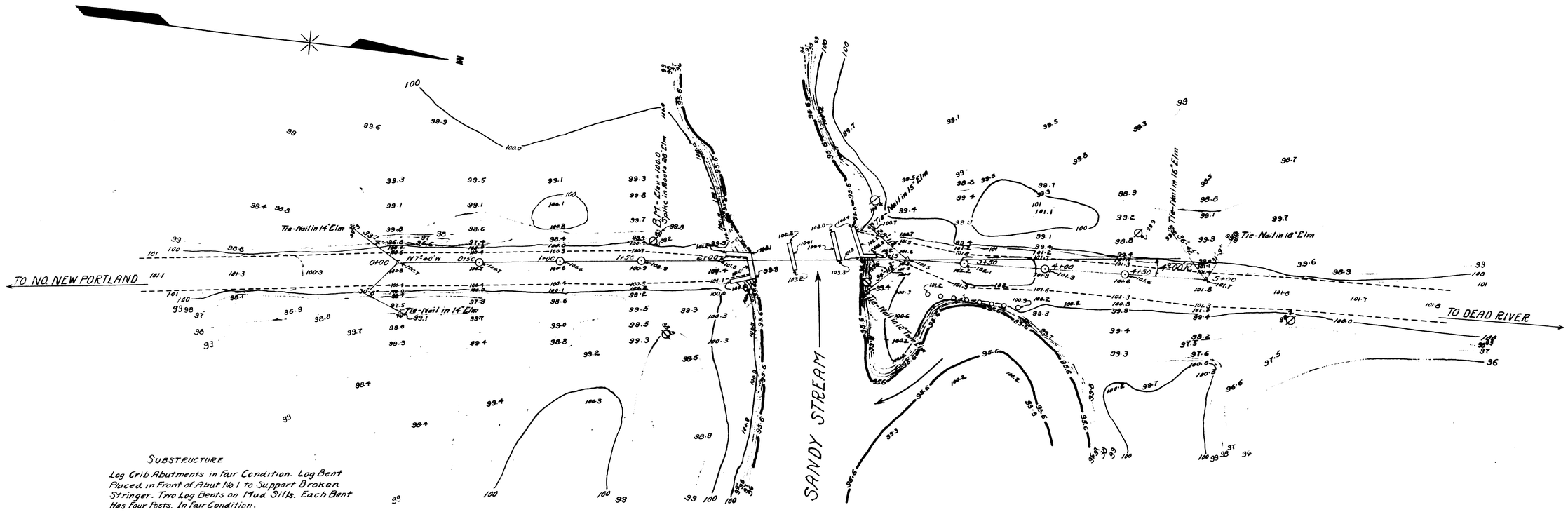


SUBSTRUCTURE

Log Crib Abutments in Fair Condition. Log Bent Placed in Front of Abut No 1 to Support Broken Stringer. Two Log Bents on Mud Sills. Each Bent Has Four Posts. In Fair Condition.

SUPERSTRUCTURE

Seven Log Stringers in Poor Condition. 3" Planking, Bad. 2" Wearing Planks in Bad Condition.

STREAM BED

Stiff Clay Foundation. Maximum Penetration = 8 Feet.

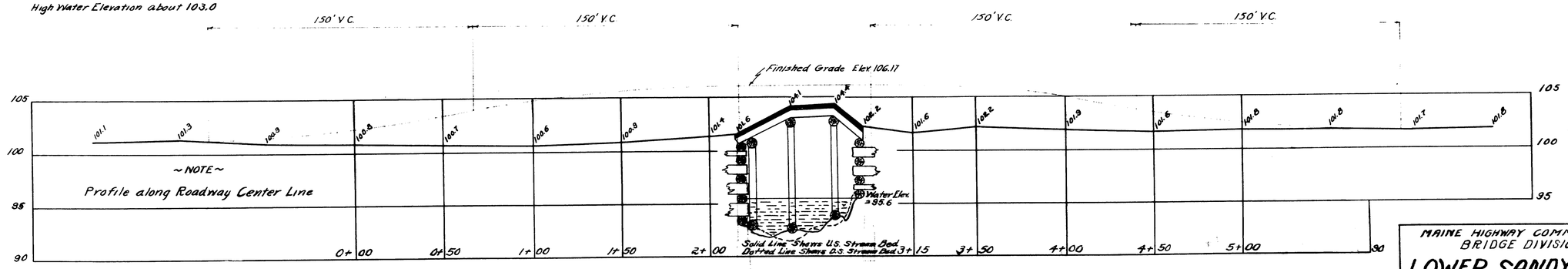
LOCAL INFORMATION

High Water Elevation about 103.0

PLAN

SCALE 1" = 30'

Drainage Area = 80 Sq. Miles



PROFILE

SCALE ~ H-1" = 30' ~ V-1" = 5'

SURVEY BY THOMAS
PLAN BY WOODS

MAINE HIGHWAY COMMISSION
BRIDGE DIVISION

LOWER SANDY BRIDGE

OVER

SANDY STREAM

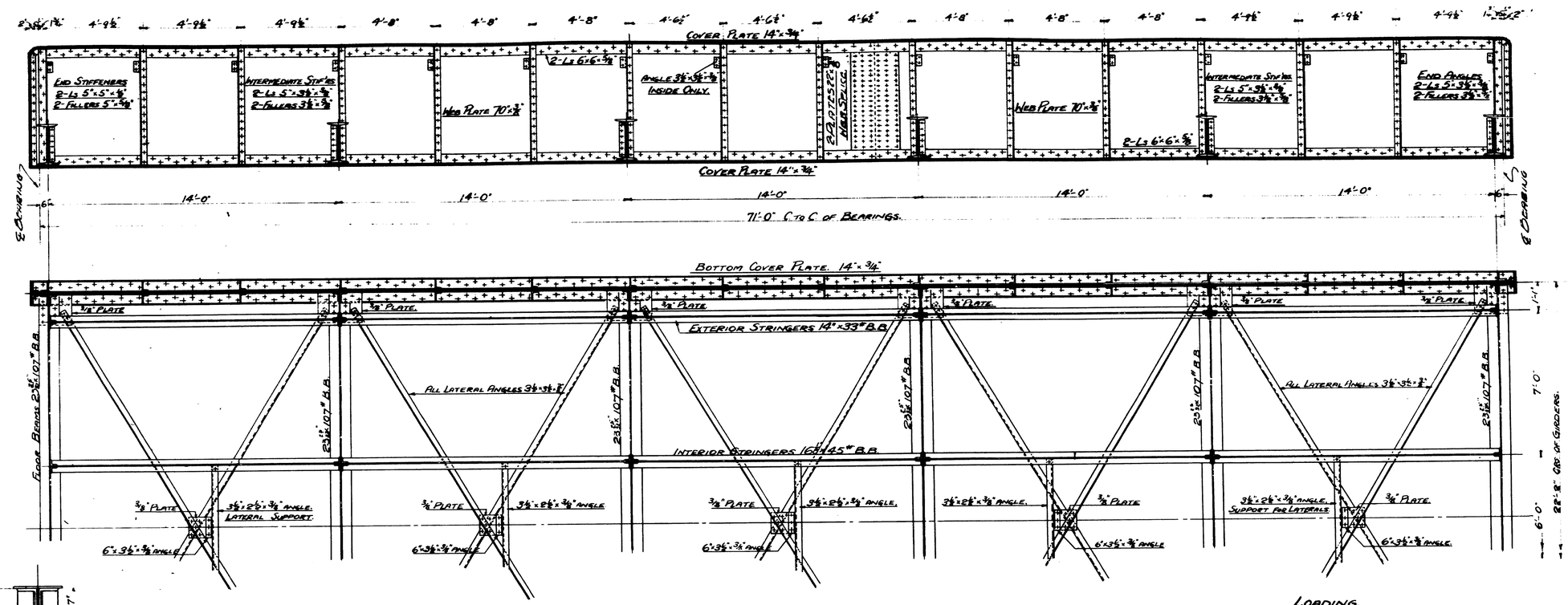
IN THE PLANTATION OF

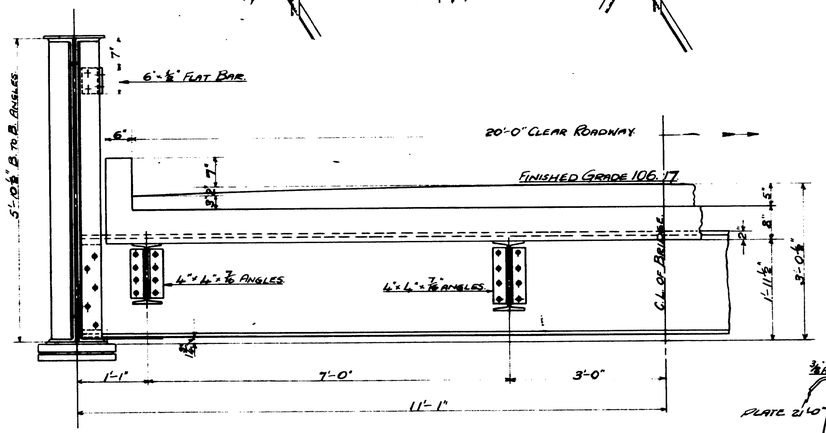
LEXINGTON, SOMERSET CO.

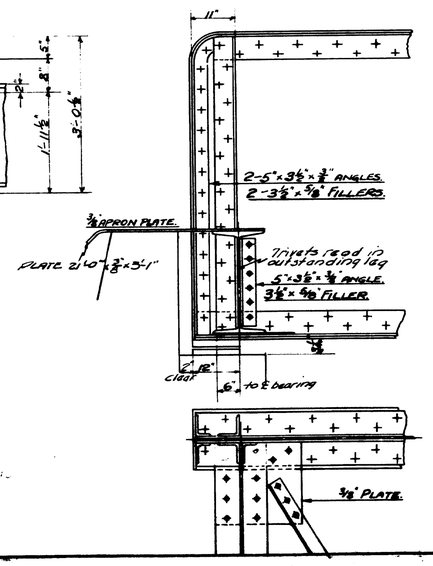
SHEET 1 OF SURVEY PLAN AUGUSTA, ME. 1-7-29

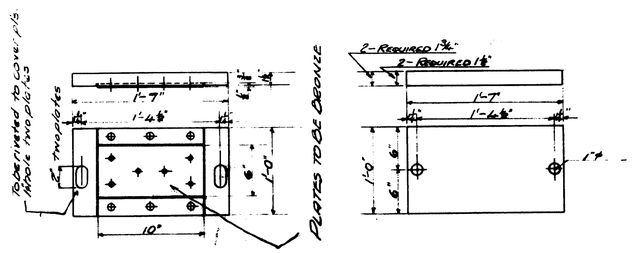
11 - 144

0 1 2 3 4 5 INCHES









LOADING.

DEAD LOAD: 2042# PER LINEAR FOOT OF GIRDER.
LIVE LOAD: FLOOR SYSTEM 2-15 TON TRUCKS. TRUSS H15 (UNIFORM LOAD 475# PER LINEAR FOOT OF GIRDER + CONCENTRATION OF 28,167# PER GIRDER).
IMPACT COEFFICIENT OF LIVE LOAD STRESS: END FLOOR BEAMS 60%. FOR ALL OTHER PARTS OF STRUCTURE $I = \frac{36}{W+18} \cdot \frac{L+250}{10L+500}$ WITH MAXIMUM OF 30% WHEN
W = ROADWAY WIDTH. L = LOADED LENGTH OF SPAN.

2 RIVETS 7/8" DIAM.

DEAD LOAD.

SURFACE	410#
8" SLAB	653#
STRINGER	45#
	1108# PER LINEAR FOOT.

INTERIOR STRINGER.

12,000

1108# PER FOOT
14'

D.L.M. $\frac{1108 \times 14^2 \times 12}{8}$ = 325,750
L.L.M. 6000×7×12×6⅔/3 = 655,200
I.M. 655,200×.3 = 196,560
1,227,512# S = 122,512/16,000 = 73.57
USE 16"×45# B.B.
B16 I/C = 73.8

DEAD LOAD.

SURFACE & SLAB	525#
STRINGER.	33#
CURB	125#
	683# PER LINEAR FOOT.

EXTERIOR STRINGER.

D.L.M. $\frac{683 \times 14^2 \times 12}{8}$ = 200,800
L.L.M. 6000×7×12×5.5/7 = 396,000
I.M. 396,000×.3 = 118,800
715,600# S = 715,600/16,000 = 44.7
USE 14"×33# B.B.
B14 I/C = 47.8

DEAD LOAD

SLAB = (.67×14×150×6.3) = 9143.5 INSIDE
(.67×14×150×4.14×1.5×14×150) = 6678 OUTSIDE
SURFACE (44×150×.42×6.3) = 3733 INSIDE
(34×150×.42×.33) = 2423.5 OUTSIDE

FB = 107#
M = 1.5×107×22.16² = 78816"#

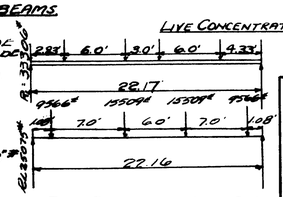
D.L.M. = [(25075×8.03)-(9566×1)]/2 = 1,627,728"#
(L.L.+I)M = [(33306×1.83)-(15600×1.83)]/2 = 2,481,720"#

TOT. MOMENTS
2,481,720
1,627,728
78,816
4,188,264

S = 4,188,264/16,000 = 261.77 and USE 23½"×107# BB
I/C = 266.7

FLOORBEAMS.

LIVE CONCENTRATIONS + IMPACT = 15,600#



D.L. CONCENTRATIONS

MAINE HIGHWAY COMMISSION.
BRIDGE DIVISION.

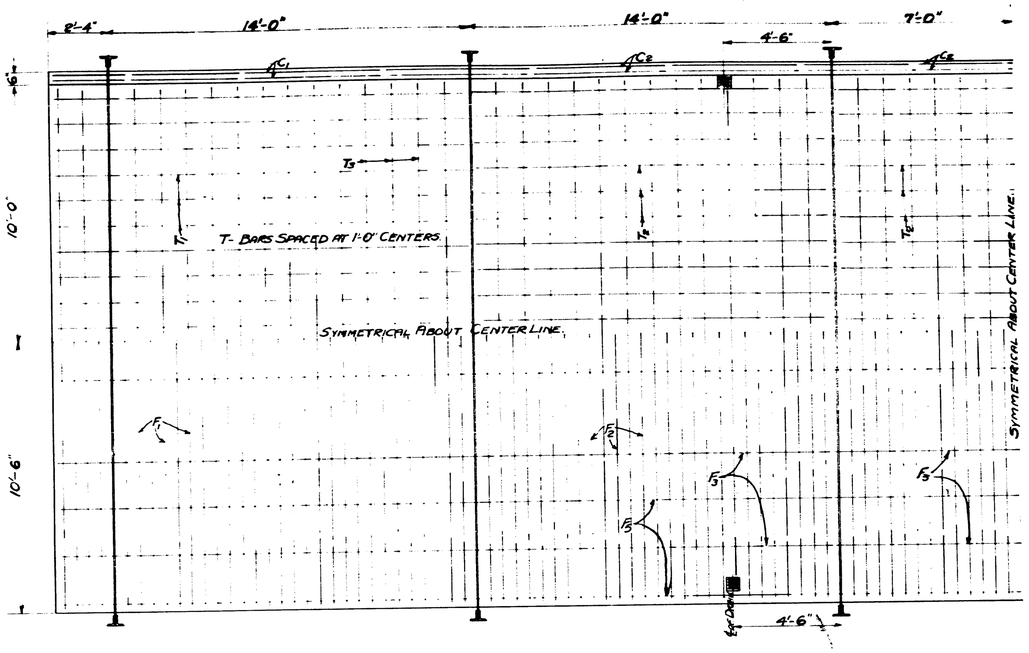
LOWER SANDY BRIDGE.
OVER
SANDY STREAM.
IN THE PLANTATION OF
LEXINGTON. SOMERSET CO.
GENERAL DETAILS.

SHEET 2 AUGUSTA, MAINE, MAY

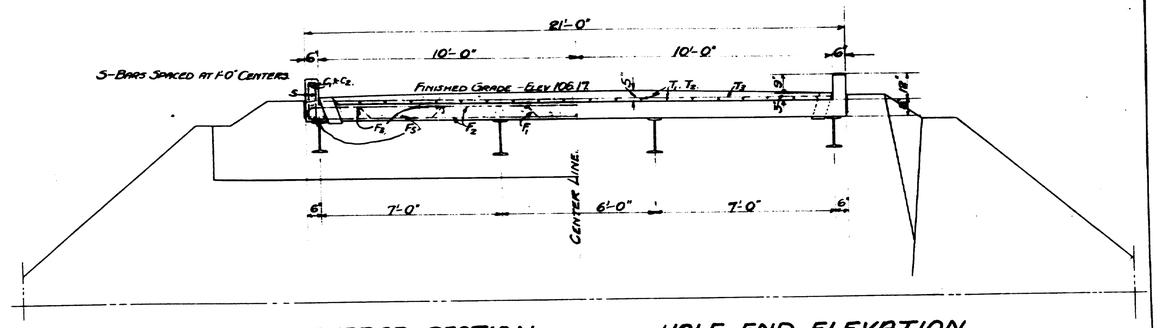
11-145

0 1 2 3 4 5 INCHES

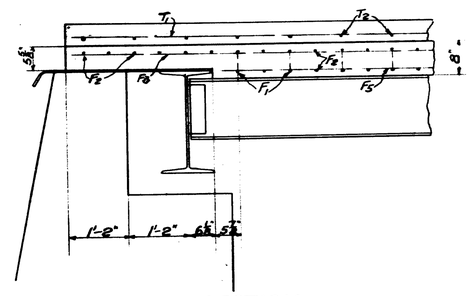
QUARTER PLAN- WEARING SURFACE.



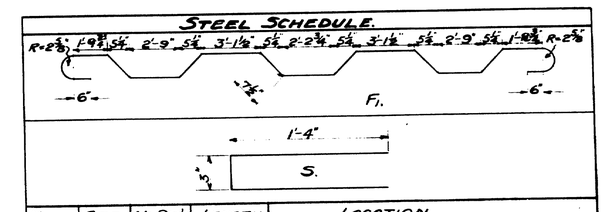
QUARTER PLAN- ROADWAY SLAB.



HALF TRANSVERSE SECTION. HALF END ELEVATION.



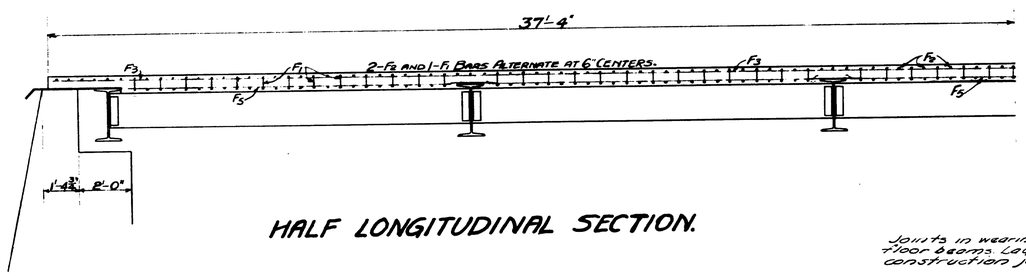
ROADWAY SECTION AT ABUTMENT.



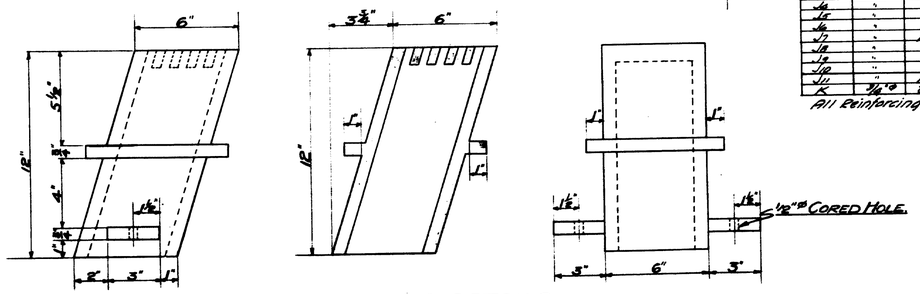
MARK.	SIZE.	No. REQ'D	LENGTH.	LOCATION.
F1	5/8" ⊡	65	23'-8 3/4"	BENT - ROADWAY SLAB - TRANSVERSE.
F2	"	144	20'-9"	STRAIGHT - " " - "
~~F6~~	"	~~4~~	~~18'-9"~~	" - " " "
F3	1/2" ⊡	12	38'-0"	" - " " - LONGITUDINAL.
~~F4~~	"	~~18~~	~~17'-3"~~	" - " " - "
F5	"	10	36'-0"	" - " " - "
~~F7~~	"	~~11~~	~~13'-9"~~	" - " " - "
C1	"	8	16'-0"	" - CURBS.
C2	"	12	13'-10"	" - "
~~C3~~	"	~~4~~	~~13'-9"~~	" - "
S	3/8" ⊡	150	2'-11"	BENT - STIRRUPS IN CURBS.
T1	"	40	16'-0"	STRAIGHT - WEARING SURFACE - LONGITUDINAL
T2	"	60	13'-10"	" - " " - "
T3	"	142	19'-9"	" - " " - TRANSVERSE
~~T4~~	"	~~20~~	~~13'-9"~~	" - " " - LONGITUDINAL
J1	7/8"	34	11'-2 1/4"	FOOTINGS
J2	"	12	23'-6"	"
J3	"	32	14'-0"	"
J4	"	8	9'-1 1/2"	"
J5	"	8	21'-8"	"
J6	"	8	5'-4"	"
J7	"	10	8'-1 1/4"	"
J8	"	8	9'-10"	"
J9	"	8	4'-5 1/4"	"
J10	"	8	5'-4"	"
J11	"	10	3'-10 1/4"	"
K	3/4" ⊡	28	8'-0"	ABUTMENTS - BEND IN FIELD.

All Reinforcing Steel to be plain round bars of structural grade.

HALF LONGITUDINAL SECTION.



Joints in wearing surface over intermediate floor beams. Layer of heavy roofing felt at all construction joints.



CAST IRON DRAIN DETAILS. 4-REQUIRED.

1/2" ⊡ CORED HOLE.

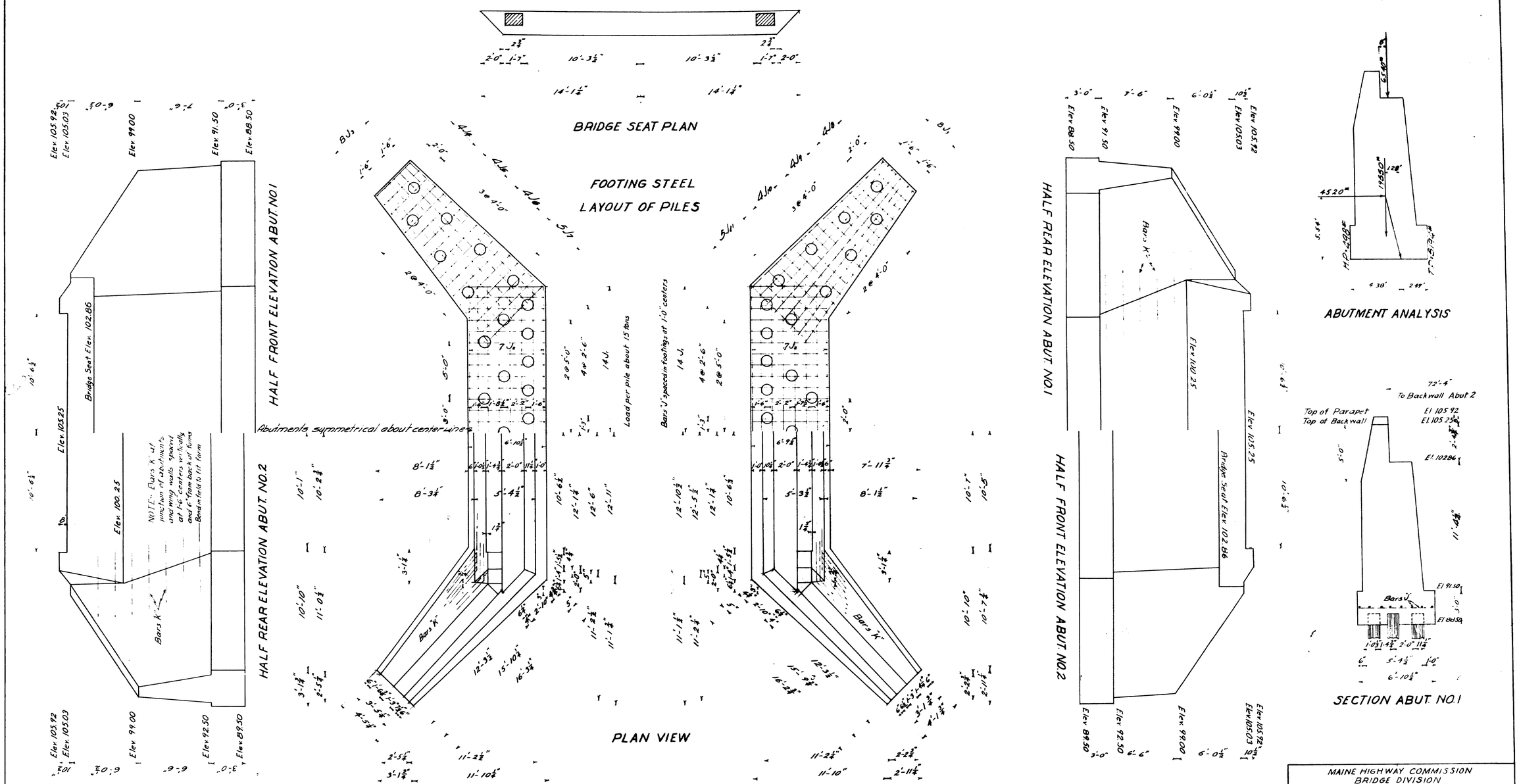
MAINE HIGHWAY COMMISSION.
BRIDGE DIVISION.

LOWER SANDY BRIDGE.
OVER
SANDY STREAM.
IN THE PLANTATION OF
LEXINGTON. SOMERSET CO.
CONCRETE FLOOR SLAB.

SHEET 3 OF AUGUSTA, MAINE, Nov.

11-186

0 1 2 3 4 5 INCHES



MAINE HIGHWAY COMMISSION
BRIDGE DIVISION

LOWER SANDY BRIDGE

OVER

SANDY STREAM

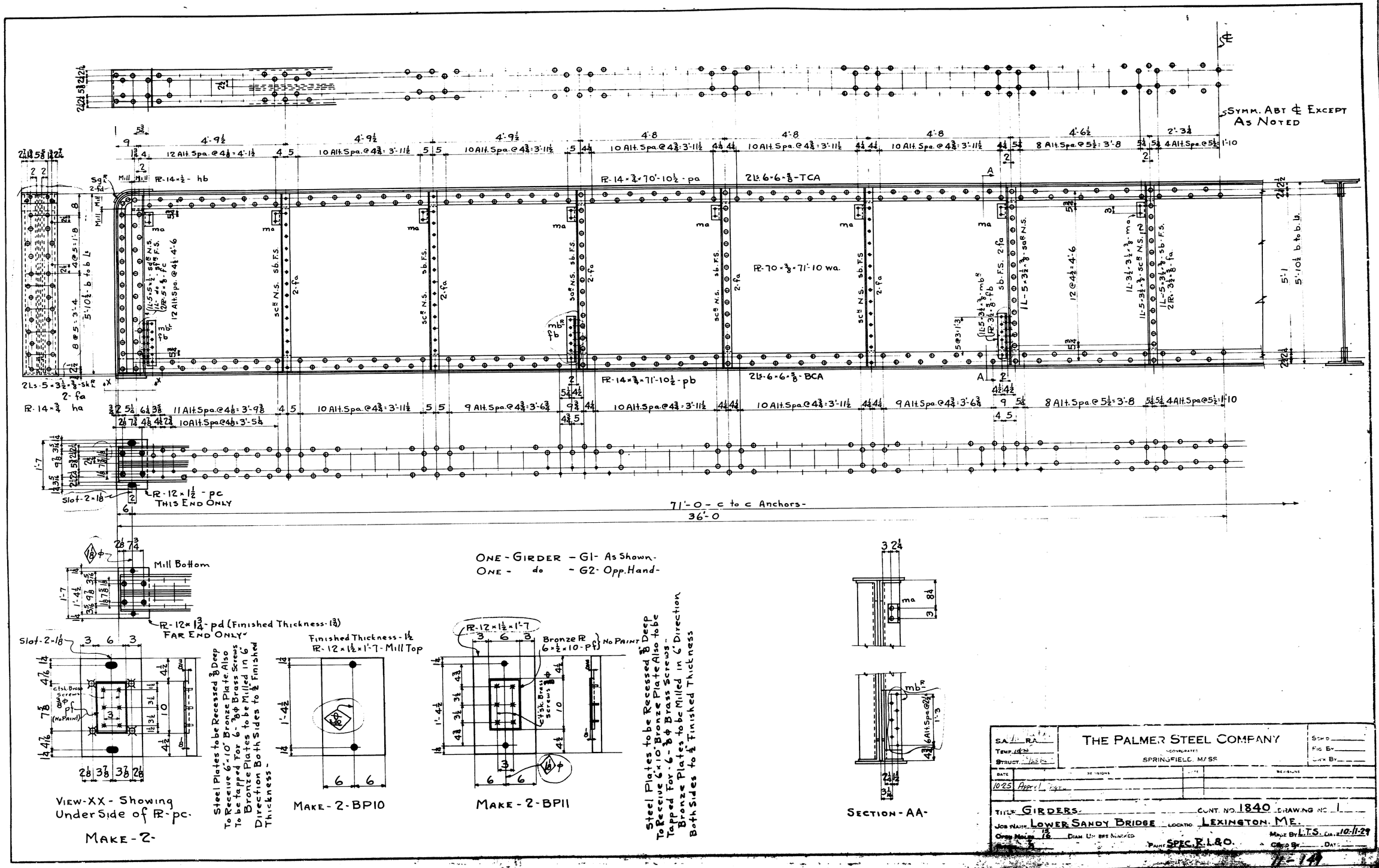
IN THE PLANTATION OF

LEXINGTON SOMERSET CO.

SUBSTRUCTURE

SHEET 4 OF 4 AUGUSTA, ME. JUNE 23, 19

11-147


Symm. Abt ℄ Except As Noted
12 Alt. Spa. @ 4 1/8 = 4'-1 1/2
10 Alt. Spa. @ 4 3/8 = 3'-11 1/2
8 Alt. Spa. @ 5 1/2 = 3'-8
4 Alt. Spa. @ 5 1/2 = 1'-10
PL-14 × 1/2 - hb
PL-14 × 3/4 × 70'-10 1/2 - pa
2 Ls-6-6-5/8-TCA
PL-70 × 3/8 × 71'-10 wa.
PL-14 × 3/4 × 71'-10 1/2 - pb
2 Ls-6-6-5/8-BCA
2 Ls-5 × 3 1/2 × 3/8 - sk
2-fa
PL-14 × 3/4 ha
11 Alt. Spa. @ 4 1/8 = 3'-9 3/8
9 Alt. Spa. @ 4 3/8 = 3'-6 3/4
10 Alt. Spa. @ 4 1/8 = 3'-5 1/4
PL-12 × 1 1/2 - pc
This End Only
Slot-2×1 1/8
71'-0 - c to c Anchors -
36'-0
Mill Bottom
PL-12 × 1 3/4 - pd (Finished Thickness-1 3/4)
Far End Only
One - Girder - G1 - As Shown -
One - do - G2 - Opp. Hand -
View-XX - Showing Under Side of PL-pc.
Make - 2 -
Steel Plates to be Recessed 3/8" Deep To Receive 6"×10" Bronze Plate Also To be tapped For 6 - 3/8 ϕ Brass Screws
Bronze Plates to be Milled in 6" Direction Both Sides to 1/2" Finished Thickness -
Finished Thickness - 1 1/2
PL-12 × 1 1/2 × 1'-7 - Mill Top
Make - 2 - BP10
PL-12 × 1 1/2 × 1'-7
Bronze PL 6 × 1/2 × 10 - pf
No Paint
Make - 2 - BP11
Section - AA -
THE PALMER STEEL COMPANY
INCORPORATED
SPRINGFIELD, MASS.
Title: Girders
Cont. No. 1840
Drawing No. 1
Job Name: Lower Sandy Bridge
Location: Lexington, Me.
Scale: 1/2, 1/16
Paint: Spec. R.L.&O.
Made By: L.T.S.
Date: 10-11-29
Checked By:
Date:
11-14

THE PALMER STEEL COMPANY

SPRINGFIELD, MASS.

Sheet 4

F. B.

C. B.

11-25 Add. Chgs.

GIRDERS — CONT. NO. 1840 — DWG. NO. 1B

LOWER SANDY BRIDGE — LOCATION LEXINGTON ME

15/16 — DIAM. OF RIVET MARKED — MADE L.T.S. 10-11-29

3/8 — PAINT SPEC. R.L.&O — CHECKED K.S.D. 12-6-27

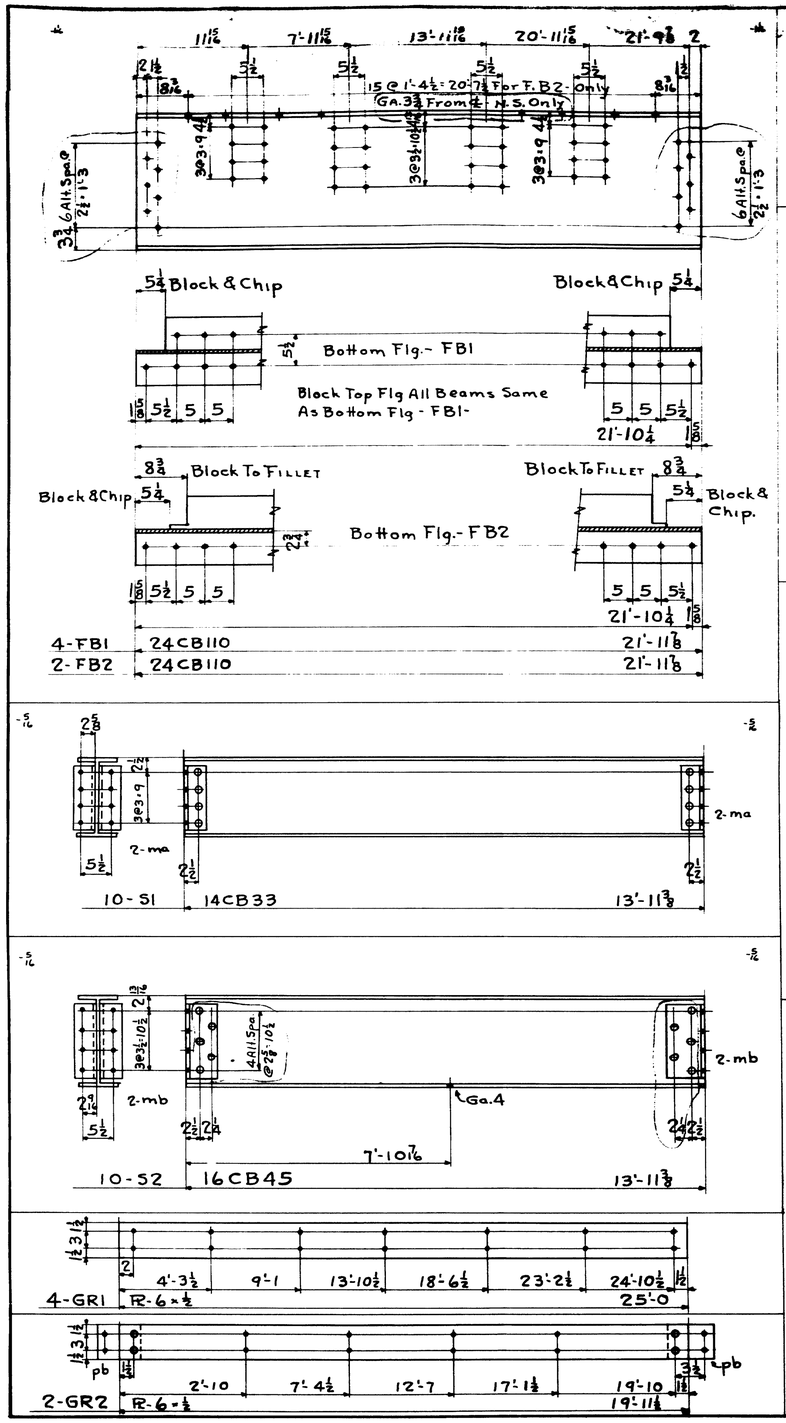
BILL OF MATERIAL AND WEIGHTS

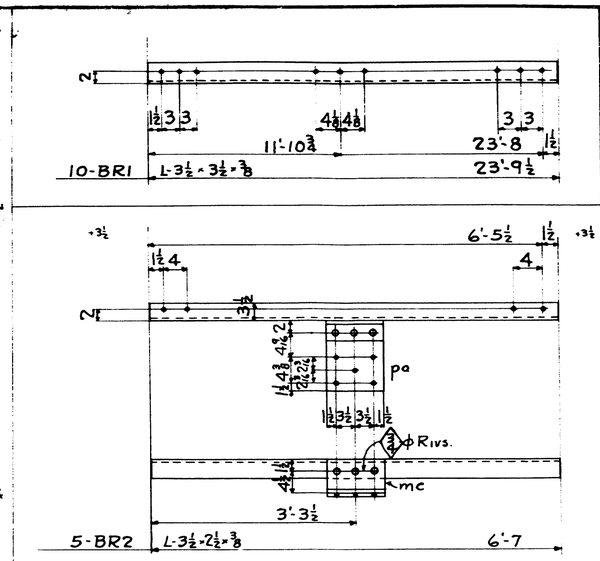
4	Ls	6 × 6 × 5/8	TCA		70	10½	1	17	0	71'-0
4	Ls	do	BCA		71	10½	1	18	0	72'-0
2	PL	70 × 3/8	wa		71	10	1	28	0	
2	PL	14 × 3/4	pa		70	10½	1	6	0	71'-0
2	PL	do	pb		71	10½	1	7	0	72'-0
4	PL	do	ha		6	4±		8	0	
8	Ls	5 × 3½ × 3/8	sa R L		5	9¼	1	21	S	FIT-2-ENDS
20	Ls	do	sc R L		5	9¼				do
28	Ls	do	sb		5	9¼				do
4	Ls	5 × 5 × ½	sd R L		5	9¼	1	23	0	do
4	Ls	do	se R L		5	9¼	1	23	0	do
8	Ls	5 × 3½ × 3/8	sk R L		5	3⅜	1	21	S	do
12	Ls	do	mb R L		1	6	1	21		
32	Ls	3½ × 3½ × 3/8	ma			6	1	20		
4	PL	14 × ½	hb		1	6±			S	
8	Ls	5 × 3½ × 3/8	sg R L			10±				CAST STEEL
2	PL	12 × 1½	pc		1	7	1	25	S	
2	PL	12 × 1¾	pd		1	7	1	27	S	
64	PL	3½ × 5/8	fa		4	10	1	10	0	
8	PL	5 × 5/8	fc		4	10	1	11	0	
12	PL	3½ × 5/8	fb		1	3	1	10	0	
2	PL	12 × 1½	BP10		1	7	1	26	S	
2	PL	do	BP11		1	7	1	25	S	
4	PL	6 × ½	pf			10				Bronze
8	PL	3½ × 5/8	fd			8±	1	10	0	
24		Cross Stiffs								
2612		Shop Rivets								

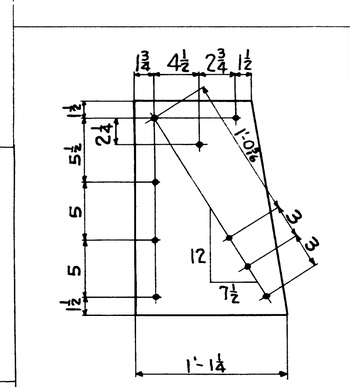
FOR DETAILS SEE DRWG. #1

SHEET TOTAL

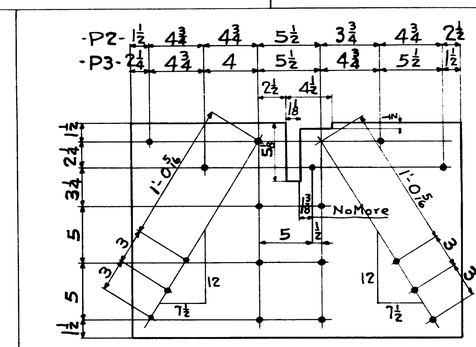
0 1 2 3 4 5 INCHES



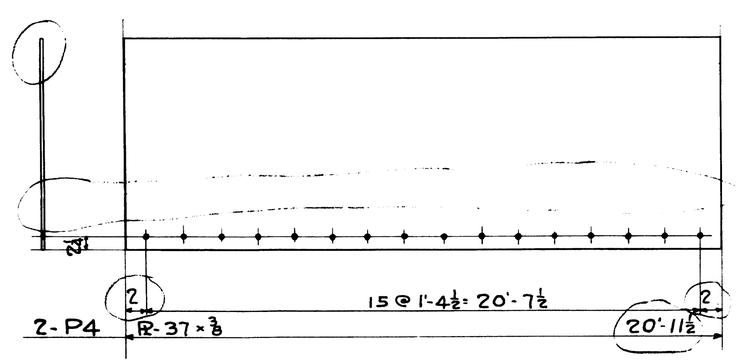




MAKE - 4 - P1-



MAKE - 4 - P2
MAKE - 4 - P3



THE PALMER STEEL COMPANY
INCORPORATED
SPRINGFIELD, MASS.

S.A. RA
Temp
Struct

Sch'd
Fig. By
Ck'k By

DATE	REVISIONS		REVISIONS
	Add'l Cages		

TITLE Floor Beams & Stringers CONT. NO. 1840 DRAWING NO 2
JOB NAME LOWER SANDY BRIDGE LOCATION LEXINGTON ME.
OPEN HOLES 15/16 DIAM. UNLESS MARKED
RIVETS ⅞
PAINT SPEC. R.L.80.
MADE BY L.T.S. DATE 10-16-29
CK'D BY R.S.D. DATE 10-18-29

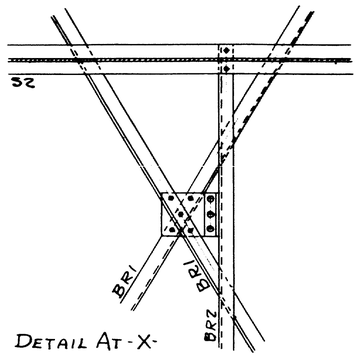
BILL OF MATERIAL AND WEIGHTS

No. Pcs		Description	Mark	Milled Ends	Length	P	I	S/O	Remarks	Figured Weights Separate	Figured Weights Total
4	CB	24 × 110	FB1		21 11⅞	1	1	O			
2	CB	do	FB2		21 11⅞	1	1	O			
10	CB	14 × 33	S1		13 10⅞	1	3	O			
10	CB	16 × 45	S2		13 10⅞	1	2	O			
4	PL	6 × ½	GR1		25 0	1	12	S			
2	PL	do	GR2		19 11½	1	12	S			
10	Ls	3½ × 3½ × ⅜	BR1		23 9½	1	20	S			
5	Ls	3½ × 2½ × ⅜	BR2		6 7	1	22	S			
4	PL	13¼ × ⅜	P1		1 6½	1	13	S			
4	PL	18½ × ⅜	P2		2 3½	1	13	S			
4	PL	do	P3		2 4¼	1	13	S			
2	PL	37 × ⅜	P4		20 11½	1	15	O			
40	Ls	4 × 4 × ¼	ma		1 0¼	1	19	O			
40	Ls	6 × 4 × ½	mb		1 2			S			
5	Ls	6 × 3½ × ⅜	mc		10	1	24	S			
5	PL	10 × ⅜	pa		1 0	1	14	S			
4	PL	6 × ½	pb		6½	1	12	S			
8		1" ⌀ Anchor Bolts			1 3			S	Hex. Nuts		

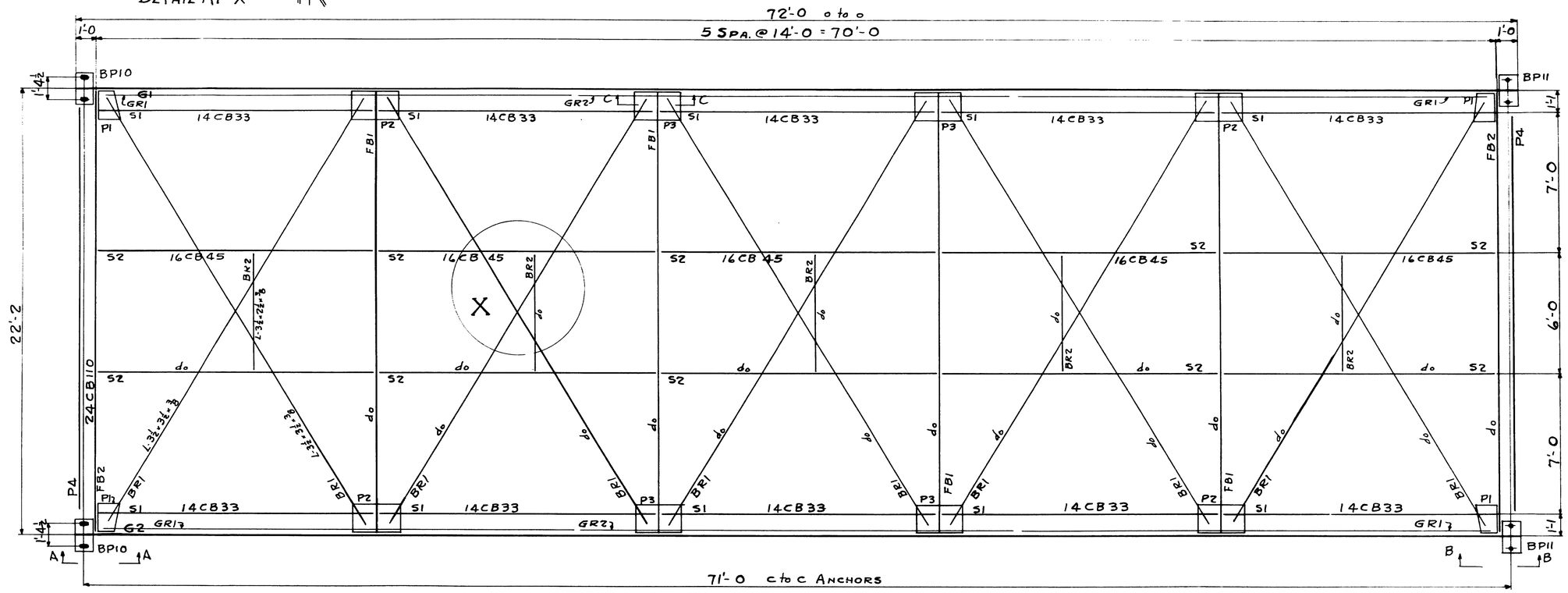
	Field Rivets	
90	⅞ ⌀ Rivets	2¼
70	do	2⅜
45	do	2½
225	do	2⅞
100	do	2⅞
60	do	3½
200	do	4⅛
15	do	4⅜
15	do	3¾
198	Shop Rivets	

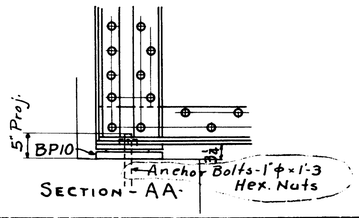
11-148

0 1 2 3 4 5 INCHES

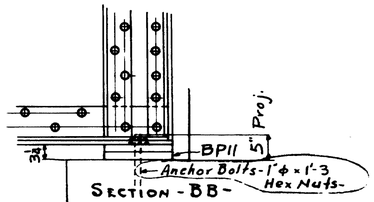


DETAIL AT -X-

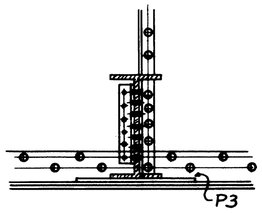




SECTION - AA -



SECTION - BB -



SECTION - CC -

S. RA / TEMP. RBD / STRUCT. KAS	THE PALMER STEEL COMPANY SPRINGFIELD, MASS.	CHK'D BY
DATE / REVISIONS		
10-26 — per 14 Cases		

TITLE ERECTION PLAN — CONT. NO. 1840 — DRAWING N E1

OWNER LOWER SANDY BRIDGE — LOCATION LEXINGTON - ME

OPEN HOLES 16 — RIVETS 76

MADE BY L.T.S. DATE 10-18-29

CHK'D BY R.S.D. DATE 10-18-29

11-150

0 1 2 3 4 5 INCHES