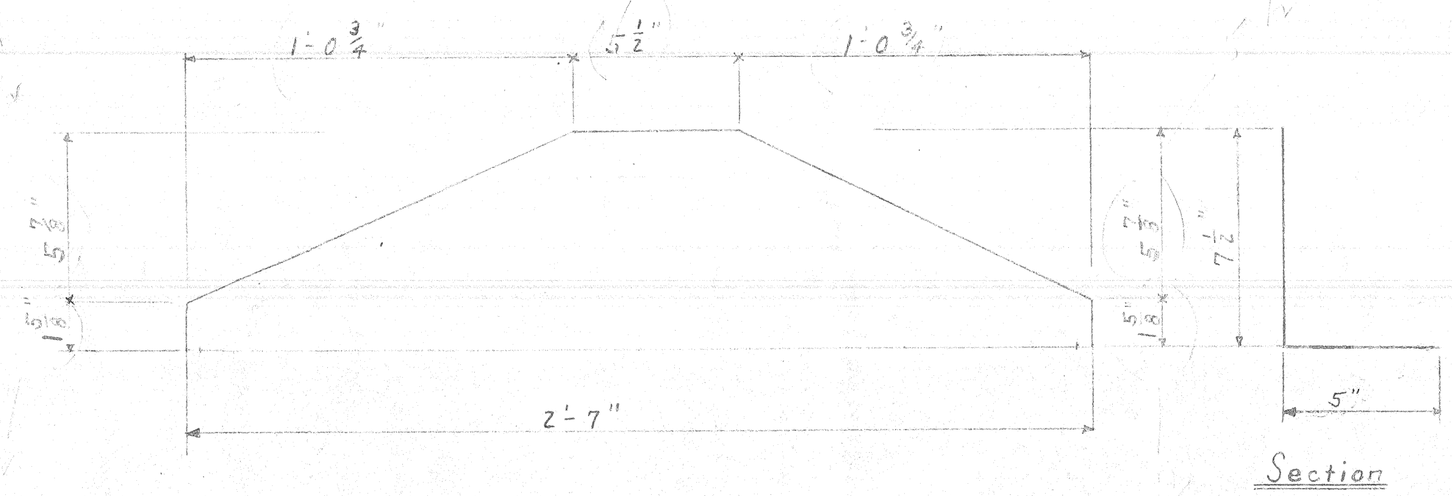
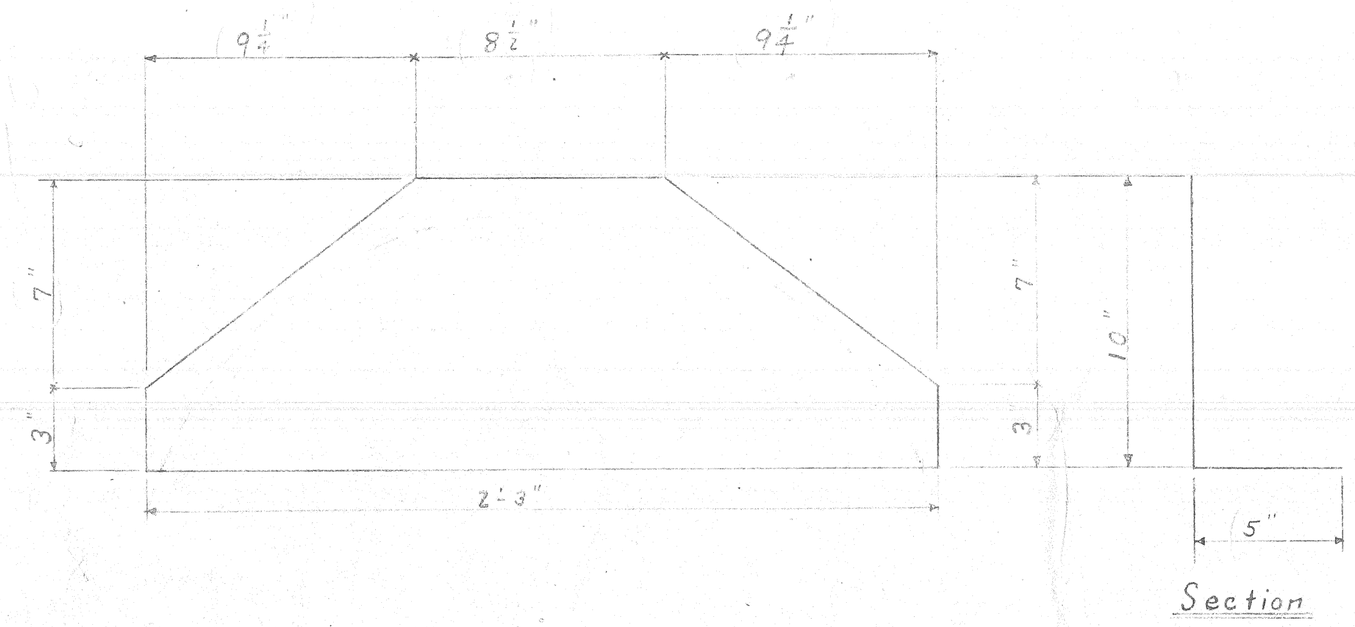


Chord = 2'-6" rad. = 1'-10" rise = 6 3/8"



Chord = 2'-2" rad. = 1'-2" rise = 9"

THE PATERSON-LEITCH CO.
CLEVELAND, OHIO

REINFORCING DETAILS

JOB Bridge Nickel Plate R.R.

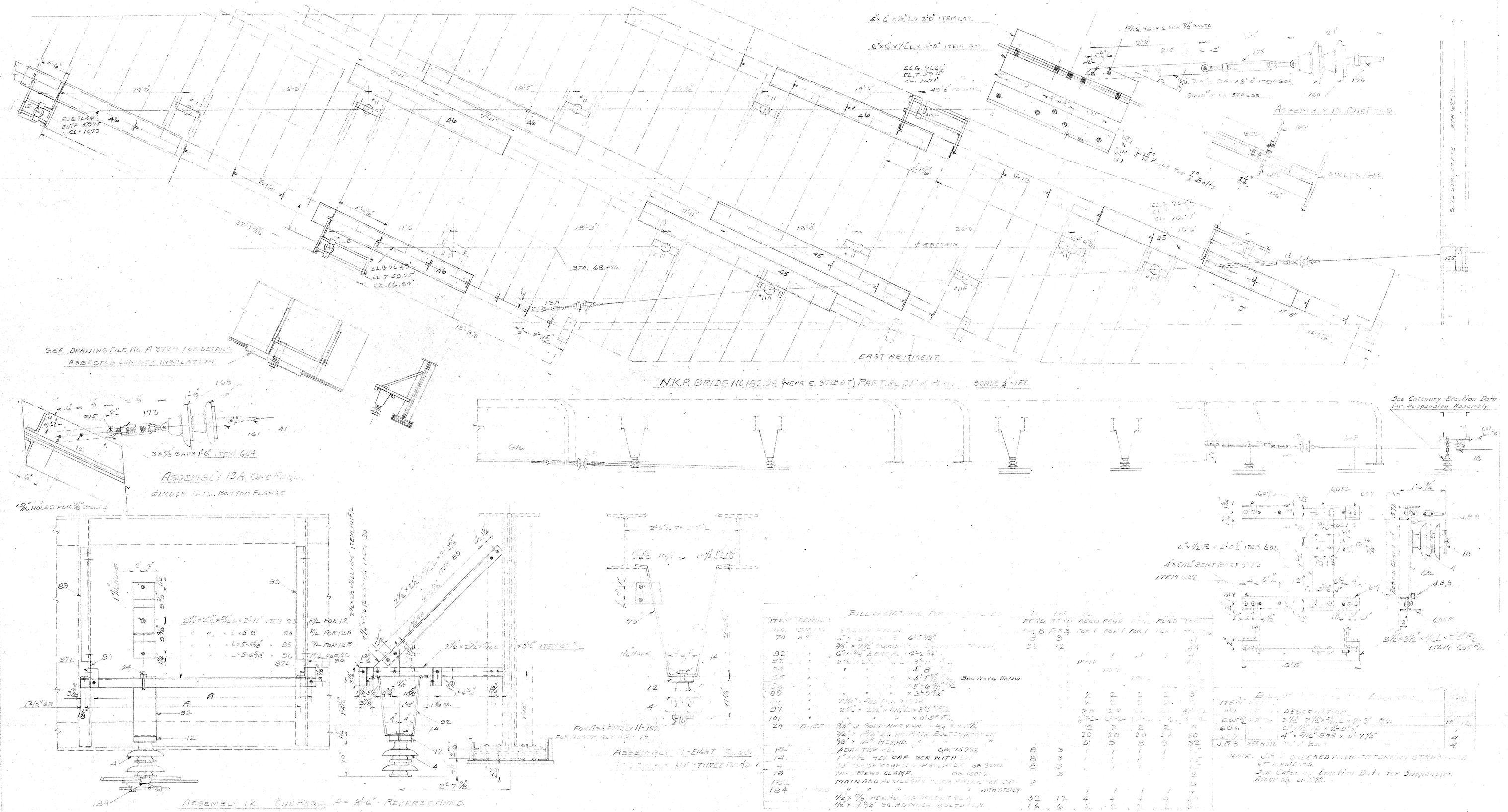
ARCHITECT

CONTRACTOR Freeman & Jones

DR.	HCT	REVISIONS	DATE	SCALE	NUMBER
TR.					-1-
CK.					K-29-23

2

ISSUE No. E MAR. 6. 1930
RECRAWN ON ACCOUNT OF
RELOCATION OF DEAD ENDS ON
ACCOUNT OF CHANGING CROSSOVERS



BILL OF MATERIAL FOR ASSEMBLIES

ITEM NO.	DETAIL NO.	DESCRIPTION	12 REQD FOR 1	12A REQD FOR 1	TOTAL REQ'D
60	A373	3" x 3" x 3/8" BAR x 3'-10"	1		1
60Z	"	6" x 6" x 1/2" L x 3'-0"	1		1
60Z	"	6" x 6" x 1/2" " x 3'-0"	1		1
60A	"	2" x 2" x 1/4" " x 1'-6"		1	1
		7/8" x 3" CO. HD. MACH. BOLT WITH LOCK WASHER	7	2	9
21C		3/4" x 2 1/4" PIN. LOCKE 15000	1	1	2
173	D1A7	1" x 12" TURNBUCKLE EYE & CLEVIS	1	1	2
161	L6.15000	13" SUSP. INSULATORS - PINS & COTTERS.	2	2	4
161	L6.15087	ADAPTER CLEVIS " "		1	1
176	08.15151	YAKO MESS. DEADEND " "	1		1
41	08.1-151	CONTACT WIRE " "		2	2

NOTE- ALL PLATES, SHAPES, BARS ETC TO BE OF STRUCTURAL STEEL.
ALL HOLES 13/16" FOR 7/8" BOLTS UNLESS OTHERWISE NOTED.
ALL STEEL WORK TO HAVE TWO COATS OF SHOP PAINT.

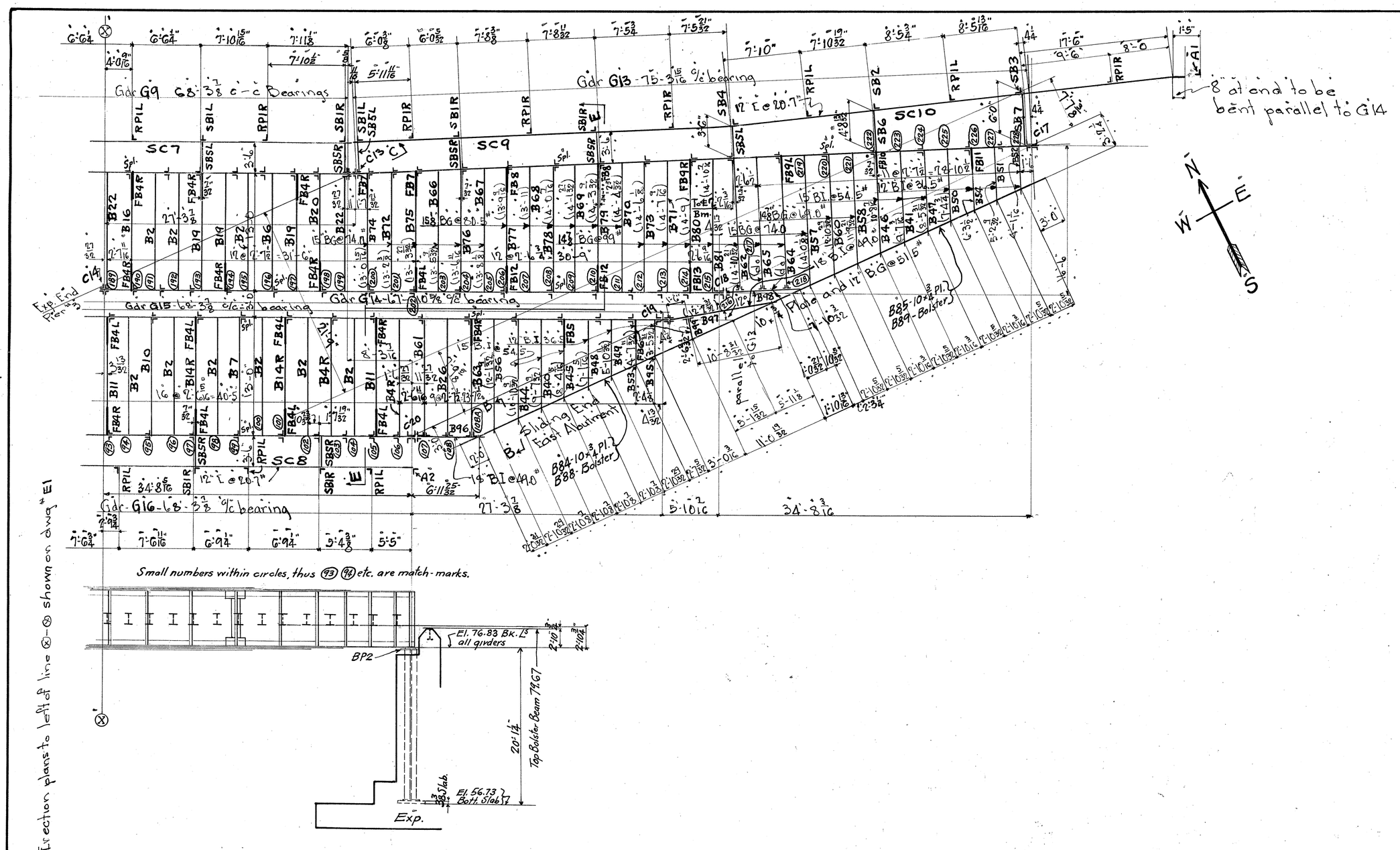
REDRAWN BY J.H.H. MAR. 6. 30
TRACED BY J.H.H. MAR. 6. 30
CHECKED BY D.R.W. 3-13-30
CORRECT 3-13-30
ASSISTANT ENGINEER

APPROVED H.W. Pinkerton 3/13/30
ASSISTANT ELECTRICAL ENGINEER

FILE NO. A 373

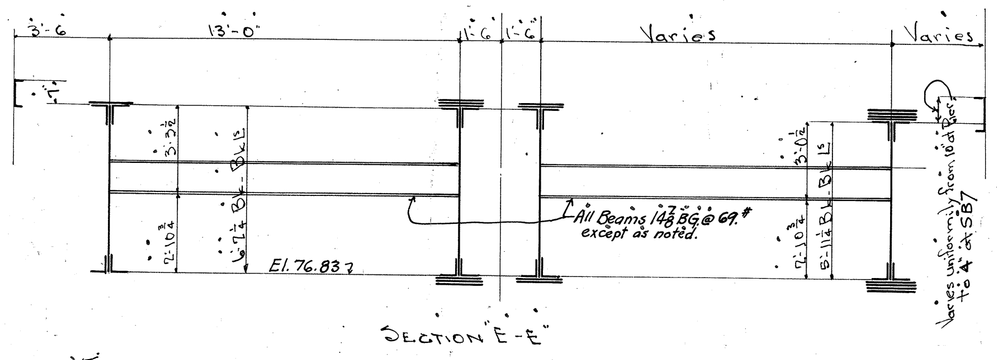
THE CLEVELAND UNION TERMINALS CO.
LOCATION AND ASSEMBLY OF CONTACT WIRE SUPPORTS UNDER N.K.P. BRIDGE No. 182.08 EAST OF BROADWAY
CLEVELAND, OHIO
CHIEF ENGINEER ELECTRICAL ENGINEER
SCALE 1/4" = 1 FT. DATE REDRAWN 3-6-30
ISSUE No. E REVISED MAR. 13, 1930
CONSULTING ELECTRICAL ENGINEER CHIEF ENGINEER

FILE NO. A 373

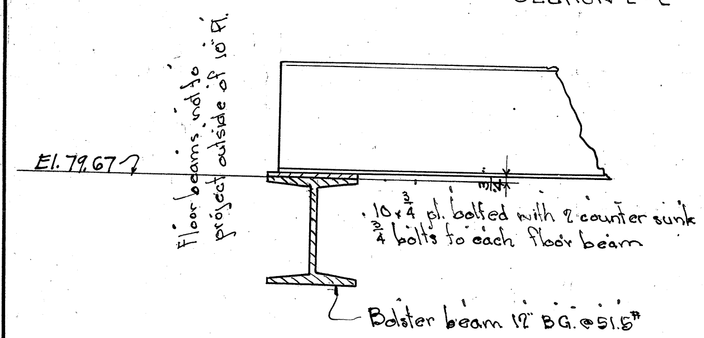


Small numbers within circles, thus (19) (14) etc. are match-marks.

Erection plans to left of line ⊗-⊗ shown on dwg. "E1"



SECTION "E-E"



SECTION "B-B"

Use this drawing in conjunction with dwg. E1

Line ⊗-⊗ on this drwg coincides with line ⊗-⊗ on Drwg. E1.

N.Y.C. & ST. L. R.R. (NICKEL PLATE)

HIGH LEVEL FREIGHT APPROACH — BRIDGE "127.03

OVER CLEVELAND UNION TERM. CO. TRACKS - CLEVELAND, OHIO.

ERECTION PLANS

MADE BY M.W. CHECKED BY A.W.S. E.G.R. DATE 2-9-28

RIVETS _____ DIAM.

OPEN HOLES _____ DIAM.

UNLESS OTHERWISE NOTED

FORT PITT BRIDGE WORKS

CANONSBURG PA.

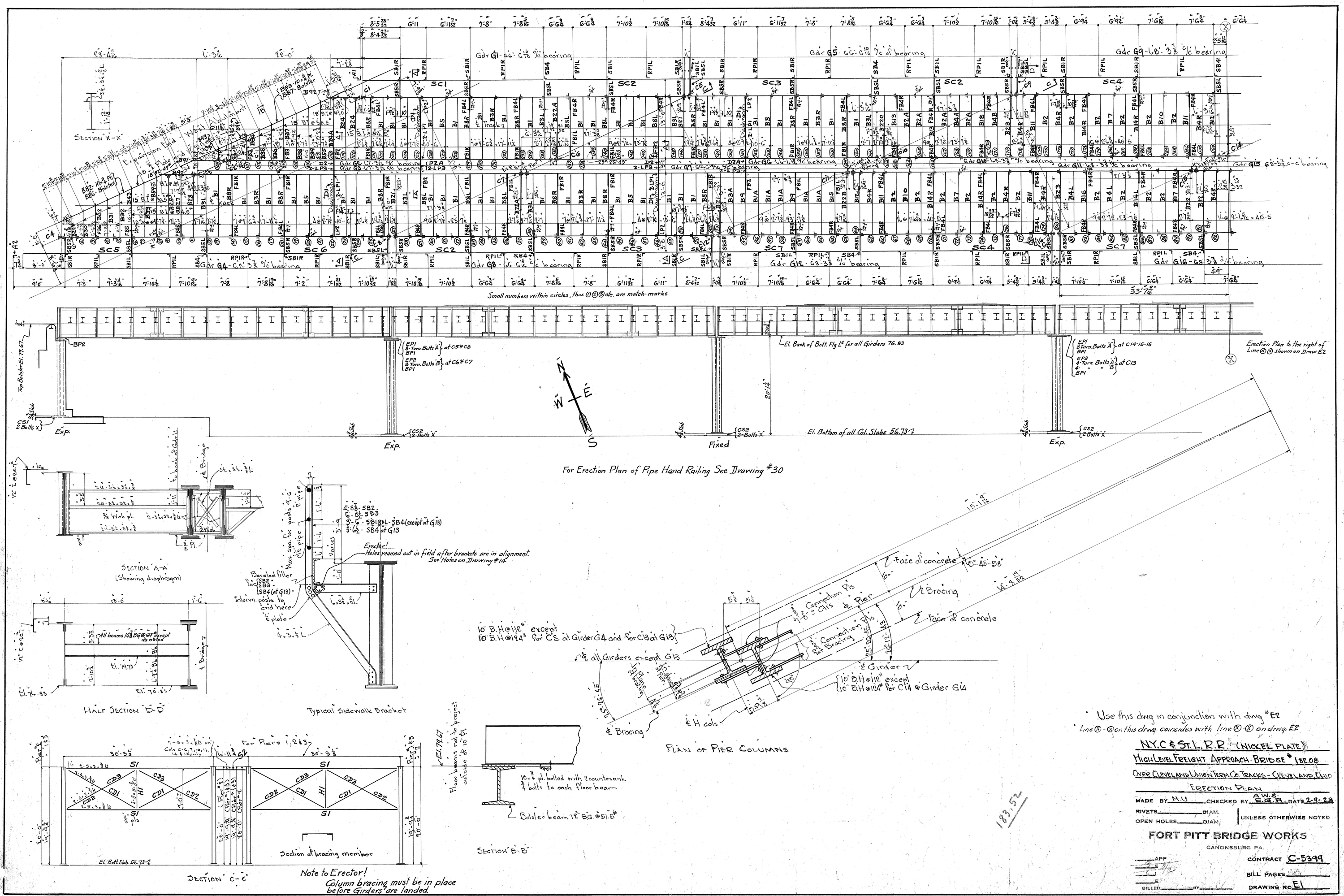
APP 2-9-28

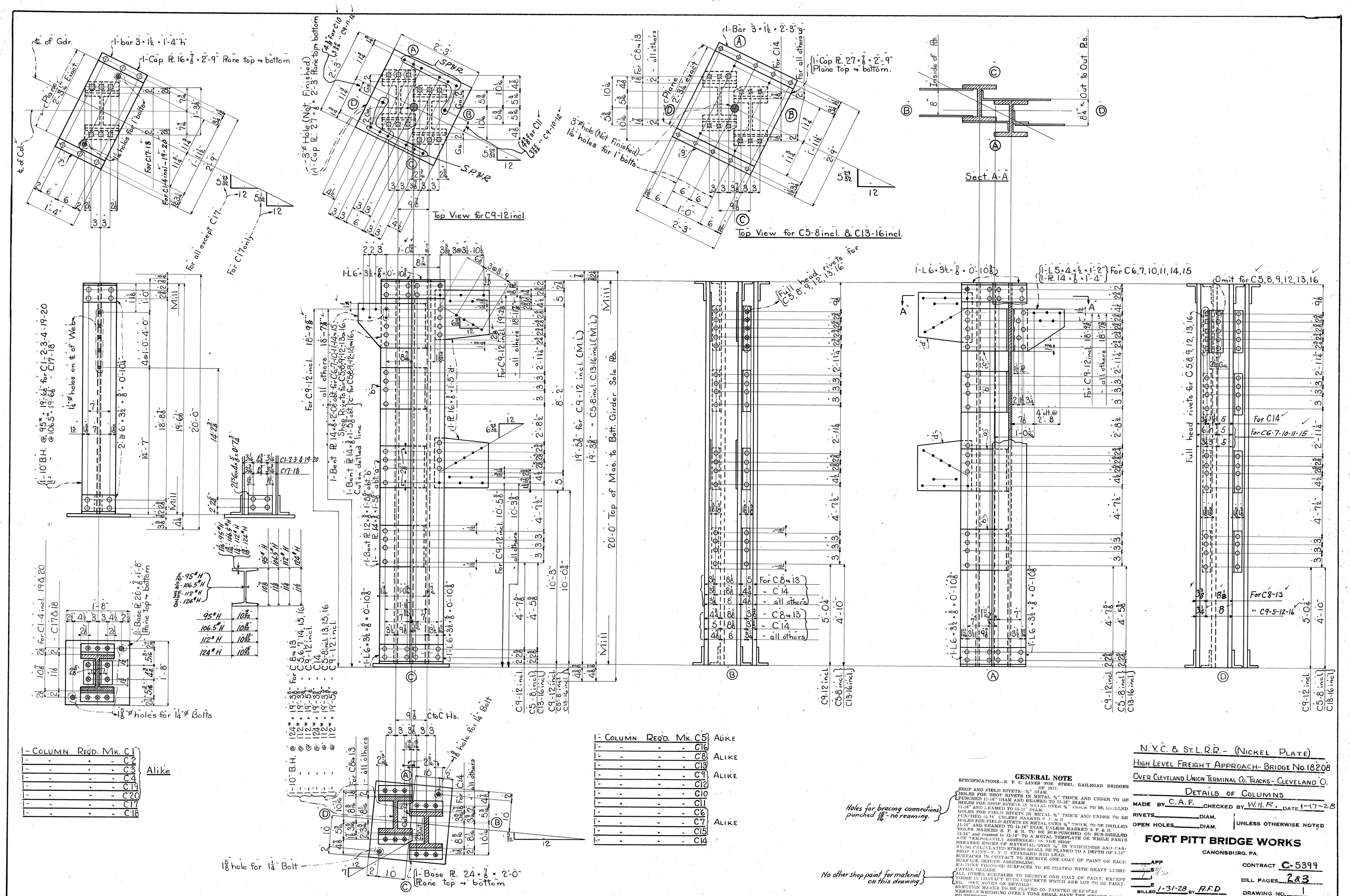
CONTRACT C-5399

BILL PAGES _____

BILLED _____ BY _____

DRAWING NO. E2


Small numbers within circles, thus ①②③ etc. are match-marks
Section "X-X"
Exp.
Fixed
Exp.
El. Back of Bott. Flg Ls for all Girders 76.83
El. Bottom of all Gd. Slabs 56.73-1
For Erection Plan of Pipe Hand Railing See Drawing #30
Erection Plan to the right of Line ⑧-⑧ shown on Draw E2
Section "A-A" (Showing diaphragm)
Half Section "D-D"
Typical Sidewalk Bracket
Section "C-C"
Section "B-B"
Plan of Pier Columns
Section of bracing member
Note to Erector! Column bracing must be in place before Girders are landed.
Use this dwg in conjunction with dwg #E2
Line ⑧-⑧ on this dwg. coincides with line ⑧-⑧ on dwg. E2
N.Y.C. & St. L. R.R. (Nickel Plate)
High Level Freight Approach-Bridge #182.08
Over Cleveland Union Term. Co. Tracks - Cleveland, Ohio
Erection Plan
Made by M.U. Checked by A.W.S. E.G.R. Date 2-9-28
Rivets ____ Diam.
Open Holes ____ Diam.
Unless otherwise noted
Fort Pitt Bridge Works
Canonsburg Pa.
Contract C-5399
Bill Pages
Drawing No. E1
NS 183-52-281



1- Column	Req'd.	Mk.	
1-	"	"	C1
1-	"	"	C2
1-	"	"	C3
1-	"	"	C4
1-	"	"	C19
1-	"	"	C20
1-	"	"	C17
1-	"	"	C18

Alike

1- Column	Req'd.	Mk.	
1-	"	"	C5
1-	"	"	C16
1-	"	"	C8
1-	"	"	C13
1-	"	"	C9
1-	"	"	C12
1-	"	"	C10
1-	"	"	C11
1-	"	"	C6
1-	"	"	C7
1-	"	"	C15
1-	"	"	C14

Alike (C5, C8, C9, C13, C16)
Alike (C6, C7, C14)

GENERAL NOTE

SPECIFICATIONS—N. Y. C. LINES FOR STEEL RAILROAD BRIDGES OF 1917.

SHOP AND FIELD RIVETS—⅝" DIAM.
HOLES FOR SHOP RIVETS IN METAL ⅜" THICK AND UNDER TO BE PUNCHED 11-16" DIAM AND REAMED TO 15-16" DIAM.
HOLES FOR SHOP RIVETS IN METAL OVER ⅜" THICK TO BE DRILLED 11-16" AND REAMED TO 15-16" DIAM.
HOLES FOR FIELD RIVETS IN METAL ⅜" THICK AND UNDER TO BE PUNCHED 15-16" UNLESS MARKED S. P. & R.
HOLES FOR FIELD RIVETS IN METAL OVER ⅜" THICK TO BE DRILLED 11-16" AND REAMED TO 15-16" DIAM, UNLESS MARKED S. P. & R.
HOLES MARKED S. P. & R. TO BE SUB-PUNCHED OR SUB-DRILLED 11-16" and reamed to 15-16" TO A METAL TEMPLATE OR WHILE PARTS ARE TEMPORARILY ASSEMBLED IN THE SHOP.
SHEARED EDGES OF MATERIAL OVER ½" IN THICKNESS AND CARRYING CALCULATED STRESS SHALL BE PLANED TO A DEPTH OF 3-16".
SURFACES IN CONTACT TO RECEIVE ONE COAT OF PAINT ON EACH MACHINE FINISHED SURFACES.
SURFACE BEFORE ASSEMBLING.
CATING GREASE.
ALL OTHER SURFACES TO RECEIVE ONE COAT OF PAINT, EXCEPT THOSE IN CONTACT WITH CONCRETE WHICH ARE NOT TO BE PAINTED. SEE NOTES ON DETAILS.
ERECTION MARKS TO BE PLACED ON PAINTED SURFACES.
MEMBERS WEIGHING OVER 5 TONS SHALL HAVE THE WEIGHT MARKED THEREON.

Holes for bracing connections punched 15/16" no reaming.

No other shop paint for material on this drawing

N. Y. C. & ST. L. R. R. - (NICKEL PLATE)
HIGH LEVEL FREIGHT APPROACH - BRIDGE No. 18208
OVER CLEVELAND UNION TERMINAL CO. TRACKS - CLEVELAND O.

DETAILS OF COLUMNS

MADE BY C.A.F. CHECKED BY W.H.R. DATE 1-17-28
RIVETS ____ DIAM.
OPEN HOLES ____ DIAM.
UNLESS OTHERWISE NOTED

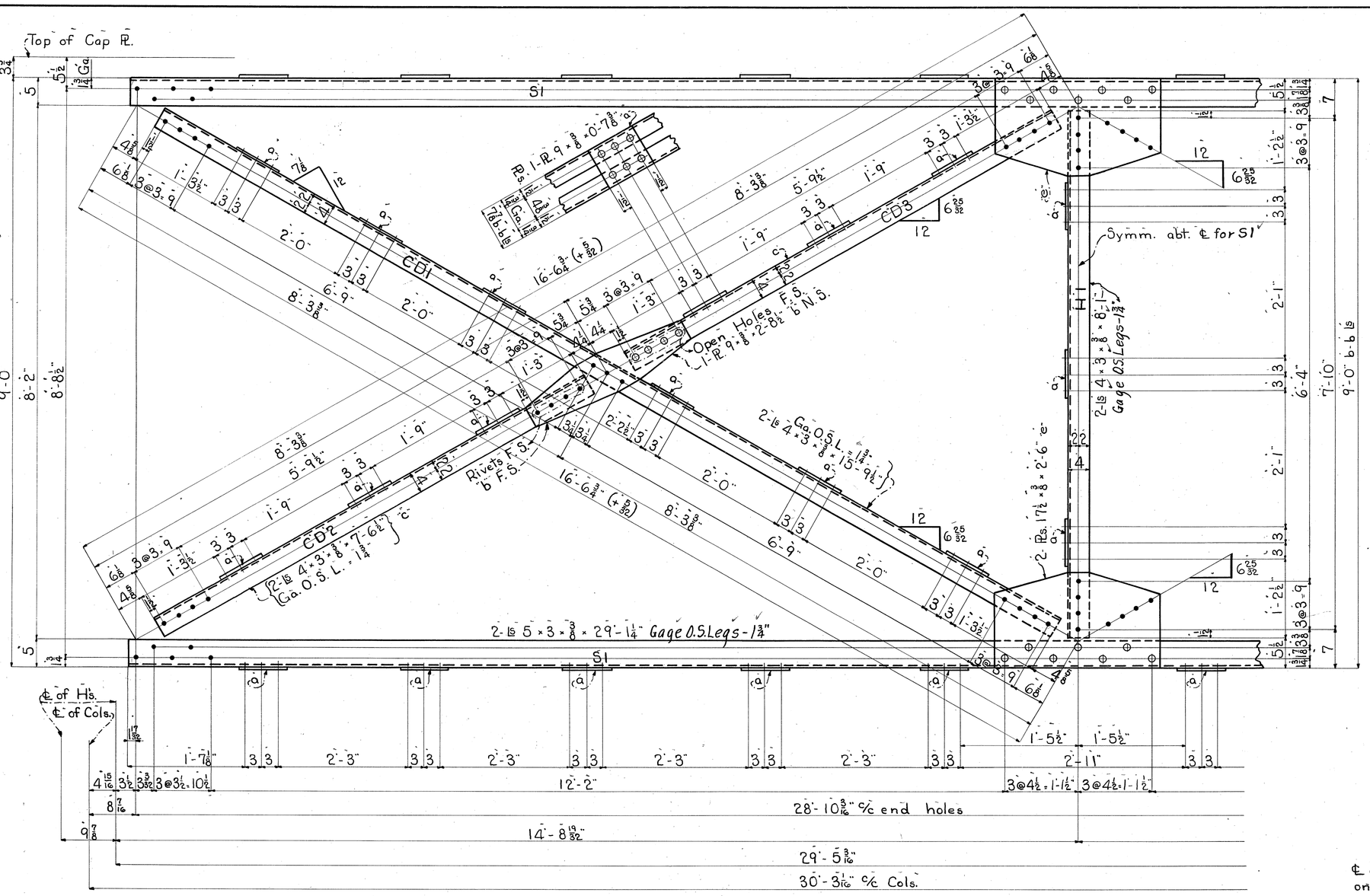
FORT PITT BRIDGE WORKS
CANONSBURG, PA.

APP
S
E
BILLED 1-31-28 BY F.F.D

CONTRACT C-5399
BILL PAGES 2 & 3
DRAWING NO. 1

H.M. NS 183-52-281

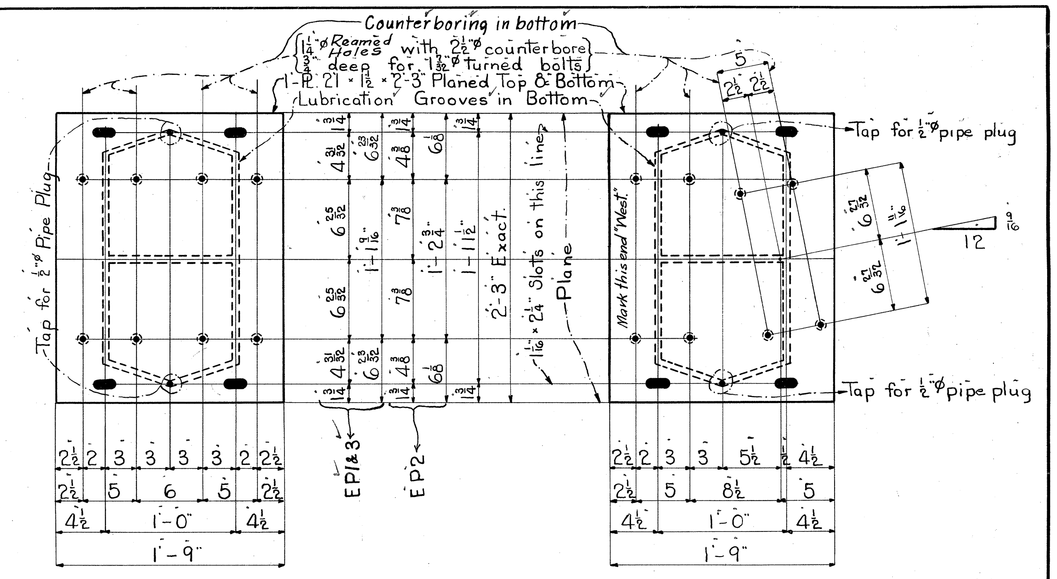
a-b-e c



12-Column Diagonals Req'd. Mk. CD1
12- " " " " CD2
12- " " " " CD3

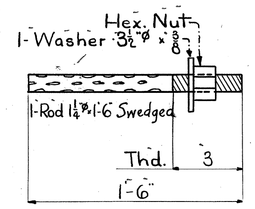
12-Struts Req'd. Mk. S1
6-Hangers " " H1

→ All holes punched full size - no sub-punching or reaming ←

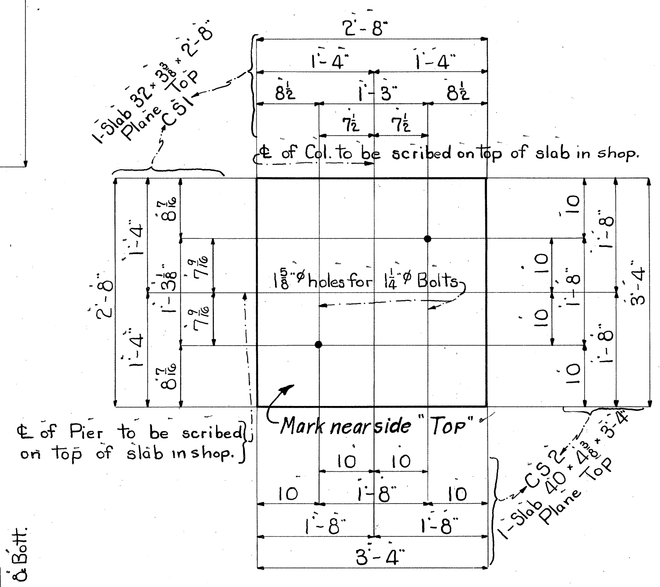


5-Exp. Plates Req'd. Mk. EP1
2- " " " " EP2

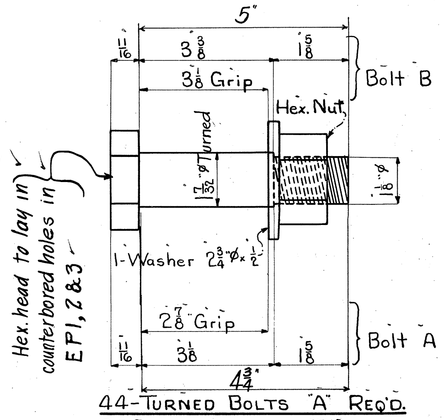
1-Exp. Plate Req'd. Mk. EP3



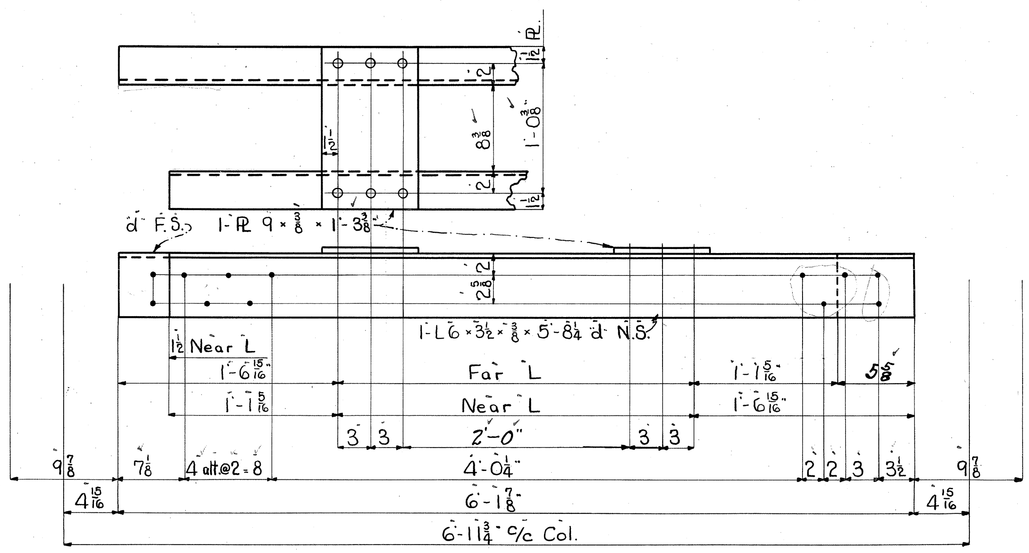
40-Anchor Bolts Req'd. "X"



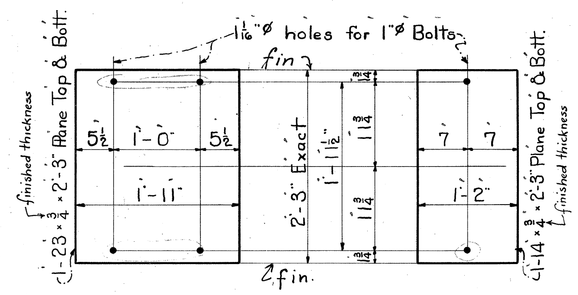
8-Column Slabs Req'd. Mk. CS1
12- " " " " CS2



44-Turned Bolts "A" Req'd.
20- " " "B" "



3-Struts Req'd. Mk. S2
→ All holes punched full size - no sub-punching or reaming



8-Bronze Plates Req'd. Mk. BP1 8-Bronze Plates Req'd. Mk. BP2

Bronze to be "Class B" of the Standard Specifications of the A.S.T.M. Serial Designation B22-21.

GENERAL NOTE

SPECIFICATIONS—N. Y. C. LINES FOR STEEL RAILROAD BRIDGES OF 1917.

SHOP AND FIELD RIVETS—5/8" DIAM.
HOLES FOR SHOP RIVETS IN METAL 3/8" THICK AND UNDER TO BE PUNCHED 11-16" DIAM AND REAMED TO 15-16" DIAM.
HOLES FOR SHOP RIVETS IN METAL OVER 3/8" THICK TO BE DRILLED 11-16" AND REAMED TO 15-16" DIAM.
HOLES FOR FIELD RIVETS IN METAL 3/8" THICK AND UNDER TO BE PUNCHED 15-16" UNLESS MARKED S. P. & R.
HOLES FOR FIELD RIVETS IN METAL OVER 3/8" THICK TO BE DRILLED 11-16" AND REAMED TO 15-16" DIAM. UNLESS MARKED S. P. & R.
HOLES MARKED S. P. & R. TO BE SUB-PUNCHED OR SUB-DRILLED 11-16" and reamed to 15-16" TO A METAL TEMPLATE OR WHILE PARTS ARE TEMPORARILY ASSEMBLED IN THE SHOP.
SHEARED EDGES OF MATERIAL OVER 1/2" IN THICKNESS AND CARRYING CALCULATED STRESS SHALL BE PLANED TO A DEPTH OF 3-16".
SHOP PAINT—N. Y. C. STANDARD RED LEAD
SURFACES IN CONTACT TO RECEIVE ONE COAT OF PAINT ON EACH SURFACE BEFORE ASSEMBLING.
MACHINE FINISHED SURFACES TO BE COATED WITH HEAVY LUBRICATING GREASE.
ALL OTHER SURFACES TO RECEIVE ONE COAT OF PAINT, EXCEPT THOSE IN CONTACT WITH CONCRETE WHICH ARE NOT TO BE PAINTED. (SEE NOTES ON DETAILS).
ERECTION MARKS TO BE PLACED ON PAINTED SURFACES.
MEMBERS WEIGHING OVER 5 TONS SHALL HAVE THE WEIGHT MARKED THEREON.

See notes above

No other shop paint for material on this drawing

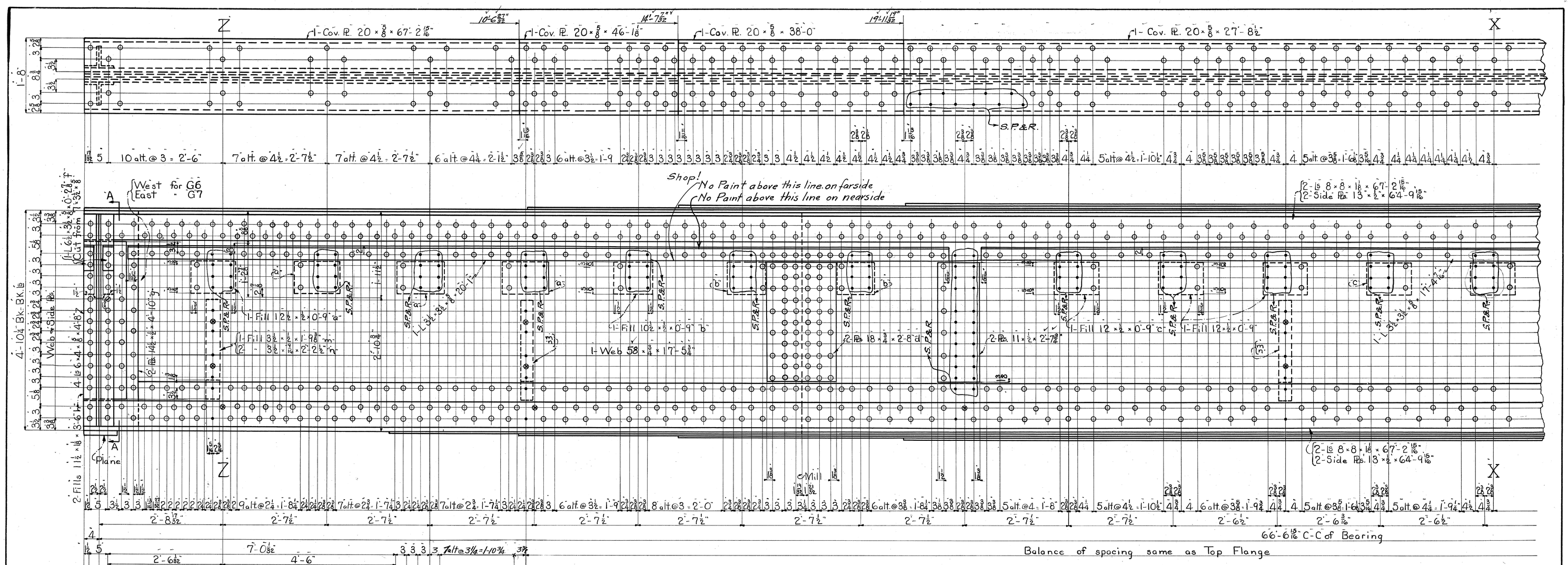
N. Y. C. & ST. L. R. R. – (NICKEL PLATE)
HIGH LEVEL FREIGHT APPROACH - BRIDGE No. 182.08
OVER CLEVELAND UNION TERMINAL CO. TRACKS - CLEVELAND O.
DETAILS OF COLUMN BRACING, SLABS, ETC.

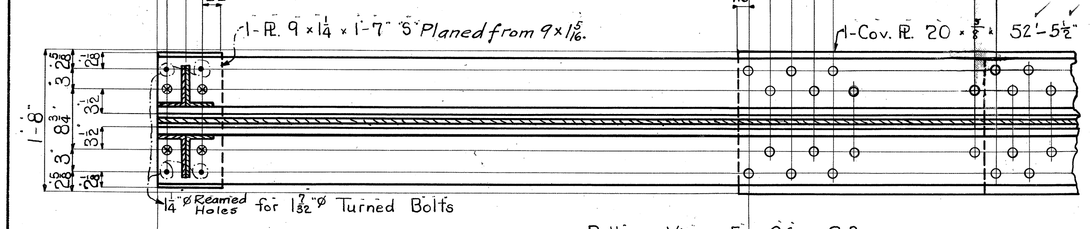
MADE BY C. A. F. CHECKED BY W. H. R. DATE 1-17-28
RIVETS ____ DIAM.
OPEN HOLES ____ DIAM.
UNLESS OTHERWISE NOTED

FORT PITT BRIDGE WORKS
CANONSBURG, PA.

APP. 2-5-9 2
CONTRACT C-5399
BILL PAGES 4 & 5
BILLED 1-31-28 BY A.F.D.
DRAWING NO. 2

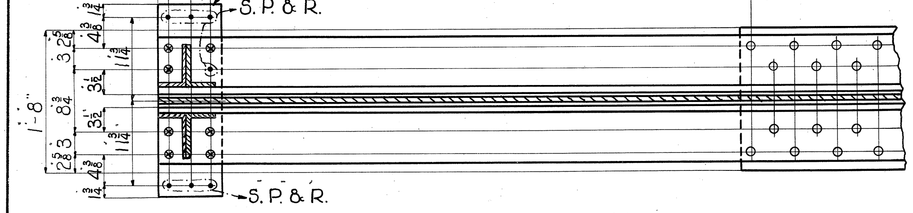
H.M. NS183-52281



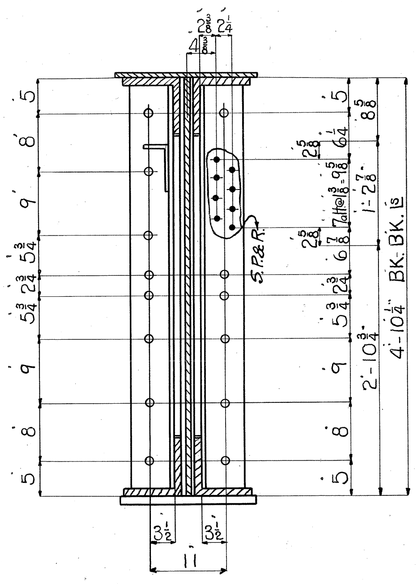


Bottom View For G6 & G3

1-GIRDER REQ'D. MK. G6
1- " " " G7



Bottom View For G7



Section A-A

Use this drawing in conjunction with drawings # 4 & 5.
Line X-X corresponds to line X-X drawing #4.

GENERAL NOTE

SPECIFICATIONS—N. Y. C. LINES FOR STEEL RAILROAD BRIDGES OF 1917.
SHOP AND FIELD RIVETS—3/4" DIAM.
HOLES FOR SHOP RIVETS IN METAL 3/4" THICK AND UNDER TO BE PUNCHED 11-16" DIAM AND REAMED TO 15-16" DIAM.
HOLES FOR SHOP RIVETS IN METAL OVER 3/4" THICK TO BE DRILLED 11-16" AND REAMED TO 15-16" DIAM.
HOLES FOR FIELD RIVETS IN METAL 3/4" THICK AND UNDER TO BE PUNCHED 15-16" UNLESS MARKED S. P. & R.
HOLES FOR FIELD RIVETS IN METAL OVER 3/4" THICK TO BE DRILLED 11-16" AND REAMED TO 15-16" DIAM. UNLESS MARKED S. P. & R. or marked special for turned bolts
HOLES MARKED S. P. & R. TO BE SUB-PUNCHED OR SUB-DRILLED 11-16" and reamed to 15-16" TO A METAL TEMPLATE OR WHILE PARTS ARE TEMPORARILY ASSEMBLED IN THE SHOP.
SHEARED EDGES OF MATERIAL OVER 1/4" IN THICKNESS AND CARRYING CALCULATED STRESS SHALL BE PLANED TO A DEPTH OF 5-16".
SHOP PAINT—N. Y. C. STANDARD RED LEAD.
SURFACES IN CONTACT TO RECEIVE ONE COAT OF PAINT ON EACH SURFACE BEFORE ASSEMBLING.
MACHINE FINISHED SURFACES TO BE COATED WITH HEAVY LUBRICATING GREASE.
ALL OTHER SURFACES TO RECEIVE ONE COAT OF PAINT, EXCEPT THOSE IN CONTACT WITH CONCRETE WHICH ARE NOT TO BE PAINTED. (SEE NOTES ON DETAILS).
ERECTION MARKS TO BE PLACED ON PAINTED SURFACES.
MEMBERS WEIGHING OVER 5 TONS SHALL HAVE THE WEIGHT MARKED THEREON.

N.Y.C. & ST. L. R.R. - (NICKEL PLATE)
HIGH LEVEL FREIGHT APPROACH - BRIDGE No. 182.08
OVER CLEVELAND UNION TERMINAL CO. TRACKS - CLEVELAND OHIO
DETAILS OF GIRDERS G6 & G7

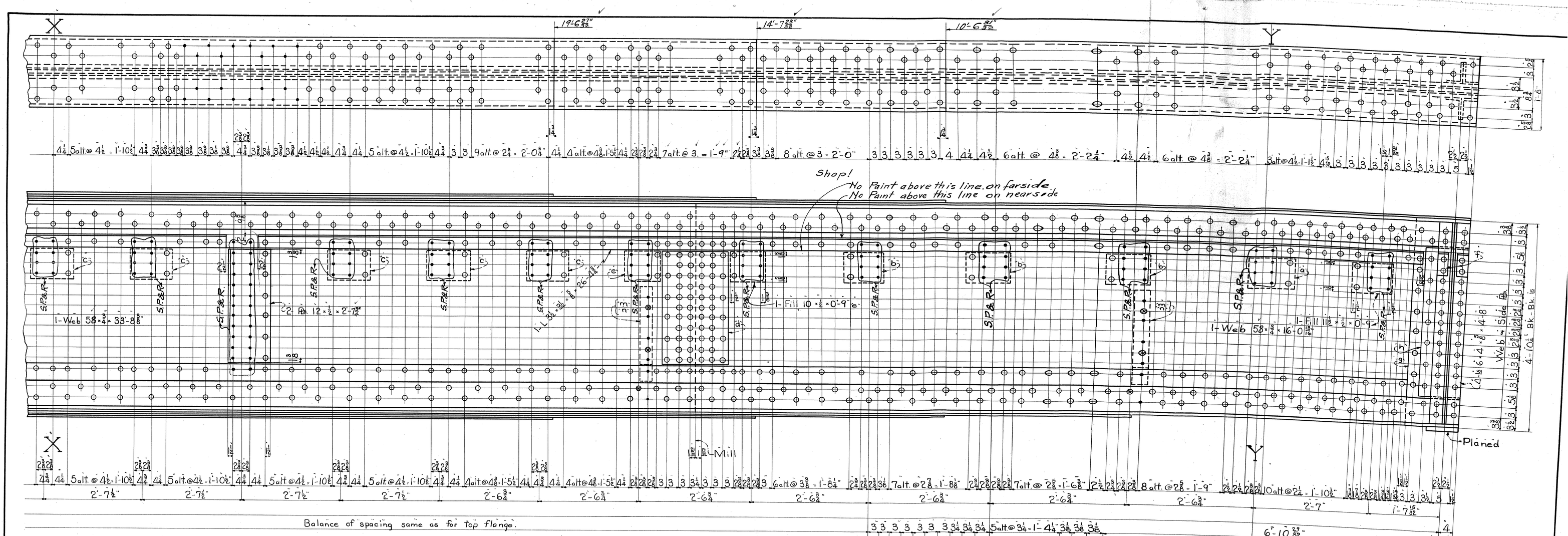
MADE BY J.R.S. CHECKED BY W.H.R. DATE 1-19-28
RIVETS ____ DIAM.
OPEN HOLES ____ DIAM.
UNLESS OTHERWISE NOTED

FORT PITT BRIDGE WORKS
CANONSBURG, PA.

APP
F.S.
E
BILLED 2-1-28 BY A.F.D.

CONTRACT C-5399
BILL PAGES 6
DRAWING NO. 3

H.M. NS 183-52-281



Use this drawing in conjunction with drawing #3 & #5

Line X-X corresponds to line X-X drawing #3.

GENERAL NOTE

SPECIFICATIONS—N. Y. C. LINES FOR STEEL RAILROAD BRIDGES OF 1917.

SHOP AND FIELD RIVETS—5/8" DIAM.
HOLES FOR SHOP RIVETS IN METAL 3/8" THICK AND UNDER TO BE PUNCHED 11-16" DIAM AND REAMED TO 15-16" DIAM.
HOLES FOR SHOP RIVETS IN METAL OVER 3/8" THICK TO BE DRILLED 11-16" AND REAMED TO 15-16" DIAM.
HOLES FOR FIELD RIVETS IN METAL 3/8" THICK AND UNDER TO BE PUNCHED 15-16" UNLESS MARKED S. P. & R.
HOLES FOR FIELD RIVETS IN METAL OVER 3/8" THICK TO BE DRILLED 11-16" AND REAMED TO 15-16" DIAM. UNLESS MARKED S. P. & R. or marked special for turned bolts.
HOLES MARKED S. P. & R. TO BE SUB-PUNCHED OR SUB-DRILLED 11-16" and reamed to 15-16" TO A METAL TEMPLATE OR WHILE PARTS ARE TEMPORARILY ASSEMBLED IN THE SHOP.
SHEARED EDGES OF MATERIAL OVER 3/8" IN THIICKNESS AND CARRYING CALCULATED STRESS SHALL BE PLANED TO A DEPTH OF 3-16".
SHOP PAINT—N. Y. C. STANDARD RED LEAD.
SURFACES IN CONTACT TO RECEIVE ONE COAT OF PAINT ON EACH SURFACE BEFORE ASSEMBLING.
MACHINE FINISHED SURFACES TO BE COATED WITH HEAVY LUBRICATING GREASE.
ALL OTHER SURFACES TO RECIVE ONE COAT OF PAINT, EXCEPT THOSE IN CONTACT WITH CONCRETE WHICH ARE NOT TO BE PAINTED. (SEE NOTES ON DETAILS).
ERECTION MARKS TO BE PLACED ON PAINTED SURFACES.
MEMBERS WEIGHING OVER 5 TONS SHALL HAVE THE WEIGHT MARKED THEREON.

N. Y. C. & ST. L. R. R. - (NICKEL PLATE)
HIGH LEVEL FREIGHT APPROACH - BRIDGE No. 182.08
OVER CLEVELAND UNION TERMINAL CO. TRACKS - CLEVELAND O.
DETAILS OF GIRDERS G6 & G7

MADE BY J. R. S. CHECKED BY W. H. R. DATE 1-19-28

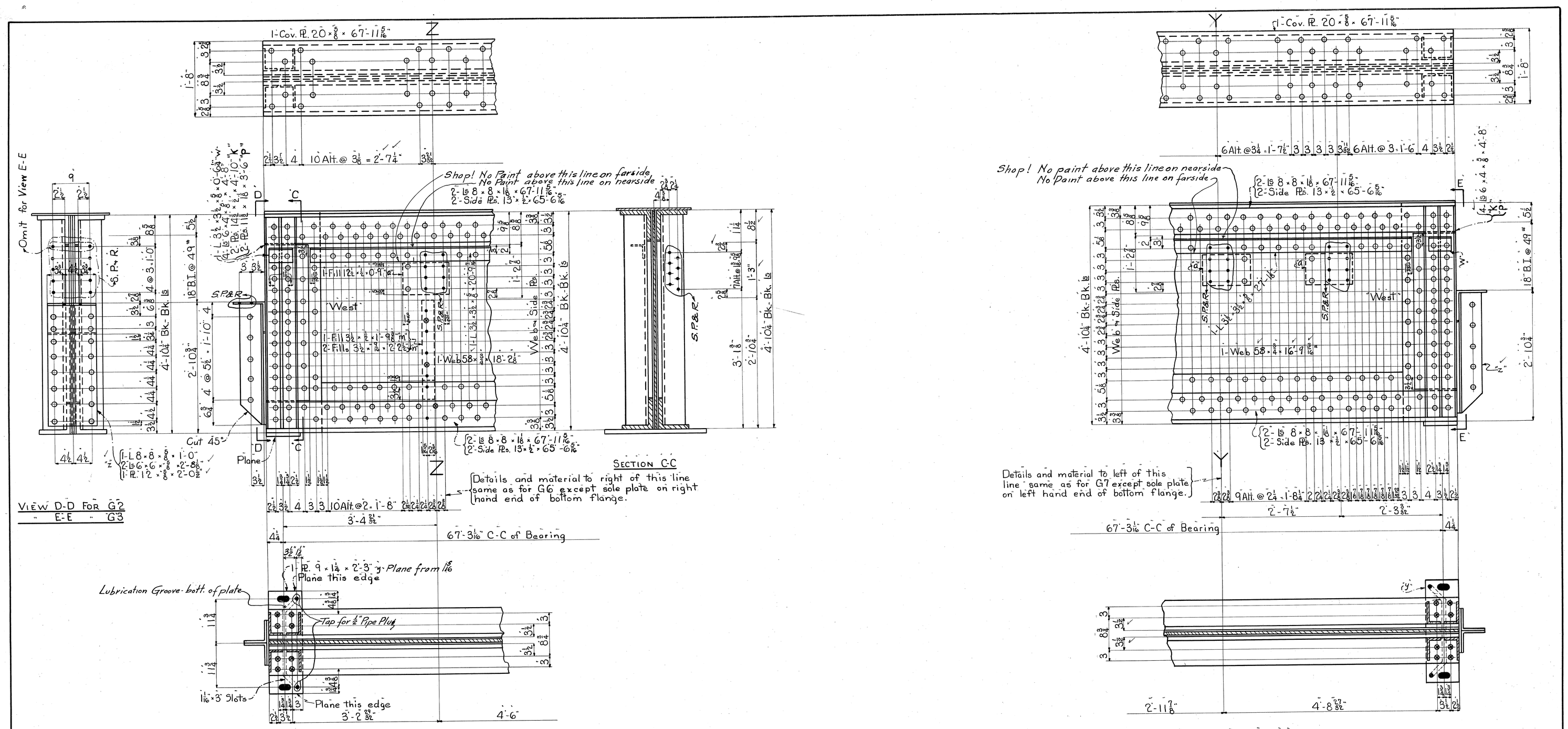
RIVETS ____ DIAM.
OPEN HOLES ____ DIAM.
UNLESS OTHERWISE NOTED

FORT PITT BRIDGE WORKS
CANONSBURG, PA.

APP
E
BILLED 2-1-28 BY F.F.D.

CONTRACT C-5399
BILL PAGES 6
DRAWING NO. 4

H.M.



Use this drawing in conjunction with Dwgs. #3 & 4

Line Z-Z corresponds to line Z-Z drawing #3.

Line Y-Y " " " Y-Y " #4.

GENERAL NOTE

SPECIFICATIONS—N. Y. C. LINES FOR STEEL RAILROAD BRIDGES OF 1917.

SHOP AND FIELD RIVETS—5/8" DIAM.
HOLES FOR SHOP RIVETS IN METAL 3/4" THICK AND UNDER TO BE PUNCHED 11-16" DIAM AND REAMED TO 15-16" DIAM.
HOLES FOR SHOP RIVETS IN METAL OVER 3/4" THICK TO BE DRILLED 11-16" AND REAMED TO 15-16" DIAM.
HOLES FOR FIELD RIVETS IN METAL 3/4" THICK AND UNDER TO BE PUNCHED 15-16" UNLESS MARKED S. P. & R.
HOLES FOR FIELD RIVETS IN METAL OVER 3/4" THICK TO BE DRILLED 11-16" AND REAMED TO 15-16" DIAM. UNLESS MARKED S. P. & R.
HOLES MARKED S. P. & R. TO BE SUB-PUNCHED OR SUB-DRILLED 11-16" and reamed to 15-16" TO A METAL TEMPLATE OR WHILE PARTS ARE TEMPORARILY ASSEMBLED IN THE SHOP.
SHEARED EDGES OF MATERIAL OVER 1/2" IN THICKNESS AND CARRYING CALCULATED STRESS SHALL BE PLANED TO A DEPTH OF 5-16".
SHOP PAINT—N. Y. C. STANDARD RED LEAD.
SURFACES IN CONTACT TO RECEIVE ONE COAT OF PAINT ON EACH SURFACE BEFORE ASSEMBLING.
MACHINE FINISHED SURFACES TO BE COATED WITH HEAVY LUBRICATING GREASE.
ALL OTHER SURFACES TO RECEIVE ONE COAT OF PAINT, EXCEPT THOSE IN CONTACT WITH CONCRETE WHICH ARE NOT TO BE PAINTED. (SEE NOTES ON DETAILS).
ERECTION MARKS TO BE PLACED ON PAINTED SURFACES.
MEMBERS WEIGHING OVER 5 TONS SHALL HAVE THE WEIGHT MARKED THEREON.

N. Y. C. & ST. L. R.R.- (NICKEL PLATE)

HIGH LEVEL FREIGHT APPROACH - BRIDGE No. 182.08

OVER CLEVELAND UNION TERMINAL CO. TRACKS - CLEVELAND O.

DETAILS OF GIRDERS G2 & G3

MADE BY J. R. S. CHECKED BY W. H. R. DATE 1-19-28

RIVETS ____ DIAM.
OPEN HOLES ____ DIAM.
UNLESS OTHERWISE NOTED

FORT PITT BRIDGE WORKS

CANONSBURG, PA.

APP
S
E

CONTRACT C-5399

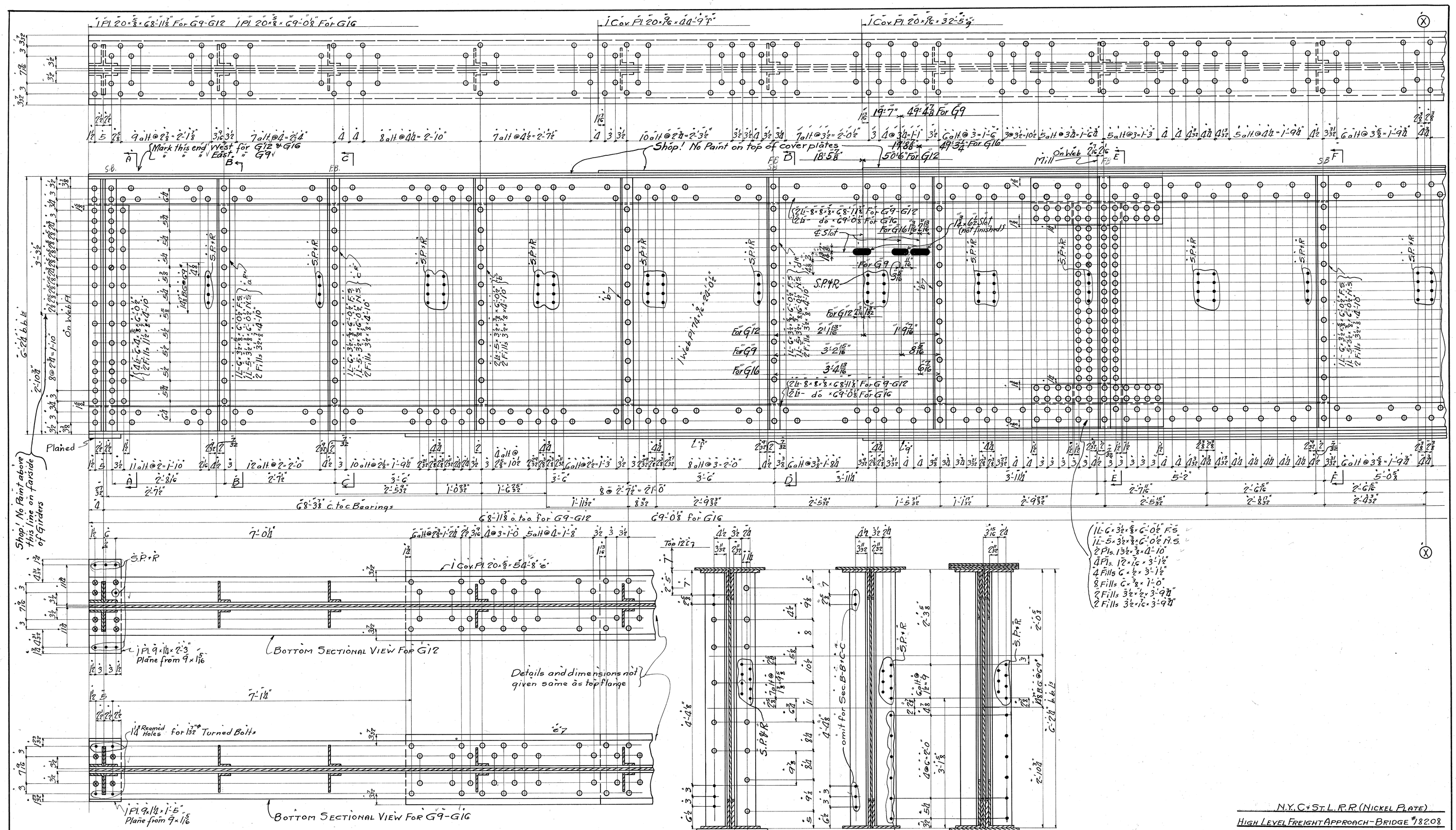
BILL PAGES 7

BILLED 2-1-28 BY A.F.D

DRAWING NO. 5

H. M.

NS 183-52-281



GENERAL NOTE

SPECIFICATIONS—N. Y. C. LINES FOR STEEL RAILROAD BRIDGES OF 1917.
SHOP AND FIELD RIVETS—13/16" DIAM.
HOLES FOR SHOP RIVETS IN METAL 3/4" THICK AND UNDER TO BE PUNCHED 11-16" DIAM AND REAMED TO 15-16" DIAM.
HOLES FOR SHOP RIVETS IN METAL OVER 3/4" THICK TO BE DRILLED 11-16" AND REAMED TO 15-16" DIAM.
HOLES FOR FIELD RIVETS IN METAL 3/4" THICK AND UNDER TO BE PUNCHED 15-16" UNLESS MARKED S. P. & R.
HOLES FOR FIELD RIVETS IN METAL OVER 3/4" THICK TO BE DRILLED 11-16" AND REAMED TO 15-16" DIAM. UNLESS MARKED S. P. & R. or marked special for turned bolts
HOLES MARKED S. P. & R. TO BE SUB-PUNCHED OR SUB-DRILLED 11-16" and reamed to 15-16" TO A METAL TEMPLATE OR WHILE PARTS ARE TEMPORARILY ASSEMBLED IN THE SHOP.
SHEARED EDGES OF MATERIAL OVER 1/2" IN THICKNESS AND CARRYING CALCULATED STRESS SHALL BE PLANED TO A DEPTH OF 3-16".
SHOP PAINT—N. Y. C. STANDARD RED LEAD.
SURFACES IN CONTACT TO RECEIVE ONE COAT OF PAINT ON EACH SURFACE BEFORE ASSEMBLING.
MACHINE FINISHED SURFACES TO BE COATED WITH HEAVY LUBRICATING GREASE.
ALL OTHER SURFACES TO RECEIVE ONE COAT OF PAINT, EXCEPT THOSE IN CONTACT WITH CONCRETE WHICH ARE NOT TO BE PAINTED. (SEE NOTES ON DETAILS).
ERECTION MARKS TO BE PLACED ON PAINTED SURFACES.
MEMBERS WEIGHING OVER 5 TONS SHALL HAVE THE WEIGHT MARKED THEREON.

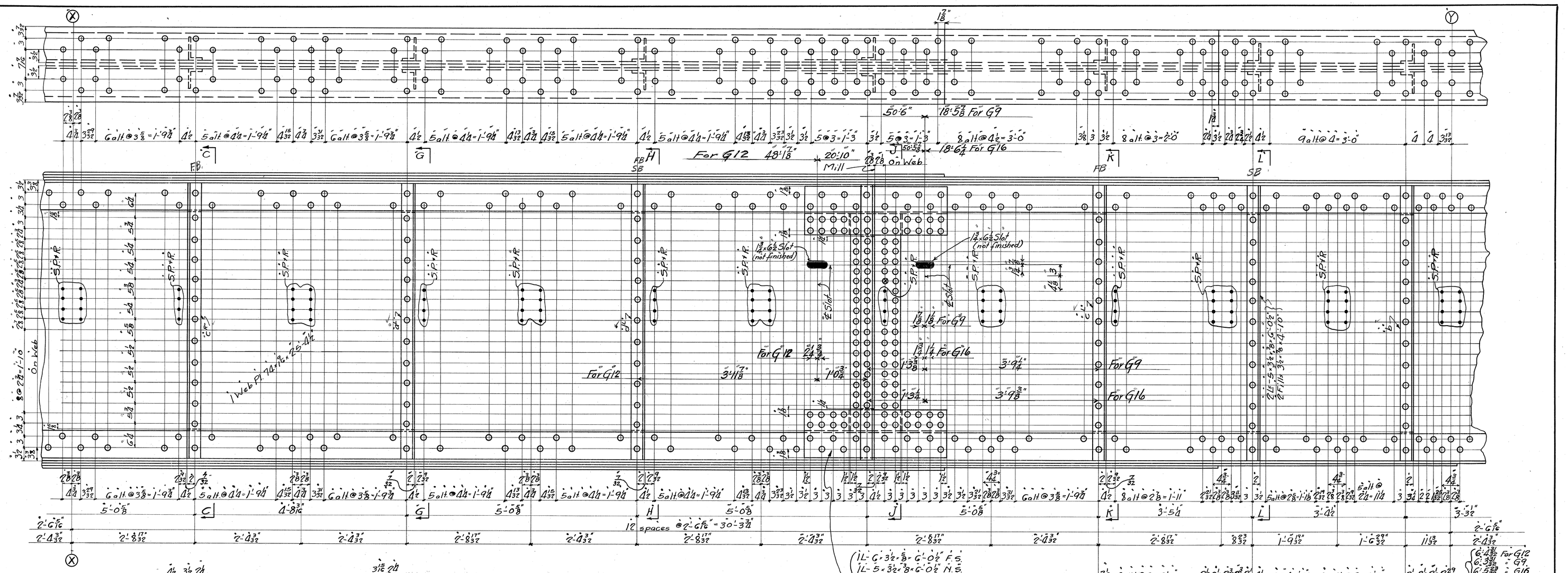
N.Y.C. & ST. L. R.R. (NICKEL PLATE)
HIGH LEVEL FREIGHT APPROACH-BRIDGE #182.08
OVER CLEVELAND UNION TERM. CO. TRACKS, CLEVE, OHIO
DETAILS OF GIRDERS G9-12-16

MADE BY G.J.M.S.M. CHECKED BY E.S.R. DATE 2-1928
RIVETS See Gen. DIAM. | UNLESS OTHERWISE NOTED
OPEN HOLES Notex DIAM.

FORT PITT BRIDGE WORKS
CANONSBURG, PA.

APP. E.S.R.
E
BILLED ____ BY ____
CONTRACT C-5399
BILL PAGES 8
DRAWING NO. 6

NS 183-52-281



GENERAL NOTE

SPECIFICATIONS—N. Y. C. LINES FOR STEEL RAILROAD BRIDGES OF 1917.

SHOP AND FIELD RIVETS—¾" DIAM.
HOLES FOR SHOP RIVETS IN METAL ⅝" THICK AND UNDER TO BE PUNCHED 11-16" DIAM AND REAMED TO 15-16" DIAM.
HOLES FOR SHOP RIVETS IN METAL OVER ⅝" THICK TO BE DRILLED 11-16" AND REAMED TO 15-16" DIAM.
HOLES FOR FIELD RIVETS IN METAL ⅝" THICK AND UNDER TO BE PUNCHED 15-16" UNLESS MARKED S. P. & R.
HOLES FOR FIELD RIVETS IN METAL OVER ⅝" THICK TO BE DRILLED 11-16" AND REAMED TO 15-16" DIAM. UNLESS MARKED S. P. & R.
HOLES MARKED S. P. & R. TO BE SUB-PUNCHED OR SUB-DRILLED 11-16" and reamed to 15-16" TO A METAL TEMPLATE OR WHILE PARTS ARE TEMPORARILY ASSEMBLED IN THE SHOP.
SHEARED EDGES OF MATERIAL OVER ⅝" IN THICKNESS AND CARRYING CALCULATED STRESS SHALL BE PLANED TO A DEPTH OF 1-16".
SHOP PAINT—N. Y. C. STANDARD RED LEAD.
SURFACES IN CONTACT TO RECEIVE ONE COAT OF PAINT ON EACH SURFACE BEFORE ASSEMBLING.
MACHINE FINISHED SURFACES TO BE COATED WITH HEAVY LUBRICATING GREASE.
ALL OTHER SURFACES TO RECEIVE ONE COAT OF PAINT, EXCEPT THOSE IN CONTACT WITH CONCRETE WHICH ARE NOT TO BE PAINTED. (SEE NOTES ON DETAILS).
ERECTION MARKS TO BE PLACED ON PAINTED SURFACES
MEMBERS WEIGHING OVER 5 TONS SHALL HAVE THE WEIGHT MARKED THEREON.

N.Y. C. AND ST. L. R.R. (NICKEL PLATE)
HIGH LEVEL FREIGHT APPROACH-BRIDGE 18208
OVER CLEVELAND UNION TERM. CO. TRACKS-CLEVELAND, OHIO
DETAILS OF GIRDERS G9-12-16

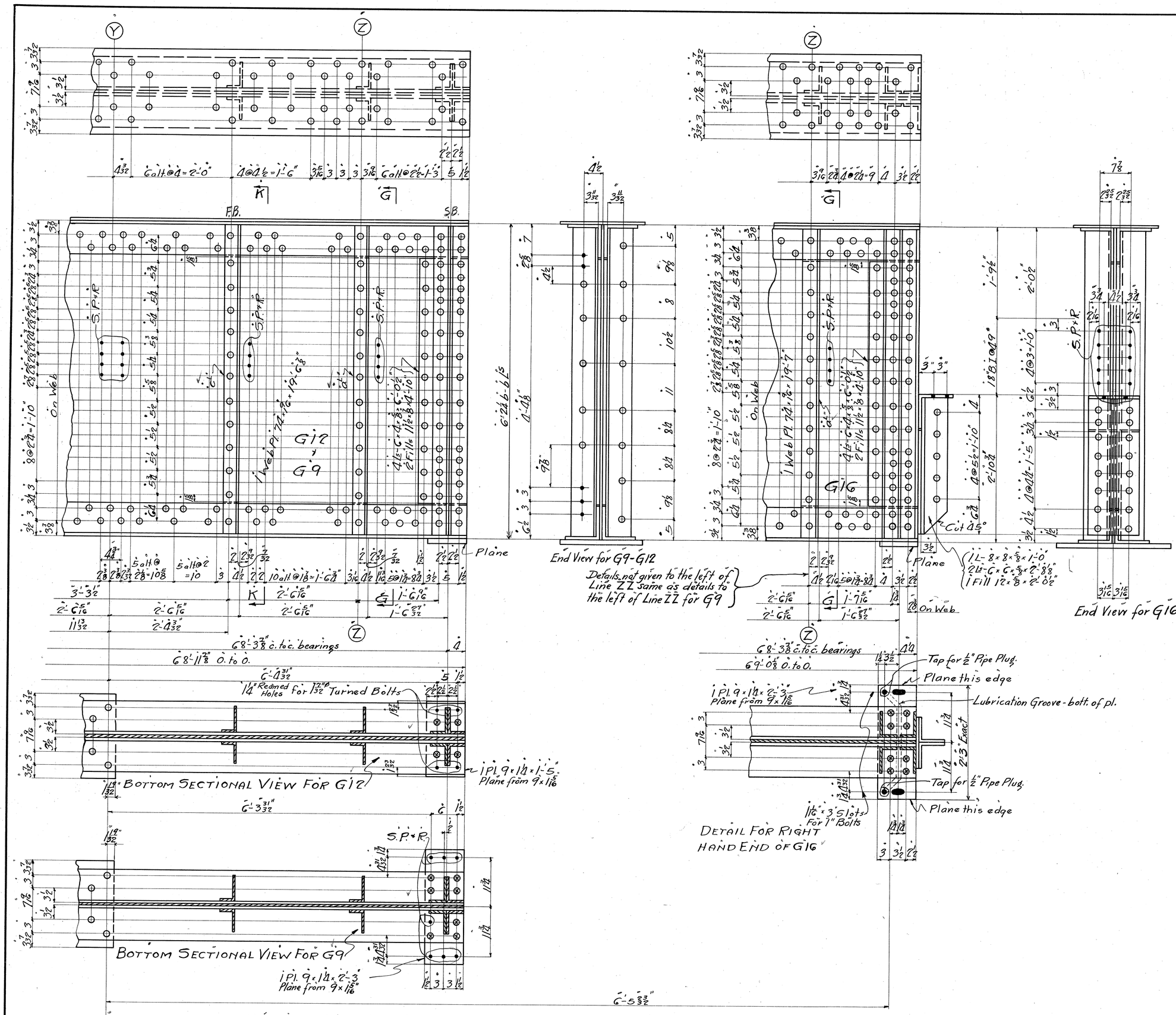
MADE BY G.J. McM. CHECKED BY E.G.R. DATE 2-14-28
RIVETS See Gen. DIAM.
OPEN HOLES 15/16 DIAM.
UNLESS OTHERWISE NOTED

FORT PITT BRIDGE WORKS
CANONSBURG, PA.

APP
S 5/8/2
E
BILLED BY

CONTRACT C-5399
BILL PAGES 8
DRAWING NO. DAN 7

NS 183-52-281
182-58-1



GENERAL NOTE

SPECIFICATIONS—N. Y. C. LINES FOR STEEL RAILROAD BRIDGES OF 1917.
SHOP AND FIELD RIVETS—¾" DIAM.
HOLES FOR SHOP RIVETS IN METAL ¾" THICK AND UNDER TO BE PUNCHED 11-16" DIAM AND REAMED TO 15-16" DIAM.
HOLES FOR SHOP RIVETS IN METAL OVER ¾" THICK TO BE DRILLED 11-16" AND REAMED TO 15-16" DIAM.
HOLES FOR FIELD RIVETS IN METAL ¾" THICK AND UNDER TO BE PUNCHED 15-16" UNLESS MARKED S. P. & R.
HOLES FOR FIELD RIVETS IN METAL OVER ¾" THICK TO BE DRILLED 11-16" AND REAMED TO 15-16" DIAM. UNLESS MARKED S. P. & R.
HOLES MARKED S. P. & R. TO BE SUB-PUNCHED OR SUB-DRILLED 11-16" and reamed to 15-16" TO A METAL TEMPLATE OR WHILE PARTS ARE TEMPORARILY ASSEMBLED IN THE SHOP.
SHEARED EDGES OF MATERIAL OVER ¾" IN THICKNESS AND CARRYING CALCULATED STRESS SHALL BE PLANED TO A DEPTH OF 3-16".
SHOP PAINT—N. Y. C. STANDARD RED LEAD.
SURFACES IN CONTACT TO RECEIVE ONE COAT OF PAINT ON EACH SURFACE BEFORE ASSEMBLING.
MACHINE FINISHED SURFACES TO BE COATED WITH HEAVY LUBRICATING GREASE.
ALL OTHER SURFACES TO RECEIVE ONE COAT OF PAINT, EXCEPT THOSE IN CONTACT WITH CONCRETE WHICH ARE NOT TO BE PAINTED. (SEE NOTES ON DETAILS).
ERECTION MARKS TO BE PLACED ON PAINTED SURFACES.
MEMBERS WEIGHING OVER 5 TONS SHALL HAVE THE WEIGHT MARKED THEREON.

N. Y. C. AND ST. L. R.R. (NICKEL PLATE)
HIGH LEVEL FREIGHT APPROACH - BRIDGE #18208
OVER CLEVELAND UNION TERMINAL CO. TRACKS - CLEVELAND OHIO
DETAILS OF GIRDERS G9-12-16

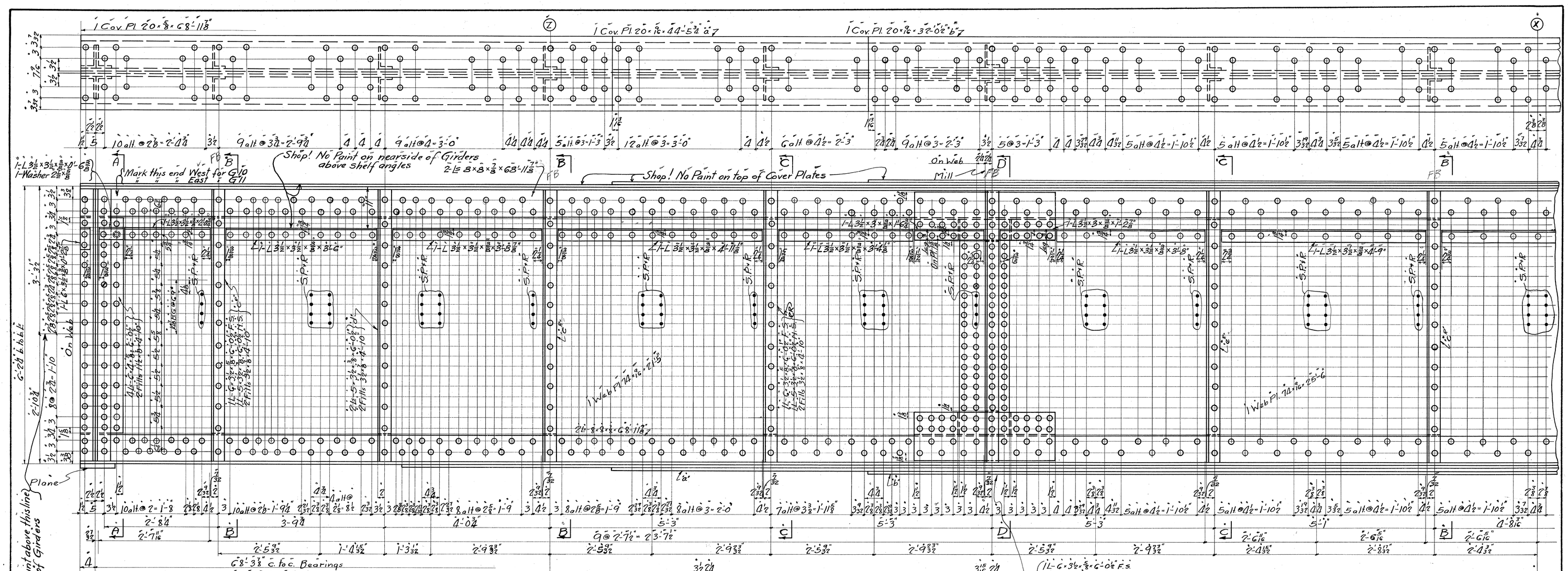
MADE BY G.J.McM. CHECKED BY E.G.R. DATE 2-14-23
RIVETS See Gen. DIAM.
OPEN HOLES Note DIAM. (Special for turned bolts.)
UNLESS OTHERWISE NOTED

FORT PITT BRIDGE WORKS
CANONSBURG, PA.

APP
S
I
E
BILLED ____ BY ____

CONTRACT C-5399
BILL PAGES 8
DRAWING NO. 8

NS 183-52-281



Use this drawing in conjunction with drawing #10 & 13

Line (X)(X) this drawing corresponds to line (X)(X) drawing #10

Line (Z)(Z) this drawing corresponds to line (Z)(Z) drawing #13

GENERAL NOTE

SPECIFICATIONS—N. Y. C. LINES FOR STEEL RAILROAD BRIDGES OF 1917.

SHOP AND FIELD RIVETS—¾" DIAM.
HOLES FOR SHOP RIVETS IN METAL ¾" THICK AND UNDER TO BE PUNCHED 11-16" DIAM AND REAMED TO 15-16" DIAM.
HOLES FOR SHOP RIVETS IN METAL OVER ¾" THICK TO BE DRILLED 11-16" AND REAMED TO 15-16" DIAM.
HOLES FOR FIELD RIVETS IN METAL ¾" THICK AND UNDER TO BE PUNCHED 15-16" UNLESS MARKED S. P. & R.
HOLES FOR FIELD RIVETS IN METAL OVER ¾" THICK TO BE DRILLED 11-16" AND REAMED TO 15-16" DIAM. UNLESS MARKED S. P. & R.
HOLES MARKED S. P. & R. TO BE SUB-PUNCHED OR SUB-DRILLED 11-16" and reamed to 15-16" TO A METAL TEMPLATE OR WHILE PARTS ARE TEMPORARILY ASSEMBLED IN THE SHOP.
SHEARED EDGES OF MATERIAL OVER ½" IN THICKNESS AND CARRYING CALCULATED STRESS SHALL BE PLANED TO A DEPTH OF 5-16".
SHOP PAINT—N. Y. C STANDARD RED LEAD.
SURFACES IN CONTACT TO RECEIVE ONE COAT OF PAINT ON EACH SURFACE BEFORE ASSEMBLING.
MACHINE FINISHED SURFACES TO BE COATED WITH HEAVY LUBRICATING GREASE.
ALL OTHER SURFACES TO RECEIVE ONE COAT OF PAINT, EXCEPT THOSE IN CONTACT WITH CONCRETE WHICH ARE NOT TO BE PAINTED. (SEE NOTES ON DETAILS).
ERECTION MARKS TO BE PLACED ON PAINTED SURFACES
MEMBERS WEIGHING OVER 6 TONS SHALL HAVE THE WEIGHT MARKED THEREON.

N.Y.C. AND ST. L. R.R. (NICKEL PLATE)
HIGH LEVEL FREIGHT APPROACH—BRIDGE #182.08
OVER CLEVELAND UNION TERM. CO. TRACKS, CLEVELAND, OHIO
DETAILS OF GIRDERS G10-G11

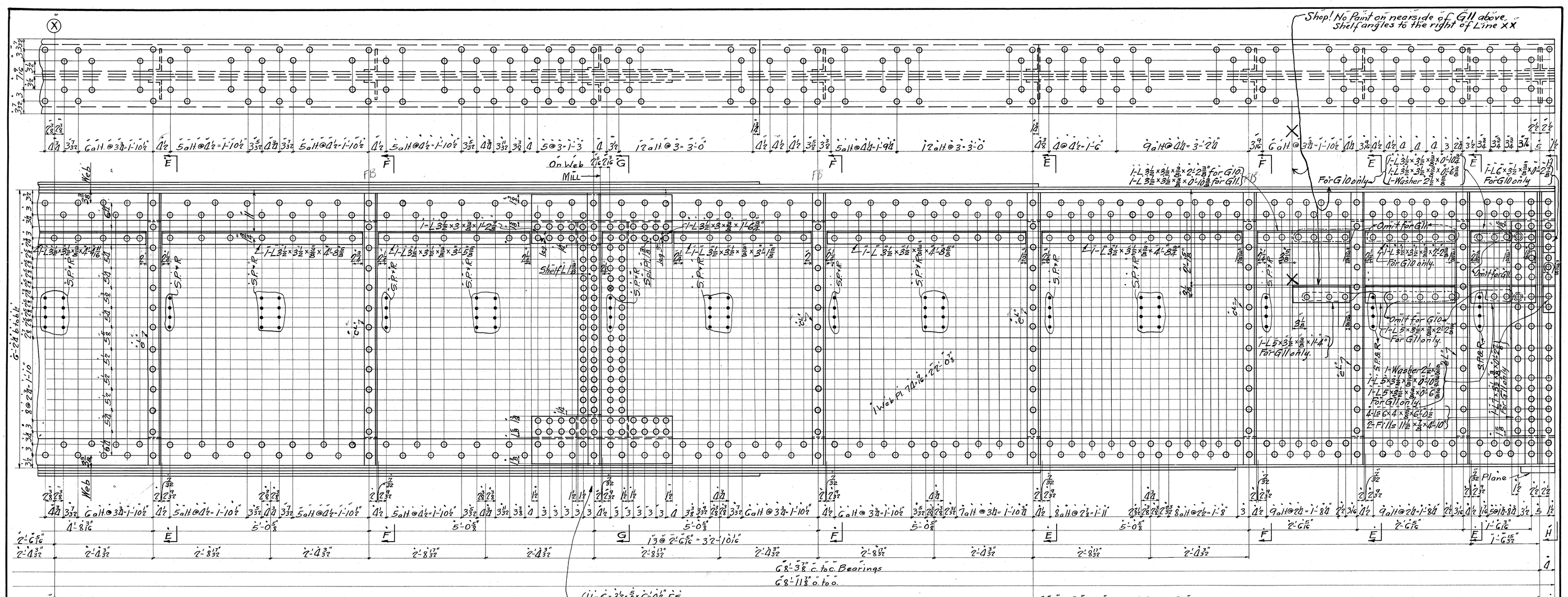
MADE BY G.J.M.M. CHECKED BY E.G.R. DATE 2-14-28
RIVETS See Gen. DIAM.
OPEN HOLES Note DIAM.
UNLESS OTHERWISE NOTED

FORT PITT BRIDGE WORKS
CANONSBURG, PA.

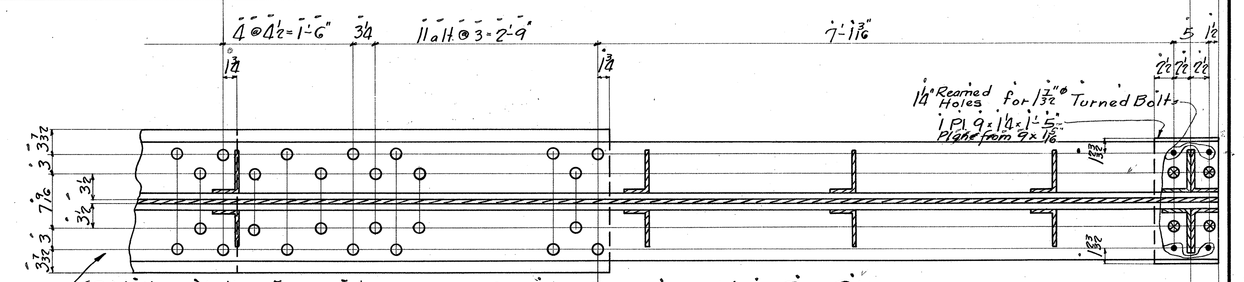
APP
BILLED 2-2-28 BY P.H.L.

CONTRACT C-5399
BILL PAGES 9-9A
DRAWING NO. 9

NS 183-52-281

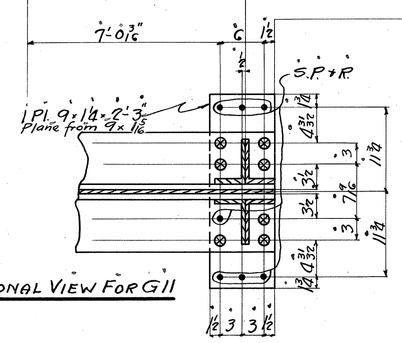


1 L-6×3½×5/8×6'-0⅞" F.S.
1 L-5×3½×3/8×6'-0⅞" N.S.
2 Pls. 1 3/32×3/8×4'-10"
4 Pls. 1/2×7/16×3'-1½"
4 Fills 6×1/2×3'-1½"
8 Fills 6×3/8×1'-0"
2 Fills 3½×1/2×3'-9 31/32"
2 Fills 3½×7/16×3'-9 31/32"

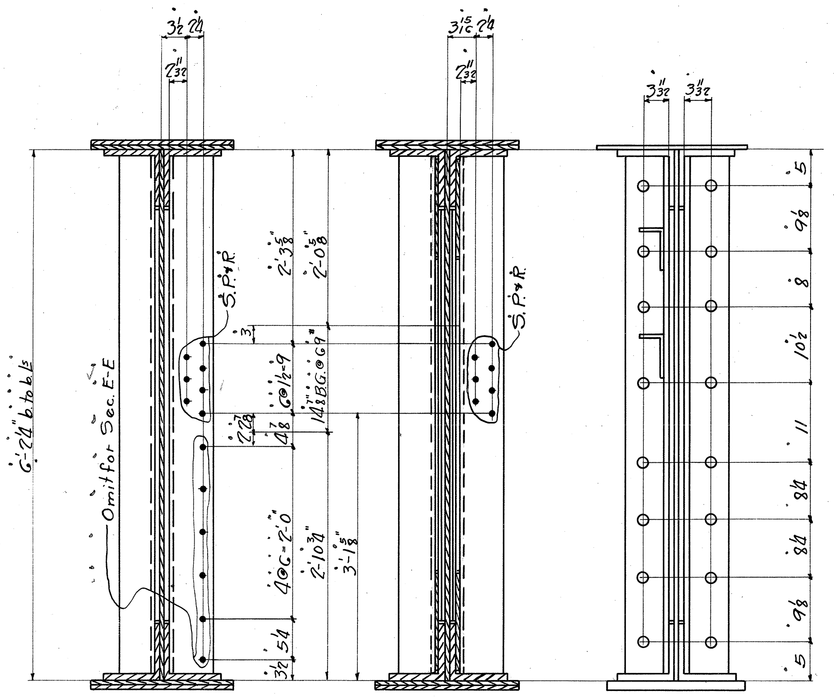


Details and dimensions not given same as top flange

BOTTOM SECTIONAL VIEW FOR G10



BOTTOM SECTIONAL VIEW FOR G11



SECTION E-E
" F-F
SECTION G-G
END VIEW H-H

GENERAL NOTE

SPECIFICATIONS—N. Y. C. LINES FOR STEEL RAILROAD BRIDGES OF 1911.

SHOP AND FIELD RIVETS—⅝" DIAM.
HOLES FOR SHOP RIVETS IN METAL ⅝" THICK AND UNDER TO BE PUNCHED 11-16" DIAM AND REAMED TO 15-16" DIAM.
HOLES FOR SHOP RIVETS IN METAL OVER ⅝" THICK TO BE DRILLED 11-16" AND REAMED TO 15-16" DIAM.
HOLES FOR FIELD RIVETS IN METAL ⅝" THICK AND UNDER TO BE PUNCHED 15-16" UNLESS MARKED S. P. & R.
HOLES FOR FIELD RIVETS IN METAL OVER ⅝" THICK TO BE DRILLED 11-16" AND REAMED TO 15-16" DIAM. UNLESS MARKED S. P. & R. *or marked special for turned bolts.*
HOLES MARKED S. P. & R. TO BE SUB-PUNCHED OR SUB-DRILLED 11-16" and reamed to 15-16" TO A METAL TEMPLATE OR WHILE PARTS ARE TEMPORARILY ASSEMBLED IN THE SHOP.
SHEARED EDGES OF MATERIAL OVER ⅜" IN THICKNESS AND CARRYING CALCULATED STRESS SHALL BE PLANED TO A DEPTH OF 3-16".
SHOP PAINT—N. Y. C. STANDARD RED LEAD.
SURFACES IN CONTACT TO RECEIVE ONE COAT OF PAINT ON EACH SURFACE BEFORE ASSEMBLING.
MACHINE FINISHED SURFACES TO BE COATED WITH HEAVY LUBRICATING GREASE.
ALL OTHER SURFACES TO RECEIVE ONE COAT OF PAINT, EXCEPT THOSE IN CONTACT WITH CONCRETE WHICH ARE NOT TO BE PAINTED. (SEE NOTES ON DETAILS).
ERECTION MARKS TO BE PLACED ON PAINTED SURFACES.
MEMBERS WEIGHING OVER 2 TONS SHALL HAVE THE WEIGHT MARKED THEREON.

Use this drawing in conjunction with drawing #9.
Line ⊗⊗ this drawing corresponds to line ⊗⊗ drawing #9.

N.Y.C. AND ST. L. R.R. (NICKEL PLATE)
HIGH LEVEL FREIGHT APPROACH – BRIDGE #1820B
OVER CLEVELAND UNION TERM. CO. TRACKS, CLEVELAND, OHIO
DETAILS OF GIRDERS G10-G11

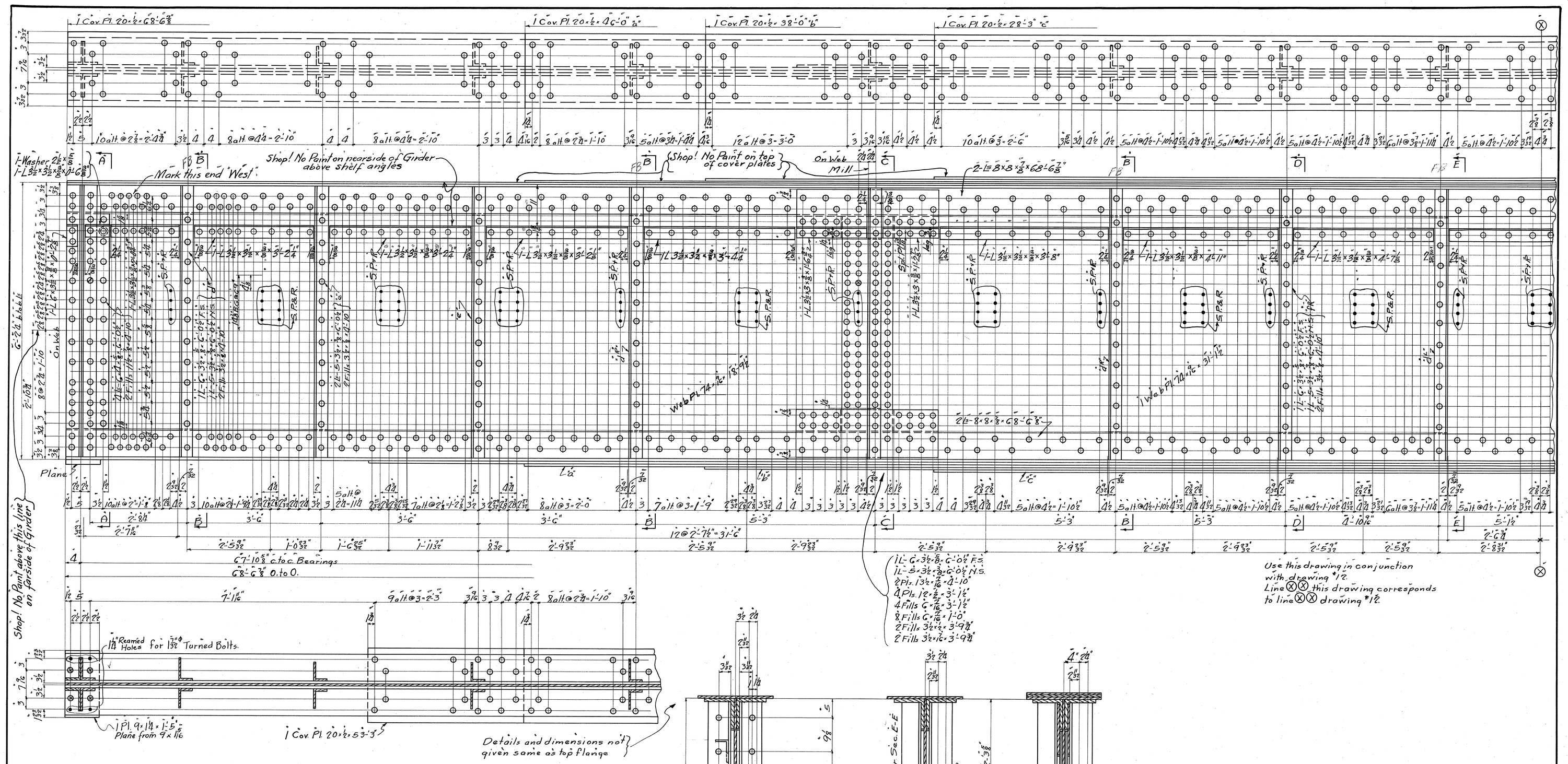
MADE BY G.J.M.M. CHECKED BY E.G.R. DATE 2-14-28
RIVETS Sec. Gen. DIAM.
OPEN HOLES Note DIAM.
UNLESS OTHERWISE NOTED

FORT PITT BRIDGE WORKS
CANONSBURG, PA.

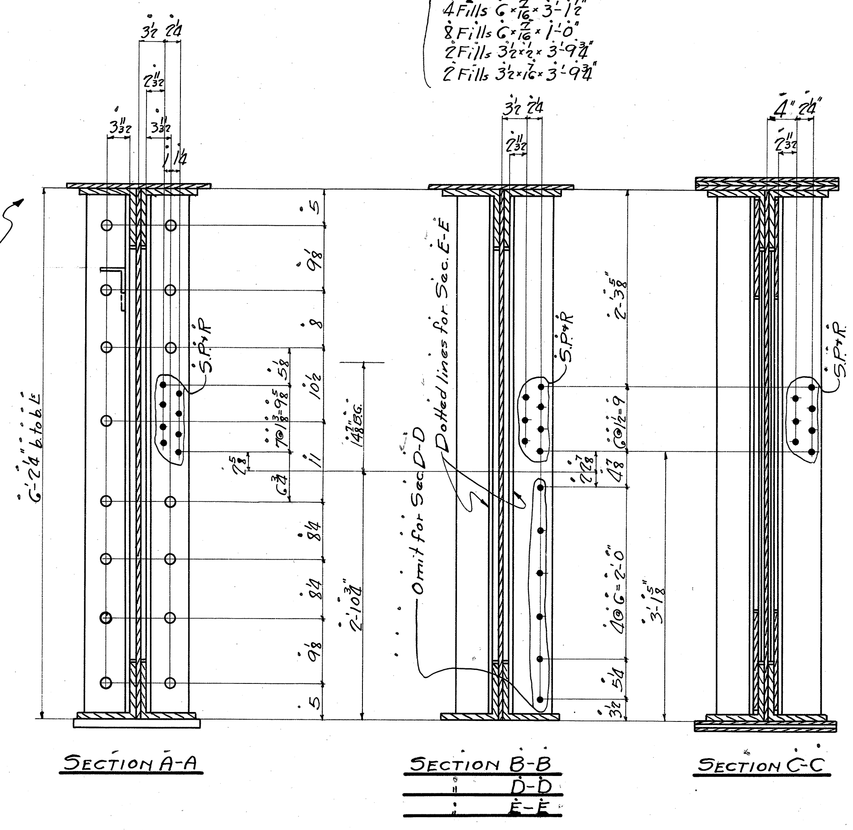
APP
S
I
E
BILLED 2-22-28 BY M.L.

CONTRACT C-5399
BILL PAGES 9-9A
DRAWING NO. 10

NS 183-52-281



1 Girder Reod Mk G14



Section A-A

Section B-B
D-D
E-E

Section C-C

GENERAL NOTE

SPECIFICATIONS—N. Y. C. LINES FOR STEEL RAILROAD BRIDGES OF 1917.
SHOP AND FIELD RIVETS—¾" DIAM.
HOLES FOR SHOP RIVETS IN METAL ¾" THICK AND UNDER TO BE PUNCHED 11-16" DIAM AND REAMED TO 15-16" DIAM.
HOLES FOR SHOP RIVETS IN METAL OVER ¾" THICK TO BE DRILLED 11-16" AND REAMED TO 15-16" DIAM.
HOLES FOR FIELD RIVETS IN METAL ¾" THICK AND UNDER TO BE PUNCHED 15-16" UNLESS MARKED S. P. & R.
HOLES FOR FIELD RIVETS IN METAL OVER ¾" THICK TO BE DRILLED 11-16" AND REAMED TO 15-16" DIAM. UNLESS MARKED S. P. & R. or marked special for turned bolts.
HOLES MARKED S. P. & R. TO BE SUB-PUNCHED OR SUB-DRILLED 11-16" and reamed to 15-16" TO A METAL TEMPLATE OR WHILE PARTS ARE TEMPORARILY ASSEMBLED IN THE SHOP.
SHEARED EDGES OF MATERIAL OVER ¼" IN THICKNESS AND CARRYING CALCULATED STRESS SHALL BE PLANED TO A DEPTH OF 3-16".
SHOP PAINT—N. Y. C. STANDARD RED LEAD.
SURFACES IN CONTACT TO RECEIVE ONE COAT OF PAINT ON EACH SURFACE BEFORE ASSEMBLING.
MACHINE FINISHED SURFACES TO BE COATED WITH HEAVY LUBRICATING GREASE.
ALL OTHER SURFACES TO RECEIVE ONE COAT OF PAINT, EXCEPT THOSE IN CONTACT WITH CONCRETE WHICH ARE NOT TO BE PAINTED. (SEE NOTES ON DETAILS).
ERECTION MARKS TO BE PLACED ON PAINTED SURFACES.
MEMBERS WEIGHING OVER 5 TONS SHALL HAVE THE WEIGHT MARKED THEREON.

N.Y.C. AND ST.L. R.R. (NICKEL PLATE)
HIGH LEVEL FREIGHT APPROACH—BRIDGE #182.08
OVER CLEVELAND UNION TERM. CO. TRACKS CLEVELAND, OHIO
DETAILS OF GIRDER G14

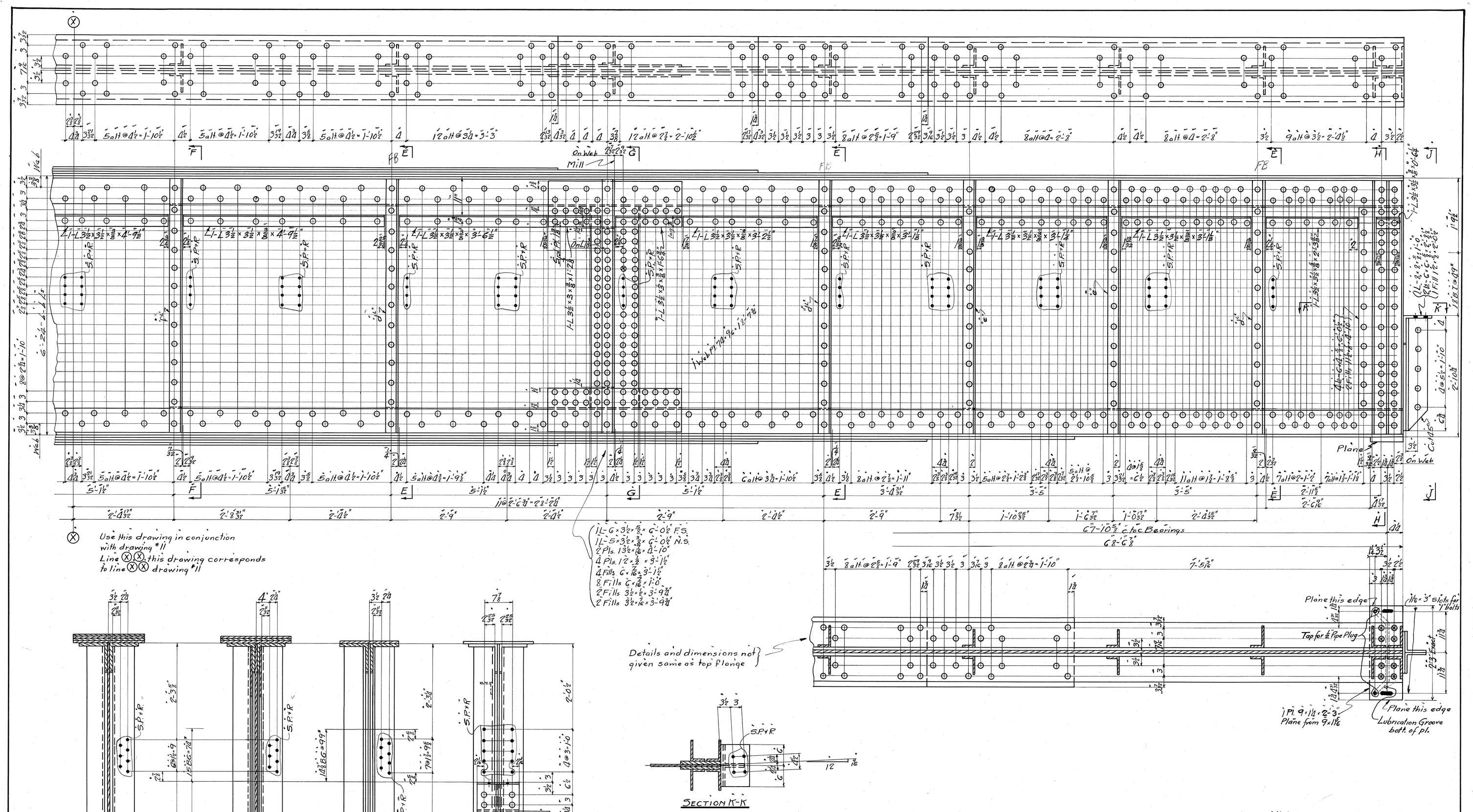
MADE BY G.J.M.S.M. CHECKED BY E.G.R. DATE 2-16-28
RIVETS See Gen. DIAM.
OPEN HOLES Note DIAM.
UNLESS OTHERWISE NOTED

FORT PITT BRIDGE WORKS
CANONSBURG, PA.

APP
S
E
BILLED 2-2-28 BY H. M.

CONTRACT C-5399
BILL PAGES 10-10A
DRAWING NO. 11

NS 183-52-281



GENERAL NOTE

SPECIFICATIONS—N. Y. C. LINES FOR STEEL RAILROAD BRIDGES OF 1917.
SHOP AND FIELD RIVETS—¾" DIAM.
HOLES FOR SHOP RIVETS IN METAL ¾" THICK AND UNDER TO BE PUNCHED 11-16" DIAM AND REAMED TO 15-16" DIAM.
HOLES FOR SHOP RIVETS IN METAL OVER ¾" THICK TO BE DRILLED 11-16" AND REAMED TO 15-16" DIAM.
HOLES FOR FIELD RIVETS IN METAL ¾" THICK AND UNDER TO BE PUNCHED 15-16" UNLESS MARKED S. P. & R.
HOLES FOR FIELD RIVETS IN METAL OVER ¾" THICK TO BE DRILLED 11-16" AND REAMED TO 15-16" DIAM. UNLESS MARKED S. P. & R.
HOLES MARKED S. P. & R. TO BE SUB-PUNCHED OR SUB-DRILLED 11-16" and reamed to 15-16" TO A METAL TEMPLATE OR WHILE PARTS ARE TEMPORARILY ASSEMBLED IN THE SHOP.
SHEARED EDGES OF MATERIAL OVER ½" IN THICKNESS AND CARRYING CALCULATED STRESS SHALL BE PLANED TO A DEPTH OF 3-16".
SHOP PAINT—N. Y. C. STANDARD RED LEAD.
SURFACES IN CONTACT TO RECEIVE ONE COAT OF PAINT ON EACH SURFACE BEFORE ASSEMBLING.
MACHINE FINISHED SURFACES TO BE COATED WITH HEAVY LUBRICATING GREASE.
ALL OTHER SURFACES TO RECEIVE ONE COAT OF PAINT, EXCEPT THOSE IN CONTACT WITH CONCRETE WHICH ARE NOT TO BE PAINTED. (SEE NOTES ON DETAILS).
ERECTION MARKS TO BE PLACED ON PAINTED SURFACES.
MEMBERS WEIGHING OVER 5 TONS SHALL HAVE THE WEIGHT MARKED THEREON.

N.Y.C. AND ST. L. R.R. (NICKEL PLATE)
HIGH LEVEL FREIGHT APPROACH—BRIDGE #12.02
OVER CLEVELAND UNION TERM. CO. TRACKS, CLEVELAND, OHIO
DETAILS OF GIRDER G1A

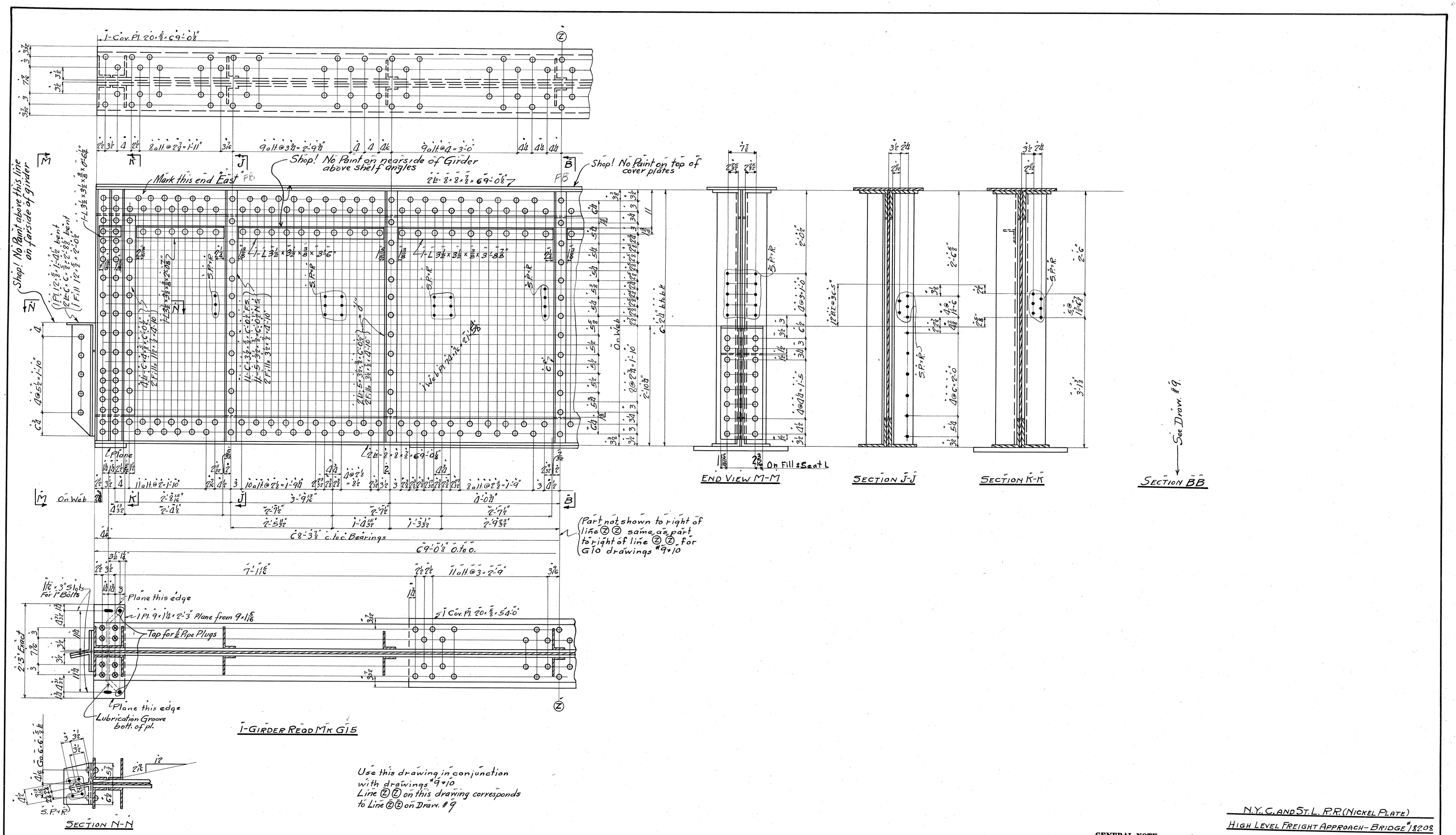
MADE BY G.J.M.&M. CHECKED BY E.G.R. DATE 2-16-28
RIVETS See Gen. DIAM.
OPEN HOLES Note DIAM.
UNLESS OTHERWISE NOTED

FORT PITT BRIDGE WORKS
CANONSBURG, PA.

APP
S
E
BILLED 2-2-28 BY H. M.

CONTRACT C-5399
BILL PAGES 10-10A
DRAWING NO. 12

NS 183-52-281



GENERAL NOTE

SPECIFICATIONS—N. Y. C. LINES FOR STEEL RAILROAD BRIDGES OF 1917.
SHOP AND FIELD RIVETS—¾" DIAM.
HOLES FOR SHOP RIVETS IN METAL ¾" THICK AND UNDER TO BE PUNCHED 11-16" DIAM AND REAMED TO 15-16" DIAM.
HOLES FOR SHOP RIVETS IN METAL OVER ¾" THICK TO BE DRILLED 11-16" AND REAMED TO 15-16" DIAM.
HOLES FOR FIELD RIVETS IN METAL ¾" THICK AND UNDER TO BE PUNCHED 15-16" UNLESS MARKED S. P. & R.
HOLES FOR FIELD RIVETS IN METAL OVER ¾" THICK TO BE DRILLED 11-16" AND REAMED TO 15-16" DIAM. UNLESS MARKED S. P. & R.
HOLES MARKED S. P. & R. TO BE SUB-PUNCHED OR SUB-DRILLED 11-16" and reamed to 15-16" TO A METAL TEMPLATE OR WHILE PARTS ARE TEMPORARILY ASSEMBLED IN THE SHOP.
SHEARED EDGES OF MATERIAL OVER ¼" IN THICKNESS AND CARRYING CALCULATED STRESS SHALL BE PLANED TO A DEPTH OF 3-16".
SHOP PAINT—N. Y. C. STANDARD RED LEAD.
SURFACES IN CONTACT TO RECEIVE ONE COAT OF PAINT ON EACH SURFACE BEFORE ASSEMBLING.
MACHINE FINISHED SURFACES TO BE COATED WITH HEAVY LUBRICATING GREASE.
ALL OTHER SURFACES TO RECEIVE ONE COAT OF PAINT, EXCEPT THOSE IN CONTACT WITH CONCRETE WHICH ARE NOT TO BE PAINTED. (SEE NOTES ON DETAILS).
ERECTION MARKS TO BE PLACED ON PAINTED SURFACES.
MEMBERS WEIGHING OVER 5 TONS SHALL HAVE THE WEIGHT MARKED THEREON.

N.Y.C. AND ST. L. R.R. (NICKEL PLATE)
HIGH LEVEL FREIGHT APPROACH—BRIDGE #18208
OVER CLEVELAND UNION TERM. CO. TRACKS—CLEVELAND, OHIO
DETAILS OF GIRDER G15

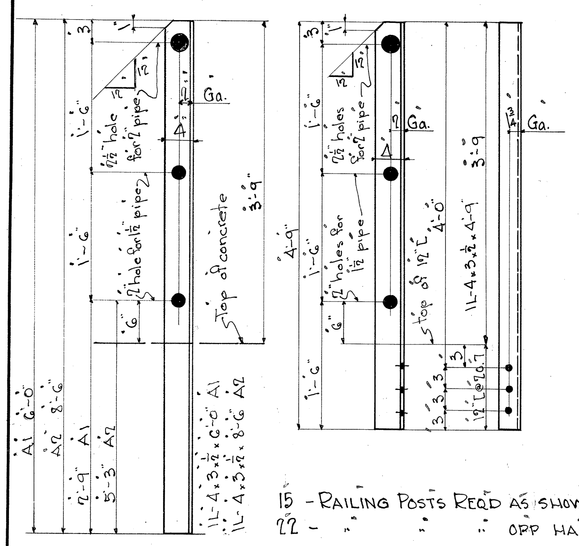
MADE BY G.J. McM. CHECKED BY E.G.R. DATE 2-15-29
RIVETS See Gen. DIAM.
OPEN HOLES Note DIAM.
UNLESS OTHERWISE NOTED

FORT PITT BRIDGE WORKS
CANONSBURG, PA.

APP
S
L
E
BILLED 2-2-28 BY

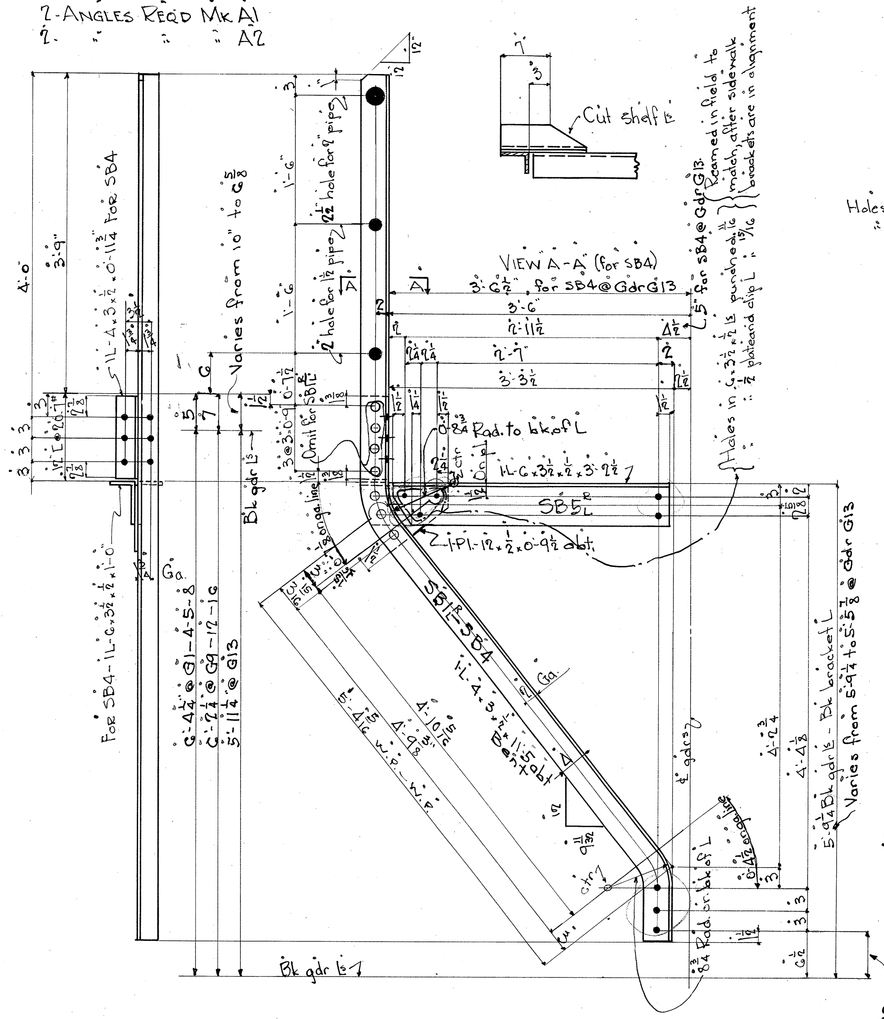
CONTRACT C-5399
BILL PAGES 9-9A
DRAWING NO. 13

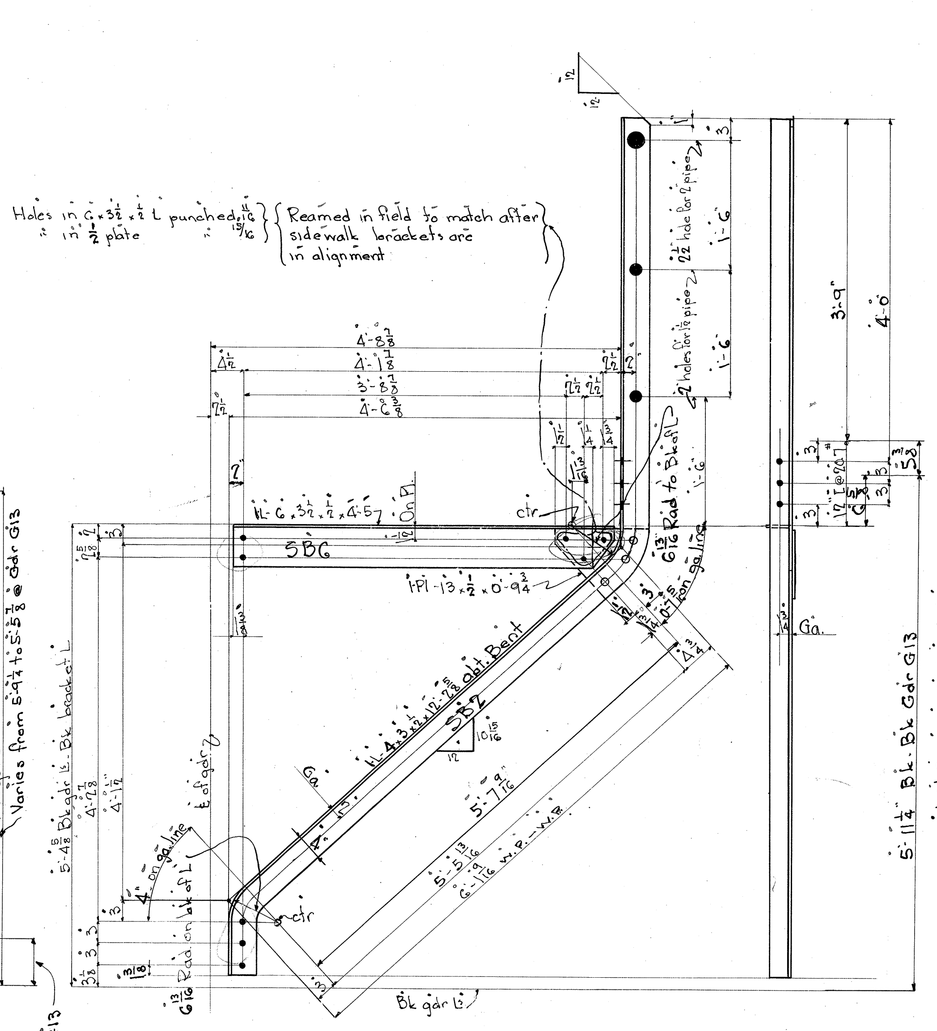
NS 183-52-281

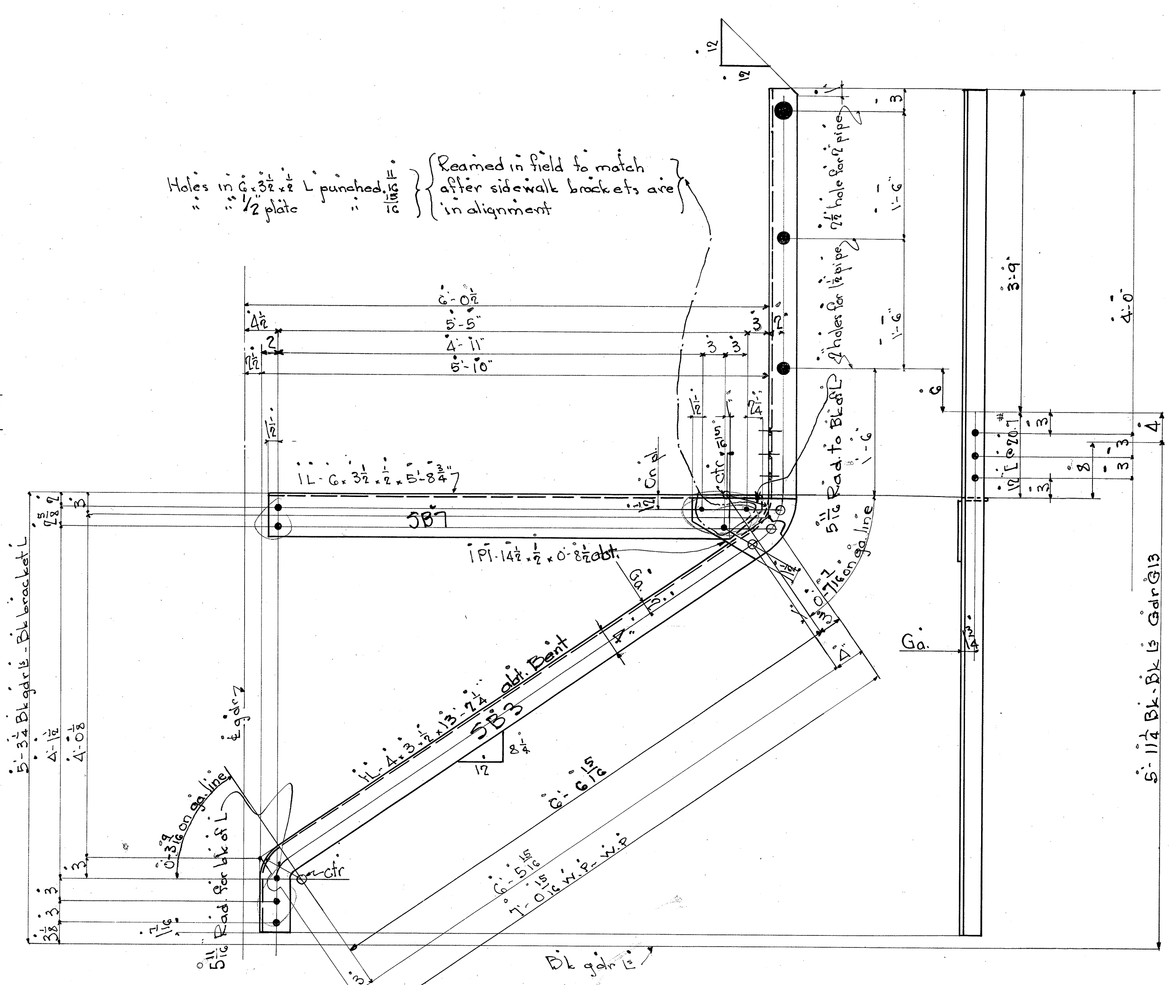


15 - RAILING POSTS REQD AS SHOWN MK RP1R
22 - " " " OPP HAND MK RP1L

2-ANGLES REQD MK A1
2- " " " A2







23-SIDEWALK BRACKETS REQD AS SHOWN MK SB1R
13- " " " OPP HAND " SB1L
8- " " " OPP HAND " SB4
23- " " ANGLES " AS SHOWN " SB5R
21- " " " " OPP HAND " SB5L

1- SIDEWALK BRACKET REQD MK SB2
1- " " ANGLE " " SB6

1- SIDEWALK BRACKET REQD MK SB3
1- " " ANGLES " " SB7

- General Note -
Specifications - N.Y.C. Lines for Steel Railroad Bridges of 1917.
Shop and Field Rivets ⅞" diam.
Holes for shop and field rivets punched 15/16" except as noted.
No sub-punching or reaming on this sheet
Shop Paint - N.Y.C. Standard Red Lead.
Surfaces in contact to receive one coat of paint on each surface before assembling.
All other surfaces to receive one coat of paint.
Erection marks to be placed on painted surfaces

N.Y.C. & ST. L. R.R. (NICKEL PLATE)
HIGH LEVEL FREIGHT APPROACH - BRIDGE # 182.08
OVER CLEVELAND UNION TERM. CO. TRACKS - CLEVELAND, OHIO
DETAIL OF SIDEWALK BRACKETS - RAILING POSTS

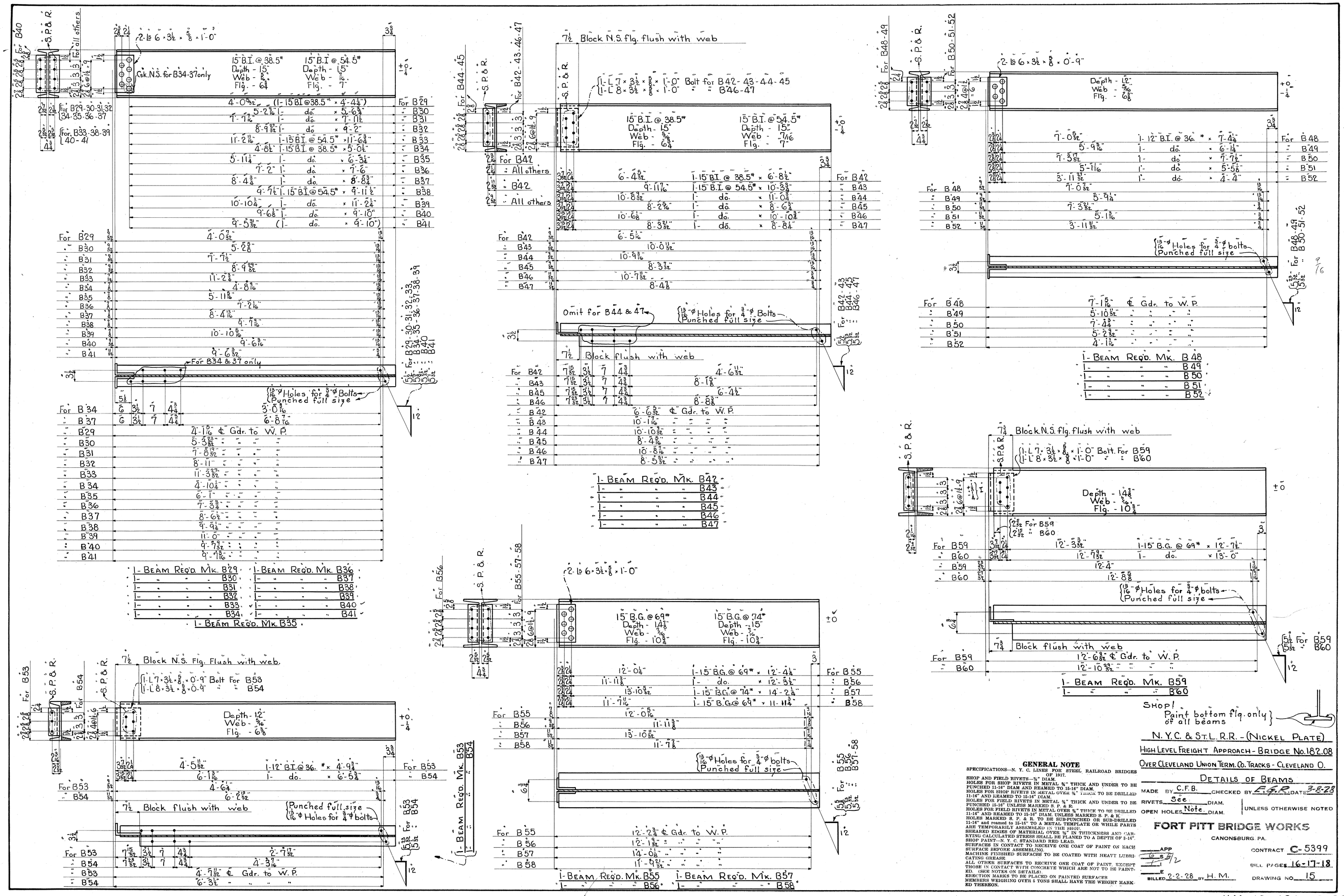
MADE BY M.U. CHECKED BY E.G.R. DATE 2-8-28
RIVETS See DIAM.
OPEN HOLES Note DIAM.
UNLESS OTHERWISE NOTED

FORT PITT BRIDGE WORKS
CANONSBURG, PA.

APP
E
BILLED 2-2-28 BY M.U.

CONTRACT C-5399
BILL PAGES 14 & 15
DRAWING NO. 14

NS 183-52-281



SHOP!
Paint bottom flg. only of all beams

N. Y. C. & ST. L. R. R. - (NICKEL PLATE)

HIGH LEVEL FREIGHT APPROACH - BRIDGE No. 182.08

OVER CLEVELAND UNION TERM. CO. TRACKS - CLEVELAND O.

DETAILS OF BEAMS

MADE BY C.F.B. CHECKED BY E.G.R. DATE 3-8-28

RIVETS See DIAM.

OPEN HOLES Note DIAM.

UNLESS OTHERWISE NOTED

GENERAL NOTE

SPECIFICATIONS—N. Y. C. LINES FOR STEEL RAILROAD BRIDGES OF 1927.

SHOP AND FIELD RIVETS—¾" DIAM.
HOLES FOR SHOP RIVETS IN METAL ⅜" THICK AND UNDER TO BE PUNCHED 11-16" DIAM AND REAMED TO 15-16" DIAM.
HOLES FOR SHOP RIVETS IN METAL OVER ⅜" THICK TO BE DRILLED 11-16" AND REAMED TO 15-16" DIAM.
HOLES FOR FIELD RIVETS IN METAL ⅜" THICK AND UNDER TO BE PUNCHED 15-16" UNLESS MARKED S. P. & R.
HOLES FOR FIELD RIVETS IN METAL OVER ⅜" THICK TO BE DRILLED 11-16" AND REAMED TO 15-16" DIAM. UNLESS MARKED S. P. & R.
HOLES MARKED S. P. & R. TO BE SUB-PUNCHED OR SUB-DRILLED 11-16" and reamed to 15-16" TO A METAL TEMPLATE OR WHILE PARTS ARE TEMPORARILY ASSEMBLED IN THE SHOP.
SHEARED EDGES OF MATERIAL OVER ½" IN THICKNESS AND CARRYING CALCULATED STRESS SHALL BE PLANED TO A DEPTH OF 3-16".
SHOP PAINT—N. Y. C. STANDARD RED LEAD.
SURFACES IN CONTACT TO RECEIVE ONE COAT OF PAINT ON EACH SURFACE BEFORE ASSEMBLING.
MACHINE FINISHED SURFACES TO BE COATED WITH HEAVY LUBRICATING GREASE.
ALL OTHER SURFACES TO RECEIVE ONE COAT OF PAINT, EXCEPT THOSE IN CONTACT WITH CONCRETE WHICH ARE NOT TO BE PAINTED. (SEE NOTES ON DETAILS).
ERECTION MARKS TO BE PLACED ON PAINTED SURFACES.
MEMBERS WEIGHING OVER 5 TONS SHALL HAVE THE WEIGHT MARKED THEREON.

FORT PITT BRIDGE WORKS

CANONSBURG, PA.

CONTRACT C-5399

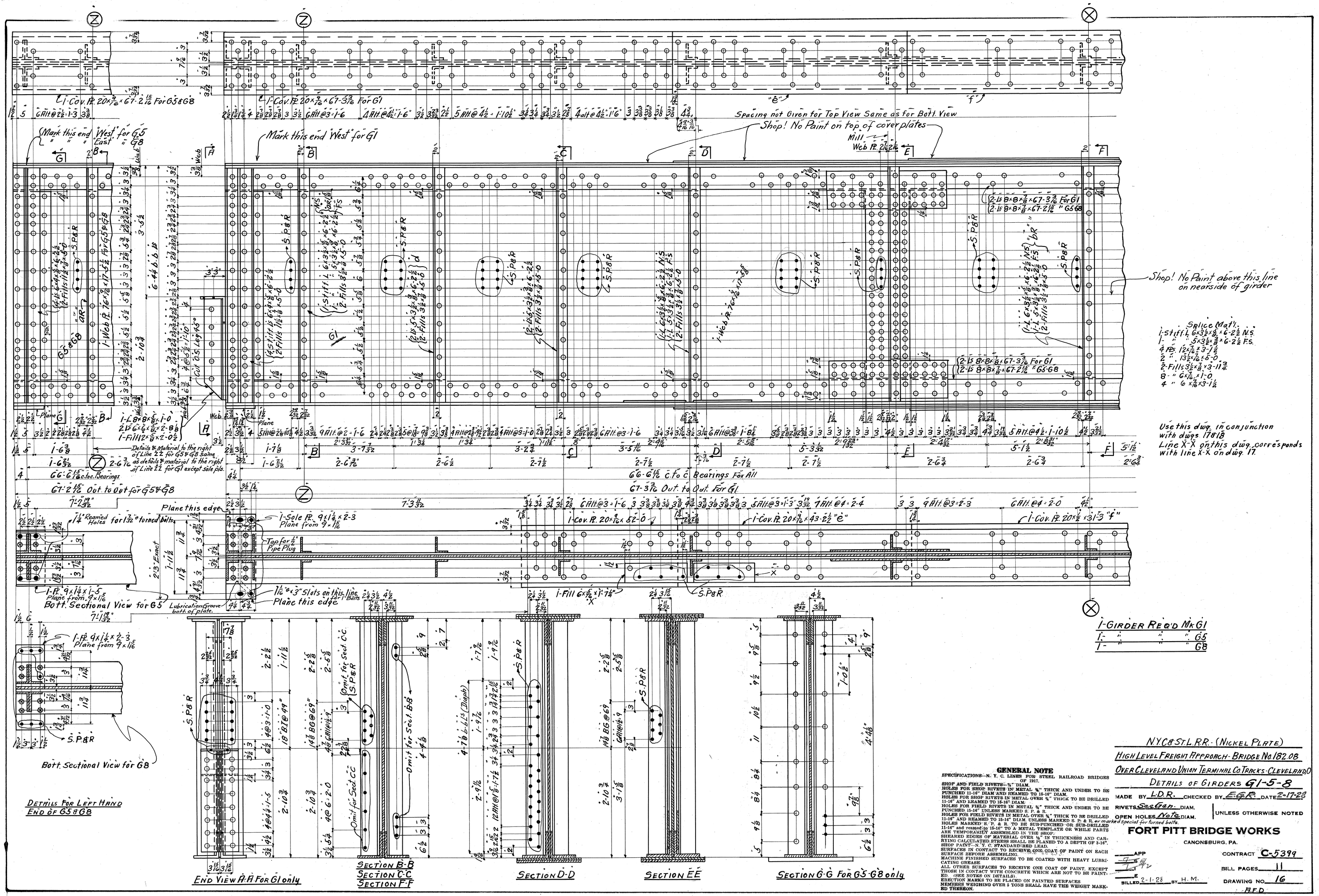
BILL PAGES 16-17-18

DRAWING NO. 15

APP 6 5 1/2 1 E

BILLED 2-2-28 BY H. M.

H.M. NS 183-52-281



GENERAL NOTE

SPECIFICATIONS—N. Y. C. LINES FOR STEEL RAILROAD BRIDGES OF 1917.
SHOP AND FIELD RIVETS—¾" DIAM.
HOLES FOR SHOP RIVETS IN METAL ⅝" THICK AND UNDER TO BE PUNCHED 11-16" DIAM AND REAMED TO 15-16" DIAM.
HOLES FOR SHOP RIVETS IN METAL OVER ⅝" THICK TO BE DRILLED 11-16" AND REAMED TO 15-16" DIAM.
HOLES FOR FIELD RIVETS IN METAL ⅝" THICK AND UNDER TO BE PUNCHED 15-16" UNLESS MARKED S. P. & R.
HOLES FOR FIELD RIVETS IN METAL OVER ⅝" THICK TO BE DRILLED 11-16" AND REAMED TO 15-16" DIAM. UNLESS MARKED S. P. & R. *or marked special for turned bolts.*
HOLES MARKED S. P. & R. TO BE SUB-PUNCHED OR SUB-DRILLED 11-16" and reamed to 15-16" TO A METAL TEMPLATE OR WHILE PARTS ARE TEMPORARILY ASSEMBLED IN THE SHOP.
SHEARED EDGES OF MATERIAL OVER ½" IN THICKNESS AND CARRYING CALCULATED STRESS SHALL BE PLANED TO A DEPTH OF 3-16".
SHOP PAINT—N. Y. C. STANDARD RED LEAD.
SURFACES IN CONTACT TO RECEIVE ONE COAT OF PAINT ON EACH SURFACE BEFORE ASSEMBLING.
MACHINE FINISHED SURFACES TO BE COATED WITH HEAVY LUBRICATING GREASE.
ALL OTHER SURFACES TO RECEIVE ONE COAT OF PAINT, EXCEPT THOSE IN CONTACT WITH CONCRETE WHICH ARE NOT TO BE PAINTED. (SEE NOTES ON DETAILS).
ERECTION MARKS TO BE PLACED ON PAINTED SURFACES
MEMBERS WEIGHING OVER 5 TONS SHALL HAVE THE WEIGHT MARKED THEREON.

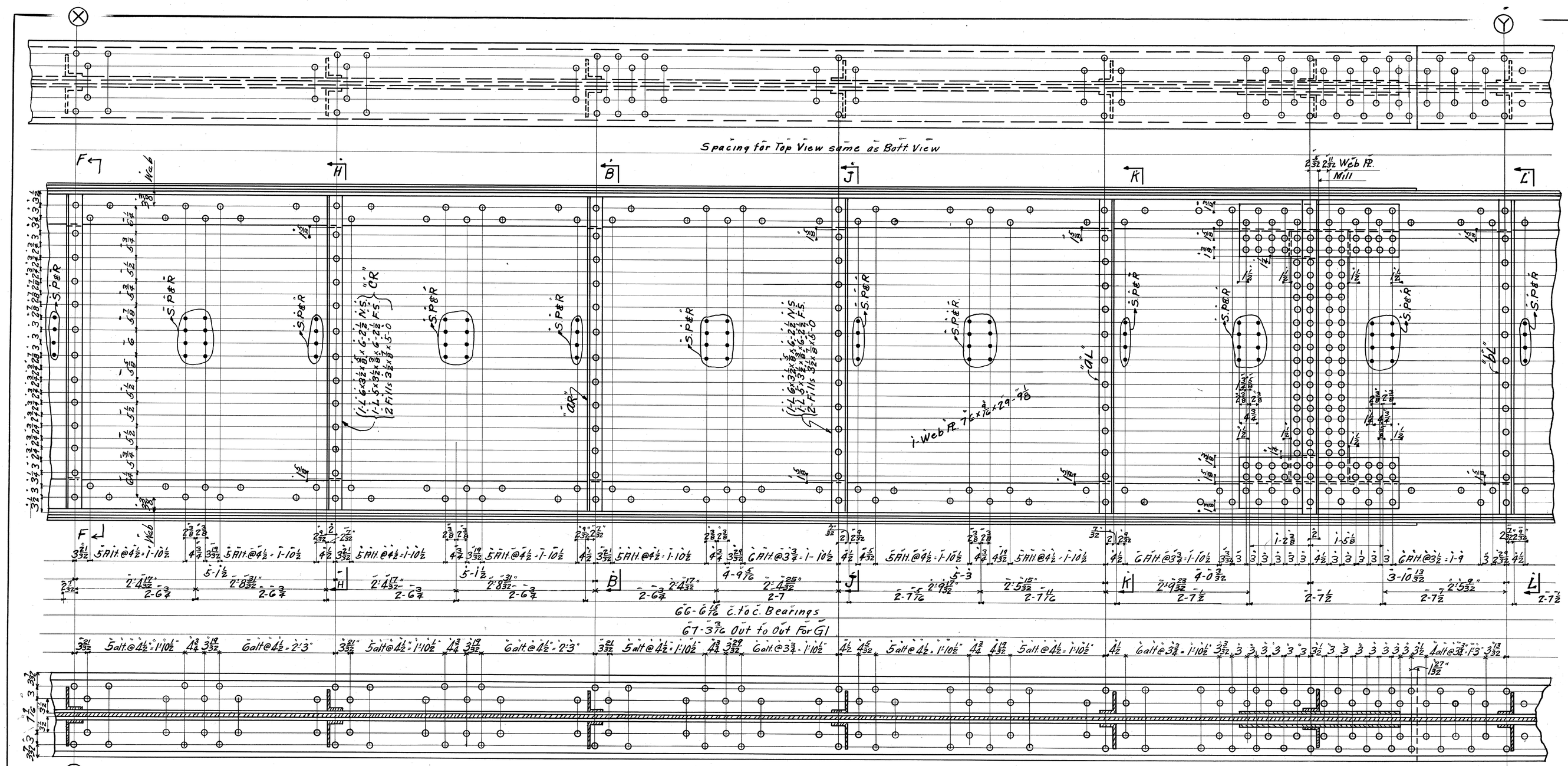
N.Y.C. & ST. L. R.R. (NICKEL PLATE)
HIGH LEVEL FREIGHT APPROACH - BRIDGE No 182.08
OVER CLEVELAND UNION TERMINAL CO TRACKS - CLEVELAND, O.
DETAILS OF GIRDERS G1-5-8

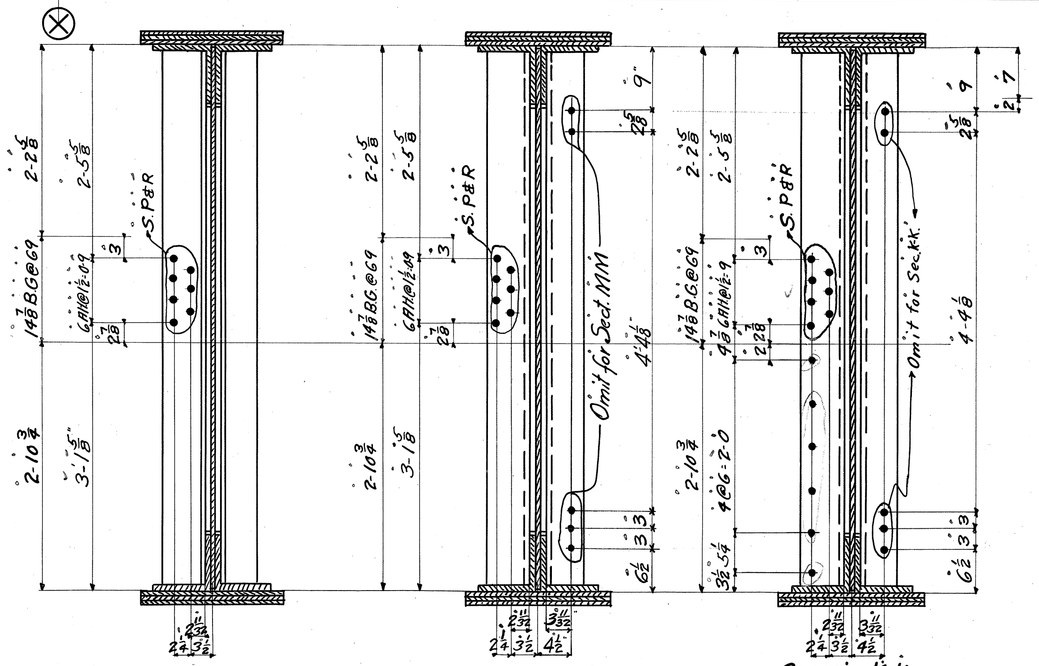
MADE BY L.D.R. CHECKED BY E.G.R. DATE 2-17-28
RIVETS See Gen. DIAM. | UNLESS OTHERWISE NOTED
OPEN HOLES Note DIAM.

FORT PITT BRIDGE WORKS
CANONSBURG, PA.

APP
CONTRACT C-5399
BILL PAGES 11
BILLED 2-1-28 BY H. M.
DRAWING NO. 16
A.F.D.

NS 183-52-281





Use this dwg. in conjunction with dwgs. 16 & 18

Line X-X on this dwg. corresponds with line X-X on dwg No. 16.

Line Y-Y on this dwg. corresponds with line Y-Y on dwg. No. 18.

GENERAL NOTE

SPECIFICATIONS—N. Y. C. LINES FOR STEEL RAILROAD BRIDGES OF 1917.

SHOP AND FIELD RIVETS—¾" DIAM.
HOLES FOR SHOP RIVETS IN METAL ¾" THICK AND UNDER TO BE PUNCHED 11-16" DIAM AND REAMED TO 15-16" DIAM.
HOLES FOR SHOP RIVETS IN METAL OVER ¾" THICK TO BE DRILLED 11-16" AND REAMED TO 15-16" DIAM.
HOLES FOR FIELD RIVETS IN METAL ¾" THICK AND UNDER TO BE PUNCHED 15-16" UNLESS MARKED S. P. & R.
HOLES FOR FIELD RIVETS IN METAL OVER ¾" THICK TO BE DRILLED 11-16" AND REAMED TO 15-16" DIAM. UNLESS MARKED S. P. & R.
HOLES MARKED S. P. & R. TO BE SUB-PUNCHED OR SUB-DRILLED 11-16" and reamed to 15-16" TO A METAL TEMPLATE OR WHILE PARTS ARE TEMPORARILY ASSEMBLED IN THE SHOP.
SHEARED EDGES OF MATERIAL OVER ½" IN THICKNESS AND CARRYING CALCULATED STRESS SHALL BE PLANED TO A DEPTH OF 3-16".
SHOP PAINT—N. Y. C. STANDARD RED LEAD.
SURFACES IN CONTACT TO RECEIVE ONE COAT OF PAINT ON EACH SURFACE BEFORE ASSEMBLING.
MACHINE FINISHED SURFACES TO BE COATED WITH HEAVY LUBRICATING GREASE.
ALL OTHER SURFACES TO RECEIVE ONE COAT OF PAINT, EXCEPT THOSE IN CONTACT WITH CONCRETE WHICH ARE NOT TO BE PAINTED. (SEE NOTES ON DETAILS).
ERECTION MARKS TO BE PLACED ON PAINTED SURFACES.
MEMBERS WEIGHING OVER 5 TONS SHALL HAVE THE WEIGHT MARKED THEREON.

N.Y.C. & St. L. R.R. - (NICKEL PLATE)
HIGH LEVEL FREIGHT APPROACH - BRIDGE No. 182.08
OVER CLEVELAND UNION TERMINAL CO TRACKS - CLEVELAND, O
DETAILS OF GIRDERS G1-5-8

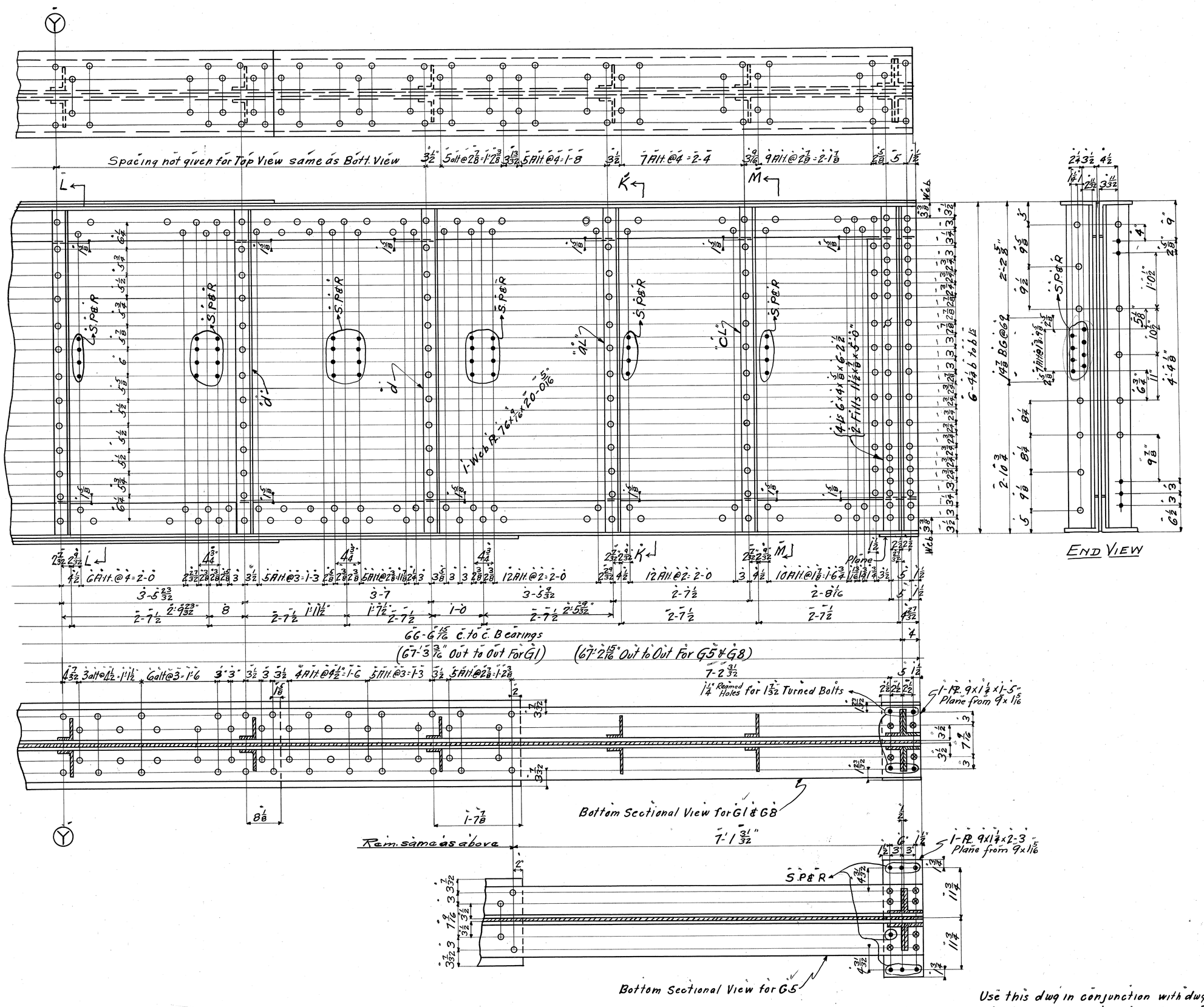
MADE BY L.D.R. CHECKED BY E.G.R. DATE 2-18-28
RIVETS See Gen. DIAM.
OPEN HOLES Note DIAM.
UNLESS OTHERWISE NOTED

FORT PITT BRIDGE WORKS
CANONSBURG, PA.

APP
S.P.R.
E
BILLED 2-1-28 BY H. M.

CONTRACT C-5399
BILL PAGES 11
DRAWING NO. 17

NS 183-52-281



Use this dwg in conjunction with dwgs 16 & 17

Line Y-Y on this dwg corresponds to line Y-Y on dwg. No. 17

GENERAL NOTE

SPECIFICATIONS—N. Y. C. LINES FOR STEEL RAILROAD BRIDGES OF 1917.
SHOP AND FIELD RIVETS—¾" DIAM.
HOLES FOR SHOP RIVETS IN METAL ¾" THICK AND UNDER TO BE PUNCHED 11-16" DIAM AND REAMED TO 15-16" DIAM.
HOLES FOR SHOP RIVETS IN METAL OVER ¾" THICK TO BE DRILLED 11-16" AND REAMED TO 15-16" DIAM.
HOLES FOR FIELD RIVETS IN METAL ¾" THICK AND UNDER TO BE PUNCHED 15-16" UNLESS MARKED S. P. & R.
HOLES FOR FIELD RIVETS IN METAL OVER ¾" THICK TO BE DRILLED 11-16" AND REAMED TO 15-16" DIAM. UNLESS MARKED S P. & R. or marked "Special for Turned Bolts"
HOLES MARKED S. P. & R. TO BE SUB-PUNCHED OR SUB-DRILLED 11-16" and reamed to 15-16" TO A METAL TEMPLATE OR WHILE PARTS ARE TEMPORARILY ASSEMBLED IN THE SHOP.
SHEARED EDGES OF MATERIAL OVER ½" IN THICKNESS AND CARRYING CALCULATED STRESS SHALL BE PLANED TO A DEPTH OF 3-16".
SHOP PAINT—N. Y. C. STANDARD RED LEAD.
SURFACES IN CONTACT TO RECEIVE ONE COAT OF PAINT ON EACH SURFACE BEFORE ASSEMBLING.
MACHINE FINISHED SURFACES TO BE COATED WITH HEAVY LUBRICATING GREASE.
ALL OTHER SURFACES TO RECEIVE ONE COAT OF PAINT, EXCEPT THOSE IN CONTACT WITH CONCRETE WHICH ARE NOT TO BE PAINTED. (SEE NOTES ON DETAILS).
ERECTION MARKS TO BE PLACED ON PAINTED SURFACES
MEMBERS WEIGHING OVER 5 TONS SHALL HAVE THE WEIGHT MARKED THEREON.

N.Y.C.&St.L.R.R. (NICKEL PLATE)
HIGH LEVEL FREIGHT APPROACH - BRIDGE No 182.08
OVER CLEVELAND UNION TERMINAL CO. TRACKS - CLEVELAND, O
DETAILS OF GIRDERS G1-5-8

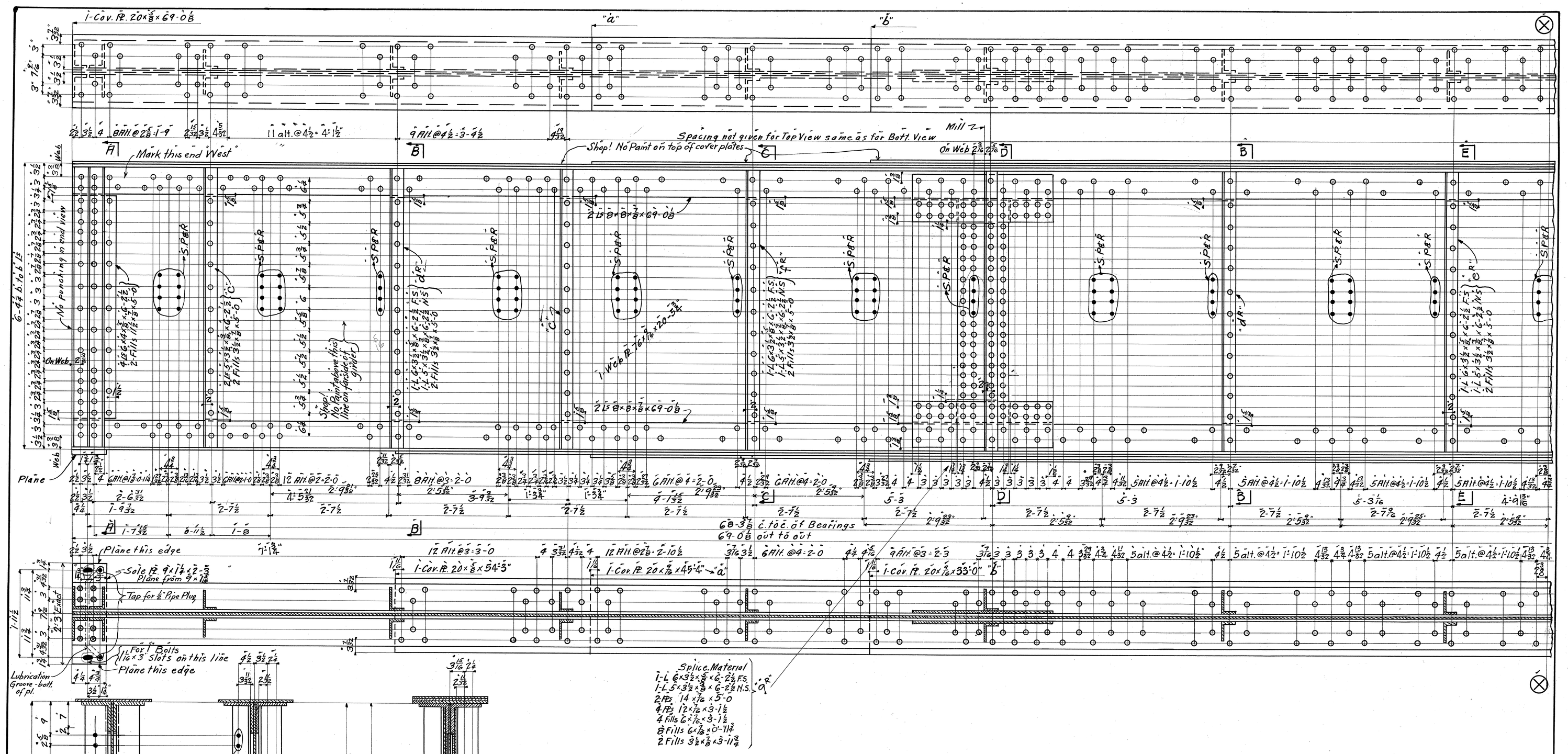
MADE BY L.D.R. CHECKED BY E.G.R. DATE 2-20-28
RIVETS See Gen. DIAM.
OPEN HOLES Note DIAM.
UNLESS OTHERWISE NOTED

FORT PITT BRIDGE WORKS
CANONSBURG, PA.

APP
E
BILLED 2-1-28 BY H. M.

CONTRACT C-5399
BILL PAGES 11
DRAWING NO. 18

A.F.D
NS 183-52-281



Use this dwg. in conjunction with dwg. 20.

Line X-X on this dwg. corresponds with line X-X on dwg. 20.

1-Girder Req'd Mk G4

GENERAL NOTE

SPECIFICATIONS—N. Y. C. LINES FOR STEEL RAILROAD BRIDGES OF 1917.
SHOP AND FIELD RIVETS—¾" DIAM.
HOLES FOR SHOP RIVETS IN METAL ¾" THICK AND UNDER TO BE PUNCHED 11-16" DIAM AND REAMED TO 15-16" DIAM.
HOLES FOR SHOP RIVETS IN METAL OVER ¾" THICK TO BE DRILLED 11-16" AND REAMED TO 15-16" DIAM.
HOLES FOR FIELD RIVETS IN METAL ¾" THICK AND UNDER TO BE PUNCHED 15-16" UNLESS MARKED S. P. & R.
HOLES FOR FIELD RIVETS IN METAL OVER ¾" THICK TO BE DRILLED 11-16" AND REAMED TO 15-16" DIAM. UNLESS MARKED S. P. & R.
HOLES MARKED S. P. & R. TO BE SUB-PUNCHED OR SUB-DRILLED 11-16" and reamed to 15-16" TO A METAL TEMPLATE OR WHILE PARTS ARE TEMPORARILY ASSEMBLED IN THE SHOP.
SHEARED EDGES OF MATERIAL OVER ¼" IN THICKNESS AND CARRYING CALCULATED STRESS SHALL BE PLANED TO A DEPTH OF 3-16".
SHOP PAINT—N. Y. C. STANDARD RED LEAD.
SURFACES IN CONTACT TO RECEIVE ONE COAT OF PAINT ON EACH SURFACE BEFORE ASSEMBLING.
MACHINE FINISHED SURFACES TO BE COATED WITH HEAVY LUBRICATING GREASE.
ALL OTHER SURFACES TO RECEIVE ONE COAT OF PAINT, EXCEPT THOSE IN CONTACT WITH CONCRETE WHICH ARE NOT TO BE PAINTED. (SEE NOTES ON DETAILS)
ERECTION MARKS TO BE PLACED ON PAINTED SURFACES.
MEMBERS WEIGHING OVER 5 TONS SHALL HAVE THE WEIGHT MARKED THEREON.

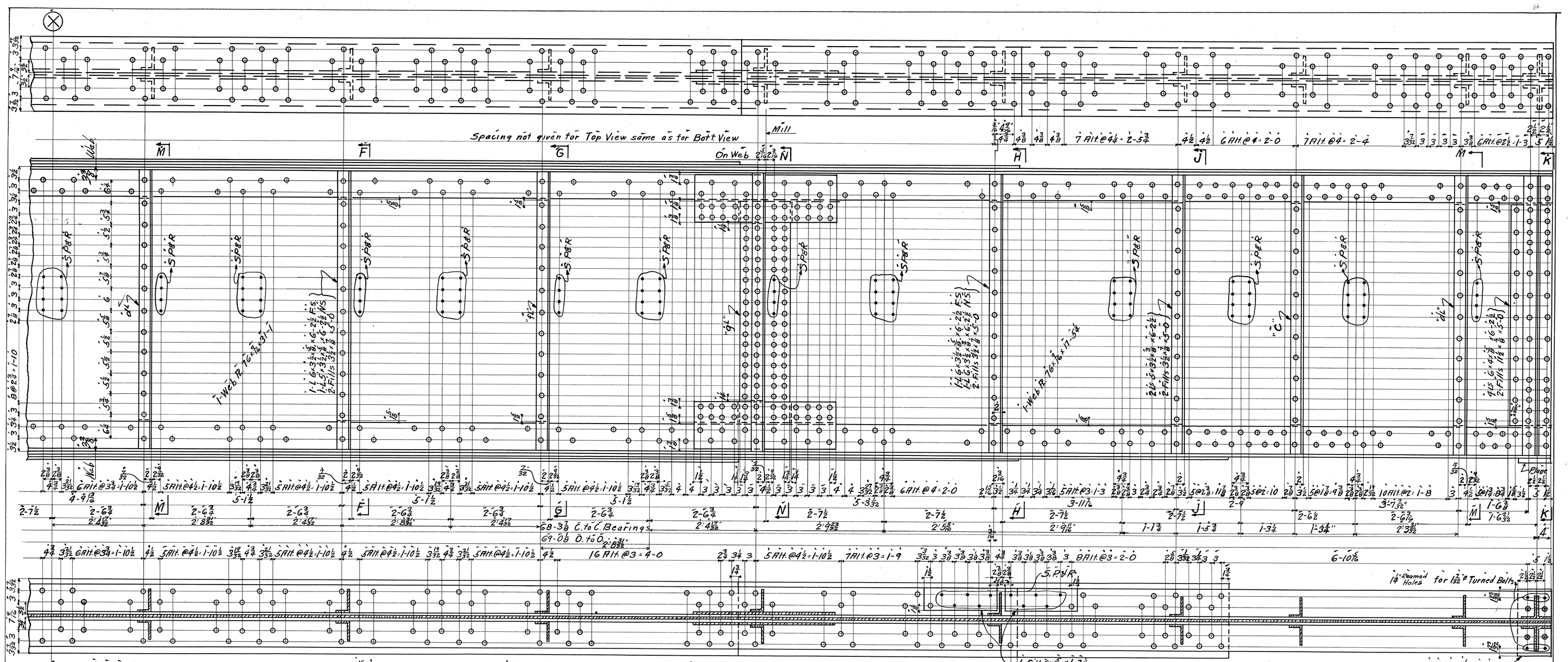
N.Y.C. & St. L. R.R. - (Nickel Plate)
High Level Freight Approach-Bridge No. 182.08
Over Cleveland Union Terminal Co Tracks-Cleveland, O
Details of Girder G4

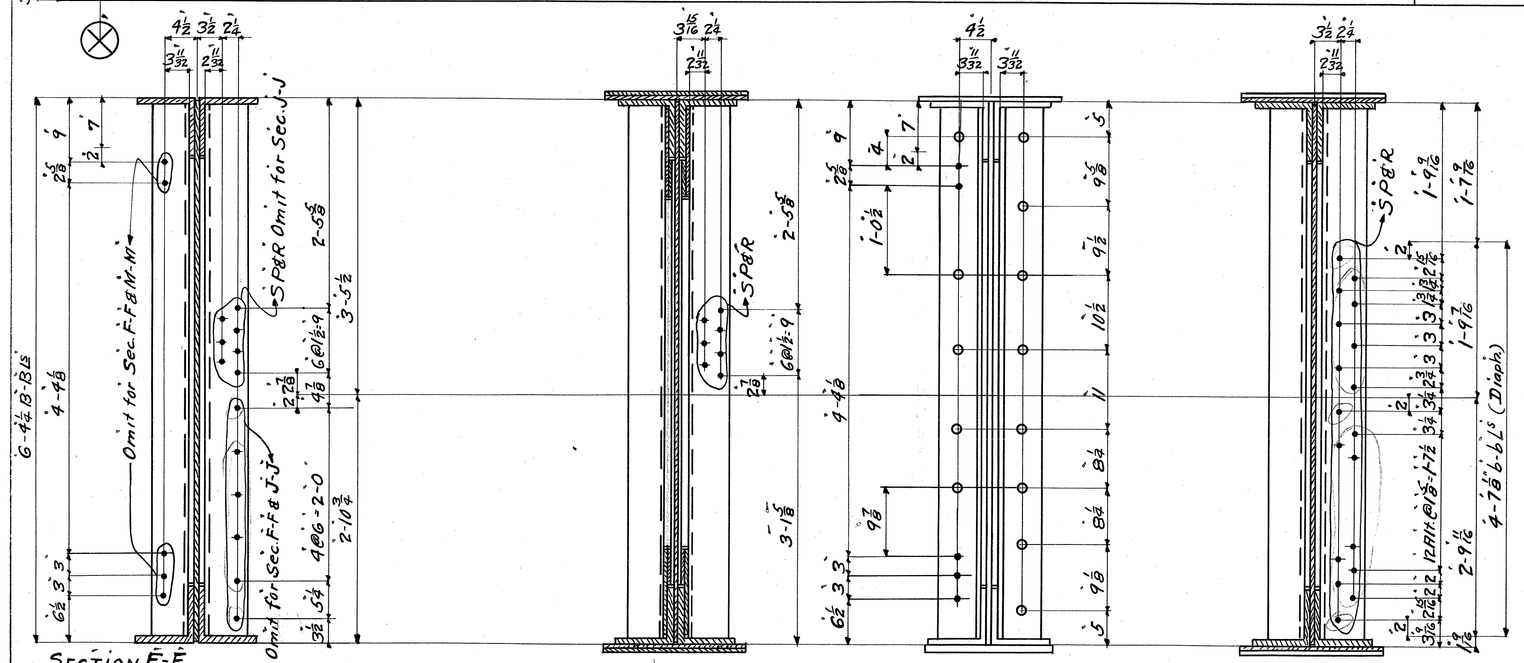
MADE BY L.D.R. CHECKED BY E.G.R. DATE 2-21-28
RIVETS See Gen. DIAM.
OPEN HOLES Note DIAM.
UNLESS OTHERWISE NOTED

FORT PITT BRIDGE WORKS
CANONSBURG, PA.

APP
E
BILLED 2-2-28 BY M.L.
CONTRACT C-5399
BILL PAGES 12
DRAWING NO. 19
A.F.D.

NS 183-52-281





GENERAL NOTE

SPECIFICATIONS—N. Y. C. LINES FOR STEEL RAILROAD BRIDGES OF 1917.

SHOP AND FIELD RIVETS—¾" DIAM.
HOLES FOR SHOP RIVETS IN METAL ⅝" THICK AND UNDER TO BE PUNCHED 11-16" DIAM AND REAMED TO 15-16" DIAM.
HOLES FOR SHOP RIVETS IN METAL OVER ⅝" THICK TO BE DRILLED 11-16" AND REAMED TO 15-16" DIAM.
HOLES FOR FIELD RIVETS IN METAL ⅝" THICK AND UNDER TO BE PUNCHED 15-16" UNLESS MARKED S. P. & R.
HOLES FOR FIELD RIVETS IN METAL OVER ⅝" THICK TO BE DRILLED 11-16" AND REAMED TO 15-16" DIAM. UNLESS MARKED S. P. & R. or marked "Special for turned bolts"
HOLES MARKED S. P. & R. TO BE SUB-PUNCHED OR SUB-DRILLED 11-16" and reamed to 15-16" TO A METAL TEMPLATE OR WHILE PARTS ARE TEMPORARILY ASSEMBLED IN THE SHOP.
SHEARED EDGES OF MATERIAL OVER ½" IN THICKNESS AND CARRYING CALCULATED STRESS SHALL BE PLANED TO A DEPTH OF 3-16".
SHOP PAINT—N. Y. C. STANDARD RED LEAD.
SURFACES IN CONTACT TO RECEIVE ONE COAT OF PAINT ON EACH SURFACE BEFORE ASSEMBLING.
MACHINE FINISHED SURFACES TO BE COATED WITH HEAVY LUBRICATING GREASE.
ALL OTHER SURFACES TO RECEIVE ONE COAT OF PAINT, EXCEPT THOSE IN CONTACT WITH CONCRETE WHICH ARE NOT TO BE PAINTED. (SEE NOTES ON DETAILS).
ERECTION MARKS TO BE PLACED ON PAINTED SURFACES.
MEMBERS WEIGHING OVER 5 TONS SHALL HAVE THE WEIGHT MARKED THEREON.

N.Y.C. & St. L. R.R. - (Nickel Plate)
High Level Freight Approach - Bridge No. 182.08
Over Cleveland Union Terminal Co. Tracks - Cle., O.
Details of Girder G4

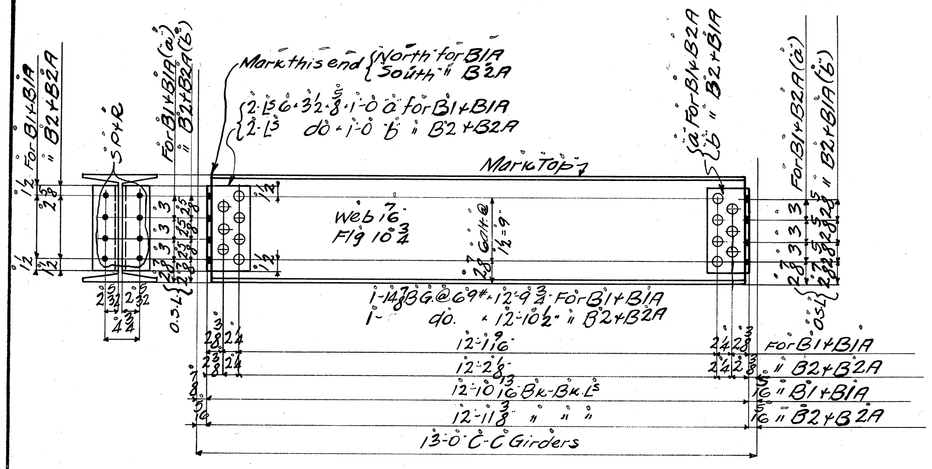
MADE BY G.J. Mann CHECKED BY E.G.R. DATE 2-22-28
RIVETS See Gen. DIAM.
OPEN HOLES Note DIAM.
UNLESS OTHERWISE NOTED

FORT PITT BRIDGE WORKS
CANONSBURG, PA.

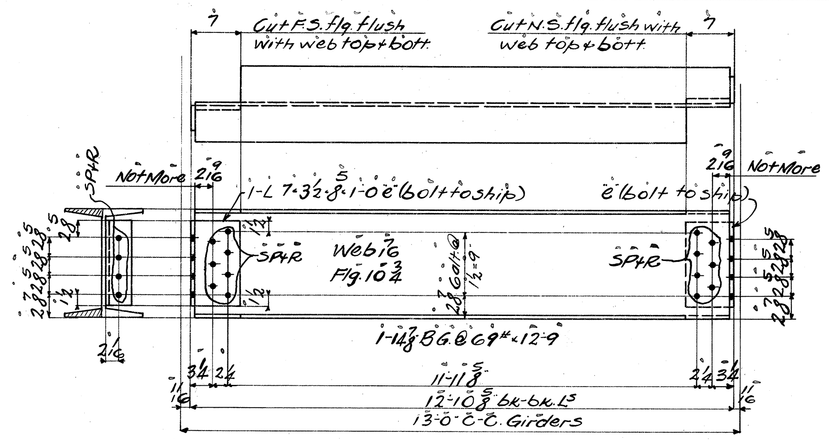
APP. J.V.
CHK.
BILLED 2-2-28 BY M.U.

CONTRACT C-5399
BILL PAGES 12
DRAWING NO. 20
H.F.D.

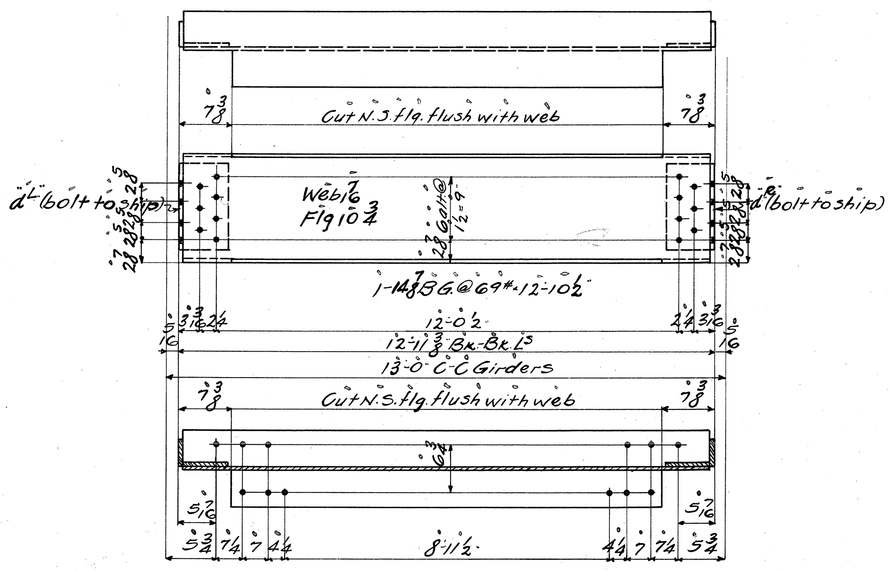
NS 183-52-281



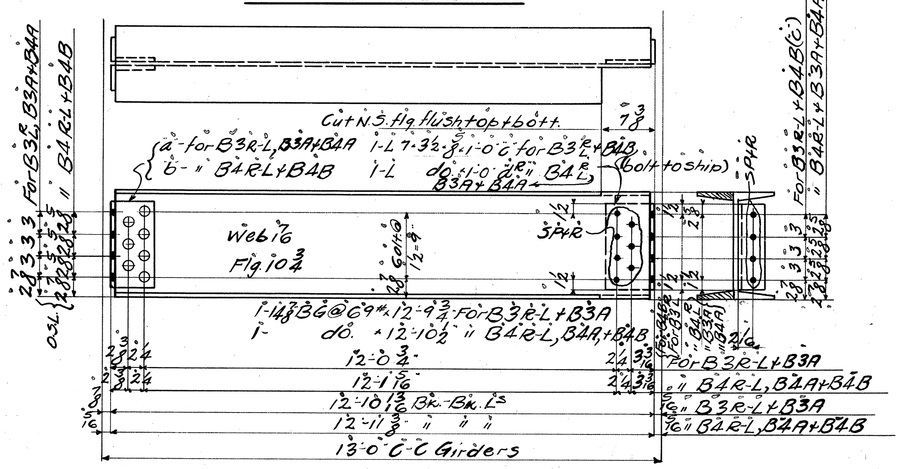
42-Beams Req'd. Mk. B1
5- " " " B1A
25- " " " B2
4- " " " B2A



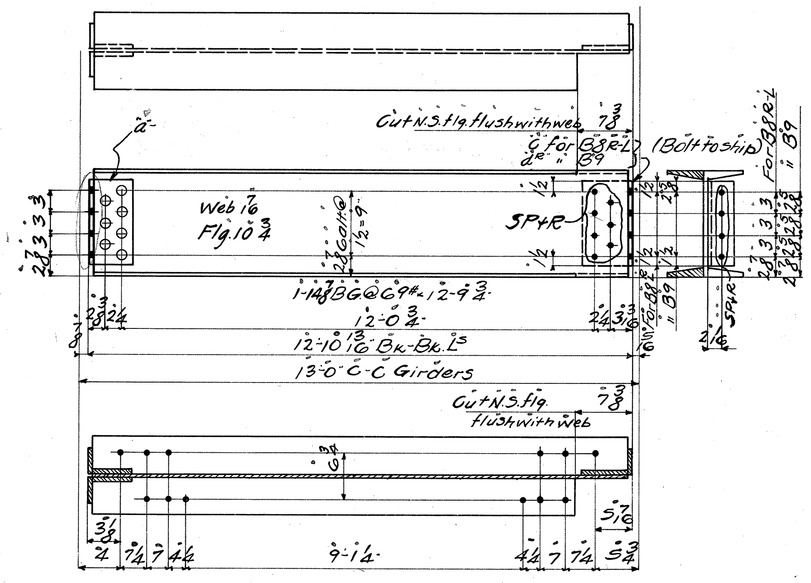
3-Beams Req'd. Mk. B7



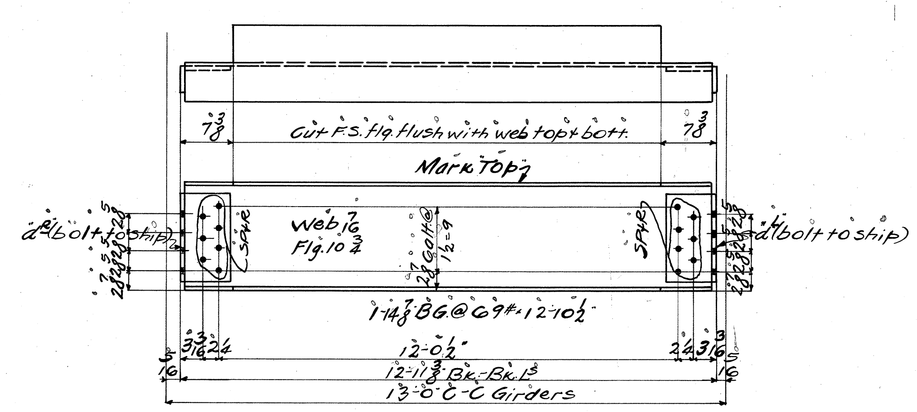
6-Beams Req'd. Mk. B11



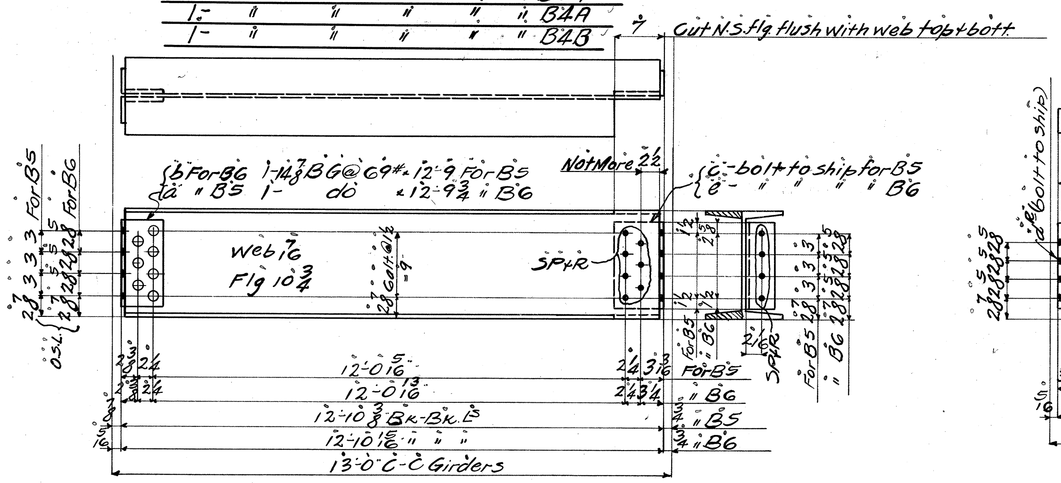
4-Beams Req'd. As Shown Mk. B3R
6- " " Opp. Hand " B3L
9- " " As Shown " B4R
2- " " Opp. Hand " B4L
1- " " " " " B3A
1- " " " " " B4A
1- " " " " " B4B



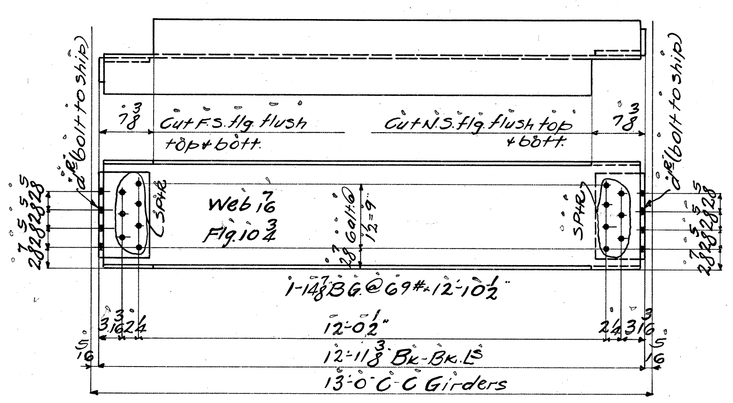
12-Beams Req'd. As Shown Mk. B8R
6- " " Opp. Hand " B8L
2- " " " " B9



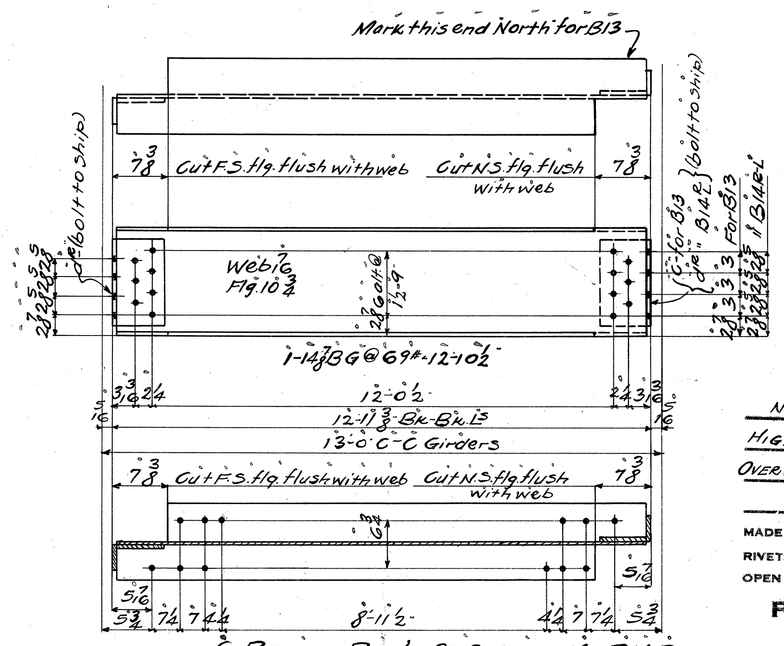
3-Beams Req'd. Mk. B12



4-Beams Req'd. As Shown Mk. B5
1-Beam " Opp. Hand " B6



3-Beams Req'd. Mk. B10



6-Beams Req'd. As Shown Mk. B14R
1- " " Opp. Hand " B14L
2- " " " " " B13

Shop! Paint bottom flg. only of all beams.

GENERAL NOTE

SPECIFICATIONS—N. Y. C. LINES FOR STEEL RAILROAD BRIDGES OF 1917.

SHOP AND FIELD RIVETS—¾" DIAM.
HOLES FOR SHOP RIVETS IN METAL ¾" THICK AND UNDER TO BE PUNCHED 11-16" DIAM AND REAMED TO 15-16" DIAM.
HOLES FOR SHOP RIVETS IN METAL OVER ¾" THICK TO BE DRILLED 11-16" AND REAMED TO 15-16" DIAM.
HOLES FOR FIELD RIVETS IN METAL ¾" THICK AND UNDER TO BE PUNCHED 15-16" UNLESS MARKED S. P. & R.
HOLES FOR FIELD RIVETS IN METAL OVER ¾" THICK TO BE DRILLED 11-16" AND REAMED TO 15-16" DIAM. UNLESS MARKED S. P. & R.
HOLES MARKED S. P. & R. TO BE SUB-PUNCHED OR SUB-DRILLED 11-16" and reamed to 15-16" TO A METAL TEMPLATE OR WHILE PARTS ARE TEMPORARILY ASSEMBLED IN THE SHOP.
SHEARED EDGES OF MATERIAL OVER ½" IN THICKNESS AND CARRYING CALCULATED STRESS SHALL BE PLANED TO A DEPTH OF 3-16".
SHOP PAINT—N. Y. C. STANDARD RED LEAD.
SURFACES IN CONTACT TO RECEIVE ONE COAT OF PAINT ON EACH SURFACE BEFORE ASSEMBLING.
MACHINE FINISHED SURFACES TO BE COATED WITH HEAVY LUBRICATING GREASE.
ALL OTHER SURFACES TO RECEIVE ONE COAT OF PAINT, EXCEPT THOSE IN CONTACT WITH CONCRETE WHICH ARE NOT TO BE PAINTED. (SEE NOTES ON DETAILS).
ERECTION MARKS TO BE PLACED ON PAINTED SURFACES
MEMBERS WEIGHING OVER 5 TONS SHALL HAVE THE WEIGHT MARKED THEREON.

N.Y.C. & St. L. R.R. (Nickel Plate)
High Level Freight Approach Bridge #182.08
Over Cleveland Union Term. Co. Tracks - Cleveland, O.
Details Of Floor Beams

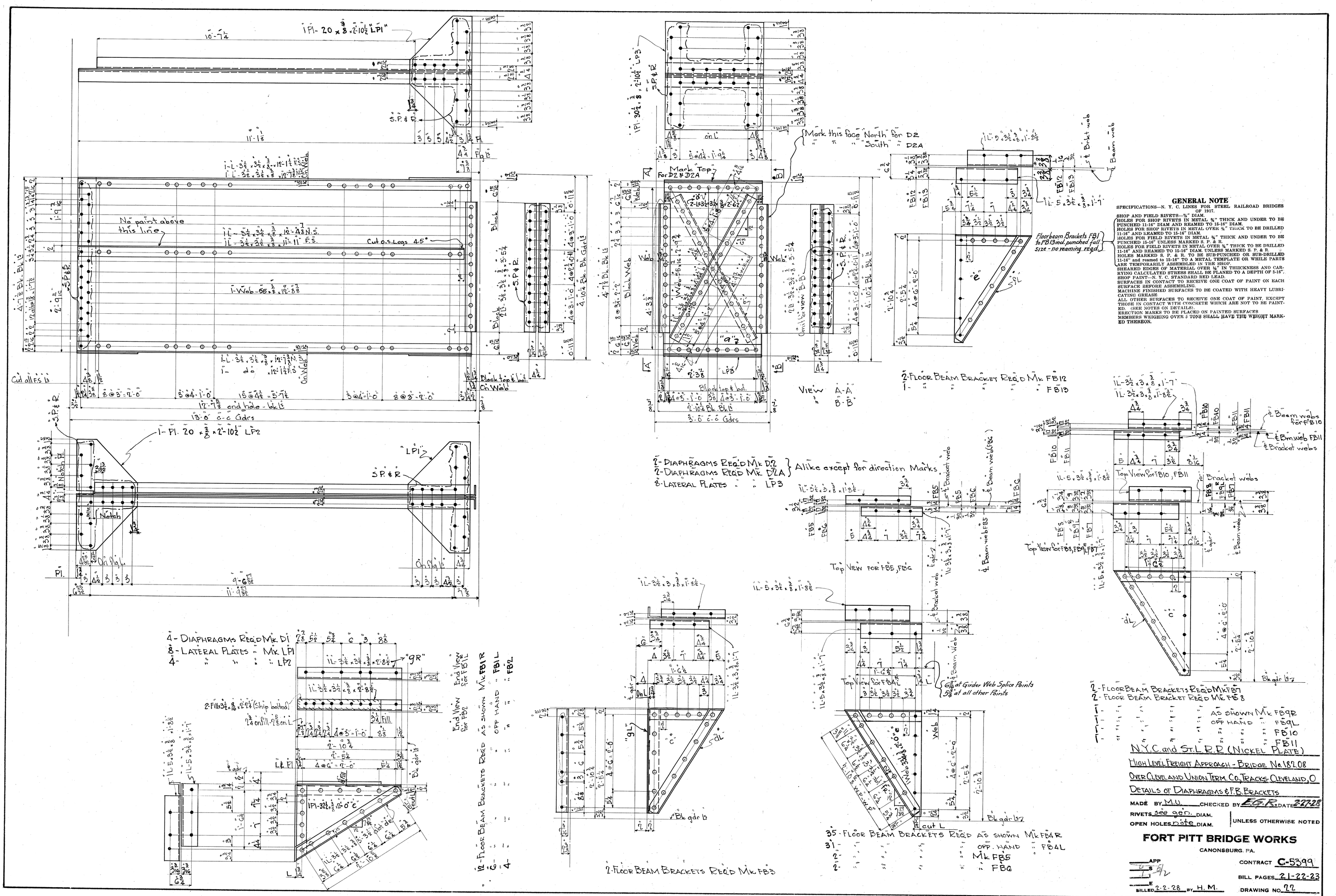
MADE BY C.R.D. CHECKED BY E.G.R. DATE 2-29-28
RIVETS See Gen. DIAM.
OPEN HOLES Note DIAM.
UNLESS OTHERWISE NOTED

FORT PITT BRIDGE WORKS
CANONSBURG, PA.

APP
E
BILLED 3-2-28 BY

CONTRACT C-5399
BILL PAGES 19-20
DRAWING NO. 21

NS 183-52-281



GENERAL NOTE

SPECIFICATIONS—N. Y. C. LINES FOR STEEL RAILROAD BRIDGES OF 1917.

SHOP AND FIELD RIVETS—⅞" DIAM.
HOLES FOR SHOP RIVETS IN METAL ¾" THICK AND UNDER TO BE PUNCHED 11-16" DIAM AND REAMED TO 15-16" DIAM.
HOLES FOR SHOP RIVETS IN METAL OVER ¾" THICK TO BE DRILLED 11-16" AND REAMED TO 15-16" DIAM.
HOLES FOR FIELD RIVETS IN METAL ¾" THICK AND UNDER TO BE PUNCHED 15-16" UNLESS MARKED S. P. & R.
HOLES FOR FIELD RIVETS IN METAL OVER ¾" THICK TO BE DRILLED 11-16" AND REAMED TO 15-16" DIAM. UNLESS MARKED S. P. & R.
HOLES MARKED S. P. & R. TO BE SUB-PUNCHED OR SUB-DRILLED 11-16" and reamed to 15-16" TO A METAL TEMPLATE OR WHILE PARTS ARE TEMPORARILY ASSEMBLED IN THE SHOP.
SHEARED EDGES OF MATERIAL OVER ½" IN THICKNESS AND CARRYING CALCULATED STRESS SHALL BE PLANED TO A DEPTH OF 5-16".
SHOP PAINT—N. Y. C. STANDARD RED LEAD.
SURFACES IN CONTACT TO RECEIVE ONE COAT OF PAINT ON EACH SURFACE BEFORE ASSEMBLING.
MACHINE FINISHED SURFACES TO BE COATED WITH HEAVY LUBRICATING GREASE.
ALL OTHER SURFACES TO RECEIVE ONE COAT OF PAINT, EXCEPT THOSE IN CONTACT WITH CONCRETE WHICH ARE NOT TO BE PAINTED. (SEE NOTES ON DETAILS).
ERECTION MARKS TO BE PLACED ON PAINTED SURFACES
MEMBERS WEIGHING OVER 5 TONS SHALL HAVE THE WEIGHT MARKED THEREON.

N.Y.C. and St. L. R.R. (NICKEL PLATE)

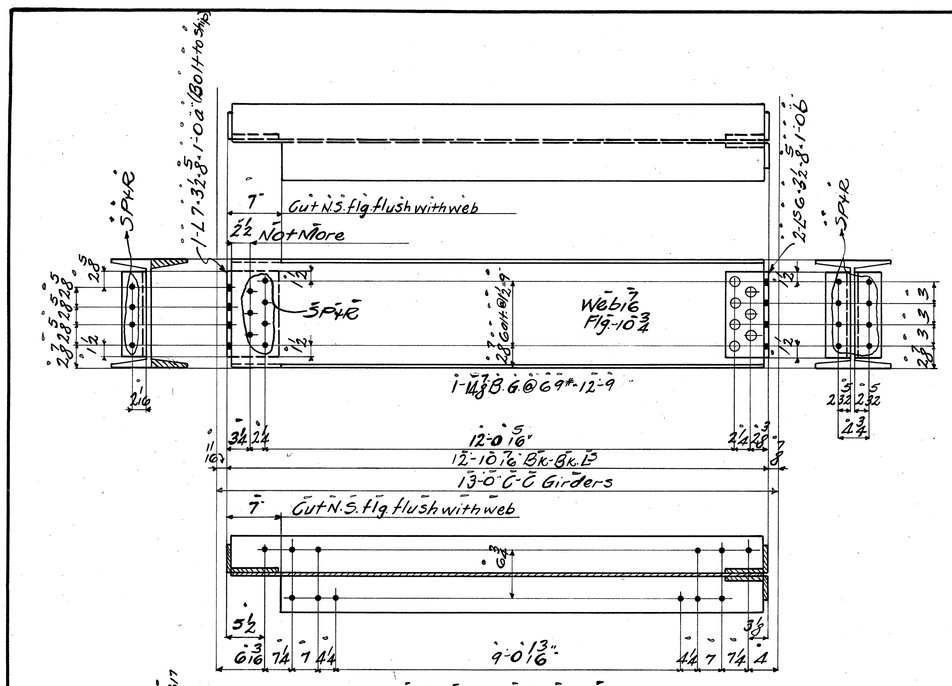
HIGH LEVEL FREIGHT APPROACH - BRIDGE No. 182.08
OVER CLEVELAND UNION TERM. CO. TRACKS, CLEVELAND, O.
DETAILS OF DIAPHRAGMS & F.B. BRACKETS

MADE BY M.U. CHECKED BY E.G.R. DATE 2-27-28
RIVETS see gen. DIAM.
OPEN HOLES note DIAM.
UNLESS OTHERWISE NOTED

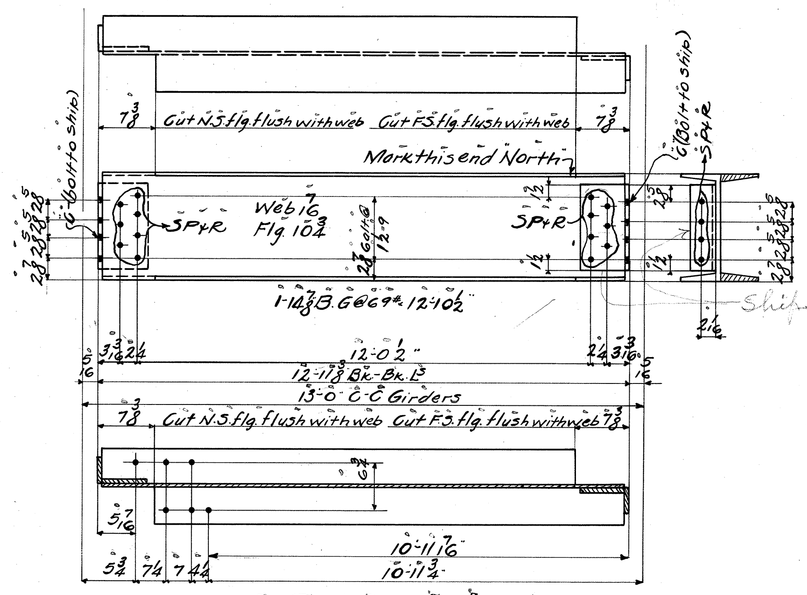
FORT PITT BRIDGE WORKS
CANONSBURG, PA.

APP
E
BILLED 2-2-28 BY H. M.
CONTRACT C-5399
BILL PAGES 21-22-23
DRAWING NO. 22

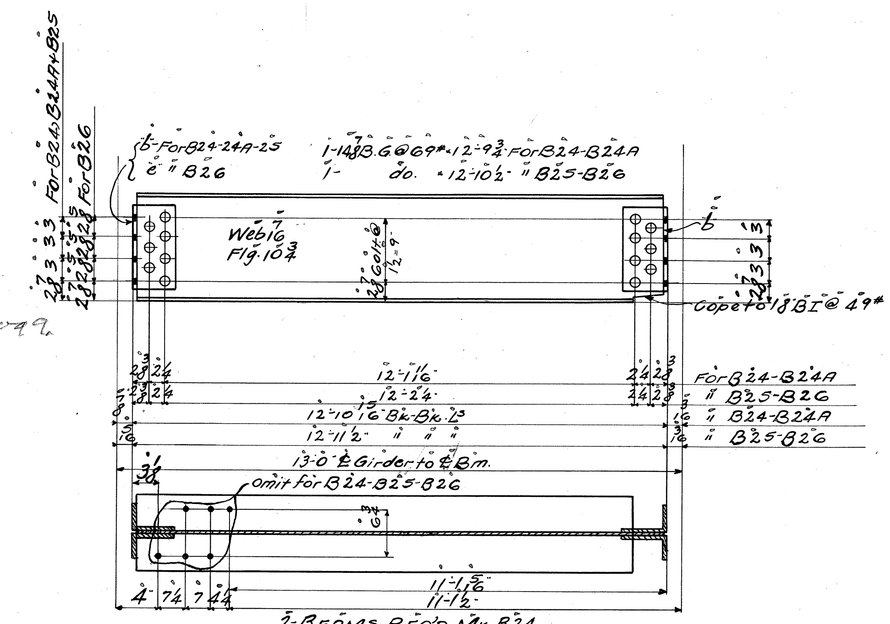
NS 183-52-281



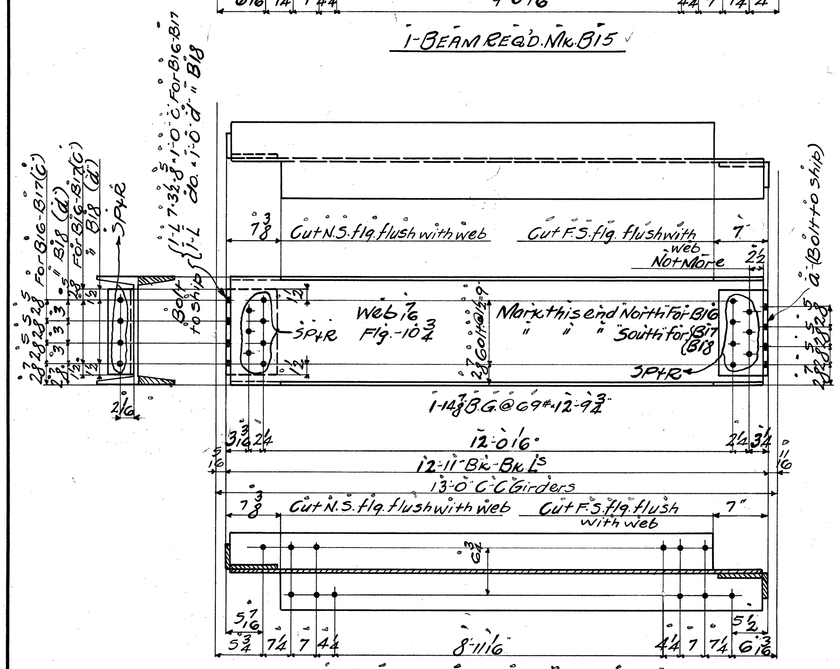
1-BEAM REQ'D. MK. B15



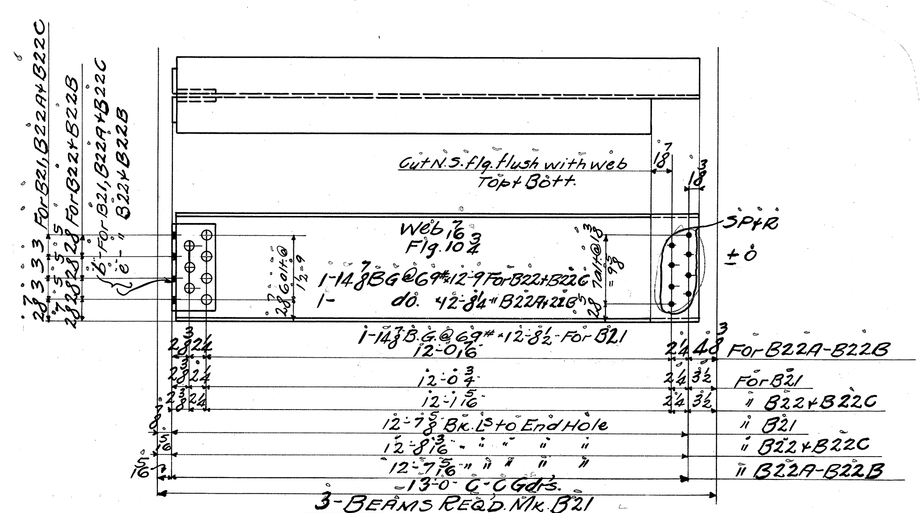
1-BEAM REQ'D. MK. B20



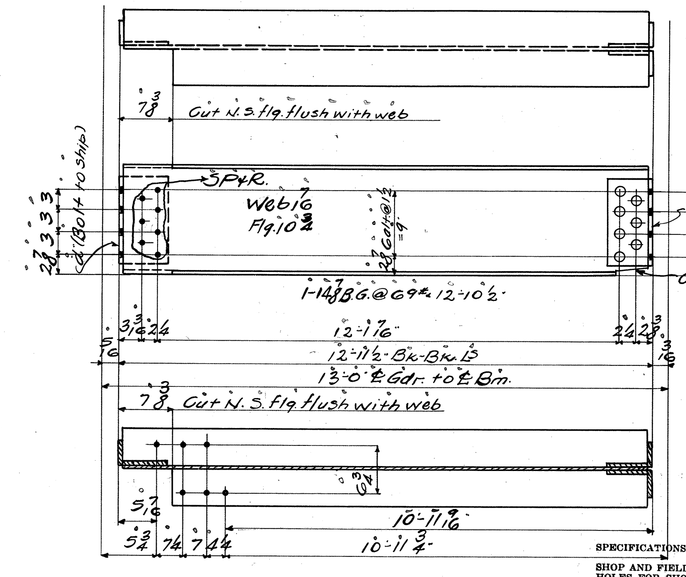
2-BEAMS REQ'D. MK. B24
1-BEAM " " B24A
1- " " " B25
1- " " " B26



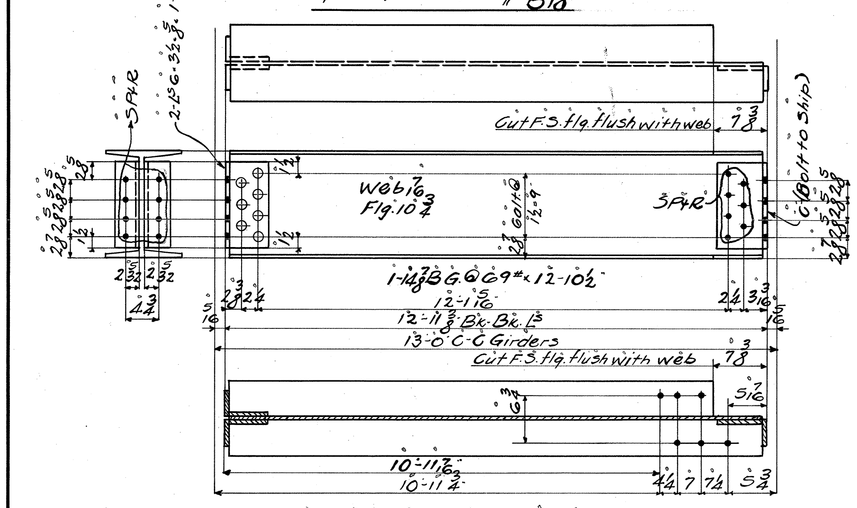
2-BEAMS REQ'D. MK. B16
1-BEAM " " B17
1- " " " B18
} Alike except for compass marks



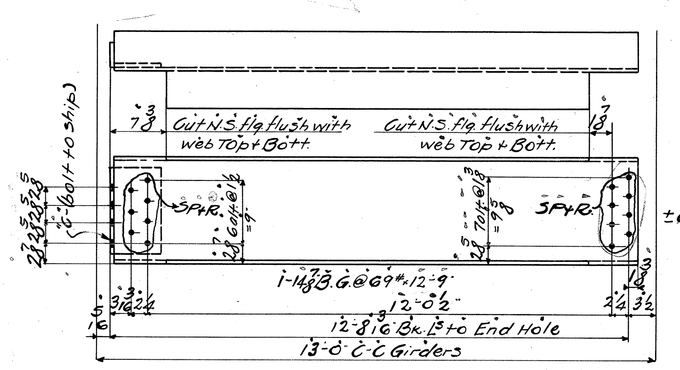
3-BEAMS REQ'D. MK. B21
3- " " " B22
2- " " " B22A
1- " " " B22B
1- " " " B22C



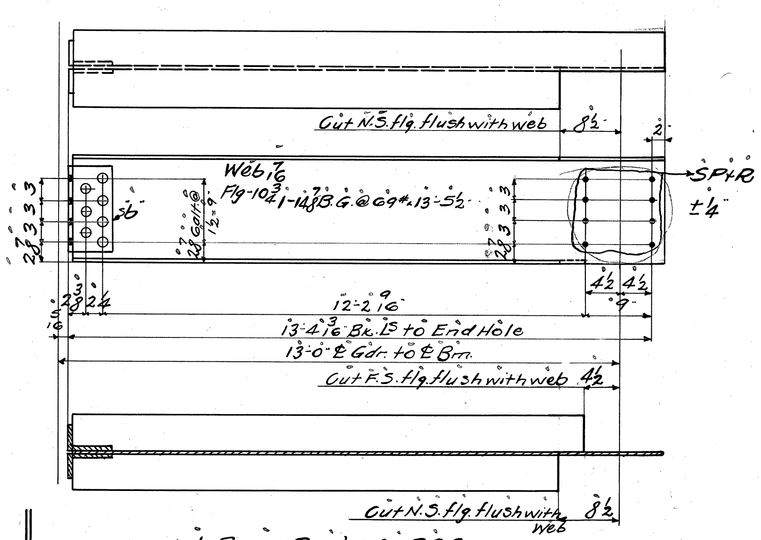
1-BEAM REQ'D. MK. B27



3-BEAMS REQ'D. MK. B19



2-BEAMS REQ'D. MK. B23



1-BEAM REQ'D. MK. B28

Shop!
Paint bottom flg. only of all beams.

GENERAL NOTE

SPECIFICATIONS—N. Y. C. LINES FOR STEEL RAILROAD BRIDGES OF 1917.

SHOP AND FIELD RIVETS—¾" DIAM.
HOLES FOR SHOP RIVETS IN METAL ¾" THICK AND UNDER TO BE PUNCHED 11-16" DIAM AND REAMED TO 15-16" DIAM.
HOLES FOR SHOP RIVETS IN METAL OVER ¾" THICK TO BE DRILLED 11-16" AND REAMED TO 15-16" DIAM.
HOLES FOR FIELD RIVETS IN METAL ¾" THICK AND UNDER TO BE PUNCHED 15-16" UNLESS MARKED S. P. & R.
HOLES FOR FIELD RIVETS IN METAL OVER ¾" THICK TO BE DRILLED 11-16" AND REAMED TO 15-16" DIAM. UNLESS MARKED S. P. & R.
HOLES MARKED S. P. & R. TO BE SUB-PUNCHED OR SUB-DRILLED 11-16" and reamed to 15-16" TO A METAL TEMPLATE OR WHILE PARTS ARE TEMPORARILY ASSEMBLED IN THE SHOP.
SHEARED EDGES OF MATERIAL OVER ½" IN THICKNESS AND CARRYING CALCULATED STRESS SHALL BE PLANED TO A DEPTH OF 3-16".
SHOP PAINT—N. Y. C. STANDARD RED LEAD.
SURFACES IN CONTACT TO RECEIVE ONE COAT OF PAINT ON EACH SURFACE BEFORE ASSEMBLING.
MACHINE FINISHED SURFACES TO BE COATED WITH HEAVY LUBRICATING GREASE.
ALL OTHER SURFACES TO RECEIVE ONE COAT OF PAINT, EXCEPT THOSE IN CONTACT WITH CONCRETE WHICH ARE NOT TO BE PAINTED. (SEE NOTES ON DETAILS).
ERECTION MARKS TO BE PLACED ON PAINTED SURFACES.
MEMBERS WEIGHING OVER 5 TONS SHALL HAVE THE WEIGHT MARKED THEREON.

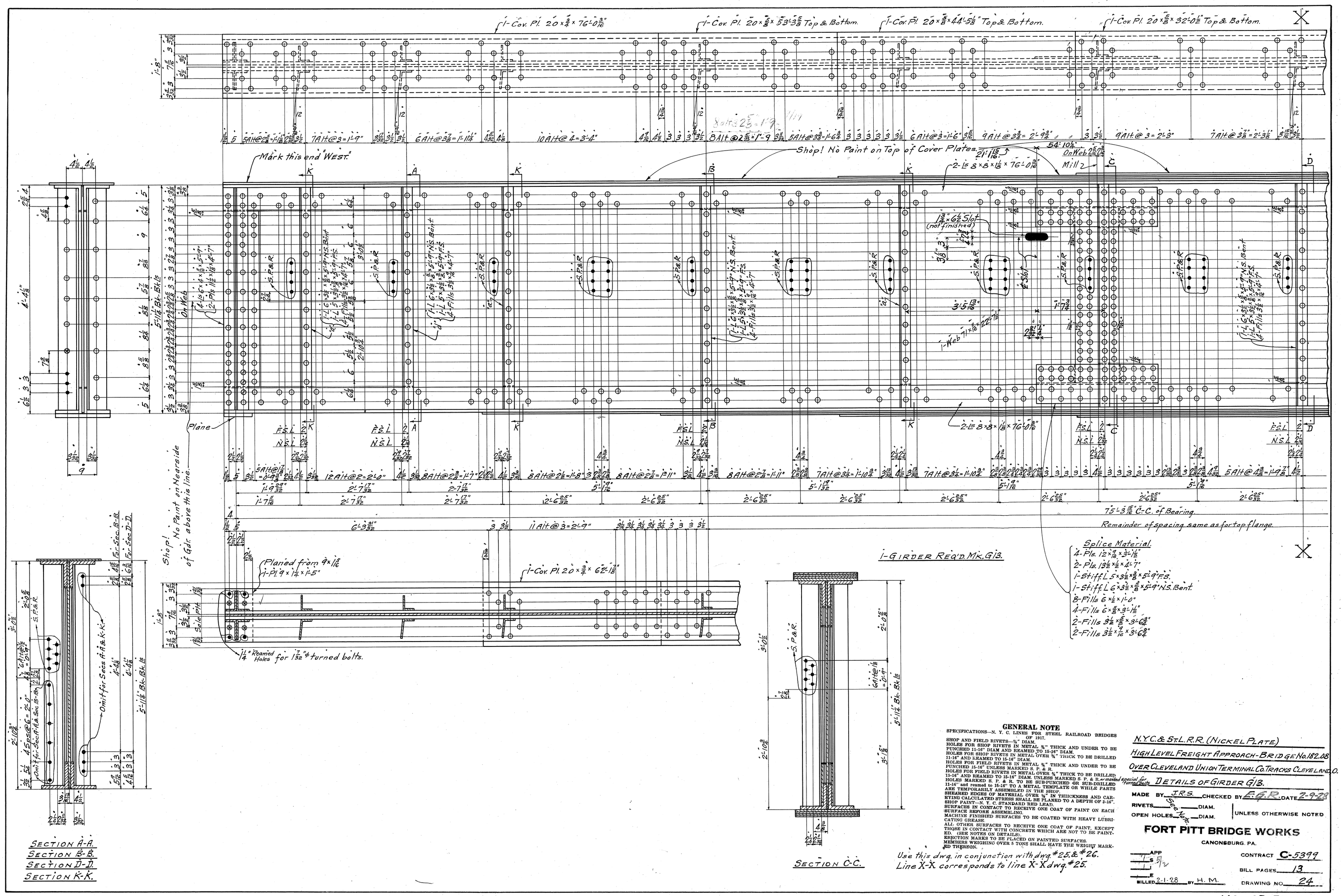
N.Y.C. & St.L.R.R. (NICKEL PLATE)
HIGH LEVEL FREIGHT APPROACH-BRIDGE #182.08
OVER CLEVELAND UNION TERM. CO. TRACKS-CLEVELAND, O.
DETAILS OF FLOOR BEAMS

MADE BY C.R.D. CHECKED BY E.G.R. DATE 3-5-28
RIVETS See Gen. DIAM.
OPEN HOLES Note DIAM.
UNLESS OTHERWISE NOTED

FORT PITT BRIDGE WORKS
CANONSBURG, PA.

APP. 3/2
BILLED 2-2-28 BY D.L.
CONTRACT C-5399
BILL PAGES 24-25
DRAWING NO. 23

NS 183-52-281



GENERAL NOTE

SPECIFICATIONS—N. Y. C. LINES FOR STEEL RAILROAD BRIDGES OF 1917.
SHOP AND FIELD RIVETS—3/4" DIAM.
HOLES FOR SHOP RIVETS IN METAL 3/8" THICK AND UNDER TO BE PUNCHED 11-16" DIAM AND REAMED TO 15-16" DIAM.
HOLES FOR SHOP RIVETS IN METAL OVER 3/8" THICK TO BE DRILLED 11-16" AND REAMED TO 15-16" DIAM.
HOLES FOR FIELD RIVETS IN METAL 3/8" THICK AND UNDER TO BE PUNCHED 15-16" UNLESS MARKED S. P. & R.
HOLES FOR FIELD RIVETS IN METAL OVER 3/8" THICK TO BE DRILLED 11-16" AND REAMED TO 15-16" DIAM. UNLESS MARKED S. P. & R.
HOLES MARKED S. P. & R. TO BE SUB-PUNCHED OR SUB-DRILLED 11-16" and reamed to 15-16" TO A METAL TEMPLATE OR WHILE PARTS ARE TEMPORARILY ASSEMBLED IN THE SHOP.
SHEARED EDGES OF MATERIAL OVER 1/2" IN THICKNESS AND CARRYING CALCULATED STRESS SHALL BE PLANED TO A DEPTH OF 3-16".
SHOP PAINT—N. Y. C. STANDARD RED LEAD.
SURFACES IN CONTACT TO RECEIVE ONE COAT OF PAINT ON EACH SURFACE BEFORE ASSEMBLING.
MACHINE FINISHED SURFACES TO BE COATED WITH HEAVY LUBRICATING GREASE.
ALL OTHER SURFACES TO RECEIVE ONE COAT OF PAINT, EXCEPT THOSE IN CONTACT WITH CONCRETE WHICH ARE NOT TO BE PAINTED. (SEE NOTES ON DETAILS).
ERECTION MARKS TO BE PLACED ON PAINTED SURFACES.
MEMBERS WEIGHING OVER 5 TONS SHALL HAVE THE WEIGHT MARKED THEREON.

Use this dwg. in conjunction with dwg. #25 & #26.
Line X-X corresponds to line X-X dwg. #25.

N.Y.C. & St.L.R.R. (NICKEL PLATE)
HIGH LEVEL FREIGHT APPROACH-BRIDGE No. 182.08
OVER CLEVELAND UNION TERMINAL CO. TRACKS CLEVELAND, O.
DETAILS OF GIRDER G13.

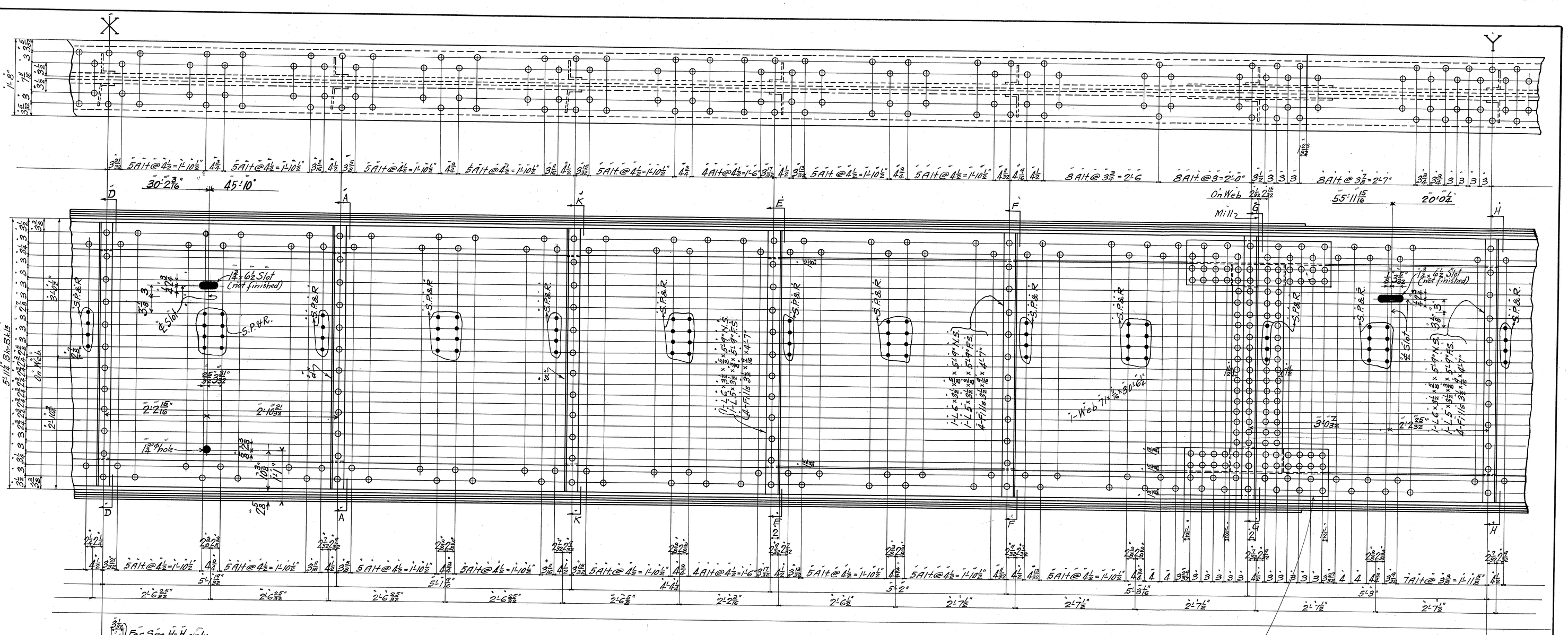
MADE BY J.R.S. CHECKED BY E.G.R. DATE 2-9-28
RIVETS — DIAM. (See Note)
OPEN HOLES — DIAM.
UNLESS OTHERWISE NOTED

FORT PITT BRIDGE WORKS
CANONSBURG, PA.

APP
S 5/16
E
BILLED 2-1-28 BY H. M.

CONTRACT C-5399
BILL PAGES 13
DRAWING NO. 24

NS 183-52-281



Use this drwg in conjunction with drwgs. #24 and #26.
Line X-X corresponds to line X-X drwg. #24.
Line Y-Y " " " Y-Y " #26.

GENERAL NOTE

SPECIFICATIONS—N. Y. C. LINES FOR STEEL RAILROAD BRIDGES OF 1917.
SHOP AND FIELD RIVETS—¾" DIAM.
HOLES FOR SHOP RIVETS IN METAL ¾" THICK AND UNDER TO BE PUNCHED 11-16" DIAM AND REAMED TO 15-16" DIAM.
HOLES FOR SHOP RIVETS IN METAL OVER ¾" THICK TO BE DRILLED 11-16" AND REAMED TO 15-16" DIAM.
HOLES FOR FIELD RIVETS IN METAL ¾" THICK AND UNDER TO BE PUNCHED 15-16" UNLESS MARKED S. P. & R.
HOLES FOR FIELD RIVETS IN METAL OVER ¾" THICK TO BE DRILLED 11-16" AND REAMED TO 15-16" DIAM. UNLESS MARKED S. P. & R.
HOLES MARKED S. P. & R. TO BE SUB-PUNCHED OR SUB-DRILLED 11-16" and reamed to 15-16" TO A METAL TEMPLATE OR WHILE PARTS ARE TEMPORARILY ASSEMBLED IN THE SHOP.
SHEARED EDGES OF MATERIAL OVER ½" IN THICKNESS AND CARRYING CALCULATED STRESS SHALL BE PLANED TO A DEPTH OF 3-16".
SHOP PAINT—N. Y. C. STANDARD RED LEAD.
SURFACES IN CONTACT TO RECEIVE ONE COAT OF PAINT ON EACH SURFACE BEFORE ASSEMBLING.
MACHINE FINISHED SURFACES TO BE COATED WITH HEAVY LUBRICATING GREASE.
ALL OTHER SURFACES TO RECEIVE ONE COAT OF PAINT, EXCEPT THOSE IN CONTACT WITH CONCRETE WHICH ARE NOT TO BE PAINTED. (SEE NOTES ON DETAILS).
ERECTION MARKS TO BE PLACED ON PAINTED SURFACES.
MEMBERS WEIGHING OVER 5 TONS SHALL HAVE THE WEIGHT MARKED THEREON.

N.Y.C. & St. L. R.R. (NICKEL PLATE)
HIGH LEVEL FREIGHT APPROACH-BRIDGE No 182.08.
OVER CLEVELAND UNION TERMINAL CO. TRACKS-CLEVELAND O.
DETAILS OF GIRDER G13.

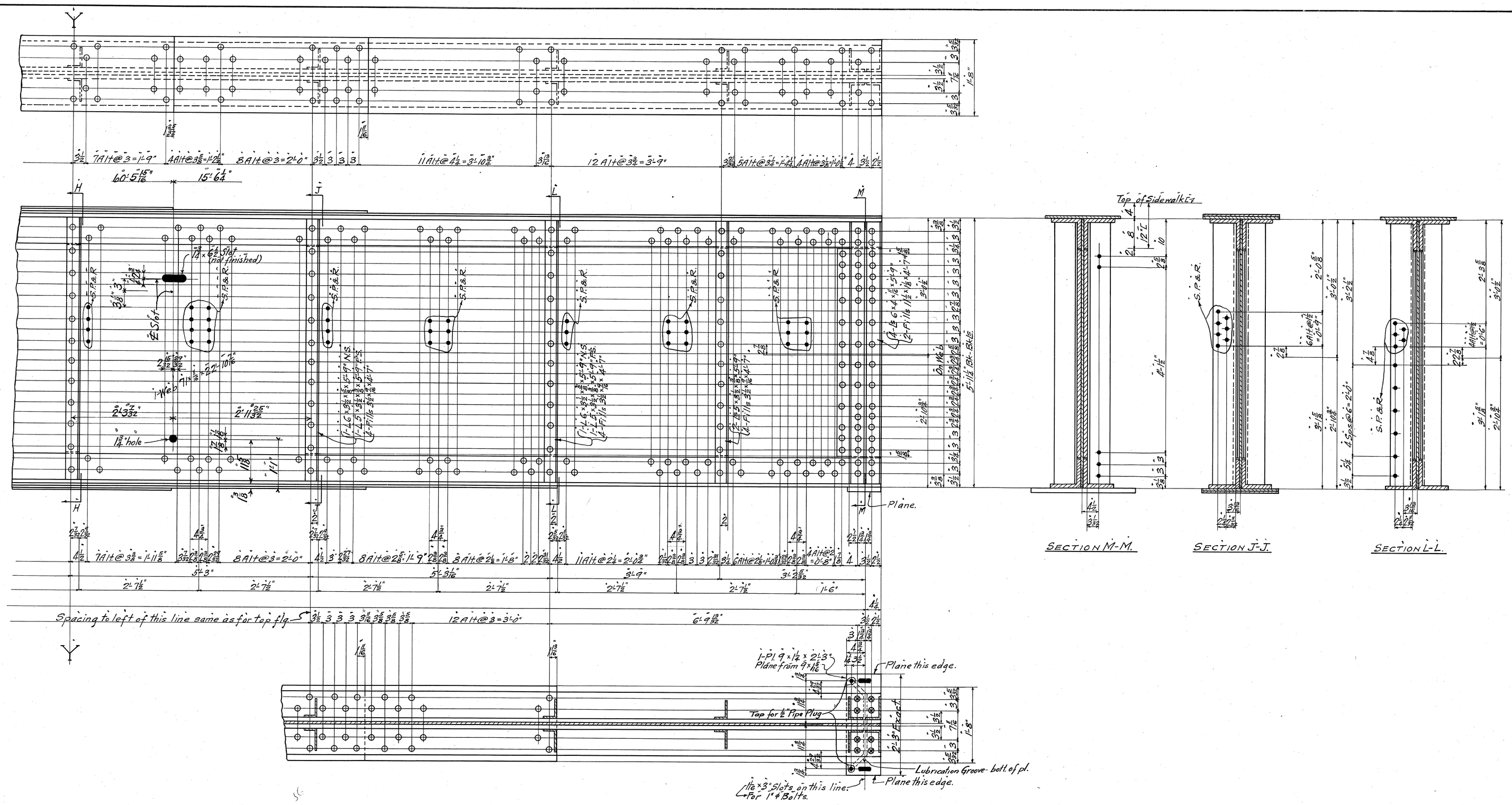
MADE BY J.R.S. CHECKED BY E.G.R. DATE 2-10-28
RIVETS See Note DIAM.
OPEN HOLES See Note DIAM.
UNLESS OTHERWISE NOTED

FORT PITT BRIDGE WORKS
CANONSBURG, PA.

APP
E
BILLED 2-1-28 BY H. M.

CONTRACT C-5399
BILL PAGES 13
DRAWING NO. 25.

NS 183-52-281



Use this dwg in conjunction with dwg #24 & #25.
Line Y-Y corresponds to line Y-Y dwg #25.

GENERAL NOTE

SPECIFICATIONS—N. Y. C. LINES FOR STEEL RAILROAD BRIDGES OF 1917.

SHOP AND FIELD RIVETS—¾" DIAM.
HOLES FOR SHOP RIVETS IN METAL ¾" THICK AND UNDER TO BE PUNCHED 11-16" DIAM AND REAMED TO 15-16" DIAM.
HOLES FOR SHOP RIVETS IN METAL OVER ¾" THICK TO BE DRILLED 11-16" AND REAMED TO 15-16" DIAM.
HOLES FOR FIELD RIVETS IN METAL ¾" THICK AND UNDER TO BE PUNCHED 15-16" UNLESS MARKED S. P. & R.
HOLES FOR FIELD RIVETS IN METAL OVER ¾" THICK TO BE DRILLED 11-16" AND REAMED TO 15-16" DIAM. UNLESS MARKED S. P. & R.
HOLES MARKED S. P. & R. TO BE SUB-PUNCHED OR SUB-DRILLED 11-16" and reamed to 15-16" TO A METAL TEMPLATE OR WHILE PARTS ARE TEMPORARILY ASSEMBLED IN THE SHOP.
SHEARED EDGES OF MATERIAL OVER ½" IN THICKNESS AND CARRYING CALCULATED STRESS SHALL BE PLANED TO A DEPTH OF 1/8".
SHOP PAINT—N. Y. C. STANDARD RED LEAD.
SURFACES IN CONTACT TO RECEIVE ONE COAT OF PAINT ON EACH SURFACE BEFORE ASSEMBLING.
MACHINE FINISHED SURFACES TO BE COATED WITH HEAVY LUBRICATING GREASE.
ALL OTHER SURFACES TO RECEIVE ONE COAT OF PAINT EXCEPT THOSE IN CONTACT WITH CONCRETE WHICH ARE NOT TO BE PAINTED. (SEE NOTES ON DETAILS).
ERECTION MARKS TO BE PLACED ON PAINTED SURFACES.
MEMBERS WEIGHING OVER 5 TONS SHALL HAVE THE WEIGHT MARKED THEREON.

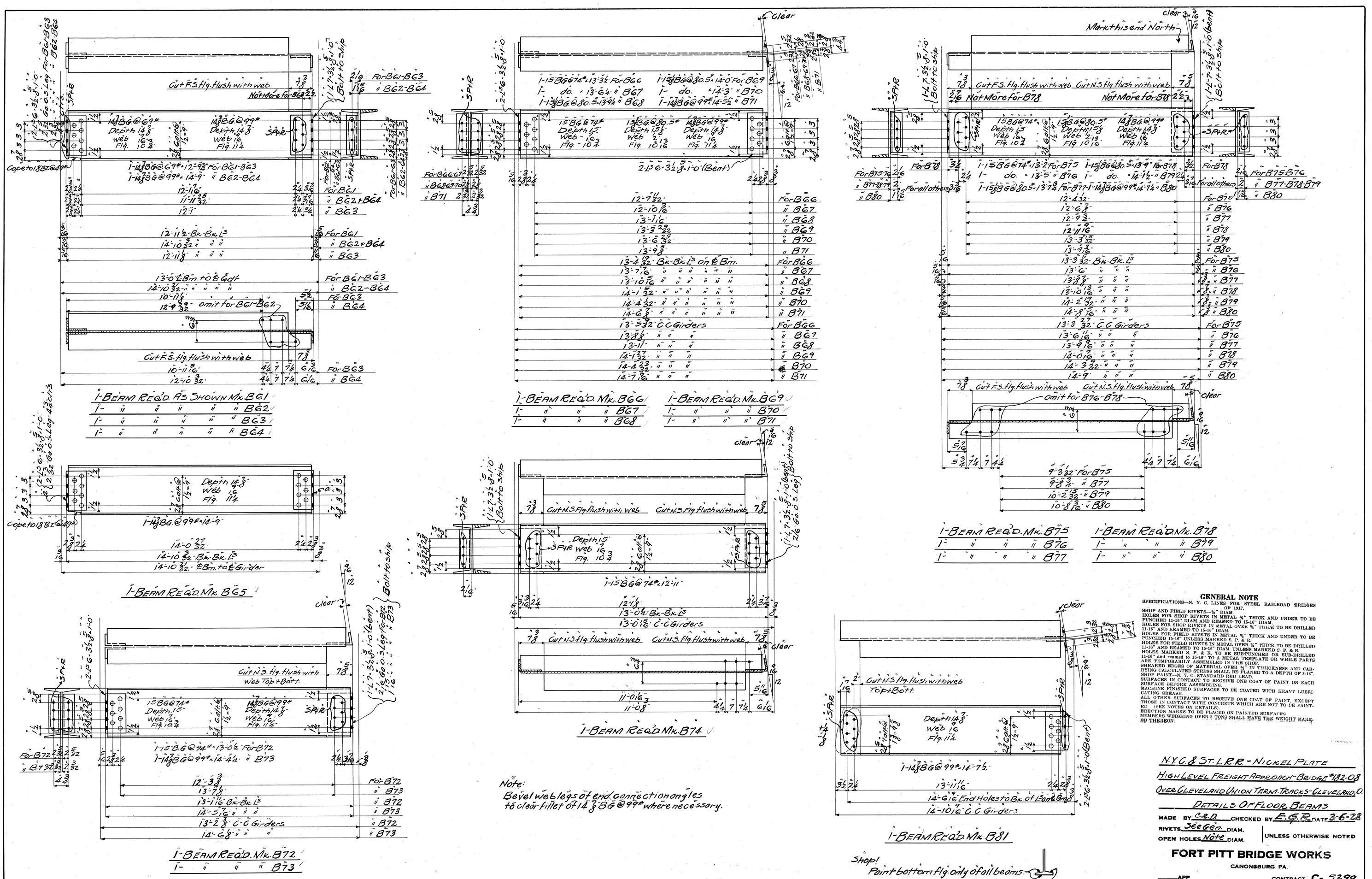
N.Y.C. & St.L.R.R. (NICKEL PLATE)
HIGH LEVEL FREIGHT APPROACH-BRIDGE No. 182.08.
OVER CLEVELAND UNION TERMINAL CO. TRACKS-CLEVELAND O.
DETAILS OF GIRDER G13.

MADE BY J.R.S. CHECKED BY E.G.R. DATE 2-11-28
RIVETS See Note DIAM.
OPEN HOLES See Note DIAM.
UNLESS OTHERWISE NOTED

FORT PITT BRIDGE WORKS
CANONSBURG, PA.

APP
BILLED 2-1-28 BY H. M.
CONTRACT C-5399
BILL PAGES 13
DRAWING NO. 26.

NS 183-52-281



GENERAL NOTE

SPECIFICATIONS—N. Y. C. LINES FOR STEEL RAILROAD BRIDGES OF 1917.

SHOP AND FIELD RIVETS—¾" DIAM.
HOLES FOR SHOP RIVETS IN METAL ¾" THICK AND UNDER TO BE PUNCHED 11-16" DIAM AND REAMED TO 15-16" DIAM.
HOLES FOR SHOP RIVETS IN METAL OVER ¾" THICK TO BE DRILLED 11-16" AND REAMED TO 15-16" DIAM.
HOLES FOR FIELD RIVETS IN METAL ¾" THICK AND UNDER TO BE PUNCHED 15-16" UNLESS MARKED S. P. & R.
HOLES FOR FIELD RIVETS IN METAL OVER ¾" THICK TO BE DRILLED 11-16" AND REAMED TO 15-16" DIAM. UNLESS MARKED S. P. & R.
HOLES MARKED S. P. & R. TO BE SUB-PUNCHED OR SUB-DRILLED 11-16" and reamed to 15-16" TO A METAL TEMPLATE OR WHILE PARTS ARE TEMPORARILY ASSEMBLED IN THE SHOP.
SHEARED EDGES OF MATERIAL OVER ½" IN THICKNESS AND CARRYING CALCULATED STRESS SHALL BE PLANED TO A DEPTH OF 3-16".
SHOP PAINT—N. Y. C. STANDARD RED LEAD.
SURFACES IN CONTACT TO RECEIVE ONE COAT OF PAINT ON EACH SURFACE BEFORE ASSEMBLING.
MACHINE FINISHED SURFACES TO BE COATED WITH HEAVY LUBRICATING GREASE.
ALL OTHER SURFACES TO RECEIVE ONE COAT OF PAINT, EXCEPT THOSE IN CONTACT WITH CONCRETE WHICH ARE NOT TO BE PAINTED. (SEE NOTES ON DETAILS).
ERECTION MARKS TO BE PLACED ON PAINTED SURFACES.
MEMBERS WEIGHING OVER 5 TONS SHALL HAVE THE WEIGHT MARKED THEREON.

N.Y.C. & St. L.R.R. - Nickel Plate
High Level Freight Approach - Bridge #182.08
Over Cleveland Union Term. Tracks - Cleveland, O.

Details Of Floor Beams

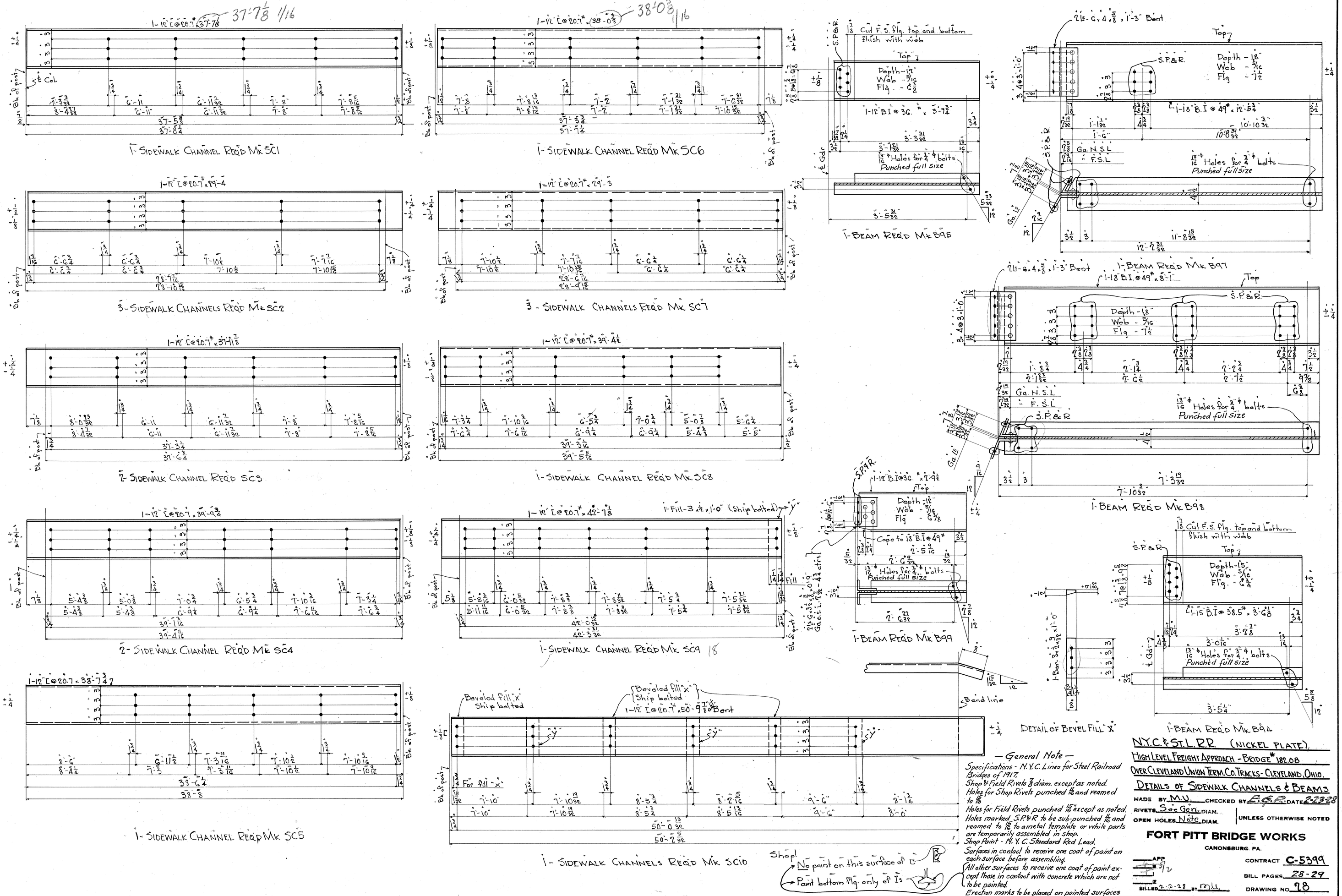
MADE BY C.R.D. CHECKED BY E.G.R. DATE 3-6-28
RIVETS See Gen. DIAM.
OPEN HOLES Note DIAM.
UNLESS OTHERWISE NOTED

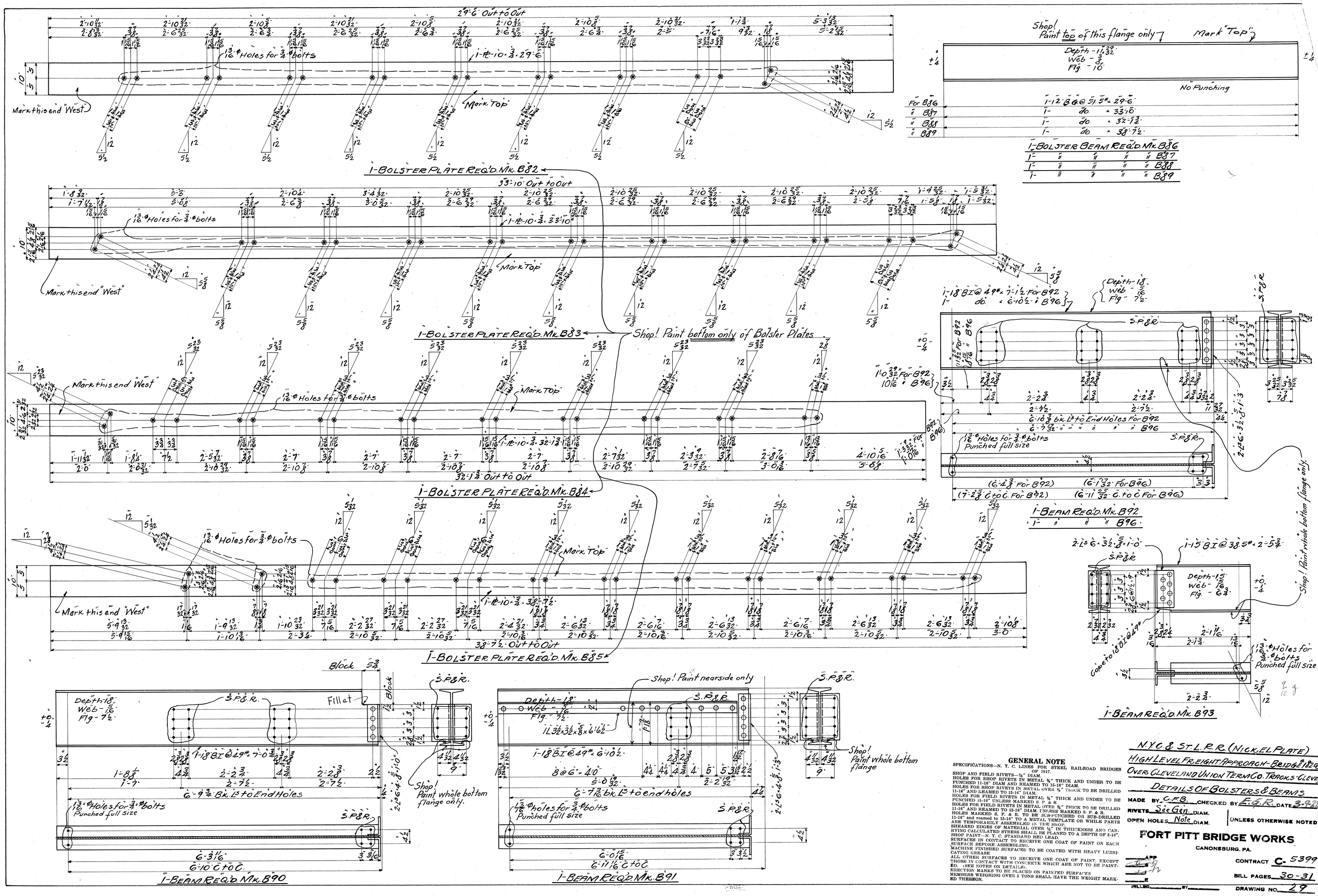
FORT PITT BRIDGE WORKS
CANONSBURG, PA.

APP
E
BILLED 2-2-28 BY H.M.

CONTRACT C-5399
BILL PAGES 26-27
DRAWING NO. 27

NS 183-52-281


1-SIDEWALK CHANNEL REQ'D MK SC1
1-SIDEWALK CHANNEL REQ'D MK SC6
1-BEAM REQ'D MK B95
1-BEAM REQ'D MK B97
3-SIDEWALK CHANNELS REQ'D MK SC2
3-SIDEWALK CHANNELS REQ'D MK SC7
1-BEAM REQ'D MK B98
2-SIDEWALK CHANNEL REQ'D SC3
1-SIDEWALK CHANNEL REQ'D MK SC8
1-BEAM REQ'D MK B99
2-SIDEWALK CHANNEL REQ'D MK SC4
1-SIDEWALK CHANNEL REQ'D MK SC9
1-BEAM REQ'D MK B94
1-SIDEWALK CHANNEL REQ'D MK SC5
1-SIDEWALK CHANNELS REQ'D MK SC10
DETAIL OF BEVEL FILL "X"
Bend line
Shop!
No paint on this surface of E
Paint bottom flg. only of I's
— General Note —
Specifications - N.Y.C. Lines for Steel Railroad Bridges of 1917.
Shop & Field Rivets 7/8 diam. except as noted.
Holes for Shop Rivets punched 1/16 and reamed to 1/8
Holes for Field Rivets punched 15/16 except as noted.
Holes marked S.P.&R. to be sub-punched 1/16 and reamed to 15/16 to a metal template or while parts are temporarily assembled in shop.
Shop Paint - N.Y.C. Standard Red Lead.
Surfaces in contact to receive one coat of paint on each surface before assembling.
All other surfaces to receive one coat of paint except those in contact with concrete which are not to be painted.
Erection marks to be placed on painted surfaces
N.Y.C. & ST. L. R.R. (NICKEL PLATE)
HIGH LEVEL FREIGHT APPROACH - BRIDGE # 182.08
OVER CLEVELAND UNION TERM. CO. TRACKS - CLEVELAND, OHIO.
DETAILS OF SIDEWALK CHANNELS & BEAMS
MADE BY M.U. CHECKED BY E.G.R. DATE 2-23-28
RIVETS See Gen. DIAM.
OPEN HOLES Note DIAM.
UNLESS OTHERWISE NOTED
FORT PITT BRIDGE WORKS
CANONSBURG, PA.
CONTRACT C-5399
BILL PAGES 28-29
DRAWING NO. 78
BILLED 2-7-28 BY M.U.
NS 183-52-281



GENERAL NOTE

SPECIFICATIONS—N. Y. C. LINES FOR STEEL RAILROAD BRIDGES OF 1917.
SHOP AND FIELD RIVETS—5/8" DIAM.
HOLES FOR SHOP RIVETS IN METAL 3/4" THICK AND UNDER TO BE PUNCHED 11-16" DIAM AND REAMED TO 15-16" DIAM.
HOLES FOR SHOP RIVETS IN METAL OVER 3/4" THICK TO BE DRILLED 11-16" AND REAMED TO 15-16" DIAM.
HOLES FOR FIELD RIVETS IN METAL 3/4" THICK AND UNDER TO BE PUNCHED 15-16" UNLESS MARKED S. P. & R.
HOLES FOR FIELD RIVETS IN METAL OVER 3/4" THICK TO BE DRILLED 11-16" AND REAMED TO 15-16" DIAM. UNLESS MARKED S. P. & R.
HOLES MARKED S. P. & R. TO BE SUB-PUNCHED OR SUB-DRILLED 11-16" and reamed to 15-16" TO A METAL TEMPLATE OR WHILE PARTS ARE TEMPORARILY ASSEMBLED IN THE SHOP.
SHEARED EDGES OF MATERIAL OVER 1/4" IN THICKNESS AND CARRYING CALCULATED STRESS SHALL BE PLANED TO A DEPTH OF 3-16".
SHOP PAINT—N. Y. C. STANDARD RED LEAD.
SURFACES IN CONTACT TO RECEIVE ONE COAT OF PAINT ON EACH SURFACE BEFORE ASSEMBLING.
MACHINE FINISHED SURFACES TO BE COATED WITH HEAVY LUBRICATING GREASE.
ALL OTHER SURFACES TO RECEIVE ONE COAT OF PAINT, EXCEPT THOSE IN CONTACT WITH CONCRETE WHICH ARE NOT TO BE PAINTED. (SEE NOTES ON DETAILS).
ERECTION MARKS TO BE PLACED ON PAINTED SURFACES
MEMBERS WEIGHING OVER 5 TONS SHALL HAVE THE WEIGHT MARKED THEREON.

N.Y.C. & ST. L. R.R. (NICKEL PLATE)
HIGH LEVEL FREIGHT APPROACH - BRIDGE #18.08
OVER CLEVELAND UNION TERM. CO. TRACKS - CLEVELAND

DETAILS OF BOLSTERS & BEAMS

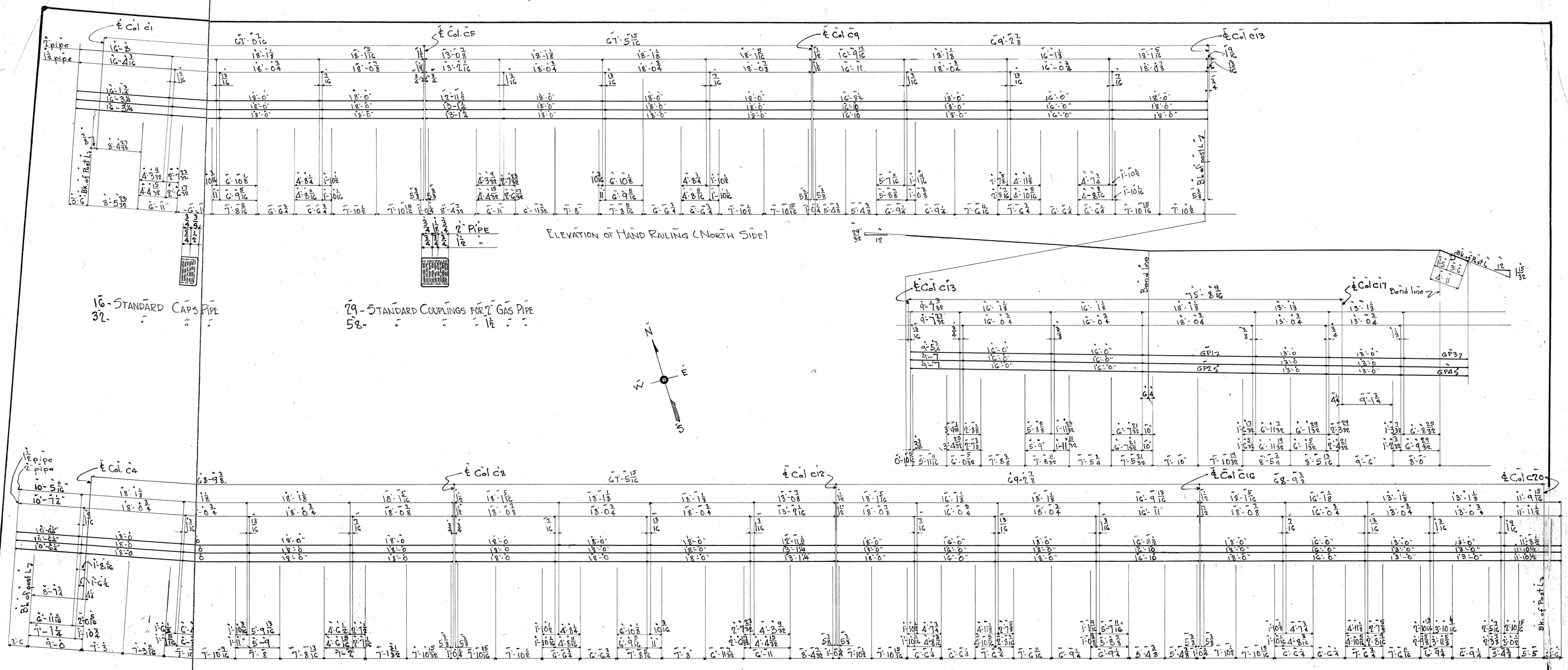
MADE BY C.F.B. CHECKED BY E.G.R. DATE 3-9-28
RIVETS See Gen. DIAM.
OPEN HOLES Note DIAM.
UNLESS OTHERWISE NOTED

FORT PITT BRIDGE WORKS
CANONSBURG, PA.

APP
CHKD
E
CALLED BY

CONTRACT C-5399
BILL PAGES 30-31
DRAWING NO. 29

NS 183-52-281

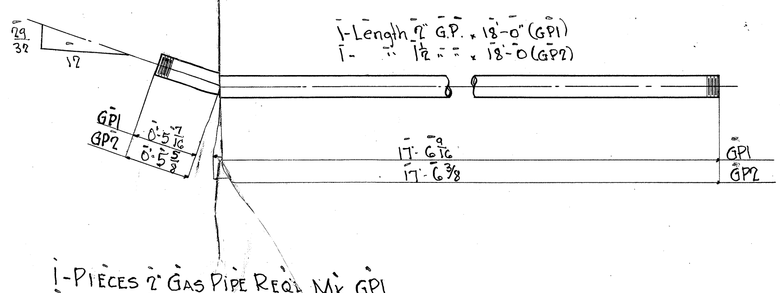


ELEVATION OF HAND RAILING (NORTH SIDE)

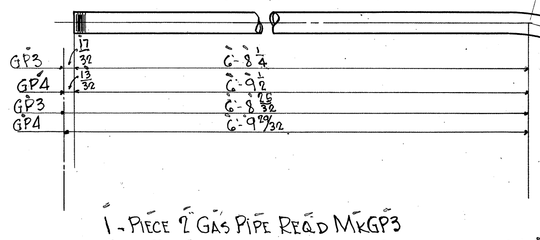
ELEVATION OF HAND RAILING (SOUTH SIDE)

16 - STANDARD CAPS PIPE
32 " " "

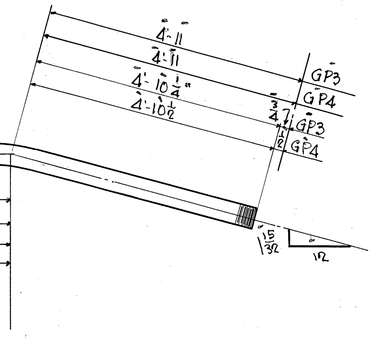
29 - STANDARD COUPLINGS FOR 2" GAS PIPE
58 " " " 1½ " "

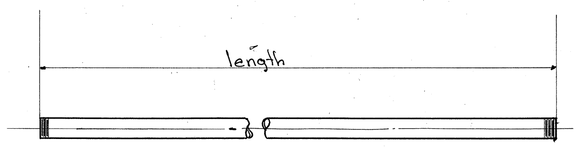


1 - PIECES 2" GAS PIPE READ MK GP1
2 - " 1½ " " " " GP2



1 - PIECE 2" GAS PIPE READ MK GP3
2 - PIECES 1½ " " " " GP4





17 - Pcs. - 2" G.P. x 18'-0"
34 - " - 1½" " " x 18'-0"
4 - " - 1½" " " x 16'-10"
2 - " - 2" " " x 16'-8½"
2 - " - 1½" " " x 16'-3¼"
1 - Pc. - 2" " " x 16'-1¾"
6 - Pcs. - 2" " " x 16'-0"
12 - " - 1½" " " x 16'-0"
4 - " - 1½" " " x 13'-1¼"
4 - " - 2" " " x 13'-0"
8 - " - 1½" " " x 13'-0"
2 - " - 2" " " x 12'-11½"
2 - " - 1½" " " x 11'-10½"
1 - Pc. - 2" " " x 11'-8½"
2 - Pcs. - 1½" " " x 10'-6½"
1 - Pc. - 2" " " x 10'-4½"
2 - Pcs. - 1½" " " x 9'-7"
1 - Pc. - 2" " " x 9'-5¾"

NOTE:
ALL THREADS RIGHT HAND
- Pipe threaded 7/8" to run into fittings about 3/4"
- All pipe to be "Extra Strong" Black Pipe (untested)

GENERAL NOTE:
- Spec. - N.Y.C. Lines for Steel Railroad Bridges of 1917
- Paint - one coat N.Y.C. Std. Red Lead

N.Y.C. & ST L. R.R. (NICKEL PLATE)
HIGH LEVEL FREIGHT APPROACH - BRIDGE # 182.08
OVER CLEVELAND UNION TERM. CO. TRACKS - CLEVELAND, O.
ERECTION PLAN AND DETAIL OF RAILING

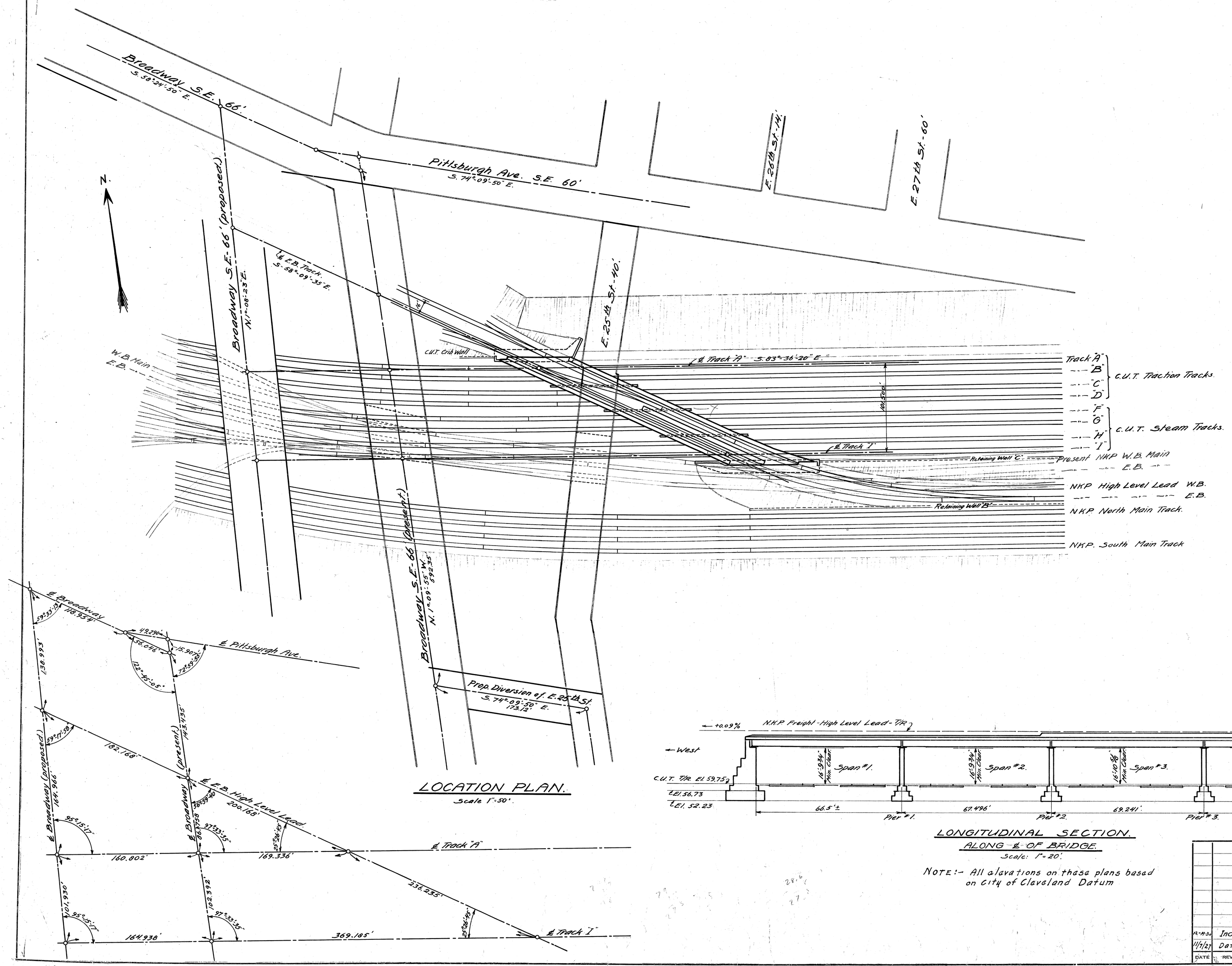
MADE BY M.U. CHECKED BY E.G.R. DATE 3-13-28
RIVETS _____ DIAM.
OPEN HOLES _____ DIAM.
UNLESS OTHERWISE NOTED

FORT PITT BRIDGE WORKS
CANONSBURG PA.

APP
S 9/2
T
E
BILLED _____ BY _____

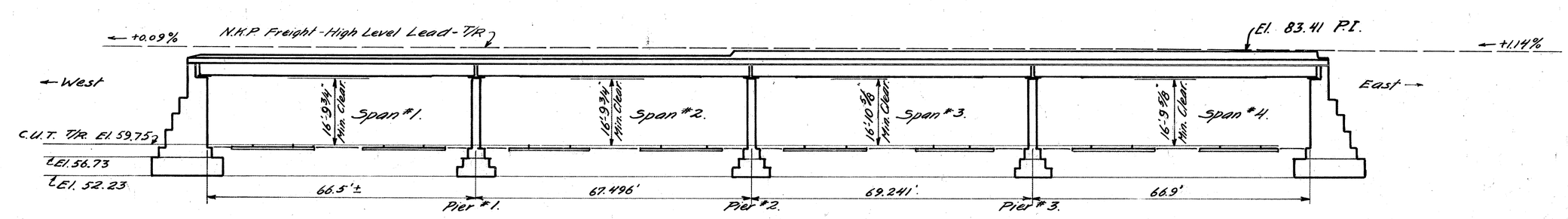
CONTRACT C-5399
BILL PAGES 32
DRAWING NO. 30

NS 183-52-281



LOCATION PLAN.

Scale 1" = 50'.



LONGITUDINAL SECTION.

ALONG ℄ OF BRIDGE.

Scale: 1" = 20'.

NOTE:- All elevations on these plans based on City of Cleveland Datum

DRAWINGS IN THIS SET, B-42003.

Sheet #1 - Location Plan and longitud. Section.
—"— #2 - East Abutment.
—"— #3 - West Abutment.
—"— #4 - Pier Plan.
—"— #5 - Steel Plan - General. (Columns)
—"— #6 - —"— —"— - Span #1.
—"— #7 - —"— —"— - Span #2 and Details.
—"— #8 - —"— —"— - Span #3.
—"— #9 - —"— —"— - Span #4.
—"— #10 - Floor Plan - Typical Sections.
—"— #11 - —"— —"— - General.
—"— #12 - —"— —"— - Details.
—"— #13 - —"— —"— - Pile Chart

DATE	REVISIONS	BY
12-13-31	Index	F.M.
11/1/27	Datum	O.E.H.

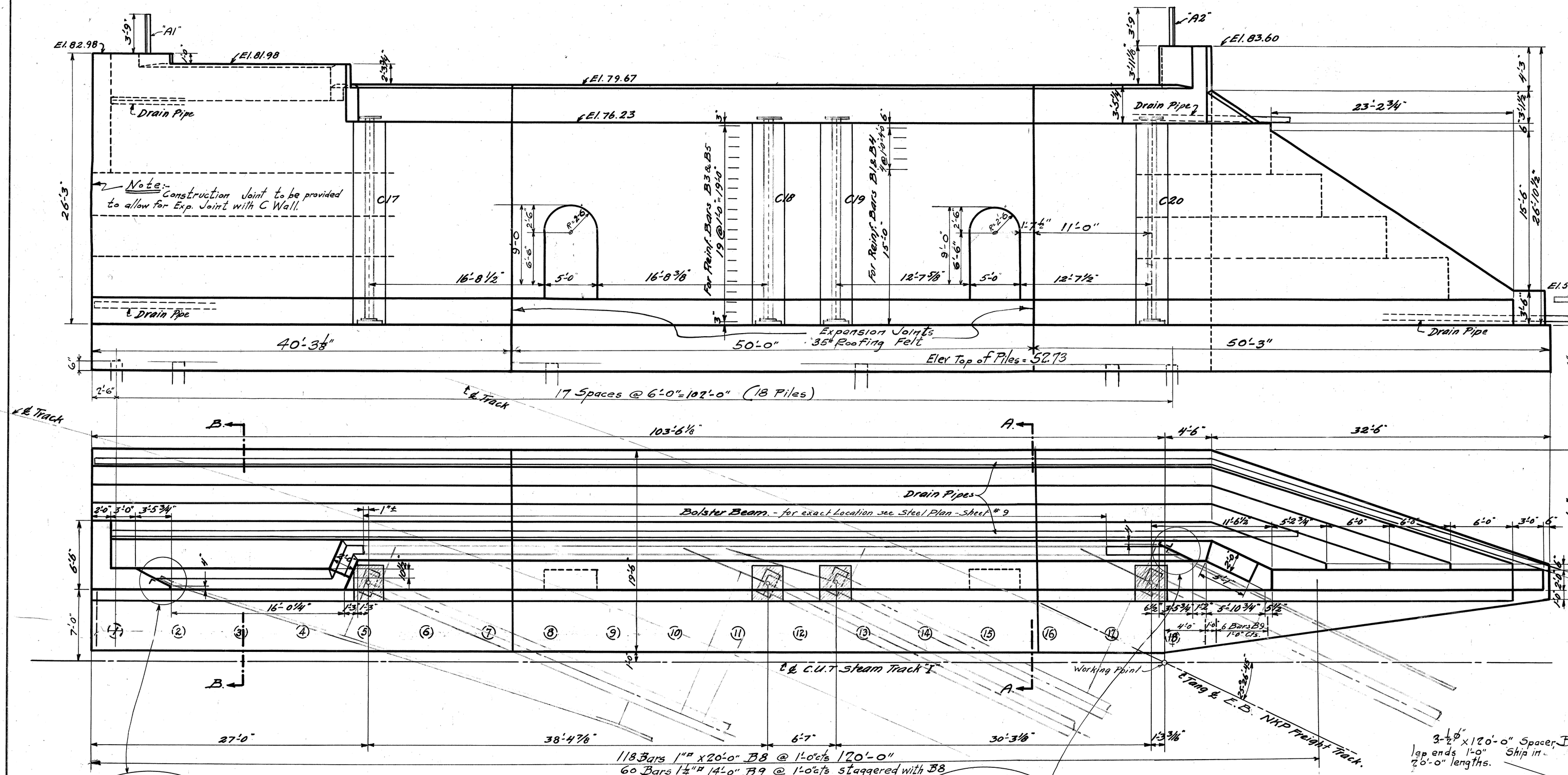
N. Y. C. & St L. R. R.
NKP DISTRICT
CLEVELAND - OHIO.
BRIDGE-NO- ~~182.08~~ 183.52
OVER THE CLEVELAND UNION TERMINAL CO. TRACKS.
LOCATION PLAN AND LONG. SECTION.

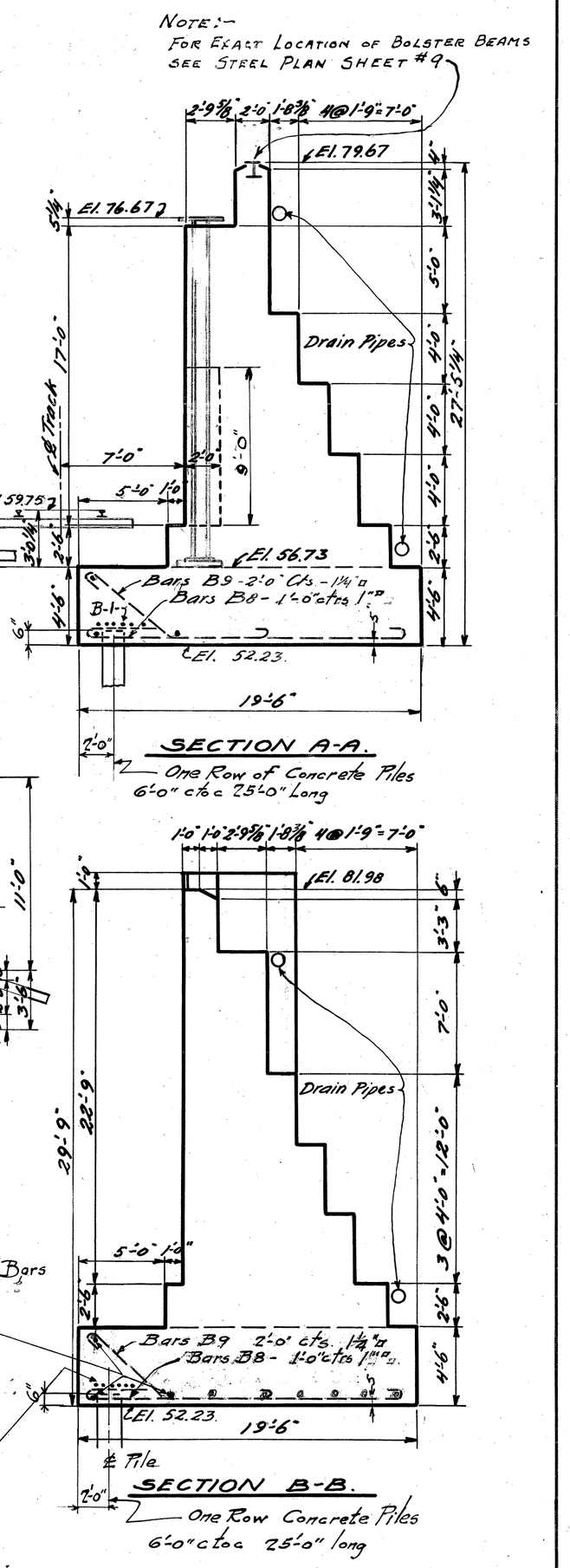
OFFICE OF CHIEF ENGINEER — CLEVELAND, O.

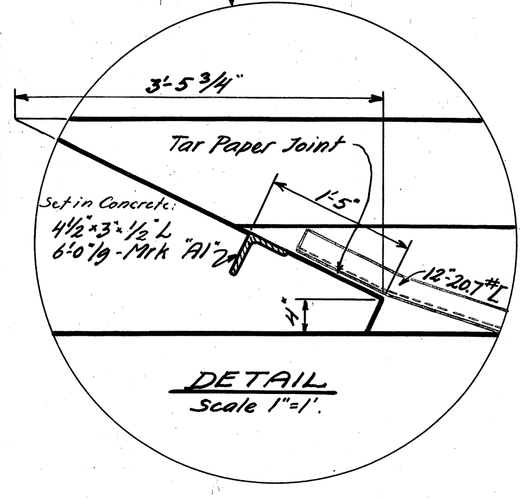
SCALE	DRAWN	TRACED	CHECKED
as shown.	1-28-1927. F.W.	1-29-1927. F.W.	10-1-27 O.E.H.

DATE 11-26-1926 | SHEET 1 of 13 | No. ~~183-00 271~~

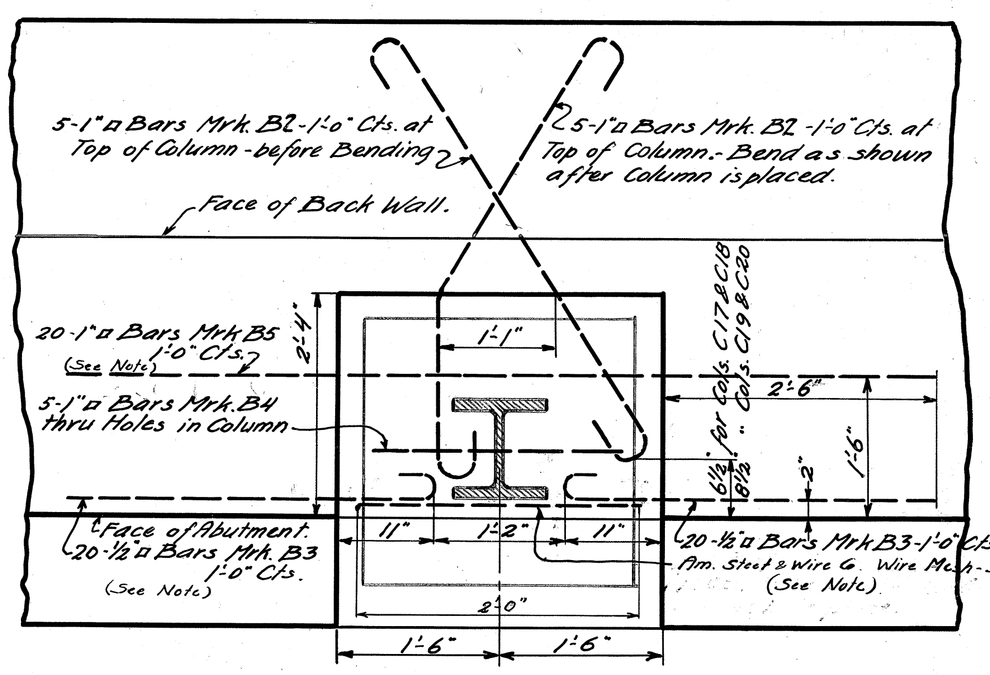
183-52-271



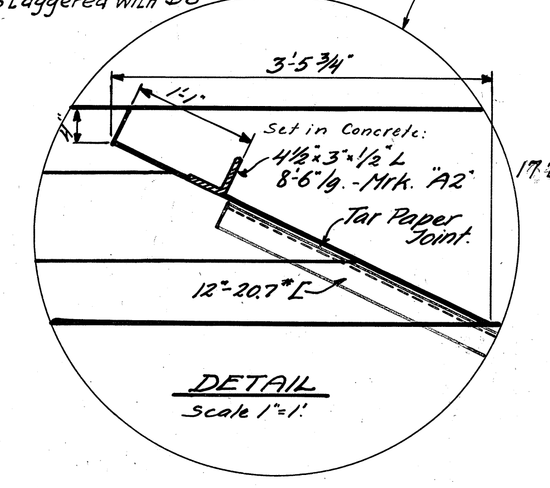




DETAIL
Scale 1" = 1'.



HORIZONTAL SECTION AT COLUMNS.
Scale 1" = 1'.



DETAIL
Scale 1" = 1'.

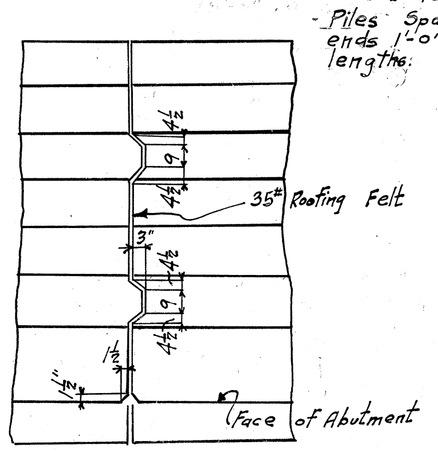
BILL OF MATERIAL.

Abt. 1,143 C.Y. Concrete - to be of the 2000# Class - 6 3/4 Gals. of Water to one Sack of Cement.
1-L Mrk "A1" to be furnished by Steel Contractor.
1-L " "A2" " " " " " "
320 □' Wire Mesh - Am. Steel & Wire Co. Style 040.
17,248 Lbs. Reinforcing Bars - See Bar List on Sheet #4.
270 Lin Ft. perforated Iron Drain Pipe, "Armco" or similar.
Abt. 1,500 C.Y. Excavation.
450 Lin Feet of Concrete Piles

3-1/2 ϕ x 120'-0" Spacer Bars lap ends 1'-0" Ship in 20'-0" lengths.

6-1/2 ϕ lengthwise over Piles Space 9" c to c. lap ends 1'-0" Ship 18'-0" lengths. Marked B-1-

Expansion Joint and key to extend thru Full height of Neatwork and footing.



DETAIL OF EXPANSION JOINT
Scale 1/4" = 1'-0"

Notes:

Space between Bridge Seat and Cap Plates to be filled with stiff Mortar, well rammed in Place.

If Steel is erected before the Abutments are built, omit Reinforcing Bars B3 and B5

Place Wire Mesh in Front of Columns with Main Wires horizontally.

All Concrete to be WATER-CEMENT RATIO-METHOD-
A.R.E.A. SPECIFICATIONS. Vol. 28 - Bull. 295. March 1927

DATE	REVISIONS	BY
5/22/31	Pile Numbers	J.C.O.D.
2/7/28	Concrete Piles Added	G.H.P.
8/12/28	Safety Recess Altered	G.H.P.
3/15/28	Concrete Specifications Note added. BOLSTER BEAM NOTE ADDED	G.H.P. O.E.H.
3/4-27	Toe	T.W.

N. Y. C. & St. L. R. R.
NKP. CLEVELAND DISTRICT OHIO
BRIDGE-NO- 182.08
OVER THE CLEVELAND UNION TERMINAL CO. TRACKS.
EAST ABUTMENT.

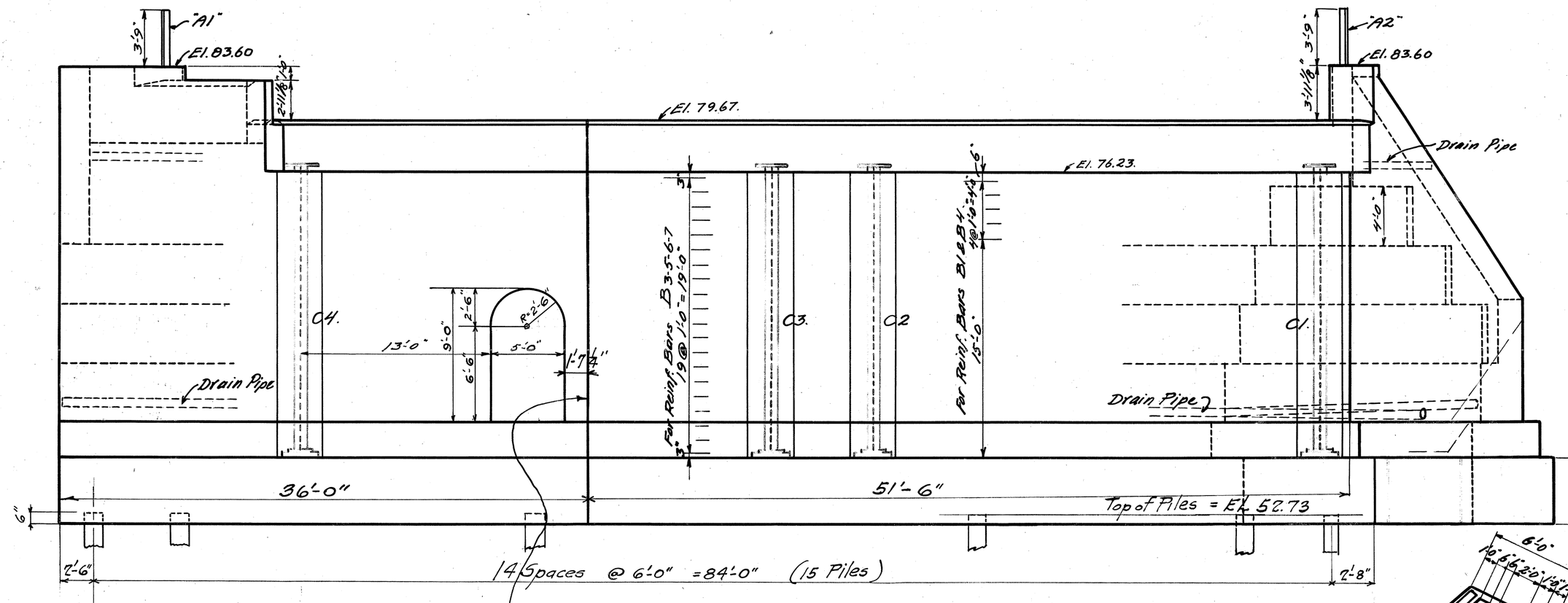
OFFICE OF CHIEF ENGINEER — CLEVELAND, O.

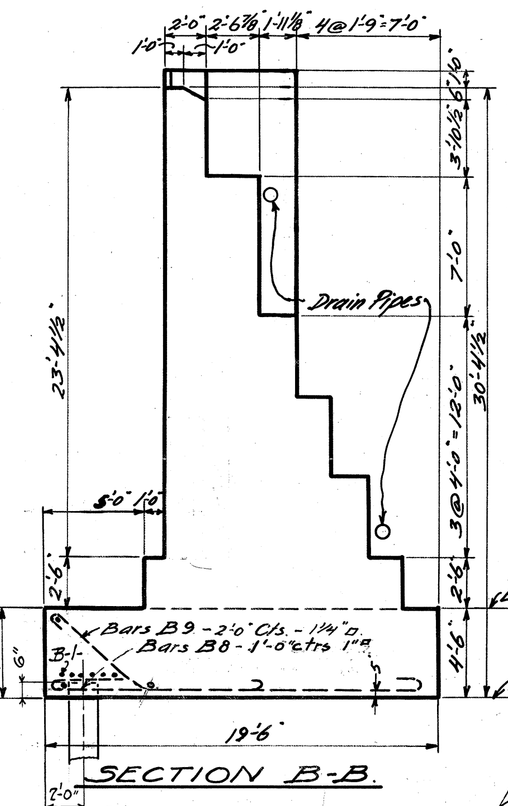
SCALE	DRAWN	TRACED	CHECKED
3/16" = 1'	11-1-1926 T.W.	12-2-1926 T.W.	10-4-27 O.E.H.

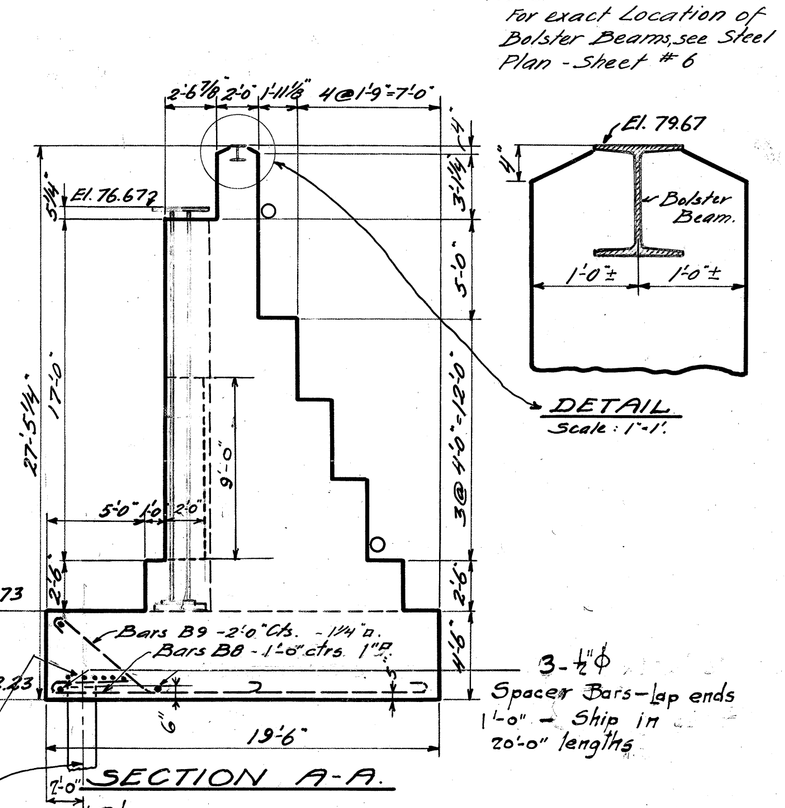
DATE 11-26-1926 | SHEET 2 of 13 | No. ~~182-08-271~~

183-52-271

Note: For exact Location of Bolster Beams, see Steel Plan - Sheet #6

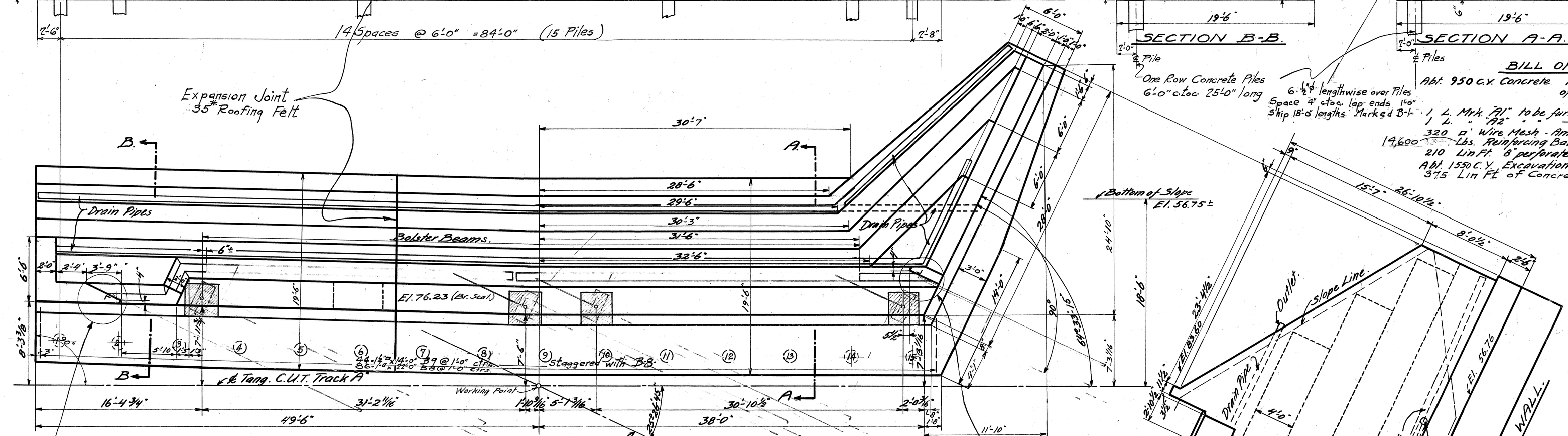


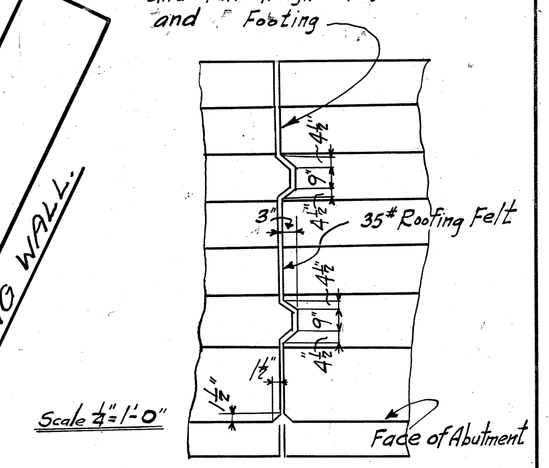




BILL OF MATERIAL.

Abt. 950 C.Y. Concrete to be of the 2000# Class - 6¾ gals. of Water to one Sack of Cement.
1 L. Mrk. "A1" to be furnished by Steel Contractor.
1 L. " "A2" " " — " " — " — "
320 □' Wire Mesh - Am. Steel & Wire Co. Style 040.
14,600 Lbs. Reinforcing Bars: See Bar List on Pier Plan.
210 Lin Ft. 8" perforated Drain Pipe, "Armco" or similar.
Abt. 1550 C.Y. Excavation.
375 Lin Ft of Concrete Piles



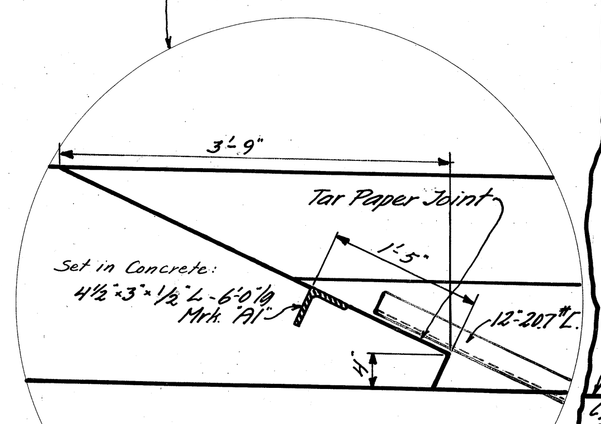


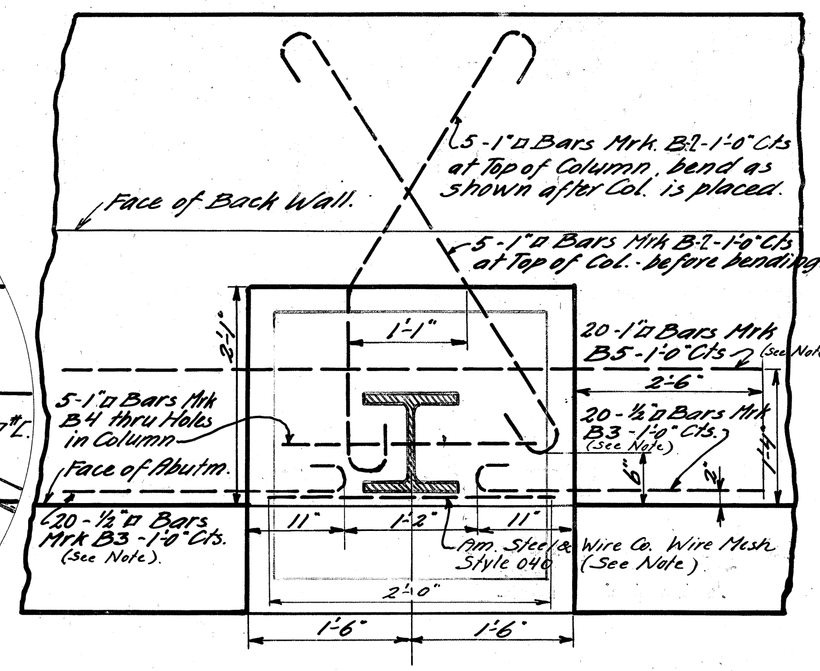
DETAIL OF EXPANSION JOINT

Notes: Space between Bridge Seat and Cap Plates to be filled with stiff Mortar, well rammed in place. Place Wire Mesh in Front of Columns with Main Wires horizontally.

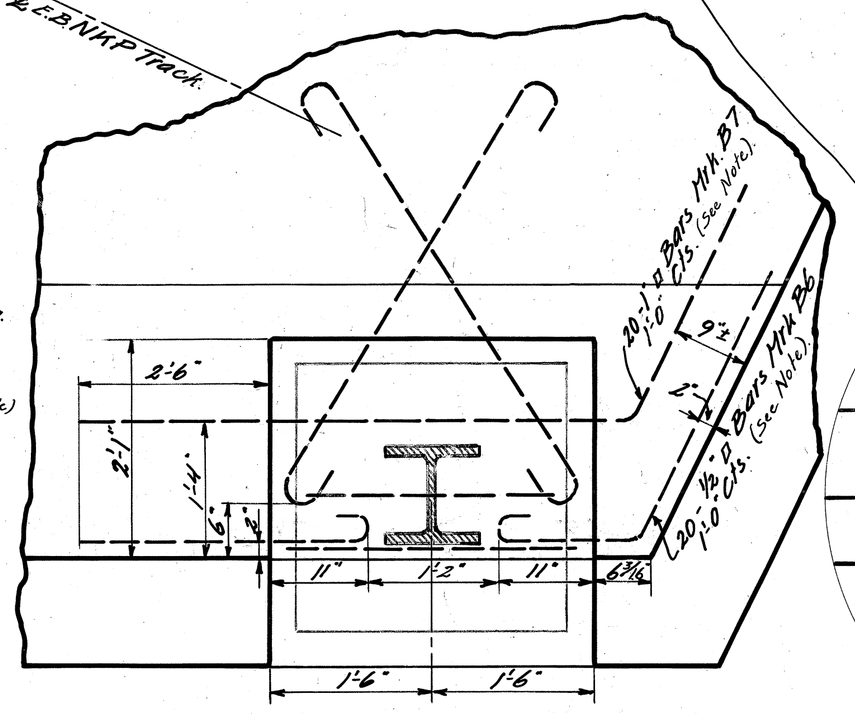
If Steel is erected before the Abutment is built, omit Bars B3 + B5

All Concrete to be WATER-CEMENT-RATIO-METHOD. A.R.E.A SPECIFICATION Vol. 28 - Bull. 295 March 1927

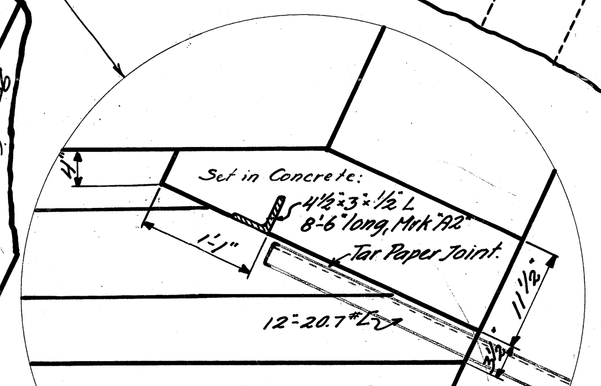




HORIZONTAL SECTION AT COLUMNS C2-3-4.
Scale 1"=1'.



HORIZONTAL SECTION AT COLUMN C1.
Same as for Cols C2-3-4 except for Bars B6 & B7



DATE	REVISIONS	BY
5/28/31	Pile Numbers Added	J.A.O.
6/27/28	Concrete Piles Added	G.H.P.
3/27/28	Safety Recess Altered	G.H.P.
3/27/28	Concrete Specification Note added	G.H.P.
7/8-27	General	T.W.

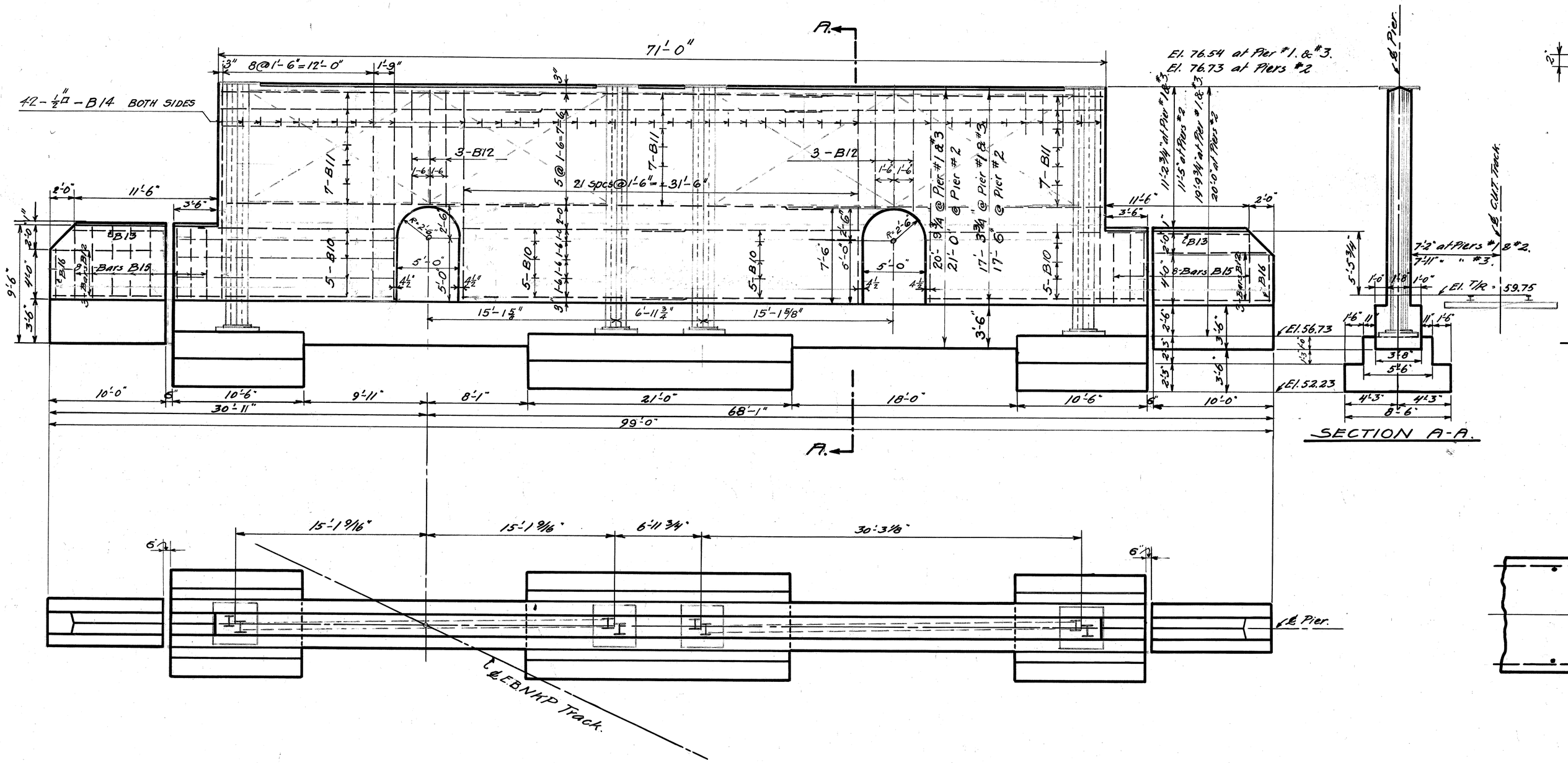
N. Y. C. & ST. L. R. R.
NKP. DISTRICT
CLEVELAND OHIO
BRIDGE-NO-182.08.
OVER THE CLEVELAND UNION TERMINAL CO. TRACKS.
WEST ABUTMENT.

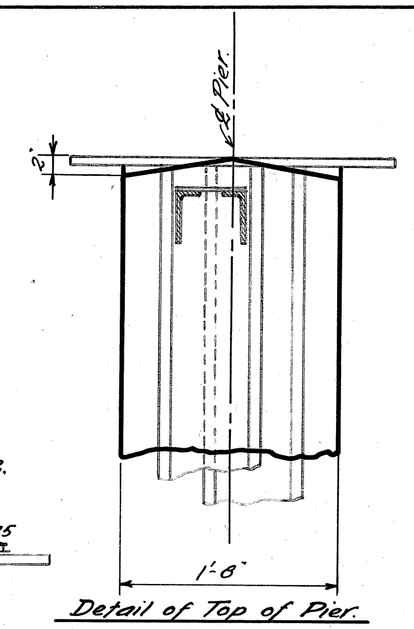
OFFICE OF CHIEF ENGINEER — CLEVELAND, O.

SCALE	DRAWN	TRACED	CHECKED
3/16"=1'	11-1-1926 T.W.	11-26-1926 T.W.	10-4-27 O.E.H.

DATE 11-26-1926 | SHEET 3 of 13 | No. ~~182-08-271~~

183-52-271





Detail of Top of Pier.
Scale: 1"=1'.

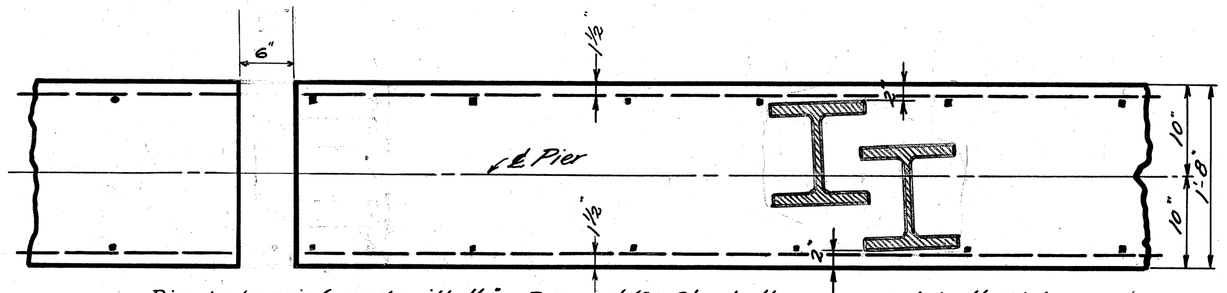
Notes:
All Bracing and the portion of all columns below bracing to be wrapped with WIRE MESH.
Space under Cap Plates on Columns to be well filled with Concrete.

BILL OF MATERIAL.

Concrete to be of the 2500# Class - 6 gals. of Water to one Sack of Cement.

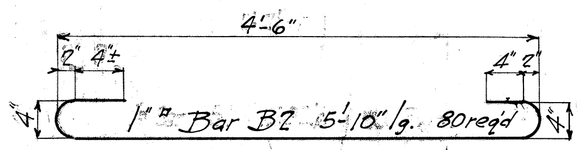
Foundations:	147±C.Y. -	2000# Concrete
Piers	379±C.Y.	2500# "
Total	526±C.Y.	

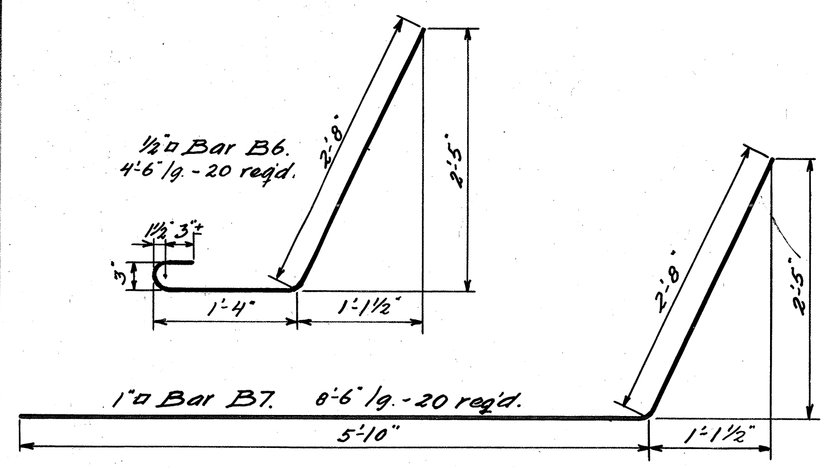
Wire Mesh: 5200 □' - Am. Steel & Wire Co. Style 040.
Reinforcing Bars 9277 Lbs - See Bar List.
Excavation: abt. 300 C.Y.
All Concrete to be WATER-CEMENT RATIO-METHOD
A.R.E.A. SPECIFICATIONS Vol. 28 - Bull. 295 March 1927



Pier to be reinforced with ½"□ Bars, 1'-6"± Ctrs. both ways and both sides, as shown in elevation.

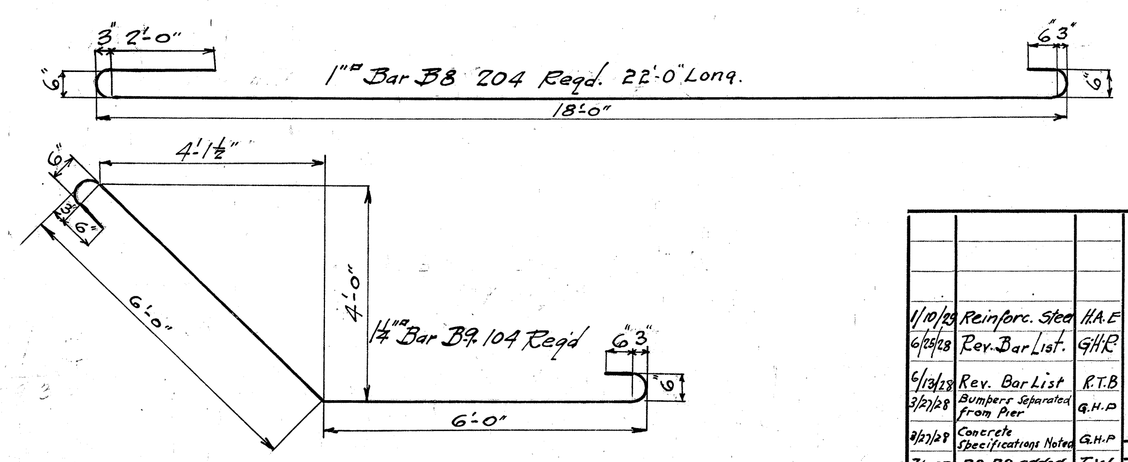
HORIZONTAL SECTION IN PIER.
Scale 1"=1'.





BAR LIST.

Bar Mrk.	Section.	Length.	No. req'd.	Remarks.	Location.	Total Length.	Weight.
B1	½"φ	18'-2"	78	Straight	36 West Abutment 42 East "	1464"	940
B4	1"□	2'-4"	40	Straight.	20 " West 20 " East	93'-4"	
B5	1"□	8'-0"	140	Straight.	60 " West 80 " East	1120'-0"	4700
B7	1"□	8'-6"	20	Bend.	20 " West	170'-0"	
B2	1"□	5'-10"	80	Hooked both Ends	40 " East 40 " West	466'-8"	
B3	½"□	4'-0"	300	Hooked one End.	140 " West 160 " East	1200'-0"	2680
B6	½"□	4'-6"	20	Bend and Hooked	20 " West.	90'-0"	
	½"φ	Spacer Bars.	See Abutment Plans.		1185 - West " 1173 - East "	2358"	1,620
B10		17-6	120			2100	
B11		25'-0"	126		Horizontal in Piers	3150	
B12		9'-6"	72			684	
B13	½"□	8'-0"	12	Straight.		96'	9277#
B14		17'-0"	252			4284	
B15		5'-9"	96		Vertical in Piers.	552'	
B16		4'-0"	12			48'	
B8	1"□	22'-0"	204	Hooked both Ends	86 West Abutment 118 East Abutment	4488	15260
B9	1¼"□	14'-0"	104	Bend & Hooked	44 West Abutment 60 East Abutment	1458	7700
							42177#



DATE	REVISIONS	BY
11/10/26	Reinforc. Steel	H.A.E.
6/25/28	Rev. Bar List.	G.H.P.
6/18/29	Rev. Bar List	R.T.B.
3/20/30	Bumpers Separated from Pier	G.H.P.
8/20/30	Concrete Specifications Noted	G.H.P.
7/9/27	B8-B9 added.	T.W.

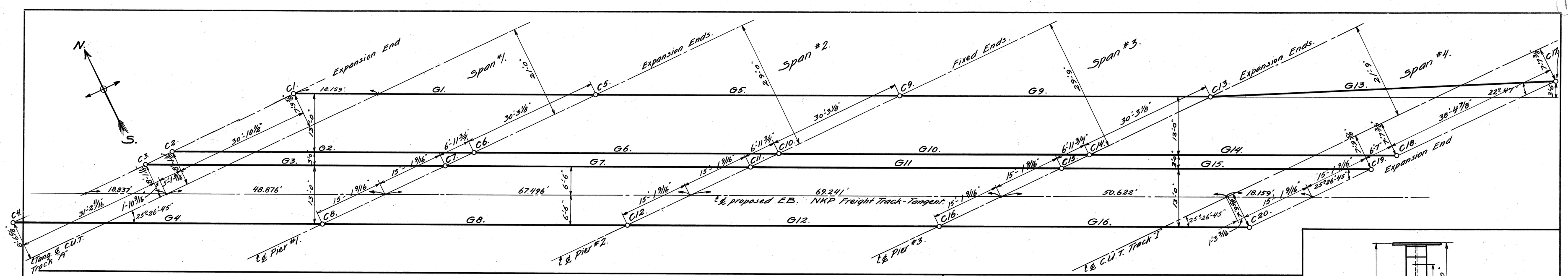
N. Y. C. & St. L. R. R.
N.K.P. DISTRICT
CLEVELAND OHIO.
BRIDGE-NO- 182.08.
OVER THE CLEVELAND UNION TERMINAL CO TRACKS.
PIER PLAN.

OFFICE OF CHIEF ENGINEER — CLEVELAND, O.

SCALE	DRAWN	TRACED	CHECKED
3/16"=1'	11-7-1926 T.W.	12-7-1926 T.W.	10-1-27 - G.E.H.

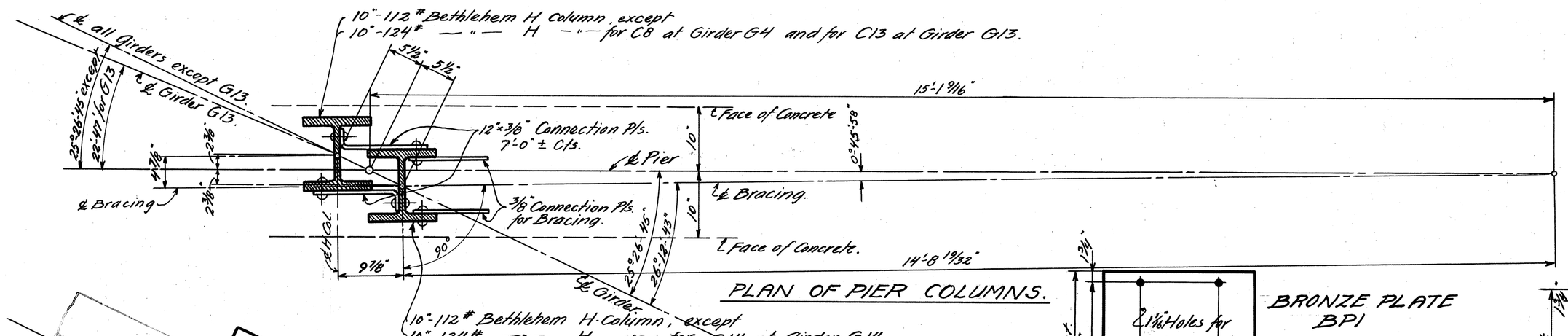
DATE 11-26-1926 | SHEET 9 of 15 | No. ~~182.08-271~~

183-52-271



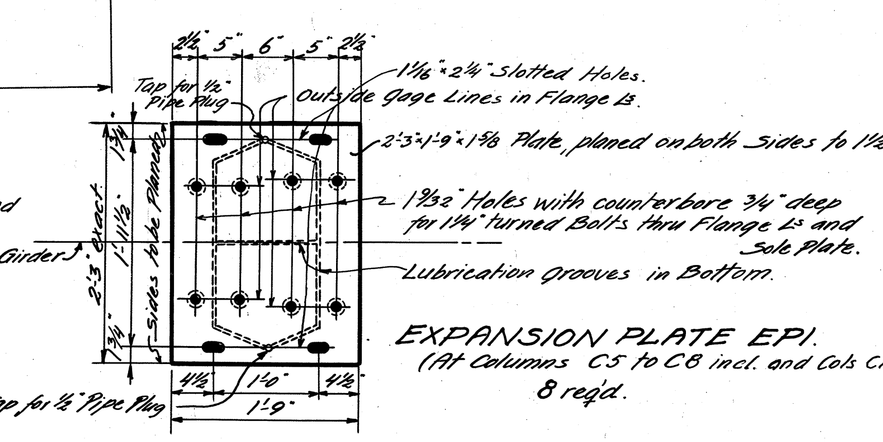
Notes:

Bronze Pls. to be made of Phos. Bronze, Grade B or Manganese Bronze of equal Strength and Hardness.
Steel Contractor to furnish 1¼" swedged Anchor Bolts 1'-6" lg. and all loose Bolts.
Use N.Y.C. Specifications 1917 - LL. E-70 with half I.L.
Do not paint Steel on Surfaces coming in contact with Concrete.

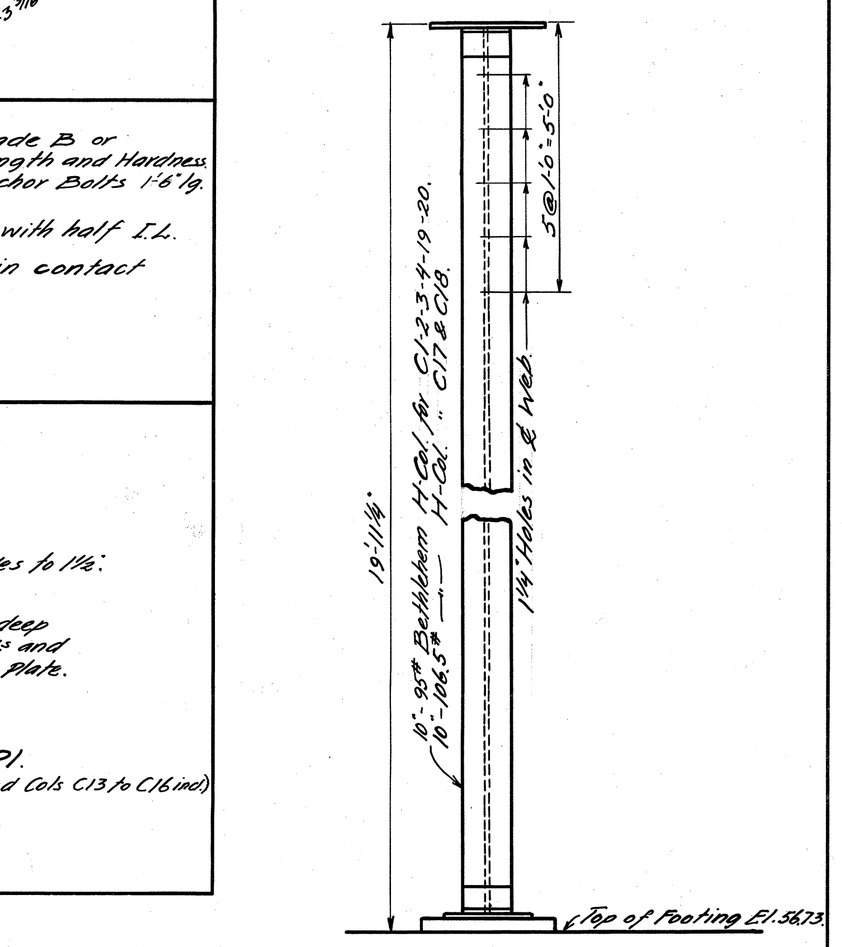


PLAN OF PIER COLUMNS.

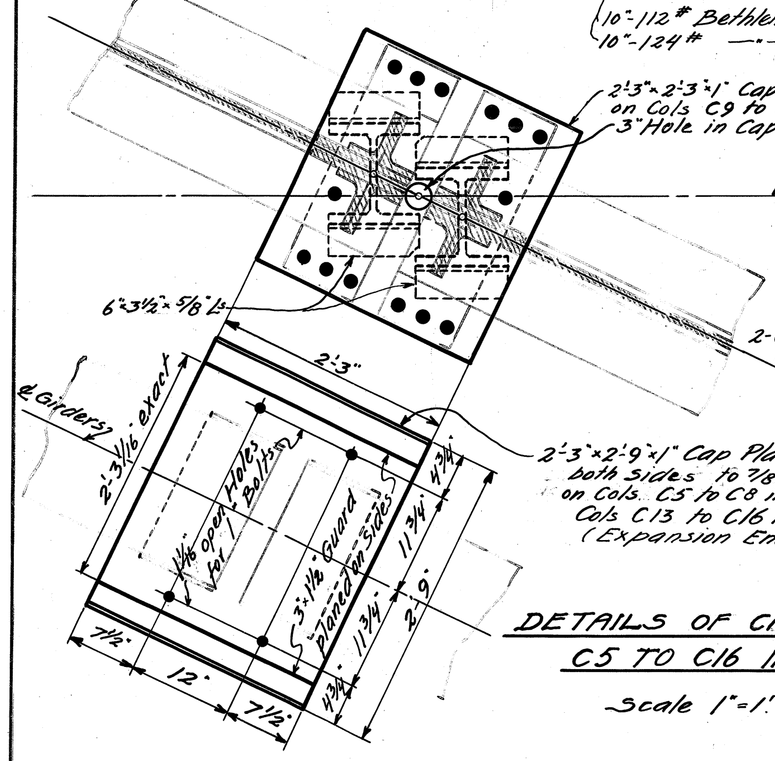
BRONZE PLATE BP1
(At Cols. C5 to C8 incl. and Cols. C13 to C16 incl.)
8 req'd.



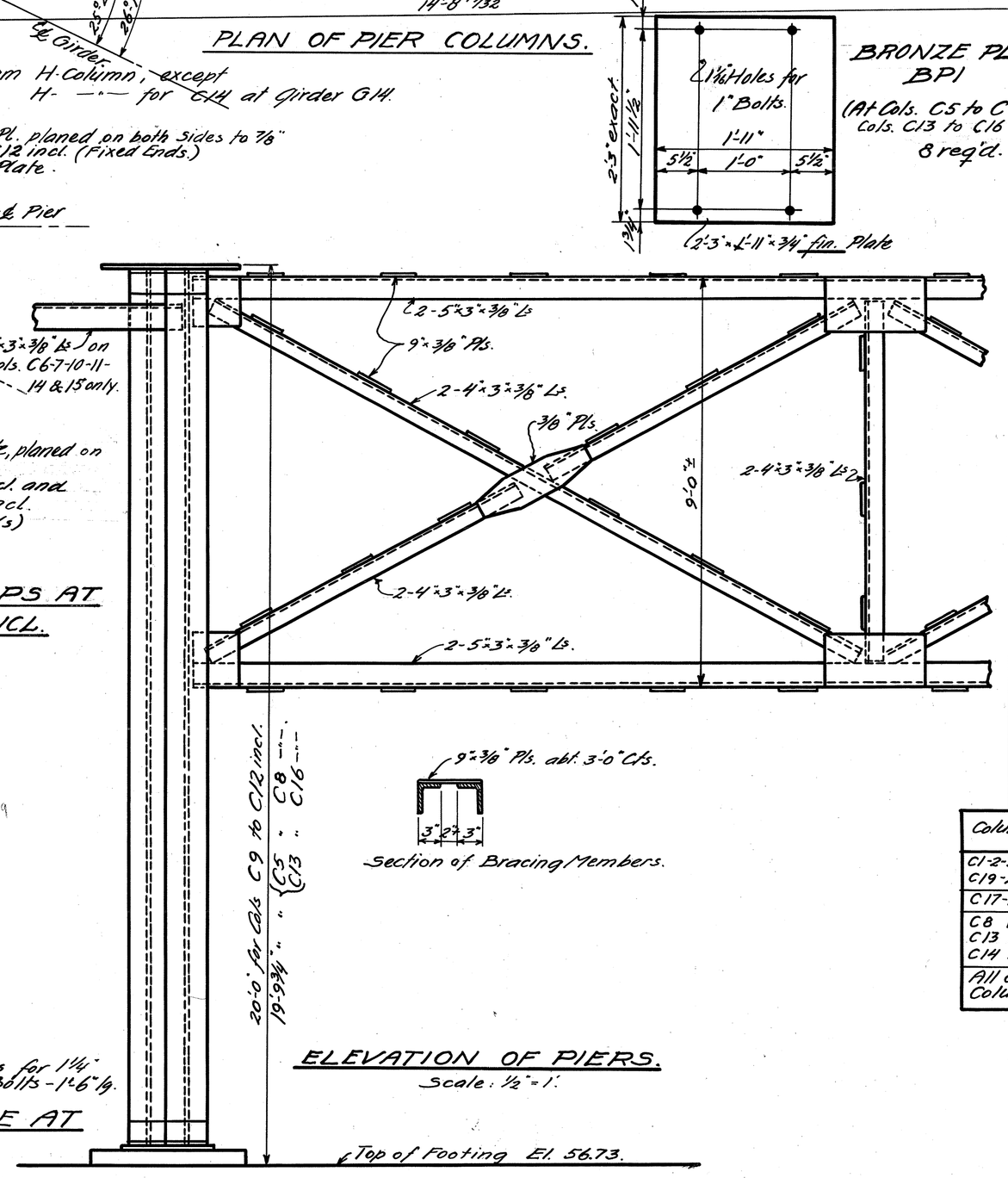
EXPANSION PLATE EP1.
(At Columns C5 to C8 incl. and Cols C13 to C16 incl.)
8 req'd.



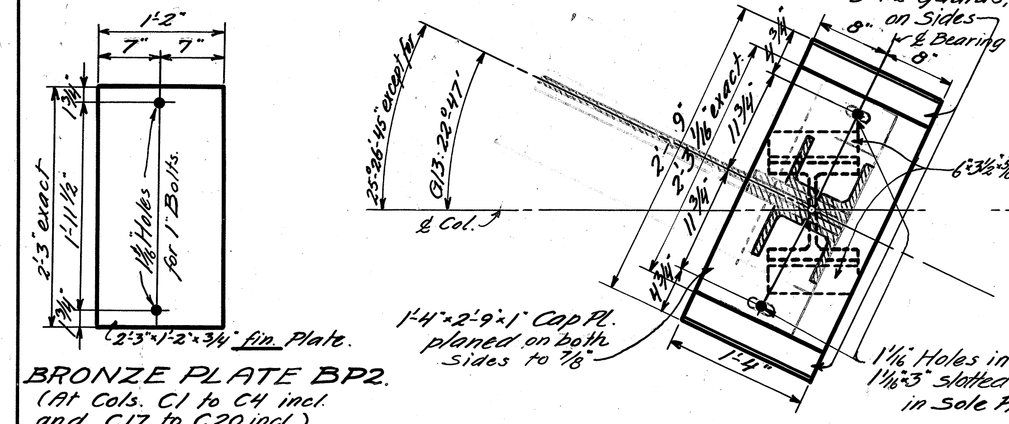
COLUMNS AT ABUTMENTS.
Scale: ½"=1'.



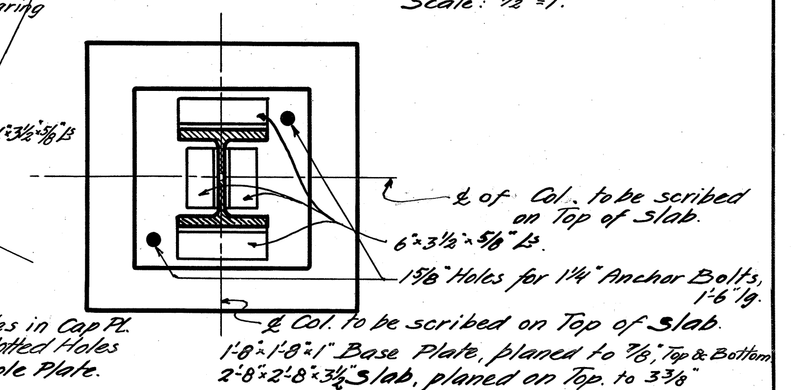
DETAILS OF CAPS AT C5 TO C16 INCL.
Scale 1"=1'.



ELEVATION OF PIERS.
Scale: ½"=1'.

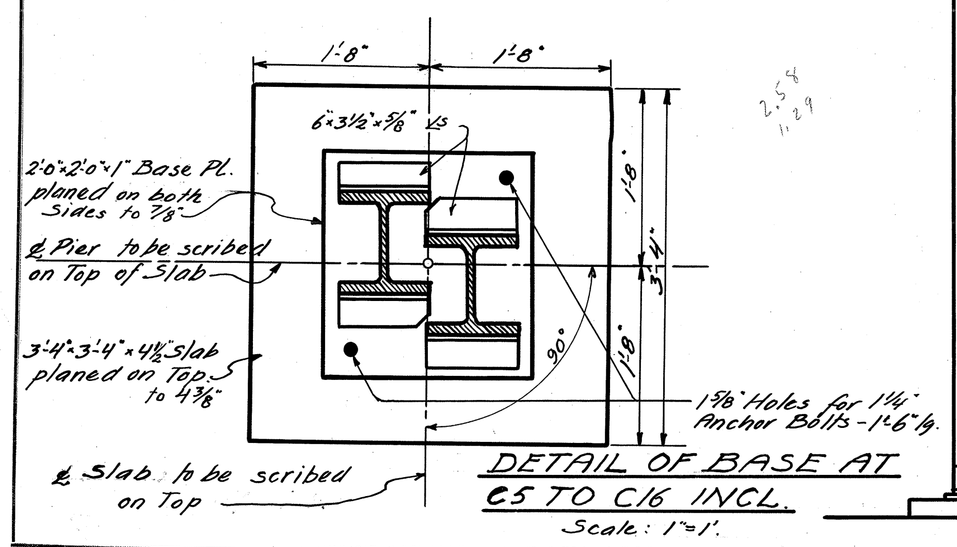


BRONZE PLATE BP2.
(At Cols. C1 to C4 incl. and C17 to C20 incl.)
8 req'd.



DETAILS OF COLS. C1 TO C4 AND C17 TO C20 INCL.
Scale 1"=1'.

Columns.	Max Load	Use	"r"	Unit Stress allowed #/□"	Section Area □"	Resist #
C1-2-3-4 C19-20	414,500#	10"-95# B.H.Col.		15,000	27.71	415,000
C17-18	445,100#	10"-106.5# B.H.Col.		15,000	31.06	466,000
C8 West C13 East C14 East	445,100#	10"-124# B.H.Col.	4.67	12,310	36.32	447,000
All other Columns	401,500#	10"-112# B.H.Col.	4.61	12,260	32.80	402,000



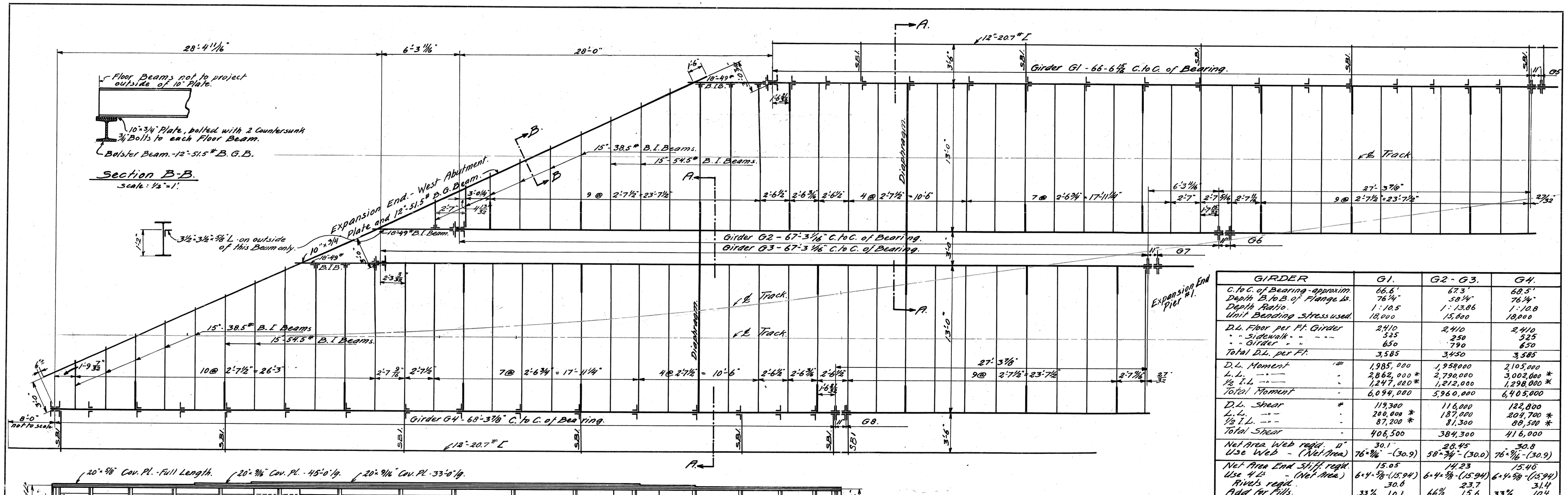
DETAIL OF BASE AT C5 TO C16 INCL.
Scale: 1"=1'.

N. Y. C. & ST. L. R. R.
NKP DISTRICT
CLEVELAND - OHIO
BRIDGE-NO- 182.08.
OVER THE CLEVELAND UNION TERMINAL CO. TRACKS.
STEEL PLAN- GENERAL.
OFFICE OF CHIEF ENGINEER — CLEVELAND, O.

DATE	REVISIONS	BY	SCALE	DRAWN	TRACED	CHECKED
7/1-27	Location of C1-C3	T.W.	1"=10'	11-30-1926 T.W.	11-30-1926 T.W.	1-30-27 O.E.H.

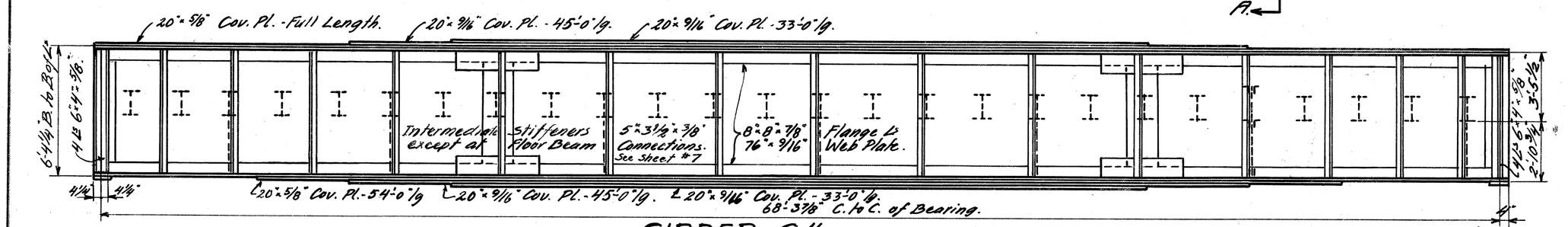
DATE 11-26-1926 SHEET 5 of 13 No. ~~182-08-271~~

183-52-271

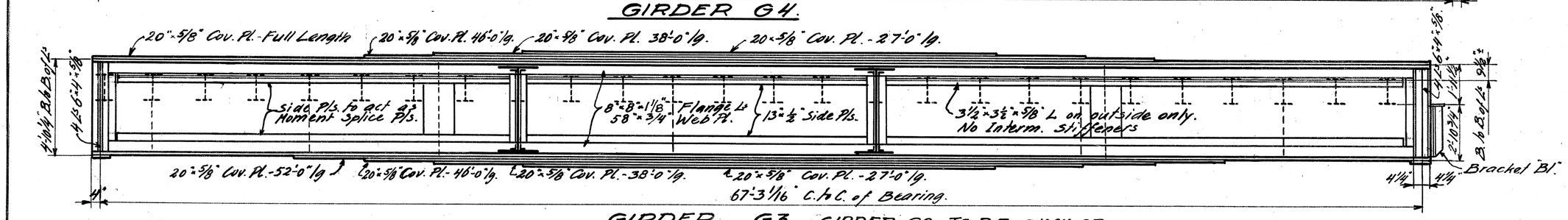


GIRDER	G1.	G2 - G3.	G4.
C. to C. of Bearing - approxim.	66.6'	67.3'	68.5'
Depth B. to B. of Flange Ls.	76 1/4"	58 1/4"	76 1/4"
Depth Ratio.	1 : 10.5	1 : 13.86	1 : 10.8
Unit Bending Stress used.	18,000	15,000	18,000
D.L. Floor per Ft. Girder	2,410	2,410	2,410
" " Sidewalk " " "	525	250	525
" " Girder " "	650	790	650
Total D.L. per Ft.	3,585	3,450	3,585
D.L. Moment '#	1,985,000	1,958,000	2,105,000
L.L. " "	2,862,000 *	2,790,000	3,002,000 *
1/2 I.L. " "	1,247,000 *	1,212,000	1,298,000 *
Total Moment "	6,094,000	5,960,000	6,405,000
D.L. Shear #	119,300	116,000	122,800
L.L. " "	200,000 *	187,000	204,700 *
1/2 I.L. " "	87,200 *	81,300	88,500 *
Total Shear "	406,500	384,300	416,000
Net Area Web reqd. □"	30.1	28.45	30.8
Use Web - (Net Area)	76"×9/16" -(30.9)	58"×3/4" -(30.0)	76"×9/16" -(30.9)
Net Area End Stiff reqd.	15.05	14.23	15.46
Use 4 Ls - (Net Area)	6"×4"×5/8" -(15.94)	6"×4"×5/8" -(15.94)	6"×4"×5/8" -(15.94)
Rivets reqd.	30.6	23.7	31.4
Add for Fills.	33% 10.1	66% 15.6	33% 10.4
" " Length	1% 0.3	28% 6.7	1% 0.3
Total Rivets reqd.	41	46	42
Web Splice for Moment. Use 4 Pls. - (Net I)	12"×7/16" -(16.200)	Use Side Pls. for Moment Splice Pls.	12"×7/16" -(16.200)
Rivets reqd. ea. Side	12.0		12.0
Add for Fills. ea. Flange	33% 4.0		33% 4.0
Total Rivets reqd.	16		16
Web Splice for Shear. Use 2 Pls. - (Net Area)	60"×7/16" - (35.0)	32"×3/4" -(31.5)	60"×7/16" - (35.0)
Rivets reqd. ea. Side	32	25	32

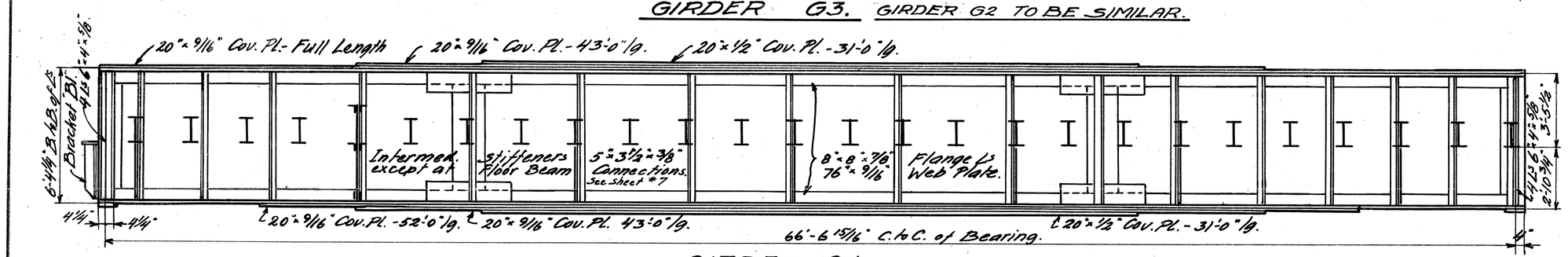
* L.L. & I.L. Mom. & Shear on account of Diaphragms is included, for G1 & G4, 177,000'# total Mom., 21,200# total Shear.



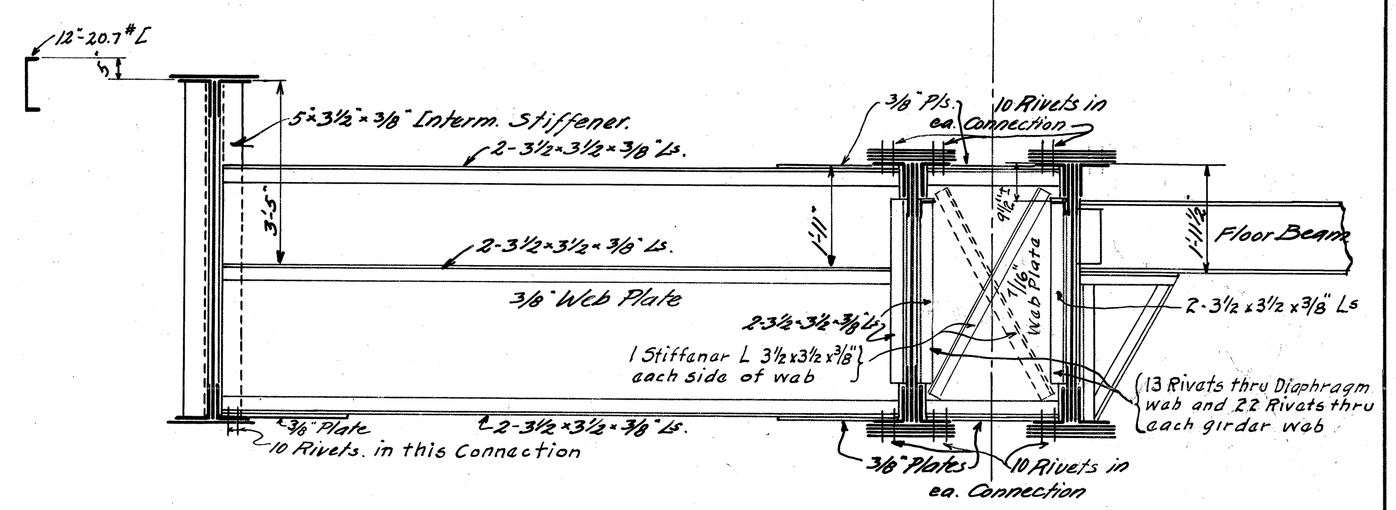
GIRDER G4.



GIRDER G3. GIRDER G2 TO BE SIMILAR.



GIRDER G1.



SECTION A-A showing Diaphragms.
scale 1/2"=1'.

GIRDER G1.						
Member	Gross I	Net I	"c"	S.M.	Resist Mom.	
4-8"×8"×7/16" Ls 76"×9/16" Web	88,167 20,577	58,900 15,750				1#
2-20"×9/16" Covs.		74,650 29,870	38.12	1,956	2,934,000	
2-20"×9/16" Covs.		104,520 30,750	38.68	2,704	4,056,000	
2-20"×1/2" Covs		135,270 28,080	39.25	3,450	5,175,000	
		163,350	39.75	4,110	6,165,000	

GIRDERS G2 & G3.						
Member	Gross I	Net I	"c"	S.M.	Resist Mom.	
4-8"×8"×1 1/8" Ls 58"×3/4" Web	48,152 12,194	41,400 9,970				1#
4-13"×1/2" Side Pls.	13,528	51,370 11,560	29.12	1,762	2,290,000	
2-20"×5/8" Covs.		62,930 19,500	29.12	2,160	2,810,000	
2-20"×5/8" Covs.		82,430 20,340	29.75	2,770	3,600,000	
2-20"×5/8" Covs.		102,770 21,190	30.38	3,384	4,400,000	
2-20"×5/8" Covs.		123,960 22,060	31.00	4,000	5,200,000	
		146,020	31.63	4,616	6,000,000	

Bending stress 15,600 #/□"

GIRDER G4.						
Member	Gross I	Net I	"c"	S.M.	Resist Mom.	
4 1/2"×8"×7/16" 76"×9/16" Web	68,167 20,577	58,900 15,750				1#
2-20"×5/8" Covs.		74,650 33,120	38.12	1,956	2,934,000	
2-20"×9/16" Covs		107,770 30,850	38.75	2,782	4,173,000	
2-20"×9/16" Covs.		138,620 31,750	39.31	3,528	5,292,000	
		170,370	39.87	4,272	6,408,000	

Notes.

For Details of Floor Beam Connections, Sidewalk Brackets, Railing and Knee Braces see Steel Plan for Span #2.
Back of Bottom Flange Ls to be in same Elevation on all Girders.
Floor Beam Spacing may be changed, but Max. Spacing to be 2'-7 1/2", Min Spacing to be 2'-6".
All Floor Beams to be 14 7/8"-69# B.G. Beams except as shown.
Sole Plates in West End of Girders in this Span to be 1 1/4"×9"×2'-3", planed on sides and provided with Lubrication Grooves on Bottom.
Sole Plates in East End of G2 & G3 to be 1 1/4"×9"×1'-7"
" " " " " " " G1 & G4 " " 1 1/4"×9"×1'-5"
See Sheet #5 for Sole Plate Details.
Use N.Y.C. Specifications 1917 for Steel R.R. Bridges.
Live Load E-70 - Half Impact Load.
For Detail of Bracket "B1" see Steel Plan for Span #4.
If Floor Beam Substitutions are made no top of Floor Beam is to be above El. 80.99 and the Bottoms of all Floor Beams are to be kept all on the same level
See also Note on SHEET 7

DATE	REVISIONS	BY
12/1/27	Revs. G3 Angle Thickness	O.E.H.
11/2/27	Notes and Diaphragms	O.E.H.
7/6/27	General	T.W.

N. Y. C. & St. L. R. R.
N.K.P. DISTRICT
CLEVELAND, OHIO
BRIDGE-NO-182.08.
OVER THE CLEVELAND UNION TERMINAL CO. TRACKS
STEEL PLAN - SPAN #1.

OFFICE OF CHIEF ENGINEER — CLEVELAND, O.

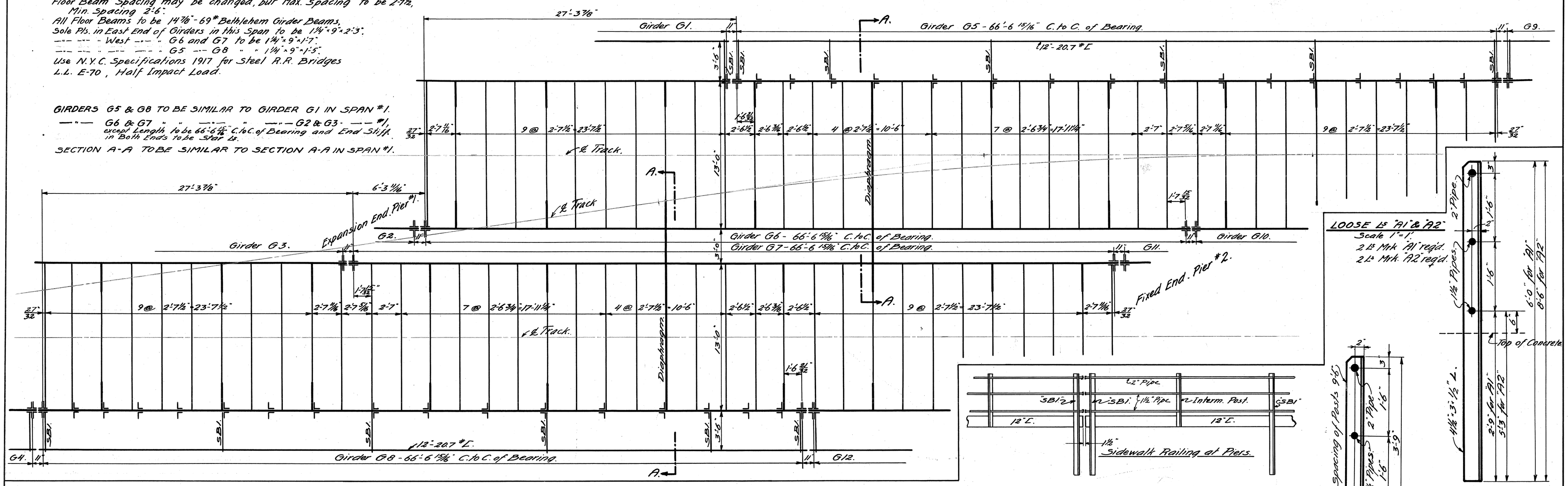
SCALE	DRAWN	TRACED	CHECKED
1/4"=1'	11-1-1926 T.W.	11-23-1926 T.W.	11-11-27 J.E.S. 12-2-27

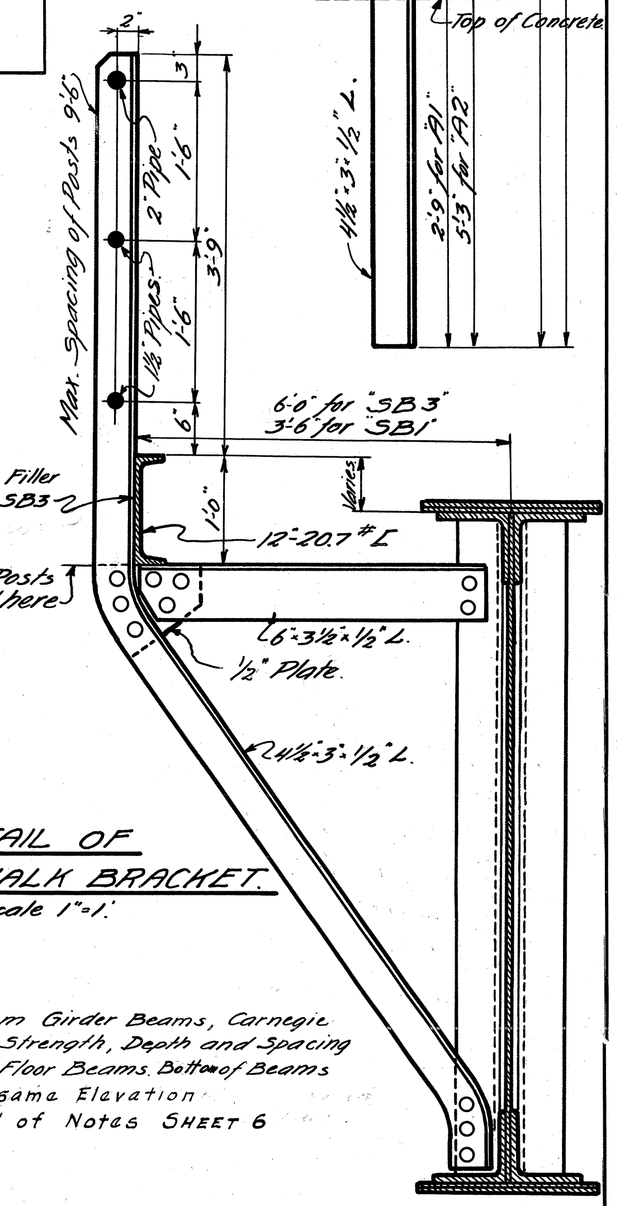
DATE 11-26-1926 | SHEET 6 of 13 | No. ~~182-08-271~~

183-52-271

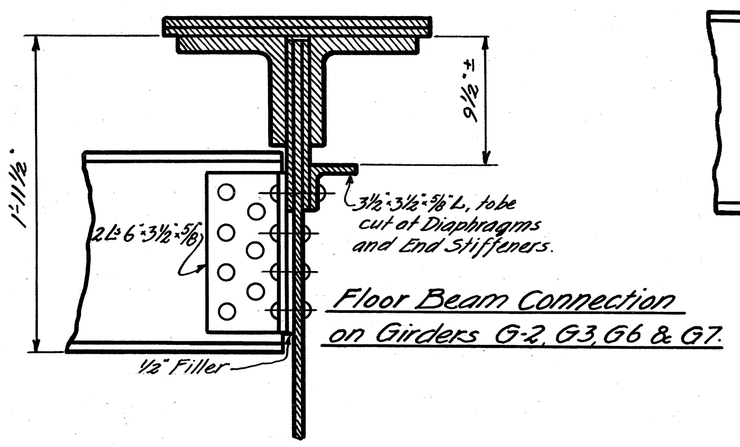
Notes:
Back of Bottom Flange Ls to be in same Elevation on all Girders, El. 76.83.
Floor Beam Spacing may be changed, but Max. Spacing to be 2'-7½", Min. Spacing 2'-6".
All Floor Beams to be 14 7/8" - 69# Bethlehem Girder Beams.
Sole Pls. in East End of Girders in this Span to be 1¼" × 9" × 2'-3".
—"— —"— " West —"— " G6 and G7 to be 1¼" × 9" × 1'-7".
—"— —"— " —"— —"— " G5 —"— G8 " " 1¼" × 9" × 1'-5".
Use N.Y.C. Specifications 1917 for Steel R.R. Bridges
L.L. E-70, Half Impact Load.

GIRDERS G5 & G8 TO BE SIMILAR TO GIRDER G1 IN SPAN #1.
—"— G6 & G7 " " —"— " —"— G2 & G3 —"— #1, except Length to be 66'-6 15/16" C. to C. of Bearing and End Stiff. in Both Ends to be Star Ls.
SECTION A-A TO BE SIMILAR TO SECTION A-A IN SPAN #1.

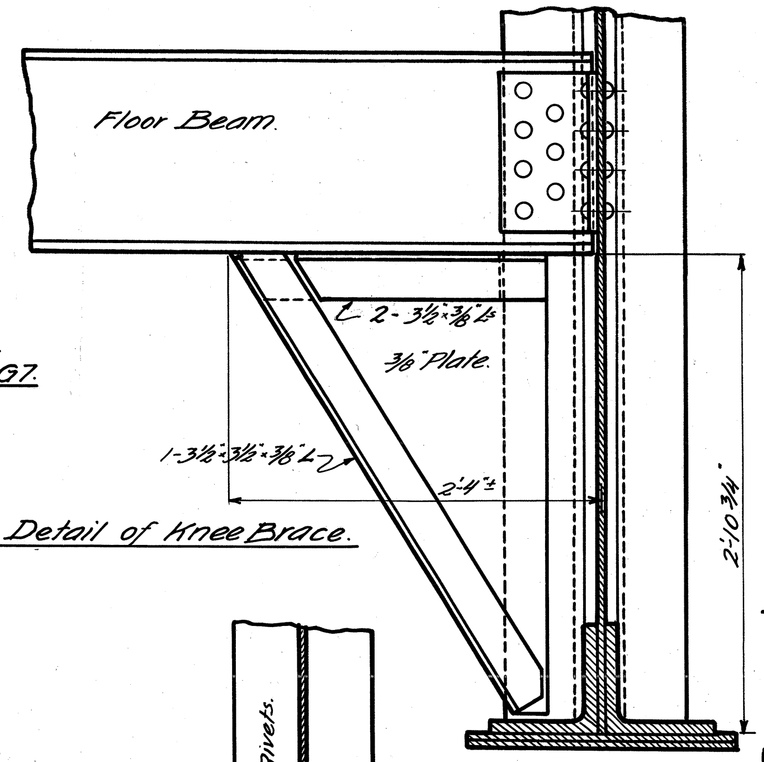




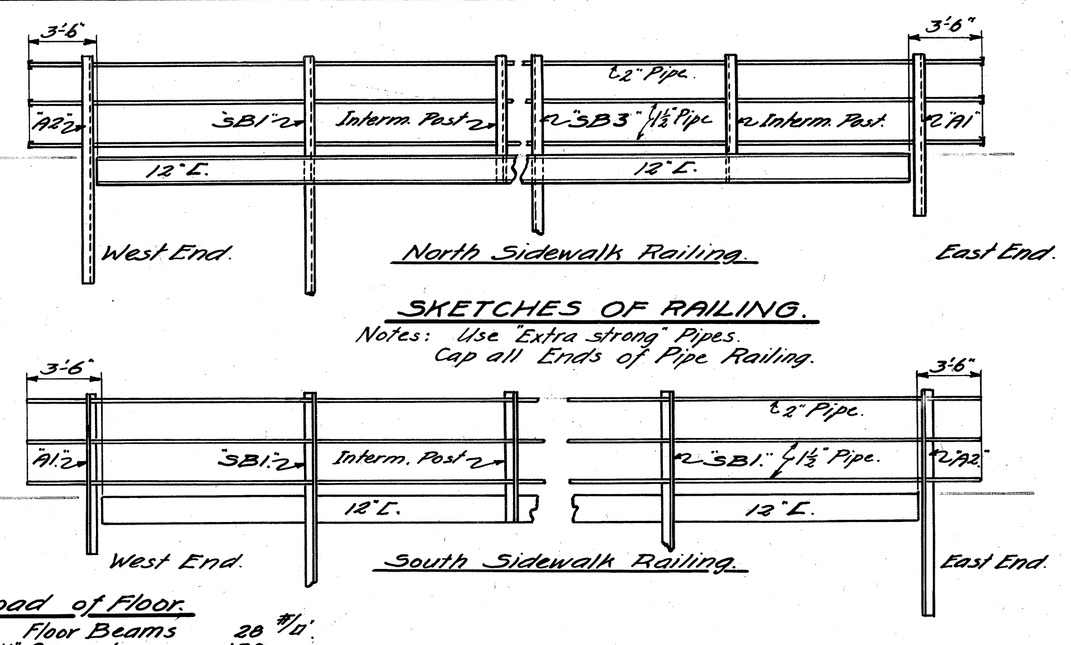
DETAIL OF SIDEWALK BRACKET.
Scale 1" = 1'.



Floor Beam Connection on Girders G-2, G3, G6 & G7.



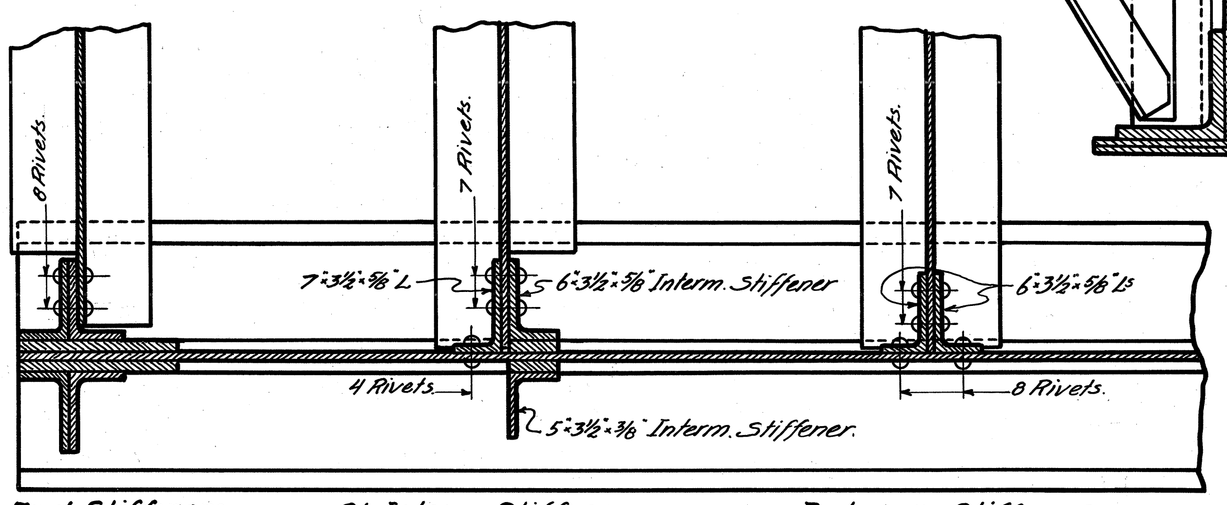
Detail of Knee Brace.



SKETCHES OF RAILING.
Notes: Use "Extra strong" Pipes.
Cap all Ends of Pipe Railing.

Dead Load of Floor.

Floor Beams	28 #/□'
11" Concrete	138 "
2" Waterproofing	25 "
1'-6" Ballast	180 "
Total dead Load	371 #/□'



At End Stiffeners. At Interm. Stiffeners. Between Stiffeners.
FLOOR BEAM CONNECTIONS.
Scale: 1½" = 1'-0".

FLOOR BEAMS.

Span.	13'-0"	11'-0"	9'-3"	13'-8"	14'-3"	16'-0"	17'-0"	13'-0"
D.L. Moment per Ft.	7,820	5,620	4,000	8,680	9,440	11,850	13,400	For Excentric Load at G2-3-6-7 Due to X over.
L.L. —"— —"— "	36,060	27,000	19,200	38,980	41,580	49,500	54,000	
½ I.L. —"— —"— "	18,030	13,500	9,600	19,490	20,790	24,750	27,000	
Total —"— —"— "	61,910	46,120	32,800	67,150	71,810	86,100	94,400	
S.M. req'd. per Ft.	41.25	30.8	21.9	44.8	47.9	57.5	62.9	
Use:	14 7/8"-69# B.G.B.	15"-54.5# B.I.B.	15"-38.5# B.I.B.	15"-74# B.G.B.	15 7/8"-80.5# B.G.B.	14 7/8"-99# B.G.B.	14 7/8"-99# B.G.B.	
S.M.	108.4	81.3	59.0	117.8	128.1	152.5	152.5	
Max. Spacing	2'-7½"	2'-7½"	2'-8"	2'-7½"	2'-8"	2'-7½"	2'-5"	
D.L. End Shear per Ft.	2,410	2,040	1,720	2,540	2,650	2,970	3,150	2,410
L.L. —"— —"— "	9,000	7,400	5,860	9,000	9,000	9,000	9,000	9,920
½ I.L. —"— —"— "	4,500	3,700	2,930	4,500	4,500	4,500	4,500	4,960
Total —"— —"— "	15,910	13,140	10,510	16,040	16,150	16,470	16,650	17,290
Total —"— —"— per Beam	41,900	34,600	28,100	42,200	42,500	43,400	41,600	45,500
Bearing Rivets req'd.	4.3	3.6	4.1	4.1	3.8	3.3	3.1	4.6
Sing. Shear Rivet req'd.	5.2	4.3	3.5	5.2	5.3	5.4	5.2	5.6
Add for Fills.	—	—	—	—	—	—	—	1.4
Total S. Shear R req'd.	5.2	4.3	3.5	5.2	5.3	5.4	5.2	7.0

Note:
Instead of Bethlehem Girder Beams, Carnegie Beams of equal Strength, Depth and Spacing may be used for Floor Beams. Bottom of Beams must all be in same Elevation.
See also at end of Notes SHEET 6

DATE	REVISIONS	BY
1/8/27	NOTE	O.E.H.
7/12/27	Carnegie Beam	T.W.

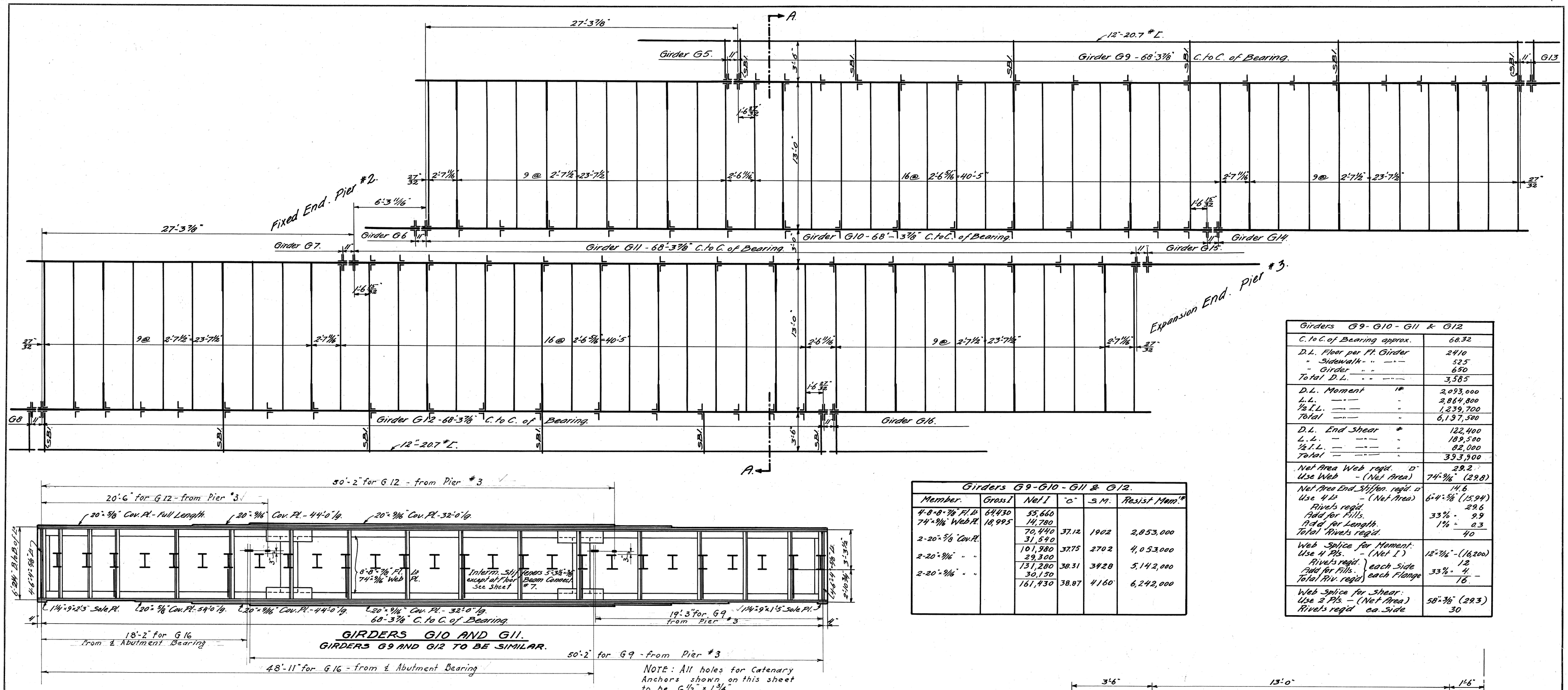
N. Y. C. & St. L. R. R.
NKP. DISTRICT
CLEVELAND, OHIO.
BRIDGE-NO- 182.08.
OVER THE CLEVELAND UNION TERMINAL CO. TRACKS.
STEEL PLAN-SPAN #2 AND DETAILS.

OFFICE OF CHIEF ENGINEER — CLEVELAND, O.

SCALE	DRAWN	TRACED	CHECKED
1/4" = 1'-0"	11-1-1926. T.W.	1-5-1927 T.W.	18-1-28 O.E.H. O.K. R.H.R.

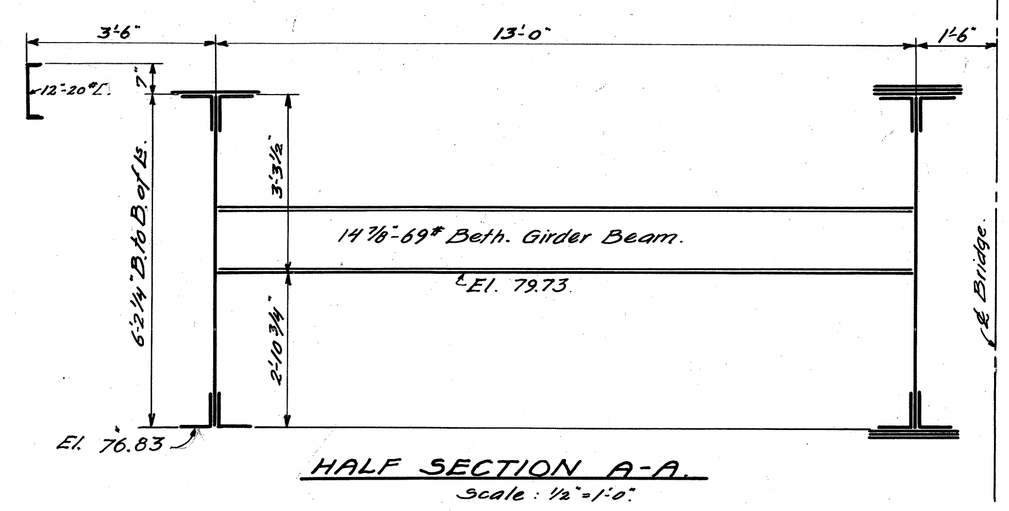
DATE 11-26-1926 | SHEET 7 of 13 | No. ~~182-08-271~~

183-52-271



Girders G9 - G10 - G11 & G12	
C. to C. of Bearing approx.	68.32
D.L. Floor per Ft. Girder	2410
" Sidewalk " "	525
" Girder " "	650
Total D.L.	3,585
D.L. Moment #	2,093,000
L.L. "	2,864,800
1/2 I.L. "	1,239,700
Total "	6,197,500
D.L. End Shear #	122,400
L.L. "	189,500
1/2 I.L. "	82,000
Total "	393,900
Net Area Web reqd. □"	29.2
Use Web - (Net Area)	74"-9/16" (29.8)
Net Area End Stiffen. reqd. □"	14.6
Use 4 Ls - (Net Area)	6"-4"-5/8" (15.94)
Rivets reqd.	29.6
Add for Fills.	33% = 9.9
Add for Length.	1% = 0.3
Total Rivets reqd.	40
Web Splice for Moment:	
Use 4 Pls. - (Net I)	12"-7/16" - (16.200)
Rivets reqd. each Side	12
Add for Fills. each Flange	33% = 4
Total Riv. reqd.	16
Web Splice for Shear:	
Use 2 Pls. - (Net Area)	58"-3/8" (29.3)
Rivets reqd ea. Side	30

Girders G9-G10-G11 & G12.					
Member.	Gross I	Net I	"c"	S.M.	Resist Mom.'#
4-8"-8"-7/8" Fl. Ls	64430	55,660			
74"×9/16" Web Pl.	18,995	14,780			
		70,440	37.12	1902	2,853,000
2-20"-5/8" Cov. Pl.		31,540			
		101,980	37.75	2702	4,053,000
2-20"-9/16" " "		29,300			
		131,280	38.31	3428	5,142,000
2-20"-9/16" " "		30,150			
		161,430	38.87	4160	6,242,000



HALF SECTION A-A.
Scale: 1/2" = 1'-0"

Notes:

Back of Bottom Flange Ls to be in same Elev. on all Girders.
For Details of Floor Beam Connections, Sidewalk Brackets, Railing and Knee Braces see Steel Plan for Span #2.
Floor Beam Spacing may be changed, but Max. Spacing to be 2'-7 1/2". Min. Spacing to be 2'-6".
All Floor Beams to be 14 7/8"-69# Beth. Girder Beams.
Use N.Y.C. Specifications 1917 for Steel R.R. Bridges.
Live Load E-70 - Half Impact Load.

DATE	REVISIONS	BY
7-6-28	CHANGED 1 HOLE CATENARY ANCHOR	A.H.H.Jr.
6-25-28	ADDED HOLES FOR CATENARY ANCHORS	A.H.H.Jr.

N. Y. C. & ST. L. R. R.
NKP DISTRICT
CLEVELAND, OHIO
BRIDGE-NO- 182.08
OVER THE CLEVELAND UNION TERMINAL CO. TRACKS.
STEEL PLAN - SPAN #3.

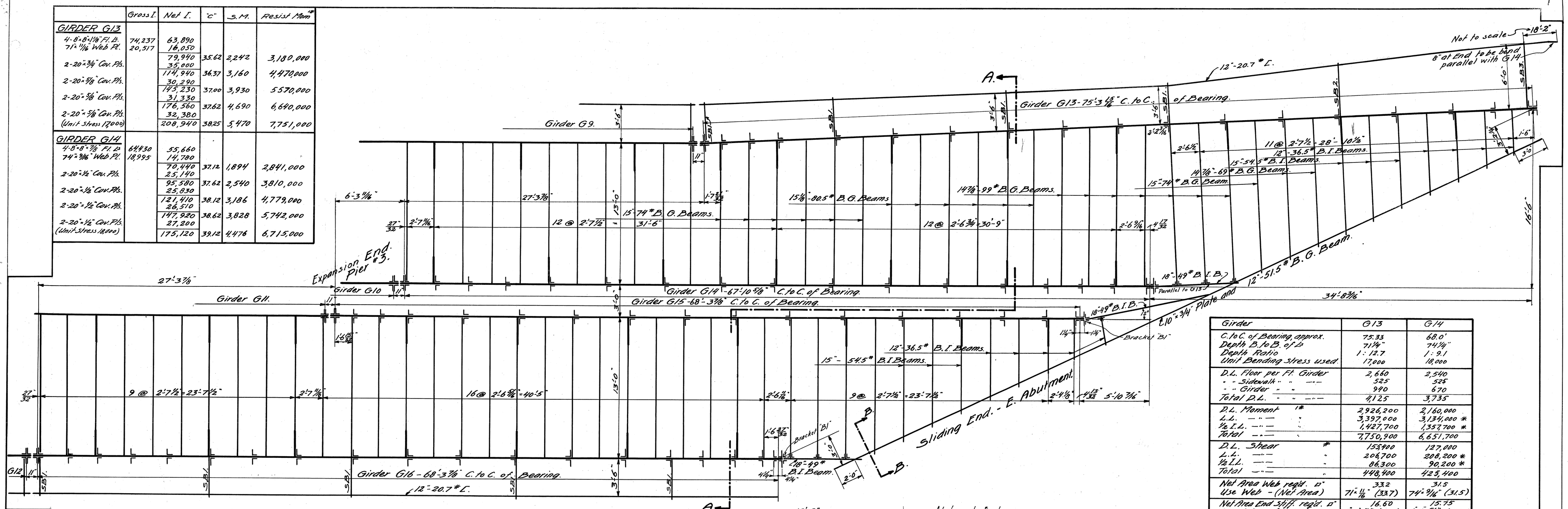
OFFICE OF CHIEF ENGINEER — CLEVELAND, O.

SCALE	DRAWN	TRACED	CHECKED
1/4" = 1'-0"	11-2-26 - T.W.	1-6-1927 T.W.	10-3-27 - C.E.N.

DATE 11-26-1926 | SHEET 8 of 13 | No. ~~182-08-271~~

183-52-271

	Gross I.	Net I.	"c"	S.M.	Resist Mom.#
GIRDER G13					
4-8"×8"×1 1/16" Fl. Ls.	74,237	63,890			
71"×11/16" Web Pl.	20,517	16,050			
2-20"×3/4" Cov. Pls.		79,940	35.62	2,242	3,180,000
		35,000			
2-20"×5/8" Cov. Pls.		114,940	36.37	3,160	4,470,000
		30,290			
2-20"×5/8" Cov. Pls.		145,230	37.00	3,930	5,570,000
		31,330			
2-20"×5/8" Cov. Pls.		176,560	37.62	4,690	6,640,000
		32,380			
(Unit Stress 17,000)		208,940	38.25	5,470	7,751,000
GIRDER G14					
4-8"×8"×7/8" Fl. Ls.	64,430	55,660			
74"×9/16" Web Pl.	18,995	14,780			
2-20"×1/2" Cov. Pls.		70,440	37.12	1,894	2,841,000
		25,190			
2-20"×1/2" Cov. Pls.		95,580	37.62	2,540	3,810,000
		25,830			
2-20"×1/2" Cov. Pls.		121,410	38.12	3,186	4,779,000
		26,510			
2-20"×1/2" Cov. Pls.		147,920	38.62	3,828	5,742,000
		27,200			
(Unit Stress 18,000)		175,120	39.12	4,476	6,715,000



Girder	G13	G14
C. to C. of Bearing, approx.	75.33	68.0'
Depth B. to B. of Ls	71 11/16"	74 9/16"
Depth Ratio	1:12.7	1:9.1
Unit Bending Stress used	17,000	18,000
D.L. Floor per Ft. Girder	2,660	2,540
" " Sidewalk " " —"	525	525
" " Girder " "	940	670
Total D.L. " " —"	4,125	3,735
D.L. Moment '#	2,926,200	2,160,000
L.L. —" — "	3,397,000	3,134,000 *
1/2 I.L. —" — "	1,427,700	1,357,700 *
Total —" — "	7,750,900	6,651,700
D.L. Shear #	153,900	127,000
L.L. —" — "	206,700	208,200 *
1/2 I.L. —" — "	86,300	90,200 *
Total —" — "	448,400	425,400
Net Area Web reqd. □"	33.2	31.5
Use Web - (Net Area)	71"×11/16" (33.7)	74"×9/16" (31.5)
Net Area End Stiff. reqd. □"	16.60	15.75
Use 4 Ls - (Net Area)	6"×4"×5/8" (18.1)	6"×4"×5/8" (15.94)
Rivets reqd.	27.6	32.0
Add for Fills.	33 1/3% = 9.2	33 1/3% = 10.7
Add for Length	13% = 3.6	1% = 0.3
Total Rivets reqd.	41	43
Web Splice for Moment:		
Use 4 Pls. - (Net I.)	12"×9/16" (17.550)	12"×1/2" (17.300)
Rivets reqd.	12.0	13.6
Add for Fills. ea. Side	33 1/3% = 4.0	33 1/3% = 4.5
Add for Length ea. Flange	9% = 1.0	
Total Rivets reqd.	17	19
Web Splice for Shear:		
Use 2 Pls. - (Net Area)	55"×1/2" (37.0")	58"×7/16" (34.1)
Rivets reqd. ea. Side.	28	32

* 10.3% is added to L.L. and I.L. Moment and Shear for G14 on Account of Centrifugal Force and excentric Load.

Notes.

For Details of Floor Beam Connections, Sidewalk Brackets, Railing and Knee Braces, see Steel Plan for Span #2.
Back of Bottom Flange Ls to be in same Elevation on all Girders.
Floor Beam Spacing may be changed, but Max. Spacing to be 2'-7 1/2", Min. Spacing to be 2'-6".
All Floor Beams to be 14 7/16"-69# B.G. Beams, except as shown.
Sole Plates in West End of this Span to be 1 1/4"×9"×15", Sole Plates in East End to be 1 1/4"×9"×2'-3", planed on Sides and provided with Lubrication Groves on Bottom.
Use N.Y.C. Specifications 1917 for Steel R.R. Bridges.
L. Load E-70 - Half Impact Load.

GIRDERS G15 AND G16 TO BE SIMILAR TO G11 AND G12 IN SPAN #3, except for End Stiff. Bracket "B1" and Sole Plates.
SECTION B-B same as Section B-B shown on Steel Plan for Span #1.

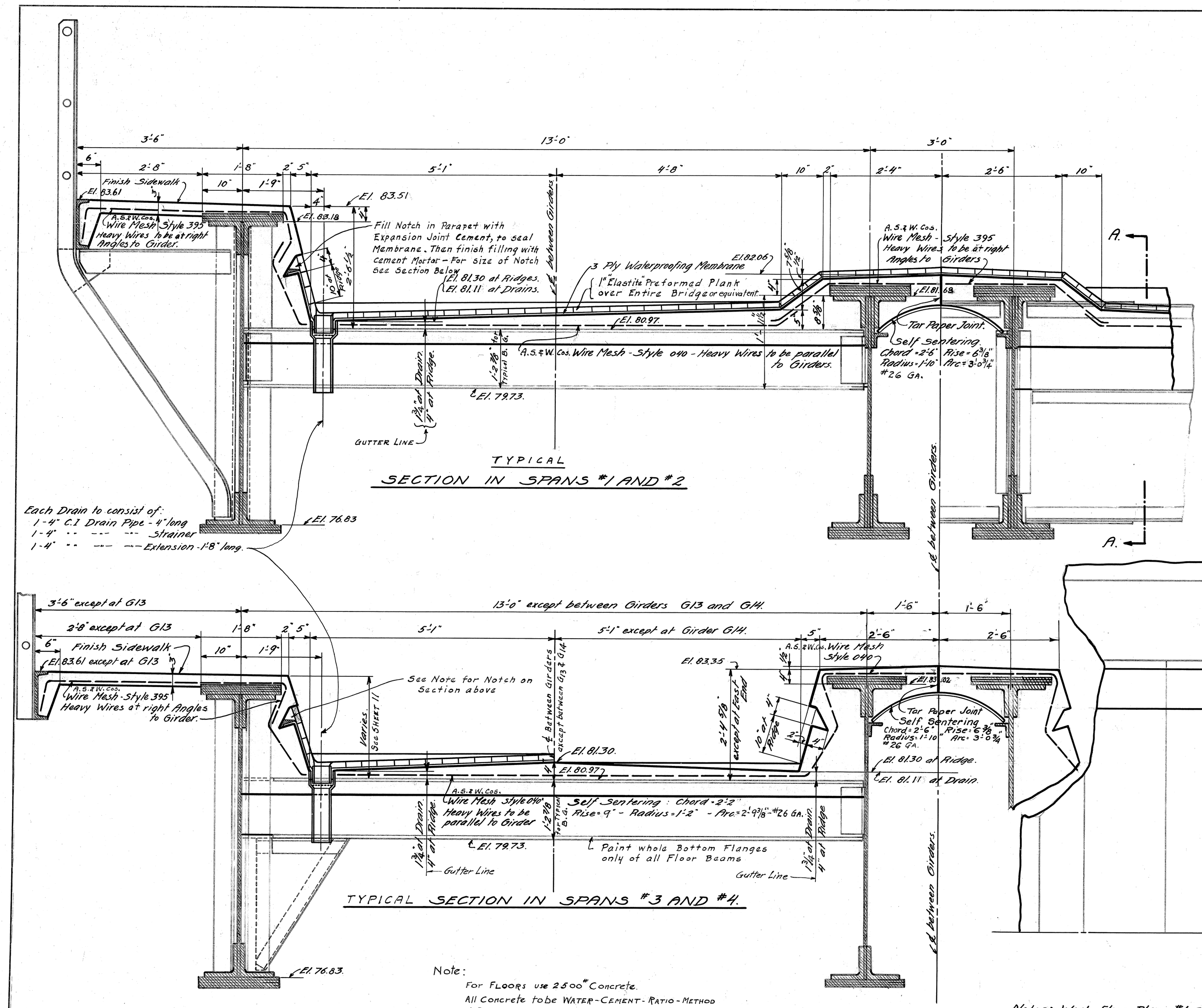
DATE	REVISIONS	BY
6-25-28	ADDED HOLES FOR CATENARY ANCHORS	A.H.S.

N. Y. C. & St. L. R. R.
NKP DISTRICT
CLEVELAND, OHIO
BRIDGE-NO- 182.08.
OVER THE CLEVELAND UNION TERMINAL CO. TRACKS.
STEEL PLAN-SPAN #4.
OFFICE OF CHIEF ENGINEER — CLEVELAND, O.

SCALE	DRAWN	TRACED	CHECKED
1/4" = 1'-0"	11-23-1926 - T.W.	1-10-1927 - T.W.	10-5-27 O.E.H.

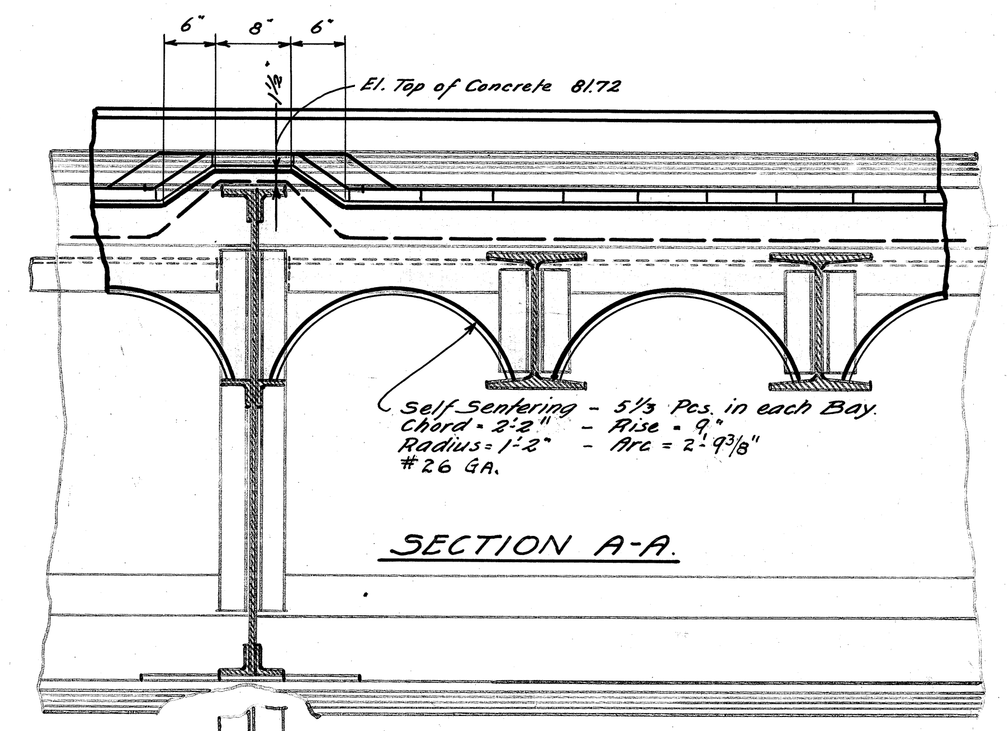
DATE 11-26-1926 | SHEET 9 of 13 | No. ~~182-08-B71~~

183-52-271



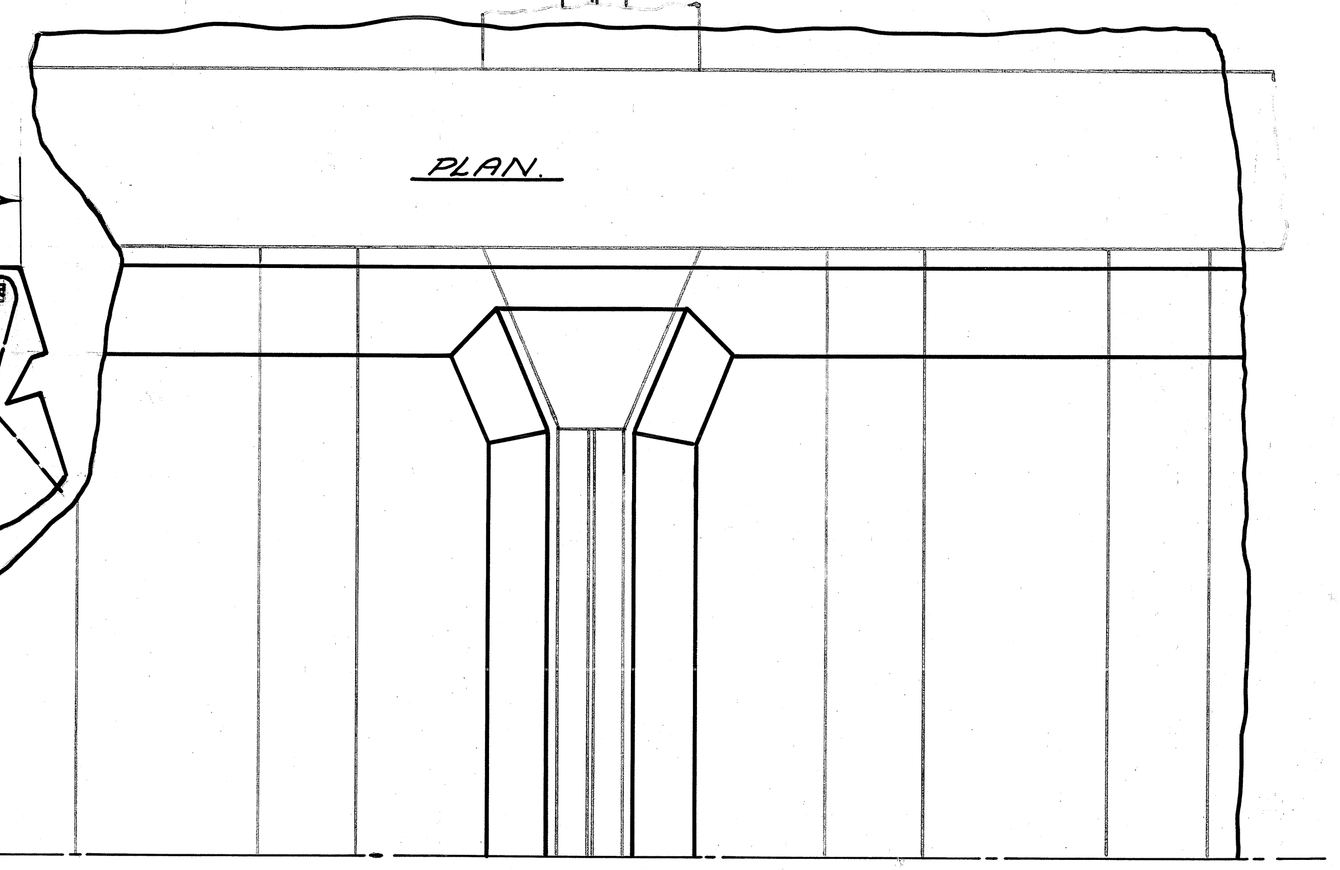
TYPICAL

SECTION IN SPANS #1 AND #2



SECTION A-A.

Each Drain to consist of:
1 - 4" C.I Drain Pipe - 4" long
1 - 4" " " " " Strainer
1 - 4" " " " " Extension - 1'-8" long.



PLAN.

TYPICAL SECTION IN SPANS #3 AND #4.

Note:

For FLOORS use 2500# Concrete.

All Concrete to be WATER-CEMENT-RATIO-METHOD

A.R.E.A. SPECIFICATIONS. Vol. 28 - Bull. 295. March 1927

Notes: Work Floor Plans #1-2-3 together.

The Elevations shown for Concrete floor surfaces are to be maintained regardless of any Substitutions for Steel floor beams called for on these plans.

DATE	REVISIONS	BY
5/15/28	Cons. to Replace Plank Mounted Girders	P.H.M.
3/27/28	Concrete Specifications Noted	G.H.P.

N. Y. C. & St. L. R. R.

NKP DISTRICT.

CLEVELAND OHIO

BRIDGE-NO-182.08.

OVER THE CLEVELAND UNION TERMINAL CO. TRACKS.

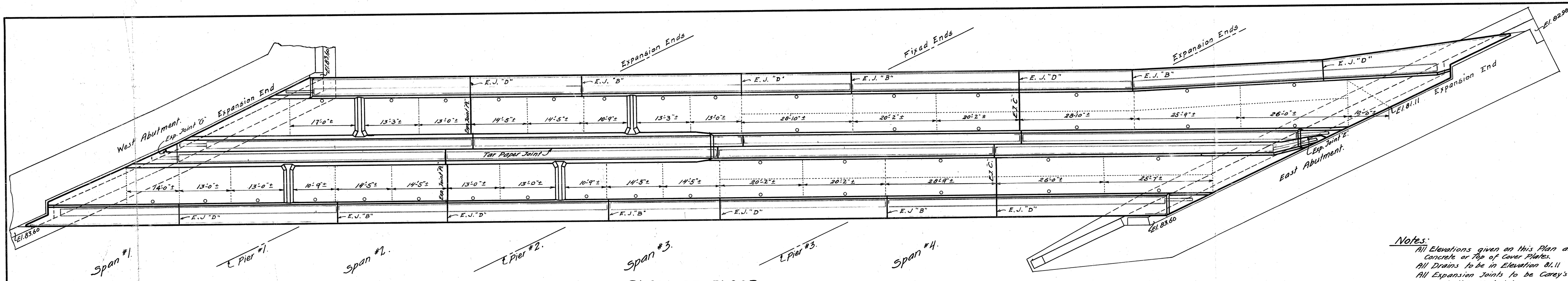
FLOOR PLAN #1 - TYPICAL SECTIONS.

OFFICE OF CHIEF ENGINEER — CLEVELAND, O.

SCALE	DRAWN	TRACED	CHECKED
1" = 1'	11/12-1926 F.W.	12/13-1926 F.W.	11/11/27 O.E.H.

DATE 11-26-1926 | SHEET 10 of 13 | No. ~~182-08-271~~

183-52-271



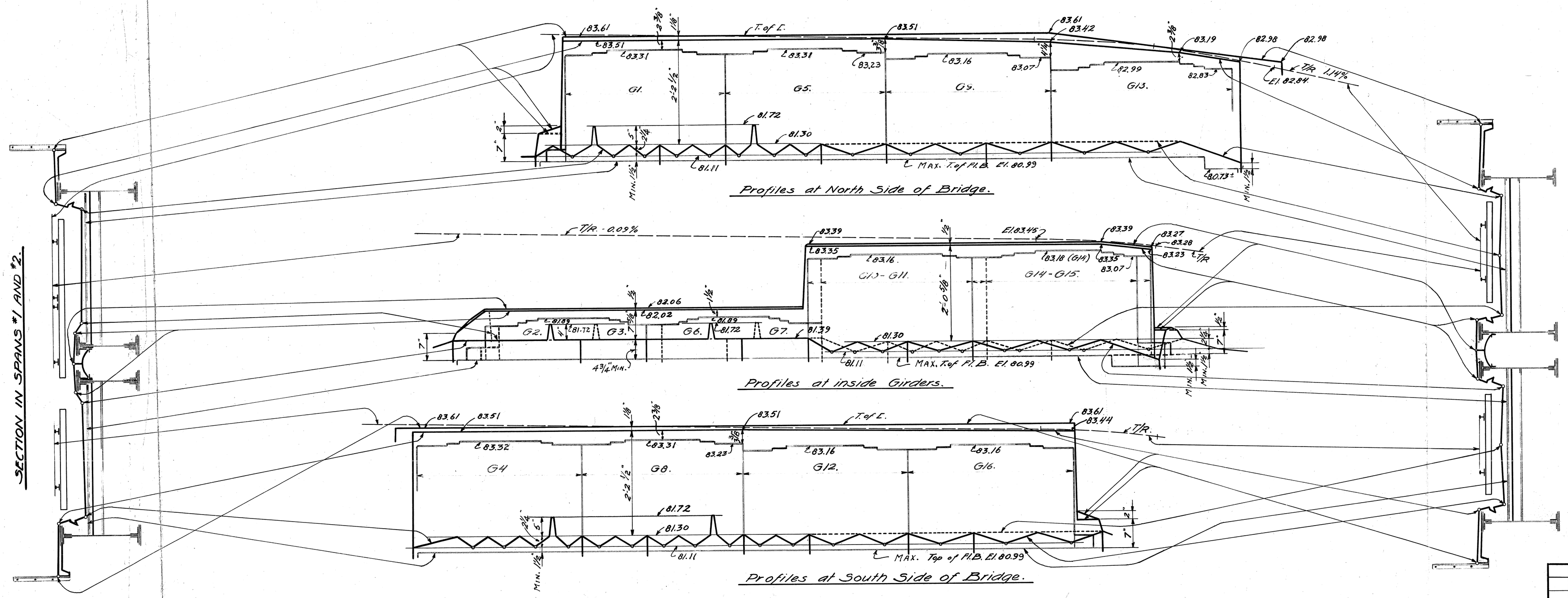
PLAN OF FLOOR.

Scale: 1"=10'

○ Indicate Drain. ..... Indicate Ridge.

Notes:

All Elevations given on this Plan are Top of Concrete or Top of Cover Plates.
All Drains to be in Elevation 81.11
All Expansion Joints to be Carey's "Elastite" or similar Material.
Use Area Specifications for Water Proofing



Profiles at North Side of Bridge.

Profiles at inside Girders.

Profiles at South Side of Bridge.

PROFILES OF TOP OF CONCRETE.

Scales: Horizontal 1"=20' - Vertical 1"=1'.
○ Indicate Drain.

Note: Work Floor Plans #1-2-3 together.

QUANTITIES

Concrete:- 400± Cu. Yds. Strength to be of the 2300# Class -6 Gal. of Water to one Sack of Cement

Wire Mesh:- 9600± S.F. Am. Steel & Wire Co. Style 040
5200± S.F. " " " " Style 395

Note:-
All Concrete to be WATER-CEMENT RATIO-METHOD
A.R.E.A. SPECIFICATIONS Vol. 28. Bull. 293 March 1927

DATE	REVISIONS	BY
1/11/28	Concrete Floor Reduced Under Girder	P.W.R.
8/23/29	Concrete Specifications Noted	G.H.P.

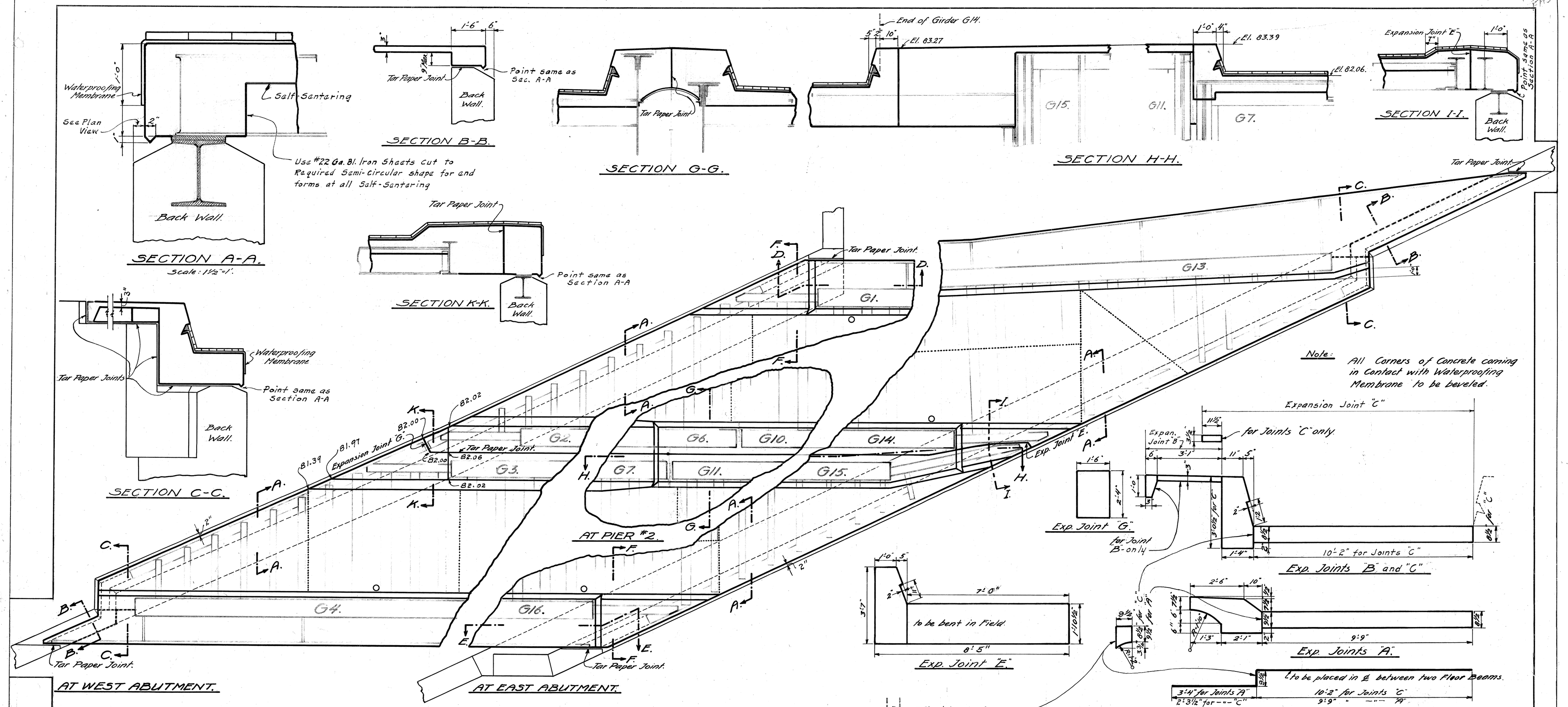
N. Y. C. & ST. L. R. R.
N K P DISTRICT.
CLEVELAND OHIO.
BRIDGE-NO-182.08
OVER THE CLEVELAND UNION TERMINAL CO. TRACKS.
FLOOR PLAN #2 - GENERAL.

OFFICE OF CHIEF ENGINEER. CLEVELAND-O

SCALE	DRAWN	TRACED	CHECKED
	11/13-1926 T.W.	1/13 1927 T.W.	1/11/27 C.E.H.

DATE 11-26-1926 SHEET (11) OF 13 No. ~~182-08-271~~

183-52-271



Expansion Joints req'd.

2 Joints Mrk. "A"
6 -"- -"- "B"
2 -"- -"- "C"
8 -"- -"- "D"
1 -"- -"- "E"
1 -"- -"- "G"

All Joints to be ½" thick, Cary "Elastite" or equal.

Note: Work Floor Plans #1-2-3 together.

For Floors use 2500# Concrete
All Concrete to be WATER-CEMENT RATIO-METHOD
A.R.E.A. SPECIFICATIONS. Vol. 28-Bull. 295 March 1927

DATE	REVISIONS	BY
5/5/28	Revised Section G-G.	R.W.H.
3/12/28	Concrete Specifications Noted	G.H.D.

N. Y. C. & ST. L. R. R.
N.K.P. DISTRICT
CLEVELAND, OHIO.
BRIDGE-NO-182.08.
OVER THE CLEVELAND UNION TERMINAL CO. TRACKS.
FLOOR PLAN #3-DETAILS.

OFFICE OF CHIEF ENGINEER — CLEVELAND, O.

SCALE	DRAWN	TRACED	CHECKED
½" = 1'.	11-18-1927 T.W.	2-7-1927 T.W.	11/11/29 R.C.H.

DATE 11-26-1926 | SHEET 12 of 13 | No. ~~182-08-271~~

183-52-271

EAST ABUTMENT

LOCATION																		
PILE NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
LENGTH OF PILE IN FEET	10.5	12.8	12.0	13.3	14.0	14.5	15.4	16.0	13.8	14.2	13.3	13.1	13.8	14.4	14.0	13.4	14.5	11.5
NO. OF BLOWS LAST INCH OF PENETRATION	Refusal		—	—	—	—	—	—	—	—	—	—	—	—	—	—	Refusal	
PENETRATION LAST 10 BLOWS																		
PENETRATION IN INCHES LAST BLOW ÷ 5																		
SAFE LOAD PER E-N FORMULA (TONS)	53.0	53.0	53.0	53.0	53.0	53.0	53.0	53.0	53.0	53.0	53.0	53.0	53.0	53.0	53.0	53.0	53.0	53.0
DATE DRIVEN	10-10-28	10-10-28	10-10-28	10-10-28	10-10-28	10-10-28	10-10-28	10-10-28	10-11-28	10-11-28	10-11-28	10-11-28	10-11-28	10-11-28	10-11-28	10-11-28	10-11-28	10-11-28
DIAMETER OF BUTT AT CUT-OFF (INCHES)																		
DATE POURED																		

WEST ABUTMENT

LOCATION															
PILE NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LENGTH OF PILE IN FEET	12.2	17.5	18.1	14.3	14.6	17.9	15.5	11.0	10.2	9.2	18.7	11.0	10.1	16.0	13.8
NO. OF BLOWS LAST INCH OF PENETRATION	Refusal		—	—	—	—	—	—	—	—	—	—	—	—	Refusal
PENETRATION LAST 10 BLOWS															
PENETRATION IN INCHES LAST BLOW ÷ 5															
SAFE LOAD PER E-N FORMULA (TONS)	53.0	53.0	53.0	53.0	53.0	53.0	53.0	53.0	53.0	53.0	53.0	53.0	53.0	53.0	53.0
DATE DRIVEN	12-10-28	12-10-28	12-10-28	12-10-28	12-10-28	12-10-28	12-10-28	12-10-28	12-10-28	12-11-28	12-11-28	12-11-28	12-11-28	12-11-28	12-11-28
DIAMETER OF BUTT AT CUT-OFF (INCHES)															
DATE POURED															

Note: Safe Load calculated on bearing value of 18" Diam. Pile. Concrete, in bearing = 600#/□"

In accordance with Mr. Hales verbal instructions, contractor was allowed full length of Pile (25') on estimate.

Note: For numbering of Piles See Sheets # 2 & 3

DATE	REVISIONS	BY

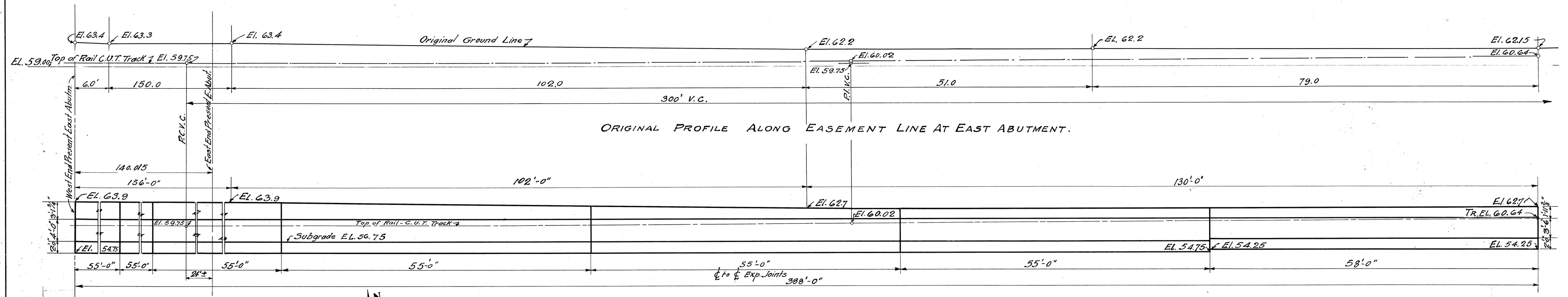
N. Y. C. & ST. L. R. R.
N.K.P. DISTRICT
CLEVELAND, OHIO
BRIDGE-NO- 182.08
OVER THE CLEVELAND UNION TERMINAL CO. TRACKS
PILE CHART

OFFICE OF CHIEF ENGINEER — CLEVELAND, O.

SCALE	DRAWN	TRACED	CHECKED
—	P.M. 12-19-30	P.M. 12-19-30	

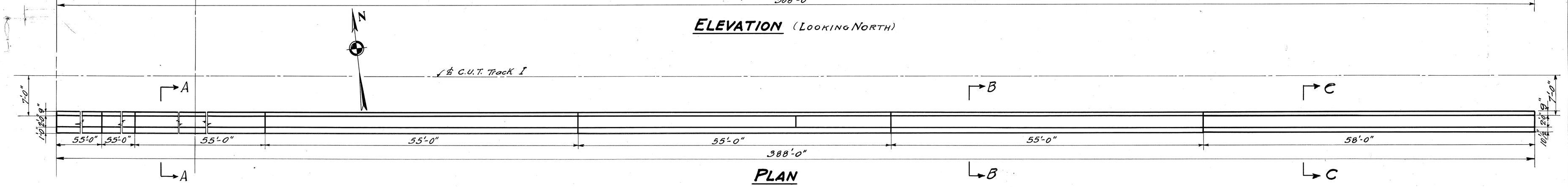
DATE 12-19-30 | SHEET 13 OF 13 | No. ~~182-08-271~~

183-52-271



ORIGINAL PROFILE ALONG EASEMENT LINE AT EAST ABUTMENT.

ELEVATION (LOOKING NORTH)

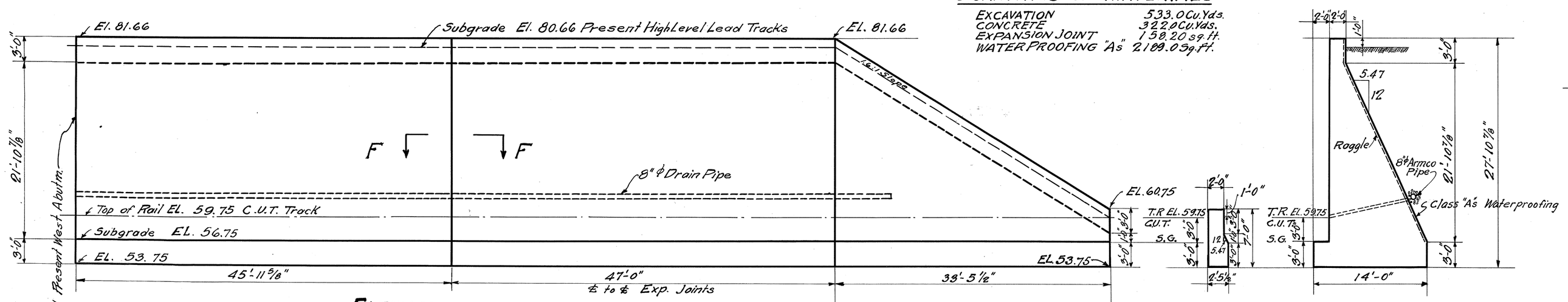


PLAN

THEORETICAL RETAINING WALL in Place of EAST ABUTMENT & WALL "C"

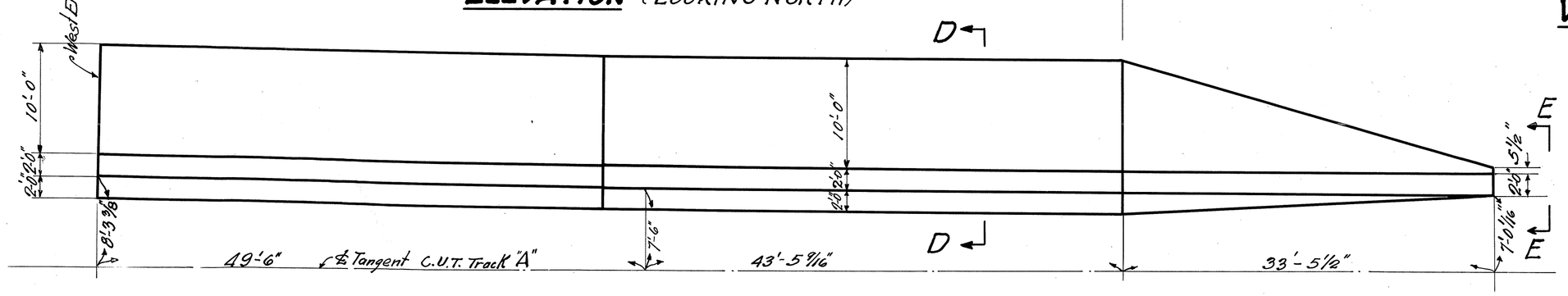
QUANTITIES OF MATERIALS

EXCAVATION	533.0 Cu. Yds.
CONCRETE	322.0 Cu. Yds.
EXPANSION JOINT	158.20 sq. ft.
WATERPROOFING "As"	2189.0 Sq. Ft.



ELEVATION (LOOKING NORTH)

VIEW E-E **SECTION D-D**

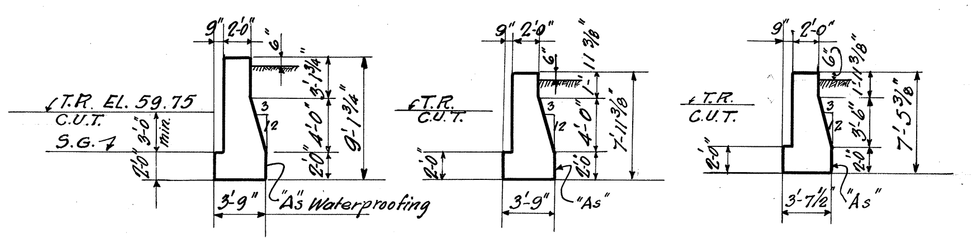


PLAN

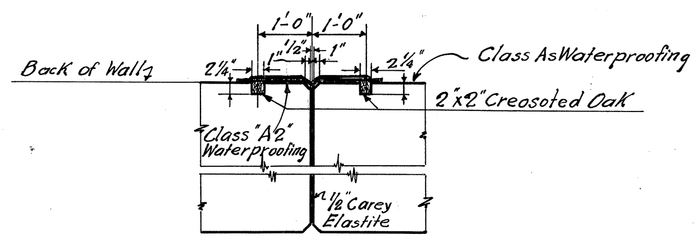
THEORETICAL RETAINING WALL in place of WEST ABUTMENT

QUANTITIES OF MATERIALS

EXCAVATION	1710.0 Cu. Yds.
CONCRETE	807.2 Cu. Yds.
EXPANSION JOINT	403.0 Sq. Ft.
8" ARMCO PIPE	100.0 Lin. Ft.
WATERPROOFING "As"	3794.0 Sq. Ft.
" "A2"	167.0 Sq. Ft.
2"x2" CREOSOTED OAK	122.0 Lin. Ft.



SECTION A-A **SECTION B-B** **SECTION C-C**



SECTION F-F

DETAIL OF EXPANSION JOINT

Note-
This Plan void for Theoretical Retaining Wall in place of East Abutment and Wall "C". See Sheet No. 2 of 2 for this Wall.

Note: This Plan to be used for Cost Allocation between N.Y.C. & St. L. R.R. and C.U.T. Co. for Retaining Walls in Place of Bridge Abutments at this Bridge.

DATE	REVISIONS	BY
2-23-32	Sheet number and note	P.L.M.
9-2-31	After adjustment with C.U.T.	P.M.

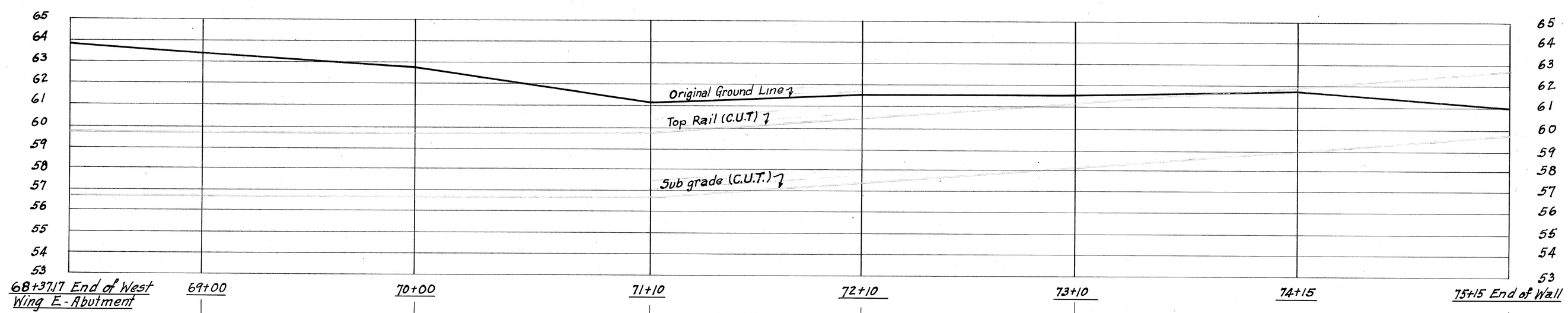
N. Y. C. & St. L. R. R.
NICKEL PLATE DISTRICT
BRIDGE-NO. ~~182.08~~ 183.52
OVER C.U.T. TRACKS CLEVELAND O.
PLAN SHOWING THEORETICAL WALLS IN PLACE OF ABUT'S FOR PURPOSE OF COST ALLOCATION WITH C.U.T.
OFFICE OF CHIEF ENGINEER CLEVELAND, O.

SCALE	DRAWN	TRACED	CHECKED
1/8" 1/2" = 1'-0"	P.M. 3·20·31.	C.J.S. 10·23·31.	

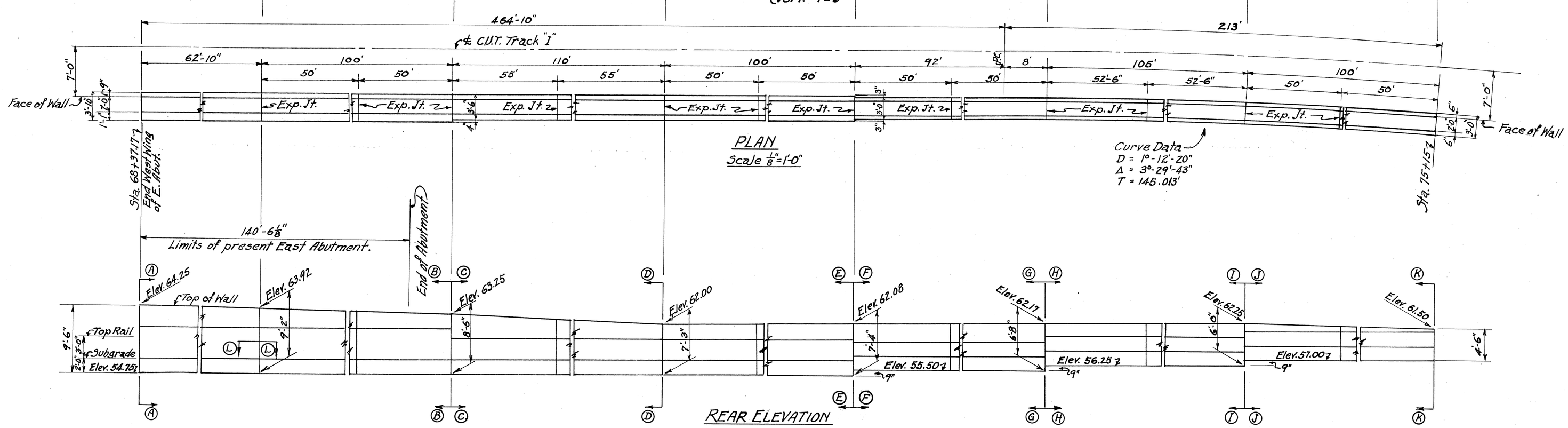
DATE MARCH 30 1931. SHEET 1 OF 2 NO. ~~182-08-313~~

183-52-313

Note —
Stations shown on Profile are C.U.T. Stations.

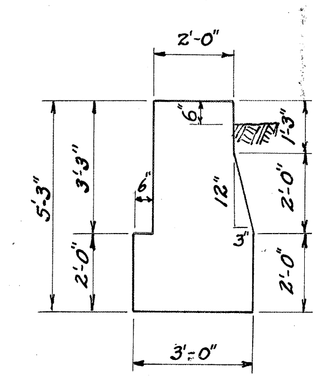


PROFILE
Showing Original Ground, Top Rail And Subgrade
Scales { Horiz. 1" = 30' / Vert. - 1" = 3'

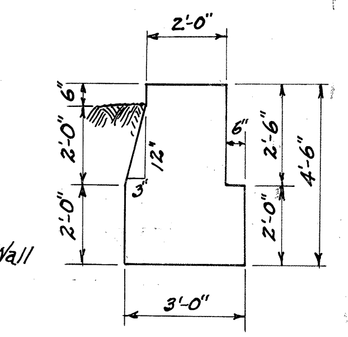


PLAN
Scale 1/8" = 1'-0"

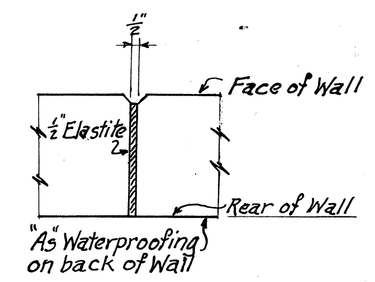
REAR ELEVATION
Scale 1/8" = 1'-0"



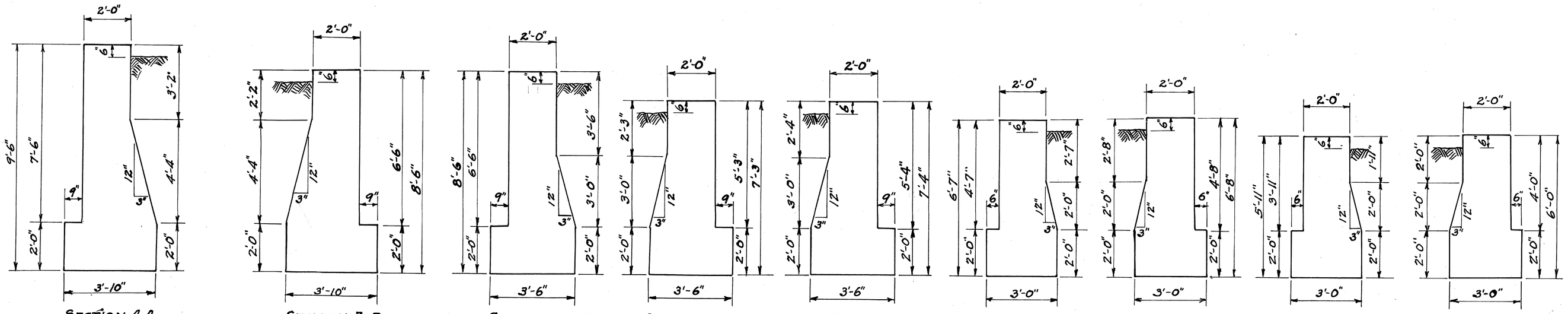
SECTION J-J
Scale 3/8" = 1'-0"



SECTION K-K
Scale 3/8" = 1'-0"



SECTION L-L
TYPICAL FOR ALL EXPANSION JTS.



SECTION A-A
Scale 3/8" = 1'-0"

SECTION B-B
Scale 3/8" = 1'-0"

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

SECTION D-D
Scale 3/8" = 1'-0"

SECTION E-E
Scale 3/8" = 1'-0"

SECTION F-F
Scale 3/8" = 1'-0"

SECTION G-G
Scale 3/8" = 1'-0"

SECTION H-H
Scale 3/8" = 1'-0"

SECTION I-I
Scale 3/8" = 1'-0"

Note —
This Plan to be used for allocation of cost between N.Y.C. & St. L. R.R. and C.U.T. Co. at Bridge No. 182.08, based on theoretical Retaining Wall as shown, in place of Present E. Abutment and Retaining Wall "C."

Quantities within limits of present East Abutment

Excavation	222	Cu. yds.
Concrete	126	" "
Expansion Joints, 1/2" Elastite	48	Sq. ft.
Waterproofing "As"	913	" "

Quantities without limits of present East Abutment

Excavation	343	Cu. yds.
Concrete	329	" "
Expansion Joints, 1/2" Elastite	164	" "
Waterproofing "As"	2193	" "

N. Y. C. & ST. L. R. R.
NICKEL PLATE DISTRICT

BRIDGE NO. ~~182.08~~ 183.52
OVER C.U.T. CO. TRACKS, CLEVELAND, O.
PLAN SHOWING THEORETICAL WALL AT 30' EASEMENT
FOR PURPOSE OF COST ALLOCATION WITH C.U.T. CO.

OFFICE OF CHIEF ENGINEER — CLEVELAND, O.

SCALE	DRAWN	TRACED	CHECKED
As Shown	R.L.M. 2-17-32.	[illegible]	[illegible] 11/30/34

DATE	REVISIONS	BY

DATE 2-17-32. SHEET 2 OF 2 No. ~~182-08-313~~

FOST 8174—200—4.34

70 10M-4-26

FORT PITT BRIDGE WORKS

Description Field Rivets & Bolts, N.Y.C.&St.L.R.R. Dwg. No.

Shipping Index	DESCRIPTION Itemized List		FINISHED ORDER No. Pieces	Section	Length	MILL ORDER No. Pieces	Section	Wt. Ft.	Length	Item No.
		Grip	No.	Size	Length		Location			
	Rivets	3/4"	888	7/8"φ	2 1/4	Bracing to Cols. & bracing				
	"	2 3/8	4	"	4 1/8	Strut Sl. to Col. C14				
	"	2 1/4	44	"	4	" " " Cols				
	"	2	12	"	3 3/4	" S2 " "				
	Bolts, Hex. Hd. & Nut 3x1/2" Wash.	3 5/8	32	1"φ	0'-4 3/4" u.n.	Exp. Pls. EP1-2-3 & BP1 to Cols				C5 to 8 C13 to 16
	" "	3 3/8	16	"	0'-4 1/2" u.n.	Gdrs & BP2 to Cols				C1 to 4 C17 to 20
	Rivets	2 1/8	48	7/8"φ	3 3/8	" G5 to 12 incl. to Col. C9 to 12 incl.				
	"	3 1/4	2	"	5 1/8	" G6 & 7 to Col. C10-11				
	"	3	6	"	4 7/8	" G5-8-10-12 to C9 to 12 incl.				
	"	1 3/8	12	"	2 7/8	Diaph. D1 to G1-4-5-8				
	"	1	88	"	2 1/2	" " " " "				
	"	3/4	160	"	2 1/4	Lat. pls. LP1-2-3 to diaphs				
	"	3 1/8	4	"	5	Diaph. D1 to Gdrs G1-4-5 & 8				
	"	2 3/4	20	"	4 1/2	" " " " "				
	"	2 3/16	16	"	4	" " " " "				
	"	4	192	"	6	" " D2 & D2A to G2-3-6-7				
	"	4 3/8	48	"	6 1/2	" " " " "				
	"	4 3/8	4	"	6 1/2	Fl. Bm. Brkt. FB2 " "				
	"	3 5/8	32	"	5 1/2	Diaph. D2-2A to G2-3-6-7 @ FB2				
	"	2 1/8	32	"	3 3/8	" " " " G2-3-6-7				
	"	2 1/2	104	"	4 1/4	" D1-2-2A to "				
	"	4 3/8	20	"	6 1/2	Brkts. FB1 & 3 " "				
	"	3 1/4	20	"	5 1/8	" " " " "				
	"	2 3/4	80	"	4 1/2	" " " " "				
	"	1 1/16	8	"	3 1/2	Beams B90 & 28 to G3				
	"	1 1/4	50	"	2 3/4	" B91-92-96-97-98 to Gdr.				
	"	1 3/16	24	"	2 3/4	" B90-91-92-96-97-98 " "				
	"	1 3/8	102	"	2 7/8	Fl. Bm. Brkts. FB4 to 13 incl. to Gdrs				
	"	1	204	"	2 1/2	" " " " " " " "				
	"	15/16	8	"	2 1/2	Beam B94 to G2				

Continued on Page R2

For Summary see Bill Page 33

NS 183-52-281

Made by EGR Date 6-30-28 Rivets Order No. C-5399 Lbs 7

Checked by Date Holes Page No. R1 B 18

Form No. 70 10M-4-26

FORT PITT BRIDGE WORKS

Description Field Rivets N.Y.C. & St.L. R.R. **Dwg. No.**

Shipping Index	DESCRIPTION Itemized List		FINISHED ORDER No. Pieces	Section	Length	MILL ORDER No. Pieces	Section	Wt. Ft.	Length	Item No.
		Grip	No.	Size	Length		Location			
	Rivets	1 11/16	96	7/8" φ	3½		Beam B22, 224 & C, 823 to Gdrs			
	"	1 13/16	8	"	2¾		" B81 to G14			
	"	15/16	6	"	2½		" B95 to G15			
	"	2¾	32	"	4½		" B242, 84 & 9 to Gdrs. @ Arch			G2-3-6-7
	"	3	184	"	4⅞		Typical Conn. Beams to G2-3-6-7			
	"	1⅞	736	"	3⅝		" " " "		"	"
	"	1 5/16	157	"	2⅞		" " " "		G13	
	"	2 5/16	8	"	4⅛		" " " "		"	@ Spls.
M	"	1 9/16	5	"	3¼		B54 to G13			
M	"	1 11/16	49	"	3½		B46-47-60-57-72-74-75-76 to			G13
	"	1 13/16	28	"	3⅝		B62-64-73-80 to Gdr. G13			
	"	1¾	21	"	3½		B77-78-79 " "		"	
RA	"	1 15/16	1627	"	2¾		Typ. Conn. Beams to web of			G1-4-5-8-9 10-11-12-14-15-16
	"	2 3/16	76	"	4		" " " "		"	@ Spl.
	"	1 9/16	12	"	3¼		B53 to G15 & B42 to G4			
	"	1 11/16	854	"	3½		Beams to Gdrs. G1-4-5-8-9-10-11-12-14-15-16			@ Stiffeners
	"	1¾	21	"	3½		B77-78-79 to G14 @ Stiffeners			
	"	1 13/16	7	"	3⅝		B80 to G14			
	"	15/16	100	"	2½		Beams to B90-91-92-96-97-98			
	"	1 9/16	2	"	3¼		B93 to 91			
	"	15/16	30	"	2½		Beams B34-37-42-53-54 to			Fl. Bm. Brkts.
	"	1	516	"	2½		Typical Conn. Beam "		"	
	"	1 1/16	18	"	2⅝		B74 & 75 to		"	
	"	1⅛	42	"	2⅝		B43-45-46-77-79 "		"	
	"	1 5/16	18	"	2⅞		B64 & 80 "		"	
	"	1	138	"	2½		Sidewalk Brkts.	S8 & S5 to 1 & 4 16 to 2, 7 to 3		
	"	⅞	160	"	2⅜		Typ. " " to Gdr. Stiffs.			
	"	1⅞	5	"	3⅝		SB1 & SL to G13			
	"	1 3/16	5	"	2¾		SB2 & 7 " "			
	"	1⅛	5	"	2⅝		SB1R & SR to G4			

Cont. on Page R3

NS 183-52-281

Made by E.G.P. Date 7-2-28 Rivets Order No. C-5399

Checked by Date Holes Page No. R2

182-08-1

2-26-46 7/12 S B T

Form No. 70 10M-4-26

FORT PITT BRIDGE WORKS

Description Field Rivets, N.Y. C. & St. L. R.R. Dwg. No.

Shipping Index	DESCRIPTION		FINISHED ORDER No. Pieces	Section	Length	MILL ORDER No. Pieces	Section	Wt. Ft.	Length	Item No.
	Itemized List	Grip	No	Size	Length		Location			
	Rivets	1 3/4	55	3/4"ø	3 1/2	Typ. Sidewalk Brkt. conn. End of Gdr.				
	"	3/4	249	"	2 1/4	"	"	"	" to	Cs
	"	1/4	12	"	2 3/4	SC 9 & 10 to Posts				
	"	1/8	9	"	2 5/8	SC 10 to brkts @ bar. fill				
B	Bolts, Csk. Hd. Hex Nut	1 5/16	64	3/4"ø	0'-2 1/4"lg	Typical conn. beams to bolster pls				
B	" " " " "	1 1/2	20	"	0'-2 1/2"lg	Beams {B37 {B38-39-40-41} Beams {43-44-45-46-47}		"	"	"

Page Bill 2 Page 25 to Summary

NS 183-52-281

Made by EGR Date 7-3-28 Rivets Order No. C-5399

Checked by Date Holes Page No. R3 final

Form No. 70 10M-4-26

FORT PITT BRIDGE WORKS

Description Summary Field Rivets, N.Y.C. & St.L.R.R. Dwg. No.

Shipping Index	DESCRIPTION	FINISHED ORDER No. Pieces	Section	Length	MILL ORDER No. Pieces	Section	Wt. Ft.	Length	Item No.
	Summary = Itemized List + 15% ext.								
1490	Rivets	1490	7/8"φ	2 1/4"					
180	" "	180	"	2 3/8					
1250	" "	1250	"	2 1/2					
85	" "	85	"	2 5/8					
1980	" "	1980	"	2 3/4					
330	" "	330	"	2 7/8					
25	" "	25	"	3 1/4					
1270	" "	1270	"	3 1/2					
890	" "	890	"	3 5/8					
15	" "	15	"	3 3/4					
90	" "	90	"	3 7/8					
155	" "	155	"	4					
15	" "	15	"	4 1/8					
120	" "	120	"	4 1/4					
150	" "	150	"	4 1/2					
220	" "	220	"	4 7/8					
5	" "	5	"	5					
25	" "	25	"	5 1/8					
35	" "	35	"	5 1/2					
220	" "	220	"	6					
80	" "	80	"	6 1/2					
	Summary of Field Bolts = Itemized List + 5% ext.								
70	Bolts csk. Hd.	70	3/4"φ	0'-2 1/4"lg				Stock	
25	" " "	25	"	0'-2 1/2"lg				Stock	
	Hex. Nuts	95	3/4" tap					Stock	
18	Bolts, Hex. Hd	18	1"φ	0'-4 1/2" u.h.	Make in shop				
34	" " " "	34	"	0'-4 3/4" u.h.	"	"	"		
	Hex. Nuts	52	1" tap					Stock	
52	Washers 1 1/16" hole	52	3"×1/2					S	

For Itemized List see Bill Page 4 & R1-2-3 final

NS 183-52-281

Made by E.G.R. Date 7-11-28 Rivets Order No. C-5399 7 S 2 4 B 1 4 I 18

Checked by Date Holes Page No. 33 final 183-52-1