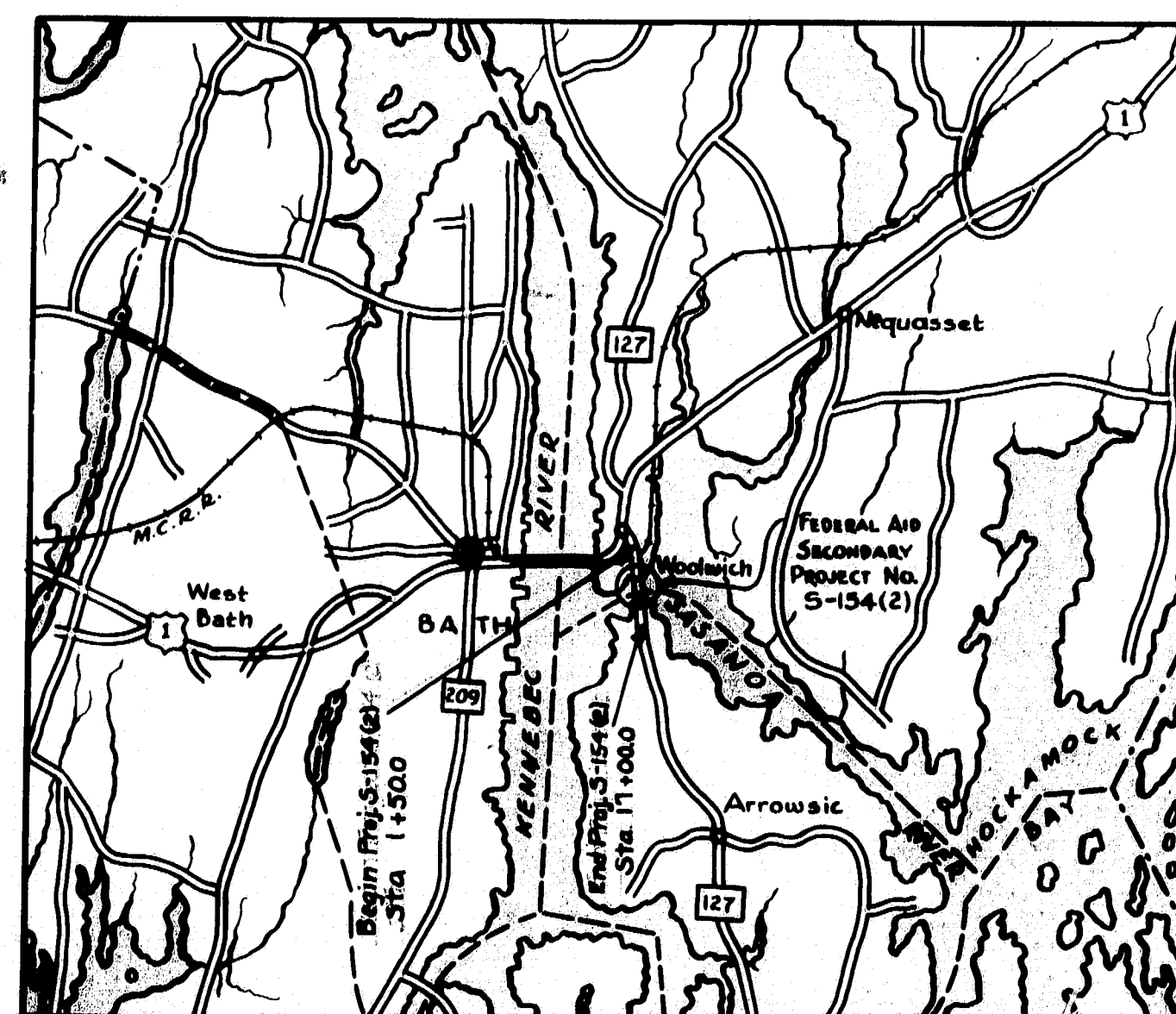


STATE OF MAINE
STATE HIGHWAY COMMISSION
ARROWSIC BRIDGE
OVER
SASANOVA RIVER
BETWEEN THE TOWNS OF
ARROWSIC & WOOLWICH
SAGadahoc COUNTY
MAINE FEDERAL AID SECONDARY
PROJECT NO. S-154 (2)

TOTAL LENGTH 0.294 MILES
PLAN 1 IN. = 30 FT.
SCALES { PROFILE { HOR. 1 IN. = 30 FT.
VER. 1 IN. = 10 FT.
CROSS SECTIONS 1 IN. = 5 FT.

CONVENTIONAL SIGNS		
STATE OR NATIONAL LINE	-----	SURVEY LINE
COUNTY LINE	-----	CULVERT
TOWN LINE	-----	DROP INLET
UNFENCED PROPERTY	-----	TROLLEY POLE
FENCE	-----	POWER POLE
RIGHT OF WAY LINE	-----	TEL. POLE
TRAVELED WAY	-----	MARSH
RAILROAD	-----	TREES
RETAINING WALL	-----	STONE WALL

INDEX OF SHEETS	
SHEET No.	TITLE PAGE
SHEET No. 1-2	SURVEY
SHEET No. 3	TYPICAL SECTIONS
SHEET No. 4-5	CROSS SECTIONS
SHEET No. 6	ABUTMENTS 1 & 2
SHEET No. 7	PIERS 1 & 2
SHEET No. 8	PIER 3
SHEET No. 9-10	FENDER PIERS
SHEET No. 11-12	FIXED SPAN DETAILS
SHEET No. 13	EXPANSION DETAILS
SHEET No. 14	PEDESTAL DETAILS
SHEET No. 15-16	FIXED SPAN FLOOR DETAILS
SHEET No. 17	STRESS SHEET - SWING SPAN
SHEET No. 18-19	STEEL DETAILS - SWING SPAN
SHEET No. 20	BARRIER GATE - SPAN No. 2
SHEET No. 21	APPROACH BARRIER GATE
SHEET No. 22	WARNING GATE AND SIGNAL
SHEET No. 23-24	MACHINERY DETAILS
SHEET No. 25	OPERATORS HOUSE
SHEET No. 26	ELECTRICAL PLAN
SHEET No. 27	FOUNDATION INFORMATION



LOCATION MAP
TRACED FROM S.W.H.R.S.
SCALE = 62500

CONCRETE CLASSIFICATION

CLASS-A: Abutments, superstructure slab, seals.
CLASS-B: Piers, pedestals.
CLASS-Y: Rail posts, concrete filler in grid floors.

APPROVED:
MAINE STATE HIGHWAY COMMISSION

George B. Good CHAIRMAN
C. J. Russell
William D. Ramsey CHIEF ENGINEER

RECOMMENDED FOR
APPROVAL DATE

DISTRICT ENGINEER
PUBLIC ROADS ADMINISTRATION
FEDERAL WORKS AGENCY

APPROVED DATE

DIVISION ENGINEER
PUBLIC ROADS ADMINISTRATION
FEDERAL WORKS AGENCY

5-154 (2) 27

CURVE DATA
I = 24° 00' 24" 50'
D = 762.00' 10° 00'
T = 76.36' 126.31'
L = 150.00' 248.33'
R = 359.26' 573.69'
E = 0.00'

PLAN

SCALE 1" = 30'

EDWARD REED
INSTALL DROP INLET
5HC STANDARD TYPE B
AND 18X36 ACC.M.P.

EDWARD REED

PROFILE

SCALE-HOR 1" = 30' VERT 1" = 10'

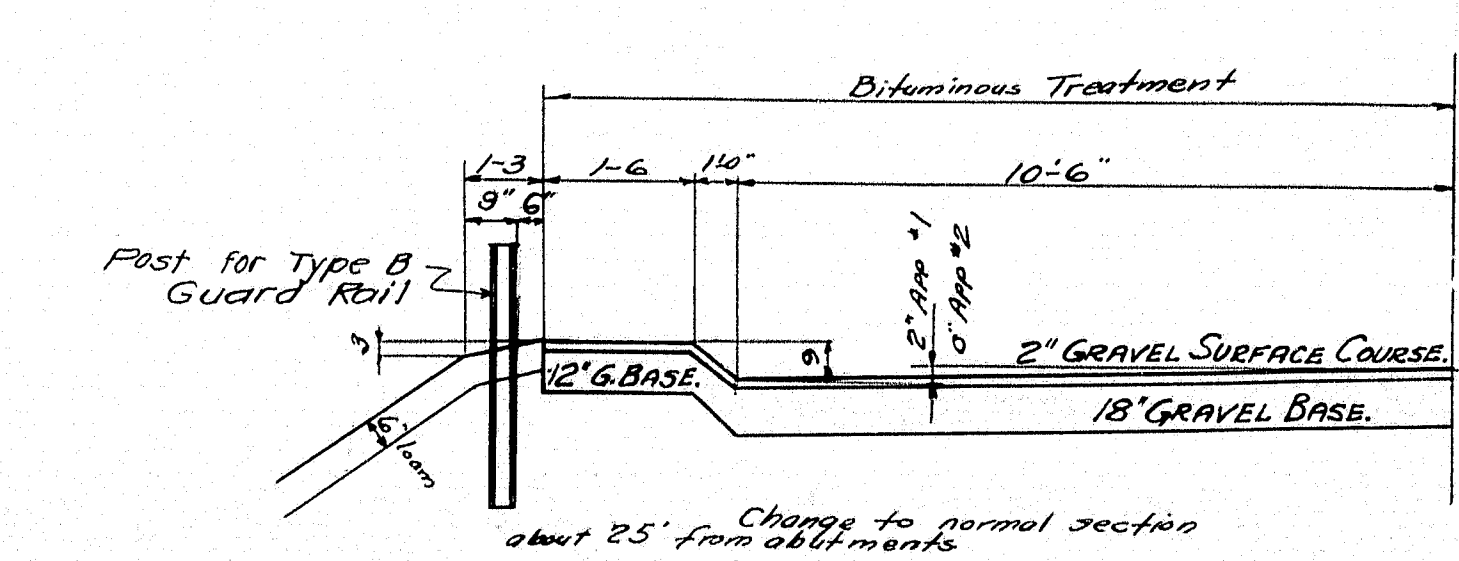
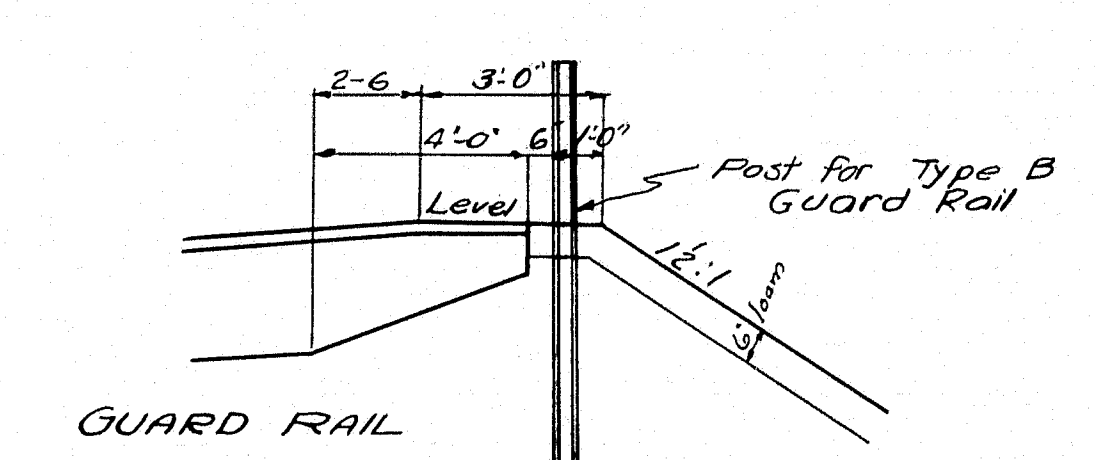
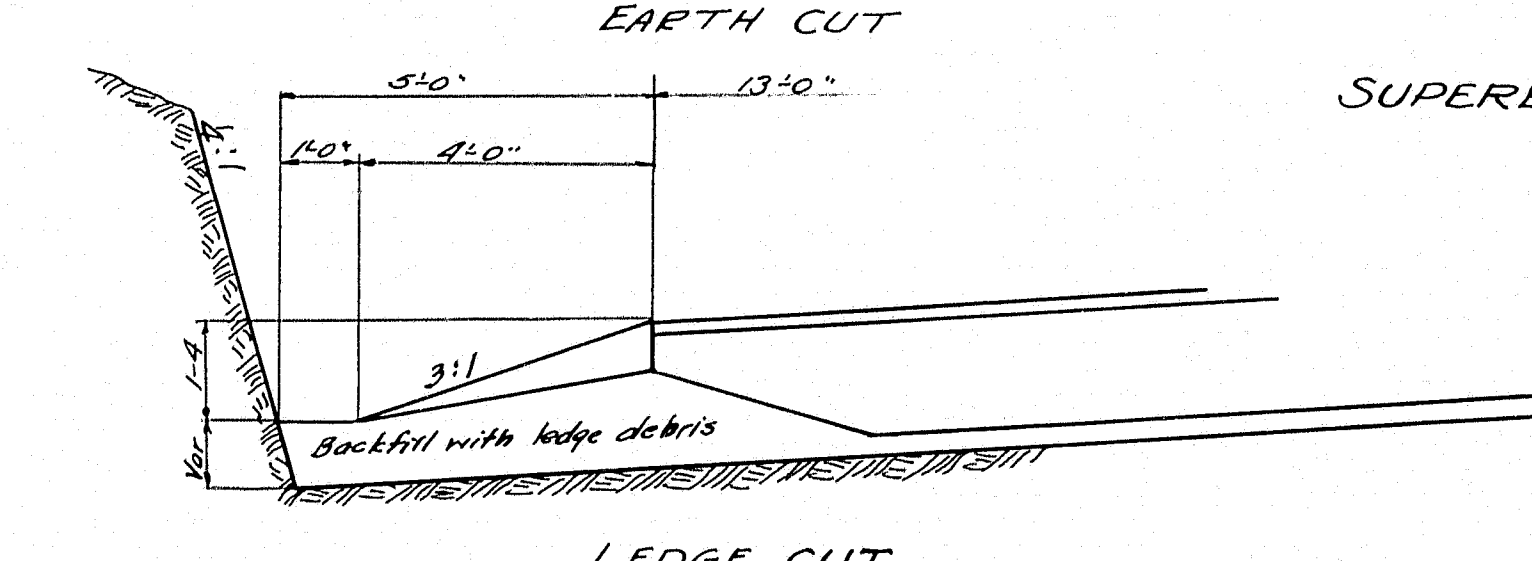
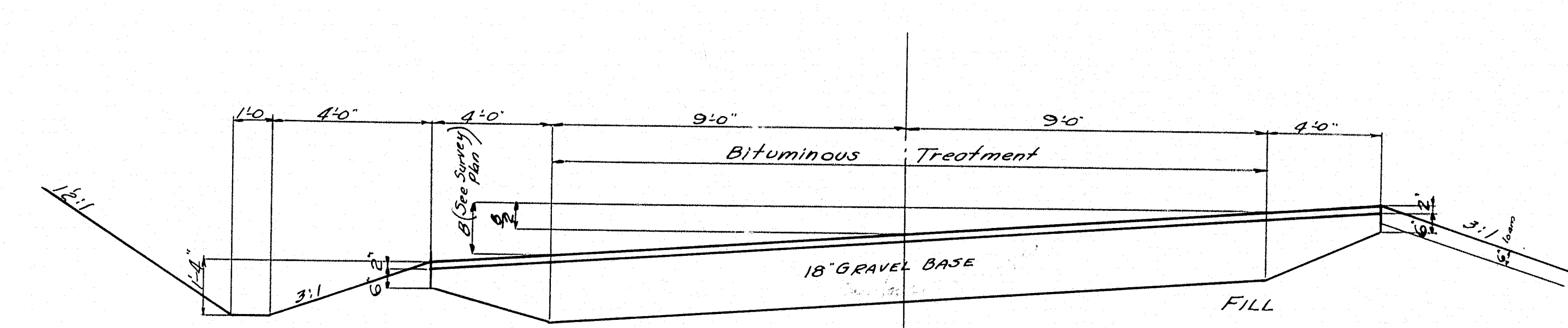
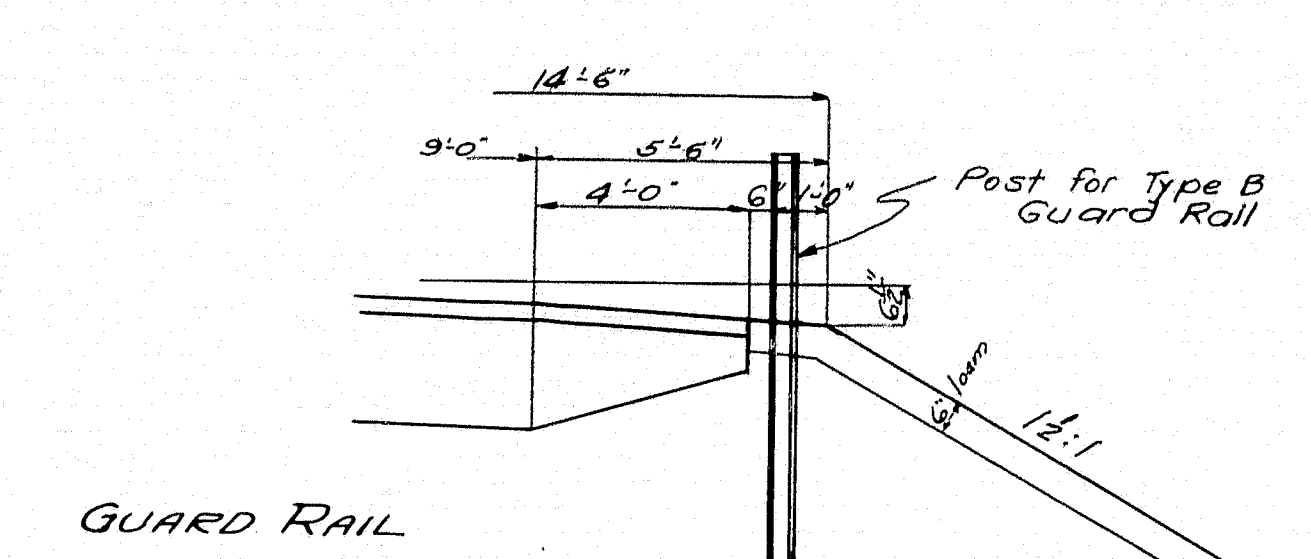
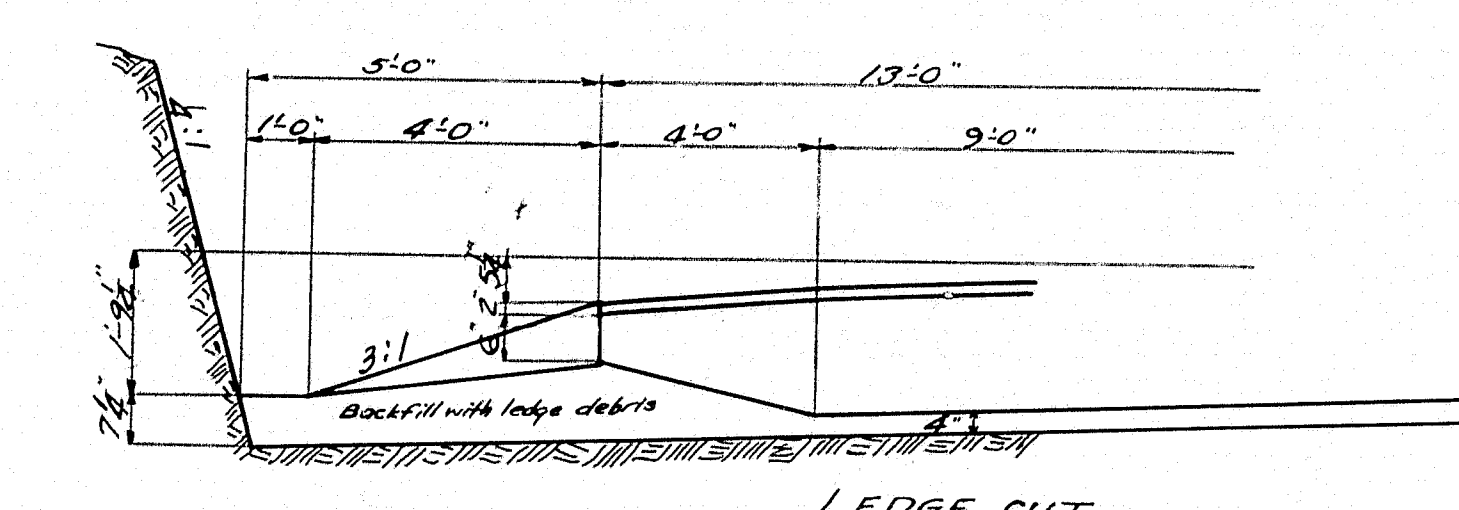
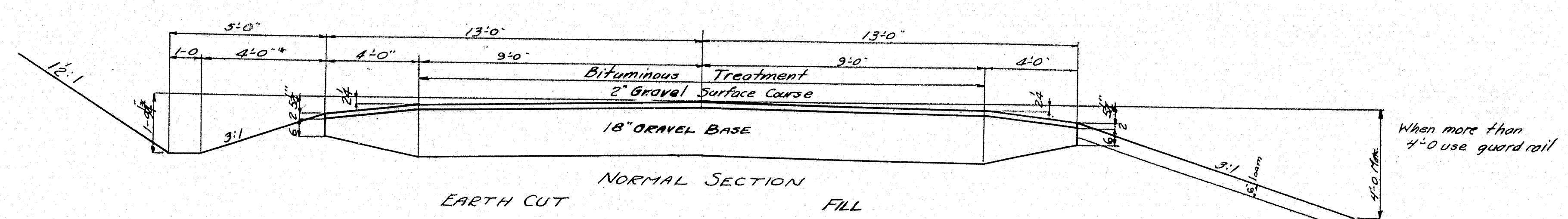
MAINE HIGHWAY COMMISSION
BRIDGE DIVISION
ARROWSIC BRIDGE
OVER
SASANOA RIVER
BETWEEN THE TOWNS OF
ARROWSIC AND WOOLWICH
SAGadahoc COUNTY

Sheet 1 of 2, Augusta, Me Dec. 1933

44-102

SURVEY BEGIN MAN
PLAN BLAKE

0 1 2 3 4 5 INCHES



Notes: Loamed fill slopes, seeded roadside mixture.
 * This dimension is increased on the West side of the Arrowsic approach near the bridge. See sections at Stations 12+02 and 12+27.
 In building on top of the existing highway a variable depth of new base, up to 18", may be used wherever the existing material is suitable.
 The curve on the south approach is to be widened on the inside. The extra width is given by the formula $W = 2 \text{ feet} \cdot D^\circ$ degree of curve.

PLAN: E.B.
 CHECK: B.E.L.
 TOWN 12-01
 BRIDGE 2026
 STATE HIGHWAY COMMISSION
 BRIDGE DIVISION
ARROWSIC BRIDGE
 OVER
SASANOA RIVER
 BETWEEN THE TOWNS OF
ARROWSIC & WOOLWICH
SAGadahoc COUNTY
 TYPICAL SECTIONS
 Sheet 3 of 27 August 11e July 1943

25 Rock Exc. 37
EARTH Exc. 122
BASE 35.0
SURF. 4.33
LOAM 6.5
SEED. 13

25 Rock Exc. 63
EARTH Exc. 99
BASE 35.0
SURF. 4.33

25 Rock Exc. 33
EARTH Exc. 125
BASE 35.0
SURF. 4.33

25 Rock Exc. 61
EARTH Exc. 90
BASE 35.0
SURF. 4.33

25 Rock Exc. 9
EARTH Exc. 178
FILL 1
LOAM 0
BASE 35.0
SURF. 4.33

EARTH Exc. 171
FILL 0
LOAM .5
BASE 35.0
SURF. 4.33
SEED. 1

EARTH Exc. 166
FILL 0
LOAM .5
BASE 35.0
SURF. 4.33
SEED. 1

25 EARTH Exc. 132
FILL 1
LOAM 2
BASE 35.0
SURF. 4.33
SEED. 4

25 EARTH Exc. 98
FILL 1
LOAM .5
BASE 35.0
SURF. 4.33
SEED. 1

25 SEEDING 3.5
EARTH Exc. 48
FILL 3
LOAM 1.8
BASE 35.0
SURF. 4.33

20 Rock Exc. 29
EARTH Exc. 51
FILL 97
LOAM 6
BASE 35.0
SURF. 4.33
ST. FILL 208
SEED. 12

Rock Exc. 72
EARTH Exc. 56
FILL 53
LOAM 6.5
BASE 35.0
SURF. 4.33
ST. FILL 118
SEED. 13

20 Rock Exc. 63
EARTH Exc. 63
FILL 33
LOAM 6.5
BASE 35.0
SURF. 4.33
STONE FILL 12
SEED. 13

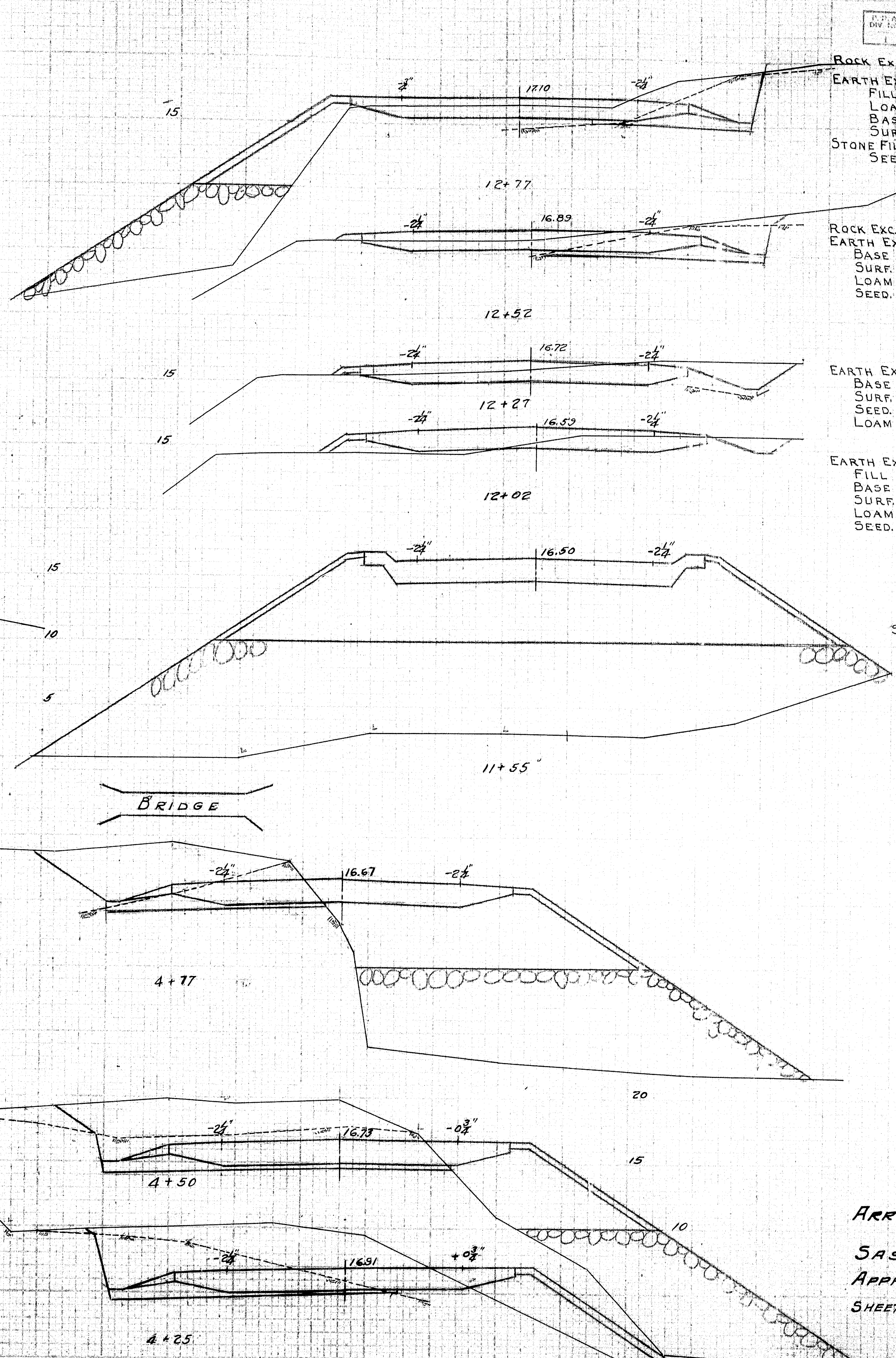
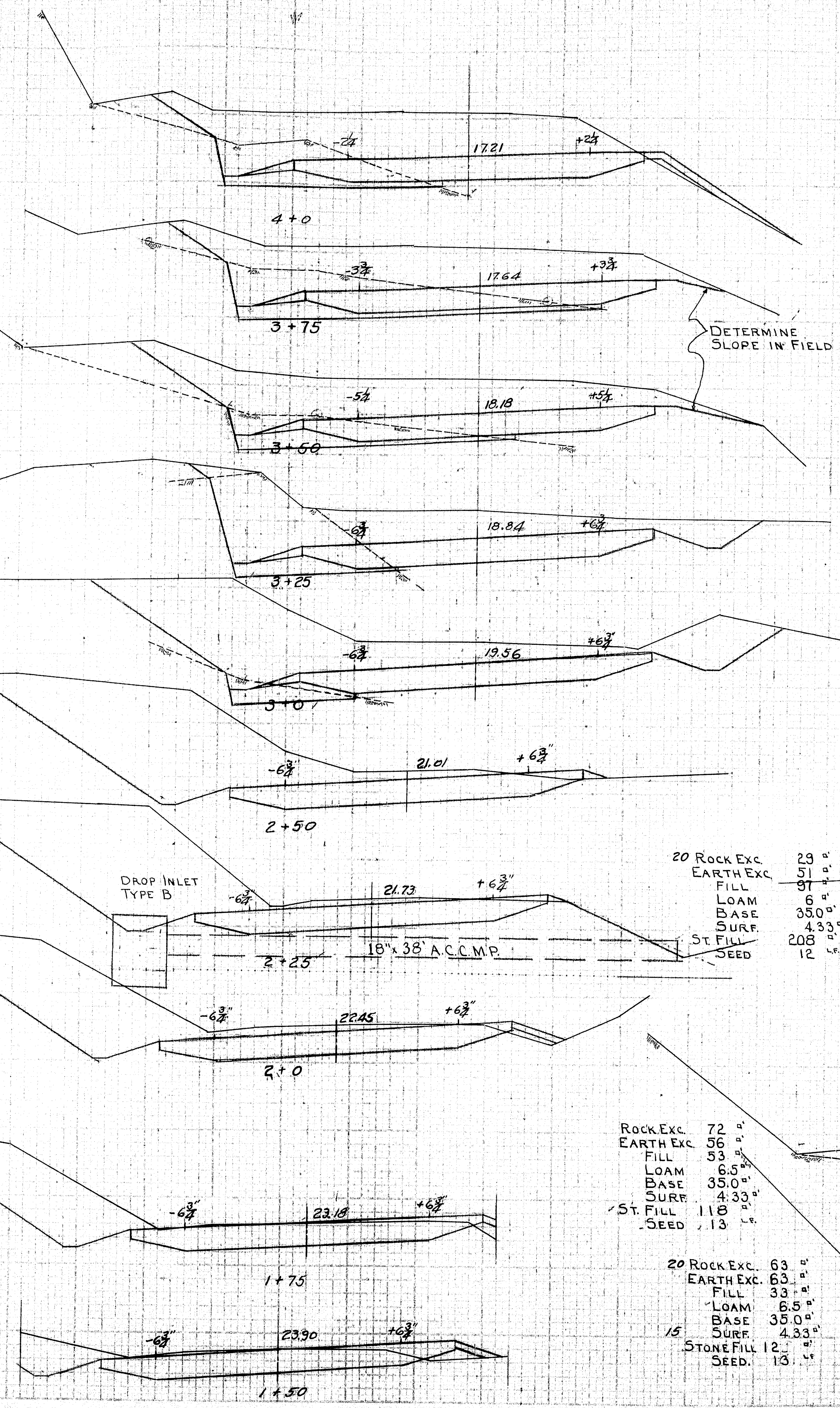
Rock Exc. 26
EARTH Exc. 29
FILL 30
LOAM 6.5
BASE 35.0
SURF. 4.33
STONE FILL 80
SEED. 13

Rock Exc. 30
EARTH Exc. 20
BASE 35.0
SURF. 4.33
LOAM .5
SEED. 1

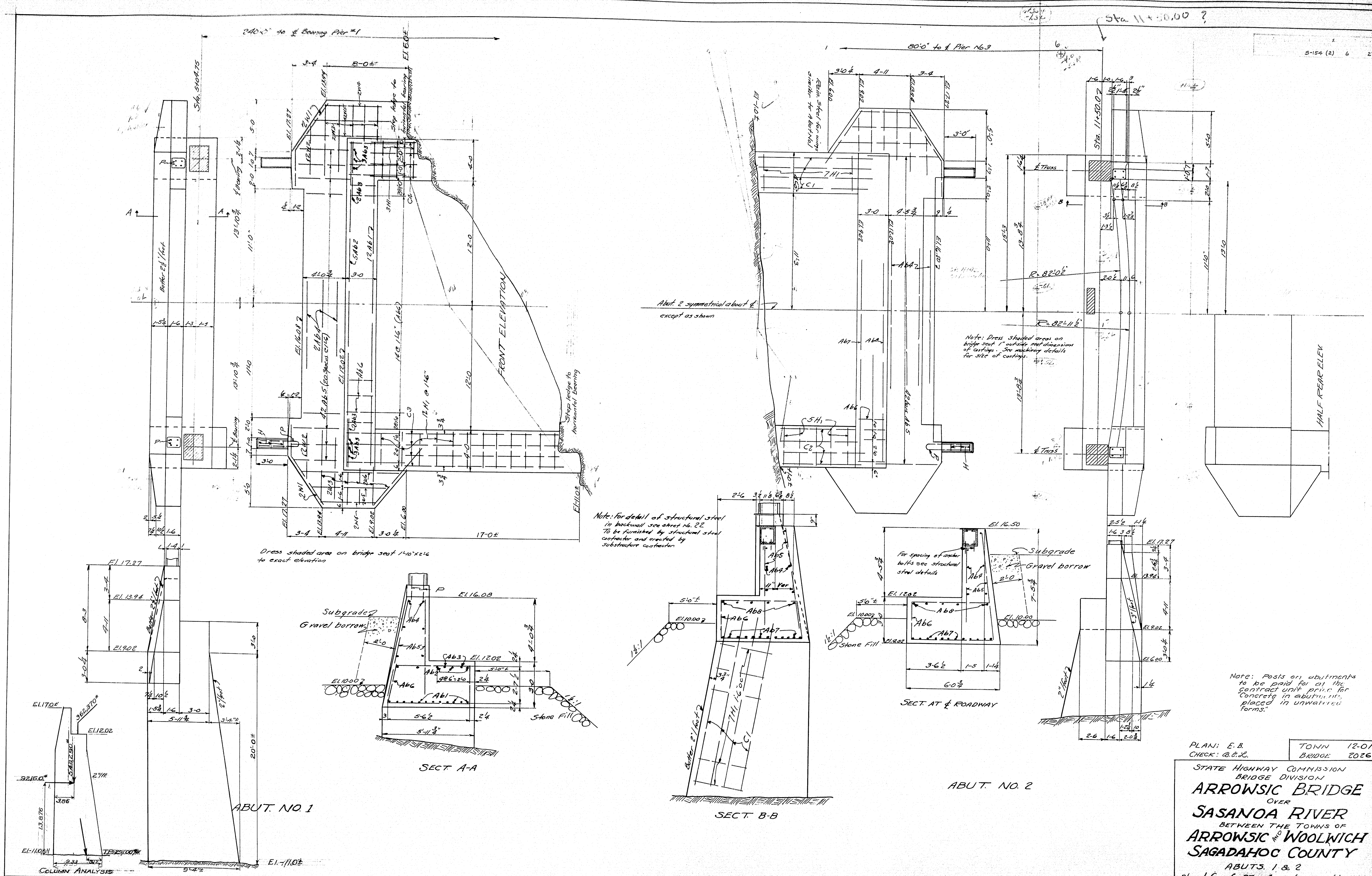
EARTH Exc. 37
BASE 35.0
SURF. 4.33
SEED. 2
LOAM 1

EARTH Exc. 18
FILL 6
BASE 35.0
SURF. 4.33
LOAM 2
SEED. 4

FILL 200
LOAM 13
BASE 35.0
SURF. 4.33
ST. FILL 403
SEED. 26



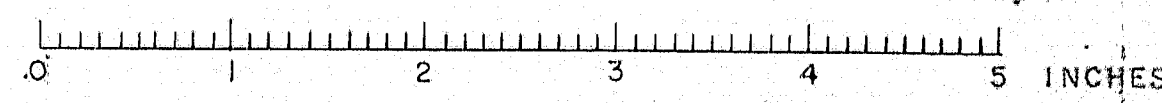
ARROWSIC BRIDGE
OVER
SASANOVA RIVER
APPROACH SECTION
SHEET 4 of 27 AUGUSTA

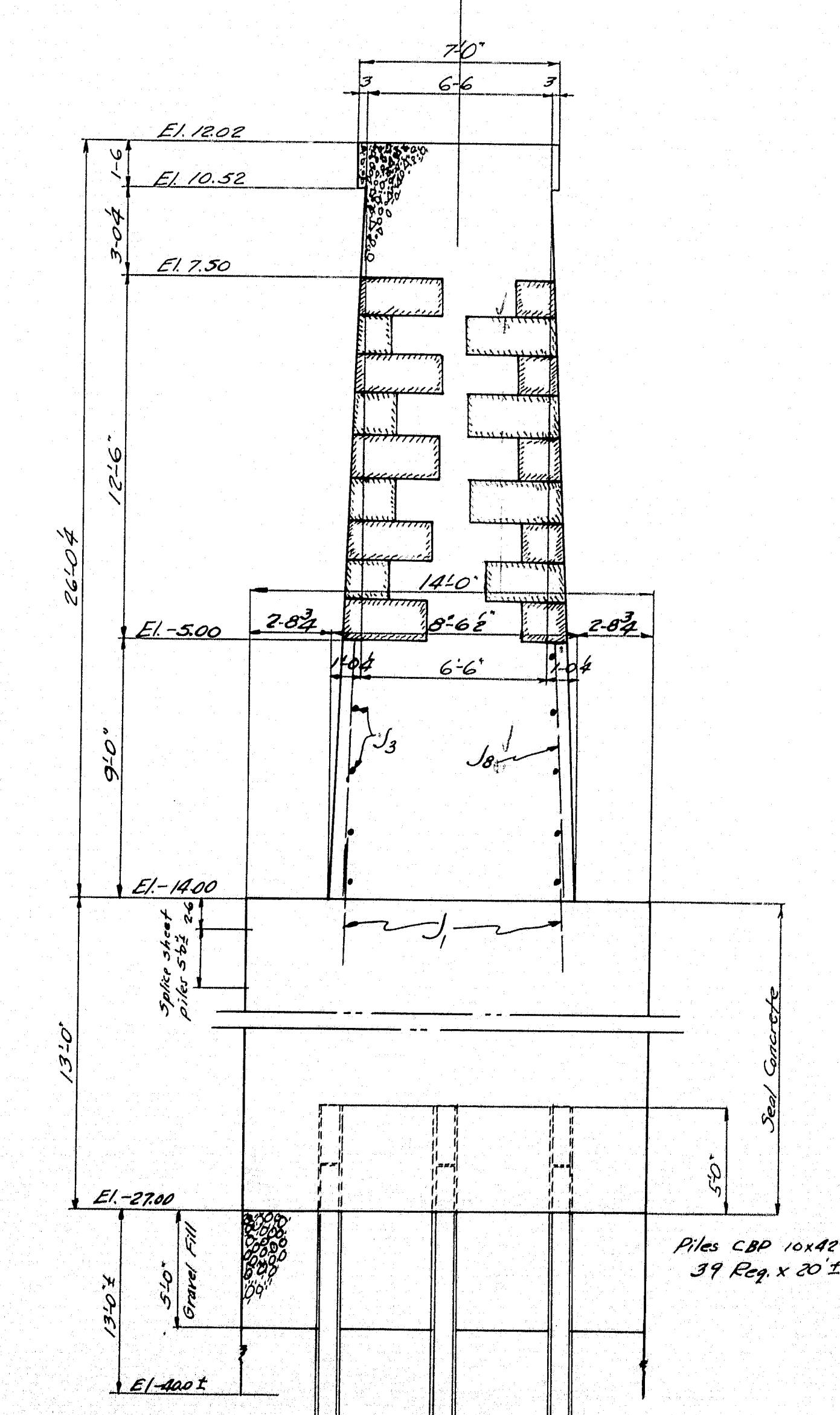
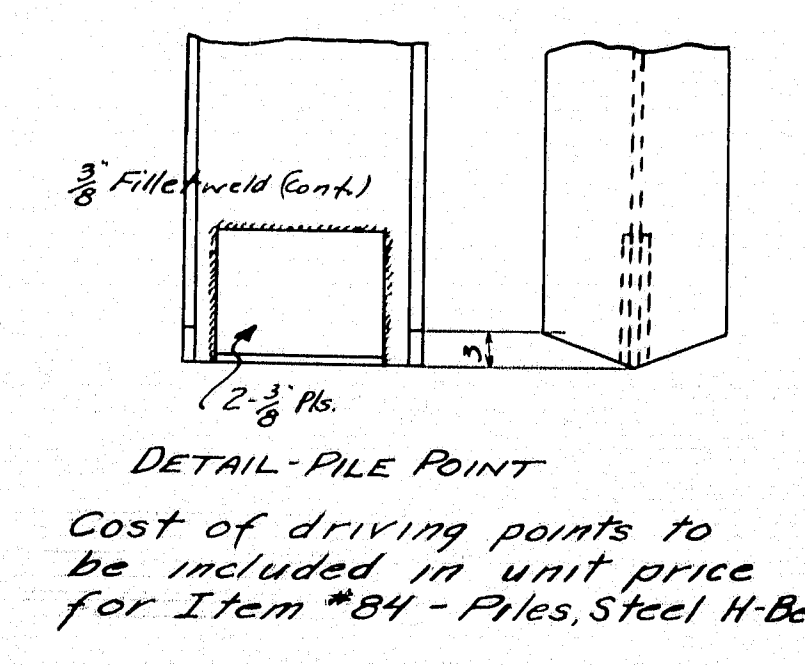
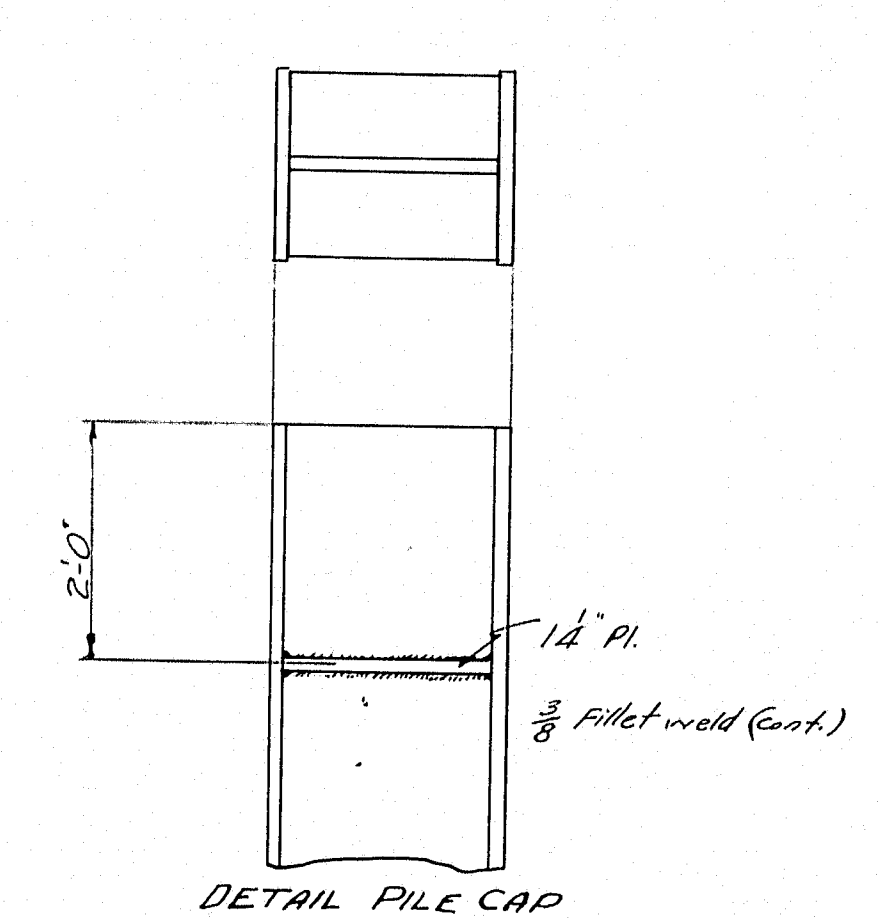
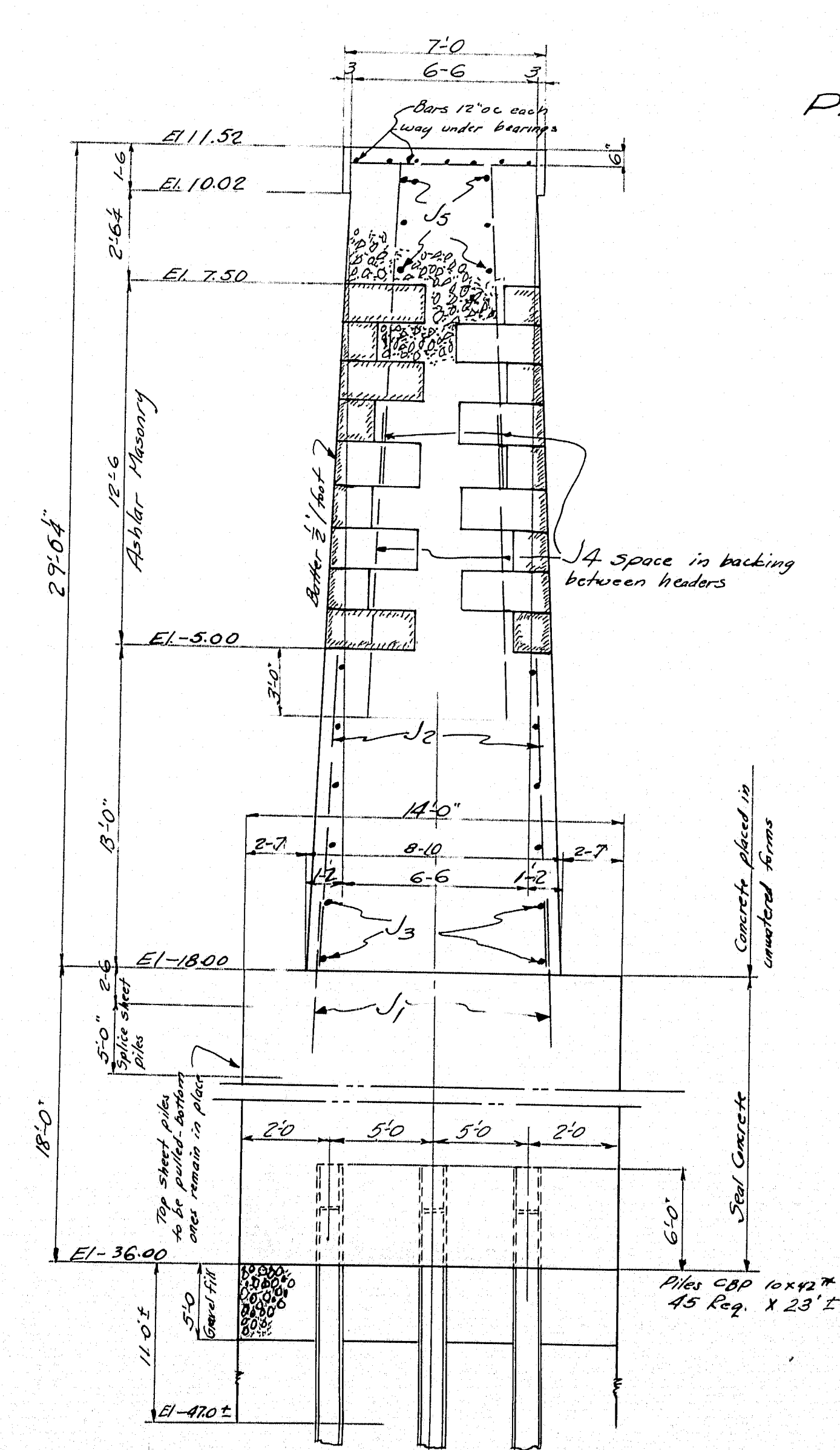
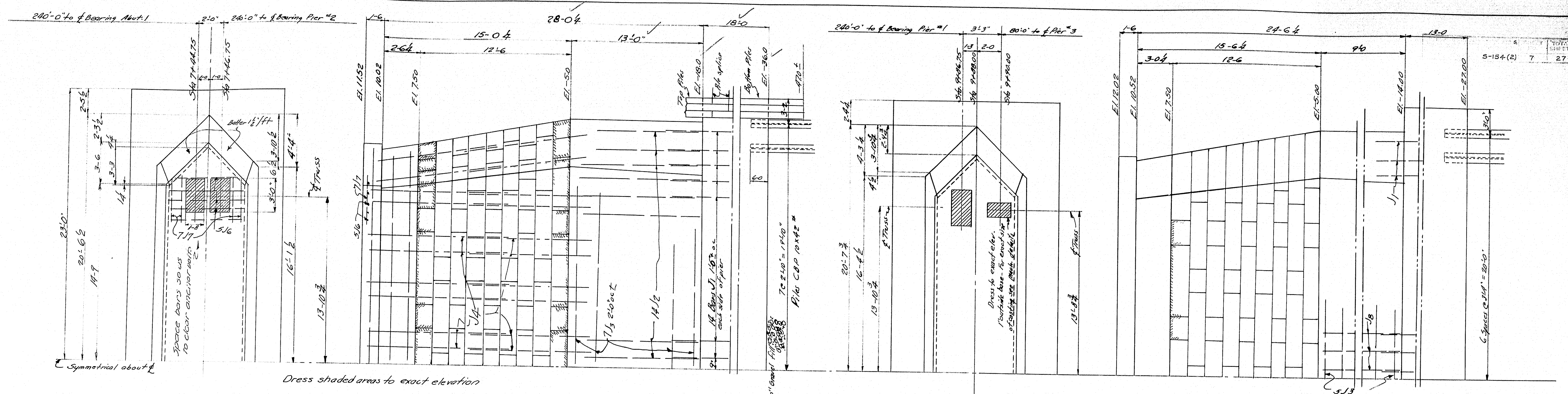


PLAN: E.B.
CHECK: A.B. & L.

TOWN 12-01
BRIDGE 2026

STATE HIGHWAY COMMISSION
BRIDGE DIVISION
ARROWSIC BRIDGE
OVER
SASANOA RIVER
BETWEEN THE TOWNS OF
ARROWSIC & WOOLWICH
SAGadahoc COUNTY
ABUTS. 1 & 2
Sheet 6 of 27, August 11 to July 1943





PIER NO. 2
Dimensions & details not shown same as for Pier No. 1

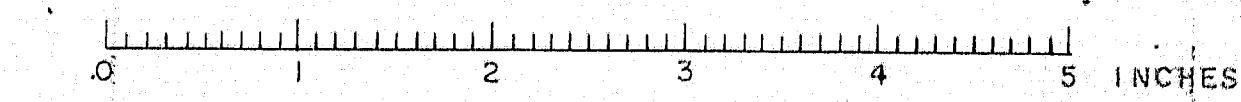
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CHECK: B.C.L.

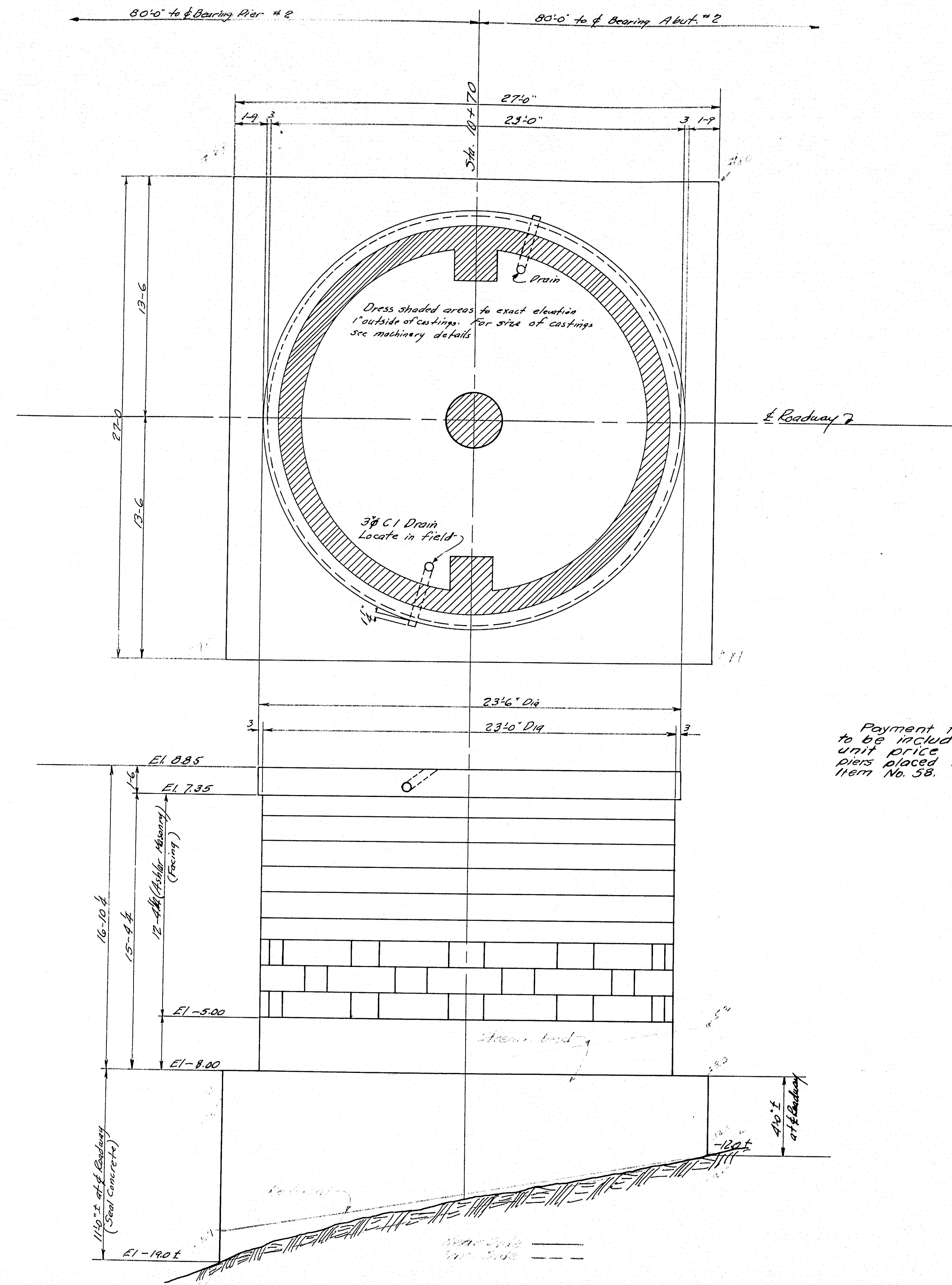
TOWN 12-01
BRIDGE 2026

STATE HIGHWAY COMMISSION
BRIDGE DIVISION
ARROWSIC BRIDGE
OVER
SASANOVA RIVER
BETWEEN THE TOWNS OF
ARROWSIC & WOOLWICH
SAGADAHOC COUNTY
PIERS 1 & 2
Sheet 7 of 27 August 14 Me July 1943

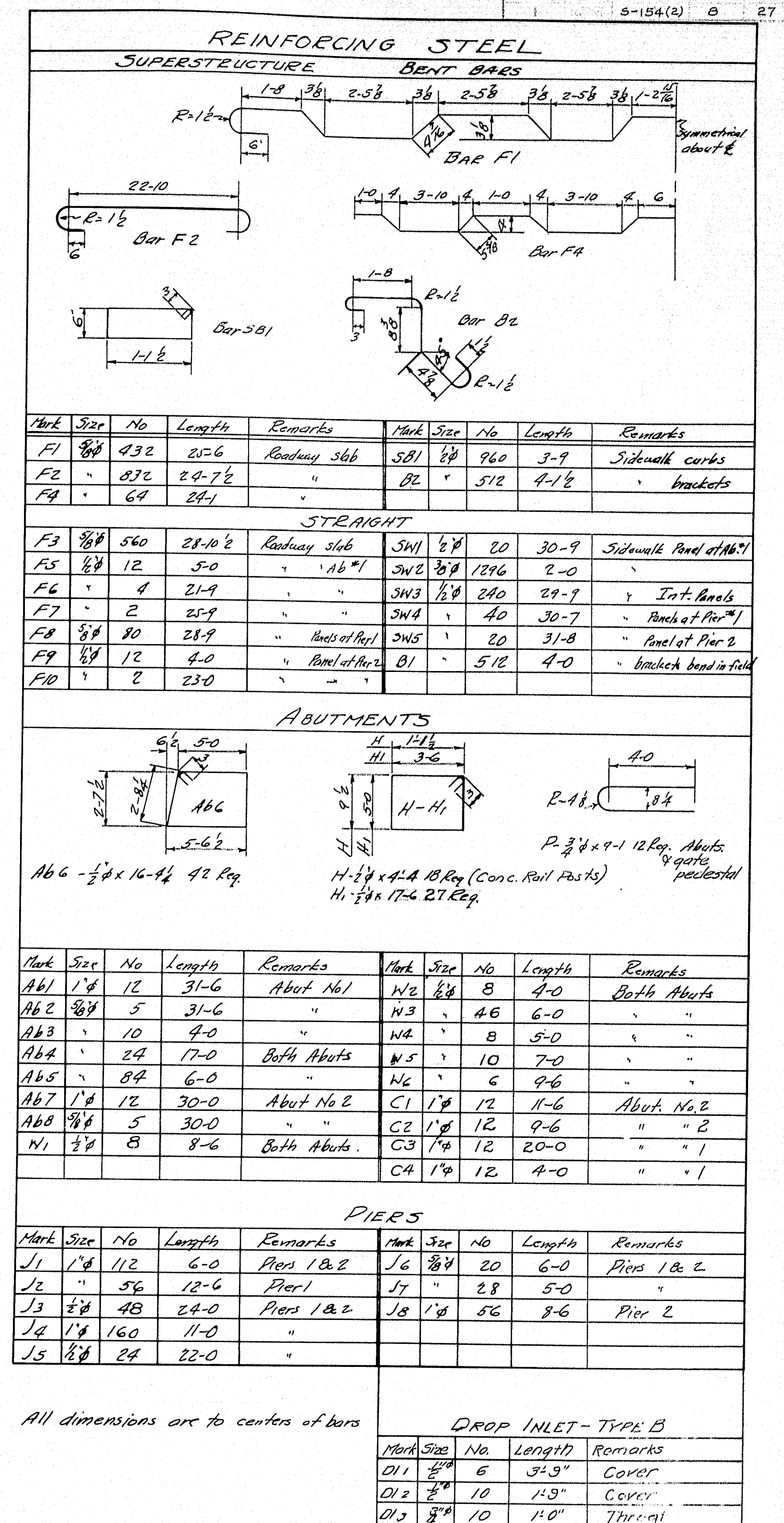
Revised 3/16/46 change pile spacing from 4' to 5' lowered Pier #1, 2

44-108





PIER No. 3



All dimensions are to centers of bars

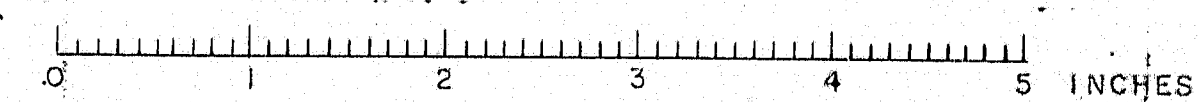
Mark	Size	No	Length	Remarks
D11	3/8"	6	3'-3"	Cover
D12	3/8"	10	1'-3"	Cover
D13	3/8"	10	1'-0"	Through

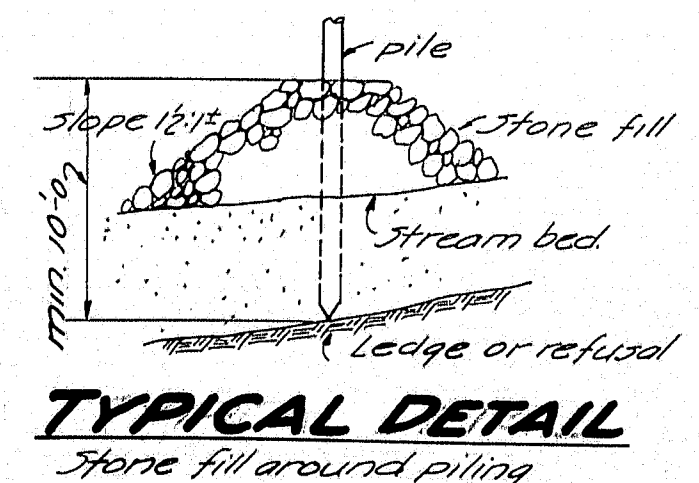
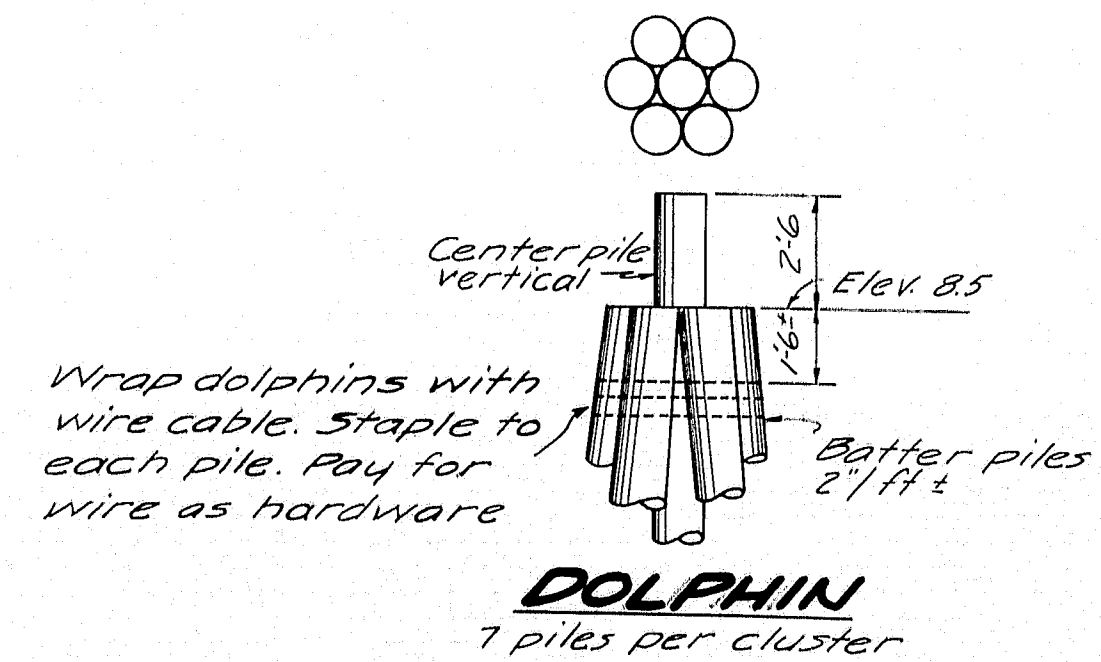
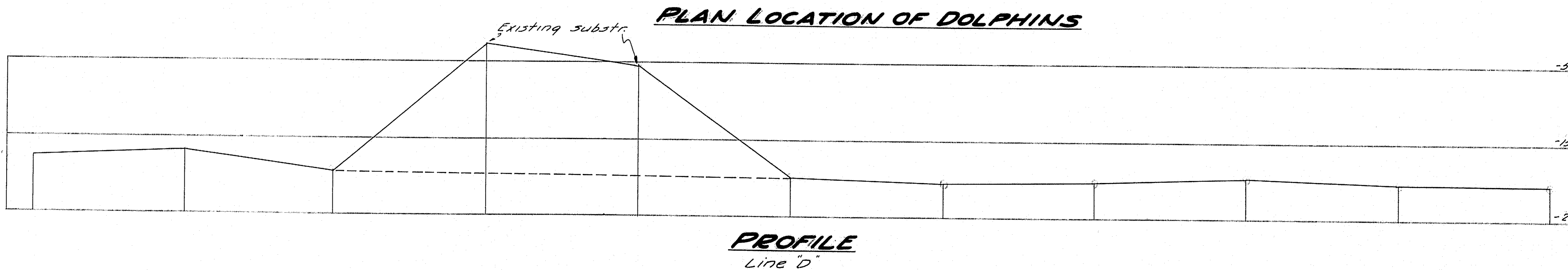
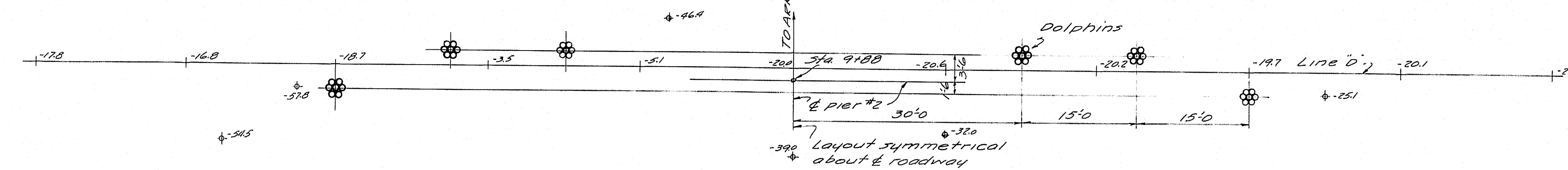
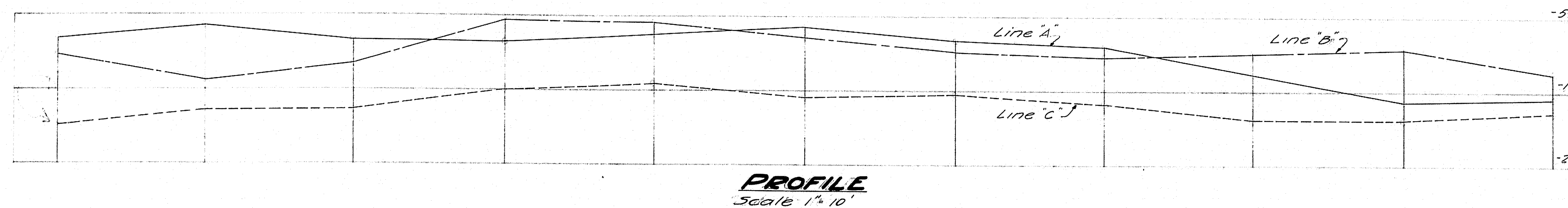
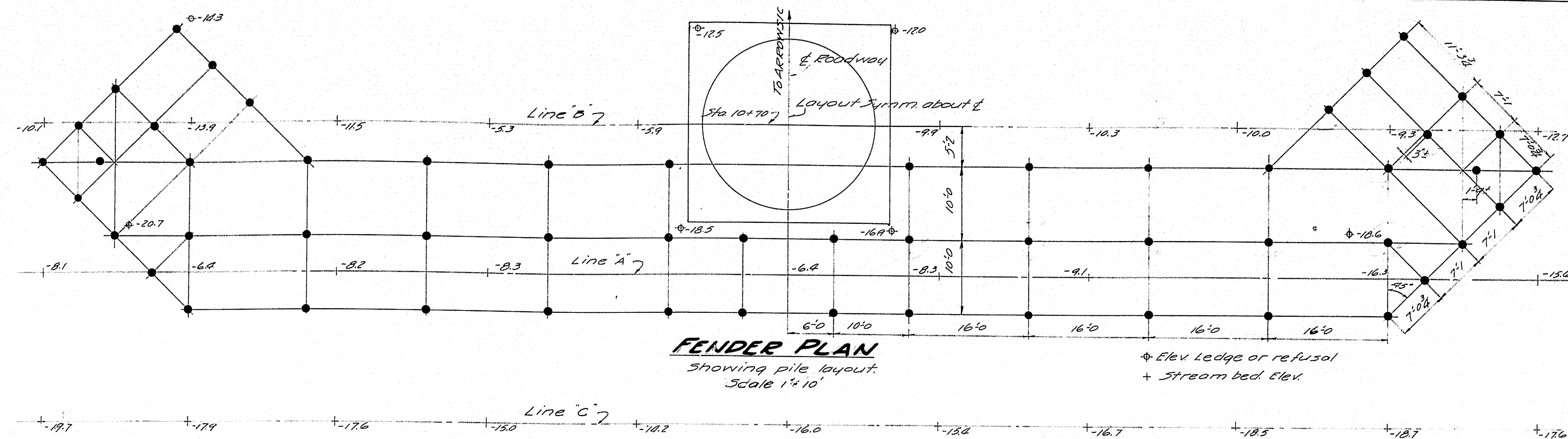
PLAN: EEB
CHECK: B.E.L.

TOWN 12-01
BRIDGE 2026

MAINE HIGHWAY COMMISSION
BRIDGE DIVISION
ARROWSIC BRIDGE
OVER
SASANOA RIVER
BETWEEN THE TOWNS OF
ARROWSIC AND WOOLWICH
SAGadahoc COUNTY

Sheet 8 of 27
August 16 July 1943





NOTE— Minimum pile penetration for fender and dolphins 10'-0". Stone fill to be placed around piles where depth is less than required. After fender and dolphins are constructed, the Engineer will determine around which piles stone will be placed to insure required stability. No stone will be placed, which, when in position, will encroach on river channel.

PILE LENGTHS
estimated.

Req'd	Length
15	16'-0"
27	26'-0"
14	23'-0"
21	35'-0"
21	40'-0"

Note— Except for all hardware to be galvanized. Pile lengths shown are for estimate only. All timber to be Southern Yellow Pine or Douglas Fir, creosote oil treatment. See specifications for preservative treatment.

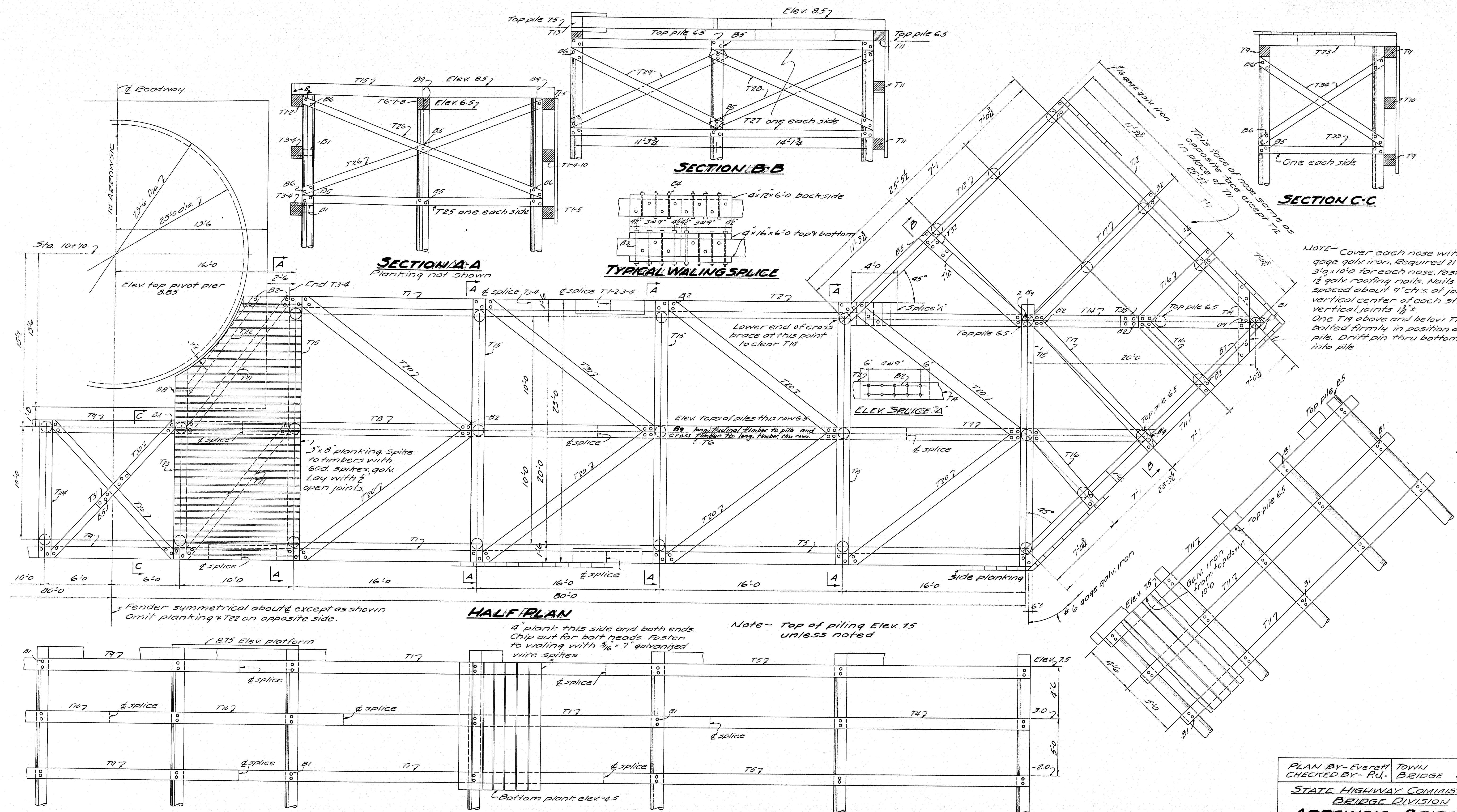
TIMBER SCHEDULE

Mark	Size	No	Length	Remarks
T1	12x12	10	37'-0"	Walling back & front
T2	"	2	27'-0"	"
T3	"	4	27'-0"	"
T4	"	6	28'-0"	"
T5	"	4	37'-0"	front
T6	"	2	27'-0"	center
T7	"	2	22'-0"	"
T8	"	2	31'-0"	"
T9	"	3	23'-0"	front & center
T10	"	2	20'-6"	"
T11	"	6	31'-0"	nose
T12	"	6	26'-6"	"
T13	"	2	27'-0"	"
T14	"	2	35'-6"	center nose
T15	"	10	23'-0"	Cross strut top
T16	10x12	6	9'-0"	Diagonal strut nose
T17	"	4	16'-0"	"
T18	"	2	12'-0"	"
T19	"	4	8'-0"	"
T20	"	16	14'-0"	Top
T21	8x12	4	15'-6"	"
T22	"	1	11'-6"	"
T23	12x12	1	17'-0"	Cross strut top
T24	"	1	12'-0"	"
T25	4x8	16	27'-0"	"
T26	"	16	28'-0"	diagonal
T27	"	8	27'-0"	nose
T28	"	4	17'-0"	"
T29	"	4	15'-0"	"
T30	4x12	300	150 Lin ft	1/4" splice walers multiples of 6'
T31	4x8	2	16'-6"	Cross struts diagonals
T32	4x12	1	8'-0"	splice for T30
T33	4x12	1	12'-0"	splice, multiples of 3'
T34	3x8	25	11'-0"	platform planking
T35	"	2	10'-6"	"
T36	"	2	9'-0"	"
T37	"	2	8'-0"	"
T38	"	2	7'-0"	"
T39	"	2	6'-0"	"
T40	4x12	4	11'-0"	cross struts
T41	"	4	14'-0"	cross strut diagonals

HARDWARE SCHEDULE

Mark	Size	No	Length	Remarks
B1	1"	224	2'-4"	2 each Walers to piles
B2	"	212	2'-2"	Struts to walers & splice A
B3	"	200	1'-10"	Walling splice
B4	"	150	1'-6"	"
B5	3/4"	110	2'-0"	T25-27-33 to piling
B6	"	96	1'-8"	diag struts to piling
B7	1"	12	3'-2"	T19 to walers & T14
B8	"	2	1'-8"	T22 to T23
B9	"	80	2'-0"	drift pins 1/2" to piling 1/4" and as otherwise noted
B10	1/2"	1260	1/2"	1/2" gal. 1/2" dia. (3350 #)
B11	1/2"	180	1/2"	1/2" gal. 1/2" dia. (3350 #)
B12	1/2"	180	1/2"	1/2" gal. 1/2" dia. (3350 #)
B13	1/2"	180	1/2"	1/2" gal. 1/2" dia. (3350 #)
B14	1/2"	180	1/2"	1/2" gal. 1/2" dia. (3350 #)
B15	1/2"	180	1/2"	1/2" gal. 1/2" dia. (3350 #)
B16	1/2"	180	1/2"	1/2" gal. 1/2" dia. (3350 #)
B17	1/2"	180	1/2"	1/2" gal. 1/2" dia. (3350 #)
B18	1/2"	180	1/2"	1/2" gal. 1/2" dia. (3350 #)
B19	1/2"	180	1/2"	1/2" gal. 1/2" dia. (3350 #)
B20	1/2"	180	1/2"	1/2" gal. 1/2" dia. (3350 #)
B21	1/2"	180	1/2"	1/2" gal. 1/2" dia. (3350 #)
B22	1/2"	180	1/2"	1/2" gal. 1/2" dia. (3350 #)
B23	1/2"	180	1/2"	1/2" gal. 1/2" dia. (3350 #)
B24	1/2"	180	1/2"	1/2" gal. 1/2" dia. (3350 #)
B25	1/2"	180	1/2"	1/2" gal. 1/2" dia. (3350 #)
B26	1/2"	180	1/2"	1/2" gal. 1/2" dia. (3350 #)
B27	1/2"	180	1/2"	1/2" gal. 1/2" dia. (3350 #)
B28	1/2"	180	1/2"	1/2" gal. 1/2" dia. (3350 #)
B29	1/2"	180	1/2"	1/2" gal. 1/2" dia. (3350 #)
B30	1/2"	180	1/2"	1/2" gal. 1/2" dia. (3350 #)
B31	1/2"	180	1/2"	1/2" gal. 1/2" dia. (3350 #)
B32	1/2"	180	1/2"	1/2" gal. 1/2" dia. (3350 #)
B33	1/2"	180	1/2"	1/2" gal. 1/2" dia. (3350 #)
B34	1/2"	180	1/2"	1/2" gal. 1/2" dia. (3350 #)
B35	1/2"	180	1/2"	1/2" gal. 1/2" dia. (3350 #)
B36	1/2"	180	1/2"	1/2" gal. 1/2" dia. (3350 #)
B37	1/2"	180	1/2"	1/2" gal. 1/2" dia. (3350 #)
B38	1/2"	180	1/2"	1/2" gal. 1/2" dia. (3350 #)
B39	1/2"	180	1/2"	1/2" gal. 1/2" dia. (3350 #)
B40	1/2"	180	1/2"	1/2" gal. 1/2" dia. (3350 #)
B41	1/2"	180	1/2"	1/2" gal. 1/2" dia. (3350 #)
B42	1/2"	180	1/2"	1/2" gal. 1/2" dia. (3350 #)
B43	1/2"	180	1/2"	1/2" gal. 1/2" dia. (3350 #)
B44	1/2"	180	1/2"	1/2" gal. 1/2" dia. (3350 #)
B45	1/2"	180	1/2"	1/2" gal. 1/2" dia. (3350 #)
B46	1/2"	180	1/2"	1/2" gal. 1/2" dia. (3350 #)
B47	1/2"	180	1/2"	1/2" gal. 1/2" dia. (3350 #)
B48	1/2"	180	1/2"	1/2" gal. 1/2" dia. (3350 #)
B49	1/2"	180	1/2"	1/2" gal. 1/2" dia. (3350 #)
B50	1/2"	180	1/2"	1/2" gal. 1/2" dia. (3350 #)
B51	1/2"	180	1/2"	1/2" gal. 1/2" dia. (3350 #)
B52	1/2"	180	1/2"	1/2" gal. 1/2" dia. (3350 #)
B53	1/2"	180	1/2"	1/2" gal. 1/2" dia. (3350 #)
B54	1/2"	180	1/2"	1/2" gal. 1/2" dia. (3350 #)
B55	1/2"	180	1/2"	1/2" gal. 1/2" dia. (3350 #)
B56	1/2"	180	1/2"	1/2" gal. 1/2" dia. (3350 #)
B57	1/2"	180	1/2"	1/2" gal. 1/2" dia. (3350 #)
B58	1/2"	180	1/2"	1/2" gal. 1/2" dia. (3350 #)
B59	1/2"	180	1/2"	1/2" gal. 1/2" dia. (3350 #)
B60	1/2"	180	1/2"	1/2" gal. 1/2" dia. (3350 #)
B61	1/2"	180	1/2"	1/2" gal. 1/2" dia. (3350 #)
B62	1/2"	180	1/2"	1/2" gal. 1/2" dia. (3350 #)
B63	1/2"	180	1/2"	1/2" gal. 1/2" dia. (3350 #)
B64	1/2"	180	1/2"	1/2" gal. 1/2" dia. (3350 #)
B65	1/2"	180	1/2"	1/2" gal. 1/2" dia. (3350 #)
B66	1/2"	180	1/2"	1/2" gal. 1/2" dia. (3350 #)
B67	1/2"	180	1/2"	1/2" gal. 1/2" dia. (3350 #)
B68	1/2"	180	1/2"	1/2" gal. 1/2" dia. (3350 #)
B69	1/2"	180	1/2"	1/2" gal. 1/2" dia. (3350 #)
B70	1/2"	180	1/2"	1/2" gal. 1/2" dia. (3350 #)
B71	1/2"	180	1/2"	1/2" gal. 1/2" dia. (3350 #)
B72	1/2"	180	1/2"	1/2" gal. 1/2" dia. (3350 #)
B73	1/2"	180	1/2"	1/2" gal. 1/2" dia. (3350 #)
B74	1/2"	180	1/2"	1/2" gal. 1/2" dia. (3350 #)
B75	1/2"	180	1/2"	1/2" gal. 1/2" dia. (3350 #)
B76	1/2"	180	1/2"	1/2" gal. 1/2" dia. (3350 #)
B77	1/2"	180	1/2"	1/2" gal. 1/2" dia. (3350 #)
B78	1/2"	180	1/2"	1/2" gal. 1/2" dia. (3350 #)
B79	1/2"	180	1/2"	1/2" gal. 1/2" dia. (3350 #)
B80	1/2"	180	1/2"	1/2" gal. 1/2" dia. (3350 #)
B81	1/2"	180	1/2"	1/2" gal. 1/2" dia. (3350 #)
B82	1/2"	180	1/2"	1/2" gal. 1/2" dia. (3350 #)
B83	1/2"	180	1/2"	1/2" gal. 1/2" dia. (3350 #)
B84	1/2"	180	1/2"	1/2" gal. 1/2" dia. (3350 #)
B85	1/2"	180	1/2"	1/2" gal. 1/2" dia. (3350 #)
B86	1/2"	180	1/2"	1/2" gal. 1/2" dia. (3350 #)
B87	1/2"	180	1/2"	1/2" gal. 1/2" dia. (3350 #)
B88	1/2"	180	1/2"	1/2" gal. 1/2" dia. (3350 #)
B89	1/2"	180	1/2"	1/2" gal. 1/2" dia. (3350 #)
B90	1/2"	180	1/2"	1/2" gal. 1/2" dia. (3350 #)
B91	1/2"	180	1/2"	1/2" gal. 1/2" dia. (3350 #)
B92	1/2"	180	1/2"	1/2" gal. 1/2" dia. (3350 #)
B93	1/2"	180	1/2"	1/2" gal. 1/2" dia. (3350 #)
B94	1/2"	180	1/2"	1/2" gal. 1/2" dia. (3350 #)
B95	1/2"	180	1/2"	1/2" gal. 1/2" dia. (3350 #)
B96	1/2"	180	1/2"	1/2" gal. 1/2" dia. (3350 #)
B97	1/2"	180	1/2"	1/2" gal. 1/2" dia. (3350 #)
B98	1/2"	180	1/2"	1/2" gal. 1/2" dia. (3350 #)
B99	1/2"	180	1/2"	1/2" gal. 1/2" dia. (3350 #)
B100	1/2"	180	1/2"	1/2" gal. 1/2" dia. (3350 #)

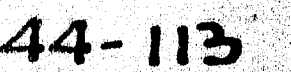
PLAN BY Everett TOWN 12-01
CHECKED BY FJ. BEIDGE 2026
STATE HIGHWAY COMMISSION
BRIDGE DIVISION
ARROWSIC BRIDGE
over
SASANOVA RIVER
Between the towns of
ARROWSIC & WOOLWICH
SAGadahoc CO.
FENDER PIER
Sheet 9 of 27, Augusta, Me. March 1946



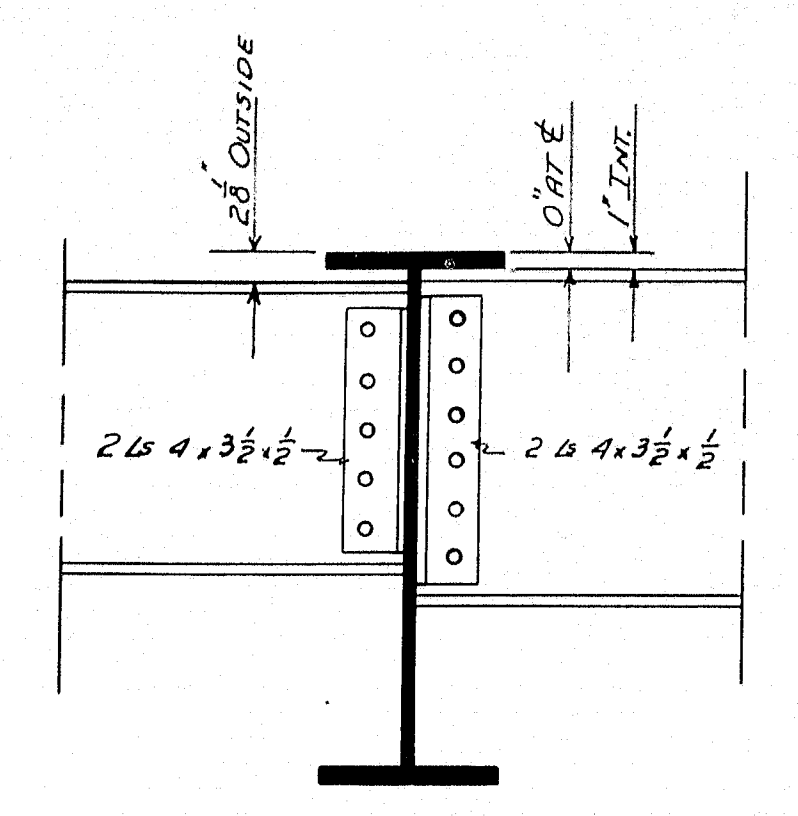
PLAN BY - EVERETT TOWN 12-01
CHECKED BY - R. J. BRIDGE 2026

STATE HIGHWAY COMMISSION
BRIDGE DIVISION
ARROWSIC BRIDGE
over
SASANOA RIVER
Between the Towns of
ARROWSIC and WOOLWICH
SABADAHOG CO.

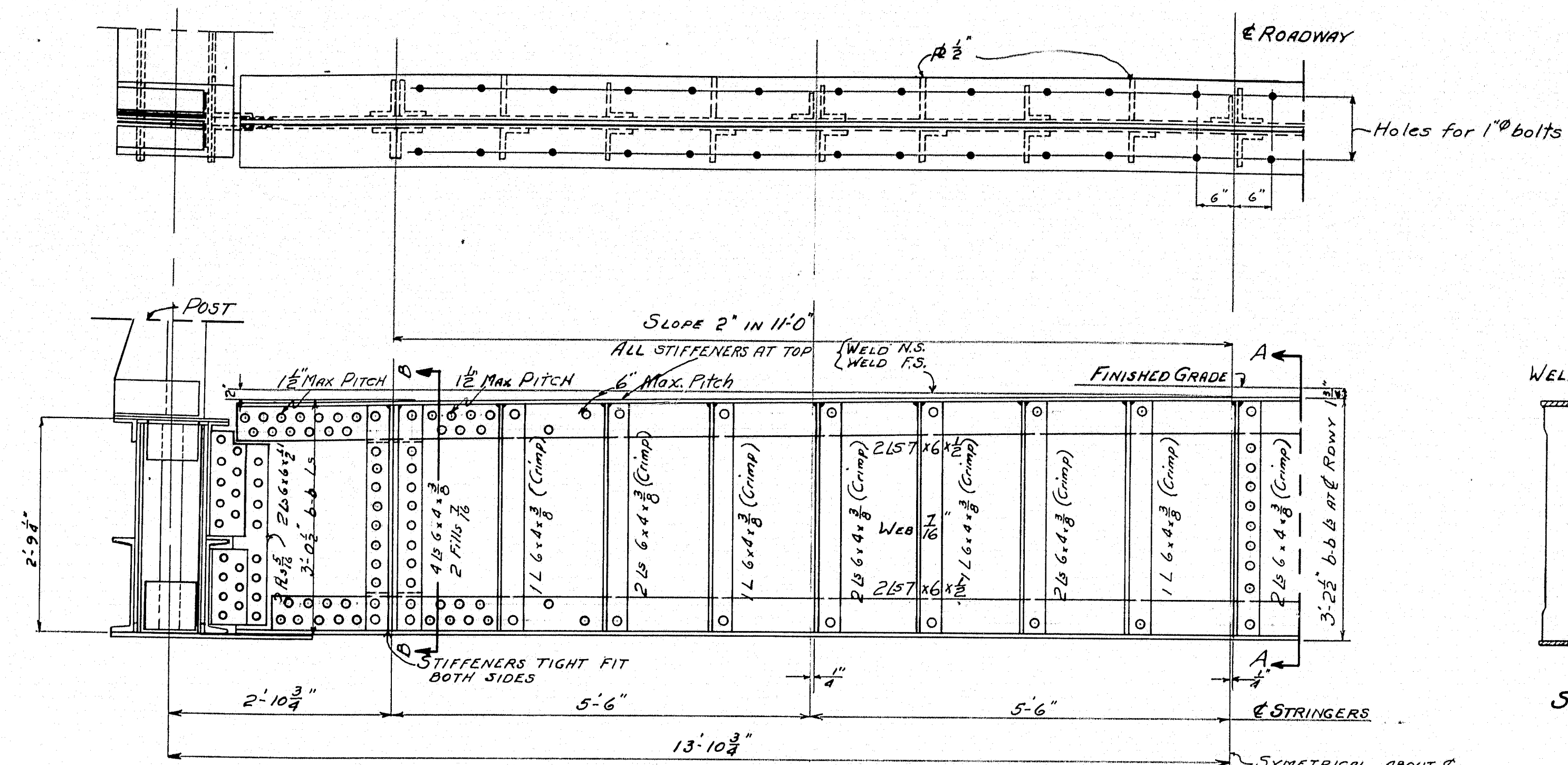
FENDER PIER
Sheet 10 of 27 Augusta, Me. March 1926.



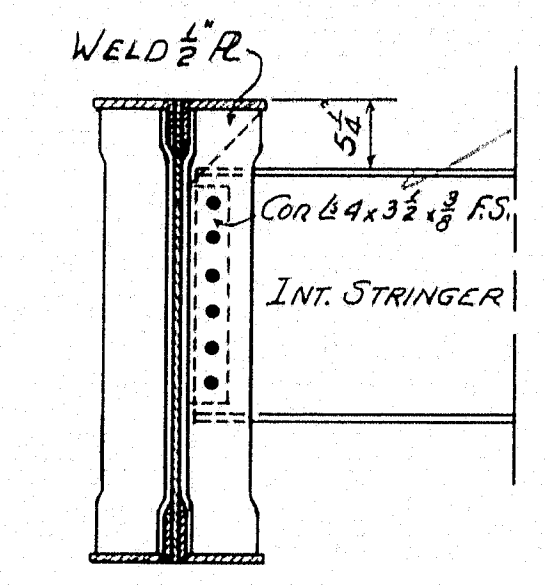
	MOMENTS IN "KIPS	
	STRINGERS	FLOOR BEAMS
DEAD LOAD	776.7	822.5
LIVE LOAD	706.4	1221.0
IMPACT	211.9	366.3
100% (L+I)	1836.5	3174.6
TOTAL	2613.2	3997.1
DESIGN SECTION	18" WF 55	21" WF 73
		33" WF 141
		40" T&B
		12 38" x 1/2"
		END FL. BEAM
		AT PIER 1



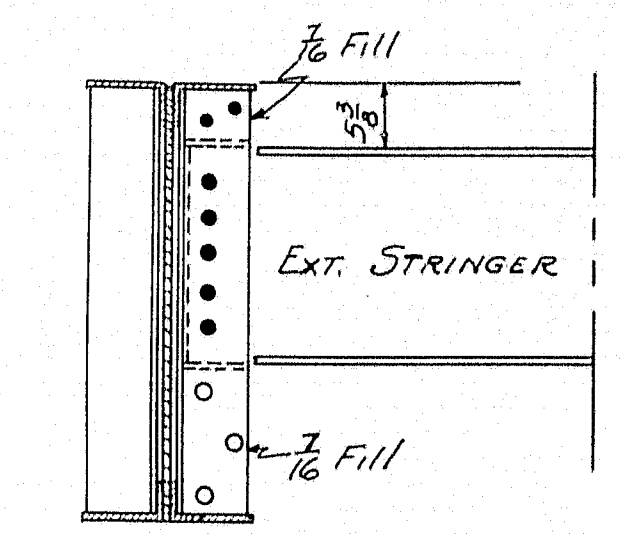
STRINGER CONNECTION



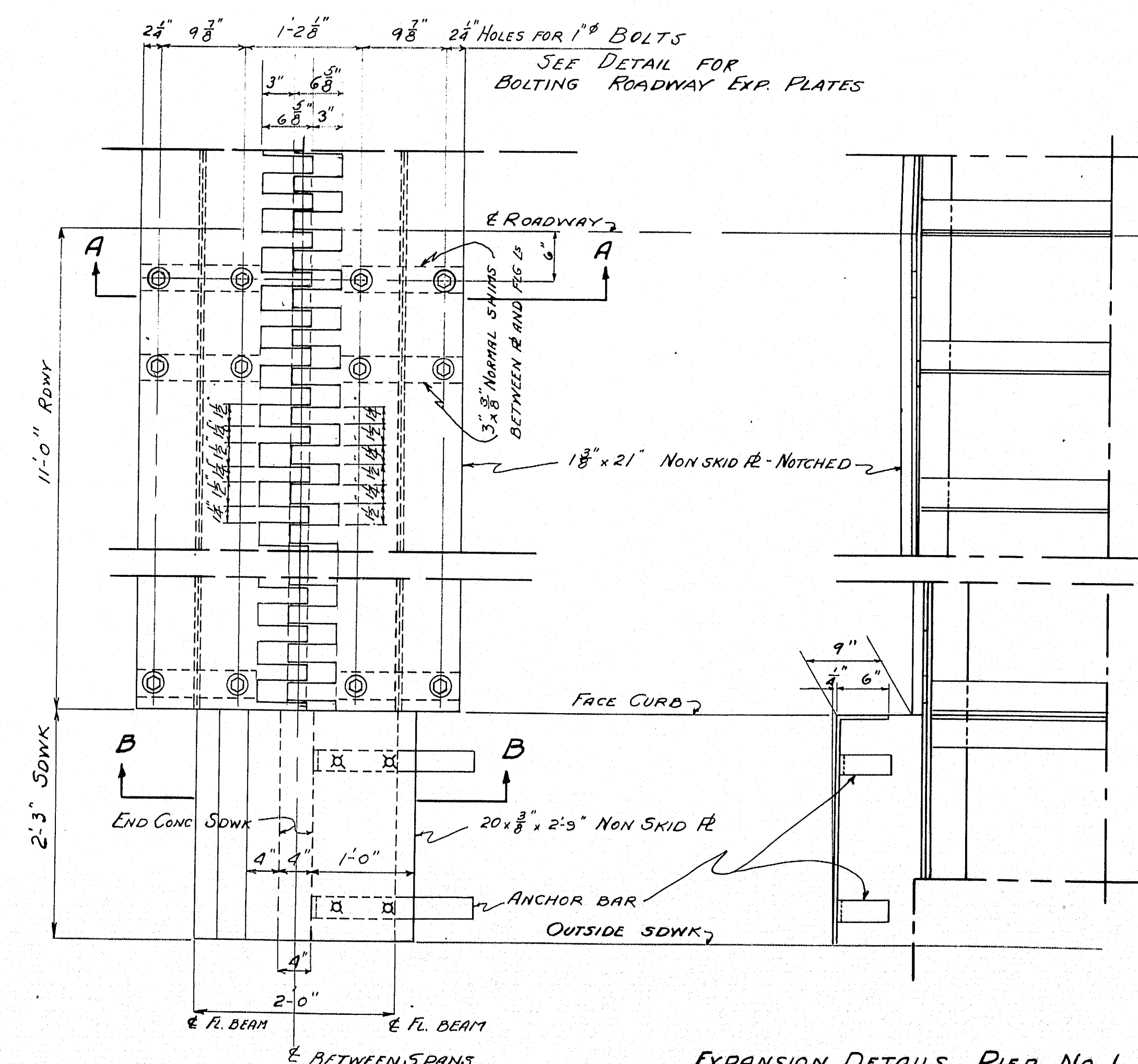
DETAIL END FLOOR BEAM AT PIER No. 1



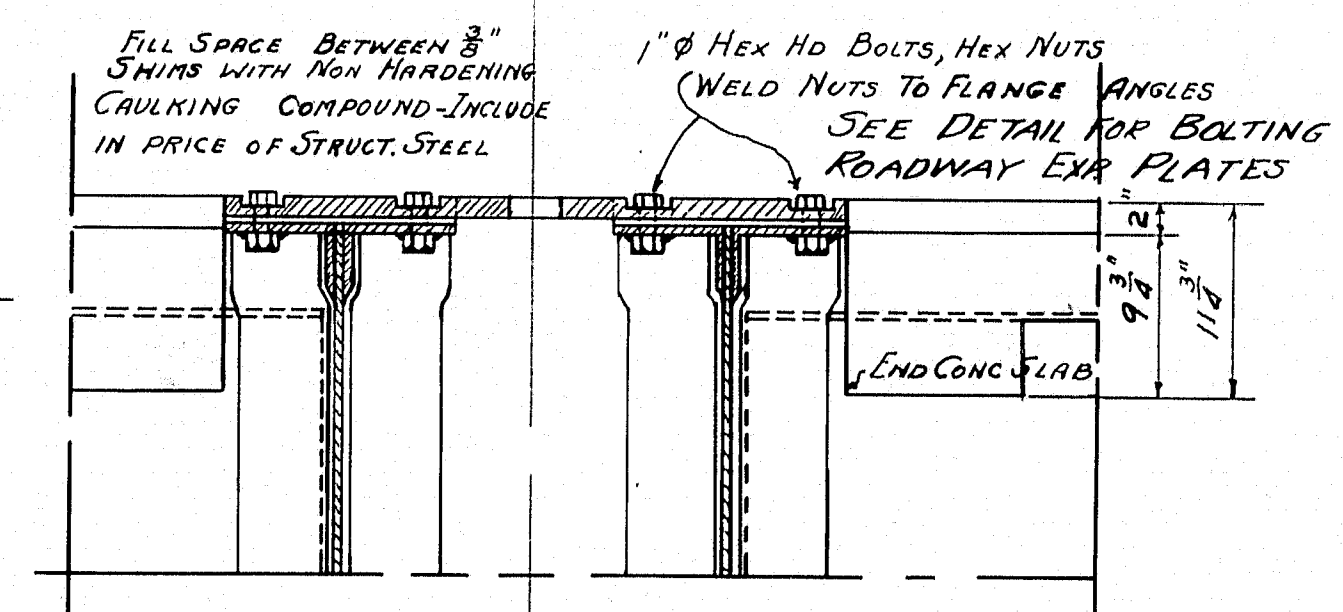
SECTION A-A



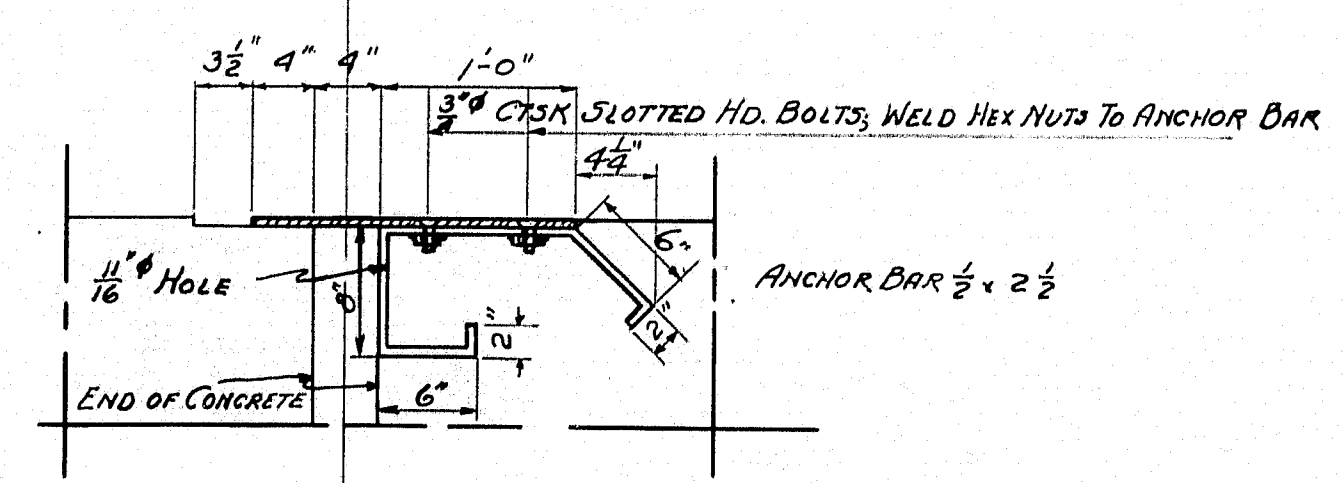
SECTION B-B



EXPANSION DETAILS PIER No. 1

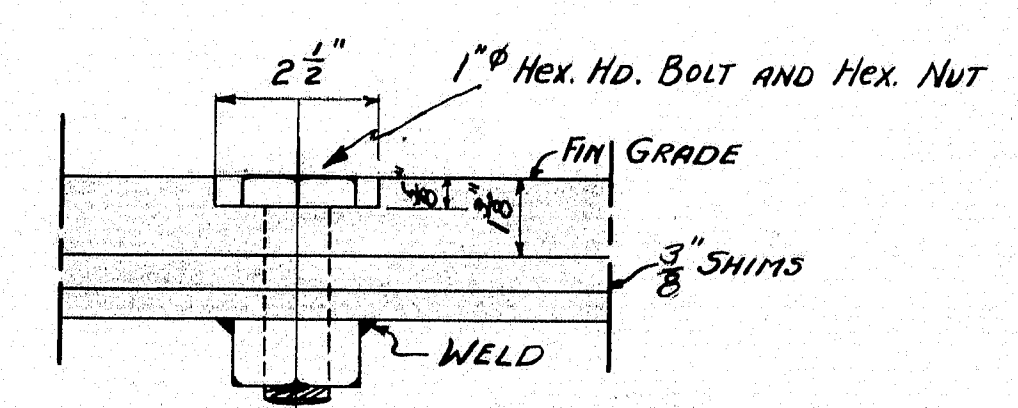


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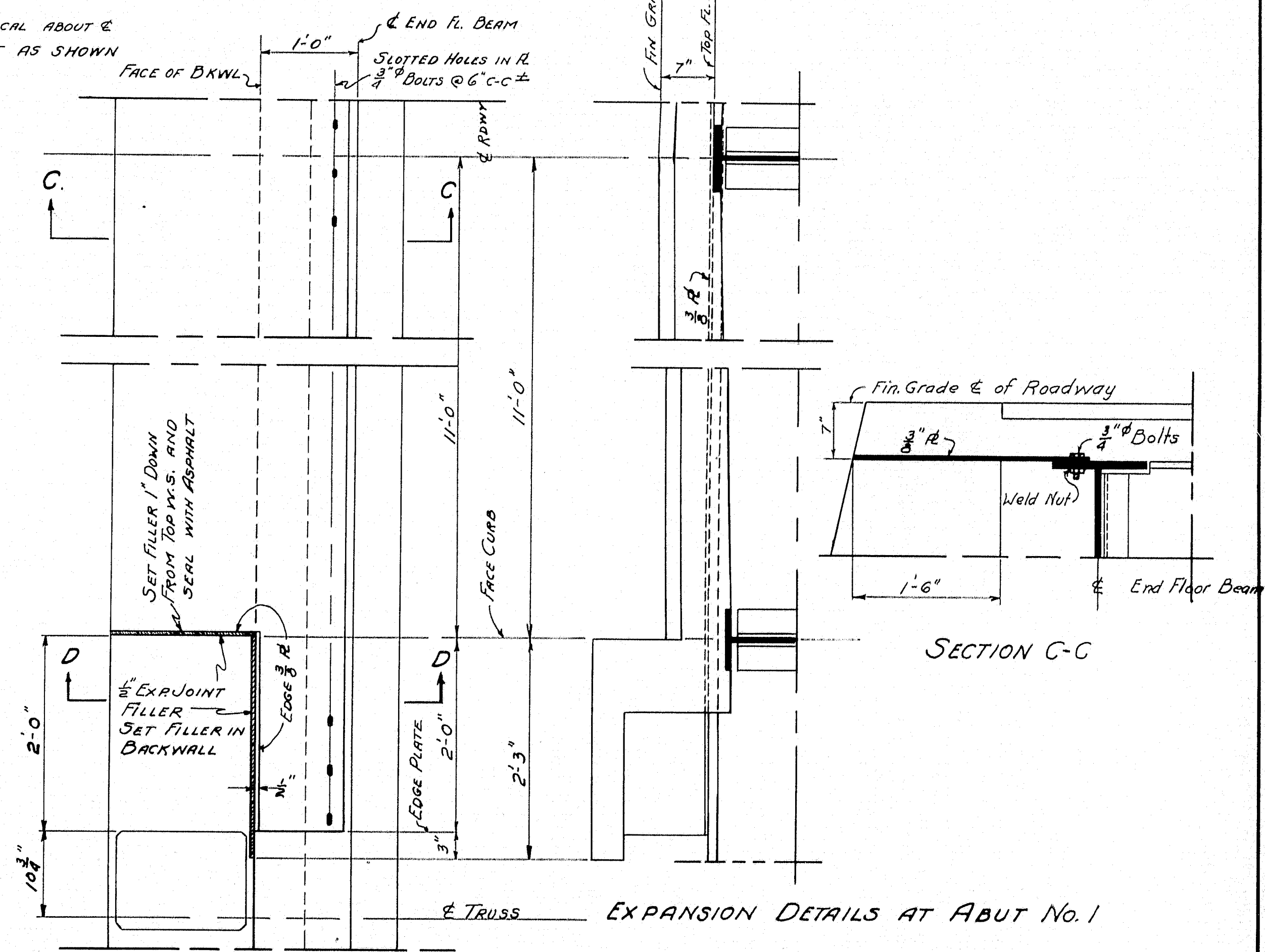


SECTION B-B

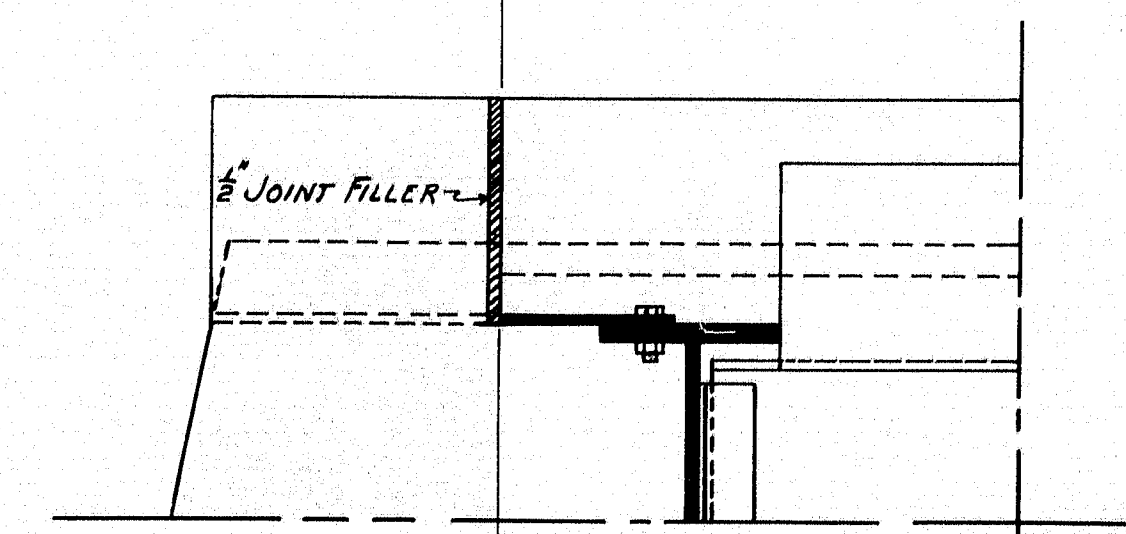
NOTE: SIDEWALK EXP. PLTS TO BE FURNISHED BY STEEL CONTRACTOR AND ERECTED BY SUBSTRUCTURE CONTRACTOR, ALSO, APRON PLATE AT ABUTMENTS



DETAIL FOR BOLTING ROADWAY EXP PLATES



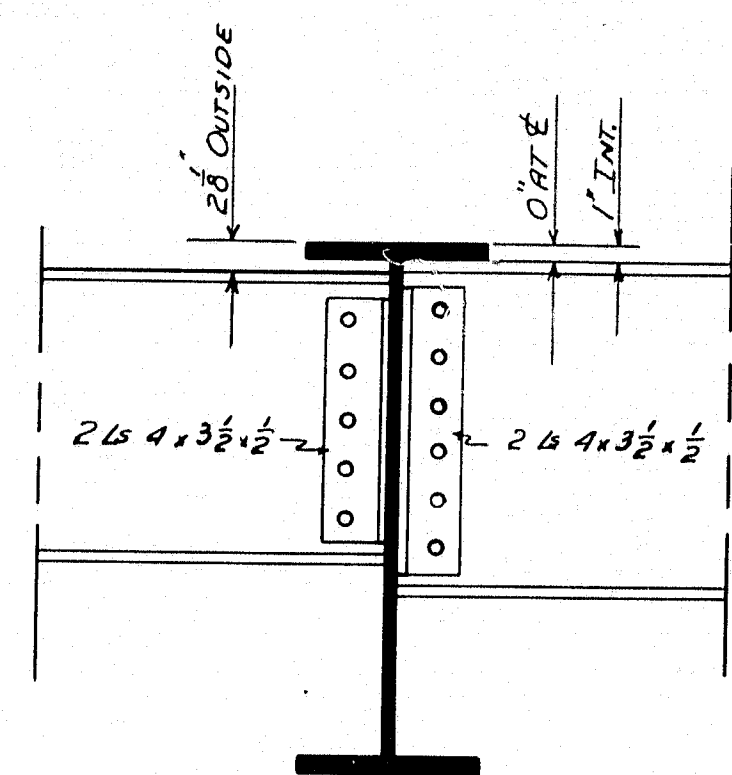
EXPANSION DETAILS AT ABUT No. 1



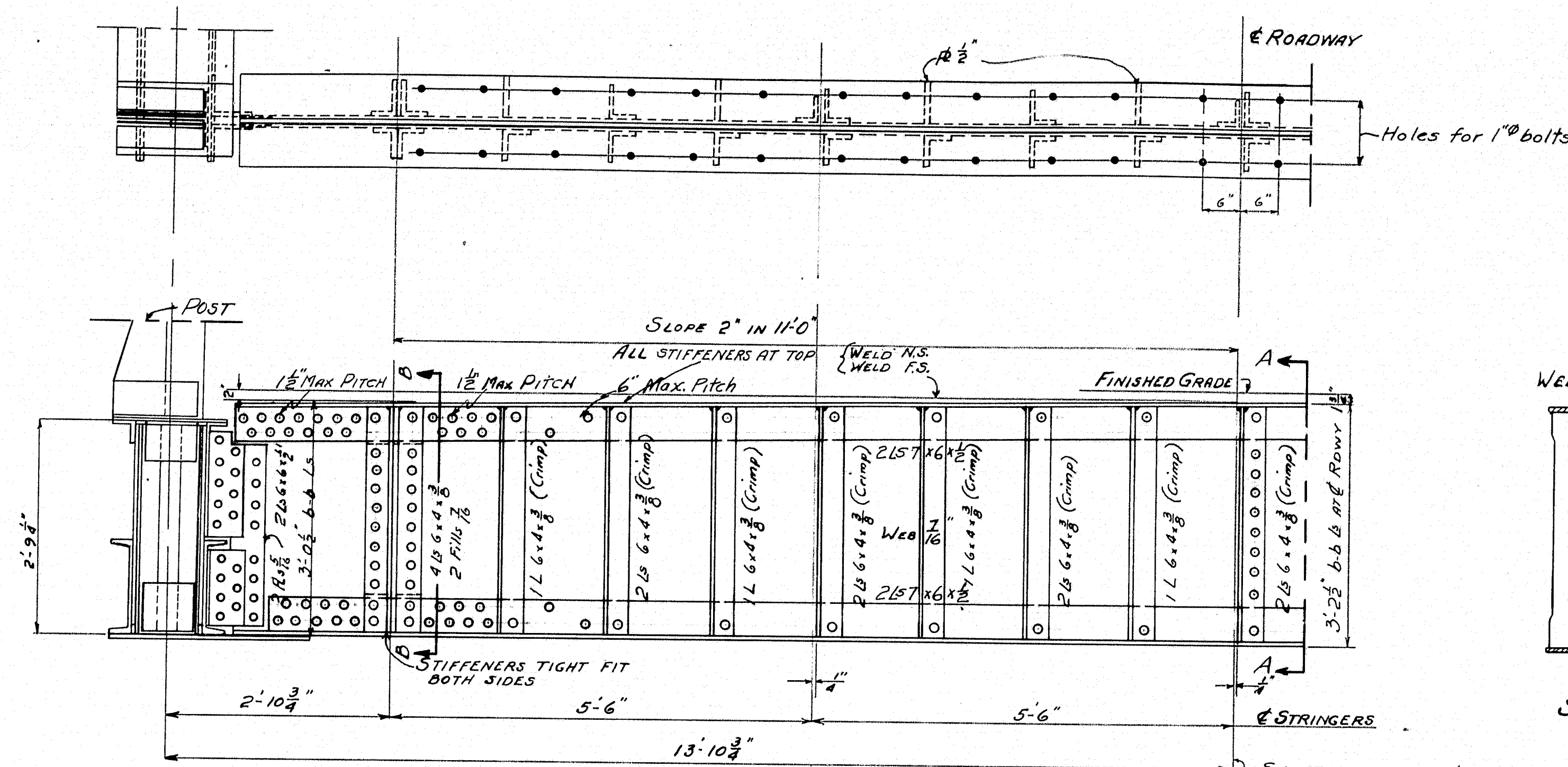
SECTION D-D

PLAN A.B.P. TRACE SAVAGE
CHECK E.B.
TOWN 12-01
BRIDGE 2026
STATE HIGHWAY COMMISSION
BRIDGE DIVISION
ARROWSIC BRIDGE
OVER
SASANOVA RIVER
BETWEEN THE TOWNS OF
ARROWSIC & WOOLWICH
SAGadahoc COUNTY
EXPANSION DETAILS
Sheet 13 of 27 August 11 to July 1943

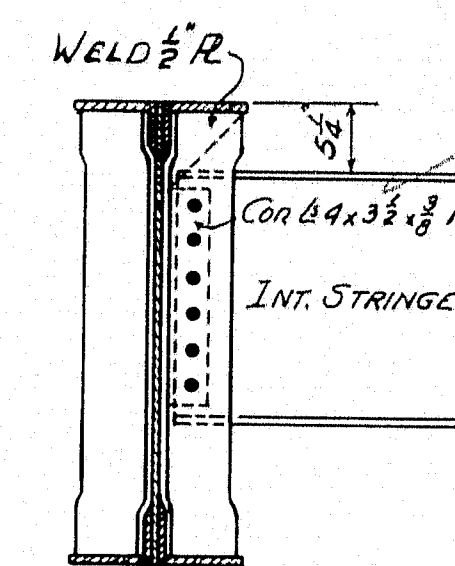
	MOMENTS IN "KIPS	
	STRINGERS	FLOOR BEAMS
DEAD LOAD	776.7	822.5
LIVE LOAD	706.4	1221.0
IMPACT	211.9	366.3
100% (L+I)	1836.5	3174.6
TOTAL	2613.2	3997.1
DESIGN SECTION	10 $\frac{1}{2}$ " W 55 $\frac{1}{2}$ "	21 $\frac{1}{2}$ " W 73 $\frac{1}{2}$ "
		33 $\frac{1}{2}$ " W 141 $\frac{1}{2}$ " UNLESS NOTED
		40 T.6.2 $\frac{1}{2}$ " END FL. BEAM
		R 38 $\frac{1}{2}$ " AT PIER 1



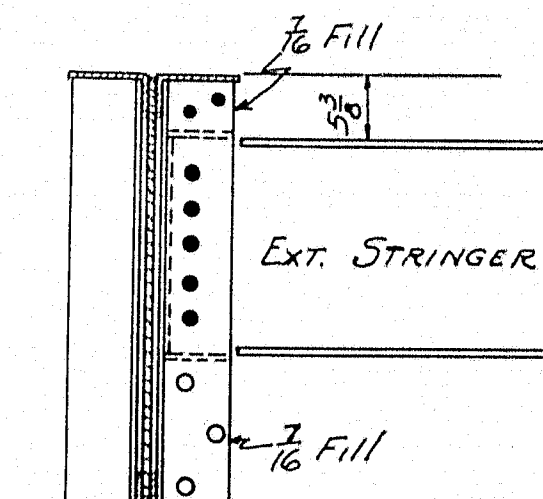
STRINGER CONNECTION



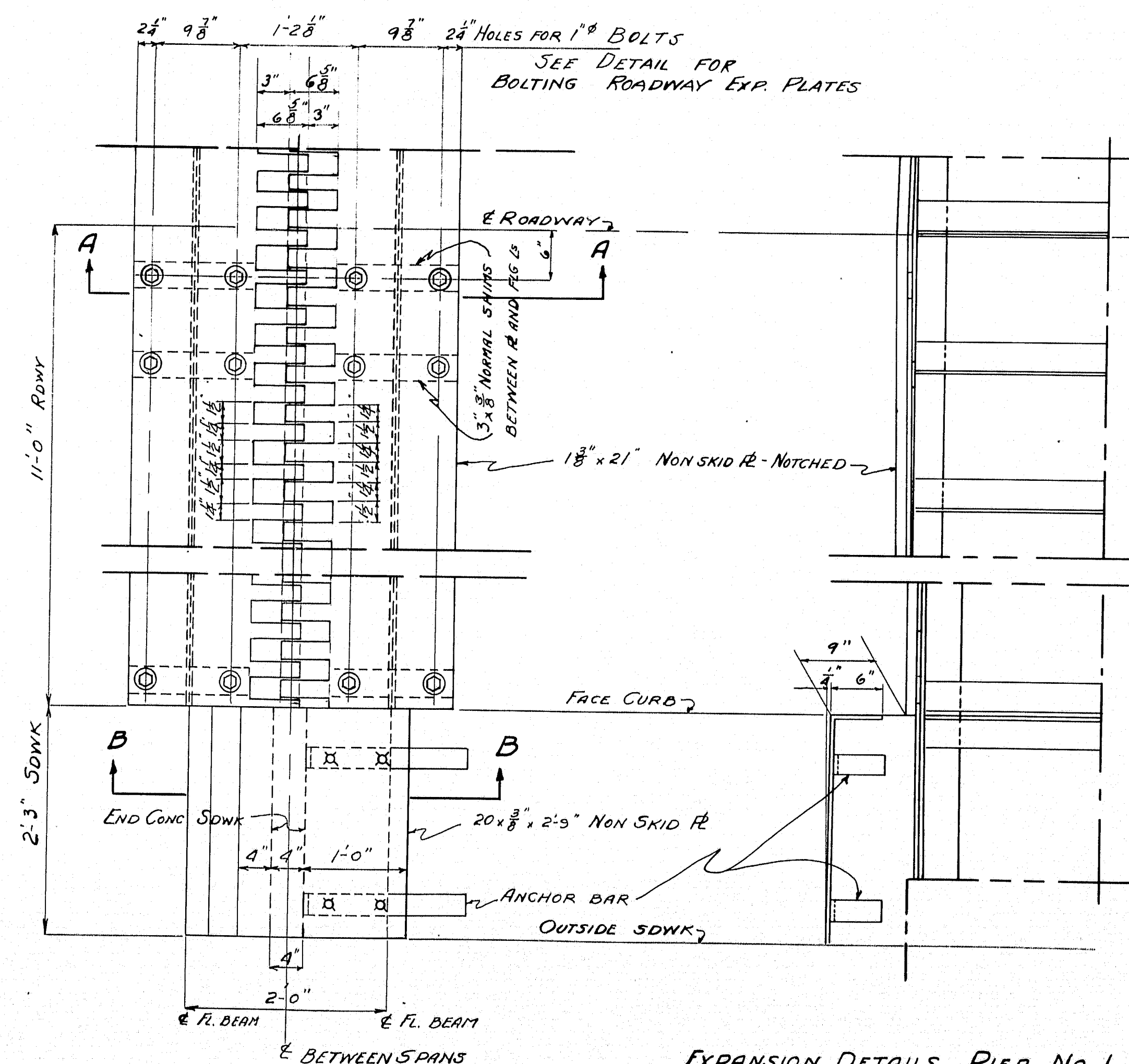
DETAIL END FLOOR BEAM AT PIER No. 1



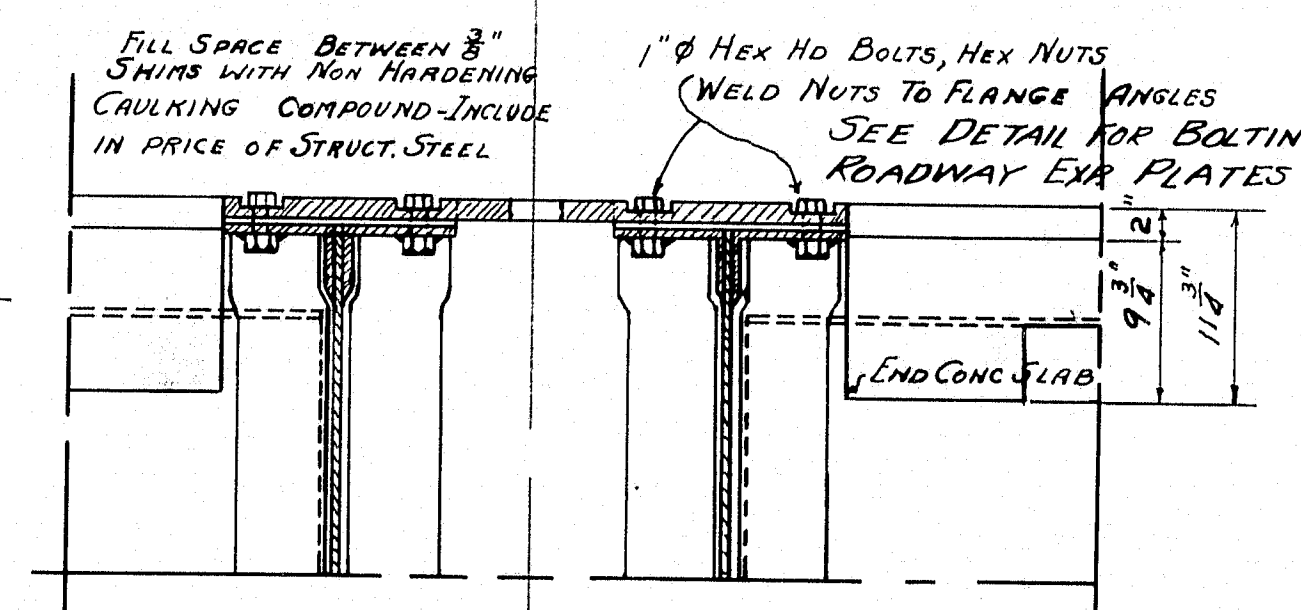
SECTION A-A



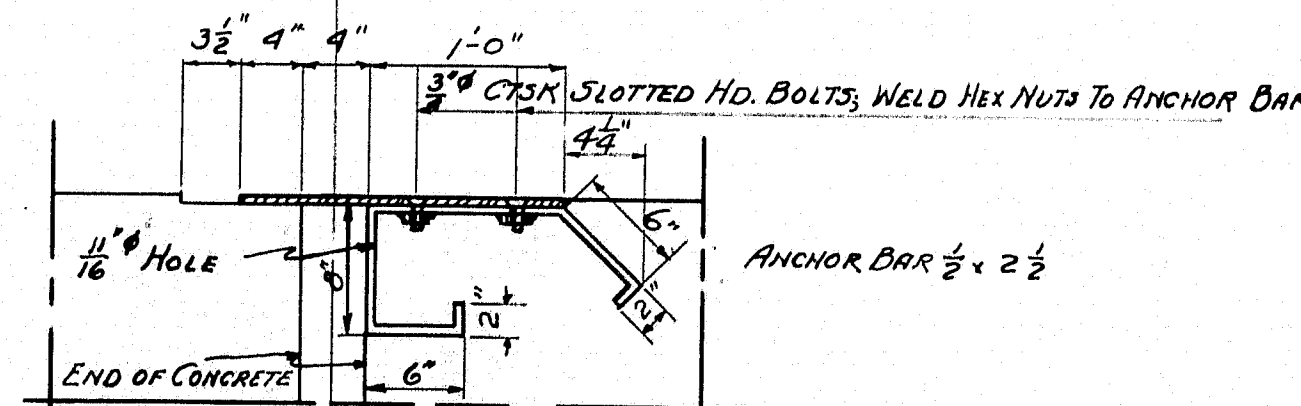
SECTION B-B



EXPANSION DETAILS PIER No. 1

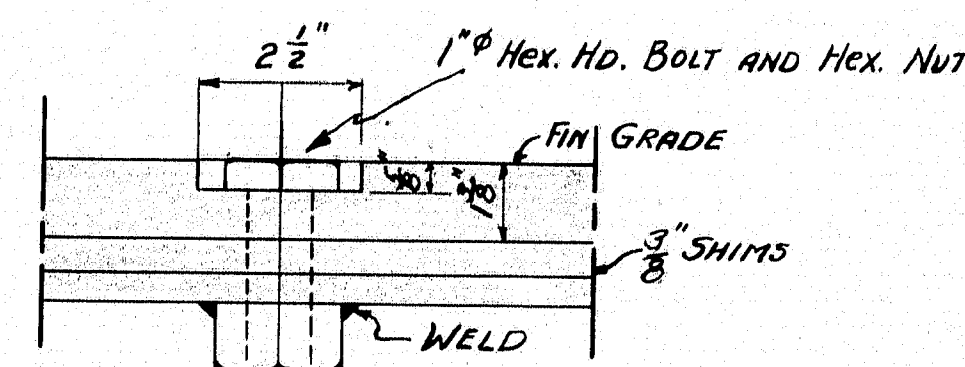


SECTION A-A

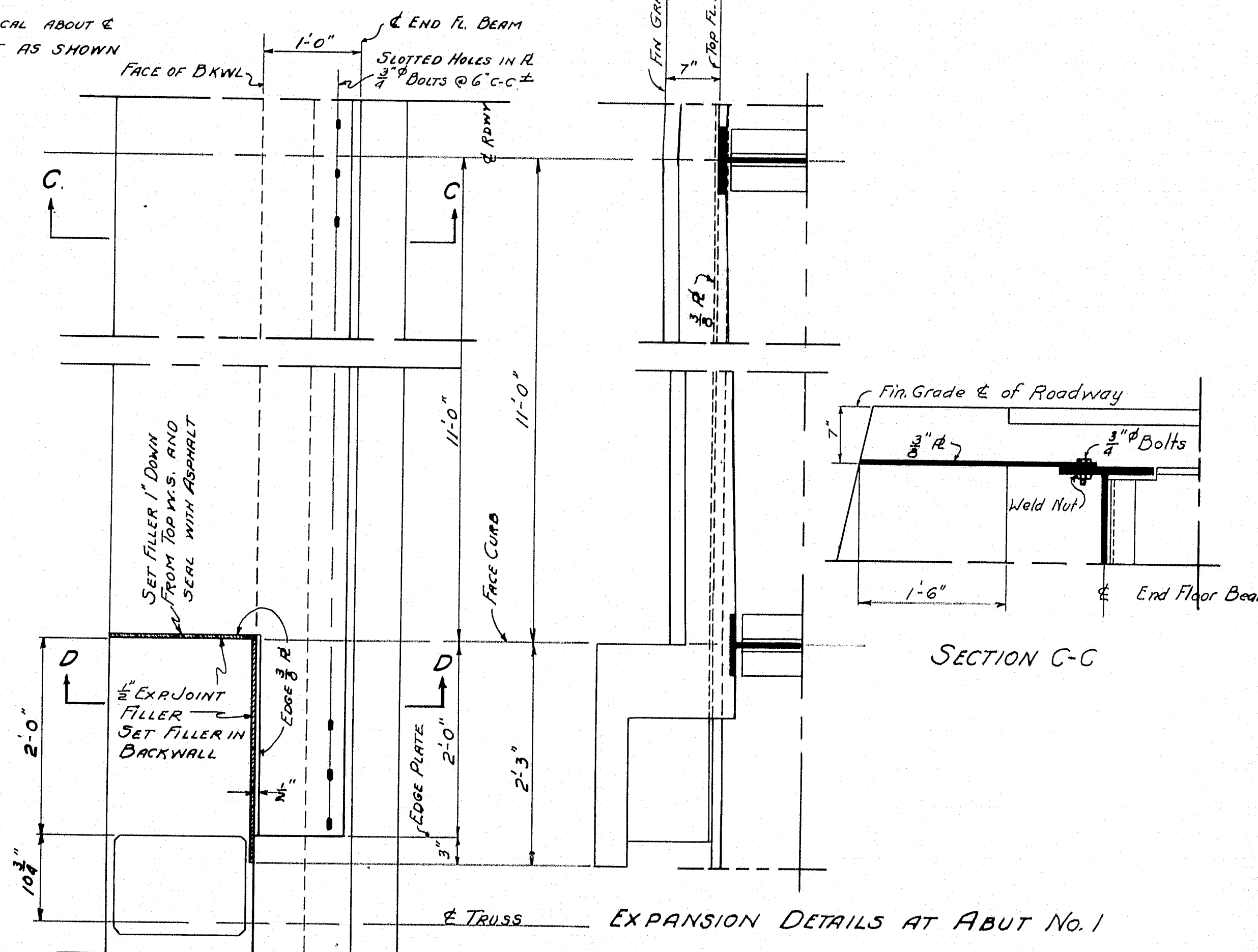


SECTION B-B

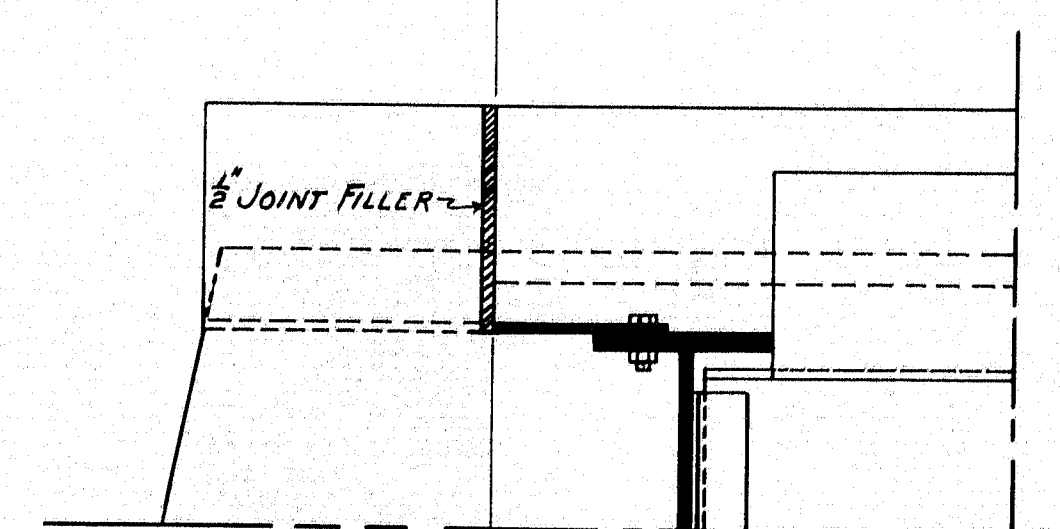
NOTE: SIDEWALK EXP. PLTS TO BE FURNISHED BY STEEL CONTRACTOR AND ERECTED BY SUBSTRUCTURE CONTRACTOR, ALSO, APRON PLATE AT ABUTMENTS



DETAIL FOR BOLTING ROADWAY EXP PLATES



EXPANSION DETAILS AT ABUT No. 1

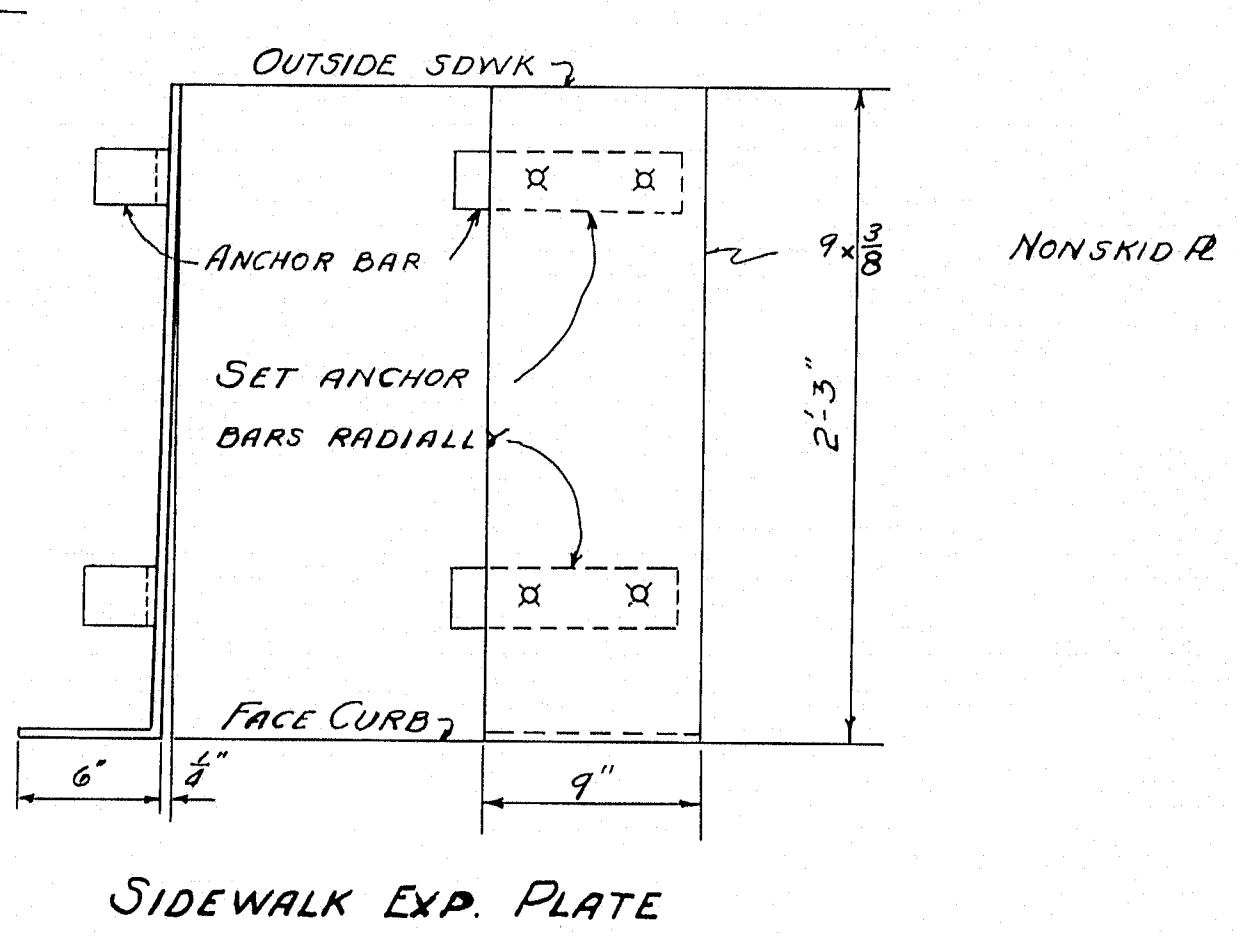
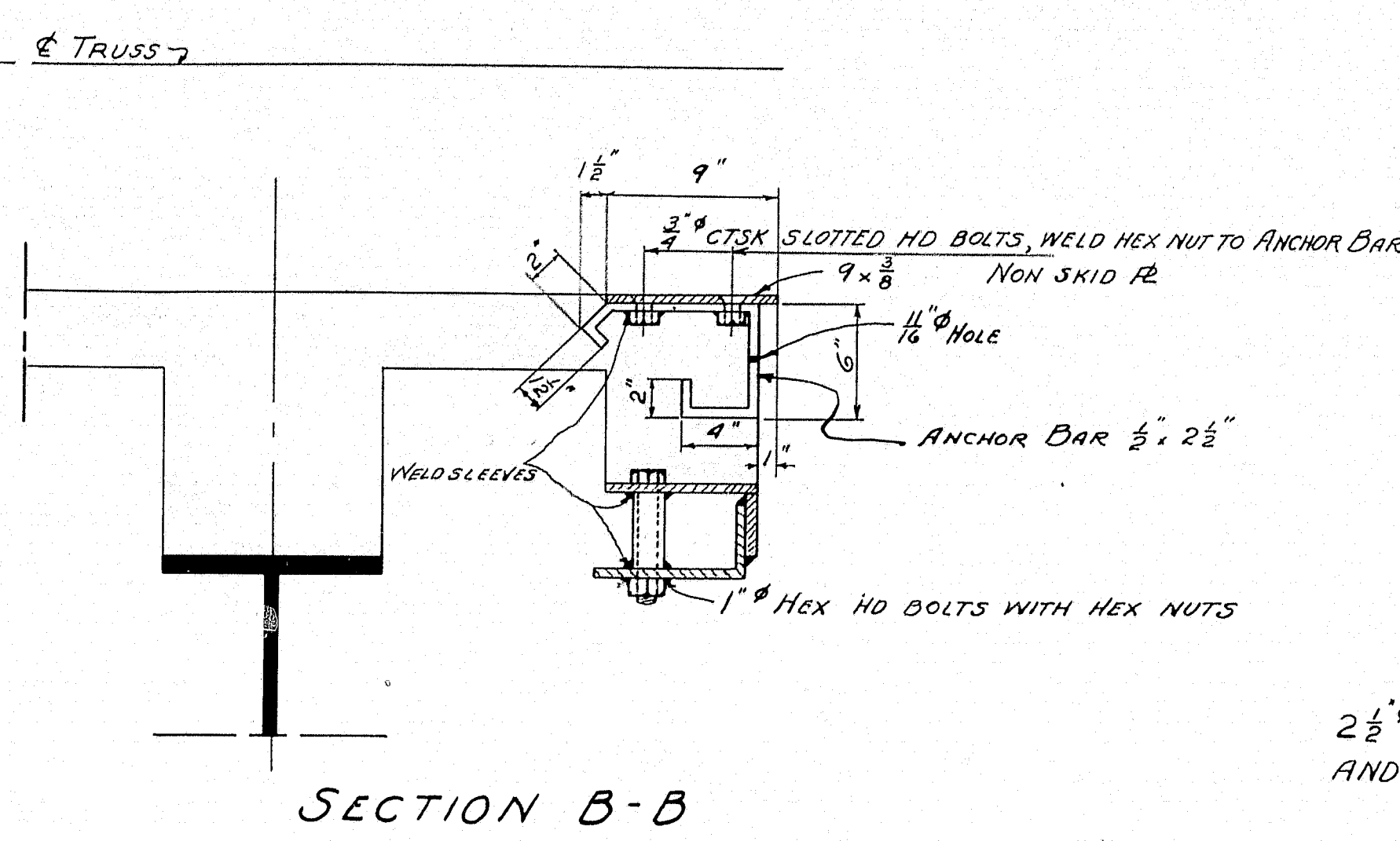
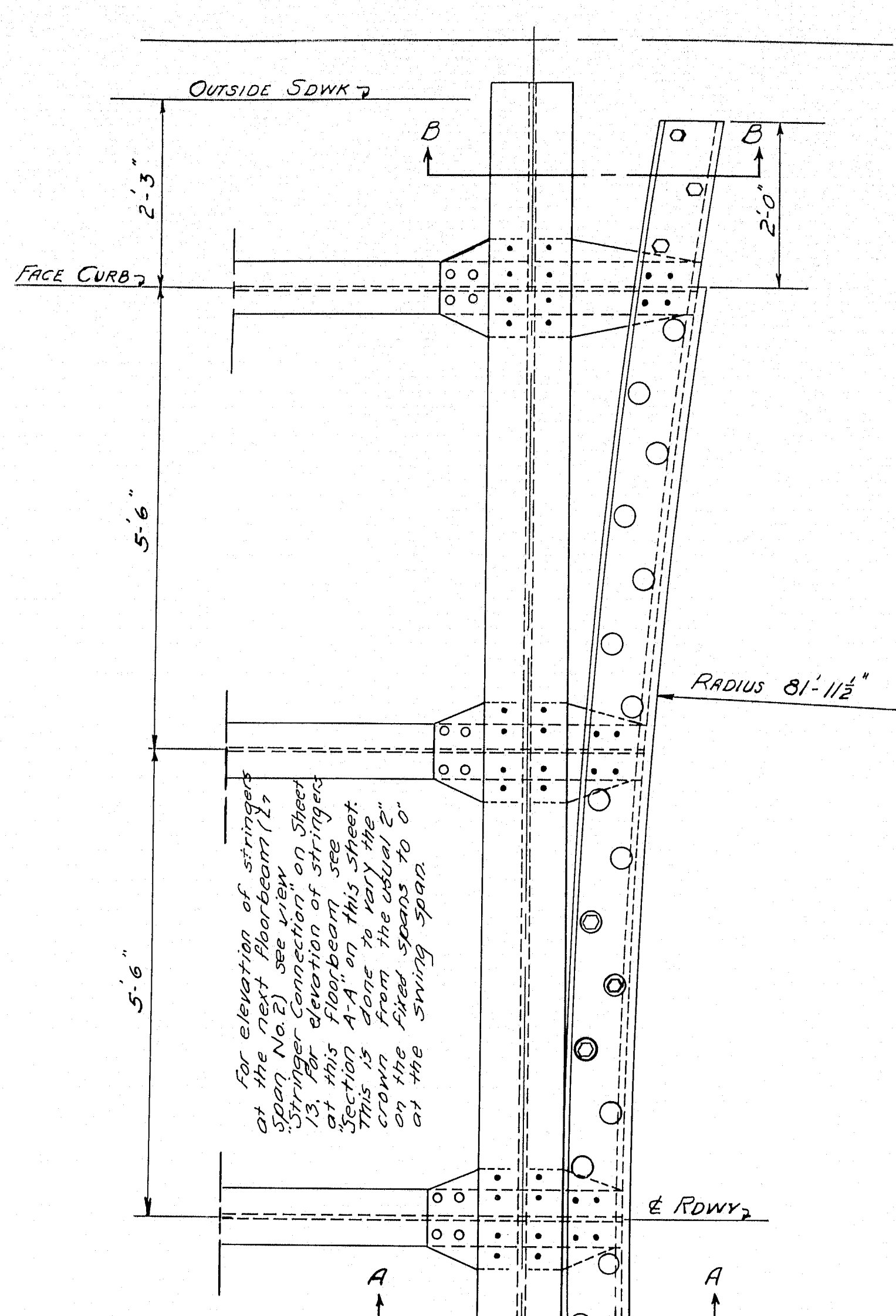


SECTION D-D

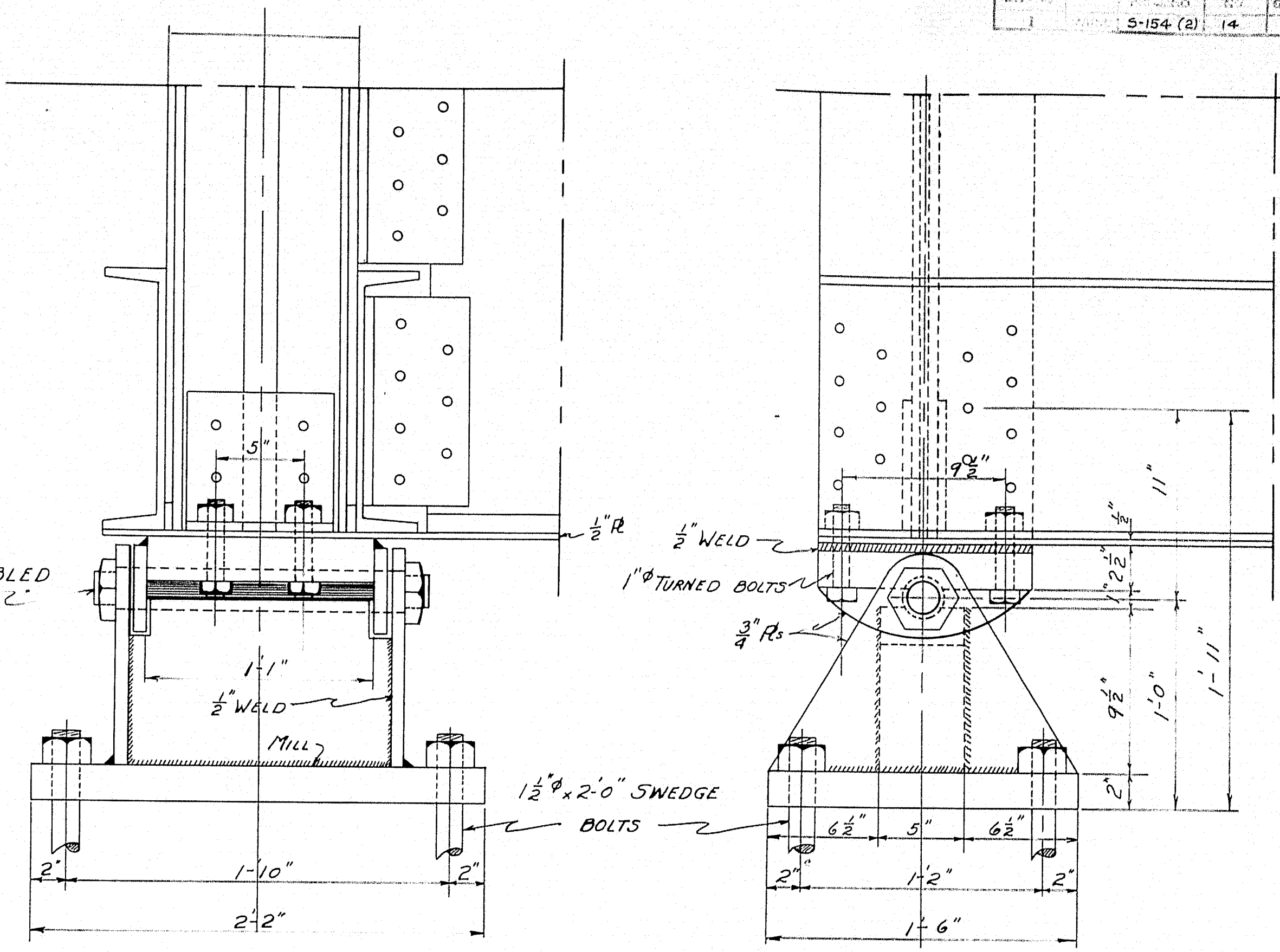
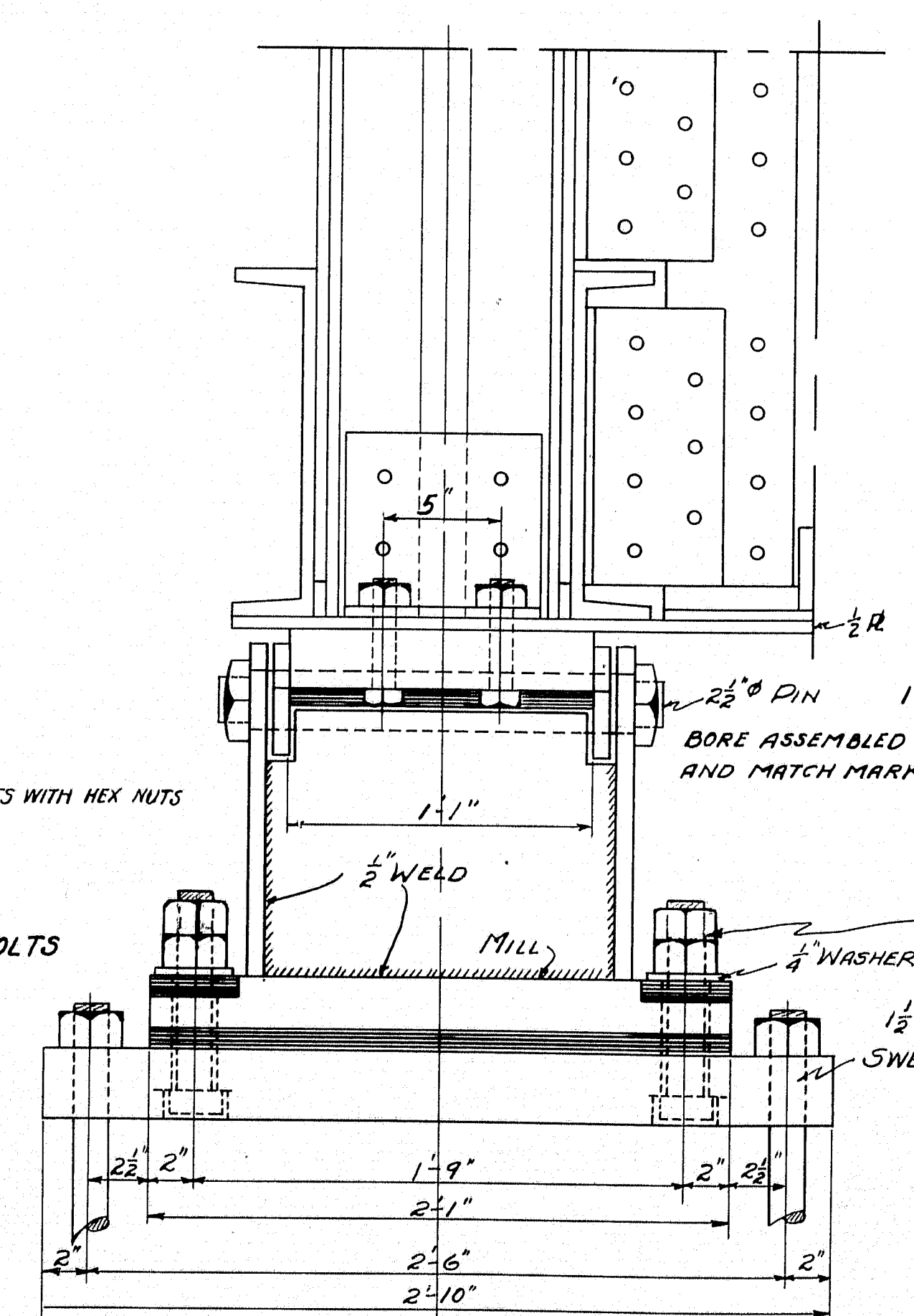
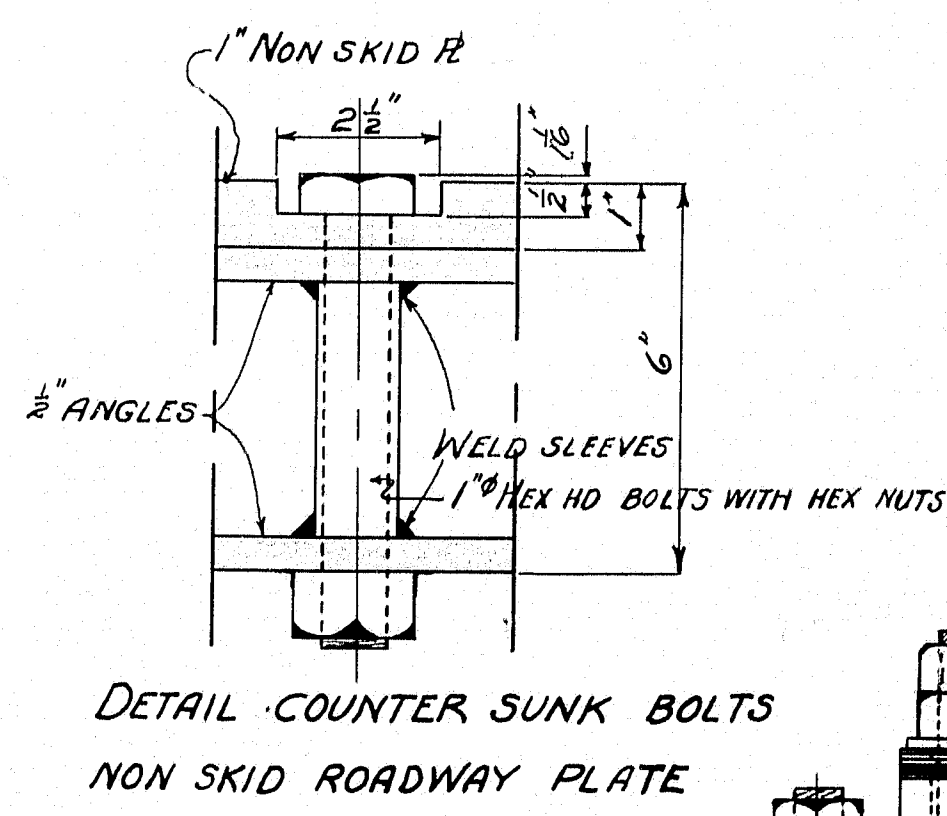
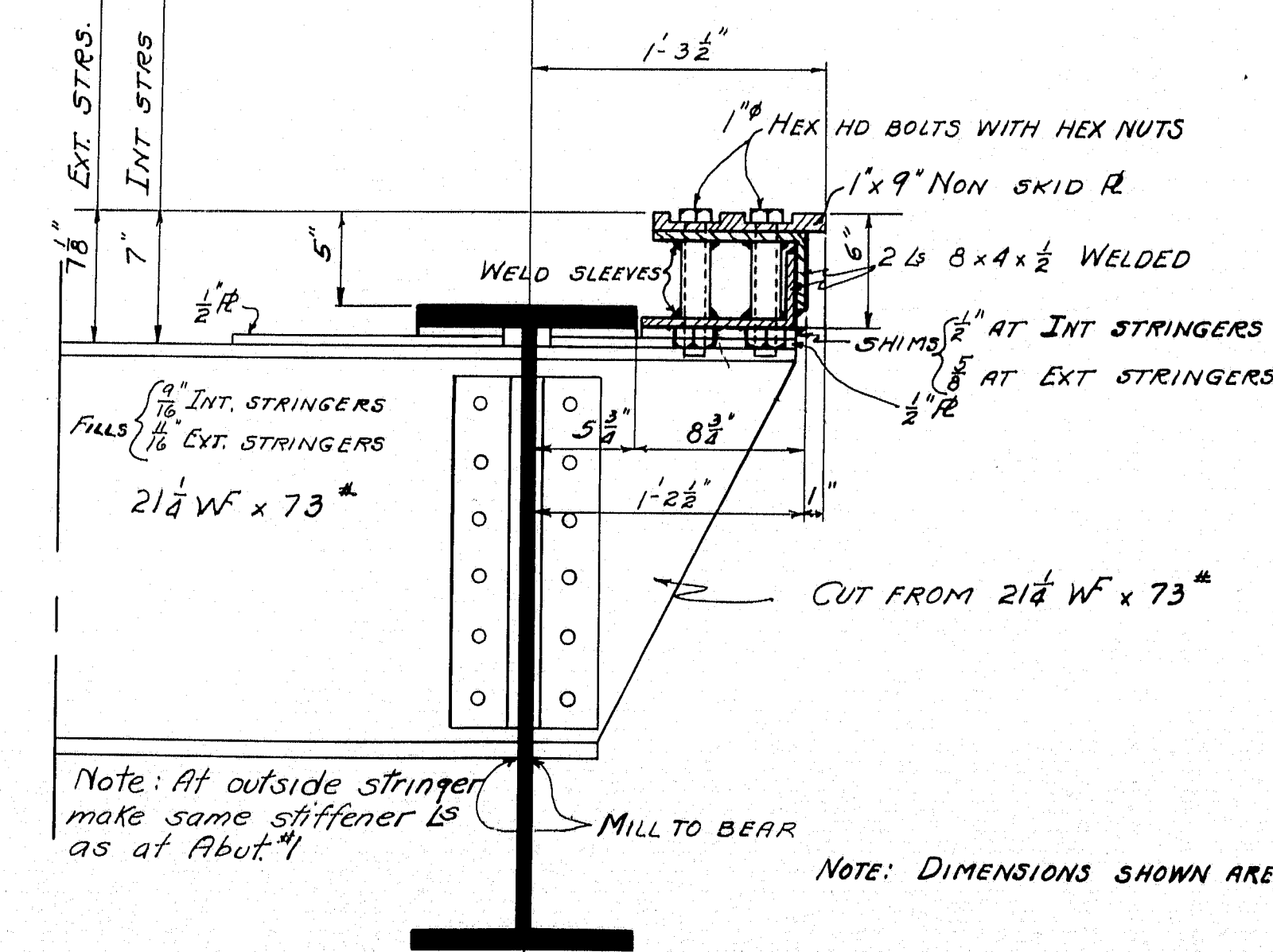
PLAN A.B.P. TRACE SAVAGE
CHECK E.B.

STATE HIGHWAY COMMISSION
BRIDGE DIVISION
ARROWSIC BRIDGE
OVER
SASANOVA RIVER
BETWEEN THE TOWNS OF
ARROWSIC & WOOLWICH
SAGADAHOC COUNTY

EXPANSION DETAILS
Sheet 13 of 27 August 14 to July 1943



DETAILS END FLOOR BEAM AT PIER No 2



FIXED PEDESTAL DETAIL

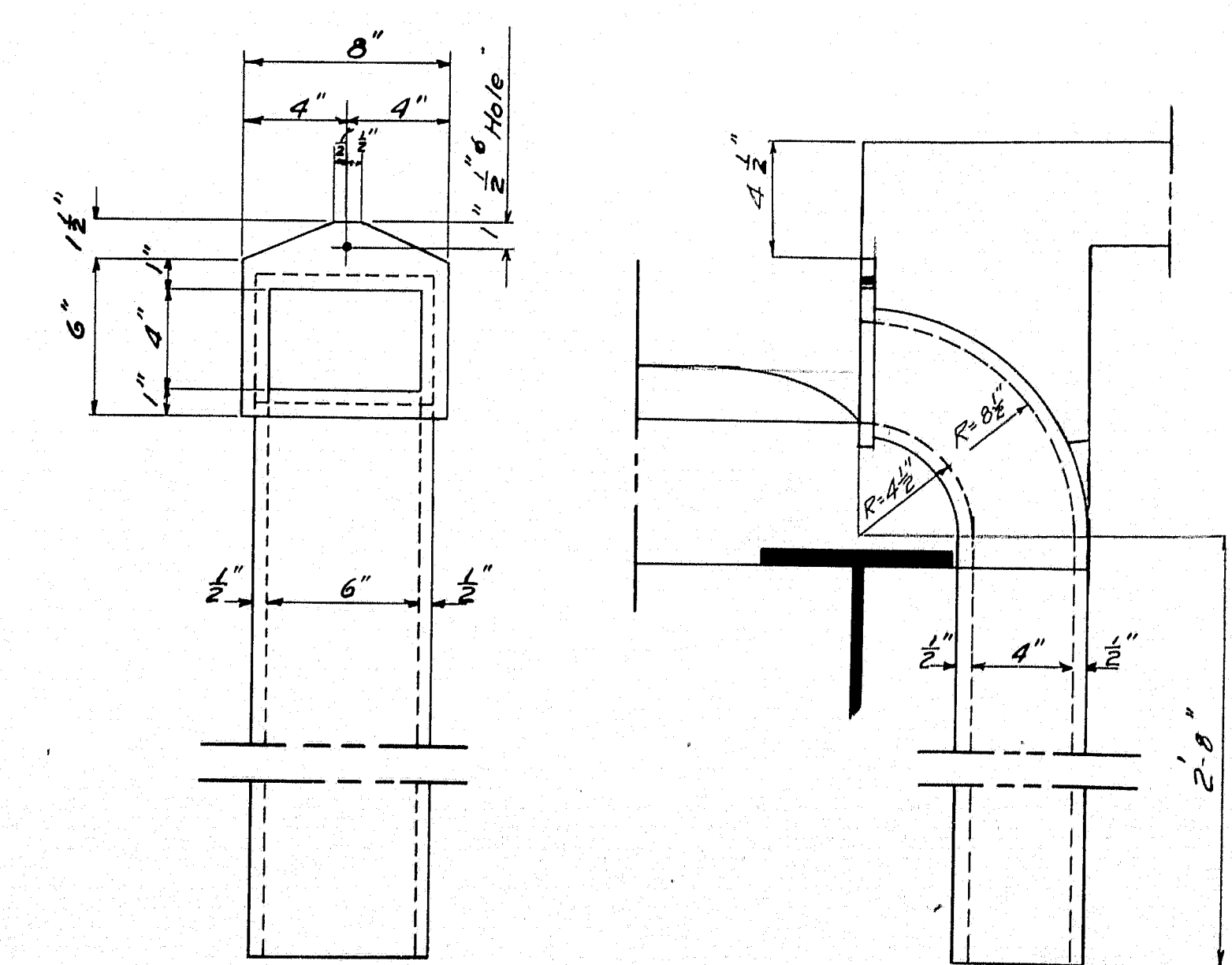
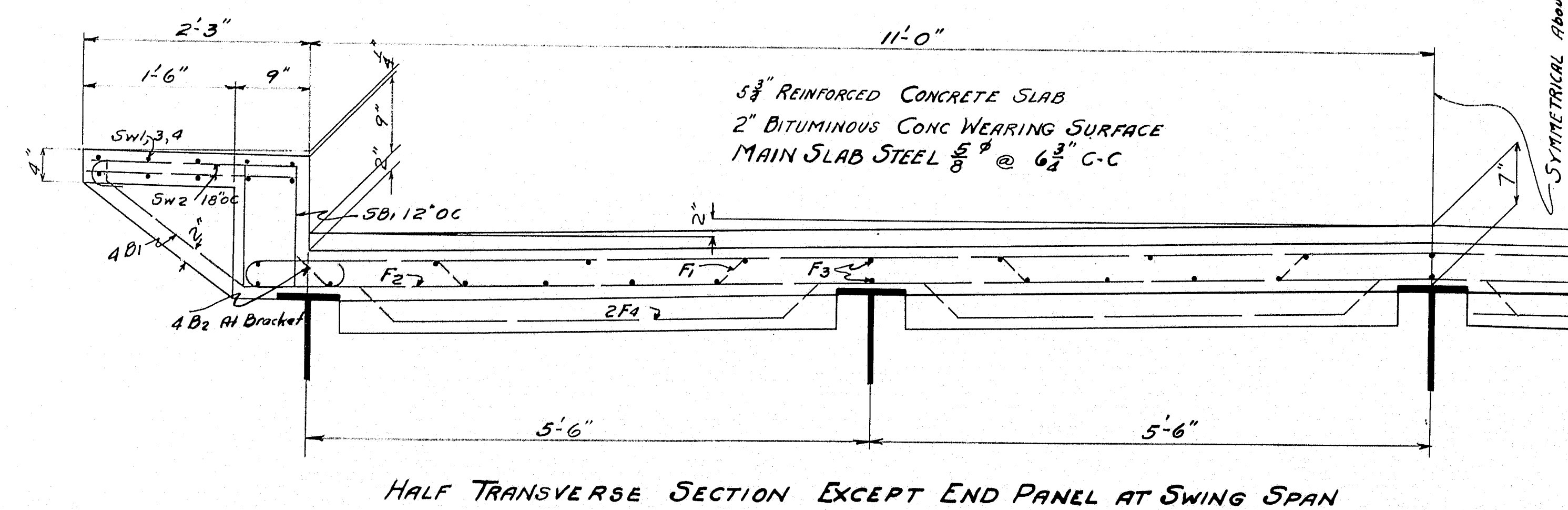
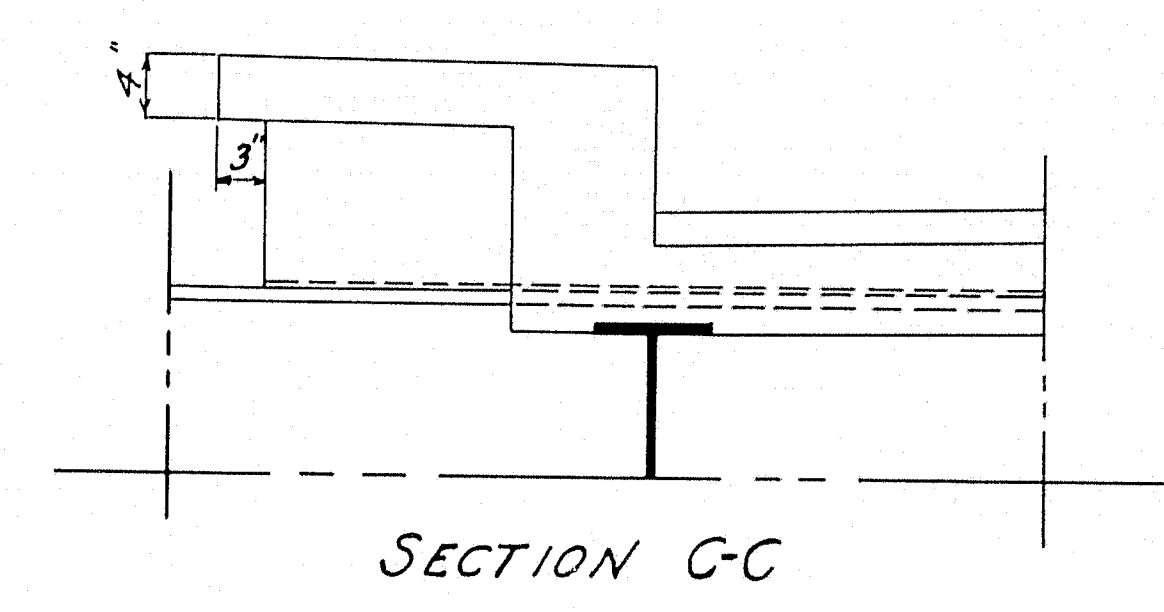
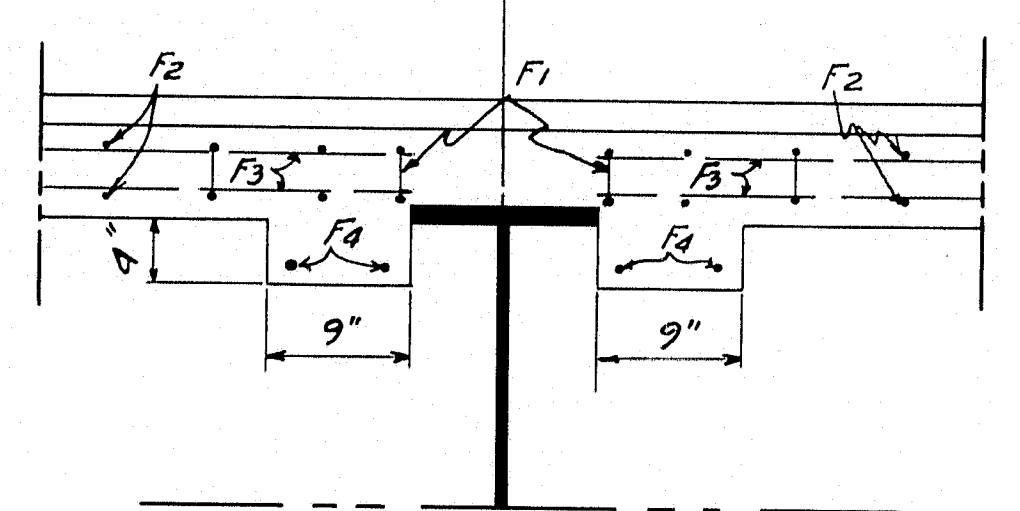
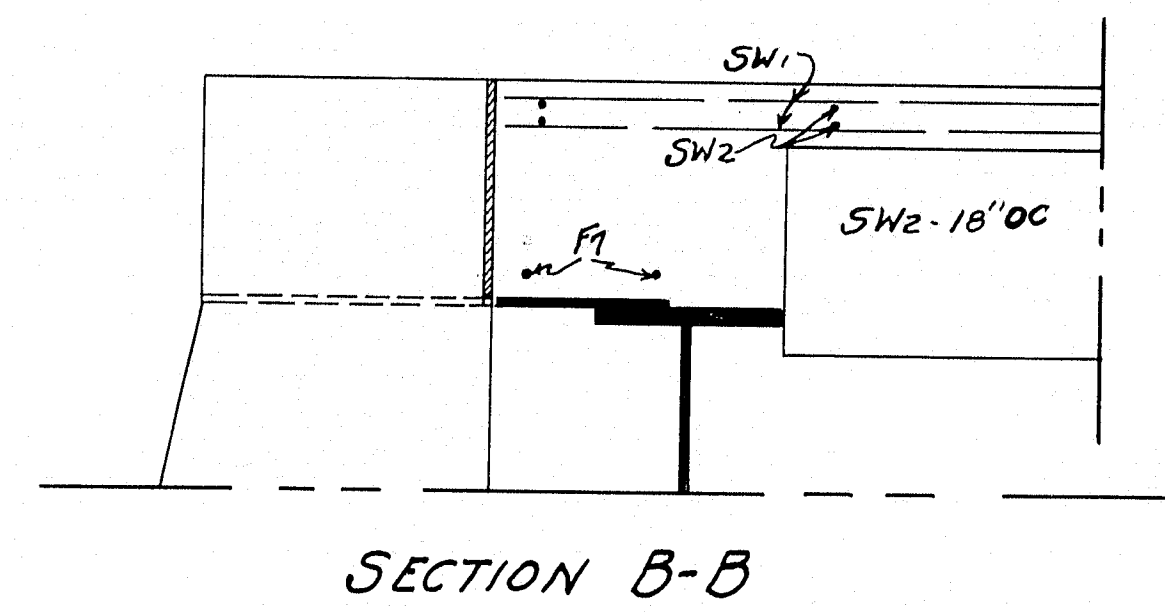
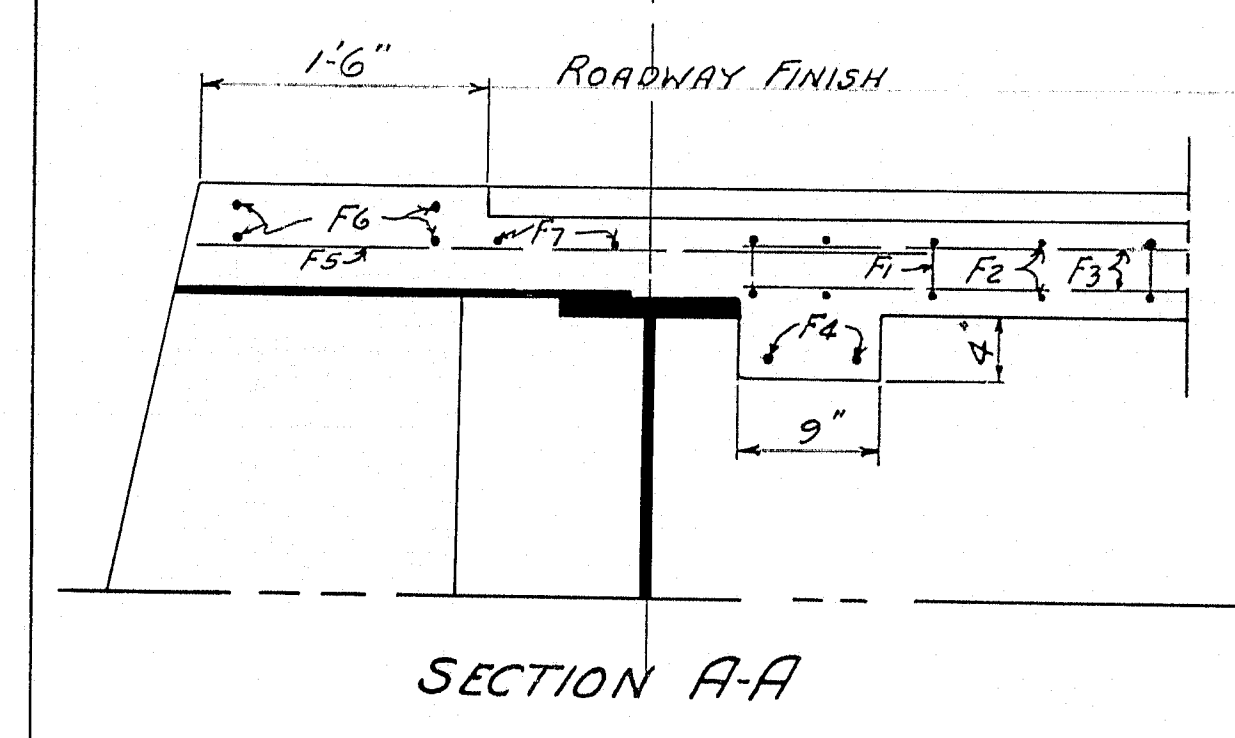
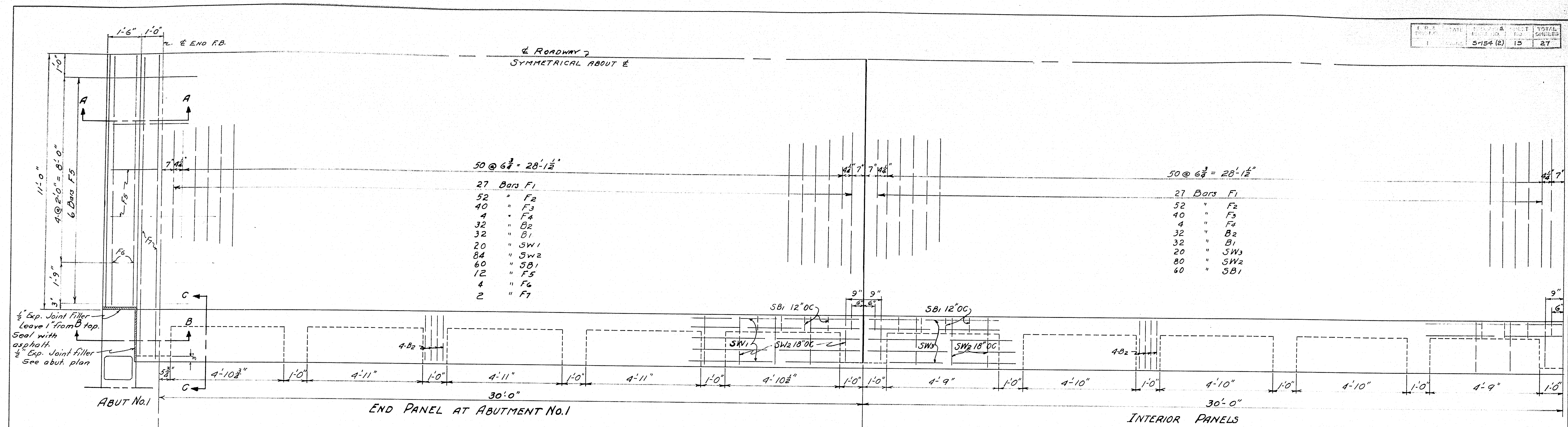
PLAN A.B.P. TRACE SAVAGE TOWN 12-01
CHECK E.B. BRIDGE 2026

STATE HIGHWAY COMMISSION
BRIDGE DIVISION

ARROWSIC BRIDGE
OVER
SASANOVA RIVER
BETWEEN THE TOWNS OF
ARROWSIC & WOOLWICH
SAGadahoc COUNTY

FIXED SPAN-PEDESTAL DETAILS
Sheet 14 of 27 Augusta Me July 1943

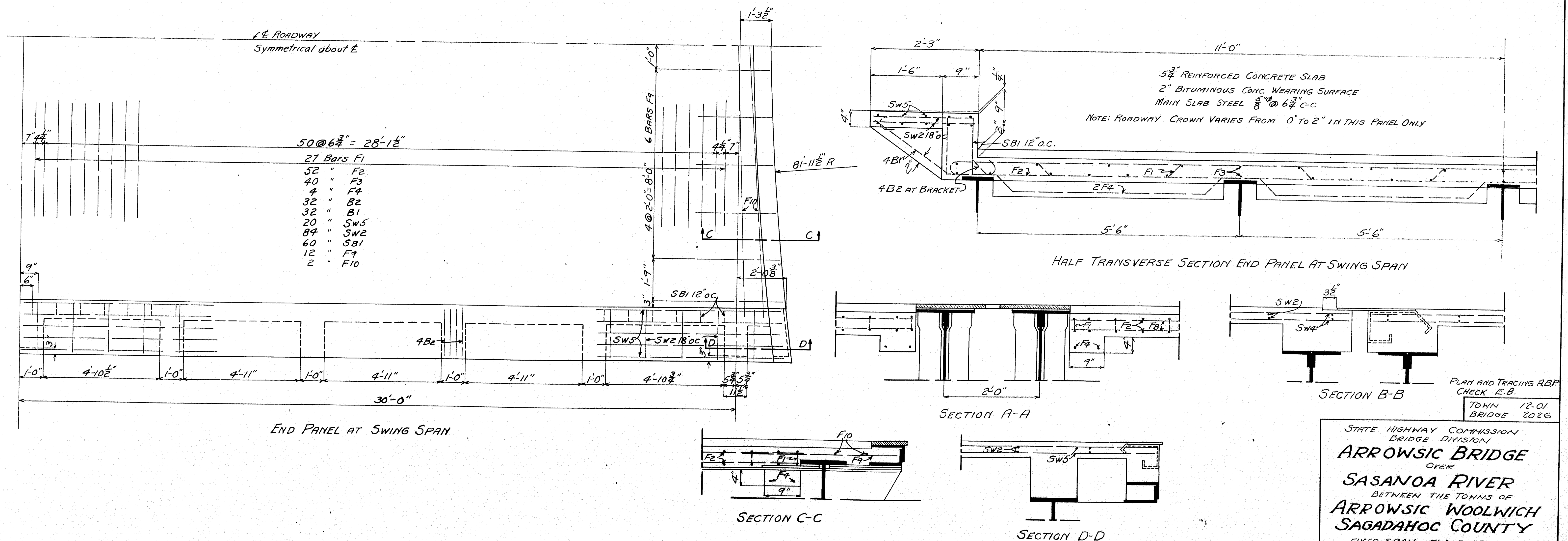
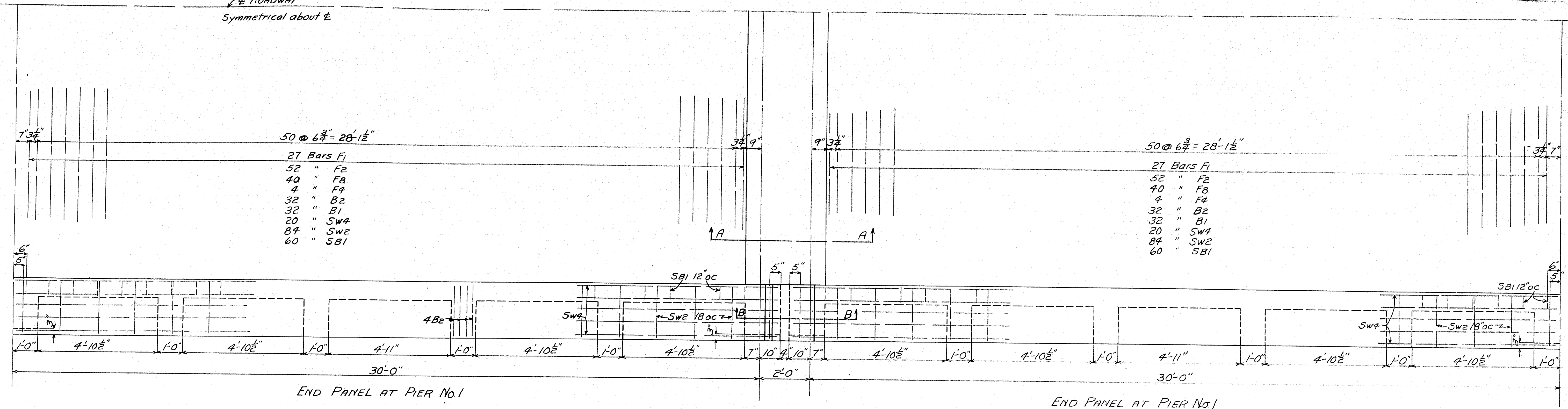
DATE	12-01-2026	TOWN	ARROWSIC	COUNTY	SAGadahoc	SHEET	15	TOTAL	27
PROJECT	PLAN ABP TRACE SAVAGE	CHECK	E.B.	BRIDGE					



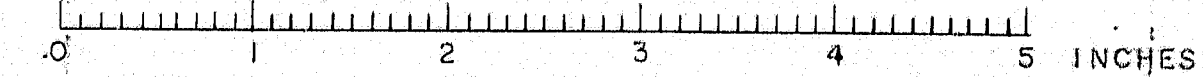
CAST IRON DRAIN DETAIL
32 REQUIRED - PLACE NEAR E OF PANEL
TO BE PART OF SUBSTRUCTURE CONTRACT

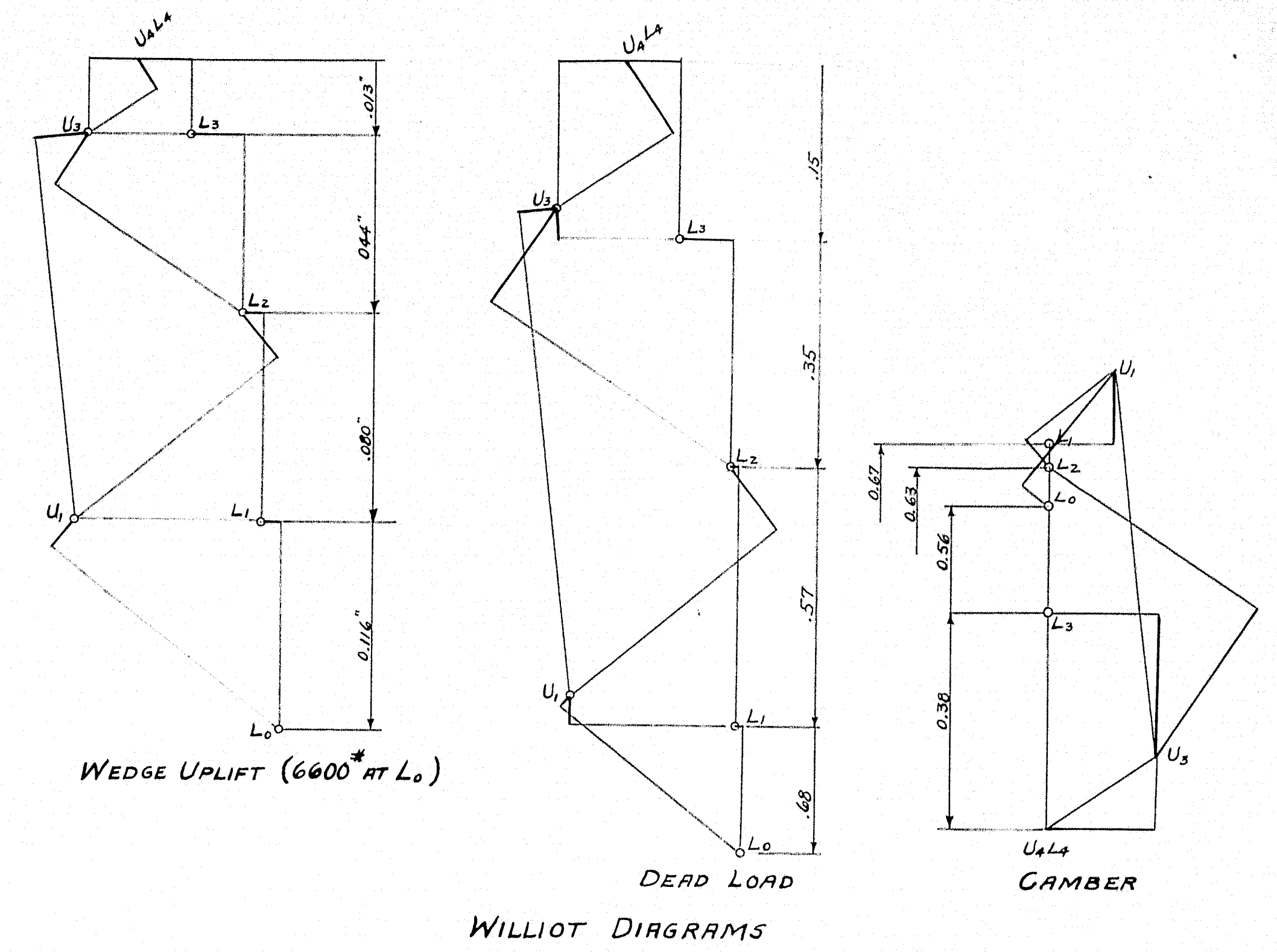
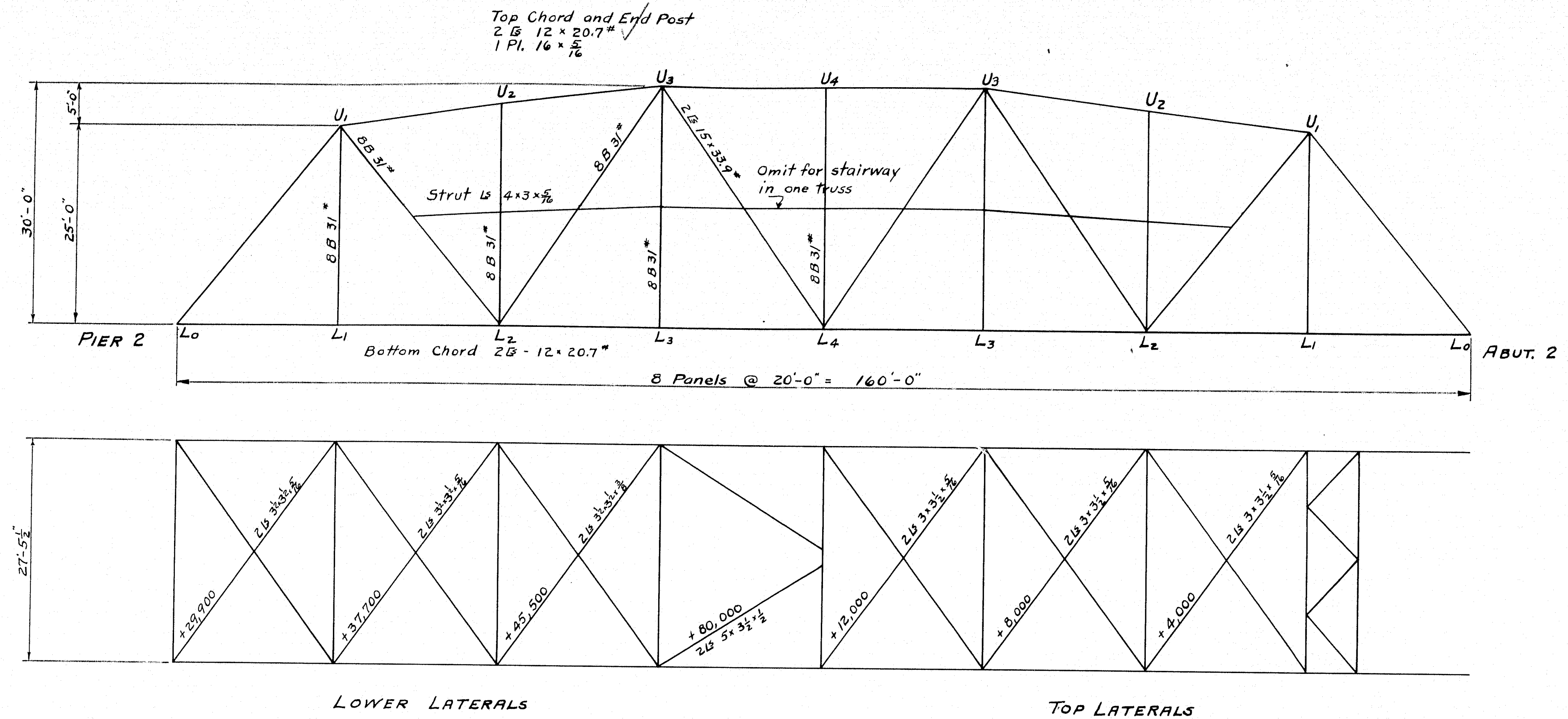
PLAN ABP TRACE SAVAGE TOWN 12-01
CHECK E.B. BRIDGE 2026
STATE HIGHWAY COMMISSION
BRIDGE DIVISION
ARROWSIC BRIDGE
OVER
SASANOA RIVER
BETWEEN THE TOWNS OF
ARROWSIC WOOLWICH
SAGadahoc COUNTY
FIXED SPAN - FLOOR DETAILS
Sheet 15 of 27 Augusta Me July 1943

$\nabla \Phi$ ROADWAY
Symmetrical about Φ



STATE HIGHWAY COMMISSION
BRIDGE DIVISION
ARROWSIC BRIDGE
OVER
SASANOA RIVER
BETWEEN THE TOWNS OF
ARROWSIC WOOLWICH
SAGADAHOC COUNTY
FIXED SPAN - FLOOR DETAILS
Sheet 26 of 27 Augusta, Me July 1943





LOADING COMBINATIONS

CASE I - Dead load, bridge open or closed with no end reactions.

CASE II - Dead load, bridge closed with its ends lifted to cause positive end reactions equal to 1/2 times the maximum live load negative reaction without impact.

CASE III - Live load, bridge closed with one arm loaded and considered as a simple span but with no dead load truss reactions.

CASE IV - Live load, bridge closed and considered as a continuous girder.

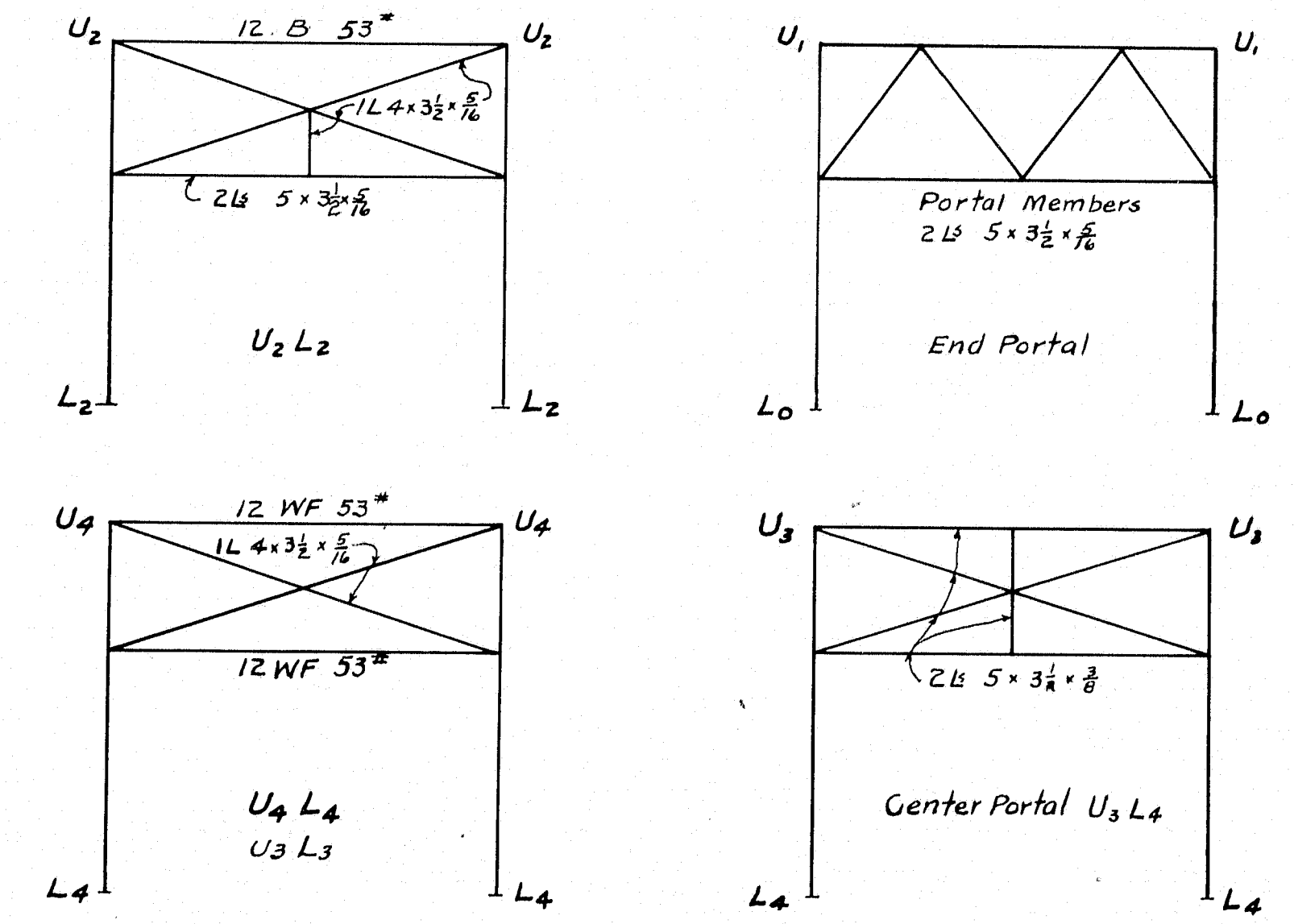
CASE V - Live load, bridge closed and considered as a continuous girder with the load placed so as not to cause negative reactions.

DESIGN : H-15 LOADING, SPECIFICATIONS AASHO 1941 AND AASHO STANDARD SPECIFICATIONS FOR MOVABLE BRIDGES 1938.

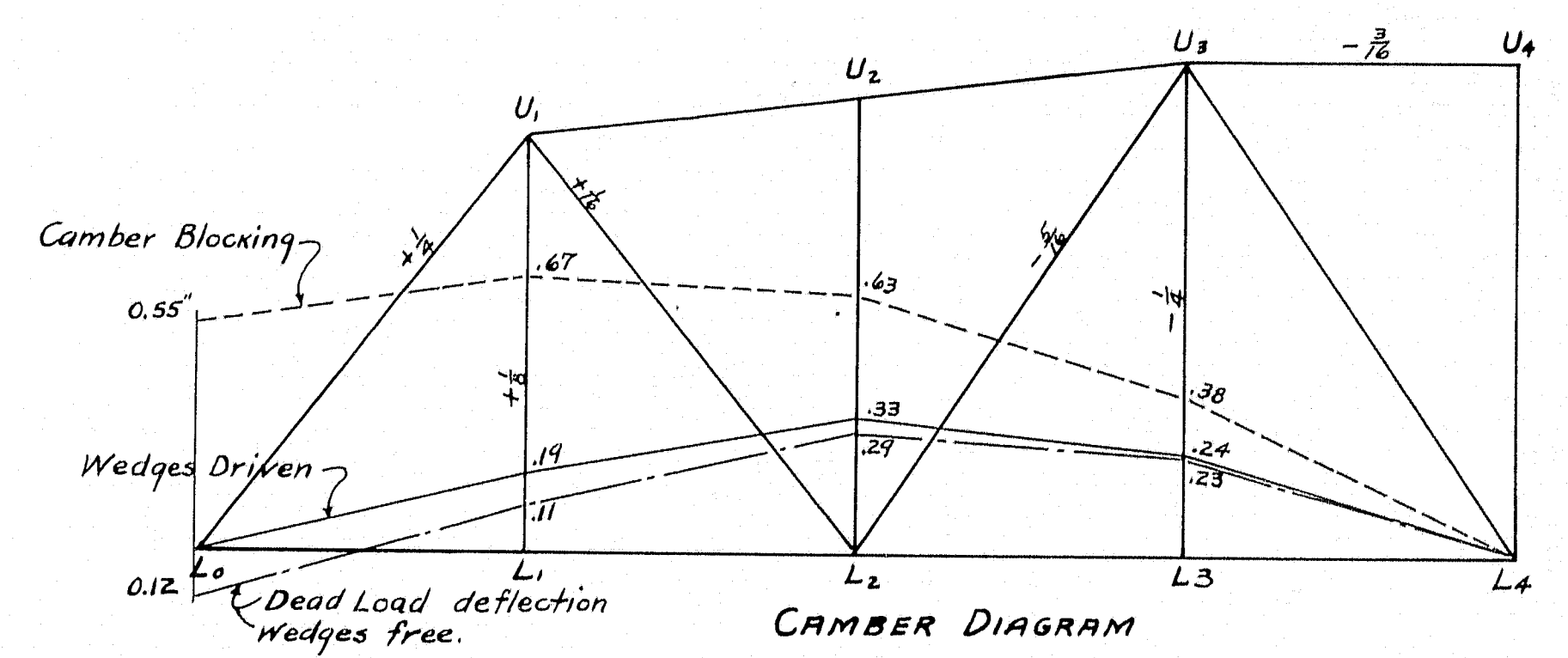
Rivets 7/8" unless noted.

SWING SPAN - DESIGN STRESSES														
MEMBER	CASE I	CASE II	CASE III	CASE IV	CASE V	CASE I+II	I + III	I + V	II + IV	II + V	III + IV	III + V	IV + V	MATERIAL
L0 U1	+17.9	+9.5	-49.6	-43.8	-42.8	+21.5	-37.0	-30.3	-37.1	-36.2				2B 12 x 20.7"
U1 U3	+35.2	+25.5		+6.9	+42.2		+0.6	+32.4		+2.4				1 Pl. 16 x 7/8"
U3 U5	+122.0	+104.5	-32.0	-25.1	-24.0	+146.4	+122.0	+142.5	+125.0					do
L0 L2	-11.2	-5.6		+27.4	+22.3		+18.4	+14.5	+23.2	+18.1				2B 12 x 20.7"
L2 L4	-68.0	-54.9	+21.8	+12.9	+11.3		-81.6	-258	-36.3	-64.3	-27.0			2B 12 x 20.7"
U1 L1	+20.0	+20.0	+40.6	+40.6	+40.6	+24.0	+60.6	+60.6	+60.6	+60.6				8 B 31"
U3 L3	+27.0	+27.0	+40.6	+40.6	+40.6	+32.4	+67.6	+67.6	+67.6	+67.6				do
U1 L2	-38.0	-31.1	-15.4	-20.3	-20.3	-45.5	-53.3	-58.2	-51.3	-51.3				do
L2 U3	+59.7	+53.2	+33.6	+39.4	+39.4	+71.6	+93.2	+99.1	+92.6	+92.6				do
U3 L4	-97.3	-89.4	-46.6	-56.5	-56.5		-143.9	-153.7	-145.8	-145.8				2B 15 x 33.9"
U2 L2	0	0	0	0	0	0	0	0	0	0				8 B 31"
U4 L4														

* Allowable unit stresses may be increased 25%.



DEFLECTIONS												
MEMBER	Length Ins(L)	Gross Area(A)	Stress (U)	UL	UL A	U2 L A	DL Stress (S)	SUL A x 1000	20° Temp Diff	U x Temp Diff	Change Length	U x change
L0 U1	384.1	17.06	+1.28	+492	+28.8	+36.9	+17.93	516			+25	+0.32
U1 U2 U3	483.7	17.06	+1.466	+709	+41.6	+61.0	+35.18	1463				
U3 U4	240.0	17.06	+2.667	+640	+37.5	+100.0	+122.00	4575			-1,875	-0.50
L0 L1 L2	480.0	12.06	-0.80	-384	-31.8	+25.4	-11.20	356	0.0624	0.0499		
L2 L3 L4	480.0	12.06	-2.00	-960	-79.6	+159.2	-68.00	54.13	0.0624	0.1248		
U1 L2	384.1	9.12	-1.048	-403	-44.2	+46.3	-37.95	1677			+0.0625	-0.065
L2 U3	432.6	9.12	+0.983	+425	+46.6	+45.8	+59.65	2780			-3.125	-0.907
U3 L4	432.6	19.80	-1.202	-520	-26.3	+31.6	-97.34	2560				
					506.2			19,340		0.1747"		0.552"



Defl. for each 1000# at L0 = $\frac{506.2 \times 1000}{29,000,000} = .01746"$

Defl. 6600# Wedge Reaction at L0 = $\frac{6600 \times .01746}{29,000,000} = .0115"$

Dead Load Defl. = $\frac{19340 \times 1000}{29,000,000} = 0.667"$

Defl. due to temperature difference of 20° = .1747"

Wedge force due to 20° temperature difference = $\frac{.1747 \times 1000}{.01746} = 10,000\#$

End Wedges to operate against 6600# Uplift

Total 16,600#

PLAN: E.E.B.
CHECK: B.E.L.

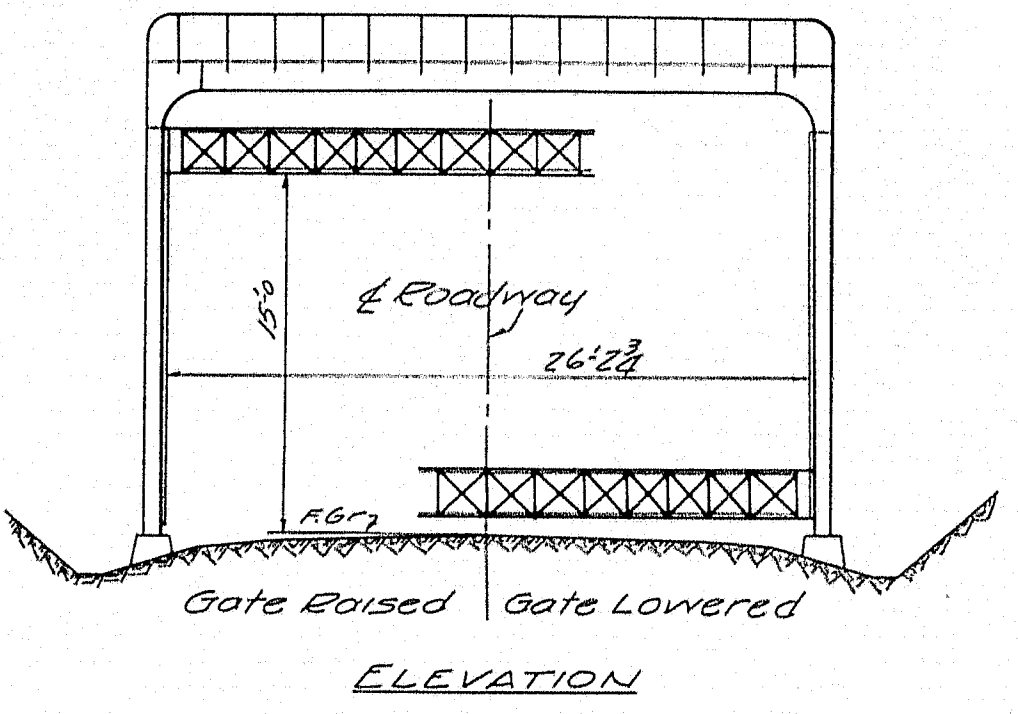
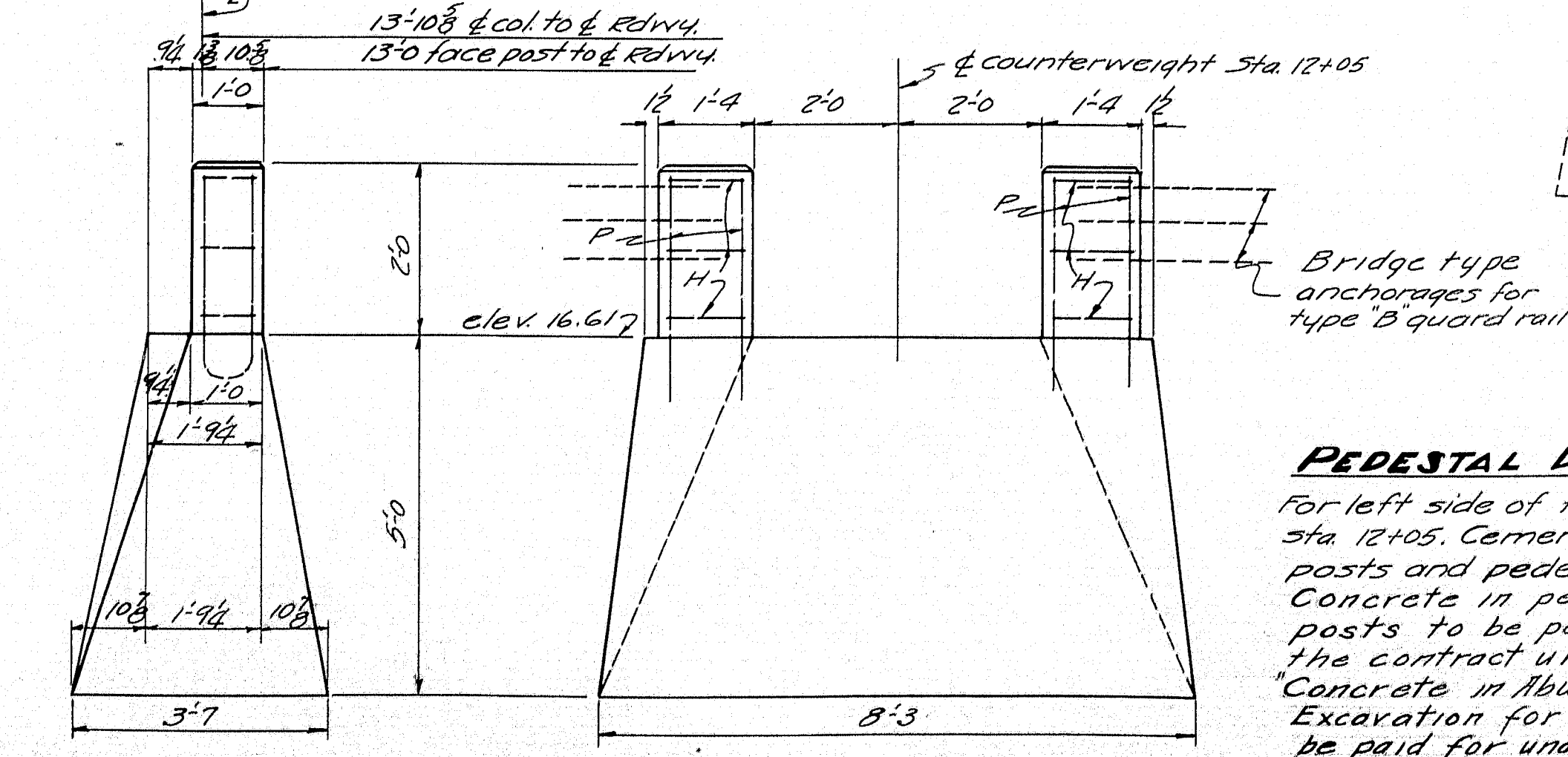
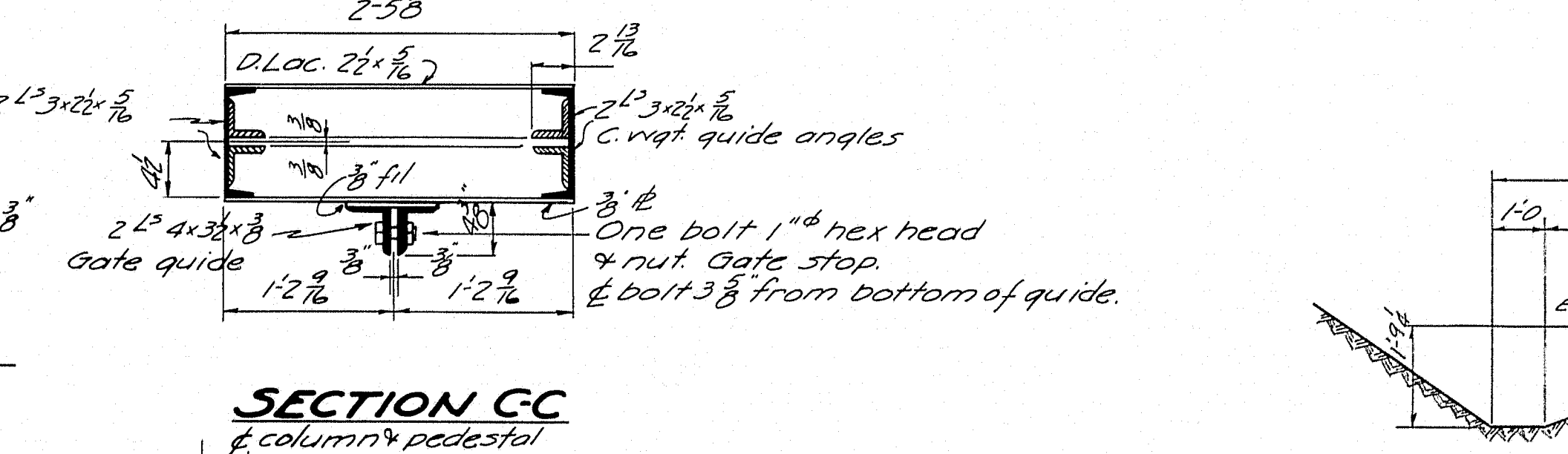
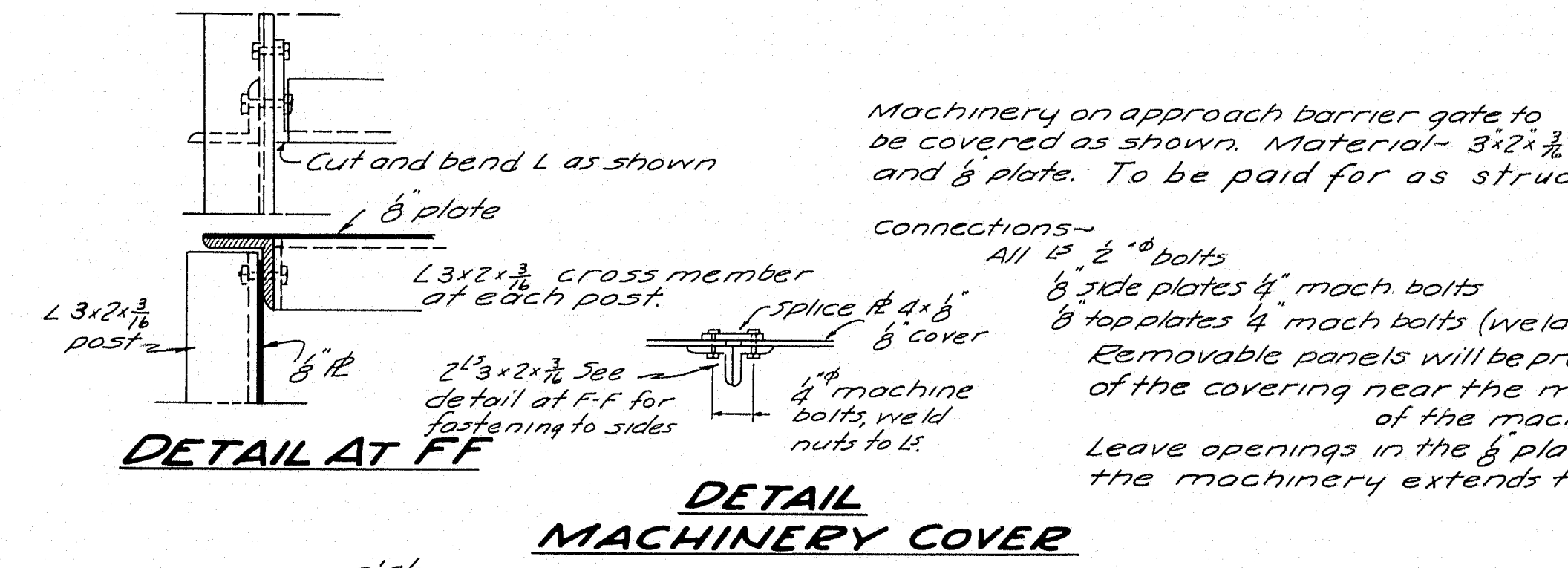
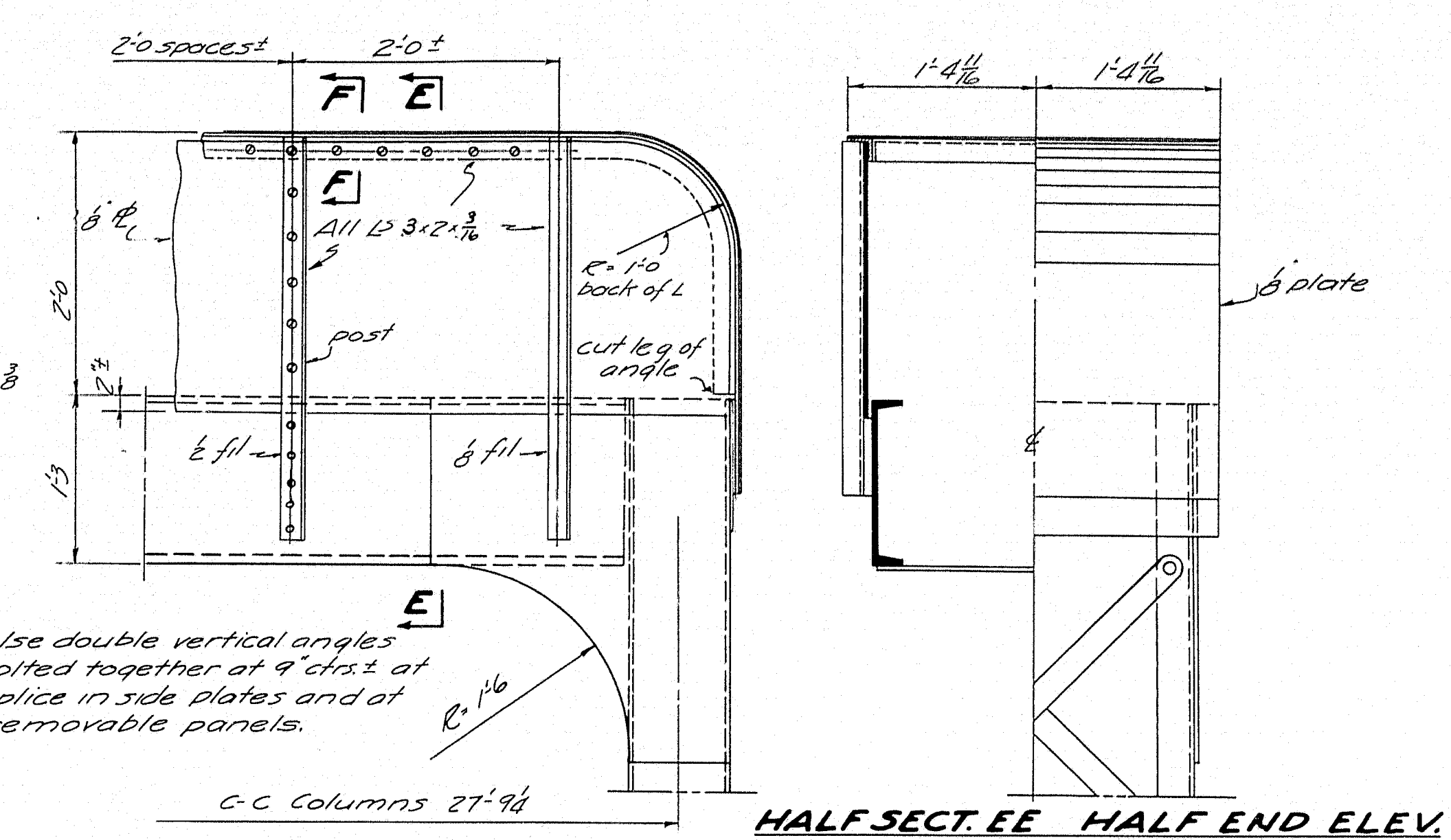
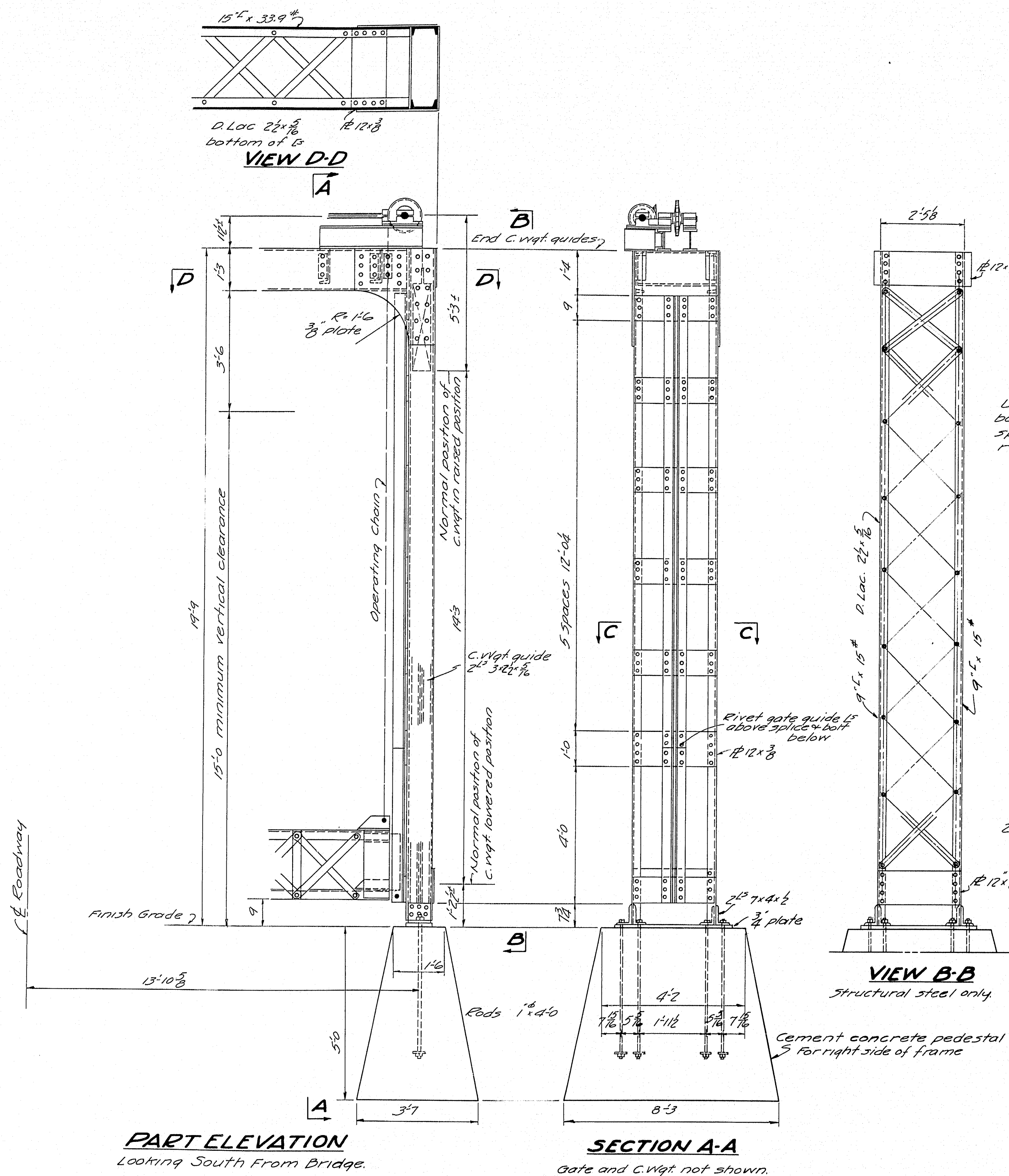
TOWN 12-01
BRIDGE 2026

STATE HIGHWAY COMMISSION
BRIDGE DIVISION

ARROWSIC BRIDGE
OVER
SASANOVA RIVER
BETWEEN THE TOWNS OF
ARROWSIC AND WOOLWICH
SAGADAHOC COUNTY
STRESS SHEET - SWING SPAN
Sheet 17 of 27 Augusta Me July 1943

Note: Holes for field connections and field splices of main members shall be sub-punched and reamed to a steel template or reamed assembled.

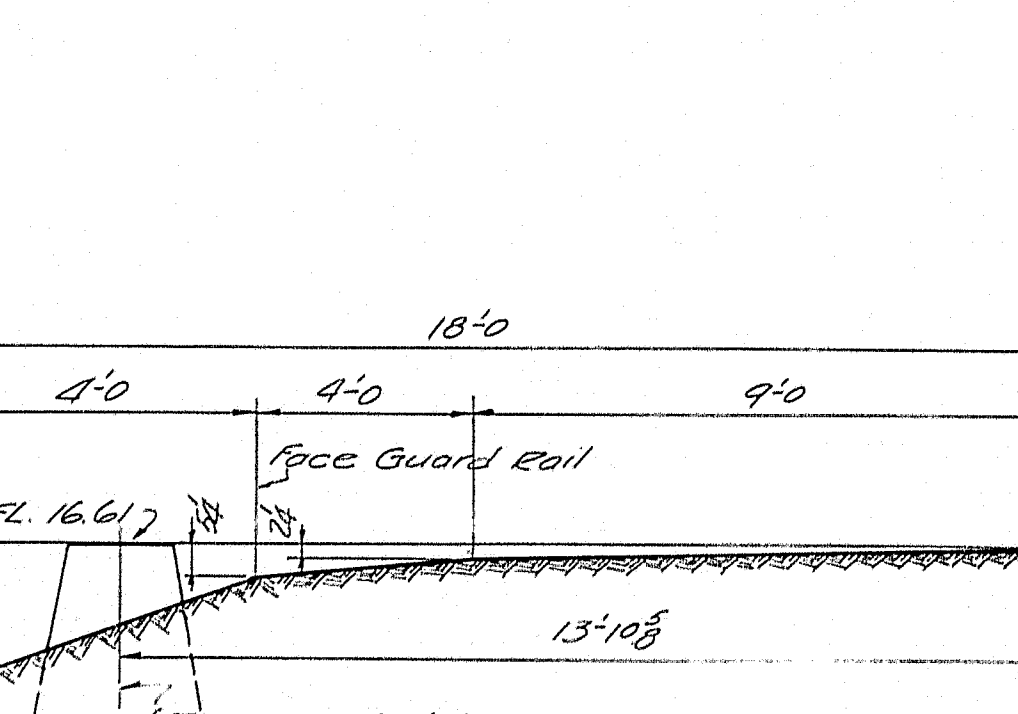
44-120



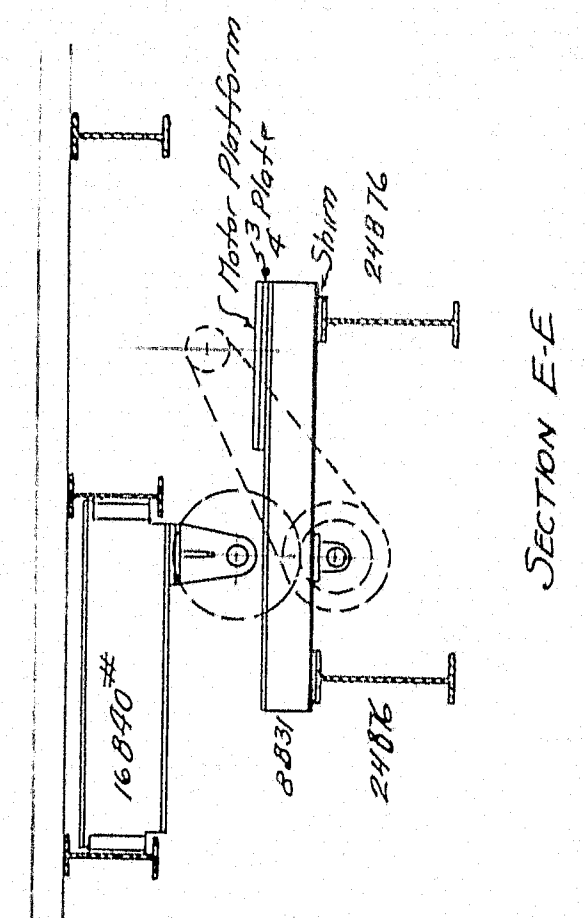
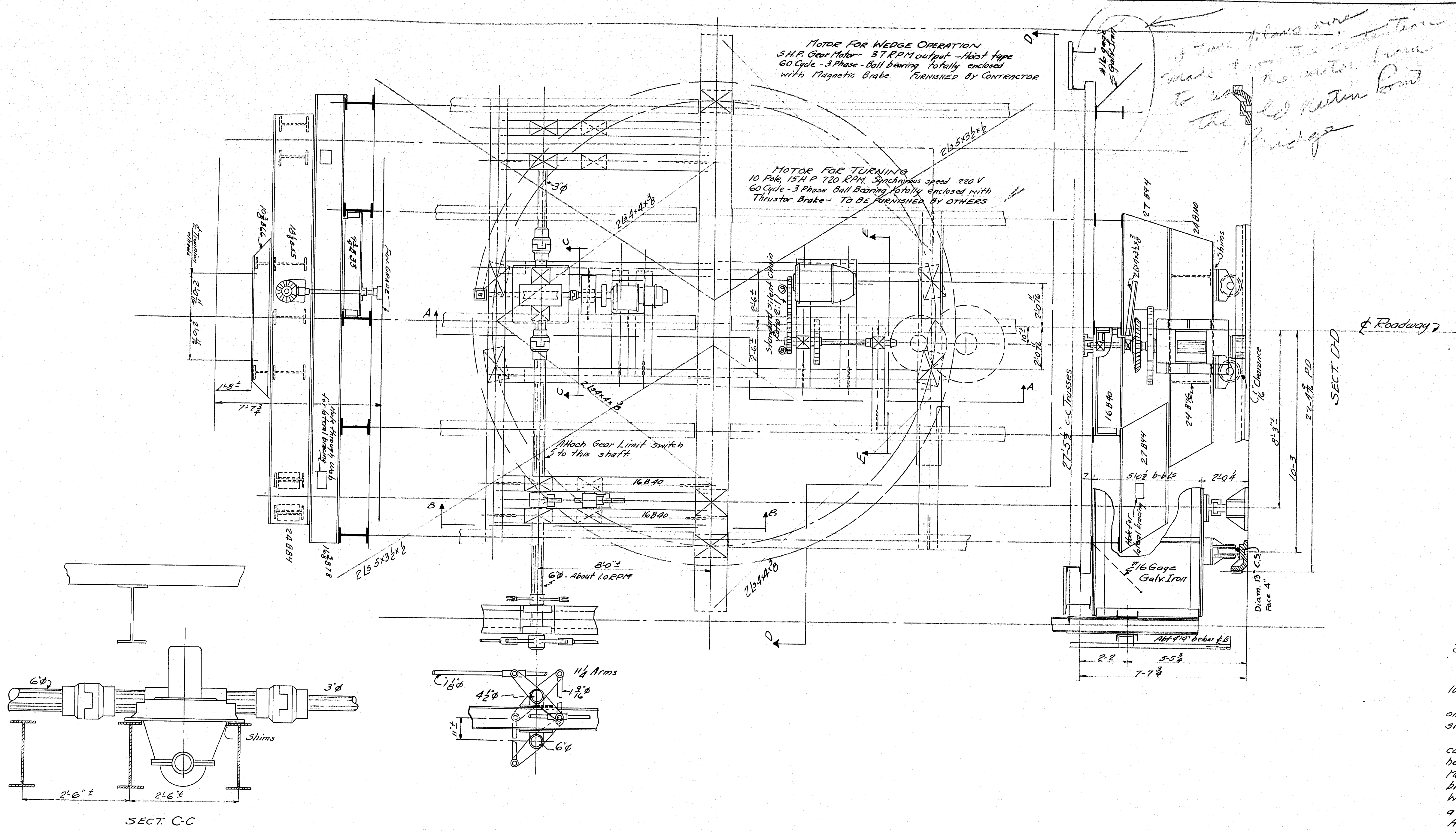
Notes— Specifications for Structural Steel, Machinery etc., see sheet no. 20. Details not shown are similar to Gate Details on sheet no. 20. Electrical controls to be on control panel in operators house. Provisions shall be made for greasing all machinery without removing any of covering.

Machinery on approach barrier gate to be covered as shown. Material— 3'2' x 3/4" L and 3/4" plate. To be paid for as structural steel.

Connections— All 1/2" bolts 3/4" side plates 4" mach. bolts 3/4" top plates 4" mach. bolts (weld nuts to cross member) Removable panels will be provided in the side of the covering near the motor and at each end of the machinery covering. Leave openings in the 3/4" plate covering wherever the machinery extends thru.



Plan by V&E.
Checked by C.L.P.
TOWN 12-01
BRIDGE 2026
STATE HIGHWAY COMMISSION
BRIDGE DIVISION
ARROWSIC BRIDGE
over
SASANOVA RIVER
Between the towns of
ARROWSIC AND WOOLWICH
SAGADAHOC COUNTY
APPROACH BARRIER GATE
Sheet 21 of 27. August 19, 1956



SECTION E-E

GENERAL NOTES

GENERAL NOTES

Machinery Specifications: Design by AASHO Standard Specifications for Movable Bridges 1938; contract to be in accordance with the Special Specifications for this project.

Machinery to be detailed for motive power shown with 100% overload.

Bearings used for supporting machinery and bearings are suggested only and may be changed to fit machinery details. Connections not shown are standard.

Gear teeth to be of the 20° involute type. All steel castings and forgings to be annealed. Spot face for all bolt heads and nuts. Scribe pitch lines on both sides of all gears.

Machinery to be assembled in the shop. Machinery designed to open bridge in 12 minutes against an unbalanced wind load of 25¹⁴ lb. Wedges designed to operate in 15 seconds and to lift ends against a load of 16,600#.

All important shaft bearings shall be set by expert mechanics. Provide normal shims under all bearings.

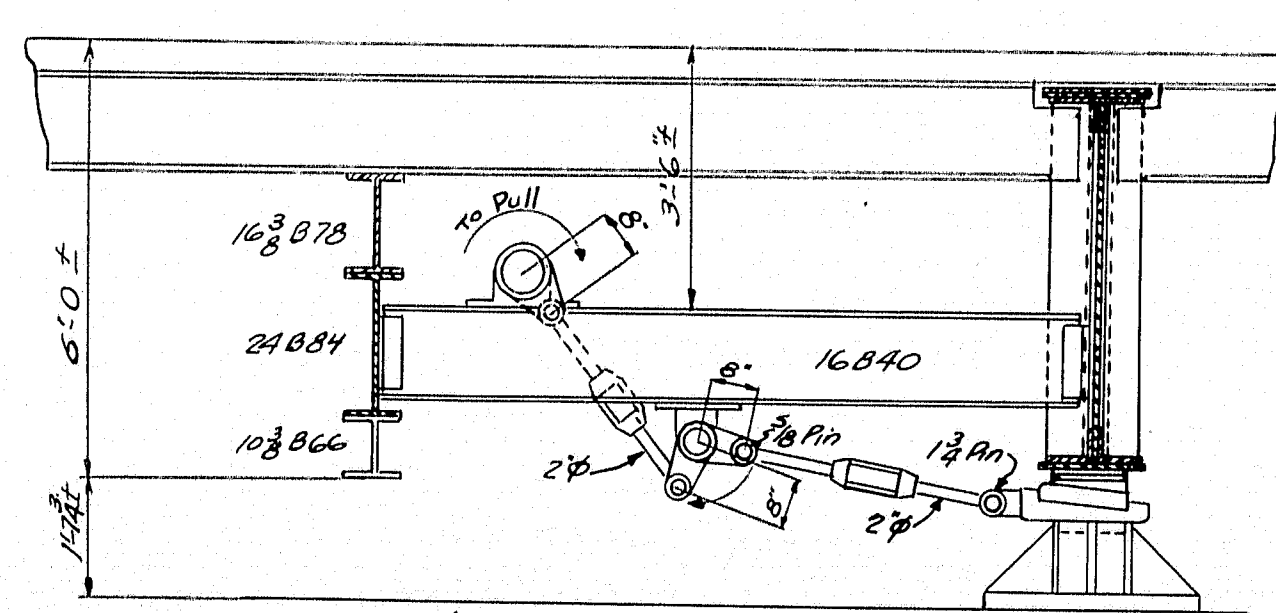
Provide protective covering for motors, over top only, of 16 gauge galv. iron. To be paid for as machinery.

Erect 16 gauge galv. iron shields as shown in 1st SET. P-D to protect track. Shields to be 3 ±" wide and about 10' long. Supports and shields to be paid for as machinery.

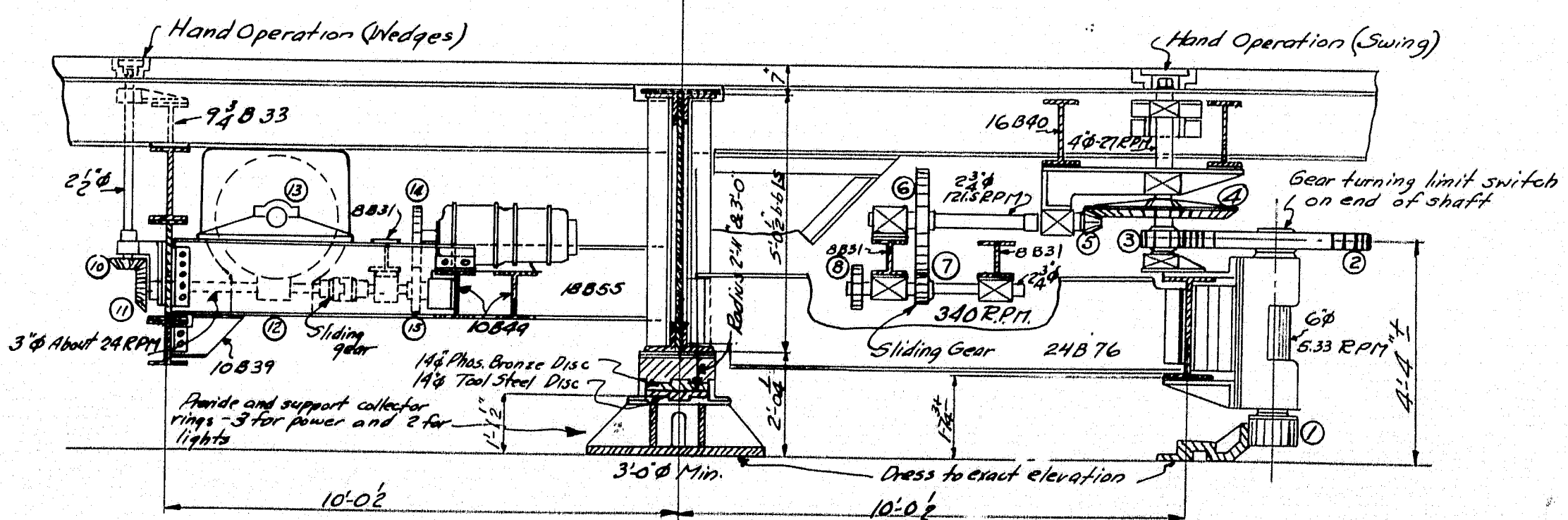
TABLE OF GEARS				ALL 20° INVOLUTE		
Gear	C.P.	D.P.	Face	$\frac{1}{2}$ Pitch Teeth	Actual	Remarks
Rack	2 $\frac{1}{16}$		6 $\frac{1}{2}$	300 24 $\frac{1}{2}$	CS	
1	2 $\frac{1}{16}$		6 $\frac{1}{2}$	14 12 $\frac{1}{16}$	C.S.	
2	1 $\frac{1}{16}$		4	76 42 $\frac{1}{2}$	C.S.	
3	1 $\frac{1}{16}$		4 $\frac{1}{2}$	15 8 $\frac{1}{2}$	CS	
4	2 $\frac{1}{2}$	4	63	3 $\frac{1}{2}$	CS	Bevel
5	2	4	14	7	CS	
6	2 $\frac{1}{2}$	3	56	22 $\frac{1}{2}$	C.S.	Cut teeth
7	2 $\frac{1}{2}$	3	20	8	F.S.	"
8	{ Ratio 2:1					Sprocket
9						"
10	2 $\frac{1}{2}$	3	16	6 $\frac{1}{2}$	CS	Bevel
11	2 $\frac{1}{2}$	3	32	12 $\frac{1}{2}$	C.S.	"
12	3 $\frac{1}{2}$			8	F.S.	Cut teeth
13	3 $\frac{1}{2}$			24	24 $\frac{1}{2}$	C.T. Cut teeth
14	2 $\frac{1}{2}$	3	24	9 $\frac{1}{2}$	CS	
15	2 $\frac{1}{2}$	3	36	14 $\frac{1}{2}$	CS	

PLAN: E.B.	TOWN 12-01
CHECK: B.E.L.	BRIDGE 2026

STATE HIGHWAY COMMISSION
BRIDGE DIVISION
ARROWSIC BRIDGE
OVER
SASANOA RIVER
BETWEEN THE TOWNS OF
ARROWSIC AND WOOLWICH
SAGADAHOC COUNTY
MACHINERY DETAILS
Sheet 23 of 27 August 11e. July 1943

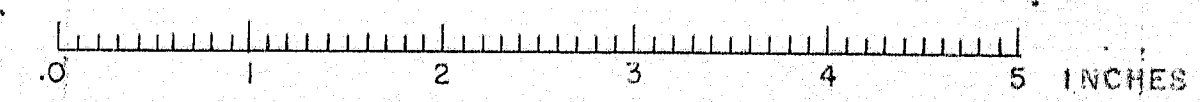


SECTION B-B

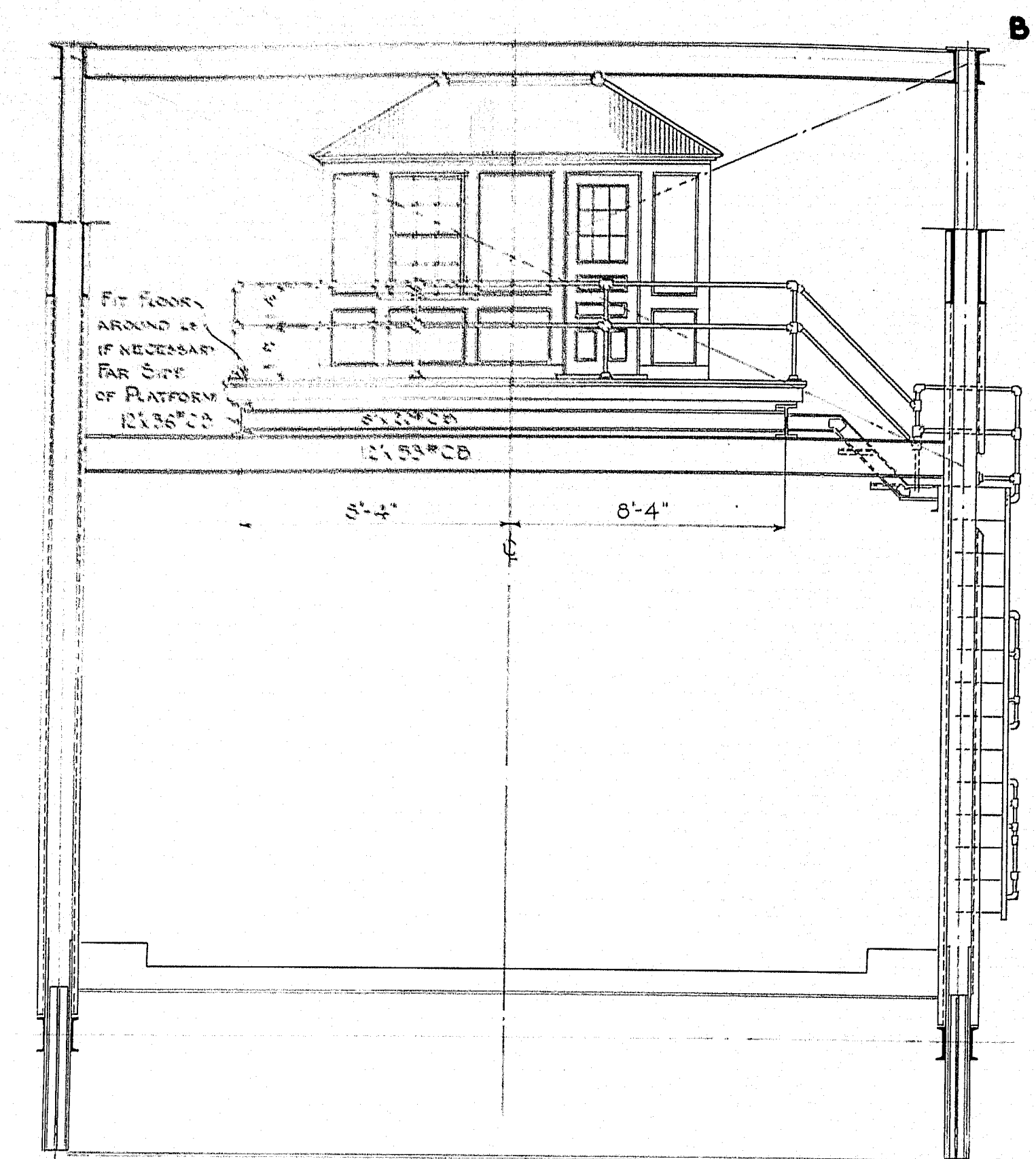


SECT. A-A

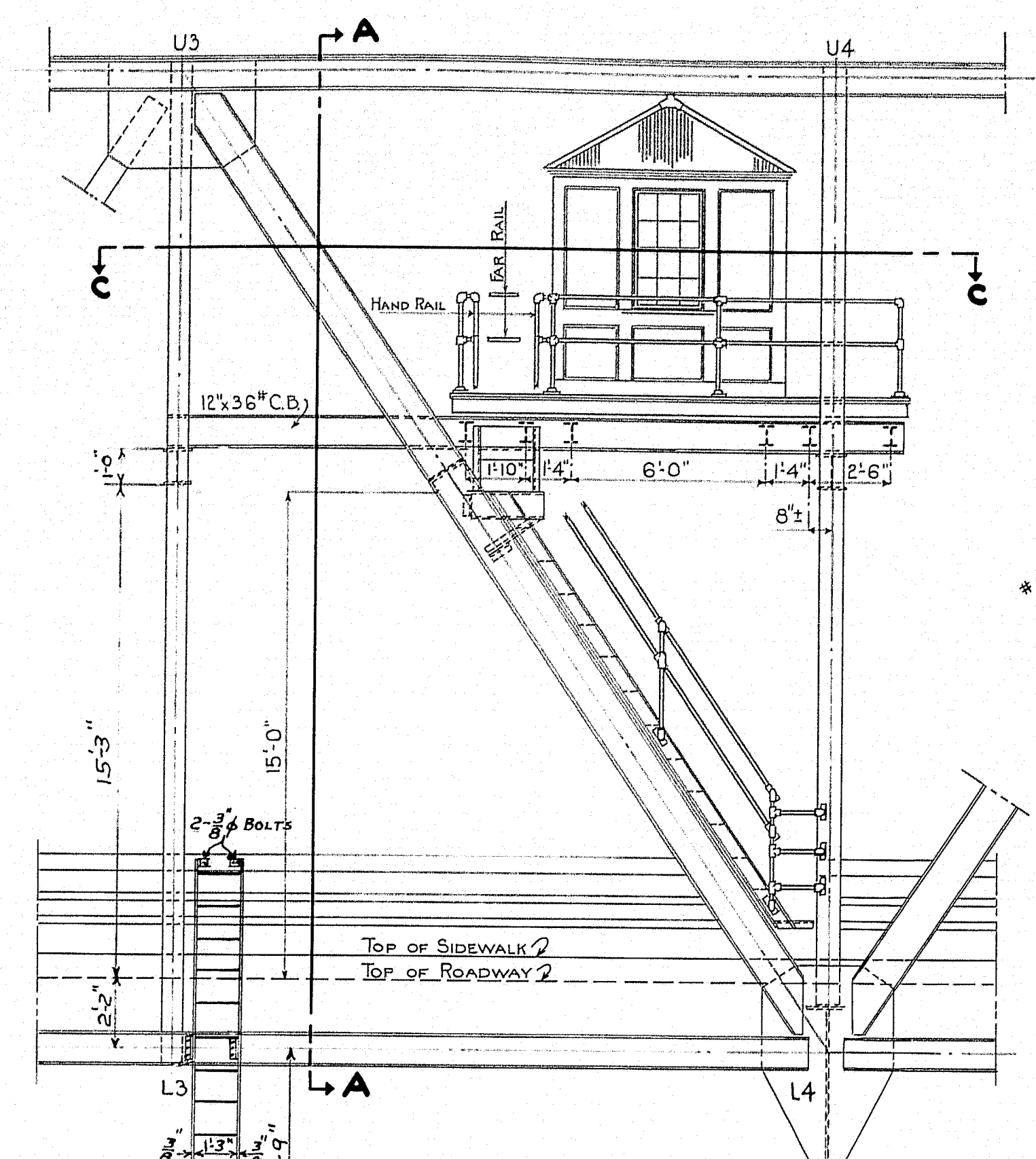
In order that rotation shall occur between the 14th discs when the bridge is opened or closed the Phosphor Bronze Disc shall be secured from rotation against the casting above and the Tool Steel Disc against the casting below.



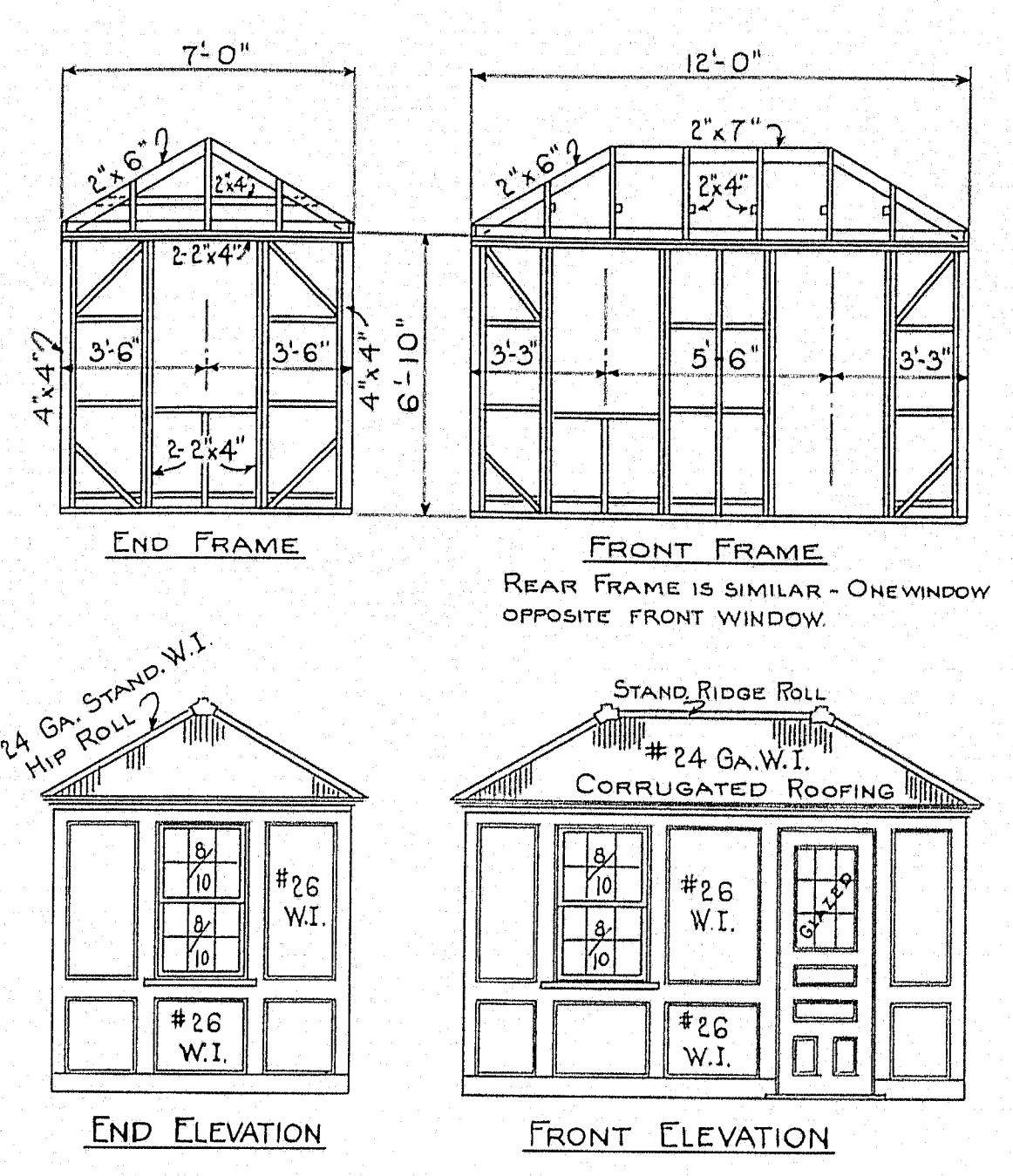




SECTION A-A

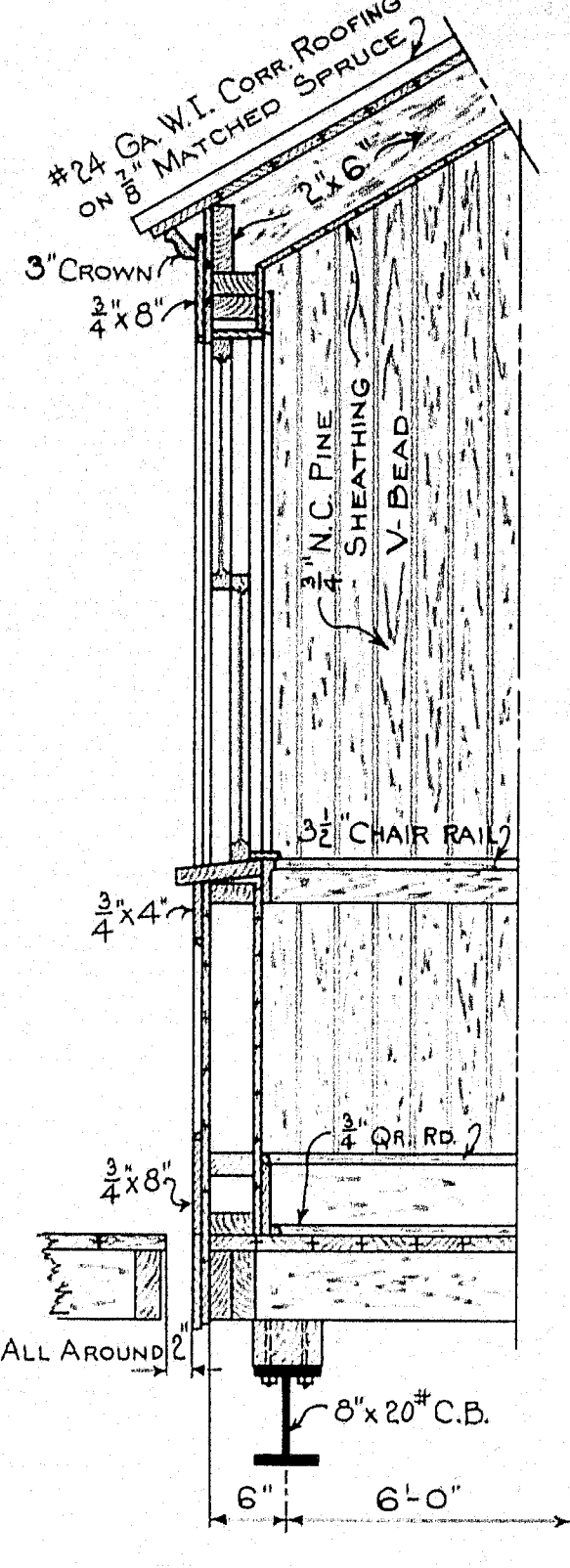


VIEW B-B

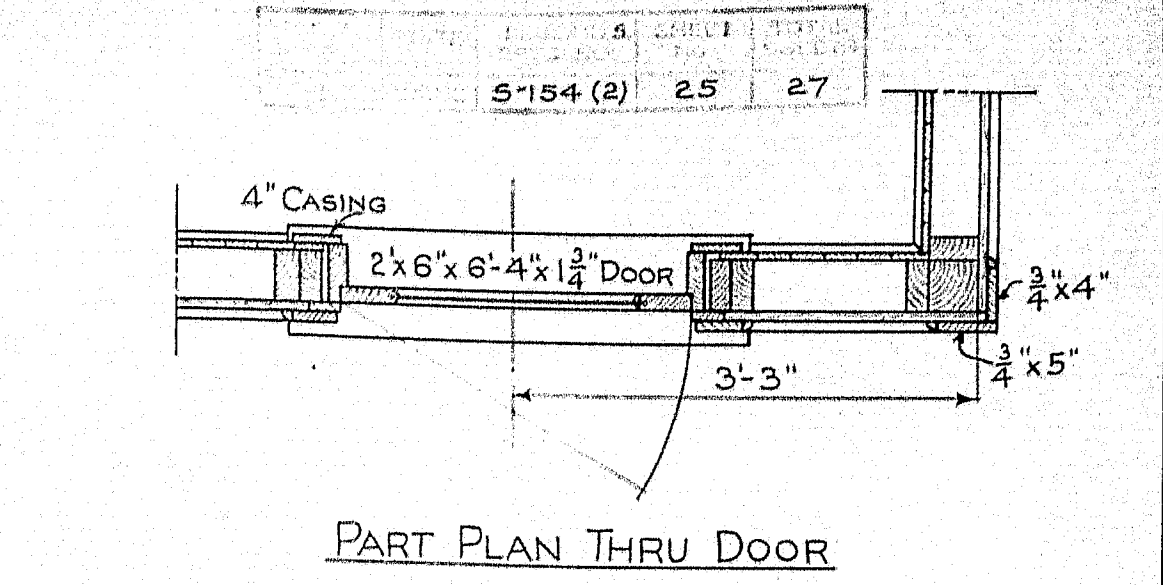


END ELEVATION

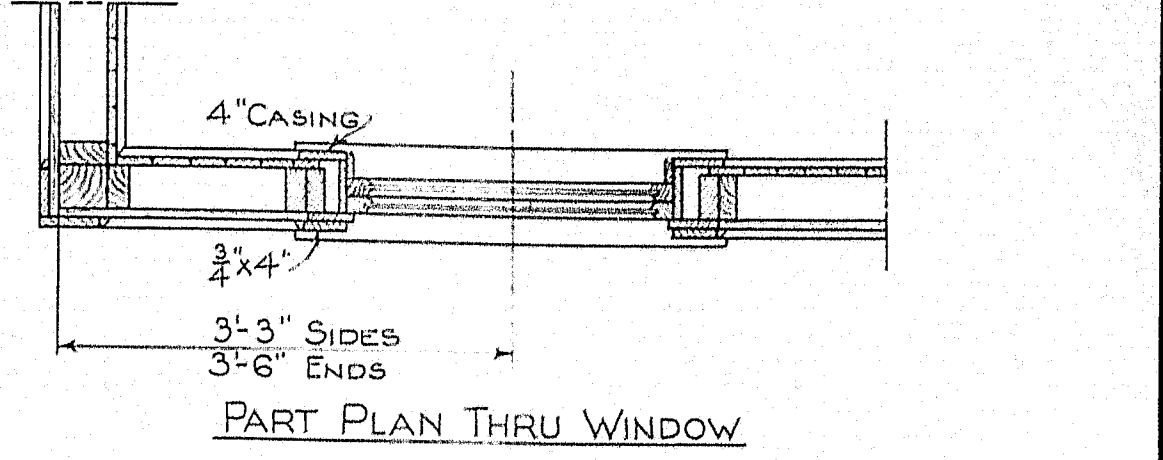
FRONT ELEVATION



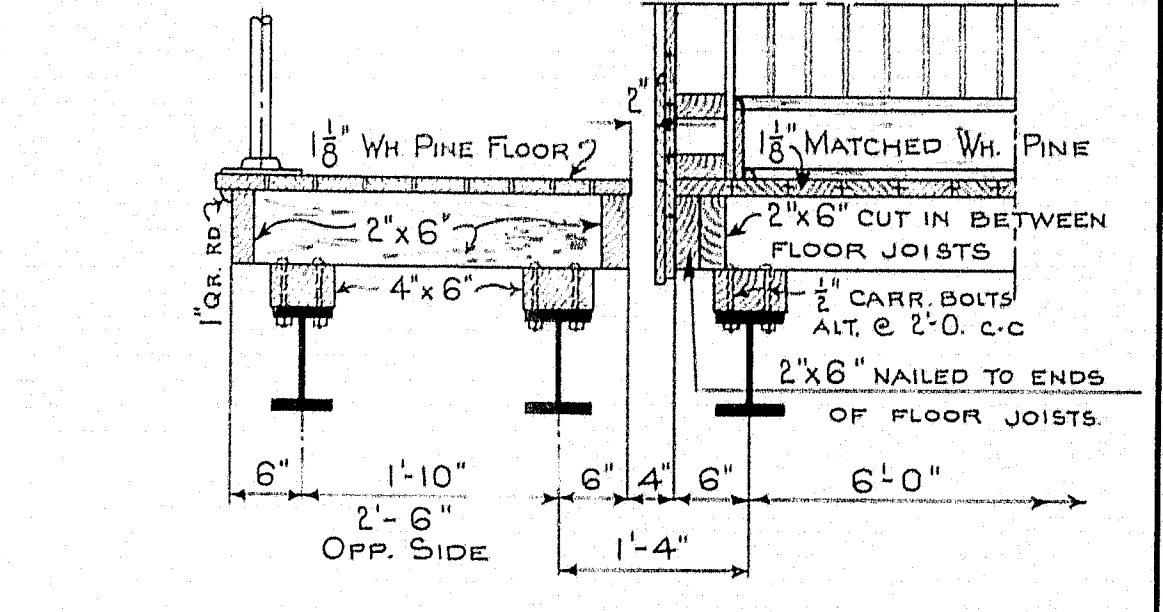
PART SECTION



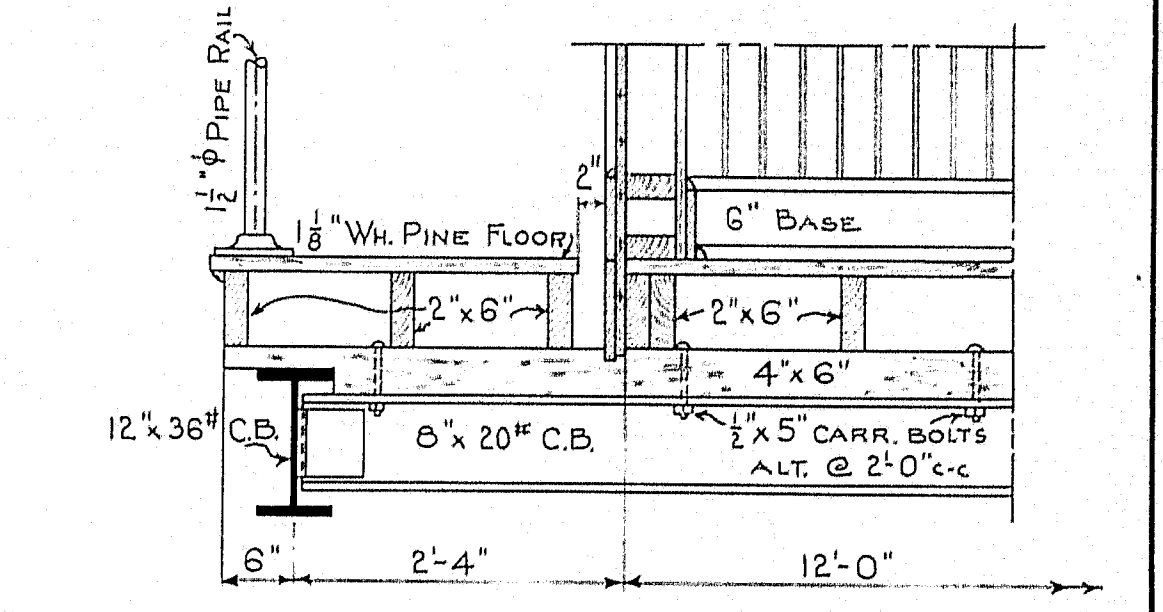
PART PLAN THRU DOOR



PART PLAN THRU WINDOW



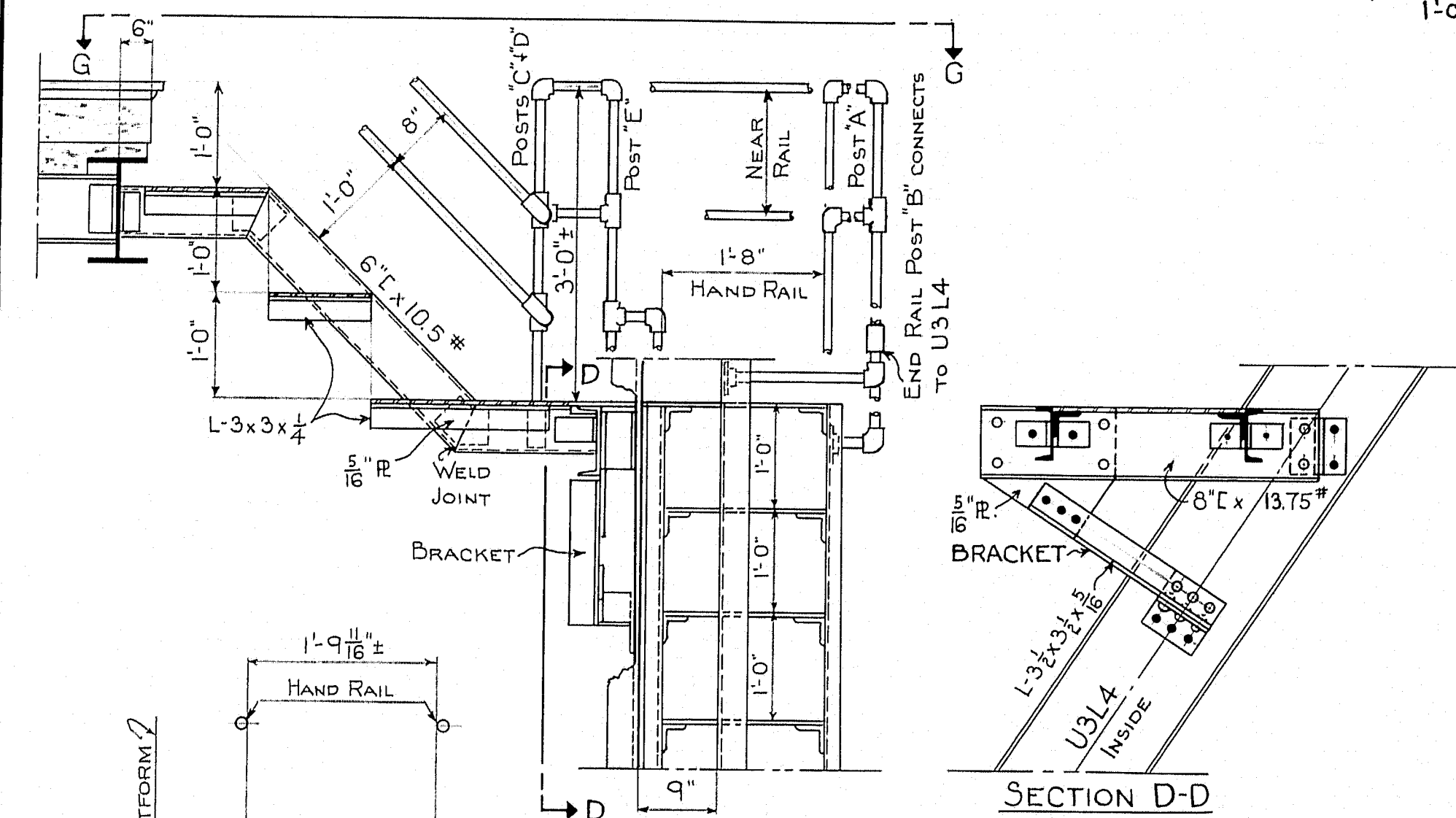
SECTION J-J



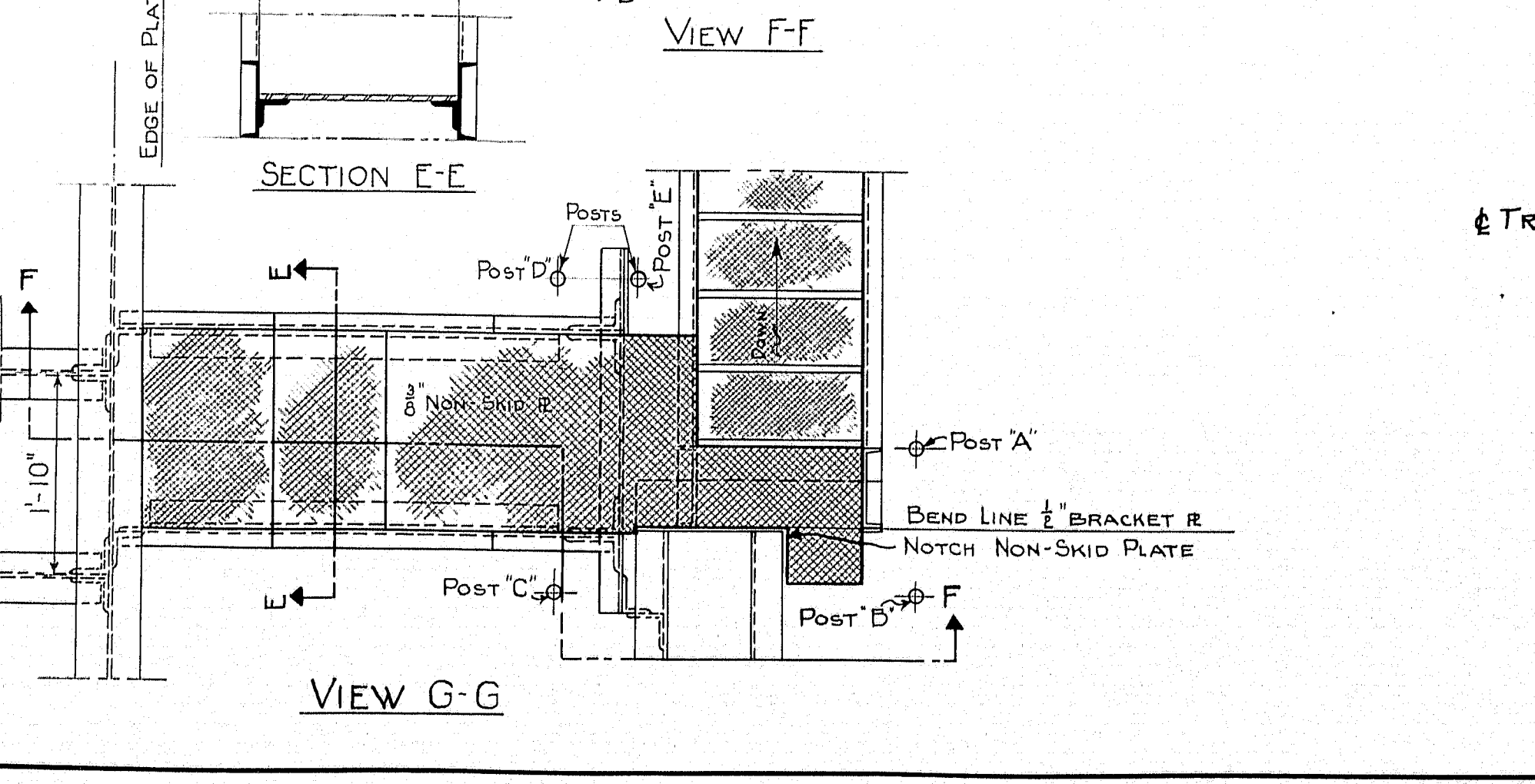
SECTION K-K

~ GENERAL NOTES ~
 THE CONTRACT ITEM "OPERATOR'S HOUSE" SHALL INCLUDE NAILING PIECES AND PLATFORM.
 SUPPORTING I-BEAMS, STAIRS, PIPE RAIL AND LADDERS TO BE PAID FOR AS STRUCTURAL STEEL.
 HOUSE WIRING AND LIGHTING FIXTURES COMPLETE TO BE INCLUDED IN LUMP SUM PRICE FOR ELECTRICAL EQUIPMENT.
 PIPE RAIL TO BE GENUINE WROUGHT IRON WITH MALLEABLE IRON FITTINGS.

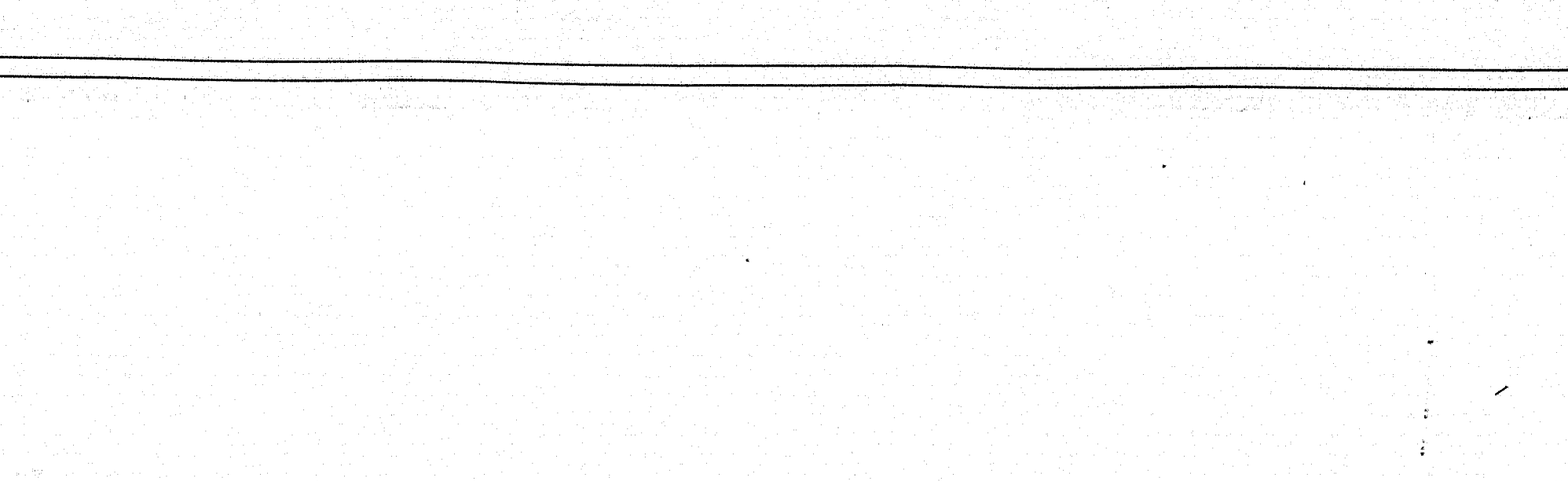
DESIGN - J. Hamilton
 TRACED - J. E. V.
 CHECKED - J. E. V.
 TOWN 12-01
 BRIDGE 2026
 STATE HIGHWAY COMMISSION
 BRIDGE DIVISION
ARROWSIC BRIDGE
 OVER
SASANOVA RIVER
 BETWEEN THE TOWNS OF
ARROWSIC & WOOLWICH
SAGadahOG COUNTY
 OPERATOR'S HOUSE
 Sheet 25 of 27 Augusta Me July 1943



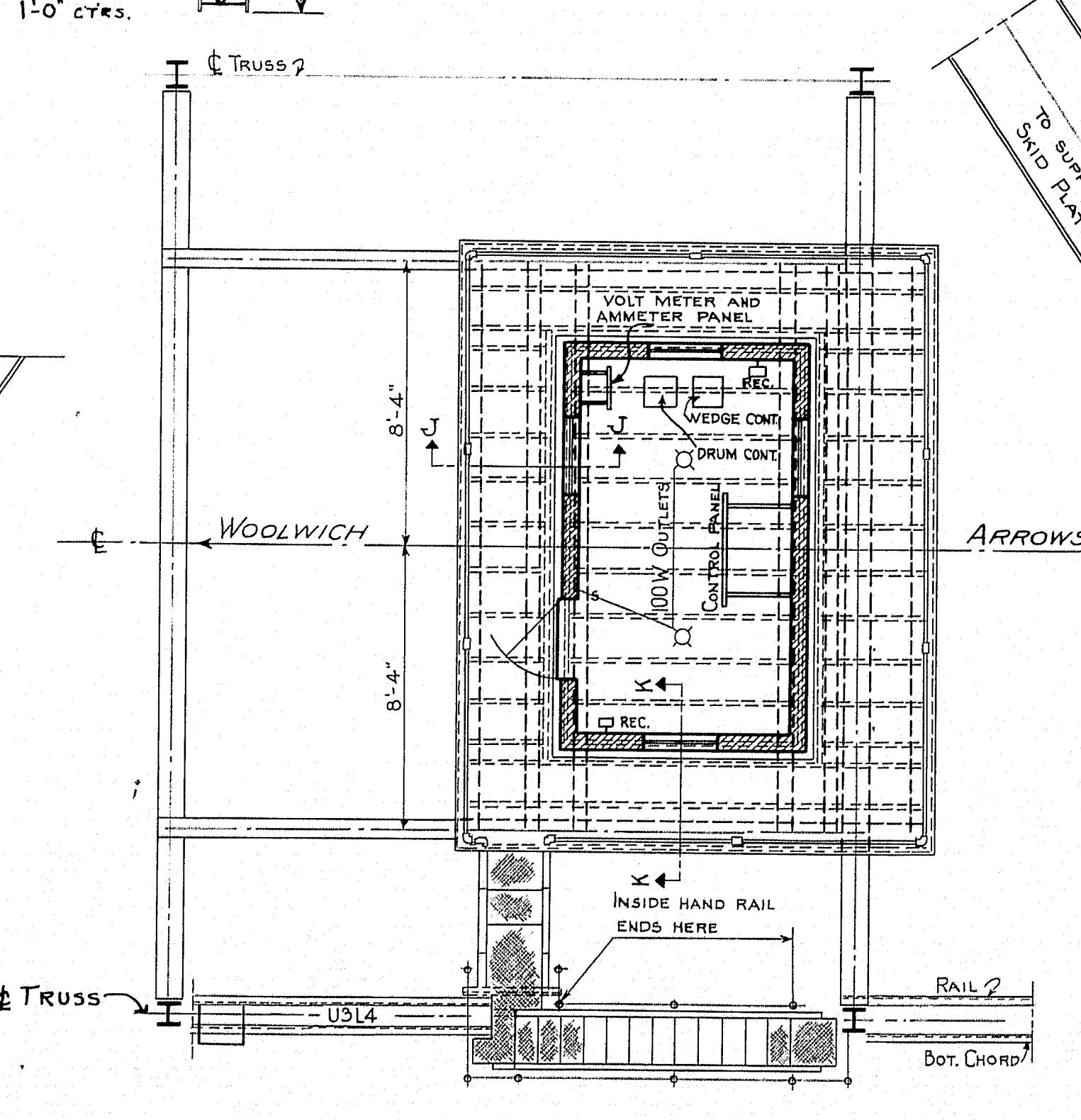
SECTION D-D



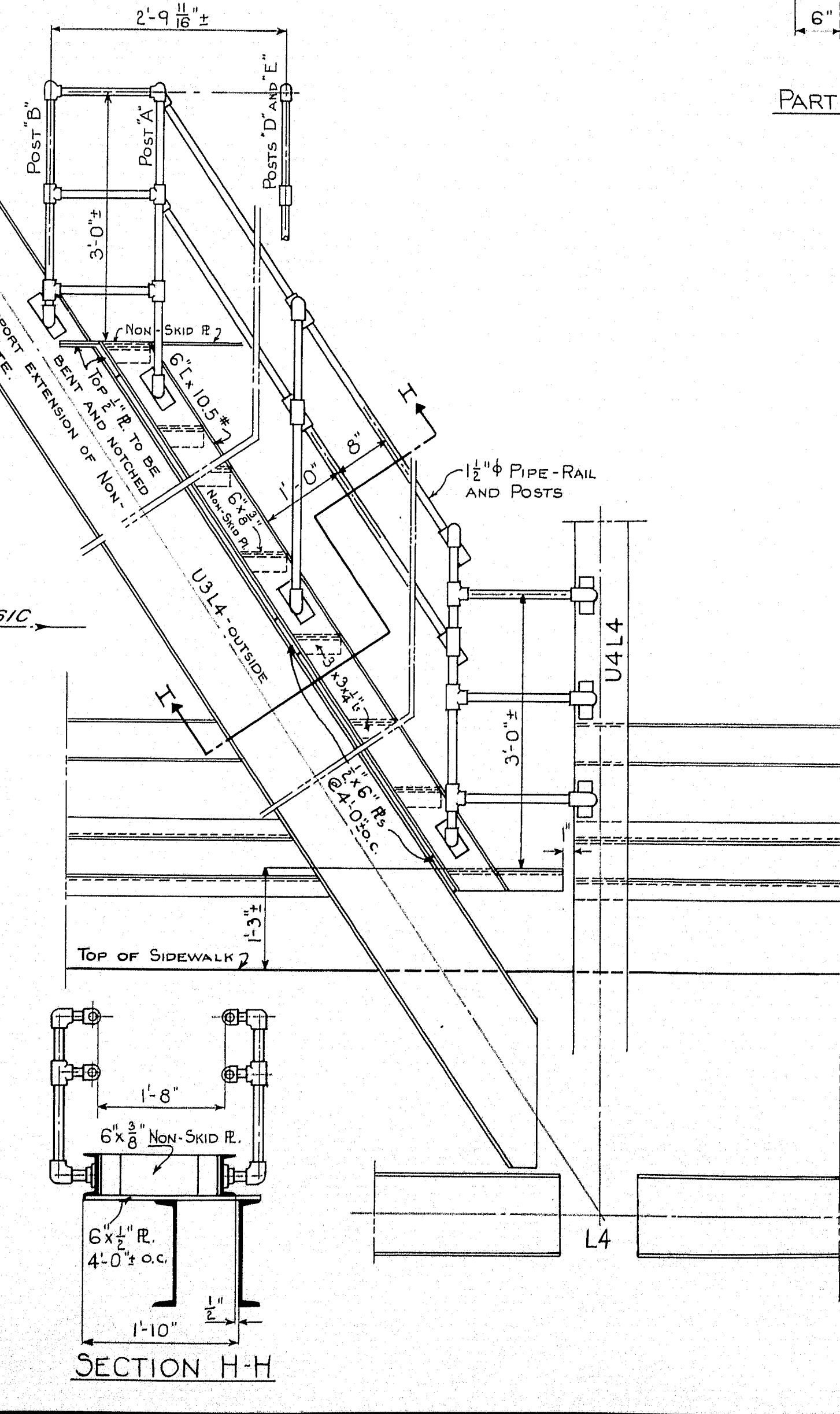
VIEW F-F



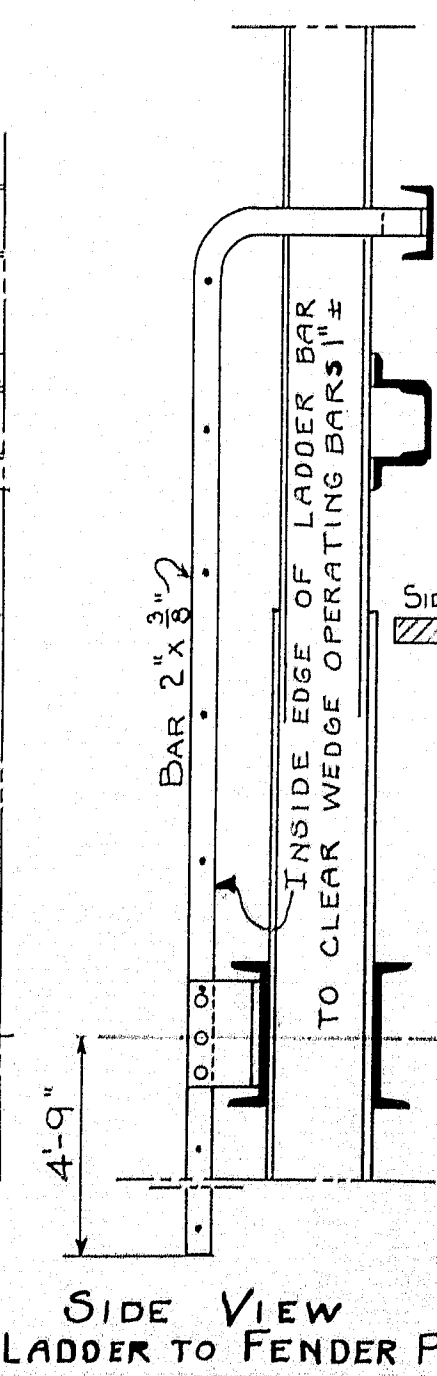
VIEW G-G



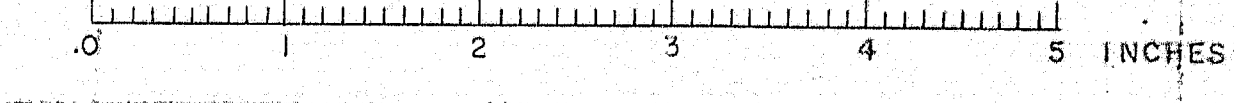
VIEW C-C



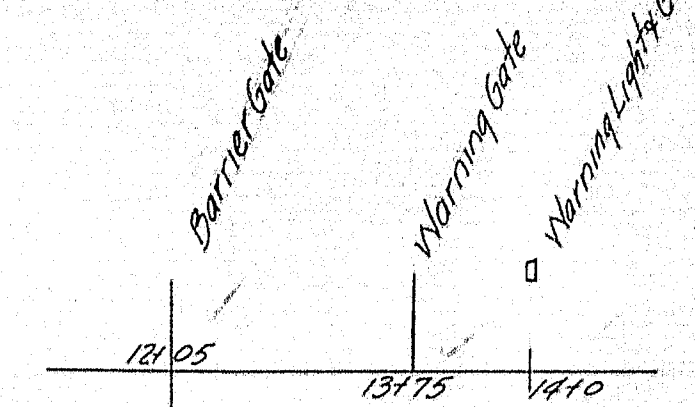
SECTION H-H



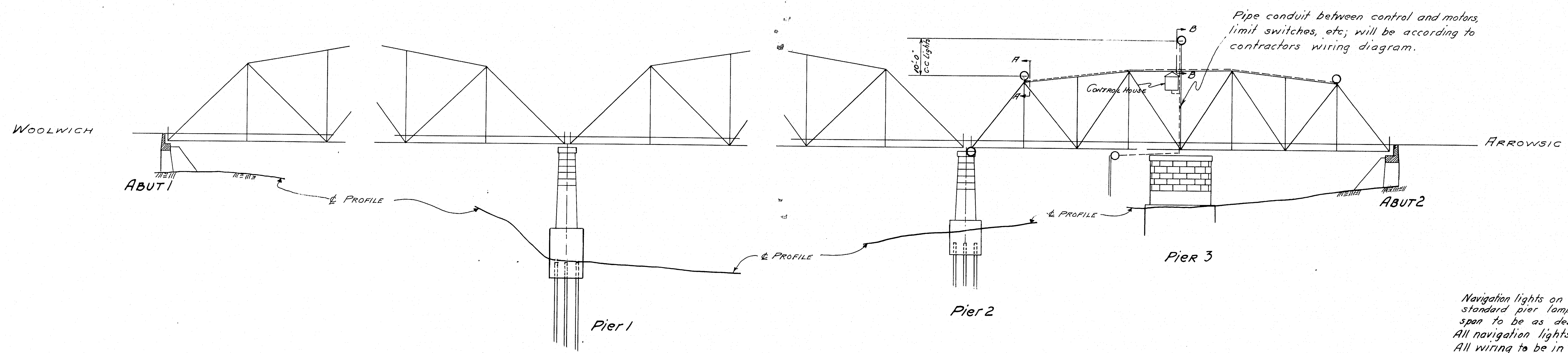
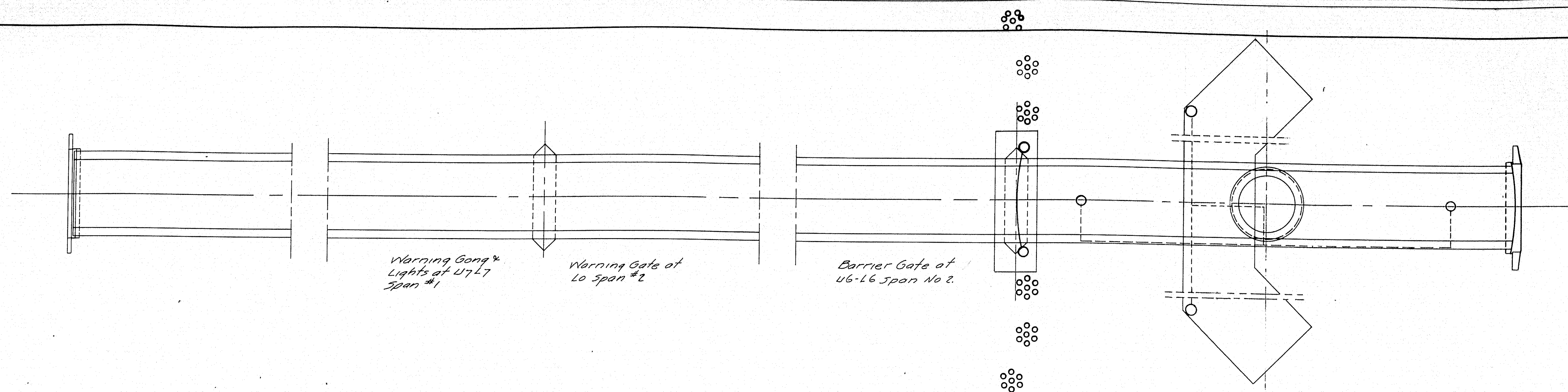
SIDE VIEW LADDER TO FENDER PIER



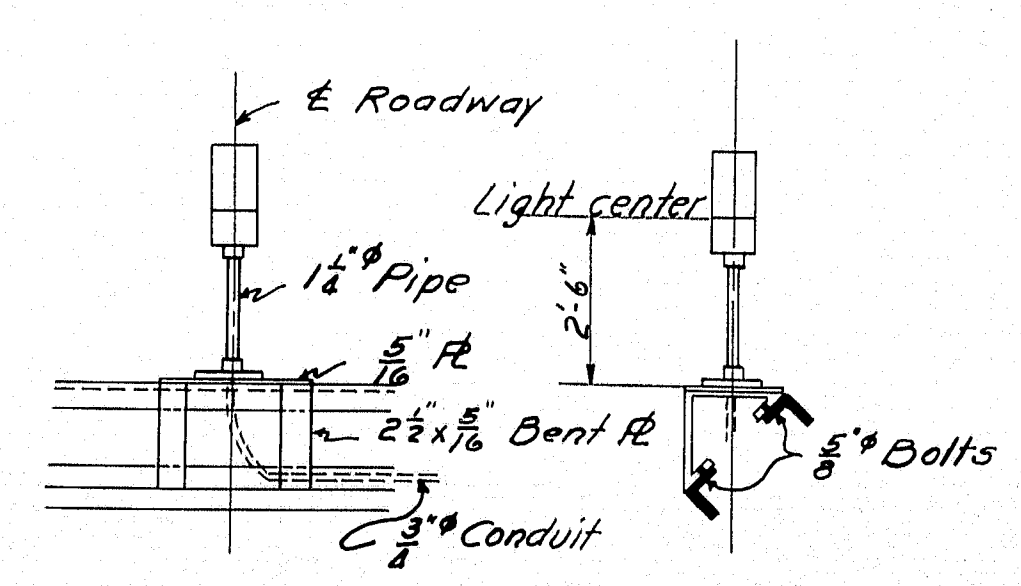
P. R. A.	STATE	FED. AID	PROJ. NO.	SHEET	TOTAL
1	MAINE	5-194 (2)	26	27	



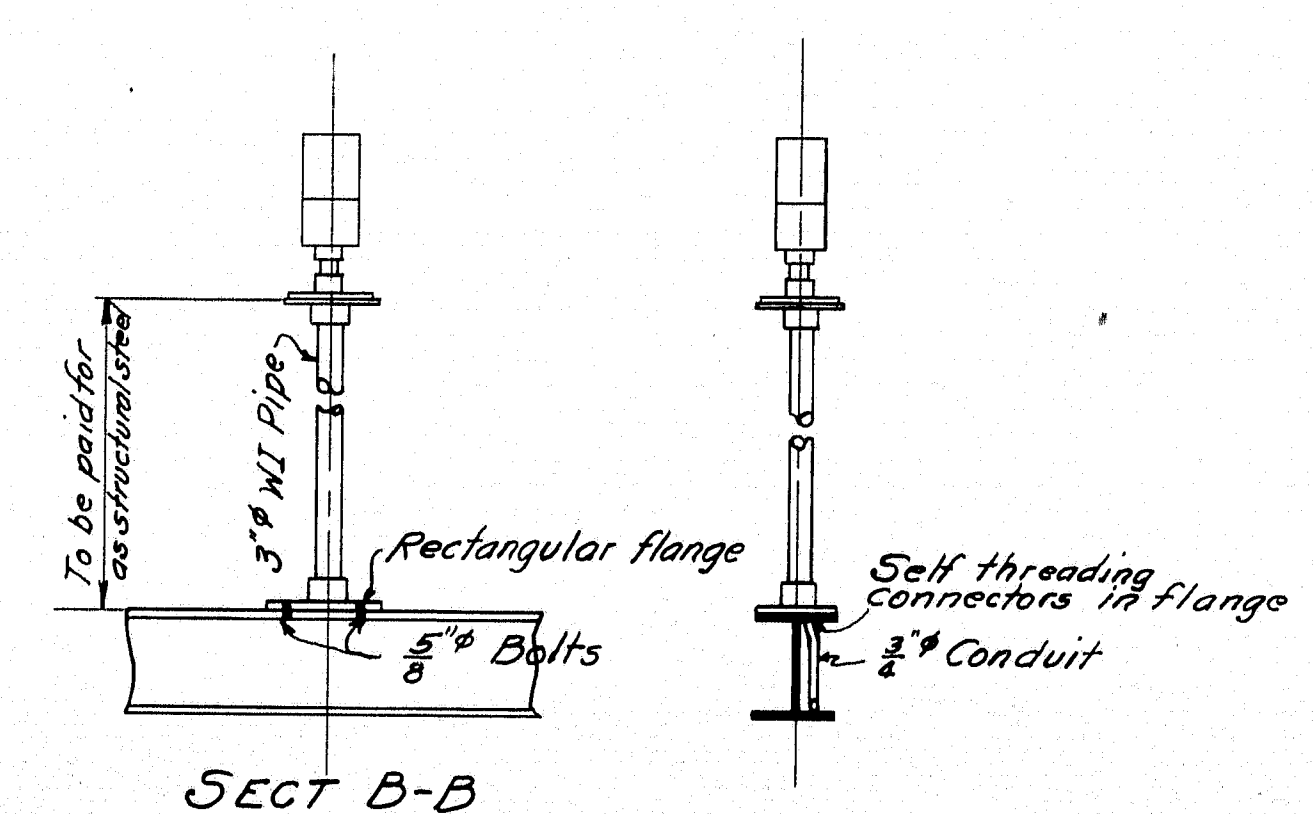
Location Protective Devices on Approach



Navigation lights on the piers are to be 180° standard pier lamps, and the three on the swing span to be as described in the specifications. All navigation lights to be on the same circuit. All wiring to be in pipe conduit except for the operators house.



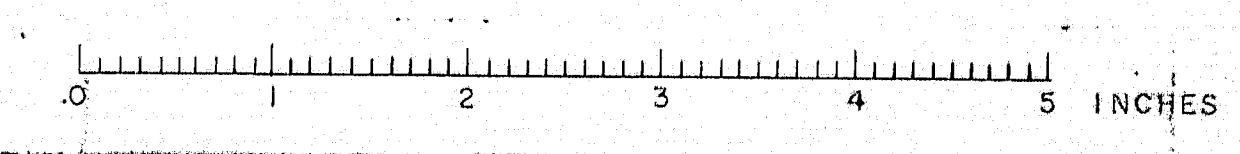
SECTION A-A

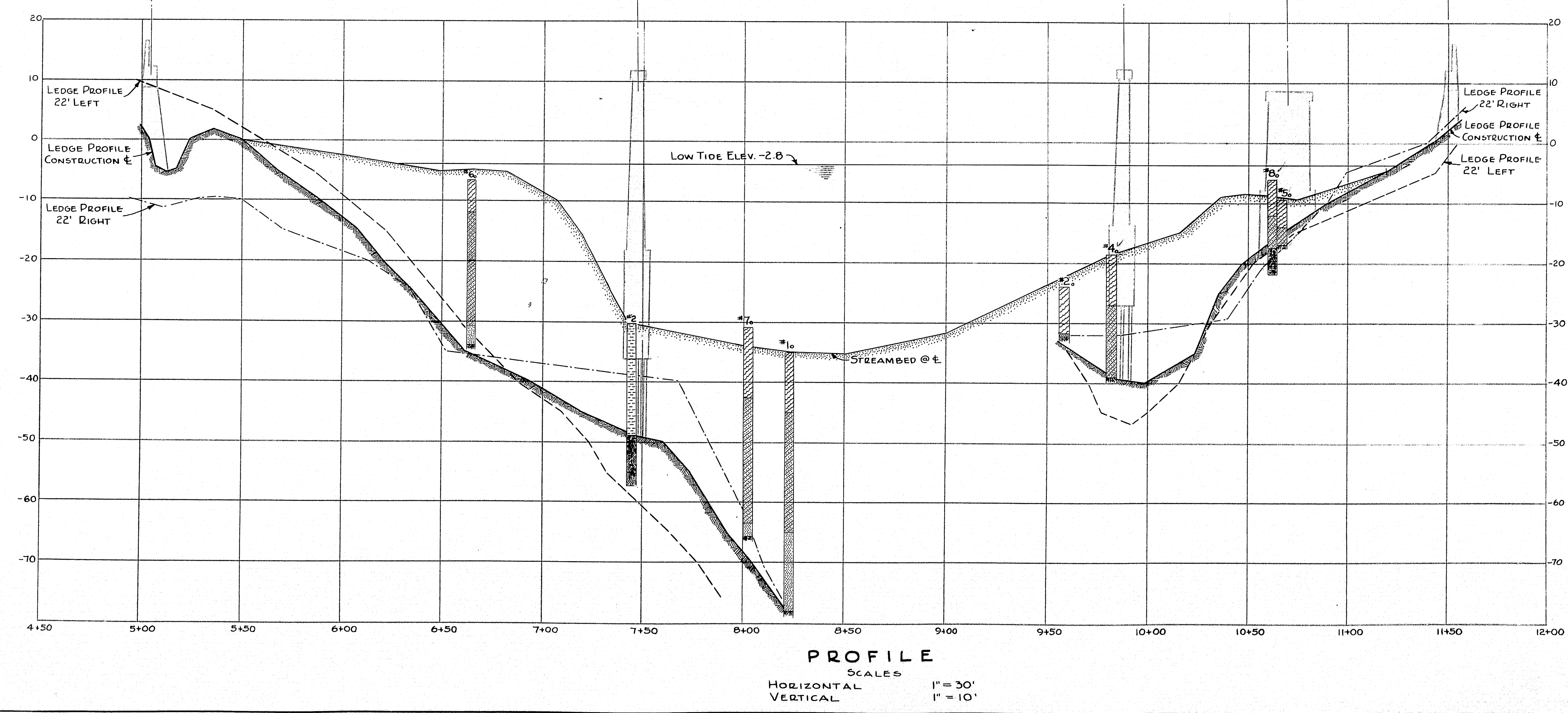
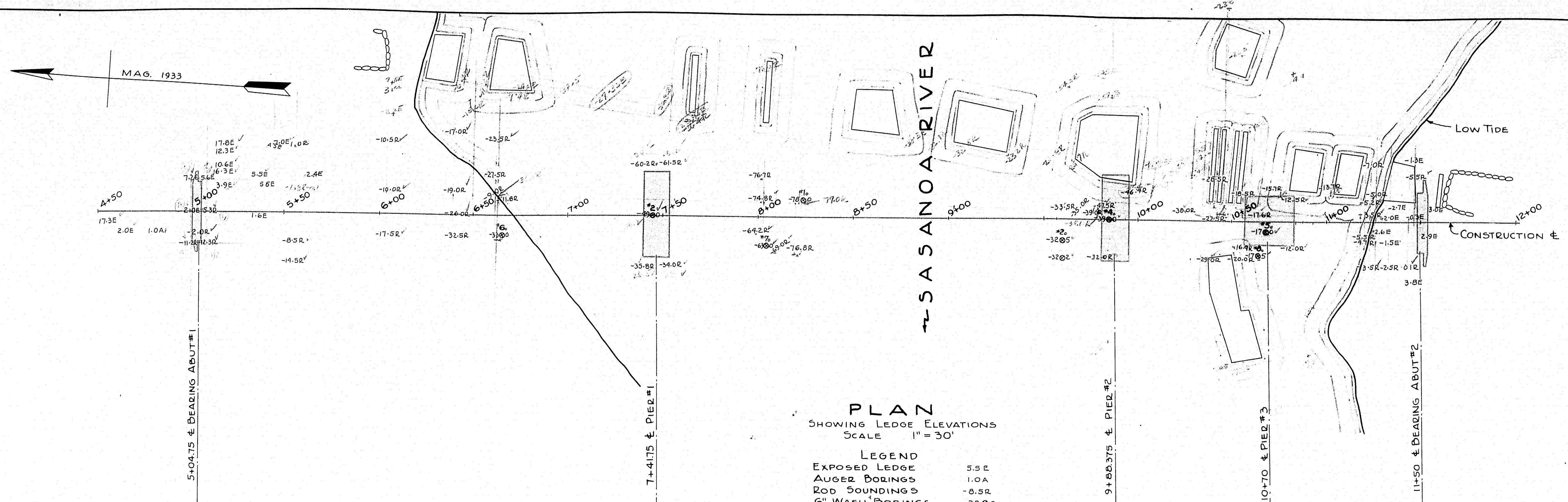


SECTION B-B

PLAN: EB	TOWN 12-01
CHECK: A.B.R.	BRIDGE 2026
STATE HIGHWAY COMMISSION BRIDGE DIVISION	
ARROWSIC BRIDGE	
OVER	
SASANOA RIVER	
BETWEEN THE TOWNS OF	
ARROWSIC & WOOLWICH	
SAGadahoc COUNTY	
ELECTRICAL PLAN	
Sheet 26 of 27 August 14 July 1943	

Not complete - reference to sheet 27
Source of water





- CORE LEGEND**
- VEGETABLE MUCK
 - MEDIUM BLUE CLAY
 - MEDIUM SILT AND CLAY
 - SOFT SILT AND CLAY
 - SILT
 - SAND
 - LEDGE

NOTE - BORINGS WITH PLAIN NUMBERS ARE BY SAVAGE. NUMBERS WITH SUBSCRIPTS REFER TO BORINGS BY LYON.

Soundings-Lyon, Savage
 Plan- Boyd Bridge 2026

STATE HIGHWAY COMMISSION
 BRIDGE DIVISION
ARROWSIC BRIDGE
 OVER
SASANOA RIVER
 BETWEEN THE TOWNS OF
ARROWSIC AND WOOLWICH
SAGadahoc COUNTY

FOUNDATION INFORMATION
 Sheet 27 of 27 Augusta, Maine Jan. 1946

