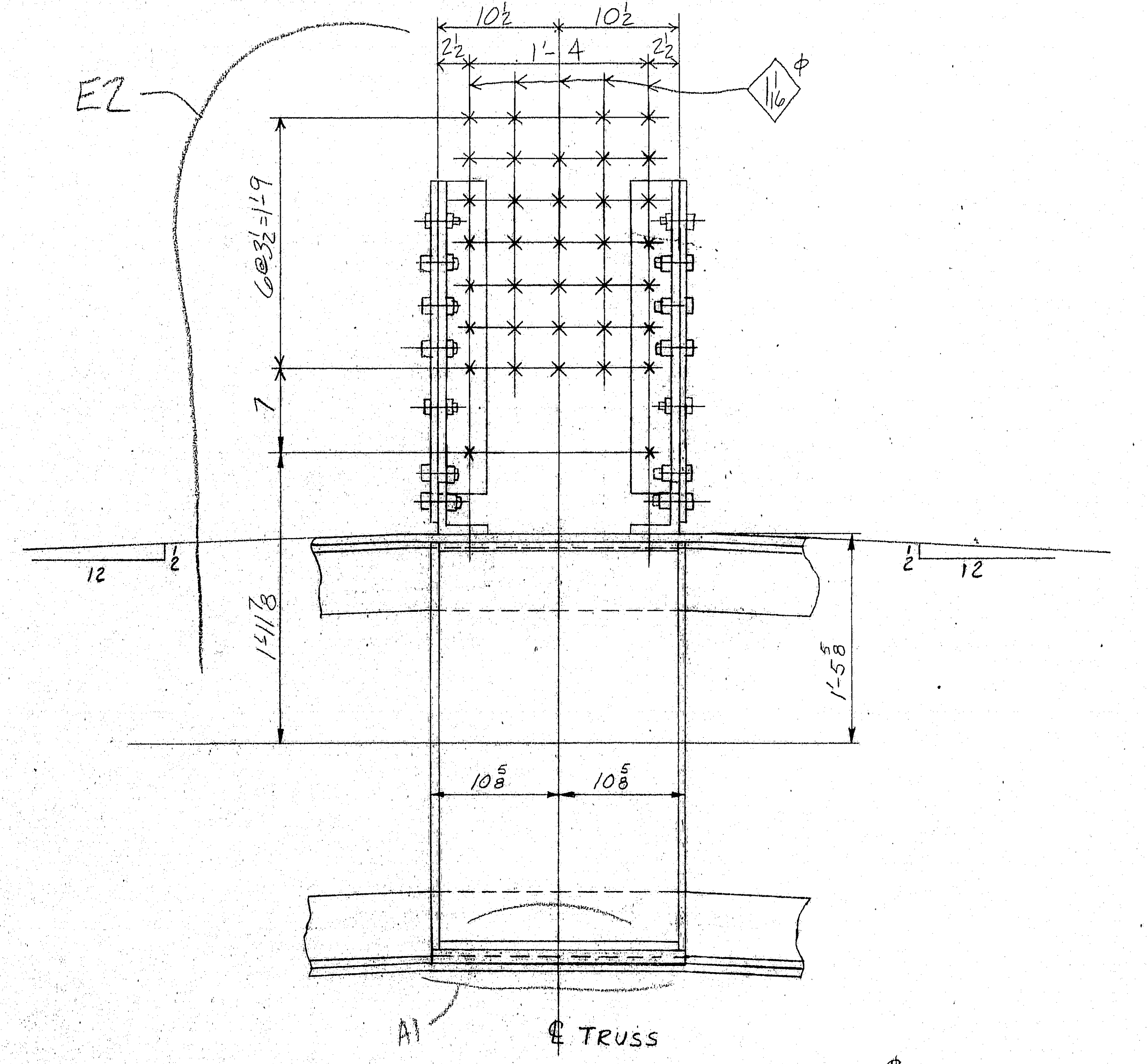
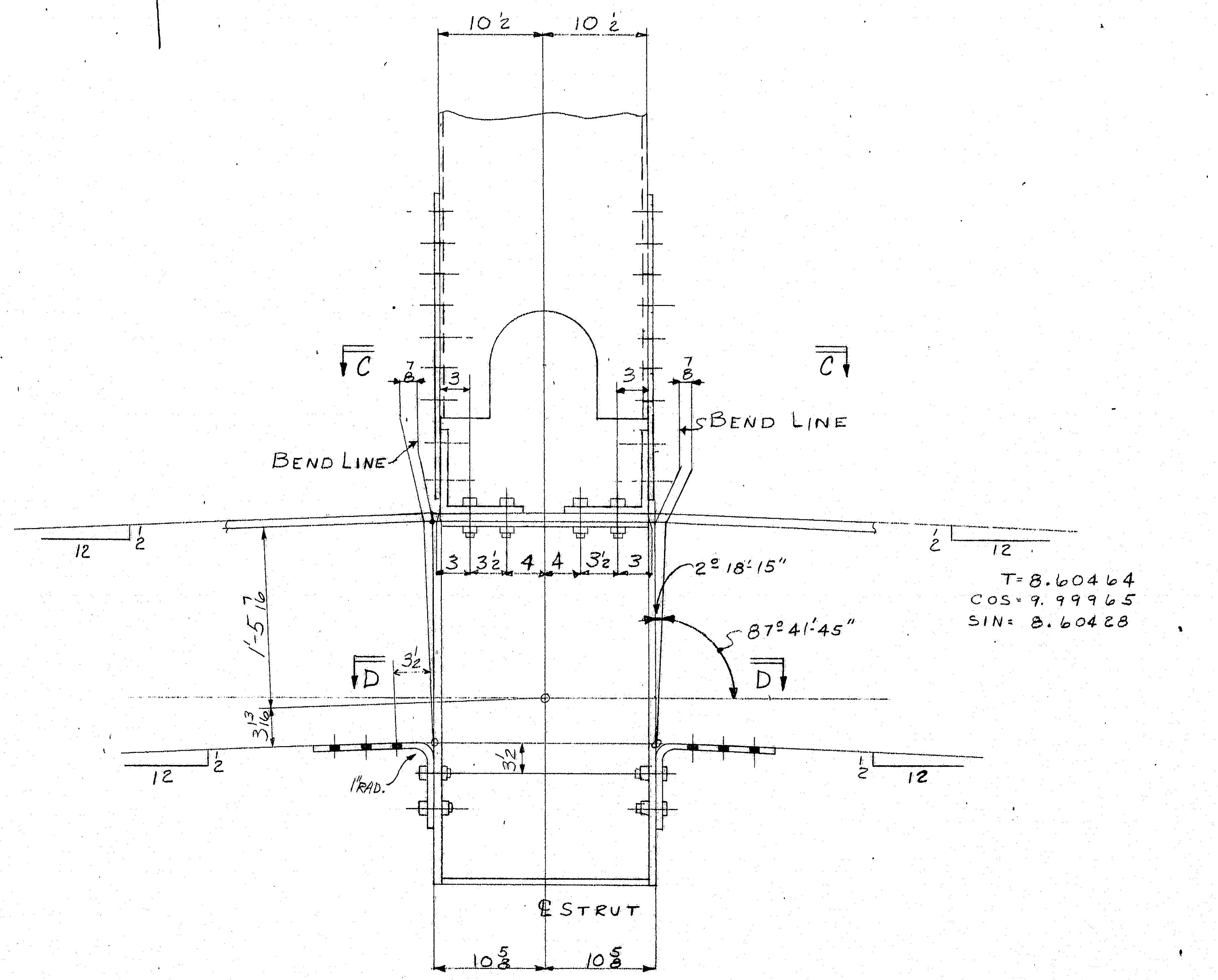
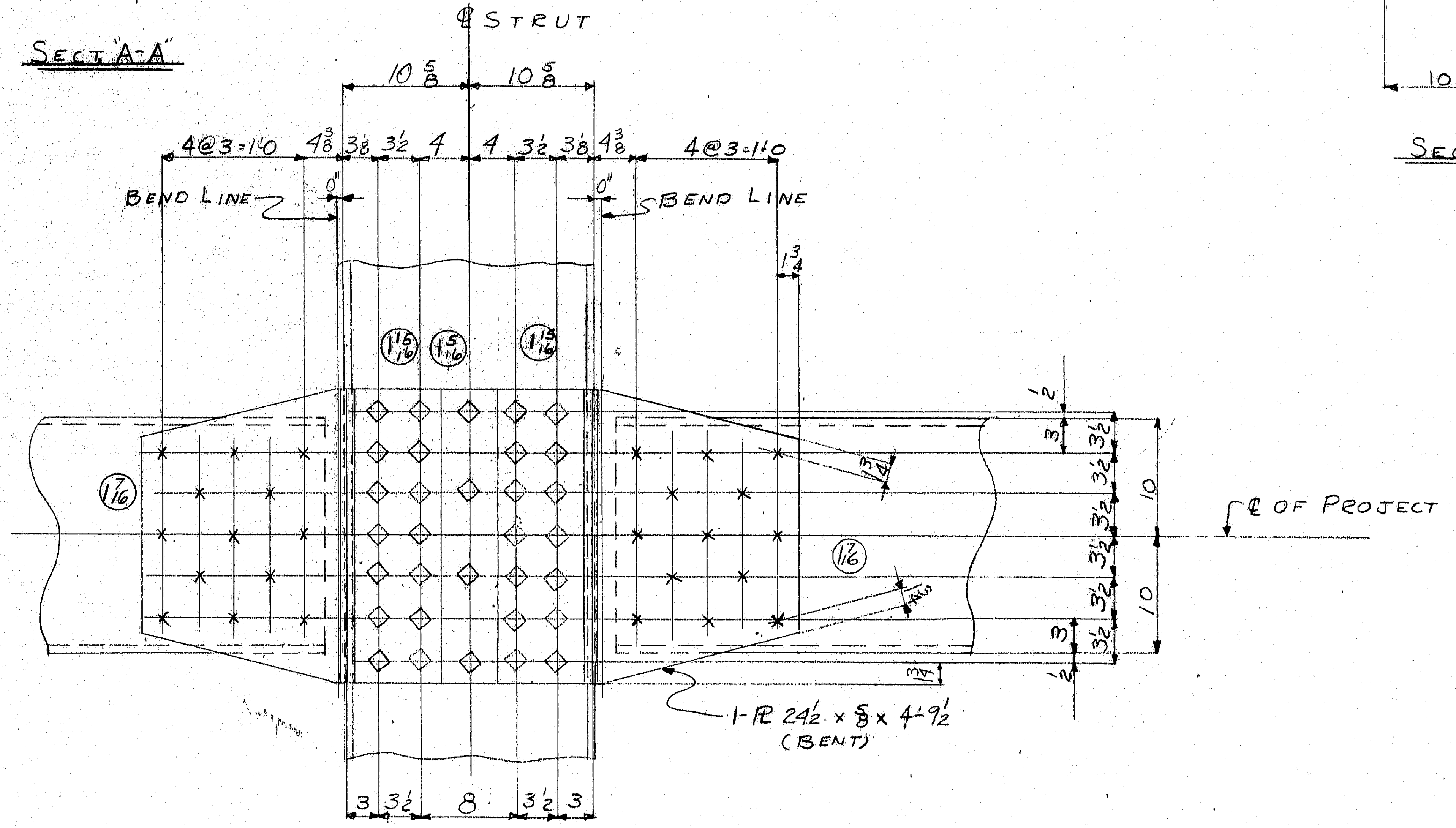


SECT "A-A"



SECT "B-B"



SECT "C-C"
(SHOWN DEVELOPED)

SHOP BOLTS
4-⅞⌀ A325 x 2½
28-⅞"⌀ A325 x 3
FIELD BOLTS
26-⅞"⌀ A325 x 2½

For location of details shown on this sheet refer to diagrams.

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CONSULTING ENGINEERS
101 PARK AVE. NEW YORK 17, N.Y.
BY F.F.W. DEC 30 1970

SEE SHT. GD73CE FOR SECTION "D-D"
SEE SHT. GD73AE FOR SOURCE OF SECT. "A-A"

SWAY FRAME @ M16 LINE (16)

MATERIAL A36
RIVETS OR BOLTS
OPEN HOLES $\frac{15}{16}$" ⌀ U.N.
A325 FIELD BOLTS
SHOP CONTACT SURFACES
PAINT

NO.	DATE	INIT.
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E2	12/3	WB
A1	3·81	CD

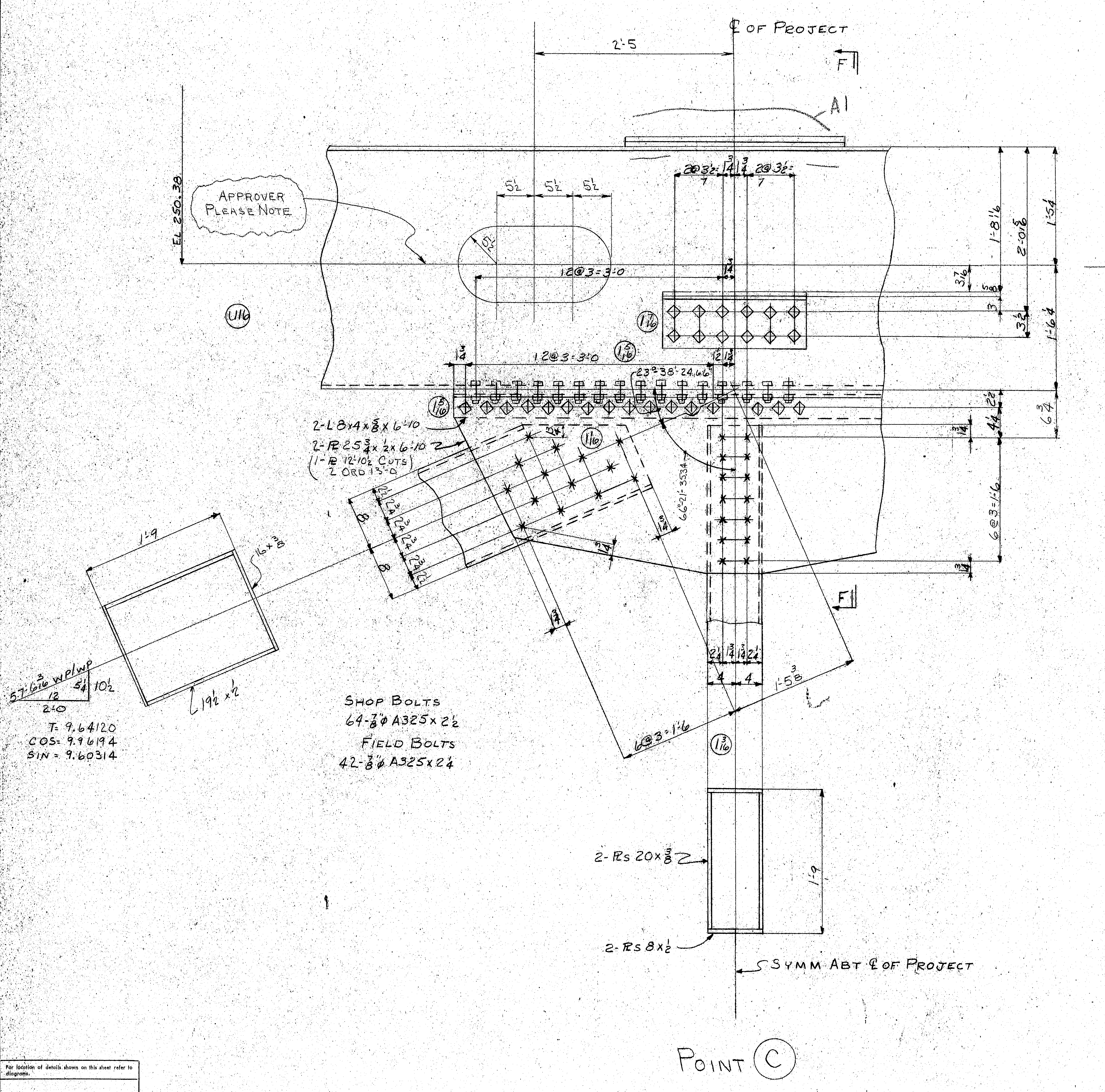
REVISION

SUBMITTAL	1	2	3	4	5	6	7	8	9	0
DATE										

CUSTOMER MAINE STATE HIGHWAY COMMISSION
HARDESTY AND HANOVER CONSULTING ENGRS.
STRUCTURE PISCATAQUA RIVER BRIDGE, CONTRACT #
PROJECT #I-95-1(22)16, KITTERY, MAINE

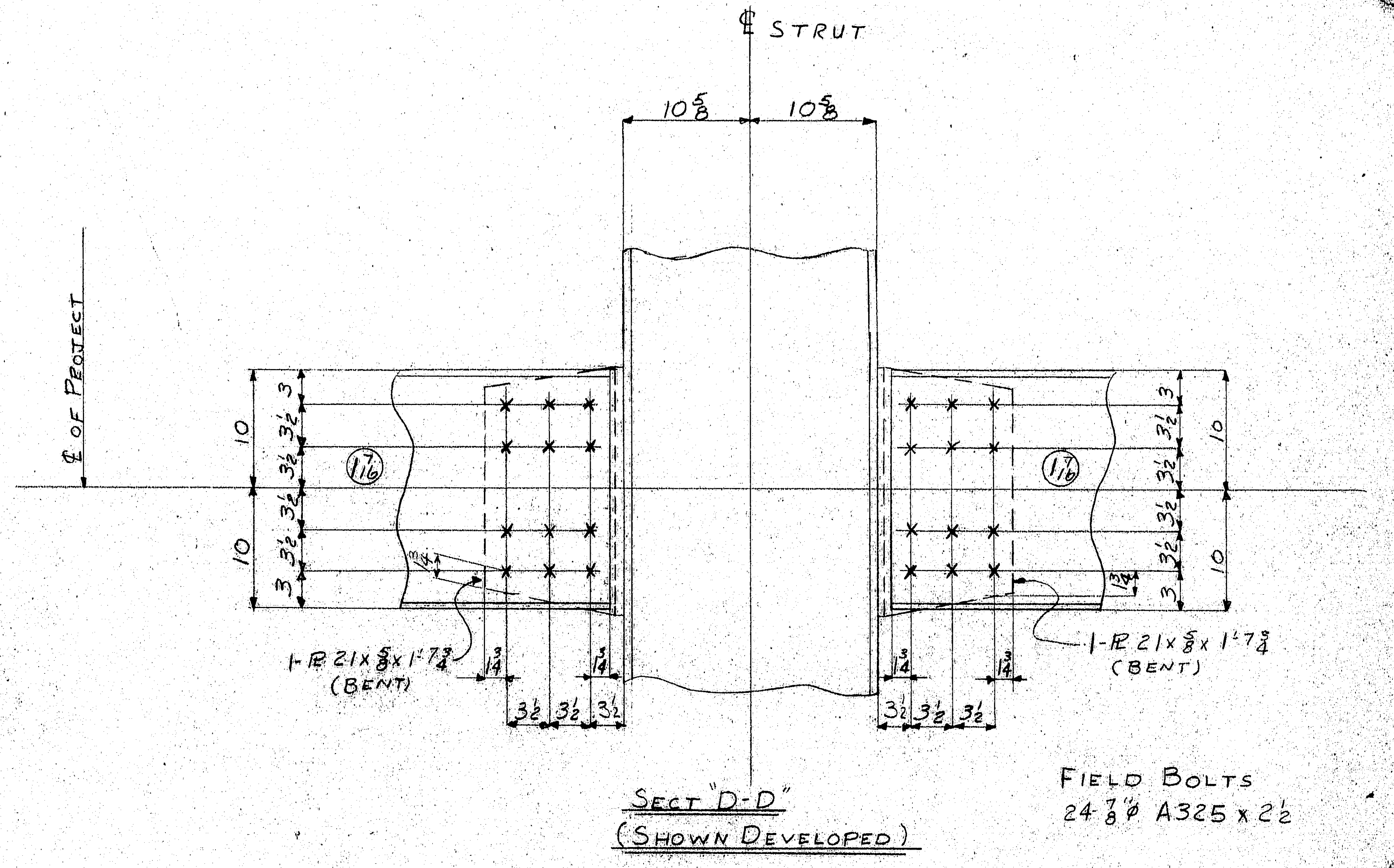
BETHLEHEM STEEL CORPORATION
FABRICATED STEEL CONSTRUCTION
CHICAGO DRAFTING ROOM CHICAGO WORKS
MADE BY RT DATE 1-22-70 IN CHARGE LAG
CHECKED BY CAD DATE 2-26-70 SHOP NO.
CONTRACT CG 6290 DRAWING NO. GD73BE

134:6



SHOP BOLTS
64-⅞"φ A325 x 2½
FIELD BOLTS
42-⅞"φ A325 x 2¼

POINT Ⓒ



SECT "D-D"
(SHOWN DEVELOPED)

FIELD BOLTS
24-⅞"φ A325 x 2½

SEE SHT. GD73DE FOR SEC. "F-F"
SEE SHT. GD73BE FOR SOURCE OF SECT. "D-D"

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101 PARK AVE. NEW YORK 17, N.Y
BY F.F.W. APR 15 1970

SWAY FRAME @ LINE ⑯

MATERIAL A36
RIVETS OR BOLTS
OPEN HOLES 15/16"φ U.N.
A325 FIELD BOLTS
SHOP CONTACT SURFACES
PAINT

NO.	DATE	INIT.
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A1	3-31	CD

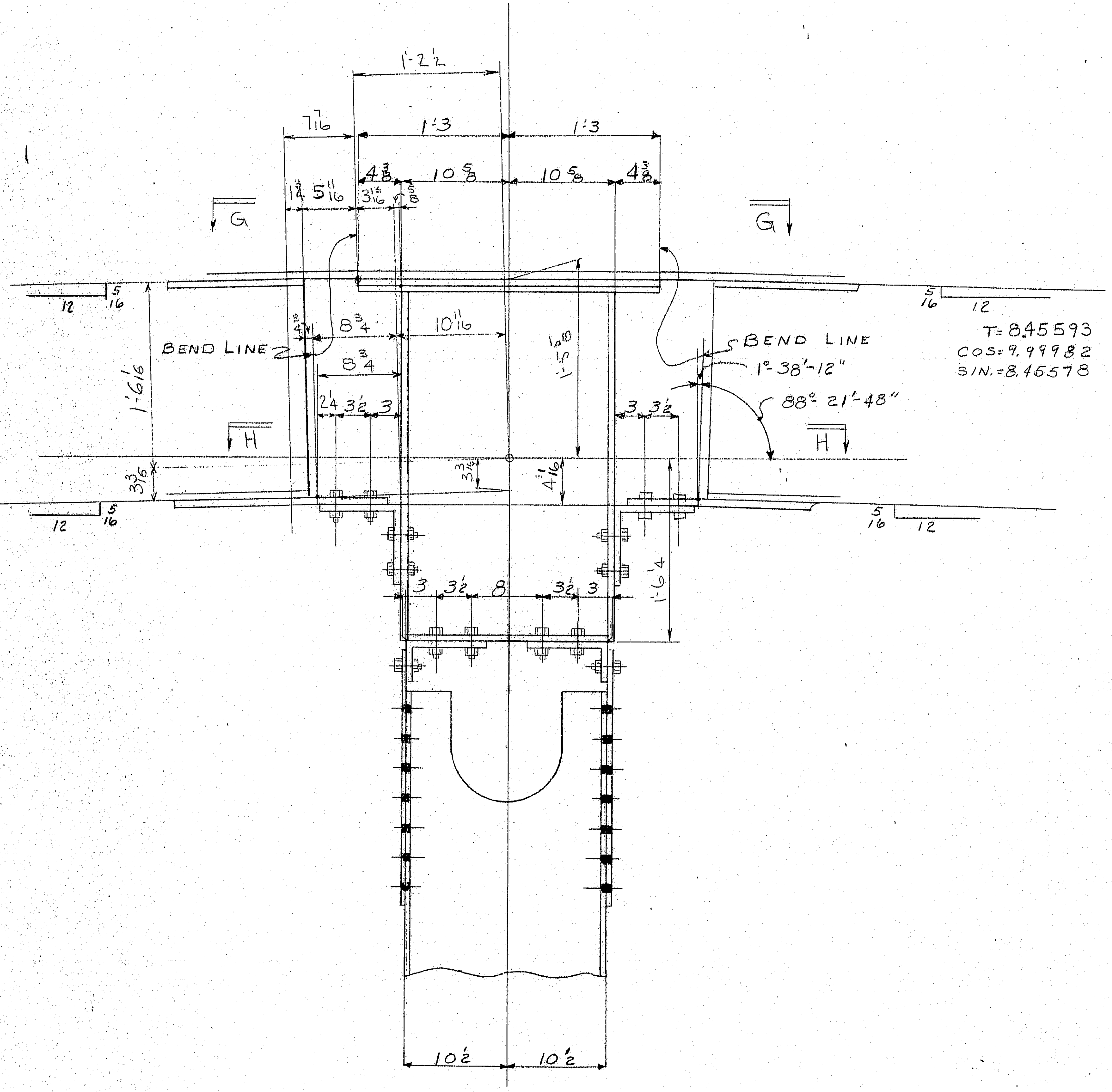
REVISION

SUBMITTAL	1	2	3	4	5	6	7	8	9	0
DATE										

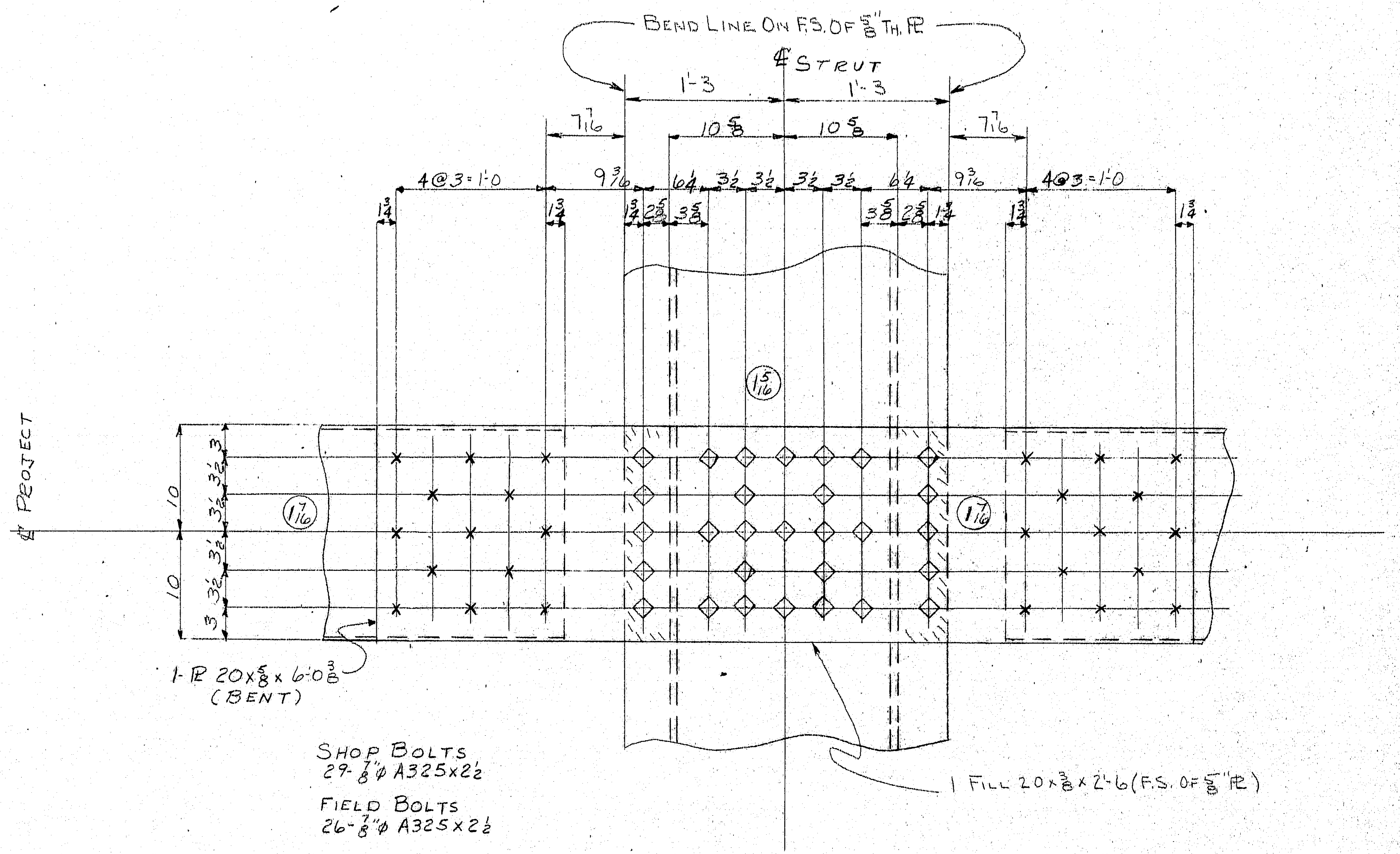
CUSTOMER MAINE STATE HIGHWAY COMMISSION
HARDESTY AND HANOVER CONSULTING ENG'R
STRUCTURE PISCATAQUA RIVER BRIDGE, CONTRACT #5
PROJECT #1-95-1(22)16, KITTERY, MAINE

BETHLEHEM STEEL CORPORATION
FABRICATED STEEL CONSTRUCTION
CHICAGO DRAFTING ROOM CHICAGO WORKS
MADE BY RG DATE 1-23-70 IN CHARGE LAG
CHECKED BY CAD DATE 2-26-70 SHOP NO.
CONTRACT CG 6290 DRAWING NO. GD73CE

134:7



Sect "F-F"



Sect "G-G"
(Shown Developed)

See Sht. GD73EE For Sect "H-H"

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BY F.F.W. MAR 24 1970

Sway Frame @ Line ⑯

MATERIAL A-36
RIVETS OR BOLTS
OPEN HOLES 15/16"φ
A325 FIELD BOLTS
SHOP CONTACT SURFACES
PAINT

NO.	DATE	INIT.
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REVISION

SUBMITTAL	1	2	3	4	5	6	7	8	9	0
DATE										

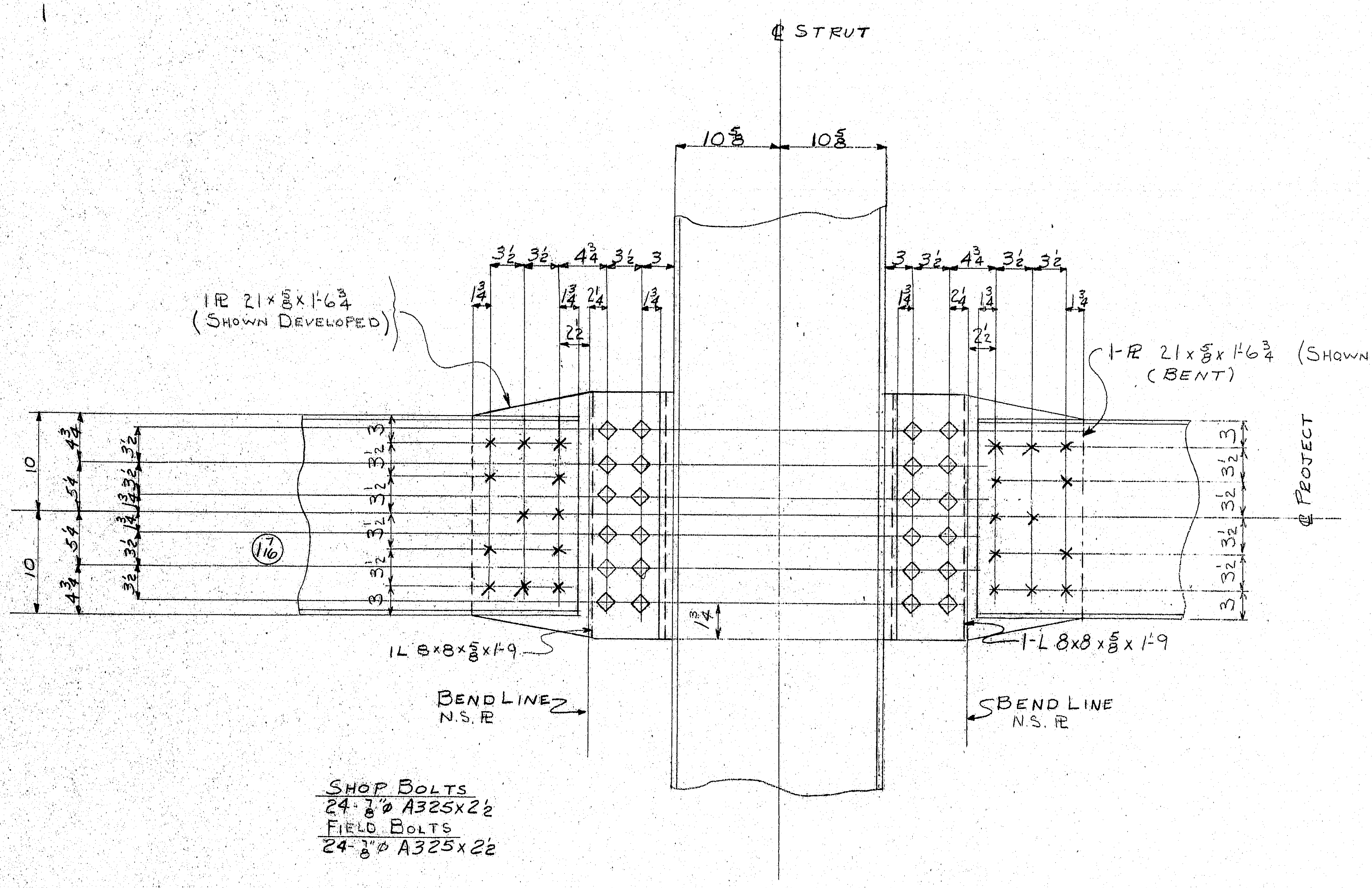
CUSTOMER MAINE STATE HIGHWAY COMMISSION
HARDESTY AND HANOVER CONSULTING ENG'R.
STRUCTURE PISCATAQUA RIVER BRIDGE, CONTRACT #5
PROJECT #I-95-1(22)16, KITTERY, MAINE

BETHLEHEM STEEL CORPORATION
FABRICATED STEEL CONSTRUCTION

CHICAGO DRAFTING ROOM CHICAGO WORKS
MADE BY RG DATE 1-26-70 IN CHARGE LAG
CHECKED BY CAD DATE 2-26-70 SHOP NO.
CONTRACT CG6290 DRAWING NO. GD73DE

134:8

For location of details shown on this sheet refer to diagrams.



SHOP BOLTS
24-⅞"⌀ A325×2½
FIELD BOLTS
24-⅞"⌀ A325×2½

SECT "H-H"

(SHOWN DEVELOPED)

SEE SHT. GD73DE FOR SOURCE OF SEC. "H-H"

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BY F.F.W MAR 24 1970

SWAY FRAME @ LINE ⑯

MATERIAL A36
RIVETS OR BOLTS
OPEN HOLES 15/16"⌀
A325 FIELD BOLTS
SHOP CONTACT SURFACES
PAINT

NO.	DATE	INIT.
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REVISION

SUBMITTAL	1	2	3	4	5	6	7	8	9	0
DATE										

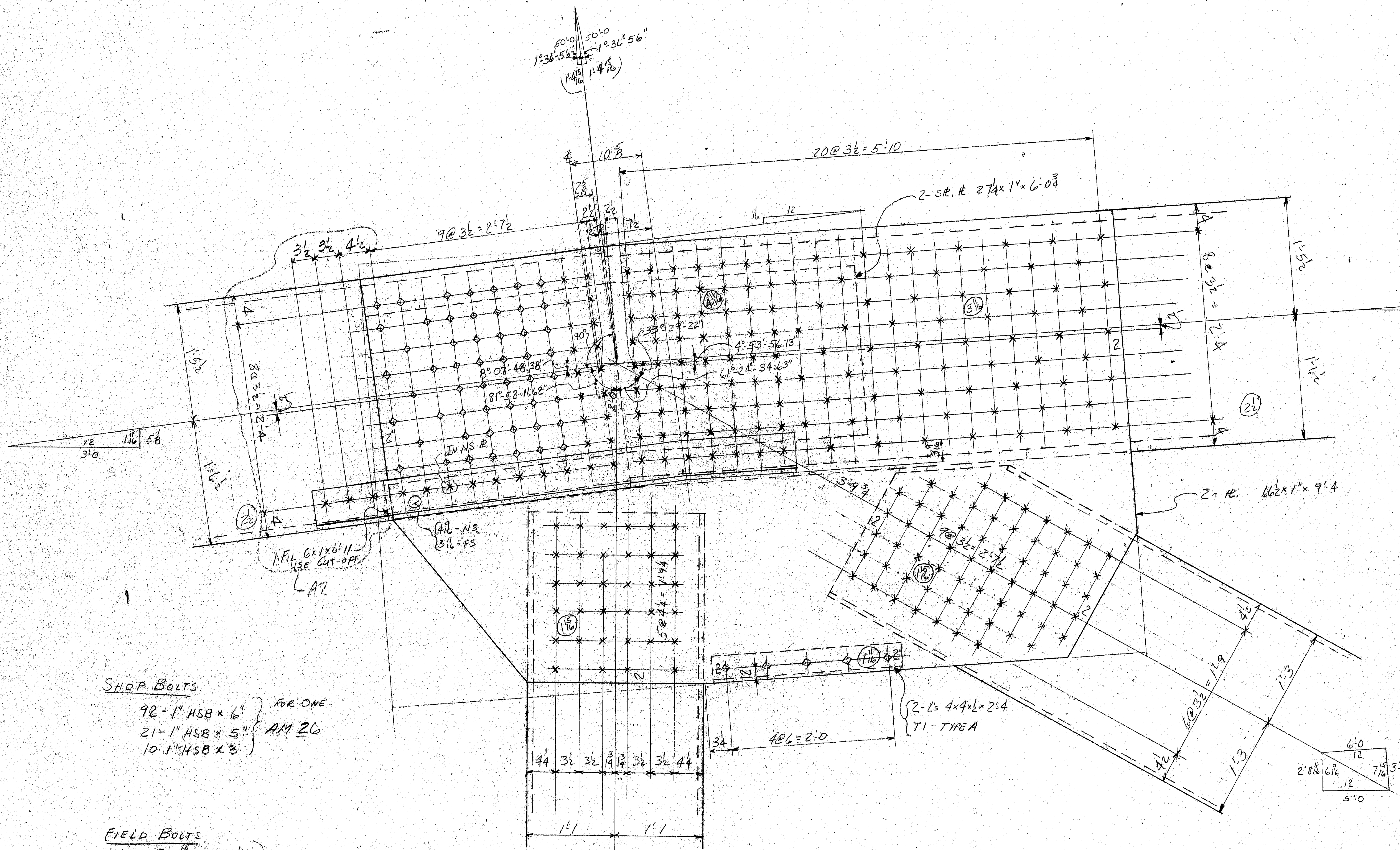
CUSTOMER
MAINE STATE HIGHWAY COMMISSION
HARDESTY AND HANOVER CONSULTING ENG'R.
STRUCTURE
PISCATAQUA RIVER BRIDGE, CONTRACT #5
PROJECT #1-95-1(22)16, KITTERY, MAINE

BETHLEHEM STEEL CORPORATION
FABRICATED STEEL CONSTRUCTION

CHICAGO DRAFTING ROOM CHICAGO WORKS
MADE BY B DATE 1-26-70 IN CHARGE LAG
CHECKED BY C.A.D. DATE 2-27-70 SHOP NO.
CONTRACT CG6290 DRAWING NO. G[illegible]35E

134:9

For location of details shown on this sheet refer to diagrams.



SHOP BOLTS

92-1" HSB × 6"
21-1" HSB × 5"
10-1" HSB × 3
} FOR ONE AM 26

FIELD BOLTS

192-1" HSB × 3¼
130-1" HSB × 5
A2 { 21-1" HSB × 5¾
148-1" HSB × 6
} FOR ONE

For location of details shown on this sheet refer to diagrams.

APPROVED:
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CONSULTING ENGINEERS
NEW YORK, N.Y.
BY A.N. APR 21 1970

POINT - U14

MATERIAL A517 U.N.
~~RIVETS OR~~ BOLTS 1"
OPEN HOLES 1 1/16
A325 FIELD BOLTS
SHOP CONTACT SURFACES
PAINT

NO.	DATE	INIT.
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A1	2-27	2/ET

REVISION

SUBMITTAL	1	2	3	4	5	6	7	8	9	0
DATE										

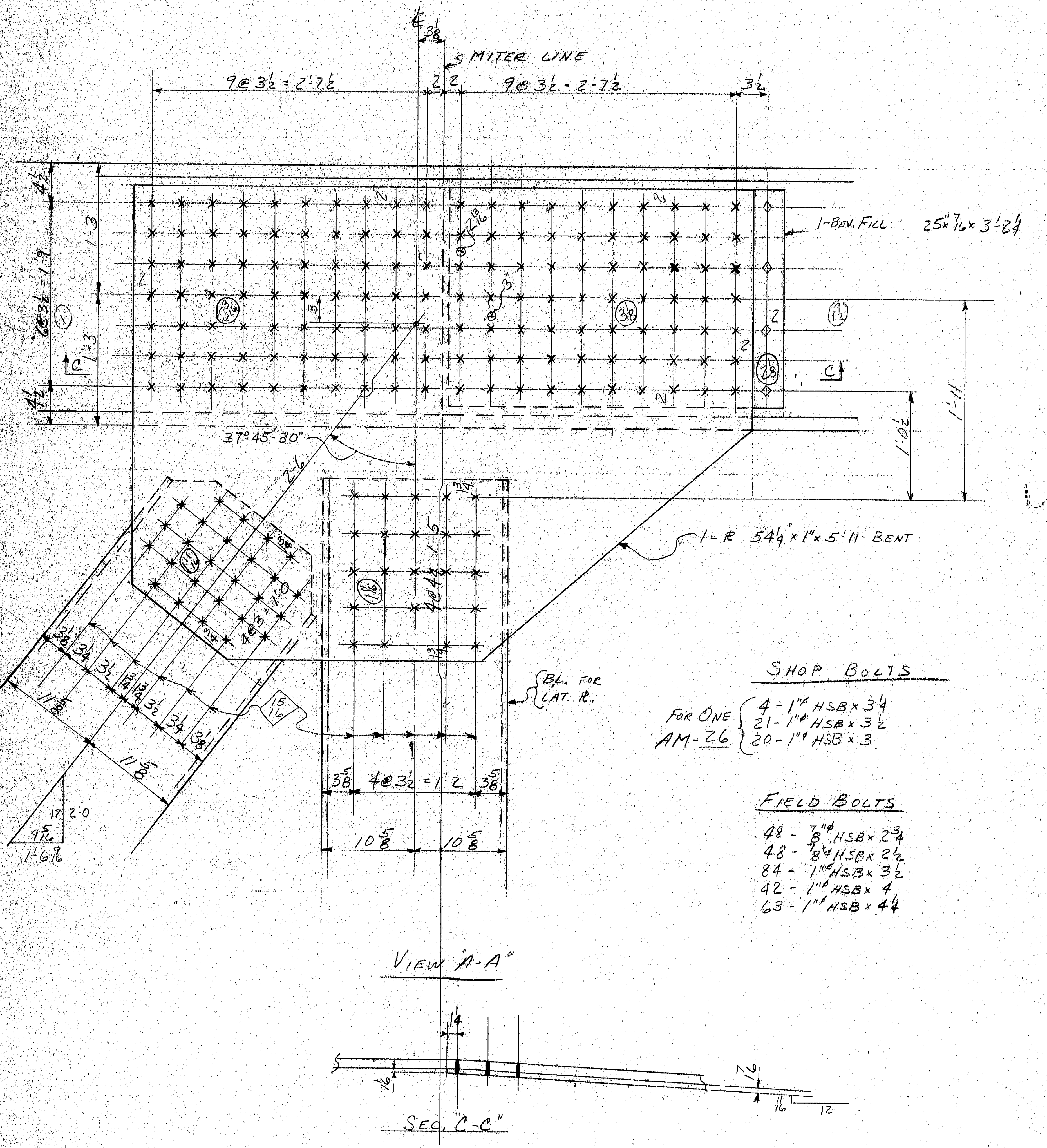
CUSTOMER
MAINE STATE HIGHWAY COMMISSION
HARDESTY AND HANOVER CONSULTING ENG'R.
STRUCTURE
PISCATAQUA RIVER BRIDGE, CONTRACT #5
PROJECT #1-95-1(22)16, KITTERY, MAINE

BETHLEHEM STEEL CORPORATION
FABRICATED STEEL CONSTRUCTION

CHICAGO DRAFTING ROOM CHICAGO WORKS
MADE BY CPM DATE IN CHARGE L.A. GOTHBERG
CHECKED BY ET DATE 2-20-70 SHOP NO.
CONTRACT CG 6290-000 DRAWING NO. GD 74 AB

3AA63 (1-65)

134:10

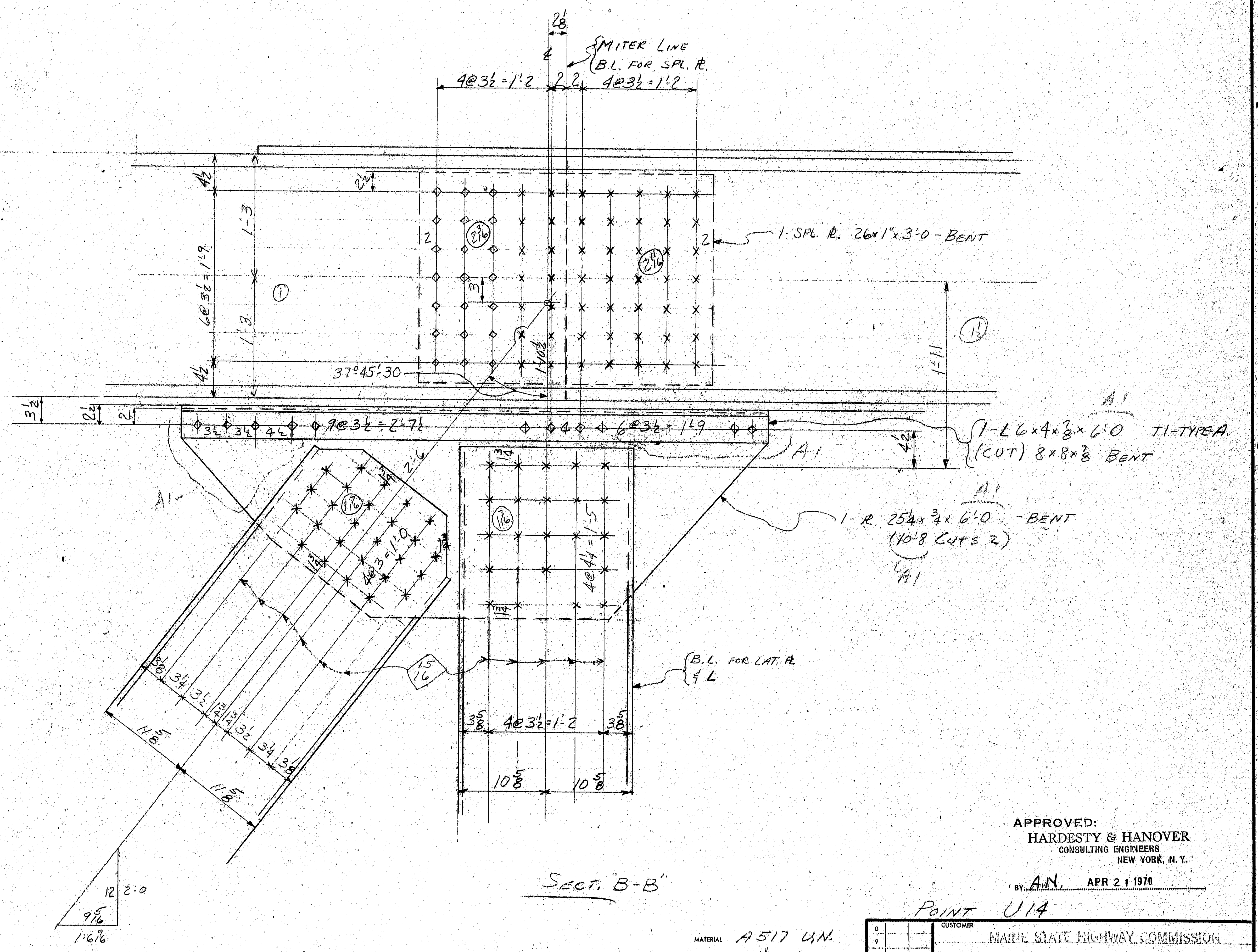


SHOP BOLTS

For One AM-26
- 4 - 1"ϕ HSB × 3¼
- 21 - 1"ϕ HSB × 3½
- 20 - 1"ϕ HSB × 3

FIELD BOLTS

- 48 - ⅞"ϕ HSB × 2¾
- 48 - ⅞"ϕ HSB × 2½
- 84 - 1"ϕ HSB × 3½
- 42 - 1"ϕ HSB × 4
- 63 - 1"ϕ HSB × 4¼



For location of details shown on this sheet refer to diagrams.

APPROVED:
HARDESTY & HANOVER
CONSULTING ENGINEERS
NEW YORK, N.Y.
BY A.N. APR 21 1970

POINT U14

MATERIAL A517 U.N.
~~RIVETS OR~~ BOLTS 1" UN
OPEN HOLES 1 1/16"ϕ U.N.
A325 FIELD BOLTS
SHOP CONTACT SURFACES
PAINT

Chk'd by & Date
Back Chk'd by & Date CPM. 2-18-70
Fixed By & Date CPM 2-18-70

SUBMITTAL	1	2	3	4	5	6	7	8	9	0
DATE										

REVISION

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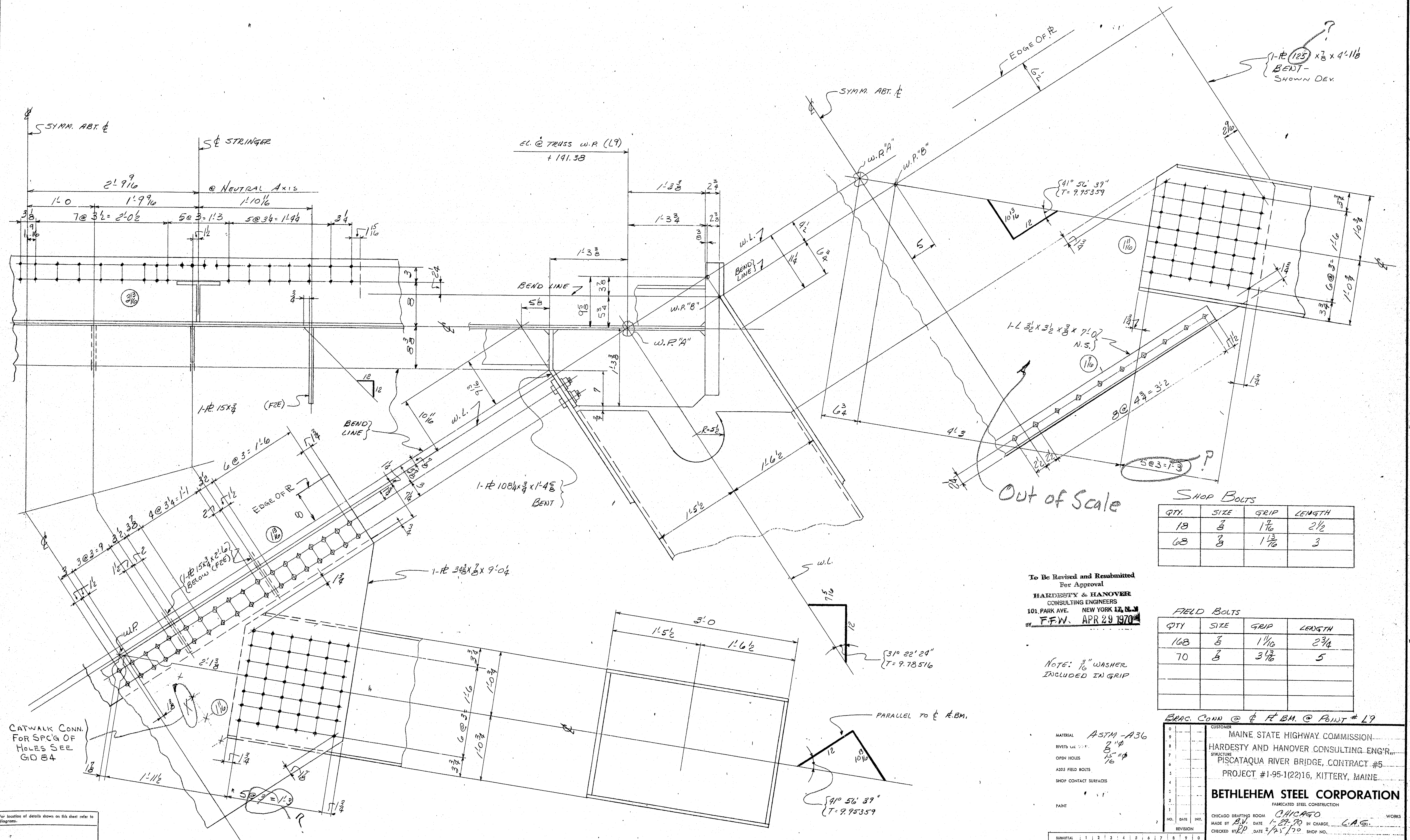
A1	3-31	5/ET

CUSTOMER MAINE STATE HIGHWAY COMMISSION
HARDESTY AND HANOVER CONSULTING ENG'R.
STRUCTURE PISCATAQUA RIVER BRIDGE, CONTRACT #5
PROJECT #I-95-1(22)16, KITTERY, MAINE

BETHLEHEM STEEL CORPORATION
FABRICATED STEEL CONSTRUCTION
CHICAGO DRAFTING ROOM CHICAGO WORKS
MADE BY CPM DATE IN CHARGE L.A. GOTHBERG
CHECKED BY ET DATE 2-20-70 SHOP NO.
CONTRACT CG 6290-000 DRAWING NO. GD 74 BB

134:11



SHOP BOLTS

QTY.	SIZE	GRIP	LENGTH
18	7/8	1 7/16	2 1/2
68	7/8	1 13/16	3

To Be Revised and Resubmitted
For Approval
HARDESTY & HANOVER
CONSULTING ENGINEERS
101 PARK AVE. NEW YORK 17, N.Y.
BY F.F.W. APR 29 1970

FIELD BOLTS

QTY	SIZE	GRIP	LENGTH
168	7/8	1 11/16	2 3/4
70	7/8	3 13/16	5

NOTE: 3/16" WASHER INCLUDED IN GRIP

For location of details shown on this sheet refer to diagrams.

MATERIAL ASTM-A36
RIVETS OR BOLTS 7/8"ϕ
OPEN HOLES 15/16"ϕ
A325 FIELD BOLTS
SHOP CONTACT SURFACES
PAINT

REVISION NO.	DATE	INIT.
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SUBMITTAL	1	2	3	4	5	6	7	8	9	0
DATE										

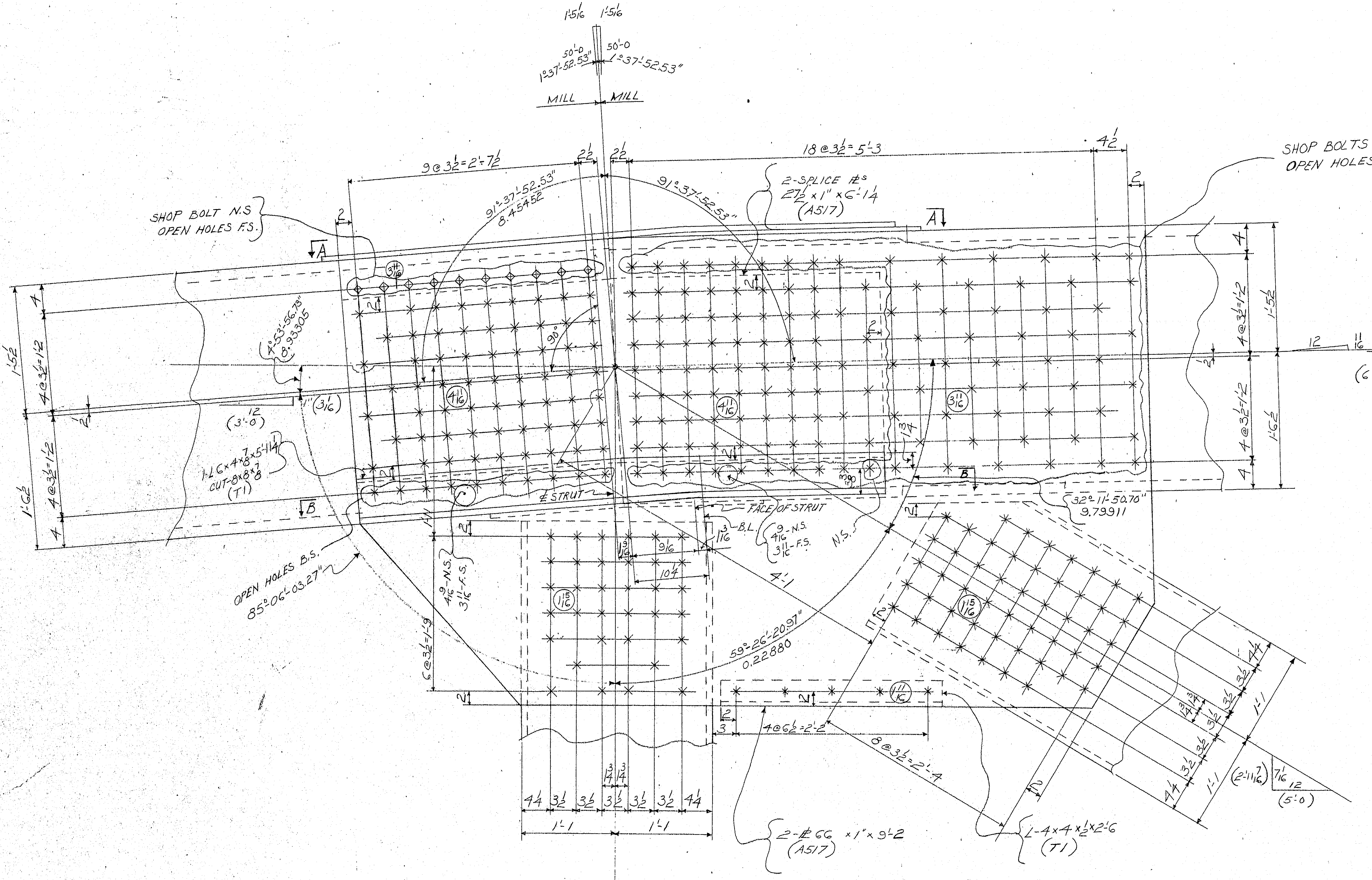
BRAC. CONN @ ℄ FL. BM. @ POINT # L9

CUSTOMER
MAINE STATE HIGHWAY COMMISSION
HARDESTY AND HANOVER CONSULTING ENG'R.
STRUCTURE
PISCATAQUA RIVER BRIDGE, CONTRACT #5
PROJECT #1-95-1(22)16, KITTERY, MAINE

BETHLEHEM STEEL CORPORATION
FABRICATED STEEL CONSTRUCTION

CHICAGO DRAFTING ROOM CHICAGO WORKS
MADE BY B.V. DATE 1-29-70 IN CHARGE L.A.G.
CHECKED BY RP DATE 2/25/70 SHOP NO.
CONTRACT CG 6290-000 DRAWING NO. GD 75

134:12



SHOP BOLTS

FOR ONE

GRIP	QTY	
3 11/16	73	HSBs 1"φ × 5
4 9/16	10	" 1"φ × 5¾

FIELD BOLTS

FOR ONE

GRIP	QTY	
4 9/16	10	HSBs 1"φ × 5¾
3 11/16	74	HSBs 1"φ × 5
4 11/16	252	HSBs 1"φ × 6
1 15/16	168	HSBs 1"φ × 3¼
1 11/16	10	HSBs 1"φ × 3

APPROVED:-
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101 PARK AVE. NEW YORK 17, N.Y
BY F.F.W DEC 30 1970

NOTE!
BOLT GRIPS SHOWN ABOVE INCLUDE 3/16" FOR H-WASHERS.
FOR VIEW "A-A" & SEC-"B-B" SEE SHT.# GD76BB

For location of details shown on this sheet refer to diagrams.

MATERIAL
RIVETS OR BOLTS
OPEN HOLES
A325 FIELD BOLTS
SHOP CONTACT SURFACES
PAINT
SEE SHT.# GD76BB

PANEL POINT -U15

NO.	DATE	INIT.
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REVISION

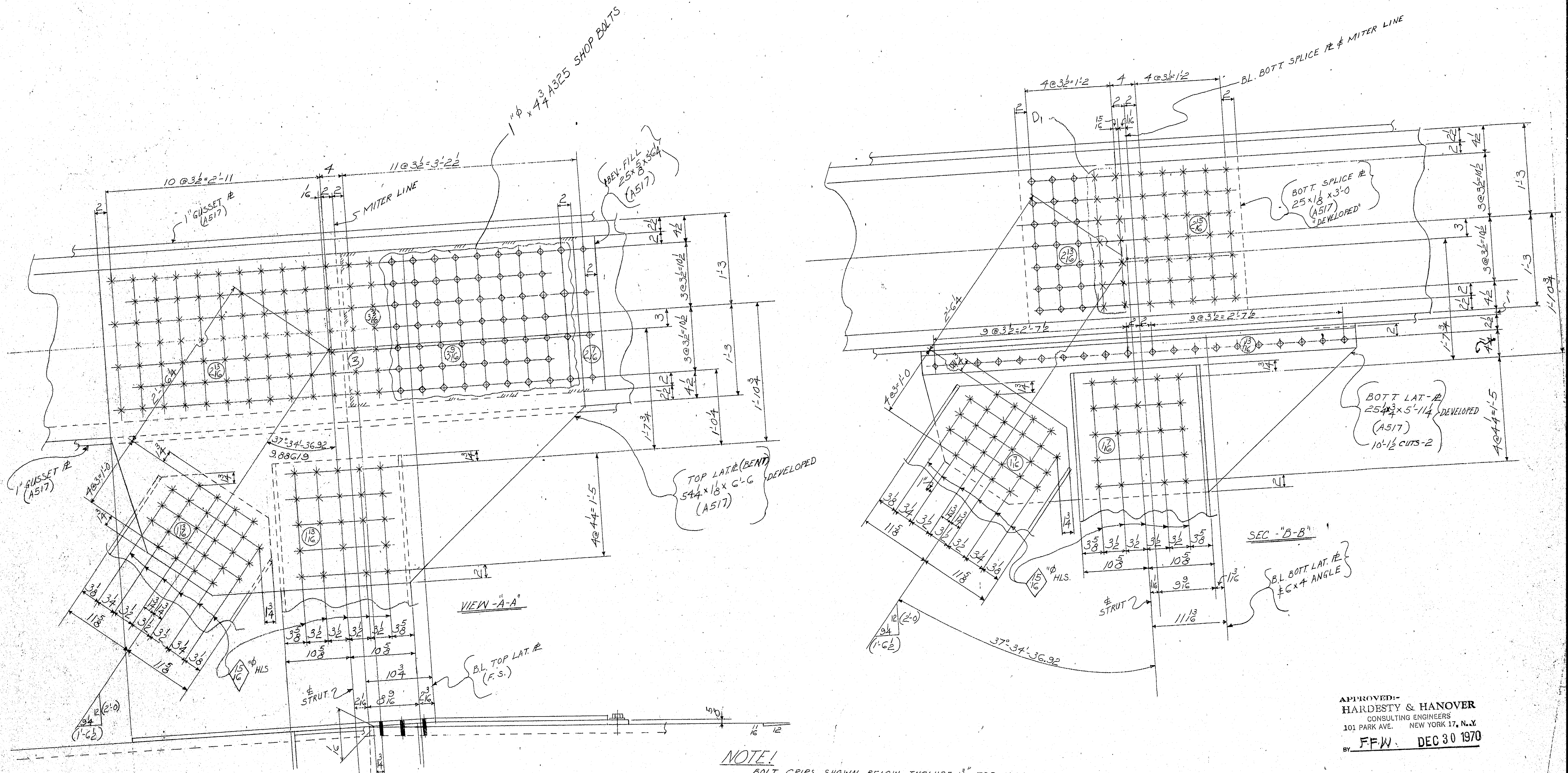
SUBMITTAL	1	2	3	4	5	6	7	8	9	0
DATE										

CUSTOMER MAINE STATE HIGHWAY COMMISSION
HARDESTY AND HANOVER CONSULTING ENG'R
STRUCTURE PISCATAQUA RIVER BRIDGE, CONTRACT #5
PROJECT #1-95-1(22)16, KITTERY, MAINE

BETHLEHEM STEEL CORPORATION
FABRICATED STEEL CONSTRUCTION

CHICAGO DRAFTING ROOM CHGO WORKS
MADE BY W.P. DATE 1-26-70 IN CHARGE L.G.
CHECKED BY LM DATE 2-10-70 SHOP NO.
CONTRACT CGG290-000. DRAWING NO. GD76AB.

134:13


1"φ x 4 3/4 A325 SHOP BOLTS
10 @ 3 1/2 = 2'-11
11 @ 3 1/2 = 3'-2 1/2
MITER LINE
1" GUSSET PL (A517)
BEV. FILL 25 x 5/8 x 3'-6 1/4 (A517)
TOP LAT. PL (BENT) 54 1/4 x 1 1/8 x 6'-6 DEVELOPED (A517)
37° 34' 36.92
9.886/19
4 @ 4 1/4 = 1'-5
1 5/16 φ HLS
VIEW "A-A"
STRUT
B.L. TOP LAT. PL (F.S.)
4 @ 3 1/2 = 1'-2
B.L. BOTT SPLICE PL & MITER LINE
BOTT. SPLICE PL 25 x 1 1/8 x 3'-0 (A517) DEVELOPED
9 @ 3 1/2 = 2'-7 1/2
BOTT LAT. PL 25 1/4 x 1 1/8 x 5'-11 1/4 DEVELOPED (A517) 10'-1 1/2 CUTS-2
SEC. "B-B"
B.L. BOTT LAT. PL & 6 x 4 ANGLE
1'-3
1'-10 1/4

NOTE!

BOLT GRIPS SHOWN BELOW INCLUDE 3/16" FOR H-WASHERS

SHOP BOLTS (FOR ONE)

GRIP	QTY.	
2 7/16	4	HSBs 1"φ x 3 3/4
2 13/16	21 (D1)	HSBs 1"φ x 4
1 13/16	20 (D1)	HSBs 1"φ x 3
3 3/16	60	HSB 1"φ x 4 3/4

FIELD BOLTS (FOR ONE)

GRIP	QTY.	
2 13/16	88 (D1)	HSBs 1"φ x 4
3	7 (D1)	HSBs 1"φ x 4 1/4
3 3/16	7 (D1)	HSBs 1"φ x 4 1/2
1 13/16	48	HSBs 7/8φ x 3
2 15/16	35	HSBs 1"φ x 4 1/4
1 7/16	48	HSBs 7/8φ x 2 1/2

MATERIAL – AS NOTED
~~RIVETS OR~~ BOLTS 1"φ
OPEN HOLES – 1 1/16"φ U.N.
A325 FIELD BOLTS
SHOP CONTACT SURFACES
PAINT

APPROVED:-
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101 PARK AVE. NEW YORK 17, N.Y.
BY F.F.W. DEC 30 1970

TOP & BOTT LATERAL PLs @ POINT U15

NO.	DATE	INIT.
D	3-3	③ LM

REVISION

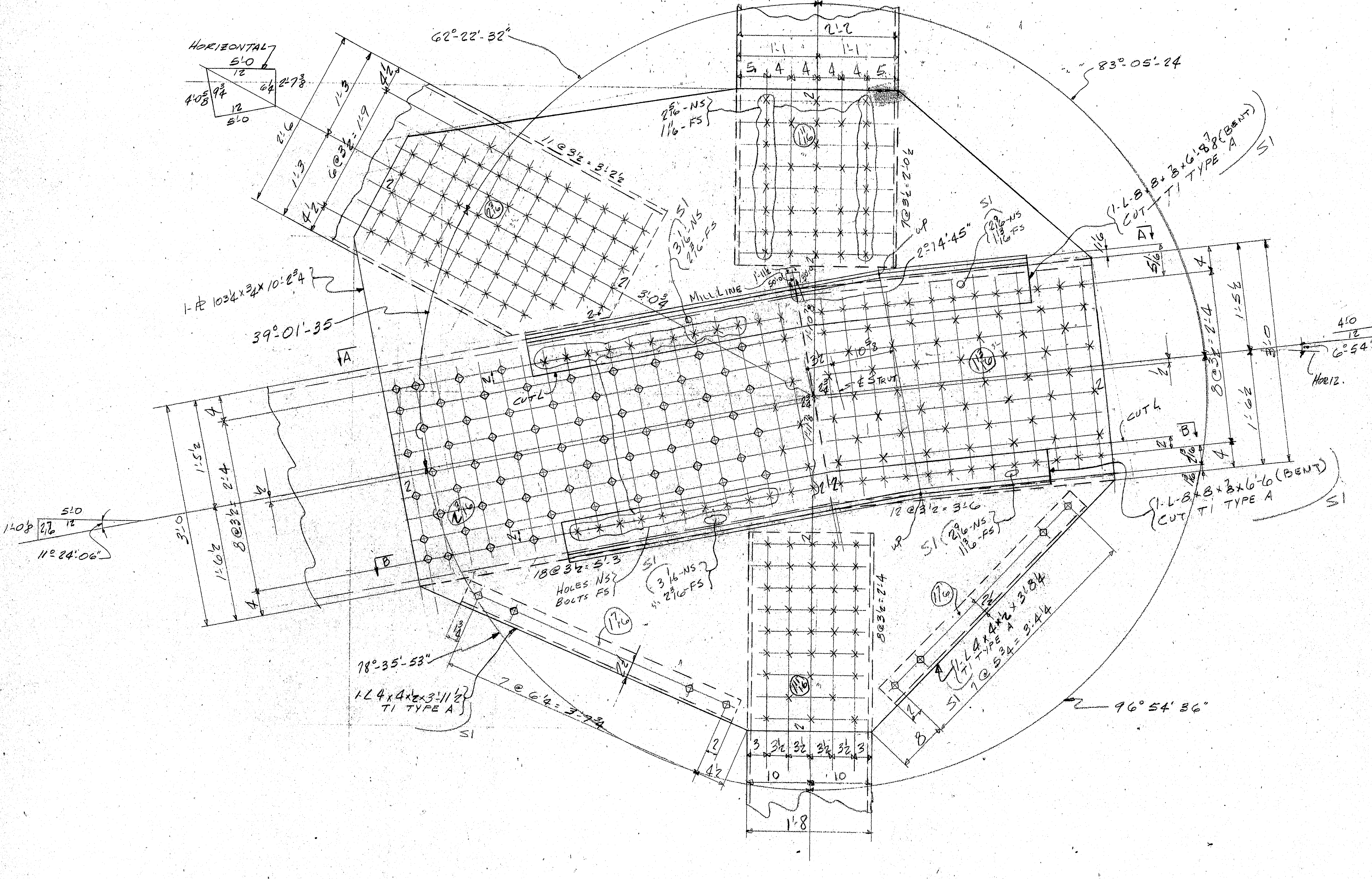
SUBMITTAL	1	2	3	4	5	6	7	8	9	0
DATE										

CUSTOMER MAINE STATE HIGHWAY COMMISSION
HARDESTY AND HANOVER CONSULTING ENG'R
STRUCTURE PISCATAQUA RIVER BRIDGE, CONTRACT #5
PROJECT #1-95-1(22)16, KITTERY, MAINE

BETHLEHEM STEEL CORPORATION
FABRICATED STEEL CONSTRUCTION
CHICAGO DRAFTING ROOM CHGO WORKS
MADE BY DV DATE 1-28-70 IN CHARGE L.G.
CHECKED BY LM DATE 2-10-70 SHOP NO.
CONTRACT CG6290-000 DRAWING NO. 6D7C8B

For location of details shown on this sheet refer to diagrams.

134:14



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BY F.F.W. FEB 27 1970

MID CHORD @ POINT M14 & M14'

MATERIAL
RIVETS OR BOLTS 1 1/8"
OPEN HOLES 1 1/16"
A325 FIELD BOLTS
SHOP CONTACT SURFACES
PAINT

SUBMITTAL	1	2	3	4	5	6	7	8	9	0
DATE										

NO.	DATE	INIT.
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S1	2-16	8/TC

REVISION

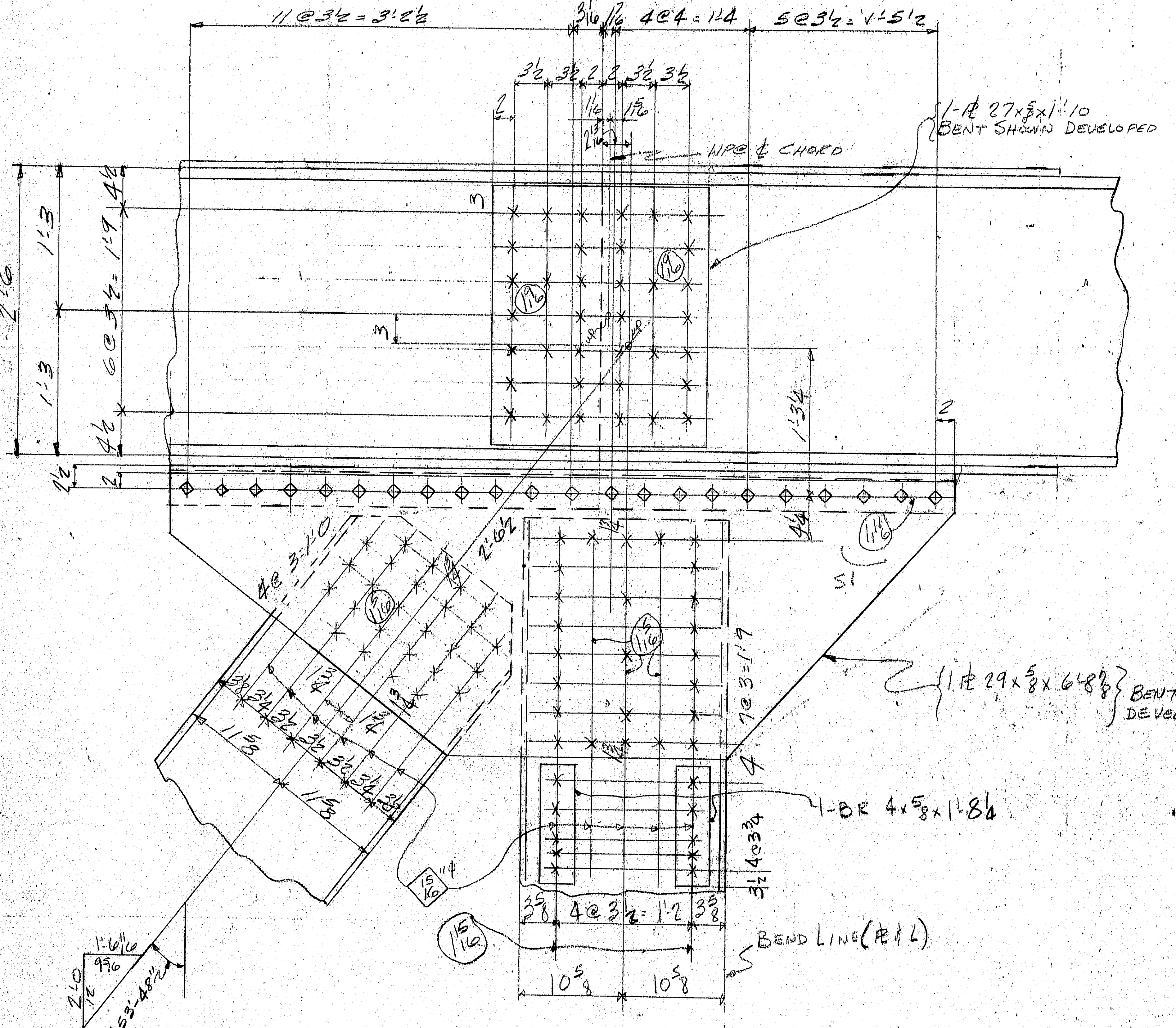
CUSTOMER
MAINE STATE HIGHWAY COMMISSION
HARDESTY AND HANOVER CONSULTING ENG'R.
STRUCTURE
PISCATAQUA RIVER BRIDGE, CONTRACT #5
PROJECT #1-95-1(22)16, KITTERY, MAINE

BETHLEHEM STEEL CORPORATION
FABRICATED STEEL CONSTRUCTION

CHICAGO DRAFTING ROOM CHICAGO WORKS
MADE BY JF DATE 1-22-70 IN CHARGE L. GOTHBERG
CHECKED BY RP DATE 2/16-70 SHOP NO.
CONTRACT C46290-000 DRAWING NO. 6D77AB

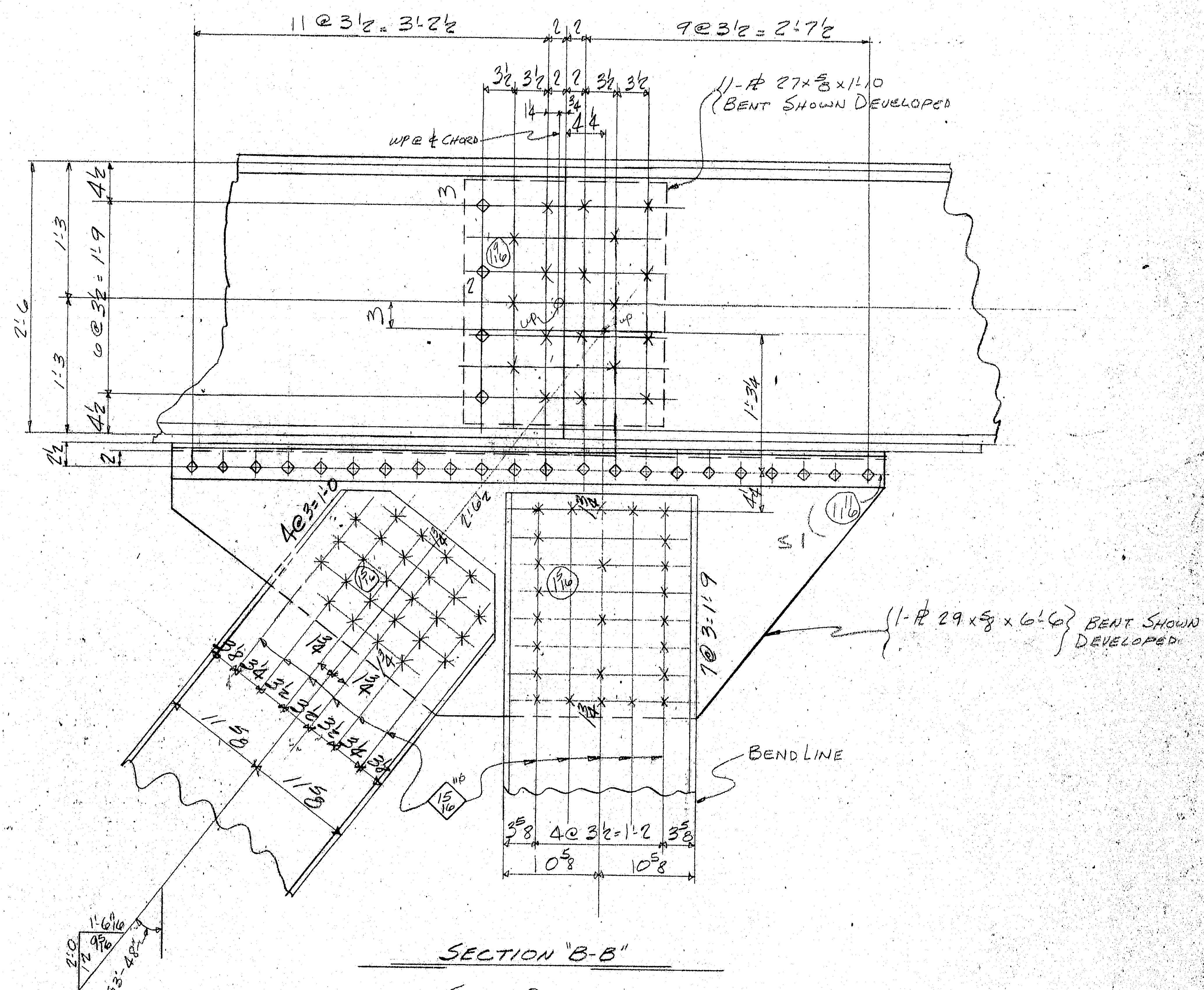
For location of details shown on this sheet refer to diagrams.

134:15



SECTION "A-A"

SHOWN DEVELOPED



SECTION "B-B"

SHOWN DEVELOPED

SHOP BOLTS

AM 21
156-HSB 1"⌀ × 3½
S1
36-HSB 1"⌀ × 2¾
44-HSB 1"⌀ × 3

FIELD BOLTS

24-HSB 1"⌀ × 4¼
184-HSB 1"⌀ × 3½
252-HSB 1"⌀ × 3
54-HSB 1"⌀ × 2¾
20-HSB 1"⌀ × 3¾
86-HSB ⅞"⌀ × 2½
24-HSB ⅞"⌀ × 3

QTY. REQ'D FOR ONE POINT

NOTE: GRIPS SHOWN INCLUDE 3/16" FOR EACH HARD WASHER REQ'D

APPROVED:-
HARDESTY & HANOVER
CONSULTING ENGINEERS
101 PARK AVE. NEW YORK 17, N.Y.
BY F.F.W. FEB 27 1970

MID CHORD @ POINT M14 & M14'

MATERIAL ASTM A588 UN.
[redacted] BOLTS 1"⌀
OPEN HOLES 1 1/16"⌀ UN
A325 FIELD BOLTS
SHOP CONTACT SURFACES

PAINT

NO.	DATE	INIT.
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S1	2-16	3/70

REVISION

SUBMITTAL	1	2	3	4	5	6	7	8	9	0
DATE										

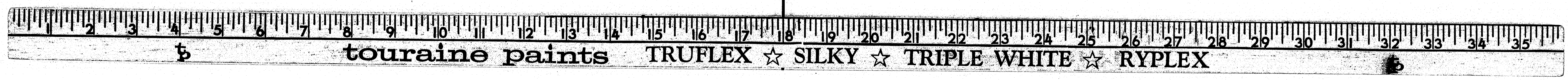
CUSTOMER
MAINE STATE HIGHWAY COMMISSION
HARDESTY AND HANOVER CONSULTING ENG'R.
STRUCTURE
PISCATAQUA RIVER BRIDGE, CONTRACT #5
PROJECT #1-95-1(22)16, KITTERY, MAINE

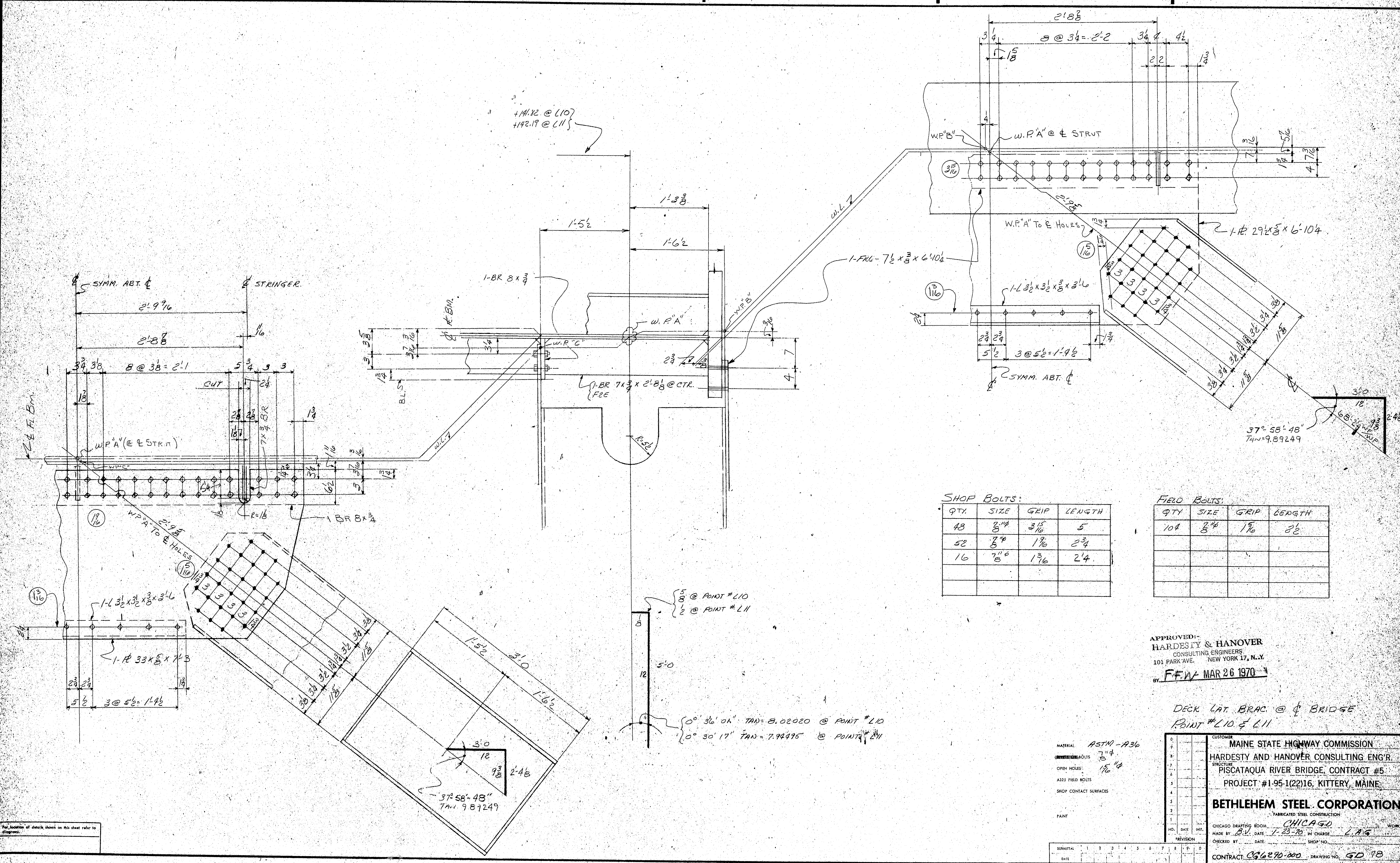
BETHLEHEM STEEL CORPORATION
FABRICATED STEEL CONSTRUCTION

CHICAGO DRAFTING ROOM CHICAGO WORKS
MADE BY JF DATE 1-26-70 IN CHARGE L. GOTHBERG
CHECKED BY RP DATE 2-10-70 SHOP NO.
CONTRACT C6 6290-000 DRAWING NO. 6D 77BB

134:16

For location of details shown on this sheet refer to diagrams.





SHOP BOLTS:

QTY.	SIZE	GRIP	LENGTH
48	⅞"⌀	3¹⁵⁄₁₆	5
52	⅞"⌀	1⁹⁄₁₆	2¾
16	⅞"⌀	1³⁄₁₆	2¼

FIELD BOLTS:

QTY	SIZE	GRIP	LENGTH
104	⅞"⌀	1⁵⁄₁₆	2½

APPROVED:-
HARDESTY & HANOVER
CONSULTING ENGINEERS
101 PARK AVE. NEW YORK 17, N.Y.
BY FFW MAR 26 1970

DECK LAT. BRAC. @ ℄ BRIDGE
POINT #L10 & L11

MATERIAL ASTM-A36
~~RIVETS OR~~ BOLTS ⅞"⌀
OPEN HOLES ¹⁵⁄₁₆"⌀
A325 FIELD BOLTS
SHOP CONTACT SURFACES
PAINT

NO.	DATE	INIT.
0		
9		
8		
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REVISION

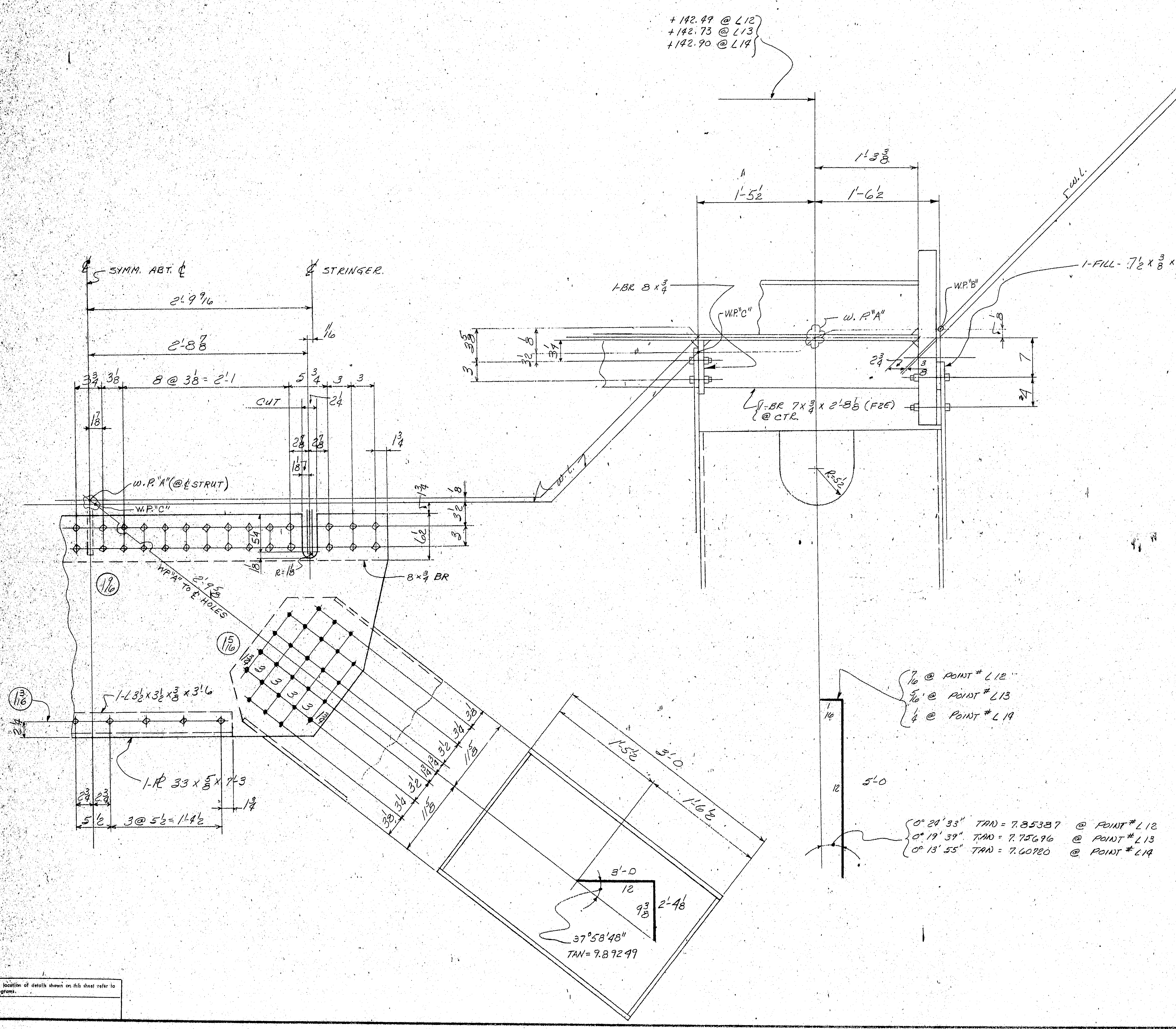
SUBMITTAL	1	2	3	4	5	6	7	8	9	0
DATE										

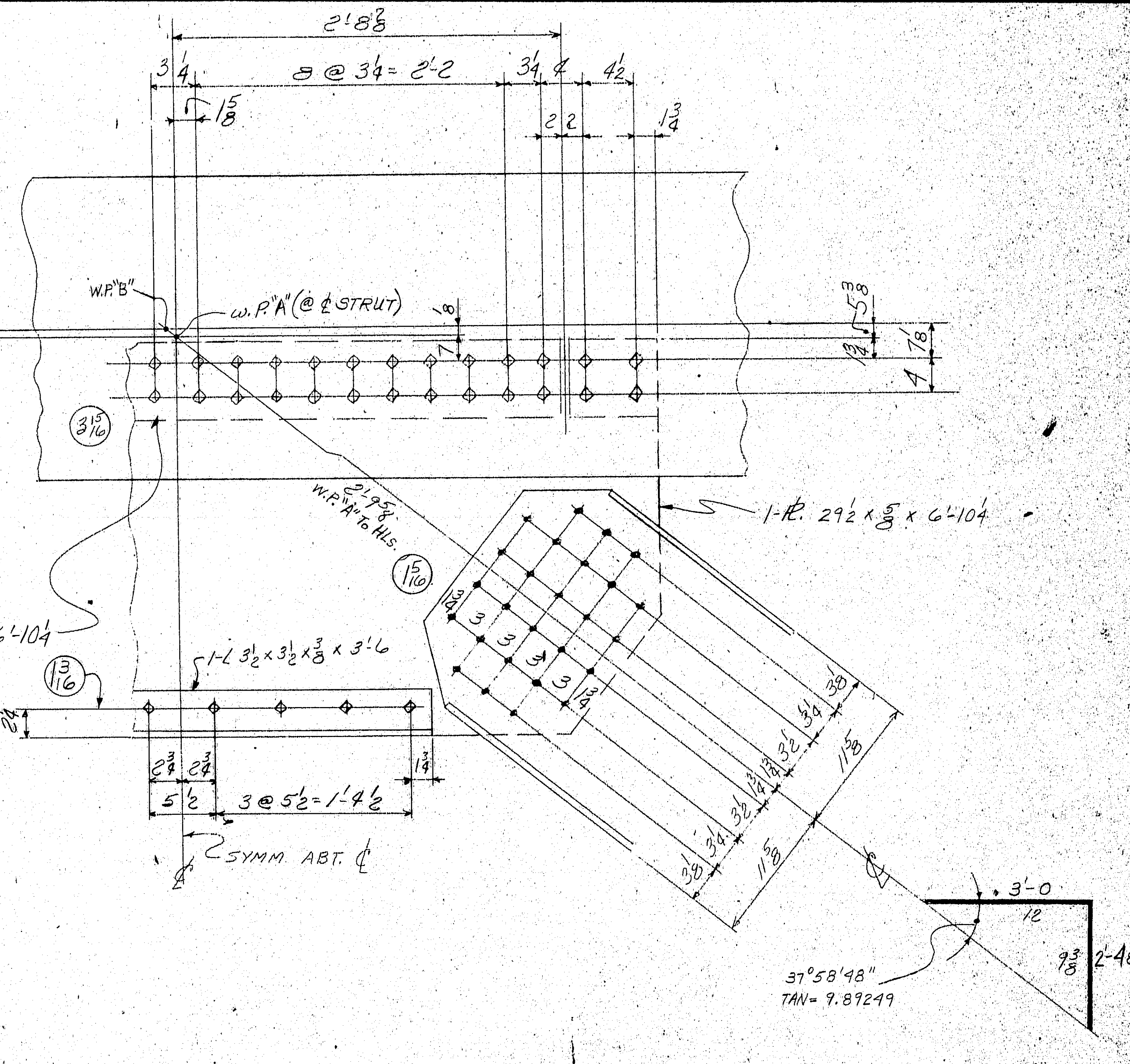
CUSTOMER
MAINE STATE HIGHWAY COMMISSION
HARDESTY AND HANOVER CONSULTING ENG'R.
STRUCTURE
PISCATAQUA RIVER BRIDGE, CONTRACT #5
PROJECT #1-95-1(22)16, KITTERY, MAINE

BETHLEHEM STEEL CORPORATION
FABRICATED STEEL CONSTRUCTION
CHICAGO DRAFTING ROOM CHICAGO WORKS
MADE BY B.V. DATE 1-23-70 IN CHARGE L.A.G.
CHECKED BY DATE SHOP NO.
CONTRACT CG6290-000 DRAWING NO. GD 78

For location of details shown on this sheet refer to diagrams.

134:17





SHOP BOLTS

QTY	SIZE	GRIP	LENGTH
48	7/8"⌀	3 15/16	5
52	7/8"⌀	1 9/16	2 3/4
16	7/8"⌀	1 3/16	2 1/4

FIELD BOLTS

QTY	SIZE	GRIP	LENGTH
104	7/8"⌀	1 5/16	2 1/2

GRIP INCLUDES THK. (3/16) OF WASHER

For location of details shown on this sheet refer to diagrams.

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BY F-F-W MAR 26 1970

DECK LAT. BRAC. @ ℄ BRIDGE
POINT # L12 - L13 & L14

MATERIAL ASTM-A36
[redacted] BOLTS 7/8
OPEN HOLES 15/16"⌀
A325 FIELD BOLTS
SHOP CONTACT SURFACES
PAINT

NO.	DATE	INIT
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REVISION

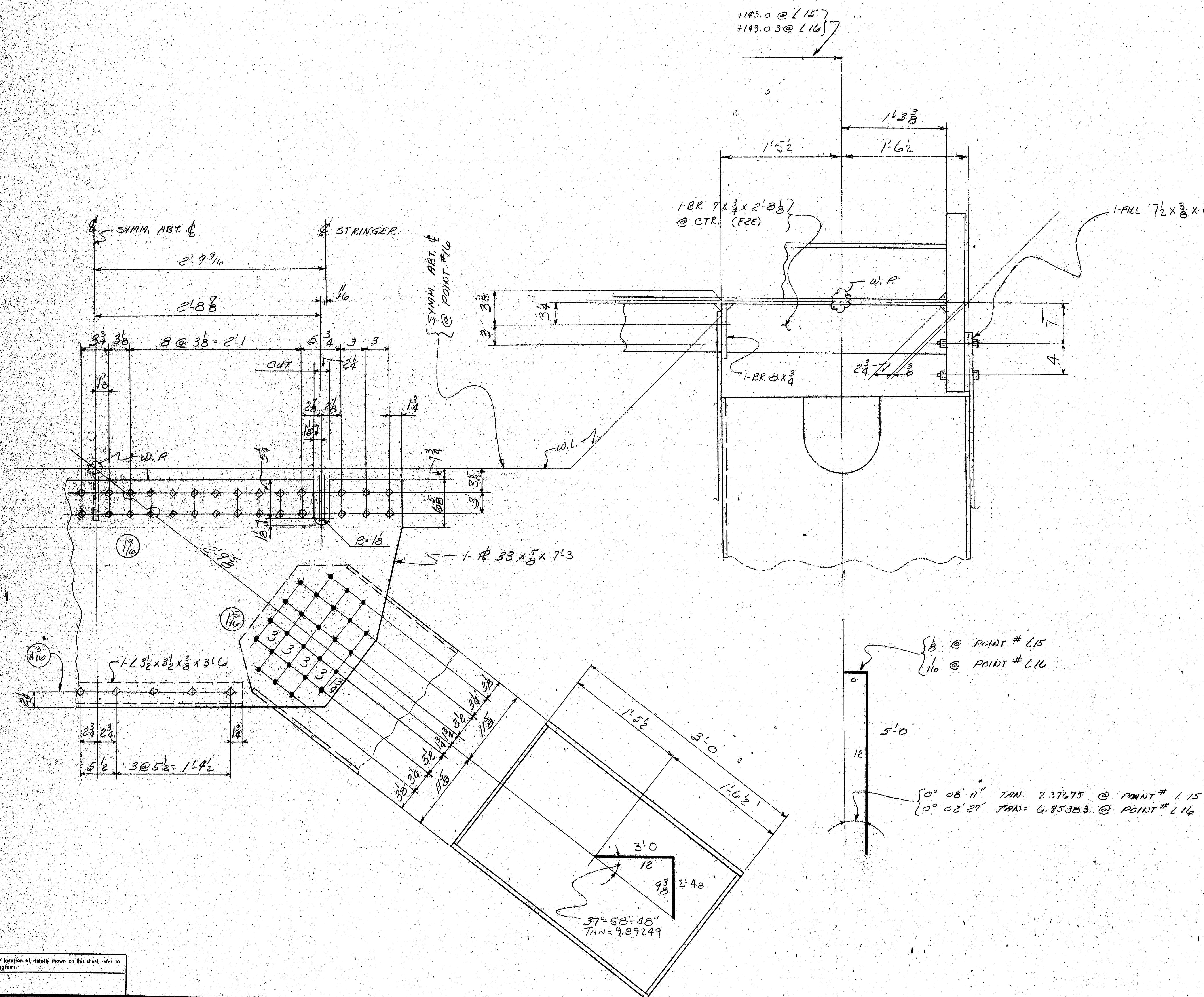
SUBMITTAL	1	2	3	4	5	6	7	8	9	0
DATE										

CUSTOMER
MAINE STATE HIGHWAY COMMISSION
HARDESTY AND HANOVER CONSULTING ENG'R.
STRUCTURE
PISCATAQUA RIVER BRIDGE, CONTRACT #5
PROJECT #1-95-1(22)16, KITTERY, MAINE

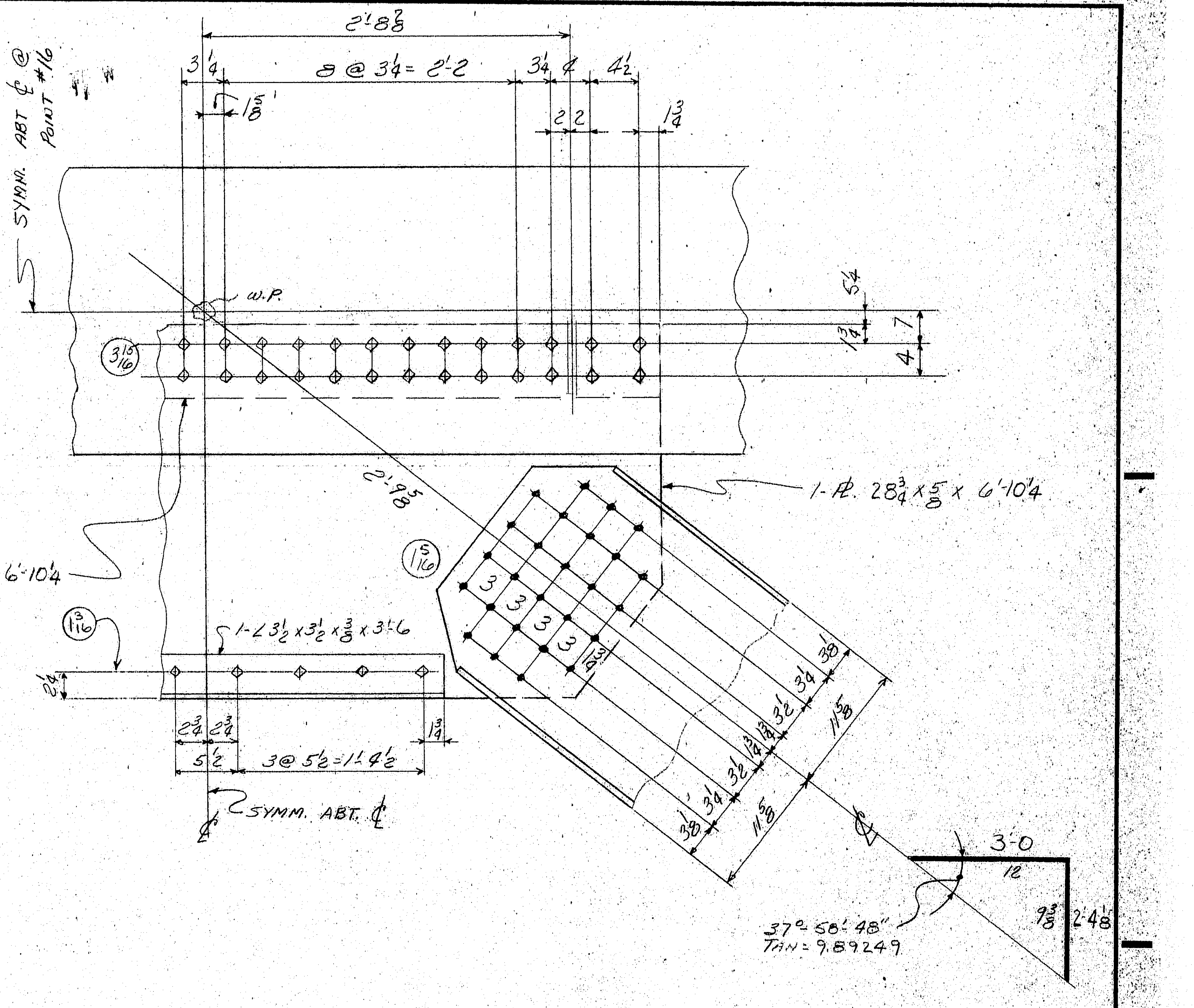
BETHLEHEM STEEL CORPORATION
FABRICATED STEEL CONSTRUCTION

CHICAGO DRAFTING ROOM CHICAGO WORKS
MADE BY B.V. DATE 1-26-70 IN CHARGE L.A.G.
CHECKED BY DATE SHOP NO.
CONTRACT CG6290-000 DRAWING NO. GD 79

134:18



For location of details shown on this sheet refer to diagrams.



SHOP BOLTS

QTY.	SIZE	GRIP	LENGTH
48	7/8"⌀	3 15/16	5
52	7/8"⌀	1 9/16	2 3/4
16	7/8"⌀	1 3/16	2 1/4

FIELD BOLTS

QTY.	SIZE	GRIP	LENGTH
104	7/8"⌀	1 5/16	2 1/2

GRIP INCLUDES THK. (3/16) OF WASHER

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CONSULTING ENGINEERS
101 PARK AVE. NEW YORK 17, N. Y.
BY FFW MAR 26 1970

NOTE:
POINT L15 (AS SHOWN)
POINT L16 (SIMILAR)

DECK LAT. BRAC. @ ℄ BRIDGE
POINT #L15 & L16

MATERIAL ASTM-A36
RIVETS OR BOLTS 7/8"⌀
OPEN HOLES 15/16"⌀
A325 FIELD BOLTS
SHOP CONTACT SURFACES
PAINT

NO.	DATE	INIT.
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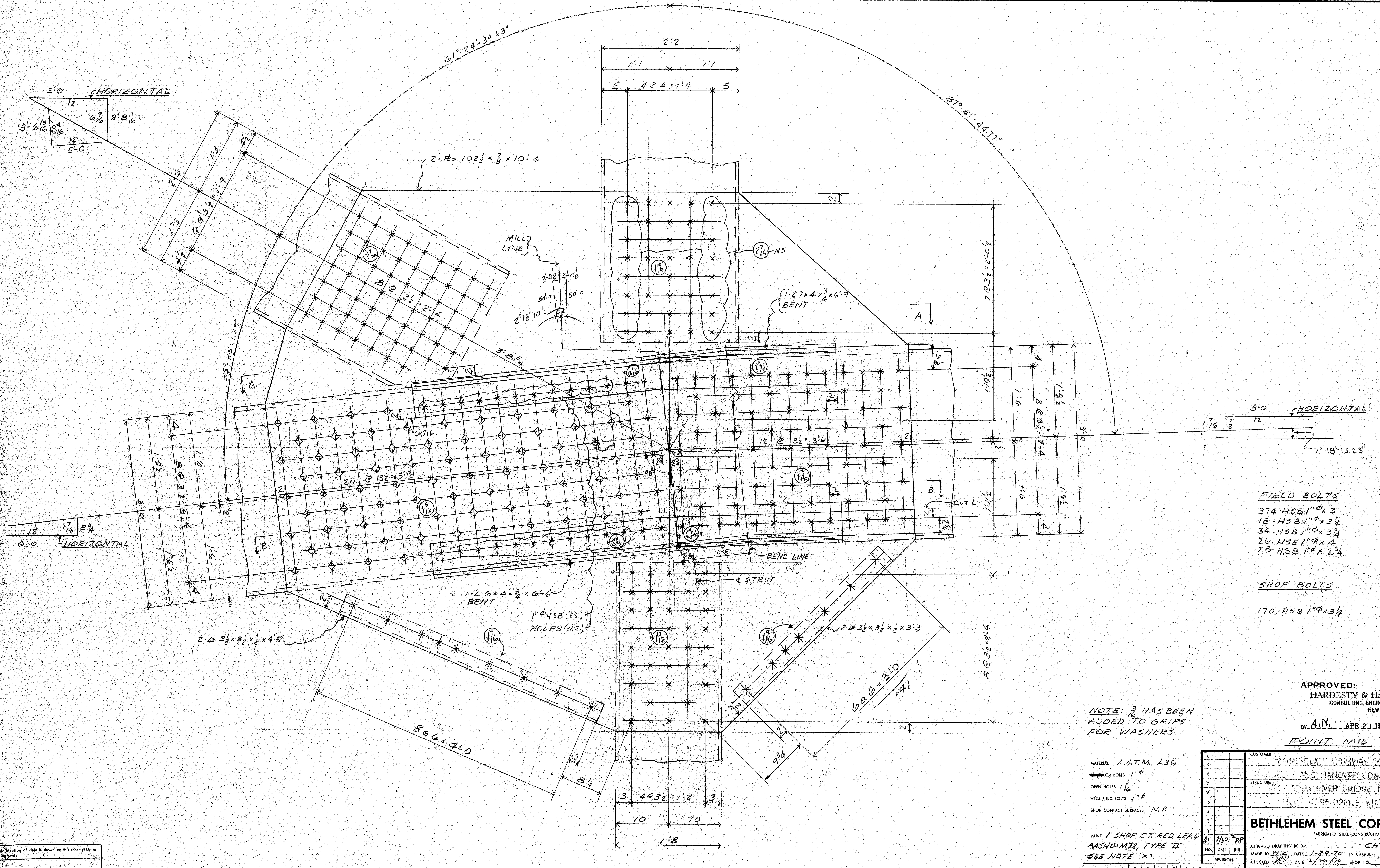
REVISION

SUBMITTAL	1	2	3	4	5	6	7	8	9	0
DATE										

CUSTOMER
MAINE STATE HIGHWAY COMMISSION
HARDESTY AND HANOVER CONSULTING ENG'R.
STRUCTURE
PISCATAQUA RIVER BRIDGE, CONTRACT #5
PROJECT #1-95-1(22)16, KITTERY, MAINE

BETHLEHEM STEEL CORPORATION
FABRICATED STEEL CONSTRUCTION
CHICAGO DRAFTING ROOM CHICAGO WORKS
MADE BY B.V. DATE 1-26-70 IN CHARGE L.A.G.
CHECKED BY DATE SHOP NO.
CONTRACT CG6290-000 DRAWING NO. GD 80

134:19



FIELD BOLTS

374-HSB 1"φ x 3
18-HSB 1"φ x 3¼
34-HSB 1"φ x 3¾
26-HSB 1"φ x 4
28-HSB 1"φ X 2¾

SHOP BOLTS

170-HSB 1"φ x 3¼

NOTE: 3/16 HAS BEEN ADDED TO GRIPS FOR WASHERS

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NEW YORK, N.Y.
BY A.N. APR 2 1 1970

POINT M15

MATERIAL A.S.T.M. A36
OR BOLTS 1"φ
OPEN HOLES 1 1/16
A325 FIELD BOLTS 1"φ
SHOP CONTACT SURFACES N.P.

PAINT 1 SHOP CT. RED LEAD
AASHO-M72, TYPE II
SEE NOTE "X"

NO.	DATE	INIT.
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1	3/30	RP
REVISION		

SUBMITTAL	1	2	3	4	5	6	7	8	9	0
DATE										

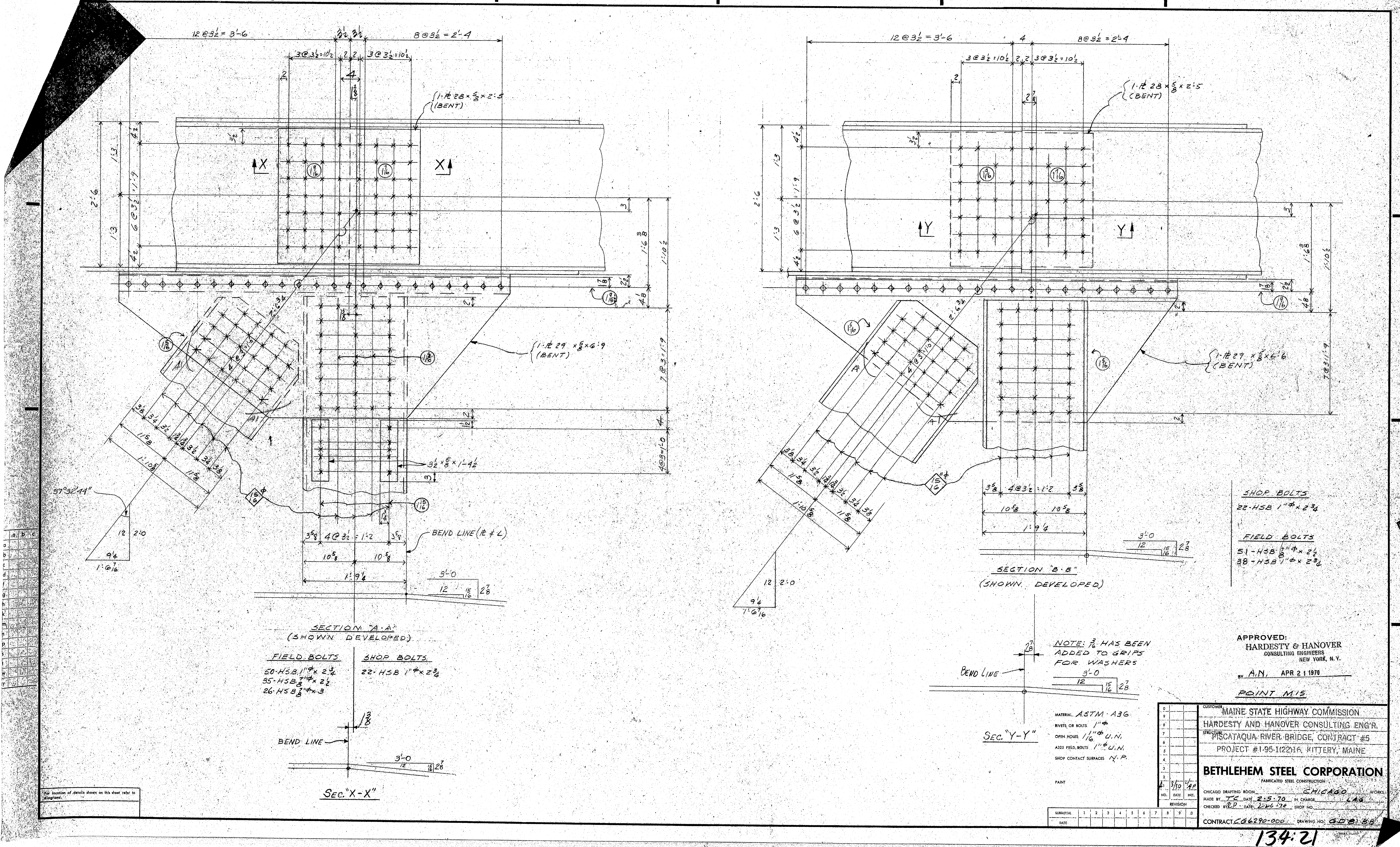
CUSTOMER
[illegible] STATE HIGHWAY COMMISSION
HARDESTY AND HANOVER CONSULTING ENGR
STRUCTURE
PISCATAQUA RIVER BRIDGE CONTRACT
[illegible] I-95-1(22)6 KITTERY, MAINE

BETHLEHEM STEEL CORPORATION
FABRICATED STEEL CONSTRUCTION

CHICAGO DRAFTING ROOM CHICAGO WORKS
MADE BY TC DATE 1-29-70 IN CHARGE LAG
CHECKED BY RP DATE 2/16/70 SHOP NO.
CONTRACT CG6290-000 DRAWING NO. GD81AB

134:20

For location of details shown on this sheet refer to diagrams.



SECTION "A-A"
(SHOWN DEVELOPED)

FIELD BOLTS
50-HSB 1"ϕ × 2¾
35-HSB ⅞"ϕ × 2½
26-HSB ⅞"ϕ × 3

SHOP BOLTS
22-HSB 1"ϕ × 2¾

BEND LINE

SEC. "X-X"

SECTION "B-B"
(SHOWN DEVELOPED)

SHOP BOLTS
22-HSB 1"ϕ × 2¾

FIELD BOLTS
51-HSB ⅞"ϕ × 2½
38-HSB 1"ϕ × 2¾

NOTE: 3/16 HAS BEEN ADDED TO GRIPS FOR WASHERS

BEND LINE

SEC. "Y-Y"

For location of details shown on this sheet refer to diagram.

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NEW YORK, N. Y.
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POINT M15

MATERIAL ASTM A36
RIVETS OR BOLTS 1"ϕ
OPEN HOLES 1 1/16"ϕ U.N.
A325 FIELD BOLTS 1"ϕ U.N.
SHOP CONTACT SURFACES N.P.
PAINT

NO.	DATE	INIT.
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1	3/30	4/AP

REVISION

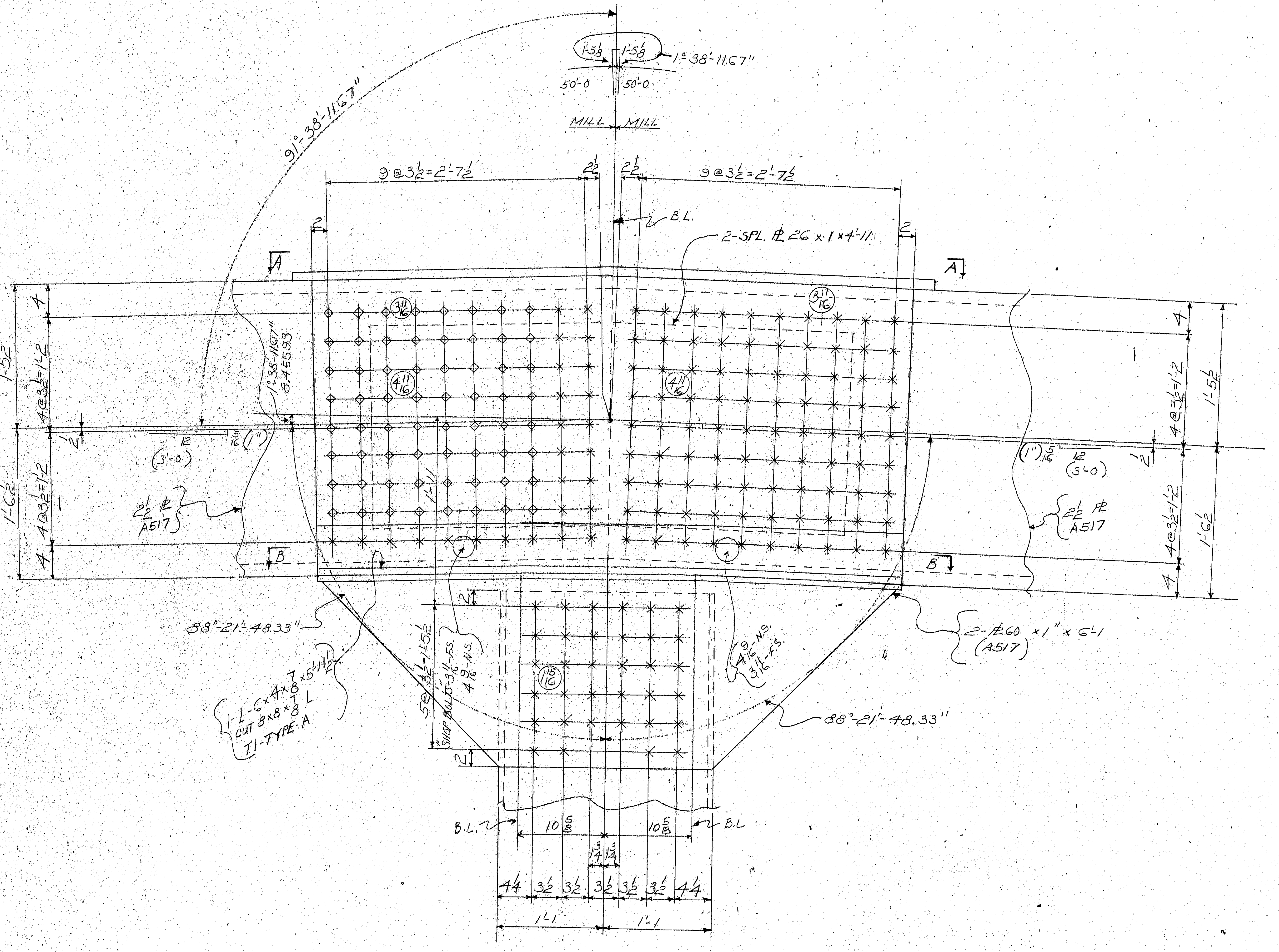
SUBMITTAL	1	2	3	4	5	6	7	8	9	0
DATE										

CUSTOMER MAINE STATE HIGHWAY COMMISSION
HARDESTY AND HANOVER CONSULTING ENG'R.
STRUCTURE PISCATAQUA RIVER BRIDGE, CONTRACT #5
PROJECT #I-95-1(22)16, KITTERY, MAINE

BETHLEHEM STEEL CORPORATION
FABRICATED STEEL CONSTRUCTION

CHICAGO DRAFTING ROOM CHICAGO WORKS
MADE BY TC DATE 2-5-70 IN CHARGE LAG
CHECKED BY RP DATE 2-26-70 SHOP NO.
CONTRACT CG6290-000 DRAWING NO. GD81 BB

134:21



Shop Bolts

FOR ONE AM26

GRIP	QTY.	
3 11/16	52	HSB^S 1"ϕ × 5
4 11/16	84	HSB^S 1"ϕ × 6

Field Bolts

FOR ONE

GRIP	QTY.	
3 11/16	64	HSB^S 1"ϕ × 5
4 11/16	140	HSB^S 1"ϕ × 6
4 9/16	20	HSB^S 1"ϕ × 5¾
1 15/16	68	HSB^S 1"ϕ × 3¼

APPROVED:
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CONSULTING ENGINEERS
NEW YORK, N. Y.
BY A.N. MAR 25 1970

NOTE!
BOLT GRIPS SHOWN ABOVE INCLUDE 3/16" FOR H-WASHERS
FOR VIEW "A-A" & SEC-"B-B" SEE SHT.#-GD82BB

PANEL POINT - U16

MATERIAL
RIVETS OR BOLTS
OPEN HOLES
A325 FIELD BOLTS
SHOP CONTACT SURFACES
PAINT
SEE SHT. GD82BB

NO.	DATE	INIT.
0		
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REVISION

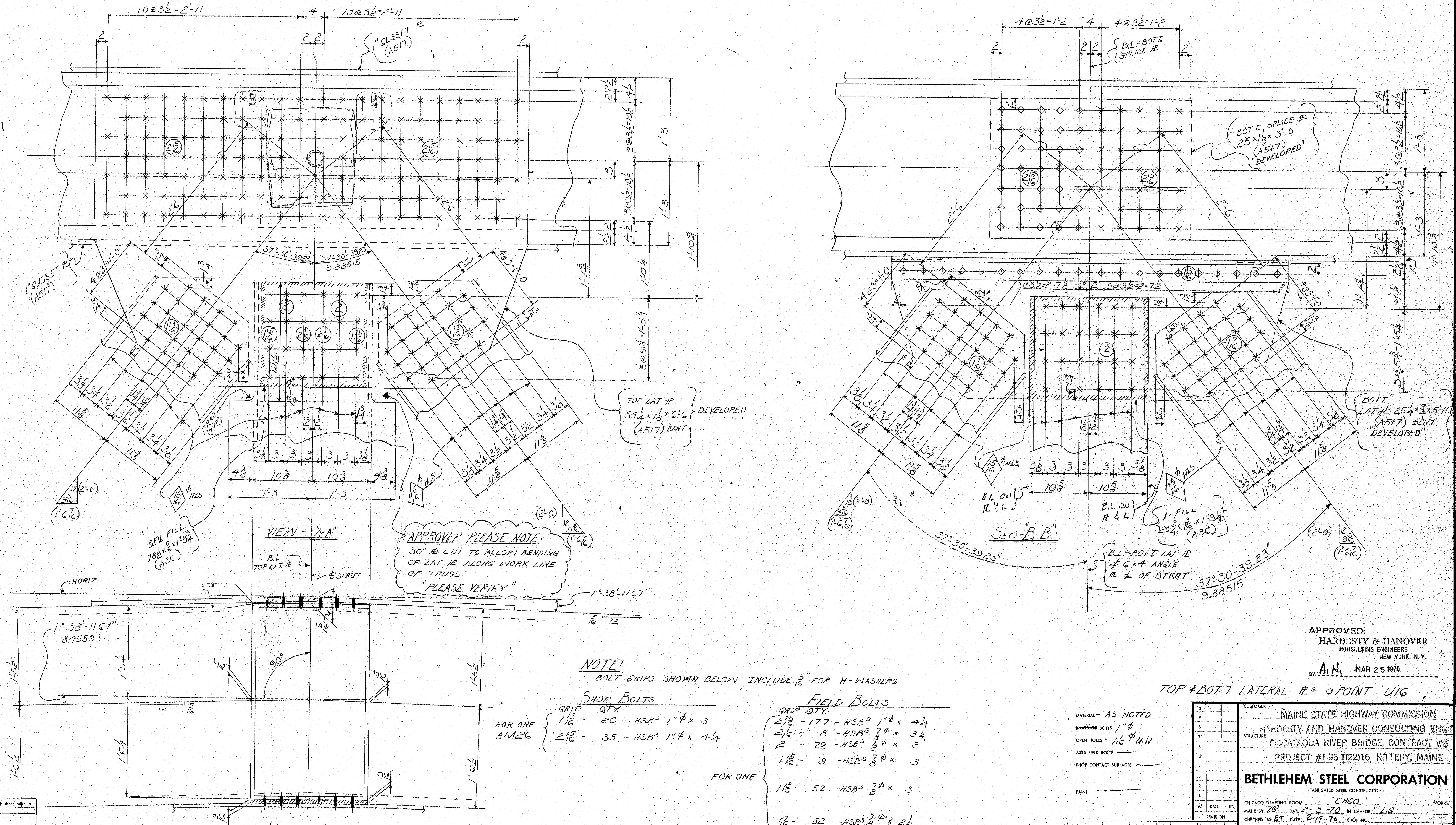
SUBMITTAL	1	2	3	4	5	6	7	8	9	0
DATE										

CUSTOMER MAINE STATE HIGHWAY COMMISSION
HARDESTY AND HANOVER CONSULTING ENG'R
STRUCTURE PISCATAQUA RIVER BRIDGE, CONTRACT #5
PROJECT #1-95-1(22)16, KITTERY, MAINE

BETHLEHEM STEEL CORPORATION
FABRICATED STEEL CONSTRUCTION
CHICAGO DRAFTING ROOM CHGO. WORKS
MADE BY NP DATE 2-3-70 IN CHARGE L.G.
CHECKED BY ET DATE 2-19-70 SHOP NO.
CONTRACT CGC290-000 DRAWING NO. GD82AB

134:22

For location of details shown on this sheet refer to diagram.



NOTE!
BOLT GRIPS SHOWN BELOW INCLUDE 3/16" FOR H-WASHERS

SHOP BOLTS

FOR ONE AM26

GRIP	QTY.	
1 13/16	20	HSB^S 1"⌀ x 3
2 15/16	35	HSB^S 1"⌀ x 4¼

FIELD BOLTS

FOR ONE

GRIP	QTY.	
2 15/16	177	HSB^S 1"⌀ x 4¼
2 1/16	8	HSB^S 7/8⌀ x 3¼
2	28	HSB^S 7/8⌀ x 3
1 15/16	8	HSB^S 7/8⌀ x 3
1 13/16	52	HSB^S 7/8⌀ x 3
1 7/16	52	HSB^S 7/8⌀ x 2½

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BY A. N. MAR 25 1970

TOP & BOTT. LATERAL ℞s @ POINT U16

MATERIAL - AS NOTED
~~RIVETS OR~~ BOLTS 1"⌀
OPEN HOLES - 1 1/16 ⌀ U.N.
A325 FIELD BOLTS ——
SHOP CONTACT SURFACES ——
PAINT ——

NO.	DATE	INIT.
0		
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REVISION

SUBMITTAL	1	2	3	4	5	6	7	8	9	0
DATE										

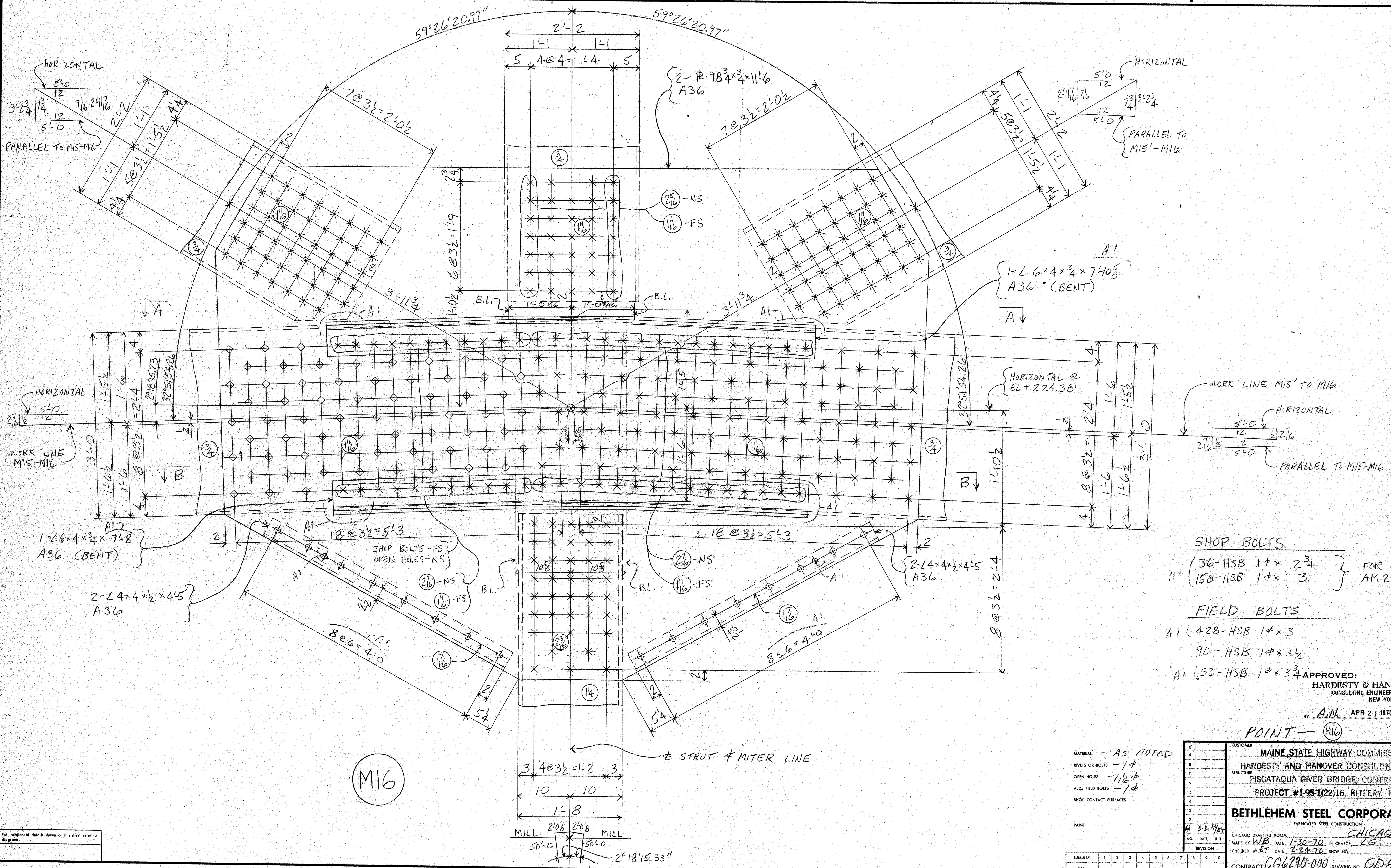
CUSTOMER MAINE STATE HIGHWAY COMMISSION
HARDESTY AND HANOVER CONSULTING ENG'R
STRUCTURE PISCATAQUA RIVER BRIDGE, CONTRACT #6
PROJECT #I-95-1(22)16, KITTERY, MAINE

BETHLEHEM STEEL CORPORATION
FABRICATED STEEL CONSTRUCTION

CHICAGO DRAFTING ROOM CHGO WORKS
MADE BY ZO DATE 2-3-70 IN CHARGE LG
CHECKED BY ET DATE 2-19-70 SHOP NO.
CONTRACT CGG290-000 DRAWING NO. GD82BB

For location of details shown on this sheet refer to diagrams.

134:23



SHOP BOLTS

A1 36-HSB 1ϕ× 2¾ } FOR ONE AM26
150-HSB 1ϕ× 3

FIELD BOLTS

A1 428-HSB 1ϕ×3
90-HSB 1ϕ×3½
A1 52-HSB 1ϕ×3¾

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NEW YORK, N.Y.
BY A.N. APR 21 1970

POINT — (M16)

MATERIAL — AS NOTED
RIVETS OR BOLTS — 1ϕ
OPEN HOLES — 1 1/16ϕ
A325 FIELD BOLTS — 1ϕ
SHOP CONTACT SURFACES

PAINT

NO.	DATE	INIT.
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2		
A	3-31	13/ET

REVISION

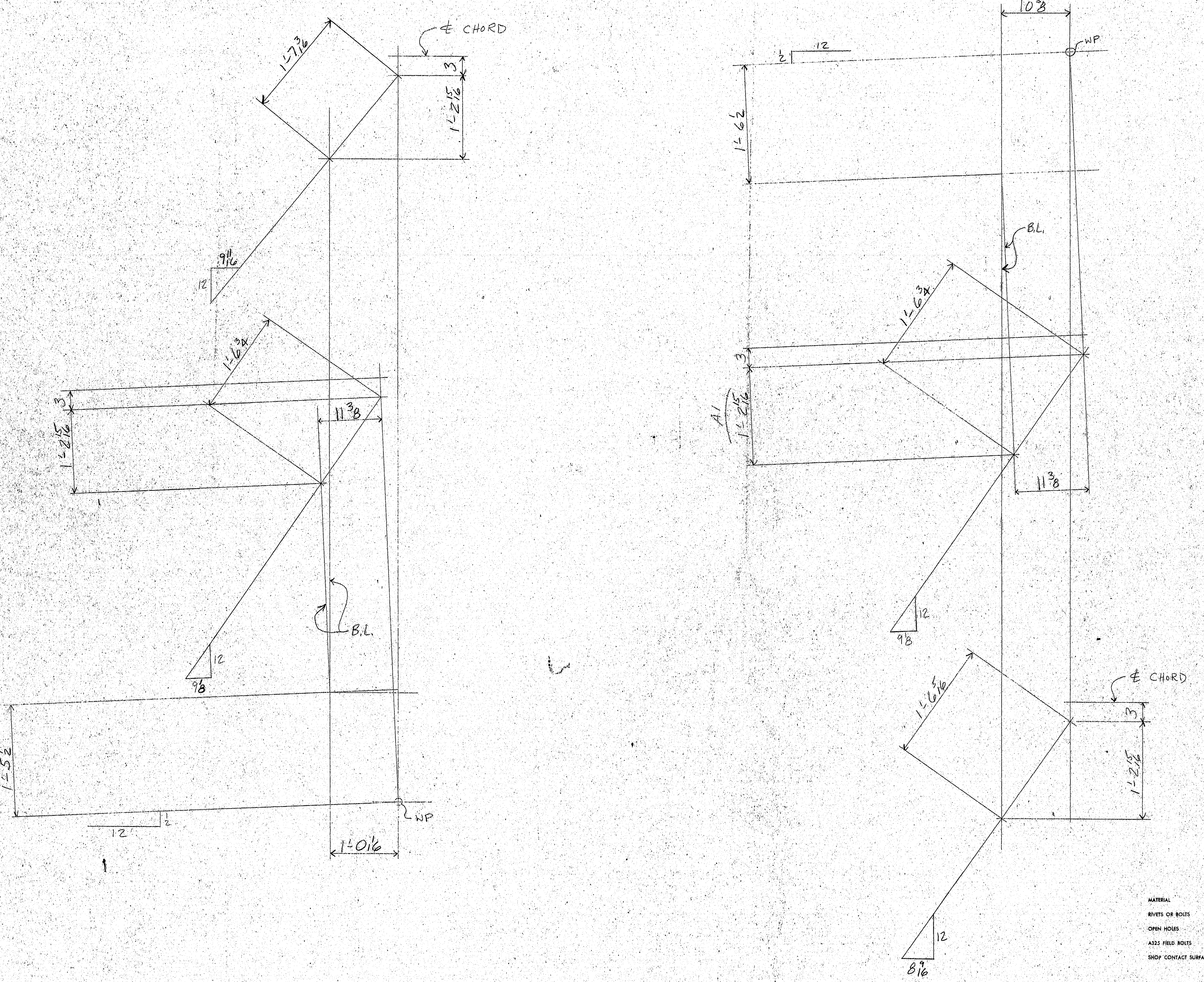
SUBMITTAL	1	2	3	4	5	6	7	8	9	0
DATE										

CUSTOMER
MAINE STATE HIGHWAY COMMISSION
HARDESTY AND HANOVER CONSULTING ENG'R.
STRUCTURE
PISCATAQUA RIVER BRIDGE, CONTRACT #5
PROJECT #1-95-1(22)16, KITTERY, MAINE

BETHLEHEM STEEL CORPORATION
FABRICATED STEEL CONSTRUCTION
CHICAGO DRAFTING ROOM CHICAGO WORKS
MADE BY WB DATE 1-30-70 IN CHARGE LG
CHECKED BY ET DATE 2-24-70 SHOP NO.
CONTRACT CG6290-000 DRAWING NO. GD83AC

For location of details shown on this sheet refer to diagrams.

134:24



For location of details shown on this sheet refer to diagrams.

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CONSULTING ENGINEERS
NEW YORK, N.Y.
BY A.IV APR 2 1 1970

MATERIAL
RIVETS OR BOLTS
OPEN HOLES
A325 FIELD BOLTS
SHOP CONTACT SURFACES
PAINT

NO.	DATE	INIT.
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A1	3-31	ET

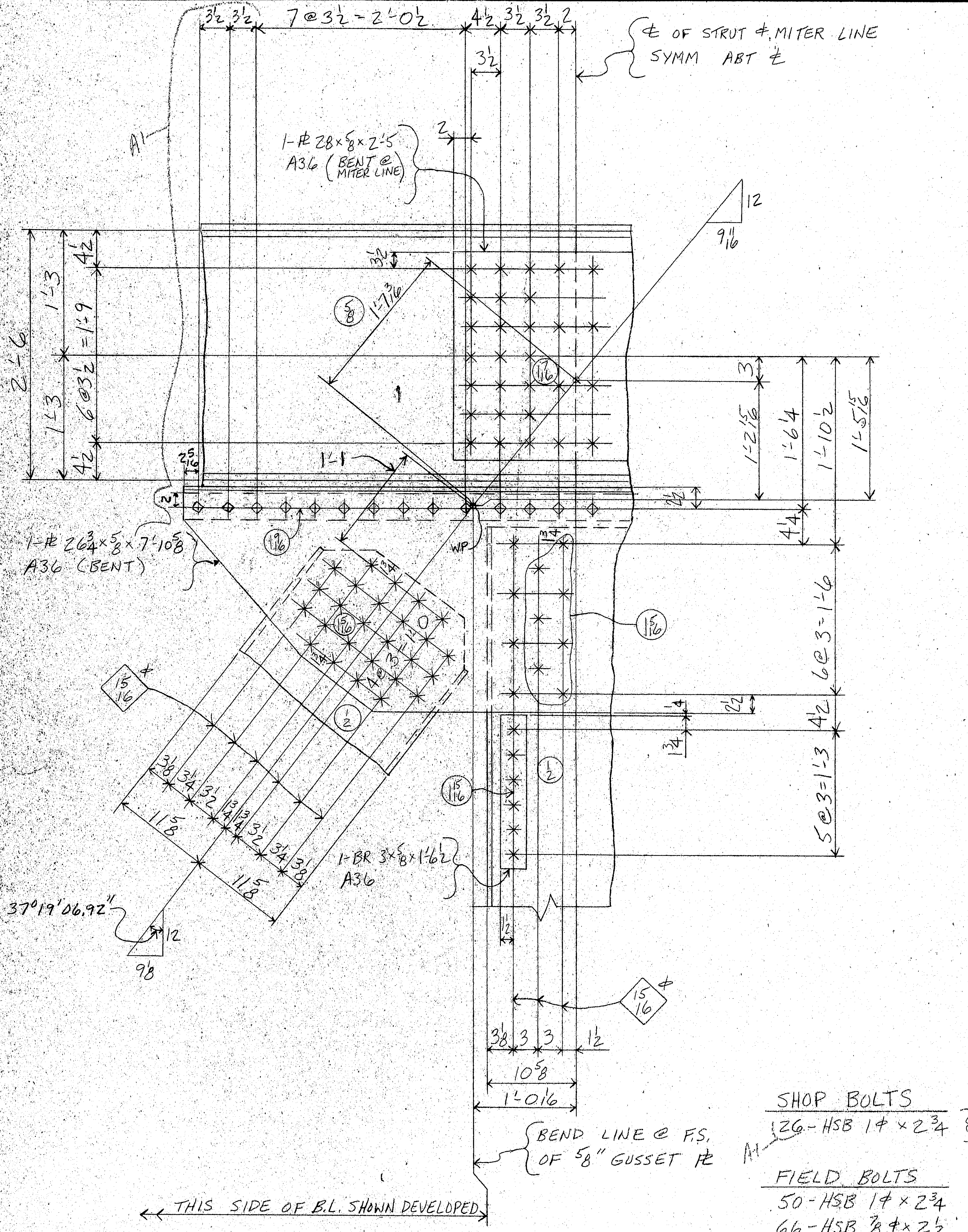
REVISION

SUBMITTAL	1	2	3	4	5	6	7	8	9	0
DATE										

CUSTOMER
MAINE STATE HIGHWAY COMMISSION
HARDESTY AND HANOVER CONSULTING ENG'R.
STRUCTURE
PISCATAQUA RIVER BRIDGE, CONTRACT #5
PROJECT #1-95-1(22)16, KITTERY, MAINE

BETHLEHEM STEEL CORPORATION
FABRICATED STEEL CONSTRUCTION
CHICAGO DRAFTING ROOM CHICAGO WORKS
MADE BY WB DATE 2-2-70 IN CHARGE LG
CHECKED BY ET DATE 2-24-70 SHOP NO.
CONTRACT CG6290-000 DRAWING NO. GD83BC

13~~4~~:25


7@3½=2'-0½
℄ OF STRUT & MITER LINE SYMM ABT ℄
1-℗ 28×⅝×2'-5 A36 (BENT @ MITER LINE)
A1
2'-6
1'-3
6@3½=1'-9
1'-7 7/16
1'-1
1'-2 15/16
1'-6¼
1'-10½
1'-5 15/16
W.P.
1-℗ 26¾×⅝×7'-10⅞ A36 (BENT)
6@3=1'-6
5@3=1'-3
1-BR 3×⅝×1'-6½ A36
37°19'06.92"
9⅛
12
9 11/16
10⅝
1'-0 1/16
BEND LINE @ F.S. OF ⅝" GUSSET ℗
THIS SIDE OF B.L. SHOWN DEVELOPED

SEC. "A-A"

SHOP BOLTS

26-HSB 1φ × 2¾ } AM26

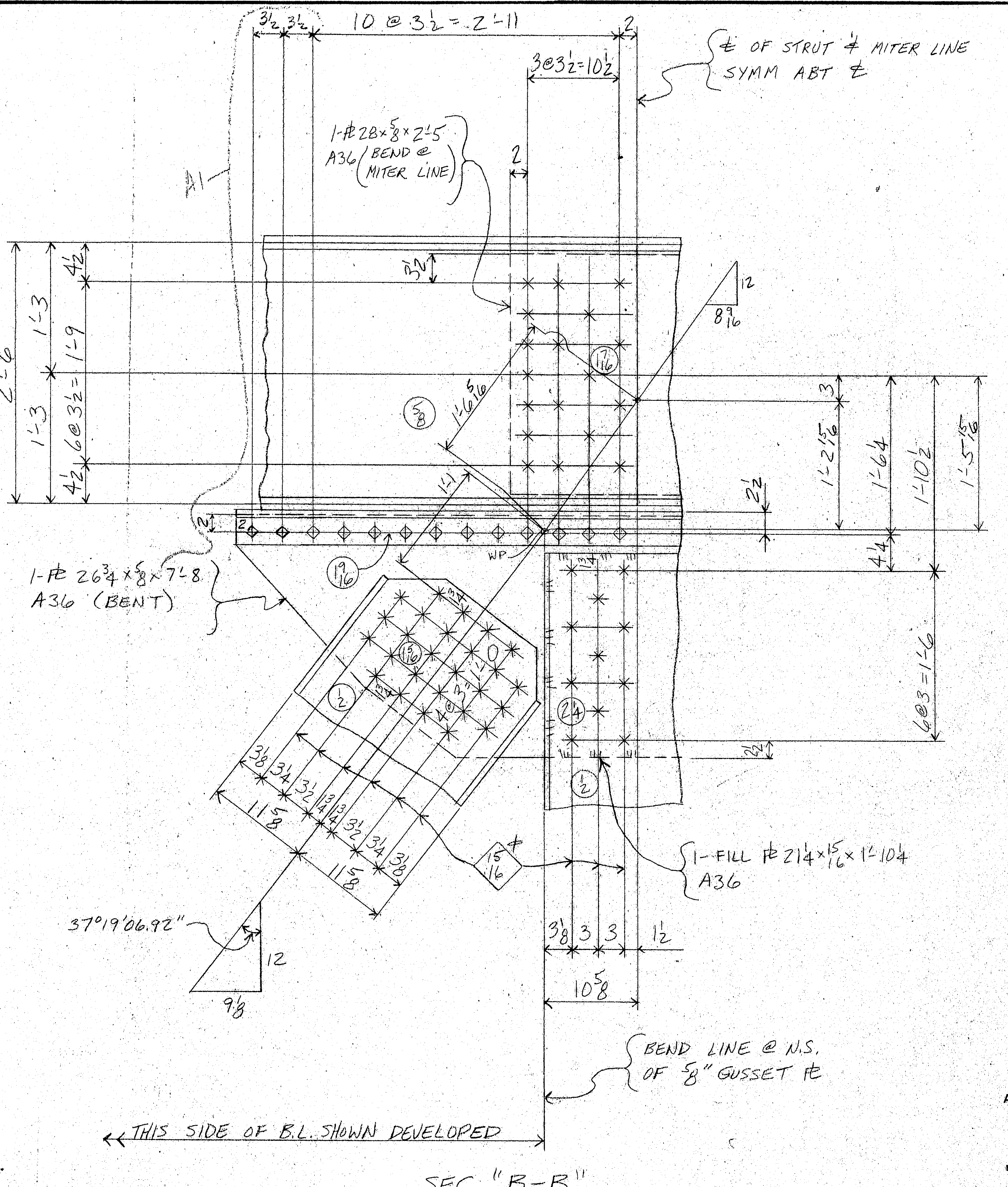
A1

FIELD BOLTS

50-HSB 1φ × 2¾

66-HSB ⅞φ × 2½

20-HSB ⅞φ × 3


10@3½=2'-11
3@3½=10½
℄ OF STRUT & MITER LINE SYMM ABT ℄
1-℗ 28×⅝×2'-5 A36 (BEND @ MITER LINE)
A1
2'-6
1'-3
6@3½=1'-9
1'-6 5/16
1'-2 15/16
1'-6¼
1'-10½
1'-5 15/16
W.P.
1-℗ 26¾×⅝×7'-8 A36 (BENT)
6@3=1'-6
1-FILL ℗ 21¼×15/16×1'-10¼ A36
37°19'06.92"
9⅛
12
8 9/16
10⅝
BEND LINE @ N.S. OF ⅝" GUSSET ℗
THIS SIDE OF B.L. SHOWN DEVELOPED

SEC. "B-B"

AM26 { SHOP BOLTS

26-HSB 1φ × 2¾

A1

FIELD BOLTS

36-HSB 1φ × 2¾

52-HSB ⅞φ × 2½

22-HSB ⅞φ × 3¼

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CONSULTING ENGINEERS
NEW YORK, N.Y.
BY A.N. APR 21 1970

MATERIAL — AS NOTED
BOLTS — 1φ U.N.
OPEN HOLES — 1 1/16 φ U.N.
A325 FIELD BOLTS — AS NOTED
SHOP CONTACT SURFACES
PAINT

NO.	DATE	INIT.
0		
9		
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2		
A1	3-31	ET

REVISION

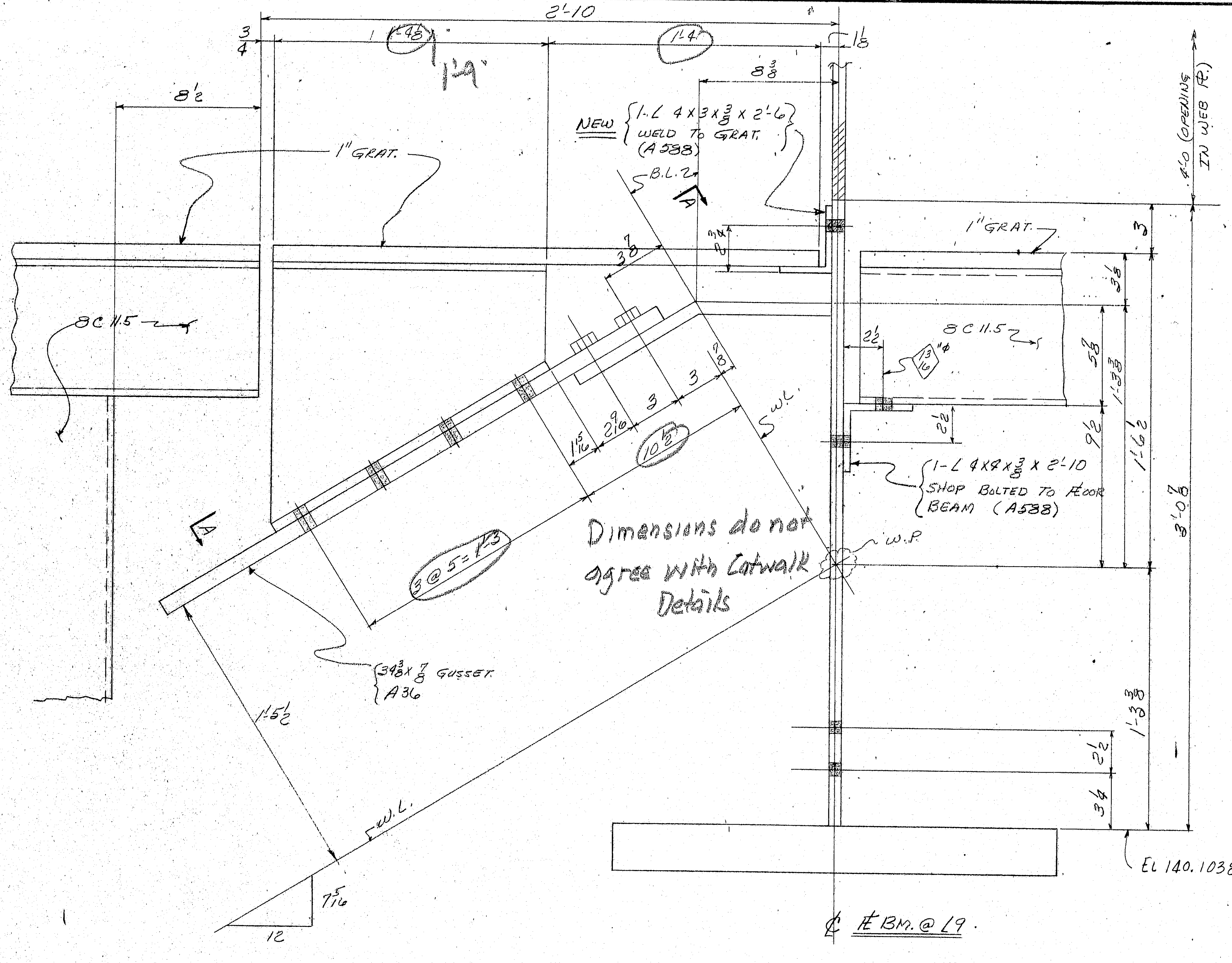
SUBMITTAL	1	2	3	4	5	6	7	8	9	0
DATE										

CUSTOMER
MAINE STATE HIGHWAY COMMISSION
HARDESTY AND HANOVER CONSULTING ENG'R
STRUCTURE
PISCATAQUA RIVER BRIDGE, CONTRACT #5
PROJECT #I-95-1(22)16, KITTERY, MAINE

BETHLEHEM STEEL CORPORATION
FABRICATED STEEL CONSTRUCTION
CHICAGO DRAFTING ROOM CHICAGO WORKS
MADE BY WB DATE 2-2-70 IN CHARGE LG
CHECKED BY ET DATE 2-24-70 SHOP NO.
CONTRACT CG6290-000 DRAWING NO. GD83CC

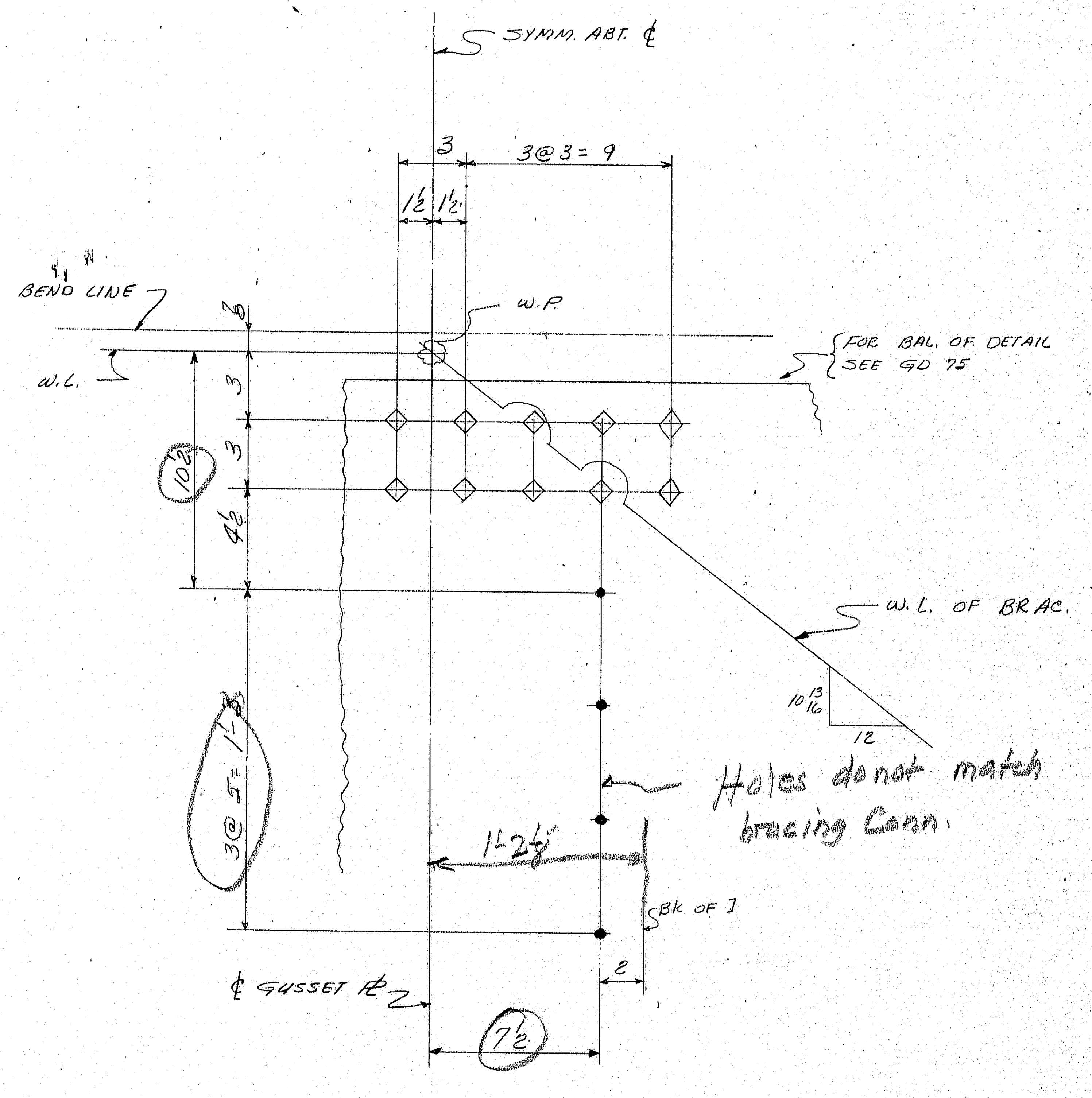
For location of details shown on this sheet refer to diagrams.

134:26



Dimensions do not agree with Catwalk Details

PLATFORM CONNECTIONS TO FL. BM. AT (L9)



Holes do not match bracing Conn.

PART SEC. IN PLAIN OF PL.

SEC. A-A

To Be Revised and Resubmitted
For Approval
HARDESTY & HANOVER
CONSULTING ENGINEERS
101 PARK AVE. NEW YORK 17, N.Y.
BY F.F.W. MAR 26 1970

For location of details shown on this sheet refer to diagrams.

MATERIAL
RIVETS OR BOLTS
OPEN HOLES 15/16"Φ U.N.
A325 FIELD BOLTS
SHOP CONTACT SURFACES
PAINT

NO.	DATE	INIT.
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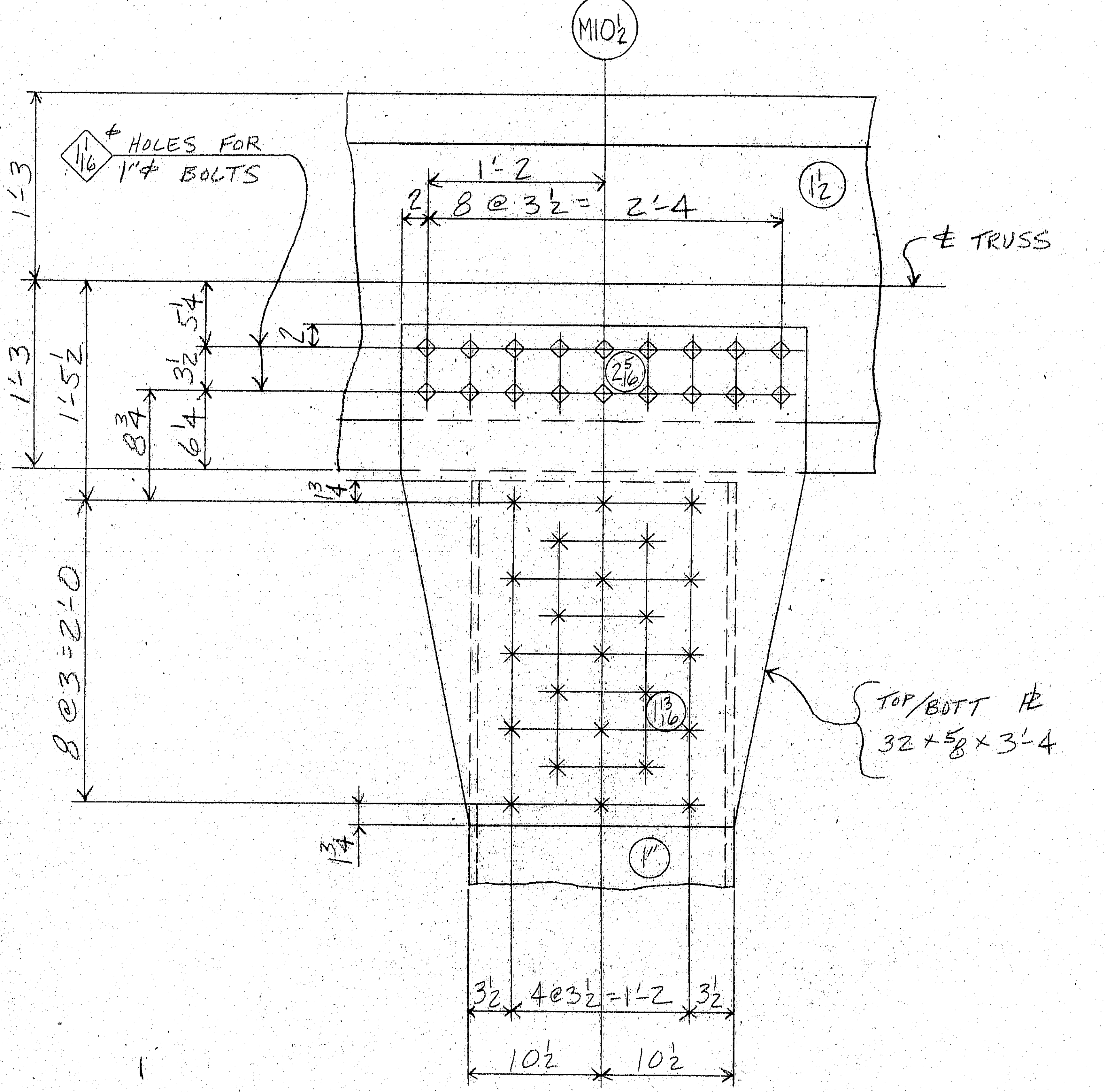
REVISION

SUBMITTAL	1	2	3	4	5	6	7	8	9	0
DATE										

CUSTOMER MAINE STATE HIGHWAY COMMISSION
HARDESTY AND HANOVER CONSULTING ENG'R.
STRUCTURE PISCATAQUA RIVER BRIDGE CONTRACT 35
PROJECT #1-95-1(22)16, KITTERY, MAINE

BETHLEHEM STEEL CORPORATION
FABRICATED STEEL CONSTRUCTION
CHICAGO DRAFTING ROOM CHICAGO WORKS
MADE BY B.V. DATE 2-13-70 IN CHARGE C.A.G.
CHECKED BY C.A.D. DATE 2-26-70 SHOP NO.
CONTRACT CG6290-000 DRAWING NO. GD 84

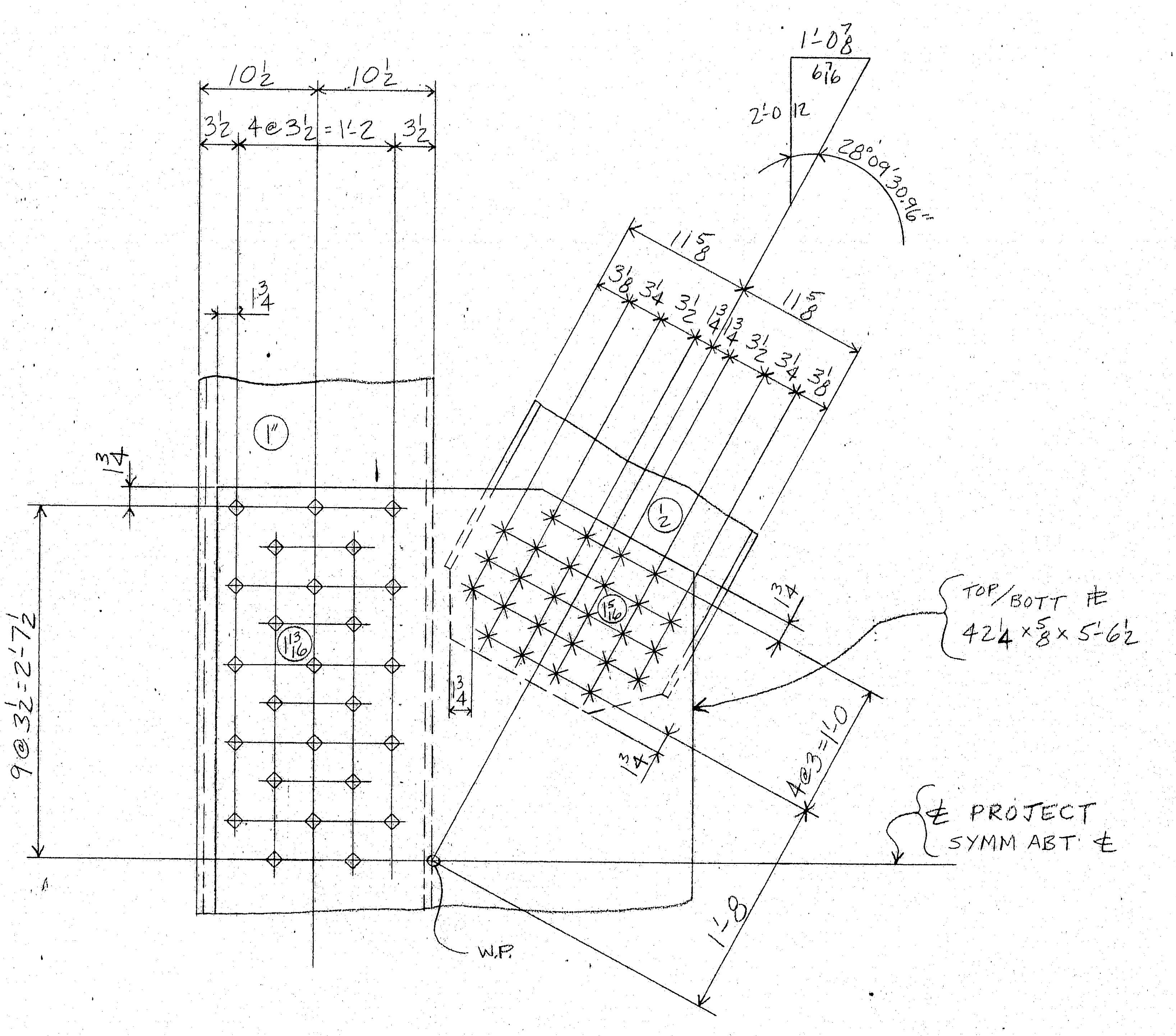
134:27



STRUT CONN. @ TRUSS

SHOP BOLTS
36-HSB 1ϕ × $3\frac{1}{2}$ } FOR ONE AM26

FIELD BOLTS
46-HSB $\frac{7}{8}$ϕ × 3 } FOR ONE



MIDDLE LATERAL CONN.

SHOP BOLTS
96-HSB $\frac{7}{8}$ϕ × 3 } FOR ONE AM26

FIELD BOLTS
104-HSB $\frac{7}{8}$ϕ × $2\frac{1}{2}$ } FOR ONE

NOTE!
VIEWS SHOWN ARE IN THE PLANE OF CHORD M10 - M11

APPROVED:-
HARDESTY & HANOVER
CONSULTING ENGINEERS
101 PARK AVE. NEW YORK 17, N.Y
BY F.F.W. MAR 12 1970

STRUT @ M10½

MATERIAL —ASTM-A36
RIVETS OR BOLTS — $\frac{7}{8}$ϕ U.N.
OPEN HOLES — $\frac{15}{16}$ϕ U.N.
A325 FIELD BOLTS
SHOP CONTACT SURFACES
PAINT

NO.	DATE	INIT.
0		
9		
8		
7		
6		
5		
4		
3		
2		
1		

REVISION

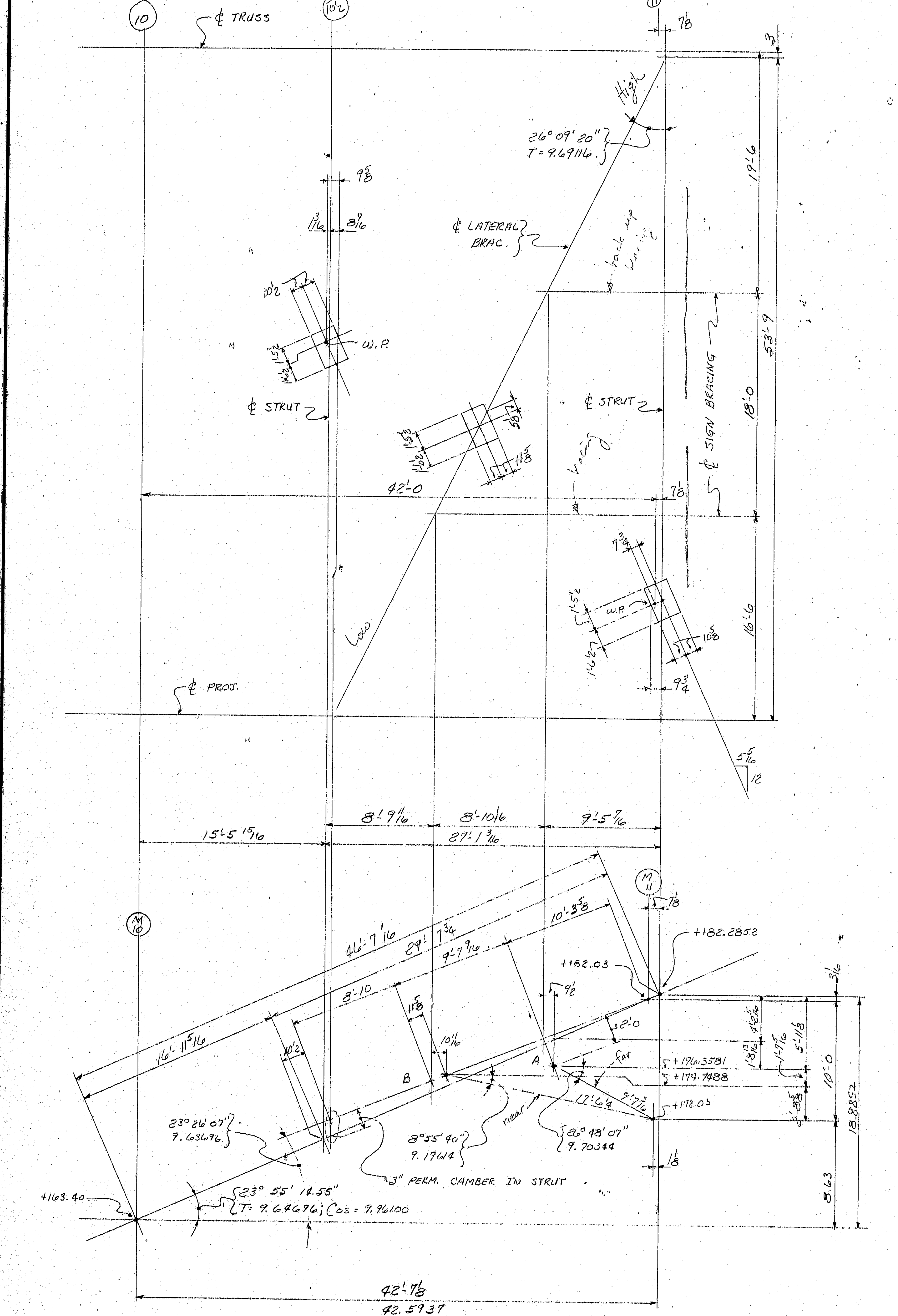
SUBMITTAL	1	2	3	4	5	6	7	8	9	0
DATE										

CUSTOMER
MAINE STATE HIGHWAY COMMISSION
HARDESTY AND HANOVER CONSULTING ENG'R.
STRUCTURE
PISCATAQUA RIVER BRIDGE, CONTRACT #5
PROJECT #I-95-1(22)16, KITTERY, MAINE

BETHLEHEM STEEL CORPORATION
FABRICATED STEEL CONSTRUCTION
CHICAGO DRAFTING ROOM CHICAGO WORKS
MADE BY WB DATE 2-25-70 IN CHARGE LG
CHECKED BY ET DATE 3-2-70 SHOP NO.
CONTRACT CG6290-000 DRAWING NO. GD85

134:28

For location of details shown on this sheet refer to diagrams.



18.8904 = 1.27624
42'-7 1/8 = 1.62935
TAN = 9.64689 o.k.

42'-7 1/8 = 1.62935
COS A = 9.96100
46'-7 5/32 = 1.66835
USE 46'-7 3/16

29'-7 3/4 = 1.47196
COS A = 9.96100
27'-1 3/16 = 1.43296

26'-3 9/16 = 1.41990
53'-9 = 1.73038
TAN = 9.68952

19'-3 = 1.28443
T = 9.68952
9'-5 = 0.97395

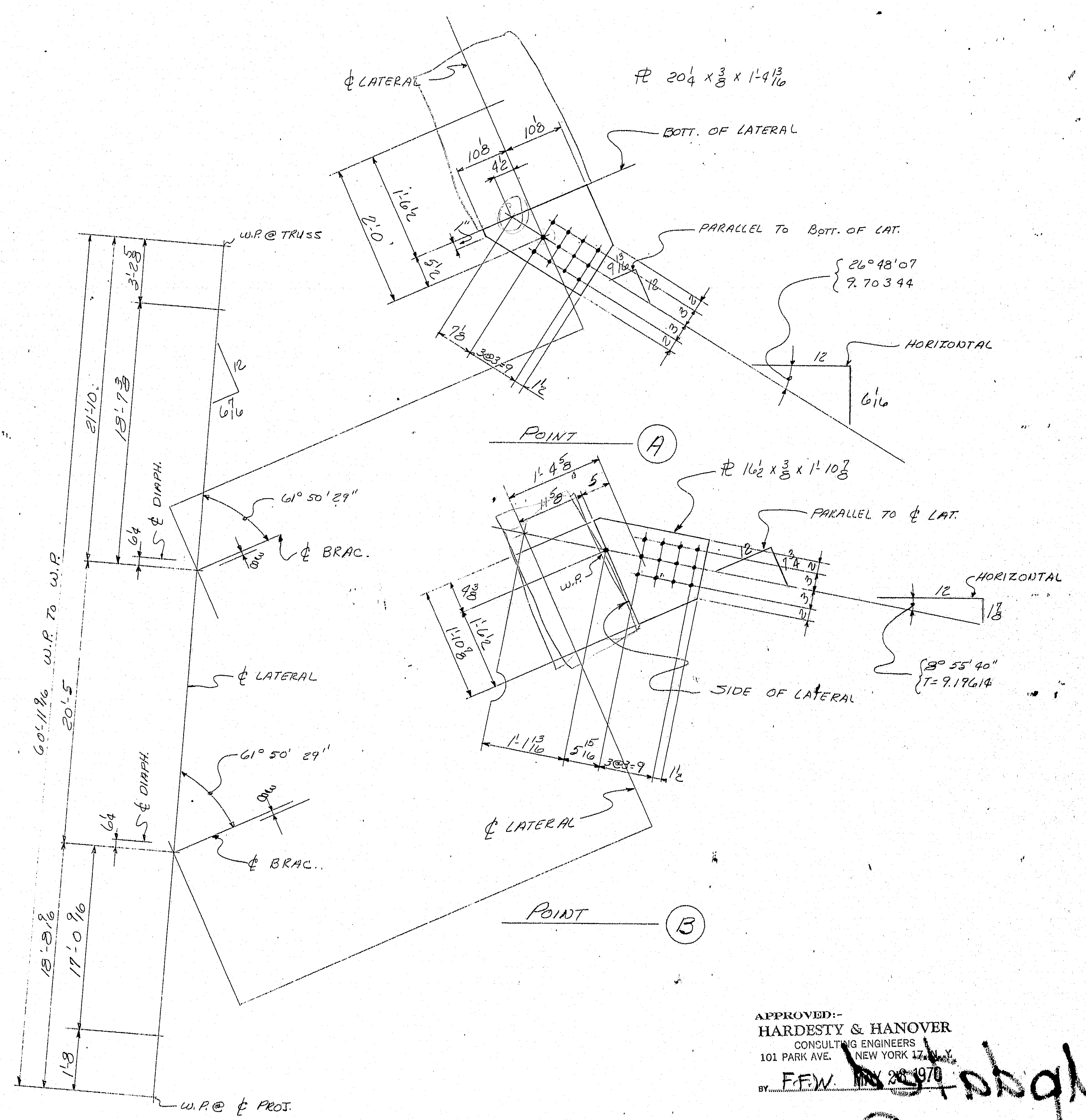
37'-3 = 1.57113
T = 9.68952
18'-2 11/16 = 1.26065

9'-5 = 0.97395
T = 9.64696
4'-2 1/8 = 0.62091 = 4.1775

18'-2 11/16 = 1.26065
T = 9.64696
8'-1 = 0.90761 = 8.0838

5.2548 = 0.72055
8'-6 3/16 = 0.93022
TAN = 9.79033
∠ = 31° 40' 37"

3.4539 = 0.54207
18'-8 3/16 = 1.26163
T = 9.28044
∠ = 10° 47' 56"



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CONSULTING ENGINEERS
101 PARK AVE. NEW YORK 17, N.Y.
BY F.F.W. MAY 28 1970

SIGN BRAC. CONN. M10½ TO M11

MATERIAL ASTM-A36
RIVETS OR BOLTS
OPEN HOLES 15/16"φ
A325 FIELD BOLTS
SHOP CONTACT SURFACES
PAINT

NO.	DATE	INIT.
0		
9		
8		
7		
6		
5		
4		
3		
2		
1		

REVISION

SUBMITTAL	1	2	3	4	5	6	7	8	9	0
DATE										

CUSTOMER
MAINE STATE HIGHWAY COMMISSION
HARDESTY AND HANOVER CONSULTING ENGR'S
STRUCTURE
PISCATAQUA RIVER BRIDGE, CONTRACT #5
PROJECT #1-95-1(22)16, KITTERY, MAINE

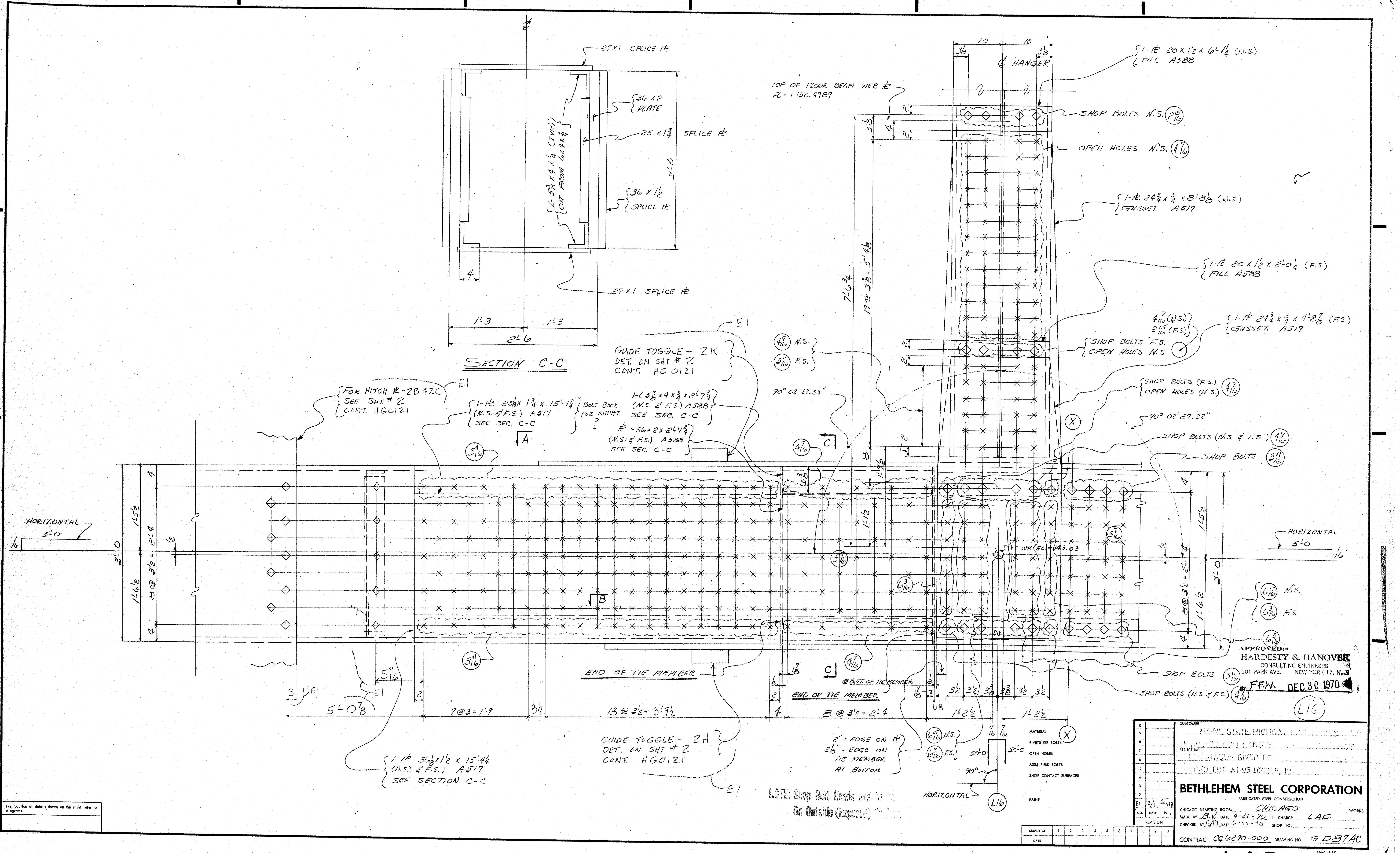
BETHLEHEM STEEL CORPORATION
FABRICATED STEEL CONSTRUCTION
CHICAGO DRAFTING ROOM CHICAGO WORKS
MADE BY B.V. DATE IN CHARGE L.A.G.
CHECKED BY BP DATE 5/15 SHOP NO.
CONTRACT CG6290-800 DRAWING NO. E86

134:29

For location of details shown on this sheet refer to diagrams.

36663 (1-65)

	a	b	c
a			
b			
c			
d			
f			
g			
h			
k			
m			
n			
p			
s			
t			
w			
y			


℄
27x1 SPLICE PL.
36 x 2 PLATE
25 x 1¾ SPLICE PL.
L-5⅜ x 4 x ¾ (TYP.) CUT FROM 6x4x¾
36 x 1½ SPLICE PL
3'-0
4
27x1 SPLICE PL
1'-3
1'-3
2'-6
SECTION C-C
10
10
3⅛
3⅛
℄ HANGER
1-PL 20 x 1½ x 6'-1¼ (N.S.) FILL A588
TOP OF FLOOR BEAM WEB PL. EL.= +150.4987
SHOP BOLTS N.S. (2 15/16)
OPEN HOLES N.S. (4 7/16)
1-PL. 24¾ x ¾ x 8'-8⅛ (N.S.) GUSSET. A517
1-PL 20 x 1½ x 2'-0¼ (F.S.) FILL A588
4 7/16 (N.S.) 2 15/16 (F.S.)
1-PL 24¾ x ¾ x 4'-8⅞ (F.S.) GUSSET. A517
SHOP BOLTS F.S. OPEN HOLES N.S.
SHOP BOLTS (F.S.) OPEN HOLES (N.S.) (4 7/16)
90° 02' 27.33"
SHOP BOLTS (N.S. & F.S.) (4 7/16)
SHOP BOLTS (3 11/16)
7'-6¾
19 @ 3⅜ = 5'-4⅛
5⅛
(4 7/16) N.S.
(3 11/16) F.S.
90° 02' 27.33"
GUIDE TOGGLE - 2K DET. ON SHT # 2 CONT. HG0121
E1
FOR HITCH PL-2B & 2C SEE SHT. # 2 CONT. HG0121
E1
1-PL. 25⅛ x 1¾ x 15'-4¼ (N.S. & F.S.) A517 SEE SEC. C-C
BOLT BACK FOR SHPM'T. ?
A
1-L 5⅜ x 4 x ¾ x 2'-7¾ (N.S. & F.S.) A588 SEE SEC. C-C
PL -36 x 2 x 2'-7¾ (N.S. & F.S.) A588 SEE SEC. C-C
(3 11/16)
(4 7/16)
C
HORIZONTAL 5'-0
1/16
3'-0
1'-5½
8 @ 3½ = 2'-4
1'-6½
4
½
B
(5 7/16)
(6 3/16)
W.P. EL. = 143.03
(5 7/16)
X
HORIZONTAL 5'-0
1/16
(6 15/16) N.S.
(6 3/16) F.S.
(6 3/16)
(3 11/16)
END OF TIE MEMBER
C
(4 7/16)
@ BOTT. OF THE MEMBER
END OF TIE MEMBER
1⅞
⅛
SHOP BOLTS (3 11/16)
SHOP BOLTS (N.S. & F.S.) (4 7/16)
3
E1
5 9/16
E1
2
5'-0⅞
7 @ 3 = 1'-9
3½
13 @ 3½ = 3'-9½
4
2
8 @ 3½ = 2'-4
1'-2½
1'-2½
3⅜
3⅜
3½
3½
1-PL 36⅛ x 1½ x 15'-4¼ (N.S.) & F.S.) A517 SEE SECTION C-C
GUIDE TOGGLE - 2H DET. ON SHT # 2 CONT. HG0121
E1
2" = EDGE ON PL
2⅛" = EDGE ON TIE MEMBER AT BOTTOM
(6 15/16) N.S.
(6 3/16) F.S.
7/16
7/16
50'-0
50'-0
90°
HORIZONTAL
L16
X

NOTE: Shop Bolt Heads are [illegible]
On Outside (Exposed) [illegible]

For location of details shown on this sheet refer to diagrams.

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CONSULTING ENGINEERS
101 PARK AVE. NEW YORK 17, N.Y.
BY F.F.W. DEC 30 1970

L16

MATERIAL
RIVETS OR BOLTS
OPEN HOLES
A325 FIELD BOLTS
SHOP CONTACT SURFACES
PAINT

SUBMITTAL	1	2	3	4	5	6	7	8	9	0
DATE										

NO.	DATE	INIT.
0		
9		
8		
7		
6		
5		
4		
3		
2		
E1	12/1	51 WB

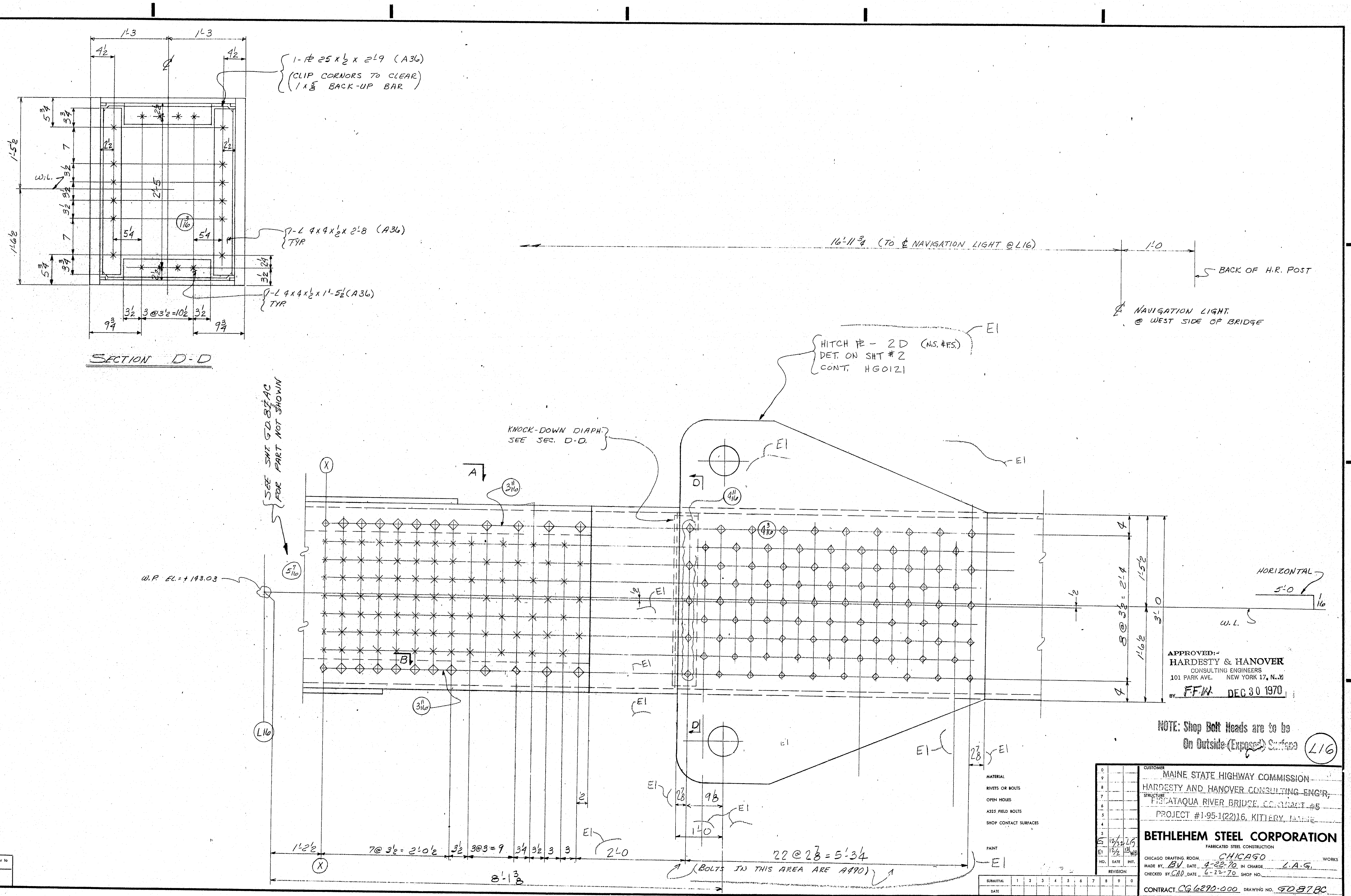
REVISION

CUSTOMER
MAINE STATE HIGHWAY [illegible]
HARDESTY AND HANOVER [illegible]
STRUCTURE
PISCATAQUA RIVER BR
PROJECT #I-95-1(22)16, [illegible]

BETHLEHEM STEEL CORPORATION
FABRICATED STEEL CONSTRUCTION
CHICAGO DRAFTING ROOM CHICAGO WORKS
MADE BY B.V. DATE 4-21-70 IN CHARGE L.A.G.
CHECKED BY CAD DATE 6-yy-70 SHOP NO.
CONTRACT CG6290-000 DRAWING NO. GD87AC

36663 (1-65)

134:30



SECTION D-D

APPROVED:-
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CONSULTING ENGINEERS
101 PARK AVE. NEW YORK 17, N.Y.
BY FFW DEC 30 1970

NOTE: Shop Bolt Heads are to be On Outside (Exposed) Surface

L16

	a	b	c
a			
b			
c			
d			
f			
g			
h			
k			
m			
n			
p			
s			
t			
w			
y			

For location of details shown on this sheet refer to diagrams.

MATERIAL
RIVETS OR BOLTS
OPEN HOLES
A325 FIELD BOLTS
SHOP CONTACT SURFACES

PAINT

NO.	DATE	INIT.
0		
9		
8		
7		
6		
5		
4		
3		
E2	12/22	LG
E1	12/2	13 WB

REVISION

SUBMITTAL	1	2	3	4	5	6	7	8	9	0
DATE										

CUSTOMER
MAINE STATE HIGHWAY COMMISSION
HARDESTY AND HANOVER CONSULTING ENG'R,
STRUCTURE
PISCATAQUA RIVER BRIDGE, CONTRACT #5
PROJECT #1-95-1(22)16, KITTERY, MAINE

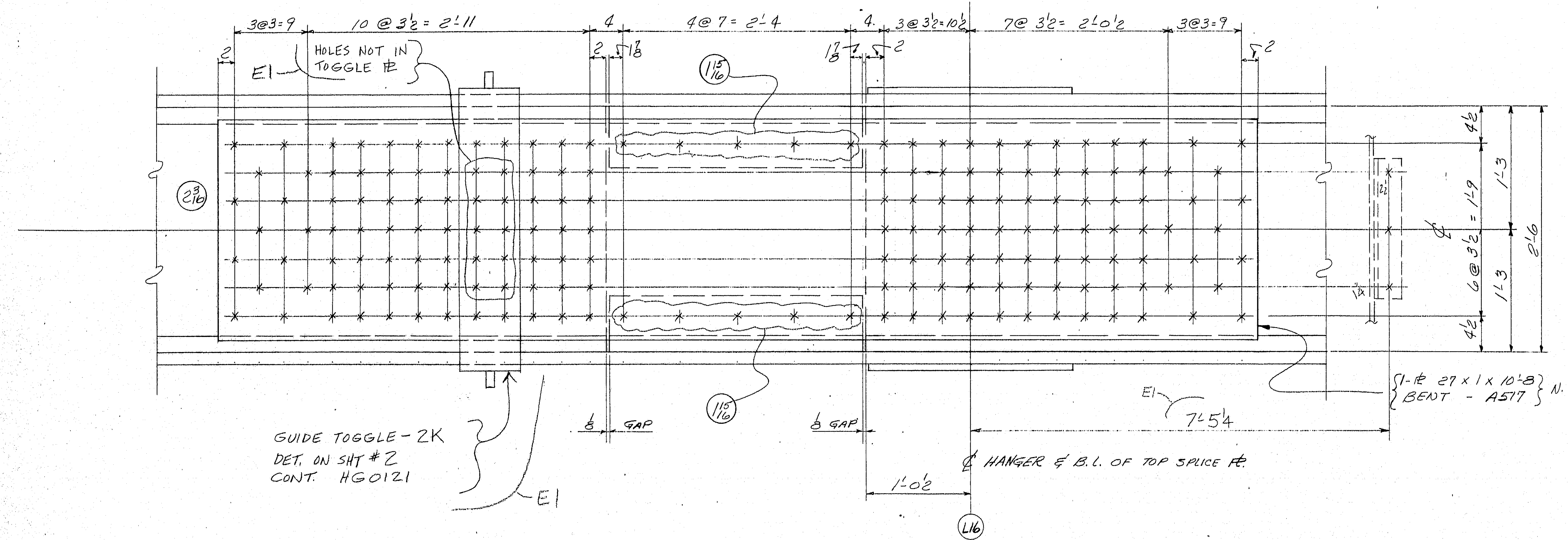
BETHLEHEM STEEL CORPORATION
FABRICATED STEEL CONSTRUCTION

CHICAGO DRAFTING ROOM CHICAGO WORKS
MADE BY BV DATE 4-22-70 IN CHARGE L.A.G.
CHECKED BY CAD DATE 6-22-70 SHOP NO.

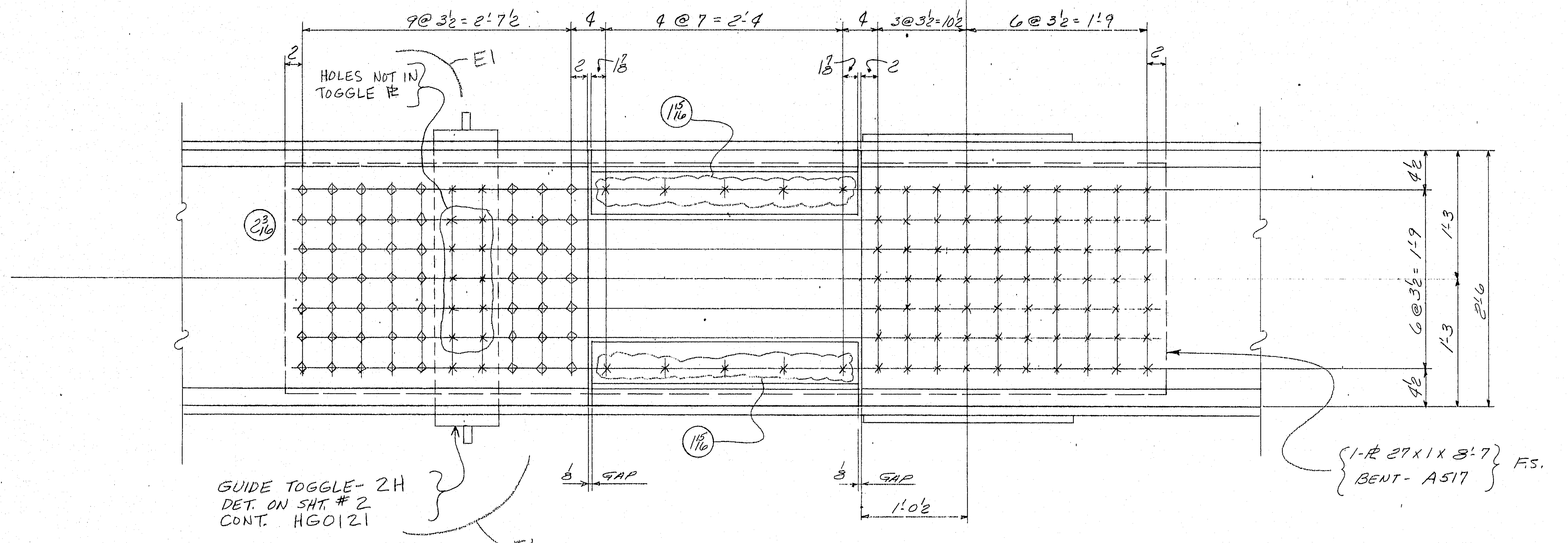
CONTRACT CG 6290-000 DRAWING NO. GD87BC

36663 (1-65)

134: ~~4~~ 31



VIEW A-A (DEVELOPED)



SECTION B-B

DEVELOPED

SHOP BOLTS:

TYPE	QTY.	SIZE	GRIP	LENGTH
A325	8	1"ϕ	2 15/16	4 1/4
↓	48	1"ϕ	3 11/16	5
↓	16	1"ϕ	4 7/16	5 3/4
A490	10	1"ϕ	4 11/16	6
A490	324	1"ϕ	4 3/16	5 1/2

FIELD BOLTS:

TYPE	QTY.	SIZE	GRIP	LENGTH
A325	20	1"ϕ	1 3/16	2 1/2
↓	20	↓	1 15/16	3 1/4
↓	308	↓	2 3/16	3 1/2
↓	96	↓	3 11/16	5
↓	116	↓	4 7/16	5 3/4
↓	476	↓	5 7/16	6 3/4
↓	56	↓	6 3/16	7 1/2
↓	10	↓	2 11/16	4
↓	28	↓	6 15/16	8 1/4

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CONSULTING ENGINEERS
101 PARK AVE. NEW YORK 17, N.Y.
BY F.F.W. DEC 30 1970

NOTE: Shop Bolt Heads are ~~to~~ be On Outside (Exposed) Surface

L16

For location of details shown on this sheet refer to diagrams.

MATERIAL AS NOTED
~~RIVETS OR~~ BOLTS 1"ϕ
OPEN HOLES 1 1/16"ϕ
A325 FIELD BOLTS 1"ϕ
SHOP CONTACT SURFACES
PAINT

NO.	DATE	INIT.
0		
9		
8		
7		
6		
5		
4		
3		
2		
E1	12/2	3 WB

REVISION

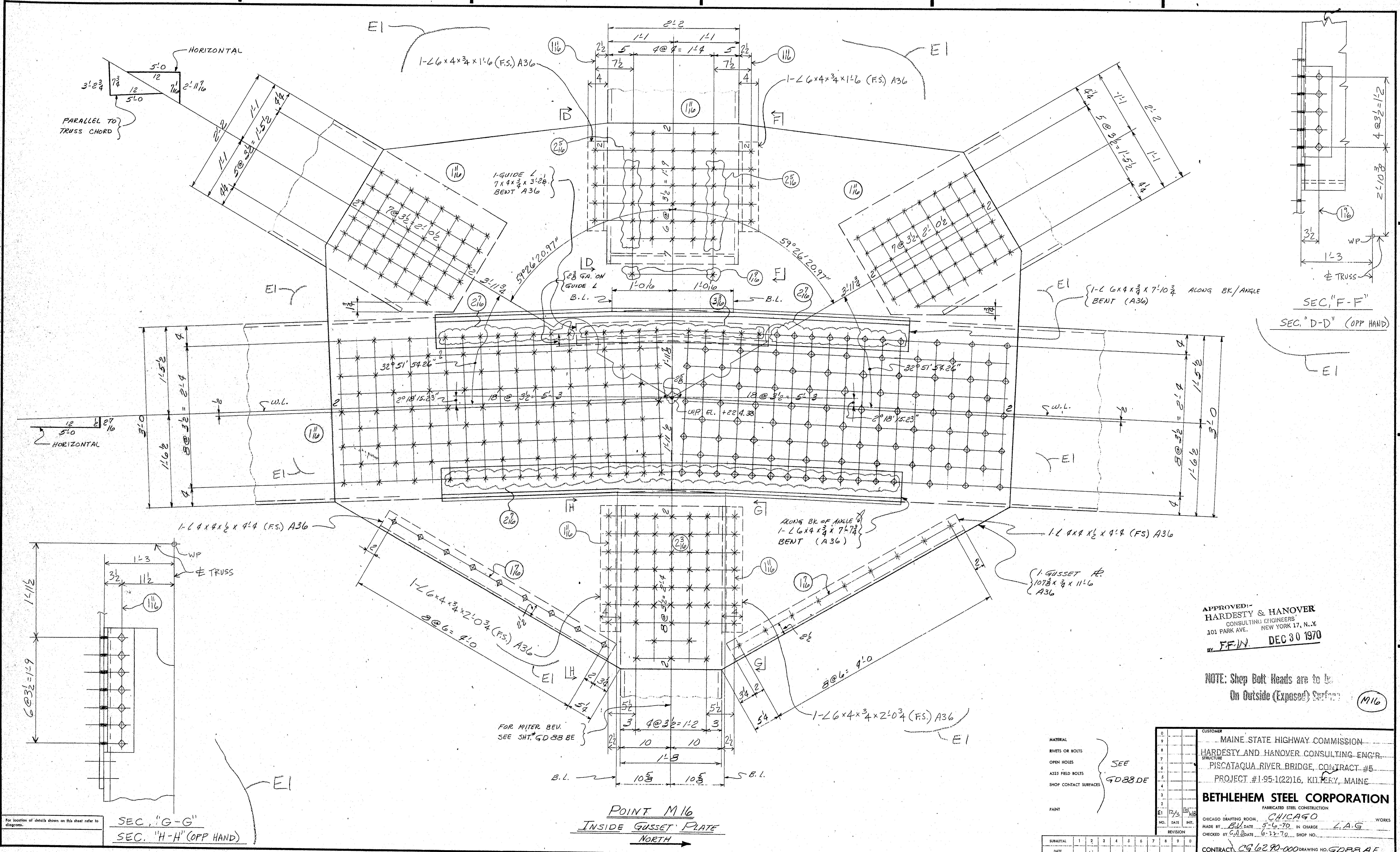
SUBMITTAL	1	2	3	4	5	6	7	8	9	0
DATE										

CUSTOMER MAINE STATE HIGHWAY COMMISSION
HARDESTY AND HANOVER CONSULTING ENG'R.
STRUCTURE PISCATAQUA RIVER BRIDGE, CONTRACT #5
PROJECT #1-95-1(22)16, KITTERY, MAINE

BETHLEHEM STEEL CORPORATION
FABRICATED STEEL CONSTRUCTION
CHICAGO DRAFTING ROOM CHICAGO WORKS
MADE BY B.V. DATE 4-23-70 IN CHARGE L.A.G.
CHECKED BY CAO DATE 6-22-70 SHOP NO.
CONTRACT CG6290-000 DRAWING NO. G087CC

36663 (1-65)

134:32



POINT M16

INSIDE GUSSET PLATE

NORTH →

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101 PARK AVE. NEW YORK 17, N.Y.
BY F.F.N. DEC 30 1970

NOTE: Shop Bolt Heads are to be
On Outside (Exposed) Surface

M16

MATERIAL
RIVETS OR BOLTS
OPEN HOLES
A325 FIELD BOLTS
SHOP CONTACT SURFACES
PAINT
SEE GD88 DE

NO.	DATE	INIT.
0		
9		
8		
7		
6		
5		
4		
3		
2		
E1	12/3	10 WB

REVISION

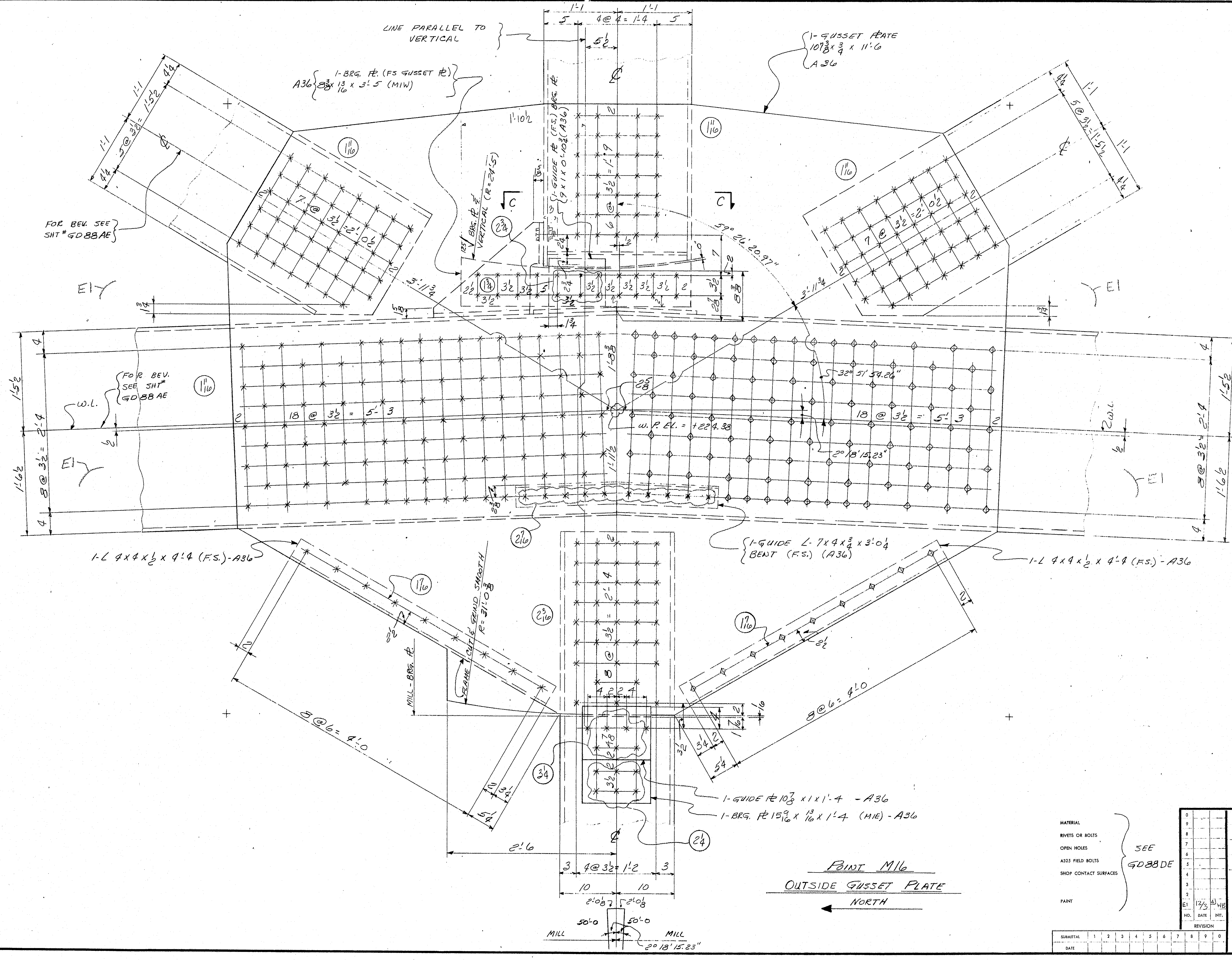
SUBMITTAL	1	2	3	4	5	6	7	8	9	0
DATE										

CUSTOMER
MAINE STATE HIGHWAY COMMISSION
HARDESTY AND HANOVER CONSULTING ENG'R.
STRUCTURE
PISCATAQUA RIVER BRIDGE, CONTRACT #5
PROJECT #1-95-1(22)16, KITTERY, MAINE

BETHLEHEM STEEL CORPORATION
FABRICATED STEEL CONSTRUCTION
CHICAGO DRAFTING ROOM CHICAGO WORKS
MADE BY B.V. DATE 5-6-70 IN CHARGE L.A.G
CHECKED BY G.A.D. DATE 6-22-70 SHOP NO.
CONTRACT CG 6290-000 DRAWING NO. GD88 AE

36663 (1-65)

134:33


LINE PARALLEL TO VERTICAL
1'-1
5
4@4 = 1'-4
5½
1- GUSSET PLATE 10 7/8 × 3/4 × 11'-6 A36
A36 {1-BRG. PL. (FS GUSSET PL) 8 3/8 × 13/16 × 3'-5 (MIW)
1'-10½
1-GUIDE PL (F.S.) 9 × 1 × 0'-10 3/4 (A36)
BRG. PL.
3½ = 1'-9
BRG. PL. & VERTICAL (R = 24'-5)
C
C
59° 26' 20.97"
3'-11¾
3'-11¾
7 @ 3½ = 2'-0½
5@3½ = 1'-5½
4¼
FOR BEV. SEE SHT # GD88AE
FOR BEV. SEE SHT # GD88AE
E1
1 1/16
2¾
1¾
3½
18 @ 3½ = 5'-3
18 @ 3½ = 5'-3
8 @ 3½ = 2'-4
1'-5½
1'-6½
W.L.
W.P. EL. = +224.38
32° 51' 54.26"
2° 18' 15.23"
2 5/8
2 7/16
1-L 4×4×½ × 4'-4 (F.S.)-A36
1-L 4×4×½ × 4'-4 (F.S.)-A36
1-GUIDE L- 7×4×¾ × 3'-0¼ BENT (F.S.) (A36)
1 7/16
2 3/16
8 @ 3½ = 2'-4
FLAME CUT & GRIND SMOOTH R = 31'-0 3/8
MILL - BRG. PL.
8@6 = 4'-0
8@6 = 4'-0
5¼
3¼
4 2 2 4
1-GUIDE PL 10 7/8 × 1 × 1'-4 - A36
1-BRG. PL 15 9/16 × 13/16 × 1'-4 (MIE) - A36
2¼
2'-6
3
4@3½ = 1'-2
10
2'-0⅛
50'-0
MILL
2° 18' 15.23"

POINT M16

OUTSIDE GUSSET PLATE

NORTH ←

	a	b	c
a			
b			
c			
d			
f			
g			
h			
k			
m			
n			
p			
s			
t			
w			
y			

For location of details shown on this sheet refer to diagrams.

APPROVED:-
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CONSULTING ENGINEERS
101 PARK AVE. NEW YORK 17, N.Y.
BY FFW DEC 30 1970

NOTE: Shop Bolt Heads are to be On Outside (Exposed) Surface

M16

MATERIAL
RIVETS OR BOLTS
OPEN HOLES
A325 FIELD BOLTS
SHOP CONTACT SURFACES
PAINT

SEE GD88DE

NO.	DATE	INIT.
0		
9		
8		
7		
6		
5		
4		
3		
2		
E1	12/3	4J WB

REVISION

SUBMITTAL	1	2	3	4	5	6	7	8	9	0
DATE										

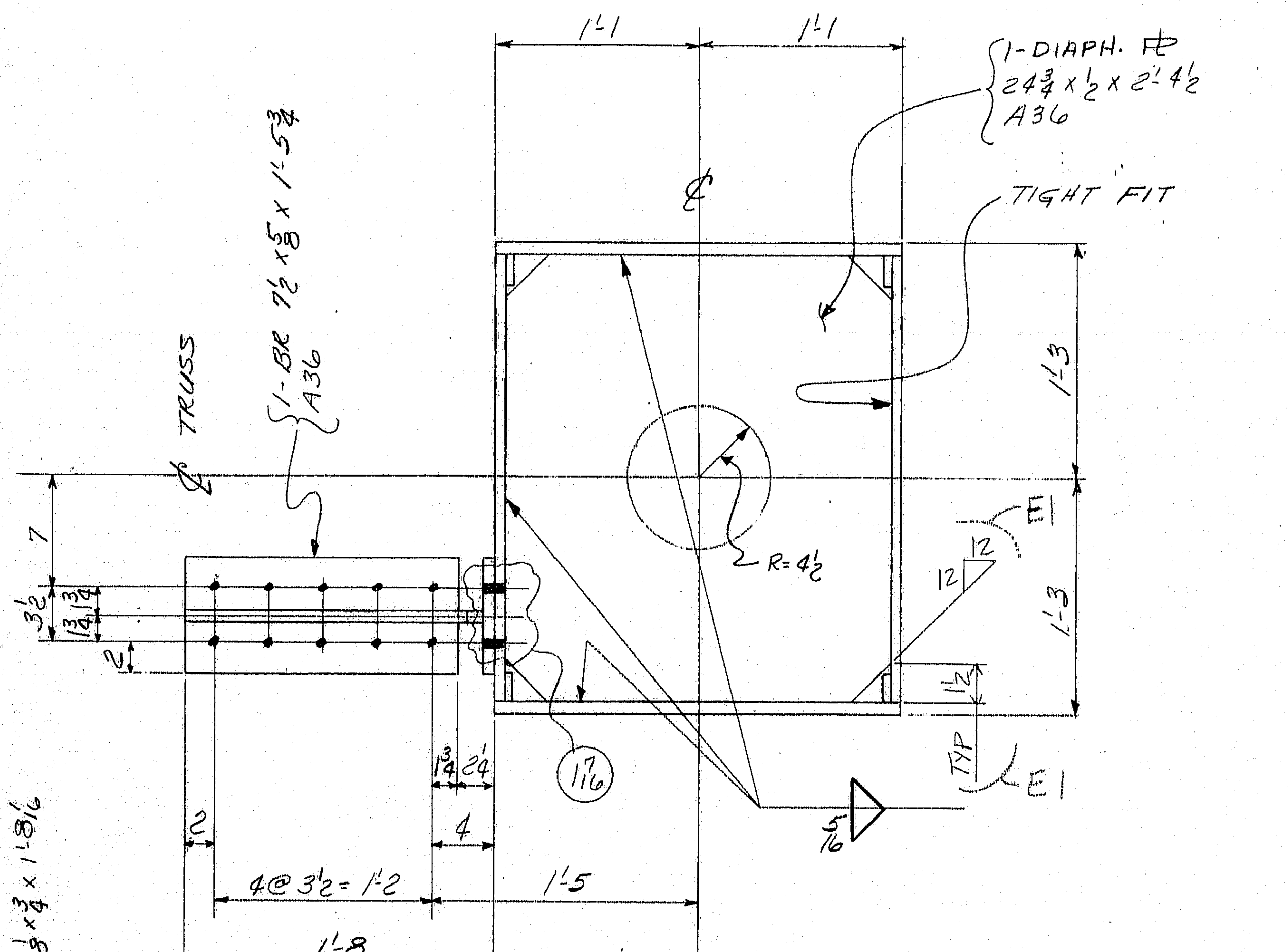
CUSTOMER MAINE STATE HIGHWAY COMMISSION
HARDESTY AND HANOVER CONSULTING ENG'R.
STRUCTURE PISCATAQUA RIVER BRIDGE, CONTRACT #5
PROJECT #1-95-1(22)16, KITTERY, MAINE

BETHLEHEM STEEL CORPORATION
FABRICATED STEEL CONSTRUCTION

CHICAGO DRAFTING ROOM CHICAGO WORKS
MADE BY B.V. DATE 4-30-70 IN CHARGE L.A.G.
CHECKED BY CAD DATE 6-22-70 SHOP NO.
CONTRACT CG6290-000 DRAWING NO. GD88BE

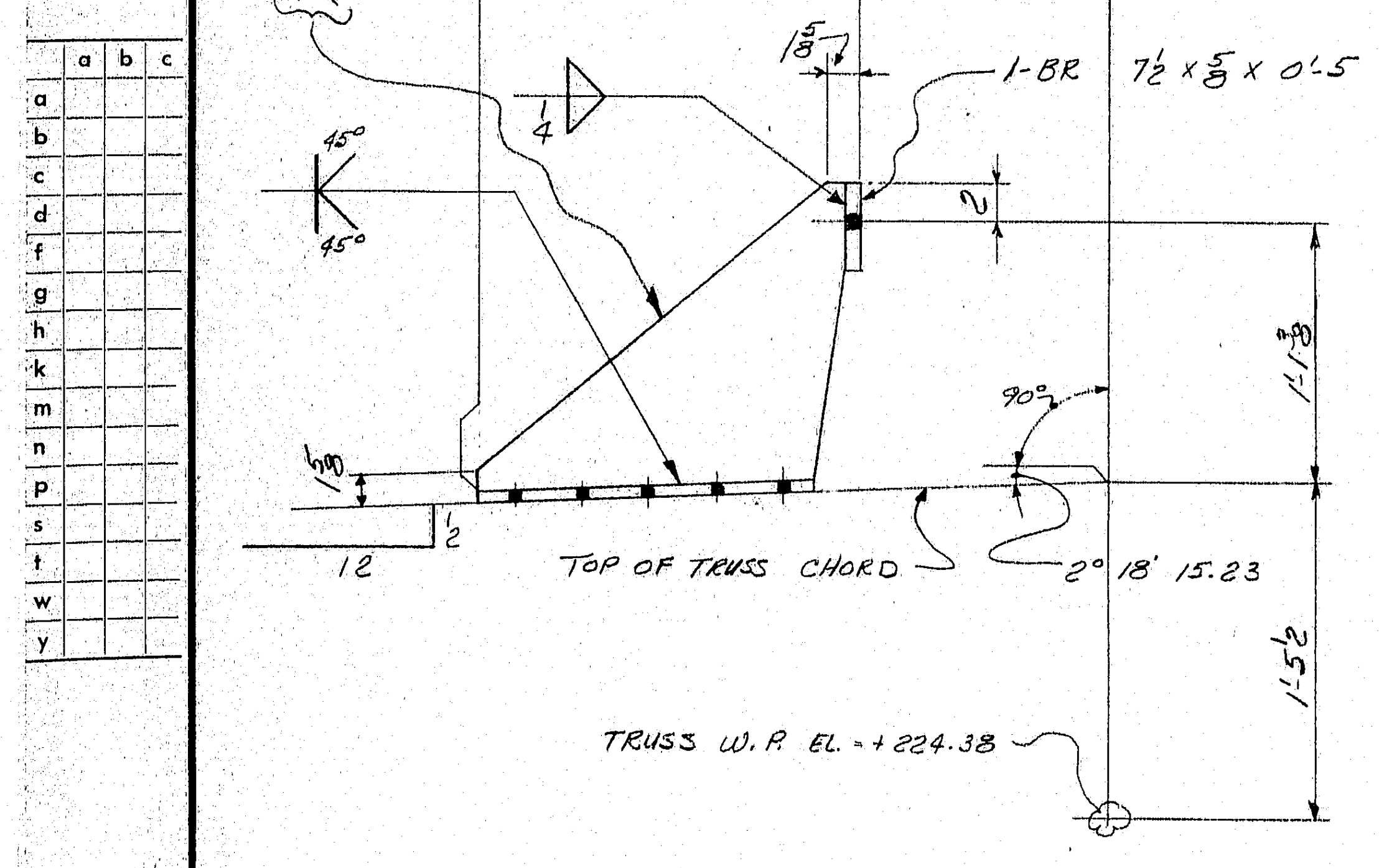
36663 (1-55)

134:34

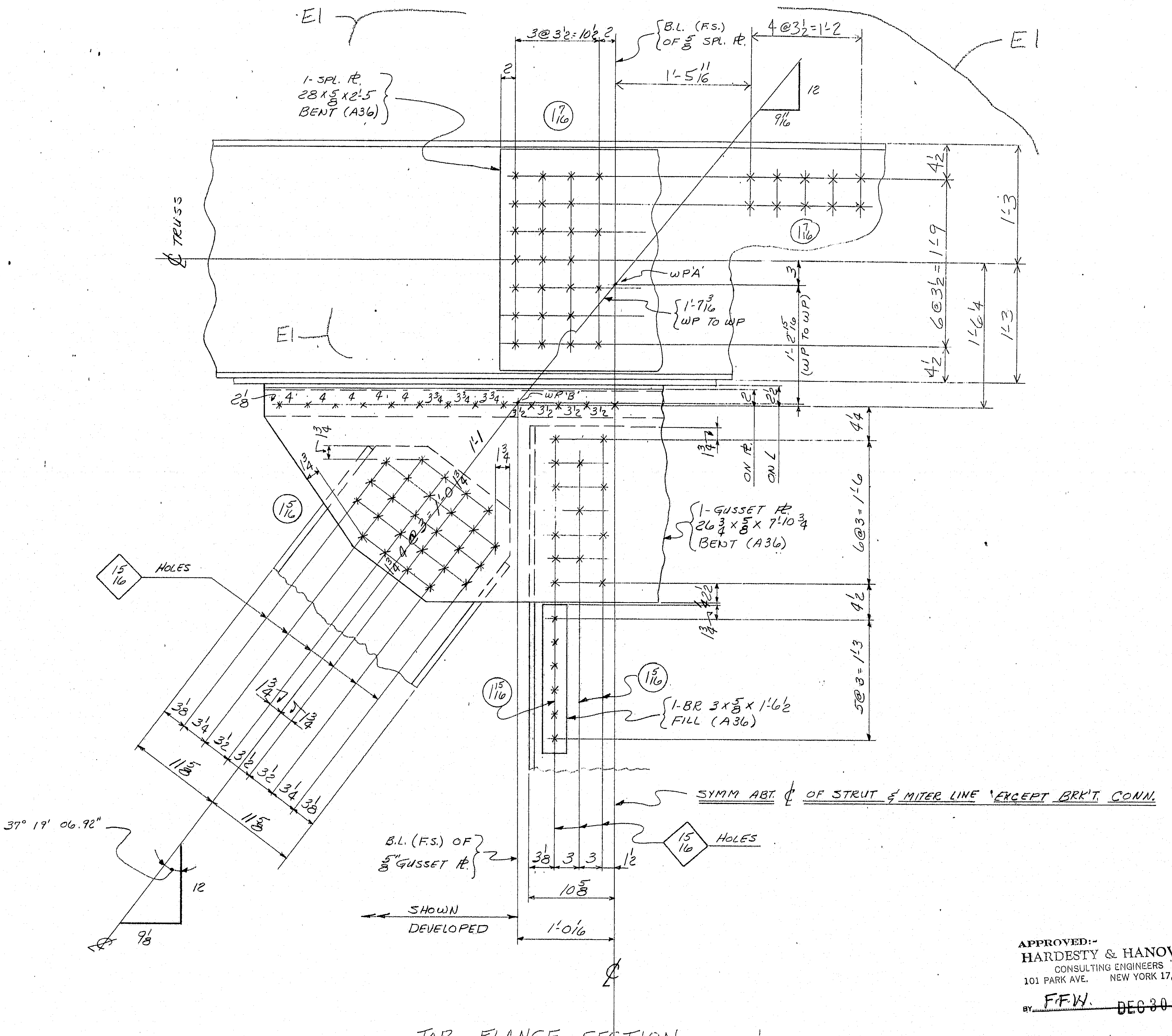


SECTION C-C

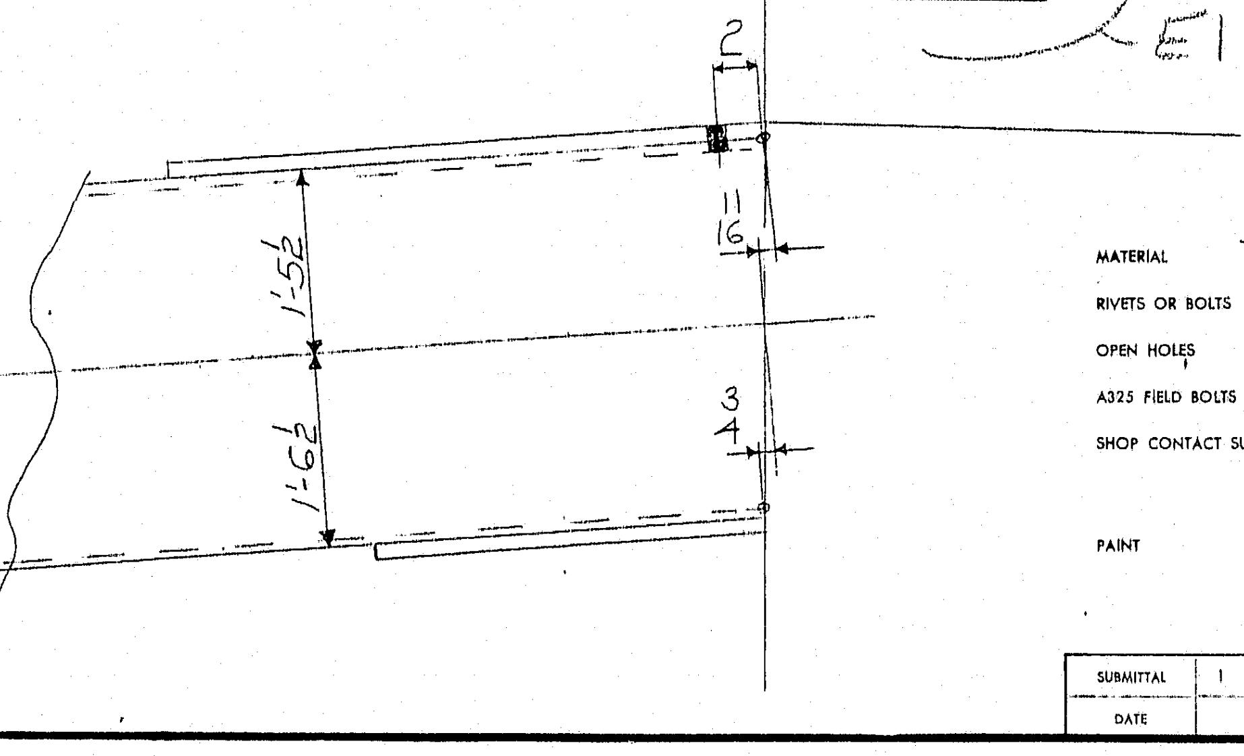
N ←



ELEVATION OF BRACKET



TOP FLANGE SECTION



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CONSULTING ENGINEERS
101 PARK AVE. NEW YORK 17, N.Y.
BY F.F.W. ~~DEC 30 1970~~

NOTE: Shop Bolt Heads are to be On Outside (Exposed) Surface

M16

MATERIAL
RIVETS OR BOLTS
OPEN HOLES
A325 FIELD BOLTS
SHOP CONTACT SURFACES
PAINT

SEE GD88DE

NO.	DATE	INIT.
0		
9		
8		
7		
6		
5		
4		
3		
2		
E1	12/3	61 WB

REVISION

SUBMITTAL	1	2	3	4	5	6	7	8	9	0
DATE										

CUSTOMER MAINE STATE HIGHWAY COMMISSION
HARDESTY AND HANOVER CONSULTING ENG'R.
STRUCTURE PISCATAQUA RIVER BRIDGE, CONTRACT #5
PROJECT #1-95-1(22)16, KITTERY, MAINE

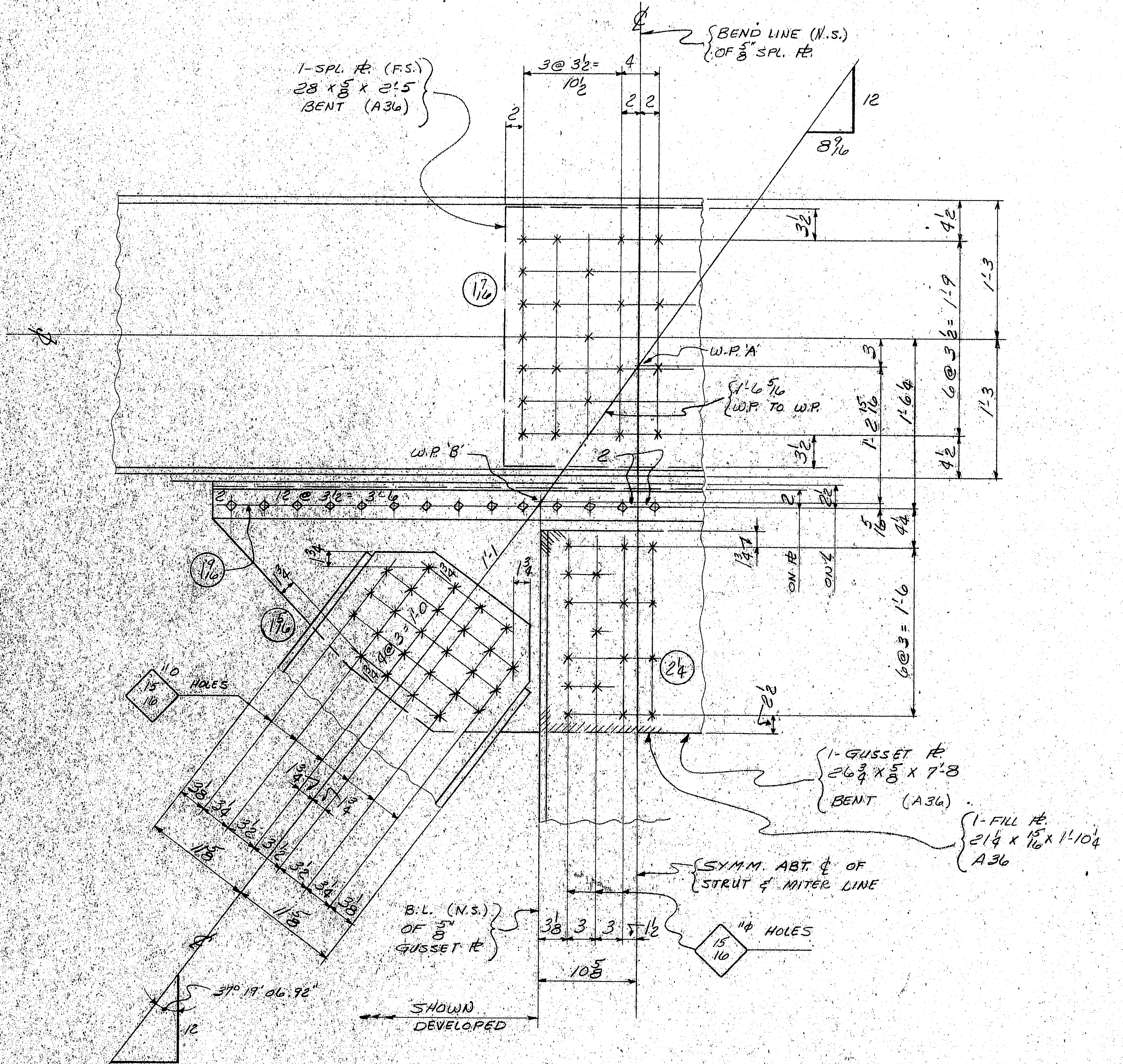
BETHLEHEM STEEL CORPORATION
FABRICATED STEEL CONSTRUCTION

CHICAGO DRAFTING ROOM CHICAGO WORKS
MADE BY B.V. DATE 5-4-70 IN CHARGE L.A.G.
CHECKED BY C.A.D. DATE 6-22-70 SHOP NO.
CONTRACT CG 6290-000 DRAWING NO. GD88CE

36663 (1-65)

134:35

For location of details shown on this sheet refer to diagrams.



BOTTOM FLANGE SECTION — E1

SHOP BOLTS

QTY	TYPE	SIZE	GRIP	LENGTH
89	A325	1"φ	1 7/16	2 3/4
165	↓	↓	1 11/16	3
21			2 7/16	3 3/4

FIELD BOLTS

QTY	TYPE	SIZE	GRIP	LENGTH
98	A325	1"φ	1 7/16	2 3/4
	↓	↓	1 9/16	
425			1 11/16	3
			1 15/16	
94			2 3/16	3 1/2
			2 1/4	
			2 5/16	
31			2 7/16	3 3/4
6			2 3/4	4
14			3 3/16	4 1/2
			3 1/4	
118		7/8"φ	1 5/16	2 1/2
22		7/8"φ	2 1/4	3 1/4
20		7/8"φ		3

APPROVED:-
HARDESTY & HANOVER
CONSULTING ENGINEERS
101 PARK AVE. NEW YORK 17, N.Y.
BY FFW. DEC 30 1970

NOTE:
3/16" WASHER INCLUDED IN GRIP.

NOTE: Shop Bolt Heads are to be On Outside (Exposed) Surface

M16

	a	b	c
a			
b			
c			
d			
f			
g			
h			
k			
m			
n			
p			
s			
t			
w			
y			

For location of details shown on this sheet refer to diagrams.

MATERIAL As Noted
RIVETS OR BOLTS As Noted
OPEN HOLES 11/16"φ U.N.
A325 FIELD BOLTS As Noted
SHOP CONTACT SURFACES
WELDING As Noted
PAINT

NO.	DATE	INIT.
0		
9		
8		
7		
6		
5		
4		
3		
2		
E1	12/3	WB

REVISION

SUBMITTAL	1	2	3	4	5	6	7	8	9	0
DATE										

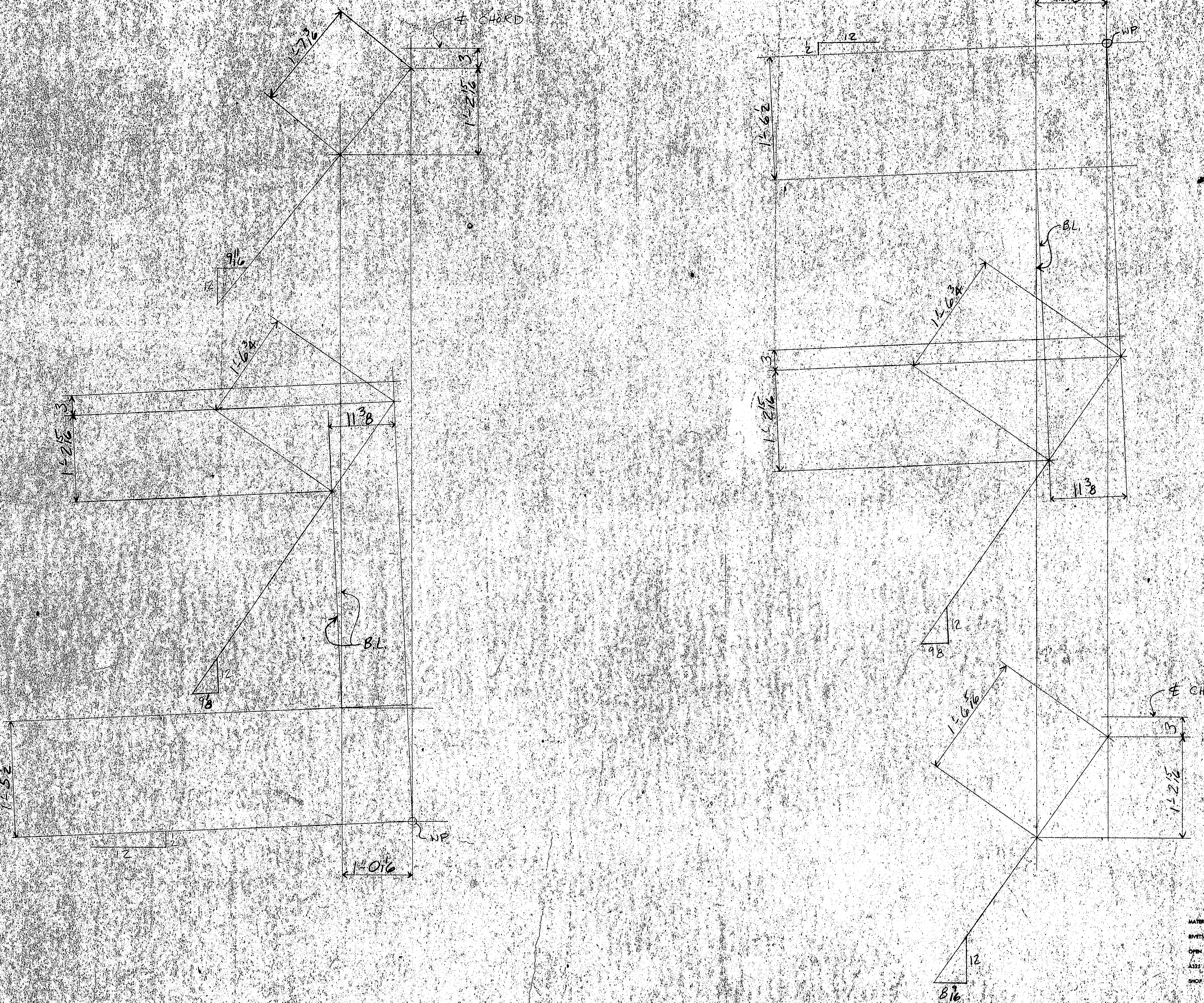
CUSTOMER
MAINE STATE HIGHWAY COMMISSION
HARDESTY AND HANOVER CONSULTING ENG'R.
STRUCTURE
PISCATAQUA RIVER BRIDGE, CONTRACT #5
PROJECT #1-95-1(22)16, KITTERY, MAINE

BETHLEHEM STEEL CORPORATION
FABRICATED STEEL CONSTRUCTION

CHICAGO DRAFTING ROOM CHICAGO WORKS
MADE BY B.V. DATE 5-4-70 IN CHARGE L.A.G.
CHECKED BY CAD DATE 6-22-70 SHOP NO.
CONTRACT CG6290-000 DRAWING NO. GD88 DE

36663 (1-65)

134:36



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101 PARK AVE. NEW YORK 17, N.Y.
BY FFW DEC 30 1970

NOTE: Shop Bolt Heads are to be On Outside (Exposed) Surface

M16

MATERIAL
RIVETS OR BOLTS
OPEN HOLES
A325 FIELD BOLTS
SHOP CONTACT SURFACES
PAINT
SEE GD88DE

NO.	DATE	INT.
0		
9		
8		
7		
6		
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1		

REVISION

SUBMITTAL	1	2	3	4	5	6	7	8	9	0
DATE										

CUSTOMER MAINE STATE HIGHWAY COMMISSION
HARDESTY AND HANOVER CONSULTING ENG'R
STRUCTURE PISCATAQUA RIVER BRIDGE CONTRACT #5
PROJECT #I-95-1(22)16 KITTERY, MAINE

BETHLEHEM STEEL CORPORATION
FABRICATED STEEL CONSTRUCTION

CHICAGO DRAFTING ROOM CHICAGO WORKS
MADE BY B.V. DATE 5-4-70 IN CHARGE
CHECKED BY ET DATE SHOP NO.
CONTRACT CG6290-040 DRAWING NO. GD88EE

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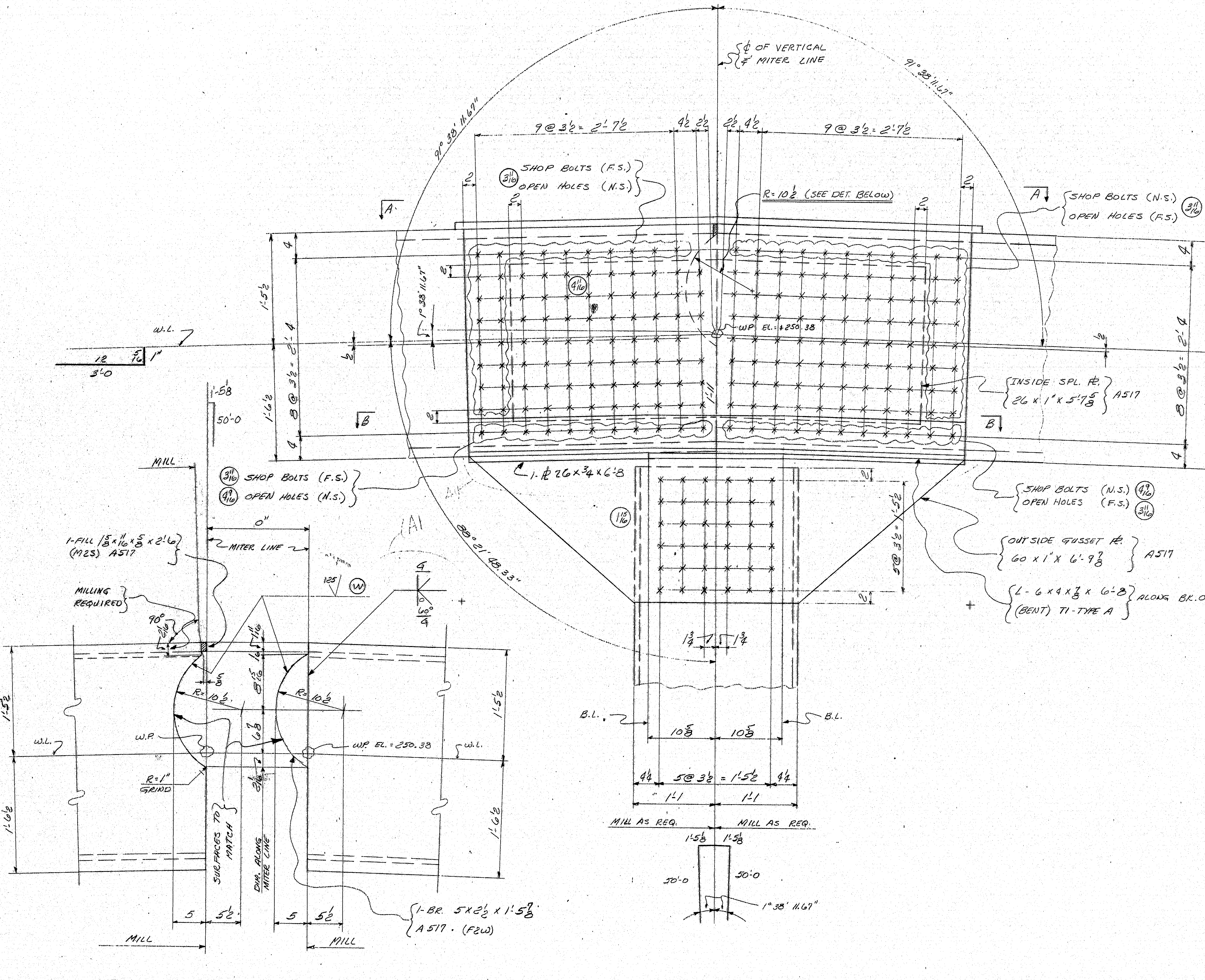

DETAIL OF TRUSS JOINT

HOLES NOT SHOWN

For location of details shown on this sheet refer to diagrams.

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BY F.F.W. DEC 30 1970

NOTE:

SURFACES MARKED (W) TO BE COATED WITH MOLYBDENUM GREASE PRIOR TO CLOSING

TRUSS JOINT @ U16

MATERIAL
RIVETS OR BOLTS
OPEN HOLES
A325 FIELD BOLTS
SHOP CONTACT SURFACES
PAINT

NO.	DATE	INIT.
0		
9		
8		
7		
6		
1		
2		
A1	12/2	2/JF

REVISION

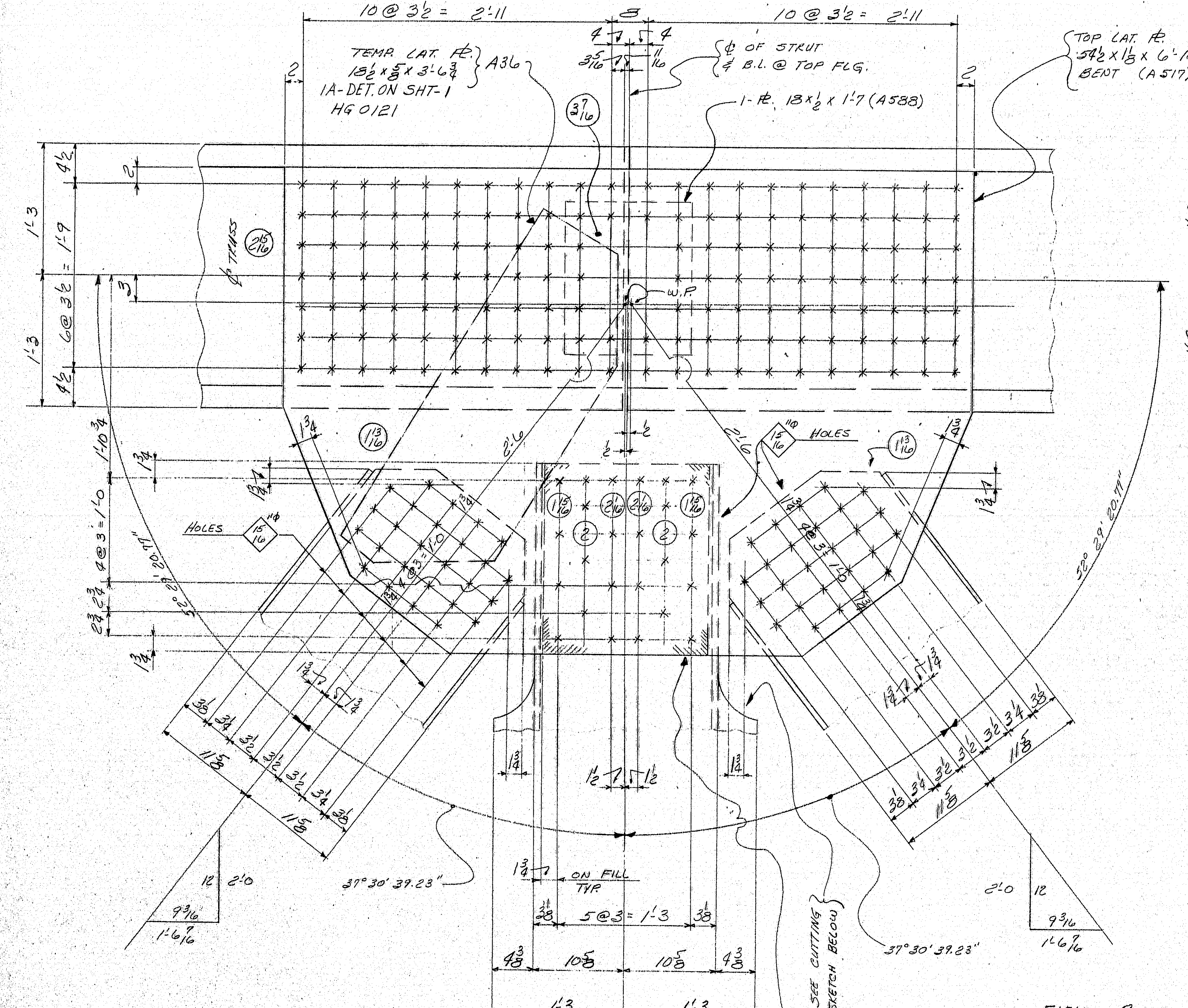
SUBMITTAL	1	2	3	4	5	6	7	8	9	0
DATE										

CUSTOMER MAINE STATE HIGHWAY COMMISSION
HARDESTY AND HANOVER CONSULTING ENG'R.
STRUCTURE PISCATAQUA RIVER BRIDGE, CONTRACT #5
PROJECT #1-95-1(22)16 KITTERY, MAINE

BETHLEHEM STEEL CORPORATION
FABRICATED STEEL CONSTRUCTION
CHICAGO DRAFTING ROOM CHICAGO WORKS
MADE BY B.V. DATE 5-7-70 IN CHARGE L.A.G.
CHECKED BY GAD DATE 6-22-70 SHOP NO.
CONTRACT CG6290-000 DRAWING NO. GD89AB

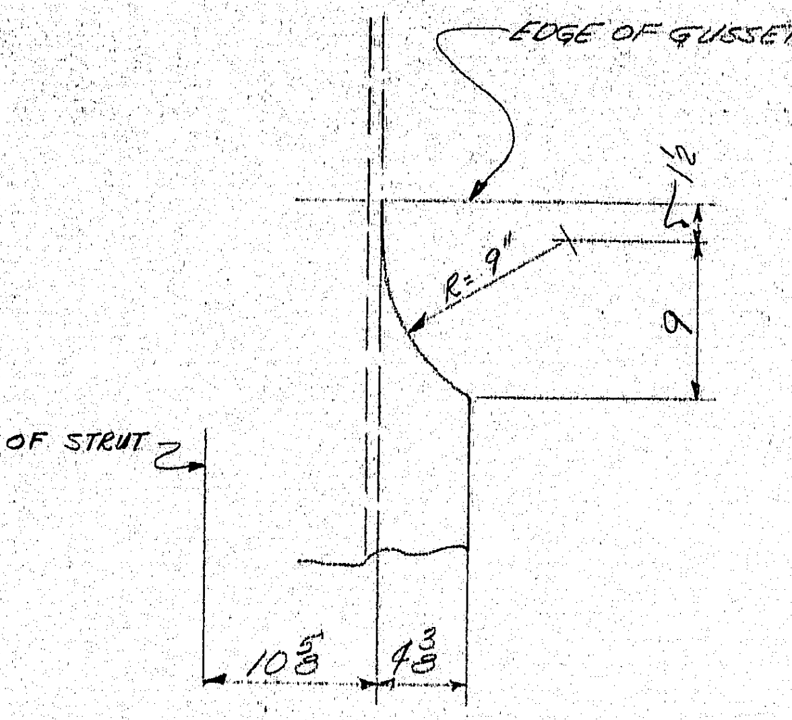
36663 (1-65)

134:38



VIEW A-A

SHOWN DEVELOPED



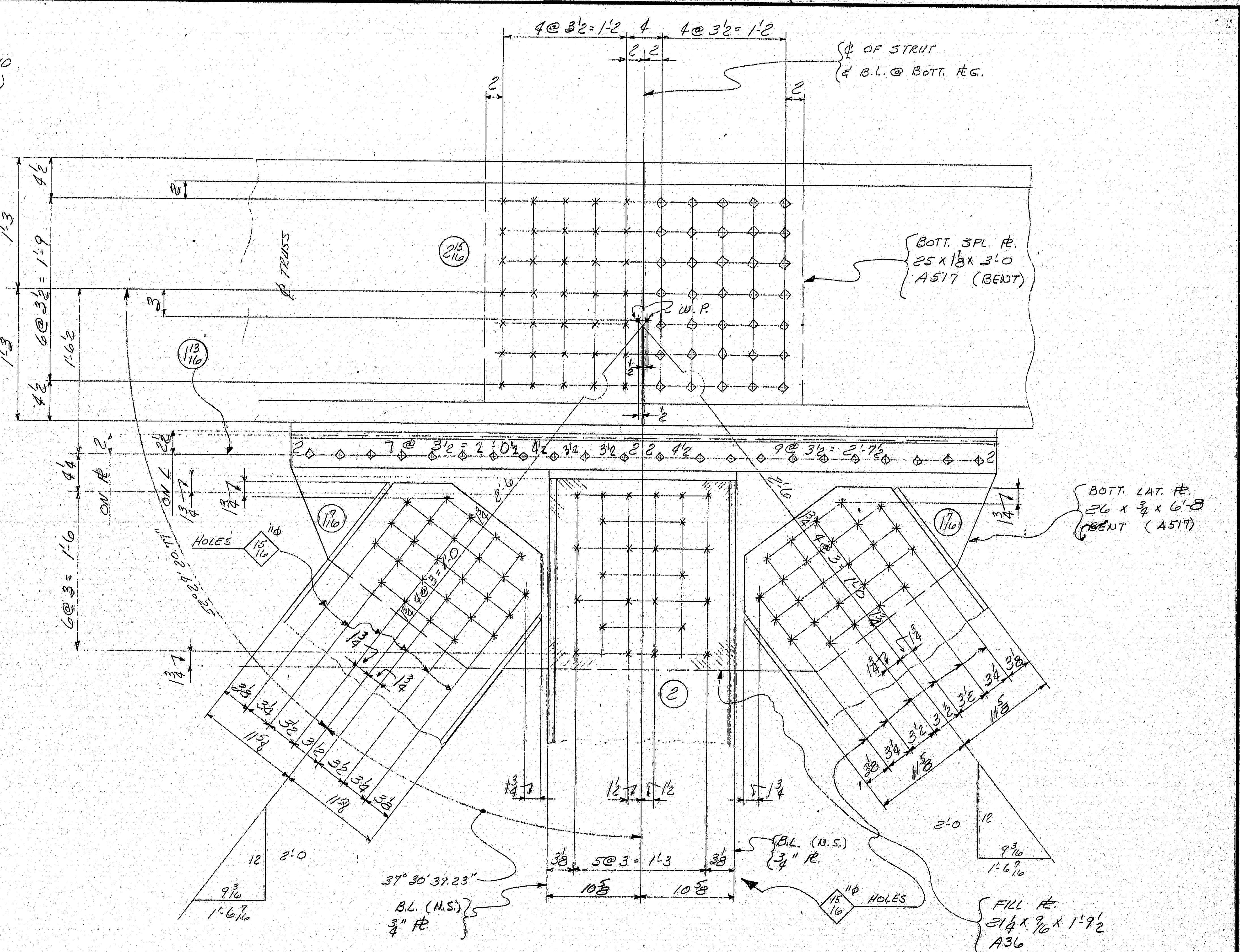
CUTTING SKETCH

FIELD BOLTS

TYPE	QTY	SIZE	GRIP	LENGTH
A325	169	1"ϕ	2 15/16	4¼
↓	60	↓	3 11/16	5
	11		4 9/16	5¾
	125		4 11/16	6
	52	⅞ϕ	1 7/16	2½
	52	↓	1 13/16	3
	24		2	3
	24		2 1/16	3¼
	36	1"ϕ		3¼
	14	1"ϕ		4¾

SHOP BOLTS

TYPE	QTY	SIZE	GRIP	LENGTH
A325	35	1"ϕ	2 15/16	4¼
A325	22	1"ϕ	1 13/16	3
A325	60	1"ϕ	3 11/16	5
A325	11	1"ϕ	4 9/16	5¾



SECTION B-B

SHOWN DEVELOPED

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BY F.F.W. DEC 30 1970

TRUSS JOINT @ U.16

MATERIAL AS. NOTED
RIVETS OR BOLTS
OPEN HOLES 1 1/16ϕ U.N.
A325 FIELD BOLTS
SHOP CONTACT SURFACES
PAINT

NO.	DATE	INIT.
0		
9		
8		
7		
6		
5		
4		
3		
2		
A1	12/2	1/JF

REVISION

SUBMITTAL	1	2	3	4	5	6	7	8	9	0
DATE										

CUSTOMER
MAINE STATE HIGHWAY COMMISSION
HARDESTY AND HANOVER CONSULTING ENG'R.
STRUCTURE
PISCATAQUA RIVER BRIDGE, CONTRACT #5
PROJECT #1-95-1(22)16, KITTERY, MAINE

BETHLEHEM STEEL CORPORATION
FABRICATED STEEL CONSTRUCTION

CHICAGO DRAFTING ROOM CHICAGO WORKS
MADE BY B.V. DATE IN CHARGE L.A.G.
CHECKED BY CAD DATE 6-21-70 SHOP NO.
CONTRACT CG 6290-000 DRAWING NO. G089BB

For location of details shown on this sheet refer to diagrams.

36663 (1-65)

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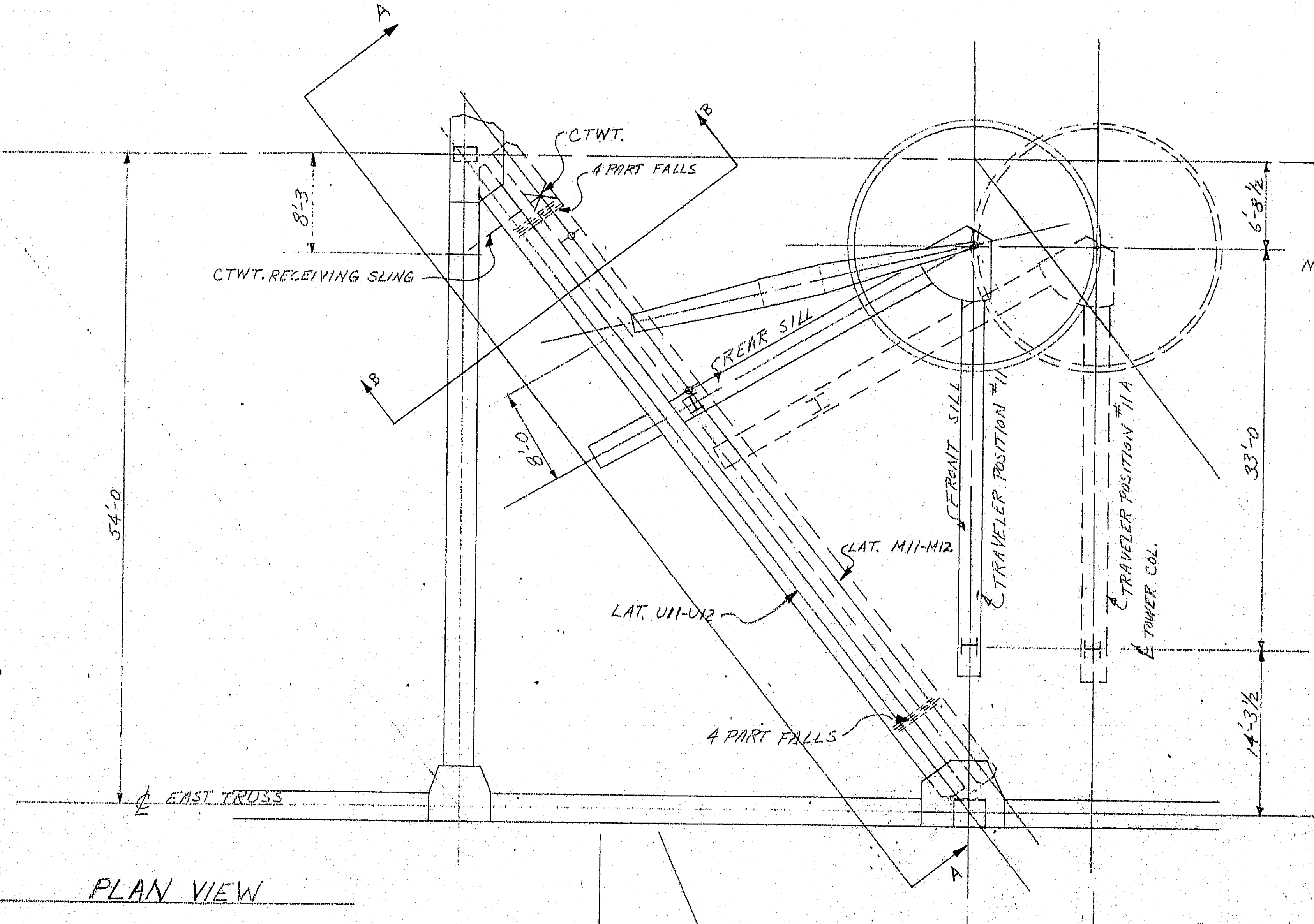
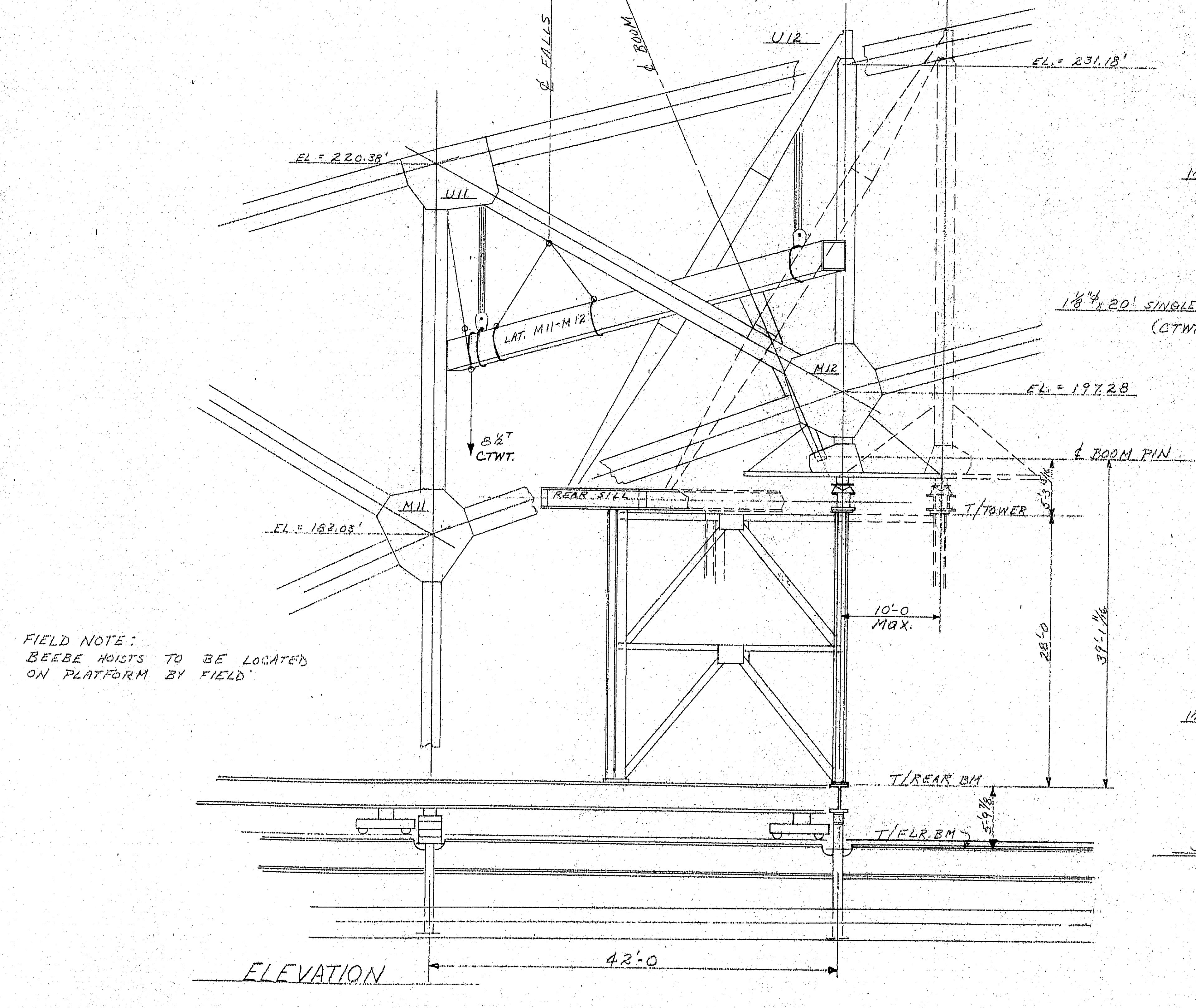


PLAN VIEW

NOTE:
WHEN LATERAL M11-M12 HAS BEEN LOWERED UNTIL IT IS ABOUT IN THE SAME PLANE AS U11-U12 (AS SHOWN IN PLAN VIEW) THE SYSTEMS OF FALLS ARE TO BE CONNECTED BETWEEN THE LATERALS. ALSO AT THIS TIME, THE CTWT. RECEIVING SLING IS TO BE CONNECTED TO THE CTWT. REMOVAL SLING. AFTER THIS HAS BEEN COMPLETED THE DERRICK SHOULD RESUME LOWERING LATERAL M11-M12. THE TWO FALLS MUST BE PAID OUT SO THAT NO LOAD IS TAKEN UP BY THE FALLS, UNTIL THE CTWT. RECEIVING SLING STARTS TO TAKE UP THE LOAD OF THE CTWT.
WHEN THE CTWT. HAS BEEN REMOVED, THE FULL WEIGHT OF THE LATERAL WILL BE TAKEN UP IN THE TWO FALLS. THE DERRICK WILL CUT LOOSE FROM THE LATERAL AND SWING OVER TO PICK UP THE CTWT. ONCE THE CTWT. HAS BEEN REMOVED THE TRAVELER CAN CONTINUE WITH THE ERECTION SEQUENCE SHOWN ON ER 4.

REQUIRED LIST

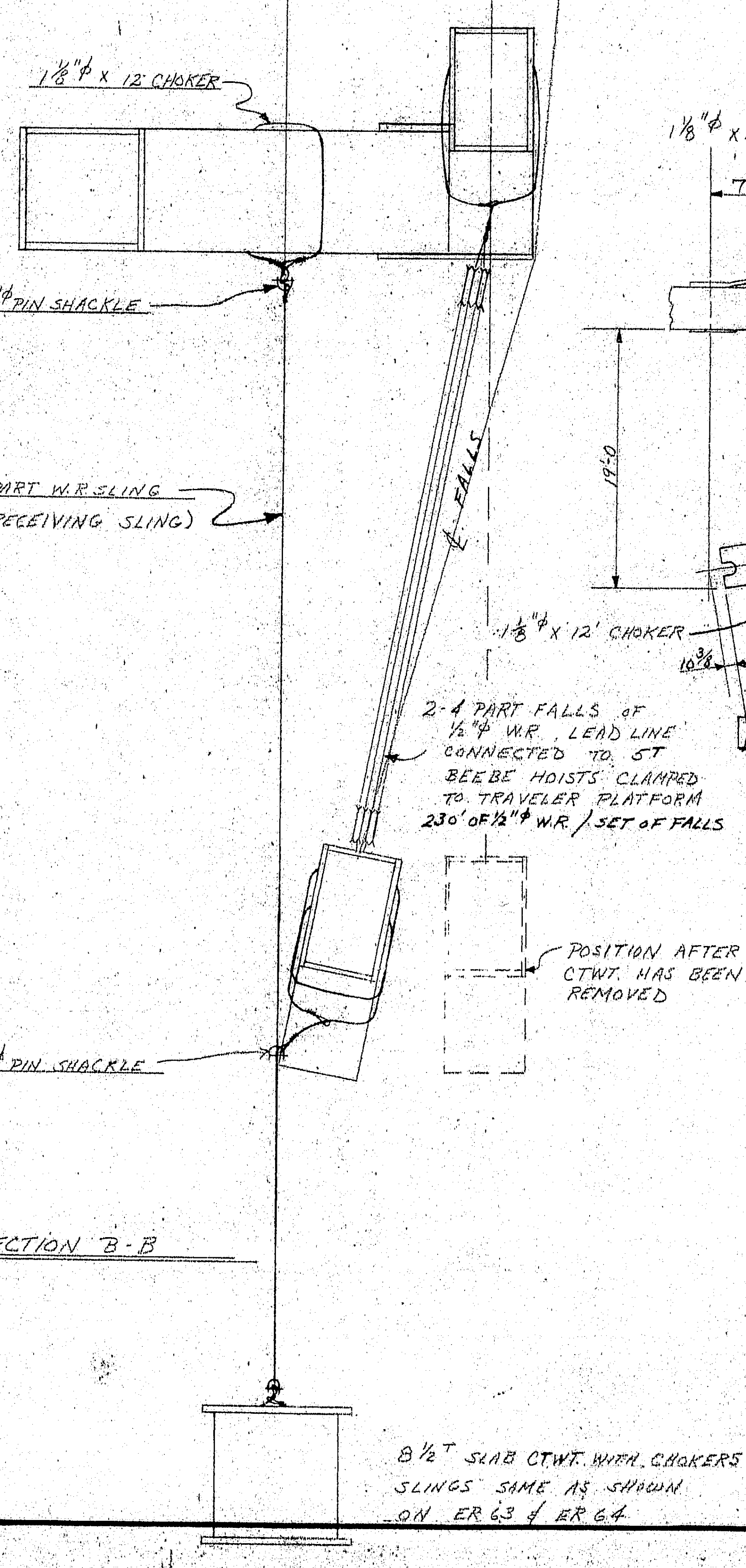
NO. REQD.	DESCRIPTION	REMARKS
5	CHOKERS 1⅛"φ X 12' W.R.	
72	U BOLT CLIPS FOR 1⅛"φ W.R.	
4	1⅛"φ PIN SHACKLES	FOR 2 SHEAVE BLOCKS
2	230' LENGTH OF ½"φ W.R.	
16	U BOLT CLIPS FOR ½"φ W.R.	
2	1½"φ PIN SHACKLE	
2	5T BEEBE HOISTS & MOUNTINGS	TO BE LOCATED BY FIELD
4	2 SHEAVE - 5T W.R. BLOCKS (½"φ W.R.)	
1	CTWT. RECEIVING SLING 1⅛"φ X 15'-9	



ELEVATION

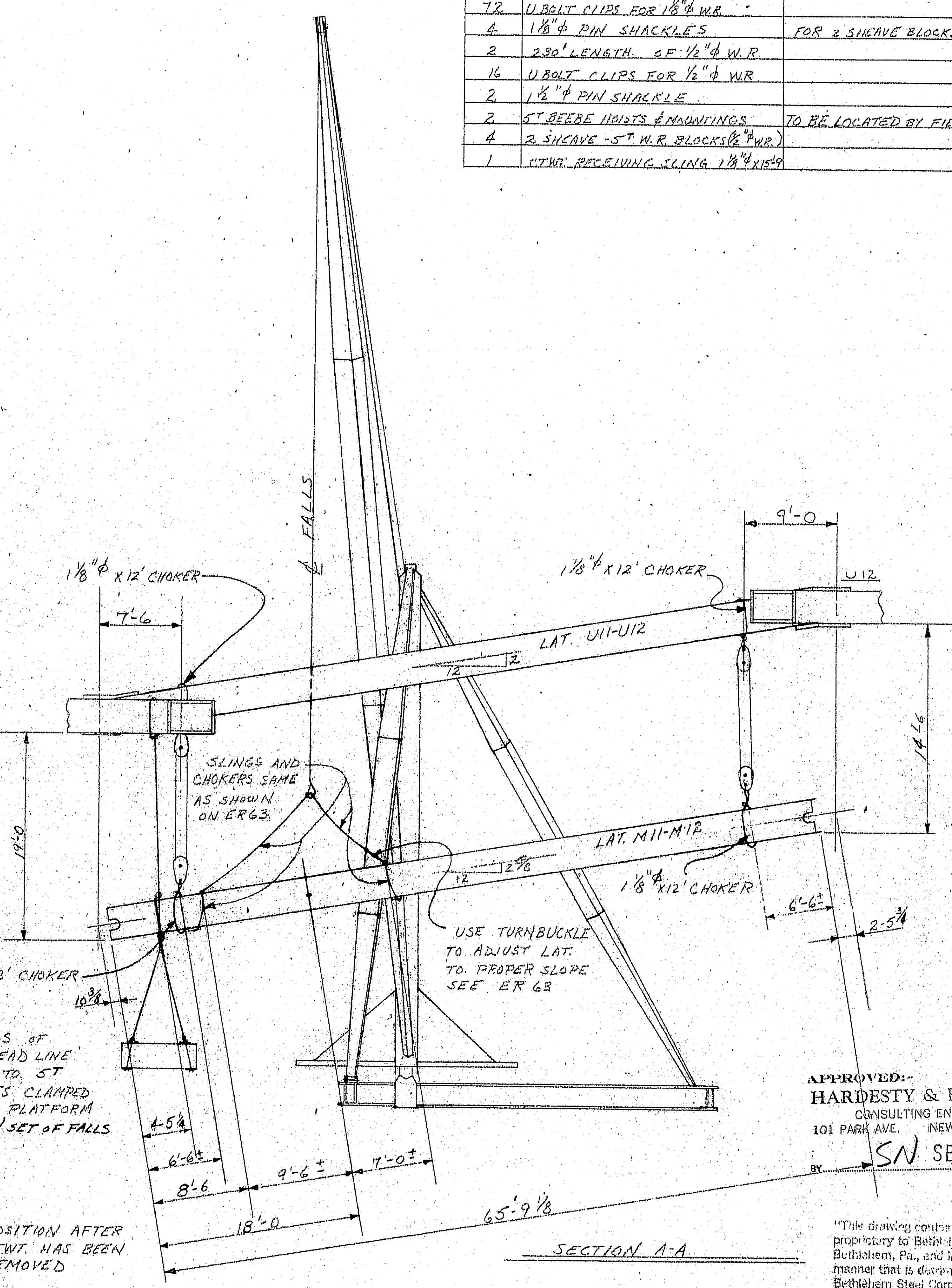
FIELD NOTE:
BEEBE HOISTS TO BE LOCATED ON PLATFORM BY FIELD

WT. M11-M12 = 8.5T
TOTAL PICK = 17T


1⅛"φ x 12' CHOKER
1½"φ PIN SHACKLE
1⅛"φ x 20' SINGLE PART W.R. SLING
(CTWT. RECEIVING SLING)
℄ FALLS
2-4 PART FALLS OF ½"φ W.R., LEAD LINE CONNECTED TO 5T BEEBE HOISTS CLAMPED TO TRAVELER PLATFORM
230' OF ½"φ W.R. / SET OF FALLS
POSITION AFTER CTWT. HAS BEEN REMOVED
1½"φ PIN SHACKLE

SECTION B-B

8½T SLAB CTWT. WITH CHOKERS & SLINGS SAME AS SHOWN ON ER 63 & ER 64



SECTION A-A

APPROVED:-
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BY SN SEP 14 1970

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WORK THIS DRAWING WITH ER 4
REF. DRAWING ER 63

APPROVED:
HARDESTY & HANOVER
CONSULTING ENGINEERS
NEW YORK, N.Y.
BY - F.E.W. 9-14-70

PISCATAQUA RIVER BRIDGE
PORTSMOUTH N.H. TO KITTERY, ME.
PLACING OF LATERAL M11-M12 WITH CTWT.

BETHLEHEM STEEL CORPORATION
FABRICATED STEEL CONSTRUCTION DEPARTMENT
ERECTION DIVISION
HOME OFFICE ERECTION BETHLEHEM, PA.

IN CHARGE OF: C. CREIDENBERG - RCE
☑ Erect. Engr. ☐ Proj. Engr.
APPROVED: ☐ Mgr. of Erect. ☒ Engr. of Erect. ☐ District Mgr. ☐ Asst. Dist. Mgr.
MADE BY: TKN DATE: 8-20-70
CHECKED BY: D.D.P. DATE: 8-21-70
SCALE: ⅛" = 1'-0, ⅜" = 1'-0
FILE NO.:
ERECTION CONTRACT NO.: CW 6290
DWG. NO.: ER 4-A

NO.	DATE	INIT.

REVISED

SENT TO	DATE
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40318 (12-67)

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SENT TO	DATE
D.O.	8-3-71
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Exc	8-3-71
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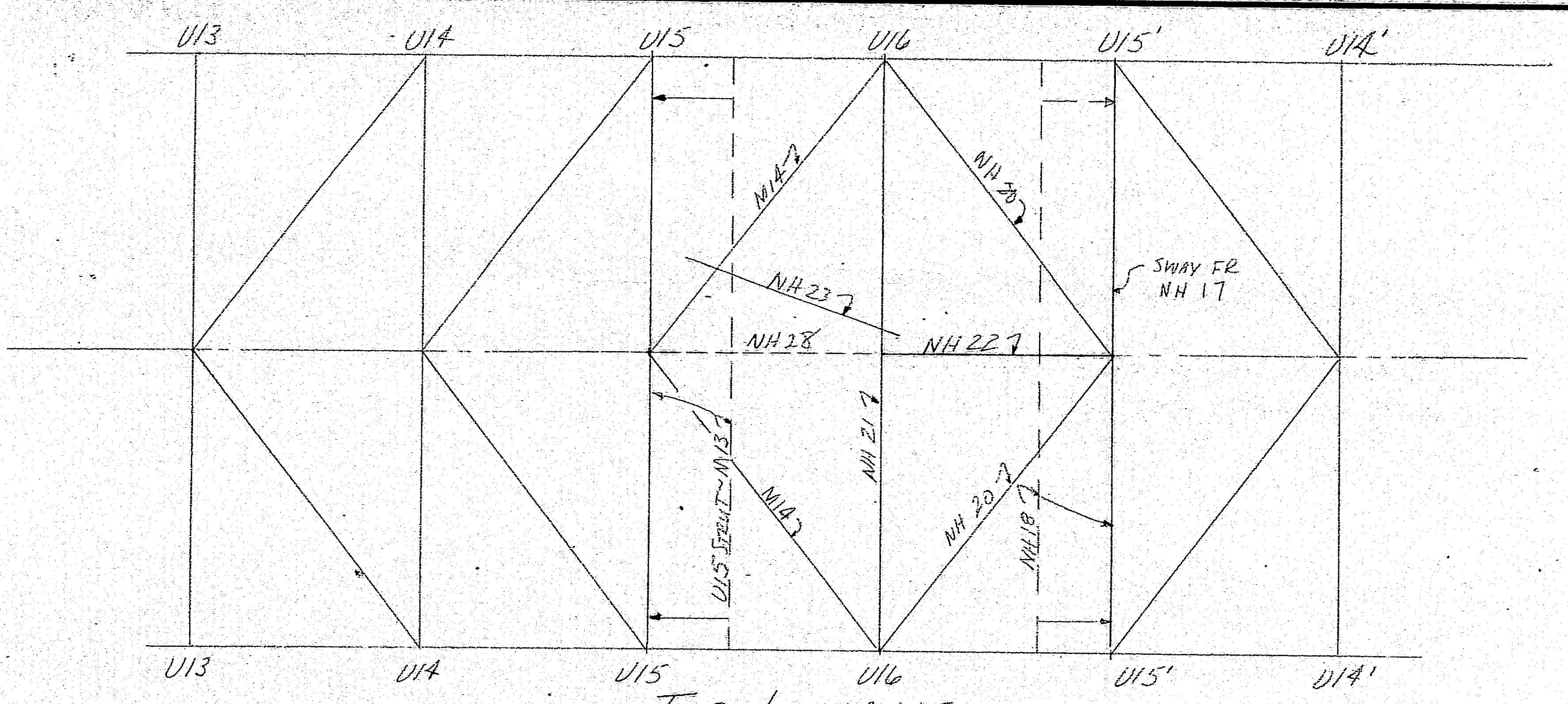
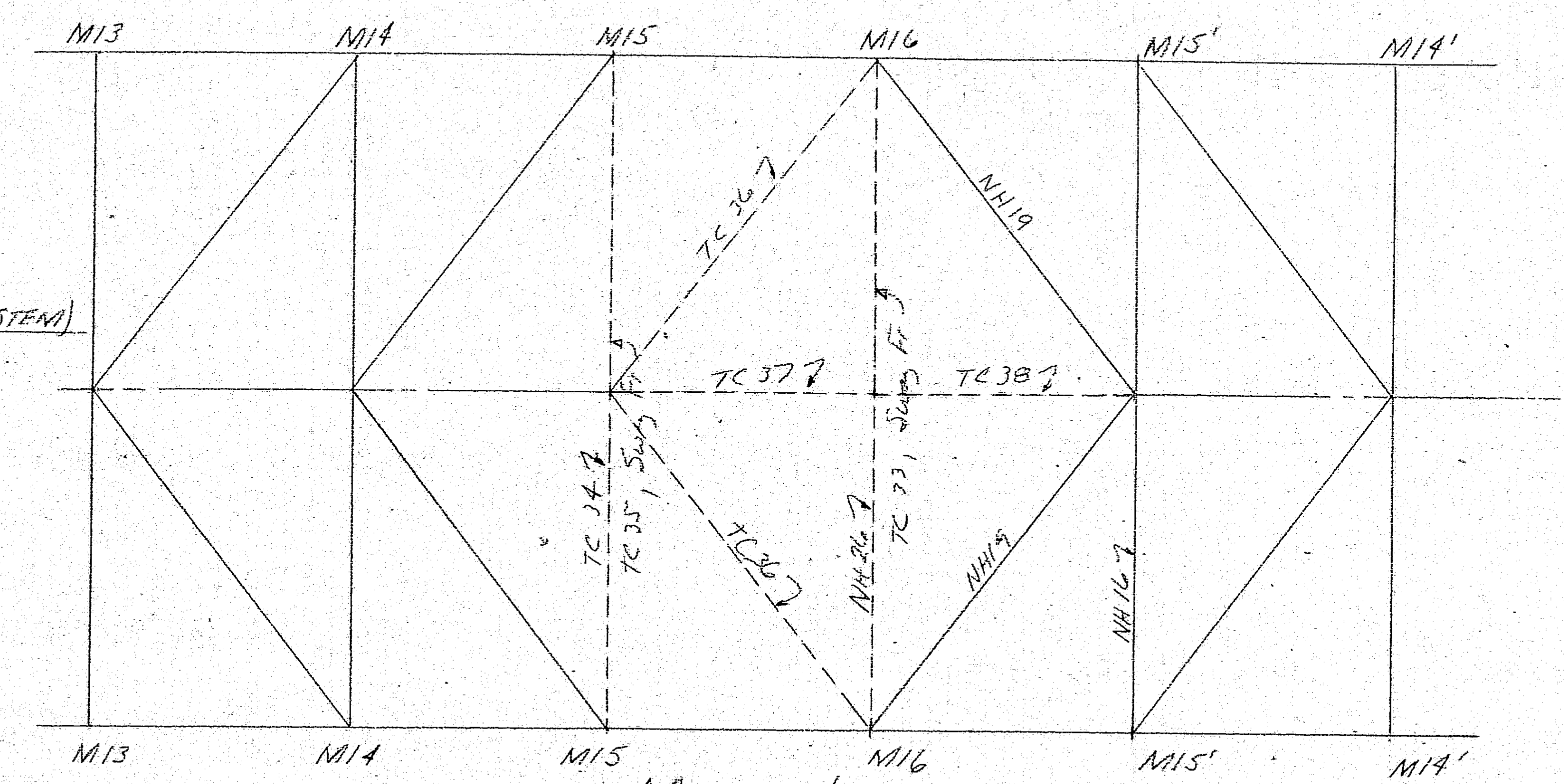
SHP	



TOP LATERALS



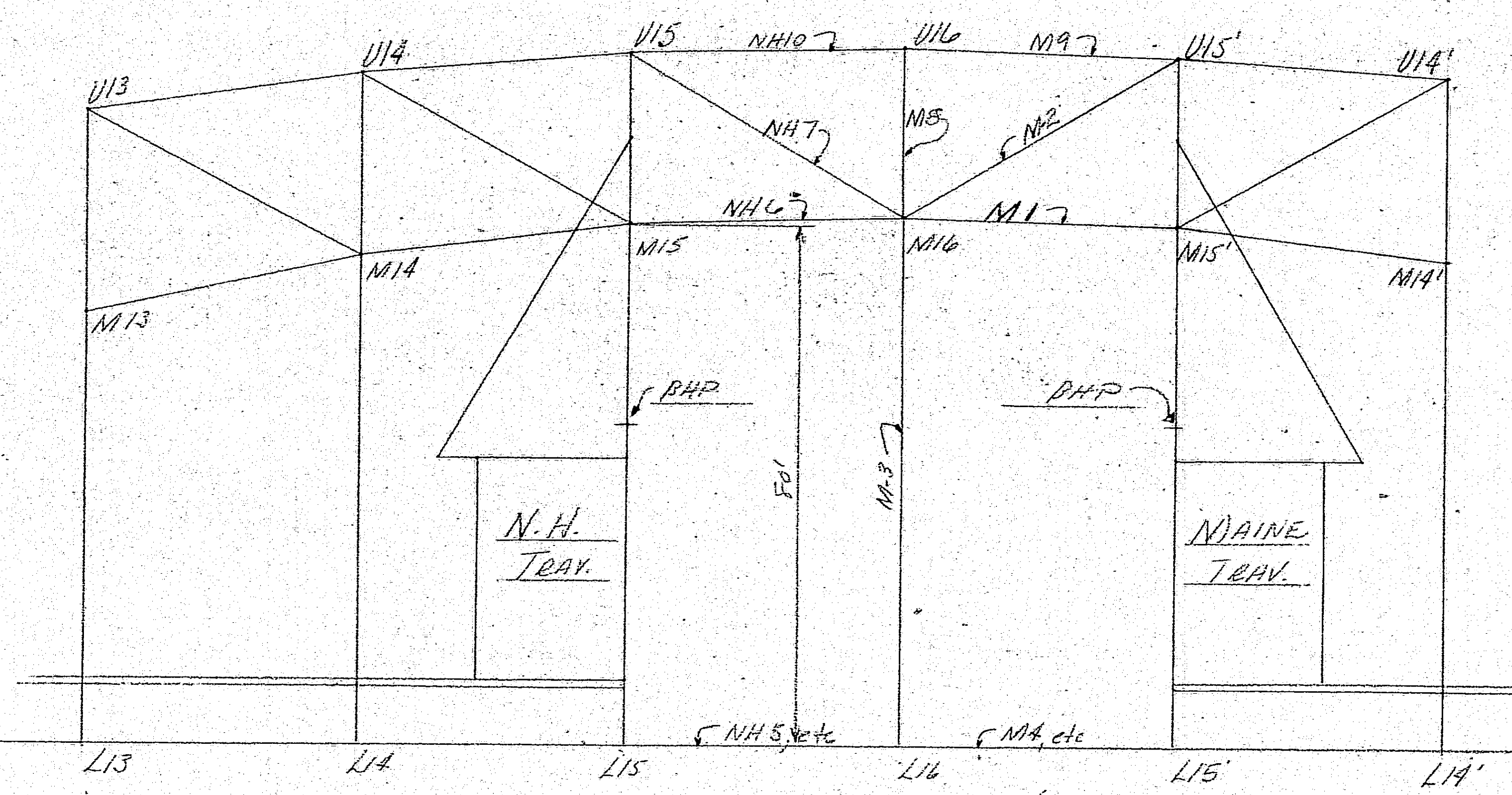
MIDDLE LATERALS

BY NEW HAMPSHIRE TRAVELER

STEP 11 - STORE MATERIAL AS SHOWN (FLR. SYSTEM)

a- FLOORBEAM @ L16 (15' FROM L15)
b- 28 STRINGERS, FLR. BRACES FOR PP15 TO PP15'
c- M15' MID STRUT
d- U15' TOP STRUT
e- U15 TOP STRUT
f- M16 MID STRUT (USE AS WALKWAY TO L16)
g- U16 TOP STRUT
h- M15 MID STRUT (USE AS WALKWAY TO L16)
i- M15' - U15' SWAY FRAME (3 PCS).
j- M15' - M16 MID LATERAL BRACE
k- U15 - U16 TOP LATERAL BRACE
l- U15' - U16 TOP LATERAL STRUT
m- U15 - U16 TOP LATERAL STRUT
n- M15 - U16 SWAY FRAME (3 PCS)
o- M16 - U16 SWAY FRAME (3 PCS)
p- M15 - M16 MID LATERAL BRACES (2 PCS)
q- M15' - M16 MID LATERAL STRUT
r- M15 - M16 MID LATERAL STRUT

R1



ELEVATION

12 ~ Place boom N.H. Trav. in front @ 40' Radius.

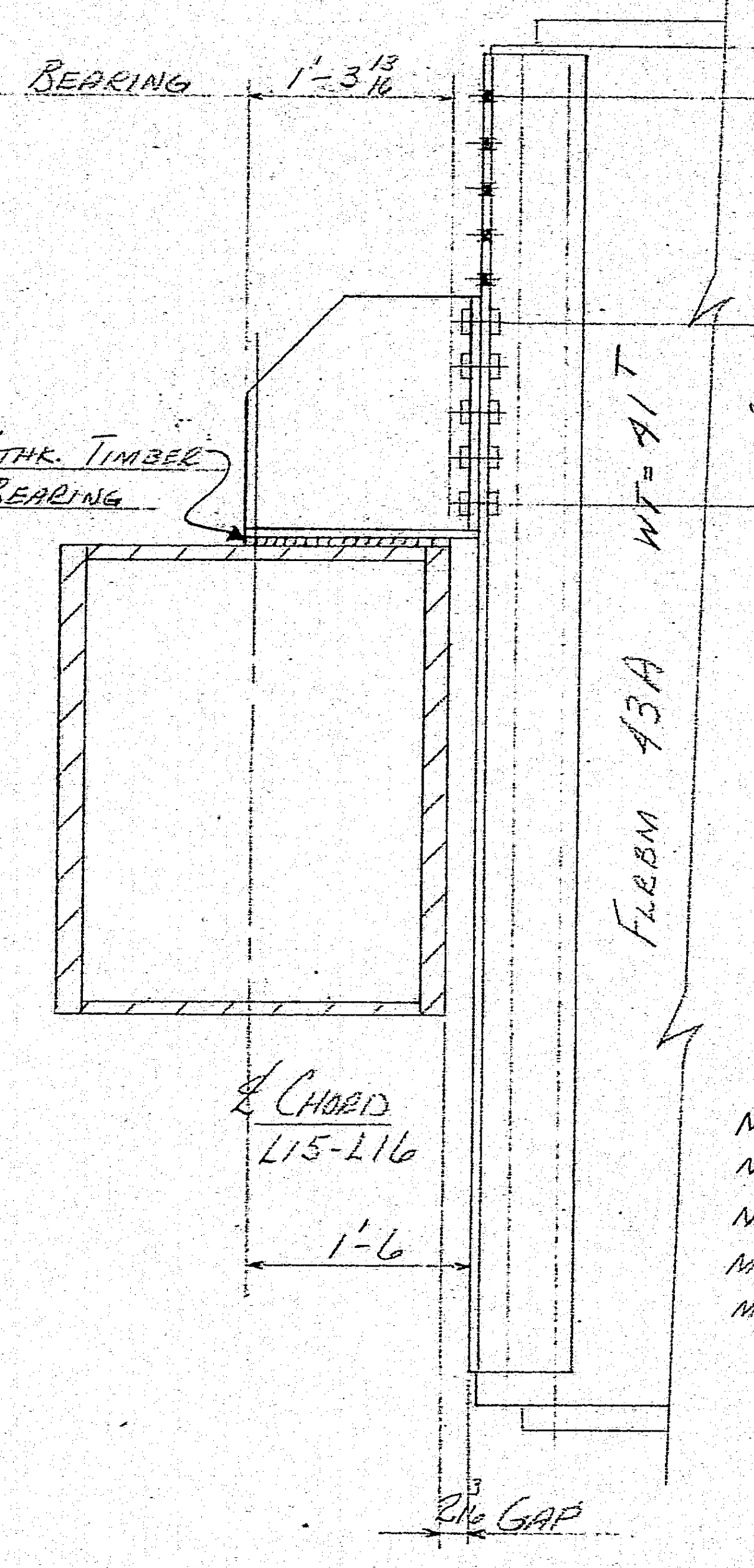
15 ~ N.H. Trav. partially dismantles Maine Trav.

24 ~ CLOSURE

27 ~ Place M15 Strut within reach of 35T T.C.

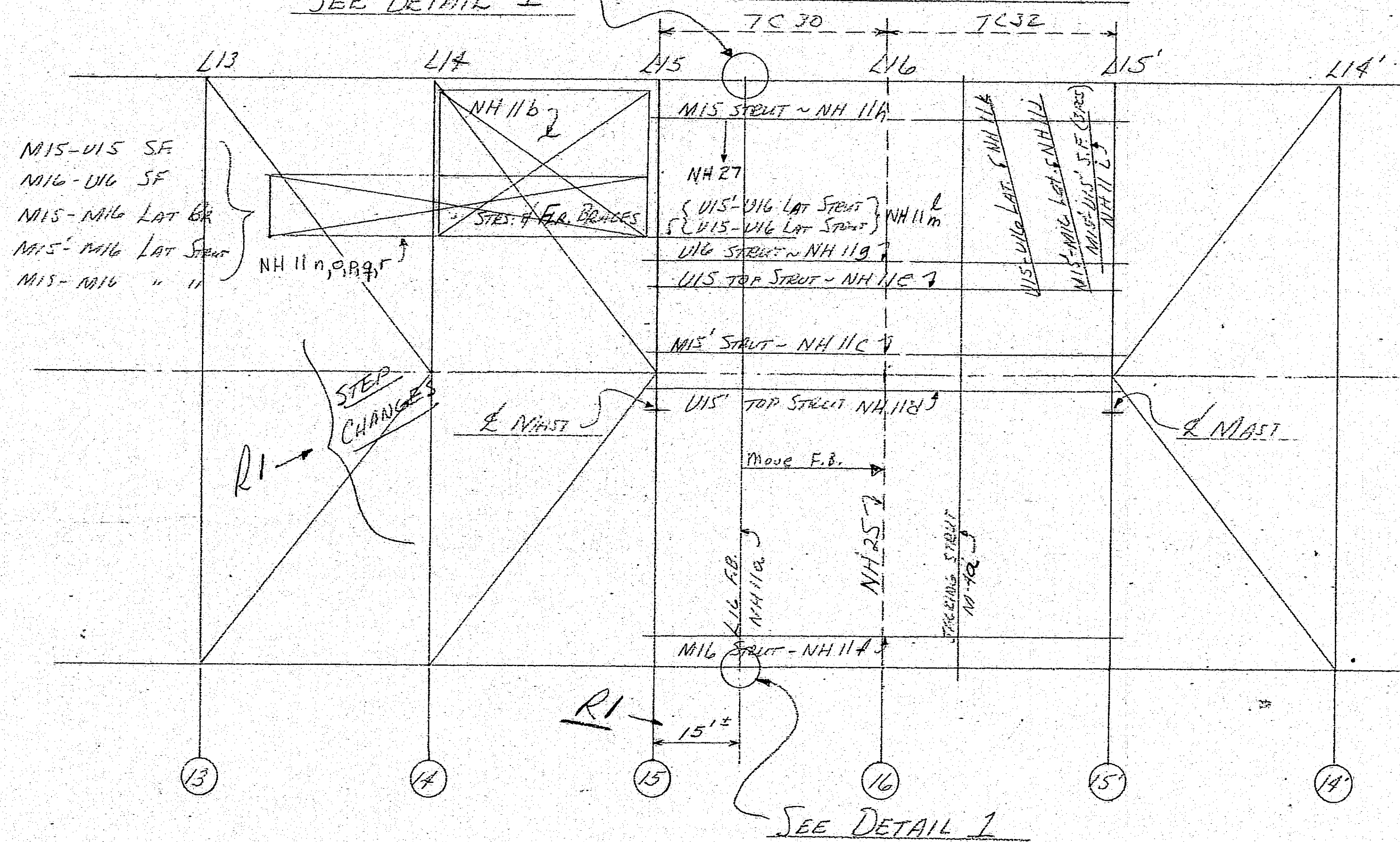
29 ~ Partially dismantle N.H. Trav. w/ 35T TC

31 ~ Move TC PP16



DETAIL 1

R1



FLOOR SYSTEM

APPROVED-
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BY SN SEP 8 1971

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SPECIAL ERECTION PROCEDURE ~ PP15 - PP15'

PISCATAQUA RIVER BRIDGE
PORTSMOUTH, N.H. TO KITTERY, MAINE

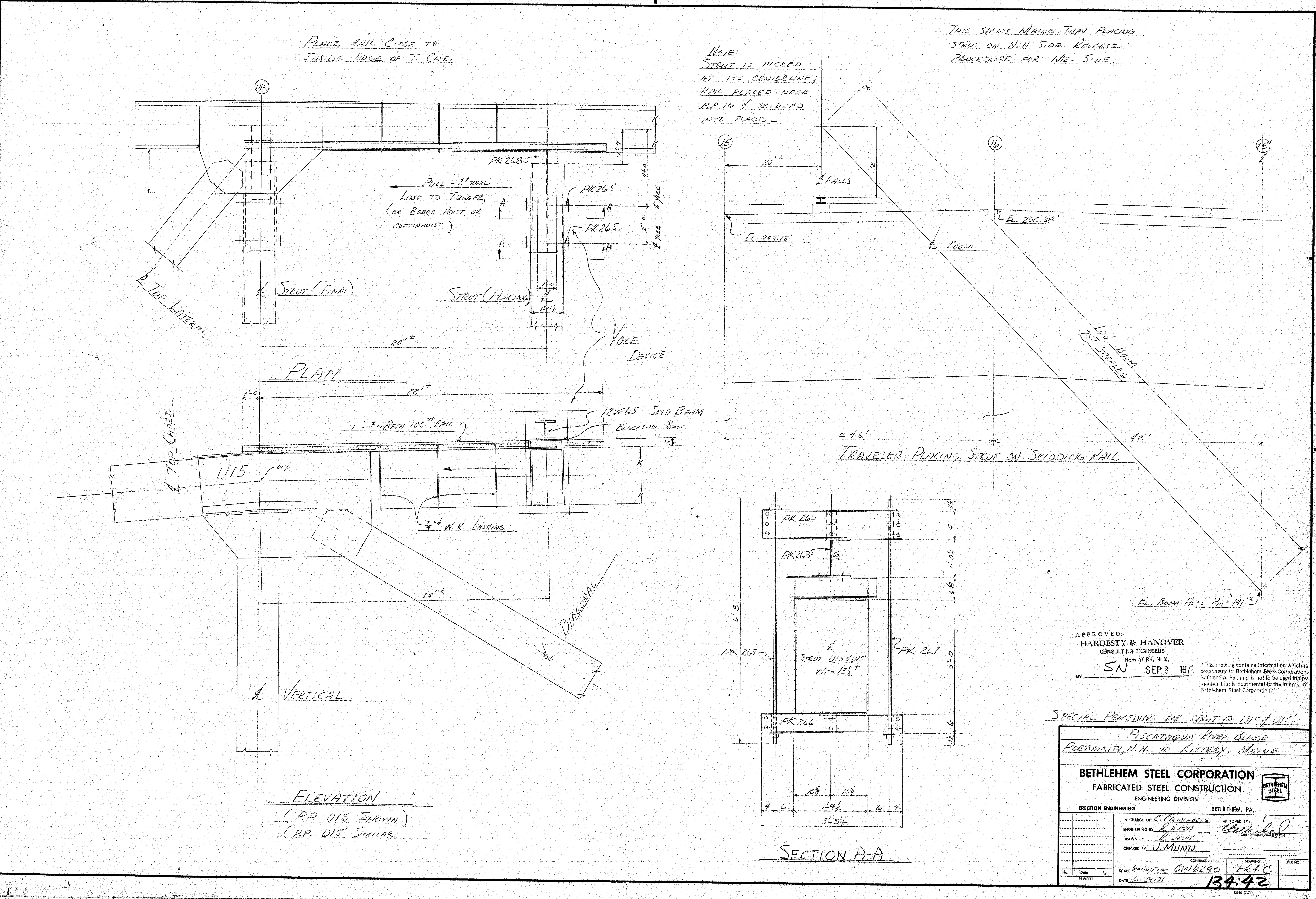
BETHLEHEM STEEL CORPORATION
FABRICATED STEEL CONSTRUCTION
ENGINEERING DIVISION
ERECTION ENGINEERING
BETHLEHEM, PA.

IN CHARGE OF C. CHEIDENBERG
ENGINEERING BY R. DAVIS
DRAWN BY R. DAVIS
CHECKED BY J. MUNN
APPROVED BY: CHIEF ENGINEER - ERECTION

No.	Date	By
R1	8/13/71	R.D.

REVISED

SCALE 1" = 20'
DATE 8-3-71
CONTRACT CW6290
DRAWING ER4B
FILE NO.
134:41



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NEW YORK, N. Y.
BY SN SEP 8 1971

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SPECIAL PROCEDURE FOR STRUT @ U15 & U15'

PISCATAQUA RIVER BRIDGE
PORTSMOUTH, N.H. TO KITTERY, MAINE

BETHLEHEM STEEL CORPORATION
FABRICATED STEEL CONSTRUCTION
ENGINEERING DIVISION
ERECTION ENGINEERING
BETHLEHEM, PA.

IN CHARGE OF C. CRONENBERG
ENGINEERING BY R. DAVIS
DRAWN BY R. DAVIS
CHECKED BY J. MUNN
APPROVED BY:
CHIEF ENGINEER — ERECTION
SCALE 3/8"=1'-0; 1"=60
DATE 6-29-71

No.	Date	By
REVISED		

CONTRACT	DRAWING	FILE NO.
CW6290	ER4 C	
	134:42	

42950 (3-71)

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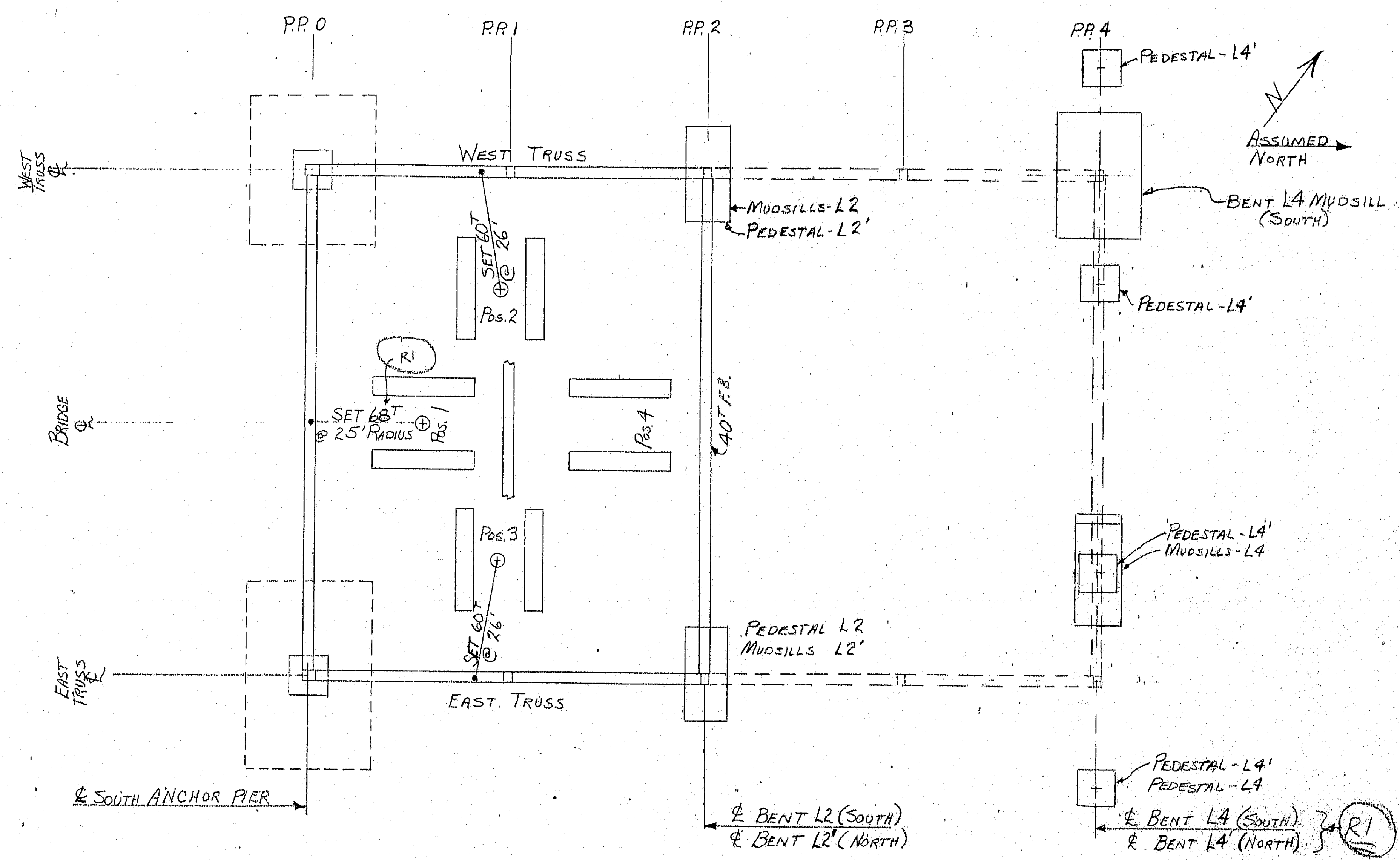
3



PLAN VIEW - SOUTH ANCHOR ARM
(NORTH ANCHOR ARM, SIMILAR UNLESS NOTED)

CAPACITY CHART (TONS)
4000 MANITOWOC - 150T CRANE
30' JIB @ 30° OFFSET

RADIUS (FEET)	130' BOOM W/O JIB	130' BOOM W/ JIB	160' BOOM W/ JIB
22	82.3	80.8	
24	73.2	71.7	
26	64.6	63.1	53.2
28	57.6	56.1	53.2
30	51.9	50.4	49.8
32	47.1	45.6	45.1
34	43.1	41.6	41.0
36	39.6	38.1	37.5
38	36.5	35.0	34.5
40	33.9	32.4	31.8
45	28.5	27.0	26.4
50	22.4	20.9	22.5
55	21.1	19.6	19.0
60	18.5	17.0	16.3
70	14.5	13.0	12.3
80	11.6	10.1	9.4
90	9.4	7.9	7.2
100	7.6	6.1	5.5
110	6.2	4.7	4.1
120	5.1	3.6	3.0

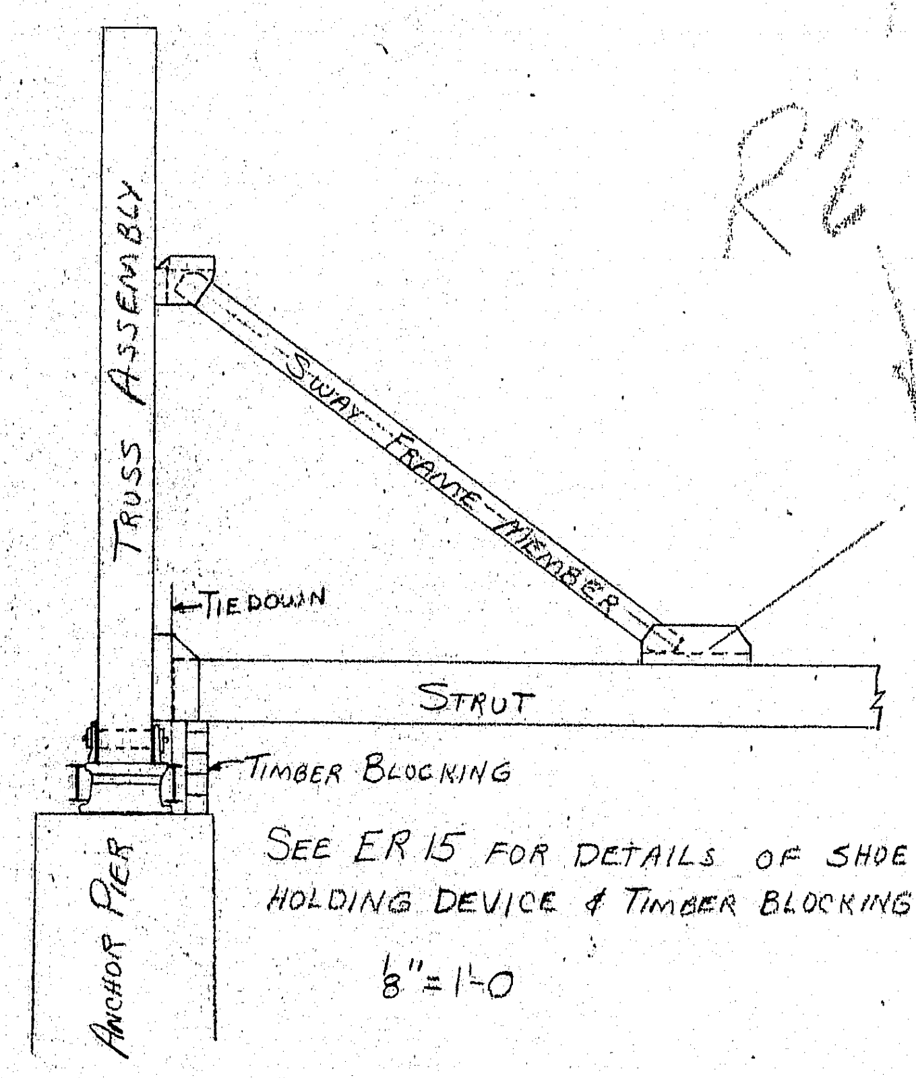
ERECTION PROCEDURE

CRANE WORK:

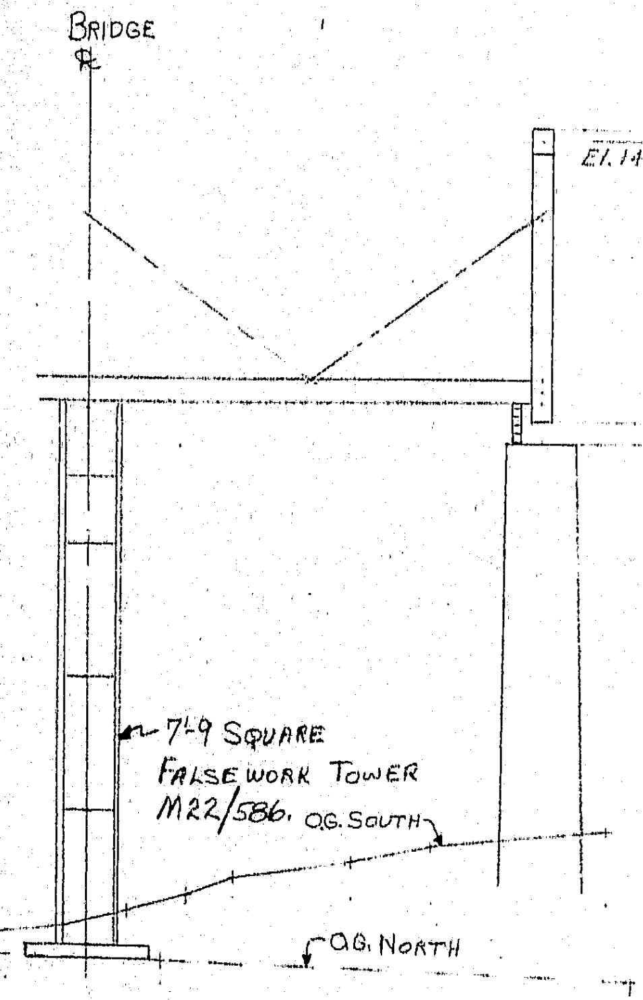
1. ERECT FWK BENT @ P.P.2.
2. PLACE & FIX SHOES WITH HOLDING DEVICE AT ANCHOR PIER. SEE ER 15.
3. POSITION #1 - PLACE BOTTOM STRUT OF SWAY FRAME @ P.P. 0 BLOCKED UP ON ANCHOR PIER & FWK TOWER. TIEDOWN AT ENDS AS SHOWN BELOW. SEE ER 15. ALSO N.B. BELOW
4. POSITION #2 & #3 - PLACE WEST TRUSS ASSEMBLY #1 FOLLOWED BY WEST SWAY FRAME MEMBER @ P.P. 0. FOLLOW SAME PROCEDURE ON EAST TRUSS.
5. POSITION #1 - {COMPLETE SWAY FRAME & PLACE FL. BM. @ P.P. 0. ERECT PRE-ASSEMBLED G1-4 & G1-5 AS SHOWN ON ER96. COMPLETE TIMBER ROADWAY FROM PIER 1-S TO P.P. 0.
6. POSITION #4 - ERECT BOTTOM STRUT AT P.P. 2.
7. PLACE TRUSS MEMBERS #2 & #3, EAST & WEST.
8. PLACE SWAY FRAME MEMBERS FOLLOWED BY FLOOR BEAM @ P.P. 1.
9. PLACE LATERALS, STRINGERS, & DIAPHRAGMS; P.P. 0 TO P.P. 1. TO ERECT FLOOR LATERALS, PLACE THEM ON BOTTOM LATERAL SYSTEM. ERECT STRINGERS, THEN ERECT FLOOR LATERAL WITH 35' BRIDLE (ER.....)
10. COMPLETE TIMBER ROADWAY FROM P.P. 0 TO P.P. 1.
11. PLACE SWAY FRAME MEMBERS FOLLOWED BY FLOOR BEAM @ P.P. 2.
12. DUCK CRANE OUT FROM BETWEEN TRUSSES & LENGTHEN BOOM TO 160'. MAINTAIN SAME JIB.
13. POSITION CRANE WEST OF P.P. 1. ERECT AS MUCH FILL IN AS POSSIBLE BETWEEN P.P. 1 & P.P. 2.
14. POSITION CRANE EAST OF P.P. 1. ERECT AS MUCH FILL IN AS POSSIBLE BETWEEN P.P. 1 & P.P. 2.
15. ERECT TRAVELER @ P.P. 2. SEE ER 6.
16. CRANE MOVES TO ERECT FWK BENT @ P.P. 4.
17. CRANE ERECTS WEST TRUSS P.P. 2 TO P.P. 4 BEGINNING WITH BOTTOM CHORD ASSEMBLY #4 (ADJUST FALSWK AT L2 TO MAKE FAIR HOLES AT L2). ERECT MEMBERS #5, #6, #7, #8.
18. CRANE ERECTS BOTTOM STRUT AT P.P. 4. SUPPORT FREE END ON FWK. R1
19. CRANE ERECTS EAST TRUSS P.P. 2 TO P.P. 4 WITH CRANE POSITIONED ON EAST SIDE OF TRUSS.
20. TRAVELER PLACES SWAY FRAME & FLOORBEAM @ P.P. 3 AND ERECTS FILL IN FOR P.P. 2 TO P.P. 3. TRAVELER MOVES OUT AND CONTINUES ERECTING ONE COMPLETE BRIDGE PANEL PER POSITION. (SEE ER 3)

N.B.

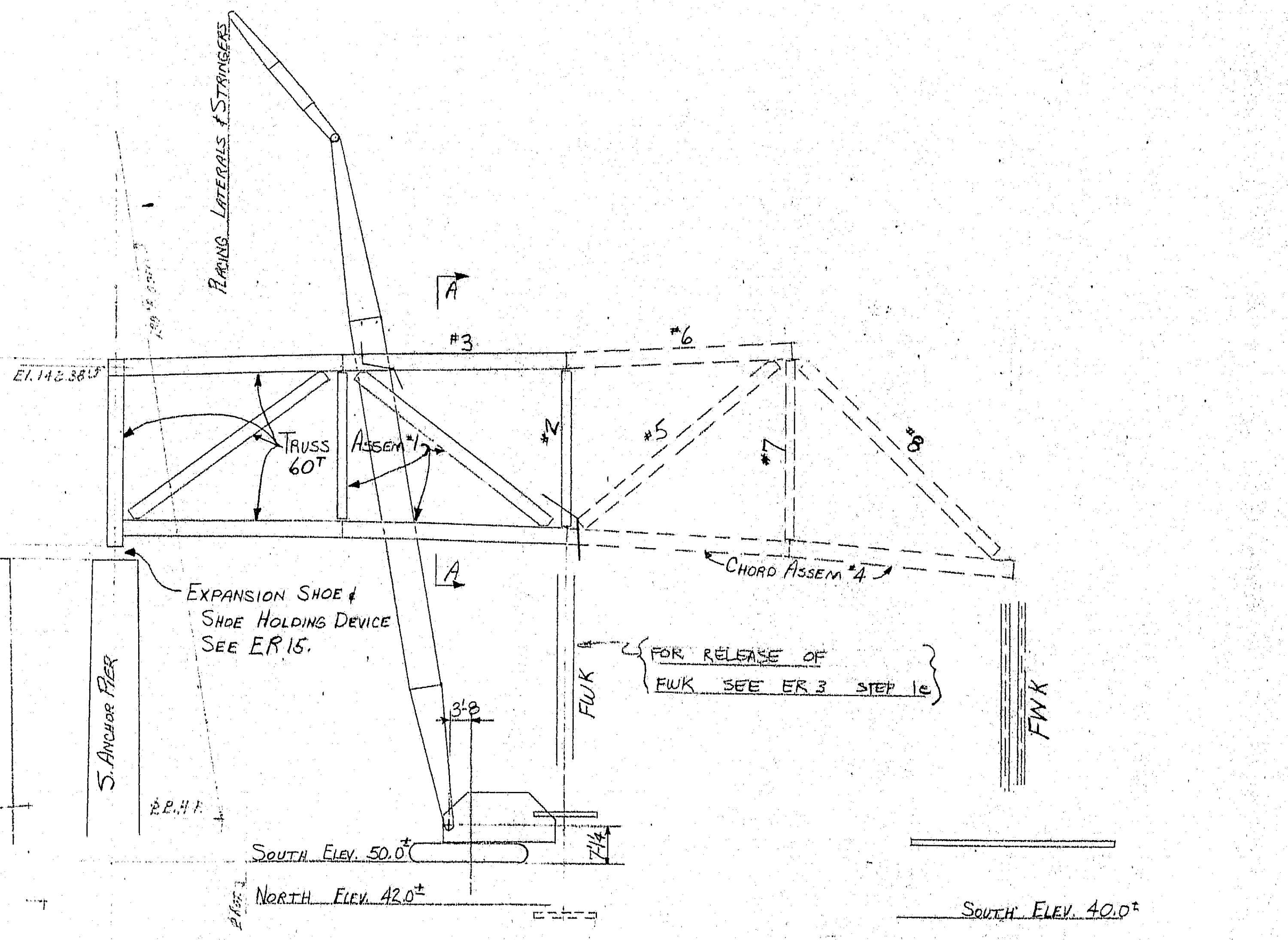
BOTTOM STRUTS WHEN ERECTED ALONE WOULD HAVE A DEFLECTION OF 1¾"± AT THE CENTER. THIS WOULD CAUSE THE TRUSSES TO SLOPE INWARD AT THAT PANEL MAKING ENTRY OF THE FLOOR BEAM DIFFICULT. THE TOWER IS USED AT P.P. 0 FOR SUPPORT OF THE STRUT AT THAT POINT. IF EXPERIENCE SHOWS THAT THIS NARROWED CONDITION OF THE TRUSSES AT THE FLOOR BEAMS OCCURS, ERECT THE FLOOR BEAMS FIRST AND THE REMAINDER OF THE SWAY FRAME UNDERNEATH THE FLOOR BEAM. SEE ER 52 FOR JACKING STRUT.



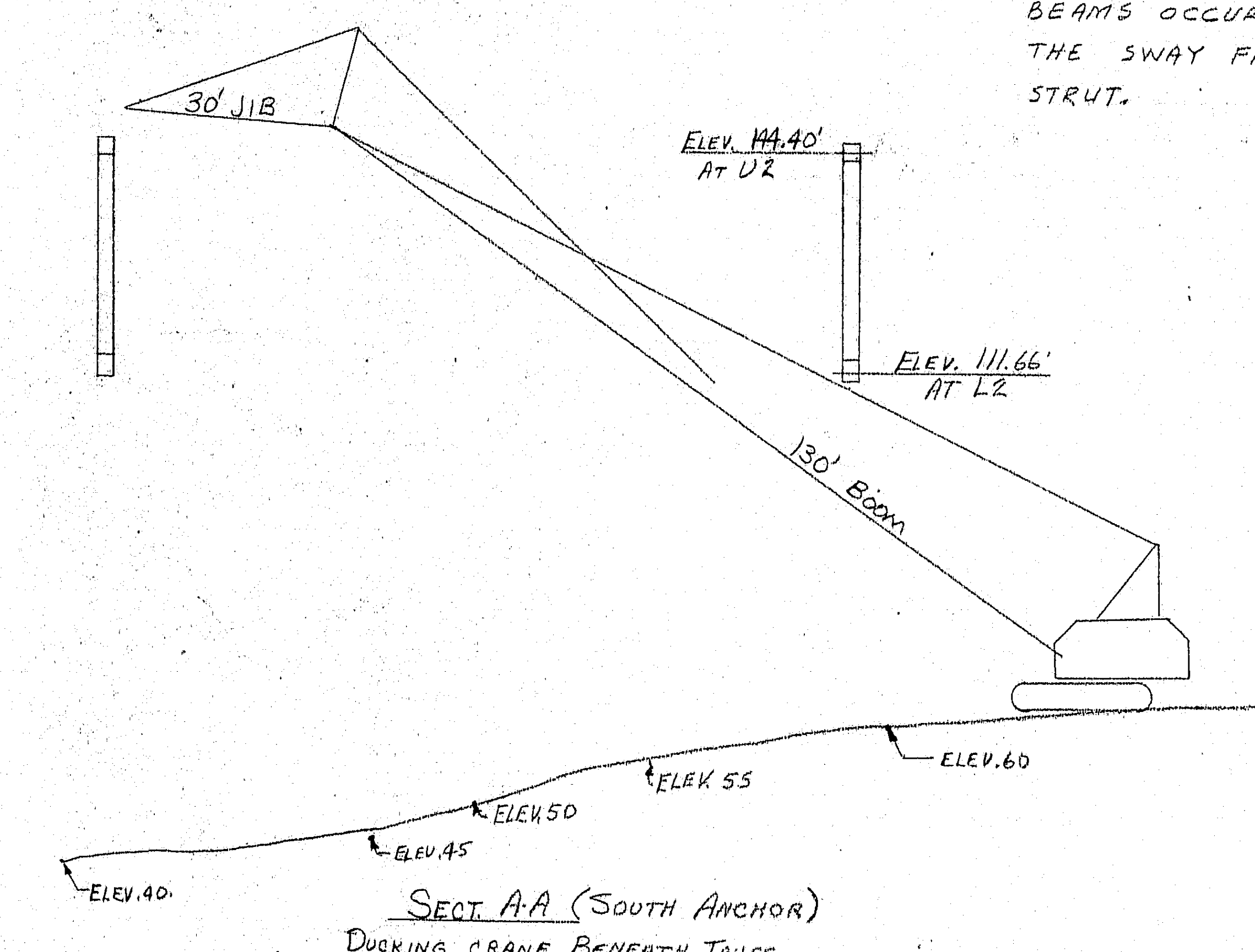
SEE ER 15 FOR DETAILS OF SHOE HOLDING DEVICE & TIMBER BLOCKING.
1/8" = 1'-0



HALF END VIEW



ELEV. VIEW
LOOKING WEST



SECT. A-A (SOUTH ANCHOR)
DUCKING CRANE BENEATH TRUSS
(NORTH ANCHOR ARM HAS LOWER GROUND ELEVATIONS)

APPROVED:-
HARDESTY & HANOVER
CONSULTING ENGINEERS
101 PARK AVE. NEW YORK 17, N.Y.
BY SN OCT 29 1970

APPROVED; HARDESTY & HANOVER
CONSULTING ENGINEERS NEW YORK, N.Y.
BY - S.S.N. 7-29-70, 10/29/70

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work this Dwg. with ER 3

E.A. 7/22 11/2/70
E.I.
SH.
T.H.
D.O. 7/22
FLD.

PROCEDURE REVISED

PISCATAQUA RIVER BRIDGE
PORTSMOUTH, N.H. TO KITTERY, ME.
CRANE ERECTION PROCEDURE - ANCHOR SPAN

BETHLEHEM STEEL CORPORATION
FABRICATED STEEL CONSTRUCTION
ENGINEERING DIVISION BETHLEHEM, PA.

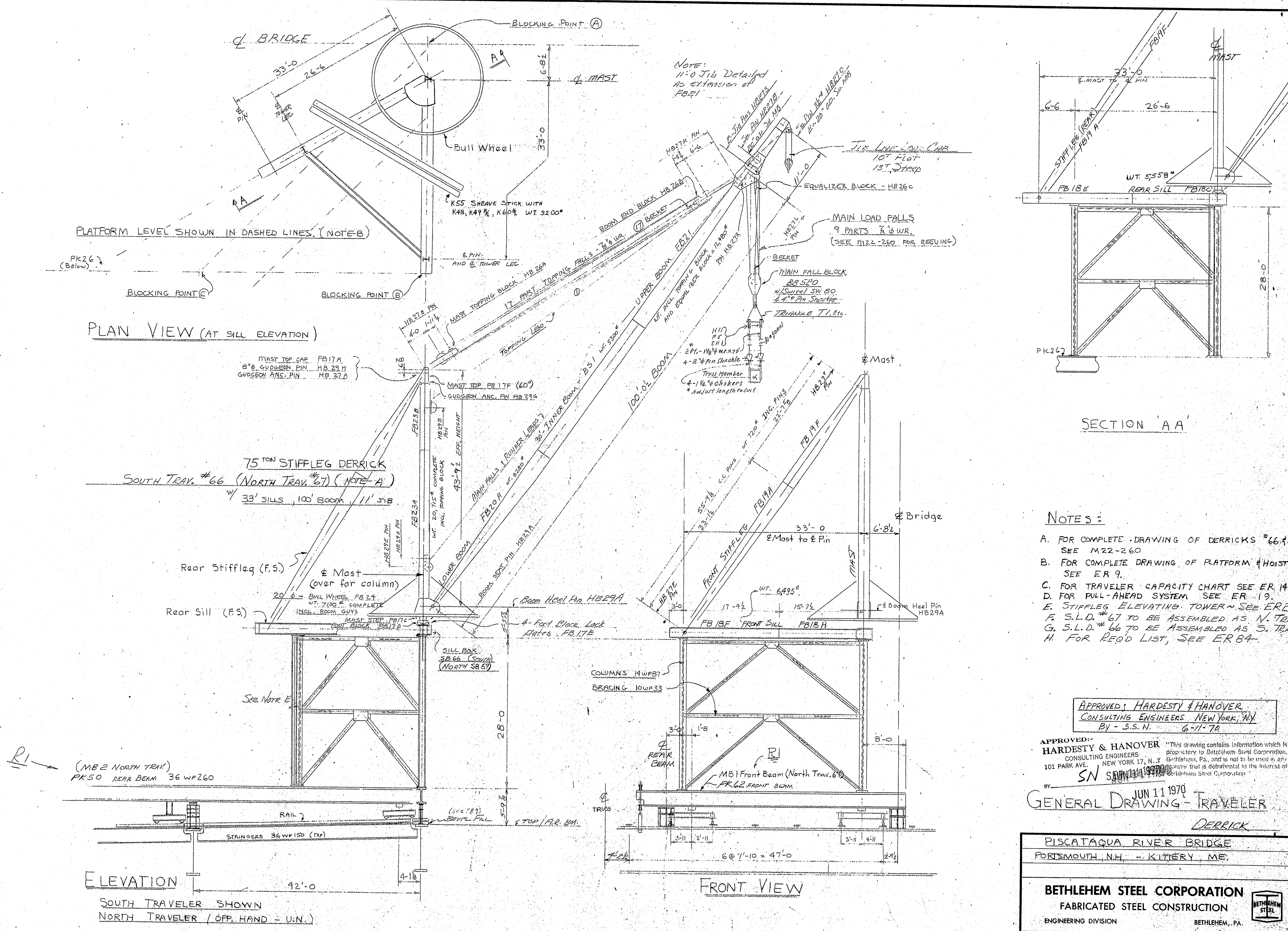
No.	Date	By
R2	8-21-70	DDP
R1	7-10-70	JBG

REVISED

IN CHARGE OF C. CREIDENBERG, RCF
APPROVED BY:
ENGINEERING BY
DRAWN BY CEG.
REVIEWED BY RCF 11/5/70
SCALE 1" = 20.0' U.N.
DATE ISSUED
CONTRACT CW 6290
DRAWING ER 5

134:43

38521 (Rev.A 1-69)



NOTES:

A. FOR COMPLETE DRAWING OF DERRICKS #66 & 67 SEE M22-260
B. FOR COMPLETE DRAWING OF PLATFORM & HOIST SEE ER 9.
C. FOR TRAVELER CAPACITY CHART SEE ER 14.
D. FOR PULL-AHEAD SYSTEM SEE ER 19.
E. STIFFLEG ELEVATING TOWER ~ SEE ER 25
F. S.L.D. #67 TO BE ASSEMBLED AS N. TRAV.
G. S.L.D. #66 TO BE ASSEMBLED AS S. TRAV.
H. FOR REQ'D LIST, SEE ER 84

APPROVED: HARDESTY & HANOVER
CONSULTING ENGINEERS NEW YORK, N.Y.
BY - S.S.N. 6-11-70

APPROVED:-
HARDESTY & HANOVER
CONSULTING ENGINEERS
101 PARK AVE. NEW YORK 17, N.Y.
BY SN JUN 11 1970

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JUN 11 1970

GENERAL DRAWING - TRAVELER
DERRICK

PISCATAQUA RIVER BRIDGE
PORTSMOUTH, N.H. - KITTERY, ME.

BETHLEHEM STEEL CORPORATION
FABRICATED STEEL CONSTRUCTION
ENGINEERING DIVISION
BETHLEHEM, PA.

No.	Date	By
R1	3-9-70	RBD

REVISED

IN CHARGE OF C. CREIDENBERG - RCF
APPROVED BY
ENGINEERING BY RCF
DRAWN BY JBB
REVIEWED BY R.C.F. 3/31/70
SCALE ⅛" = 1-0
DATE ISSUED
CONTRACT CW 6290
DRAWING ER-8

38521 (Rev. A 1-69)

134:44

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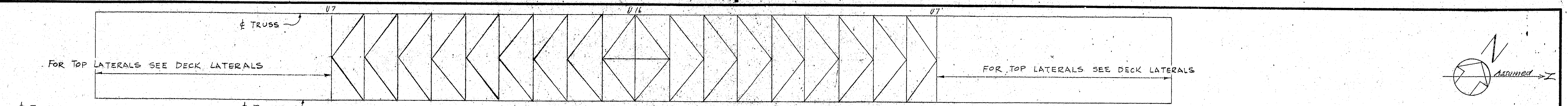
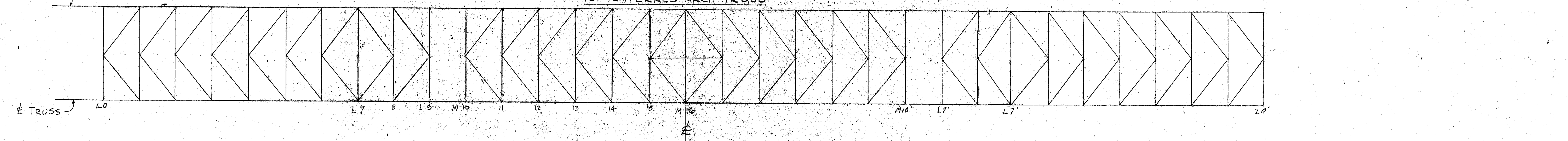
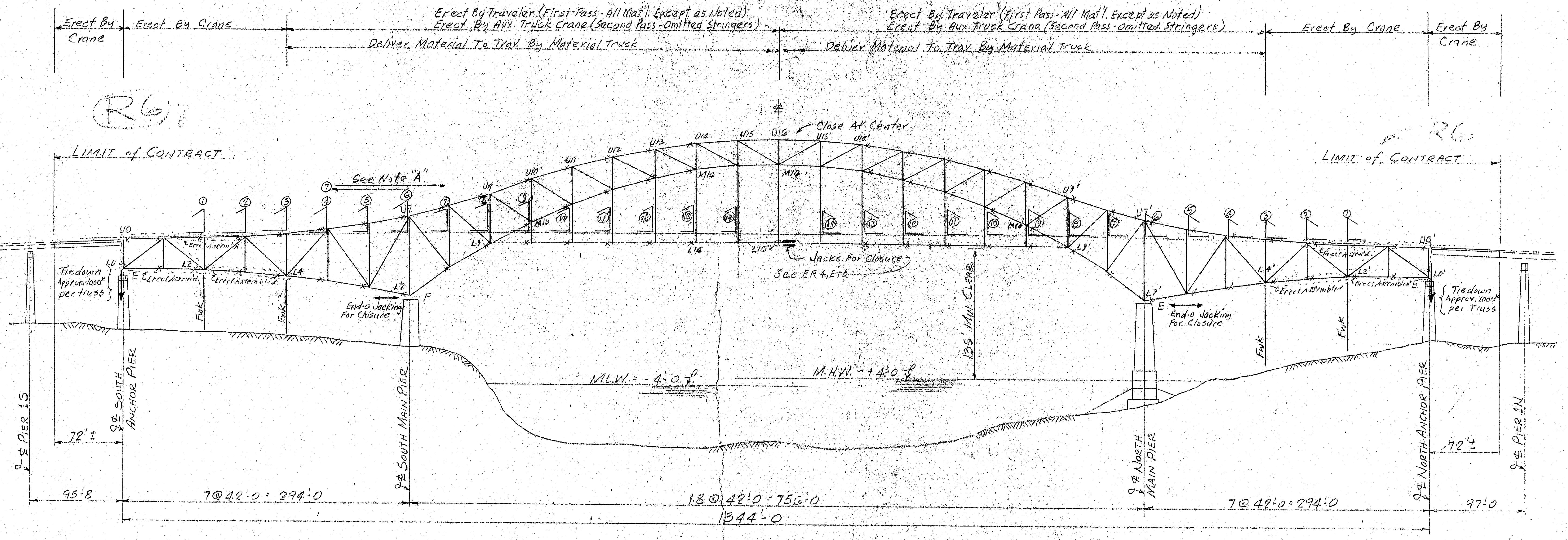
E.A.	[illegible] 6/11 A
E.I.	
SH.	
T.H.	
D.O.	4/7
FLD.	


U7
U16
U7'
℄ TRUSS
FOR TOP LATERALS SEE DECK LATERALS
℄ TRUSS
FOR TOP LATERALS SEE DECK LATERALS
N
Assumed

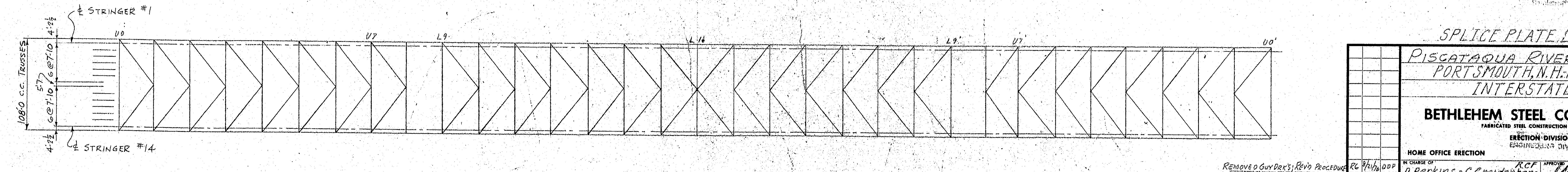
TOP LATERALS ARCH TRUSS



BOTTOM LATERALS ARCH TRUSS



ELEVATION



DECK LATERALS

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HARDESTY & HANOVER
CONSULTING ENGINEERS
101 PARK AVE. NEW YORK 17, N.Y
BY SN OCT 29 1970

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CONSULTING ENGINEERS NEW YORK, N.Y.
BY - S.S.N. 6-11-70, 10/23/70

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SPLICE PLATE LOCATIONS

PISCATAQUA RIVER BRIDGE
PORTSMOUTH, N.H.-KITTERY, ME.
INTERSTATE 95

BETHLEHEM STEEL CORPORATION
FABRICATED STEEL CONSTRUCTION DEPARTMENT
ERECTION DIVISION
ENGINEERING DIVISION
HOME OFFICE ERECTION
BETHLEHEM, PA.

IN CHARGE OF D. Perkins - C. Creidenberg RCF
☒ Erect. Engr. ☐ Proj. Engr.
APPROVED
☐ Mgr. of Erect. ☐ District Mgr.
☒ Engr. of Erect. ☐ Asst. Dist. Mgr.
MADE BY DWM - DP DATE 7-28-69
CHECKED BY R.C.F. DATE 3/25/70
SCALE 1" = 60'
FILE NO.
ERECTION CONTRACT NO. CW6290
DWG. NO. ER 10

NO.	DATE	INIT.
R6	8/21/70	DDP
R5	11/19/70	RCF
R4	11/1/70	RCF
R3	11/14/69	RCF
R2	11/7	WRW
R1	9/15/69	RCF
REVISED		

REMOVED GUY DRK'S; REV'D PROCEDURE

AE 47691

A 134:45

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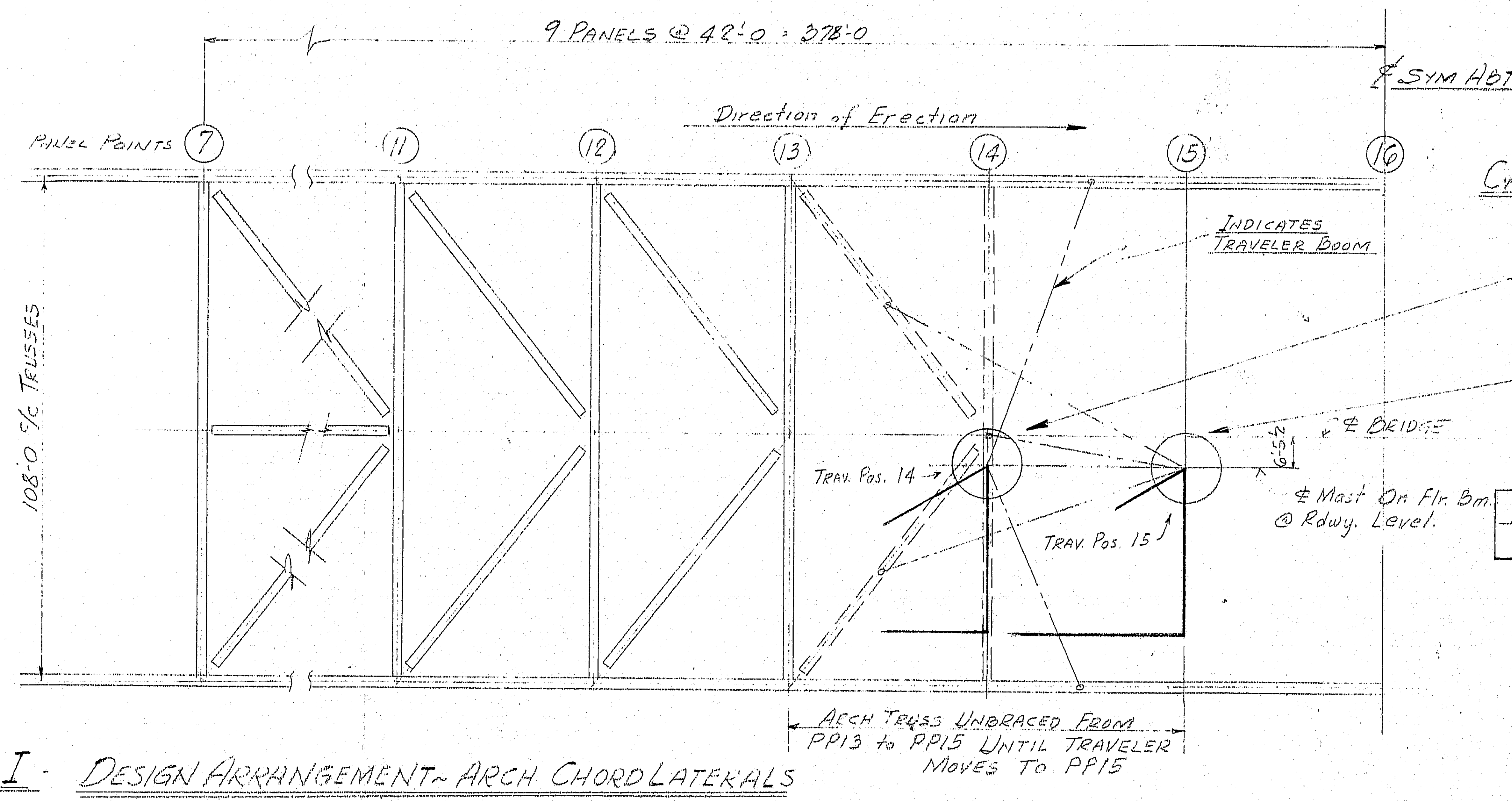
SENT TO	DATE
D.O.	4/7
FLD.	
TH.	
E.D.	
Eac	5/25 11/11 11/2/70
EIO	
SHP	

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35
tp touraine paints TRUFLEX ☆ SILKY ☆ TRIPLE WHITE ☆ RYPLEX tp



CASE I - DESIGN ARRANGEMENT ~ ARCH CHORD LATERALS

PLAN VIEW of ARCH TRUSS

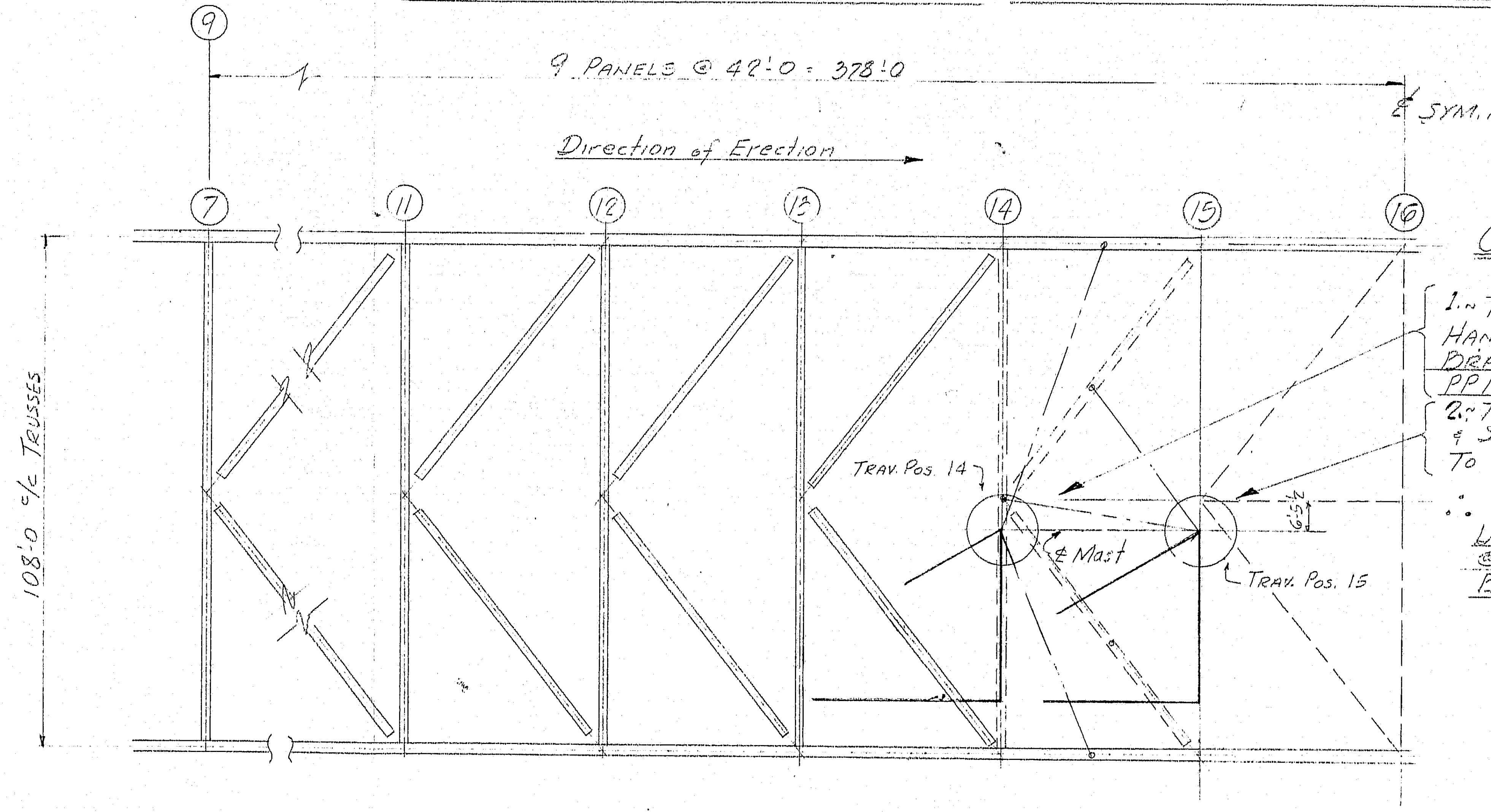
CASE I ~ GENERAL SEQUENCE OF ERECTION FROM TYPICAL TRAVELER WORKING POSITION @ PP14 (SEE ER10)

1. TRAVELER STANDING @ P.P14, ERECTS ARCH TRUSSES, HANGERS & FLOOR SYSTEM TO P.P15. ARCH TRUSS STRUTS, LATERALS & SWAY FRAME @ PP14 CANNOT BE ERECTED UNTIL TRAVELER MOVES TO POSITION @ PP15

2. FIRST PIECES ERECTED FROM PP15 WILL BE THE STRUT @ P.P.14, SWAY FRAME @ PP14 & LATERALS BETWEEN 13 & 14.

∴ TWO PANELS of STEEL, PP13 TO PP15 MUST BE ERECTED BEFORE ARCH CHORD LATERAL BRACING CAN BE INSTALLED.

[THIS SAME CONDITION WILL EXIST FOR EACH TRAVELER WORKING POSITION FROM PP7 THRU 15]



CASE II - ALTERNATE ARRANGEMENT ~ ARCH CHORD LATERALS PROPOSED

PLAN VIEW of ARCH TRUSS

CASE II ~ GENERAL SEQUENCE OF ERECTION FROM TYPICAL TRAVELER WORKING POSITION @ PP14 (SEE ELEV. DWG No ER10)

1.~ TRAVELER STANDING AT PP14, ERECTS ARCH TRUSSES, HANGERS, & FLOOR SYSTEM TO PP15. ARCH TRUSS IS BRACED AT PP14 BY LATERALS BETWEEN STRUTS AT PP13 & ARCH CHORDS AT PP14 DURING THIS OPERATION.

2.~ TRAVELER MOVES TO PP15, ERECTS ARCH STRUTS & SWAY FRAMES @ PP14 & LATERALS FROM PP14 STRUTS TO ARCH CHORDS AT PP15.

∴ BY THIS METHOD ARCH TRUSS CHORDS ARE BRACED UP TO PP15 BY TRAVELER IN WORKING POSITION @ PP15 AND BEFORE ANY STEEL IS ERECTED BEYOND PP15.

[THIS SAME WORKING CONDITION WILL EXIST FOR EACH TRAVELER WORKING POSITION FROM PP7 THRU PP15]

a b c

E.A.
E.I.
SH.
T.H.
D.O.
FLD.

PISCATAQUA RIVER BRIDGE
INTERSTATE 95 - PORTSMOUTH N.H.
PROPOSED ALTERNATE ~ TOP LATERAL ERECTION PROCEDURE

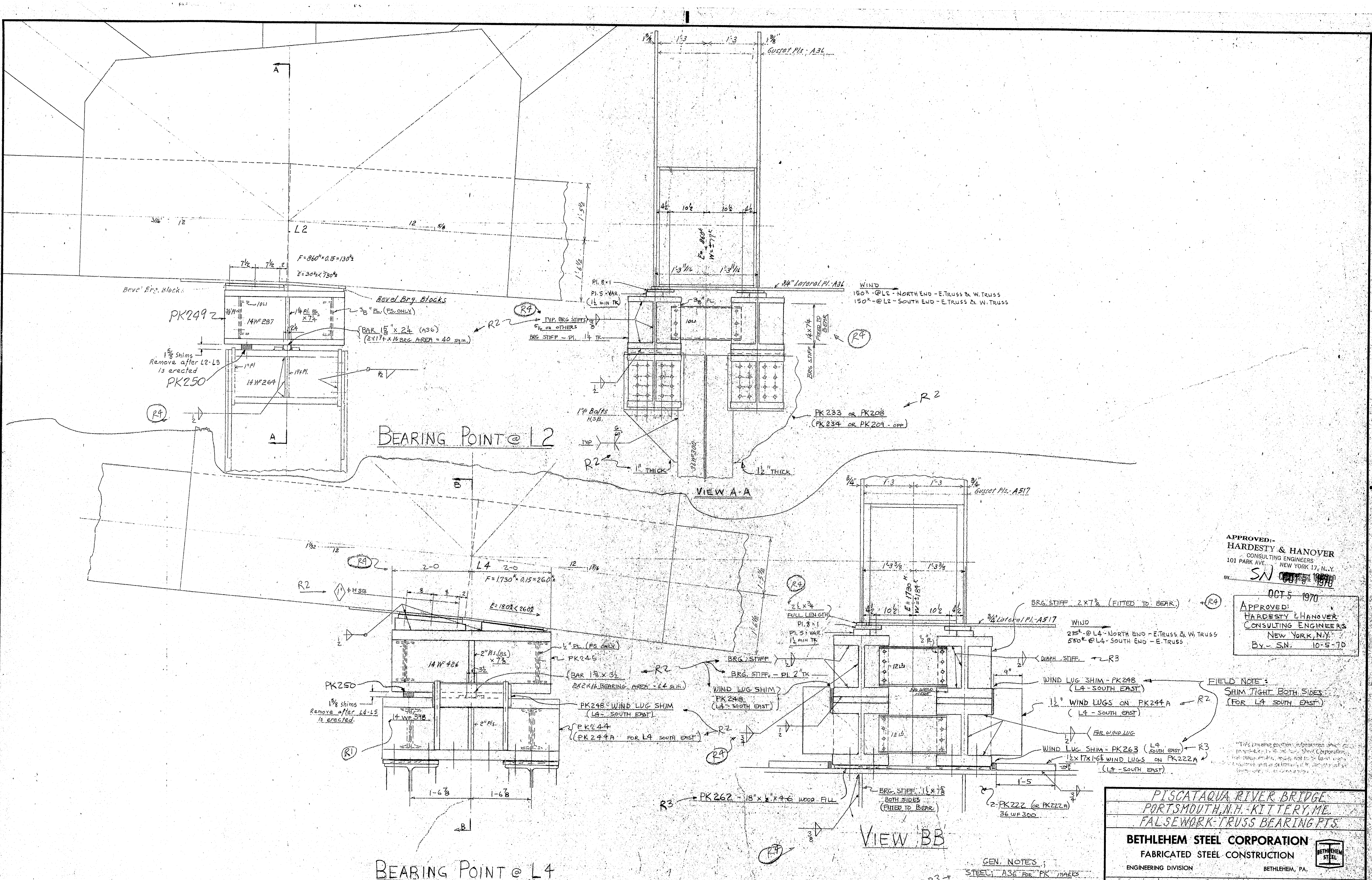
BETHLEHEM STEEL CORPORATION
FABRICATED STEEL CONSTRUCTION
ENGINEERING DIVISION
BETHLEHEM, PA.

No. Date By
REVISED

IN CHARGE OF CREIDENBERG
ENGINEERING BY
DRAWN BY D.H.M
REVIEWED BY
SCALE 1" = 20'-0
DATE ISSUED
APPROVED BY: 11/7
CONTRACT CY6290
DRAWING ER10-S

134.46

38521 (Rev.A 1-69)



FIELD NOTE:
SHIM TIGHT BOTH SIDES
(FOR L4 SOUTH EAST)

GEN. NOTES:
STEEL: A36 FOR PK MARKS
A7 FOR OTHERS U.N.
WELD - E70
BOLTS - ⅞" φ A325 UNLESS NOTED
HOLES - 15/16" φ U.N.

R3

APPROVED:-
HARDESTY & HANOVER
CONSULTING ENGINEERS
101 PARK AVE. NEW YORK 17, N.Y.
BY SN OCT 5 1970

OCT 5 1970

APPROVED:
HARDESTY & HANOVER
CONSULTING ENGINEERS
NEW YORK, N.Y.
BY - S.N. 10-5-70

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E.A.	9/14
E.I.	
SH.	
T.H.	
D.O.	9/18
FLD.	

PISCATAQUA RIVER BRIDGE
PORTSMOUTH, N.H.-KITTERY, ME.
FALSEWORK-TRUSS BEARING PTS.

BETHLEHEM STEEL CORPORATION
FABRICATED STEEL CONSTRUCTION
ENGINEERING DIVISION
BETHLEHEM, PA.

No.	Date	By
R4	9-11-70	JBB
R3	8-4-70	JBB
R2	7-13-70	JBB
R1	7-1-70	JBB

REVISED

IN CHARGE OF Creidenberg
ENGINEERING BY R.C.F.
DRAWN BY R.C.F.
REVIEWED BY D.O.P. 3/15/70 JBB.
SCALE 1" = 1'-0
DATE ISSUED 10/13/69
APPROVED BY
CONTRACT CW6290
DRAWING ER 11

134:47

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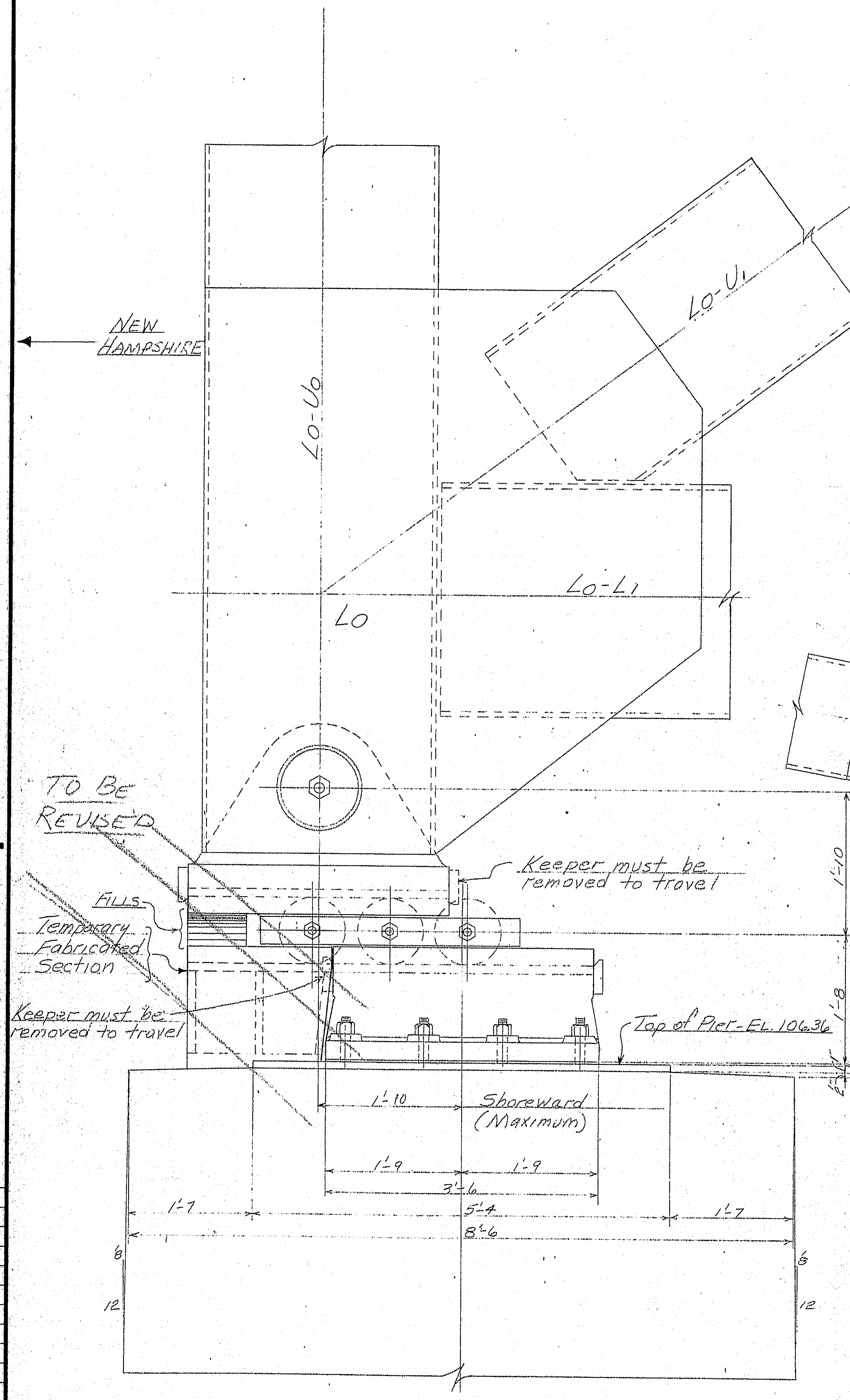
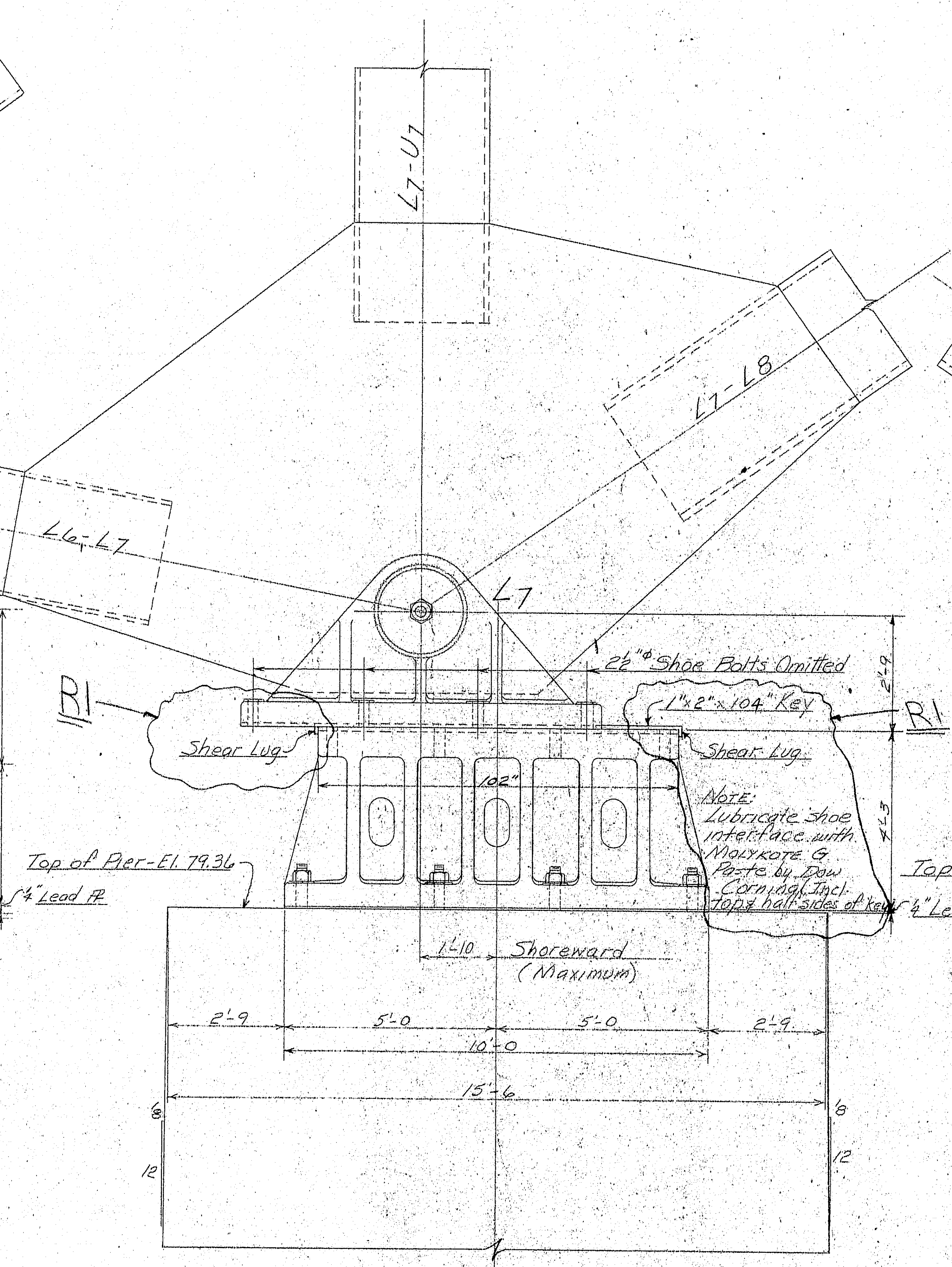


SOUTH ANCHOR PIER EXPANSION SHOES

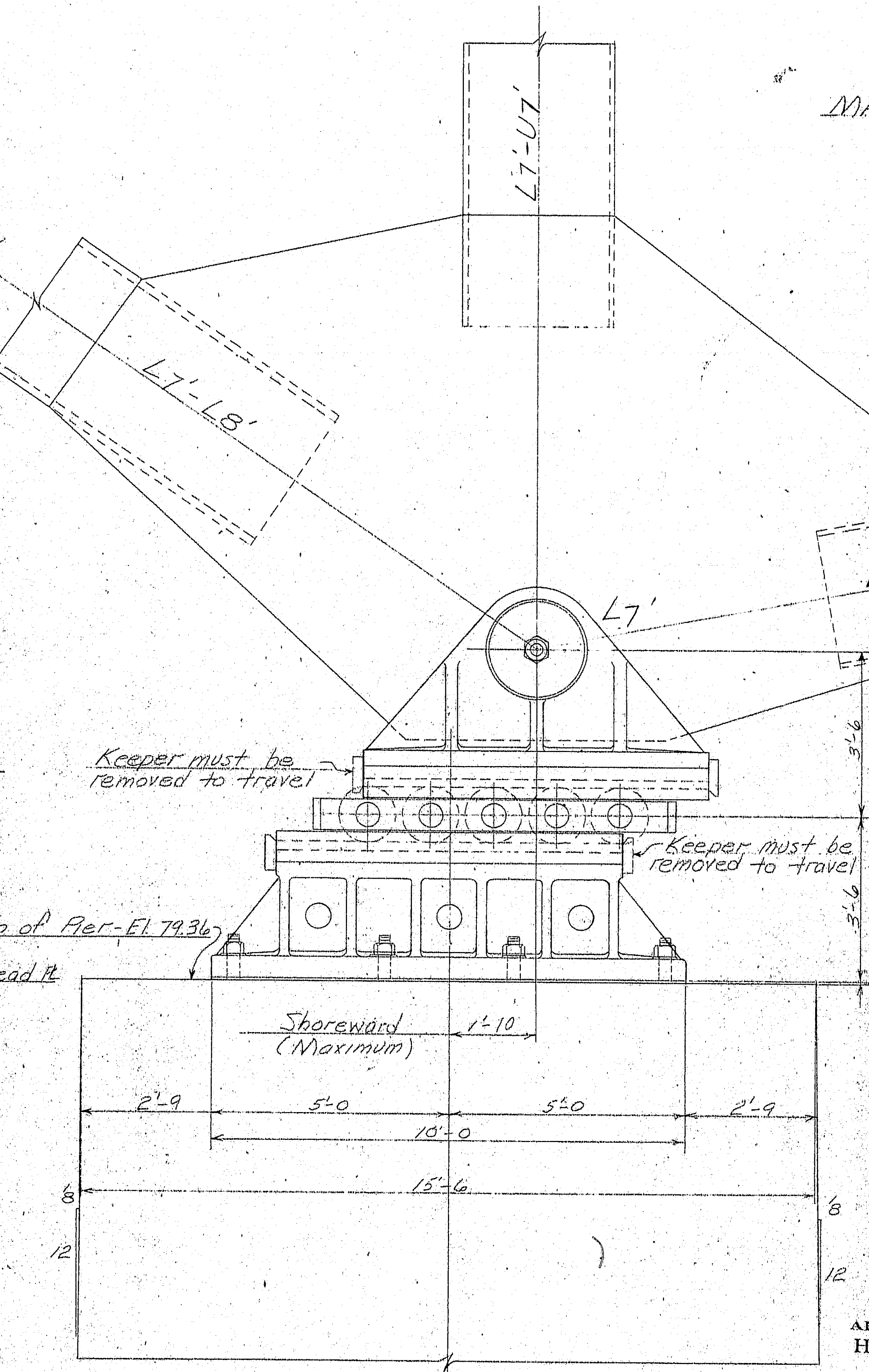
NORTH ANCHOR PIER OPPOSITE HAND

Scale: 1"=1'-0



SOUTH MAIN PIER FIXED SHOES

Scale: ½"=1'-0



NORTH MAIN PIER EXPANSION SHOES

Scale: ½"=1'-0

APPROVED:
HARDESTY & HANOVER
CONSULTING ENGINEERS
NEW YORK, N.Y.
BY - S.S.N. 6-11-70

APPROVED:-
HARDESTY & HANOVER
CONSULTING ENGINEERS
101 PARK AVE. NEW YORK 17, N.Y.
BY SN JUN 11 1970

PISCATAQUA RIVER BRIDGE
PORTSMOUTH, N.H. & KITTERY, ME.
ANCHOR & MAIN PIER SHOES

BETHLEHEM STEEL CORPORATION
FABRICATED STEEL CONSTRUCTION
ENGINEERING DIVISION BETHLEHEM, PA.

Added Key-way - Fixed Shoe

No.	Date	By
R1	10/17/69	RBD

REVISED

IN CHARGE OF
ENGINEERING BY
DRAWN BY R.B.D. 9/11/69
REVIEWED BY R.C.F
SCALE AS NOTED
DATE ISSUED
APPROVED BY

CONTRACT CW6290
DRAWING ER 12

38521 (Rev.A 1-69)

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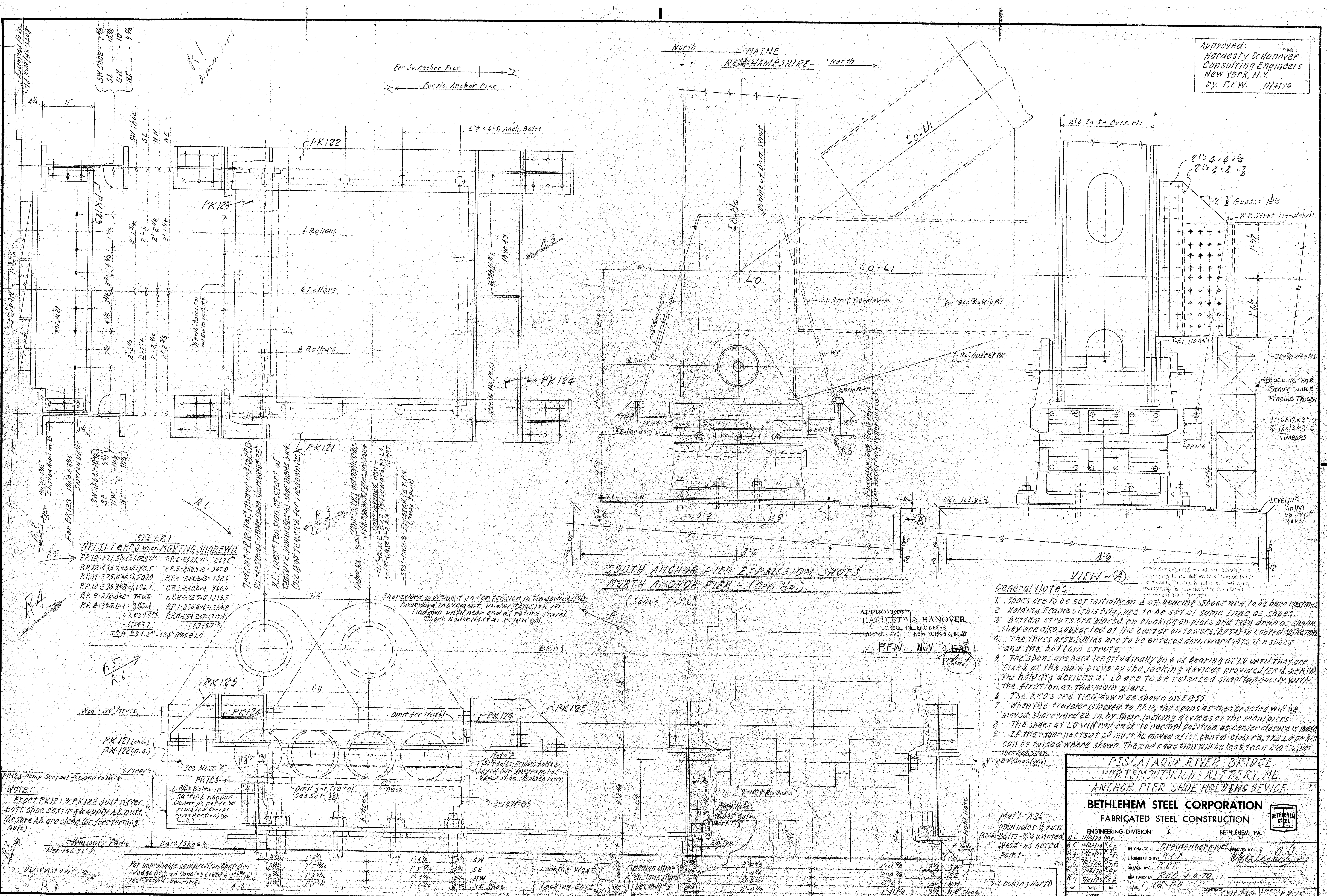
E.A.	9/11/69 8/11 A
E.I.	
SH.	
T.H.	
D.O.	4/7
FLD.	

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35
touraine paints TRUFLEX ☆ SILKY ☆ TRIPLE WHITE ☆ RYPLEX

Approved:
Hardesty & Hanover
Consulting Engineers
New York, N.Y.
by F.F.W. 11/4/70


For So. Anchor Pier
For No. Anchor Pier
North
MAINE
NEW HAMPSHIRE
North
PK122
PK123
PK121
PK124
PK125
℄ Rollers
2¼"ϕ x 6'-6" Anch. Bolts
SW Shoe
SE
NW
NE
For PK123 - 1⅛"ϕ x 3¼ Slotted Holes
Lo-U1
Lo-Lo
Lo-L1
Lo
Outline of Bott. Strut
W.F. Strut Tie-down
℄ Roller Nest
℄ Pin
2'-6 In-In Guss. Pls.
2-⅞ Gusset Pl's
W.F. Strut Tie-down
Blocking for Strut while placing Truss.
1-6x12x3'-0
4-12x12x3'-0
Timbers
Leveling Shim to suit bevel.
Elev. 106.36
8'-6
1'-9
1'-9
A
SOUTH ANCHOR PIER EXPANSION SHOES
NORTH ANCHOR PIER - (OPP. HD.)
(SCALE 1"=1'-0)
VIEW - A
Shoreward movement under tension in Tiedown (125k).
Riverward movement under tension in Tiedown until near end of return travel.
Check Roller Nest as required.
℄ Pin
22"
1'-11
W₀₀ = 80k/truss
Omit for travel
PK121 (N.S.)
PK122 (F.S.)
See Note "A"
PK123
6-¾"ϕ Bolts in Casting Keeper (Keeper pl. not to be removed except Keyed portion) Typ.
Omit for Travel (See SA1)
T./Track
T./Masonry Pad
Elev 106.36'
Bott./Shoe
Note "A"
¾"ϕ Bolts - Remove bolts & keyed bar for travel of upper shoe - Replace later.
2-18WF85
Field Note
4-⅞"ϕ Rollers
Looking West
Looking East
Looking North
Dimensions
R1
R3
R4
R5
R6
DL=1089k Tension at start of closure diminishes as shoe moves back. (Use 1200k tension for Tiedown Des.)
V=200k/Shoe (V₁₀)

SEE EB1
UPLIFT @ P.P.0 when MOVING SHOREWD.

P.P. 13 - 171.5k×6 = 1,029.0PK
P.P. 12 - 435.7×5 = 2,178.5
P.P. 11 - 375.0×4 = 1,500.0
P.P. 10 - 398.9×3 = 1,196.7
P.P. 9 - 370.3×2 = 740.6
P.P. 8 - 395.1×1 = 395.1
+7,039.9PK
-6,745.7
7ft-4 294.2PK = 125k Tens. @ L0

P.P. 6 - 217.6×1 = 217.6PK
P.P. 5 - 253.9×2 = 507.8
P.P. 4 - 244.8×3 = 732.6
P.P. 3 - 240.0×4 = 960.0
P.P. 2 - 222.7×5 = 1,113.5
P.P. 1 - 230.8×6 = 1,384.8
P.P. 0 - 254.2×7 = 1,779.4
-6,745.7PK

PK123 - Temp. Support for end rollers.

Note:
Erect PK121 & PK122 just after Bott. shoe casting & apply A.B. nuts. (Be sure A.B. are clean for free turning nuts)

For improbable compression condition - Wedge Brg. on Conc. = 3 × 48 In² @ .875 k/In² = 126k possible bearing.

APPROVED:
HARDESTY & HANOVER
CONSULTING ENGINEERS
101 PARK AVE. NEW YORK 17, N.Y.
BY F.F.W. NOV 4 1970

General Notes:
1. Shoes are to be set initially on ℄ of bearing. Shoes are to be bare castings.
2. Holding Frames (this Dwg.) are to be set at same time as shoes.
3. Bottom struts are placed on blocking on piers and tied-down as shown. They are also supported at the center on towers (ER54) to control deflection.
4. The truss assemblies are to be entered downward into the shoes and the bottom struts.
5. The spans are held longitudinally on ℄ of bearing at L0 until they are fixed at the main piers by the jacking devices provided (ER16 & ER17). The holding devices at L0 are to be released simultaneously with the fixation at the main piers.
6. The P.P.0's are tied down as shown on ER55.
7. When the traveler is moved to P.P.12, the spans as then erected will be moved shoreward 22 In. by their jacking devices at the main piers.
8. The shoes at L0 will roll back to normal position as center closure is made.
9. If the roller nests at L0 must be moved after center closure, the L0 points can be raised where shown. The end reaction will be less than 200k, not Incl. App. Span.

Mat'l. A36
Open holes ¹⁵⁄₁₆ϕ U.N.
(A325) - Bolts - ⅞ϕ U.noted
Weld - As noted
Paint -

PISCATAQUA RIVER BRIDGE
PORTSMOUTH, N.H. - KITTERY, ME.
ANCHOR PIER SHOE HOLDING DEVICE

BETHLEHEM STEEL CORPORATION
FABRICATED STEEL CONSTRUCTION
ENGINEERING DIVISION BETHLEHEM, PA.

No.	Date	By
R6	11/2/70	RCF
R5	10/26/70	RCF
R4	10/20/70	RCF
R3	7/21/70	RCF
R2	6/22/70	RCF
R1	5/21/70	RCF

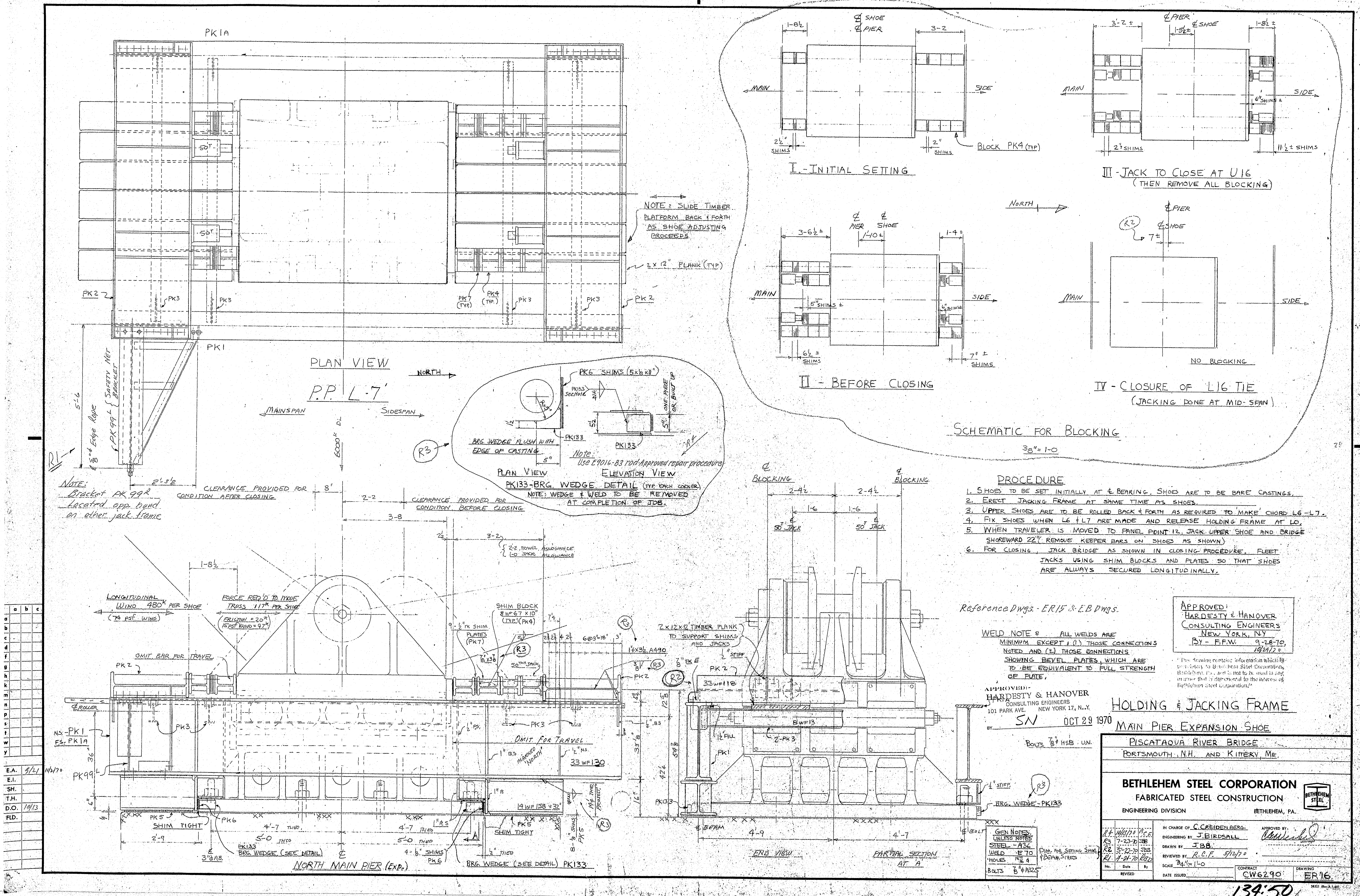
REVISED

IN CHARGE OF Creidenberg - R.C.F.
ENGINEERING BY R.C.F.
DRAWN BY R.C.F.
REVIEWED BY RBD 4-6-70
SCALE 1", 1½" = 1'-0
DATE ISSUED
APPROVED BY
CONTRACT CW6290
DRAWING ER15

E.A.	10/30/70
E.I.	
SH.	
T.H.	
D.O.	10/30/70
FLD.	

134:49

38521 (Rev. A 1-69)



PROCEDURE

1. SHOES TO BE SET INITIALLY AT ℄ BEARING. SHOES ARE TO BE BARE CASTINGS.
2. ERECT JACKING FRAME AT SAME TIME AS SHOES.
3. UPPER SHOES ARE TO BE ROLLED BACK & FORTH AS REQUIRED TO MAKE CHORD L6-L7.
4. FIX SHOES WHEN L6 & L7 ARE MADE AND RELEASE HOLDING FRAME AT L0.
5. WHEN TRAVELER IS MOVED TO PANEL POINT 12, JACK UPPER SHOE AND BRIDGE SHOREWARD 22" (REMOVE KEEPER BARS ON SHOES AS SHOWN)
6. FOR CLOSING, JACK BRIDGE AS SHOWN IN CLOSING PROCEDURE. FLEET JACKS USING SHIM BLOCKS AND PLATES SO THAT SHOES ARE ALWAYS SECURED LONGITUDINALLY.

Reference Dwgs. - ER15 & EB Dwgs.

WELD NOTE: ALL WELDS ARE MINIMUM EXCEPT: (1) THOSE CONNECTIONS NOTED AND (2) THOSE CONNECTIONS SHOWING BEVEL PLATES, WHICH ARE TO BE EQUIVALENT TO FULL STRENGTH OF PLATE.

APPROVED:
HARDESTY & HANOVER
CONSULTING ENGINEERS
NEW YORK, N.Y.
BY - F.F.W. 9-28-70,
10/29/70

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APPROVED:-
HARDESTY & HANOVER
CONSULTING ENGINEERS
101 PARK AVE. NEW YORK 17, N.Y.
BY SN OCT 29 1970

HOLDING & JACKING FRAME
MAIN PIER EXPANSION SHOE

BOLTS 7/8"Ø HSB U.N.

GEN NOTES, UNLESS NOTED
STEEL - A36
WELD - E70
HOLES 15/16 Ø
BOLTS 7/8"Ø A325

DIM. FOR SETTING SHOE & BEAM SIZES

PISCATAQUA RIVER BRIDGE
PORTSMOUTH, N.H. AND KITTERY, ME.

BETHLEHEM STEEL CORPORATION
FABRICATED STEEL CONSTRUCTION
ENGINEERING DIVISION BETHLEHEM, PA.

No.	Date	By
R4	10/13/70	R.C.F.
R3	7-23-70	JBB
R2	5-27-70	JBB
R1	4-21-70	R.B.D.

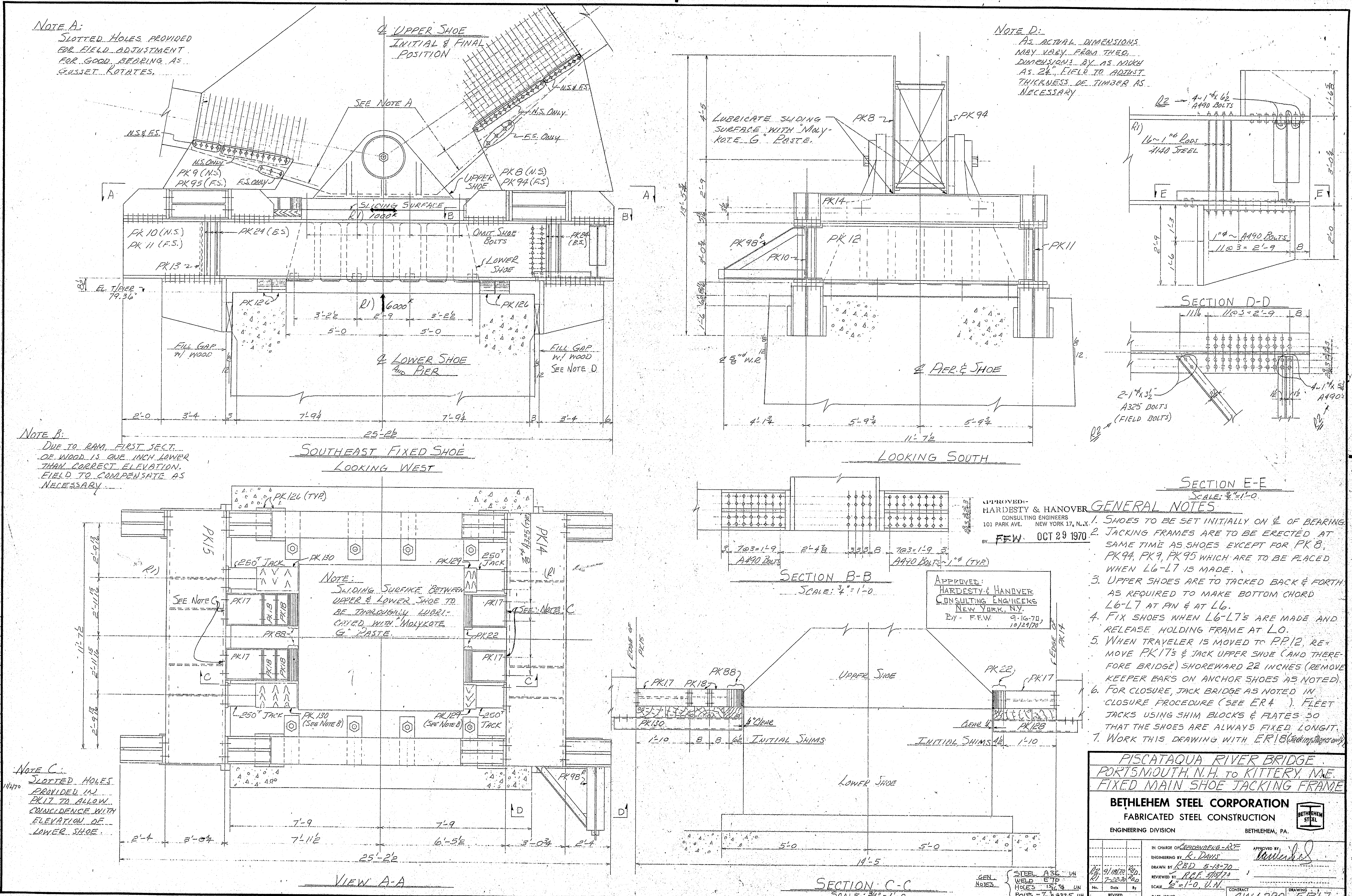
REVISED

IN CHARGE OF C. CREIDENBERG
ENGINEERING BY J. BIRDSALL
DRAWN BY JBB
REVIEWED BY R.C.F. 5/12/70
SCALE 3/4" = 1'-0
DATE ISSUED
APPROVED BY
CONTRACT CW6290
DRAWING ER16

	a	b	c
E.A.	5/21	11/3/70	
E.I.			
SH.			
T.H.			
D.O.	10/13		
FLD.			

134.50

38521 (Rev. A 1-69)



Note A:
Slotted holes provided for field adjustment for good bearing as gusset rotates.

Note B:
Due to ram, first sect. of wood is one inch lower than correct elevation. Field to compensate as necessary.

Note C:
Slotted holes provided in PK17 to allow coincidence with elevation of lower shoe.

Note D:
As actual dimensions may vary from theo. dimensions by as much as 2¼", field to adjust thickness of timber as necessary.

Note:
Sliding surface between upper & lower shoe to be thoroughly lubricated with "Molykote G" paste.

Southeast Fixed Shoe
Looking West

Looking South

Section D-D

Section E-E
Scale: ¾"=1'-0

Section B-B
Scale: ¾"=1'-0

View A-A

Section C-C
Scale: ¾"=1'-0

Gen. Notes
Steel A36 UN
Weld E70
Holes 15/16"ϕ UN
Bolts - ⅞"ϕ A325 UN

APPROVED:-
HARDESTY & HANOVER
CONSULTING ENGINEERS
101 PARK AVE. NEW YORK 17, N.Y.
BY F.F.W. OCT 29 1970

Approved:
Hardesty & Hanover
Consulting Engineers
New York, N.Y.
By - F.F.W. 9-16-70, 10/29/70

General Notes

1. Shoes to be set initially on ℄ of bearing.
2. Jacking frames are to be erected at same time as shoes except for PK8, PK94, PK9, PK95 which are to be placed when L6-L7 is made.
3. Upper shoes are to tacked back & forth as required to make bottom chord L6-L7 at pin & at L6.
4. Fix shoes when L6-L7's are made and release holding frame at L0.
5. When traveler is moved to P.P.12, remove P.K17's & jack upper shoe (and therefore bridge) shoreward 22 inches (remove keeper bars on anchor shoes as noted).
6. For closure, jack bridge as noted in closure procedure (see ER4). Fleet jacks using shim blocks & plates so that the shoes are always fixed longit.
7. Work this drawing with ER18 (Jacking Shoes only)

E.A.	SLS	11/4/70
E.I.		
SH.		
T.H.		
D.O.	7/18	
FLD.		

PISCATAQUA RIVER BRIDGE
PORTSMOUTH, N.H. TO KITTERY, ME.
FIXED MAIN SHOE JACKING FRAME

BETHLEHEM STEEL CORPORATION
FABRICATED STEEL CONSTRUCTION
ENGINEERING DIVISION
BETHLEHEM, PA.

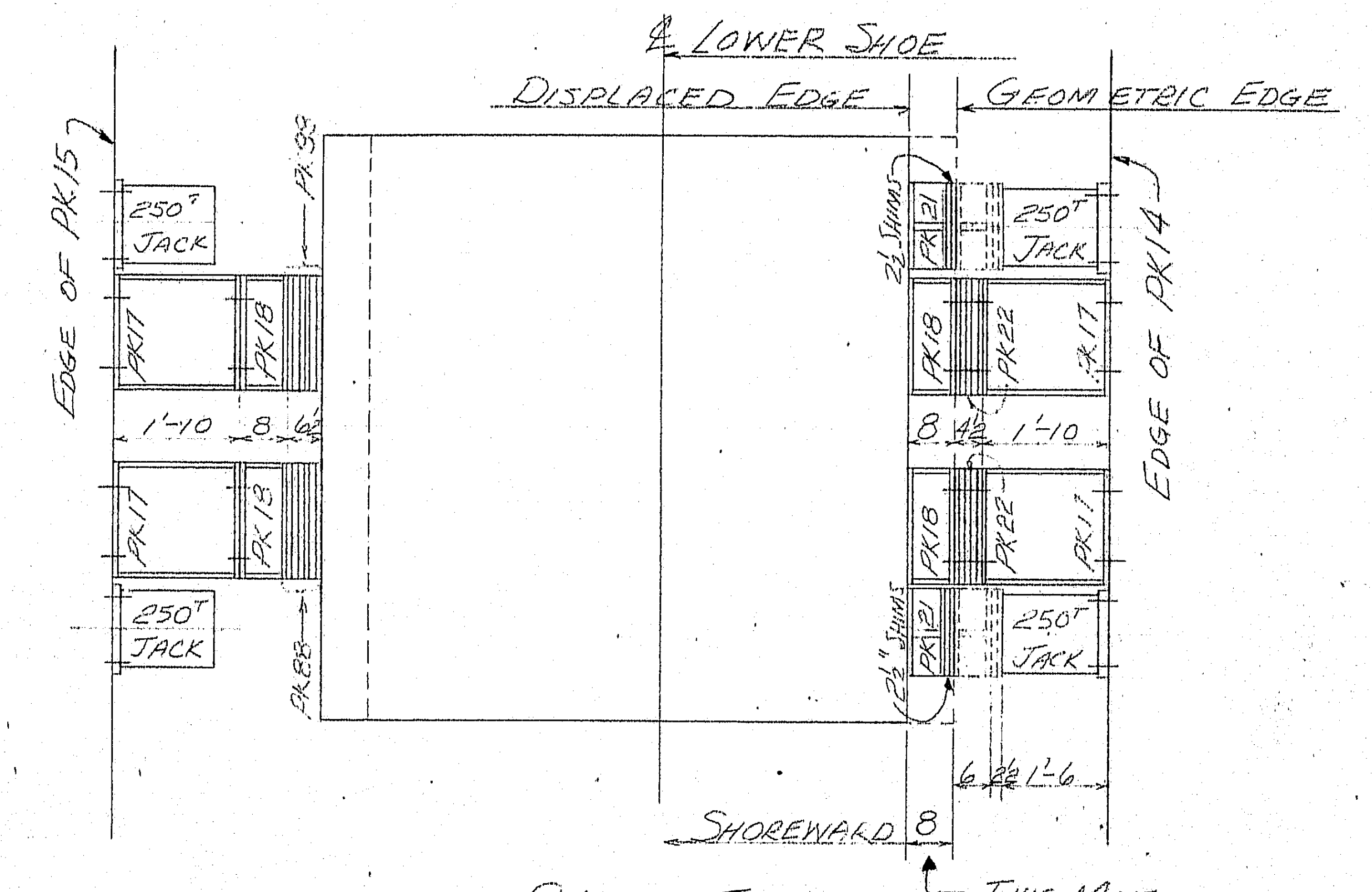
No.	Date	By
R2	9/18/70	RBD
R1	7-22-70	RBD

IN CHARGE OF Greidenberg - RCF
ENGINEERING BY R. Davis
DRAWN BY RBD 5-13-70
REVIEWED BY RCF 5/15/70
SCALE ½"=1'-0, U.N.
DATE ISSUED
APPROVED BY
CONTRACT CW6290
DRAWING ER17

38521 (Rev.A 1-69)

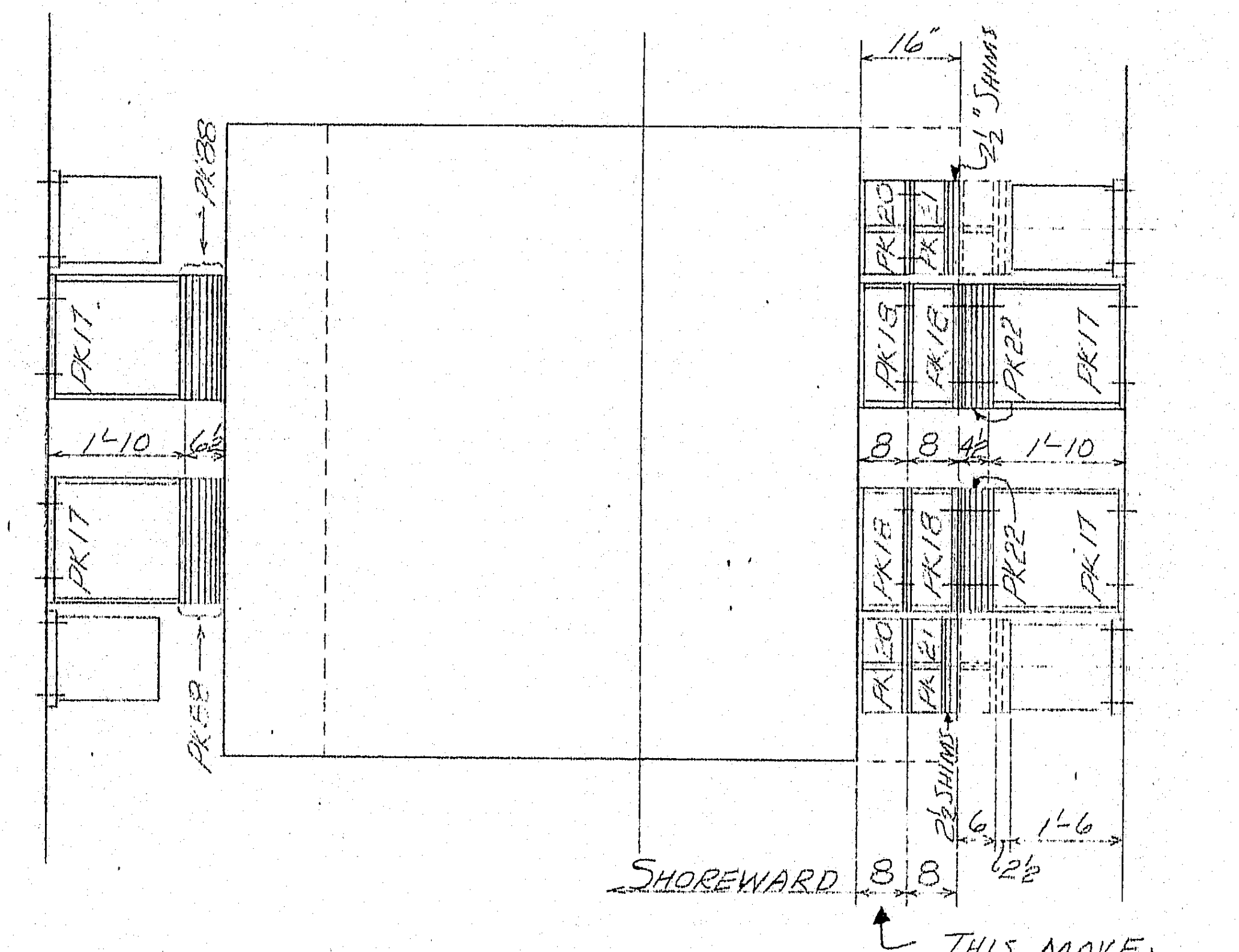
134:51

JACK FLEETING PROCEDURE ~ SHOREWARD

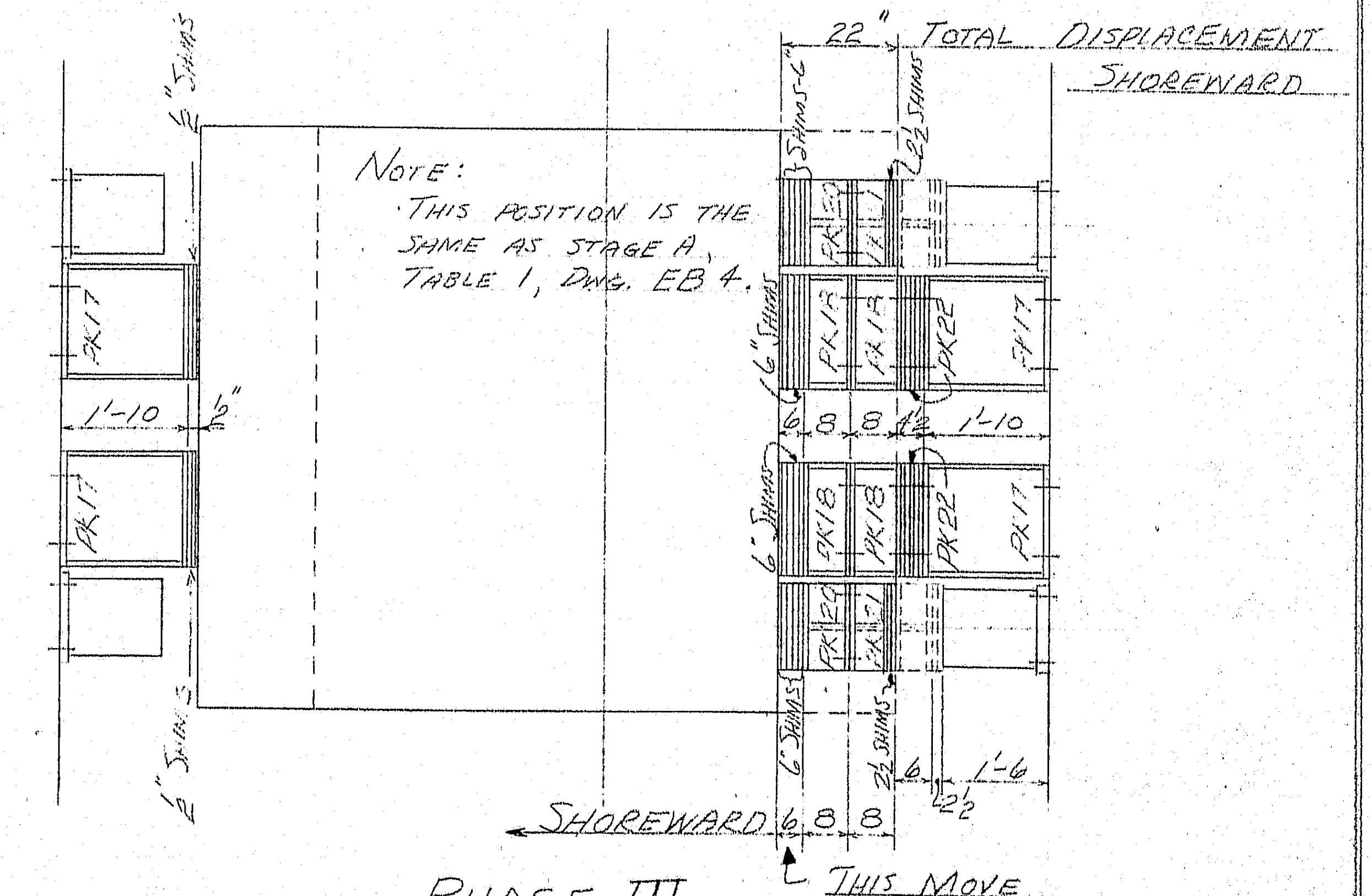


PHASE I

MOVE FROM GEOMETRIC (SEE ER17) TO 8" TOWARDS SHORE

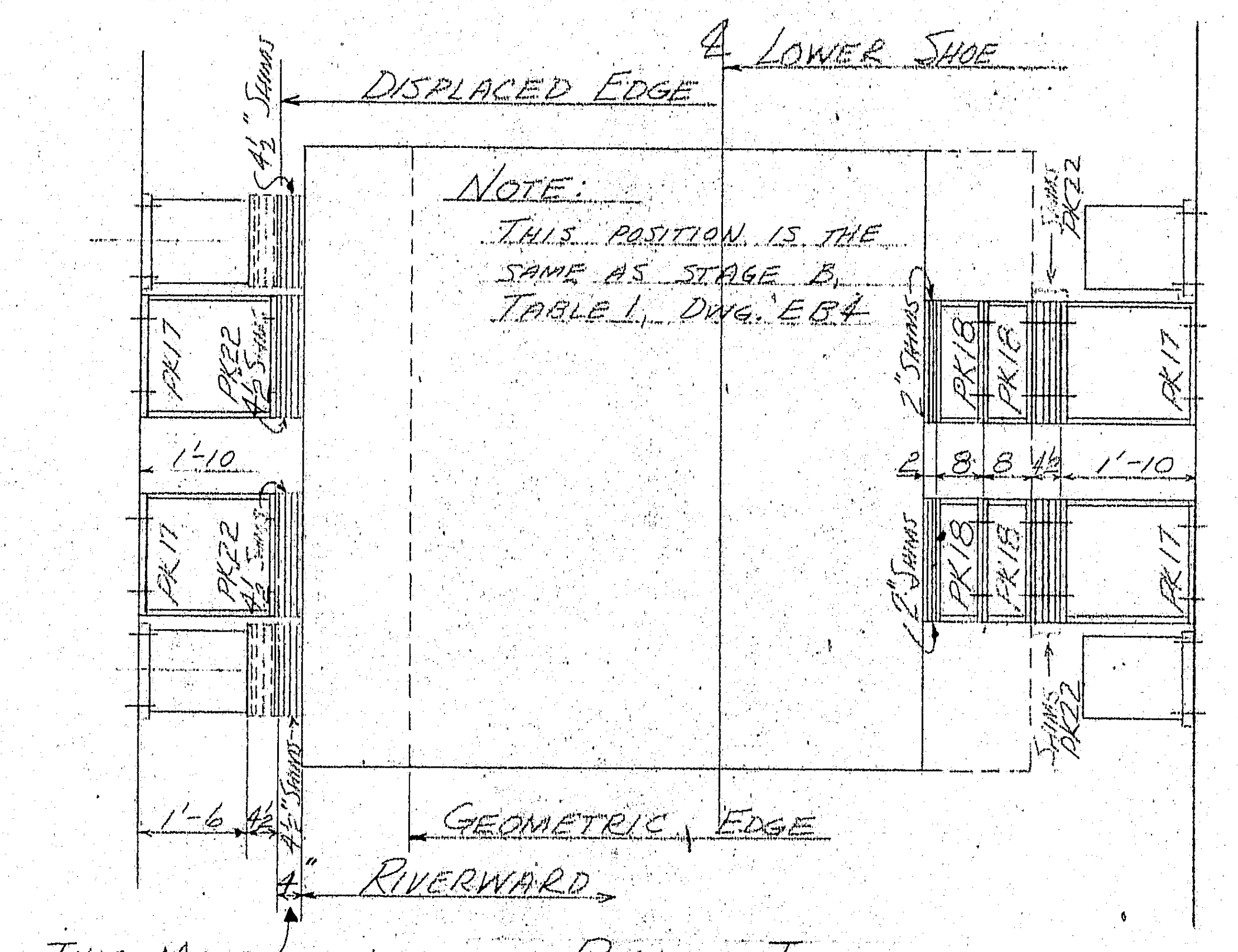


PHASE II



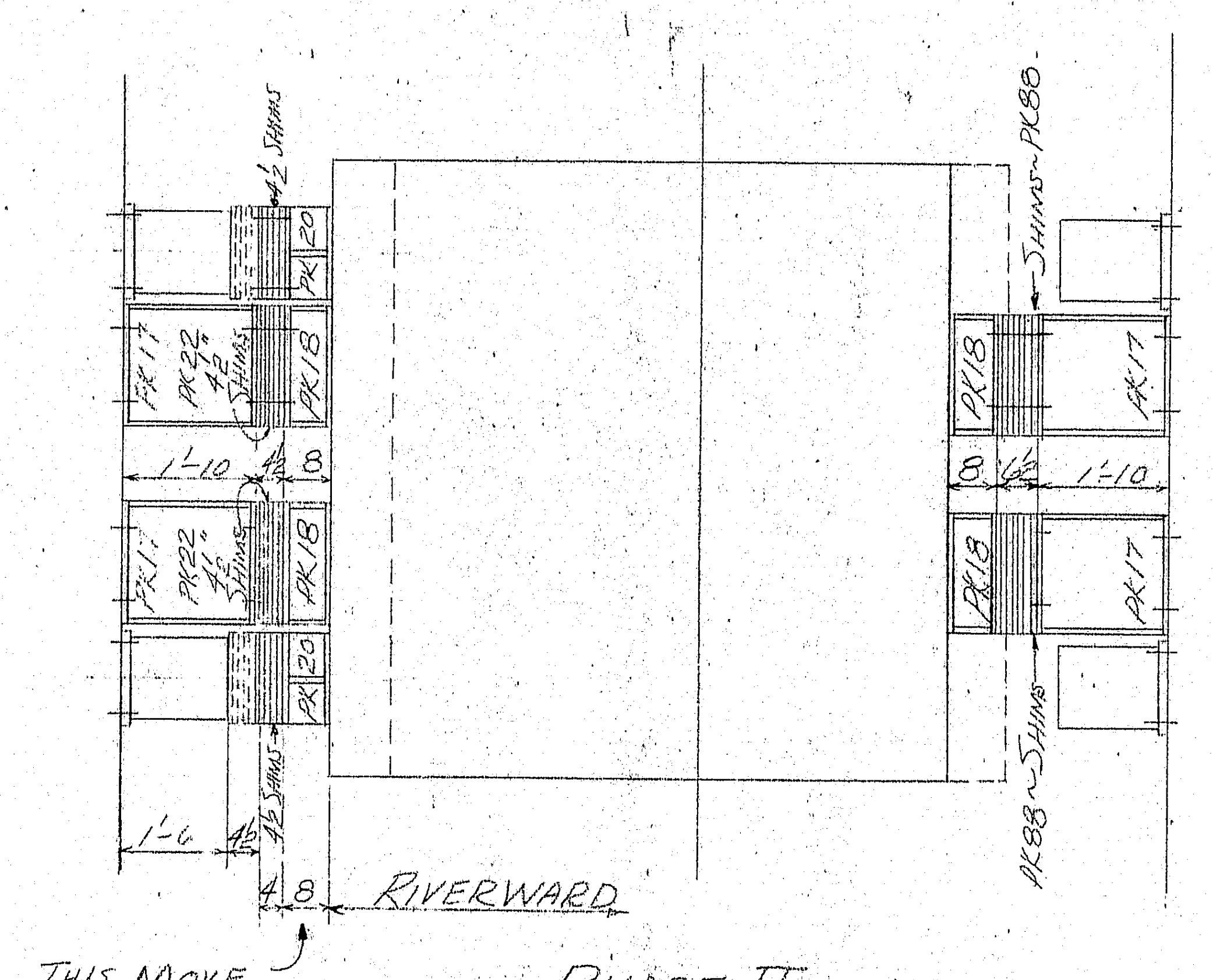
PHASE III

JACK FLEETING PROCEDURE ~ RIVERWARD

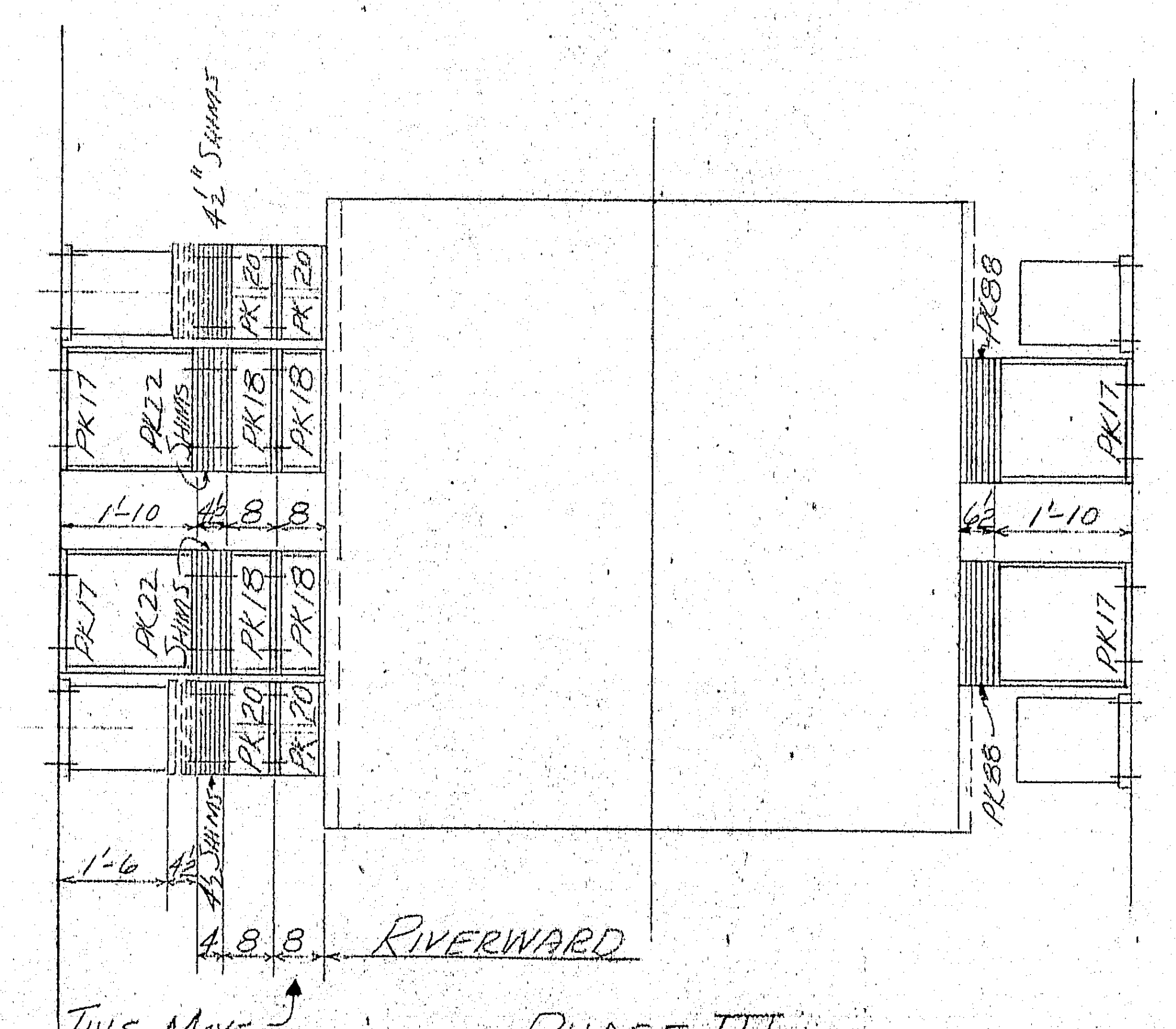


PHASE I

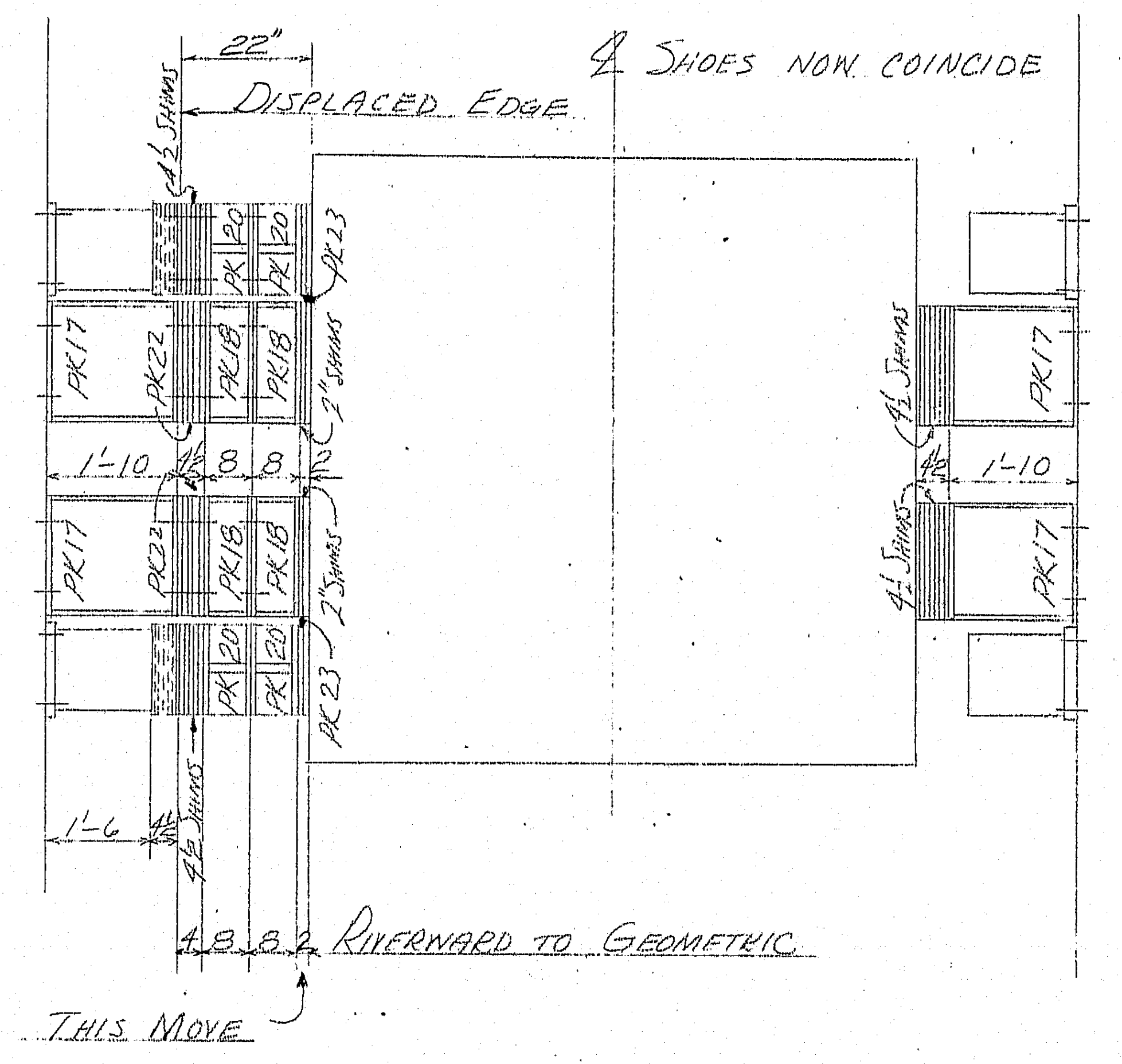
INITIAL MOVE FROM TOTAL DISPLACEMENT SHOREWARD TO 4" RIVERWARD



PHASE II



PHASE III



PHASE IV

FIELD NOTE:
With the exception of the pause of PHASE I, RIVERWARD MOVEMENT, it is anticipated that all movements will be smooth & continuous. Phase designation means shim block and shim changing procedure.

GENERAL NOTES

1. WORK THIS DRAWING WITH ER17.
2. REFER TO ER4 FOR GENERAL NOTES ON RELATIONSHIP TO CLOSURE.
3. AS SHOE IS BEING JACKED, FOLLOW-UP BLOCKING BEAMS ARE TO BE PLACED SO BRIDGE CANNOT MOVE UNDER ITS OWN POWER (AS SHIMS ARE ADDED ON ONE SIDE, SUBTRACT FROM OTHER SIDE).
4. MISC. SHIMS TO BE EXTRACTED AS NECESSARY FROM FOLLOWING SHIM PACK
   - FOR USE WITH PK17: PK22, PK88, PK90
   - " " " PK20, PK21: PK23, PK91
5. SUPPORT IS PROVIDED FOR BLOCKING BMS. & SHIMS UP TO EDGE OF LOWER SHOE; AS UPPER SHOE IS DISPLACED, BLOCK. BM. & SHIMS ARE TO REST ON EXPOSED SURFACE OF LOWER SHOE.

APPROVED:-
HARDESTY & HANOVER
CONSULTING ENGINEERS
101 PARK AVE. NEW YORK 17, N.Y.
BY SN OCT 22 1970

BOLTS ~ ⅞"Φ A325

Approved:
Hardesty & Hanover
Consulting Engineers
101 Park Avenue, New York, N.Y.
SN 10/22/70

MAIN PIER FIXED SHOE
PISCATAQUA RIVER BRIDGE
PORTSMOUTH, N.H. TO KITTERY, ME.
JACK FLEETING PROCEDURE

BETHLEHEM STEEL CORPORATION
FABRICATED STEEL CONSTRUCTION DEPARTMENT
ERECTION DIVISION
HOME OFFICE ERECTION — BETHLEHEM, PA.

IN CHARGE OF: C. CREIDENBERG ~ R.C.F.
☐ Erect. Engr. ☐ Proj. Engr.
APPROVED: ☐ Mgr. of Erect. ☐ District Mgr. ☐ Engr. of Erect. ☐ Asst. Dist. Mgr.
MADE BY: R.B.D. DATE: 5-14-70
CHECKED BY: R.C.F. DATE: 5/15/70
SCALE: ½" = 1'-0
FILE NO.:
ERECTION CONTRACT NO.: CW 6290
DWG. NO.: ER18

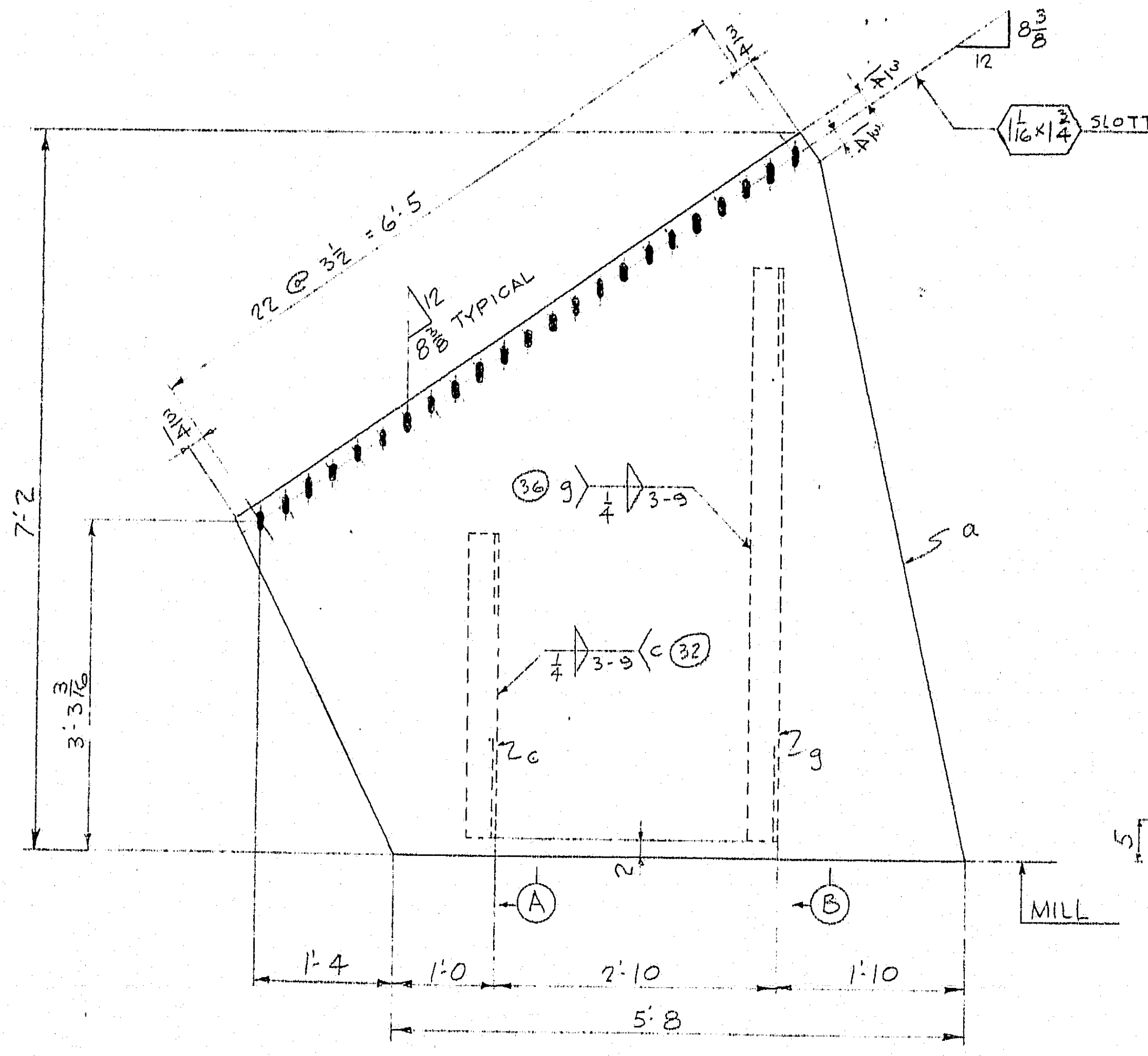
NO.	DATE	INIT.
REVISED		

	a	b	c
a			
b			
c			
d			
f			
g			
h			
k			
m			
n			
p			
s			
t			
w			
y			

SENT TO	DATE
D.O.	5/22
FLD.	
TH.	
E.D.	
Eac	
EIO	
SHP	

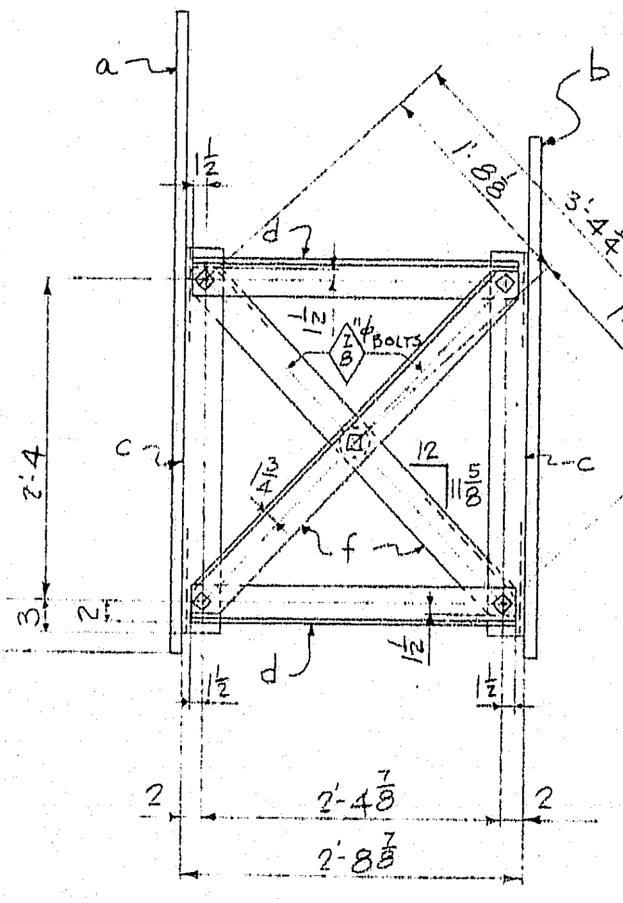
40318 (12-67)

134:52

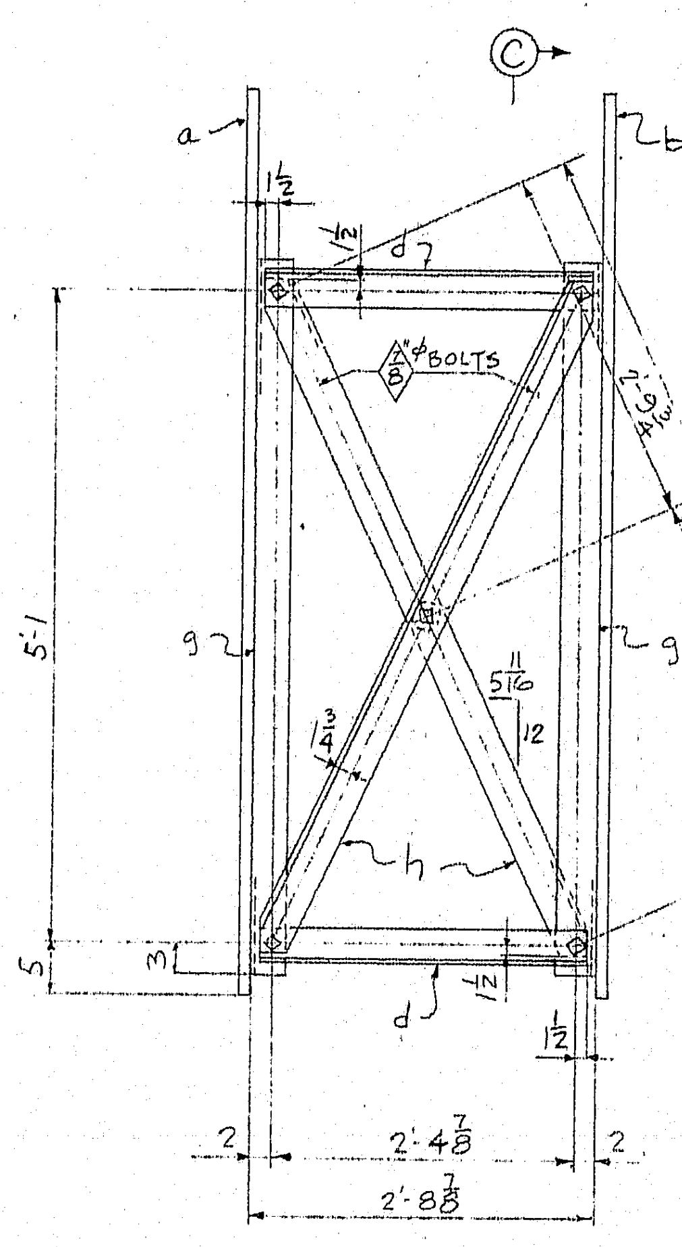


FRAME STAY ⅊ ~ PK8

FRAME STAY ⅊ ~ PK94 (OPP.)



SECTION Ⓐ



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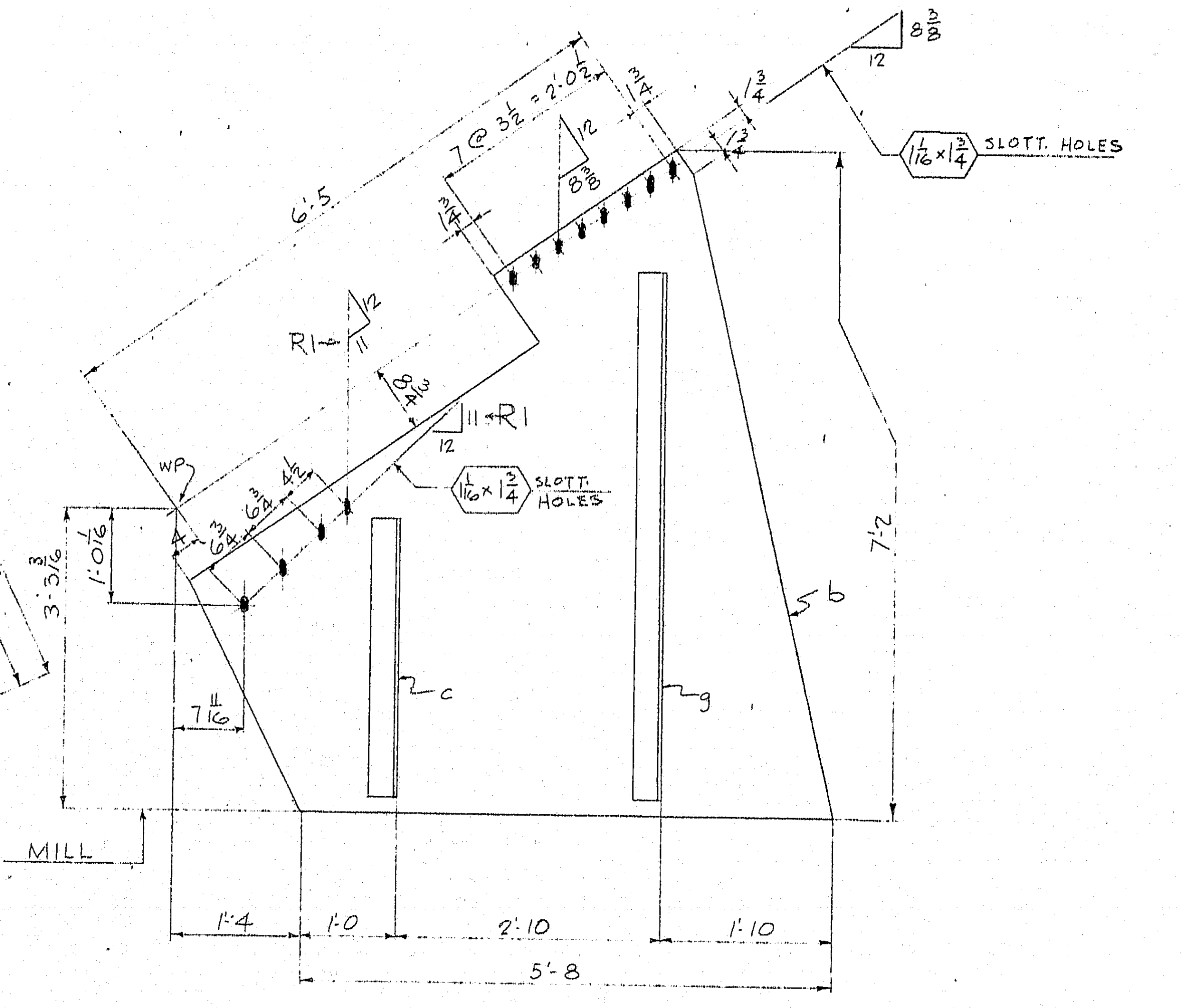
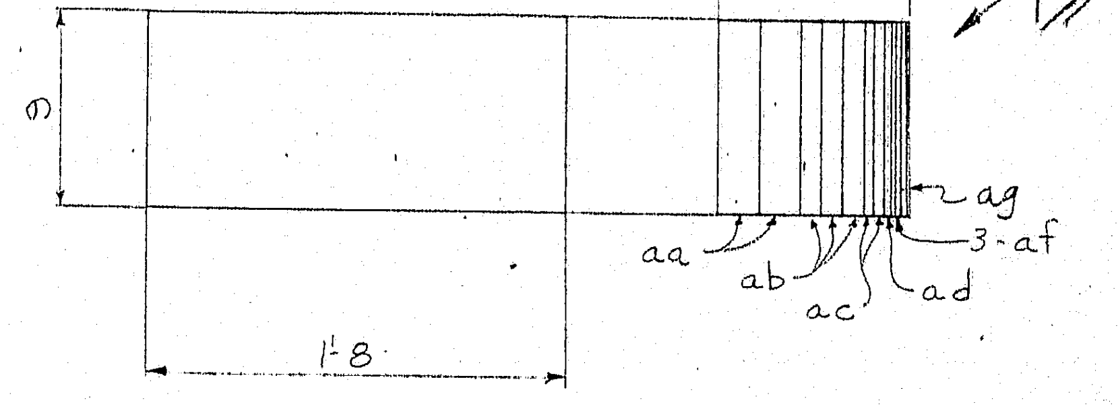
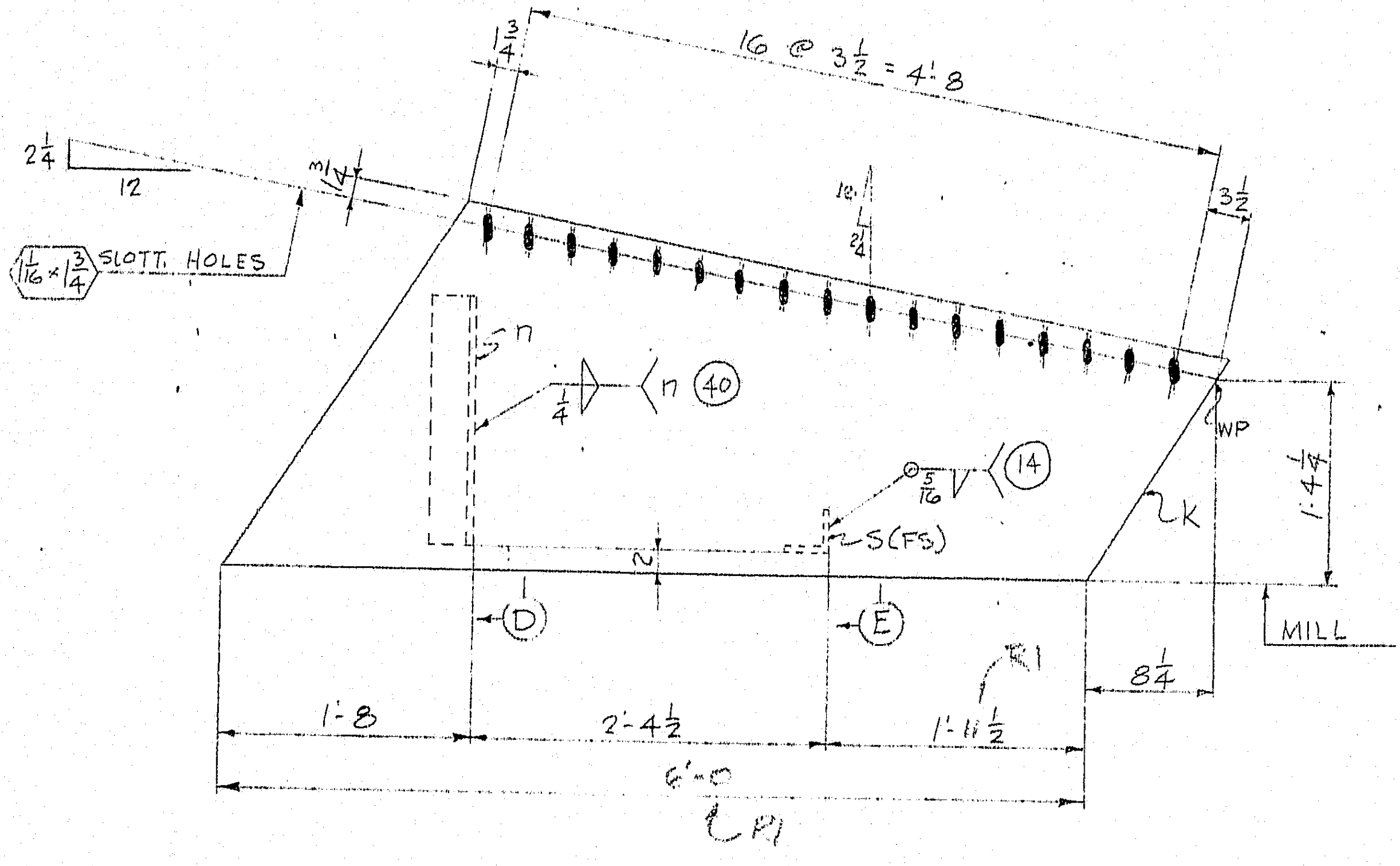


SECTION Ⓒ

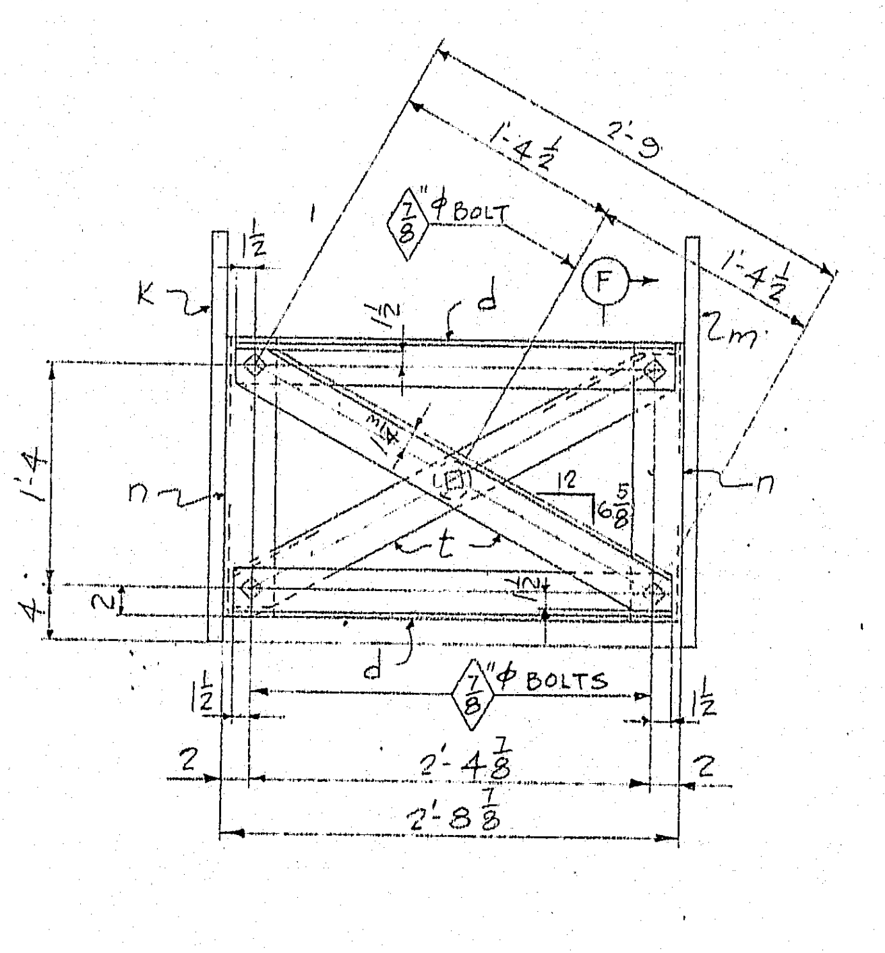


SHIM PACK ~ PK126



FRAME STAY ⅊ ~ PK9

FRAME STAY ⅊ ~ PK95 (OPP.)



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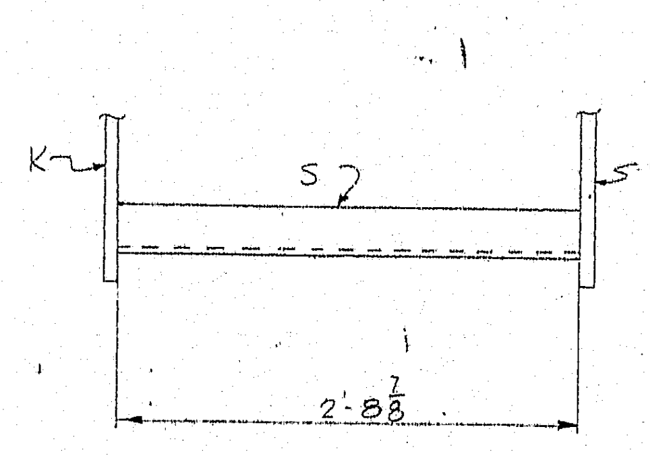
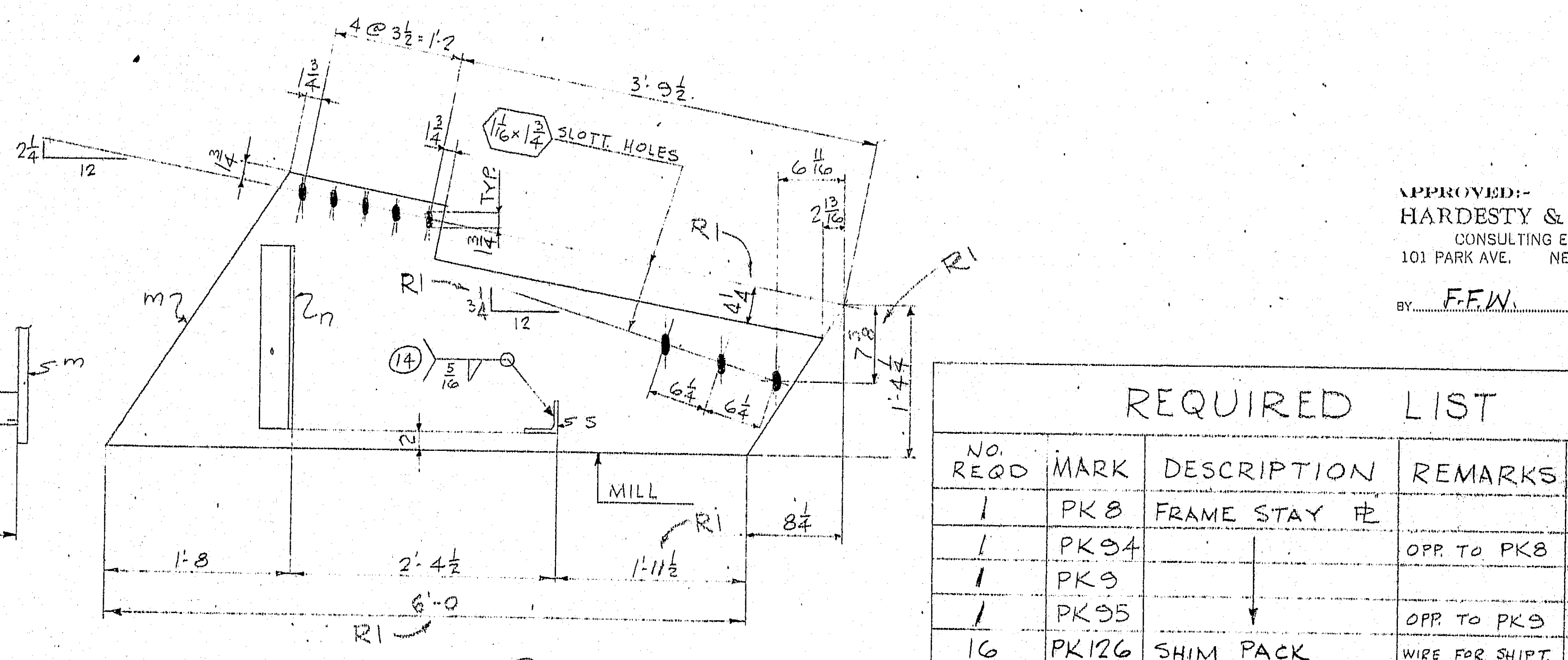


SECTION Ⓔ



SECTION Ⓕ

APPROVED:
HARDESTY & HANOVER
CONSULTING ENGINEERS
101 PARK AVE. NEW YORK 17, N.Y.
BY F.F.W. SEP 9 1970

REQUIRED LIST

NO. REQD	MARK	DESCRIPTION	REMARKS	WGT. EA. PC.	DISPOSITION
1	PK8	FRAME STAY ⅊		3593#	SCRAP
1	PK94	↓	OPP. TO PK8	3593#	do.
1	PK9			848#	do.
1	PK95		OPP. TO PK9	848#	R1 do.
16	PK126	SHIM PACK	WIRE FOR SHIPT.	445#	do.

"This drawing contains information which is proprietary to Bethlehem Steel Corporation, Bethlehem, Pa., and is not to be used in any manner that is detrimental to the interest of Bethlehem Steel Corporation."

APPROVED:
HARDESTY & HANOVER
CONSULTING ENGINEERS
NEW YORK, N.Y.
BY- F.F.W. 9-9-70

For location of details shown on this sheet refer to diagrams.

ER17

SENT TO	DATE
D.O.	5/22
FLD.	
TH.	
E.D.	
Eas	
ERD	
SHIP	

SHOP BILL

LINE	WEIGHT TOTAL	WEIGHT EA.	ASSEMBLY MARK	NO.	SHAPE	SECTION SIZE	SECTION SIZE OR POUNDS	SECTION THICK	LENGTH FT.	LENGTH IN.	REMARKS	MILL ORDER LENGTH FT.	MILL ORDER LENGTH IN.	ITEM PAGE	ITEM LINE
1			FRAME STAY ⅊ ~ PK8, PK94 (OPP.)												
2		1664	a	2	PL	86		1	7	2 1/2					
3		1585	b	2	PL	86		1	6	10 1/2					
4		20	c	4	∠	3 1/2	3 1/2	5/16	2	10					
5		19	d	8	∠	3 1/2	3 1/2	5/16	2	7 3/8					
6		26	f	4	∠	3 1/2	3 1/2	5/16	3	8 3/8					
7		40	g	4	∠	3 1/2	3 1/2	5/16	5	7					
8		43	h	4	∠	3 1/2	3 1/2	5/16	5	11 1/2					
9		1		16	325	7/8"ϕ			0	2 1/4					
10		1		4	325	7/8"ϕ			0	2 3/4					
11				4	W	2	15/16	5/8							
12				20	HW	1 3/4	15/16	3/16							
13				20	M	7/8					HHN A325 BOLTS ONLY				
14			FW	2	WD			1/4	11	4					
15			FRAME STAY ⅊ ~ PK9, PK95 (OPP.)												
16		359	k	2	PL	29 5/16		1	6	6 1/8	MIE				
17		342	m	2	PL	29 5/16		1	6	2 7/16	MIE				
18		12	n	4	∠	3 1/2	3 1/2	5/16	1	8					
19		19	d	4	∠	3 1/2	3 1/2	5/16	2	7 7/8					
20		19	s	2	∠	3 1/2	3 1/2	5/16	2	8 7/8					
21		22	t	4	∠	3 1/2	3 1/2	5/16	3	1 1/8					
22		1		8	325	7/8"ϕ			0	2 1/4					
23		1		2	325	7/8"ϕ			0	2 3/4					
24				2	W	2 1/4	15/16	5/8							
25				8	HW	1 3/4	15/16	3/16							
26				10	M	7/8					HHN A325 BOLTS ONLY				
27			FW	2	WD			1/4	6	8					
28			FW	2	WD			5/16	2	4					
29															
30															
31															
32															
33															
34				16	-	SHIM	PACK ~	PK126							
35		104	aa	32	PL	9		2	1	8					
36		52	ab	48	PL	9		1	1	8					
37		26	ac	32	PL	9		1/2	1	8					
38		13	ad	16	PL	9		1/4	1	8					
39		6.5	af	48	STZ	9		1/8	1	8					
40	R1	3.3	ag	16	STZ	9		1/16	1	8					
41															
42															

MATERIAL

OPEN HOLES 1 1/16"ϕ U.N.

RIVETS

BOLTS 1"ϕ A325 U.N.

WELDING As NOTED

PAINT

NO.	DATE	INIT.
R1	8-6-70	DDP

REVISED

DETAILS - MAIN SHOE JACKING FRAME

PISCATAQUA RIVER BRIDGE
PORTSMOUTH, N.H., & KITTERY, MAINE

BETHLEHEM STEEL CORPORATION
FABRICATED STEEL CONSTRUCTION DEPARTMENT
ERECTION DIVISION
ENGINEERING DIVISION
HOME OFFICE ERECTION
BETHLEHEM, PA.

IN CHARGE OF: CREIDENBERG
☒ Erect. Engr. ☐ Proj. Engr.

APPROVED: ☐ Mgr. of Erect. ☐ District Mgr. ☐ Engr. of Erect. ☐ Asst. Dist. Mgr.

MADE BY: RHD
DATE:

CHECKED BY: D.D.P.
DATE: 4-22-70

SCALE: 1", 1 1/2" = 1'-0

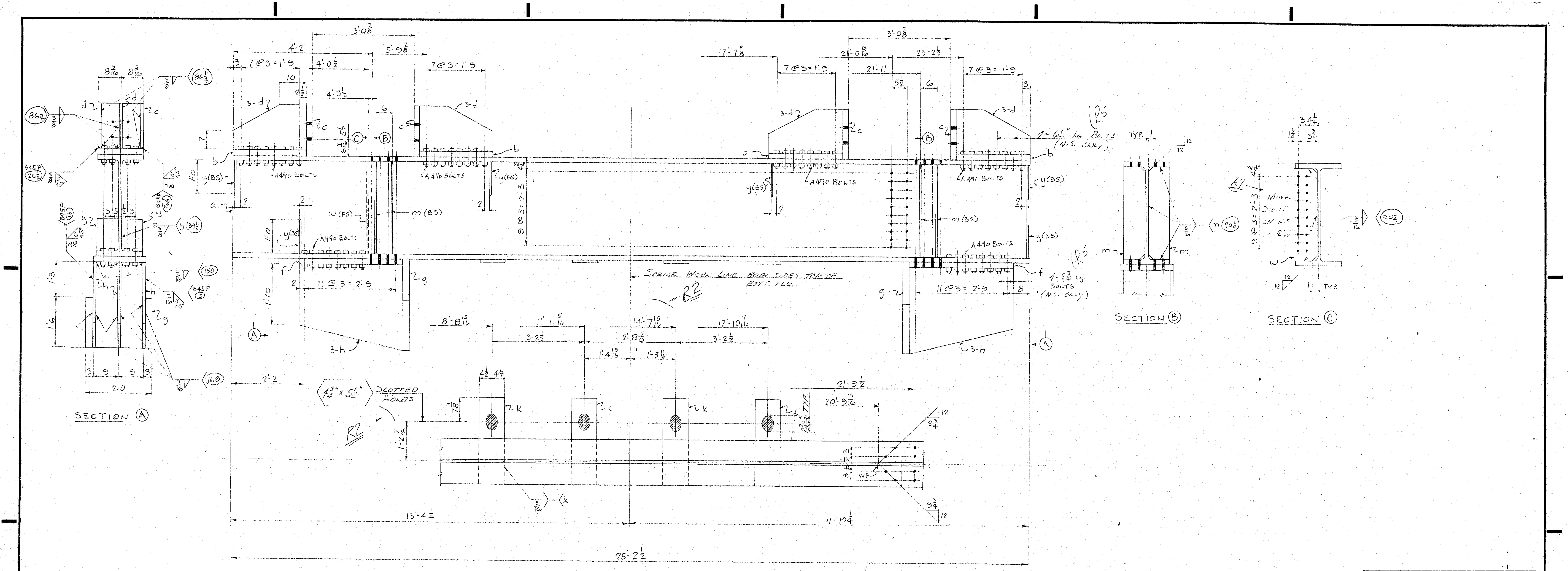
FILE NO.:

ERECTION CONTRACT NO.: CW6290

DWG. NO.: ER21

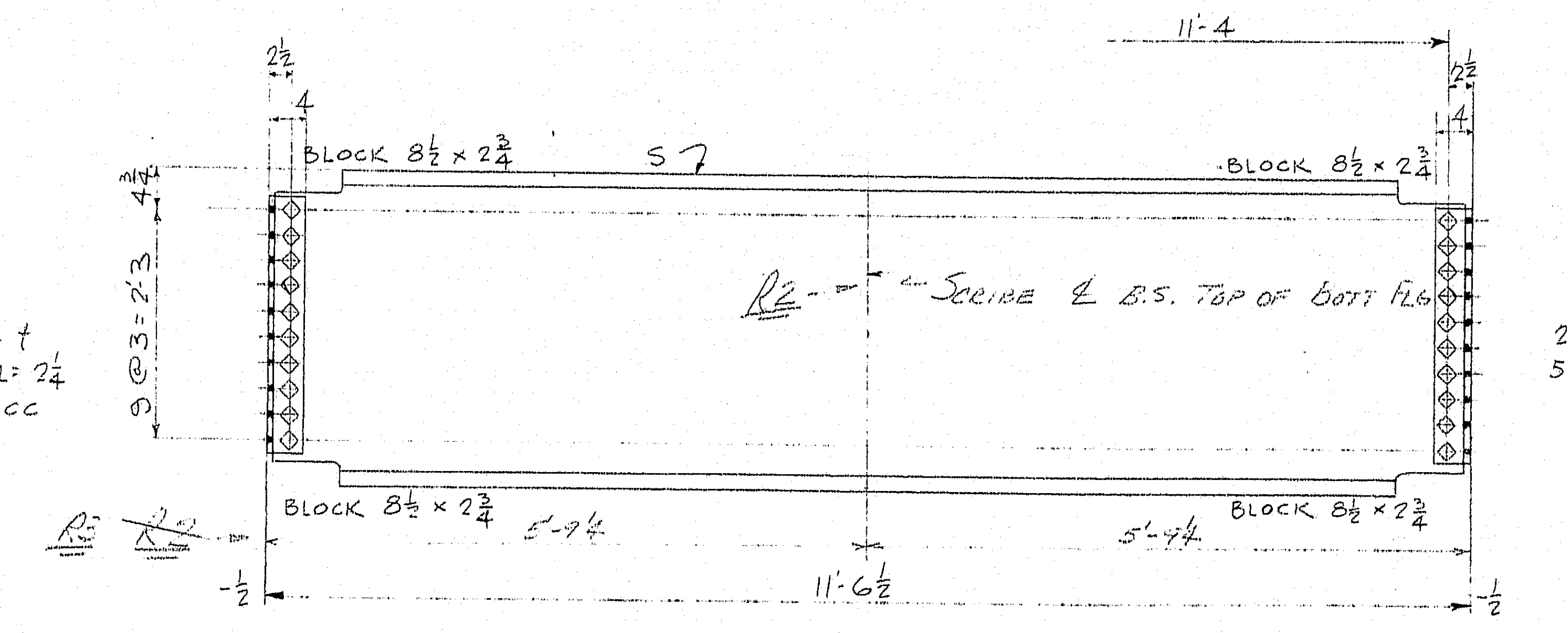
38558 (Rev.A 3-67)

134:53

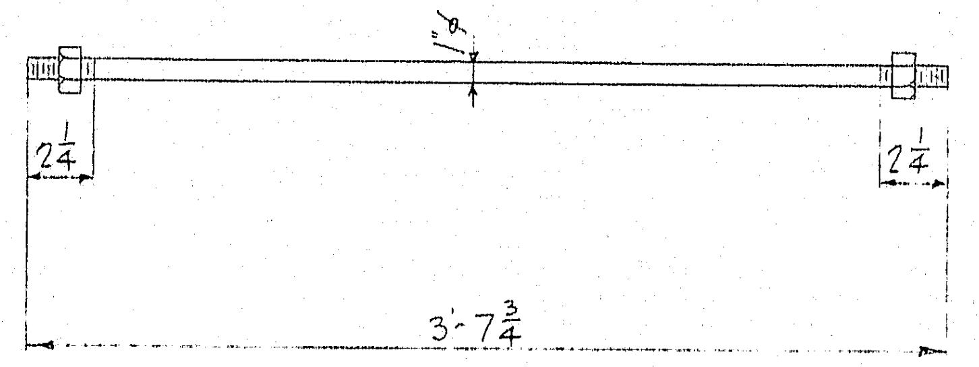


MAIN FRAMING BEAM ~ PK10

MAIN FRAMING BEAM ~ PK11 (OPP.)



BEAM ~ PK12



ROD ~ PK24

APPROVED:
HARDESTY & HANOVER
CONSULTING ENGINEERS
BY F.F.W. OCT. 7 1970

REQUIRED LIST

NO. REQD	MARK	DESCRIPTION	REMARKS	WGT. EA. PC	DISPOSITION
2	PK10	MAIN FRAMING BM.		16,088#	TO STOCK
2	PK11	do.	OPP. TO PK10	16,088#	do.
2	PK12	BEAM		3582#	do.
128	PK24	RODS		10#	

APPROVED:-
HARDESTY & HANOVER
CONSULTING ENGINEERS
101 PARK AVE. NEW YORK 17, N.Y.
F.F.W. OCT 7 1970

For location of details shown on this sheet refer to diagrams.
ER17

R6 → *102,000#/in² yield, 123,500#/in² Tensile

LINE	WEIGHT TOTAL	WEIGHT EA.	ASSEMBLY MARK	NO.	SHAPE	SECTION SIZE	SECTION SIZE OR POUNDS	SECTION THICK	LENGTH FT.	LENGTH IN.	REMARKS	MILL ORDER LENGTH FT.	MILL ORDER LENGTH IN.	ITEM PAGE	ITEM LINE
1			MAIN FRAMING BM ~ PK10, PK11 (OPP.)												
2		7560	a	4	B	36	300		25	2½					
3		247	b	16	PL	16⅝		2	2	2½					
4		180	c	16	PL	16⅝		2	1	6⅝					
5		139	d	48	PL	16⅝		1⅛	2	2½					
6		401	f	8	PL	19⅛		2	3	1½					
7		571	g	8	PL	24		2½	2	9					
8		391	h	24	PL	33		1⅛	3	1½					
9		60	k	16	PL	9		¾	2	6⅛	← R2				
10		37	m	32	BRZ	7⅞		½	2	9⅜					
11		1.7	R5 →	752	490	1"⌀			0	5¼					
12			w	4	PL	8½		¾	2	9⅜					
13			y	48	PL	7⅞		½	1	0					
14			FW	4	WD			7/16	53	0					
15			FW	4	WD			5/16	78	9¼					
16			FW	4	WD			⅜	97	0					
17			B45P	4	WD			7/16	5	0					
18			B45P	4	WD			⅜	17	8					
19			R5	768	M	1					HHN A490 NUTS ONLY				
20				1536	HW	2	1 1/16	3/16							
21		1.7		8	490	1			0	5¾					
22		–		8	490	1			0	6½	R4				
23															
24						ROD ~ PK24					R6				
25		10		128	RD	1"⌀			3	7¾	AISI 4140, QUENCH & TEMP, [illegible] *				
26				256	M	1					HHN - A194 GRADE 2 [illegible]				
27															
28						BEAM ~ PK12									
29		3450	S	2	B	36	300		11	5½					
30		28	t	8	∠	4	3½	7/16	2	6½	R4				
31		1		40	325	1			0	3¼					
32				40	M	1					HHN A325 NUTS ONLY				
33				40	HW	2	1 1/16	3/16							
34															
35															
36															
37															
38															
39															
40															
41															
42															

MATERIAL A36 Unless Noted
OPEN HOLES 1 1/16"⌀ U.N.
RIVETS
BOLTS 1"⌀ A325 U.N.
WELDING As NOTED
PAINT

DETAILS - MAIN SHOE JACKING FRAME

PISCATAQUA RIVER BRIDGE
PORTSMOUTH, N.H. & KITTERY, MAINE

BETHLEHEM STEEL CORPORATION
FABRICATED STEEL CONSTRUCTION DEPARTMENT
ERECTION DIVISION
HOME OFFICE ERECTION
BETHLEHEM, PA.

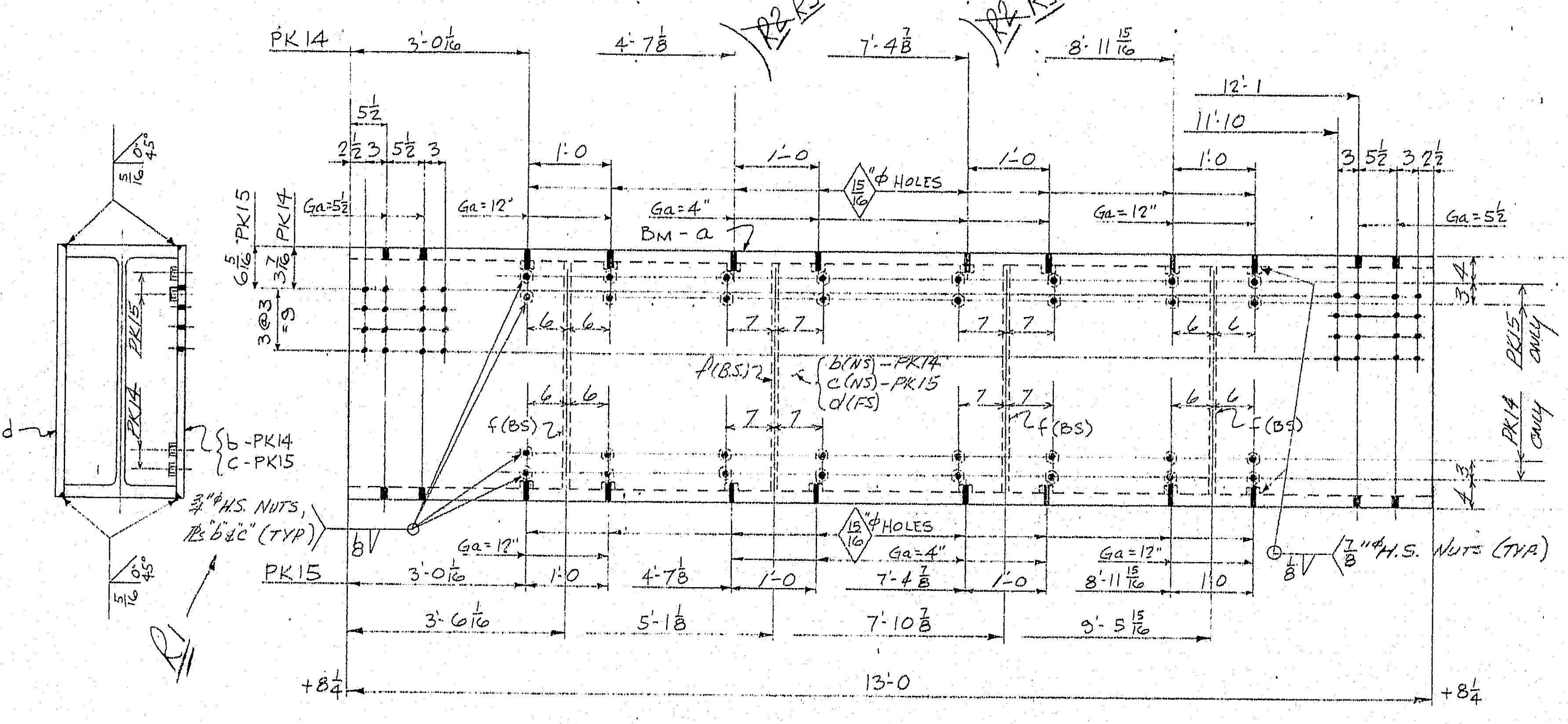
NO.	DATE	INIT.
R6	9/24/70	R.C.F.
R5	4/17/70	R.C.D.
R4	4/14/70	R.D.
R3	4/13/70	R.D.
R2	3/11/70	E.B.D.
R1	3/11/70	E.B.D.

REVISED

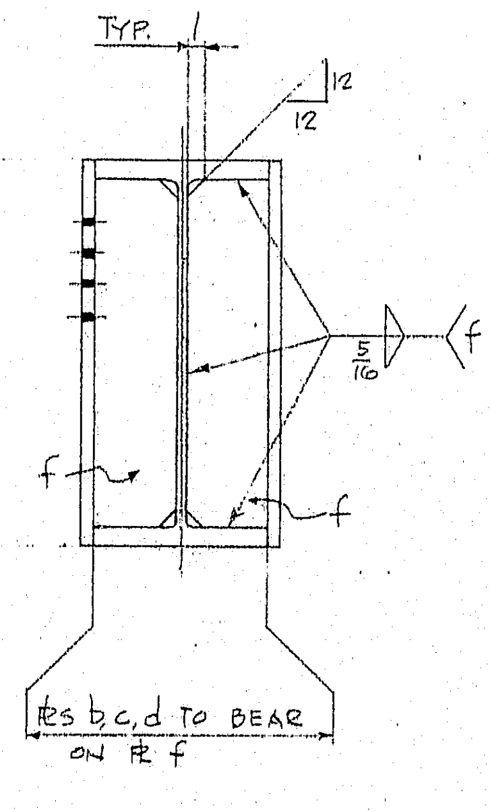
IN CHARGE OF: CREIDENBERG
☒ Erect. Engr. ☐ Proj. Engr.
APPROVED: ☐ Mgr. of Erect. ☐ District Mgr. ☐ Engr. of Erect. ☐ Asst. Dist. Mgr.
MADE BY: RHD
DATE: 12-8-69
CHECKED BY: D.D.F.
DATE: 4-17-70
SCALE: ¾" = 1'-0
FILE NO.:
ERECTION CONTRACT NO.: CW6290
DWG. NO.: ER22

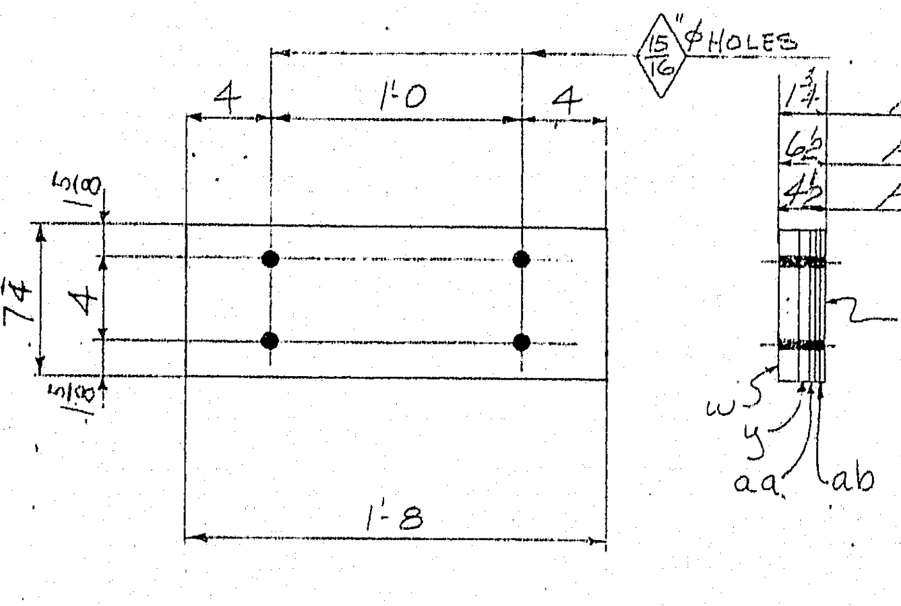
134:54

38558 (Rev.A 3-67)

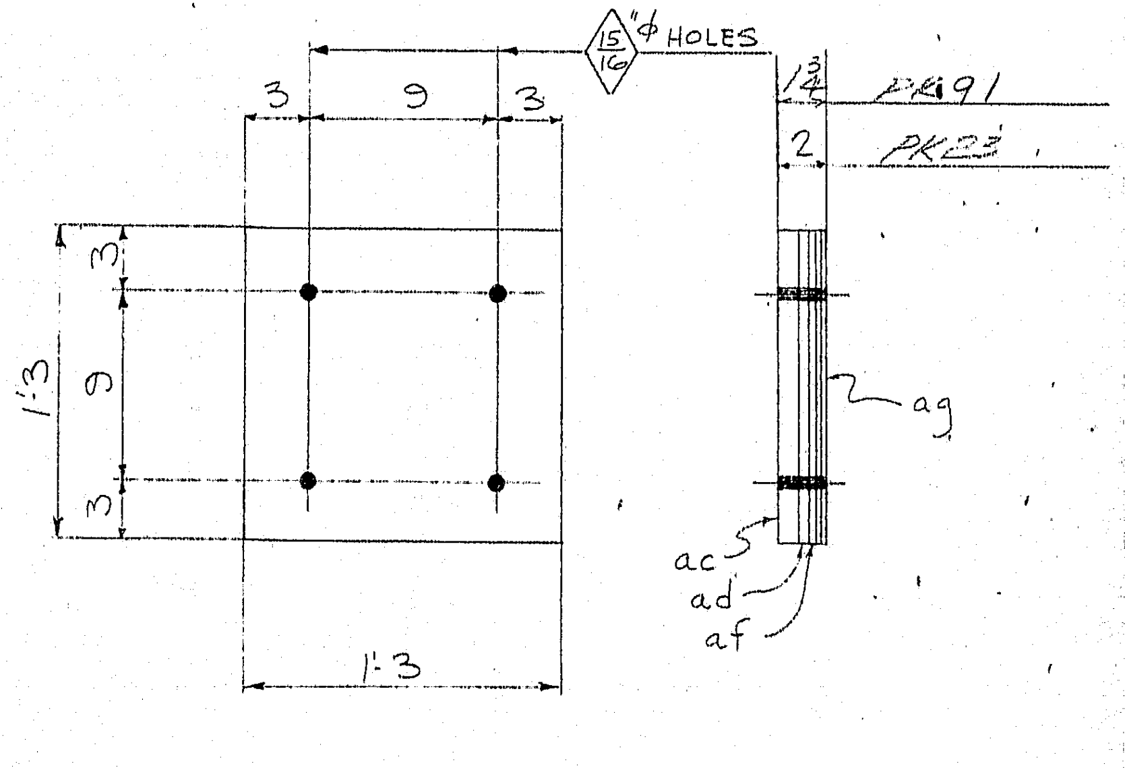


BEAM ~ PK14
BEAM ~ PK15

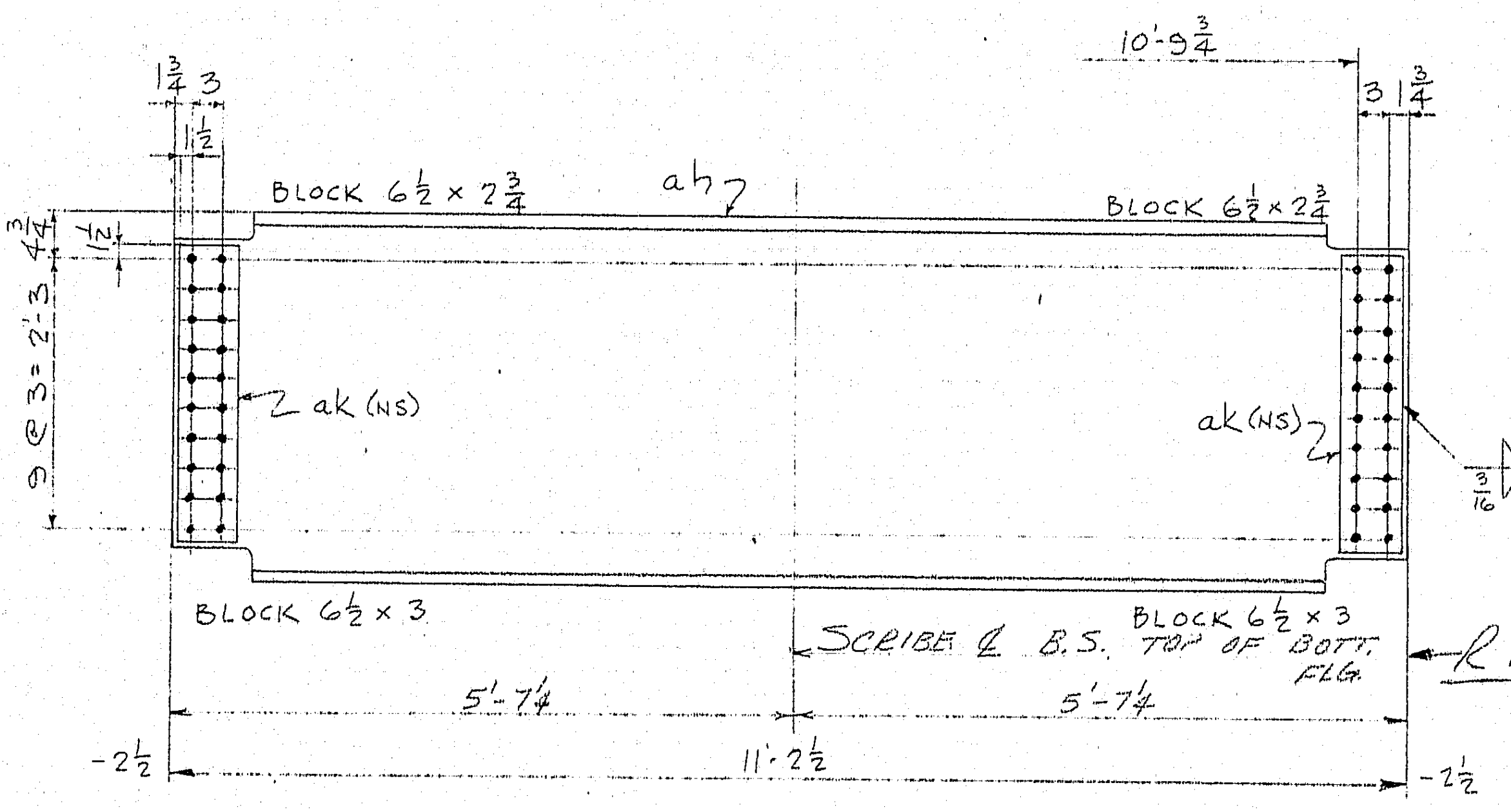




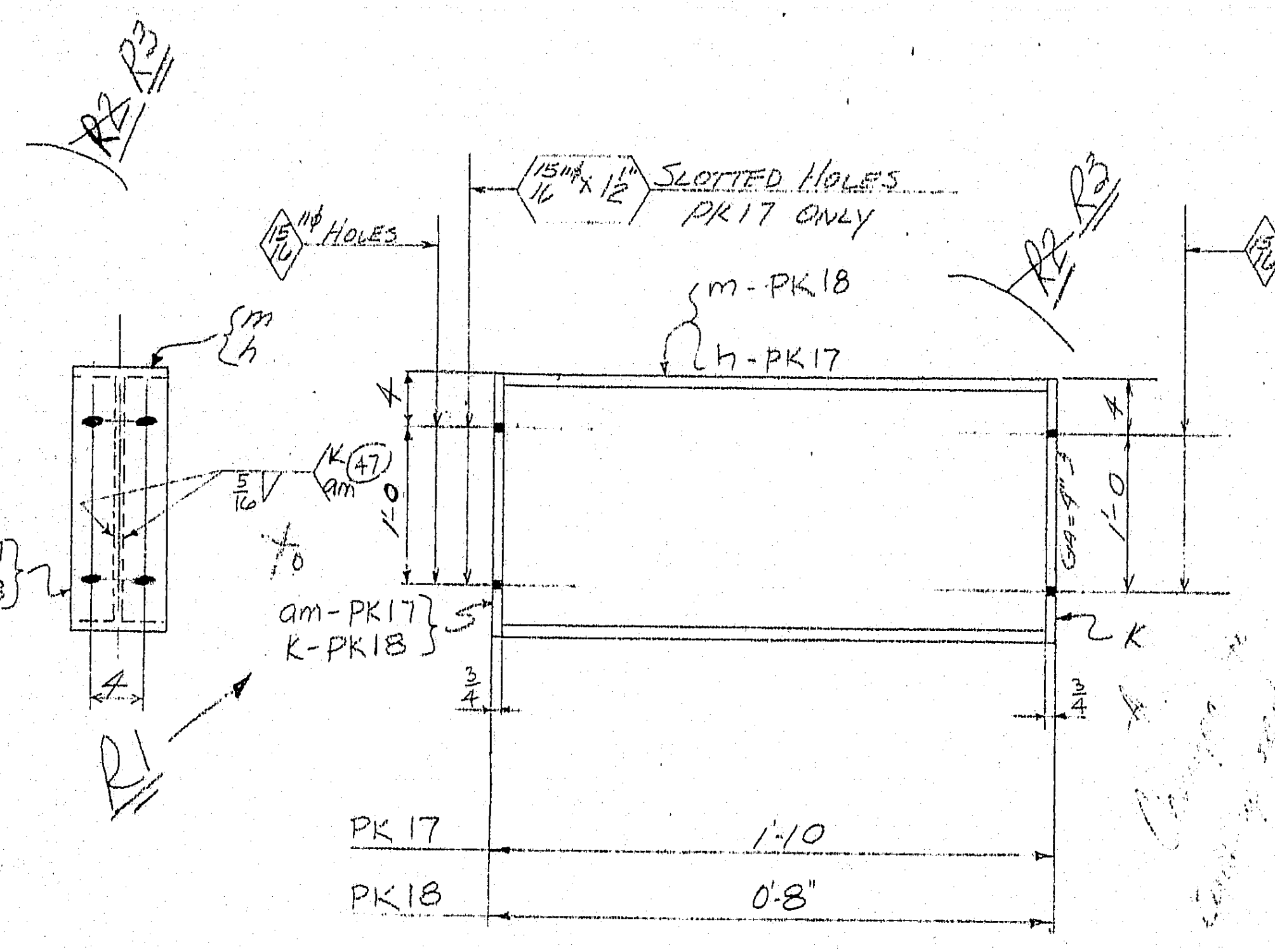
SHIM PACK ~ PK22
do ~ PK88
do ~ PK90

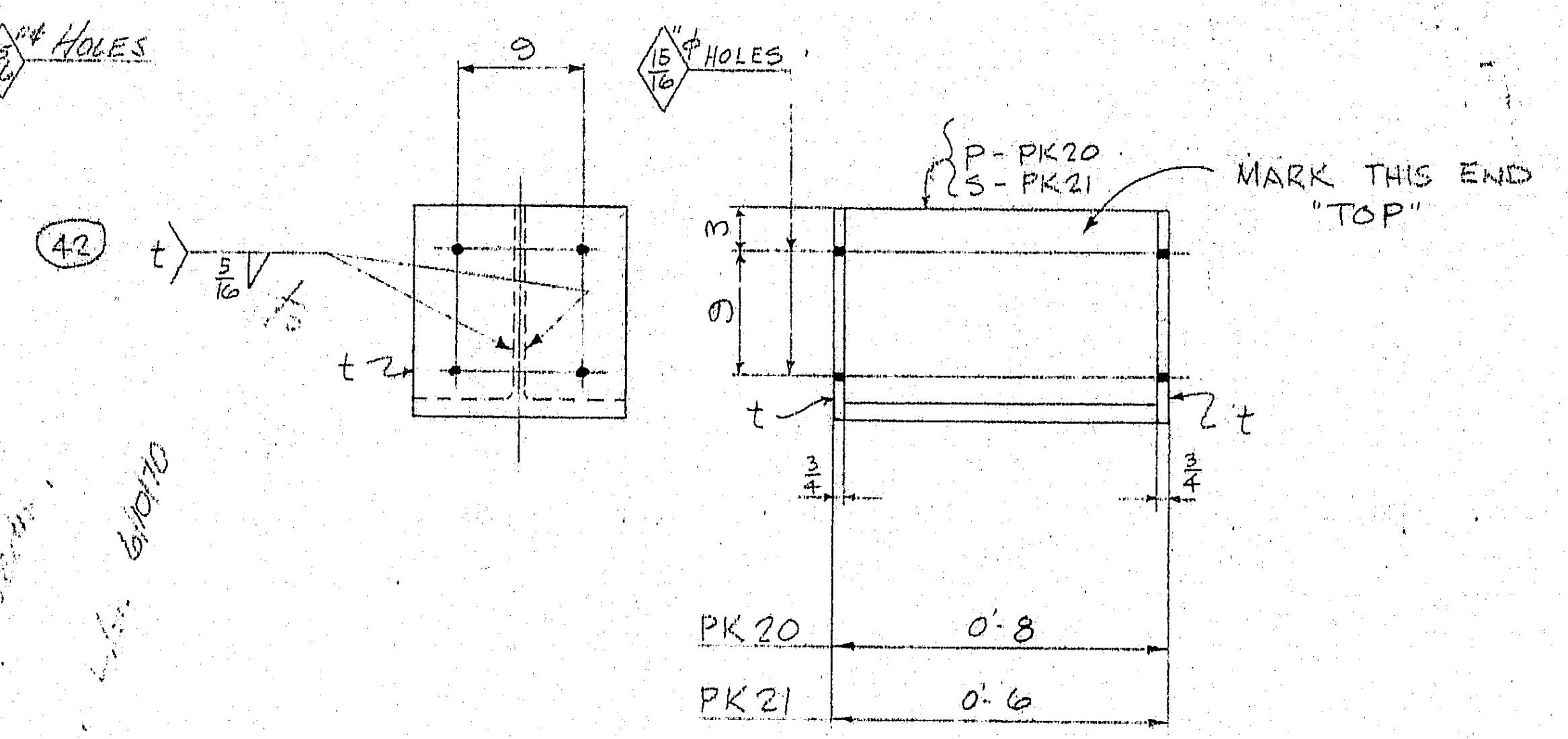


SHIM PACK ~ PK23
do ~ PK91



BEAM ~ PK13





BLOCKING BEAM ~ PK20
do. ~ PK21

BLOCKING BEAM ~ PK17
do. ~ PK18

APPROVED:-
HARDESTY & HANOVER
CONSULTING ENGINEERS
101 PARK AVE. NEW YORK 17, N.Y.
BY F.F.W. SEP 9 1970

APPROVED:
HARDESTY & HANOVER
CONSULTING ENGINEERS
NEW YORK, N.Y.
By - F.F.W. 9-9-70

REQUIRED LIST

NO. REQD	MARK	DESCRIPTION	REMARKS	WGT. EA. PC.	DISPOSITION
2	PK14	BEAM		7446#	To Stock
2	PK15	BEAM		7446#	do.
8	PK17	BLOCKING BEAM	R3 ~~R2~~	224#	SCRAP
20	PK18	↓		113#	↓
20	PK20	BLOCKING BEAM		148#	SCRAP
4	PK21	↓		138#	
4	PK22	SHIM PACK		185#	
24	PK23	↓		132#	↓
2	PK13	BEAM		3430#	To Stock
4	PK88	SHIM PACK		268#	SCRAP
4	PK91			115#	
4	PK90			73#	↓

APPROVED:-
HARDESTY & HANOVER
CONSULTING ENGINEERS
101 PARK AVE. NEW YORK 17, N.Y.
BY

"This drawing contains information which is proprietary to Bethlehem Steel Corporation, Bethlehem, Pa., and is not to be used in any manner that is detrimental to the interest of Bethlehem Steel Corporation."

DETAILS - MAIN SHOE JACKING FRAME

	a	b	c
p	/		
b	/		
c	/		
d	/		
e	/		
f	/		
g	/		
h	/		
k	/		
m			
n			
p			
s			
t			
w			
y			

For location of details shown on this sheet refer to diagrams.

ER17

SENT TO	DATE
D.O.	6/18
FLD.	
TH.	
E.D.	
Eng.	
EIO	
SHP	

SHOP BILL

LINE	WEIGHT TOTAL	WEIGHT EA.	ASSEMBLY MARK	NO.	SHAPE	SECTION SIZE	SECTION SIZE OR POUNDS	SECTION THICK	LENGTH FT.	LENGTH IN.	REMARKS	MILL ORDER LENGTH FT.	MILL ORDER LENGTH IN.	MILL ORDER ITEM PAGE	MILL ORDER ITEM LINE
1						BEAM ~ PK14, PK15									
2															
3		3900	a	4	B	36	300		13	0					
4		1625	b	2	PL	36¾		1	13	0	PK14				
5		1625	c	2	PL	36¾		1	13	0	PK15				
6		1625	d	4	PL	36¾		1	13	0					
7		37	f	32	BRZ	7⅞		½	2	9⅜					
8		R1 →		64	M	⅞					HHN A325 NUTS ONLY				
9			FW		WD			5/16	60	2					
10			B45P		WD			5/16	52	0					
11		R1 →		64	M	¾"φ					HHN A325 Nuts only				
12															
13						BLOCKING BM. ~ PK17, PK18					R2 R3				
14															
15		162	h	8	I	20	95		1	8½	PK17				
16		51	m	20	I	20	95		0	6½	PK18				
17		31	k	48	BRZ	7¼		¾	1	8					
18			FW	28	WD			5/16	7	10					
19	R1 →	31	am	8	BRZ	7¼		¾	1	8					
20															
21						BLOCKING BEAM ~ PK20, PK21									
22															
23		48	p	20	BT	15	95		0	6½	PK20				
24		38	s	4	BT	15	95		0	4½	PK21				
25		50	t	48	PL	15		¾	1	3					
26			FW	24	WD			5/16	7	0					
27															
28						SHIM PACK ~ PK22									
29		41	w	8	BRZ	7¼		1	1	8	WIRE FOR SHIPT				
30		21	y	8	BRZ	7¼		½	1	8					
31		10	aa	16	BRZ	7¼		¼	1	8					
32		5	ab	16	BRZ	7¼		⅛	1	8					
33															
34															
35															
36						SHIM PACK ~ PK23									
37		66	ac	24	PL	15		1	1	3	WIRE FOR SHIPT.				
38		33	ad	24	PL	15		½	1	3					
39		17	af	24	PL	15		¼	1	3					
40		8	ag	48	PL	15		⅛	1	3					
41															
42															
43						BEAM ~ PK13									
44		3360	ah	2	B	36	300		11	2½					
45		35	ak	4	BRZ	6		11/16	2	6					
46			FW	2	WD			3/16	1	4					
47						SHIM PACK ~ PK90									
48		42	w	4	BRZ	7¼		1	1	8	WIRE FOR SHIPT.				
49		21	y	4	BRZ	7¼		½	1	8					
50		5	ab	8	BRZ	7¼		⅛	1	8					
51						SHIM PACK ~ PK88									
52		41	w	12	BRZ	7¼		1	1	8	WIRE FOR SHIPT.				
53		21	y	16	BRZ	7¼		½	1	8					
54		10	aa	16	BRZ	7¼		¼	1	8					
55		5	ab	16	BRZ	7¼		⅛	1	8					
56															
57						SHIM PACK ~ PK91									
58		66	ac	4	PL	15		1	1	3	WIRE FOR SHIPT.				
59		35	ad	4	PL	15		½	1	3					
60		8	ag	8	PL	15		⅛	1	3					
61															
62															
63															
64															
65															

MATERIAL
OPEN. HOLES 1 1/16"φ U.N.
RIVETS
BOLTS 1"φ A325
WELDING A's NOTED
PAINT

NO.	DATE	INIT.
R3	6/18/70	[illegible]
R2	6/3/70	[illegible]
R1	5/14/70	[illegible]

REVISED

PISCATAQUA RIVER BRIDGE
PORTSMOUTH, N.H. & KITTERY, MAINE

BETHLEHEM STEEL CORPORATION
FABRICATED STEEL CONSTRUCTION DEPARTMENT
~~ERECTION DIVISION~~
ENGINEERING DIVISION
HOME OFFICE ERECTION
BETHLEHEM, PA.

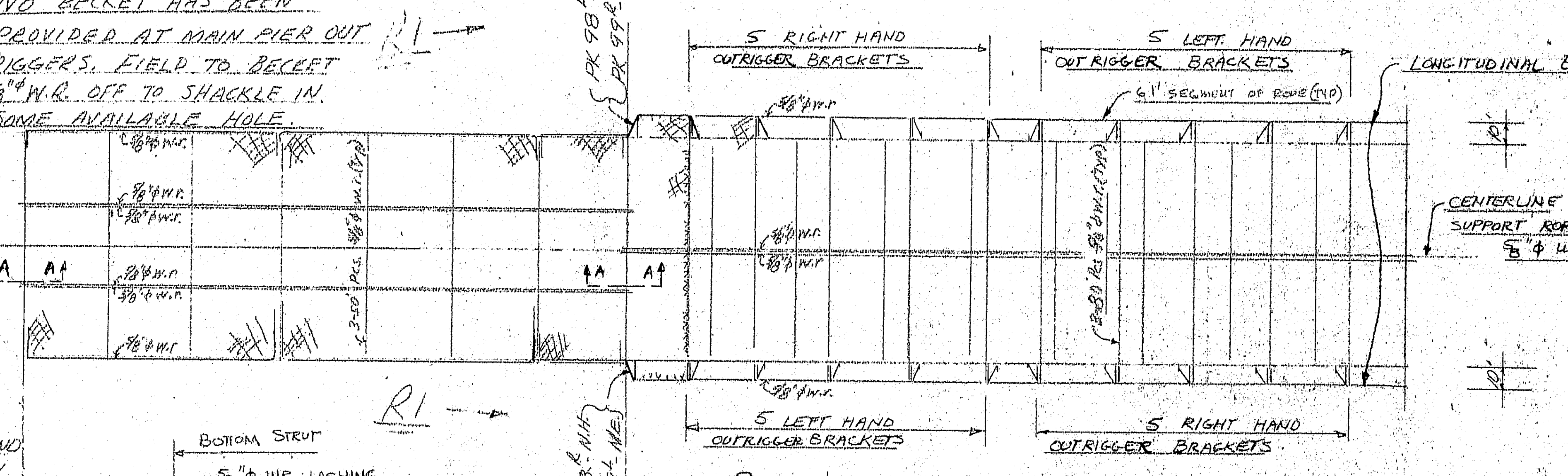
IN CHARGE OF: CREIDENBERG
☒ Erect. Engr. ☐ Proj. Engr.
APPROVED: ☐ Mgr. of Erect. ☐ District Mgr. ☐ Engr. of Erect. ☐ Asst. Dist. Mgr.
MADE BY: RHD
DATE:
CHECKED BY: D.D.P.
DATE: 4-24-70
SCALE: ¾" = 1'-0
FILE NO.:
ERECTION CONTRACT NO.: CW6290
DWG. NO.: ER23

134:55

38558 (Rev.A 3-67)

touraine paints TRUFLEX ☆ SILKY ☆ TRIPLE WHITE ☆ RYPLEX

R1 → NOTE:
NO BECKET HAS BEEN PROVIDED AT MAIN PIER OUTRIGGERS. FIELD TO BECKET 5/8"φ W.R. OFF TO SHACKLE IN SOME AVAILABLE HOLE. R1 →


PK 98 ± N.H.
PK 99 ± ME.
5 RIGHT HAND OUTRIGGER BRACKETS
5 LEFT HAND OUTRIGGER BRACKETS
6.1' SEGMENT OF ROPE (TYP)
LONG. ℄ OF BRIDGE
5/8"φ w.r.
A
A
3-50' PCS. 5/8"φ W.R. (TYP)
2-80' PCS. 5/8"φ W.R. (TYP)
5 LEFT HAND OUTRIGGER BRACKETS
5 RIGHT HAND OUTRIGGER BRACKETS

LONGITUDINAL EDGE SUPPORT ROPE - 5/8"φ W.R.

CENTERLINE SUPPORT ROPES 5/8"φ W.R.

10'

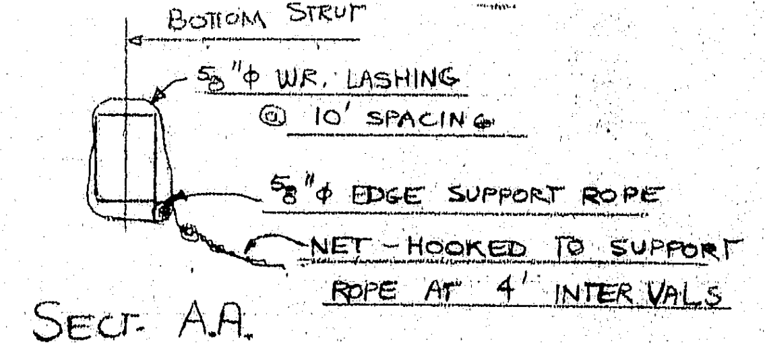
10'

PLAN VIEW - BOTTOM CHORD

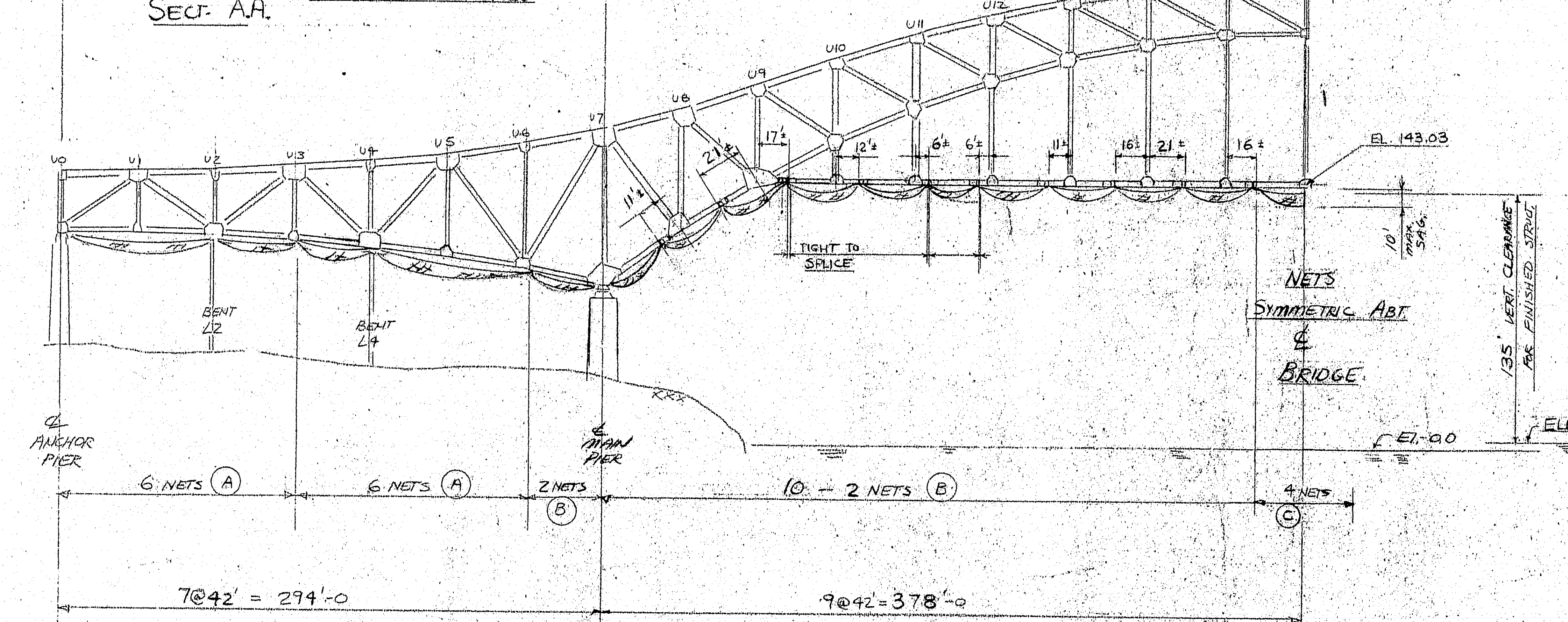
R1 →

NOTE:
FIELD TO SUCK NET AROUND JACKING FRAME & LASH CLOSE TO BOTTOM STRUT AT L7 & L7'. SEE SECT. A.A. SEE ER's 16 & 17 FOR LOCATION OF BRACKETS ON JACKING FRAME.

R1

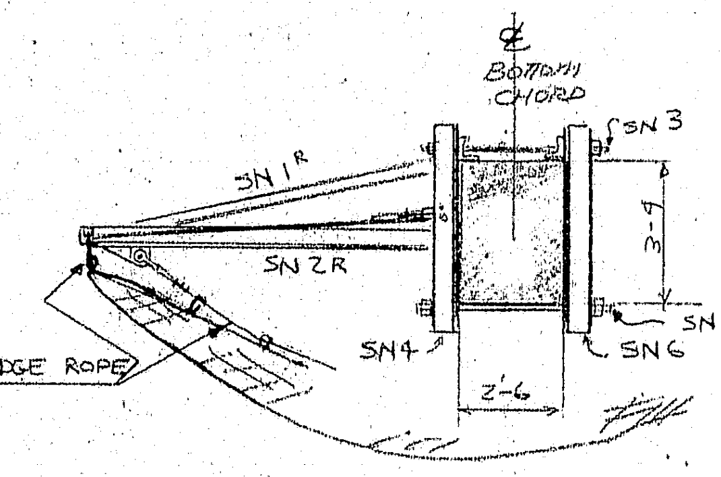

BOTTOM STRUT
5/8"φ W.R. LASHING @ 10' SPACING
5/8"φ EDGE SUPPORT ROPE
NET - HOOKED TO SUPPORT ROPE AT 4' INTERVALS

SECT. A.A.



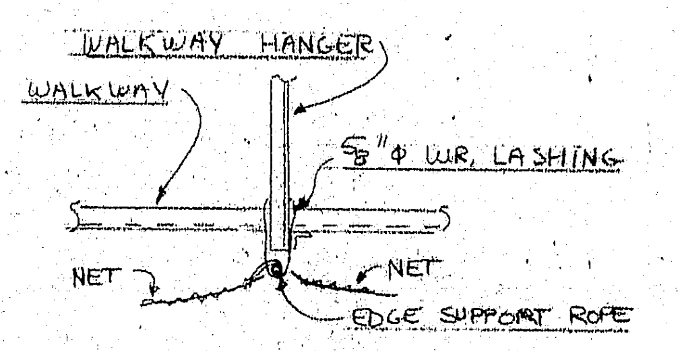
ELEVATION VIEW

R2

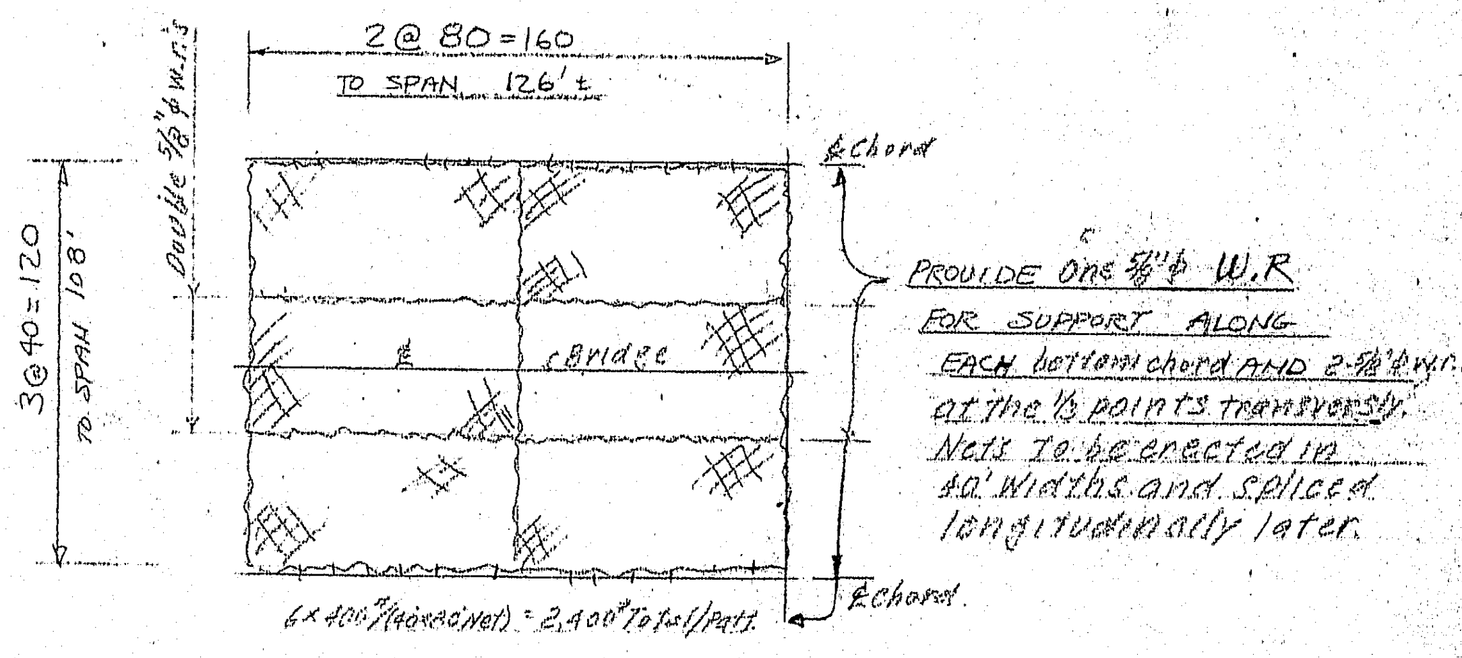


TYPICAL MAIN SPAN
OUTRIGGER NET BRACKET ¼"=1-0

R1 →

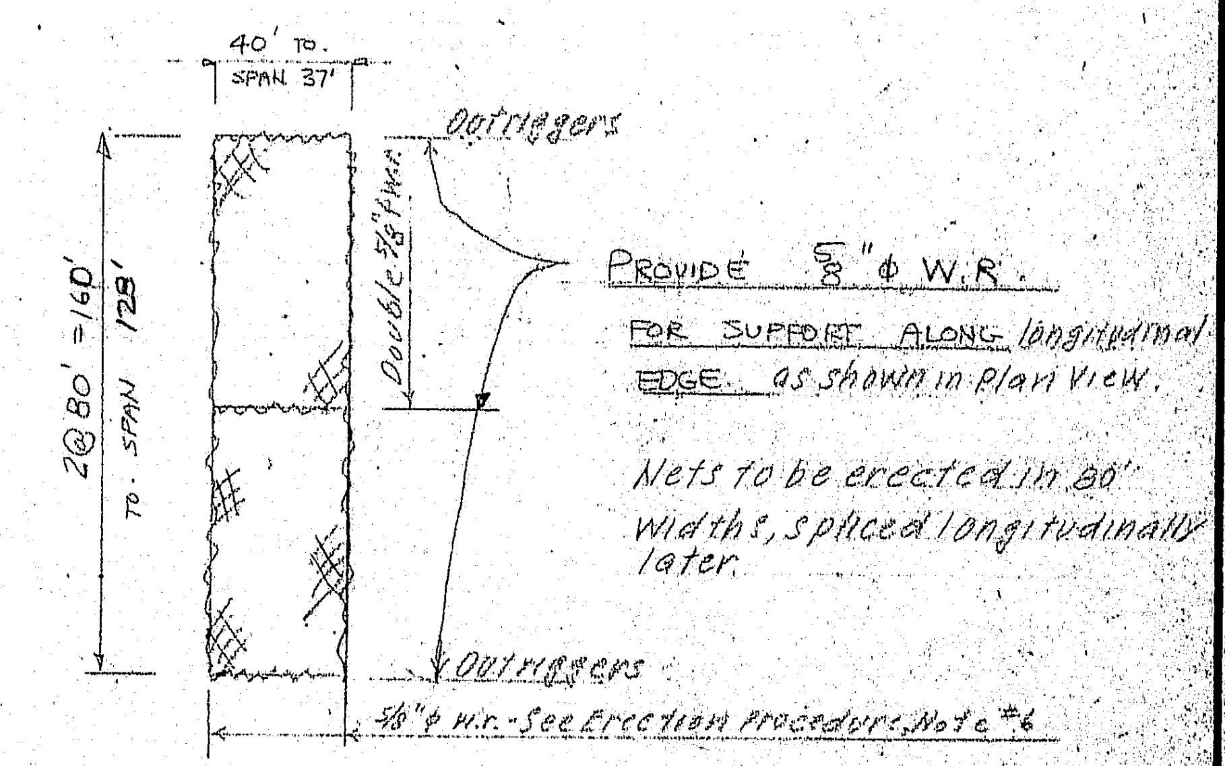


NET CENTER SUPPORT
(P.P. 7 - P.P. 16)



PROVIDE ONE 5/8"φ W.R. FOR SUPPORT ALONG EACH bottom chord AND 2-5/8"φ W.R.'s at the ⅓ points transversely. Nets to be erected in 40' widths and spliced longitudinally later.

PATTERN (A) - 6 NETS - SPLICED AS SHOWN



PROVIDE 5/8"φ W.R. FOR SUPPORT ALONG longitudinal EDGE as shown in Plan View.

Nets to be erected in 80' widths, spliced longitudinally later.

PATTERN (B) - 2 NETS - SPLICED AS SHOWN

ERECTION PROCEDURE

1. After erection has progressed (by Steps, ER3 & ER4) to include the bottom struts, P.P. 0 - P.P. 7, or the floorbeams, P.P. 10 - P.P. 16, the safety nets are to be installed as shown on this drawing. The nets are to be erected in 40' widths in the side spans and 80' widths in the main span.

2. A plain 6"φ Std. pipe x 70' long is to be used for lifting the nets. The nets are to be fastened to the pipe by one or more wraps. Slings and spreaders at the ¼ points will be used for lifting the pipe.

3. The nets are to be brought in front of the bottom strut or floorbeam, seized at the lower edge, brought under the strut or floorbeam and clipped to the longitudinal w.r.'s. Manila lines are to draw the nets shoreward as the boom lowers the nets vertically, the nets being clipped to the longitudinal w.r.'s as they travel.

4. The first net sections will have the leading transverse edge clipped to the P.P. 0 transverse w.r. or strut. The second and subsequent sections will be clipped together along the transverse edges as erected.

5. In the side spans, the transverse splices are at the panel points, so there will be working room for splicing nets.

6. In the main span, the transverse splices are at intermediate points between struts or floor beams. In order to make these splices at a strut, a sufficient number of nets must be assembled in tandem on the lifting pipe to allow for the net to travel a full panel and have some length left over for subsequent staying and splicing.

7. In addition, in the main span, the net splices, outriggers and transverse w.r. are between panel points. The transverse w.r. will have to be included in the splices as made in advance with a transverse w.r. clipped eye connected to the intermediate longitudinal w.r. and "loose" at the exterior longitudinal w.r. for connection to the outrigger when properly positioned.

8. The pairs of interior w.r.'s will become spread when the nets are installed. These gaps are to be closed with clips or shackles, working from the nets.

9. In the main span, additional sag can be taken out of the nets by supporting them as need be, from the walkway when installed. By Specification, the sag over the channel shall not exceed 10' below the bottom of the chords (ties). See Specifications for other.

10. By Specification, provide safety nets under the trusses during the construction period from the earliest time following erection of steel until the deck slab forms have been removed. The time and method of removal of nets is to be determined later.

NOTES:

I. - ALL NETS SHOWN ARE 40'x80', 5/16"φ x 6"□ POLYPROPYLENE MESH.

R1 → II. MAKE UP NET PATTERNS IN TOOL-HOUSE OR ON GROUND BEFORE ERECTING.

REFER: ER 36 BRACKET DESIGN
ER 37 BRACKET DETAIL

APPROVED:-
HARDESTY & HANOVER
CONSULTING ENGINEERS
101 PARK AVE. NEW YORK 17, N.Y.
BY SN JUL 29 1970

APPROVED: HARDESTY & HANOVER
CONSULTING ENGINEERS NEW YORK, N.Y.
BY - S.S.N. 7-29-70

"This drawing contains information which is proprietary to Bethlehem Steel Corporation, Bethlehem, Pa., and is not to be used in any manner that is detrimental to the interest of Bethlehem Steel Corporation."

GENERAL DRAWING - SAFETY NETS.

PISCATAQUA RIVER BRIDGE
PORTSMOUTH, N.H. - KITTERY, ME.

BETHLEHEM STEEL CORPORATION
FABRICATED STEEL CONSTRUCTION
ENGINEERING DIVISION BETHLEHEM, PA.
BETHLEHEM STEEL

No.	Date	By
Gen R/2	5/8/70	RCF
R1	4-27-70	RBD
REVISED		

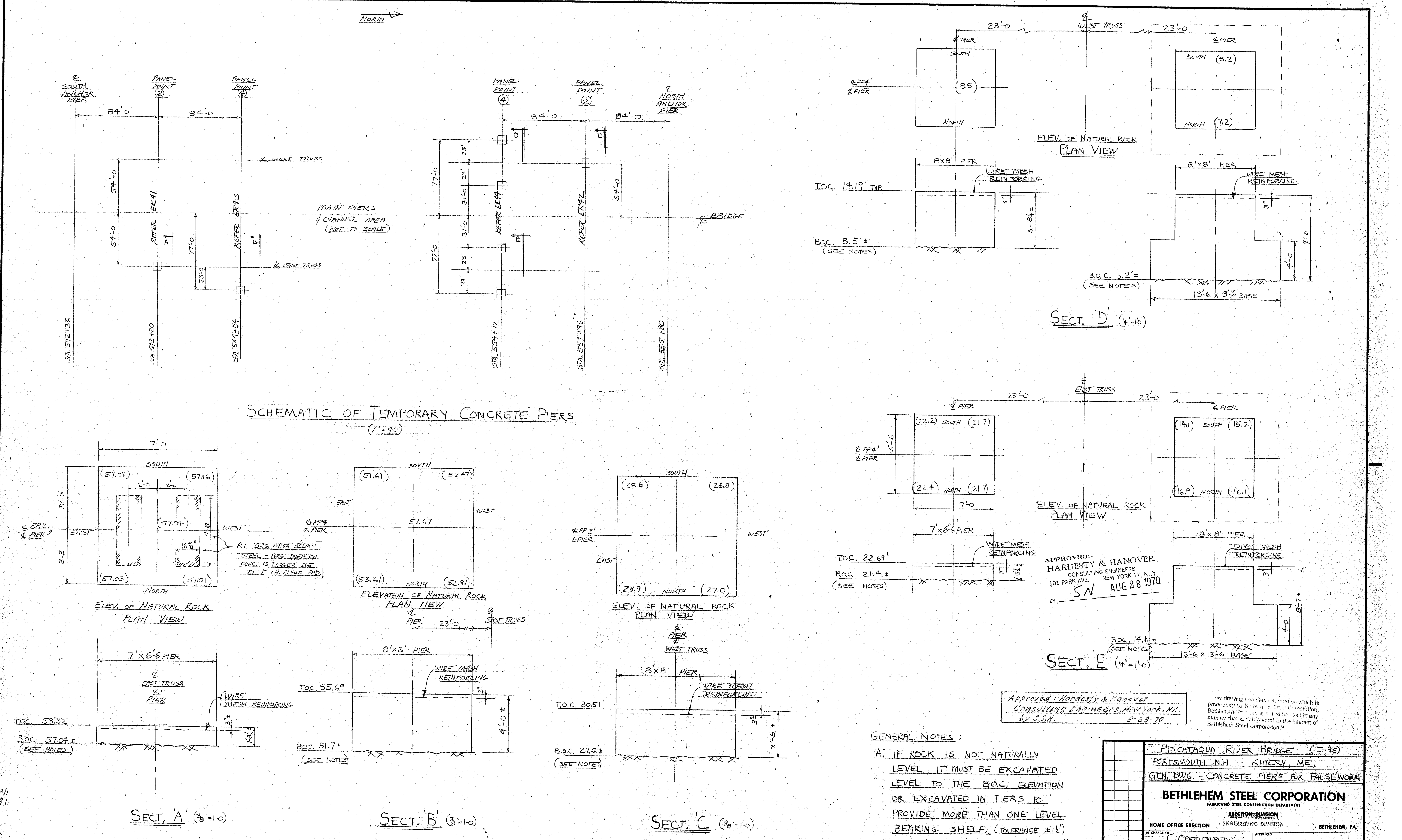
IN CHARGE OF C. CREIDENBERG / RCF
APPROVED BY
ENGINEERING BY J. BIRDSALL
DRAWN BY J.B.B.
REVIEWED BY RBD 4-16-70
SCALE 1"= 50' UN.
DATE ISSUED
CONTRACT CW 6290
DRAWING ER 35

134:56

38521 (Rev. A 1-69)

	a	b	c
a			
b			
c			
d			
e			
f			
g			
h			
k			
m			
p			
r			
s			
t			
w			
y			

E.A. 7/LL
E.I.
SH.
T.H.
D.O. 9/2
FLD.



APPROVED:-
HARDESTY & HANOVER
CONSULTING ENGINEERS
101 PARK AVE. NEW YORK 17, N.Y.
AUG 28 1970
BY SN

Approved: Hardesty & Hanover
Consulting Engineers, New York, N.Y.
by S.S.N. 8-28-70

"This drawing contains information which is proprietary to Bethlehem Steel Corporation, Bethlehem, Pa., and is not to be used in any manner that is detrimental to the interest of Bethlehem Steel Corporation."

GENERAL NOTES:

A. IF ROCK IS NOT NATURALLY LEVEL, IT MUST BE EXCAVATED LEVEL TO THE B.O.C. ELEVATION OR EXCAVATED IN TIERS TO PROVIDE MORE THAN ONE LEVEL BEARING SHELF. (TOLERANCE ±1½")

B. MINIMUM CONCRETE STRENGTH; f'c=3000 psi

C. ELEVATIONS IN PARENTHESES ARE TAKEN FROM FIELD SURVEY (AS PER LETTER 7/22/70).

	a	b	c
a			
b			
c			
d			
f			
g			
h			
k			
m			
n			
p			
s			
t			
w			
y			

SENT TO	DATE	
D.O.	8-27	9/1
FLD.	8/21	9/1
TH.		
E.D.		
Eac	8-27	
EIO		
SHP		

NO.	DATE	INIT.
R1	8/27/70	JBB

REVISED

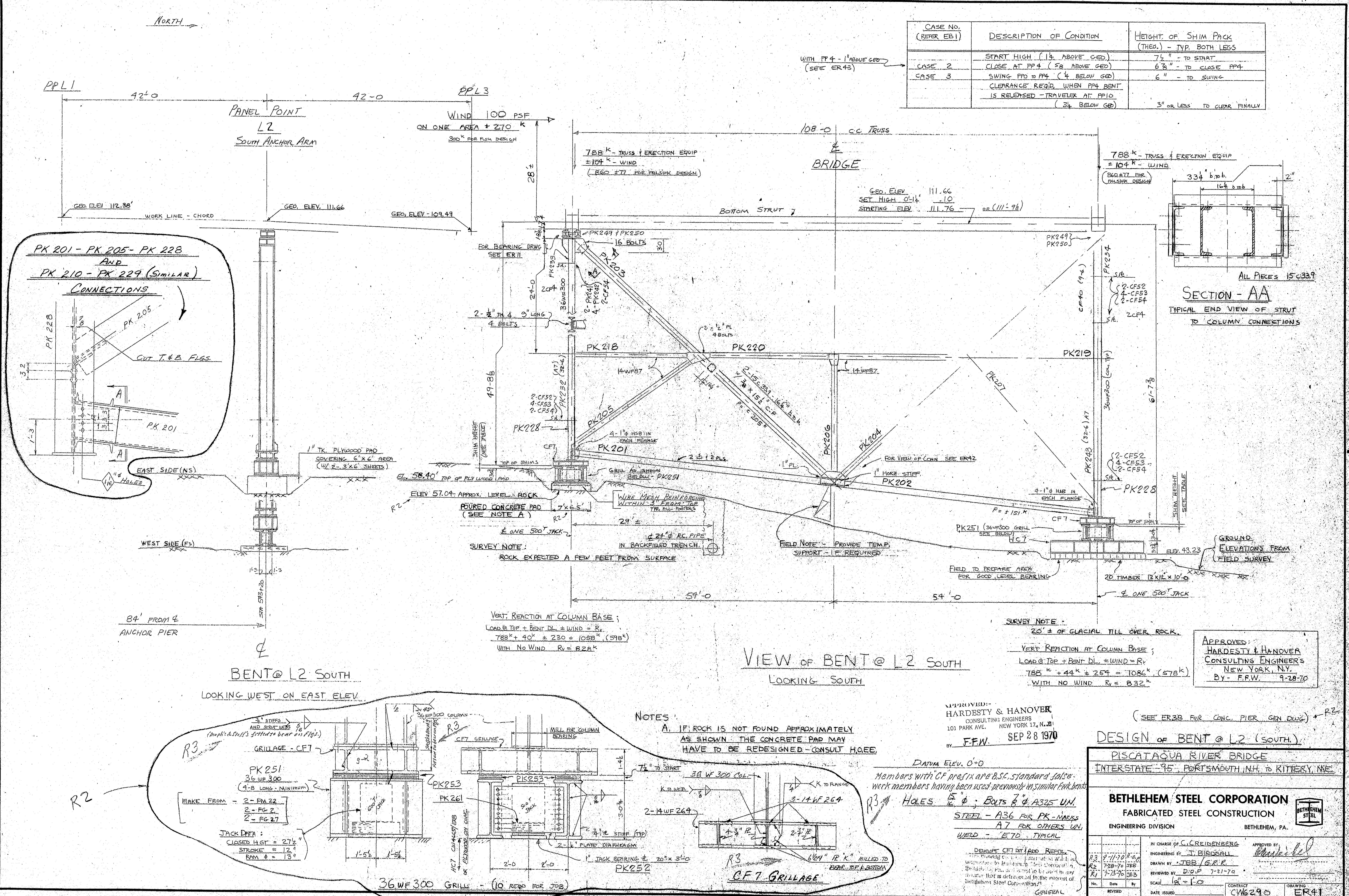
PISCATAQUA RIVER BRIDGE (I-95)
PORTSMOUTH, N.H - KITTERY, ME.
GEN. DWG. - CONCRETE PIERS FOR FALSEWORK

BETHLEHEM STEEL CORPORATION
FABRICATED STEEL CONSTRUCTION DEPARTMENT
~~ERECTION DIVISION~~
ENGINEERING DIVISION
HOME OFFICE ERECTION BETHLEHEM, PA.

IN CHARGE OF: C. CREIDENBERG
☒ Erect. Engr. ☐ Proj. Engr.
APPROVED: ☐ Mgr. of Erect. ☐ Engr. of Erect. ☐ District Mgr. ☐ Asst. Dist. Mgr.
MADE BY: J.B.B. DATE: 7-28-70
CHECKED BY: D.D.P. DATE: 7-30-70
SCALE: 1"=40'; ¼"=1'-0; ⅜"=1'-0
FILE NO.:
ERECTION CONTRACT NO.: CW 6290
DWG. NO.: ER 38

134:57

40318 (12-67)



WITH PP4 - 1" ABOVE GEO (SEE ER43)

CASE No. (REFER EB1)	DESCRIPTION OF CONDITION	HEIGHT OF SHIM PACK (THEO.) - TYP. BOTH LEGS
	START HIGH (1¼ ABOVE GEO)	7½" - TO START
CASE 2	CLOSE AT PP4 (⅝ ABOVE GEO)	6⅞" - TO CLOSE PP4
CASE 3	SWING PP0 TO PP4 (¼ BELOW GEO)	6" - TO SWING
	CLEARANCE REQ'D. WHEN PP4 BENT IS RELEASED - TRAVELER AT PP10 (3¼ BELOW GEO)	3" OR LESS TO CLEAR FINALLY

VERT. REACTION AT COLUMN BASE;
LOAD @ TOP + BENT DL. ± WIND = Rv
788k + 40k ± 230 = 1058k, (598k)
WITH NO WIND Rv = 828k

VERT. REACTION AT COLUMN BASE;
LOAD @ TOP + BENT DL. ± WIND = Rv
788k + 44k ± 254 = 1086k, (578k)
WITH NO WIND Rv = 832k

APPROVED:
HARDESTY & HANOVER
CONSULTING ENGINEERS
NEW YORK, N.Y.
BY - F.F.W. 9-28-70

NOTES:
A. IF ROCK IS NOT FOUND APPROXIMATELY AS SHOWN THE CONCRETE PAD MAY HAVE TO BE REDESIGNED - CONSULT H.O.E.E.

APPROVED:-
HARDESTY & HANOVER
CONSULTING ENGINEERS
101 PARK AVE. NEW YORK 17, N.Y.
BY F.F.W. SEP 28 1970

DATUM ELEV. 0'-0

Members with "CF" prefix are B.S.C. standard falsework members having been used previously in similar Fwk. bents.

HOLES 15/16"φ; BOLTS ⅞"φ A325 U.N.
STEEL - A36 FOR PK-MARKS
A7 FOR OTHERS U.N.
WELD - E70 TYPICAL

DEVELOPE CF7 DET. / ADD REFCE. — R3
GENERAL — R1

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(SEE ER38 FOR CONC. PIER GEN DWG) — R2

DESIGN OF BENT @ L2 (SOUTH)

PISCATAQUA RIVER BRIDGE
INTERSTATE - 95, PORTSMOUTH N.H. TO KITTERY, ME.

BETHLEHEM STEEL CORPORATION
FABRICATED STEEL CONSTRUCTION
ENGINEERING DIVISION
BETHLEHEM, PA.

No.	Date	By
R3	9-11-70	R.G.E.
R2	7-28-70	JBB
R1	7-13-70	JBB

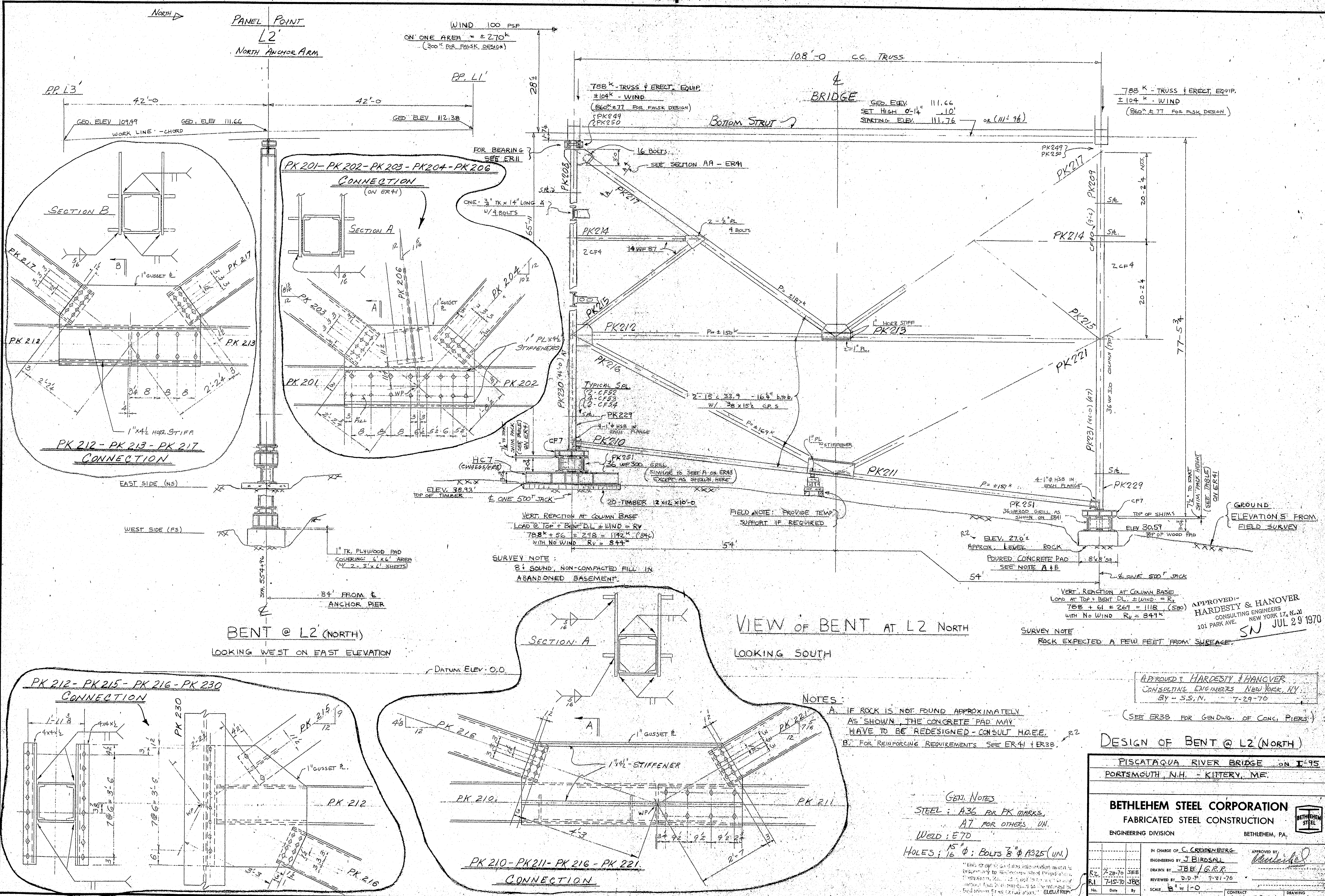
REVISED

IN CHARGE OF C. CREIDENBERG
ENGINEERING BY J. BIRDSALL
DRAWN BY JBB / G.R.R.
REVIEWED BY D.O.P. 7-21-70
SCALE ⅛" = 1'-0
DATE ISSUED
APPROVED BY
CONTRACT CW6290
DRAWING ER41

38521 (Rev.A 1-69)

E.A.	9/21
E.I.	
SH.	
T.H.	
D.O.	9/21
FLD.	

134:58



VIEW OF BENT AT L2 NORTH

LOOKING SOUTH

SURVEY NOTE

ROCK EXPECTED A FEW FEET FROM SURFACE.

APPROVED:-
HARDESTY & HANOVER
CONSULTING ENGINEERS
101 PARK AVE. NEW YORK 17, N.Y.
SN JUL 29 1970

APPROVED: HARDESTY & HANOVER
CONSULTING ENGINEERS NEW YORK, NY.
BY - S.S.N. 7-29-70

(SEE ER38 FOR GEN DWG. OF CONC. PIERS) R2

NOTES:

A. IF ROCK IS NOT FOUND APPROXIMATELY AS SHOWN, THE CONCRETE PAD MAY HAVE TO BE REDESIGNED - CONSULT H.O.E.E.

B. FOR REINFORCING REQUIREMENTS SEE ER41 & ER38. R2

GEN'L NOTES

STEEL: A36 FOR PK MARKS
A7 FOR OTHERS U.N.

WELD: E70

HOLES: $\frac{15}{16}$" φ: BOLTS ⅞" φ A325 (U.N.)

"This drawing contains information which is proprietary to Bethlehem Steel Corporation, Bethlehem, Pa., and is not to be used in any manner that is detrimental to the interest of Bethlehem Steel Corporation."

ELEV. & REP. GENERAL

DESIGN OF BENT @ L2' (NORTH)

PISCATAQUA RIVER BRIDGE ON I-95
PORTSMOUTH, N.H. - KITTERY, ME.

BETHLEHEM STEEL CORPORATION
FABRICATED STEEL CONSTRUCTION
ENGINEERING DIVISION
BETHLEHEM, PA.

No.	Date	By
R2	7-28-70	JBB
R1	7-15-70	JBB

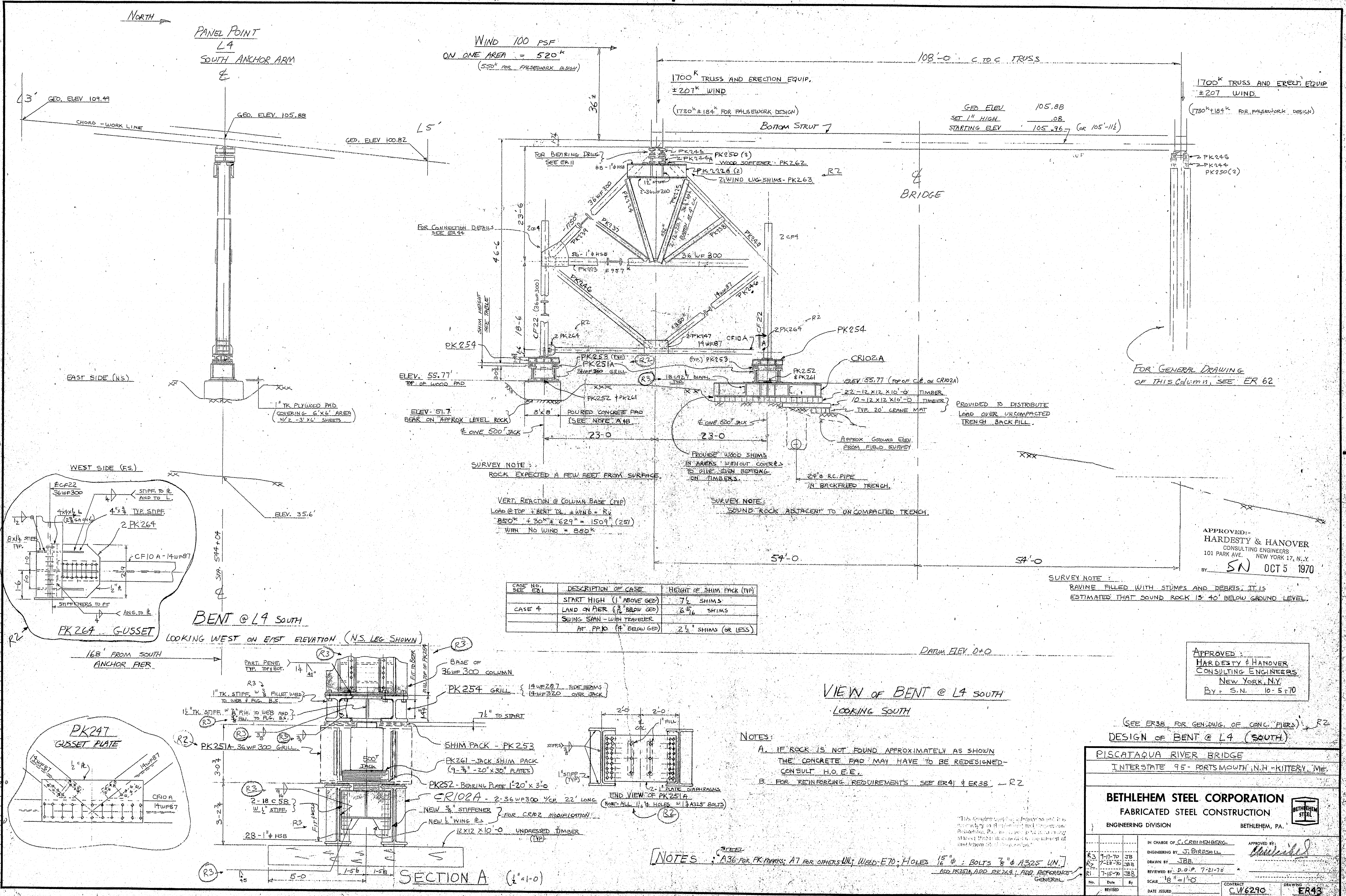
REVISED

IN CHARGE OF C. CREDENBERG
ENGINEERING BY J. BIRDSALL
DRAWN BY JBB / G.R.R.
REVIEWED BY D.D.P. 7-21-70
SCALE ⅛" = 1'-0
DATE ISSUED
APPROVED BY
CONTRACT CW 6290
DRAWING ER42

134.59

38521 (Rev. A 1-69)

	a	b	c
E.A.	7/22		
E.I.			
SH.			
T.H.			
D.O.	7/2		
FLD.			



SURVEY NOTE:
ROCK EXPECTED A FEW FEET FROM SURFACE.

VERT. REACTION @ COLUMN BASE (TYP)
LOAD @ TOP + BENT DL ± WIND = Rv
850K + 30K ± 629K = 1509K (251)
WITH NO WIND = 880K

SURVEY NOTE:
SOUND ROCK ADJACENT TO UNCOMPACTED TRENCH.

SURVEY NOTE:
RAVINE FILLED WITH STUMPS AND DEBRIS. IT IS ESTIMATED THAT SOUND ROCK IS 40' BELOW GROUND LEVEL.

CASE NO. SEE EB1	DESCRIPTION OF CASE	HEIGHT OF SHIM PACK (TYP)
	START HIGH (1" ABOVE GEO)	7½ SHIMS
CASE 4	LAND ON PIER (3/16" BELOW GEO)	6 5/16 SHIMS
	SWING SPAN - WITH TRAVELER	
	AT PP10 (4" BELOW GEO)	2½" SHIMS (OR LESS)

NOTES:

A. IF ROCK IS NOT FOUND APPROXIMATELY AS SHOWN THE CONCRETE PAD MAY HAVE TO BE REDESIGNED - CONSULT H.O.E.E.

B. FOR REINFORCING REQUIREMENTS SEE ER41 & ER38 — R2

[NOTES; STEEL A36 FOR PK MARKS; A7 FOR OTHERS UN.; WELD - E70; HOLES 15/16"φ; BOLTS ⅞"φ A325 UN.]

APPROVED:-
HARDESTY & HANOVER
CONSULTING ENGINEERS
101 PARK AVE. NEW YORK 17, N.Y.
BY SN OCT 5 1970

APPROVED:
HARDESTY & HANOVER
CONSULTING ENGINEERS
NEW YORK, N.Y.
BY: S.N. 10-5-70

(SEE ER38 FOR GEN. DWG. OF CONC. PIERS) R2

DESIGN OF BENT @ L4 (SOUTH)

PISCATAQUA RIVER BRIDGE
INTERSTATE 95 - PORTSMOUTH, N.H. - KITTERY, ME.

BETHLEHEM STEEL CORPORATION
FABRICATED STEEL CONSTRUCTION
ENGINEERING DIVISION
BETHLEHEM, PA.

BETHLEHEM STEEL

No.	Date	By	Revision
R3	9-17-70	JB	
R2	7-28-70	JBB	ADD PK251A, ADD PK264, ADD REFERENCE
R1	7-15-70	JBB	GENERAL

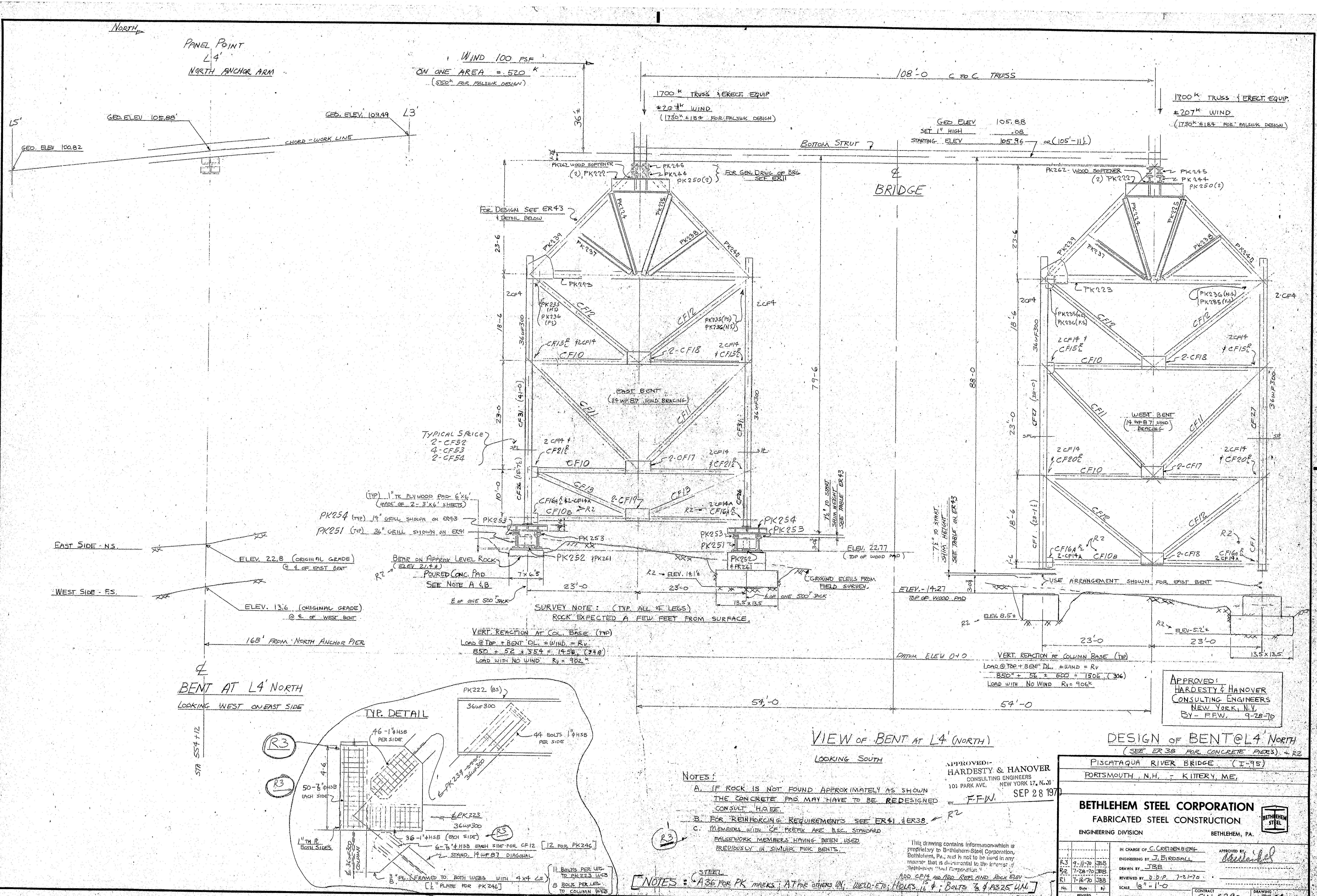
REVISED

IN CHARGE OF C. CREIDENBERG
ENGINEERING BY J. BIRDSALL
DRAWN BY JBB.
REVIEWED BY D.O.P. 7-21-70
SCALE ⅛" = 1'-0
DATE ISSUED
APPROVED BY
CONTRACT CW6290
DRAWING ER43

"This drawing contains information which is proprietary to Bethlehem Steel Corporation, Bethlehem, Pa., and is not to be used in any manner that is detrimental to the interest of Bethlehem Steel Corporation."

38521 (Rev. A 1-69)

134:60


NORTH
PANEL POINT L4' NORTH ANCHOR ARM
L5'
GEO. ELEV. 100.82
GEO. ELEV. 105.88'
GEO. ELEV. 109.49
L3'
CHORD - WORK LINE
WIND 100 PSF ON ONE AREA = 520 K
(550K FOR FALSWK DESIGN)
36'±
108'-0 C TO C TRUSS
1700K TRUSS & ERECT. EQUIP
±207K WIND
(1730K ±184 FOR FALSWK DESIGN)
BOTTOM STRUT
GEO ELEV 105.88
SET 1" HIGH .08
STARTING ELEV 105.96 OR (105'-11½)
℄ BRIDGE
PK262 WOOD SOFTENER
(2), PK222
PK245
PK244
PK250(2)
FOR GEN. DRWG OF BRG SEE ER11
FOR DESIGN SEE ER43 & DETAIL BELOW
PK224
PK225
PK239
PK237
PK238
PK240
PK223
PK235 (NS)
PK236 (FS)
CF12
CF10
CF11
CF13
2-CF18
2-CF17
2-CF19
2CF4
CF15
CF14
CF21
CF20
CF16A
CF10B
CF14A
CF26
CF31' (41'-0)
CF27
CF1
36WF300
EAST BENT (14WF87 WIND BRACING)
WEST BENT (14WF87 WIND BRACING)
TYPICAL SPLICE 2-CF52 4-CF53 2-CF54
SPL
23-6
18-6
23-0
10'-0
79-6
88-0
1'-6
(TYP) 1" TK PLYWOOD PAD 6'x6' (MADE OF 2-3'x6' SHEETS)
PK254 (TYP) 14" GRILL SHOWN ON ER43
PK251 (TYP) 36" GRILL SHOWN ON ER41
PK253
PK252 & PK261
BEAR ON APPROX LEVEL ROCK (ELEV 21.4±)
POURED CONC. PAD SEE NOTE A & B
7'x6.5'
℄ OF ONE 500T JACK
23'-0
13.5 x 13.5
R2 → ELEV. 14.1'±
GROUND ELEVS FROM FIELD SURVEY
7½' TO START SHIM HEIGHT SEE TABLE ER43
ELEV. 22.77 (TOP OF WOOD PAD)
ELEV. 14.27 TOP OF WOOD PAD
3'-0¾
USE ARRANGEMENT SHOWN FOR EAST BENT
R2 ELEV. 8.5±
R2 ELEV. 5.2'±
DATUM ELEV 0+0
54'-0
EAST SIDE - N.S.
ELEV. 22.8 (ORIGINAL GRADE) @ ℄ OF EAST BENT
WEST SIDE - F.S.
ELEV. 13.6 (ORIGINAL GRADE) @ ℄ OF WEST BENT
168' FROM NORTH ANCHOR PIER
STA 554+12
SURVEY NOTE: (TYP. ALL 4 LEGS) ROCK EXPECTED A FEW FEET FROM SURFACE.
VERT. REACTION AT COL. BASE (TYP)
LOAD @ TOP + BENT DL. ± WIND = RV
850 + 52 ± 554 = 1456, (348)
LOAD WITH NO WIND RV = 902K
VERT. REACTION AT COLUMN BASE (TYP)
LOAD @ TOP + BENT DL. ± WIND = RV
850K + 56 ± 600 = 1506, (306)
LOAD WITH NO WIND RV = 906K
TYP. DETAIL
PK222 (BS)
36WF300
44 BOLTS 1"φ HSB PER SIDE
46-1"φ HSB PER SIDE
R3
4-6
50-⅞"φ HSB EACH SIDE
℄ PK239 36WF300
℄ PK223 36WF300
36-1"φ HSB (EACH SIDE)
6-⅞"φ HSB EACH SIDE FOR CF12 [12 FOR PK246]
STAND. 14WF87 DIAGONAL
1" TH PL BOTH SIDES
℄ 36WF300 COLUMN
⅜" PL. (FRAMED TO BOTH WEBS WITH 4x4 ∠s) [½" PLATE FOR PK246]
11 BOLTS PER LEG TO PK223 WEB
8 BOLTS PER LEG TO COLUMN WEB

℄ BENT AT L4' NORTH

LOOKING WEST ON EAST SIDE

VIEW OF BENT AT L4' (NORTH)

LOOKING SOUTH

DESIGN OF BENT @ L4' NORTH

(SEE ER38 FOR CONCRETE PIERS). ← R2

APPROVED:
HARDESTY & HANOVER
CONSULTING ENGINEERS
NEW YORK, N.Y.
BY - F.F.W. 9-28-70

APPROVED:-
HARDESTY & HANOVER
CONSULTING ENGINEERS
101 PARK AVE. NEW YORK 17, N.Y.
BY F.F.W. SEP 28 1970

NOTES:

A. IF ROCK IS NOT FOUND APPROXIMATELY AS SHOWN THE CONCRETE PAD MAY HAVE TO BE REDESIGNED CONSULT H.O.E.E.

B. FOR REINFORCING REQUIREMENTS SEE ER41 & ER38. ← R2

C. MEMBERS WITH "CF" PREFIX ARE B.S.C. STANDARD FALSEWORK MEMBERS HAVING BEEN USED PREVIOUSLY IN SIMILAR FWK BENTS. ← R3

NOTES: STEEL A36 FOR PK MARKS; A7 FOR OTHERS U.N.; WELD-E70; HOLES $\frac{15}{16}$φ; BOLTS ⅞φ A325 U.N. — GENERAL

This drawing contains information which is proprietary to Bethlehem Steel Corporation, Bethlehem, Pa., and is not to be used in any manner that is detrimental to the interest of Bethlehem Steel Corporation.

PISCATAQUA RIVER BRIDGE (I-95)
PORTSMOUTH, N.H. - KITTERY, ME.

BETHLEHEM STEEL CORPORATION
FABRICATED STEEL CONSTRUCTION
ENGINEERING DIVISION BETHLEHEM, PA.

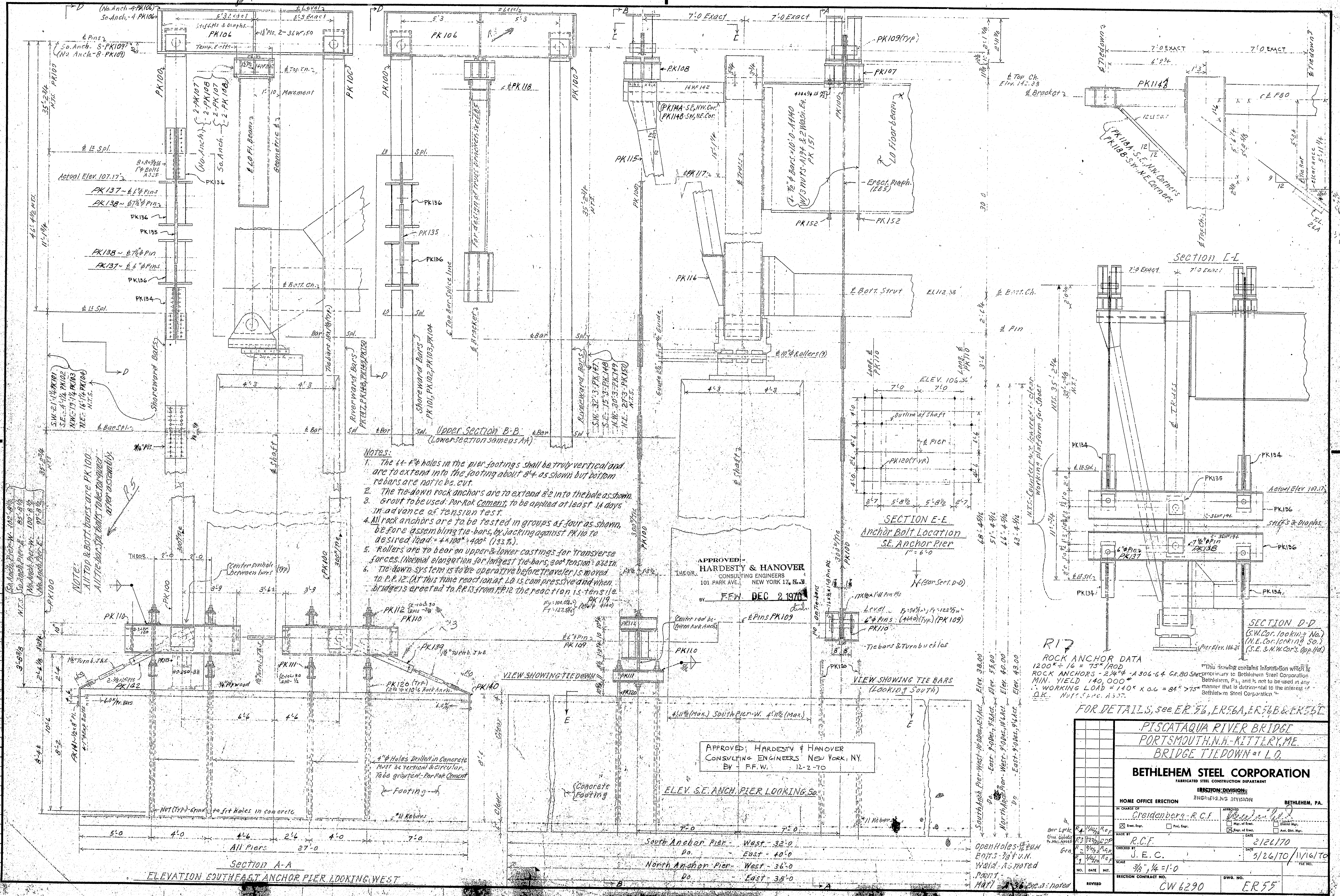
BETHLEHEM STEEL

No.	Date	By	
R3	9-11-70	JBB	
R2	7-28-70	JBB	
R1	7-16-70	JBB	ADD CF14 AND ADD REF. AND ROCK ELEV
REVISED			

IN CHARGE OF C. CREIDENBERG
ENGINEERING BY J. BIRDSALL
DRAWN BY JBB
REVIEWED BY D.D.P. 7-21-70
SCALE ⅛" = 1'-0
DATE ISSUED
APPROVED BY
CONTRACT CW 6290
DRAWING ER44

134:61

	a	b	c
E.A.	11/21		
E.I.			
SH.			
T.H.			
D.O.	11/21		
FLD.			



Notes:

1. The 64-4"φ holes in the pier footings shall be truly vertical and are to extend into the footing about 8'-4 as shown but bottom rebars are not to be cut.
2. The tie-down rock anchors are to extend 8'-2 into the hole as shown.
3. Grout to be used: Por-Rok Cement, to be applied at least 14 days in advance of tension test.
4. All rock anchors are to be tested in groups of four as shown, before assembling tie-bars, by jacking against PK110 to desired load = 4×100k = 400k (133%).
5. Rollers are to bear on upper & lower castings for transverse forces. (Normal elongation for longest tie-bars, 300k tension = 0.62 in.
6. Tie-down system is to be operative before traveler is moved to P.P. 12. (At this time reaction at L0 is compressive and when bridge is erected to P.P. 13 from P.P. 12 the reaction is tensile.

APPROVED:-
HARDESTY & HANOVER
CONSULTING ENGINEERS
101 PARK AVE. NEW YORK 17, N.Y.
BY F.F.W. DEC 2 1970

APPROVED; HARDESTY & HANOVER
CONSULTING ENGINEERS NEW YORK, NY.
BY - F.F.W. 12-2-70

R17

ROCK ANCHOR DATA
1200k ÷ 16 = 75k/ROD
ROCK ANCHORS - 2¼"φ - A 306-64 GR. 80 SPEC.
MIN. YIELD 140,000#
∴ WORKING LOAD = 140k × 0.6 = 84k > 75k
O.K. Nuts Spec. A 307.

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FOR DETAILS, see ER 56, ER56A, ER56B & ER56C

Open Holes - 15/16" UN
Bolts - 7/8" φ U.N.
Weld - As noted
Paint -
Mat'l - A36 exc. as noted

PISCATAQUA RIVER BRIDGE
PORTSMOUTH, N.H. - KITTERY, ME.
BRIDGE TIEDOWN at L0

BETHLEHEM STEEL CORPORATION
FABRICATED STEEL CONSTRUCTION DEPARTMENT
ERECTION DIVISION
ENGINEERING DIVISION
HOME OFFICE ERECTION
BETHLEHEM, PA.

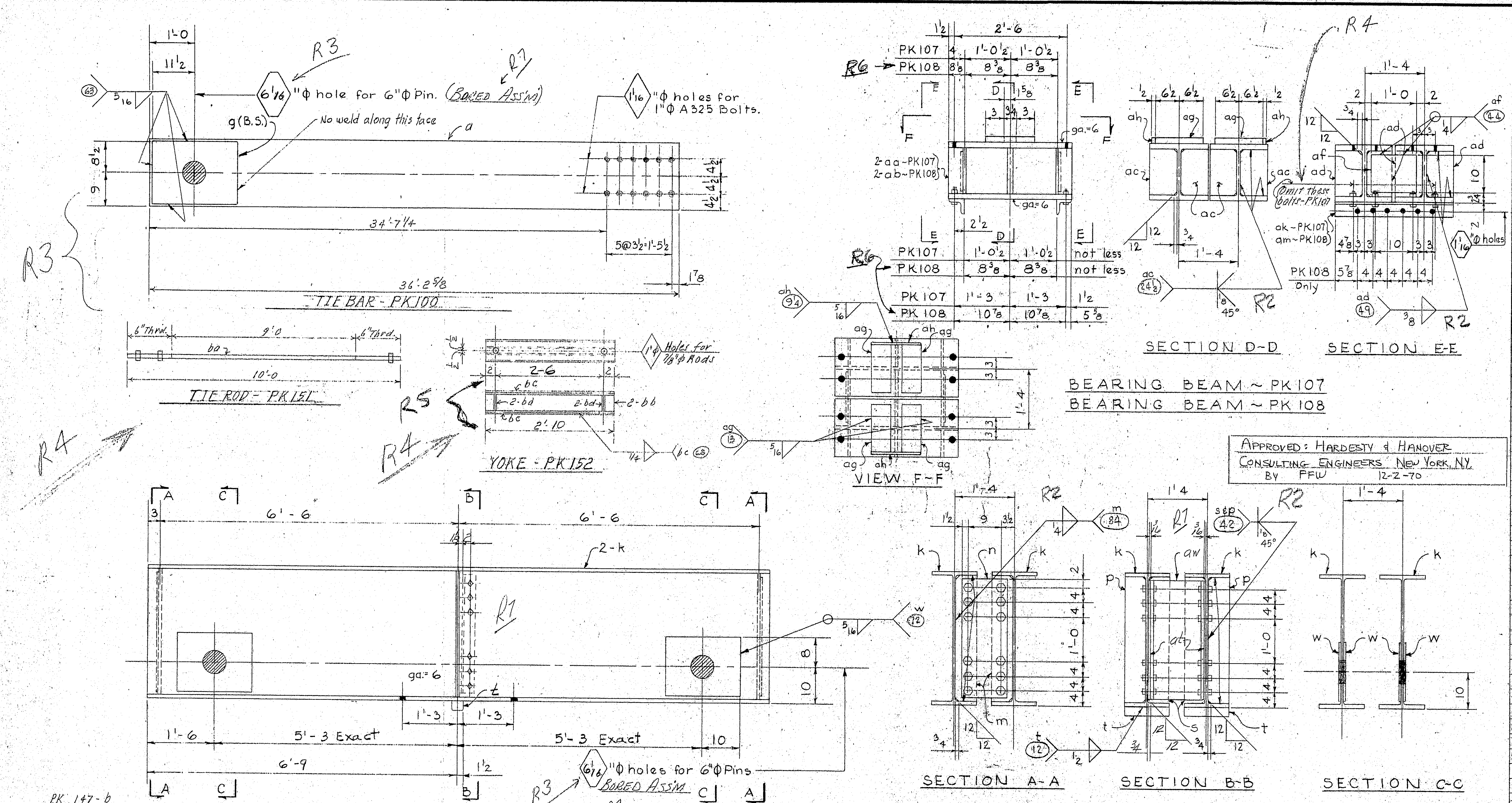
	NO.	DATE	INIT.
Bar Lgths.	R4	11/16/70	R.C.F.
Dim. change Pa. Mks. Added	R3	9/8/70	R.C.F.
Gen.	R2	9/4/70	R.C.F.
	R1	5/28/70	R.C.F.
	REVISED		

IN CHARGE OF: Creidenberg - R.C.F.
☒ Erect. Engr. ☐ Proj. Engr.
APPROVED: ☐ Mgr. of Erect. ☒ Engr. of Erect. ☐ District Mgr. ☐ Asst. Dist. Mgr.
MADE BY: R.C.F. DATE: 2/26/70
CHECKED BY: J.E.C. DATE: 5/26/70 / 11/16/70
SCALE: 3/8", 1/4 = 1'-0
FILE NO.:
ERECTION CONTRACT NO.: CW 6290
DWG. NO.: ER55

134:62

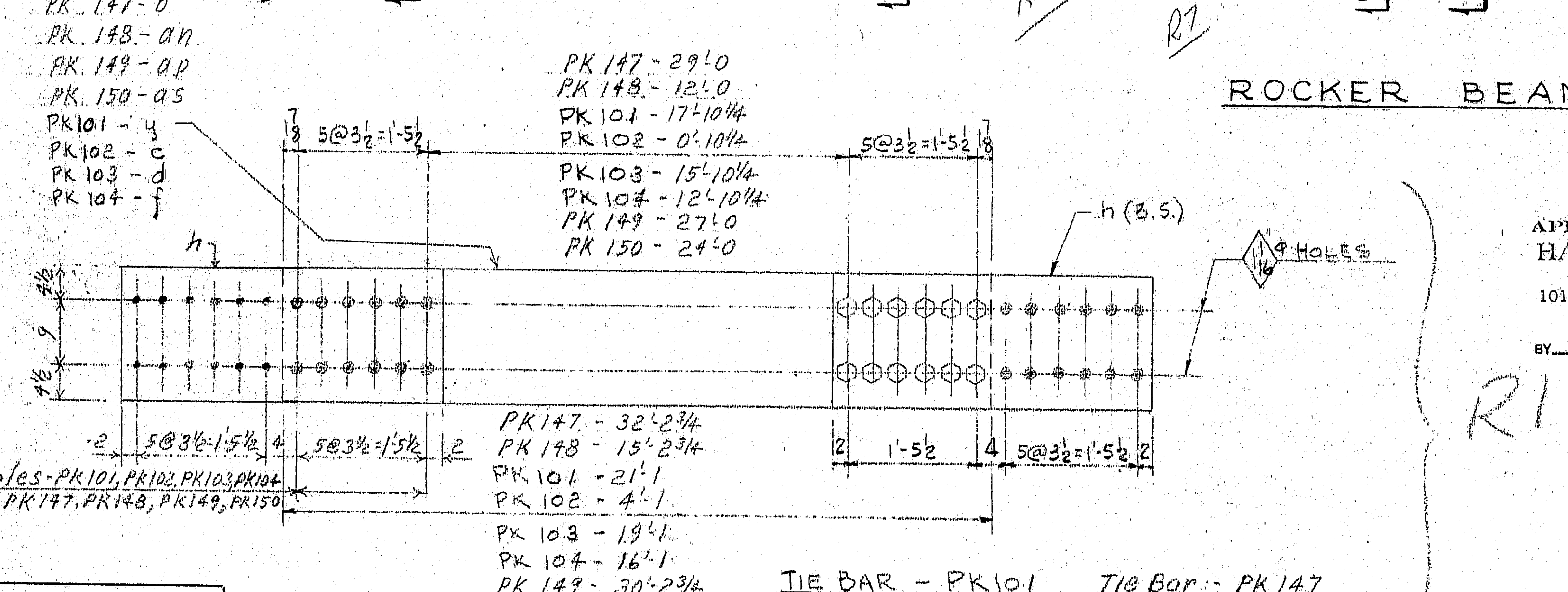
40318 (12-67)

	a	b	c
SENT TO			
D.O.	9/12		
FLD.			
TH.			
EL.			
Enc	9/16		
EIO	12/2		
SHP			



APPROVED: HARDESTY & HANOVER
CONSULTING ENGINEERS NEW YORK, N.Y.
BY PFW 12-2-70

ROCKER BEAM ~ PK106



TIE BAR - PK101
" " - PK102
" " - PK103
" " - PK104

Tie Bar - PK147
" " - PK148
" " - PK149
" " - PK150

APPROVED:-
HARDESTY & HANOVER
CONSULTING ENGINEERS
101, PARK AVE. NEW YORK 17, N.Y.
BY F.F.W. DEC 15 1970

R1
B/M REVISED

2	PK150	TIE BAR		2360	↑
2	PK149	TIE BAR		2565	
2	PK148	TIE BAR		1530	Stock

R3

REQUIRED LIST

No Reqd	Mark	Description	Remarks	Wt. ea. pc.	Disposition
2	PK101	Tie Bar		1690 lb	To Stock
2	PK102	Tie Bar		518	
2	PK103	Tie Bar		1555	
2	PK104	Tie Bar		1350	
2	PK147	Tie Bar		2700	
8	PK106	Rocker Beam	R7→	5330	
4	PK107	Bearing Beam		1600	
4	PK108	Bearing Beam		1600	To Stock
32	PK100	Tie Bar		2612	" "
16	PK151	TIE RODS			
8	PK152	YOKES			

R3, R3, R5

*Fy = 102 k/in², Ft = 128.5 k/in²

For location of details shown on this sheet refer to diagrams.
ER 55

	a	b	c
a	✓		
b	✓		
c	✓		
d	✓		
f	✓		
g	✓		
h	✓		
k	✓		
m	✓		
n	✓		
p	✓		
s	✓		
t	✓		
w	✓		
y			

Sent to	Date
D.O.	12/3 ~~11/24~~
FLD.	12-3
TH.	
E.D.	
Eac	12-3
EIO	~~12/8~~
SHP	

SHOP BILL

Line	Weight Total	Weight Ea.	Assembly Mark	No.	Shape	Section Size	Section Size or Pounds	Thick	Length Ft.	Length In.	Remarks
1			32-Tie Bar-PK100								
2		2500	a	32	PL	18		1 1/8	36	2 5/8	R3
3		56	g	64	PL	17		1/2	1	11	
4			FW	16	WD			5/16	10	6	
5											
6											
7											
8											
9			2-Tie Bar - PK101								
10		1450	y	2	PL	18		1 1/8	21	1	R3
11		120	h	4	PL	18		9/16	3	7	
12											
13				24	325	1			0	3 3/4	R4 Hd Tight
14				24	HW	2	1 1/16	3/16			
15											
16											
17			2-Tie Bar ~ PK102								
18		278	c	2	PL	18		1 1/8	4	1	R3
19		120	h	4	PL	18		9/16	3	7	
20				24	325	1			0	3 3/4	Hand Tight - R4
21				24	HW	2	1 1/16	3/16			
22											
23											
24											
25			2-Tie Bar ~ PK103								
26		1315	d	2	PL	18		1 1/8	19	1	R3
27		120	h	4	PL	18		9/16	3	7	
28				24	325	1			0	3 3/4	R3 Hd Tight - R4
29				24	HW	2	1 1/16	3/16			
30											
31			2-Tie Bar ~ PK104								
32		1110	f	2	PL	18		1 1/8	16	1	R3
33		120	h	4	PL	18		9/16	3	7	
34				24	325	1			0	3 3/4	Hd Tight - R4
35				24	HW	2	1 1/16	3/16			
36			16-TIE RODS-PK151								R4
37			ba	16	RD	7/8 ϕ			10	0	*A4140 Quench & Temp., BHN 255 to 302
38				48	M						HHN-A194 Grade 2 (ASTM)
39			8 YOKES-PK152								
40			bb	46	C	4	7.25		2	10	R5
41			bc	46	PL	4		1/4	2	10	
●			bd	32	PL	1 3/8		1/4	0	3 3/8	
			FW	8	WD			1/4	5	8	R6
42			8-Rocker Beam ~ PK106								
43	33800	2100	k	16	B	36	150		13	6	
44	864	27	m	32	BRZ	5 5/8		1/2	2	9 15/16	
45	864	54	n	16	PL	12		1/2	2	8	← R7
46	1300	81	p	16	BRZ	5 5/8		1 1/2	2	9 15/16	
47	1300	81	s	16	BRZ	5 5/8		1 1/2	2	9 15/16	
48	416	26	t	16	BRZ	3		2 1/2	1	0	
49	2880	45	w	64	PL	16		1/2	1	8	
50	182			192	325	7/8			0	2 1/2	
51	106			96	325	7/8			0	2 3/4	
52				288	HW	1 3/4	15/16	3/16			
53			FW	8	WD			5/16	48	0	
54			FW	8	WD			1/4	28	0	
55			FW	8	WD			1/2	4	0	
56			B45D	8	WD ← R2 →			1 1/2	14	0	
57	96	6	at	16	BRZ	3 1/2		3/16	2	8	R7
58	856	107	aw	8	C	15	40		2	8	
59	42 det										
60			4-Bearing Beam ~ PK107								
61	4530	556	aa	8	B	14	202		2	9	
62	640	40	ac	16	BRZ	7 3/8		1 1/2	1	0 5/8	
63	640	20	ad	32	BRZ	7 3/8		3/4	1	0 5/8	
64	136	17	af	8	PL	10		1/2	1	0	
65	272	17	ag	16	BRZ	3		1 1/2	1	1	
66	16	2	ah	8	BRZ	1 1/2		1/2	0	9 1/4	
67	136	17	ak	8	L	4	4	1/4	2	7 5/8	
68	36			16	325	7/8			0	3 1/4	R5
69				16	HW	1 3/4	15/16	3/16			
70			FW	4	WD			5/16	1	6 1/2	
71			FW	4	WD			5/16	4	4	
72			FW	4	WD			1/4	7	4	
73			FW	4	WD			3/8	32	8	
74			B45D	4	WD ← R2 →			1 1/2	8	2	
75	6406	total									
76											
77											
78			4-Bearing Beam ~ PK108								
79	4530	556	ab	8	B	14	202		2	9	
80	640	40	ac	16	BRZ	7 3/8		1 1/2	1	0 5/8	
81	640	20	ad	32	BRZ	7 3/8		3/4	1	0 5/8	
82	136	17	af	8	PL	10		1/2	1	0	
83	272	17	ag	16	BRZ	3		1 1/2	1	1	
84	16	2	ah	8	BRZ	1 1/2		1/2	0	9 1/4	
85	136	17	am	8	L	4	4	1/4	2	7 5/8	
86	36			32	325	7/8			0	3 1/4	
87				32	HW	1 3/4	15/16	3/16			
88			FW	4	WD			5/16	1	6 1/2	
89			FW	4	WD			5/16	4	4	
90			FW	4	WD			1/4	7	4	
91			FW	4	WD			3/8	32	8	
92			T45D	4	WD			3/4	8	2	
93	6406	total									
94			2-TIE BARS - PK147								R3
95		2220	b	2	PL	18		1 1/8	32	2 3/4	
96		120	h	8	PL	18		9/16	3	7	
97				48	325	1			0	3 3/4	Hd Tight - R4
98				48	HW	2	1 1/16	3/16			
99			2-TIE BARS - PK148								
100		1050	an	2	PL	18		1 1/8	15	2 3/4	
101		120	h	8	PL	18		9/16	3	7	
102				48	325	1			0	3 3/4	Hand Tight - R4
103				48	HW	2	1 1/16	3/16			
104											
105											
106			2-TIE BARS - PK149								
107		2085	ap	2	PL	18		1 1/8	30	2 3/4	
108		120	h	8	PL	18		9/16	3	7	
109				48	325	1			0	3 3/4	Hand Tight - R4
110				48	HW	2	1 1/16	3/16			
111			2-TIE BARS - PK150								
112		1880	as	2	PL	18		1 1/8	27	2 3/4	
113		120	h	8	PL	18		9/16	3	7	
114				48	325	1				3 3/4	Hand Tight - R4
115				48	HW	2	1 1/16	3/16			

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Work this drawing w/ ER56A, ER56B, & ER56C

MATERIAL A36
OPEN HOLES 15/16"ϕ Unless Noted
RIVETS
BOLTS 7/8"ϕ A325 Unless Noted
WELDING As Noted E70XX Elect
PAINT See Erect Paint Specs. Para #1 (See #2)

No.	Date	Init.
R7	12/10/70	RBD
R6	12-3-70	JEC
R5	12-3-70	JBE
R4	11/25/70	RCF
R3	11/13/70	RCF
R2 Weld Det. Change	10-28-70	DDP
R1	9/9/70	DDP

REVISED

PISCATAQUA RIVER BRIDGE
PORTSMOUTH, N.H ~ KITTERY, ME.
TIEDOWN at L0 ~ DETAILS

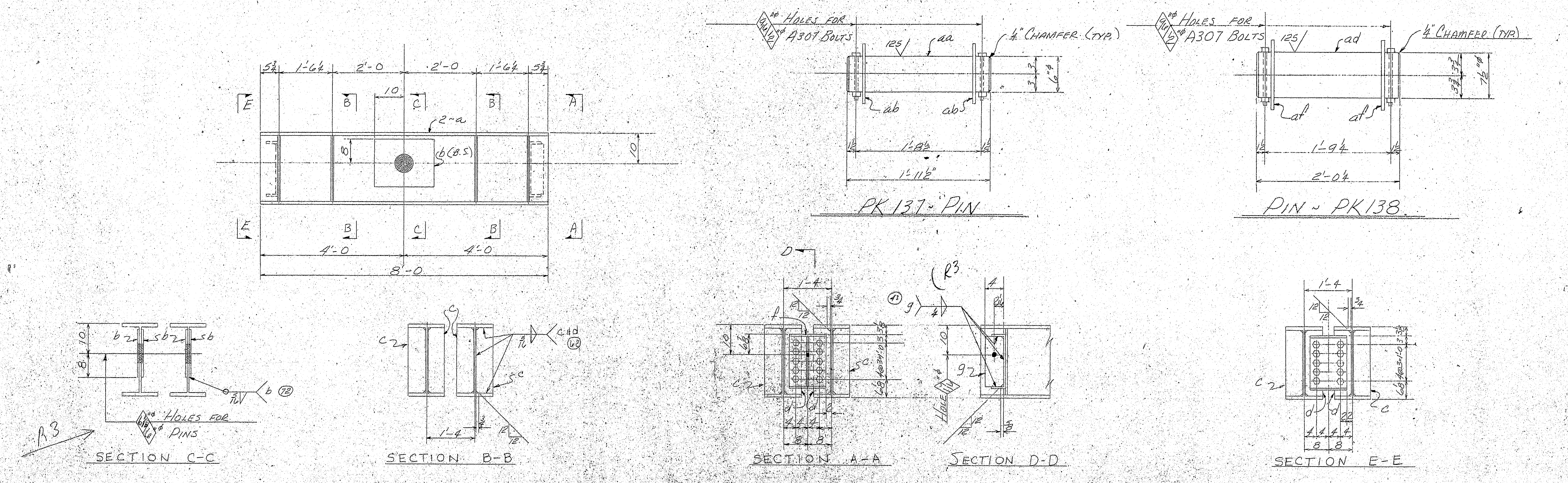
BETHLEHEM STEEL CORPORATION
FABRICATED STEEL CONSTRUCTION DEPARTMENT
ERECTION DIVISION
~~ENGINEERING DIVISION~~
HOME OFFICE ERECTION
BETHLEHEM, PA.

IN CHARGE OF: C. Creidenberg - RCF
☑ Erect. Engr. ☐ Proj. Engr.
APPROVED: ☐ Mgr. of Erect. ☐ District Mgr. ☐ Engr. of Erect. ☐ Asst. Dist. Mgr.
MADE BY: J.E. Christopher DATE: 5-28-70
CHECKED BY: D.D.P./RBD DATE: 6-29-70
SCALE:
FILE NO.:
ERECTION CONTRACT NO.: CW 6290
DWG. NO.: ER56

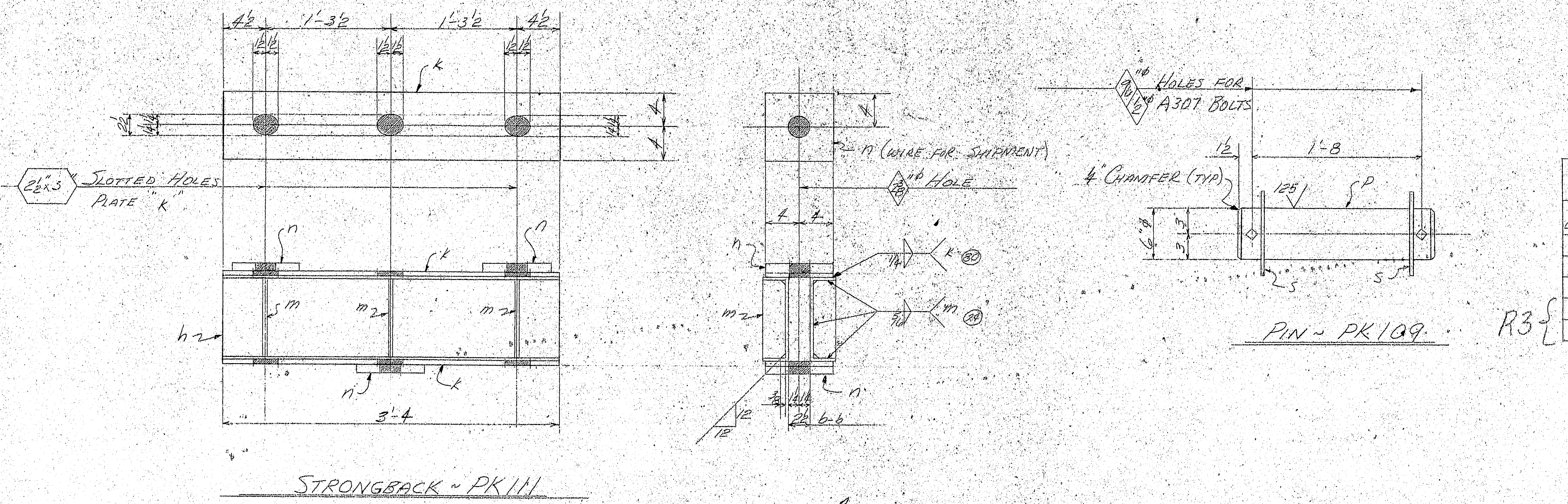
134:63

38558 (Rev.8 9-68)

Whitten



TIE BEAM ~ PK110



STRONGBACK ~ PK111

PIN ~ PK109

REQUIRED LIST

No. Req'd	Mark	Description	Remarks	Wt. Ea.	Disposition
16	PK110	TIE BEAM	R2→	2541	SCRAP
32	PK111	STRONGBACK		365	SCRAP
32	PK109	PIN		199	TO STOCK
16	PK137	PIN		202	TO STOCK
8	PK138	PIN		324	TO STOCK

R3 {

APPROVED:-
HARDESTY & HANOVER
CONSULTING ENGINEERS
101 PARK AVE. NEW YORK 17, N.Y.
BY F.F.W. NOV 23 1970

orig

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WORK THIS DWG. W/ ER56, ER56B, & ER56C

R3 → NOTE: A4140 STEEL, 6"ϕ & 7½"ϕ; YIELD = 94,000#/IN²; TENSILE = 123,000#/IN²

	a	b	c
~~a~~	✓		
~~b~~	✓		
~~c~~	✓		
~~d~~	✓		
~~f~~	✓		
~~g~~	✓		
~~h~~			
~~k~~			
~~m~~			
~~n~~			
~~p~~			
~~s~~			
~~t~~			
w			
y			

Sent to	Date
D.O.	6/29
FLD.	
TH.	
E.D.	
Eac	
EIO	
SHP	

For location of details shown on this sheet refer to diagrams.

ER55

SHOP BILL / MILL ORDER

Line	Weight Total	Weight Ea.	Assembly Mark	No.	Shape	Section Size	Size or Pounds	Thick	Length Ft.	Length In.	Remarks	Mill Order Length Ft.	Mill Order Length In.	Item Page	Item Line
1				16 ~	TIE	BEAM ~			PK	110					
2	1920	960	a	32	B	24	120		8	0					
3	180	45	b	64	PL	16		½	1	8					
4	216	18	c	192	BRZ	5¾		½	1	10 7/16					
5	68	17	d	64	BRZ	5¾		½	1	10 7/16					
6	86	43	f	32	C	18	42.7		1	0					
7	10	10	g	16	BRZ	4		½	1	1¾					
8	21	21	FW	16	WD			5/16	106	8					
9	R2 18	0.9		320	325	⅞			0	2¼					
10	22	0.07		320	HW	1¾	15/16	5/32							
11	—	—	FW	16	WD			¼	3	7	← R3				
12	2541														
13				32 ~	STRONGBACK	~ PK111									
14	200	100	h	64	C	10	30		3	4					
15	90	45	k	64	BRZ	8	½		3	4					
16	18	3	m	192	BRZ	2½		½	0	9½					
17	54	18	n	96	BRZ	8		1	0	8					
18	1	1	FW	32	WD			3/16	13	4					
19	2	2	FW	32	WD			5/16	12	0					
20	365 EA.														
21															
22				16 ~	PIN ~	PK137					(SEE NOTE) ← R3				
23	187	187	aa	16	RDZ	6¼			1	11½	4140 QUENCH & TEMPER BHN 255 TO 302 TURN DOWN TO 6"ϕ DIAMETER				
24	14	7	ab	32	W	10	6 1/16	½							
25	1	0.5		32	MB	½			0	7	A307 BOLTS				
26	202 EA			32	W	1 1/16	17/32	⅛			FOR MACHINE BOLTS				
27															
28				32 ~	PIN ~	PK109					(SEE NOTE) ← R3				
29	184	184	p	32	RDZ	6¼			1	11	4140 QUENCH & TEMPER BHN 255 TO 302 TURN DOWN TO 6"ϕ DIAMETER				
30	14	7	s	64	W	10	6 1/16	½							
31	1	0.5		64	MB	½			0	7	A307 BOLTS				
32	–	–		64	W	1 1/16	17/32	⅛			FOR MACHINE BOLTS				
33	199 EA.														
34															
35				8 ~	PIN ~	PK138					(SEE NOTE) ← R3				
36	305	305	ad	8	RDZ	7¾			2	0¼	4140 QUENCH & TEMPER BHN 255 TO 302 TURN DOWN TO 7½"ϕ DIAMETER				
37	18	9	af	16	W	11¾	7 9/16	½							
38	1	0.5		16	MB	½			0	8½	A307 BOLTS				
39	324 EA			16	W	1 1/16	17/32	⅛			FOR MACHINE BOLTS				
40															
41															
42															

R3 {

MATERIAL A36 UNLESS NOTED
OPEN HOLES 15/16"ϕ UNLESS NOTED
RIVETS
BOLTS ⅞"ϕ A325 UNLESS NOTED
WELDING AS SHOWN E70XX ELECT.
PAINT SEE ERECT. PAINT SPECS. PARA #1 (OR #2)

No.	Date	Init.
R3	11/13/70	RCF
R2	10/8/70	DDP
R1	9/22/70	RBD

REVISED

PISCATAQUA RIVER BRIDGE
PORTSMOUTH, N.H. ~ KITTERY, ME.
TIEDOWN AT L0 ~ DETAILS

BETHLEHEM STEEL CORPORATION
FABRICATED STEEL CONSTRUCTION DEPARTMENT
~~ERECTION DIVISION~~
ENGINEERING DIVISION
HOME OFFICE ERECTION BETHLEHEM, PA.

IN CHARGE OF: C. CREIDENBERG - RCF
☑ Erect. Engr. ☐ Proj. Engr.
APPROVED: ☐ Mgr. of Erect. ☐ District Mgr. ☐ Engr. of Erect. ☐ Asst. Dist. Mgr.
MADE BY: RBD DATE: 9/14/70
CHECKED BY: D.D.P. DATE: 9-24-70
SCALE
FILE NO.
ERECTION CONTRACT NO.: CW 6290
DWG. NO.: ER56A

38558 (Rev.8 9-68)

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