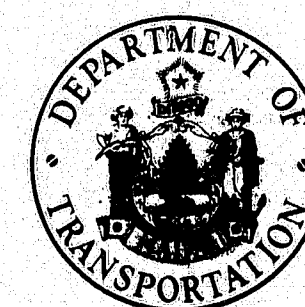


# STATE OF MAINE DEPARTMENT OF TRANSPORTATION



## REHABILITATION OF MOVABLE BRIDGES FOR SOUTHPORT BRIDGE OVER

## TOWNSEND GUT BETWEEN THE TOWNS OF SOUTHPORT & BOOTHBAY HARBOR LINCOLN COUNTY

PROJECT NUMBER BH-000S(49)  
PROJECT LENGTH 0.069 MILES  
AND

## MAINE-KENNEBEC BRIDGE OVER

## KENNEBEC RIVER BETWEEN THE TOWNS OF RICHMOND & DRESDEN

SAGADAHOC & LINCOLN COUNTIES  
PROJECT NUMBER BH-0164(4)  
PROJECT LENGTH 0.1866 MILES

F.R.A. REG. NO.	STATE	PROJECT NUMBER	UNREY NO.	TOTAL SHEETS
1	MAINE	BH-000S(49) BH-0164(4)	1	32

### CONVENTIONAL SIGNS

COUNTY LINES	=====	TRAVELLED WAY - PROPOSED	=====
TOWN LINES	=====	UNDERGROUND UTILITIES - EXISTING	-----
PROPERTY LINES	=====	UNDERGROUND UTILITIES - PROPOSED	-----
R/W LINES - EXISTING	=====	RAILROAD - SINGLE TRACK	=====
R/W LINES - NEW - ACCESS CONTROL	=====	RAILROAD - DOUBLE TRACK	=====
R/W LINES - NEW - NO ACCESS CONTROL	=====	UTILITY POLE - EXISTING	=====
CULVERT - EXISTING	=====	UTILITY POLE - JOINT OCCUPANCY	=====
CULVERT - PROPOSED	=====	PROPOSED UTILITY POLE - TEMPORARY	=====
CURBING - EXISTING	=====	PROPOSED UTILITY POLE - PERMANENT	=====
CURBING - PROPOSED	=====	TREES	=====
TRAVELLED WAY - EXISTING	=====	WOODS	=====

### SPECIFICATIONS

DESIGN AASHTO. Standard Specifications for Highway Bridges 1983  
CONTRACT State of Maine, Department of Transportation, Standard Specifications,  
Highways and Bridges, Revisions of January 1984

### MATERIALS

CONCRETE - See Special Provisions  
REINFORCING STEEL - A.S.T.M. A615 - Grade 60  
STRUCTURAL STEEL - A.S.T.M. A36  
H.S. BOLTS - A.S.T.M. A325 - Type 1

### BASIC ALLOWABLE STRESSES

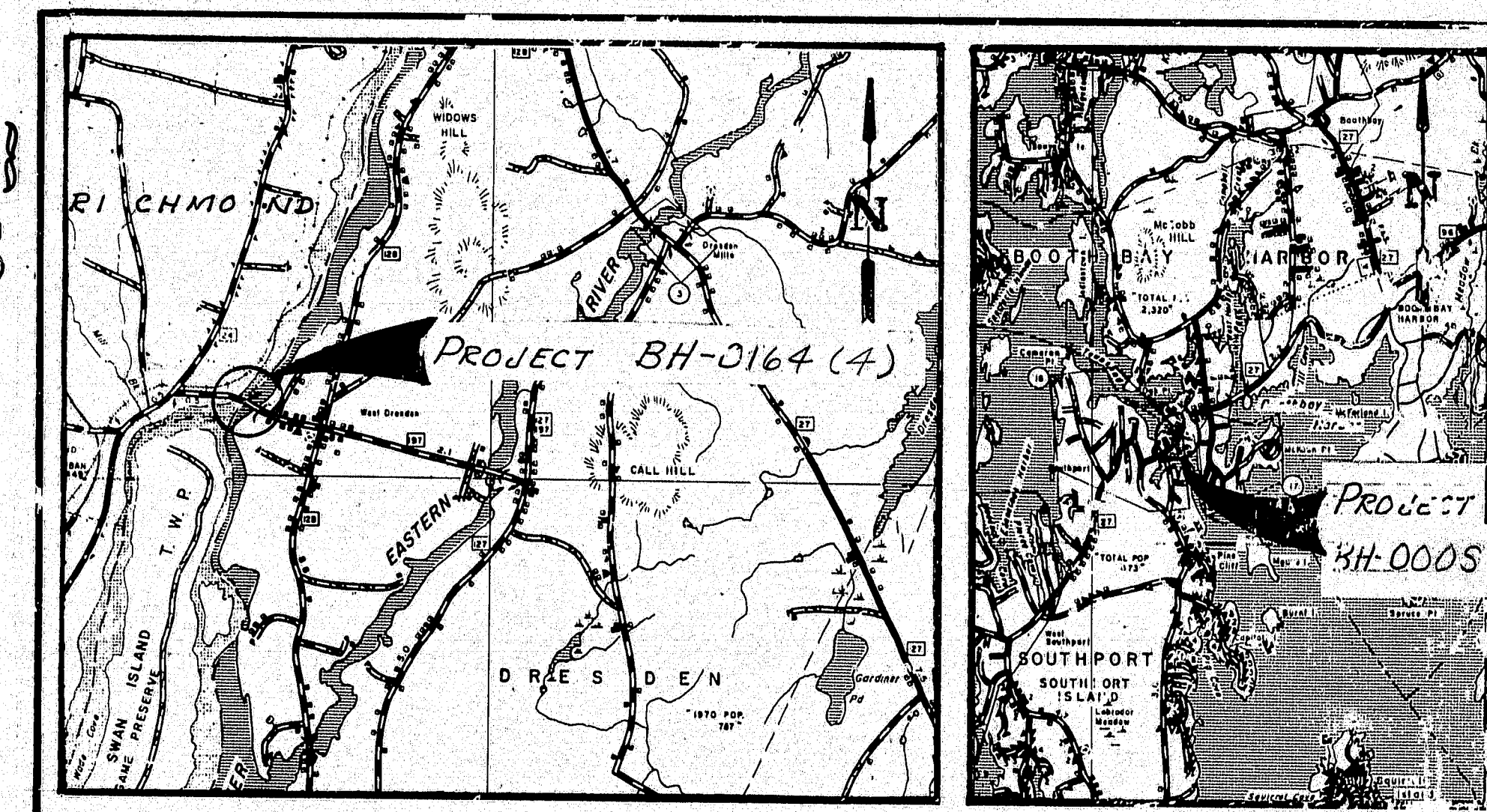
CONCRETE -  $f_c = 1200 \text{ p.s.i.}$  -  $n = 10$   
REINFORCING STEEL -  $f_s = 24,000 \text{ p.s.i.}$   
STRUCTURAL STEEL - A36 -  $f_s = 20,000 \text{ p.s.i.}$   
STRUCTURAL STEEL - A325 -  $f_v = 25,000 \text{ p.s.i.}$

### TRAFFIC DATA

	BH-000S(49)	BH-0164(4)
A.D.T. 1983	2980	1740
A.D.T. 2003	3580	2090
D.H.V.	609	251
T (%)	7	20
D (%)	52	57
18 KIPS - Equiv. P2.0	48	141
18 KIPS - Equiv. P2.5	52	139

### INDEX OF SHEETS

SHEET NO.	DESCRIPTION
1	TITLE
2	QUANTITY
- SOUTH PORT BRIDGE -	
3 thru 9	CIVIL
10 thru 20	ELECTRICAL
21 thru 26	MECHANICAL
- MAINE-KENNEBEC BRIDGE -	
27 thru 28	FENDER REPLACEMENT
29	STANDARD DETAIL
30 thru 32	TRAFFIC CONTROL PLANS



SCALE 104-354

These Plans are essentially as built for  
Perkins & Co. Inc. See Maint. Div.  
LOCATION MAPS R. W. Lang 9/9/92

APPROVED:  
STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION  
COMMISSIONER  
5-21-85  
CHIEF ENGINEER  
5-21-85

COAST GUARD PERMIT NO.  
(RICHMOND DRESDEN)

UNITED STATES  
DEPARTMENT OF TRANSPORTATION  
FEDERAL HIGHWAY ADMINISTRATION  
REGION 1  
APPROVED:  
DIVISION ADMINISTRATOR DATE

Plans of the existing bridge are available for the Contractor's reference at the Bridge Design Office in Augusta. The plans are reproductions of original drawings as prepared for the construction of the bridge and it is very unlikely that the plans will show any construction field changes or any alterations which may have been made to the bridge during its life span.

### NOTE

All work contemplated under this contract to be governed by and in conformity with the STANDARD SPECIFICATIONS (revision of January 1984) and supplementals thereto, except as modified on the plans and in the special provisions.



F.H.W.A. RES. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	BH-0005(49) BH-016-4(4)	2	32

104-355

STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION

SOUTHPORT BRIDGE  
AND  
MAINE KENNEBEC BRIDGE

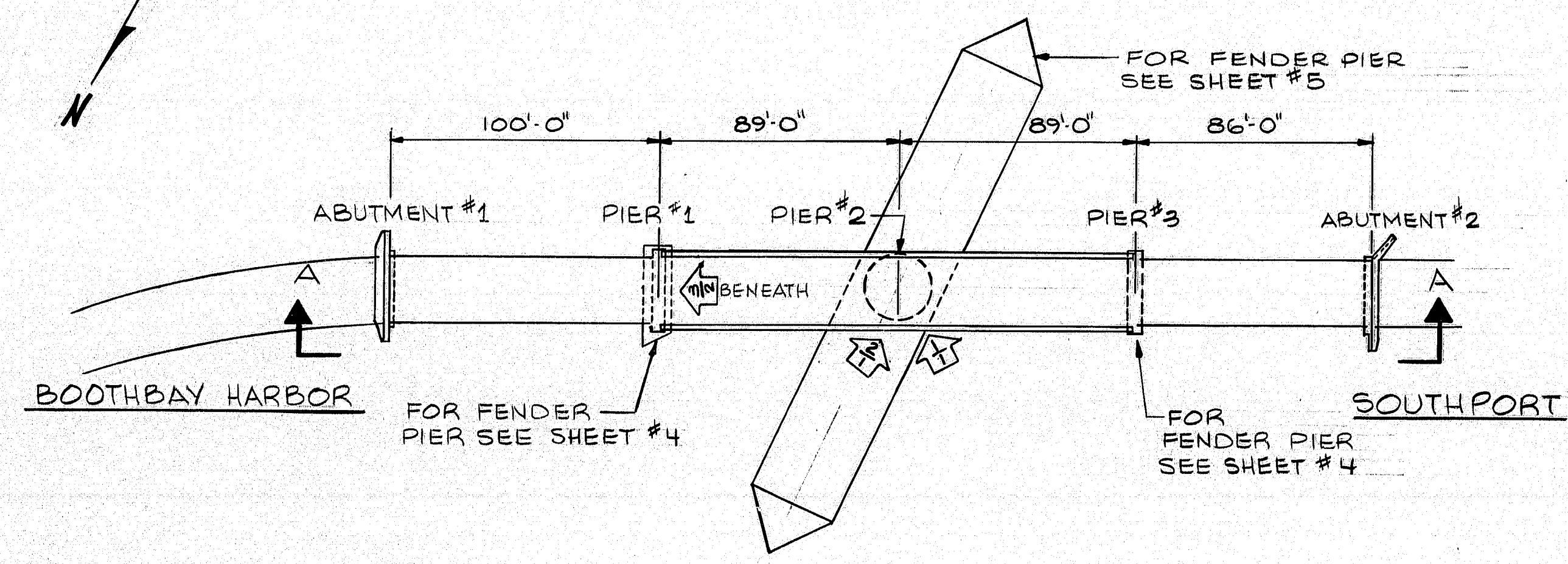
### ESTIMATED QUANTITIES

**SHEET OF AUGUSTA, MAINE**

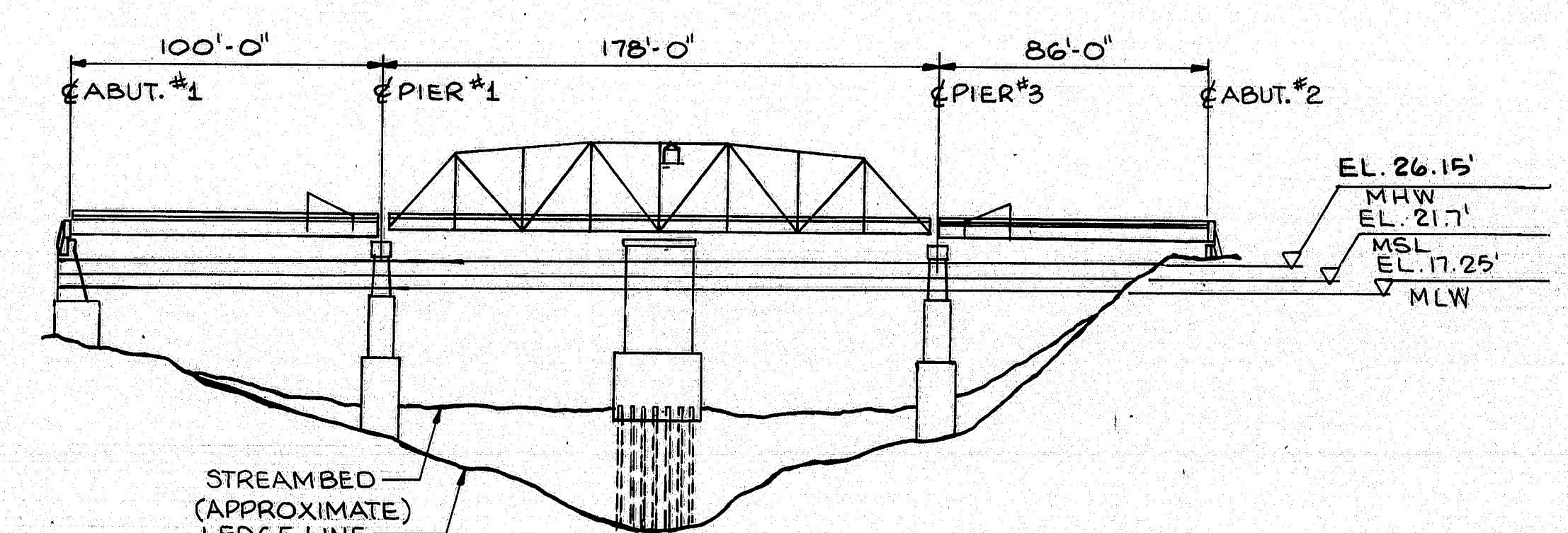
PLANS	PROJECT DESIGN ENGINEER		BY	DATE
	DESIGN - DETAILED			
	CHECKED			
	REVISIONS			
	FIELD CHANGES			



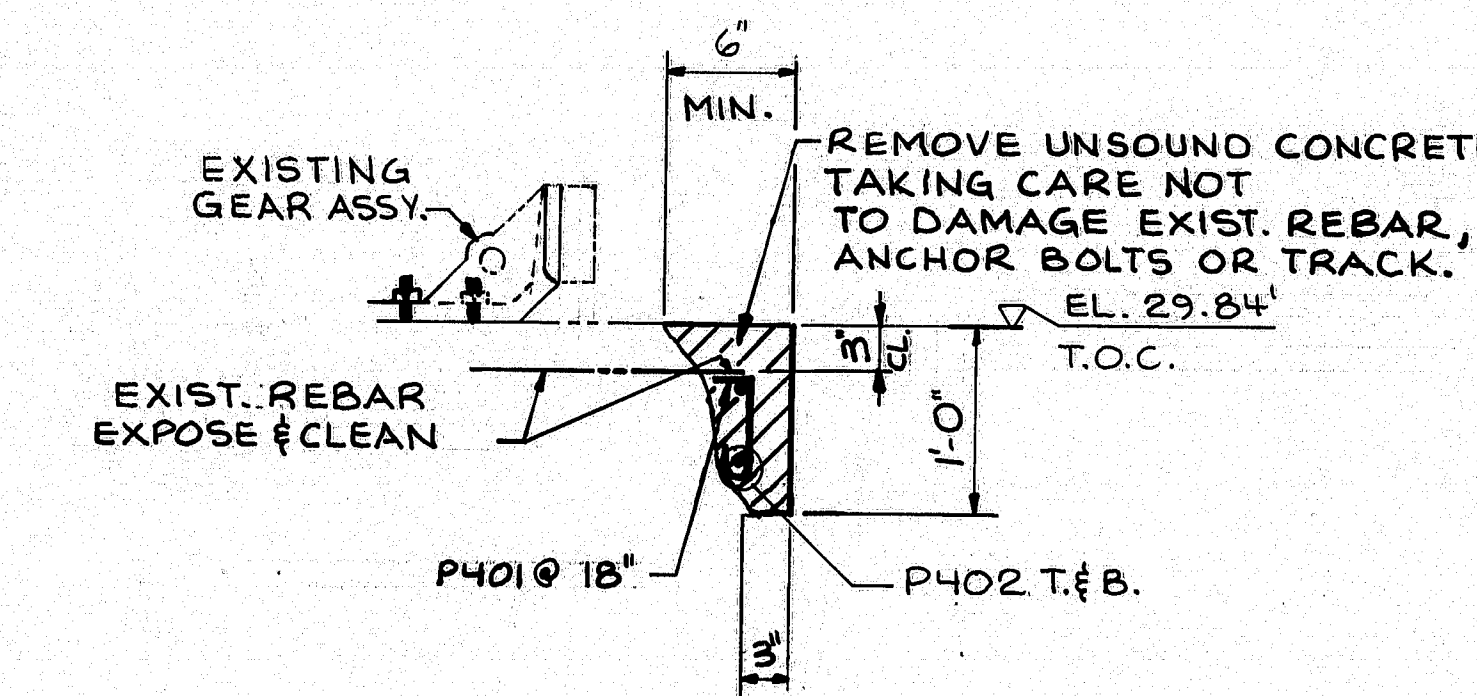
F.R.W.L. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	BH:0005(WB)	3	32



PLAN



ELEVATION A-A



SECTION B-B

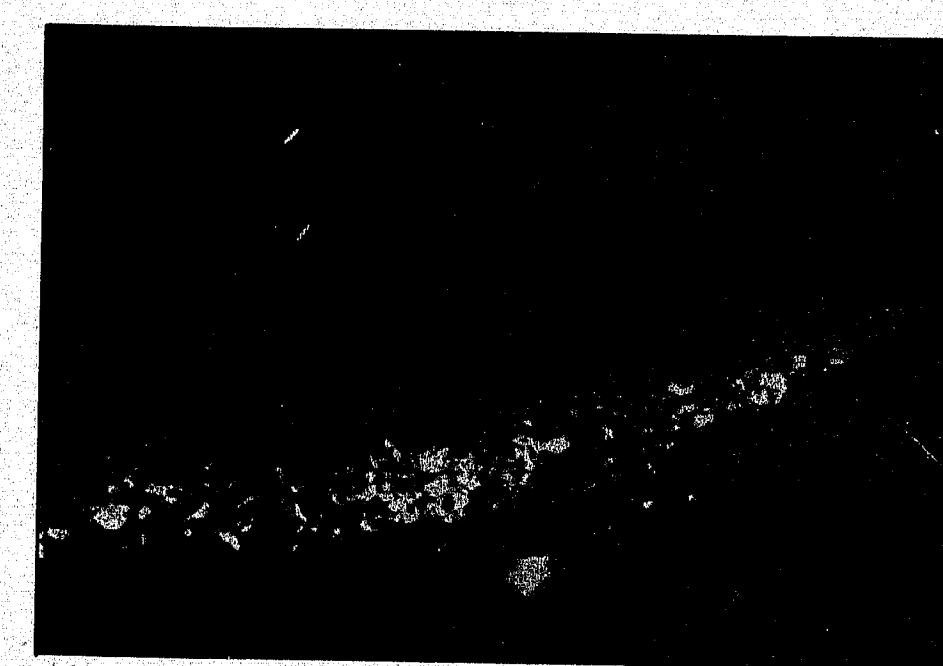
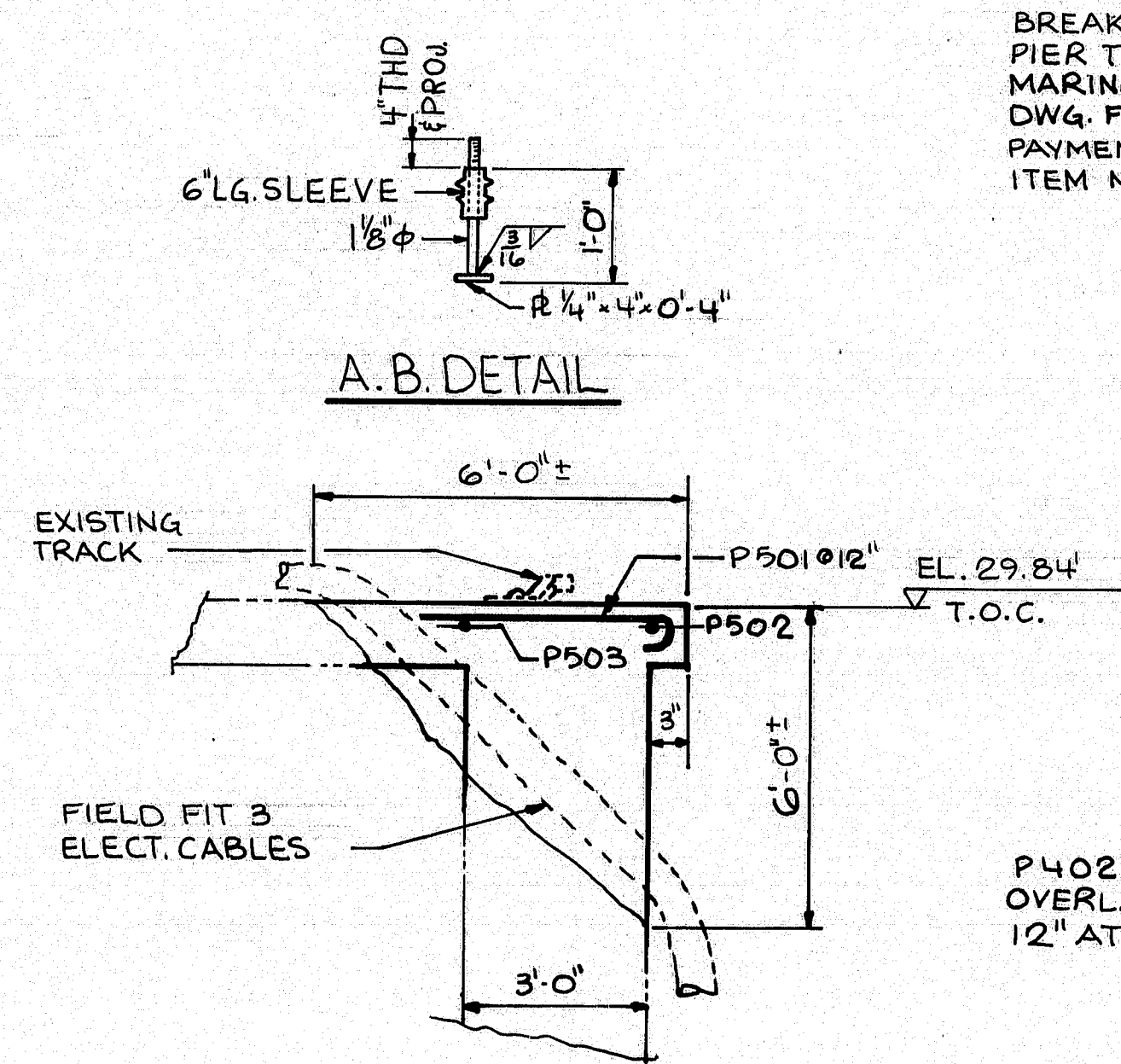


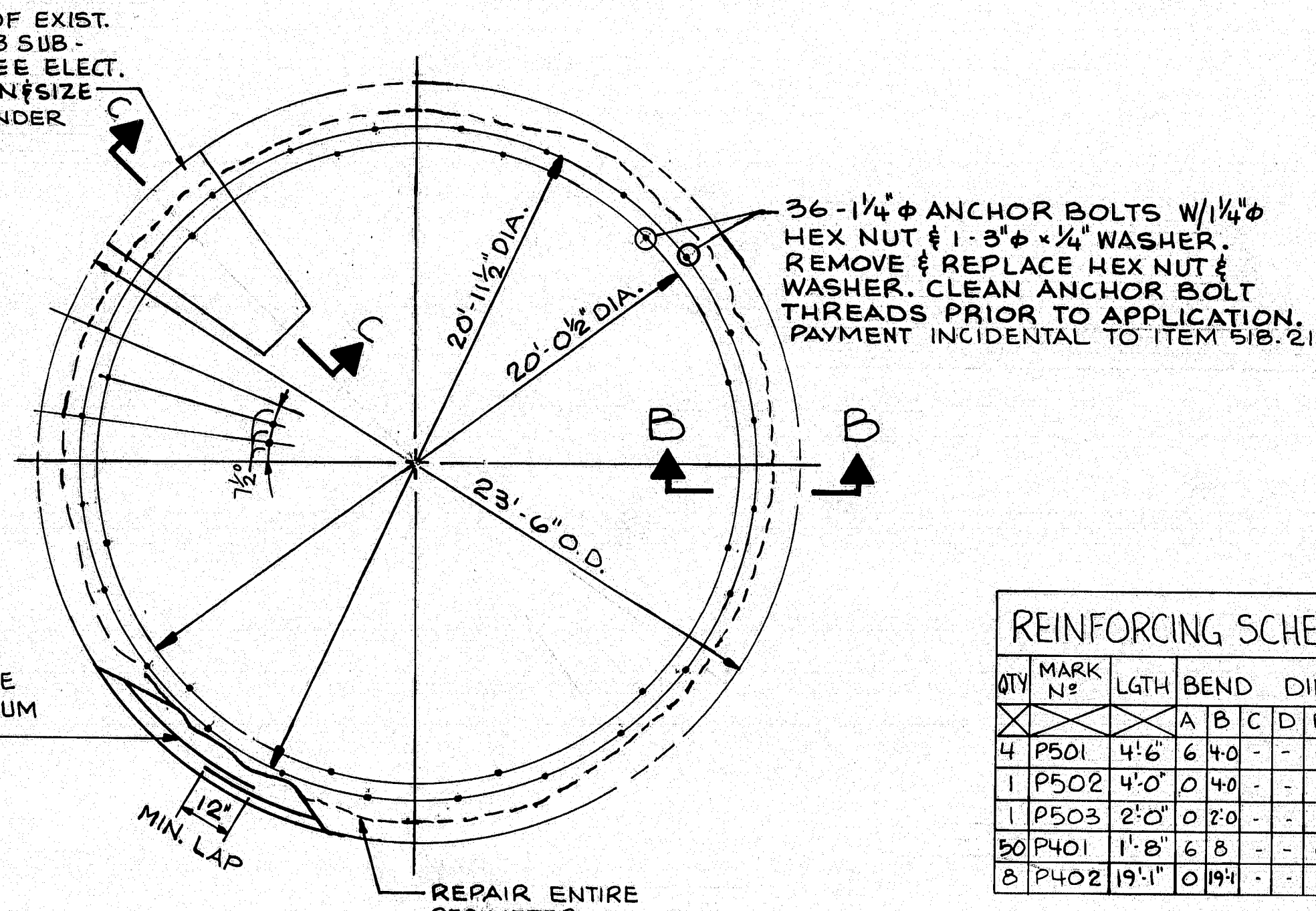
PHOTO 1



PHOTO 2



SECTION C-C



EXISTING PIER PLAN

QTY	MARK NO.	LGTH	BEND	DIMS.	SHAPE
4	P501	4'-6"	6	4-0	-
1	P502	4'-0"	0	4-0	-
1	P503	2'-0"	0	2-0	-
50	P401	1'-8"	6	8	-
5	P402	19'-1"	0	19-1	-

**GENERAL NOTES:**  
1) PHOTO IDENTIFICATION & DRAWING N°.

2) DRAWINGS OF EXISTING STRUCTURE AND MACHINERY ARE AVAILABLE AT MDOT OFFICE FOR CONTRACTOR REVIEW. THE INFORMATION FROM THE EXISTING DRAWINGS SHOULD BE VERIFIED IN THE FIELD FOR CORRECTNESS.  
3) CONTRACTOR SHOULD VERIFY ALL DIMENSIONS IN THE FIELD.

INDEX OF SHEETS	
CIVIL	
CONCRETE REPAIRS	1,2
STRUCTURAL STEEL	3
FENDER SYSTEM	4,5
TENDERS QUARTERS	6
CONTROL ROOM	7
ELECTRICAL	
LIGHTING PLAN	8
POWER PLAN	9
MISC. DETAILS	10
DEMOLITION	11
CONTROL HOUSE	12
LIGHT. & POWER JUNC. BOXES	13,14
SCHEMATICS	15,16
CONTROL CONSOLE	17
MISC. DETAILS	18
MECHANICAL	
DRIVES & SUPPORT MODIF.	19
RACK, PINION, & BALANCE WHEEL	20
CENTER BEARING ALTERATIONS	21
WEDGE DRIVE & CENT. DEVICE	22
WEDGE DRIVES	23,24

104-356

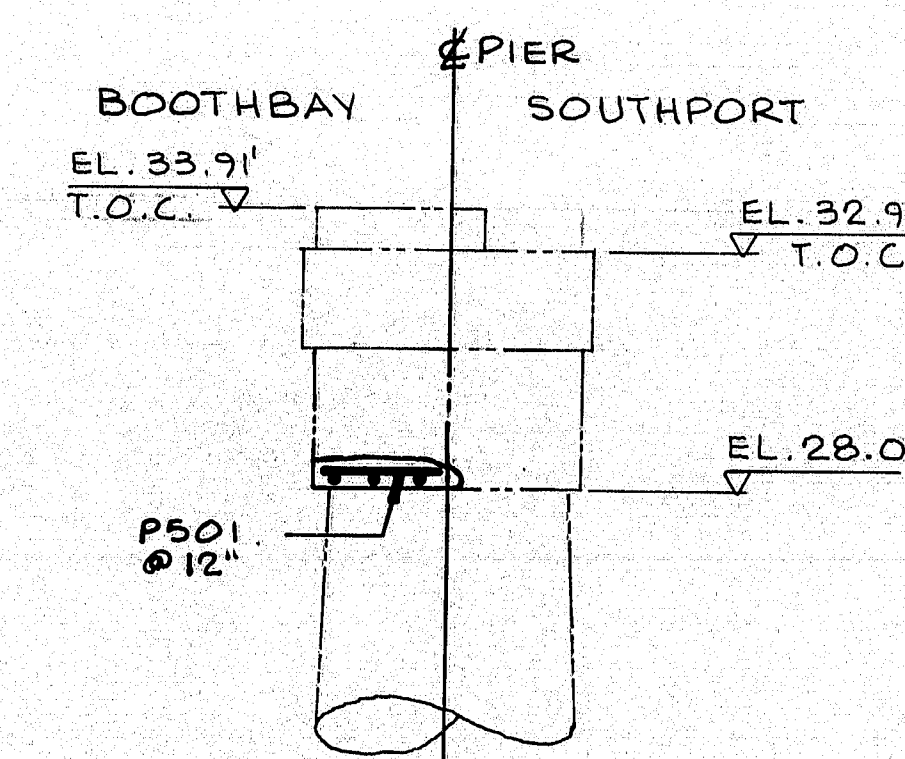
**NEILL and GUNTER**  
Consulting and Design Engineers  
P. O. Box 1959  
PORTLAND, ME 04104

STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION  
SOUTHPORT OVER  
TOWNSEND GUT  
BETWEEN THE TOWNS OF  
SOUTHPORT & BOOTHBAY HARBOR  
LINCOLN COUNTY  
PLAN & ELEVATION  
PIER 2 CONCRETE REPAIR

SHEET 1 OF 24 AUGUSTA, MAINE JANUARY, 1986  
NGI JOB NO. 20931

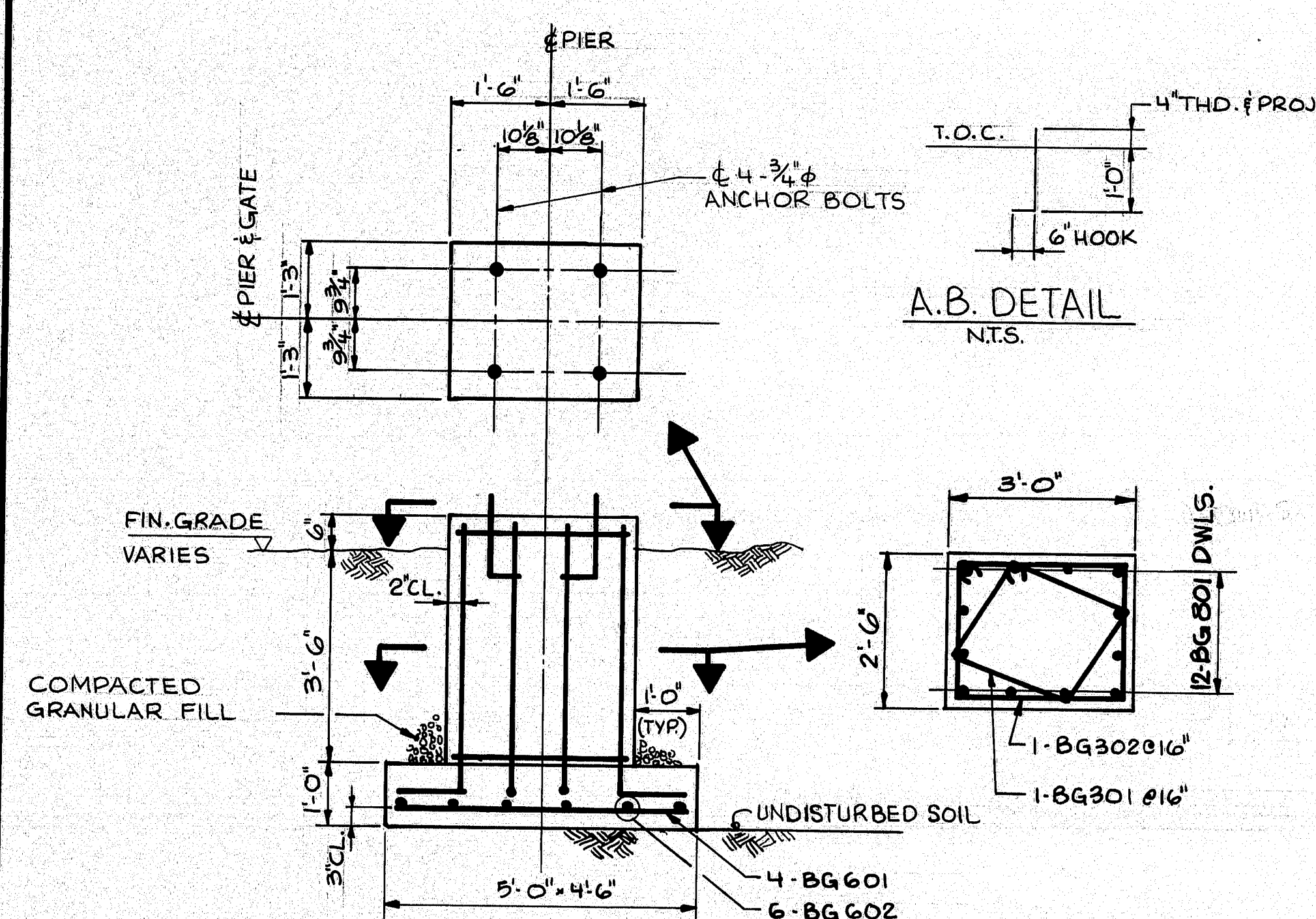


PHOTO 3  
PIER<sup>2</sup>



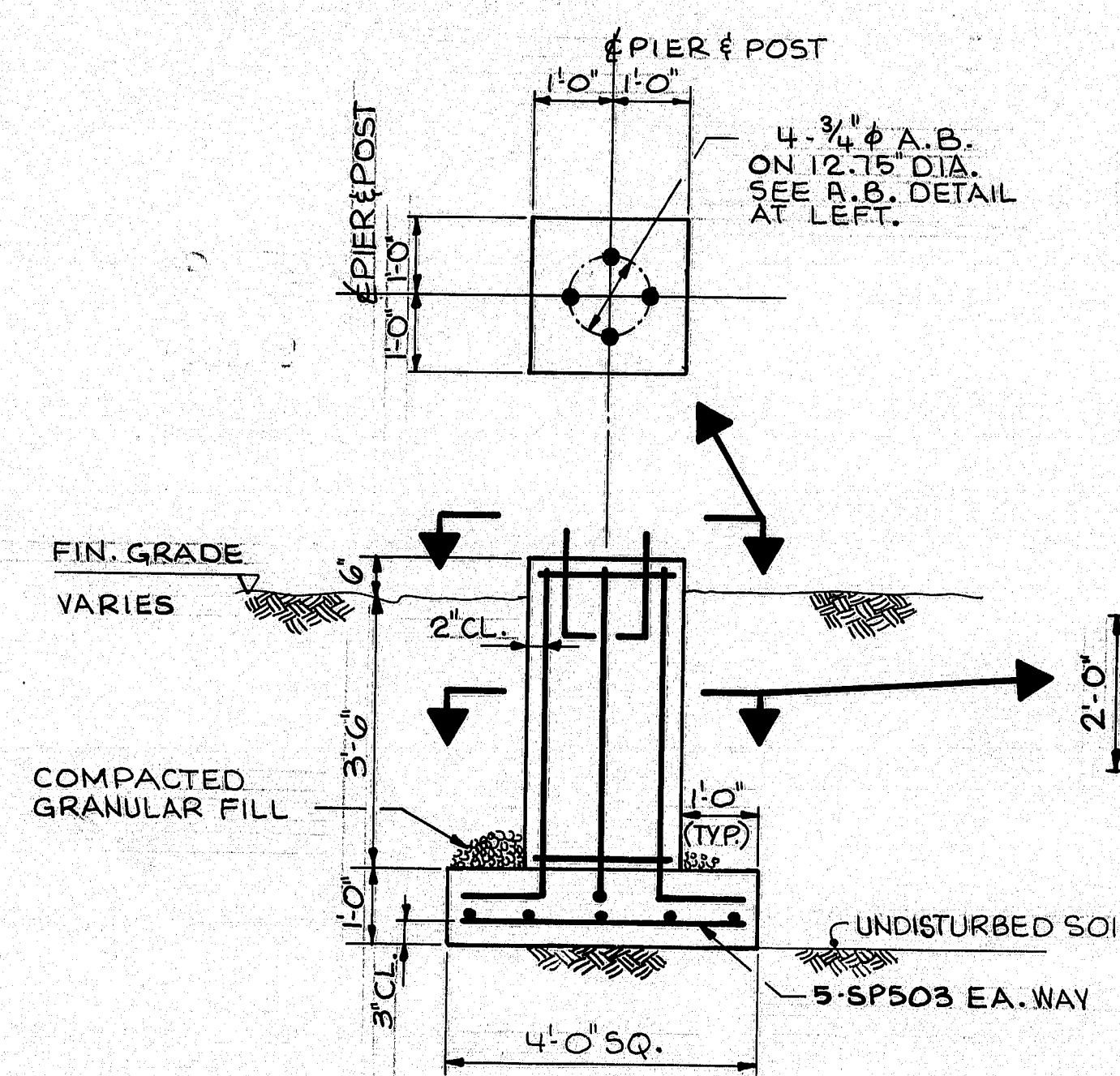
## CONCRETE REPAIR DETAIL FOR PIER#1

SECTION A-A



TRAFFIC GATE FOUNDATION  
2860.

NOTE: FOR LOCATION SEE ELECTRICAL  
POWER PLAN SHEET #9.  
*Pay Item 626.37*



SIGNAL POLE FOUNDATION  
2REQ.

NOTE: FOR LOCATION SEE  
MISC. ELECTRICAL DETAILS SHEET #10  
Per Item 620, 34

2'0"

2'5"

W5

2-3/4" BOLTS, FIELD DRILL A325 STEEL.

EXIST. 5" GRATING

13x3x3/8"

EXIST. GIRDER

2'0"

1'5"

W5x19

W5x19

2"

2"

2-3/4" HOLES TO BE FIELD DRILLED

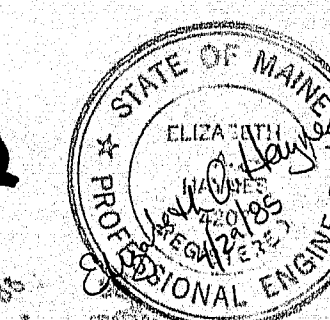
NOTE: ALL DIMENSIONS TO BE FIELD VERIFIED.

PLAN

TRAFFIC BARRIER SUPPORTS  
2 RECD.

NOTE: FOR LOCATION SEE  
ELECTRICAL DWG. SHT. 9 & 10

104-354



**NEILL and GUNTER**  
Consulting and Design Engineers  
P. O. Box 1959  
PORTLAND, ME 04104

STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION  
SOUTHPORT BRIDGE  
OVER  
TOWNSEND GUT  
BETWEEN THE TOWNS OF  
SOUTHPORT & BOOTHBAY HARBOR  
LINCOLN COUNTY  
CONCRETE REPAIR  
MICS. DETAILS

SHEET 2 OF 24 AUGUSTA, MAINE JANUARY 1985  
NGI JOB NO 20931



STAY R REPLACEMENT SCHEDULE									
NORTH SIDE BOTTOM CHORD TOP R's									
R.N.	R SIZE	OK	REPL	REMARKS	R.N.	R SIZE	OK	REPL	REMARKS
1	19 x 15 1/2 x 5/16		X		29		X		
2	9 x 15 1/2 x 5/16		X		30		X		
3	13 x 15 1/2 x 5/16		X		31	9 x 15 1/2 x 5/16		X	
4	9 x 15 1/2 x 5/16		X		32		X		
5		X			33		X		
6		X			34	9 x 15 1/2 x 5/16		X	
7		X			35	13 x 15 1/2 x 5/16		X	
8	13 x 15 1/2 x 5/16		X		36	13 x 15 1/2 x 5/16		X	
9	13 x 15 1/2 x 5/16		X		37	9 x 15 1/2 x 5/16		X	
10	9 x 15 1/2 x 5/16		X		38		X		
11		X			39		X		
12		X			40		X		
13		X			41		X		
14		X			42		X		
15		X			43		X		
16		X			44		X		
17	9 x 15 1/2 x 5/16		X		45		X		
18	9 x 15 1/2 x 5/16		X		46		X		
19		X			47		X		
20		X			48	13 x 15 1/2 x 5/16		X	
21		X			49		X		
22		X			50		X		
23		X			51		X		
24	9 x 15 1/2 x 5/16		X		52		X		
25		X			53		X		
26		X			54		X		
27		X			55		X		
28		X			56		X		

STAY R REPLACEMENT SCHEDULE									
SOUTH SIDE BOTTOM CHORD TOP R's									
R.N	R SIZE	OK	REPL	REMARKS	R.N	R SIZE	OK	REPL	REMARKS
1	9x15 1/2 x 5/16		X		29		X		
2	9x15 1/2 x 5/16		X		30	9x15 1/2 x 5/16		X	
3	9x15 1/2 x 5/16		X		31	13 1/2 x 15 1/2 x 5/16		X	
4		X			32	13 1/2 x 15 1/2 x 5/16		X	
5		X			33	9x15 1/2 x 5/16		X	
6	13 1/2 x 15 1/2 x 5/16		X		34	9x15 1/2 x 5/16		X	
7	13 1/2 x 15 1/2 x 5/16		X		35	9x15 1/2 x 5/16		X	
8		X			36		X		
9	9x15 1/2 x 5/16		X		37		X		
10	9x15 1/2 x 5/16		X		38	19x15 1/2 x 5/16		X	
11	9x15 1/2 x 5/16		X		39	19x15 1/2 x 5/16		X	
12	19x15 1/2 x 5/16		X		40	9x15 1/2 x 5/16		X	
13	19x15 1/2 x 5/16		X		41		X		
14		X			42	9x15 1/2 x 5/16		X	
15	9x15 1/2 x 5/16		X		43	9x15 1/2 x 5/16		X	
16	9x15 1/2 x 5/16		X		44	13 1/2 x 15 1/2 x 5/16		X	
17	9x15 1/2 x 5/16		X		45	13 1/2 x 15 1/2 x 5/16		X	
18	9x15 1/2 x 5/16		X		46		X		
19	13 1/2 x 15 1/2 x 5/16		X		47		X		
20	13 1/2 x 15 1/2 x 5/16		X		48	9x15 1/2 x 5/16		X	
21	9x15 1/2 x 5/16		X		49		X		
22		X			50		X		
23		X							
24		X							
25		X							
26		X							
27		X							
28		X							

STAY R REPLACEMENT SCHEDULE									
BOTTOM CHORD BOTTOM R's									
NORTH SIDE					SOUTH SIDE				
R.N.	R SIZE	OK	REPL	REMARKS	R.N.	R SIZE	OK	REPL	REMARKS
1	19x15 1/2 x 5/16		X		1		X		
2	13 x15 1/2 x 5/16		X		2	13 x15 1/2 x 5/16		X	
3	13 x15 1/2 x 5/16		X		3	13 x15 1/2 x 5/16		X	
4	13 x15 1/2 x 5/16		X		4	13 x15 1/2 x 5/16		X	
5		X			5		X		
6		X			6		X		
7		X			7		X		
8	13x15 1/2 x 5/16		X		8		X		
9		X			9		X		
10	19 x15 1/2 x 5/16		X		10		X		
11	19 x15 1/2 x 5/16		X		11		X		
12	13 x15 1/2 x 5/16		X		12		X		
13		X			13	13x15 1/2 x 5/16		X	
14	19 x15 1/2 x 5/16		X		14		X		
15	19 x15 1/2 x 5/16		X		15		X		
16		X			16		X		
17	13 x15 1/2 x 5/16		X		17	13 x15 1/2 x 5/16		X	
18		X			18	13 x15 1/2 x 5/16		X	
19	13 x15 1/2 x 5/16		X		19		X		
20	19 x15 1/2 x 5/16		X		20		X		
21		X							
22		X							

P.R.N.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	BH-0005(4)	5	40

- NOTES:
- 1) PLATE ARE NUMBERED FROM BOOTHBAY END OF BRIDGE.
  - 2) ALL NEW STEEL TO BE ASTM. A36 GRADE STEEL.
  - 3) CLEANING AND PAINTING OF EXISTING STEEL IS COVERED IN SECTION 506 OF THE SPEC. IIFICATIONS.
  - 4) R SIZE VS. N° OF RIVETS

R SIZE NEW	R SIZE EXIST. W/ N° OF RIVETS
9x15 1/2	SAME 6 RIVETS
13x15 1/2	SAME 8 RIVETS
19x15 1/2	SAME 12 RIVETS

- 5) PAINTING OF NEW STRUCT. STEEL TO BE INCIDENTAL TO ITEM #506.42, FIELD PAINTING OF EXISTING STRUCT. STEEL.
- 6) REMOVAL OF EXISTING PLATES & RIVETS TO BE INCIDENTAL TO PAY ITEM 504.71.

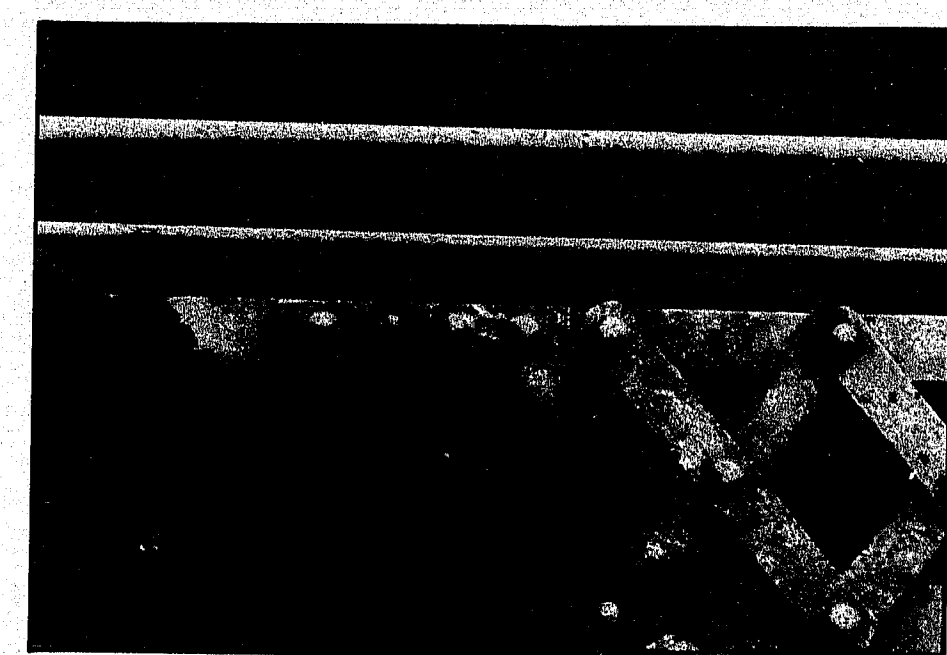


PHOTO OF CORRODED BOTTOM CHORD TOP R's



PHOTO OF CORRODED BOTTOM CHORD BOTTOM R's

CORRODED BOTTOM R's FOR REPLACEMENT SEE DETAIL 'A' RIGHT. FOR CLEANING & PAINTING SEE SPECIFICATIONS.

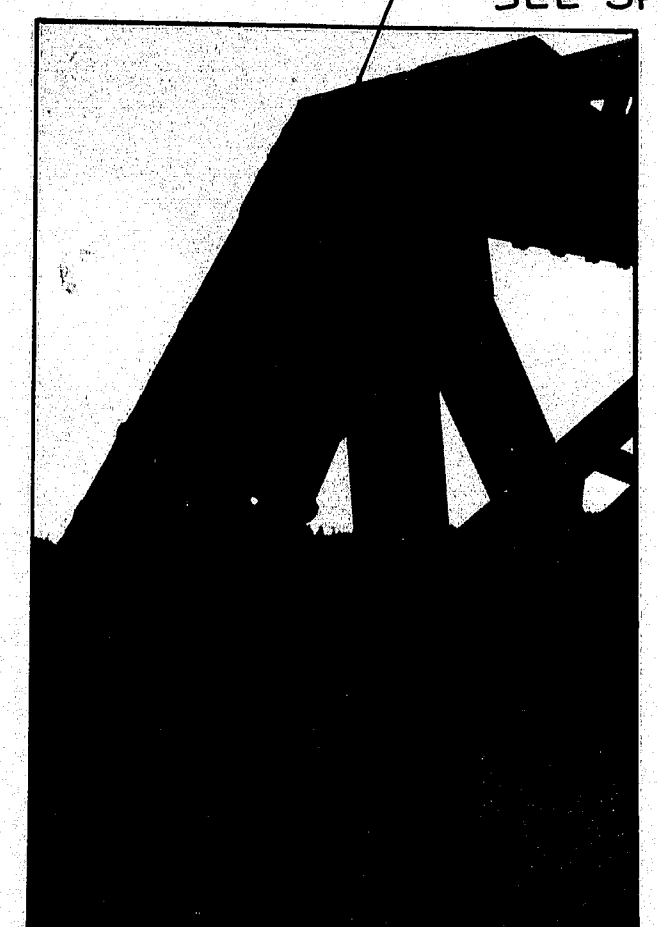


PHOTO OF TRUSS GUSSET R's

SCALE & LOOSE PAINT. FOR CLEANING & PAINTING SEE SPECIFICATIONS.

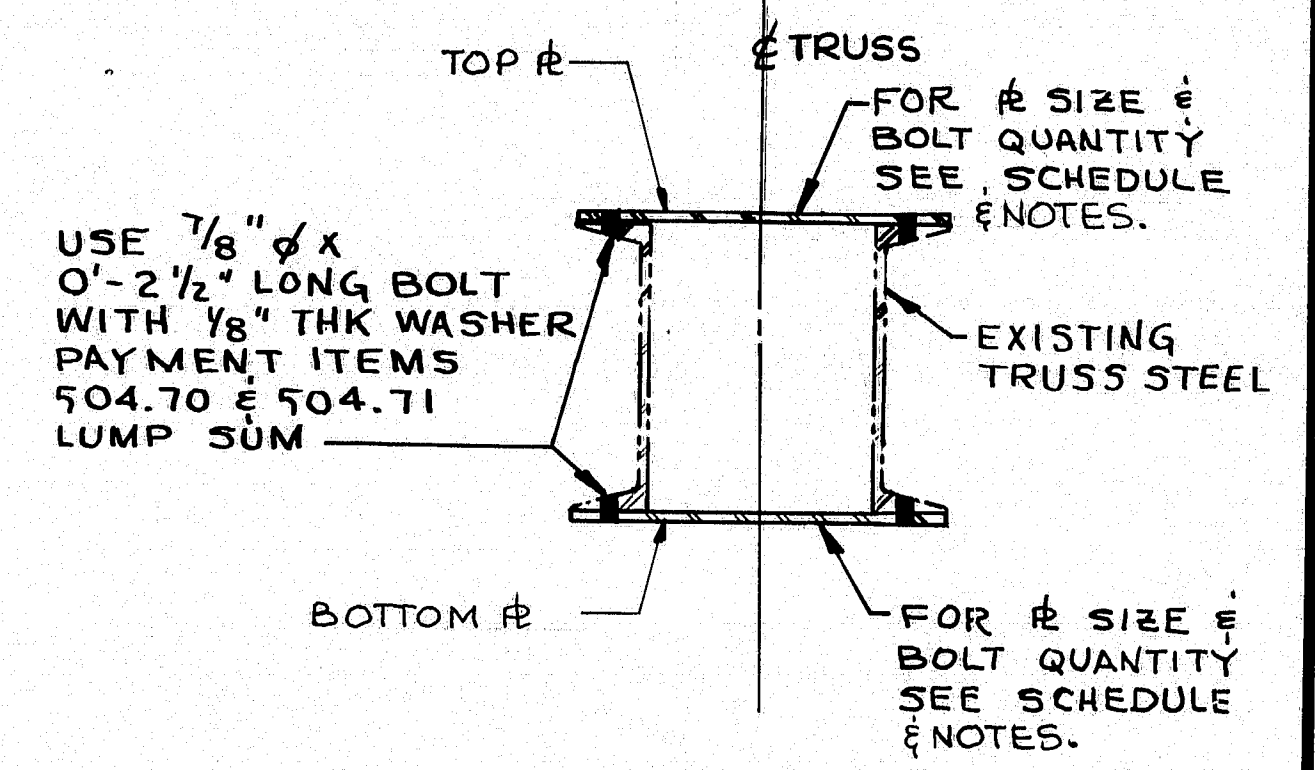


PHOTO OF TRUSS GUSSET R

SCALE & LOOSE PAINT. FOR CLEANING & PAINTING SEE SPECIFICATIONS.



TYPICAL PHOTO OF DECK SUPPORT STEEL



DETAIL 'A' STAY R REPLACEMENT

SCALE: 1/4" = 1'-0"

104-358

NEILL and GUNTER Consulting and Design Engineers P. O. Box 1959 PORTLAND, ME 04104

STATE OF MAINE DEPARTMENT OF TRANSPORTATION SOUTHPORT BRIDGE OVER TOWNSEND GUT BETWEEN THE TOWNS OF SOUTHPORT & BOOTHBAY HARBOR LINCOLN COUNTY

STRUCTURAL STEEL REPAIRS

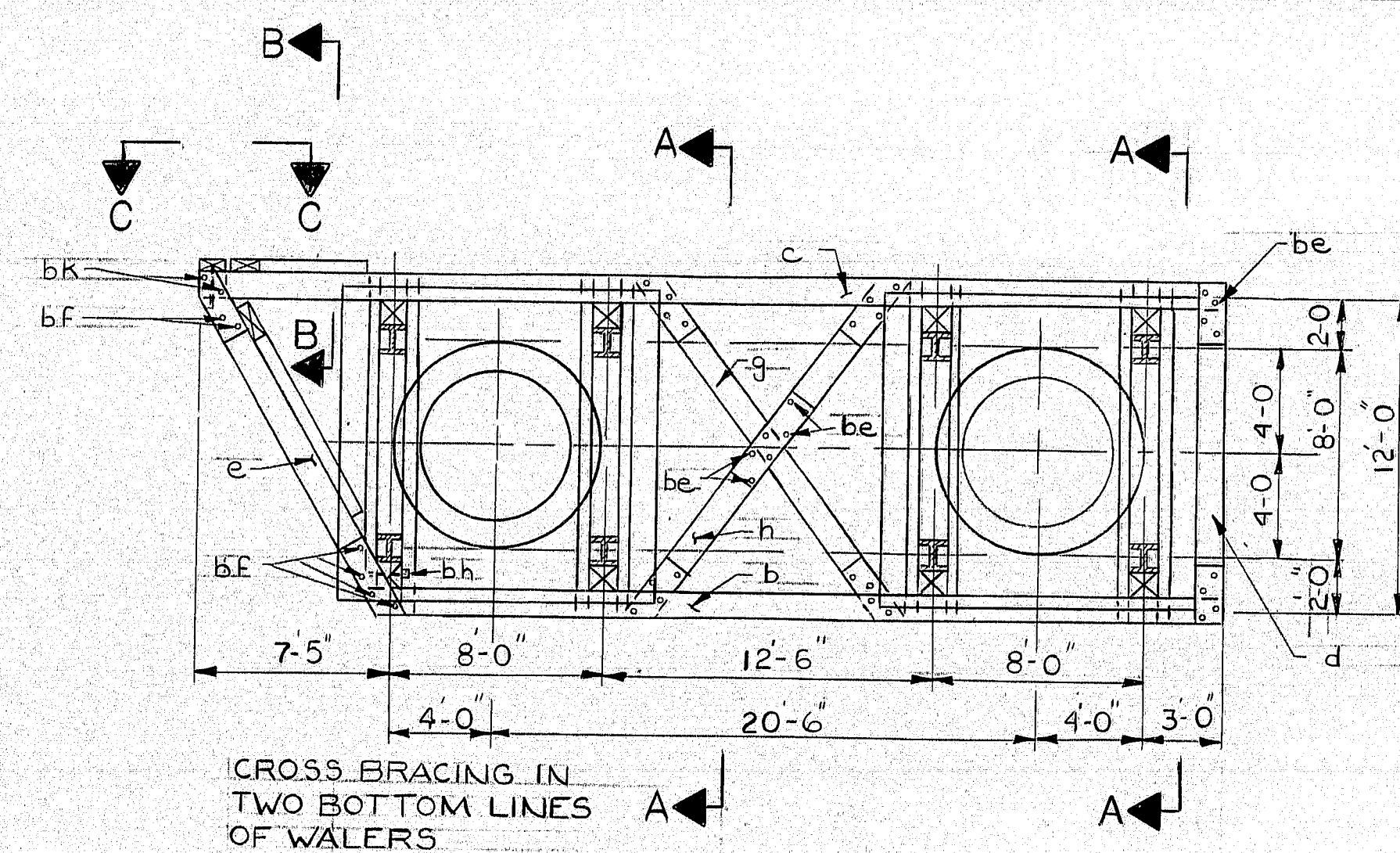
SHEET 3 OF 24 AUGUSTA, MAINE JANUARY, 1985 NGI JOB NO. 20931



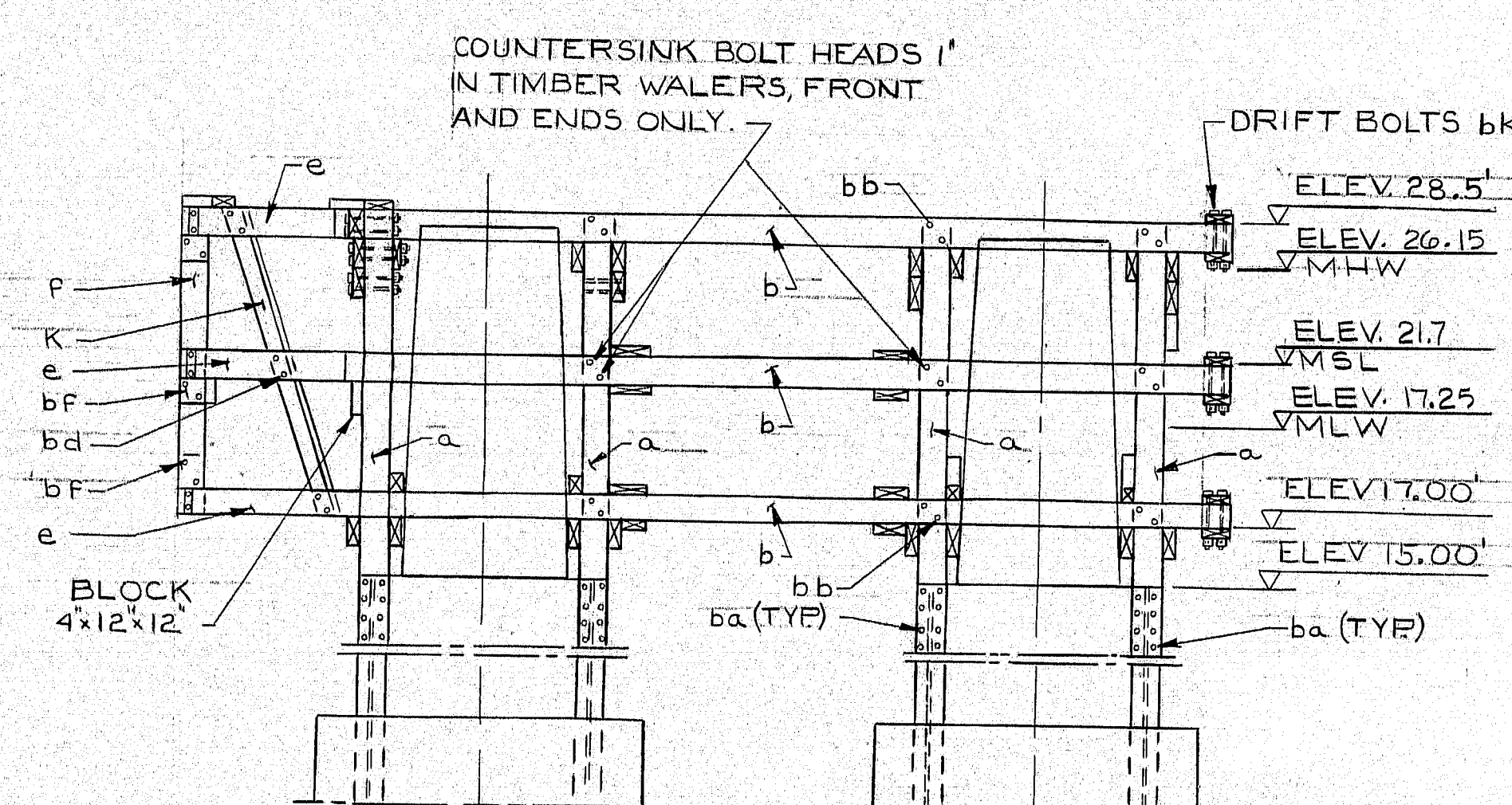
PROJECT DESIGN ENGINEER	DATE
DESIGN - DETAILED	1-25-85
CHECKED	1-27-85
REVISIONS	
PLANS	



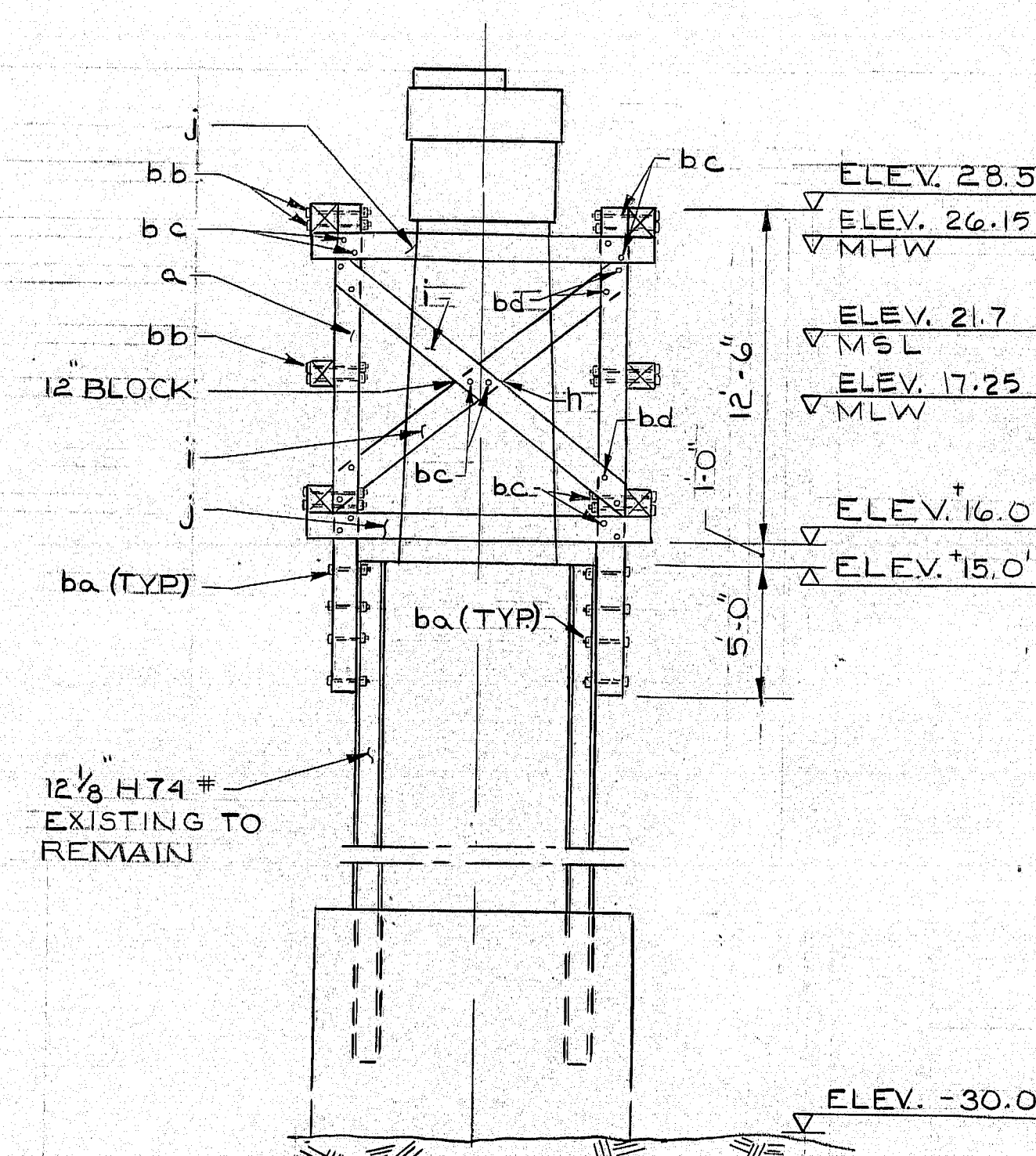
F.R.M.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	BH-0005(4)	6	32



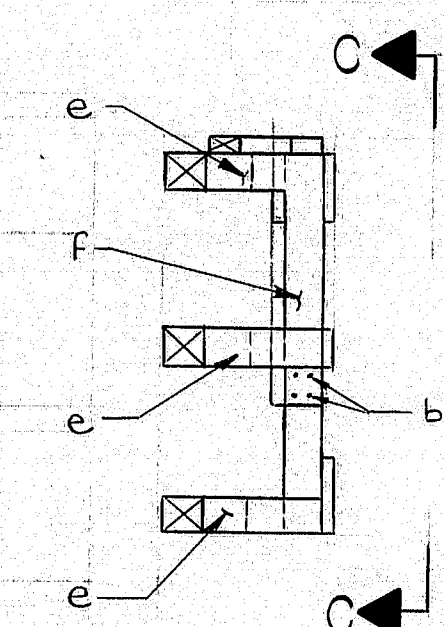
PLAN



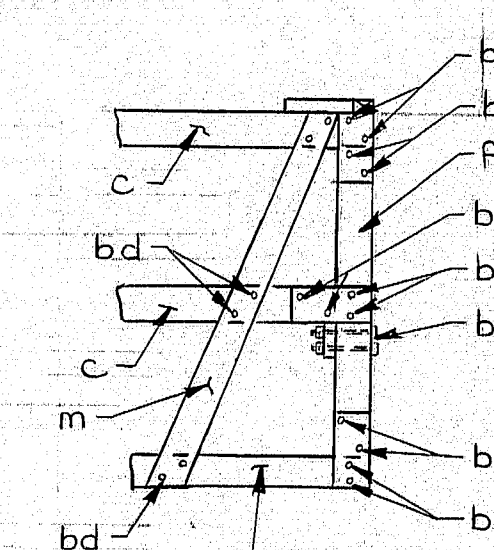
FRONT ELEVATION



SECTION A-A



SECTION B-B



VIEW C-C

MATERIAL - FENDERS - PIERS 1 & 3									
TIMBER					HARDWARE				
MARK	SIZE	NO.	PCS	LENGTH	MARK	SIZE	NO.	LG.	REMARKS
a	12x12	16		18'-6"	ba	1"	128	1'-3"	MACH BOLTS-2 CUT WASH.
b	"	6		32'-7"	bb	"	40	2'-1"	"
c	"	6		38'-11"	bc	"	128	1'-8"	"
d	"	6		11'-0"	bd	"	98	1'-8"	"
e	"	6		13'-9"	be	"	140	1'-10"	"
f	"	2		10'-6"	bf	"	32	1'-8"	"
g	8x12	4		15'-0"	bg	"	12	2'-5"	"
h	"	8		7'-0"	bh	"	12	2'-0"	"
i	6x12	16		14'-9"	bk	"	28	2'-0"	DRIFT BOLTS
j	"	32		13'-0"					
k	"	2		16'-0"					
m	"	2		12'-9"					
130 LIN. FT. 4x8" END CONNECTIONS									
100 LIN. FT. 4x12"									
10 LIN. FT. 12x12" FOR BLOCKS									

NOTE: PAYMENT FOR FENDER SYSTEM @ PIERS 1 & 3 TO BE BOARD FOOT INCLUDING GALV. HARDWARE PAYMENT PER ITEM # 528.50 & 528.51

MATERIAL - FENDERS - PIERS 2									
MARK	SIZE	NO.	PCS	LENGTH	MARK	SIZE	QUANTITY	REMARKS	
aa	12x12	8		42'-0"	4x16		310 LIN. FT.	SPICE WALTERS	
bb	"	12		37'-0"	4x12		160 "	"	
cc	"	4		24'-6"	4x8		220 "	END CONNECTIONS	
dd	"	4		23'-6"	4x12		720 "	"	
ee	"	4		30'-6"				"	
ff	"	6		23'-0"				"	
gg	"	6		24'-0"				"	
hh	"	10		34'-0"				"	
kk	"	16		14'-6"				"	
ll	"	4		11'-6"				"	
mm	"	3		19'-6"				"	
nn	"	1		21'-0"				"	
oo	"	1		10'-6"				"	
pp	"	16		17'-6"				"	
qq	"	4		14'-6"				"	
rr	"	8		8'-0"	da	1"	264	2'-2 1/2"	MACH BOLTS-2 CUT WASH.
ss	"	4		14'-6"	db	"	190	2'-1"	"
tt	"	1		30' CUT INTO BLOCKS	dc	"	800	1'-11"	"
uu	"	8		38'-6"	dd	"	8	2'-11"	"
vv	"	16		19'-0"	de	"	46	1'-9"	"
ww	"	16		9'-6"	df	"	6	2'-7"	"
xx	4x8	40		20'-6"	dg	"	250	1'-6"	"
yy	3x8	260 LIN. FT. FOR PLATFORM			dh	"	38	2'-0"	DRIFT BOLTS
zz	6x12	8		25'-0"	dk	"	3	1'-8"	"
aaa	6x12	1		30' CUT INTO BLOCKS					

104-359



NEILL and GUNTER  
Consulting and Design Engineers  
P. O. Box 1959  
PORTLAND, ME 04104

STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION

SOUTHPORT BRIDGE  
OVER

TOWNSEND GUT  
BETWEEN THE TOWNS OF

SOUTHPORT & BOOTHBAY HARBOR  
LINCOLN COUNTY

FENDER SYSTEM  
AROUND PIERS 1 & 3

SHEET 4 OF 24 AUGUSTA, MAINE JANUARY 1985

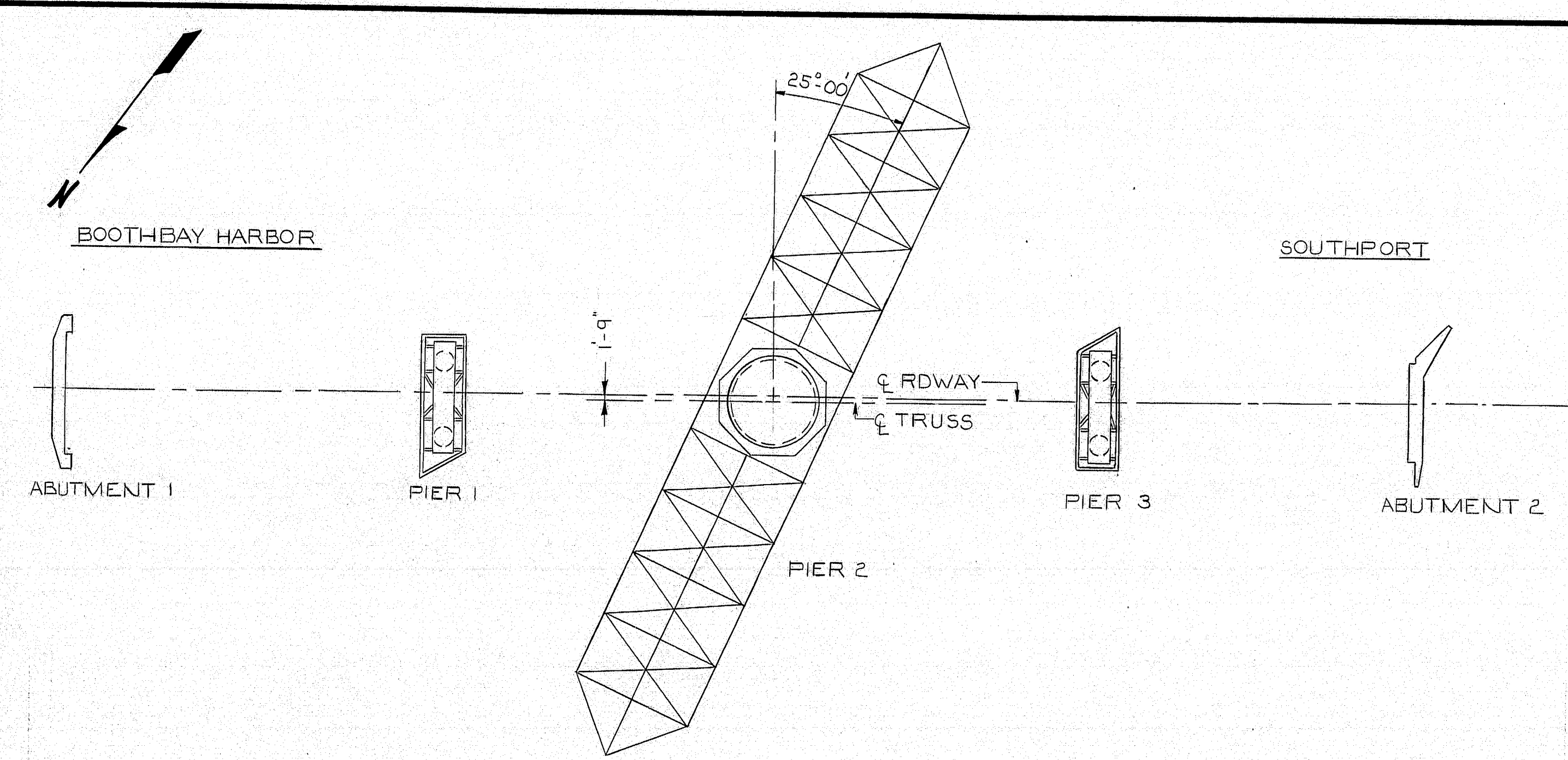
NGI JOB NO 20931

PROJECT DESIGN ENGINEER	BY	DATE
DESIGN - DETAILED	DWA	1-23-85
CHECKED		2-27-85
REVISIONS		
FIELD CHANGES		

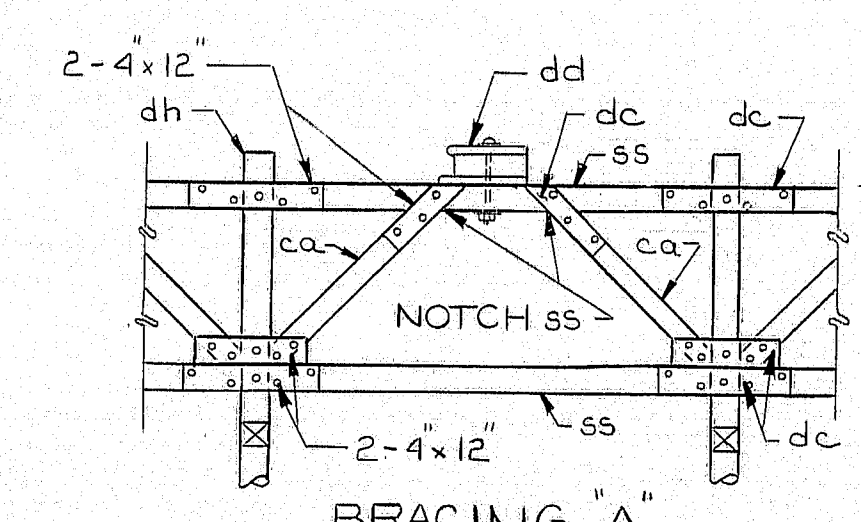
BRUNING 44-132 4570-1



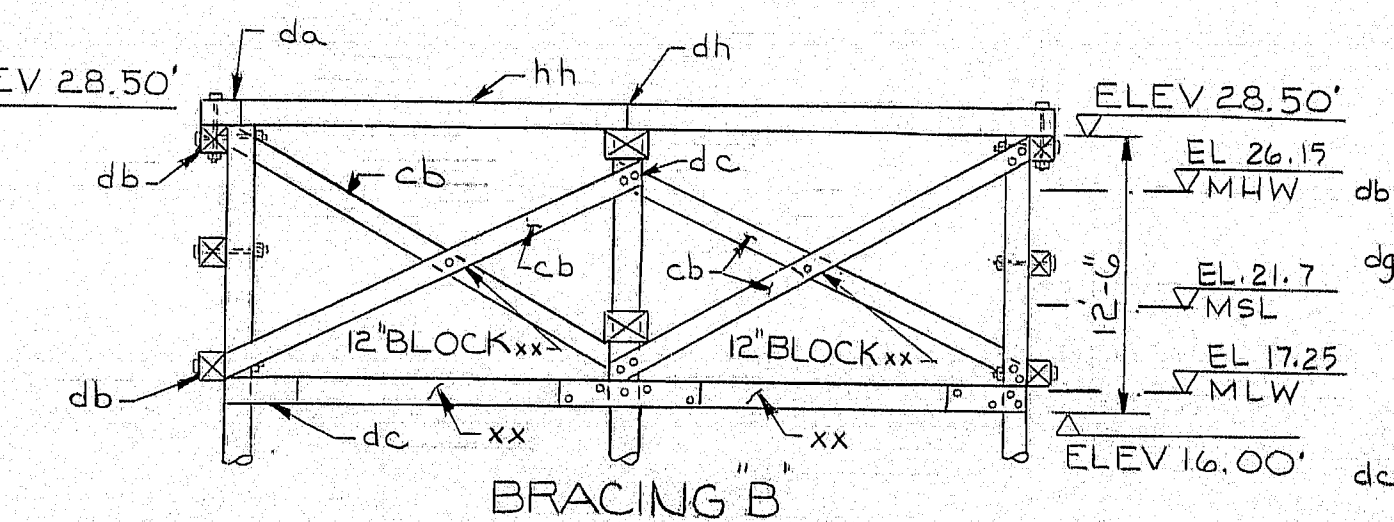
PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
BH-0003(49)	7	32



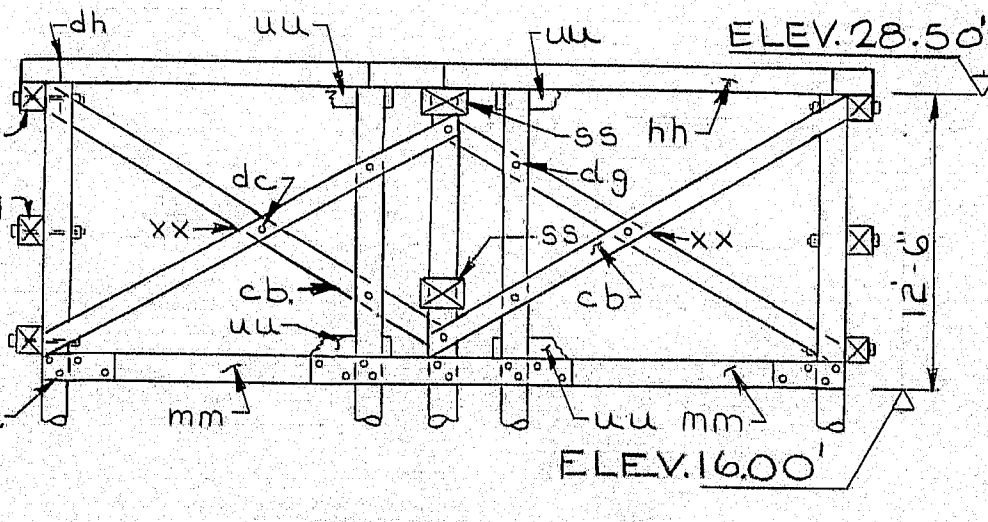
PLAN



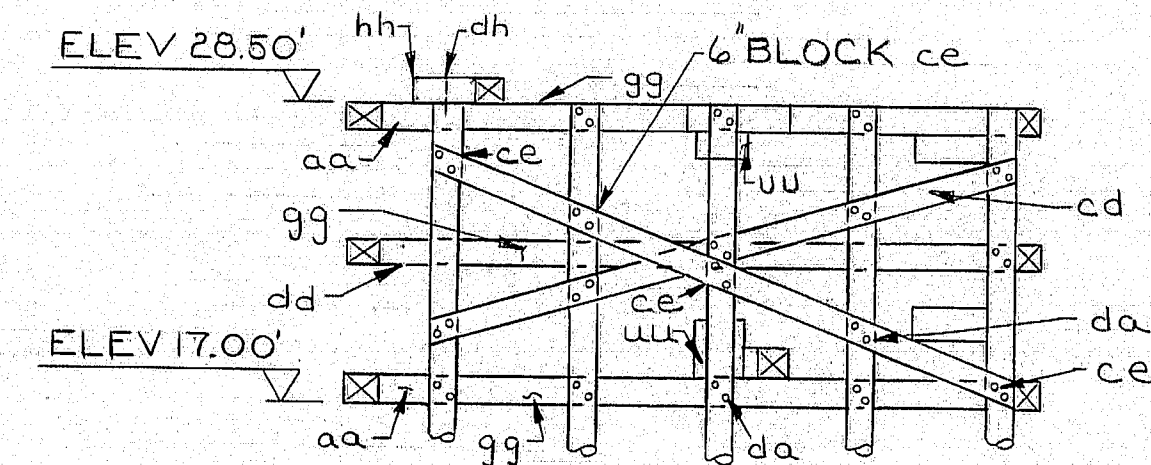
SECTION AA



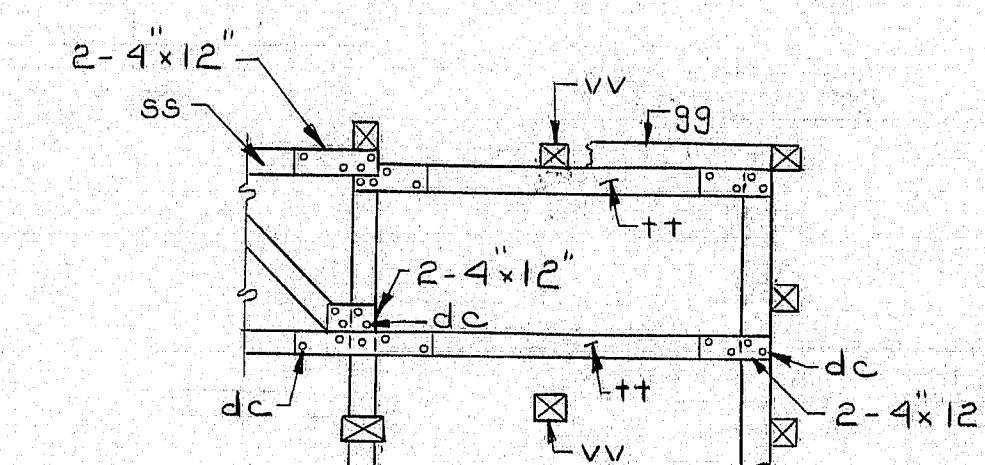
SECTION B-B



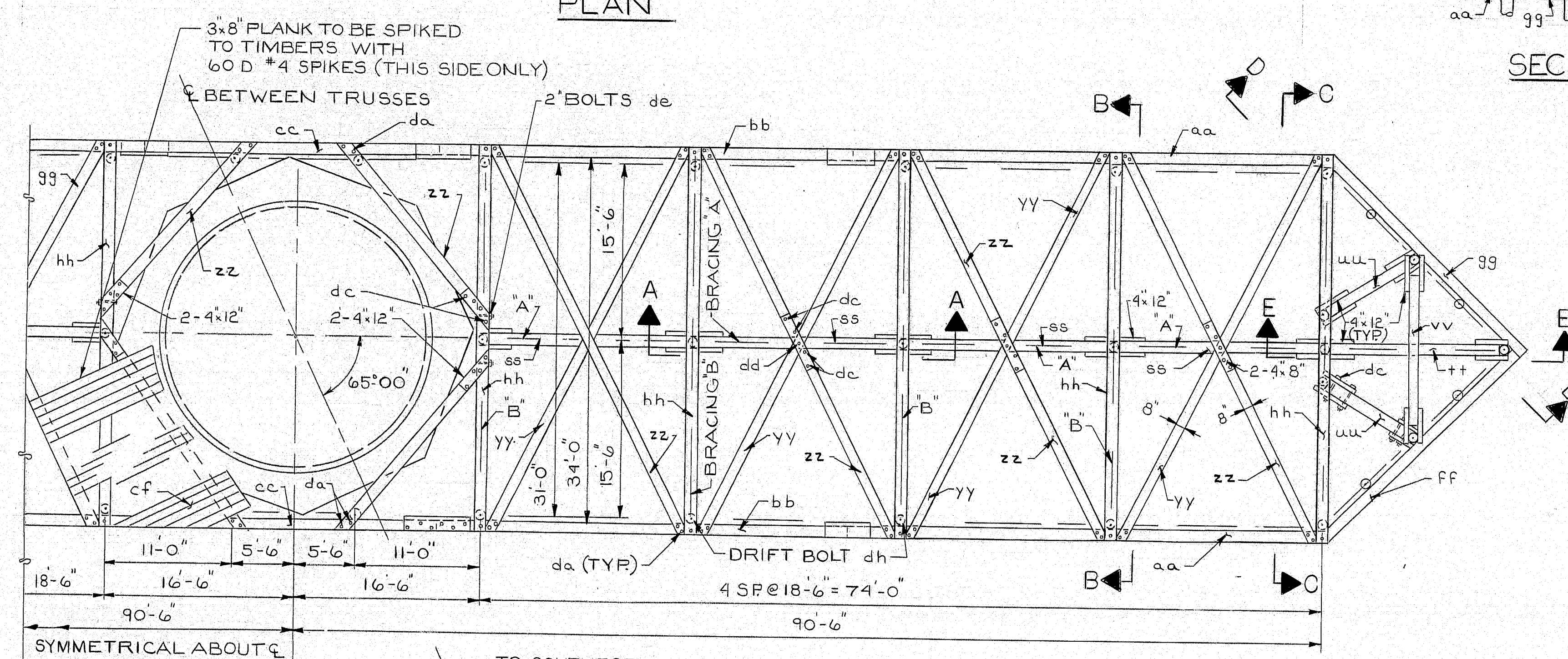
SECTION C-C



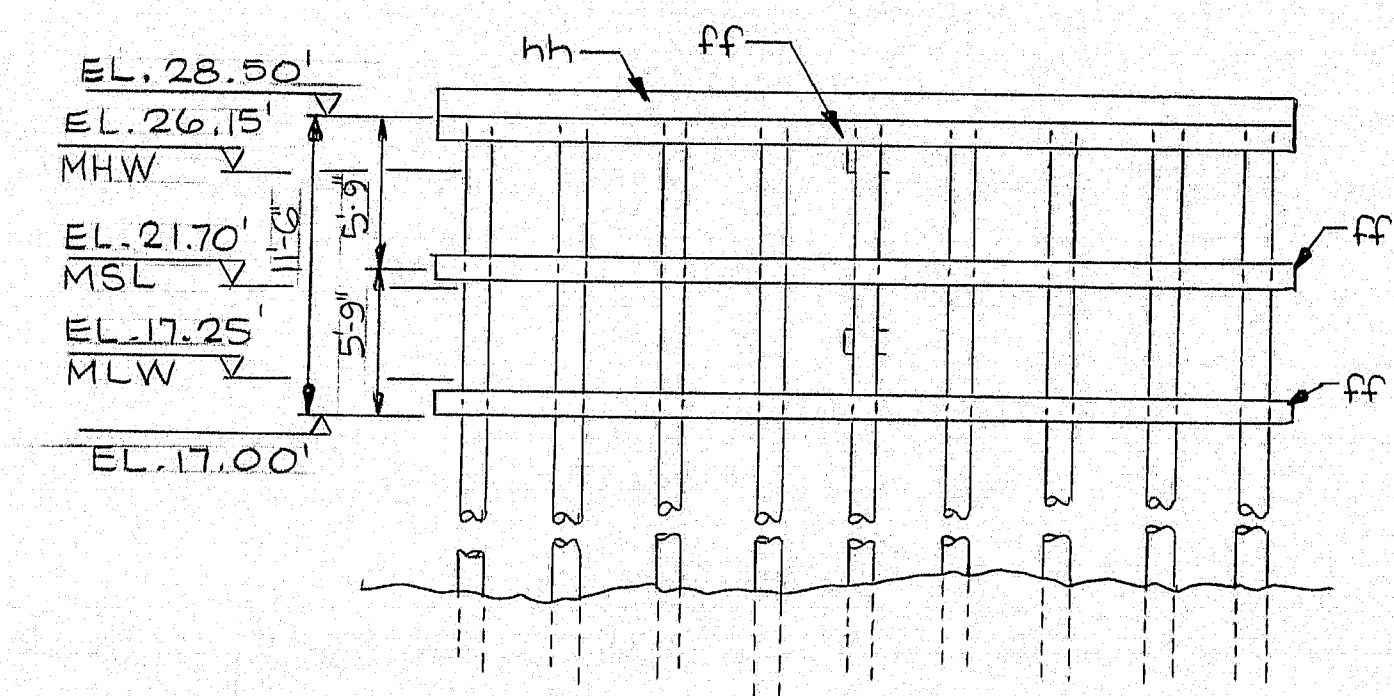
SECTION D-D



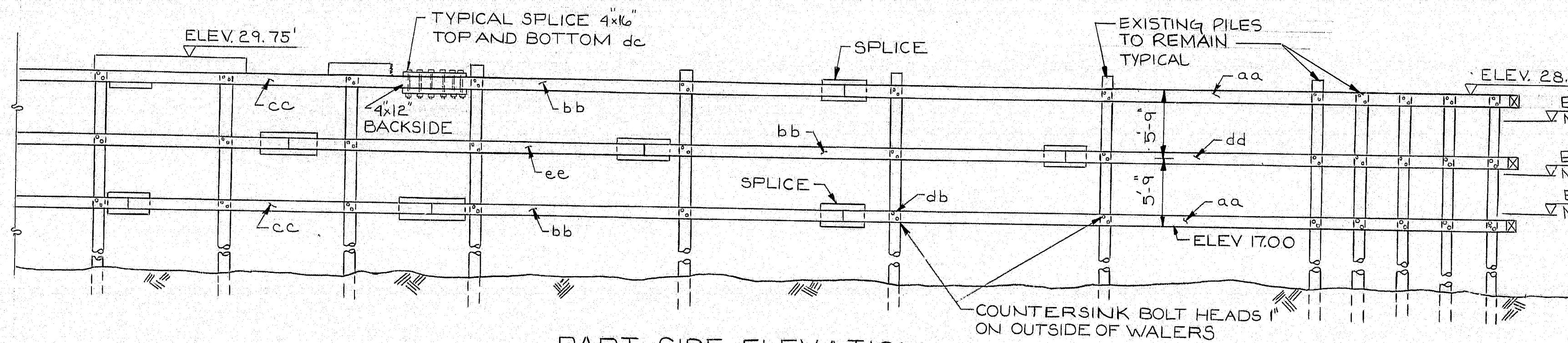
SECTION E-E



PART PLAN



END ELEVATION



PART SIDE ELEVATION

NOTES

- 1) ALL EXISTING TIMBERS AND BOLTS (EXCEPT PILES) TO BE REMOVED BEFORE STARTING NEW WORK. PAYMENT TO BE LUMP SUM. ITEM 525.53
- 2) EXISTING STEEL BEARING POSTS TO REMAIN.
- 3) FOR PRESSURE TREATING INFORMATION SEE SPECIFICATIONS
- 4) FOR MATERIAL LIST SEE SHT. NO. 4
- 5) LOCATION OF SPLICES IS RECOMMENDED ONLY. OTHER SPLICES MAY BE UTILIZED AS APPROVED BY ENGINEER
- 6) PAYMENT OF NEW FENDER SYSTEM TO BE BY BOARD FOOT (INCLUDES GALVANIZED HARDWARE PAYMENT PER ITEMS 528.50 & 528.51)

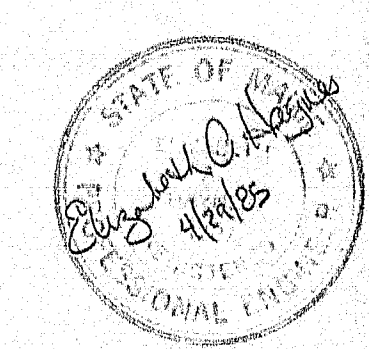
104-360



NEILL and GUNTER  
Consulting and Design Engineers  
P.O. Box 1959  
PORTLAND, ME 04104

STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION  
SOUTHPORT BRIDGE  
OVER  
TOWNSEND GUT  
BETWEEN THE TOWNS OF  
SOUTHPORT & BOOTHBAY HARBOR  
LINCOLN COUNTY  
FENDER SYSTEM  
AROUND PIER 2

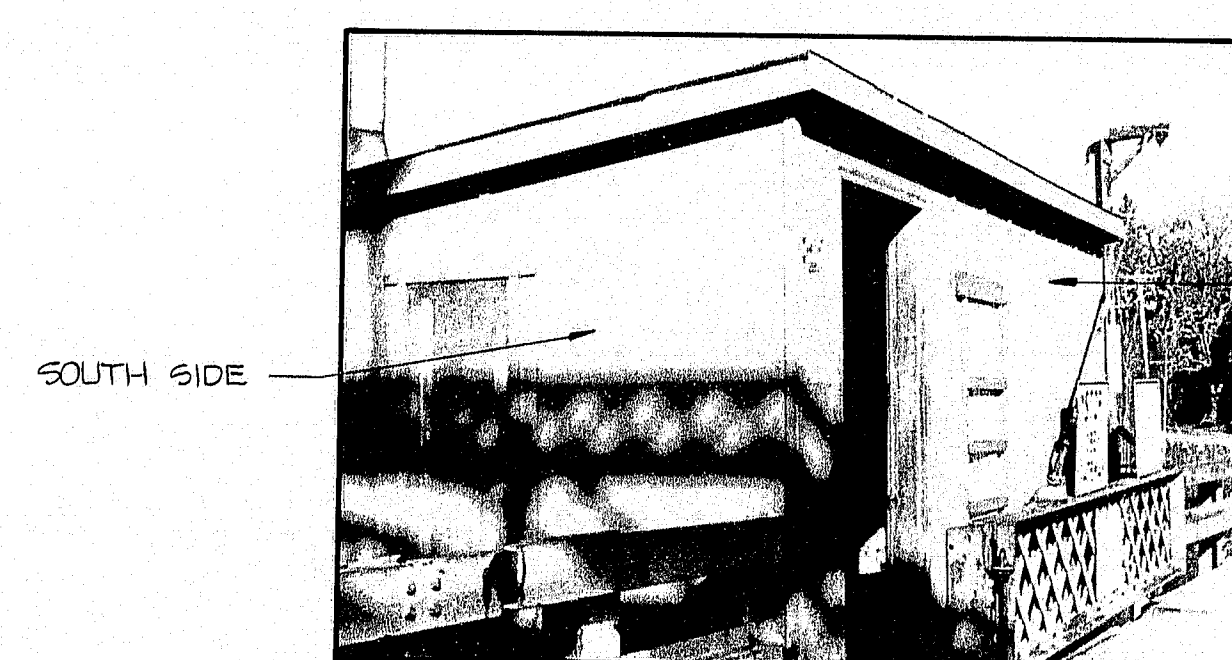
SHEET 5 OF 24 AUGUSTA, MAINE JANUARY 1985  
NGI JOB 20931



PROJECT DESIGN ENGINEER	DATE
EAH	1-22-85
DESIGN - DETAILED	BY
EAH	DWA
CHECKED	DATE
EAH	1-27-85
REVISIONS	FIELD CHANGES

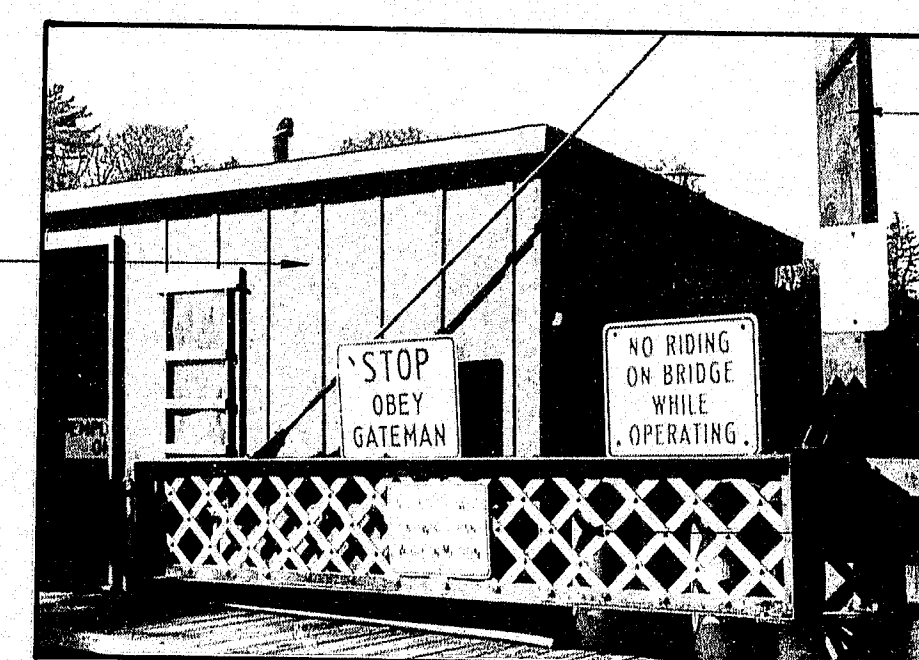


F.H.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	BH-0005 (49)	8	32



SOUTH & EAST SIDES

EAST SIDE



EAST & NORTH SIDES

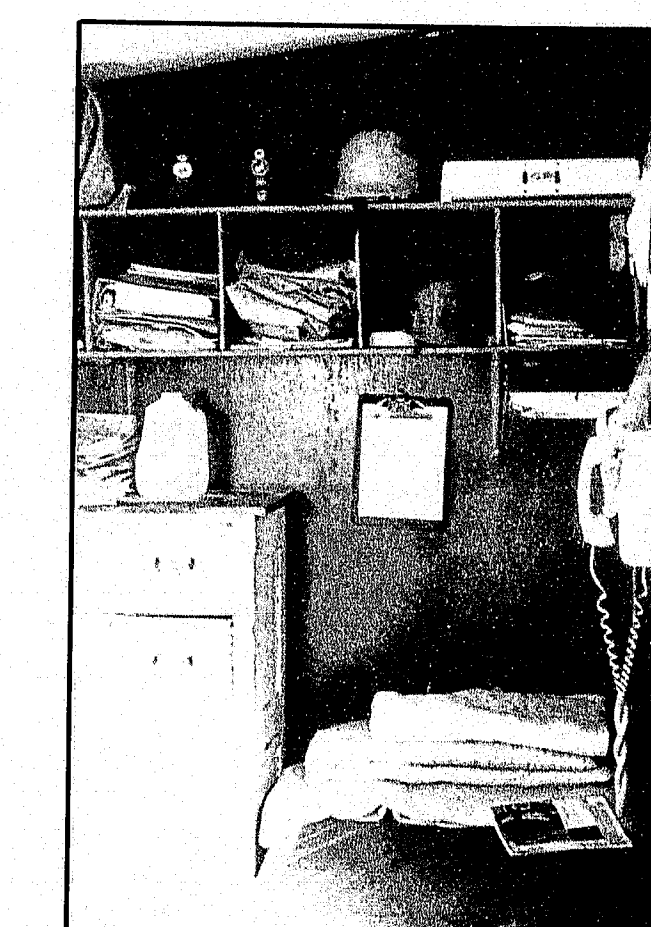
STEEL POLE - SEE  
WEST & EAST ELEV'S.

BUILD GAS TANK SHED  
OVER PROPANE TANKS

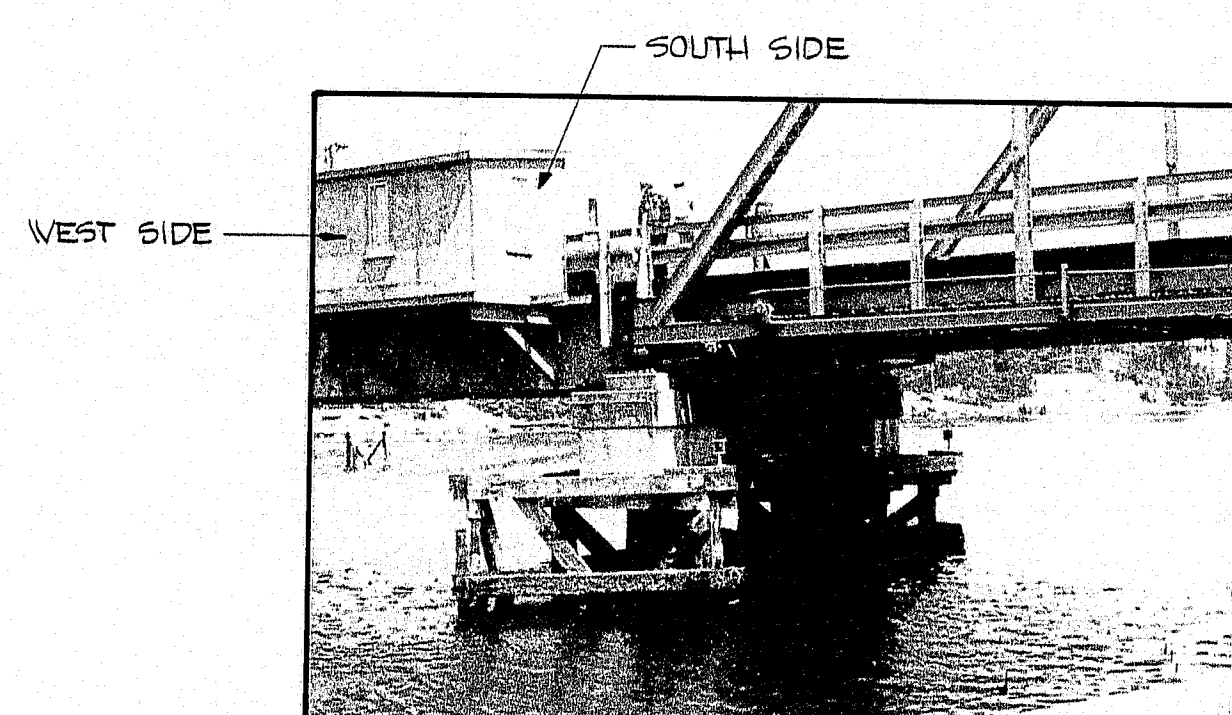


WEST WALL

EXIST. DOOR TO TOILET -  
REBUILD PARTITION &  
INSTALL NEW DOOR.

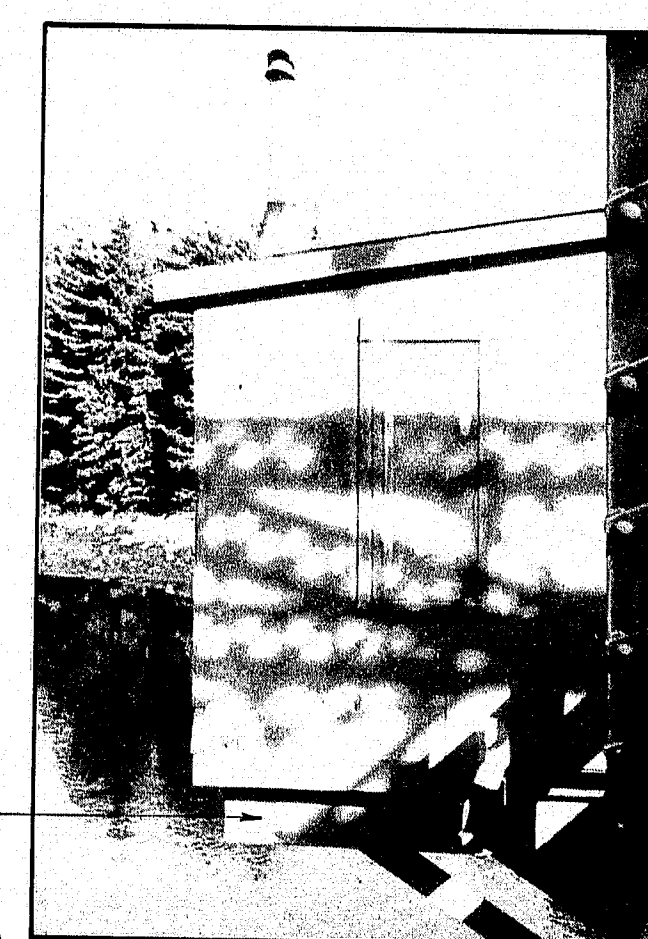


NORTH WALL

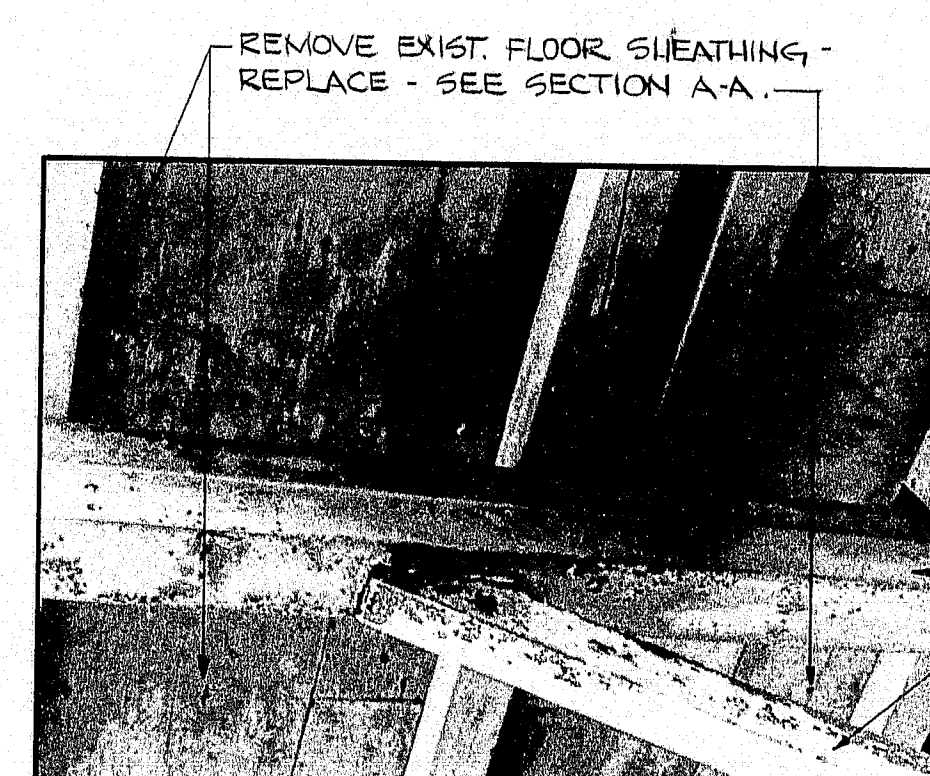


WEST & SOUTH SIDES

SUPPORT UNDER NORTH  
SIDE SIMILAR



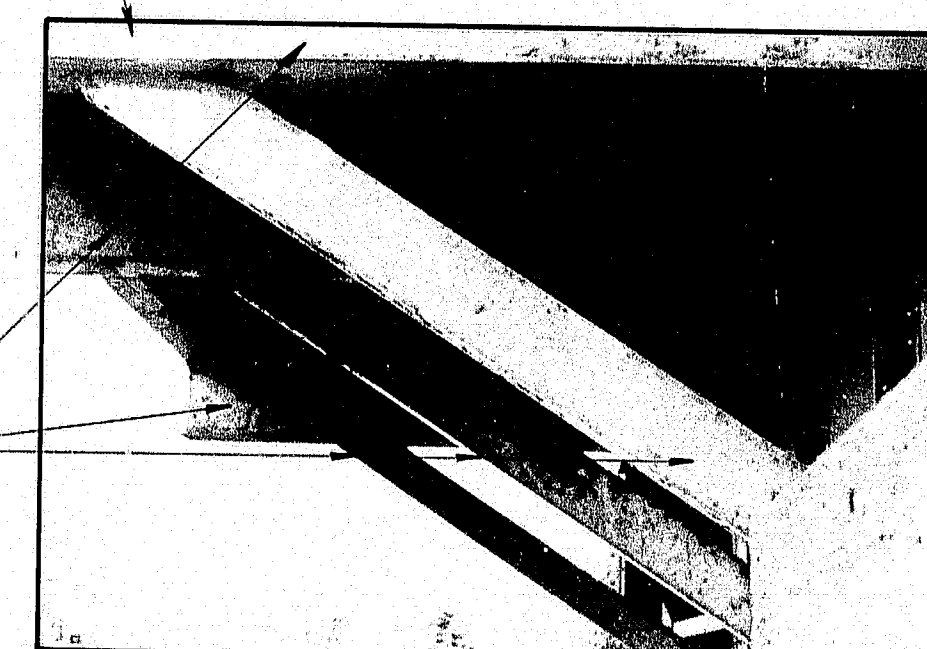
SOUTH SIDE



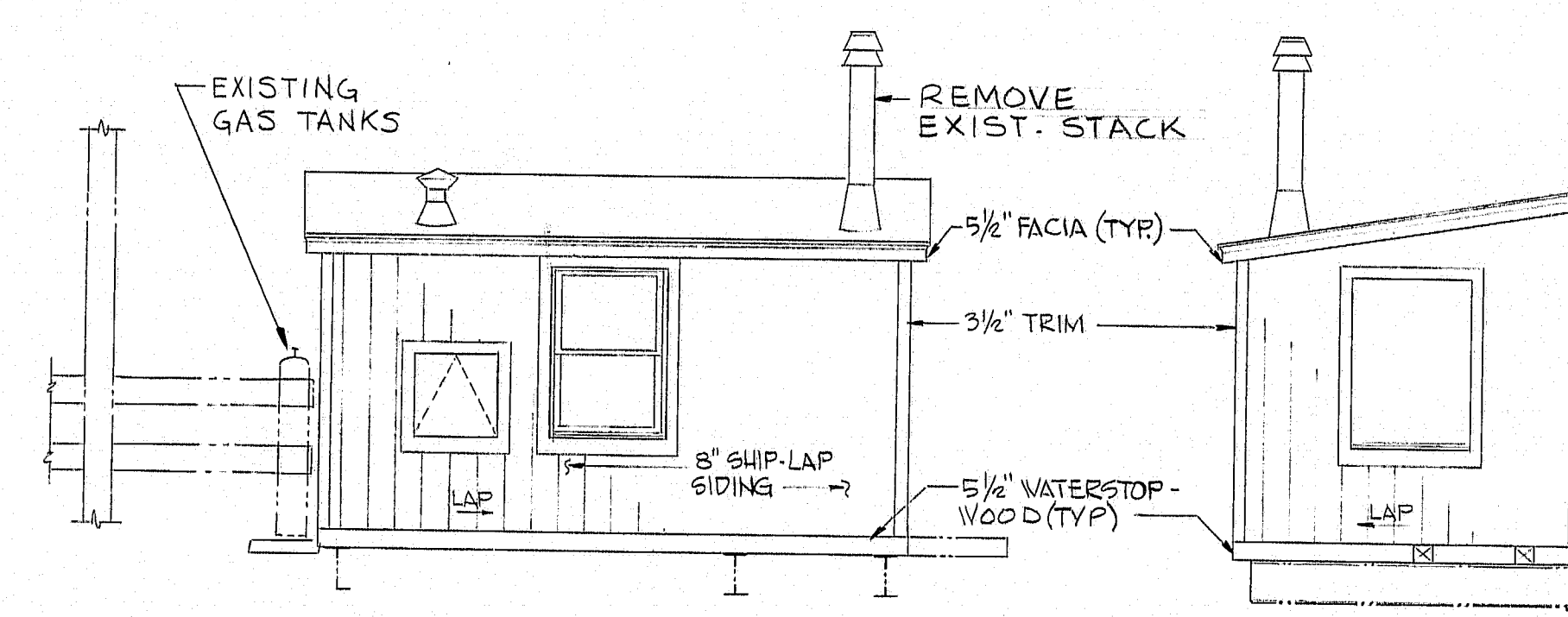
UNDERSIDE OF FLOOR

REMOVE EXIST. FLOOR SHEATHING -  
REPLACE - SEE SECTION A-A.

CLEAN & PAINT - SEE  
STEEL PAINTING SPECS.

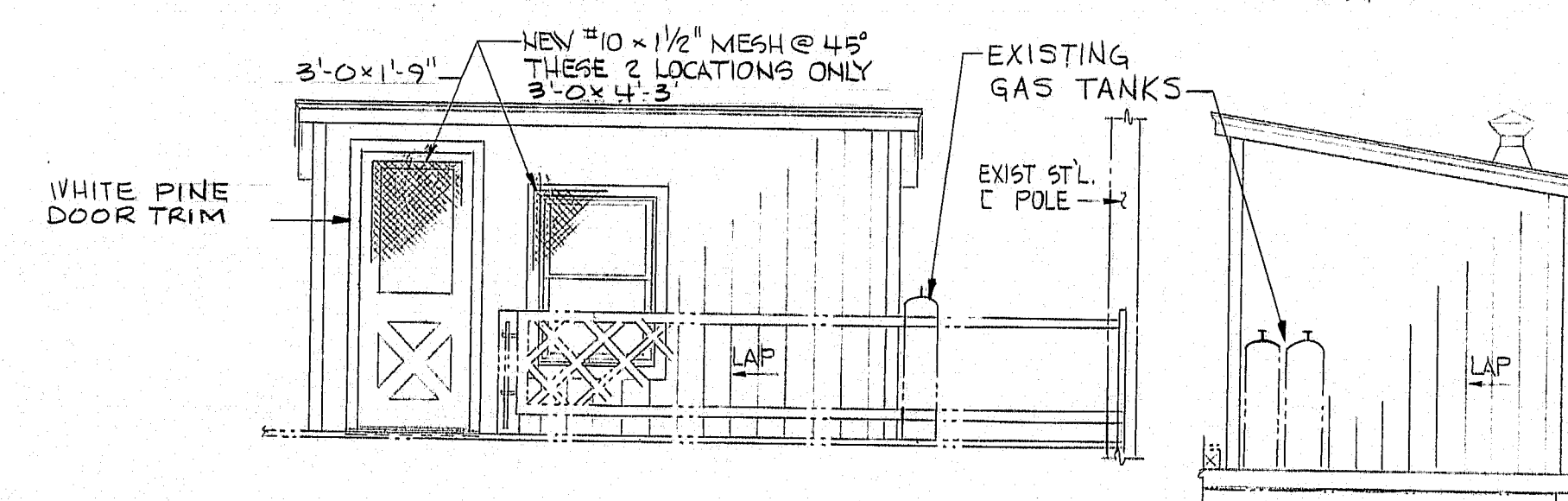


SUB-FRAMING (STEEL)



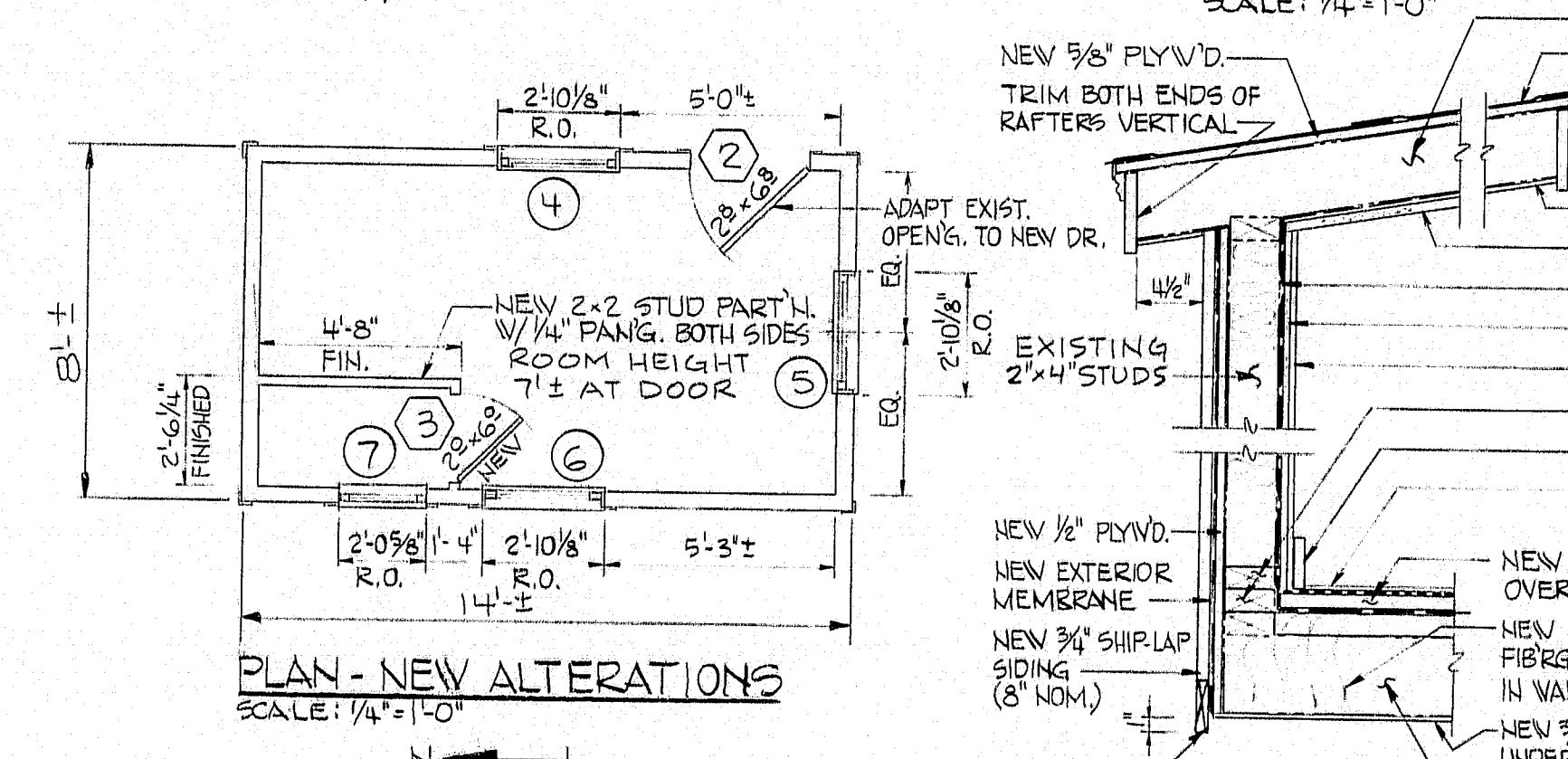
WEST ELEVATION  
SCALE: 1/4" = 1'-0"

SOUTH ELEVATION  
SCALE: 1/4" = 1'-0"



EAST ELEVATION  
SCALE: 1/4" = 1'-0"

NORTH ELEVATION  
SCALE: 1/4" = 1'-0"



PLAN - NEW ALTERATIONS  
SCALE: 1/4" = 1'-0"

SECTION A-A  
SCALE: 1" = 1'-0"

# NOTES

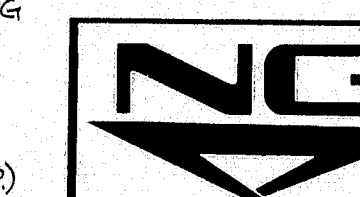
1-PAYMENT FOR REVISIONS TO THE TENDER'S QUARTERS  
AS WELL AS THE CONTROL ROOM (SHEET 7)  
TO BE LUMP SUM. SEE SPECIAL PROVISIONS  
SECTIONS 820 & 821 RESPECTIVELY. PAYMENT  
ITEMS 820.30 & 821.30

2-EXTERIOR OF LIVING QUARTERS TO HAVE  
2 COAT SEMI-TRANSPARENT OIL BASE  
STAIN. COLOR BY STATE.

3-CEILING IN LIVING QUARTERS TO HAVE  
1-COAT LATEX PRIMER  
2-COATS LATEX FINISH

104-361

*Original Hayes*



NEILL and GUNTER  
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P. O. Box 1959  
PORTLAND, ME 04104

STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION  
SOUTHPORT BRIDGE  
OVER  
TOWNSEND GUT  
BETWEEN THE TOWNS OF  
SOUTHPORT & BOOTHBAY HARBOR  
LINCOLN COUNTY  
TENDER'S QUARTERS  
RENOVATIONS

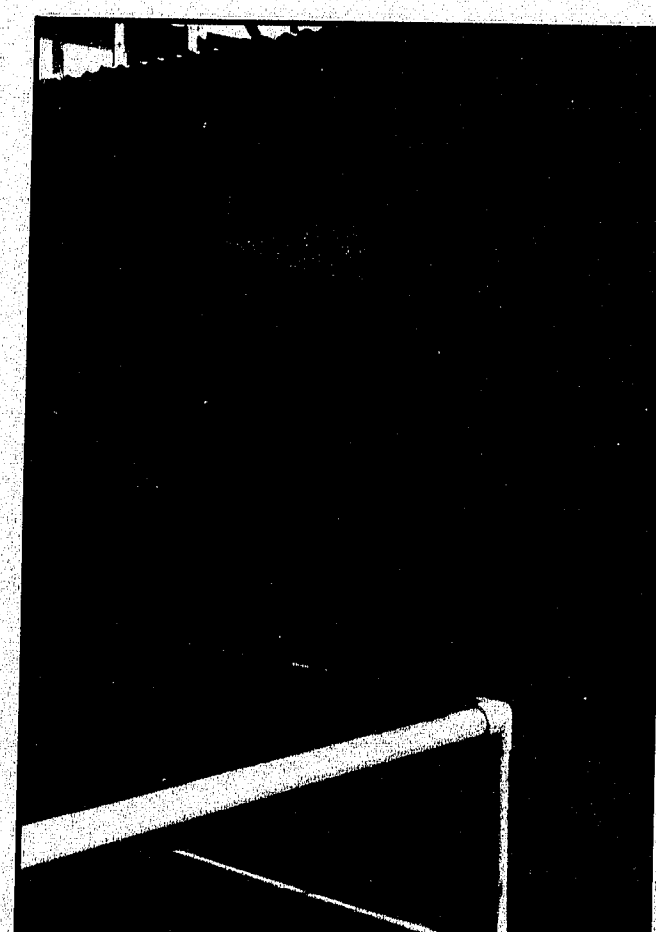
SHEET 6 OF 24 AUGUSTA, MAINE JANUARY 1985  
NGI JOB NO. 20931

PROJECT DESIGN ENGINEER	DATE
BY WMB	12-22-85
DESIGN - DETAILED	SAH
CHECKED	CLD
REVISIONS	
FIELD CHANGES	

BRUNING 44-132-4570-1



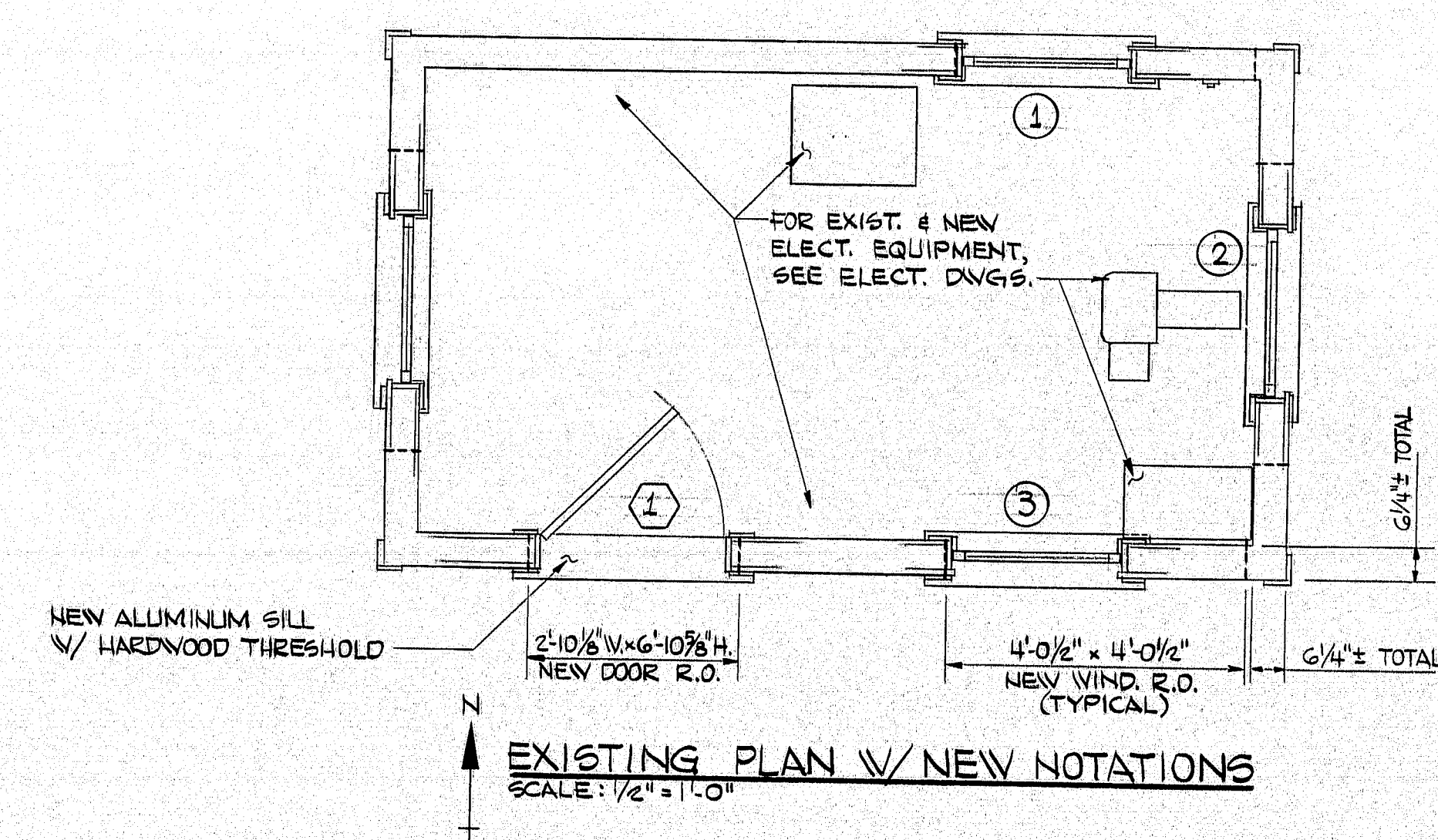
F.R.E.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	BH-0005(49)	9	32



WEST SIDE



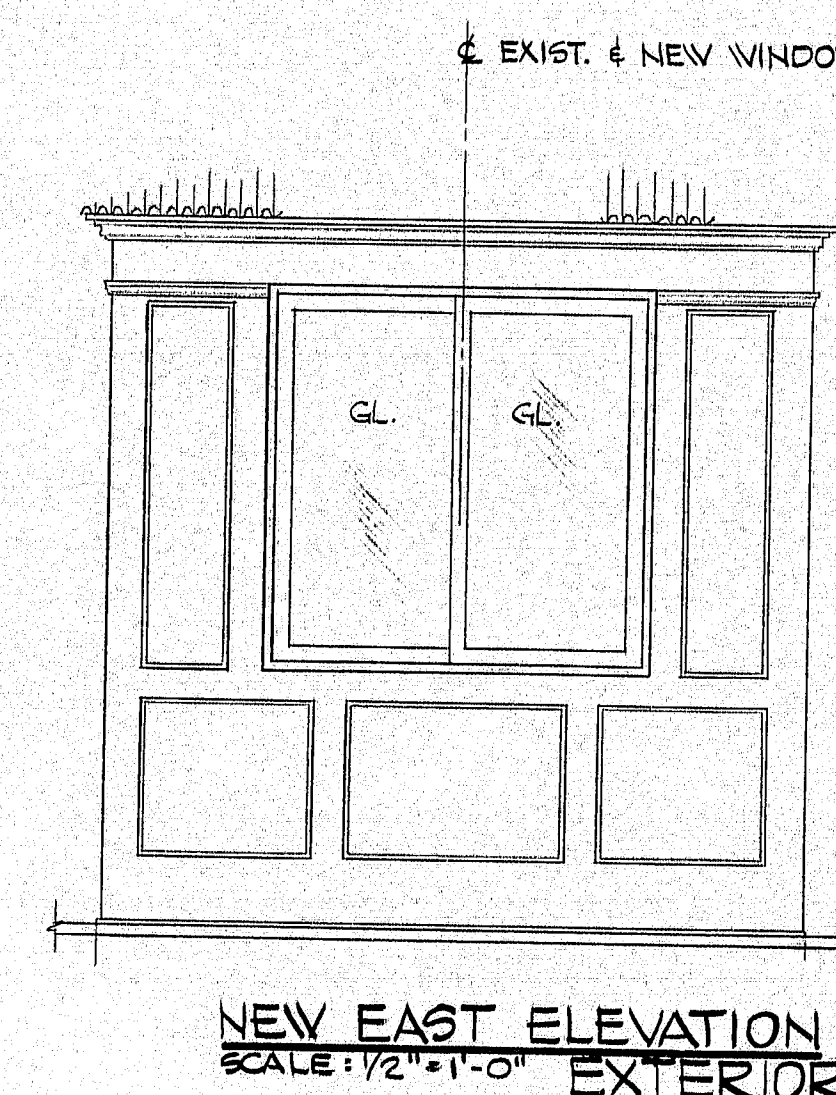
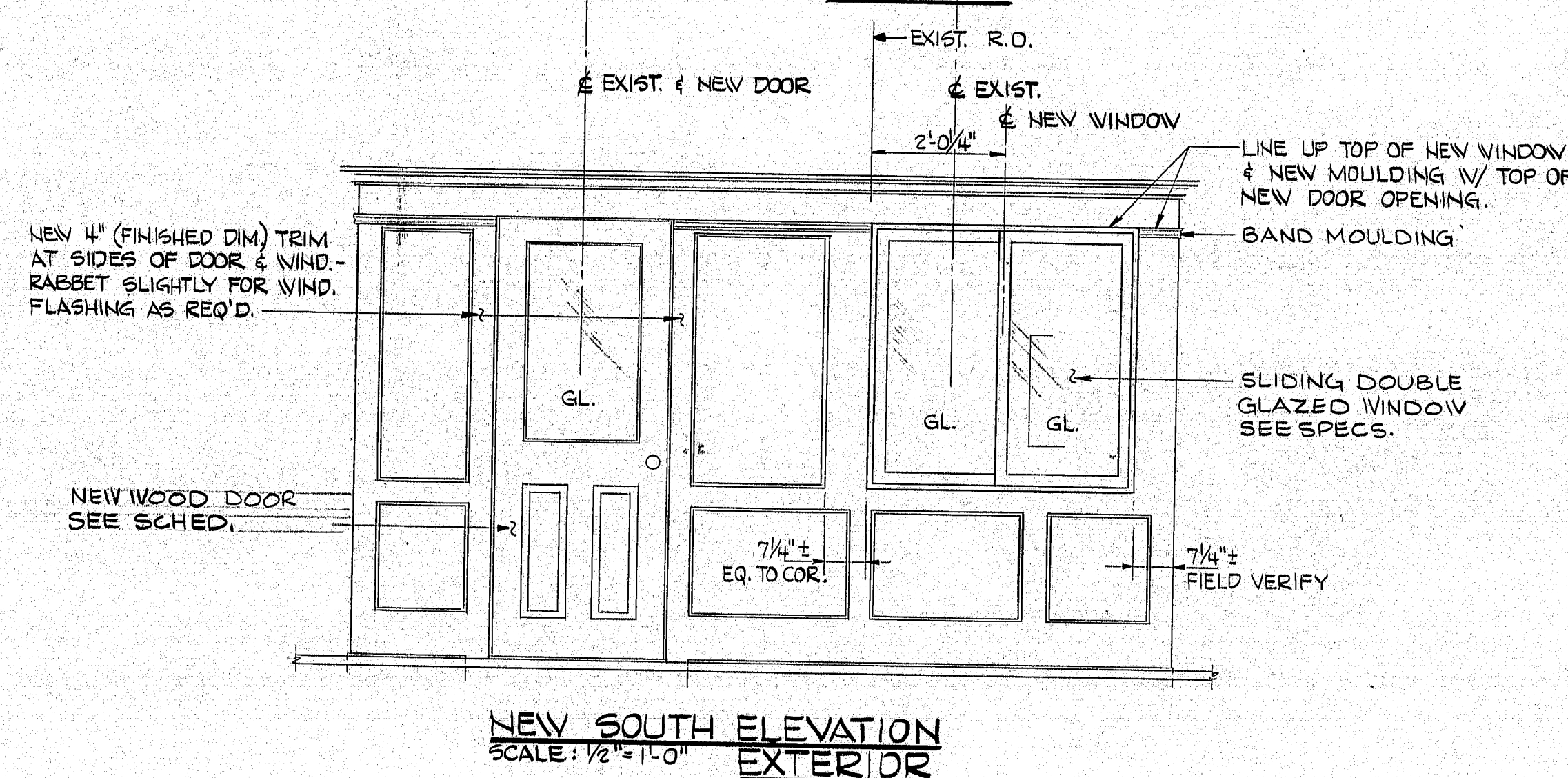
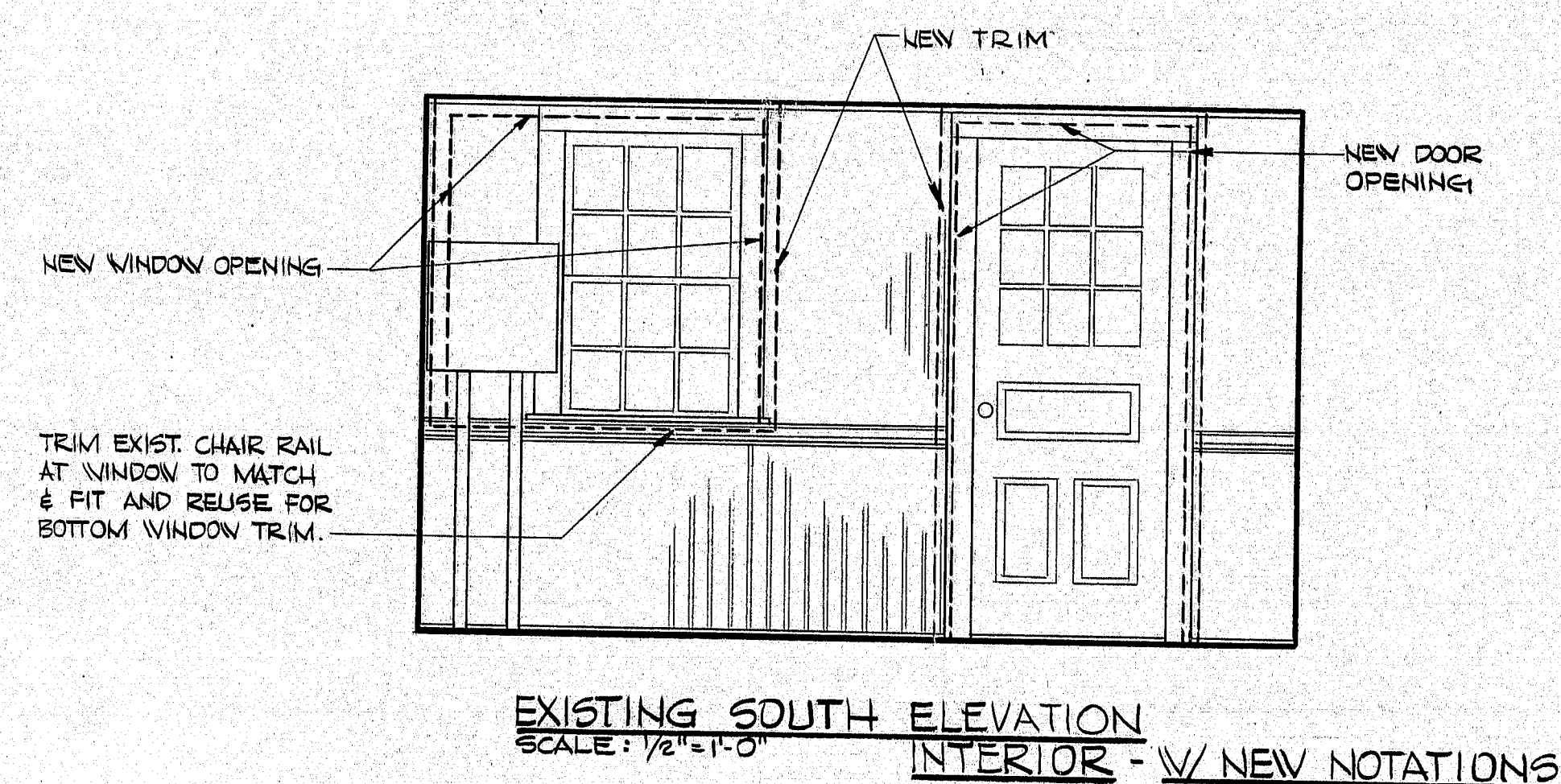
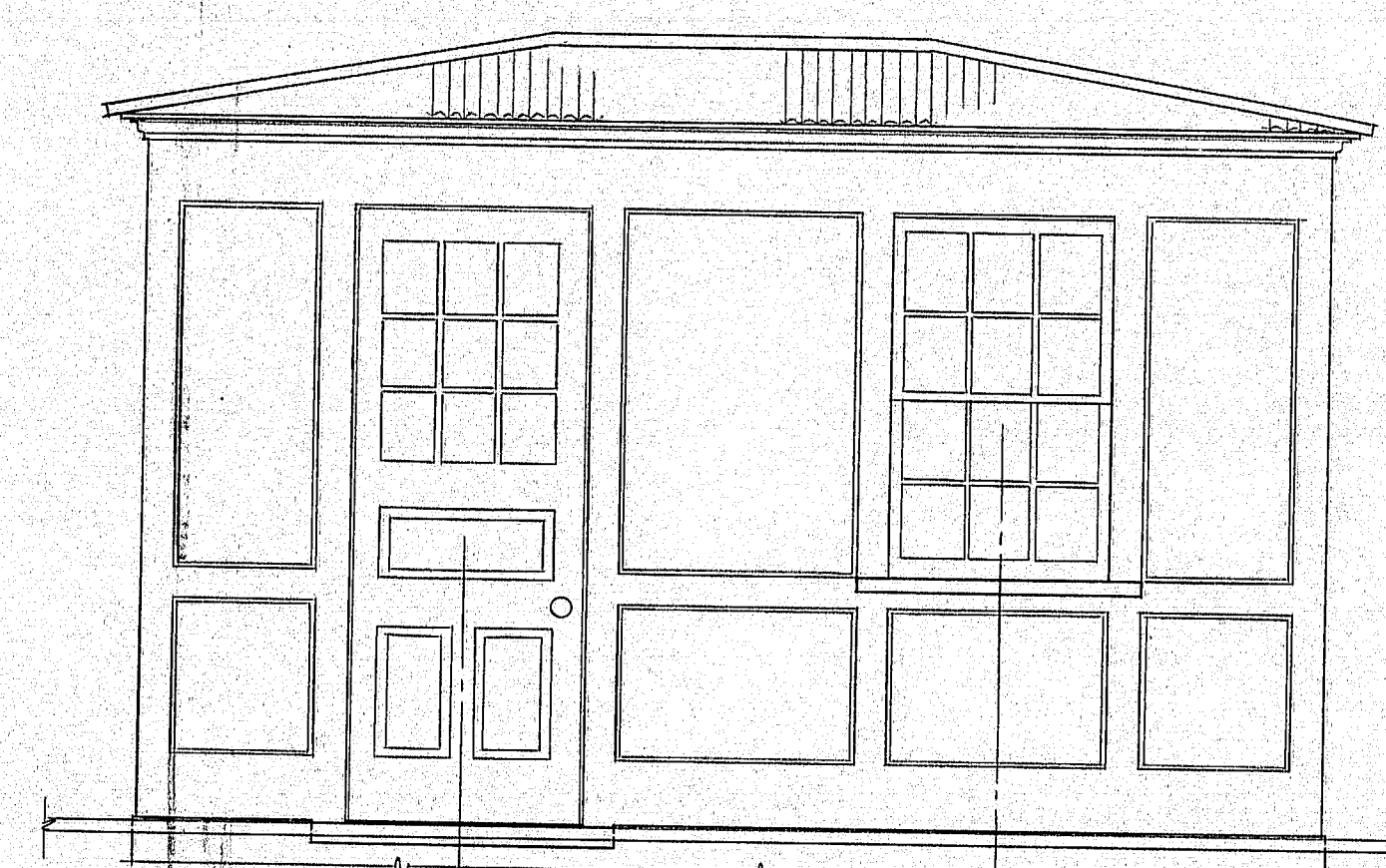
SOUTH SIDE



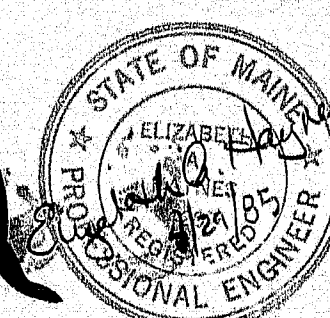
DOOR SCHEDULE				
DOOR NO.	LOCATION	FRAME	DOOR	GLASS
1	BRIDGE PLTH L.H. CONTROL RM.	PREHUNG WOOD	2'-8 1/2" x 5'-1 3/4" WOOD	2'-10 1/8" x 6'-10 3/8"
2	SIDEWALK L.H. LIVING AREA	PREHUNG WOOD	2'-8 1/2" x 5'-1 3/4" WOOD	2'-10 1/8" x 6'-10 3/8"
3	LIVING AREA L.H.R. BATH	PREHUNG WOOD	2'-5 1/2" x 6'-1 1/8" WOOD	-

DOOR SCHEDULE CONT.				
DOOR NO.	HARDWARE	THRESHOLD	WALL CONST.	
1	1 BEX. HEAVY DUTY	1" THICK OAK	WOOD	
2	1 BEX. HEAVY DUTY	1" THICK OAK	WOOD	
3	1 BEX. HEAVY DUTY	1" THICK OAK	WOOD	

WINDOW SCHEDULE					
WINDOW NO.	LOCATION	FRAME & R.O.	UNIT DIMENSION	HARDWARE	WALL CONST.
1	CONTROL RM.	VINYL CLAD 4'-0 1/2" SQ	4'-0" x 4'-0"	INCLUDED	WOOD
2	CONTROL RM.	VINYL CLAD 4'-0 1/2" SQ	4'-0" x 4'-0"		
3	LIVING QUARTERS	VINYL CLAD 2'-0 1/2" x 4'-1 1/4"	2'-9 3/8" x 4'-1 1/4"		
4	LIVING QUARTERS	VINYL CLAD 2'-0 1/2" x 4'-1 1/4"	2'-9 3/8" x 4'-1 1/4"		
5	LIVING QUARTERS	VINYL CLAD 2'-0 1/2" x 4'-1 1/4"	2'-9 3/8" x 4'-1 1/4"		
6	LIVING QUARTERS	VINYL CLAD 2'-0 1/2" x 4'-1 1/4"	2'-9 3/8" x 4'-1 1/4"		
7	LIVING QUARTERS	VINYL CLAD 2'-0 1/2" x 4'-1 1/4"	2'-9 3/8" x 4'-1 1/4"	INCLUDED	WOOD



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**NEILL and GUNTER**  
Consulting and Design Engineers  
P.O. Box 1959  
PORTLAND, ME 04104

STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION  
SOUTHPORT BRIDGE  
OVER  
TOWNSEND GUT  
BETWEEN THE TOWNS OF  
SOUTHPORT & BOOTHBAY HARBOR  
LINCOLN COUNTY  
CONTROL ROOM  
WINDOW & DOOR REPLACEMENT

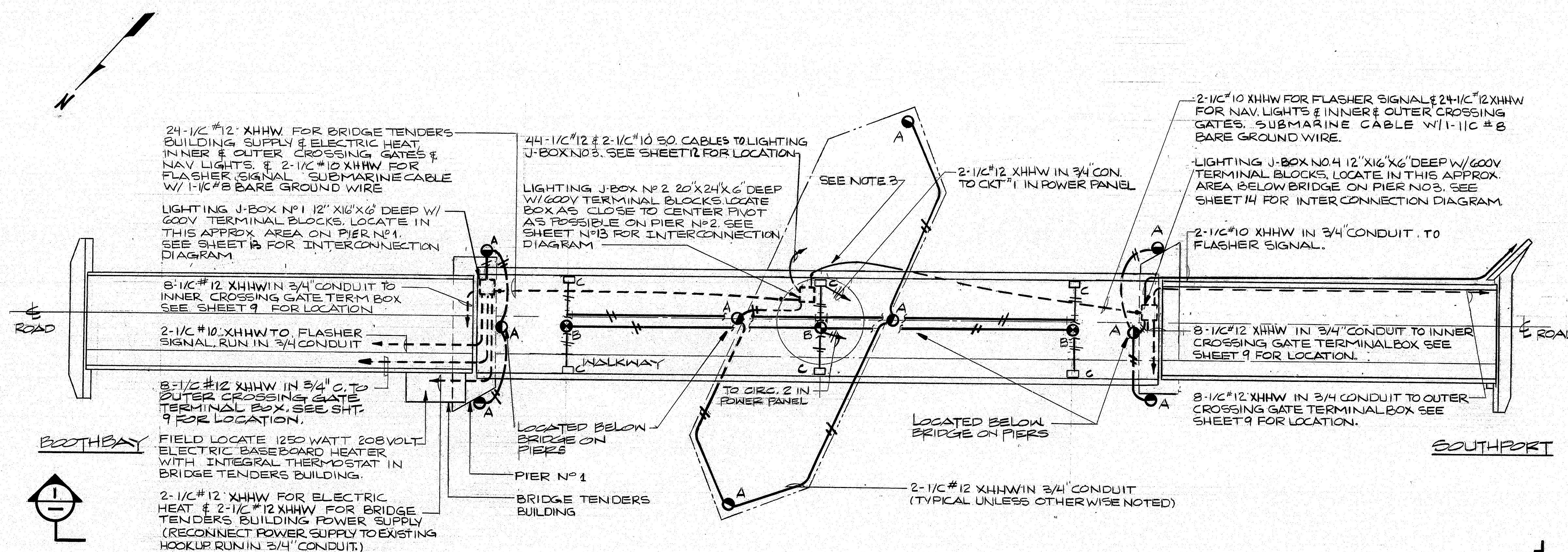
SHEET 7 OF 24 AUGUSTA, MAINE JANUARY 1985  
NGI JOB NO. 20931

PROJECT DESIGN ENGINEER  
BY DATE  
DESIGN-DETAILED EAH WMB/AM/GBB  
CHECKED CUL 7/27/85  
PLANS  
REVISIONS  
FIELD CHANGES

DRAWING 44132-27/1-1



F.H.A. PROJ. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	SH-0005 (49)	10	32



NOTE:  
Existing navigation lighting and wiring may be utilized, in so far as is practical, to provide the temporary navigation lighting.

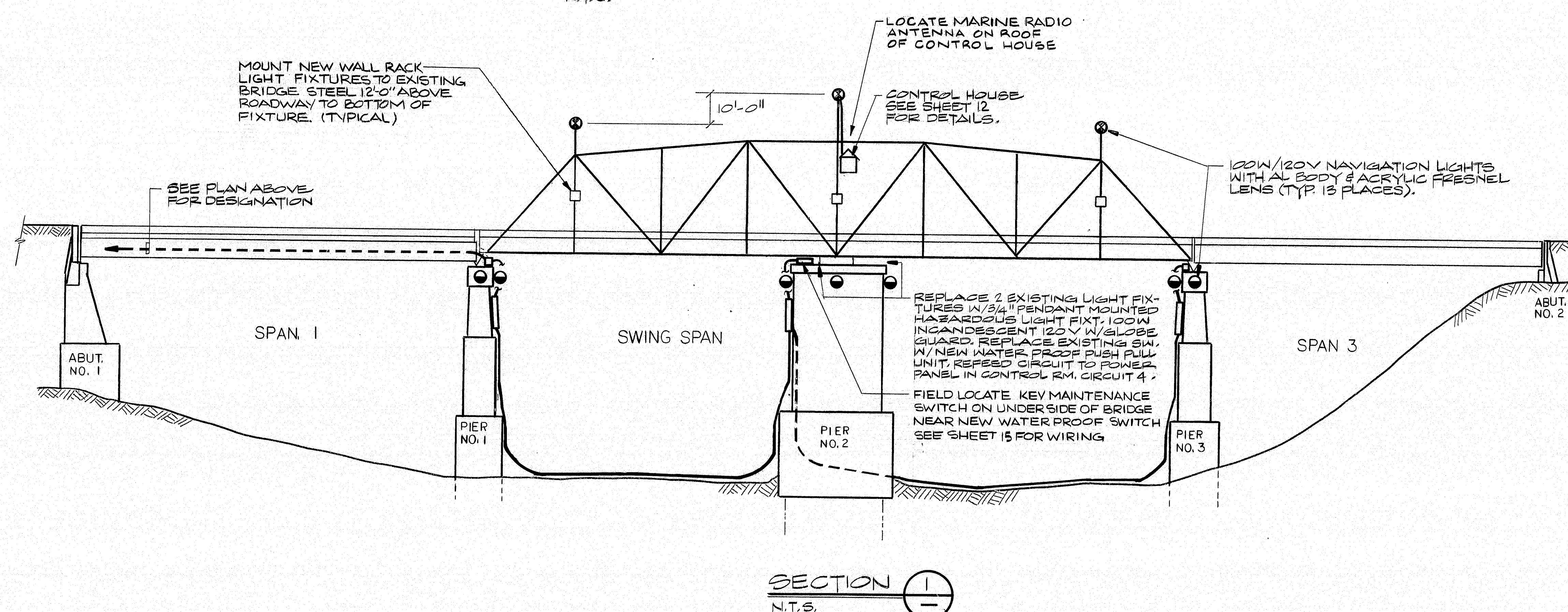
#### NOTES

1. ALL CONDUIT TO BE PVC-SCH-80 HEAVY WALL UNLESS OTHERWISE NOTED.
2. ALL JUNCTION BOXES TO BE NEMA 4X.
3. SUBMARINE CABLES SHALL BE INSTALLED IN SCH-80 PVC CONDUIT BENEATH BRIDGE RACK ASSEMBLY. CONDUIT SHALL BE EMBEDDED INTO CONCRETE PIER & OFFSET UP TO APPROPRIATE JUNCTION BOX.

#### LEGEND

- RED 180° SECTORED, POSITIONED AS REQUIRED ON PIERS.
- ALTERNATE RED & GREEN, 60° SECTORS AT 90° RED ONE OF TWO SECTORS, GREEN TWO SECTORS.
- 70 W HIGH PRESSURE SODIUM WALL PACK FIXTURE W/ WIRE GUARD & PHOTOCELL 208V ROADWAY LIGHTING

#### BRIDGE & NAVIGATIONAL LIGHTING PLAN N.T.S.



#### SECTION 1 N.T.S.

104-363

**NG**  
NEILL and GUNTER  
Consulting and Design Engineers  
P.O. Box 1959  
PORTLAND, ME 04104

STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION

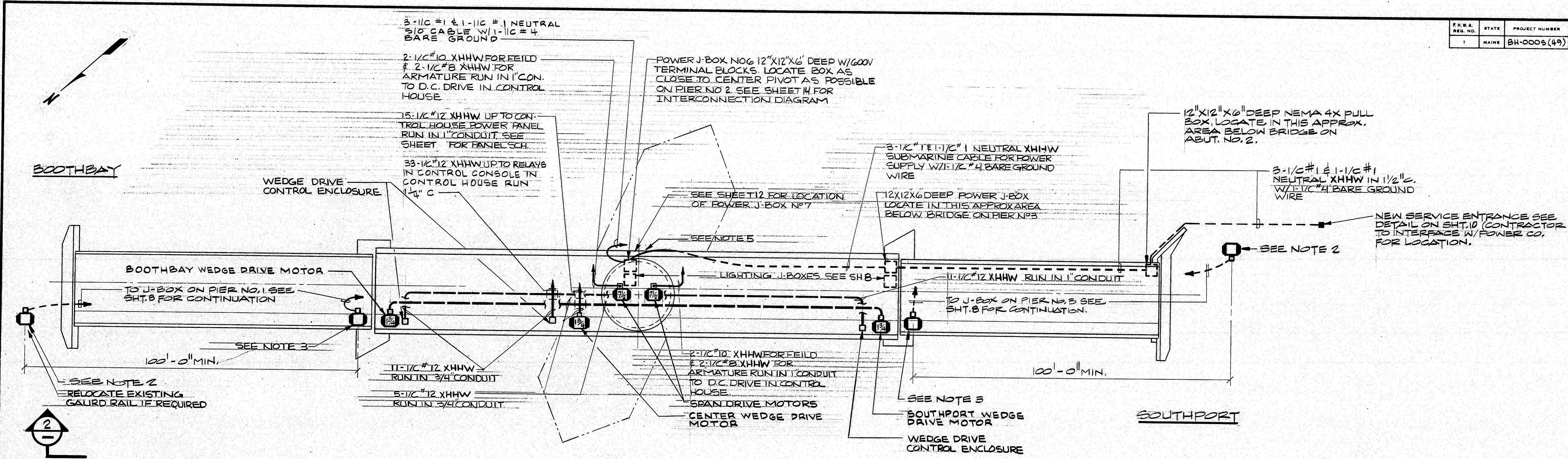
SOUTHPORT BRIDGE  
OVER TOWNSEND GUT  
BETWEEN THE TOWNS OF  
SOUTHPORT & BOOTHBAY HARBOR  
LINCOLN COUNTY  
LIGHTING PLAN &  
CONDUIT RUNS

SHEET 8 OF 24 AUGUSTA, MAINE

NGI JOB NO. 20931 NGI DWG NO C-501

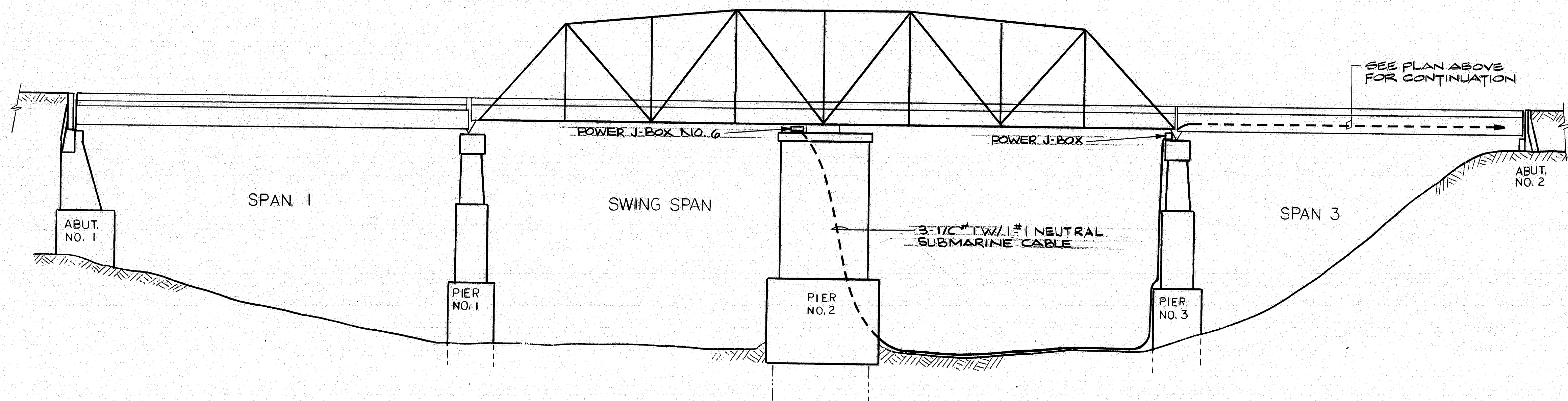


F.R.A.	STATE	PROJECT NUMBER	SHEET NO	TOTAL SHEETS
1	MAINE	BH-0005 (49)	11	32



**POWER PLAN**  
N.T.S.

- NOTES:**
1. ALL CONDUIT TO BE PVC-SCH. 80 HEAVY WALL, UNLESS OTHERWISE NOTED.
  2. 14' AUTOMATIC CROSSING GATES W/ ALARMS SEE SHT. 10 FOR DETAILS (OUTER GATE)
  3. 28' AUTOMATIC CROSSING GATES W/ LIGHTS & ALARMS SEE SHT. 10 FOR DETAILS (INNER GATE)
  4. ALL JUNCTION & PULL BOXES TO BE NEMA 4X
  5. SUBMARINE CABLE SHALL BE INSTALLED IN SCH. 80 PVC CONDUIT BENEATH BRIDGE RACK ASSEMBLY. CONDUIT SHALL BE EMBEDDED INTO CONCRETE PIER & OFFSET UP TO APPROPRIATE JUNCTION BOX.



**SECTION 2**  
N.T.S.

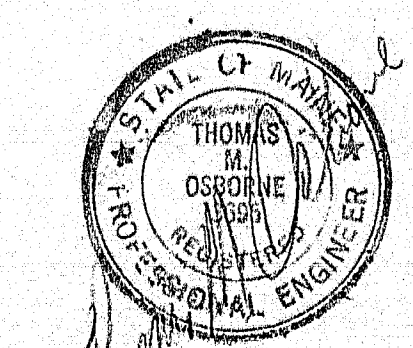
104-364



NEILL and GUNTER  
Consulting and Design Engineers  
P. O. Box 1969  
PORTLAND, ME 04104

STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION

SOUTHPORT BRIDGE  
OVER TOWNSEND GUT  
BETWEEN THE TOWNS OF  
SOUTHPORT & BOOTHBAY HARBOR  
LINCOLN COUNTY  
POWER PLAN



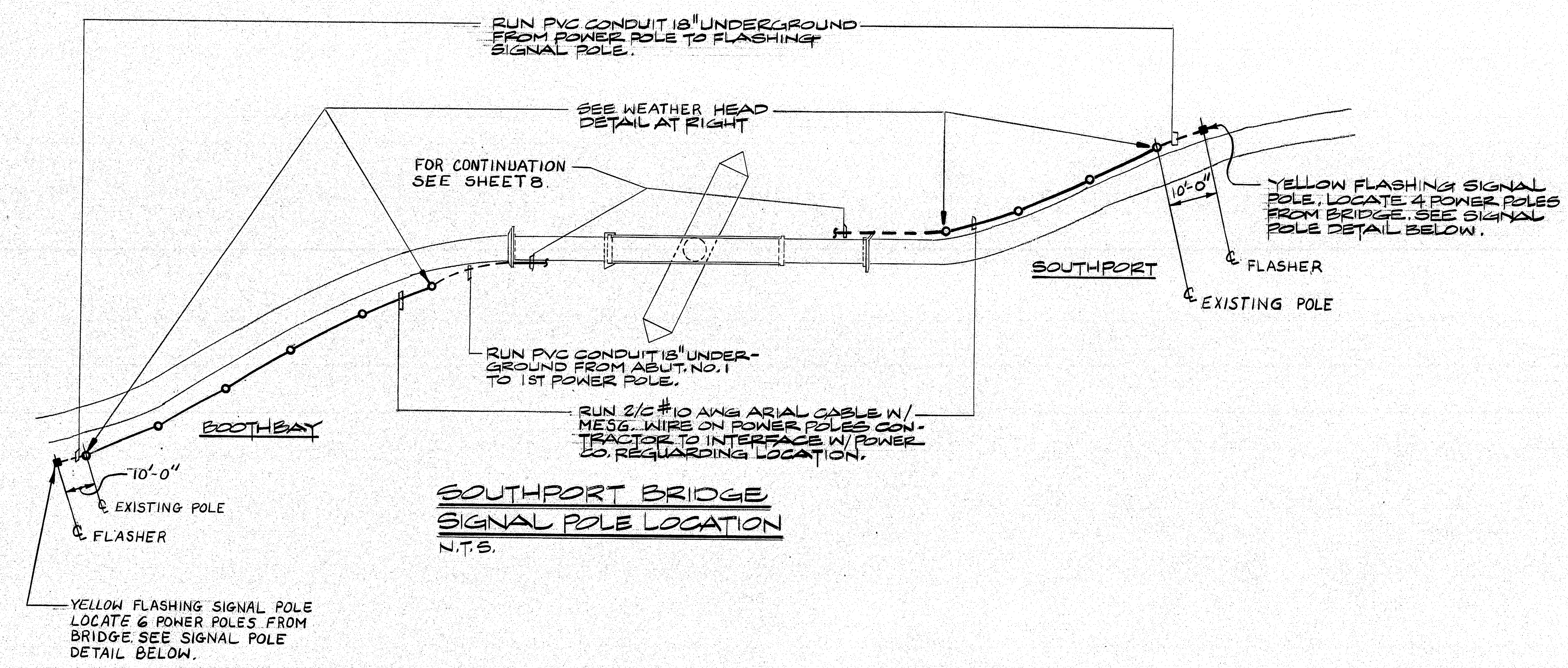
SHEET 9 OF 24 AUGUSTA, MAINE

NGI JOB NO. 20931 NGI DWG NO. C-502

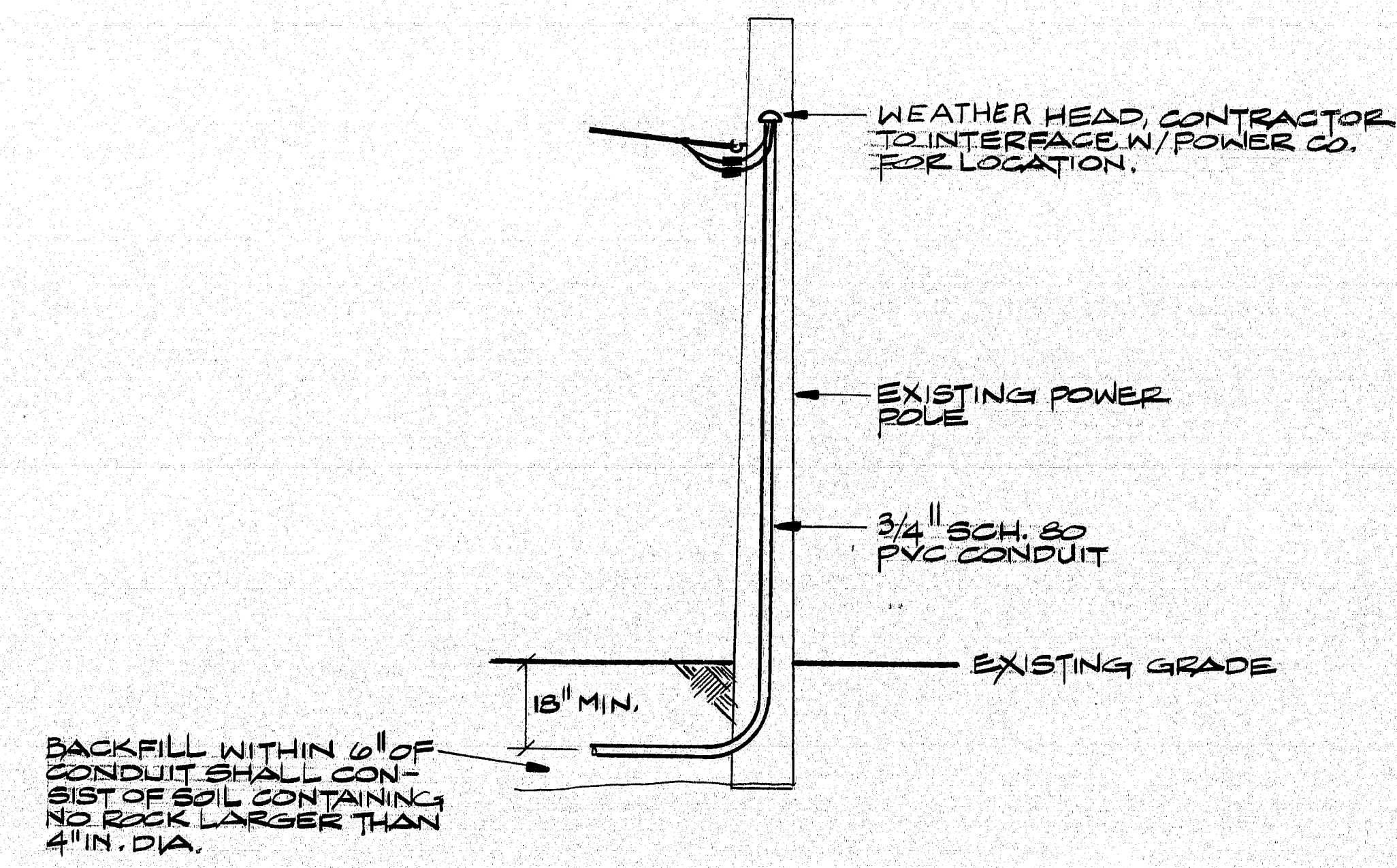
PROJECT DESIGN ENGINEER	DATE
DESIGN - DETAILED	BY
CHECKED	BY
REVISIONS	BY
FIELD CHANGES	BY
PLANS	



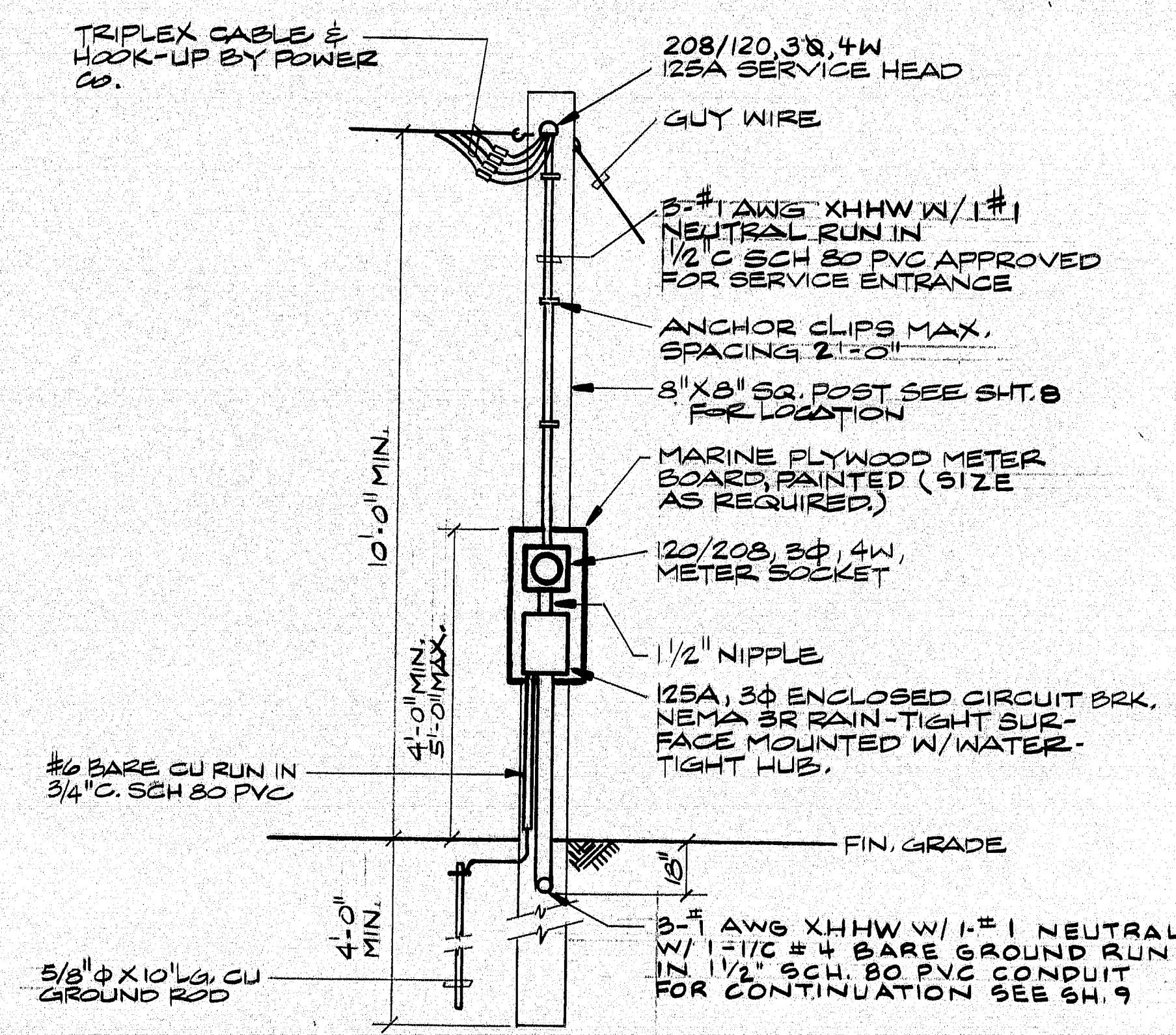
F.R.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	BH-0005(49)	12	32



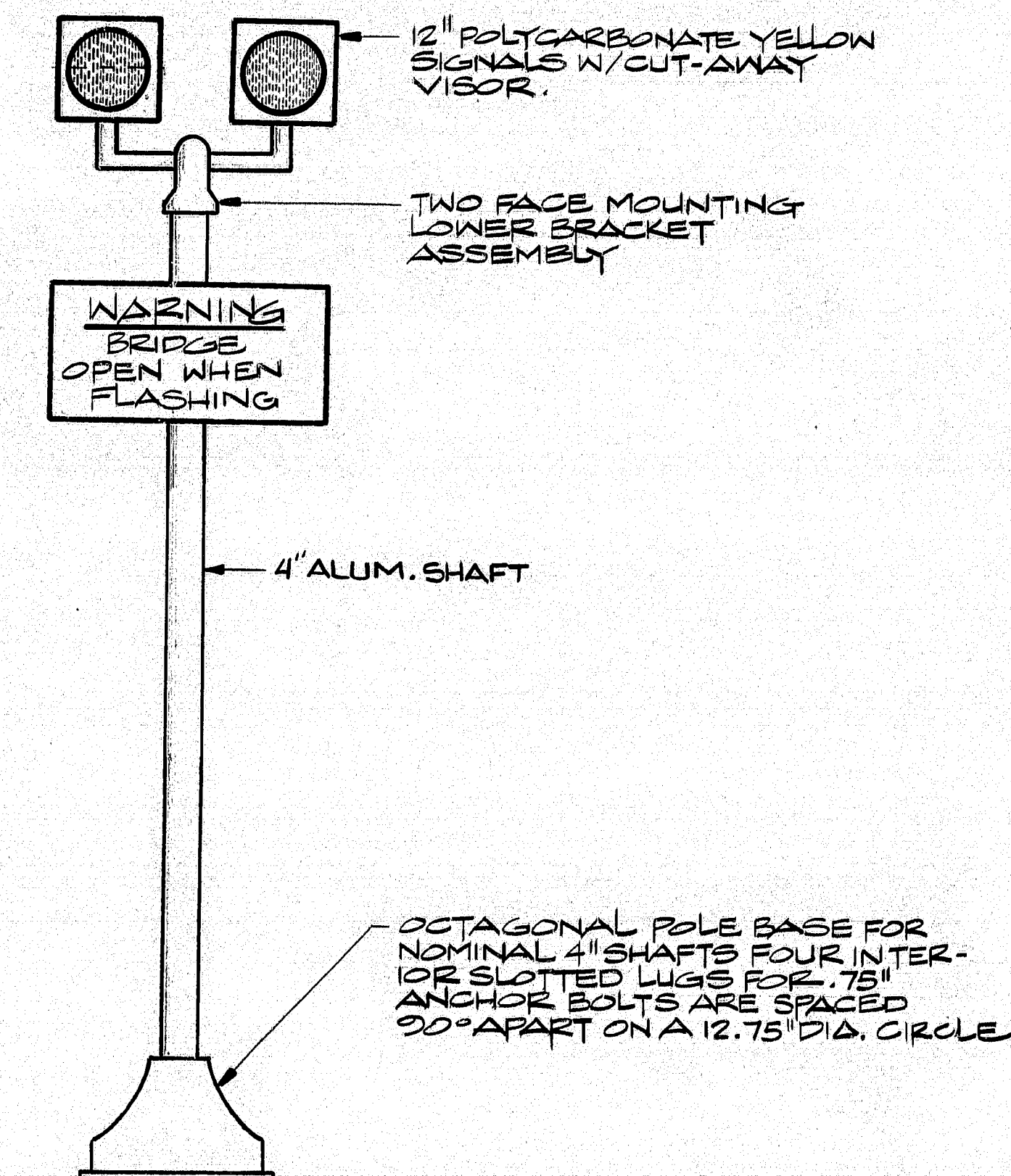
**SOUTHPORT BRIDGE  
SIGNAL POLE LOCATION**  
N.T.S.



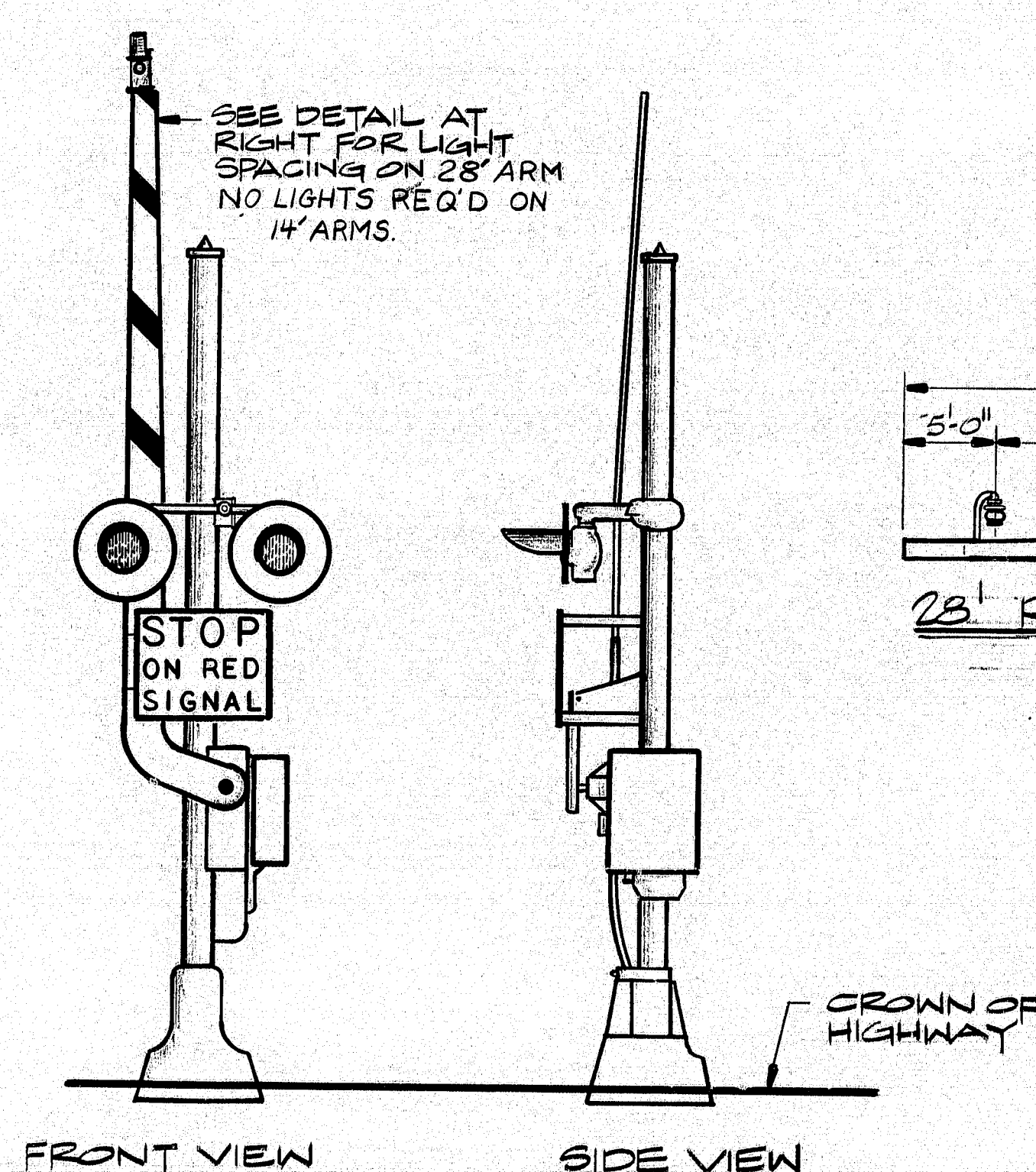
**WEATHER HEAD DETAIL**  
N.T.S.



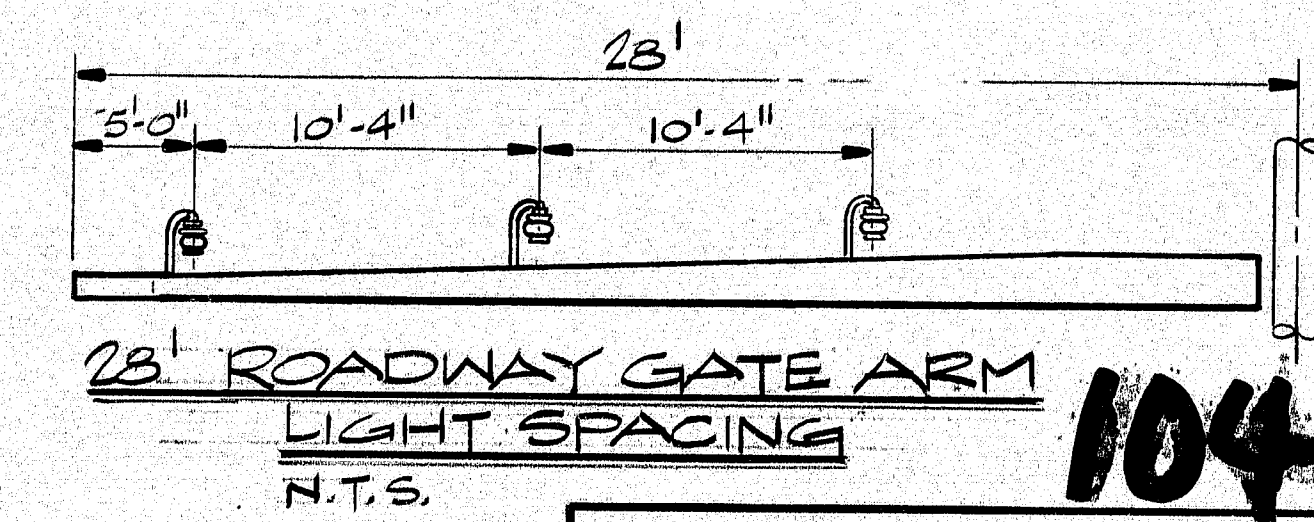
**SERVICE ENTRANCE DETAIL**  
N.T.S.



**SIGNAL POLE DETAIL**  
N.T.S.




**HIGHWAY CROSSING SIGNAL**  
N.T.S.



**28' ROADWAY GATE ARM  
LIGHT SPACING**  
N.T.S.

104-365

PROJECT DESIGN ENGINEER	DATE
DESIGN - DETAILED	11-24-85
CHECKED	11-24-85
REVISIONS	
FIELD CHANGES	
PLANS	



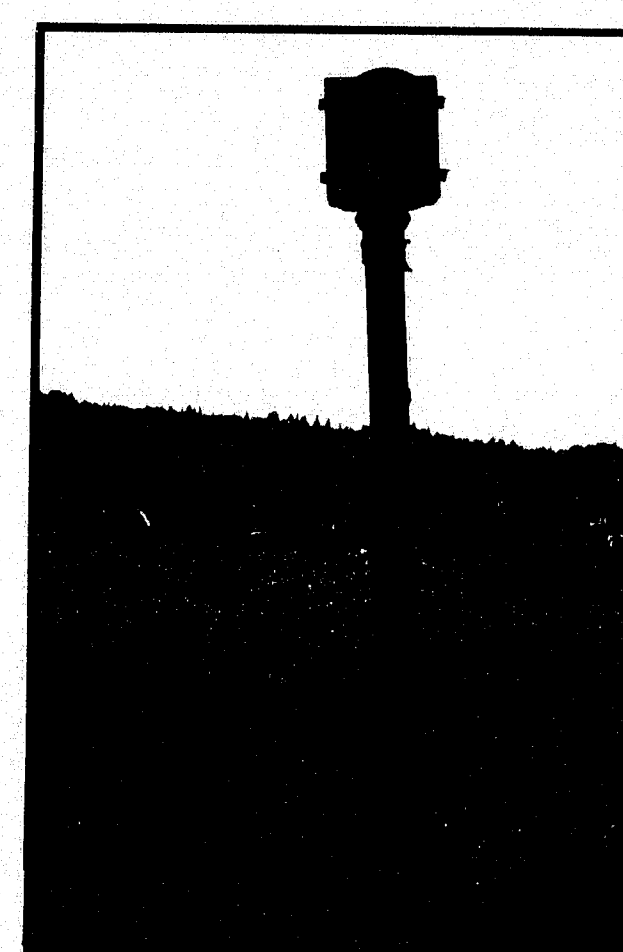
NEILL and GUNTER  
Consulting and Design Engineers  
P.O. Box 1959  
PORTLAND, ME 04104

STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION

SOUTHPORT BRIDGE  
OVER TOWNSEND GUT  
BETWEEN THE TOWNS OF  
SOUTHPORT & BOOTHBAY HARBOR  
LINCOLN COUNTY  
MISC. ELECTRICAL  
DETAILS



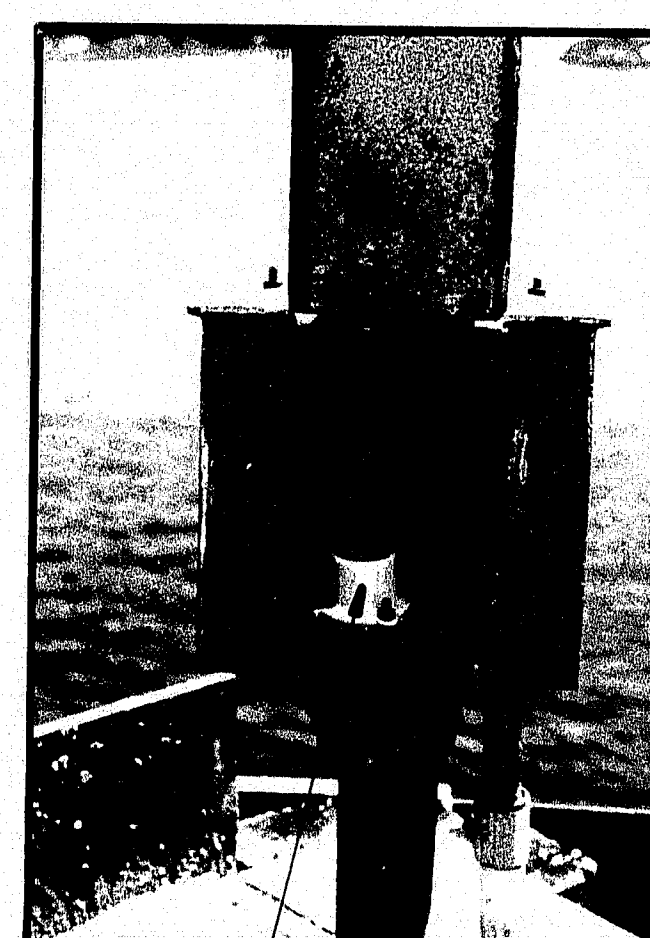
F.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
	MAINE	BH-0005 (49)	13	32



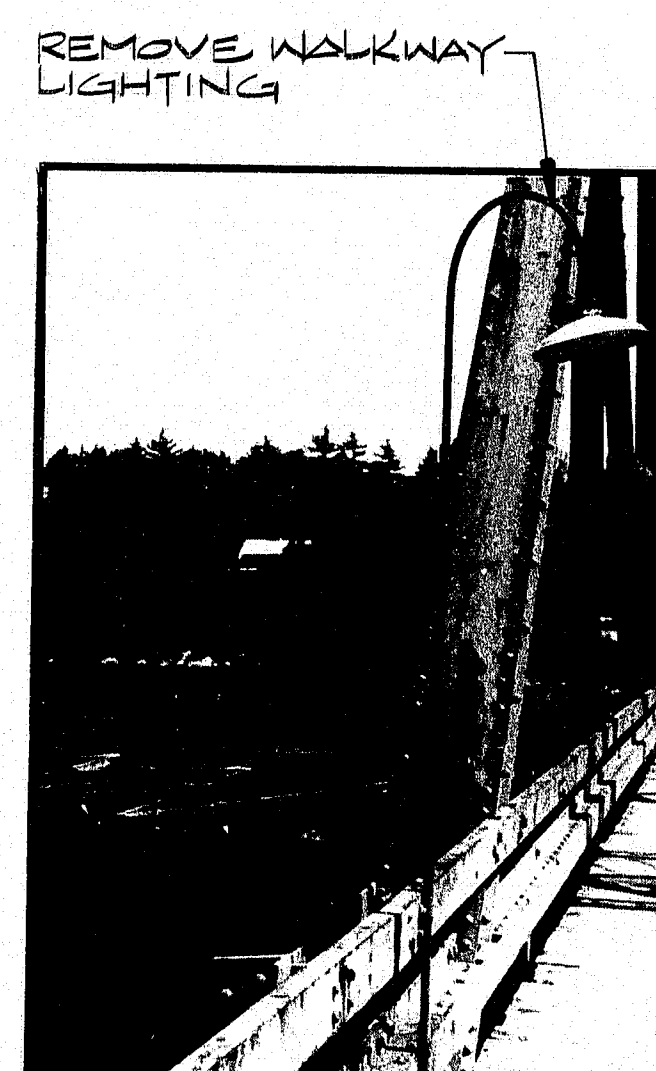
REMOVE TRAFFIC LIGHT  
ON BOTH ENDS OF  
BRIDGE



REMOVE NAVIGATION  
LIGHTING ON TOP OF  
BRIDGE.



REMOVE NAVIGATION  
LIGHTING ON PIERS.



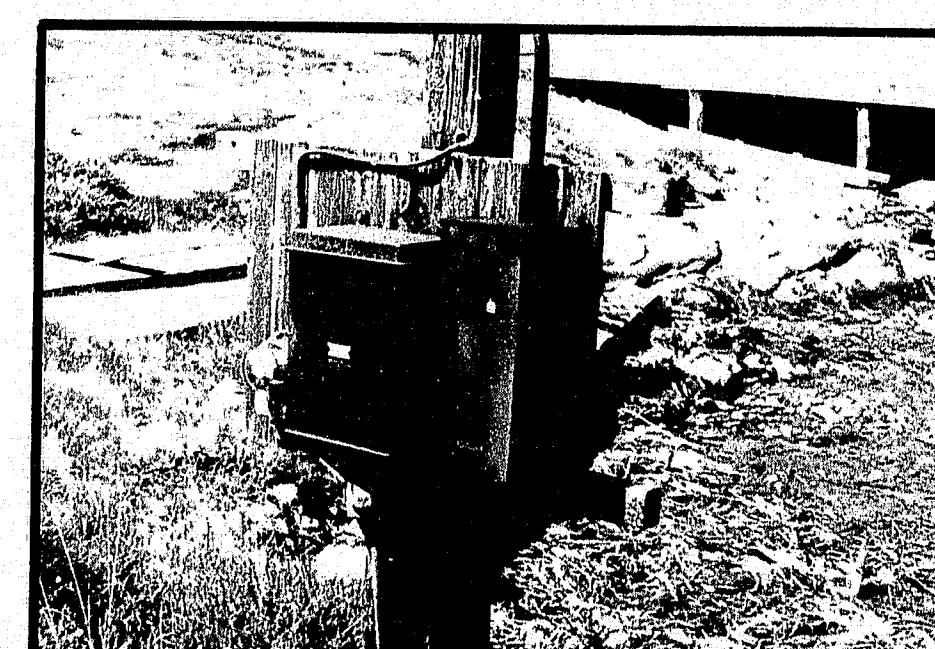
REMOVE WALKWAY  
LIGHTING



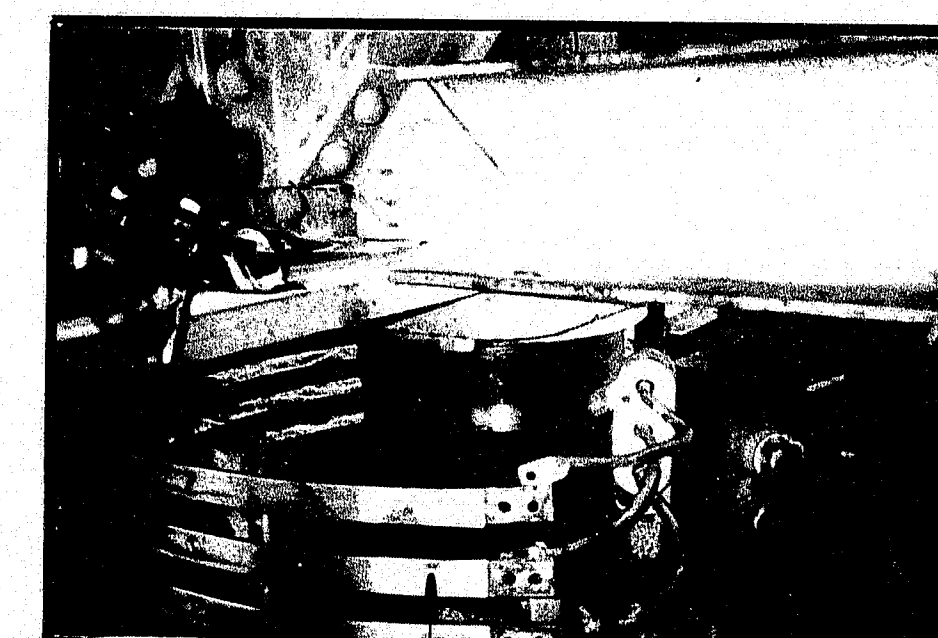
REMOVE NAVIGATION  
LIGHTING ON PIERS

NOTE  
REMOVE CONDUIT & WIRING  
BACK TO IT'S SOURCE  
OF POWER  
(TYPICAL OF EACH PHOTO.)

# LIGHTING DEMOLITION

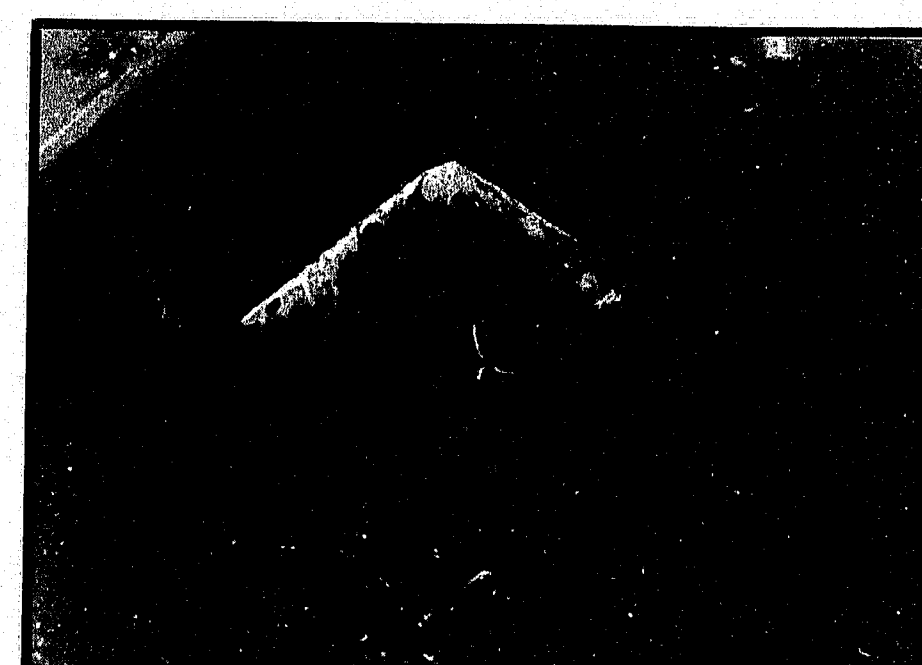


REMOVE METER, CIRCUIT  
BREAKERS, DISCONNECT  
SWITCH & POLE.



REMOVE COLLECTOR  
RING ON PIER NO. 2

# CMP SERVICE DEMOLITION



REMOVE JUNCTION BOX  
NEAR COLLECTOR RING  
ON PIER NO. 2



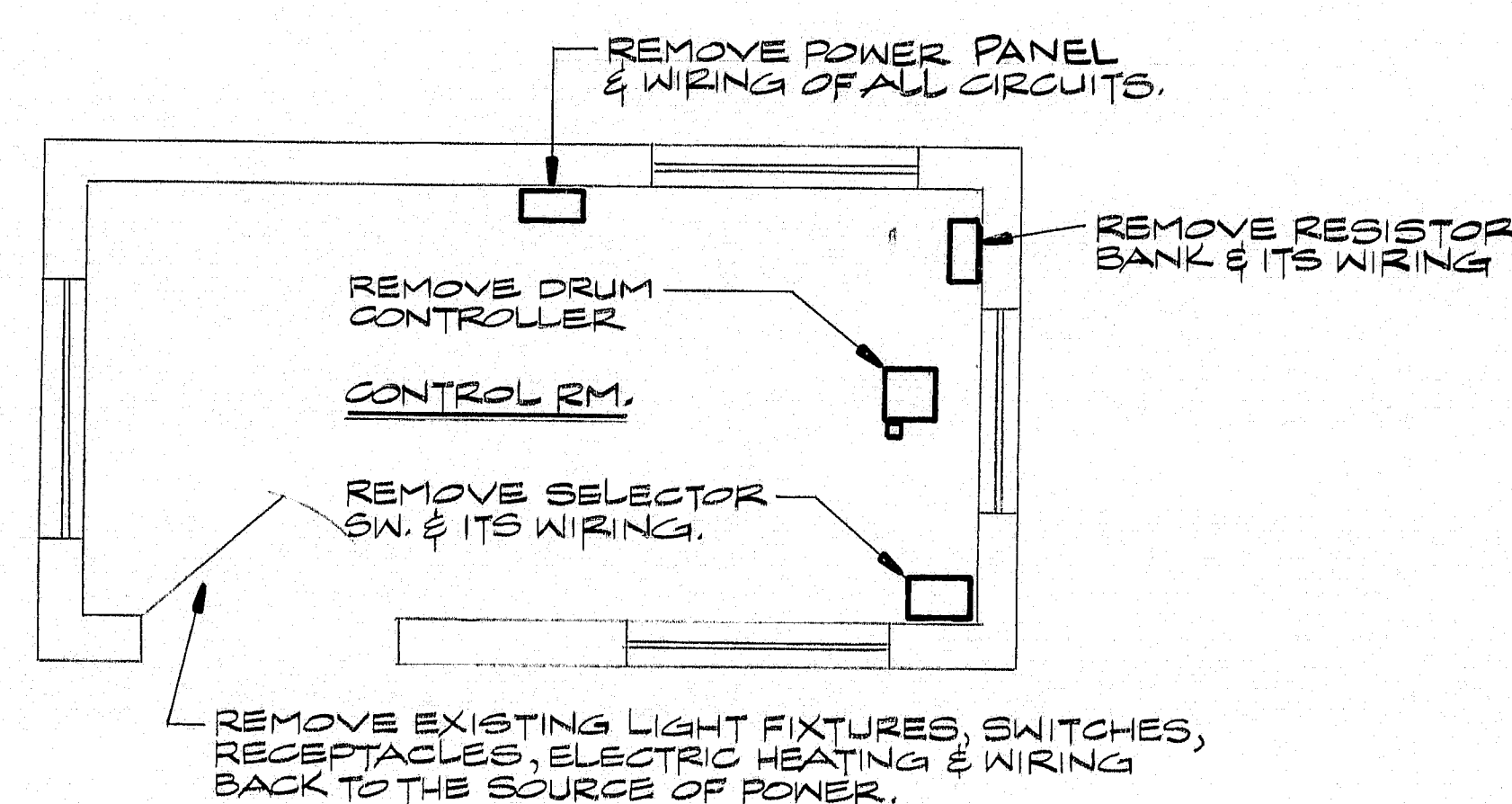
REMOVE CONDUIT  
TYP

# MISC. WIRING DEMOLITION

REMOVE  
TRAFFIC SYSTEM



NOTE:  
1. REMOVE CONDUIT & WIRING BACK  
TO ITS SOURCE OF POWER (TYP  
OF EACH PHOTO.)



# CONTROL HOUSE DEMOLITION PLAN N.T.S.

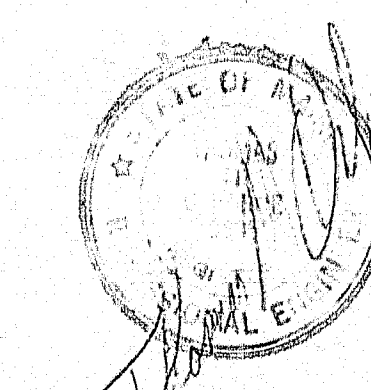
104-366



NEILL and GUNTER  
Consulting and Design Engineers  
P. O. Box 1959  
PORTLAND, ME 04104

STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION

SOUTHPORT BRIDGE  
OVER TOWNSEND GUT  
BETWEEN THE TOWNS OF  
SOUTHPORT & BOOTHBAY HARBOR  
LINCOLN COUNTY  
DEMOLITION



SHEET 11 OF 24 AUGUSTA, MAINE

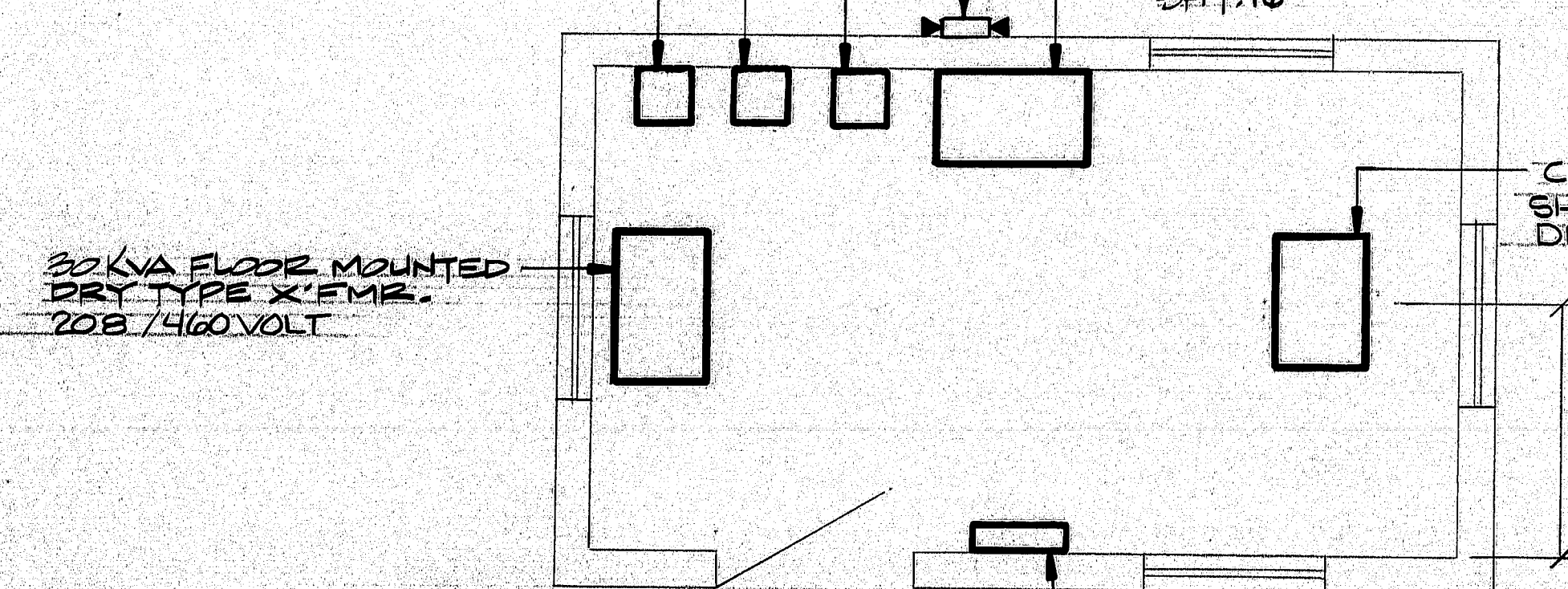
NGI JOB NO. 20931 NGI DWG NO. C-504

3031 3000

PROJECT DESIGN ENGINEER	DATE
DESIGN DETAILER	1/25/82
CHECKED	1/25/82
REVISIONS	
FIELD CHANGES	
PLANS	



COMBINATION REVERSING STARTERS (NARROW TYPE) FOR WEDGE DRIVES  
DUAL ELECTRIC AIR HORNS SEE SHEET 15 FOR WIRING SCHEMATIC  
15 HP WALL MOUNTED D.C. DRIVE, MOUNT 5'-0" FROM FIN. FLR. TO TOP OF DRIVE. SEE WIRING SCHEMATIC ON SHT. 16

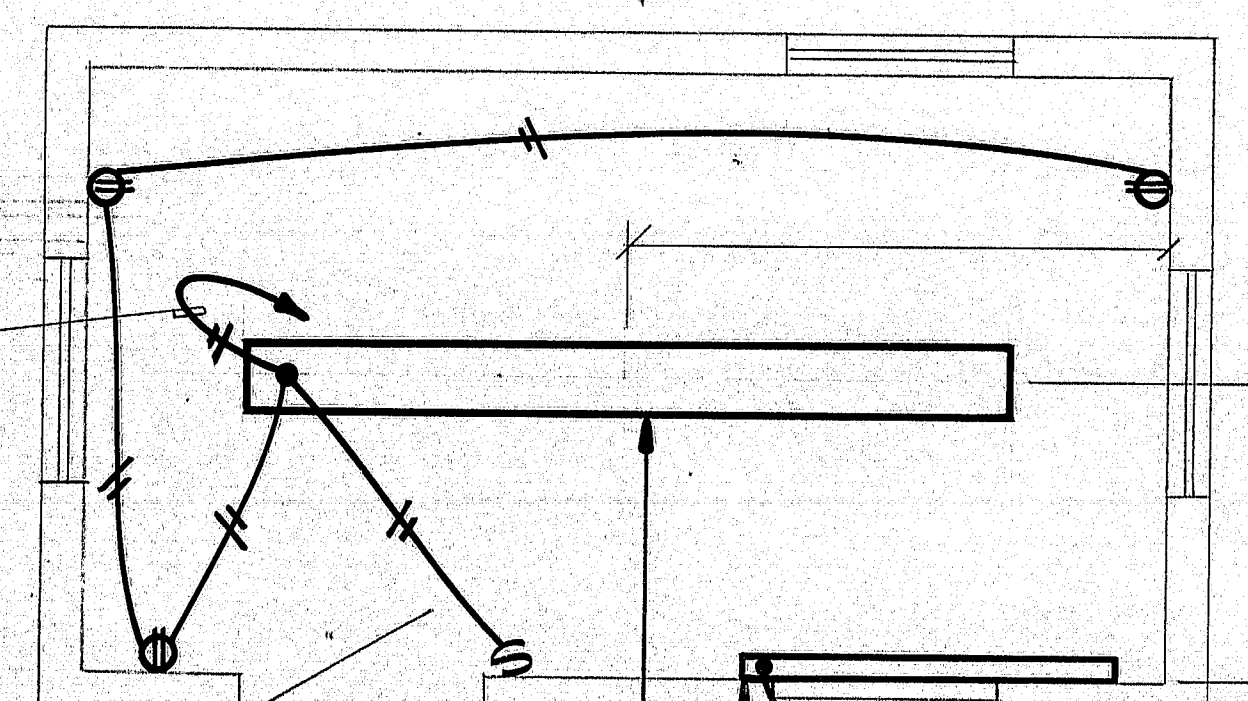


32 KVA FLOOR MOUNTED DRY TYPE XFMR. 208 / 460 VOLT

42 CIRCUIT PANEL, 3Φ, 4W, 200 A. MAIN MOUNT 5'-0" FROM FIN. FLR. TO TOP OF PANEL SEE SCHEDULE AT RIGHT.

CONTROL HOUSE EQUIPMENT LAYOUT  
N.T.S.

CONTROL CONSOLE SEE SHT. 17 FOR LAYOUT, WIRING DIA. & RELAY LOCATIONS  
TO CIRCUIT 5 IN POWER PANEL



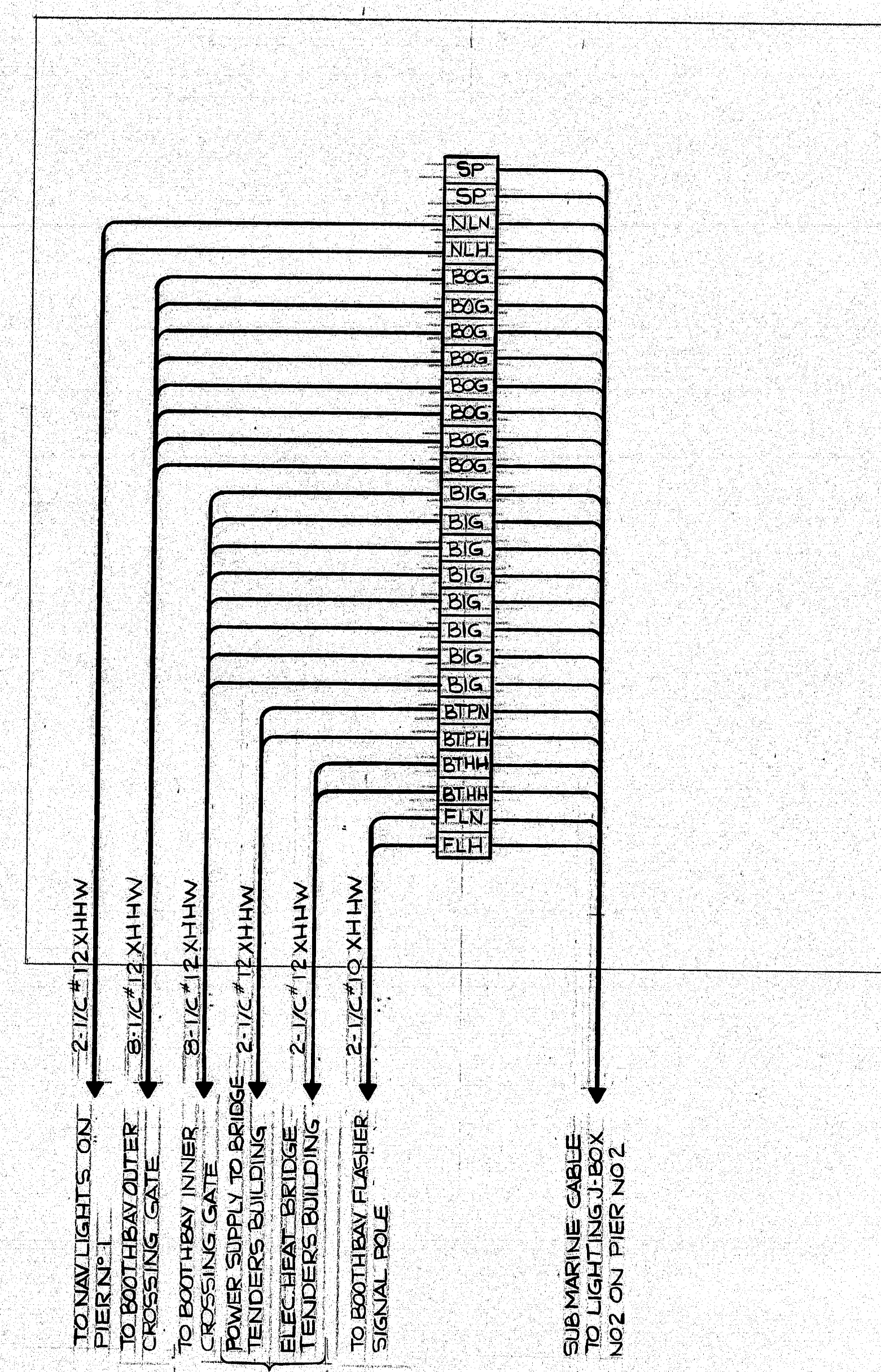
15' FLUORESCENT, SURFACE MOUNTED LIGHT FIXTURE W/ PRISMATIC ACRYLIC LENS.  
1000 W STANDARD DENSITY ELECTRIC HEATER, 208V W/BASE BOARD THERMOSTAT.

CONTROL HOUSE LIGHTING & HEATING PLAN  
N.T.S.

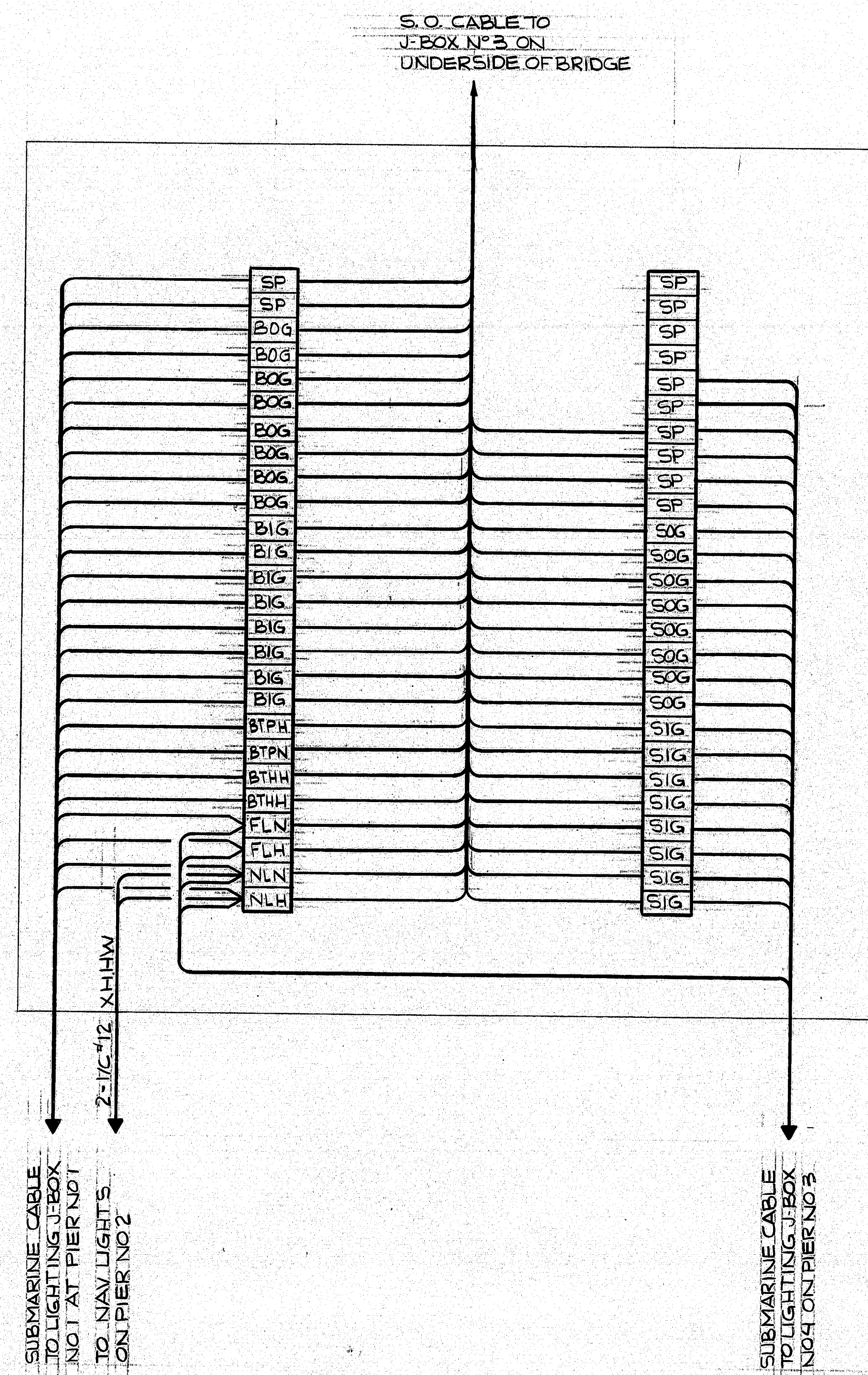
POWER PANEL												
MAIN SUPPLY: 120/208, 3Φ, 4WIRE MAINS: 200A BUS, 42 CKT. BRANCH BREAKERS: AS NOTED												
DESCRIPTION	LOAD			N	LOAD			DESCRIPTION				
	A	B	C		A	B	C					
6 - 10W EA. 208V BRIDGE ROADWAY LIGHTING.	310			1	2	15	1800	15-100W EA. 120V NAV. LIGHTS				
CONTROL HOUSE LIGHTS & RECP		310		2	4	15	200	24-100W EA. 120V BELOW BRIDGE LITS				
CONTROL POWER			720	5	16			500: CONTROL HOUSE 1000 WATT 208V ELEC HEATER				
BRIDGE TENDERS BLDG POWER			20	9			500	BRIDGE TENDERS BLDG 1250W 208V ELEC HEATER				
SOUTHPORT OUTER GATE			20	11		15	625	BOOTHBAY OUTER GATE				
SOUTHPORT INNER GATE			20	13		14	20	615: BOOTHBAY INNER GATE				
FLASHER RELAY			15	15		16	20					
				17		18						
				19		20						
				21		22						
				23		24						
				25		26						
				27		28						
				29		30						
30 KVA TRANSFORMER AND PHASE REVERSAL RELAY	1000			31	32	15	435	BOOTHBAY WEDGE DRIVE MOTOR				
	1000						435					
		1000					435					
CENTER WEDGE DRIVE MOTOR	435			37	38	15	435	SOUTHPORT WEDGE DRIVE MOTOR				
	435						435					
PHASE LOAD							435					
KW												
TOTAL LOAD:												
TOTAL AMP:												



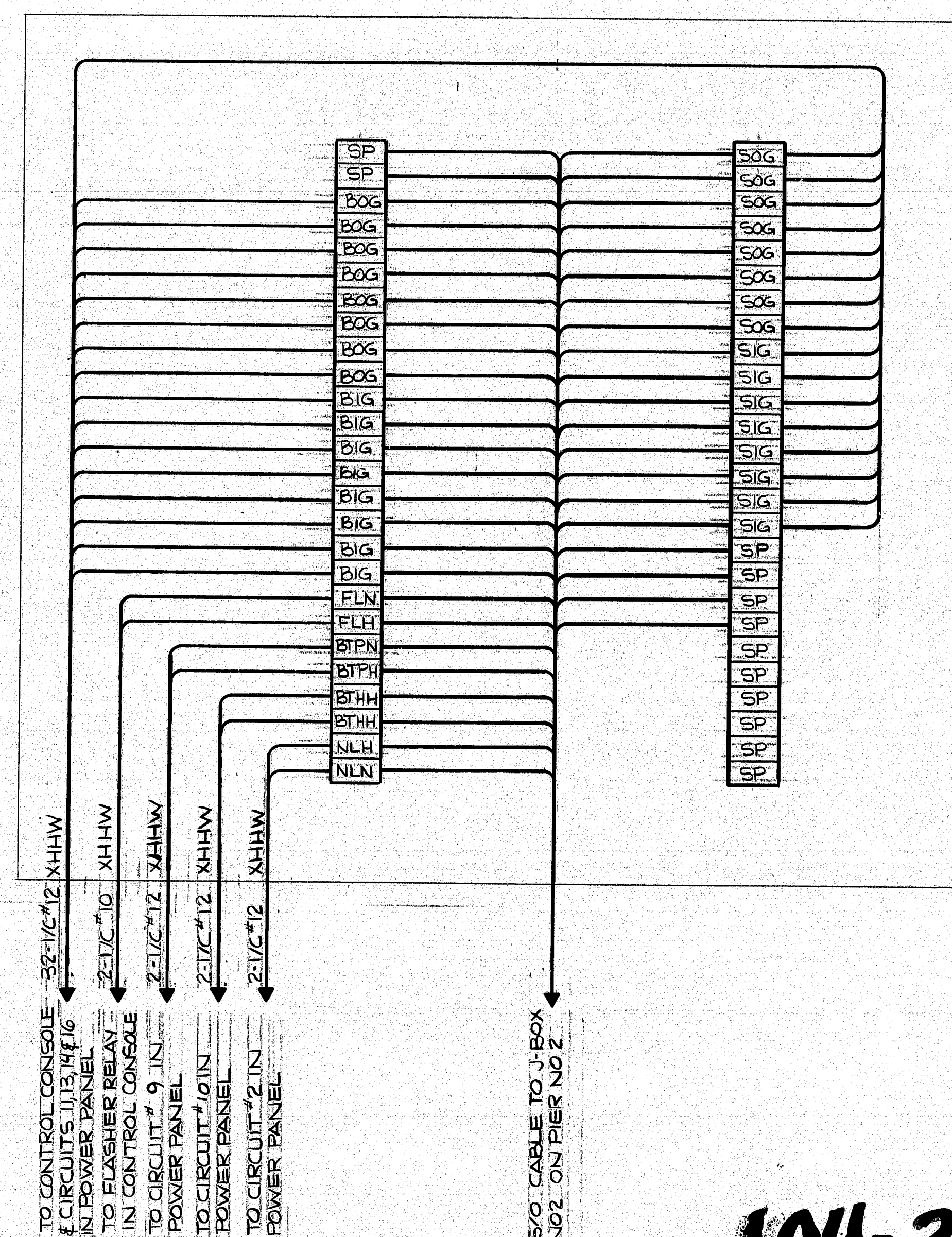
P.R.W.A. REV. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	BH-0006(47)	15	32



LIGHTING JUNCTION BOX NO 1  
@ PIER NO 1



LIGHTING JUNCTION BOX NO 2  
@ PIER NO 2



LIGHTING JUNCTION BOX NO 3  
@ CENTER OF BRIDGE

- NOTES
- SEE SHEET 14 FOR LEGEND & NOTES
  - ALL CONDUITS TO BE SCH 80 PVC HEAVY WALL
  - ALL CONDUITS TO BE 3/4" DIAMETER UNLESS OTHERWISE NOTED

104-368



NEILL and GUNTER  
Consulting and Design Engineers  
P. O. Box 1959  
PORTLAND, ME 04104

STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION

SOUTHPORT BRIDGE  
OVER TOWNSEND GUT  
BETWEEN THE TOWNS OF  
SOUTHPORT & BOOTHBAY HARBOR  
LINCOLN COUNTY  
LIGHTING & POWER JUNCTION BOXES  
123 INTERCONNECTION DIAGRAMS

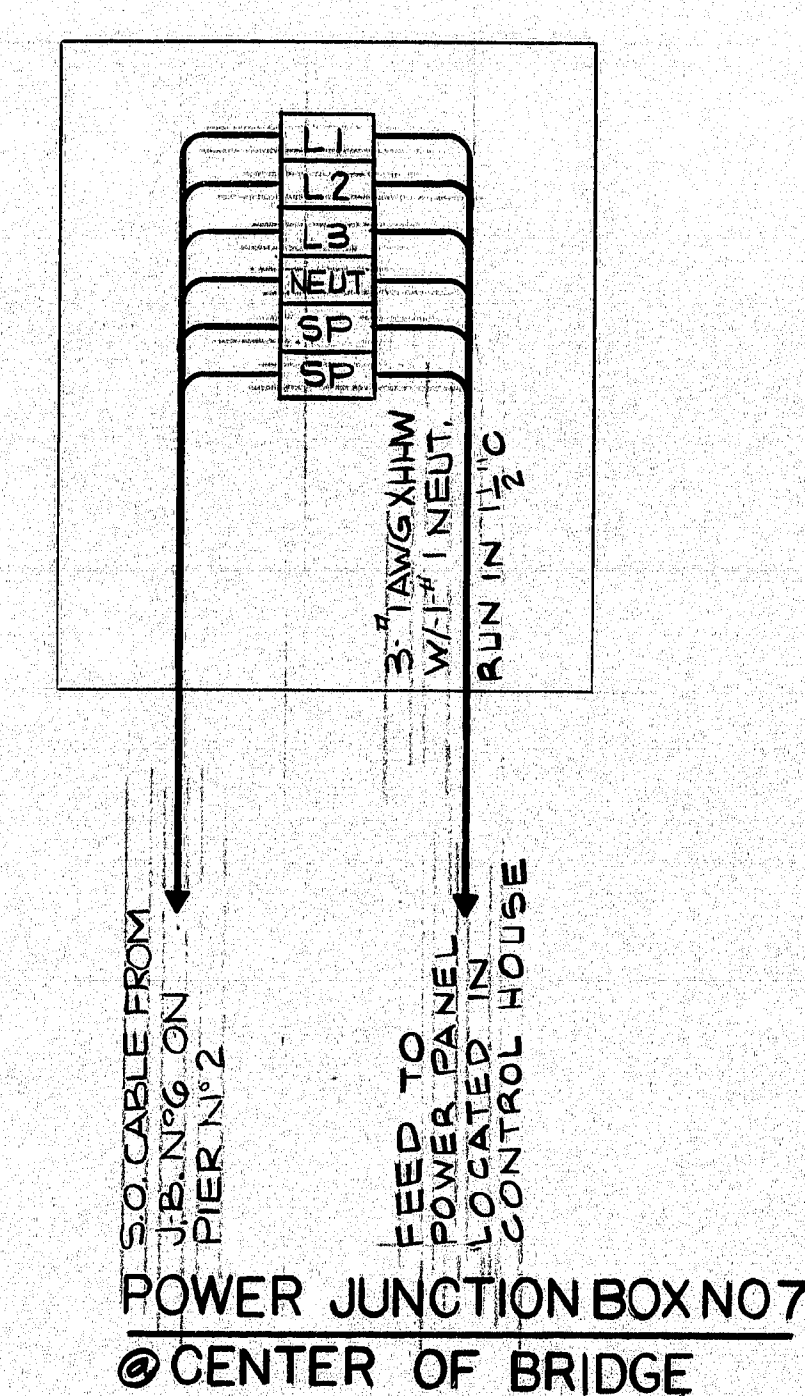
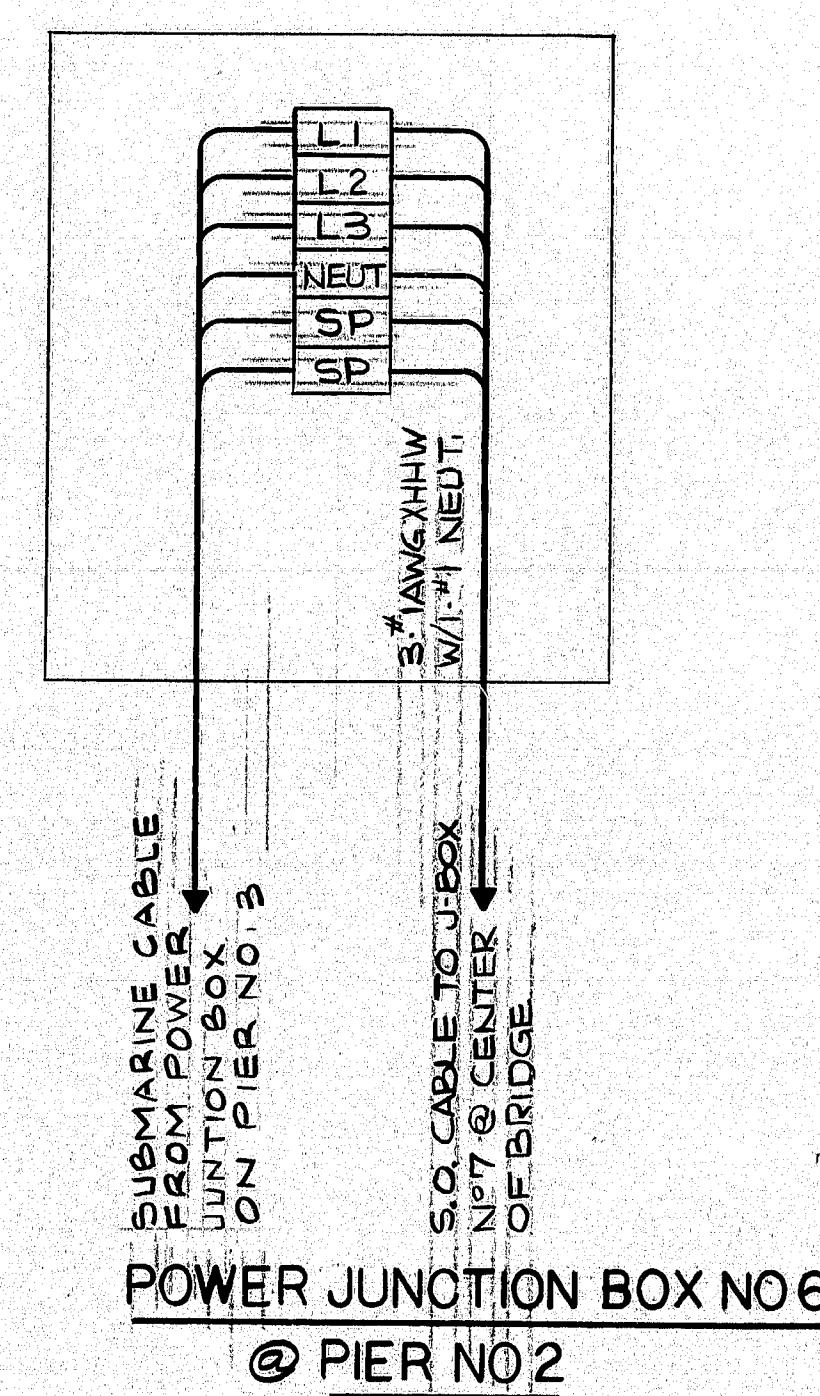
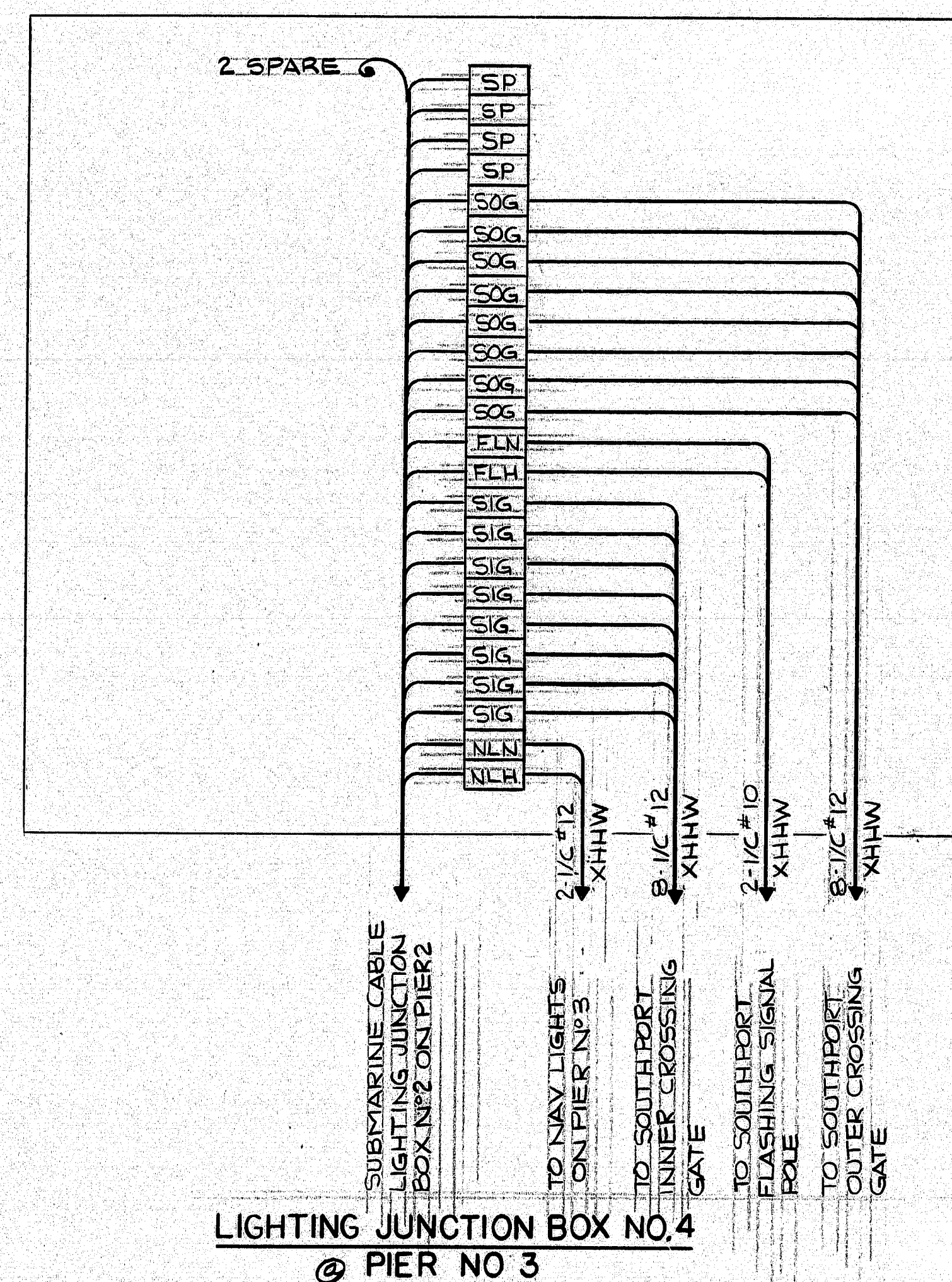
SHEET 13 OF 24 AUGUSTA, MAINE

NGI JOB NO 20931 NGI DWG NO C 506

PROJECT DESIGN ENGINEER	BY	DATE
DESIGN - DETAILED	ETA	1-24-95
CHECKED	ETA	1-25-95
FIELD CHANGES		
PLANS		



F.R.W.A. REQ. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	24-0006 (49)	16	32



# LEGEND

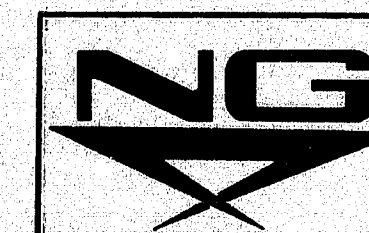
BTPN	BRIDGE TENDERS BUILDING, POWER SUPPLY-NEUTRAL
BTPH	BRIDGE TENDERS BUILDING, POWER SUPPLY-HOT
BTHH	BRIDGE TENDERS BUILDING, ELEC. HEAT-HOT
SOG	SOUTH PORT OUTER CROSSING GATE
SIG	SOUTHPORT INNER CROSSING GATE
BOG	BOOTHBAY OUTER CROSSING GATE
BIG	BOOTHBAY INNER CROSSING GATE
NLN	NAVIGATION LIGHTS-NEUTRAL
NLH	NAVIGATION LIGHTS-HOT
FLN	FLASHING SIGNAL POLE-NEUTRAL
FLH	FLASHING SIGNAL POLE-HOT
SP	SPARE

# NOTES

1. ALL TERMINAL BLOCKS TO BE 600V WITH MOUNTING STRIP & END ANCHORS. SEE EACH DIAGRAM FOR QUANTITIES.
2. ALL CONDUIT TO BE SCH. 80 PVC HEAVY WALL.
3. ALL CONDUITS TO BE 3/4" DIAMETER UNLESS OTHERWISE NOTED.

PROJECT DESIGN ENGINEER	DATE
DESIGN - DETAILED	11/24/95
CHECKED	11/25/95
FIELD CHANGES	
PLANS	

104-369



NEILL and GUNTER  
Consulting and Design Engineers  
P. O. Box 1959  
PORTLAND, ME 04104

STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION

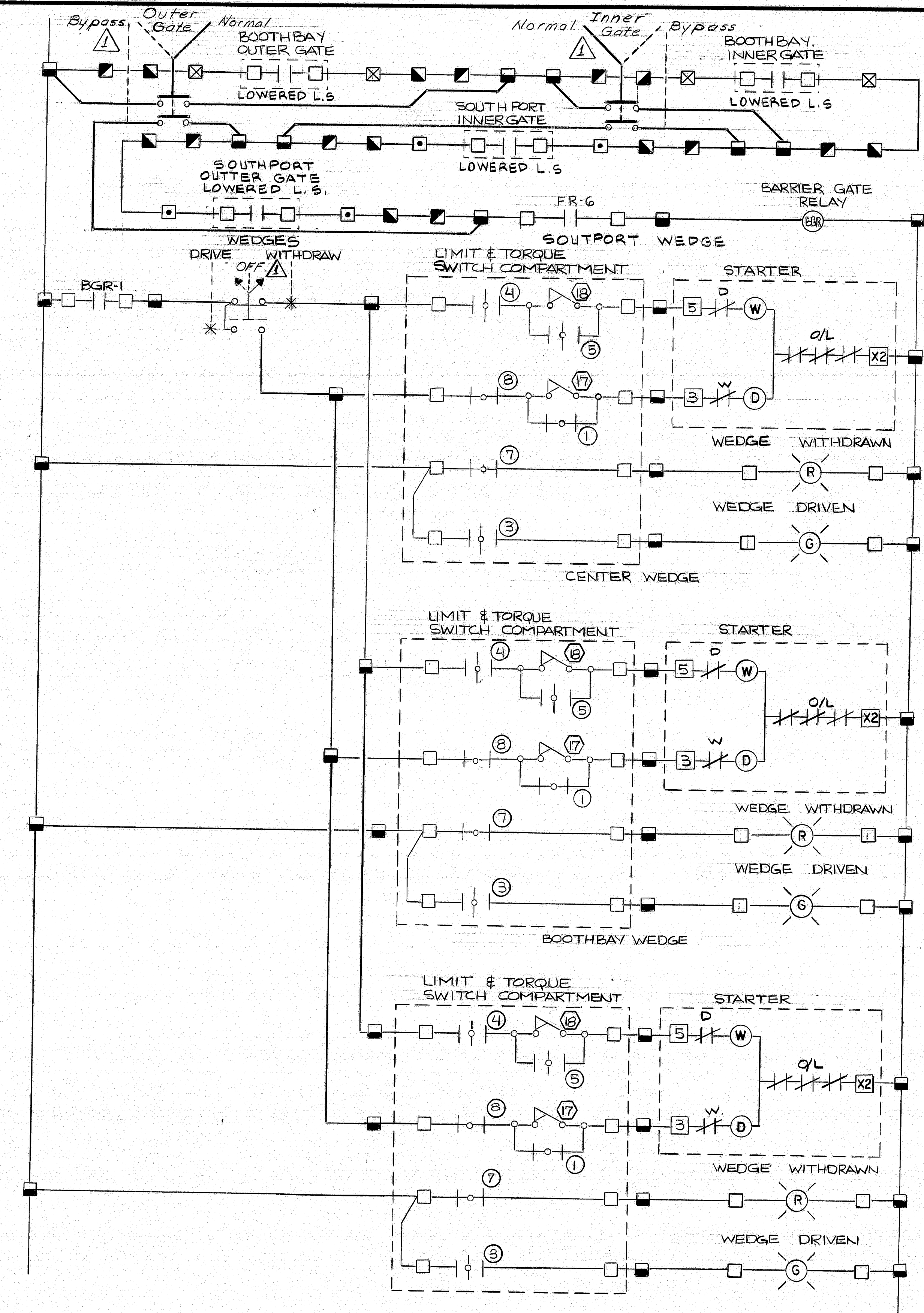
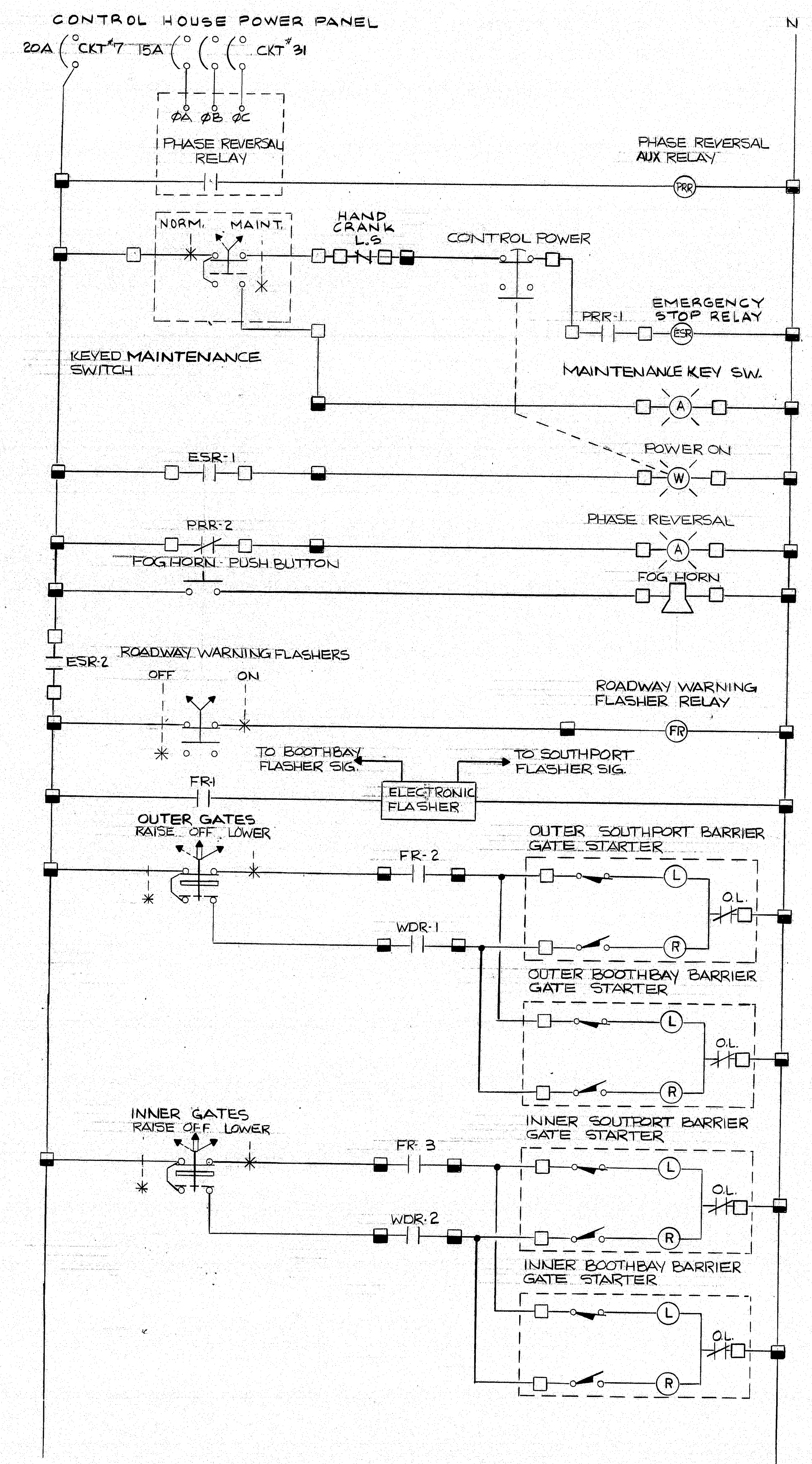
SOUTHPORT BRIDGE  
OVER TOWNSEND GUT.  
BETWEEN THE TOWNS OF  
SOUTHPORT, BOOTHBAY HARBOR  
LINCOLN COUNTY  
LIGHTING & POWER JUNCTION BOXES.  
4, 6, 7 INTERCONNECTION DIAGRAMS

SHEET 14 OF 24 AUGUSTA, MAINE

NGI JOB NO 20931 NGI DWG NO C-507



PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
BH-0003(49)	17	32



NOTE  
SEE SHEET 16 FOR  
LEGEND

SHOWN IN FULL OPEN POSITION

CON. NO.	POSITION	FUNCTION
1	FULL OPEN	BYPASS CIRCUIT
2	FULL OPEN	WITHDRAWN LIMIT
3	FULL OPEN	INDICATING LIGHTS
4	FULL OPEN	OPEN LIMIT
5	FULL OPEN	BYPASS CIRCUIT
6	FULL OPEN	DRIVEN LIMIT
7	FULL OPEN	INDICATING LIGHTS
8	FULL OPEN	CLOSE LIMIT

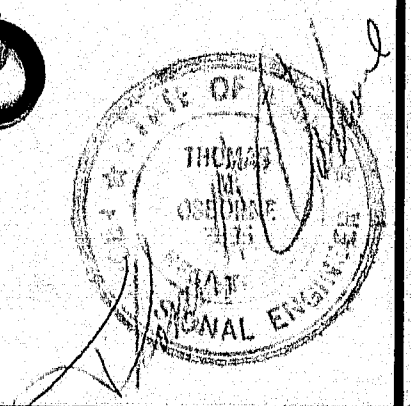
- NOTES
- 1 - CLOSED CONTACT
  - 2 - OPEN CONTACT
  - (17) CLOSING TORQUE SWITCH INTERRUPTS CONTROL CIRCUIT IF MECHANICAL OVERLOAD OCCURS DURING CLOSING CYCLE.
  - (18) OPENING TORQUE SWITCH INTERRUPTS CONTROL CIRCUIT IF MECHANICAL OVERLOAD OCCURS DURING OPENING CYCLE.

TYPICAL WEDGE LIMIT SWITCH  
TIMING DIAGRAM

FOR CONTINUATION SEE SHEET 16

REVISION 6/1/87

104-370



**NEIL and GUNTER**  
Consulting and Design Engineers  
P.O. Box 1959  
Lincoln, ME 04104

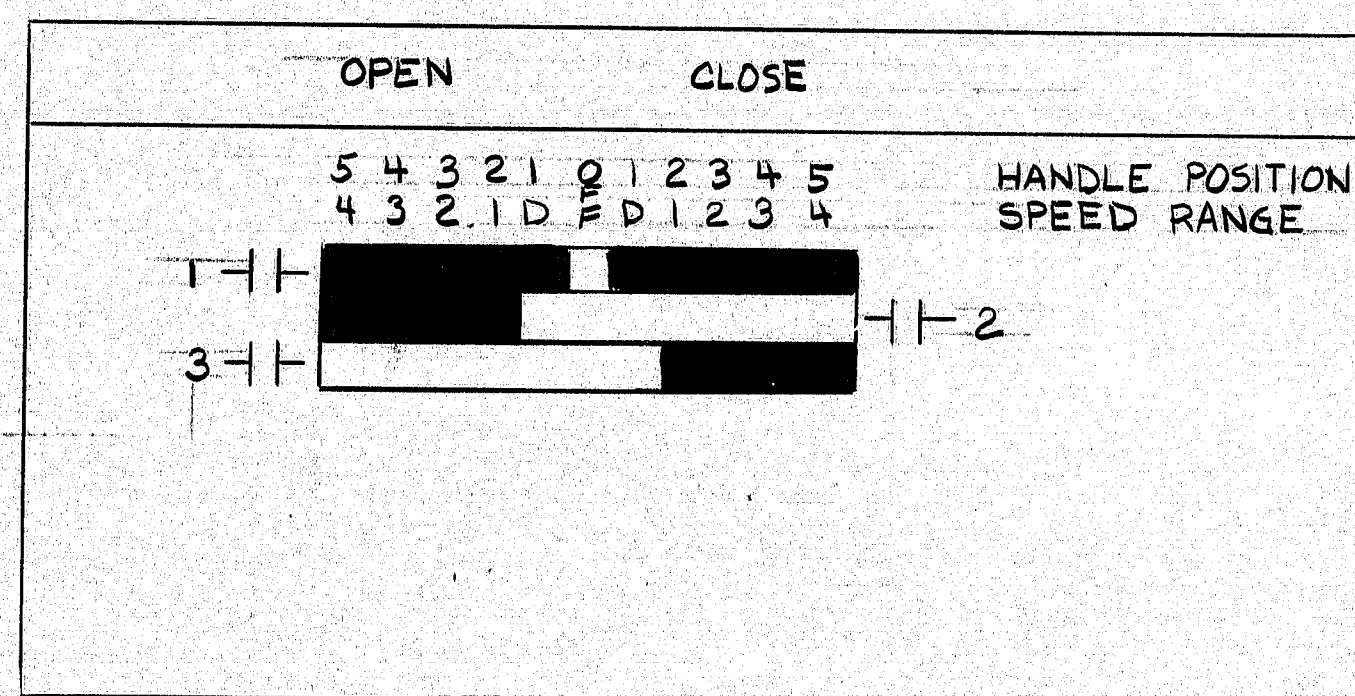
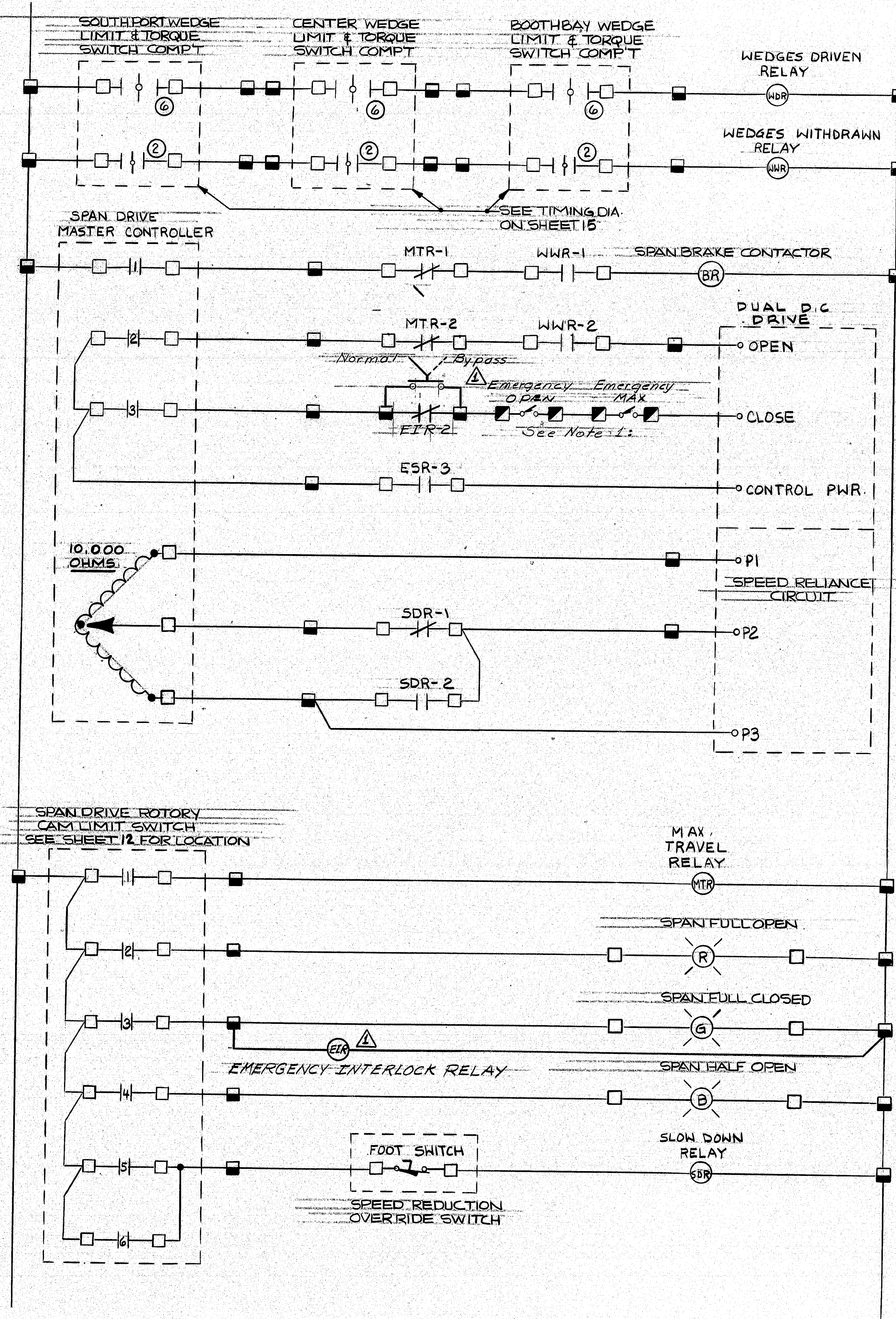
STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION

SOUTHPORT BRIDGE  
OVER TOWNSEND GUT  
BETWEEN THE TOWNS OF  
SOUTHPORT & BOOTHBAY HARBOR  
LINCOLN COUNTY  
WIRING SCHEMATIC

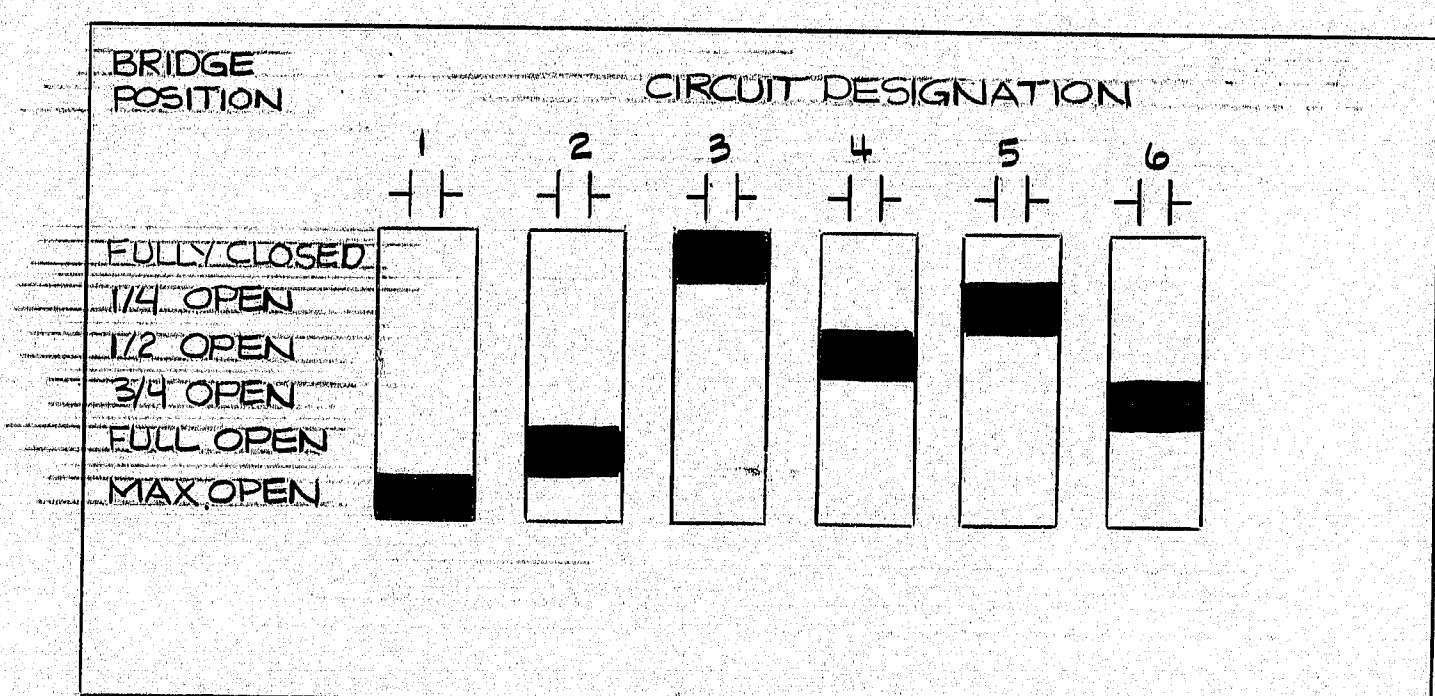
SHEET 15 OF 24 AUGUSTA, MAINE



F.R.A. REV. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	BH-0009 (49)	18	32



SPAN DRIVE MASTER CONTROLLER  
TIMING DIAGRAM



SPAN DRIVE CAM SWITCH  
TIMING DIAGRAM

LEGEND

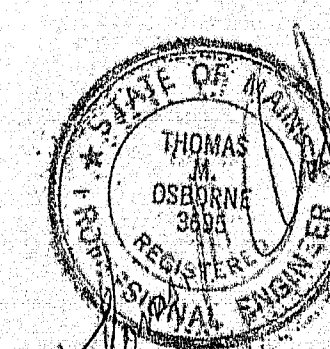
- ☐ CONSOLE TERMINATION
- ☐ DEVICE TERMINATION
- ☒ JB-1 TERMINATION
- ☒ JB-2 TERMINATION
- ☒ JB-3 TERMINATION
- ☐ JB-4 TERMINATION

NOTES:

1. Emergency Limits Switches to be installed on bridge above pier 2. Mech trips for each limit switch to be mounted on pier 2.
- Emergency Open Switch to be located so as to open when bridge is 1/2 open and Max limit switch at 1/2 Max limit to be mounted so if switch fails bridge will mechanically break the switch to force it open.

PROJECT DESIGN ENGINEER	BY	DATE
DESIGN-DETAILED	FTF	4-24-82
CHECKED	FTF	4-25-82
REVISIONS		
FIELD CHANGES		

REVISION  $\Delta$  6/1/87



104-371

STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION  
SOUTHPORT BRIDGE  
OVER TOWNSEND GUT  
BETWEEN THE TOWNS OF  
SOUTHPORT BOOTHBAY HARBOR  
LINCOLN COUNTY  
WIRING SCHEMATIC  
CONT.

SHEET 16 OF 24 AUGUSTA, MAINE

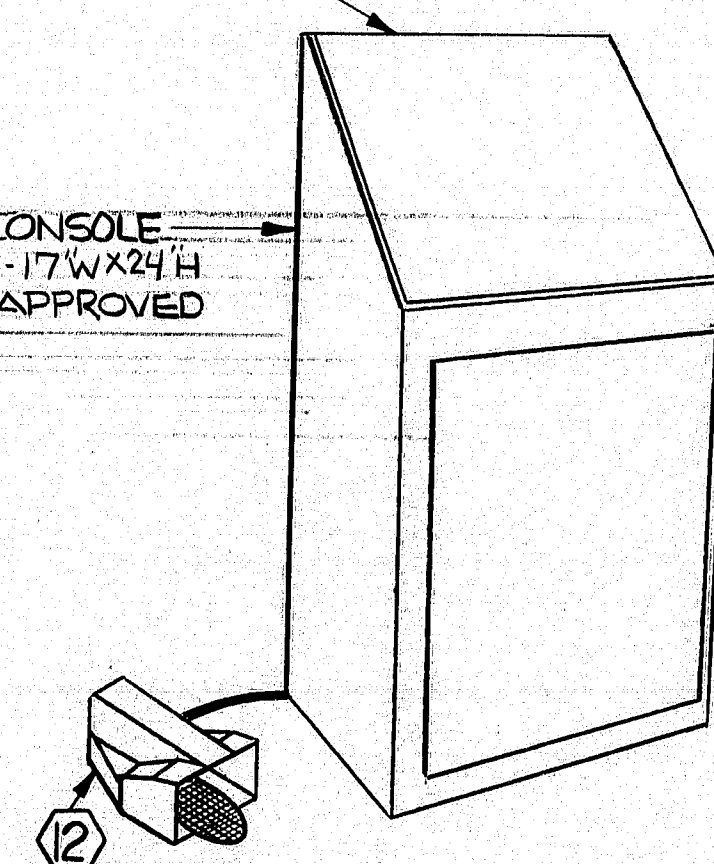
NGI JOB NO. 20931 NGI DWG. NO. C-509



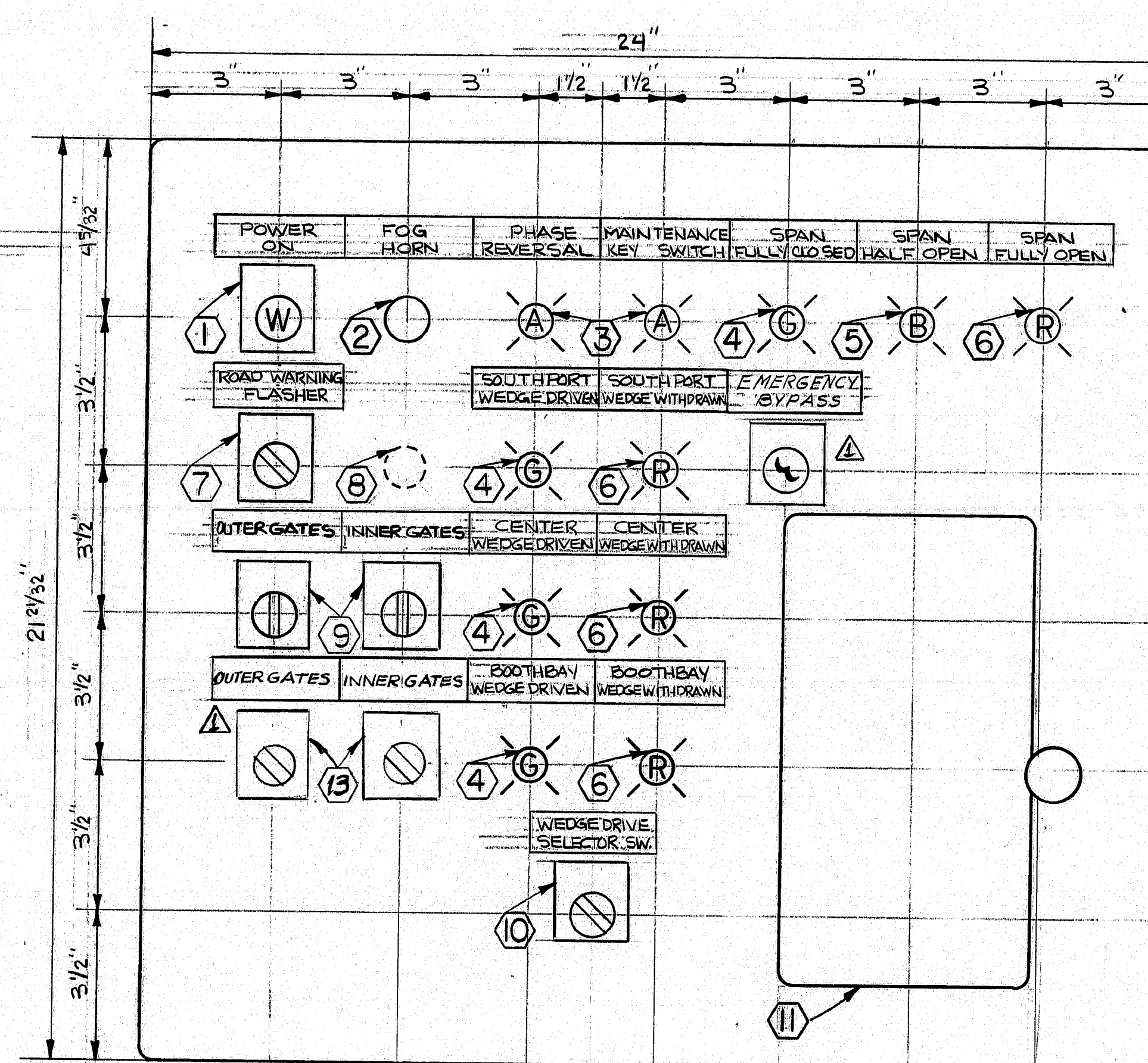
F.R.W.A.	STATE	PROJECT NUMBER	SHEET	TOTAL
1	MAINE	BH-0005 (47)	19	32

CONTROL PANEL, SEE LAYOUT AT RIGHT

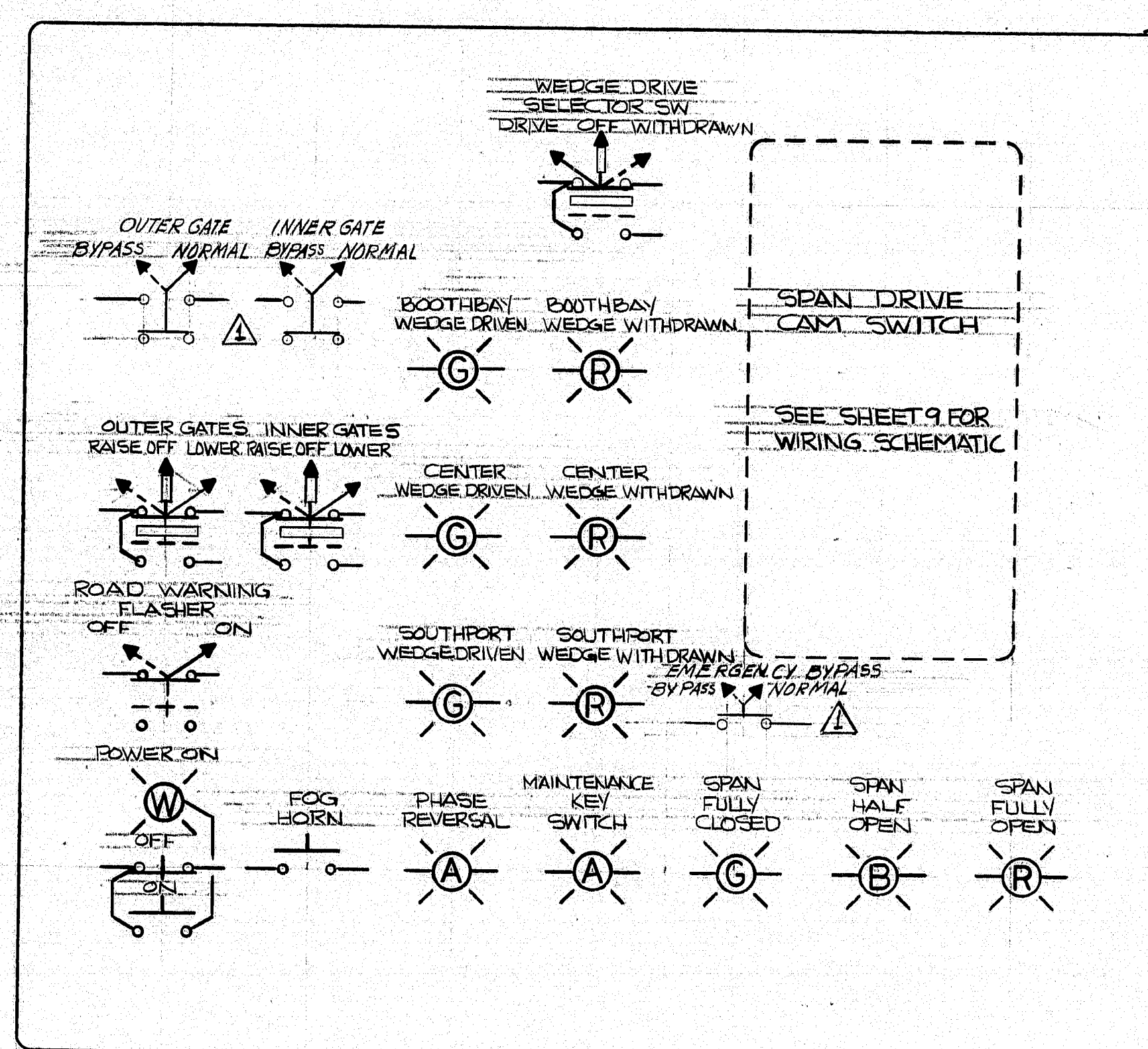
24" W X 48" H HOFFMAN OILTIGHT CONSOLE  
CABINET CAT NO. C924B WITH 2-17" W X 24" H  
SUBPANELS CAT NO. A-30P20 OR APPROVED  
EQUEL.



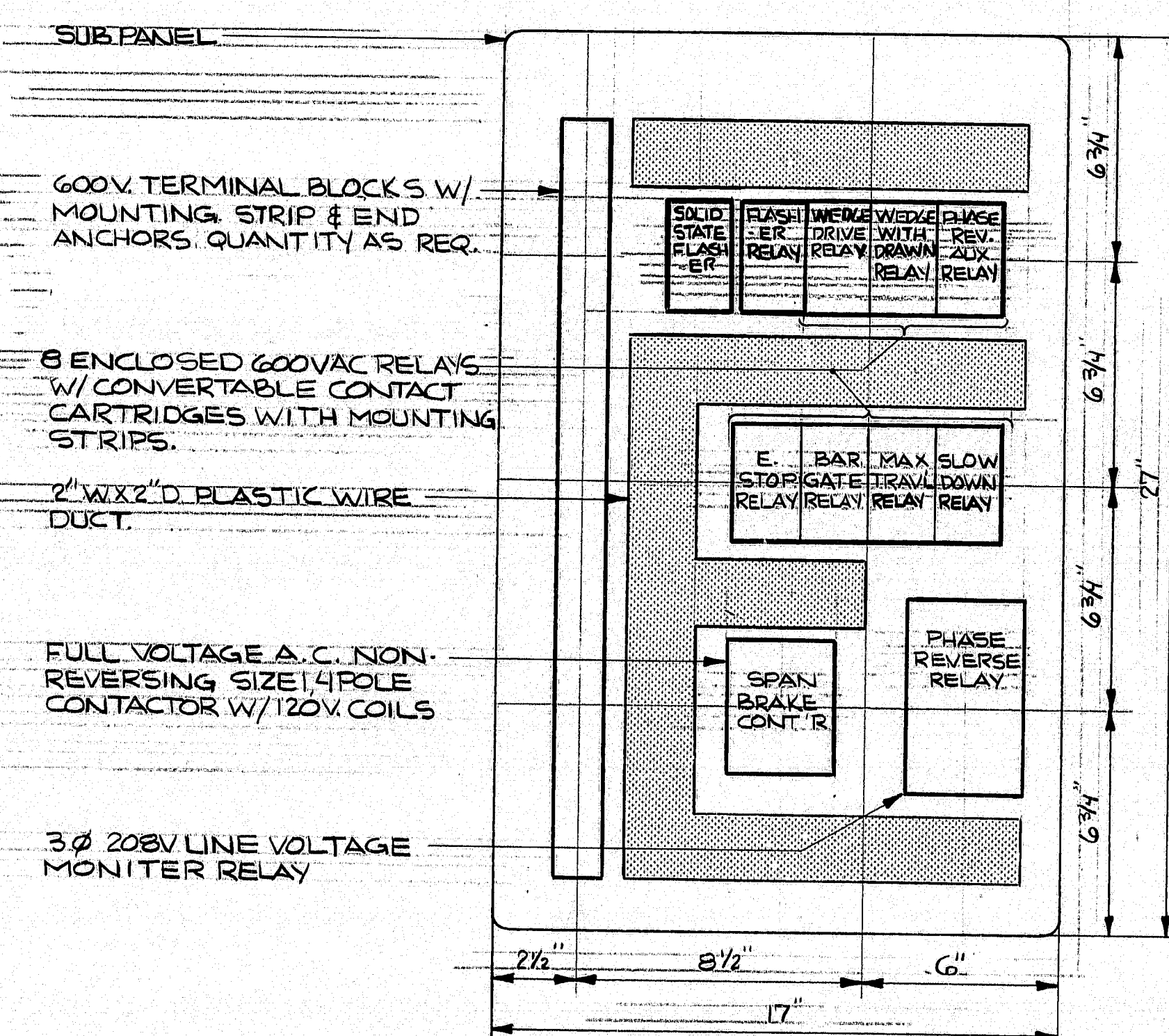
CONTROL CONSOLE  
N.T.S.



CONTROL PANEL LAYOUT  
N.T.S.

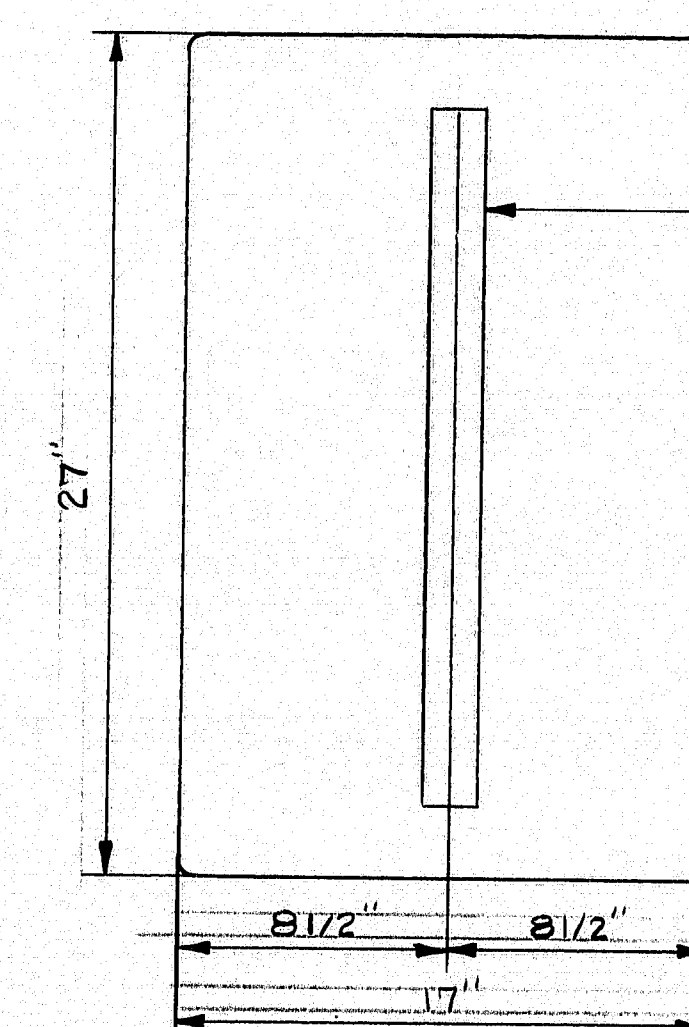


REAR VIEW WIRING DIAGRAM  
N.T.S.



REAR SUBPANEL  
N.T.S.

PARTS LIST		
PART	FURNISHED	DESCRIPTION
DESIGNATION	BY	
①		ILLUMINATED 3 POSITION 120V TRANSFORMER TYPE PUSH-PULL UNITS W/ WHITE CAP-MAINTAINED POSITION W/ PULL FOR POWER AND PUSH TO KILL POWER NAMEPLATE.
②		MOMENTARY CONTACT, PUSH BUTTON WITH BLACK FLUSH HEAD.
③		PILOT LIGHT TRANSFORMER TYPE 120V WITH AMBER CAP.
④		PILOT LIGHT TRANSFORMER TYPE 120V WITH GREEN CAP.
⑤		PILOT LIGHT TRANSFORMER TYPE 120V WITH BLUE CAP.
⑥		PILOT LIGHT TRANSFORMER TYPE 120V WITH RED CAP.
⑦		2 POSITION SELECTOR SWITCH, STANDARD LEVER MAINTAINED POSITION WITH ON/OFF NAMEPLATE.
⑧		SPARE PLUG HOLE
⑨		3 POSITION SELECTOR SWITCH, STANDARD LEVER MAINTAINED POSITION WITH RAISE/OFF/LOWER NAMEPLATE.
⑩		3 POSITION SELECTOR SWITCH, STANDARD LEVER MAINTAINED POSITION WITH DRIVE/OFF/WITHDRAW NAMEPLATE.
⑪		6 CIRCUIT STEPLESS MASTER SWITCH WITH BALL & ROD HANDLE.
⑫		HEAVY DUTY FOOT SWITCH WITH PEDAL GAUARD.
⑬		2 POSITION SELECTOR SWITCH, STANDARD LEVER WITH SPRING LOADED PLASTIC COVER, MAINTAIN POSITION WITH NORMAL-BYPASS NAME PLATE.



LEFT SIDE SUBPANEL  
N.T.S.

104-372



NEILL and GUNTER  
Consulting and Design Engineers  
P. O. Box 1959  
PORTLAND, ME 04104

STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION

SOUTHPORT BRIDGE  
OVER TOWNSEND GUT  
BETWEEN THE TOWNS OF  
SOUTHPORT & BOOTHBAY HARBOR  
LINCOLN COUNTY  
CONTROL CONSOLE  
LAYOUT & DETAILS

SHEET 17 OF 24 AUGUSTA, MAINE

NGI JOB NO20931 NGI DWG NO C510

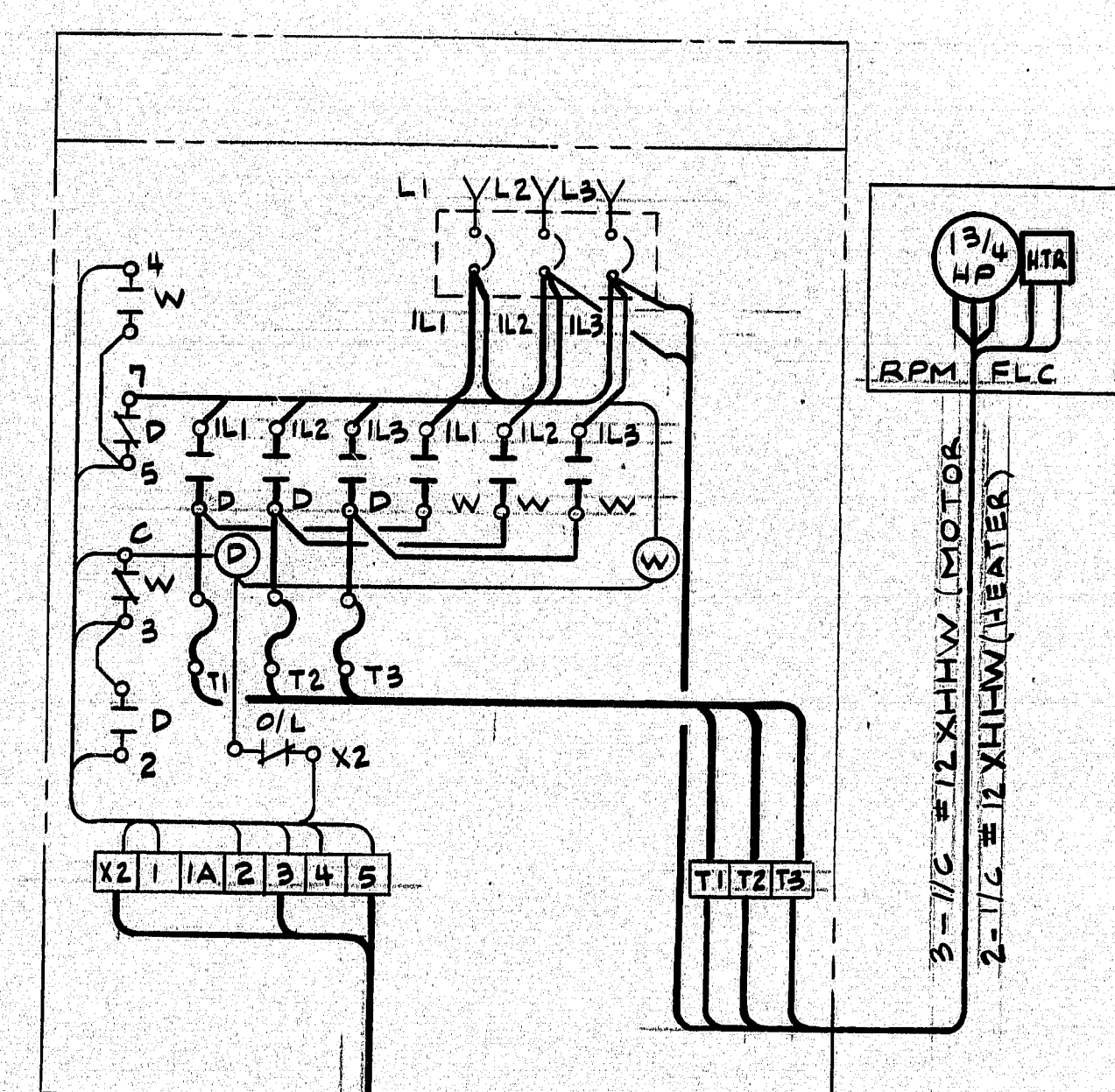
REVISION 6/1/87

PROJECT DESIGN ENGINEER	DATE
CHECKED	4-14-85
REVISIONS	4-25-85
FIELD CORRECTIONS	
PLANS	

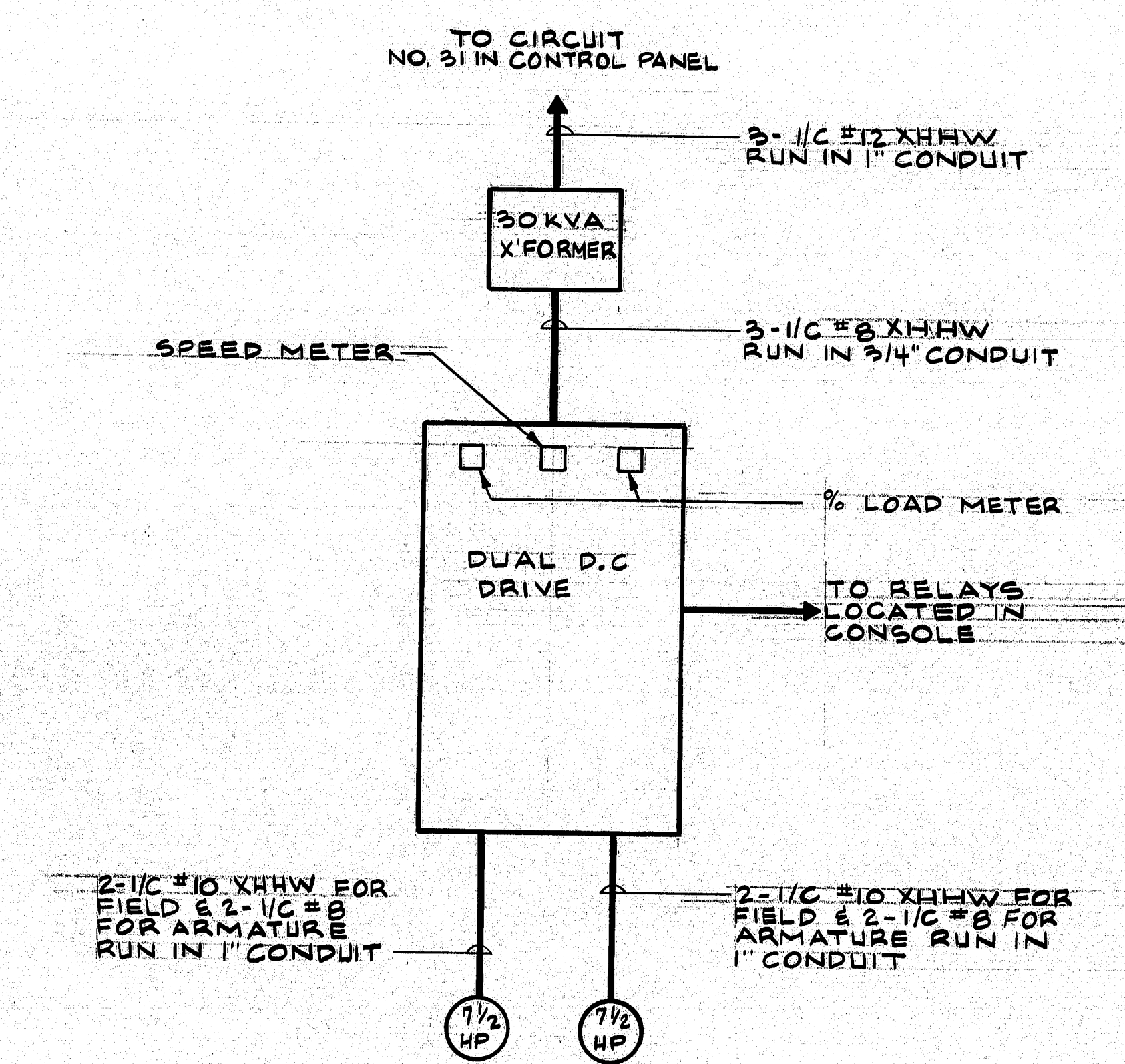
BURNING 44-132-45701



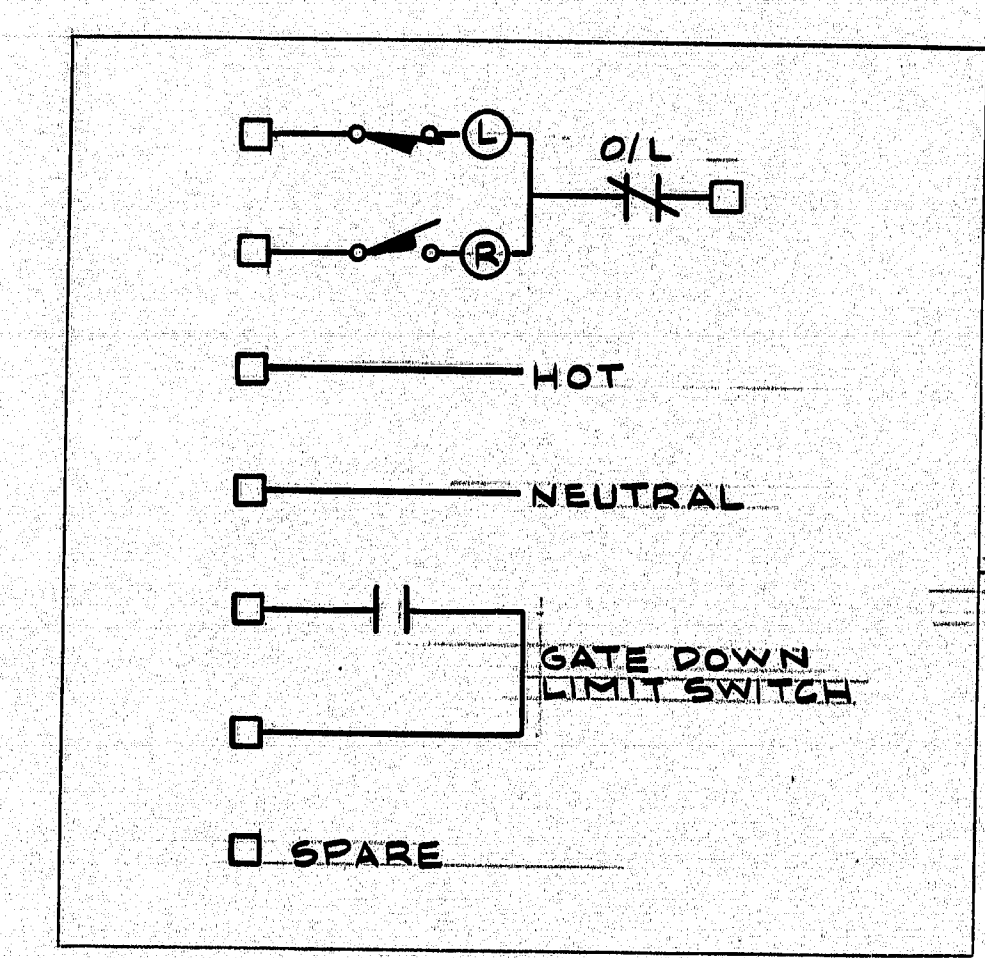
FR. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	BH-0005 (49)	20	32



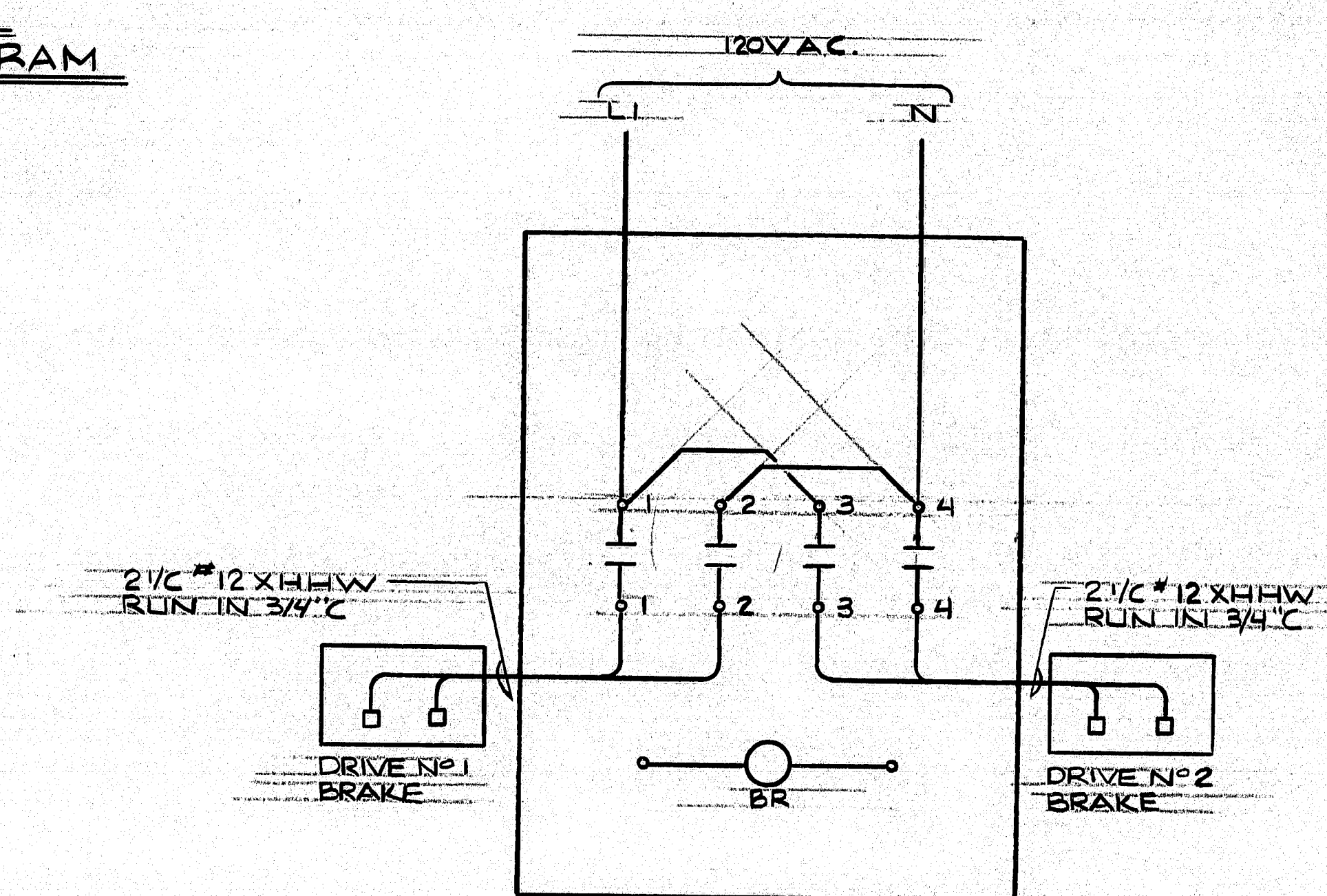
**TYPICAL WEDGE DRIVE MOTOR WIRING DIAGRAM**  
N.T.S.



**D.C. DRIVE ONE - LINE DIAGRAM**  
N.T.S.



**TYPICAL CROSSING GATE INTERCONNECTION DIAGRAM**  
N.T.S.



**BRAKE CONTACTOR WIRING DIAGRAM**  
N.T.S.

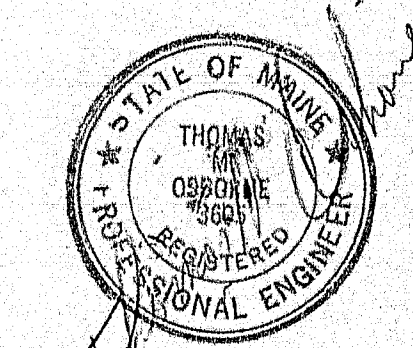
PROJECT DESIGN ENGINEER	DATE
DESIGN - DETAIL	4-24-55
CHECKED	4-25-55
REVISIONS	
FIELD CHANGES	

**104-373**

**NEILL and GUNTER**  
Consulting and Design Engineers  
P.O. Box 1959  
PORTLAND, ME 04104

STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION

SOUTHPORT BRIDGE  
OVER TOWNSEND GUT  
BETWEEN THE TOWNS OF  
SOUTHPORT & BOOTHBAY HARBOR  
LINCOLN COUNTY  
MISC ELECTRICAL DETAILS

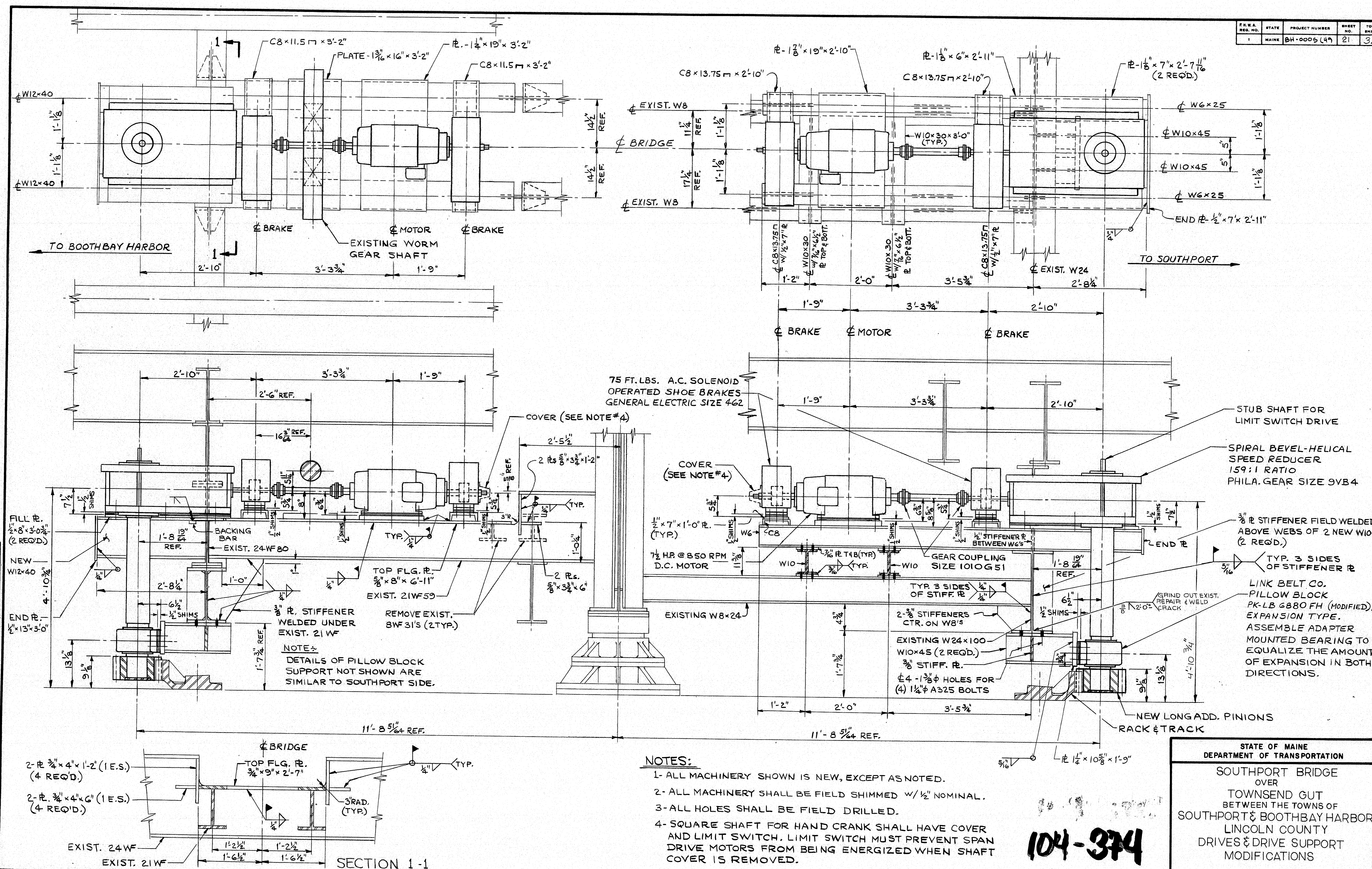


SHEET 18 OF 24 AUGUSTA, MAINE

NGI JOB NO. 20931 NGI DWG NO. C-511



F.R.E.A. REQ. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	SH-0005 (47)	21	32



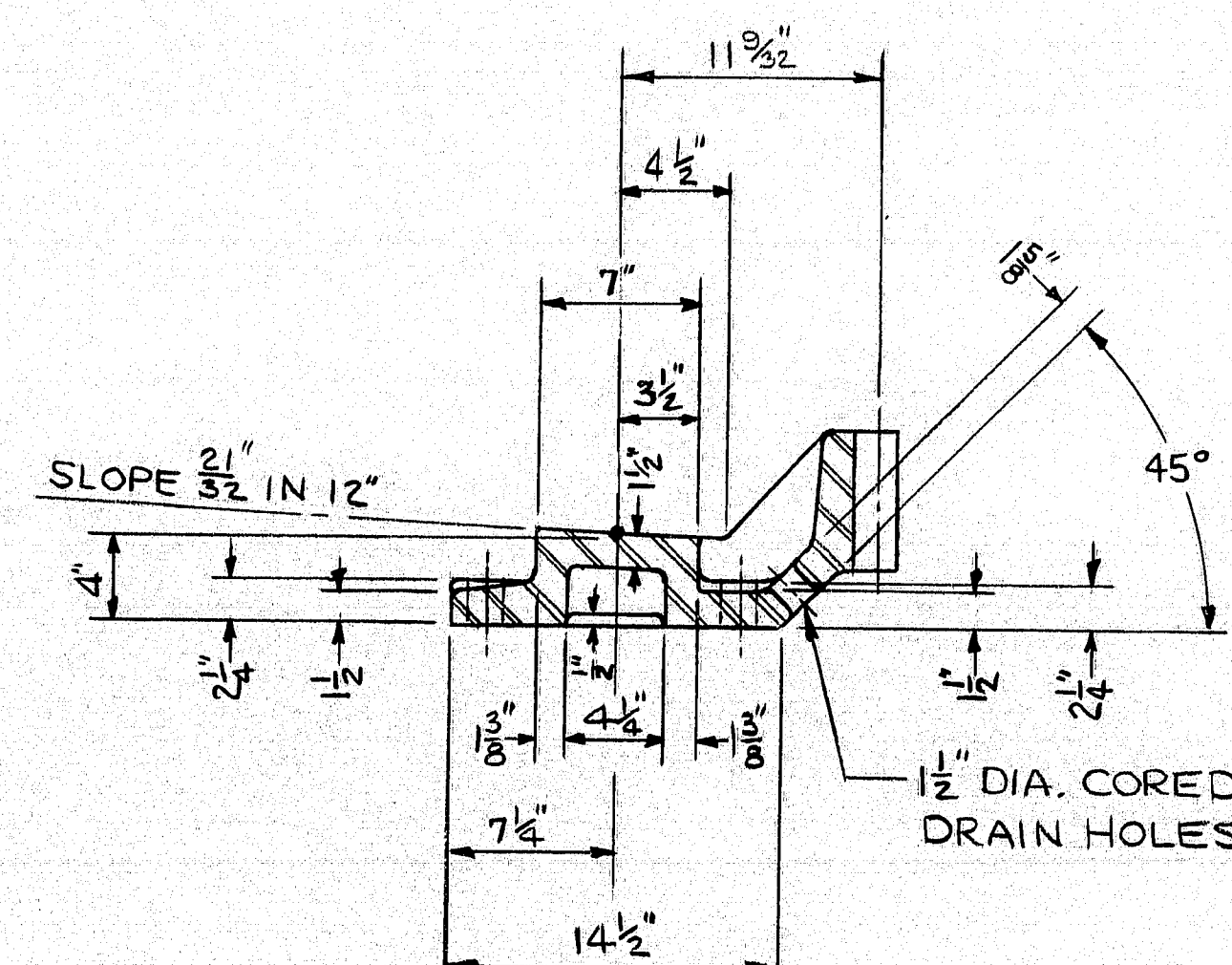
STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION

SOUTHPORT BRIDGE  
OVER  
TOWNSEND GUT  
BETWEEN THE TOWNS OF  
SOUTHPORT & BOOTHBAY HARBOR  
LINCOLN COUNTY  
DRIVES & DRIVE SUPPORT  
MODIFICATIONS

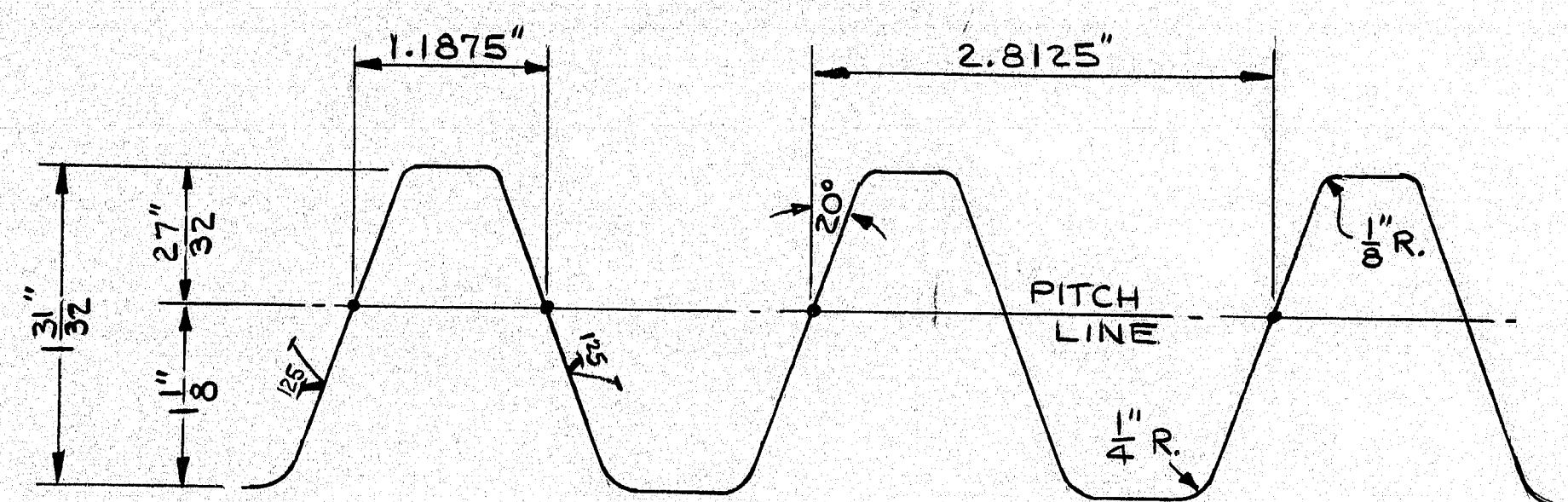
SHEET 19 OF 24 AUGUSTA, MAINE  
NGI JOB NO. 20931



F.R.E.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	BH-0006(49)	22	32



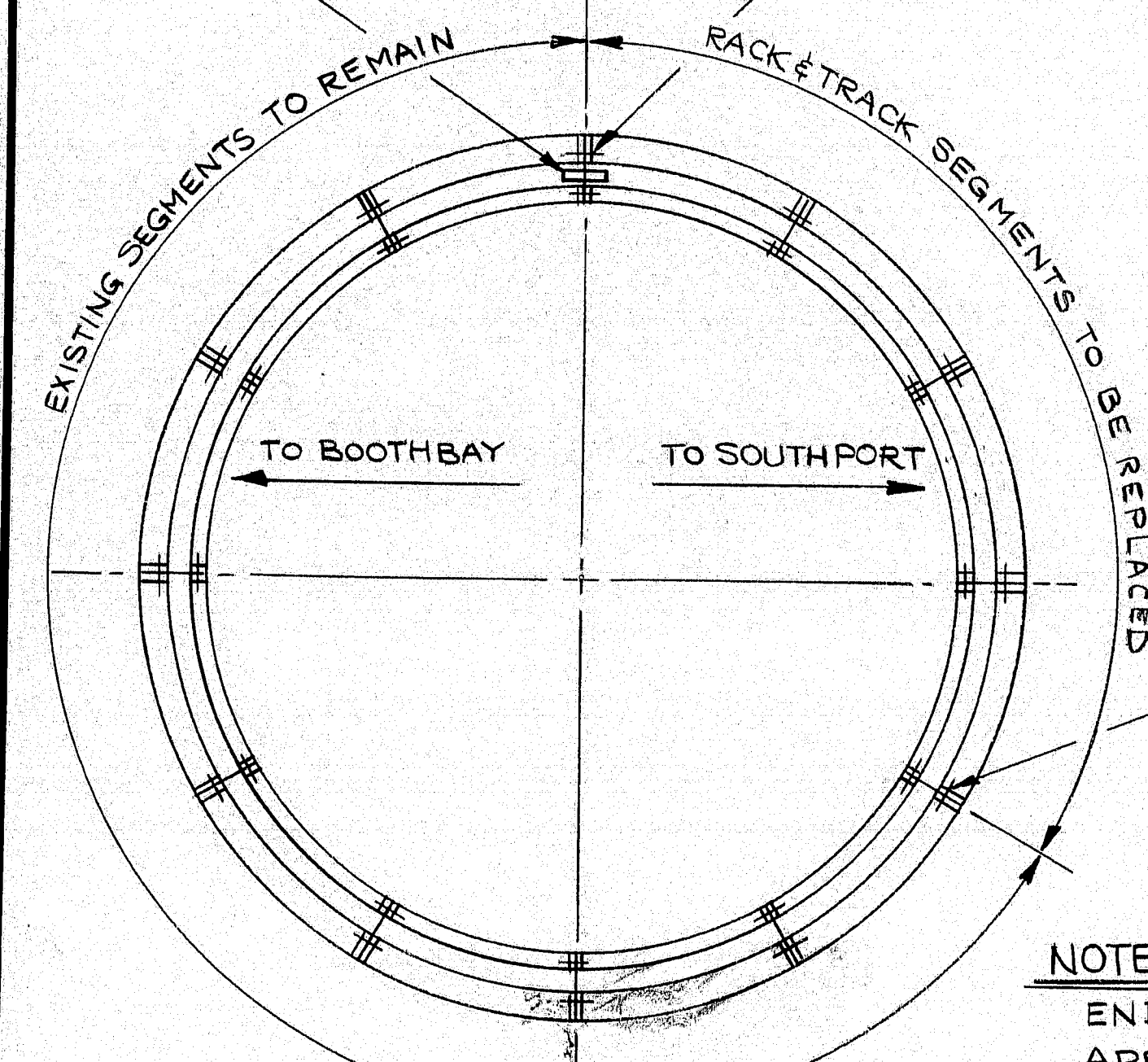
SECTION "A-A"



FULL SIZE DETAIL  
RACK TEETH

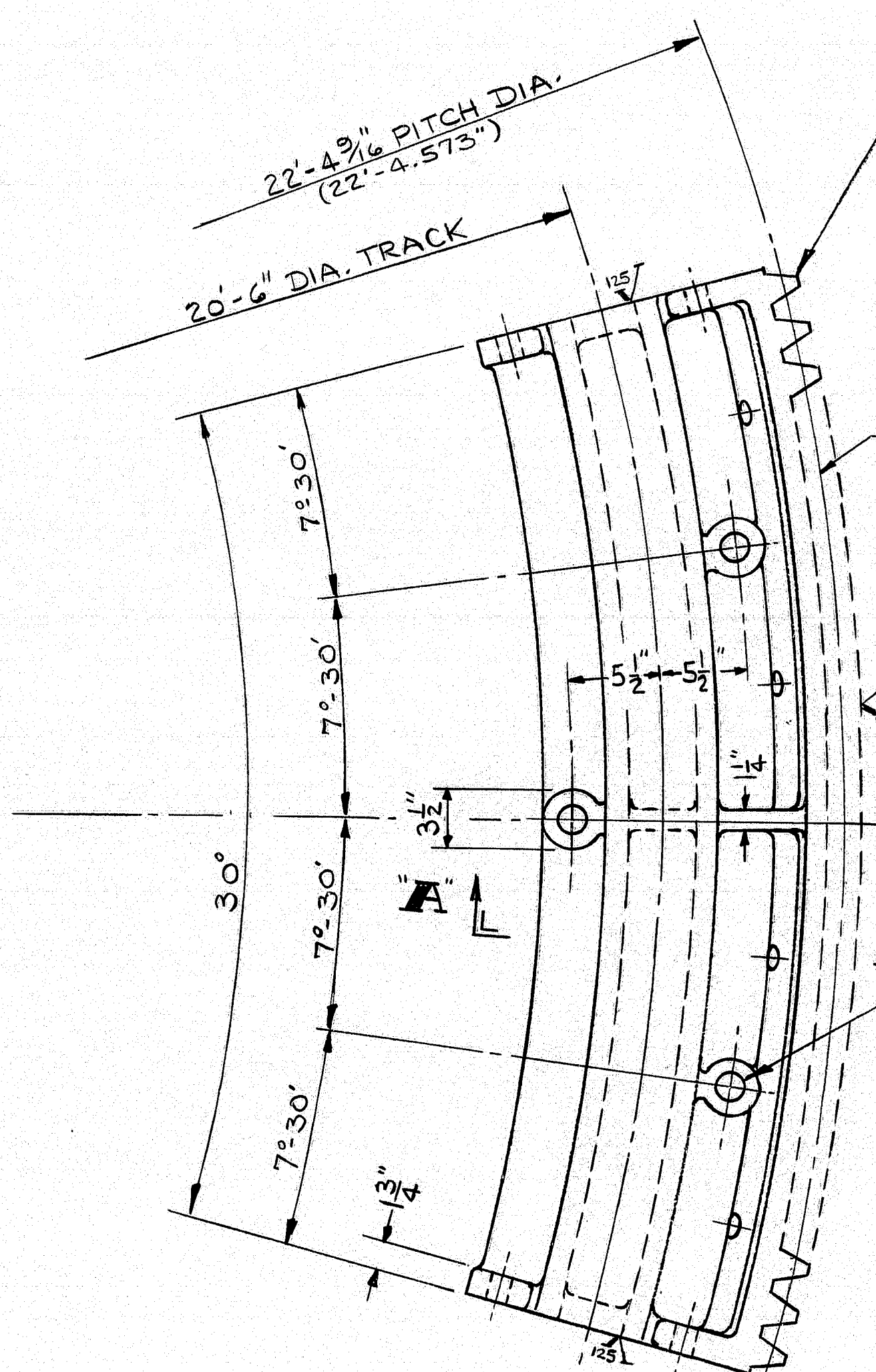
BALANCE WHEEL B.W.  
IN THIS LOCATION TO BE  
RESHIMMED TO PROVIDE  
.010" TO .020" CLEARANCE  
UNDER WHEEL WHEN BRIDGE  
IS CLOSED AND WEDGES  
ARE DRIVEN.

SEE NOTE "A"



KEY PLAN LOCATION  
RACK & TRACK SEGMENT

NOTE "A"  
END HOLES FOR THESE SEGMENTS  
ARE TO BE LEFT SOLID AND DRILLED  
AND REAMED IN FIELD FROM EXISTING  
SEGMENTS. PROVIDE AN LCG FIT FOR  
NEW TURNED BOLTS.



RACK & TRACK SEGMENT  
4-REQUIRED C.S.  
ASTM A27 GR 65-35

NOTE:  
PROVIDE NEW TURNED BOLTS TO  
ASSEMBLE RACK SECTIONS.

REAM TO PROVIDE LCG FIT  
FOR NEW 1 3/4 DIA. TURNED  
BOLTS. - SEE NOTE "A" AT  
KEY PLAN LOCATION.

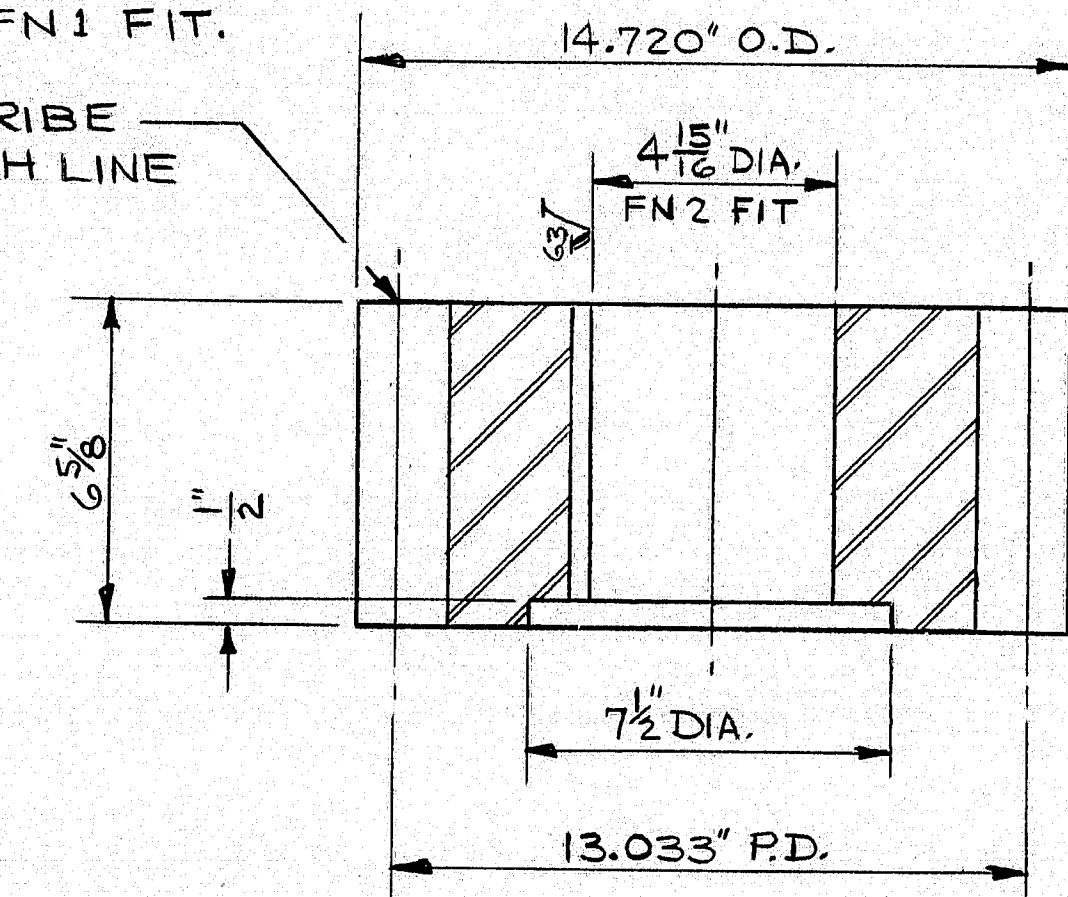
25 CUT TEETH PER SEGMENT  
(300 TOTAL TEETH IN FULL CIRCLE)  
2.8125" C.P., 20° P.A. SPECIAL  
SEE FULL SIZE DETAIL

SCRIBE PITCH LINE

1 3/8" DIA. CORE  
3-HOLES

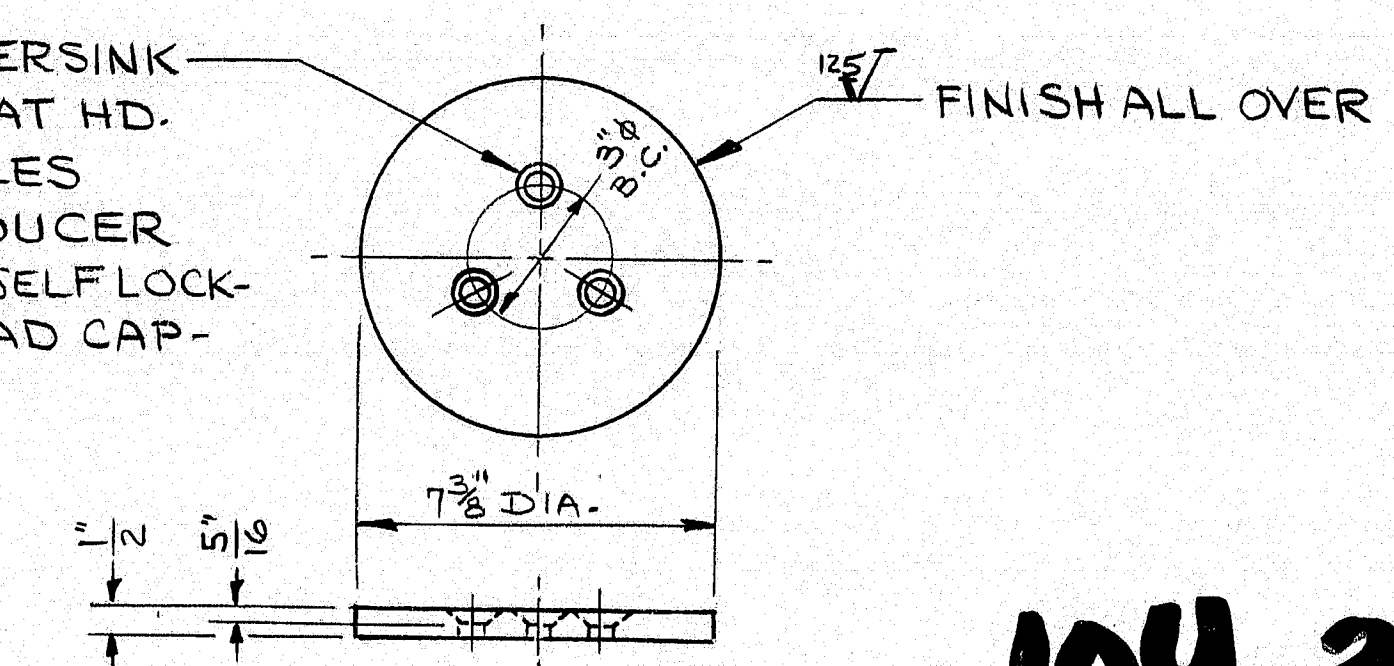
1 1/2 x 7/8 KEYWAY  
2 @ 120° APART  
FOR 1 1/2 x 7/8 KEYS  
PROVIDE AN  
FN1 FIT.

SCRIBE  
PITCH LINE

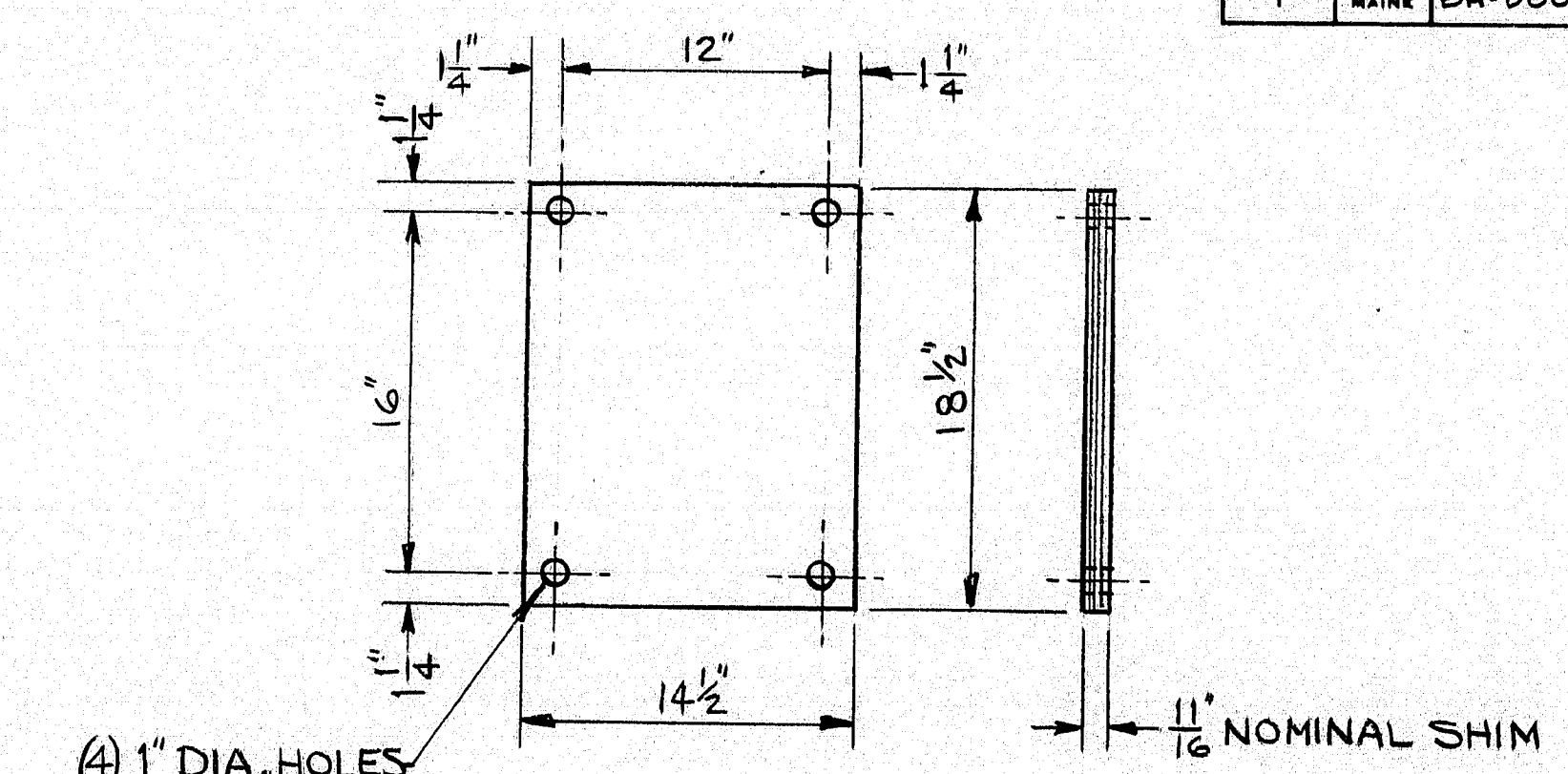


RACK PINION  
2 REQUIRED F.S.  
ASTM A668 CLASS C

DRILL & COUNTERSINK  
FOR 1/2 DIA. FLAT HD.  
SCREW - 3 HOLES  
TAP INTO REDUCER  
SHAFT. USE SELF LOCK-  
ING FLAT HEAD CAP-  
SCREWS.



LOCK PLATE  
2-REQUIRED STEEL  
ASTM A36



BALANCE WHEEL BEARING BW1 SHIM  
1 SET REQUIRED STAINLESS STEEL TYPE 304

NOTE:  
ALL PARTS ARE NEW UNLESS  
NOTED OTHERWISE.  
REFERENCE - ORIGINAL EARLE GEAR  
SHOP DRWG. 4240 E30 & 4241 E30

STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION  
SOUTHPORT BRIDGE  
OVER  
TOWNSEND CUT  
BETWEEN THE TOWNS OF  
SOUTHPORT & BOOTHBAY HARBOR  
LINCOLN COUNTY  
RACK, PINION & BALANCE WHEEL  
SHIM DETAILS

SHEET 20 OF 24 AUGUSTA, MAINE  
NGI JOB NO 20931

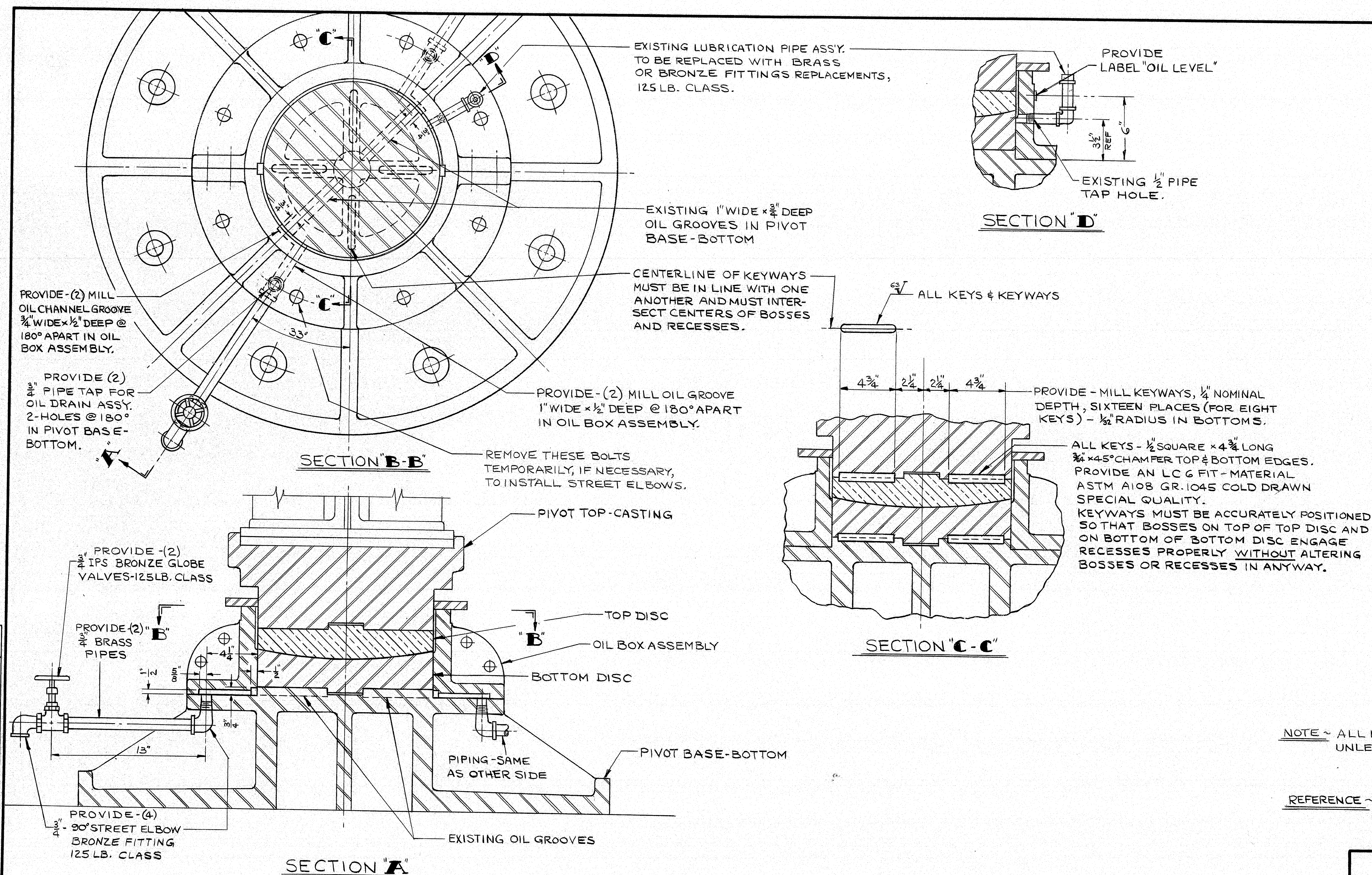
104-375

PROJECT DESIGN ENGINEER	DATE
PLANS	FEB. 25, 1955
DESIGN DETAIL	J.E.M.
CHECKED	R.C.
REVISIONS	
FIELD CHANGES	

BRUNING 44 132 4570-1



F.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	24-0005(49)	23	32



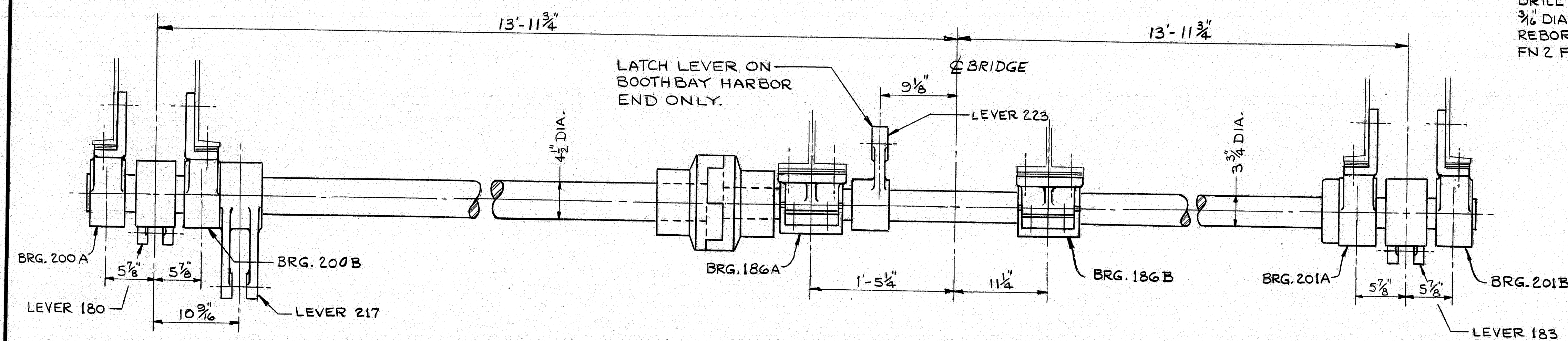
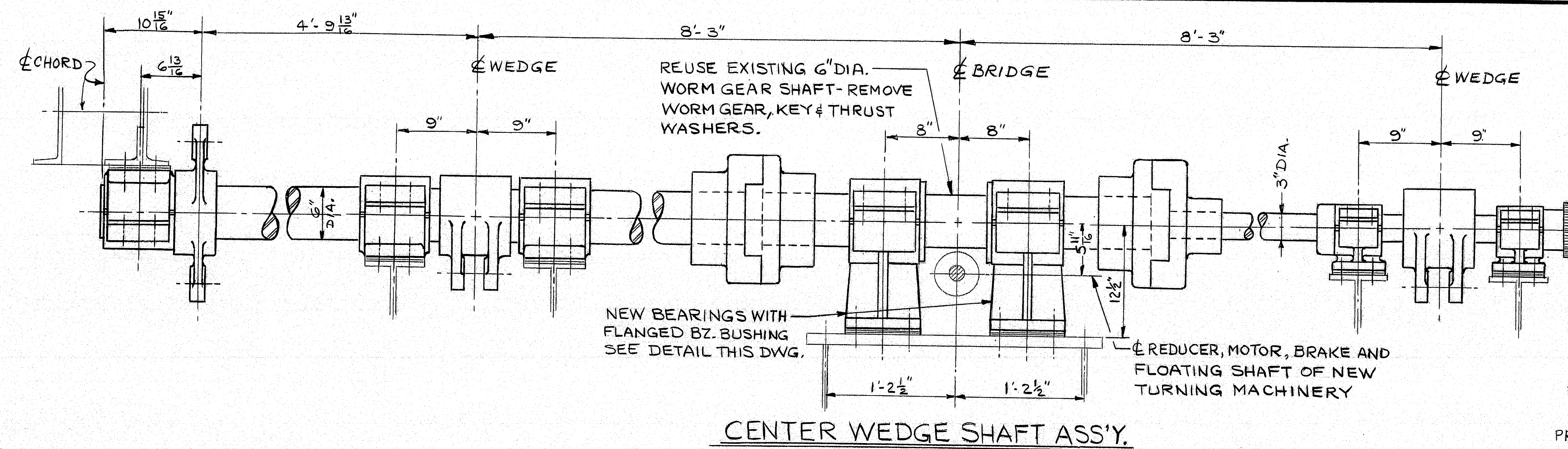
NOTE ~ ALL PARTS ARE EXISTING UNLESS NOTED OTHERWISE.

REFERENCE ~ ORIGINAL EARLE GEAR SHOP DRWG. 4-240E 30 & 4241E 30

104-376

STATE OF MAINE DEPARTMENT OF TRANSPORTATION SOUTHPORT BRIDGE OVER TOWNSEND GUT BETWEEN THE TOWNS OF SOUTHPORT & BOOTHBAY HARBOR LINCOLN COUNTY CENTER BEARING ALTERATIONS REQUIRED SHEET 21 OF 24 AUGUSTA, MAINE NGI JOB NO 20931
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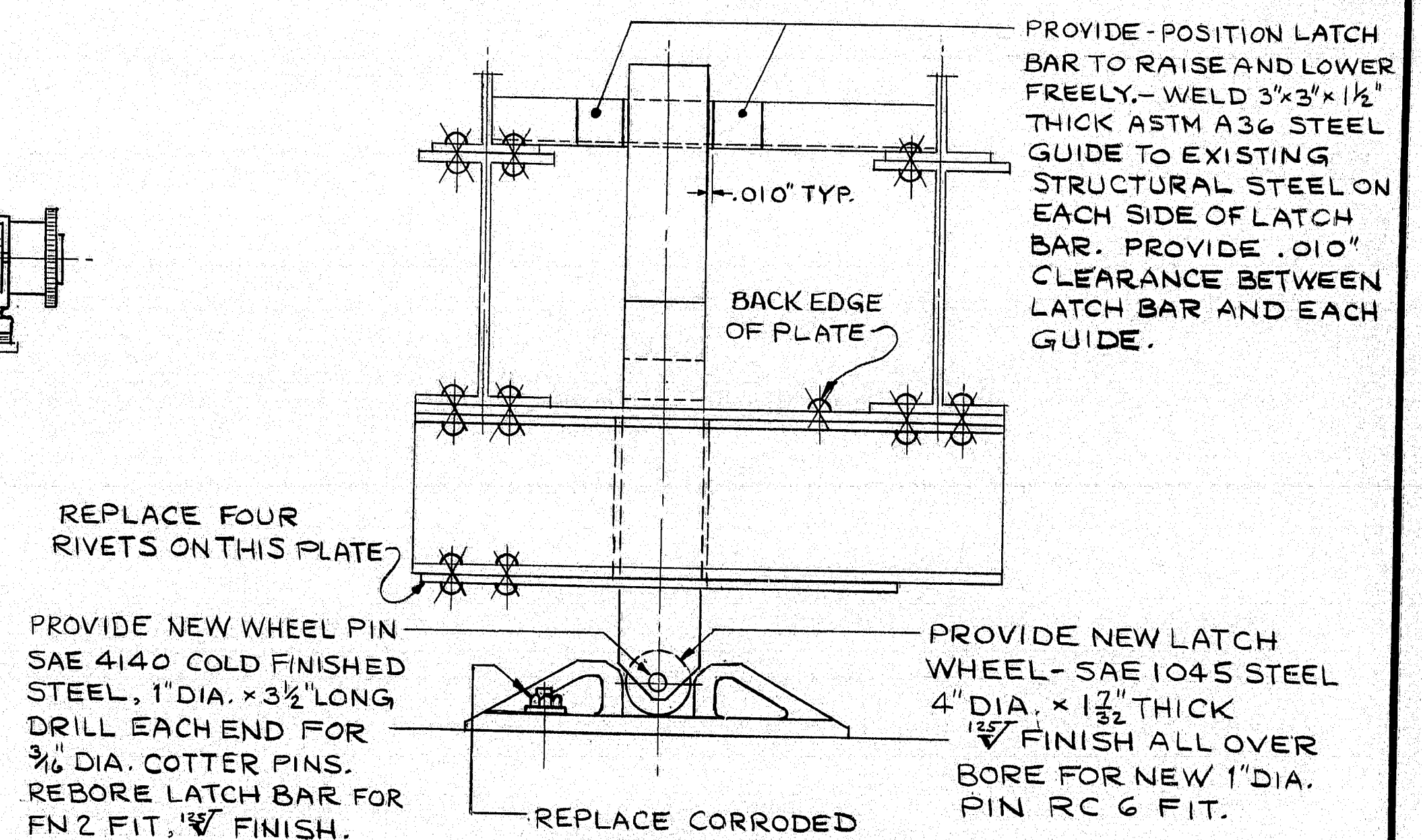


END WEDGE SHAFT ASS'Y.

BOOTHBAY HARBOR END SHOWN-SOUTHPORT END OPPOSITE HAND

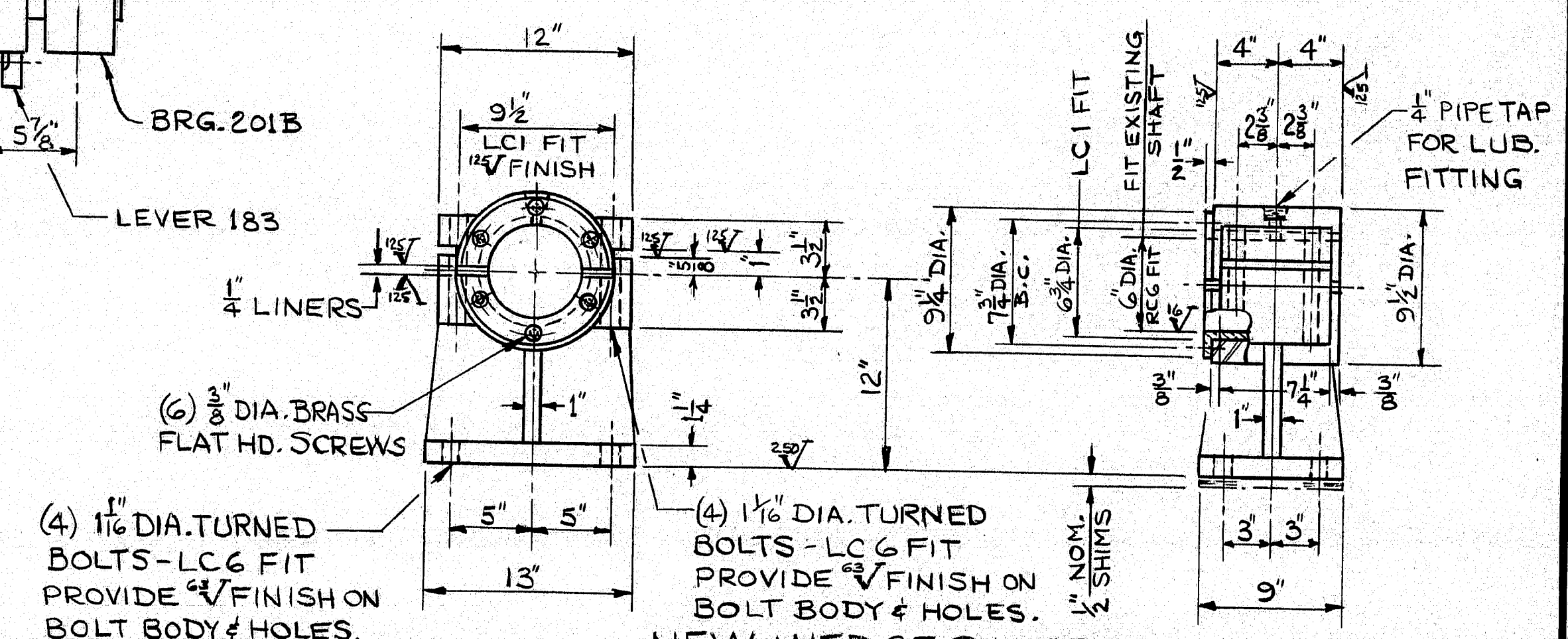
— HARDWARE REPLACEMENT REQUIRED ON BEARINGS — QUANTITIES AS NOTED						
	BRG. 200A	BRG. 200B	BRG. 186A	BRG. 186B	BRG. 201A	BRG. 201B
BOOTH BAY END	2-MOUNTING BOLT ASS'Y'S	1-MOUNTING BOLT ASSY.	4-MOUNTING & 4- CAP BOLT ASSY'S.	4- HEX. NUTS ON CAP BOLTS	6-MOUNTING BOLT ASSY'S.	2-MOUNTING BOLT ASSY'S
SOUTHPORT END	—	1-MOUNTING BOLT ASSY.	4-MOUNTING BOLT ASSY'S.	4-MOUNTING BOLT ASSY'S.	2-MOUNTING BOLT ASSY'S.	2-MOUNTING BOLT ASSY'S.

NOTE: 1- MATERIAL FOR TURNED BOLTS & NUTS, ASTM A307 GR. A-2  $\sqrt{V}$  FINISH ON BODY OF BOLTS.  
2- ALL REPLACEMENT TURNED BOLTS MUST HAVE BODY  $\frac{1}{16}$  LARGER IN DIAMETER THAN EXISTING BOLTS. REAM HOLES FOR LG & FIT WITH NEW BOLTS AND  $\sqrt{V}$  FINISH.



## CENTERING DEVICE

NOTE~ PROVIDE ~ REPLACE (12) CORRODED RIVETS, IN STRUCTURAL STEEL SUPPORTING CENTER DEVICE AS NOTED, WITH ASTM A325 TYPE 3 HIGH STRENGTH BOLTS SAME SIZE AS RIVETS.



NEW WEDGE SHAFT BRG.

2-REQUIRED ASTM A36 WELDMENT

BRONZE BUSHING - ASTM B22 ALLOY 937  
 ✓ F.A.O. EXCEPT AS NOTED - PROVIDE DOUBLE  
 SPIRAL GREASE GROOVES  $\frac{1}{4}$  WIDE  $\times \frac{1}{8}$  DEEP  
 TURNED BOLTS AND NUTS - ASTM A307 GR. A  
LINERS - LAMINATED BRASS -  $\frac{1}{8}$  SOLID  $\times \frac{1}{8}$  LAM. @ .003"  
NOM. SHIMS - STAINLESS STEEL TYPE 304, PROVIDE THICK-  
NESSES OF (2)  $\frac{1}{4}$ " - (2)  $\frac{1}{8}$ " - (2)  $\frac{1}{16}$ " - (2)  $\frac{1}{32}$ ".

STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION

SOUTHPORT BRIDGE  
OVER  
TOWNSEND GUT  
BETWEEN THE TOWNS OF  
SOUTHPORT & BOOTHBAY HARBOR  
LINCOLN COUNTY  
WEDGE DRIVE & CENTERING DEVICE  
ALTERATIONS

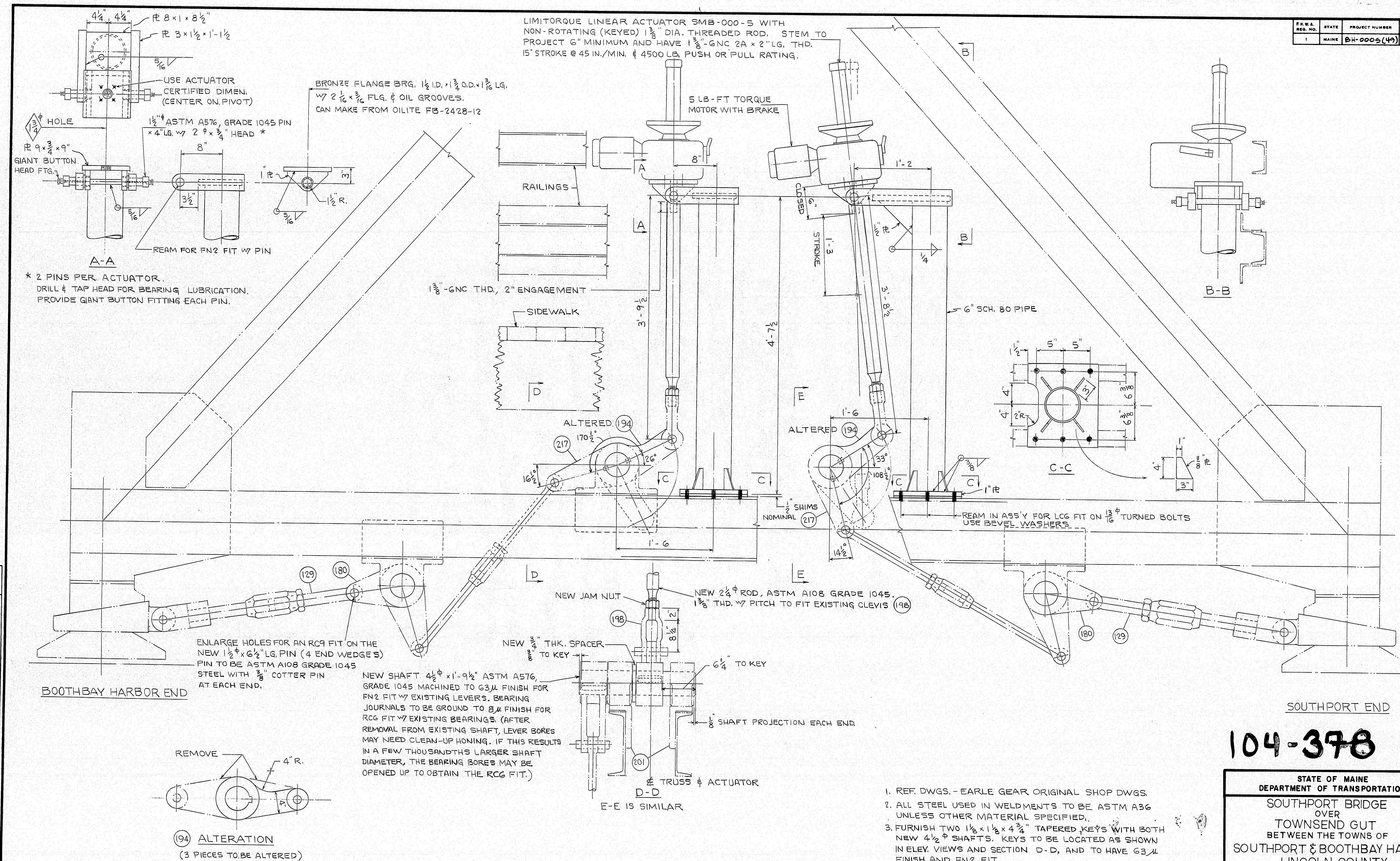
SHEET 22 OF 24 AUGUSTA, MAINE  
NGI JOB NO 20931

NOTE:  
ALL PARTS ARE EXISTING UNLESS NOTED OTHERWISE.

REFERENCE  
ORIGINAL EARLE GEAR SHOP DRAWINGS 4240 E30,  
4245 E30 THRU 4248 E30.



F.R.W.A.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	BH-0005 (49)	25	32



SOUTHPORT END

104-378

STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION  
SOUTHPORT BRIDGE  
OVER  
TOWNSEND GUT  
BETWEEN THE TOWNS OF  
SOUTHPORT & BOOTHBAY HARBOR  
LINCOLN COUNTY

NEW END WEDGE DRIVE

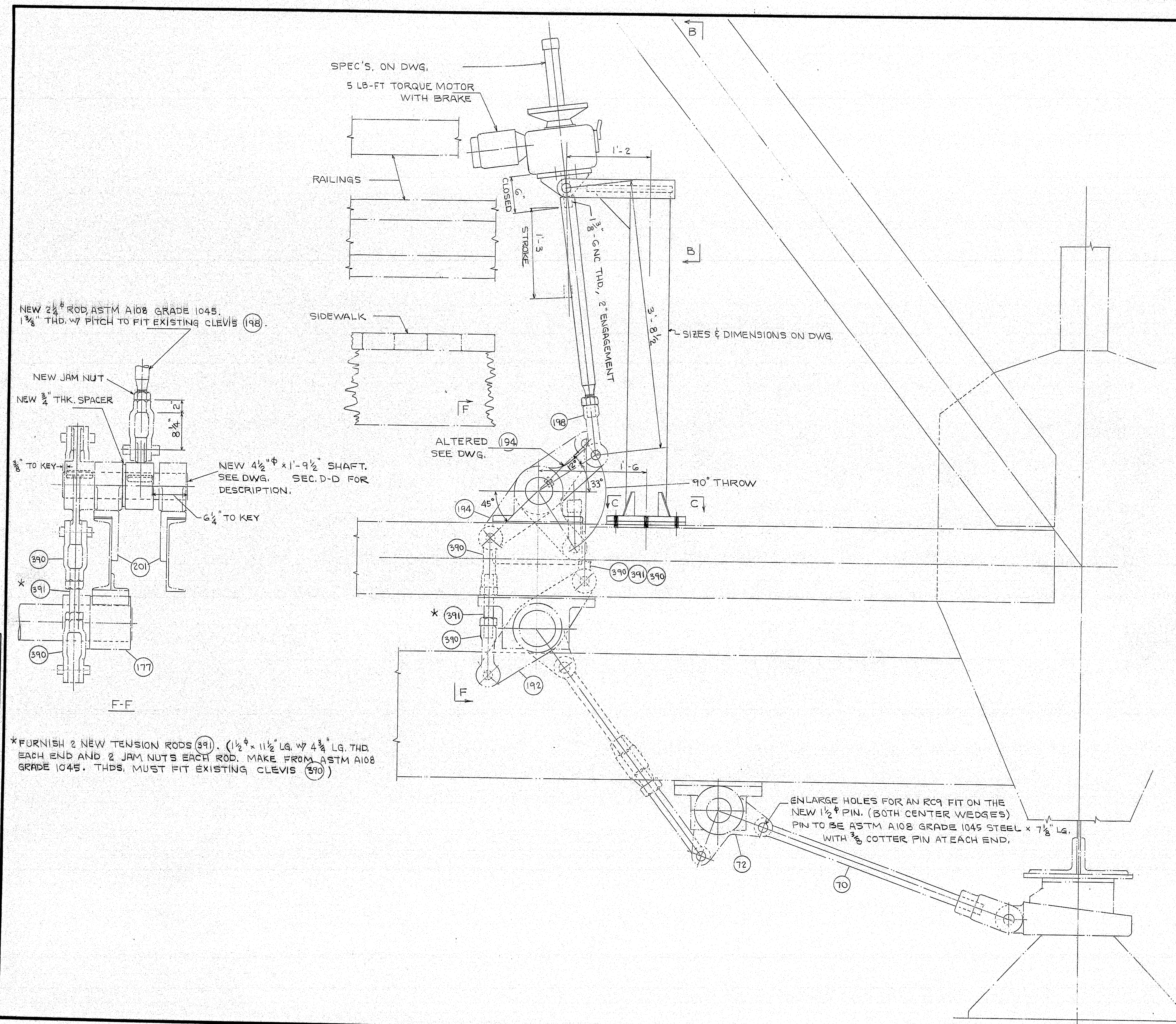
SHEET 23 OF 24 AUGUSTA, MAINE  
NGI JOB NO 20931

PROJECT	DESIGN	ENGINEER	BY	DATE
DESIGN - DETAILED	MCS	FN		3-5-85
CHECKED	FN			4-25-85
REVISIONS				
FIELD CHANGES				

BRUING 44-132-4570-1



F.R.W.A. REQ. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	BH-0005 (W)	26	32



1. SEE DWG. FOR SECTIONS B-B & C-C.
2. REF. DWGS. - EARLE GEAR ORIGINAL SHOP DWGS.
3. ALL STEEL USED IN WELDMENTS TO BE ASTM A36 UNLESS OTHER MATERIAL SPECIFIED.
4. FURNISH TWO  $1\frac{1}{2} \times 1\frac{1}{8} \times 4\frac{3}{4}$  TAPERED KEYS WITH THE NEW  $4\frac{1}{2}$ \" SHAFT. KEYS TO BE 12\" APART AND LOCATED AS SHOWN IN SECTION F-F, AND HAVE G3M FINISH AND FN2 FIT.

104-379

STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION  
SOUTHPORT BRIDGE  
OVER  
TOWNSEND GUT  
BETWEEN THE TOWNS OF  
SOUTHPORT & BOOTHBAY HARBOR  
LINCOLN COUNTY  
NEW CENTER WEDGE DRIVE  
SHEET 24 OF 24 AUGUSTA, MAINE  
NGI JOB NO 20931

PROJECT DESIGN ENGINEER	BY	DATE
DESIGN - DETAILED	MCS	3-2-85
CHECKED	FN	
REVISIONS		
FIELD CHANGES		

BRIDGE 44-122-27101



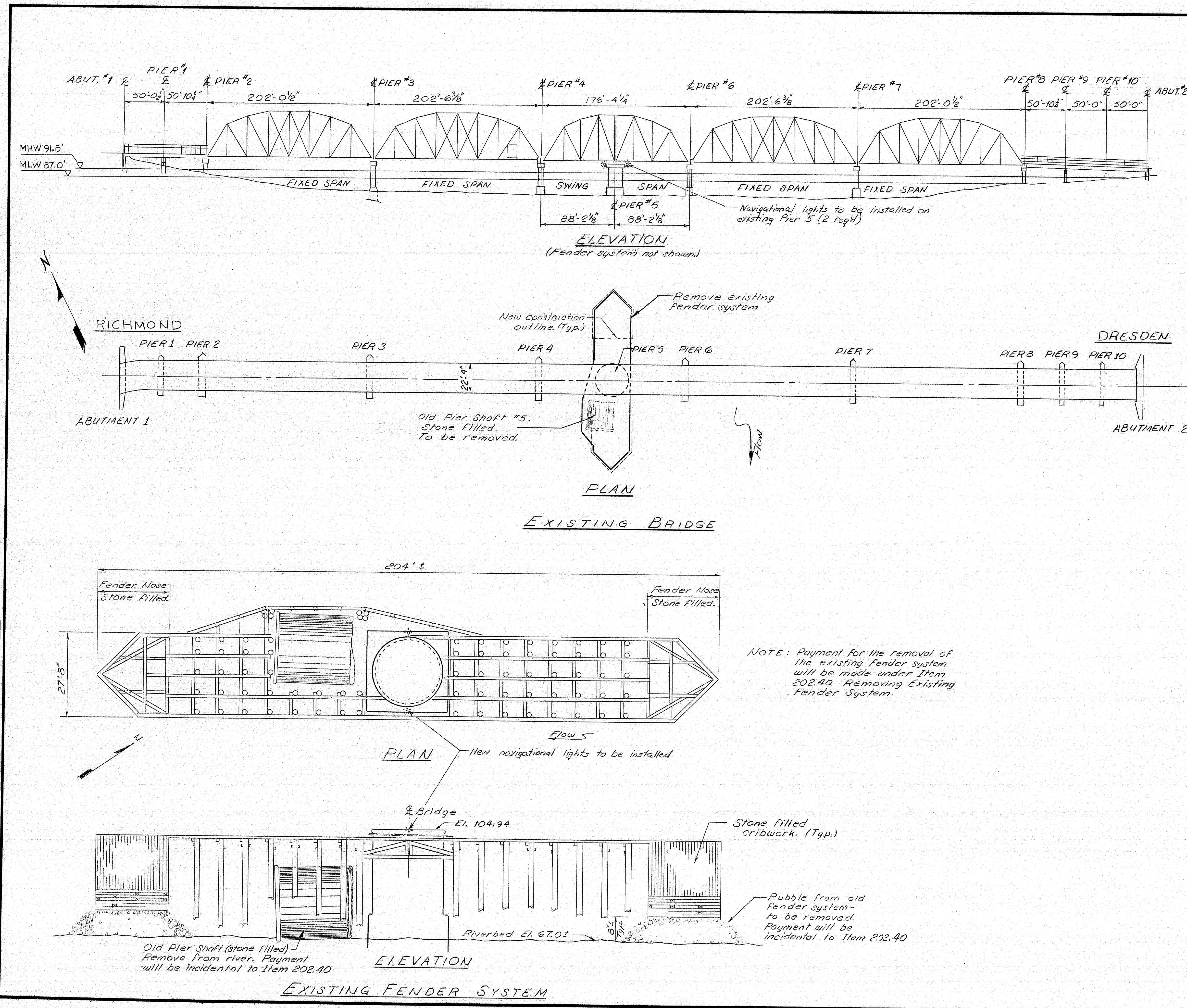
F.W.A. REV. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	84-0169(4)	27	32

# DESIGN SPECIFICATIONS

MATERIAL			STRESS
Concrete:	Pipe Pile	Class Y	$f'_c = 3,000 \text{ psi}$
	Cap	Class A	$f'_c = 3,000 \text{ psi}$
Reinforcing Steel:		ASTM A615 Grade 60	$F_y = 60,000 \text{ psi}$
Structural Steel:	Pipe Pile	ASTM A252 Grade 2	$F_y = 35,000 \text{ psi}$
	H.S. Bolts	ASTM A325 Type 1 Galv.	$F_y = 25,000 \text{ psi}$
	All Other	ASTM A36	$F_y = 36,000 \text{ psi}$

# NAVIGATIONAL LIGHTING NOTES

- 1) All junction boxes for the navigational lighting shall be peraloy heavy-duty 8"x8"x4" watertight junction boxes flanged for surface mounting onto existing Pier 5 or new Pier Dolphins.
- 2) The submarine cable shall be 9C #10 THWN stranded copper wire, 2000 V rated.
- 3) The Contractor shall be responsible for the determination of the length of wiring required, the furnishing and installing of all wiring and materials, and the proper connection to the existing power source for the navigational lights.
- 4) The navigational lights required are 4-180° red pier lights.
- 5) The Contractor may utilize the existing navigation lights to satisfy the temporary navigation lighting requirements. He shall assume responsibility for their operation and maintenance until their removal is so directed by the Engineer.



Plans as built for Fender System.  
Rufus 9/9/92

STATE OF MAINE DEPARTMENT OF TRANSPORTATION	
MAINE - KENNEBEC BRIDGE OVER THE KENNEBEC RIVER BETWEEN THE TOWNS OF RICHMOND & DRESDEN SAGadahoc & LINCOLN COUNTIES EXISTING FENDER SYSTEM	
SHEET	OF AUGUSTA, MAINE

104-380

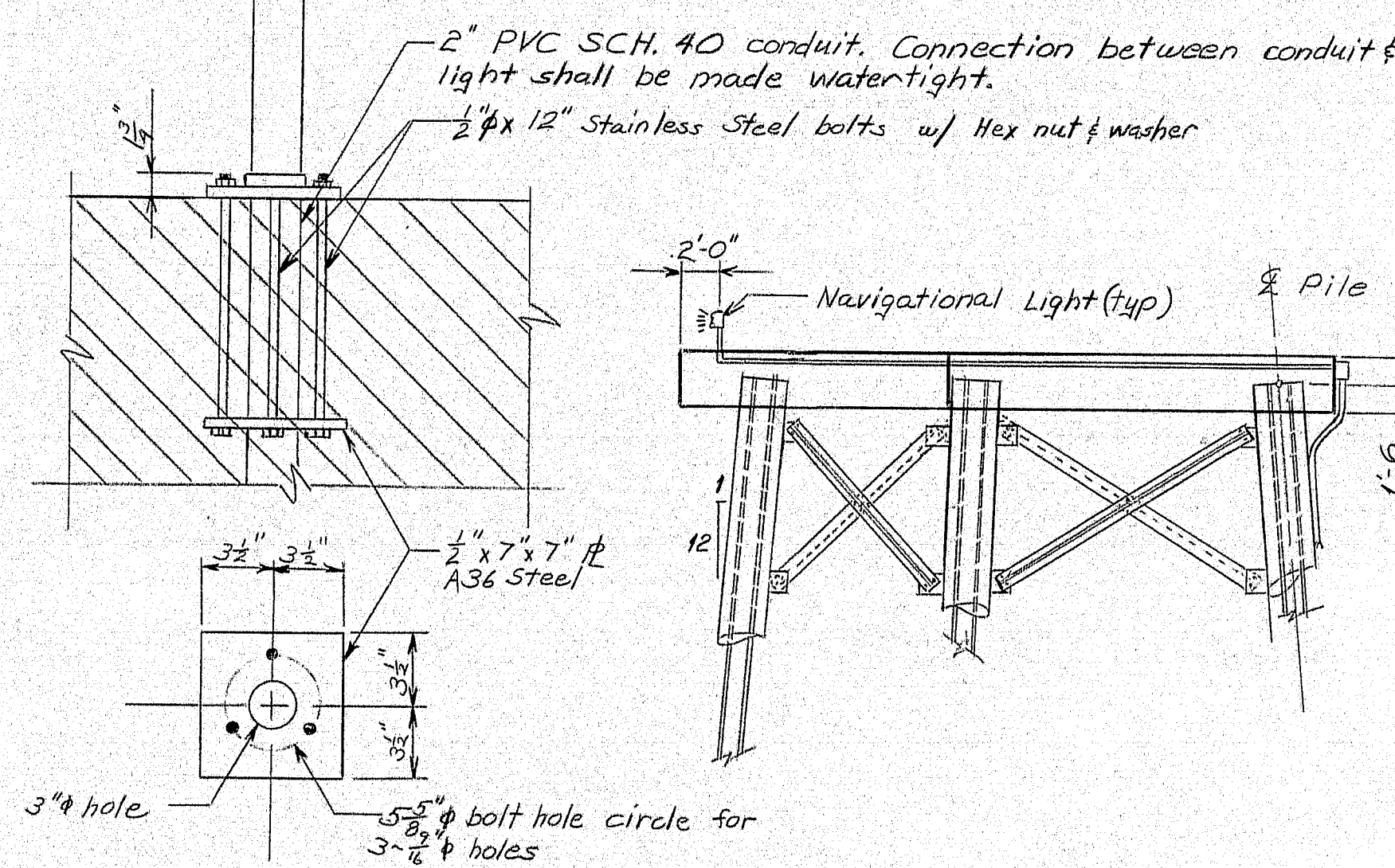
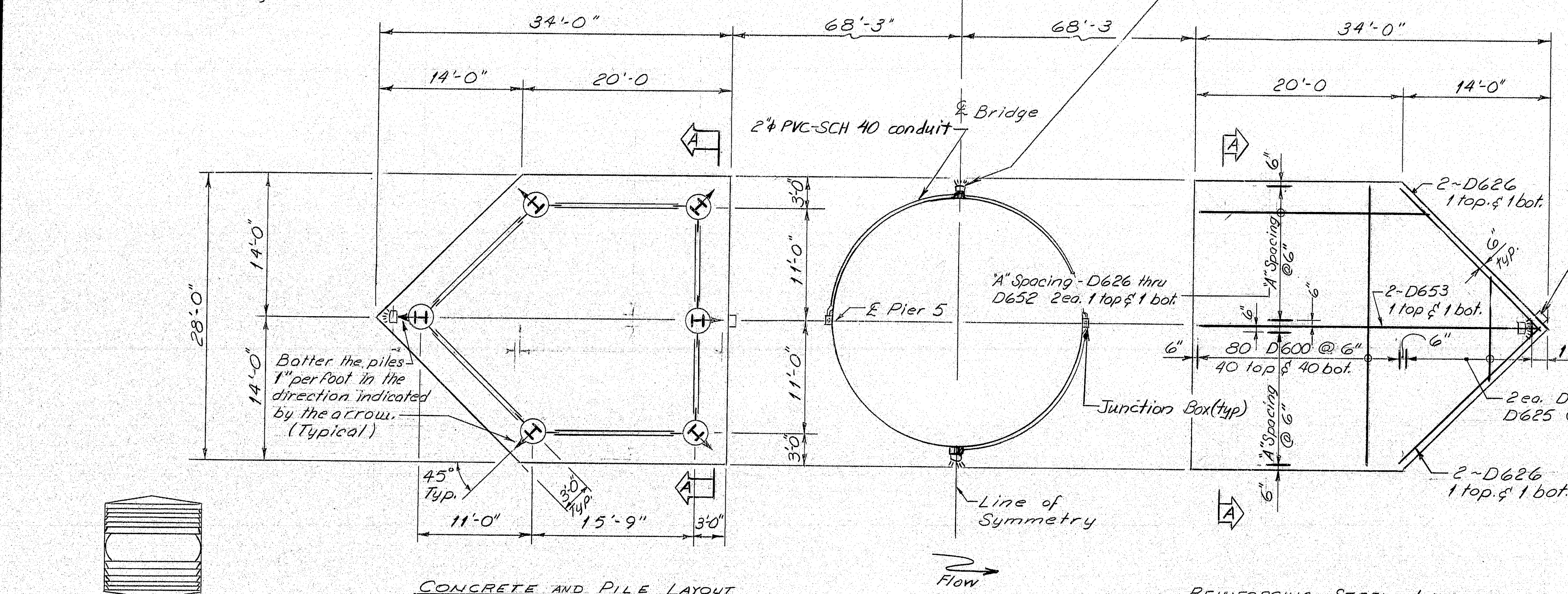
PROJECT DESIGN ENGINEER	DATE
DESIGN - DETAILED	1-96
CHECKED	7-96
REVISIONS	1-96
FIELD CHANGES	1-96

BRUJING 44-132 45710-1

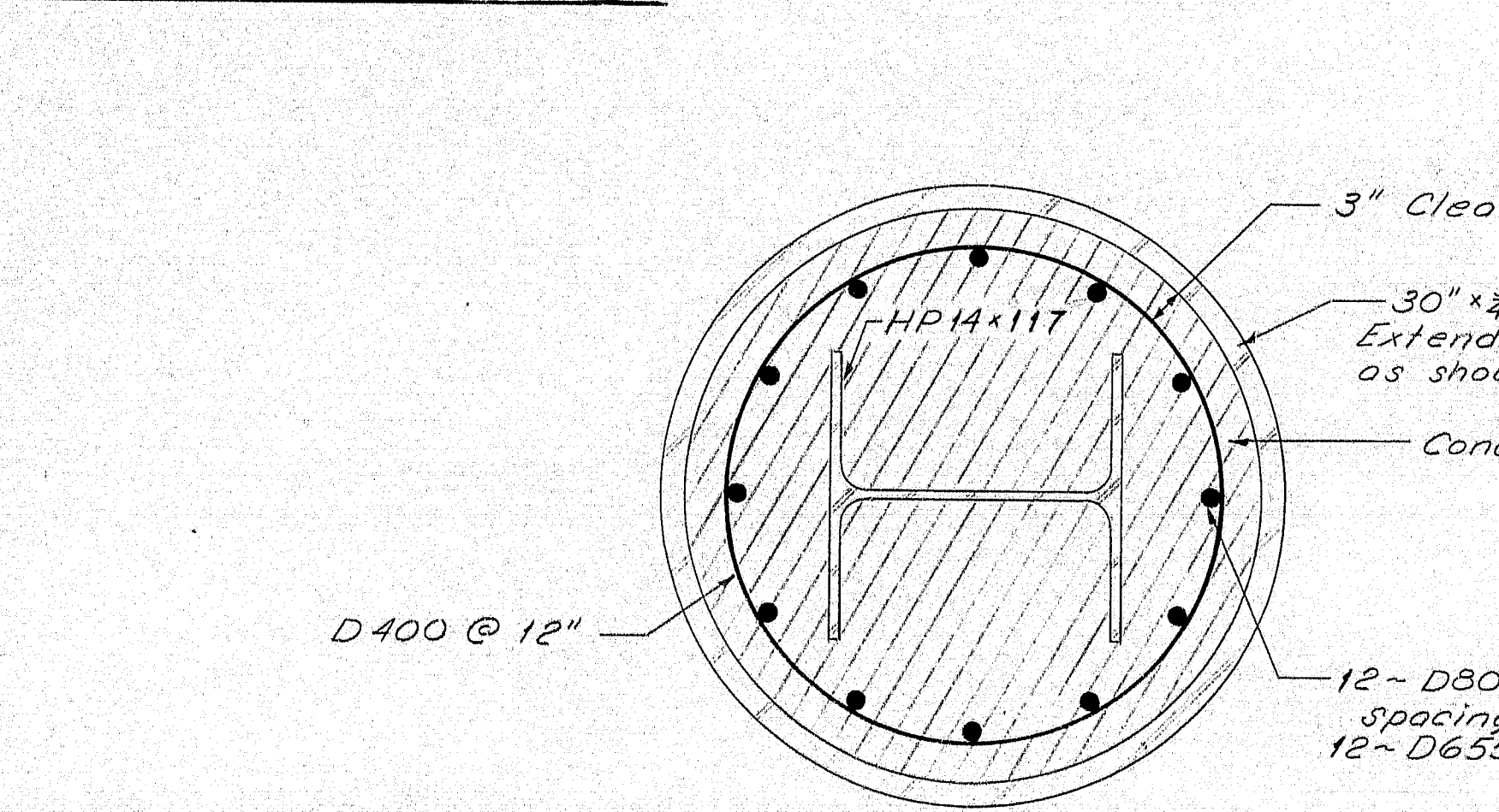


NOTE: The concrete in the pier dolphin cap shall be paid for under Item 502.23, Structural Concrete, Piers.

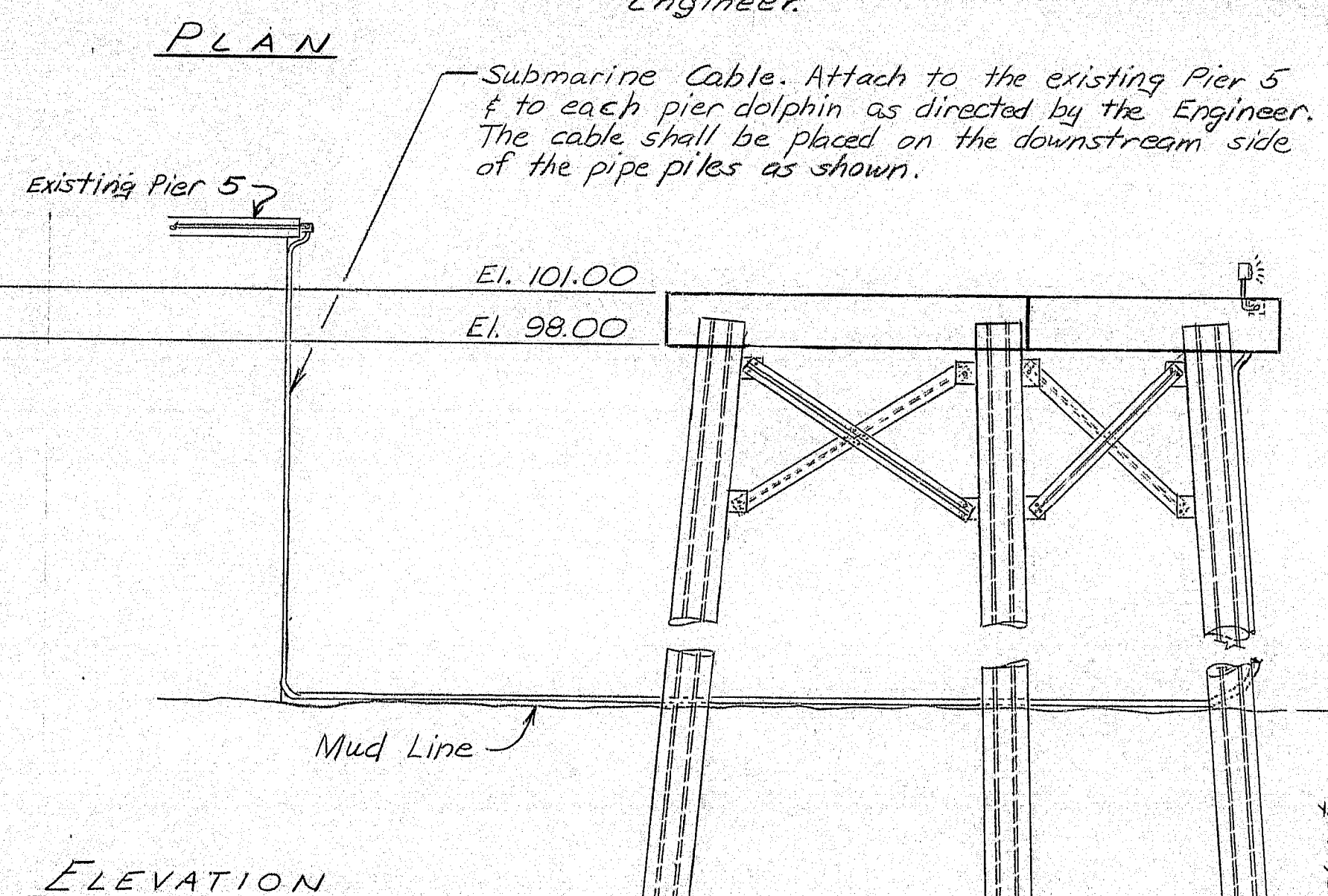
F.R.N.A. REQ. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	84-0164(4)	28	32



NAVIGATIONAL LIGHT ANCHORAGE



PILE SECTION  
(Typical all piles)



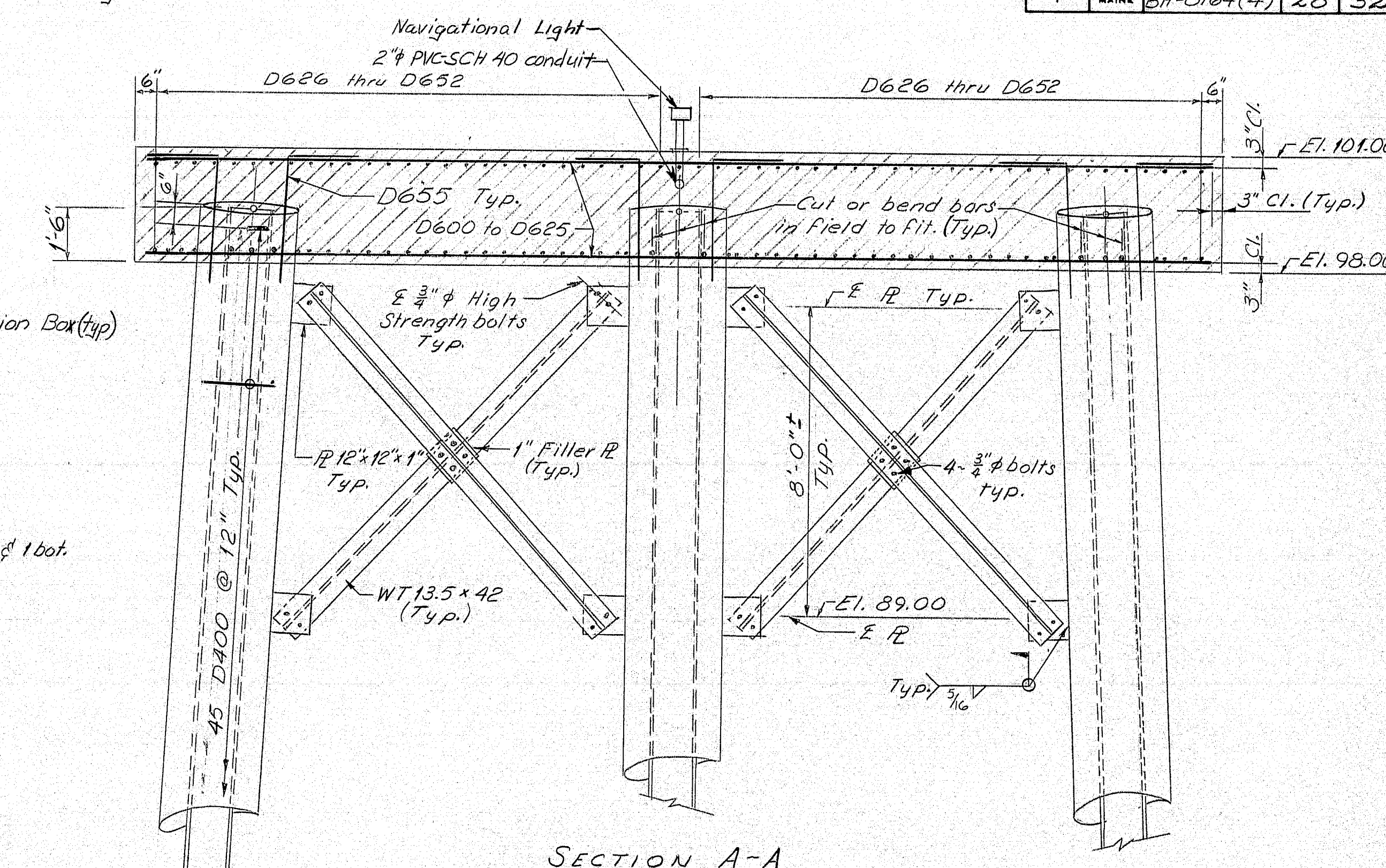
ELEVATION

**REINFORCING STEEL LAYOUT**  
Note: Reinforcing steel shall be adjusted either by field bending or cutting to fit around piles, as directed by the Engineer.

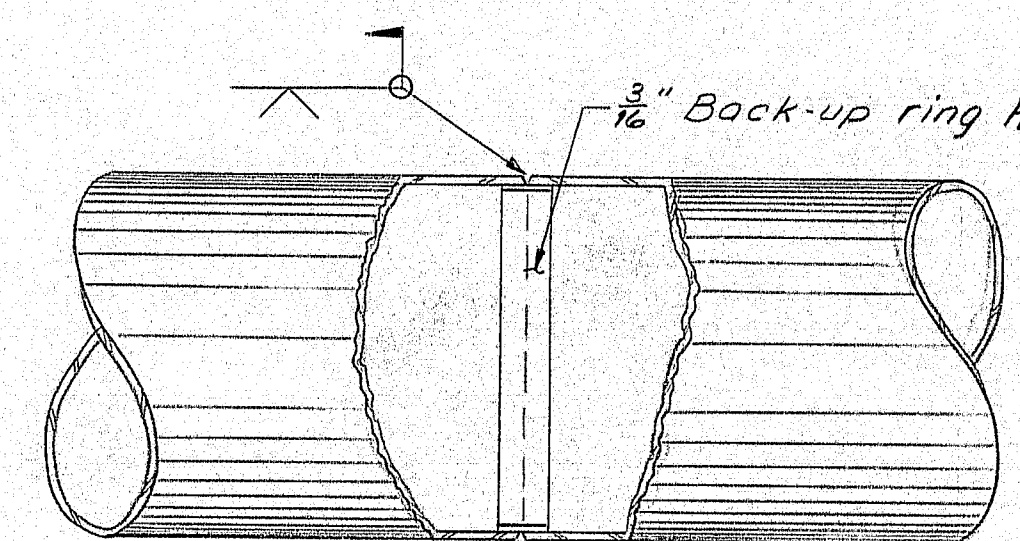
Submarine Cable. Attach to the existing Pier 5 & to each pier dolphin as directed by the Engineer. The cable shall be placed on the downstream side of the pipe piles as shown.

#### PILE NOTES

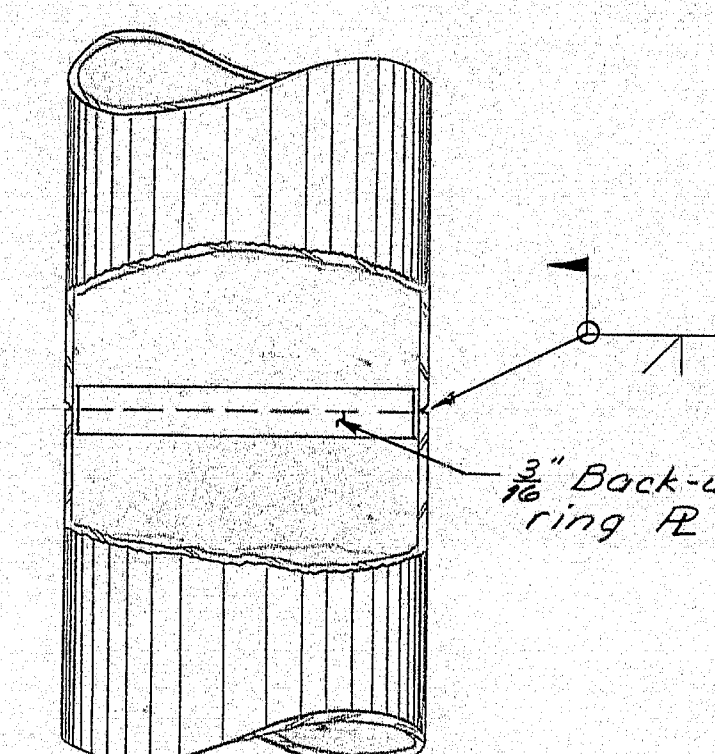
- Piles marked thus  $\rightarrow$  shall be battered one inch per foot in the direction of the arrow.
- The maximum calculated pile load is 90 tons.
- The estimate of pile lengths required is based on the ledge profile and the mud line as shown on the existing plans and is as follows:  
~ HP 14x117 12 @ 60 feet = 720 Linear Feet  
~ 30"x3/4" pipe pile 12 @ 45 feet = 540 Linear Feet
- Standard Details, pile tip modifications are as follows:  
Reinf. # size is 12x18x10, weld sizes are 3/8"
- Lengths of cross bracing members will vary due to pile driving tolerances. Actual lengths of members shall be determined from final pile locations. Members shall be adjusted in the field as directed by the Engineer.
- Holes for the bolted connections shall be filled in the field.
- The pipe piles shall be coated with a fusion bonded epoxy in accordance with Special Provisions Section 501. The WT 13.5x42 cross-bracing, connection R's and filler R's shall also be coated with a fusion bonded epoxy in accordance with Special Provision Section 501 and payment for this will be considered incidental to Item 501.253, Pile Protective Coatings.



SECTION A-A



HORIZONTAL POSITION

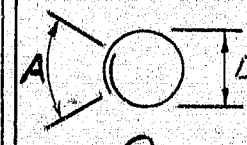


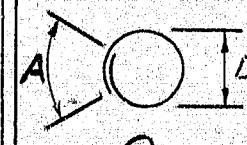
VERTICAL POSITION

PIPE PILE SPICE DETAIL

104-381

#### REINFORCING STEEL SCHEDULE

STRAIGHT BARS						BENT BARS								
Mark	No.	Length	Mark	No.	Length	Mark	No.	Length	Mark	No.	Length	* A	* D	
D600	160	27'-0"	D619	4	8'-0"	D638	8	25'-6"	D400	0	540	7'-3"	1'-4"	1'-10"
D601	4	26'-0"	D620	4	7'-0"	D639	8	25'-0"	D655	L	144	5'-9"	1'-9"	3'-6"
D602	4	25'-0"	D621	4	6'-0"	D640	8	26'-6"	 *Dimensions are out to out of bar					
D603	4	24'-0"	D622	4	5'-0"	D641	8	27'-0"						
D604	4	23'-0"	D623	4	4'-0"	D642	8	27'-6"						
D605	4	22'-0"	D624	4	3'-0"	D643	8	28'-0"						
D606	4	21'-0"	D625	4	2'-0"	D644	8	28'-6"						
D607	20'-0"	D626	12	19'-6"	D645	8	29'-0"							
D608	19'-0"	D627	8	20'-0"	D646	8	29'-6"							
D609	18'-0"	D628	8	20'-6"	D647	8	30'-0"							
D610	17'-0"	D629	8	21'-0"	D648	8	30'-6"							
D611	16'-0"	D630	8	21'-6"	D649	8	31'-0"							
D612	15'-0"	D631	8	22'-0"	D650	8	31'-6"							
D613	14'-0"	D632	8	22'-6"	D651	8	32'-0"							
D614	13'-0"	D633	8	23'-0"	D652	8	32'-6"							
D615	12'-0"	D634	8	23'-6"	D653	4	33'-0"							
D616	11'-0"	D635	8	24'-0"										
D617	10'-0"	D636	8	24'-6"										
D618	9'-0"	D637	8	25'-0"	D654	144	31'-0"							

STRAIGHT BARS						BENT BARS								
Mark	No.	Length	Mark	No.	Length	Mark	No.	Length	Mark	No.	Length	* A	* D	
D600	160	27'-0"	D619	4	8'-0"	D638	8	25'-6"	D400	0	540	7'-3"	1'-4"	1'-10"
D601	4	26'-0"	D620	4	7'-0"	D639	8	25'-0"	D655	L	144	5'-9"	1'-9"	3'-6"
D602	4	25'-0"	D621	4	6'-0"	D640	8	26'-6"	 *Dimensions are out to out of bar					
D603	4	24'-0"	D622	4	5'-0"	D641	8	27'-0"						
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D605	4	22'-0"	D624	4	3'-0"	D643	8	28'-0"						
D606	4	21'-0"	D625	4	2'-0"	D644	8	28'-6"						
D607	20'-0"	D626	12	19'-6"	D645	8	29'-0"							
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D609	18'-0"	D628	8	20'-6"	D647	8	30'-0"							
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D611	16'-0"	D630	8	21'-6"	D649	8	31'-0"							
D612	15'-0"	D631	8	22'-0"	D650	8	31'-6"							
D613	14'-0"	D632	8	22'-6"	D651	8	32'-0"							
D614	13'-0"	D633	8	23'-0"	D652	8	32'-6"							
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D617	10'-0"	D636	8	24'-6"										
D618	9'-0"	D637	8	25'-0"	D654	144	31'-0"							

MAINE - KENNEBEC RIVER  
OVER THE  
KENNEBEC RIVER  
BETWEEN THE TOWNS OF  
RICHMOND & DRESDEN  
SAGADAHOC & LINCOLN COUNTIES

This digit indicates the bar size (Typ.)

STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION

MAINE - KENNEBEC BRIDGE  
OVER THE  
KENNEBEC RIVER  
BETWEEN THE TOWNS OF  
RICHMOND & DRESDEN  
SAGadahoc & LINCOLN COUNTIES  
DOLPHIN DETAILS  
SHEET OF AUGUSTA, MAINE

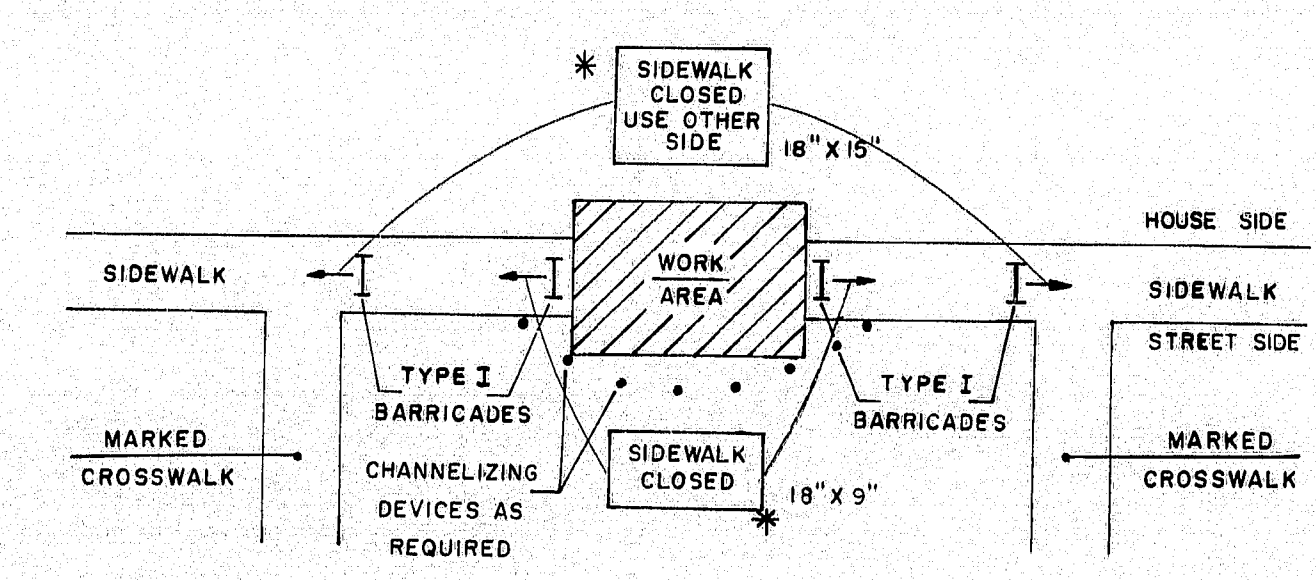
PROJECT DESIGN ENGINEER	DATE
DESIGNED	1/86
CHECKED	1/86
REVISIONS	1/86
FIELD CHANGES	1/86

REVISION 44-132-25710-1

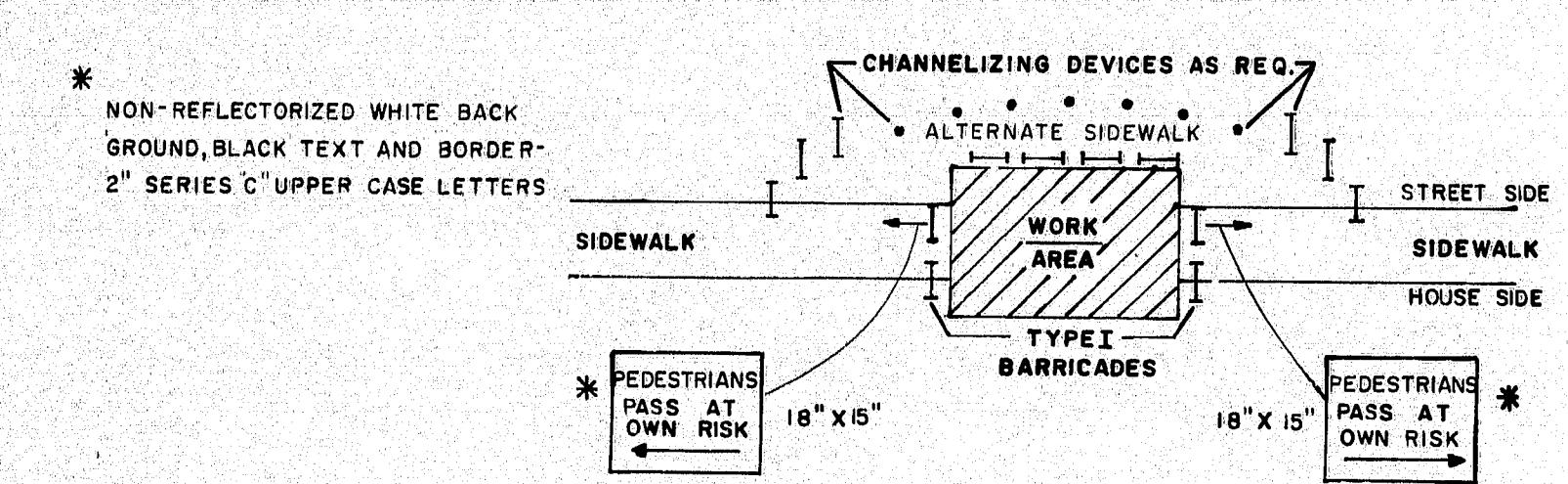
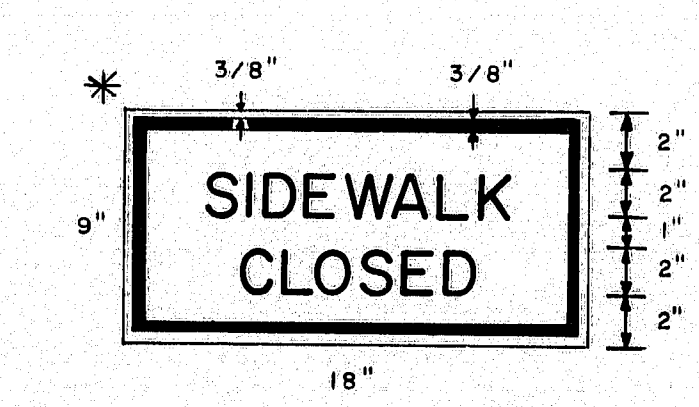
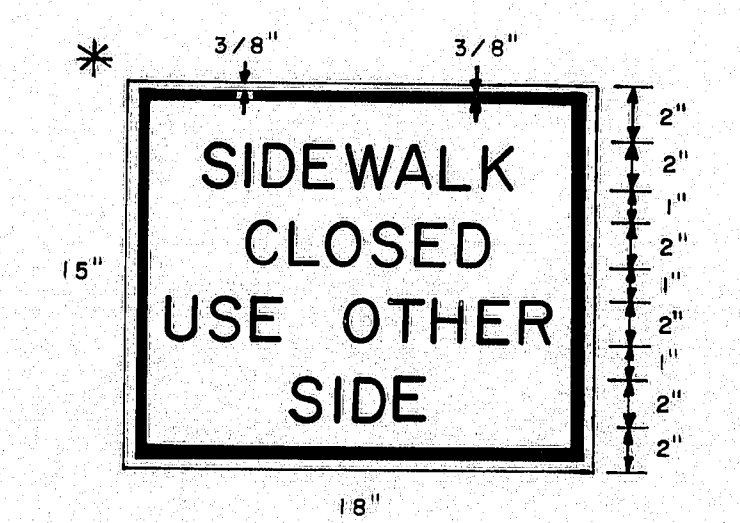


F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	24-003 (3)	30	32

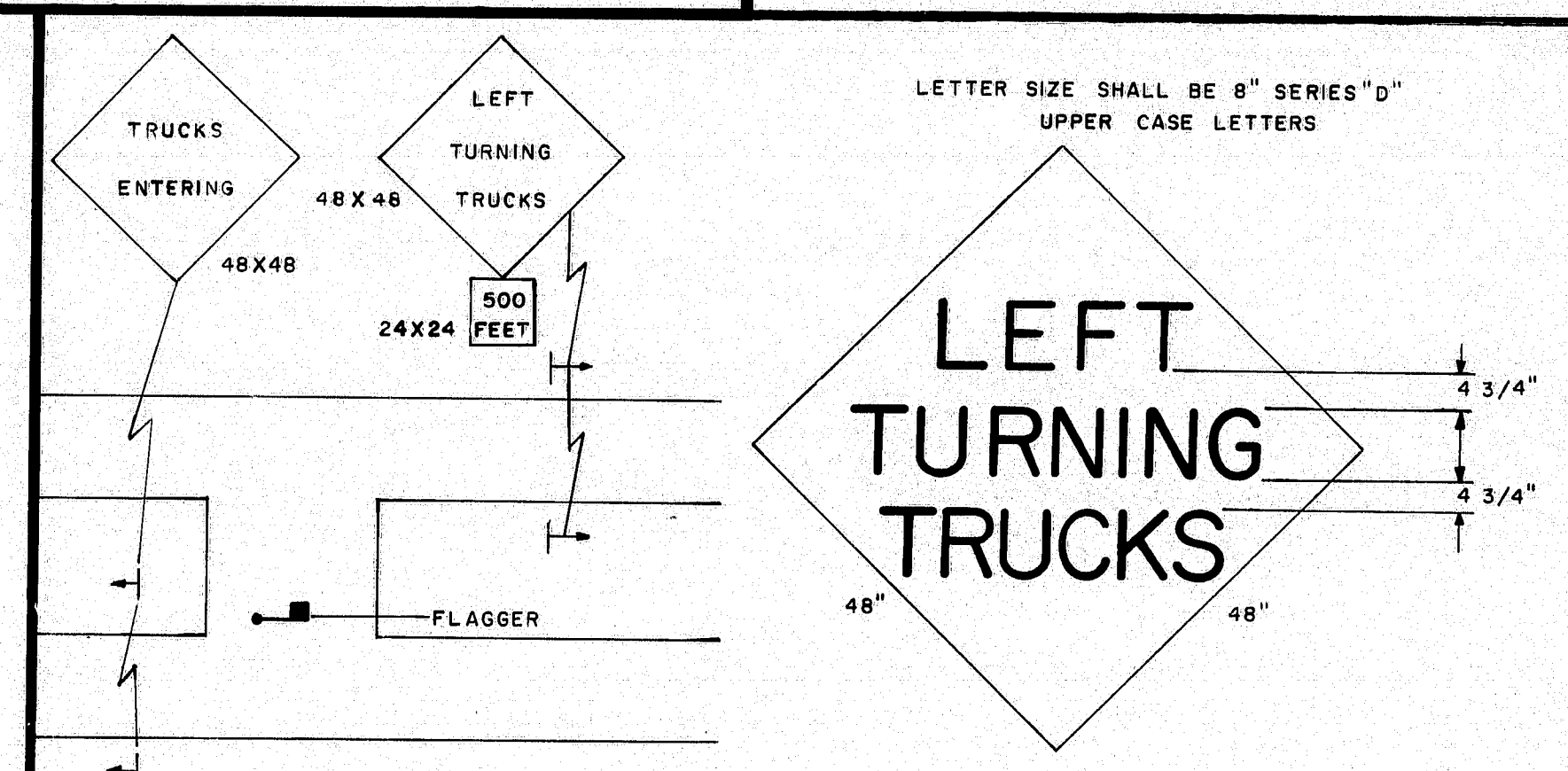
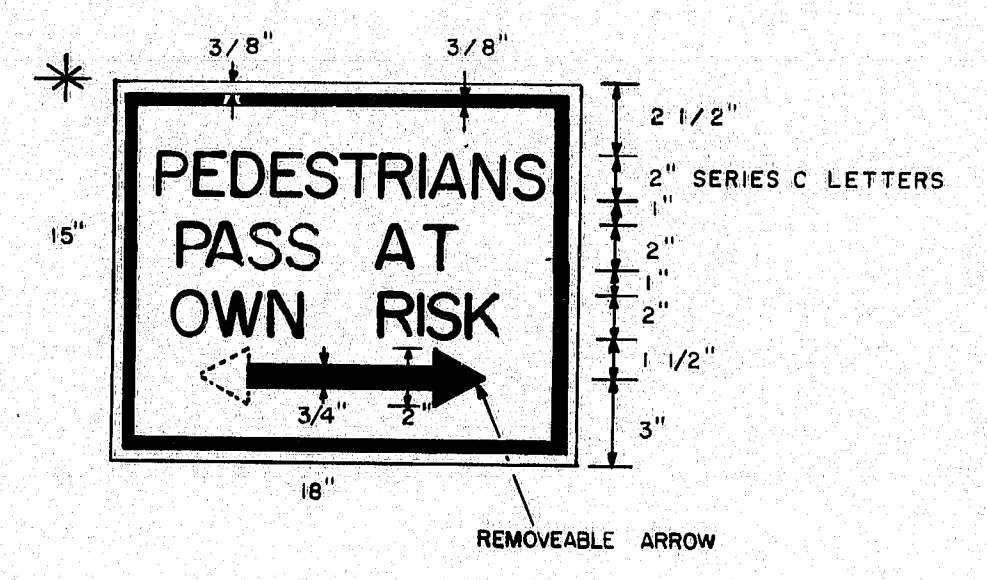
\* NON-REFLECTORIZED WHITE BACKGROUND, BLACK TEXT  
AND BORDER 2" SERIES C UPPER CASE LETTERS



**SIDEWALK CLOSURE  
WITHOUT ALTERNATE SIDEWALK**

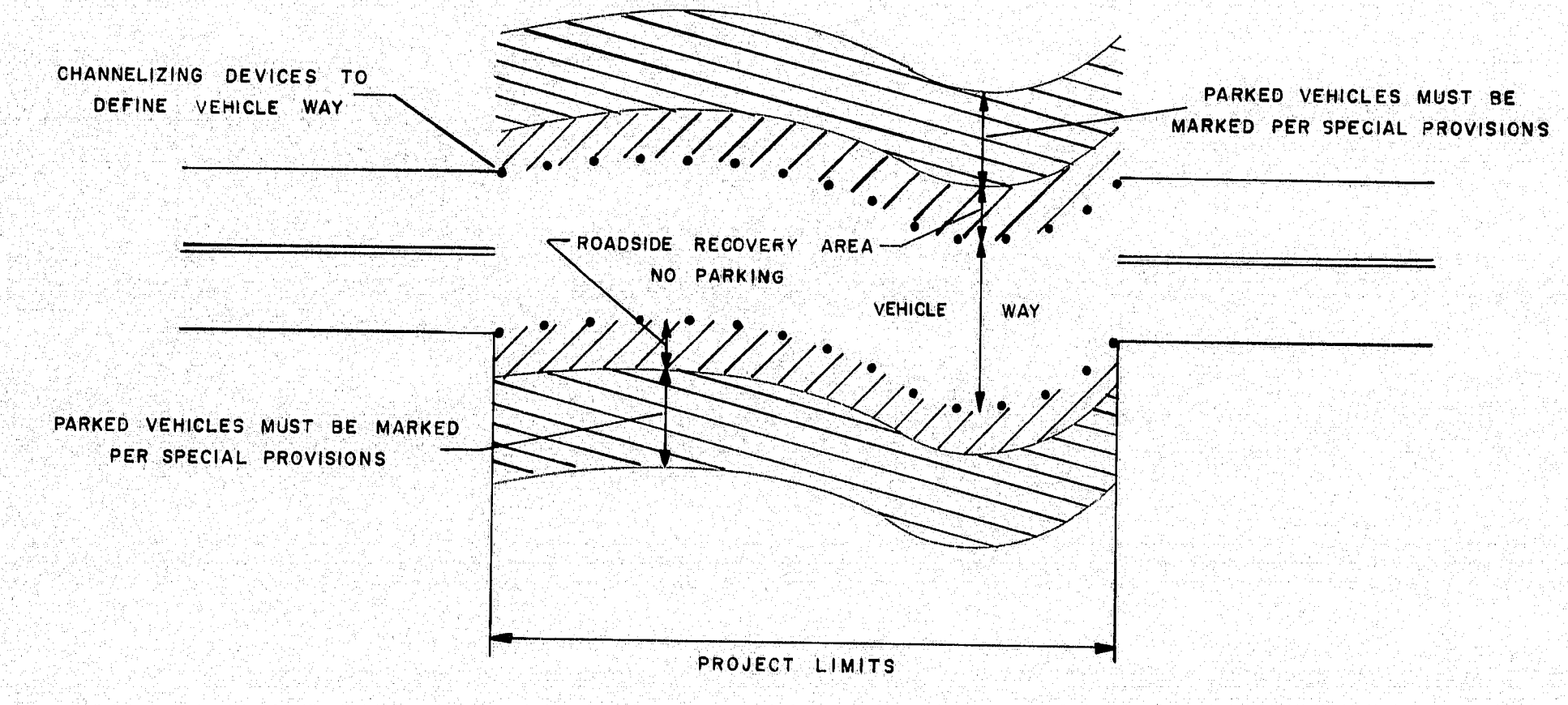


**SIDEWALK CLOSURE  
WITH ALTERNATE SIDEWALK**



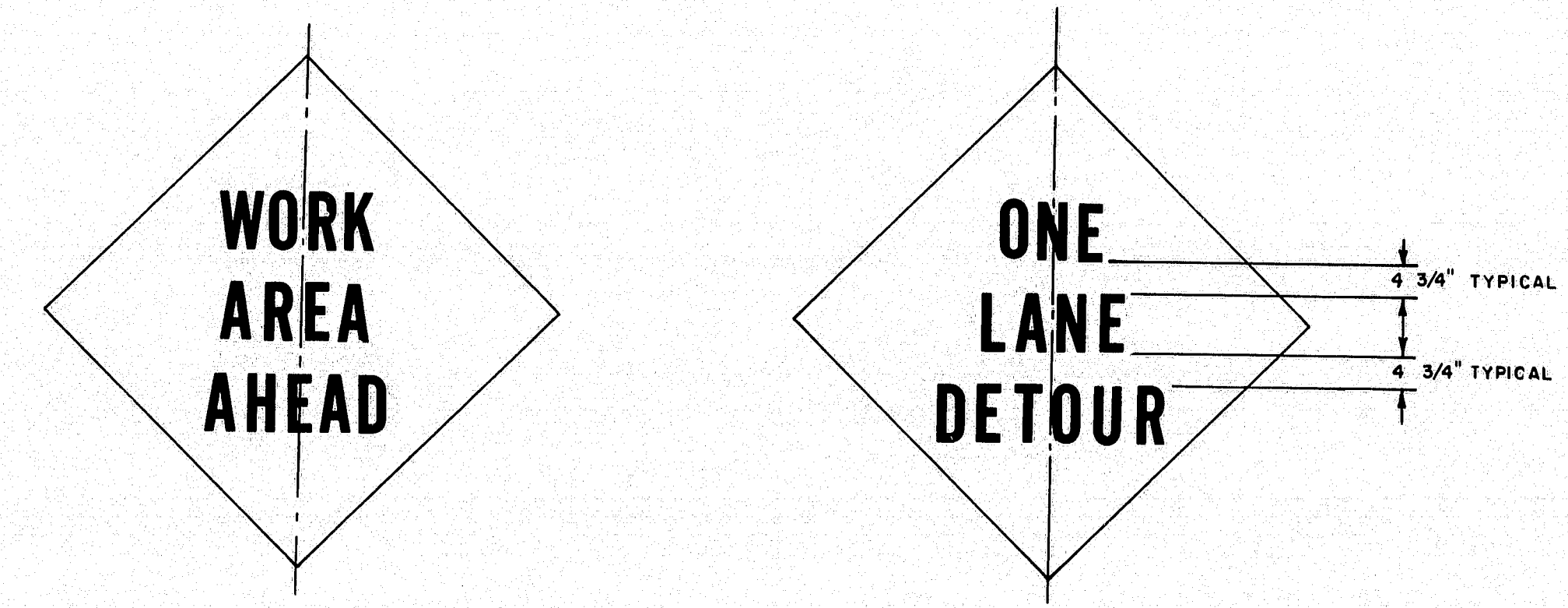
**MEDIAN CROSSOVER**

ALL DIMENSIONS AND OTHER REQUIREMENTS AS  
SPECIFIED IN THE SPECIAL PROVISIONS



**ROADSIDE RECOVERY AREA**

CONSTRUCTION WARNING SIGN DETAIL



1. Letter size shall be 24 Series 'D'.
2. Border dimensions and legend design shall conform to "Standard Highway Signs".

**GENERAL NOTES**

1. Distances shown for sign placement are nominal, exact locations shall be determined by the Engineer.
2. Grades on temporary roadways through the construction zone used by the public shall not exceed 10 percent.
3. Advisory speed consistent with prevailing conditions shall be as determined by the Engineer.
4. Use shaded signs when specified in the Special Provisions.
5. The length of tapers shall be determined from the following formulae:

If  $S$  is equal to or less than 40 MPH  
 $L = (W \times S \times S) / 60$

If  $S$  is equal to or greater than 45 MPH  
 $L = WS$

Where:

$L$  = taper length in feet  
 $S$  = operating speed in MPH  
 $W$  = width of roadway to be closed in feet

Taper lengths shall be rounded to the nearest five feet.

It may be required to extend lane closure tapers to provide a smooth transition where geometric alignment reduces sight distance.

6. The maximum longitudinal spacing of channelizing devices shall conform to the following:

- (a) 50 feet through work areas
- (b) A distance in tapers equal to the numerical value of the operating speed, i.e., 45 MPH = 45 feet
- (c) In all areas not covered above maximum spacing shall be as follows:

Radius of curve	Spacing
50' to 300'	25'
300' to 700'	50'
700' to 1000'	75'
over 1000'	5 times the operating speed

The maximum transverse spacing in tapers shall be determined from the following formula:

$D = (W \times S) / L$

Where:

$D$  = transverse spacing in feet  
 $W$  = width of roadway to be closed in feet  
 $L$  = taper length in feet  
 $S$  = operating speed in MPH

7. BORDER DIMENSIONS AND LEGEND DESIGN SHALL CONFORM TO THE STANDARD HIGHWAY SIGNS BOOKLET.

PROJECT DESIGN ENGINEER	DATE
DESIGN-DETAILED	
REVISIONS	
FIELD CHANGES	
PLANS	

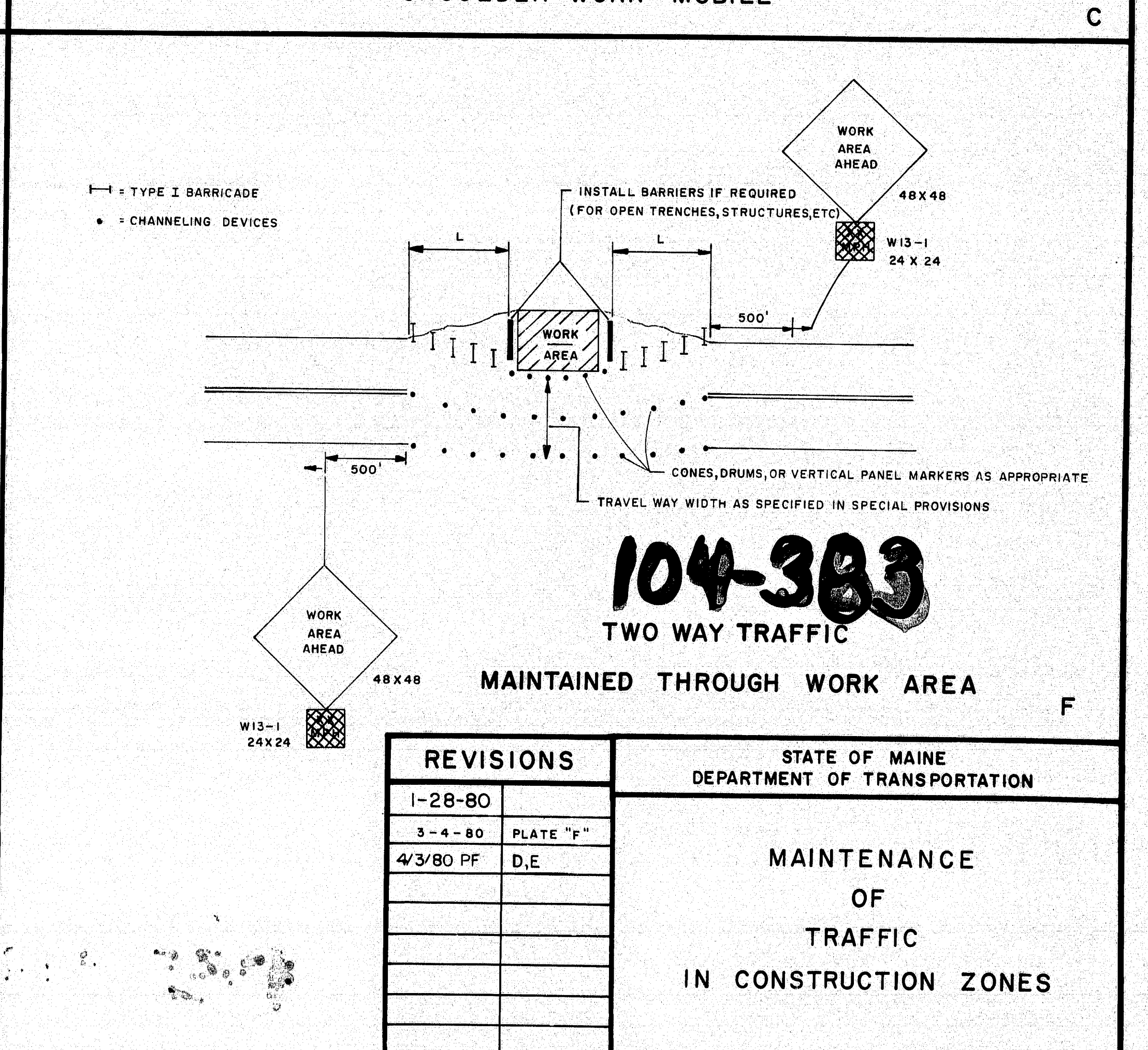
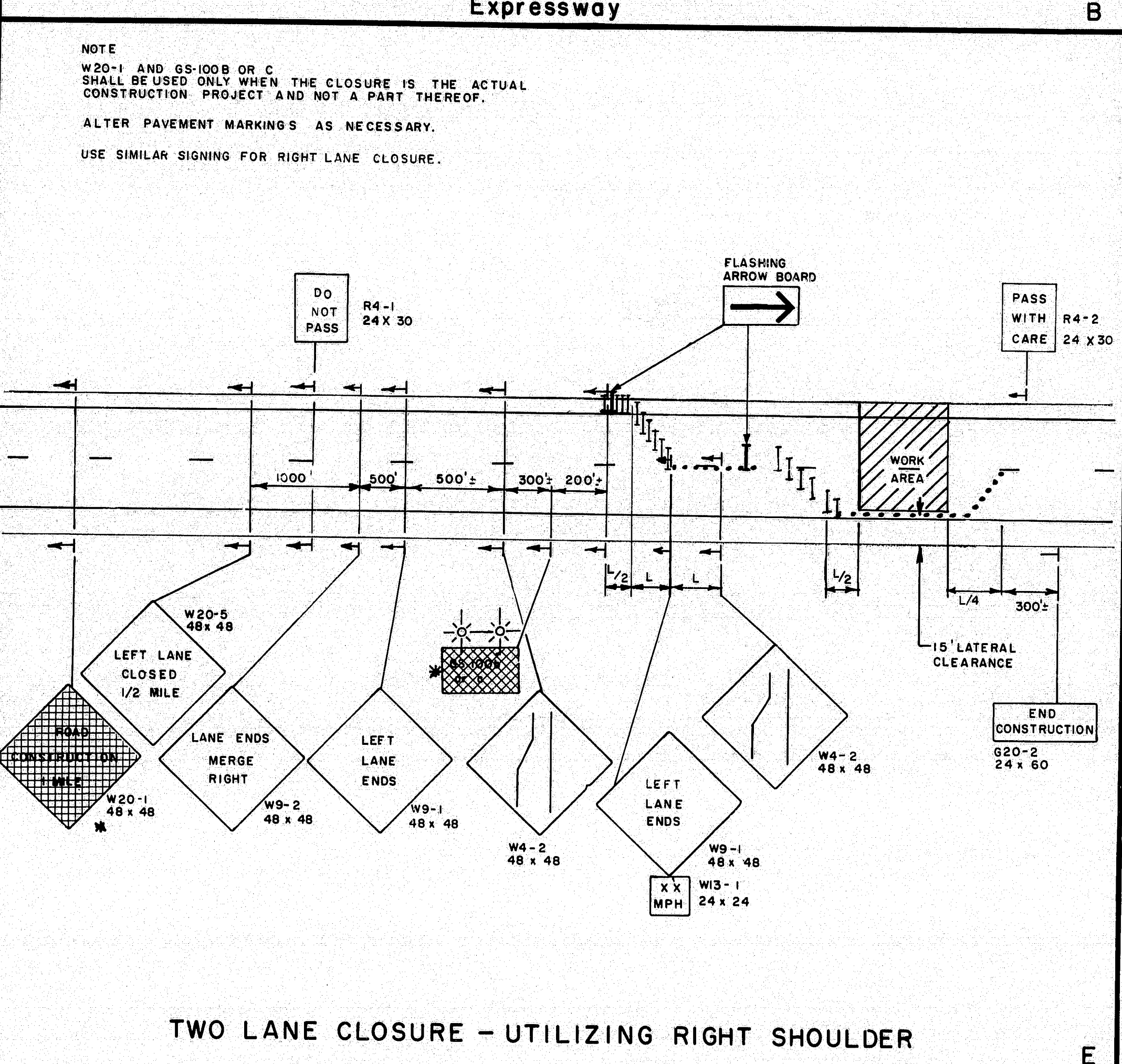
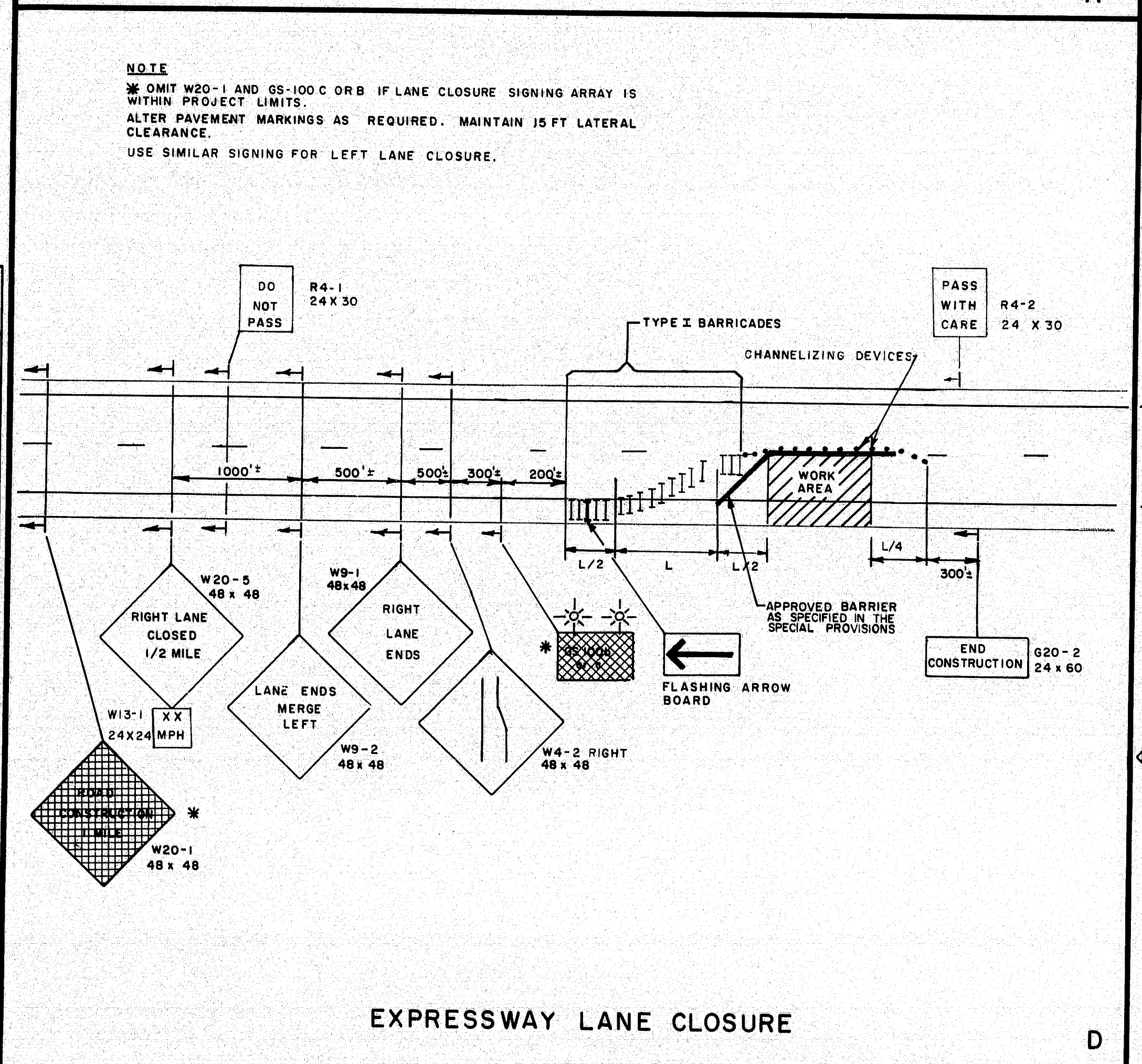
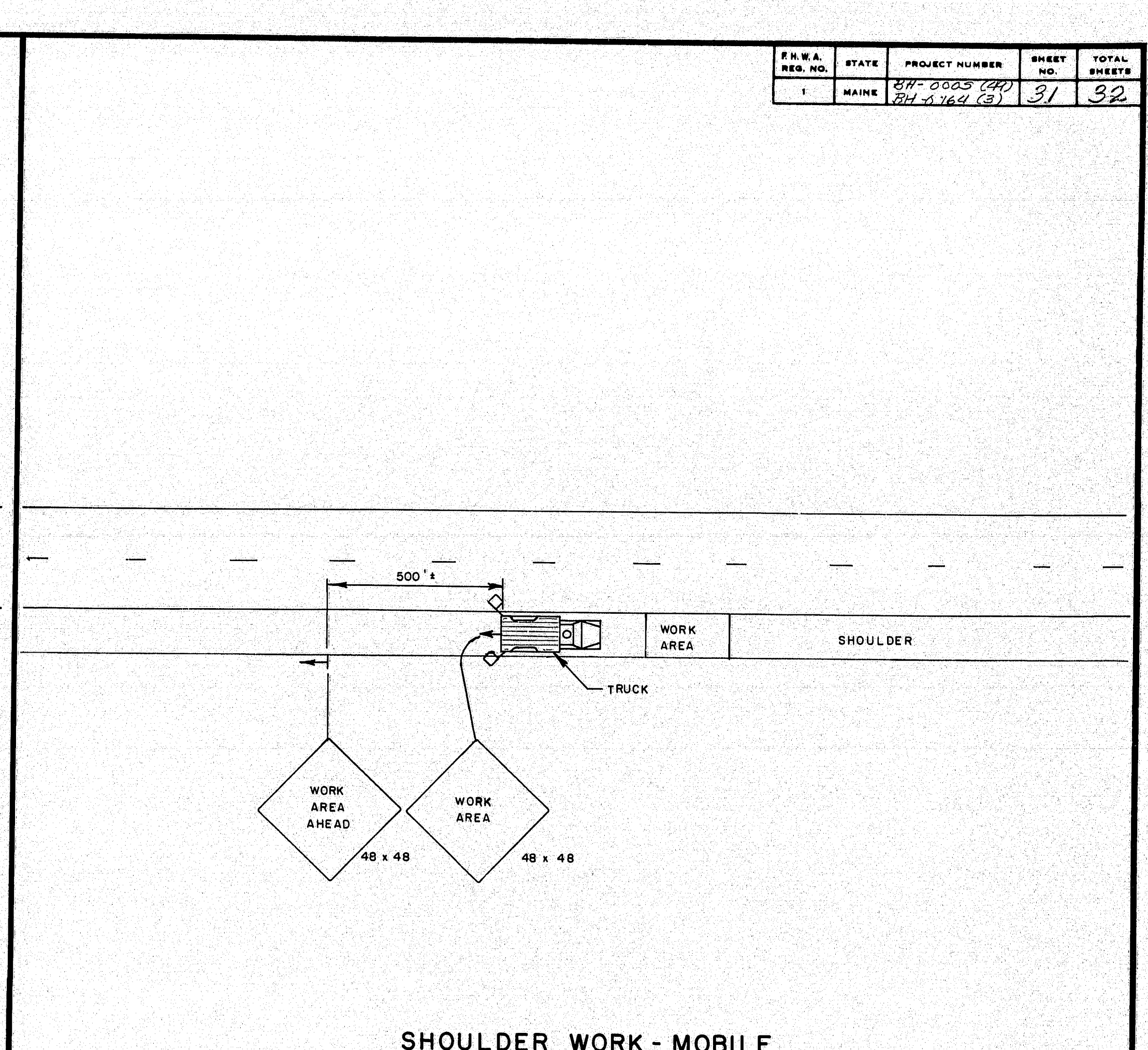
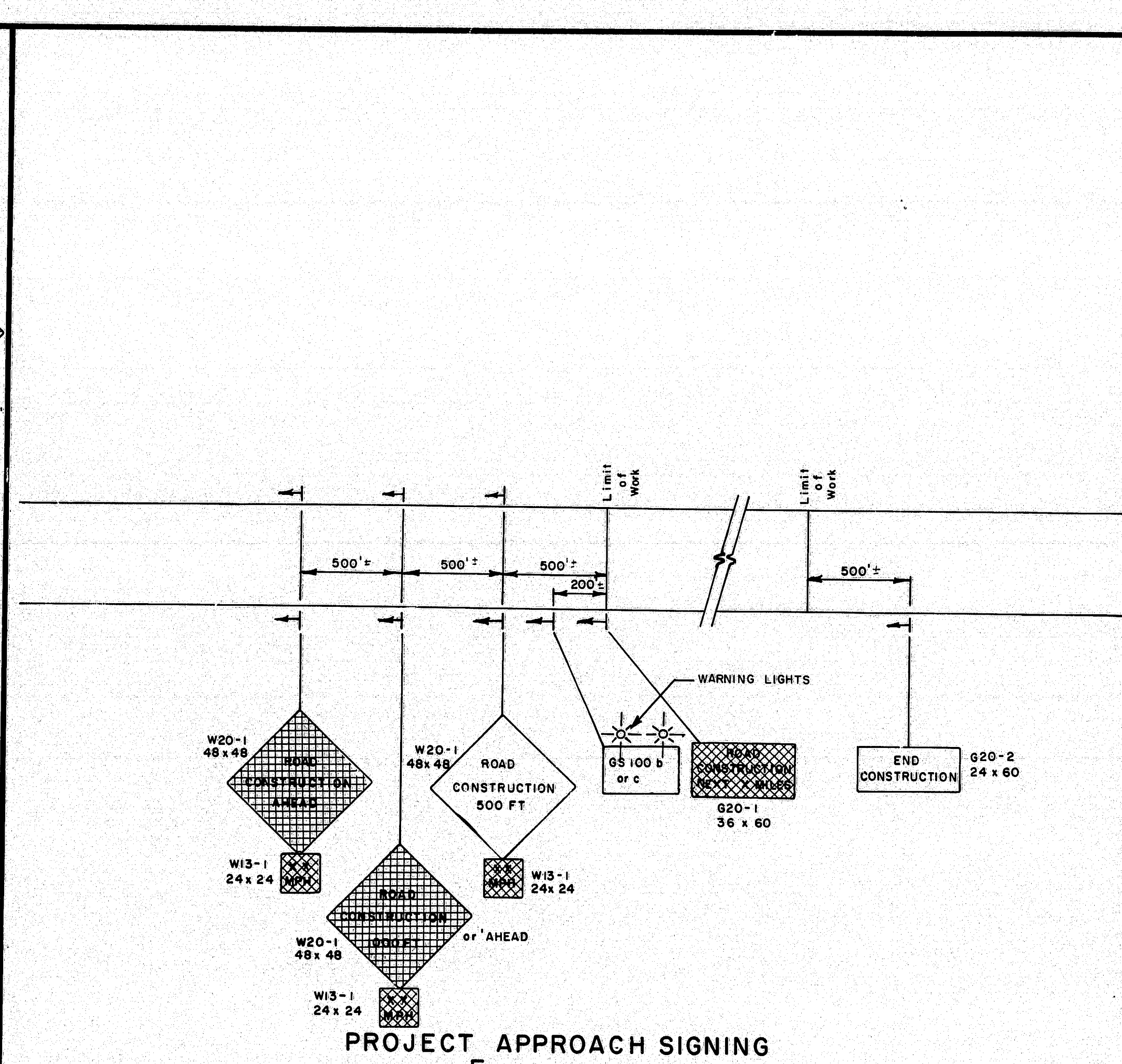
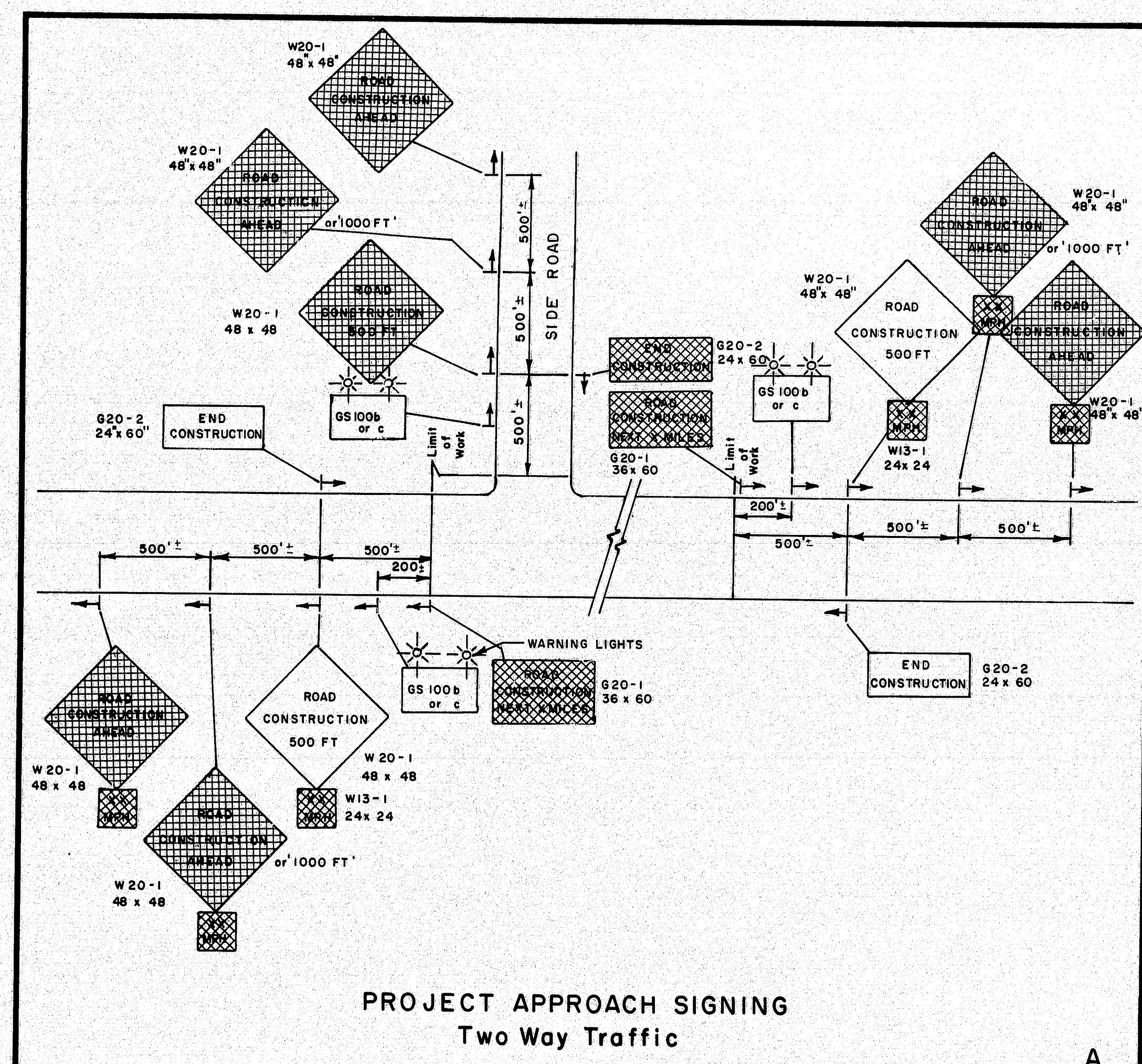
**104-382**

REVISIONS	
3-4-80	GENERAL NOTES
4/3/80 PF	A,B,C,G,N

STATE OF MAINE DEPARTMENT OF TRANSPORTATION
MAINTENANCE OF TRAFFIC IN CONSTRUCTION ZONES
SHEET 1 OF 3 AUGUSTA, MAINE



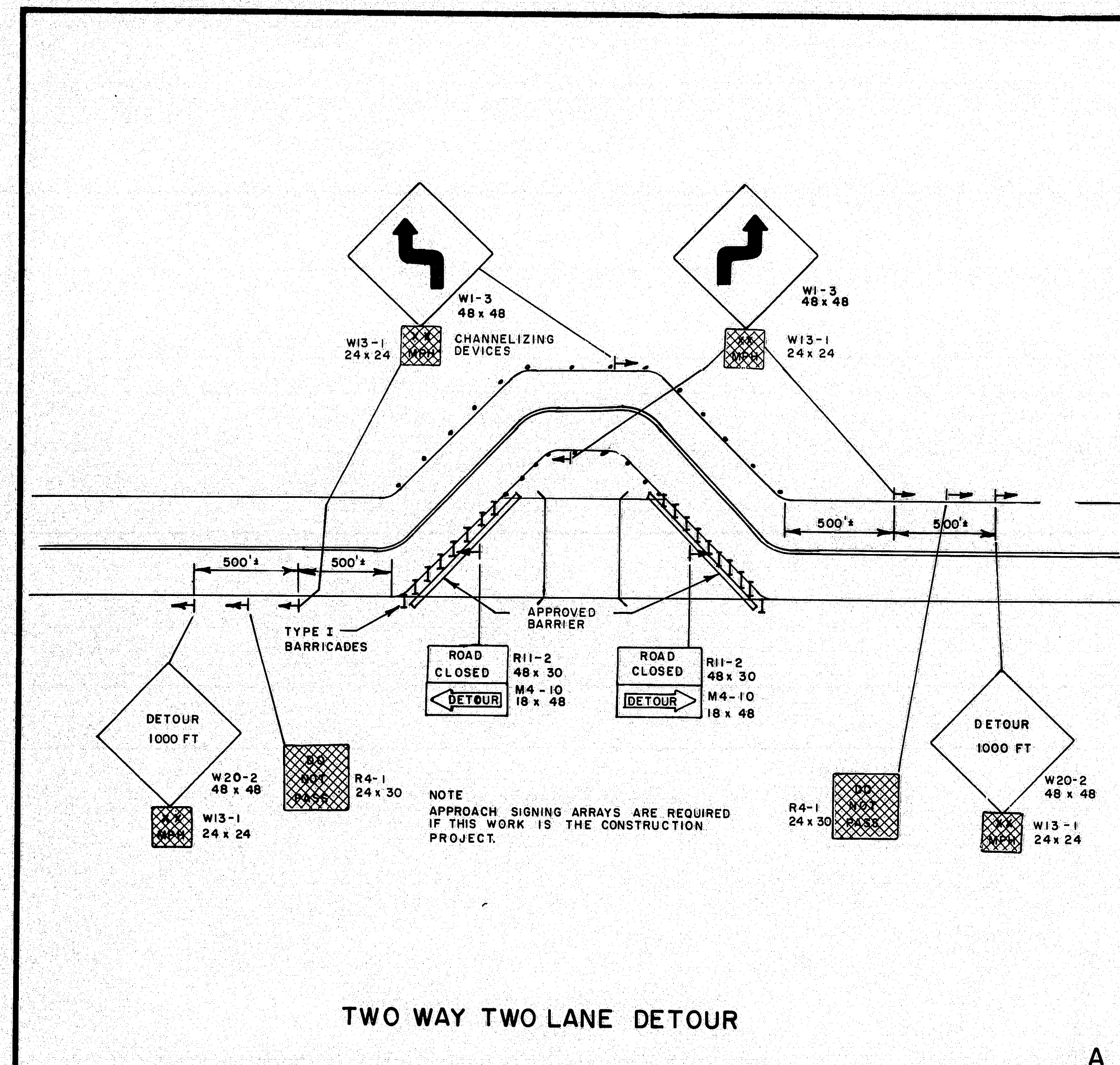
PRWA	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	104-383	31	32



PROJECT DESIGN ENGINEER	DATE
DESIGN - DETAILED	
CHECKED	
REVISIONS	
FIELD COMMENTS	

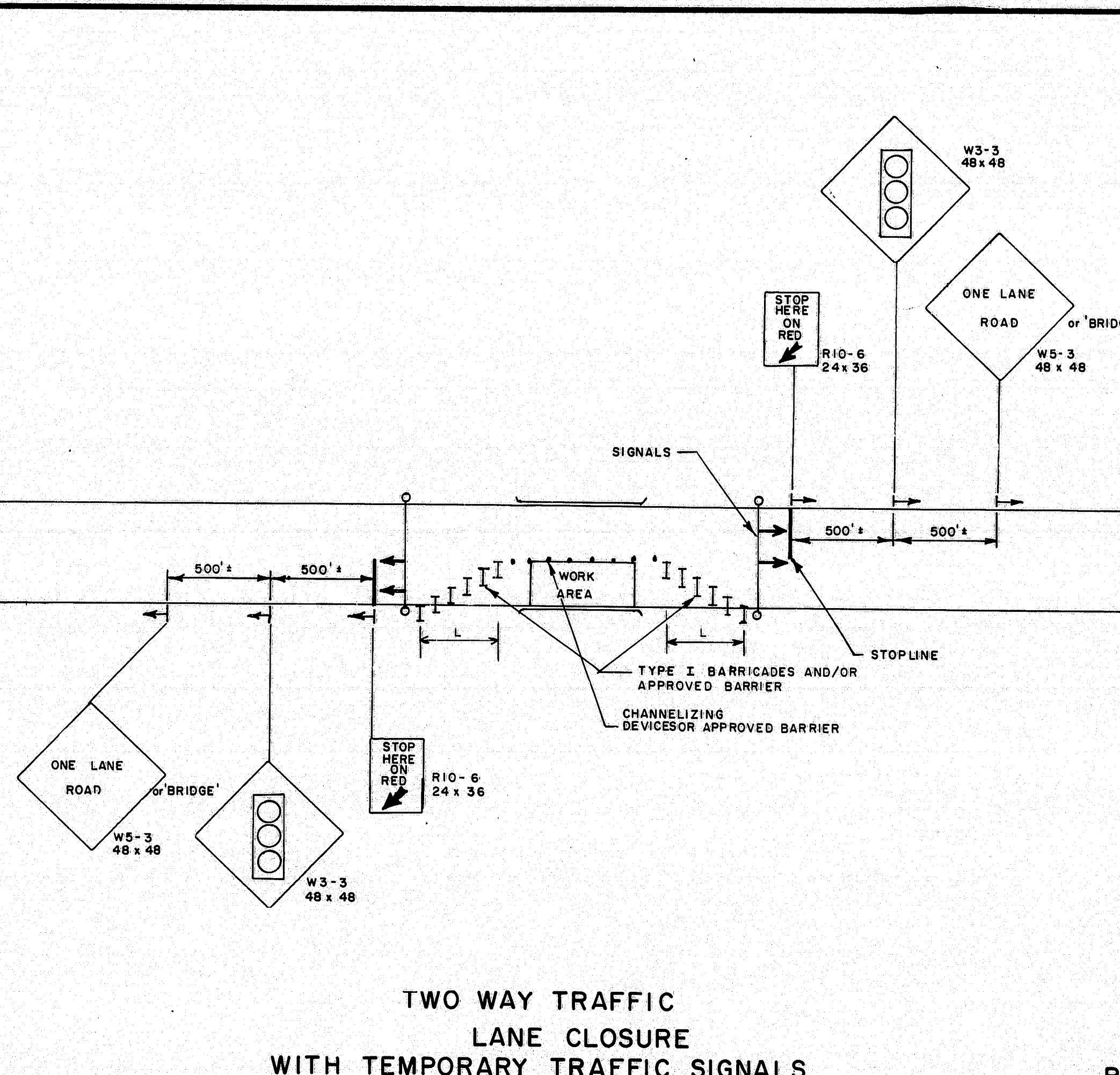
REVISIONS		STATE OF MAINE DEPARTMENT OF TRANSPORTATION	
1-28-80		MAINTENANCE OF TRAFFIC IN CONSTRUCTION ZONES	
3-4-80	PLATE "F"		
4/3/80	PF D,E		
		SHEET 2 OF 3 AUGUSTA, MAINE JULY, 1979	





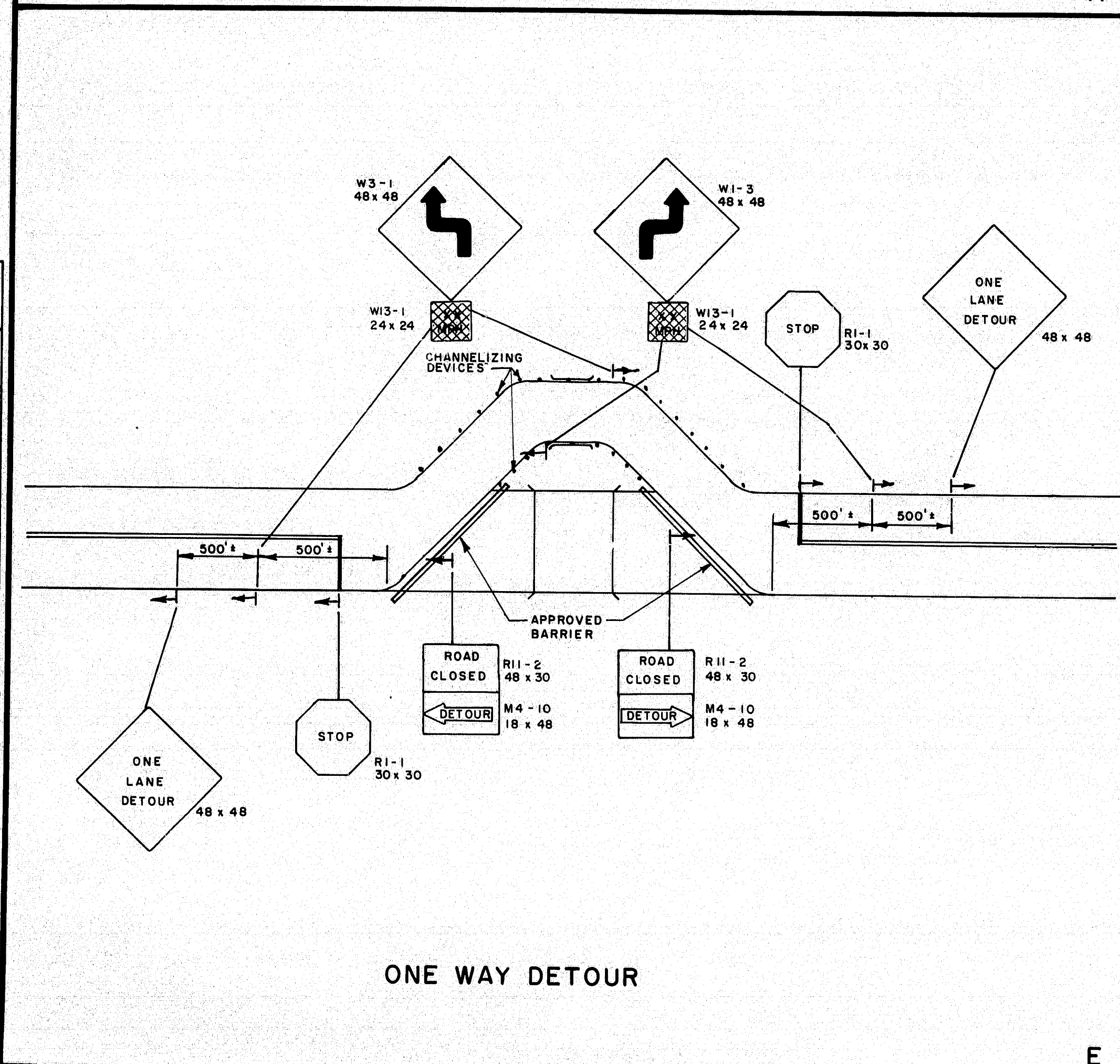
TWO WAY TWO LANE DETOUR

A



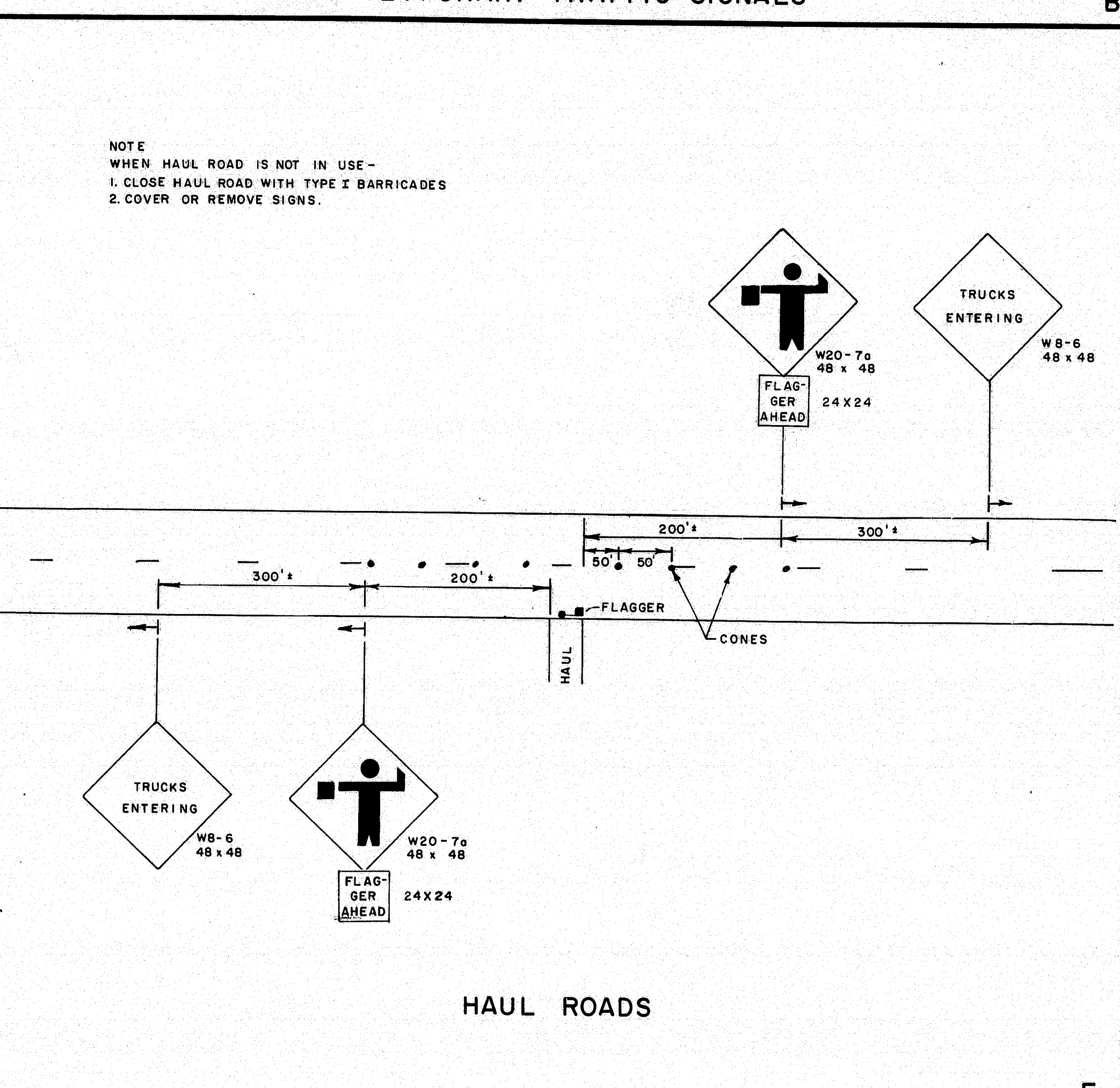
TWO WAY TRAFFIC  
LANE CLOSURE  
WITH TEMPORARY TRAFFIC SIGNALS

B



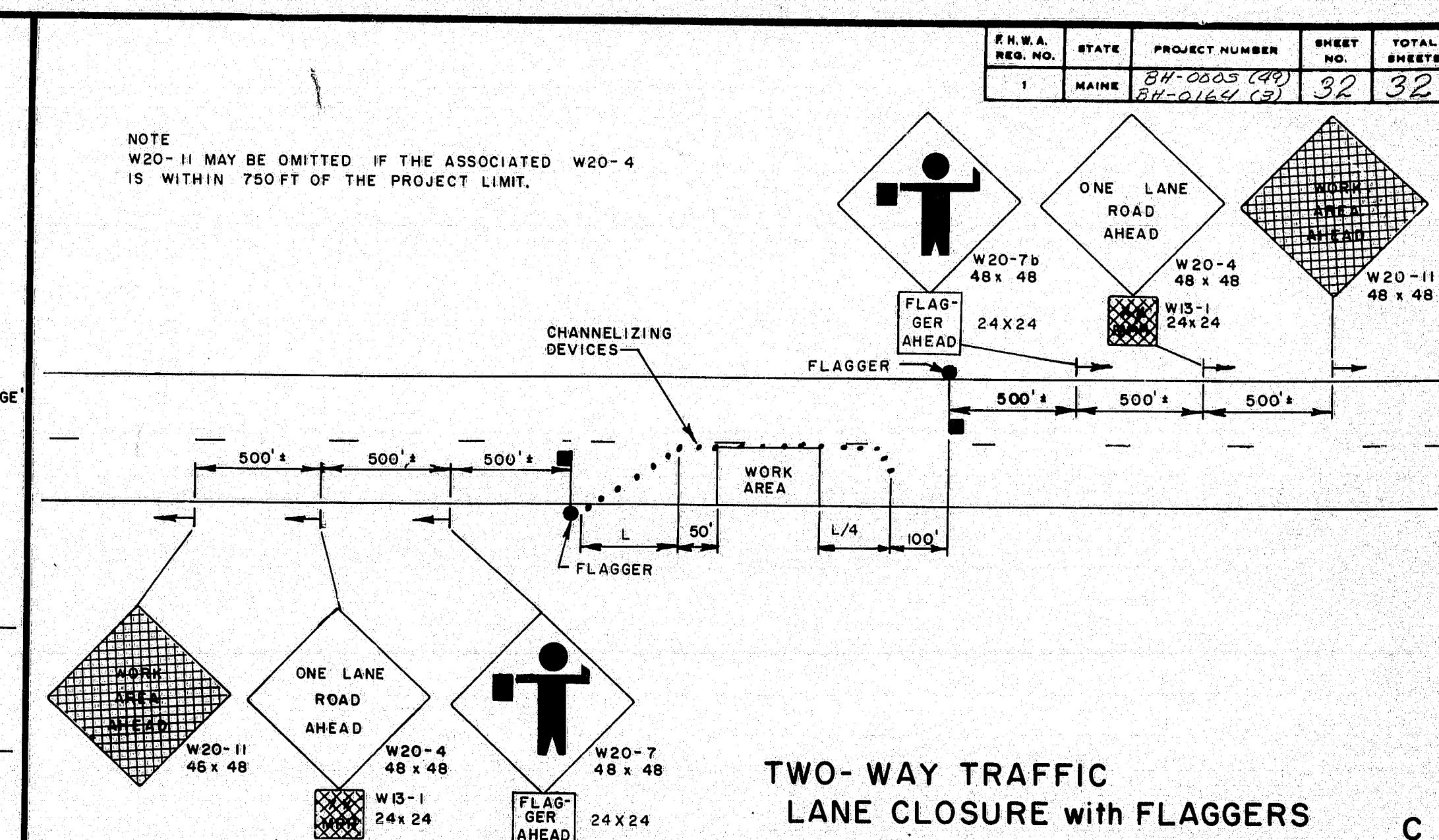
ONE WAY DETOUR

E



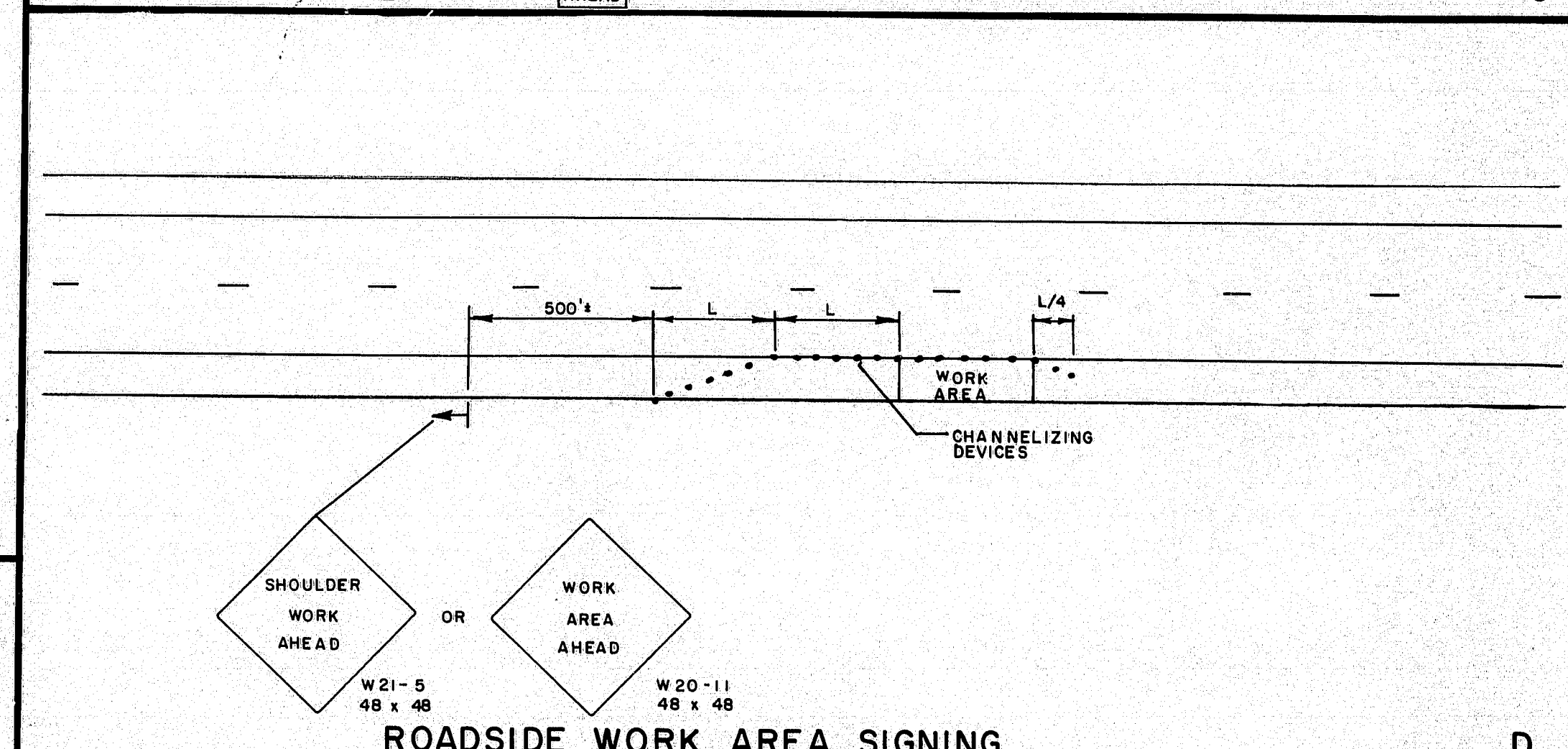
HAUL ROADS

F



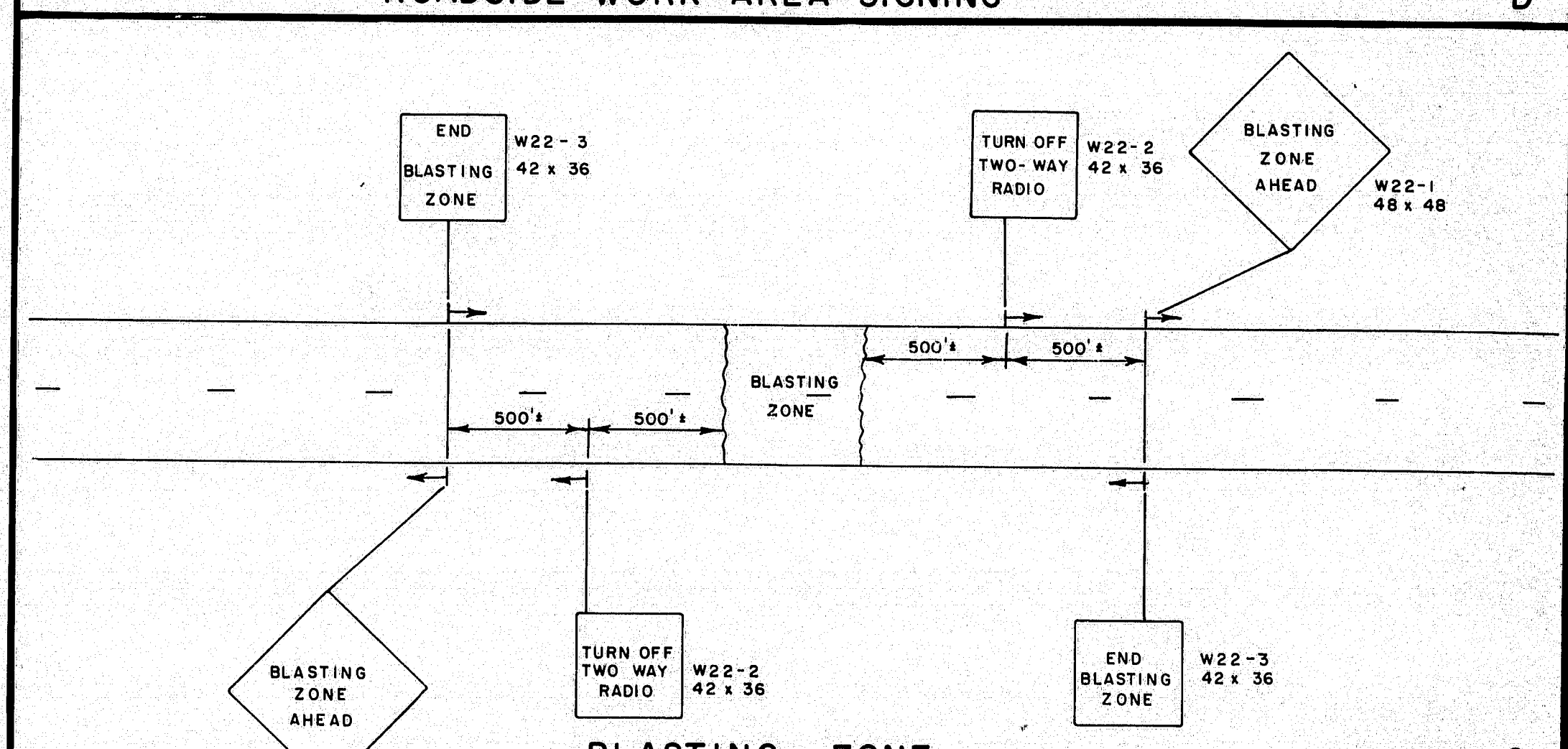
TWO-WAY TRAFFIC  
LANE CLOSURE WITH FLAGGERS

C



ROADSIDE WORK AREA SIGNING

D



BLASTING ZONE

G

PROJECT DESIGN ENGINEER	DATE
DESIGN-DETAILED	
CHECKED	
REVISIONS	
FIELD CHANGES	

REVISIONS		STATE OF MAINE DEPARTMENT OF TRANSPORTATION	
4/3/80	PF	B,C,D	

MAINTENANCE  
OF  
TRAFFIC  
IN CONSTRUCTION ZONES

104-384