F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO	TOTAL SHEETS
1	MAINE	IR-295-3(100)X	461	515

GENERAL NOTES

DESIGN SPECIFICATIONS: AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES 1983 AND INTERIM SPECIFICATIONS 1984.

CONTRACT SPECIFICATIONS: STATE OF MAINE, DEPARTMENT OF TRANSPORTATION, STANDARD SPECIFICATIONS, HIGHWAYS AND BRIDGES, REVISION OF JANUARY, 1984.

DESIGN LOADING:
LIVE LOAD - HS25.
FUTURE WEARING SURFACE - 25 P.S.F.

MATERIALS:
CONCRETE:
SUPERSTRUCTURE, EXCEPT CURBS, BARRIER AND SIDEWALK - CLASS P
PIER SHAFTS - CLASS A (M)
SLOPE PROTECTION - CLASS Y
ALL OTHER CONCRETE SHALL BE CLASS A
REINFORCING STEEL: ASTM A615, GRADE 60.
PRESTRESSING STEEL: ASTM A416, GRADE 270.
STRUCTURAL STEEL: ASTM A36 (UNLESS OTHERWISE NOTED).

BASIC DESIGN STRESSES:
CONCRETE:
CLASS A - f'_c = 3000 PSI.
CLASS A (M) - f'_c = 4000 PSI.
CLASS P - f'_c = 5000 PSI.
- f'_{ci} = 4500 PSI AT TIME OF PRESTRESSING.
CLASS Y - f'_c = 3000 PSI.
REINFORCING STEEL: F_y = 60.000 PSI.
PRESTRESSING STEEL: f'_s = 270.000 PSI.

CONSTRUCTION:
ALL REINFORCEMENT SHALL BE EPOXY COATED.

CONCRETE COVER FOR REINFORCEMENT SHALL BE 2 INCHES UNLESS OTHERWISE SHOWN.

EXPOSED CONCRETE CORNERS SHALL BE CHAMFERED 1/2" UNLESS OTHERWISE SHOWN.

SURFACES DESIGNATED ON THE PLANS OR IN THE SPECIFICATIONS TO RECEIVE A RECESSED FINISH SHALL BE RECESSED 1-1/2".

PROTECTIVE COATING FOR CONCRETE SURFACES SHALL BE APPLIED TO THE FOLLOWING AREAS:

EXPOSED HORIZONTAL AND VERTICAL SURFACES OF CURB AND FASCIA.
CONCRETE END POSTS, BARRIER AND SIDEWALK.
TOP AND BACK OF ABUTMENT BACKWALLS TO 1 FT. BELOW TOP.

FORMWORK SHALL BE REMOVED FROM INSIDE OF BOX GIRDERS. NUMBER AND LOCATION OF TOP SLAB CONSTRUCTION JOINTS FOR THIS PURPOSE SHALL BE SUBJECT TO THE ENGINEER'S APPROVAL.

CONCRETE IN CURBS SHALL NOT BE PLACED UNTIL ALL POST-TENSIONING HAS BEEN COMPLETED.

POST-TENSIONING: DETAILS ON THE PLANS ARE BASED ON TENDONS CONSISTING OF 0.6-INCH STRANDS IN GALVANIZED, SEMI-RIGID SPIRAL FERROUS METAL DUCT HAVING A FRICTION CURVATURE COEFFICIENT μ = 0.25 AND A FRICTION WOBBLE COEFFICIENT K = 0.0002.

THE DESIGN IS BASED ON GRADE 270 STRAND TENSIONED TO 0.75 f'_s AND ANCHORED AT AN EQUIVALENT ANCHOR SET OF 1/4-INCH UNLESS OTHERWISE INDICATED.

SEQUENCE OF TENSIONING SHALL BE AS INDICATED ON THE PLANS.

FOUNDATION PILES: FOUNDATION PILES ARE HP14x73 (OR HP13x73 AT THE OPTION OF THE CONTRACTOR) HAVING A DESIGN BEARING VALUE OF 128 TONS. PILES SHALL BE DRIVEN TO REFUSAL ON ROCK. POINTED REINFORCED PILE TIPS SHALL BE USED FOR ALL PILES.

PROJECT DESIGN ENGINEER	BY	DATE
PLANS — DESIGN-DETAILED	ESM	12/85
CHECKED	BC	
REVISIONS	JC	
FIELD CHANGES		

BRUNING 44-132 45710-1

ESTIMATED QUANTITIES

ITEM NO.	DESCRIPTION	UNIT	QUANTITY
203.25	GRANULAR BORROW	C.Y.	1350
206.081	STRUCTURAL EARTH EXCAVATION - ABUTMENTS, RETAINING WALLS, BOX CULVERTS & STR. PL. UNITS	C.Y.	1100
206.10	STRUCTURAL EARTH EXCAVATION - PIERS	C.Y.	880
501.216	STEEL H-BEAM PILES - 73 LBS./FT.	L.F.	7530
502.21	STRUCTURAL CONCRETE, ABUTMENTS & RETAINING WALLS	C.Y.	722
502.23	STRUCTURAL CONCRETE PIERS	C.Y.	340
502.3104	STRUCTURAL CONCRETE APPROACH SLABS	L.S.	1
502.482	STRUCTURAL CONCRETE CURBS & SIDEWALKS	C.Y.	124
503.14	EPOXY COATED REINFORCING STEEL, FABRICATED & DELIVERED	LBS.	375,400
503.15	EPOXY COATED REINFORCING STEEL, PLACING	LBS.	375,400
507.092	ALUMINUM BRIDGE RAILING, 2 BAR	L.F.	389
507.096	ALUMINUM BRIDGE RAILING PEDESTRIAN WITH PALES	L.F.	455
512.08	FRENCH DRAINS	L.F.	210
513.09	SLOPE PROTECTION - PORTLAND CEMENT CONCRETE	S.Y.	175
513.22	CRUSHED STONE SLOPE PROTECTION	S.Y.	800
514.06	CURING BOX FOR CONCRETE CYLINDERS	EA.	1
515.2104	PROTECTIVE COATING FOR CONCRETE SURFACES	L.S.	1
516.2104	LATEX MODIFIED CONCRETE WEARING SURFACE ON BRIDGE	L.S.	1
520.21	EXPANSION DEVICE - GLAND SEAL	EA.	2
523.10	POT BEARINGS	EA.	4
526.30	TEMPORARY CONCRETE BARRIER, TYPE 1	L.F.	150
526.32	PERMANENT CONCRETE BARRIER, TYPE 3	L.F.	452
535.73	PRESTRESSED CONCRETE SUPERSTRUCTURE SOUTH WASHINGTON OVERPASS	L.S.	1
537.30	FALSEWORK PROTECTION DEVICE	EA.	1
609.13	VERTICAL BRIDGE CURB - TYPE 1	L.F.	403
609.133	VERTICAL BRIDGE CURB - SPECIAL	L.F.	452

APPROXIMATE QUANTITIES IN LUMP SUM PAY ITEMS:

502.3104	STRUCTURAL CONCRETE APPROACH SLABS CLASS A CONCRETE	C.Y.	27
535.73	PRESTRESSED CONCRETE SUPERSTRUCTURE, SOUTH WASHINGTON OVERPASS		
	CLASS P CONCRETE	C.Y.	1377
	PRESTRESSING STEEL	LBS.	104,800

NOTE:

ACCESS MANHOLES, DRAINS, AND ALL MATERIALS, LABOR, AND EQUIPMENT FOR PRESTRESSING WILL BE CONSIDERED INCIDENTAL TO ITEM 535.73. (QUANTITY SHOWN IS FOR 0.6" DIA. STRAND ONLY.)

INDEX OF SHEETS

DESCRIPTION	SHEET NO.
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FOUNDATION PLAN & ELEVATION	3
ABUTMENT 1	4-7
ABUTMENT 2	8-11
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FRAMING PLAN	13
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CURB, SIDEWALK & BARRIER	17
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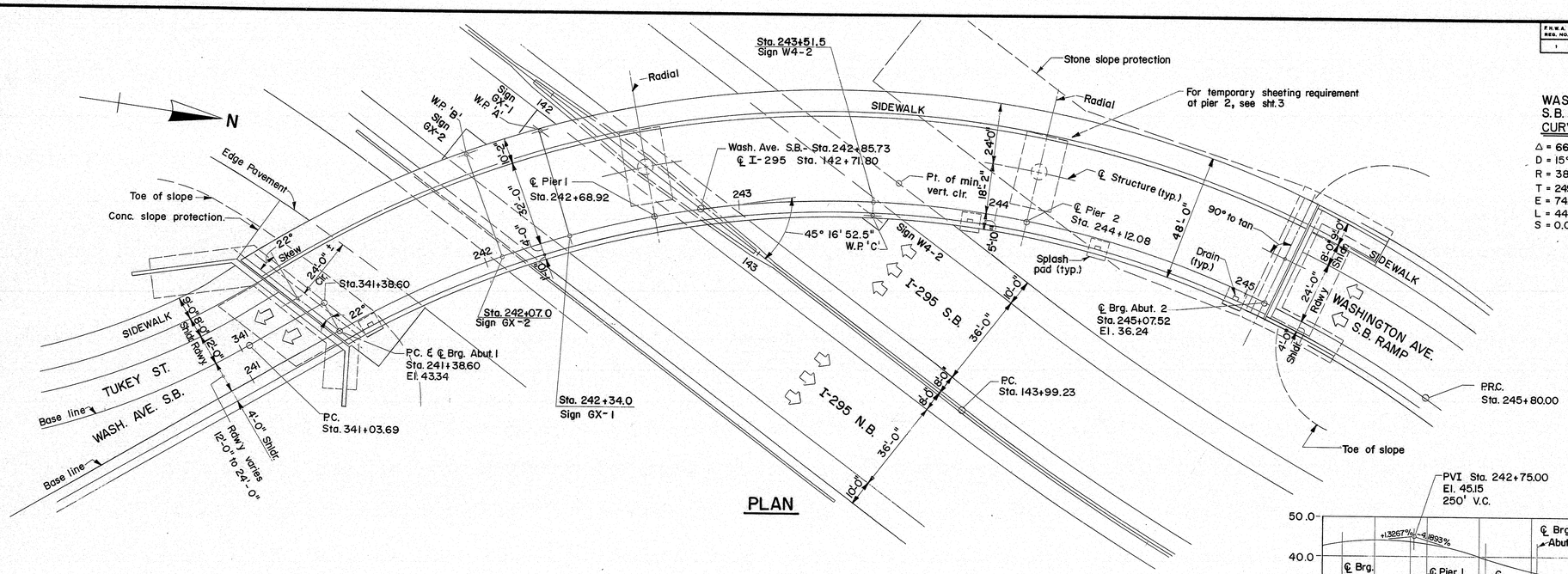
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

I-295 - PORTLAND
CUMBERLAND COUNTY
WASHINGTON AVE. SOUTHBOUND RAMP

INDEX, QUANTITIES & GENERAL NOTES

SHEET 1 OF 55 AUGUSTA, MAINE

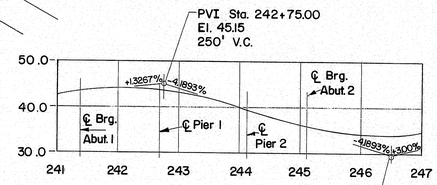
F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	IR-295-3(1100)50	462	515



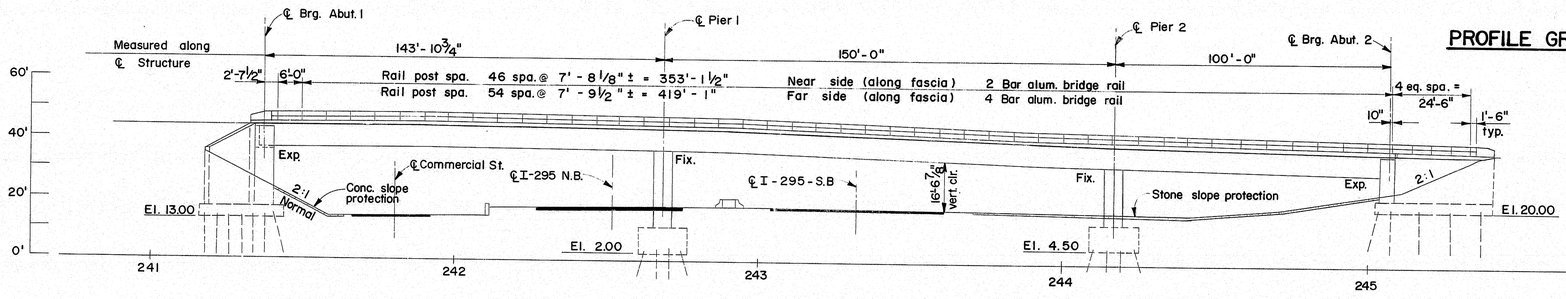
PLAN

WASH. AVE. S.B. RAMP
CURVE DATA

Δ = 66°33' 12.9"
D = 15° 4' 40.2"
R = 380.0000'
T = 249.3931'
E = 74.5293'
L = 441.4001
S = 0.06'/ft.



PROFILE GRADE - WASH AVE. S.B. RAMP



DEVELOPED ELEVATION

10' 5' 0' 10' 20' 30' 40'

102-199

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

I-295 - PORTLAND
CUMBERLAND COUNTY
WASHINGTON AVE. SOUTHBOUND RAMP

PLAN AND ELEVATION

SHEET 2 OF 55 AUGUSTA, MAINE

WRIGHT-PIERCE
WILBUR SMITH & ASSOCIATES INC.
T. Y. LIN INTERNATIONAL
HALEY & ALDRICH, INC., AMES ASSOC.

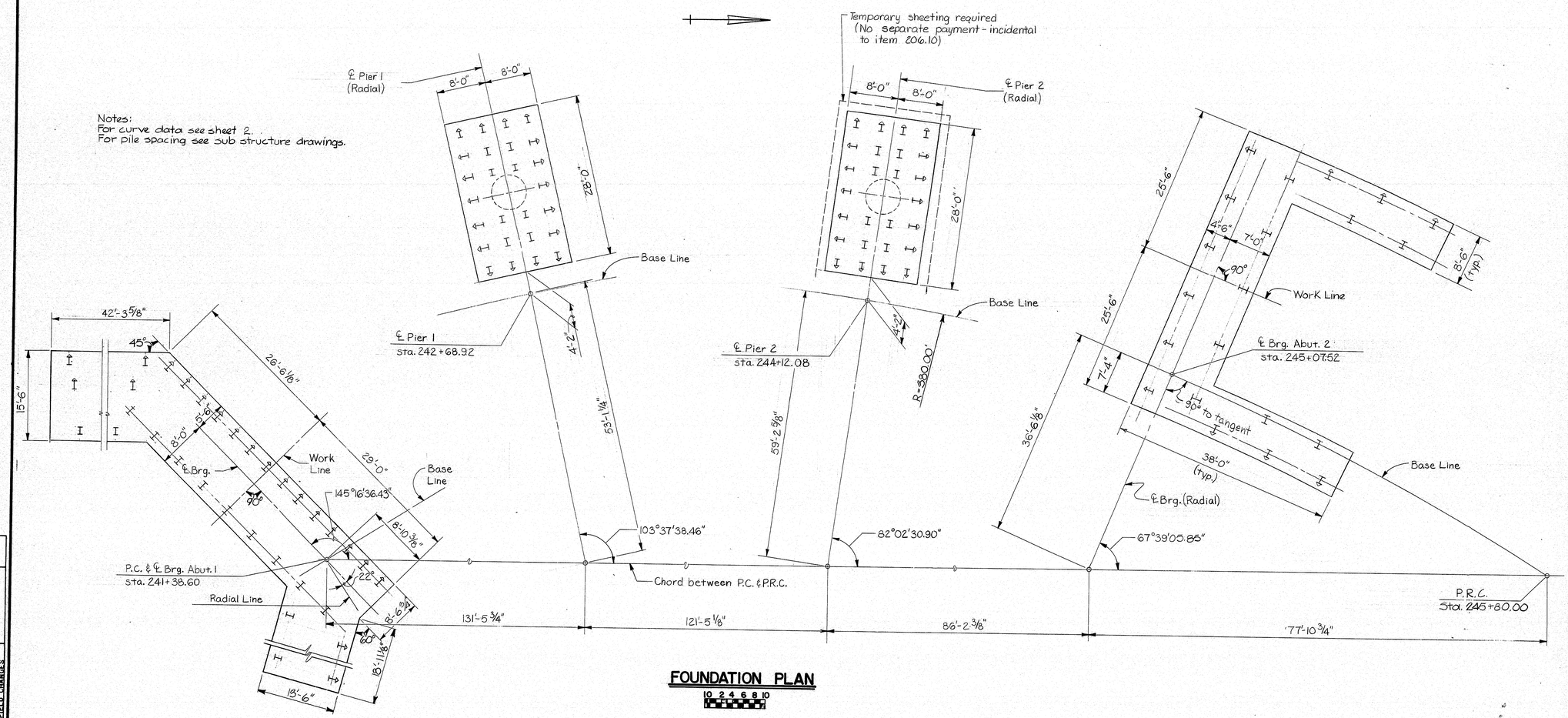
PROJECT DESIGN ENGINEER	BY	DATE
DESIGN DETAILED	ASP	
CHECKED	AG	12/82
REVISIONS	KC	
FIELD CHANGES		

PLANS

BRUNING 44-132-4570-1

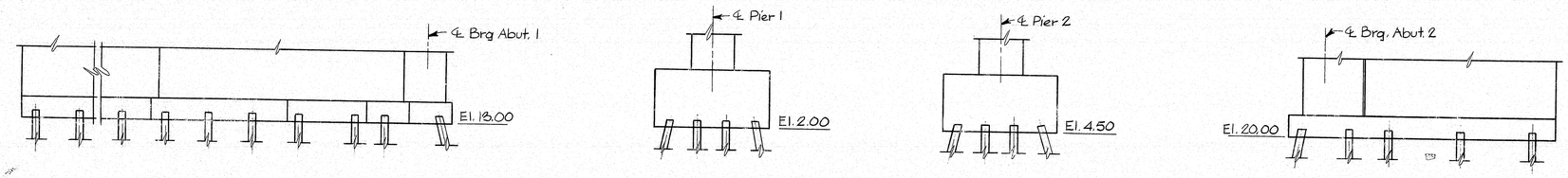
F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	IR-295-3(100)50	463	515

Notes:
For curve data see sheet 2.
For pile spacing see sub structure drawings.



FOUNDATION PLAN

10 2 4 6 8 10



ELEVATION

PROJECT DESIGN ENGINEER		BY	DATE
PLANS	DESIGN-DETAILED	SSM	12/96
	CHECKED	MMT	
	REVISIONS	AC	
	FIELD CHANGES		

BROWNING 44-132-457101

102-200

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

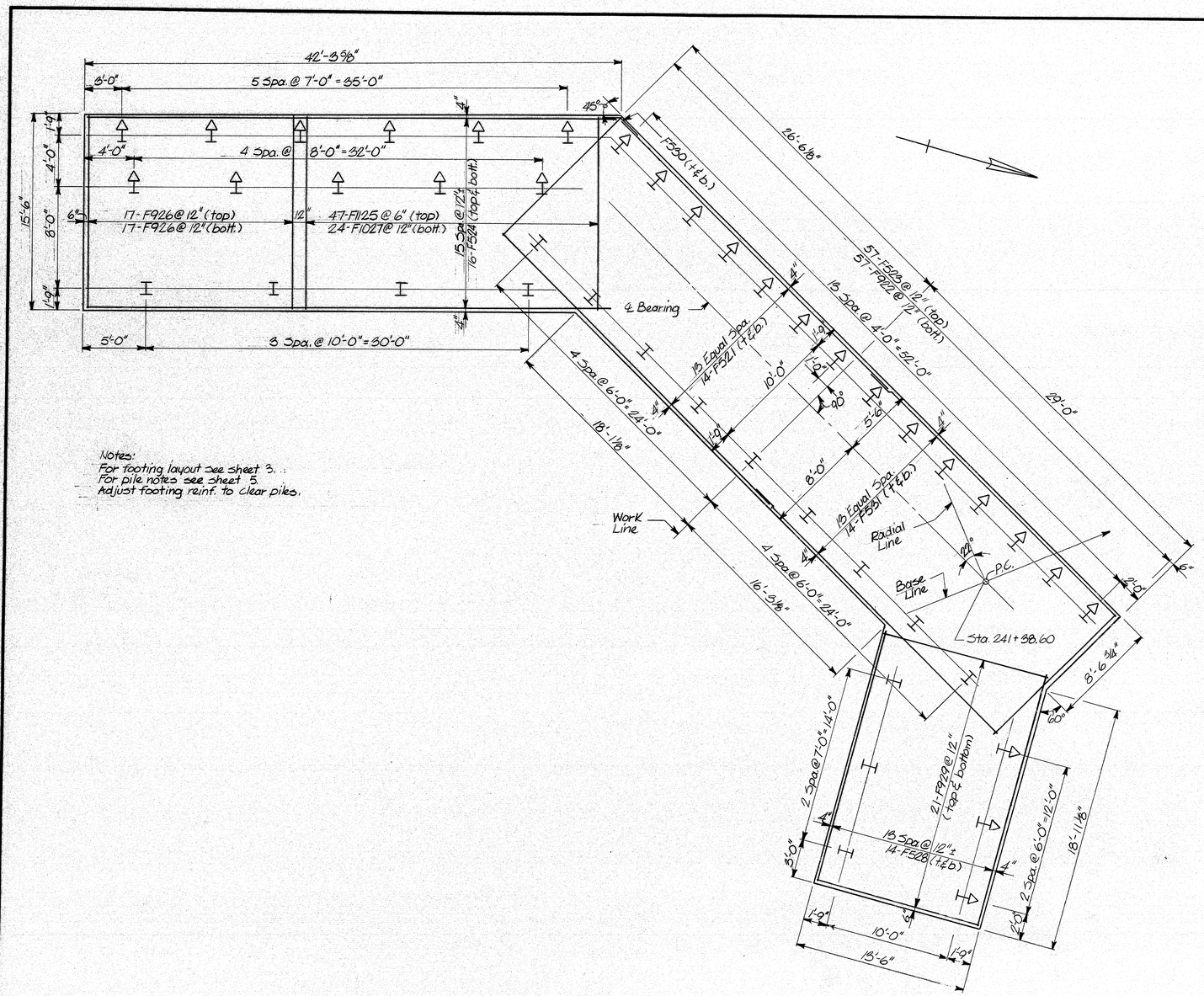
I-295 - PORTLAND
CUMBERLAND COUNTY
WASHINGTON AVE. SOUTHBOUND RAMP

FOUNDATION PLAN AND ELEVATION

SHEET 3 OF 55 AUGUSTA, MAINE

REEL
102
Sh. 201 Thru 300

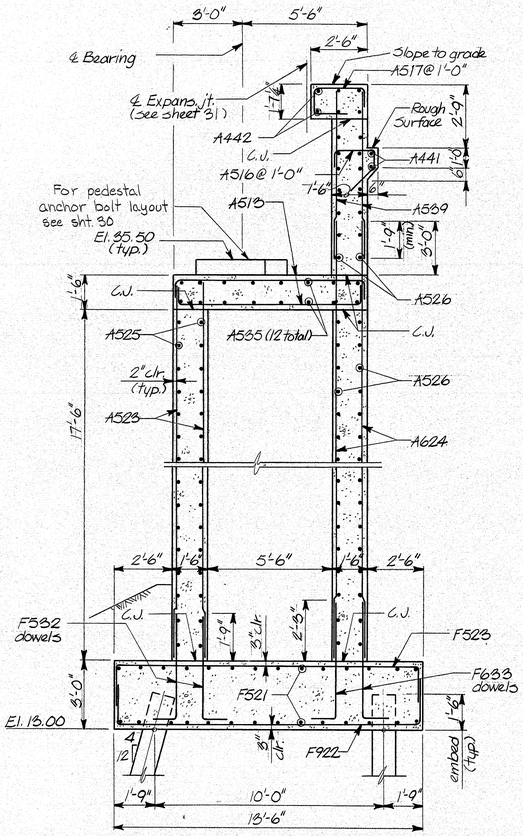
F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	IR-295-3(100)50	464	515



Notes:
For footing layout see sheet 3.
For pile notes see sheet 5.
Adjust footing reinf. to clear piles.

FOOTING PLAN

0 1 2 3 4 5



ABUTMENT SECTION

0 1 2 3

For french drain details see sht. 7

102-201

PROJECT DESIGN ENGINEER		BY	DATE
PLANS	DESIGN - DETAILED	BSA	12/86
	CHECKED	RC	
	REVISIONS	MH	
	FIELD CHANGES		

DRAWING 44-132 457104

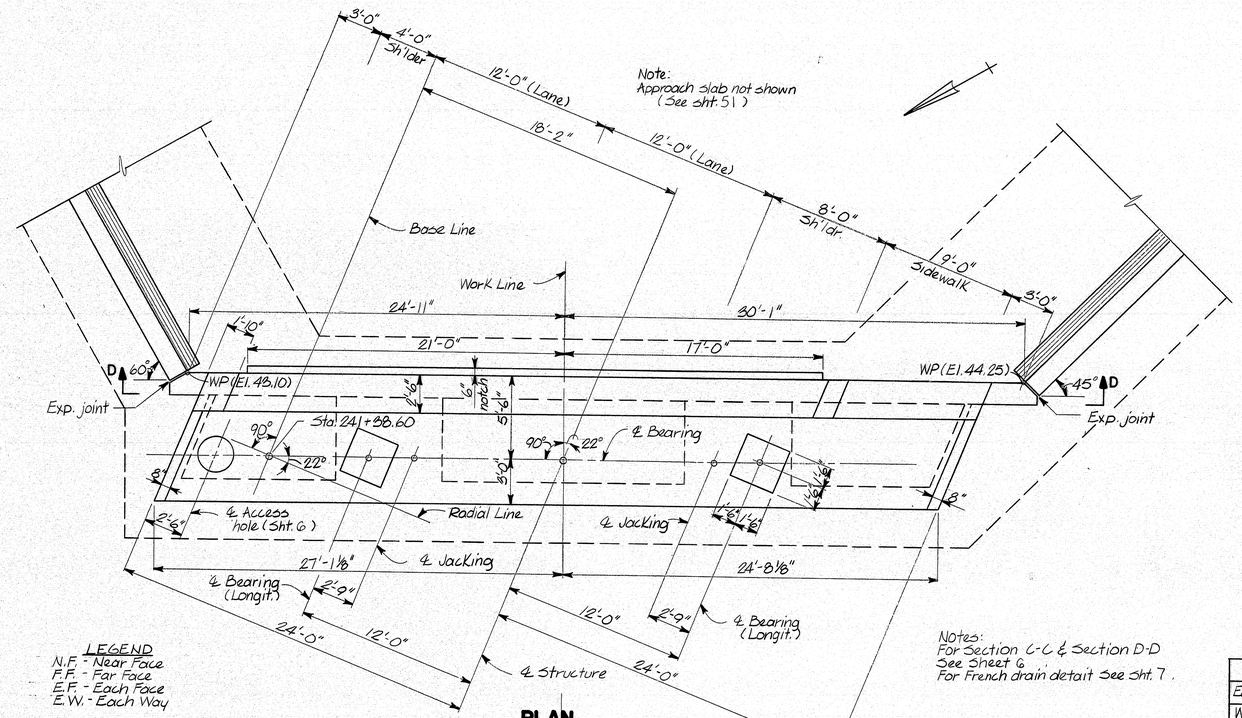
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

I-295 - PORTLAND
CUMBERLAND COUNTY
WASHINGTON AVE. SOUTHBOUND RAMP

ABUTMENT 1 DETAILS-1

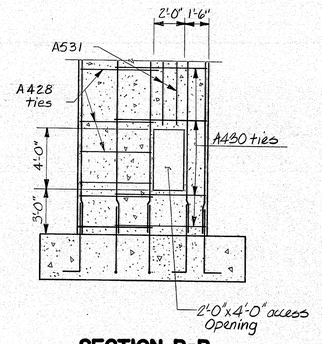
SHEET 4 OF 55 AUGUSTA, MAINE

F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	IR-295-3(100)50	465	515



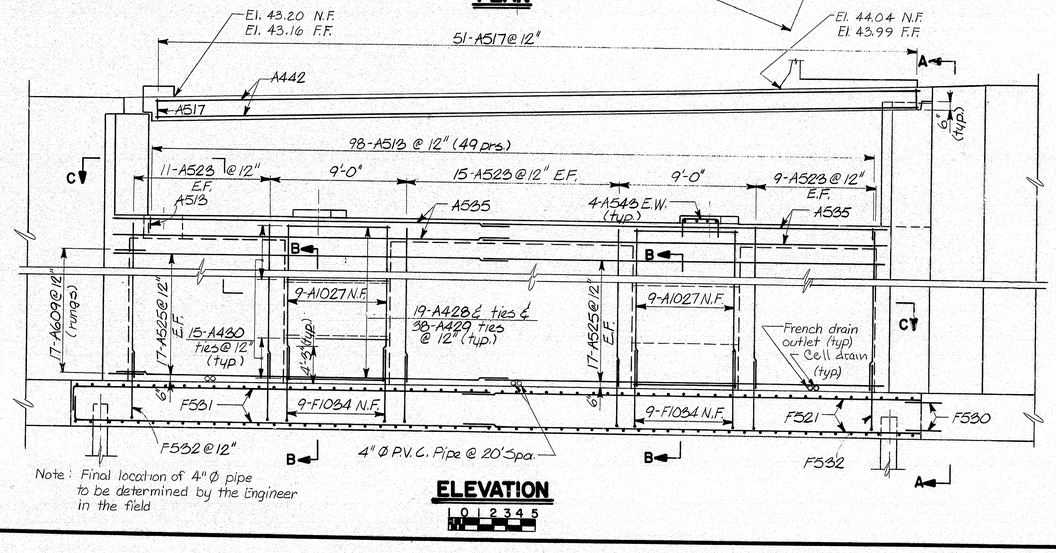
PLAN

Notes:
For Section C-C & Section D-D See Sheet 6
For French drain detail see Sht. 7.



SECTION B-B

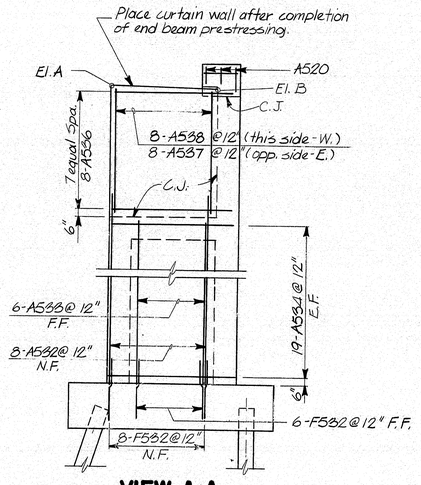
	El. A	El. B
East Wall	42.10	42.01
West Wall	43.14	43.02



Note: Final location of 4" Ø pipe to be determined by the Engineer in the field

ELEVATION

0 1 2 3 4 5



VIEW A-A

Pile Notes:
1. Piles marked thus ⊢▷ shall be battered as follows in the direction of the arrow:
   Abutment 1 - 4 inches per foot
   Abutment 2 - 6 inches per foot
2. Pile design loads:
   Abutment 1 - HP 14x73 (12,000 psi) 115 tons
   Abutment 2 - HP 14x73 (12,000 psi) 109 tons
3. HP 13x73 bearing piles may be substituted for HP 14x73 bearing piles at the option of the contractor.
4. Estimate of piles required:
   Abutment 1 - 44 - HP 14x73 @ 70 ft.
   Abutment 2 - 21 - HP 14x73 @ 72 ft.

PROJECT DESIGN ENGINEER	BY	DATE
PLANS		
DESIGN - DETAILED	BSA	11/11
CHECKED	RC	12/11
REVISIONS		
FIELD CHANGES		

BRUNING 44-132-45710-1

102-202

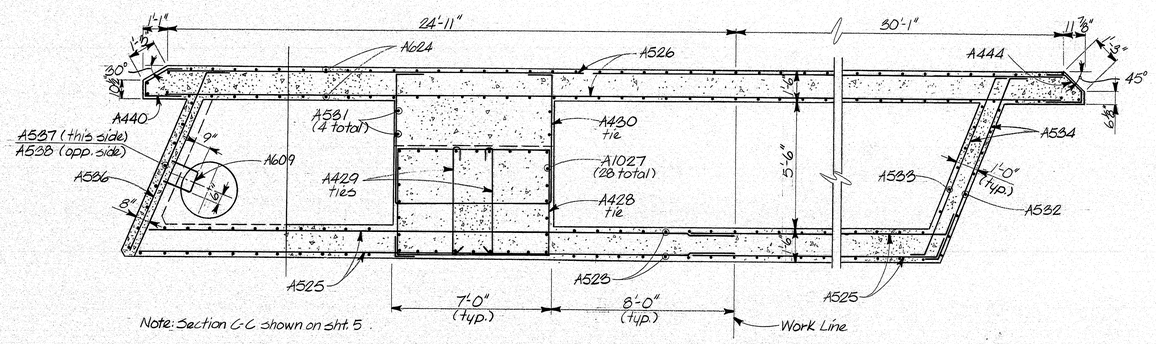
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

I-295 - PORTLAND
CUMBERLAND COUNTY
WASHINGTON AVE. SOUTHBOUND RAMP

ABUTMENT 1 DETAILS-2

SHEET 5 OF 55 AUGUSTA, MAINE

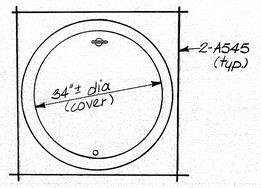
F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	IR-295-3(100)50	466	515



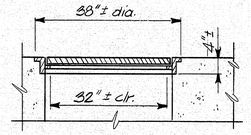
Note: Section C-C shown on sht. 5.

SECTION C-C

Note: Cut bridge seat reinf. to clear manhole. Add bars as shown.



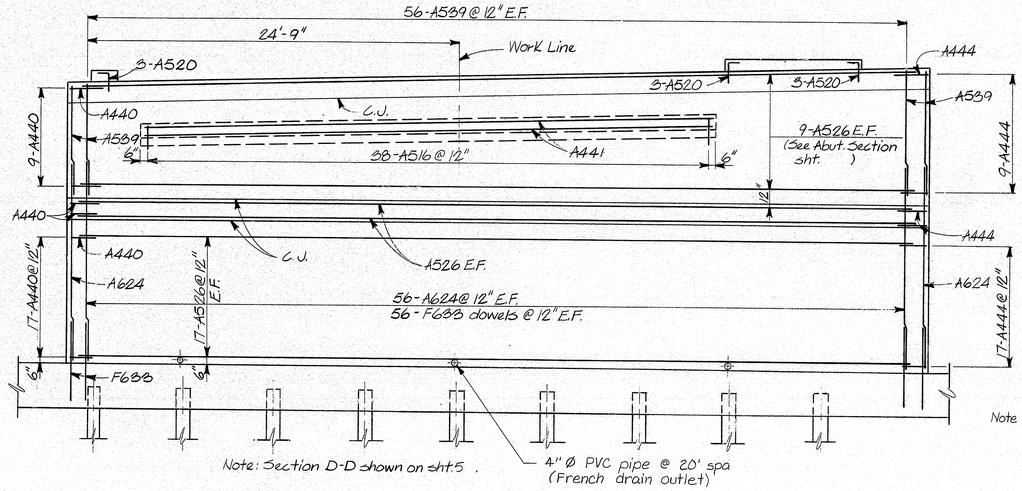
PLAN



SECTION

LEGEND
N.F. - Near Face
F.F. - Far Face
E.F. - Each Face

Note: Place abut. backwall after completion of longitudinal prestressing.



Note: Section D-D shown on sht. 5.

4" Ø PVC pipe @ 20' spa (French drain outlet)

SECTION D-D

Note: Final location of 4" Ø PVC pipe to be determined by the Engineer in the field

ACCESS MANHOLE

(One per. Abut. req'd.)

Iron casting manhole cover with drop handle and locking device. Approx. weight 300 lbs. No separate payment for manholes. Include with pay item 502.21.

PROJECT DESIGN ENGINEER	BY	DATE
DESIGN - DETAILED	BSA	11/11
CHECKED	AC	12/82
PLANS REVISIONS		
FIELD CHANGES		

BRUNING 44-132-6710-1

102-203

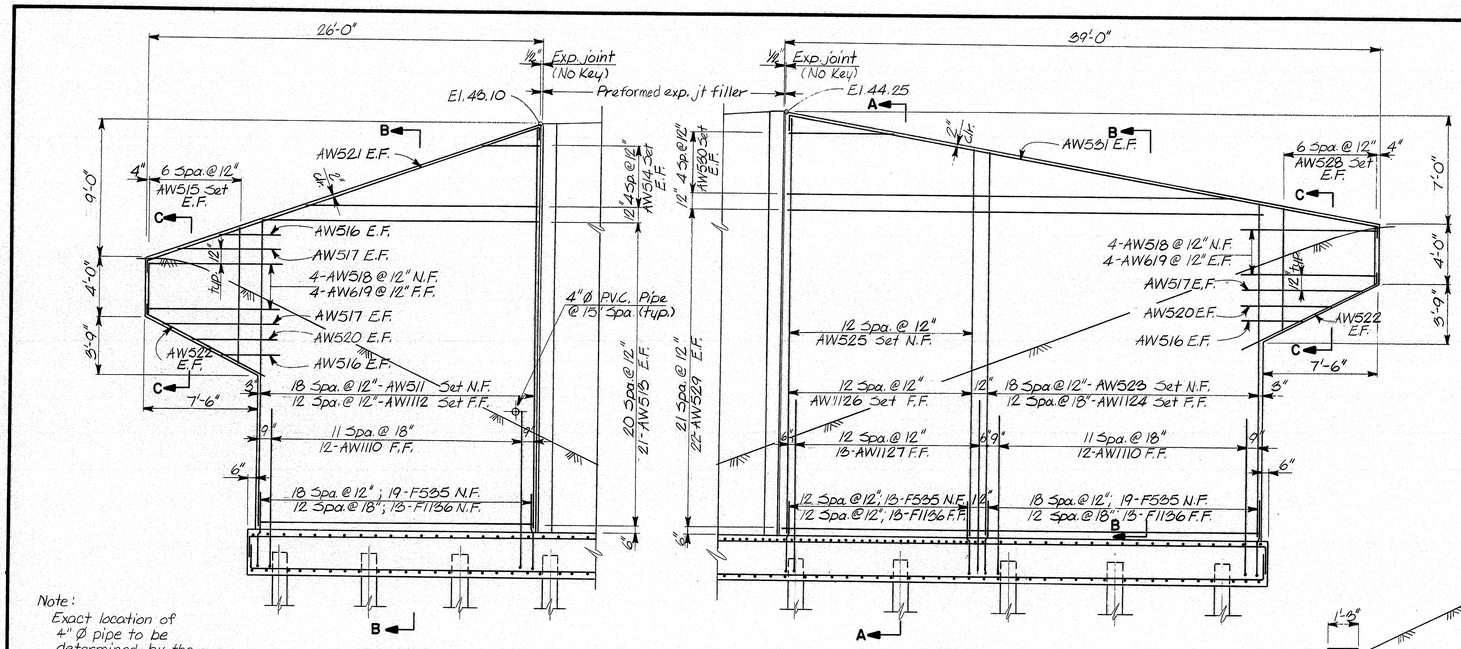
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

I-295 - PORTLAND
CUMBERLAND COUNTY
WASHINGTON AVE. SOUTHBOUND RAMP

ABUTMENT 1 DETAILS-3

SHEET 6 OF 55 AUGUSTA, MAINE

F.H.W.A. REQ. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	IR-295-3(100)S0	467	515



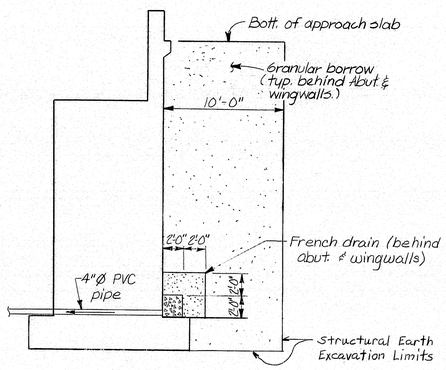
Note:
Exact location of 4" Ø pipe to be determined by the Engineer in the field.

EAST WALL

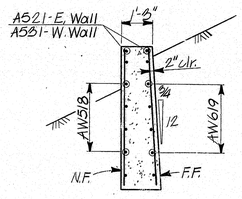
WEST WALL

WINGWALL REINFORCEMENT

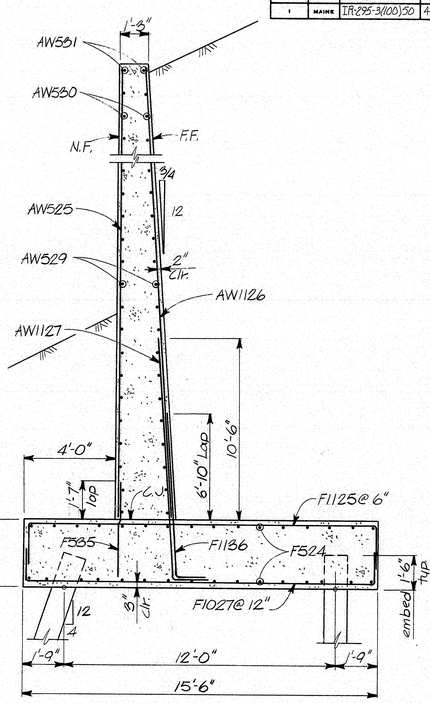
0 1 2 3 4 5



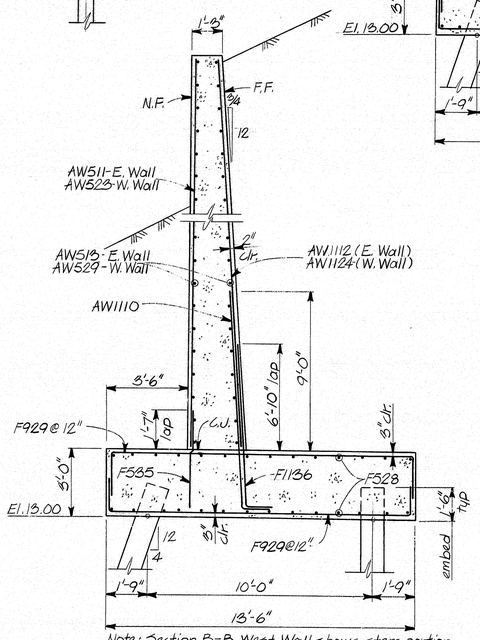
FRENCH DRAIN DETAIL



SECTION C-C



SECTION A-A



Note: Section B-B, West Wall shows stem portion only (footing not included).

SECTION B-B

LEGEND
N.F. - Near Face
F.F. - Far Face
E.F. - Each Face

PROJECT DESIGN ENGINEER	BY	DATE
DESIGN - DETAILED	JSA	12/84
CHECKED	MM	
REVISIONS	RC	
FIELD CHANGES		

PLANS

BRUNING 44-132-45710-1

102-204

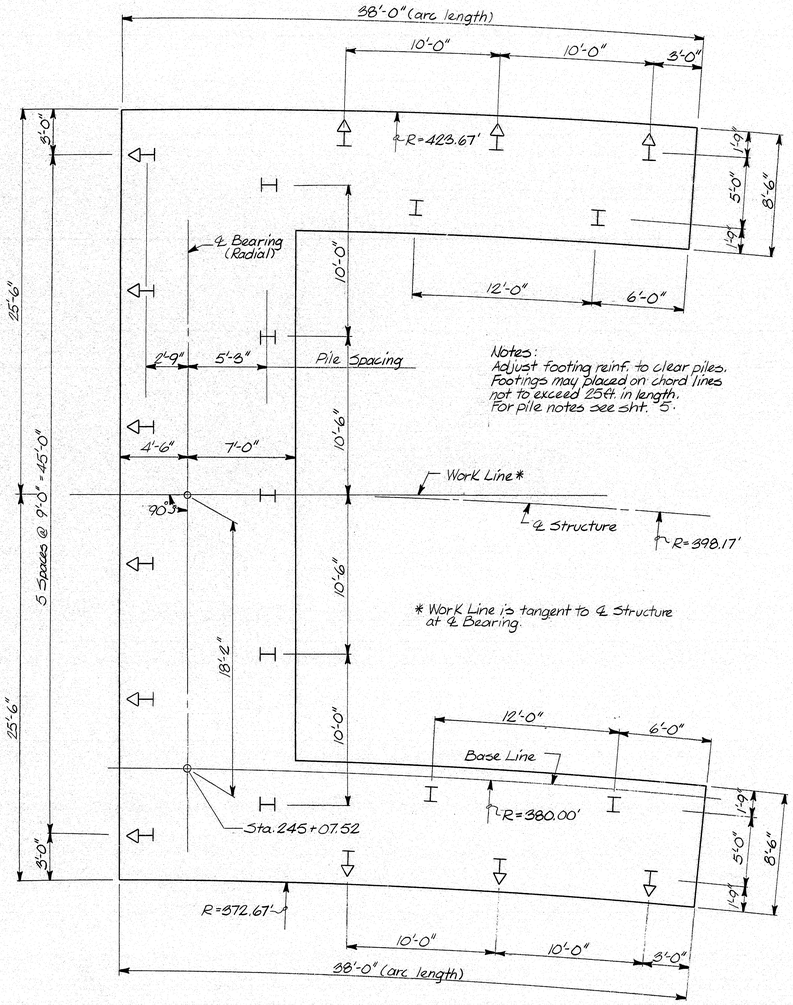
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

I-295 - PORTLAND
CUMBERLAND COUNTY
WASHINGTON AVE. SOUTHBOUND RAMP

ABUTMENT 1 DETAILS-4

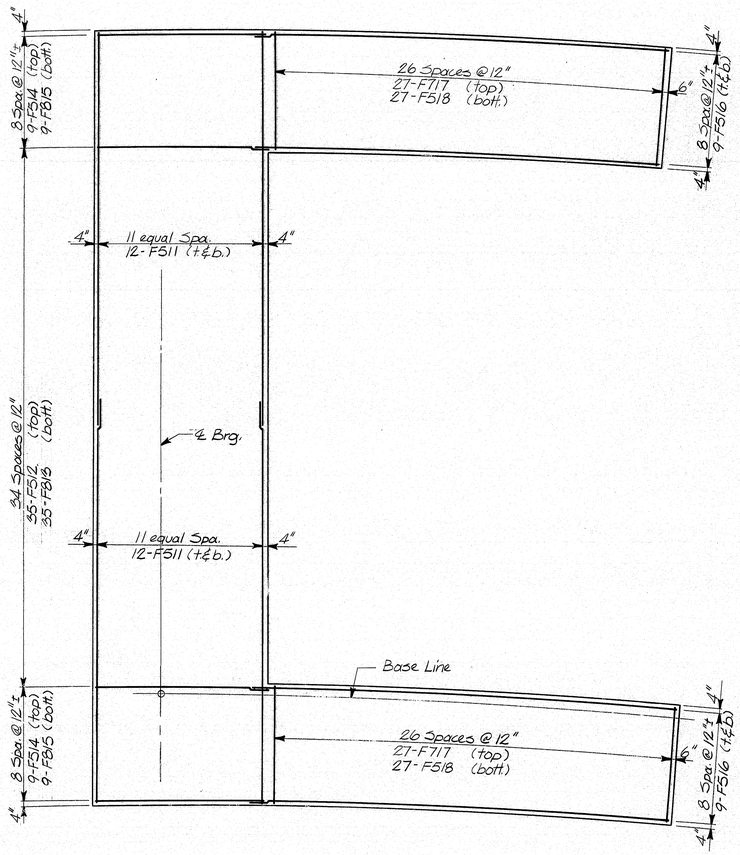
SHEET 7 OF 55 AUGUSTA, MAINE

F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	IR-295-3(100)50	468	515



Notes:
Adjust footing reinf. to clear piles.
Footings may placed on chord lines not to exceed 25ft. in length.
For pile notes see sht. "5".

FOOTING PILE PLAN



FOOTING REINFORCEMENT PLAN

PROJECT DESIGN ENGINEER		BY	DATE
PLANS	DESIGN - DETAILED	ESM	12/86
	CHECKED	KC	
	REVISIONS		
	FIELD CHANGES		

BRUNING 44-132 45710-1

0 1 2 3 4 5

102-205

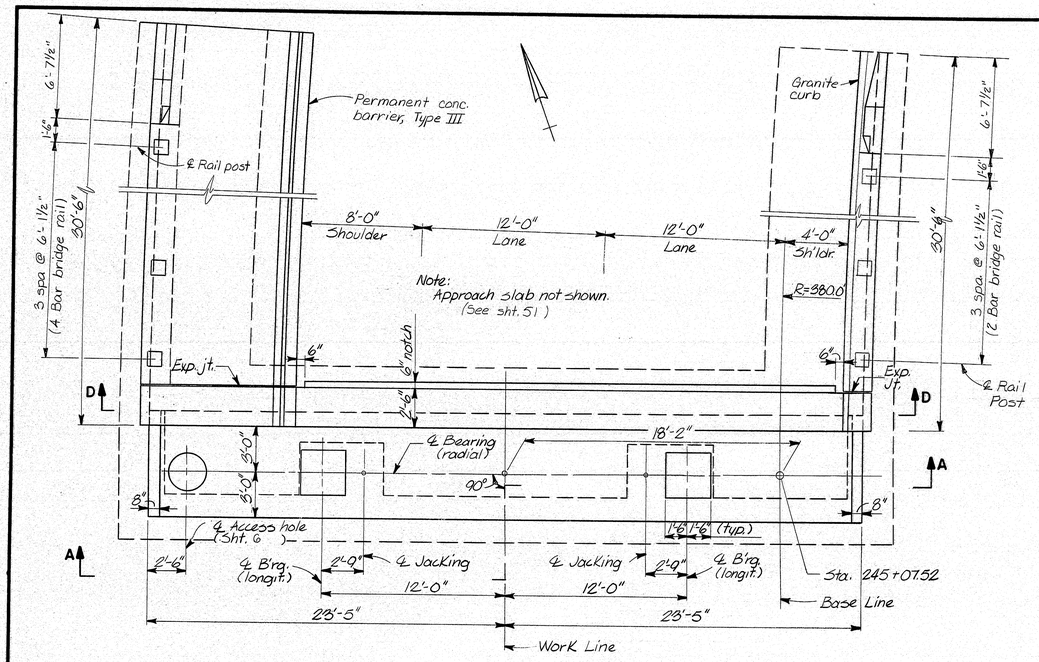
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

I-295 - PORTLAND
CUMBERLAND COUNTY
WASHINGTON AVE. SOUTHBOUND RAMP

ABUTMENT 2 DETAIL-1

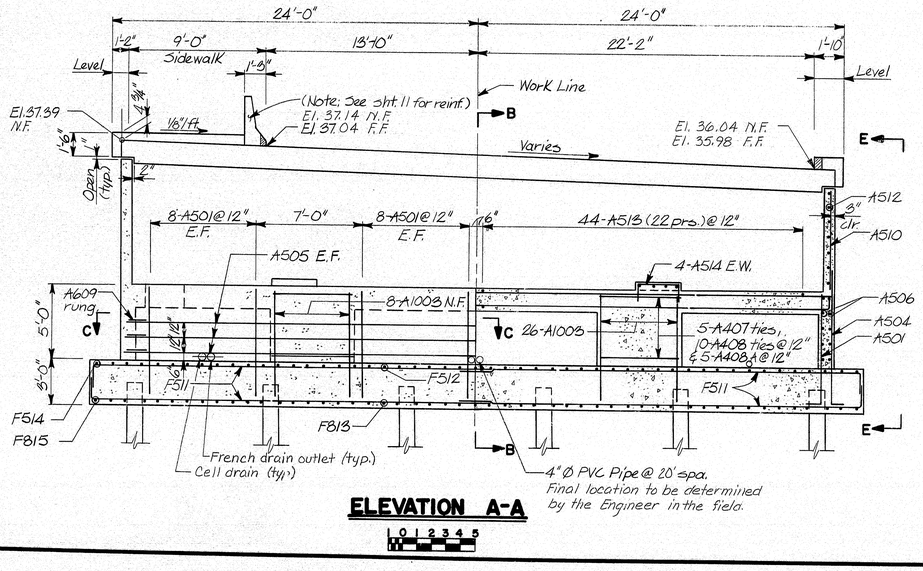
SHEET 8 OF 55 AUGUSTA, MAINE

F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	IR-295-3(100)50	469	515

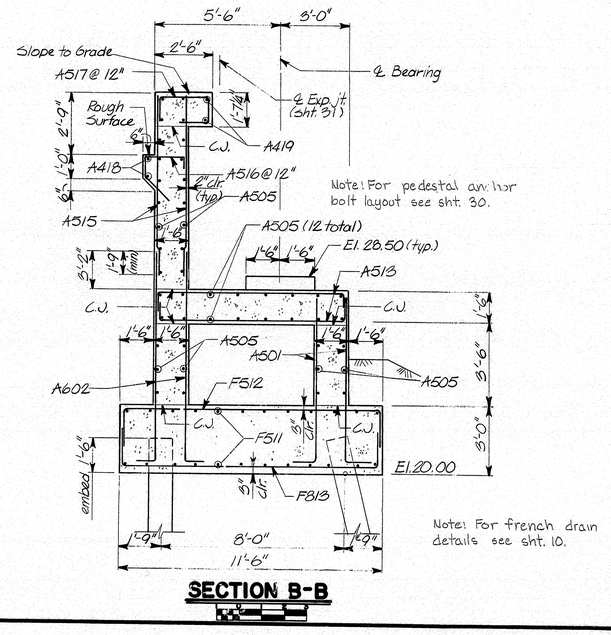


Notes:
For Section D-D See Sht. 10.
For French drain detail See Sht. 10.

PLAN

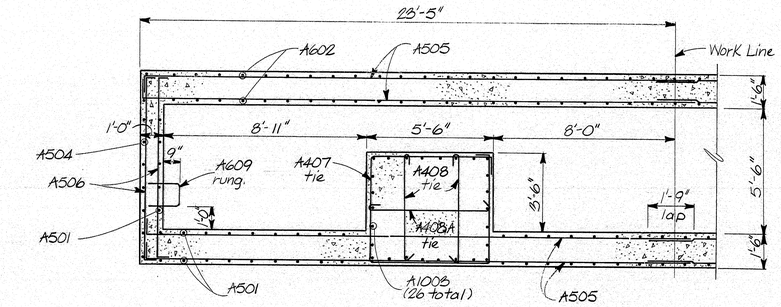


ELEVATION A-A



SECTION B-B

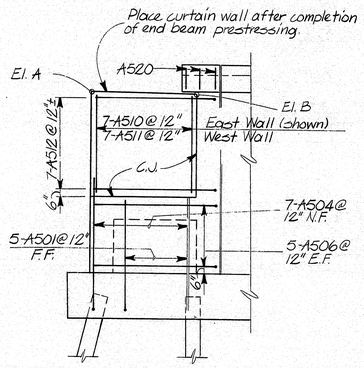
Note: For french drain details see sht. 10.



SECTION C-C

LEGEND
N.F. = Near Face
F.F. = Far Face
E.F. = Each Face
E.W. = Each Way

	El. A	El. B
East Wall	35.00	34.88
West Wall	36.31	36.20



VIEW E-E

102-206

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

BRUNING 44-132 45710-1

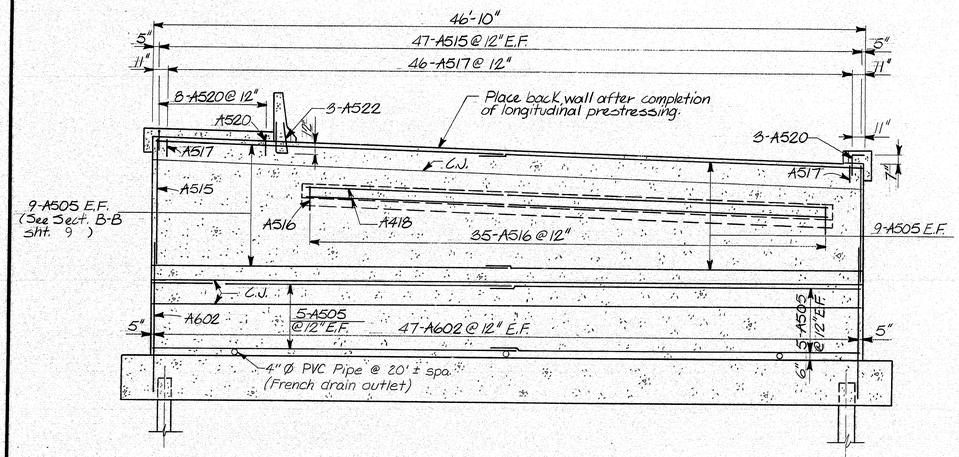
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

I-295 - PORTLAND
CUMBERLAND COUNTY
WASHINGTON AVE. SOUTHBOUND RAMP

ABUTMENT 2 DETAIL-2

SHEET 9 OF 55 AUGUSTA, MAINE

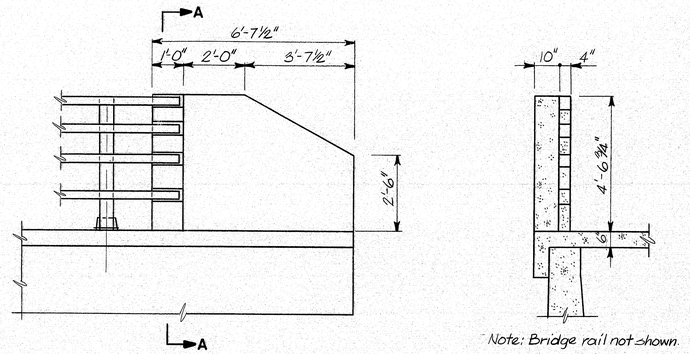
F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	IR-295-3(100)50	470	515



SECTION D-D

0 1 2 3 4 5

Note: For Section D:D See Sheet 9



ELEVATION

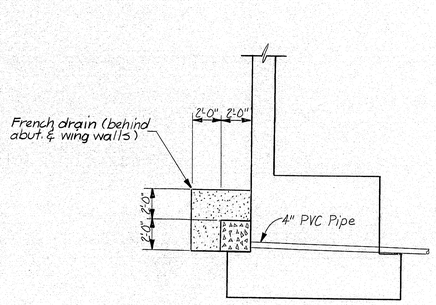
Note: Bridge rail not shown.

SECTION A-A

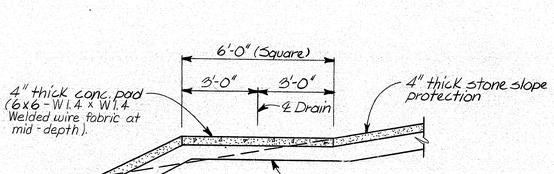
END POST AT WEST WINGWALL (BICYCLE RAIL)

0 1 2

Note: For end post reinforcement see sht. 16. Add dowels with EP406 bars.



FRENCH DRAIN DETAIL



SPLASH PAD DETAIL

4 Req'd

Notes:
Splash pad on stone slope protection shown; detail for splash pad on concrete slope protection is similar.
For splash pad not on slope protection, provide 1'-0" thick gravel borrow under pad.
No separate payment for splash pads; include with item 513.09.

PROJECT DESIGN ENGINEER		BY	DATE
PLANS	DESIGN-DETAILED	BSH	1986
	CHECKED	RC	
	REVISIONS		
	FIELD CHANGES		

BRUNING 44-132-457101

102-207

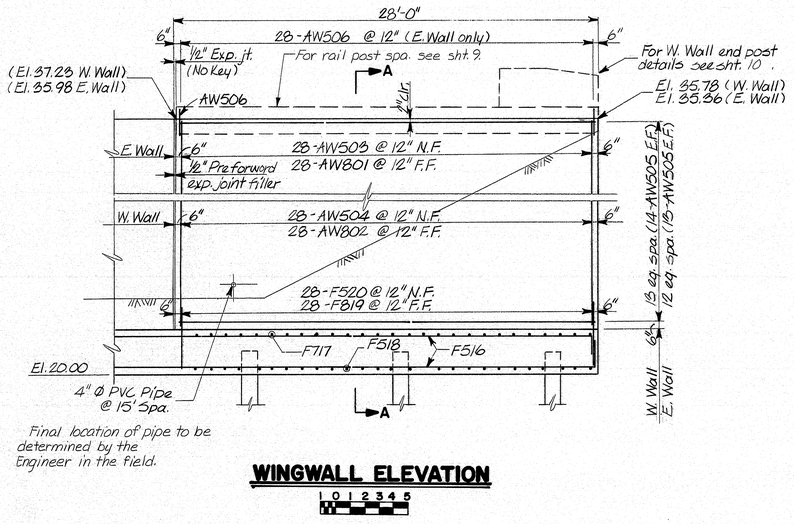
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

I-295 - PORTLAND
CUMBERLAND COUNTY
WASHINGTON AVE. SOUTHBOUND RAMP

ABUTMENT 2 DETAIL-3

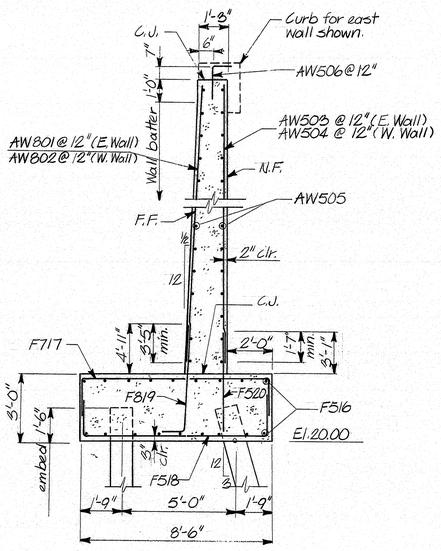
SHEET 10 OF 55 AUGUSTA, MAINE

F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	IR-295-3(100)50	471	515

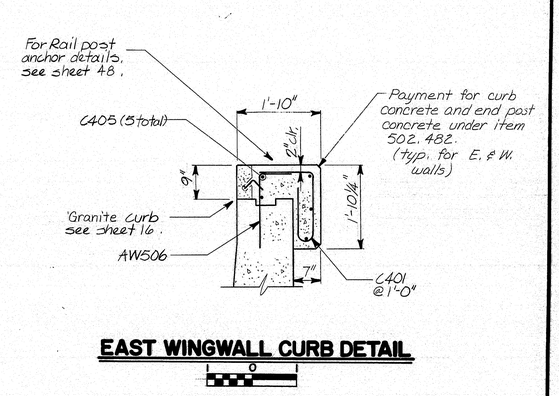


Final location of pipe to be determined by the Engineer in the field.

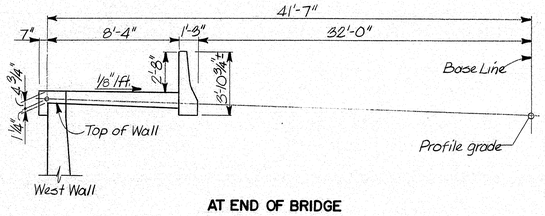
WINGWALL ELEVATION



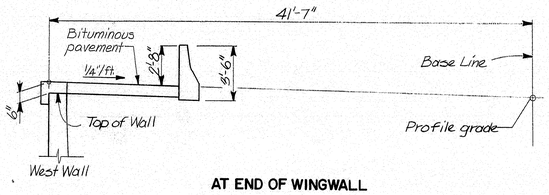
SECTION A-A



EAST WINGWALL CURB DETAIL



AT END OF BRIDGE

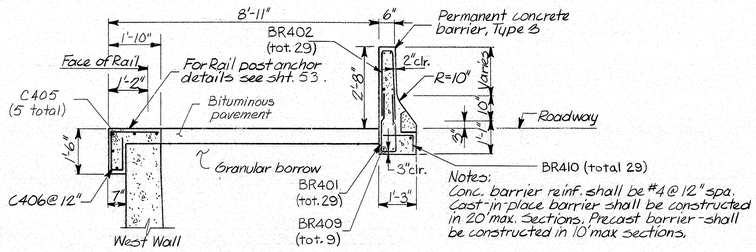


AT END OF WINGWALL

Note: Transverse dimensions are radial.

SIDEWALK ELEVATION TRANSITION

NOT TO SCALE



Notes:
Conc. barrier reinf. shall be #4 @ 12" spa.
Cast-in-place barrier shall be constructed in 20' max. Sections. Precast barrier shall be constructed in 10' max sections.

SIDEWALK SECTION

PROJECT DESIGN ENGINEER		BY	DATE
PLANS	DESIGN - DETAILED	BSH	3/82
	CHECKED	AM	
	REVISIONS	CC	
	FIELD CHANGES		

BRUNING 44-132 45710-1

102-208

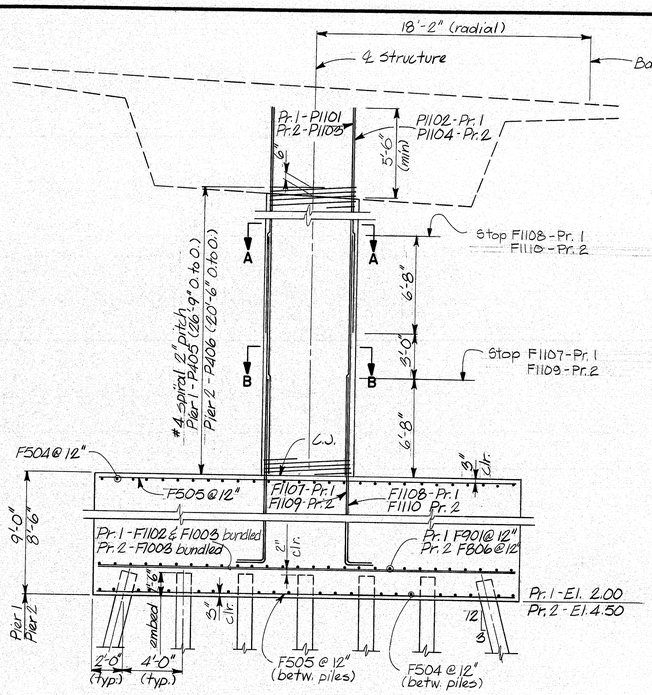
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

I-295 - PORTLAND
CUMBERLAND COUNTY
WASHINGTON AVE. SOUTHBOUND RAMP

ABUTMENT 2 DETAIL-4

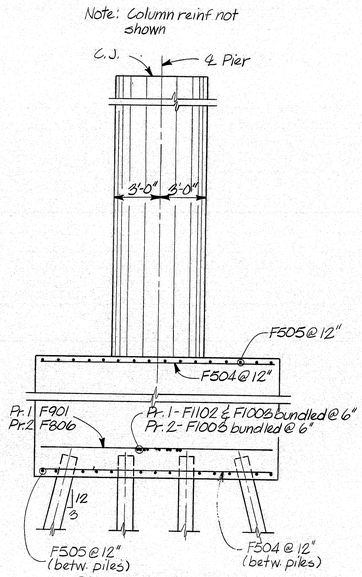
SHEET 11 OF 55 AUGUSTA, MAINE

F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	IR-295-3(100)50	472	515

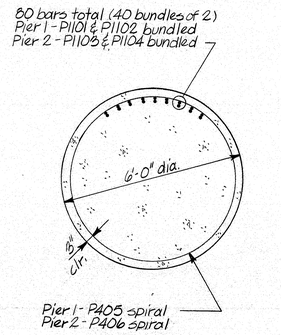


FRONT ELEVATION

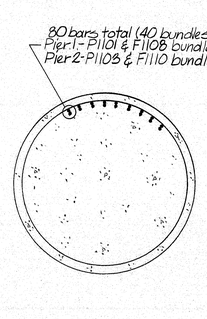
Note: Column reinf not shown



SIDE ELEVATION

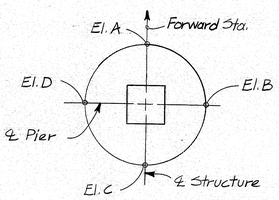


SECTION A-A



SECTION B-B

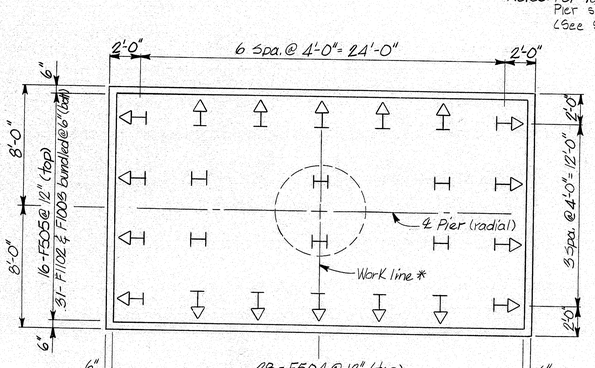
0 1 2



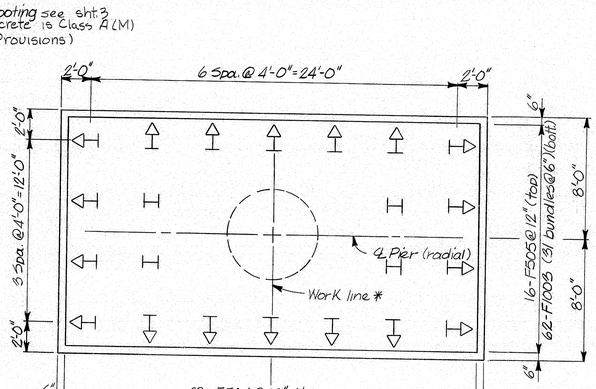
ELEVATIONS		
Point	Pier 1	Pier 2
A	37.16	32.98
B	37.02	32.98
C	37.23	33.23
D	37.37	33.23

TOP OF COLUMN ELEVATIONS

Notes: For layout of footing see sht. 3
Pier shaft concrete is Class A (M)
(See Special Provisions)



PIER 1 FOOTING REINFORCING & PILE LAYOUT



PIER 2 FOOTING REINFORCING & PILE LAYOUT

* Work line is tangent to ℄ Structure at ℄ Pier.

0 1 2 3 4 5

Pile Notes:

1. Piles marked thus ⊢▷ shall be battered 3 inches per foot in the direction of the arrow.
2. Pile design loads for HP 14×73 piles (12000 psi):
   Pier 1 - 114 tons (Group 1 loading governs)
   Pier 2 - 107 tons (Group 1 loading governs)
3. HP 13×73 bearing piles may be substituted for HP 14×73 bearing piles at the option of the contractor.
4. Estimate of piles required:
   Pier No. 1 — 24 - HP 14×73 @ 61 feet
   Pier No. 2 — 22 - HP 14×73 @ 67 feet

PROJECT DESIGN ENGINEER	BY	DATE
DESIGN - DETAILED	BSA	7/85
CHECKED	AHH	
REVISIONS	RC	
FIELD CHANGES		

PLANS

BRUNING 44-132-457101

102-209

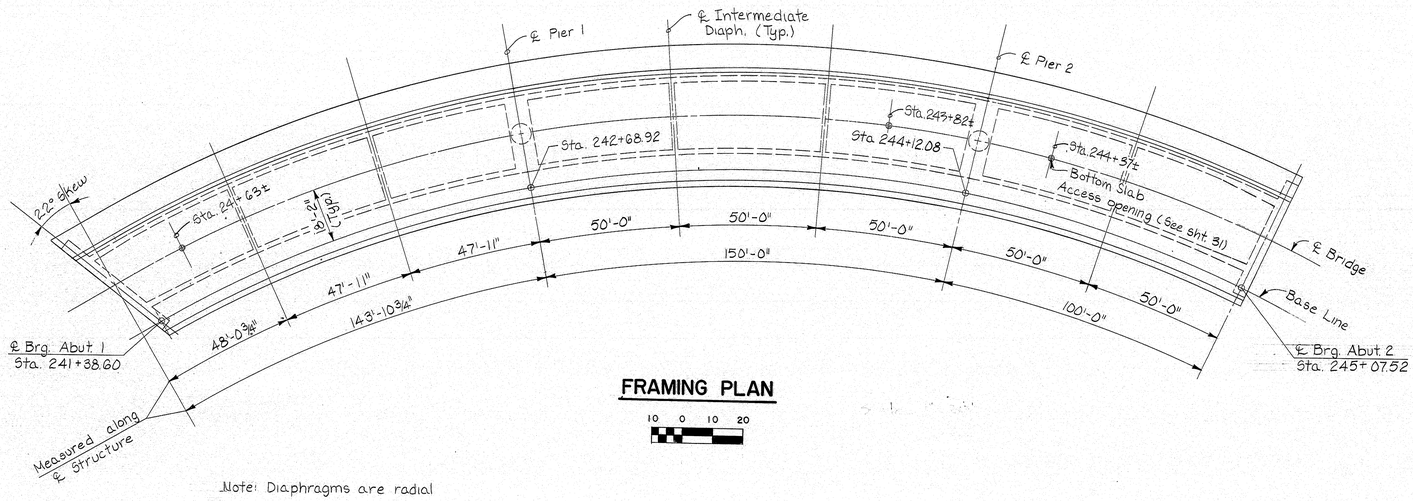
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

I-295 - PORTLAND
CUMBERLAND COUNTY
WASHINGTON AVE. SOUTHBOUND RAMP

PIERS 1 & 2

SHEET 12 OF 55 AUGUSTA, MAINE

F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	IR-295-3(100)50	473	515



FRAMING PLAN

10 0 10 20

Note: Diaphragms are radial

PROJECT DESIGN ENGINEER		BY	DATE
PLANS	DESIGN - DETAILED	ESI	9/85
	CHECKED	ESA	
	REVISIONS		
	FIELD CHANGES		

DRAWING 44-132-4710-1

102-210

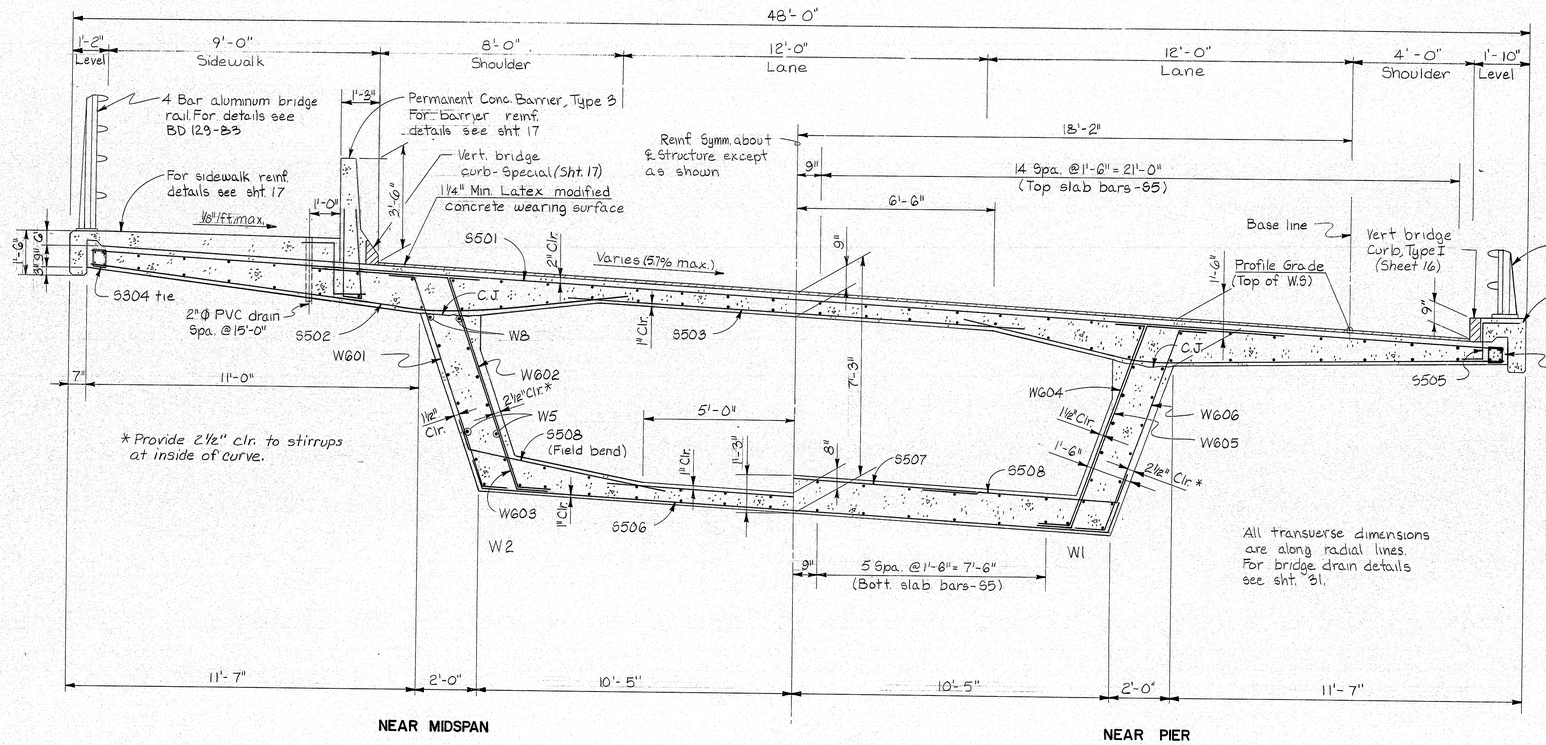
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

I-295 - PORTLAND
CUMBERLAND COUNTY
WASHINGTON AVE. SOUTHBOUND RAMP

FRAMING PLAN

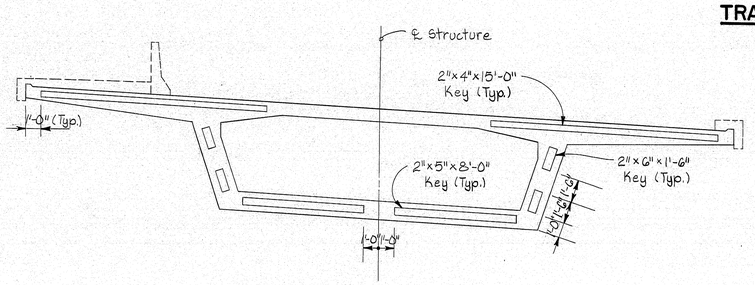
SHEET 13 OF 55 AUGUSTA, MAINE

F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	IR-295-3(100)50	474	515



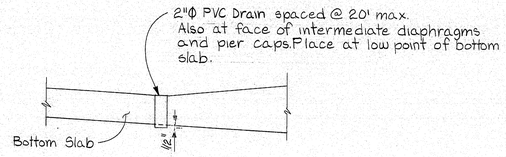
TRANSVERSE SECTION

0 1 2



CONSTRUCTION JOINT KEYS FOR STAGE CONSTRUCTION

0 1 2 3 4 5



WEEP HOLE DETAILS

NO SCALE

PROJECT DESIGN ENGINEER		BY	DATE
PLANS	DESIGN - DETAILED	JSV	12/12
	CHECKED	JSV	
	REVISIONS		
	FIELD CHANGES		

BRUNING 44102 4S710-1

102-211

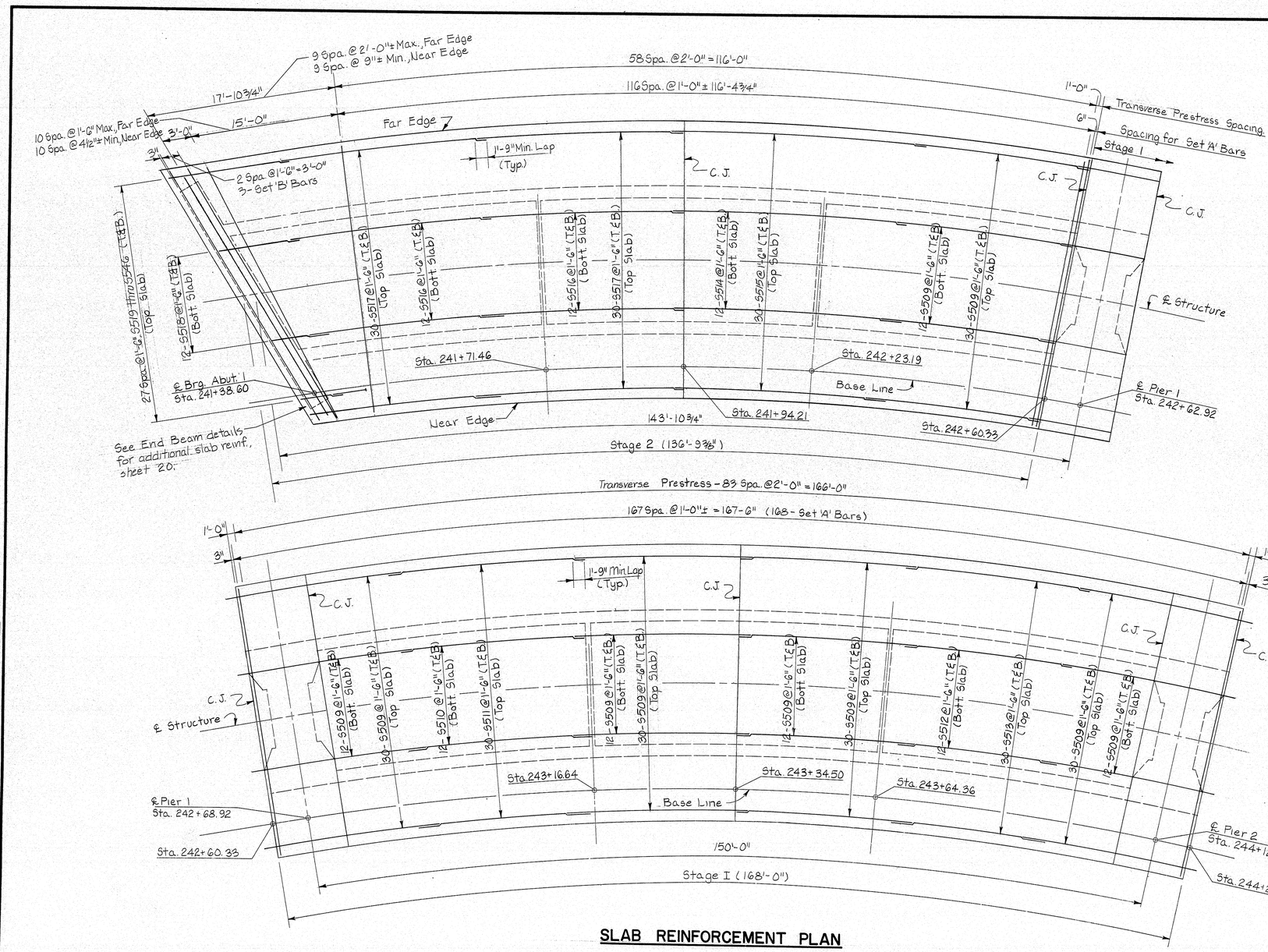
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

I-295 - PORTLAND
CUMBERLAND COUNTY
WASHINGTON AVE. SOUTHBOUND RAMP

TRANSVERSE SECTION

SHEET 14 OF 55 AUGUSTA, MAINE

F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	IR-295-3(100)50	475	515



SLAB REINFORCEMENT PLAN

Notes:

1. Longitudinal dimensions are given along center line of structure.
2. 1-Set 'A' bars includes:
   Deck slab, 1-5501, 2-5502, 1-5503, 1-5505
   Bottom slab, 1-5506, 1-5507, 2-5508.
   1-Set 'B' bars includes:
   Deck slab, 1-5501, 1-5505.
3. Bottom slab access opening location shown on sht. 13; details on sht. 31.
4. For location of sign bracket anchorage in top slab and additional reinf. at Sta. 242+07, Sta. 242+34 & Sta. 243+51.5 see shts. 36, 37 & 38.

PROJECT DESIGN ENGINEER	BY	DATE
DESIGN - DETAILED	JSC	7/82
CHECKED	JSA	
REVISIONS		
FIELD CHANGES		

PLANS

BRUNING 44-132-45710-1

102-212

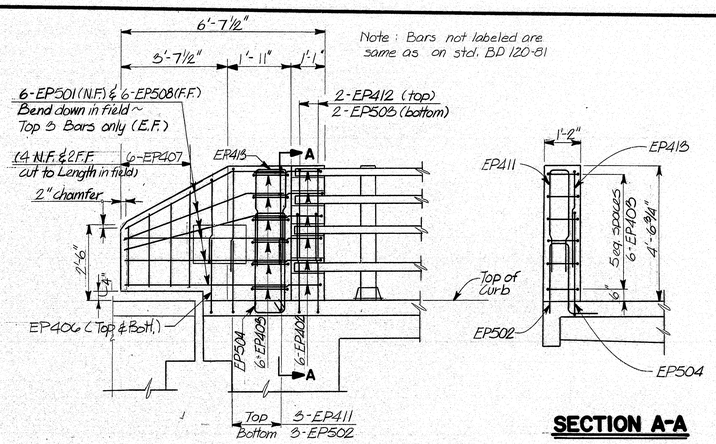
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

I-295 - PORTLAND
CUMBERLAND COUNTY
WASHINGTON AVE. SOUTHBOUND RAMP

SLAB - REINFORCEMENT - 1

SHEET 15 OF 55 AUGUSTA, MAINE

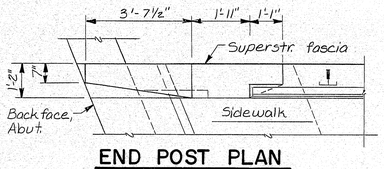
F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	IR-295-3(100)50	476	515



Note : Bars not labeled are same as on std. BD 120-81

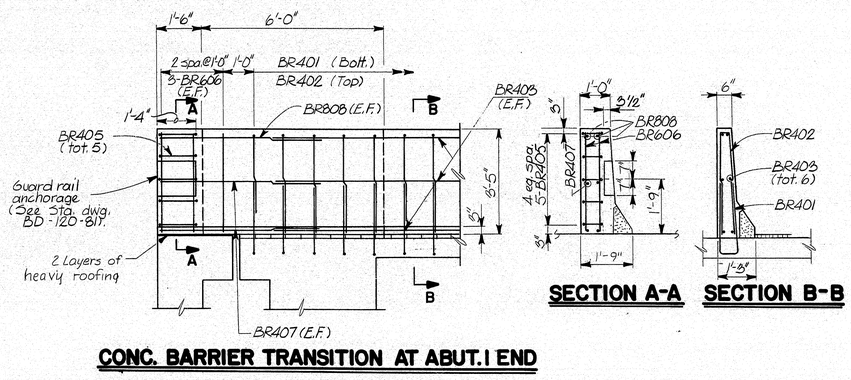
SECTION A-A

END POST AT ABUT. 1 END (BICYCLE RAIL)



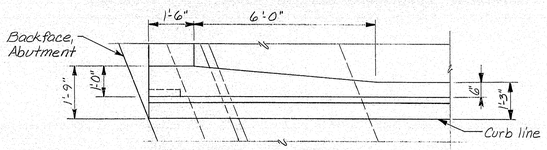
END POST PLAN

SLAB REINFORCEMENT PLAN

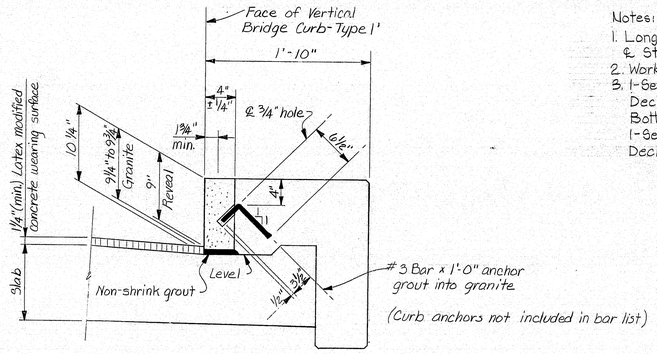


SECTION A-A SECTION B-B

CONC. BARRIER TRANSITION AT ABUT. 1 END



BARRIER TRANSITION PLAN



VERTICAL BRIDGE CURB - TYPE I

Notes:
1. Longitudinal dimensions are given along ℄ Structure.
2. Work this sheet with sheet 15.
3. 1-Set 'A' bars includes:
   Deck slab, 1-S501, 2-S502, 1-S503, 1-S505
   Bottom slab, 1-S506, 1-S507, 2-S508
   1-Set 'B' bars includes:
   Deck slab, 1-S501, 1-S505

PROJECT DESIGN ENGINEER		BY	DATE
PLANS	DESIGN-DETAILED	JSS	11/85
	CHECKED	JSA	
	REVISIONS		
	FIELD CHANGES		

BRIMING 44-132, 45710-1

102-213

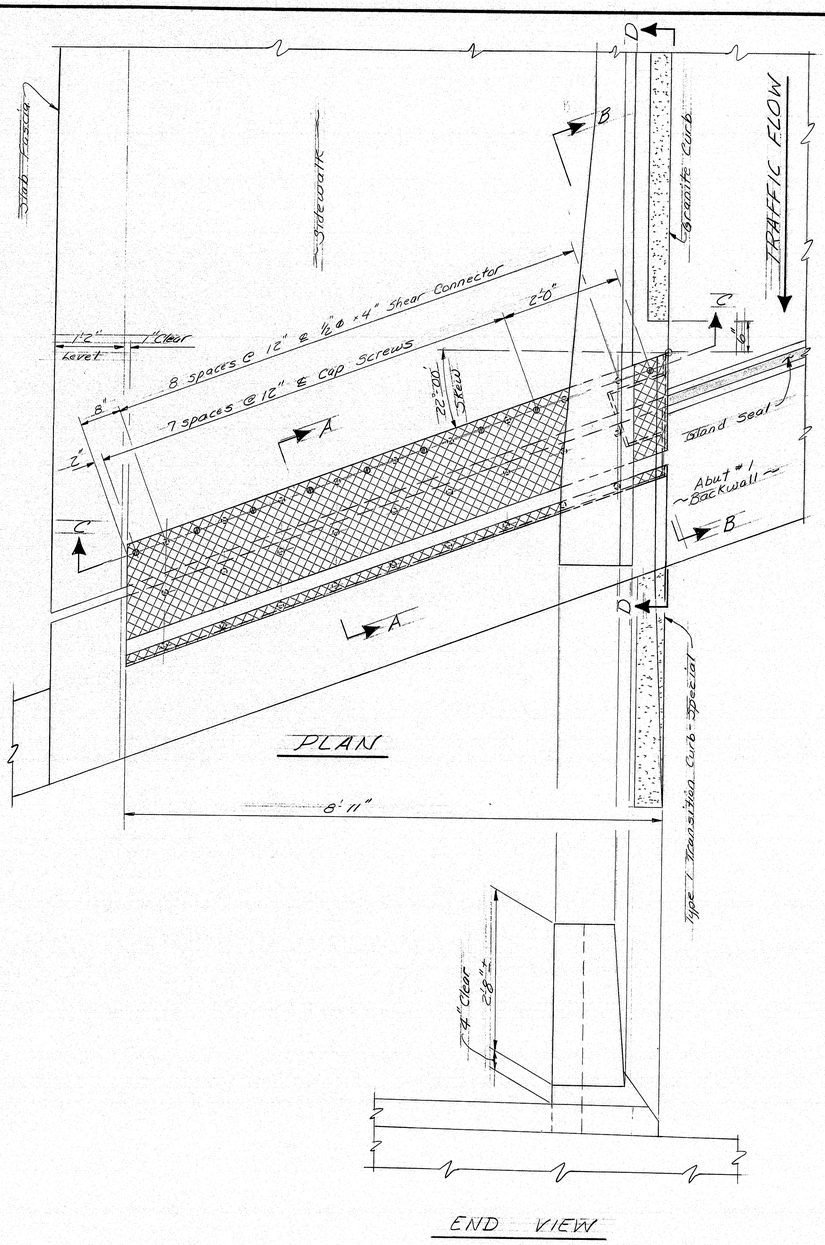
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

I-295 - PORTLAND
CUMBERLAND COUNTY
WASHINGTON AVE. SOUTHBOUND RAMP

SLAB REINFORCEMENT-2

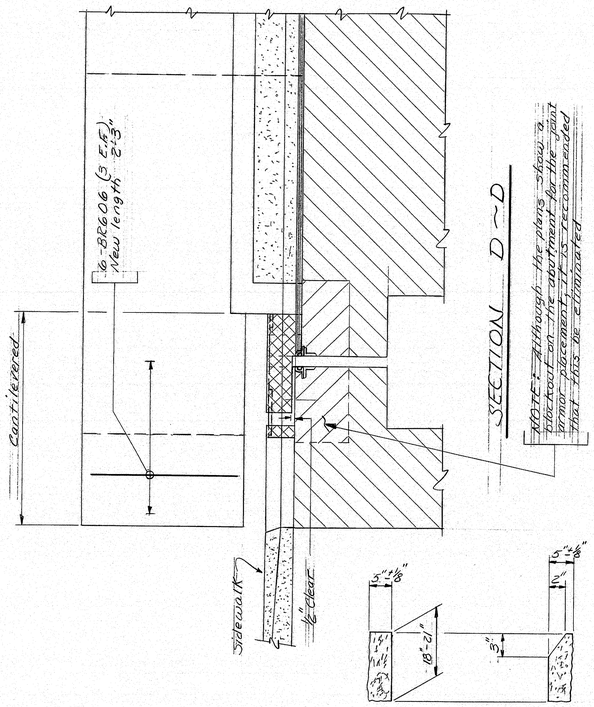
SHEET 16 OF 55 AUGUSTA, MAINE

F.H.W.A. REQ. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	IR-295-3(140)X0	476 A	515

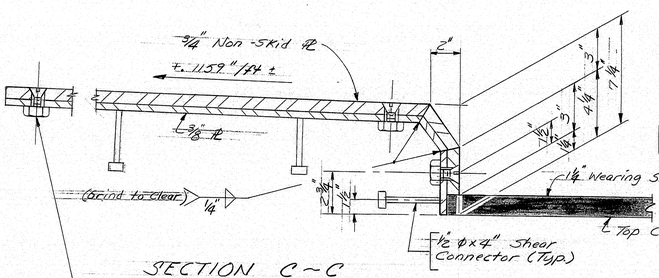


PLAN

END VIEW



VIEW G~G VIEW F~F

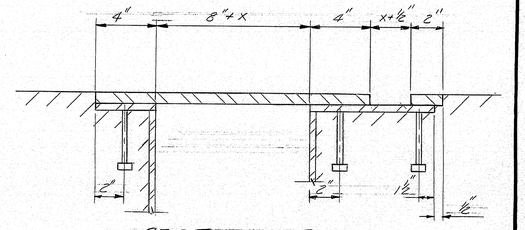


SECTION C~C

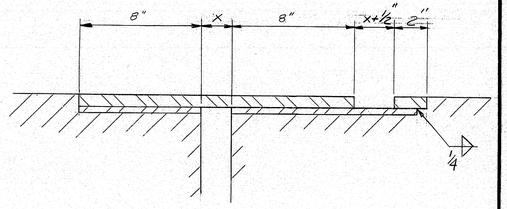
¾" Ø UNC x 1¼" Flat Countersunk Hex Sockethead Cap Screw, weld nut to back of ⅝" Æ (Typ).

SECTION D~D

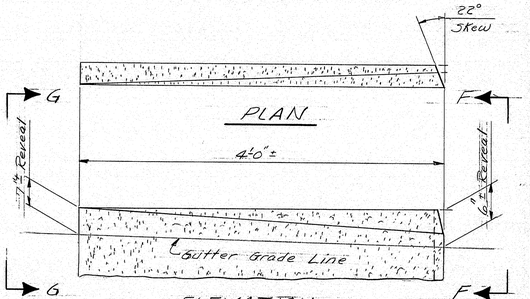
NOTE: Although the plans show a blockout at the abutment for the joint armor placement, it is recommended that this be eliminated



SECTION B~B



SECTION A~A



ELEVATION

TYPE 1 TRANSITION CURB-SPECIAL

NOTE: For details not shown see Contract Plans.

MATERIALS

Plates ASTM A36

Note: All materials to be Hot dipped Galvanized

PROJECT DESIGN ENGINEER		BY	DATE
PLANS	DESIGN - DETAILED	MLB	10-87
	CHECKED	LRC	
	REVISIONS		
	FIELD CHANGES		

BRIMING 44-132-457101

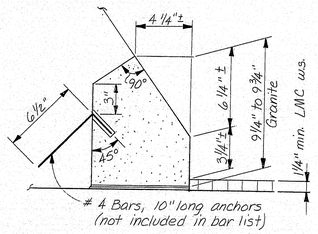
102-214

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

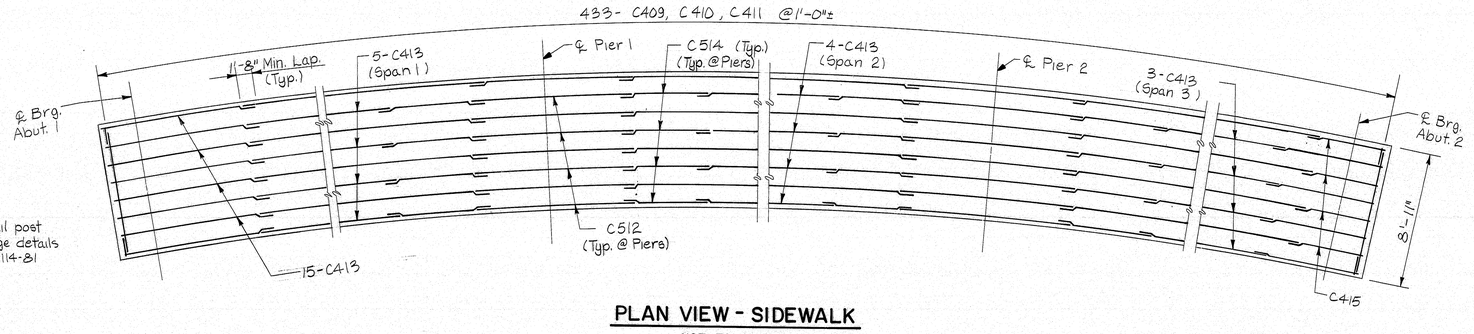
I-295 INTERCHANGE COMPLEX
WASHINGTON AVE S.B. RAMP
OVER
INTERSTATE 295
IN THE TOWN OF
PORTLAND
CUMBERLAND COUNTY
SIDEWALK EXPANSION DAM

SHEET 16 OF 55 AUGUSTA, MAINE OCT. 1987

F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	IR-295-3(100)50	477	515

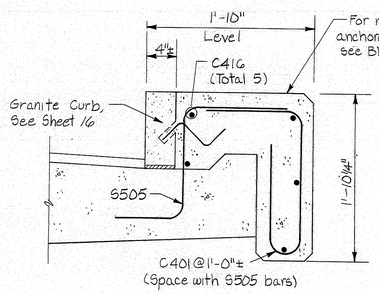


VERT. BRIDGE CURB - SPECIAL

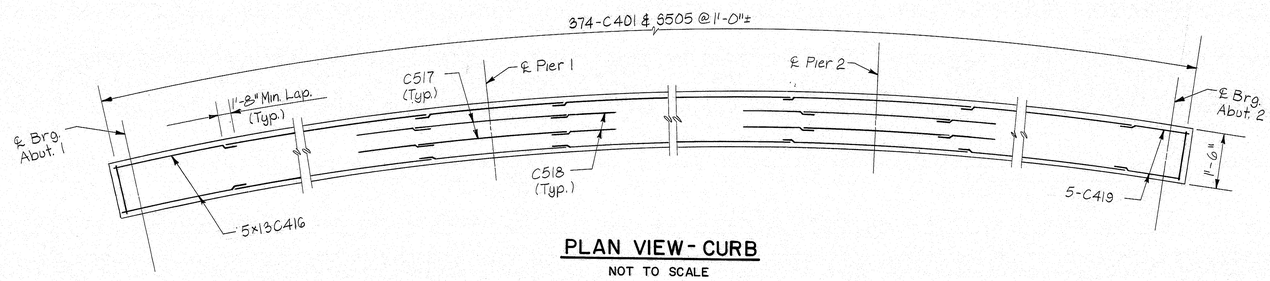


PLAN VIEW - SIDEWALK

NOT TO SCALE

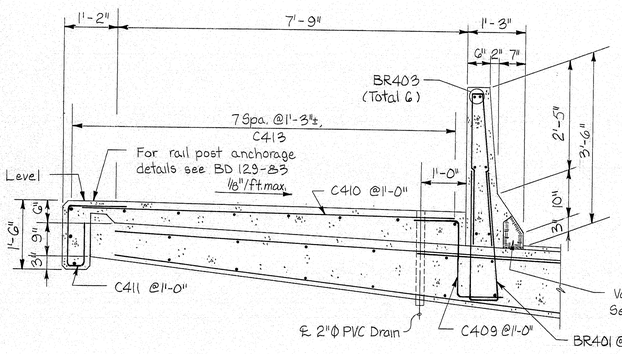


CURB SECTION

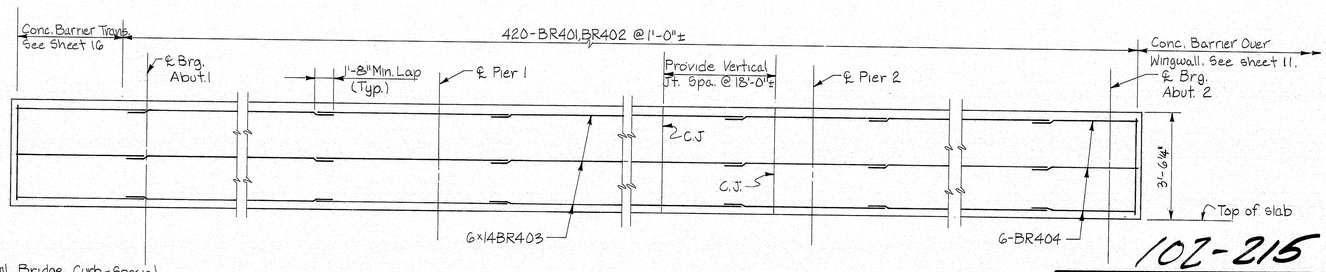


PLAN VIEW - CURB

NOT TO SCALE



SIDEWALK SECTION



ELEV. - TRAFFIC BARRIER

NOT TO SCALE

PROJECT DESIGN ENGINEER	BY	DATE
PLANS	DESIGN DETAILED	BSC 7/85
	CHECKED	JSH
	REVISIONS	
	FIELD CHANGES	

IRWIN 44-132-45710-1

102-215

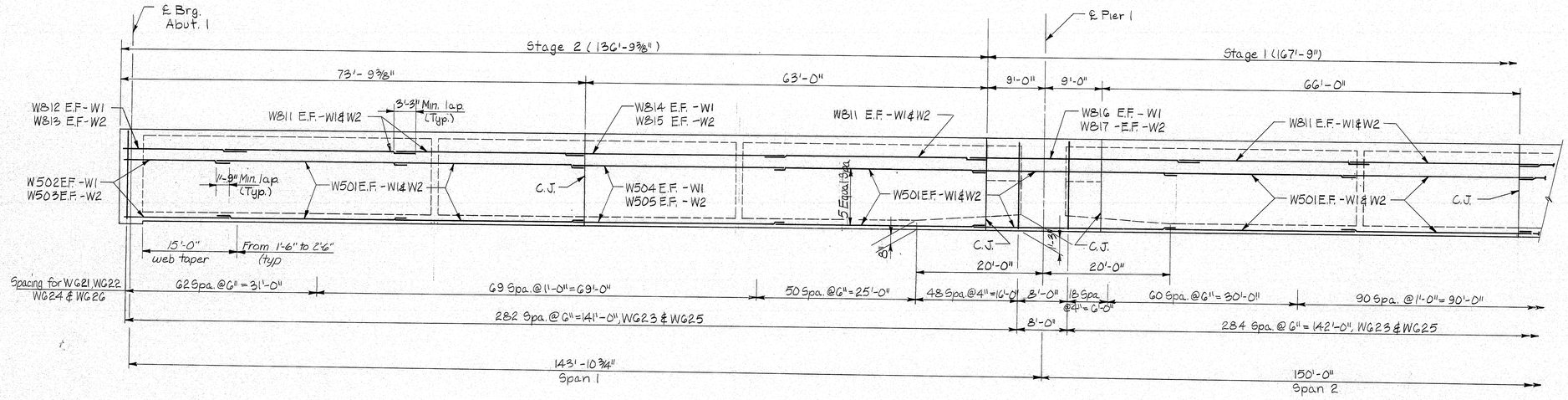
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

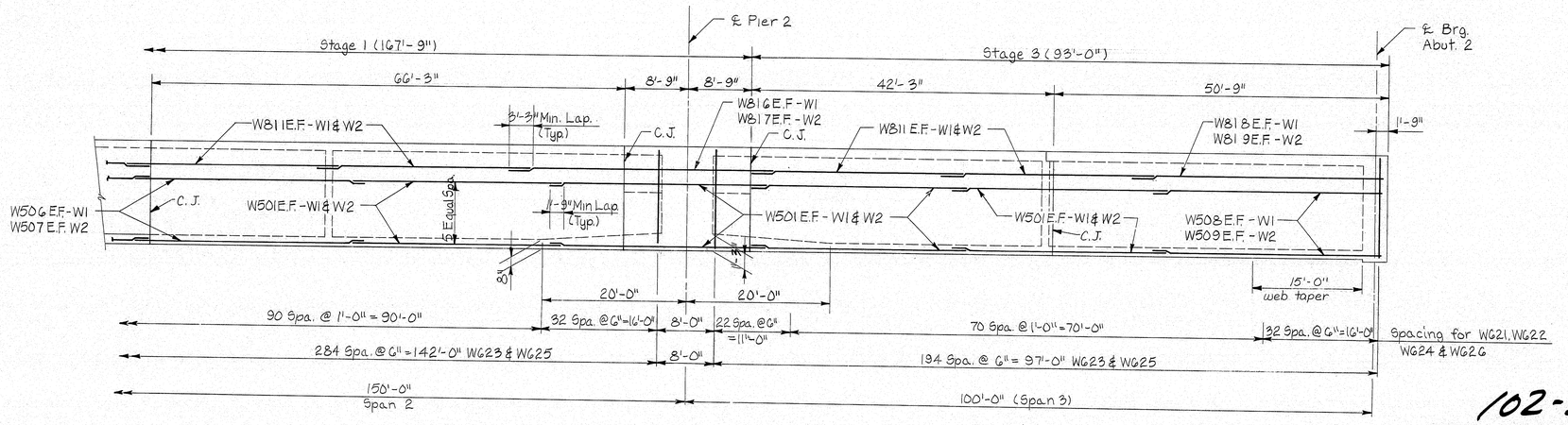
I-295 - PORTLAND
CUMBERLAND COUNTY
WASHINGTON AVE. SOUTHBOUND RAMP

CURB, SIDEWALK & BARRIER

SHEET 17 OF 55 AUGUSTA, MAINE

F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	IR-295-3(100)S0	478	515





GIRDER WEB REINFORCEMENT

1 0 2 4 6 8 10

Notes:
1. All longitudinal dimensions given along ℄ Structure.
2. For web designation see transverse section sheet 14.
3. For additional reinforcing at pier caps see sheet 23.
4. For location of sign bracket anchorages in webs see shts. 36, 37 & 38.

PROJECT DESIGN ENGINEER		BY	DATE
PLANS	DESIGN - DETAILED	BSC	6/82
	CHECKED	ASC1	
	REVISIONS		
	FIELD CHANGES		

BRUNING 44-132 4570-1

102-216

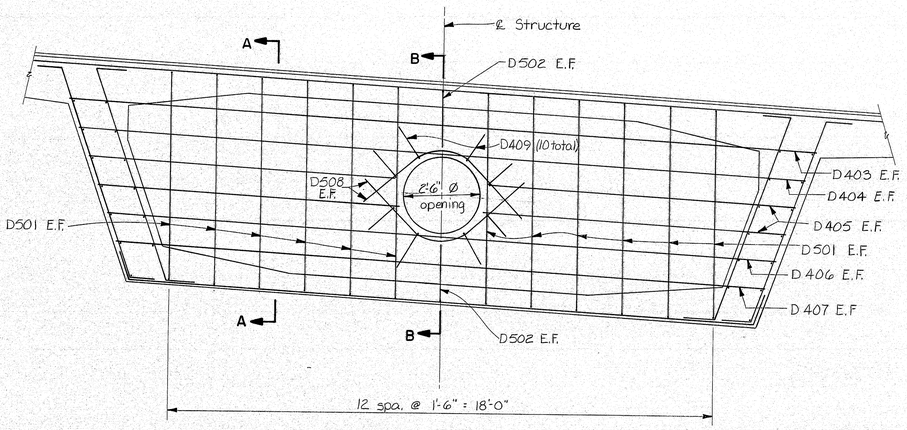
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

I-295 - PORTLAND
CUMBERLAND COUNTY
WASHINGTON AVE. SOUTHBOUND RAMP

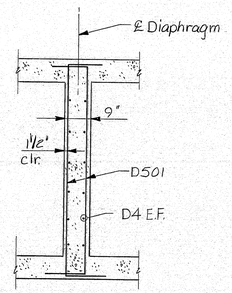
WEB REINFORCEMENT

SHEET 18 OF 55 AUGUSTA, MAINE

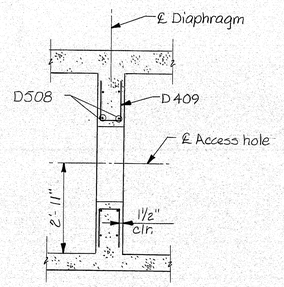
F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	IR-2953(100)50	479	515



ELEVATION



SECTION A-A

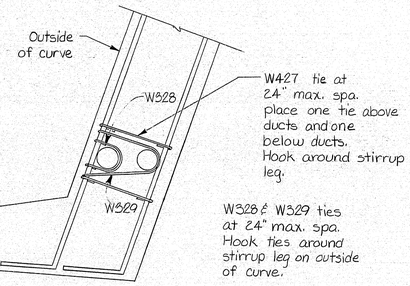


SECTION B-B

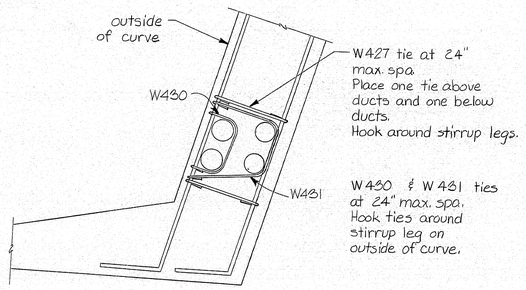
Note: For diaphragm location see Framing Plan, Sht. 13.

INTERMEDIATE DIAPHRAGM REINFORCING

0 1 2



SINGLE DUCT TIES



TWO DUCT TIES

Note; Bend ties in field.

DUCT TIE DOWN DETAILS

6 0 1

PROJECT DESIGN ENGINEER		BY	DATE
PLANS	DESIGN - DETAILED	JLG	12/82
	CHECKED	RC	
	REVISIONS		
	FIELD CHANGES		

BRUNING 44-132 45710-1

102-217

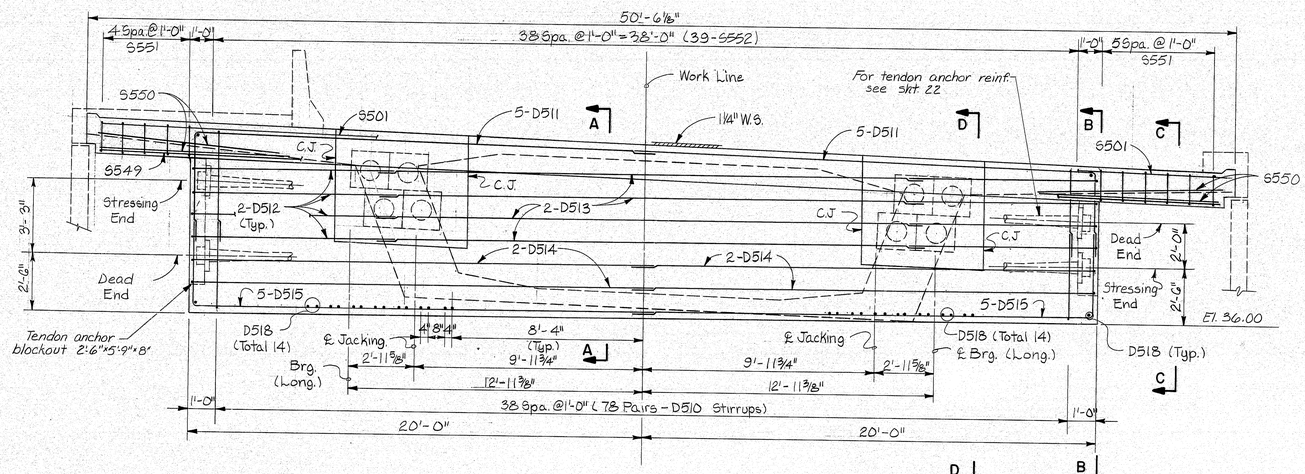
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

I-295 - PORTLAND
CUMBERLAND COUNTY
WASHINGTON AVE SOUTHBOUND RAMP

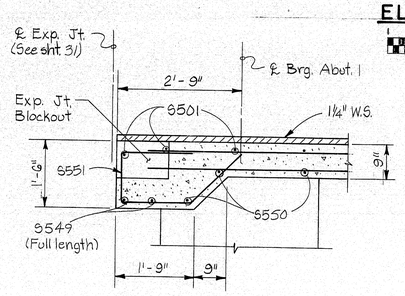
INTERMEDIATE DIAPHRAGMS

SHEET 19 OF 55 AUGUSTA, MAINE

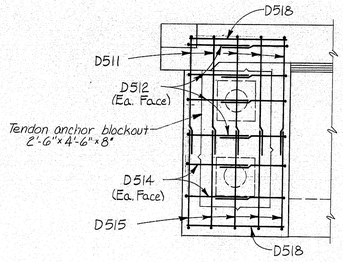
F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	IR-295-3(100)50	480	515



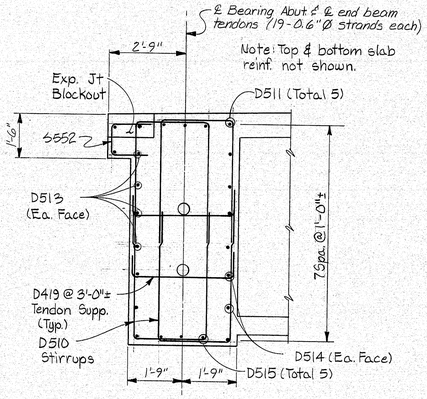
ELEVATION



SECTION C-C



SECTION B-B



SECTION A-A

Notes:
1. For Section D-D see sht. 22.
2. End beam reinforcement that interferes with post-tensioning to be adjusted in field
3. Blockouts for tendon anchorages to be filled with non-shrink grout after completion of post-tensioning.
4. For prestressing notes see sheet 29.

PROJECT DESIGN ENGINEER		BY	DATE
PLANS	DESIGN - DETAILED	JSS	7/96
	CHECKED	JSS	
	REVISIONS		
	FIELD CHANGES		

BRIMING 44-132-457101

102-218

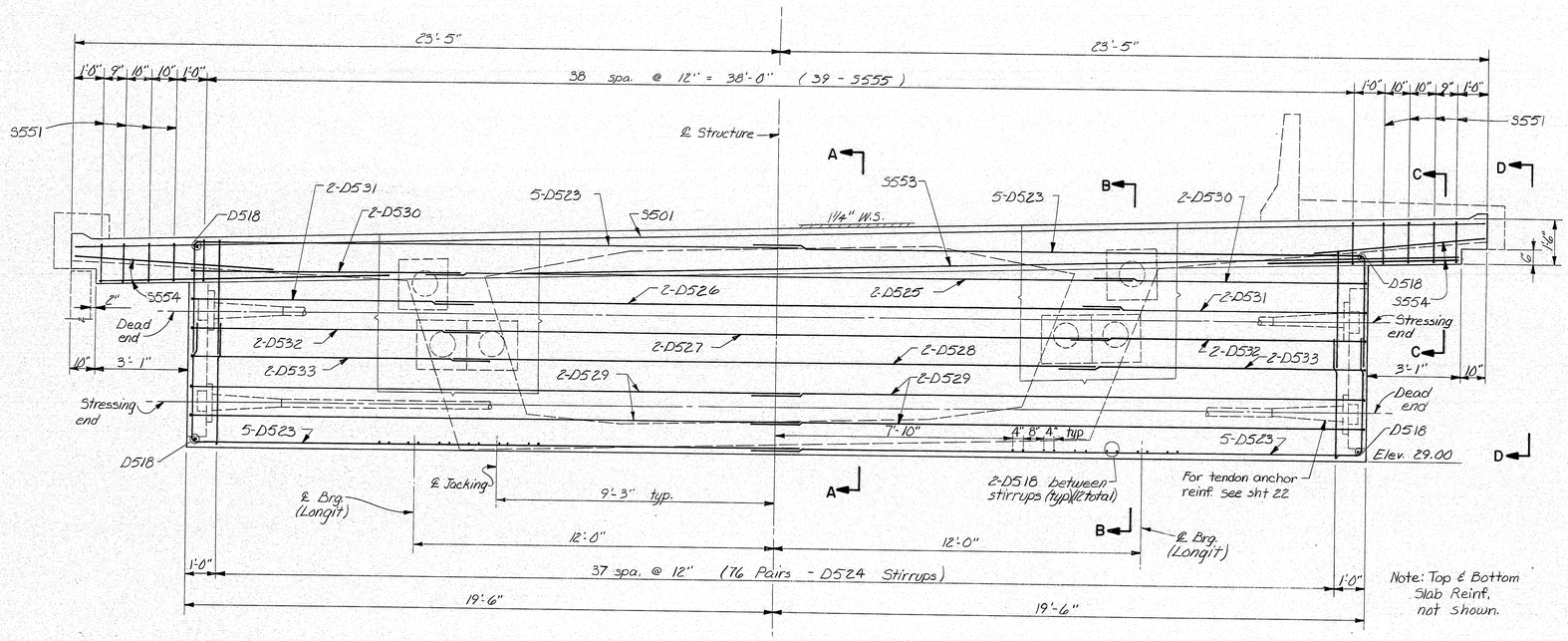
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

I-295 - PORTLAND
CUMBERLAND COUNTY
WASHINGTON AVE. SOUTHBOUND RAMP

END BEAM - ABUTMENT 1

SHEET 20 OF 55 AUGUSTA, MAINE

F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	IR-295-3(100)50	481	515

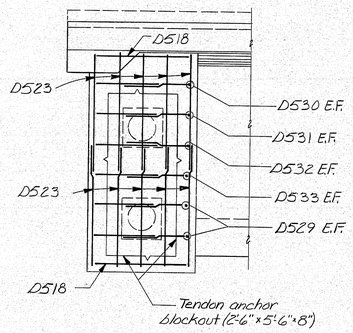


ELEVATION-ABUTMENT 2 END BEAM

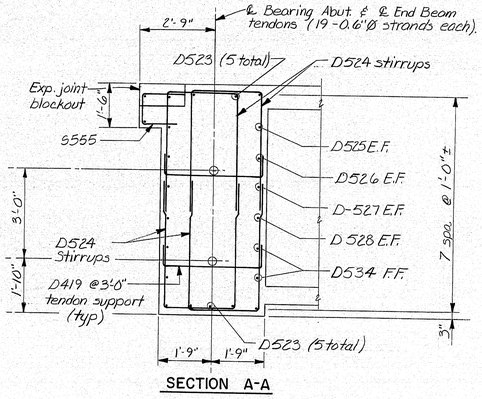
0 1 2

Note: Top & Bottom Slab Reinf. not shown.

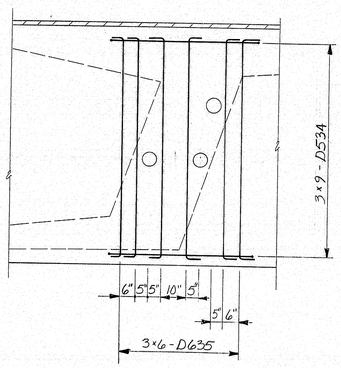
Note: Slab & sidewalk reinf. not shown



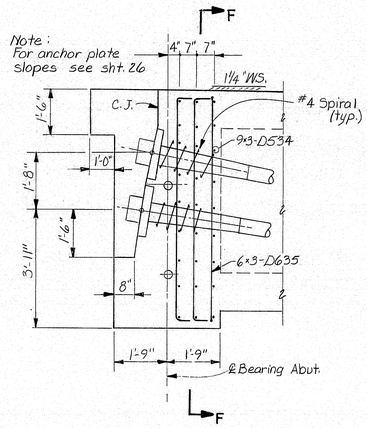
VIEW D-D



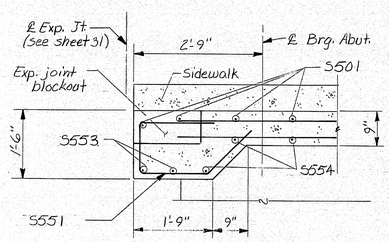
SECTION A-A



SECTION F-F



SECTION B-B
(Showing longitudinal tendon anchorage)



SECTION C-C

0 1 2

Notes:

1. End beam reinforcement that interferes with tendon jacking to be bent out of the way, then bent back in place when jacking is completed.
2. Blockouts for tendon anchorages to be filled with non-shrink grout after completion of post-tensioning.

PROJECT DESIGN ENGINEER	BY	DATE
PLANS — DESIGN - DETAILED	JSA	5/86
CHECKED	AG.	
REVISIONS	RC	
FIELD CHANGES		

BRUNING 44-132-45710-1

102-219

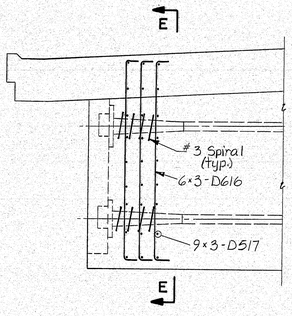
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

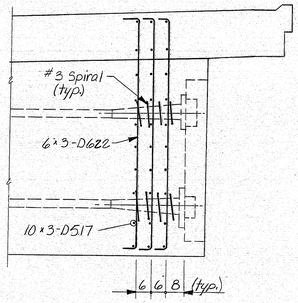
I-295 - PORTLAND
CUMBERLAND COUNTY
WASHINGTON AVE. SOUTHBOUND RAMP

END BEAM - ABUTMENT 2

SHEET 21 OF 55 AUGUSTA, MAINE

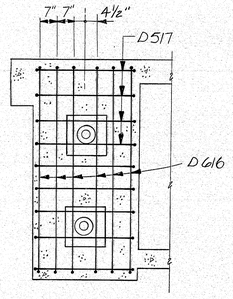
F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	IR-295-3(100)50	482	515





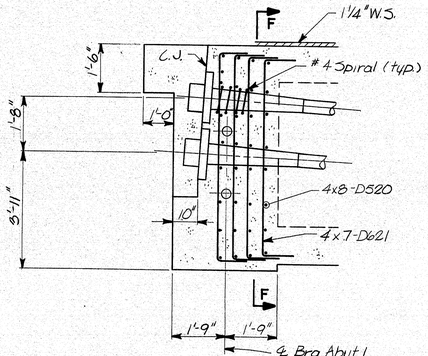
PARTIAL END BEAM ELEVATION

(Showing tendon anchor reinforcement)



SECTION E-E

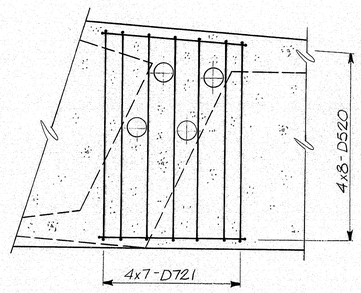
Note: For anchor plate slopes see sht. 24



Notes: Anchor reinf. typical in each web.
For Section D-D see sht. 20.

SECTION D-D

(Showing longitudinal tendon anchorage)



SECTION F-F

PROJECT DESIGN ENGINEER	BY	DATE
DESIGNED DETAILED	SCA	12/82
CHECKED	AS	
REVISIONS	RC	
FIELD CHANGES		

PLANS

BRUNING 44-132-4570-1

102-220

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

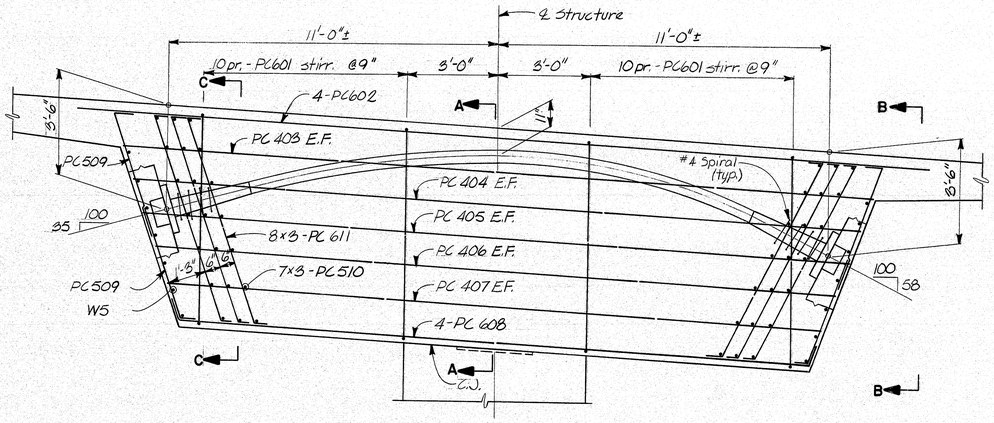
I-295 - PORTLAND
CUMBERLAND COUNTY
WASHINGTON AVE. SOUTHBOUND RAMP

END BEAMS

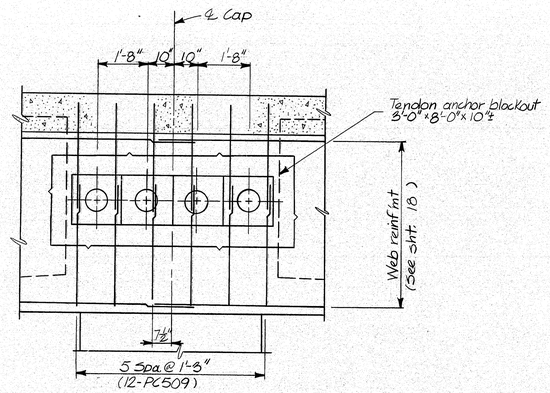
SHEET 22 OF 55 AUGUSTA, MAINE

F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	IR-295-3(100)50	483	515

Note:
1. Reinf. is symmetrical about ℄ Structure.
2. Column reinf. and typical box girder reinf. not shown.
3. For longitudinal prestress anchorage details at caps see sheets 27 & 28.

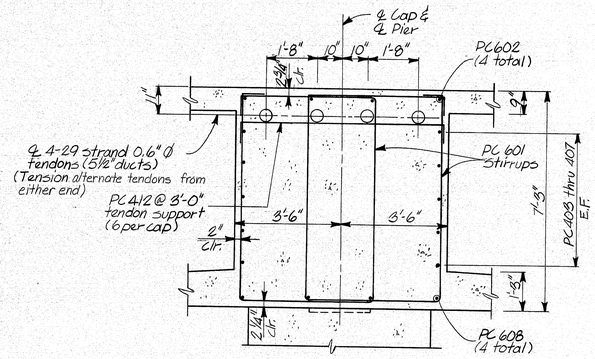


PIER CAP ELEVATION - PIERS 1 & 2

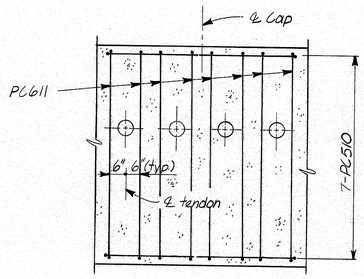


Note: Bend reinf to accommodate jacking. Bend back when jacking is completed.

VIEW B-B



SECTION A-A



SECTION C-C

Pier Cap Prestressing Notes:

1. Details shown are to provide a final prestressing force of 5000 kips min. in each cap (at ℄ structure) after all losses.
2. No allowance has been made for losses due to anchor set; shimming of anchor head to compensate for seating losses is assumed.
3. For prestressing systems having different characteristics than those assumed, sufficient strands (or tendons) shall be furnished to provide not less than 5000 kips final prestressing force in the cap.
4. For additional prestressing notes see sheet 29.

PROJECT DESIGN ENGINEER		BY	DATE
PLANS	DESIGN - DETAILED	ESA	12/86
	CHECKED	MW	
	REVISIONS	RC	
	FIELD CHANGES		

BRUNING 44-132-42710-1

102-221

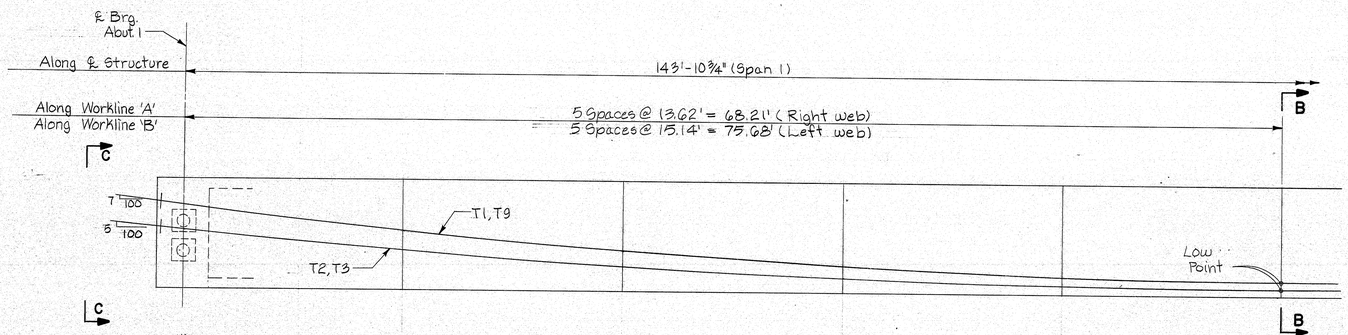
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

I-295 - PORTLAND
CUMBERLAND COUNTY
WASHINGTON AVE. SOUTHBOUND RAMP

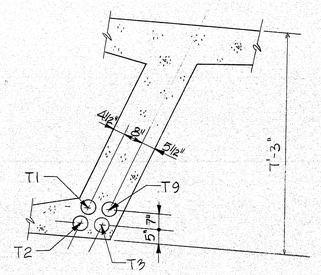
PIER CAPS

SHEET 23 OF 55 AUGUSTA, MAINE

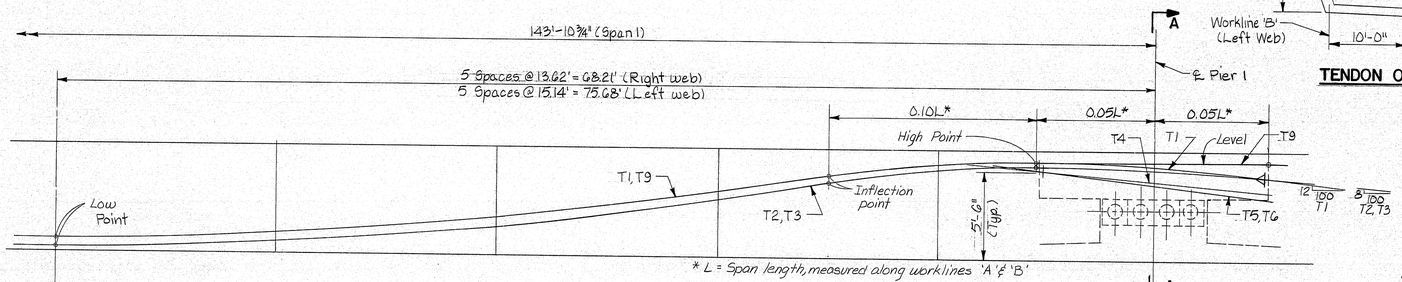
F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	IR-295-3(100)50	484	515



		1	2	3	4	5	6
C.G.S.		5.007	3.475	2.284	1.503	0.993	0.524
T1	24-0.6"ϕ	5583	3.933	2.650	1.733	1.183	1.000
T2,T3	24-0.6"ϕ	3.917	2.657	1.677	0.977	0.557	0.417
T9	31-0.6"ϕ	5.583	3.933	2.650	1.733	1.183	1.000



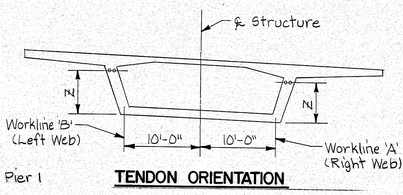
SECTION B-B



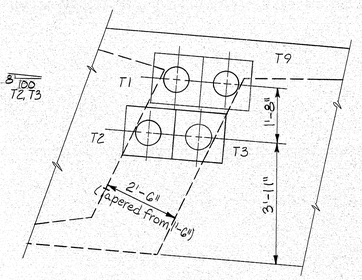
		6	7	8	9	10	11
C.G.S.		0.524	1.105	2.160	3.917	5.986	5.514
T1	24-0.6"ϕ	1.000	1.352	2.407	4.166	6.234	6.282
T2,T3	24-0.6"ϕ	0417	0.769	1.824	3.583	5.650	5.844
T4,T5-T6	31-0.6"ϕ						5.031, 4.917
T9	31-0.6"ϕ	1.000	1.352	2.407	4.166	6.234	6.542

TENDON PROFILES AND TABLES OF VERTICAL TENDON LOCATIONS

1 0 1 2 3 4 5



TENDON ORIENTATION



SECTION C-C 102-222

Notes:
For Section A.-A see sheet 25
Values given are height 'Z' (in feet) above the soffit to ℄ ducts.
For prestressing notes see sheet 29.
For tendon anchorage details see sheets 27&28.
Work this sheet with sheets 25 & 26
⊣ Stressing end anchorage.
⊳⊢ Dead end anchorage.

PROJECT DESIGN ENGINEER	BY	DATE
DESIGN DETAILED	BSS	8/85
CHECKED	RSM	
REVISIONS		
FIELD CHANGES		

PLANS

BRUNING 44-132-45710-1

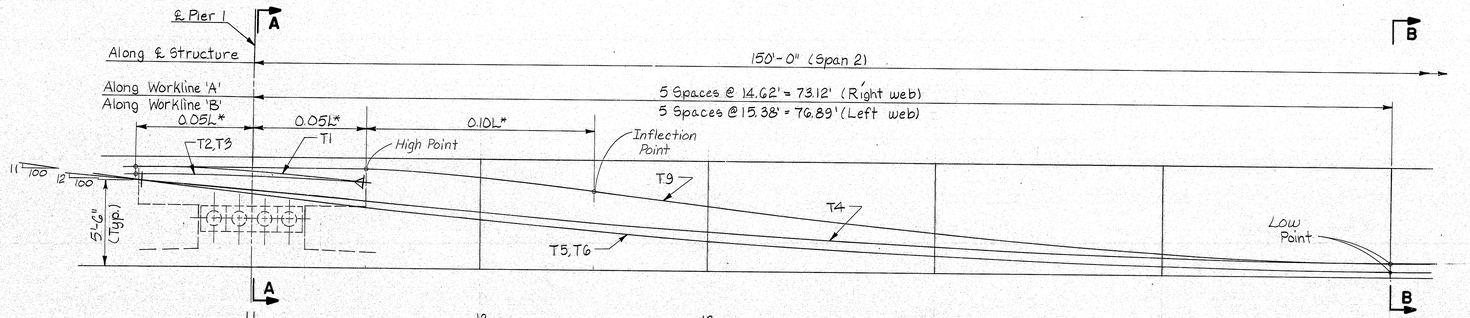
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

I-295 - PORTLAND
CUMBERLAND COUNTY
WASHINGTON AVE. SOUTHBOUND RAMP

TENDON LAYOUT 1

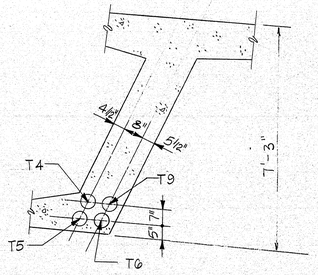
SHEET 24 OF 55 AUGUSTA, MAINE

F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	IR-295-3(100)50	485	515

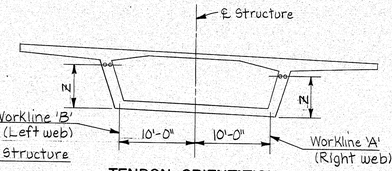


		11	12	13	14	15	16
C.G.S.		5.514	4.020	2.558	1.488	0.847	0.634
T1, T2, T3	24-0.6"Ø	6.282, 5.844					
T4	31-0.6"Ø	5.031	3.781	2.564	1.695	1.174	1.000
T5, T6	31-0.6"Ø	4.917	3.297	2.037	1.137	0.597	0.417
T9	31-0.6"Ø	6.542	6.004	3.893	2.286	1.321	1.000

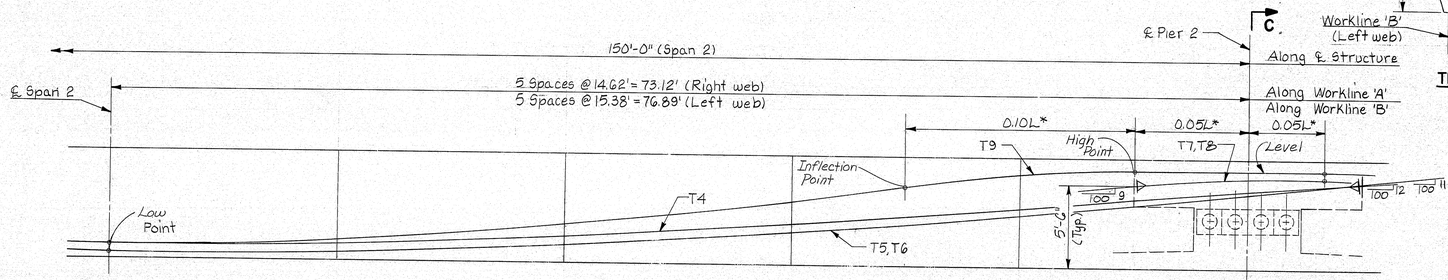
*L = Span length measured along worklines 'A' and 'B'.

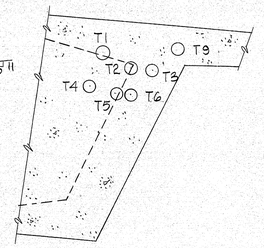


SECTION B-B



TENDON ORIENTATION





SECTION A-A

		16	17	18	19	20	21
C.G.S.		0.634	0.847	1.489	2.558	4.020	5.417
T4,	31-0.6"Ø	1.000	1.174	1.695	2.564	3.781	5.031
T5,T6	31-0.6"Ø	0.417	0.597	1.137	2.037	3.297	4.917
T7,T8	16-0.6"Ø						6.000
T9	31-0.6"Ø	1.000	1.321	2.286	3.893	6.004	6.542

TENDON PROFILES AND TABLES OF VERTICAL TENDON LOCATIONS

1 0 1 2 3 4 5

Notes:
For Section C-C see sheet 26
Values given are height 'Z' (in feet) above the soffit to ℄ duct.
For prestressing notes see sheet 29.
For tendon anchorage details see sheets 27 & 28
Work this sheet with sheets 24 and 26.
⊣ Stressing end anchorage.
⊢▷ Dead end anchorage.

PROJECT DESIGN ENGINEER	BY	DATE
DESIGN-DETAILED	BSY	12/85
CHECKED	BSY	
REVISIONS		
FIELD CHANGES		

PLANS

BRUNING 44-132 45710-1

102-223

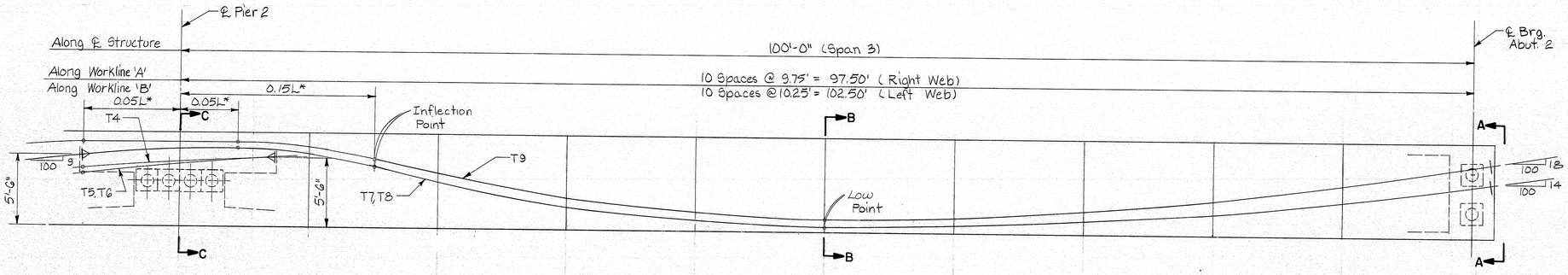
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

I-295 - PORTLAND
CUMBERLAND COUNTY
WASHINGTON AVE. SOUTHBOUND RAMP

TENDON LAYOUT 2

SHEET 25 OF 55 AUGUSTA, MAINE

F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	IR-295-3(100)50	486	515



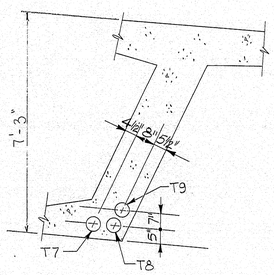
		21	22	23	24	25	26	27	28	29	30	31
C.G.S.		5.417	5.944	3.875	2.077	0.997	0.638	0.799	1.283	2.089	3.219	4.670
T4,	31-0.6"Ø	5.081										
T5,T6	31-0.6"Ø	4.917										
T7,T8	16-0.6"Ø	5.990	5.769	3.654	1.856	0.776	0.417	0.557	0.977	1.677	2.657	3.917
T9	31-0.6"Ø	6.542	6.259	4.238	2.439	1.360	1.000	1.183	1.733	2.650	3.933	5.583

* L = Span length, measured along worklines 'A' & 'B'

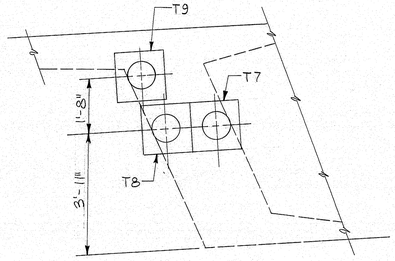
TENDON PROFILES AND TABLES OF VERTICAL TENDON LOCATIONS

1 0 1 2 3 4 5

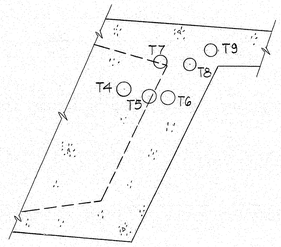
Notes:
Values given are height 'Z' (in feet) above the soffit to ℄ ducts.
For prestressing notes see sheet 29.
For tendon anchorage details see sheets 27 & 28.
Work this sheet with sheets 24 & 25
⊢ Stressing end anchorage.
⊢▷ Dead end anchorage.



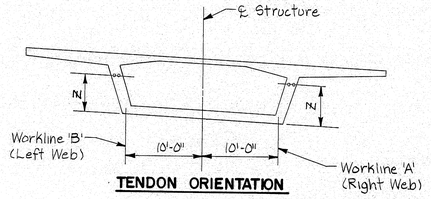
SECTION B-B



SECTION A-A



SECTION C-C



TENDON ORIENTATION

PROJECT DESIGN ENGINEER	BY	DATE
PLANS	DESIGNED	JSS 7/92
	DETAILED	JSS
	CHECKED	
	REVISIONS	
	FIELD CHANGES	

BRIDNING 44-132.45710-1

102-224

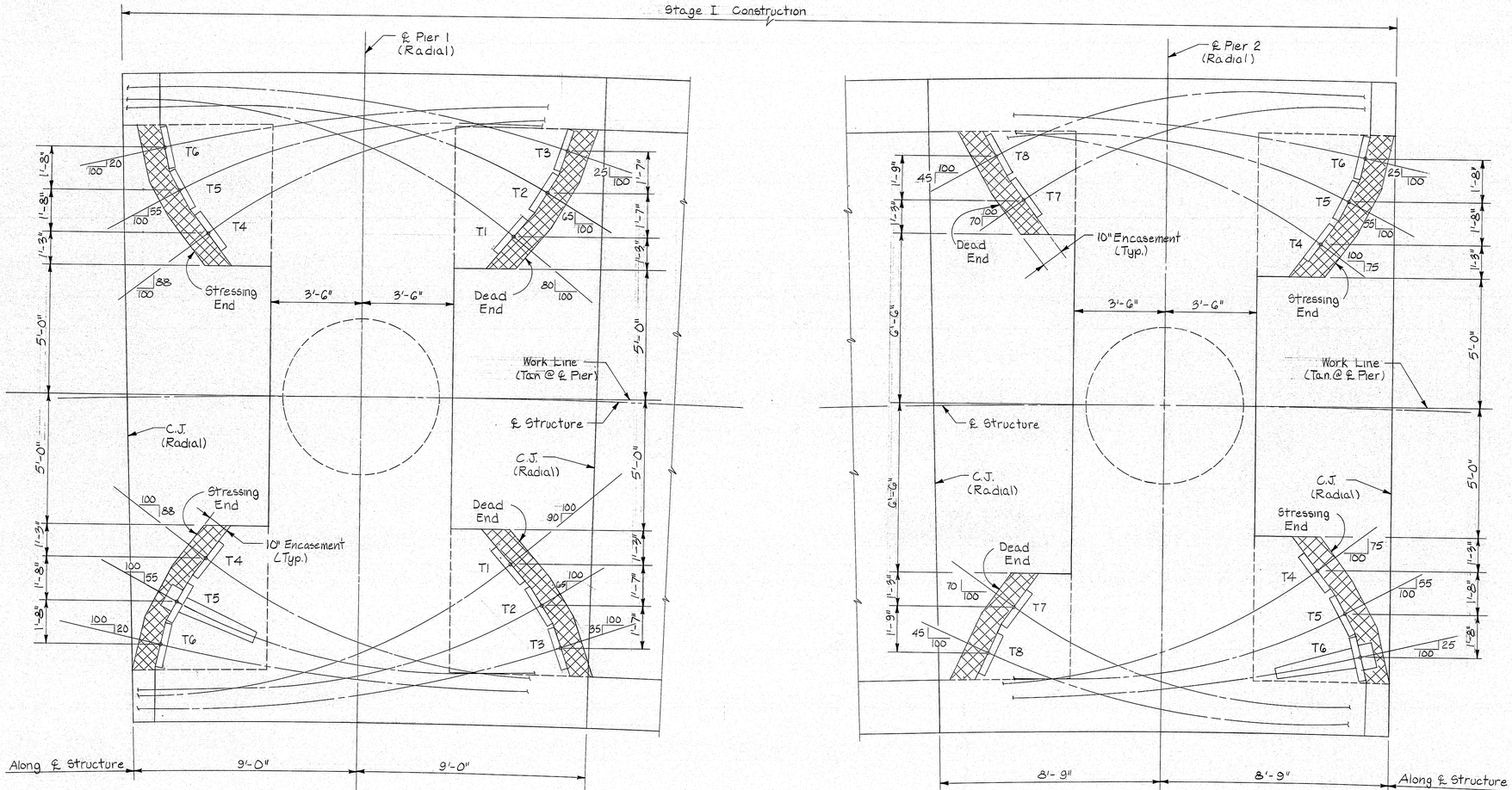
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

I-295 - PORTLAND
CUMBERLAND COUNTY
WASHINGTON AVE. SOUTHBOUND RAMP

TENDON LAYOUT 3

SHEET 26 OF 55 AUGUSTA, MAINE

F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	IR-295-3(100)50	487	515



PIER 1

PIER 2

Notes:
For anchorage details see sheet 28.

TENDON ANCHORAGE PLAN AT PIER CAPS - (DECK REMOVED)

0 1 2

PROJECT DESIGN ENGINEER	BY	DATE
PLANS — DESIGN - DETAILED	JSS	12/82
CHECKED	JSS	
REVISIONS		
FIELD CHANGES		

BRUNING 44-132-A2710-1

102-225

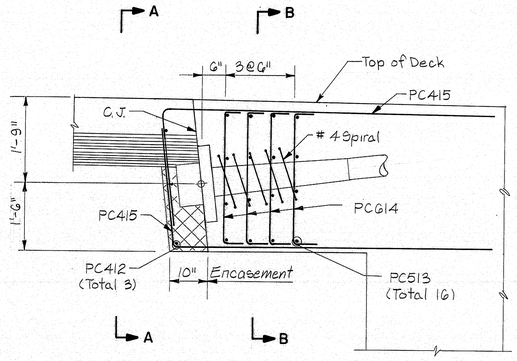
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

I-295 - PORTLAND
CUMBERLAND COUNTY
WASHINGTON AVE. SOUTHBOUND RAMP

TENDON ANCHORAGE

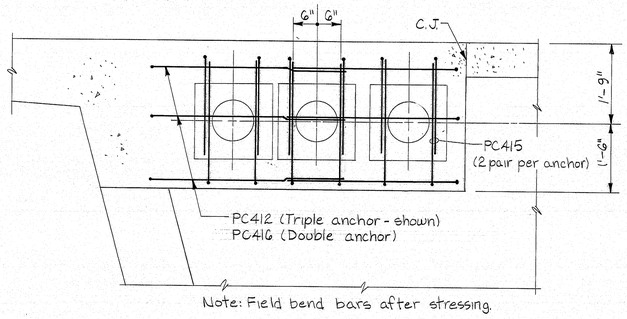
SHEET 27 OF 55 AUGUSTA, MAINE

F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	IR-295-3(100)SO	488	515



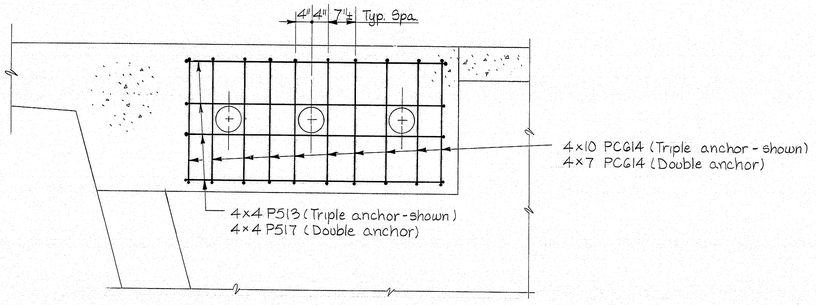
TYPICAL TENDON ANCHORAGE ELEVATION

Note: Deck reinf. and girder reinf. not shown.



Note: Field bend bars after stressing.

SECTION A-A



SECTION B-B

Notes:

For tendon anchor plate slopes see sht 24 thru 26.
Work this sht. with sht 27.

PROJECT DESIGN ENGINEER		BY	DATE
PLANS	DESIGN - DETAILED	JSG	12/85
	CHECKED	JSG	
	REVISIONS		
	FIELD CHANGES		

BRUNING 44-132-45710-1

0 1 2

102-226

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

I-295 - PORTLAND
CUMBERLAND COUNTY
WASHINGTON AVE. SOUTHBOUND RAMP

ANCHORAGE DETAILS 2

SHEET 28 OF 55 AUGUSTA, MAINE