
SEC. B
B.E.S. 5263
GENERAL NOTES
Rivets: 1" unless noted.
Holes: 1 1/16 " "
Reaming: None.
Shop Paint: One coat of oil. Use fitting up paint.
Camber: 5/8"
A. T. & S. F. RY. SYSTEM
105'-6" CLASS DD SPAN
Details of:
Approved
SCALE
AMERICAN BRIDGE COMPANY.
GARY PLANT DRAWING ROOM No. 3. Feb. 1923
245
4
11/13





STIFFENER DIAGRAM

LIST OF SPANS								
DATE	ORDER NO.	FAB. PLANT	NO. SPANS	BRIDGE NO.	LOCATION	RAILROAD	CLASS	[illegible]
July 1923	E1418	Gary	[illegible]	A748	Arizona Div.	A.T.&S.F.	DD	Ten.
Apr. 1925	E8549	Gary	5	376A	Plains Div. Near [illegible]	A.T.&S.F.	DD	"
June 1925	E8668	Gary	2	304A	Near Kiowa, Kansas	A.T.&S.F.	DD	Ten.
1924			1	339-C	First, Oklahoma			5 Con.
1925			1	636-A	Denver, Colorado			
1924			1	646-B				

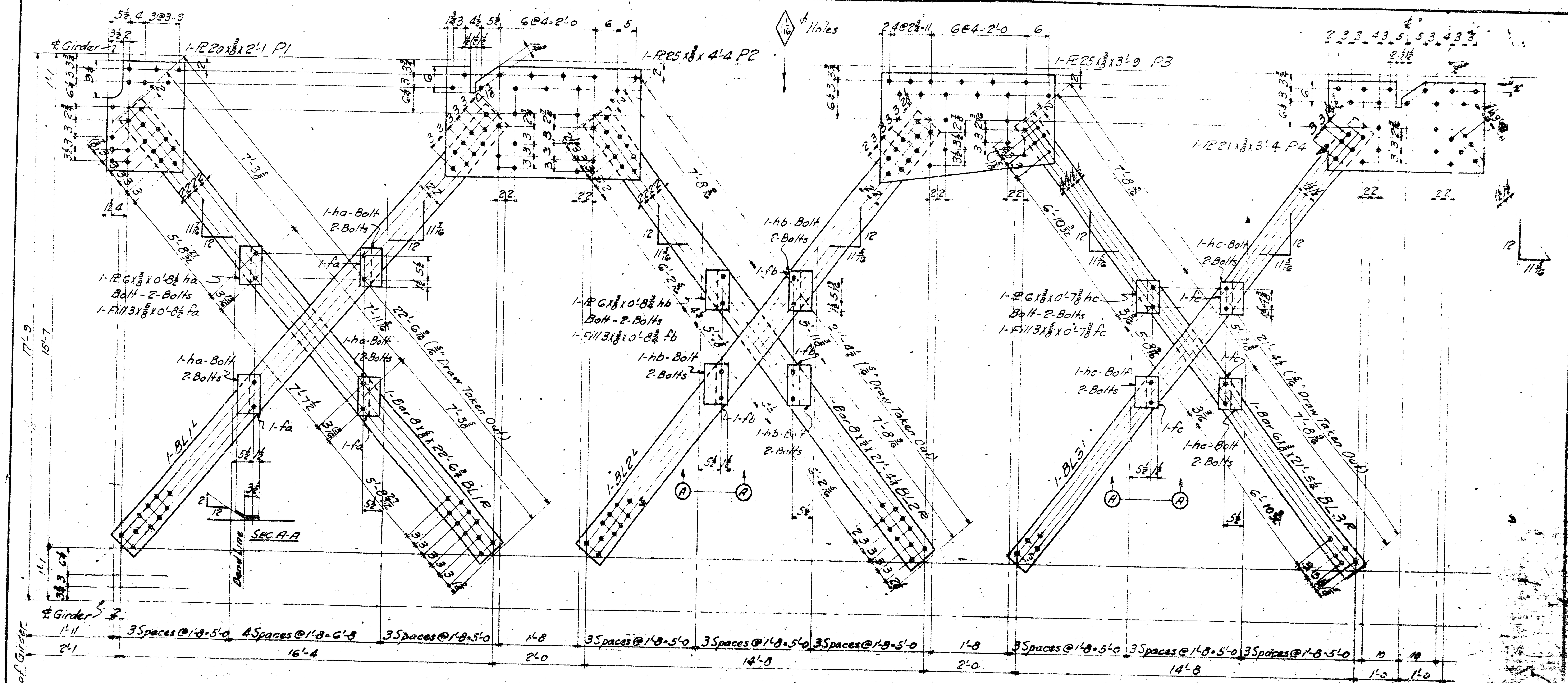
REQUIRED			
2-SPANS	1-SPAN	DESCRIPTION	MARK
2		Girder	G1R
2			G1L

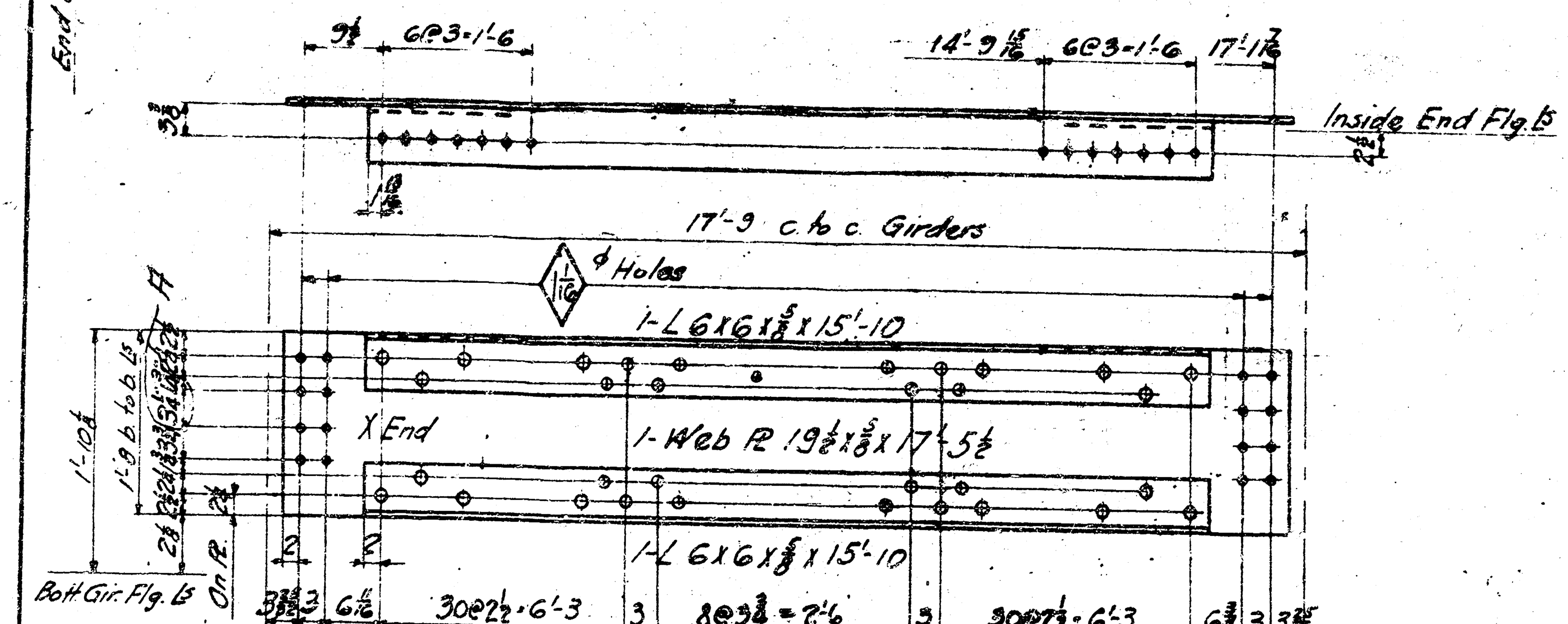
GENERAL NOTES
Rivets: 1" unless noted.
Holes: 1 1/16" " "
Reaming: None.
Shop Paint: One coat of oil. Use fitting up paint.
Camber: 5/8".

B.E.S. 5263

A. T. & S. F. RY. SYSTEM
105'-6" CLASS DD SPAN
Details of:
Approved [signature]
BRIDGE ENGINEER SYSTEM
SCALE
AMERICAN BRIDGE COMPANY
GARY PLANT DRAWING ROOM

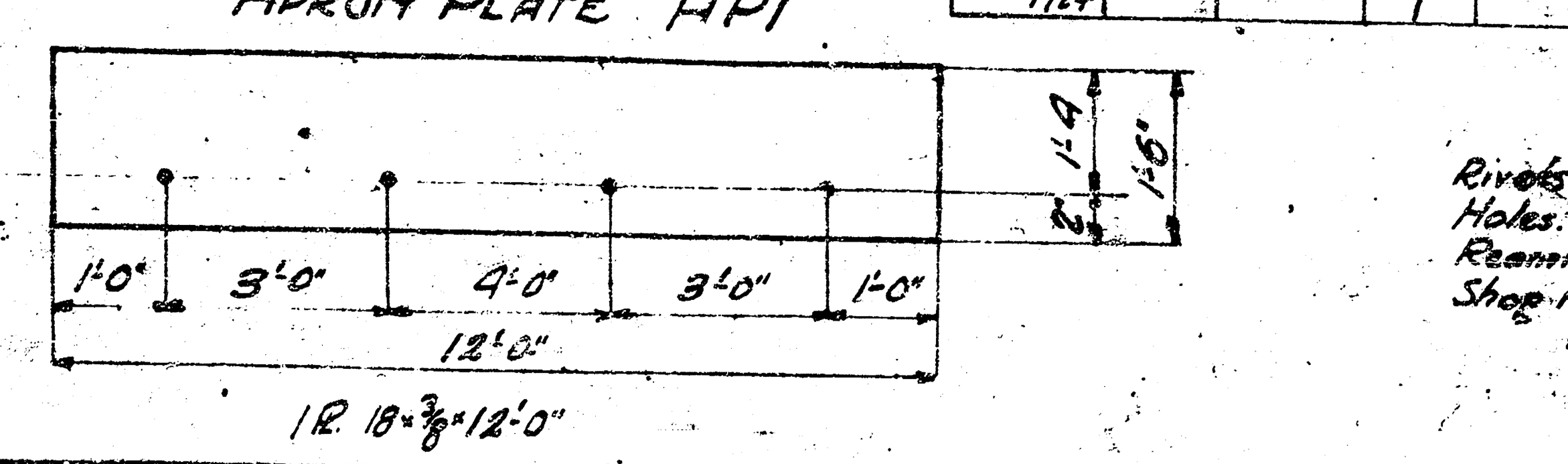
12/13





END FLOOR BEAM FB1

APRON PLATE AP1



LIST OF SPANS							
DATE	ORDER No.	FAB. PLANT	No. SPANS	CLASS	[illegible]	LOCATION	RAILROAD
19??			1	DD	239-C	[illegible]	
July 1923	E7418	Gary	3	DD	[illegible]	Third, Arizona	AT&SF.
[illegible]	[illegible]	[illegible]	[illegible]	DD	976A	[illegible]	A.T.&S.F.
June 1926	E8668	Gary	2	DD	304A	First, Panhandles	A.T.&S.F.
1925			1	DD	636-A	Denver, Colorado	
1924			1		641-B	"	

REQUIRED			
? Spans	1 Span	Description	
4	[illegible]	Lateral Bar	
4		"	
4		"	
4		"	
4		"	
4		"	
8		Lateral Plates	
8		"	
8		"	
4		"	
4		End Floor Beams	FB1
3		Apron PL	AP1

GENERAL NOTES

Rivets: 7/8 φ.
Holes: 15/16 φ unless noted.
Reaming: None.
Shop Paint: One coat oil. Use ??? up paint.

THIS SHEET TO BE USED FOR BRIDGE ON TANGENT ONLY.

B.E.S. 5863

A. T. & S. F. RY. SYSTEM

105'-6" CLASS DD SPAN

Details of:

Approved [illegible]

SCALE

AMERICAN BRIDGE COMPANY

GARY PLANT DRAWING ROOM No. 3

13/13