

A PORTION OF CUMBERLAND COUNTY
1/2 MILE 0 1/2 MILE 1 MILE

LOCATION MAP

HYDROLOGIC DATA

Drainage Area -----38.9 sq. miles
 * Design Discharge (Q50) at Elev. +9.6 ----43,850 cfs
 * Check Discharge (Q100) at Elev. +9.8 ----47,400 cfs
 Mean High Water -----Elev. +4.8
 Mean Tide Level -----Elev. +0.3
 Mean Low Water -----Elev. -4.3
 1992 Predicted High Tide -----Elev. +7.0
 Area of river channel for existing
 and proposed bridges at Elev. 0 -----24,000 sq.ft
 * Discharge includes both runoff and tidal effects.

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION



PORTLAND - SOUTH PORTLAND
CUMBERLAND COUNTY

PORTLAND - SOUTH PORTLAND BRIDGE
OVER THE FORE RIVER

STEEL ALTERNATIVE
SUBSTRUCTURE CONTRACT

PROJECT NO.: DPI-0068(002)

PROJECT LENGTH: 0.831 MILES

FHWA RD. NO.	STATE	PROJECT NO.
1	MAINE	DP-0068

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COAST GUARD PERMIT NO. 5-93

TYLININTERNATK

UNITED STATES
DEPARTMENT OF TRANSP
FEDERAL HIGHWAY ADMIN
REGION 1
APPROVED:
DIVISION ADMINISTRATOR

APPROVED:

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

DATE

Richard A. Lawrence
COMMISSIONER

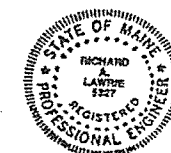
6/30/94

Richard A. Lawrence
CHIEF ENGINEER

6/30/94

NOTE

All work contemplated under this contract to be governed by and in conformity with the STANDARD SPECIFICATIONS (revision of October 1990) and supplementals thereto, as modified on the plans and in the special provisions.



Richard A. Lawrence

ESTIMATED QUANTITIES

ITEM NO.	DESCRIPTION	QUANTITY	UNIT
108.51	Prosecution of Work - Initial Schedule Substructure Steel Alt.	1	LS
108.52	Prosecution of Work - Monthly Update Substructure Steel Alt.	29	EA
202.08	Removing Building #1	1	LS
202.19	Remove Existing Bridge	1	LS
203.20	Common Excavation	2350	CY
203.21	Rock Excavation	200	CY
203.25	Granular Borrow	7900	CY
206.061	Structural Earth Excavation - Drainage and Minor Str. Below Grade.	50	CY
206.082	Structural Earth Excavation - Major Structures	5700	CY
206.092	Structural Rock Excavation - Major Structures	1300	CY
206.10	Structural Earth Excavation - Piers	19400	CY
206.11	Structural Rock Excavation - Piers	4600	CY
304.10	Aggr. Subbase Course-Gravel	3200	CY
304.12	Aggr. Subbase Course - Sand	70	CY
403.07	Hot Bit. Pavement Grading B	440	Ton
403.101	Hot Bit. Pavement Grading D (Sidewalks, Drives, Shims, Etc.)	50	Ton
409.15	Bit. Tack Coat Applied	25	G
501.230	Static Loading Test	1	EA
501.231	Dynamic Loading Test	15	EA
501.54	Steel H-beam Piles 117 lbs/ft, delivered	32500	LF
501.541	Steel H-beam Piles 117 lbs/ft, in place	32500	LF
501.90	Pile Tips	487	EA
501.91	Pile Splices	487	EA
501.92	Pile Driving Equipment Mobilization	1	LS
502.219	Structural Concrete, Abutments and Retaining Walls (2186 CY)	1	LS
502.236	Structural Concrete Pier Protection	326	CY
502.239	Structural Concrete Piers (17886 CY)	1	LS
502.24	Structural Concrete Piers (placed under water)	12272	CY
502.31	Str. Concrete Approach Slab (60 CY)	1	LS
502.4711	Silica Fume Additive (729212 LB)	1	LS
503.141	Epoxy - Coated Reinforcing Steel, Fabricated and Delivered (4211700 LB)	1	LS
503.151	Epoxy - Coated Reinforcing Steel, Placing (4211700 LB)	1	LS
510.12	Special Detour at Crossover, 48 foot Width, Vehicular and Pedestrian Traffic Separated	1	LS
511.07	Cofferdam - South Abutment	1	LS
511.07	Cofferdam - North Abutment	1	LS
511.07	Cofferdam Pier 1S	1	LS
511.07	Cofferdam Pier 2S	1	LS
511.07	Cofferdam Pier 3S	1	LS
511.07	Cofferdam Pier 4S	1	LS
511.07	Cofferdam Pier 5S	1	LS
511.07	Cofferdam Pier 6S	1	LS
511.07	Cofferdam Pier 7S	1	LS
511.07	Cofferdam Pier 8S	1	LS
511.07	Cofferdam Pier 9S	1	LS
511.07	Cofferdam Pier 10S	1	LS
511.07	Cofferdam Pier 11S	1	LS
511.07	Cofferdam Pier 12S	1	LS
511.07	Cofferdam Pier 13S	1	LS

ESTIMATED QUANTITIES

ITEM NO.	DESCRIPTION	QUANTITY	UNIT
511.07	Cofferdam Pier 14S	1	LS
511.07	Cofferdam Pier 15S	1	LS
511.07	Cofferdam Pier 16S	1	LS
511.07	Cofferdam Pier 1N	1	LS
511.07	Cofferdam Pier 2N	1	LS
511.07	Cofferdam Pier 3N	1	LS
511.07	Cofferdam Pier 4N	1	LS
511.07	Cofferdam Pier 5N	1	LS
511.07	Cofferdam Pier 1R	1	LS
511.07	Cofferdam Pier 2R	1	LS
511.07	Cofferdam Pier 3R	1	LS
511.07	Cofferdam Pier 4R	1	LS
511.07	Cofferdam Pier 5R	1	LS
511.07	Cofferdam Pier 6R	1	LS
512.08	French Drains	806	LF
514.06	Curing Box For Concrete Cylinders	2	EA
525.30	Granite Masonry	4087	SF
526.301	Temporary Concrete Barrier - Type 1	1	LS
527.32	Portable Crash Barrels	14	EA
602.10	1 1/2 Inch Sewer Force Main	130	LF
603.157	12" PVC Pipe	240	LF
603.159	12 Inch Culvert Pipe Option III	230	LF
603.165	15 Inch Reinforced Concrete Pipe - Class III	30	LF
603.167	15 Inch Polyvinylchloride (PVC) Pipe	280	LF
603.169	15 Inch Culvert Pipe Option III	430	LF
603.177	18 Inch PVC Pipe	4	LF
603.195	24 Inch Reinforced Concrete Pipe - Class III	200	LF
603.197	24 Inch PVC Pipe	220	LF
603.205	30 Inch Reinforced Concrete Pipe - Class III	450	LF
603.2051	30 Inch Reinforced Concrete Pipe - Class IV	73	LF
603.2052	30 Inch Reinforced Concrete Pipe - Class V	72	LF
603.209	30 Inch Culvert Pipe - Option III	90	LF
604.071	Catch Basin Type A1-P	3	EA
604.091	Catch Basin - Type B1-P	12	EA
604.0931	60" Catch Basin - Type B1-P	3	EA
604.0955	96" Catch Basin - Type B1-P	1	EA
604.15	Manhole	2	EA
604.153	60" Manhole	4	EA
604.17	Alter Manhole to Catch Basin	1	EA
604.32	8" Wide Channel Drain	90	LF
604.35	Special Polymer Concrete Catch Basin Type 1	8	EA
604.36	Special Polymer Concrete Catch Basin Type 2	7	EA
606.17	Guardrail Type 3B - Single Rail	25	LF
607.19	Chain Link Fence - 8 Foot	400	LF
607.2331	Chain Link Fence Gate 8' (8' Opening)	1	EA
607.2337	Chain Link Fence Gate 8' (20' Opening)	1	EA
607.2339	Chain Link Fence Gate 8' (24' Opening)	1	EA
609.31	Curb Type 3	300	LF
610.08	Plain Riprap	650	CY
610.18	Stone Ditch Protection	240	CY
613.329	Extended Use Erosion Control Blankets	2200	SY

ESTIMATED QUANTITIES

ITEM NO.	DESCRIPTION	QUANTITY
615.07	Loam	84
617.30	Composted Bark Mix	160
618.13	Seeding Method No. 1	14
618.25	Applied Water	2
619.12	Mulch	14
620.58	Erosion Control Geotextile	1700
622.11	Transplanting Tree	4
625.086	2 Inch Copper Tubing	130
626.21	Metallic Conduit	620
627.61	4 Inch Solid White Pavement Marking Line	7500
627.65	White or Yellow Pavement and Curb Marking	300
627.67	Removing Pavement Markings	1800
627.68	Temp. 4" Painted Pavement Marking Line (White or Yellow)	13800
629.05	Hand Labor, Straight Time	100
631.12	All Purpose Excavator(Incl. Operator)	50
631.172	Truck, Large (Incl. Operator)	100
634.16	Highway Lighting (Ferry Terminal Lot)	1
637.08	Calcium Chloride	5
639.22	Testing Facilities Bituminous Mixes	1
652.31	Type I Barricade	25
652.311	Type II Barricade	20
652.312	Type III Barricade	15
652.33	Drum	50
652.34	Cone	50
652.35	Construction Signs	500
652.361	Maintenance of Traffic Control Devices	1
652.38	Flaggers	500
652.60	Special Detour Vehicular and Pedestrian Traffic Separated: York Street, 44 Foot Width	1
656.50	Baled Hay, In Place	100
656.632	30" Temporary Silt Fence	1950
657.24	Seeding Pits	13
659.10	Mobilization	1
660.21	On the Job Training (BID)	8000
801.091	1 1/2 Inch Sewer Force Main	1 430
841.47	Steel Bollard	14
853.10	Boat	1

STEEL ALTERNATIVE 1

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PORTLAND - S. PORTLAND

OVER FORE RIVER

CUMBERLAND COUNTY

ESTIMATED QUANTITIES

SHEET 2 OF 338 AUGUSTA, ME

- △ Revised per Addendum #5
△ Revised per Addendum #4
△ Revised per Addendum #3
△ Revised Sheet July 13, 1994
See Addendum # 1

PROJECT DESIGN ENGINEER	DATE
DESIGN-DETAILED	5/04
CHECKED	5/04
REVISIONS	
FIELD CHANGES	

PLOT SCALE: 1"=1'
C:\PORTLAND\STSUB.DWG

DESIGN-DETAILED
CHECKED
REVISED
FIELD CHANGES
PLANS
PLOT SCALE: 1"=1'
C:\PORTLAND\SUB\DWG

5/94
6/94
JHA
HNT
WDE

ESTIMATED QUANTITIES

ITEM NO.	DESCRIPTION	QUANTITY	UNIT
202.08	Removing Building #1	1	LS
202.19	Remove Existing Bridge (Viaduct)	1	LS
203.20	Common Excavation	641	CY
203.25	Granular Borrow	7866	CY
206.081	Structural Earth Excavation - Drainage and Minor Str.	50	CY
206.082	Structural Earth Excavation - Major Structures	5649	CY
206.092	Structural Rock Excavation - Major Structures	1293	CY
206.10	Structural Earth Excavation - Piers	19404	CY
206.11	Structural Rock Excavation - Piers	4564	CY
304.10	Aggr. Subbase Course-Gravel	3200	CY
304.12	Aggr. Subbase Course - Sand	70	CY
403.07	Hot Bit. Pavement Grading B	440	Ton
501.230	Static Loading Test	1	EA
501.231	Dynamic Loading Test	15	EA
501.54	Steel H-beam Piles 117 lbs/ft, delivered	35024	LF
501.541	Steel H-beam Piles 117 lbs/ft, in place	35024	LF
501.90	Pile Tips	477	EA
501.91	Pile Splices	477	EA
501.92	Pile Mobilization	1	LS
502.21	Structural Concrete, Abutments and Retaining Walls (2186 CY)	1	LS
502.23	Structural Concrete Piers (17886 CY)	1	LS
502.24	Structural Concrete Piers (placed under water)	12272	CY
	Structural Concrete Precast Pier Protection (326 CY)	1	LS
502.31	Str. Concrete Approach Slab (60 CY)	1	LS
502.4712	Silica Fume Additive (729212 LB)	1	LS
503.14	Epoxy - Coated Reinforcing Steel, Fabricated and Delivered (4211690 LB)	1	LS
503.15	Epoxy - Coated Reinforcing Steel, Placing (4211690 LB)	1	LS
510.10	Special Detour at Crossover, 48 foot	1	LS
	Width, Vehicular and Pedestrian Traffic Separated	1	LS
511.07	Cofferdam - South Abutment	1	LS
511.07	Cofferdam - North Abutment	1	LS
511.07	Cofferdam Pier 1S	1	LS
511.07	Cofferdam Pier 2S	1	LS
511.07	Cofferdam Pier 3S	1	LS
511.07	Cofferdam Pier 4S	1	LS
511.07	Cofferdam Pier 5S	1	LS
511.07	Cofferdam Pier 6S	1	LS
511.07	Cofferdam Pier 7S	1	LS
511.07	Cofferdam Pier 8S	1	LS
511.07	Cofferdam Pier 9S	1	LS
511.07	Cofferdam Pier 10S	1	LS
511.07	Cofferdam Pier 11S	1	LS
511.07	Cofferdam Pier 12S	1	LS
511.07	Cofferdam Pier 13S	1	LS
511.07	Cofferdam Pier 14S	1	LS
511.07	Cofferdam Pier 15S	1	LS
511.07	Cofferdam Pier 16S	1	LS
511.07	Cofferdam Pier 1N	1	LS
511.07	Cofferdam Pier 2N	1	LS
511.07	Cofferdam Pier 3N	1	LS

ESTIMATED QUANTITIES

ITEM NO.	DESCRIPTION	QUANTITY	UNIT
511.07	Cofferdam Pier 4N	1	LS
511.07	Cofferdam Pier 5N	1	LS
511.07	Cofferdam Pier 1R	1	LS
511.07	Cofferdam Pier 2R	1	LS
511.07	Cofferdam Pier 3R	1	LS
511.07	Cofferdam Pier 4R	1	LS
511.07	Cofferdam Pier 5R	1	LS
511.07	Cofferdam Pier 6R	1	LS
512.08	French Drains	806	LF
514.06	Curling Box For Concrete Cylinders		EA
525.30	Granite Masonry	4087	SF
526.30	Temporary Concrete Barrier - Type 1	1650	LF
527.32	Portable Crash Barrels	14	EA
602.10	1 1/2 Inch Sewer Force Main	130	LF
603.157	12" PVC Pipe	240	LF
603.159	12" Option III	230	LF
603.165	15" RCP	30	LF
603.167	15" PVC Pipe	280	LF
603.169	15" Option III	430	LF
603.177	18" PVC Pipe	4	LF
603.195	24" RCP - Class III	200	LF
603.197	24" PVC Pipe	220	LF
603.205	30" RCP - Class III	450	LF
603.2051	30" RCP - Class IV	150	LF
603.209	30" Option III	90	LF
604.07	Catch Basin - Type A1	15	EA
604.073	60" Catch Basin - Type A1	3	EA
604.0751	96" Catch Basin - Type A1	1	EA
604.15	Manhole	2	EA
604.153	60" Manhole	4	EA
604.17	Alter Manhole to Catch Basin	1	EA
604.	8" Wide Channel Drain	90	LF
604.	Special Polymer Concrete Catch Basin Type 1	8	EA
604.	Special Polymer Concrete Catch Basin Type 2	7	EA
606.17	Guardrail Type 3B - Single Rail	25	LF
607.17	Chain Link Fence - 6 Foot	400	LF
607.23?	Chain Link Fence Gate 8' (24' Opening)	1	EA
607.23?	Chain Link Fence Gate 8' (20' Opening)	1	EA
607.23?	Chain Link Fence Gate 8' (8' Opening)	1	EA
609.31	Curb Type 3	300	LF
610.08	Plain Riprap	650	CY
610.18	Stone Ditch Protection	240	CY
613.329	Extended Use Erosion Control Blankets	2200	SY
615.07	Loam	84	CY
617.30	Composted Bark Mix	160	CY
618.13	Seeding Method No. 1	14	Unit
618.25	Applied Water	2	MG
619.12	Mulch	14	Unit
620.58	Erosion Control Geotextile	1700	SY
622.11	Transplanting Tree	4	EA
625.082	1 Inch Copper Tubing	230	LF

ESTIMATED QUANTITIES

ITEM NO.	DESCRIPTION	QUANTITY	UNIT
625.086	2 Inch Copper Tubing	130	LI
626.21	Metallic Conduit	620	LI
627.61	4 Inch Solid White Pavement Marking Line	7500	LI
627.65	White or Yellow Pavement and Curb Marking	300	S
627.67	Removing Pavement Markings	1800	L
627.68	Temp. 4" Painted Pavement Marking Line (White or Yellow)	13800	L
629.05	Hand Labor, Straight Time	100	MI
631.12	All Purpose Excavator(Incl. Operator)	50	HF
631.172	Truck, Large (Incl. Operator)	100	HF
634.160	Highway Lighting (Ferry Terminal Lot)	1	LS
637.08	Calcium Chloride	5	Tc
639.22	Testing Facilities Bituminous Mixes	1	LS
639.23	Testing Facilities Concrete	1	LS
652.31	Type I Barricade		EA
652.311	Type II Barricade		EA
652.312	Type III Barricade		EA
652.33	Drum	50	EA
652.34	Cone		EA
652.35	Construction Signs	500	SF
652.36	Maintenance of Traffic Control Devices	1600	CI
652.38	Flaggers		M
652.??	Special Detour at York Street, 44 foot Width, Vehicular and Pedestrian Traffic Separated	1	LS
656.50	Baled Hay	100	EA
656.632	30" Temporary Silt Fence	1950	LF
657.24	Seeding Pits	13	U
659.10	Mobilization	1	LS
660.21	On the Job Training		MI
841.47	Steel Bollard	14	EA

STEEL ALTERNATIVE SUBSTR

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
PORTLAND - S. PORTLAND
OVER FORD RIVER
CUMBERLAND COUNTY
ESTIMATED QUANTITIES
SHEET 2 OF 200 AUGUSTA, MAINE

INDEX OF SHEETS

F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	DP1-0068(002)	7	226

SHEET NO.	SHEET TITLE	SHEET NO.	SHEET TITLE	SHEET NO.	SHEET TITLE	SHEET NO.	SHEET TITLE
1)	TITLE SHEET	46)	PLAN & ELEVATION - PIER 1S	93)	CAP REINFORCING - PIER 12S	140)	SHAFT REINFORCING - PIER 8S (S.B.L.)
2)	ESTIMATED QUANTITIES	47)	PLAN & ELEVATION - PIER 2S	94)	CAP REINFORCING - PIER 12S	141)	SHAFT REINFORCING - PIER 9S (N.B.L.)
3)	INDEX OF SHEETS	48)	PLAN & ELEVATION - PIER 3S	95)	CAP REINFORCING - PIER 13S	142)	SHAFT REINFORCING - PIER 9S (S.B.L.)
4)	INDEX OF SHEETS	49)	PLAN & ELEVATION - PIER 4S	96)	CAP REINFORCING - PIER 13S	143)	SHAFT REINFORCING - PIER 10S (N.B.L.)
	STRUCTURAL PLANS	50)	PLAN & ELEVATION - PIER 5S	97)	CAP REINFORCING - PIER 14S	144)	SHAFT REINFORCING - PIER 10S (S.B.L.)
5)	GENERAL NOTES	51)	PLAN & ELEVATION - PIER 6S	98)	CAP REINFORCING - PIER 14S	145)	SHAFT REINFORCING - PIER 11S (N.B.L.)
6)	GENERAL PLAN AND ELEVATION	52)	PLAN & ELEVATION - PIER 7S	99)	CAP REINFORCING - PIER 15S	146)	SHAFT REINFORCING - PIER 11S (S.B.L.)
7)	FOUNDATION PLAN & ELEVATION	53)	PLAN & ELEVATION - PIER 8S	100)	CAP REINFORCING - PIER 15S	147)	SHAFT REINFORCING - PIER 12S (N.B.L.)
8)	FOUNDATION PLAN & ELEVATION	54)	PLAN & ELEVATION - PIER 9S	101)	CAP REINFORCING - PIER 16S	148)	SHAFT REINFORCING - PIER 12S (S.B.L.)
9)	FOUNDATION PLAN & ELEVATION	55)	PLAN & ELEVATION - PIER 10S	102)	CAP REINFORCING - PIER 16S	149)	SHAFT REINFORCING - PIER 13S (N.B.L.)
10)	FOUNDATION PLAN & ELEVATION	56)	PLAN & ELEVATION - PIER 11S	103)	CAP REINFORCING - PIER 1N	150)	SHAFT REINFORCING - PIER 13S (S.B.L.)
11)	FOUNDATION PLAN & ELEVATION	57)	PLAN & ELEVATION - PIER 12S	104)	CAP REINFORCING - PIER 1N	151)	SHAFT REINFORCING - PIER 14S (N.B.L.)
12)	FOUNDATION PLAN & ELEVATION	58)	PLAN & ELEVATION - PIER 13S	105)	CAP REINFORCING - PIER 2N	152)	SHAFT REINFORCING - PIER 14S (S.B.L.)
13)	FOUNDATION PLAN & ELEVATION	59)	PLAN & ELEVATION - PIER 14S	106)	CAP REINFORCING - PIER 2N	153)	SHAFT REINFORCING - PIER 15S (N.B.L.)
14)	FOUNDATION PLAN & ELEVATION - RAMP	60)	PLAN & ELEVATION - PIER 15S	107)	CAP REINFORCING - PIER 3N	154)	SHAFT REINFORCING - PIER 15S (S.B.L.)
15)	PLAN & ELEVATION - SOUTH ABUTMENT	61)	PLAN & ELEVATION - PIER 16S	108)	CAP REINFORCING - PIER 3N	155)	SHAFT REINFORCING - PIER 16S (N.B.L.)
16)	DETAILS - SOUTH ABUTMENT I	62)	PLAN & ELEVATION - PIER 1N	109)	CAP REINFORCING - PIER 4N	156)	SHAFT REINFORCING - PIER 16S (S.B.L.)
17)	DETAILS - SOUTH ABUTMENT II	63)	PLAN & ELEVATION - PIER 2N	110)	CAP REINFORCING - PIER 4N	157)	SHAFT REINFORCING - PIER 1N (N.B.L.)
18)	DETAILS - WINGWALL A	64)	PLAN & ELEVATION - PIER 3N	111)	CAP REINFORCING - PIER 5N	158)	SHAFT REINFORCING - PIER 1N (S.B.L.)
19)	DETAILS - WINGWALL B	65)	PLAN & ELEVATION - PIER 4N	112)	CAP REINFORCING - PIER 5N	159)	SHAFT REINFORCING - PIER 2N (N.B.L.)
20)	REINFORCING STEEL SCHEDULE - SOUTH ABUTMENT	66)	PLAN & ELEVATION - PIER 5N	113)	CAP REINFORCING - PIER 1R	160)	SHAFT REINFORCING - PIER 2N (S.B.L.)
21)	REINFORCING STEEL SCHEDULE - SOUTH ABUTMENT	67)	PLAN & ELEVATION - PIER 1R	114)	CAP REINFORCING - PIER 1R	161)	SHAFT REINFORCING - PIER 3N (N.B.L.)
22)	REINFORCING STEEL SCHEDULE - SOUTH ABUTMENT	68)	PLAN & ELEVATION - PIERS 2R & 3R	115)	CAP REINFORCING - PIER 2R	162)	SHAFT REINFORCING - PIER 3N (S.B.L.)
23)	GENERAL PLAN - NORTH ABUTMENT	69)	PLAN & ELEVATION - PIERS 4R & 5R	116)	CAP REINFORCING - PIER 2R	163)	SHAFT REINFORCING - PIER 4N (N.B.L.)
24)	GENERAL ELEVATION - NORTH ABUTMENT	70)	PLAN & ELEVATION - PIER 6R	117)	CAP REINFORCING - PIER 3R	164)	SHAFT REINFORCING - PIER 4N (S.B.L.)
25)	PLAN & ELEVATION - NORTH ABUTMENT (@ BRG 1 & 2)	71)	CAP REINFORCING - PIER 1S	118)	CAP REINFORCING - PIER 3R	165)	SHAFT REINFORCING - PIER 5N (N.B.L.)
26)	DETAILS - NORTH ABUTMENT (@ BRG 1 & 2) I	72)	CAP REINFORCING - PIER 1S	119)	CAP REINFORCING - PIER 4R	166)	SHAFT REINFORCING - PIER 5N (S.B.L.)
27)	DETAILS - NORTH ABUTMENT (@ BRG 1 & 2) II	73)	CAP REINFORCING - PIER 2S	120)	CAP REINFORCING - PIER 4R	167)	SHAFT REINFORCING - PIER 1R
28)	DETAILS - NORTH ABUTMENT (@ BRG 1 & 2) III	74)	CAP REINFORCING - PIER 2S	121)	CAP REINFORCING - PIER 5R	168)	SHAFT REINFORCING - PIER 2R
29)	DETAILS - NORTH ABUTMENT (@ BRG 1 & 2) IV	75)	CAP REINFORCING - PIER 3S	122)	CAP REINFORCING - PIER 5R	169)	SHAFT REINFORCING - PIER 3R
30)	DETAILS - NORTH ABUTMENT (@ BRG 1) I	76)	CAP REINFORCING - PIER 3S	123)	CAP REINFORCING - PIER 6R	170)	SHAFT REINFORCING - PIER 4R
31)	PLAN & ELEVATION - NORTH ABUTMENT (@ BRG 3)	77)	CAP REINFORCING - PIER 4S	124)	CAP REINFORCING - PIER 6R		
32)	DETAILS - NORTH ABUTMENT (@ BRG 3) I	78)	CAP REINFORCING - PIER 4S	125)	SHAFT REINFORCING - PIER 1S (N.B.L.)		
33)	DETAILS - NORTH ABUTMENT (@ BRG 3) II	79)	CAP REINFORCING - PIER 5S	126)	SHAFT REINFORCING - PIER 1S (S.B.L.)		
34)	PLAN & ELEVATION - RETAINING WALL C	80)	CAP REINFORCING - PIER 5S	127)	SHAFT REINFORCING - PIER 2S (N.B.L.)		
35)	PLAN & ELEVATION - RETAINING WALL C	81)	CAP REINFORCING - PIER 6S	128)	SHAFT REINFORCING - PIER 2S (S.B.L.)		
36)	SECTIONS & DETAIL - RETAINING WALL C	82)	CAP REINFORCING - PIER 6S	129)	SHAFT REINFORCING - PIER 3S (N.B.L.)		
37)	PLAN, ELEVATION & SECTION - RETAINING WALL E	83)	CAP REINFORCING - PIER 7S	130)	SHAFT REINFORCING - PIER 3S (S.B.L.)		
38)	PLAN & ELEVATION - RETAINING WALL F	84)	CAP REINFORCING - PIER 7S	131)	SHAFT REINFORCING - PIER 4S (N.B.L.)		
39)	PLAN & ELEVATION - RETAINING WALL F	85)	CAP REINFORCING - PIER 8S	132)	SHAFT REINFORCING - PIER 4S (S.B.L.)		
40)	SECTIONS & DETAILS - RETAINING WALL F	86)	CAP REINFORCING - PIER 8S	133)	SHAFT REINFORCING - PIER 5S (N.B.L.)		
41)	REINFORCING STEEL SCHEDULE - NORTH ABUTMENT (@ BRG 1 & 2)	87)	CAP REINFORCING - PIER 9S	134)	SHAFT REINFORCING - PIER 5S (S.B.L.)		
42)	REINFORCING STEEL SCHEDULE - NORTH ABUTMENT (@ BRG 1 & 2) II	88)	CAP REINFORCING - PIER 9S	135)	SHAFT REINFORCING - PIER 6S (N.B.L.)		
43)	REINFORCING STEEL SCHEDULE - NORTH ABUTMENT (@ BRG 3)	89)	CAP REINFORCING - PIER 10S	136)	SHAFT REINFORCING - PIER 6S (S.B.L.)		
44)	REINFORCING STEEL SCHEDULE - RETAINING WALLS	90)	CAP REINFORCING - PIER 10S	137)	SHAFT REINFORCING - PIER 7S (N.B.L.)		
45)	REINFORCING STEEL SCHEDULE - RETAINING WALLS	91)	CAP REINFORCING - PIER 11S	138)	SHAFT REINFORCING - PIER 7S (S.B.L.)		
		92)	CAP REINFORCING - PIER 11S	139)	SHAFT REINFORCING - PIER 8S (N.B.L.)		

STEEL ALTERNATIVE SUBSTRUCTURE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PORTLAND - S. PORTLAND BRIDGE
OVER FORE RIVER
CUMBERLAND COUNTY

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INDEX OF SHEETS

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174)	FOUNDATION DETAILS - PIER 1S (S.B.L.)
175)	FOUNDATION DETAILS - PIER 2S (N.B.L.)
176)	FOUNDATION DETAILS - PIER 2S (S.B.L.)
177)	FOUNDATION DETAILS - PIER 3S (N.B.L.)
178)	FOUNDATION DETAILS - PIER 3S (S.B.L.)
179)	FOUNDATION DETAILS - PIER 4S (N.B.L.)
180)	FOUNDATION DETAILS - PIER 4S (S.B.L.)
181)	FOUNDATION DETAILS - PIER 5S (N.B.L.)
182)	FOUNDATION DETAILS - PIER 5S (S.B.L.)
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187)	FOUNDATION DETAILS - PIER 8S (N.B.L.)
188)	FOUNDATION DETAILS - PIER 8S (S.B.L.)
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190)	FOUNDATION DETAILS - PIER 9S (S.B.L.)
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196)	FOUNDATION DETAILS - PIER 12S (S.B.L.)
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203)	FOUNDATION DETAILS - PIER 16S (N.B.L. & S.B.L.)
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205)	FOUNDATION DETAILS - PIER 2N (N.B.L.)
206)	FOUNDATION DETAILS - PIER 2N (S.B.L.)
207)	FOUNDATION DETAILS - PIER 3N (N.B.L.)
208)	FOUNDATION DETAILS - PIER 3N (S.B.L.)
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224)	EXISTING BRIDGE DEMOLITION SCHEDULE
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249)	REINFORCING STEEL SCHEDULE - PIER 4S (N.B.L. & S.B.L.)
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253)	REINFORCING STEEL SCHEDULE - PIER 6S (N.B.L. & S.B.L.)
254)	REINFORCING STEEL SCHEDULE - PIER 7S (N.B.L. & S.B.L.)
255)	REINFORCING STEEL SCHEDULE - PIER 7S (N.B.L. & S.B.L.)
256)	REINFORCING STEEL SCHEDULE - PIER 8S (N.B.L. & S.B.L.)
257)	REINFORCING STEEL SCHEDULE - PIER 8S (N.B.L. & S.B.L.)
258)	REINFORCING STEEL SCHEDULE - PIER 9S (N.B.L. & S.B.L.)
259)	REINFORCING STEEL SCHEDULE - PIER 9S (N.B.L. & S.B.L.)
260)	REINFORCING STEEL SCHEDULE - PIER 10S (N.B.L. & S.B.L.)
261)	REINFORCING STEEL SCHEDULE - PIER 10S (N.B.L. & S.B.L.)
262)	REINFORCING STEEL SCHEDULE - PIER 11S (N.B.L. & S.B.L.)
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283)	REINFORCING STEEL SCHEDULE - PIER 5N (N.B.L. & S.B.L.)
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286)	REINFORCING STEEL SCHEDULE - PIER 3R (N.B.L. & S.B.L.)
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STEEL ALTERNATIVE SUBS

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PORTLAND - S. PORTLAND

OVER FORE RIVER

CUMBERLAND CO

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SHEET 4 OF 338 AUGUSTA, MAINE

△ Revise Sheet Titles 10/7/94

PROJECT DESIGN ENGINEER	DATE
DESIGN-DETAILED	6/94
CHECKED	6/94
REVISIONS	
FIELD CHANGES	

SCALE: 1"=1'

D:\PORTLAND\INVEST-B.DWG

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174)	FOUNDATION DETAILS - PIER 1S (S.B.L.)
175)	FOUNDATION DETAILS - PIER 2S (N.B.L.)
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206)	FOUNDATION DETAILS - PIER 2N (S.B.L.)
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208)	FOUNDATION DETAILS - PIER 3N (S.B.L.)
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210)	FOUNDATION DETAILS - PIER 4N (S.B.L.)
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272)	REINFORCING STEEL SCHEDULE - PIER 16S (N.B.L. & S.B.L.)

SHEET NO. SHEET TITLE

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275)	REINFORCING STEEL SCHEDULE - PIER 1N (N.B.L. & S.B.L.)
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280)	REINFORCING STEEL SCHEDULE - PIER 4N (N.B.L. & S.B.L.)
281)	REINFORCING STEEL SCHEDULE - PIER 4N (N.B.L. & S.B.L.)
282)	REINFORCING STEEL SCHEDULE - PIER 5N (N.B.L. & S.B.L.)
283)	REINFORCING STEEL SCHEDULE - PIER 5N (N.B.L. & S.B.L.)
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292)	MISCELLANEOUS DETAILS
293-297)	PLANS
297A)	GRADING PLAN - NORTH ABUTMENT
298)	MAINTENANCE OF TRAFFIC PLAN - FERRY TERMINAL LOT
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300)	TEMPORARY TRAFFIC DETOUR AT CROSSOVER - STAGE 3
301)	TEMPORARY TRAFFIC DETOUR AT CROSSOVER - CONSTRUCTION STAGING
302)	TEMPORARY TRAFFIC DETOUR AT YORK STREET - CONSTRUCTION PLAN
303)	TEMPORARY TRAFFIC DETOUR AT YORK STREET - PROFILE
304)	TEMPORARY TRAFFIC DETOUR AT YORK STREET - TYPICAL SECTIONS
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307)	LIGHTING DETAILS - FERRY TERMINAL LOT
308)	EXISTING LIGHTING PLAN - FERRY TERMINAL LOT
309-328)	STANDARD DETAILS
329-338)	RIGHT OF WAY PLANS

STEEL ALTERNATIVE SUBSTRU

STATE OF MAINE
DEPARTMENT OF TRANSPORT.

PORTLAND - S. PORTLANI

OVER FORE RIVER

CUMBERLAND COUN

INDEX OF SHEE

SHEET 4 OF 338 AUGUSTA, MAINE

DESIGN-Detailed
CHECKED
REVISIONS
FIELD CHANGES
PLANS

SCALE: 1"=1'
D: PORTLAND VNSST-B.DWG

GENERAL NOTES

PRIOR TO INSTALLATION OF PRODUCTION PILING, A PILE LOAD TEST PROGRAM SHALL BE PERFORMED TO CHECK LENGTH REQUIREMENTS AND VERIFY DESIGN PILE CAPACITY.

ALL PILES MUST BE DRIVEN TO A MINIMUM PENETRATION OF 5 FT. BELOW THE BOTTOM OF THE LOWEST LEVEL OF EACH PIER EXCAVATION, BUT IN ADDITION, THE 450 TON ULTIMATE CAPACITY MUST BE VERIFIED BY THE MEASURED PENETRATION RESISTANCE FOR EVERY PILE DRIVEN.

THE CONTRACTOR IS ADVISED OF THE EXISTENCE OF COBBLES AND BOULDERS IN THE SOIL LAYERS TO BE PENETRATED BY THE PILES. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO FURNISH THE TOTAL NUMBER OF AND CAPACITY FOR THE PILES AS SHOWN ON THESE PLANS.

SPREAD FOOTINGS

SPREAD FOOTINGS, OR THE SUBFOOTING CONCRETE OR TREMIE SEAL BELOW, SHALL BEAR ON AND BE KEYED INTO SOUND INTACT BEDROCK A MINIMUM DEPTH OF 1'-0". THEY SHALL BE PROPORTIONED FOR AN ALLOWABLE BEARING PRESSURE OF 15 TONS/SQUARE FOOT. THE MAXIMUM SLOPE OF BEDROCK SHALL NOT EXCEED 4 HORIZONTAL TO 1 VERTICAL. STEEPER SLOPES SHALL BE BENCHED UNLESS QUALIFIED PERSONNEL EVALUATE OTHER MEANS TO PROVIDE LATERAL RESISTANCE. PAYMENT FOR BENCHING SHALL BE UNDER ITEM 206.092 FOR ABUTMENTS AND 206.11 FOR PIERS AND BE BASED ON THE ACTUAL EXCAVATION DIMENSIONS ACCOMPLISHED UNDER THE DIRECTION OF THE ENGINEER.

GRANITE PIER PROTECTION

AS A BID OPTION, THE CONTRACTOR MAY CHOOSE EITHER FULL HEIGHT OR HALF HEIGHT STONES. ALTERNATIVE DETAILS ARE SHOWN IN THESE PLANS.

CONCRETE

PROTECTIVE COATING FOR CONCRETE SURFACES SHALL BE APPLIED TO THE TOP OF THE ABUTMENT BACKWALLS AND 1'-0" BELOW THE TOP OF THE BACKWALLS ON THE BACK SIDE.

SILICA FUME ADDITIVE SHALL BE USED FOR ALL PIER CONCRETE EXCEPT TREMIE SEALS.

CONCRETE COVER SHALL BE MEASURED FROM THE FACE OF THE CONCRETE TO THE FACE OF THE REINFORCING STEEL AND WILL BE A MINIMUM OF 4" FOR ALL MAINLINE PIERS, 3" FOR ALL RAMP PIERS, AND 2" FOR ABUTMENTS AND RETAINING WALLS UNLESS NOTED OTHERWISE.

COFFERDAMS

THE DEPTH OF THE TREMIE SEAL IS BASED ON A WATER ELEVATION OF +7.0. THE COFFERDAM SHALL BE VENTED AT ELEVATION +7.0. STRUCTURAL EARTH EXCAVATION REQUIRED FOR THE PLACEMENT OF THE TREMIE SEAL SHALL BE ACCOMPLISHED SO AS TO NOT DISTURB THE RIVERBED OUTSIDE OF THE COFFERDAM.

SEAL CONCRETE DIMENSIONS ARE PREDICATED ON THE USE OF STANDARD SHEET PILE SECTION PDA27 OR EQUIVALENT STEEL SHEET PILING, USING APPROPRIATE STANDARD ROLLED CORNERS. PAY DIMENSIONS FOR SEAL CONCRETE SHALL BE TO THE NEAT LINES SHOWN PLUS 5" ALL AROUND.

IT SHALL BE THE CONTRACTOR'S SOLE RESPONSIBILITY TO DESIGN, INSTALL, AND DEWATER (WHEN REQUIRED) THE COFFERDAMS REQUIRED TO CONSTRUCT THESE APPROACH SPAN PIERS AND ABUTMENTS. HARD DRIVING CONDITIONS ARE ANTICIPATED FOR SECTIONS OF THE SHEET PILE INSTALLATION; THIS MAY REQUIRE PRE-EXCAVATION, JETTING, PRE-AUGERING OR USE OF PROTECTIVE PILE TIPS TO PREVENT DAMAGE TO THE PILES.

THE CONTRACTOR SHALL SET THE TOP OF THE COFFERDAM PILES SO AS TO PREVENT SPLASH OVER FROM SHIP WAVE ACTION.

ABANDONED UTILITIES

THE CONTRACTOR IS ADVISED THAT ABANDONED UTILITIES (TELEPHONE LINES, WATER LINES, AND POWER LINES) ARE LOCATED WITHIN THE COFFERDAM LIMITS OF PIERS 12S, 14S, 16S AND 1N. THE APPROXIMATE POSITION FOR ALL KNOWN ITEMS IS SHOWN ON THE FOUNDATION PLAN & ELEVATION DRAWINGS. CMP HAS REMOVED THE 115 KV CABLES AND OIL BUT THE CONDUITS (TWO 8" Ø HIGH STRENGTH STEEL PIPES) REMAIN. THE CONTRACTOR WILL BE RESPONSIBLE FOR THE REMOVAL AND DISPOSAL OF ALL REMAINING ABANDONED UTILITIES. ABANDONED UTILITIES WILL BE PERMITTED TO REMAIN IN PLACE ONLY IF THEY ARE LOCATED AT AN ELEVATION BELOW THE

PROTECTION OF EXISTING STRUCTURES

BOTTOM OF TREMIE SEAL AND DO NOT INTERFERE IN ANY WAY WITH EXCAVATION OF SOIL AND PLACEMENT OF PILES AS SHOWN IN THESE PLANS. REMOVAL OF ABANDONED UTILITIES SHALL BE CONSIDERED INCIDENTAL TO RELATED CONTRACT ITEMS.

THE CONTRACTOR SHALL CONTROL HIS OPERATIONS TO PREVENT DAMAGE TO:

- 1) SOUTH PORTLAND WASTEWATER TREATMENT FACILITY
- 2) EXISTING BRIDGE PIERS
- 3) INTERNATIONAL FERRY TERMINAL, AND
- 4) GRAVITY SEWER AT PIER 4N.

PREVENTIVE MEASURES SHALL INCLUDE, BUT ARE NOT LIMITED TO, SELECTING CONSTRUCTION METHODS AND PROCEDURES THAT WILL MINIMIZE DISTURBANCE TO SUBSURFACE CONDITION UNDER EXISTING STRUCTURES, PREVENTING CAVING OF EXCAVATION, AND CONTROLLING THE VIBRATIONS FROM CONSTRUCTION ACTIVITIES SUCH AS DRIVING OF PILES.

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 AL WHICH MAY HAVE BEEN MADE TO THE BRIDGE DURING ITS LIFE SPAN.

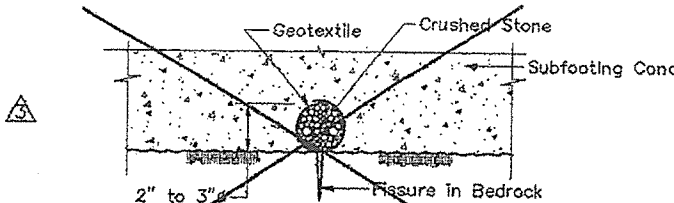
THE DEPARTMENT WILL MONITOR EXISTING STRUCTURES FOR ANY POTENTIAL SETTLEMENT OR MOVEMENT DURING CONSTRUCTION. IF MOVEMENT IS DETECTED, THE DEPARTMENT MAY TEMPORARILY SUSPEND THE OPERATIONS OF THE CONTRACTOR UNTIL THE PROBLEM CAN BE RESOLVED.

ALL UTILITY FACILITIES SHALL BE ADJUSTED BY THE RESPECTIVE UTILITIES UNLESS OTHERWISE NOTED. FOR EASEMENTS, CONSTRUCTION LIMITS, AND RIGHT OF WAY LINES, REFER TO R/W MAP.

GEOTECHNICAL DATA

A TEST BORING PROGRAM WAS PERFORMED BY HALEY & ALDRICH, INC., SCARBOROUGH, ME., TO DETERMINE THE SUBSURFACE SOIL AND ROCK CONDITIONS AND THE DEPTH TO BEDROCK AT SELECTED LOCATIONS CLOSE TO THE PROPOSED ALIGNMENT OF THE NEW BRIDGE. THE TEST BORINGS WERE PERFORMED DURING THE PERIOD FROM AUGUST 1988 THROUGH OCTOBER 1992 AND ARE PRESENTED IN THE FOLLOWING REPORT:

"GEOTECHNICAL DATA, FIXED-SPAN APPROACHES, ABUTMENTS, BEACH STREET RAMP, AND DOLPHINS, PORTLAND/SOUTH PORTLAND BRIDGE OVER THE FORE RIVER, VOLUMES I AND II, DECEMBER 28, 1993"



LIMITED DRAINAGE BLANKET DETAIL
(to be used only at the direction of the engineer)

STEEL ALTERNATIVE SUBSTR

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PORTLAND - S. PORTLAND

OVER FORE RIVER

CUMBERLAND COUNTY

GENERAL NOTES

SHEET 5 OF 338 AUGUSTA, MAINE

SPECIFICATIONS

DESIGN: LOAD FACTOR DESIGN.
AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, 15th EDITION, 1992.

CONTRACT: STATE OF MAINE, DEPARTMENT OF TRANSPORTATION
STANDARD SPECIFICATIONS, HIGHWAYS AND BRIDGES,
REVISION OF OCTOBER 1990, AND THE SPECIAL
PROVISIONS FOR THIS CONTRACT.

DESIGN LOADING

LIVE LOAD: HS 25, ALTERNATE MILITARY LOADING.

EARTHQUAKE LOAD: ACCORDING TO AASHTO FOR ACCELERATION
COEFFICIENT A = 0.10 AND CATEGORY B.

MATERIALS

CONCRETE: PIER CAP, SHAFT - SEE SPECIAL PROVISION CLASS A
PIER SHELL PROTECTION - SEE SPECIAL PROVISION
PIER FOOTING, ABUTMENT - CLASS A
SUBFOOTING AND SEALS - CLASS S
ALL OTHER CONCRETE SHALL BE CLASS A

REINFORCING STEEL: DEFORMED BILLET-STEEL BARS FOR CONCRETE
REINFORCEMENT SHALL BE GRADE 60 AND
CONFORM TO THE REQUIREMENTS OF AASHTO M31
(ASTM A615, GRADE 60). ALL BARS SHALL BE
EPOXY COATED AND CONFORM TO THE
REQUIREMENTS OF AASHTO M284 (ASTM D3983).

STRUCTURAL STEEL: FOUNDATION PILING SHALL BE GRADE 50 AND CONFORM
TO THE REQUIREMENTS OF AASHTO M223 (ASTM A572,
GRADE 50).

BASIC DESIGN STRESSES

CONCRETE: PIER CAP, SHAFT $f_c = 3500$ 4000 PSI
PIER SHELL PROTECTION $f_c = 5000$ PSI
PIER FOOTING, ABUTMENT AND OTHER $f_c = 4000$ PSI
SUBFOOTING AND SEALS $f_c = 3000$ PSI

REINFORCING STEEL: $f_y = 60,000$ PSI

STRUCTURAL STEEL: $F_y = 50,000$ PSI

DATUM

BASED ON 1929 NGVD

COORDINATE GRID SYSTEM

MAINE STATE COORDINATE GRID, NORTH AMERICAN
DATUM OF 1983.

GENERAL DESCRIPTION OF PROJECT

(SEE SPECIAL PROVISION)

HYDROLOGIC DATA

DRAINAGE AREA = 38.9 SQUARE MILES
*DESIGN DISCHARGE (Q50) = 43,850 CFS @ ELEV. 9.6
*CHECK DISCHARGE (Q100) = 47,400 CFS @ ELEV. 9.8
MEAN HIGH WATER = ELEV. 4.8
MEAN TIDE LEVEL = ELEV. 0.3
MEAN LOW WATER = ELEV. -4.3
1992 PREDICTED HIGH TIDE = ELEV. 7.0
EXISTING AND PROPOSED OPENING @ ELEV. 0.0 = 24,000 SQ. FT.

*DISCHARGES INCLUDE BOTH RUNOFF AND TIDAL EFFECTS

A HYDROLOGIC REPORT OF THE BRIDGE SITE IS
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THE HYDRAULIC REPORT IS BASED ON THE
INTERPRETATION BY THE DEPARTMENT OF INFORMATION
OBTAINED FOR THE SUBJECT SITE AND NO
ASSURANCE IS GIVEN THAT THE INFORMATION OR THE
CONCLUSIONS OF THE REPORT WILL BE REPRESENTATIVE
OF ACTUAL CONDITIONS AT THE TIME OF CONSTRUCTION.

FOUNDATION PILES

ALL PILES SHALL BE HP14x117 WITH A DESIGN
CAPACITY OF 200 TONS PER PILE USING A 2.25 2.50 FACTOR
OF SAFETY WHICH WILL PRODUCE A PILE WITH AN
ULTIMATE CAPACITY OF 450 500 TONS.

POINTED REINFORCED PILE TIPS, CONFORMING
TO ASTM A148, GRADE 90-60 SHALL BE USED FOR
ALL FOUNDATION PILES. ESTIMATED TIP ELEVATIONS
ARE SHOWN ON THE FOUNDATION PLAN AND ELEVATION
SHEETS. PILE LENGTHS SHOWN ARE FOR ESTIMATING
PURPOSES ONLY.

THE WAVE EQUATION AND PILE DYNAMIC ANALYZER
(PDA) SHALL BE USED ON THIS PROJECT TO CONTROL
PILE INSTALLATION, MONITOR PILE DRIVING STRESSES
AND HAMMER PERFORMANCE, AND VERIFY ULTIMATE
PILE CAPACITY.

PROJECT DESIGN ENGINEER	DATE
DESIGN-DETAILED	5/94
CHECKED	5/94
REVISIONS	
FIELD CHANGES	

SCALE: 1"=12'
D:\PORTLAND\GENNOT.DWG

GENERAL NOTES

PRIOR TO INSTALLATION OF PRODUCTION PILING, A PILE LOAD TEST PROGRAM SHALL BE PERFORMED TO CHECK LENGTH REQUIREMENTS AND VERIFY DESIGN PILE CAPACITY.

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FOR DEWATERING AND OTHER CONSTRUCTION REQUIREMENTS, SEE SPECIAL PROVISIONS AND LIMITED DRAINAGE BLANKET DETAIL ON THIS SHEET.

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PROTECTIVE COATING FOR CONCRETE SURFACES SHALL BE APPLIED TO THE TOP OF THE ABUTMENT BACKWALLS AND 1'-0" BELOW THE TOP OF THE BACKWALLS ON THE BACK SIDE.

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THE DEPTH OF THE TREMIE SEAL IS BASED ON A WATER ELEVATION OF +7.0. THE COFFERDAM SHALL BE VENTED AT ELEVATION +7.0. STRUCTURAL EARTH EXCAVATION REQUIRED FOR THE PLACEMENT OF THE TREMIE SEAL SHALL BE ACCOMPLISHED SO AS TO NOT DISTURB THE RIVERBED OUTSIDE OF THE COFFERDAM.

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THE CONTRACTOR SHALL CONTROL HIS OPERATIONS TO PREVENT DAMAGE TO:

- 1) SOUTH PORTLAND WASTEWATER TREATMENT FACILITY
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PREVENTIVE MEASURES SHALL INCLUDE, BUT ARE NOT LIMITED TO, SELECTING CONSTRUCTION METHODS AND PROCEDURES THAT WILL MINIMIZE DISTURBANCE TO SUBSURFACE CONDITION UNDER EXISTING STRUCTURES, PREVENTING CAVING OF EXCAVATION, AND CONTROLLING THE VIBRATIONS FROM CONSTRUCTION ACTIVITIES SUCH AS DRIVING OF PILES.

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 ALTERAT WHICH MAY HAVE BEEN MADE TO THE BRIDGE DURING ITS LIFE SPAN.

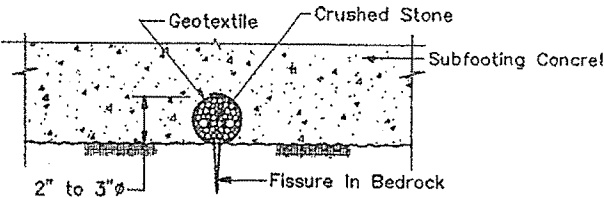
THE DEPARTMENT WILL MONITOR EXISTING STRUCTURES FOR ANY POTENTIAL SETTLEMENT OR MOVEMENT DURING CONSTRUCTION. IF MOVEMENT IS DETECTED, THE DEPARTMENT MAY TEMPORARILY SUSPEND THE OPERATIONS OF THE CONTRACTOR UNTIL THE PROBLEM CAN BE RESOLVED.

ALL UTILITY FACILITIES SHALL BE ADJUSTED BY THE RESPECTIVE UTILITIES UNLESS OTHERWISE NOTED. FOR EASEMENTS, CONSTRUCTION LIMITS, AND RIGHT OF WAY LINES, REFER TO R/W MAP.

GEOTECHNICAL DATA

A TEST BORING PROGRAM WAS PERFORMED BY HALEY & ALDRICH, INC., SCARBOROUGH, ME., TO DETERMINE THE SUBSURFACE SOIL AND ROCK CONDITIONS AND THE DEPTH TO BEDROCK AT SELECTED LOCATIONS CLOSE TO THE PROPOSED ALIGNMENT OF THE NEW BRIDGE. THE TEST BORINGS WERE PERFORMED DURING THE PERIOD FROM AUGUST 1988 THROUGH OCTOBER 1992 AND ARE PRESENTED IN THE FOLLOWING REPORT:

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LIMITED DRAINAGE BLANKET DETAIL

(to be used only at the direction of the engineer)

STEEL ALTERNATIVE SUBSTRUCTU

STATE OF MAINE
DEPARTMENT OF TRANSPORTA

PORTLAND - S. PORTLAND

OVER FORE RIVER

CUMBERLAND COUNT

GENERAL NOTE

SHEET 5 OF 34 AUGUSTA, MAINE

SPECIFICATIONS

DESIGN: LOAD FACTOR DESIGN, AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, 15th EDITION, 1992.

CONTRACT: STATE OF MAINE, DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS, HIGHWAYS AND BRIDGES, REVISION OF OCTOBER 1990.

DESIGN LOADING

LIVE LOAD: HS 25, ALTERNATE MILITARY LOADING.

EARTHQUAKE LOAD: ACCORDING TO AASHTO FOR ACCELERATION COEFFICIENT A = 0.10 AND CATEGORY B.

MATERIALS

CONCRETE: PIER CAP, SHAFT - SEE SPECIAL PROVISION
PIER SHELL - SEE SPECIAL PROVISION
PIER FOOTING, ABUTMENT - CLASS A
SUBFOOTING AND SEALS - CLASS S
ALL OTHER CONCRETE SHALL BE CLASS A

REINFORCING STEEL: DEFORMED BILLET-STEEL BARS FOR CONCRETE REINFORCEMENT SHALL BE GRADE 60 AND CONFORM TO THE REQUIREMENTS OF AASHTO M31 (ASTM A615, GRADE 60). ALL BARS SHALL BE EPOXY COATED AND CONFORM TO THE REQUIREMENTS OF AASHTO M284 (ASTM D3963).

STRUCTURAL STEEL: FOUNDATION PILING SHALL BE GRADE 50 AND CONFORM TO THE REQUIREMENTS OF AASHTO M223 (ASTM A572, GRADE 50).

BASIC DESIGN STRESSES

CONCRETE: PIER CAP, SHAFT $f_c = 3500$ PSI
PIER SHELL $f_c = 5000$ PSI
PIER FOOTING, ABUTMENT AND OTHER $f_c = 4000$ PSI
SUBFOOTING AND SEALS $f_c = 3000$ PSI

REINFORCING STEEL: $f_y = 60,000$ PSI

STRUCTURAL STEEL: $F_y = 50,000$ PSI

DATUM

BASED ON 1929 NGVD

COORDINATE GRID SYSTEM

MAINE STATE COORDINATE GRID, NORTH AMERICAN DATUM OF 1983.

GENERAL DESCRIPTION OF PROJECT

(SEE SPECIAL PROVISION)

HYDROLOGIC DATA

DRAINAGE AREA = 38.9 SQUARE MILES
*DESIGN DISCHARGE (Q50) = 43,850 CFS @ ELEV. 9.6
*CHECK DISCHARGE (Q100) = 47,400 SFS @ ELEV. 9.8
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MEAN LOW WATER = ELEV. -4.3
1992 PREDICTED HIGH TIDE = ELEV. 7.0
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*DISCHARGES INCLUDE BOTH RUNOFF AND TIDAL EFFECTS

A HYDROLOGIC REPORT OF THE BRIDGE SITE IS AVAILABLE FOR THE CONTRACTOR'S REFERENCE AT THE BRIDGE DESIGN OFFICE IN AUGUSTA. THE HYDRAULIC REPORT IS BASED ON THE INTERPRETATION BY THE DEPARTMENT OF INFORMATION OBTAINED FOR THE SUBJECT SITE AND NO ASSURANCE IS GIVEN THAT THE INFORMATION OF THE CONCLUSIONS OF THE REPORT WILL BE REPRESENTATIVE OF ACTUAL CONDITIONS AT THE TIME OF CONSTRUCTION.

FOUNDATION PILES

ALL PILES SHALL BE HP14x117 WITH A DESIGN CAPACITY OF 200 TONS PER PILE USING A 2.25 FACTOR OF SAFETY WHICH WILL PRODUCE A PILE WITH AN ULTIMATE CAPACITY OF 450 TONS.

POINTED REINFORCED PILE TIPS, CONFORMING TO ASTM A148, GRADE 90-60 SHALL BE USED FOR ALL FOUNDATION PILES. ESTIMATED TIP ELEVATIONS ARE SHOWN ON THE FOUNDATION PLAN AND ELEVATION SHEETS. PILE LENGTHS SHOWN ARE FOR ESTIMATING PURPOSES ONLY.

THE WAVE EQUATION AND PILE DYNAMIC ANALYZER (PDA) SHALL BE USED ON THIS PROJECT TO CONTROL PILE INSTALLATION, MONITOR PILE DRIVING STRESSES AND HAMMER PERFORMANCE, AND VERIFY ULTIMATE PILE CAPACITY.

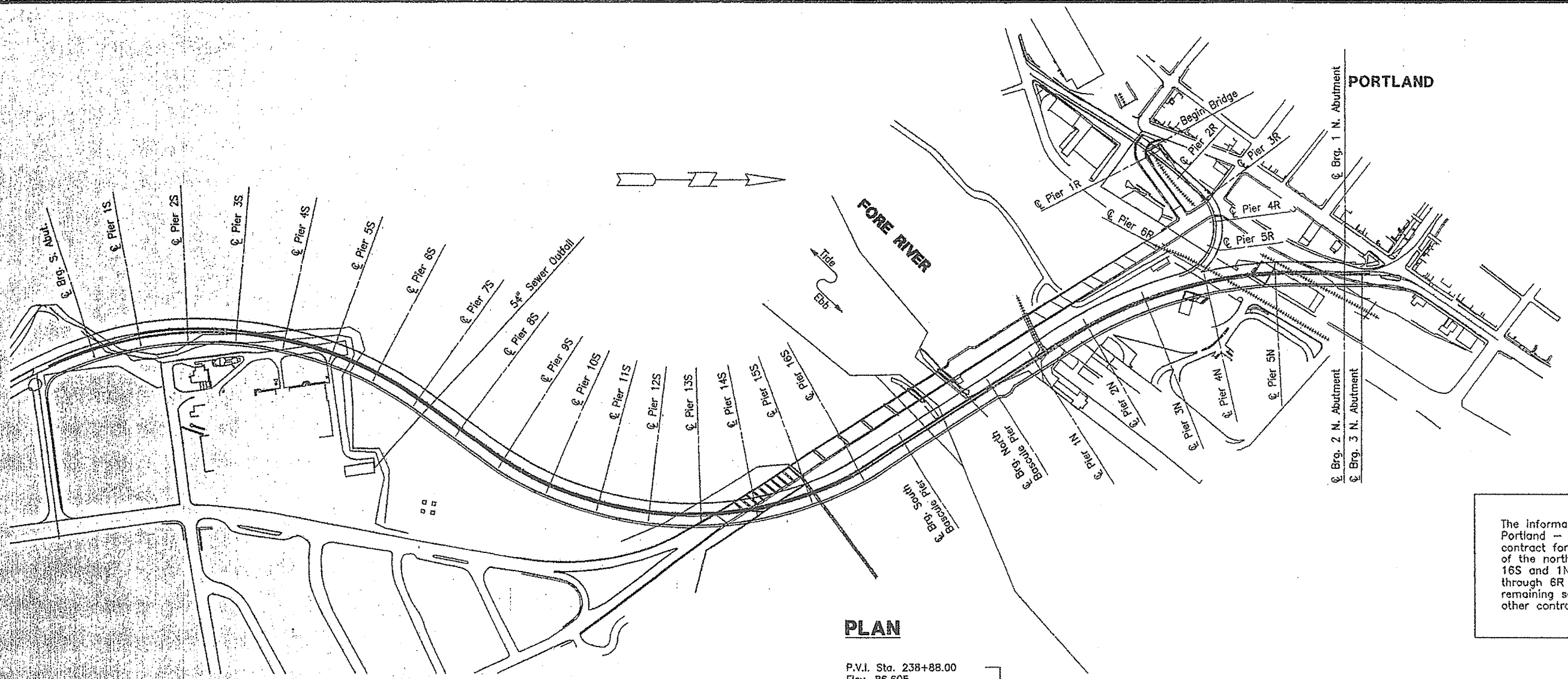
SPREAD FOOTINGS

GRANITE PIER PROTECTION

CONCRETE

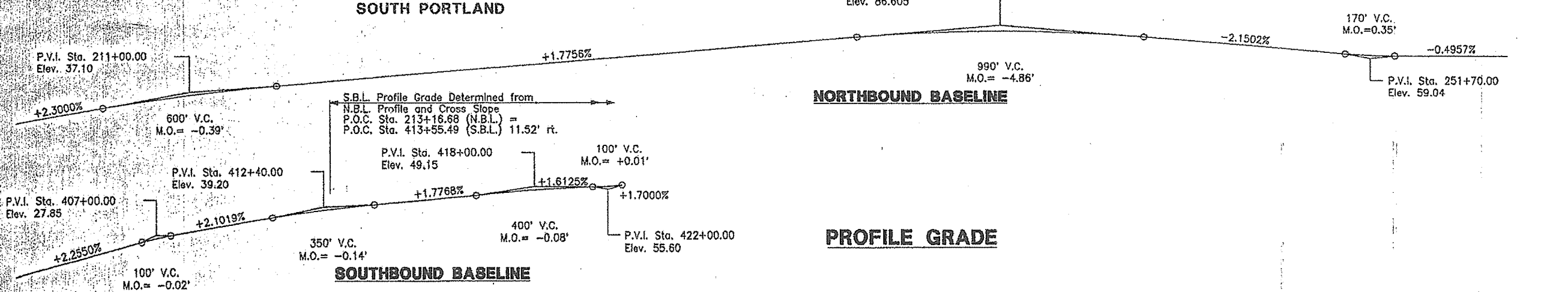
COFFERDAMS

ABANDONED UTILITIES



PLAN

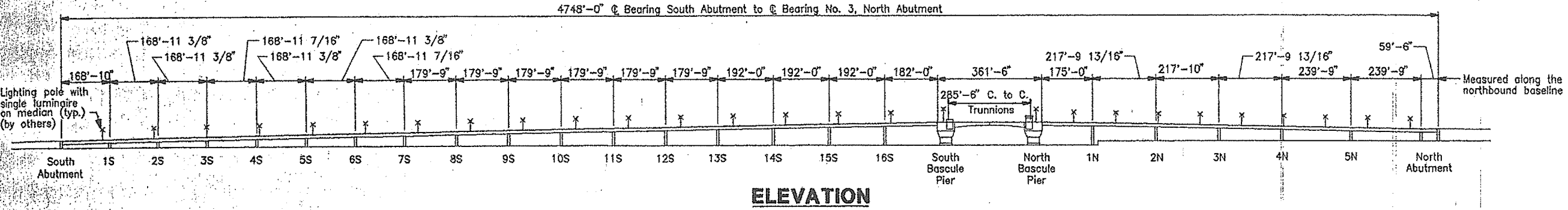
The information on this drawing pertains to the overall Portland - South Portland bridge project. This substructure contract for the steel alternative includes only the construction of the north and south abutments, mainline piers 1S through 16S and 1N through 5N, and Beach Street ramp piers 1R through 6R as detailed in the drawings and specifications. The remaining sections of the bridge will be constructed under other contracts.



NORTHBOUND BASELINE

PROFILE GRADE

SOUTHBOUND BASELINE



ELEVATION

STEEL ALTERNATIVE SUBSTRUCTURE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PORTLAND - S. PORTLAND

OVER FORE RIVER

CUMBERLAND COUNTY

GENERAL PLAN AND ELEVATION

SHEET 10 OF 338 AUGUSTA, MAINE



Note:
N.B.L. piers are shown in elevation view. S.B.L. pier information is given
in above table.

STEEL ALTERNATIVE SUBSTRUCTURE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PORTLAND - S. PORTLAND
OVER FORD RIVER
CUMBERLAND COUNTY

FOUNDATION
PLAN & ELEVATION

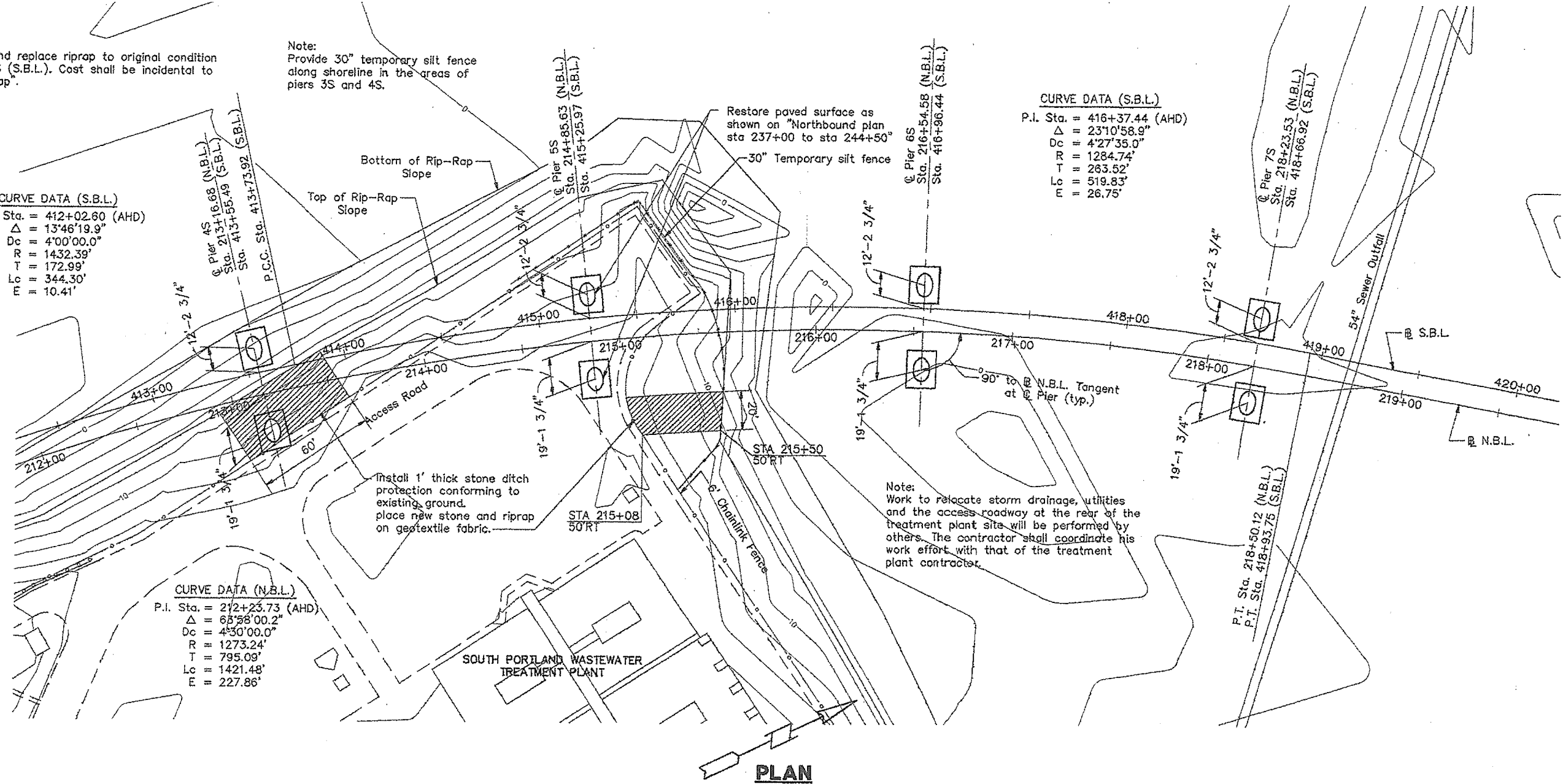
Note:
Remove and replace riprap to original condition
at Pier 4S (S.B.L.). Cost shall be incidental to
"plain riprap".

Note:
Provide 30" temporary silt fence
along shoreline in the areas of
piers 3S and 4S.

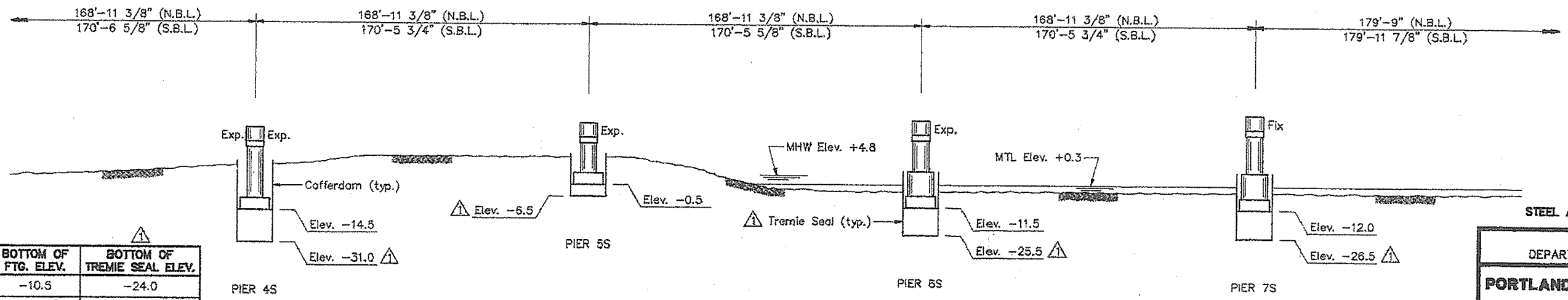
CURVE DATA (S.B.L.)
P.I. Sta. = 412+02.60 (AHD)
 $\Delta = 13^\circ 46' 19.9''$
Dc = 4'00'00.0"
R = 1432.39'
T = 172.99'
Lc = 344.30'
E = 10.41'

CURVE DATA (S.B.L.)
P.I. Sta. = 416+37.44 (AHD)
 $\Delta = 23^\circ 10' 58.9''$
Dc = 4'27'35.0"
R = 1284.74'
T = 263.52'
Lc = 519.83'
E = 26.75'

CURVE DATA (N.B.L.)
P.I. Sta. = 212+23.73 (AHD)
 $\Delta = 65^\circ 38' 00.2''$
Dc = 4'30'00.0"
R = 1273.24'
T = 795.09'
Lc = 1421.48'
E = 227.86'



PLAN



ELEVATION

S.B.L. PIER	TYPE OF FOUNDATION	BOTTOM OF FTG. ELEV.	BOTTOM OF TREMIE SEAL ELEV.
4S	Spread	-10.5	-24.0
5S	Spread	-0.5 0.5	-4.5
6S	Spread	-12.0	-26.5
7S	Spread	-12.0	-26.5

Note:
N.B.L. piers are shown in elevation view. S.B.L. pier information
is given in above table.

▲ Add full gravity tremie seal according to
Special Provision 502. Correct bottom of
footing elevation for Pier 5S (S.B.L.)
10/7/94

Note:
▲ Piers 4S thru 7S are on spread footings with
subfootings concrete tremie seal concrete keyed
into rock.

STEEL ALTERNATIVE SUBS

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PORTLAND - S. PORTLAND

OVER FORD RIVER

CUMBERLAND COUNTY

FOUNDATIONS
PLAN & ELEVATION

SHEET 8 OF 338 AUGUSTA, MAINE

PLANS	PROJECT DESIGN ENGINEER		BY	DATE
	DESIGN - DETAILED	EAB	RAP	6/94
	CHECKED		WCE	6/94
	REVISIONS			
	FIELD CHANGES			

SPL2.DWG : 1=360

Note:
Remove and replace riprap to original condition at Pier 4S (S.B.L.). Cost shall be incidental to "plain riprap".

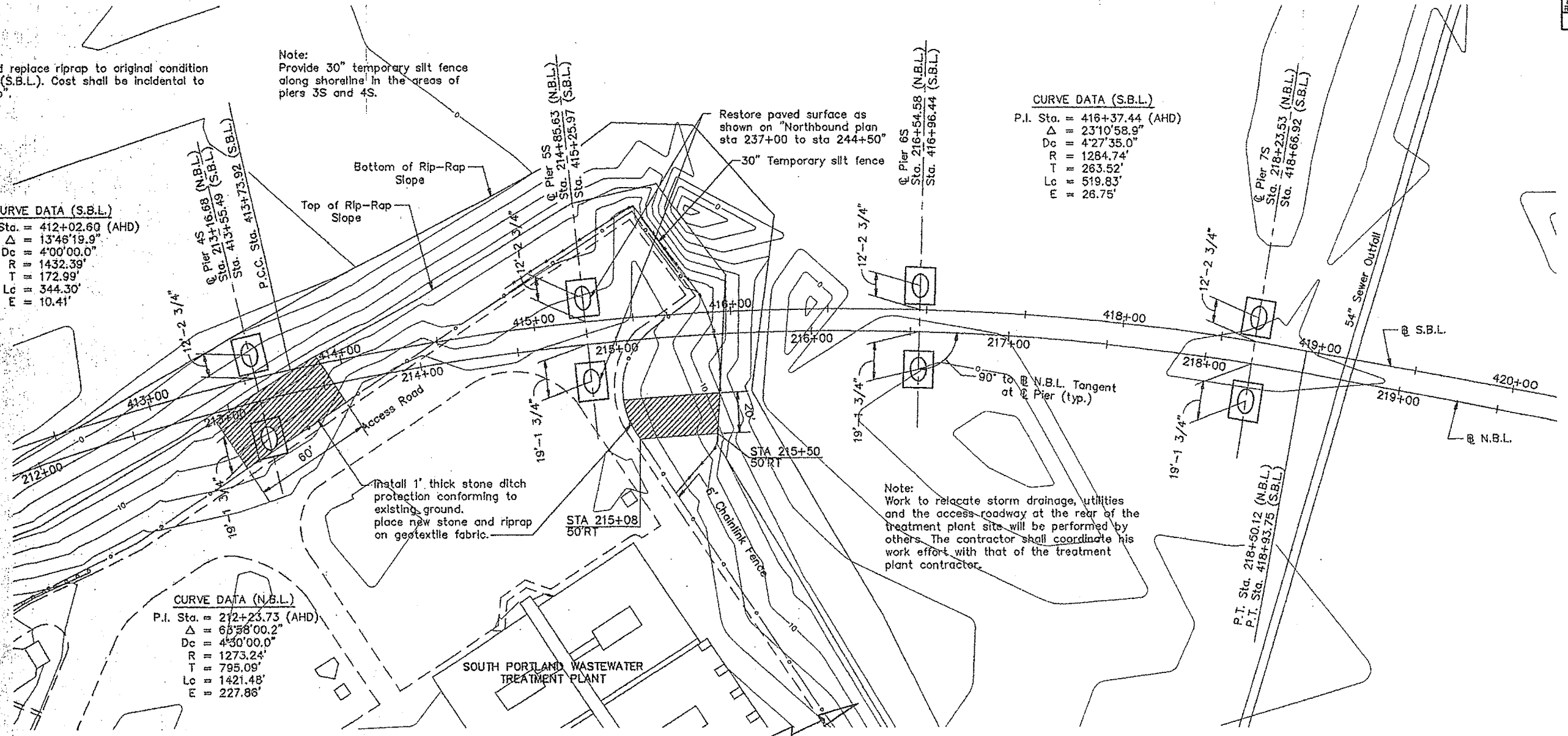
Note:
Provide 30" temporary silt fence along shoreline in the areas of piers 3S and 4S.

CURVE DATA (S.B.L.)
P.I. Sta. = 412+02.60 (AHD)
 $\Delta = 13'46''19.9''$
Dc = 4'00'00.0"
R = 1432.39'
T = 172.99'
Lc = 344.30'
E = 10.41'

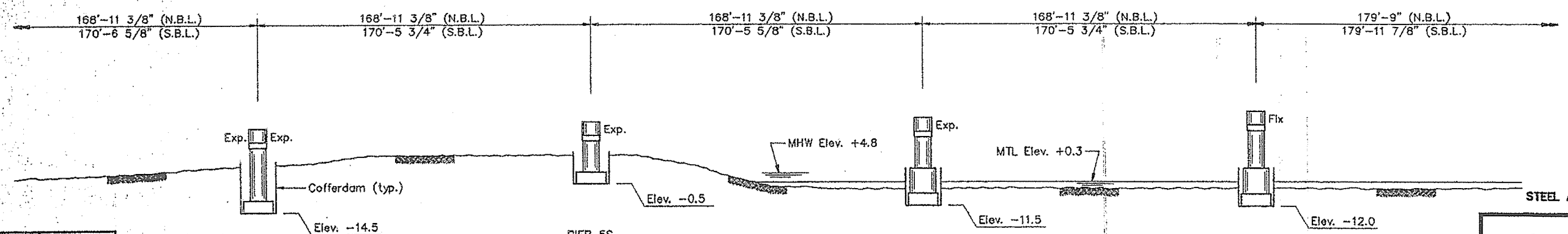
CURVE DATA (S.B.L.)
P.I. Sta. = 416+37.44 (AHD)
 $\Delta = 23'10''58.9''$
Dc = 4'27'35.0"
R = 1284.74'
T = 263.52'
Lc = 519.83'
E = 26.75'

CURVE DATA (N.B.L.)
P.I. Sta. = 212+23.73 (AHD)
 $\Delta = 63'58''00.2''$
Dc = 4'30'00.0"
R = 1273.24'
T = 795.09'
Lc = 1421.48'
E = 227.86'

Note:
Work to relocate storm drainage, utilities and the access roadway at the rear of the treatment plant site will be performed by others. The contractor shall coordinate his work effort with that of the treatment plant contractor.



PLAN



ELEVATION

S.B.L. PIER	TYPE OF FOUNDATION	BOTTOM OF FTG. ELEV.
4S	Spread	-10.5
5S	Spread	-0.5
6S	Spread	-12.0
7S	Spread	-12.0

Note:
N.B.L. piers are shown in elevation view. S.B.L. pier information is given in above table.

Note:
Piers 4S thru 7S are on spread footings with subfooting concrete keyed into rock.

STATE OF MAINE
DEPARTMENT OF TRANSPORT

PORTLAND - S. PORTLAND

OVER FORE RIVER

CUMBERLAND COUNTY

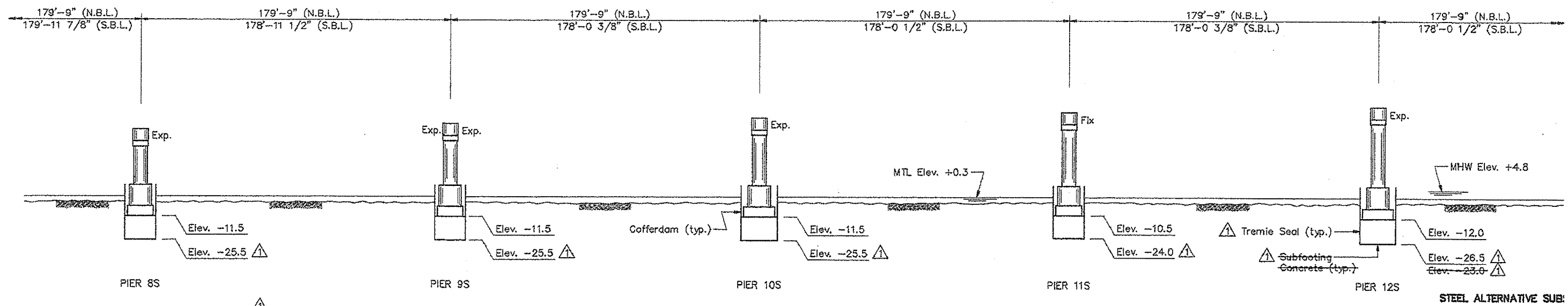
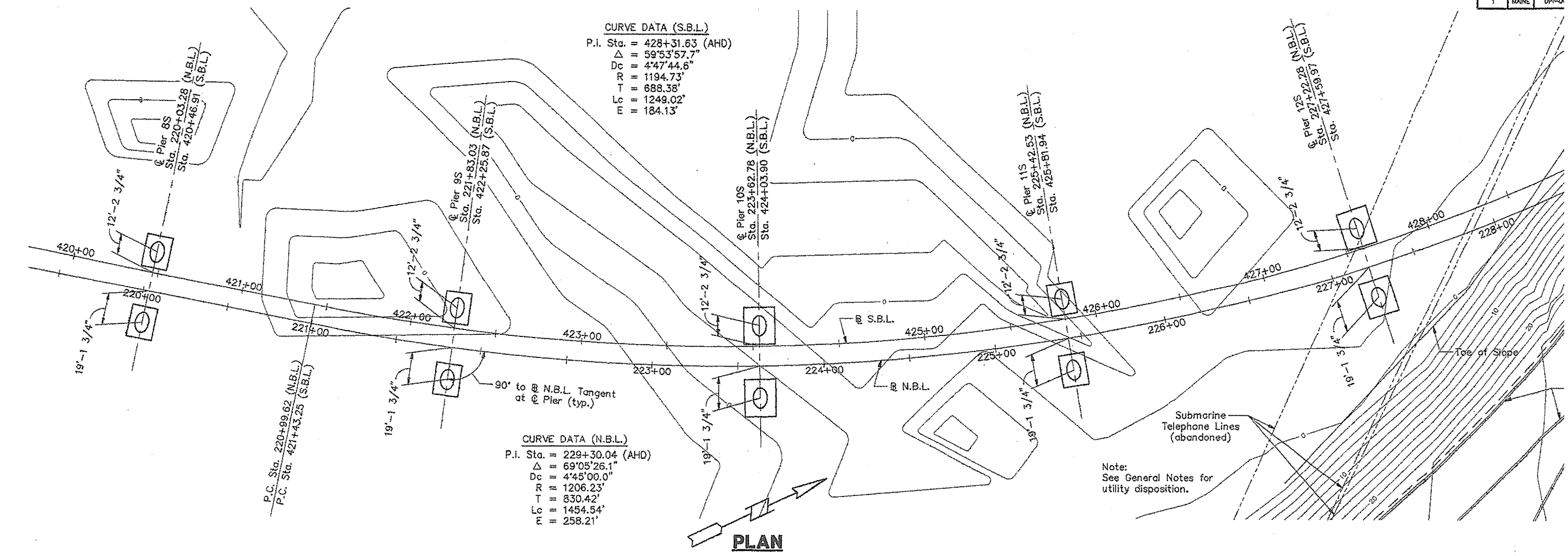
FOUNDATION PLAN & ELEVATION

SHEET 3 OF 33 AUGUSTA, MAINE

PLANS

DESIGN-DETAILED	EAB	RAP	6/94
CHECKED	WCE		6/94
REVISIONS			
FIELD CHANGES			

7.2 DWG : 1-360



S.B.L. PIER	TYPE OF FOUNDATION	BOTTOM OF FTG. ELEV.	BOTTOM OF TREMIE SEAL ELEV.
8S	Spread	-11.5	-25.5
9S	Spread	-11.5	-25.5
10S	Spread	-11.5	-25.5
11S	Spread	-11.5	-25.5
12S	Spread	-12.0	-26.5

Note:
N.B.L. piers are shown in elevation view. S.B.L. pier information is given in above table.

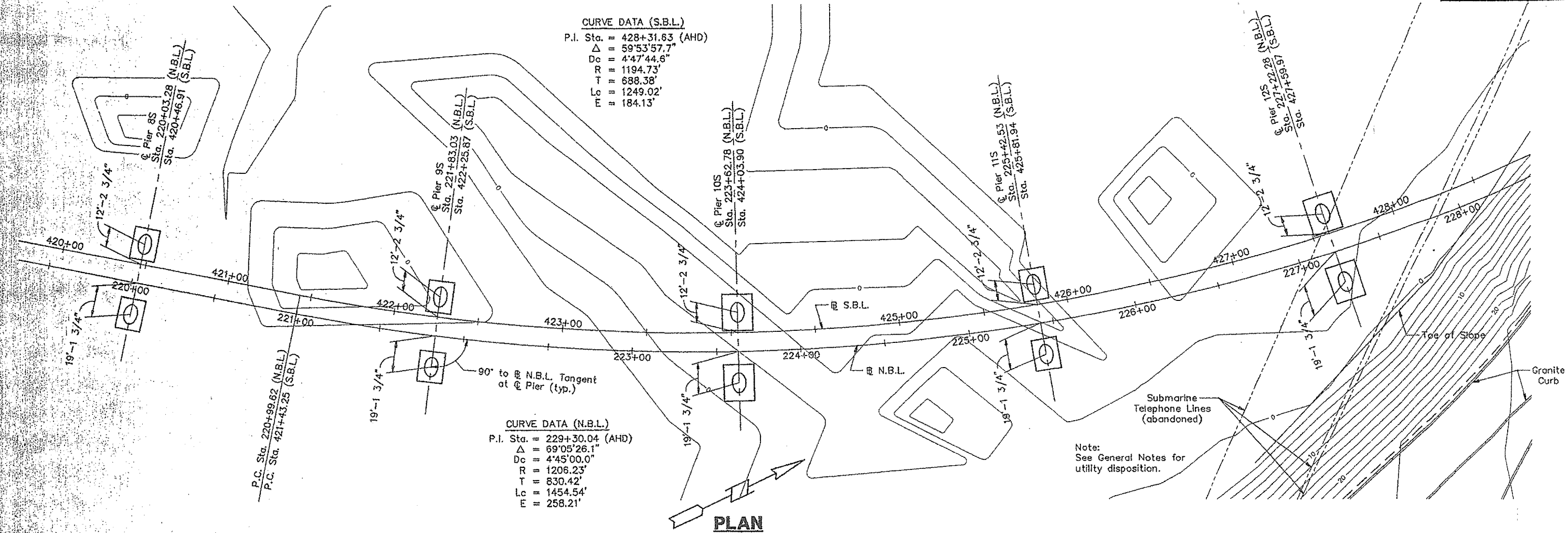
△ Add full gravity tremie seal according to Special Provision 502 10/7/94
Note:
Piers 8S thru 12S are on spread footings with subfooting concrete tremie seal concrete keyed into rock.

STEEL ALTERNATIVE SUB:
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
PORTLAND - S. PORTLAND
OVER FORE RIVER
CUMBERLAND COUNTY
FOUNDATIONS
PLAN & ELEVATION
SHEET 9 OF 338 AUGUSTA, MAINE

PROJECT DESIGN ENGINEER	BY	DATE
DESIGN-DETAILED	EAB	6/94
CHECKED	WCE	6/94
REVISIONS		
FIELD CHANGES		

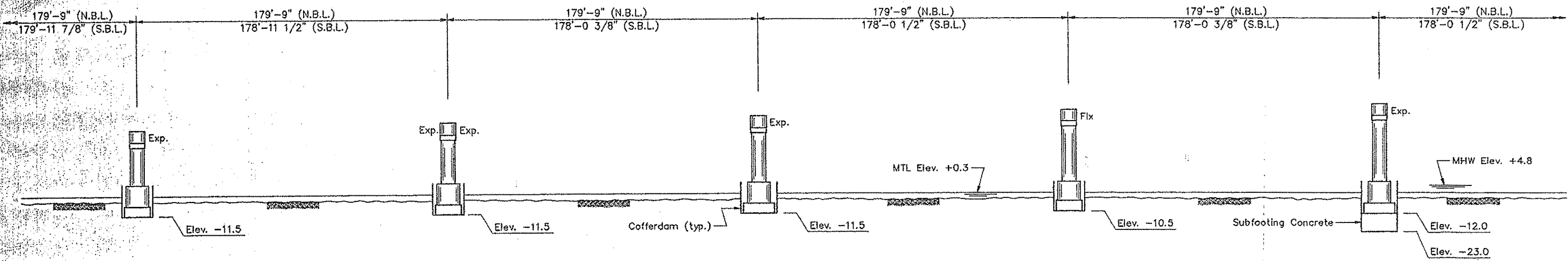
CURVE DATA (S.B.L.)
P.I. Sta. = 428+31.63 (AHD)
 Δ = 59°53'57.7"
Dc = 4'47'44.6"
R = 1194.73'
T = 688.38'
Lc = 1249.02'
E = 184.13'

CURVE DATA (N.B.L.)
P.I. Sta. = 229+30.04 (AHD)
 Δ = 69°05'26.1"
Dc = 4'45'00.0"
R = 1206.23'
T = 830.42'
Lc = 1454.54'
E = 258.21'



Note:
See General Notes for
utility disposition.

PLAN



ELEVATION

S.B.L. PIER	TYPE OF FOUNDATION	BOTTOM OF FTG. ELEV.
8S	Spread	-11.5
9S	Spread	-11.5
10S	Spread	-11.5
11S	Spread	-11.5
12S	Spread	-12.0

Note:
N.B.L. piers are shown in elevation view.
S.B.L. pier information is given in above
table

STEEL ALTERNATIVE SUBSTRUCTURE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
PORTLAND - S. PORTLAND
OVER FORD RIVER
CUMBERLAND COUNTY
FOUNDATION
PLAN & ELEVATION
SHEET 9 OF 338 AUGUSTA, MAINE

Note:
Piers 8S thru 12S are on spread footings with
subfooting concrete keyed into rock.

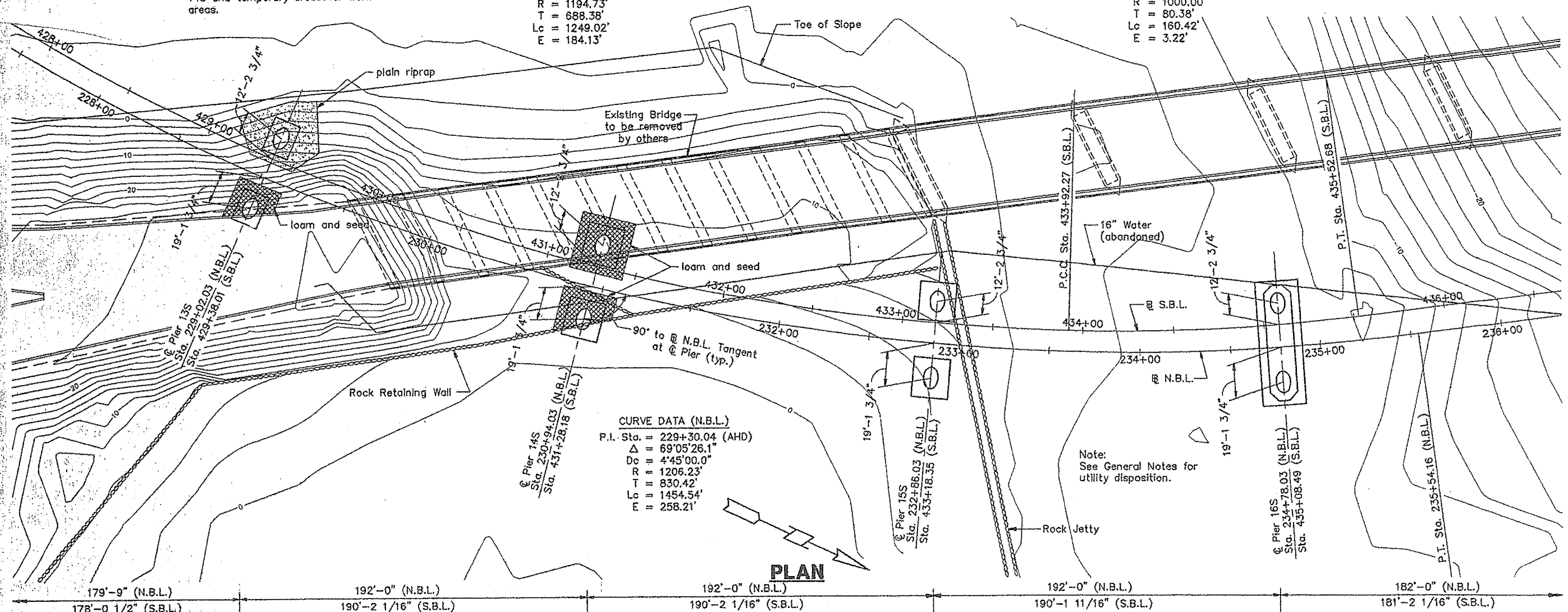
PLANS
CHECKED
REVISIONS
FIELD CHANGES
DATE
BY
6/94
WCE

SPL.DWG : 1=360

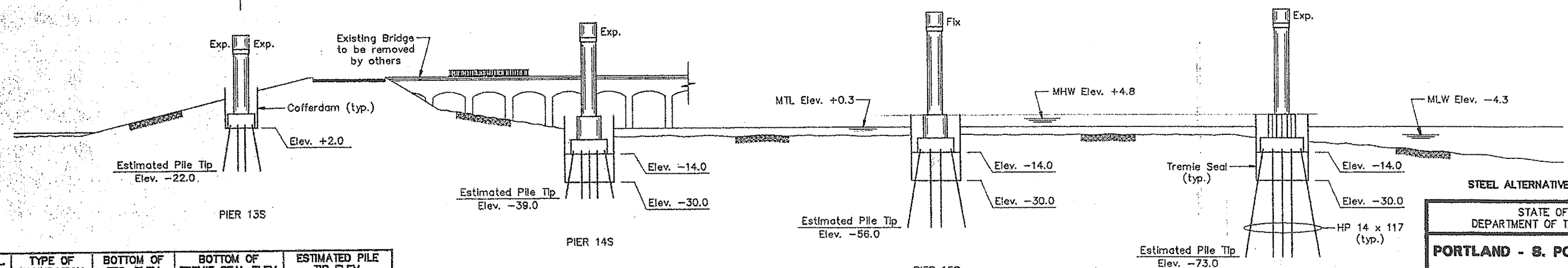
Note:
Provide 30" temporary silt fence
along shoreline at piers 13S and
14S and temporary crossover work
areas.

CURVE DATA (S.B.L.)
P.I. Sta. = 428+31.63 (AHD)
 $\Delta = 59^{\circ}53'57.7''$
 $Dc = 4^{\circ}47'44.6''$
 $R = 1194.73'$
 $T = 688.38'$
 $Lc = 1249.02'$
 $E = 184.13'$

CURVE DATA (S.B.L.)
P.I. Sta. = 434+72.65 (AHD)
 $\Delta = 9^{\circ}11'28.4''$
 $Dc = 5^{\circ}43'46.5''$
 $R = 1000.00'$
 $T = 80.38'$
 $Lc = 160.42'$
 $E = 3.22'$



PLAN



ELEVATION

S.B.L. PIER	TYPE OF FOUNDATION	BOTTOM OF FTG. ELEV.	BOTTOM OF TREMIE SEAL ELEV.	ESTIMATED PILE TIP ELEV.
13S	Pile	-7.0	-18.0	-26.0
14S	Pile	-14.0	-30.0	-35.0
15S	Pile	-14.0	-30.0	-60.0

Note:
N.B.L. piers are shown in elevation view. S.B.L. pier information is given in above table.

STEEL ALTERNATIVE SUBSTRUCTURE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PORTLAND - S. PORTLAND

OVER FORE RIVER

CUMBERLAND COUNTY

FOUNDATION

PLAN & ELEVATION

SHEET 10 OF 33 AUGUSTA, MAINE

PLANS

CHECKED
REVISIONS
FIELD CHANGES

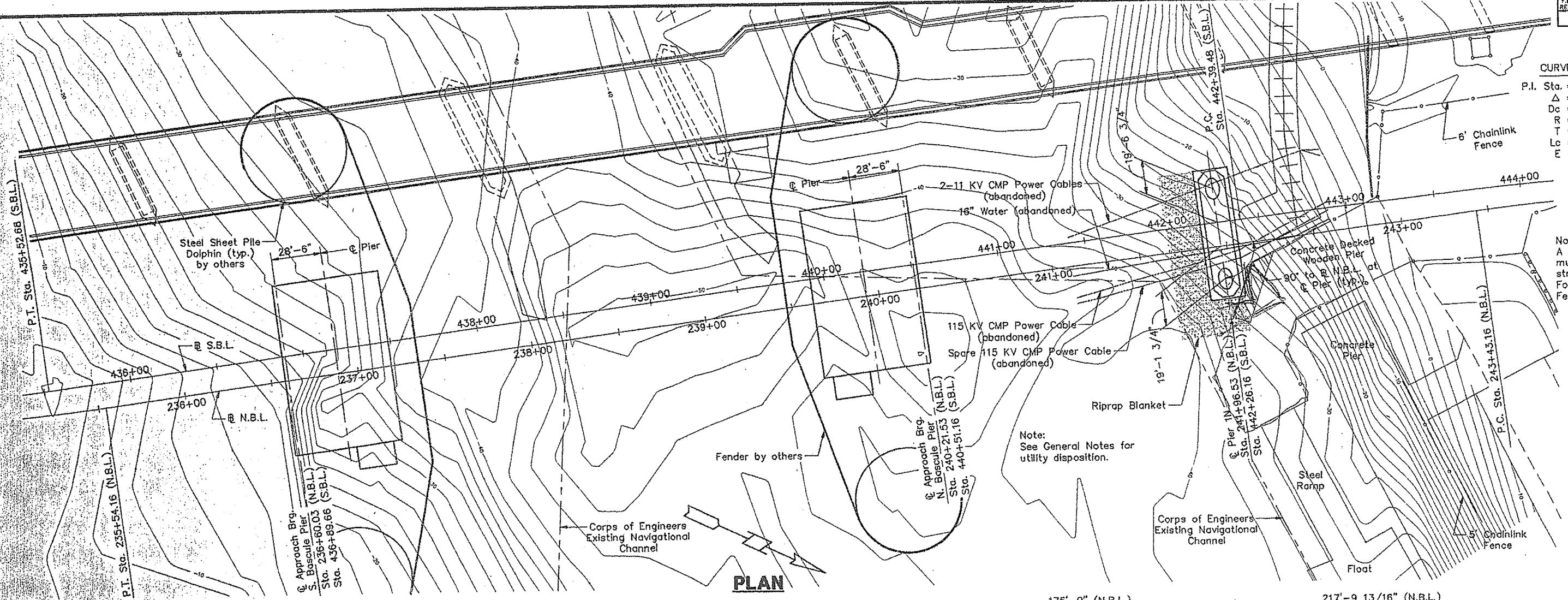
DATE
BY
DATE
BY

5/94
WCE
1/95
WCE

CURVE DATA (S.B.L.)

P.I. Sta. = 443+33.23 (AHD)
 Δ = 2°08'54.1"
 Dc = 1'08'45.3"
 R = 5000.00'
 T = 93.75'
 Lc = 187.48'
 E = 0.88'

Note:
 A portion of the ferry ter
 must be removed and the
 structure after Pier 1N is
 For details see "Pier 1N I
 Ferry Ramp"



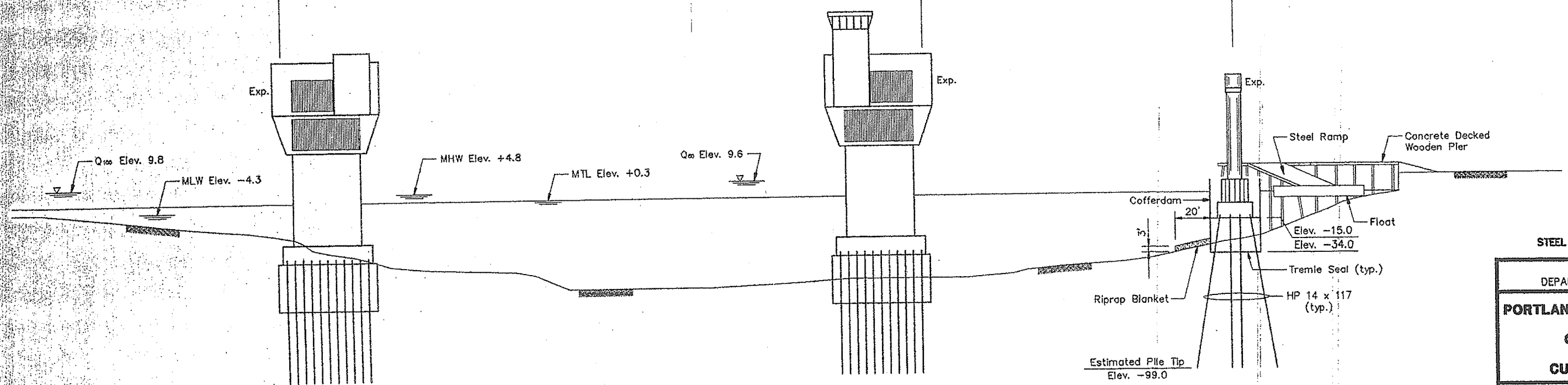
PLAN

182'-0" (N.B.L.) 361'-6" (N.B.L.) 175'-0" (N.B.L.) 217'-9 13/16" (N.B.L.)
 181'-2 1/16" (S.B.L.) 361'-6" (S.B.L.) 175'-0" (S.B.L.) 218'-5 1/16" (S.B.L.)

DESIGN-DETAILED	EAB	RAP	WCE
CHECKED			
REVISIONS			
FIELD CHANGES			

PLANS

SP5.DWG : 1-360



ELEVATION

STEEL ALTERNATIVE SUBSTRU

STATE OF MAINE
 DEPARTMENT OF TRANSPORT

PORTLAND - S. PORTLAN

OVER FORE RIVEI

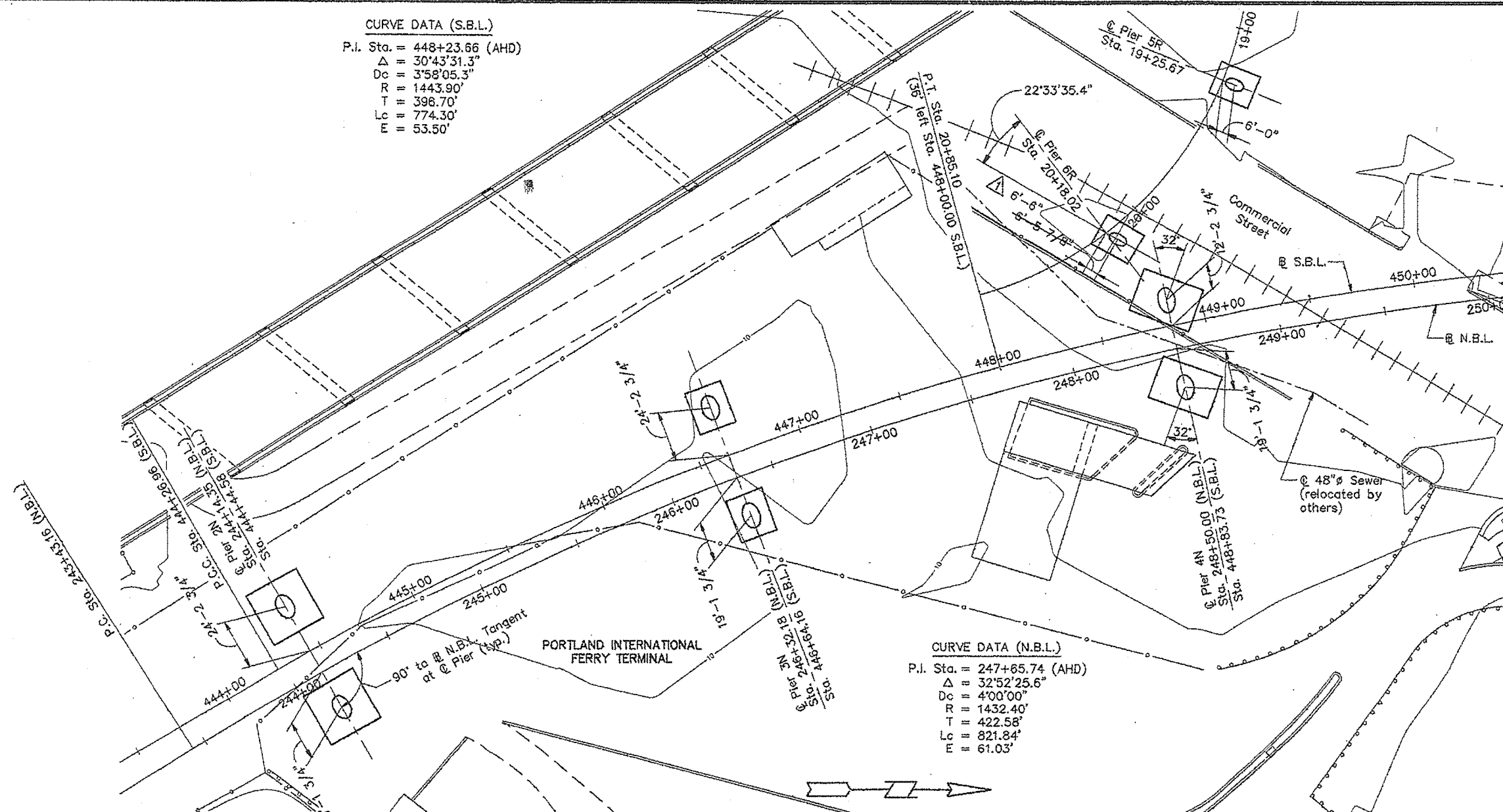
CUMBERLAND COUN

FOUNDATION
 PLAN & ELEVA

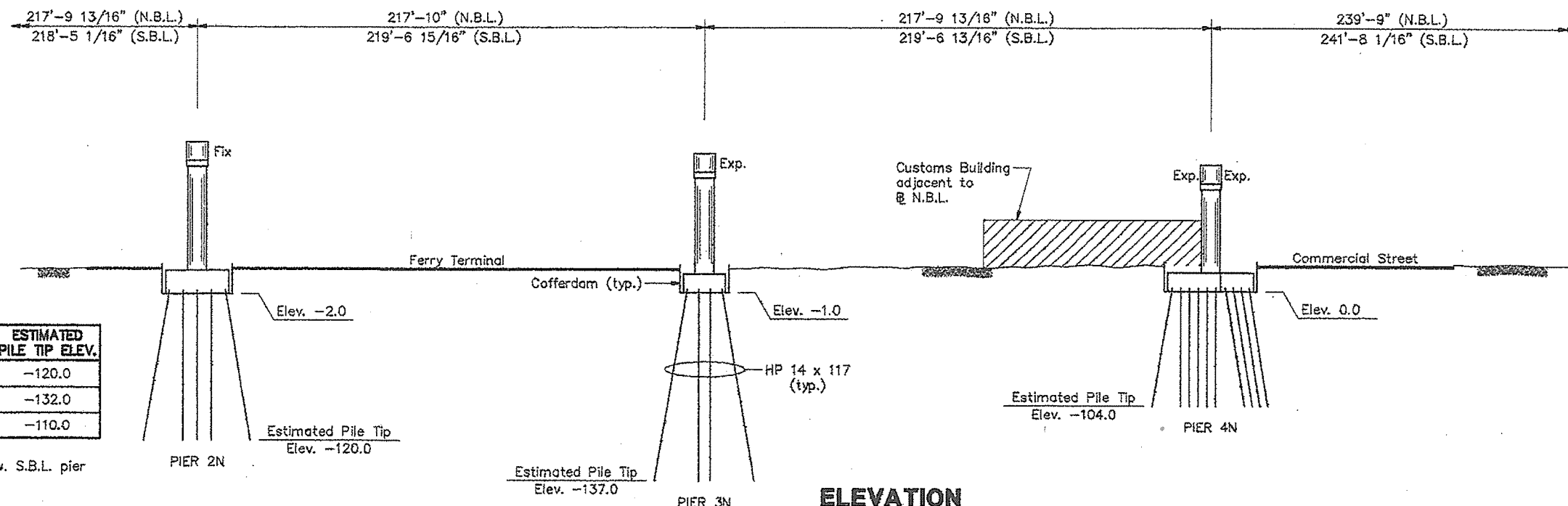
SHEET 11 OF 338 AUGUSTA, MAIN

CURVE DATA (S.B.L.)
P.I. Sta. = 448+23.66 (AHD)
 Δ = 30°43'31.3"
Dc = 3°58'05.3"
R = 1443.90'
T = 396.70'
Lc = 774.30'
E = 53.50'

CURVE DATA (N.B.L.)
P.I. Sta. = 247+65.74 (AHD)
 Δ = 32°52'25.6"
Dc = 4°00'00"
R = 1432.40'
T = 422.58'
Lc = 821.84'
E = 61.03'



PLAN



ELEVATION

S.B.L. PIER	TYPE OF FOUNDATION	BOTTOM OF FTG. ELEV.	ESTIMATED PILE TIP ELEV.
2N	Pile	-2.0	-120.0
3N	Pile	-1.0	-132.0
4N	Pile	0.0	-110.0

Note:
N.B.L. piers are shown in elevation view. S.B.L. pier information is given in above table.

△ Revise offset for Pier 6R 10,

STEEL ALTERNATIVE SUBS

PROJECT DESIGN ENGINEER	DATE
DESIGN-DETAILED	6/94
CHECKED	8/94
REVISIONS	
FIELD CHANGES	

CURVE DATA (S.B.L.)

P.I. Sta. = 448+23.66 (AHD)
 $\Delta = 30^\circ 43' 31.3''$
 $Dc = 3' 58'' 05.3''$
 $R = 1443.90'$
 $T = 396.70'$
 $Lc = 774.30'$
 $E = 53.50'$

CURVE DATA (N.B.L.)

P.I. Sta. = 247+65.74 (AHD)
 $\Delta = 32^\circ 52' 25.6''$
 $Dc = 4' 00'' 00''$
 $R = 1432.40'$
 $T = 422.58'$
 $Lc = 821.84'$
 $E = 61.03'$

PLAN

217'-9 13/16" (N.B.L.) 217'-10" (N.B.L.) 217'-9 13/16" (N.B.L.) 239'-9" (N.B.L.)
 218'-5 1/16" (S.B.L.) 219'-6 15/16" (S.B.L.) 219'-6 13/16" (S.B.L.) 241'-8 1/16" (S.B.L.)

S.B.L. PIER	TYPE OF FOUNDATION	BOTTOM OF FTG. ELEV.	ESTIMATED PILE TIP ELEV.
2N	Pile	-2.0	-120.0
3N	Pile	-1.0	-132.0
4N	Pile	0.0	-110.0

Note:
 N.B.L. piers are shown in elevation view. S.B.L. pier information is given in above table.

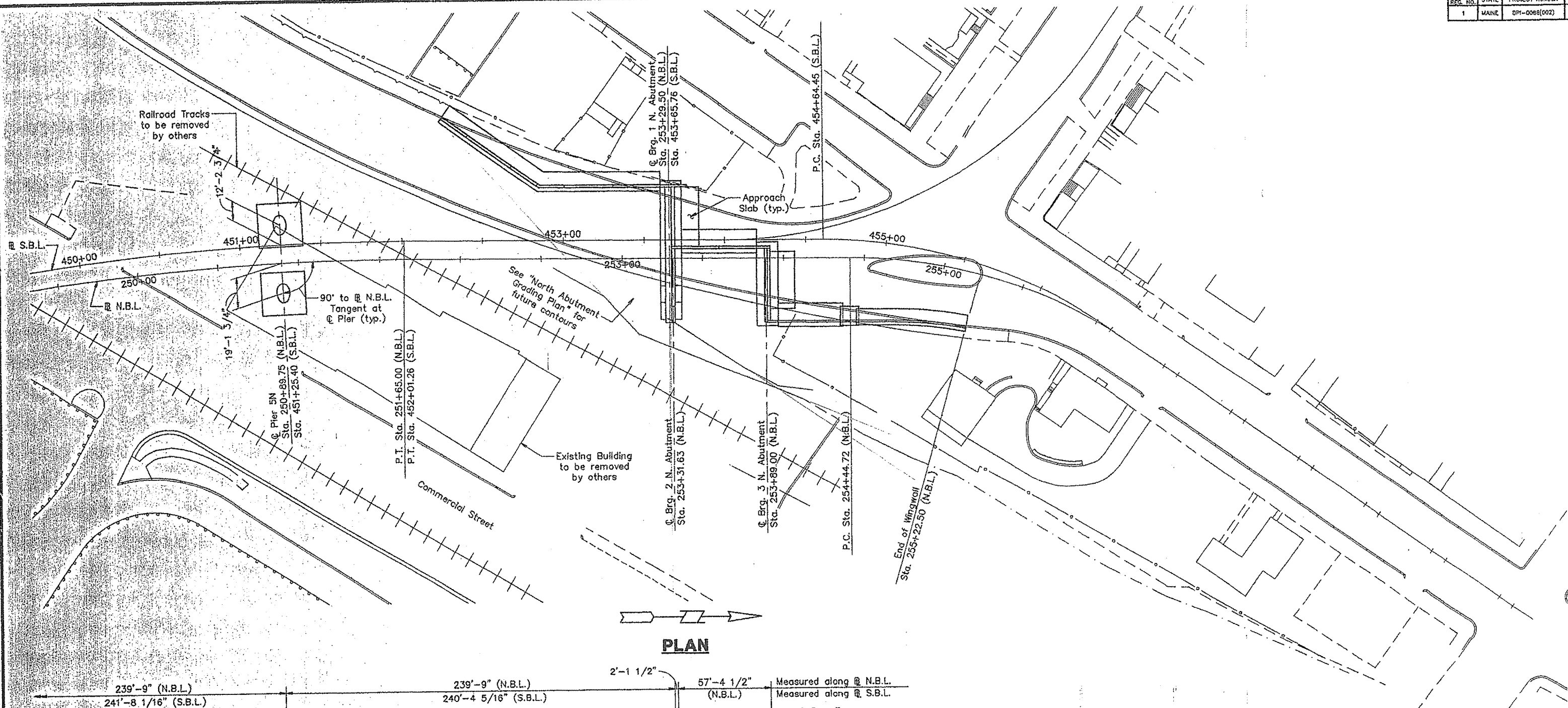
ELEVATION

STEEL ALTERNATIVE SUBSTRUCTURE

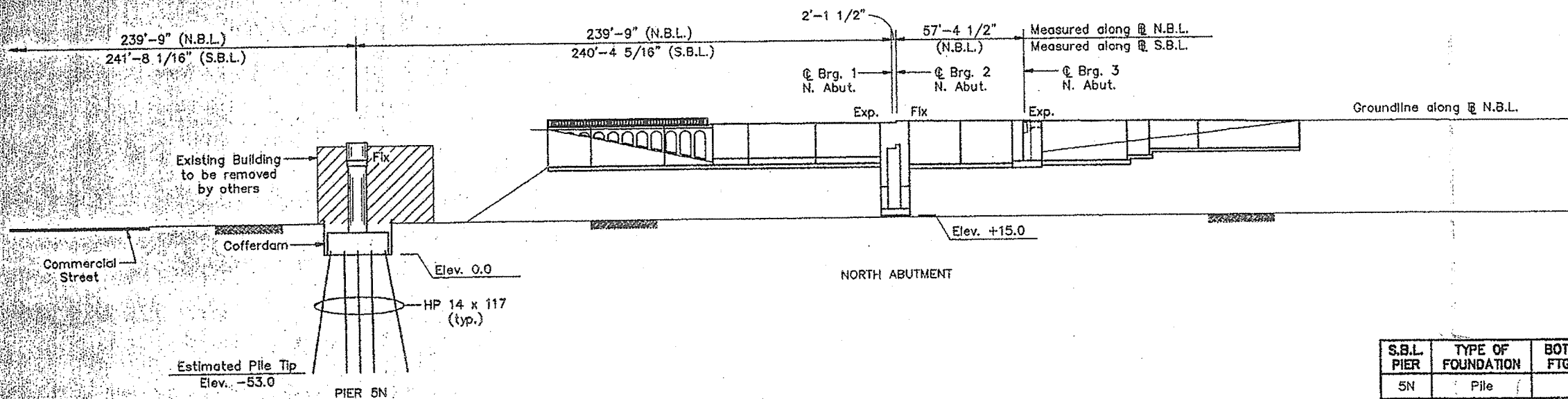
STATE OF MAINE
 DEPARTMENT OF TRANSPORTATION
PORTLAND - S. PORTLAND
OVER FORE RIVER
CUMBERLAND COUNTY
FOUNDATION
PLAN & ELEVATION
 SHEET 12 OF 33 AUGUSTA, MAINE

PLANS
 CHECKED
 REVISIONS
 FIELD CHANGES
 6/94
 WZ

SPLS.DWG : 1-360



PLAN



ELEVATION

S.B.L. PIER	TYPE OF FOUNDATION	BOTTOM OF FTG. ELEV.	ESTIMATED PILE TIP ELEV.
5N	Pile	0.0	-50.0

Note:
N.B.L. piers are shown in elevation view. S.B.L. pier
information is given in above table.

Note:
North Abutment is on a spread footing
keyed into rock.

STEEL ALTERNATIVE SUBSTRUCTURE

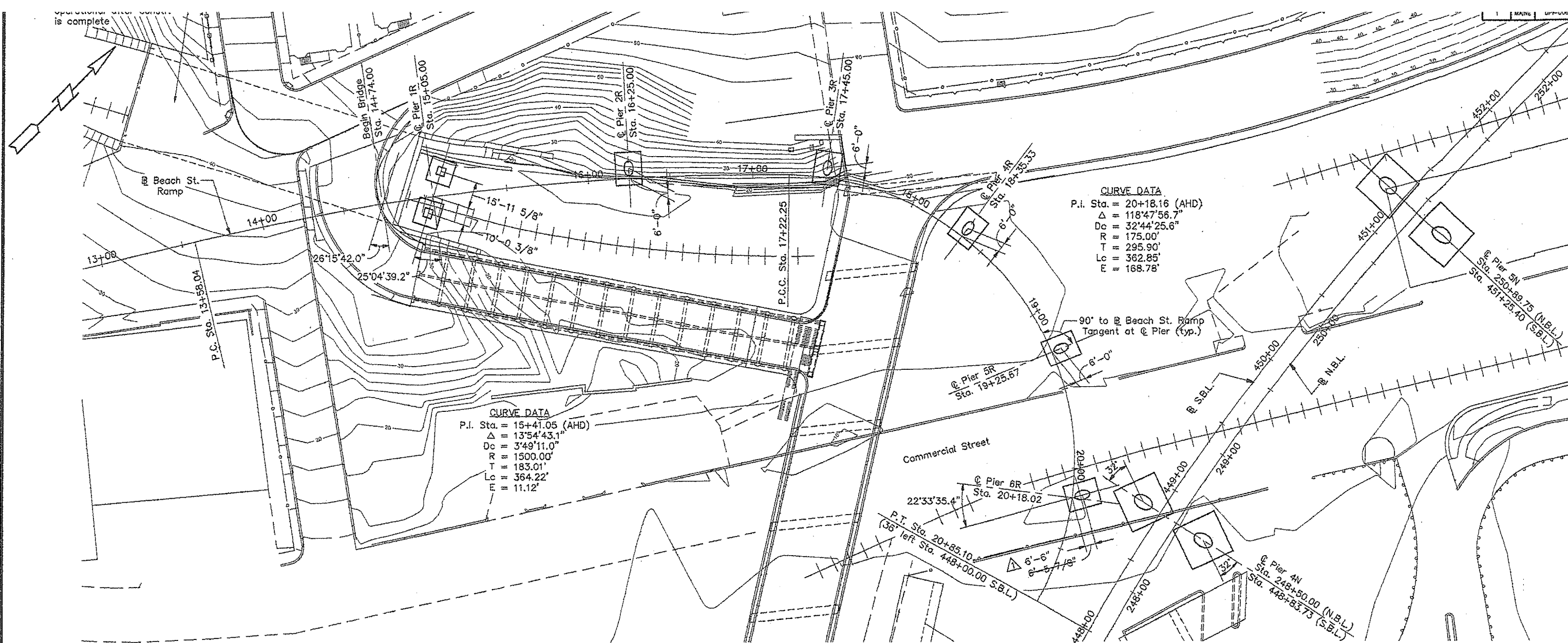
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
PORTLAND - S. PORTLAND
OVER FORD RIVER
CUMBERLAND COUNTY
**FOUNDATION
PLAN & ELEVATION**
SHEET 13 OF 330 AUGUSTA, MAINE

DESIGN-DETAILED	6/94
CHECKED	6/94
REVISIONS	
FIELD CHANGES	

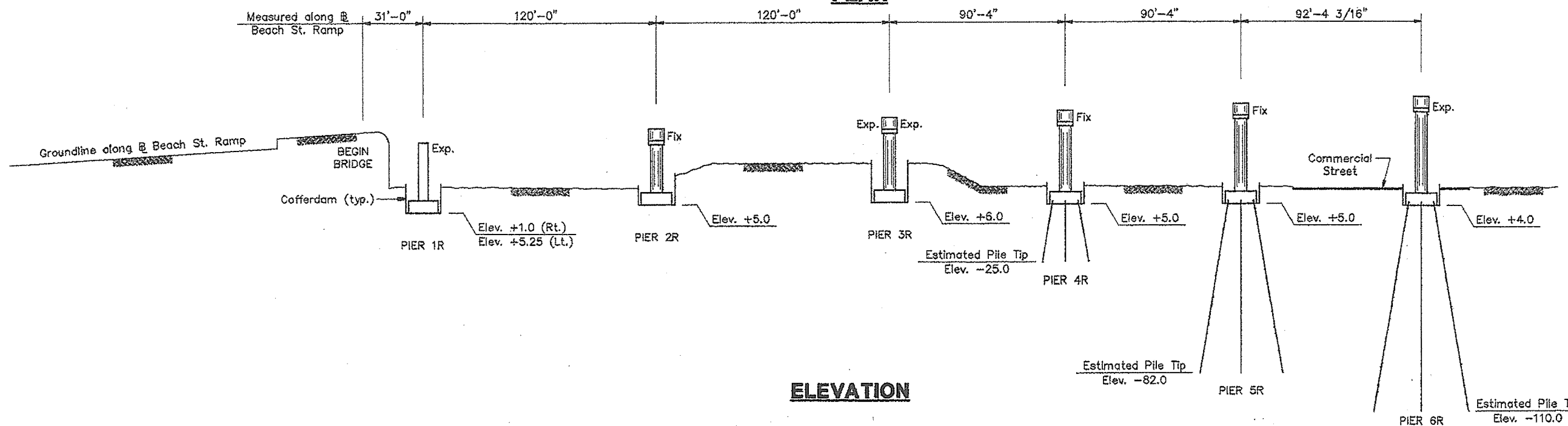
PLANS

PROJECT DESIGN ENGINEER	DATE
DESIGN - DETAILED	6/94
CHECKED	6/94
REVISIONS	6/94
FIELD CHANGES	
BY	
ZPL	
WCE	
PLANS	

SFLB.DWG : 1=360



PLAN

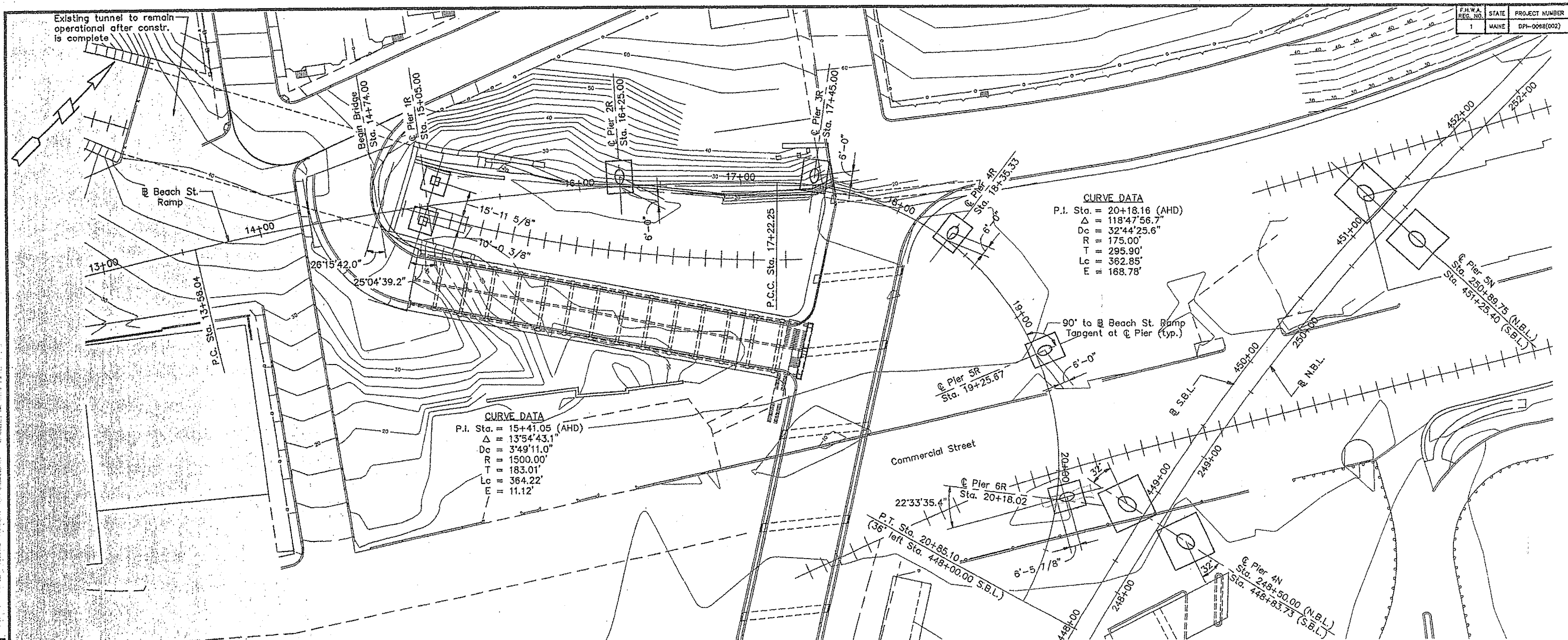


ELEVATION

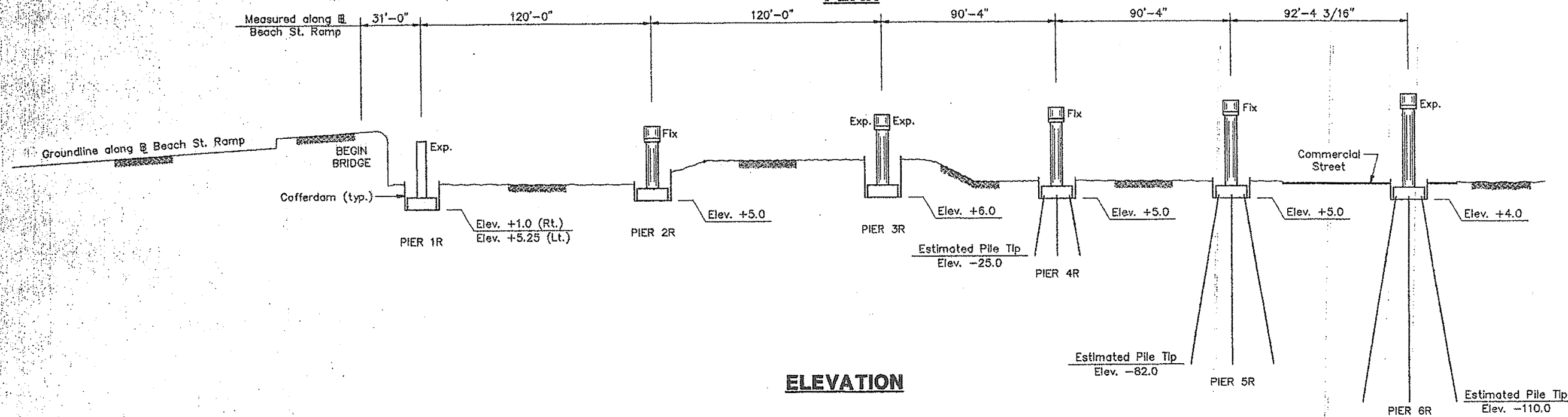
△ Revise offset for Pier 6R 10.

Note:
Piers 1R thru 3R are on spread
keyed into rock.

STEEL ALTERNATIVE SUB
STATE OF MAINE DEPARTMENT OF TRANS
PORTLAND - S. PORTL
OVER FORE RI
CUMBERLAND CO
FOUNDATION F
ELEVATION -
SHEET 14 OF 338 AUGUSTA, V



PLAN



ELEVATION

Note:
Piers 1R thru 3R are on spread footin
keyed into rock.

STEEL ALTERNATIVE SUBSTRUC

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PORTLAND - S. PORTLAND

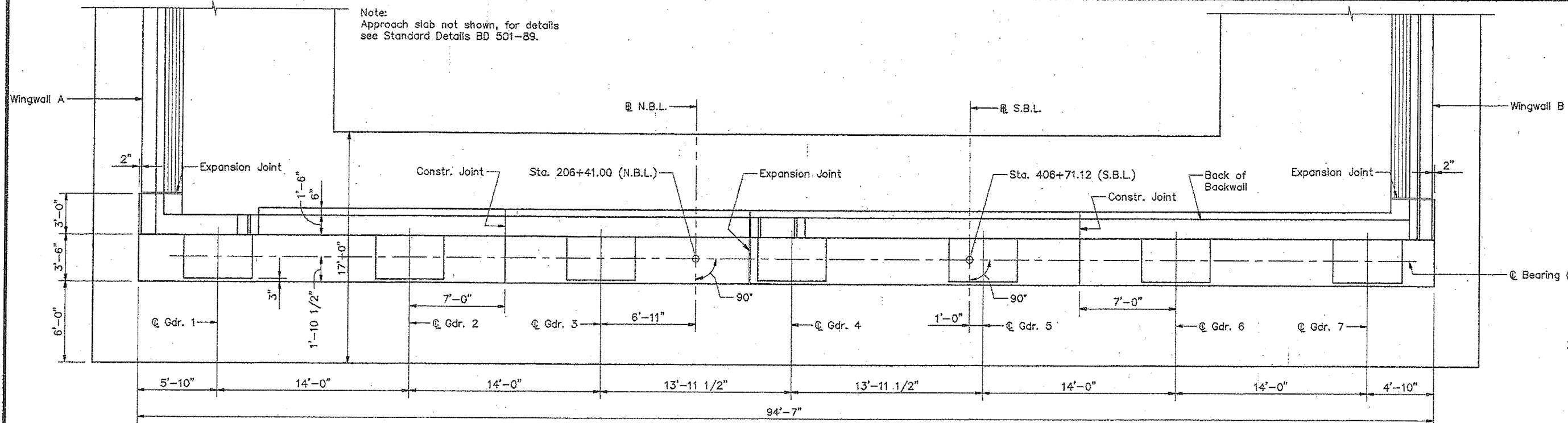
OVER FORE RIVER

CUMBERLAND COUN'

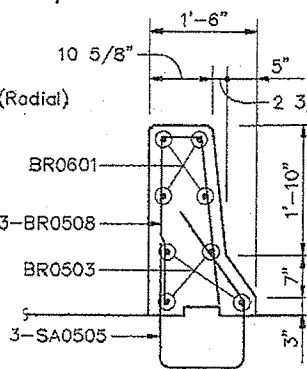
**FOUNDATION PLATE
ELEVATION - RA**

SHEET 14 OF 338 AUGUSTA, MAINE

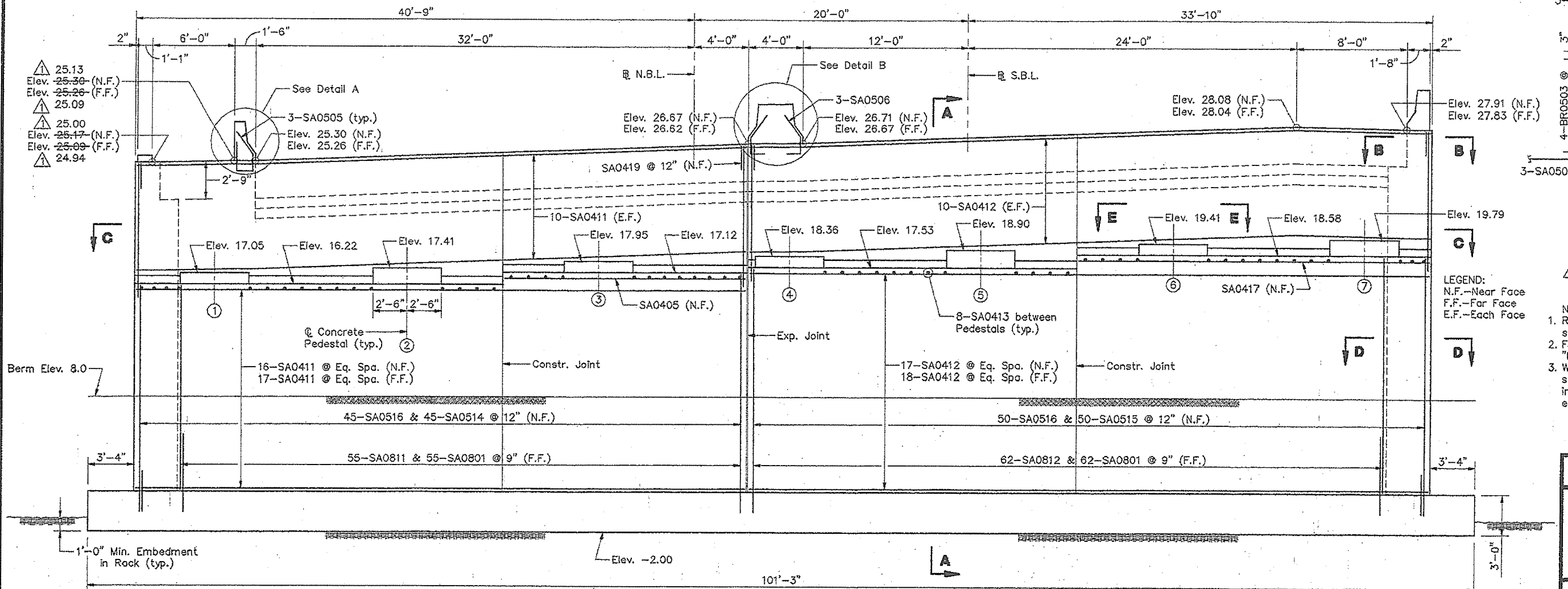
Note:
Approach slab not shown, for details
see Standard Details BD 501-89.



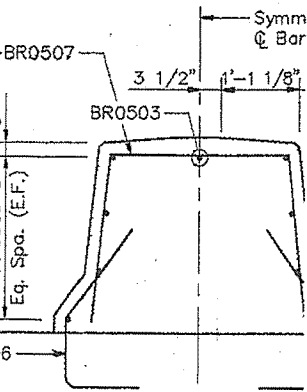
PLAN



DETAIL A



ELEVATION



DETAIL B

LEGEND:
N.F.—Near Face
F.F.—Far Face
E.F.—Each Face

△ Revise top of wall elevations

- Notes:
1. Roadway elevations are shown to surface.
 2. For Sections A-A, B-B, C-C, D-D "Details South Abutment-I".
 3. When elevation of sound rock var subfooting concrete as necessary into rock 1'-0" minimum as dire engineer.

STEEL ALTERNATIVE SUBS

STATE OF MAINE
DEPARTMENT OF TRANSP

PORTLAND - S. PORTL

OVER FORE RI

CUMBERLAND CC

**PLAN AND ELE
SOUTH ABUT**

SHEET 15 OF 338 AUGUSTA, M

PROJECT DESIGN ENGINEER	DATE
BS	8/94
DESIGN-DETAILED	BY
BS	RAP
CHECKED	DATE
JLH	6/94
REVISIONS	BY
1	JLH
FIELD CHANGES	DATE

SAPE-S.DWG : 1-48



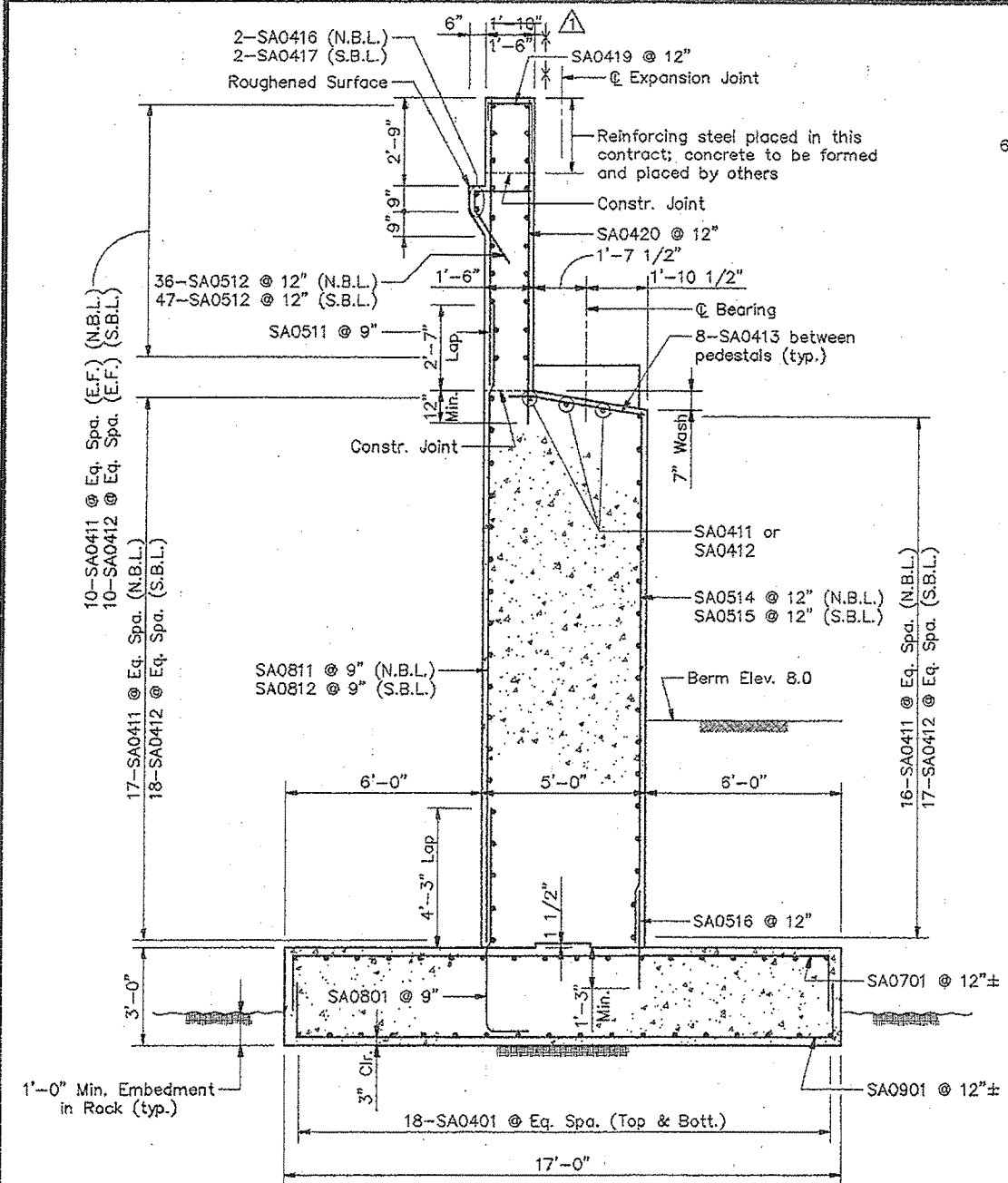
STEEL ALTERNATIVE SUBSTRUCTURE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

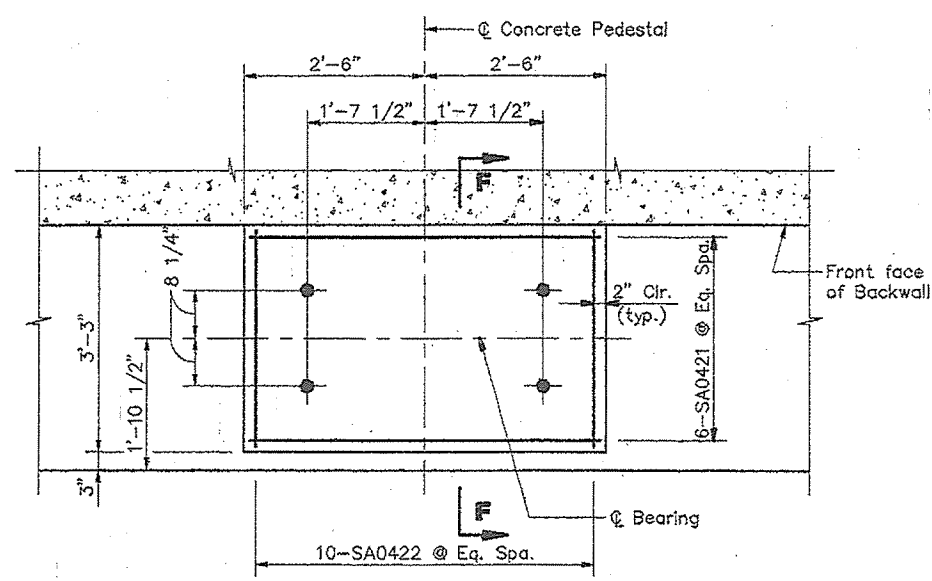
PORTLAND - S. PORTLAND
OVER FORD RIVER
CUMBERLAND COUNTY

PLAN AND ELEVATION
SOUTH ABUTMENT

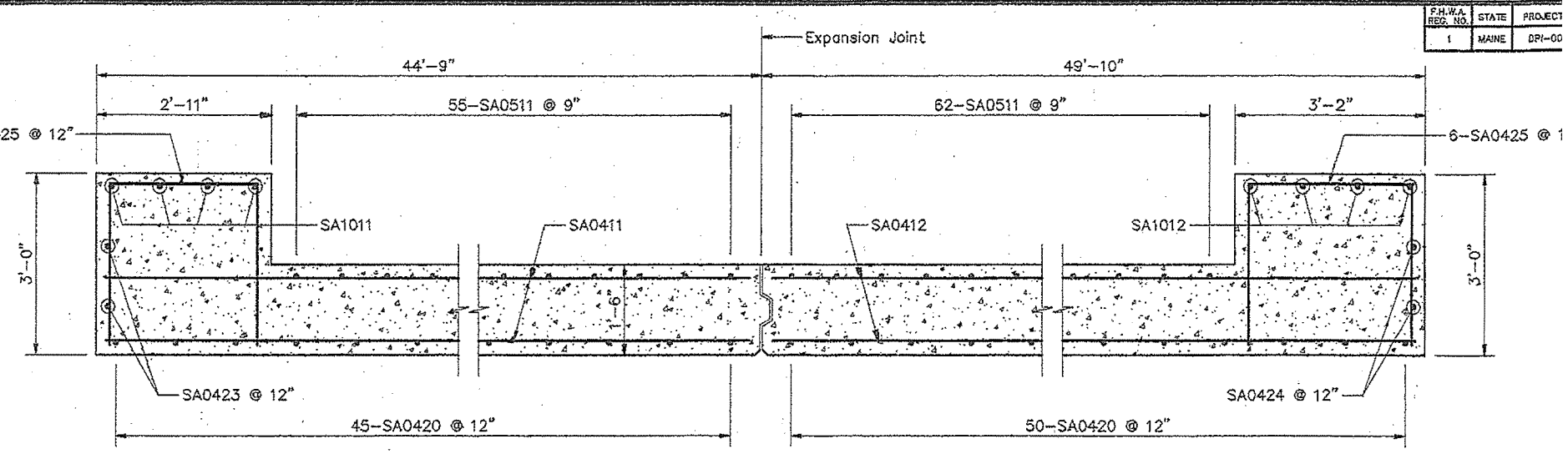
SHEET 15 OF 338 AUGUSTA, MAINE



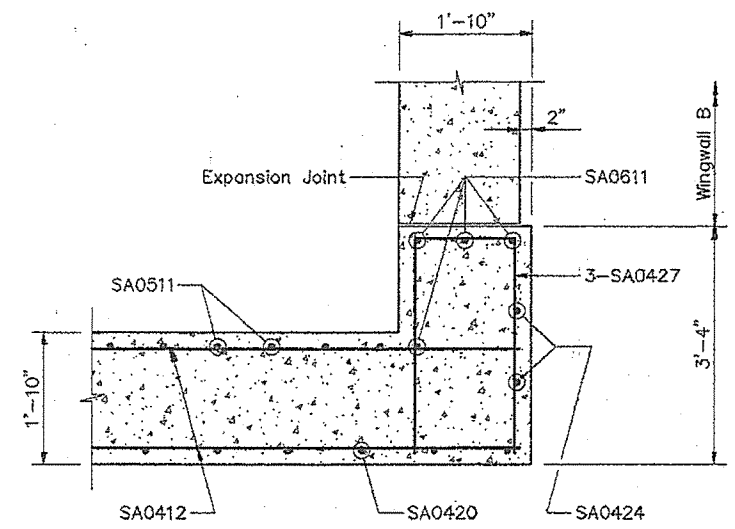
SECTION A-A



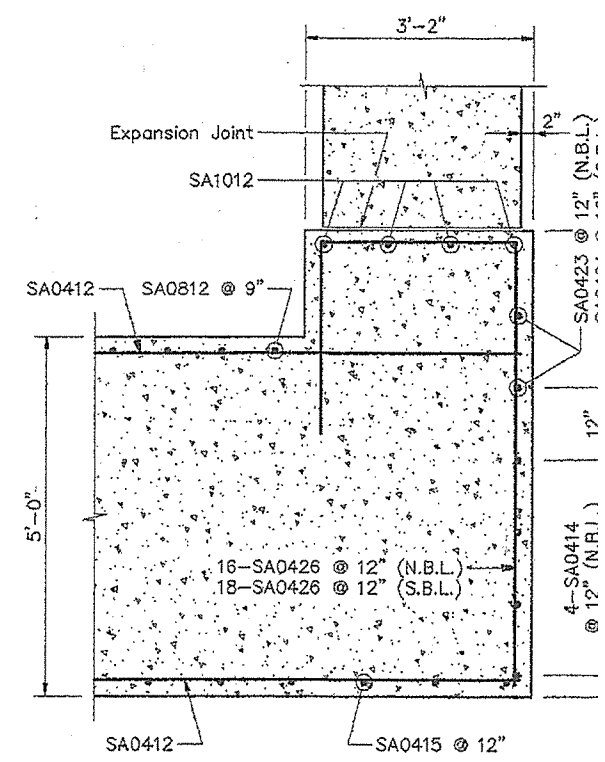
SECTION E-E



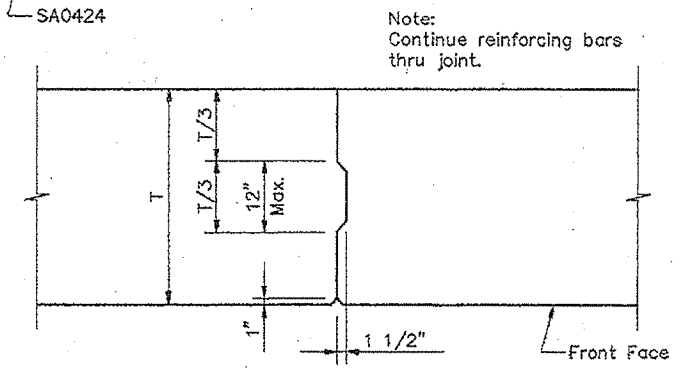
SECTION C-C



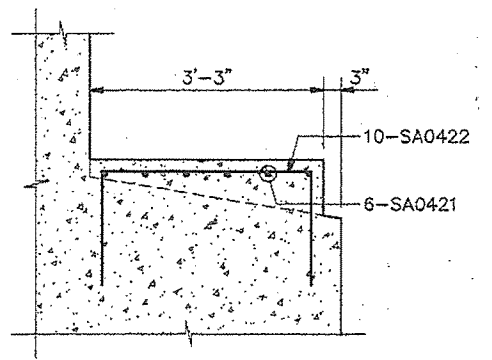
SECTION B-B



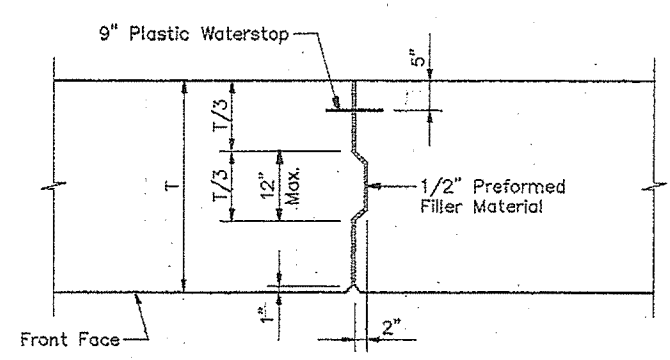
SECTION D-D



CONSTRUCTION JOINT DETAIL
(NOT TO SCALE)



SECTION F-F



EXPANSION JOINT DETAIL
(NOT TO SCALE)

Notes:
End reinforcing 2" clear of joint.
Omit key at wingwall expansion joints.

△ Correct meaningless dimension

STEEL ALTERNATIVE SUB:

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PORTLAND - S. PORTLAND

OVER FORE RIVER

CUMBERLAND COUNTY

DETAILS
SOUTH ABUTMENT

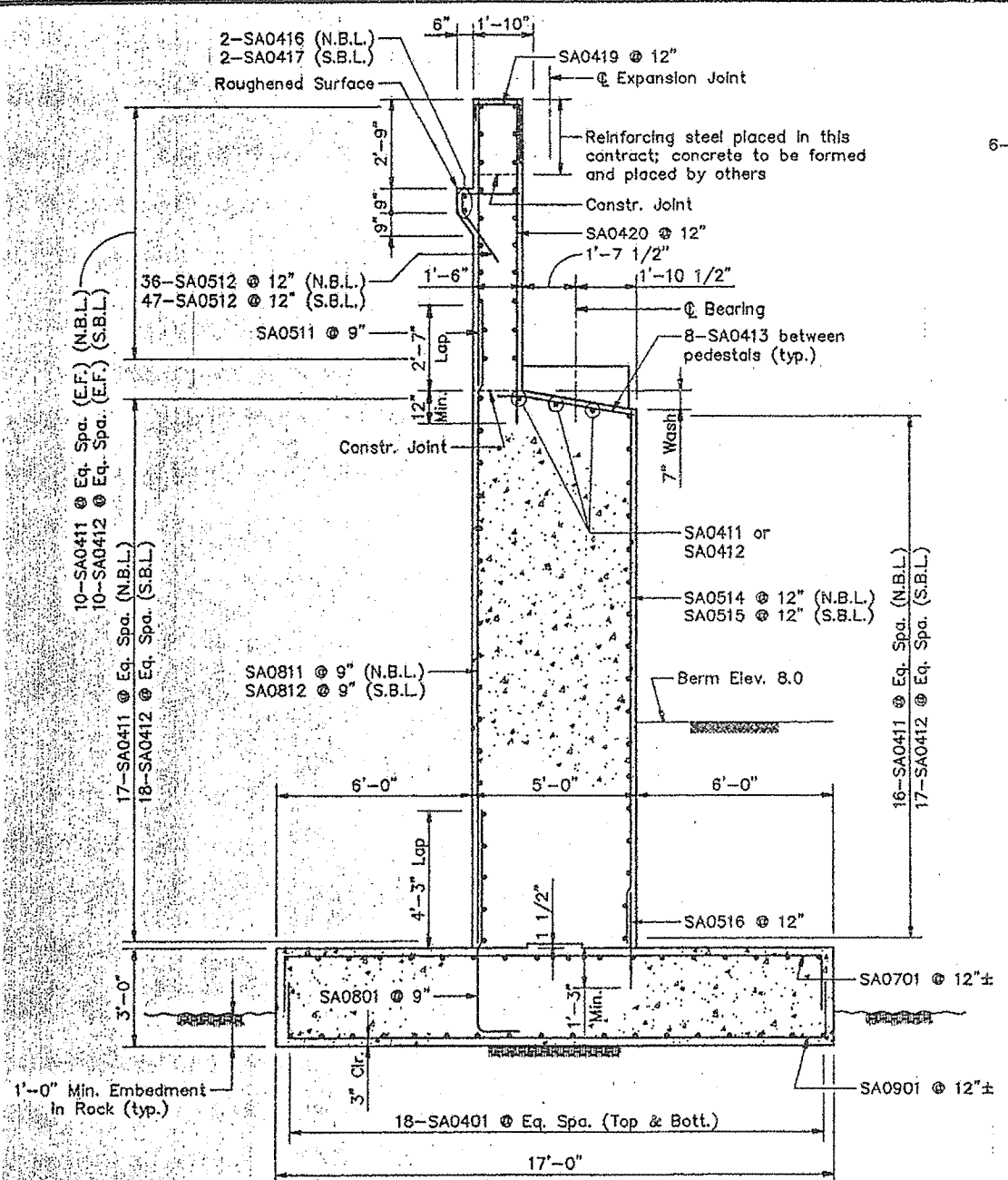
SHEET 16 OF 338 AUGUSTA, ME

PROJECT DESIGN ENGINEER	DATE
BS	6/94
DESIGN-DETAILED	BY
CH	RAP
CHECKED	DATE
JH	6/94
REVISIONS	FIELD CHANGES

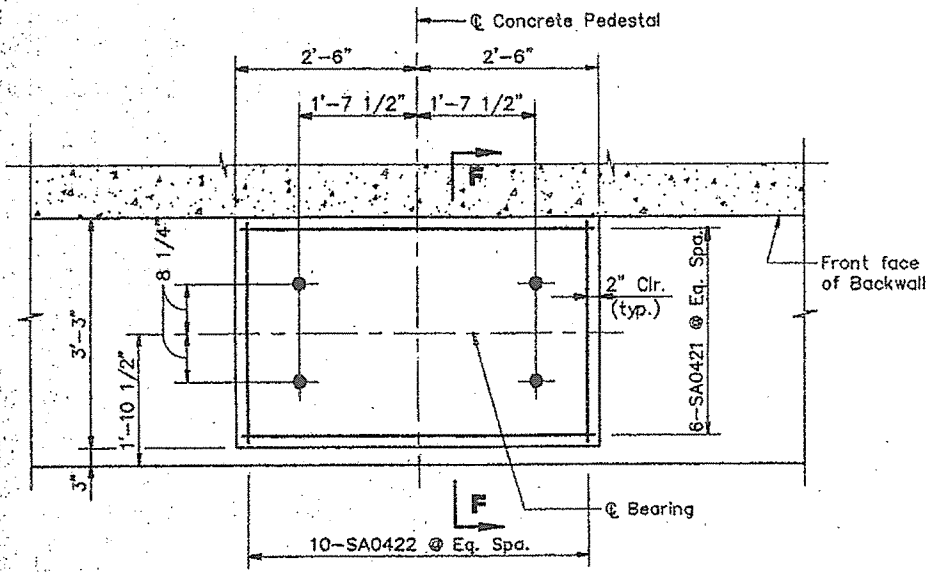
SAST-S.DWG : 1=32

PLANS	CHECKED	REVISIONS	FIELD CHANGES
	J.H.		
	6/94		

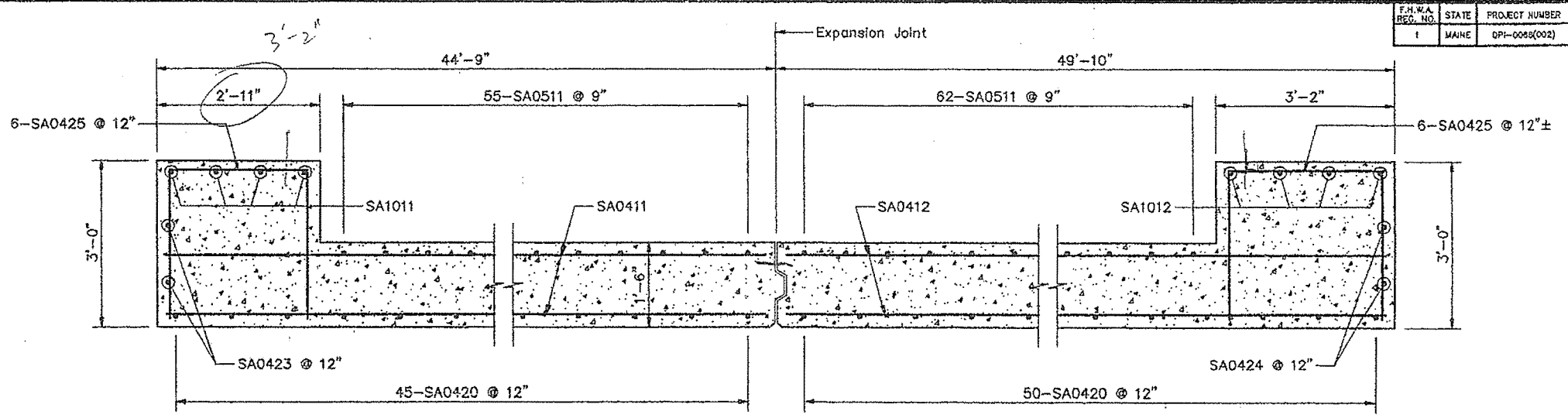
SAS1-S.DWG : 1a-32



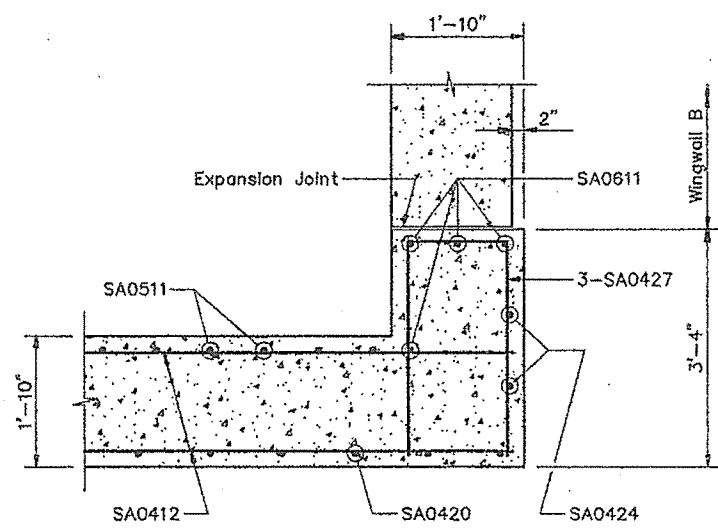
SECTION A-A



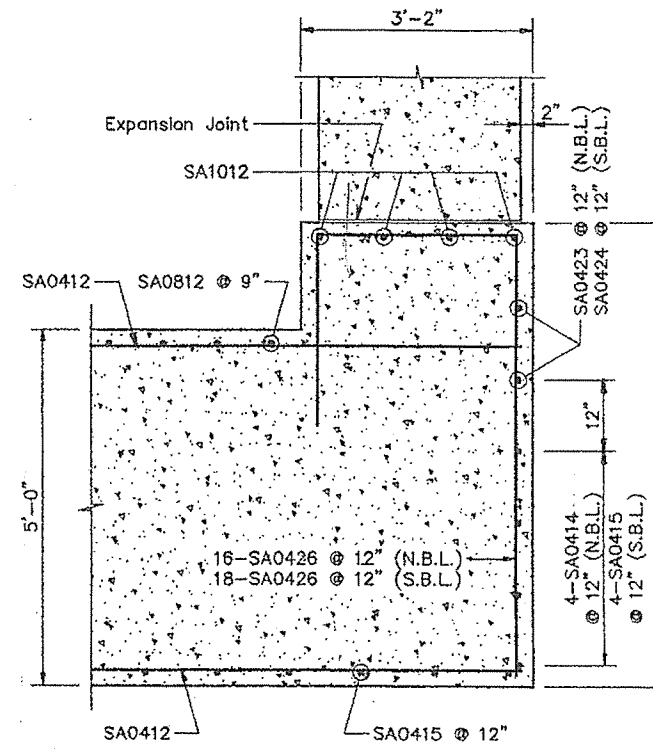
SECTION E-E



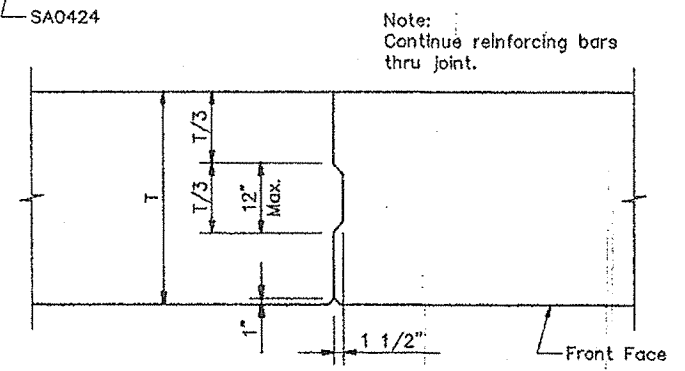
SECTION C-C



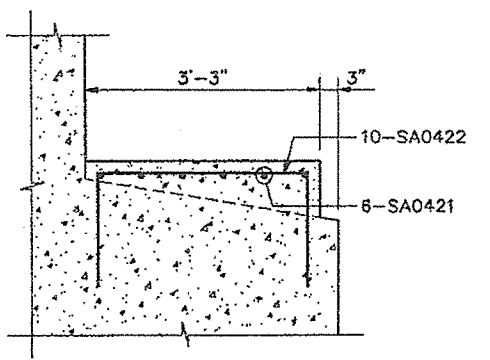
SECTION B-B



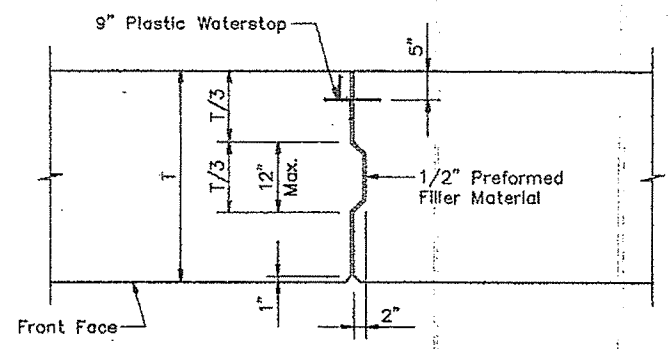
SECTION D-D



CONSTRUCTION JOINT DETAIL
(NOT TO SCALE)



SECTION F-F



EXPANSION JOINT DETAIL
(NOT TO SCALE)

Notes:
End reinforcing 2" clear of joint.
Omit key at wingwall expansion joints.

STEEL ALTERNATIVE SUBSTRUCTURE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PORTLAND - S. PORTLAND

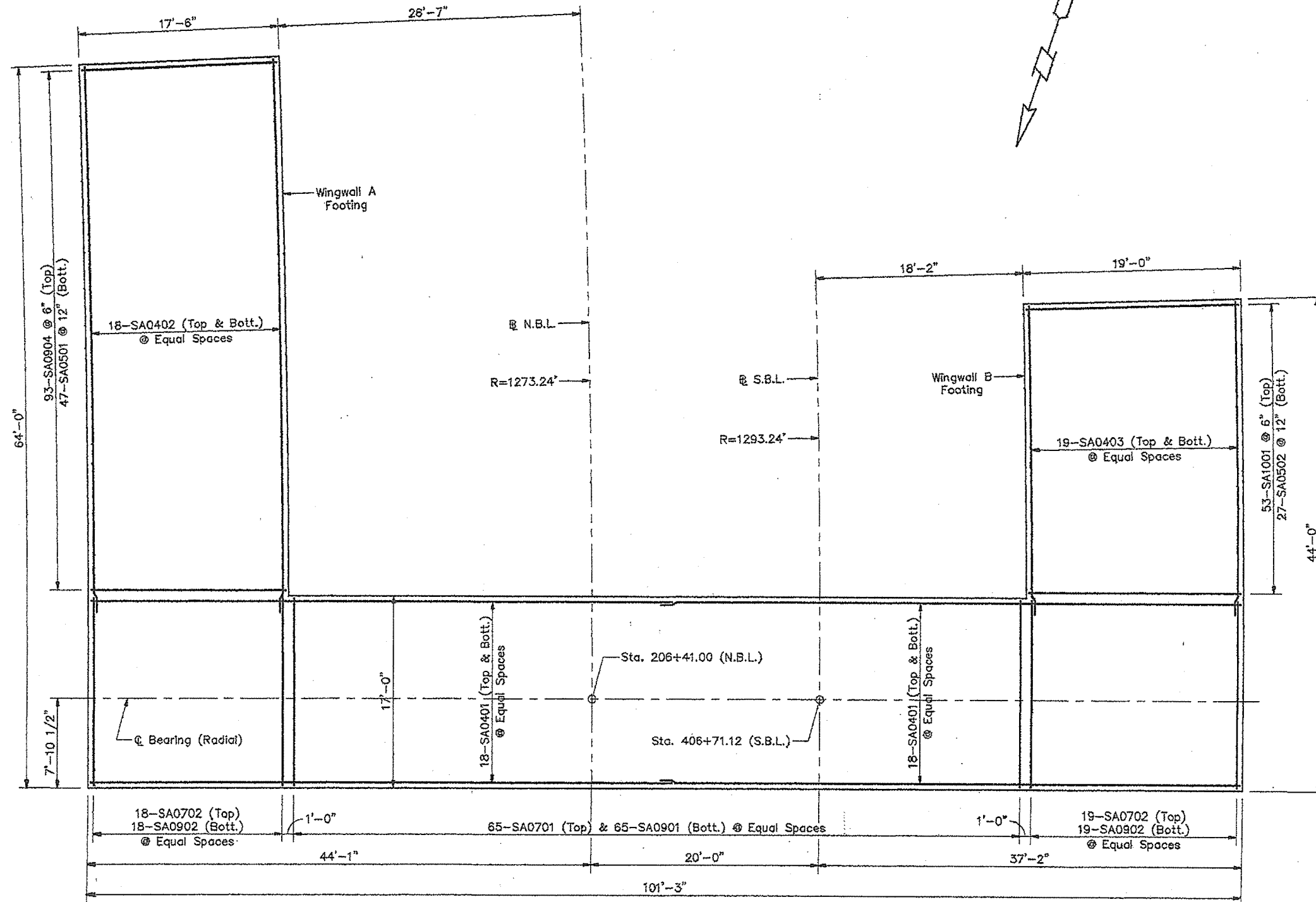
OVER FORE RIVER

CUMBERLAND COUNTY

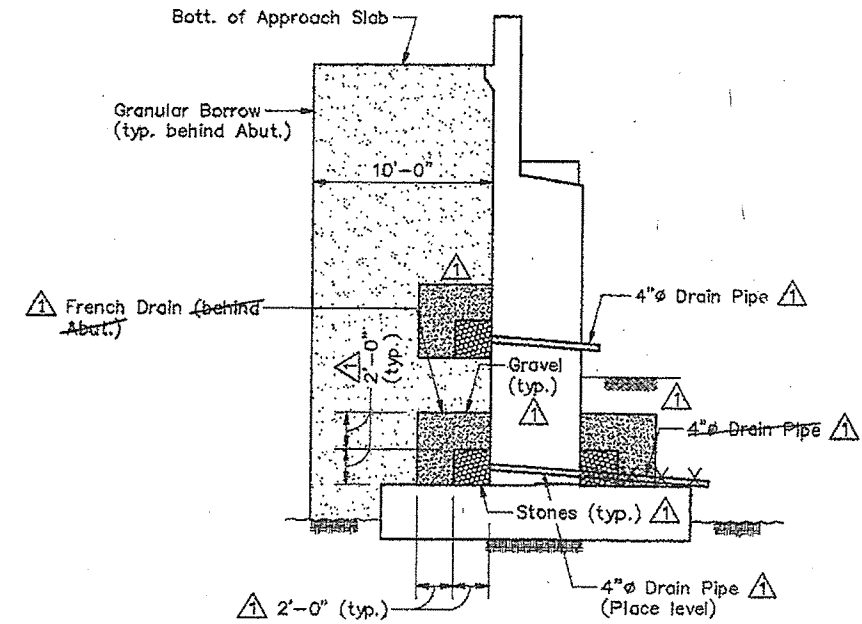
DETAILS

SOUTH ABUTMENT

SHEET 11 OF 33 AUGUSTA, MAINE



FOOTING PLAN



FRENCH DRAIN DETAIL

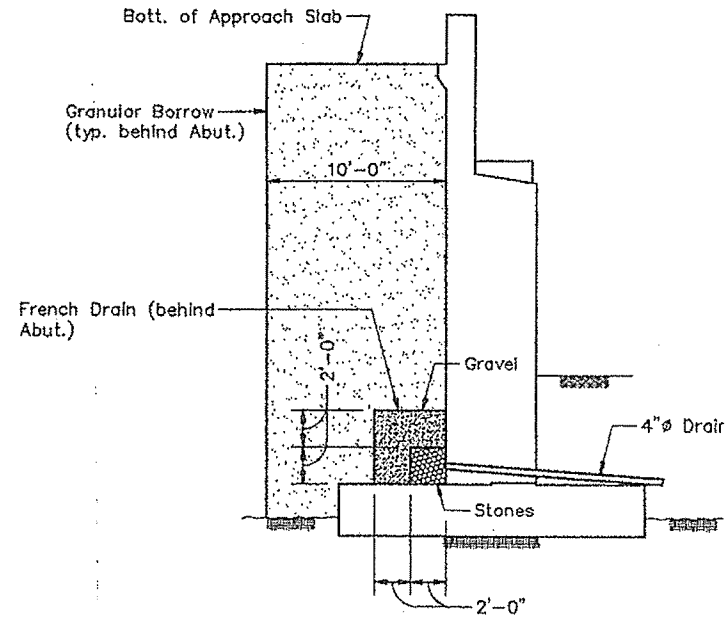
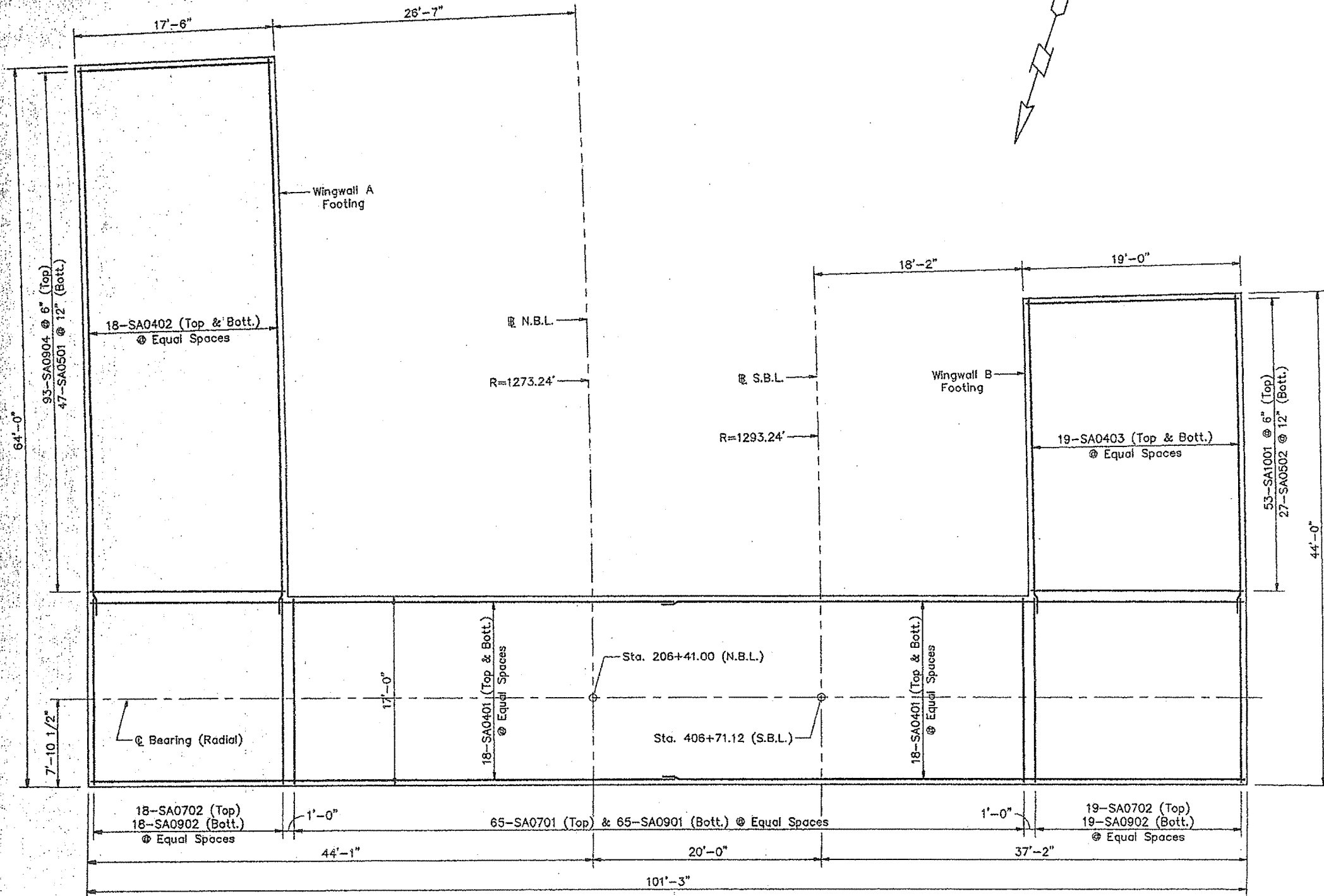
Note:
Place 4" diameter drains in breastwall and wingwalls at 15 ft. maximum spacing. Exact location to be determined by the Engineer in the field.
⚠ Structural excavation limits are as defined in the Standard Specifications. Excavation beyond these limits to provide the granular borrow limits shown above will be paid for under common excavation.

⚠ Revise French Drain detail 10/7/94

Note:
Contractor may elect to construct footings along chords with middle ordinates $\leq 6"$.

STEEL ALTERNATIVE SUBSTRUCTURE

STATE OF MAINE DEPARTMENT OF TRANSPORTATION
PORTLAND - S. PORTLAND BRIDGE
OVER FORE RIVER
CUMBERLAND COUNTY
DETAILS
SOUTH ABUTMENT - II
SHEET 17 OF 338 AUGUSTA, MAINE

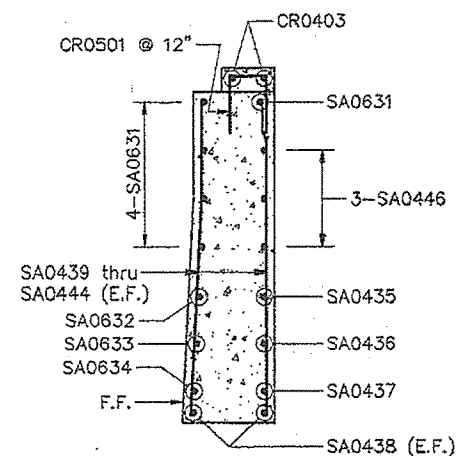
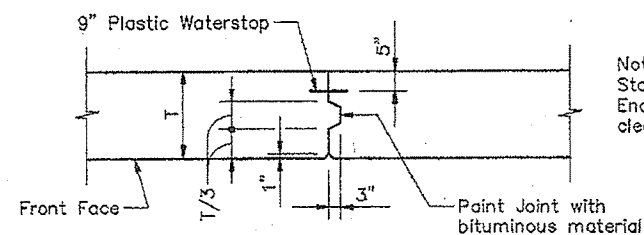
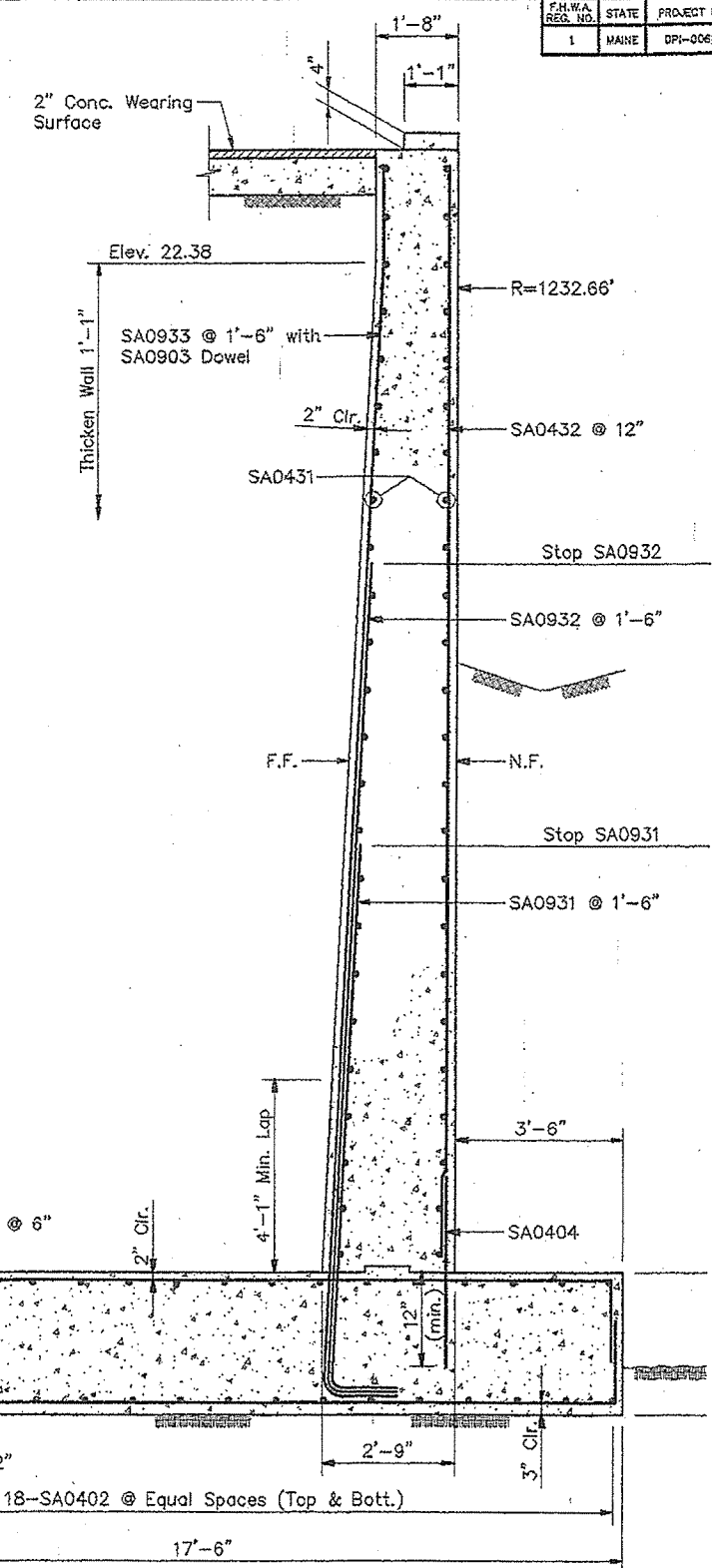
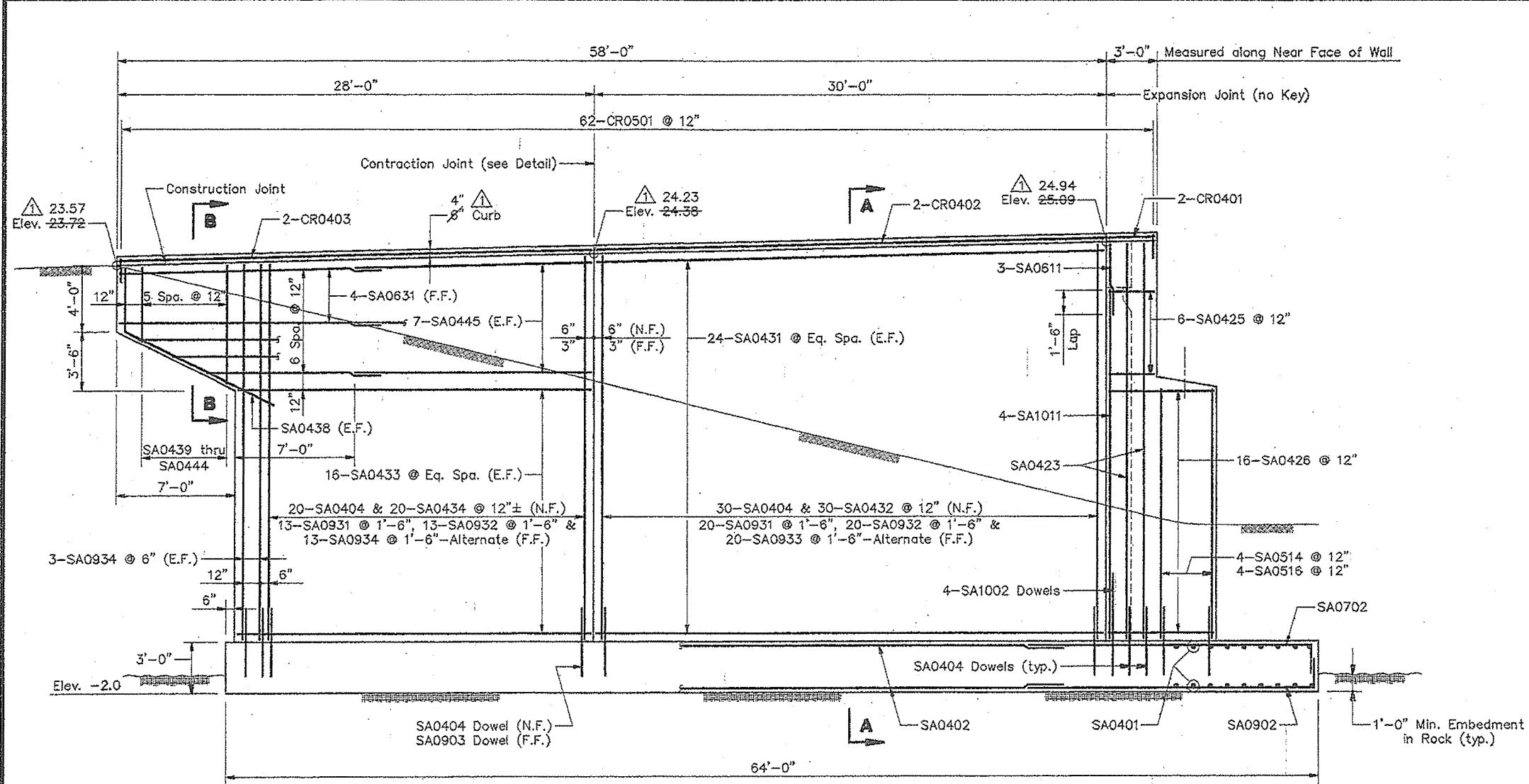


FRENCH DRAIN DETAIL

Note:
Place 4" diameter drains in breastwall and wingwalls at 15 ft. maximum spacing. Exact location to be determined by the Engineer in the field.

Note:
Contractor may elect to construct footing chords with middle ordinates $\leq 6"$.

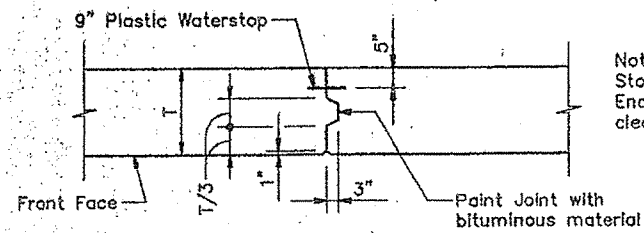
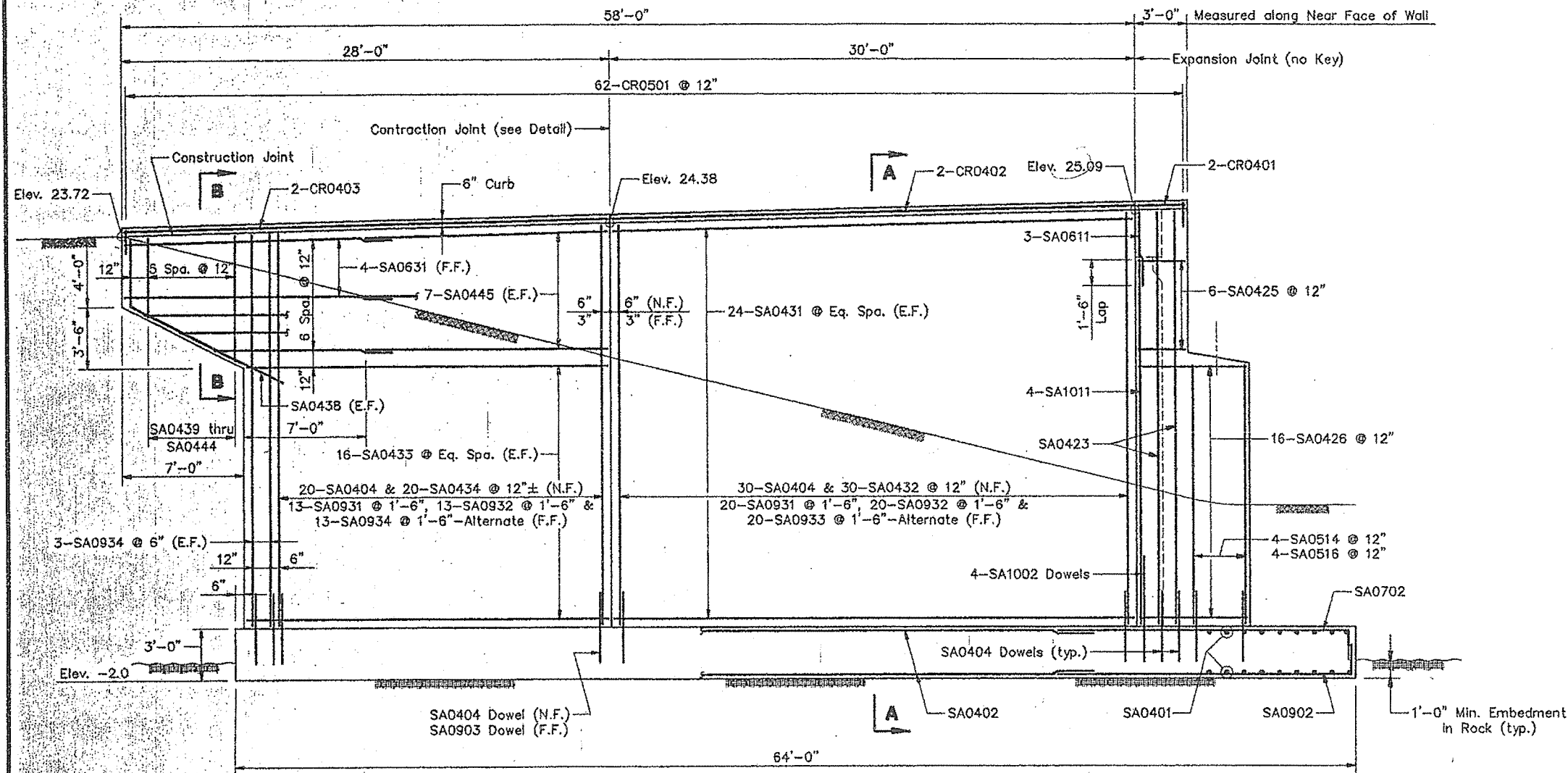
STEEL ALTERNATIVE SUBSTRUCT



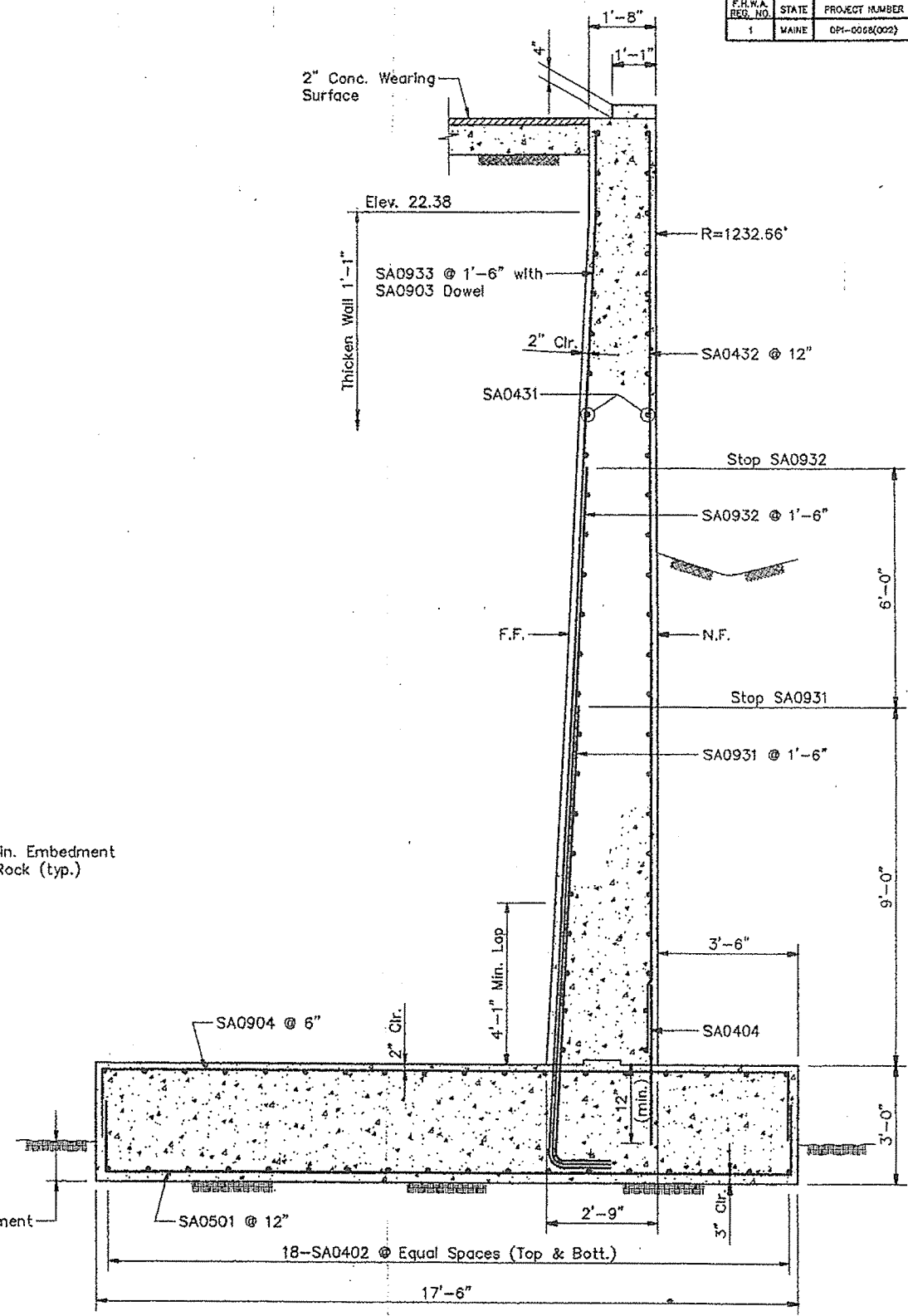
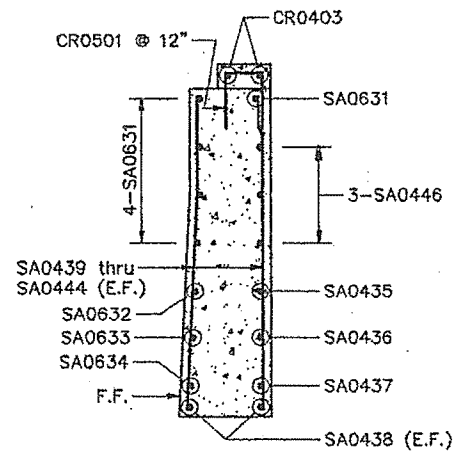
- Notes:
1. Fence post anchors along top of wingwall will be drilled and grouted by superstructure contractor.
 2. When elevation of top of sound rock varies, place subfooting concrete as necessary to key footing into rock 1'-0" minimum as directed by the engineer.

△ Revise top of wall elevations and curb height 4/2/96

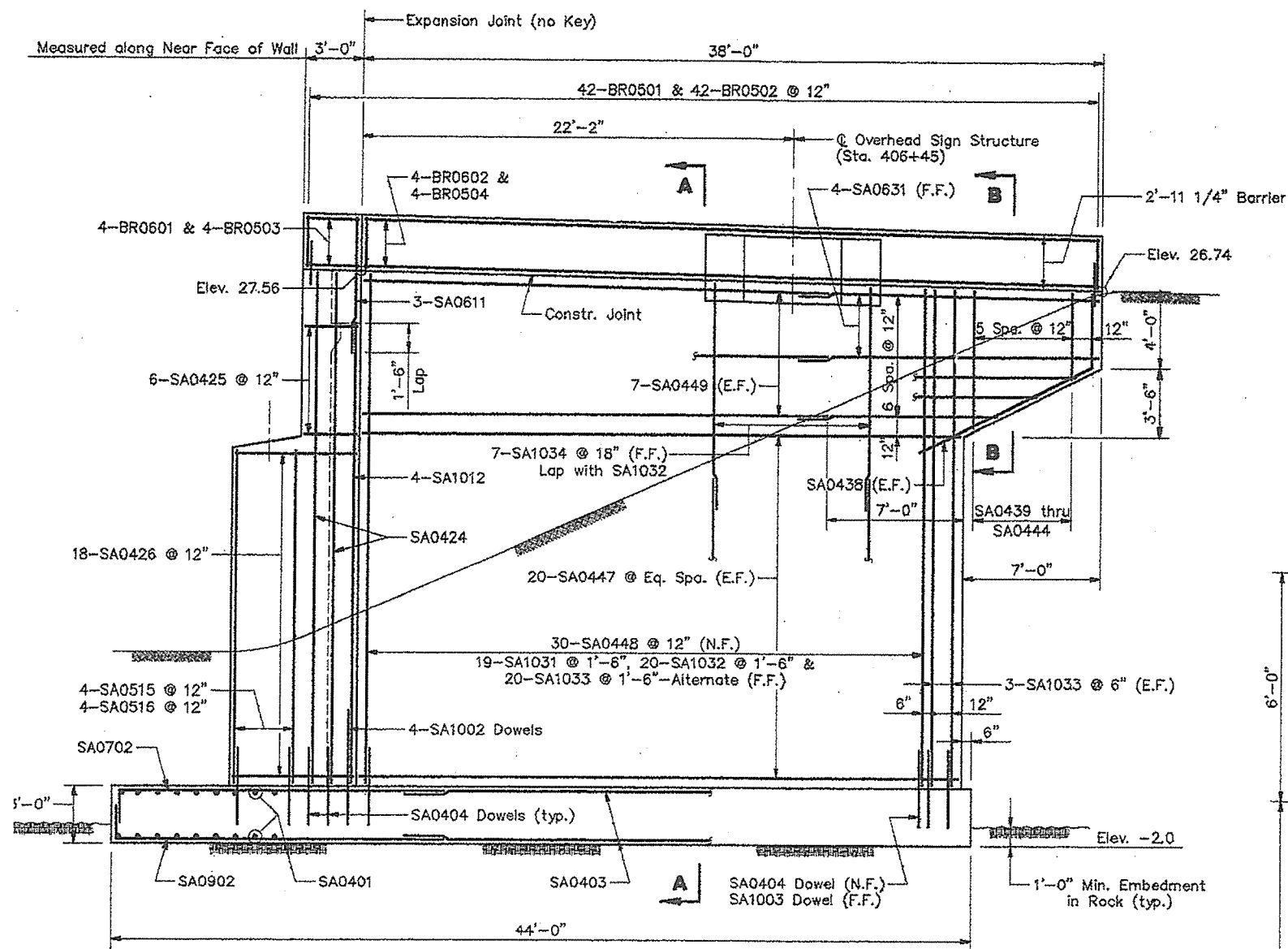
PROJECT DESIGN ENGINEER	DATE
BS	6/94
DESIGN-DETAILED	BY
REVISIONS	RAP
FIELD CHANGES	JLH
	6/94



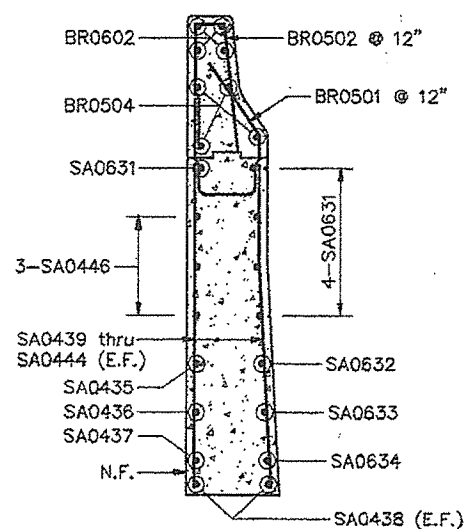
Notes:
Stop key 6" below top of wall.
End horizontal reinforcing 2"
clear of joint.



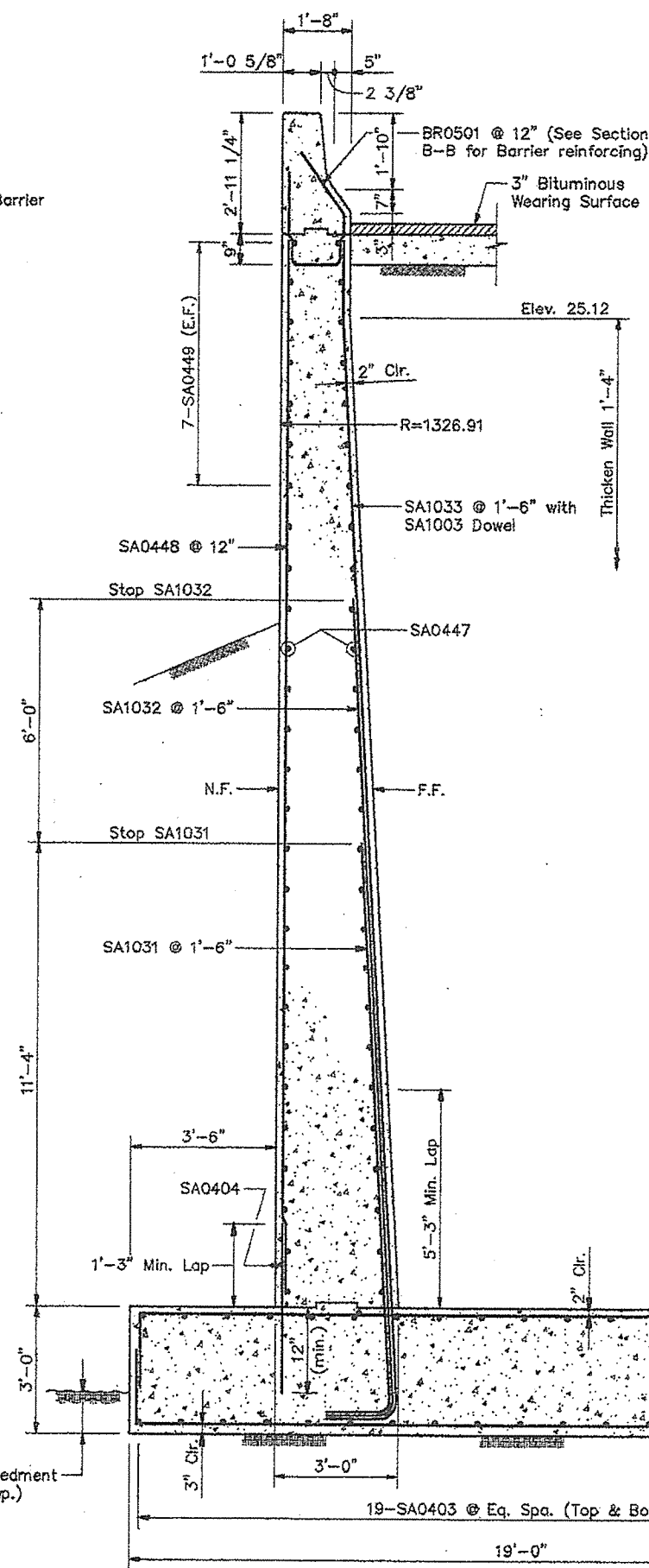
- Notes:
1. Fence post anchors along top of wingwall will be drilled and grouted by superstructure contractor.
 2. When elevation of top of sound rock varies, place subfooting concrete as necessary to key footing into rock 1'-0" minimum as directed by the engineer.



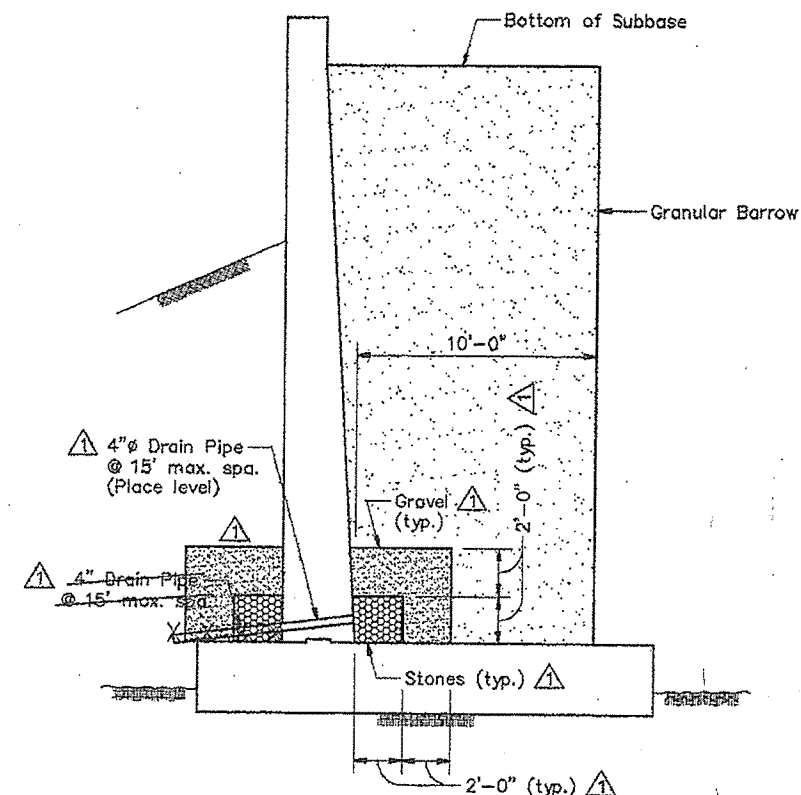
ELEVATION



SECTION B-B



SECTION A-A



FRENCH DRAIN DETAIL
(TYPICAL AT WINGWALLS)

⚠ Structural excavation limits are as defined in the Standard Specifications. Excavation beyond these limits to provide the granular barrow limits shown above will be paid for under common excavation.

- Notes:
- For overhead sign structure support details see "Overhead Sign Structure Support Details Sta. 406+45.00".
 - Fence post anchors along top of barrier will be drilled and grouted by superstructure contractor.
 - When elevation of top of sound rock varies, place subfooting concrete as necessary to key footing into rock 1'-0" minimum as directed by the engineer.

STEEL ALTERNATIVE SUBSTRUCTURE

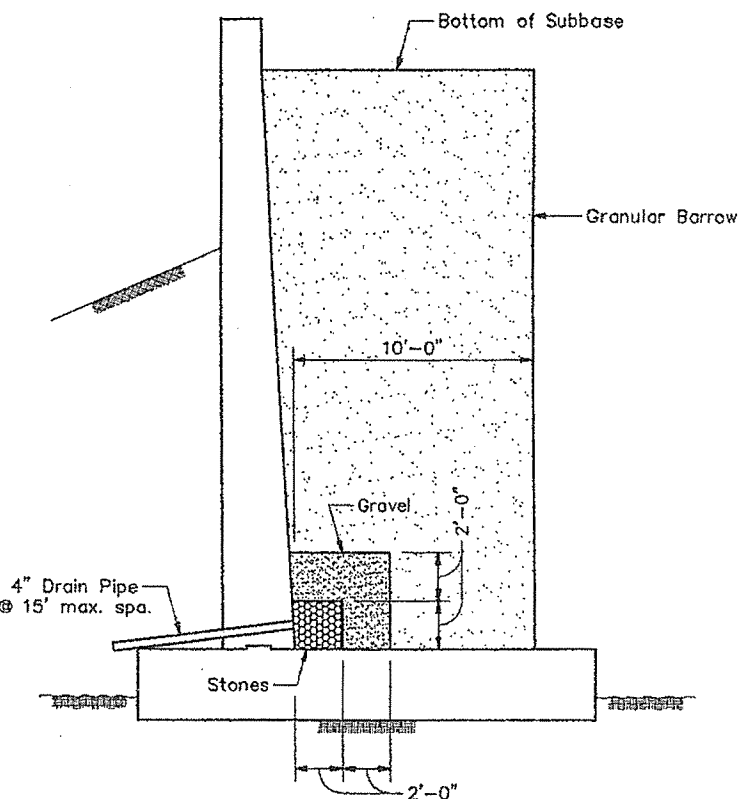
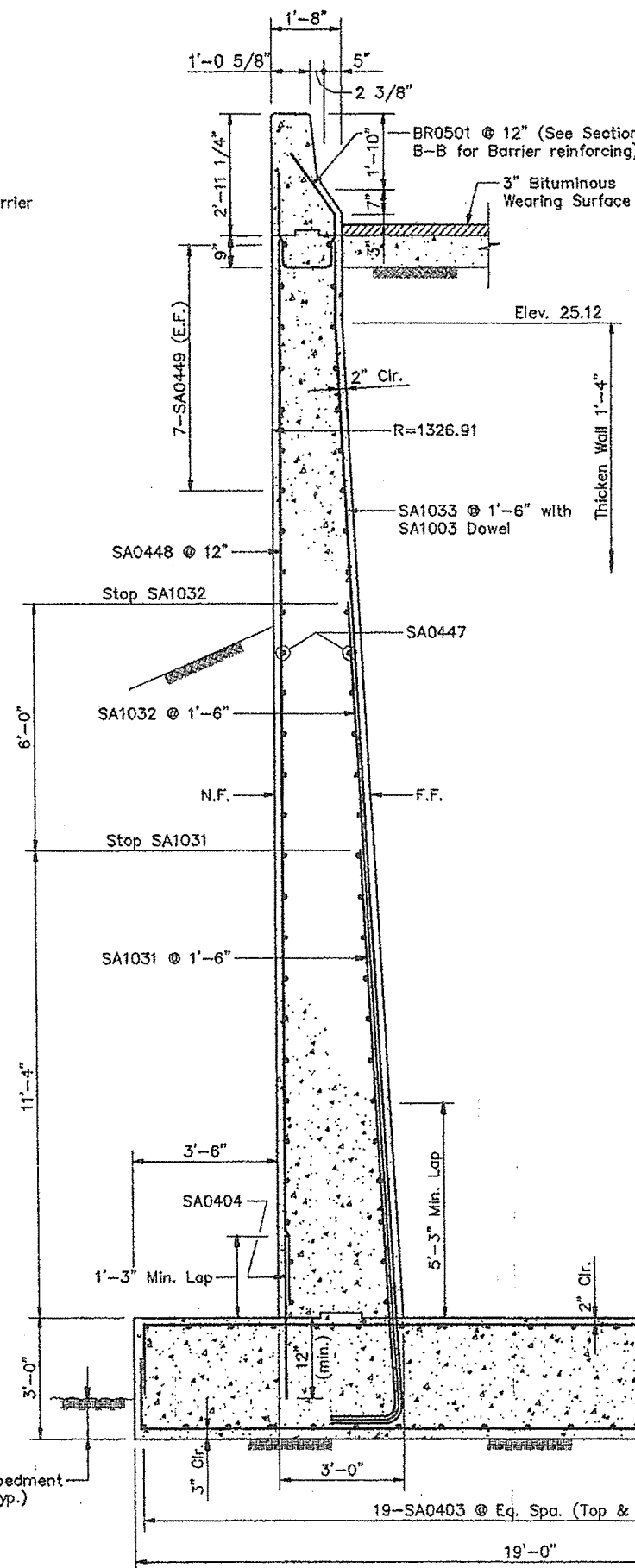
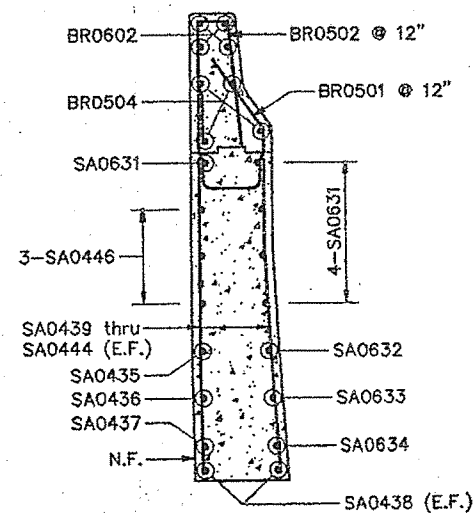
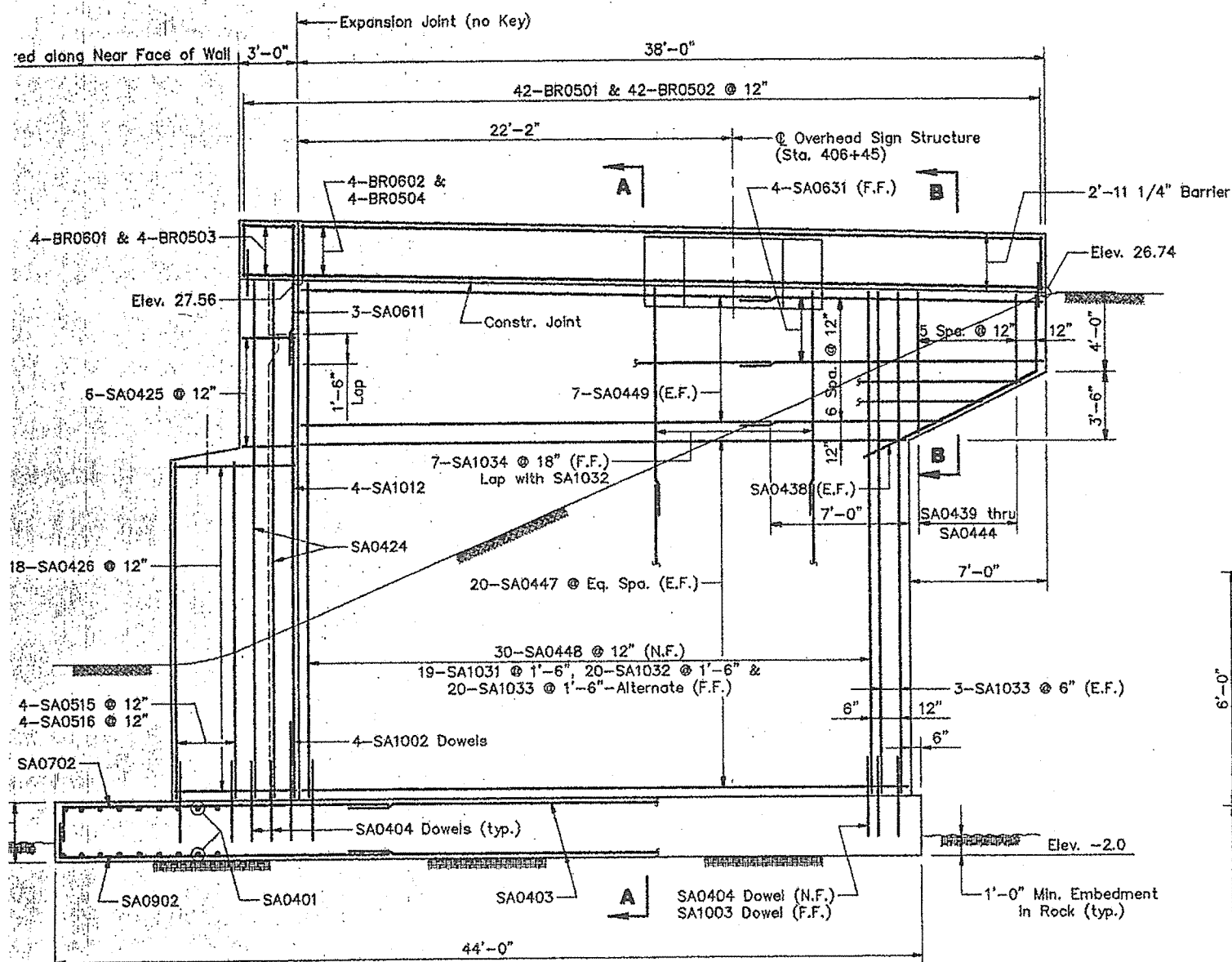
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PORTLAND - S. PORTLAND BRIDGE

OVER FORE RIVER

CUMBERLAND COUNTY

DETAILS WINGWALLS



- Notes:
- For overhead sign structure support details see "Overhead Sign Structure Support Details Sta. 406+45.00".
 - Fence post anchors along top of barrier will be drilled and grouted by superstructure contractor.
 - When elevation of top of sound rock varies, place subfooting concrete as necessary to key footing into rock 1'-0" minimum as directed by the engineer.

STEEL ALTERNATIVE SUBSTRUCTURE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PORTLAND - S. PORTLAND BRIDGE

OVER FORE RIVER

CUMBERLAND COUNTY

DETAILS WINGWALL B

SHEET 19 OF 330 AUGUSTA, MAINE 7/6/94

REINFORCING STEEL SCHEDULE

STRAIGHT BARS

BENT BARS

NO.	LENGTH	LOCATION	MARK	NO.	LENGTH	LOCATION	MARK	NO.	LENGTH	TYPE	A	B	C	D	E	F	G	H	O	R	LOCATION	
	S. ABUTMENT								S. ABUTMENT													
72	51'-3"	Footing					SA0701	65	20'-8"	EP	-	-	2'-0"	16'-8"	2'-0"							Footing
4	3'-0"	Footing Dowels					SA0702	37	18'-8"	EP	-	-	2'-0"	16'-8"	-							"
							SA0801	117	8'-2"	J	1'-0"	6"	6'-8"					-		4"		Footing Dowel
1	17'-7"	Breastwall					SA0901	65	20'-8"	EP	-	-	2'-0"	16'-8"	2'-0"							Footing
56	44'-5"	Breastwall					SA0902	37	18'-8"	EP	-	-	2'-0"	16'-8"	-							"
58	49'-6"	"					SA1002	8	9'-8"	J	1'-5"	10"	7'-5"					-		6 5/8"		Footing Dowel
2	35'-8"	Backwall					SA0413	55	4'-2"	V				9"	3'-5"			7"				Breastwall
2	46'-4"	"																				
1	25'-8"	Breastwall					SA0419	95	3'-8"	SJ	-	-	1'-10"	1'-2"	8"			-				Backwall
95	10'-10"	Backwall					SA0512	83	4'-11"	SJ	-	2'-8"	7"	1'-8"	-			1'-6"				"
117	8'-2"	"																				
49	15'-0"	Breastwall					SA0421	42	9'-2"	S	2'-3"	4'-8"	2'-3"				-					Pedestal
54	16'-4"	"					SA0422	70	7'-5"	S	2'-3"	2'-11"	2'-3"				-					"
103	4'-0"	Dowels																				
55	19'-10"	Breastwall																				
62	21'-3"	"					SA0425	12	8'-0"	S	-	2'-8"	2'-8"	2'-8"			-					Pilaster
2	23'-9"	Pilaster					SA0426	34	11'-1"	S	-	2'-3"	2'-8"	6'-2"			-					"
2	26'-5"	"					SA0427	6	6'-9"	S	-	2'-8"	1'-5"	2'-8"			-					"
8	4'-1"	"																				
4	23'-9"	"																				
4	26'-5"	"																				

F.H.W.A.
REG. NO.
1

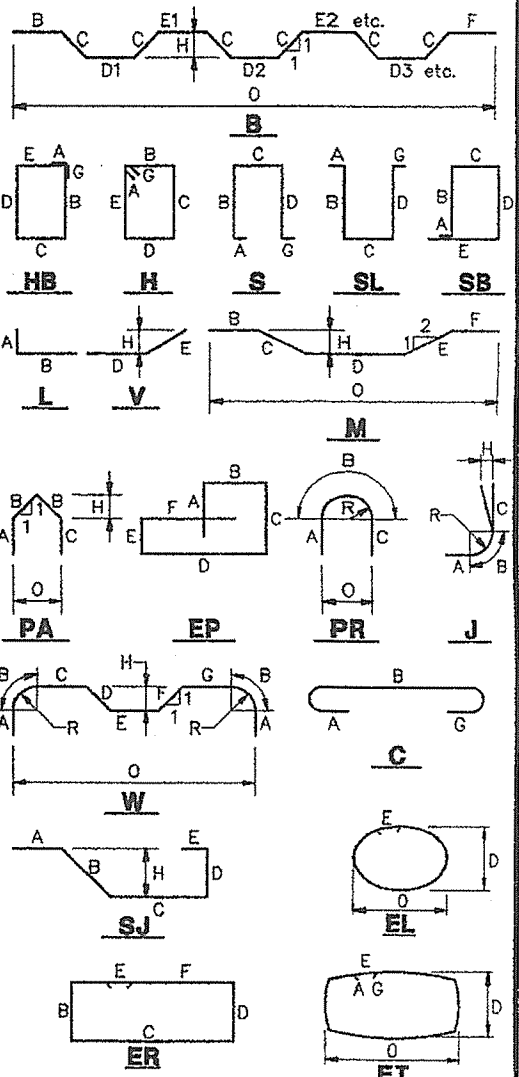
STATE
MAINE

PROJECT NUMBER
DPI-0068(002)

SHEET NO.
20

TOTAL SHEETS
338

TYPE - BENDING DIAGRAMS



All dimensions are out to out of reinforcing bar. Bending details and hooks shall conform to the recommendations of the current revision of ACI Standard 318. Reinforcing Bar: ASTM A615 Grade 60.

GENERAL NOTES

Bar mark nomenclature as follows:
Component Type — Bar Size — Sequence Number
PC0522

STEEL ALTERNATIVE SUBSTRUCTURE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PORTLAND - S. PORTLAND BRIDGE
OVER FORE RIVER
CUMBERLAND COUNTY

REINFORCING STEEL SCHEDULE
SOUTH ABUTMENT

SHEET 20 OF 338 AUGUSTA, MAINE 06/24/2016

F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	DP1-0008(002)	21	338

Figure 1 displays 20 diagrams illustrating various types of bending diagrams for structural members. The diagrams are labeled as follows:

- HB**: Diagram of a rectangular cross-section with points A, B, C, D, E, F, G, H, I, O.
- H**: Diagram of a rectangular cross-section with points A, B, C, D, E, F, G, H, I, O.
- S**: Diagram of a rectangular cross-section with points A, B, C, D, E, F, G, H, I, O.
- SL**: Diagram of a rectangular cross-section with points A, B, C, D, E, F, G, H, I, O.
- SB**: Diagram of a rectangular cross-section with points A, B, C, D, E, F, G, H, I, O.
- L**: Diagram of a rectangular cross-section with points A, B, C, D, E, F, G, H, I, O.
- V**: Diagram of a rectangular cross-section with points A, B, C, D, E, F, G, H, I, O.
- M**: Diagram of a rectangular cross-section with points A, B, C, D, E, F, G, H, I, O.
- PA**: Diagram of a rectangular cross-section with points A, B, C, D, E, F, G, H, I, O.
- EP**: Diagram of a rectangular cross-section with points A, B, C, D, E, F, G, H, I, O.
- PR**: Diagram of a rectangular cross-section with points A, B, C, D, E, F, G, H, I, O.
- J**: Diagram of a rectangular cross-section with points A, B, C, D, E, F, G, H, I, O.
- W**: Diagram of a rectangular cross-section with points A, B, C, D, E, F, G, H, I, O.
- SJ**: Diagram of a rectangular cross-section with points A, B, C, D, E, F, G, H, I, O.
- EL**: Diagram of a rectangular cross-section with points A, B, C, D, E, F, G, H, I, O.
- K**: Diagram of a rectangular cross-section with points A, B, C, D, E, F, G, H, I, O.
- CN**: Diagram of a rectangular cross-section with points A, B, C, D, E, F, G, H, I, O.

All dimensions are out to out of reinforcing bar. Bending details and hooks shall conform to the recommendations of the current revision of ACI Standard 318.
Reinforcing Bar: ASTM A615 Grade 60.

GENERAL NOTES

Bar mark nomenclature as follows:

Component Type ☐ Bar Size

PC0522
Sequence Number

△ Revise reinforcing steel dimensions
10/7/94

STEEL ALTERNATIVE SUBSTRUCTURE

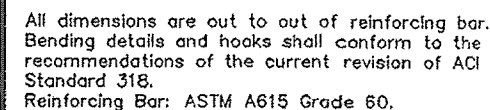
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PORTLAND - S. PORTLAND BRIDGE
OVER FORE RIVER
CUMBERLAND COUNTY

REINFORCING STEEL SCHEDULE

F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEET
1	MAINE	DPI--D068(002)	21	33

TYPE - BENDING DIAGRAMS



Bar mark nomenclature as follows:

Component Type ——— Bar Size

PC0522

———— Sequence Number

STEEL ALTERNATIVE SUBSTRUCTURE

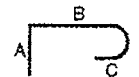
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PORTLAND - S. PORTLAND BRIDGE
OVER FORE RIVER
CUMBERLAND COUNTY

REINFORCING STEEL SCHEDULE
SOUTH ABUTMENT

F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	DPI-0068(002)	22	338

TYPE - BENDING DIAGRAMS



TM

All dimensions are out to out of reinforcing bar. Bending details and hooks shall conform to the recommendations of the current revision of ACI Standard 318. Reinforcing Bar: ASTM A615 Grade 60.

GENERAL NOTES

Bar mark nomenclature as follows:

STEEL ALTERNATIVE SUBSTRUCTURE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PORTLAND - S. PORTLAND BRIDGE

OVER FORE RIVER

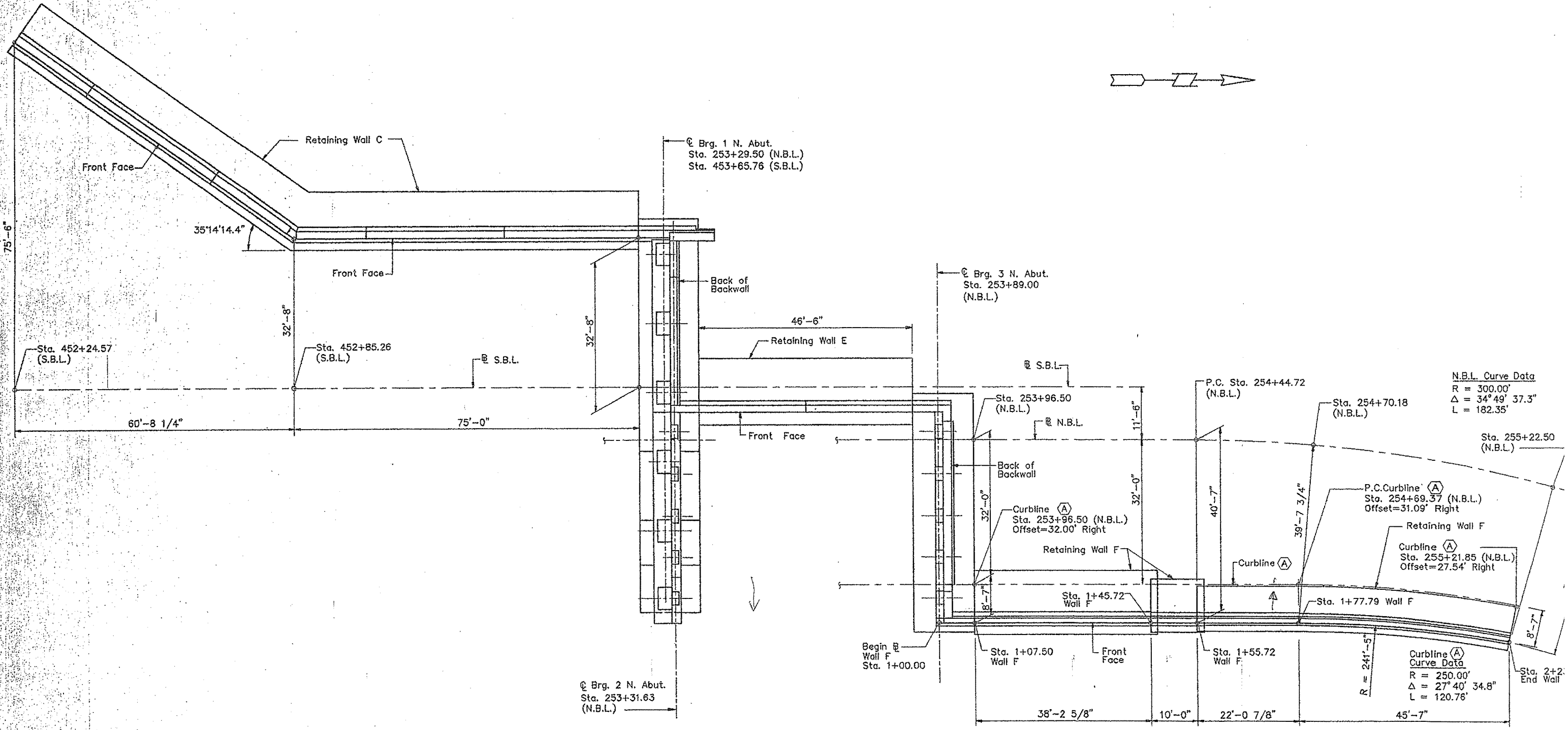
CUMBERLAND COUNTY

REINFORCING STEEL SCHEDULE

[illegible]

SHEET 22 OF 32 AUGUSTA, MAINE 7/11/194

F.H.W.A. REG. NO.	STATE	PROJECT NUMBER
1	MAINE	DPI-008(002)



PLAN

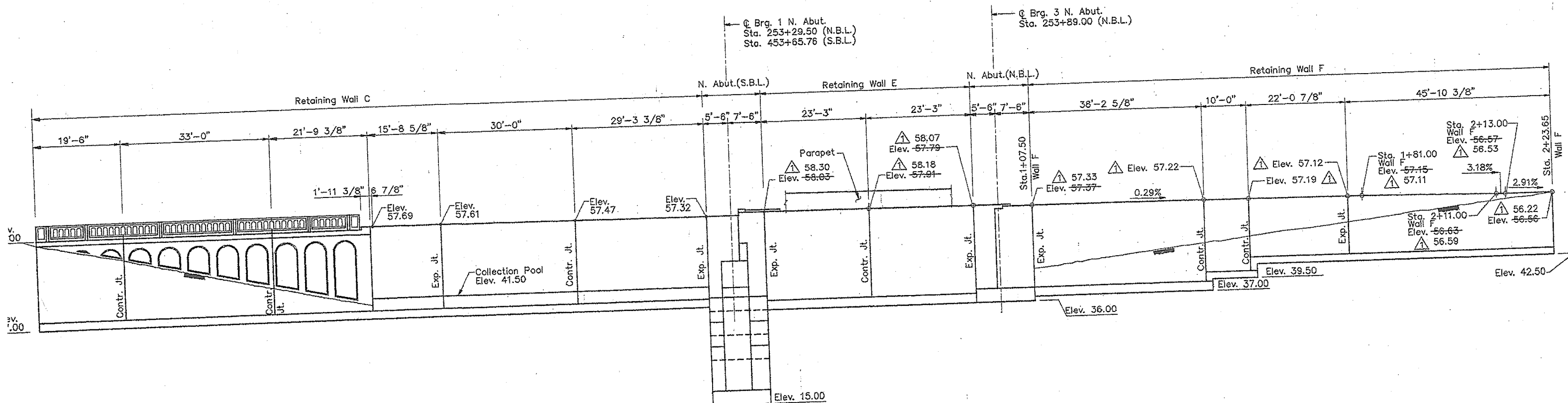
DESIGN-DETAILED	J.H.	HNT	5/94
CHECKED	BS		5/94
REVISIONS			
FIELD CHANGES			

PLANS

PORTLAND GENPLANS.DWG
DOTTING SCALE: 3/32"=1'

STEEL ALTERNATIVE SUBSTRU

STATE OF MAINE DEPARTMENT OF TRANSPORTATION
PORTLAND - S. PORTLAND OVER FORD RIVER CUMBERLAND COUNTY
GENERAL PLAN NORTH ABUTMENT
SHEET 23 OF 330 AUGUSTA, MAINE

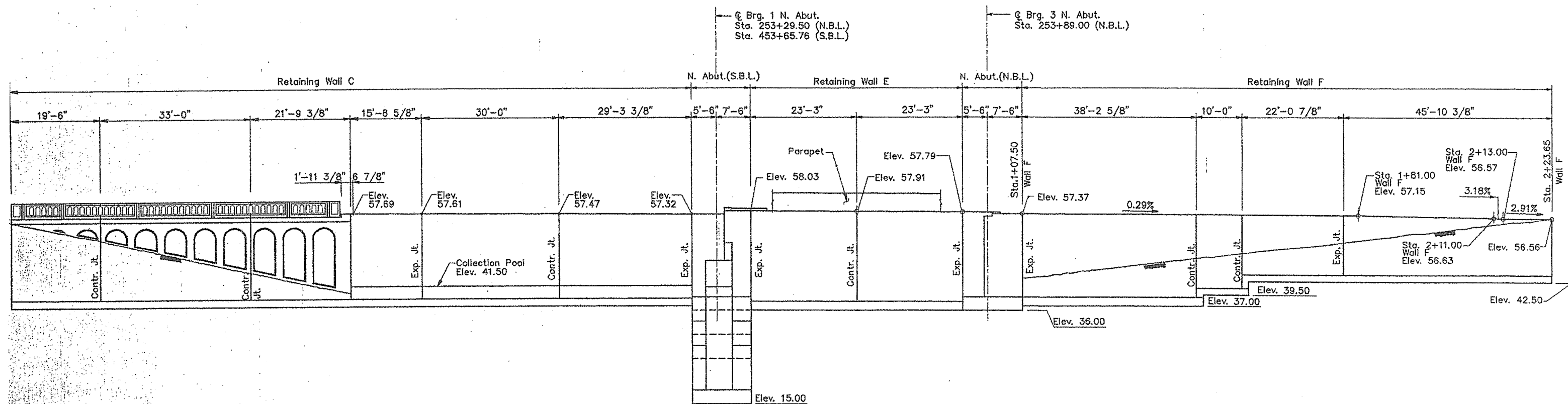


ELEVATION

△ Revise top of wall elevations 4/2/96

Note:
Horizontal distances given along front face of wall.

STEEL ALTERNATIVE SUBSTRUCTURE



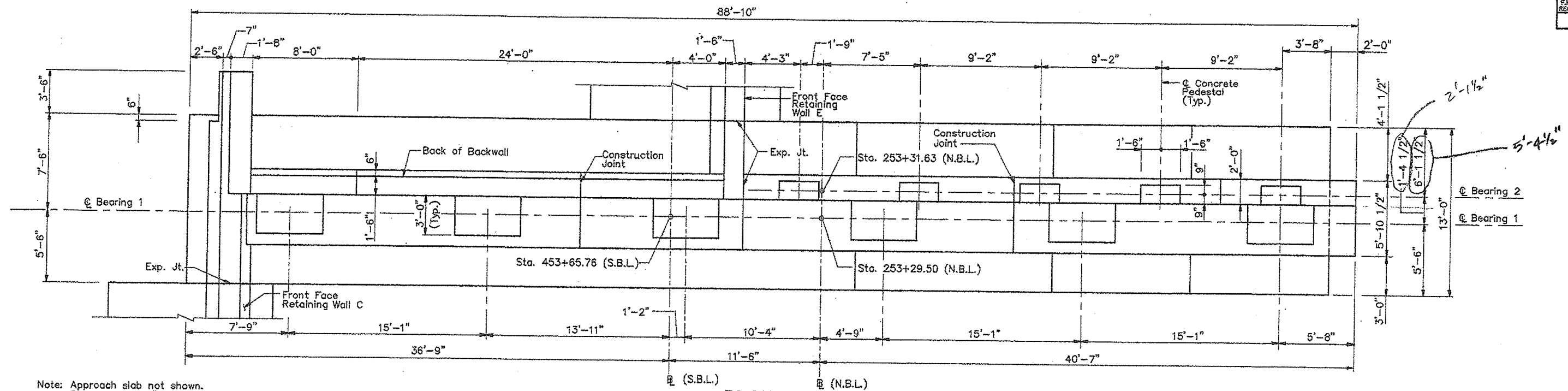
ELEVATION

Note:
Horizontal distances given along front face of wall.

STEEL ALTERNATIVE SUBSTRUCTURE

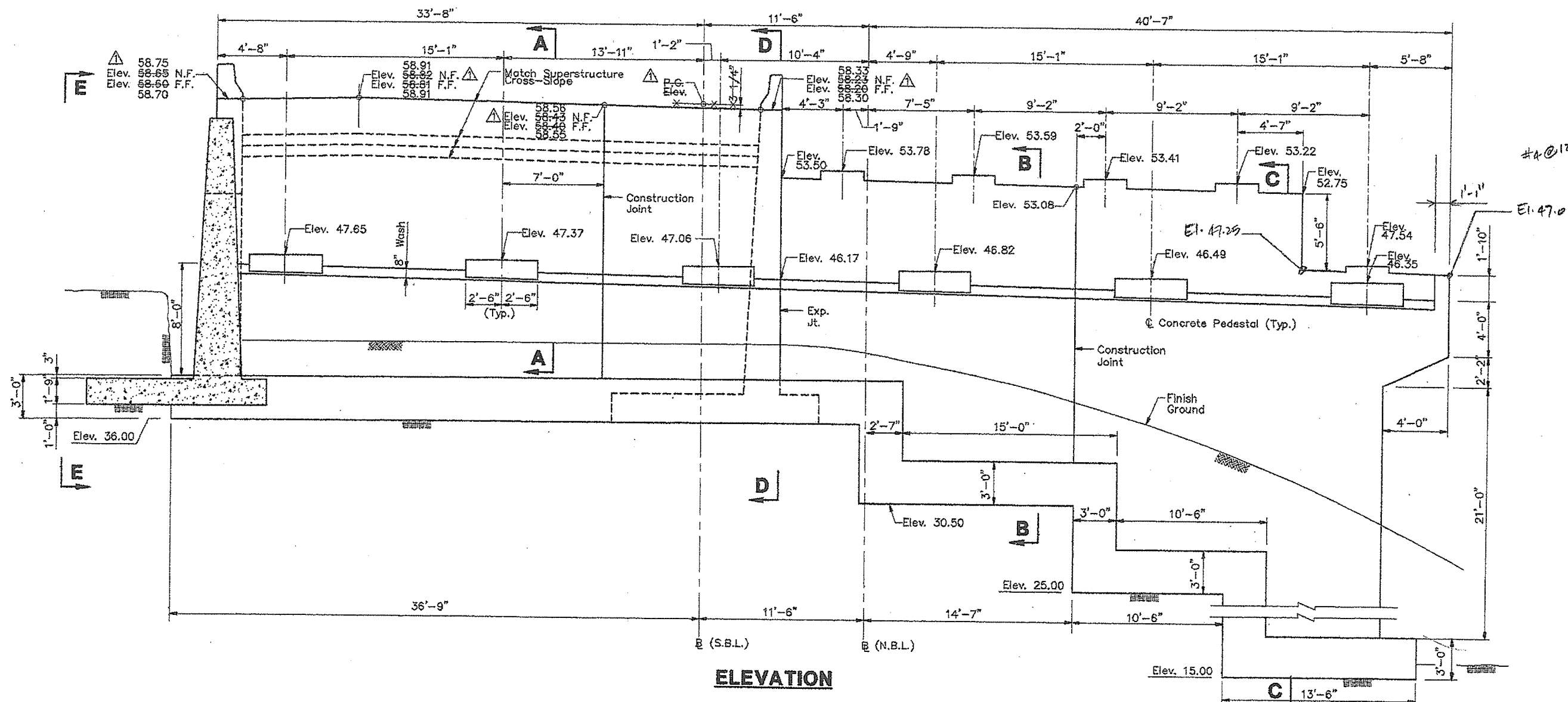
STATE OF MAINE DEPARTMENT OF TRANSPORTATION
PORTLAND - S. PORTLAND BRIDGE OVER FORE RIVER CUMBERLAND COUNTY
GENERAL ELEVATION NORTH ABUTMENT

F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	SP-0088(002)	25	339



Note: Approach slab not shown.
For details see "Standard
Details BD 501-89"

PLAN



#4 @ 12" E.W. E.F.
Should be shown in Detail G
on Sheet 28

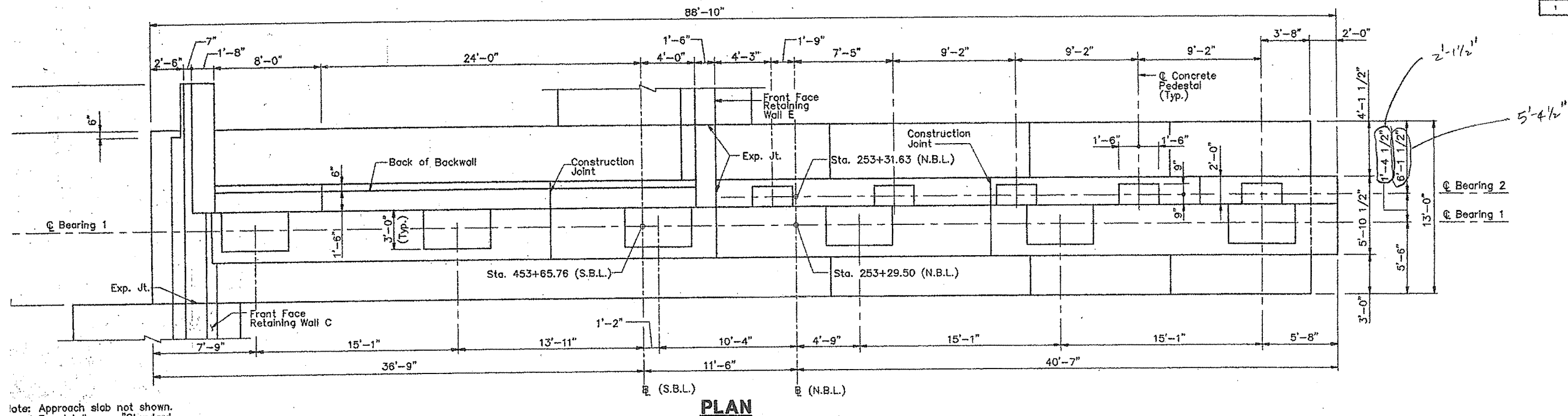
△ Revise elevations 10/12/94

Notes:

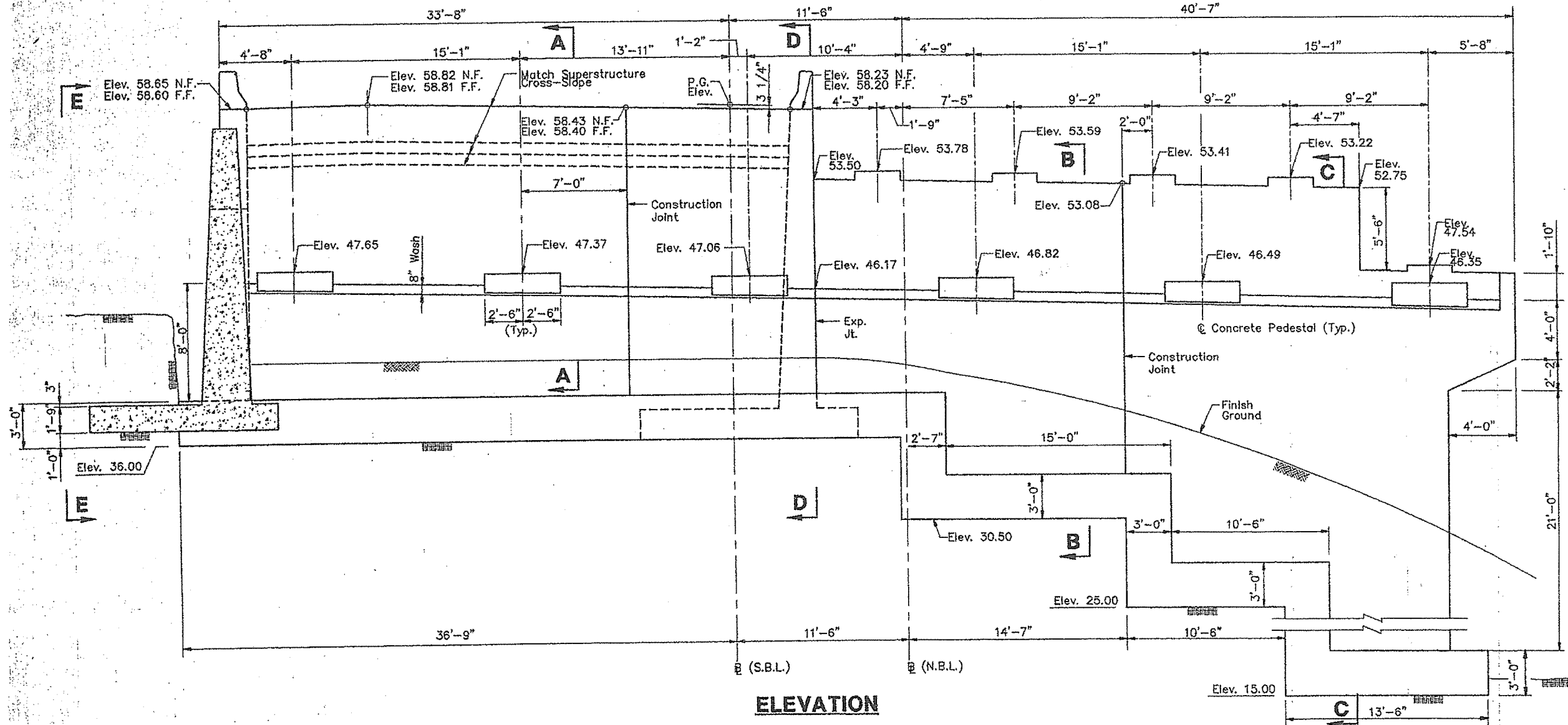
1. Key footing 1'-0" minimum into bedrock. When elevation of top of sound rock varies, place subfooting concrete as necessary to key footing into rock 1'-0" minimum as directed by the engineer.
2. Stepping of footing as shown in elevation may be adjusted in the field with approval of the Engineer.
3. For bearing details, see "Bearing Anchor Bolt Layout".
4. For Sections A-A, B-B, C-C, D-D and View E-E, see "Details North Abutment (C Brg. 1 & 2) - 1".

STEEL ALTERNATIVE SUBSTRUCTURE

STATE OF MAINE DEPARTMENT OF TRANSPORTATION
PORTLAND - S. PORTLAND BRIDGE OVER FORE RIVER CUMBERLAND COUNTY
PLAN & ELEVATION NORTH ABUTMENT (C BRG. 1 & 2)



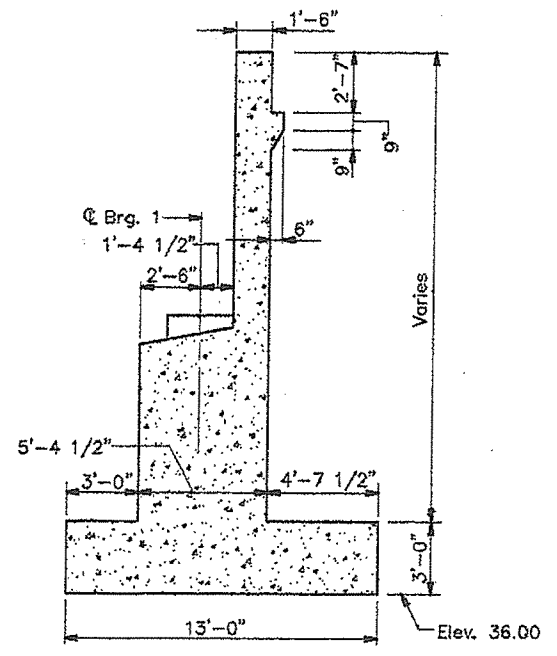
Note: Approach slab not shown.
For details see "Standard
Details BD 501-89"



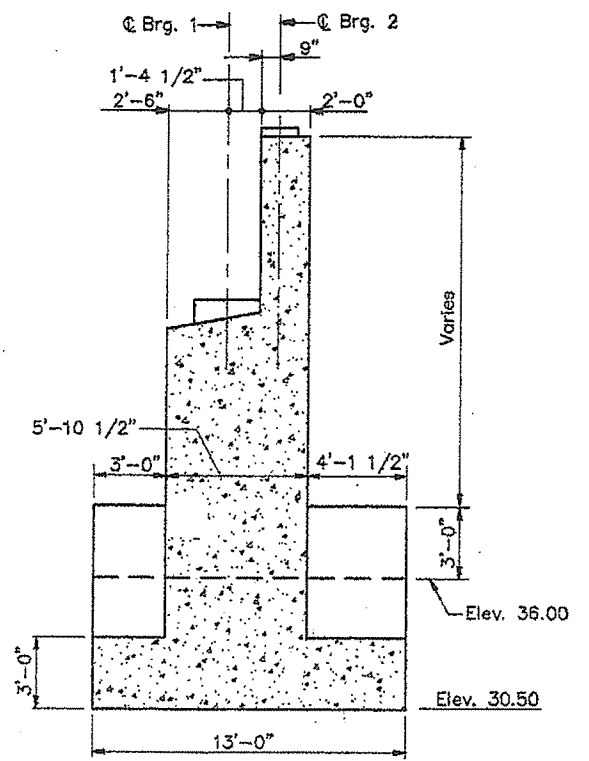
- Notes:
1. Key footing 1'-0" minimum into bedrock. When elevation of top of sound rock varies, place subfooting concrete as necessary to key footing into rock 1'-0" minimum as directed by the engineer.
 2. Stepping of footing as shown in elevation may be adjusted in the field with approval of the Engineer.
 3. For bearing details, see "Bearing Anchor Bolt Layout".
 4. For Sections A-A, B-B, C-C, D-D and View E-E, see "Details North Abutment (C Brg. 1 & 2) - 1".

STEEL ALTERNATIVE SUBSTRUCTURE

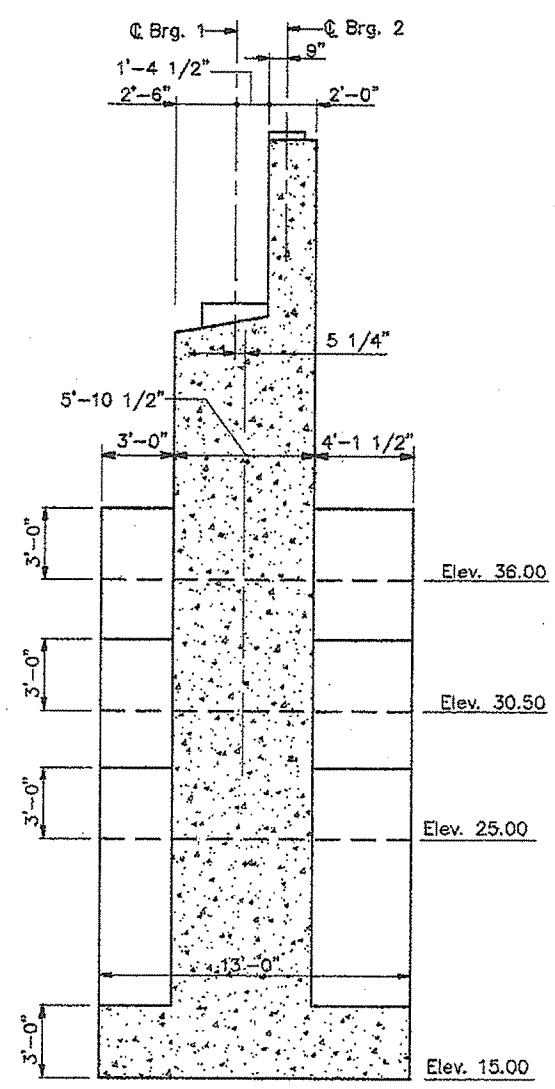
STATE OF MAINE DEPARTMENT OF TRANSPORTATION
PORTLAND - S. PORTLAND BRIDGE OVER FORE RIVER CUMBERLAND COUNTY
PLAN & ELEVATION NORTH ABUTMENT (C Brg. 1 & 2)
SHEET 25 OF 330 AUGUSTA, MAINE 7/10/98



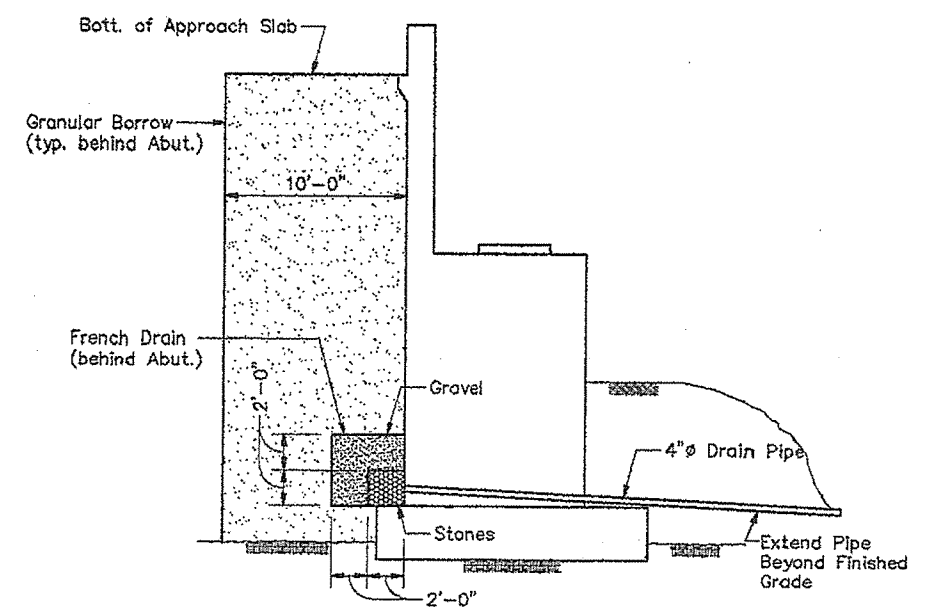
**SECTION A-A
(S.B.L.)**



**SECTION B-B
(N.B.L.)**

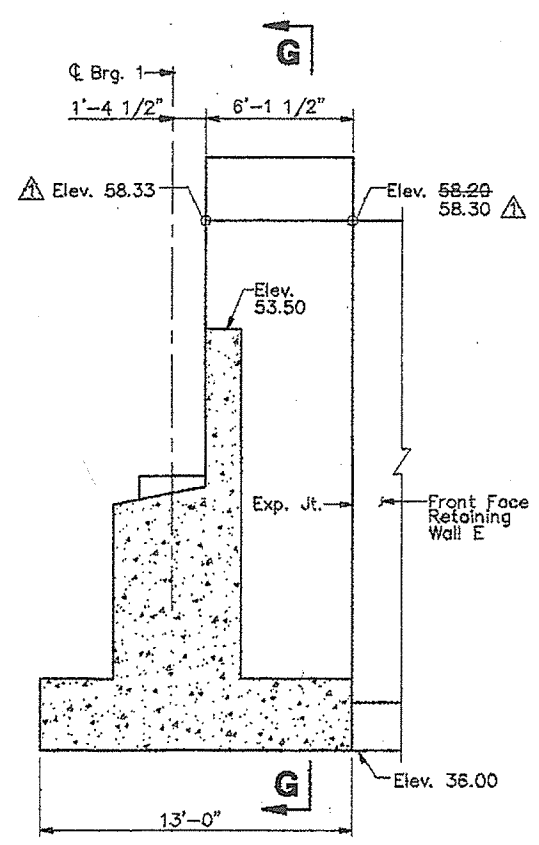


**SECTION C-C
(N.B.L.)**

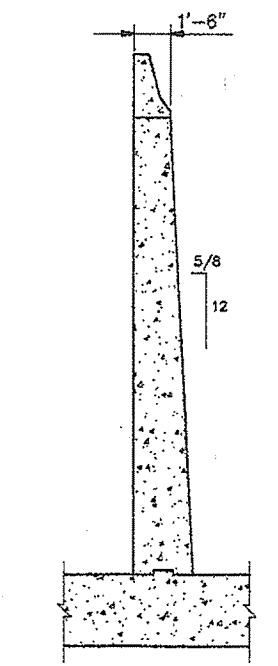


FRENCH DRAIN DETAIL

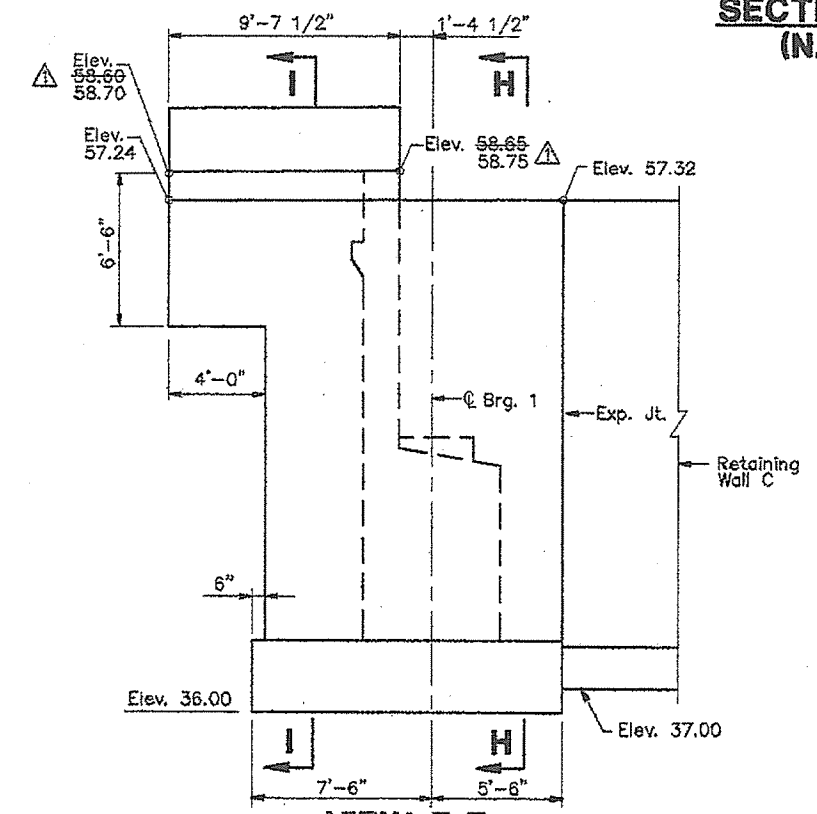
Note:
Place 4" diameter drains in breastwall @ 15 ft. maximum spacing. Exact location to be determined by the Engineer in the field.
Structural excavation limits are as defined in the standard specifications. Excavation beyond these limits to provide the granular borrow limits shown above will be paid for under common excavation.



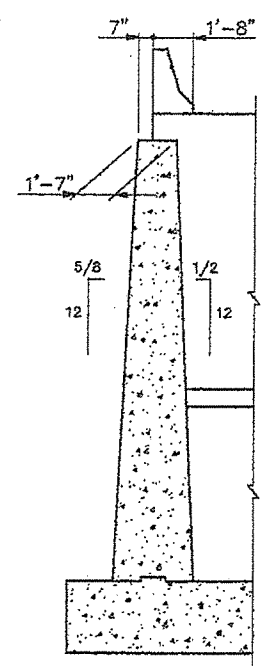
SECTION D-D



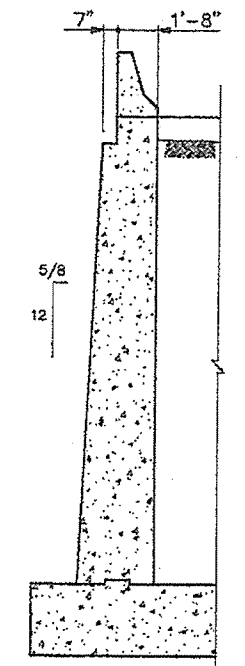
SECTION G-G



VIEW E-E



SECTION H-H



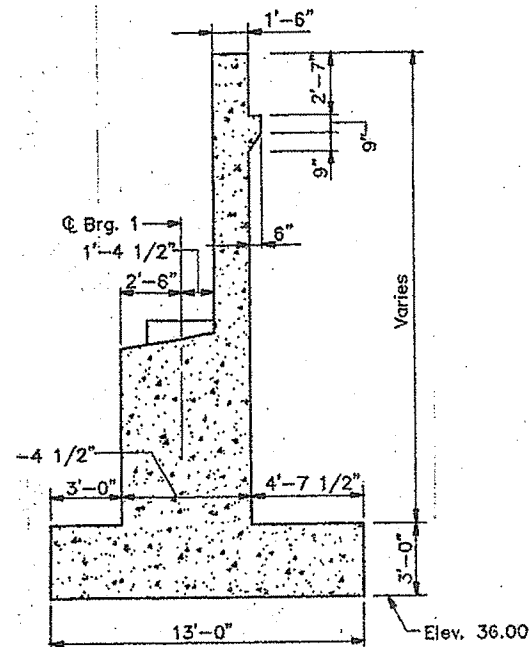
SECTION I-I

△ Revise elevations 10/12/94

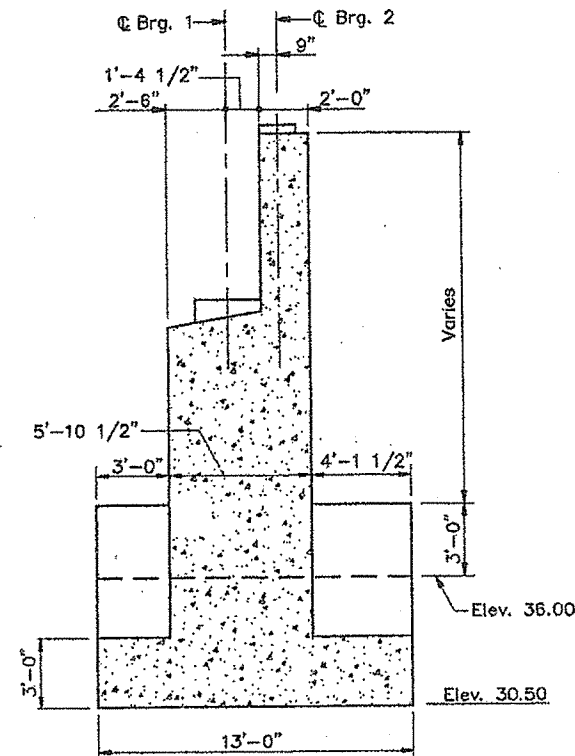
Note:
Sections A-A thru D-D and View E-E are taken from "Plan & Elevation North Abutment (Q Brg. 1 & 2)".

STEEL ALTERNATIVE SUBSTRUCTURE

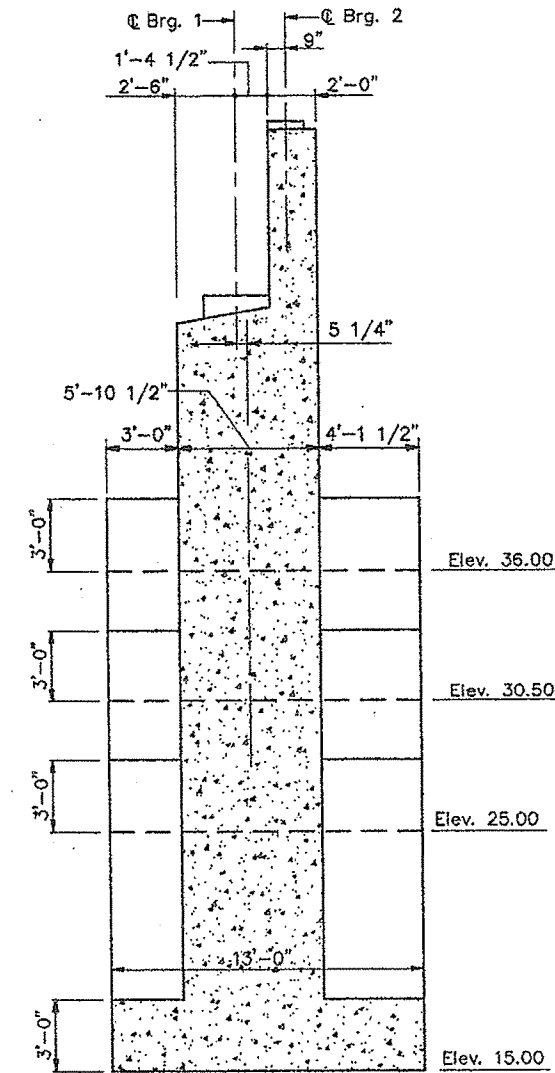
STATE OF MAINE DEPARTMENT OF TRANSPORTATION
PORTLAND - S. PORTLAND BRIDGE OVER FORE RIVER CUMBERLAND COUNTY
DETAILS NORTH ABUTMENT (Q BRG. 1 & 2) - I



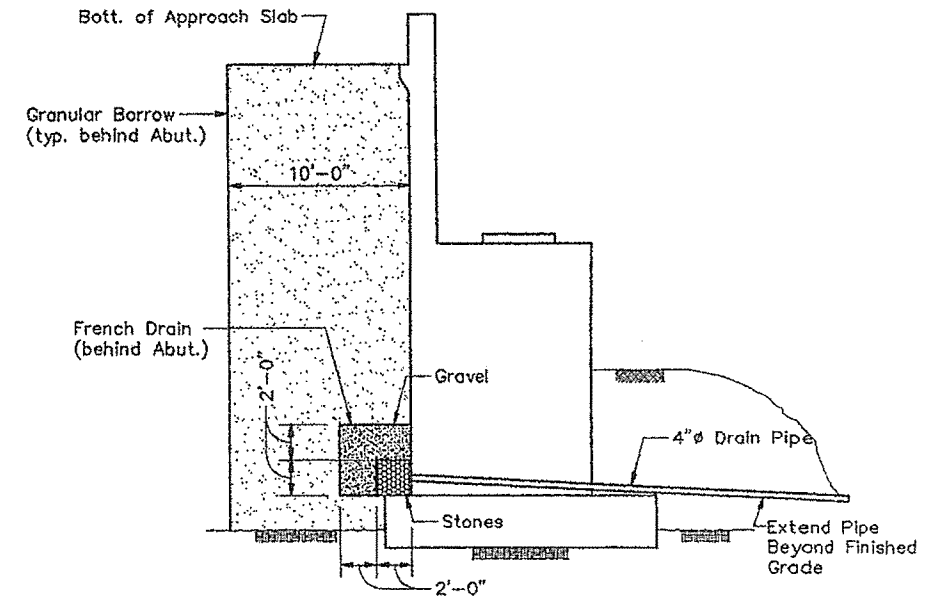
**SECTION A-A
(S.B.L.)**



**SECTION B-B
(N.B.L.)**

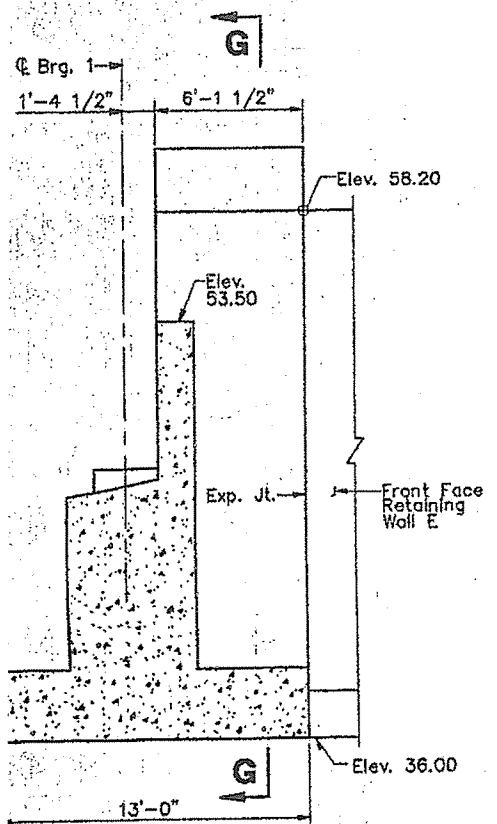


**SECTION C-C
(N.B.L.)**

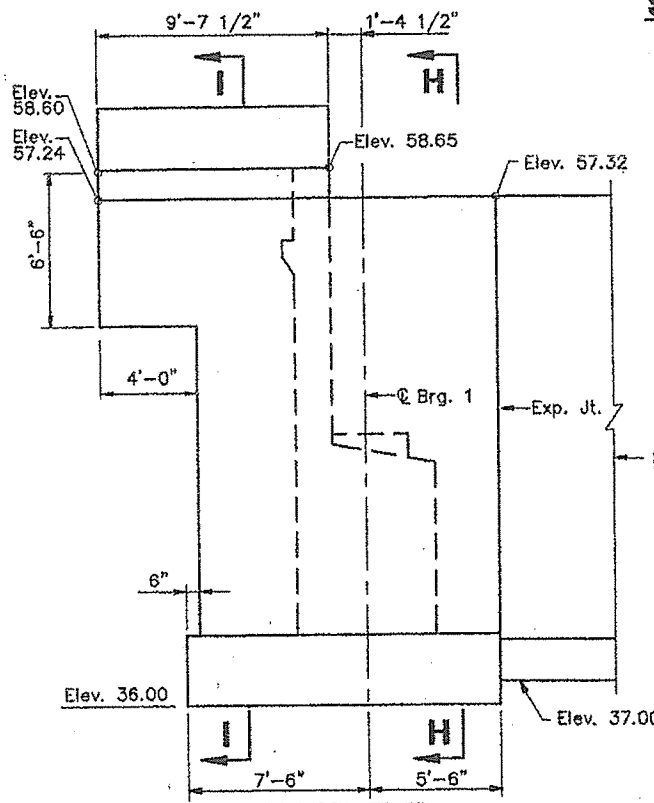
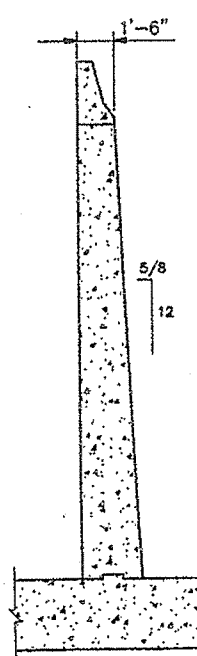


FRENCH DRAIN DETAIL

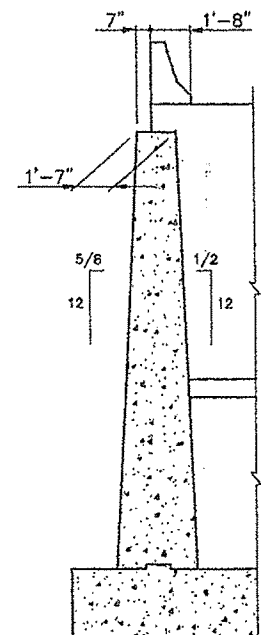
Note:
Place 4" diameter drains in breastwall @ 15 ft. maximum spacing. Exact location to be determined by the Engineer in the field.
Structural excavation limits are as defined in the standard specifications. Excavation beyond these limits to provide the granular borrow limits shown above will be paid for under common excavation.



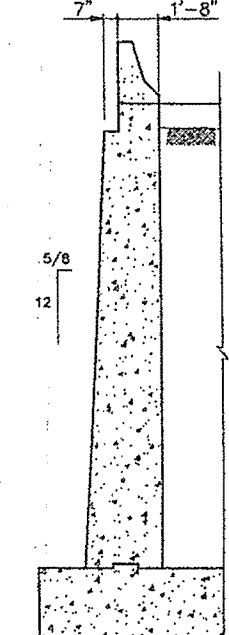
SECTION G-G



VIEW E-E



SECTION H-H

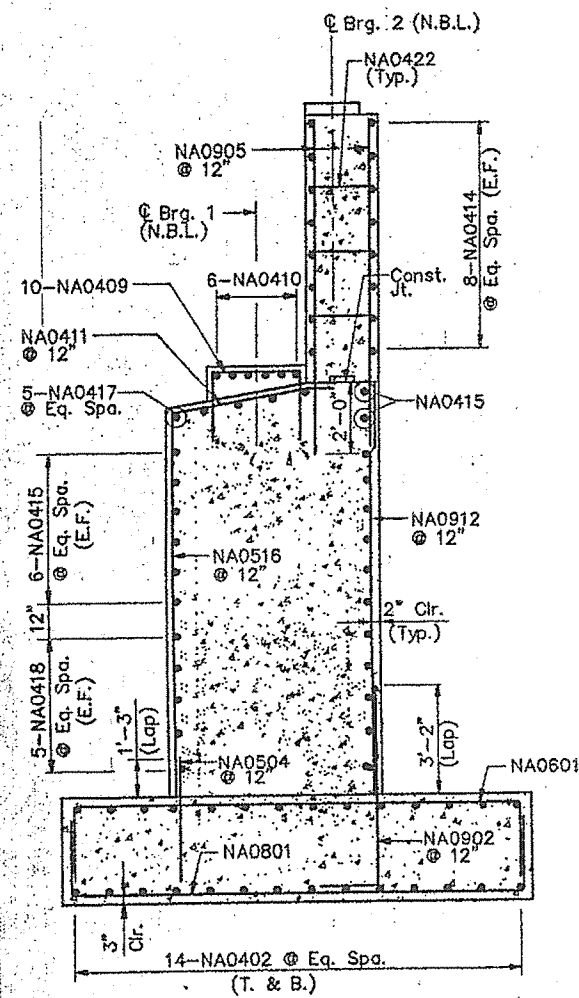


SECTION I-I

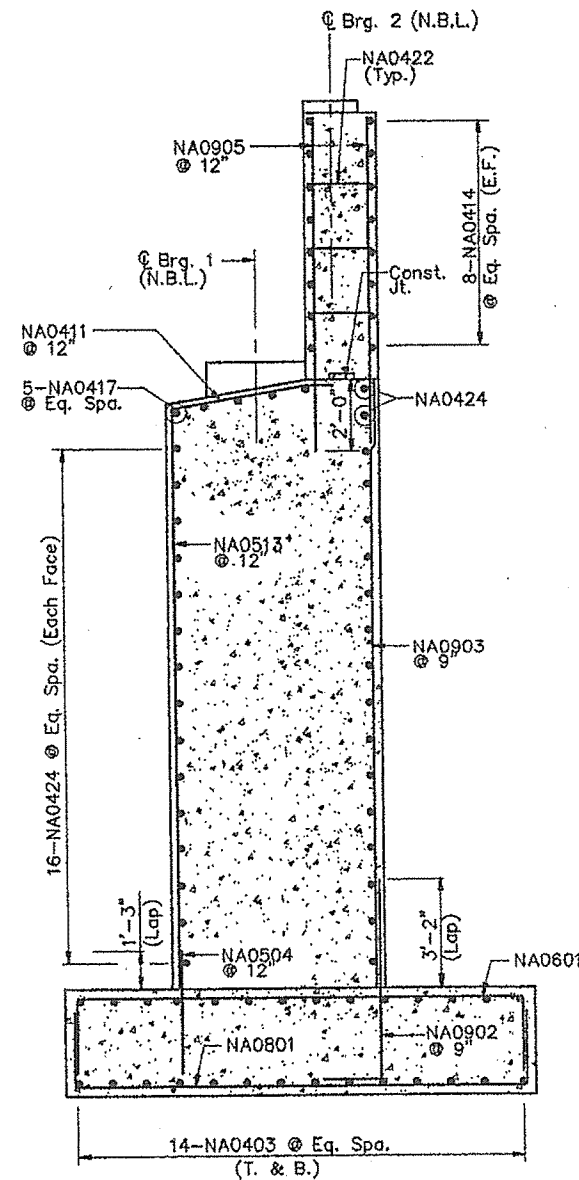
Note:
Sections A-A thru D-D and View E-E are taken from "Plan & Elevation North Abutment (Q Brg. 1 & 2)".

STEEL ALTERNATIVE SUBSTRUCTURE

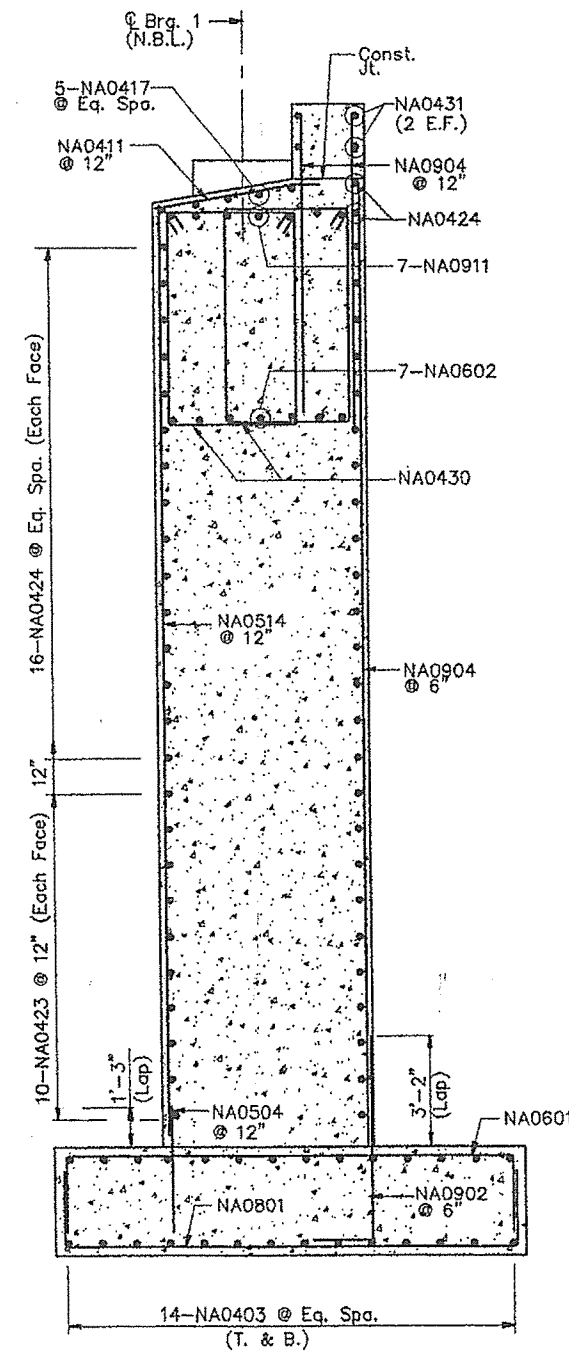
STATE OF MAINE DEPARTMENT OF TRANSPORTATION
PORTLAND - S. PORTLAND BRIDGE OVER FORE RIVER CUMBERLAND COUNTY
DETAILS NORTH ABUTMENT (Q BRG. 1 & 2) - I



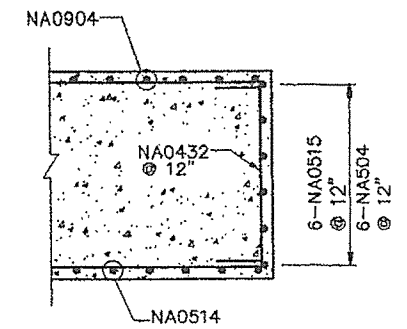
SECTION C-C



SECTION D-D



SECTION E-E



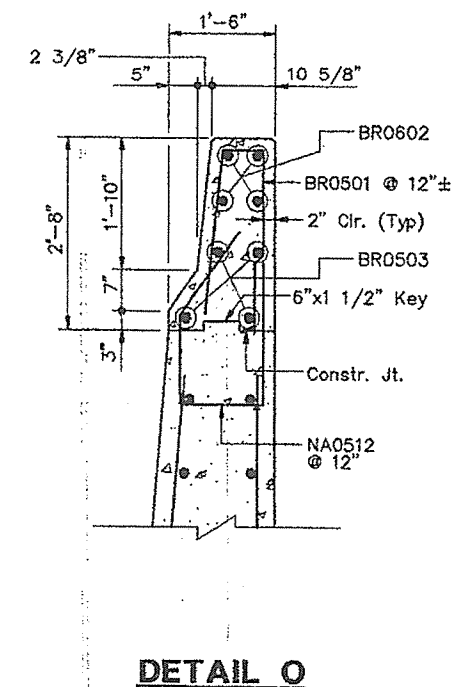
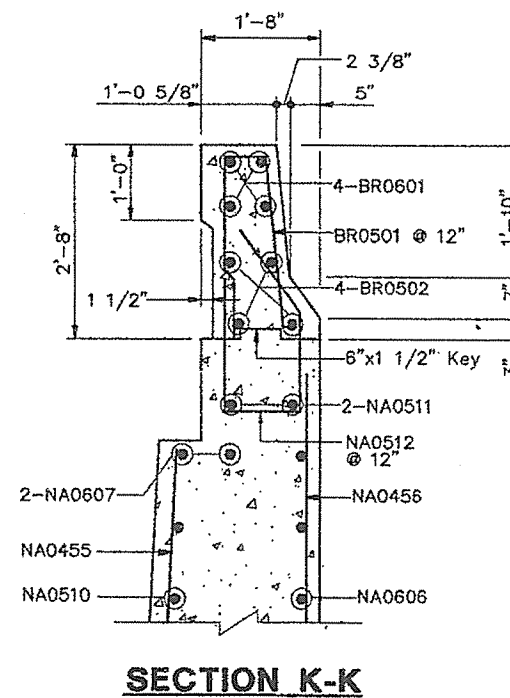
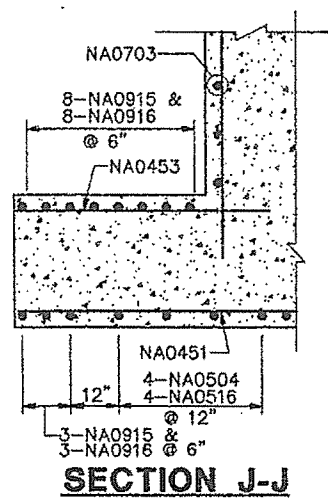
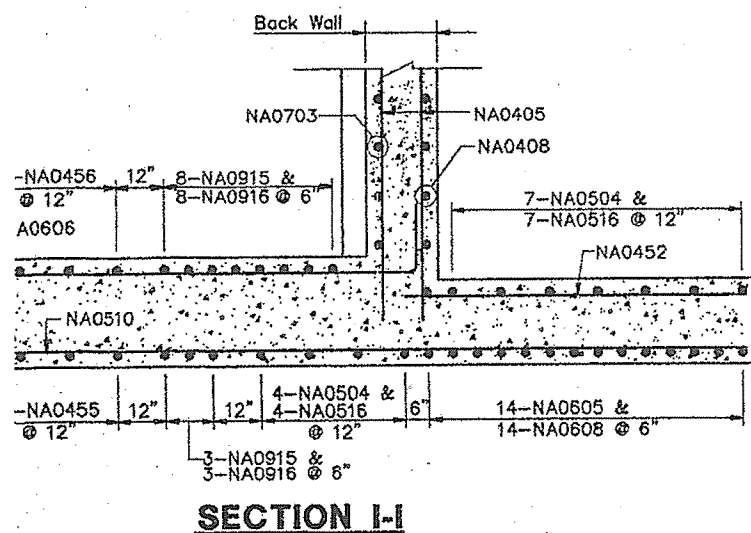
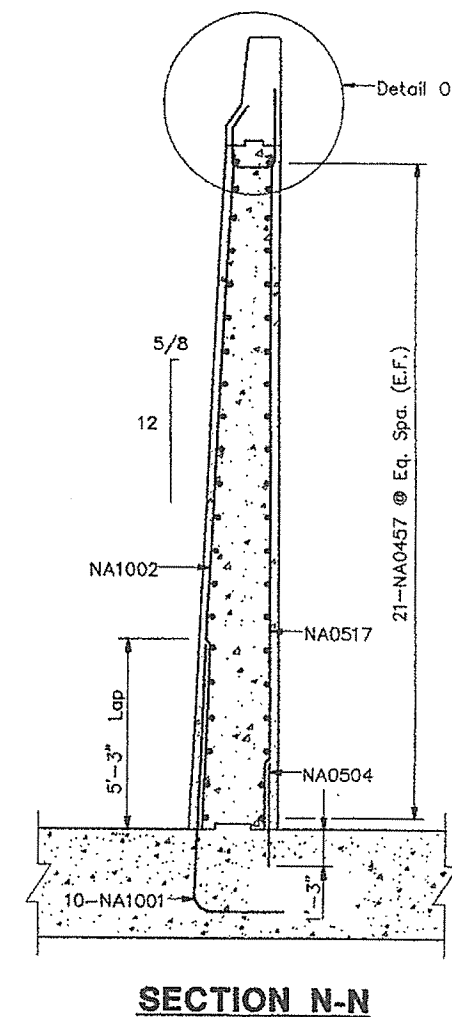
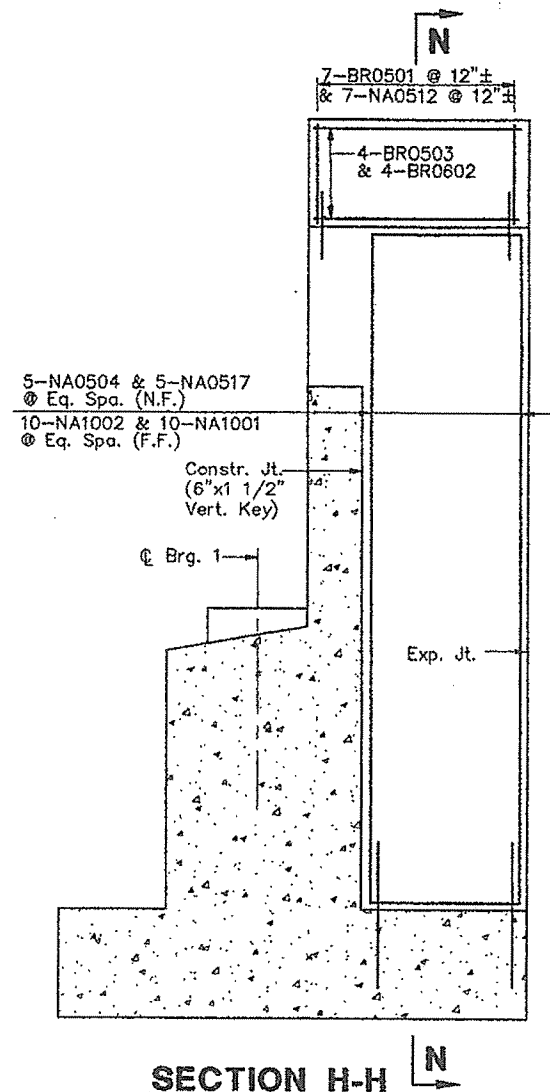
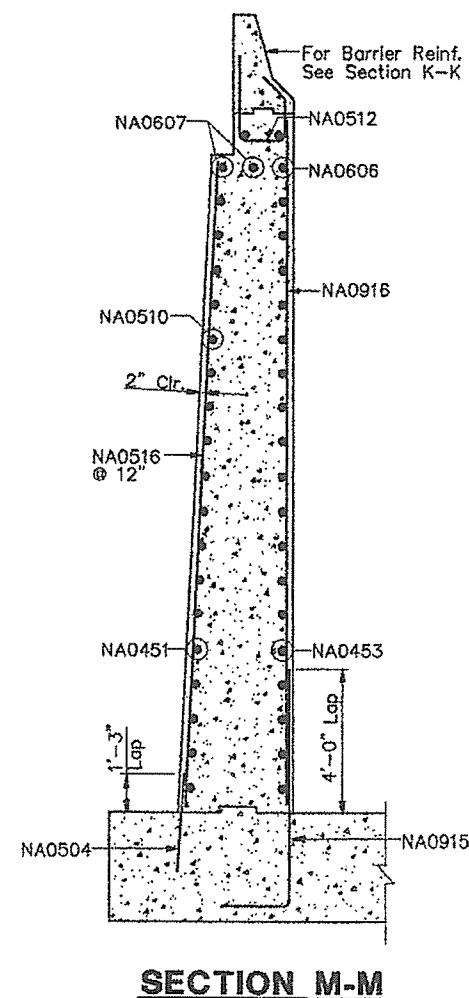
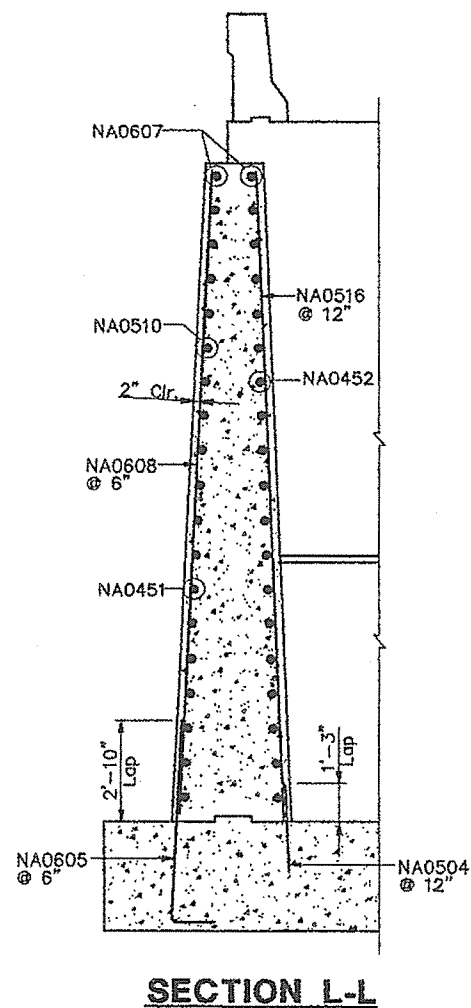
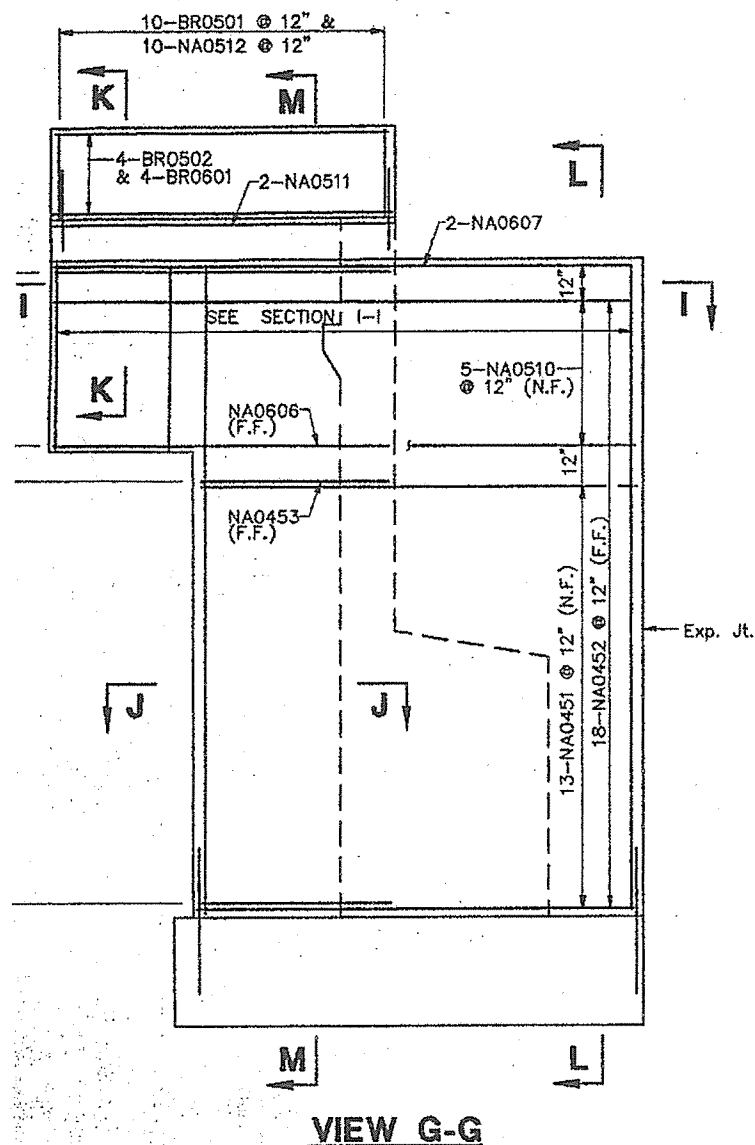
SECTION F-F

Note:
Sections C-C, D-D, E-E & F-F taken
from "Details North Abutment
(@ Brg. 1 & 2) - III".

STEEL ALTERNATIVE SUBSTRUCTURE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
PORTLAND - S. PORTLAND BRIDGE
OVER FORE RIVER
CUMBERLAND COUNTY
DETAILS
NORTH ABUTMENT
(@ BRG. 1 & 2) - IV

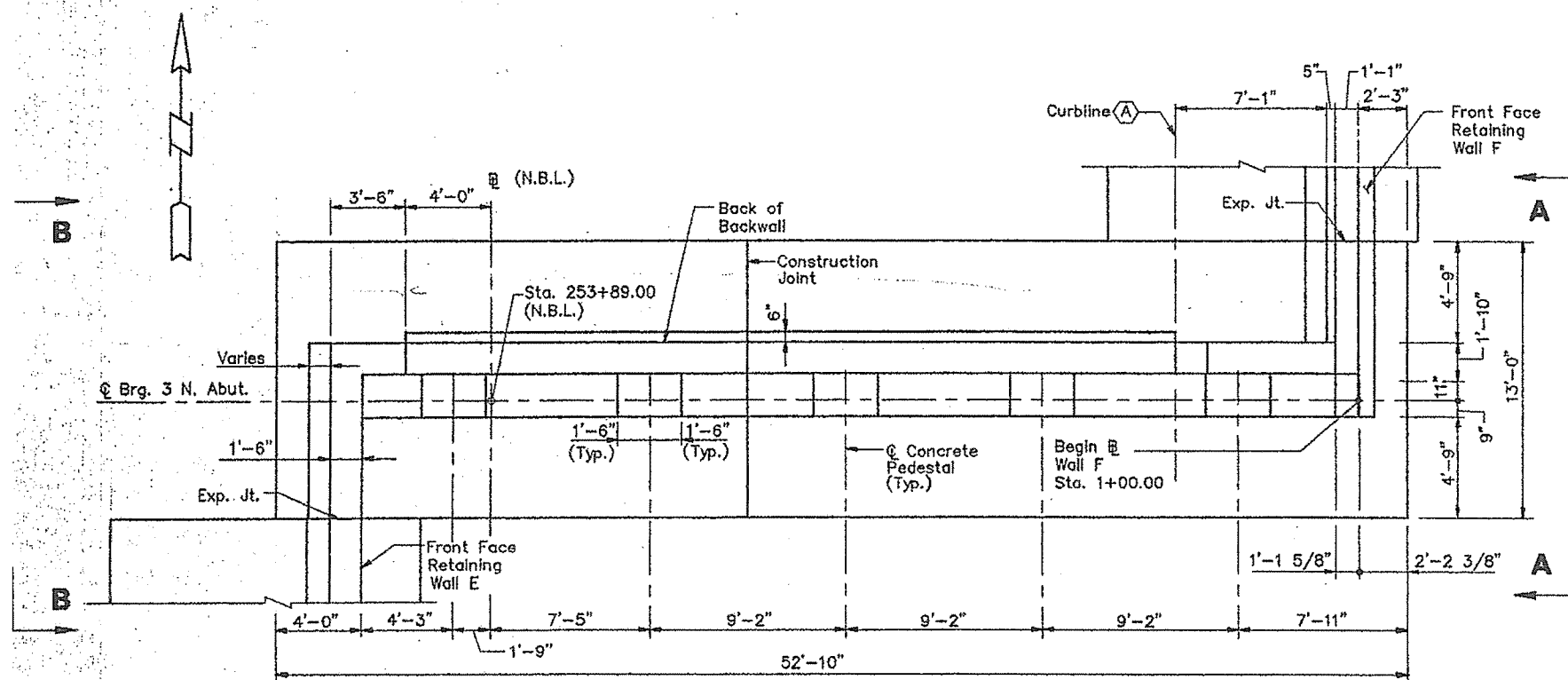
F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	DP-0068(002)	30	330



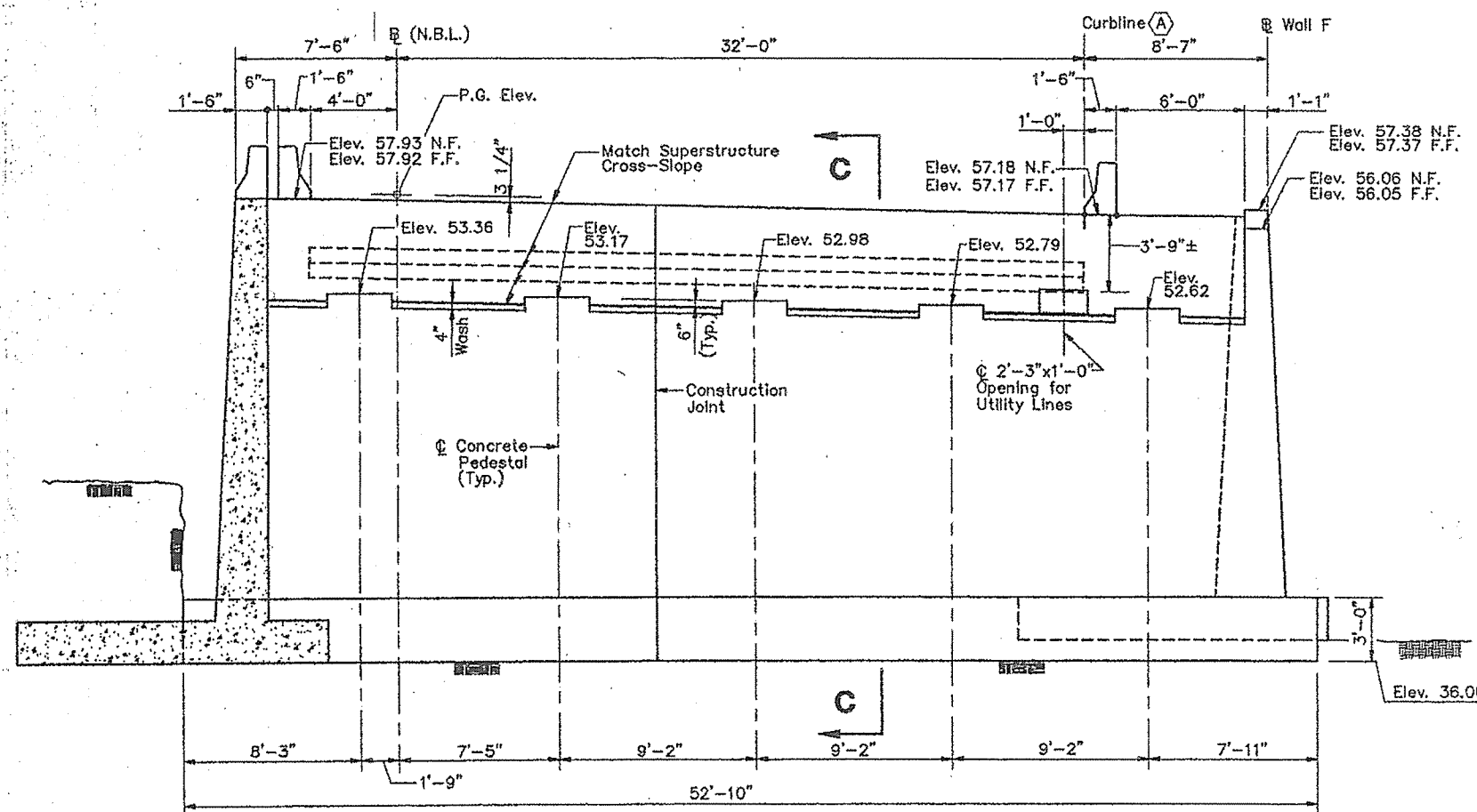
- Notes:
- Views G-G and Section H-H are taken from "Details North Abutment (C Brg. 1 & 2) - III".
 - Fence post anchors along top of barrier will be drilled and grouted by superstructure contractor.

STEEL ALTERNATIVE SUBSTRUCTURE

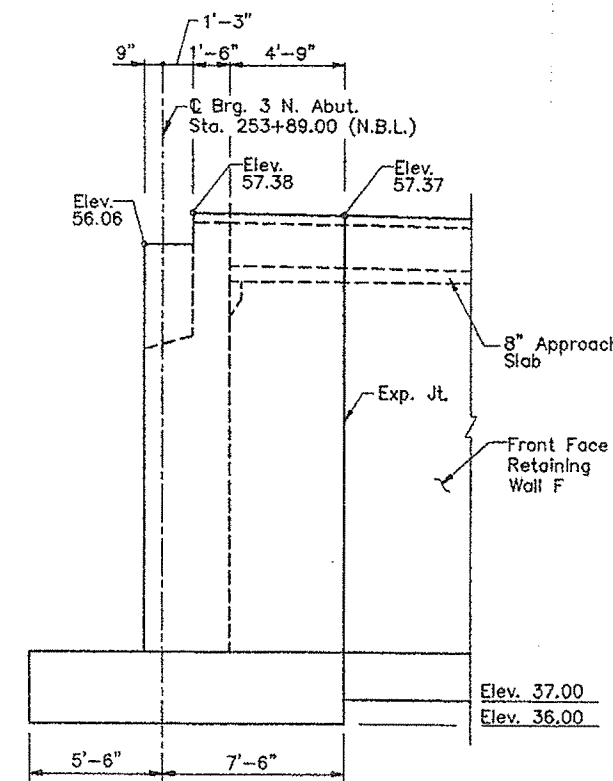
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
PORTLAND - S. PORTLAND BRIDGE
OVER FORE RIVER
CUMBERLAND COUNTY
DETAILS
NORTH ABUTMENT
(C BRG. 1) - I



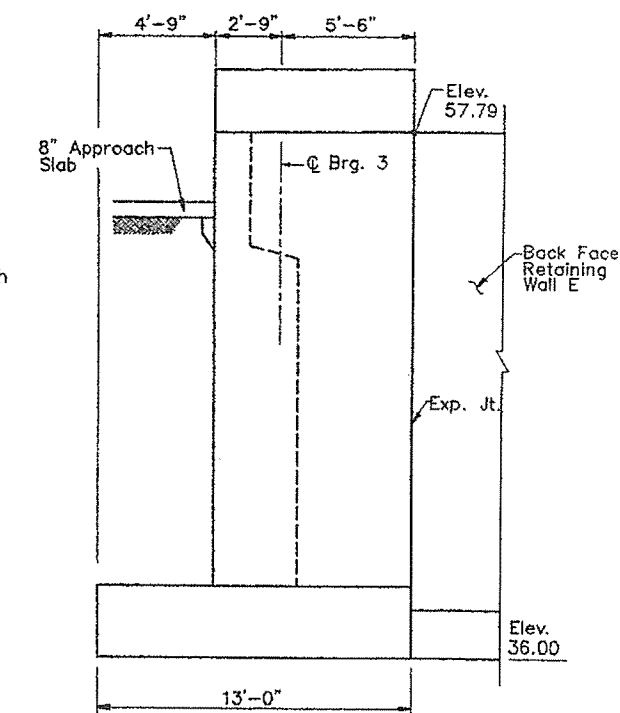
PLAN



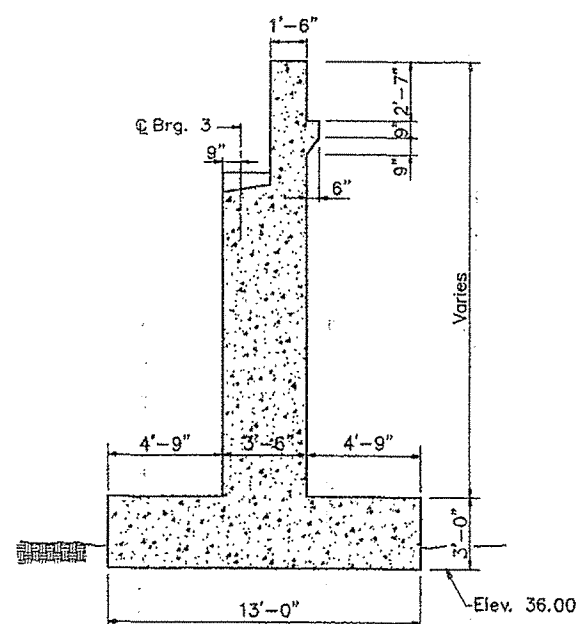
ELEVATION



VIEW A-A
(Barrier & Pedestal Not Shown)



VIEW B-B
(Barrier & Pedestal Not Shown)



SECTION C-C

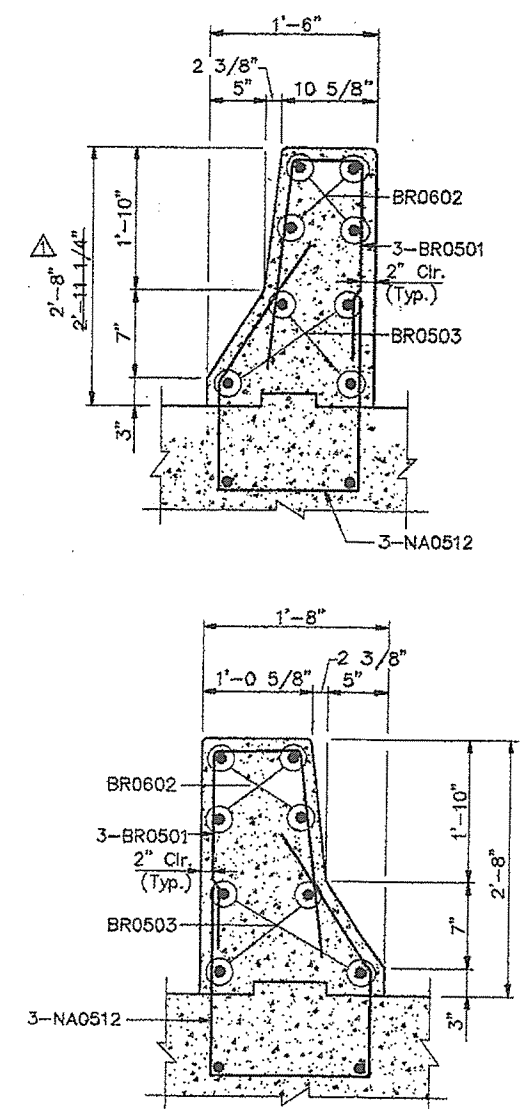
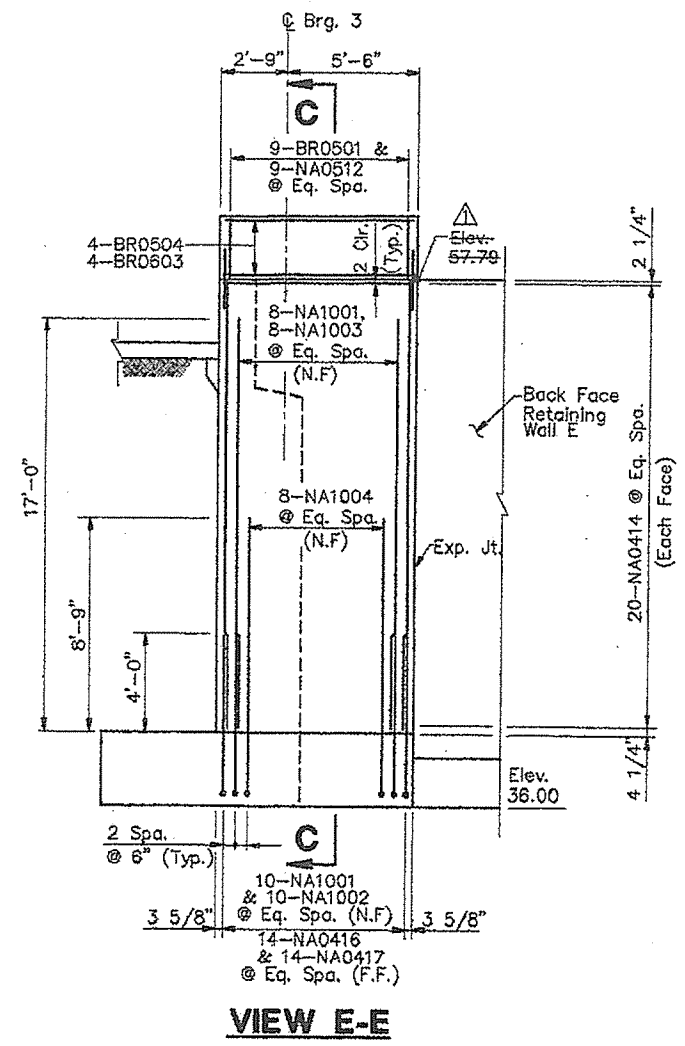
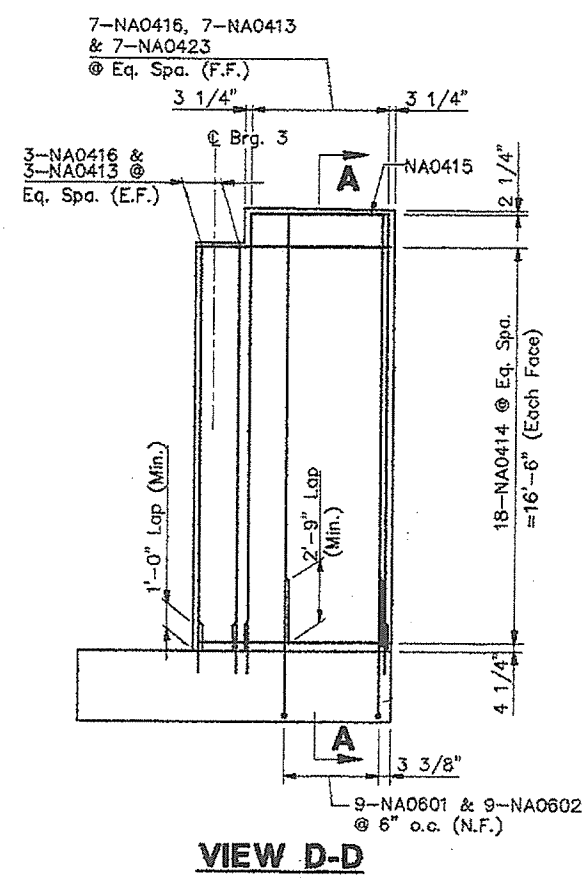
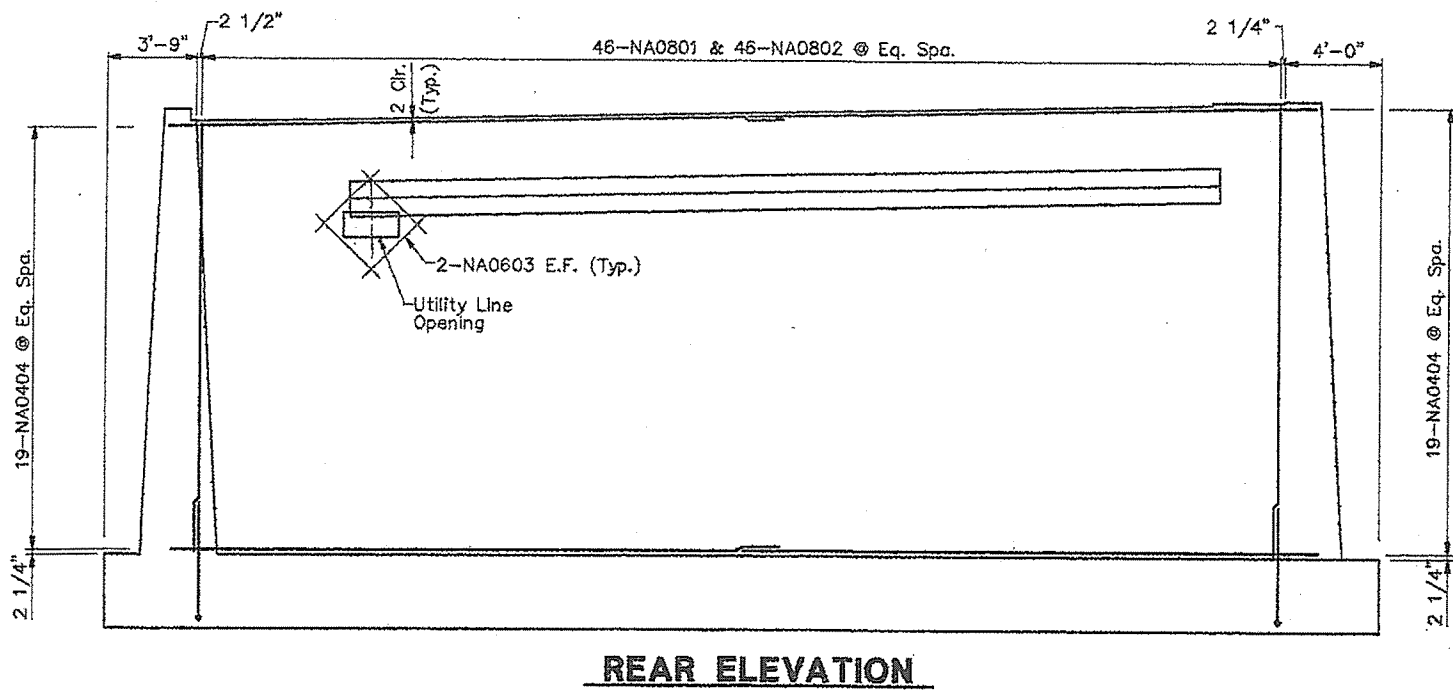
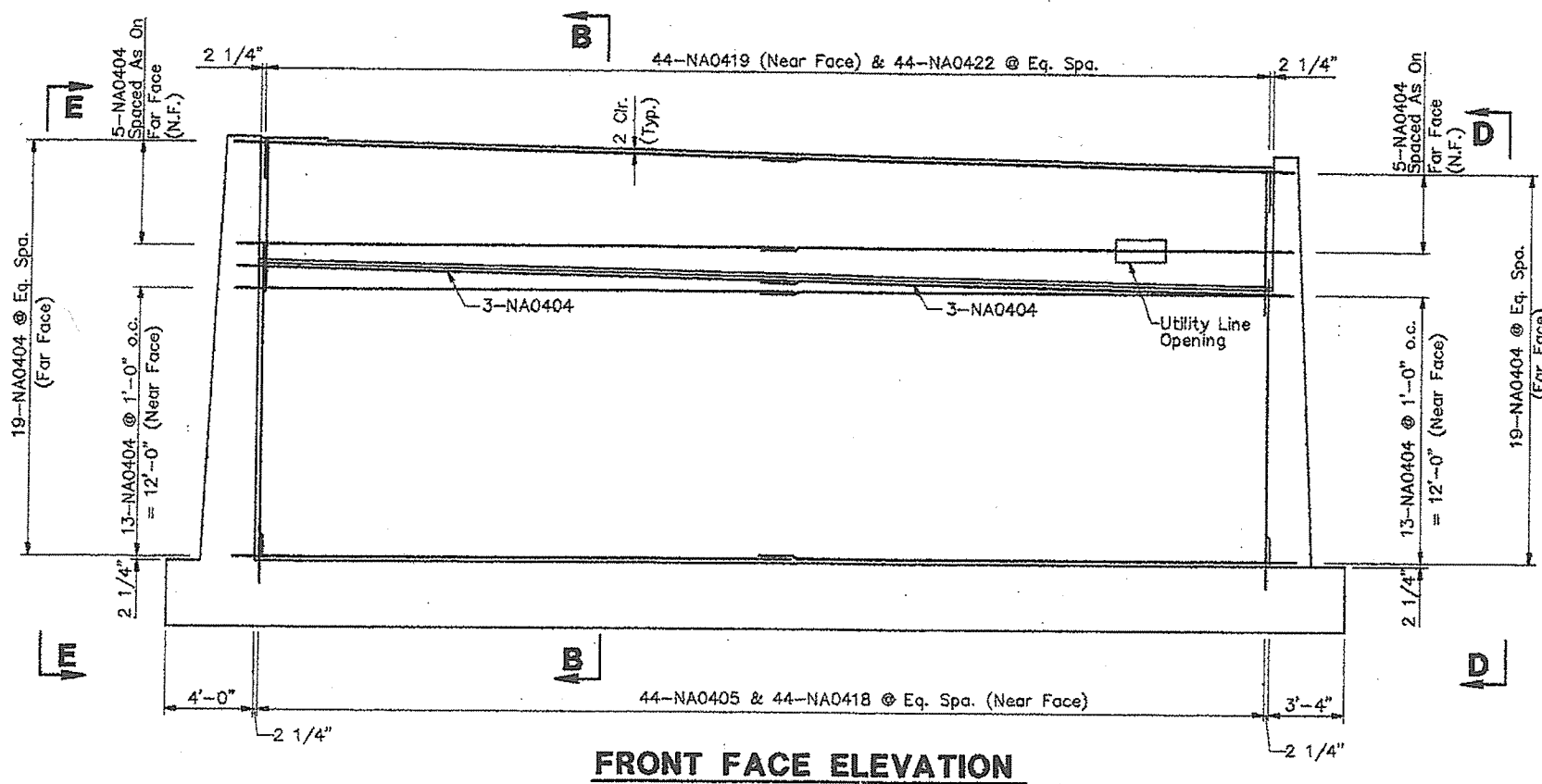
Legend:
N.F. = Near Face
F.F. = Far Face
E.F. = Each Face

Notes:

1. Key footing 1'-0" min. into bedrock. When elevation of top of sound rock varies, place subfooting concrete as necessary to key footing into rock 1'-0" minimum as directed by the engineer.
2. For french drain detail, see "Details North Abutment (@ Brg. 1 & 2) - 1".
3. For N.B.L. barriers, see "Details North Abutment (@ Brg. 3)".

STEEL ALTERNATIVE SUBSTRUCTURE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
PORTLAND - S. PORTLAND BRIDGE
OVER FORE RIVER
CUMBERLAND COUNTY
PLAN & ELEVATION
NORTH ABUTMENT
(@ BRG. 3)



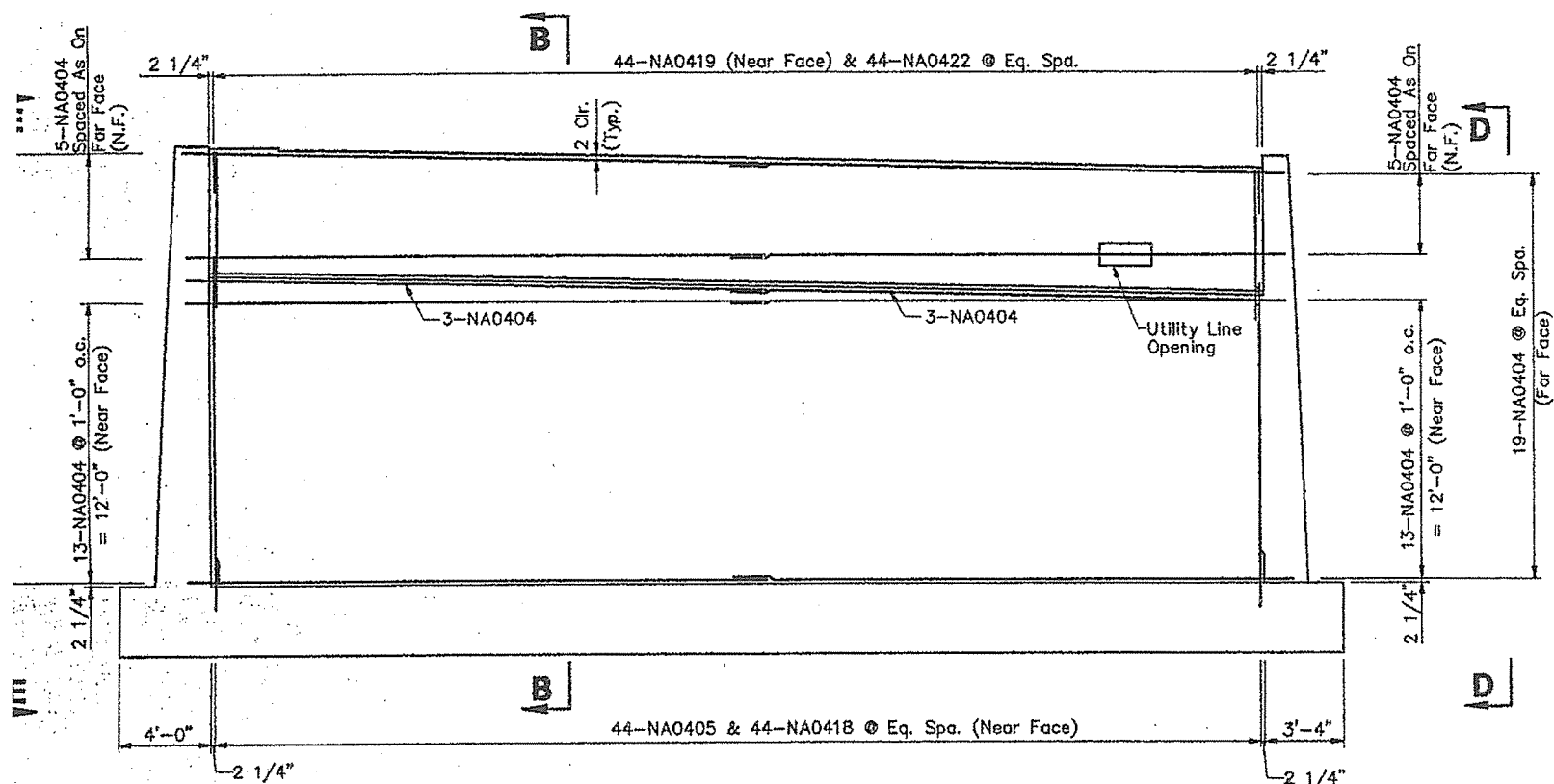
TYPICAL BARRIER DETAILS (N.B.L.)

△ Delete elevations; Revise dimensions; Add 1'-8" barrier. 10/12/94

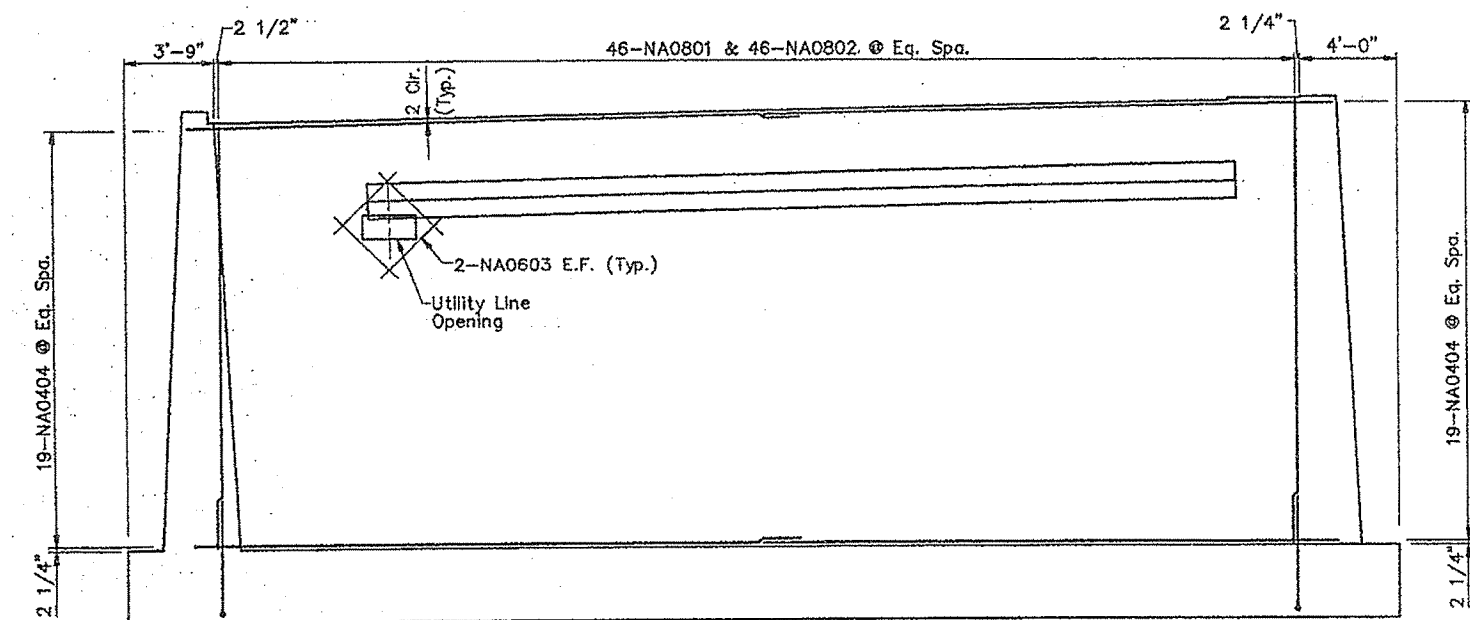
Notes:
 For approach slab notch reinforcing and Sections A-A, B-B and C-C see "Details North Abutment (C Brg. 3) - II".
 Fence post anchors along top of wingwall will be drilled and grouted by superstructure contractor.

STEEL ALTERNATIVE SUBSTRUCTURE

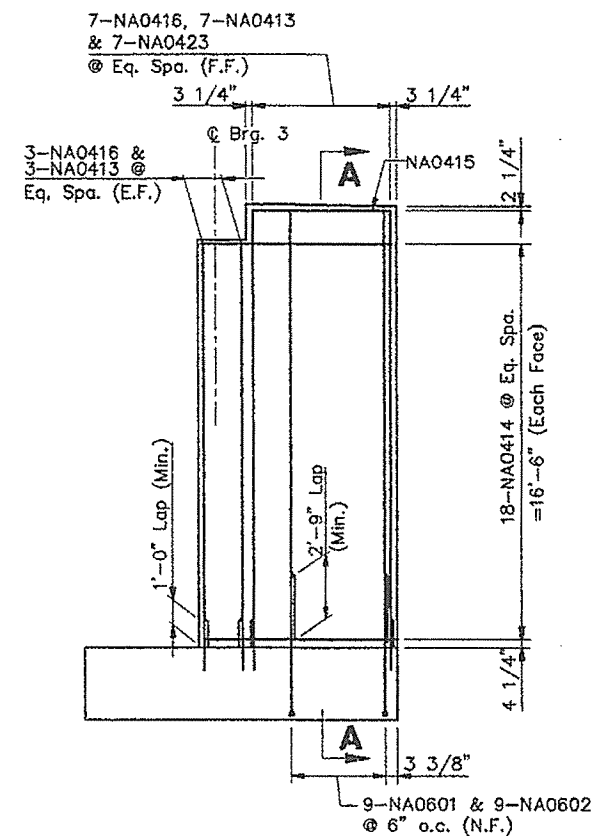
F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	DFI-0068(002)	32	338



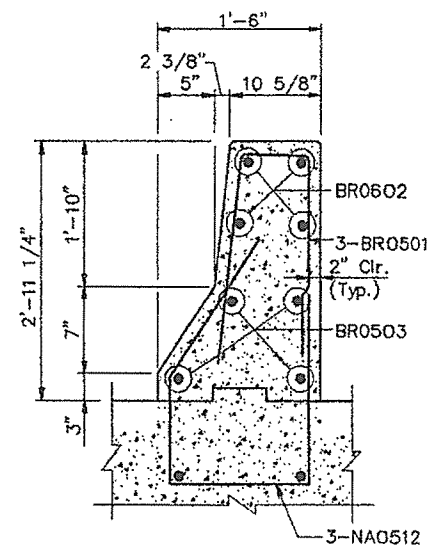
FRONT FACE ELEVATION



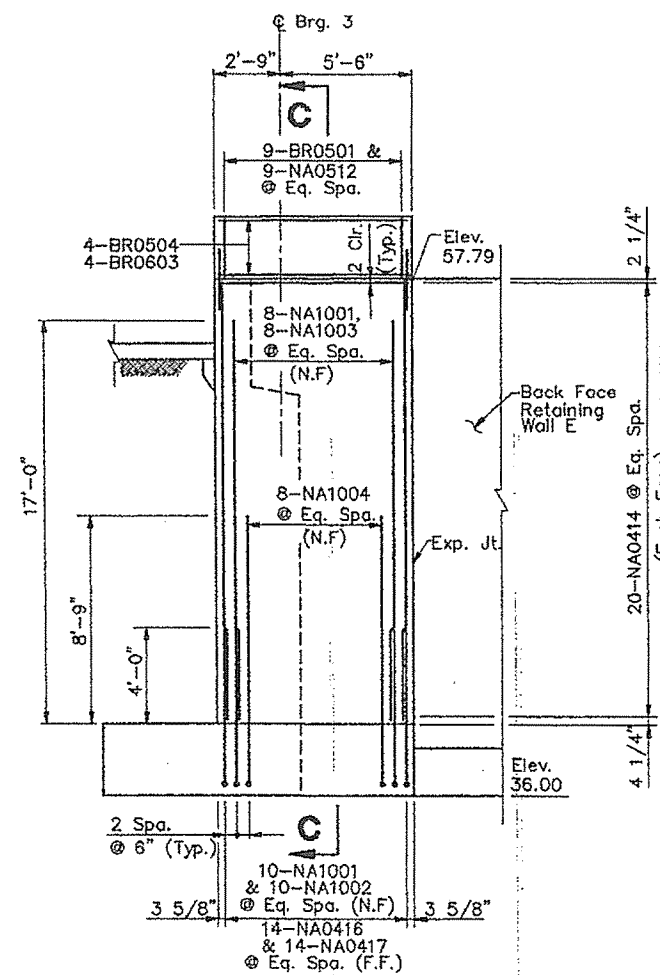
REAR ELEVATION



VIEW D-D



**TYPICAL BARRIER DETAIL
(N.B.L.)**



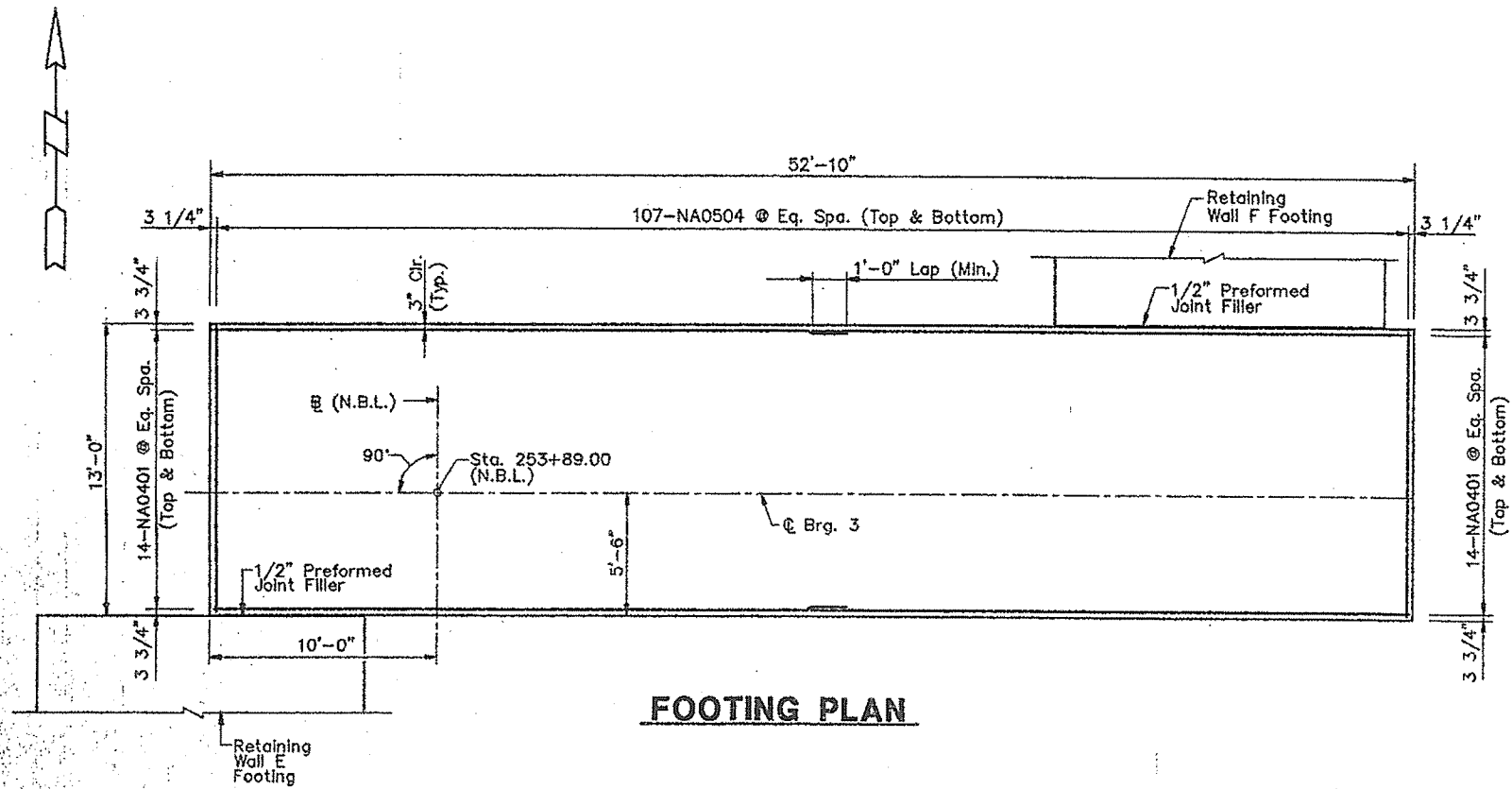
VIEW E-E

Notes:
For approach slab notch reinforcing and Sections A-A, B-B and C-C see "Details North Abutment (C Brg. 3) - II".
Fence post anchors along top of wingwall will be drilled and grouted by superstructure contractor.

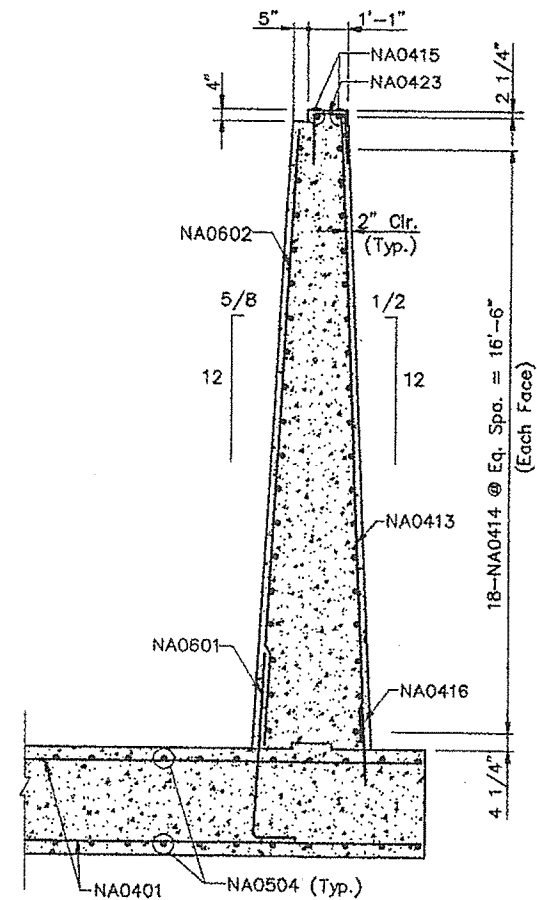
STEEL ALTERNATIVE SUBSTRUCTURE

STATE OF MAINE DEPARTMENT OF TRANSPORTATION
PORTLAND - S. PORTLAND BRIDGE
OVER FORE RIVER
CUMBERLAND COUNTY
DETAILS NORTH ABUTMENT (C Brg. 3) - I

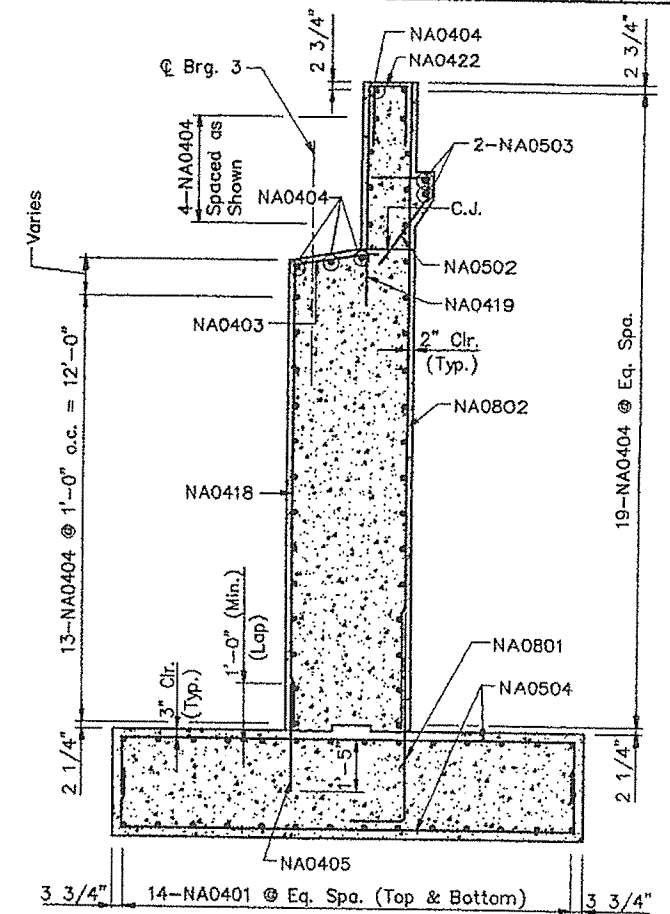
F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	DPI-0068(002)	33	33



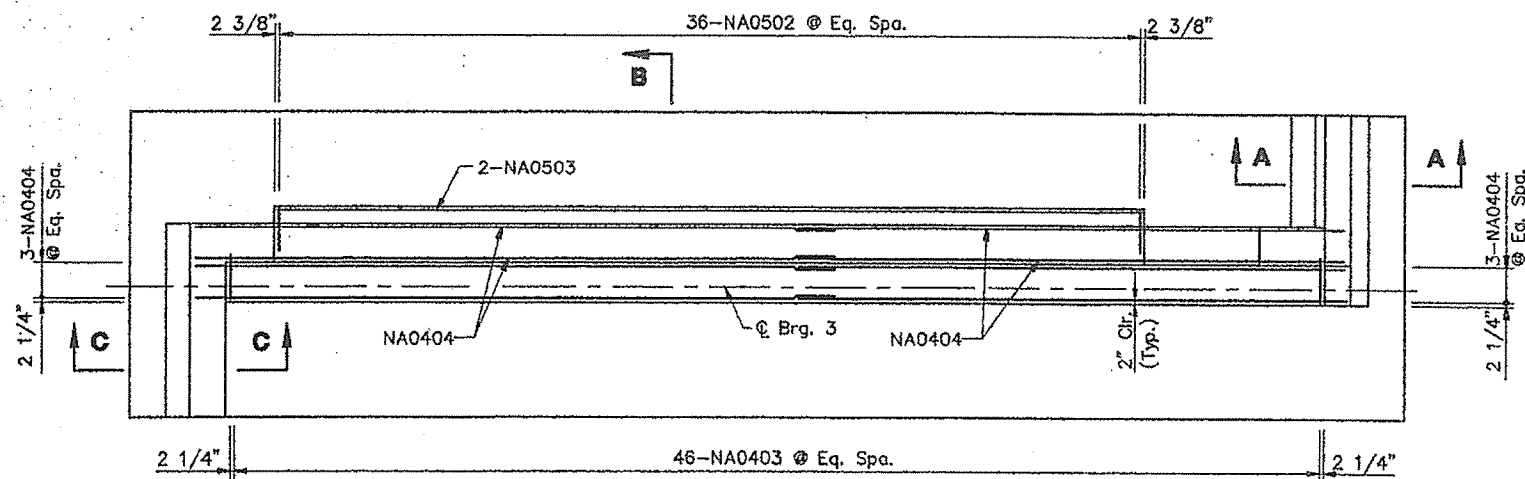
FOOTING PLAN



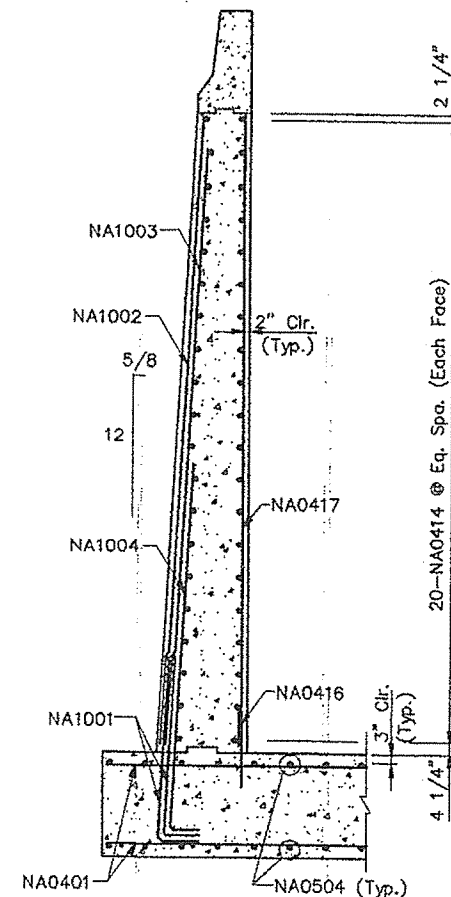
SECTION A-A



SECTION B-B



PLAN

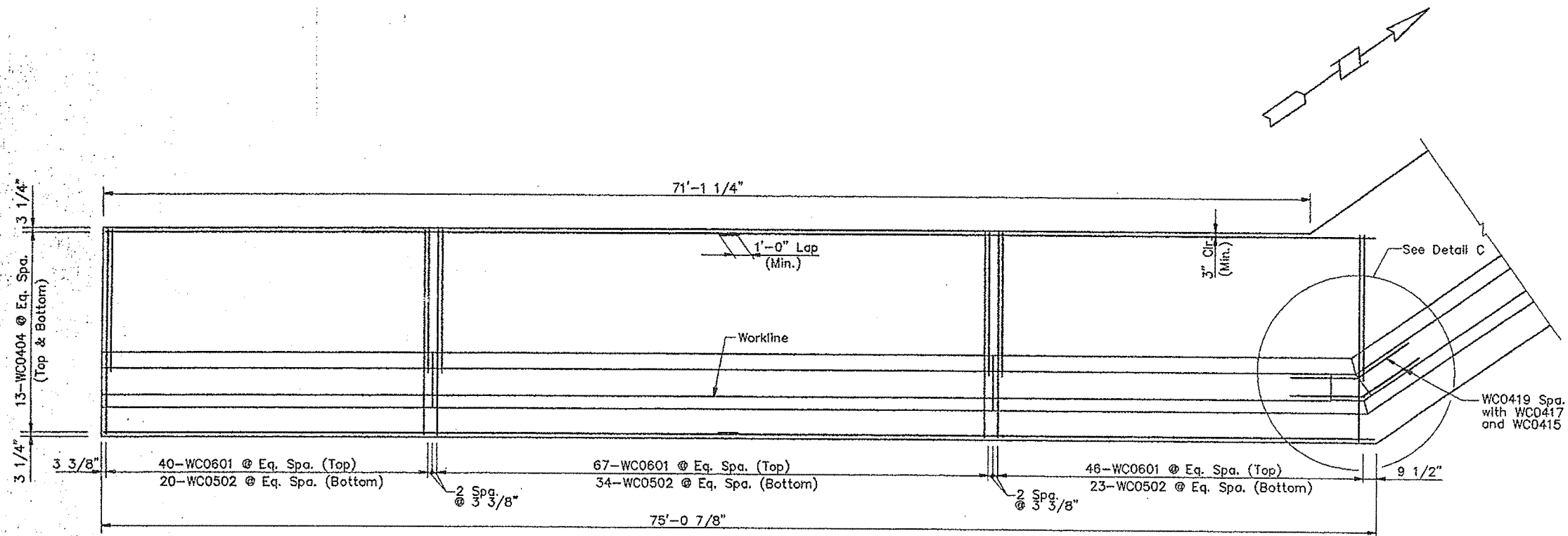


SECTION C-C

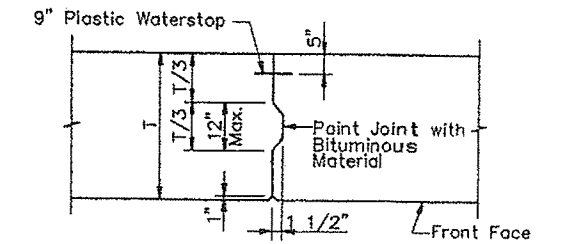
STEEL ALTERNATIVE SUBSTRUCTURE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
PORTLAND - S. PORTLAND BRIDGE
OVER FORE RIVER
CUMBERLAND COUNTY
DETAILS NORTH ABUTMENT
(@ BRG. 3) - II

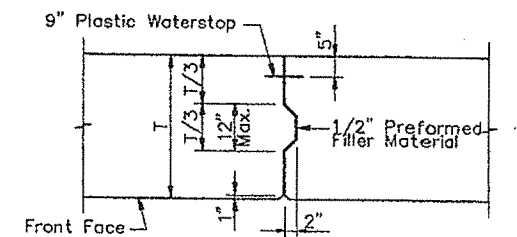
SHEET 33 OF 33 AUGUSTA, MAINE 10/10/00



PLAN



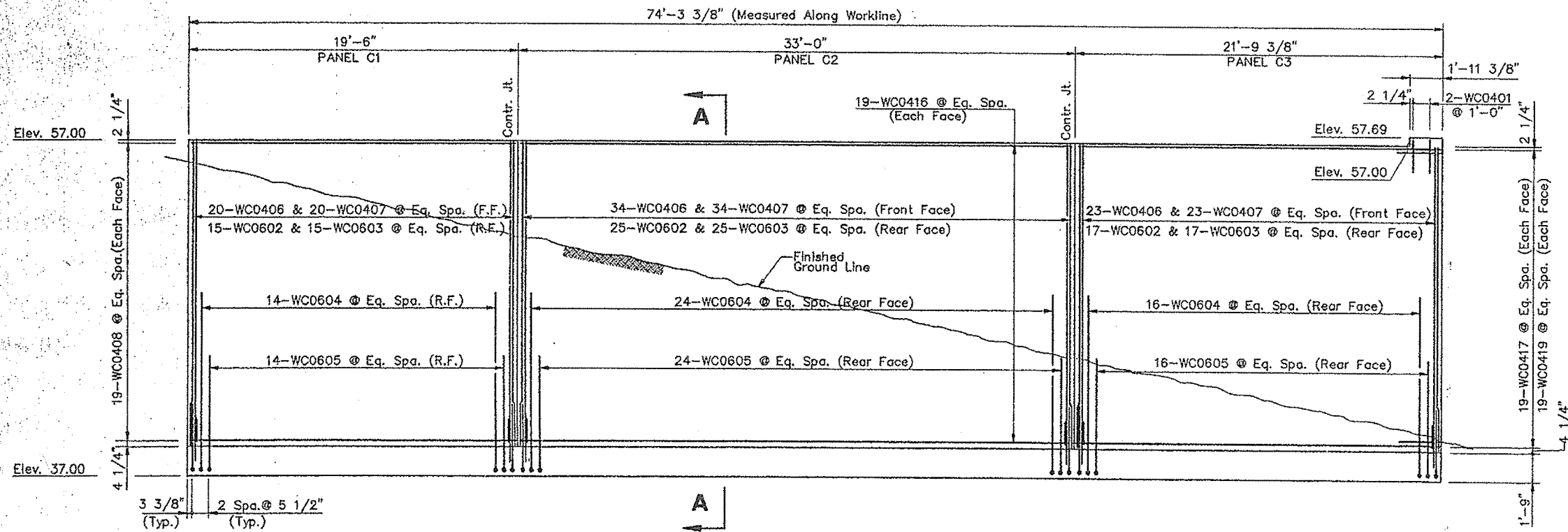
CONTRACTION JOINT DETAIL
(NOT TO SCALE)



EXPANSION JOINT DETAIL
(NOT TO SCALE)

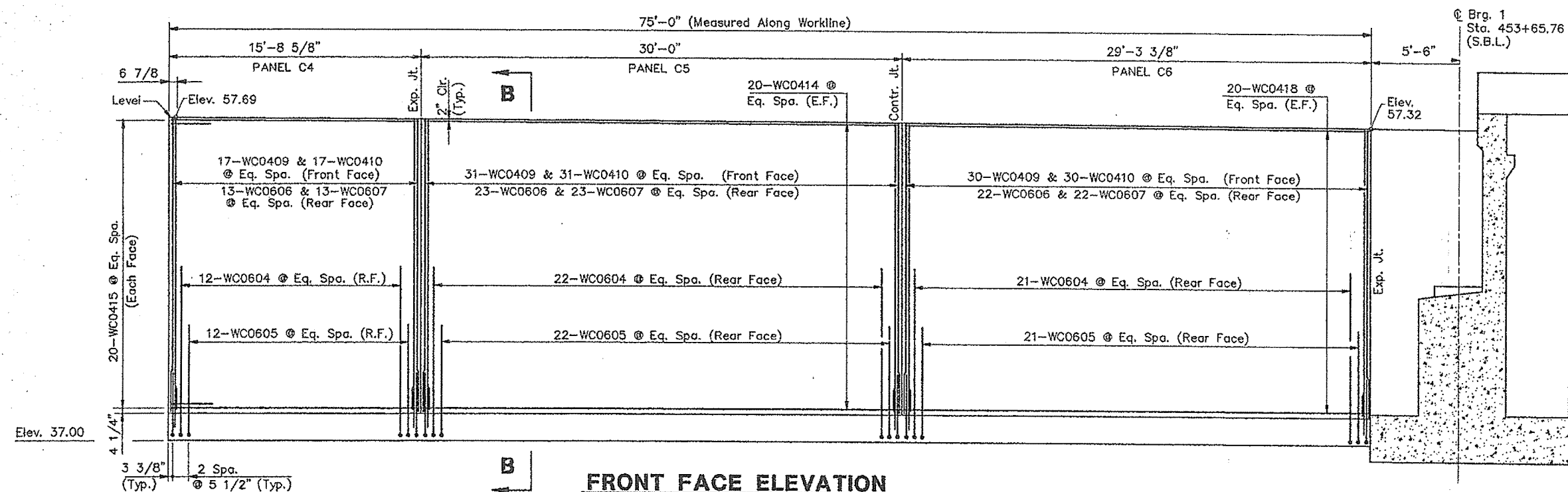
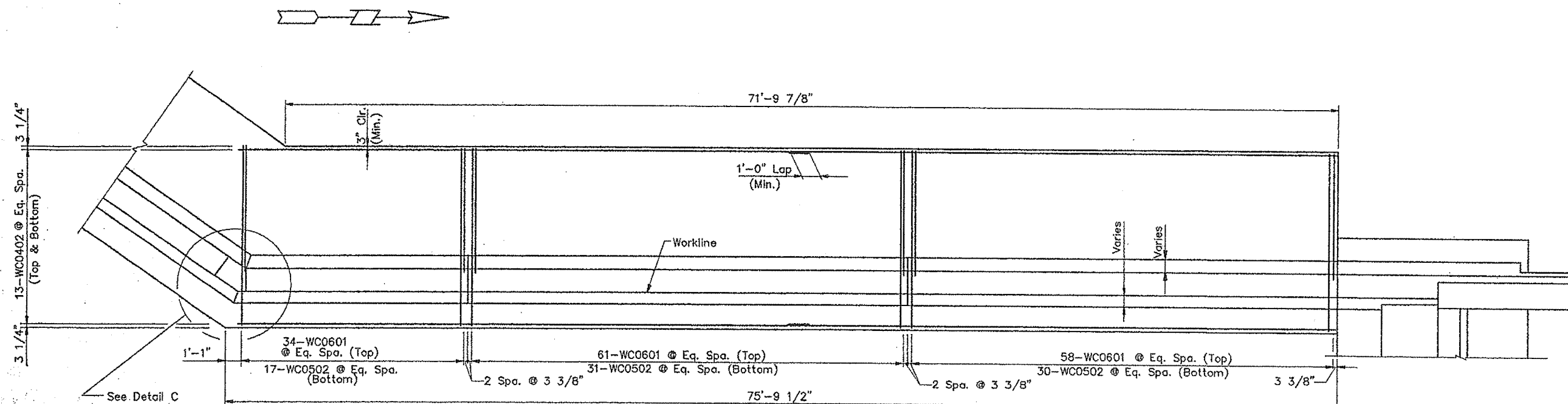
Legend:
F.F. = Front Face
R.F. = Rear Face
E.F. = Each Face

- Notes:
1. Balustrade and associated reinforcement not shown.
 2. For section A-A and Detail C, see "Sections and Detail - Retaining Wall C".
 3. Key footing 1'-0" minimum into bedrock. When elevation of top of sound rock varies, place subfooting concrete as necessary to key footing into rock 1'-0" minimum as directed by the engineer.



FRONT FACE ELEVATION

STEEL ALTERNATIVE SUBSTRUCTURE



Notes:

- For Section B-B and Detail C, see "Sections and Detail - Retaining Wall C".
- Key footing 1'-0" minimum into bedrock. When elevation of top of sound rock varies, place subfooting concrete as necessary to key footing into rock 1'-0" minimum as directed by the engineer.

STEEL ALTERNATIVE SUBSTRUCTURE

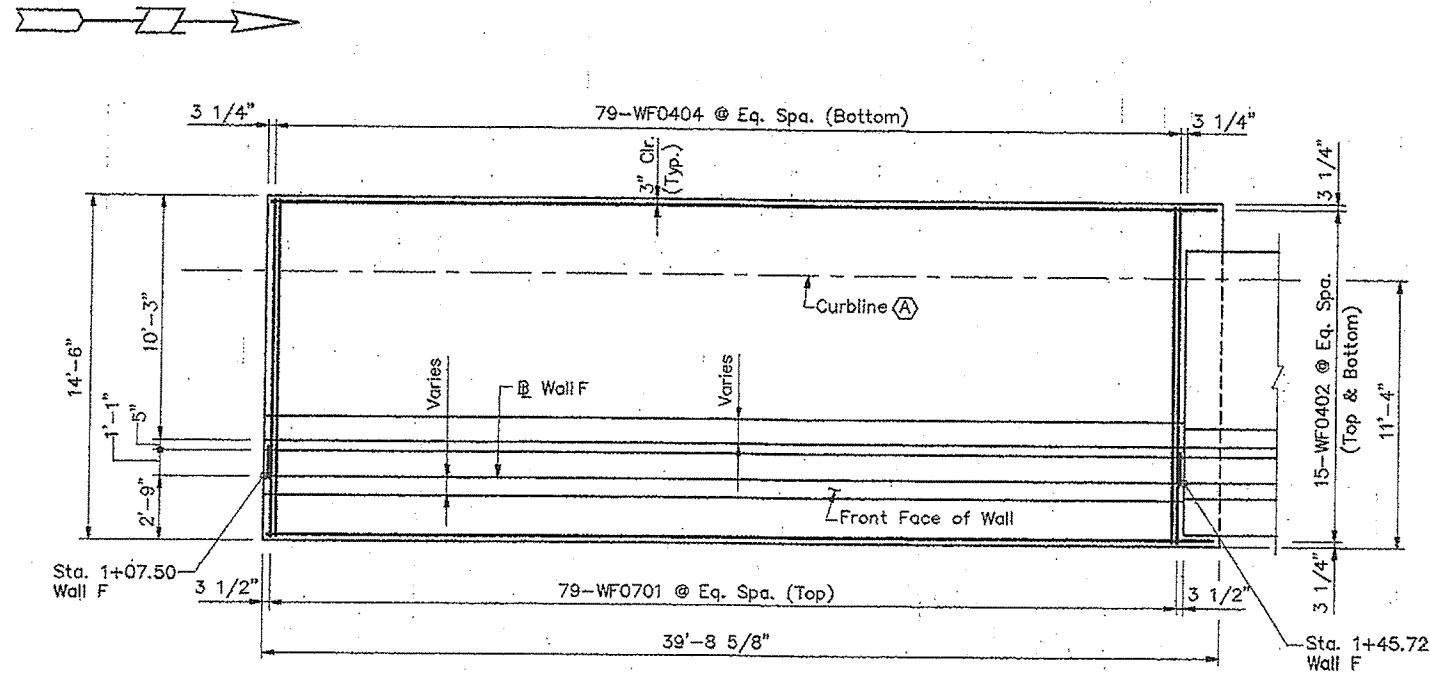
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PORTLAND - S. PORTLAND BRIDGE

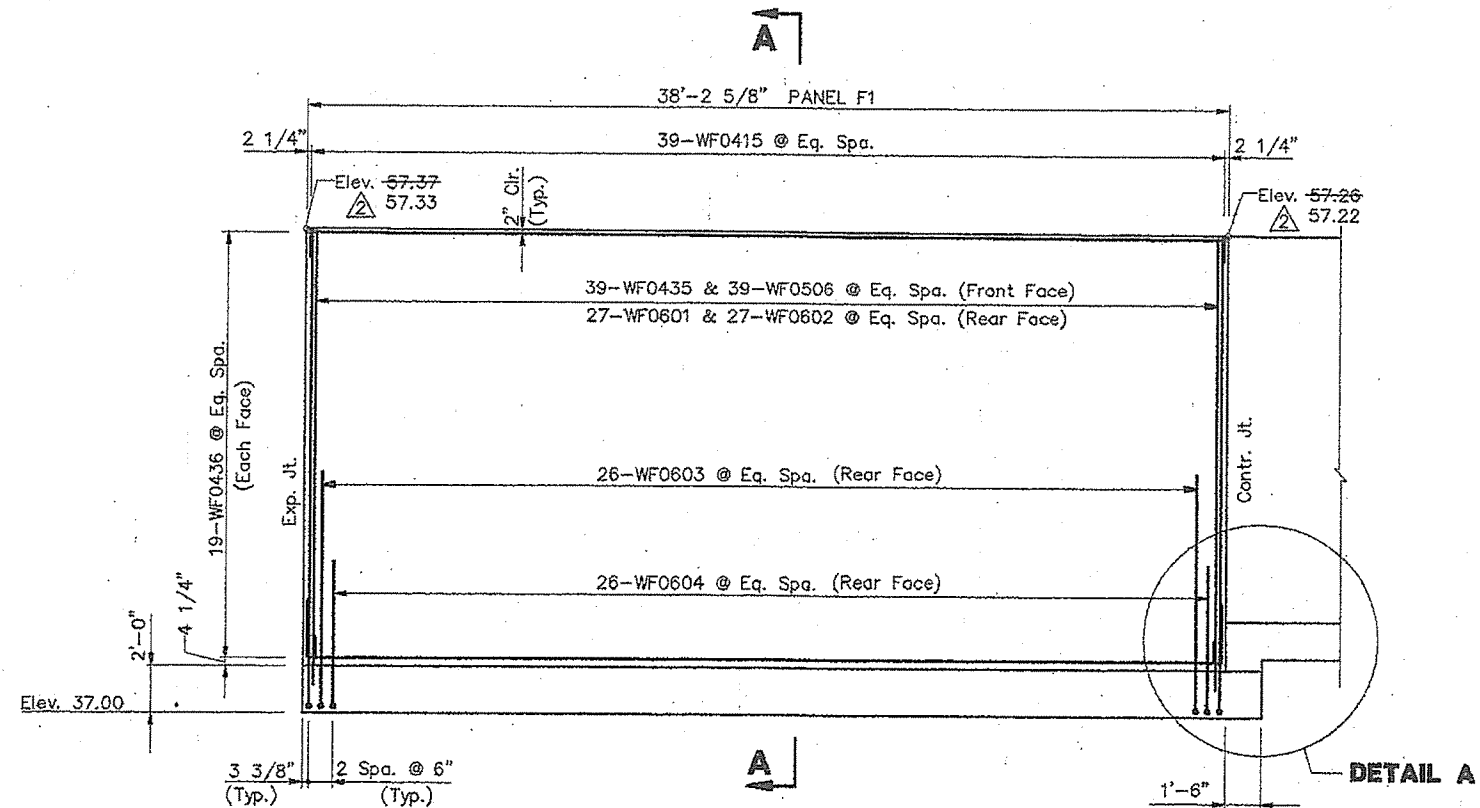
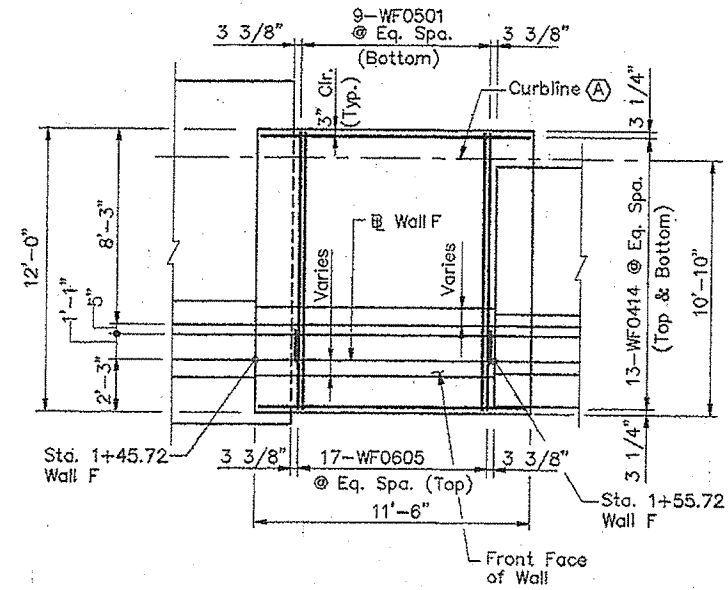
OVER FORE RIVER

CUMBERLAND COUNTY

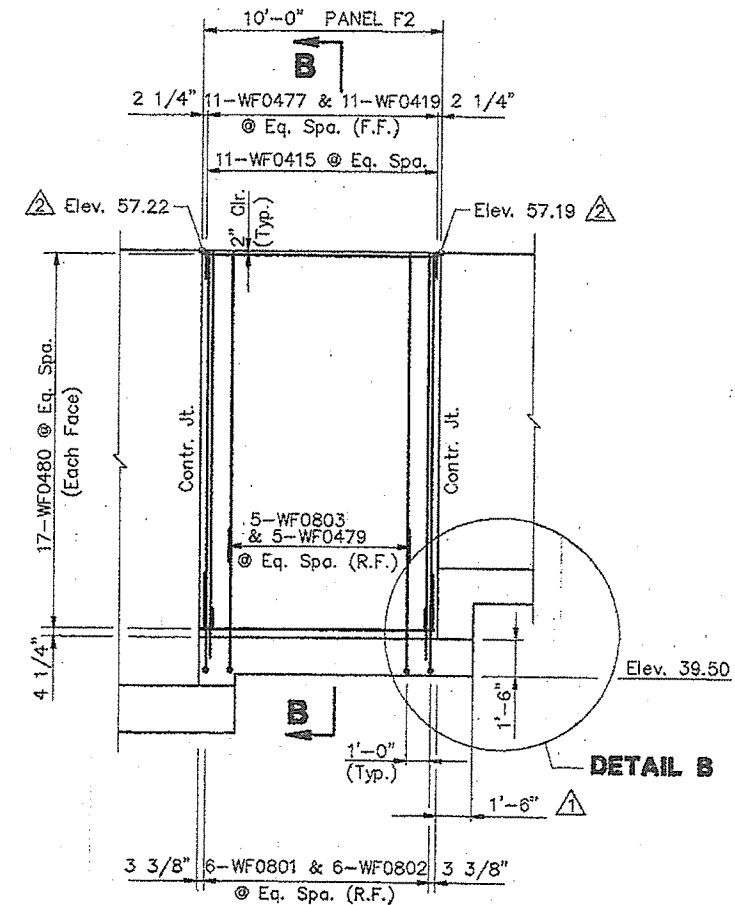
PLAN & ELEVATION
RETAINING WALL C



PLAN



FRONT FACE ELEVATION



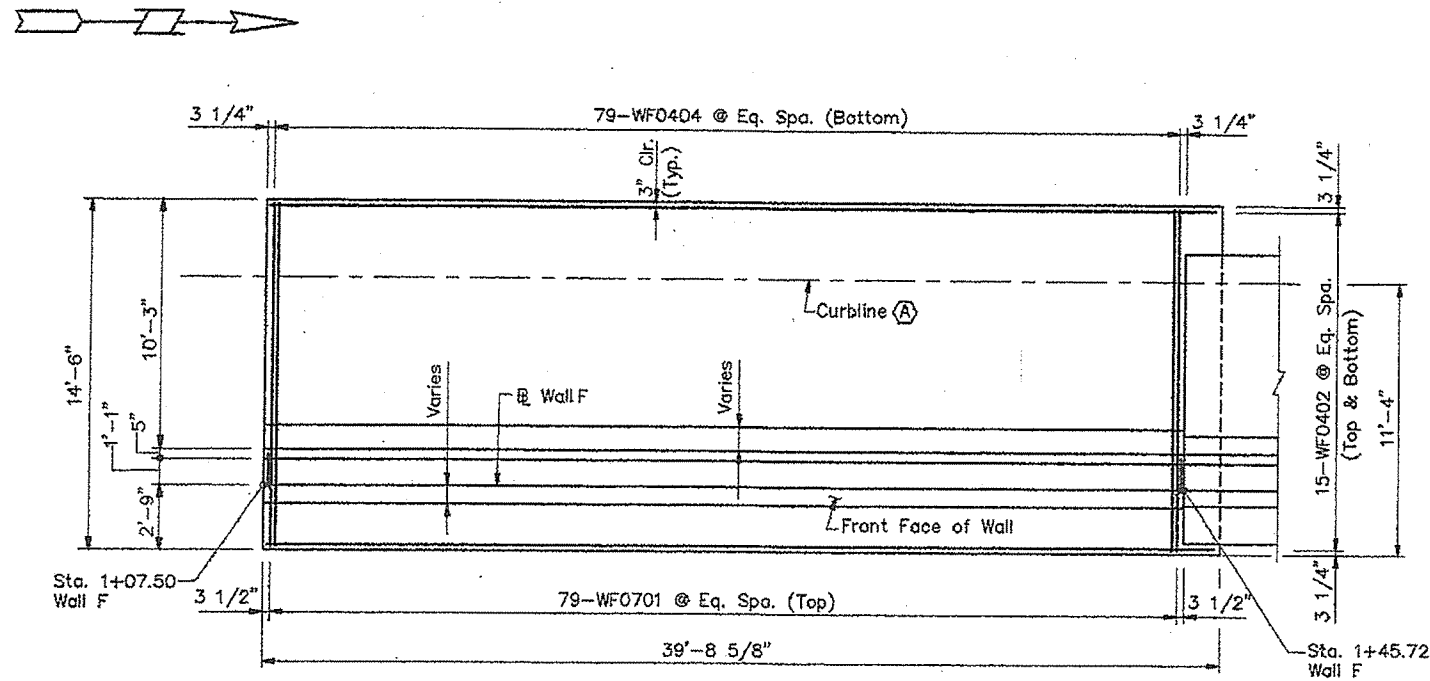
Notes:

1. For retaining wall F layout see "General Plan North Abutment".
2. For sections A-A and B-B see "Sections & Details, Retaining Wall F".
3. For french drain detail see "Sections & Detail - Retaining Wall C".
4. Key footing 1'-0" minimum into bedrock. When elevation of top of sound rock varies, place subfooting concrete as necessary to key footing into rock 1'-0" minimum as directed by the engineer.

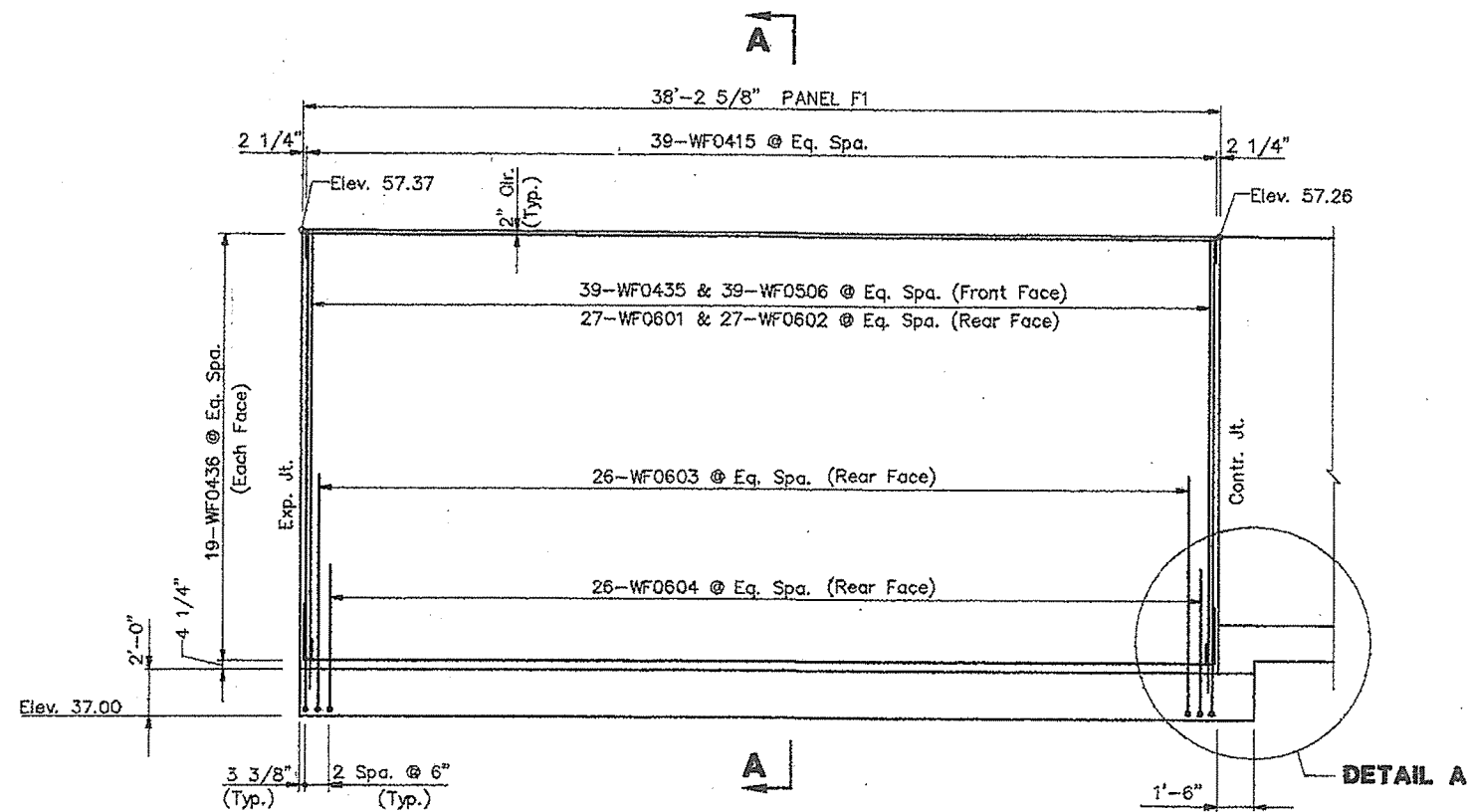
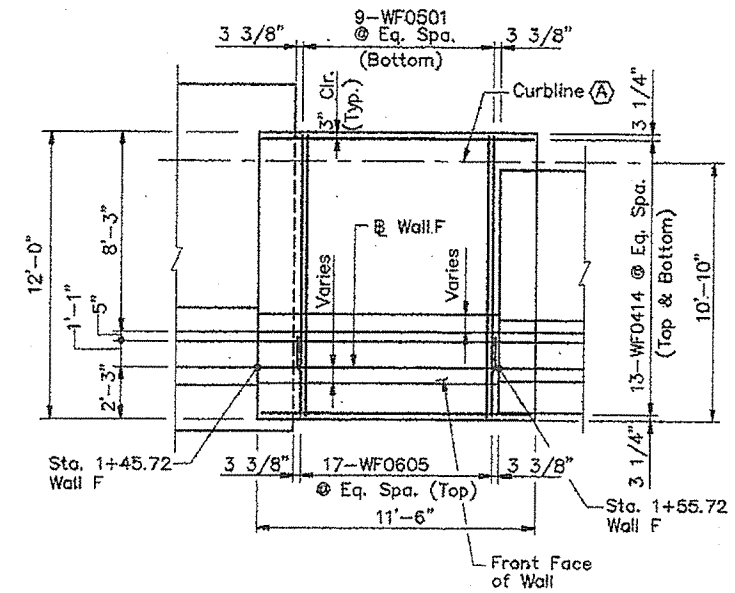
STEEL ALTERNATIVE SUBSTRUCTURE

STATE OF MAINE DEPARTMENT OF TRANSPORTATION
PORTLAND - S. PORTLAND BRIDGE
OVER FORE RIVER
CUMBERLAND COUNTY
PLAN & ELEVATION RETAINING WALL F
SHEET 38 OF 338 AUGUSTA, MAINE

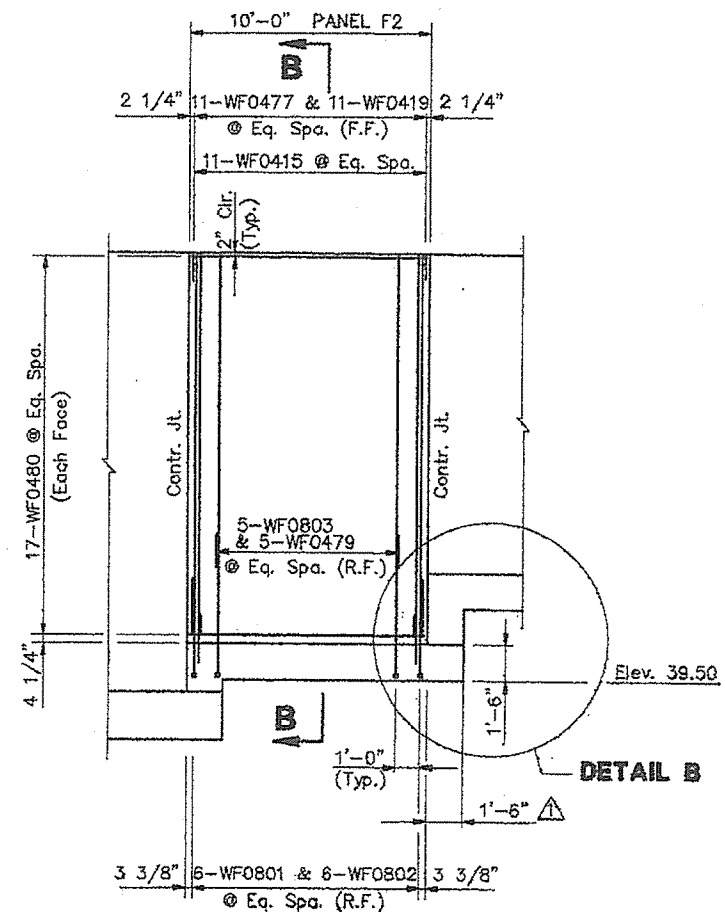
- △ Add footing step dimension
10/7/94
- △ Revise top of wall elevations
4/2/96



PLAN



FRONT FACE ELEVATION



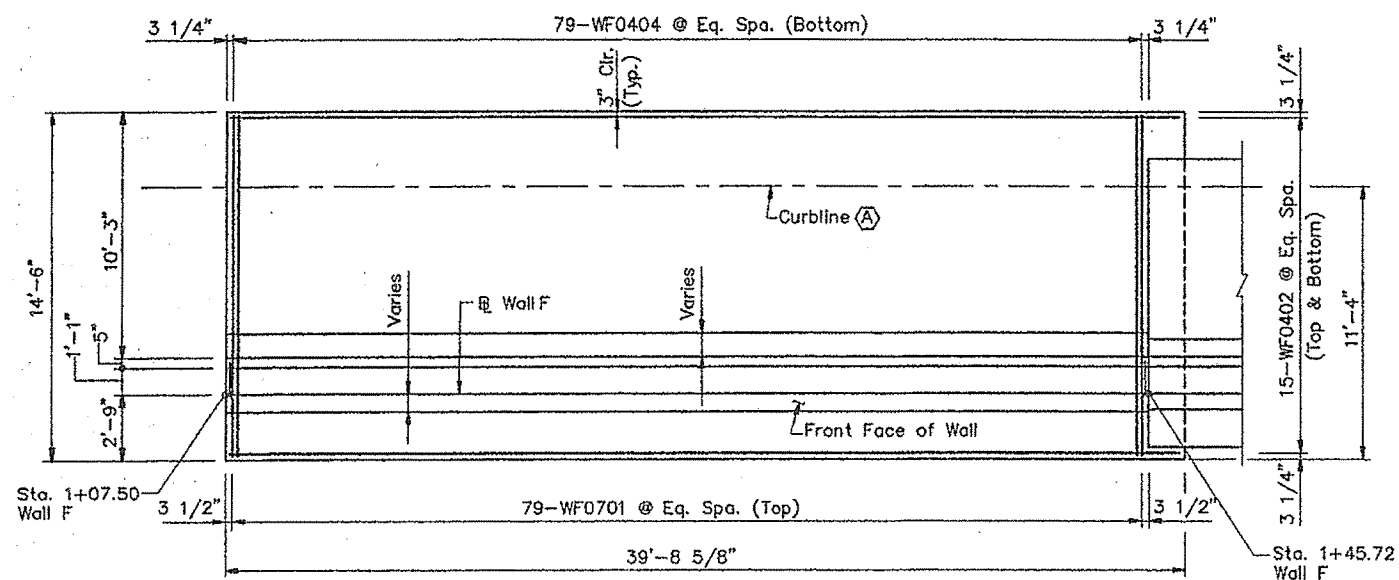
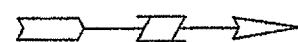
Notes:

1. For retaining wall F layout see "General Plan North Abutment".
2. For sections A-A and B-B see "Sections & Details, Retaining Wall F".
3. For french drain detail see "Sections & Detail - Retaining Wall C".
4. Key footing 1'-0" minimum into bedrock. When elevation of top of sound rock varies, place subfooting concrete as necessary to key footing into rock 1'-0" minimum as directed by the engineer.

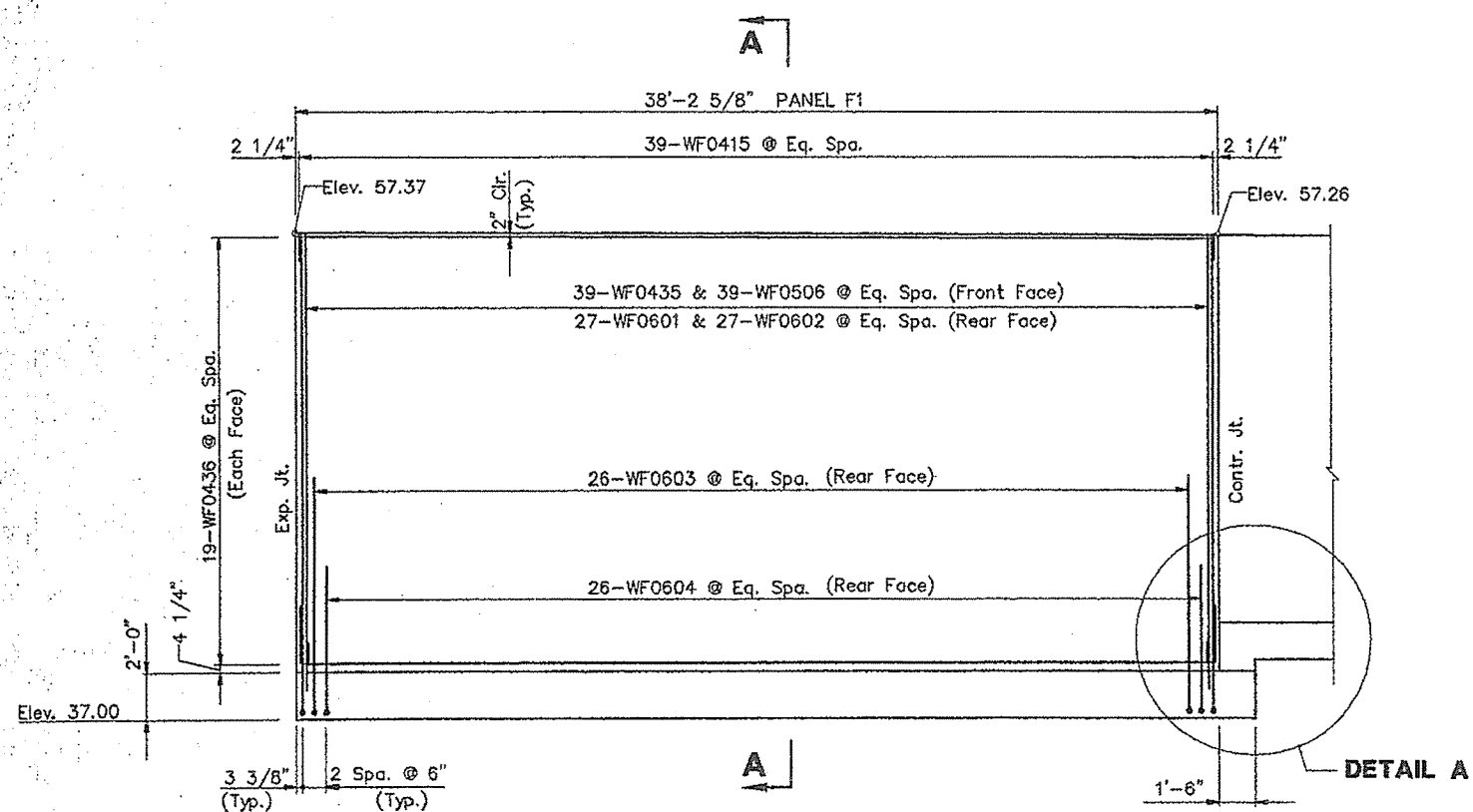
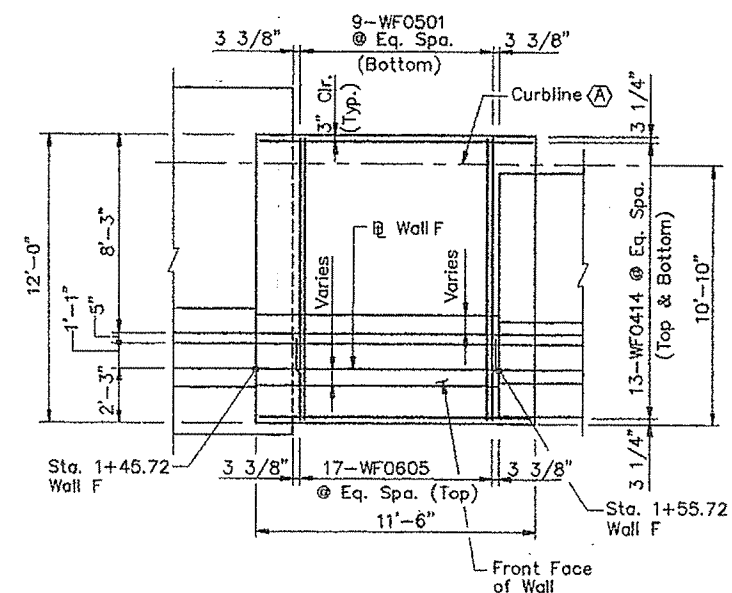
STEEL ALTERNATIVE SUBSTRUCTURE

STATE OF MAINE DEPARTMENT OF TRANSPORTATION
PORTLAND - S. PORTLAND BRIDGE OVER FORE RIVER CUMBERLAND COUNTY
PLAN & ELEVATION RETAINING WALL F

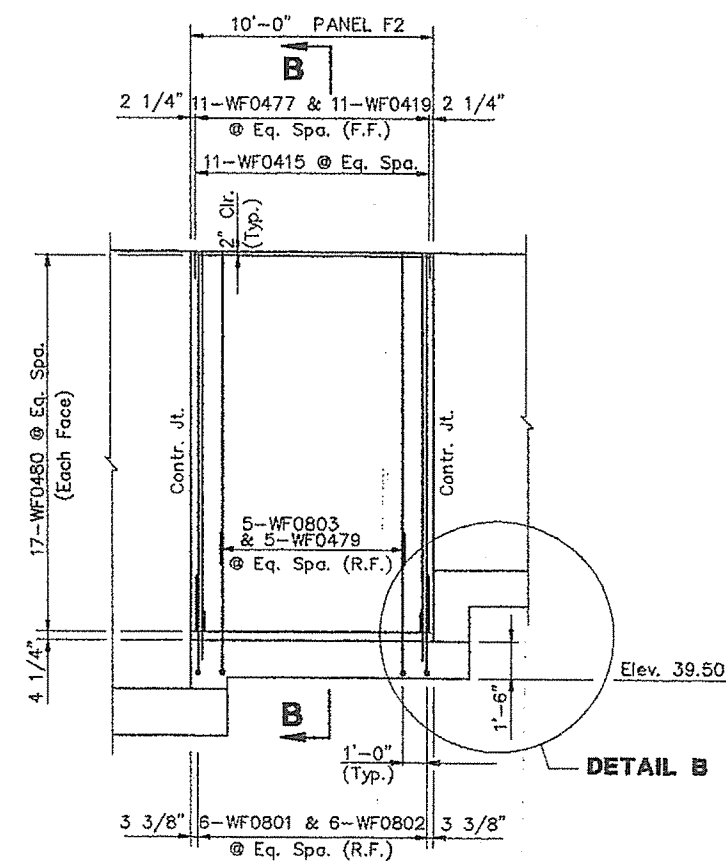
△ Add footing step dimension
10/7/94



PLAN



FRONT FACE ELEVATION

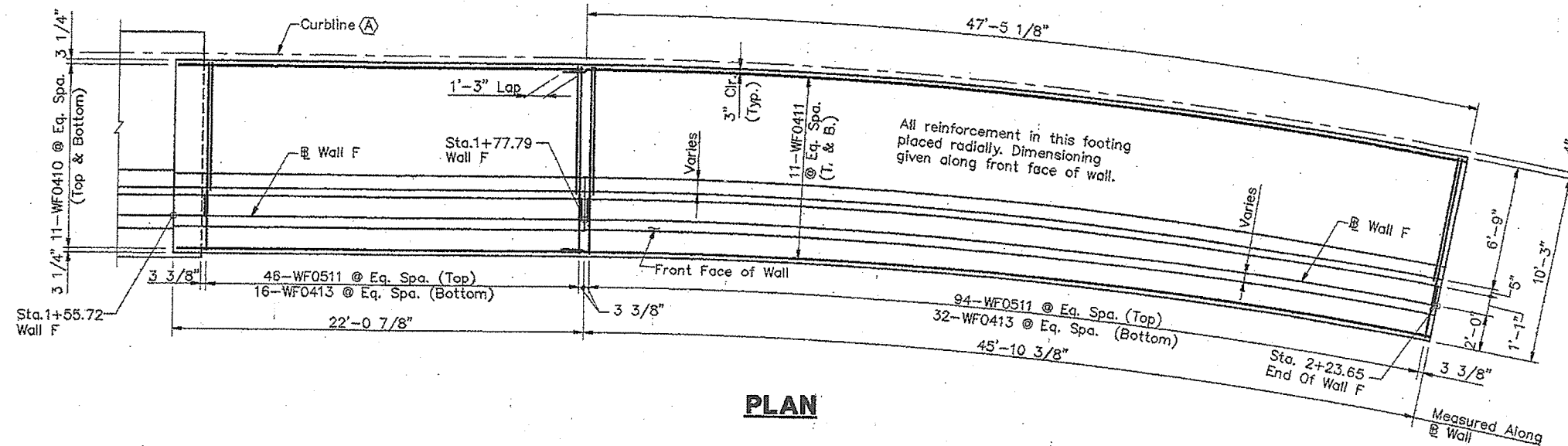
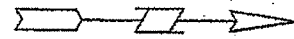


Notes:

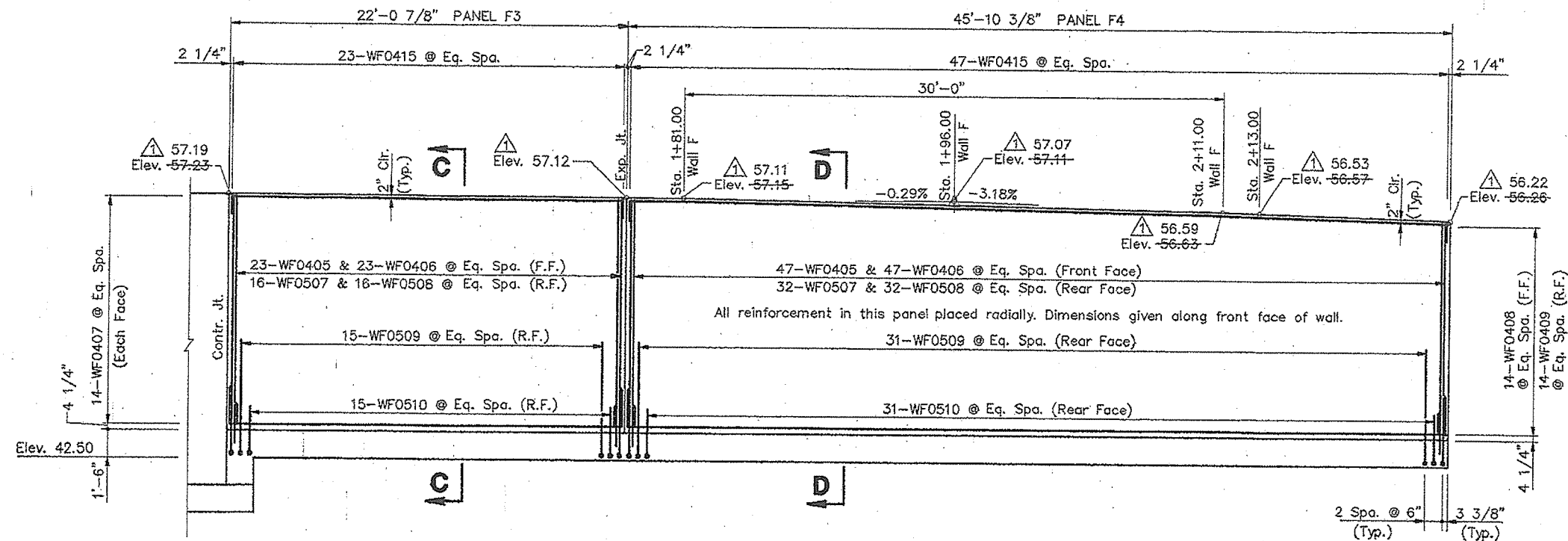
1. For retaining wall F layout see "General Plan North Abutment".
2. For sections A-A and B-B see "Sections & Details, Retaining Wall F".
3. For french drain detail see "Sections & Detail - Retaining Wall C".
4. Key footing 1'-0" minimum into bedrock. When elevation of top of sound rock varies, place subfooting concrete as necessary to key footing into rock 1'-0" minimum as directed by the engineer.

STEEL ALTERNATIVE SUBSTRUCTURE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
PORTLAND - S. PORTLAND BRIDGE
OVER FORE RIVER
CUMBERLAND COUNTY
**PLAN & ELEVATION
RETAINING WALL F**



PLAN



FRONT FACE ELEVATION

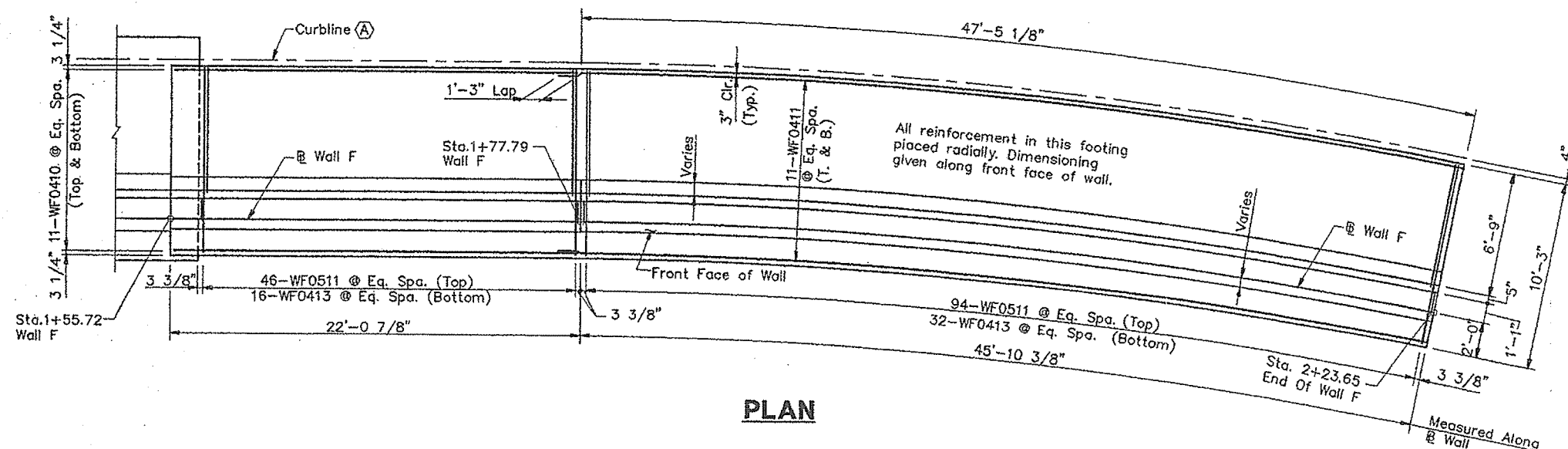
Notes:

1. For retaining wall F layout see "General Plan, North Abutment".
2. For sections C-C and D-D see "Sections & Details, Retaining Wall F".
3. Key footing 1'-0" minimum into bedrock. When elevation of top of sound rock varies, place subfooting concrete as necessary to key footing into rock 1'-0" minimum as directed by the engineer.
4. Contractor may elect to construct footings along cords with middle ordinates $\leq 6"$.
5. For french drain detail see "Sections & Detail - Retaining Wall C".

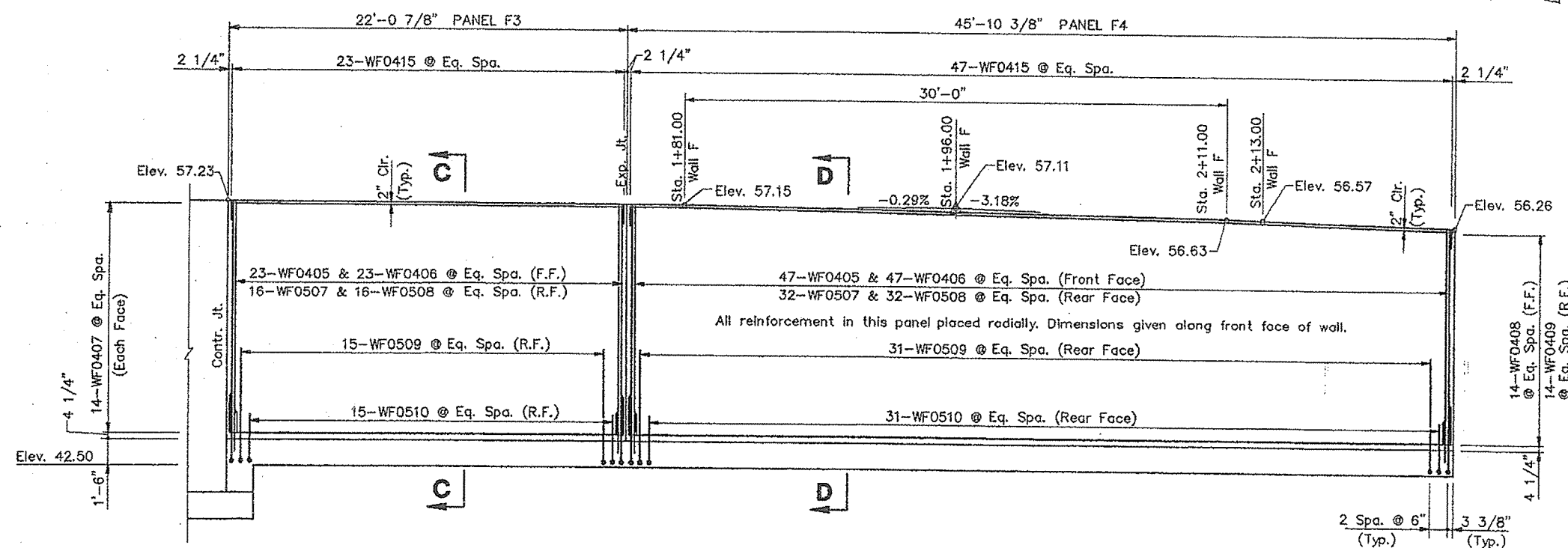
STEEL ALTERNATIVE SUBSTRUCTURE

STATE OF MAINE DEPARTMENT OF TRANSPORTATION
PORTLAND - S. PORTLAND BRIDGE OVER FORE RIVER CUMBERLAND COUNTY
PLAN & ELEVATION RETAINING WALL F
SHEET 39 OF 338 AUGUSTA, MAINE

△ Revise top of wall elevations 4/2/96



PLAN

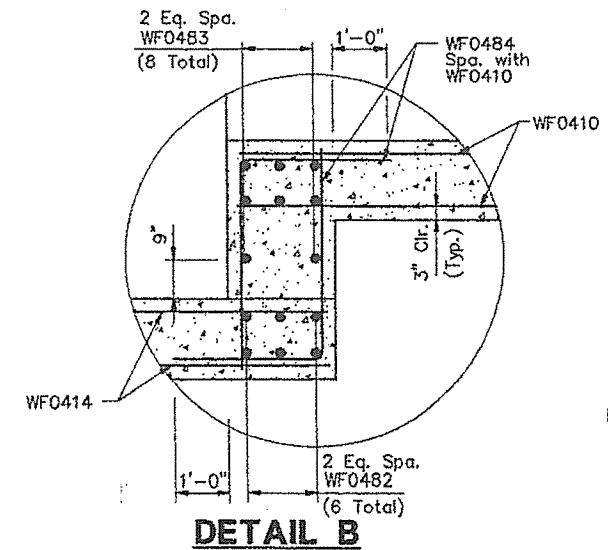
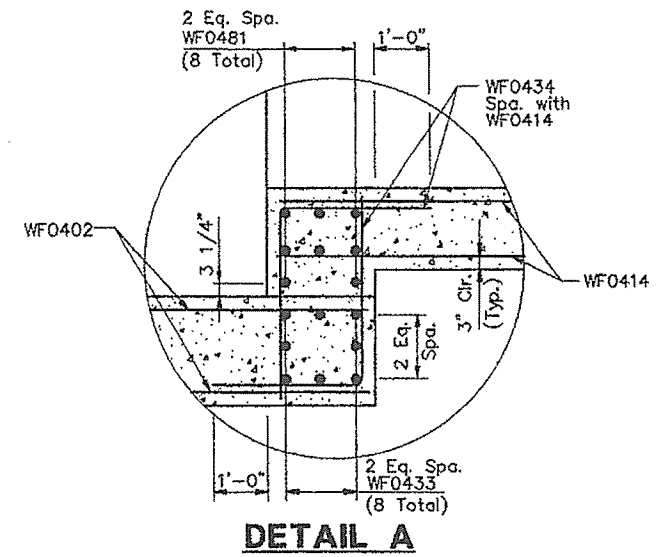
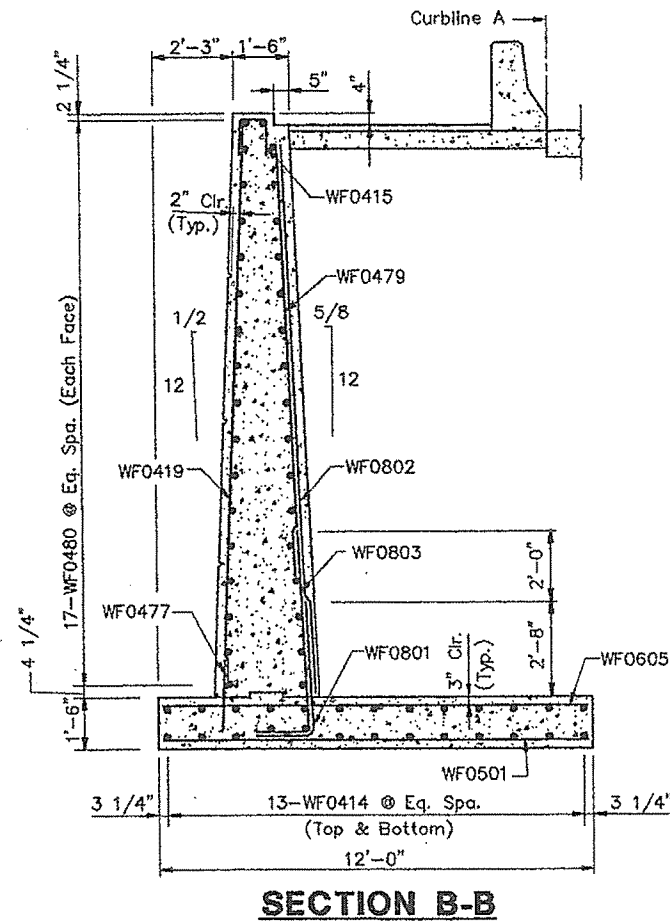
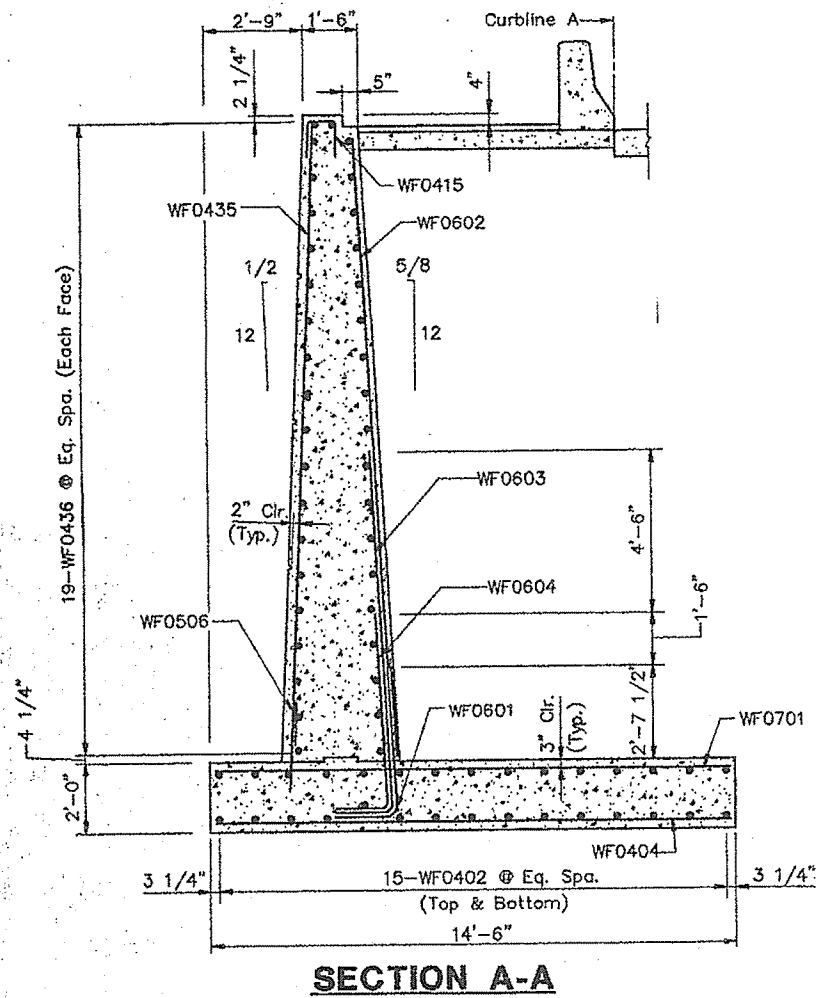


FRONT FACE ELEVATION

Notes:

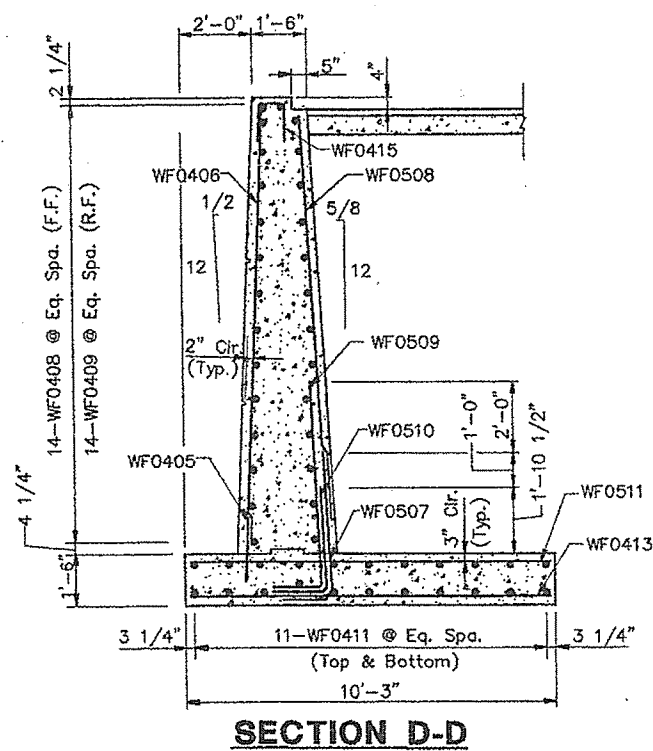
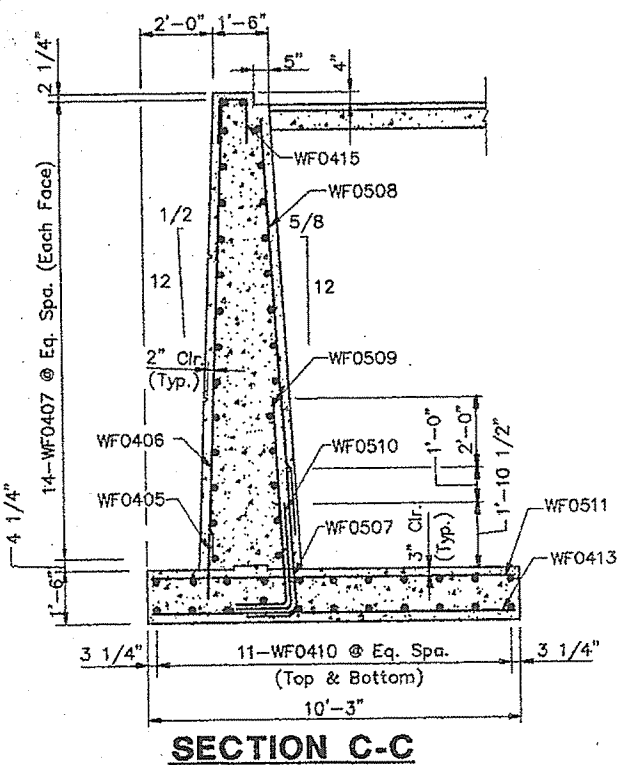
1. For retaining wall F layout see "General Plan, North Abutment".
2. For sections C-C and D-D see "Sections & Details, Retaining Wall F".
3. Key footing 1'-0" minimum into bedrock. When elevation of top of sound rock varies, place subfooting concrete as necessary to key footing into rock 1'-0" minimum as directed by the engineer.
4. Contractor may elect to construct footings along cords with middle ordinates $\leq 6"$.
5. For french drain detail see "Sections & Detail - Retaining Wall C".

STEEL ALTERNATIVE SUBSTRUCTURE



Notes:

1. For relet details see, "North Abutment Architectural Treatment".
2. For french drain details, see "Sections & Detail - Retaining Wall C".
3. Fence post anchors along top of retaining wall will be drilled and grouted by superstructure contractor.



STEEL ALTERNATIVE SUBSTRUCTURE

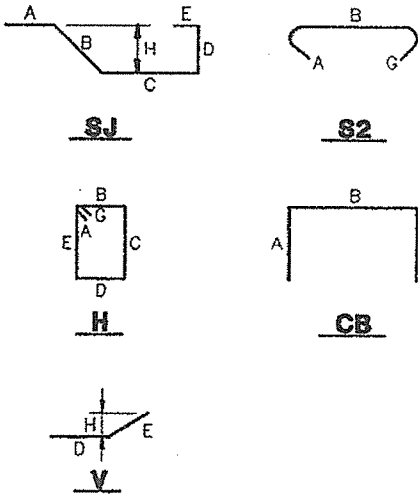
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
PORTLAND - S. PORTLAND BRIDGE
OVER FORE RIVER
CUMBERLAND COUNTY
SECTIONS & DETAILS
RETAINING WALL F

REINFORCING STEEL SCHEDULE

STRAIGHT BARS							BENT BARS														
NO.	LENGTH	LOCATION	MARK	NO.	LENGTH	LOCATION	MARK	NO.	LENGTH	TYPE	A	B	C	D	E	F	G	H	O	R	LOCATION
ABUTMENT - @ BRG. 1 & 2																					
56	25'-11"	Footling					NA0409	60	7'-8"	CB	2'-6"	2'-8"	2'-6"								Pedestal
28	17'-6"	Footling					NA0410	36	9'-8"	CB	2'-6"	4'-8"	2'-6"								Pedestal
56	13'-0"	Footling					NA0412	40	3'-2"	CB	1'-0"	1'-2"	1'-0"								Backwall
22	12'-6"	Footling Step					NA0414	16	39'-0"	CB	1'-6"	36'-0"	1'-6"								Seat
36	38'-10"	Seat					NA0420	20	5'-8"	CB	1'-6"	2'-8"	1'-6"								Pedestal
5	38'-11"	Seat					NA0421	30	4'-2"	CB	1'-6"	1'-2"	1'-6"								Pedestal
40	8'-4"	Seat					NA0422	77	2'-9"	S2	6 1/2"	1'-8"									Backwall Tie
40	14'-2"	Backwall					NA0426	2	17'-6"	H	6 1/2"	3'-8"	4'-6 1/2"	3'-8"	4'-6 1/2"		6 1/2"				Seat Tie
87	4'-3"	Seat					NA0427	2	16'-5"	H	6 1/2"	3'-8"	4'-0"	3'-8"	4'-0"		6 1/2"				Seat Tie
2	35'-8"	Approach Slab Ledge					NA0428	2	15'-4"	H	6 1/2"	3'-8"	3'-5 1/2"	3'-8"	3'-5 1/2"		6 1/2"				Seat Tie
14	22'-0"	Seat					NA0429	2	14'-3"	H	6 1/2"	3'-8"	2'-11"	3'-8"	2'-11"		6 1/2"				Seat Tie
9	8'-2"	Seat					NA0430	14	18'-7"	H	6 1/2"	3'-8"	5'-1"	3'-8"	5'-1"		6 1/2"				Seat Tie
5	46'-3"	Seat					NA0431	4	12'-11"	CB	1'-6"	9'-11"	1'-6"								Backwall
10	16'-3"	Breastwall					NA0432	21	7'-5"	CB	1'-0"	5'-5"	1'-0"								Breastwall
20	8'-4"	Breastwall					NA0433	3	15'-1"	CB	4'-10"	5'-5"	4'-10"								Seat
34	18'-10"	Breastwall																			
							NA0501	56	9'-0"	CB	2'-0"	7'-0"	—								Footling Step
41	2'-6"	Footling Dowel					NA0502	28	12'-3"	CB	1'-0"	11'-3"	—								Footling Step
11	16'-8"	Breastwall					NA0503	36	4'-10"	SJ	—	2'-8"	6"	1'-8"							Approach Slab Ledge
9	26'-4"	Breastwall																			
6	21'-6"	Breastwall					NA0601	104	16'-6"	CB	2'-0"	12'-6"	2'-0"								Footling
15	11'-4"	Breastwall					NA0602	7	10'-8"	V				6'-4"	4'-4"						Seat
48	11'-4"	Backwall					NA0701	70	16'-6"	CB	2'-0"	12'-6"	2'-0"								Footling
							NA0702	48	15'-7"	CB	1'-6"	14'-1"	—								Seat
14	17'-4"	Breastwall																			
17	26'-4"	Breastwall					NA0801	34	16'-6"	CB	2'-0"	12'-6"	2'-0"								Footling
76	9'-8"	Backwall																			
13	7'-8"	Backwall					NA0901	9	10'-9"	CB	1'-7"	9'-2"	—								Seat
2	7'-1"	Backwall					NA0902	46	7'-6"	CB	5'-11"	1'-7"	—								Footling Dowel
2	6'-7"	Backwall																			
2	6'-0"	Backwall																			
3	5'-6"	Backwall																			
7	10'-2"	Breastwall																			
15	12'-0"	Breastwall																			

F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	DPI-0008(002)	41	330

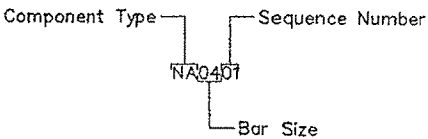
TYPE - BENDING DIAGRAMS



All dimensions are out to out of reinforcing bar. Bending details and hooks shall conform to the recommendations of the current revision of ACI Standard 318. Reinforcing Bar: ASTM A615 Grade 60.

GENERAL NOTES

Bar mark nomenclature as follows:



STEEL ALTERNATIVE SUBSTRUCTURE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
PORTLAND - S. PORTLAND BRIDGE
OVER FORE RIVER
CUMBERLAND COUNTY
REINFORCING STEEL SCHEDULE
NORTH ABUTMENT
(@ BRG. 1 & 2)

REINFORCING STEEL SCHEDULE

STRAIGHT BARS

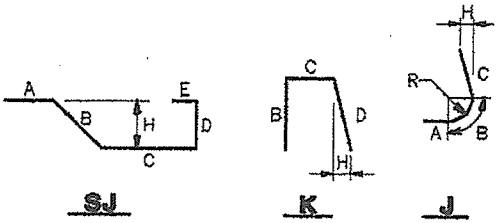
MARK	NO.	LENGTH	LOCATION	MARK	NO.	LENGTH	LOCATION
RTH ABUTMENT - @ BRG. 1 & 2							
0444 THRU NA0449 NOT USED							
NA0504	16	2'-6"	Footng Dowels				
NA0451	13	12'-2"	West Wall				
NA0452	18	7'-6"	West Wall				
NA0453	13	5'-0"	West Wall				
NA0455	4	5'-0"	West Wall				
NA0456	4	6'-2"	West Wall				
NA0510	5	16'-2"	West Wall				
NA0511	2	9'-3"	West Wall				
NA0516	11	18'-1"	West Wall				
NA0607	2	16'-2"	West Wall				
NA0608	14	18'-1"	West Wall				
NA0916	11	19'-3"	West Wall				
NA0457	42	4'-3"	At Ret. Wall E				
NA0517	5	18'-10"	At Ret. Wall E				
NA1002	10	18'-10"	At Ret. Wall E				
RO502	4	9'-3"	Barrier at West Wall				
RO601	4	9'-3"	Barrier at West Wall				
RO503	4	5'-9"	Barrier at Ret. Wall E				
RO602	4	5'-9"	Barrier at Ret. Wall E				
SO401	16	30'-0"	Approach Slab				
SO402	16	6'-0" 6'-7"	Approach Slab	⚠			
SO601	70	15'-0" 15'-2"	Approach Slab	⚠			

BENT BARS

MARK	NO.	LENGTH	TYPE	A	B	C	D	E	F	G	H	O	R	LOCATION
NA0605	14	6'-6"	J	9"	5"	5'-4"					3"		3"	West Wall Footng Dowel
NA0915	11	8'-2"	J	1'-2"	9"	6'-3"							6"	West Wall Footng Dowel
NA0606	6	10'-2"	J	9"	5"	9'-0"							3"	West Wall
NA0512	10	5'-2"	SJ		1'-6"	1'-2"	1'-2"	1'-4"			10 1/2"			West Wall
BR0501	10	6'-1"	K		2'-9"	7"	2'-9"				3 1/2"			Barrier at West Wall
NA1001	10	9'-7"	J	1'-3"	10"	7'-6"							6 5/8"	Footng Dowel at Ret. Wall E
BR0501	7	6'-1"	K		2'-9"	7"	2'-9"				3 1/2"			Barrier at Ret. Wall E
NA0512	7	5'-2"	SJ		1'-6"	1'-2"	1'-2"	1'-4"			10 1/2"			Barrier at Ret. Wall E

F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	DPI-0068(002)	42	338

TYPE - BENDING DIAGRAMS

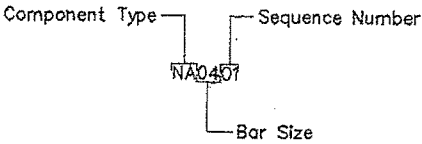


△ Revise reinforcing steel dimensions.
10/7/94

All dimensions are out to out of reinforcing bar.
Bending details and hooks shall conform to the
recommendations of the current revision of ACI
Standard 318.
Reinforcing Bar: ASTM A615 Grade 60.

GENERAL NOTES

Bar mark nomenclature as follows:



STEEL ALTERNATIVE SUBSTRUCTURE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
**PORTLAND - S. PORTLAND BRIDGE
OVER FORE RIVER
CUMBERLAND COUNTY**
**REINFORCING STEEL SCHEDULE
NORTH ABUTMENT
(@ BRG. 1 & 2)**

REINFORCING STEEL SCHEDULE

STRAIGHT BARS							BENT BARS														
NO.	LENGTH	LOCATION	MARK	NO.	LENGTH	LOCATION	MARK	NO.	LENGTH	TYPE	A	B	C	D	E	F	G	H	O	R	LOCATION
UTMENT - @ BRG. 1 & 2																					
IRU NA0449 NOT USED																					
16	2'-6"	Footings Dowels					NA0605	14	6'-6"	J	9"	5"	5'-4"					3"		3"	West Wall Footing Dowel
							NA0915	11	8'-2"	J	1'-2"	9"	6'-3"					—		6"	West Wall Footing Dowel
13	12'-2"	West Wall																			
18	7'-6"	West Wall					NA0606	6	10'-2"	J	9"	5"	9'-0"					—		3"	West Wall
13	5'-0"	West Wall					NA0512	10	5'-2"	SJ	—	1'-6"	1'-2"	1'-2"	1'-4"			10 1/2"			West Wall
4	5'-0"	West Wall																			
4	6'-2"	West Wall					BR0501	10	6'-1"	K		2'-9"	7"	2'-9"				3 1/2"			Barrier at West Wall
5	16'-2"	West Wall																			
2	9'-3"	West Wall					NA1001	10	9'-7"	J	1'-3"	10"	7'-6"							6 5/8"	Footing Dowel at Ret. Wall E
11	18'-1"	West Wall																			
2	16'-2"	West Wall					BR0501	7	6'-1"	K		2'-9"	7"	2'-9"				3 1/2"			Barrier at Ret. Wall E
14	18'-1"	West Wall					NA0512	7	5'-2"	SJ	—	1'-6"	1'-2"	1'-2"	1'-4"			10 1/2"			Barrier at Ret. Wall E
11	19'-3"	West Wall																			
42	4'-3"	At Ret. Wall E																			
5	18'-10"	At Ret. Wall E																			
10	18'-10"	At Ret. Wall E																			
4	9'-3"	Barrier at West Wall																			
4	9'-3"	Barrier at West Wall																			
4	5'-9"	Barrier at Ret. Wall E																			
4	5'-9"	Barrier at Ret. Wall E																			
16	30'-0"	Approach Slab																			
16	6'-0"	Approach Slab																			
70	15'-0"	Approach Slab																			

F.H.W.A.
REG. NO.
1

STATE
MAINE

PROJECT NUMBER
DPI-0098(002)

SHEET NO.
42

TOTAL SHEETS
43

TYPE - BENDING DIAGRAMS

All dimensions are out to out of reinforcing bar. Bending details and hooks shall conform to the recommendations of the current revision of ACI Standard 318. Reinforcing Bar: ASTM A615 Grade 60.

GENERAL NOTES

Bar mark nomenclature as follows:

Component Type

Sequence Number

Bar Size

STEEL ALTERNATIVE SUBSTRUCTURE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

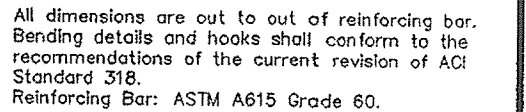
PORTLAND - S. PORTLAND BRIDGE
OVER FORE RIVER
CUMBERLAND COUNTY

REINFORCING STEEL SCHEDULE
NORTH ABUTMENT
(@ BRG. 1 & 2)

SHEET 42 OF 43 AUGUSTA, MAINE 10/17/01

REINFORCING STEEL SCHEDULE																								
STRAIGHT BARS								BENT BARS																
	NO.	LENGTH	LOCATION	MARK	NO.	LENGTH	LOCATION	MARK	NO.	LENGTH	TYPE	A	B	C	D	E	F	G	H	O	R	LOCATION		
	<u>NORTH ABUTMENT (C. Brg. 3)</u>								<u>NORTH ABUTMENT (C. Brg. 3)</u>															
1	56	26'-10"	Footling					NA0422	50	4'-6"	SL	----	1'-8"	1'-2"	1'-8"			----					Abut. Stem	
3	50	2'-6"	Abut. Stem					NA0423	7	4'-1"	SL	----	1'-8"	0'-9"	1'-8"			----					Wall	
4	80	25'-1"	Abut. Stem																					
5	50	3'-8"	Footling Dowel					NA0502	19	4'-3"	SJ	----	2'-2"	0'-5"	1'-8"	----				1'-3"			Abut. Stem	
3	7	17'-11"	Wall					NA0504	160	16'-6"	SL	----	2'-0"	12'-6"	2'-0"			----					Footling	
4	68	7'-11"	Wall					NA0512	15	5'-2"	SJ	----	1'-6"	1'-2"	1'-2"	1'-4"				0'-10 1/2"			Barrier	
5	12	5'-11"	Wall																					
6	21	2'-8"	Footling Dowel					NA0601	9	6'-1"	N	1'-0"	5'-1"							0'-3"			Footling Dowel	
7	14	18'-5"	Wall																					
8	50	12'-4"	Abut. Stem					NA0801	50	8'-4"	L	1'-4"	7'-0"										Footling Dowel	
9	50	6'-0"	Abut. Stem																					
								NA1001	18	11'-8"	N	1'-10"	9'-10"							0'-6"			Footling Dowel	
3	2	35'-8"	Abut. Stem					NA1004	8	13'-1"	N	1'-10"	11'-3"							0'-7"			Footling Dowel	
2	9	17'-6"	Wall					BR0501	15	6'-1"	K		2'-9"	0'-7"	2'-9"					0'-3 1/2"			Barrier	
3	8	4'-0"	Utility Opening																					
2	50	17'-5"	Abut. Stem																					
2	10	18'-5"	Wall																					
3	8	17'-5"	Wall																					
	16	30'-0"	Approach Slab																					
	16	6'-0" <i>b n</i>	Approach Slab																					
	70	15'-0" <i>b n</i>	Approach Slab																					
3	8	1'-6"	Barrier																					
4	4	7'-11"	Barrier																					
2	8	1'-6"	Barrier																					
5	4	7'-11"	Barrier																					

TYPE - BENDING DIAGRAMS



Bar mark nomenclature as follows:

Component Type Sequence Number

NA0401

Bar Size

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

**REINFORCING STEEL SCHEDULE
NORTH ABUTMENT
C Brg. 3**

REINFORCING STEEL SCHEDULE

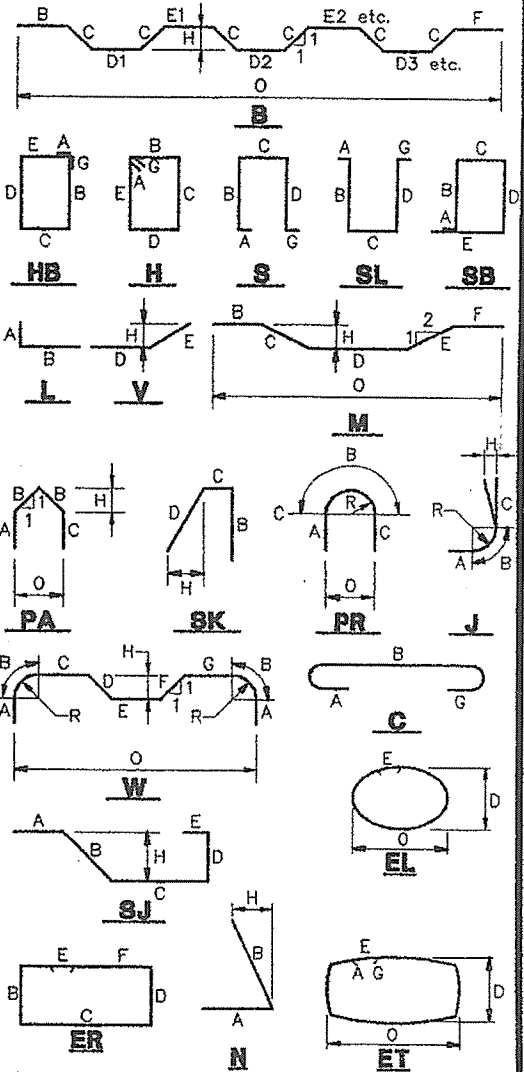
STRAIGHT BARS

BENT BARS

NO.	LENGTH	LOCATION	MARK	NO.	LENGTH	LOCATION	MARK	NO.	LENGTH	TYPE	A	B	C	D	E	F	G	H	O	R	LOCATION
RETAINING WALL C				RETAINING WALL C																	
52	38'-3"	Footings		WC0401	2	5'-3"	SL	----	2'-0"	1'-3"	2'-0"										Stem
52	37'-11"	Footings		WC0419	38	6'-0"	V							3'-0"	3'-0"				1'-10"		Stem
77	2'-9"	Footings Dowel																			
77	18'-1"	Stem		WC0602	62	8'-9"	N	4'-8"	4'-1"										0'-2 1/2"		Footings Dowel
38	19'-2"	Stem		WC0604	109	11'-3"	N	1'-0"	10'-3"										0'-6 1/2"		Footings Dowel
78	3'-1"	Footings Dowel		WC0605	109	7'-9"	N	1'-0"	6'-9"										0'-4 1/4"		Footings Dowel
78	18'-4"	Stem		WC0606	53	8'-9"	N	4'-8"	4'-1"										0'-2 1/2"		Footings Dowel
40	29'-8"	Stem																			
40	14'-6"	Stem																			
38	32'-8"	Stem																			
38	20'-7"	Stem																			
40	28'-11"	Stem																			
155	8'-6"	Footings																			
306	12'-0"	Footings																			
62	18'-1"	Stem																			
53	18'-4"	Stem																			
RETAINING WALL E				RETAINING WALL E																	
47	19'-7"	Stem																			
32	11'-6"	Footings		WE1001	32	10'-6"	N	4'-9"	5'-9"										0'-3 1/2"		Footings Dowel
60	23'-8"	Footings		WE1003	32	7'-7"	N	1'-10"	5'-9"										0'-3 1/2"		Footings Dowel
84	22'-11"	Stem		WE1005	32	12'-4"	N	1'-10"	10'-6"										0'-6 1/2"		Footings Dowel
47	4'-4"	Footings Dowel		BR0501	48	6'-5"	SJ	----	1'-4"	1'-8"	1'-2"	2'-3"							0'-9 1/2"		Barrier
				BR0502	48	5'-8 1/2"	SK	----	2'-7"	0'-6 1/2"	2'-7"	0'-0"							0'-3 1/2"		Barrier
114	14'-0"	Footings																			
32	19'-7"	Stem																			
32	18'-0"	Stem																			
8	22'-11"	Barrier																			
8	22'-11"	Barrier																			

F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	DPI-0056(002)	44	396

TYPE - BENDING DIAGRAMS



All dimensions are out to out of reinforcing bar. Bending details and hooks shall conform to the recommendations of the current revision of ACI Standard 318. Reinforcing Bar: ASTM A615 Grade 60.

GENERAL NOTES

Bar mark nomenclature as follows:
Component Type Sequence Number
WC0601
Bar Size

STEEL ALTERNATIVE SUBSTRUCTURE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
PORTLAND - S. PORTLAND BRIDGE
OVER FORE RIVER
CUMBERLAND COUNTY
REINFORCING STEEL SCHEDULE
RETAINING WALLS

REINFORCING STEEL SCHEDULE

STRAIGHT BARS

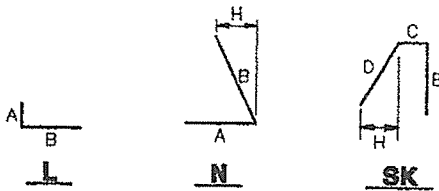
NO.	LENGTH	LOCATION	MARK	NO.	LENGTH	LOCATION
RETAINING WALL F						
30	39'-2"	Footing				
79	14'-0"	Footing				
70	3'-9"	Footing Dowels				
70	12'-1"	Wall				
28	21'-8"	Wall				
14	45'-6"	Wall				
14	45'-6"	Wall				
22	21'-6"	Footing				
22	49'-7"	Footing				
48	7'-0"	Footing				
26	11'-0"	Footing				
11	16'-1"	Wall				
8	14'-0"	Footing				
39	18'-1"	Wall				
38	37'-10"	Wall				
11	2'-10"	Footing Dowels				
5	15'-6"	Wall				
34	9'-8"	Wall				
8	11'-6"	Footing				
6	11'-6"	Footing				
8	9'-9"	Footing				
9	11'-6"	Footing				
39	3'-8"	Footing Dowels				
48	10'-11"	Wall				
140	9'-9"	Footing				
27	17'-7"	Wall				
17	11'-6"	Footing				
79	14'-0"	Footing				
6	15'-6"	Wall				

BENT BARS

MARK	NO.	LENGTH	TYPE	A	B	C	D	E	F	G	H	O	R	LOCATION
RETAINING WALL F														
WF0415	120	2'-9"	SK		1'-0"	0'-9"	1'-0"				0'-0 1/2"			Wall
WF0434	28	5'-9"	L	3'-6"	2'-3"									Footing
WF0484	24	6'-3"	L	4'-0"	2'-3"									Footing
WF0507	48	8'-1"	N	3'-11"	4'-2"						0'-2 1/2"			Wall
WF0509	46	6'-10"	N	0'-10"	6'-0"						0'-3 3/4"			Wall
WF0510	46	3'-10"	N	0'-10"	3'-0"						0'-1 3/4"			Wall
WF0601	27	9'-3"	N	4'-11"	4'-4"						0'-2 3/4"			Wall
WF0603	26	11'-3"	N	1'-0"	10'-3"						0'-6 1/2"			Wall
WF0604	26	6'-9"	N	1'-0"	5'-9"						0'-3 1/2"			Wall
WF0801	6	8'-3"	N	4'-4"	3'-11"						0'-2 1/2"			Wall
WF0803	5	7'-1"	N	1'-4"	5'-9"						0'-3 1/2"			Wall

F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	DP1-0088(002)	49	398

TYPE - BENDING DIAGRAMS



All dimensions are out to out of reinforcing bar. Bending details and hooks shall conform to the recommendations of the current revision of ACI Standard 318. Reinforcing Bar: ASTM A615 Grade 60.

GENERAL NOTES

Bar mark nomenclature as follows:
Component Type Sequence Number
WF0507
Bar Size

STEEL ALTERNATIVE SUBSTRUCTURE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

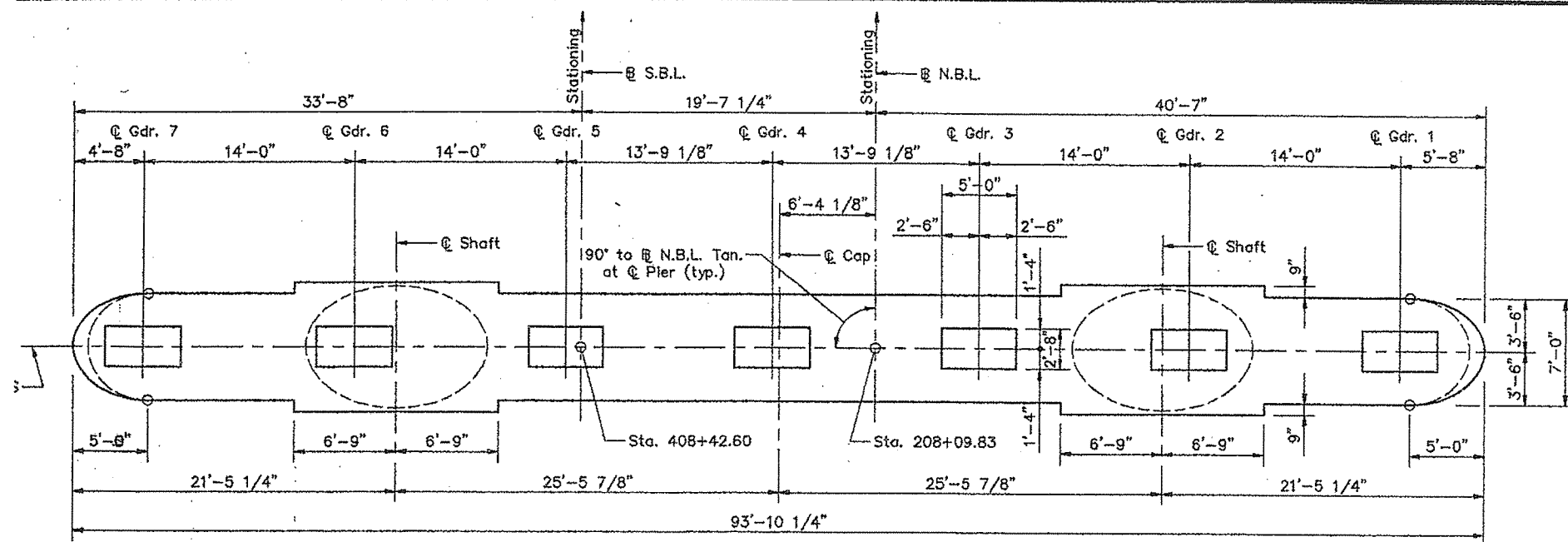
PORTLAND - S. PORTLAND BRIDGE

OVER FORE RIVER

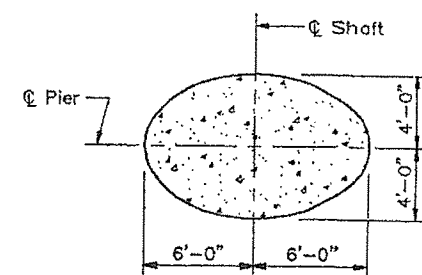
CUMBERLAND COUNTY

REINFORCING STEEL SCHEDULE
RETAINING WALLS

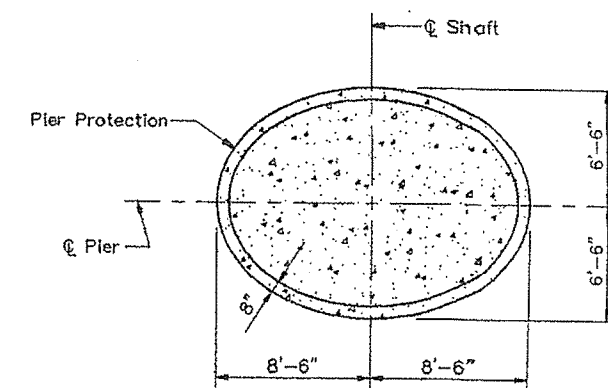
F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	DPI-0008(002)	46	338



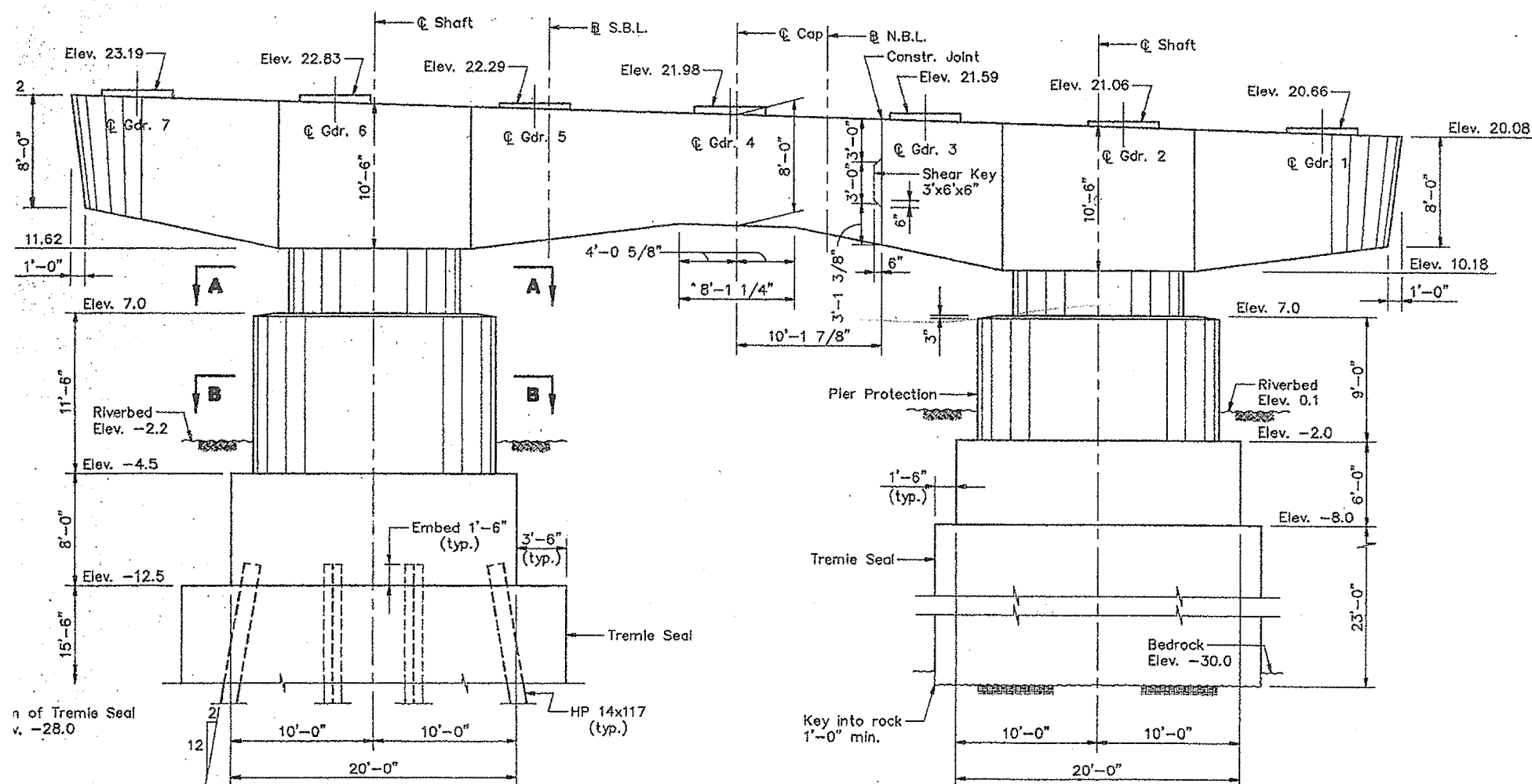
CAP PLAN - PIER 1S



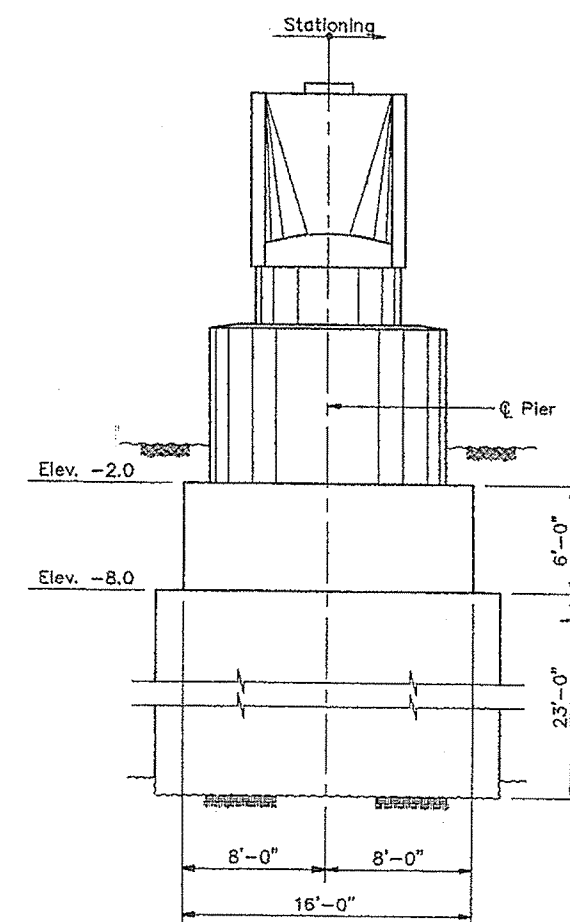
SECTION A-A



SECTION B-B



ELEVATION - PIER 1S



END ELEVATION

Notes:
Pier elevation shown looking up station.
Transverse dimensions on Cap Plan are measured
radial to \varnothing N.B.L.
Bedrock elevation is approximate

STEEL ALTERNATIVE SUBSTRUCTURE

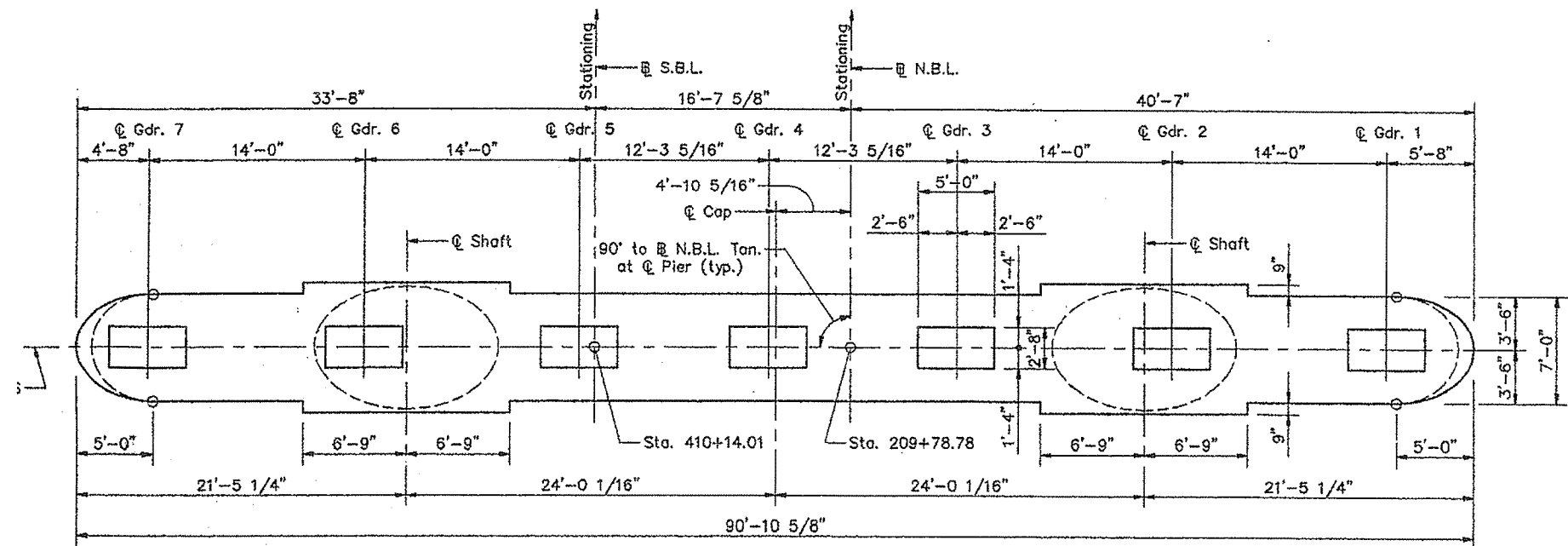
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PORTLAND - S. PORTLAND BRIDGE

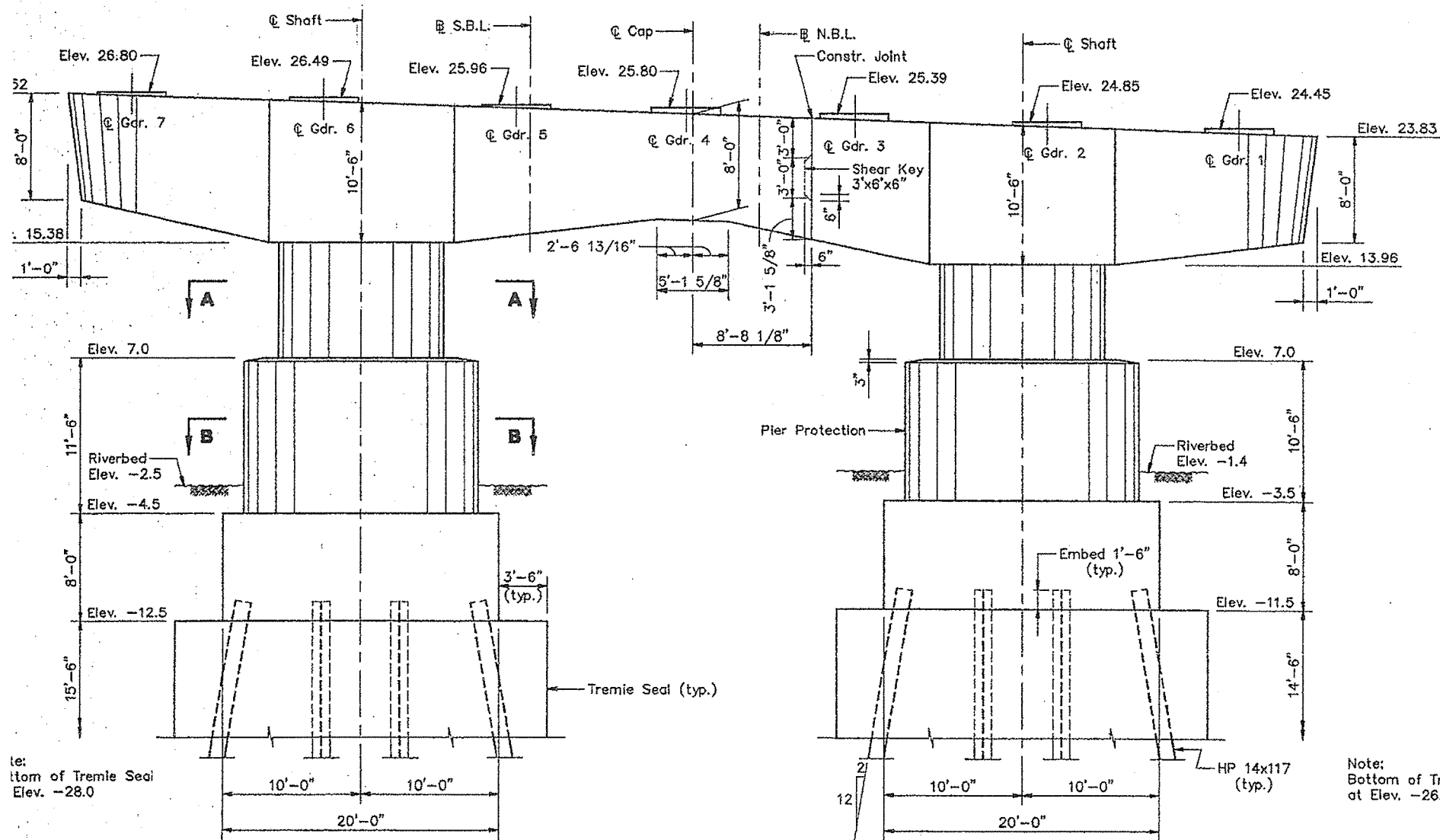
OVER FORE RIVER

CUMBERLAND COUNTY

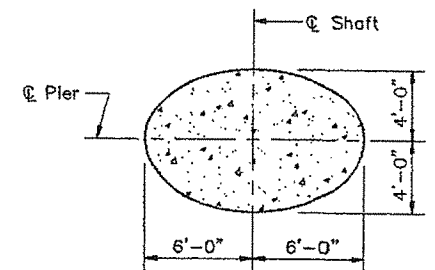
PLAN AND ELEVATION PIER 1S



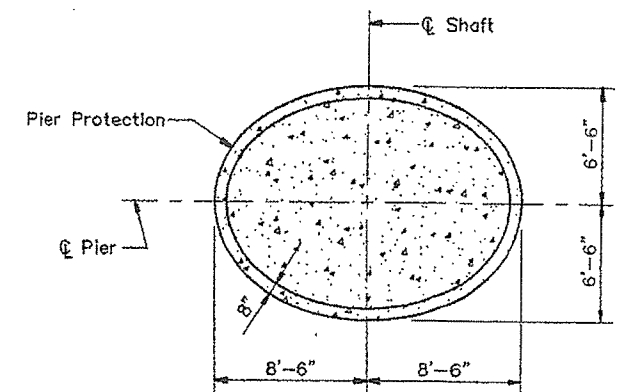
CAP PLAN - PIER 2S



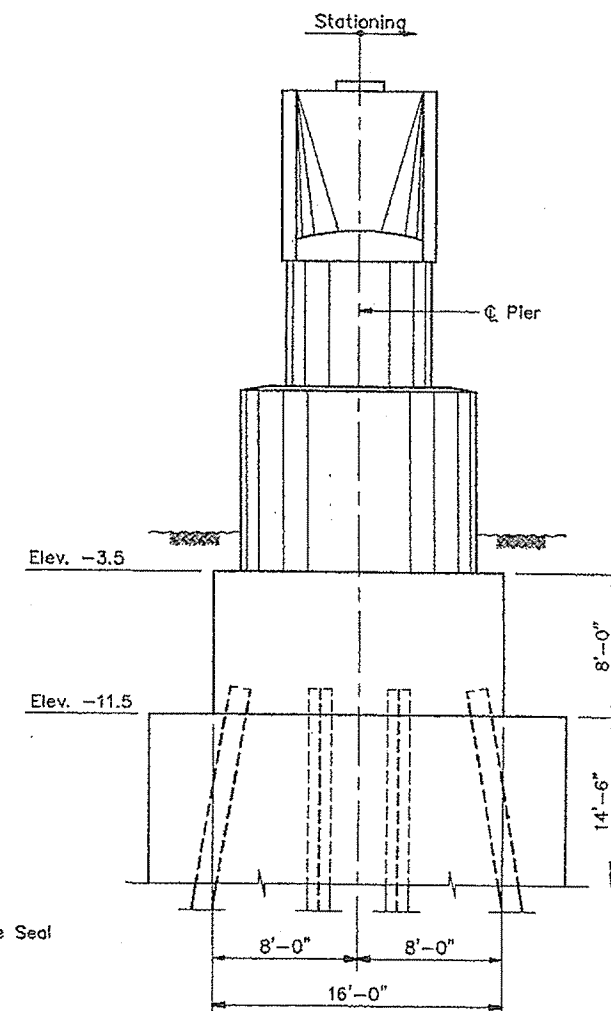
ELEVATION - PIER 2S



SECTION A-A



SECTION B-B



END ELEVATION

Notes:
Pier elevation shown looking up station.
Transverse dimensions on Cap Plan are measured radial to N.B.L.

STEEL ALTERNATIVE SUBSTRUCTURE

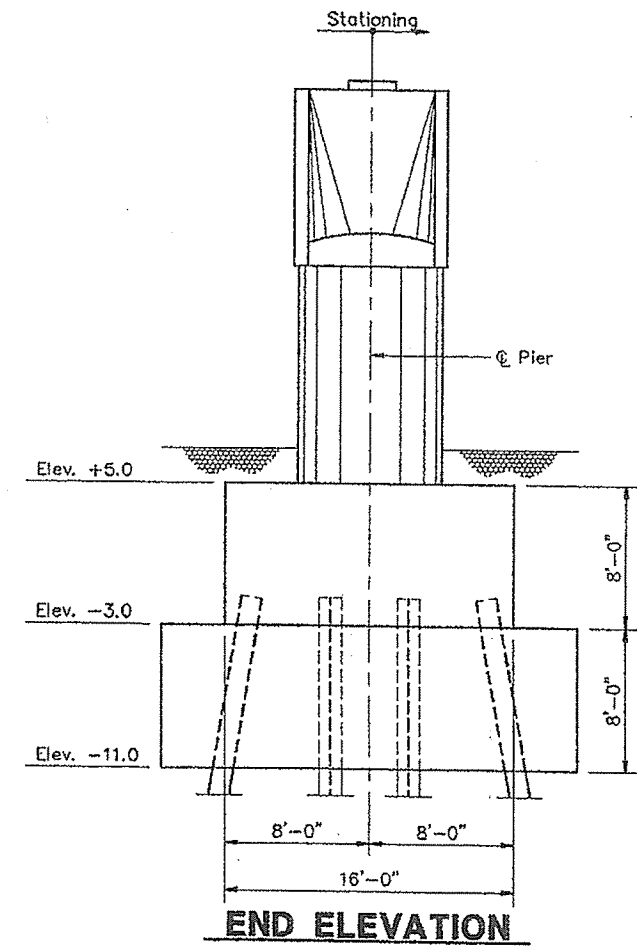
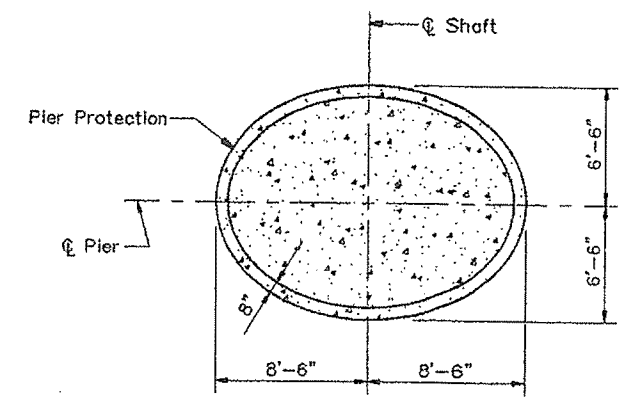
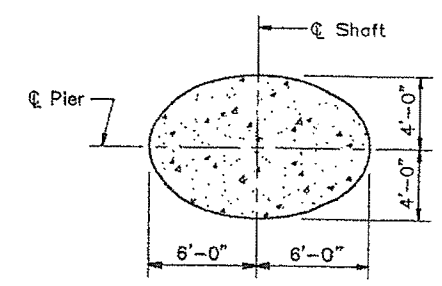
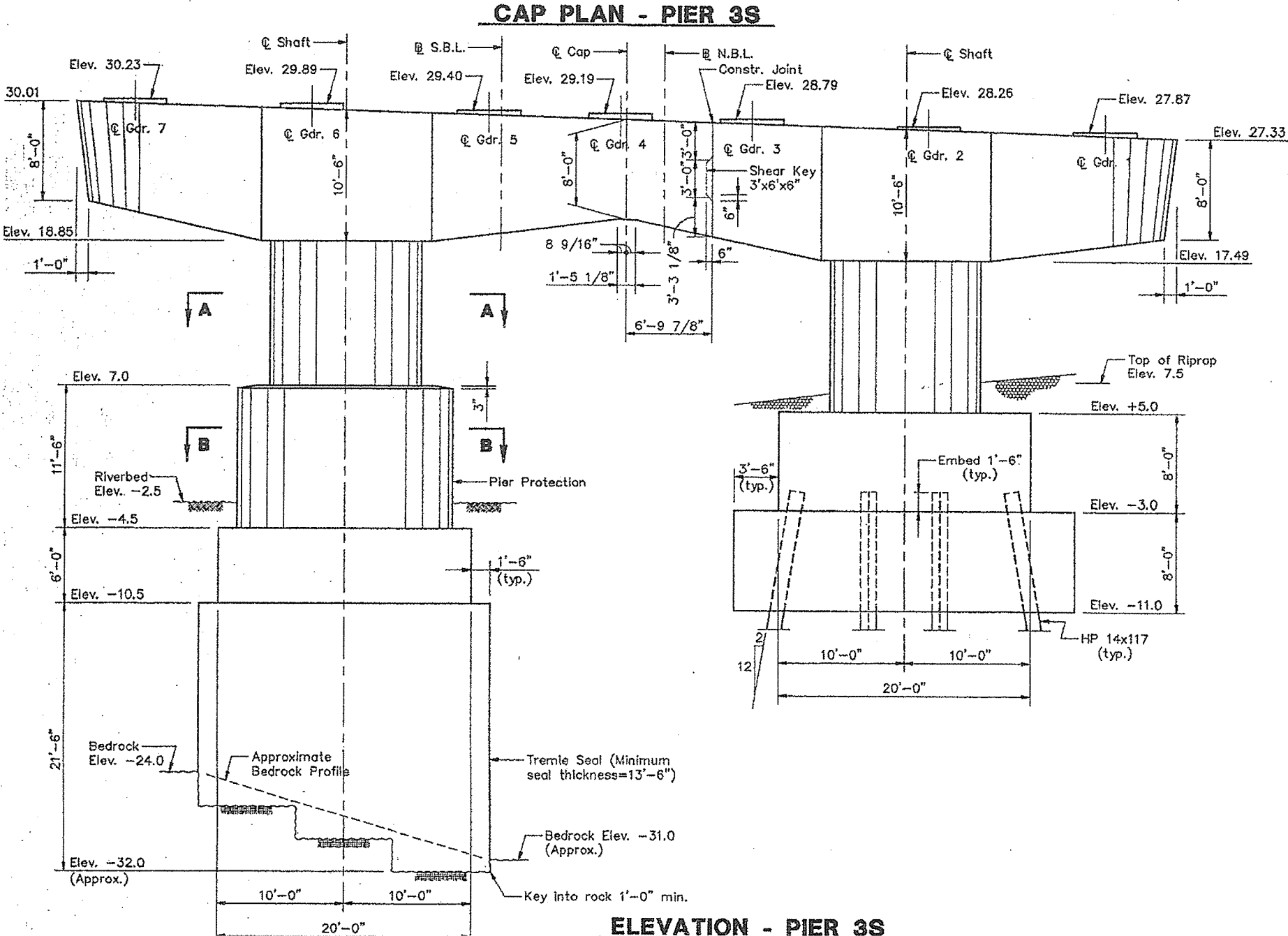
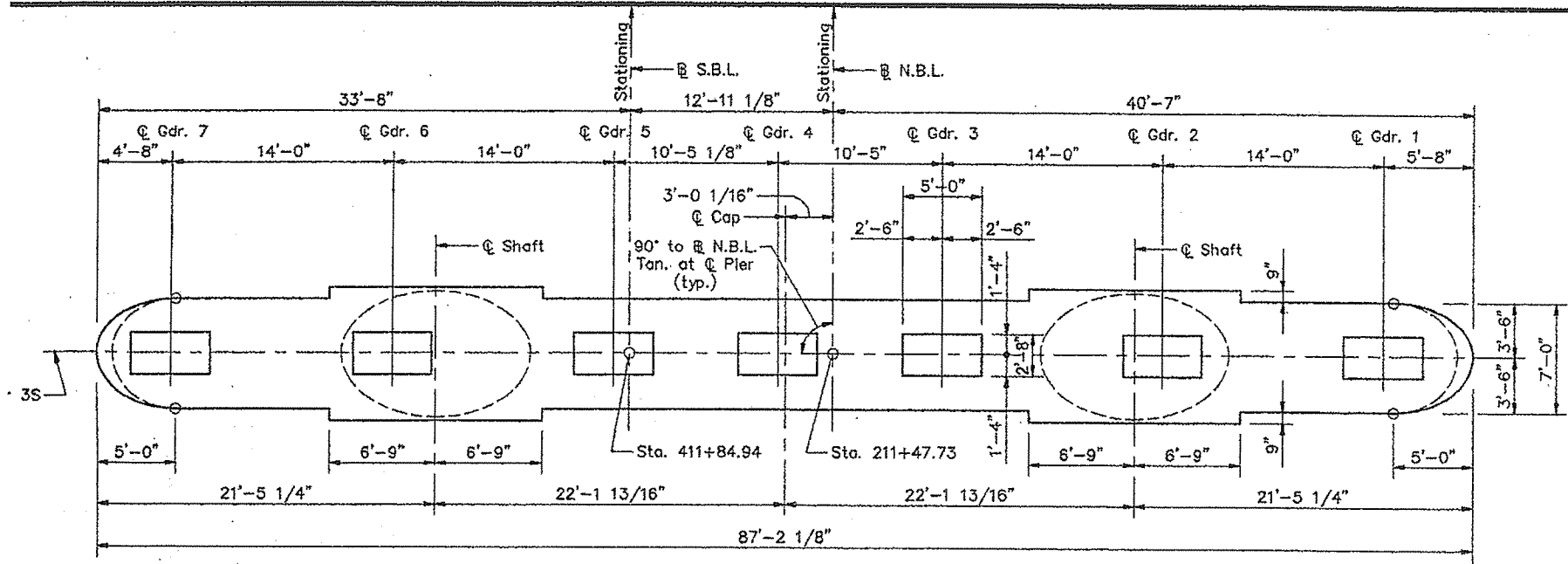
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PORTLAND - S. PORTLAND BRIDGE

OVER FORE RIVER

CUMBERLAND COUNTY

PLAN AND ELEVATION
PIER 2S



Notes:
 Pier elevation shown looking up station.
 Transverse dimensions on Cap Plan are measured radial to N.B.L.
 Bedrock elevation is approximate.
 Benching of bedrock for Pier 3S (S.B.L.) is based on an approximate profile and shall be verified in the field. See General Notes for benching requirements.

Plan view of the bridge showing the layout of the bridge deck, piers, and abutments. The diagram includes dimensions for the bridge deck, piers, and abutments, as well as stationing and centerline information. Key features include the bridge deck, piers, abutments, and the centerline of the bridge. Dimensions are given in feet and inches. Stationing is provided for the bridge centerline and the centerline of the bridge deck. The diagram also shows the location of the bridge piers and abutments relative to the centerline.

[illegible]

Stationing

C. Pier

Elev. -8.5

Elev. -14.5

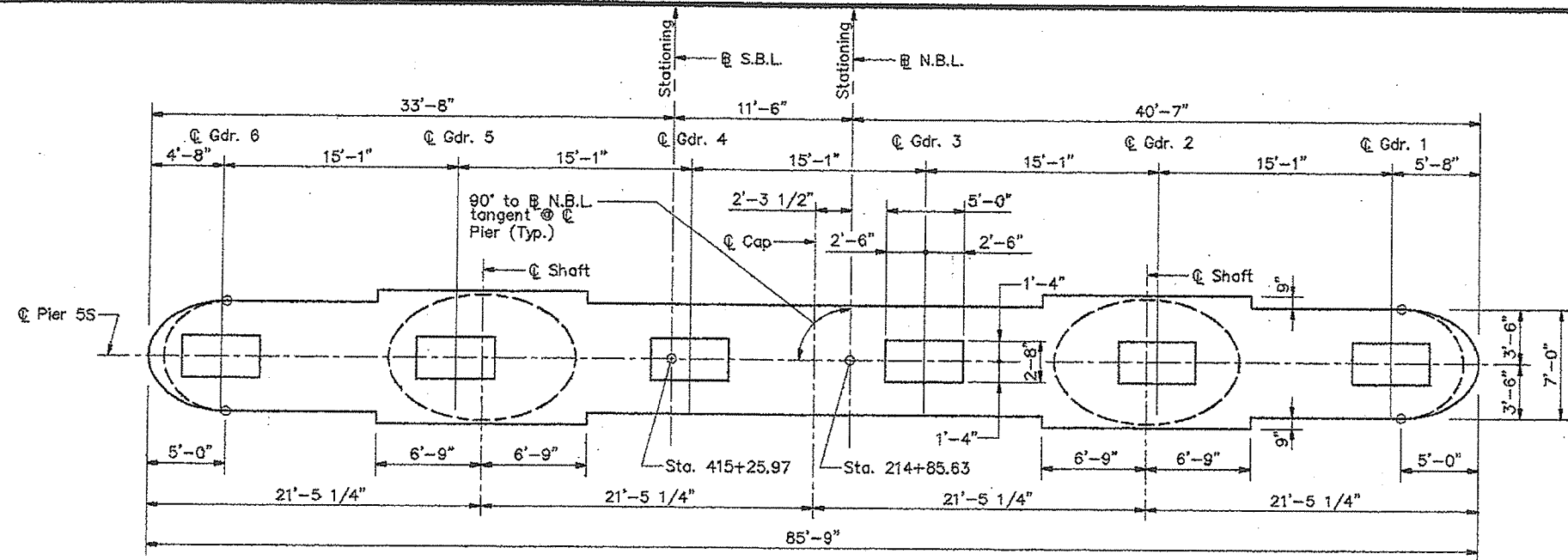
8'-0" 8'-0" 16'-0"

Notes:
Pier elevation shown looking up station.
Transverse dimensions on Cap Plan are measured
radial to @ N.B.L.
Bedrock elevation is approximate.
For placement sequence and performance criteria
of subfooting concrete, see special provision.

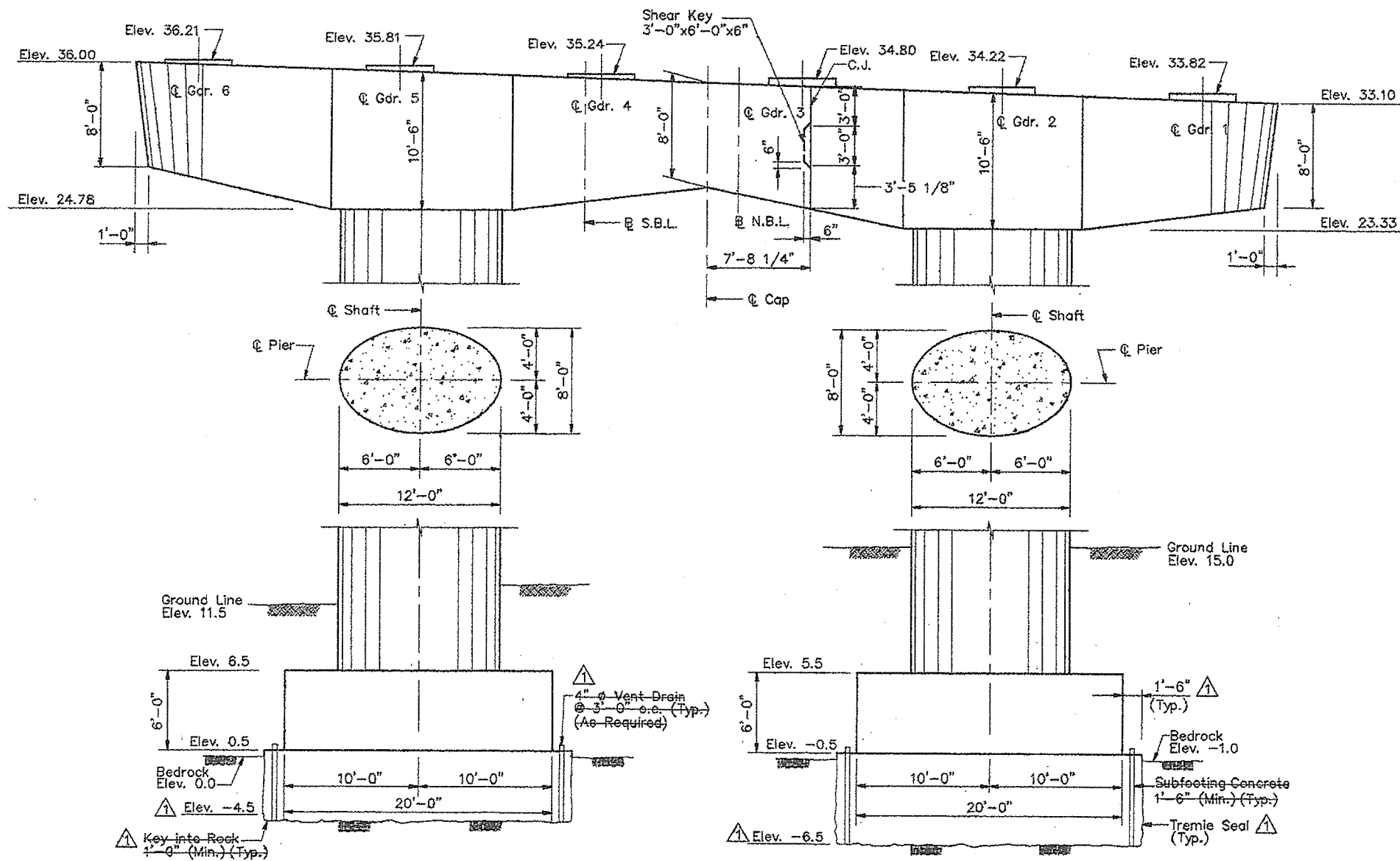
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PORTLAND - S. PORTLAND BRIDGE
OVER FORE RIVER
CUMBERLAND COUNTY

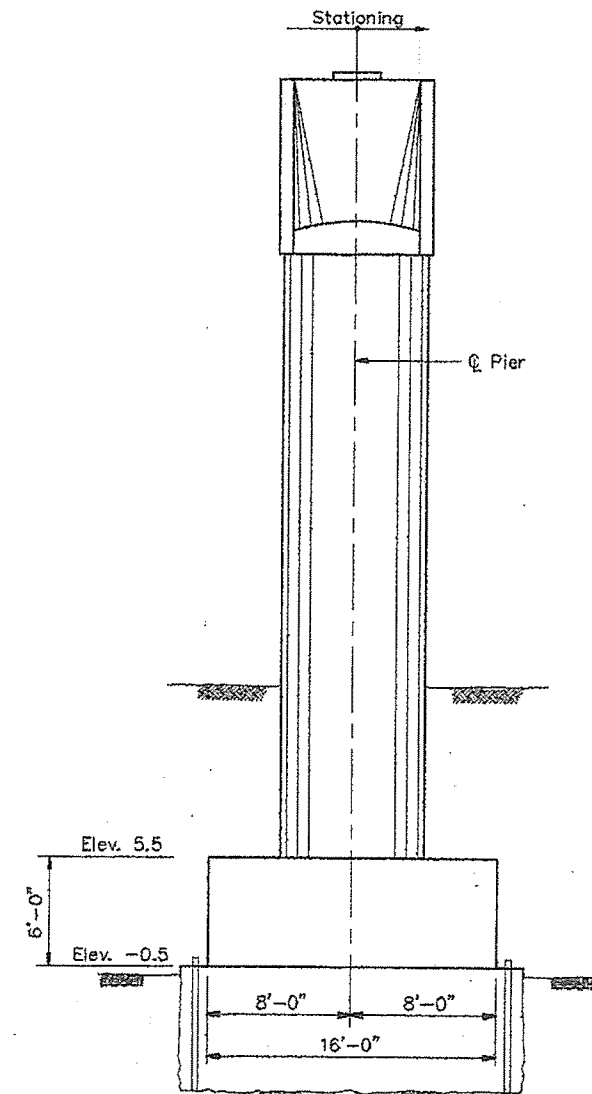
PLAN AND ELEVATION
PIER 4S



CAP PLAN - PIER 5S



ELEVATION - PIER 5S



END ELEVATION

Notes:

Pier elevation shown looking upstation.
Transverse dimensions in Cap plan measured radial to N.B.L.

Bedrock elevation is approximate.

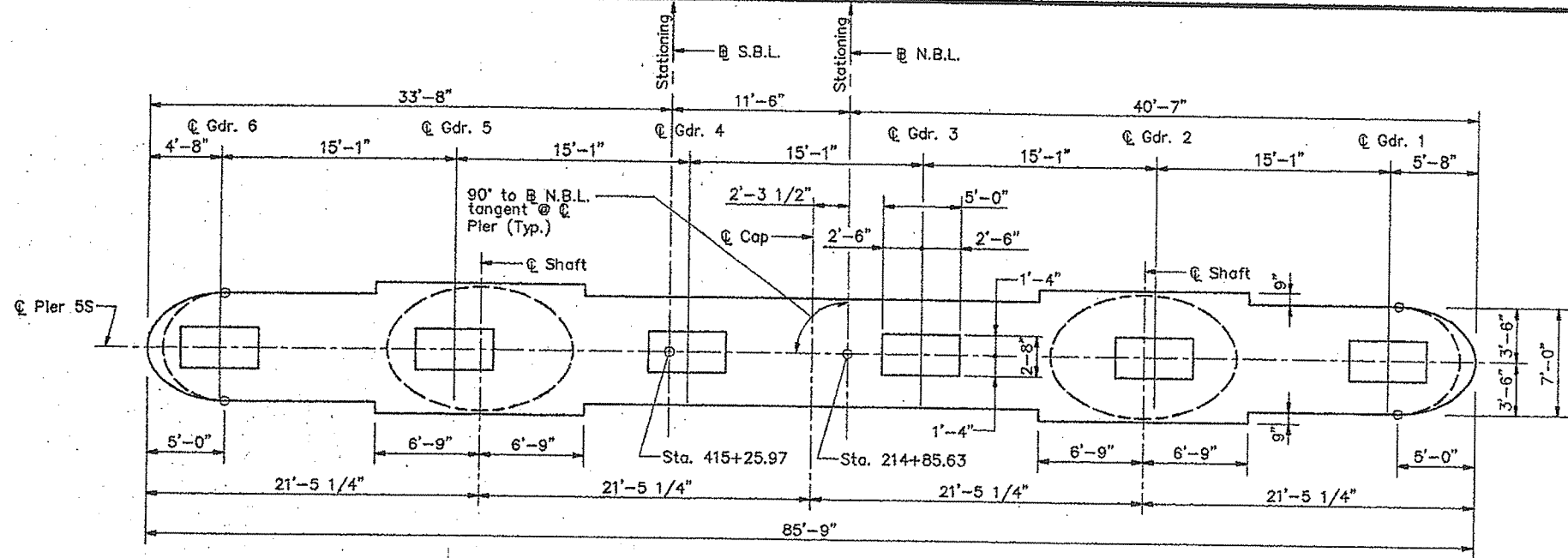
For placement sequence and performance criteria of subfooting concrete, see special provision.

Add full gravity tremie seal according to Special Provision 502 10/7/94

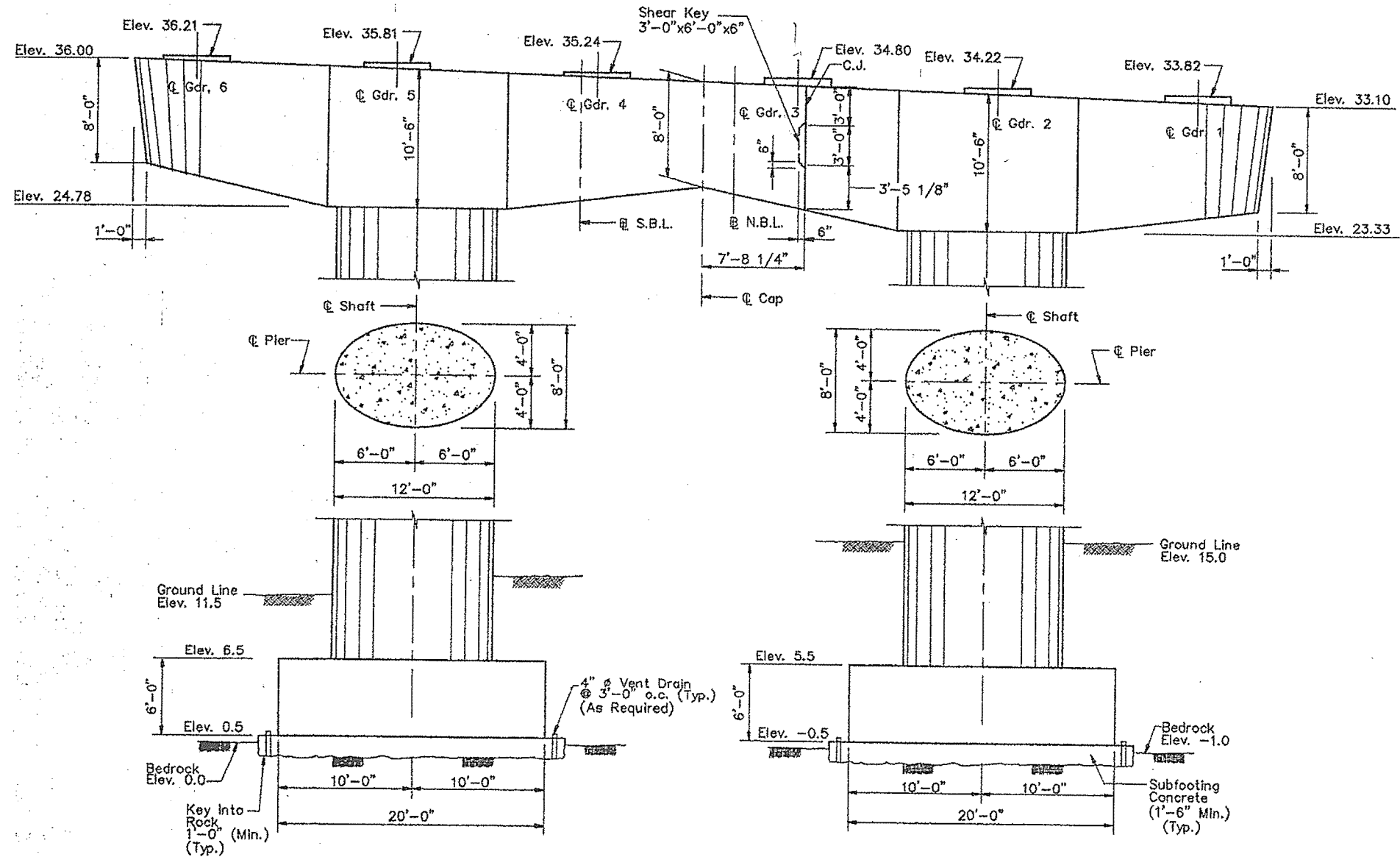
STEEL ALTERNATIVE SUBSTRUCTURE

STATE OF MAINE DEPARTMENT OF TRANSPORTATION
PORTLAND - S. PORTLAND BRIDGE OVER FORE RIVER CUMBERLAND COUNTY
PLAN & ELEVATION PIER 5S

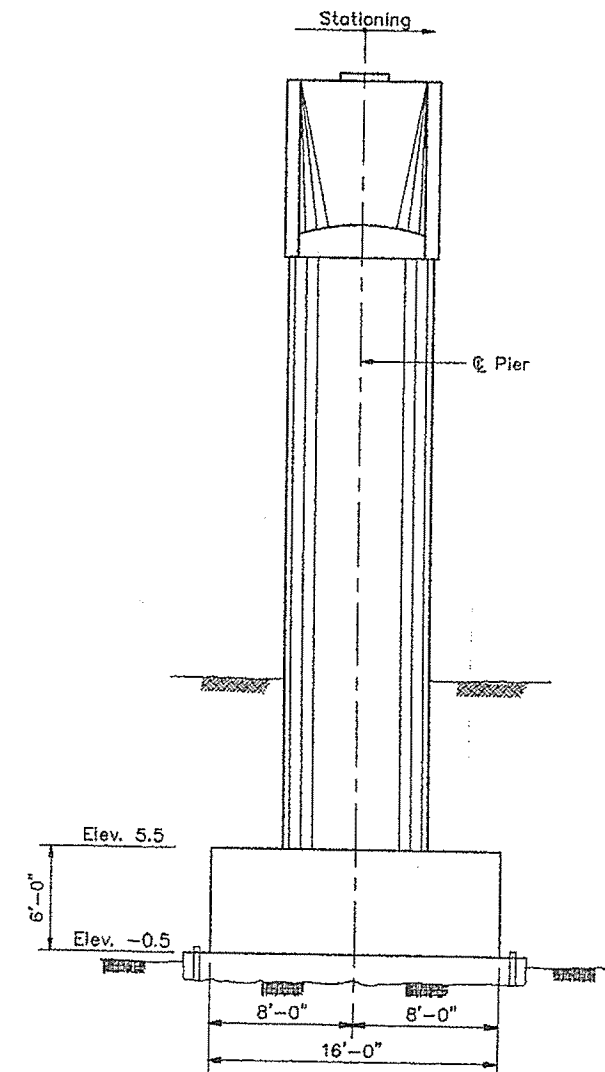
F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	DPI-0082(002)	60	220



CAP PLAN - PIER 5S



ELEVATION - PIER 5S

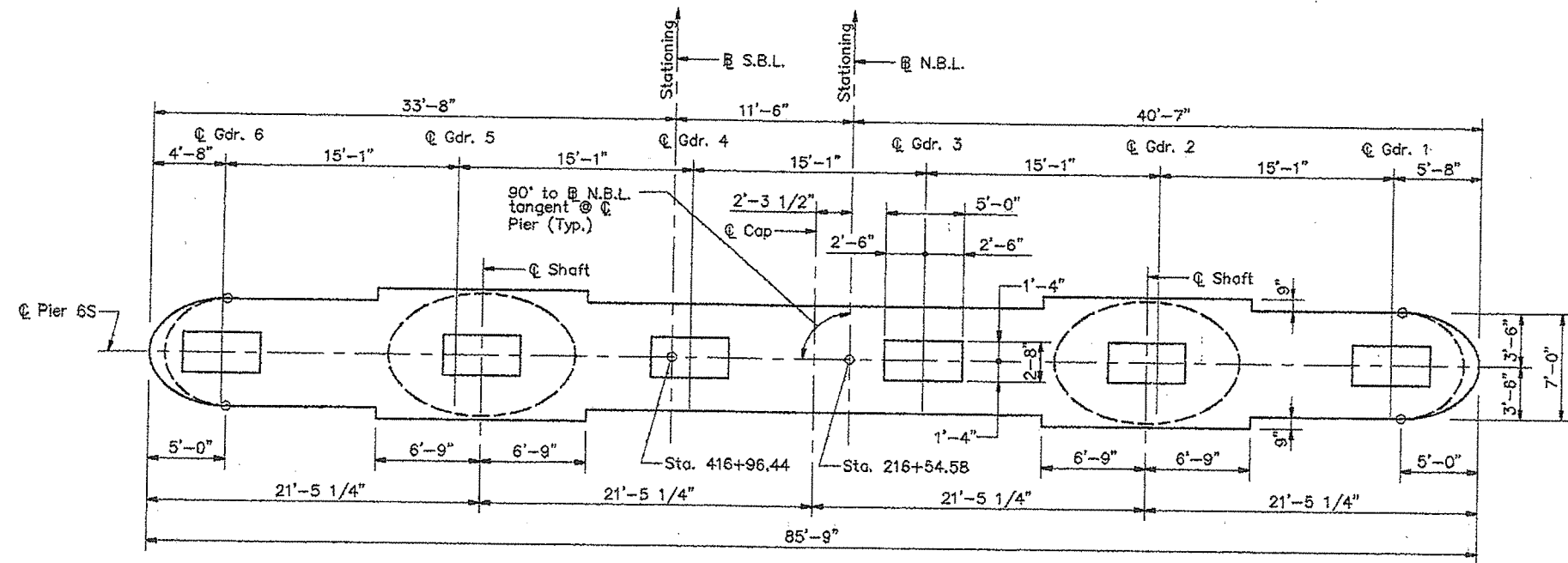


END ELEVATION

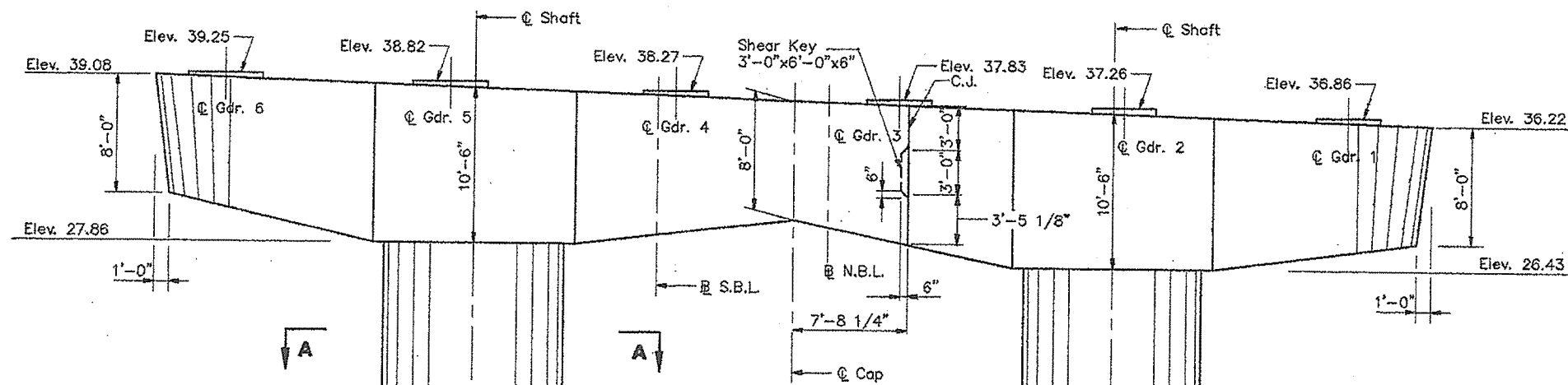
Notes:
 Pier elevation shown looking upstation.
 Transverse dimensions in Cap plan measured radial to @ N.B.L.
 Bedrock elevation is approximate.
 For placement sequence and performance criteria of subfooting concrete, see special provision.

STEEL ALTERNATIVE SUBSTRUCTURE

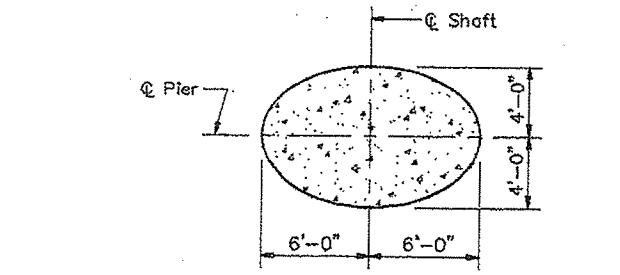
STATE OF MAINE
 DEPARTMENT OF TRANSPORTATION
PORTLAND - S. PORTLAND BRIDGE
OVER FORE RIVER
CUMBERLAND COUNTY
PLAN & ELEVATION
PIER 5S



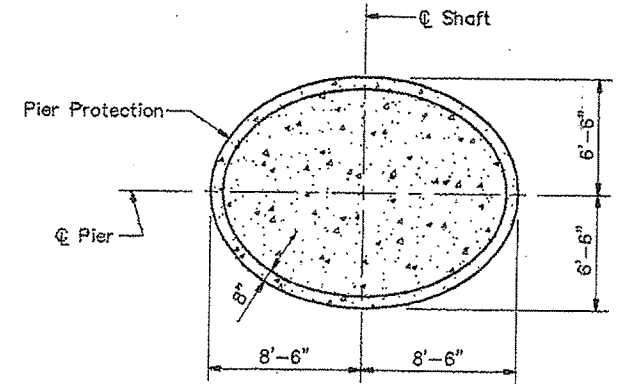
CAP PLAN - PIER 6S



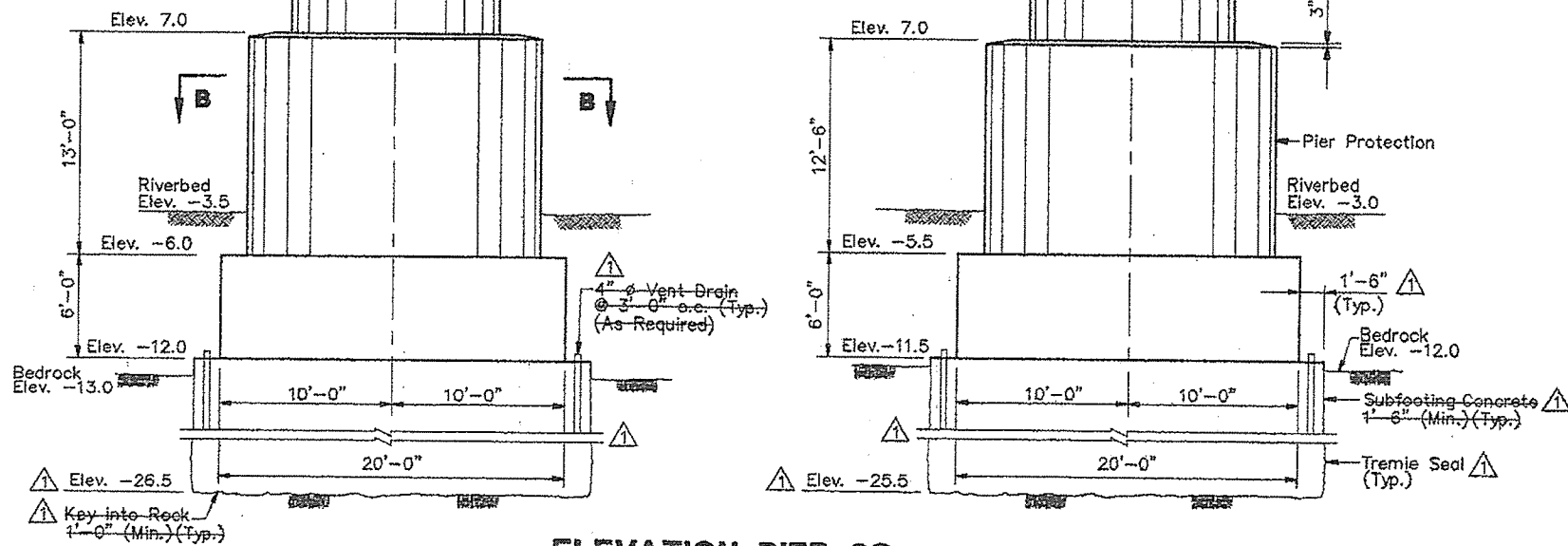
ELEVATION PIER 6S



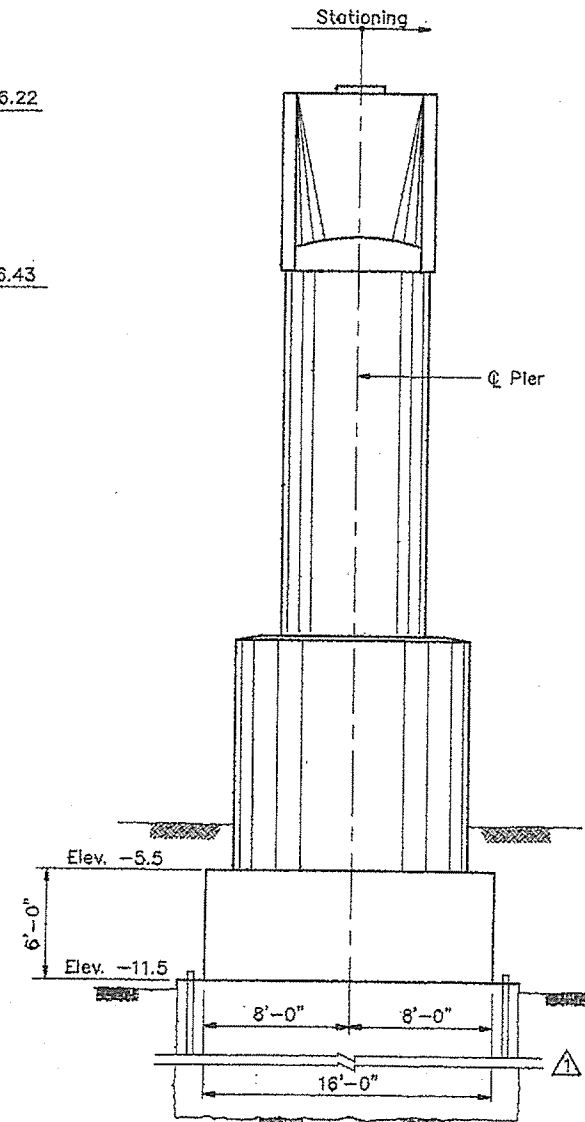
SECTION A-A



SECTION B-B



ELEVATION PIER 6S



END ELEVATION

Notes:

Pier elevation shown looking upstation.
Transverse dimensions in Cap plan measured
radial to @ N.B.L.

Bedrock elevation is approximate.

For placement sequence and performance
criteria of subfooting concrete, see
special provision.

Add full gravity tremie seal according to
Special Provision 502 10/7/94.

STEEL ALTERNATIVE SUBSTRUCTURE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

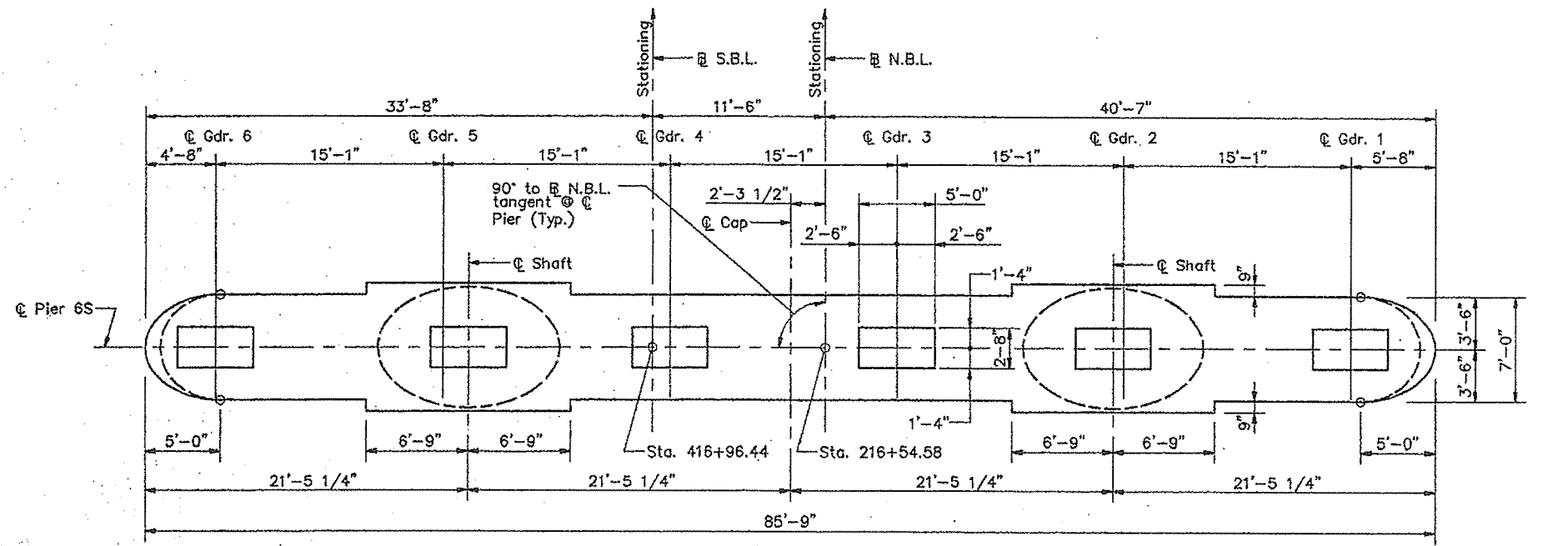
PORTLAND - S. PORTLAND BRIDGE

OVER FORE RIVER

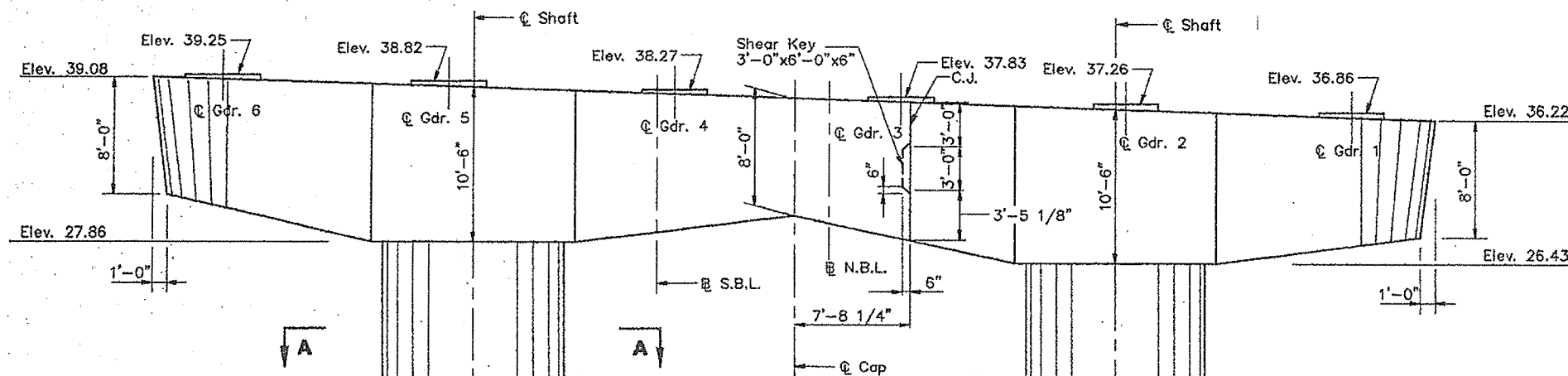
CUMBERLAND COUNTY

**PLAN & ELEVATION
PIER 6S**

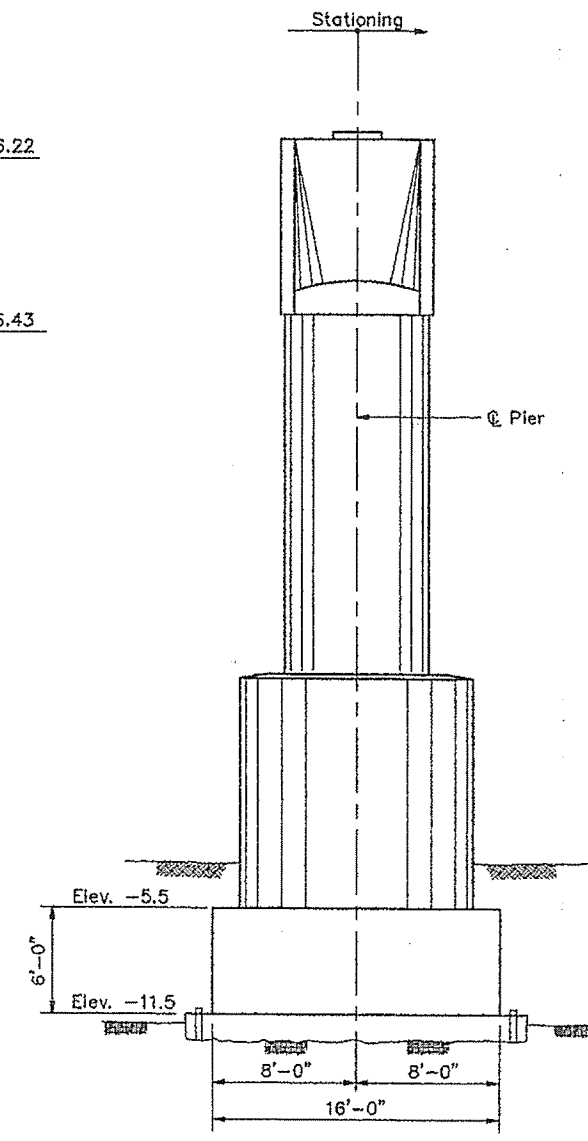
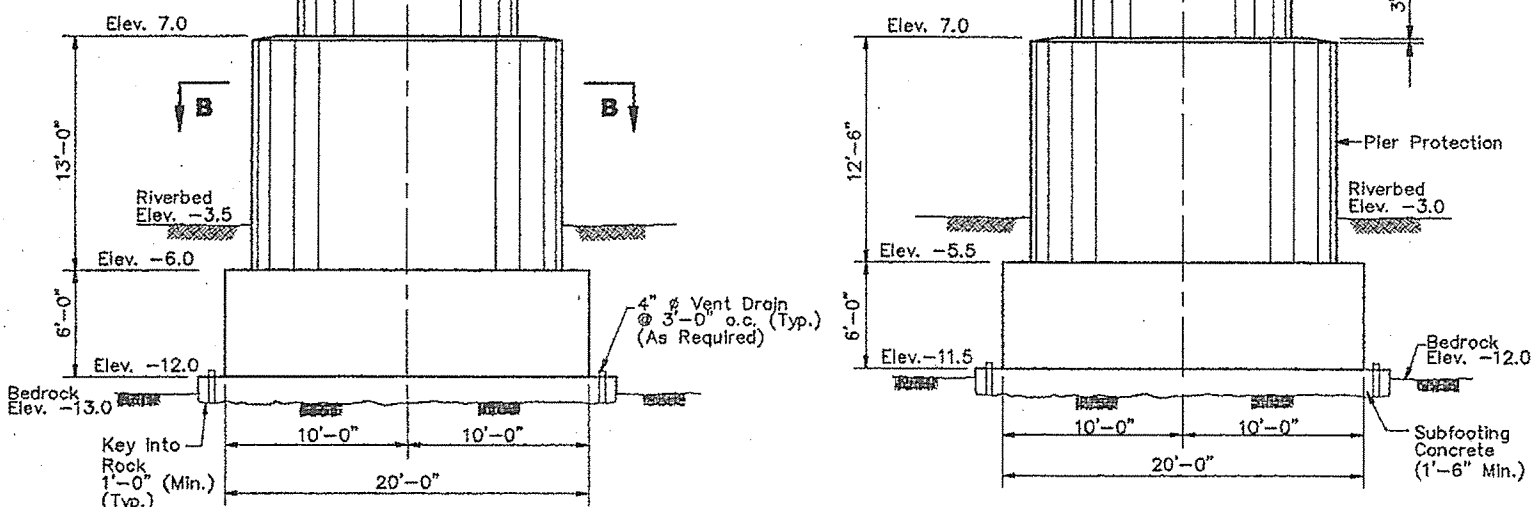
SHEET 51 OF 338 AUGUSTA, MAINE



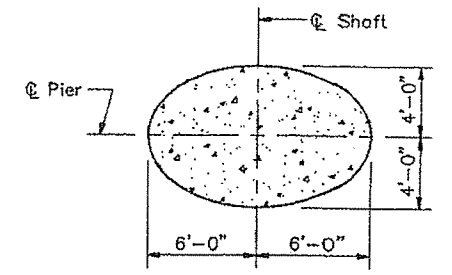
CAP PLAN - PIER 6S



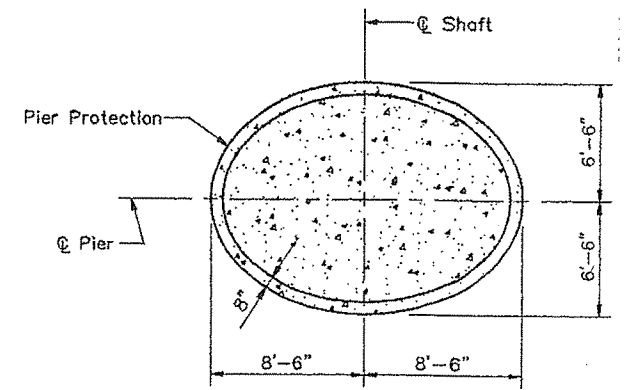
ELEVATION PIER 6S



END ELEVATION



SECTION A-A

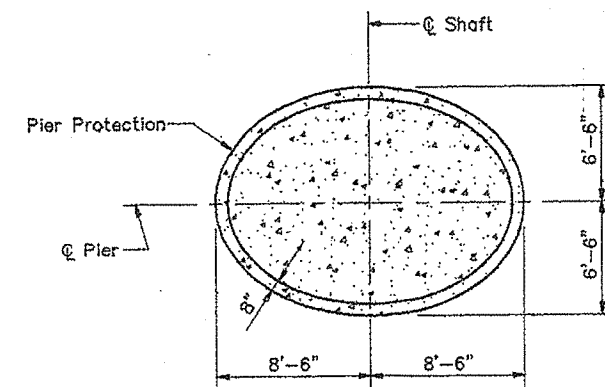
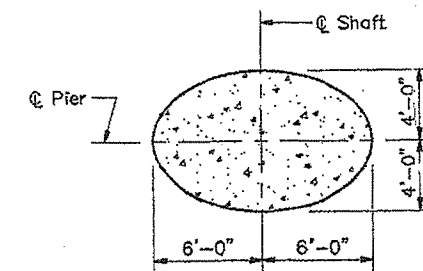
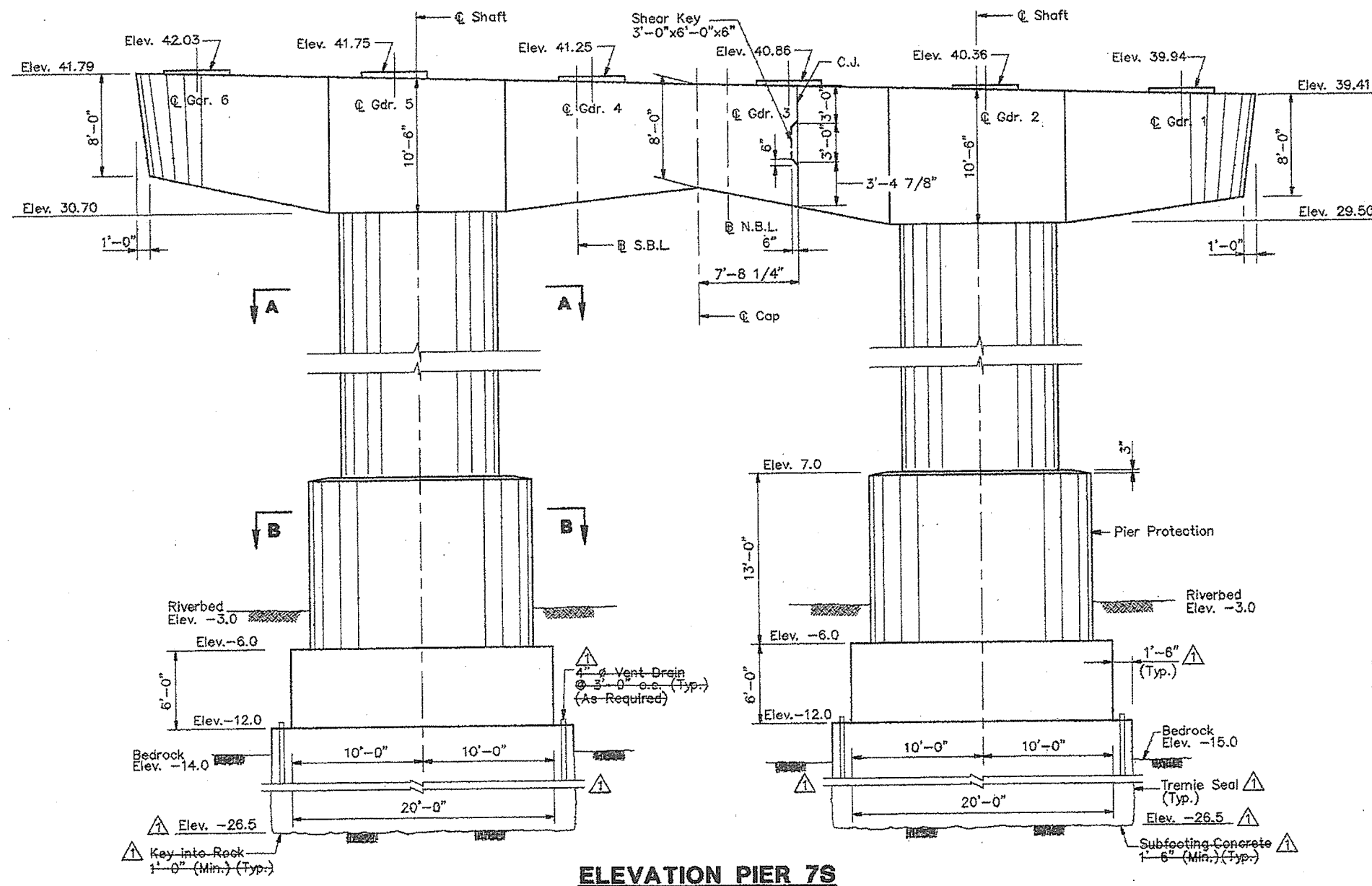
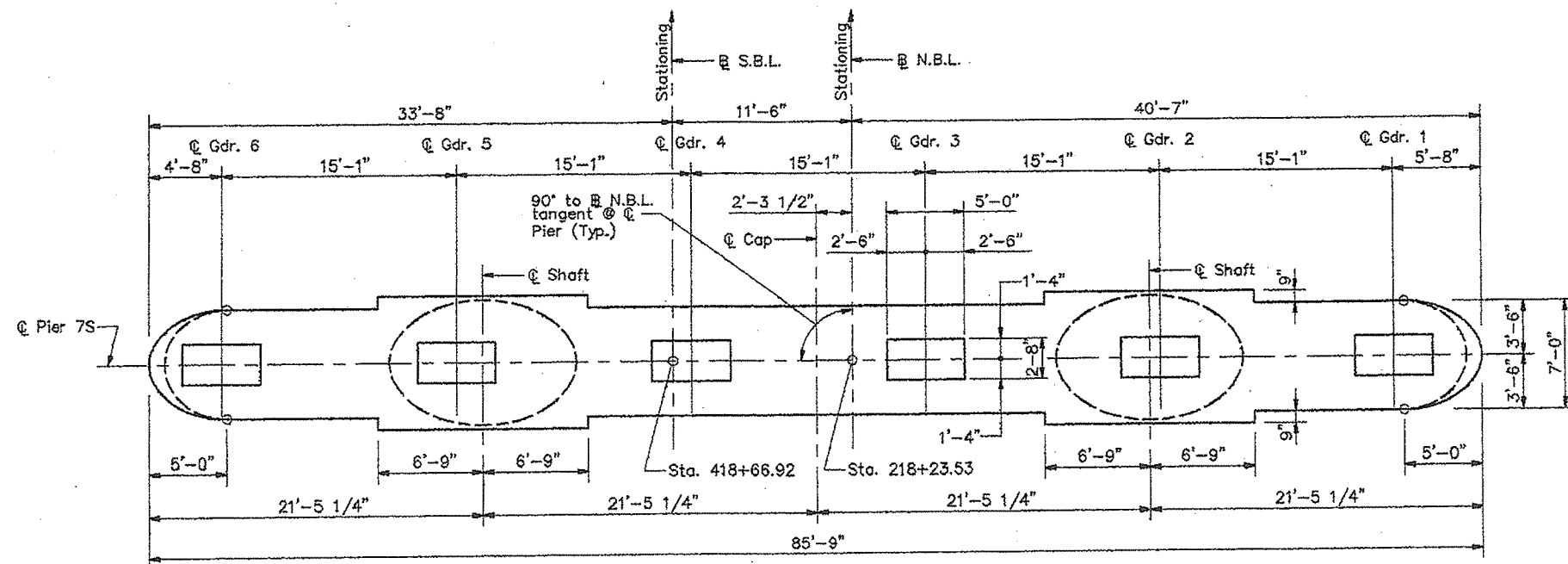


SECTION B-B

Notes:
 Pier elevation shown looking upstation.
 Transverse dimensions in Cap plan measured radial to N.B.L.
 Bedrock elevation is approximate.
 For placement sequence and performance criteria of subfooting concrete, see special provision.

STEEL ALTERNATIVE SUBSTRUCTURE

STATE OF MAINE
 DEPARTMENT OF TRANSPORTATION
PORTLAND - S. PORTLAND BRIDGE
OVER FORE RIVER
CUMBERLAND COUNTY
PLAN & ELEVATION
PIER 6S



Notes:

Pier elevation shown looking upstation.
Transverse dimensions in Cap plan measured radial to N.B.L.

Bedrock elevation is approximate.

For placement sequence and performance criteria of subfooting concrete, see special provision.

Add full gravity tremie seal according to Special Provision 502 10/7/94

STEEL ALTERNATIVE SUBSTRUCTURE

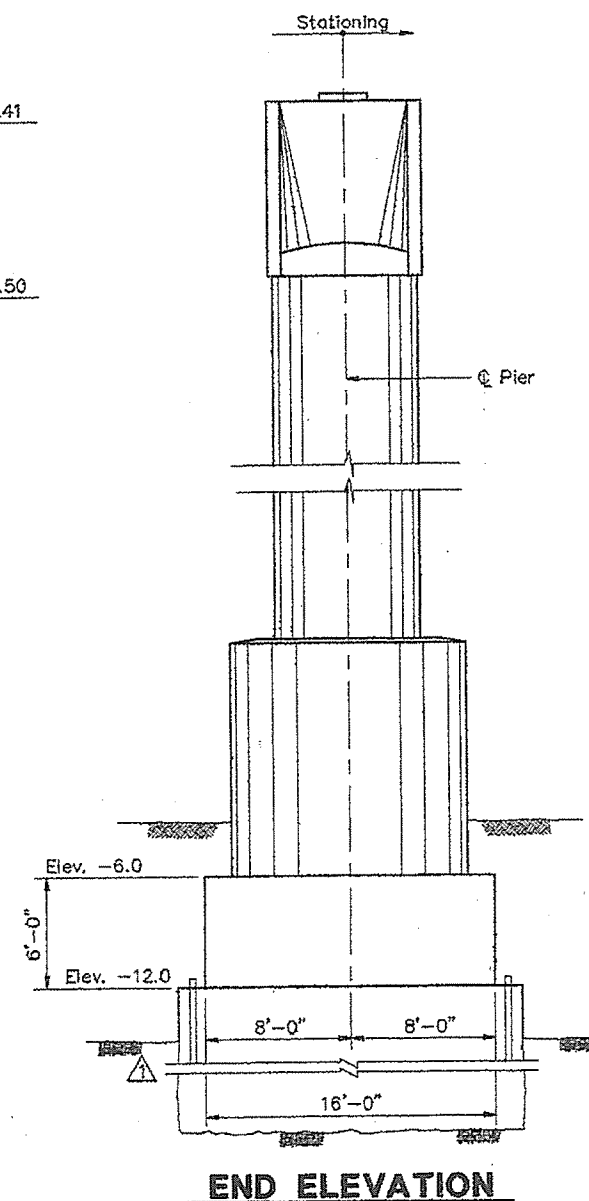
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PORTLAND - S. PORTLAND BRIDGE

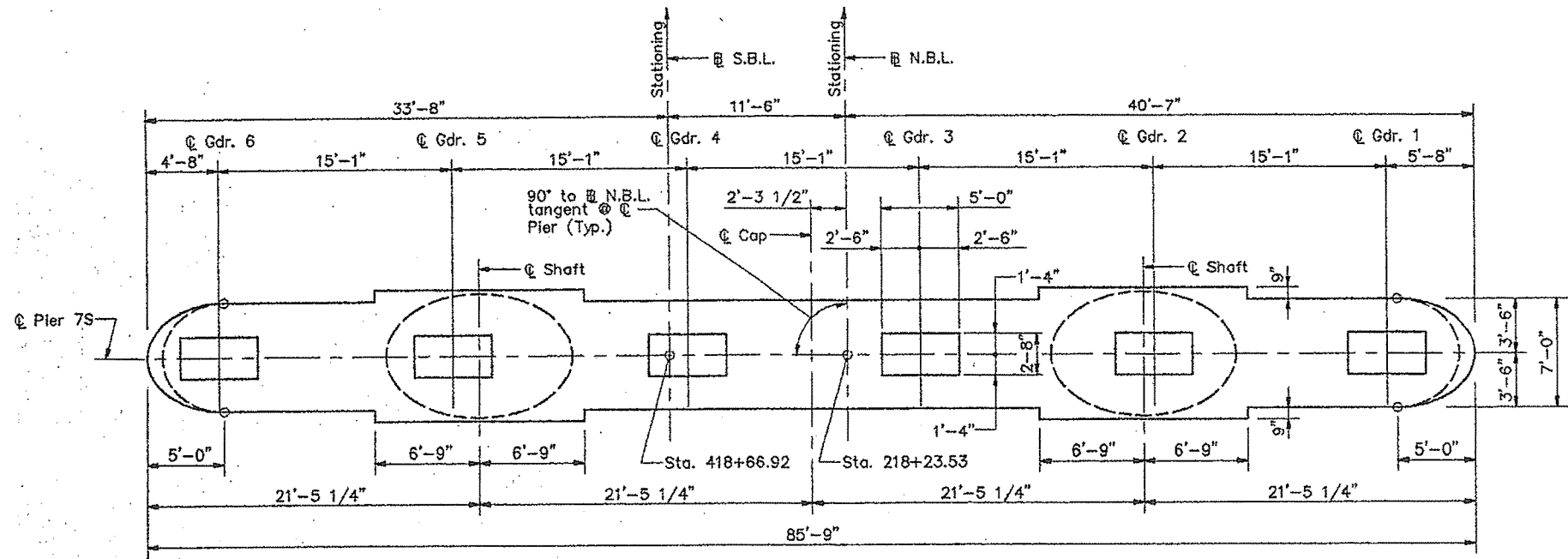
OVER FORE RIVER

GUMBERLAND COUNTY

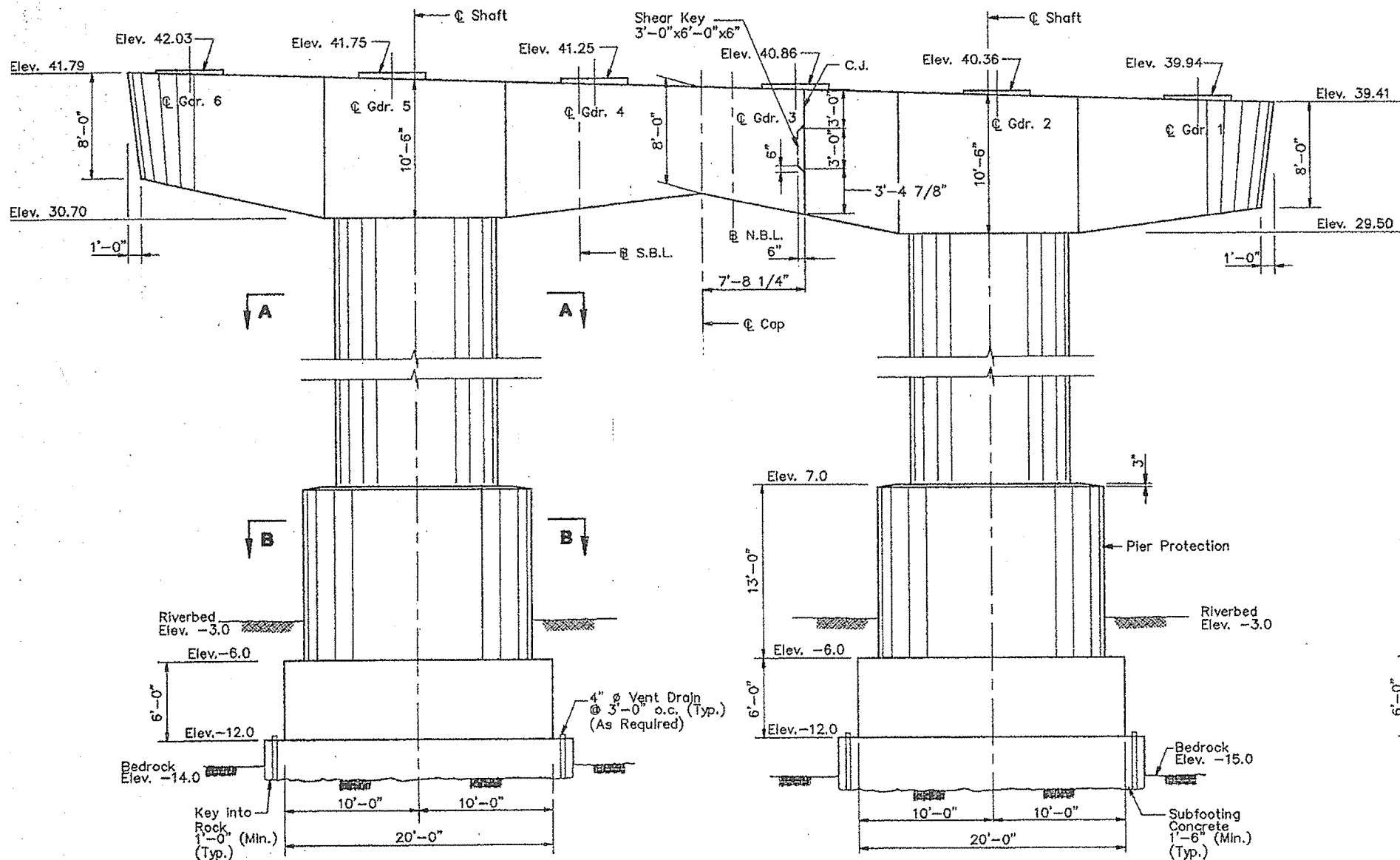
**PLAN & ELEVATION
PIER 7S**



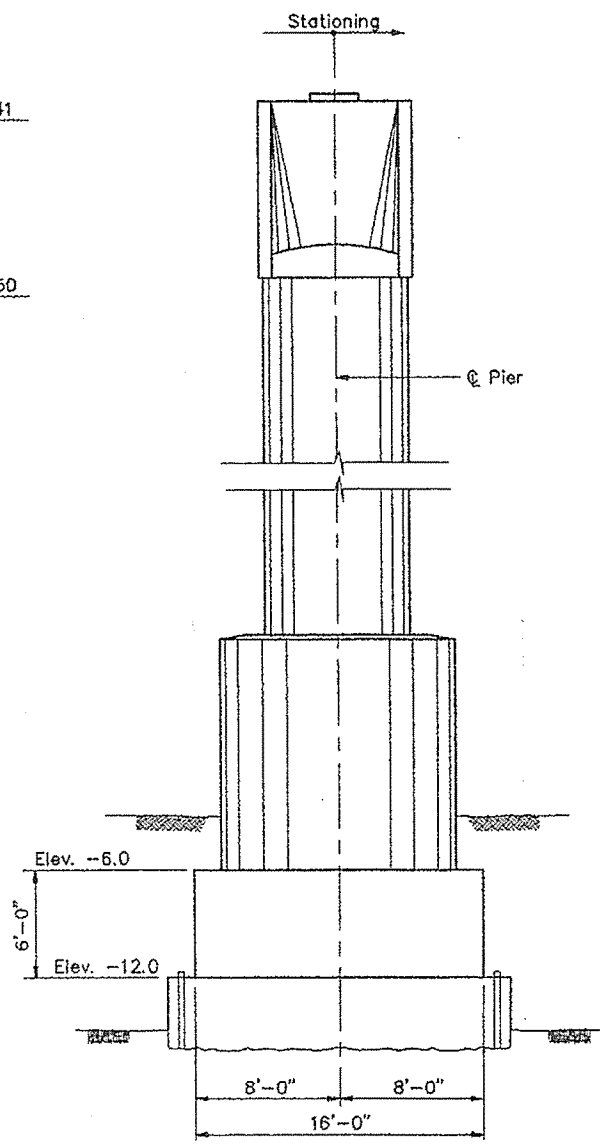
F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	DPI-0088(002)	62	438



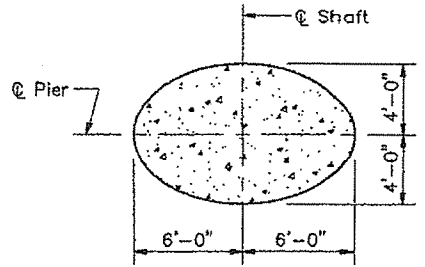
CAP PLAN - PIER 7S



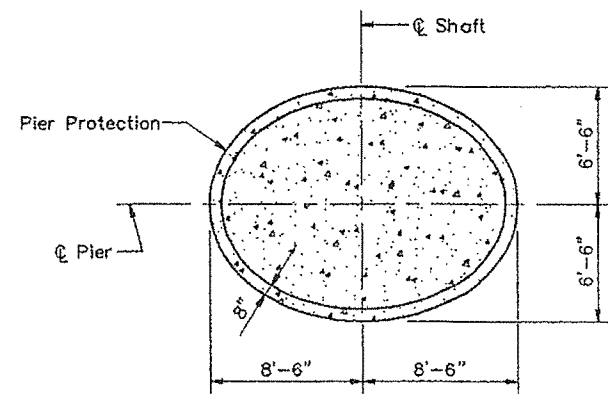
ELEVATION PIER 7S



END ELEVATION



SECTION A-A



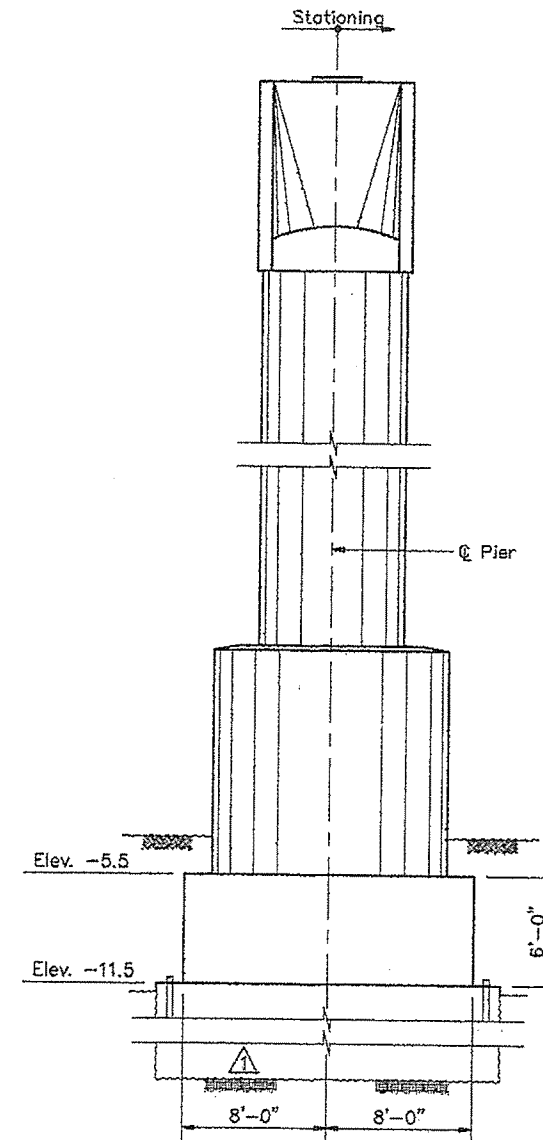
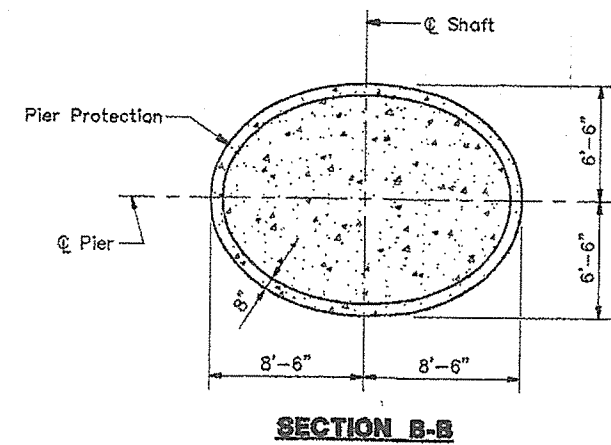
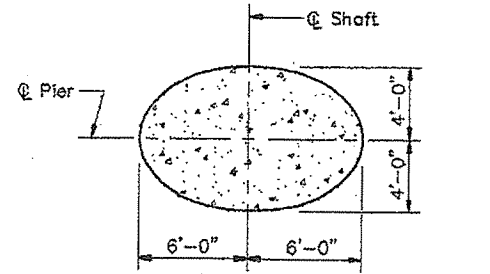
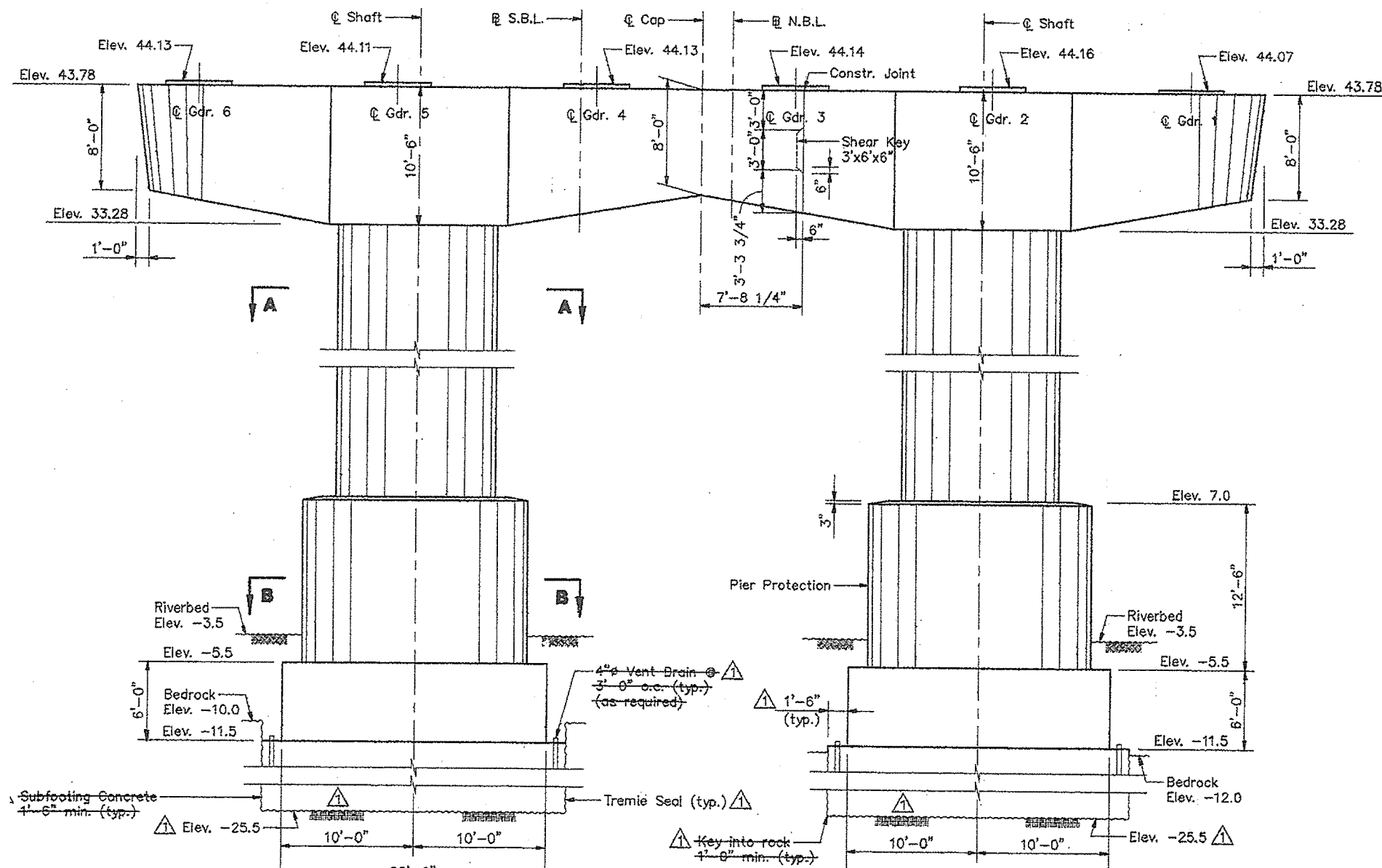
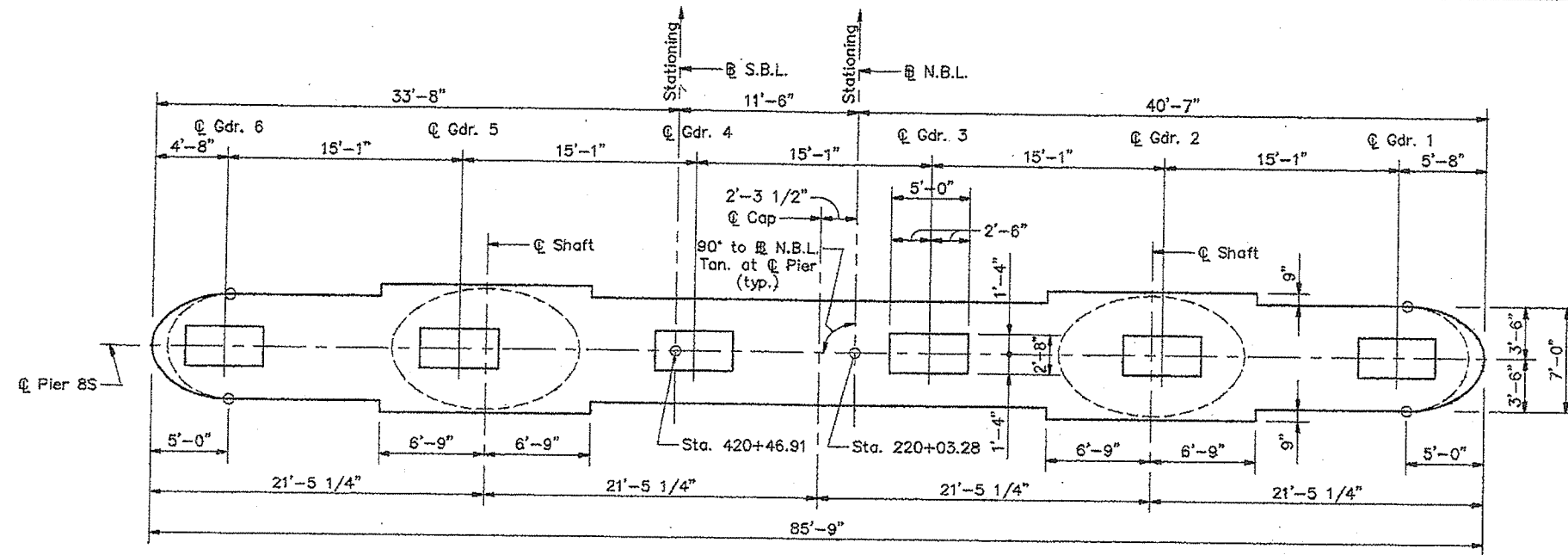
SECTION B-B

Notes:
 Pier elevation shown looking upstation.
 Transverse dimensions in Cap plan measured radial to N.B.L.
 Bedrock elevation is approximate.
 For placement sequence and performance criteria of subfooting concrete, see special provision.

STEEL ALTERNATIVE SUBSTRUCTURE

STATE OF MAINE DEPARTMENT OF TRANSPORTATION
PORTLAND - S. PORTLAND BRIDGE OVER FORE RIVER CUMBERLAND COUNTY
PLAN & ELEVATION PIER 7S

F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	DPI-0068(002)	53	336



△ Add full gravity tremie seal according to Special Provision 502 10/7/94

Notes:
Pier elevation shown looking up station.
Transverse dimensions on Cap Plan are measured radial to N.B.L.
Bedrock elevation is approximate.
For placement sequence and performance criteria of subfooting concrete, see special provision.

STEEL ALTERNATIVE SUBSTRUCTURE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PORTLAND - S. PORTLAND BRIDGE

OVER FORE RIVER

CUMBERLAND COUNTY

Diagram illustrating the dimensions of a shaft and pier connection. The shaft has a diameter of 4'-0". The pier has a width of 6'-0" on each side of the shaft, resulting in a total pier width of 12'-0". The pier height is 4'-0".

A detailed cross-sectional diagram of a circular pier. The diagram shows a central core with a diameter of 8' and an outer shell with a total diameter of 8'-6". The core is filled with a stippled pattern representing reinforcement. The outer shell is also stippled. Labels include 'Pier Protection' pointing to the outer shell, '8' Shaft' pointing to the central core, and '8'-6" Pier' pointing to the outer diameter. Dimensions are given as 8'-6" for the total diameter and 8' for the core diameter.

Stationing

8'-0"

8'-0"

16'-0"

Elev. -5.5

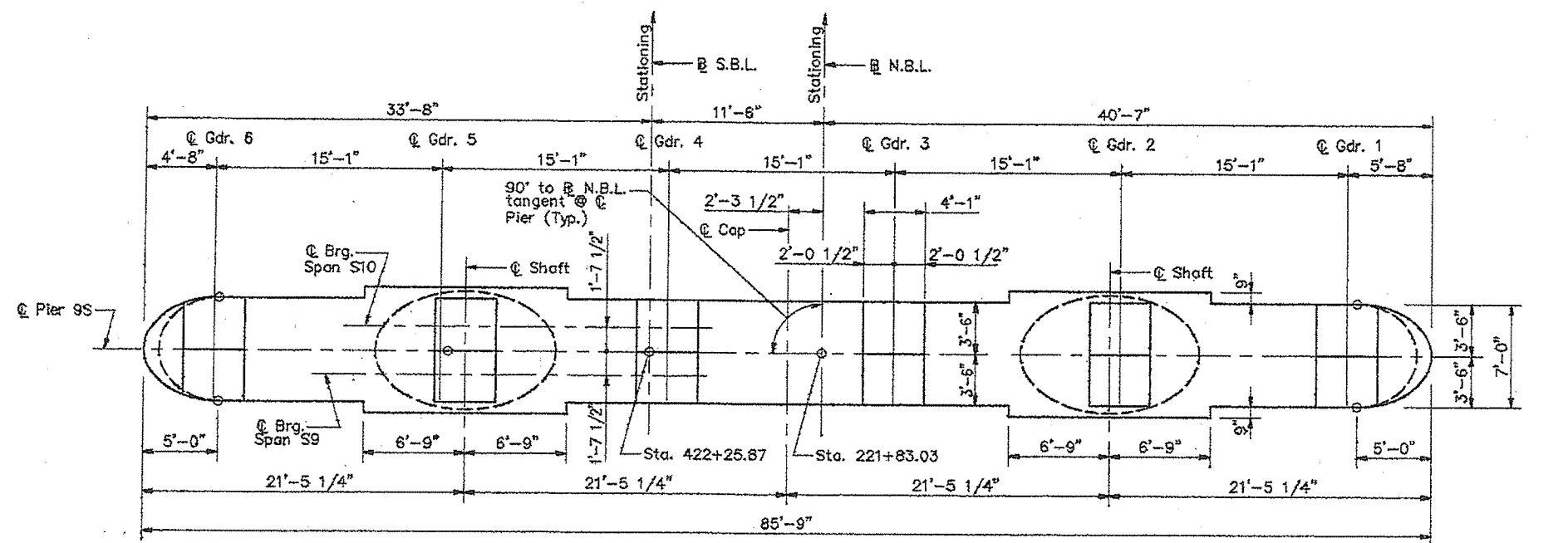
Elev. -11.5

C Pier

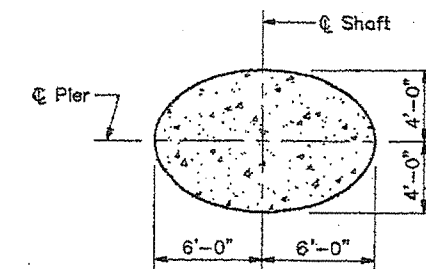
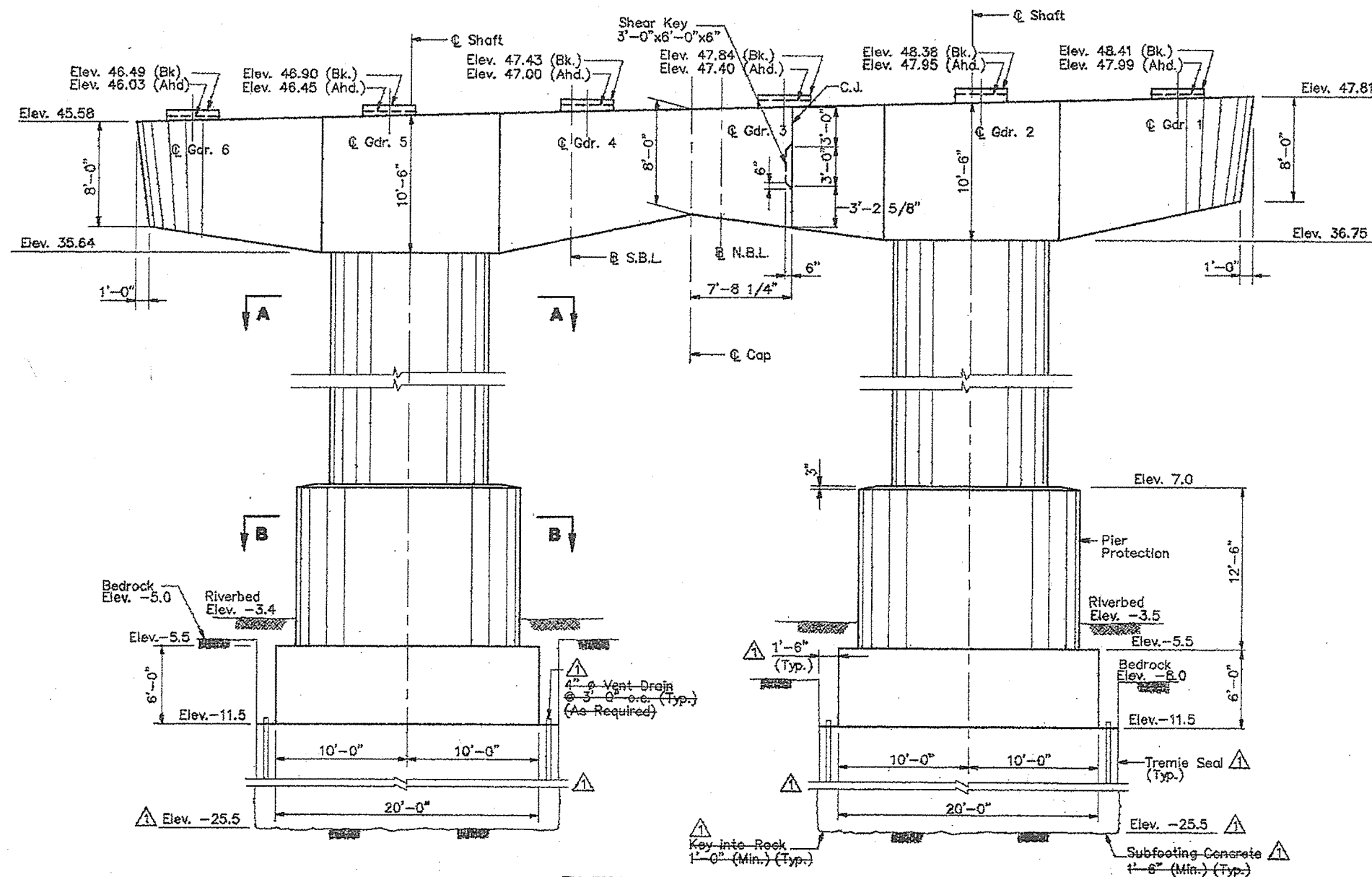
Notes:
Pier elevation shown looking up station.
Transverse dimensions on Cap Plan are measured radial to \mathbb{R} N.B.L.
Bedrock elevation is approximate.
For placement sequence and performance criteria of subfooting concrete, see special provision.

PLAN AND ELEVATION PIER 8S

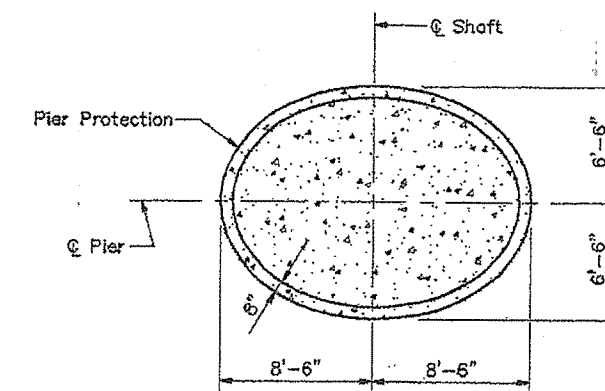
F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	OPR-0068(002)	54	338



CAP PLAN - PIER 9S



SECTION A-A

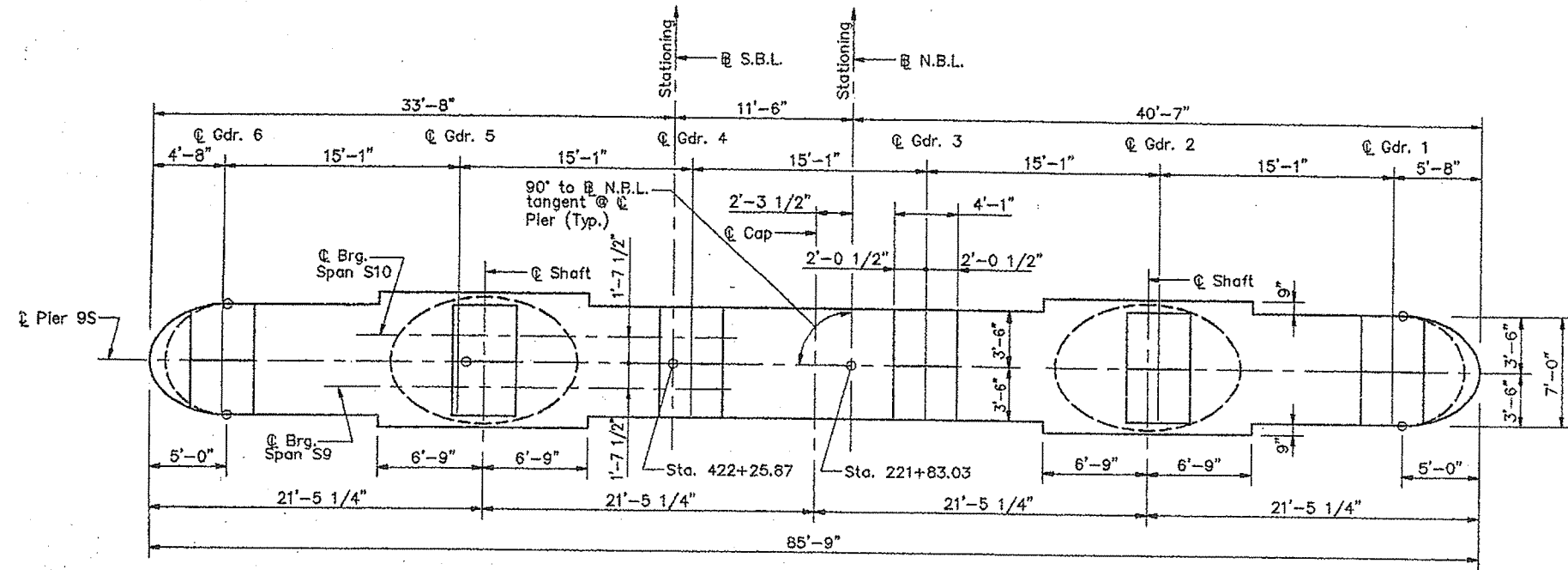


SECTION B-B

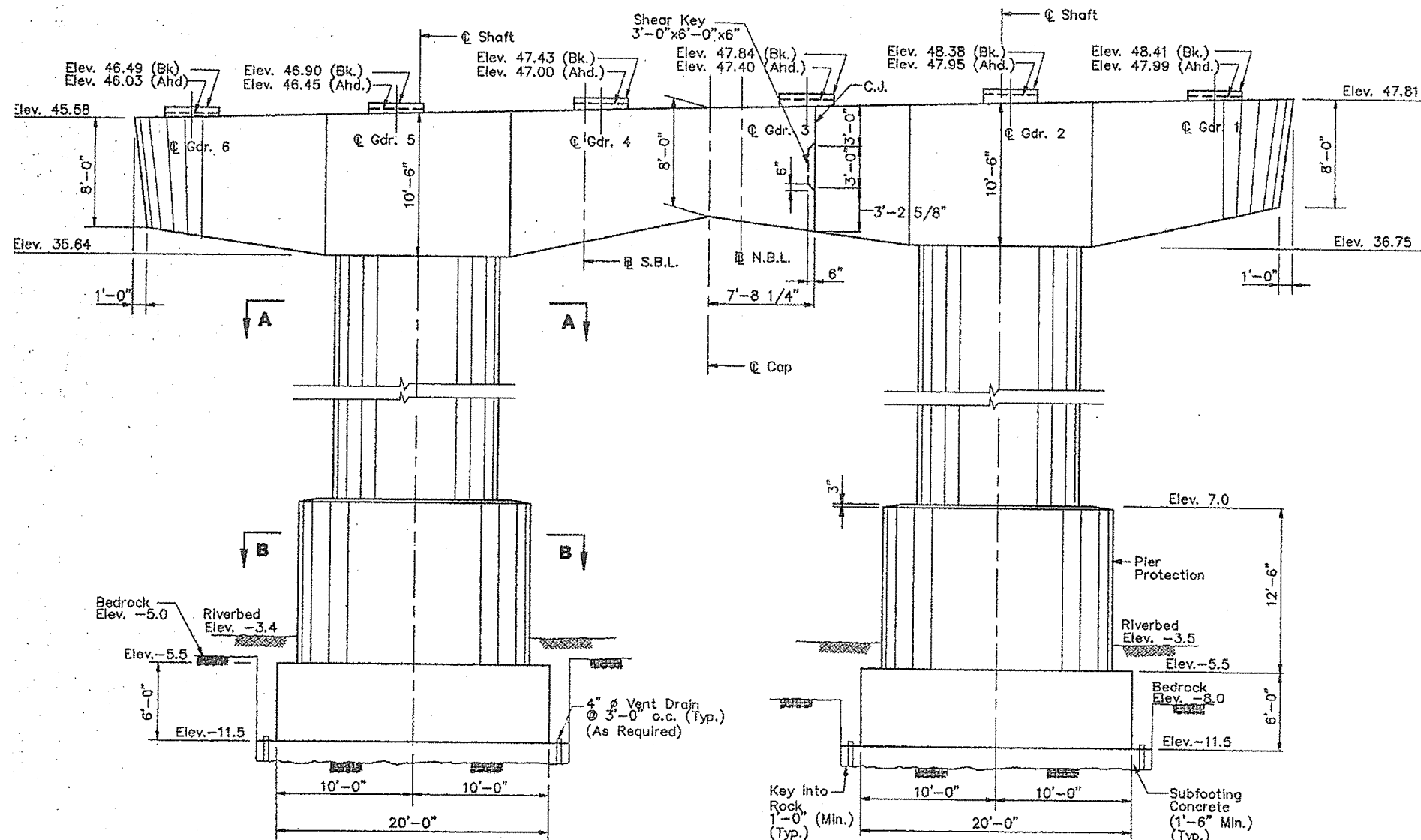
- Notes:
- Pier elevation shown looking upstation. Transverse dimensions in Cap plan measured radial to N.B.L.
 - Bedrock elevation is approximate.
 - For placement sequence and performance criteria of subfooting concrete, see special provision.
 - Add full gravity tremie seal according to Special Provision 502 10/7/94

STEEL ALTERNATIVE SUBSTRUCTURE

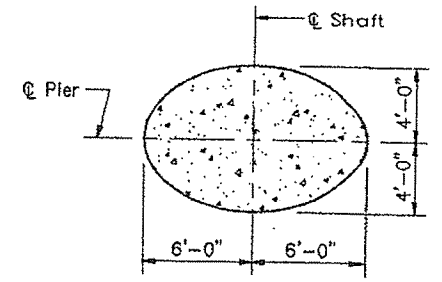
STATE OF MAINE DEPARTMENT OF TRANSPORTATION
PORTLAND - S. PORTLAND BRIDGE
OVER FORE RIVER
CUMBERLAND COUNTY
PLAN & ELEVATION



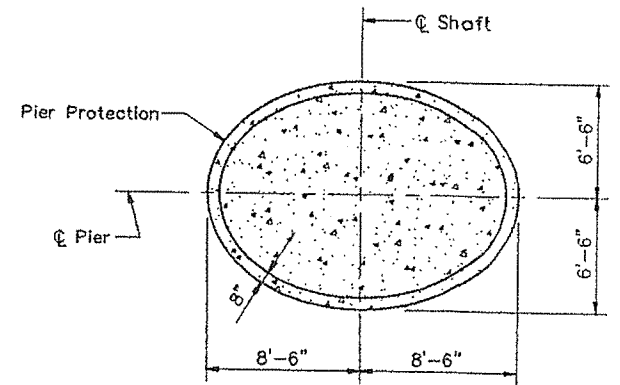
CAP PLAN - PIER 9S



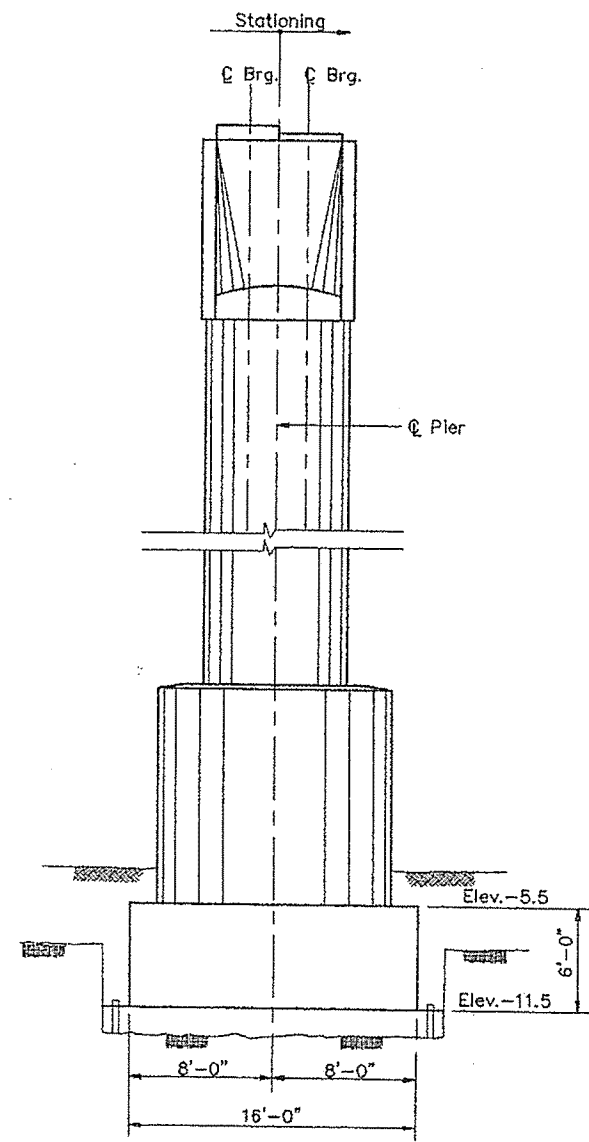
ELEVATION PIER 9S



SECTION A-A



SECTION B-B

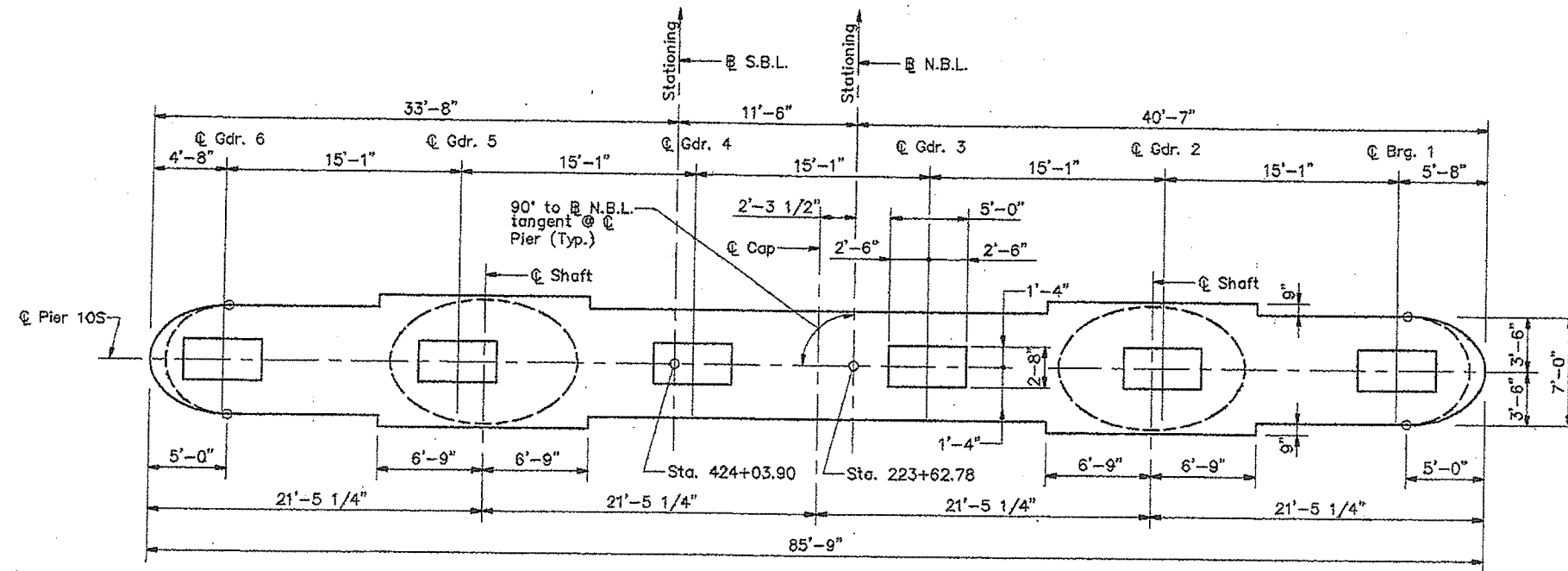


END ELEVATION

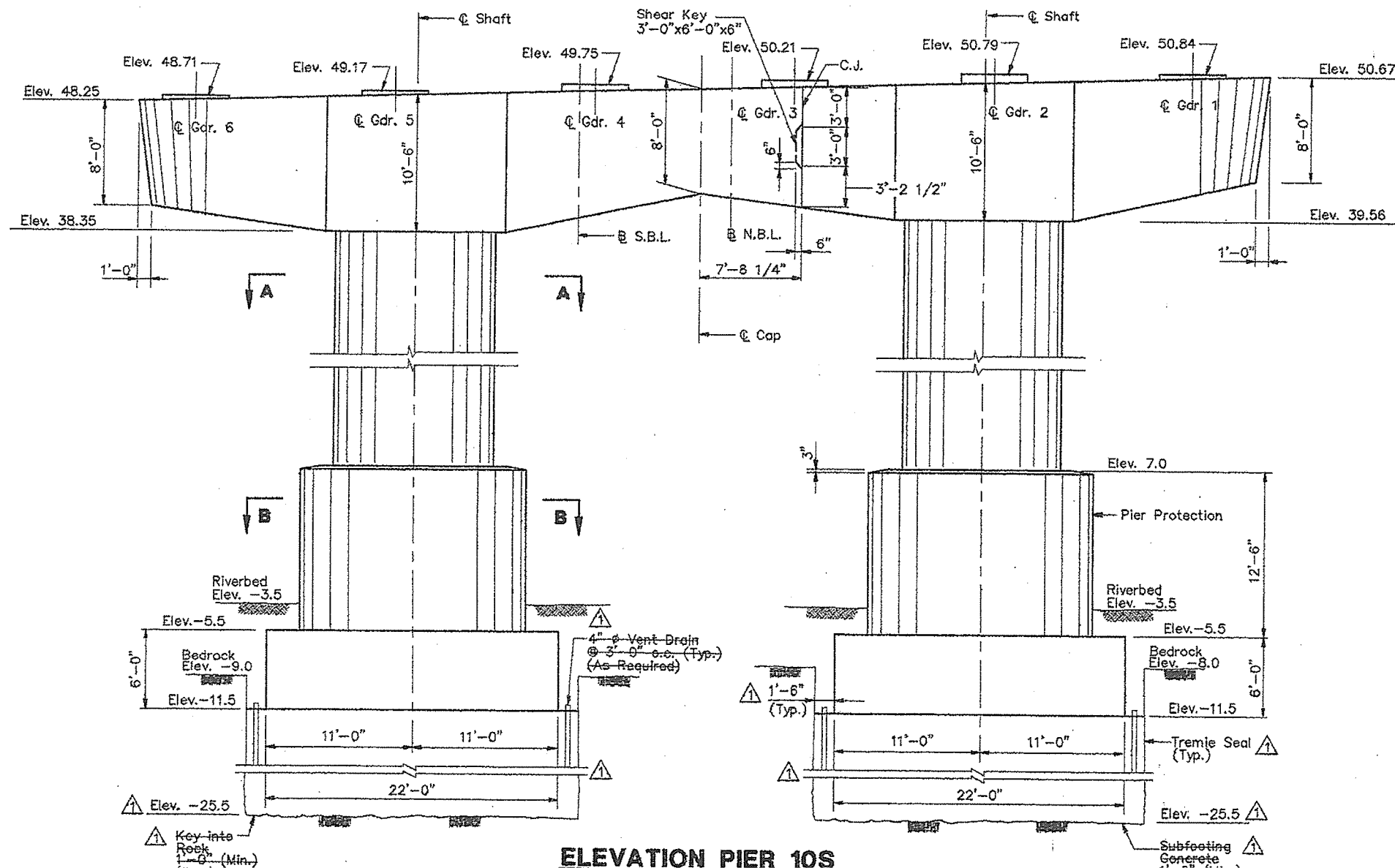
Notes:
 Pier elevation shown looking upstation.
 Transverse dimensions in Cap plan measured radial to N.B.L.
 Bedrock elevation is approximate.
 For placement sequence and performance criteria of subfooting concrete, see special provision.

STEEL ALTERNATIVE SUBSTRUCTURE

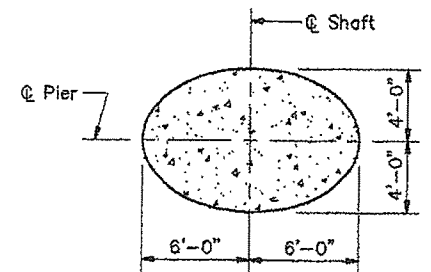
F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	DPI-0088(002)	55	339



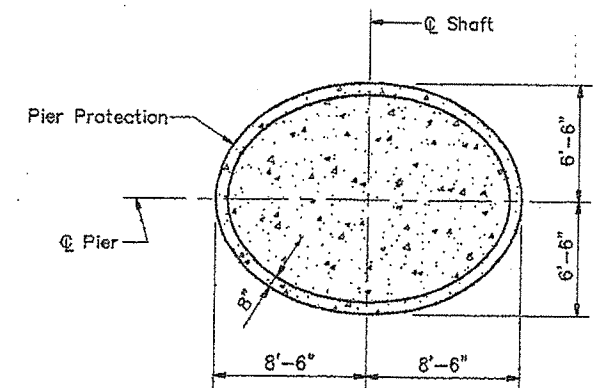
CAP PLAN - PIER 10S



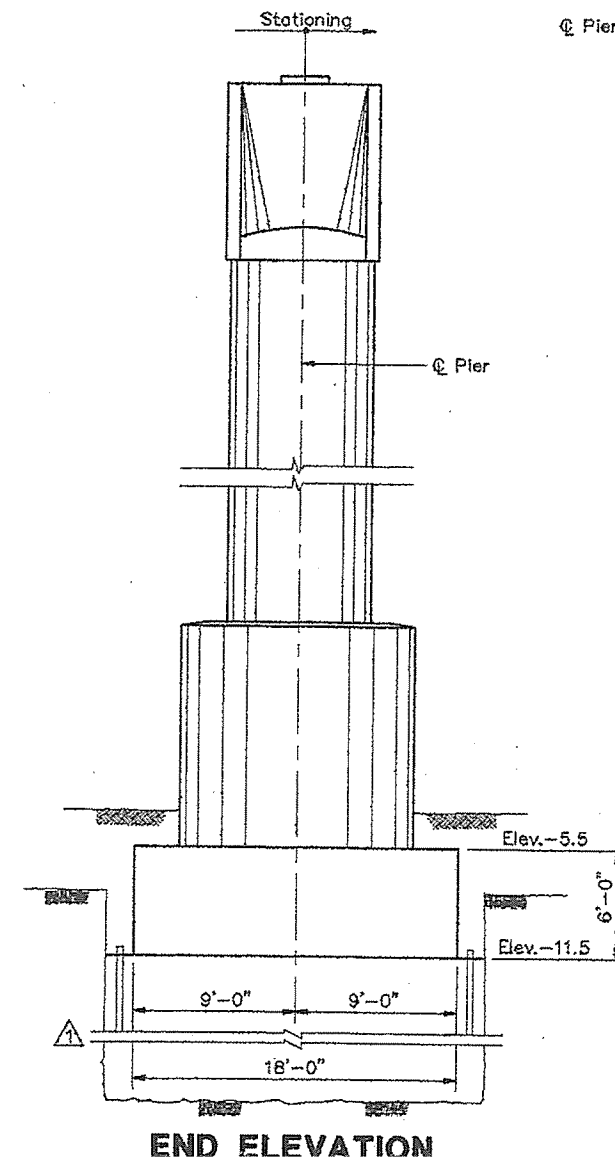
ELEVATION PIER 10S



SECTION A-A



SECTION B-B

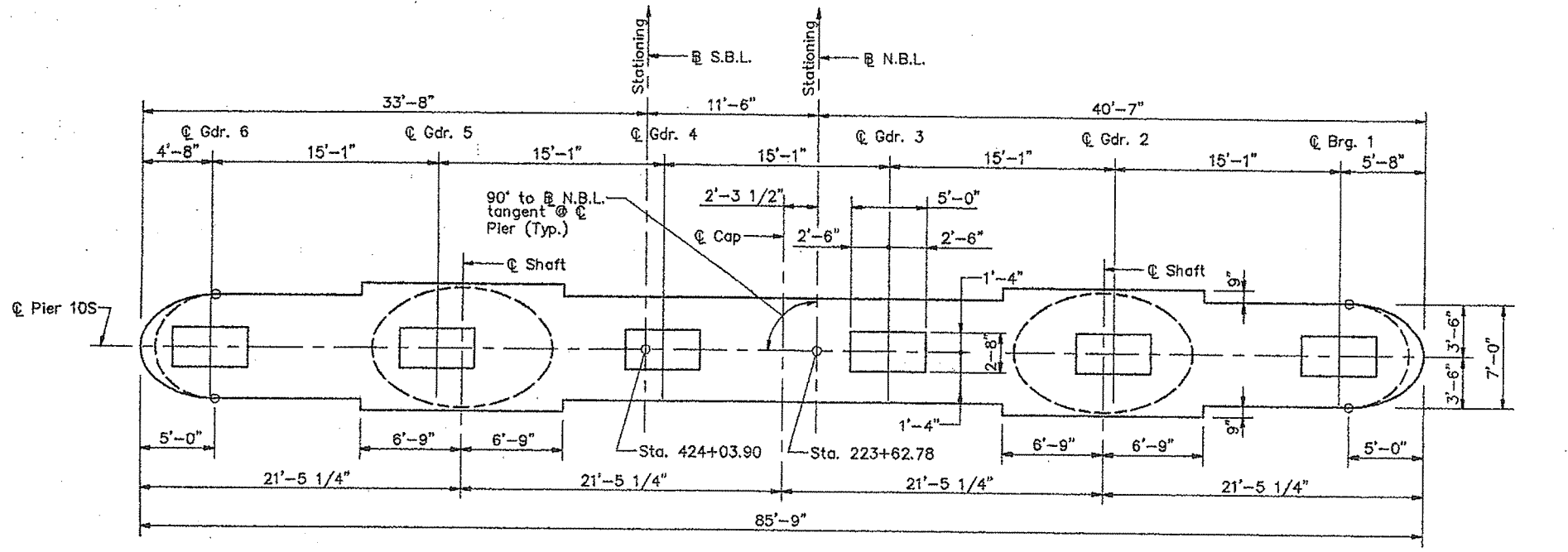


END ELEVATION

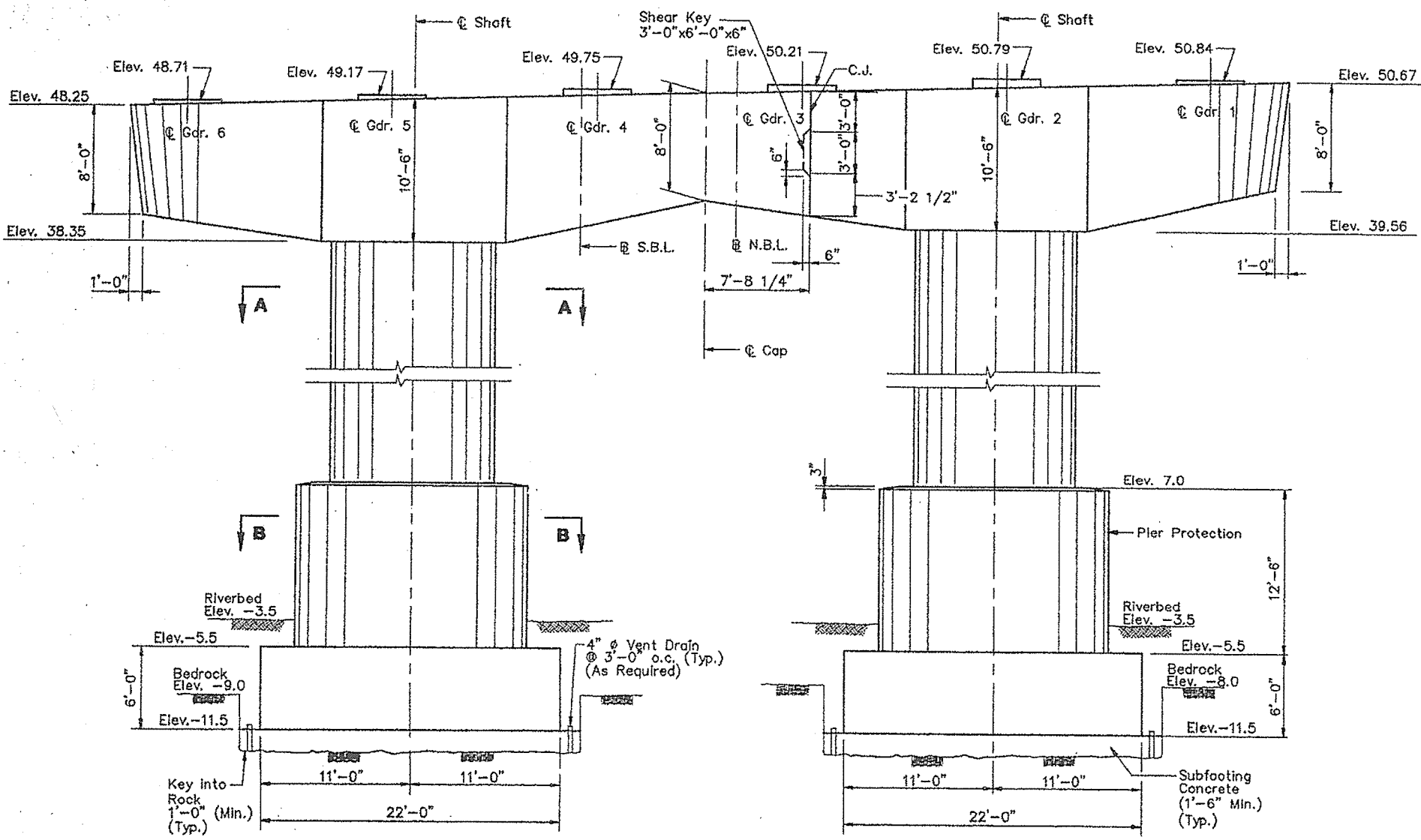
- Notes:
- Pier elevation shown looking upstation. Transverse dimensions in Cap plan measured radial to @ N.B.L.
 - Bedrock elevation is approximate.
 - For placement sequence and performance criteria of subfooting concrete, see special provision.
 - Add full gravity tremie seal according to Special Provision 502 10/7/94

STEEL ALTERNATIVE SUBSTRUCTURE

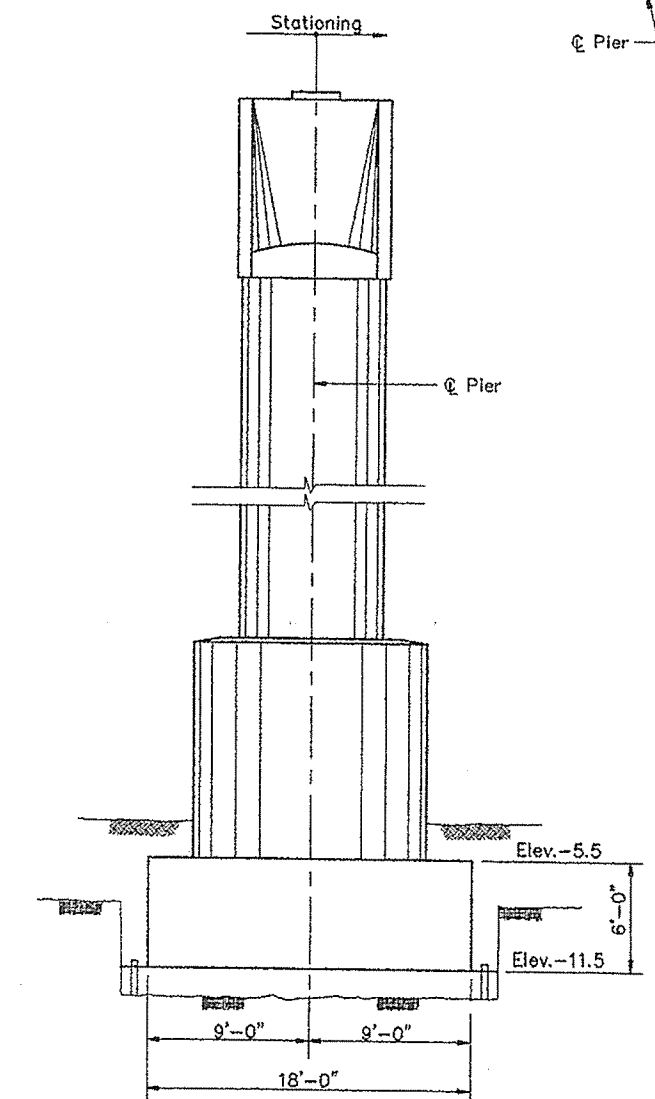
STATE OF MAINE DEPARTMENT OF TRANSPORTATION
PORTLAND - S. PORTLAND BRIDGE
OVER FORE RIVER
CUMBERLAND COUNTY
PLAN & ELEVATION



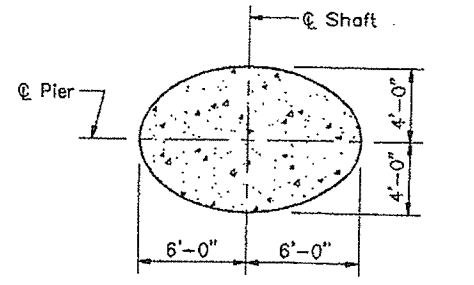
CAP PLAN - PIER 10S



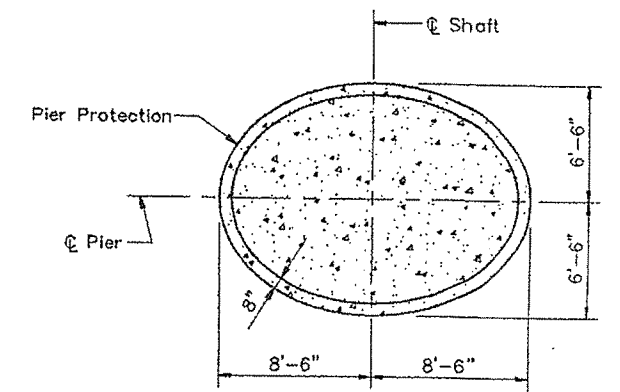
ELEVATION PIER 10S



END ELEVATION



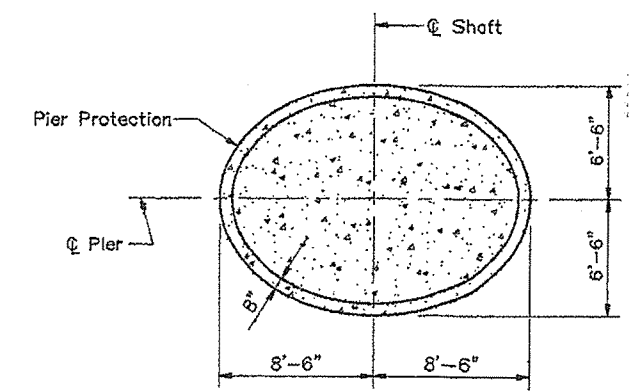
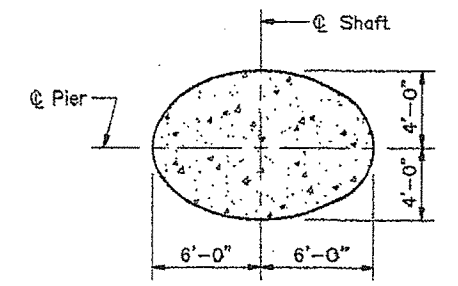
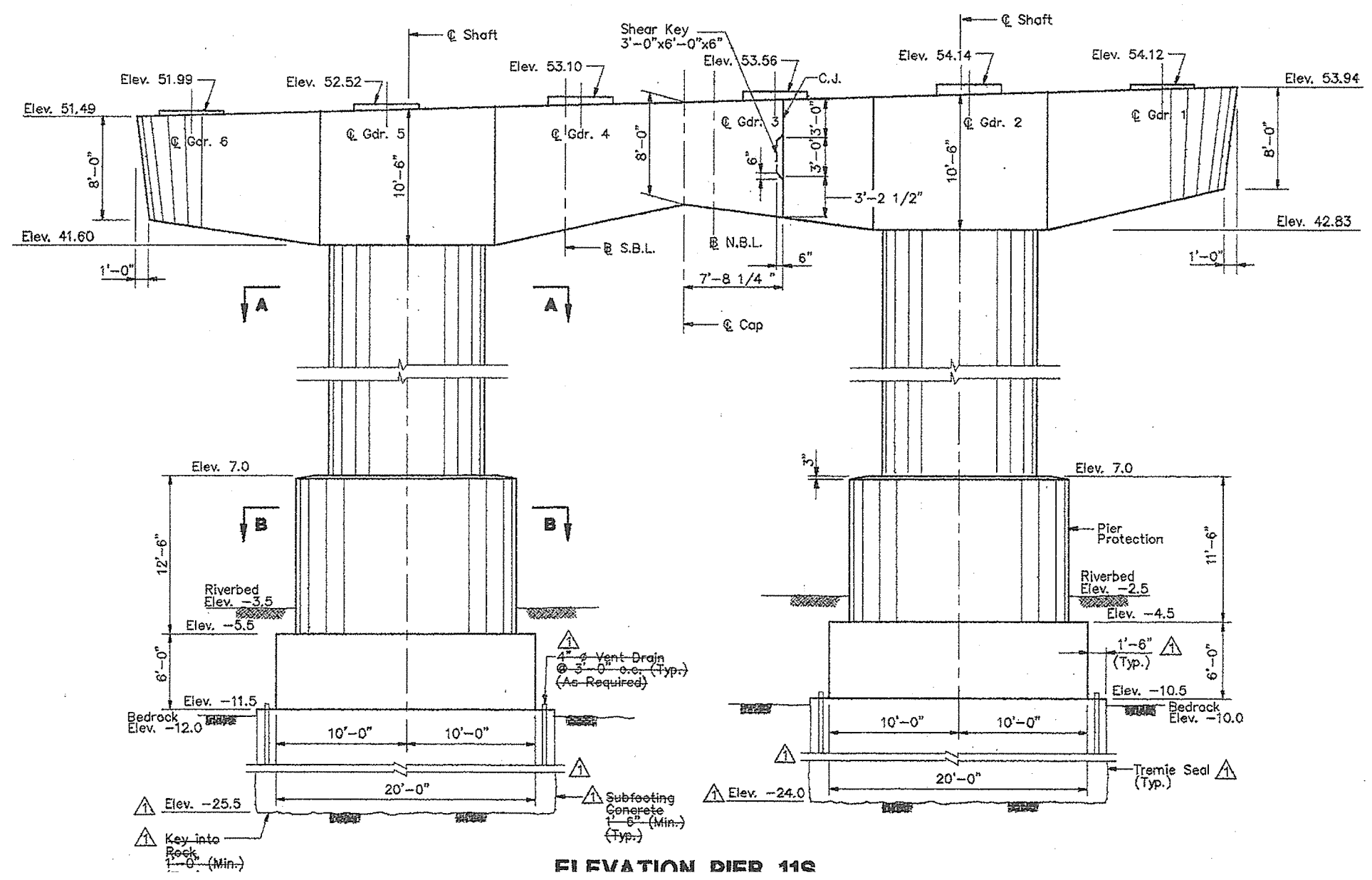
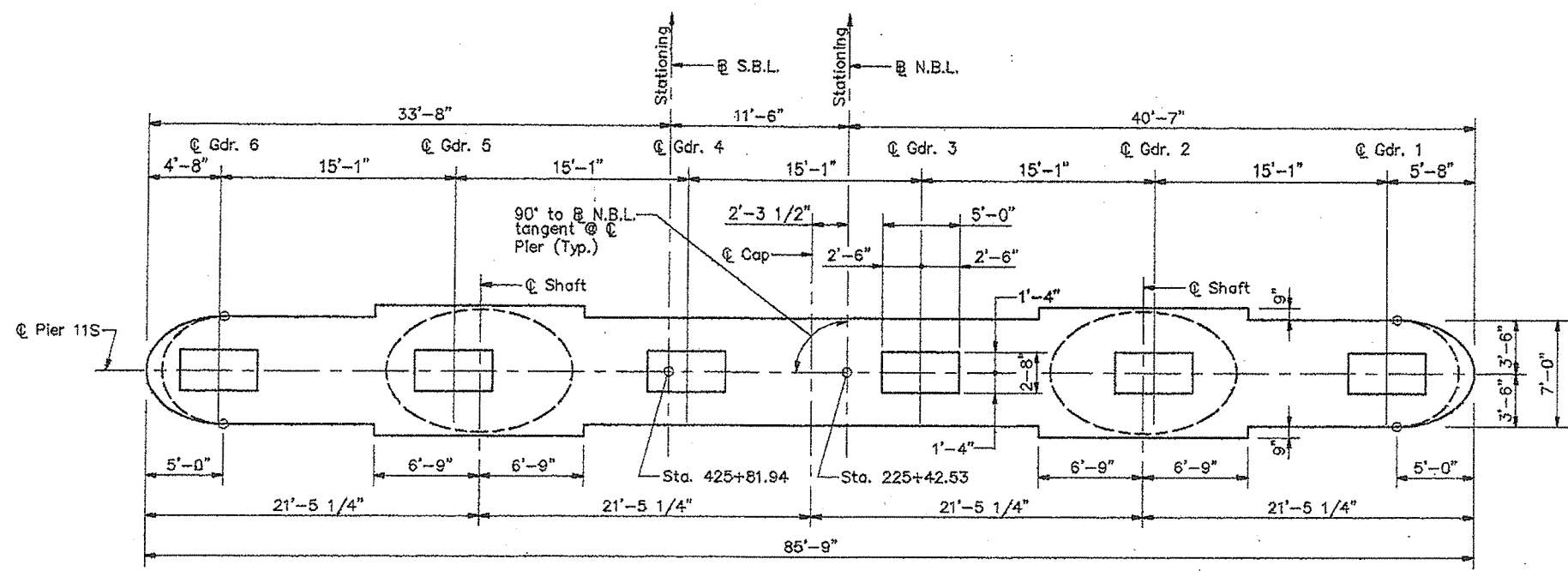
SECTION A-A



SECTION B-B

Notes:
 Pier elevation shown looking upstation.
 Transverse dimensions in Cap plan measured radial to @ N.B.L.
 Bedrock elevation is approximate.
 For placement sequence and performance criteria of subfooting concrete, see special provision.

STEEL ALTERNATIVE SUBSTRUCTURE



Notes:

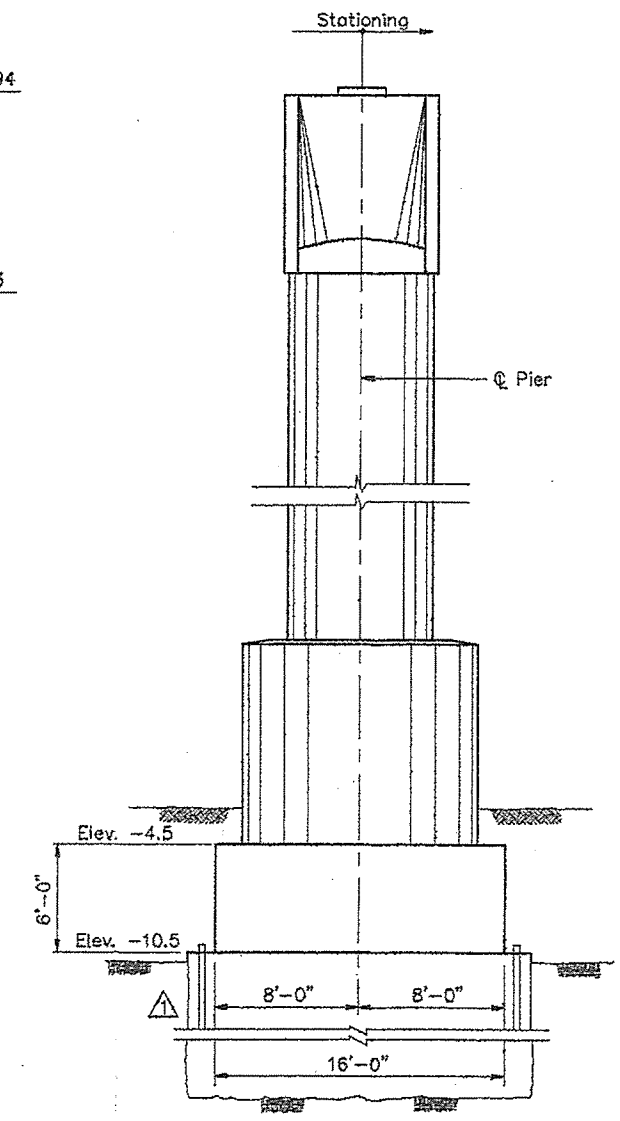
Pier elevation shown looking upstation. Transverse dimensions in Cap plan measured radial to @ N.B.L.

Bedrock elevation is approximate.

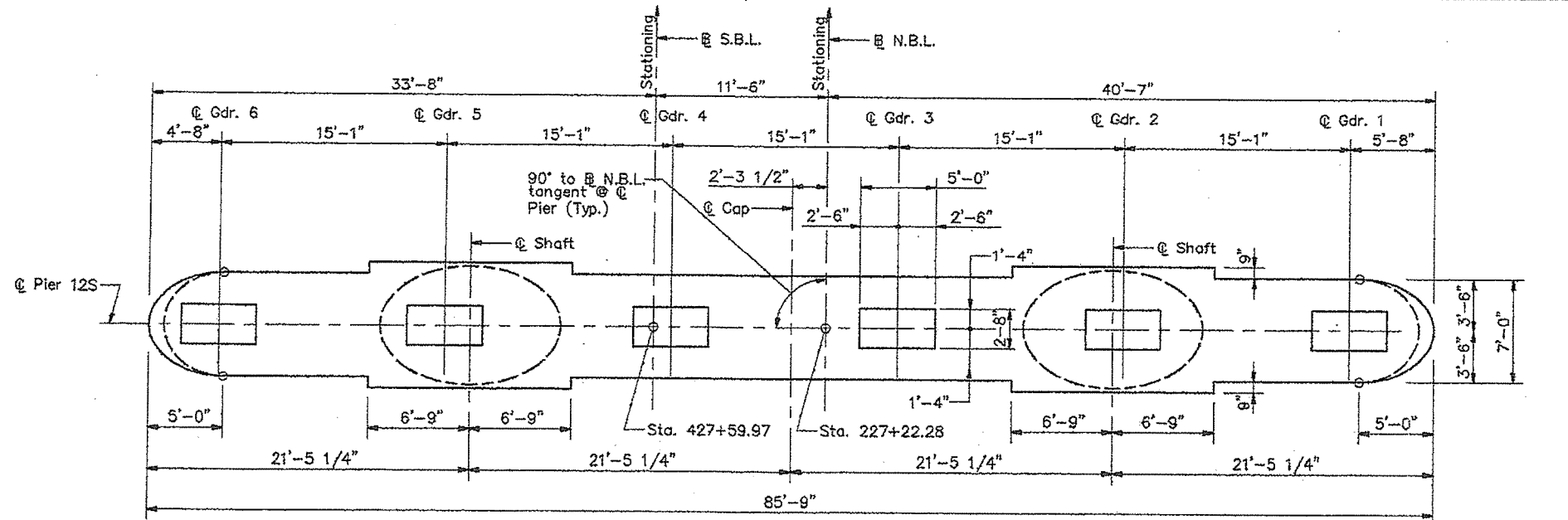
For placement sequence and performance criteria of subfooting concrete, see special provision.

Add full gravity tremie seal according to Special Provision 502 10/7/94

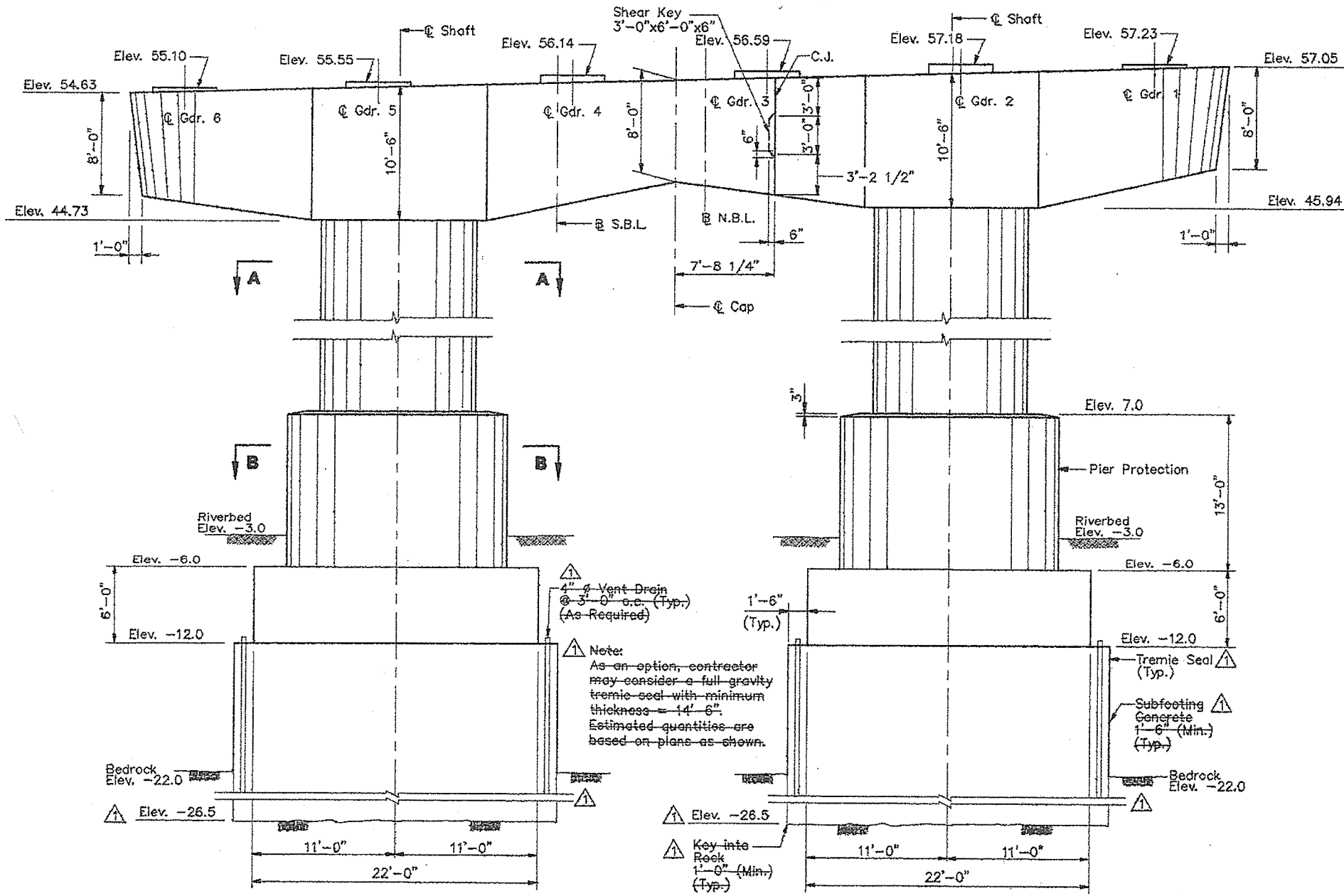
STEEL ALTERNATIVE SUBSTRUCTURE



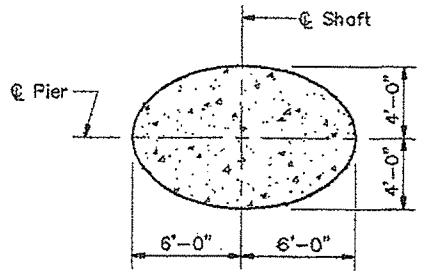
F.H.R.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
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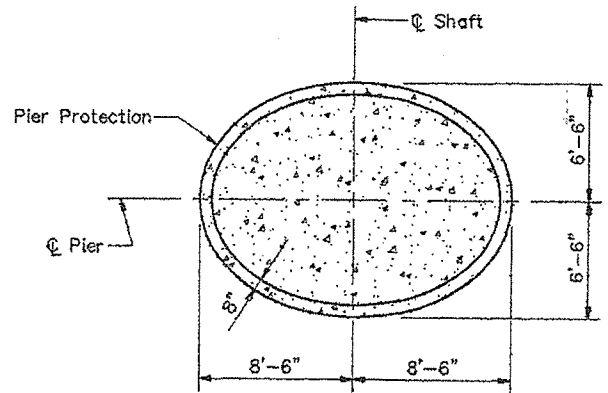
CAP PLAN - PIER 12S



ELEVATION PIER 12S



SECTION A-A

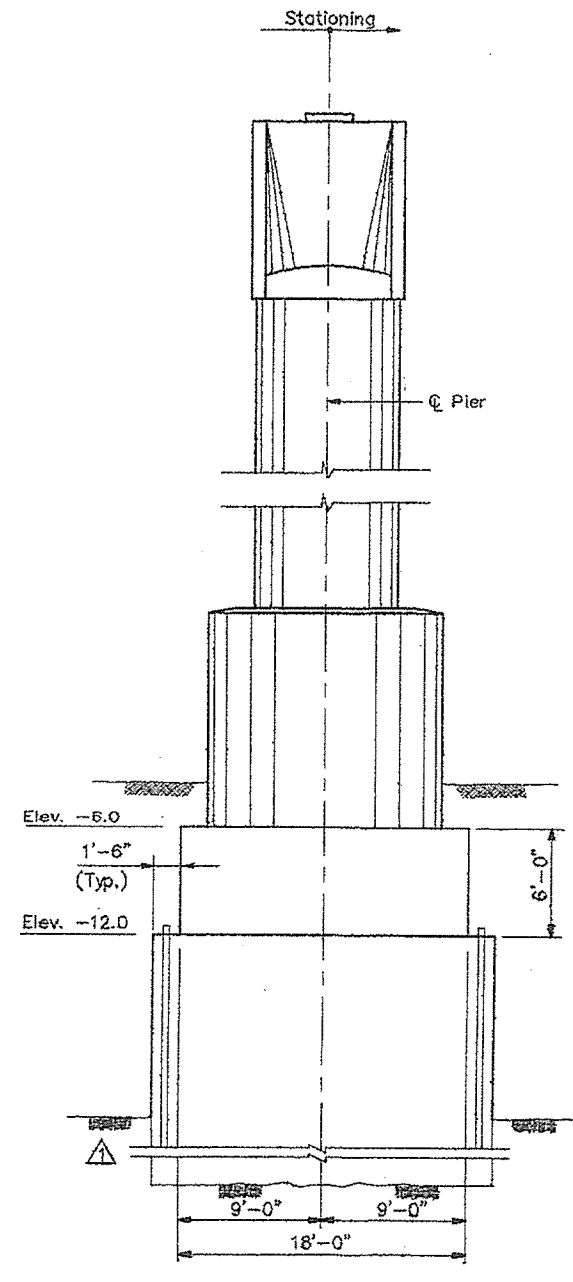


SECTION B-B

Notes:
Pier elevation shown looking upstation.
Transverse dimensions in Cap plan measured radial to @ N.B.L.
Bedrock elevation is approximate.
For placement sequence and performance criteria of subfooting concrete, see special provision.

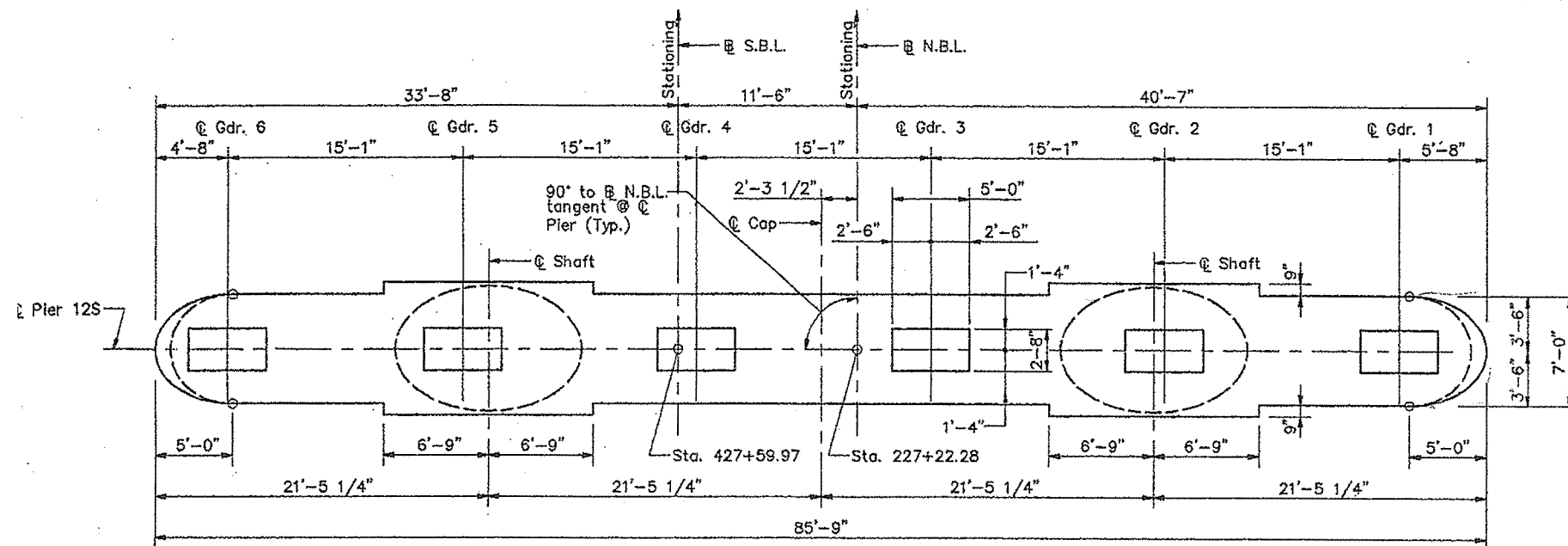
⚠ Add full gravity tremie seal according to Special Provision 502 10/7/94

STEEL ALTERNATIVE SUBSTRUCTURE

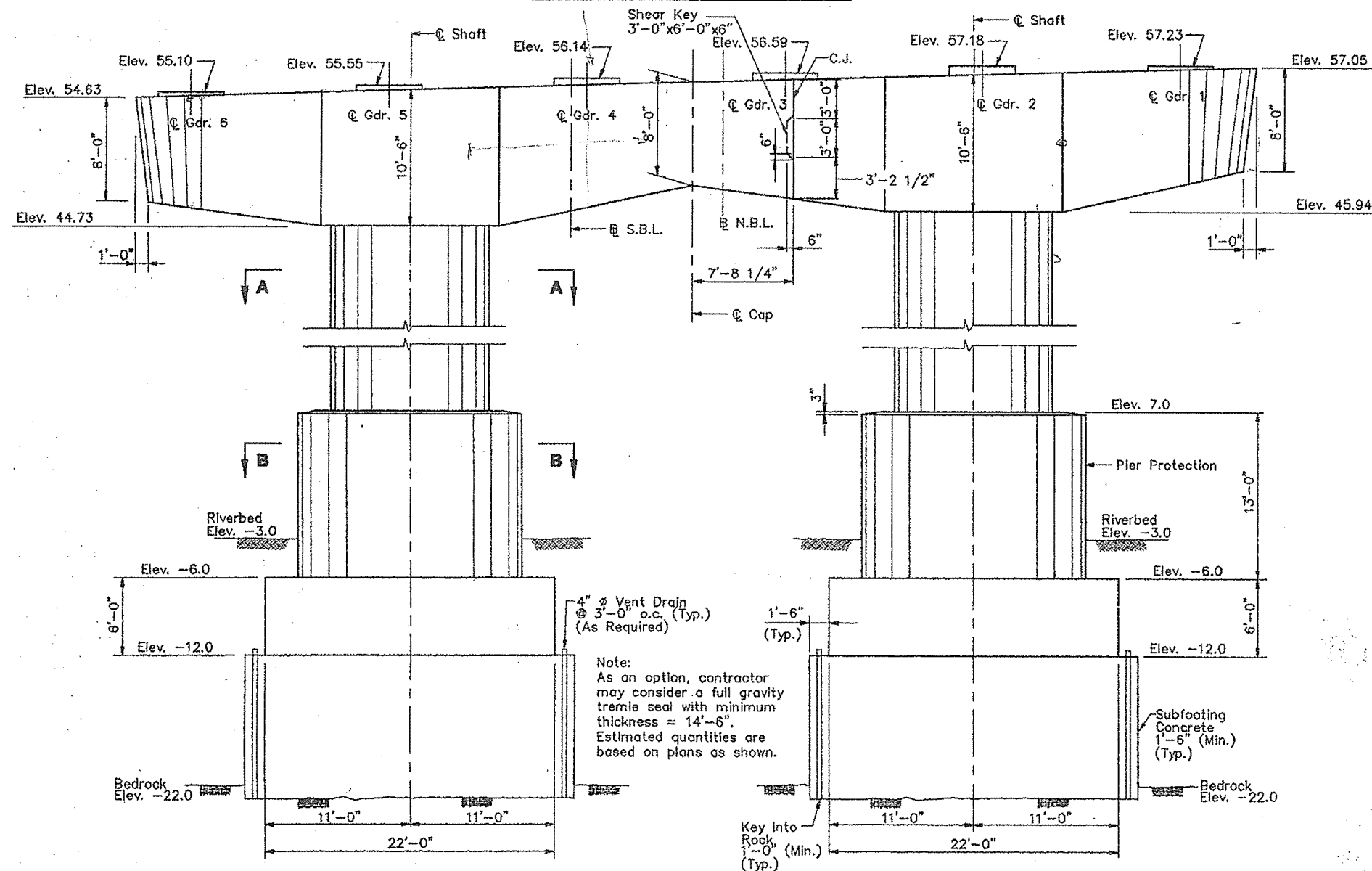


END ELEVATION

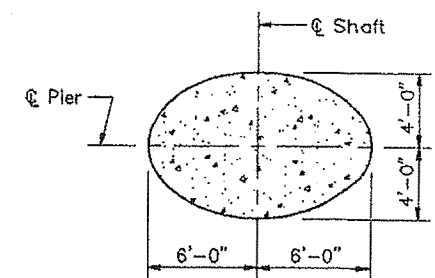
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
PORTLAND - S. PORTLAND BRIDGE
OVER FORE RIVER
CUMBERLAND COUNTY
PLAN & ELEVATION
DIED 126



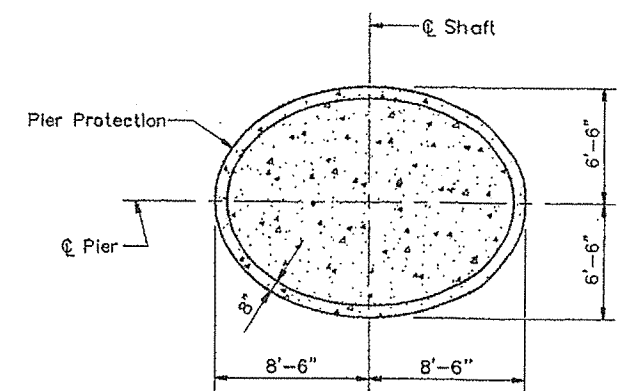
CAP PLAN - PIER 12S



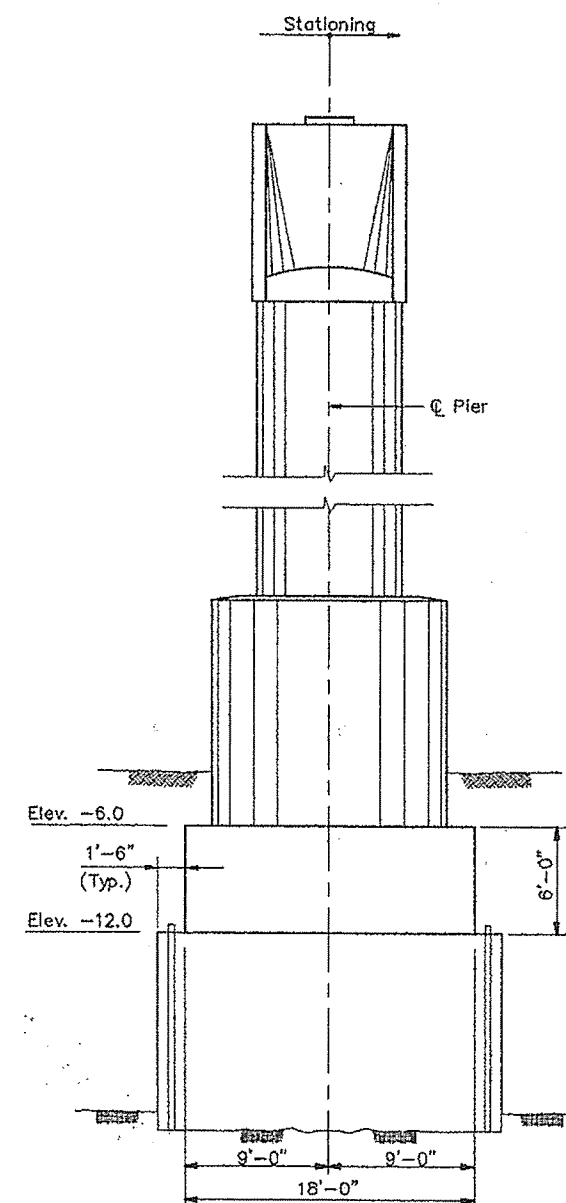
ELEVATION PIER 12S



SECTION A-A



SECTION B-B



END ELEVATION

Notes:
Pier elevation shown looking upstation.
Transverse dimensions in Cap plan measured radial to N.B.L.
Bedrock elevation is approximate.
For placement sequence and performance criteria of subfooting concrete, see special provision.

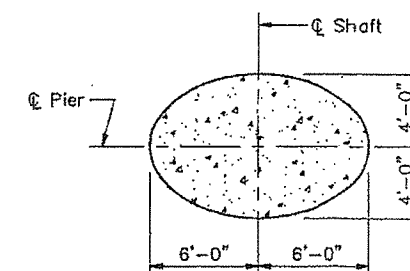
STEEL ALTERNATIVE SUBSTRUCTURE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
PORTLAND - S. PORTLAND BRIDGE
OVER FORE RIVER
CUMBERLAND COUNTY
PLAN & ELEVATION
PIER 12S

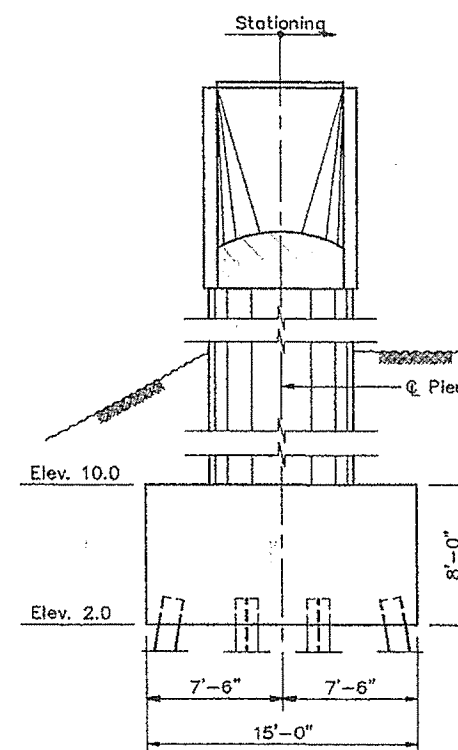
This technical drawing is an elevation view of Pier 125, showing its structural components and dimensions. The pier is divided into several sections with various elevations and dimensions.

Key Features and Dimensions:

- Top Section:** Features a concrete cap with a width of 8'-0" and a height of 1'-0". The elevation of the top surface is 58.16. The cap is supported by a shaft with a diameter of 10'-6".
- Shaft and S.B.L.:** The shaft has a diameter of 10'-6" and is supported by a shaft base (S.B.L.) with a diameter of 10'-6". The elevation of the S.B.L. is 59.69 (Bk.) and 59.49 (Ahd.).
- Cap and N.B.L.:** The cap has a diameter of 10'-6" and is supported by a shaft with a diameter of 10'-6". The elevation of the cap is 59.81 (Ahd.). The shaft base (N.B.L.) has a diameter of 10'-6" and is supported by a shaft with a diameter of 10'-6".
- Constr. Joint:** A construction joint is located between the cap and the shaft base, with a width of 6" and a height of 6".
- Shear Key:** A shear key is located between the cap and the shaft base, with a width of 6" and a height of 6".
- Groundline:** The groundline is located at an elevation of 28.0.
- Foundation:** The pier is founded on a concrete foundation with a width of 19'-0" and a height of 11'-0". The foundation is supported by a shaft with a diameter of 10'-6".
- Dimensions:** The total width of the pier is 19'-0". The width of the shaft is 10'-6". The width of the cap is 8'-0". The height of the cap is 1'-0". The height of the shaft is 10'-6". The height of the foundation is 11'-0".
- Elevations:** The elevations of the various components are: 58.16 (Top of Cap), 59.69 (Bk.) and 59.49 (Ahd.) (S.B.L.), 59.81 (Ahd.) (Cap), 60.13 (Bk.) and 60.27 (Ahd.) (N.B.L.), 60.72 (Bk.) and 60.77 (Ahd.) (Shaft), 60.76 (Bk.) and 60.74 (Ahd.) (Shaft), and 60.58 (Top of Shaft).



SECTION A-A



END ELEVATION

Notes:
Pier elevation shown looking up station.
Transverse dimensions on Cap Plan are measured
radial to @ N.B.L.

STEEL ALTERNATIVE SUBSTRUCTURE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PORTLAND - S. PORTLAND BRIDGE

OVER FORE RIVER

CUMBERLAND COUNTY

**PLAN AND ELEVATION
PIER 13S**

Technical drawing of a bridge structure, showing plan and elevation views.

Plan View (Top):

- Shows the bridge deck layout with seven girders (Gdr. 1 to Gdr. 7).
- Key structural features labeled: Shaft, S.B.L. (Substructure Base Line), Cap, N.B.L. (Narrow Bridge Line), Constr. Joint, and Shear Key (3'x6'x6").
- Elevation markers: 61.18, 61.63, 62.03, 62.53, 62.86, 63.32, 63.80, 63.76, 63.60.
- Dimensions: 8'-0", 1'-0", 10'-6", 7'-5 1/4", 13'-0", 8'-0", 16'-0", 11'-6", 23'-0".

Elevation View (Bottom):

- Shows the bridge piers and abutments.
- Groundline Elev. 10.0, Riverbed Elev. 1.0.
- Structural levels: Elev. -6.0, Elev. -14.0, Elev. -30.0.
- Dimensions: 8'-0", 1'-0", 10'-6", 13'-0", 8'-0", 16'-0", 11'-6", 23'-0".
- Labels: Tremie Seal (typ.), HP 14x117 (typ.), Pler Protection.

Note: Bottom of Tremie Seal at Elev. -30.0

Diagram illustrating the cross-section of a pier and shaft. The pier is an oval shape with a horizontal centerline. The shaft is a vertical line passing through the center of the pier. The pier has a total width of 12'-0" (6'-0" on each side of the shaft) and a total height of 8'-0" (4'-0" on each side of the shaft). The pier is labeled "Pier" and the shaft is labeled "Shaft".

Diagram illustrating the cross-section of a pier. The pier is circular with a diameter of 8'-6" (8 feet 6 inches). The pier is surrounded by a 6" (6 inches) thick concrete protection layer. The pier is supported by a shaft, labeled "Shaft". The pier is also labeled "Pier Protection". The pier is shown with a cross-section of concrete and aggregate. The pier is shown with a cross-section of concrete and aggregate. The pier is shown with a cross-section of concrete and aggregate.

3.60

Stationing

℄ Pier

Elev. -6.0

Elev. -14.0

12'-6"

12'-6"

25'-0"

Notes:
Pier elevation shown looking up station.
Transverse dimensions on Cap Plan are measured
radial to @ N.B.L.

STATE OF MAINE
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PORTLAND - S. PORTLAND BRIDGE
OVER FORE RIVER
CUMBERLAND COUNTY
PLAN AND ELEVATION
PIER 14S

SHEET 59 OF 338 AUGUSTA, MAINE 6/24/94

Plan view of the bridge deck showing seven girders (Gdr. 1 to Gdr. 7) with various dimensions and stationing. The deck is 85'-9" wide. Key features include a 90-degree turn at the N.B.L. tangent at the pier, a shaft, and a cap. Stationing points are marked at Sta. 433+18.35 and Sta. 232+86.03. Dimensions for girder spacing and deck width are provided in feet and inches.

Dimensions and Stationing:

- Overall Deck Width: 85'-9"
- Girder Spacing (from Gdr. 7 to Gdr. 1):
 - Gdr. 7 to Gdr. 6: 12'-11 1/2"
 - Gdr. 6 to Gdr. 5: 12'-11 1/2"
 - Gdr. 5 to Gdr. 4: 11'-9 1/2"
 - Gdr. 4 to Gdr. 3: 11'-9 1/2"
 - Gdr. 3 to Gdr. 2: 12'-11 1/2"
 - Gdr. 2 to Gdr. 1: 12'-11 1/2"
 - Gdr. 1 to Edge: 5'-8"
- Stationing:
 - Sta. 433+18.35 (at Gdr. 5)
 - Sta. 232+86.03 (at Gdr. 4)
- Other Dimensions:
 - 33'-8" (from Gdr. 7 to Sta. 433+18.35)
 - 40'-7" (from Sta. 232+86.03 to Gdr. 1)
 - 5'-0" (from Gdr. 7 to edge)
 - 6'-9" (between Gdr. 6 and 5, and Gdr. 3 and 2)
 - 21'-5 1/4" (from Gdr. 6 to Gdr. 3, and Gdr. 2 to Gdr. 1)
 - 5'-0" (from Gdr. 1 to edge)
 - 7'-0" (overall width from Gdr. 7 to edge)
 - 3'-6" (width of Gdr. 1)
 - 3'-6" (width of Gdr. 7)
 - 2'-3 1/2" (from Gdr. 4 to cap)
 - 5'-0" (from cap to Gdr. 3)
 - 2'-6" (from Gdr. 3 to shaft)
 - 9" (from shaft to Gdr. 2)
 - 9" (from Gdr. 2 to edge)
 - 1'-4" (from Gdr. 4 to edge)
 - 1'-4" (from Gdr. 3 to edge)
 - 2'-8" (from Gdr. 4 to cap)
 - 1'-4" (from Gdr. 3 to cap)

Technical drawing of a bridge structure, showing elevations, dimensions, and components. The drawing includes a plan view at the top and two cross-sectional views, A-A and B-B, below it.

Plan View (Top):

- Shows the bridge deck with seven girders (Gdr. 1 to Gdr. 7) and a central shaft.
- Elevations: 64.66, 65.12, 65.57, 66.08, 66.40, 66.86, 67.37, 67.25, 67.08, 55.97, 54.76.
- Dimensions: 8'-0", 10'-6", 8'-0", 7'-5 1/4", 6", 1'-0", 8'-0".
- Components: S.B.L. (Substructure Base Line), Cap, N.B.L. (Narrow Bridge Line), Constr. Joint, Shear Key 3'x6'x6", Gdr. 1 to Gdr. 7, Shaft.

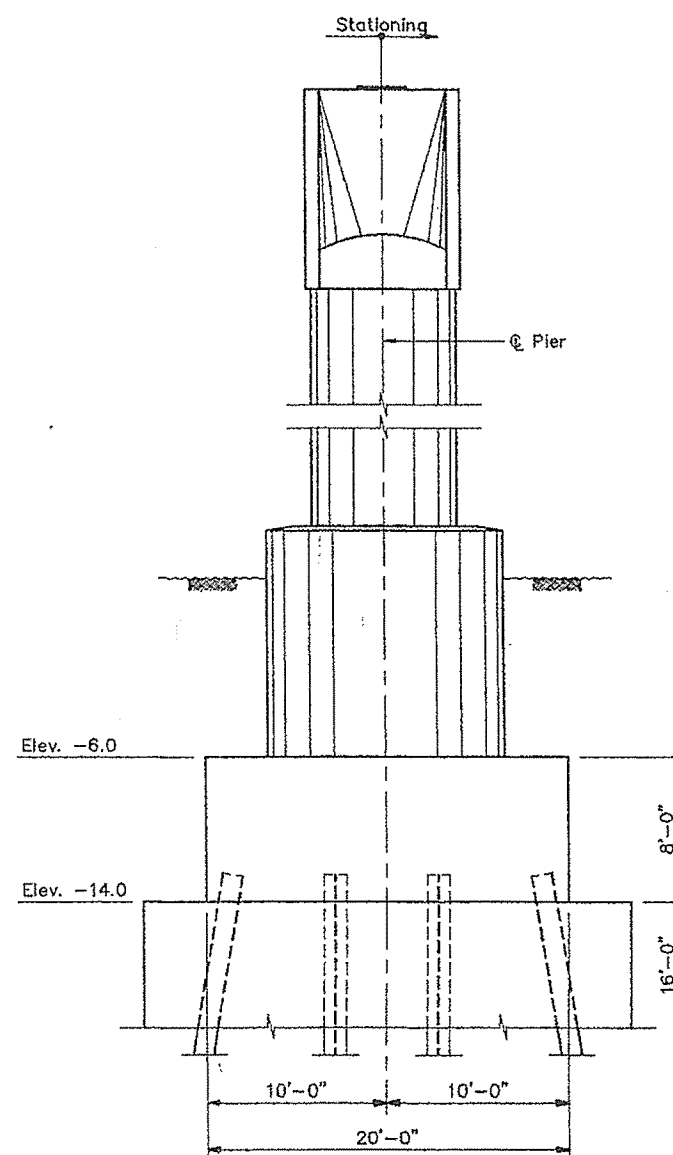
Cross-Section A-A (Left):

- Shows the bridge deck and the central shaft.
- Elevations: 7.5 (Riverbed), -6.0, -14.0.
- Dimensions: 8'-0", 16'-0", 11'-0", 22'-0", 3'-6" (typ.).
- Components: Riverbed, Tremie Seal (typ.), HP 14x117 (typ.).

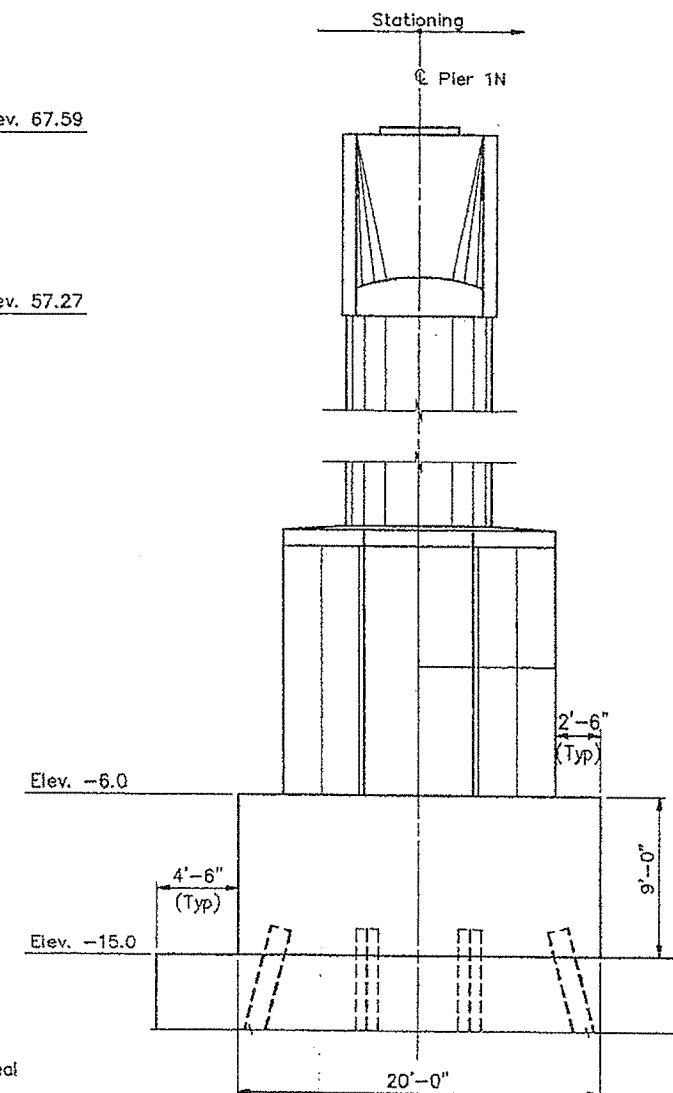
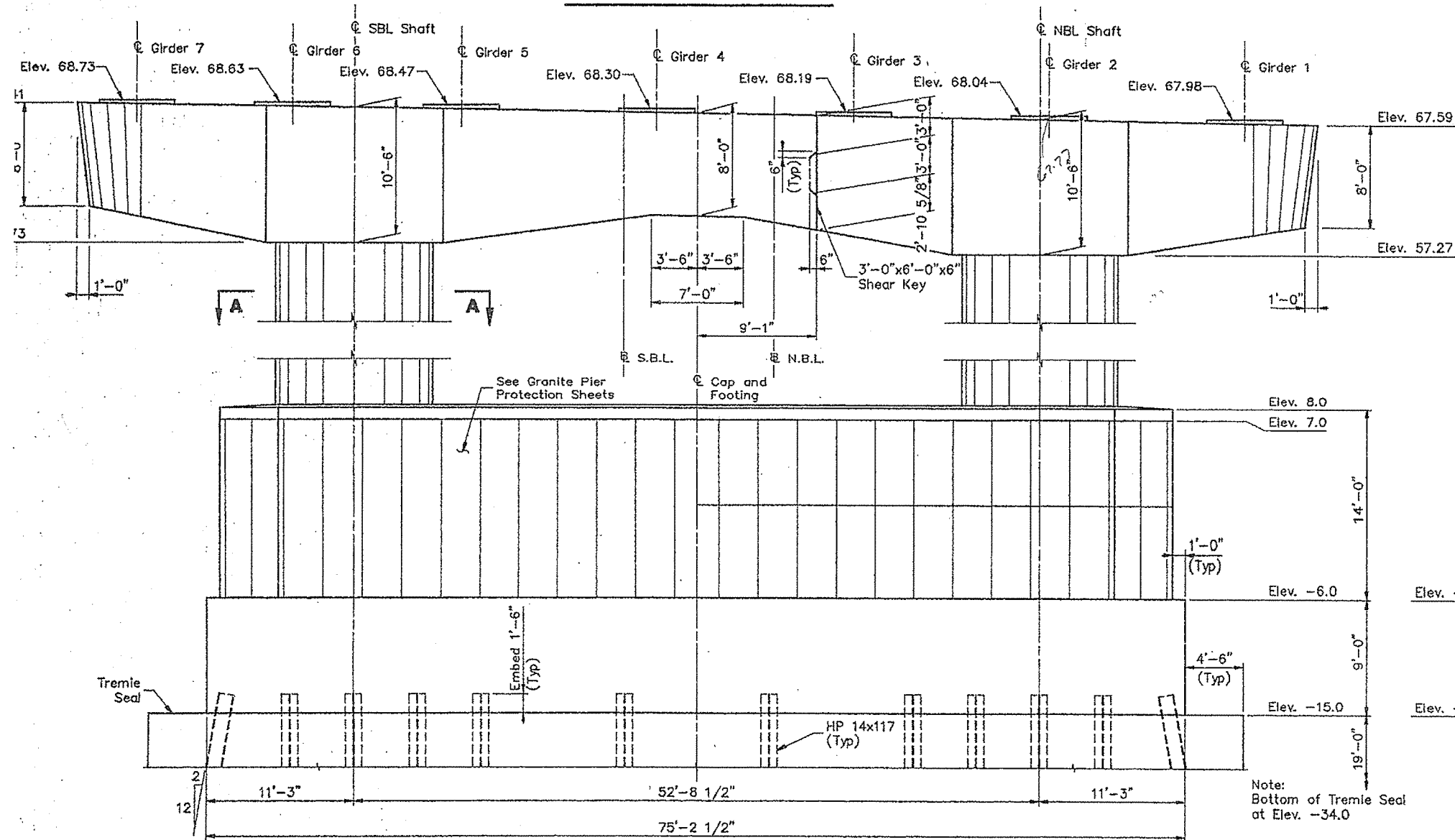
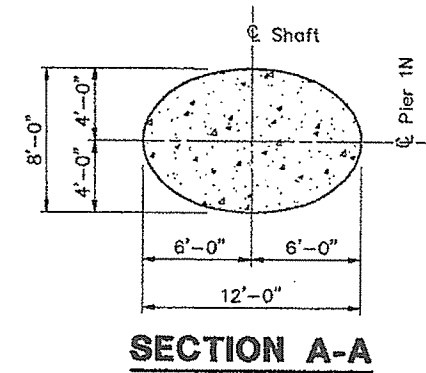
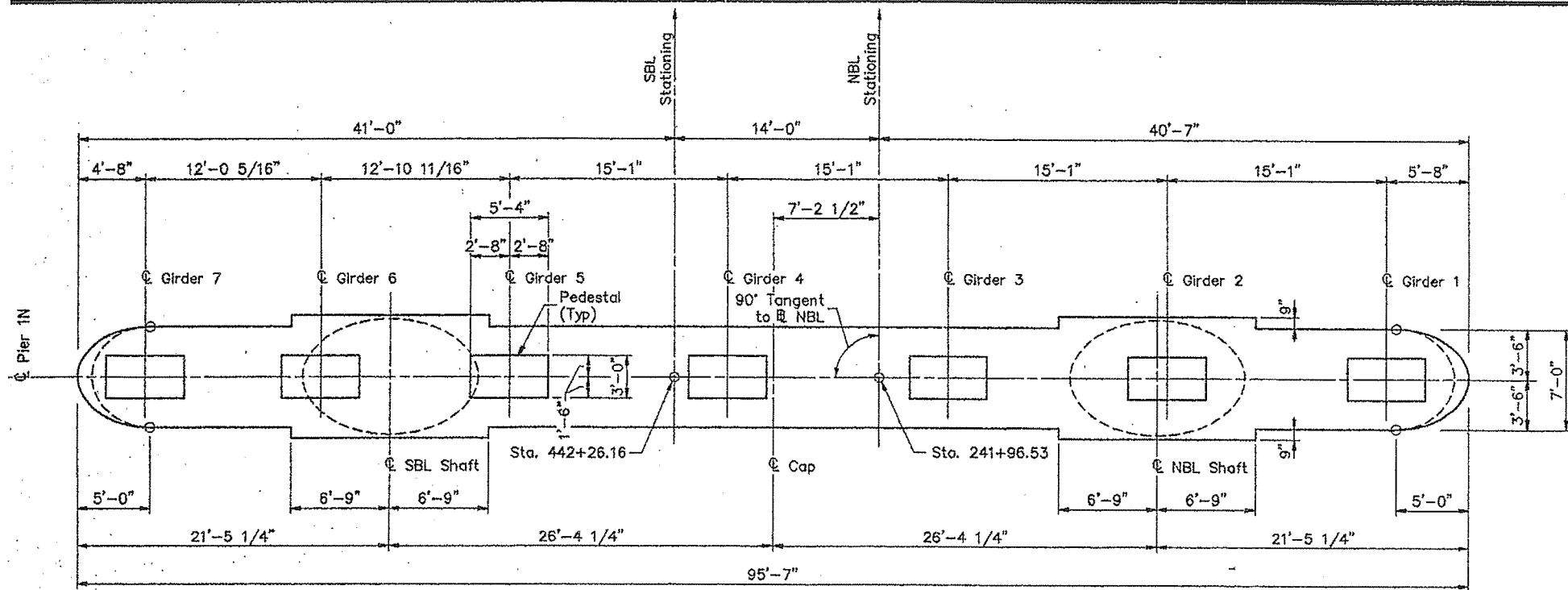
Cross-Section B-B (Right):

- Shows the bridge deck and the central shaft.
- Elevations: 7.0, -6.0, -14.0.
- Dimensions: 13'-0", 8'-0", 16'-0", 11'-0", 22'-0", 3'-6" (typ.).
- Components: Riverbed, Pier Protection, HP 14x117 (typ.), Embred 1'-6" (typ.).

Note: Bottom of Tremie Seal at Elev. -30.0



PLAN AND ELEVATION
PIER 15S



Notes:
 Pier elevation shown looking up station.
 Transverse dimensions on Cap Plan are measured radial to NBL.
 Riverbed elevation varies from Elev.-19.00 to Elev.-32.00.
 For scour protection, place a plain riprap blanket directly on the riverbed about Pier 1N. The riprap shall be 3'-0" deep and extend 20'-0" from the pier on the channel side and the downstream end.

STEEL ALTERNATIVE SUBSTRUCTURE

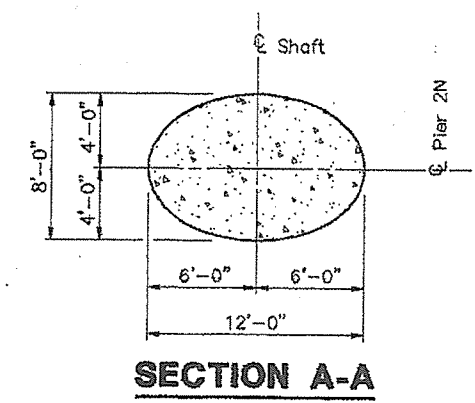
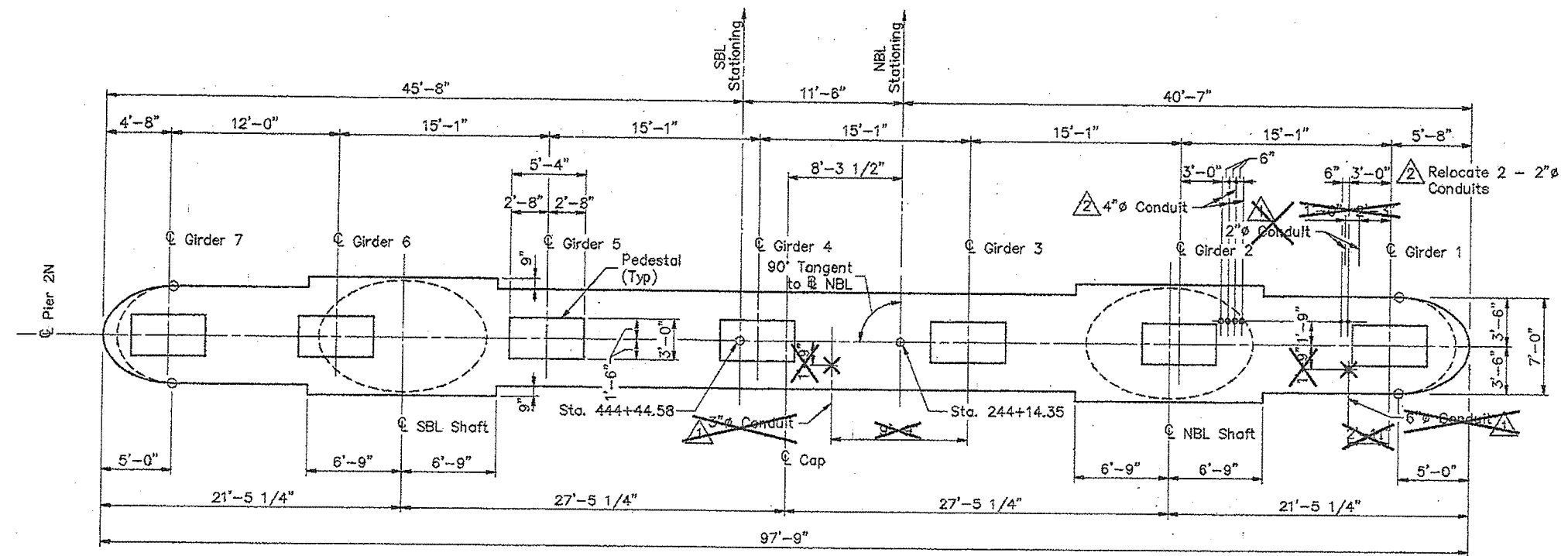
STATE OF MAINE
 DEPARTMENT OF TRANSPORTATION

PORTLAND - S. PORTLAND BRIDGE

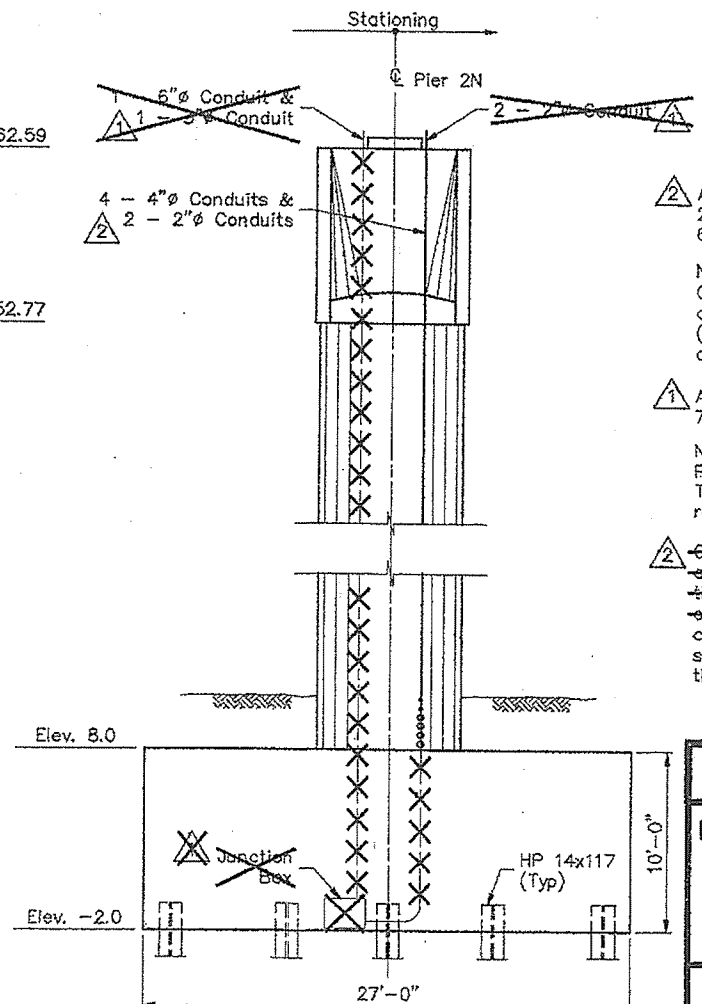
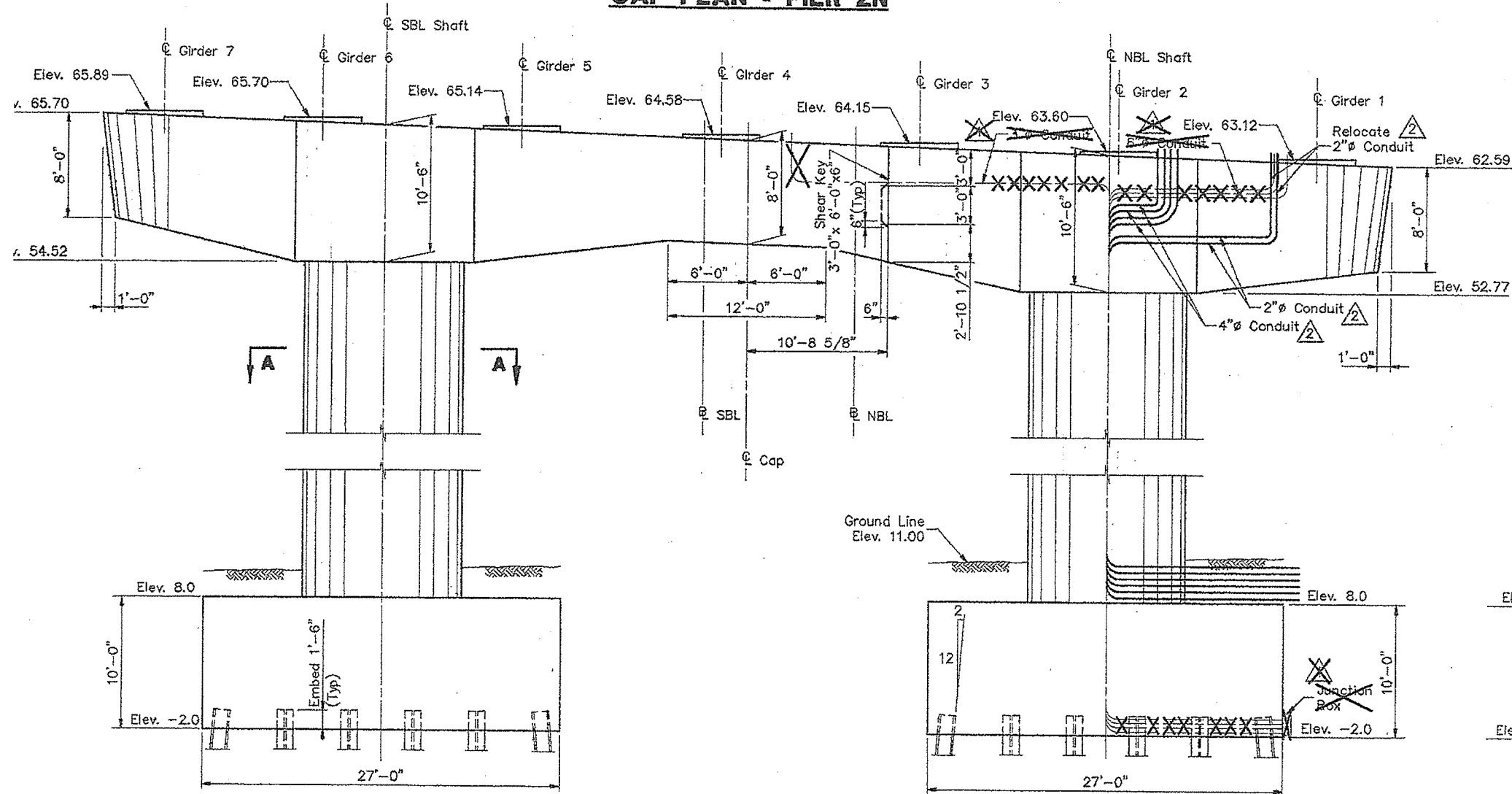
OVER FORE RIVER

CUMBERLAND COUNTY

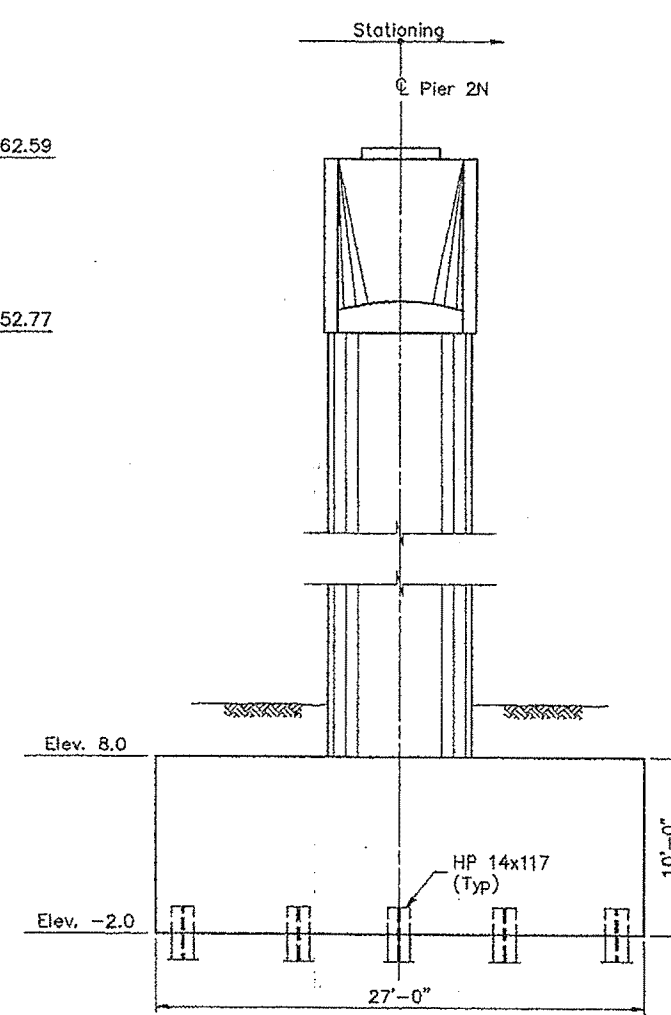
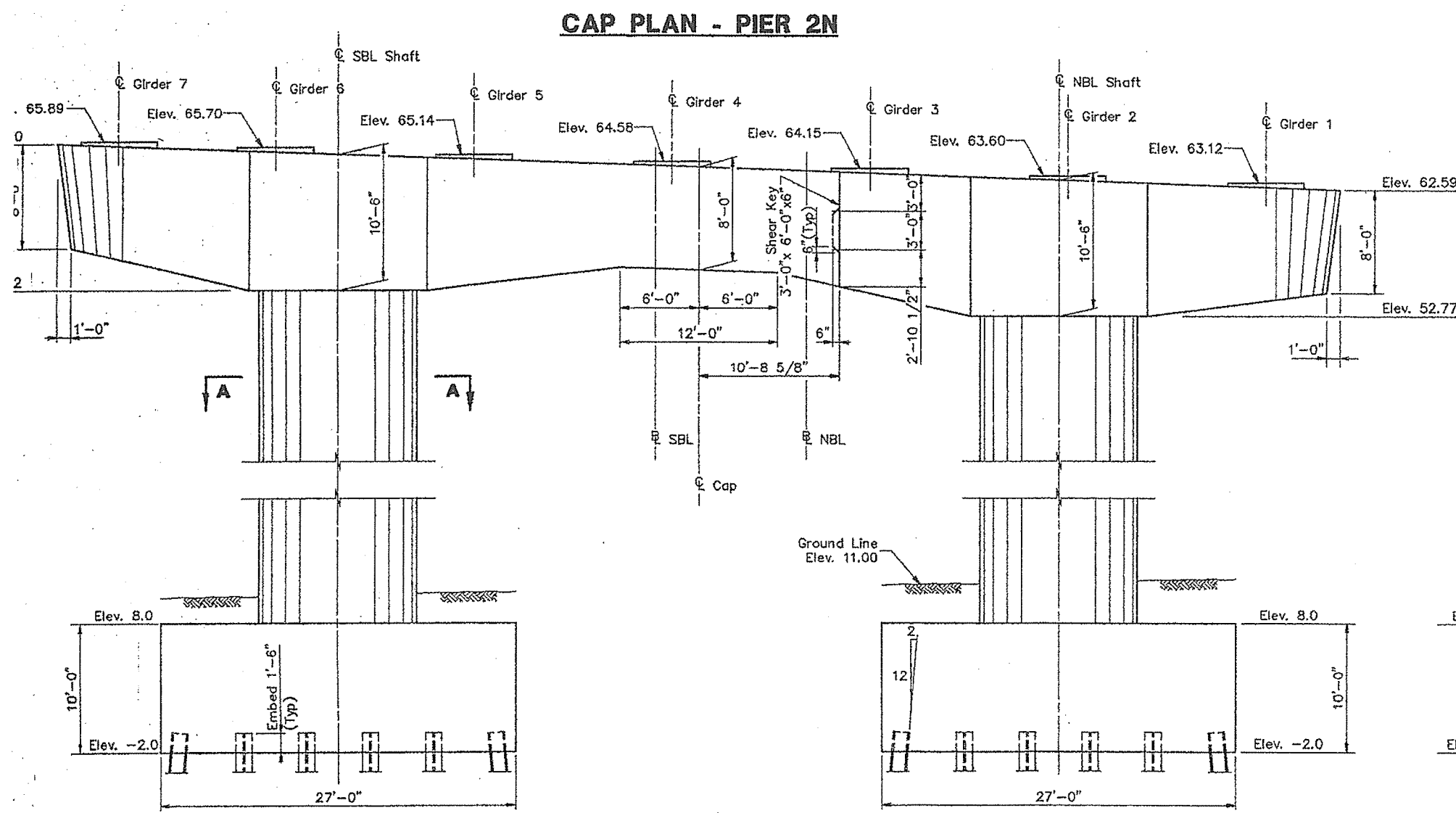
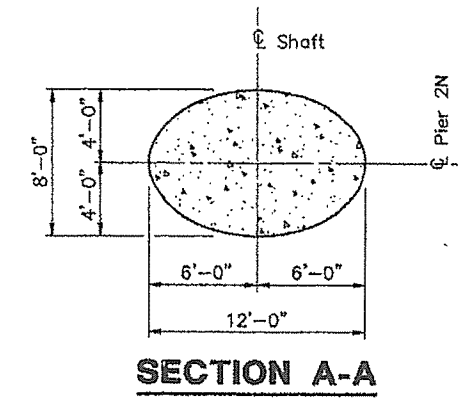
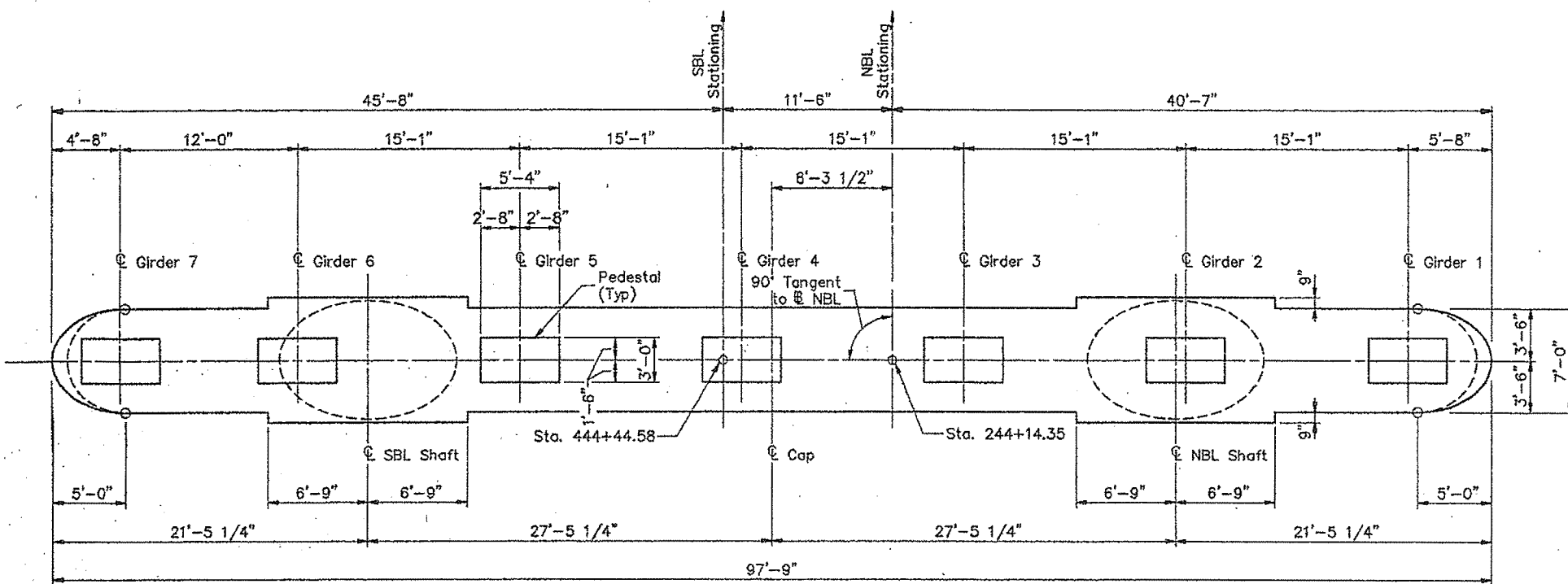
PLAN & ELEVATION
 PIER 1N



CAP PLAN - PIER 2N



- 2 Add 4 - 4" conduits in Pier. Relocate 2 - 2" conduits. Delete 3" conduit and 6" conduits. 2/13/95
- Notes:
Conduits embedded in Pier 2N shall extend above the pier cap with 8" threaded projection. (Junction box or boxes on the pier cap by others).
- 1 Add conduits in Pier. See Addendum No.2 7/28/94.
- Notes:
Pier elevation shown looking up station. Transverse dimensions on Cap Plan are measured radial to NBL.
- 2 Conduits embedded in Pier 2N shall extend 8" above the pier cap with the uppermost 5" threaded (to accept couplings and fittings by others). Payment shall be incidental to Pier construction. Any adjustment of reinforcing shall be accomplished under the direction of the engineer.



Notes:
Pier elevation shown looking up station.
Transverse dimensions on Cap Plan are measured radial to NBL.

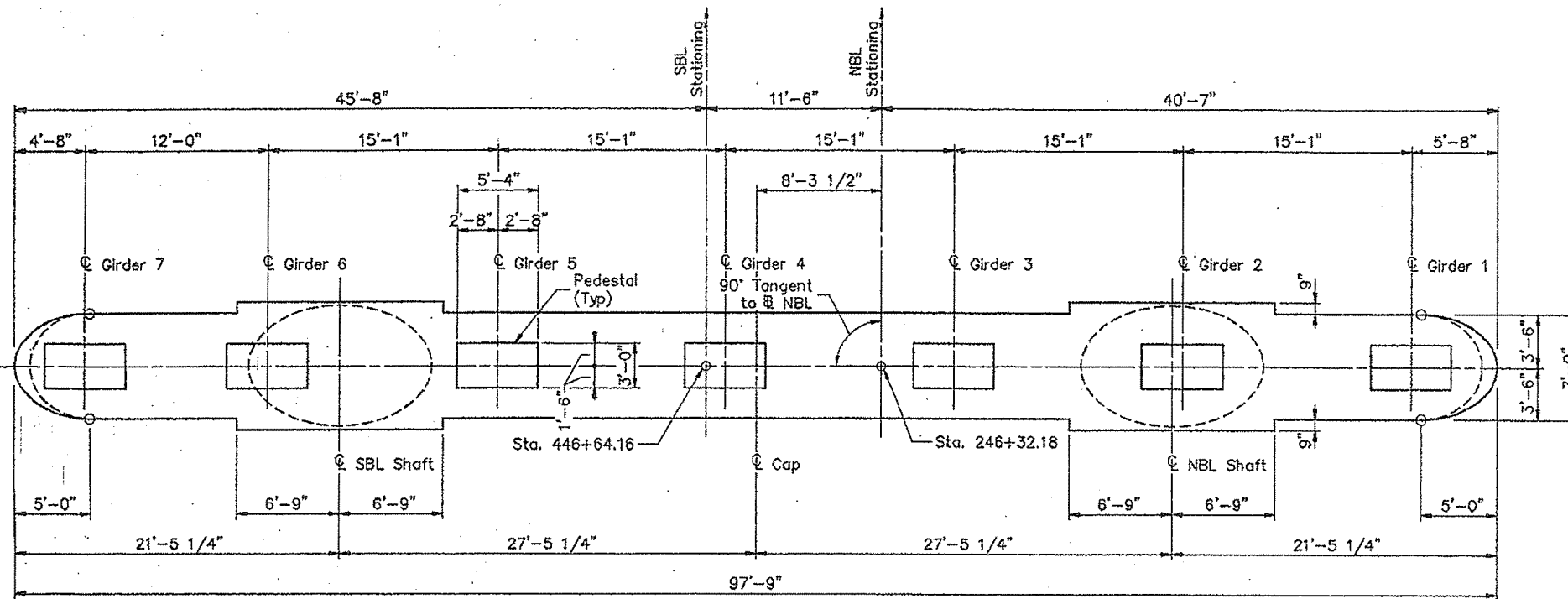
STEEL ALTERNATIVE SUBSTRUCTURE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

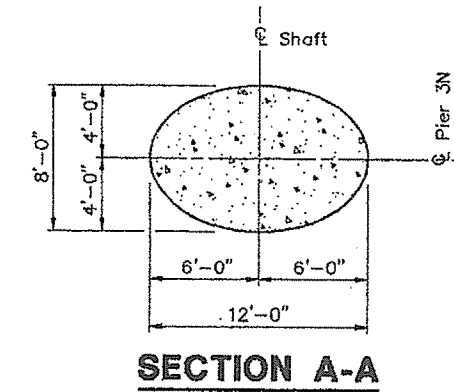
PORTLAND - S. PORTLAND BRIDGE

OVER FORE RIVER
CUMBERLAND COUNTY

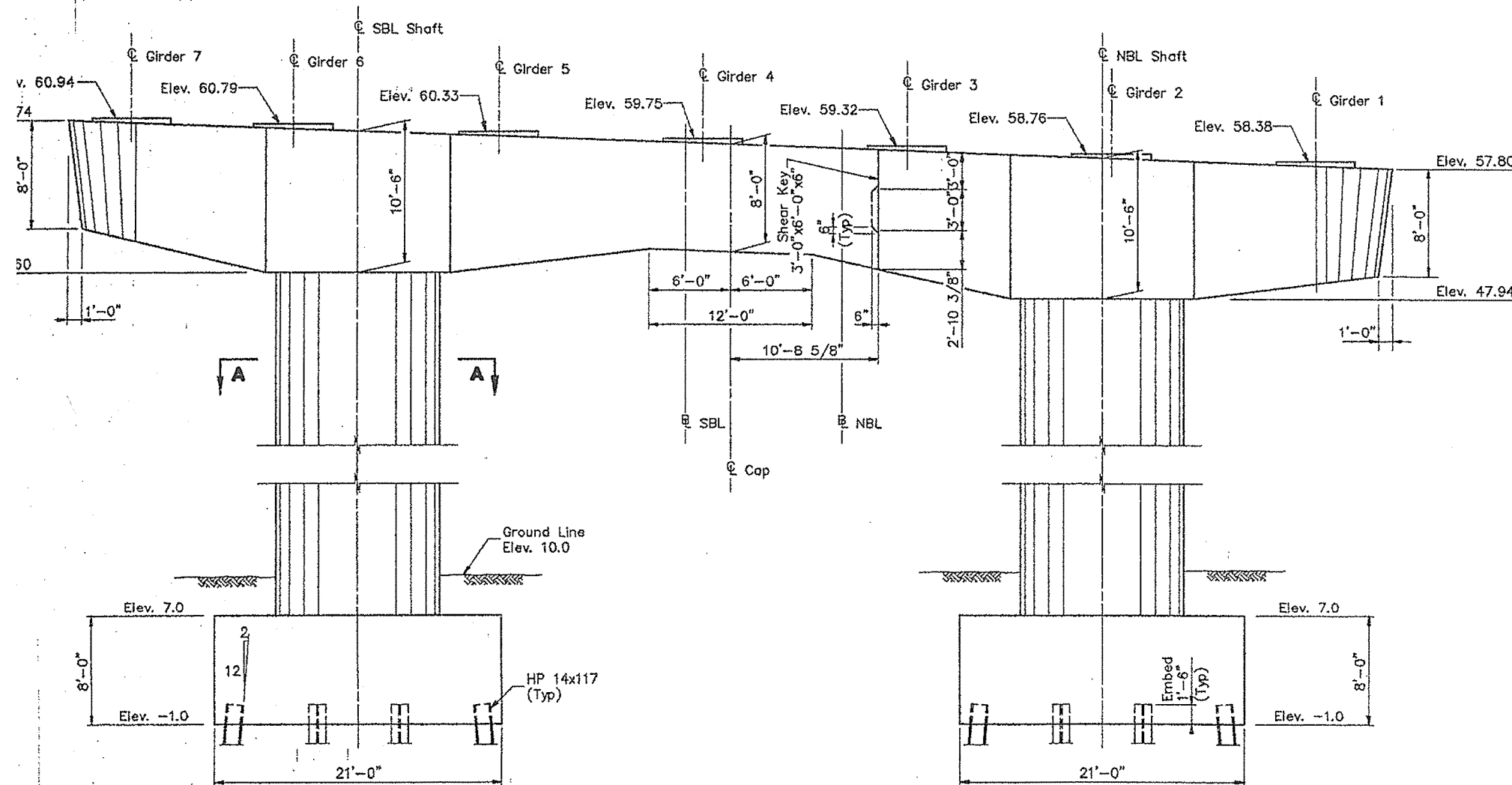
PLAN & ELEV. - PIER 2N



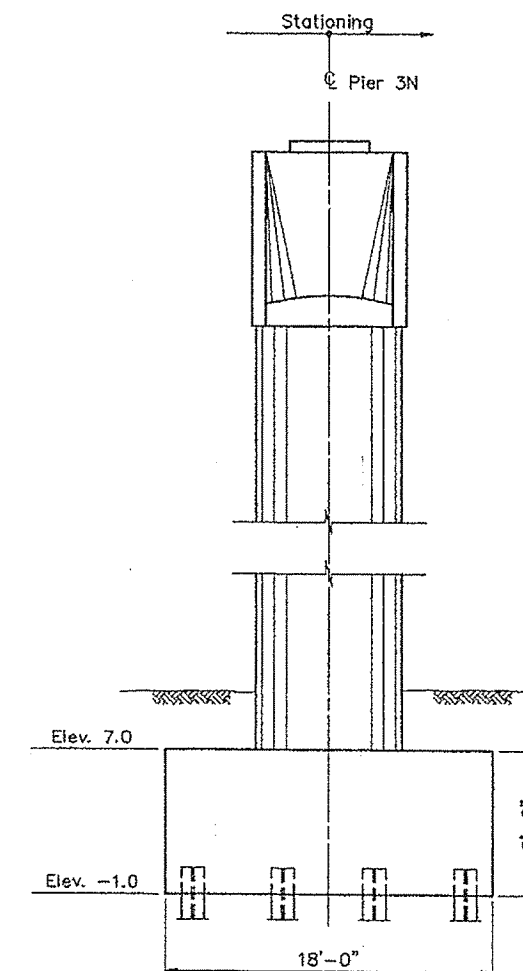
CAP PLAN - PIER 3N



SECTION A-A



ELEVATION - PIER 3N



END ELEVATION

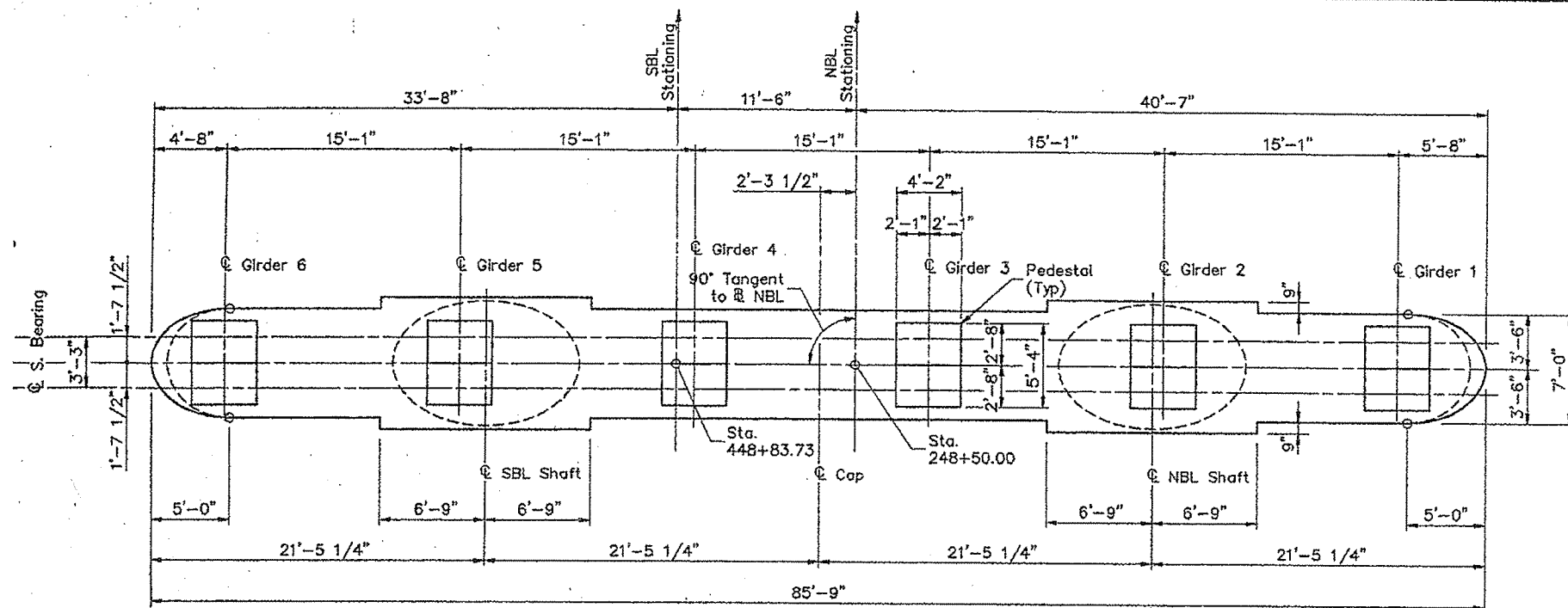
Notes:
Pier elevation shown looking up station.
Transverse dimensions on Cap Plan are measured radial to NBL.

STEEL ALTERNATIVE SUBSTRUCTURE

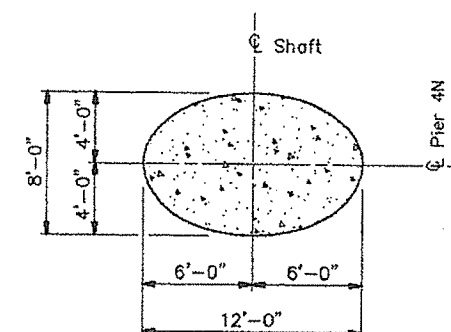
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PORTLAND - S. PORTLAND BRIDGE
OVER FORE RIVER
CUMBERLAND COUNTY

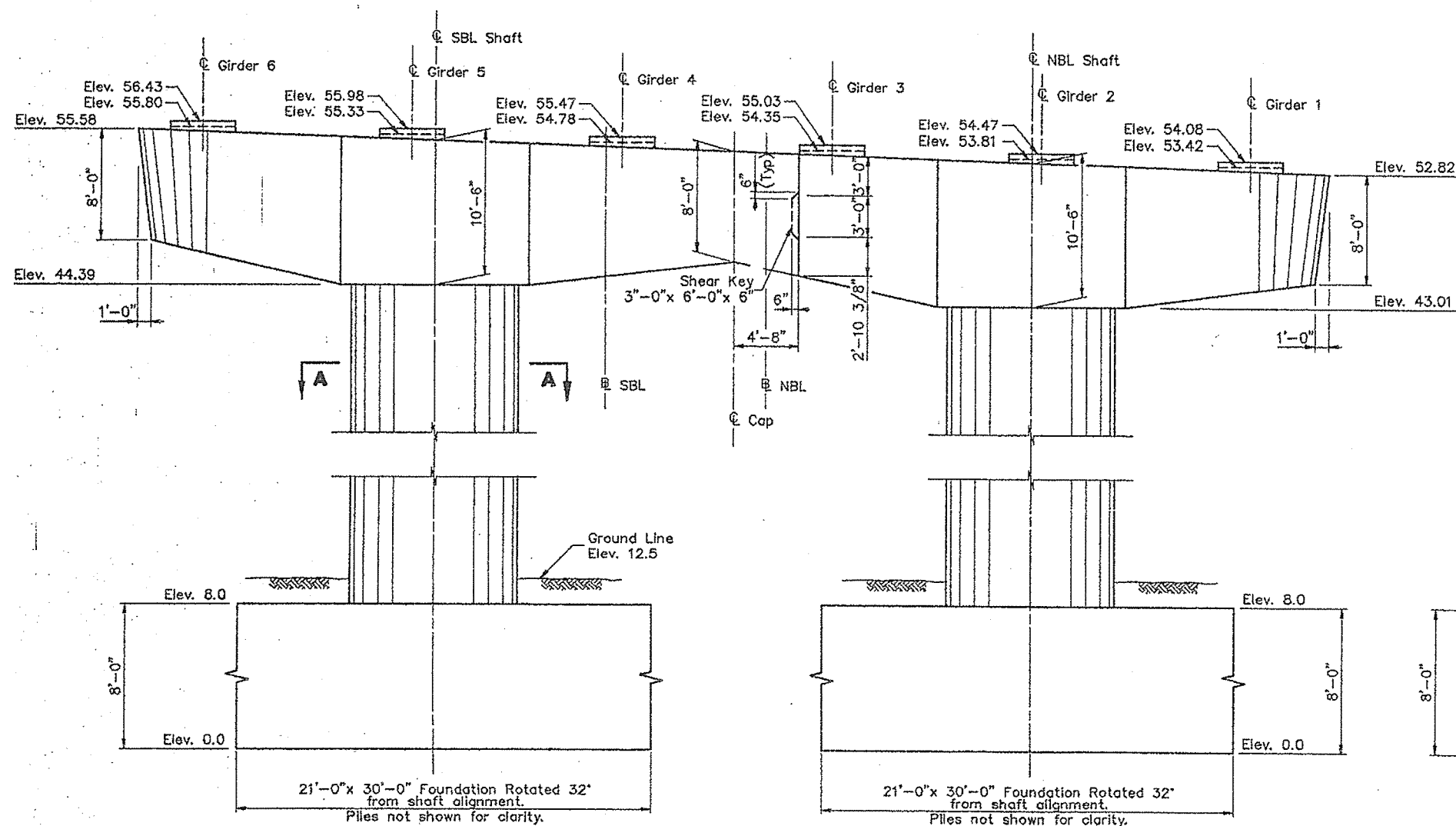
PLAN & ELEV. - PIER 3N



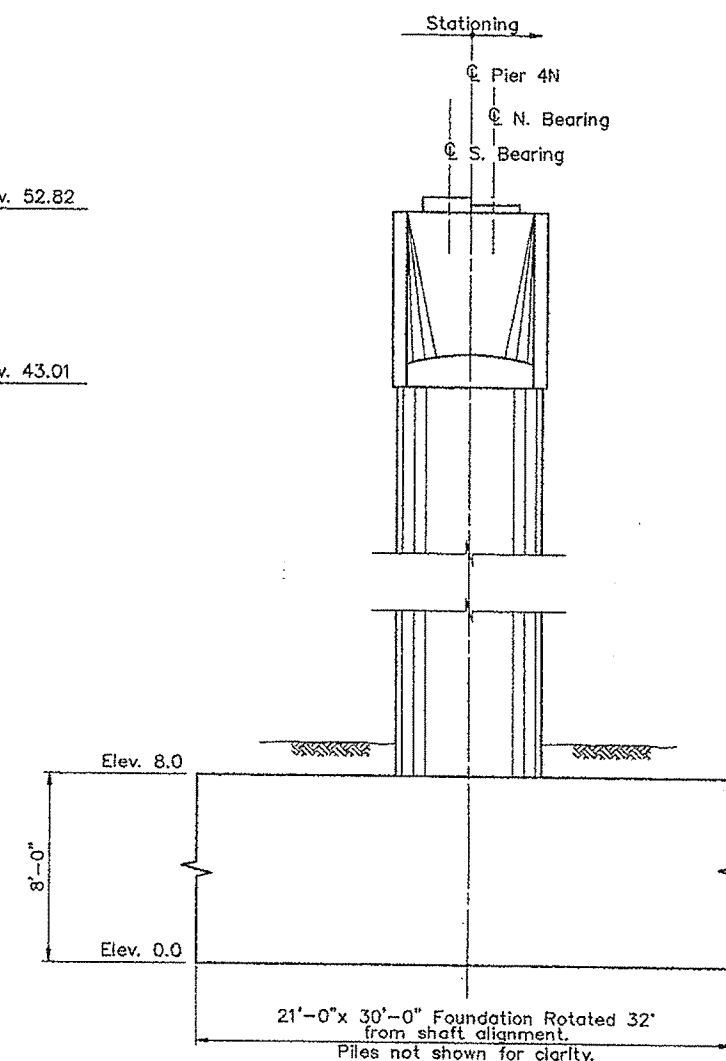
CAP PLAN - PIER 4N



SECTION A-A



ELEVATION - PIER 4N



END ELEVATION

Notes:
Pier elevation shown looking up station.
Transverse dimensions on Cap Plan are measured radial to NBL.

STEEL ALTERNATIVE SUBSTRUCTURE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

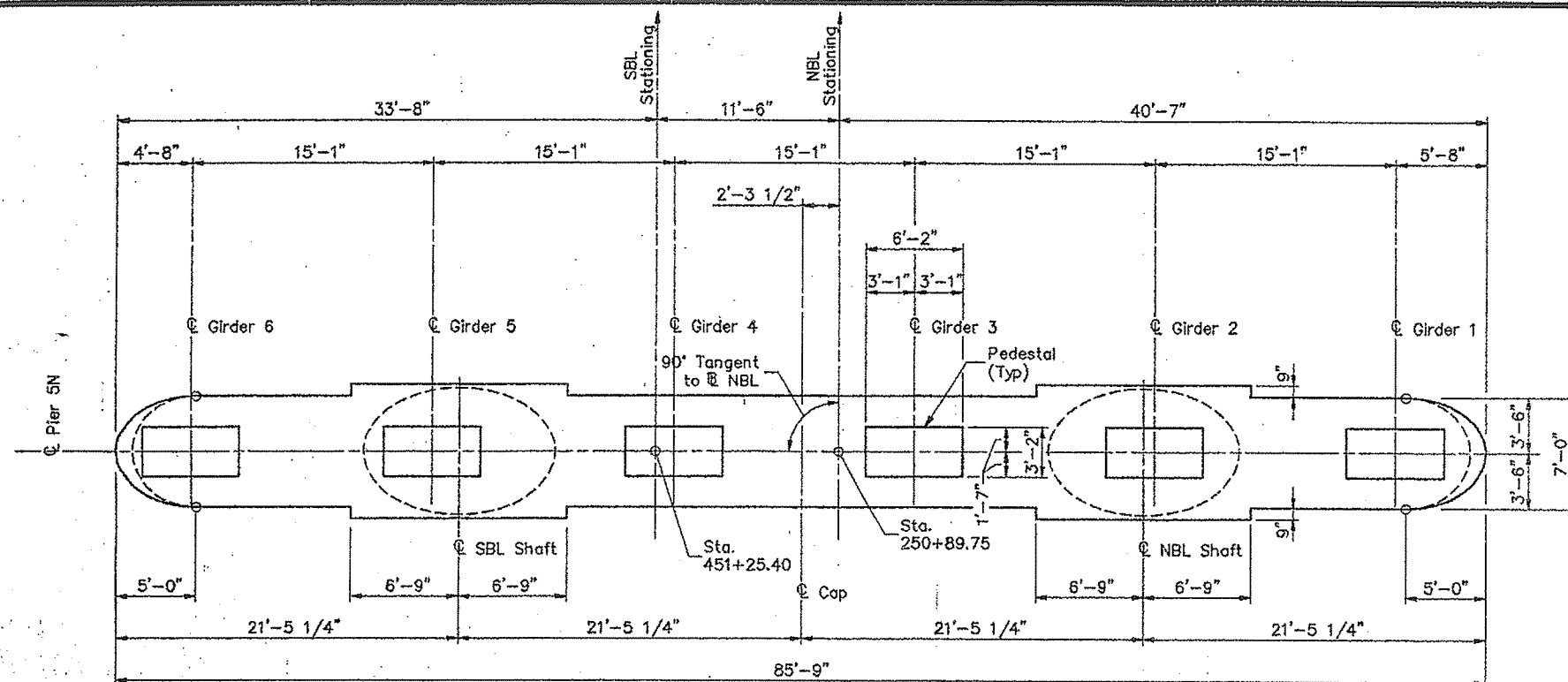
PORTLAND - S. PORTLAND BRIDGE

OVER FORE RIVER

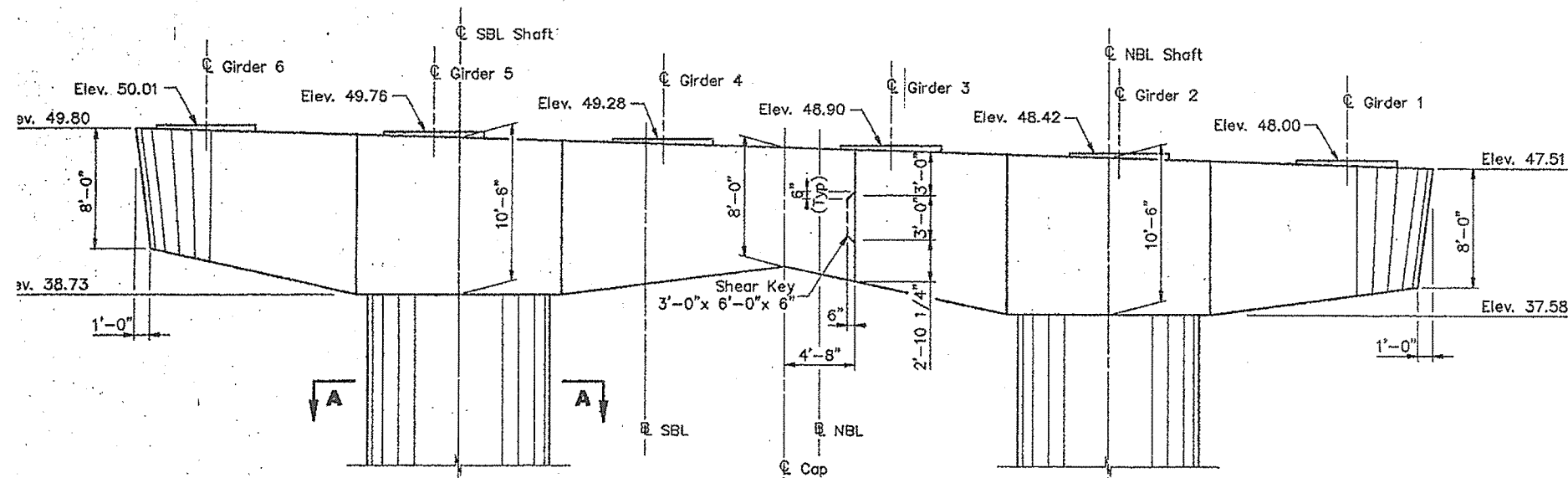
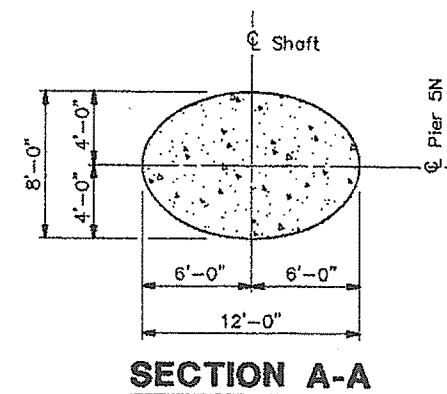
CUMBERLAND COUNTY

PLAN & ELEV. - PIER 4N

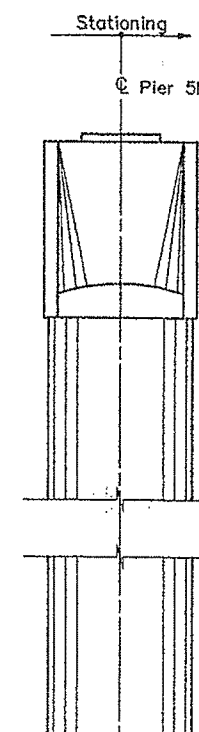
SHEET 106 OF 238 AUGUSTA, MAINE 6/1/90



CAP PLAN - PIER 5N



ELEVATION - PIER 5N



END ELEVATION

Notes:
Pier elevation shown looking up station.
Transverse dimensions on Cap Plan are measured radial to NBL.

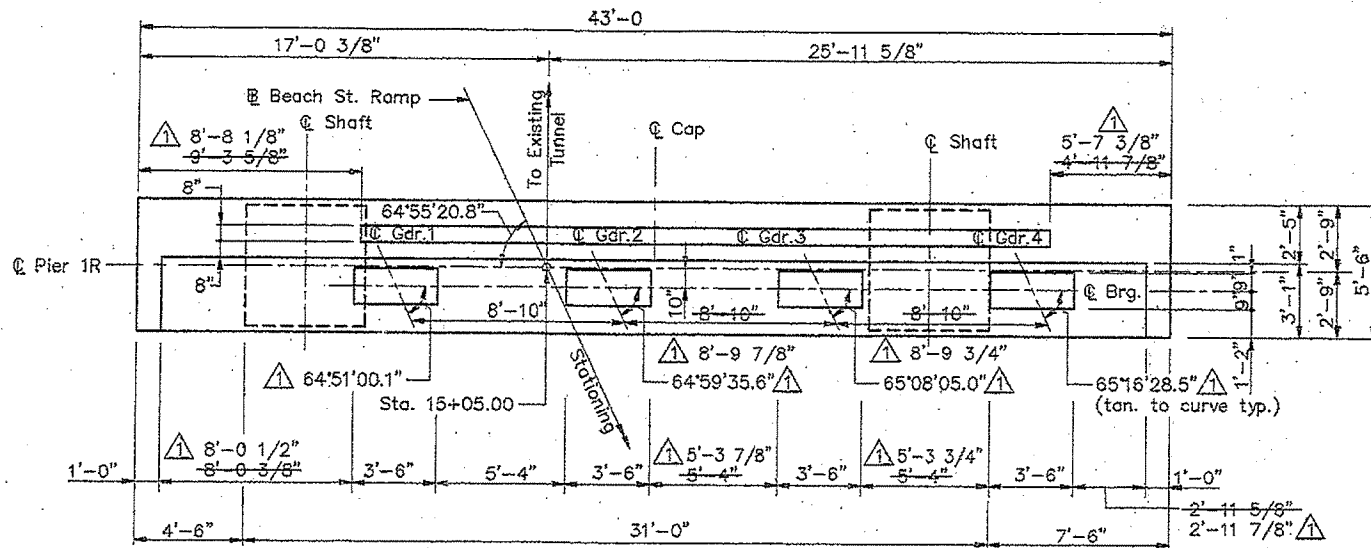
STEEL ALTERNATIVE SUBSTRUCTURE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

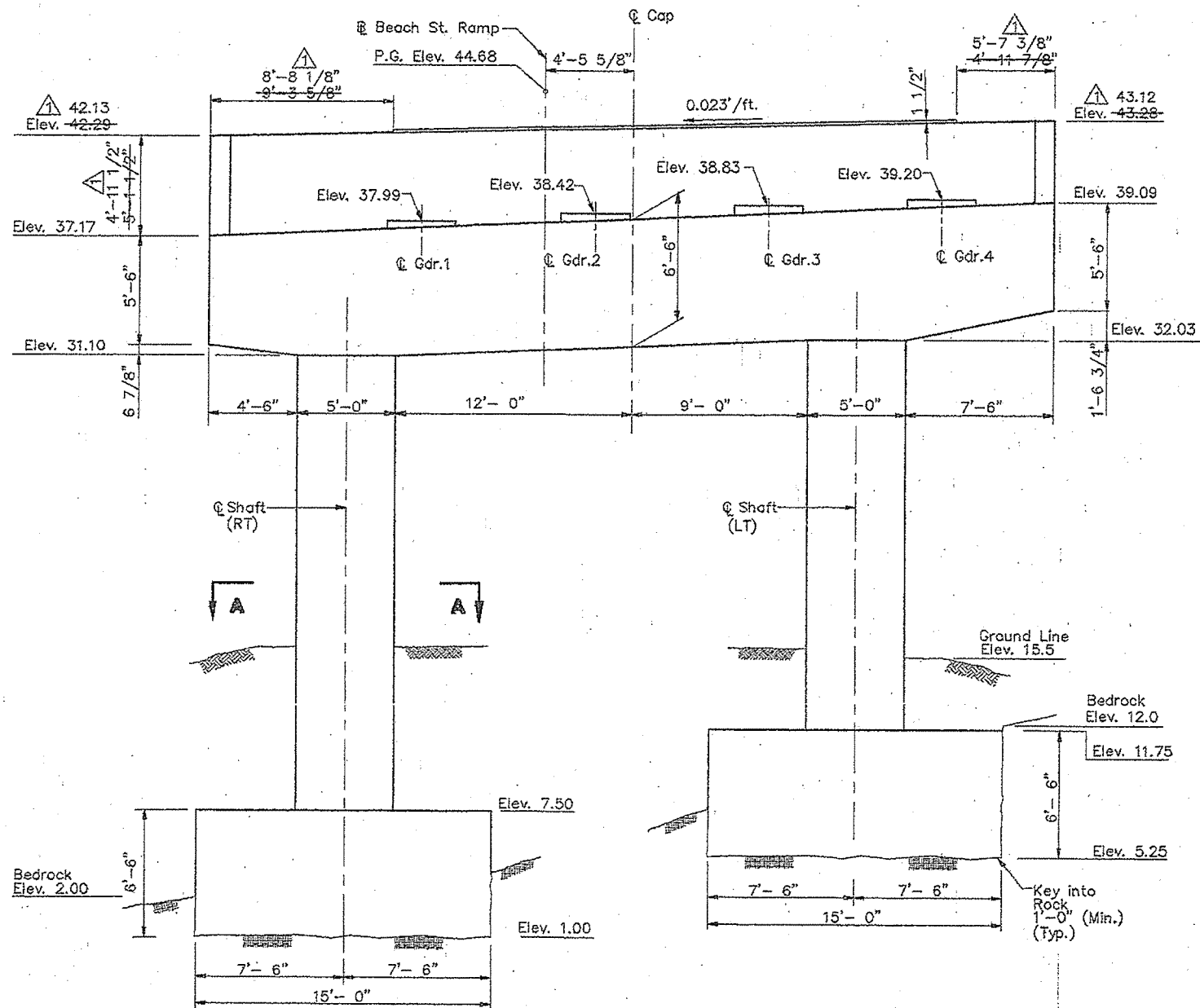
PORTLAND - S. PORTLAND BRIDGE
OVER FORE RIVER.
CUMBERLAND COUNTY

PLAN & ELEV. - PIER 5N

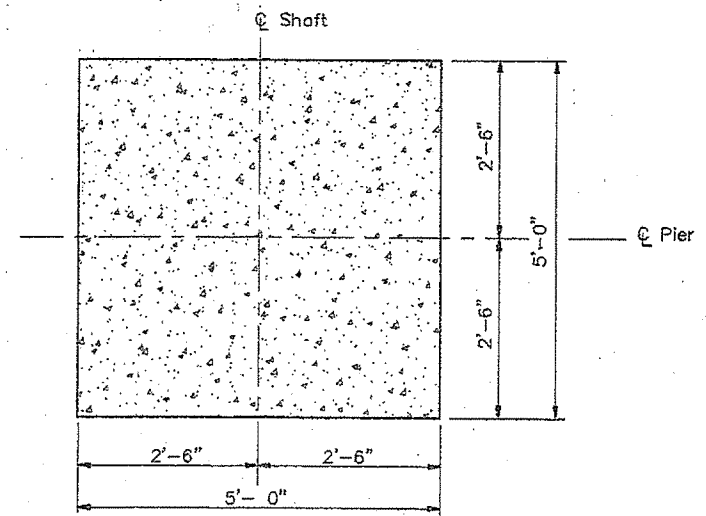
F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	DPI-0068(002)	67	338



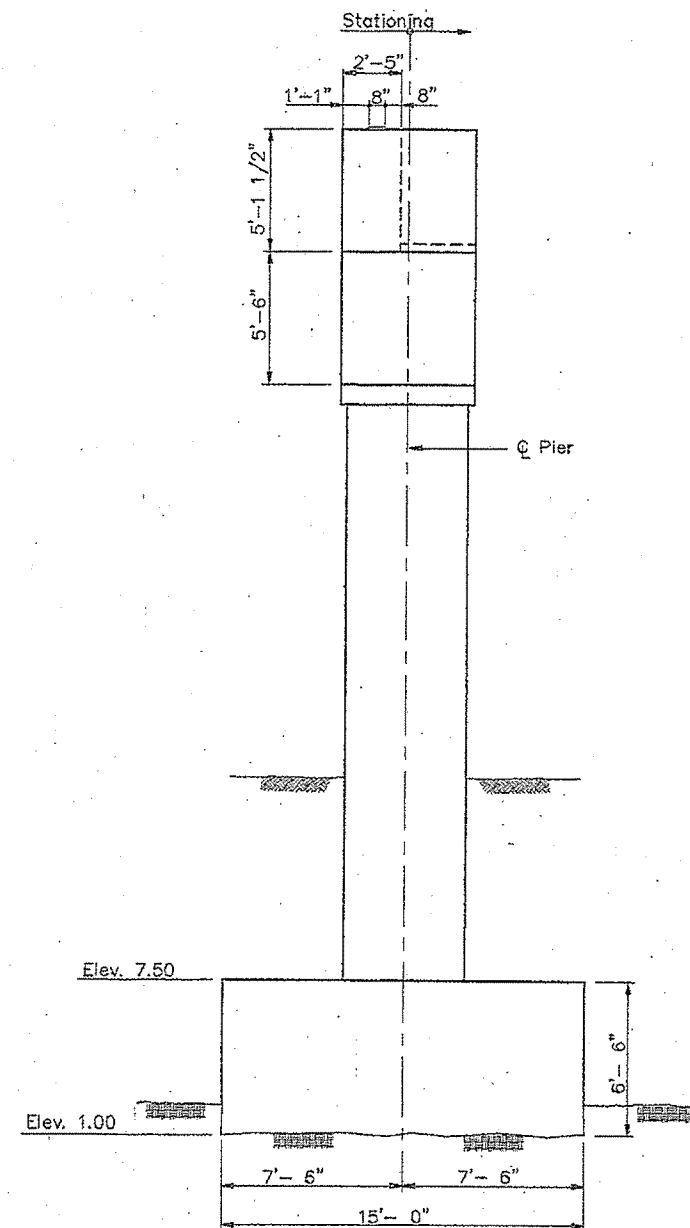
CAP PLAN - PIER 1R



ELEVATION VIEW OF PIER 1R



SECTION A-A

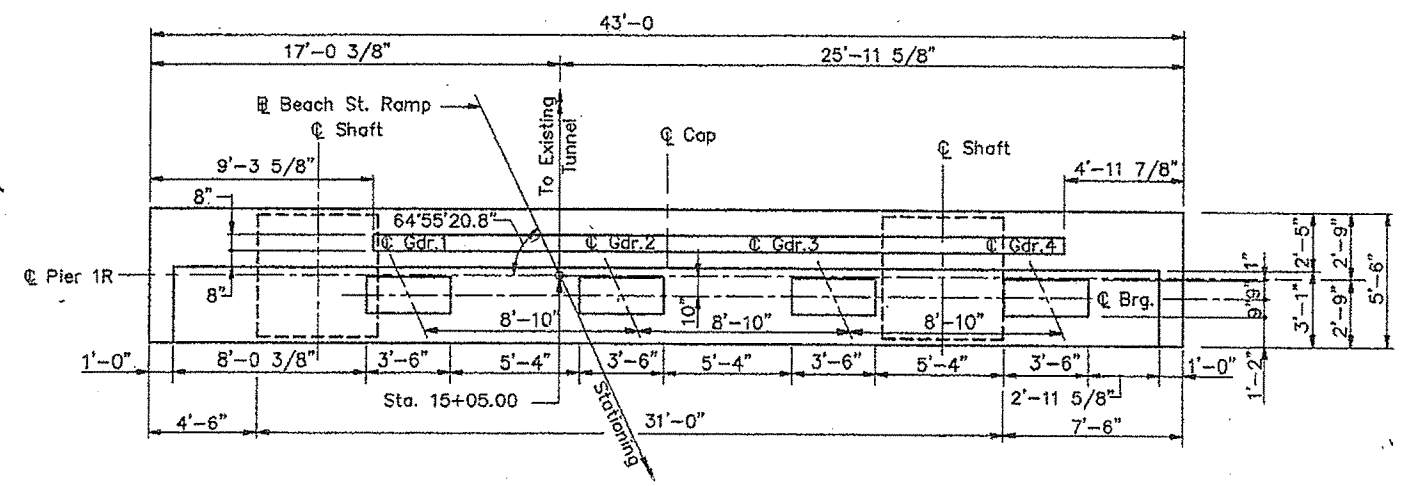


△ Revise pedestal locations and cap elevations. Add girder angles 4/26/96

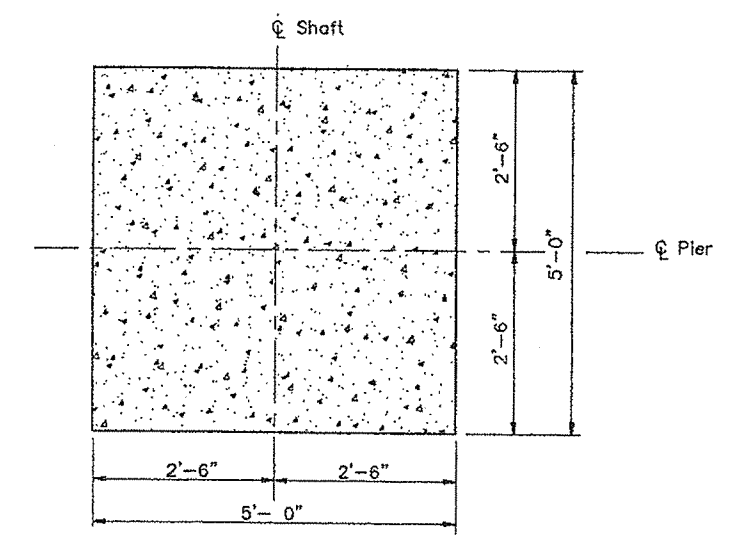
Note:
Transverse dimensions in cap plan measured along C. Pier 1R.
Bedrock elevation is approximate.

STEEL ALTERNATIVE SUBSTRUCTURE

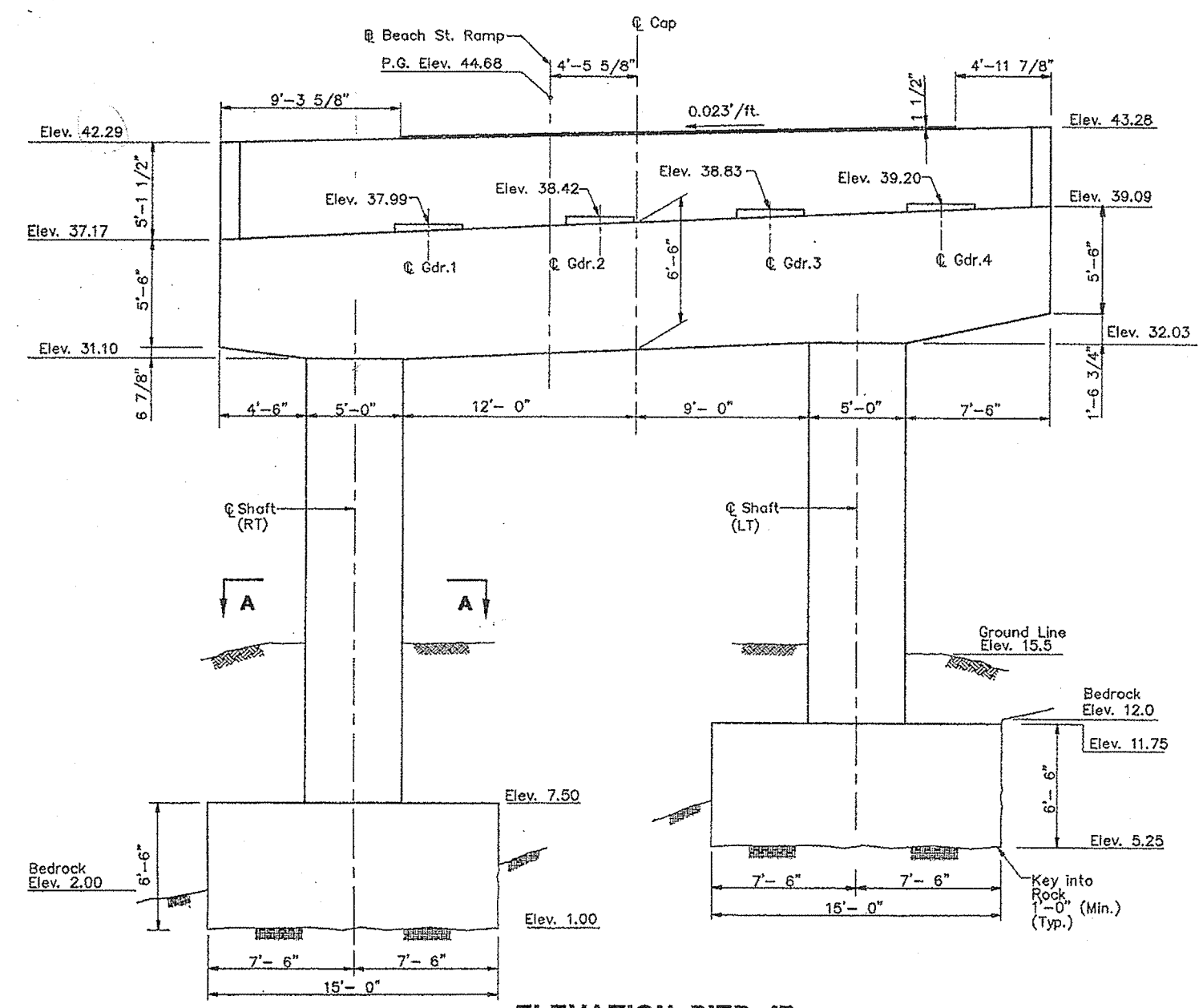
STATE OF MAINE DEPARTMENT OF TRANSPORTATION
PORTLAND - S. PORTLAND BRIDGE
OVER FORE RIVER
CUMBERLAND COUNTY
PLAN & ELEVATION



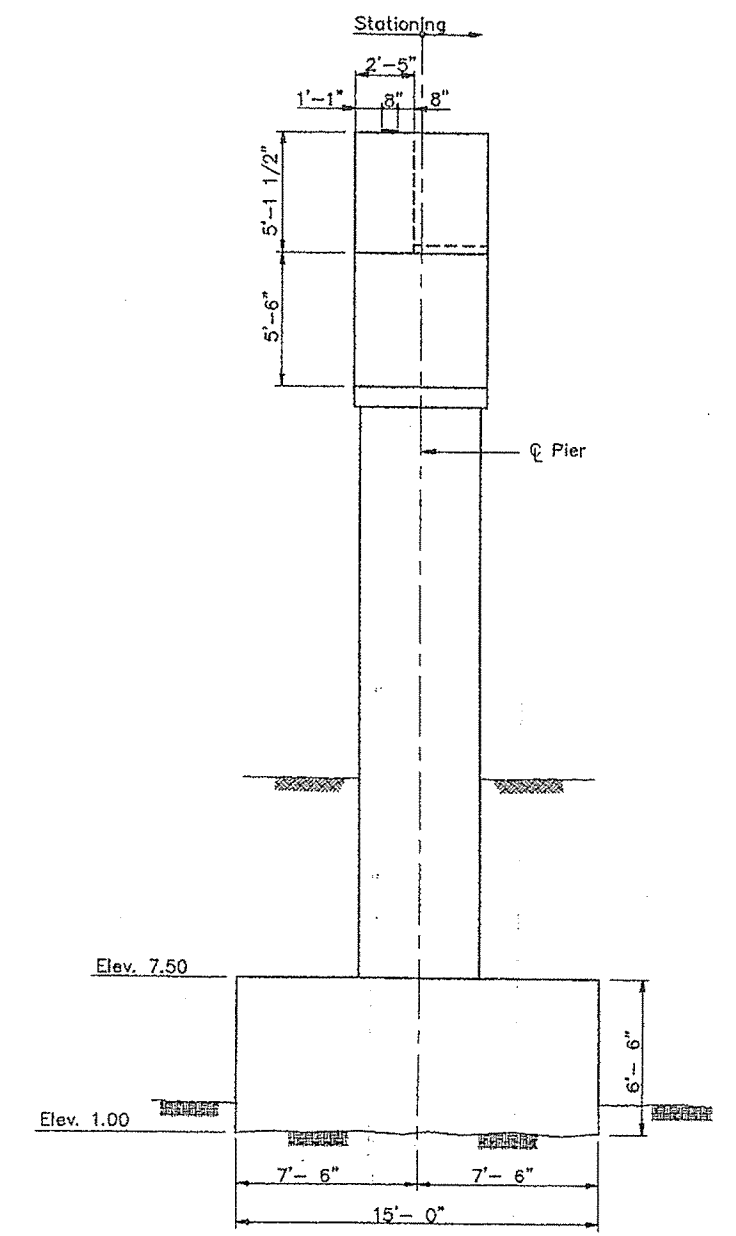
CAP PLAN - PIER 1R



SECTION A-A



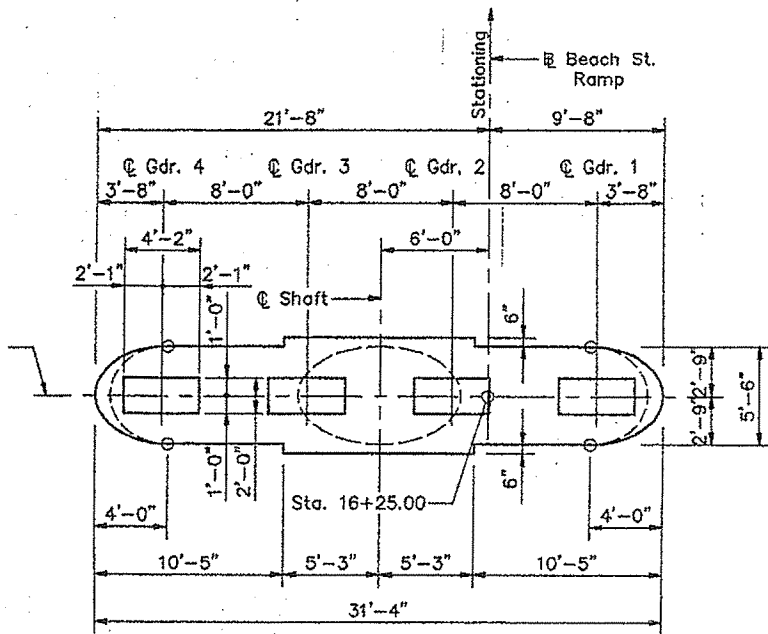
ELEVATION PIER 1R



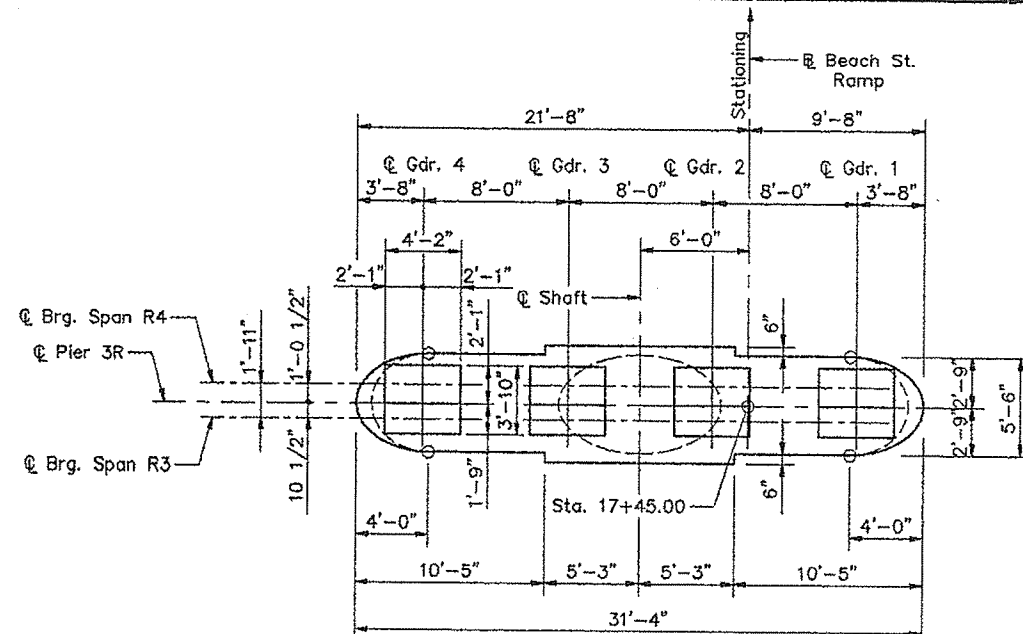
END ELEVATION

Note:
Transverse dimensions in cap plan measured along C Pier 1R.
Bedrock elevation is approximate.

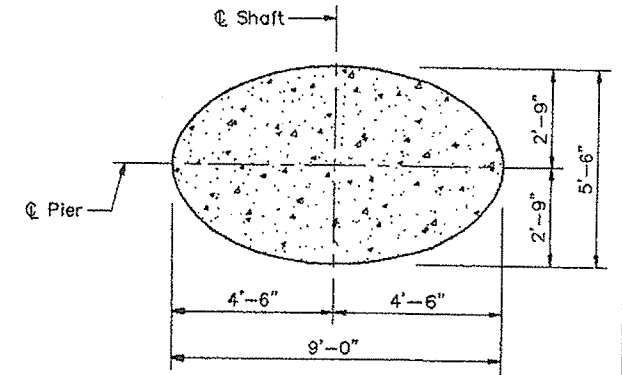
STEEL ALTERNATIVE SUBSTRUCTURE



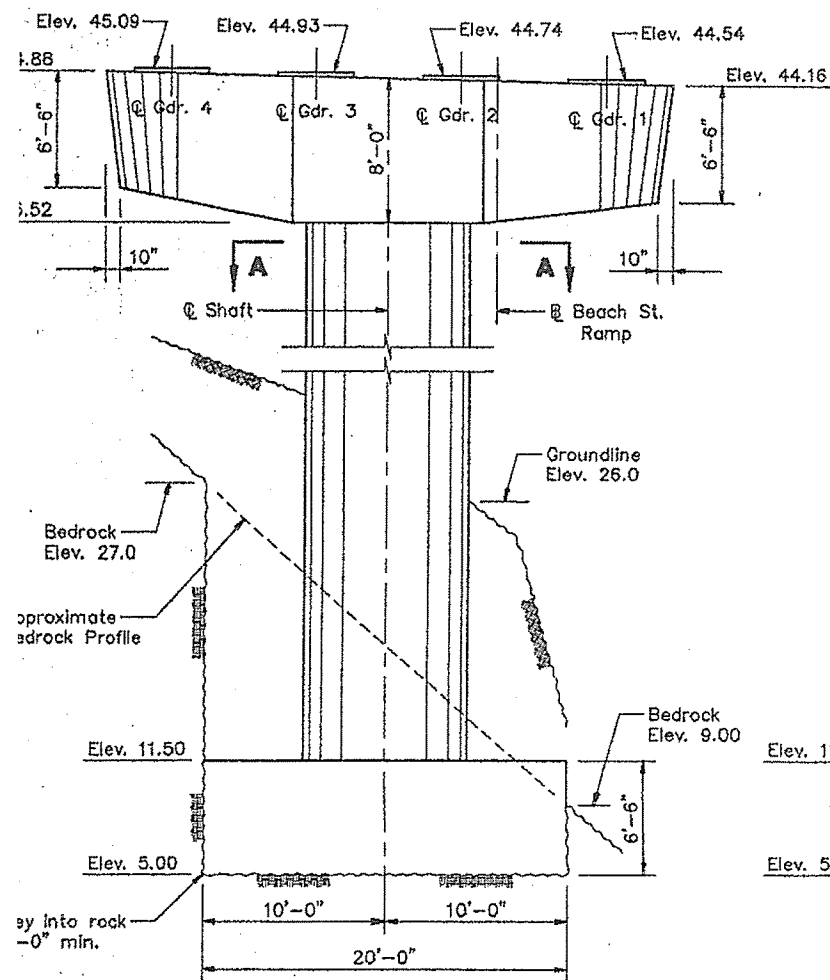
CAP PLAN - PIER 2R



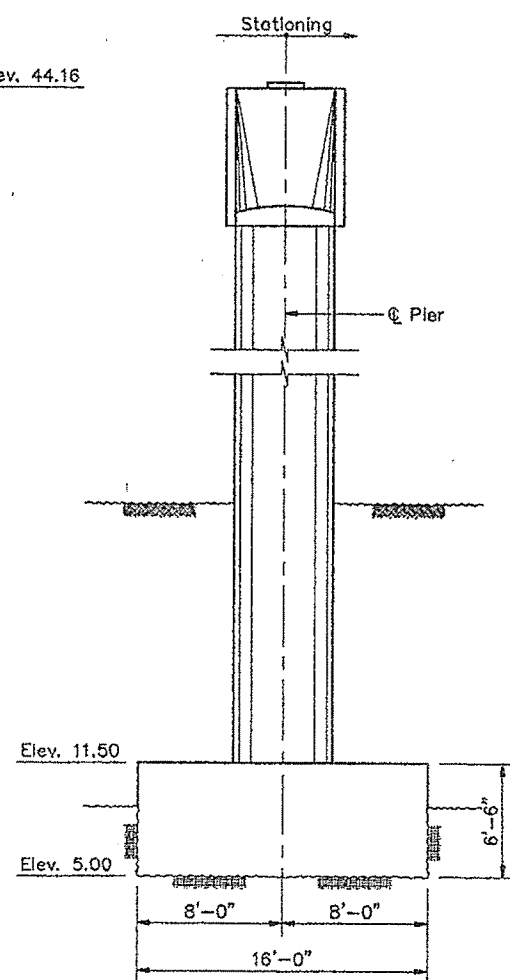
CAP PLAN - PIER 3R



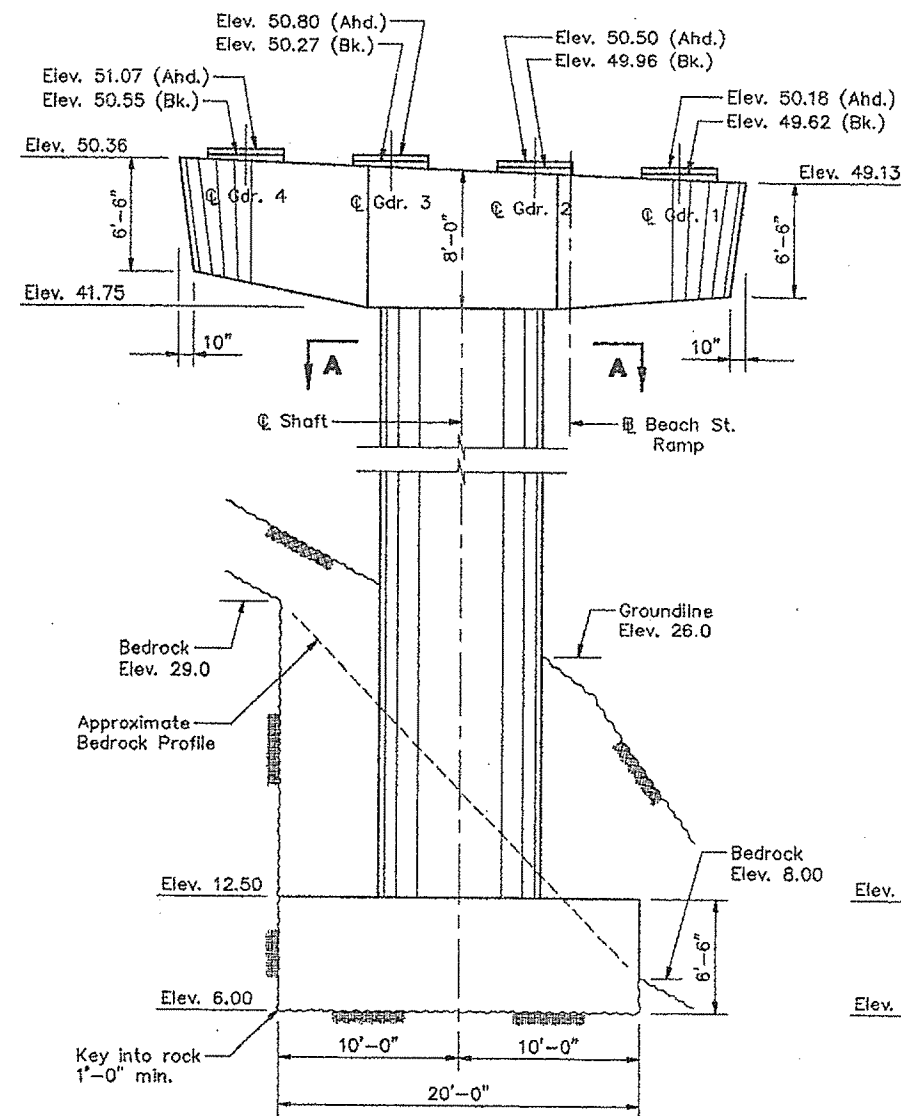
SECTION A-A



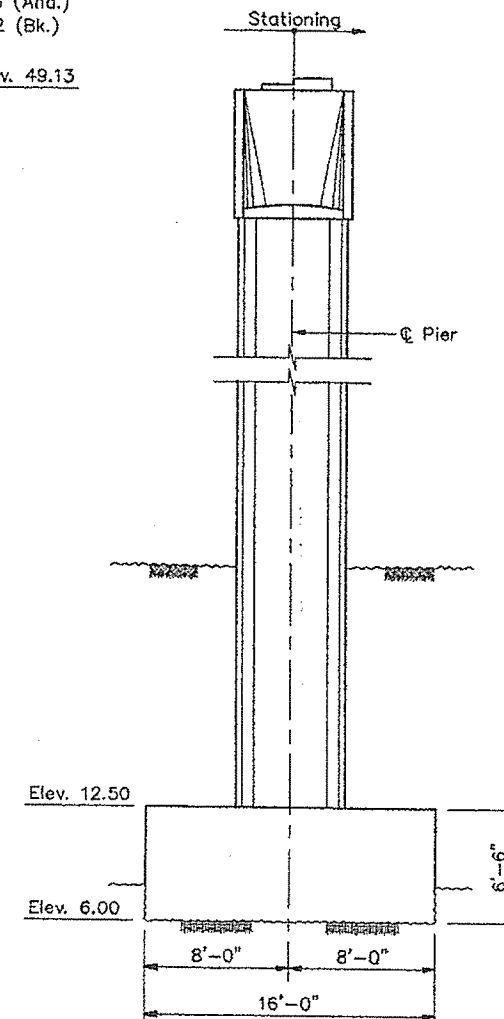
ELEVATION - PIER 2R



END ELEVATION



ELEVATION - PIER 3R

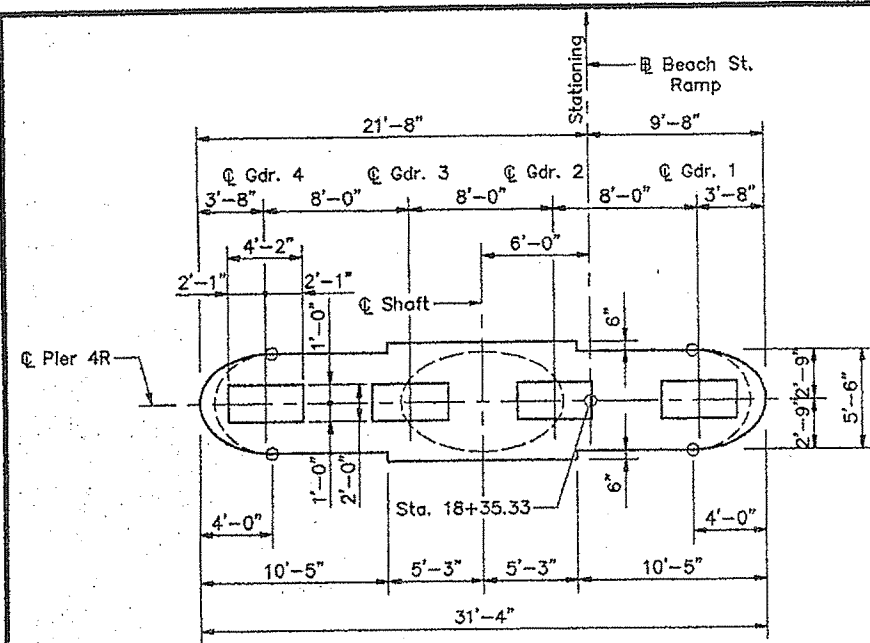


END ELEVATION

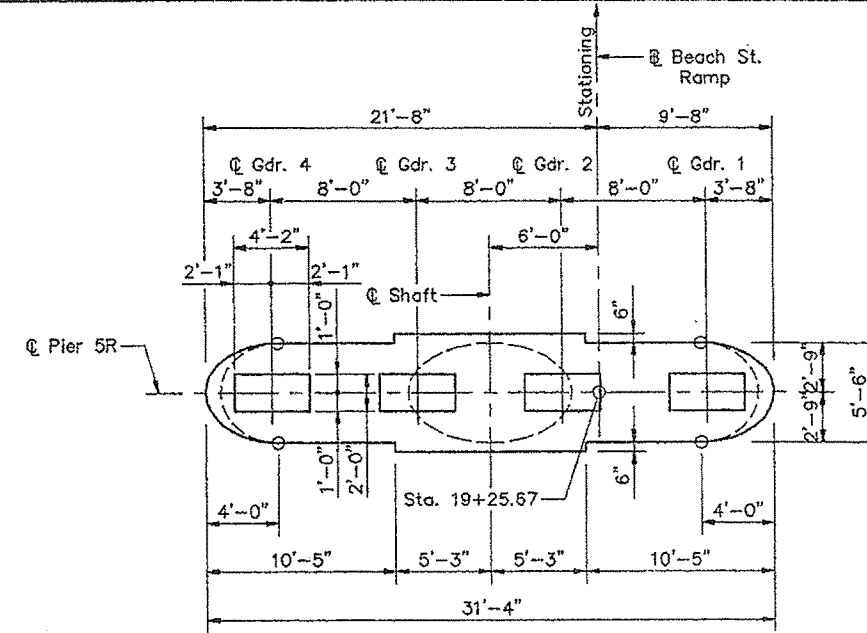
Note: Bedrock elevation is approximate.

STEEL ALTERNATIVE SUBSTRUCTURE

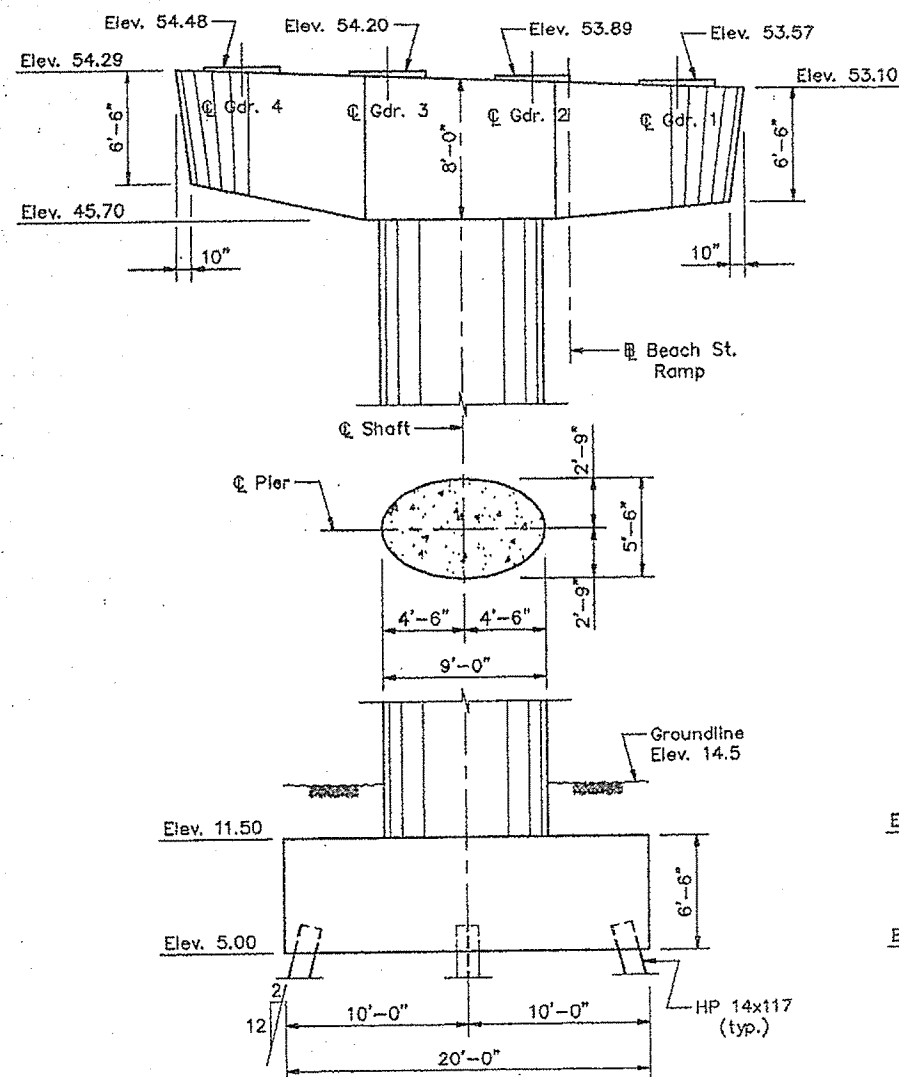
STATE OF MAINE DEPARTMENT OF TRANSPORTATION
PORTLAND - S. PORTLAND BRIDGE
OVER FORE RIVER
CUMBERLAND COUNTY
PLAN & ELEVATION PIERS 2R & 3R



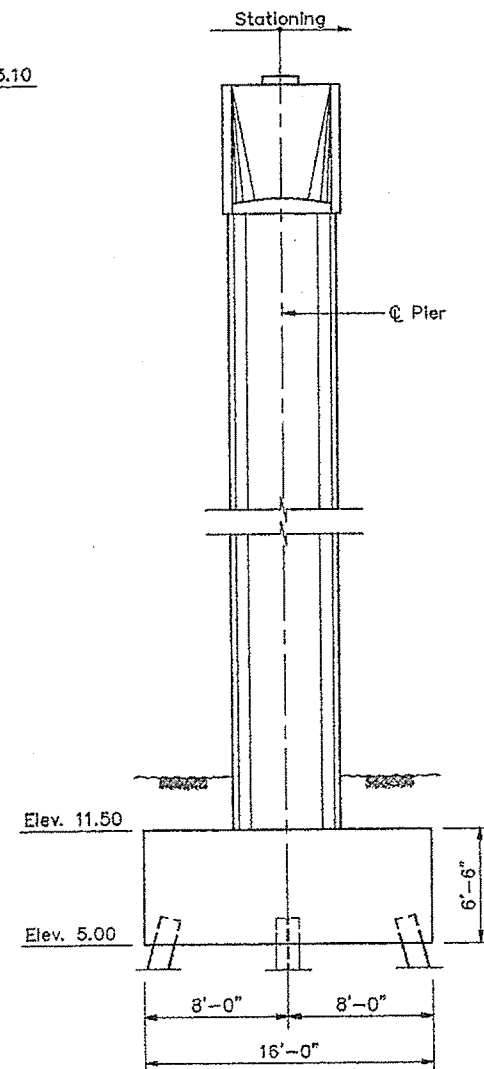
CAP PLAN - PIER 4R



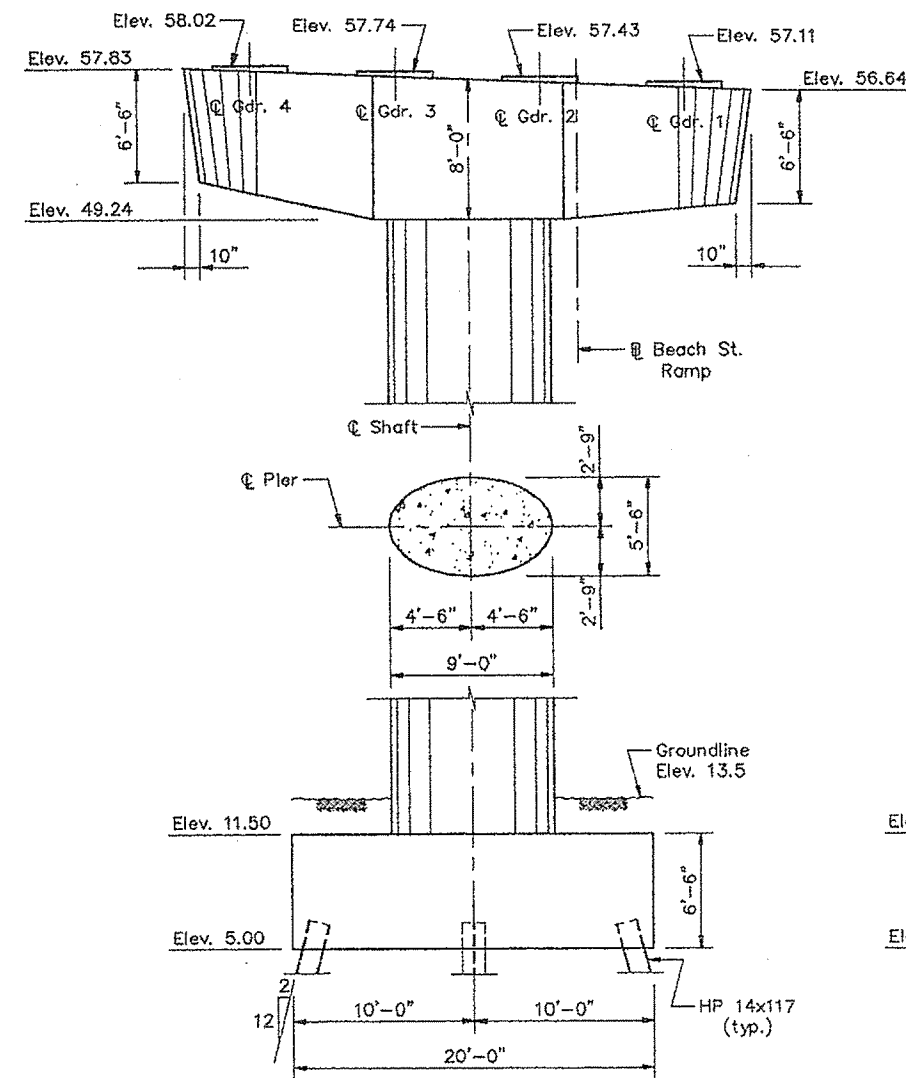
CAP PLAN - PIER 5R



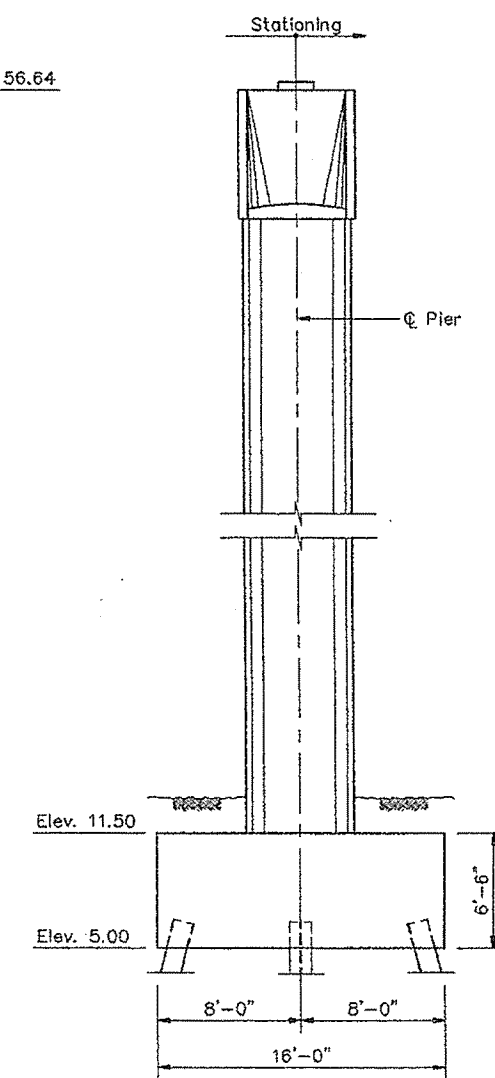
ELEVATION - PIER 4R



END ELEVATION



ELEVATION - PIER 5R



END ELEVATION

PROJECT DESIGN ENGINEER	DATE
DESIGN-CHECKED	5/94
CHECKED	5/94
REVISIONS	
FIELD CHANGES	

PLANS

PIER 4R - SDWG : 1-64

STEEL ALTERNATIVE SUBSTRU

STATE OF MAINE
DEPARTMENT OF TRANSPORT

PORTLAND - S. PORTLAND

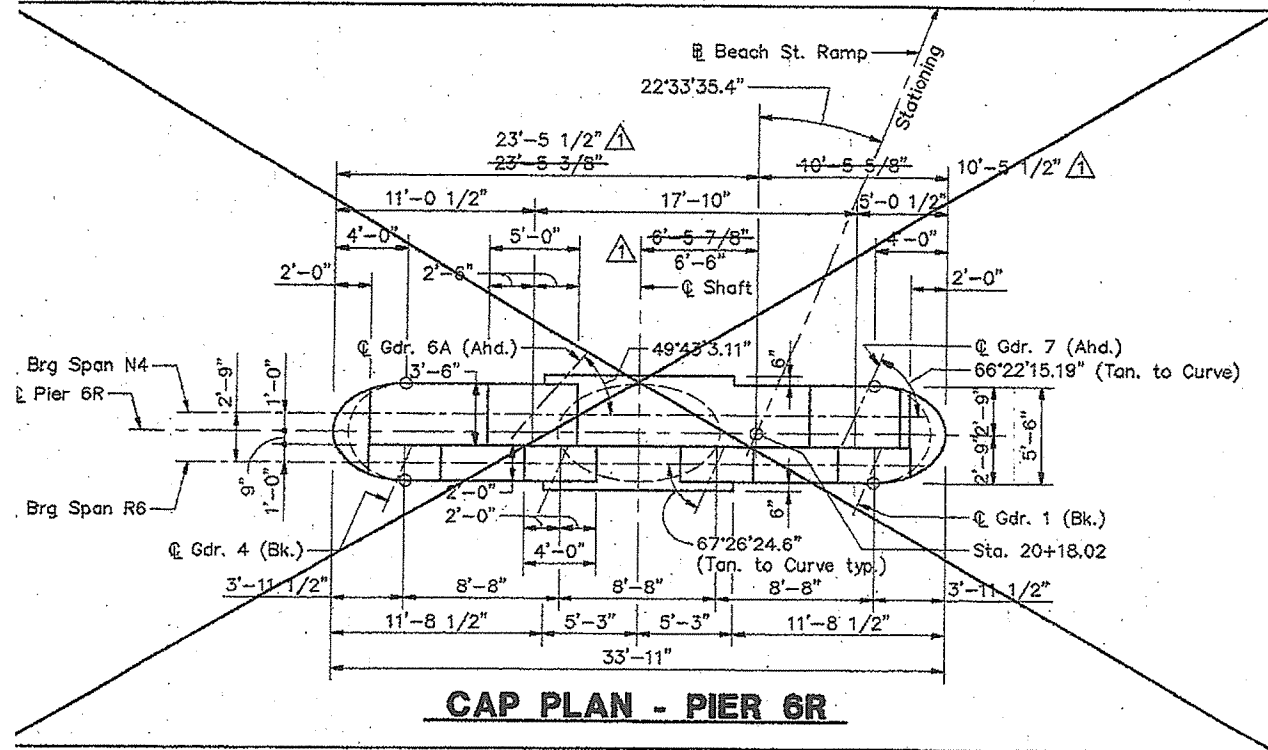
OVER FORE RIVER

CUMBERLAND COUNTY

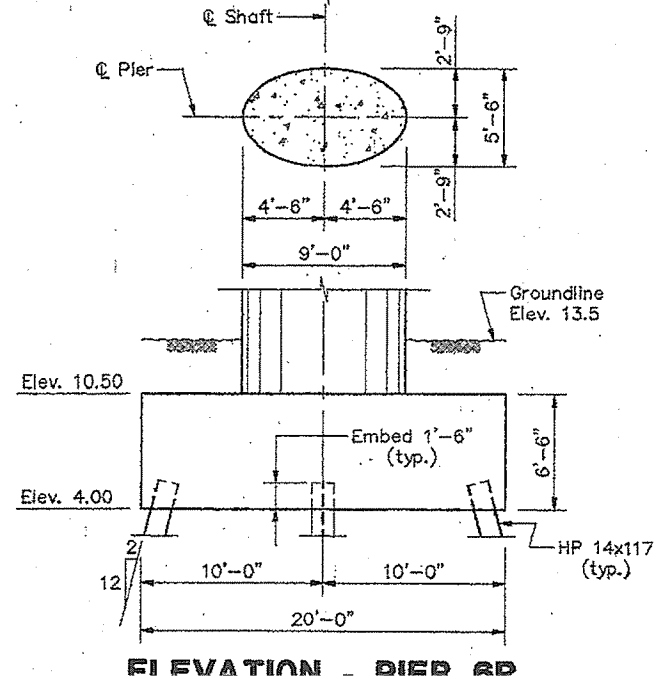
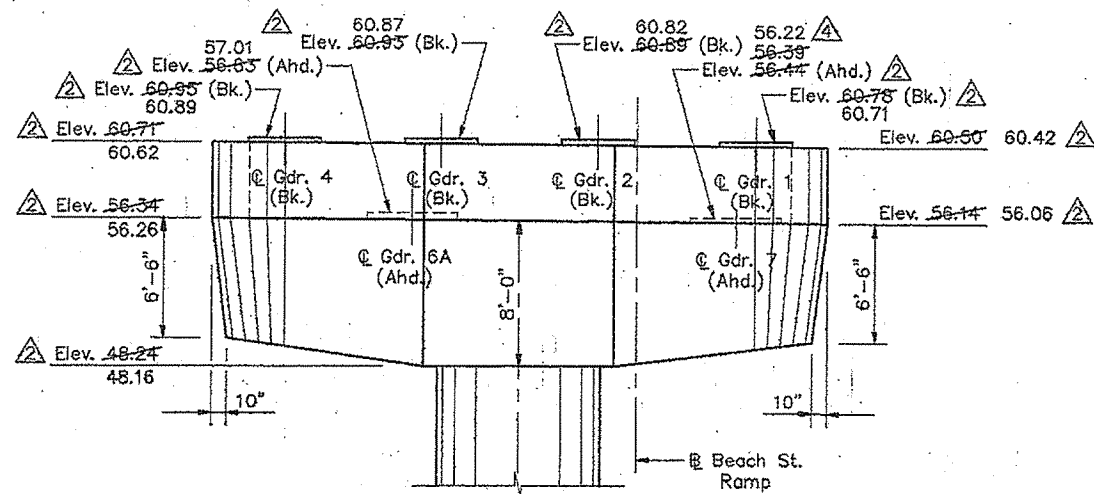
**PLAN & ELEVATION
PIERS 4R & 5R**

SHEET 69 OF 338 AUGUSTA, MAINE

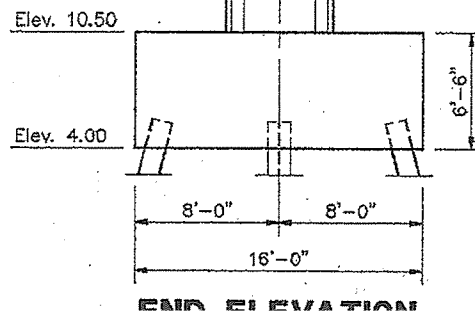
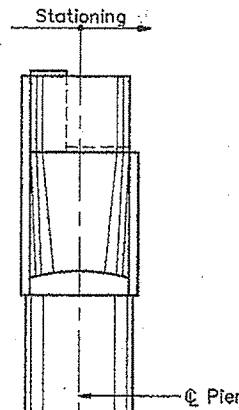
F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEET
1	MAINE	DPI-0068(002)	70	339



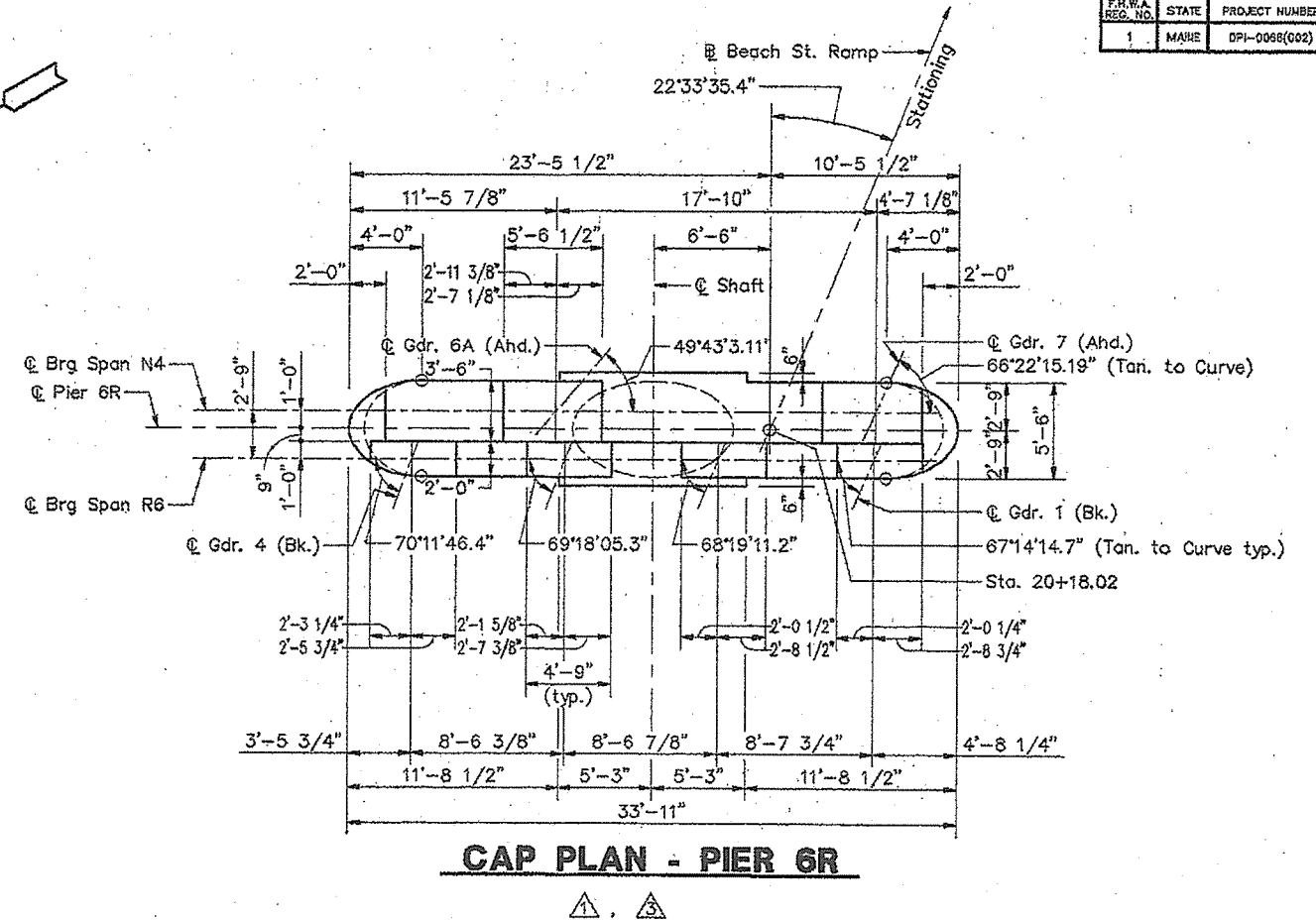
CAP PLAN - PIER 6R



ELEVATION - PIER 6R



END ELEVATION



CAP PLAN - PIER 6R

- △ Revise pedestal elevation to match Modjeski & Masters' superstructure plans 3/25/96
- △ Revise centerline of girder locations for all girders and tangent to curve angles for girders 1 thru 4 of Span R6 bearing centerline 3/25/96
- △ Revise cap elevations 1/9/95
- △ Revise dimensions in Cap Plan 10/7/94

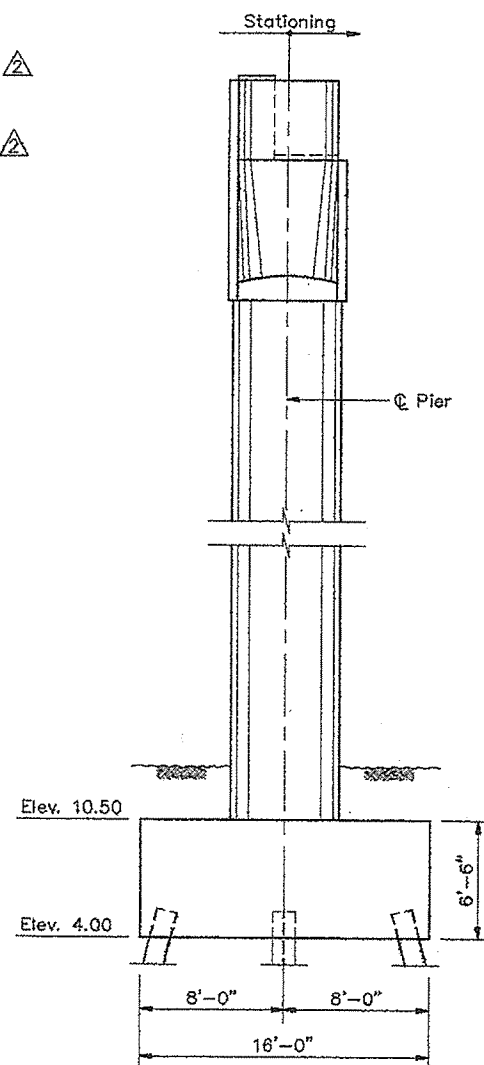
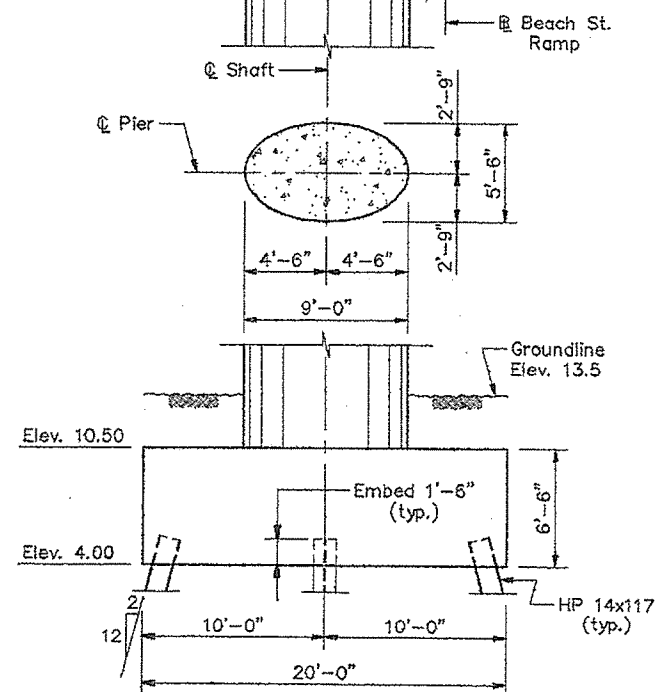
Note:
Transverse dimensions on Cap Plan are measured along C Pier 6R.

STEEL ALTERNATIVE SUBSTRUCTURE

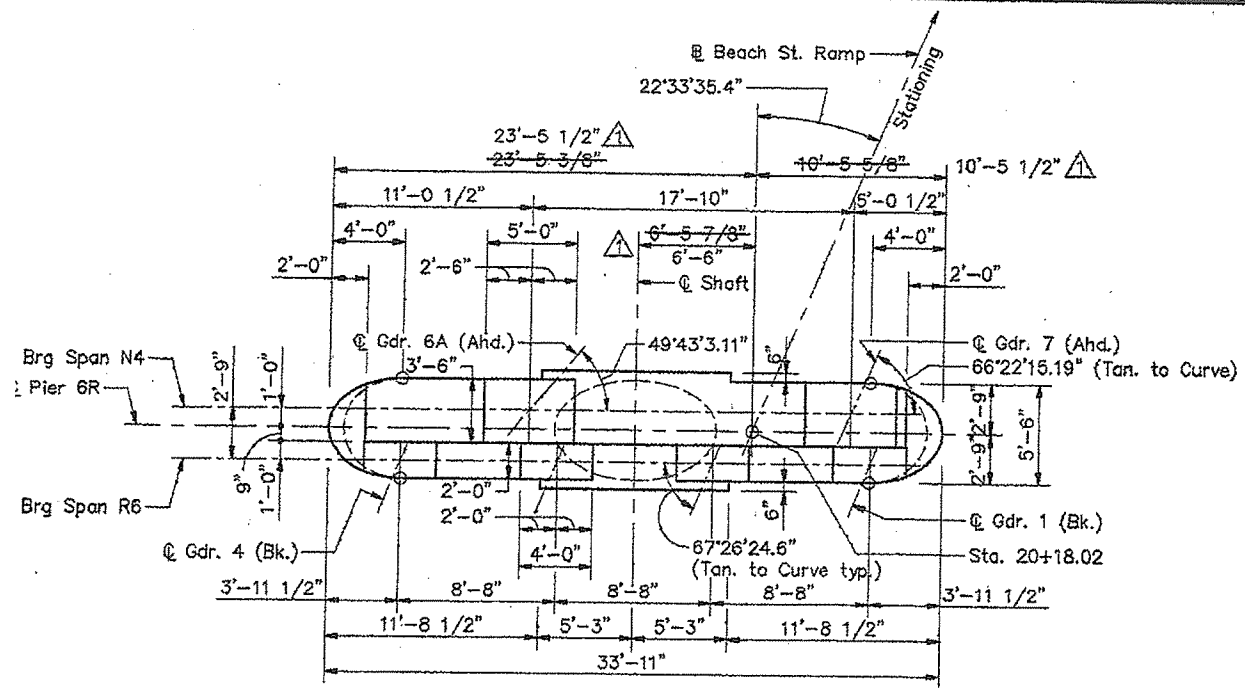
STATE OF MAINE DEPARTMENT OF TRANSPORTATION
PORTLAND - S. PORTLAND BRIDGE
OVER FORE RIVER
CUMBERLAND COUNTY
PLAN & ELEVATION

F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	DPI-006B(002)	70	338

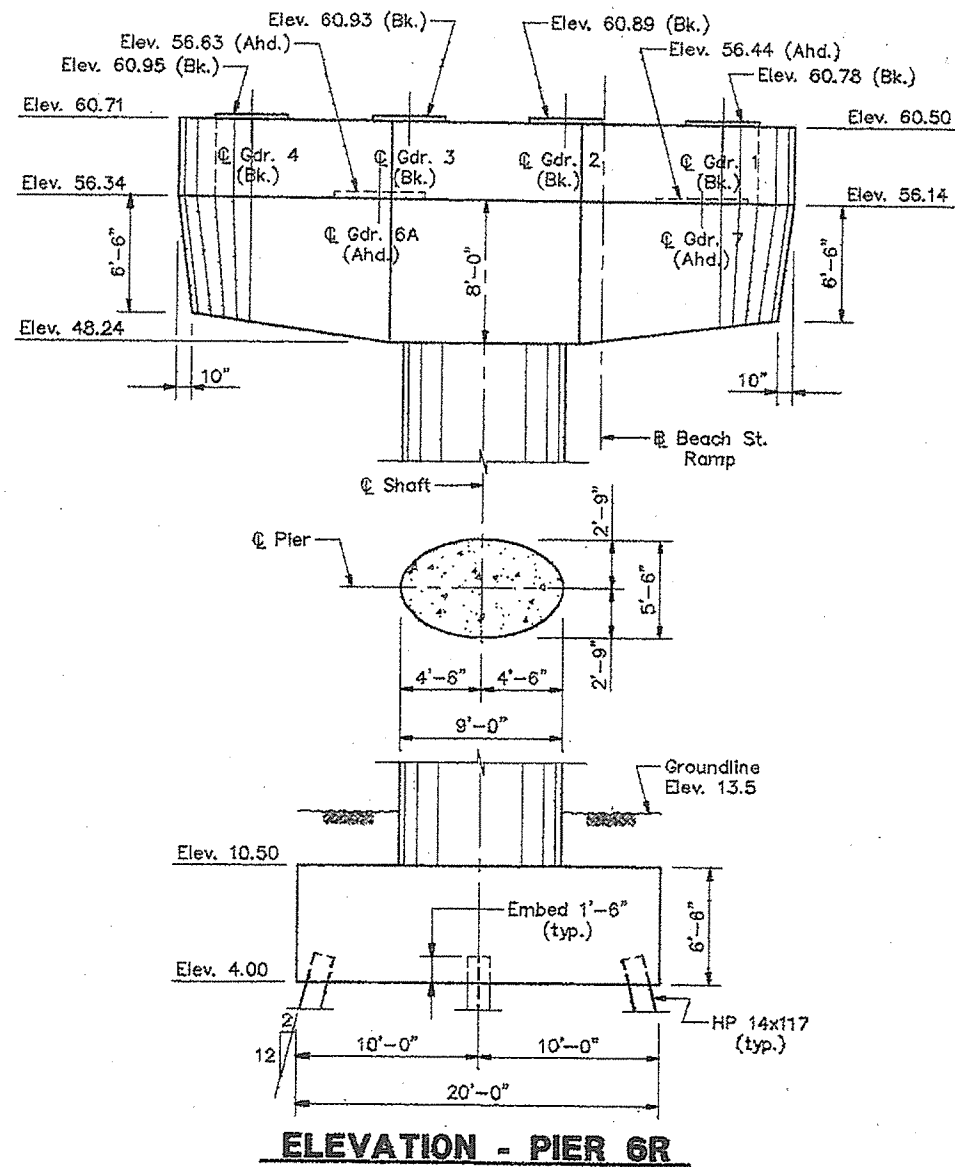
CAP PLAN - PIER 6R



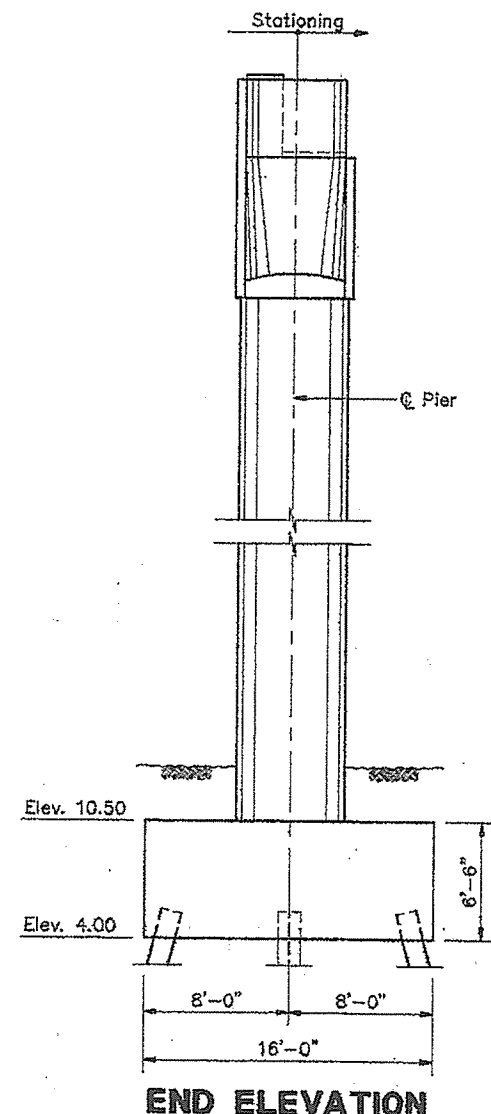
2. Revise cap elevations 1/9/95
 1. Revise dimensions in Cap Plan 10/7/94



CAP PLAN - PIER 6R



ELEVATION - PIER 6R



END ELEVATION

△ Revise dimensions in Cap Plan 10/7/94

Note:
Transverse dimensions on Cap Plan are measured
along Gdr. 6R.

STEEL ALTERNATIVE SUBSTRUCTURE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

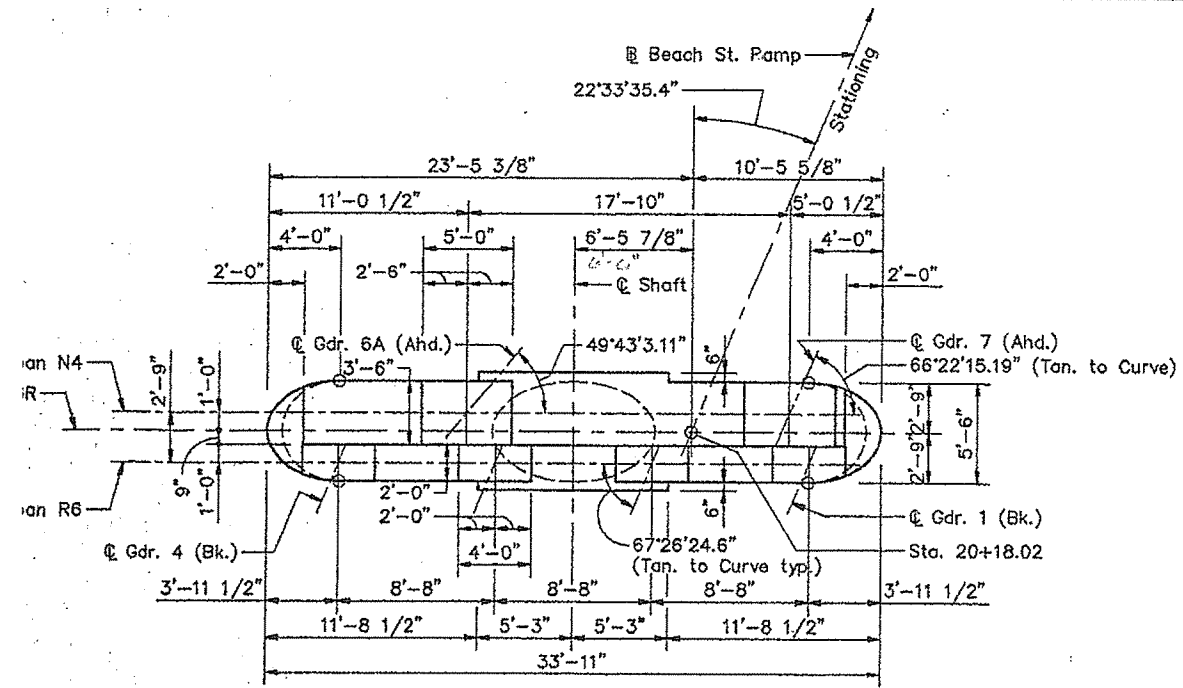
PORTLAND - S. PORTLAND BRIDGE

OVER FORE RIVER

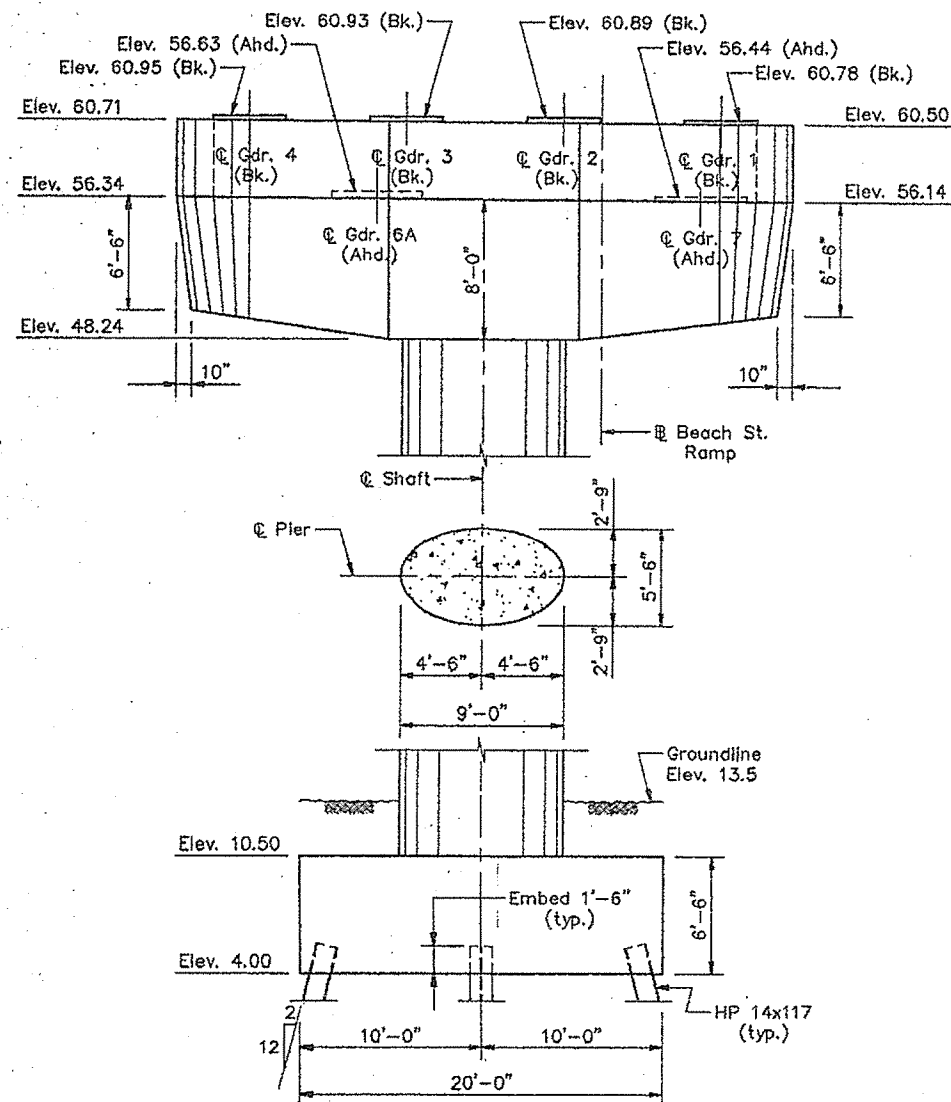
CUMBERLAND COUNTY

PLAN & ELEVATION
PIER 6R

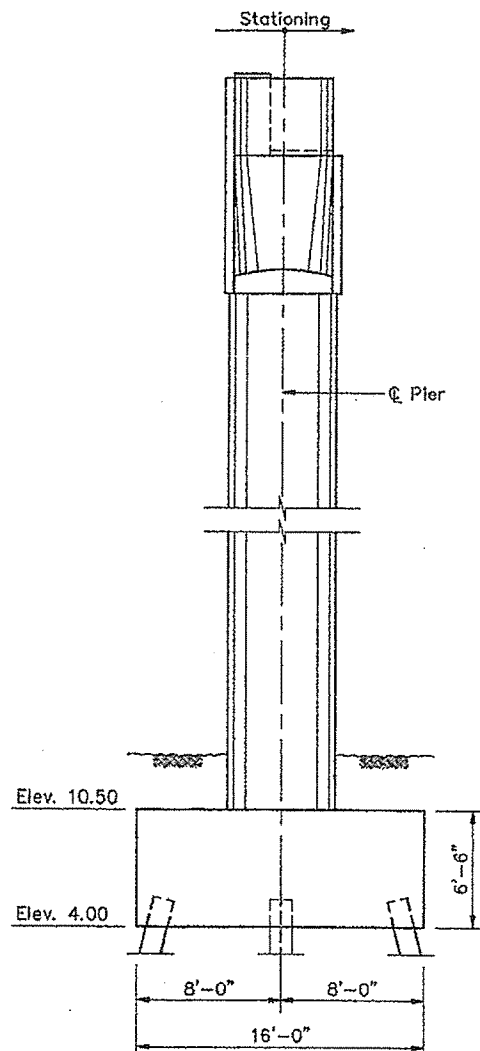
F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	DPI-006B(002)	20	29



CAP PLAN - PIER 6R



ELEVATION - PIER 6R



END ELEVATION

Note:
Transverse dimensions on Cap Plan are measured
along ϕ Pier 6R.

STEEL ALTERNATIVE SUBSTRUCTURE

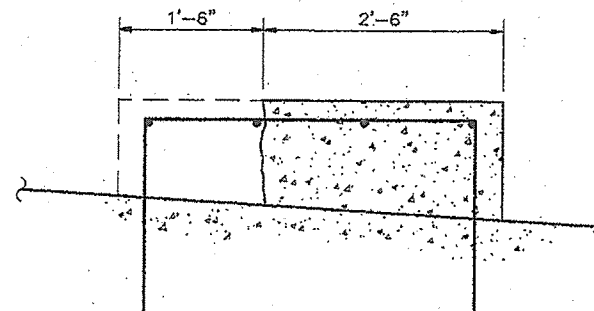
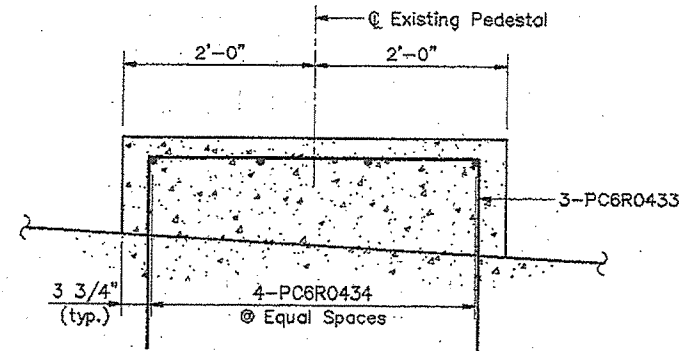
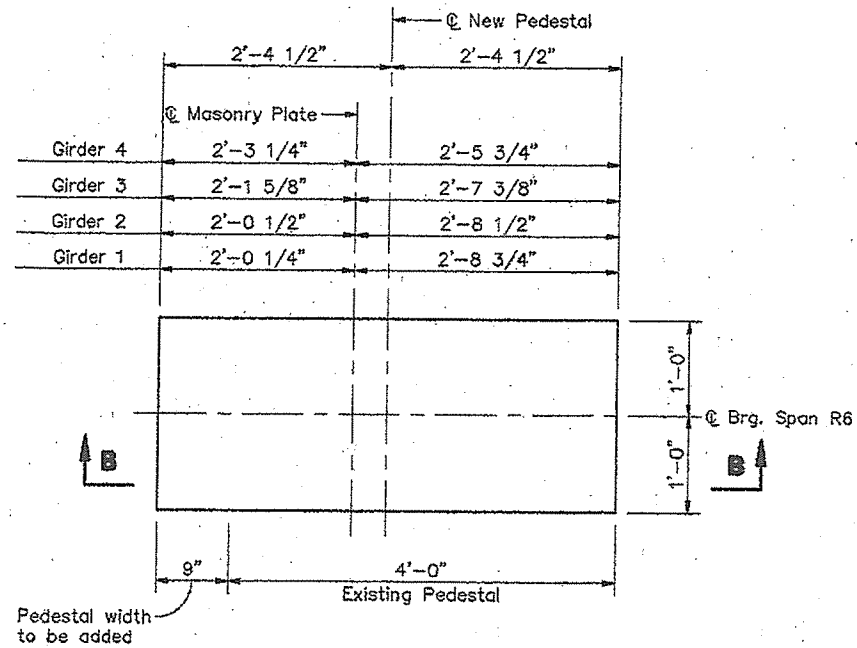
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PORTLAND - S. PORTLAND BRIDGE

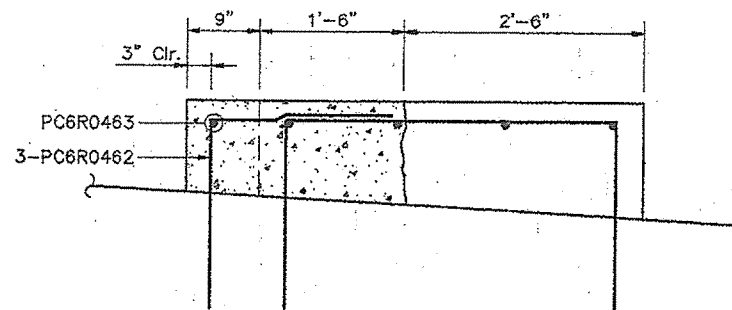
OVER FORE RIVER

CUMBERLAND COUNTY

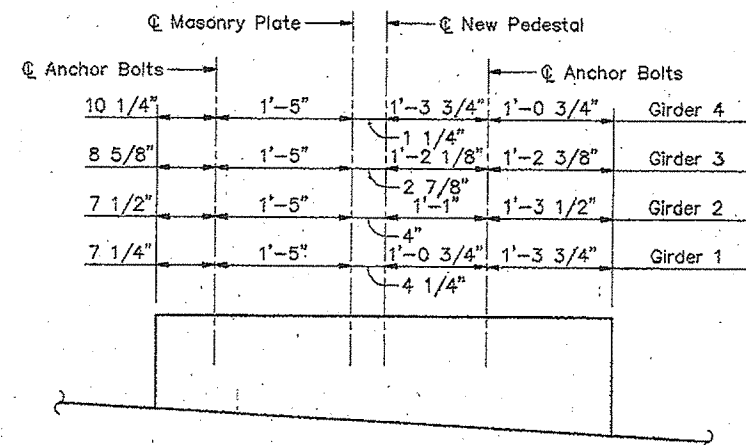
**PLAN & ELEVATION
PIER 6R**



1. Remove portion of concrete as shown
2. Clean exposed reinforcing and patch epoxy coating as required

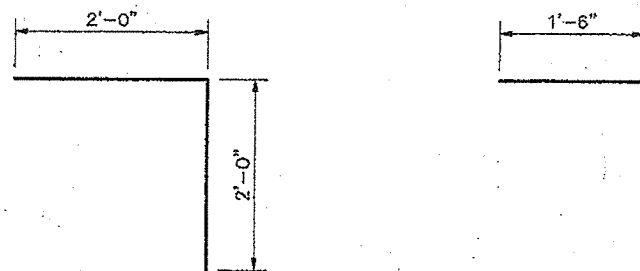


1. Drill holes for 3-PC6R0462 and PC6R0463
2. Grout new reinforcing steel in place
3. Form and place concrete as shown to complete pedestal



1. Drill holes for anchor bolts
2. Install bearings
3. Erect and set girders

Note:
All bars shall be epoxy coated.



PC6R0462

PC6R0463

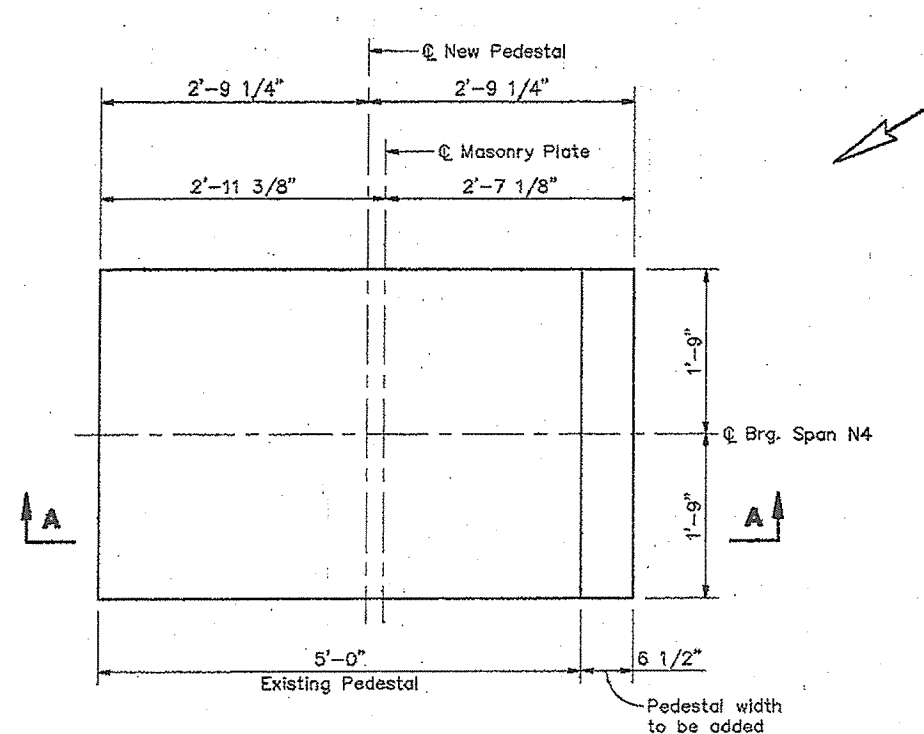
MARK	SIZE	NO.	TOTAL LENGTH	WEIGHT (lbs)
PC6R0462	4	12	4'-0"	32
PC6R0463	4	4	1'-6"	4

REINFORCING STEEL SCHEDULE

Note:
Contractor shall not cut existing reinforcing bars during drilling operations

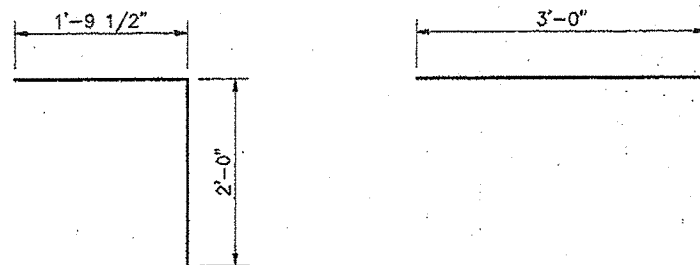
STEEL ALTERNATIVE SUBSTRUCTURE

STATE OF MAINE DEPARTMENT OF TRANSPORTATION
PORTLAND - S. PORTLAND BRIDGE OVER FORE RIVER CUMBERLAND COUNTY
PEDESTAL DETAILS GIRDERS 1 THRU 4 AT PIER NO. 10A



PEDESTAL PLAN

Note:
All bars shall be epoxy coated.

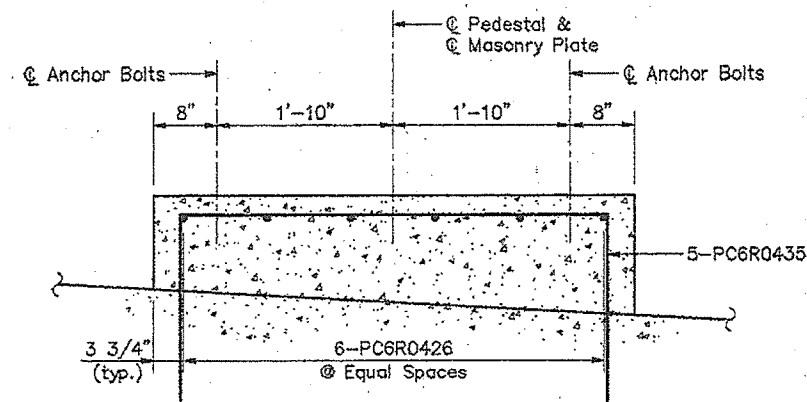


PC6R0460

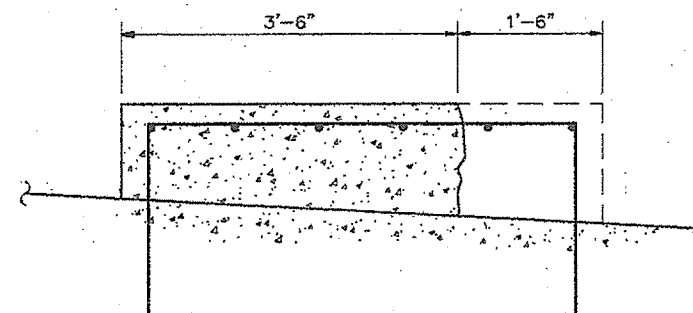
PC6R0461

MARK	SIZE	NO.	TOTAL LENGTH	WEIGHT (lbs)
PC6R0460	4	10	3'-9 1/2"	25
PC6R0461	4	2	3'-0"	4

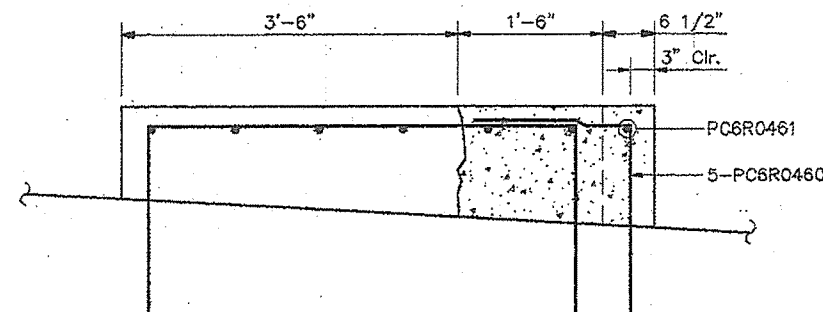
REINFORCING STEEL SCHEDULE



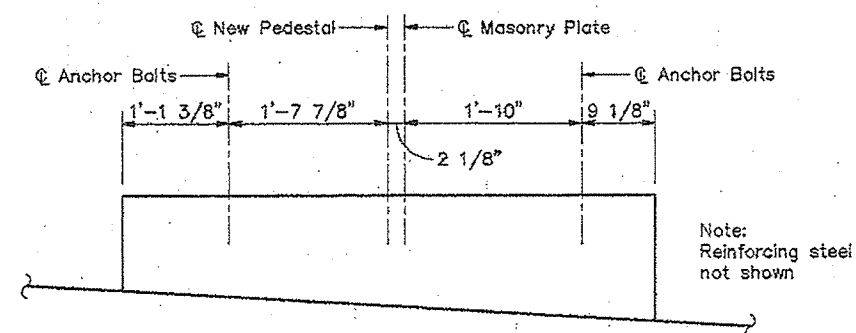
EXISTING CONDITION



STAGE I



STAGE II



STAGE III

1. Block girder up to clear operations
2. Remove masonry plate and pot bearing
3. Cut anchor bolts flush with top of pedestal
4. Seal exposed area of anchor bolts with epoxy coating
5. Remove portion of concrete as shown
6. Clean exposed reinforcing and patch epoxy coating as required

1. Drill holes for 5-PC6R0460 and PC6R0461
2. Grout new reinforcing steel in place
3. Form and place concrete as shown to complete pedestal

1. Drill holes for new anchor bolts
2. Place and grout anchor bolts
3. Replace bearing
4. Reset girder

Note:
Contractor shall not cut existing reinforcing bars during drilling operation

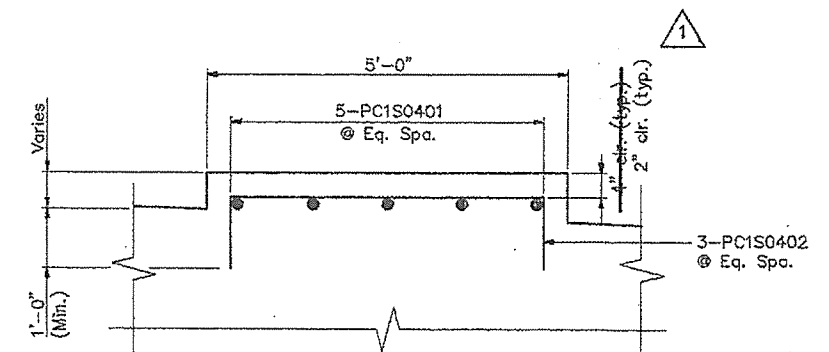
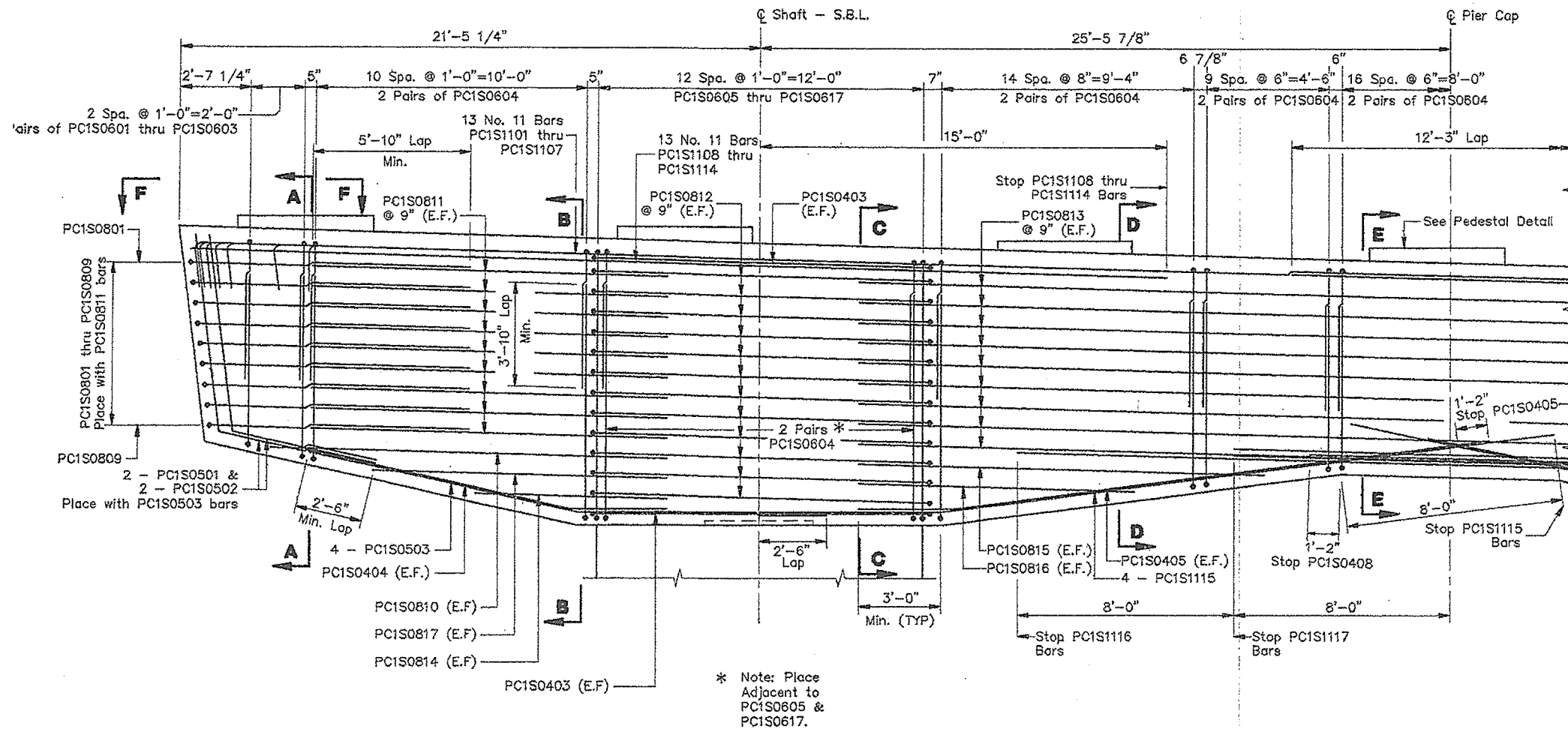
STEEL ALTERNATIVE SUBSTRUCTURE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

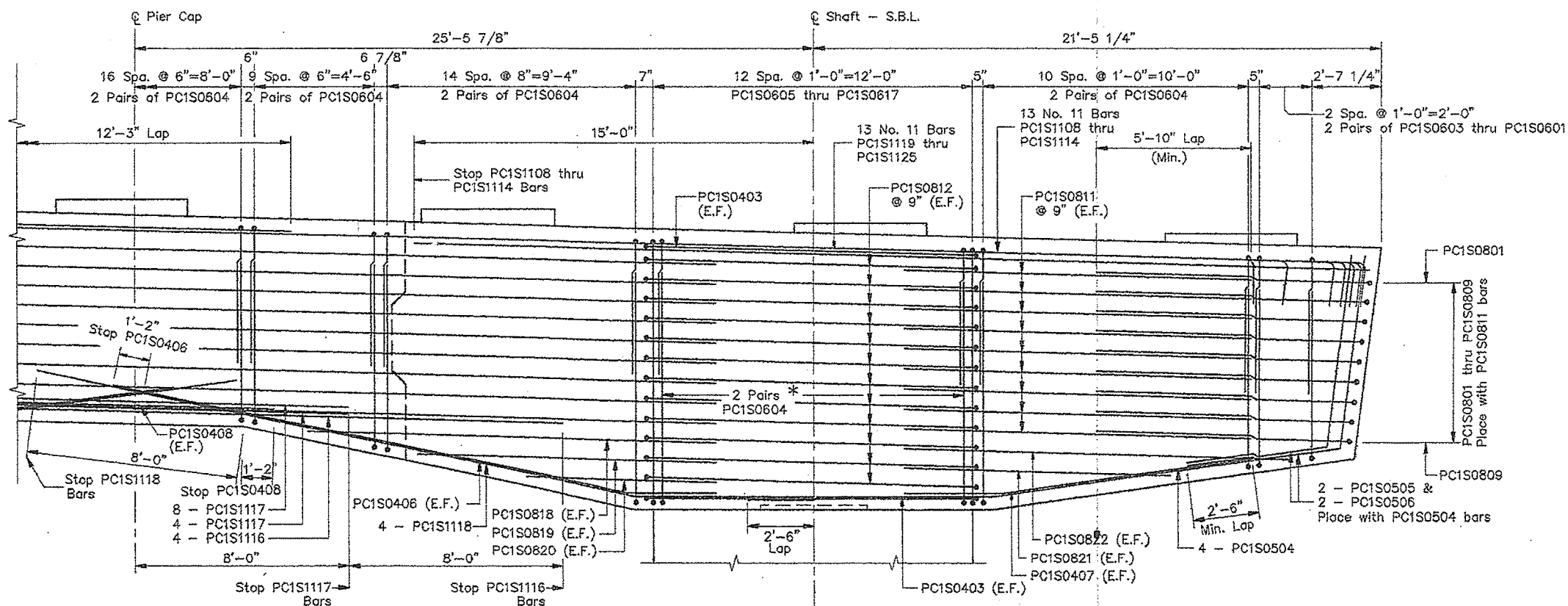
**PORTLAND - S. PORTLAND BRIDGE
OVER FORE RIVER
CUMBERLAND COUNTY**

**PEDESTAL DETAILS
GIRDERS 6A & 7
AT PIER 6R (AHD)**

F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	DPI-0002(002)	71	336



PEDESTAL DETAIL



1 Revise cover for reinforcing
steel in pedestal
10/7/94

STEEL ALTERNATIVE SUBSTRUCTURE

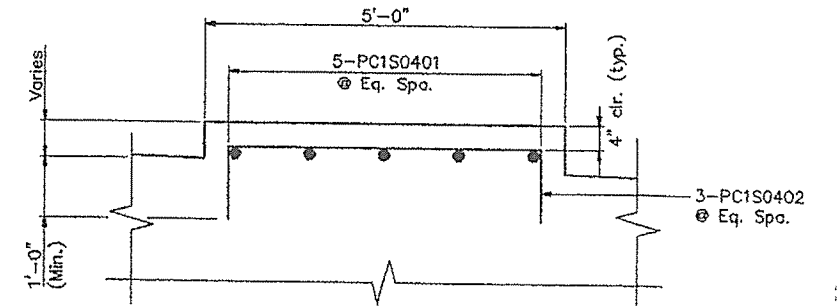
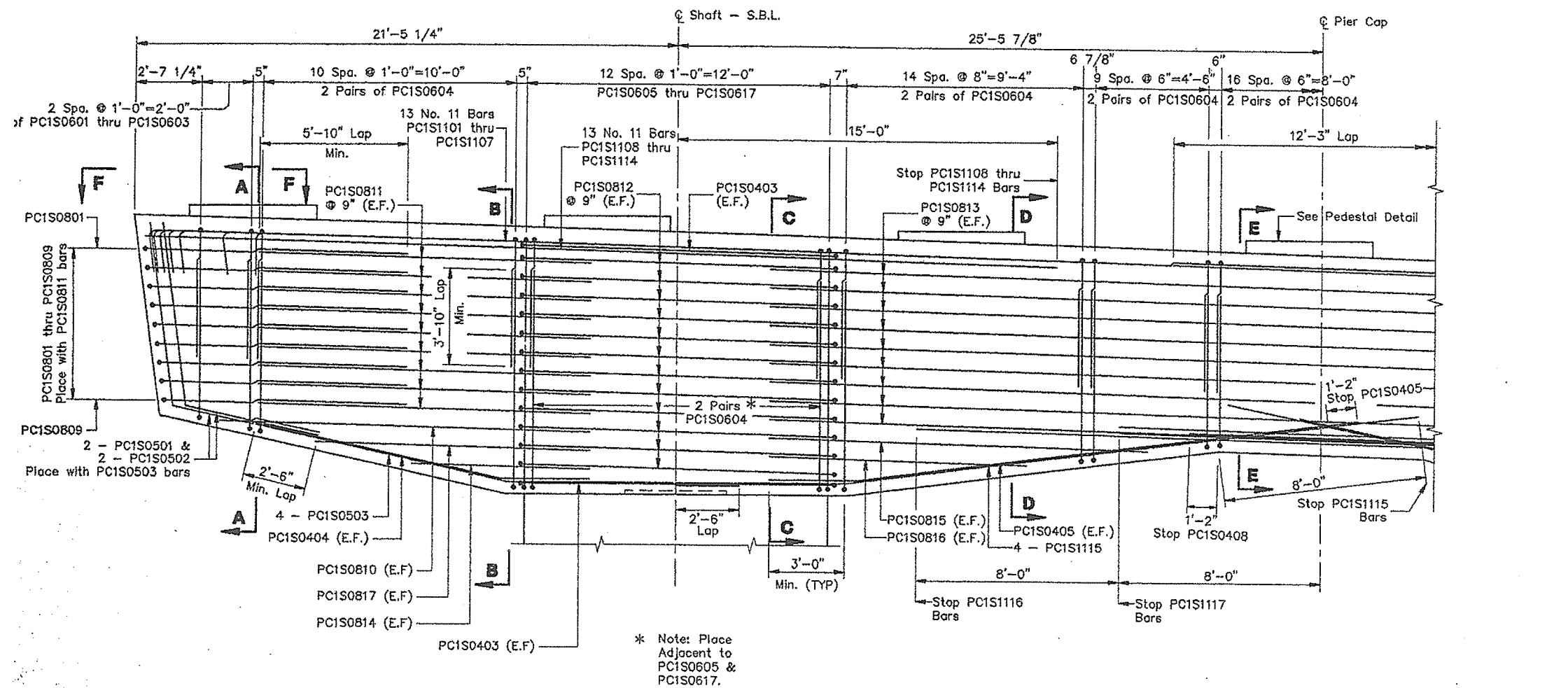
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PORTLAND - S. PORTLAND BRIDGE

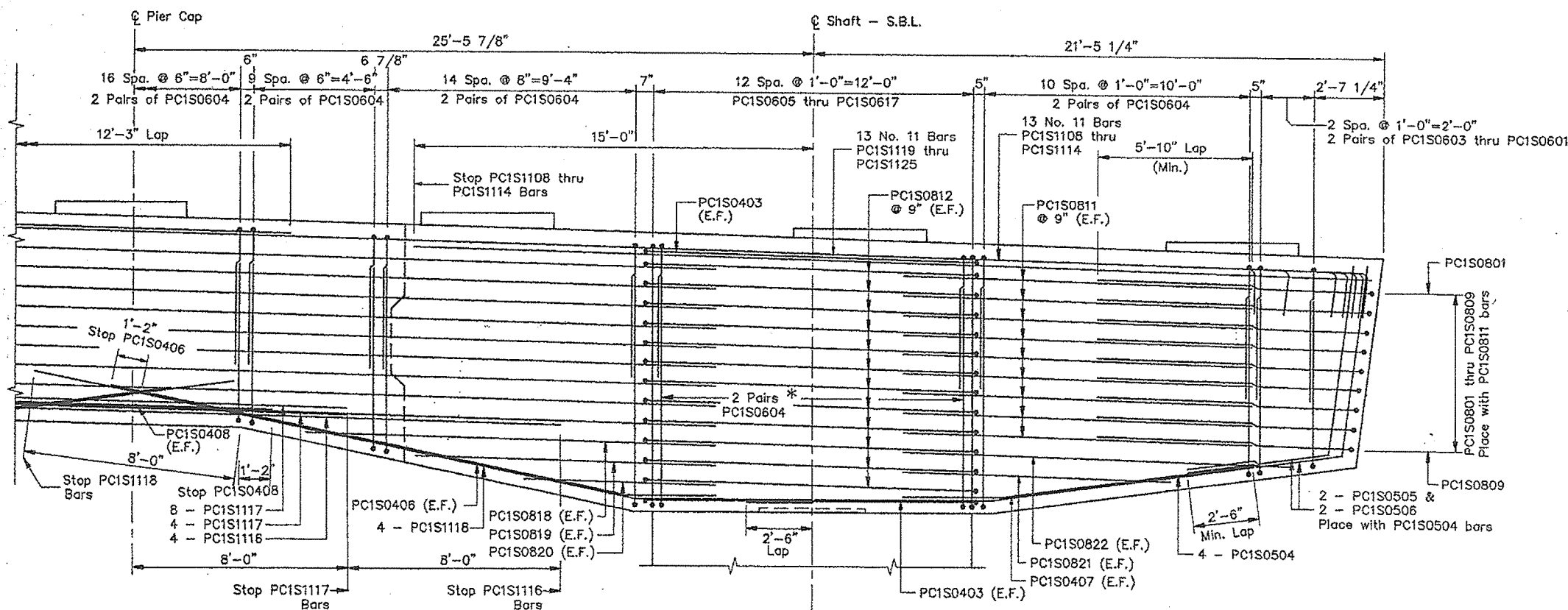
OVER FORE RIVER

CUMBERLAND COUNTY

CAP REINFORCING PIER 1S

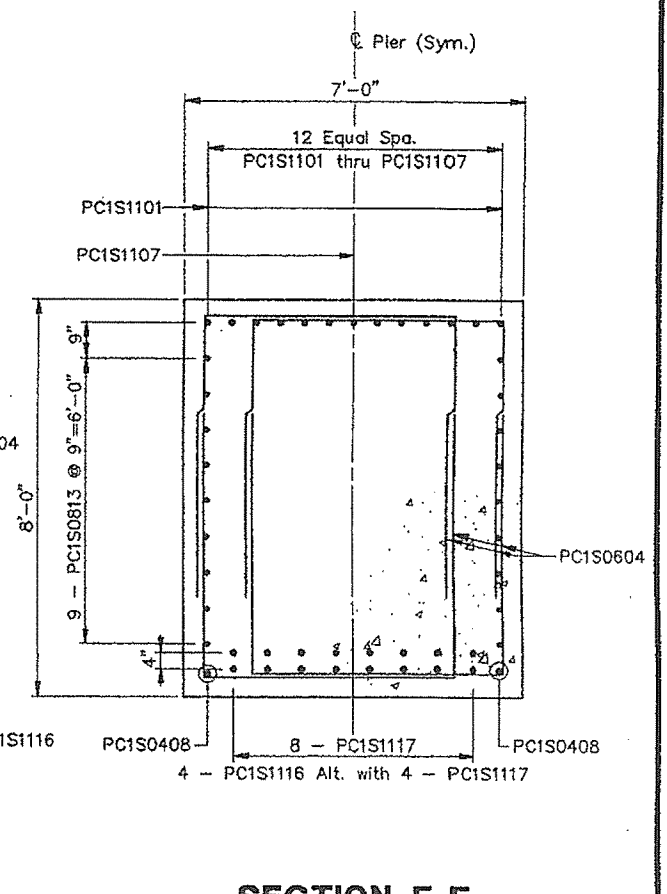
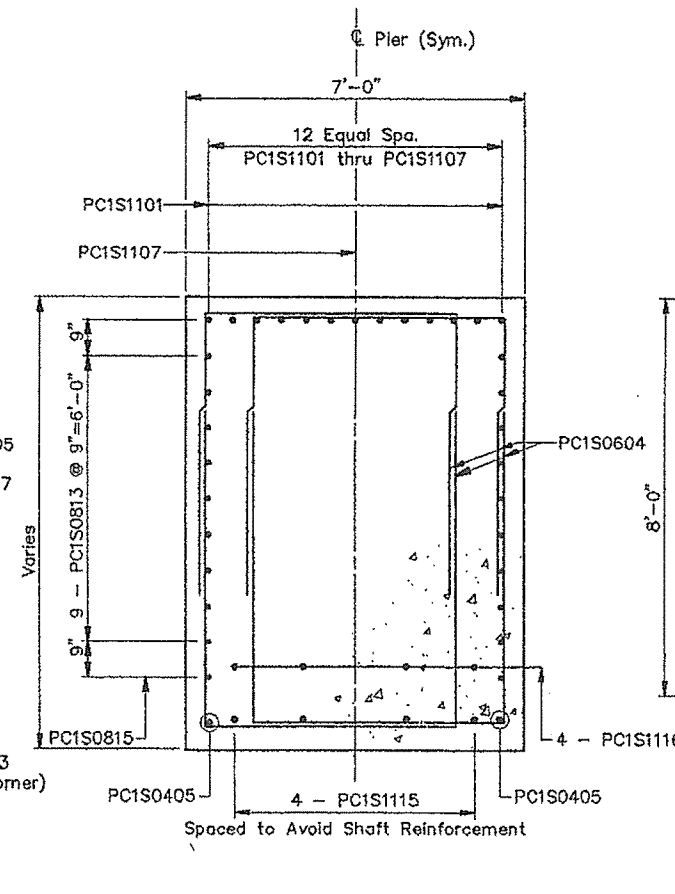
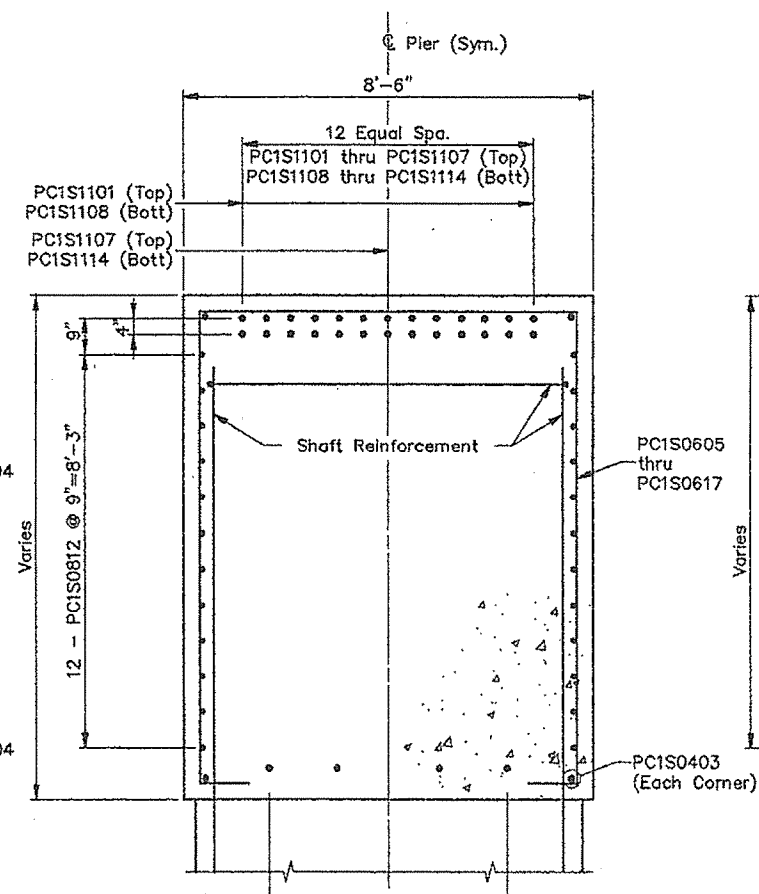
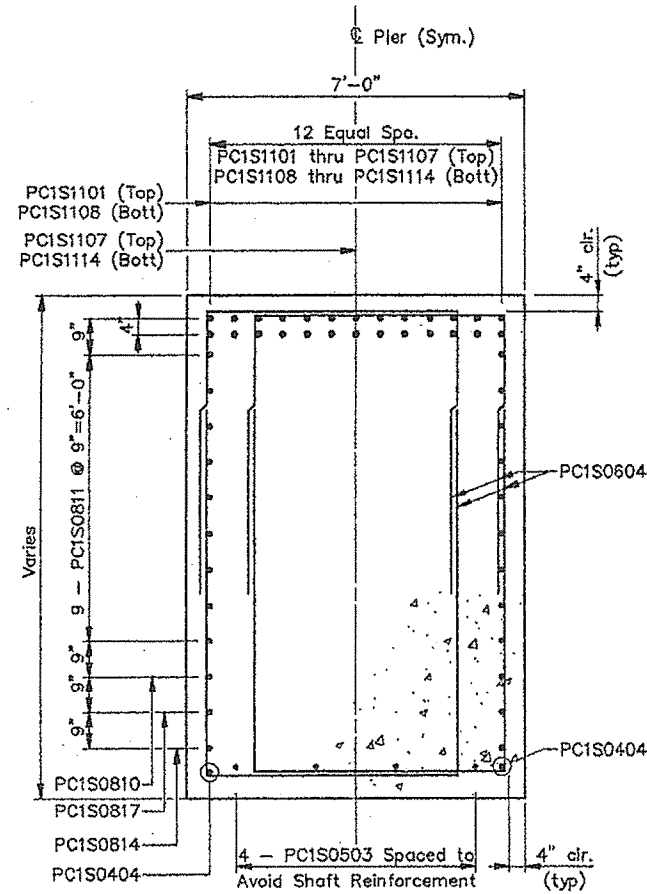
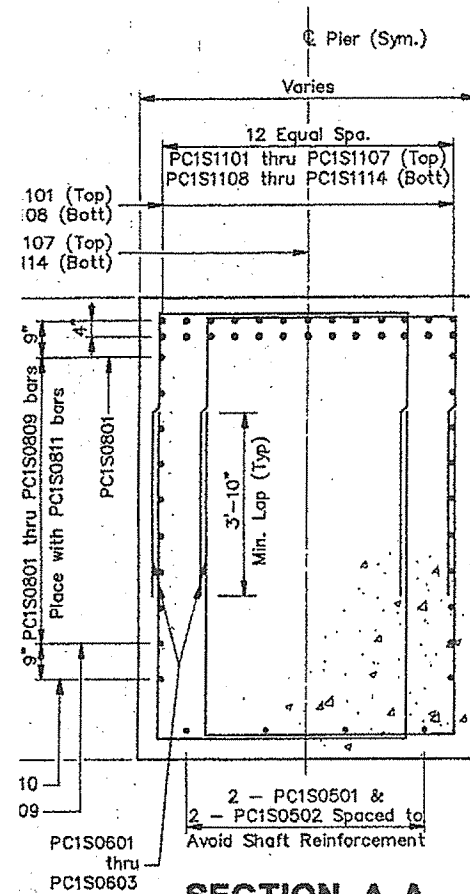


PEDESTAL DETAIL

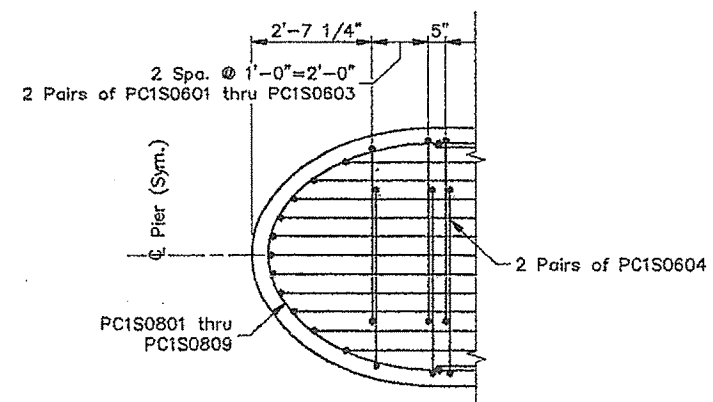


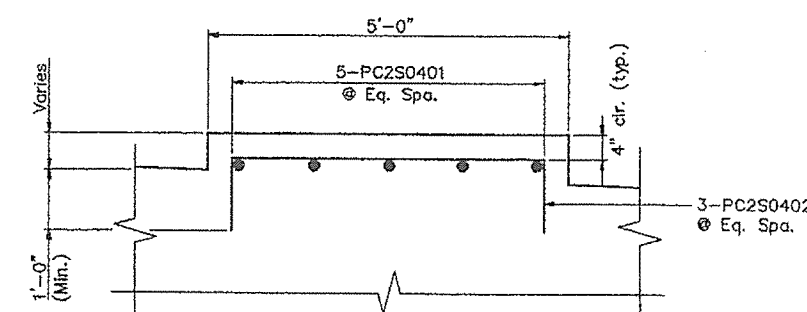
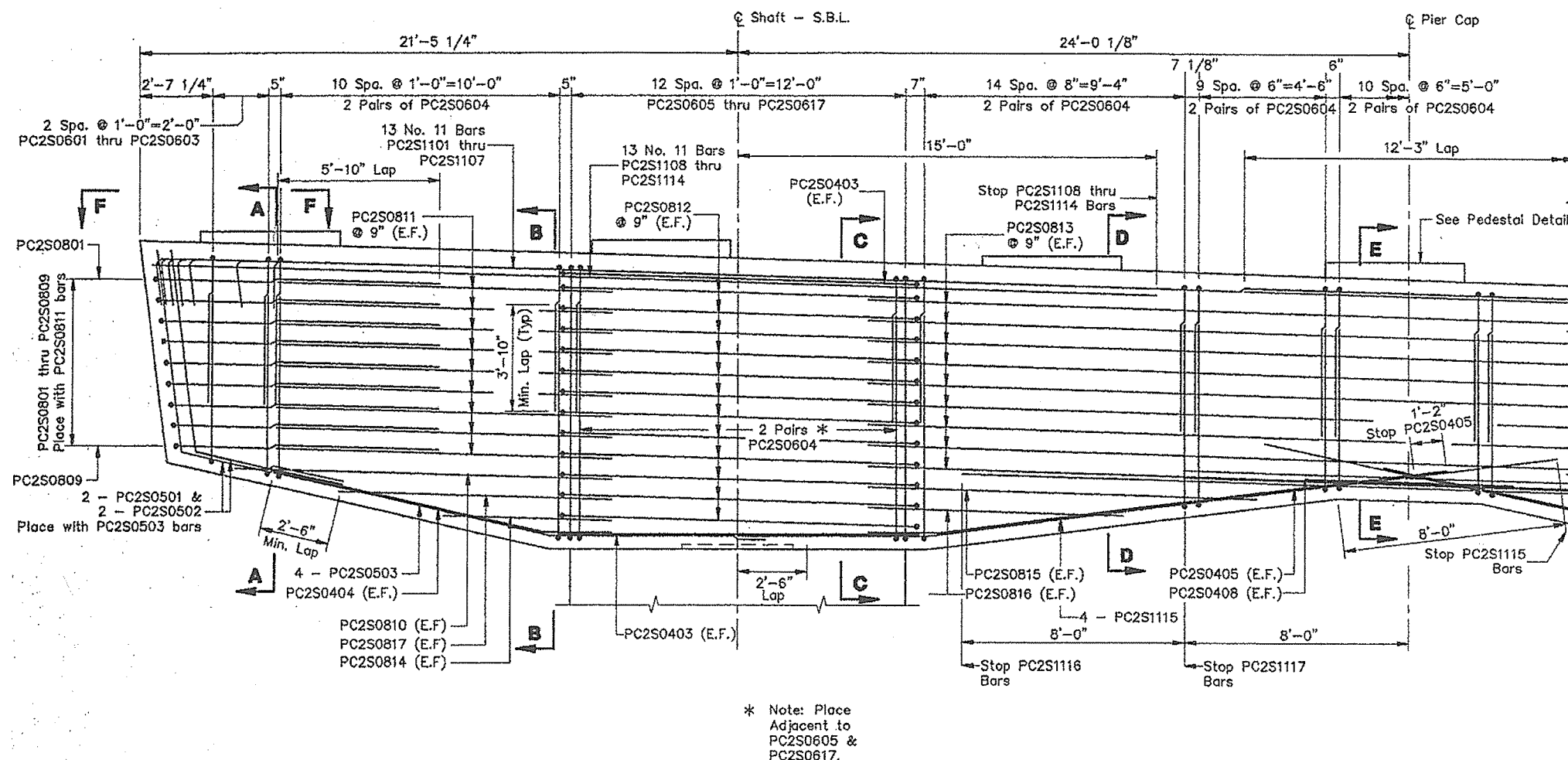
PIER 18 CAP REINFORCEMENT

STEEL ALTERNATIVE SUBSTRUCTURE
STATE OF MAINE DEPARTMENT OF TRANSPORTATION
PORTLAND - S. PORTLAND BRIDGE
OVER FORE RIVER
CUMBERLAND COUNTY
CAP REINFORCING PIER 1S

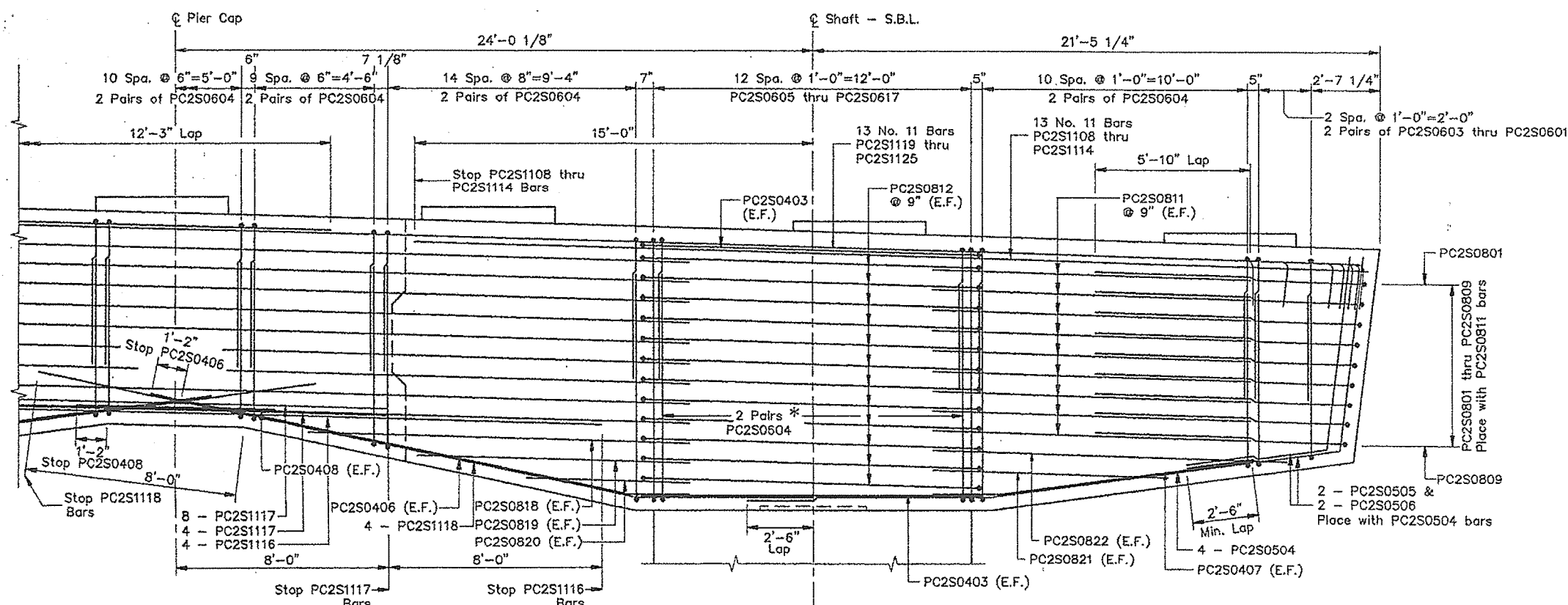


Note:
Sloping PC1S1115, PC1S1118 and
PC1S0405 are not shown for clarity.





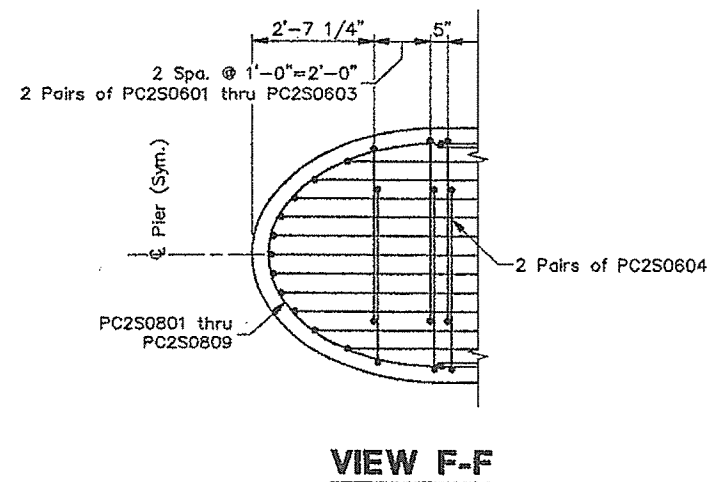
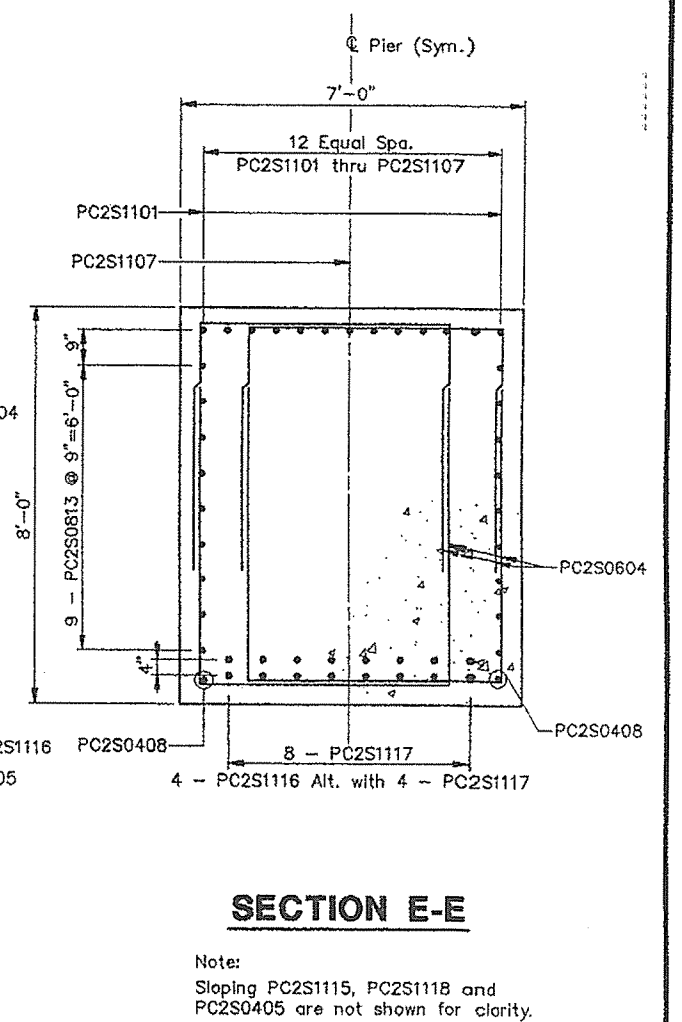
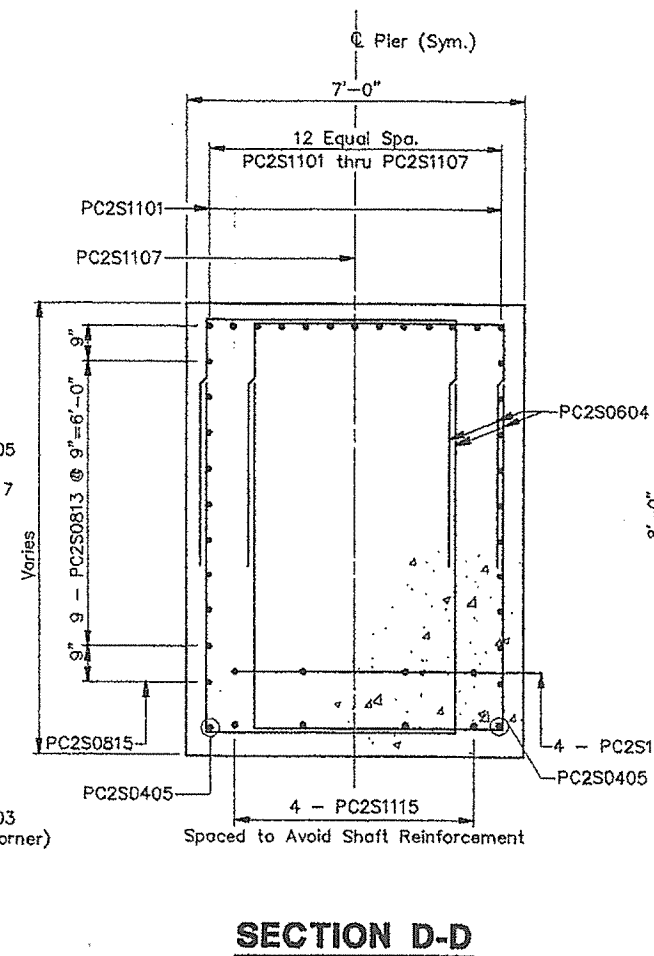
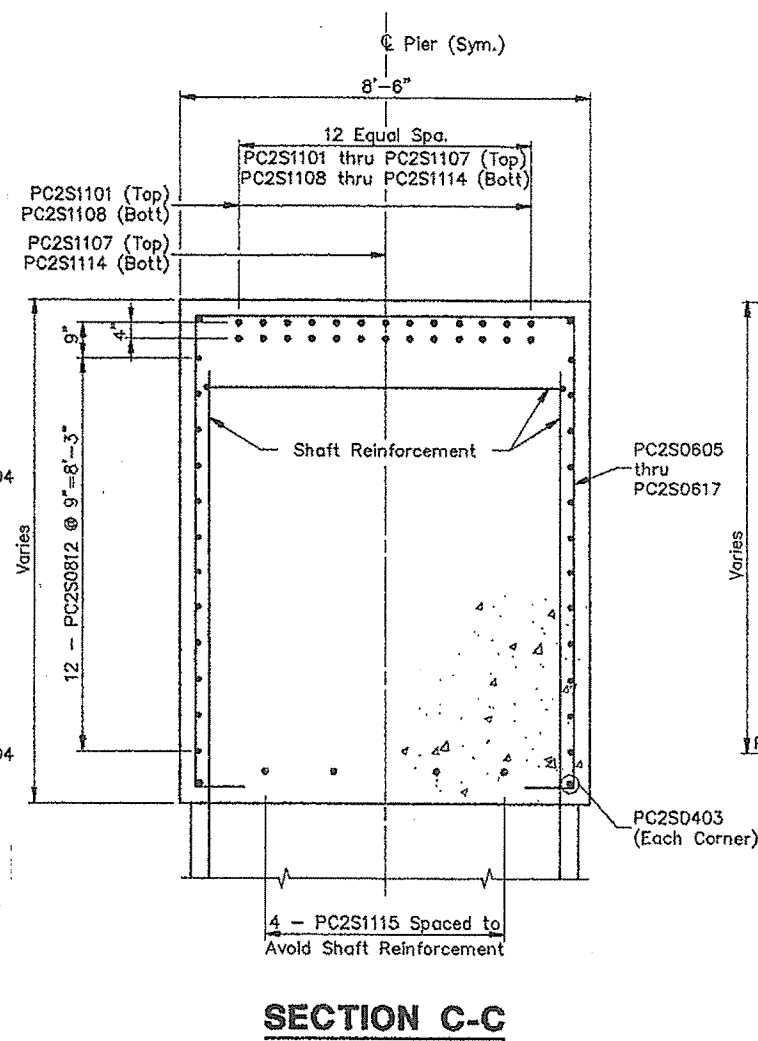
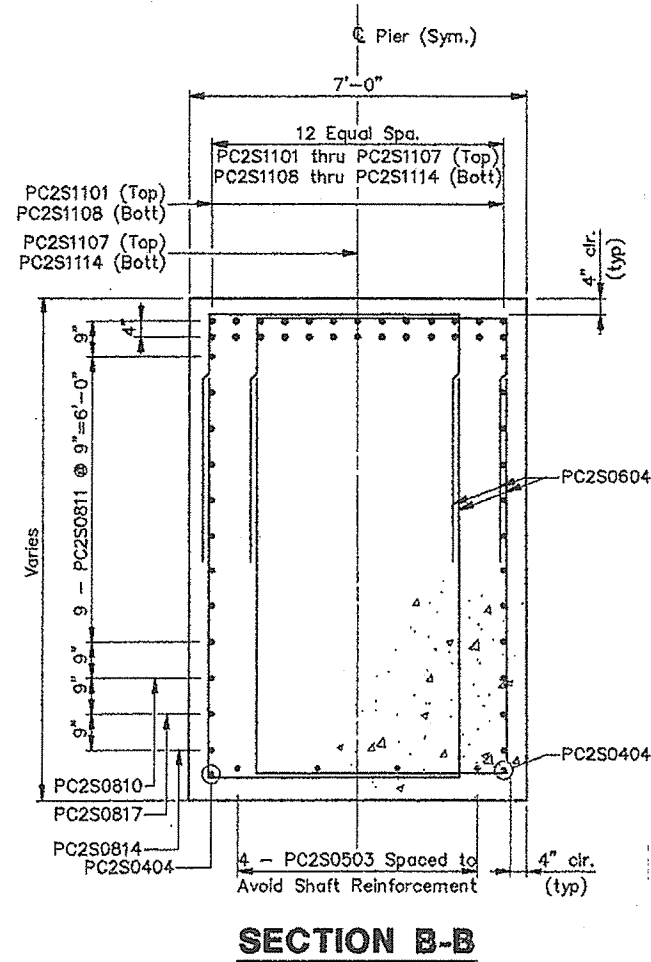
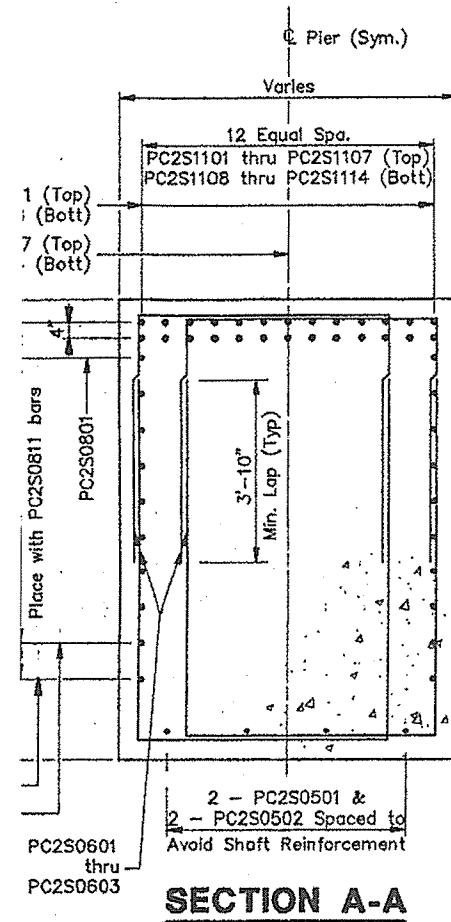
PEDESTAL DETAIL



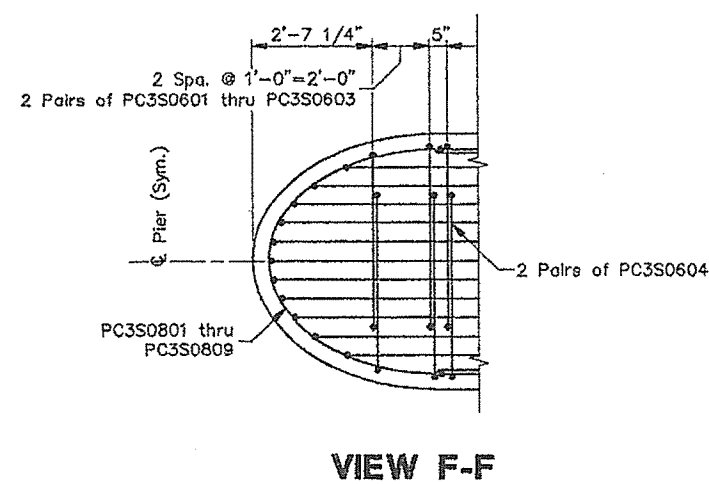
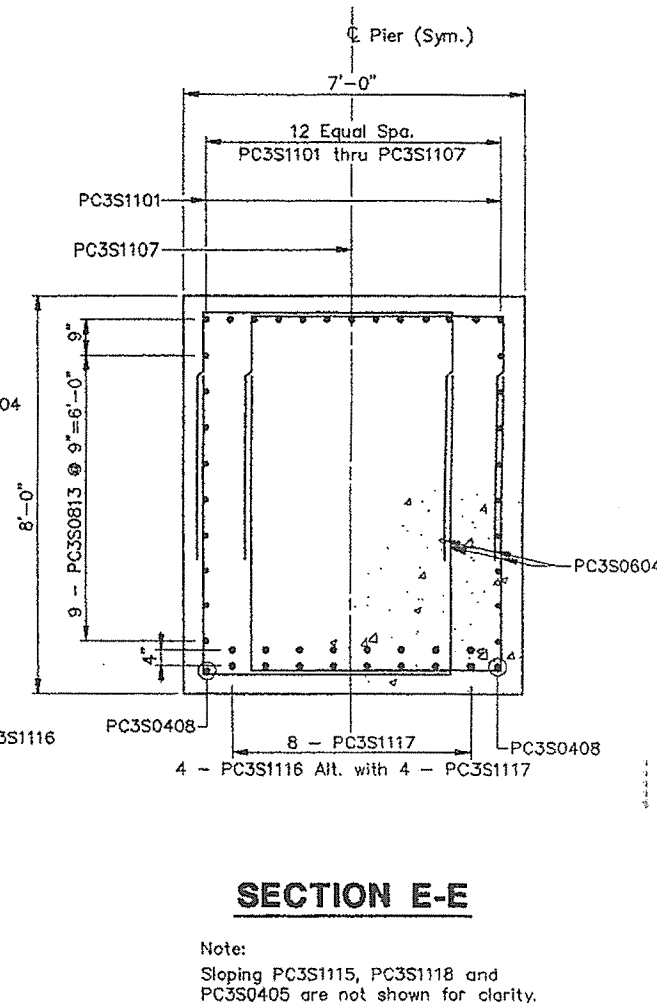
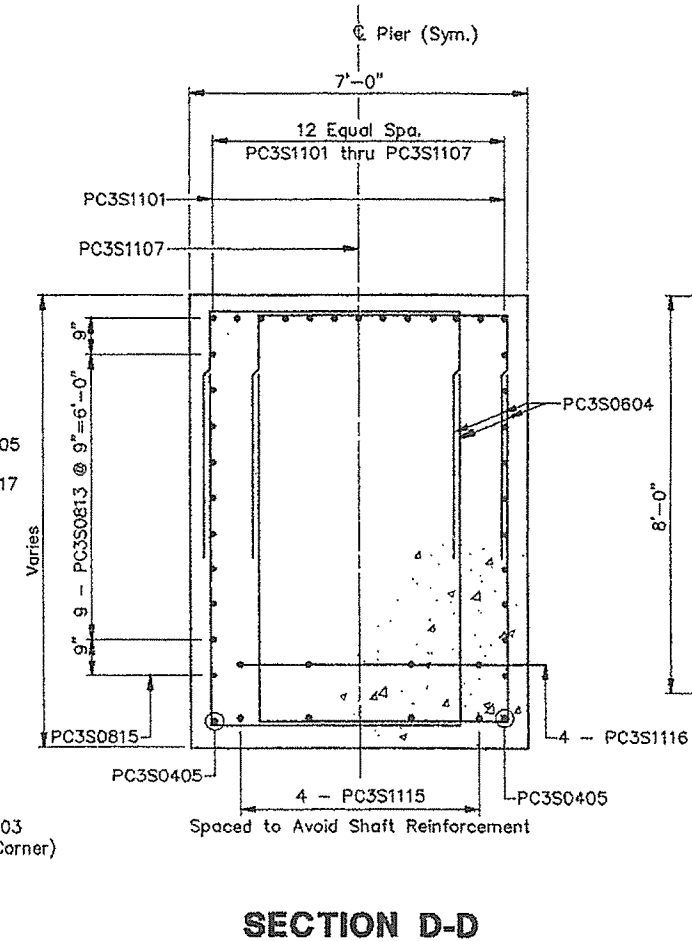
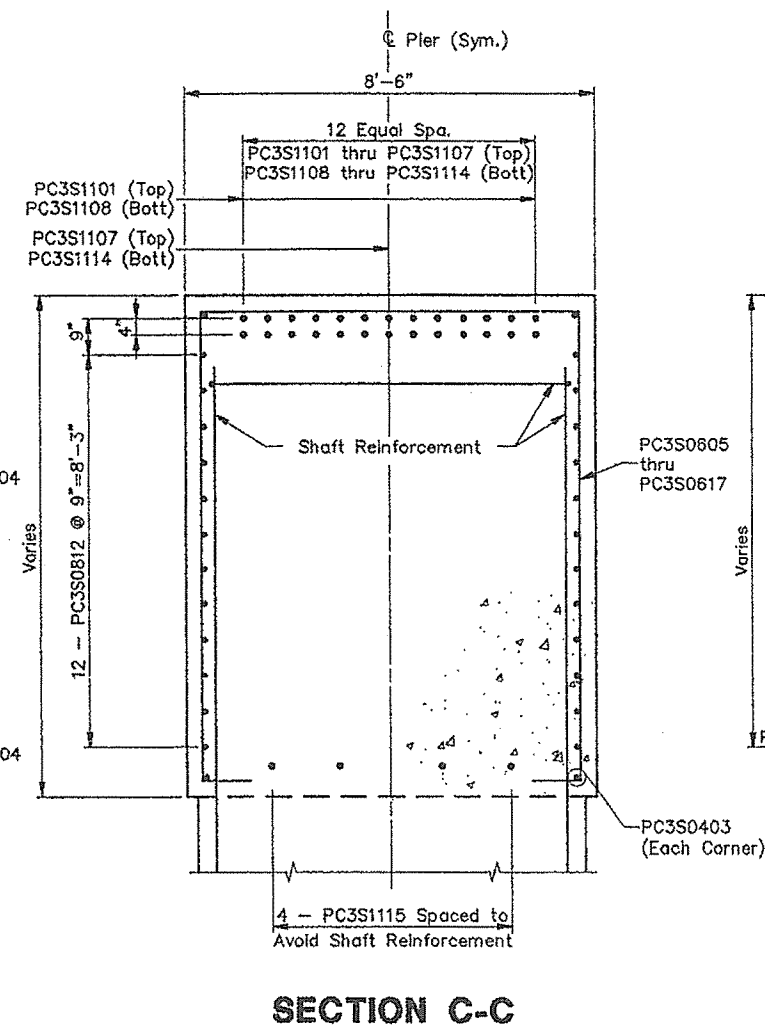
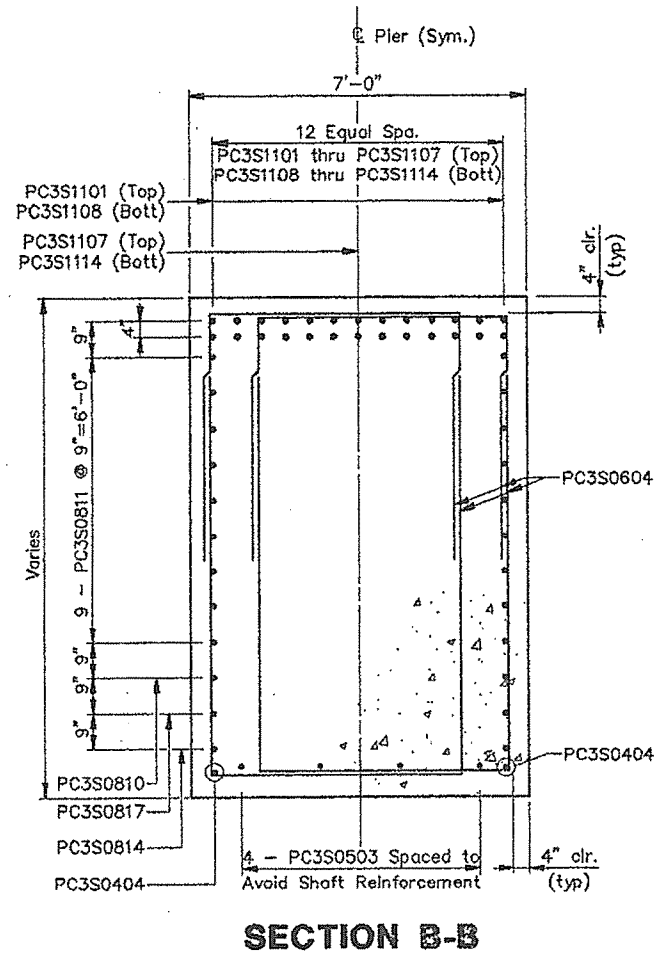
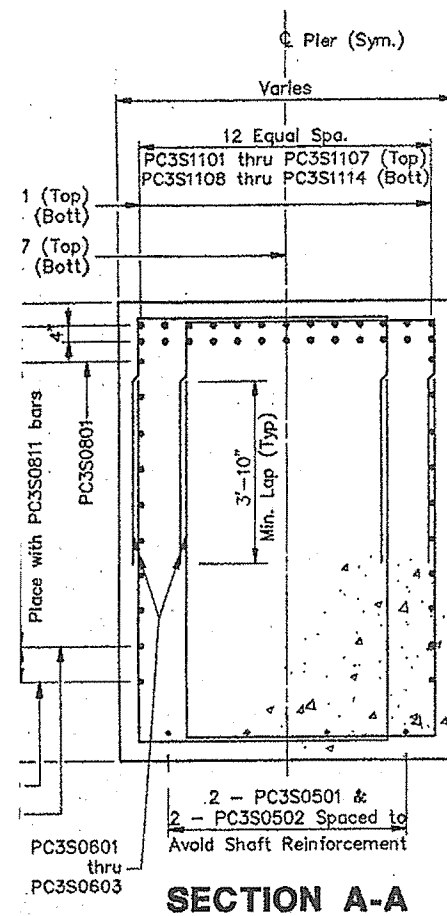
PIER 2S CAP REINFORCEMENT

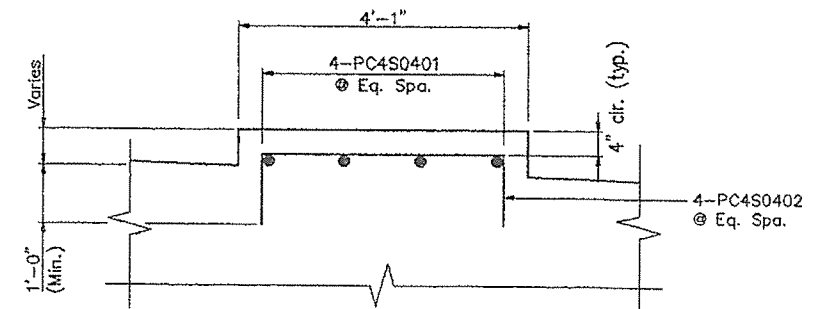
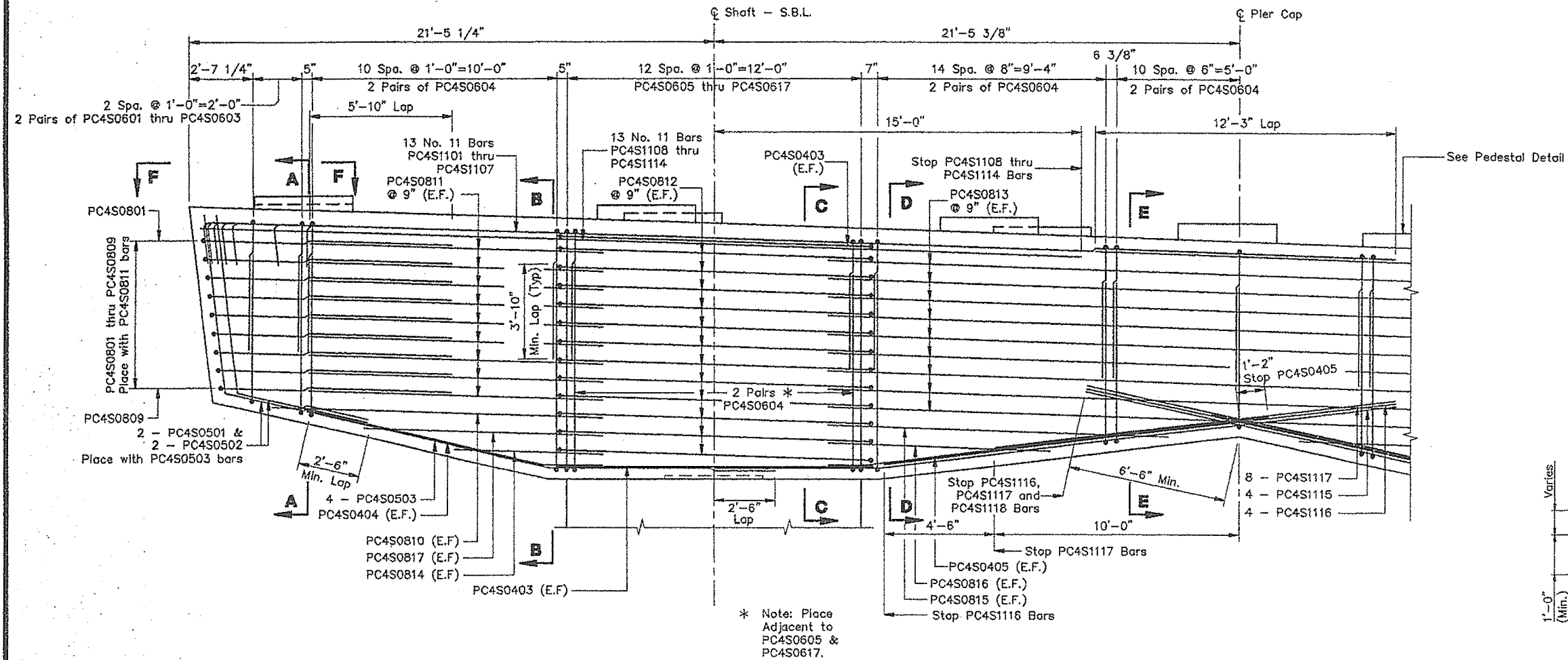
STEEL ALTERNATIVE SUBSTRUCTURE
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
PORTLAND - S. PORTLAND BRIDGE
OVER FORE RIVER
CUMBERLAND COUNTY
CAP REINFORCING
PIER 2S

F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	DPI-0068(D02)	74	77

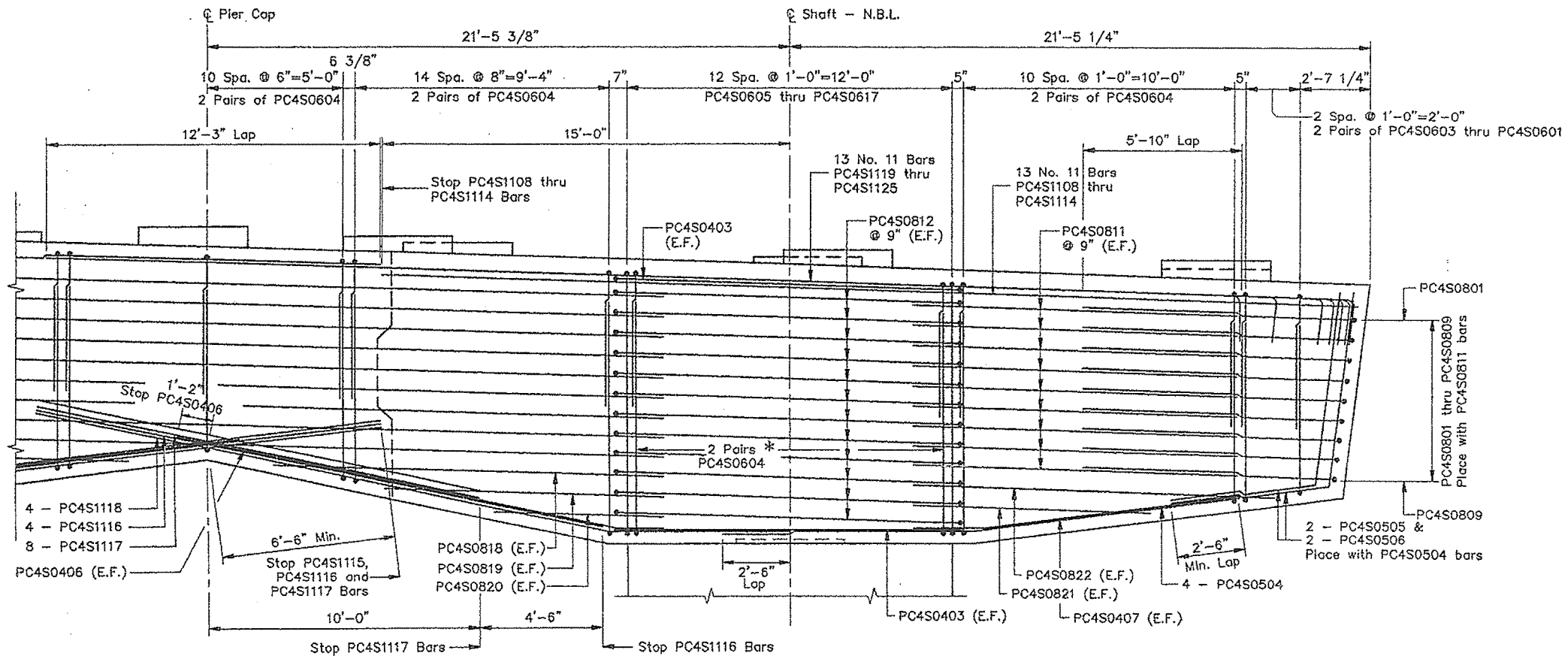


STEEL ALTERNATIVE SUBSTRUCTURE
STATE OF MAINE DEPARTMENT OF TRANSPORTATION
PORTLAND - S. PORTLAND BRIDGE
OVER FORE RIVER
CUMBERLAND COUNTY
CAP REINFORCING PIER 2S

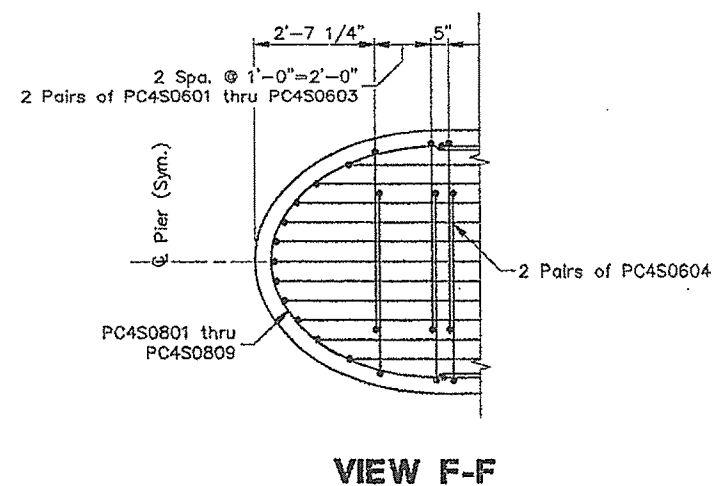
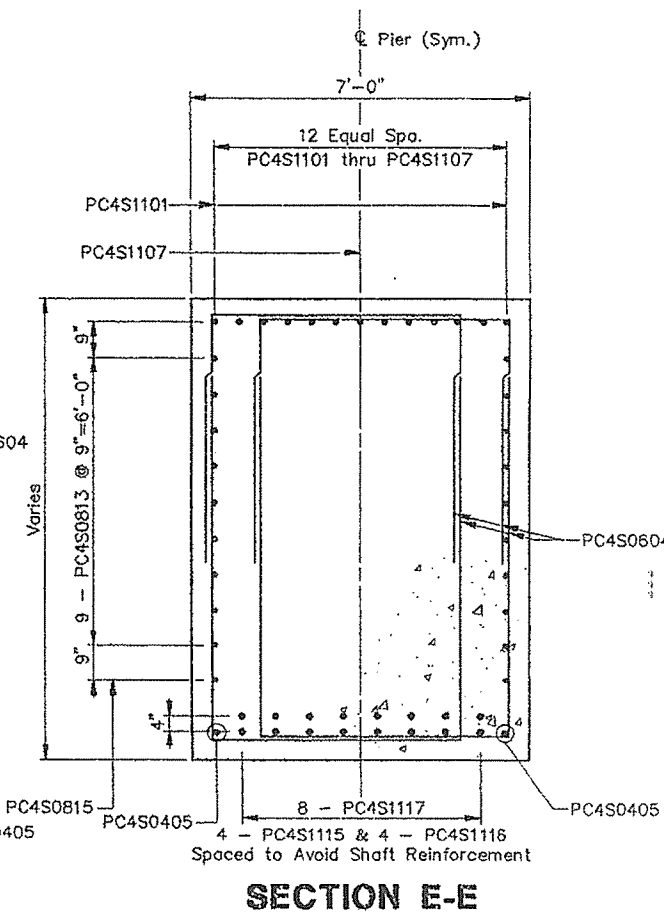
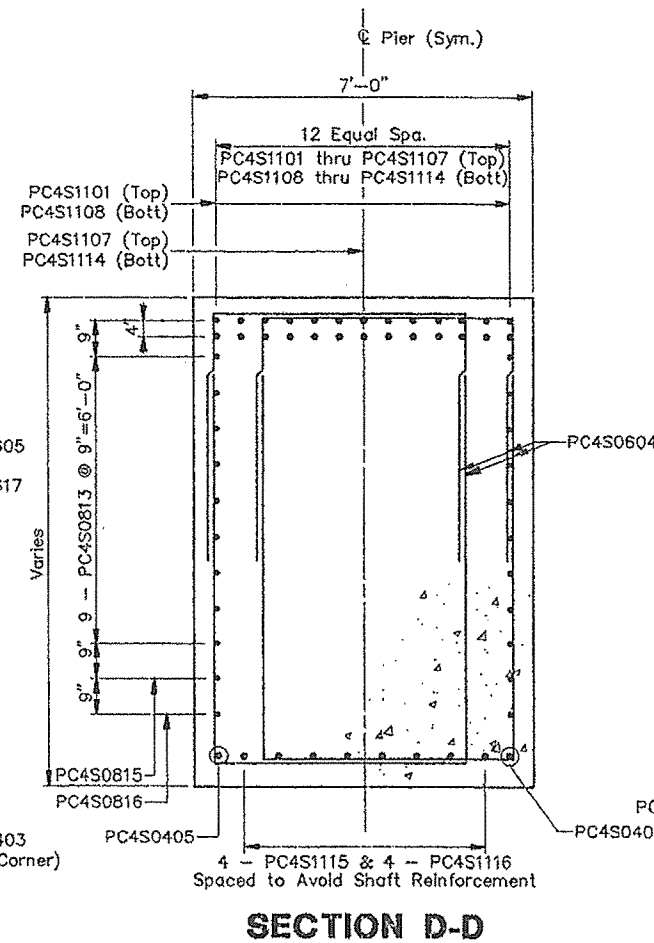
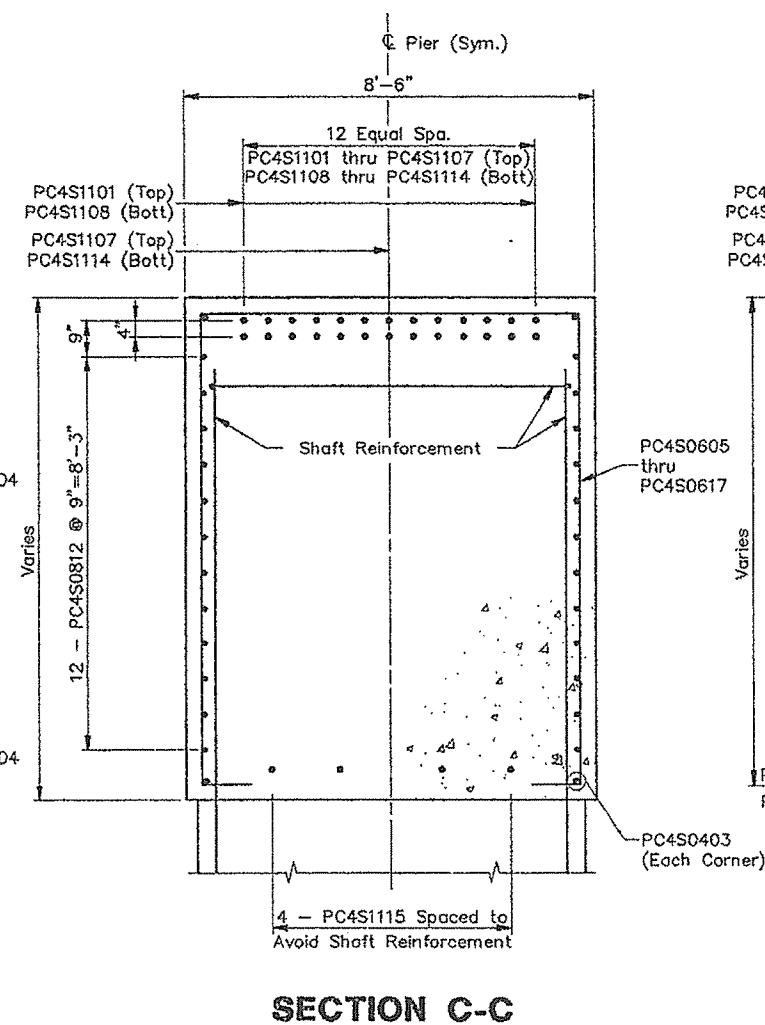
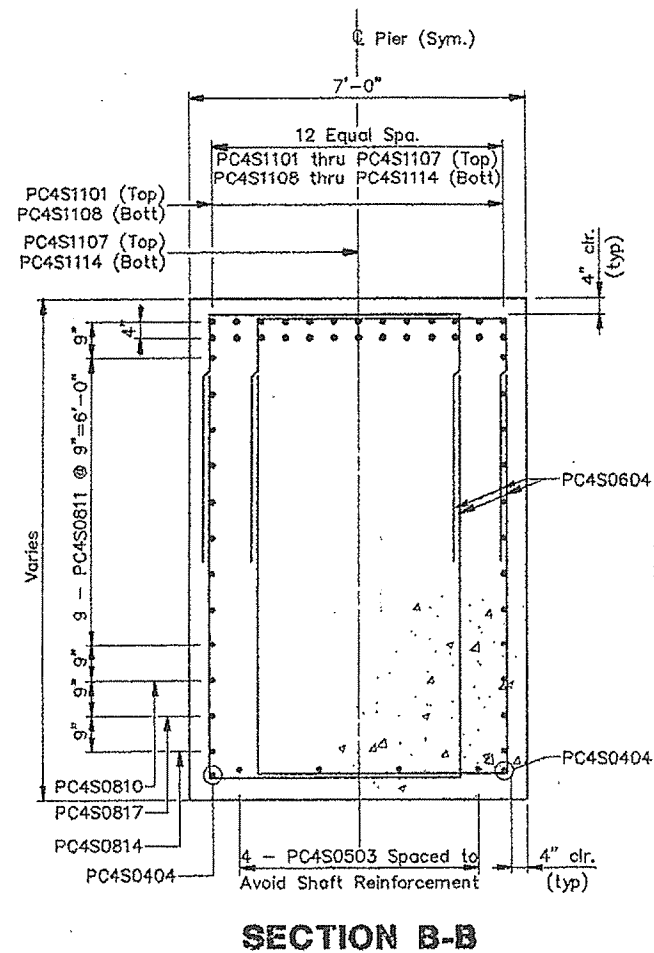
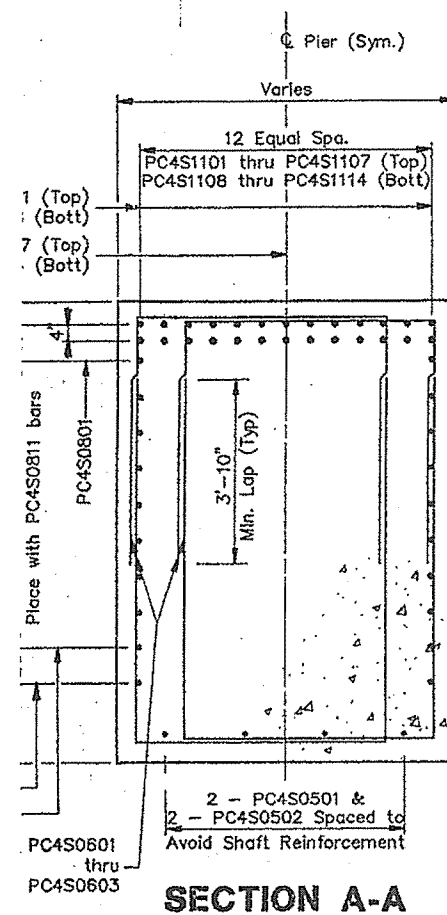


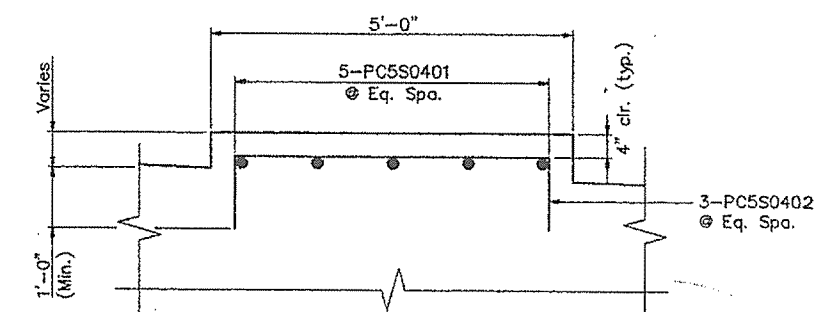
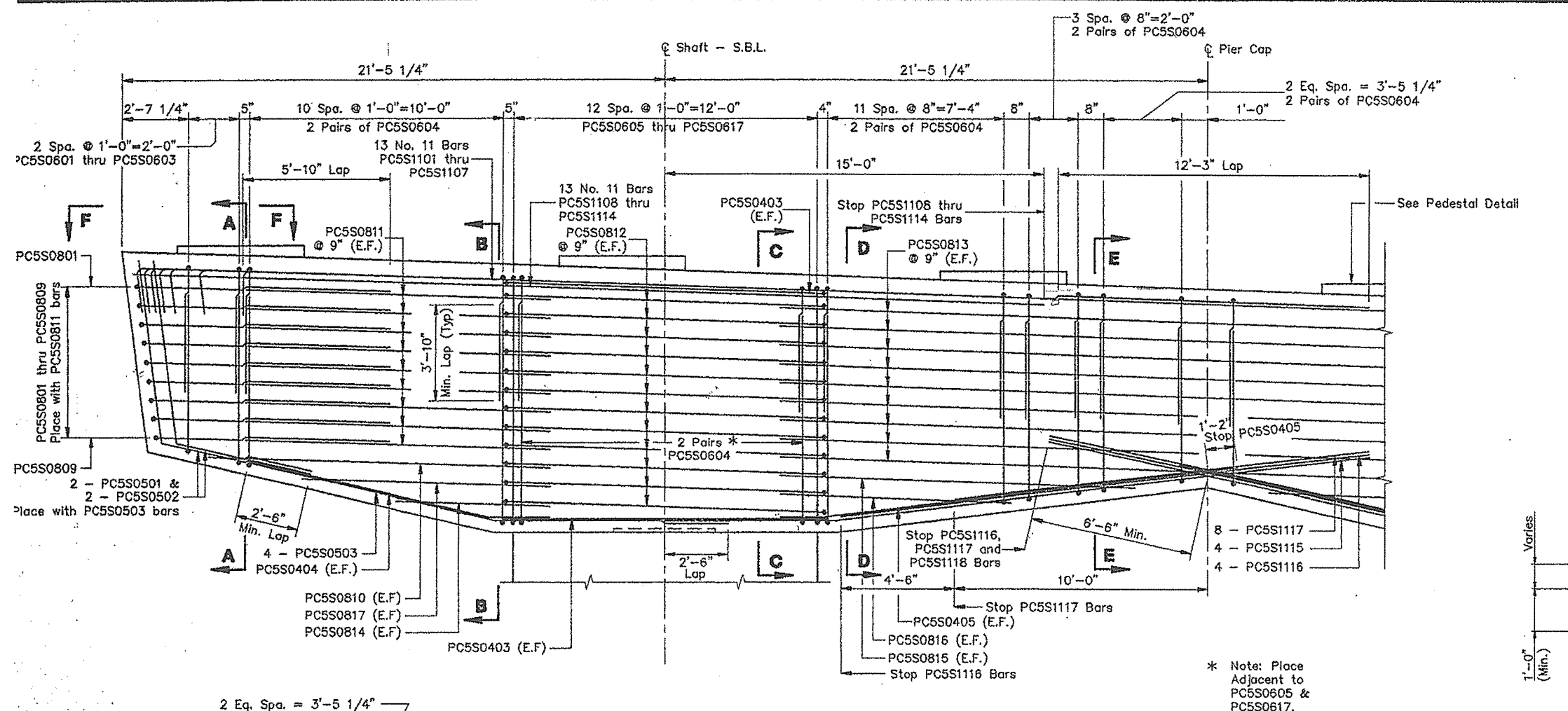


PEDESTAL DETAIL

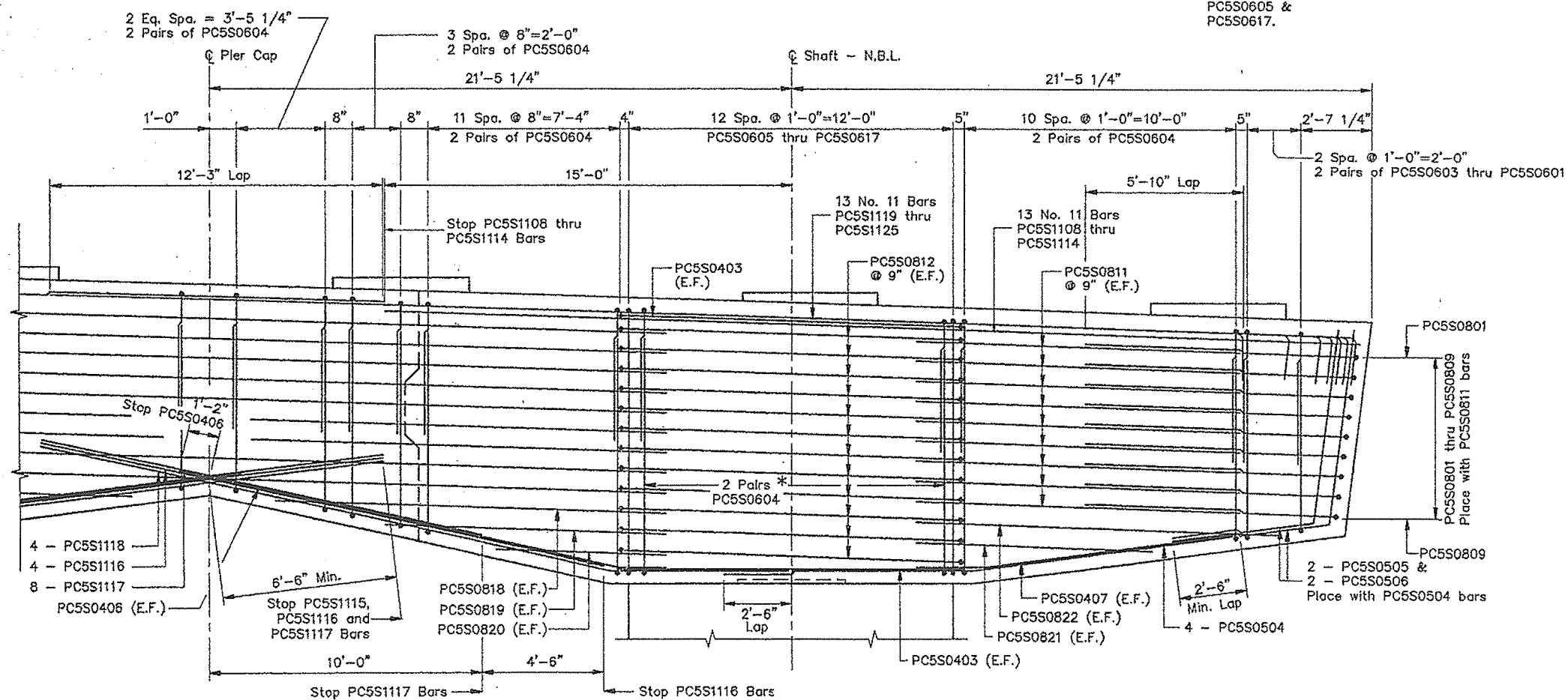


PIER 4S CAP REINFORCEMENT



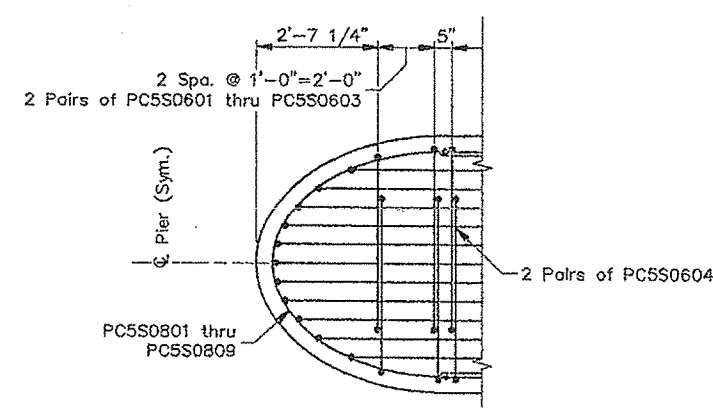
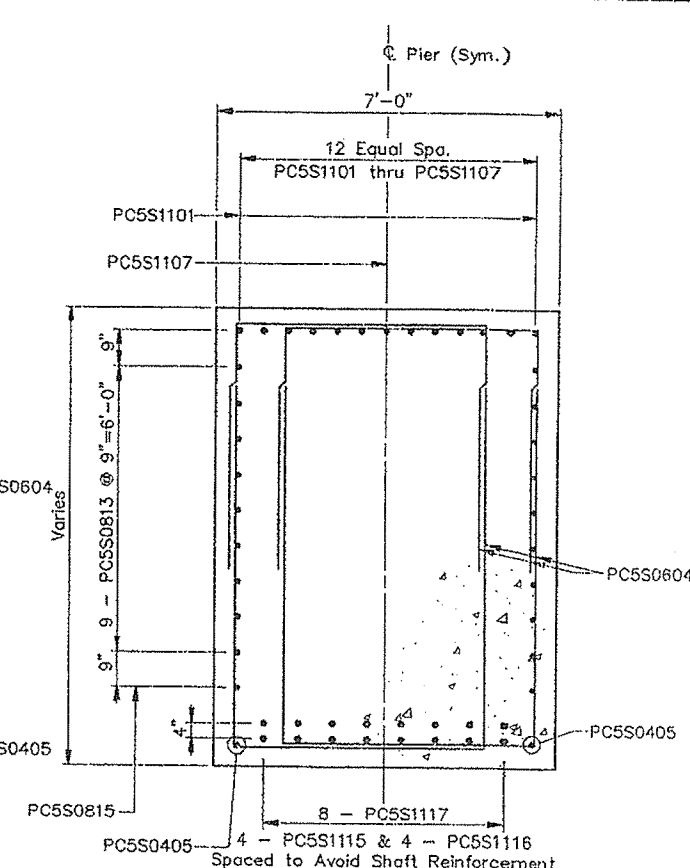
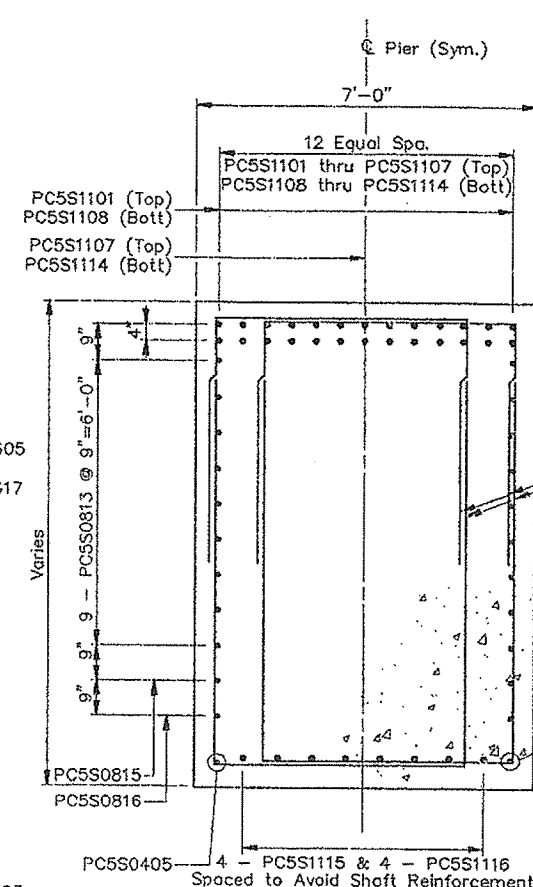
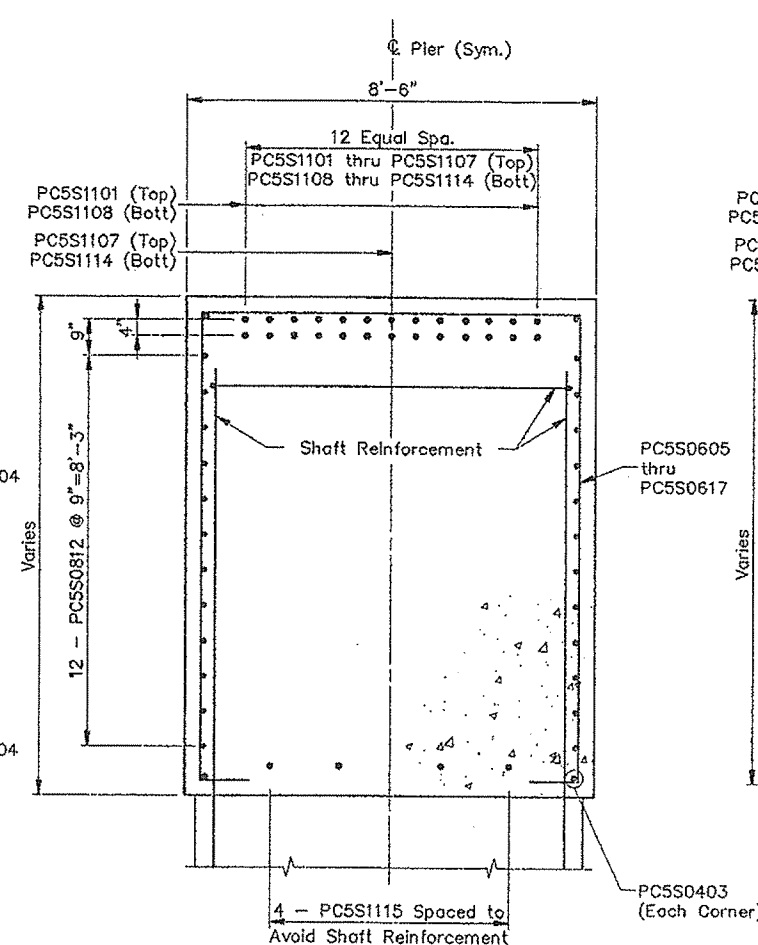
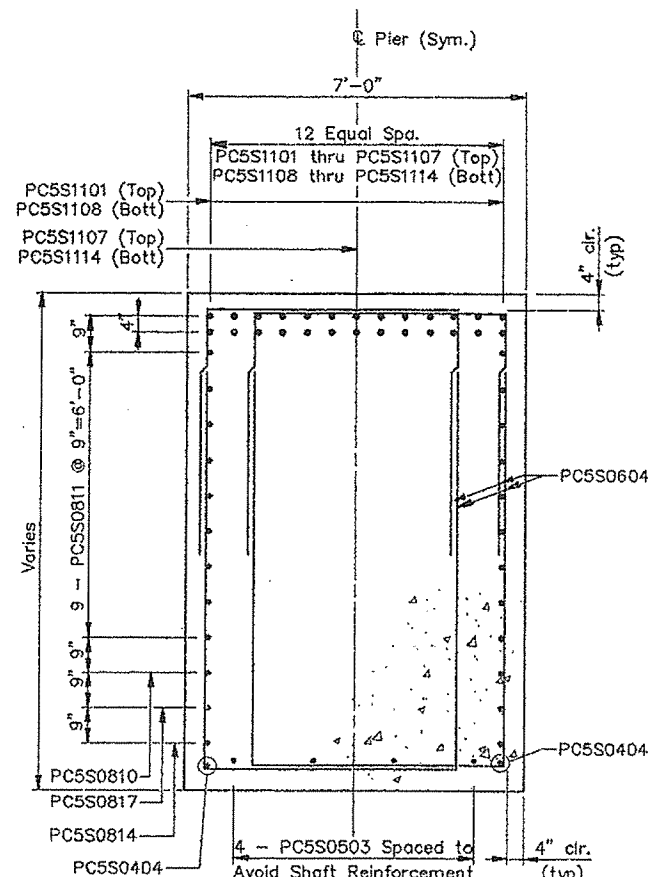
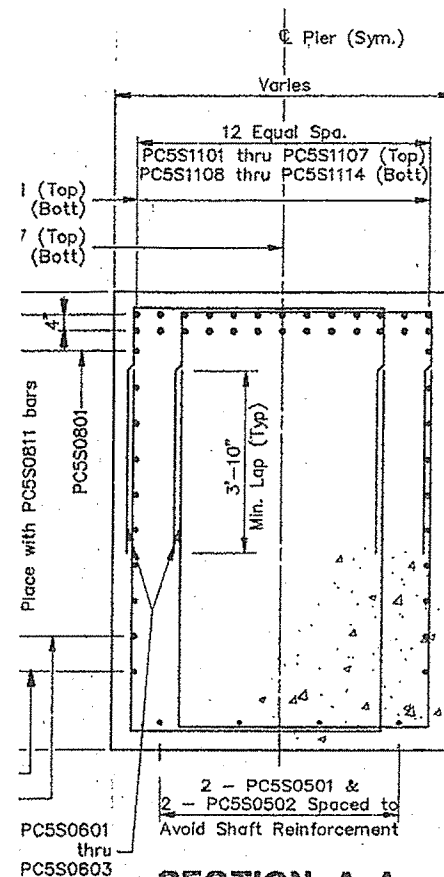


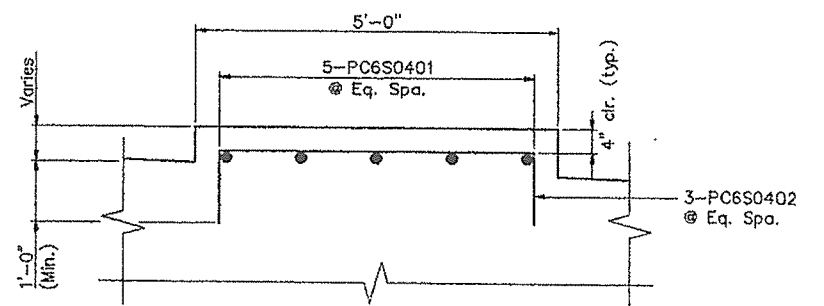
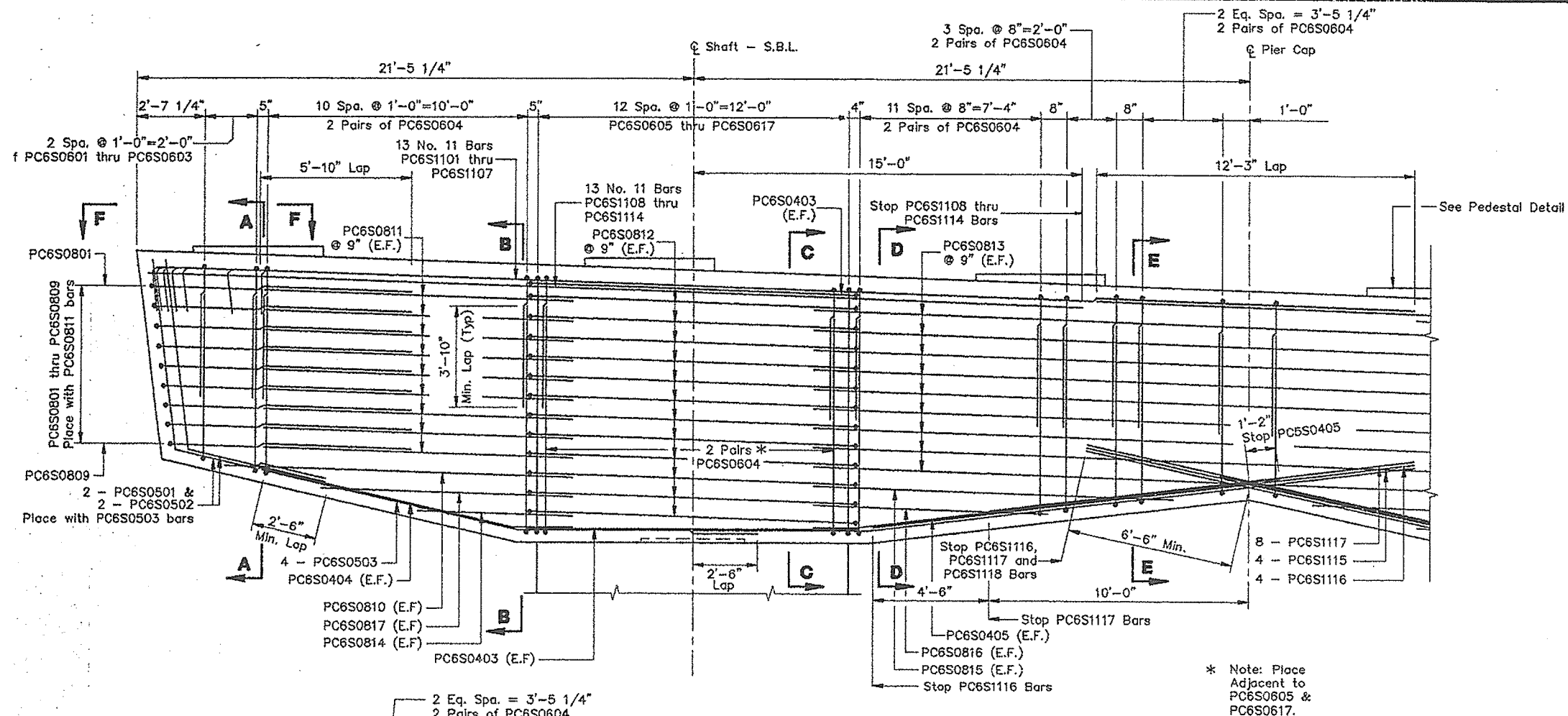
PEDESTAL DETAIL



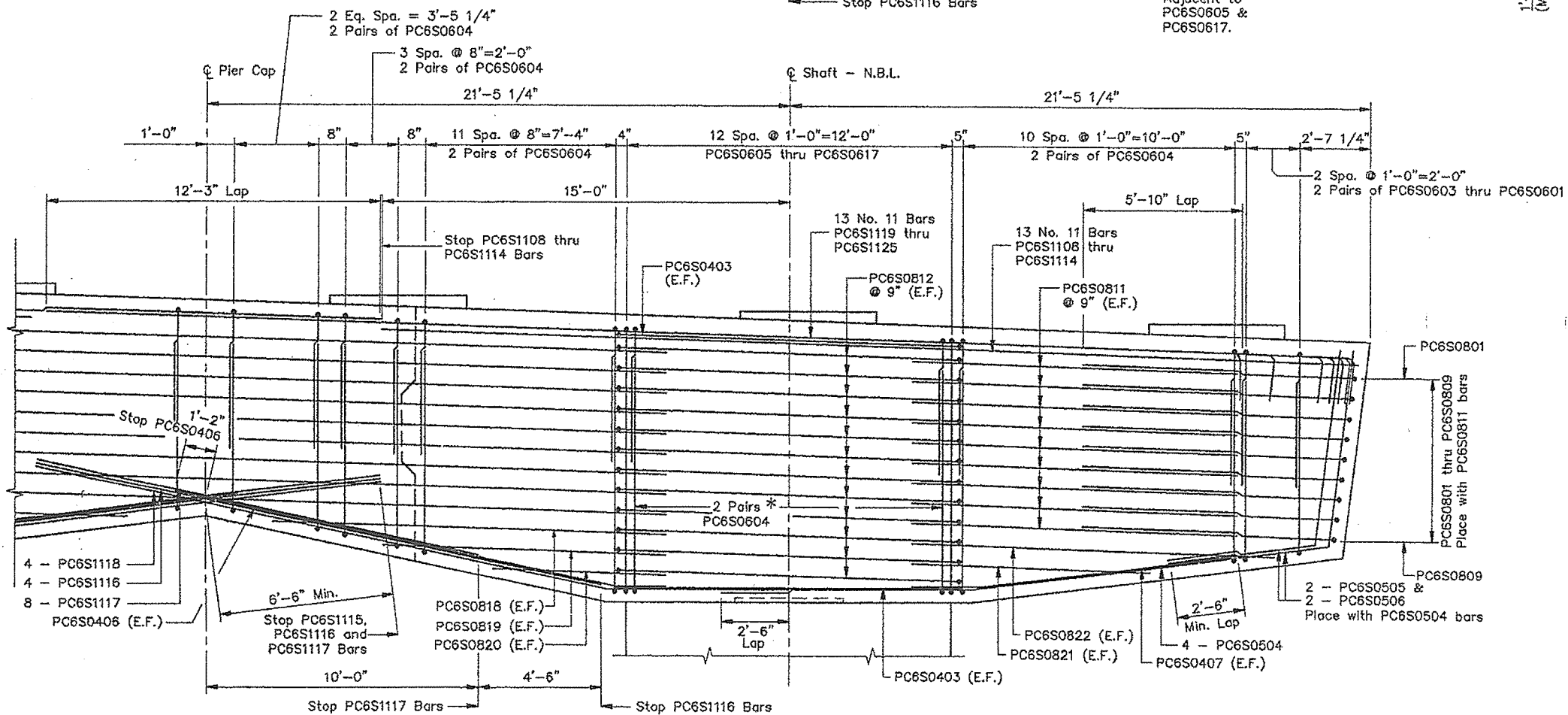
PIER 5S CAP REINFORCEMENT

STEEL ALTERNATIVE SUBSTRUCTURE
STATE OF MAINE DEPARTMENT OF TRANSPORTATION
PORTLAND - S. PORTLAND BRIDGE
OVER FORE RIVER
CUMBERLAND COUNTY
CAP REINFORCING PIER 5S





PEDESTAL DETAIL



PIER 6S CAP REINFORCEMENT

STEEL ALTERNATIVE SUBSTRUCTURE

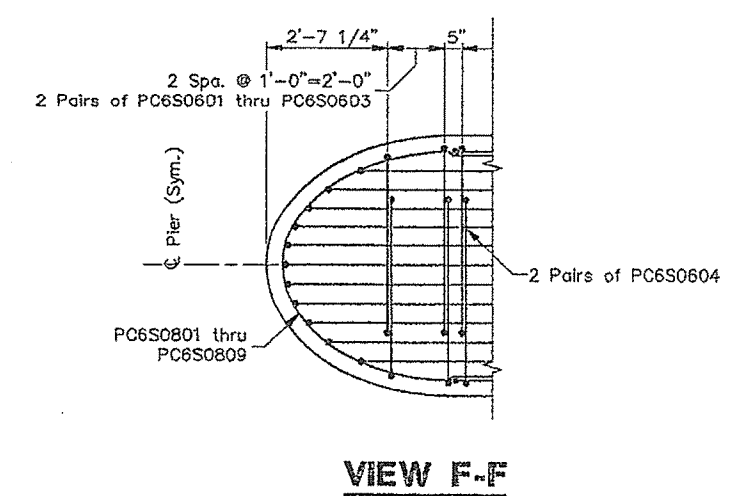
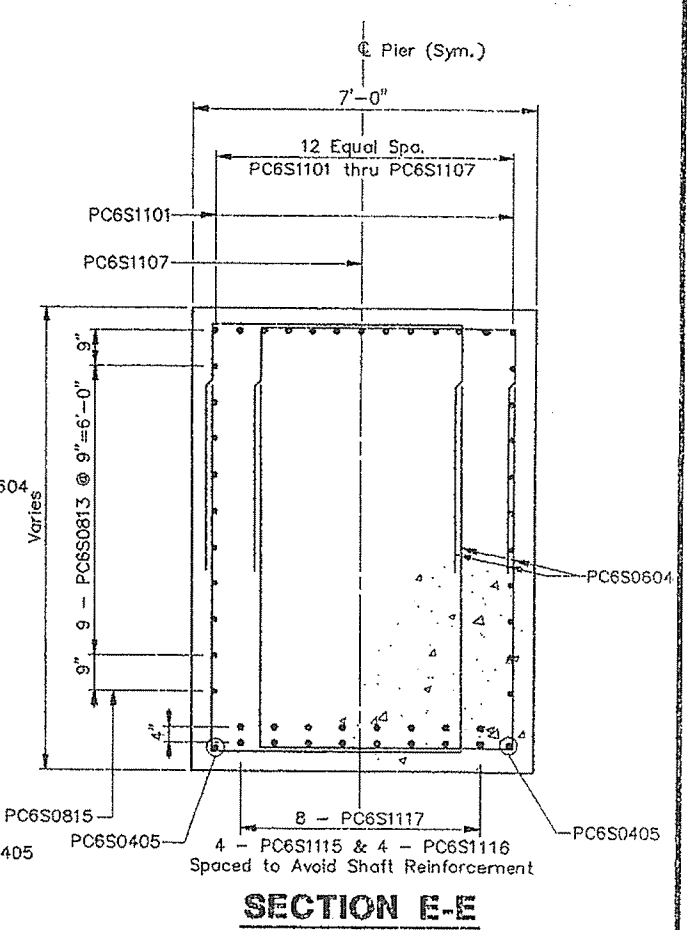
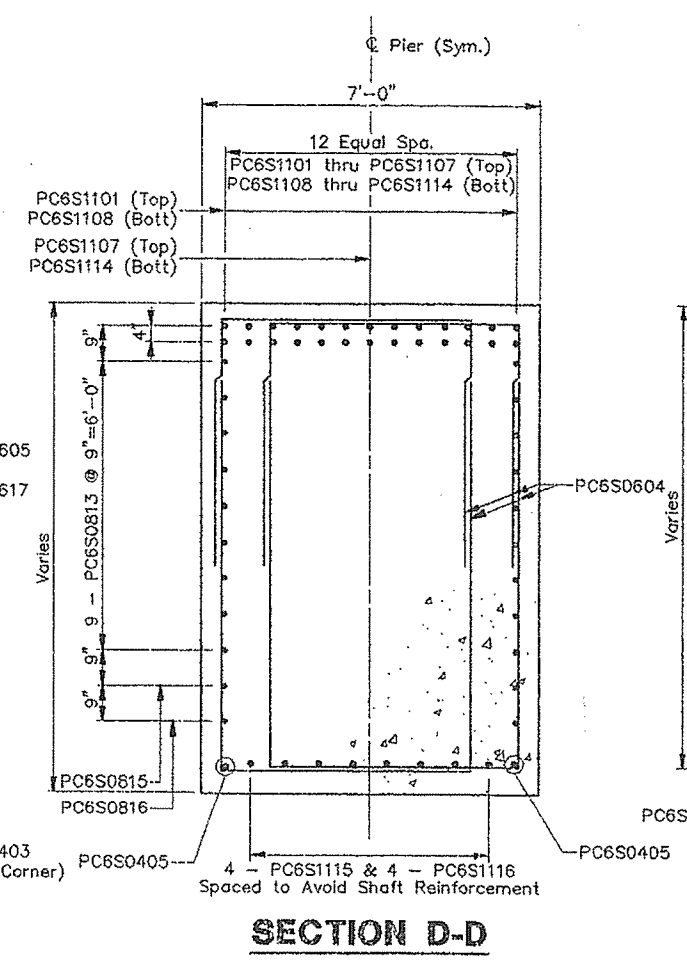
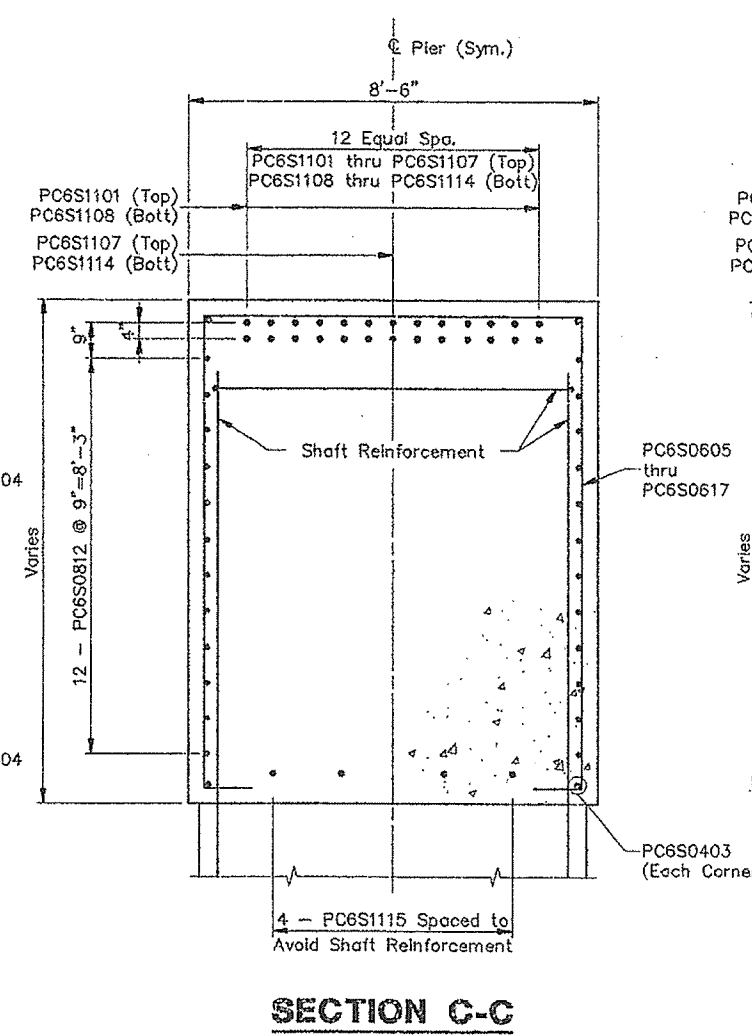
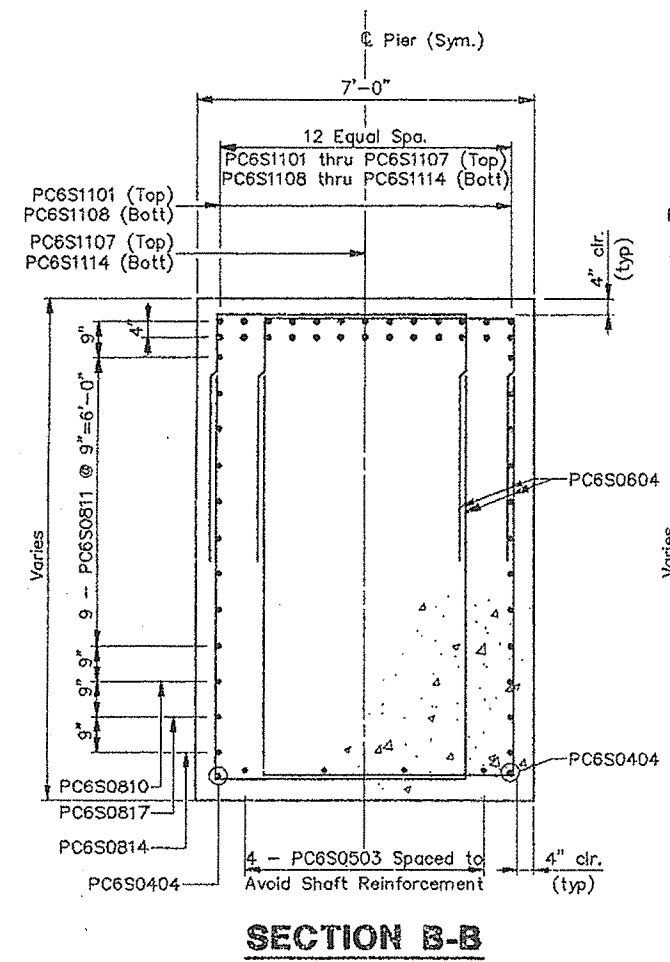
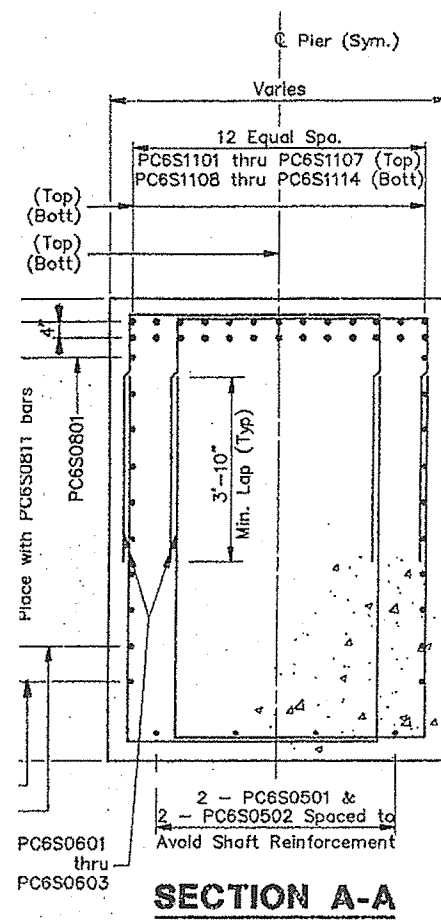
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PORTLAND - S. PORTLAND BRIDGE

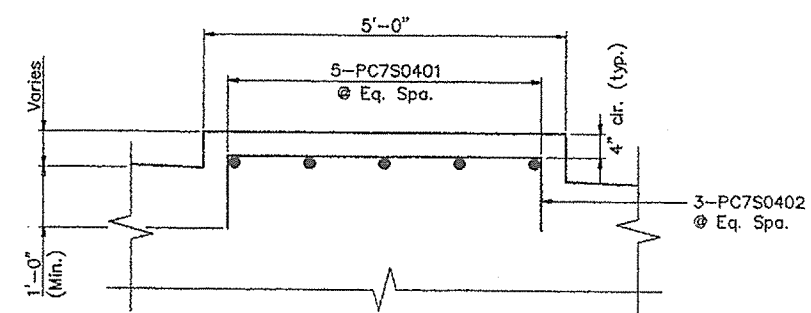
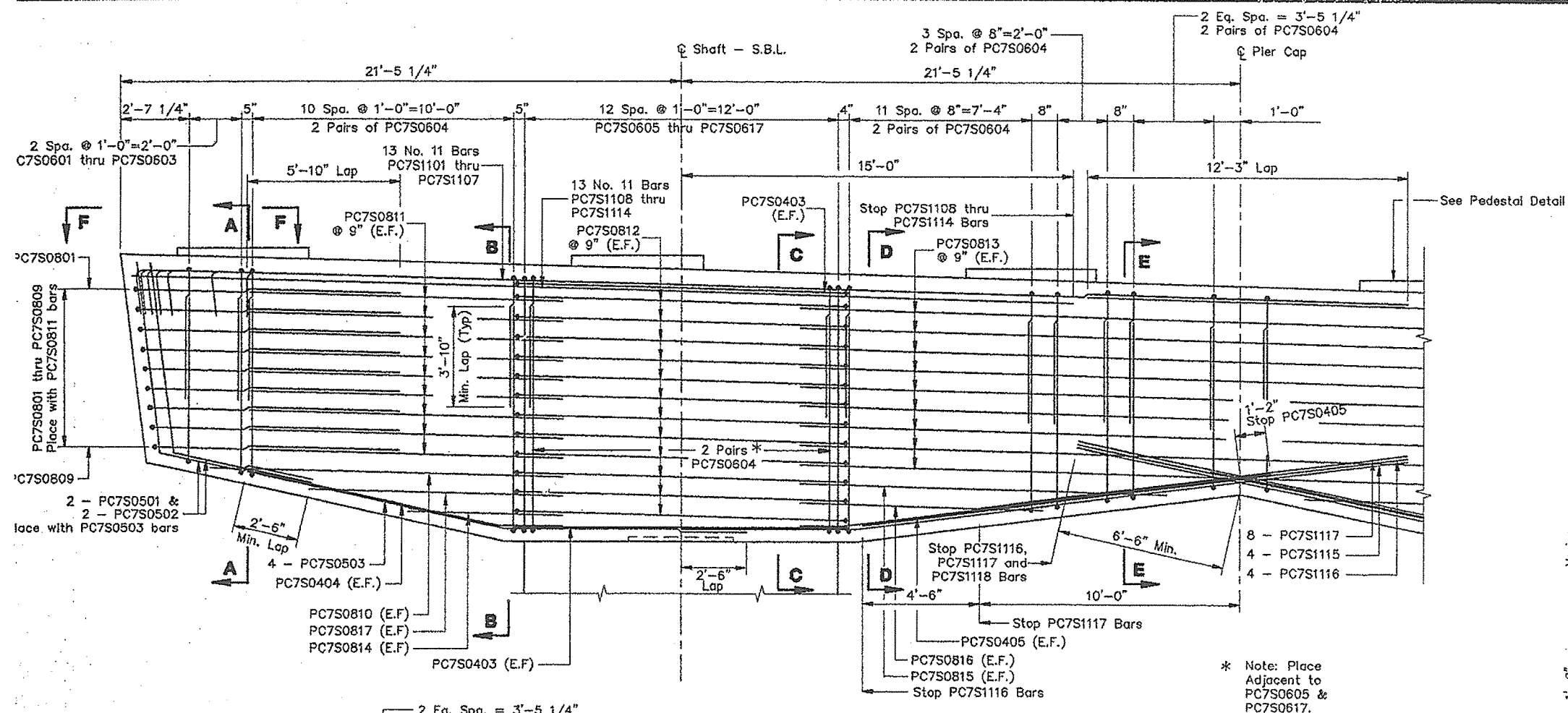
OVER FORE RIVER

CUMBERLAND COUNTY

**CAP REINFORCING
PIER 6S**

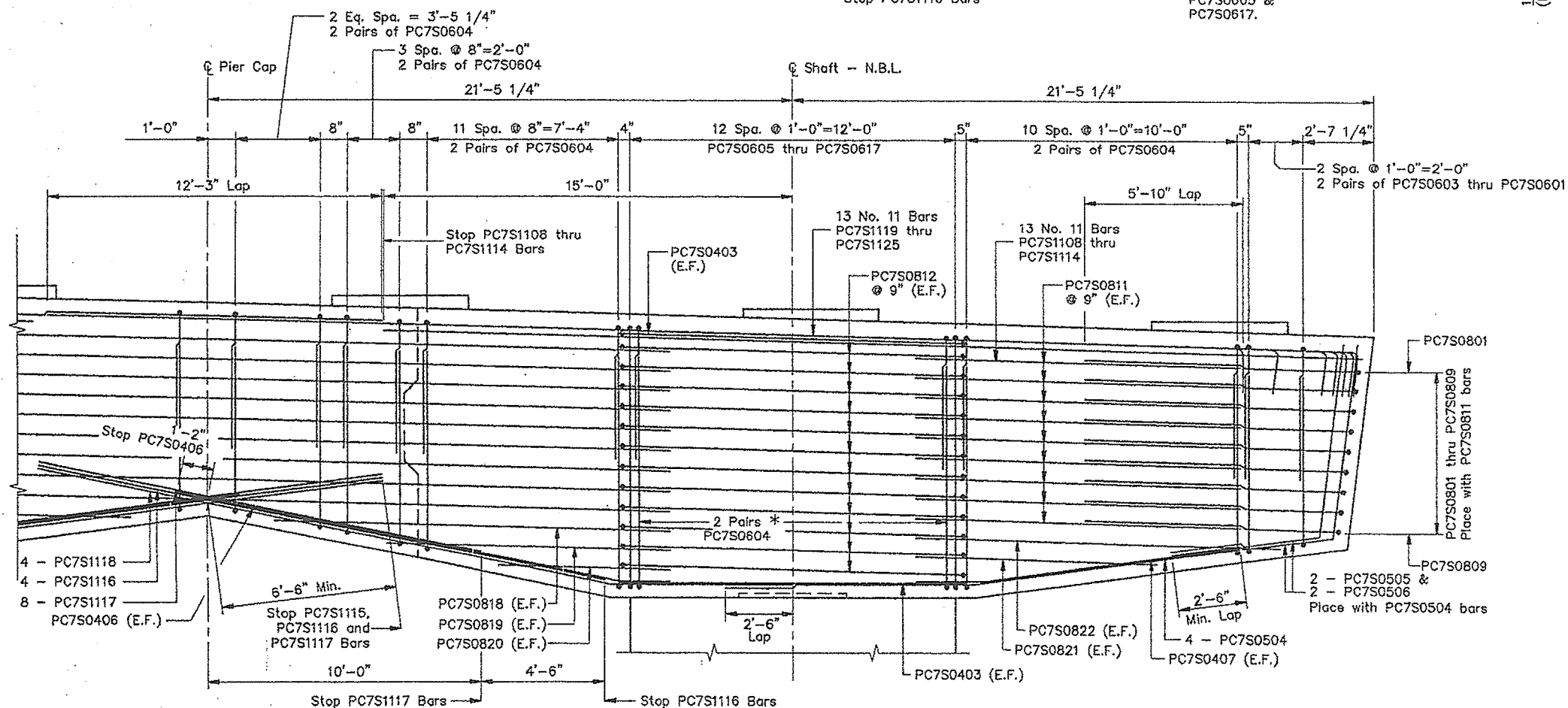


F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	DPI-0068(002)	83	330



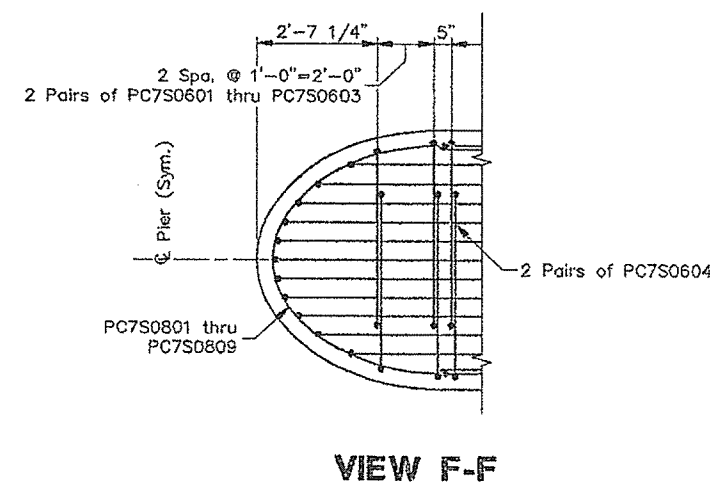
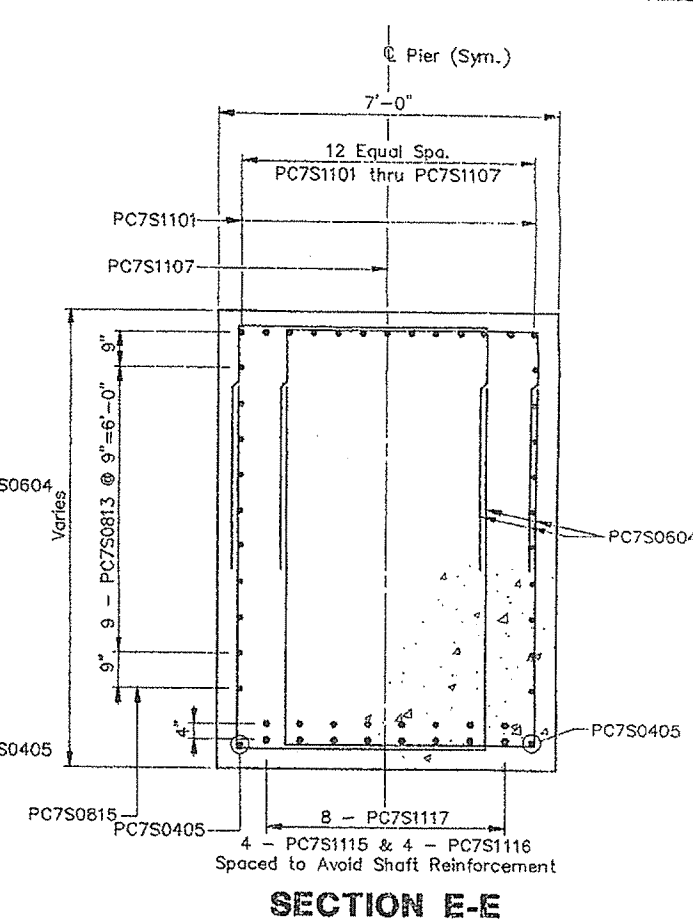
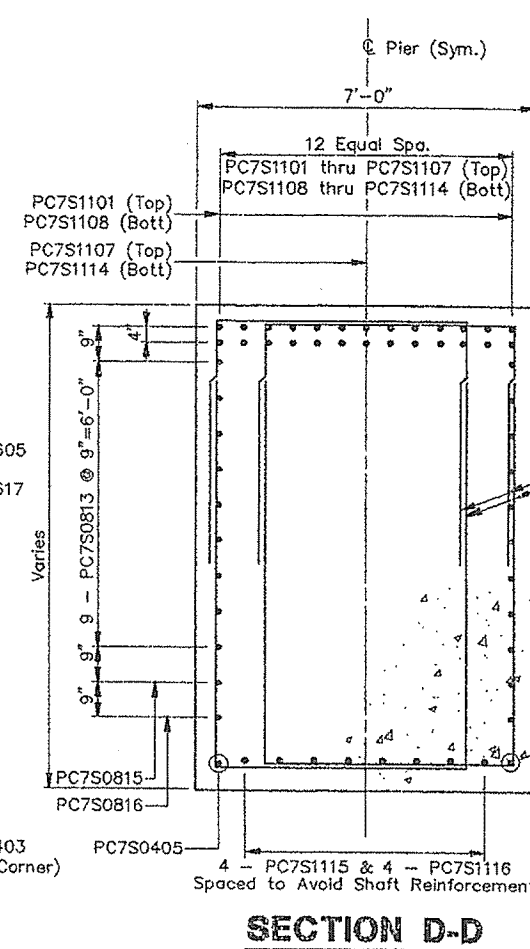
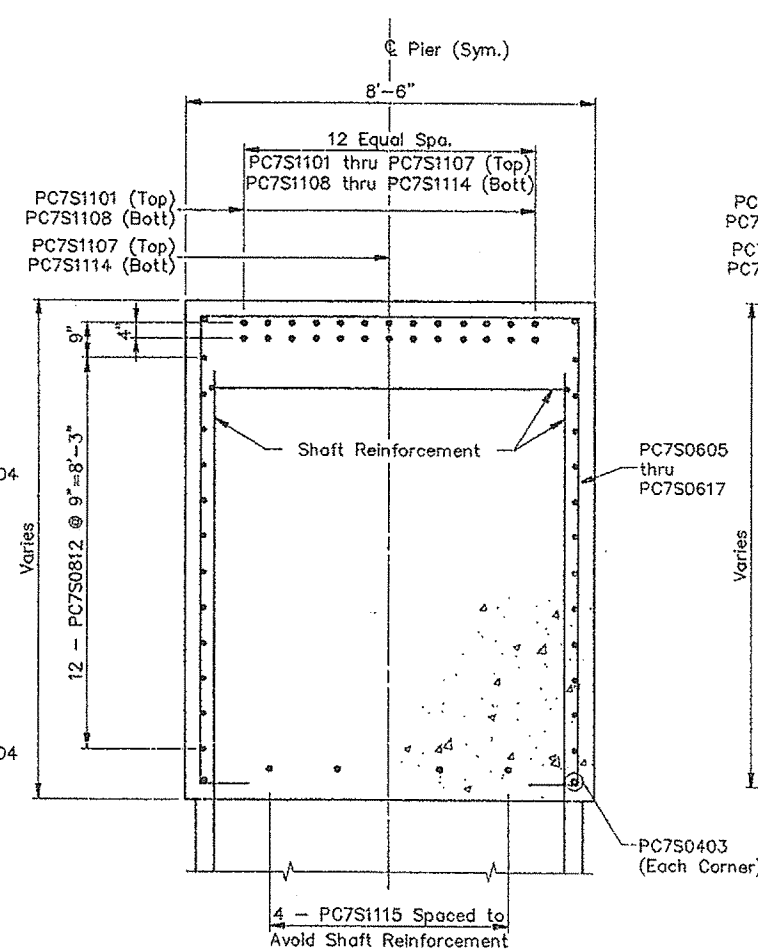
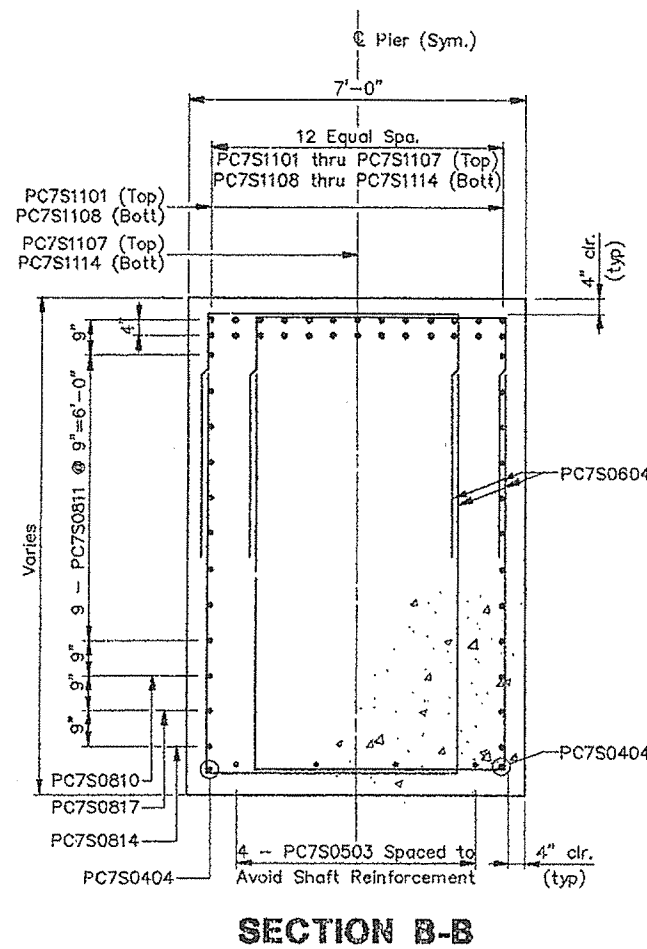
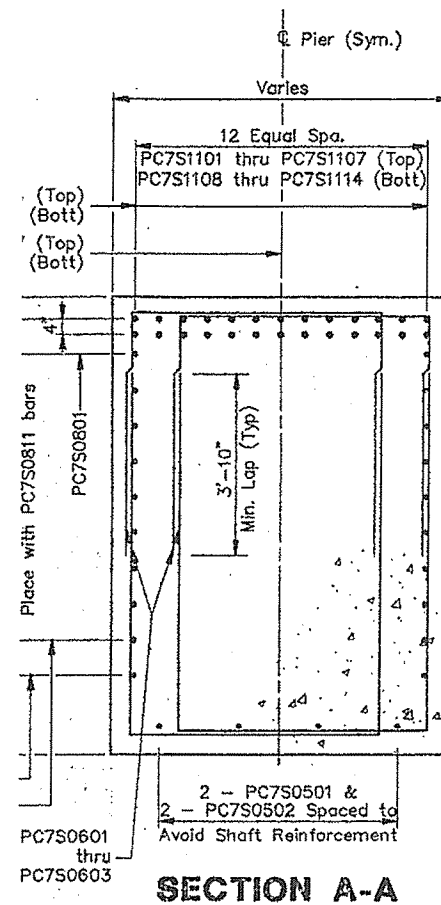
PEDESTAL DETAIL

* Note: Place Adjacent to PC7S0605 & PC7S0617.

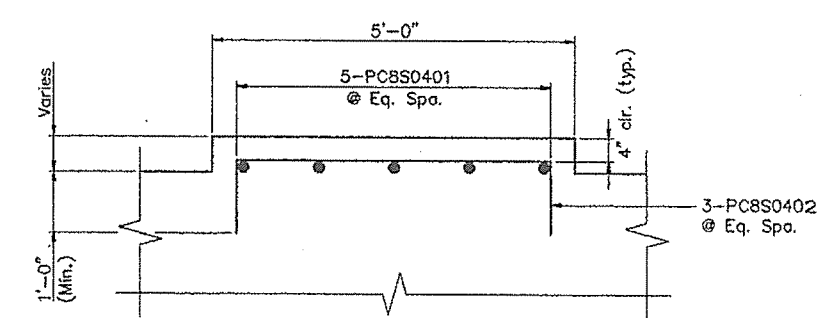
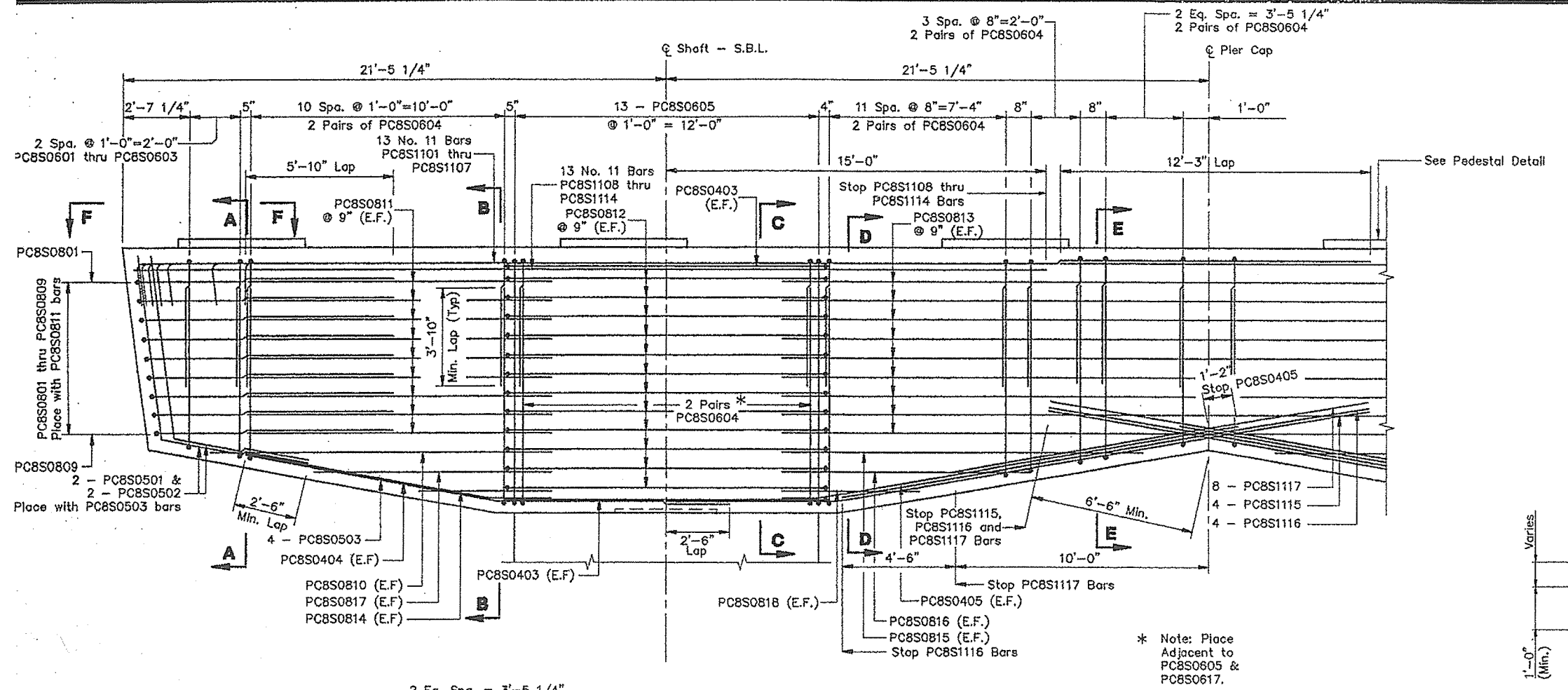


PIER 7S CAP REINFORCEMENT

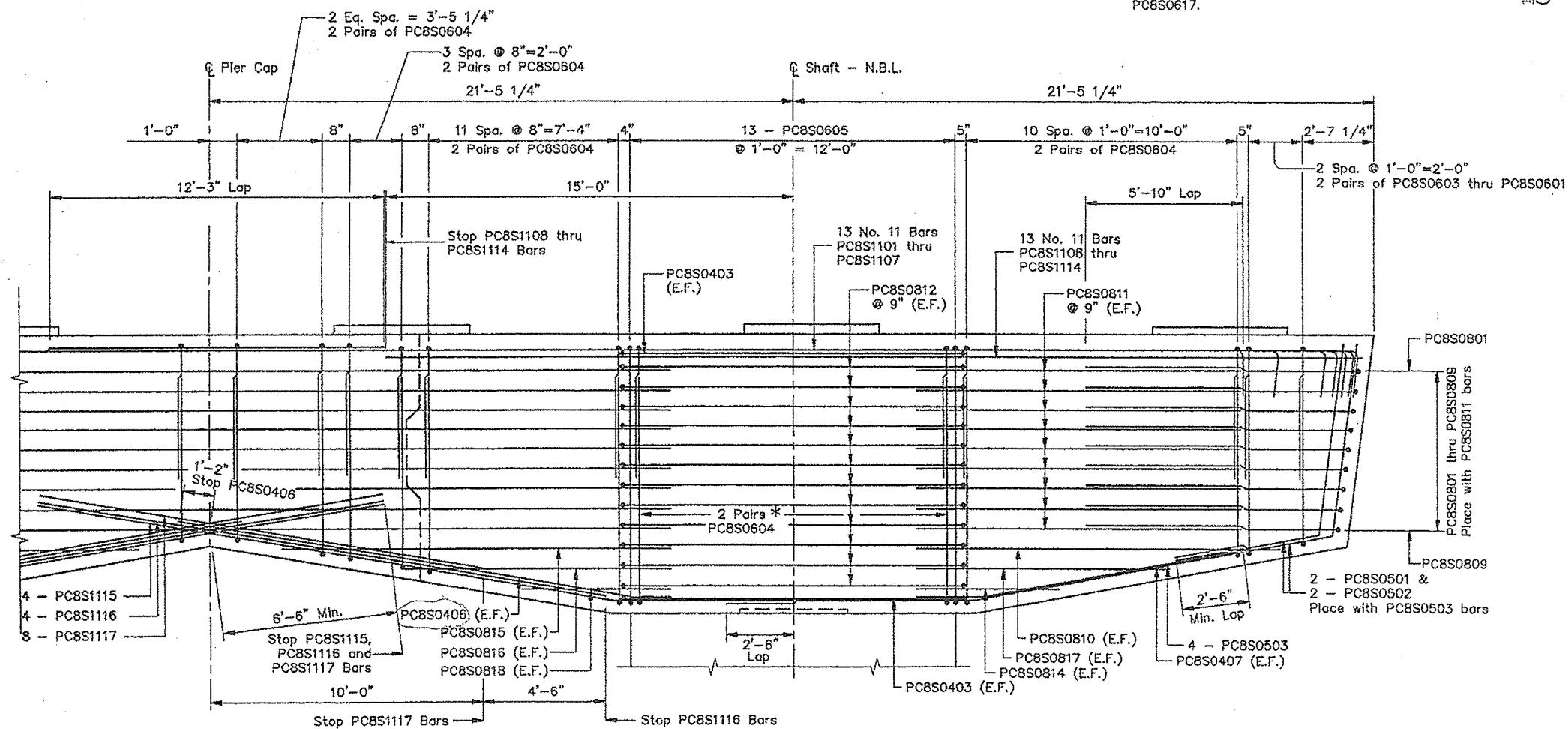
STEEL ALTERNATIVE SUBSTRUCTURE
STATE OF MAINE DEPARTMENT OF TRANSPORTATION
PORTLAND - S. PORTLAND BRIDGE
OVER FORE RIVER
CUMBERLAND COUNTY
CAP REINFORCING PIER 7S



F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	DPI-0098(002)	57	115



PEDESTAL DETAIL



PIER 8S CAP REINFORCEMENT

STEEL ALTERNATIVE SUBSTRUCTURE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

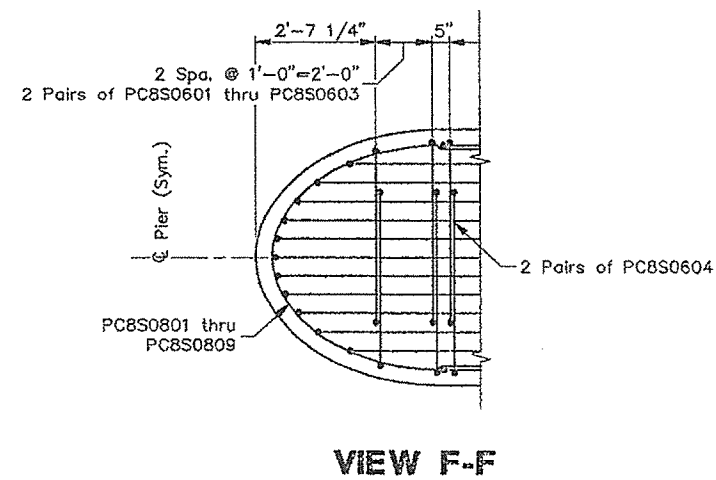
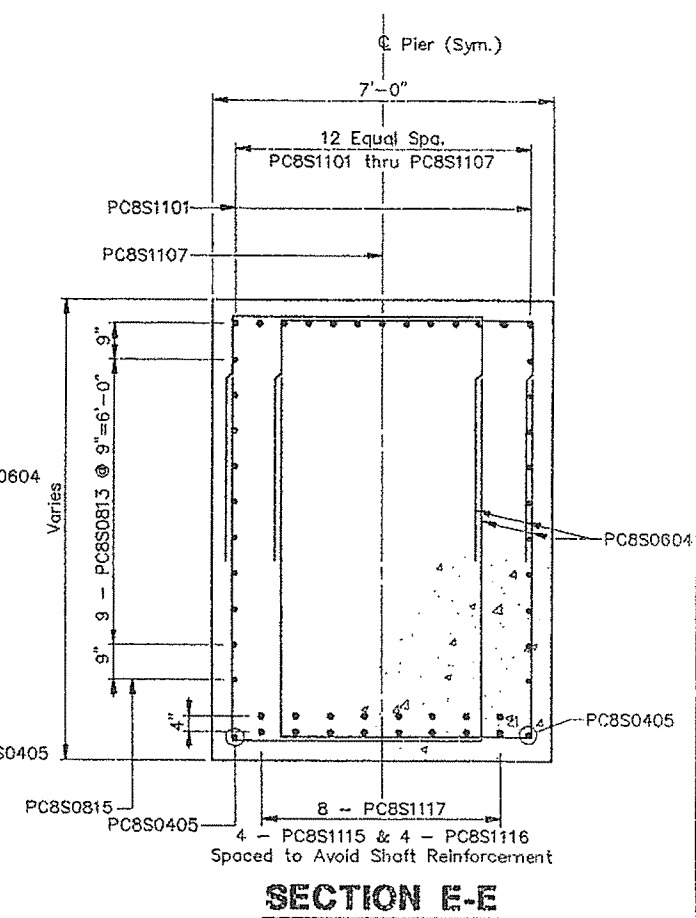
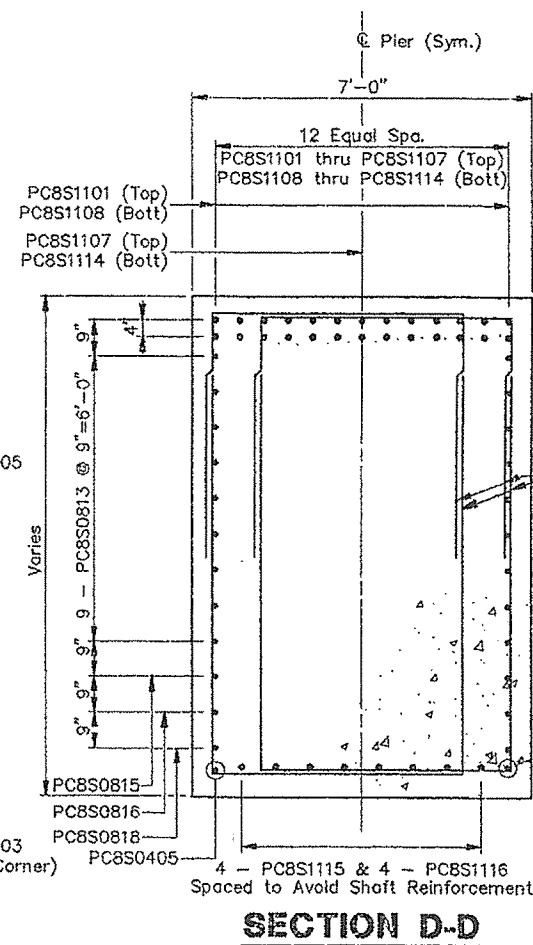
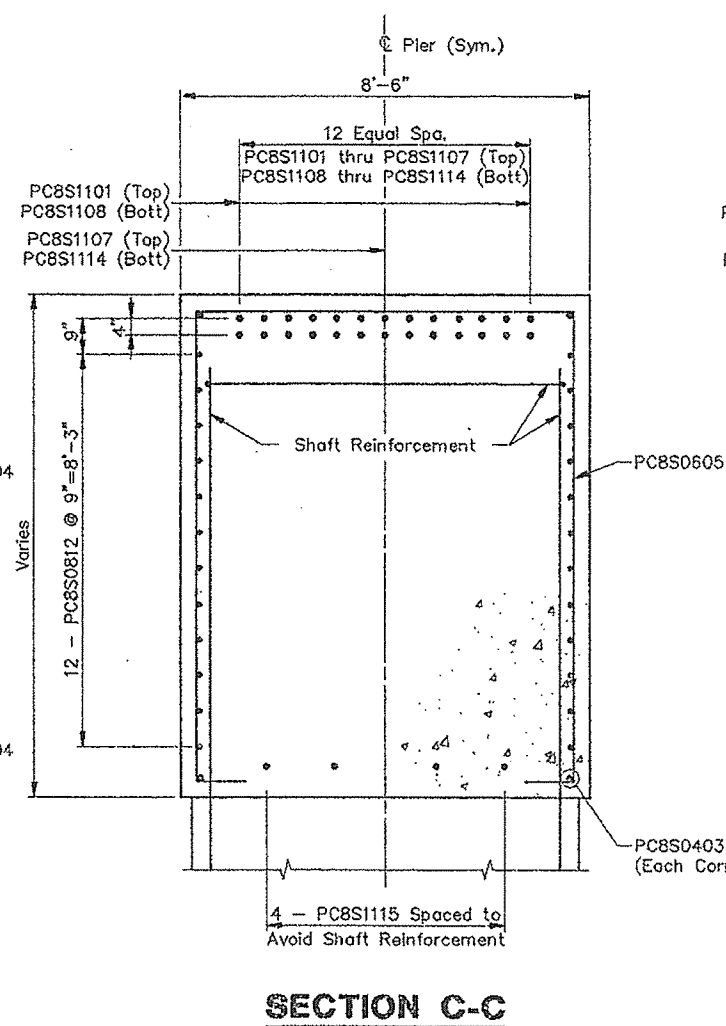
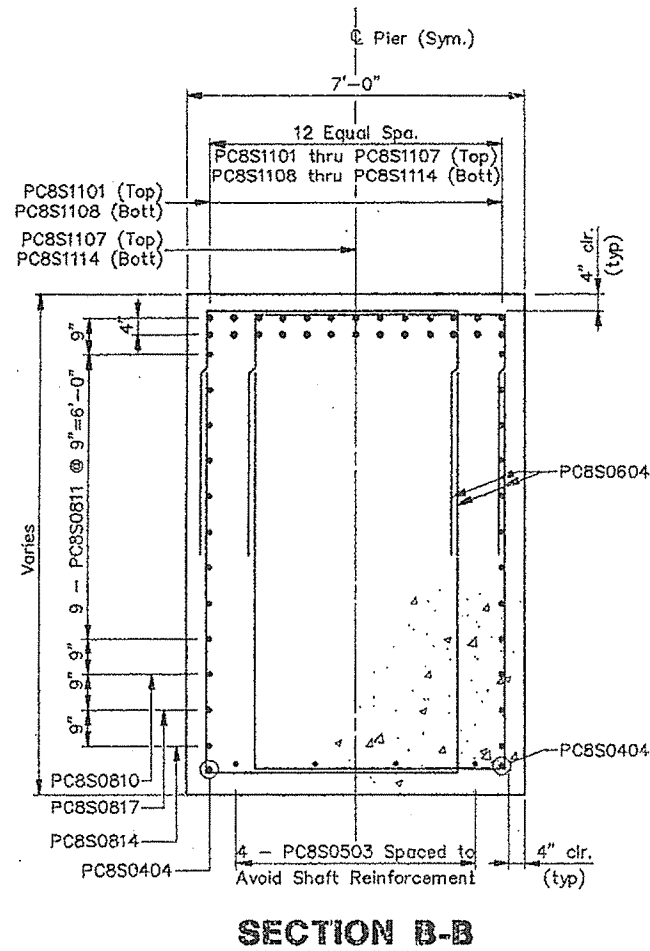
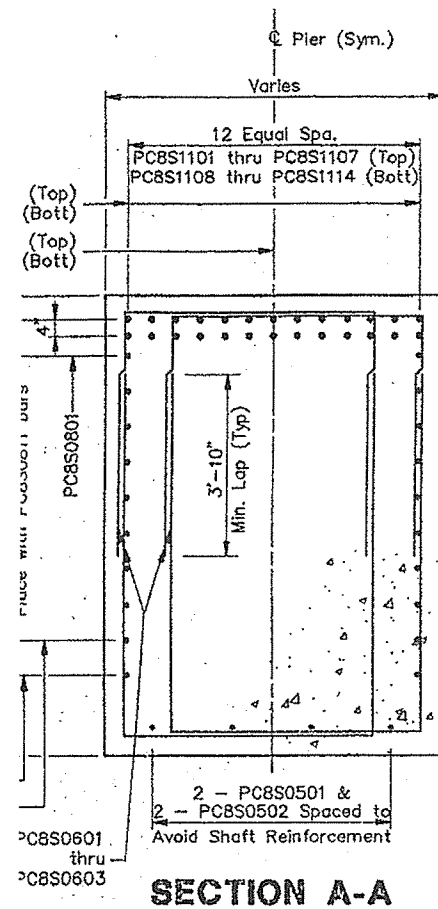
PORTLAND - S. PORTLAND BRIDGE

OVER FORE RIVER

CUMBERLAND COUNTY

**CAP REINFORCING
PIER 8S**

SHEET 57 OF 115 AUGUSTA, MAINE 7.11.12





STEEL ALTERNATIVE SUBSTRUCTURE

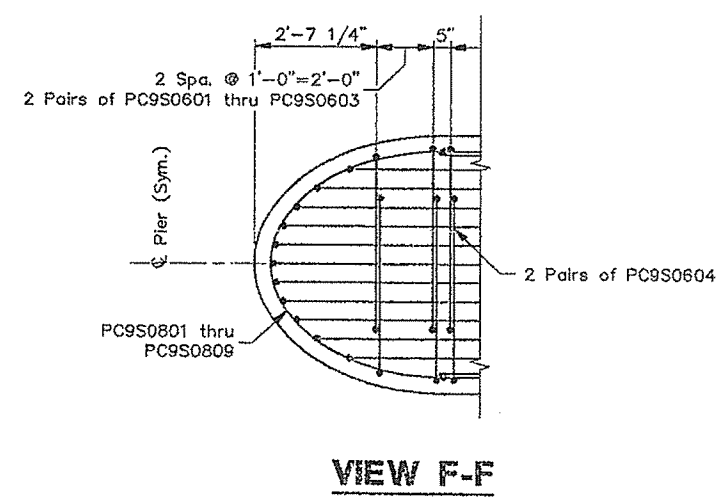
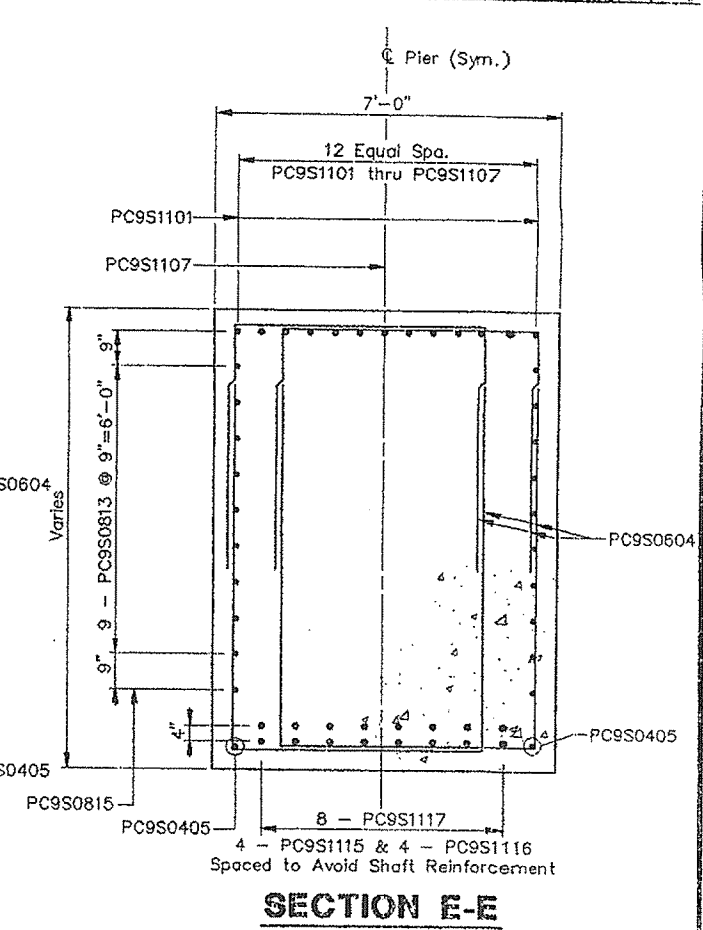
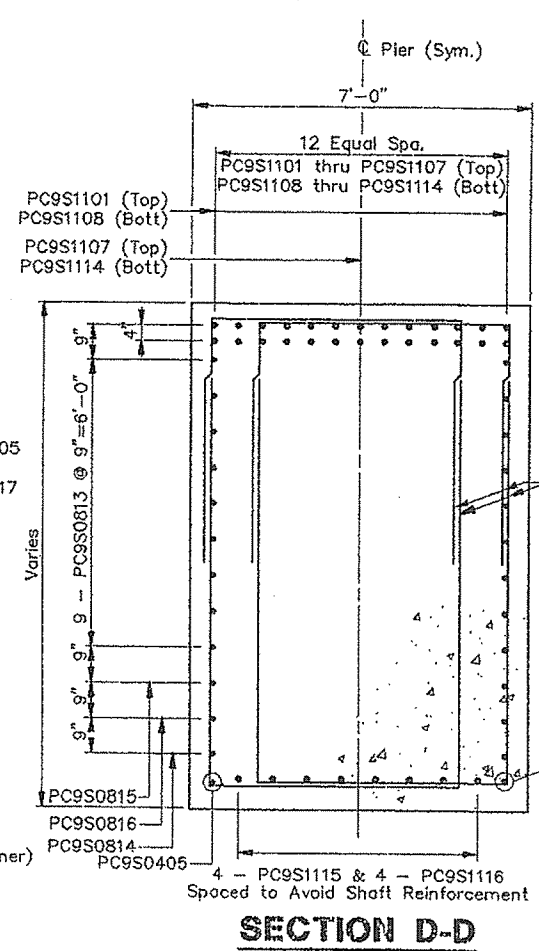
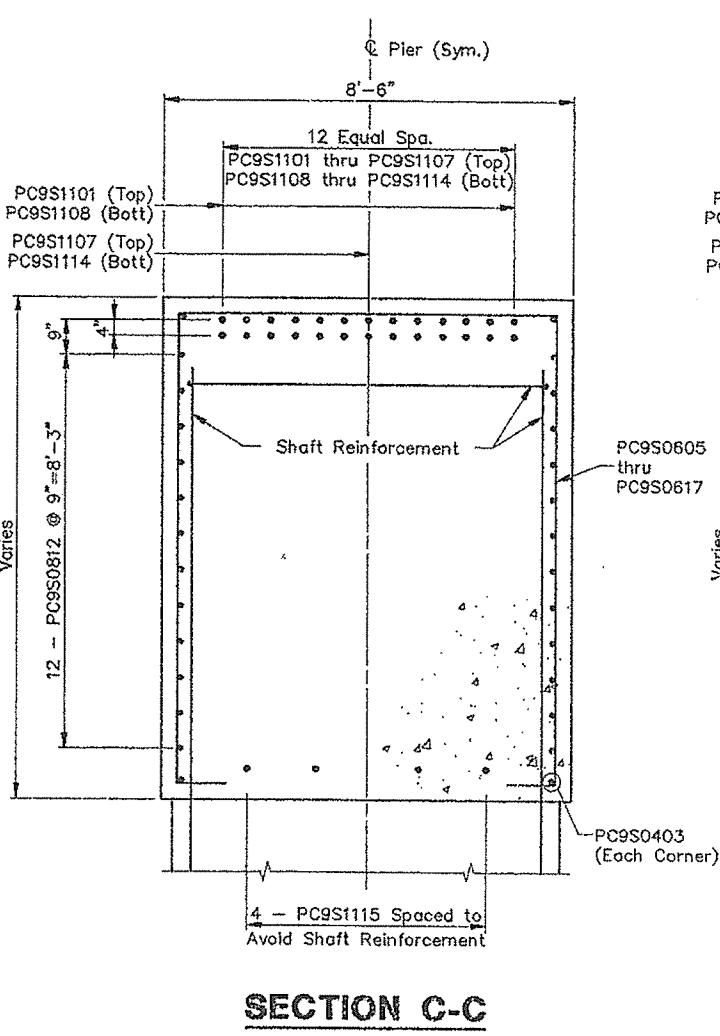
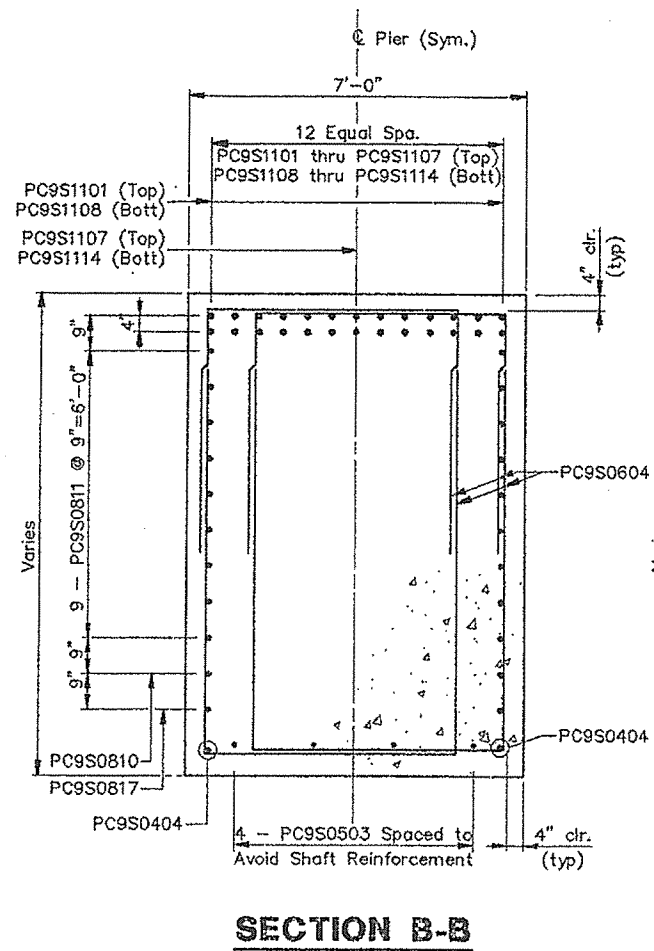
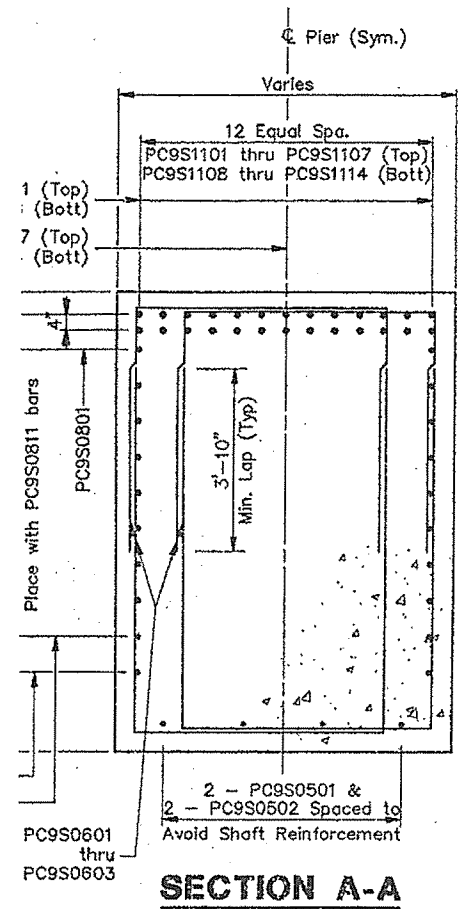
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

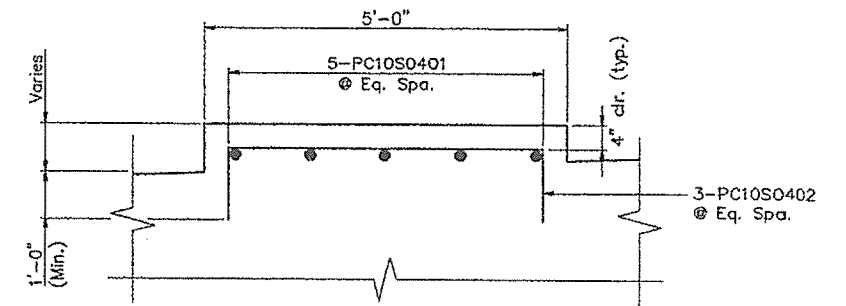
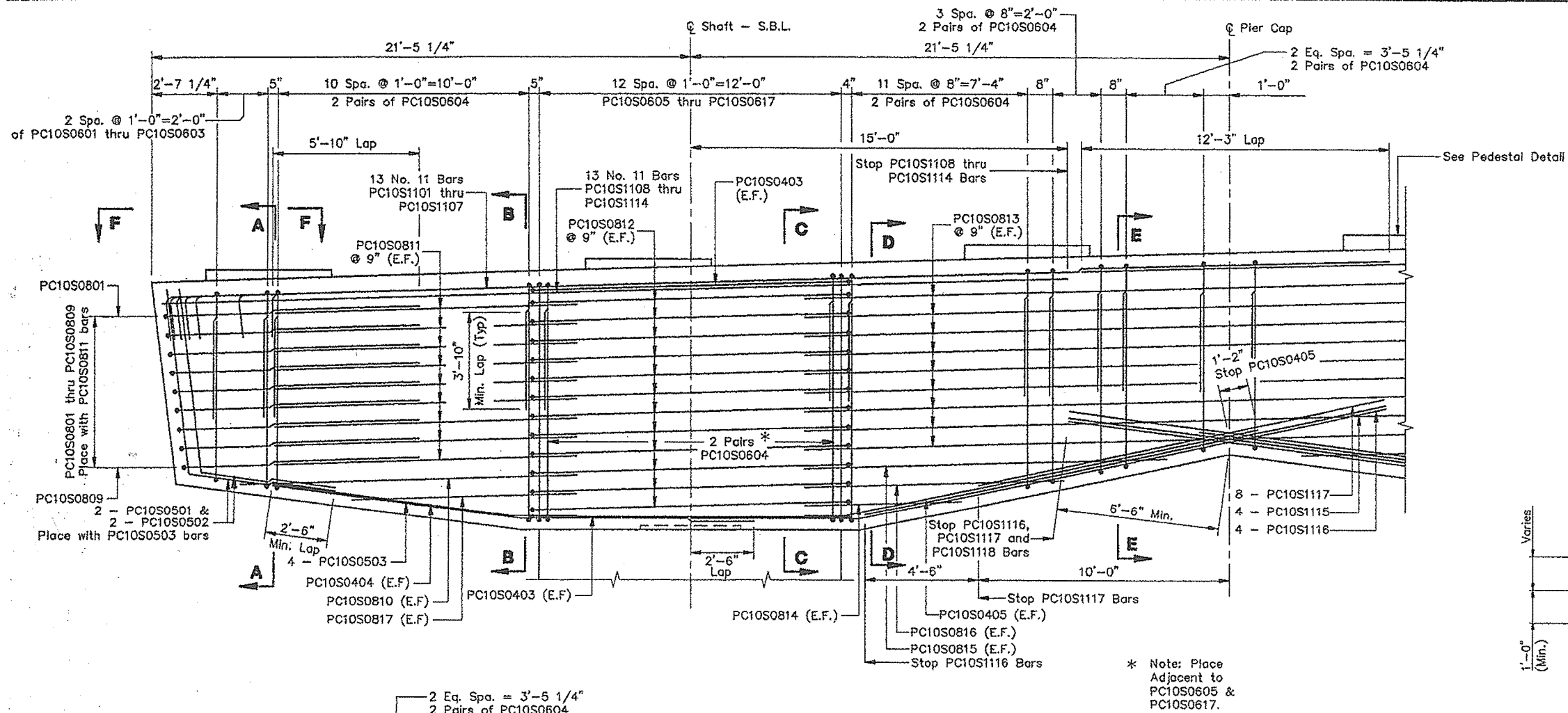
PORTLAND - S. PORTLAND BRIDGE

OVER FORE RIVER

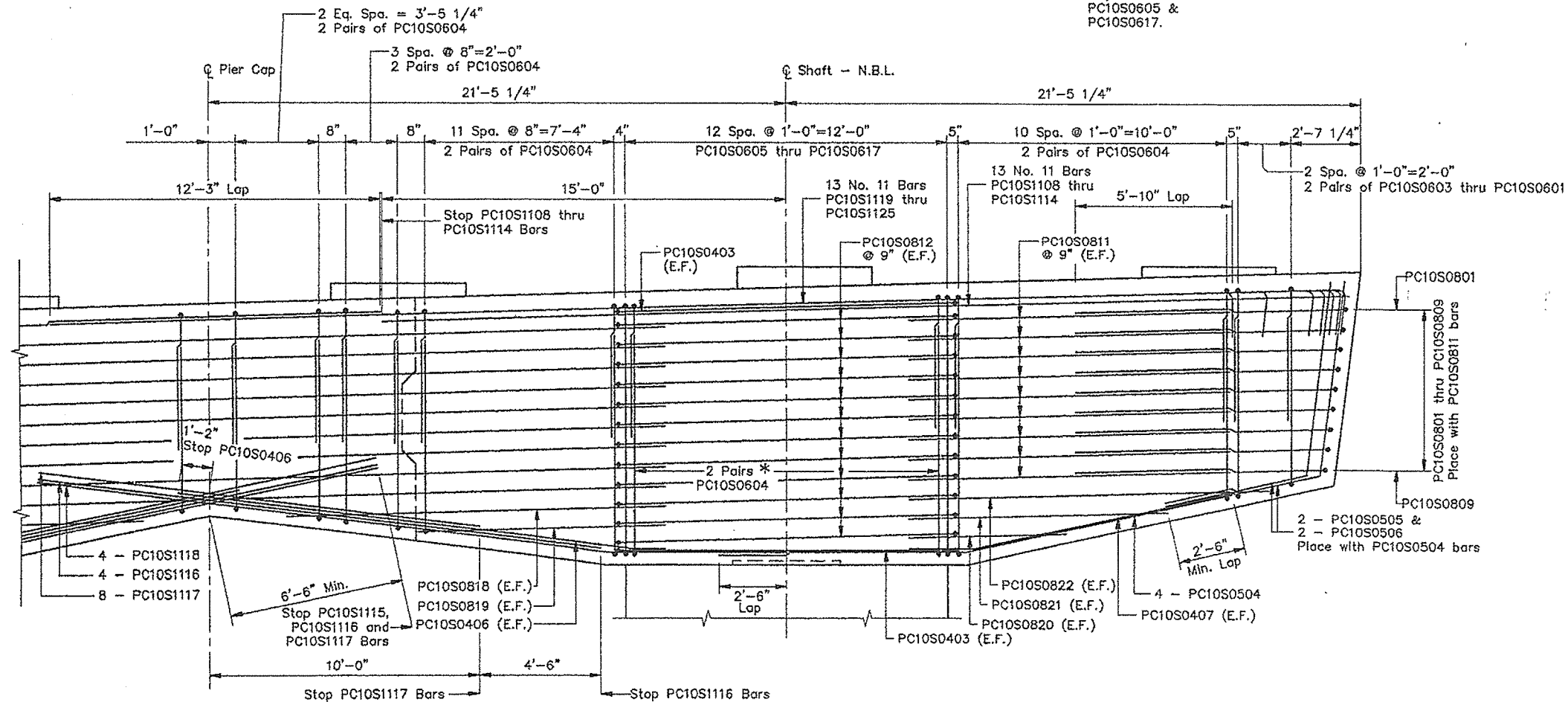
CUMBERLAND COUNTY

CAP REINFORCING
PIER 9S

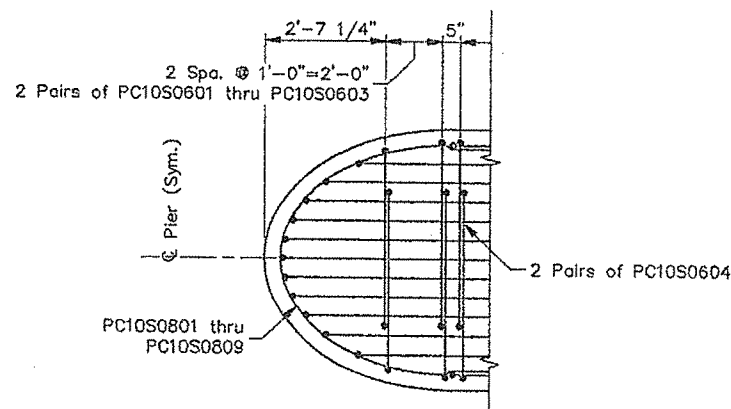
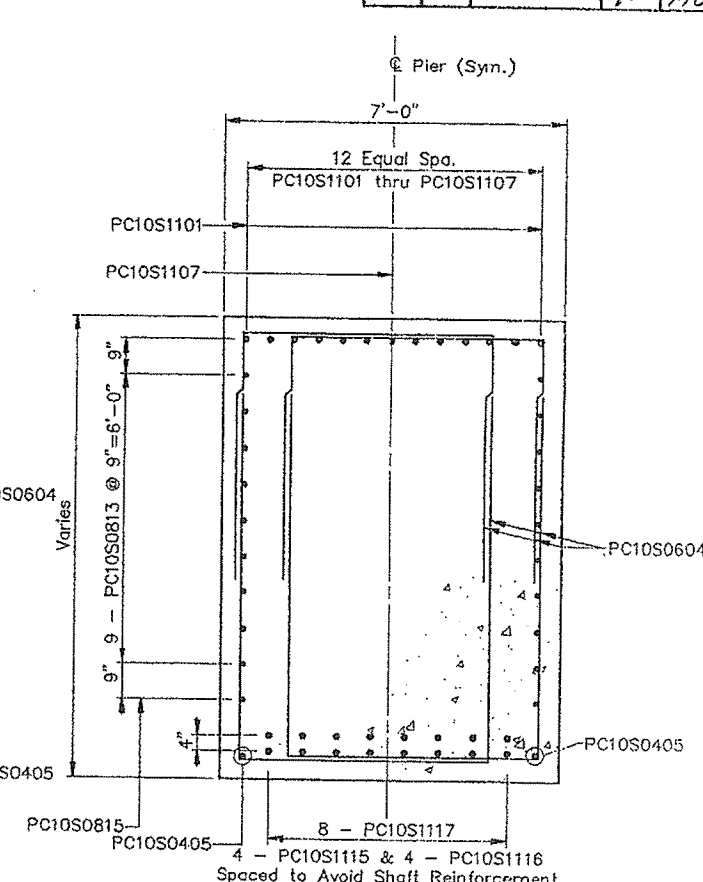
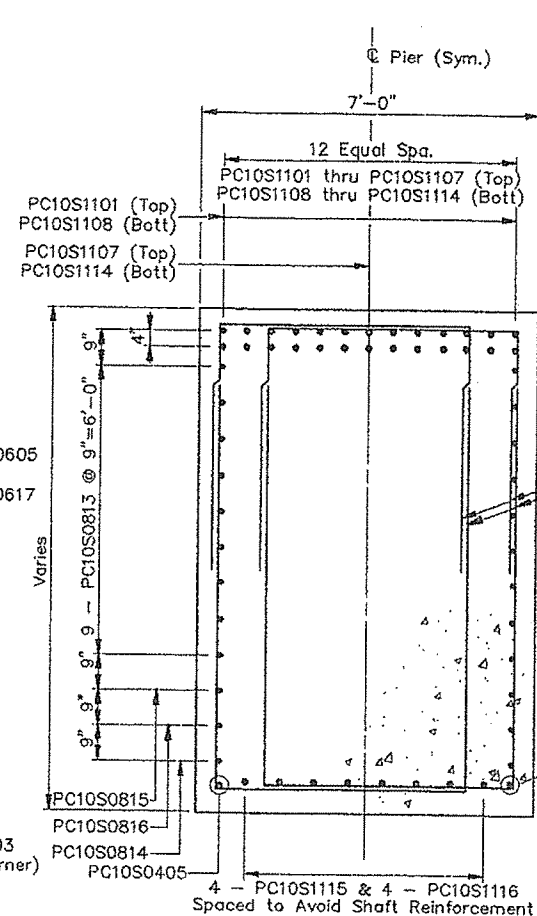
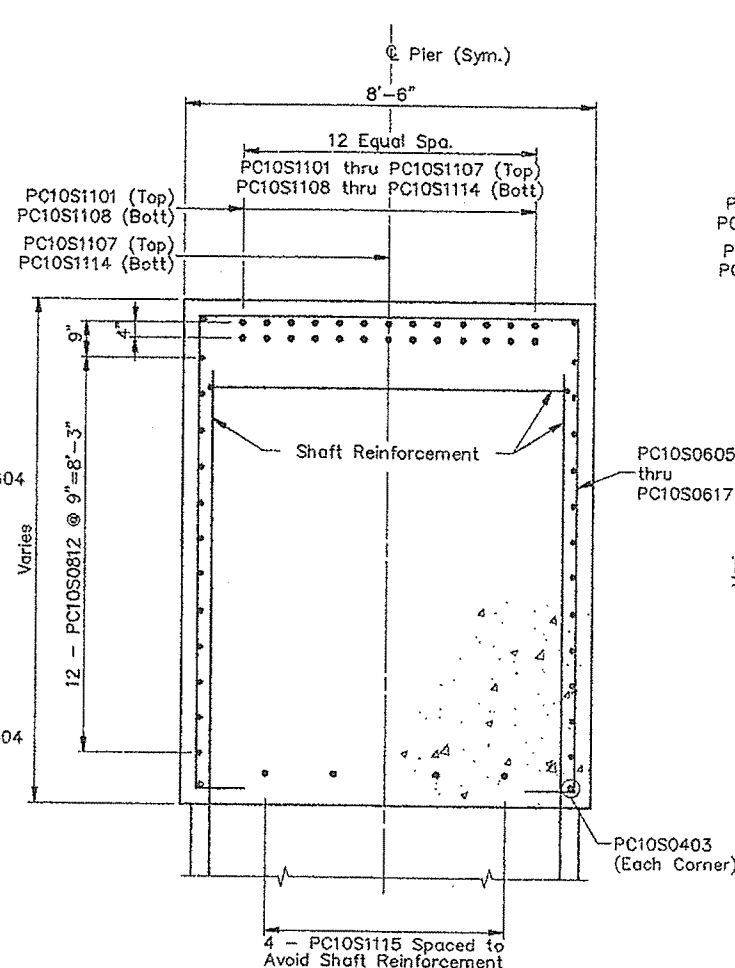
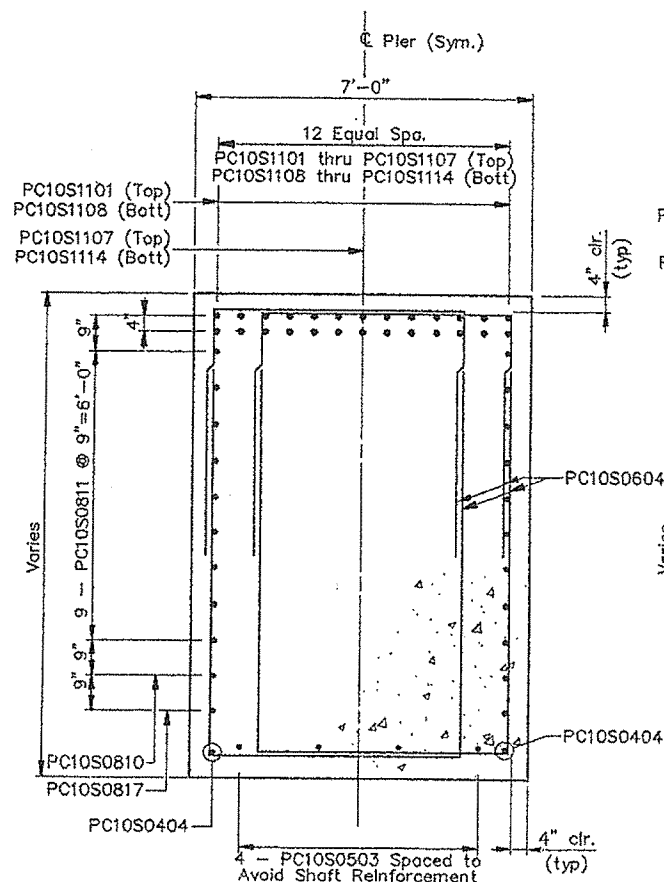
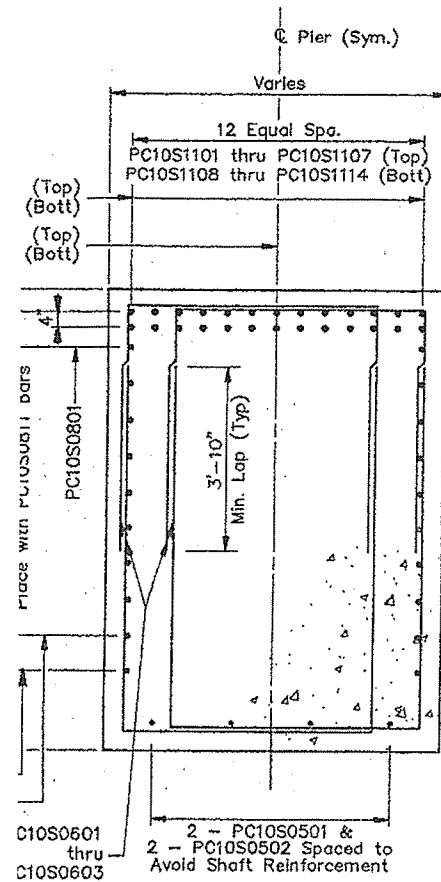


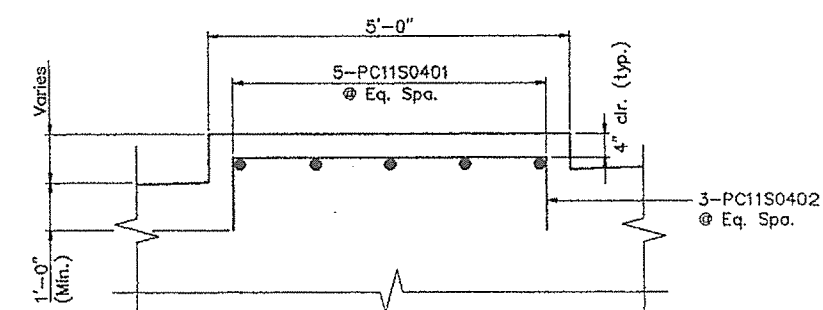
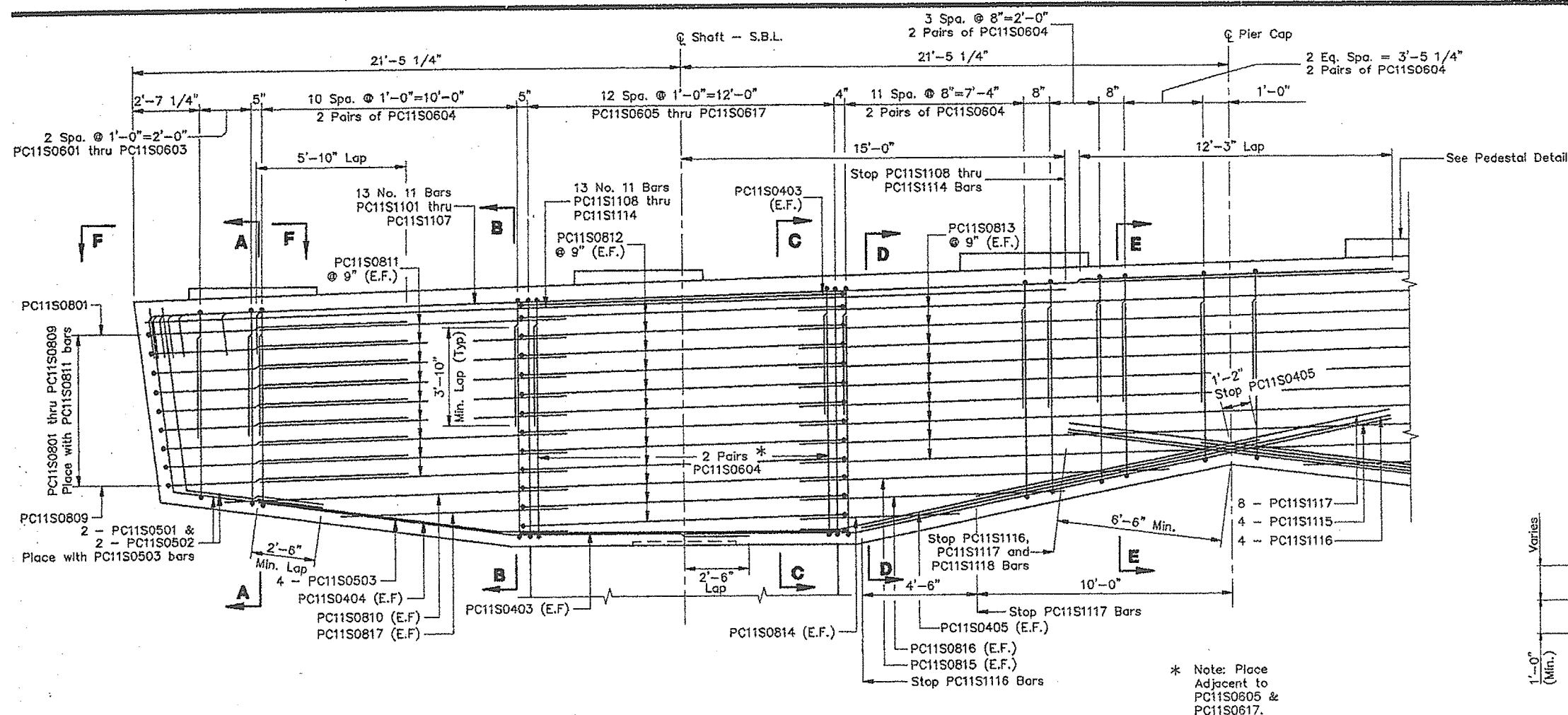


PEDESTAL DETAIL

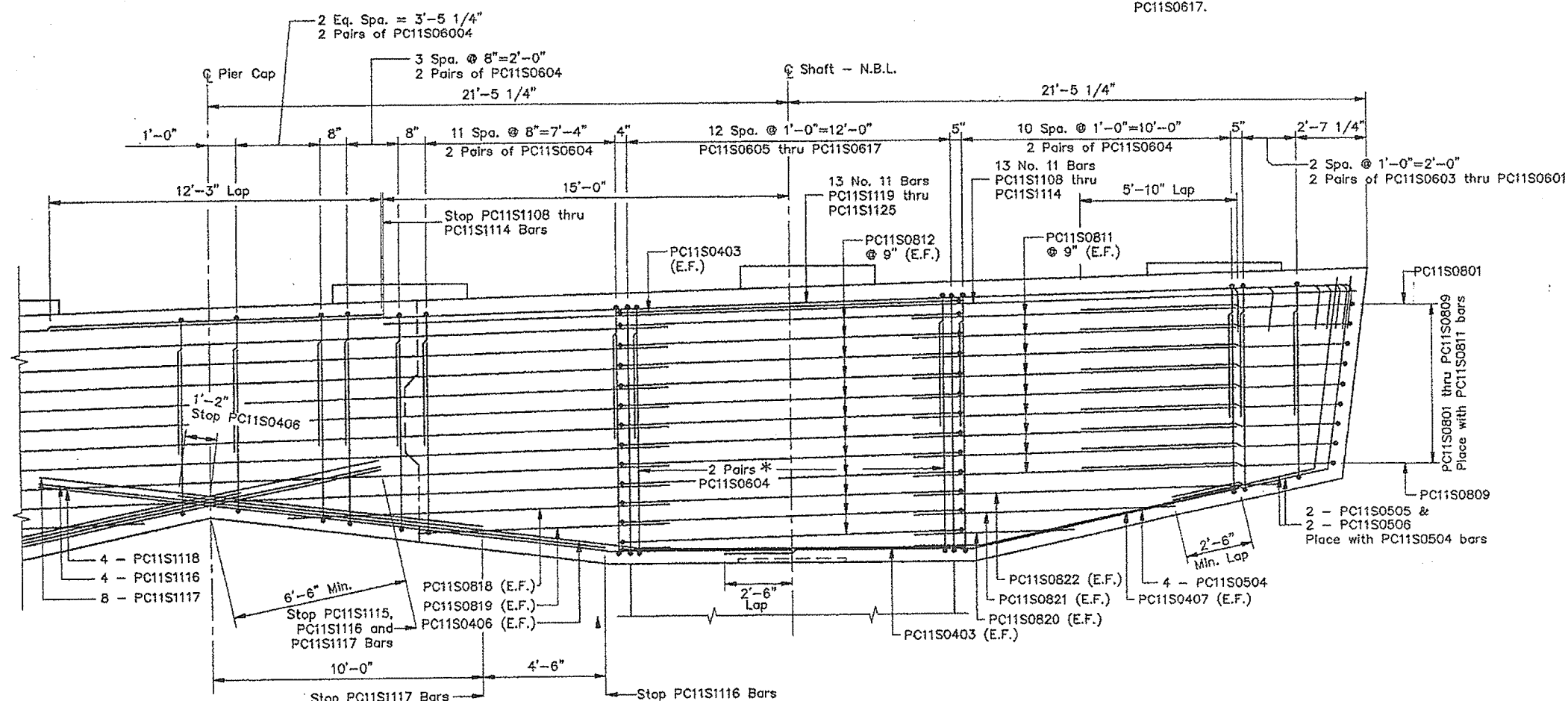


PIER 10S CAP REINFORCEMENT

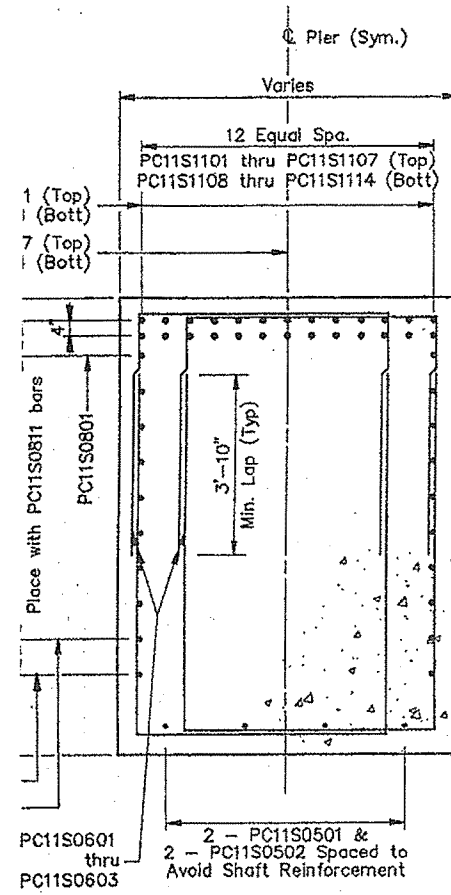




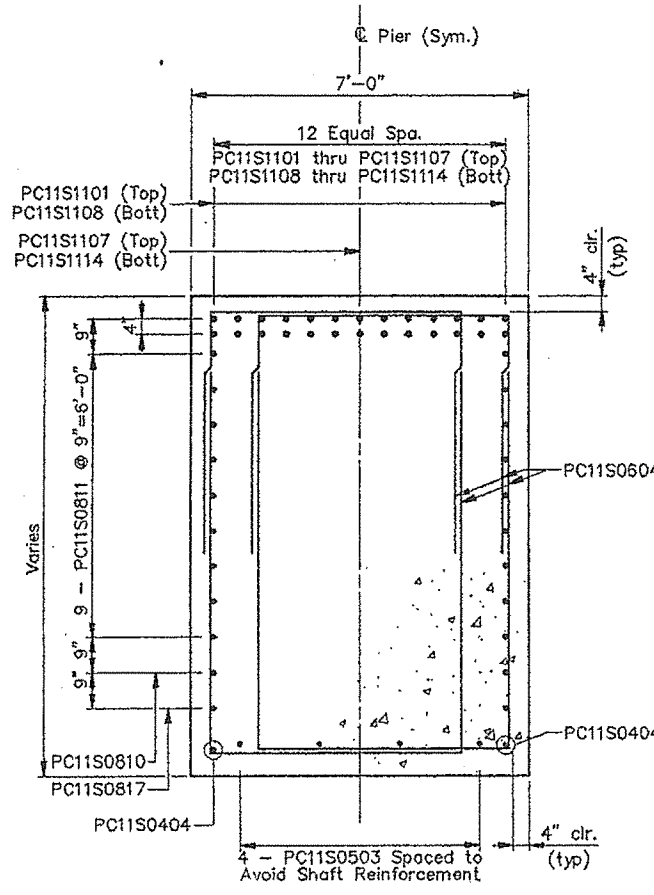
PEDESTAL DETAIL



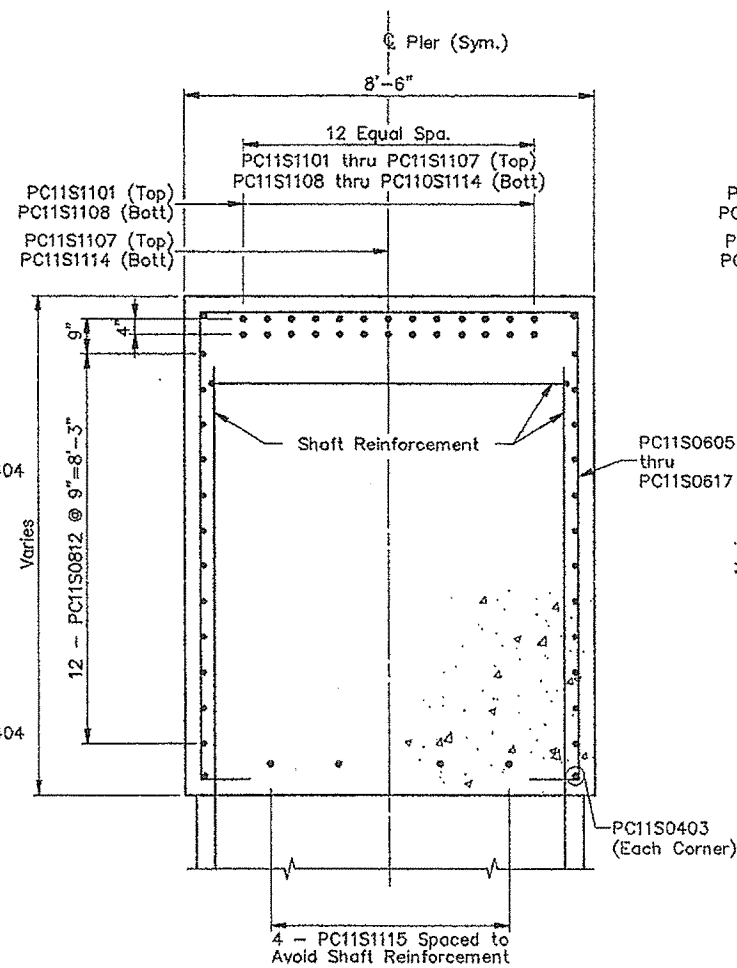
PIER 11S CAP REINFORCEMENT



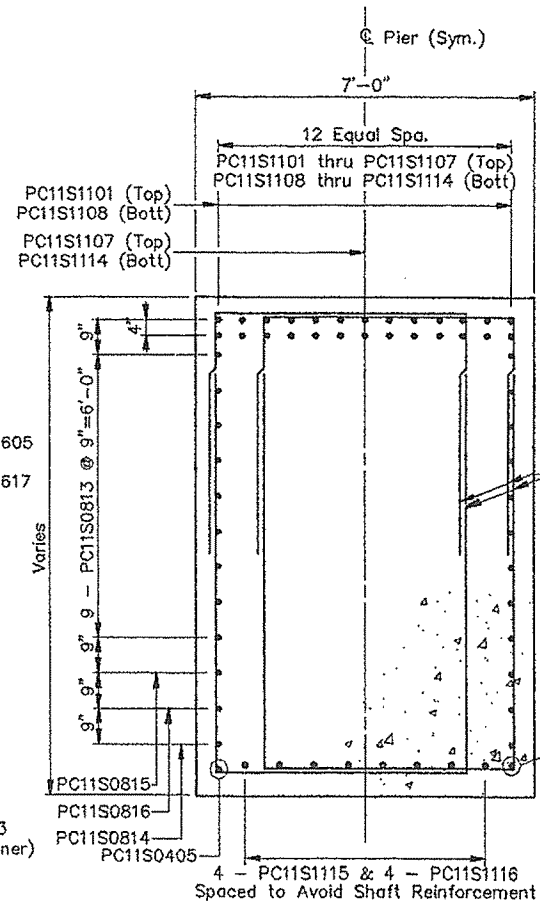
SECTION A-A



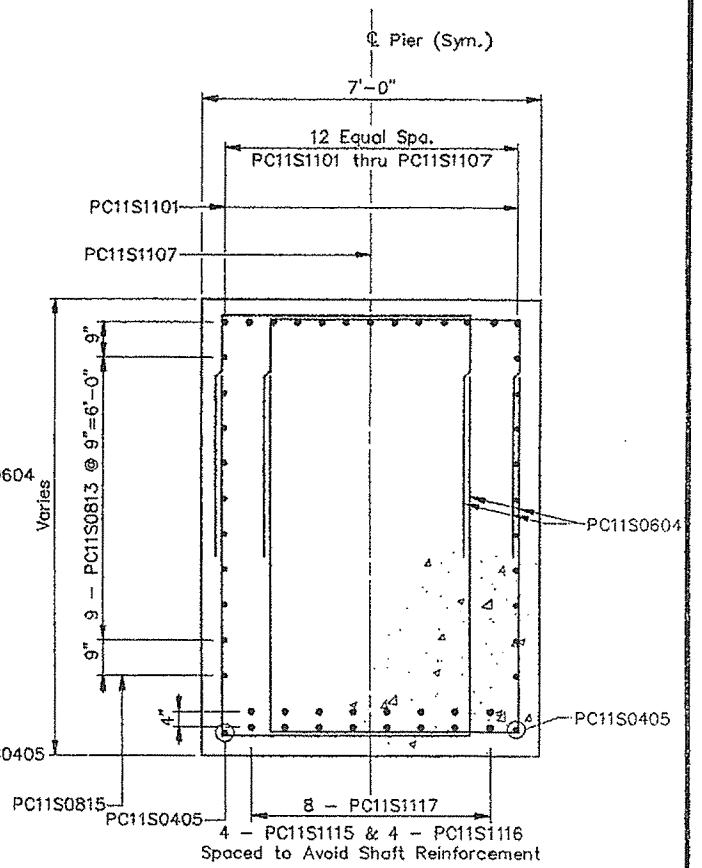
SECTION B-B



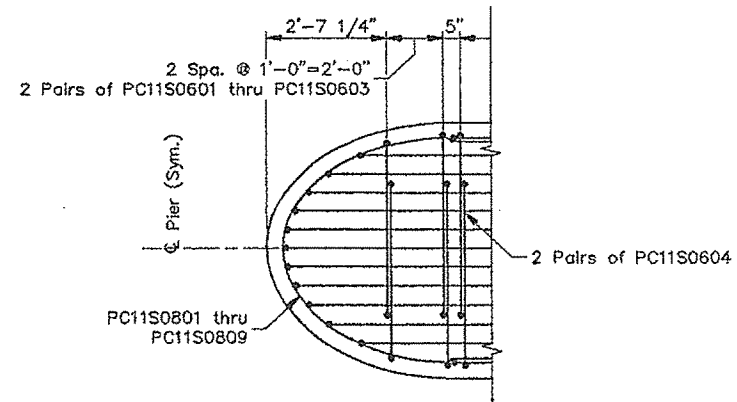
SECTION C-C



SECTION D-D



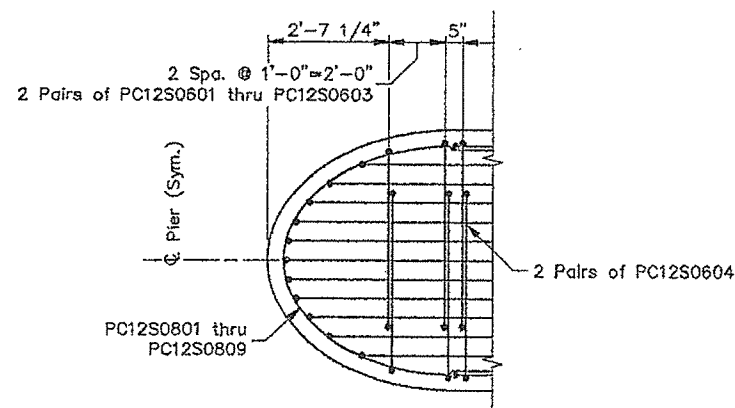
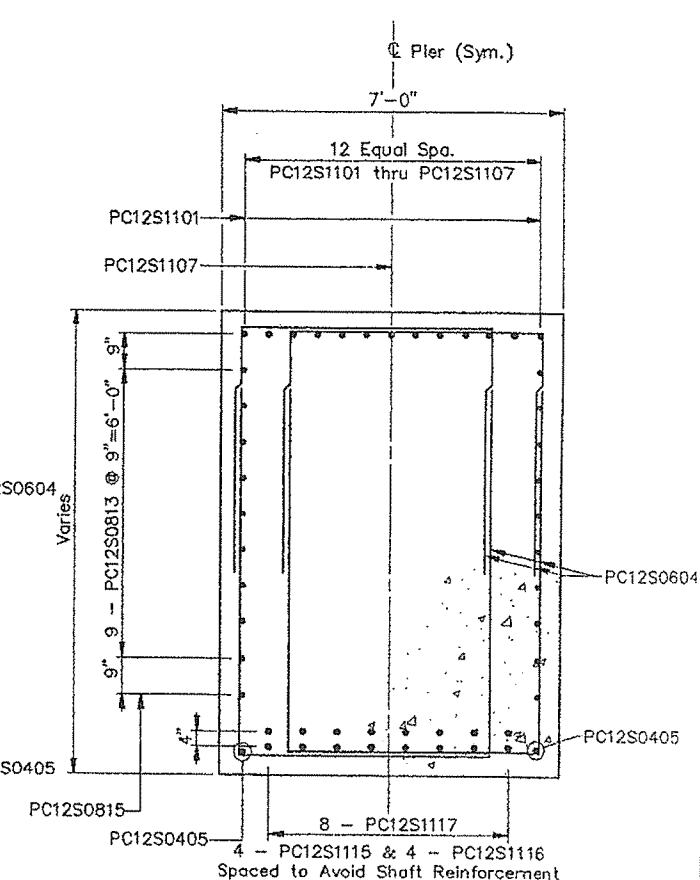
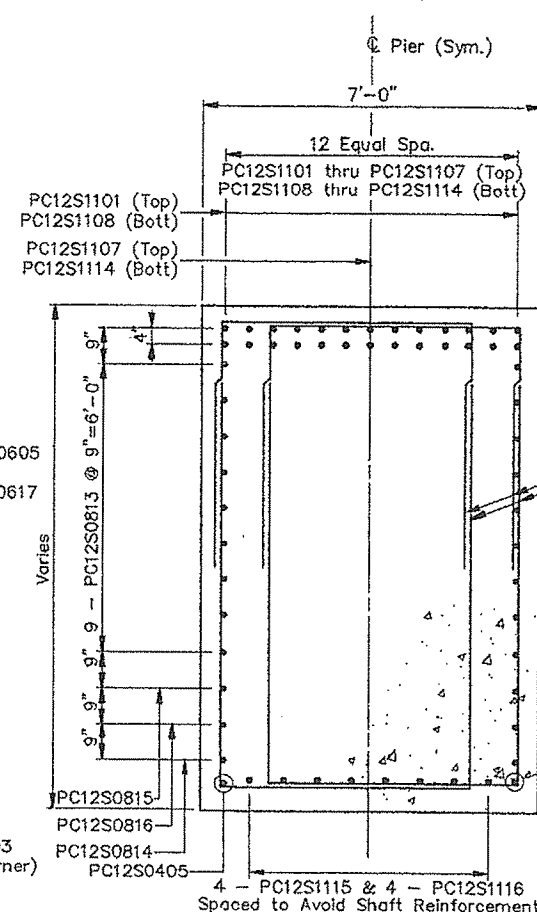
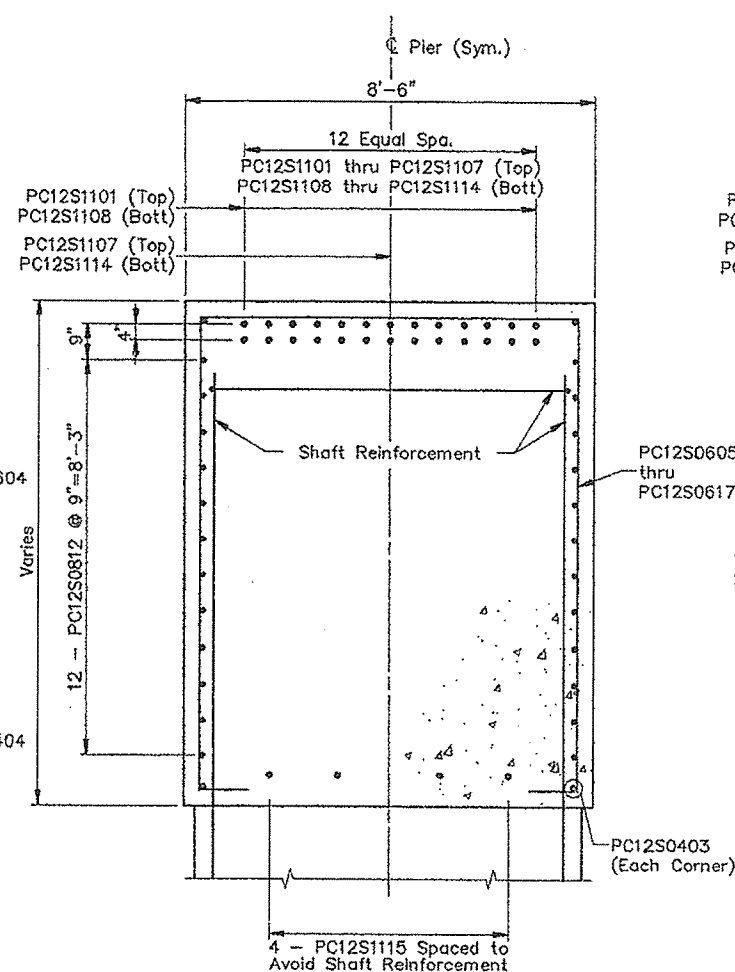
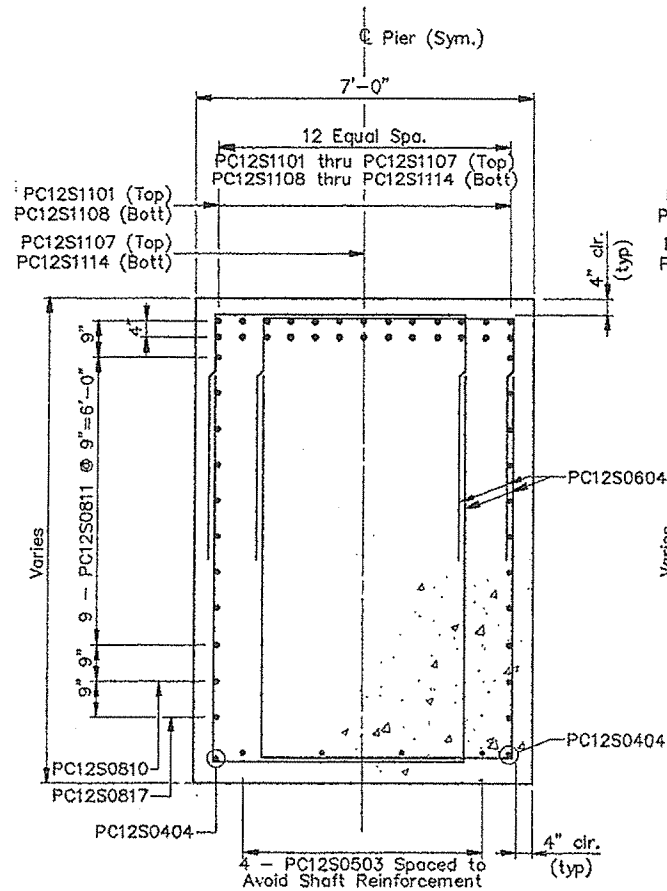
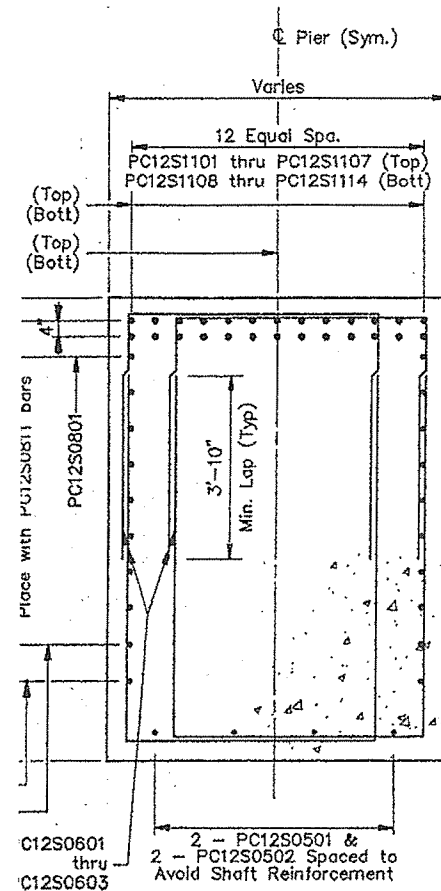
SECTION E-E

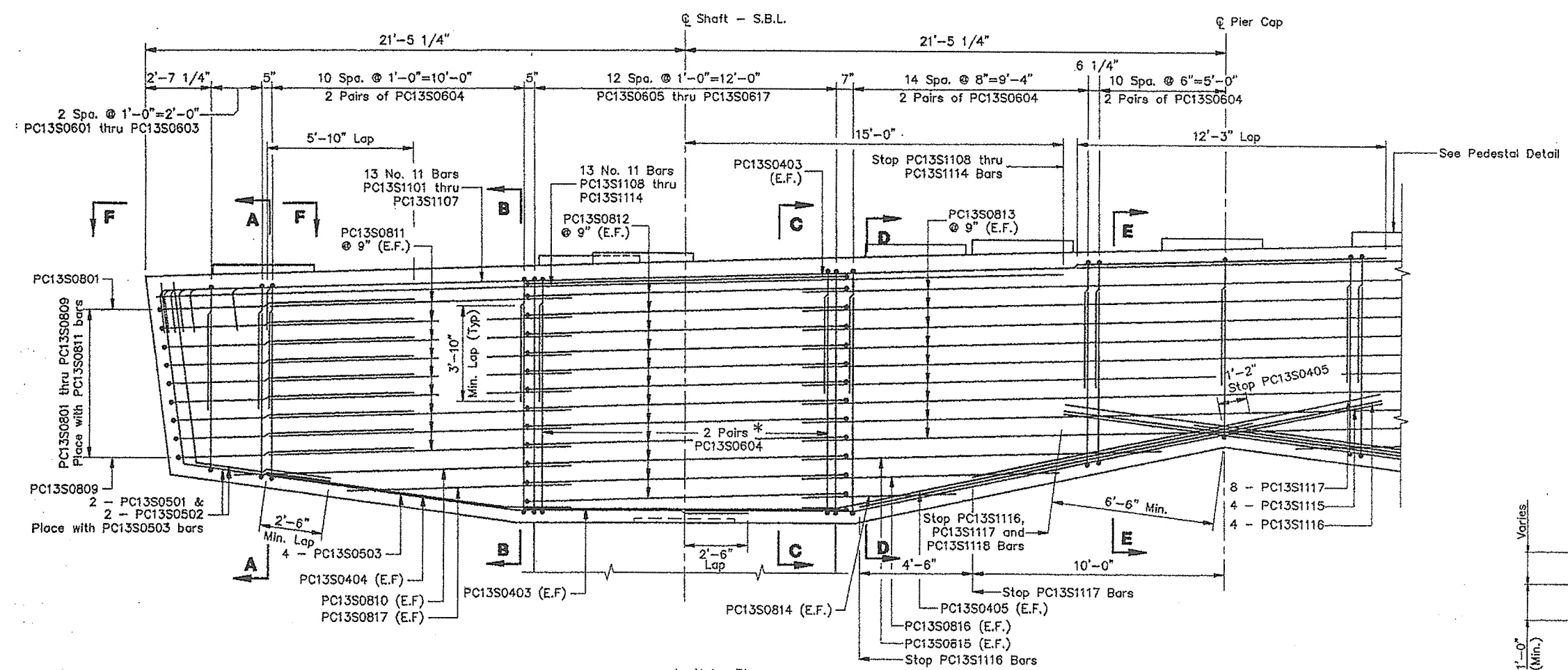


VIEW F-F

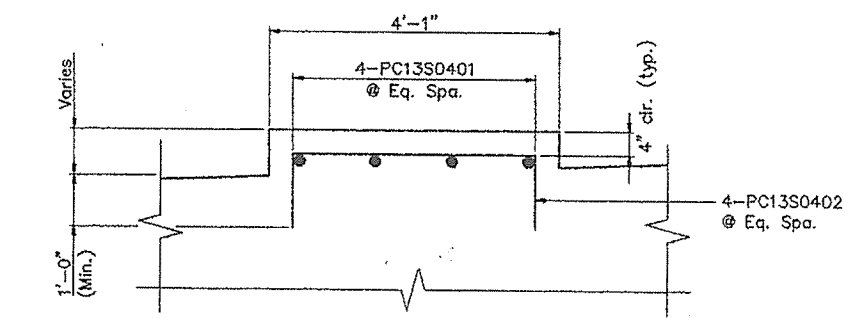


**CAP REINFORCING
PIER 12S**

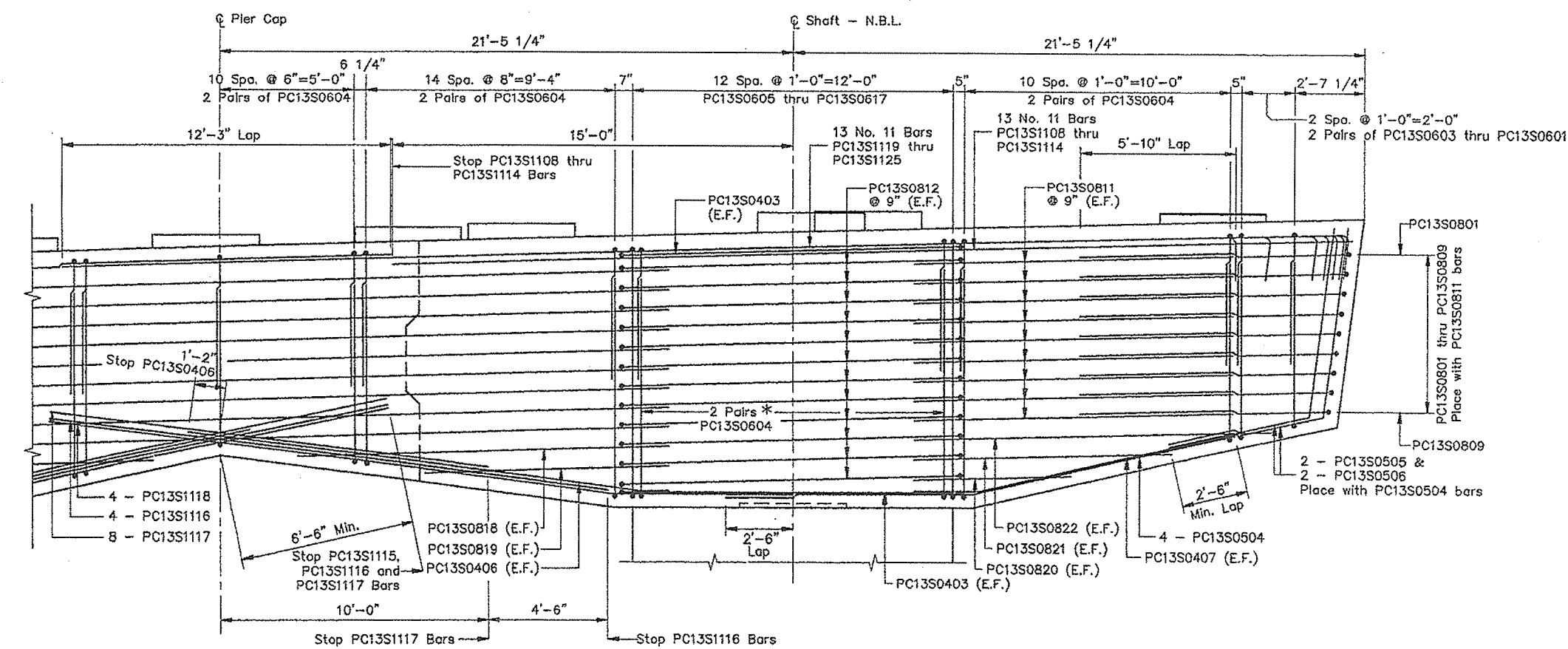




* Note: Place Adjacent to PC13S0605 & PC13S0617.



PEDESTAL DETAIL



PIER 13S CAP REINFORCEMENT

STEEL ALTERNATIVE SUBSTRUCTURE

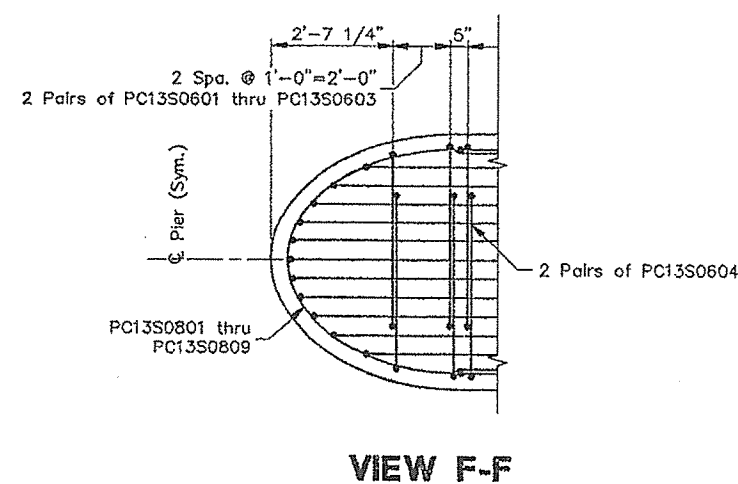
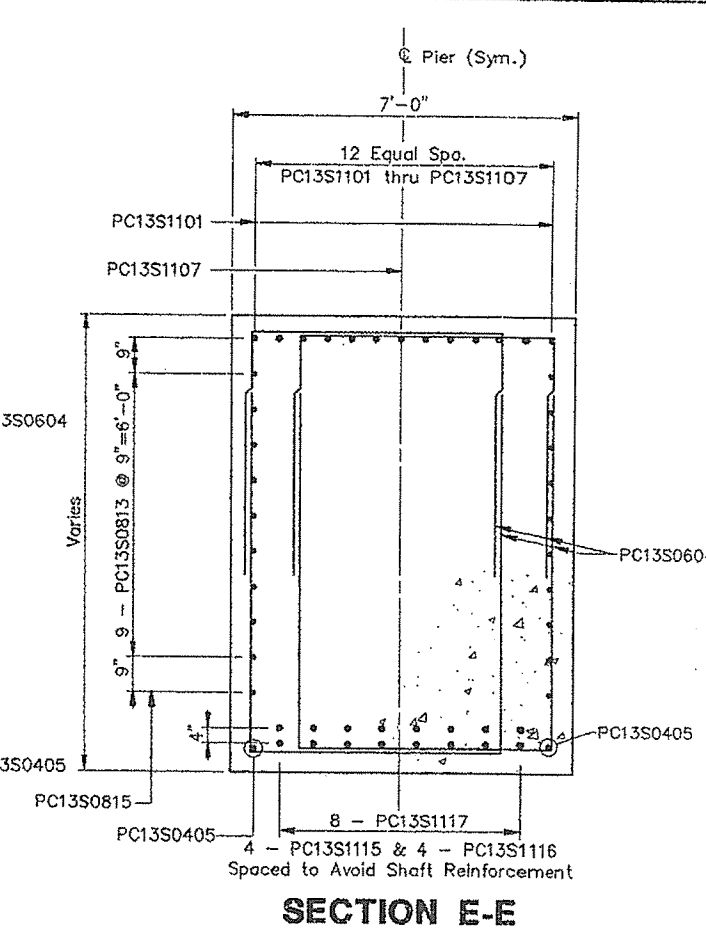
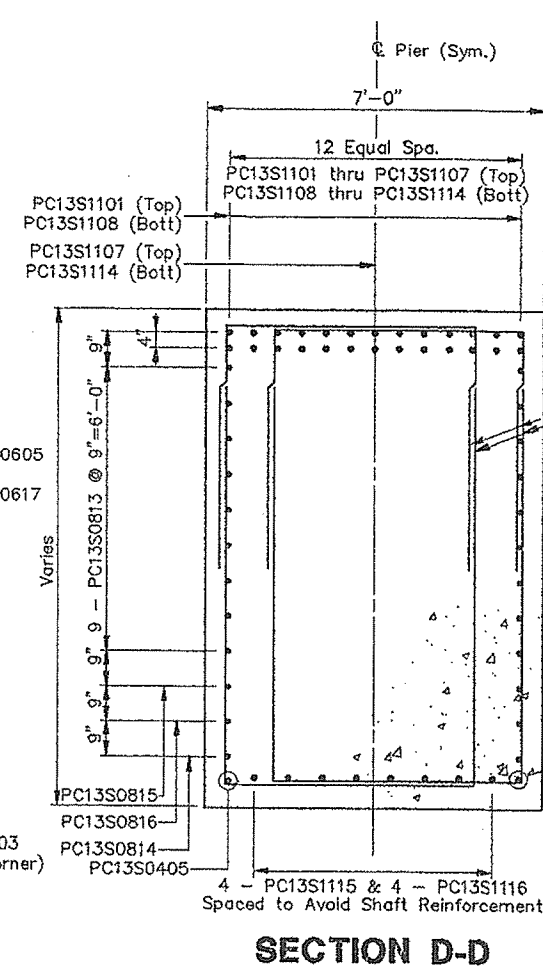
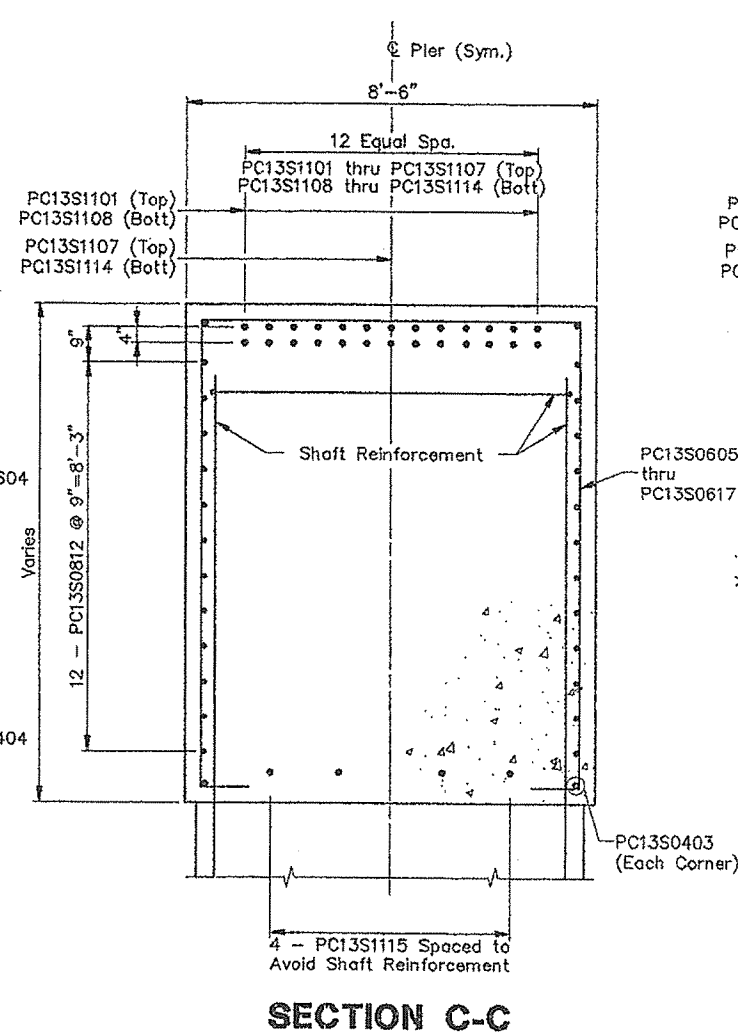
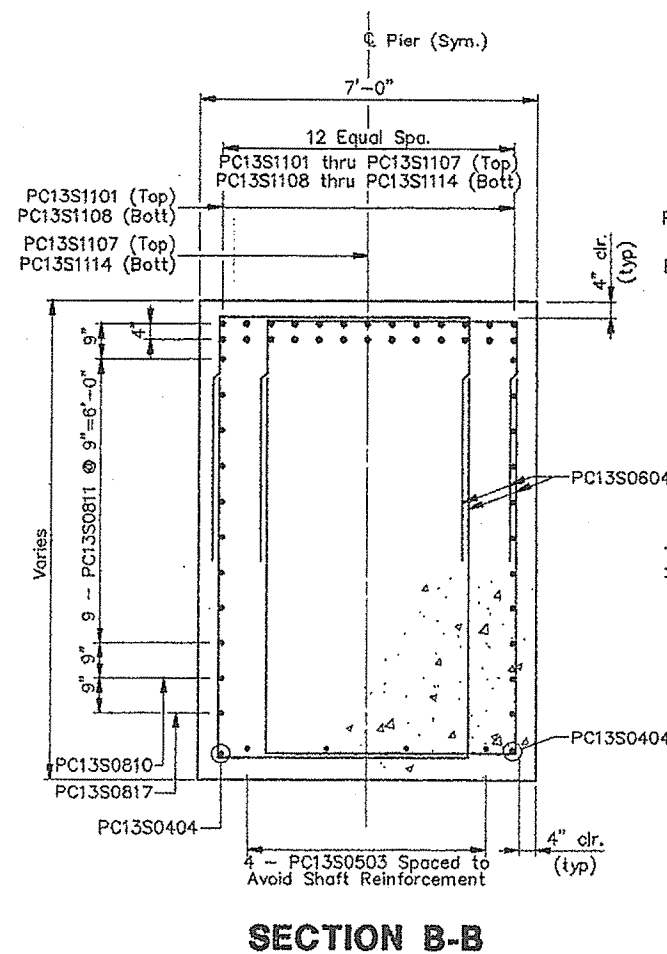
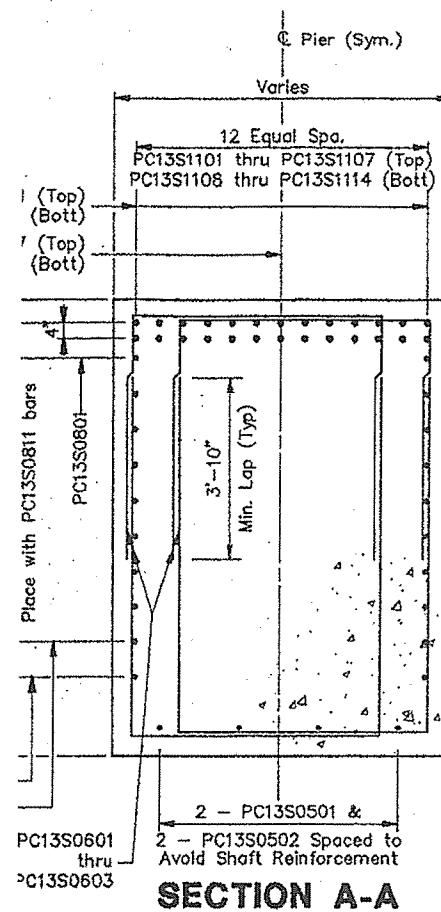
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

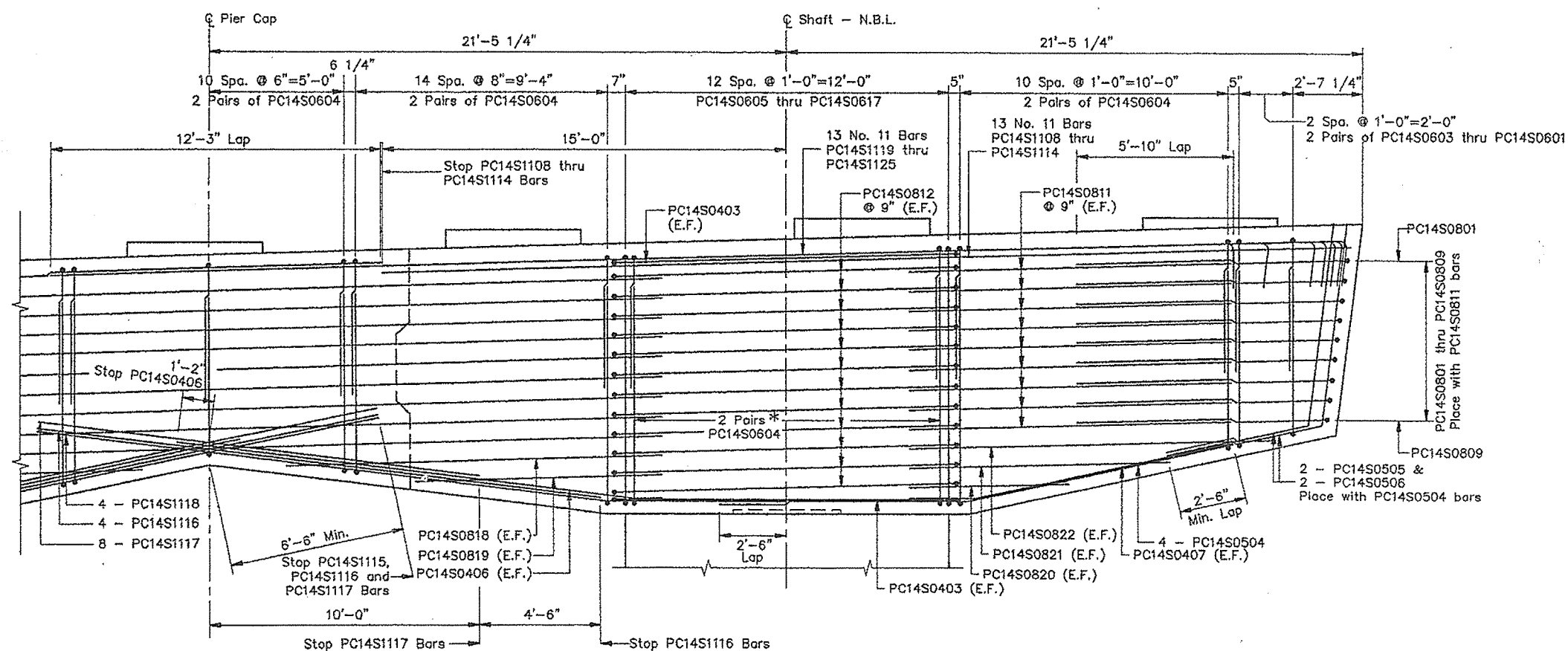
PORTLAND - S. PORTLAND BRIDGE

OVER FORE RIVER

CUMBERLAND COUNTY

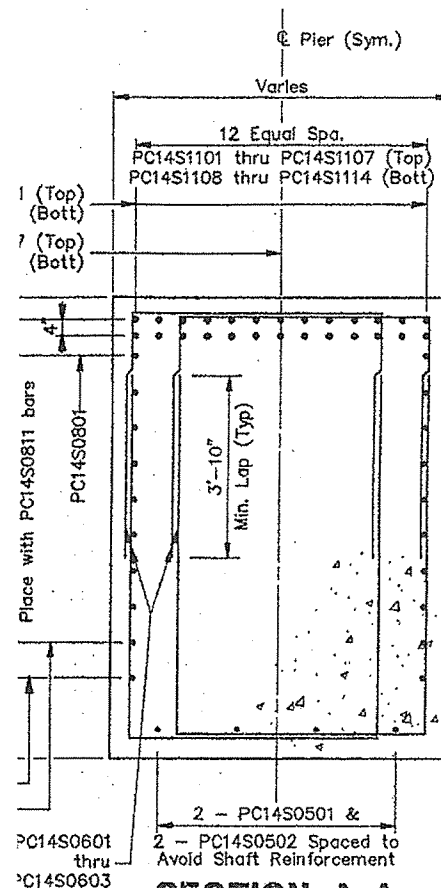
**CAP REINFORCING
PIER 13S**



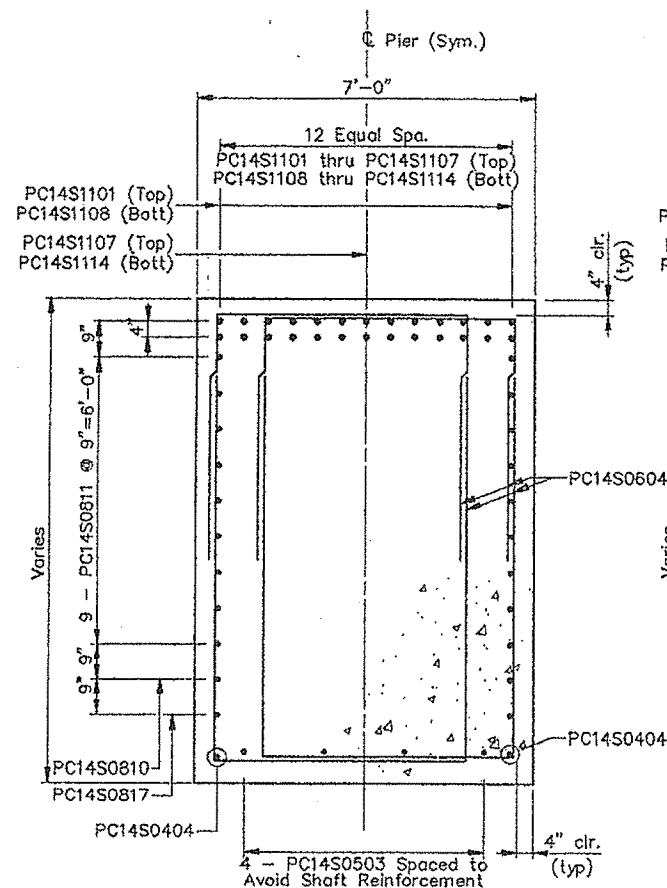


PIER 148 CAP REINFORCEMENT

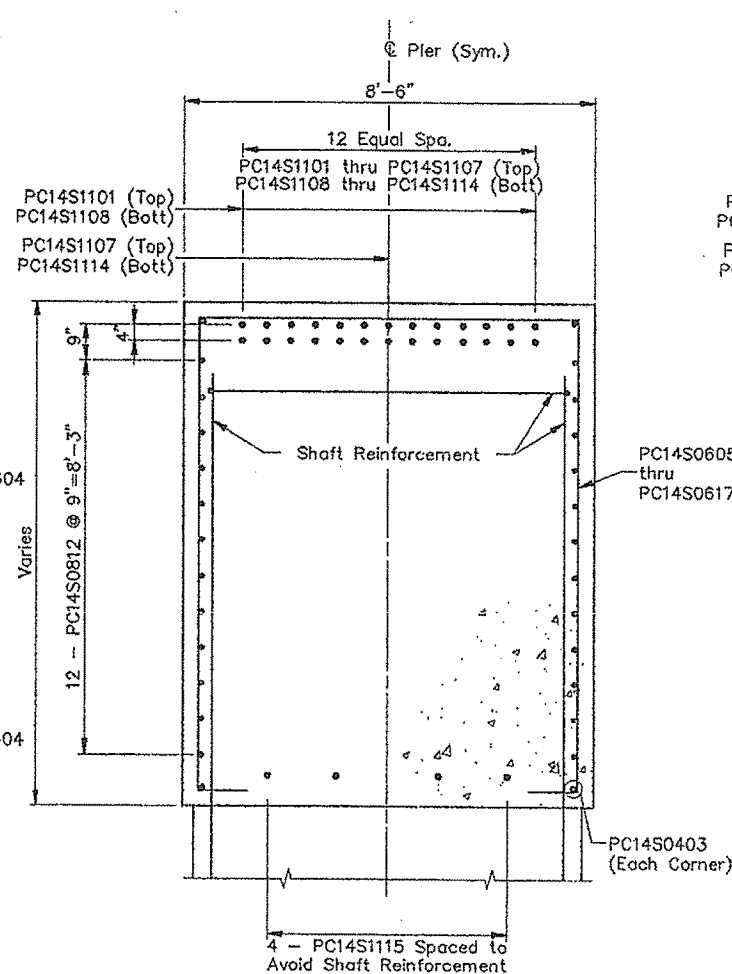
**CAP REINFORCING
PIER 14S**



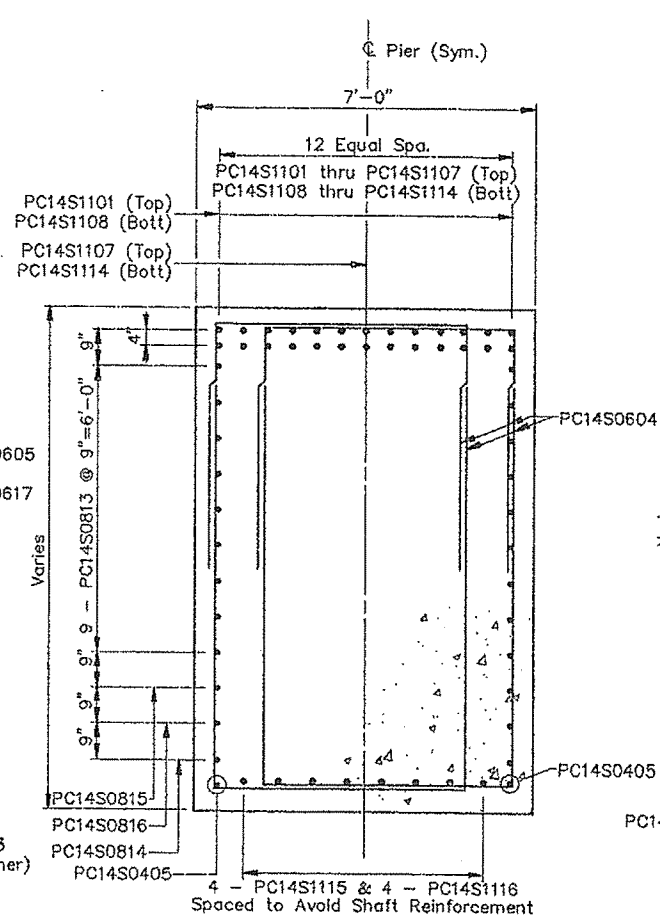
SECTION A-A



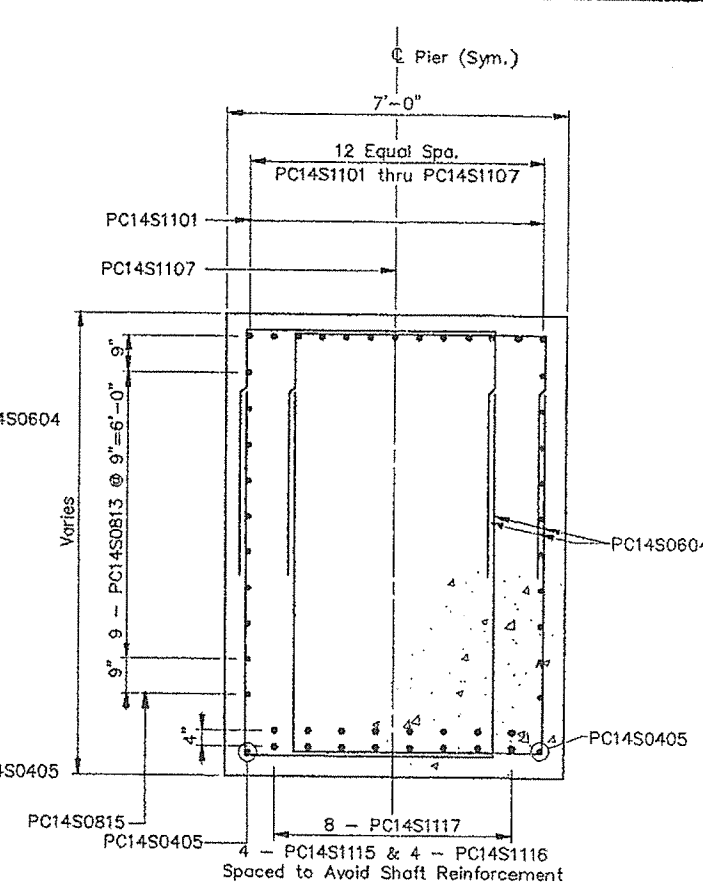
SECTION B-B



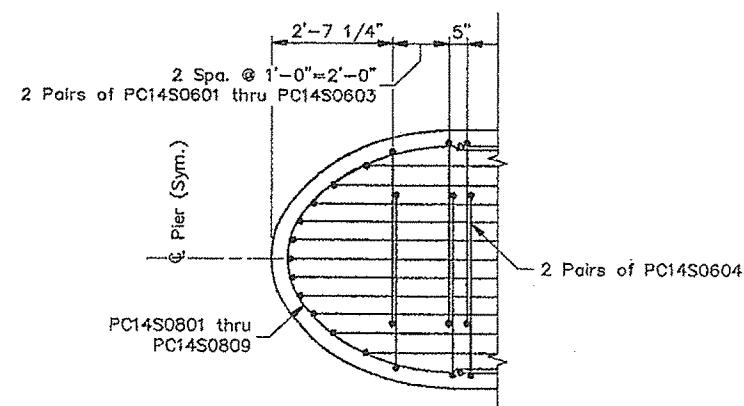
SECTION C-C



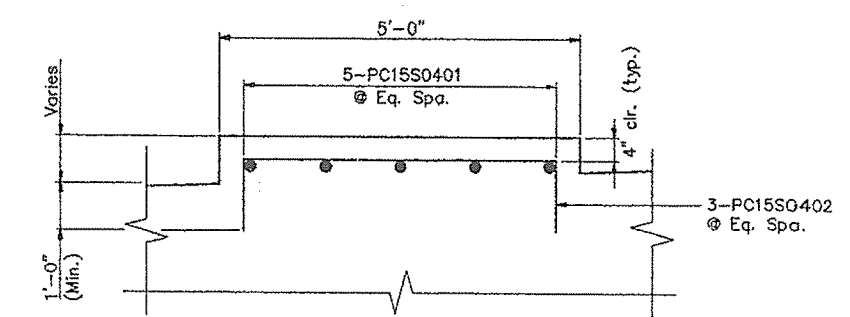
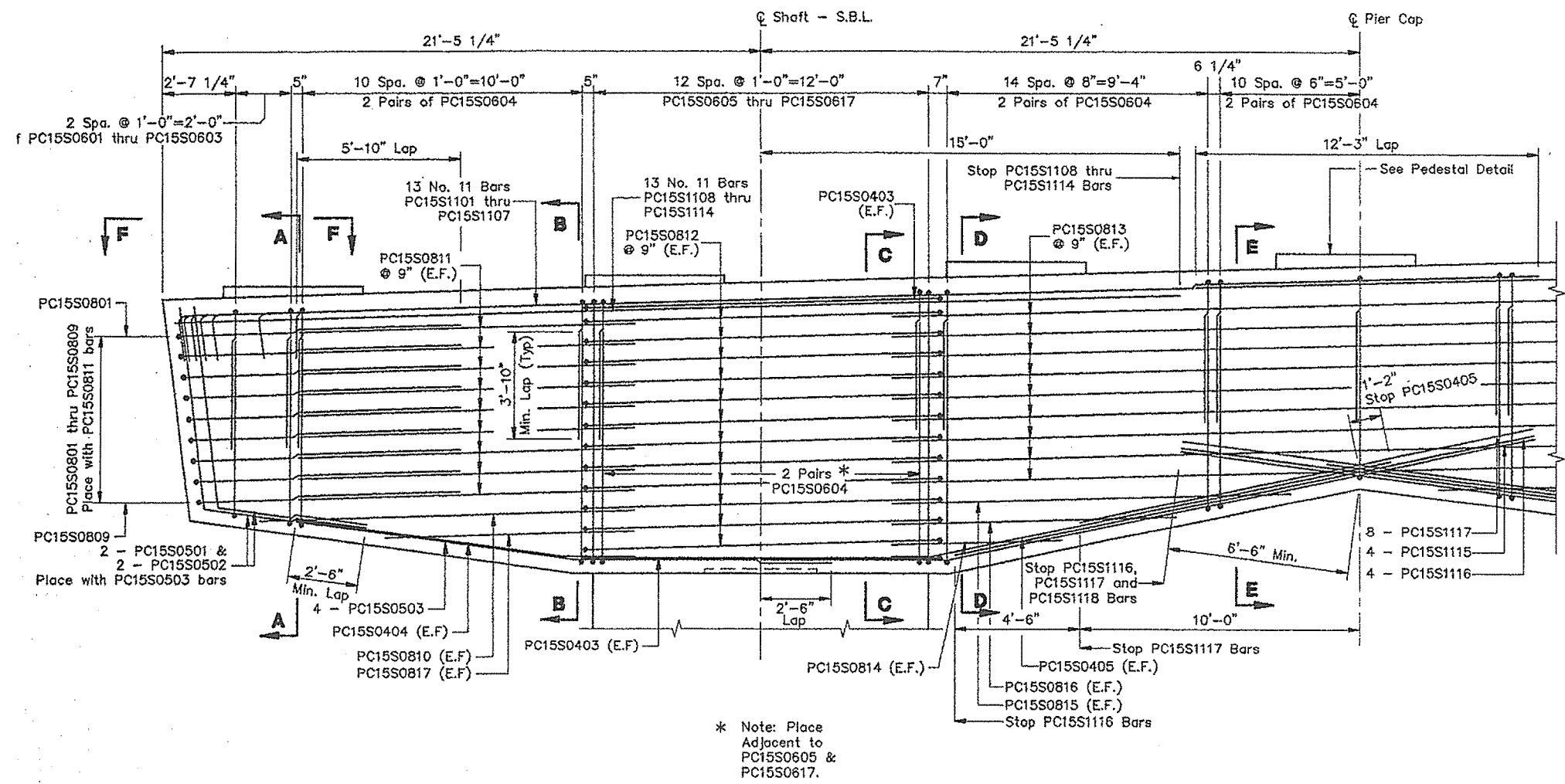
SECTION D-D



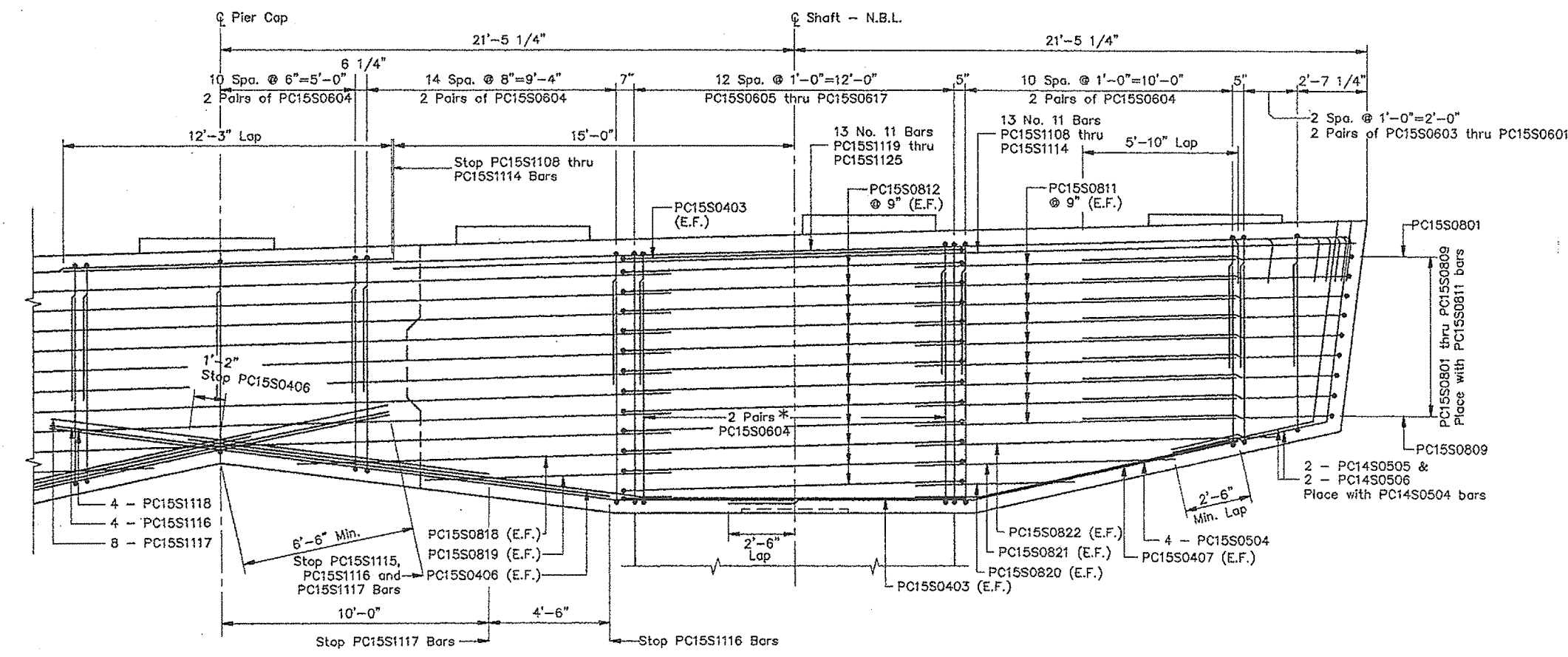
SECTION E-E



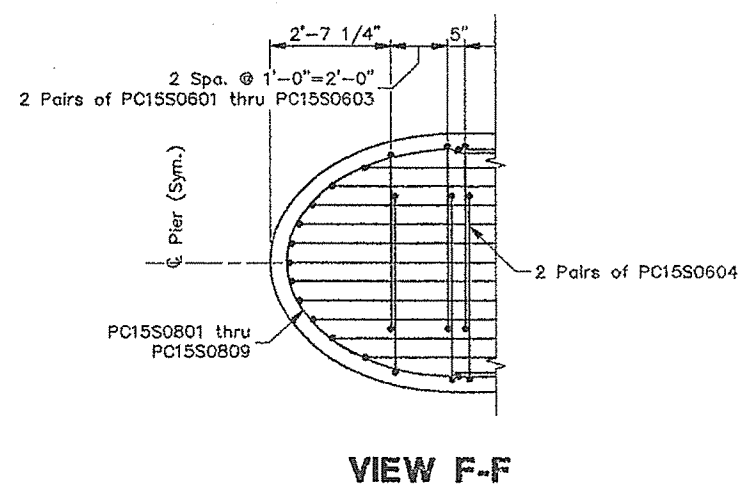
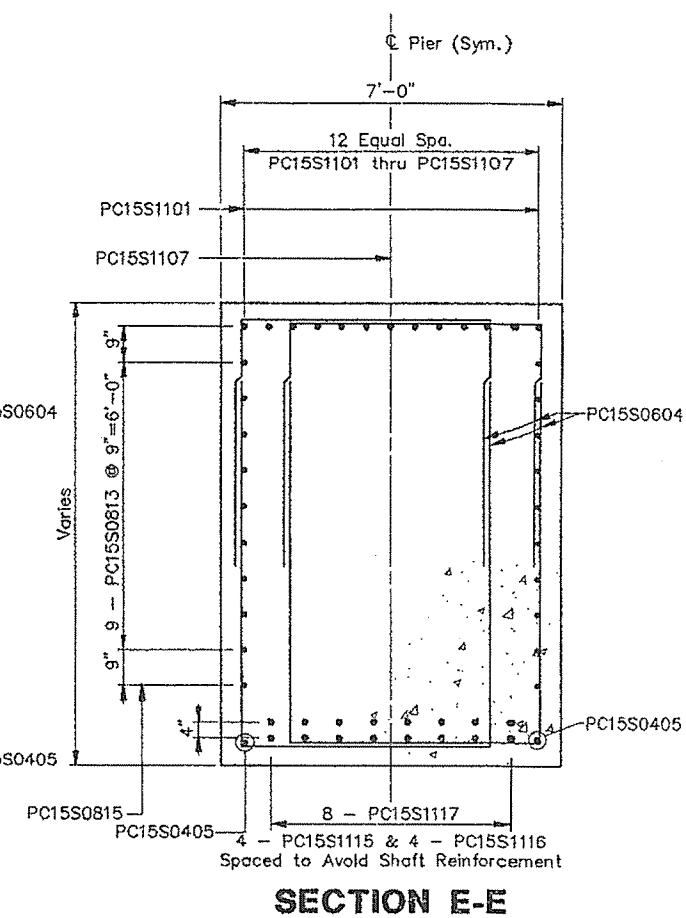
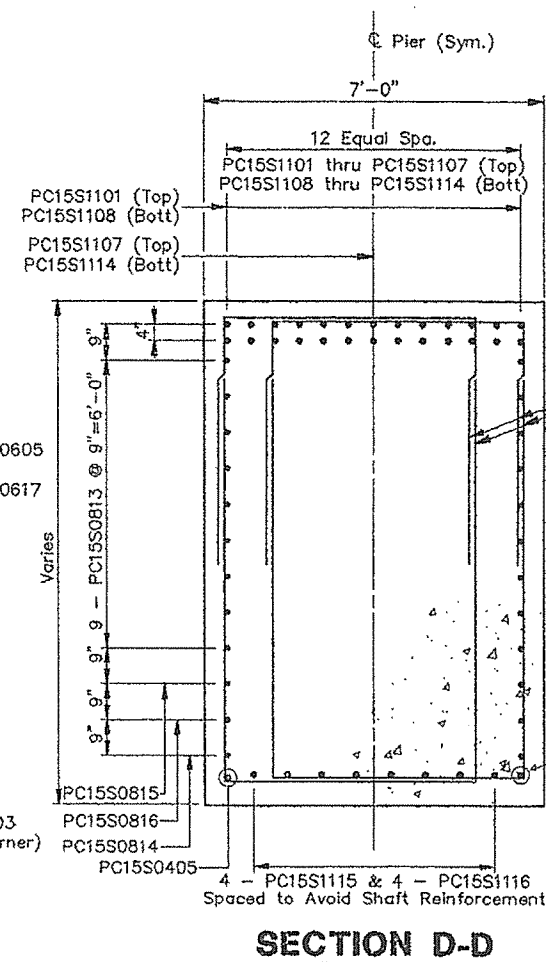
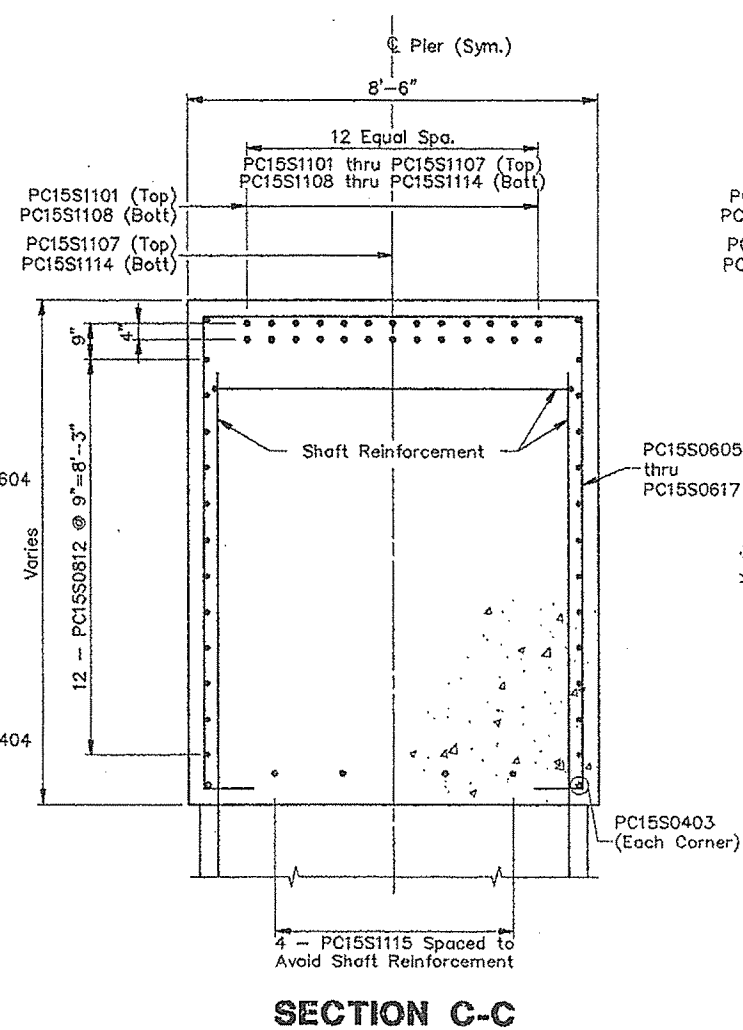
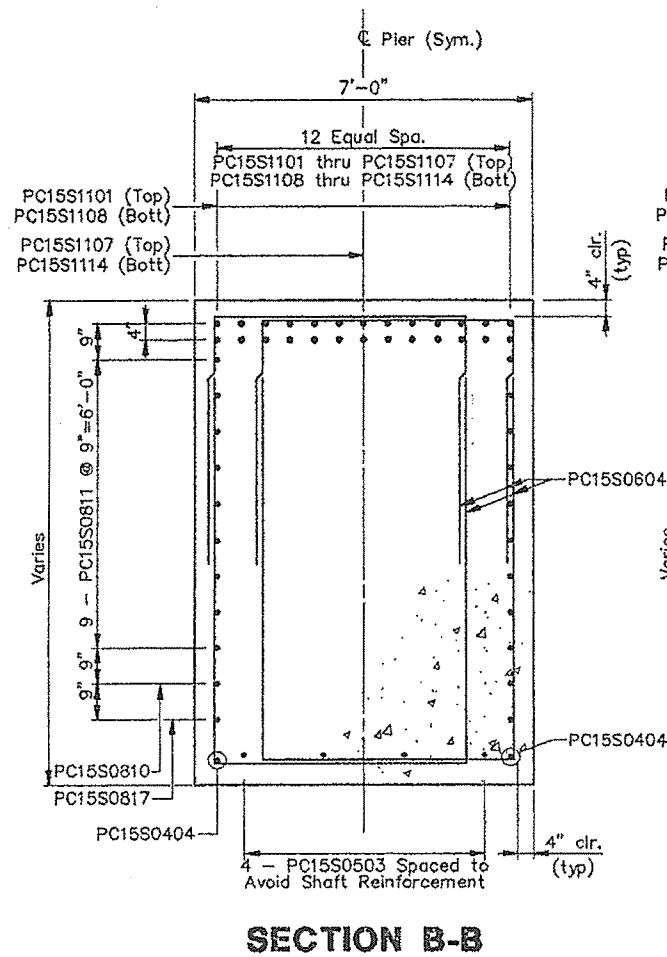
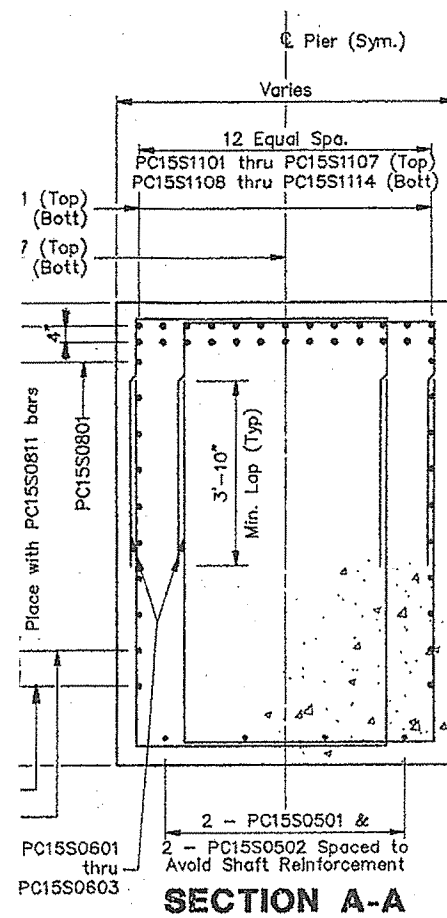
VIEW F-F

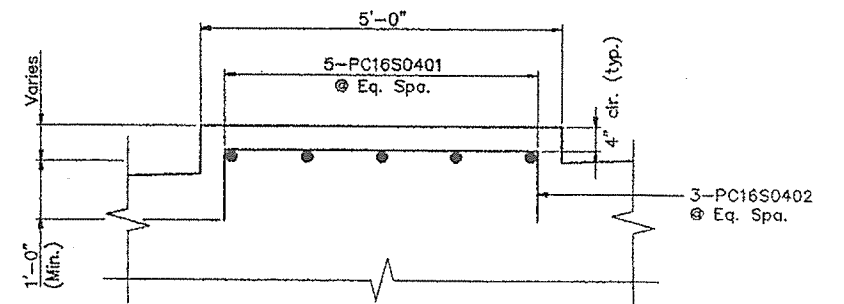
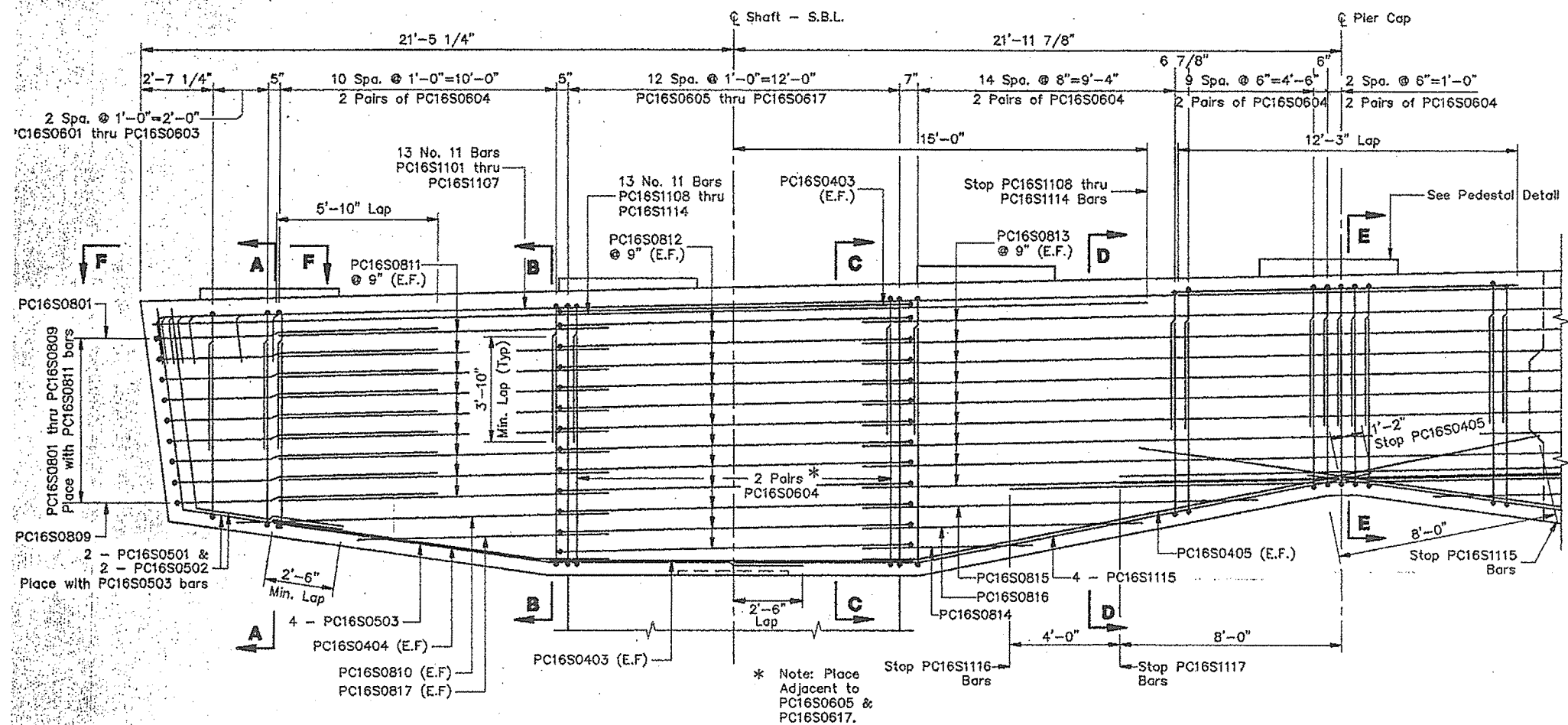


PEDESTAL DETAIL

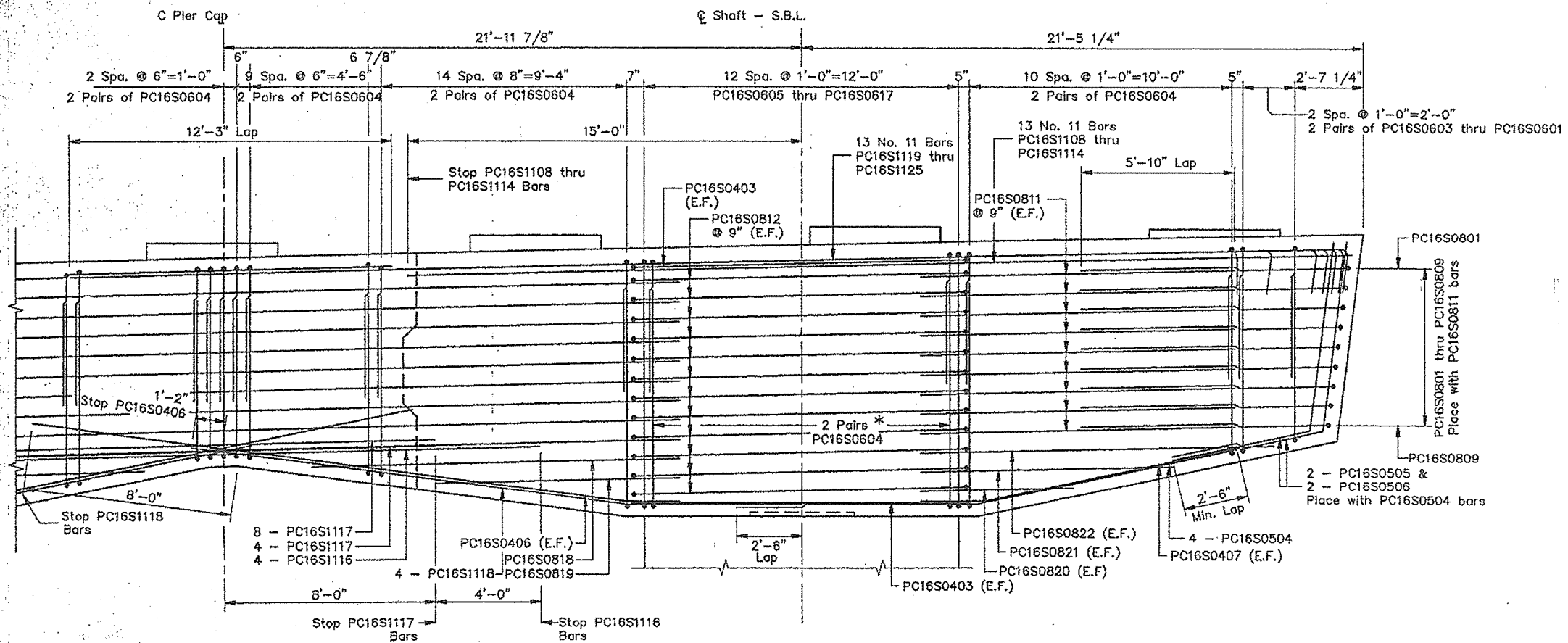


PIER 15S CAP REINFORCEMENT

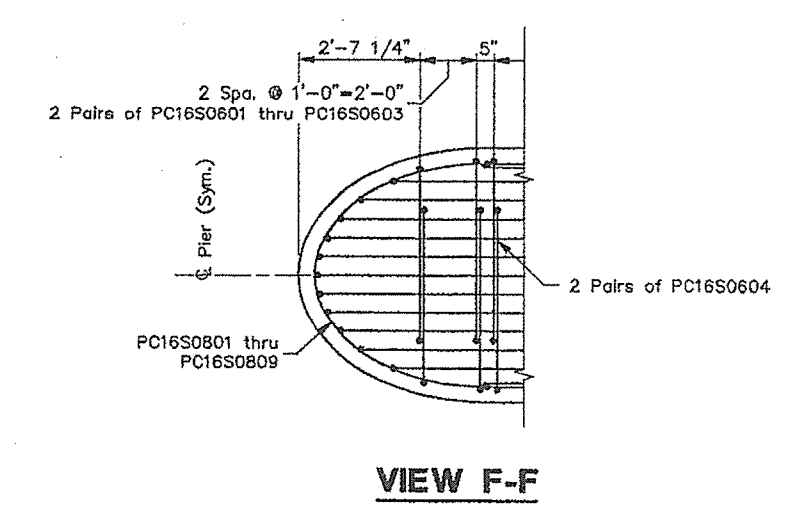
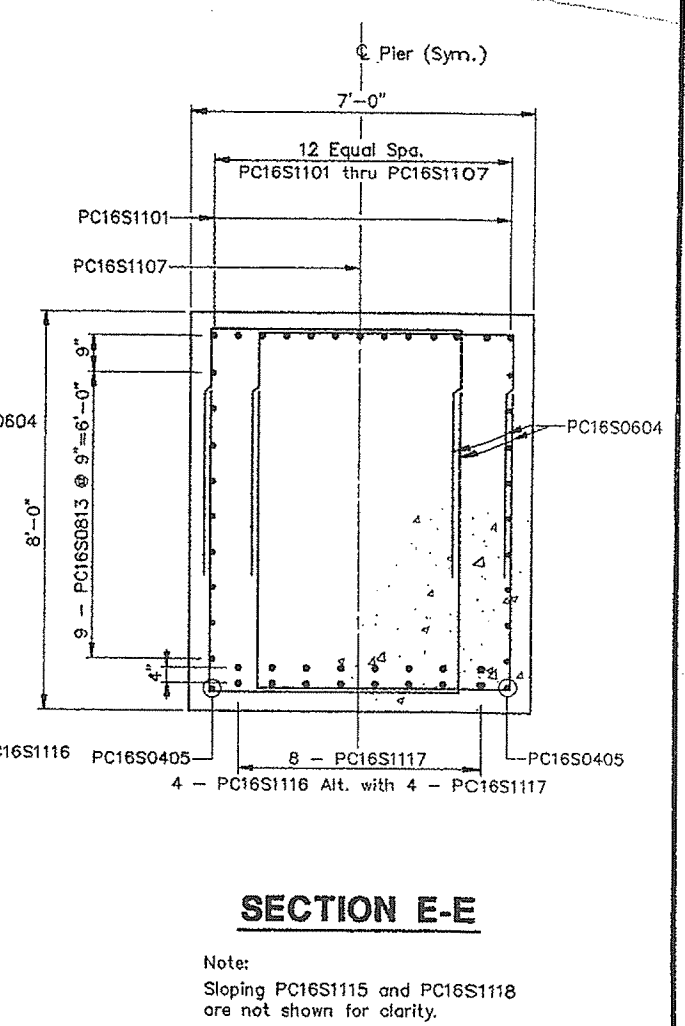
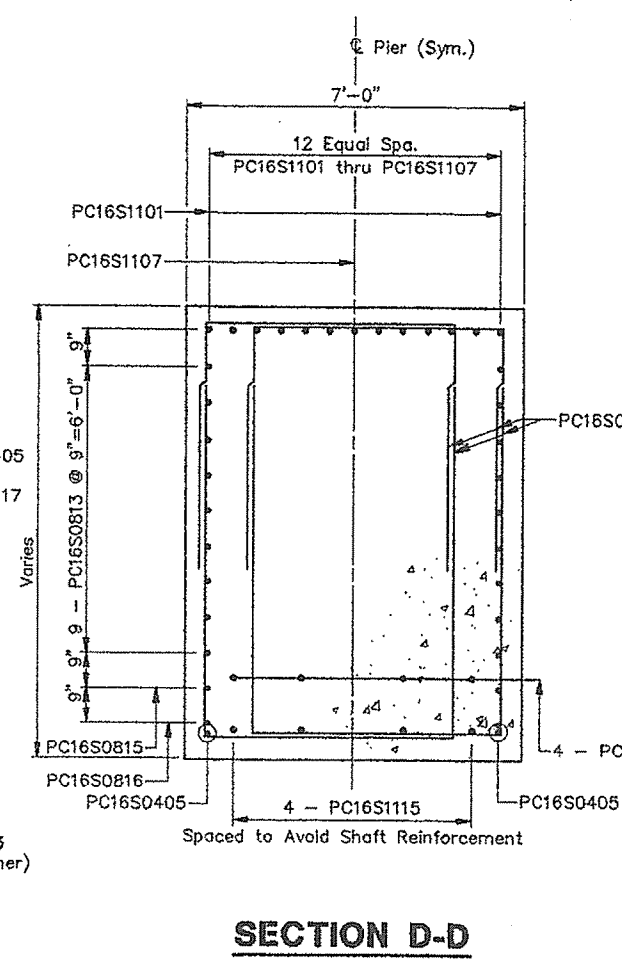
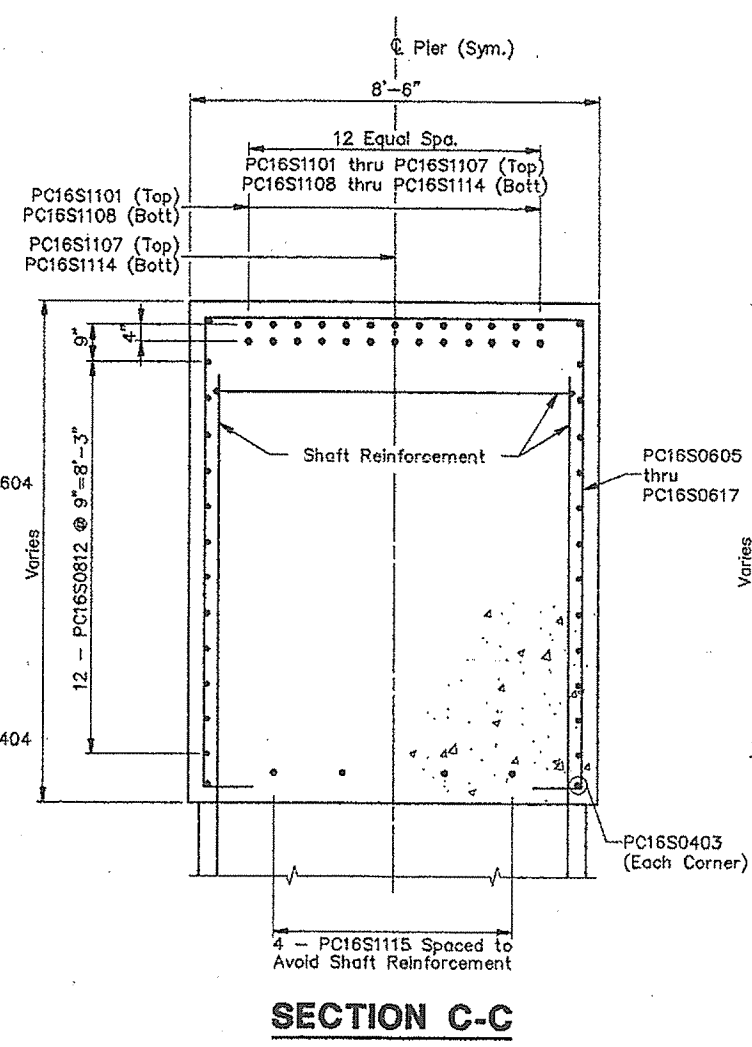
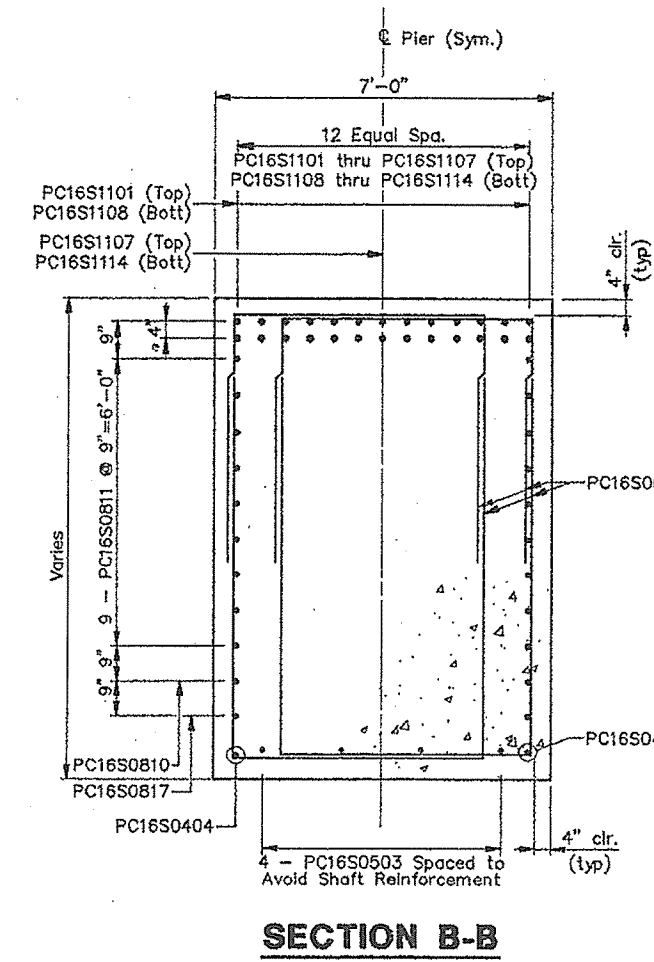
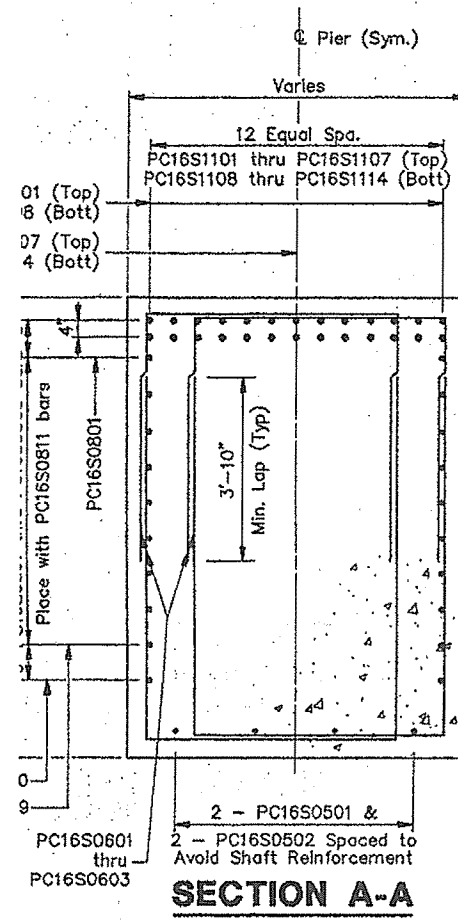


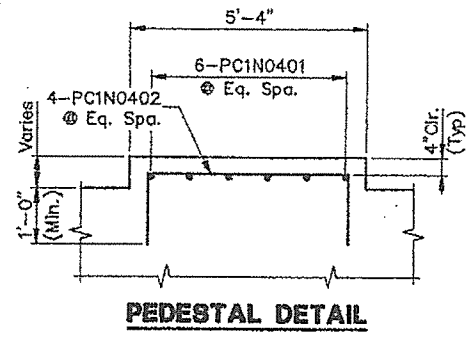
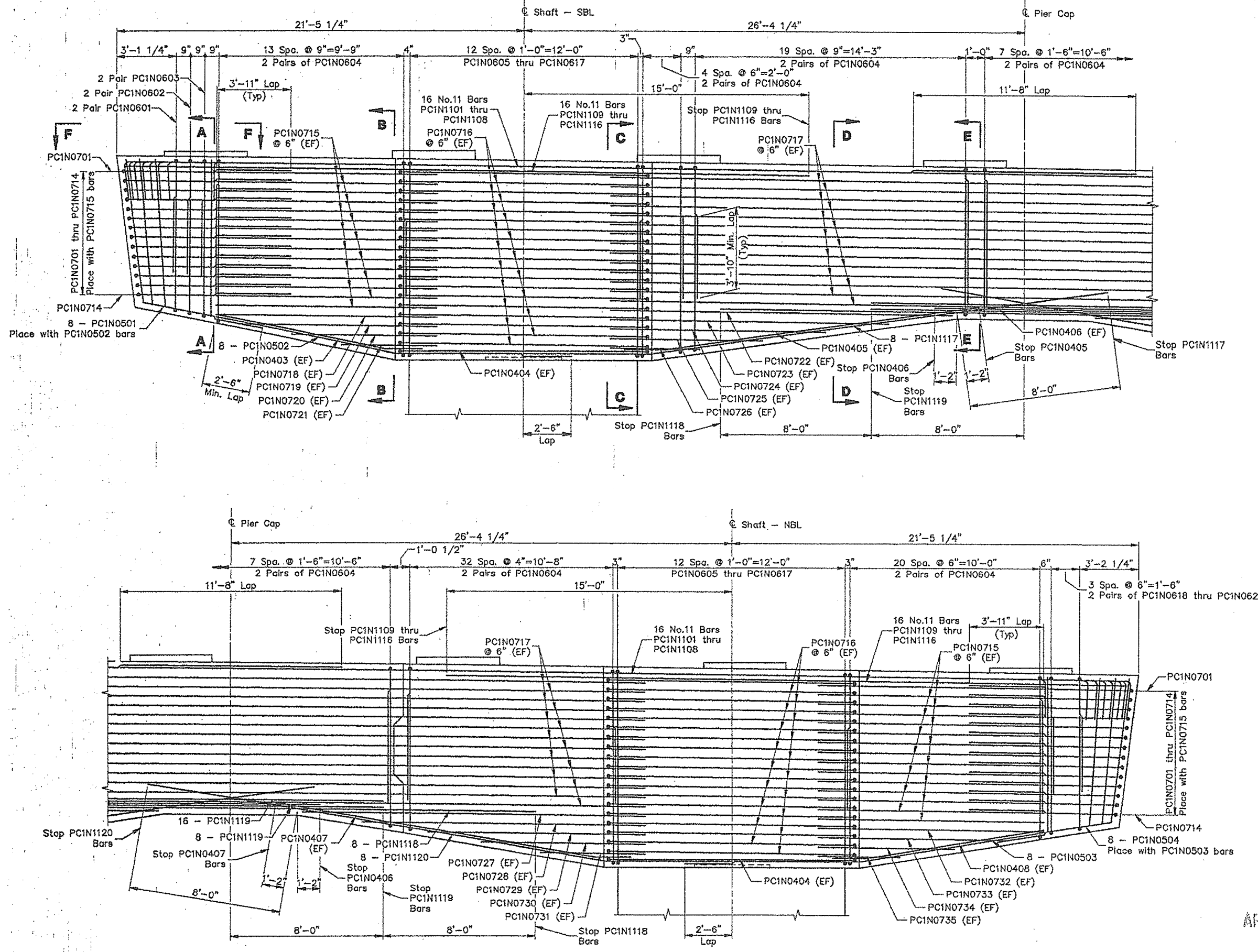


PEDESTAL DETAIL



PIER 16S CAP REINFORCEMENT





Notes: 1. For cap and pier dimensions and elevations see Plan and Elevation Pier 1N.
2. For shaft reinforcement details Shaft Reinforcing Pier 1N sheets.

APR 13 1994

STEEL ALTERNATIVE SUBSTRUCTURE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

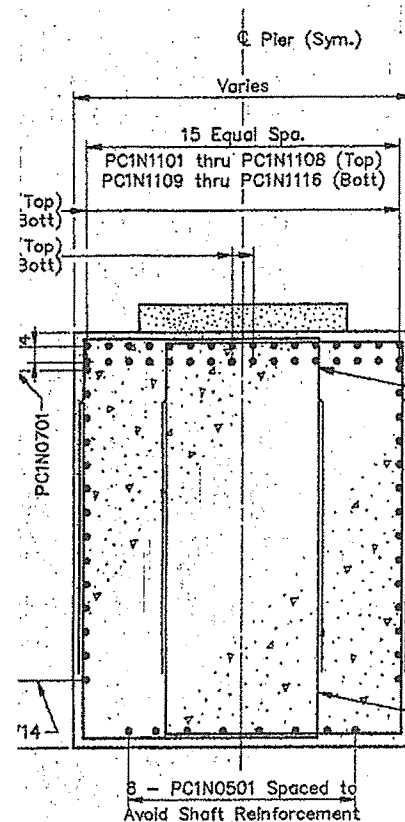
PORTLAND - S. PORTLAND BRIDGE

OVER FORE RIVER

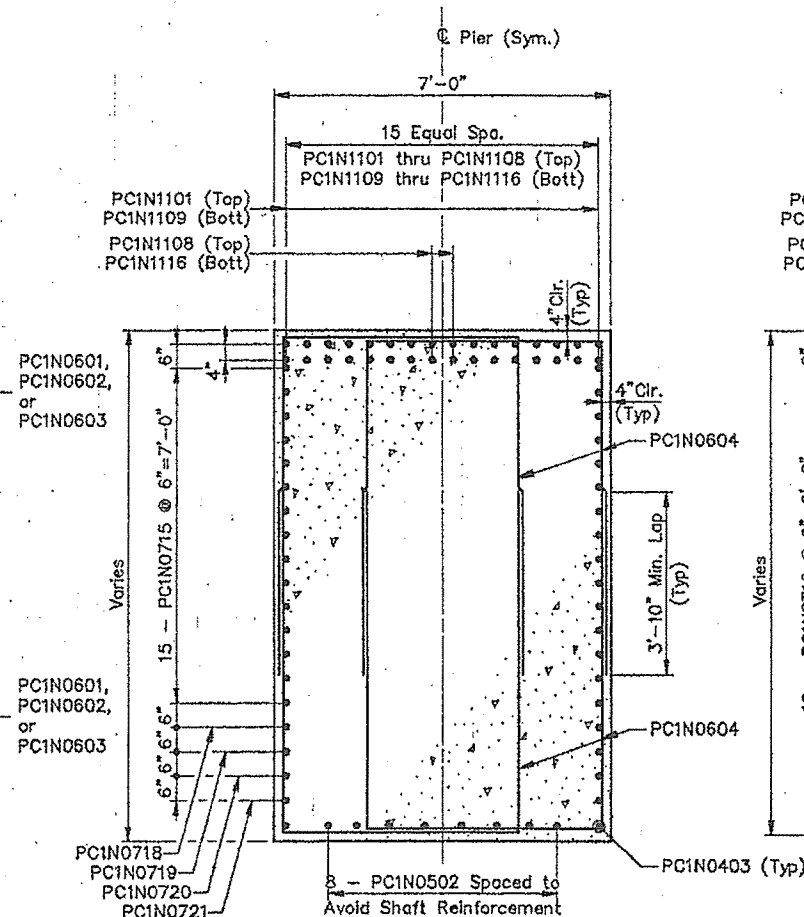
CUMBERLAND COUNTY

**CAP REINFORCING
PIER 1N**

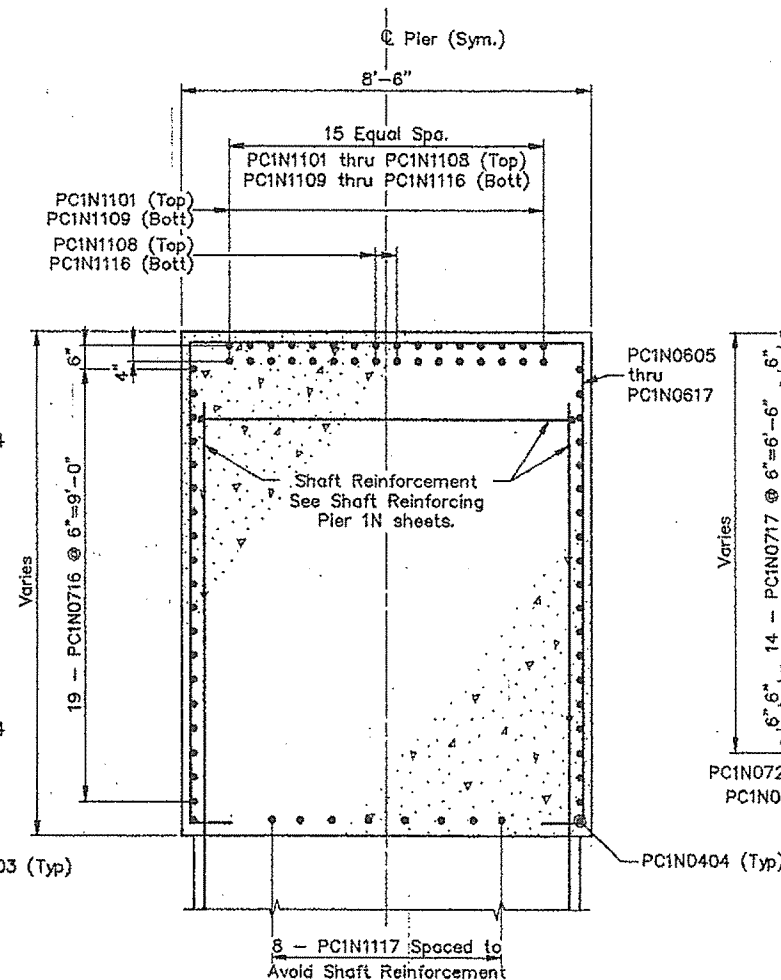
SHEET 103 OF 338



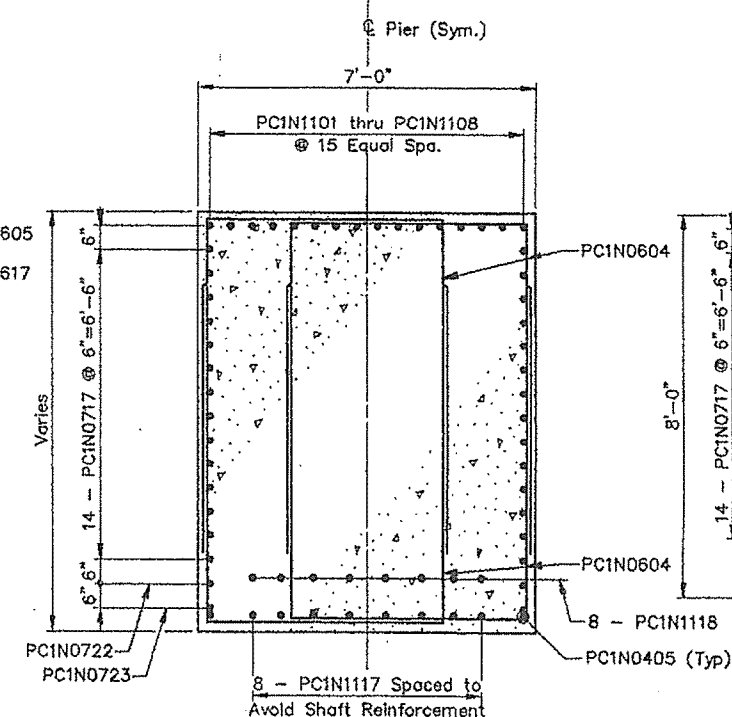
SECTION A-A



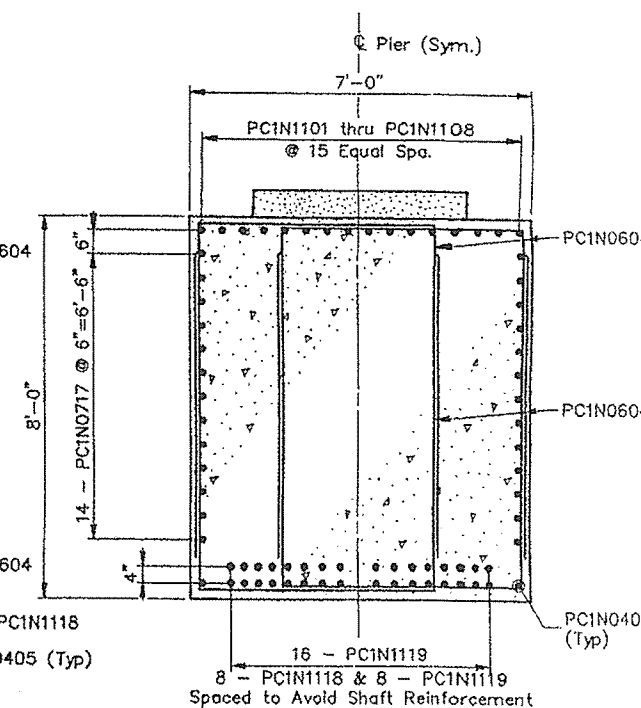
SECTION B-B



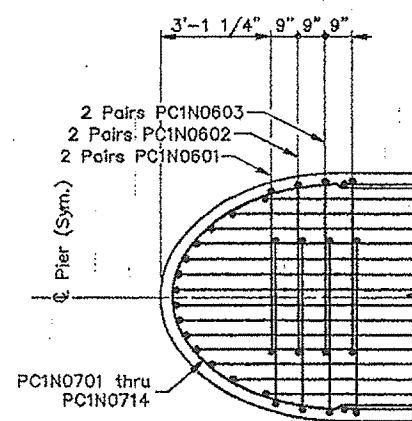
SECTION C-C



SECTION D-D



SECTION E-E



VIEW F-F

STEEL ALTERNATIVE SUBSTRUCTURE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

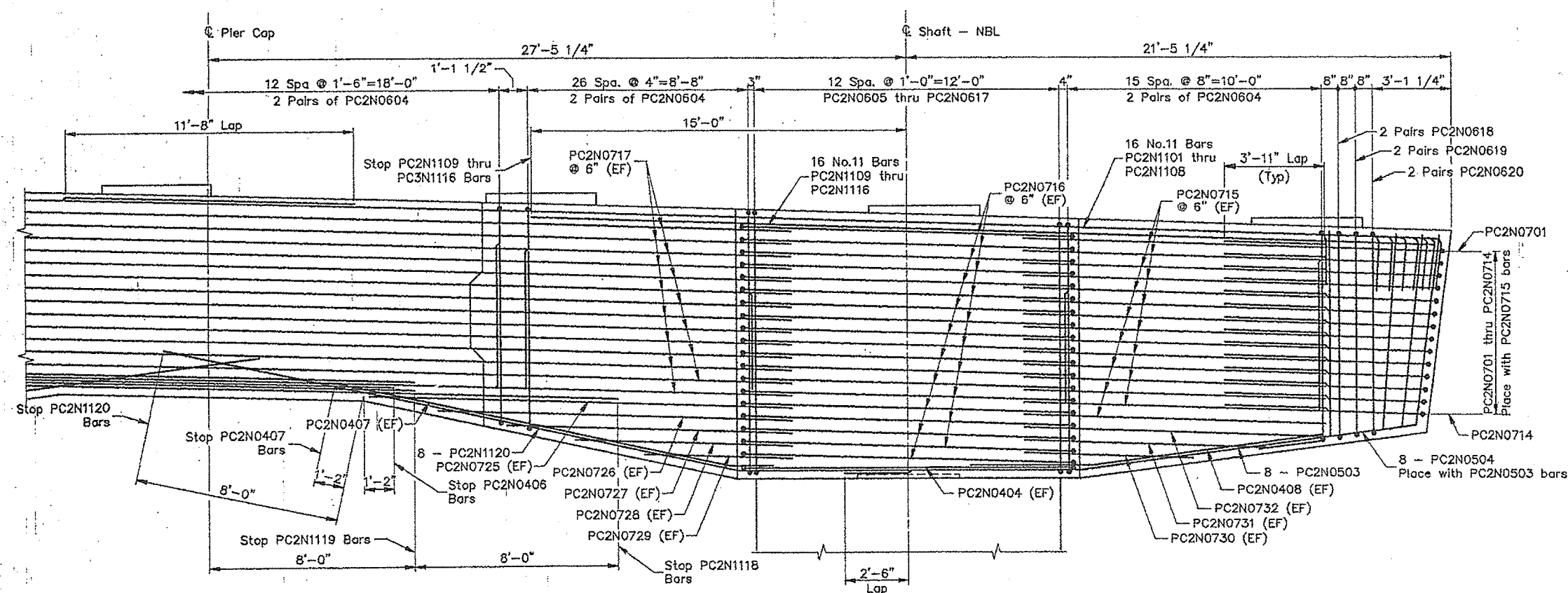
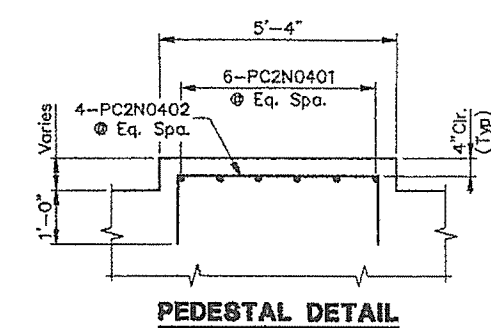
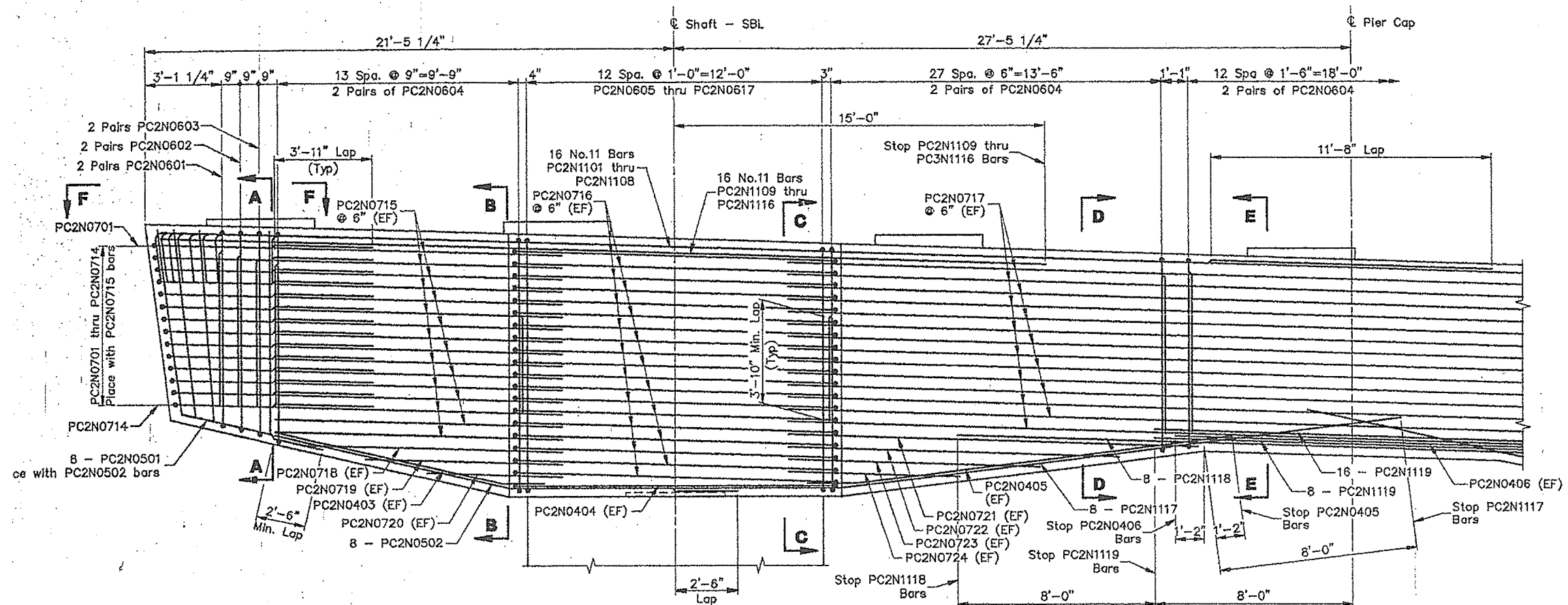
PORTLAND - S. PORTLAND BRIDGE

OVER FORE RIVER

CUMBERLAND COUNTY

**CAP REINFORCING
PIER 1N**

APR 13 1994



Notes: 1. For cap and pier dimensions and elevations see Plan and Elevation Pier 2N.
2. For shaft reinforcement details Shaft Reinforcing Pier 2N sheets.

PIER 2N CAP REINFORCEMENT

APR 13 1994

STEEL ALTERNATIVE SUBSTRUCTURE

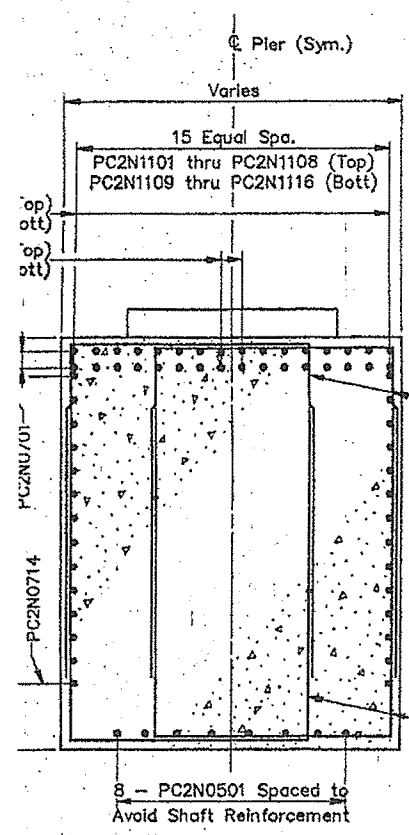
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PORTLAND - S. PORTLAND BRIDGE

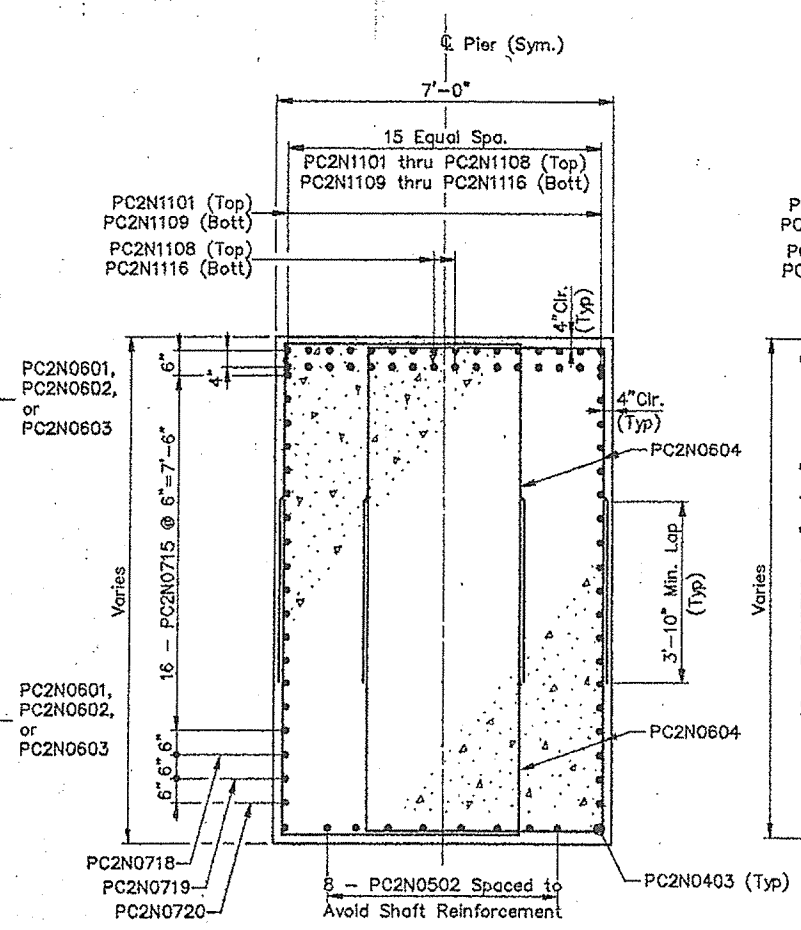
OVER FORE RIVER

CUMBERLAND COUNTY

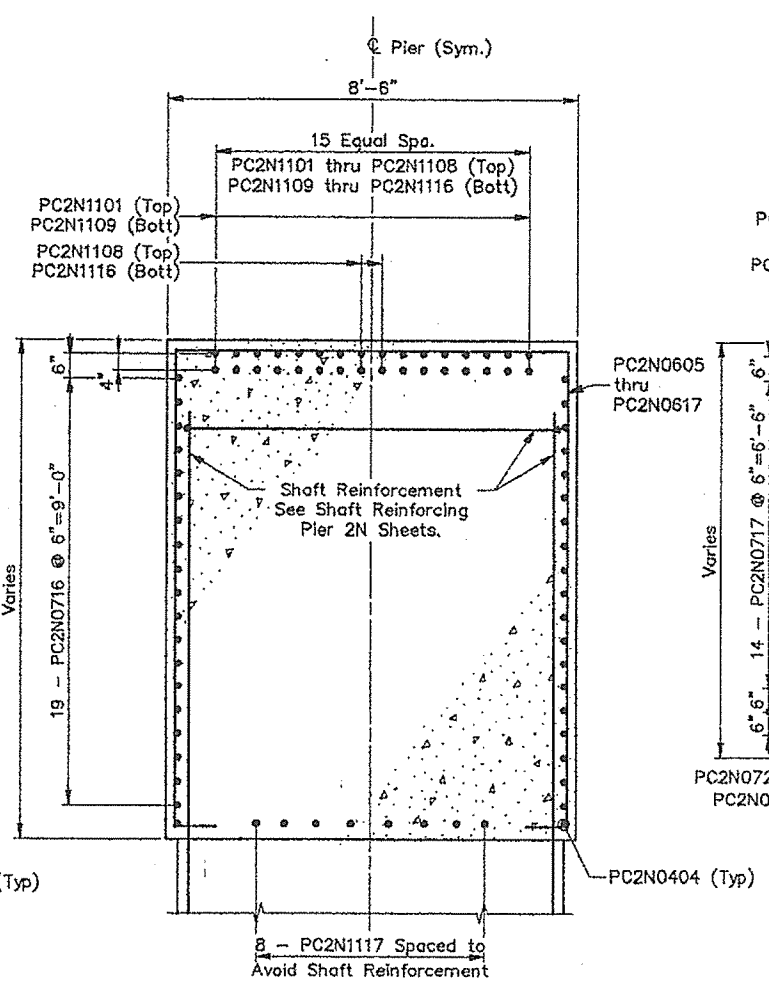
**CAP REINFORCING
PIER 2N**



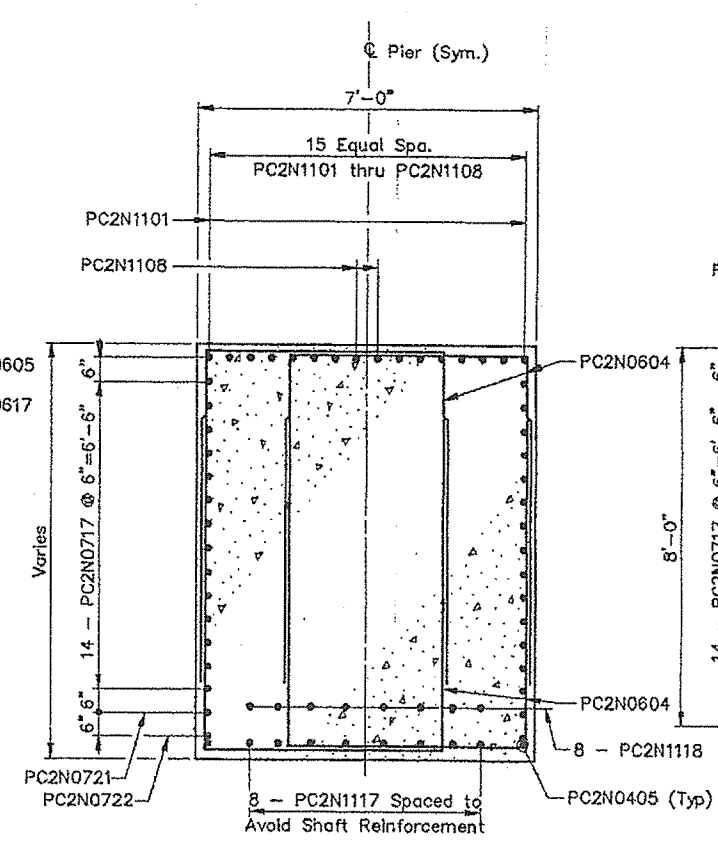
SECTION A-A



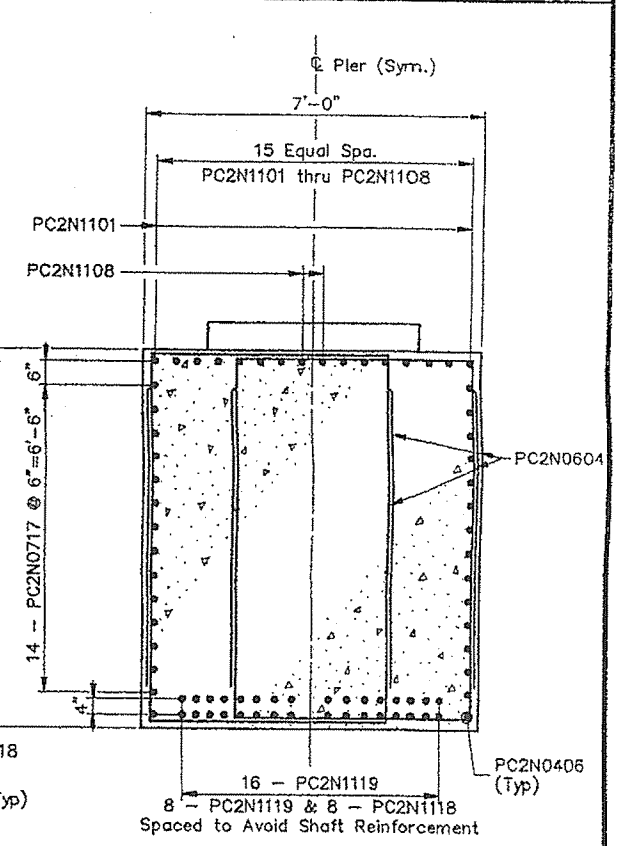
SECTION B-B



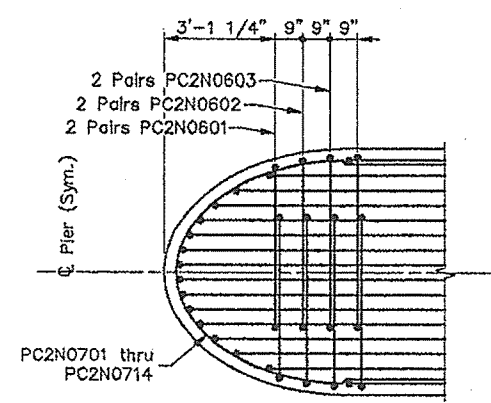
SECTION C-C



SECTION D-D



SECTION E-E

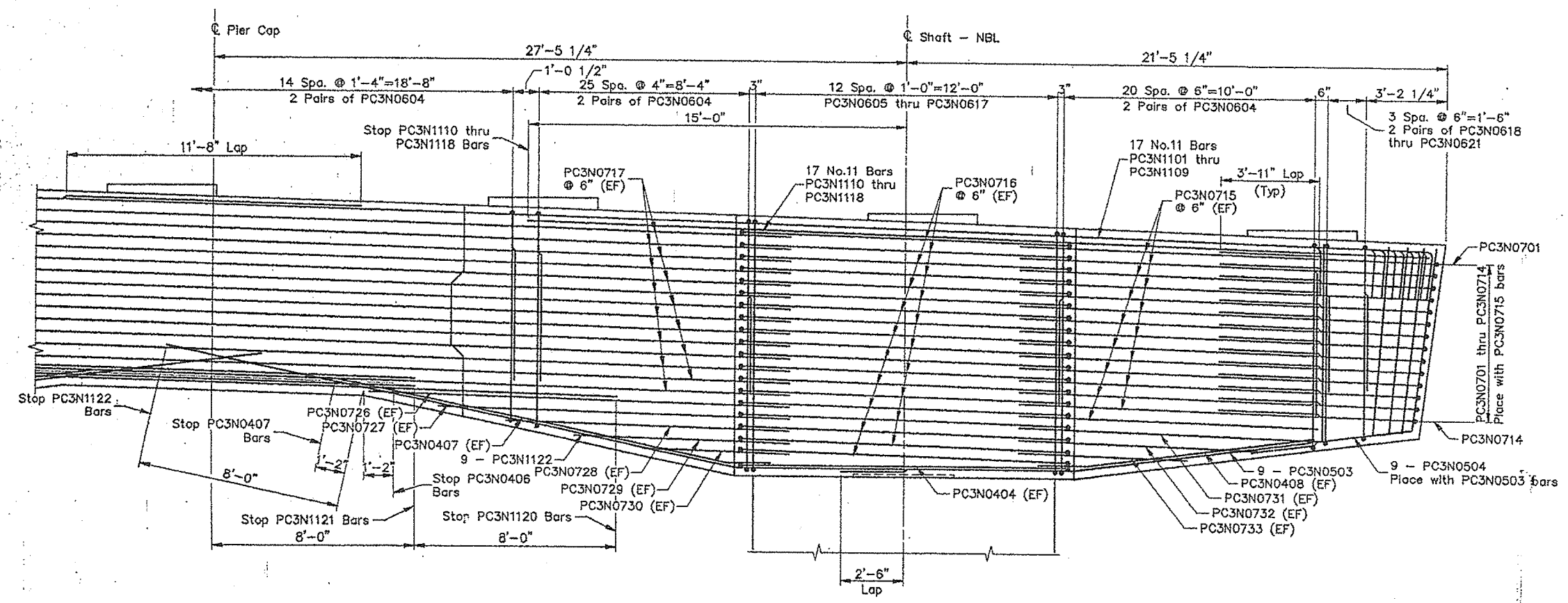
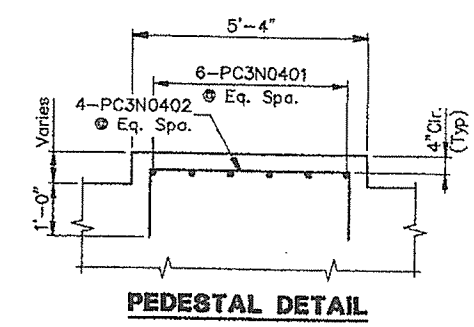
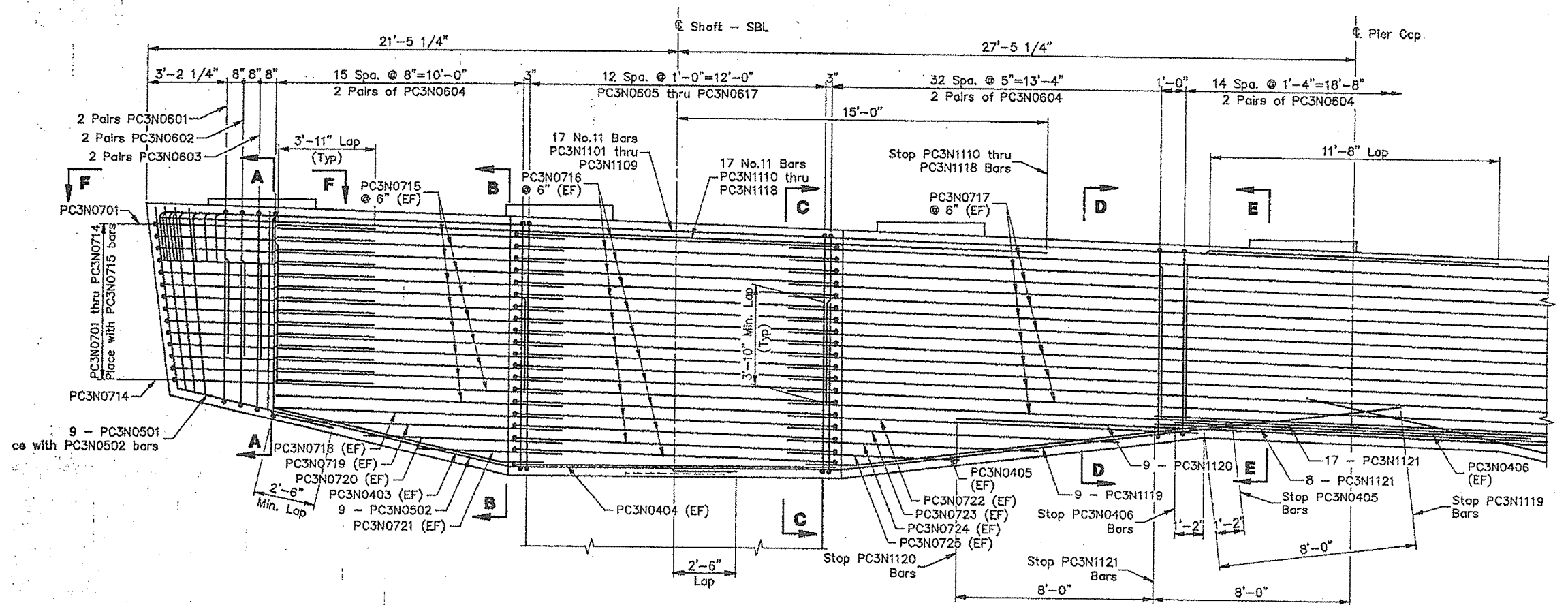


VIEW F-F

APR 13 1994

STEEL ALTERNATIVE SUBSTRUCTURE
STATE OF MAINE DEPARTMENT OF TRANSPORTATION
PORTLAND - 8. PORTLAND BRIDGE
OVER FORE RIVER
CUMBERLAND COUNTY
CAP REINFORCING PIER 2N
SHEET 106 OF 320 AUGUSTA, MAINE 10/12/93

F.H.W.A. PER. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE		1	1



Notes: 1. For cap and pier dimensions and elevations see Plan and Elevation Pier 3N.
2. For shaft reinforcement details Shaft Reinforcing Pier 3N sheets.

PIER 3N CAP REINFORCEMENT

APR 13 1994

STEEL ALTERNATIVE SUBSTRUCTURE

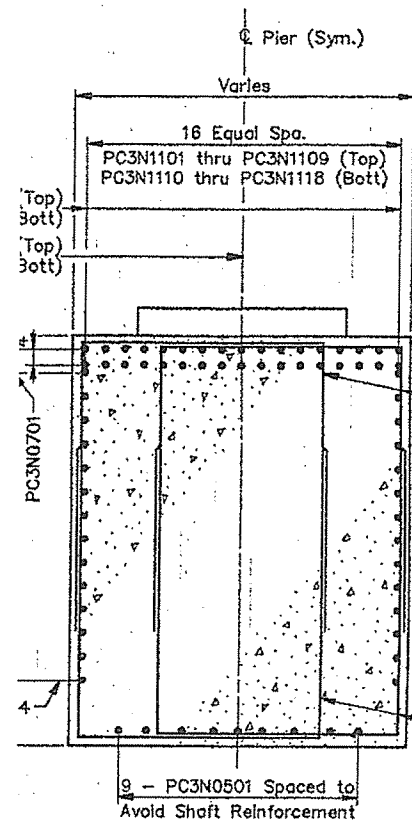
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PORTLAND - S. PORTLAND BRIDGE

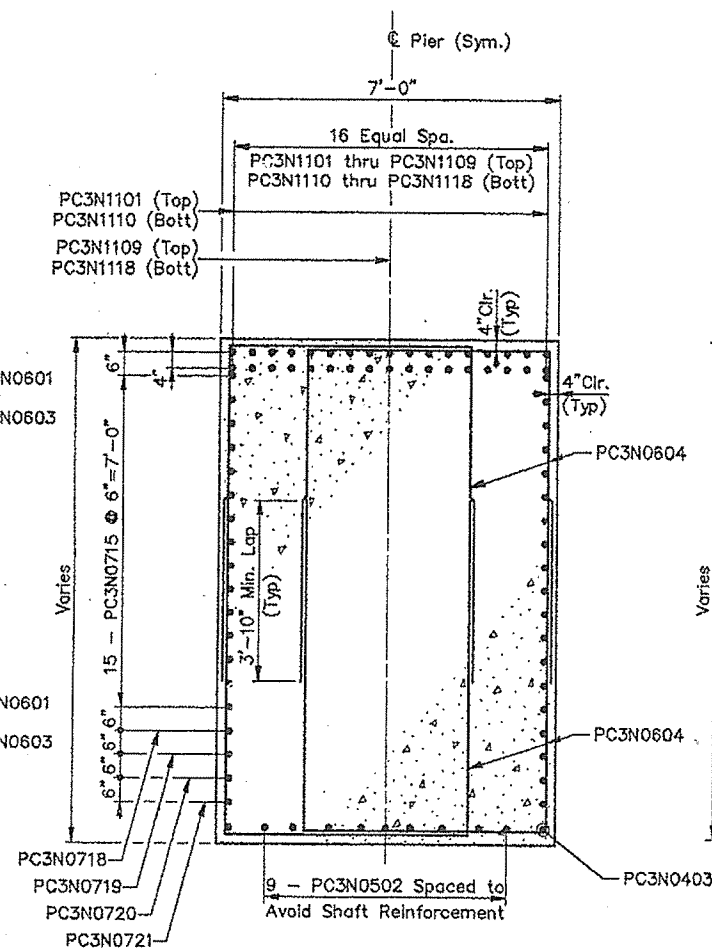
OVER FORE RIVER

CUMBERLAND COUNTY

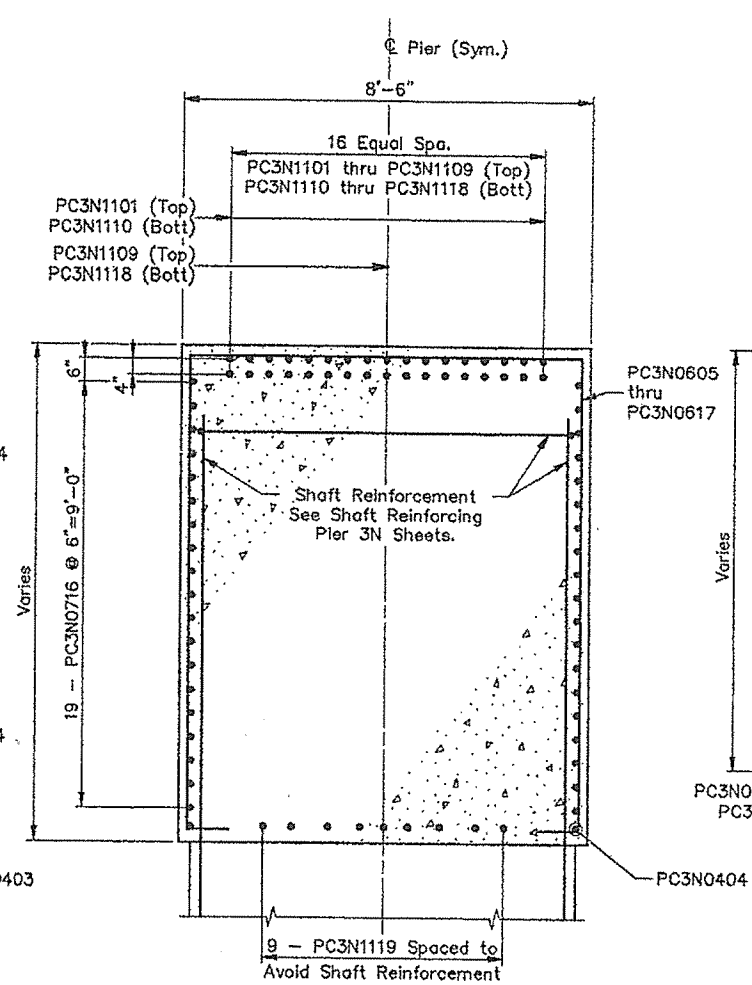
**CAP REINFORCING
PIER 3N**



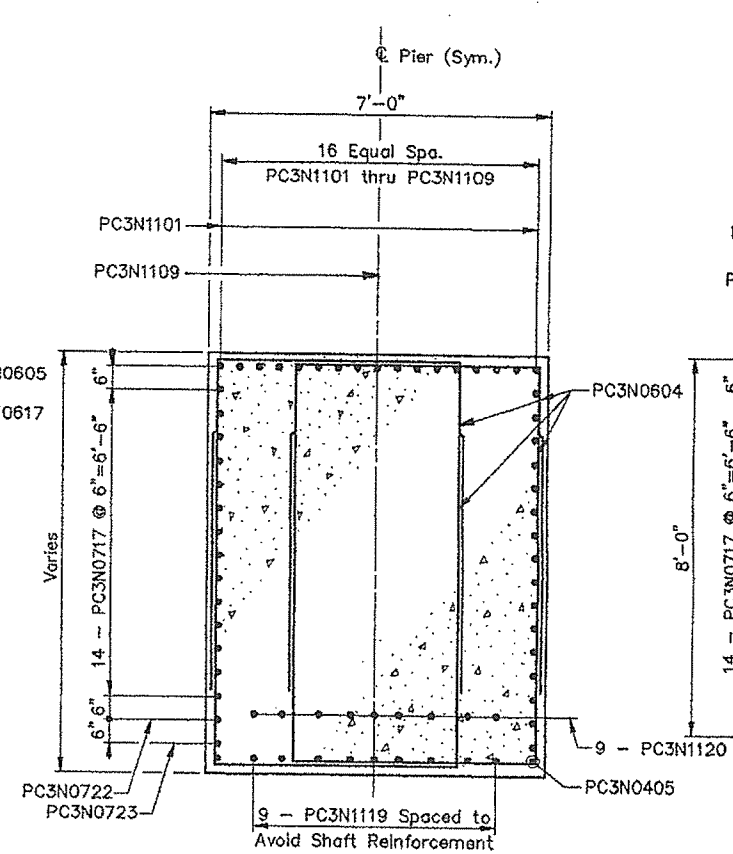
SECTION A-A



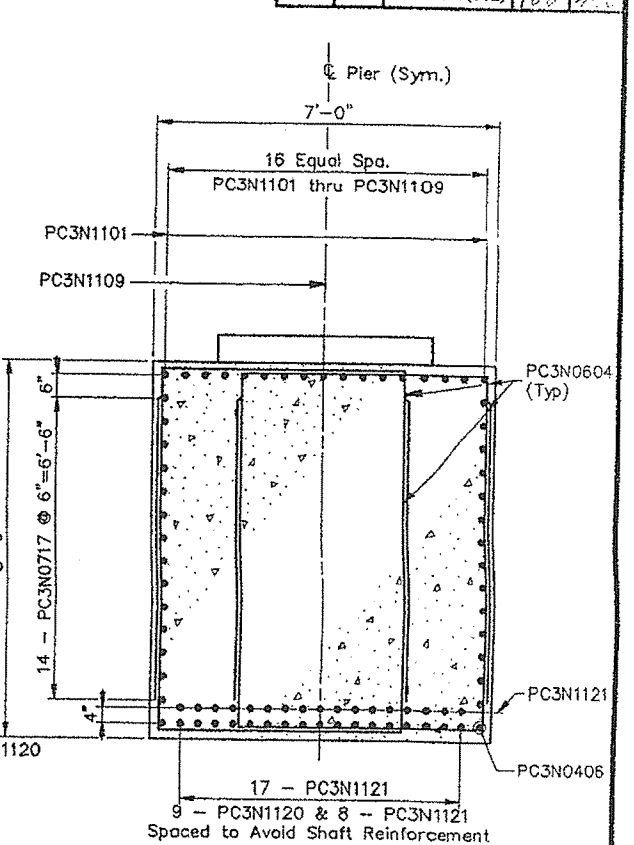
SECTION B-B



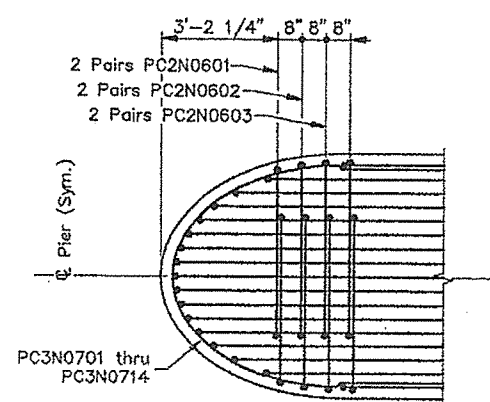
SECTION C-C



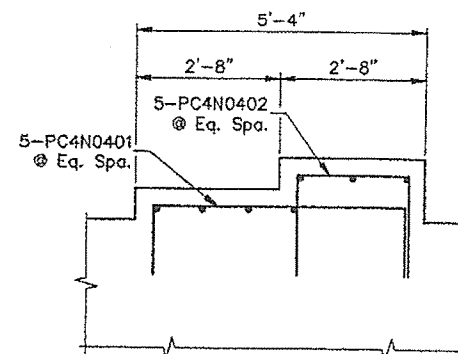
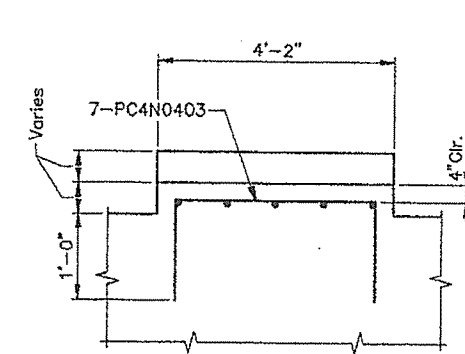
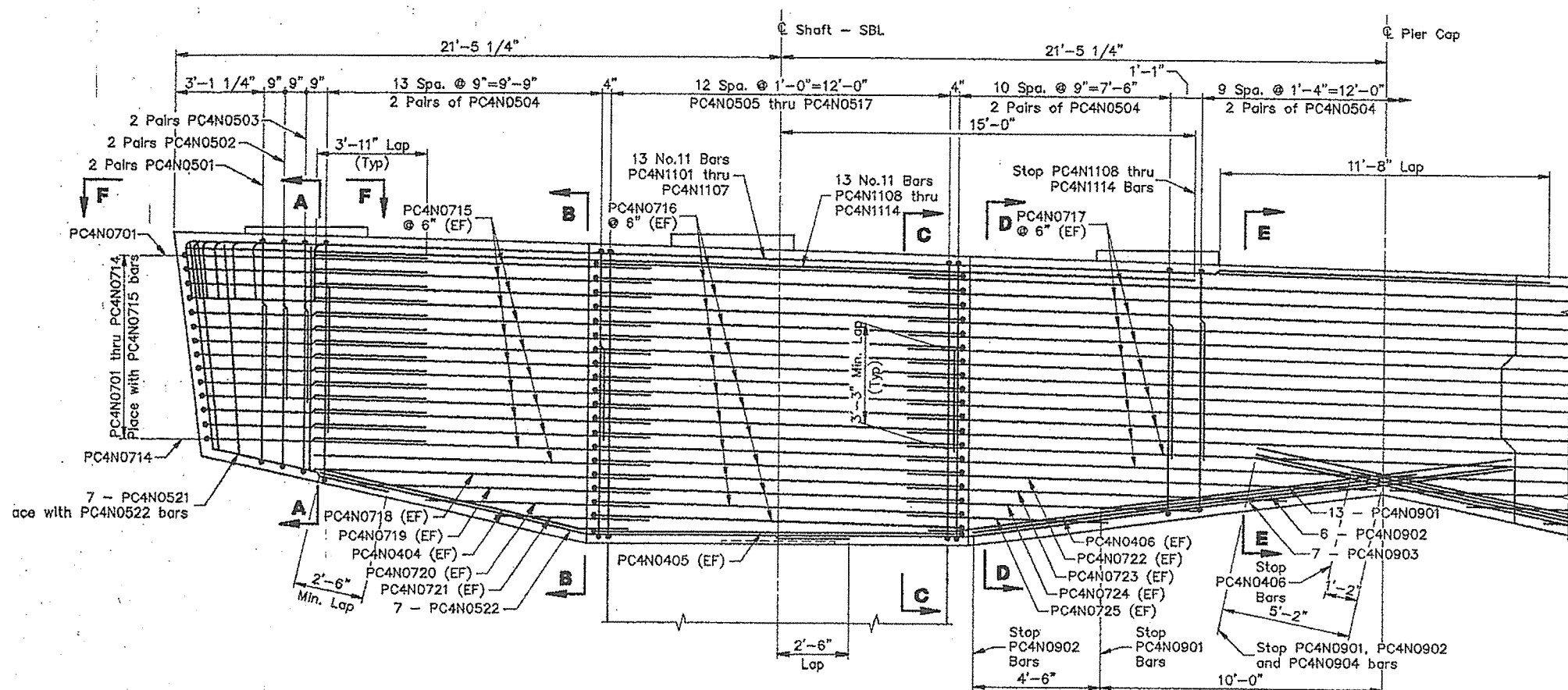
SECTION D-D



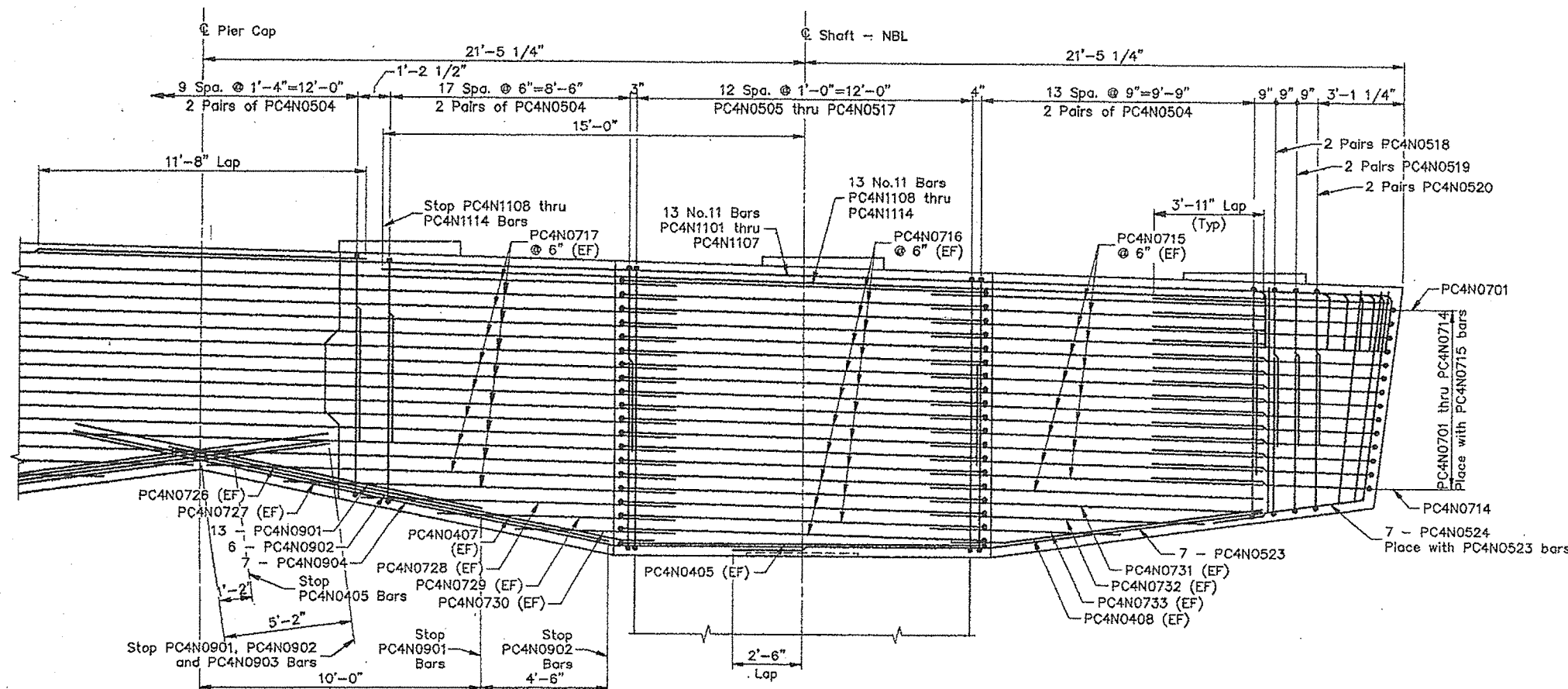
SECTION E-E



VIEW F-F



PEDESTAL DETAIL



PIER 4N CAP REINFORCEMENT

- Notes: 1. For cap and pier dimensions and elevations see Plan and Elevation Pier 4N.
2. For shaft reinforcement details Shaft Reinforcing Pier 4N sheets.

STEEL ALTERNATIVE SUBSTRUCTURE

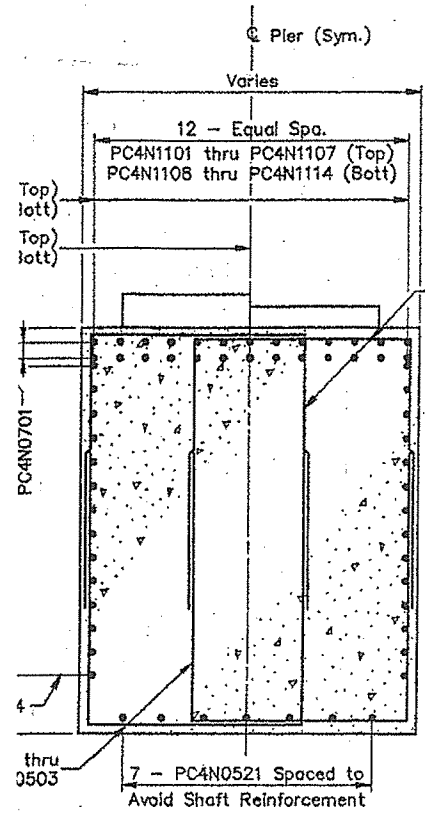
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PORTLAND - S. PORTLAND BRIDGE

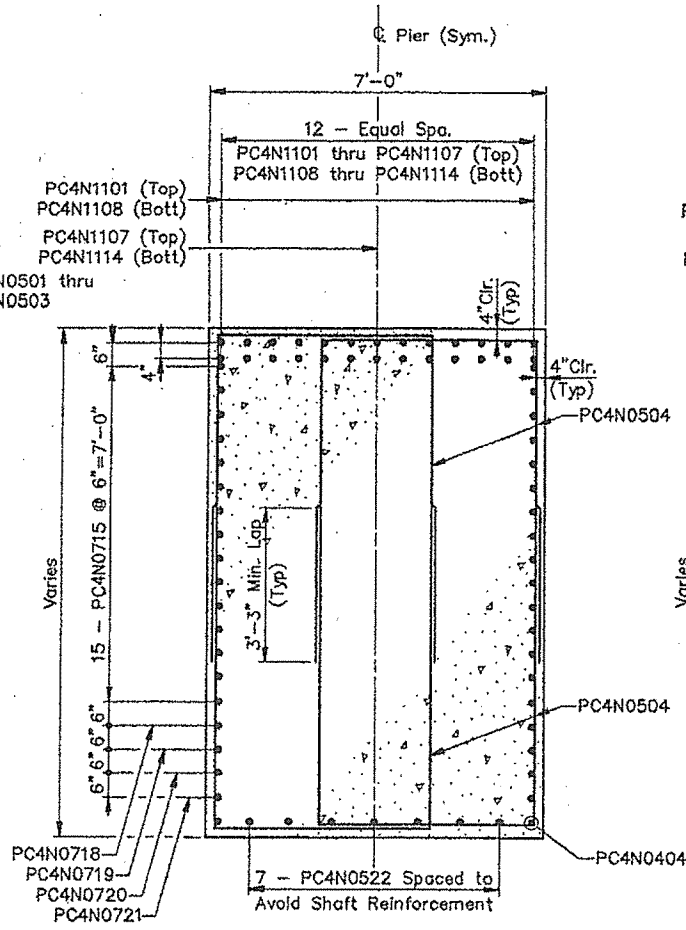
OVER FORE RIVER

CUMBERLAND COUNTY

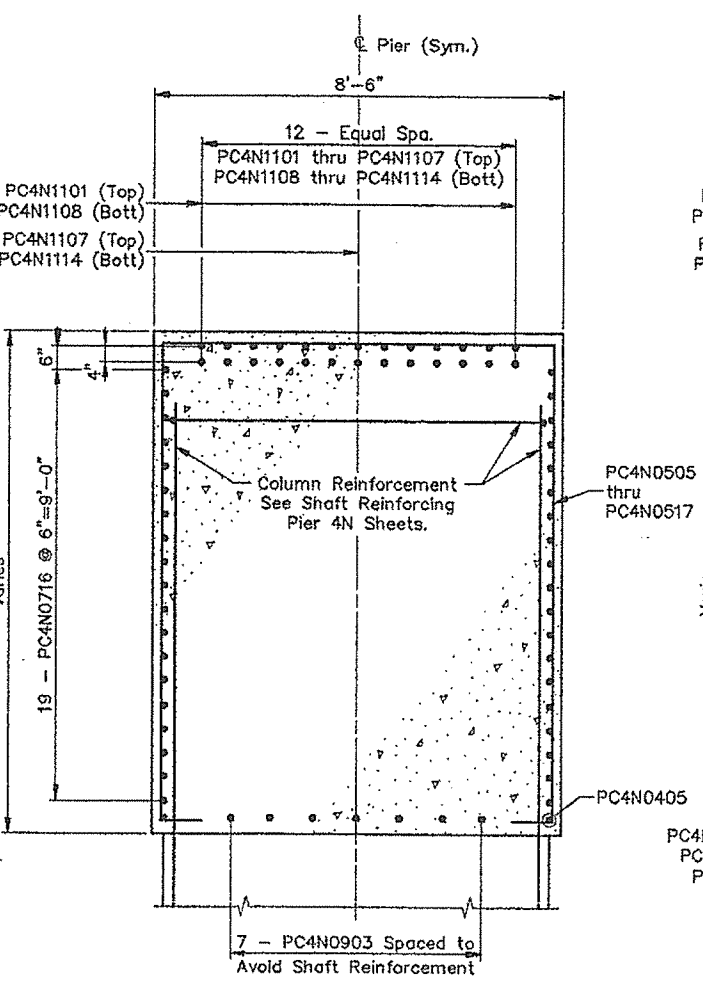
CAP REINFORCING
PIER 4N



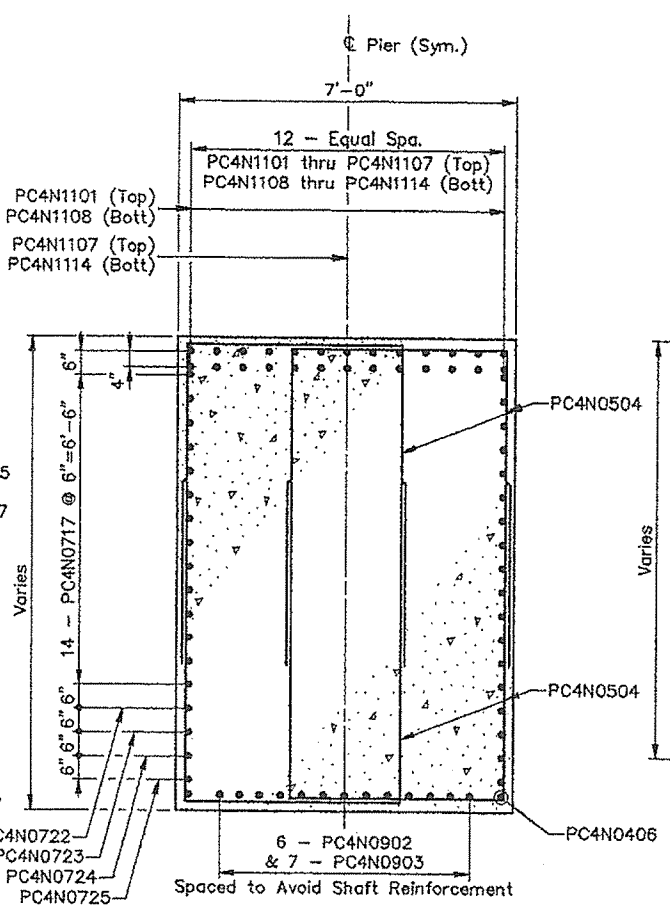
SECTION A-A



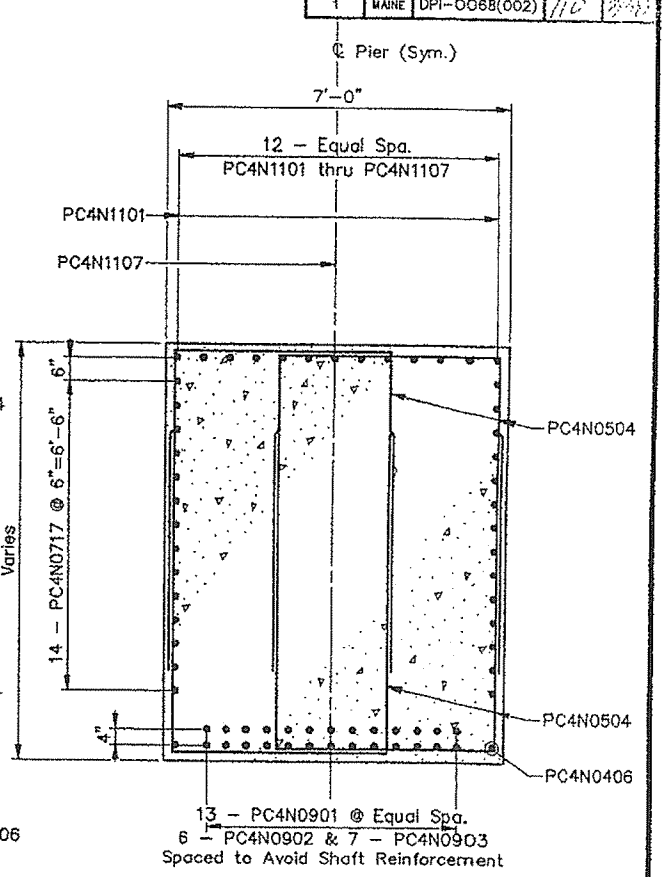
SECTION B-B



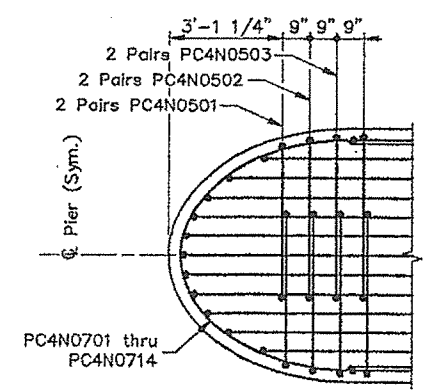
SECTION C-C



SECTION D-D



SECTION E-E

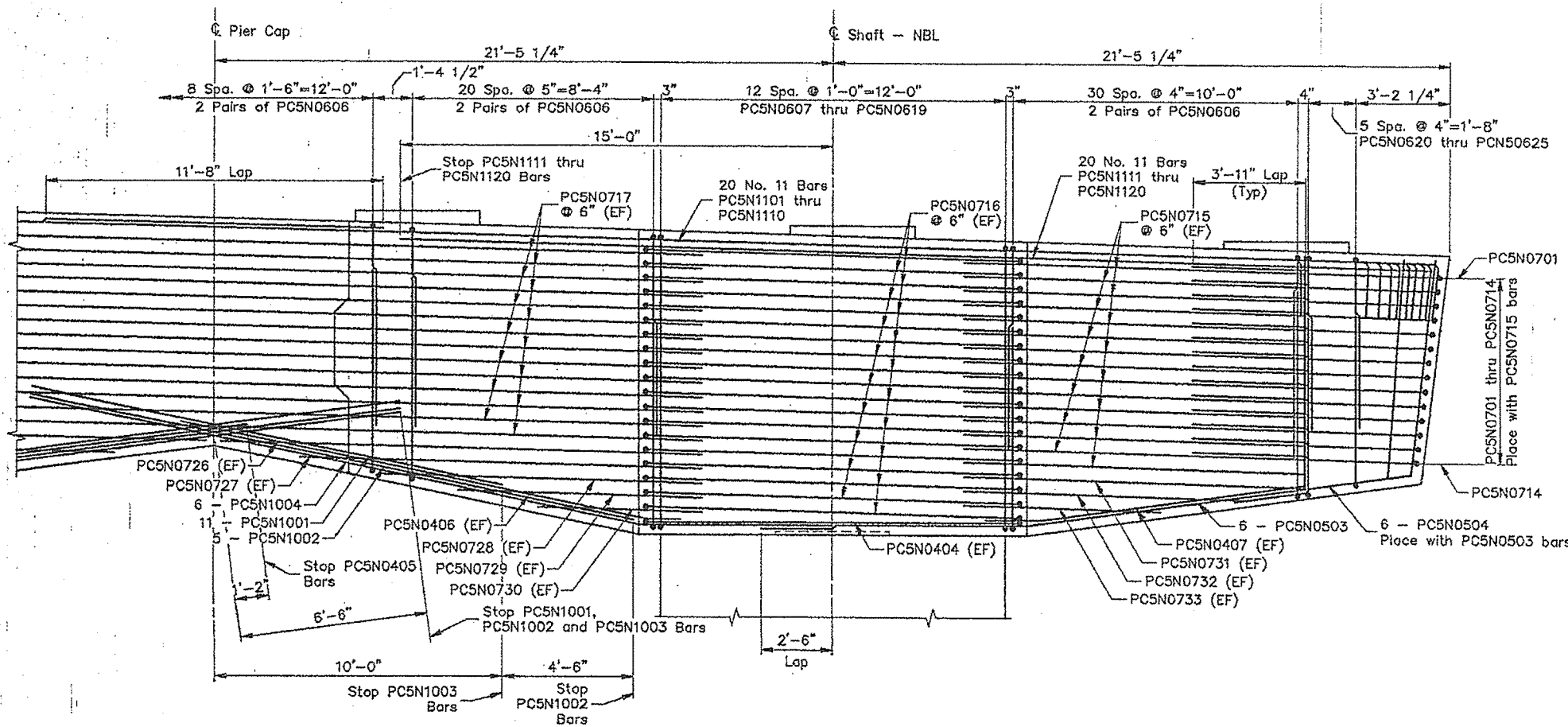
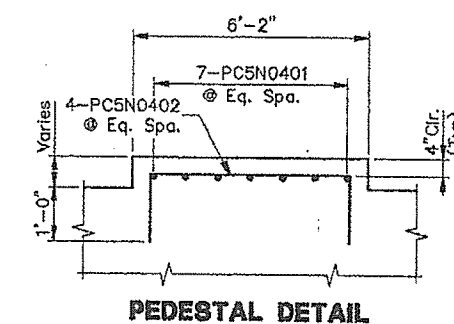
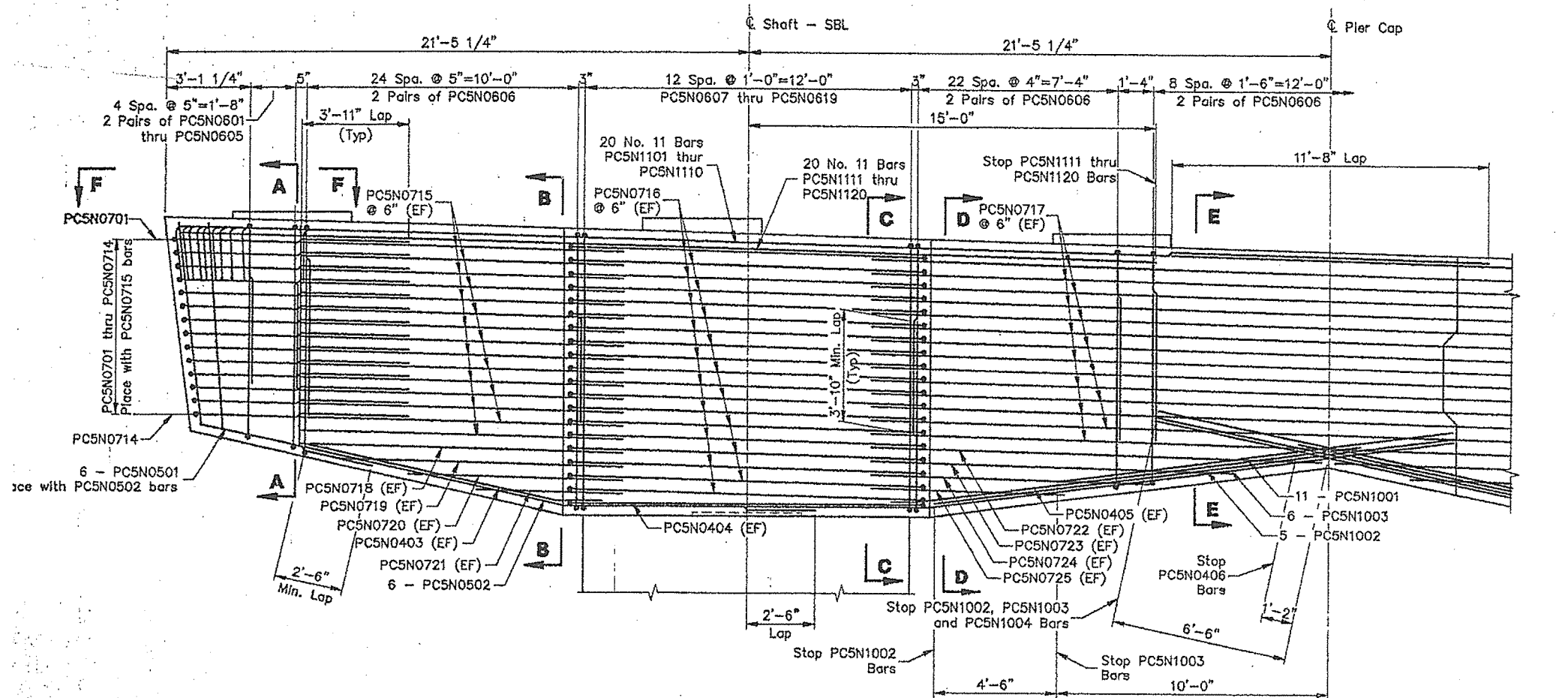


VIEW F-F

STEEL ALTERNATIVE SUBSTRUCTURE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
PORTLAND - S. PORTLAND BRIDGE
OVER FORE RIVER
CUMBERLAND COUNTY
CAP REINFORCING
PIER 4N

F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE		111	350



- Notes: 1. For cap and pier dimensions and elevations see Plan and Elevation Pier 1N.
2. For shaft reinforcement details Shaft Reinforcing Pier 1N sheets.

PIER 5N CAP REINFORCEMENT

APR 13 1994

STEEL ALTERNATIVE SUBSTRUCTURE

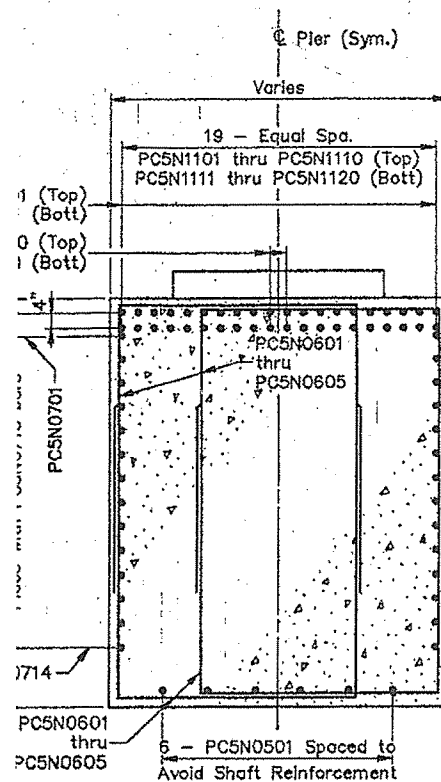
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PORTLAND - S. PORTLAND BRIDGE

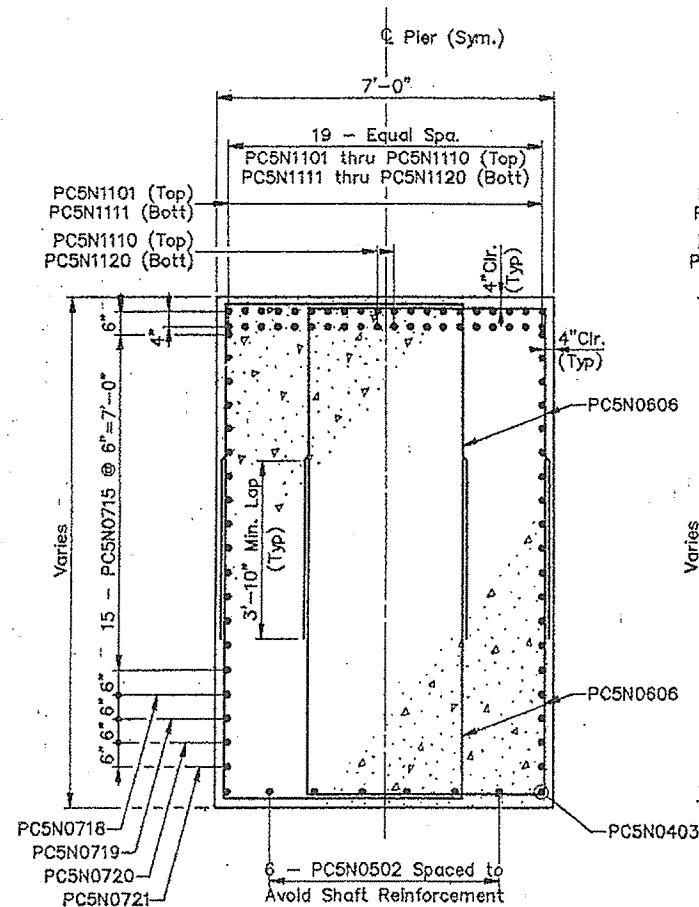
OVER FORE RIVER

CUMBERLAND COUNTY

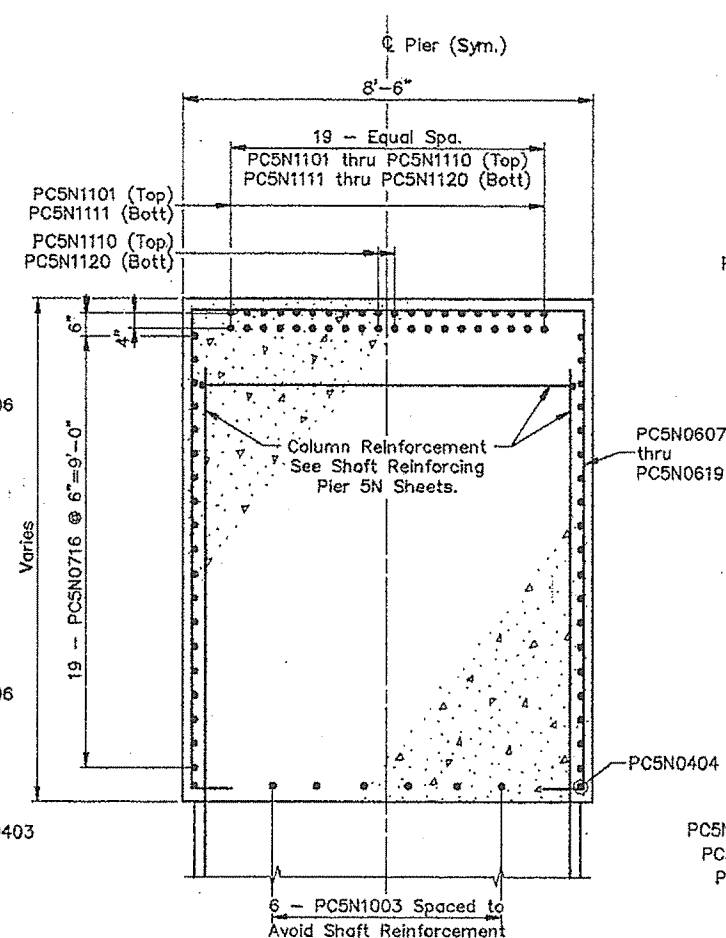
CAP REINFORCING
PIER 5N



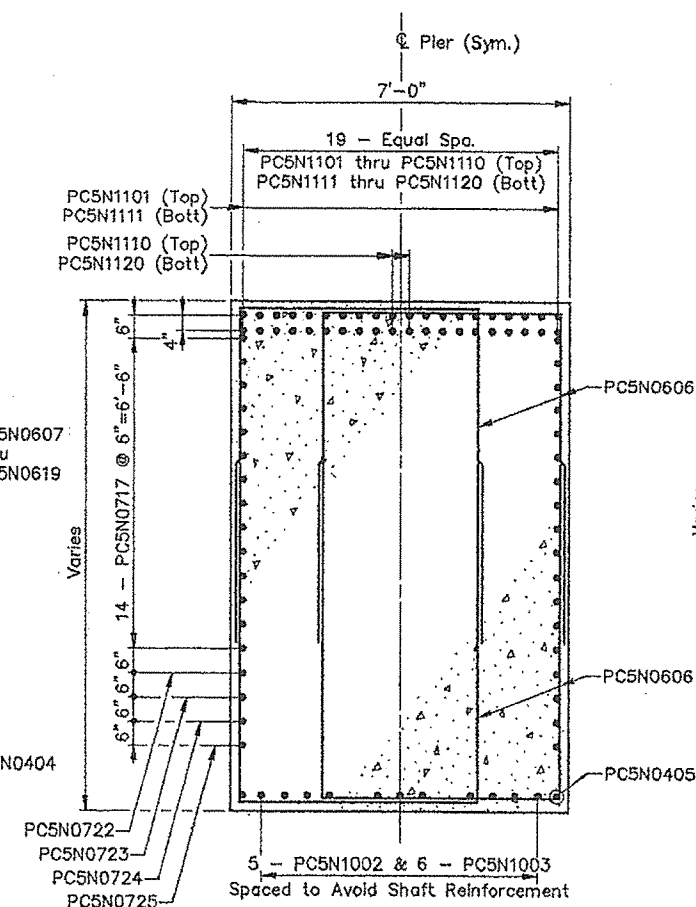
SECTION A-A



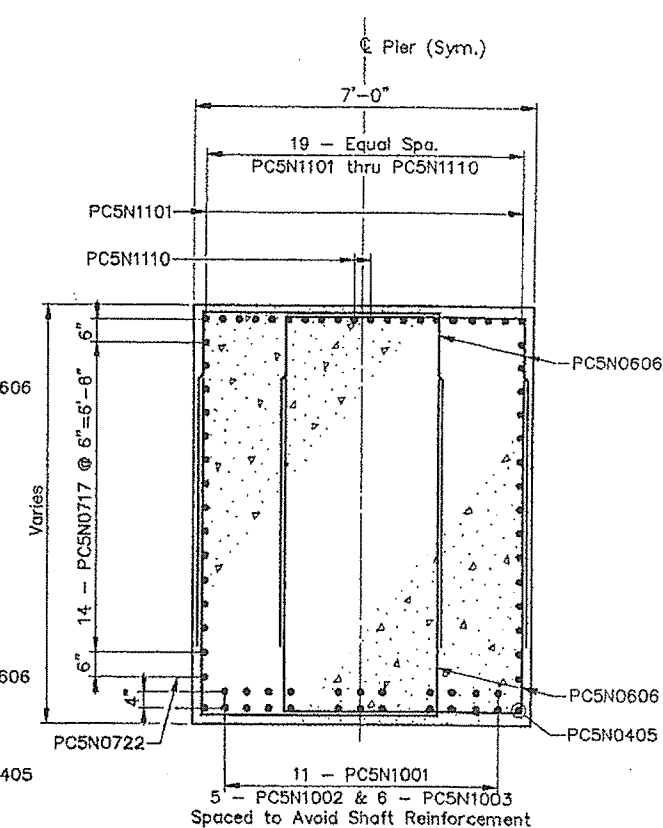
SECTION B-B



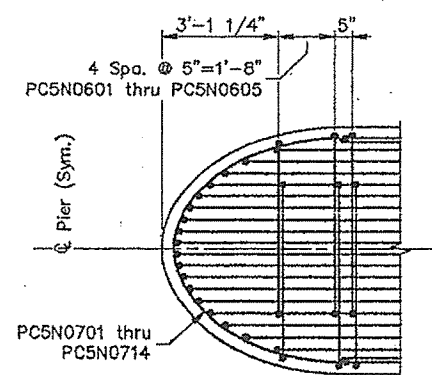
SECTION C-C



SECTION D-D



SECTION E-E



VIEW F-F

STEEL ALTERNATIVE SUBSTRUCTURE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

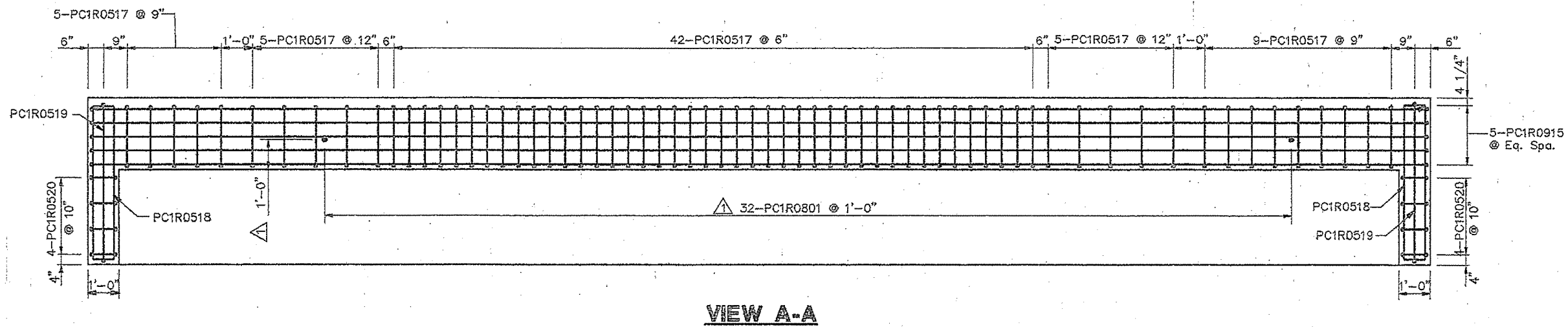
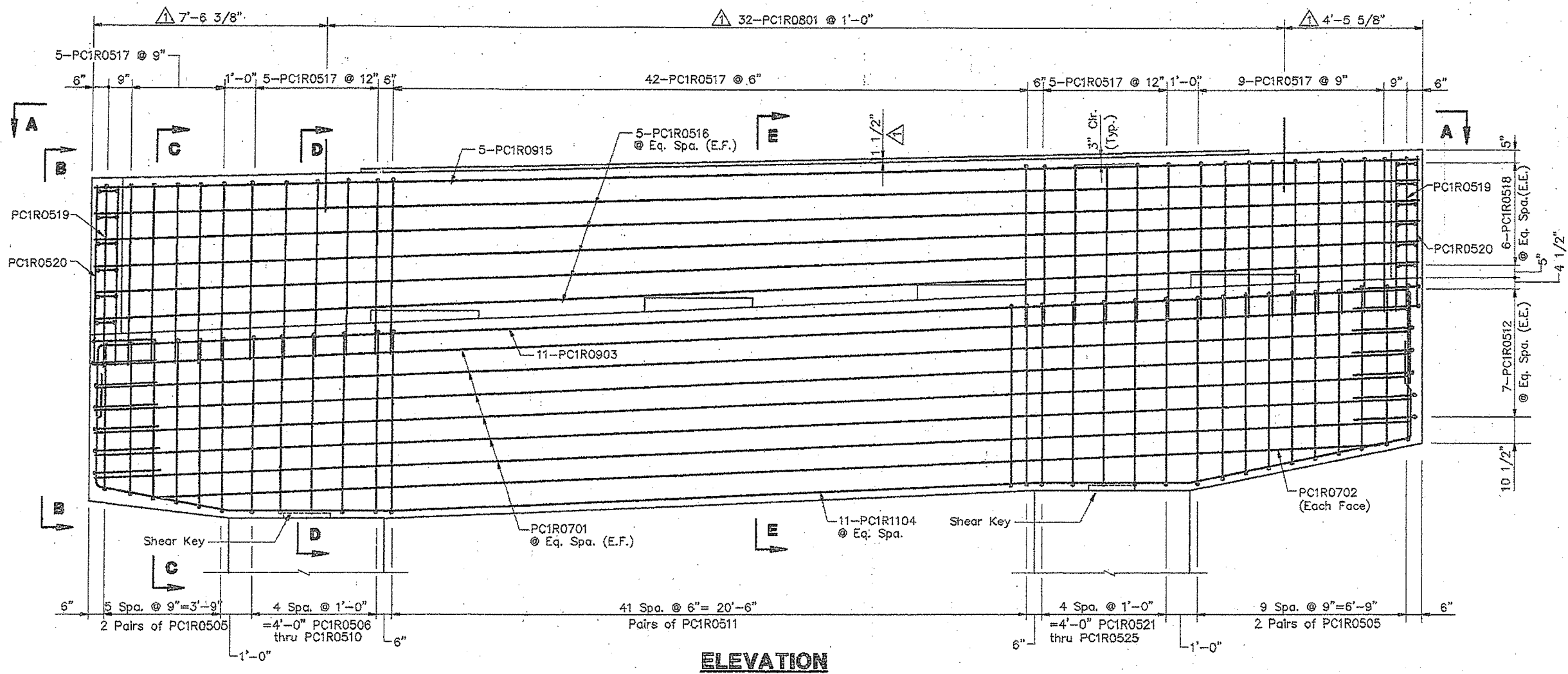
PORTLAND - 8. PORTLAND BRIDGE

OVER FORE RIVER

CUMBERLAND COUNTY

**CAP REINFORCING
PIER 5N**

APR 13 1994

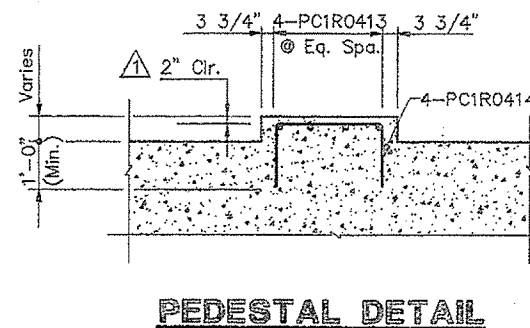
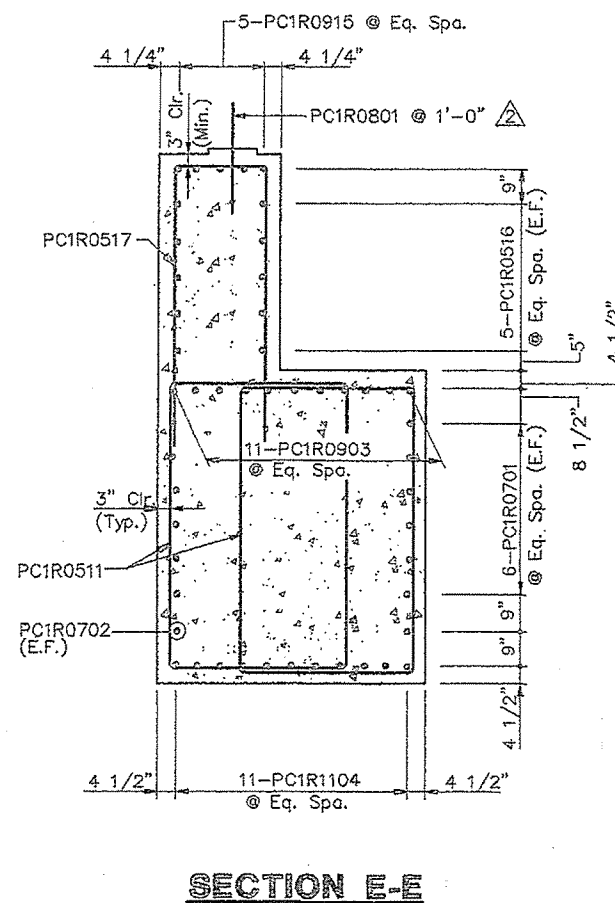
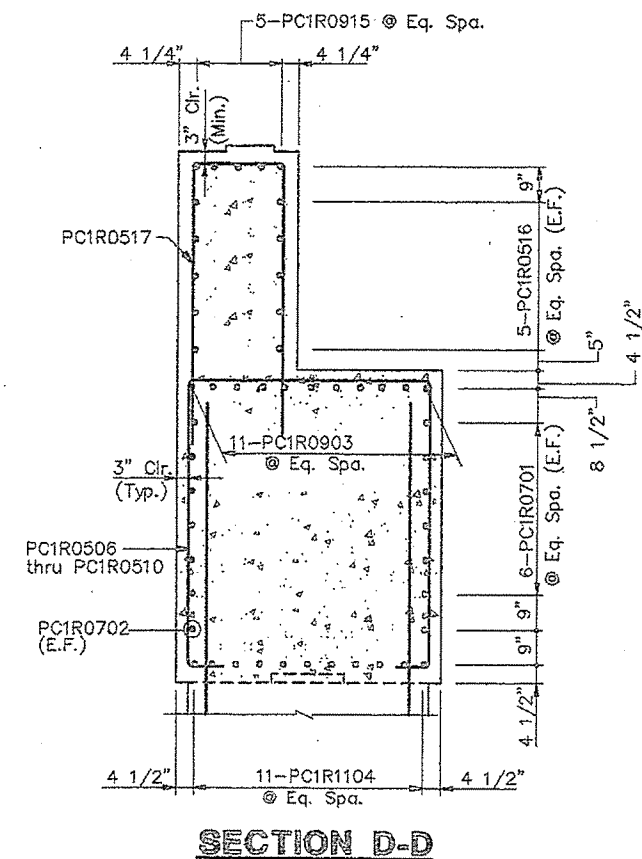
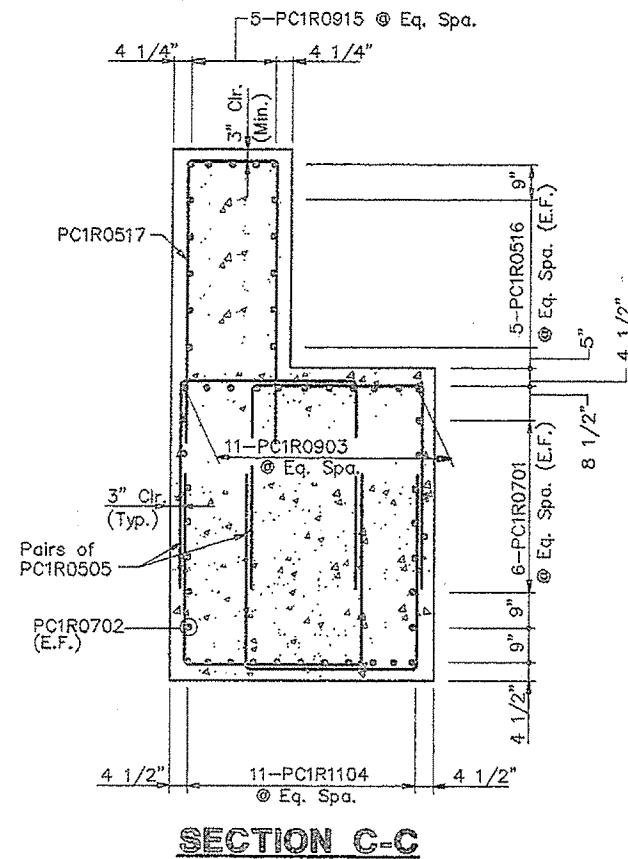
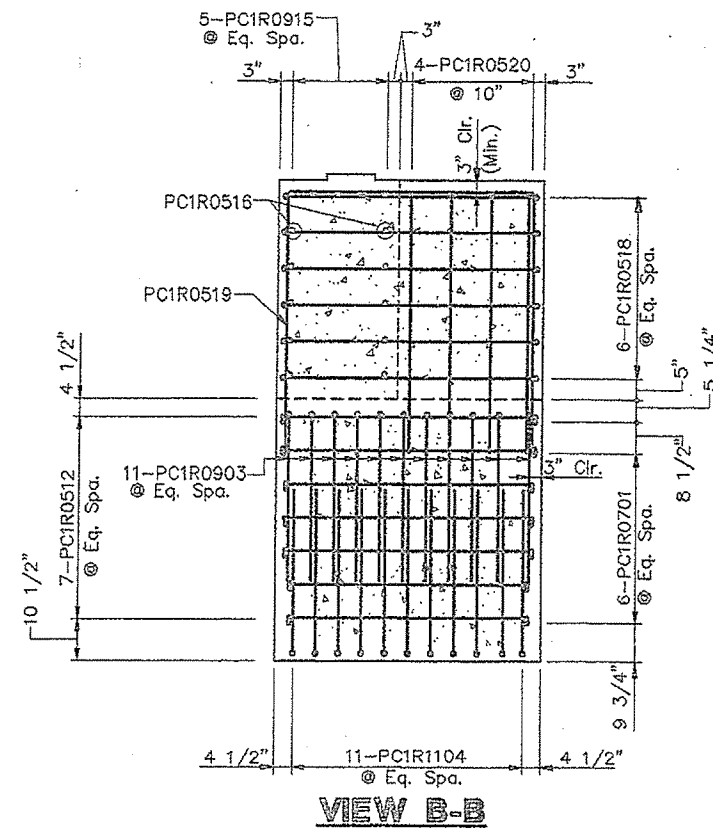


△ Add slab dowels and key 4/26/96

STEEL ALTERNATIVE SUBSTRUCTURE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
PORTLAND - S. PORTLAND BRIDGE
OVER FORE RIVER
CUMBERLAND COUNTY
CAP REINFORCING
PIER 1R

SHEET 113 OF 338 AUGUSTA, MAINE

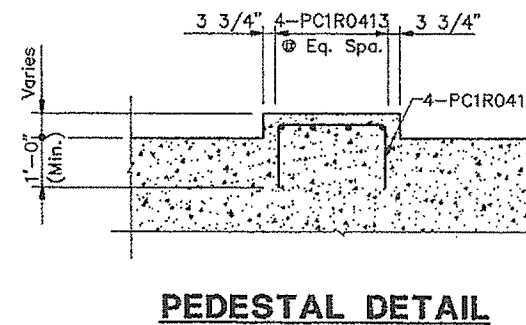
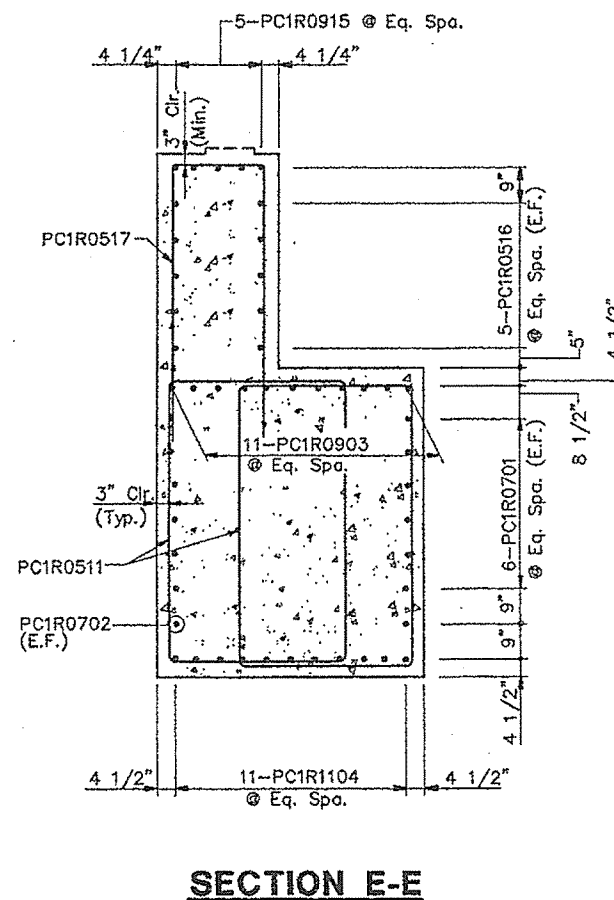
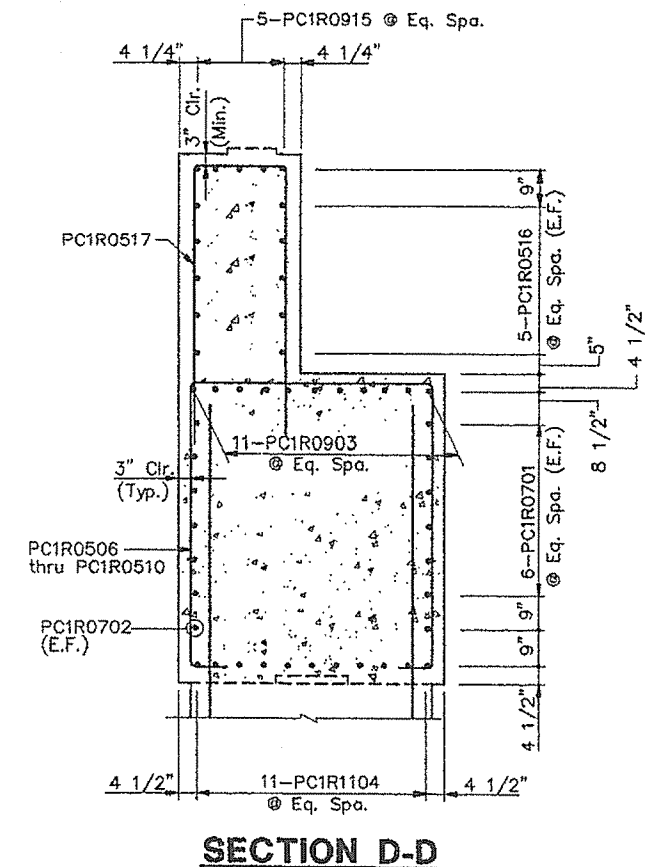
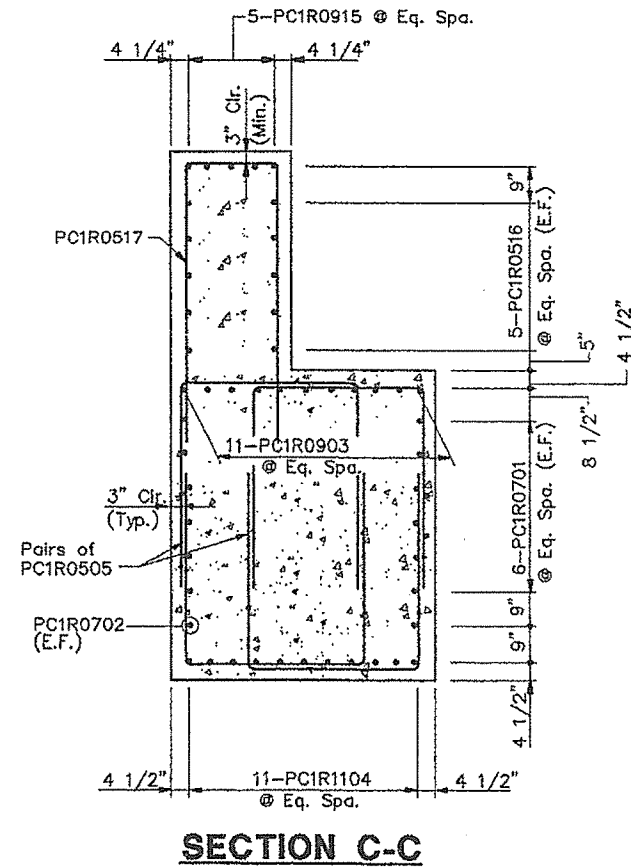
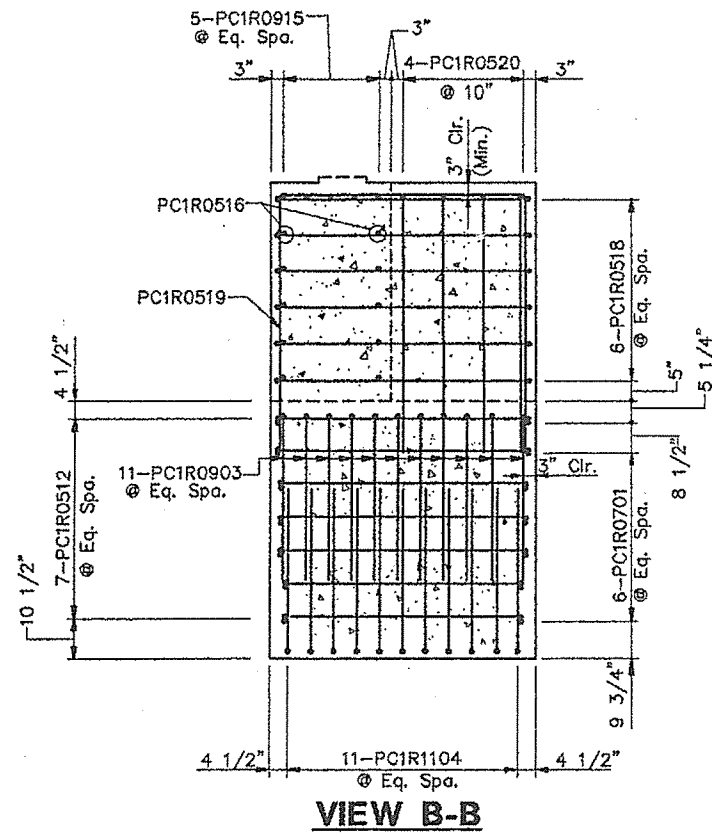


△ Add slab dowels 4/26/96

△ Specify cover for reinforcing steel in pedestals 10/7/94

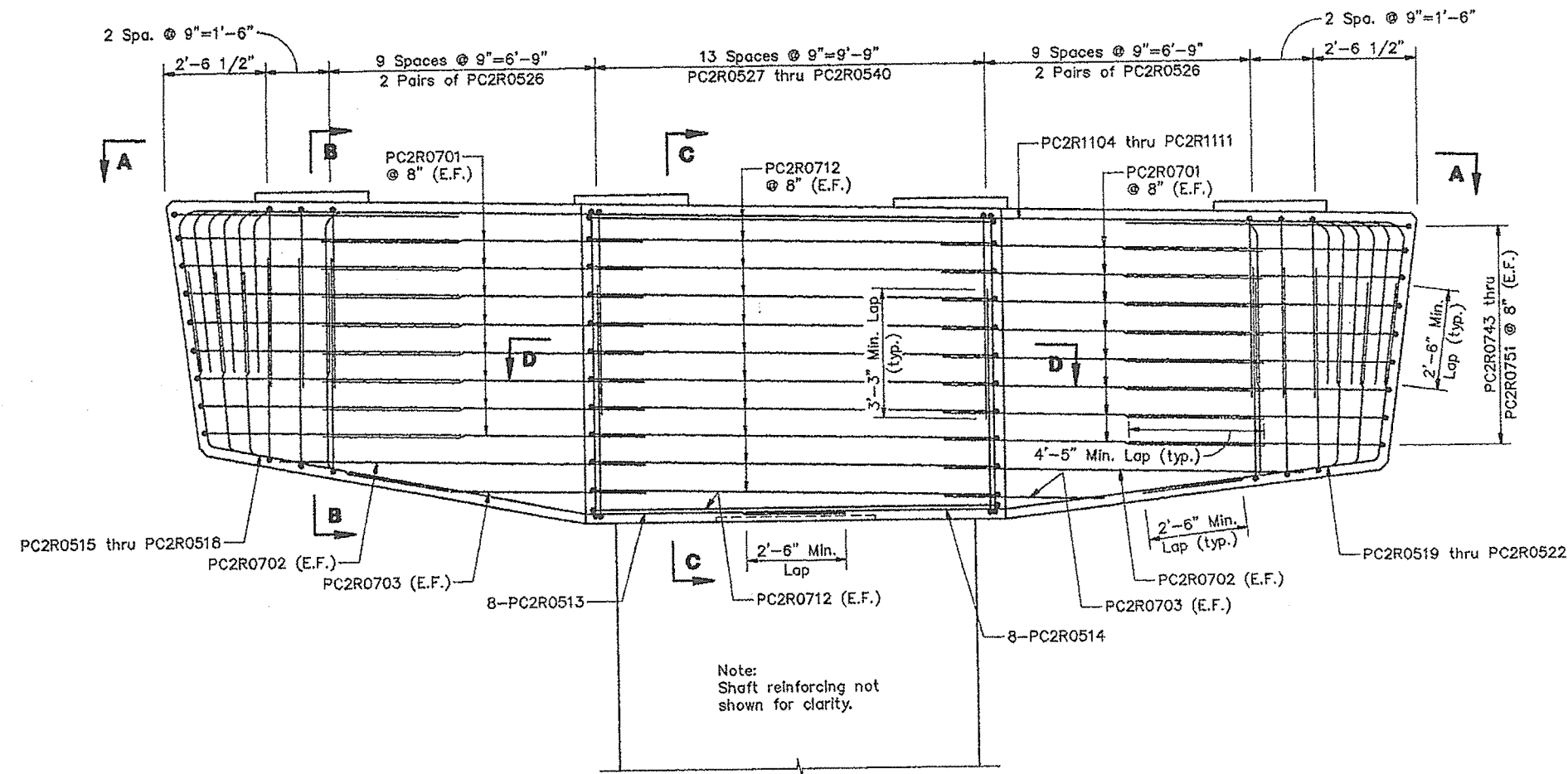
STEEL ALTERNATIVE SUBSTRUCTURE

STATE OF MAINE DEPARTMENT OF TRANSPORTATION
PORTLAND - S. PORTLAND BRIDGE
OVER FORE RIVER
CUMBERLAND COUNTY
CAP REINFORCING PIER 1R
SHEET 114 OF 338 AUGUSTA, MAINE

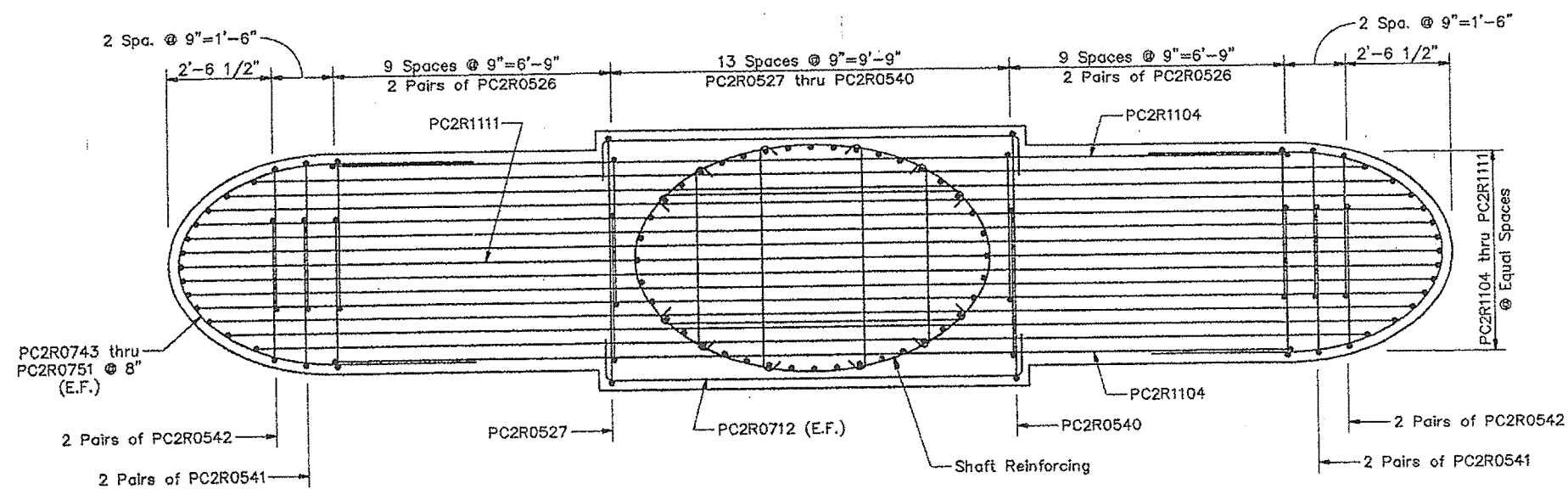


STEEL ALTERNATIVE SUBSTRUCTURE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
PORTLAND - S. PORTLAND BRIDGE
OVER FORE RIVER
CUMBERLAND COUNTY
CAP REINFORCING
PIER 1R



CAP REINFORCING



VIEW A-A

STEEL ALTERNATIVE SUBSTRUCTURE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

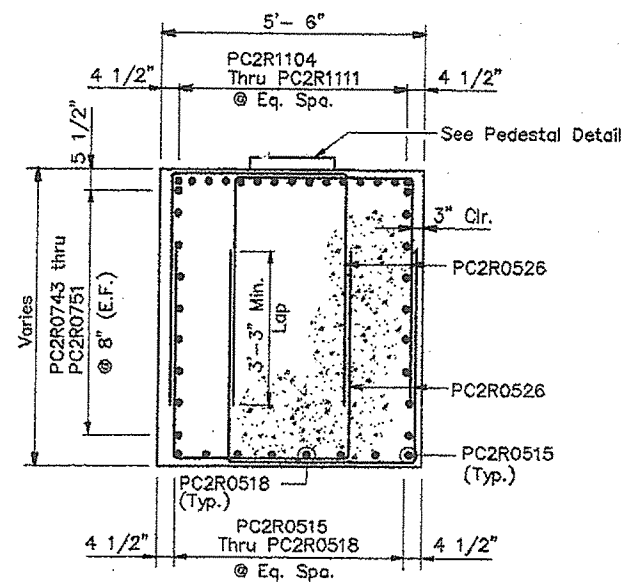
PORTLAND - S. PORTLAND BRIDGE

OVER FORE RIVER

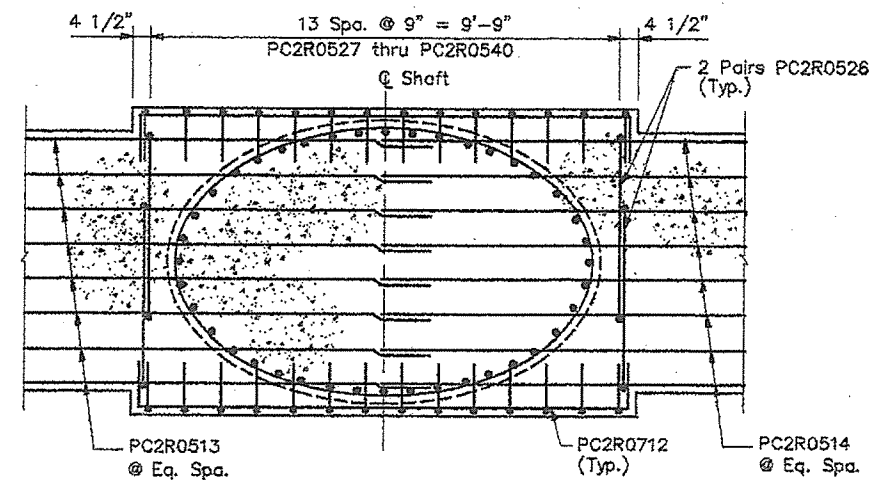
CUMBERLAND COUNTY

**CAP REINFORCING
PIER 2R**

SHEET 115 OF 338 AUGUSTA, MAINE 01/27/94

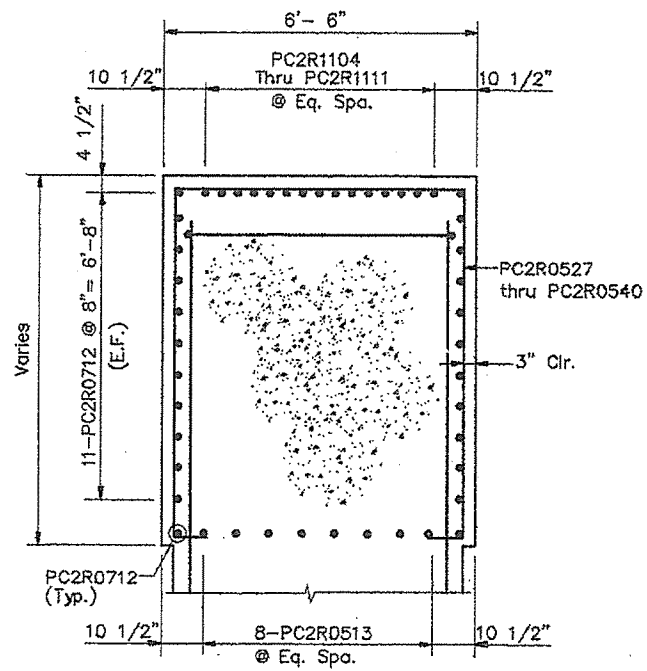


SECTION B-B

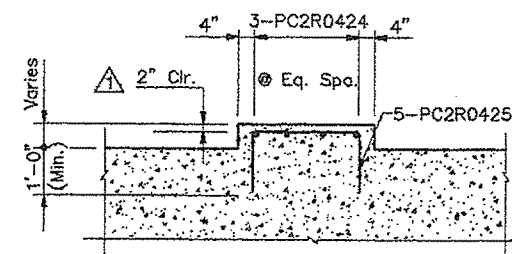


SECTION D-D

Note:
Adjust spacing of PC2R0513 and PC2R0514
as necessary to avoid shaft reinforcing bars.



SECTION C-C

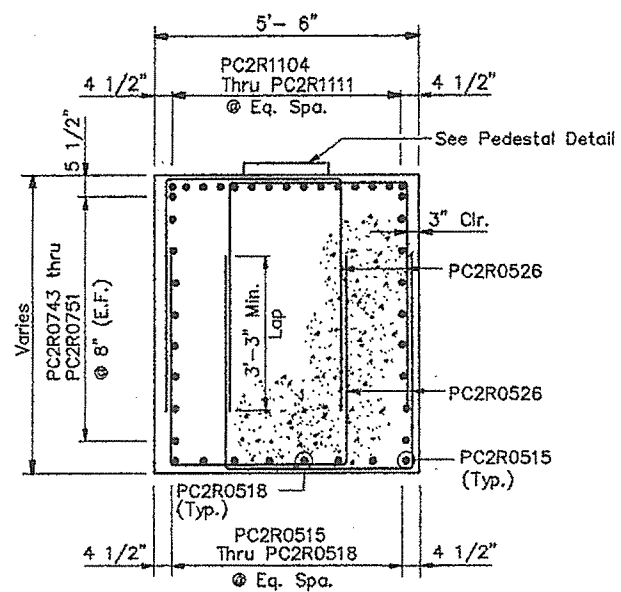


PEDESTAL DETAIL

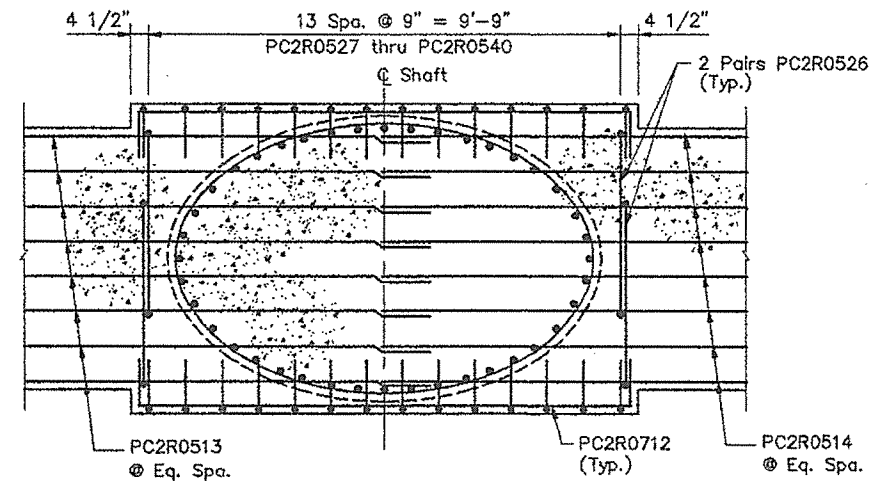
Specify cover for reinforcing steel
in pedestals 10/7/94

STEEL ALTERNATIVE SUBSTRUCTURE

STATE OF MAINE DEPARTMENT OF TRANSPORTATION
PORTLAND - S. PORTLAND BRIDGE OVER FORE RIVER CUMBERLAND COUNTY
CAP REINFORCING PIER 2R
SHEET 116 OF 338 AUGUSTA, MAINE

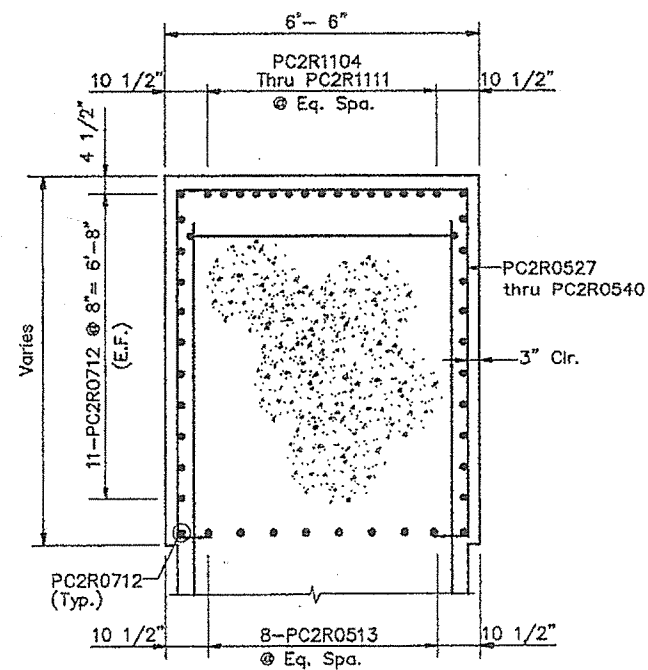


SECTION B-B

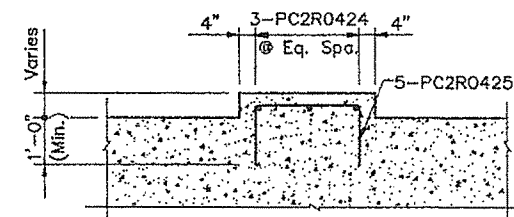


SECTION D-D

Note:
Adjust spacing of PC2R0513 and PC2R0514
as necessary to avoid shaft reinforcing bars.



SECTION C-C



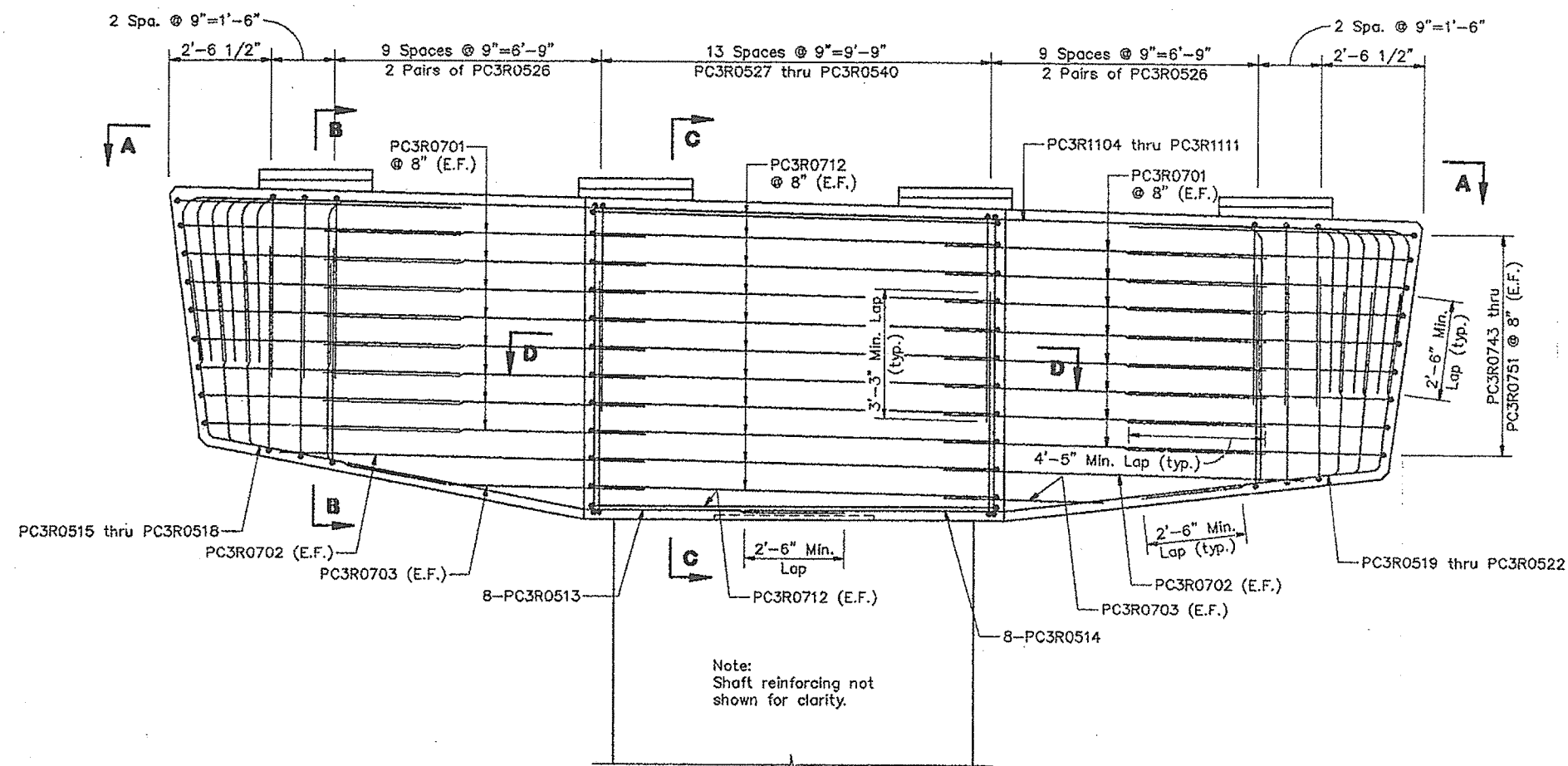
PEDESTAL DETAIL

STEEL ALTERNATIVE SUBSTRUCTURE

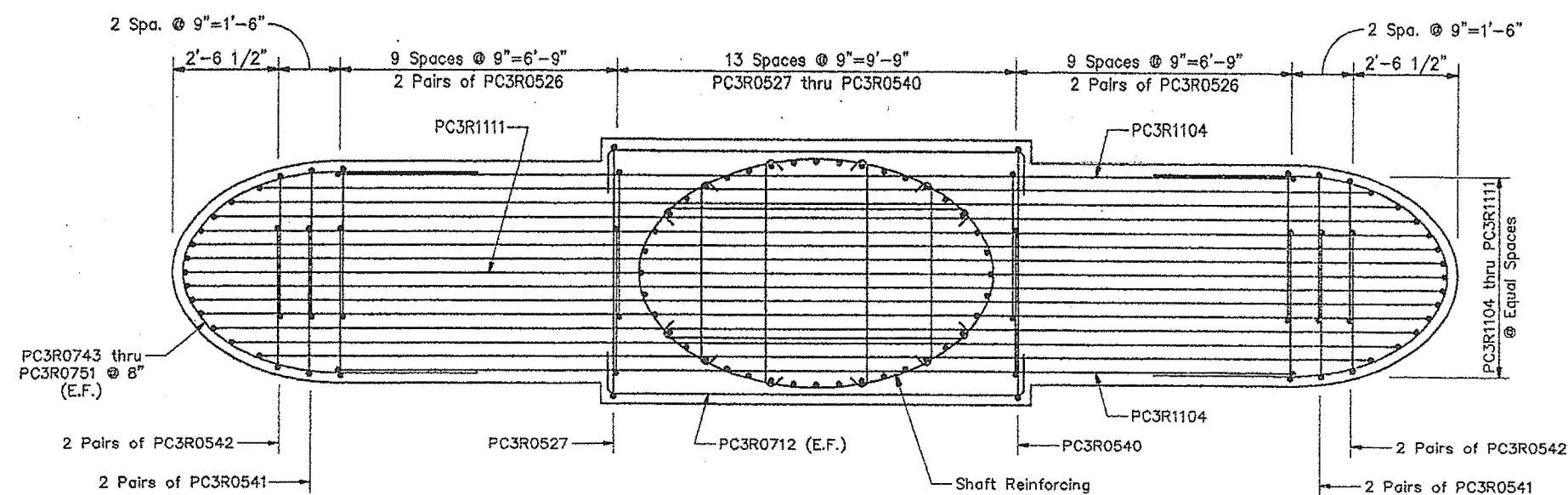
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PORTLAND - S. PORTLAND BRIDGE
OVER FORE RIVER
CUMBERLAND COUNTY

CAP REINFORCING
PIER 2R



CAP REINFORCING



VIEW A-A

STEEL ALTERNATIVE SUBSTRUCTURE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

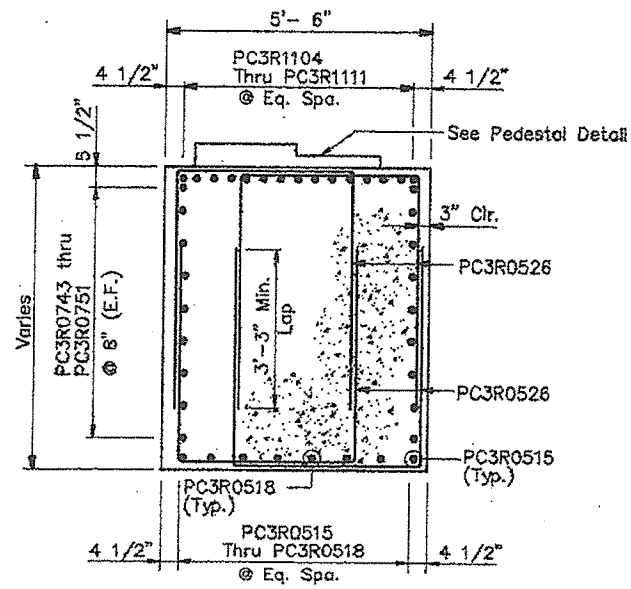
PORTLAND - S. PORTLAND BRIDGE

OVER FORE RIVER

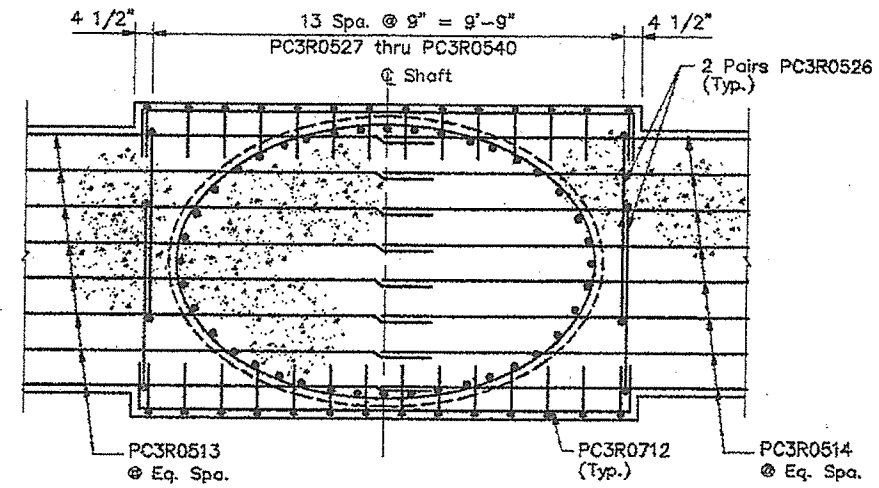
CUMBERLAND COUNTY

CAP REINFORCING
PIER 3R

F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	DPI-0085(002)	11B	33B

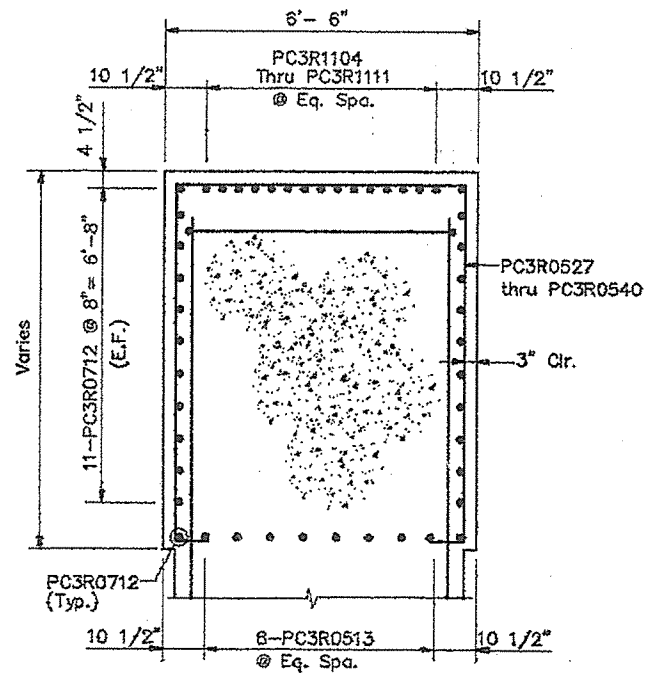


SECTION B-B

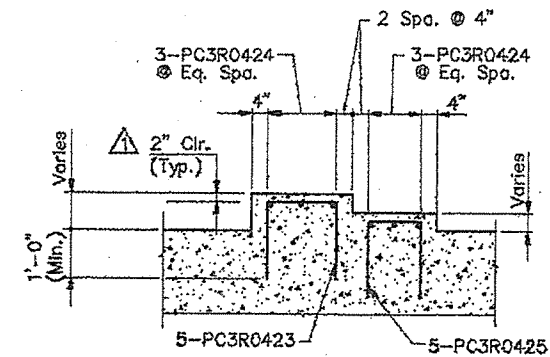


SECTION D-D

Note:
Adjust spacing of PC3R0513 and PC3R0514
as necessary to avoid shaft reinforcing bars.



SECTION C-C

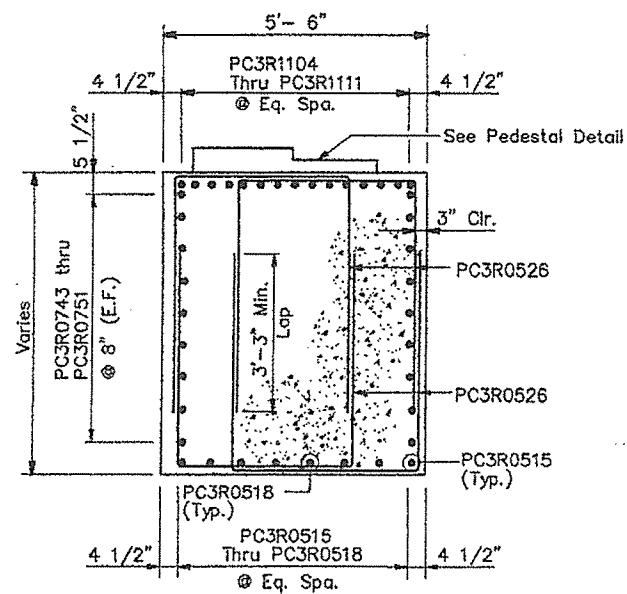


PEDESTAL DETAIL

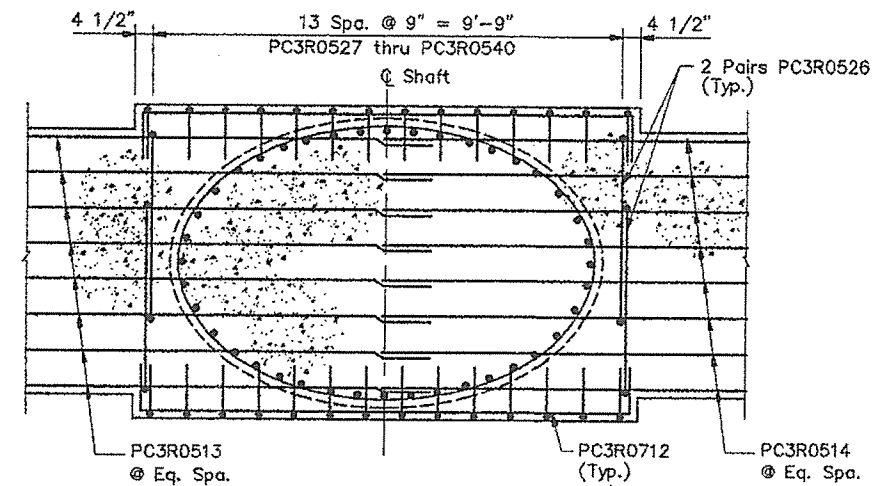
Specify cover for reinforcing steel
in pedestals 10/7/94

STEEL ALTERNATIVE SUBSTRUCTURE

STATE OF MAINE DEPARTMENT OF TRANSPORTATION
PORTLAND - S. PORTLAND BRIDGE OVER FORE RIVER CUMBERLAND COUNTY
CAP REINFORCING PIER 3B

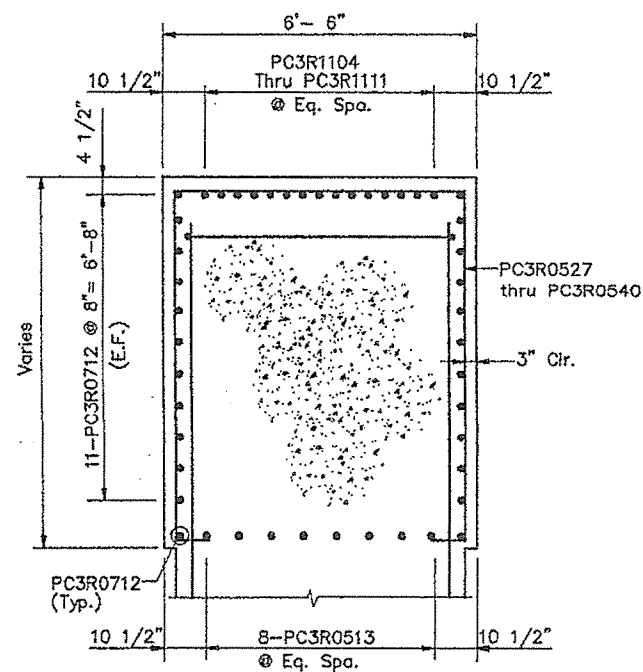


SECTION B-B

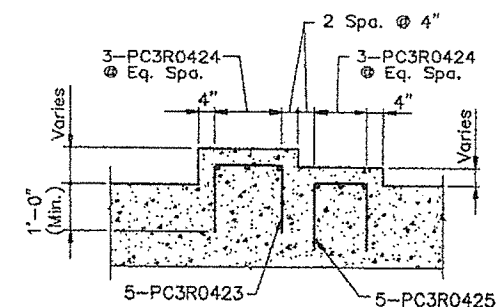


SECTION D-D

Note:
Adjust spacing of PC3R0513 and PC3R0514
as necessary to avoid shaft reinforcing bars.



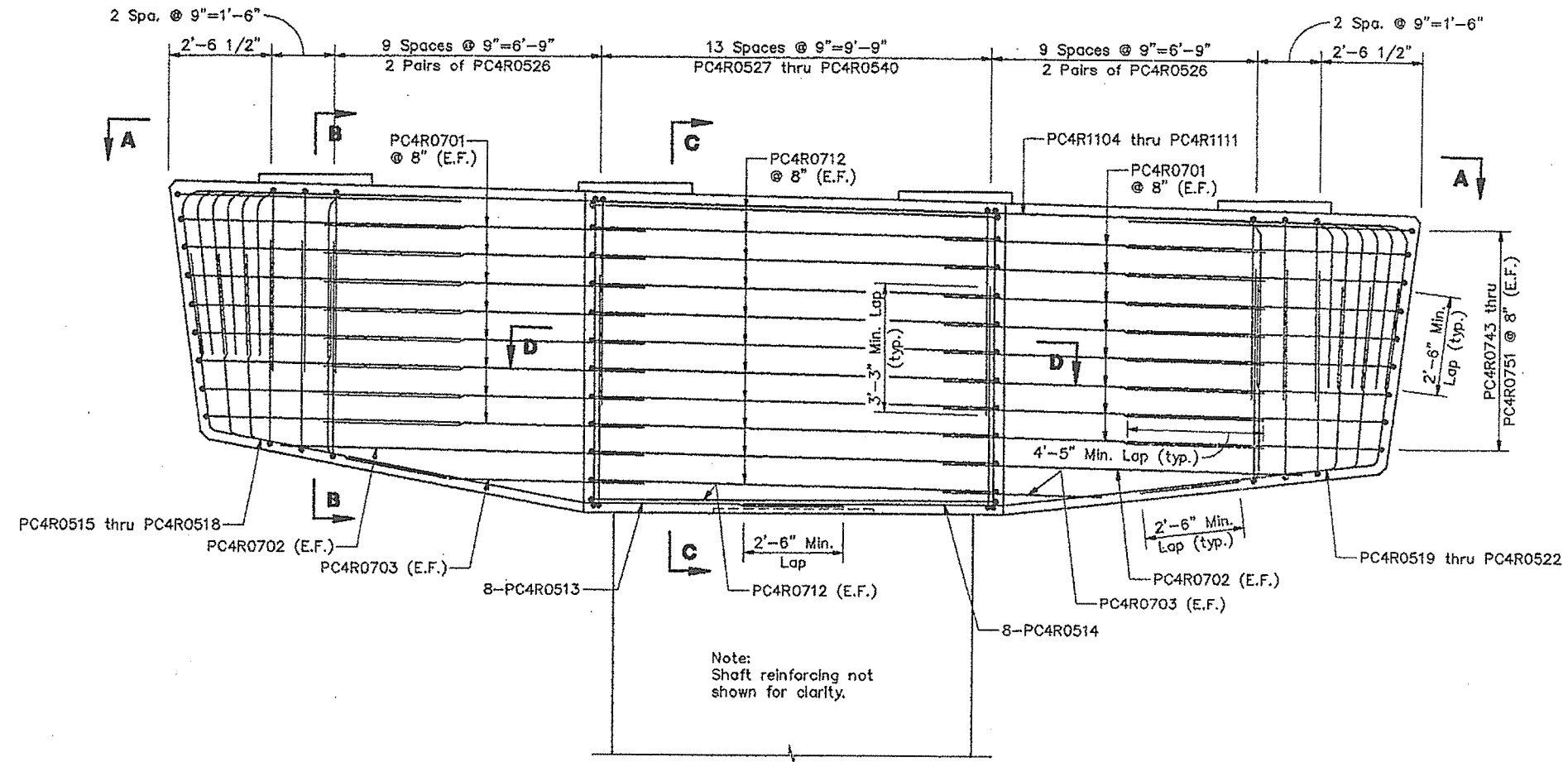
SECTION C-C



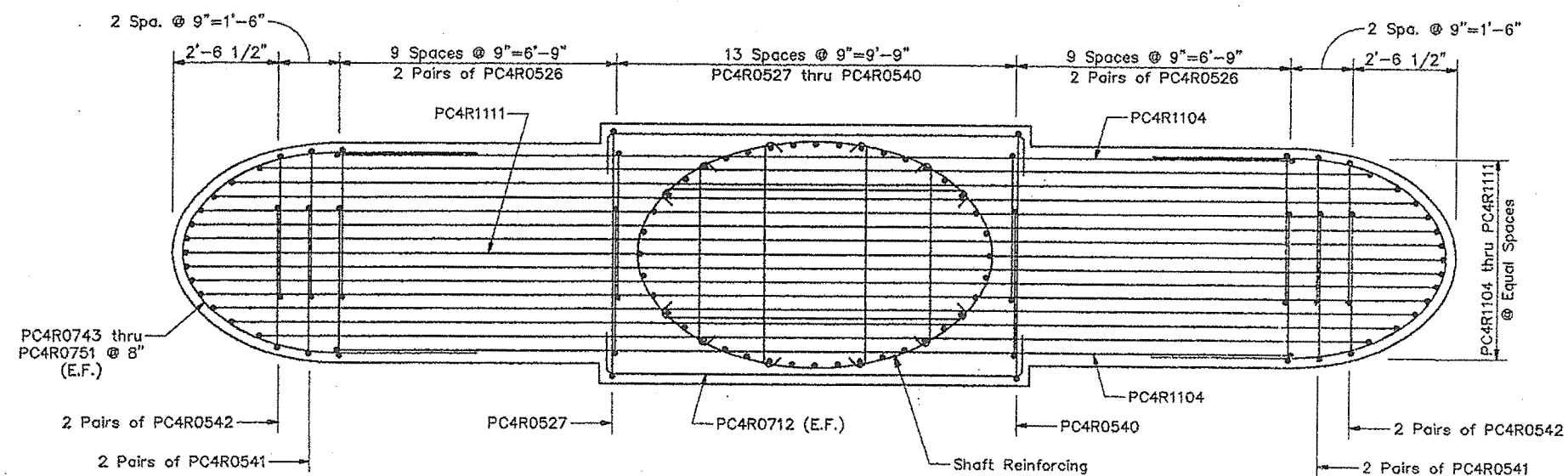
PEDESTAL DETAIL

STEEL ALTERNATIVE SUBSTRUCTURE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
PORTLAND - S. PORTLAND BRIDGE
OVER FORE RIVER
CUMBERLAND COUNTY
CAP REINFORCING
PIER 3R



CAP REINFORCING



VIEW A-A

STEEL ALTERNATIVE SUBSTRUCTURE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

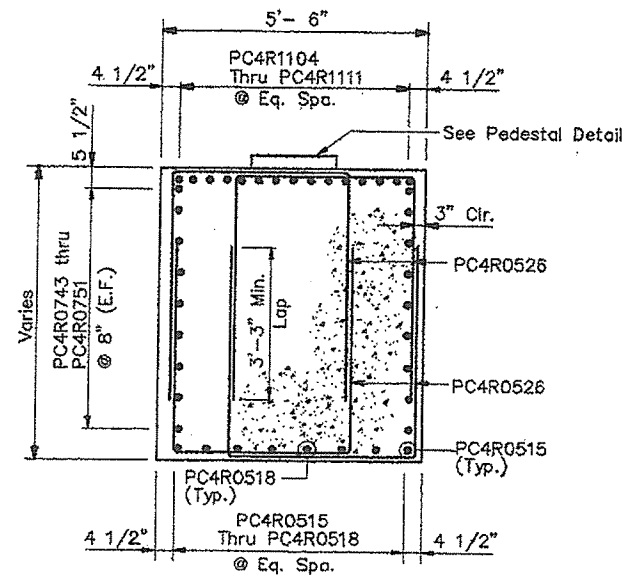
PORTLAND - S. PORTLAND BRIDGE

OVER FORE RIVER

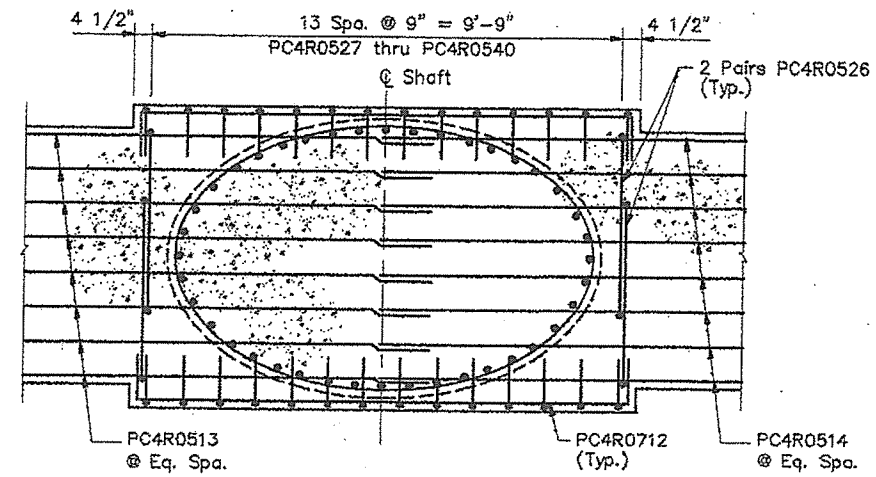
CUMBERLAND COUNTY

**CAP REINFORCING
PIER 4R**

F.H.W.A. REC. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEET
1	MAINE	DPI-0066(302)	120	336

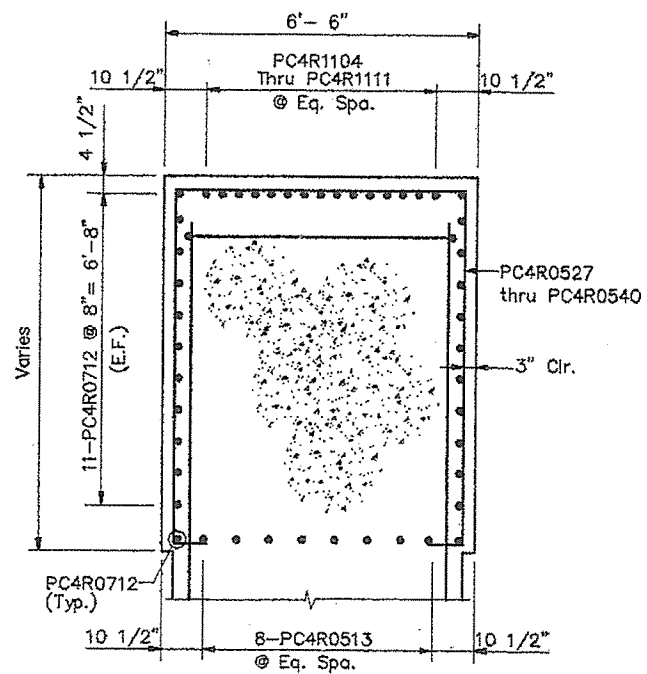


SECTION B-B

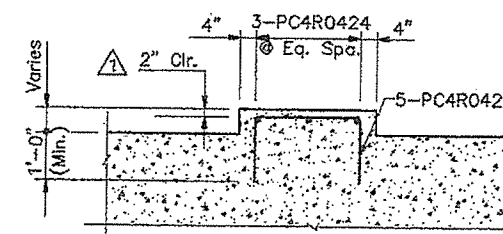


SECTION D-D

Note:
Adjust spacing of PC4R0513 and PC4R0514
as necessary to avoid shaft reinforcing bars.



SECTION C-C

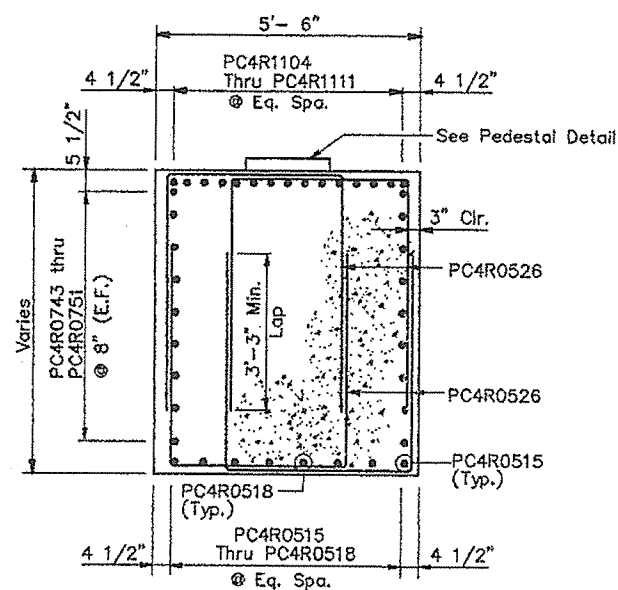


PEDESTAL DETAIL

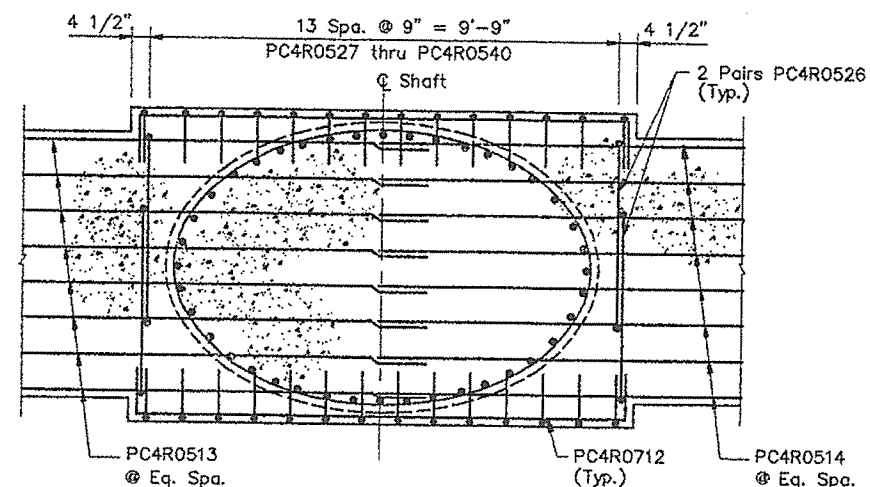
Specify cover for reinforcing steel
in pedestals 10/7/94

STEEL ALTERNATIVE SUBSTRUCTURE

STATE OF MAINE DEPARTMENT OF TRANSPORTATION
PORTLAND - S. PORTLAND BRIDGE OVER FORE RIVER CUMBERLAND COUNTY
CAD REINFORCING

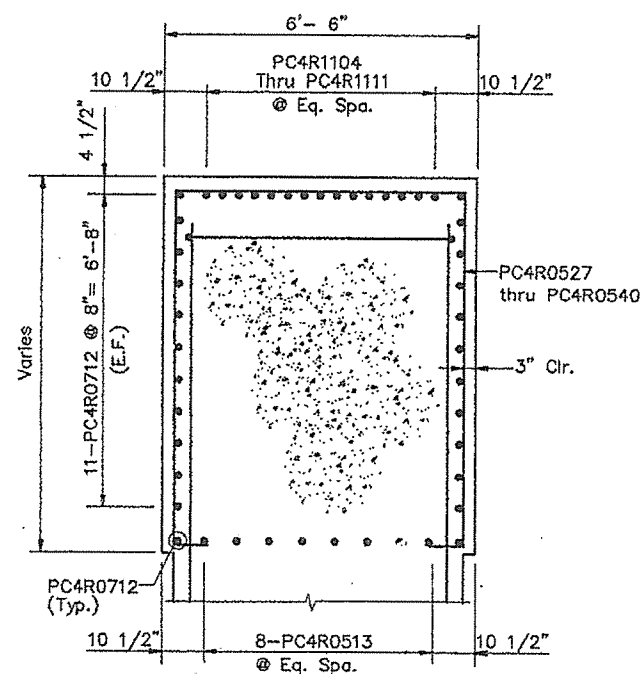


SECTION B-B

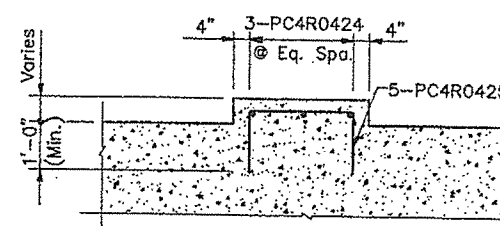


SECTION D-D

Note:
Adjust spacing of PC4R0513 and PC4R0514
as necessary to avoid shaft reinforcing bars.



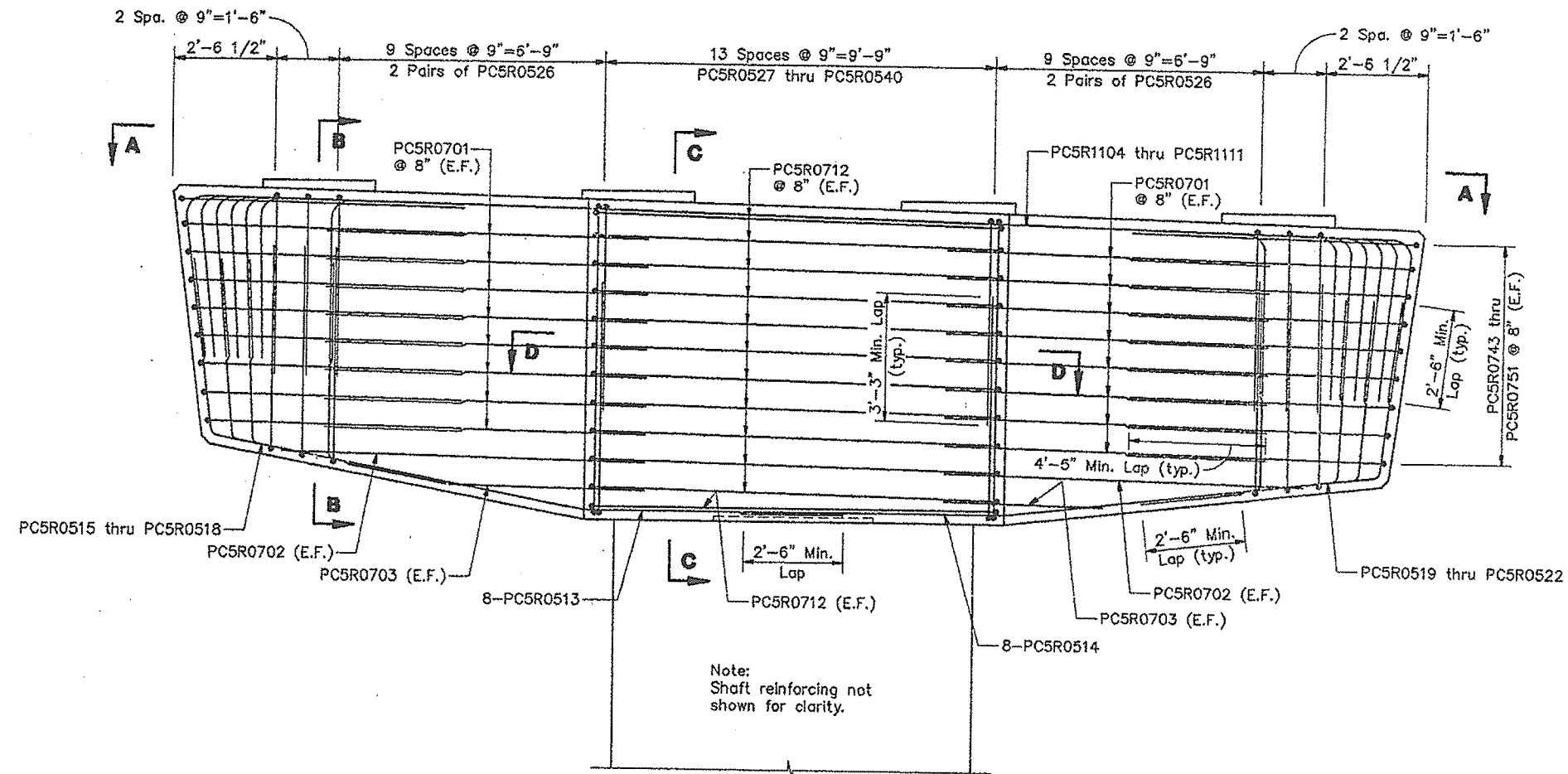
SECTION C-C



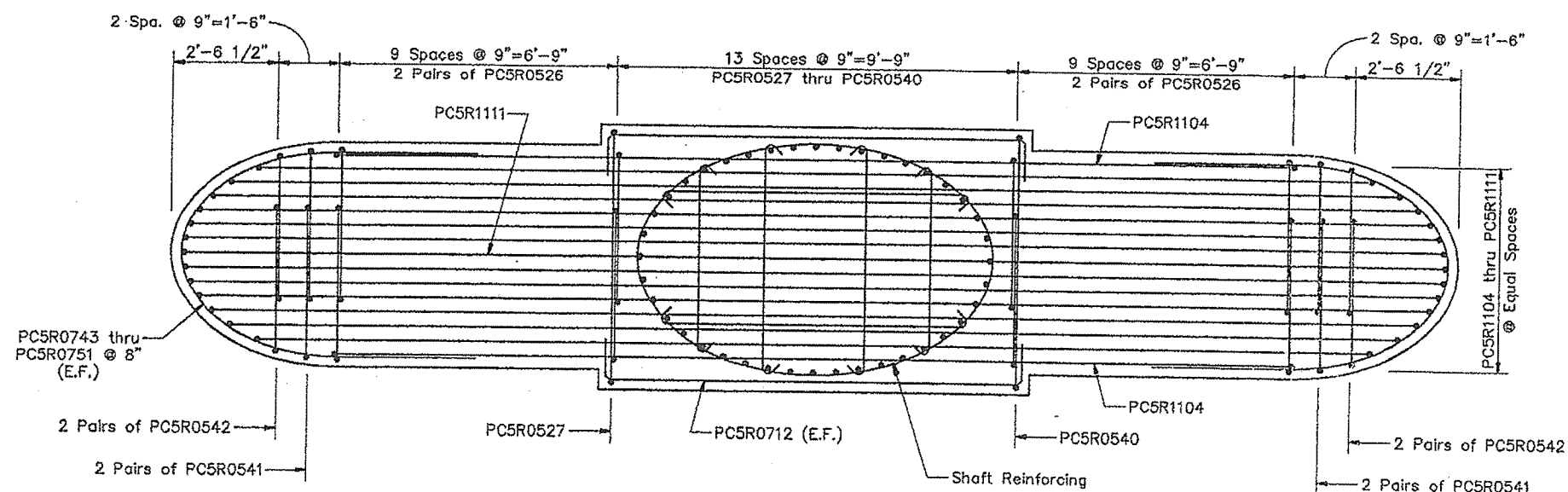
PEDESTAL DETAIL

STEEL ALTERNATIVE SUBSTRUCTURE

STATE OF MAINE DEPARTMENT OF TRANSPORTATION
PORTLAND - S. PORTLAND BRIDGE OVER FORE RIVER CUMBERLAND COUNTY
CAP REINFORCING PIER 4R



CAP REINFORCING



VIEW A-A

STEEL ALTERNATIVE SUBSTRUCTURE

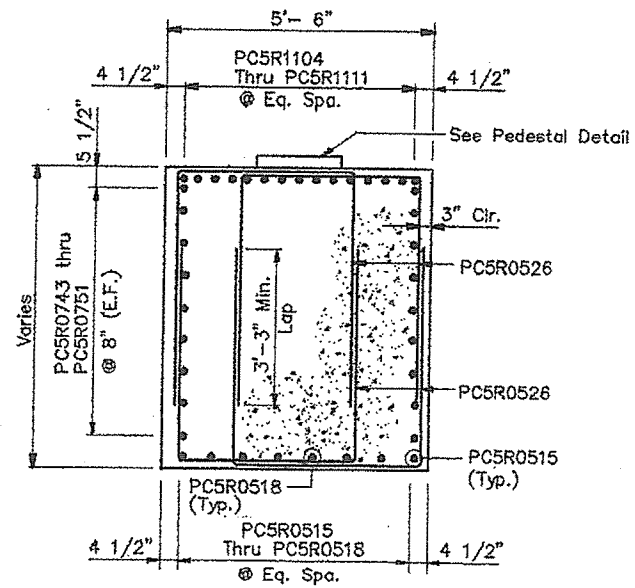
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PORTLAND - S. PORTLAND BRIDGE

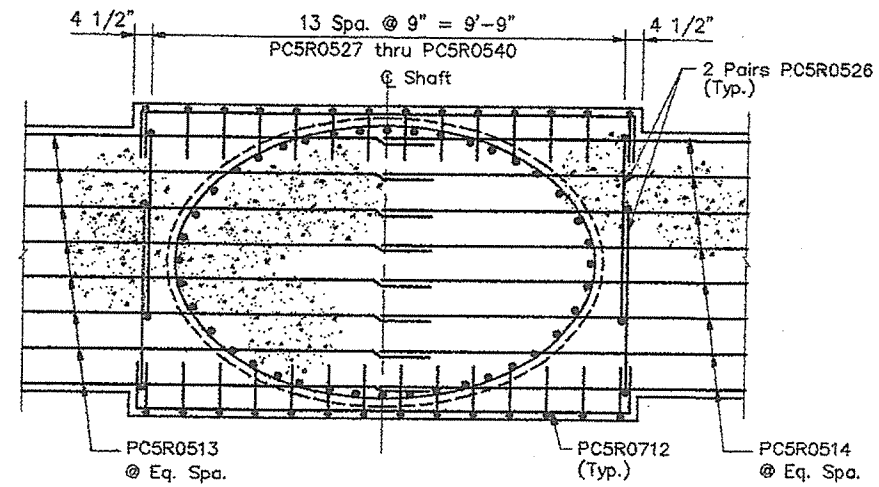
OVER FORE RIVER

CUMBERLAND COUNTY

CAP REINFORCING
PIER 5R

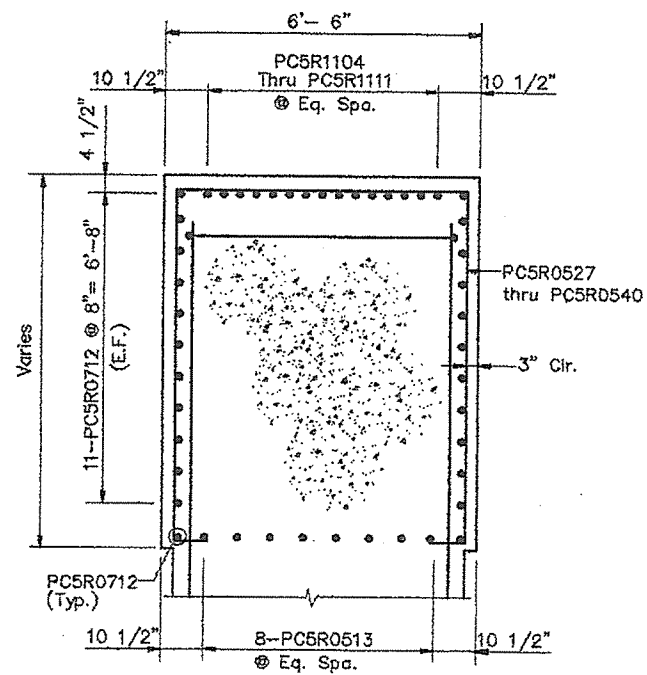


SECTION B-B

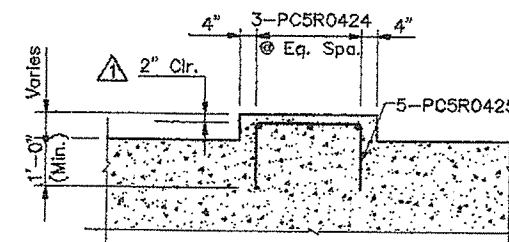


SECTION D-D

Note:
Adjust spacing of PC5R0513 and PC5R0514
as necessary to avoid shaft reinforcing bars.



SECTION C-C

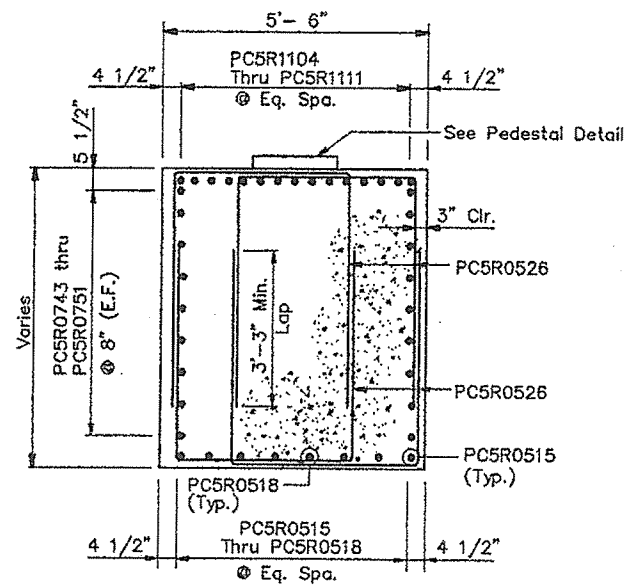


PEDESTAL DETAIL

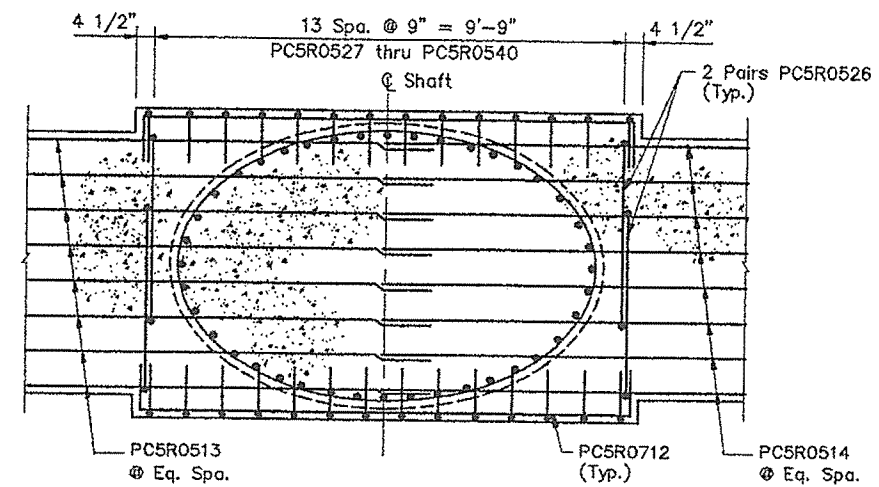
Specify cover for reinforcing steel
in pedestals 10/7/94

STEEL ALTERNATIVE SUBSTRUCTURE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
PORTLAND - S. PORTLAND BRIDGE
OVER FORE RIVER
CUMBERLAND COUNTY
CAP REINFORCING
PIER 5R

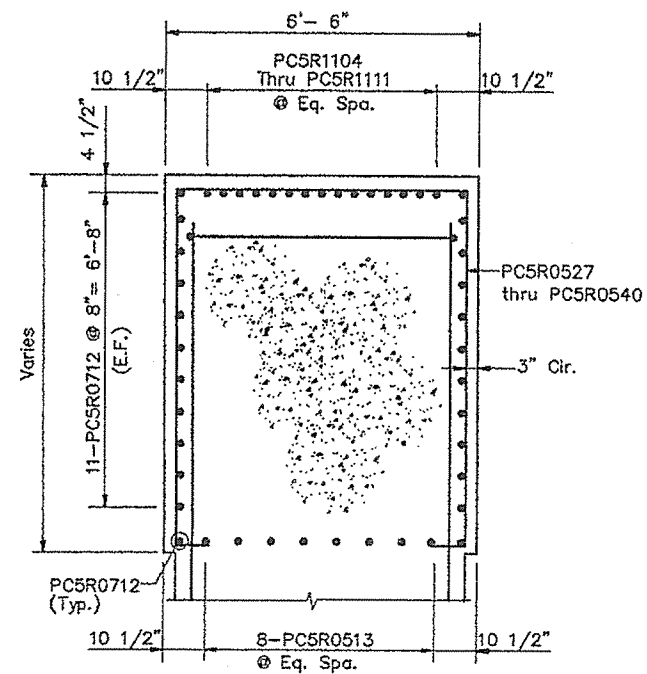


SECTION B-B

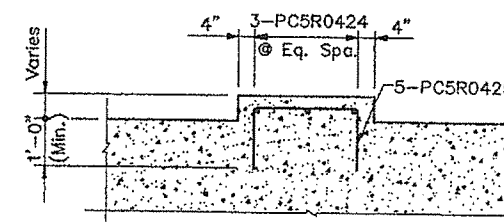


SECTION D-D

Note:
Adjust spacing of PC5R0513 and PC5R0514
as necessary to avoid shaft reinforcing bars.



SECTION C-C



PEDESTAL DETAIL

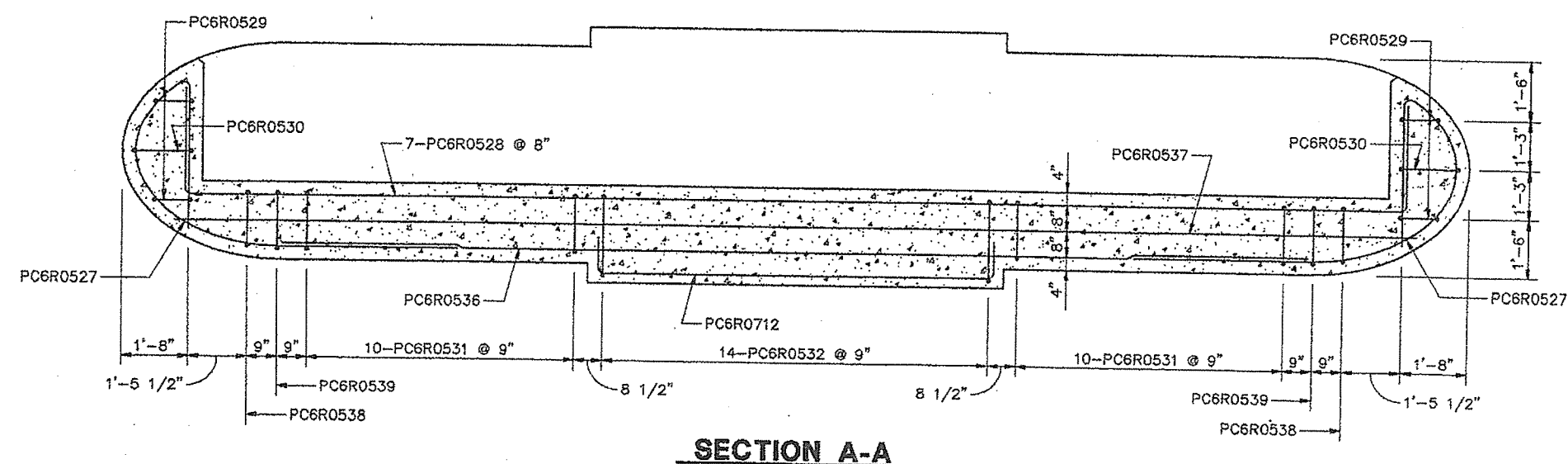
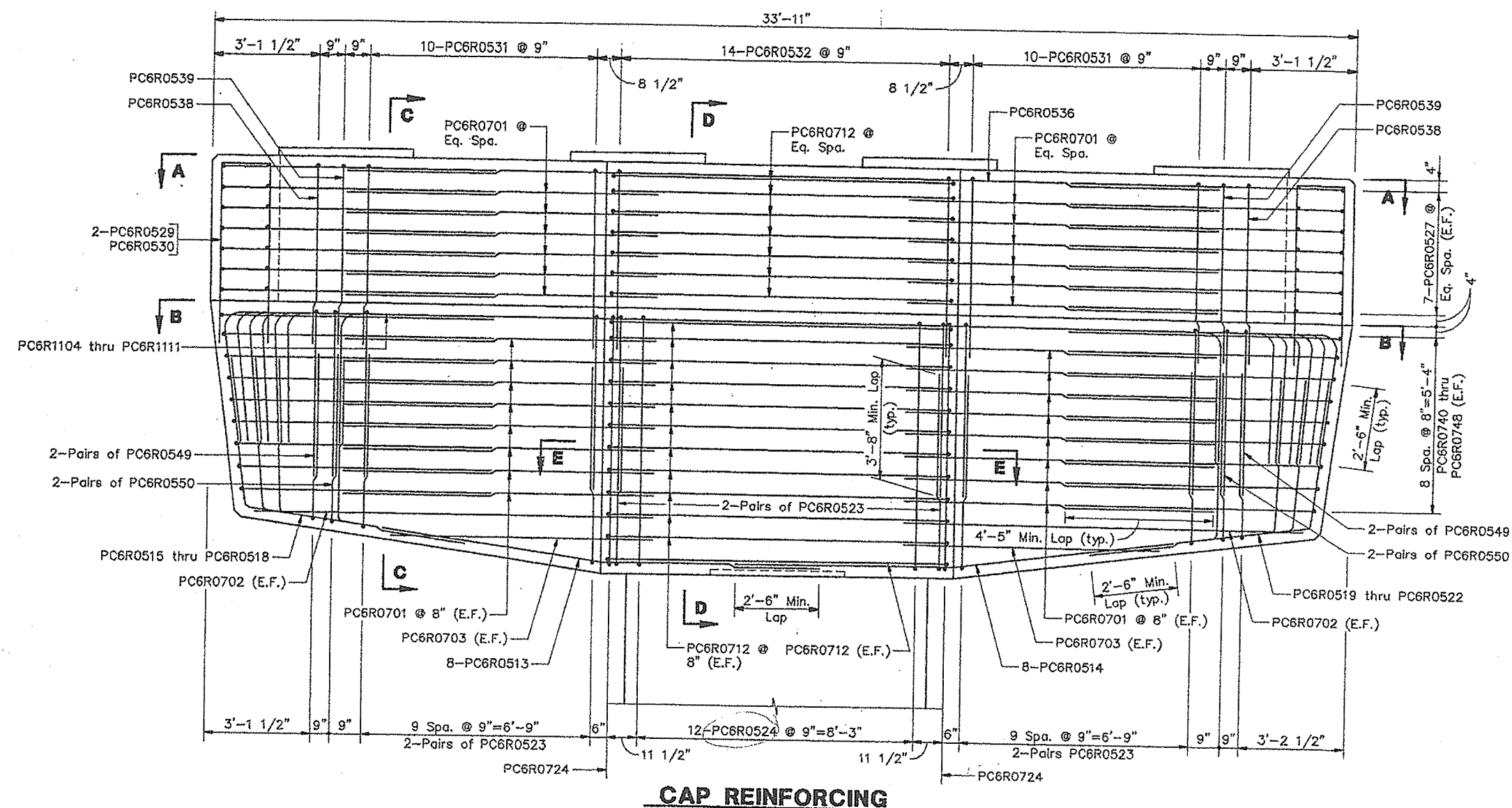
STEEL ALTERNATIVE SUBSTRUCTURE

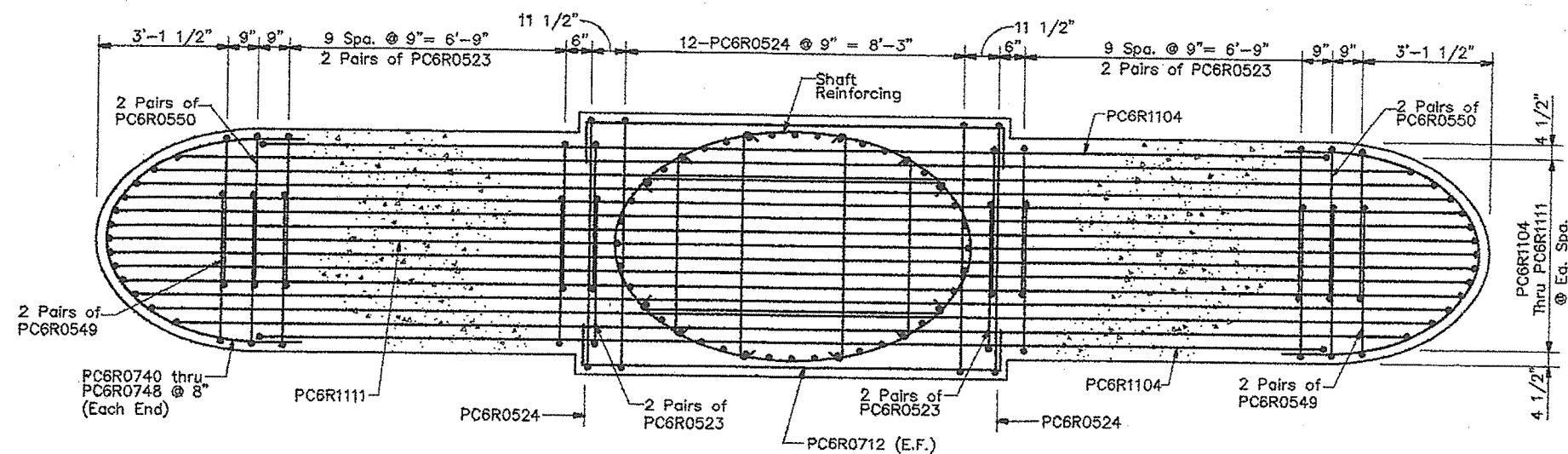
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PORTLAND - S. PORTLAND BRIDGE
OVER FORE RIVER
CUMBERLAND COUNTY

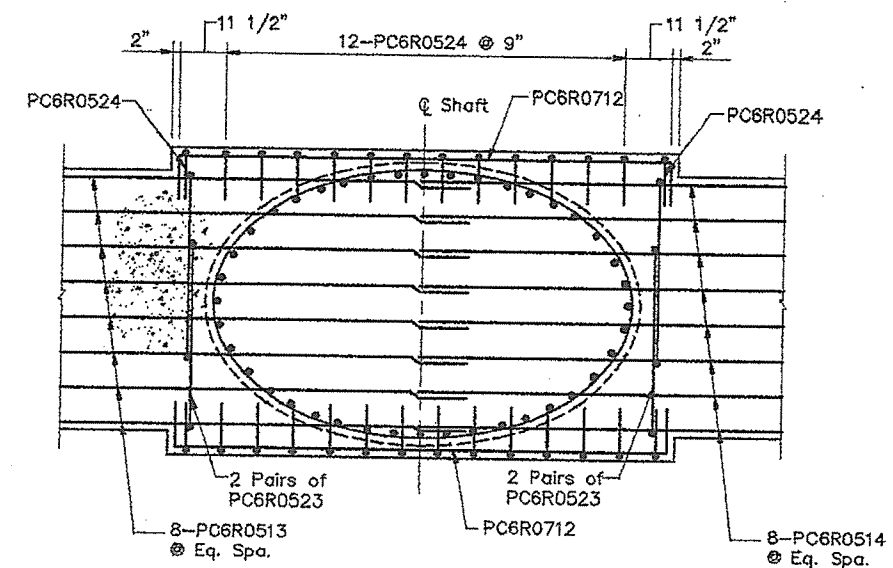
CAP REINFORCING
PIER 5R

F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	DP1-0088(002)	123	338

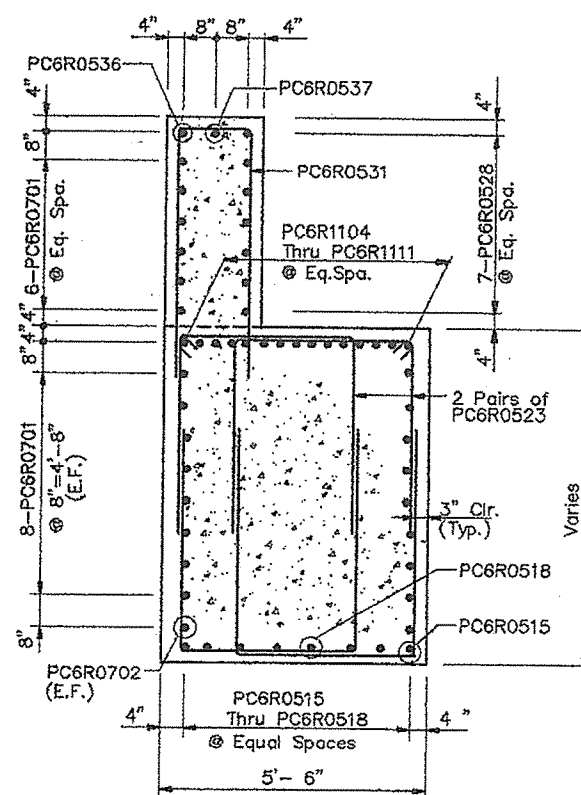




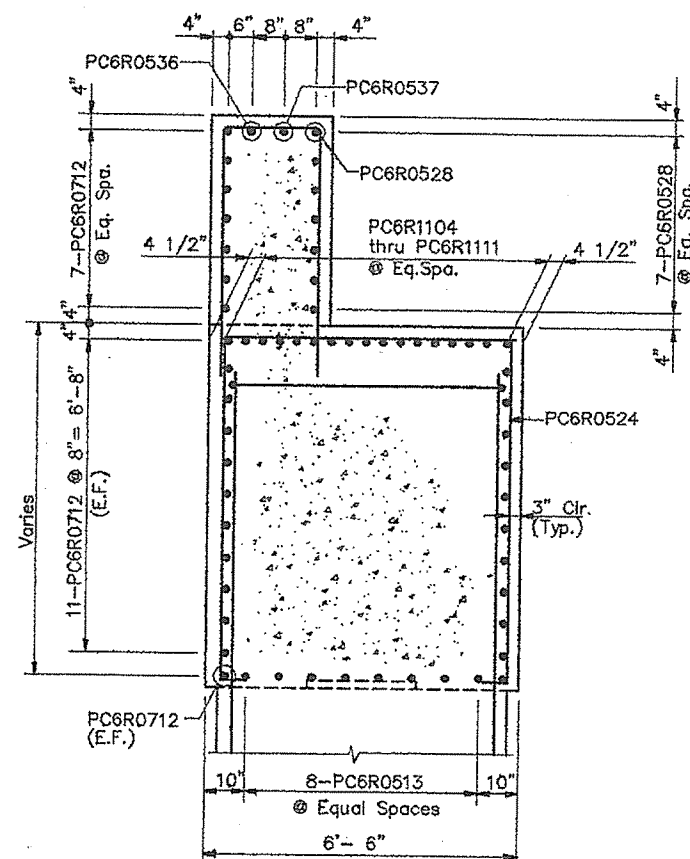
SECTION B-B



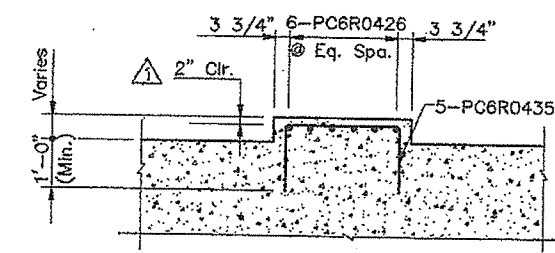
SECTION E-E



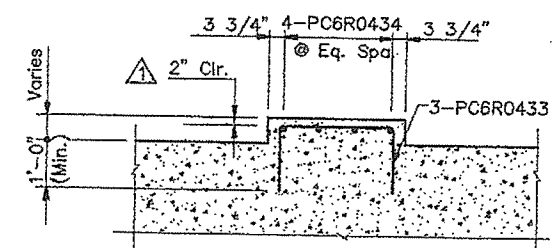
SECTION C-C



SECTION D-D



AHEAD SPAN PEDESTAL DETAIL



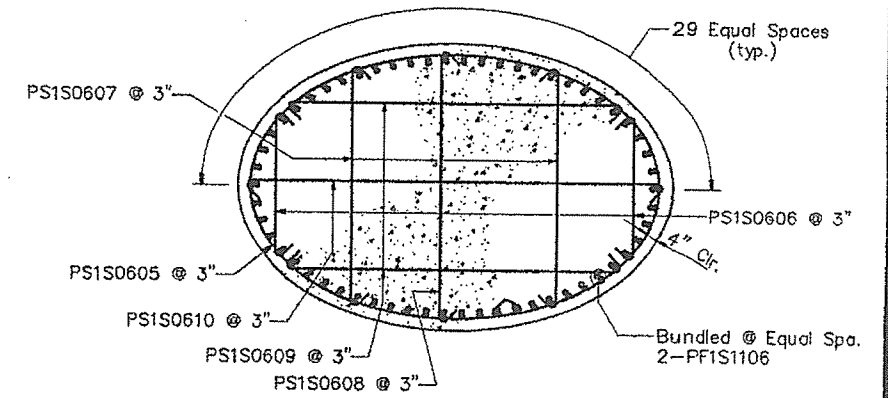
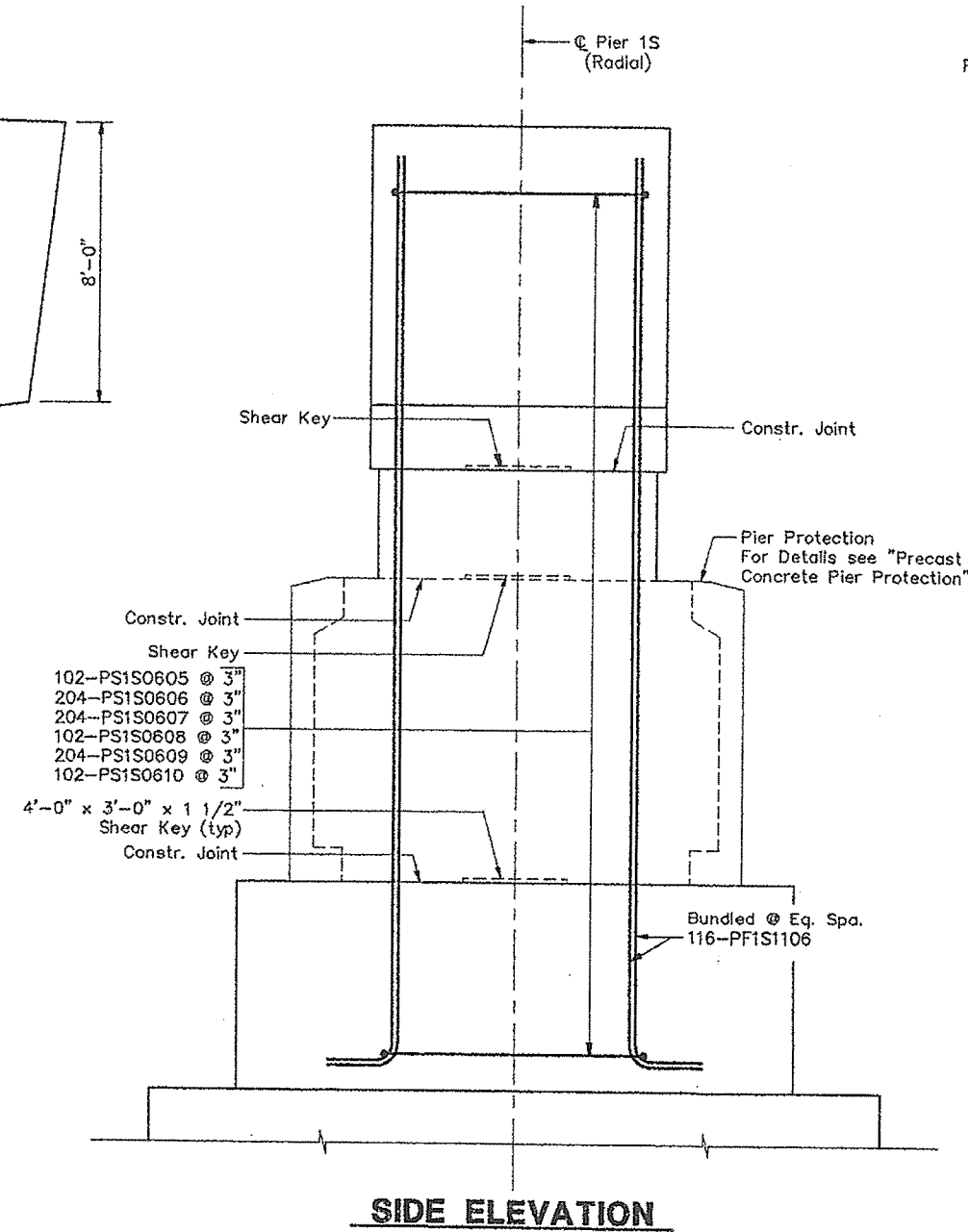
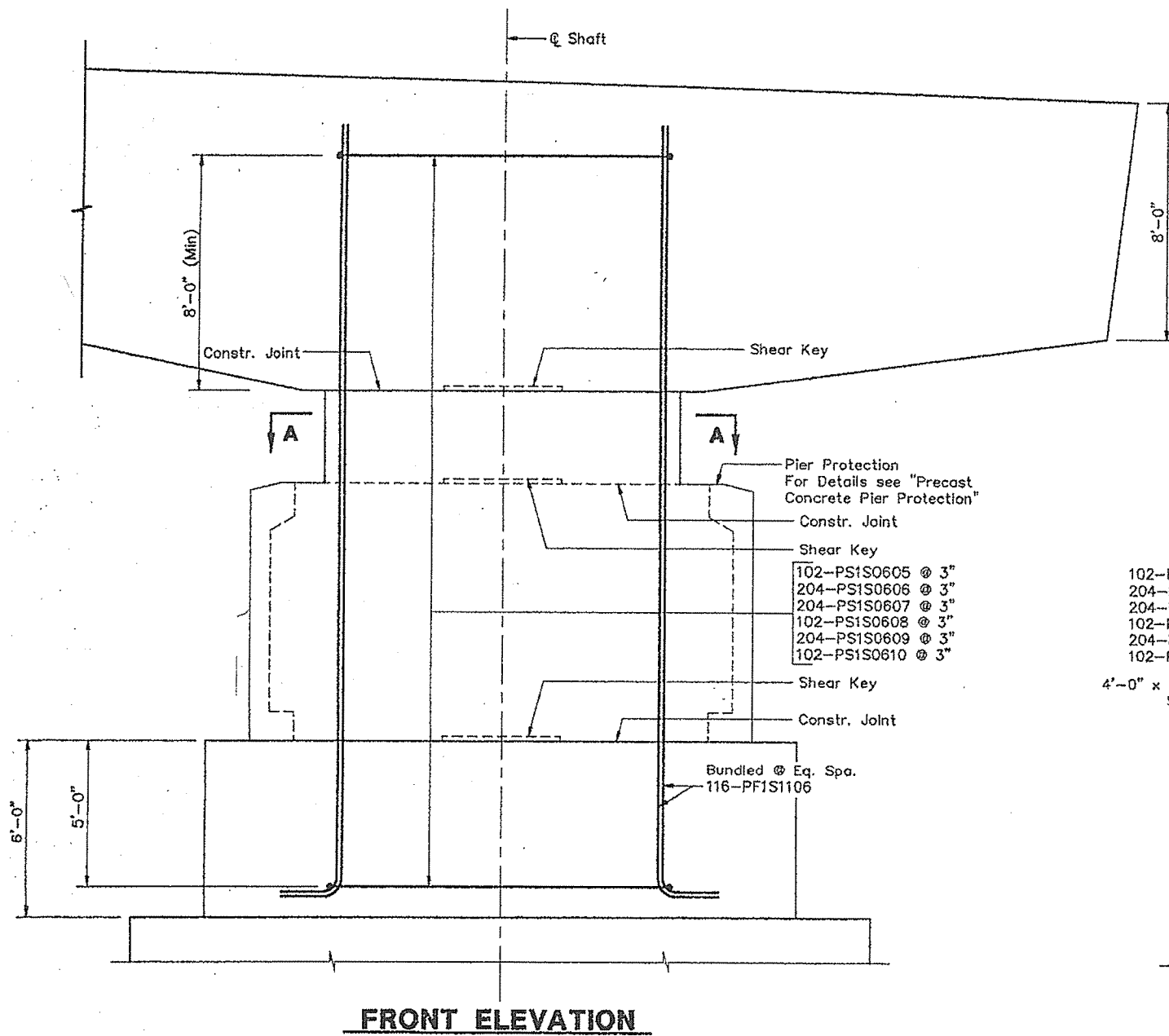
BACK SPAN PEDESTAL DETAIL

Specify cover for reinforcing steel in pedestals 10/7/94

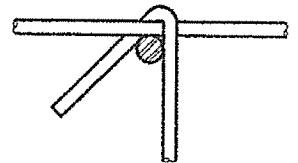
STEEL ALTERNATIVE SUBSTRUCTURE

Note:
Adjust spacing of PC6R0513 and PC6R0514 as necessary to avoid shaft reinforcing bars.

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
PORTLAND - S. PORTLAND BRIDGE
OVER FORE RIVER
CUMBERLAND COUNTY
CAP REINFORCING



SECTION A A



TIE CONNECTION DETAIL

Note:
Cap, footing and pier protection reinforcing
not shown in elevation for clarity.

STEEL ALTERNATIVE SUBSTRUCTURE

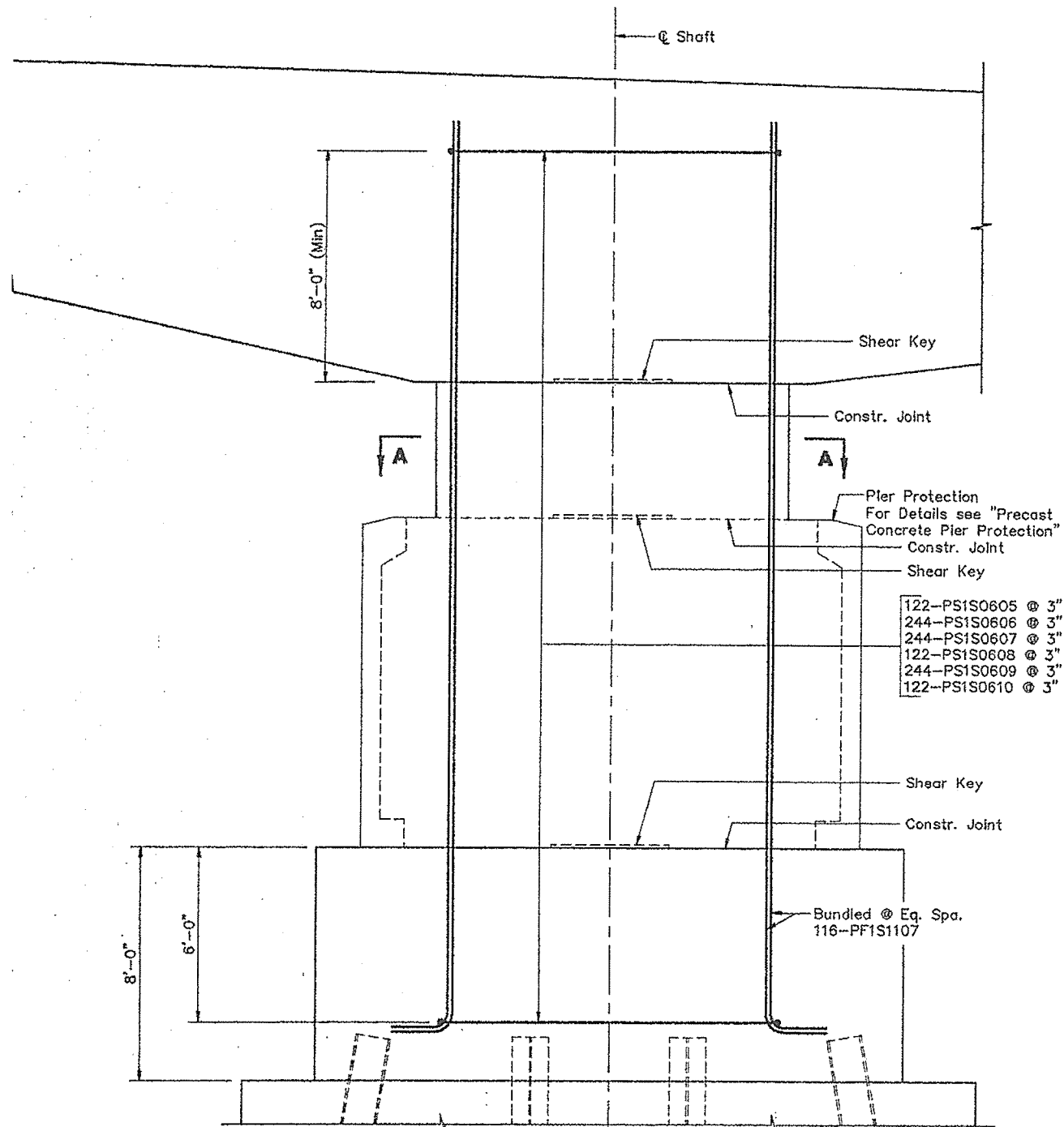
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PORTLAND - S. PORTLAND BRIDGE

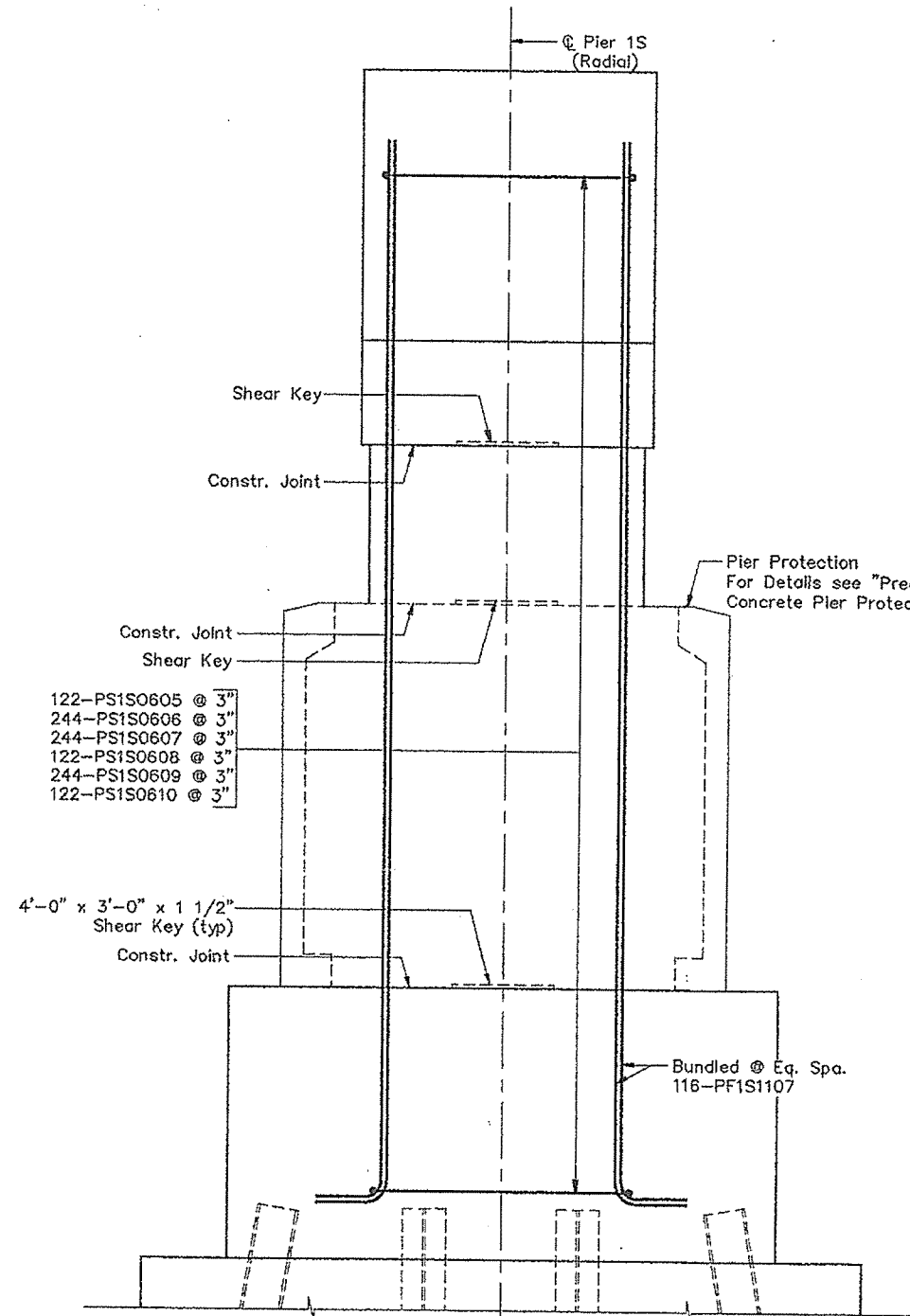
OVER FORE RIVER

CUMBERLAND COUNTY

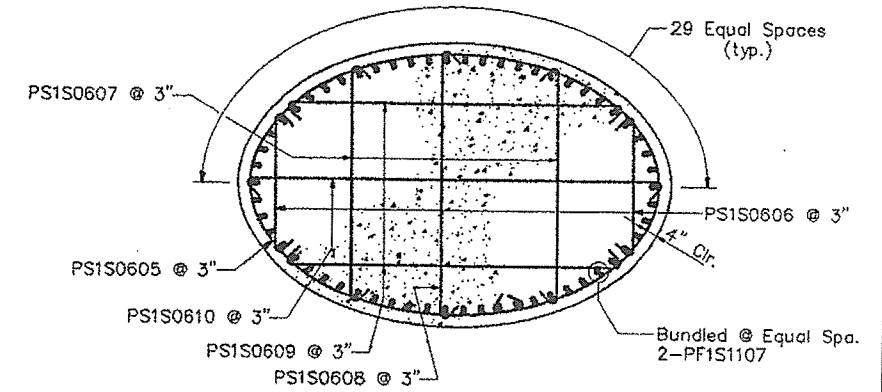
SHAFT REINFORCING
PIER 1S (N.B.L.)



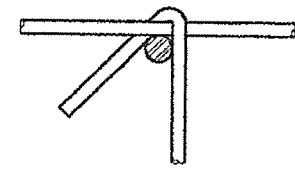
FRONT ELEVATION



SIDE ELEVATION



SECTION A-A



TIE CONNECTION DETAIL

Note:
Cap, footing and pier protection reinforcing
not shown in elevation for clarity.

STEEL ALTERNATIVE SUBSTRUCTURE

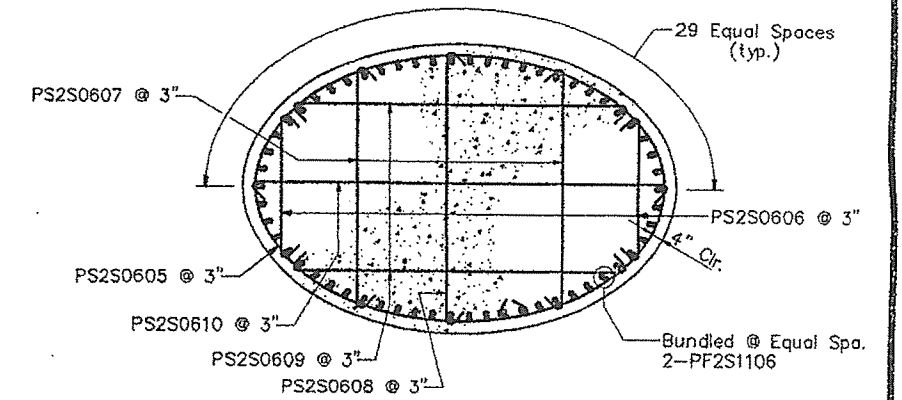
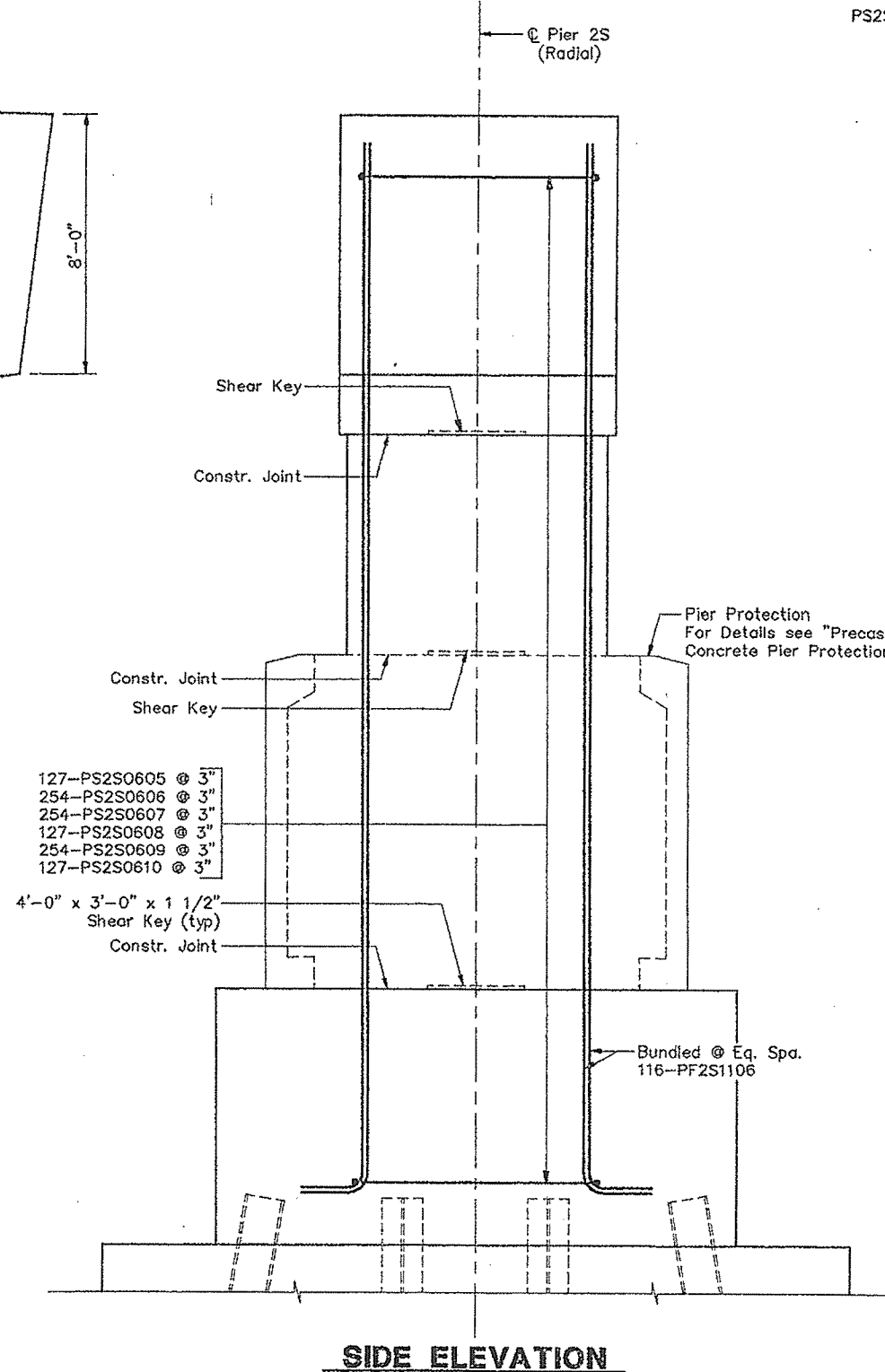
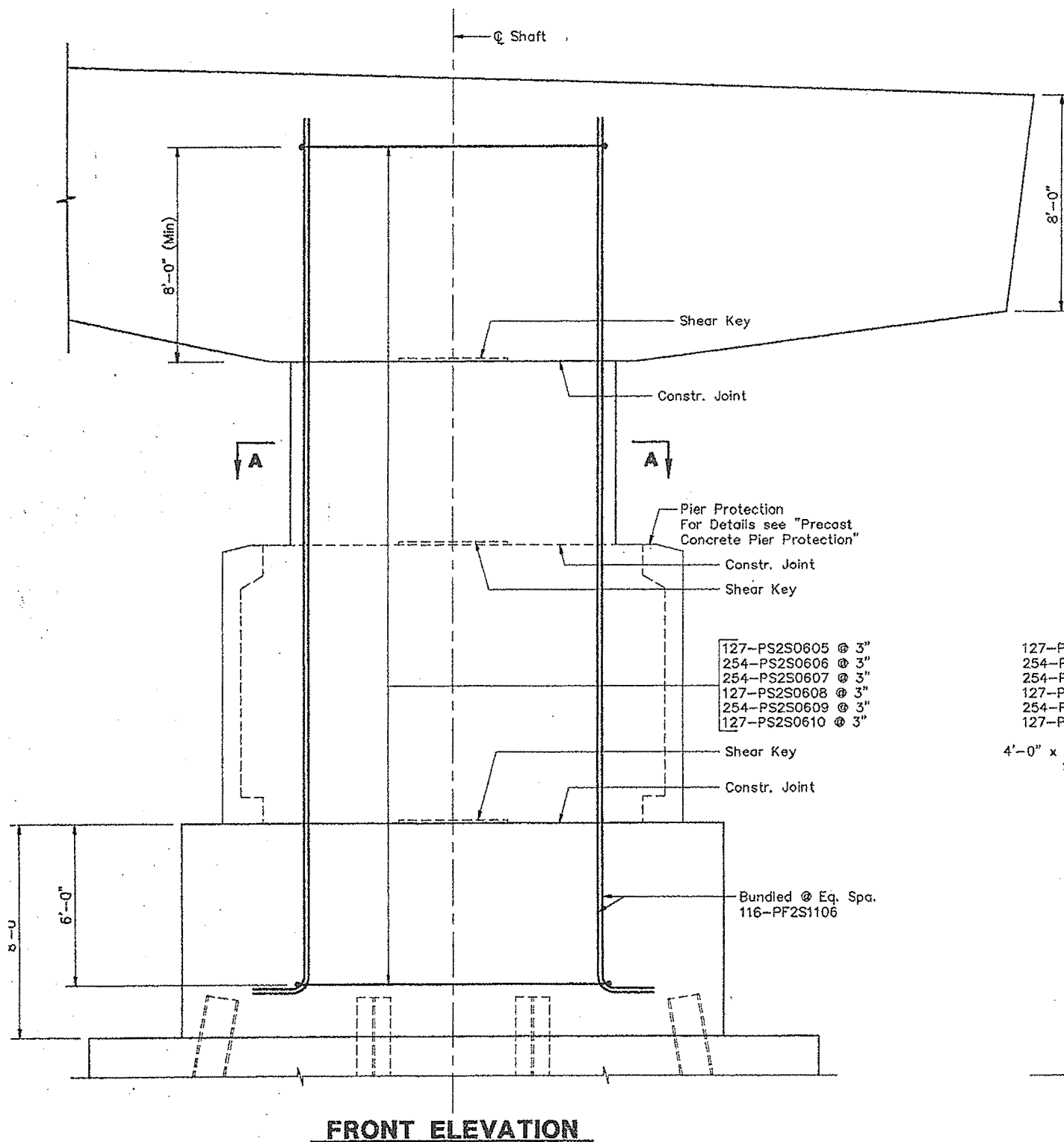
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PORTLAND - S. PORTLAND BRIDGE

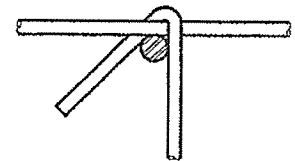
OVER FORE RIVER

CUMBERLAND COUNTY

SHAFT REINFORCING
PIER 1S (S.B.L.)



SECTION A-A



TIE CONNECTION DETAIL

Note:
Cap, footing and pier protection reinforcing
not shown in elevation for clarity.

STEEL ALTERNATIVE SUBSTRUCTURE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

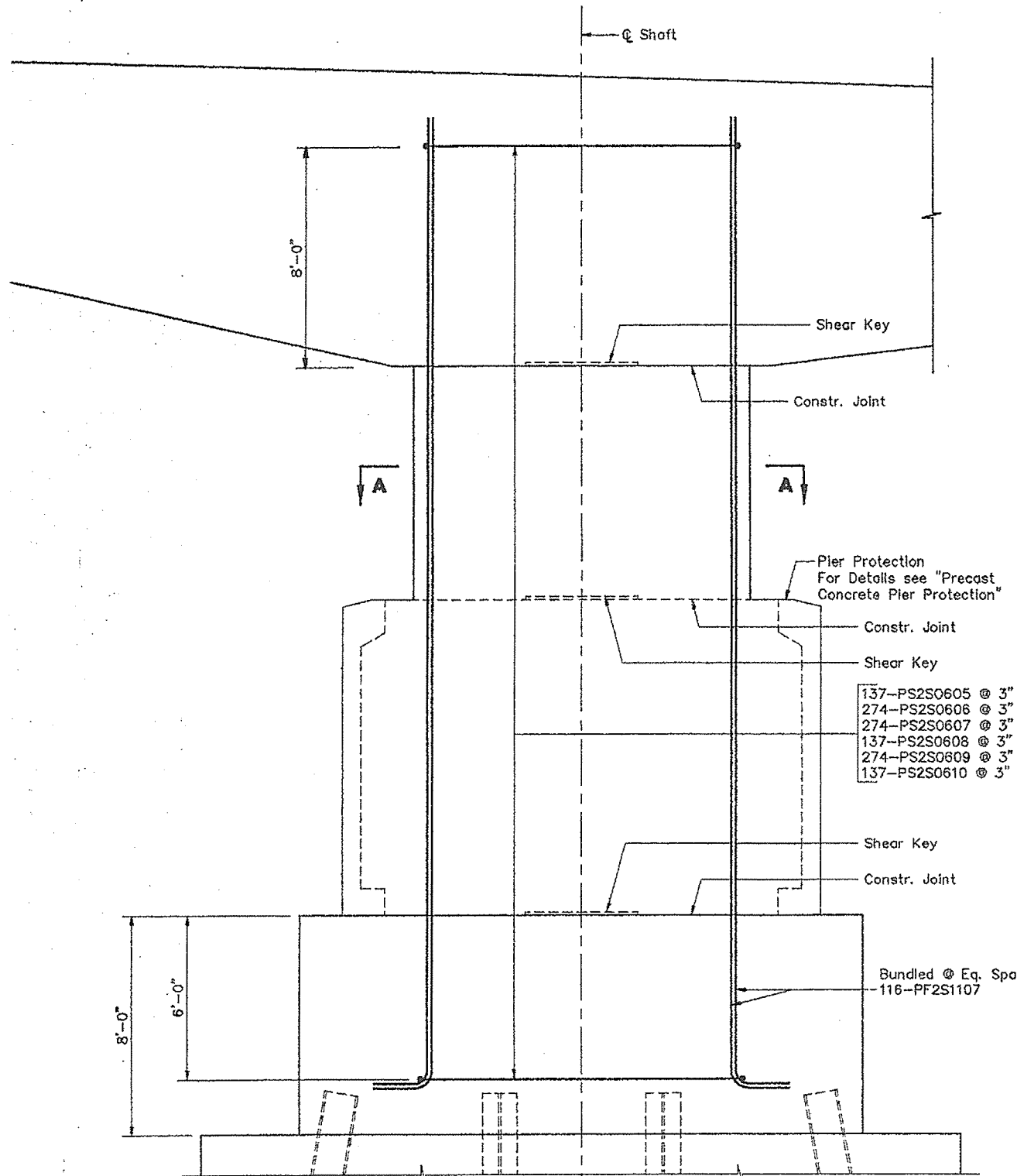
PORTLAND - S. PORTLAND BRIDGE

OVER FORE RIVER

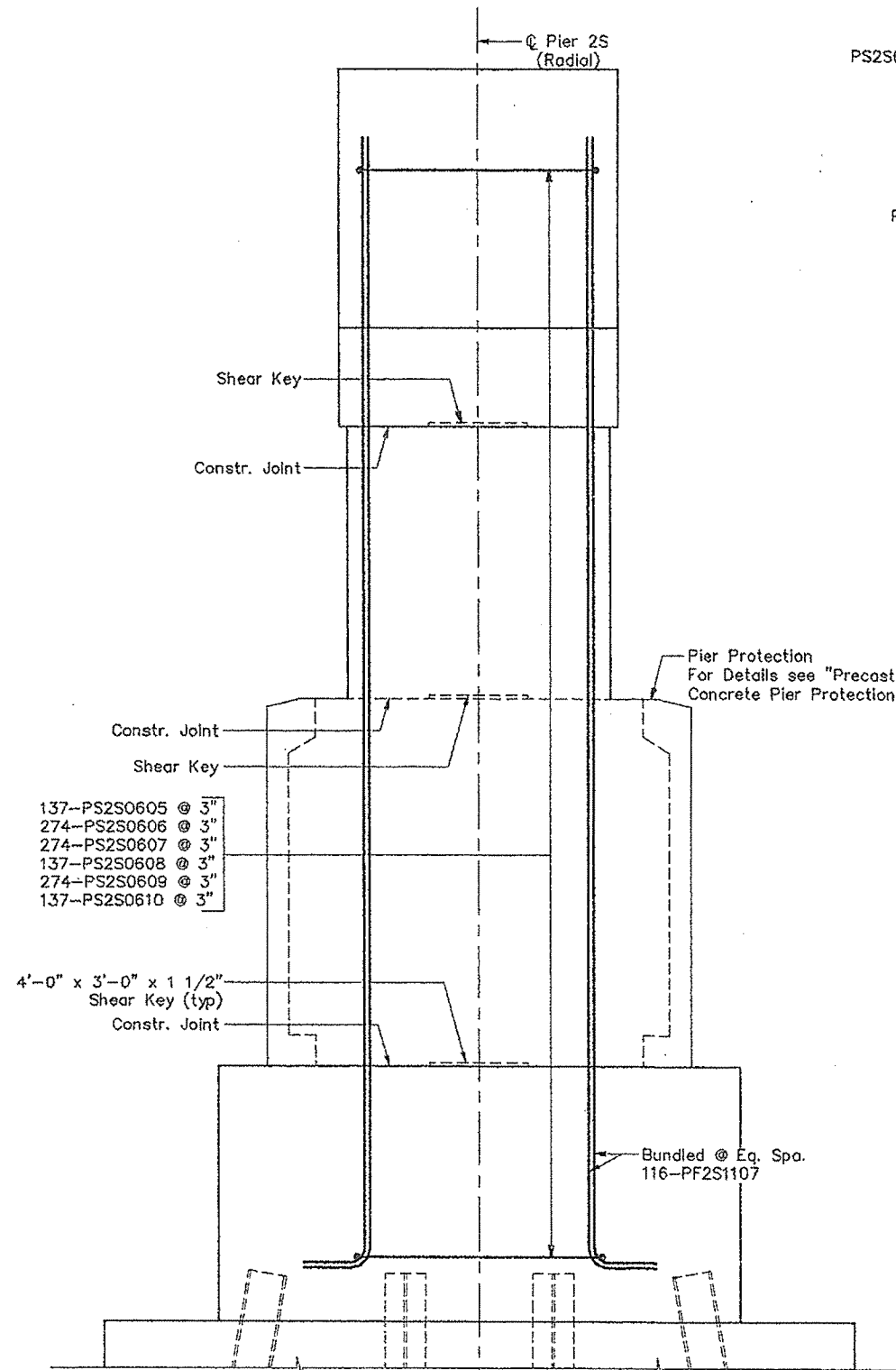
CUMBERLAND COUNTY

**SHAFT REINFORCING
PIER 2S (N.B.L.)**

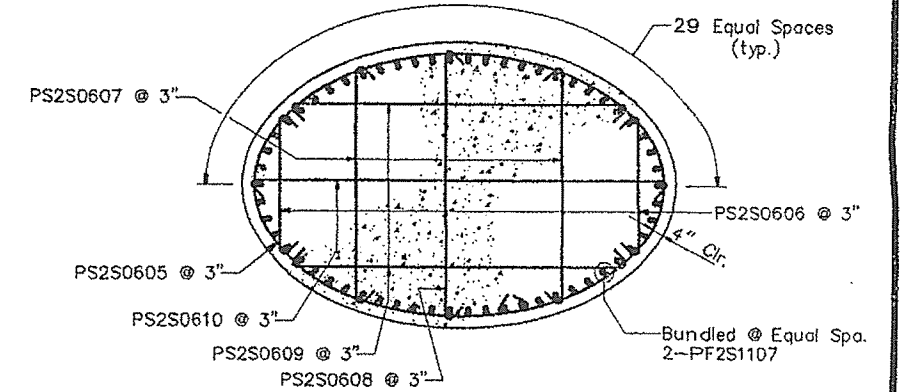
SHEET 127 OF 338 AUGUSTA, MAINE 4/13/94



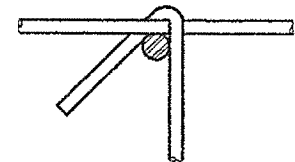
FRONT ELEVATION



SIDE ELEVATION



SECTION A-A



TIE CONNECTION DETAIL

Note:
Cap, footing and pier protection reinforcing
not shown in elevation for clarity.

STEEL ALTERNATIVE SUBSTRUCTURE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

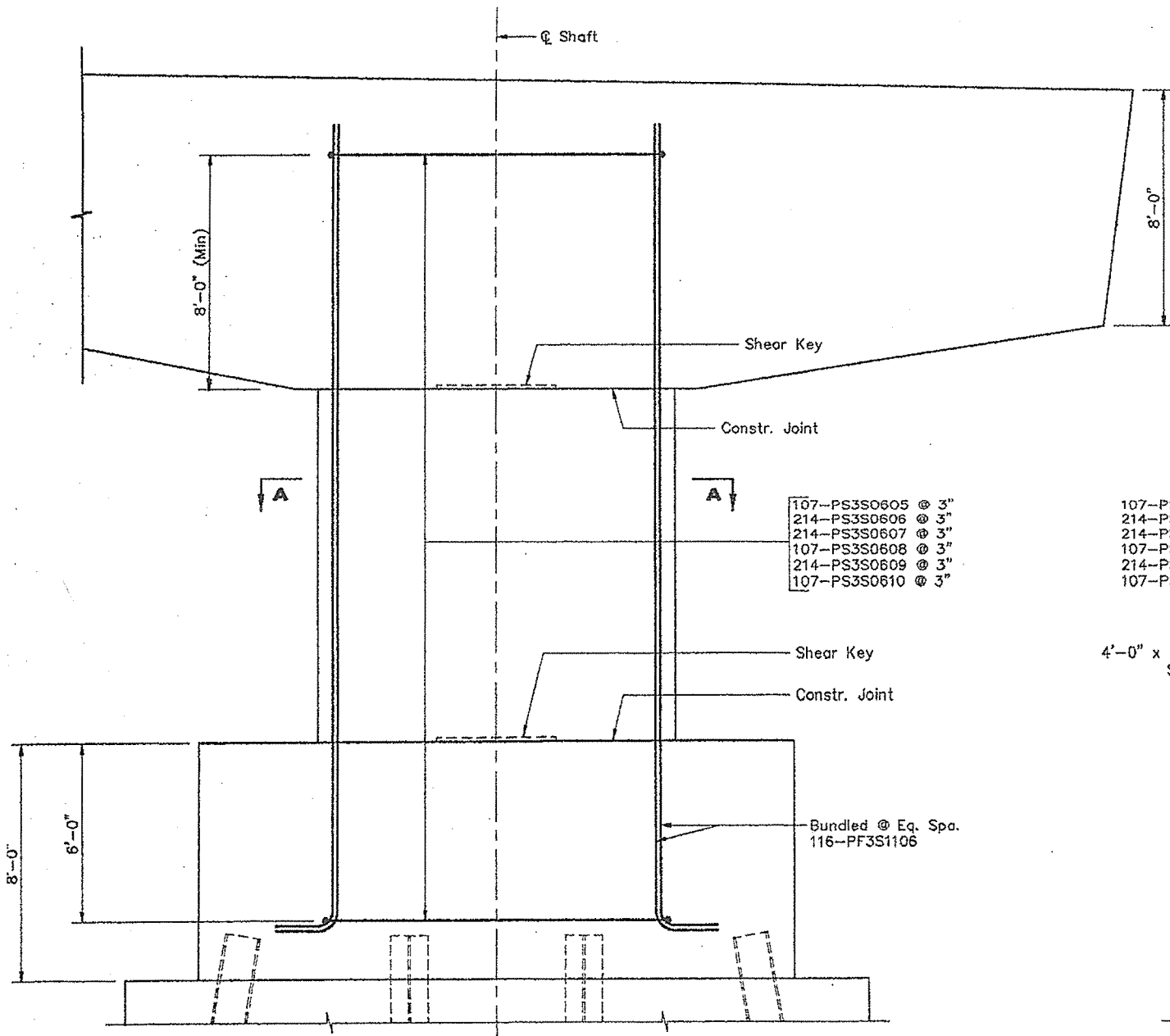
PORTLAND - S. PORTLAND BRIDGE

OVER FORE RIVER

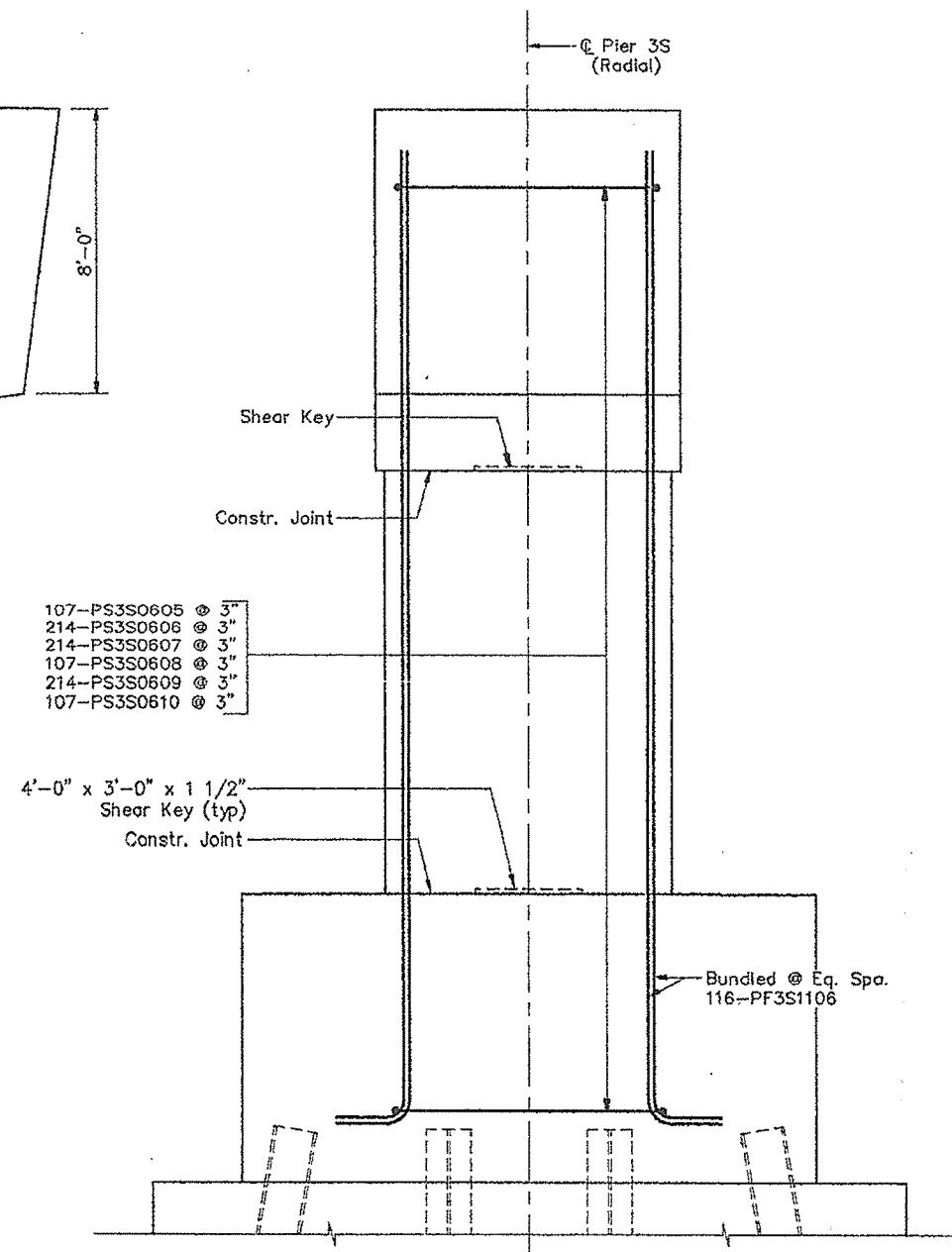
CUMBERLAND COUNTY

**SHAFT REINFORCING
PIER 2S (S.B.L.)**

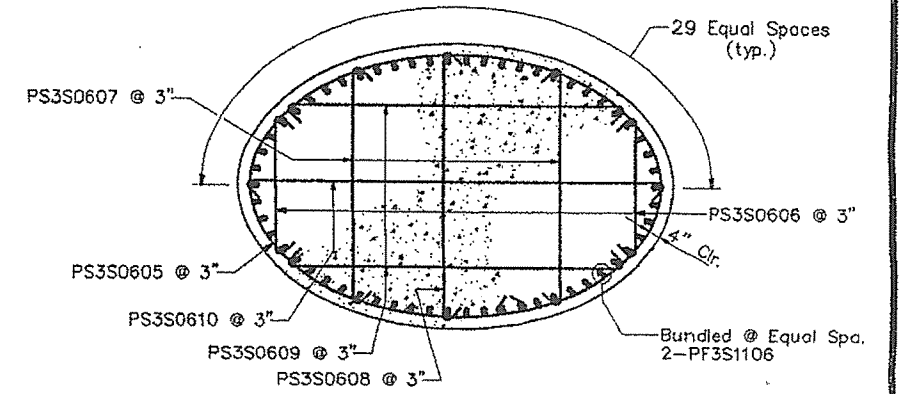
SHEET 128 OF 338 AUGUSTA, MAINE 4/13/94



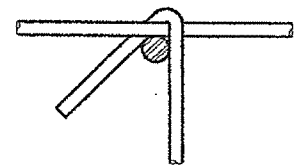
FRONT ELEVATION



SIDE ELEVATION



SECTION A-A



TIE CONNECTION DETAIL

Note:
Cap, footing and pier protection reinforcing
not shown in elevation for clarity.

STEEL ALTERNATIVE SUBSTRUCTURE

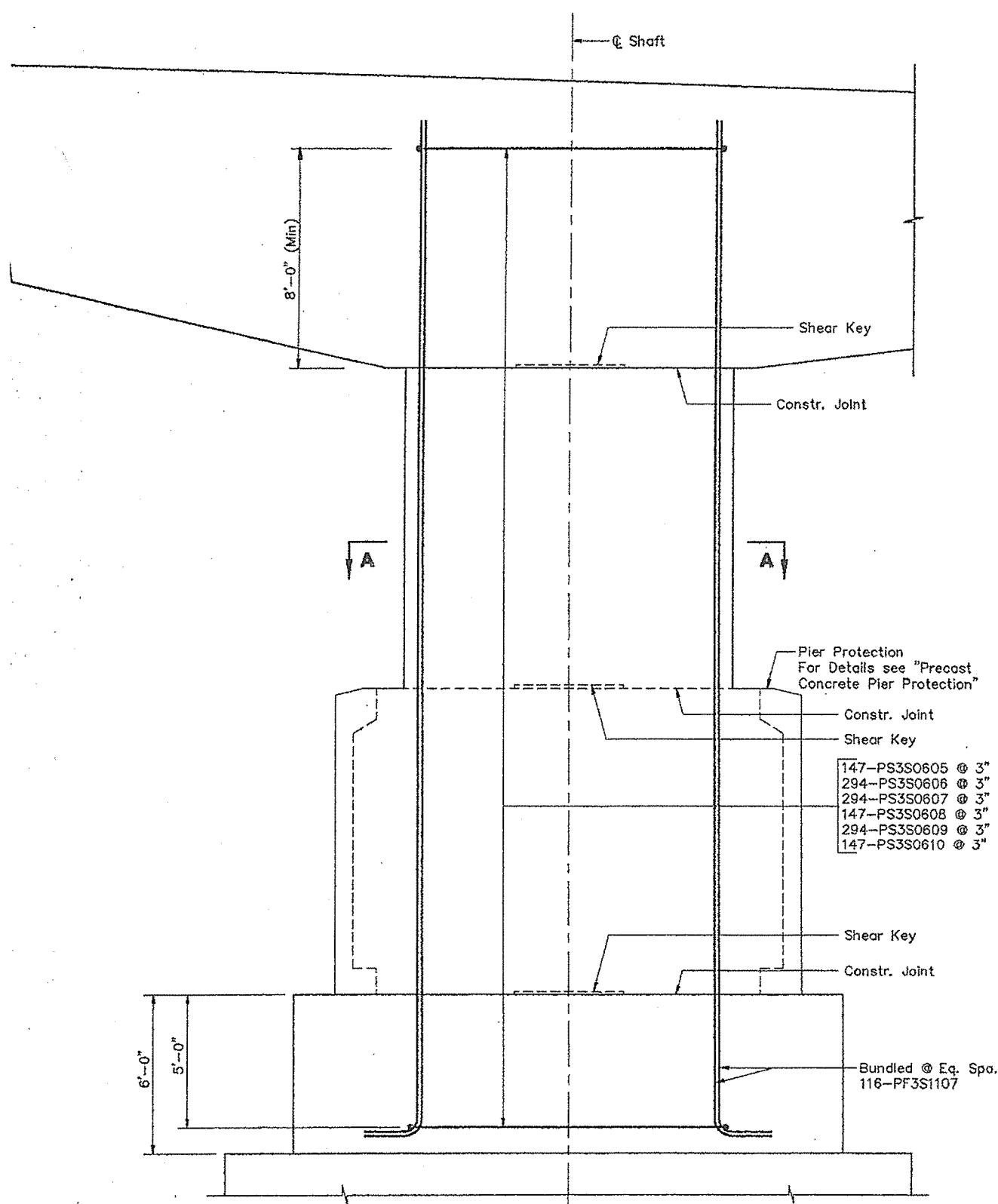
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PORTLAND - S. PORTLAND BRIDGE

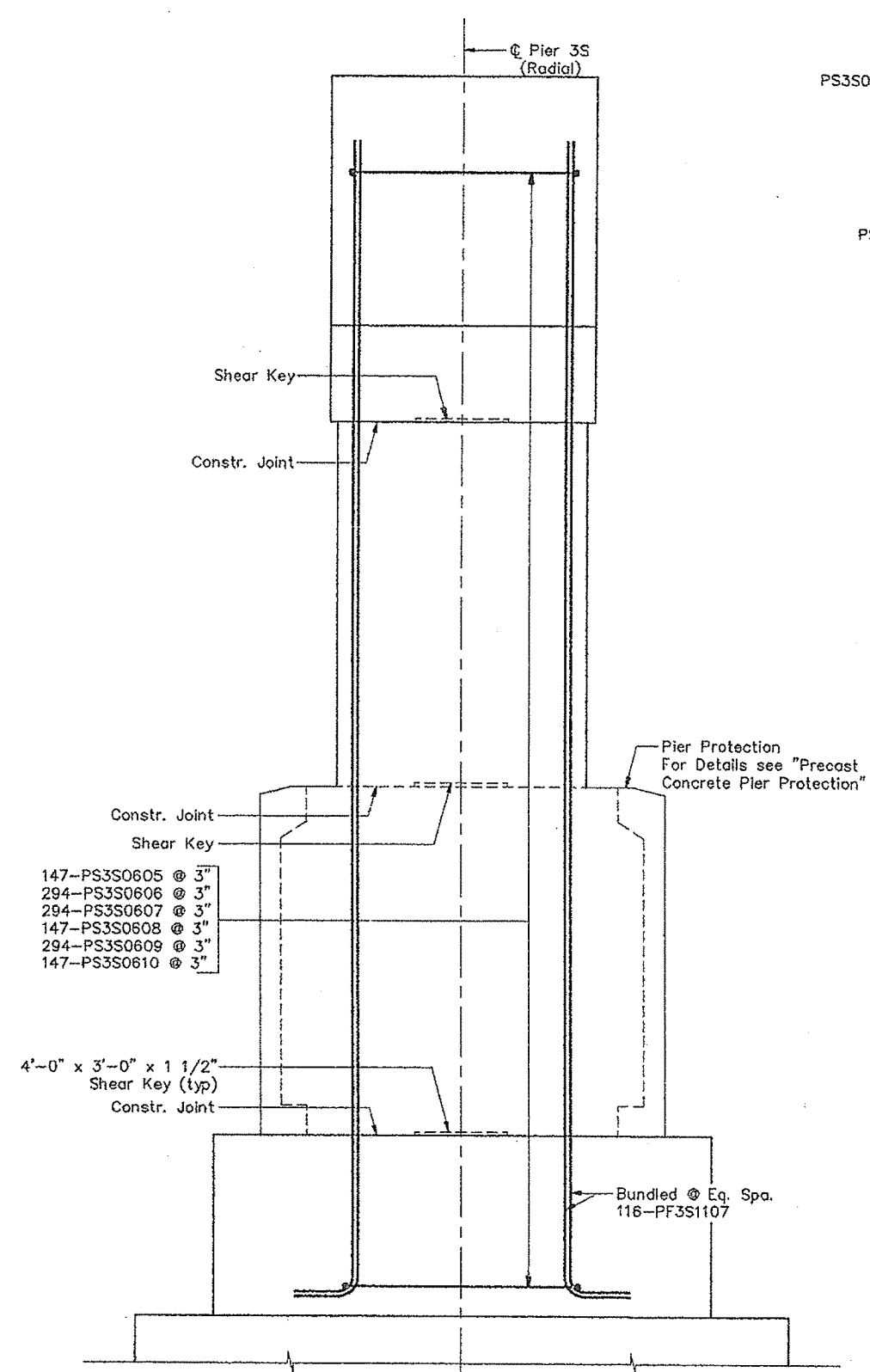
OVER FORE RIVER

CUMBERLAND COUNTY

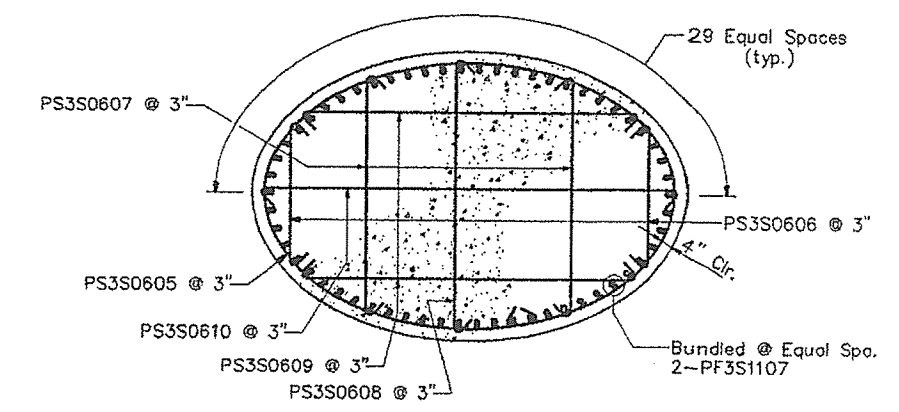
SHAFT REINFORCING
PIER 3S (N.B.L.)



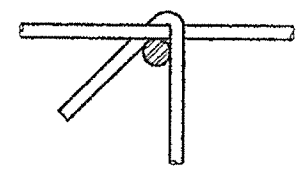
FRONT ELEVATION



SIDE ELEVATION



SECTION A-A



TIE CONNECTION DETAIL

Note:
Cap, footing and pier protection reinforcing
not shown in elevation for clarity.

STEEL ALTERNATIVE SUBSTRUCTURE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

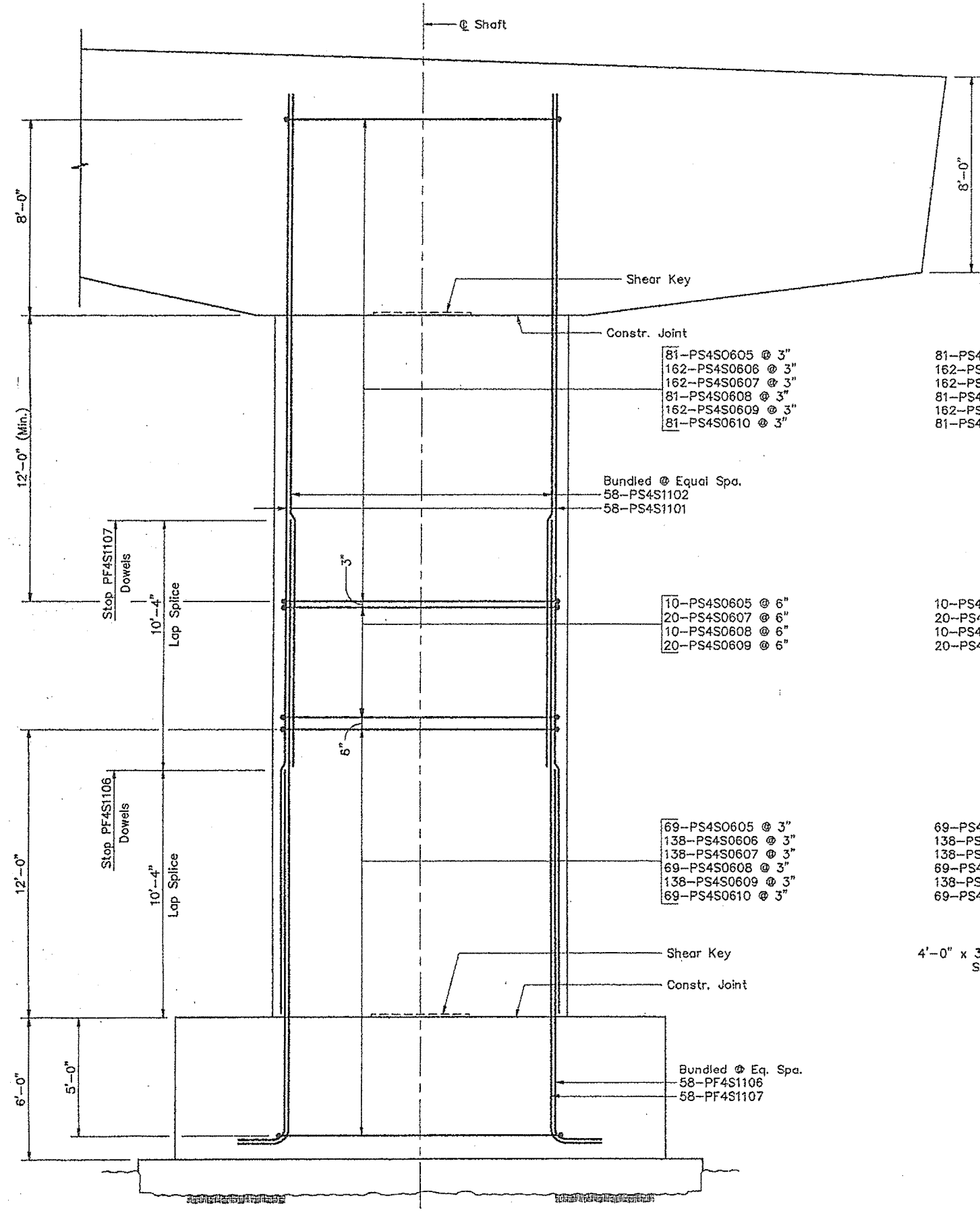
PORTLAND - S. PORTLAND BRIDGE

OVER FORE RIVER

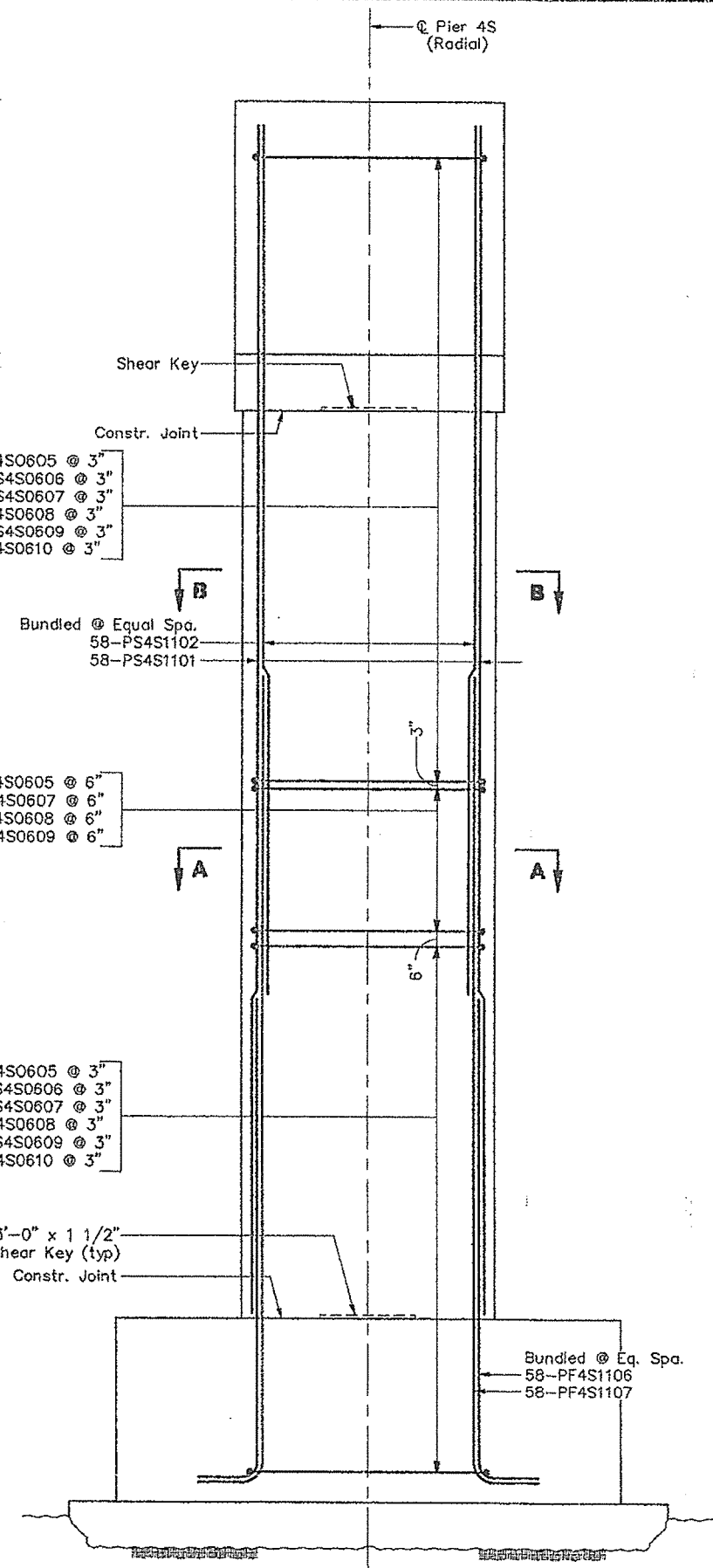
CUMBERLAND COUNTY

**SHAFT REINFORCING
PIER 3S (S.B.L.)**

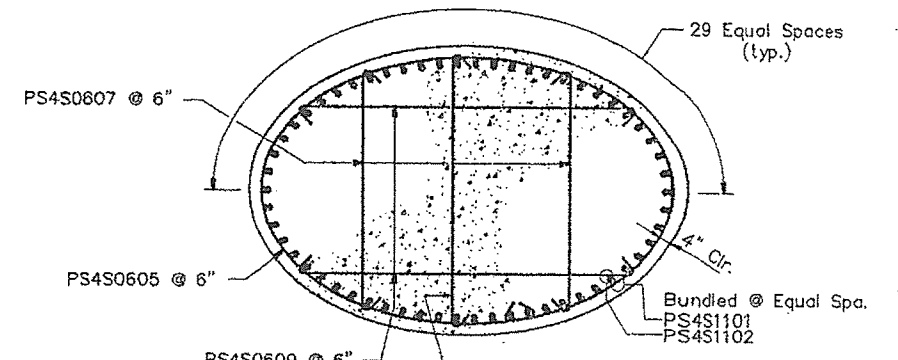
SHEET 130 OF 338 AUGUSTA, MAINE 4/13/94



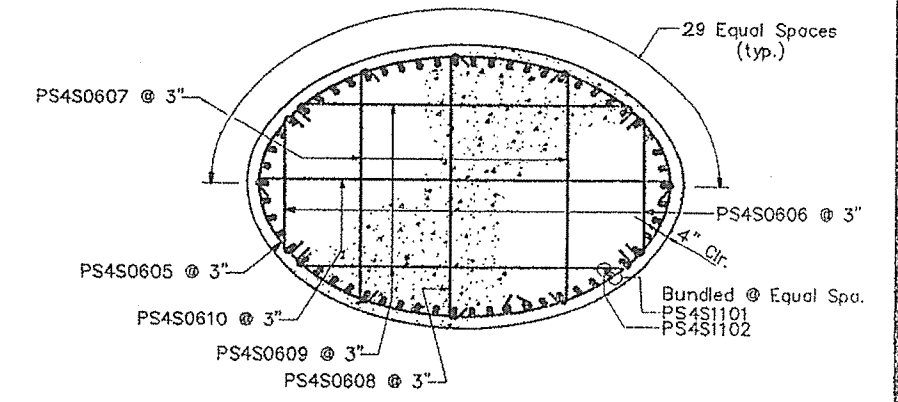
FRONT ELEVATION



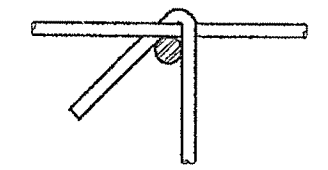
SIDE ELEVATION



SECTION A-A



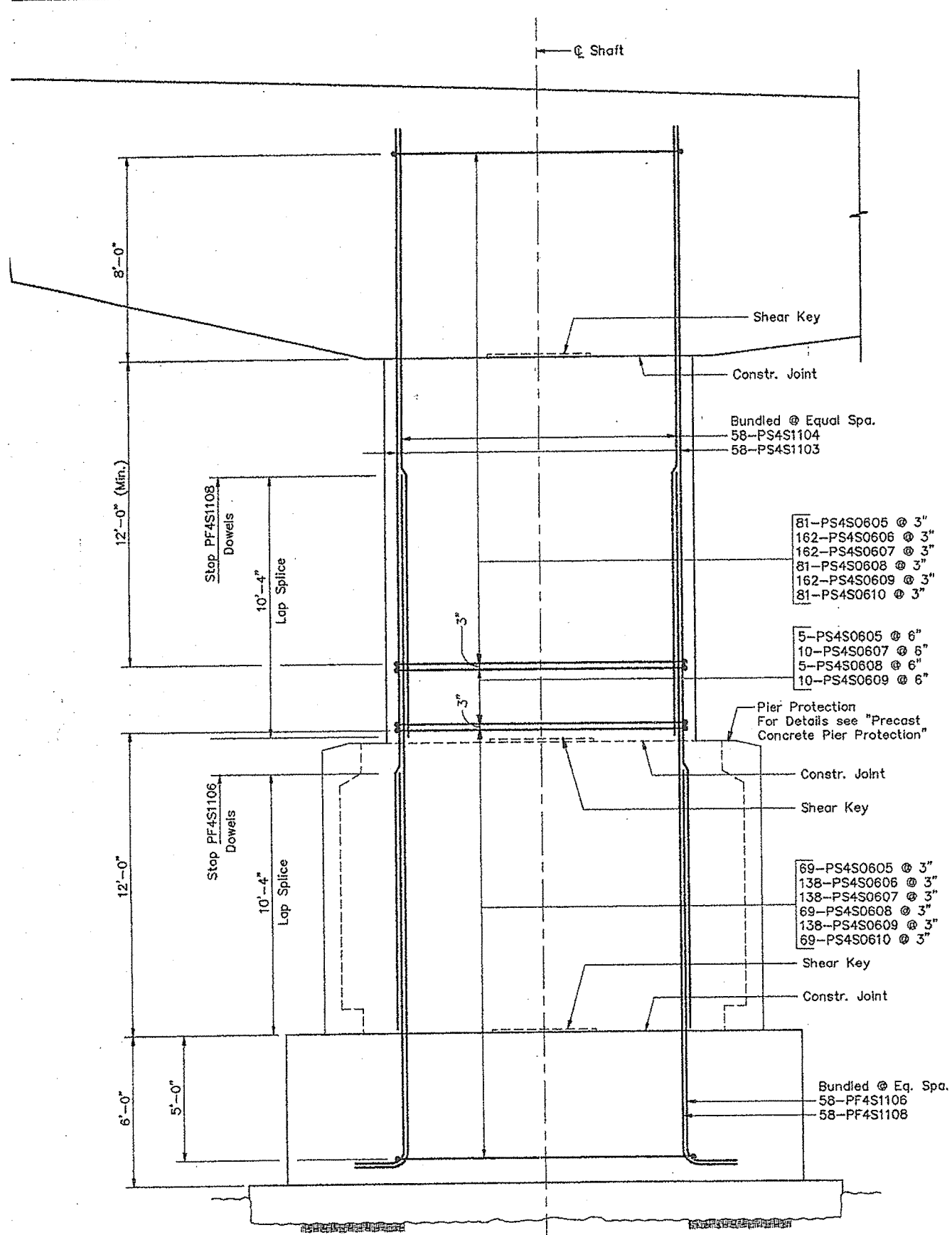
SECTION B-B



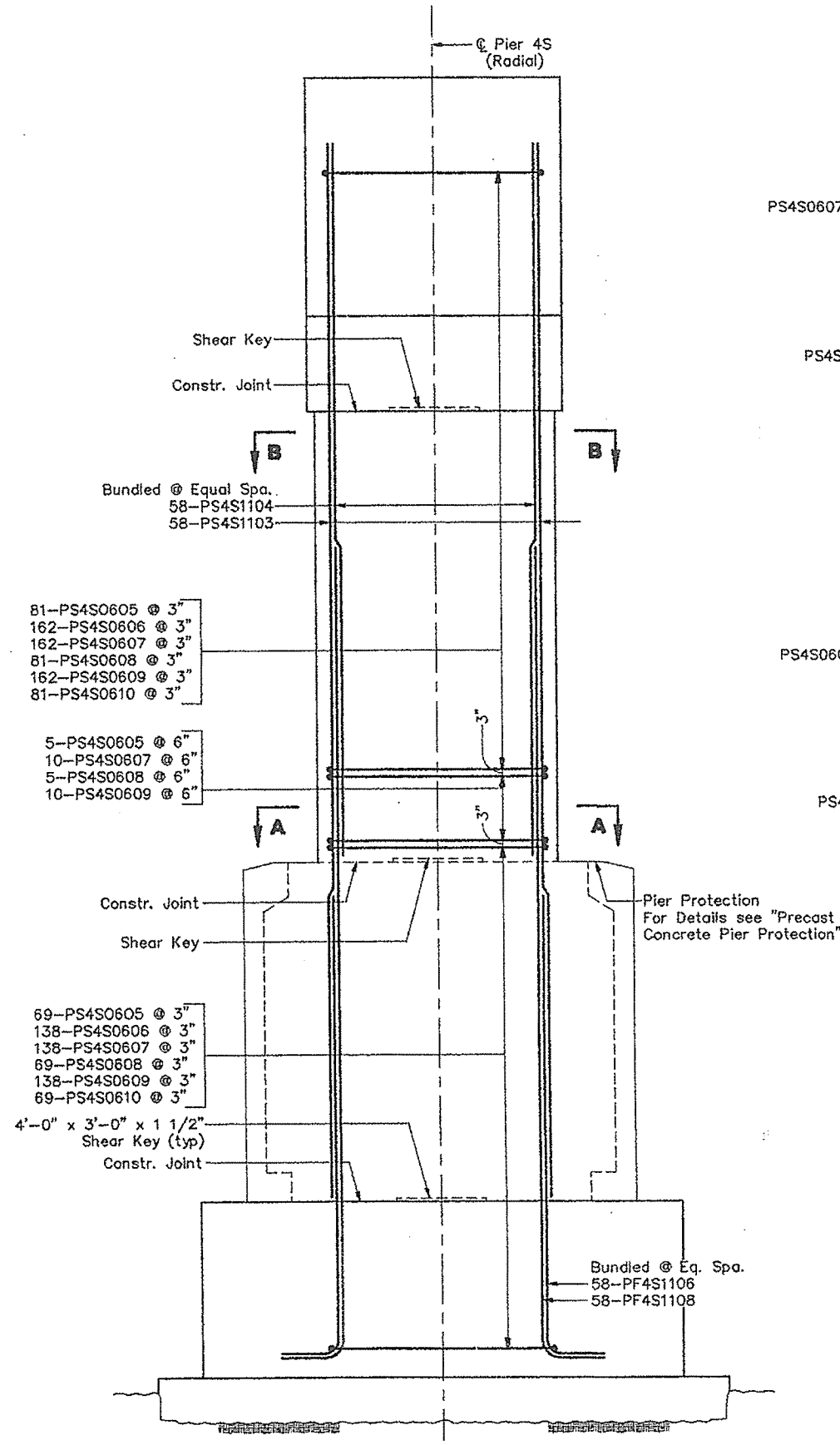
TIE CONNECTION DETAIL

Note:
Cap and footing reinforcing not shown in elevation for clarity.

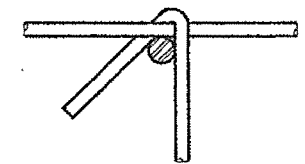
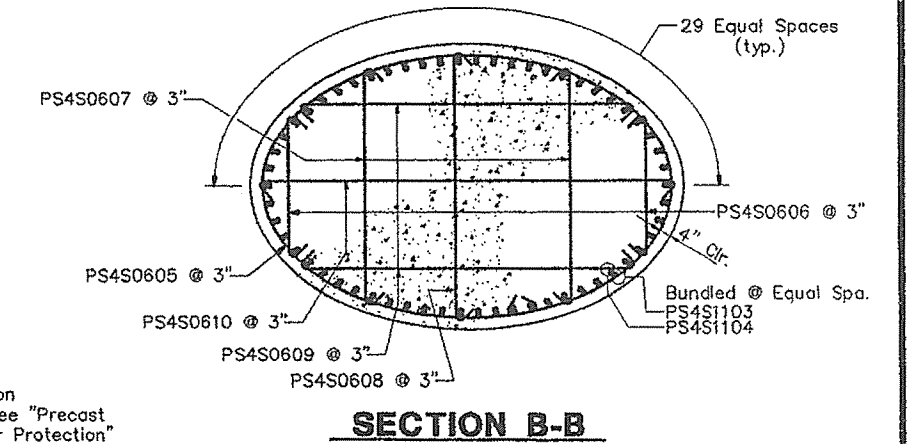
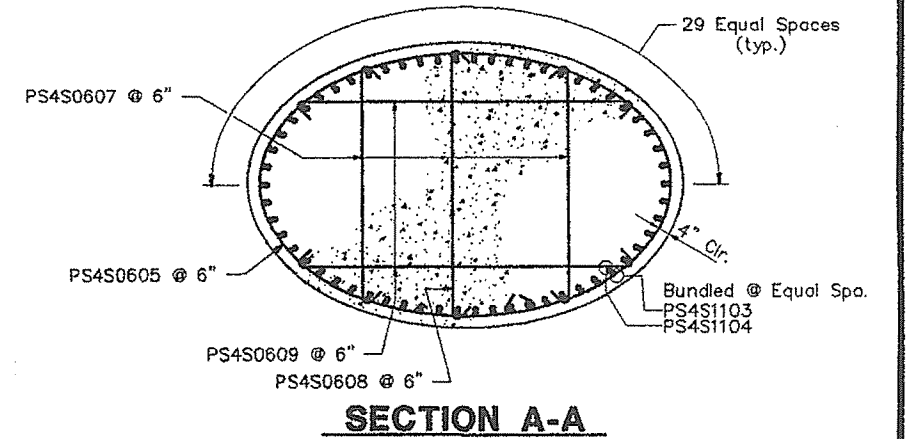
STEEL ALTERNATIVE SUBSTRUCTURE
STATE OF MAINE DEPARTMENT OF TRANSPORTATION
PORTLAND - S. PORTLAND BRIDGE
OVER FORE RIVER
CUMBERLAND COUNTY
SHAFT REINFORCING PIER 4S (N.B.L.)
SHEET 131 OF 222 AUGUST 1994 4/13/02



FRONT ELEVATION



SIDE ELEVATION

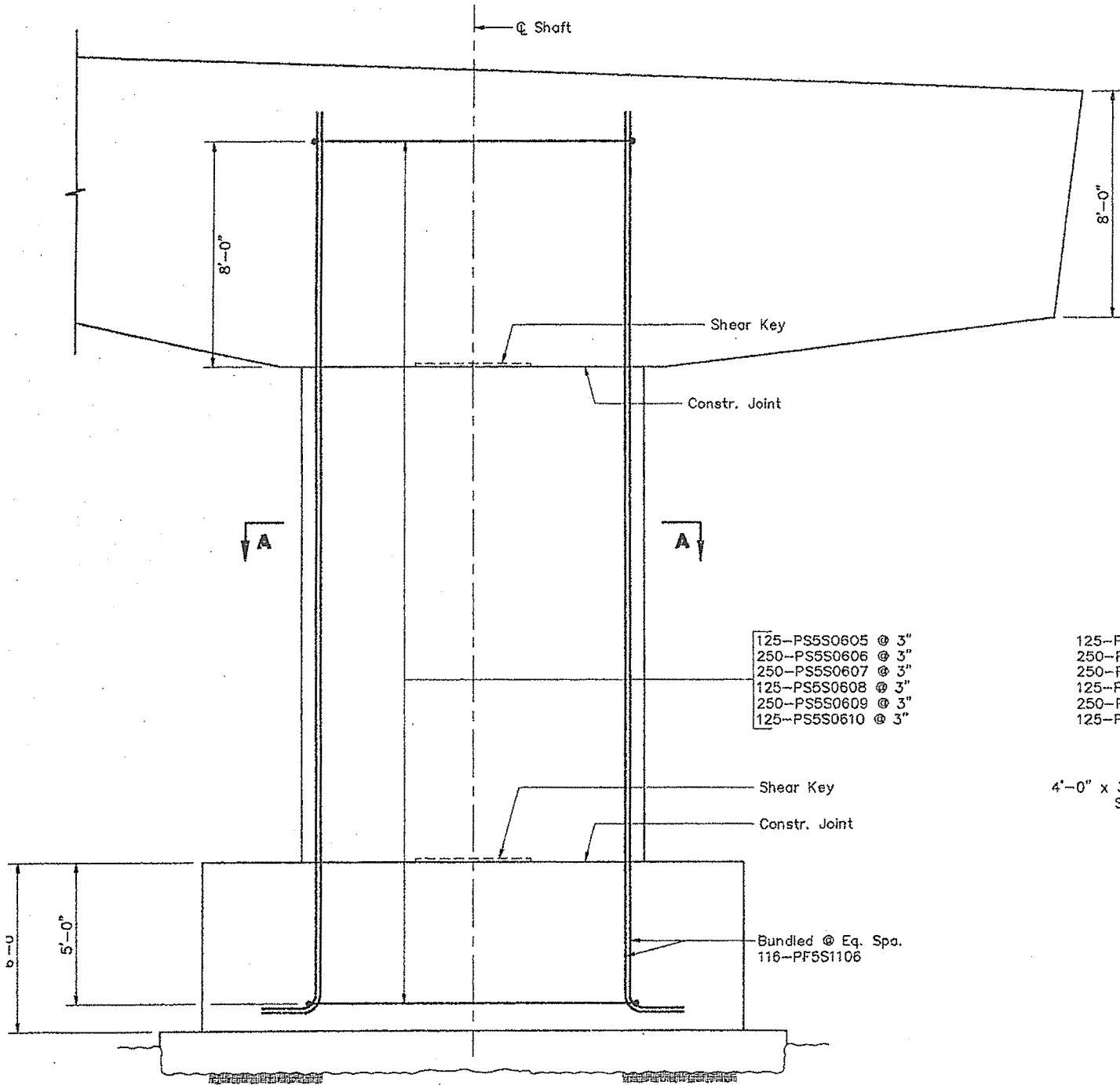


TIE CONNECTION DETAIL

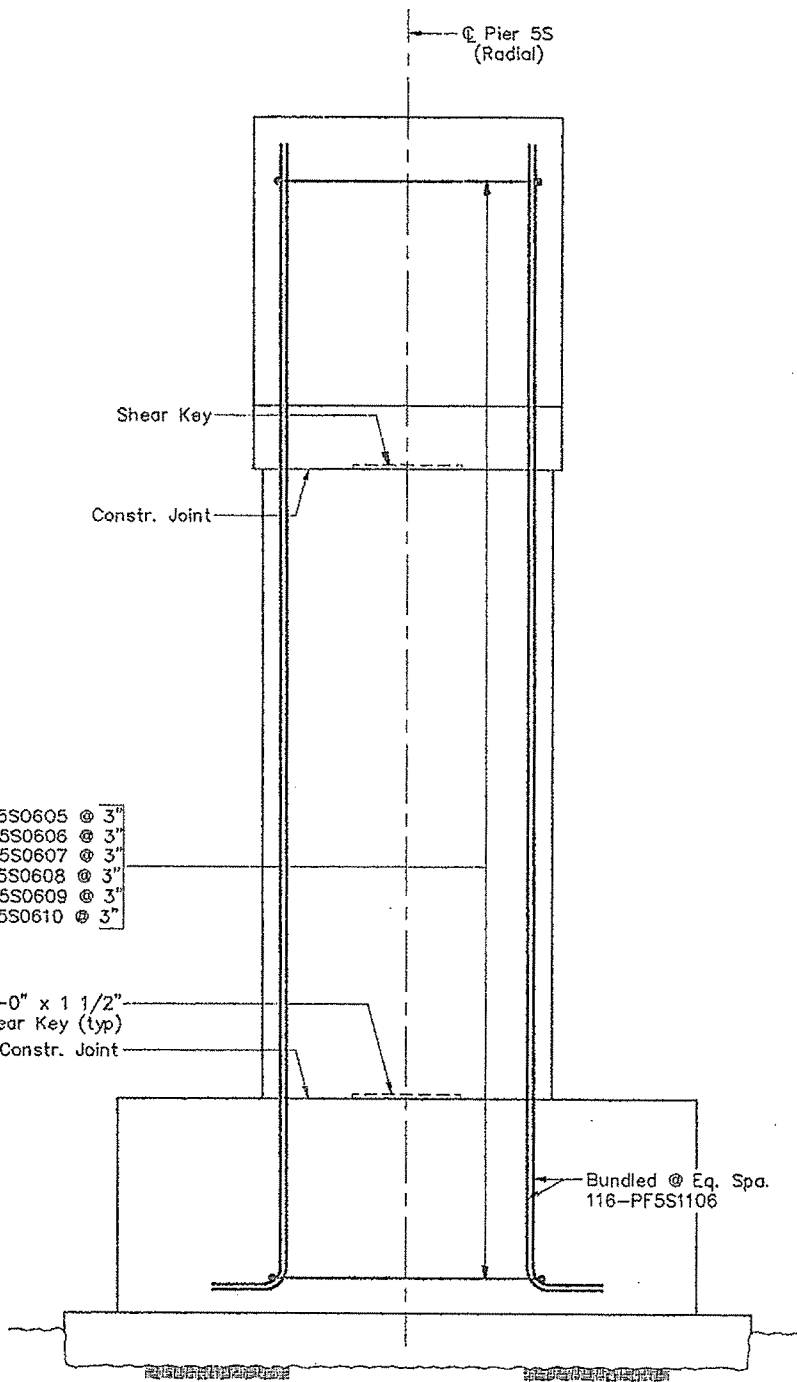
Note:
Cap, footing and pier protection reinforcing
not shown in elevation for clarity.

STEEL ALTERNATIVE SUBSTRUCTURE

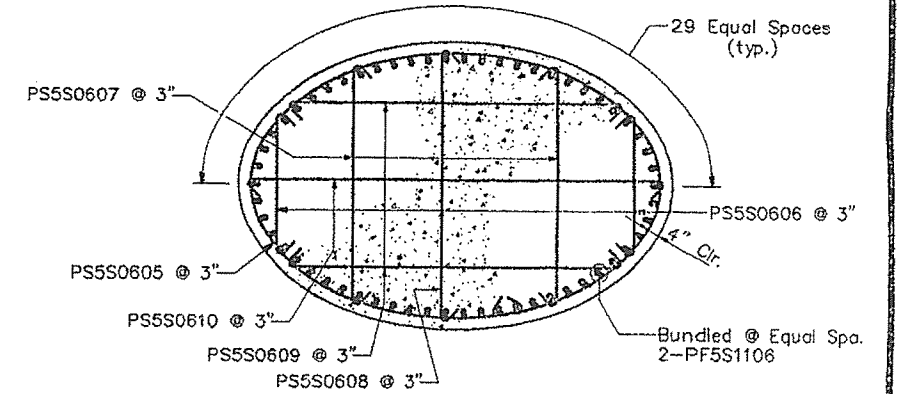
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
PORTLAND - S. PORTLAND BRIDGE
OVER FORE RIVER
CUMBERLAND COUNTY
SHAFT REINFORCING
PIER 4S (S.B.L.)



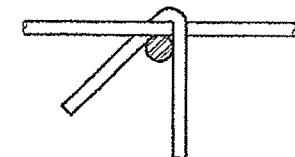
FRONT ELEVATION



SIDE ELEVATION



SECTION A-A

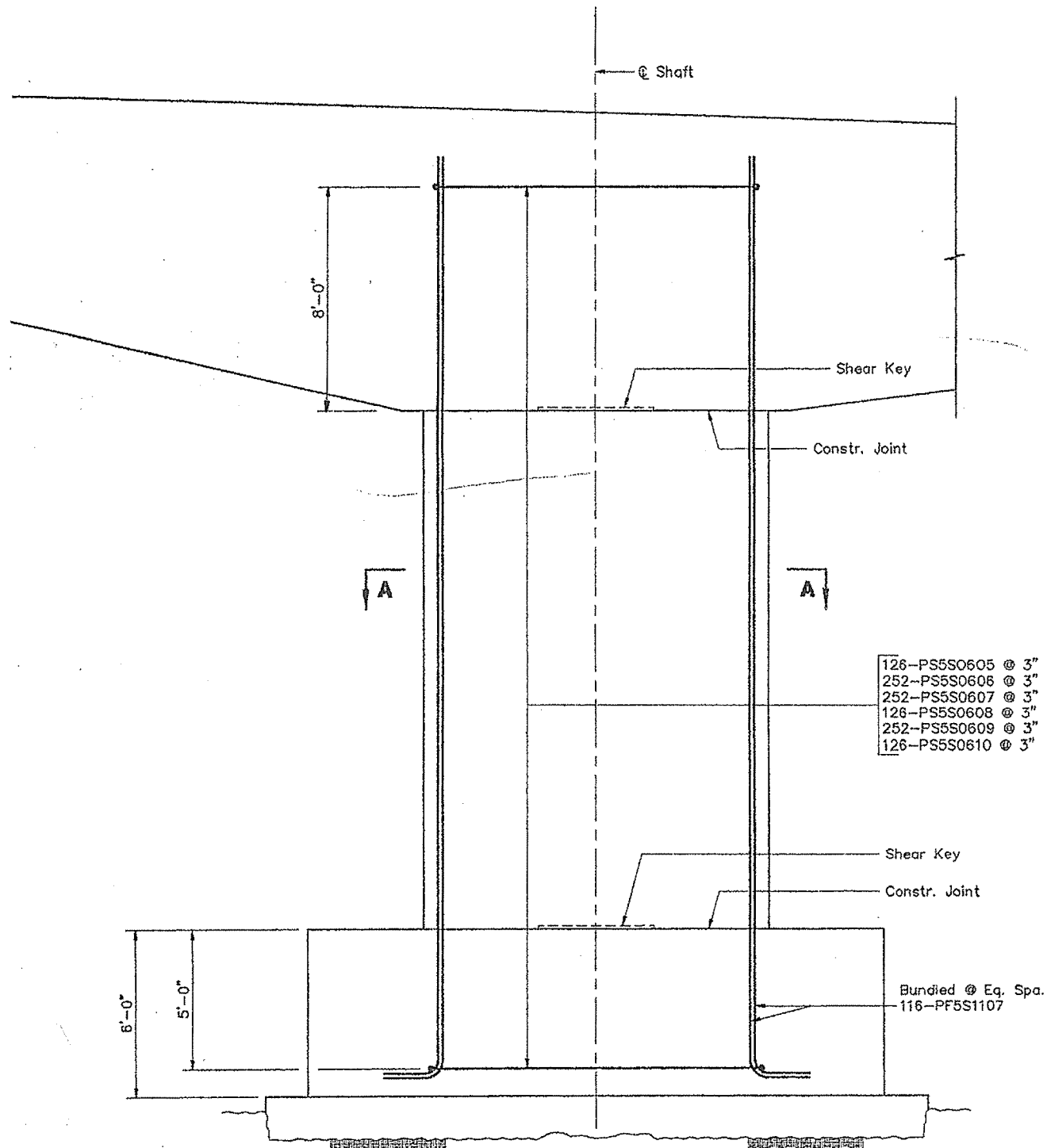


TIE CONNECTION DETAIL

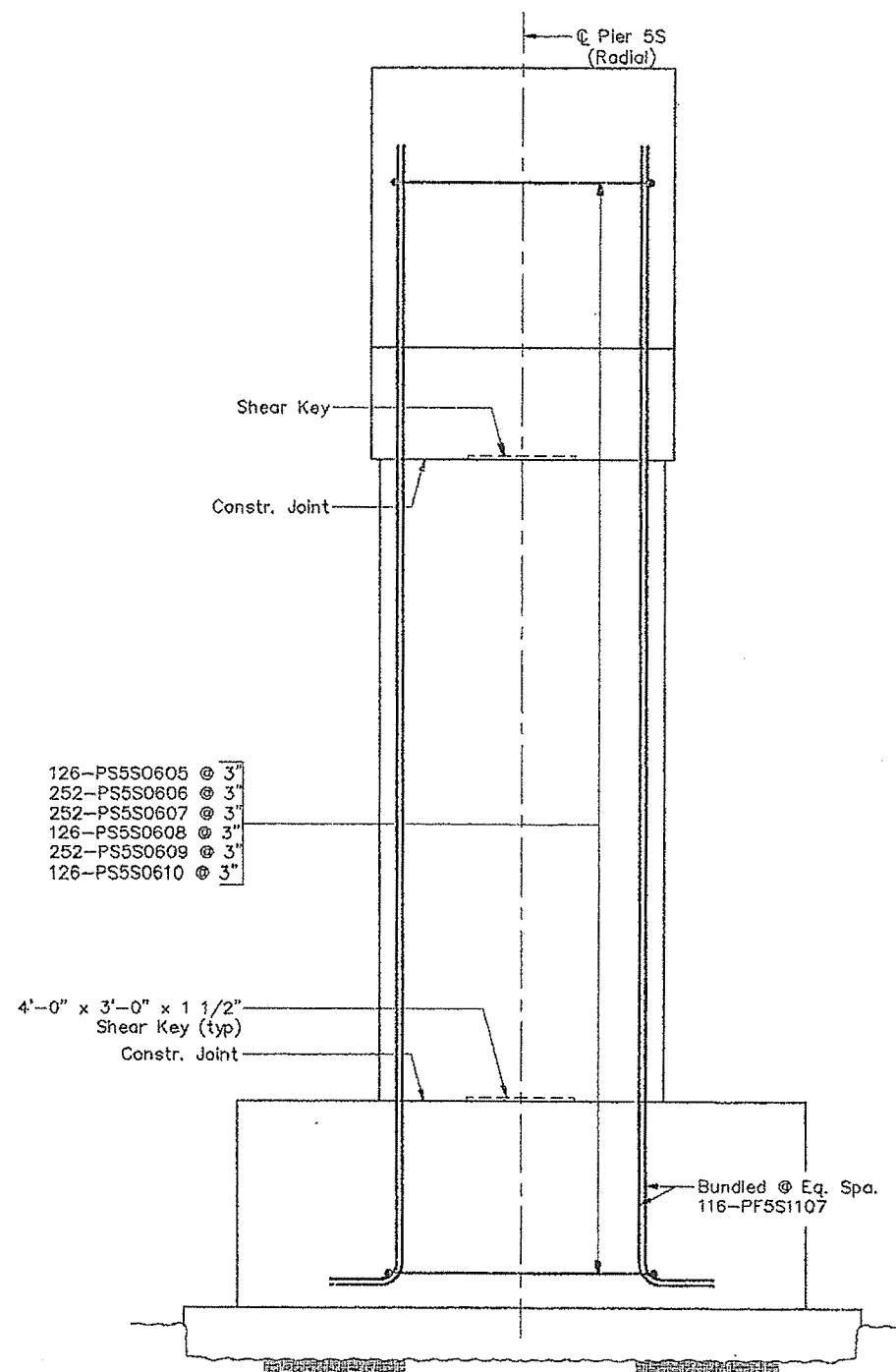
Note:
Cap and footing reinforcing not shown in elevation for clarity.

STEEL ALTERNATIVE SUBSTRUCTURE

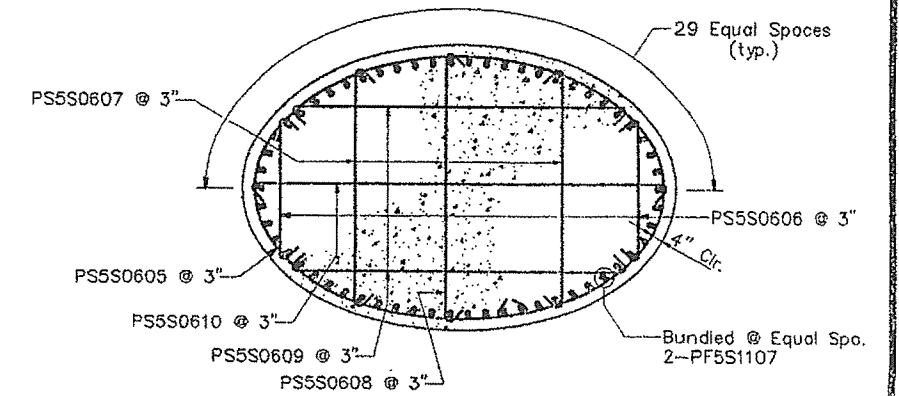
STATE OF MAINE DEPARTMENT OF TRANSPORTATION
PORTLAND - S. PORTLAND BRIDGE
OVER FORE RIVER
CUMBERLAND COUNTY
SHAFT REINFORCING PIER 5S (N.B.L.)



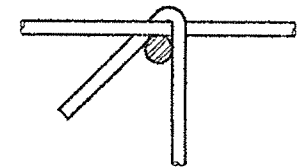
FRONT ELEVATION



SIDE ELEVATION



SECTION A-A



TIE CONNECTION DETAIL

Note:
Cap and footing reinforcing not shown in elevation for clarity.

STEEL ALTERNATIVE SUBSTRUCTURE

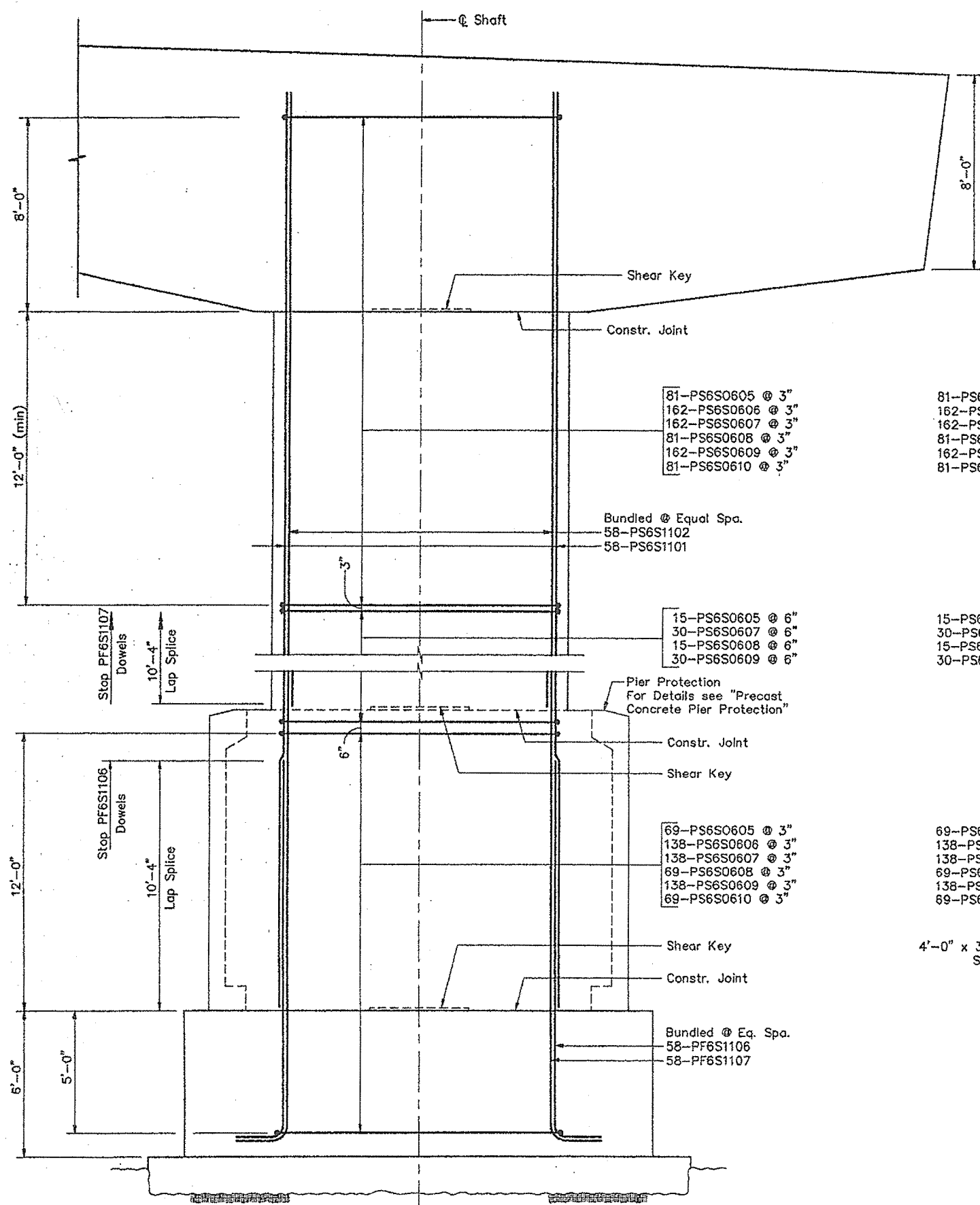
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PORTLAND - S. PORTLAND BRIDGE

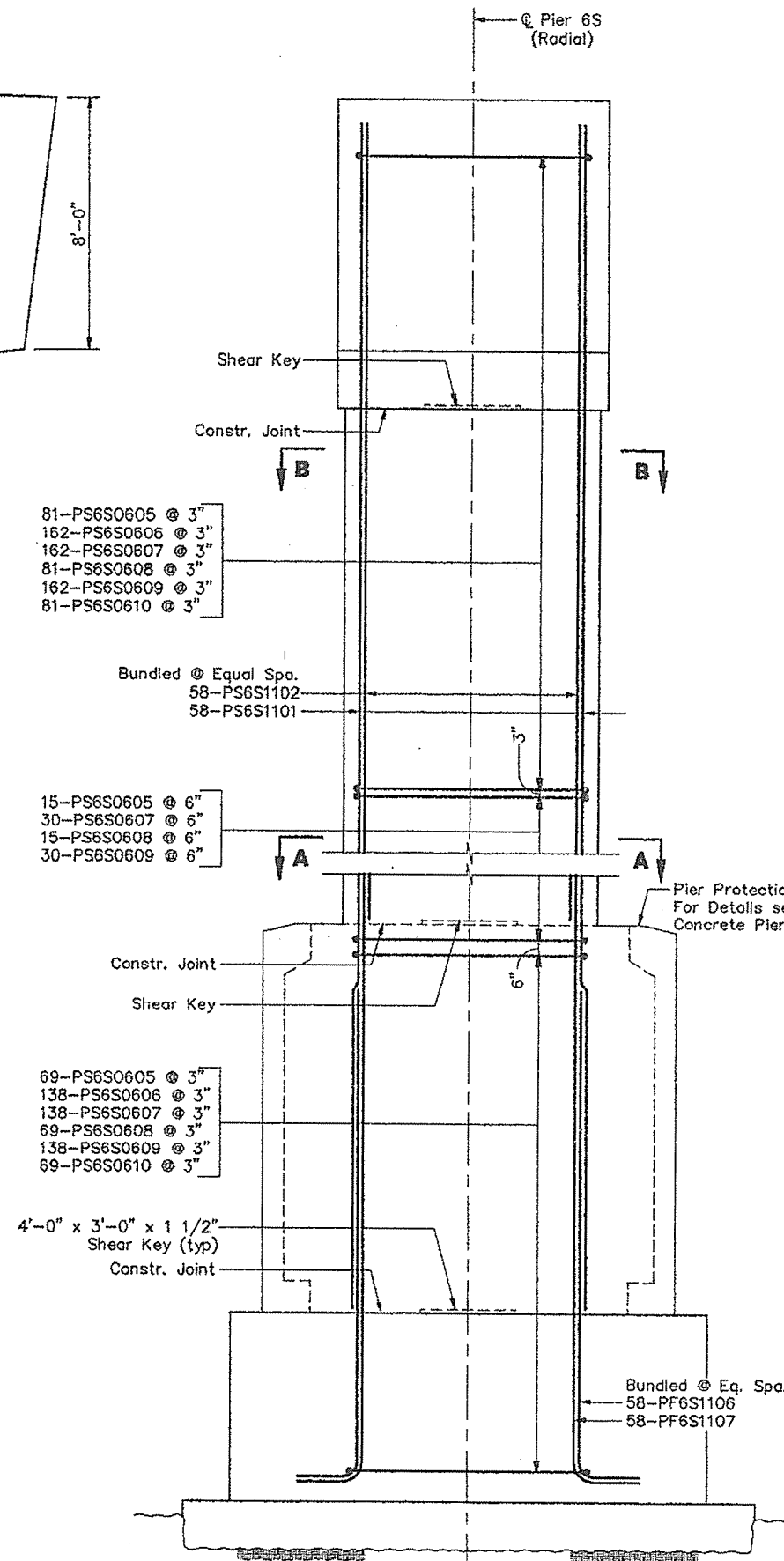
OVER FORE RIVER

CUMBERLAND COUNTY

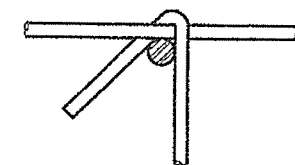
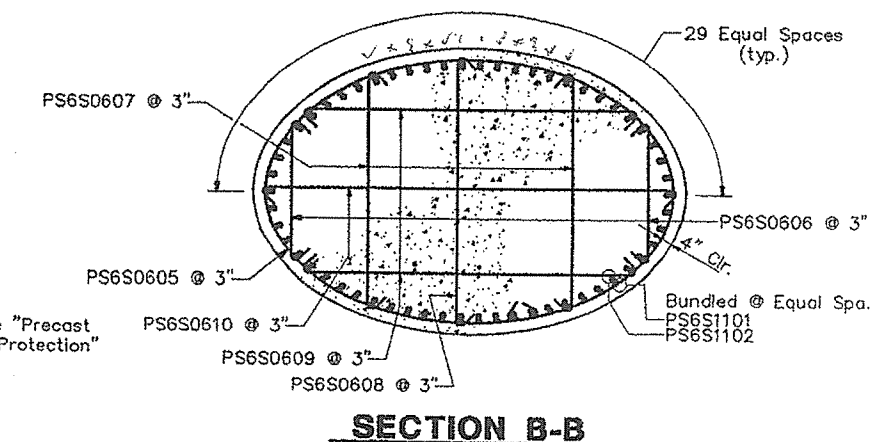
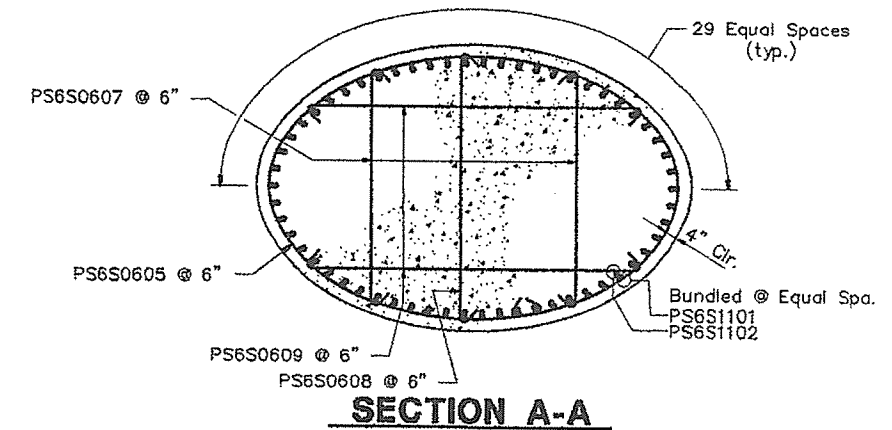
SHAFT REINFORCING
PIER 5S (S.B.L.)



FRONT ELEVATION



SIDE ELEVATION



TIE CONNECTION DETAIL

Note:
Cap, footing and pier protection reinforcing
not shown in elevation for clarity.

STEEL ALTERNATIVE SUBSTRUCTURE

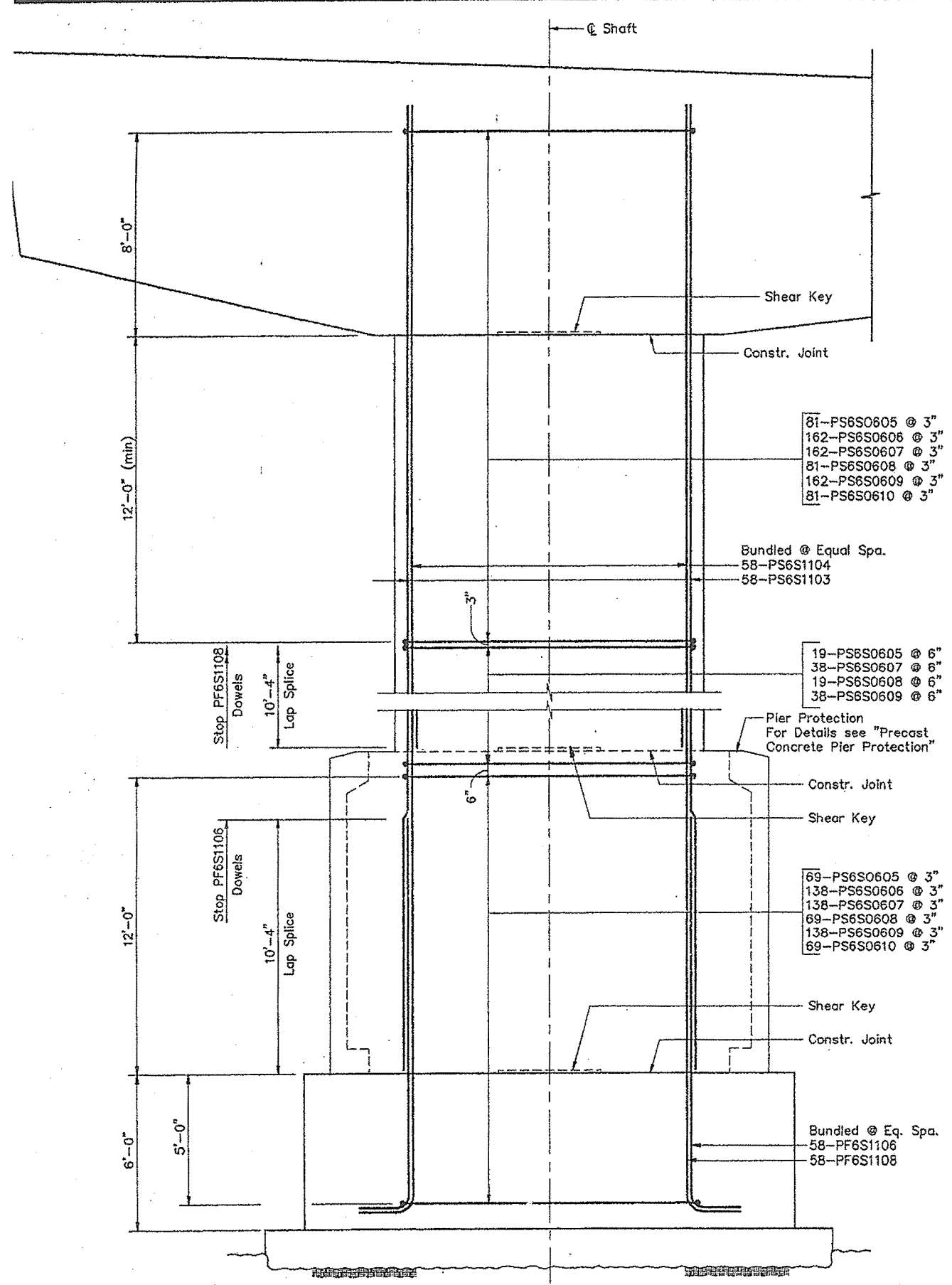
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PORTLAND - S. PORTLAND BRIDGE

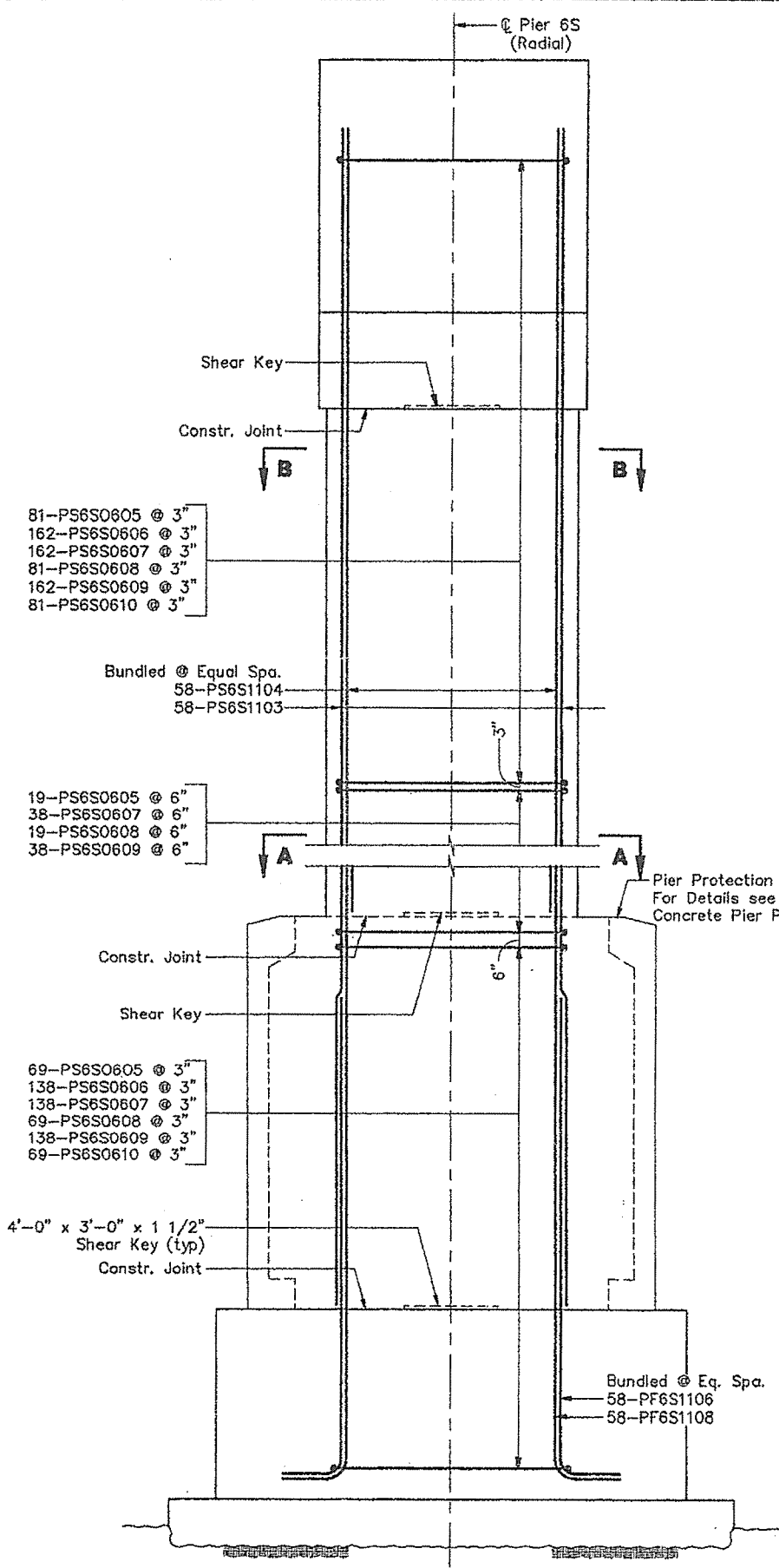
OVER FORE RIVER

CUMBERLAND COUNTY

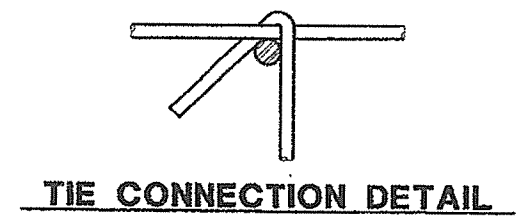
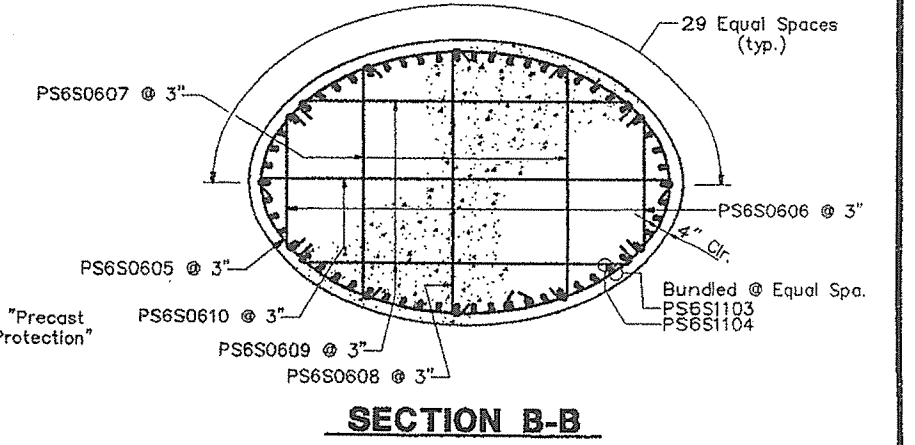
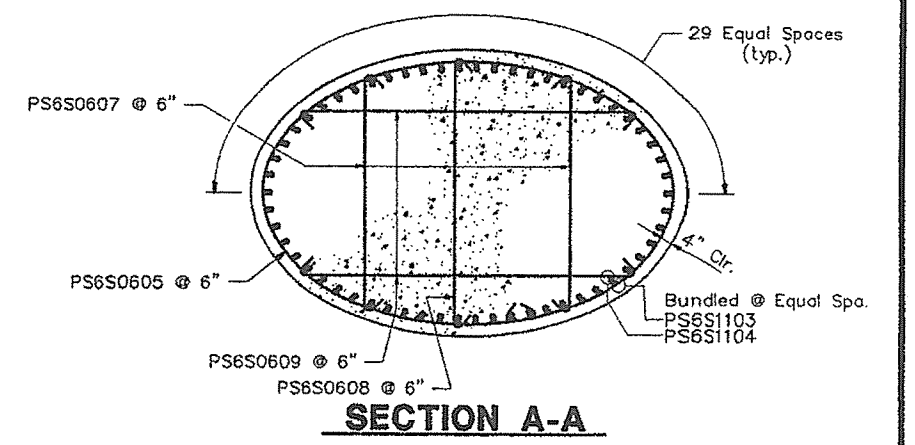
**SHAFT REINFORCING
PIER 6S (N.B.L.)**



FRONT ELEVATION

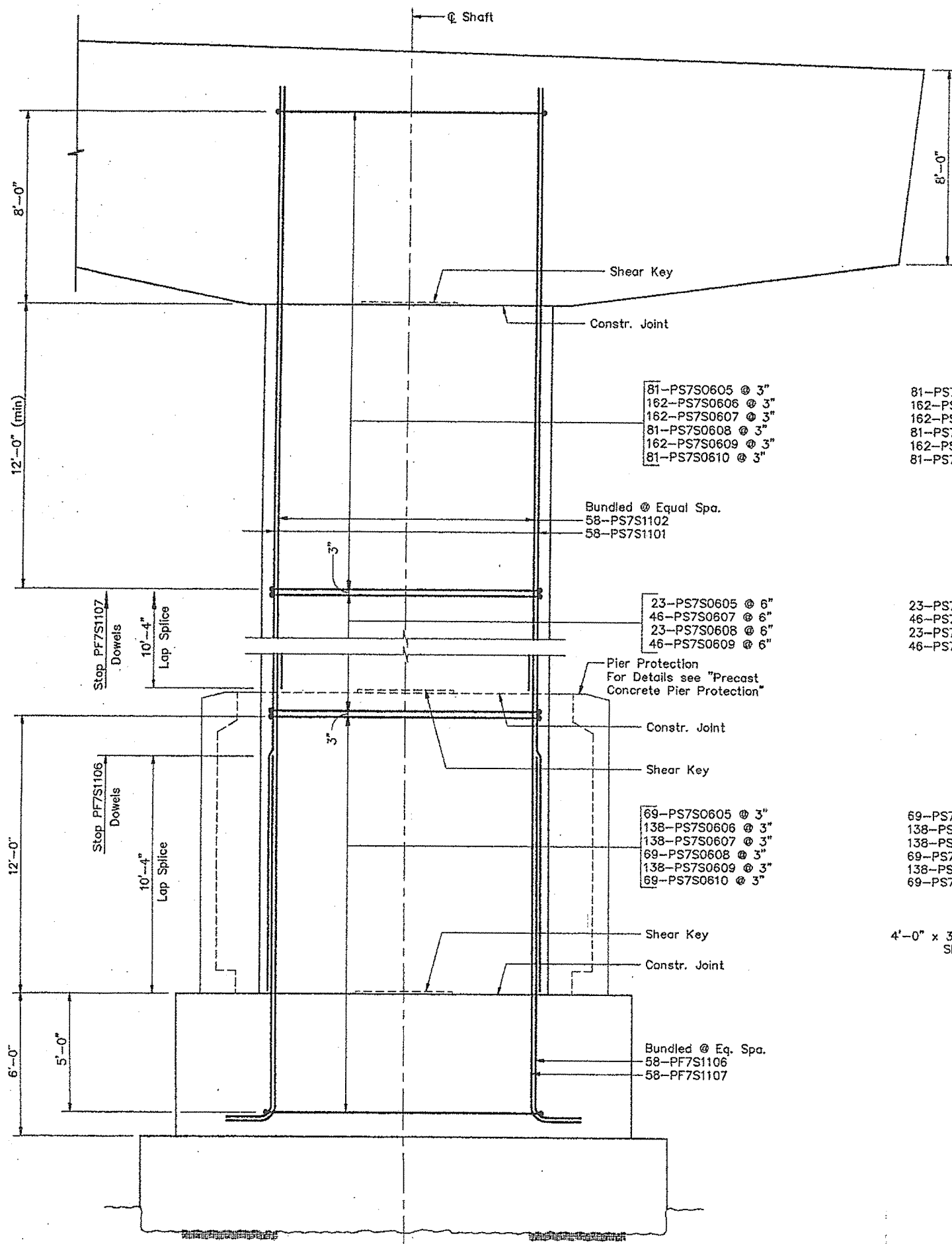


SIDE ELEVATION

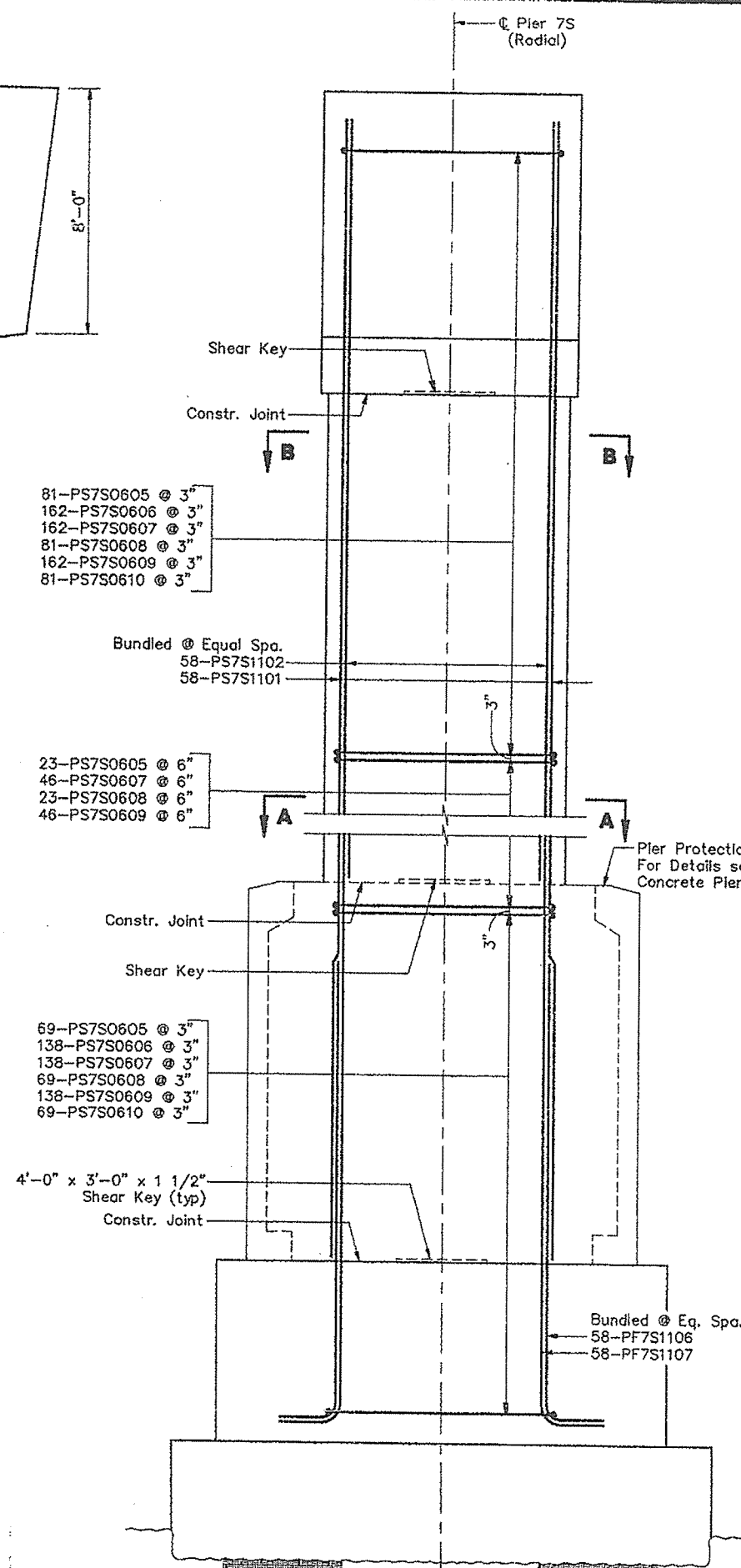


Note:
Cap, footing and pier protection reinforcing
not shown in elevation for clarity.

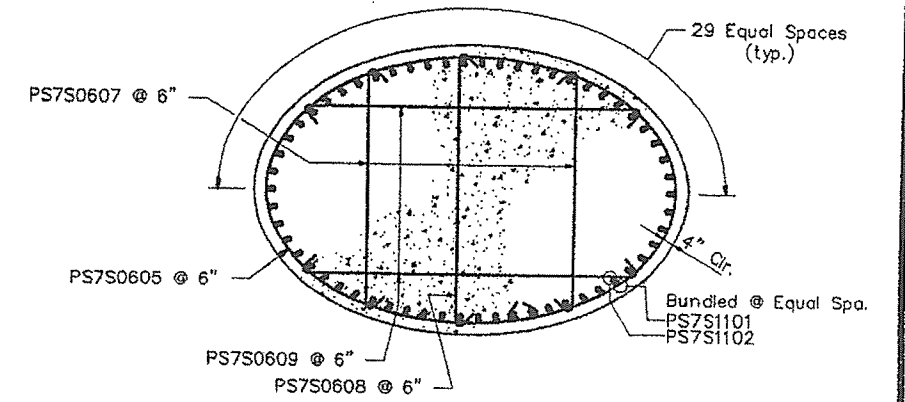
STEEL ALTERNATIVE SUBSTRUCTURE
STATE OF MAINE DEPARTMENT OF TRANSPORTATION
PORTLAND - S. PORTLAND BRIDGE
OVER FORE RIVER
CUMBERLAND COUNTY
SHAFT REINFORCING PIER 6S (S.B.L.)



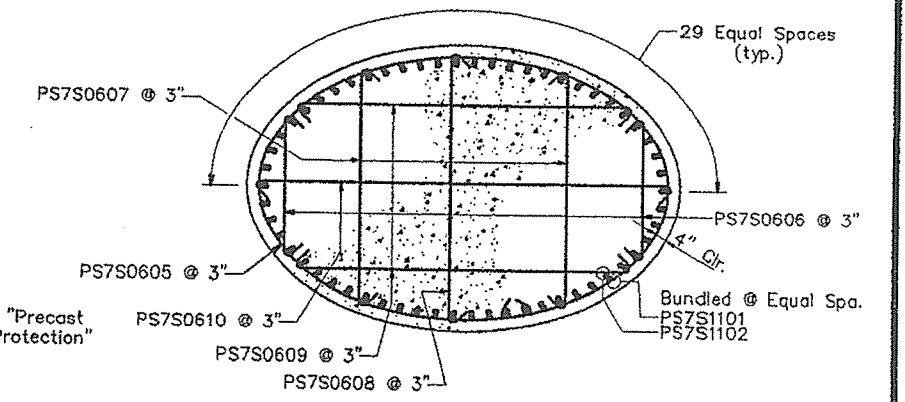
FRONT ELEVATION



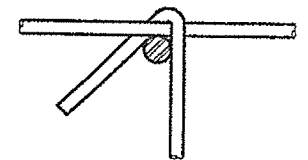
SIDE ELEVATION



SECTION A-A



SECTION B-B



TIE CONNECTION DETAIL

Note:
Cap, footing and pier protection reinforcing
not shown in elevation for clarity.

STEEL ALTERNATIVE SUBSTRUCTURE

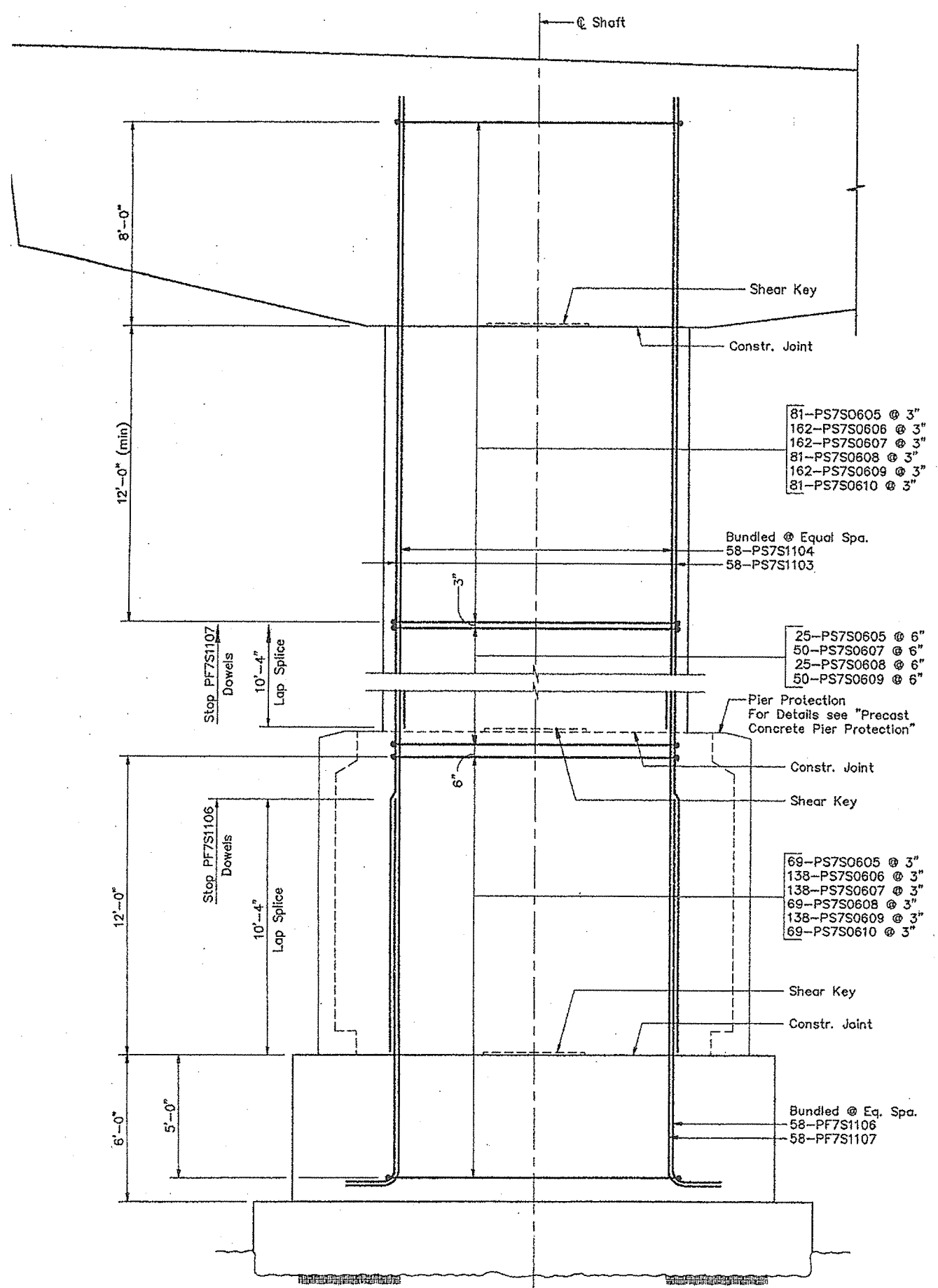
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PORTLAND - S. PORTLAND BRIDGE

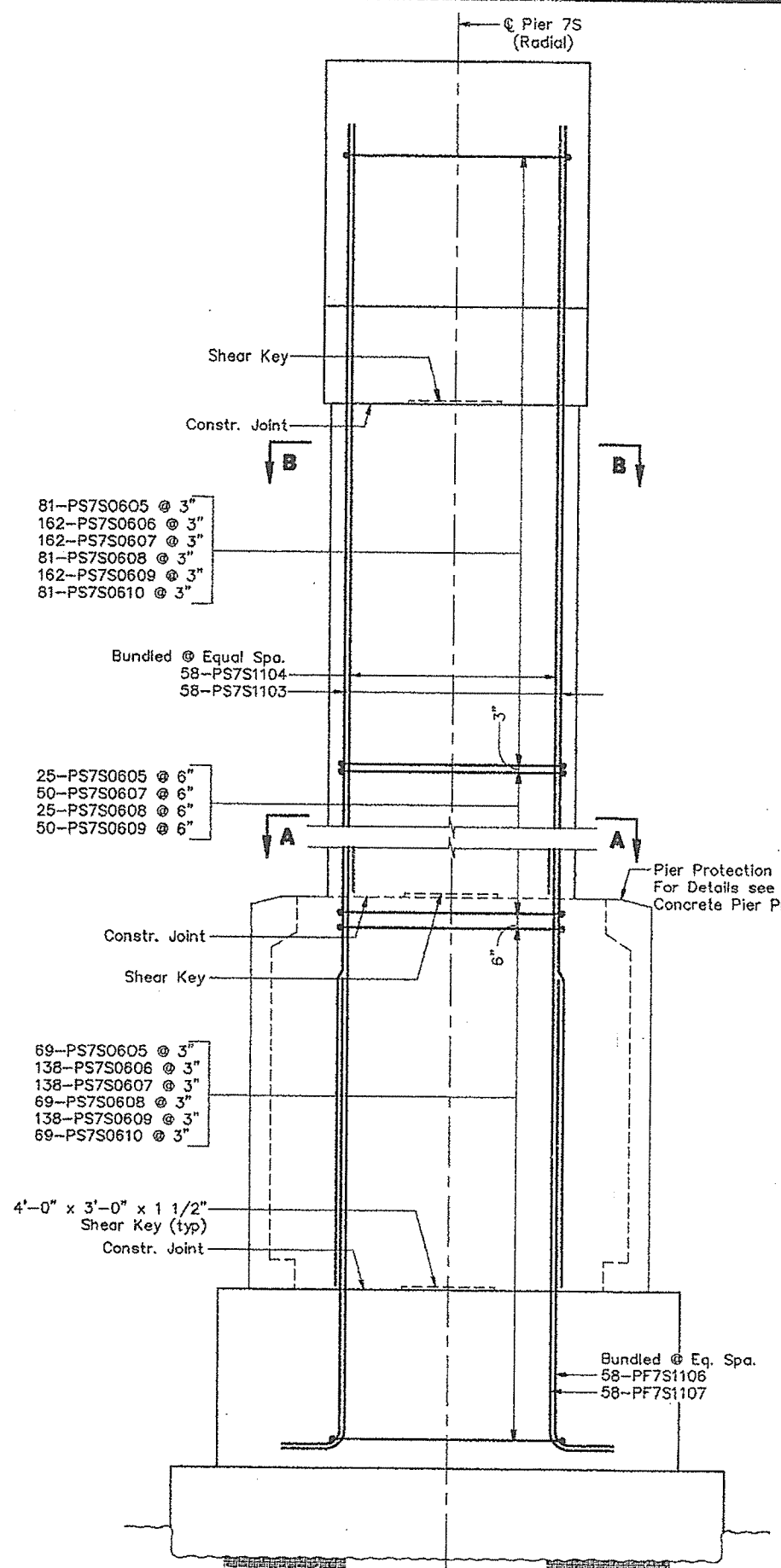
OVER FORE RIVER

CUMBERLAND COUNTY

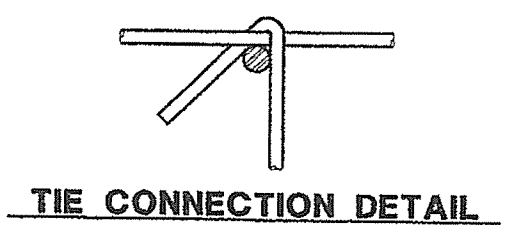
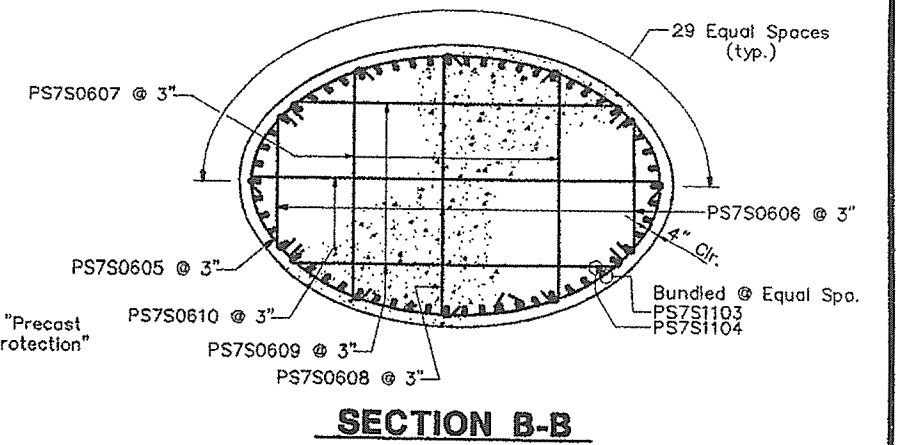
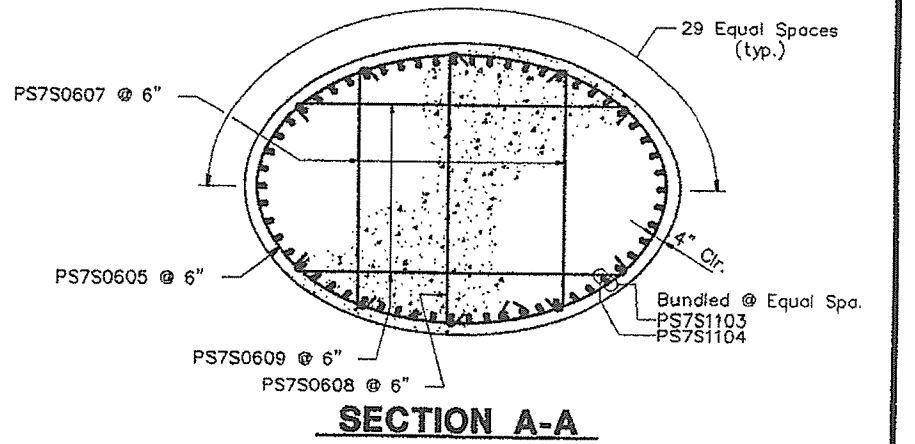
SHAFT REINFORCING
PIER 7S (N.B.L.)



FRONT ELEVATION

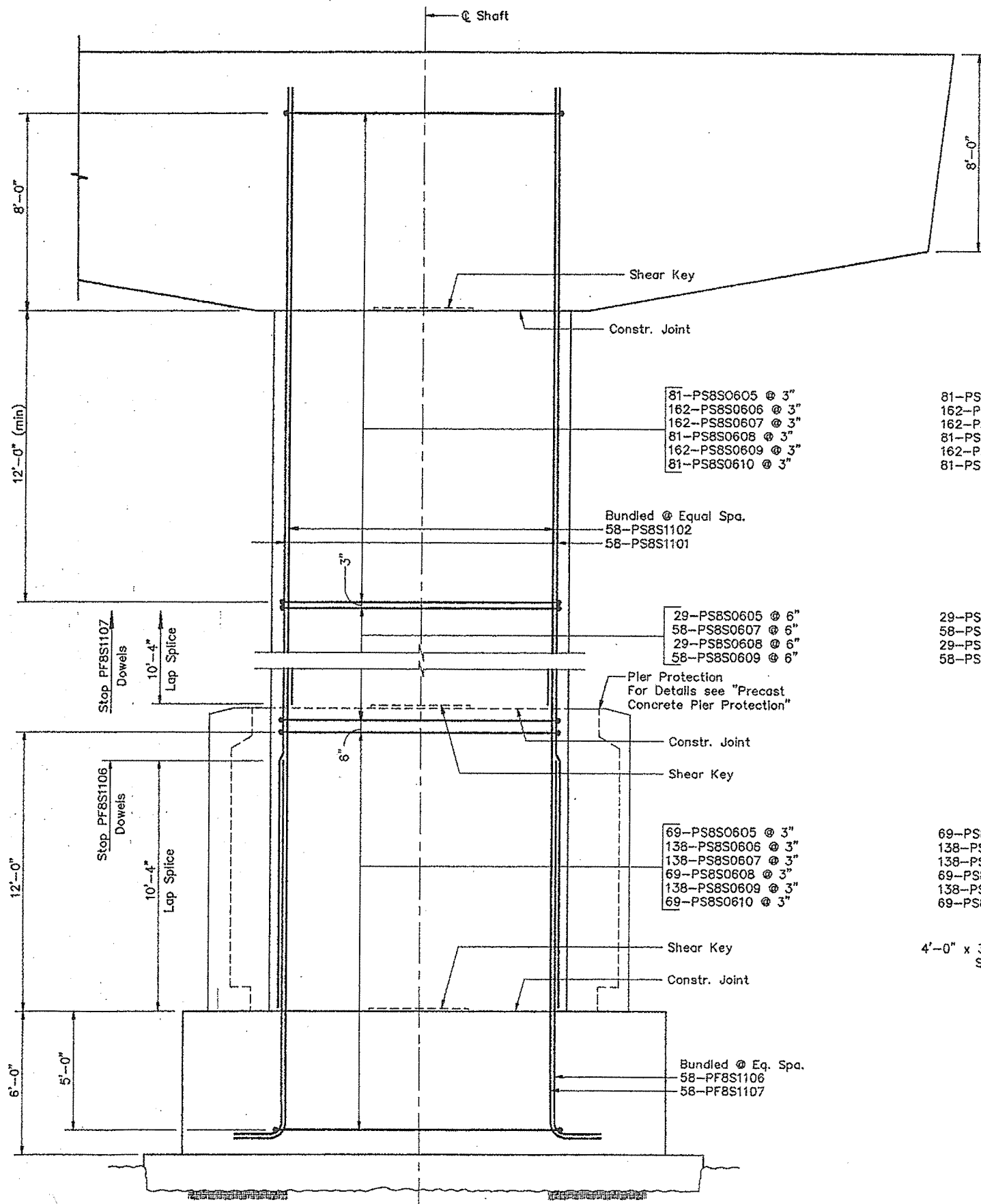


SIDE ELEVATION

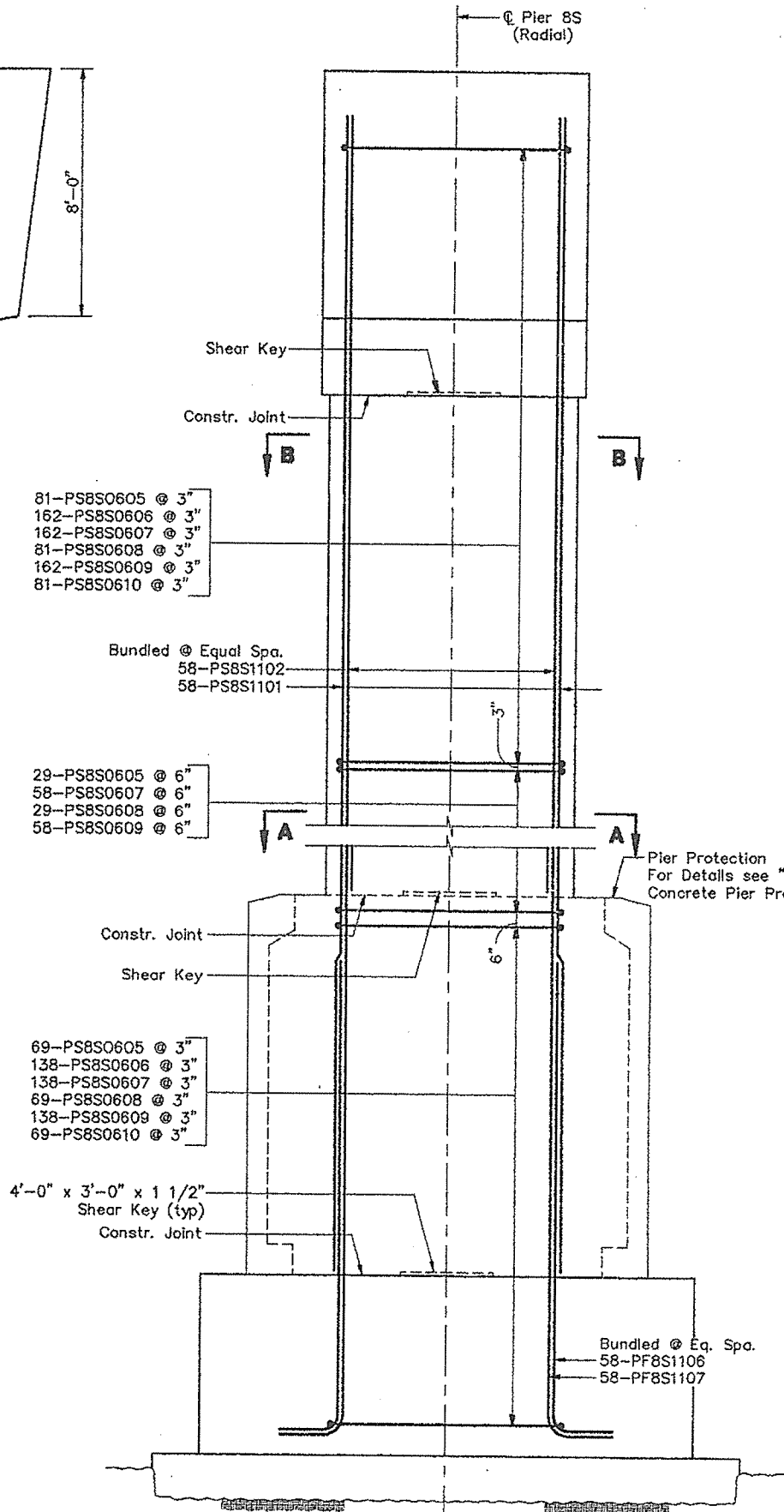


Note:
Cap, footing and pier protection reinforcing
not shown in elevation for clarity.

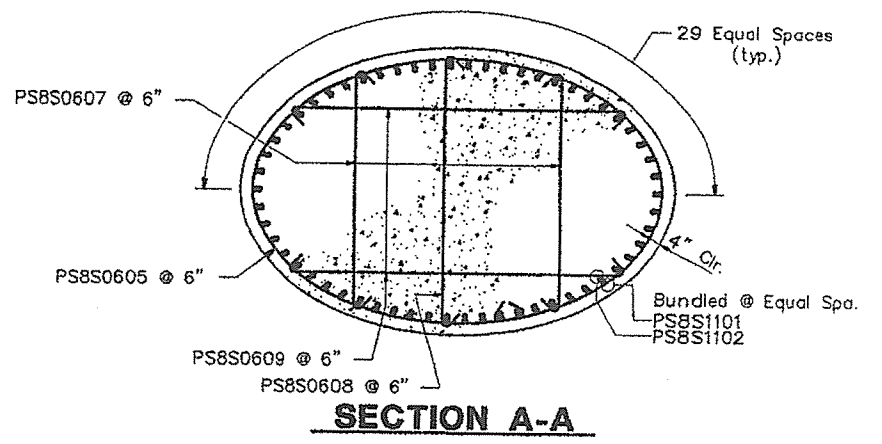
F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	DPI-0088(002)	129	226



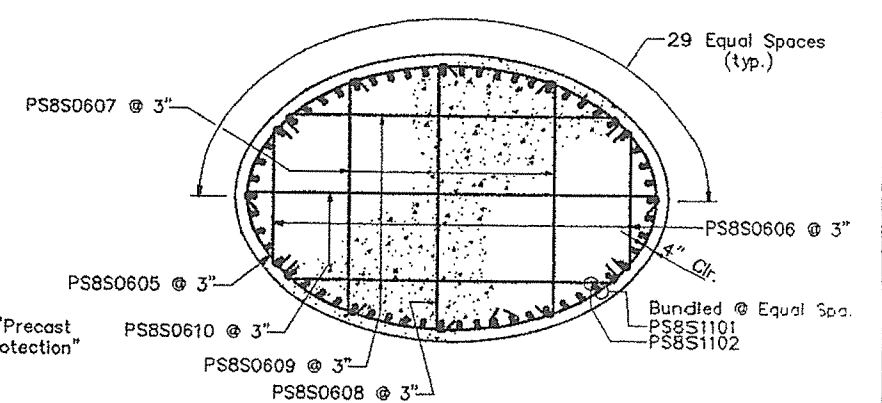
FRONT ELEVATION



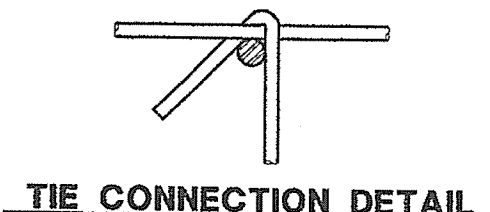
SIDE ELEVATION



SECTION A-A



SECTION B-B



TIE CONNECTION DETAIL

Note:
Cap, footing and pier protection reinforcing
not shown in elevation for clarity.

STEEL ALTERNATIVE SUBSTRUCTURE

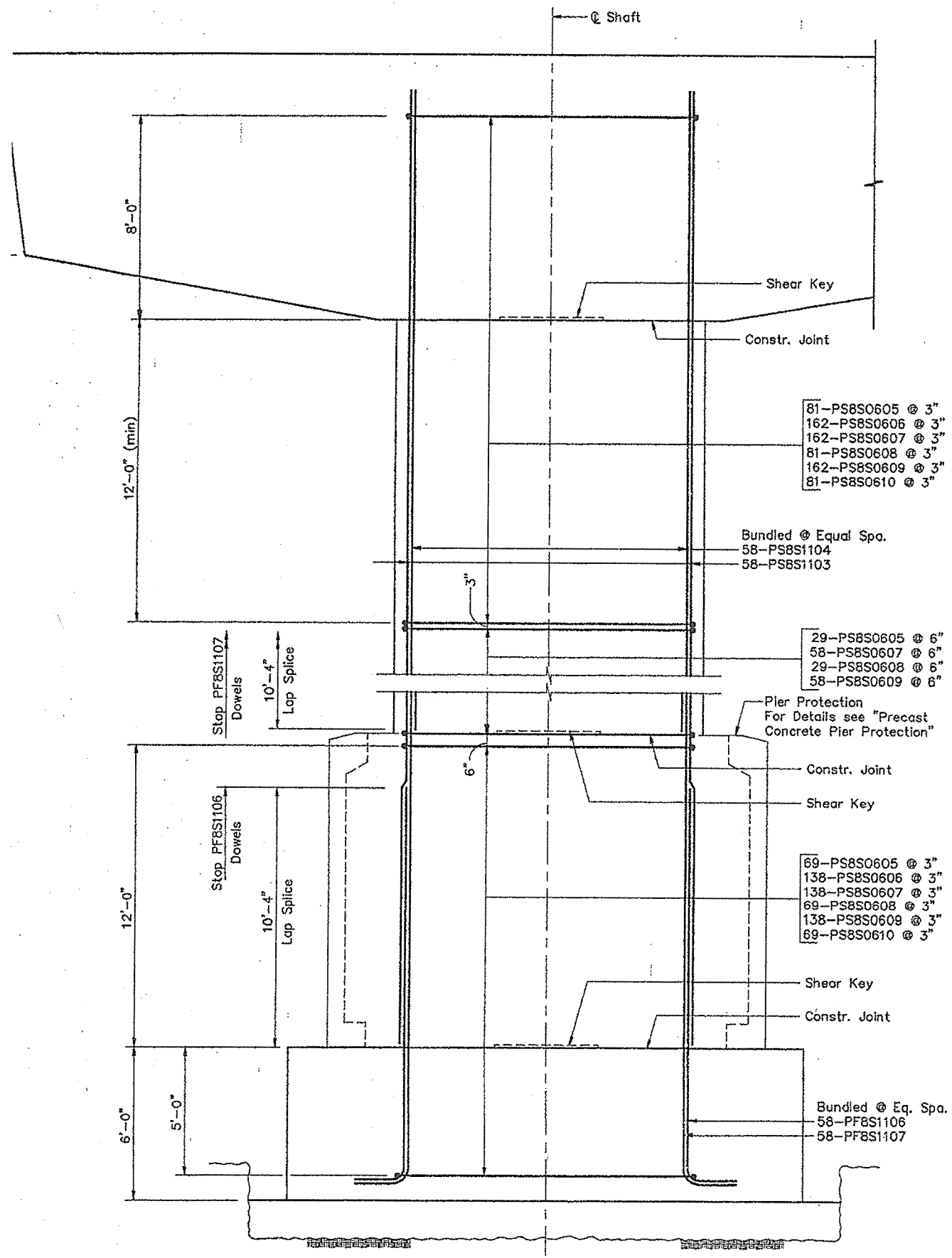
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PORTLAND - S. PORTLAND BRIDGE

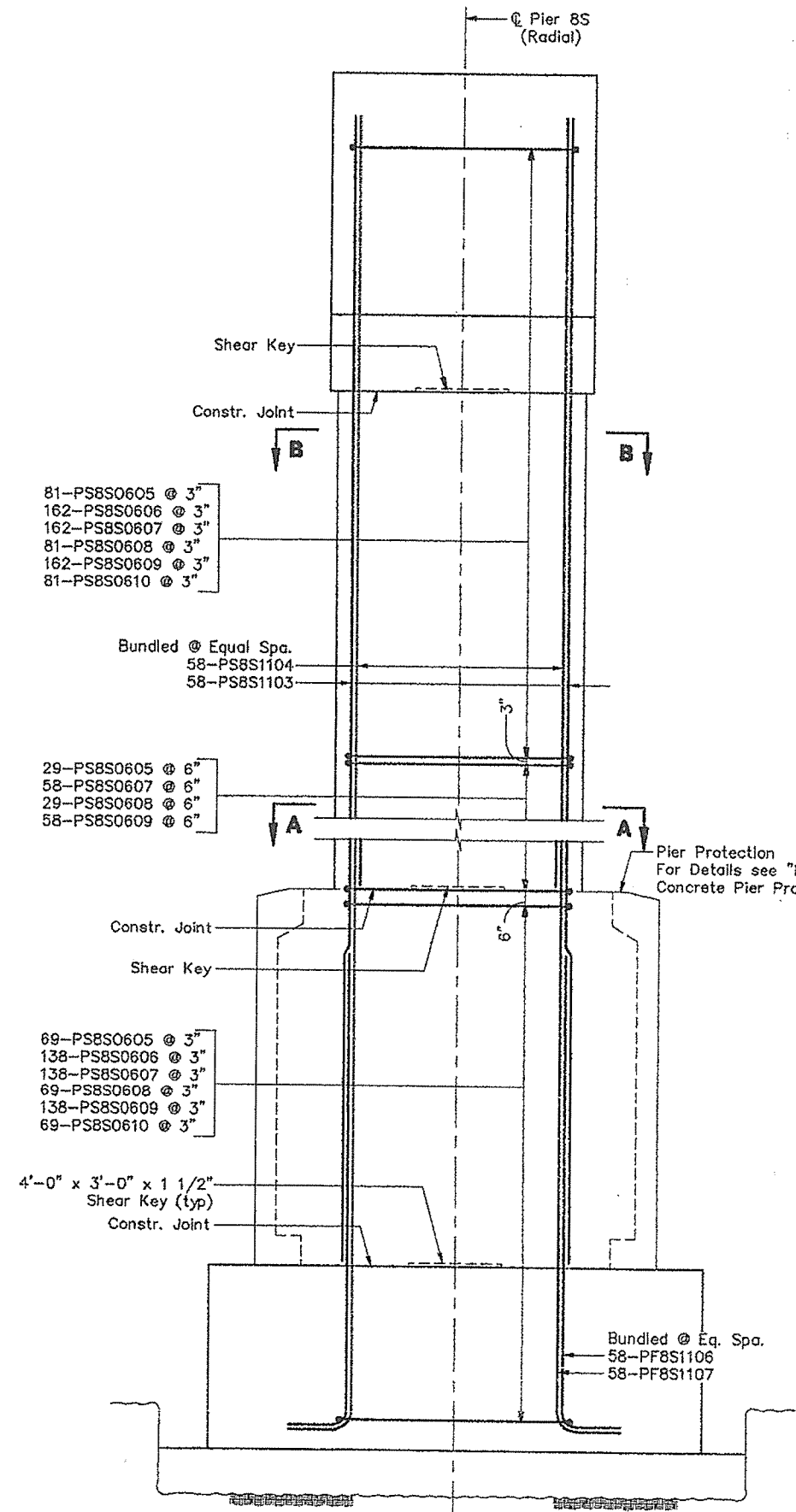
OVER FORE RIVER

CUMBERLAND COUNTY

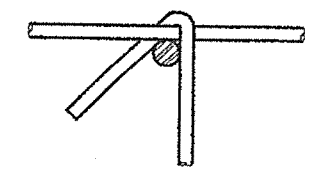
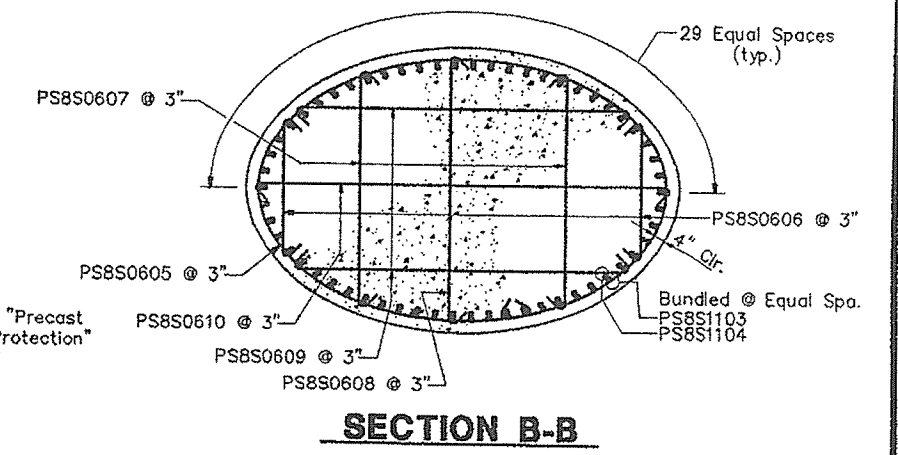
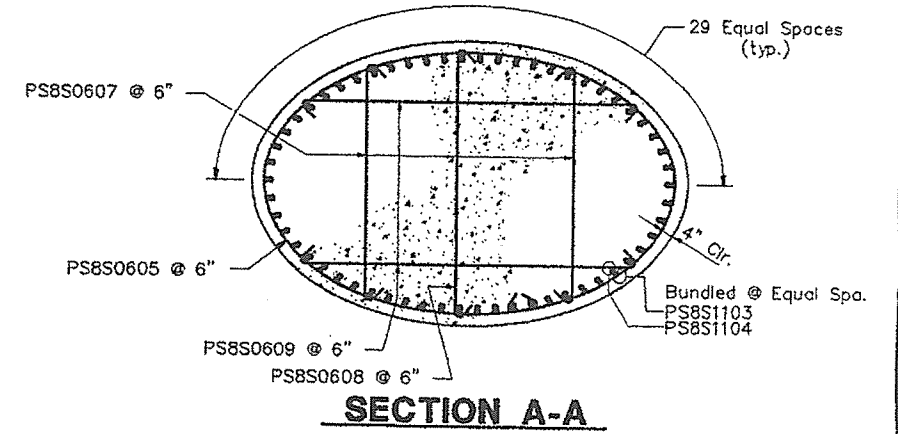
SHAFT REINFORCING
PIER 8S (N.B.L.)



FRONT ELEVATION



SIDE ELEVATION



TIE CONNECTION DETAIL

Note:
Cap, footing and pier protection reinforcing
not shown in elevation for clarity.

STEEL ALTERNATIVE SUBSTRUCTURE

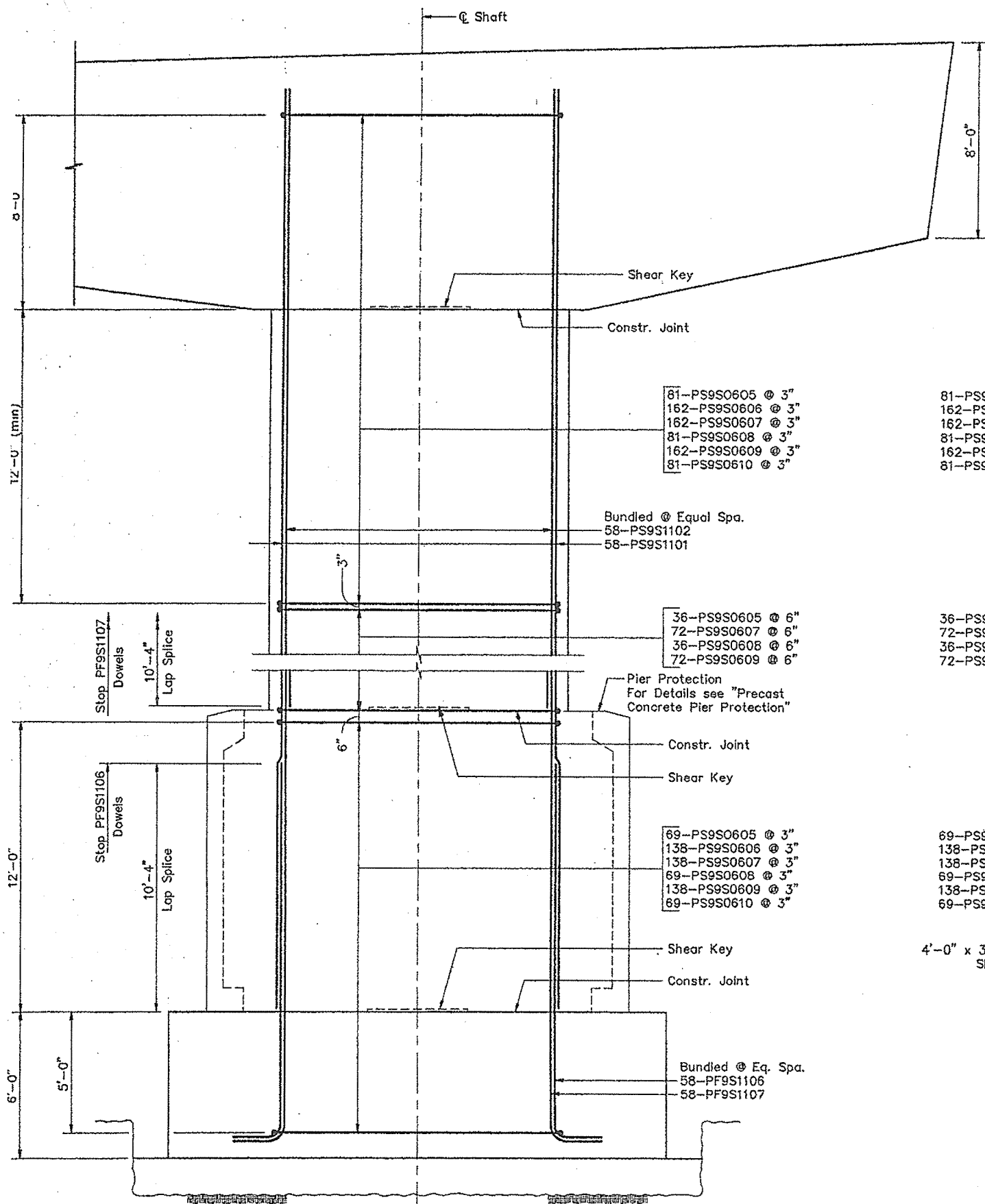
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PORTLAND - S. PORTLAND BRIDGE

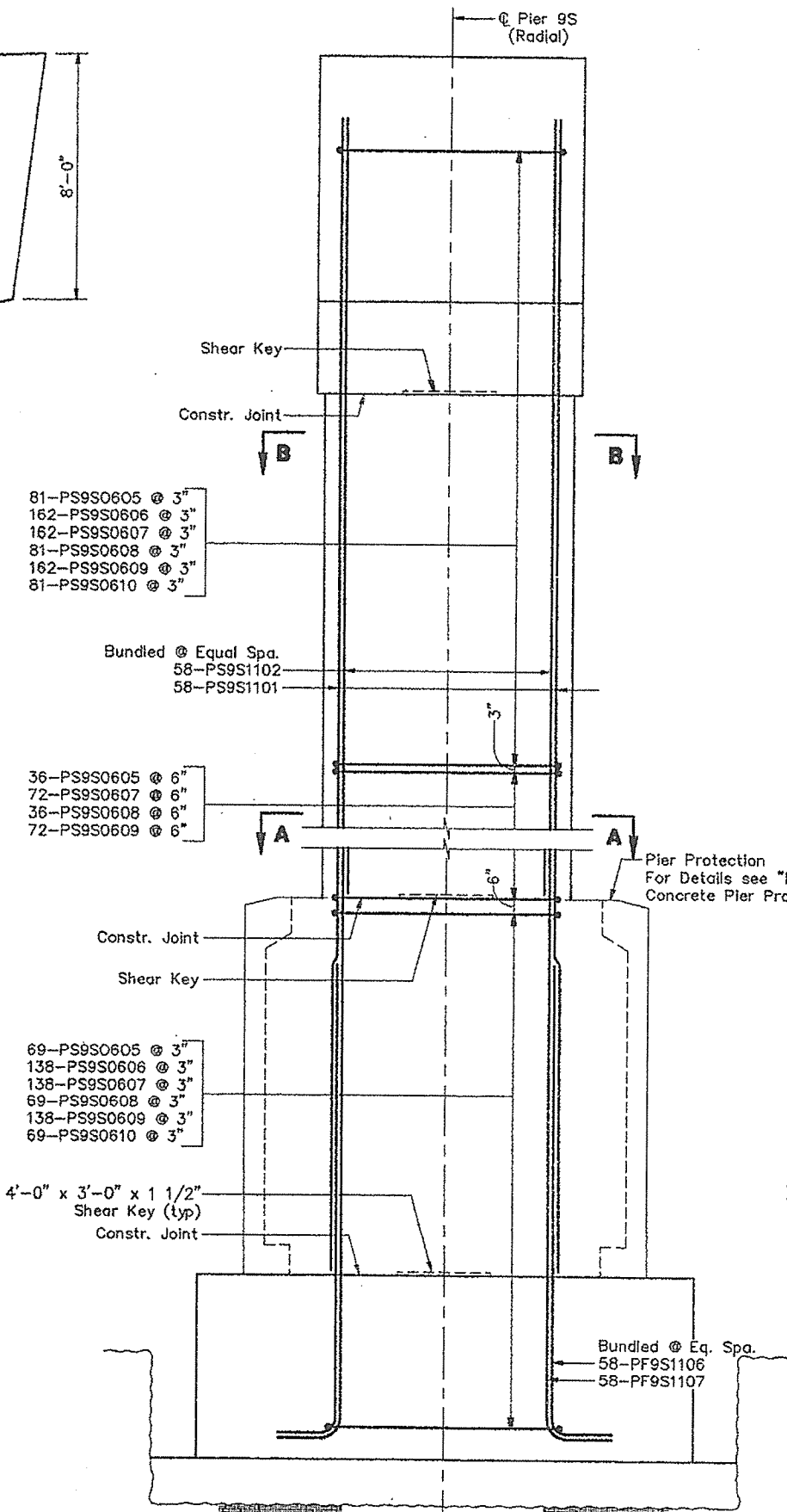
OVER FORE RIVER

CUMBERLAND COUNTY

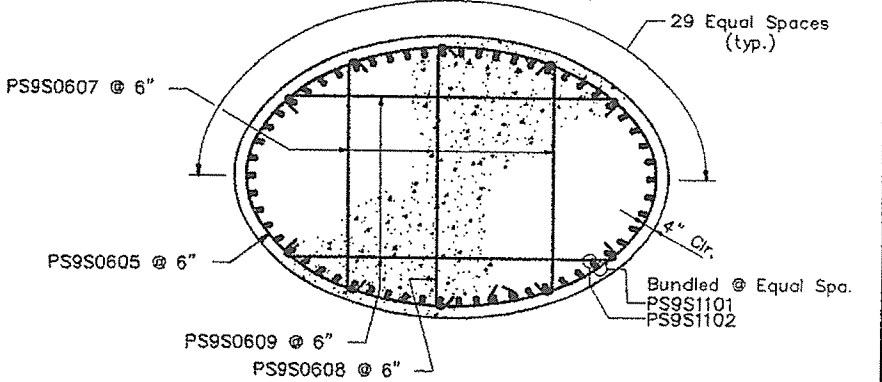
**SHAFT REINFORCING
PIER 8S (S.B.L.)**



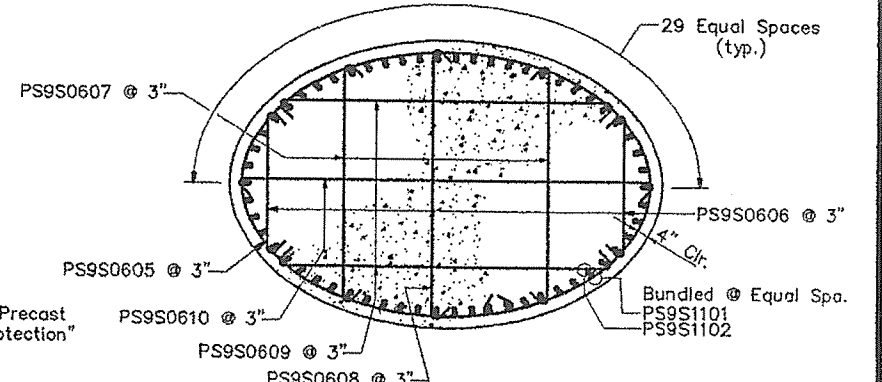
FRONT ELEVATION



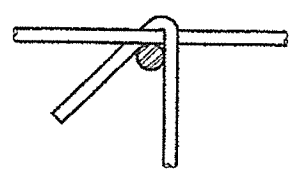
SIDE ELEVATION



SECTION A-A



SECTION B-B



TIE CONNECTION DETAIL

Note:
Cap, footing and pier protection reinforcing
not shown in elevation for clarity.

STEEL ALTERNATIVE SUBSTRUCTURE

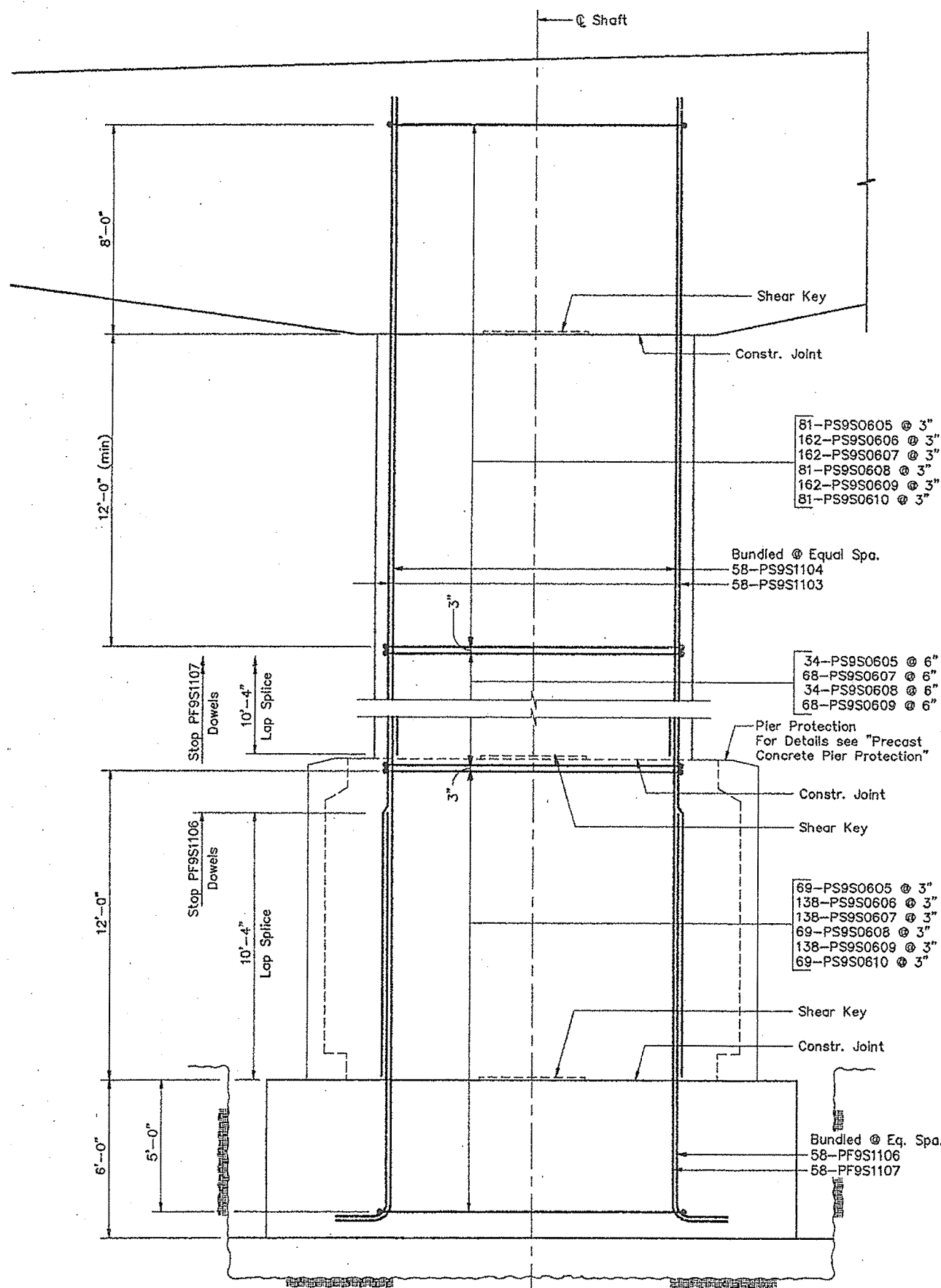
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PORTLAND - S. PORTLAND BRIDGE

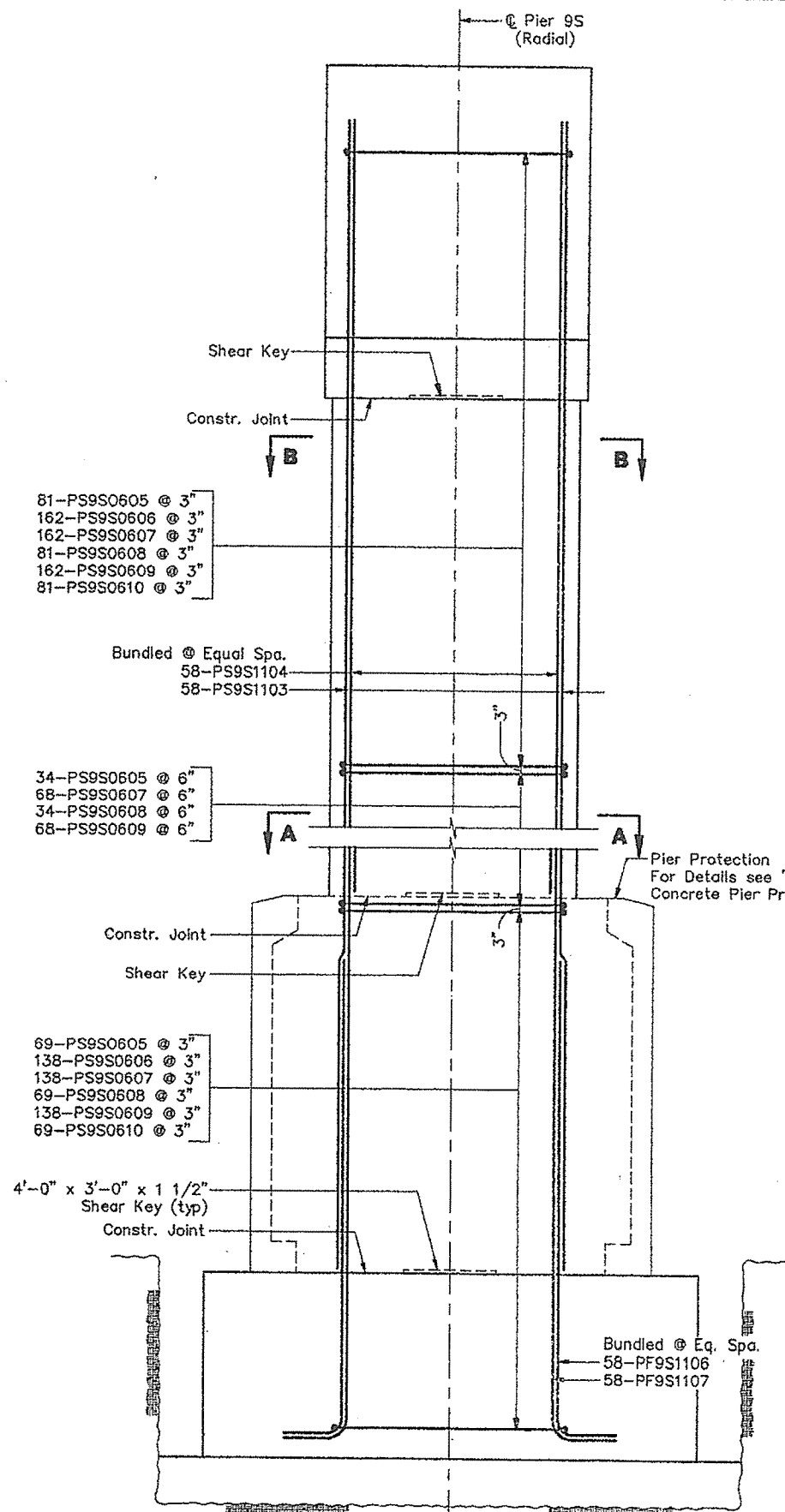
OVER FORE RIVER

CUMBERLAND COUNTY

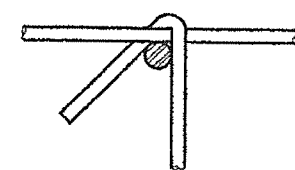
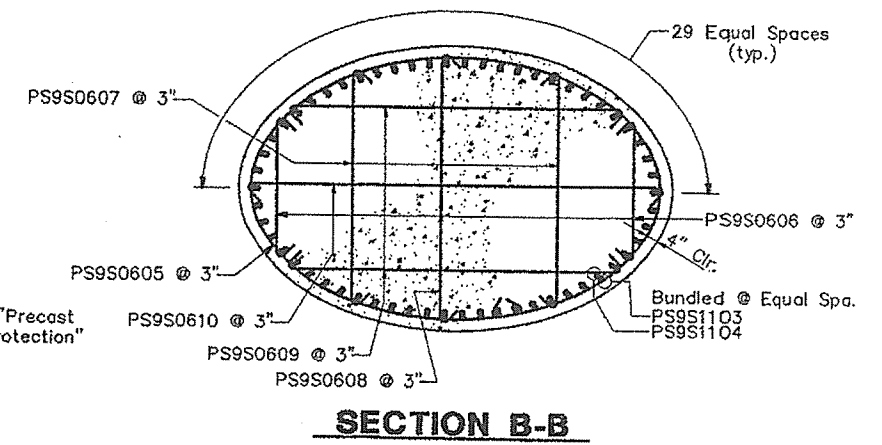
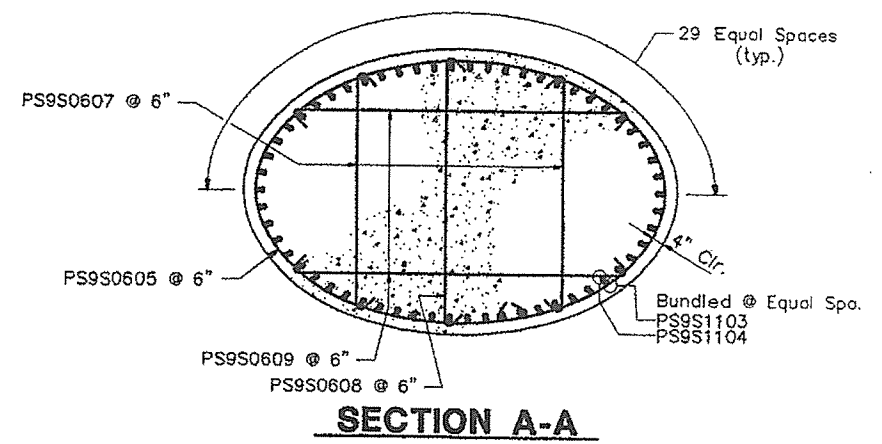
SHAFT REINFORCING
PIER 9S (N.B.L.)



FRONT ELEVATION



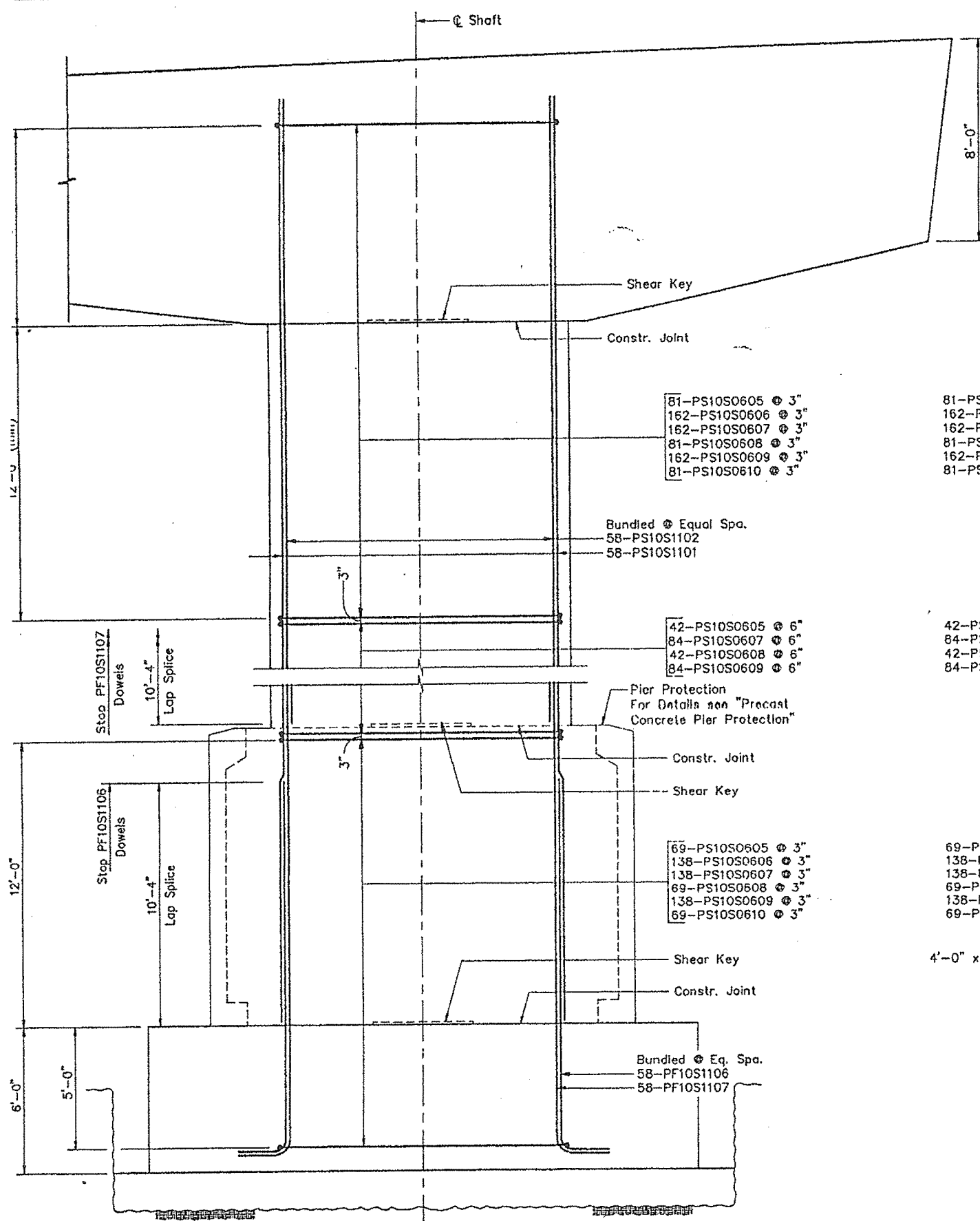
SIDE ELEVATION



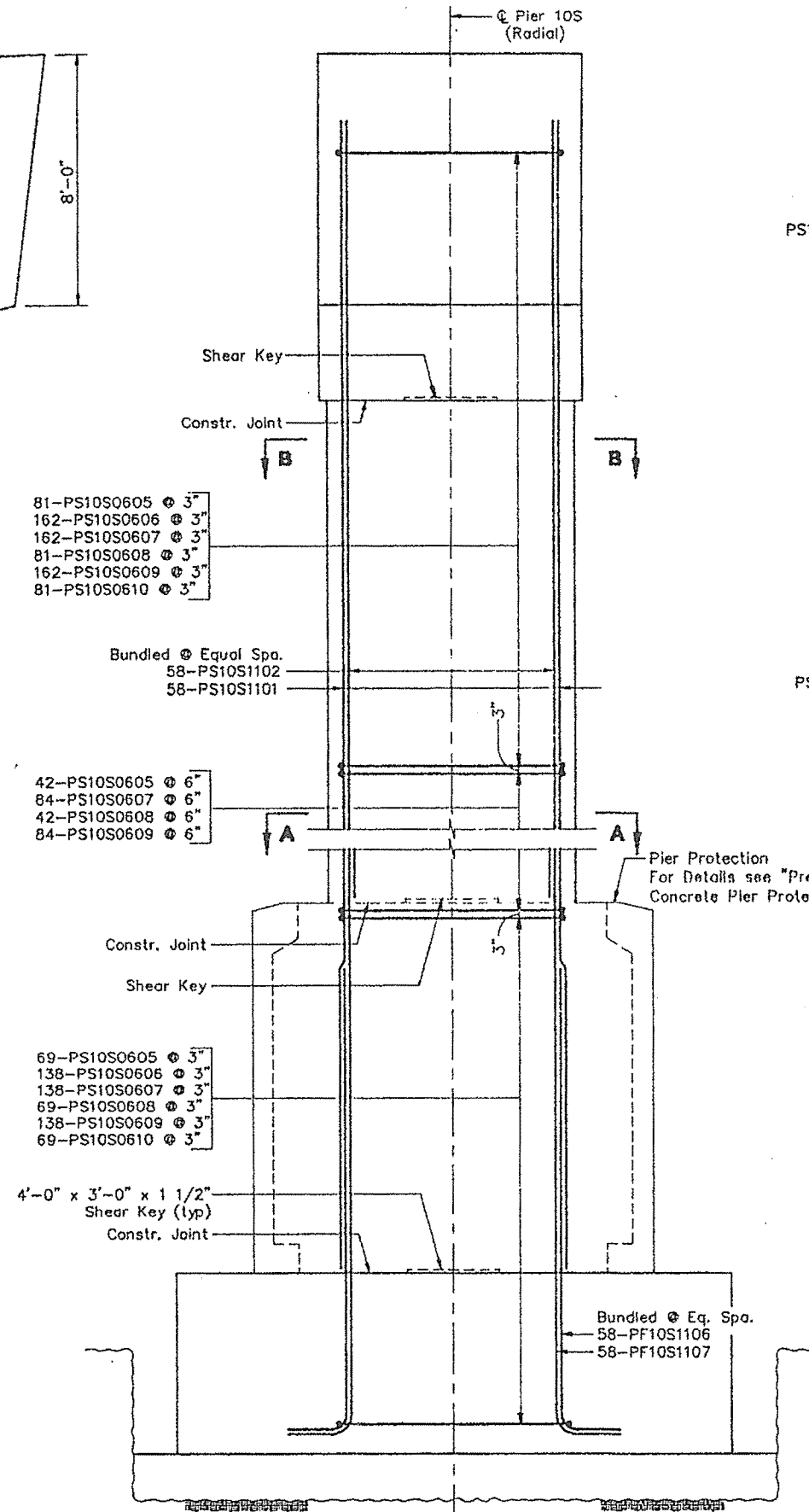
TIE CONNECTION DETAIL

Note:
Cap, footing and pier protection reinforcing
not shown in elevation for clarity.

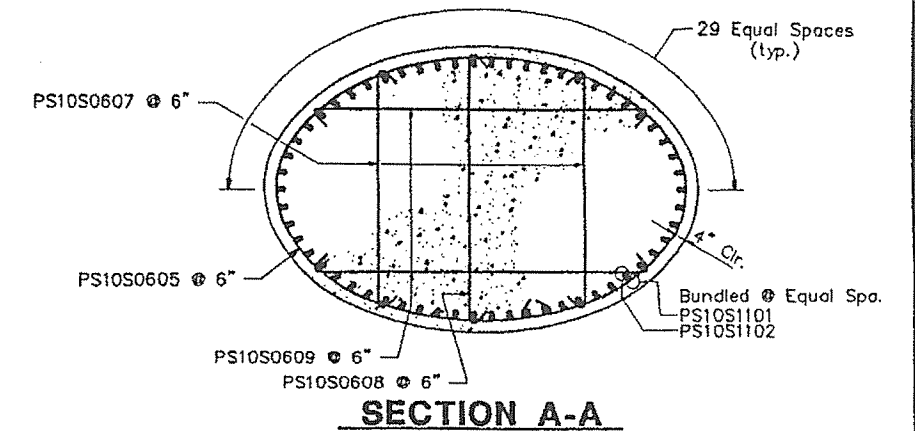
STEEL ALTERNATIVE SUBSTRUCTURE
STATE OF MAINE DEPARTMENT OF TRANSPORTATION
PORTLAND - S. PORTLAND BRIDGE
OVER FORE RIVER
CUMBERLAND COUNTY
SHAFT REINFORCING PIER 9S (S.B.L.)



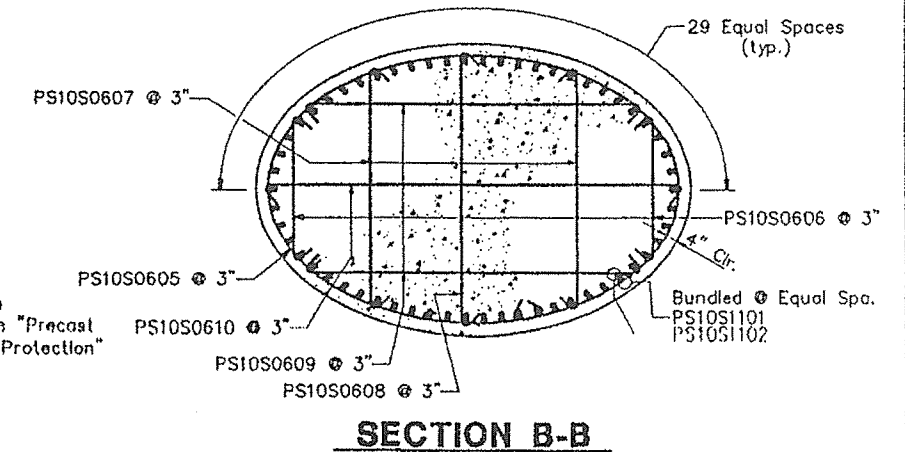
FRONT ELEVATION



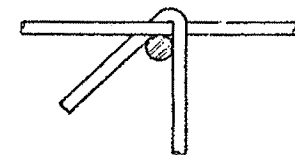
SIDE ELEVATION



SECTION A-A



SECTION B-B



TIE CONNECTION DETAIL

Note:
Cap, footing and pier protection reinforcing
not shown in elevation for clarity.

STEEL ALTERNATIVE SUBSTRUCTURE

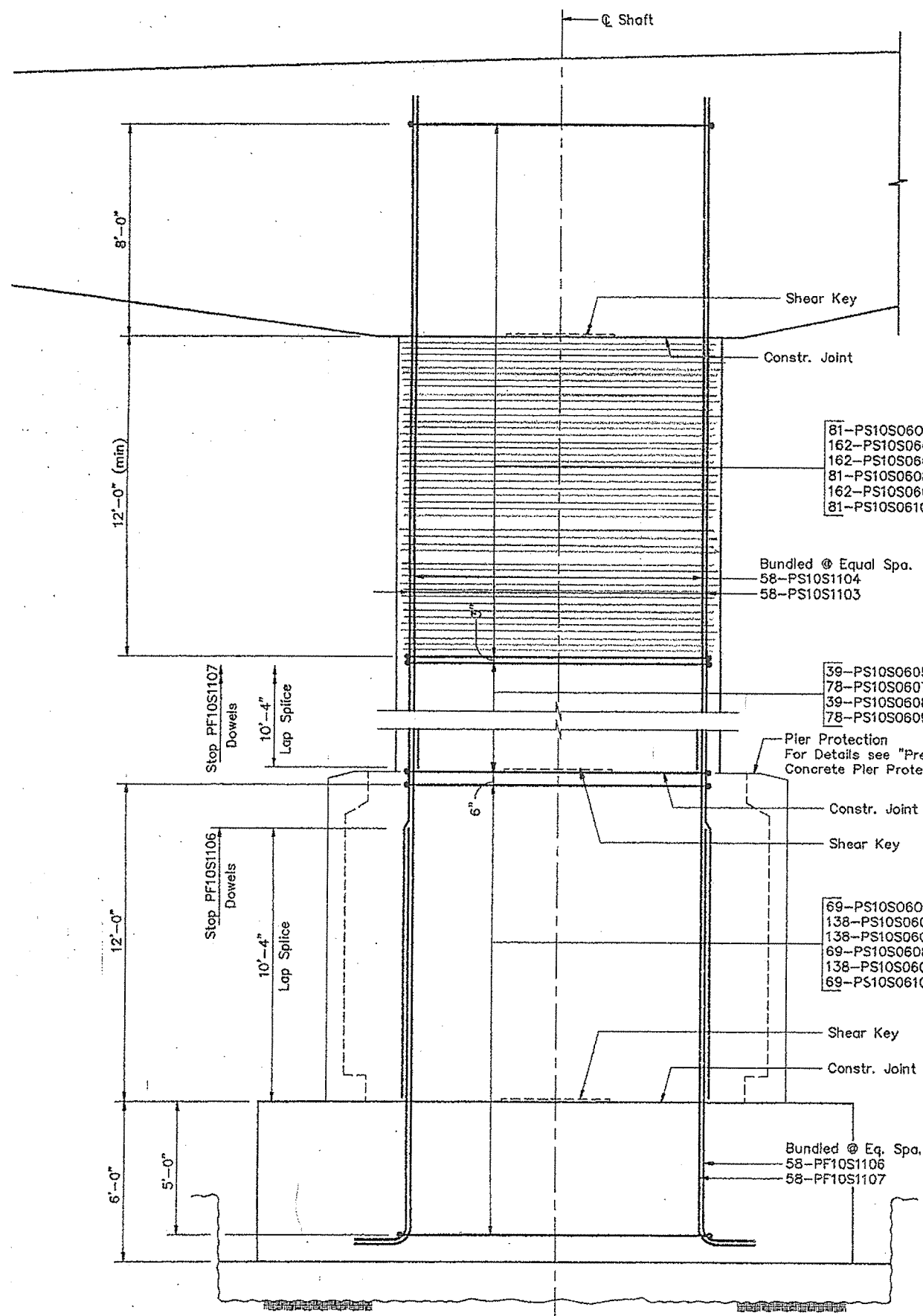
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PORTLAND - 8. PORTLAND BRIDGE

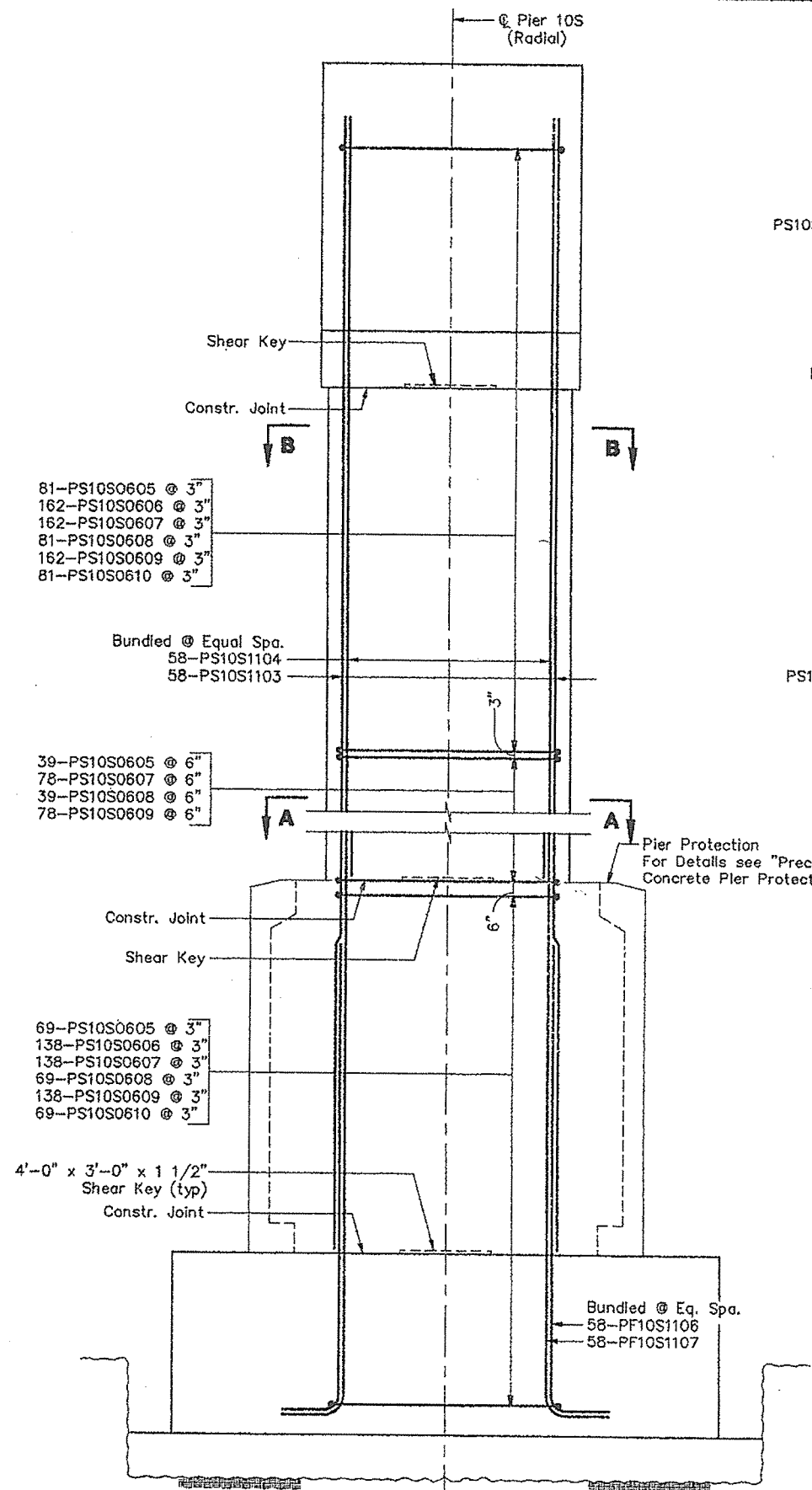
OVER FORE RIVER

CUMBERLAND COUNTY

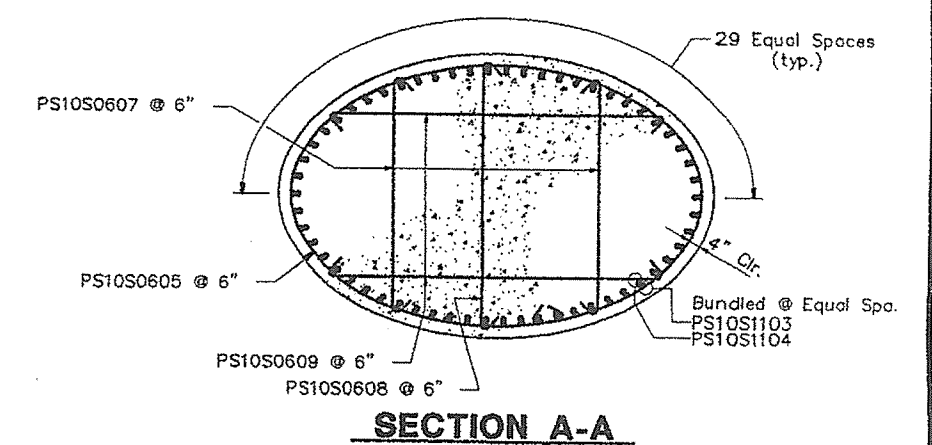
SHAFT REINFORCING
PIER 10S (N.B.L.)



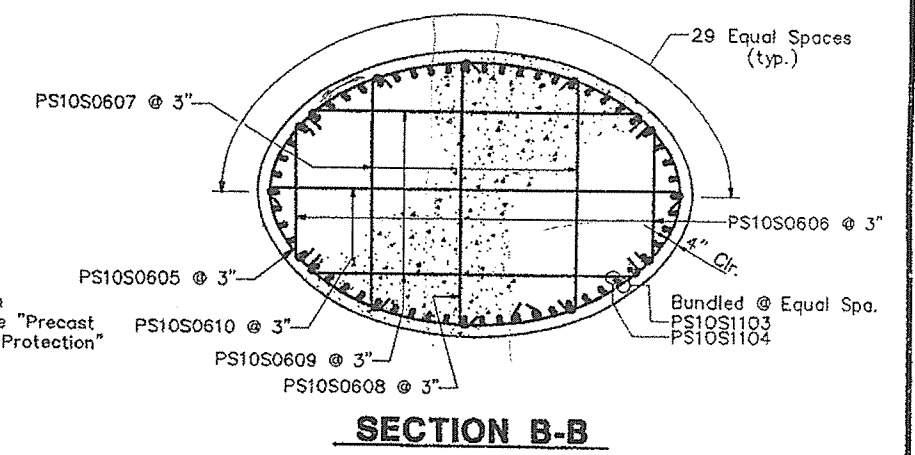
FRONT ELEVATION



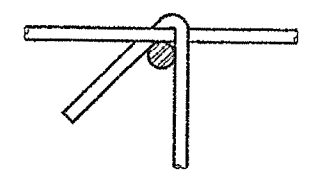
SIDE ELEVATION



SECTION A-A



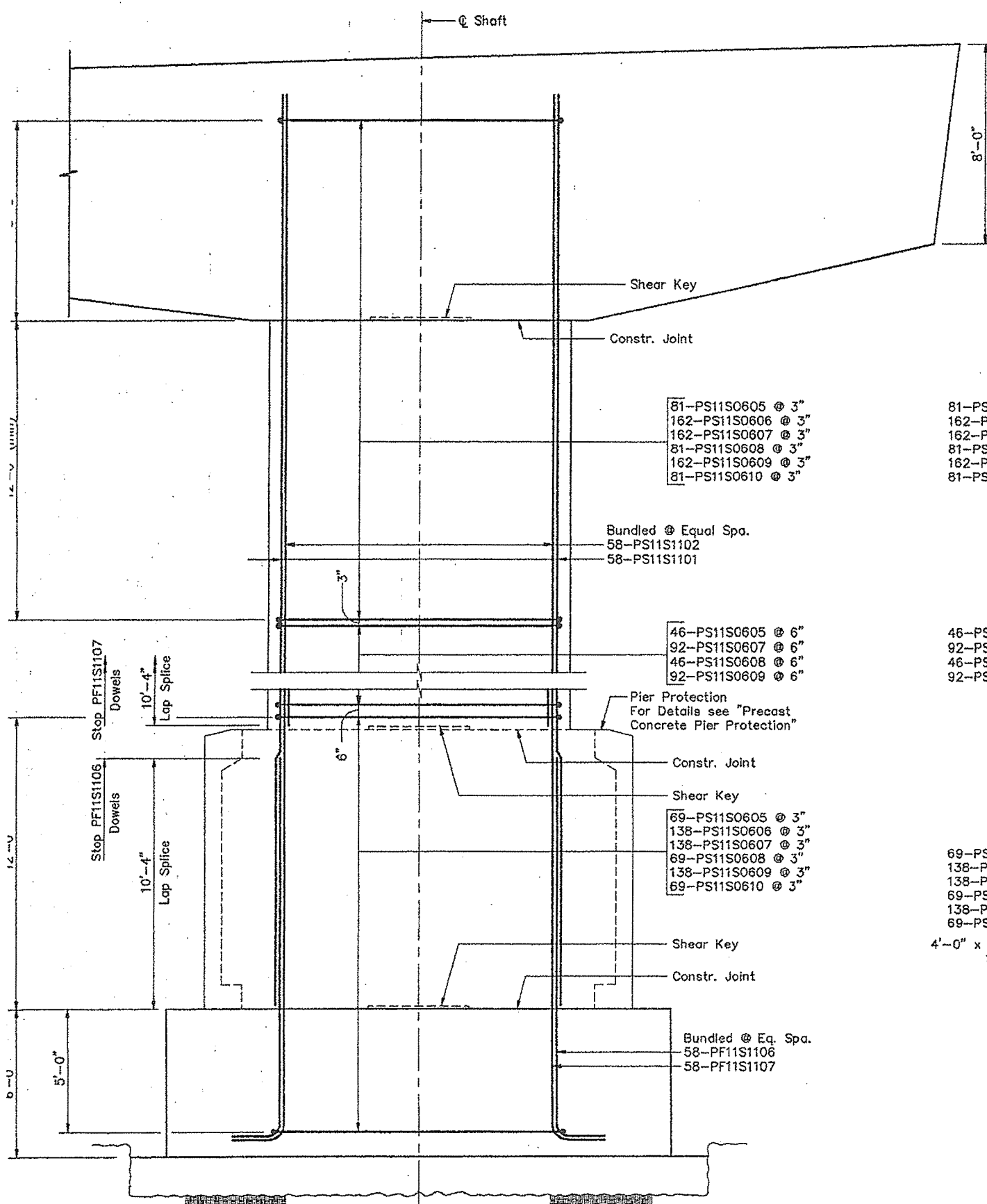
SECTION B-B



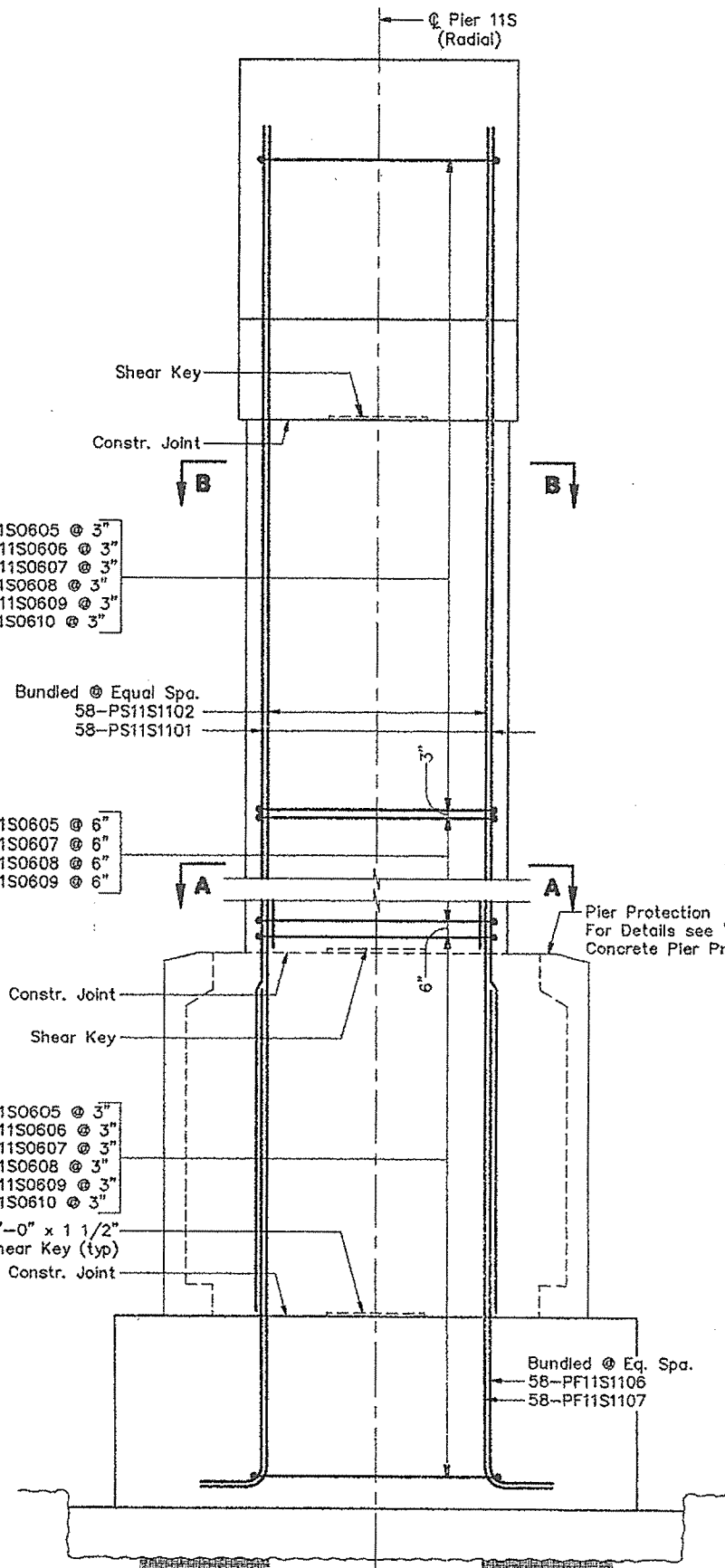
TIE CONNECTION DETAIL

Note:
Cap, footing and pier protection reinforcing
not shown in elevation for clarity.

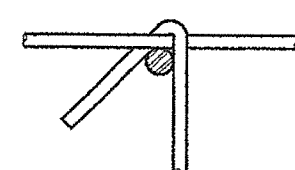
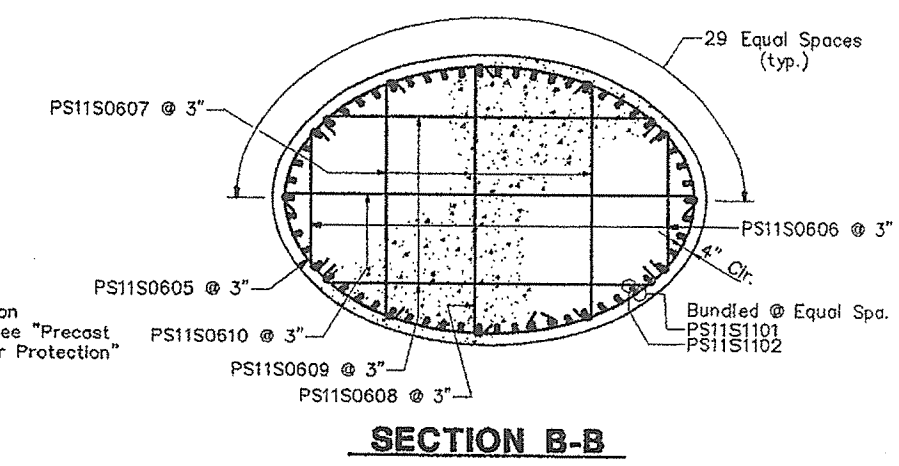
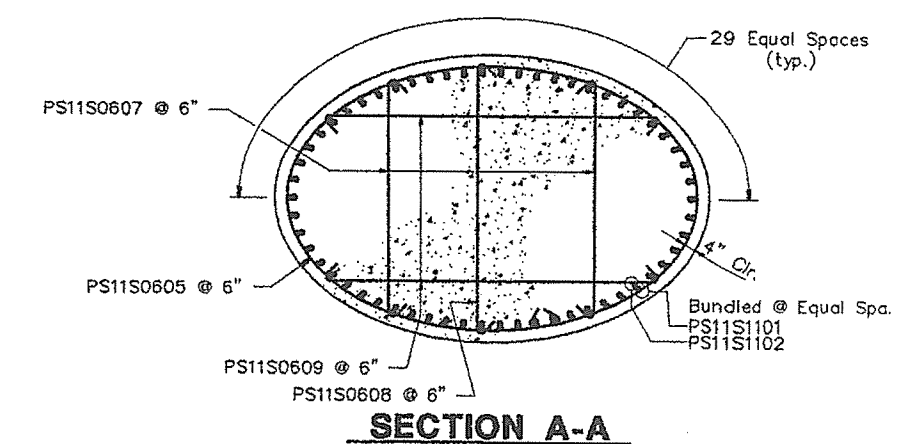
STEEL ALTERNATIVE SUBSTRUCTURE
STATE OF MAINE DEPARTMENT OF TRANSPORTATION
PORTLAND - S. PORTLAND BRIDGE
OVER FORE RIVER
CUMBERLAND COUNTY
SHAFT REINFORCING PIER 10S (S.B.L.)



FRONT ELEVATION



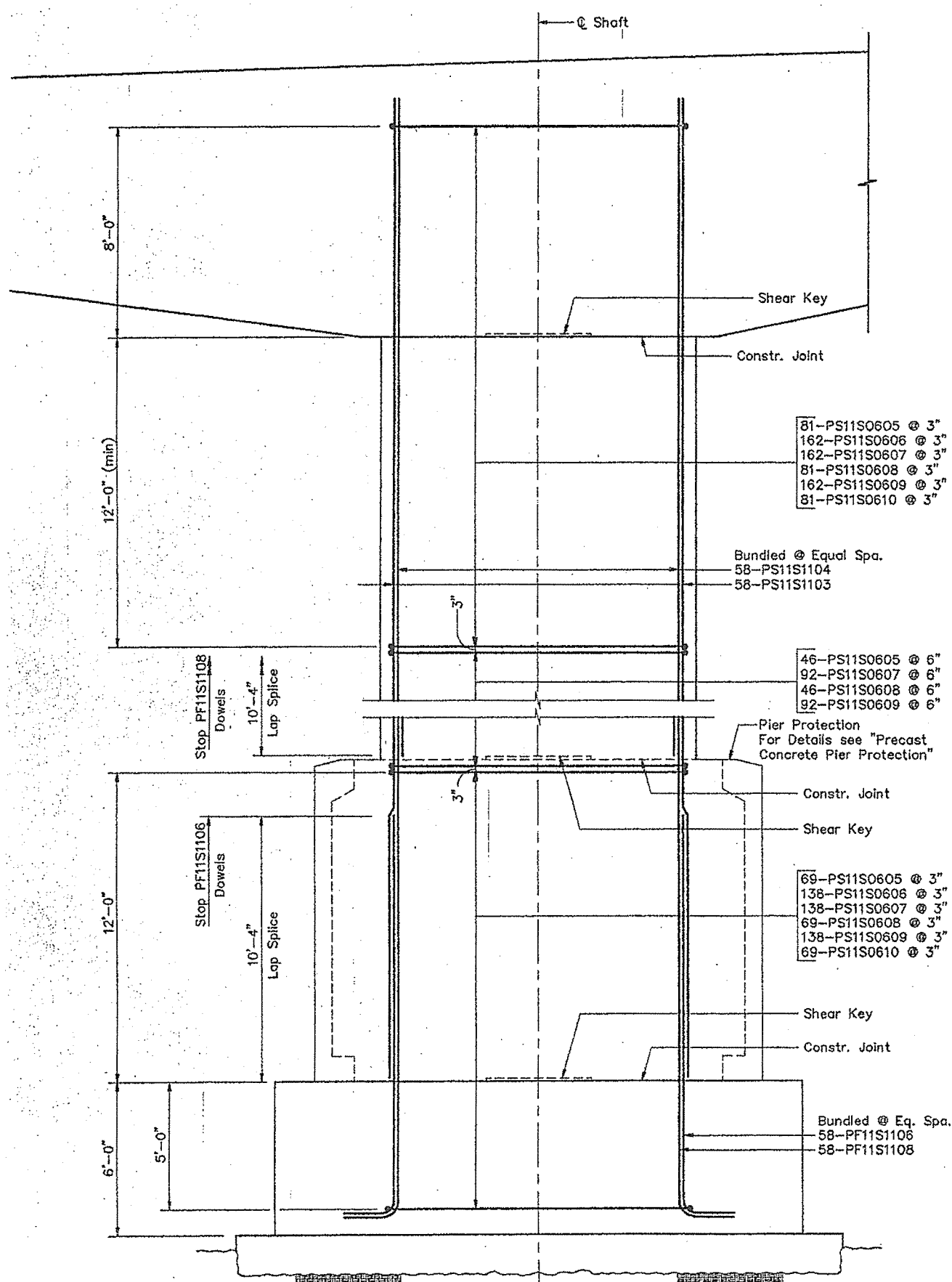
SIDE ELEVATION



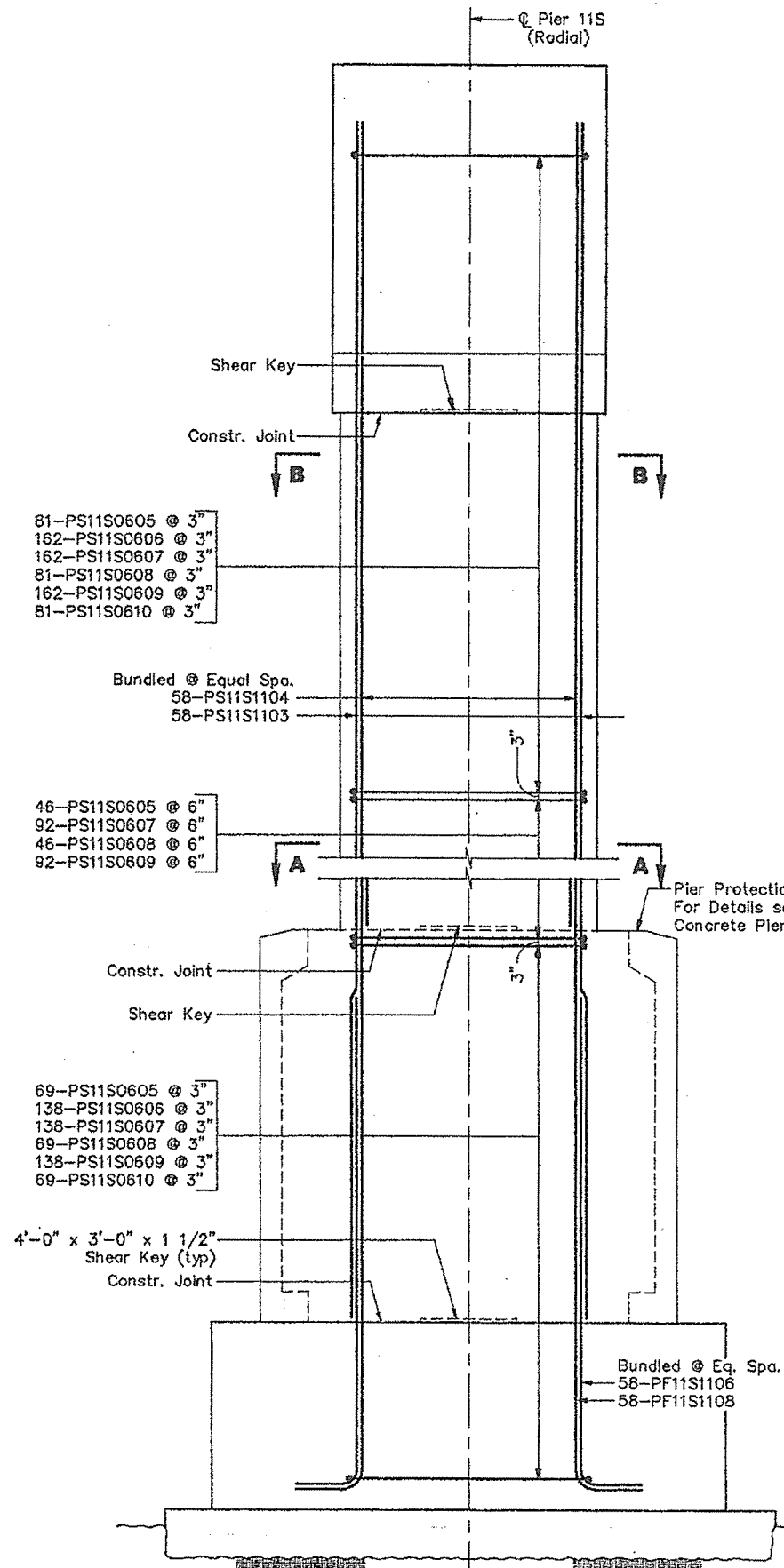
TIE CONNECTION DETAIL

Note:
Cap, footing and pier protection reinforcing
not shown in elevation for clarity.

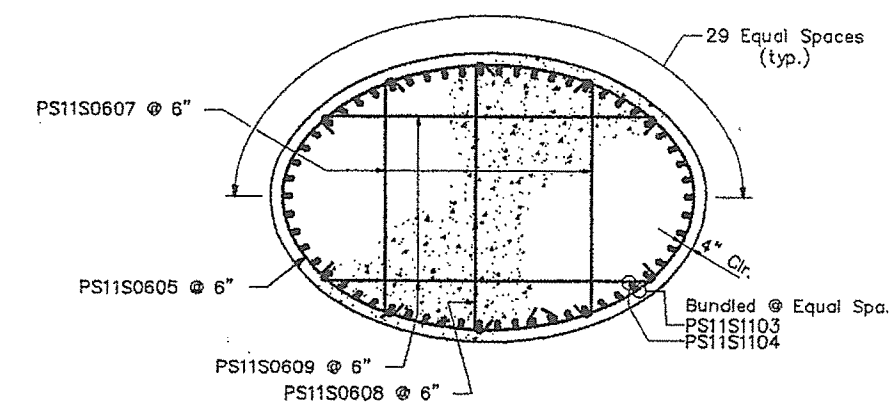
STEEL ALTERNATIVE SUBSTRUCTURE
STATE OF MAINE DEPARTMENT OF TRANSPORTATION
PORTLAND - S. PORTLAND BRIDGE
OVER FORE RIVER
CUMBERLAND COUNTY
SHAFT REINFORCING PIER 11S (N.B.L.)



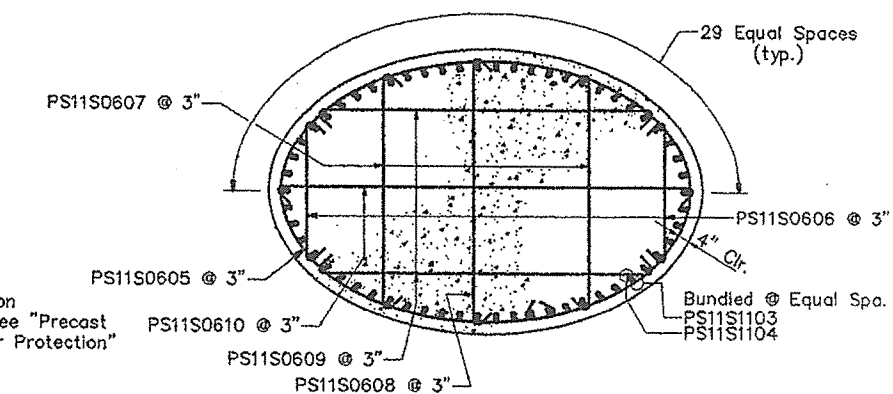
FRONT ELEVATION



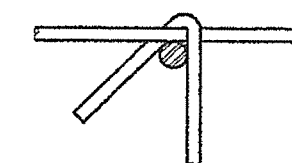
SIDE ELEVATION



SECTION A-A



SECTION B-B

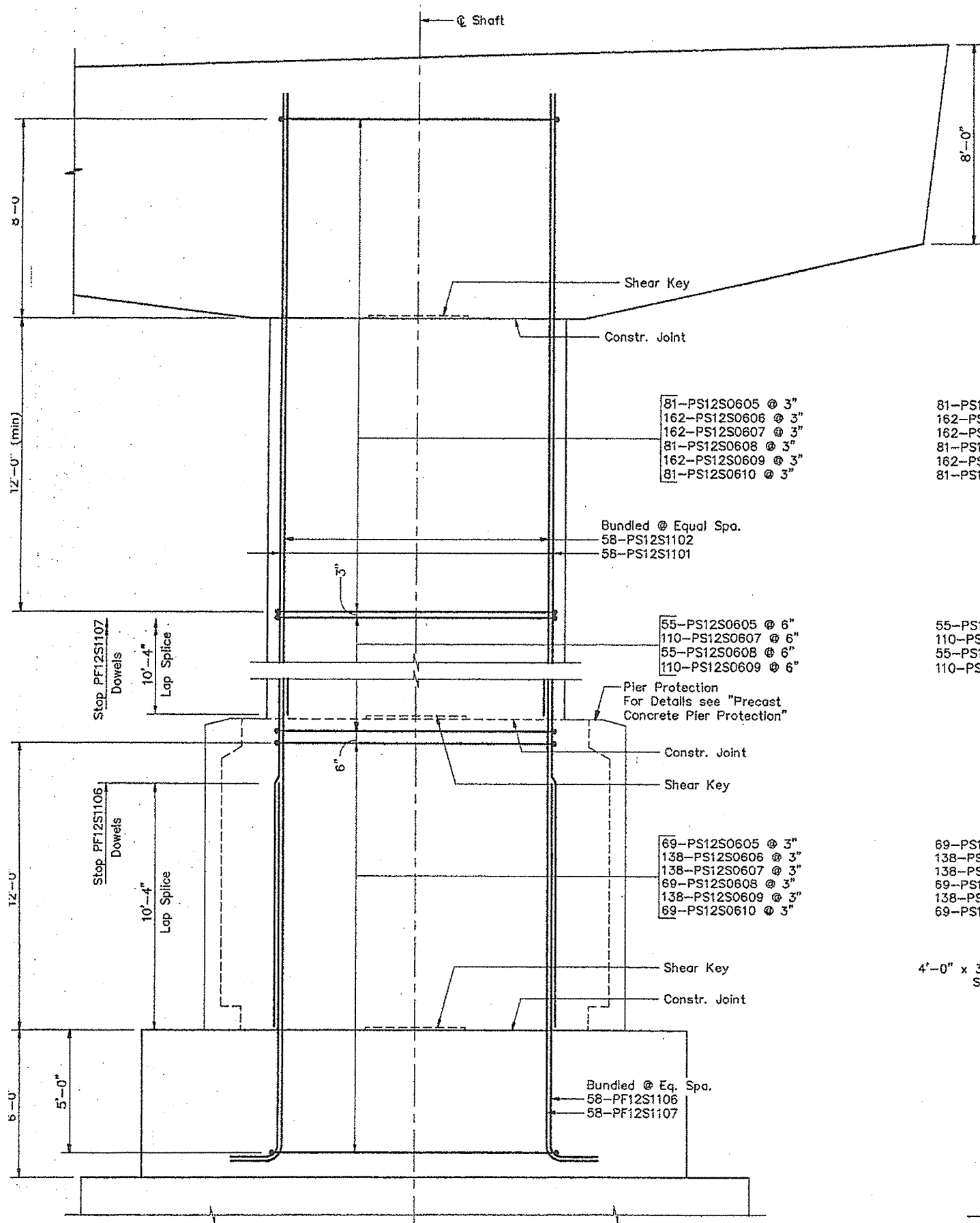


TIE CONNECTION DETAIL

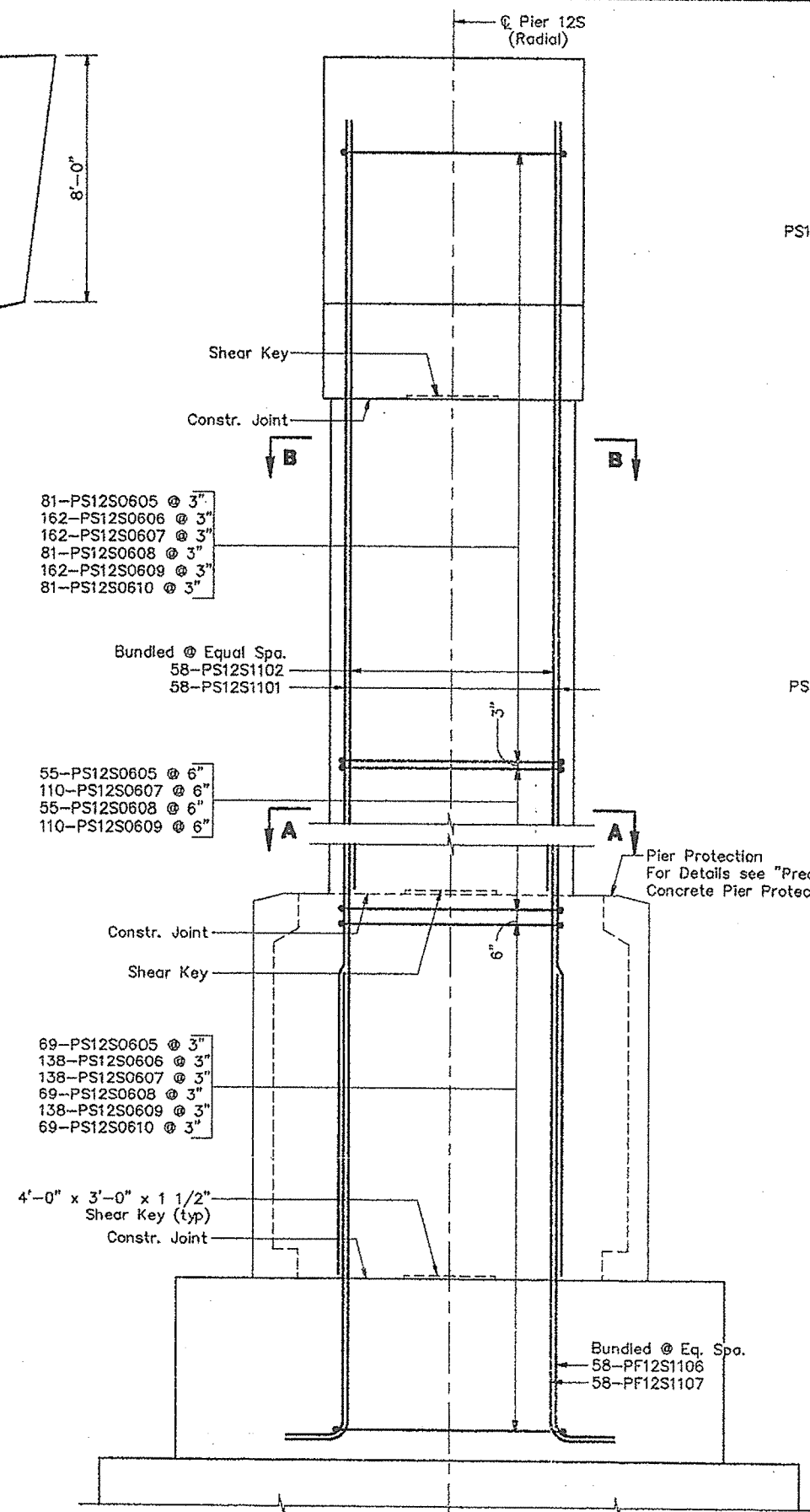
Note:
Cap, footing and pier protection reinforcing
not shown in elevation for clarity.

STEEL ALTERNATIVE SUBSTRUCTURE

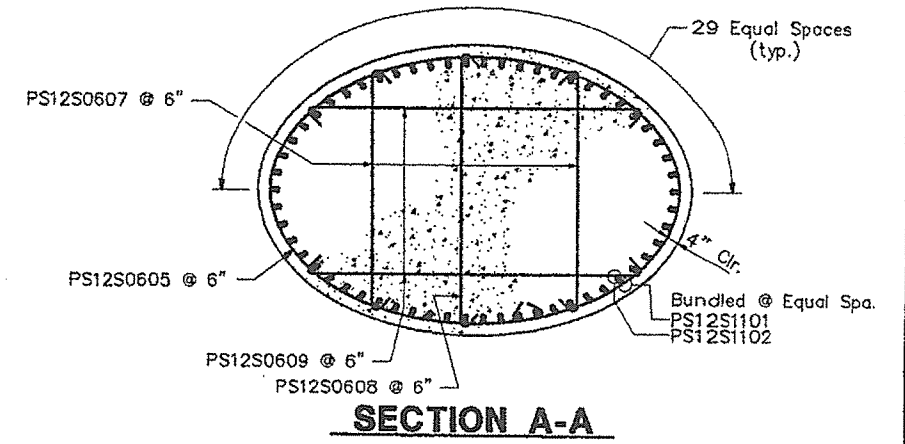
STATE OF MAINE DEPARTMENT OF TRANSPORTATION
PORTLAND - S. PORTLAND BRIDGE
OVER FORE RIVER
CUMBERLAND COUNTY
SHAFT REINFORCING PIER 11S (S.B.L.)



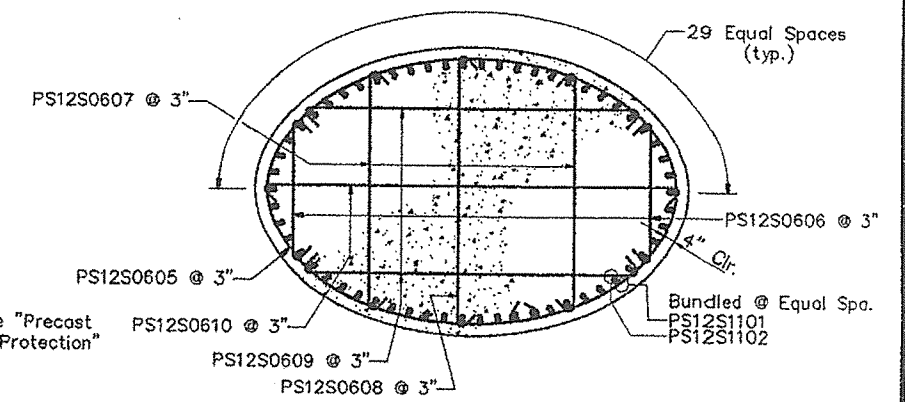
FRONT ELEVATION



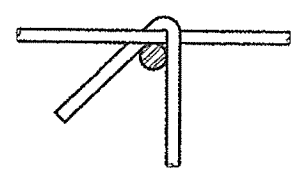
SIDE ELEVATION



SECTION A-A



SECTION B-B



TIE CONNECTION DETAIL

Note:
Cap, footing and pier protection reinforcing
not shown in elevation for clarity.

STEEL ALTERNATIVE SUBSTRUCTURE

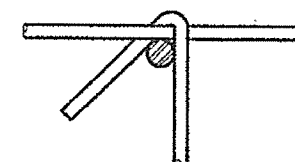
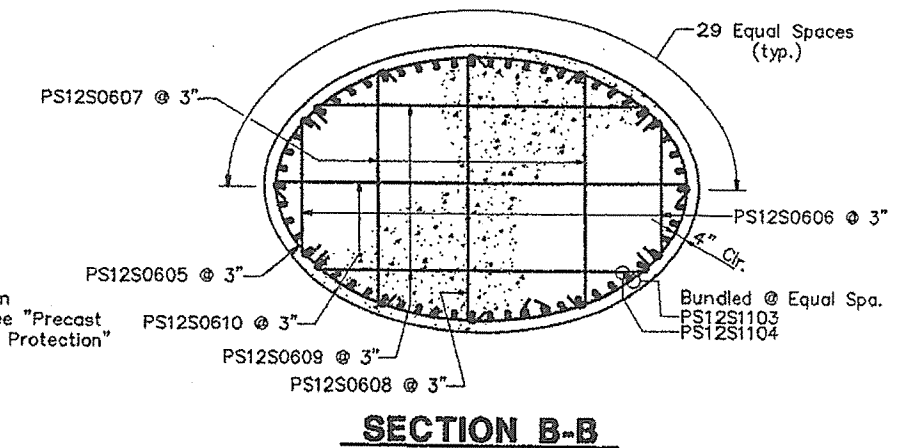
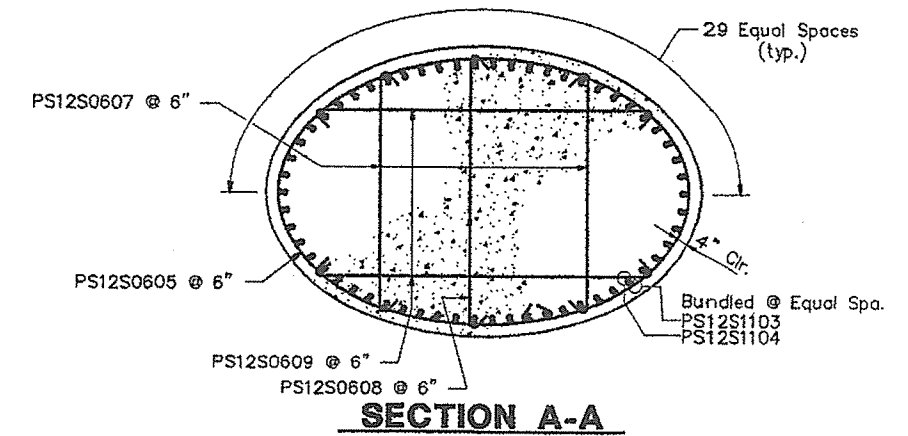
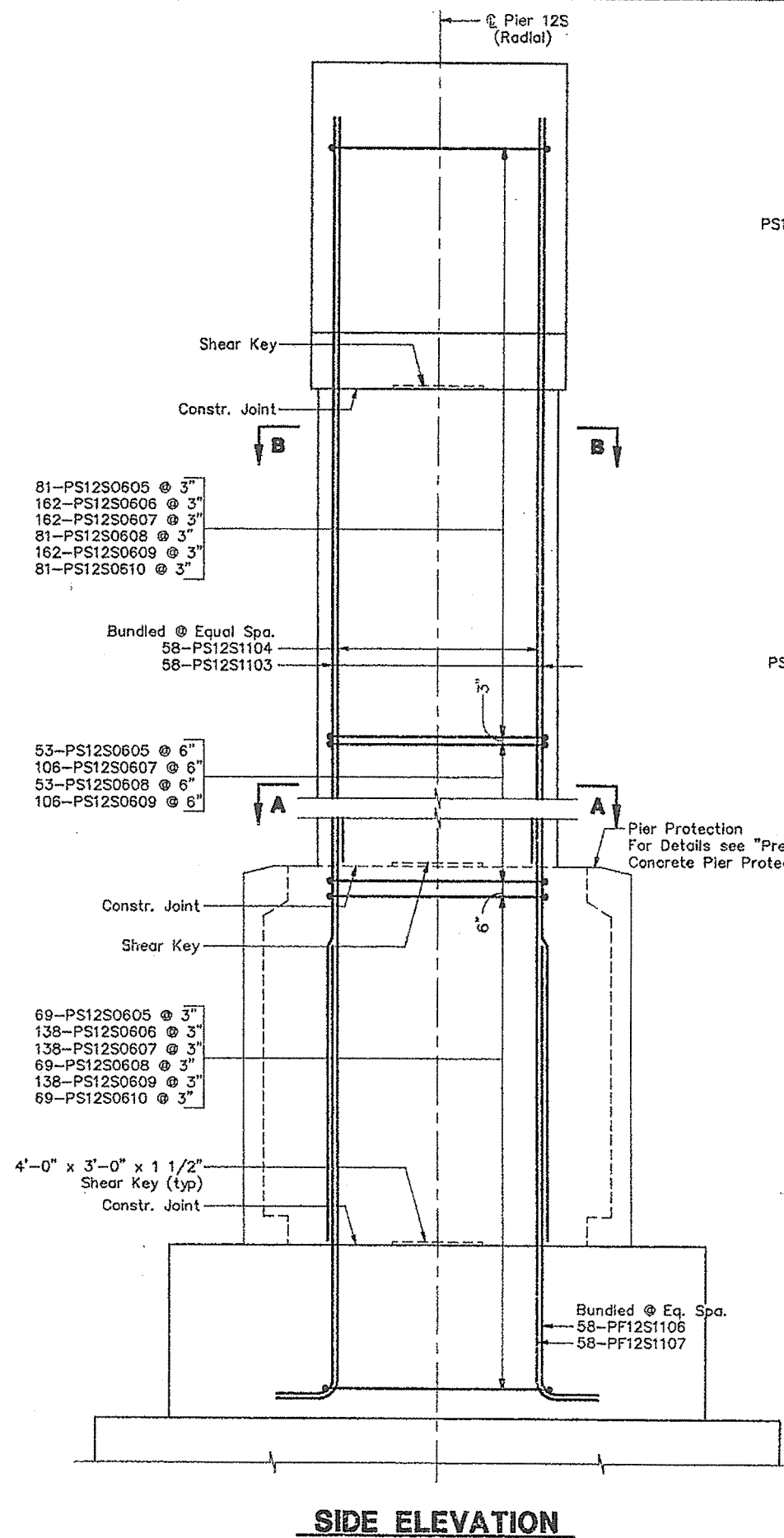
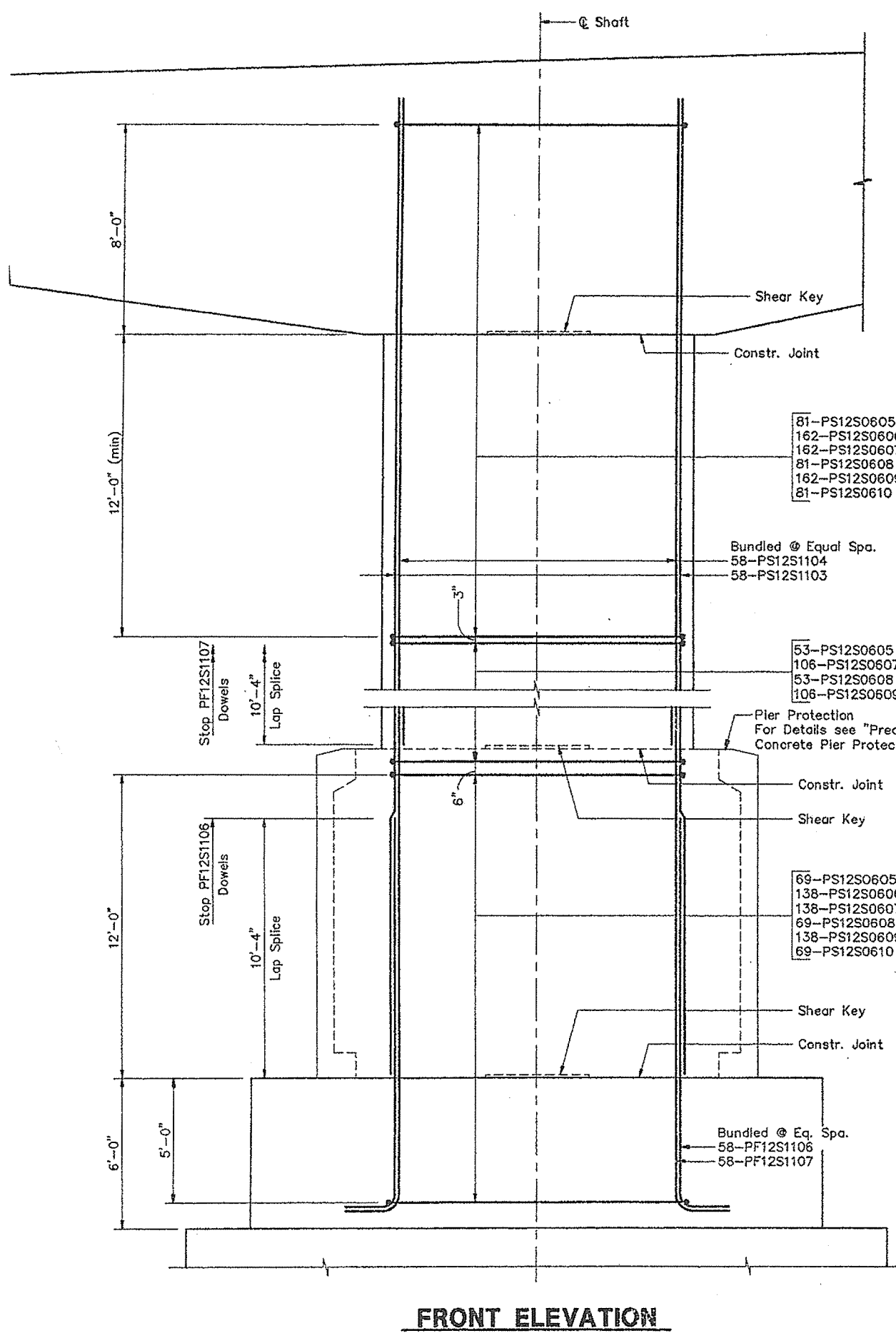
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PORTLAND - S. PORTLAND BRIDGE

OVER FORE RIVER

CUMBERLAND COUNTY

SHAFT REINFORCING
PIER 12S (N.B.L.)



TIE CONNECTION DETAIL

Note:
Cap, footing and pier protection reinforcing
not shown in elevation for clarity.

STEEL ALTERNATIVE SUBSTRUCTURE

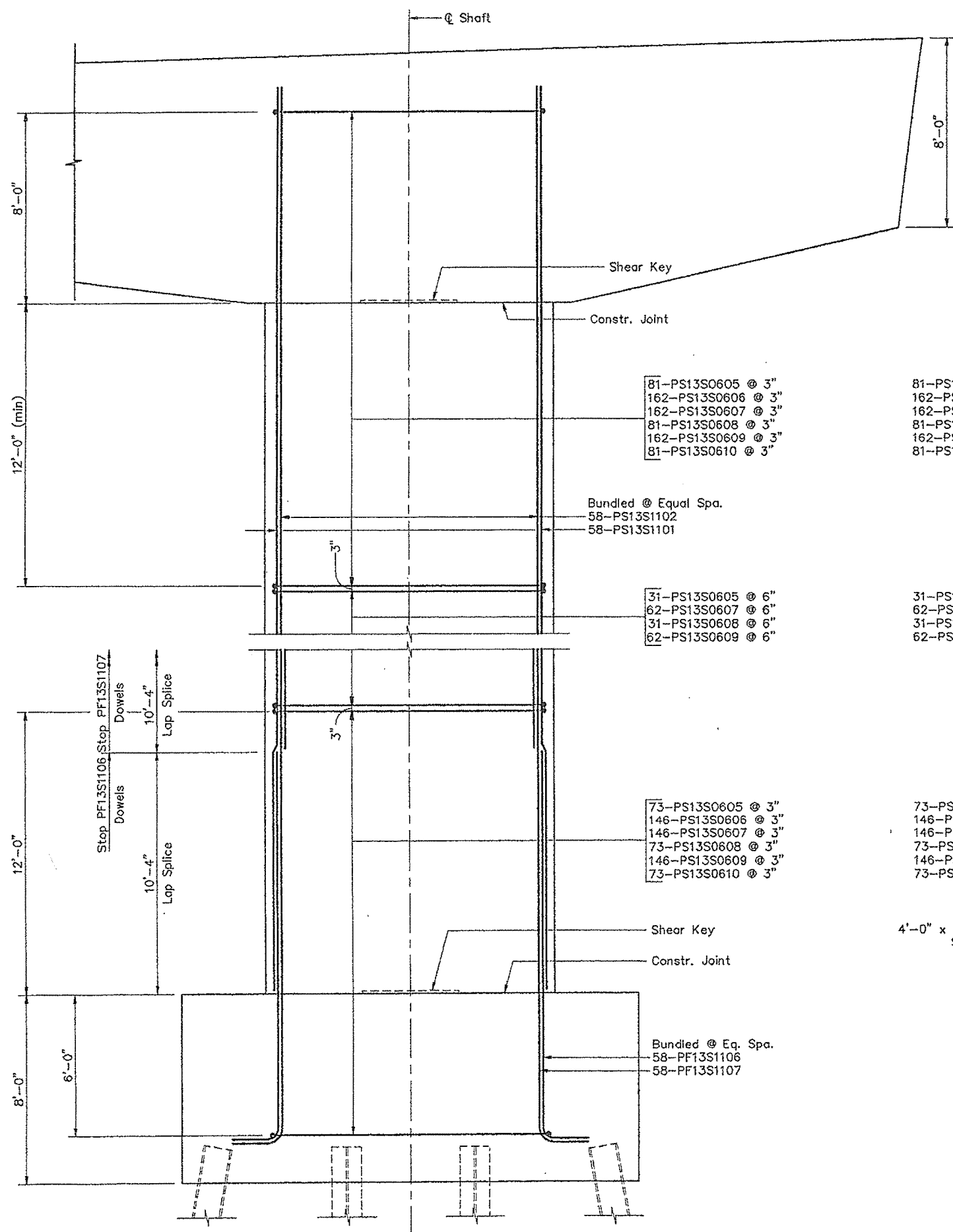
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PORTLAND - S. PORTLAND BRIDGE

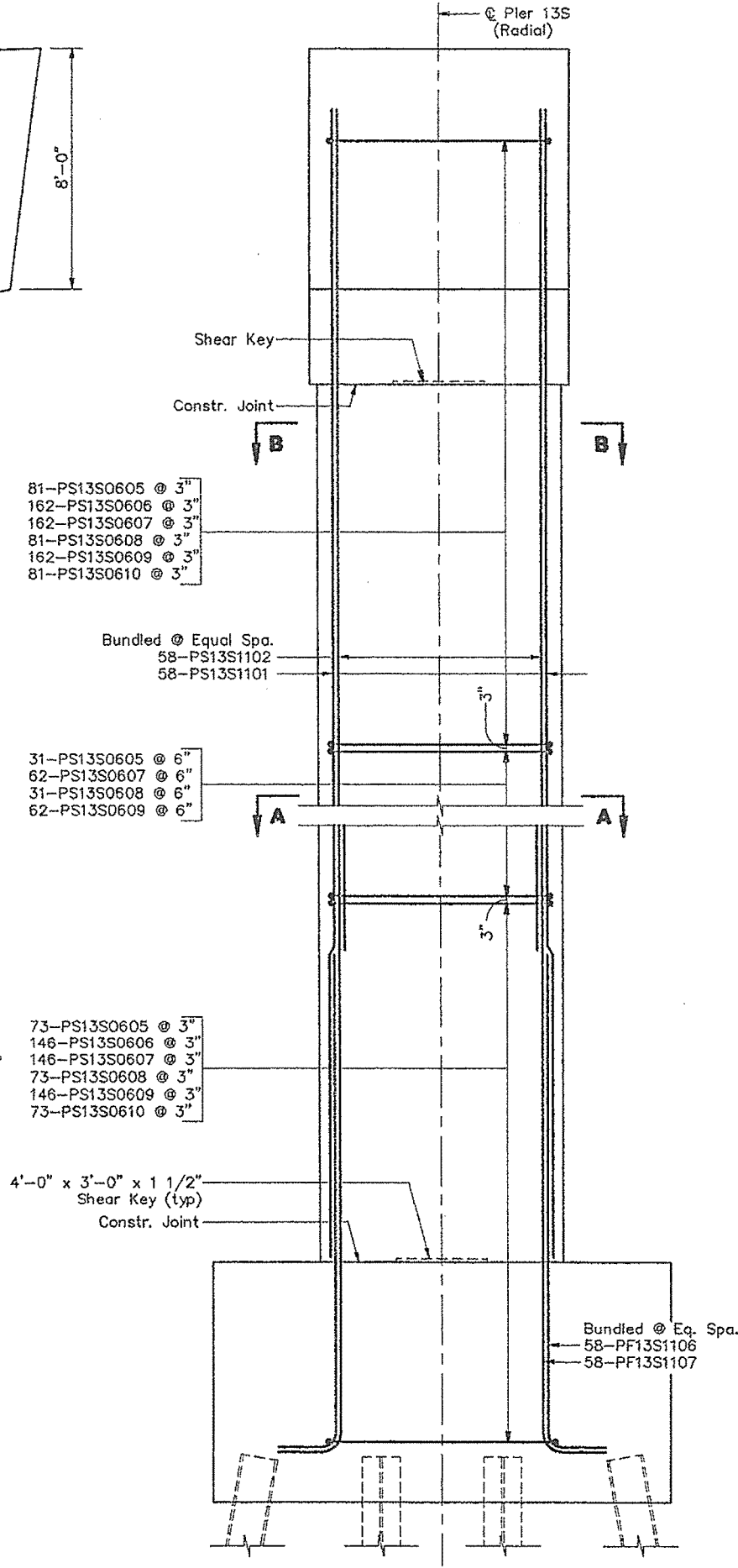
OVER FORE RIVER

CUMBERLAND COUNTY

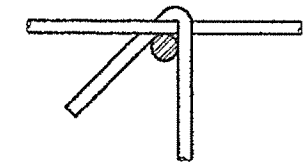
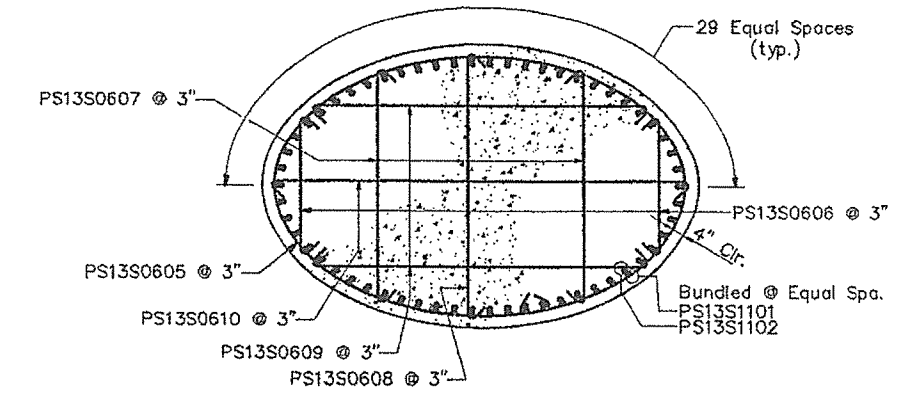
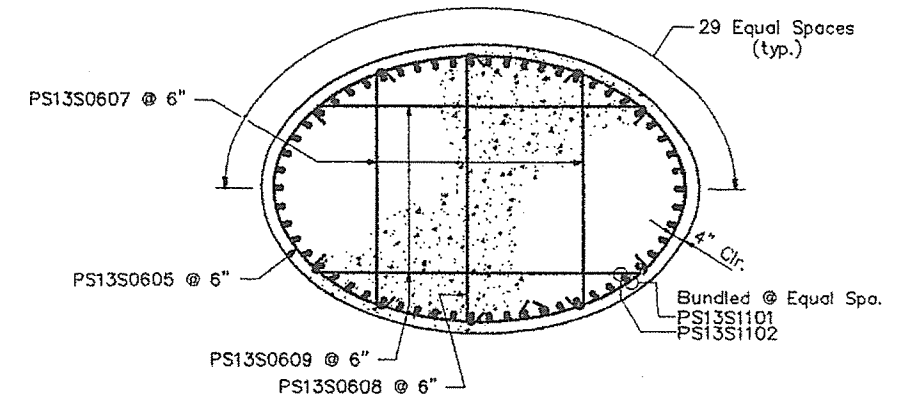
SHAFT REINFORCING
PIER 12S (S.B.L.)



FRONT ELEVATION



SIDE ELEVATION



TIE CONNECTION DETAIL

Note:
Cap and footing reinforcing not shown in elevation for clarity.

STEEL ALTERNATIVE SUBSTRUCTURE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

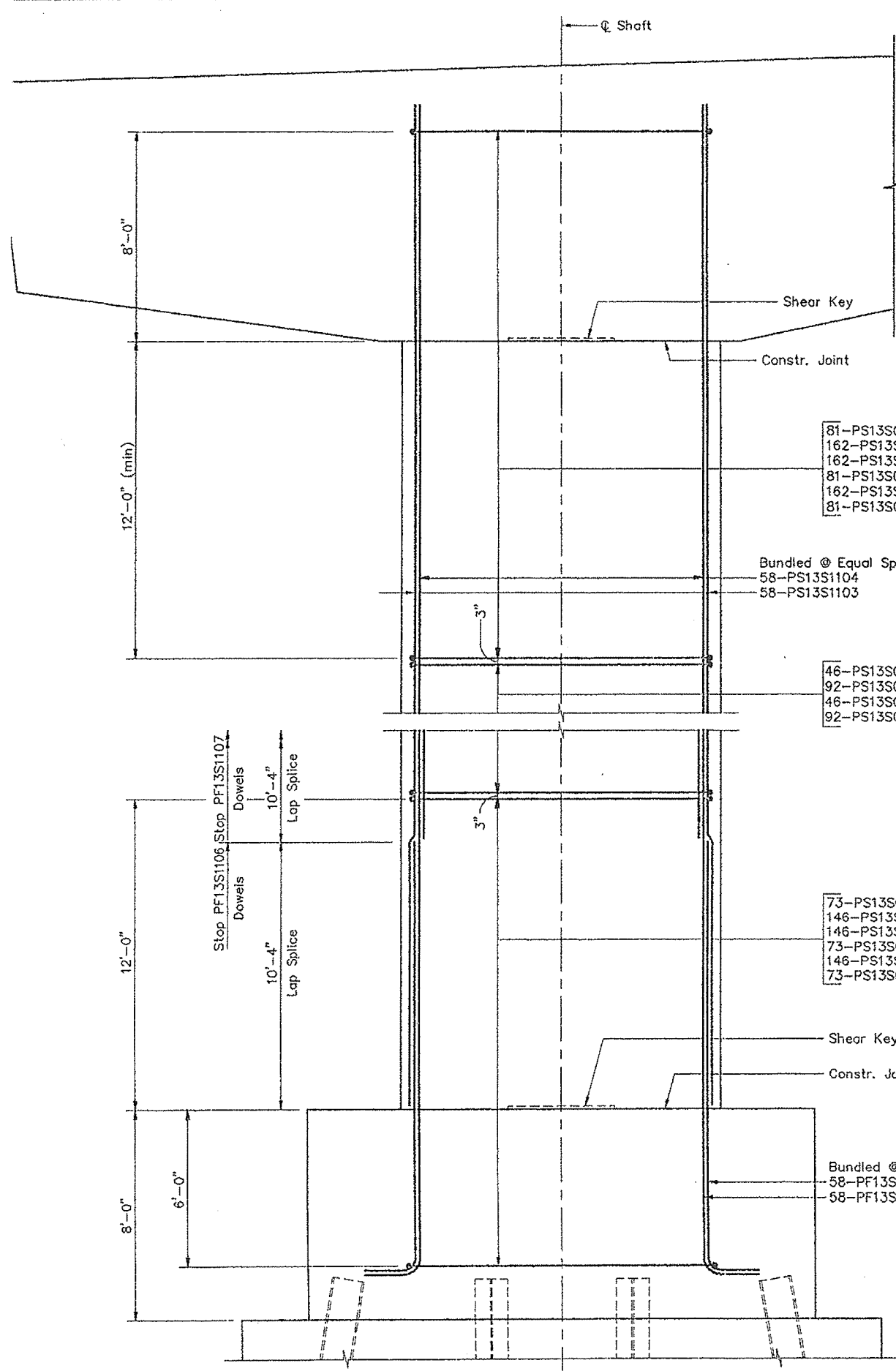
PORTLAND - S. PORTLAND BRIDGE

OVER FORE RIVER

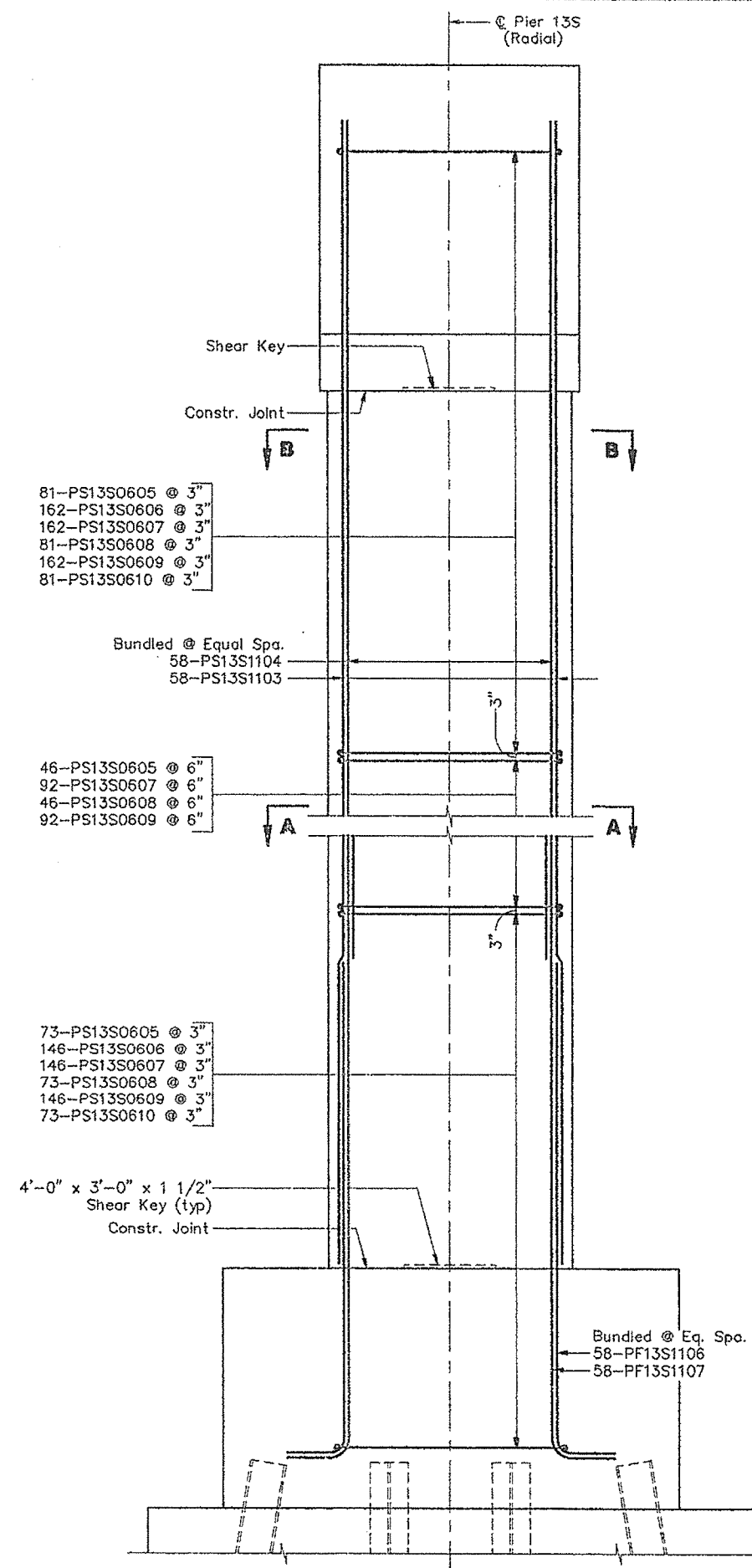
CUMBERLAND COUNTY

SHAFT REINFORCING
PIER 13S (N.B.L.)

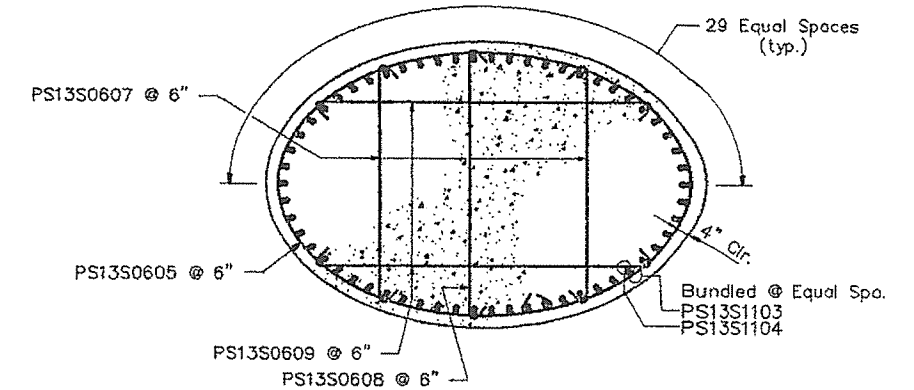
SHEET 149 OF 334 AUGUSTA, MAINE 4/13/94



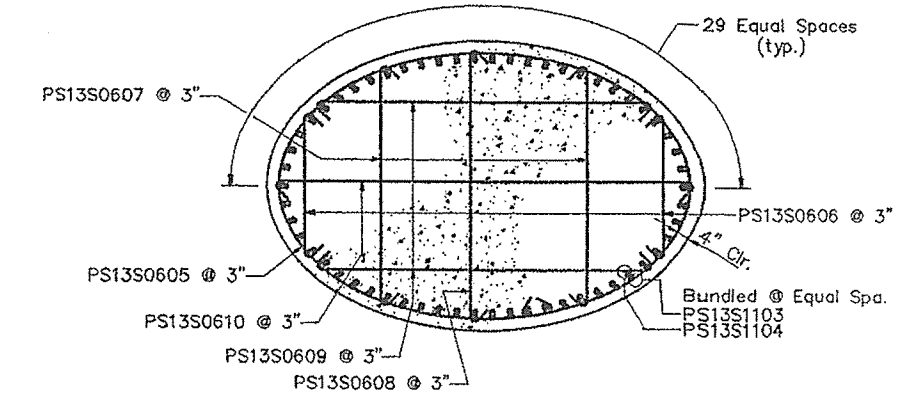
FRONT ELEVATION



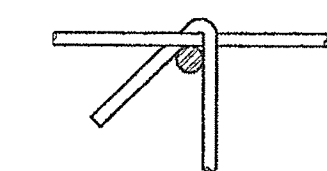
SIDE ELEVATION



SECTION A-A



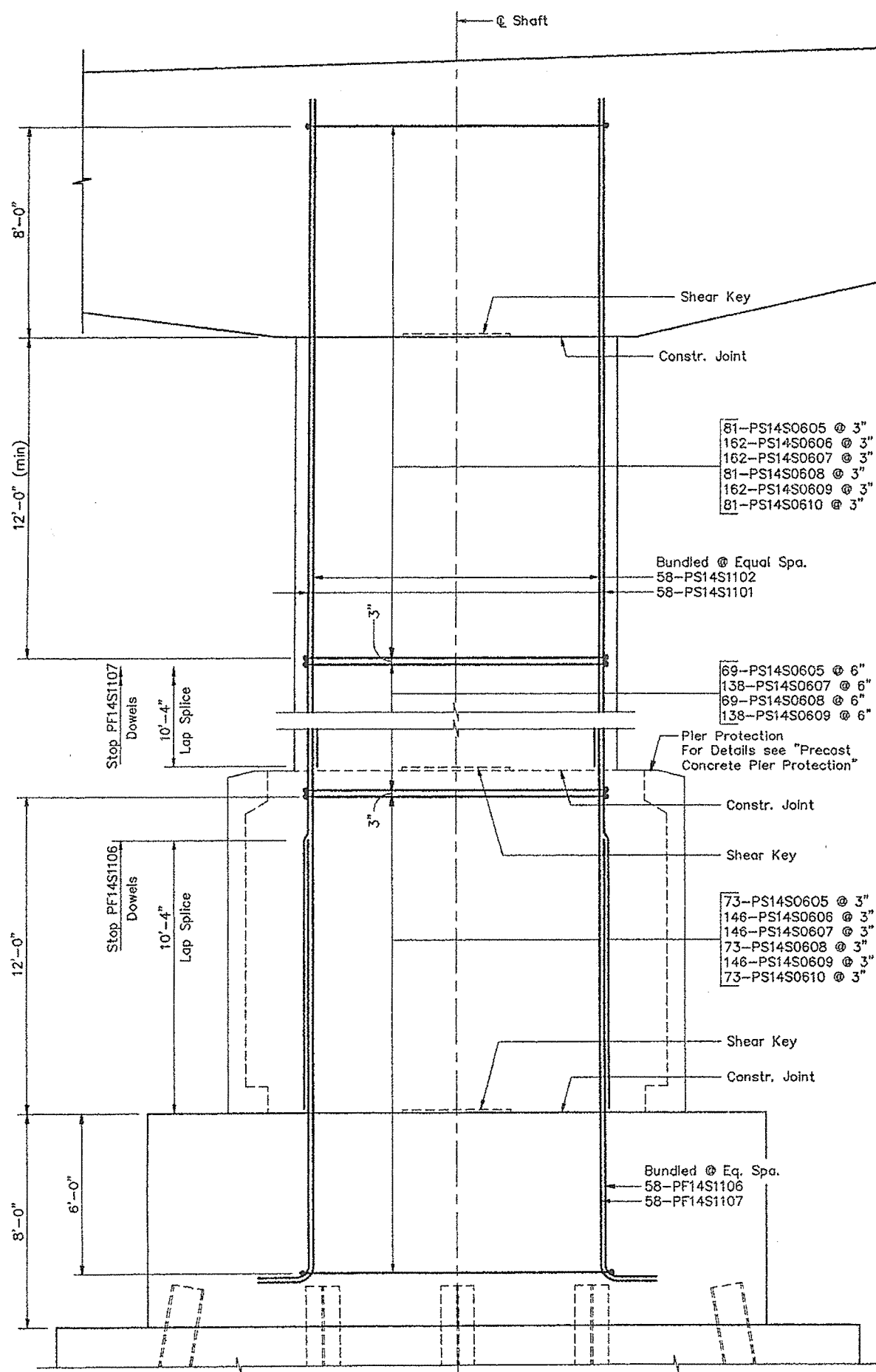
SECTION B-B



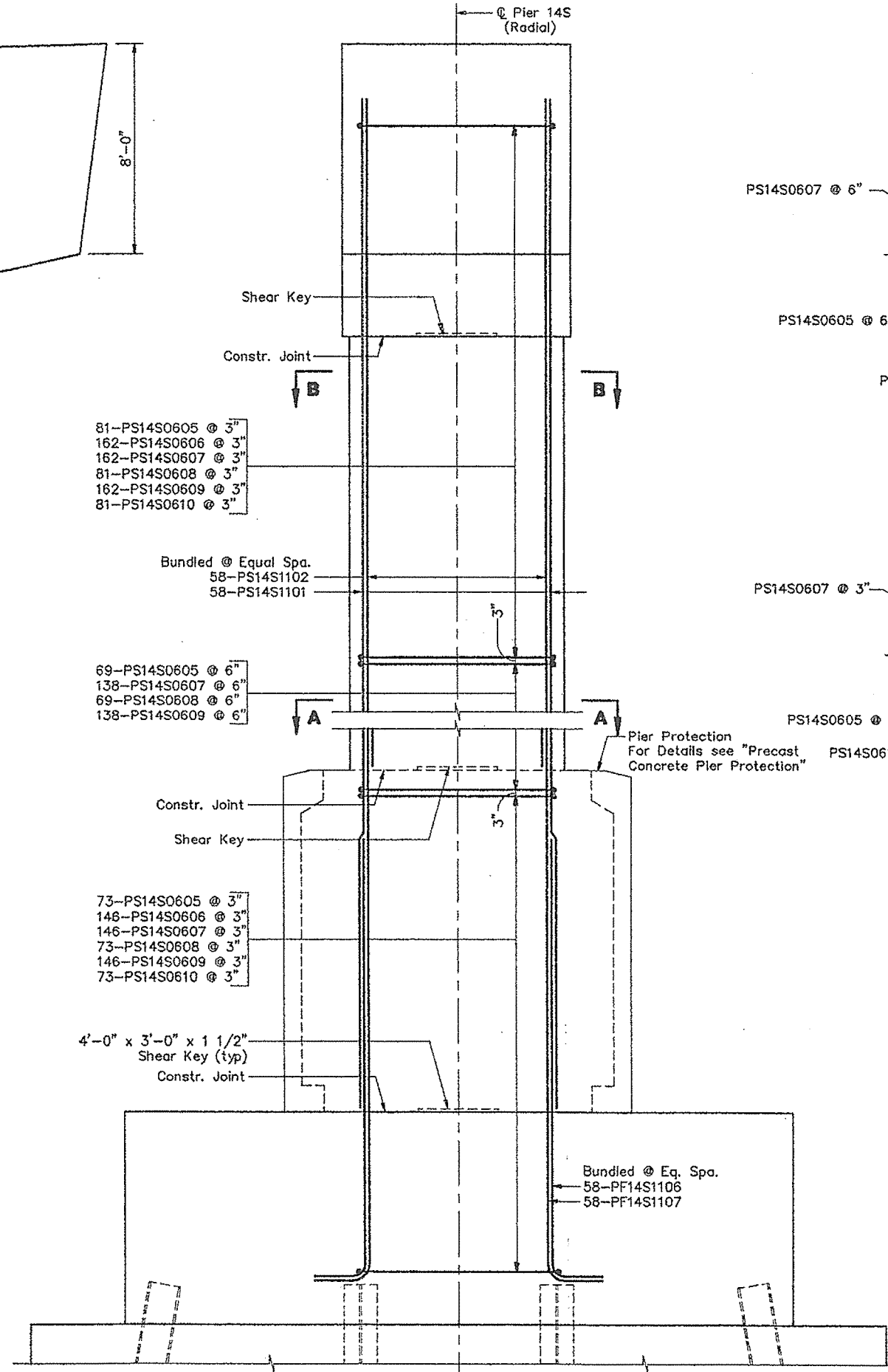
TIE CONNECTION DETAIL

Note:
Cap and footing reinforcing not shown in elevation for clarity.

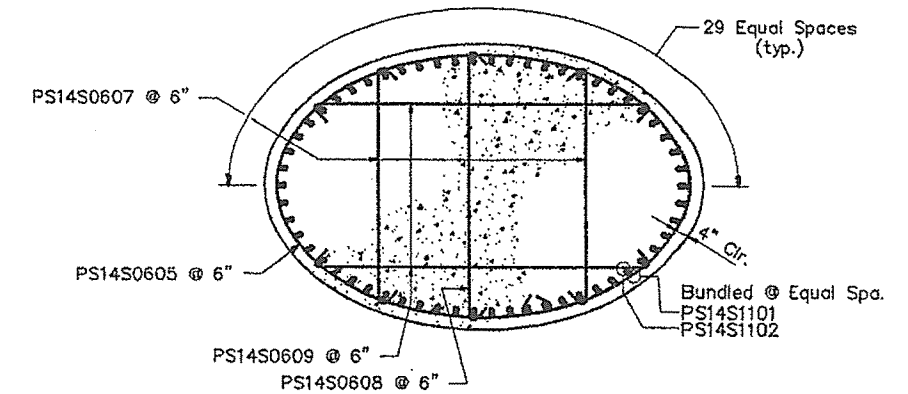
STEEL ALTERNATIVE SUBSTRUCTURE
STATE OF MAINE DEPARTMENT OF TRANSPORTATION
PORTLAND - S. PORTLAND BRIDGE
OVER FORE RIVER
CUMBERLAND COUNTY
SHAFT REINFORCING PIER 13S (S.B.L.)
SHEET 150 OF 338 AUGUSTA, MAINE 4/13/94



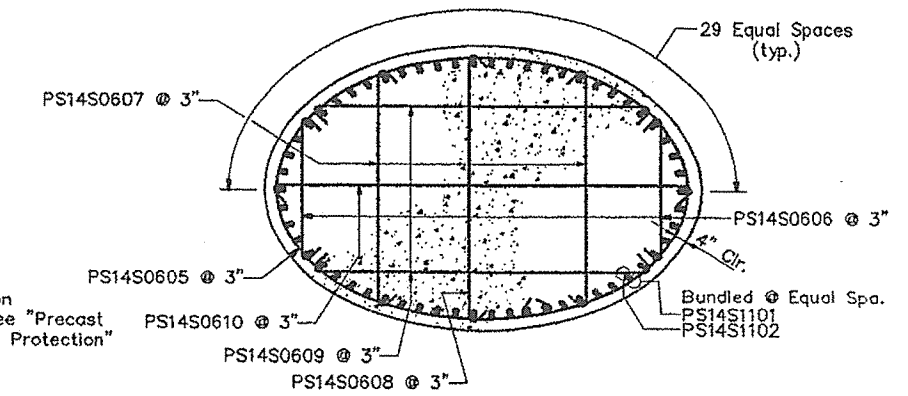
FRONT ELEVATION



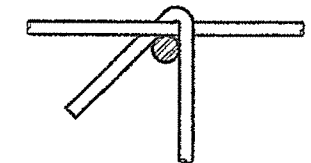
SIDE ELEVATION



SECTION A-A



SECTION B-B



TIE CONNECTION DETAIL

Note:
Cap, footing and pier protection reinforcing
not shown in elevation for clarity.

STEEL ALTERNATIVE SUBSTRUCTURE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

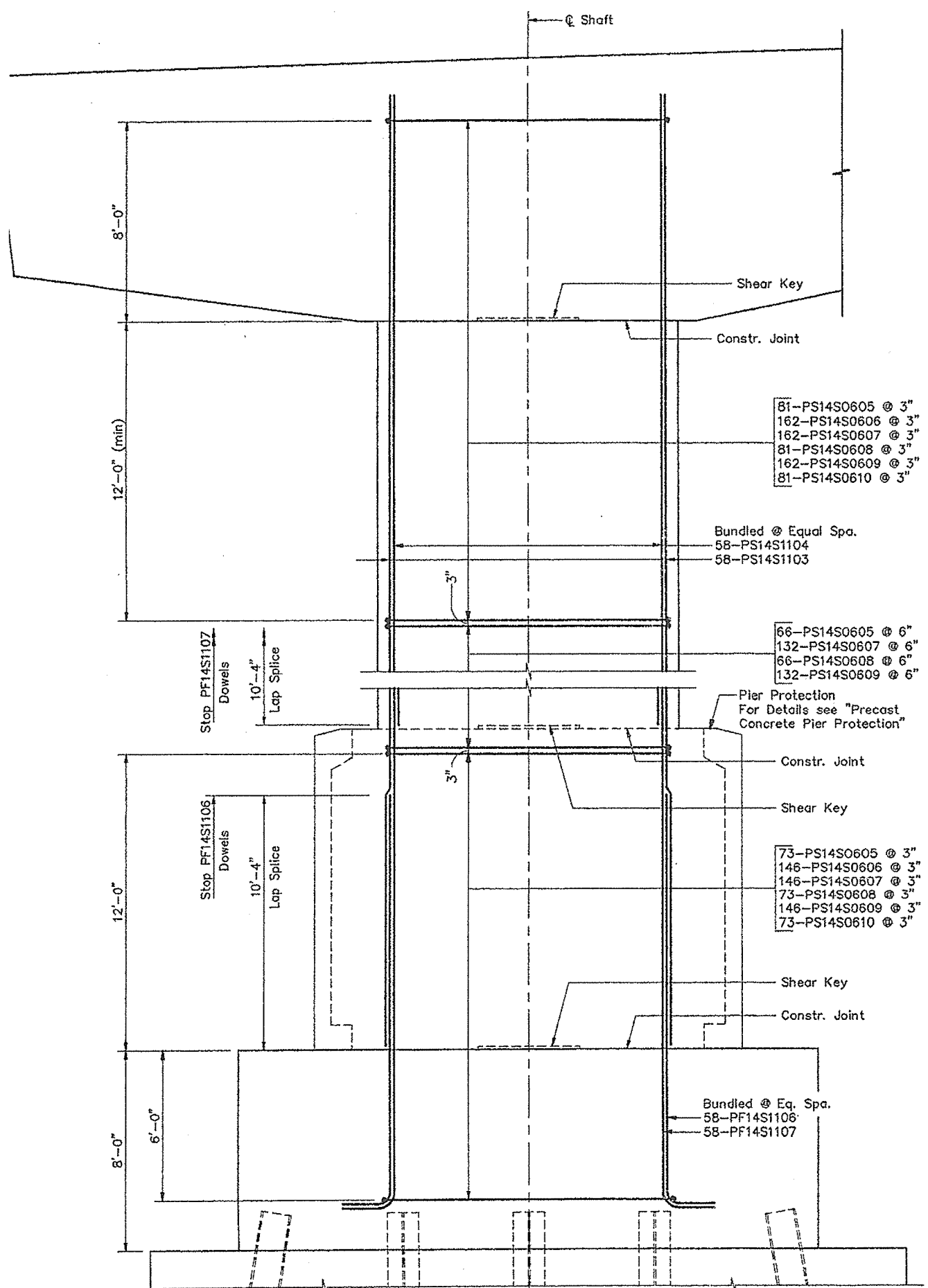
PORTLAND - S. PORTLAND BRIDGE

OVER FORE RIVER

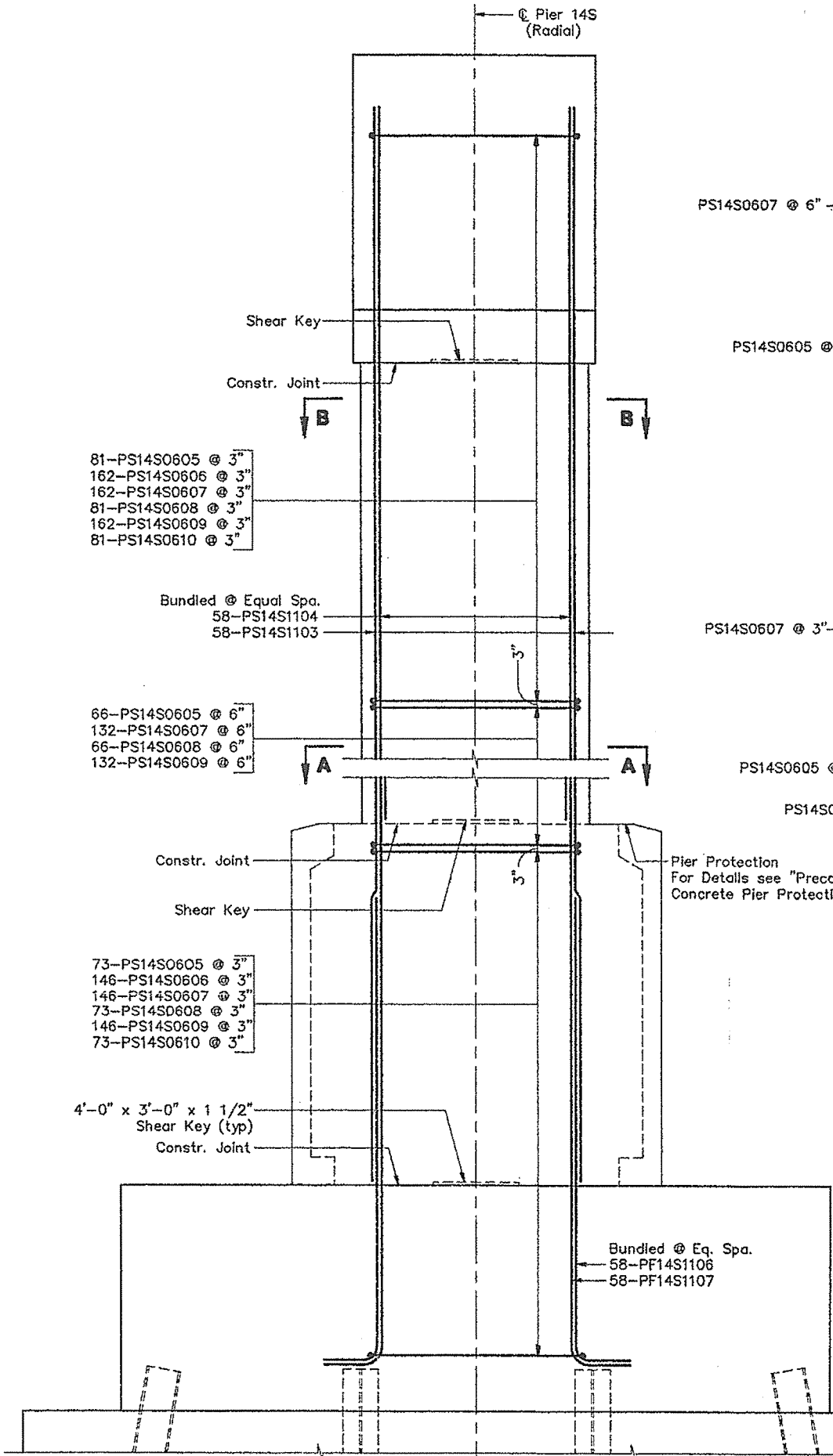
CUMBERLAND COUNTY

**SHAFT REINFORCING
PIER 14S (N.B.L.)**

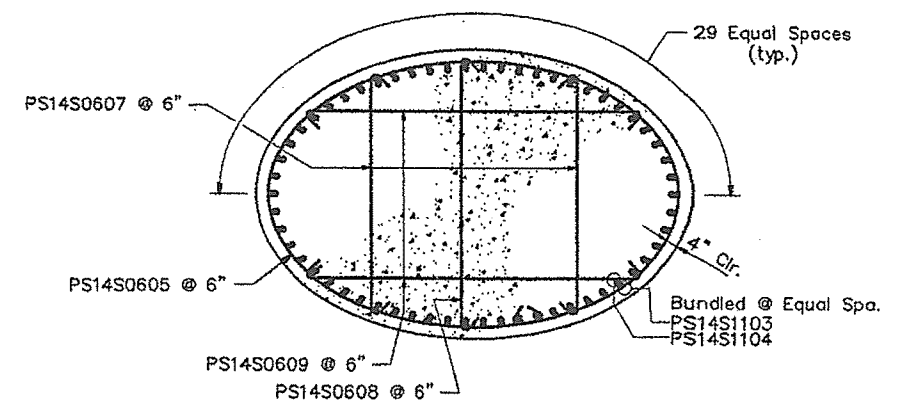
SHEET 151 OF 328 AUGUSTA, MAINE 01/27/94



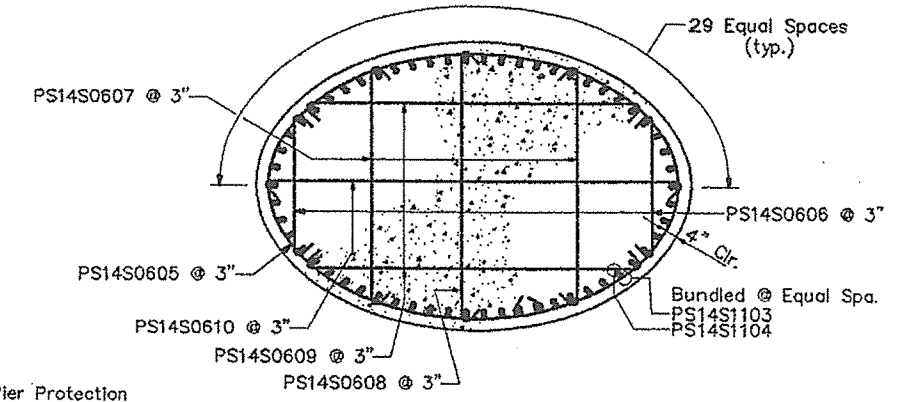
FRONT ELEVATION



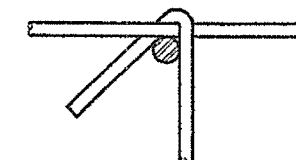
SIDE ELEVATION



SECTION A-A



SECTION B-B



TIE CONNECTION DETAIL

Note:
Cap, footing and pier protection reinforcing not shown in elevation for clarity.

STEEL ALTERNATIVE SUBSTRUCTURE
STATE OF MAINE DEPARTMENT OF TRANSPORTATION
PORTLAND - S. PORTLAND BRIDGE
OVER FORE RIVER
CUMBERLAND COUNTY
SHAFT REINFORCING PIER 14S (S.B.L.)