

STATE OF MAINE
STATE HIGHWAY COMMISSION



B. P. R. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	I-295-3 (33)	1	24

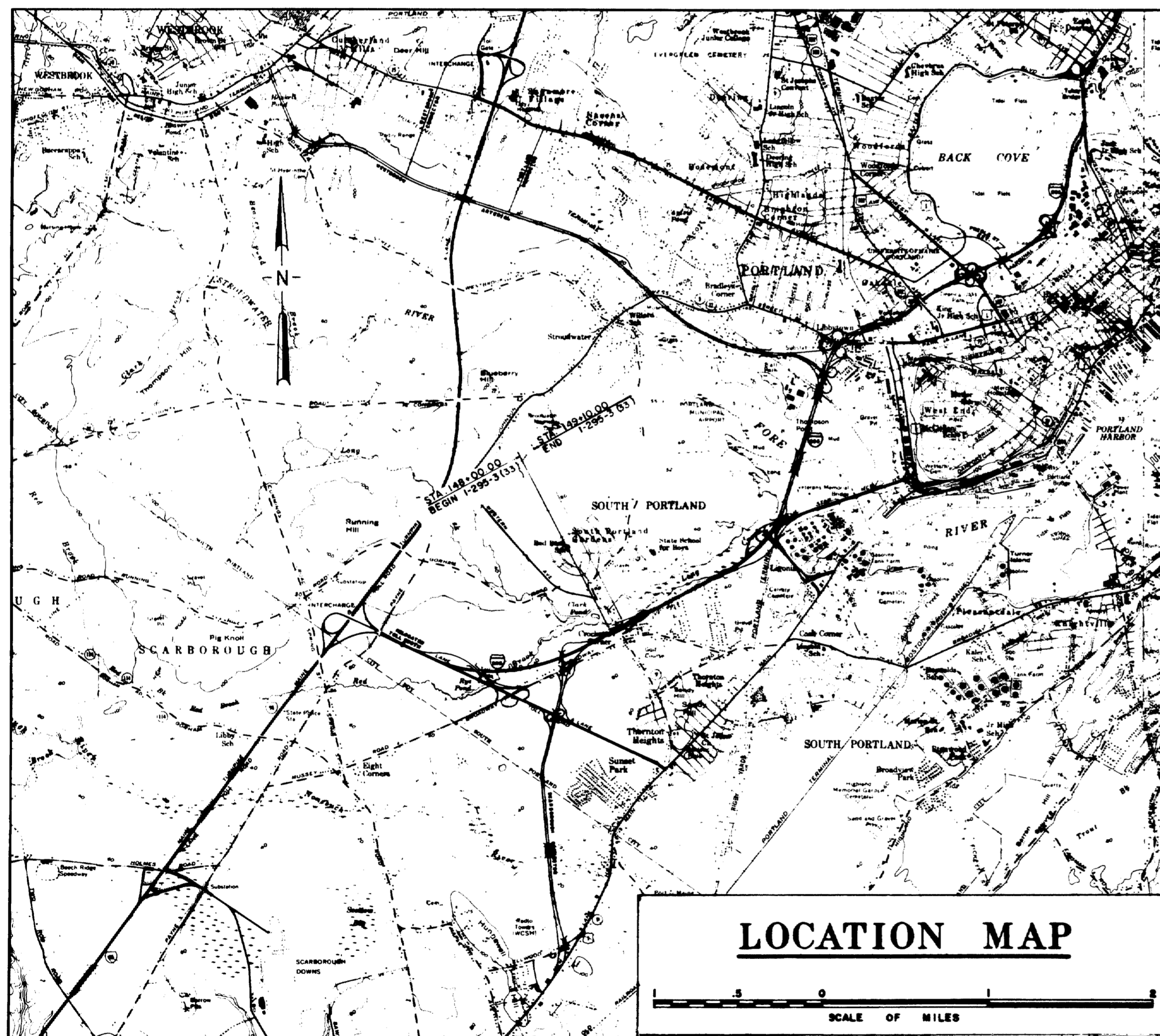
CONVENTIONAL SYMBOLS

STATE OR NATIONAL LINE	-----	SURVEY LINE	—+—
COUNTY LINE	-----	CULVERT	—+—
TOWN LINE	-----	CATCH BASIN	○
PROPERTY LINE	-----	HYDRANT	○
BARBED WIRE FENCE	-----	POWER POLE	—+—
OLD RIGHT OF WAY LINE	-----	TEL. POLE	—+—
TRAVELED WAY	-----	MARSH	—+—
RAILROAD	-----	TREES	—+—
RETAINING WALL	-----	STONE WALL	—+—

INTERSTATE 295 OVER WESTBROOK STREET
IN THE CITY OF
SOUTH PORTLAND
CUMBERLAND COUNTY
MAINE FEDERAL AID INTERSTATE
PROJECT NO. I-295-3(33) 46
TOTAL LENGTH 0.021 MILES

INDEX OF SHEETS

SHEET NO	DESCRIPTION
1	TITLE SHEET
2	STANDARD DETAILS, FIELD OFFICES
3-7	STANDARD DETAILS, BRIDGES
8-22	BRIDGE PLANS
23	RIGHT OF WAY PLAN
24	PROFILES, I-295 & WESTBROOK STREET



TRAFFIC DATA

INTERSTATE 295 WESTBROOK ST.

A.D.T.	1970	25,024	1970	9,500
A.D.T.	1990	30,750	1990	8,415
D.H.V.		3,075		1,010
T.		6.4%		5%
D.		6.0%		65%
V.		50 M.P.H.		30 M.P.H.

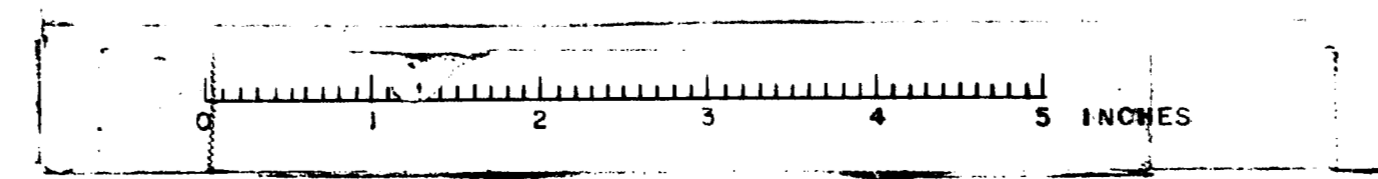
NOTE
ALL WORK CONTEMPLATED UNDER THIS CONTRACT SHALL BE GOVERNED BY AND IN CONFORMITY WITH STANDARD SPECIFICATIONS (REVISIONS OF JUNE 1965) AND SUPPLEMENTS THERETO, EXCEPT AS MODIFIED ON PLANS AND IN THE SPECIAL PROVISIONS.

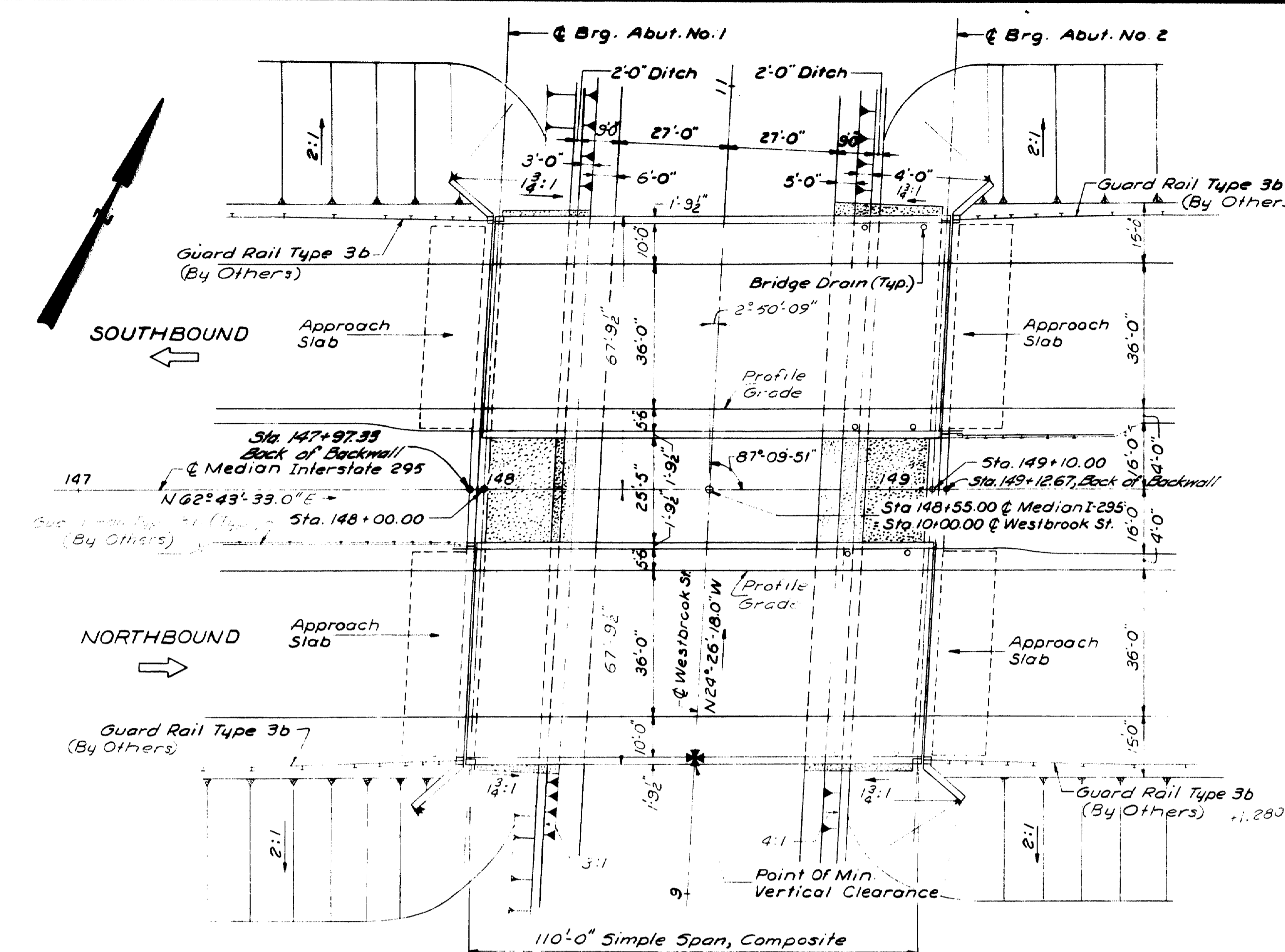
APPROVED
MAINE STATE HIGHWAY COMMISSION
Dir. H. Stevens CHAIRMAN 2-21-68
Stewart D. Shaw 2-21-68
Sylvester L. ... CHIEF ENGINEER 2-21-68

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
NEW YORK BOSTON KANSAS CITY
Carl J. Miller 1/22/68
DATE

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
BUREAU OF PUBLIC ROADS
REGION I
APPROVED
DIVISION ENGINEER DATE

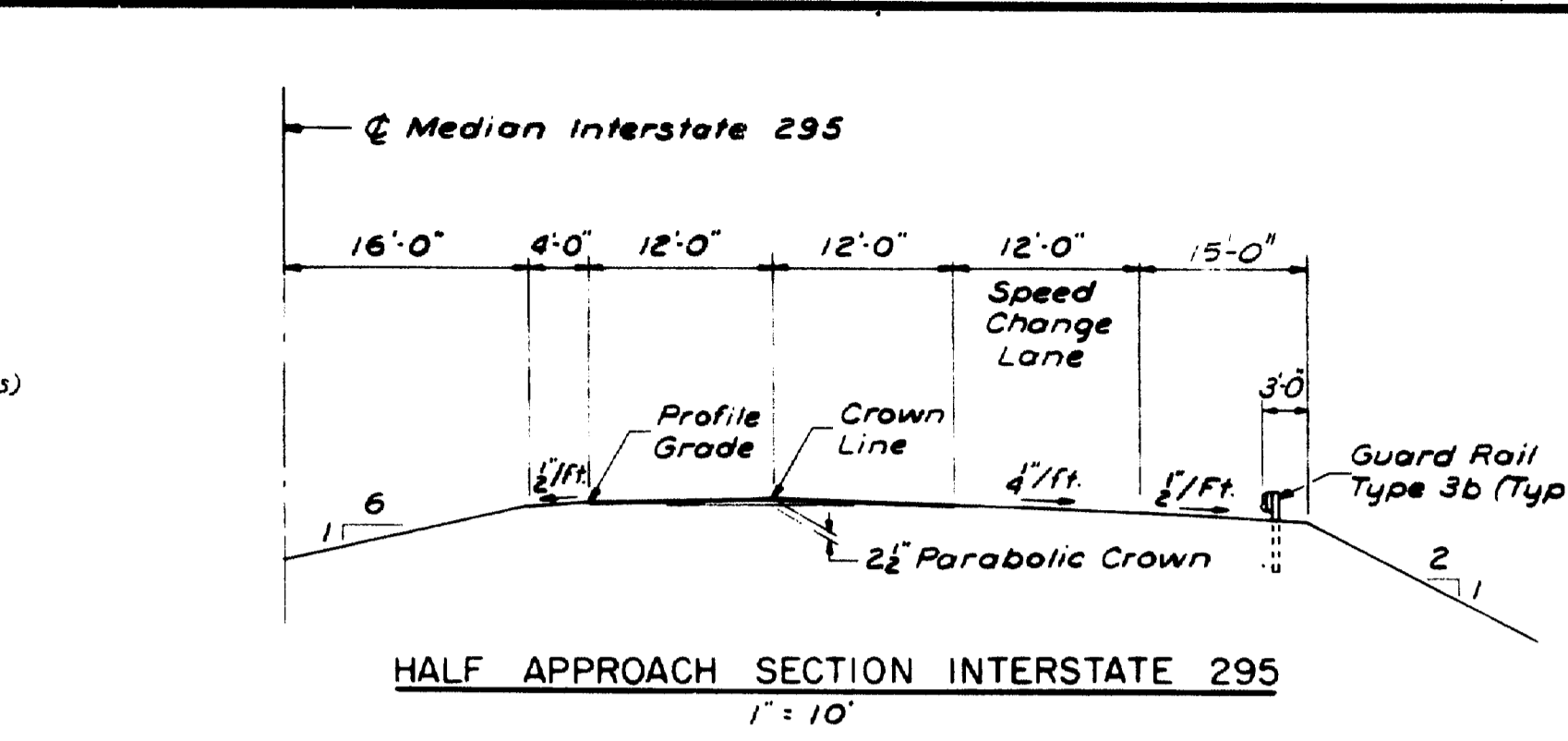
104-61 SOUTH PORTLAND



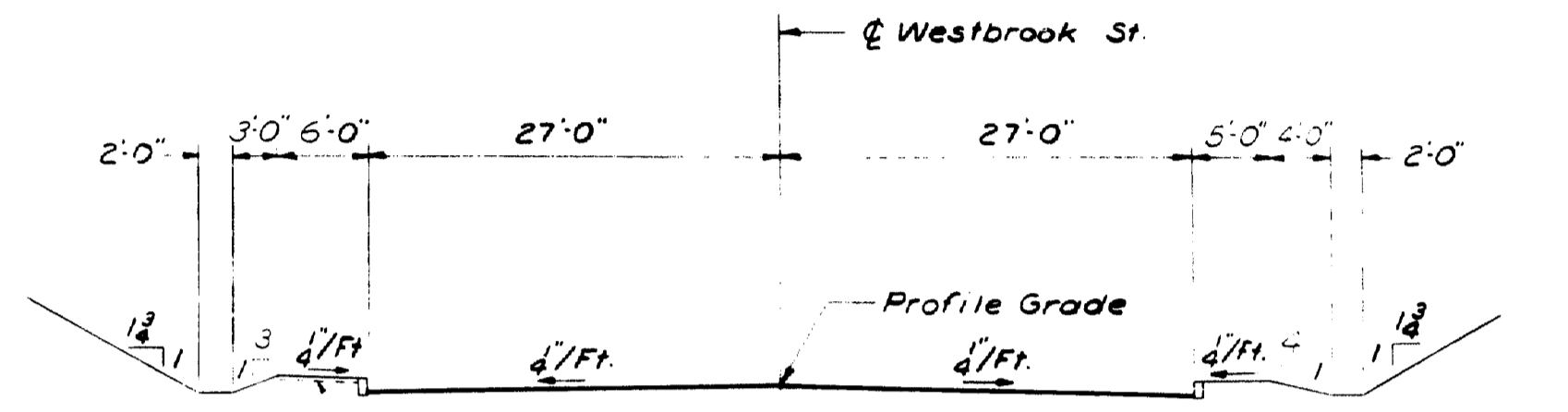


NOTE:
Abutments parallel to Bearing $N24^{\circ}26'18''W$.

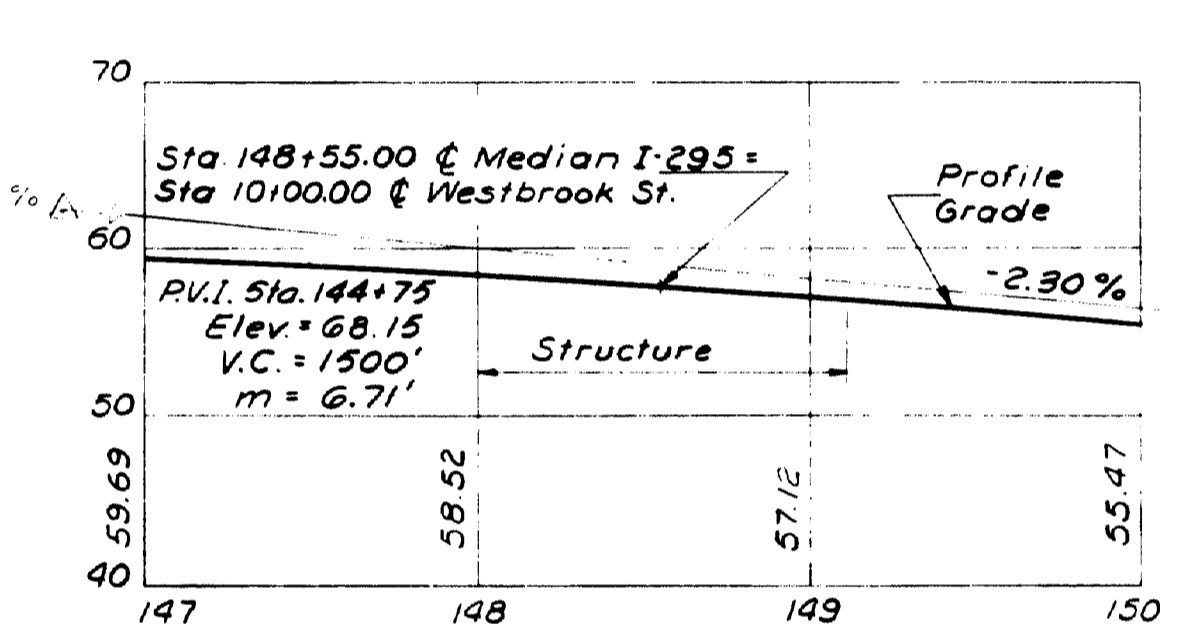
PLAN
1" = 20'



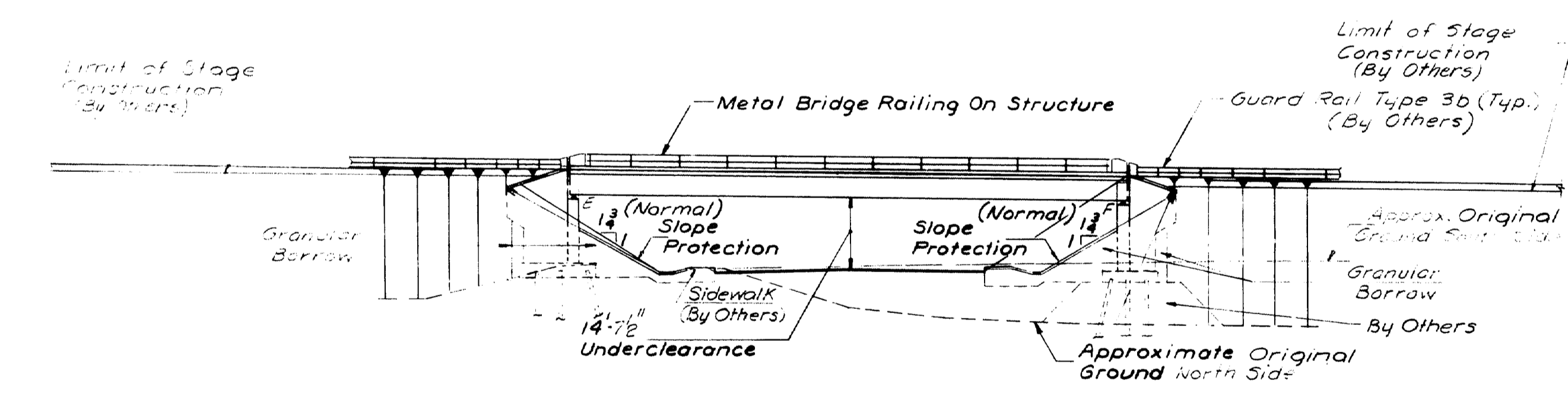
HALF APPROACH SECTION INTERSTATE 295
1" = 10'



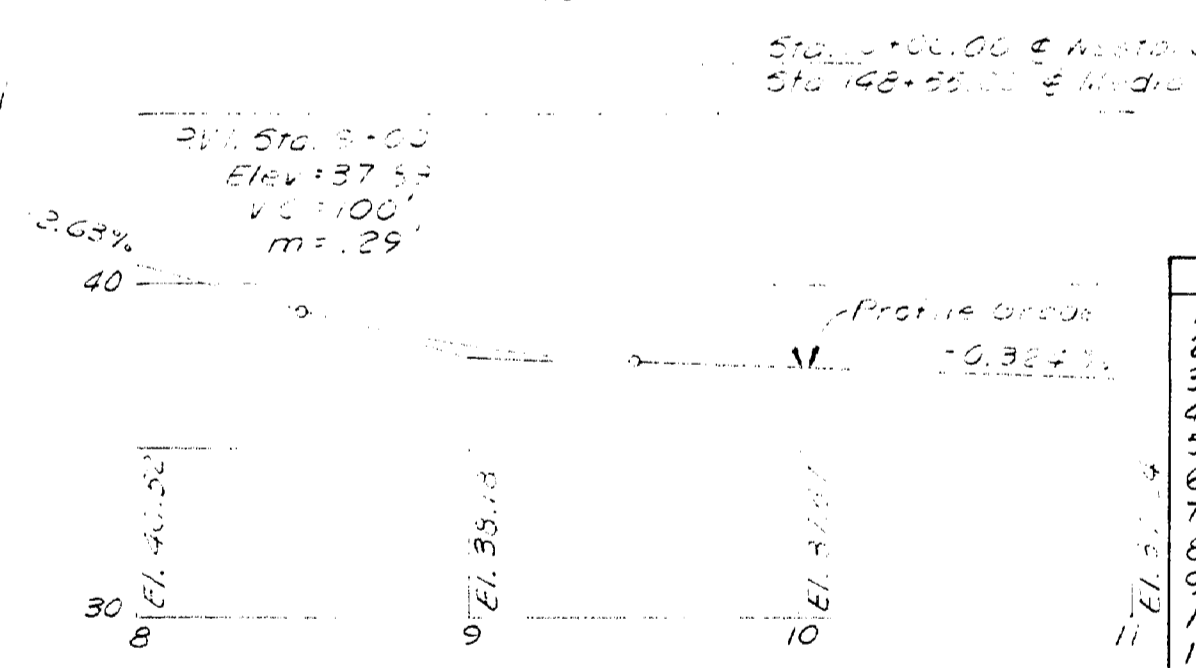
SECTION - WESTBROOK ST.
1" = 10'



PROFILE - INTERSTATE 295
Horiz. 1" = 50'
Vert. 1" = 10'



ELEVATION
1" = 20'



PROFILE - WESTBROOK ST.
Horiz. 1" = 50'
Vert. 1" = 10'

SPECIFICATIONS

DESIGN
A.A.S.H.O Standard Specifications for Highway Bridges 1965.

CONTRACT
State of Maine, State Highway Commission Standard Specification for Highways and Bridges, Revised June 1965.

LIVE LOADING
HS 20-44 - As modified for Interstate

FOUNDATIONS
Abutments 1. 24" x 24" End Bearing Piles
2. 36" x 36" Cast-in-place

ALLOWABLE STRESSES
Concrete ($n=10$) $f_c = 1200$ p.s.i.
Reinforcing Steel, Int. Grade $f_s = 20,000$ p.s.i.
Structural Steel, A.S.T.M. Designation A441 for Main Beam Material, $f_s = 27,000$ p.s.i. $\frac{3}{8}$ " and under, $f_s = 25,000$ p.s.i. over $\frac{3}{8}$ " to $\frac{1}{2}$ " included, $f_s = 23,000$ p.s.i. over $\frac{1}{2}$ " all other structural steel, A.S.T.M. designation A36 $f_s = 20,000$ p.s.i.

CONCRETE CLASSIFICATION
All Concrete shall be Class "A" except slope protection which shall be Class "Y".

BRIDGE QUANTITIES

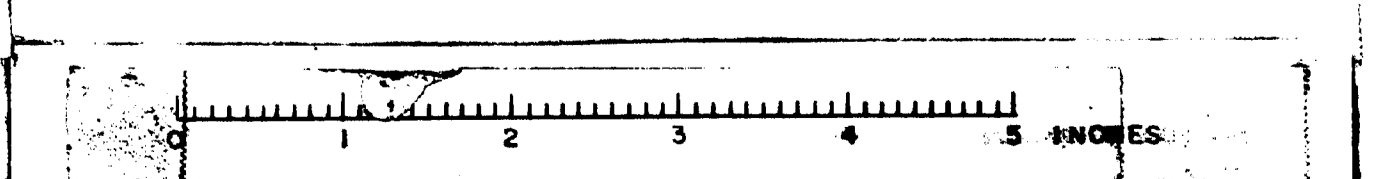
Item No.	Description	Quantity	Unit
50325	Granular Borrow	1500	C.Y.
50326	Structural Earth Excavation, Abuts & Ret. Walls	3000	C.Y.
5012	Steel H-beam Piles 57 lbs. ft.	1350	LF
50123	Loading Test	1	Each
50221	Structural Concrete, Abuts & Retaining Walls	795	C.Y.
50226	Struct. Conc., Rdwy. & Sidw. Slabs on Steel Bridges	1	C.S.
50231	Structural Concrete, Approach Slab	1	C.S.
50312	Reinforcing Steel, Fabricated & Delivered	144,000	Lbs
50313	Reinforcing Steel, Placing	144,000	Lbs.
50470	Structural Steel, Fabricated & Delivered	1	C.S.
50471	Structural Steel, Erection	1	C.S.
50508	Shear Connectors	1	C.S.
50614	Field Painting, Structural Steel	1	C.S.
50708	Bridge Railing	484	LF
50806	French Drain	234	LF
51308	Slope Protection	706	S.Y.
51406	Curing Box For Concrete Cylinders	1	Each
51506	Epoxy Resin Surface Sealer	530	S.Y.
50903	Vertical Bridge Joints - Type 1	470	LF
63909	Field Office Type B	1	Each

NOTE:
Estimated Quantity of Structural Steel - 300,000 Lbs.
Estimated Quantity of Shear Connectors: Studs - 140 pieces
Estimated Quantity of Concrete in Item 50226 - 3.1 C.Y.
Estimated Quantity of Concrete in Item 50231 - 1.1 C.Y.

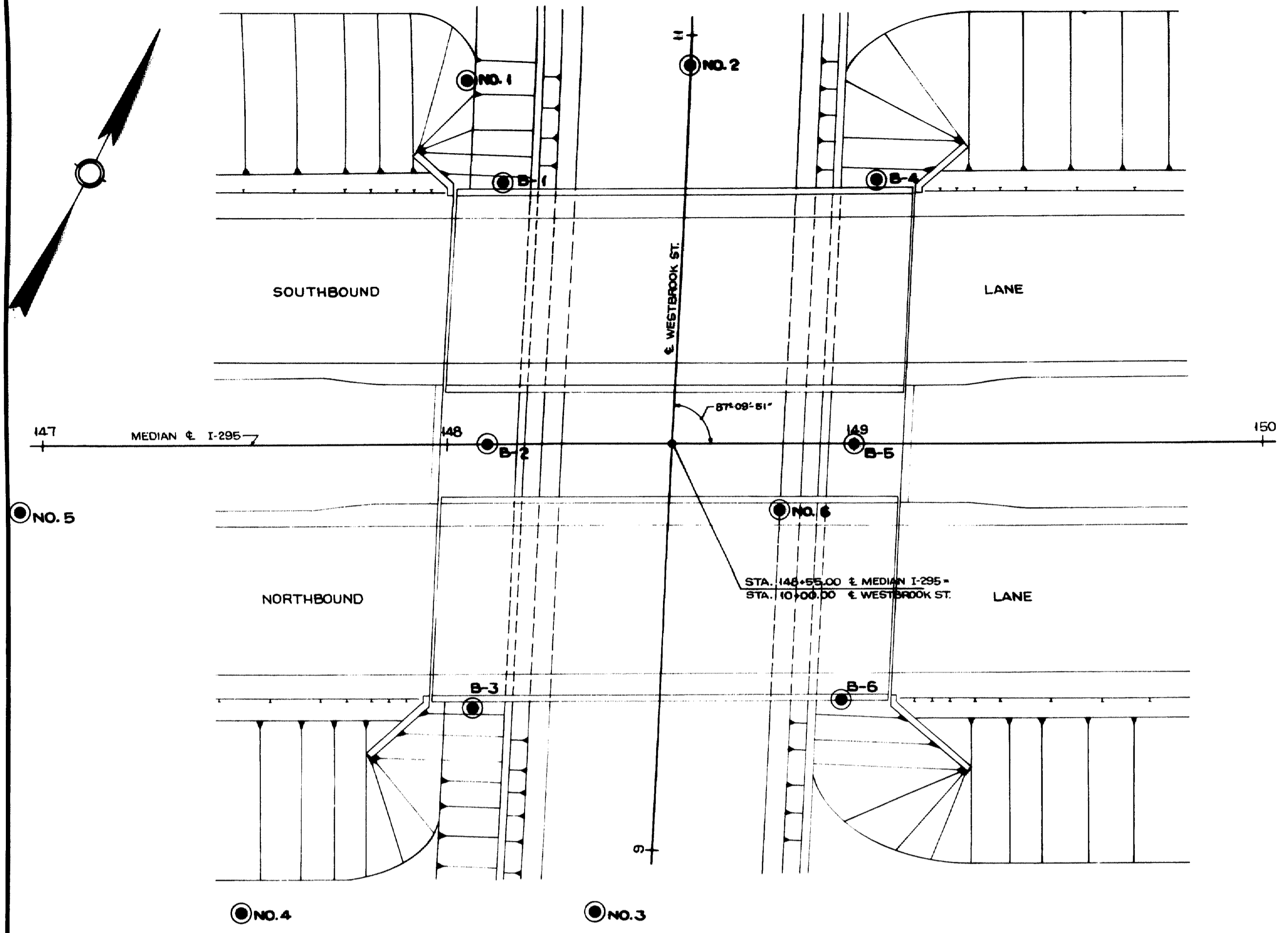
- INDEX OF SHEETS**
1. GENERAL PLAN AND QUANTITIES
 2. FOUNDATION SURVEY
 3. FOUNDATION SURVEY
 4. FOUNDATION SURVEY
 5. FOOTING PLAN
 6. ABUTMENT NO. 1
 7. ABUTMENT NO. 2
 8. ABUTMENT AND WINGWALL DETAILS
 9. STRUCTURAL STEEL AND BLOCKING
 10. STRUCTURAL STEEL DETAILS
 11. SUPERSTRUCTURE
 12. SUPERSTRUCTURE DETAILS
 13. SLOPE PROTECTION
 14. REINFORCING STEEL
 15. REINFORCING STEEL
- STANDARD DETAIL SHEETS**
- BD101-64 BEARING PEDESTALS
 - BD104-66 DIAPHRAGMS, SHEAR CONNECTORS, ARMORED JOINT
 - BD105-64 EXPANSION DAM
 - BD107-65 STEEL RAIL
 - BD108-65 ALUMINUM RAIL
 - DEC. 1966 8) FIELD OFFICES

DESIGN - E.F.K. DETAIL - R.D.F. SURVEY - S.M.
BRIDGE NO. 104-62
STATE HIGHWAY COMMISSION
BRIDGE DIVISION
INTERSTATE ROUTE 295
OVER
WESTBROOK ST.
IN THE CITY OF
SOUTH PORTLAND
CUMBERLAND COUNTY
GENERAL PLAN & QUANTITIES
SHEET 8 OF 15 AUGUSTA, MAINE SEPT. 1966

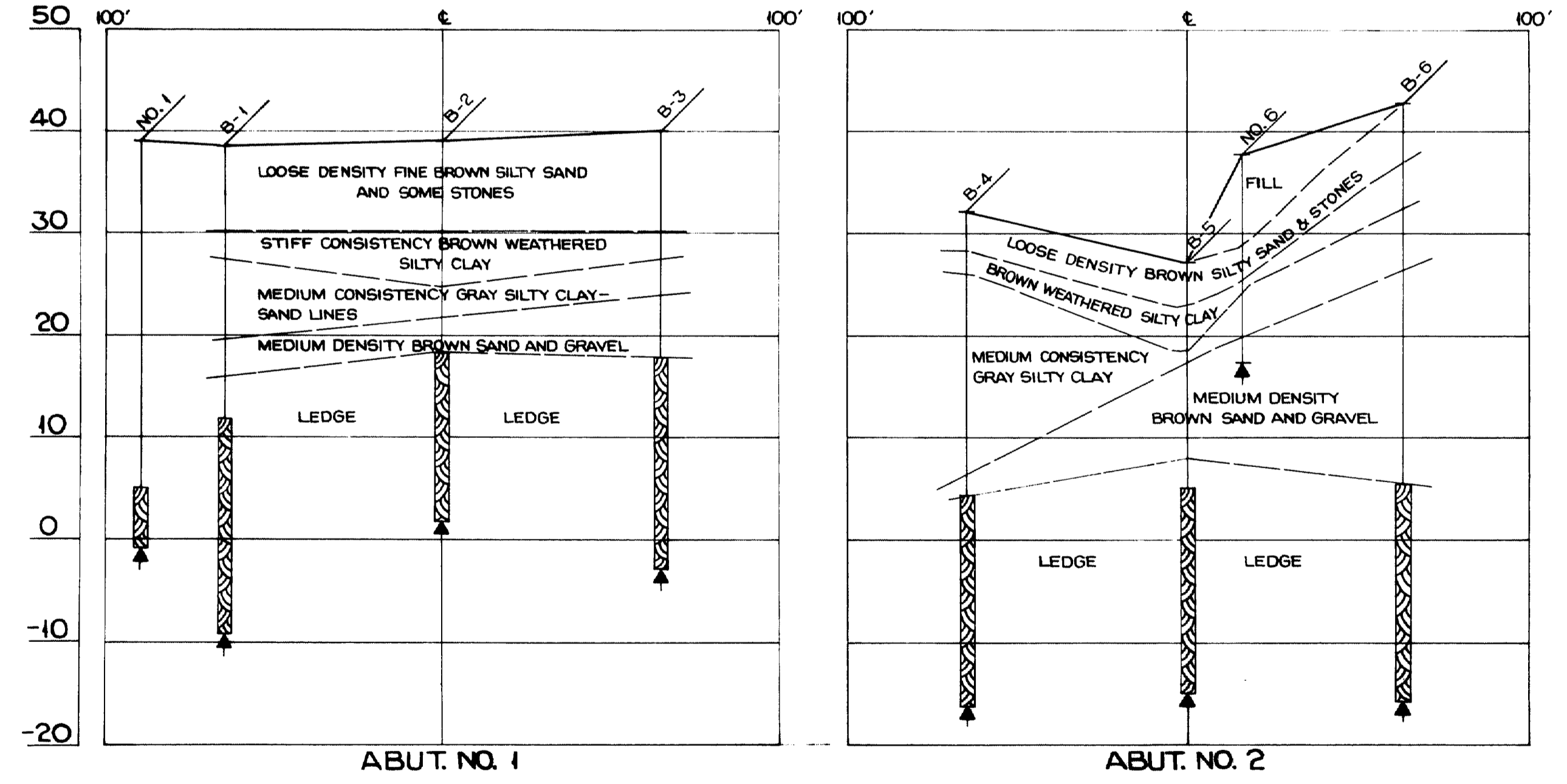
HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
NEW YORK BOSTON KANSAS CITY



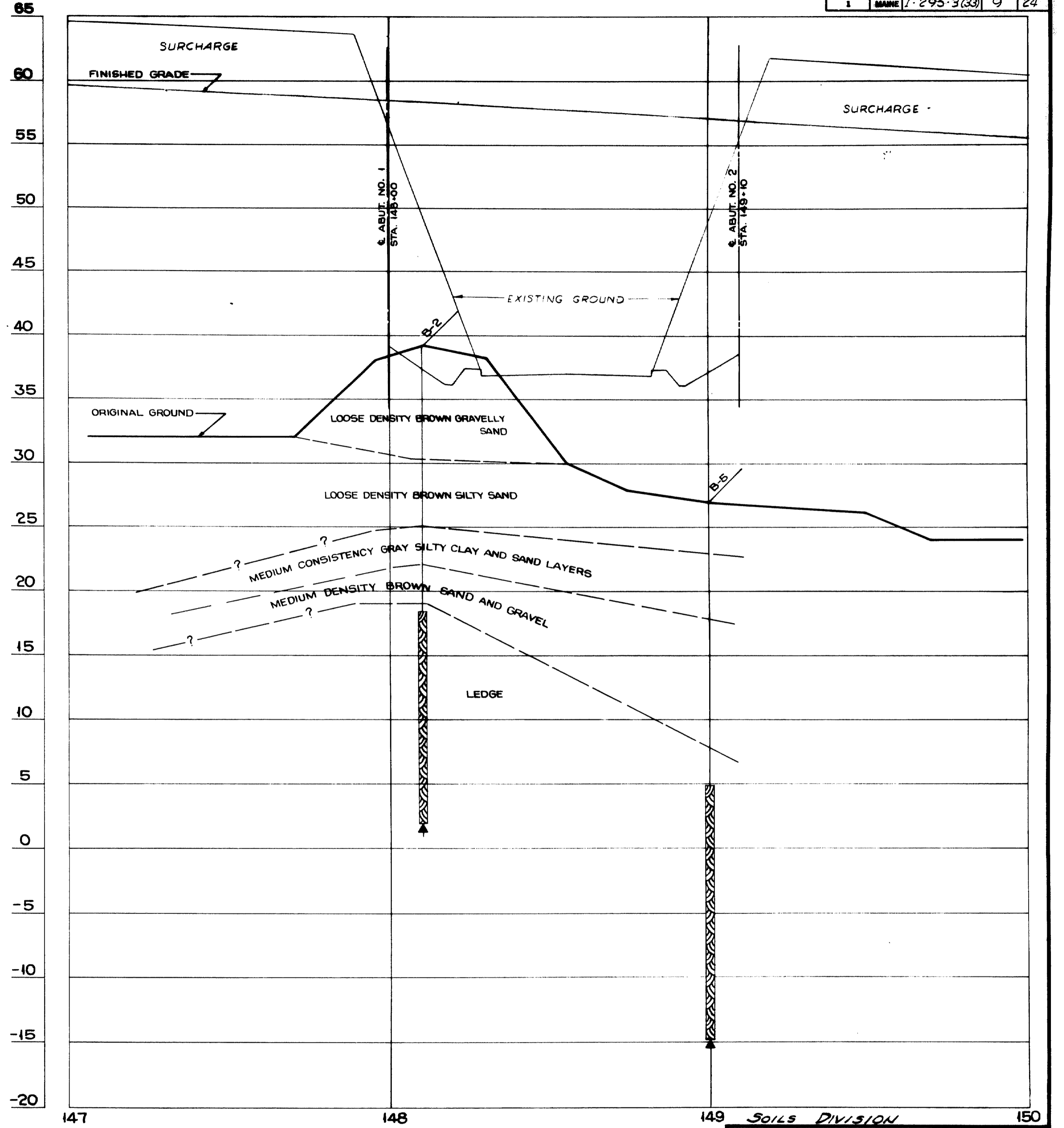
D.P.R. DIST. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	I-295-3(33)	9	24



PLAN
SCALE: 1" = 20'



TRANSVERSE SECTIONS
SCALE: 1" = 10' VERT.
1" = 30' HORIZ.

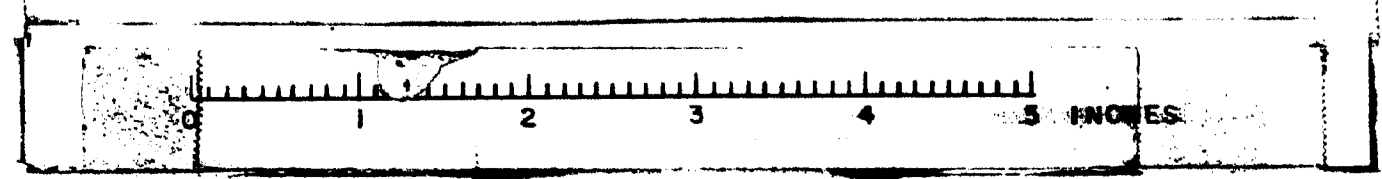


PROFILE
SCALE: 1" = 5' VERT.
1" = 20' HORIZ.

STATE HIGHWAY COMMISSION
BRIDGE DIVISION
INTERSTATE 295
OVER
WESTBROOK STREET
IN THE CITY OF
SOUTH PORTLAND
CUMBERLAND COUNTY
FOUNDATION SURVEY

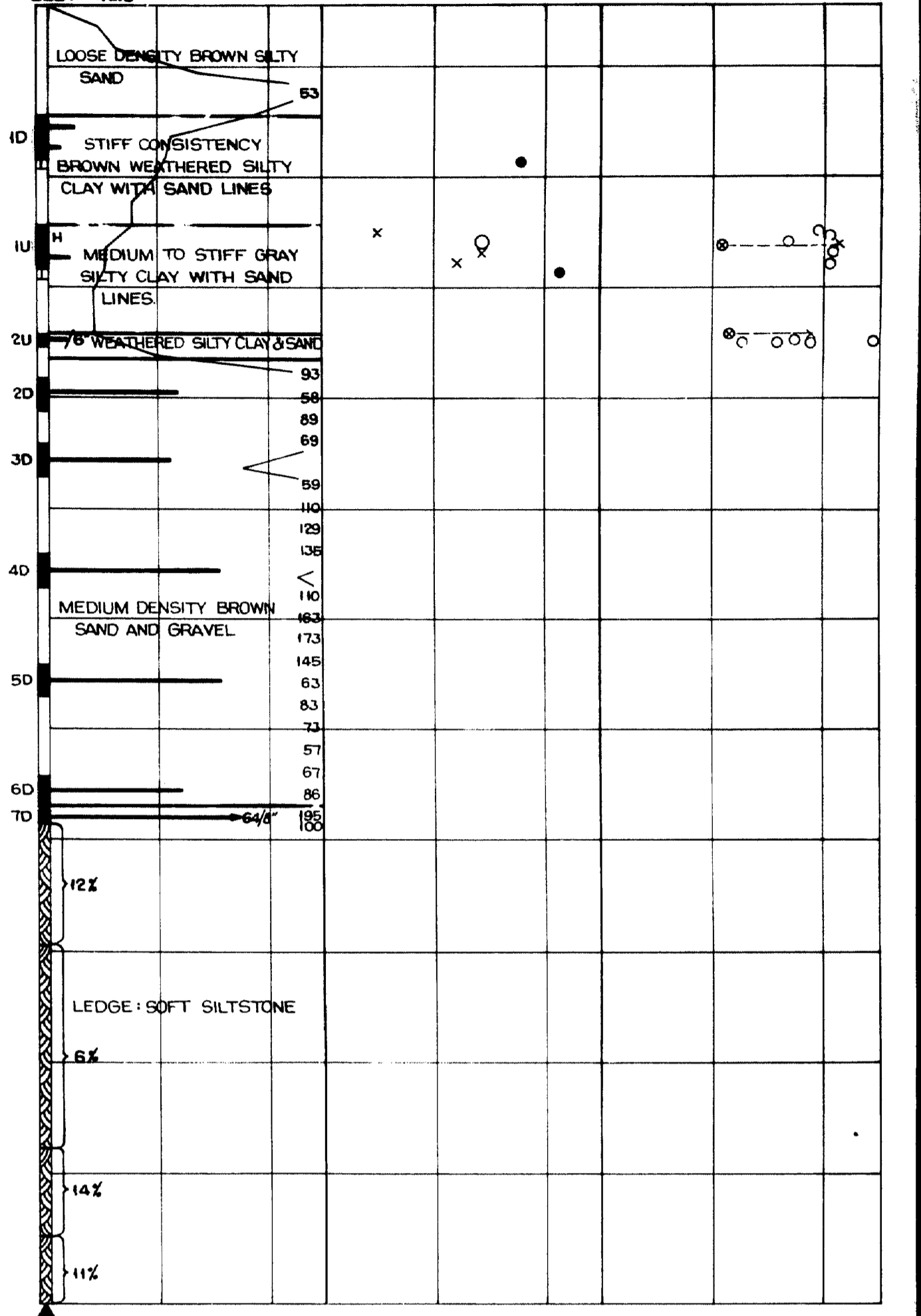
SHEET 2 OF 15 AUGUSTA, MAINE SEP. 1966

104-63 SOUTH PORTLAND



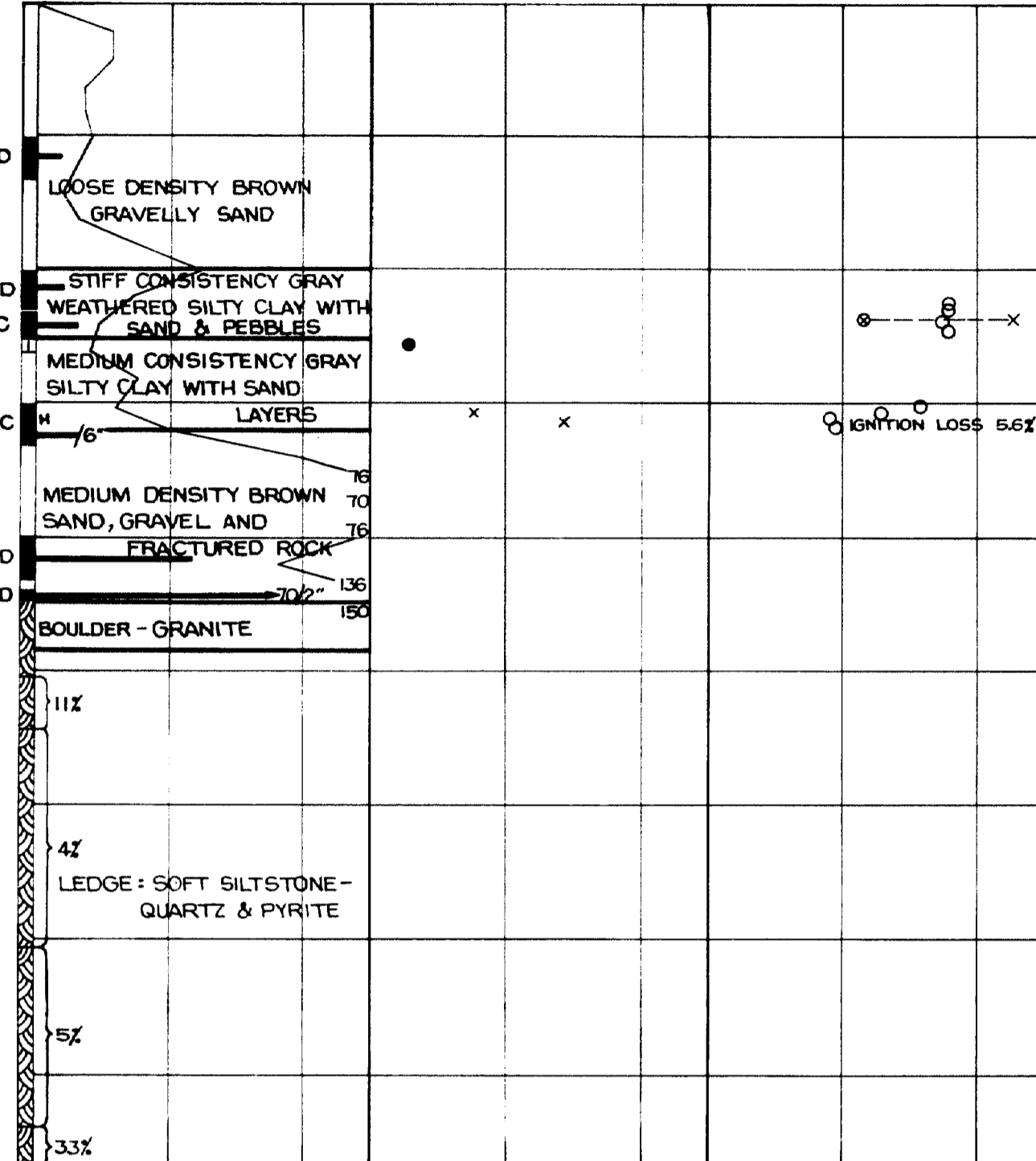
BORING B-6 (CT-60)
STA. 148+97 63' RT.

DRIVING RESISTANCE BLOWS/FT.	VANE SHEAR STRENGTH TONS/SQ. FT.	WATER CONTENT PERCENT
20	0.4	20
40	0.8	40



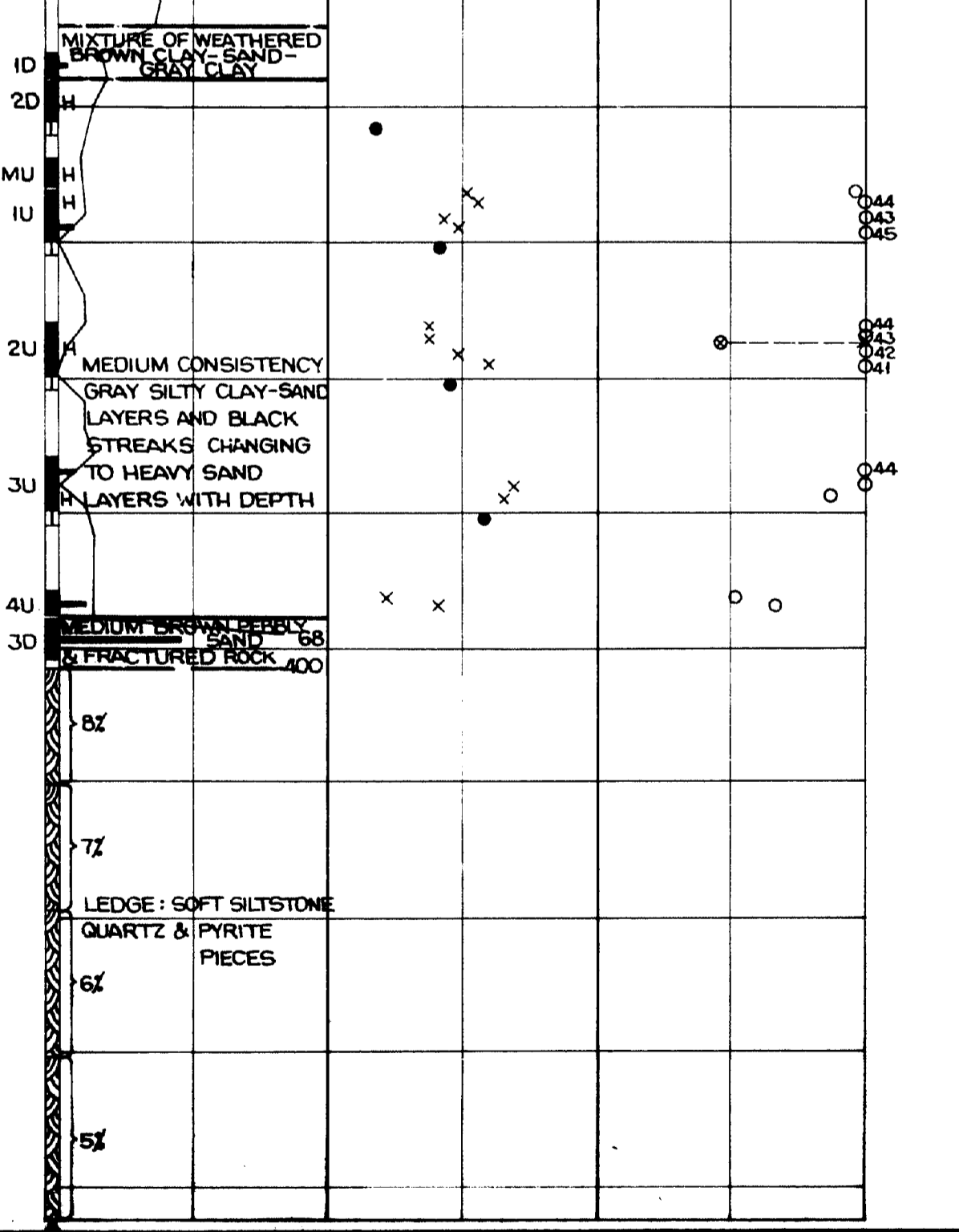
BORING B-3 (CT-63)
STA. 148+07 65' RT.

DRIVING RESISTANCE BLOWS/FT.	VANE SHEAR STRENGTH TONS/SQ. FT.	WATER CONTENT PERCENT
20	0.4	20
40	0.8	40



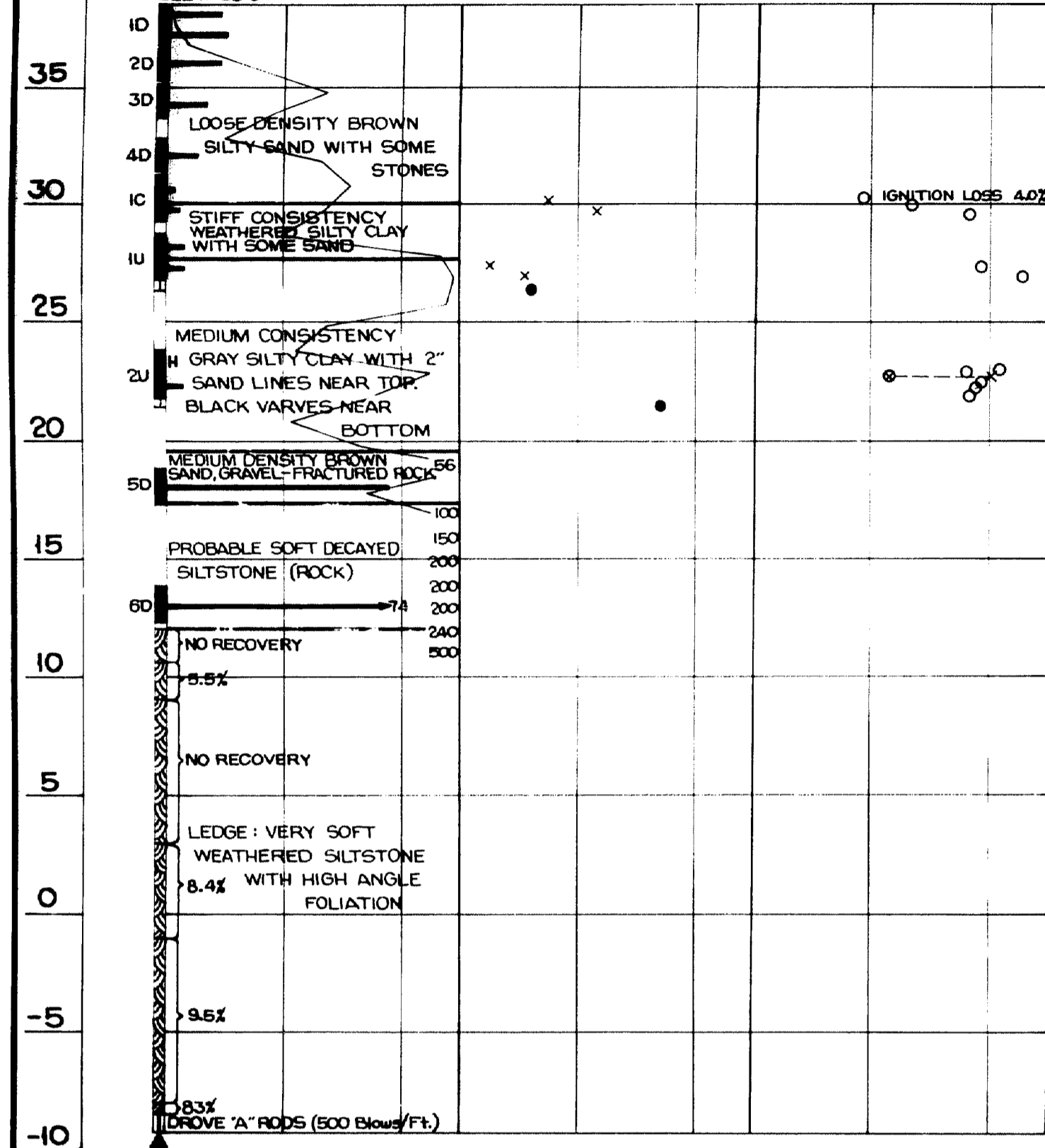
BORING B-4 (CT-64)
STA. 149+03 65' LT.

DRIVING RESISTANCE BLOWS/FT.	VANE SHEAR STRENGTH TONS/SQ. FT.	WATER CONTENT PERCENT
20	0.4	20
40	0.8	40



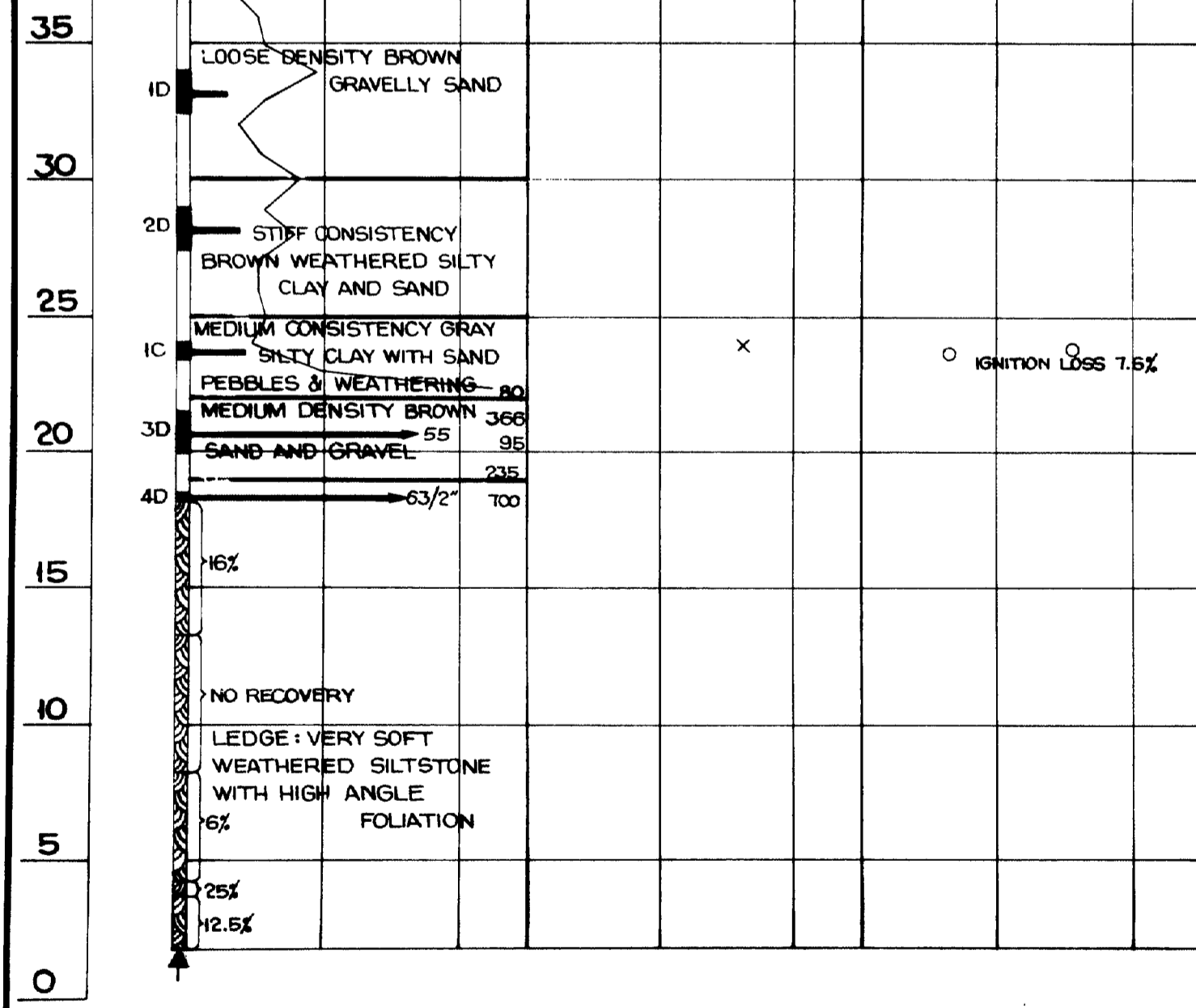
BORING B-1 (CT-61)
STA. 148+13 65' LT.

DRIVING RESISTANCE BLOWS/FT.	VANE SHEAR STRENGTH TONS/SQ. FT.	WATER CONTENT PERCENT
20	0.4	20
40	0.8	40



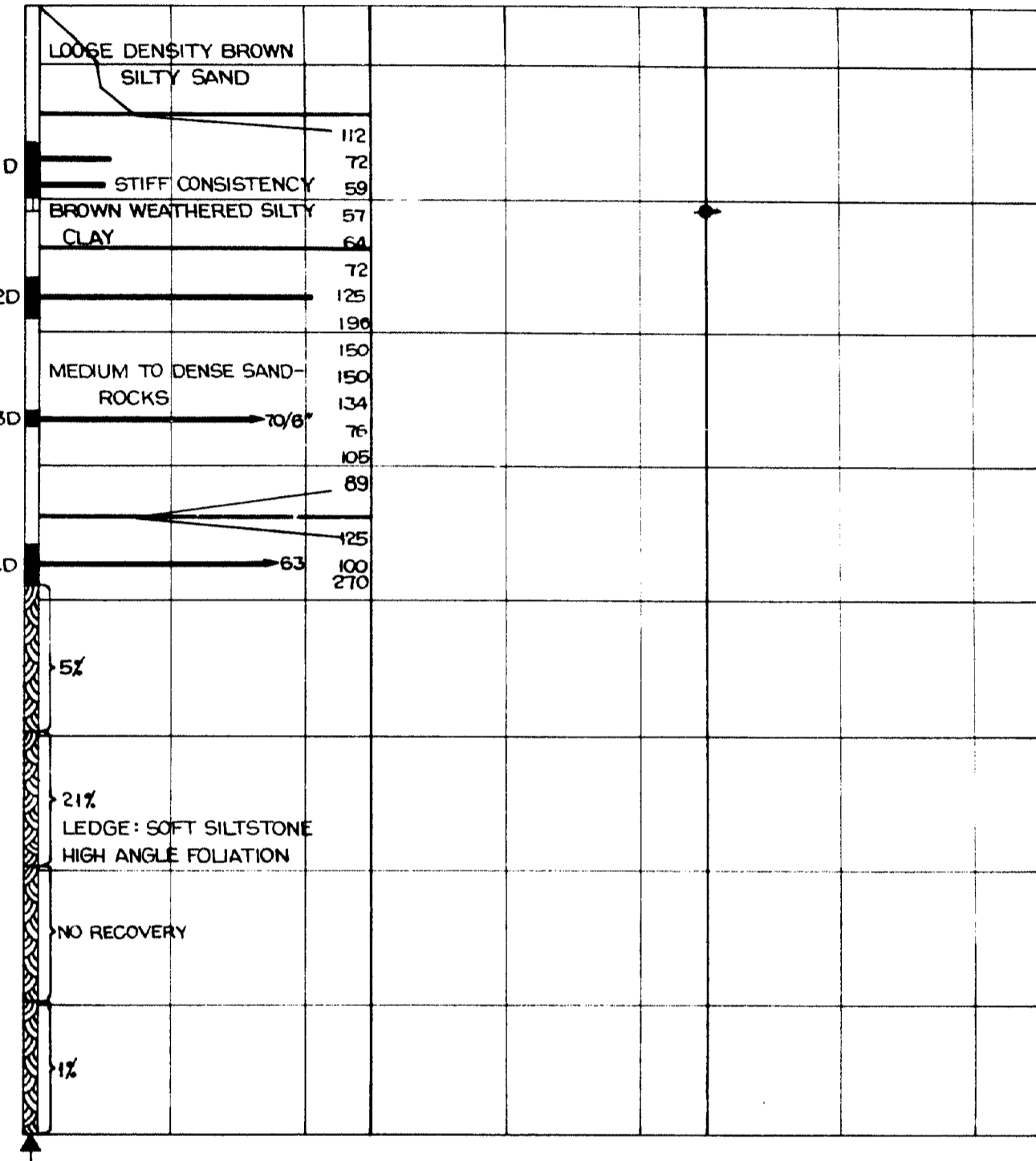
BORING B-2 (CT-62)
STA. 148+10

DRIVING RESISTANCE BLOWS/FT.	VANE SHEAR STRENGTH TONS/SQ. FT.	WATER CONTENT PERCENT
20	0.4	20
40	0.8	40



BORING B-5 (CT-65)
STA. 149+00

DRIVING RESISTANCE BLOWS/FT.	VANE SHEAR STRENGTH TONS/SQ. FT.	WATER CONTENT PERCENT
20	0.4	20
40	0.8	40



BORING NOTES

- ALL SAMPLES AND VANES ARE MADE AHEAD OF CASING
- NUMBER OF BLOWS REQUIRED TO DRIVE EXTRA HEAVY CASING ONE FOOT WITH 400 FT. LBS. OF ENERGY PER BLOW.
- LOCATION OF SAMPLE OR SAMPLE ATTEMPT
- NUMBER AND TYPE OF DRY SAMPLE
- ID 5 & H SAMPLER #1290's
- IC 2" O.D. 16 GA. SEAMLESS TUBING
- IU 3 1/2" O.D. 16 GA. SEAMLESS TUBING
- MD UNSUCCESSFUL SAMPLE ATTEMPT AND TYPE OF SAMPLER
- NUMBER OF BLOWS REQUIRED TO DRIVE SPOON OR TUBING ONE FOOT WITH 350 FT. LBS. OF ENERGY PER BLOW
- SAMPLING SPOON OR SEAMLESS TUBING DRIVEN BY STATIC WEIGHT OF DRILL RODS AND HAMMER
- FIELD VANE TEST
- BOTTOM OF BORING (MAY NOT BE BOTTOM OF SOIL STRATA)
- LOCATIONS CORED BY DIAMOND BIT AND PER CENT RECOVERY OF ROCK

SHEAR NOTES

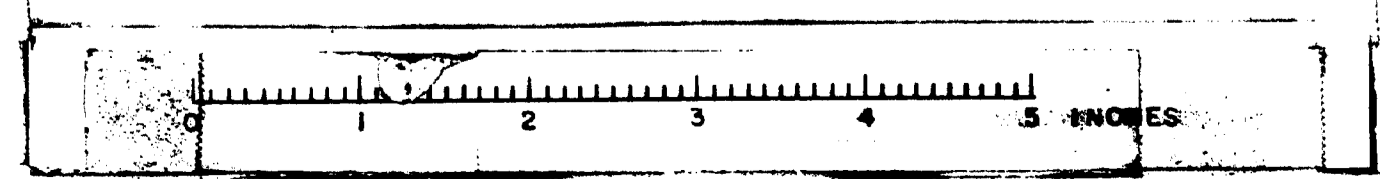
- FIELD VANE SHEAR STRENGTHS
- x LABORATORY VANE SHEAR STRENGTHS
- SHEAR STRENGTHS IN EXCESS OF CAPACITY OF EQUIPMENT
- o ONE HALF UNCONFINED COMPRESSIVE STRENGTHS

WATER CONTENT NOTES

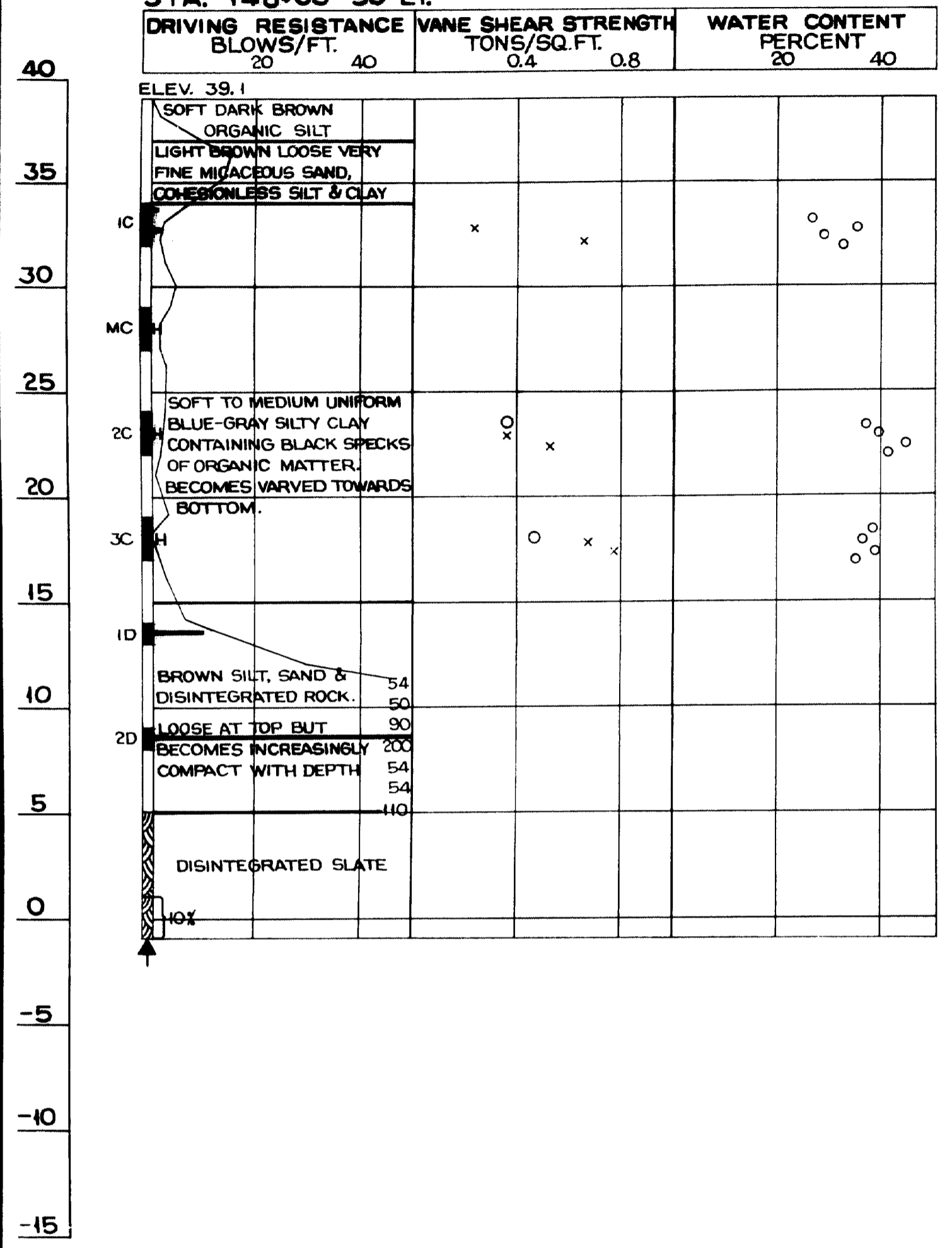
- o NATURAL WATER CONTENTS, GIVEN AS PER CENT OF DRY WEIGHT
- o-x PLASTIC AND LIQUID LIMITS
- o-x IGNITION LOSSES ARE GIVEN AS PER CENT OF DRY WEIGHT

DESIGN -	TRACE -	CHECK -	Soils Division	BRIDGE NO. SURVEY -	PLOT -
STATE HIGHWAY COMMISSION BRIDGE DIVISION					
INTERSTATE 295 OVER WESTBROOK STREET IN THE CITY OF SOUTH PORTLAND CUMBERLAND COUNTY FOUNDATION SURVEY					
SHEET 3 OF 15 AUGUSTA, MAINE SEPT. 1966					

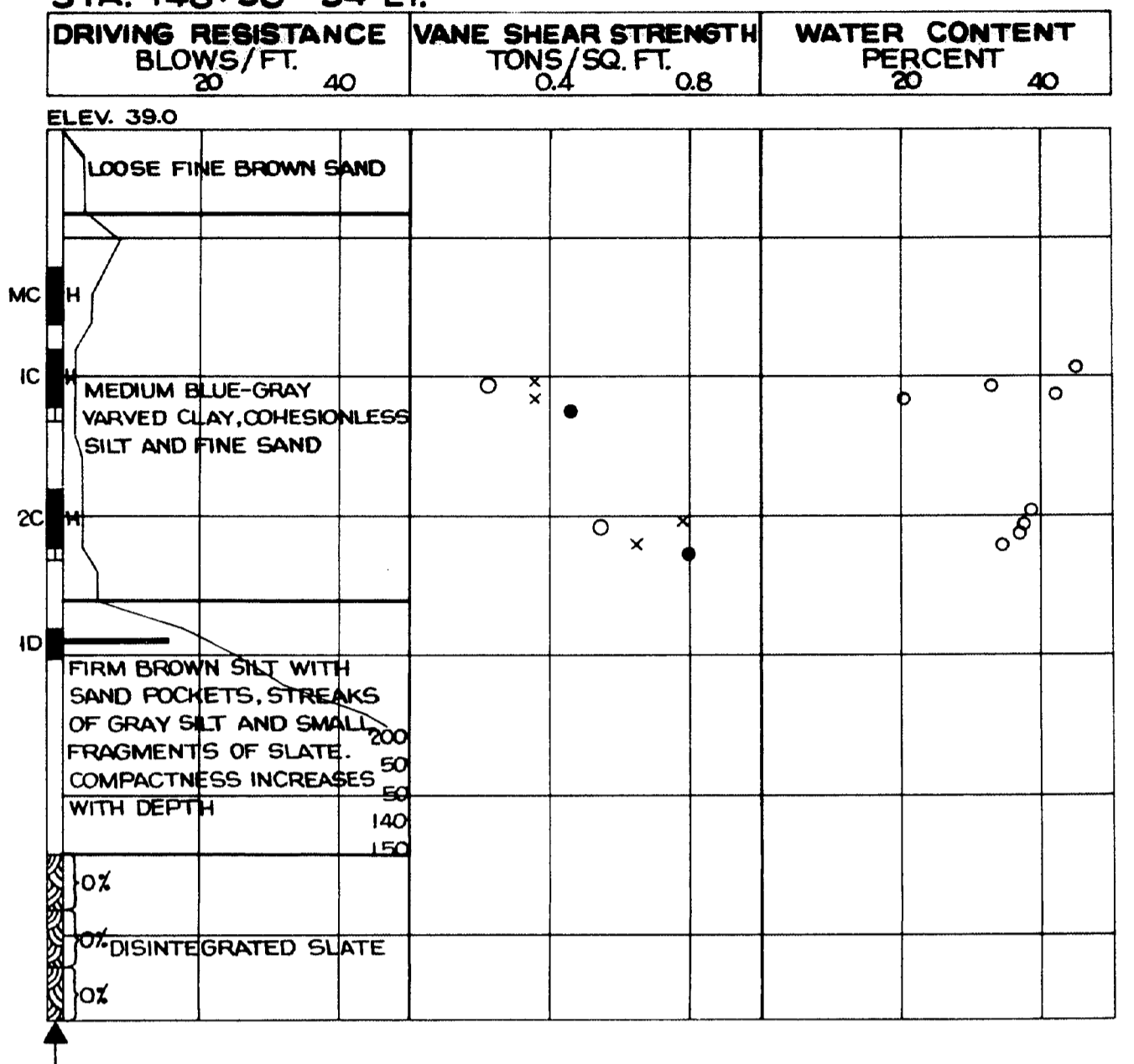
109-64 SOUTH PORTLAND



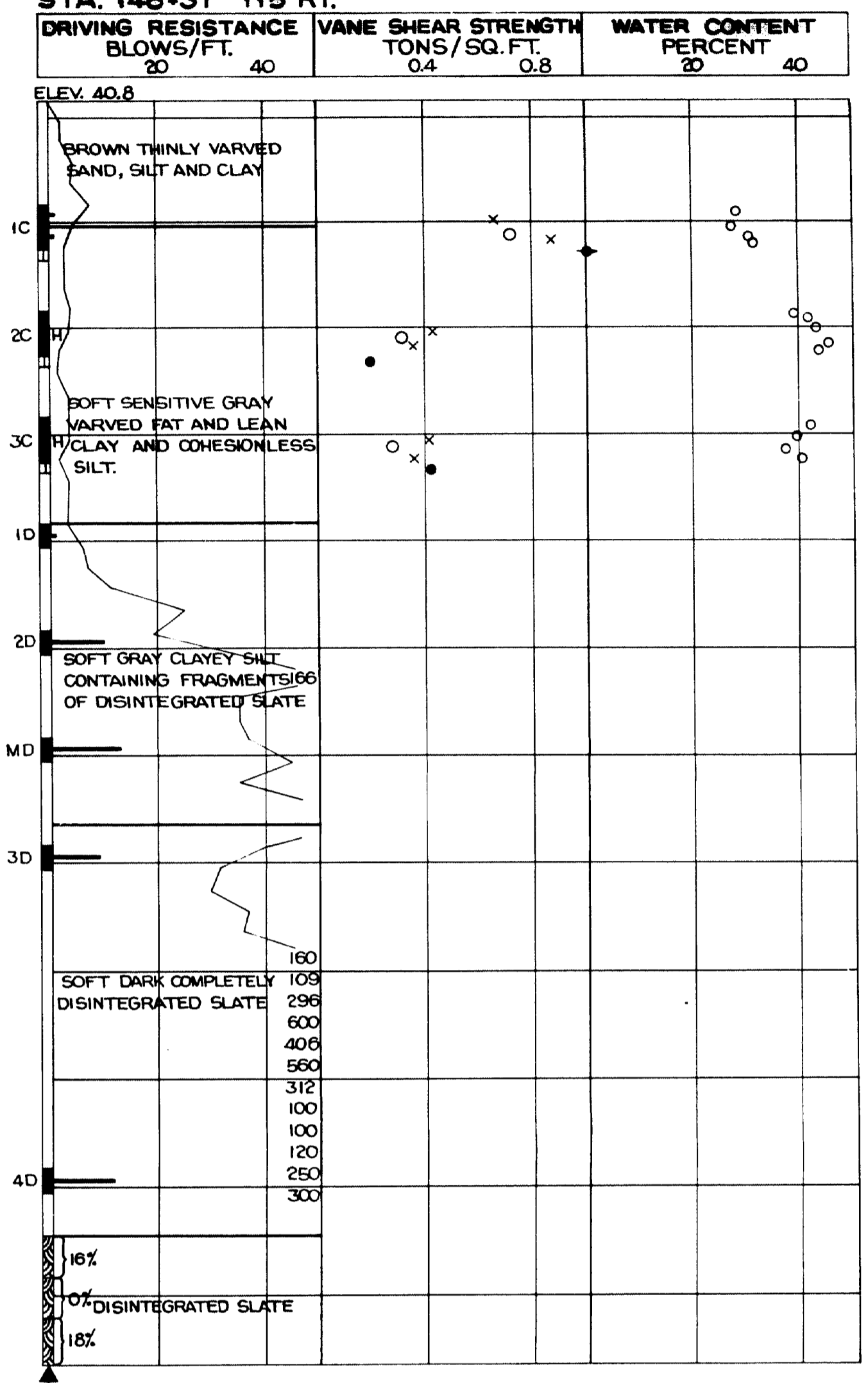
BORING NO. 1
STA. 148+03 90' LT.



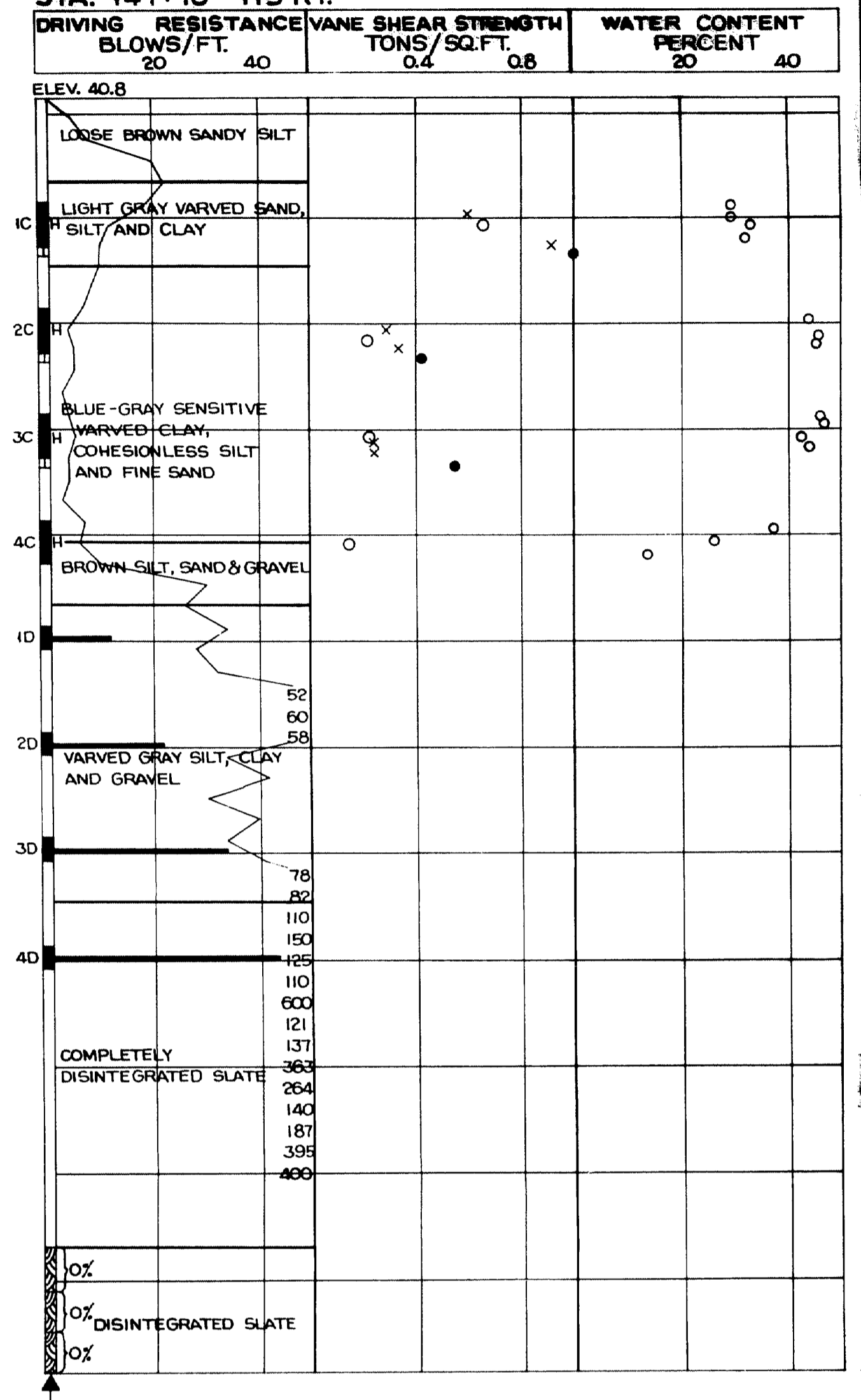
BORING NO. 2
STA. 148+58 94' LT.



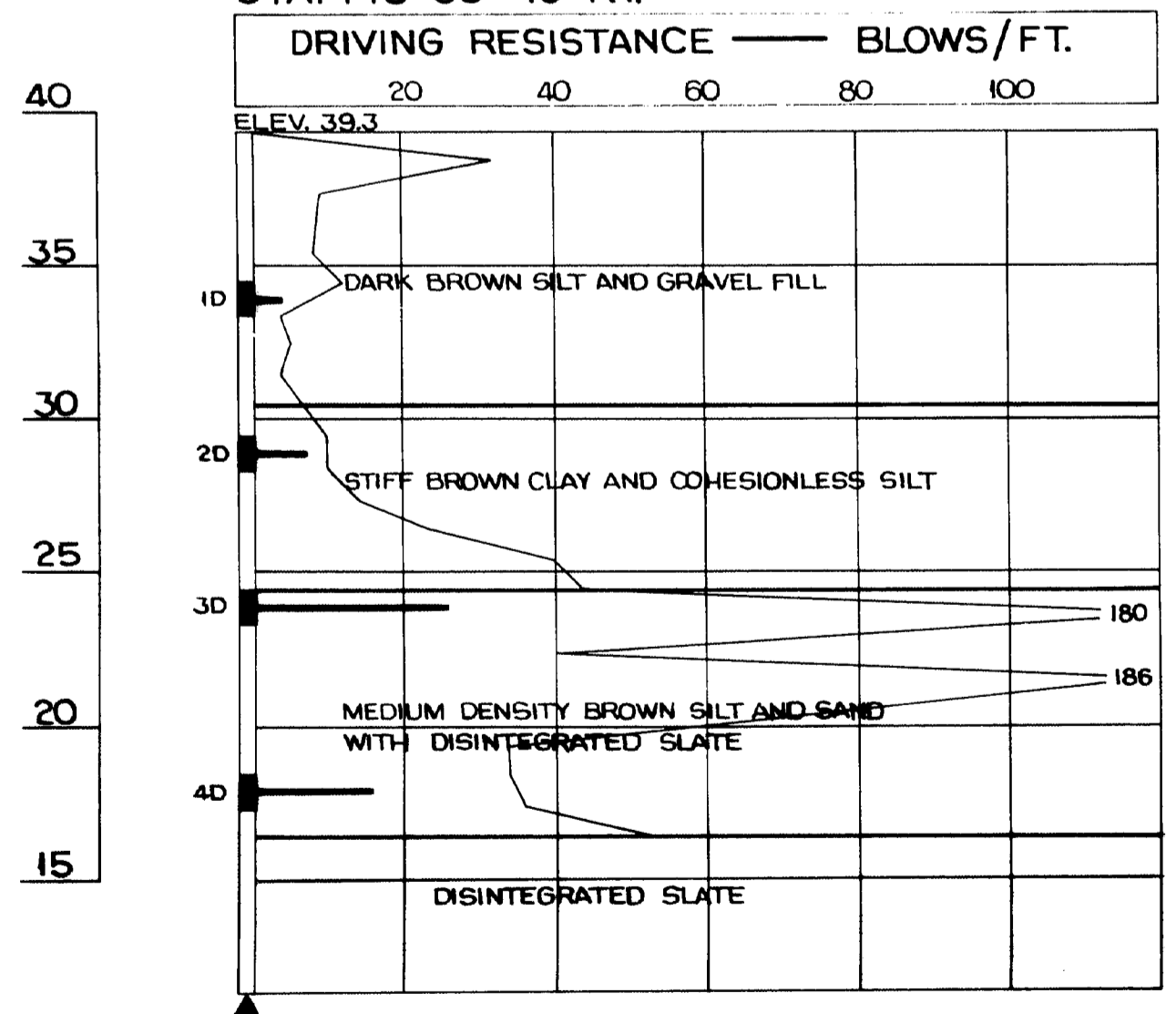
BORING NO. 3
STA. 148+37 115' RT.



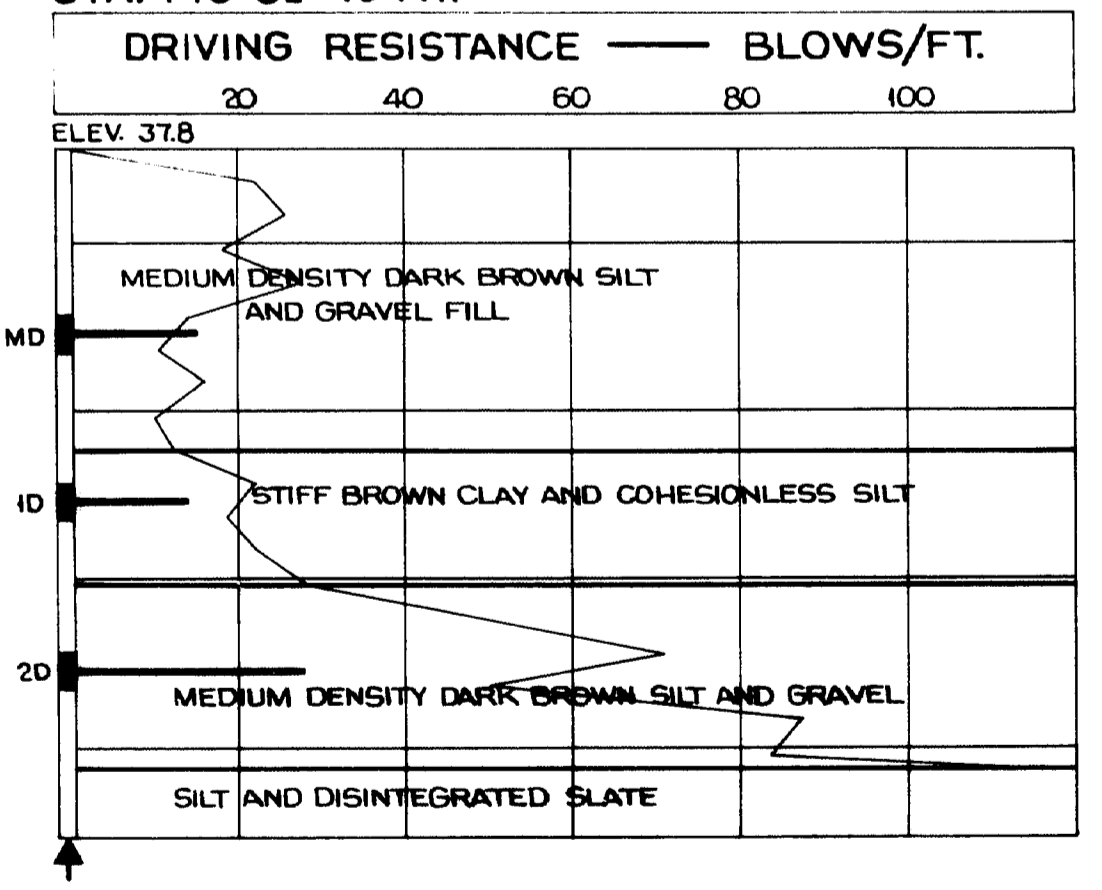
BORING NO. 4
STA. 147+70 115' RT.



BORING NO. 5
STA. 146+90 16' RT.



BORING NO. 6
STA. 148+82 16' RT.



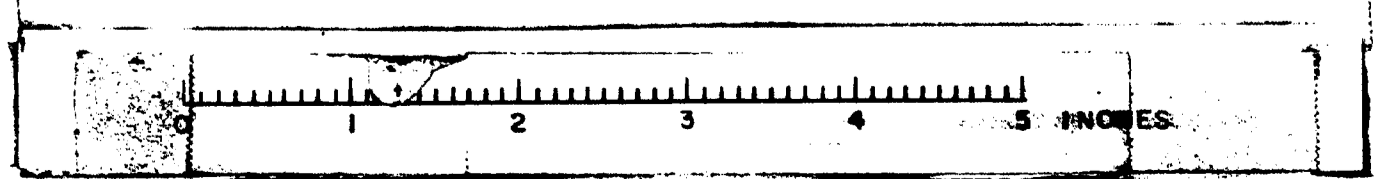
DESIGN— SOILS DIVISION BRIDGE NO. SURVEY— PLOT—

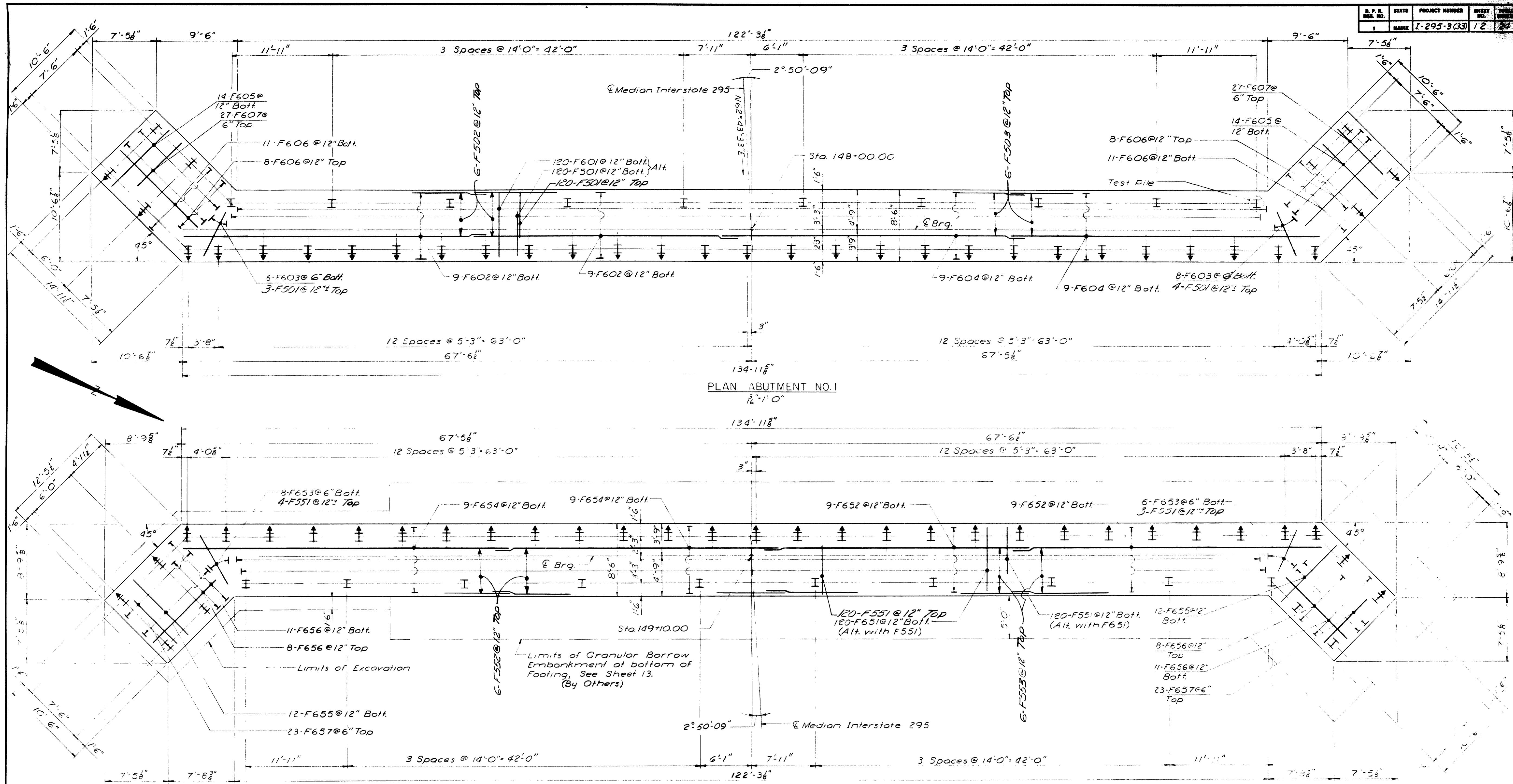
STATE HIGHWAY COMMISSION
BRIDGE DIVISION

INTERSTATE 295
OVER
WESTBROOK STREET
IN THE CITY OF
SOUTH PORTLAND
CUMBERLAND COUNTY
FOUNDATION SURVEY

SHEET 4 OF 15 AUGUSTA, MAINE SEPT 1966

104-65 SOUTH PORTLAND





PLAN ABUTMENT NO. 1
3/8"=1'-0"

PLAN ABUTMENT NO. 2
3/8"=1'-0"

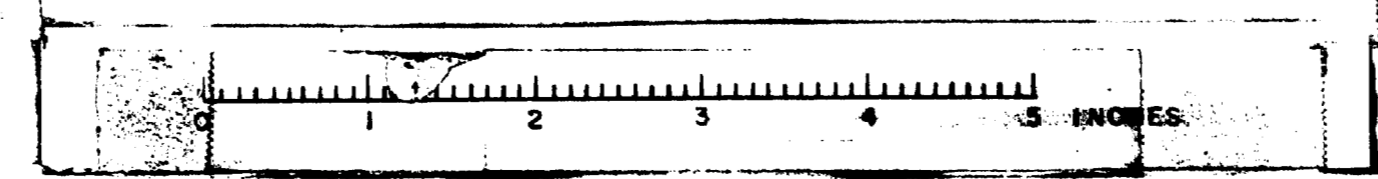
Field changes: Test Pile Load applied to abut. 2 (some pile) ref. letter 6-21-68.
Reinforced pile tips added to all remaining piles, after Pile test results.
Molhan 7-26-69

- PILE NOTES:**
1. Indicates Battered Piles, battered 3:12 in direction of arrow.
 2. Indicates Vertical Piles.
 3. Piles to be driven to ledge or practical refusal to develop end bearing.
 4. All piles are 10BP 57 with a capacity of 63 tons.
 5. Estimated pile length:
Abutment No. 1 32 feet
Abutment No. 2 42 feet
 6. For abutment details see Sheets 6, 7 and 8.

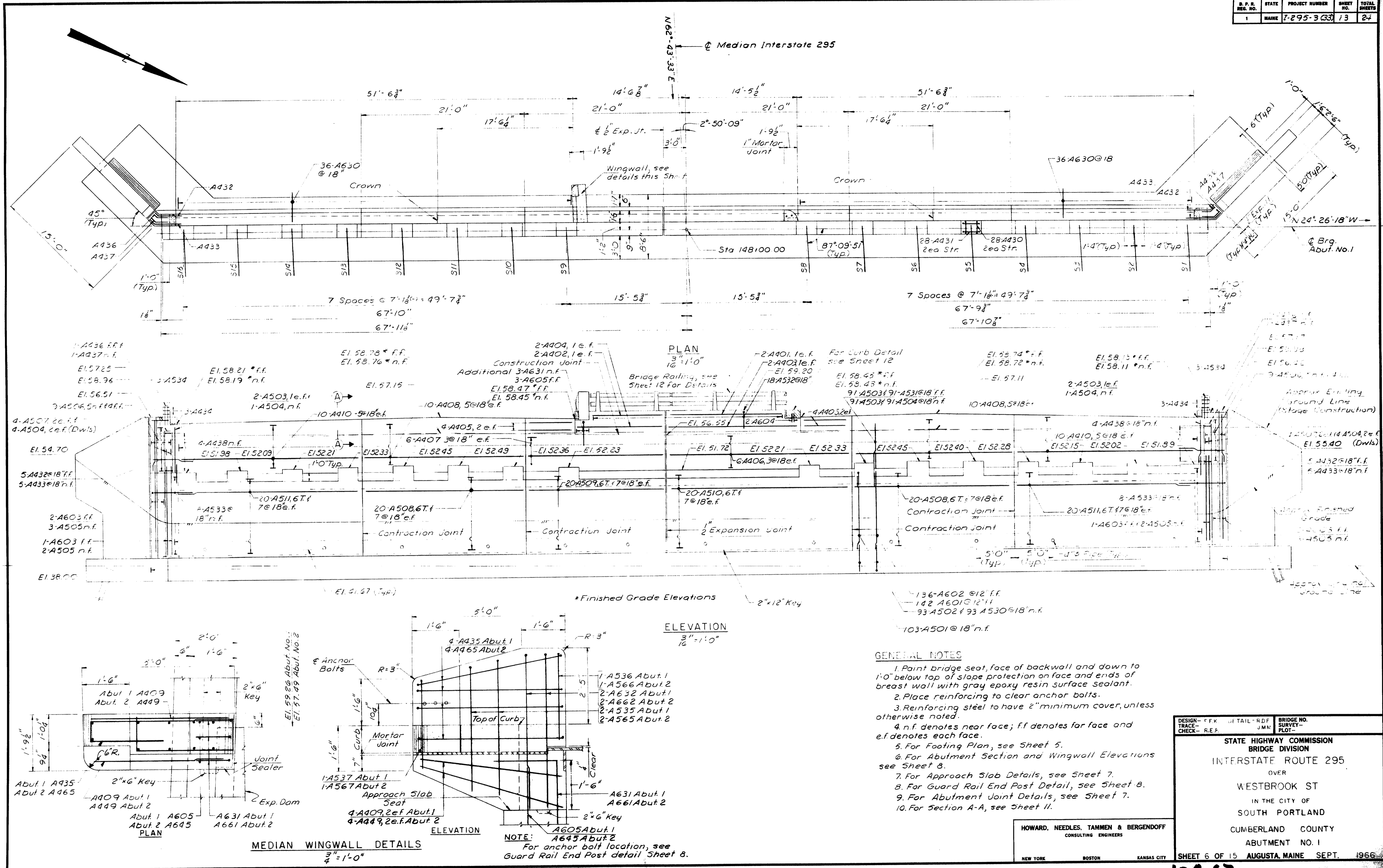
DESIGN - I. S.	DETAIL - S.H.P.	BRIDGE NO. SURVEY -
TRACE -	FLDT -	GUJ.
STATE HIGHWAY COMMISSION BRIDGE DIVISION		
INTERSTATE ROUTE 295 OVER WESTBROOK ST IN THE CITY OF SOUTH PORTLAND CUMBERLAND COUNTY		
FOOTING PLAN		
SHEET 5 OF 15 AUGUSTA, MAINE SEPT 1966		

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
NEW YORK BOSTON KANSAS CITY

104-66 SOUTH PORTLAND



D. P. R. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	7-295-333	13	24

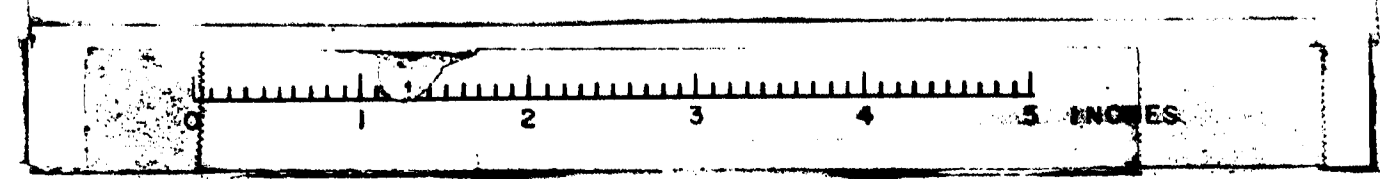


- GENERAL NOTES**
1. Point bridge seat, face of backwall and down to 1'-0" below top of slope protection on face and ends of breast wall with gray epoxy resin surface sealant.
 2. Place reinforcing to clear anchor bolts.
 3. Reinforcing steel to have 2" minimum cover, unless otherwise noted.
 4. n.f. denotes near face; f.f. denotes far face and e.f. denotes each face.
 5. For Footing Plan, see Sheet 5.
 6. For Abutment Section and Wingwall Elevations see Sheet 8.
 7. For Approach Slab Details, see Sheet 7.
 8. For Guard Rail End Post Detail, see Sheet 8.
 9. For Abutment Joint Details, see Sheet 7.
 10. For Section A-A, see Sheet 11.

DESIGN - F.F.K.	DETAIL - R.D.F.	BRIDGE NO.
TRACE - R.E.F.	SURVEY - J.M.N.	104-67
CHECK - R.E.F.	PLOT -	

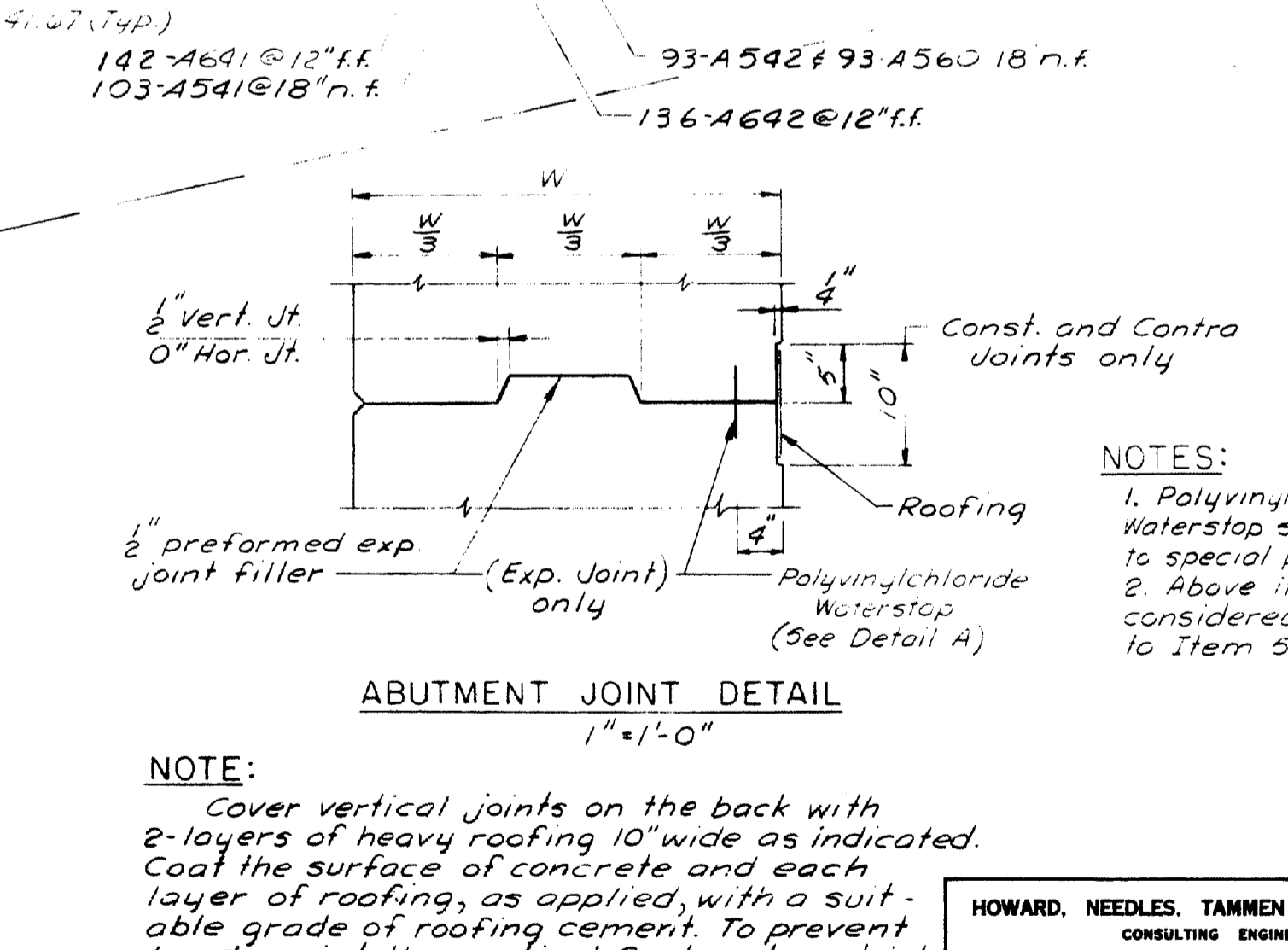
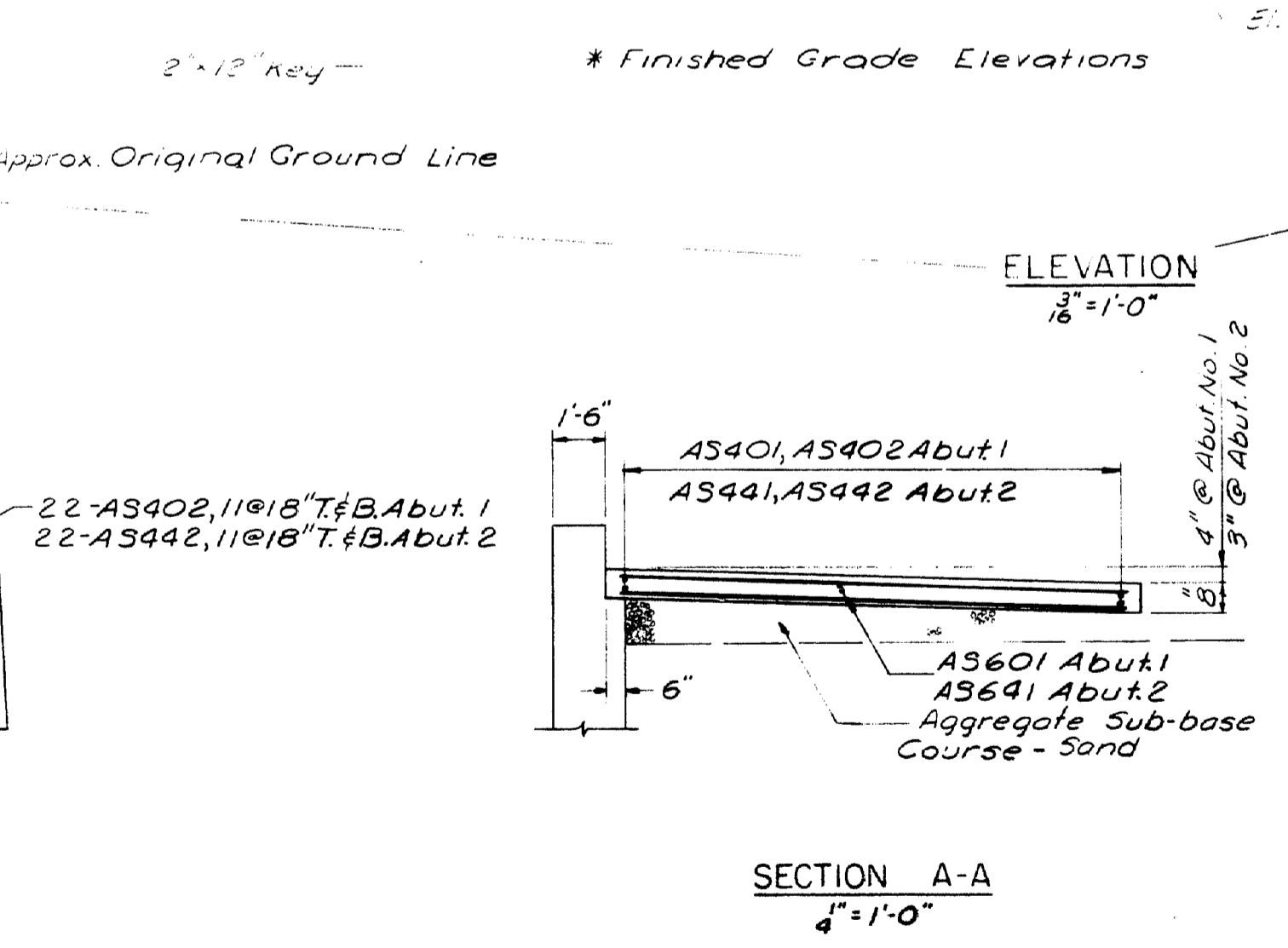
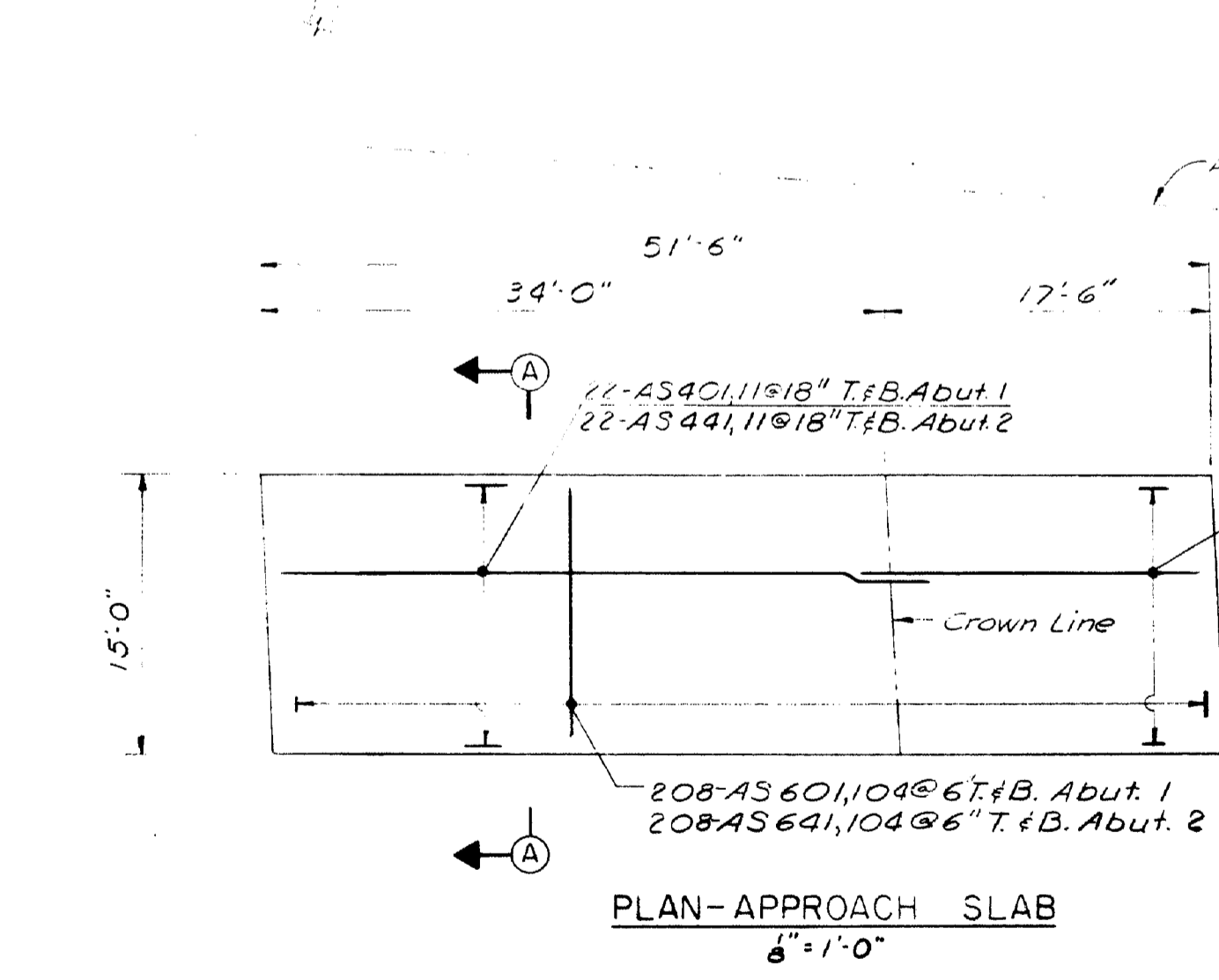
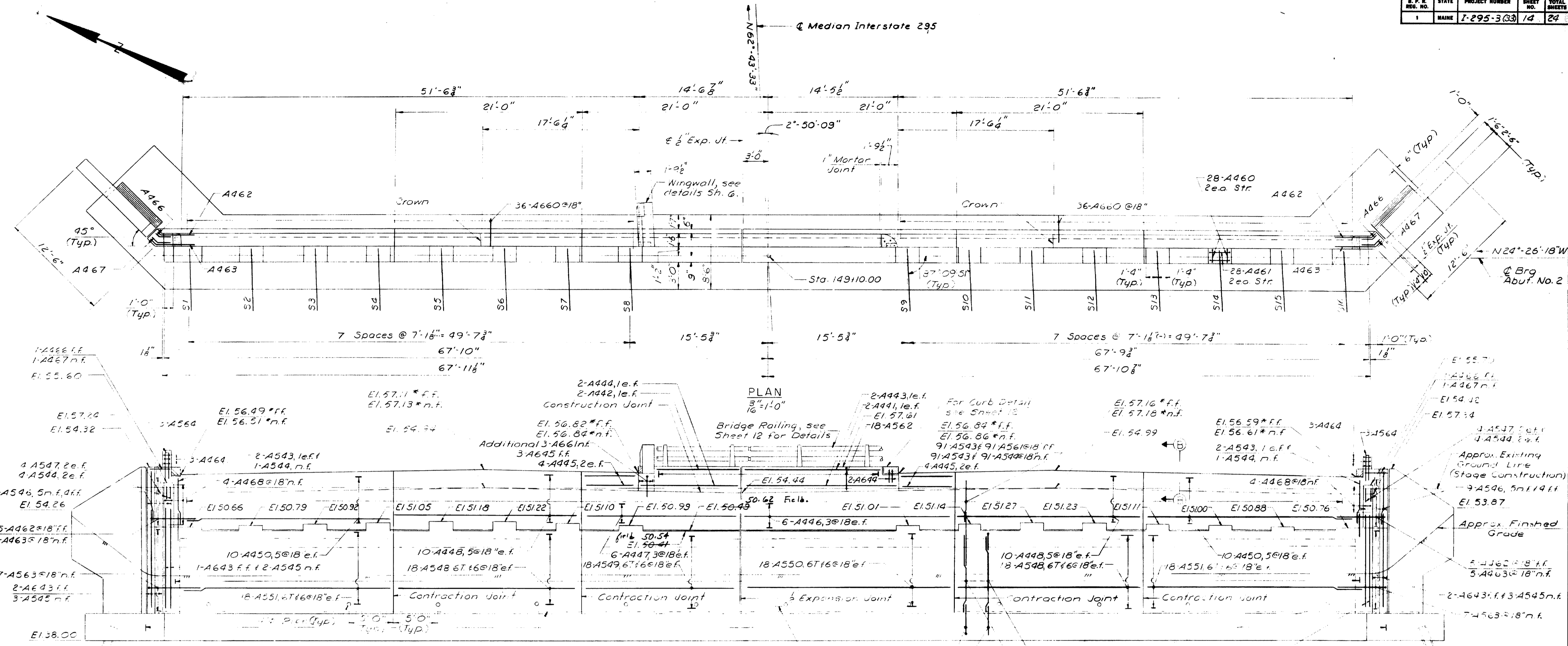
STATE HIGHWAY COMMISSION
BRIDGE DIVISION
INTERSTATE ROUTE 295
 OVER
WESTBROOK ST
 IN THE CITY OF
SOUTH PORTLAND
 CUMBERLAND COUNTY
ABUTMENT NO. 1

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
 CONSULTING ENGINEERS
 NEW YORK BOSTON KANSAS CITY
 SHEET 6 OF 15 AUGUSTA, MAINE SEPT. 1966



104-67 SOUTH PORTLAND

D. P. B. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	I-295-3(33)	14	24



NOTES:

- For general notes, see Sheet 3.
- For Reinforcing Bars, see Sheet 4.
- For Wingwall Details, see Sheet 5.
- For Section 7-5, see Sheet 11.

DETAIL A
Half Scale

NOTES:

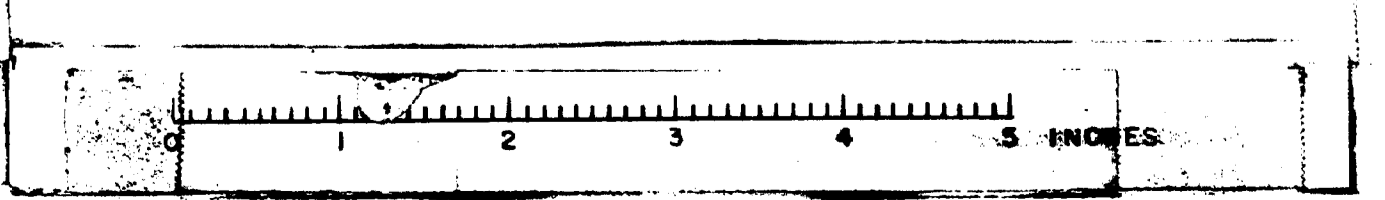
- Polyvinylchloride Waterstop shall conform to special provisions.
- Above items shall be considered incidental to Item 502.21.

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS

NEW YORK BOSTON KANSAS CITY

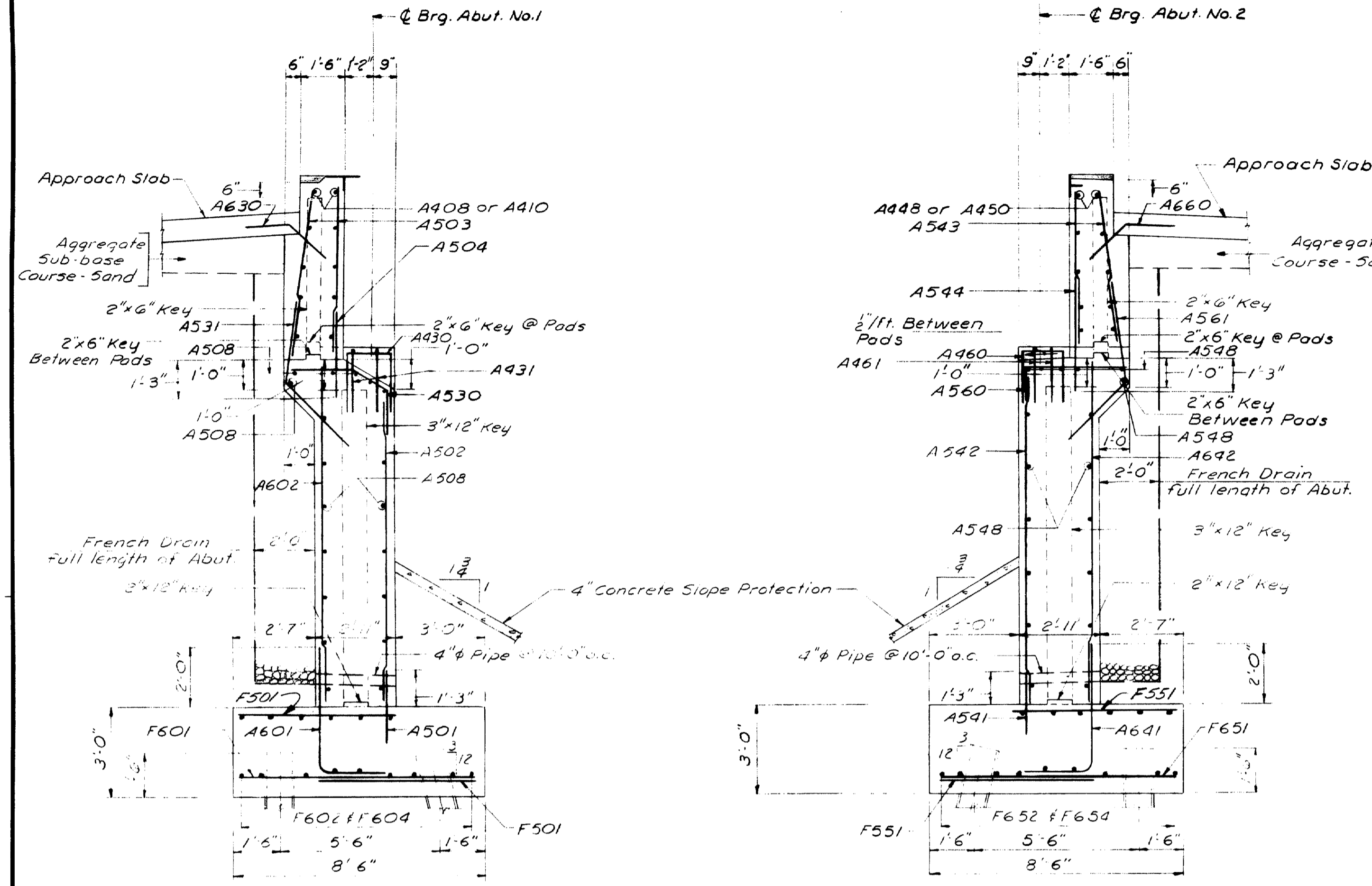
STATE HIGHWAY COMMISSION
BRIDGE DIVISION
INTERSTATE ROUTE 295
OVER
WESTBROOK ST.
IN THE CITY OF
SOUTH PORTLAND
CUMBERLAND COUNTY
ABUTMENT NO. 2

SHEET 7 OF 15 AUGUSTA, MAINE SEPT. 1966



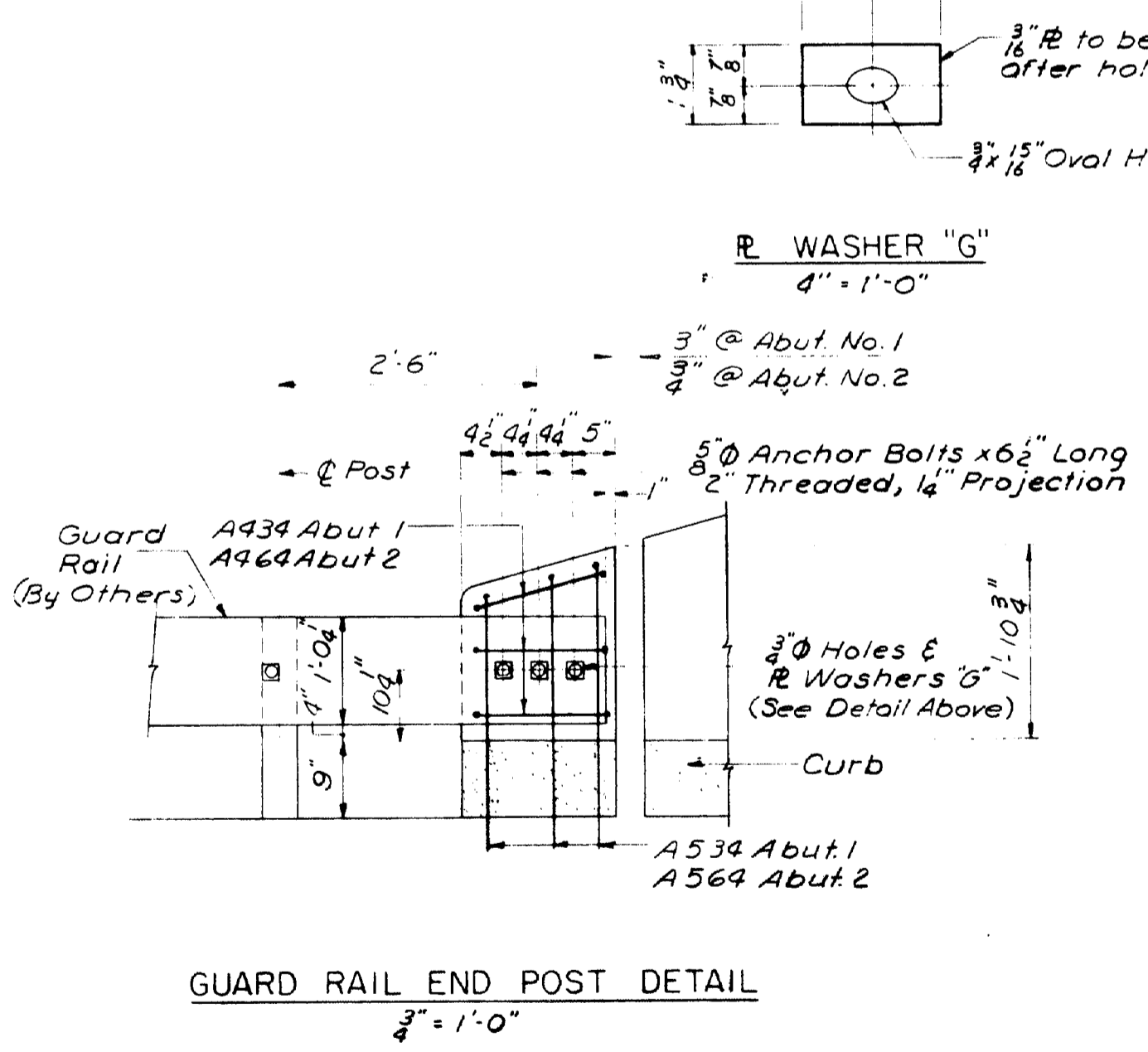
104-68 SOUTH PORTLAND

S.P.E. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	1-295-3 (33)	15	24

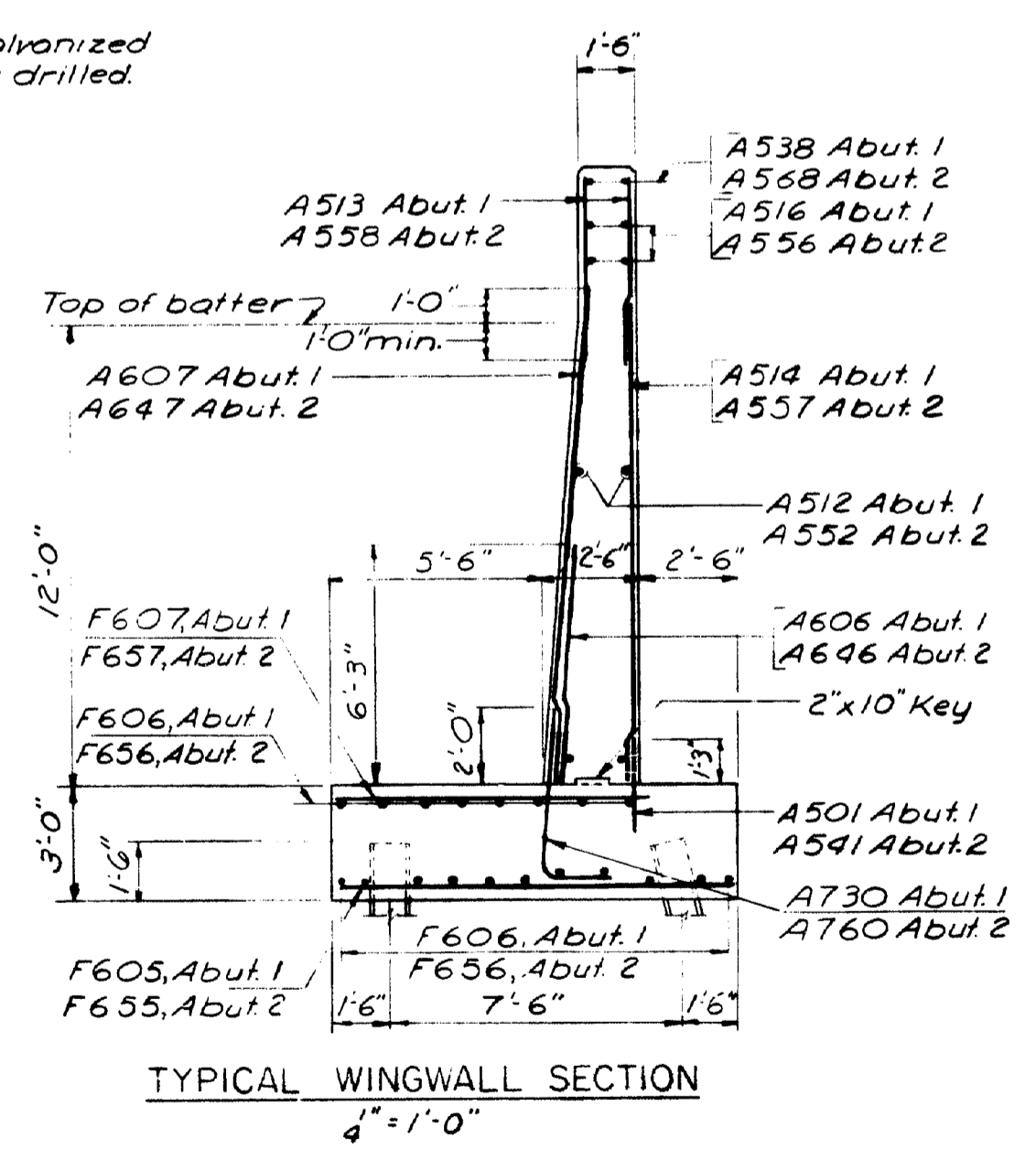


TYPICAL SECTION ABUT. NO. 1
3/8" = 1'-0"

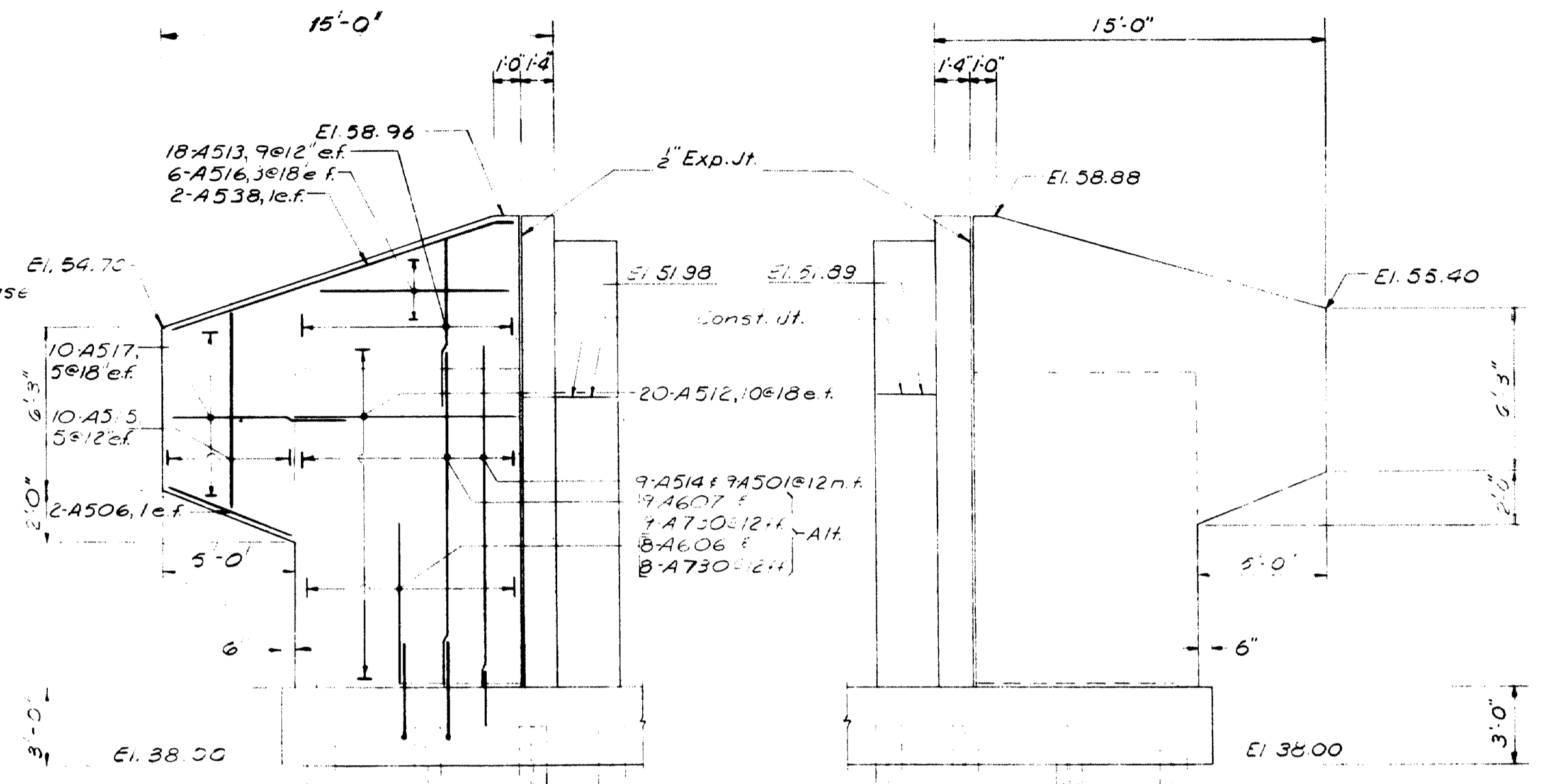
TYPICAL SECTION ABUT. NO. 2
3/8" = 1'-0"



GUARD RAIL END POST DETAIL
3/8" = 1'-0"

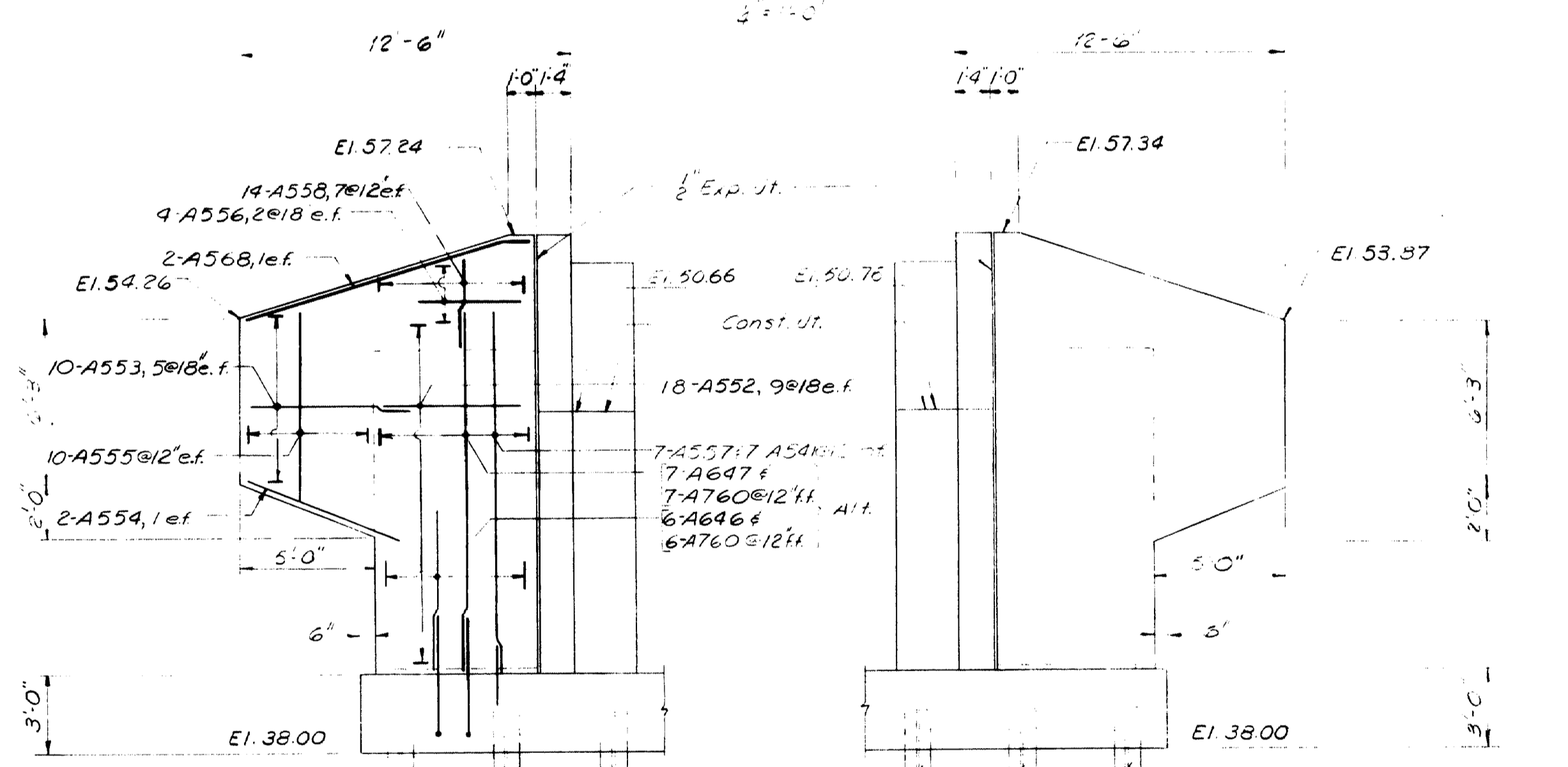


TYPICAL WINGWALL SECTION
3/8" = 1'-0"



ABUTMENT NO. 1 WINGWALL ELEVATIONS

NOTE
Reinforcing same as abut. wingwall.



ABUTMENT NO. 2 WINGWALL ELEVATIONS

NOTE
Reinforcing same as abut. wingwall.

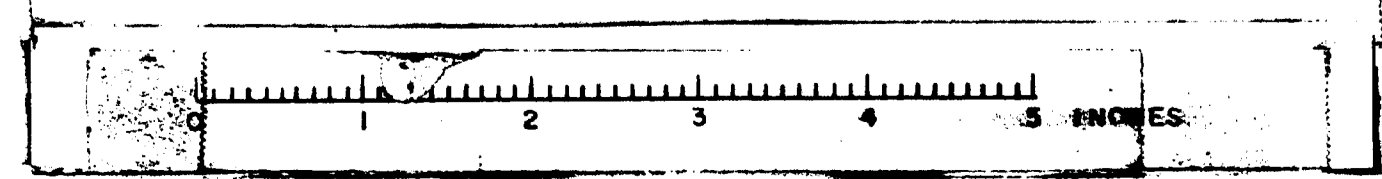
NOTES:

1. Three anchor bolts required to each end post, bolts to be furnished with hex head, nut and washer. All parts to be galvanized. Payment for acquiring and installing anchor bolts shall be incidental to Item 502-21 (Structural concrete abutments and retaining walls).
2. Concrete in Rail End Post shall be paid for under Item 502-21 (Structural concrete abutments and retaining walls).
3. For Footing Plans, see Sheet 5.
4. For Abutment No. 1, see Sheet 6.
5. For Abutment No. 2, see Sheet 7.

DESIGN - E.F.K.	DETAIL - R.D.F.	BRIDGE NO.
TRACE - S.M.		SURVEY -
CHECK - S.M.		PLOT -

STATE HIGHWAY COMMISSION
BRIDGE DIVISION
INTERSTATE ROUTE 295
OVER
WESTBROOK ST.
IN THE CITY OF
SOUTH PORTLAND
CUMBERLAND COUNTY
ABUTMENT & WINGWALL DETAILS
SHEET 8 OF 15 AUGUSTA, MAINE SEPT. 1966

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
NEW YORK BOSTON KANSAS CITY



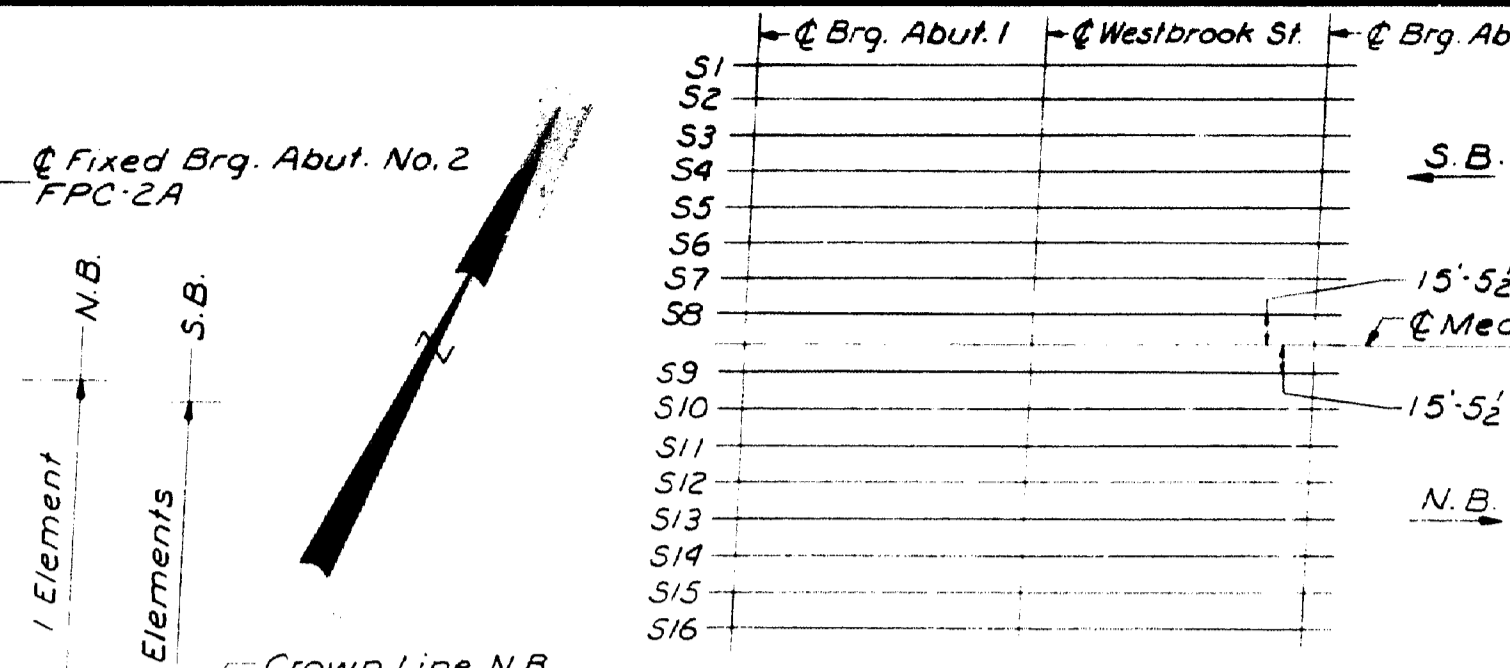
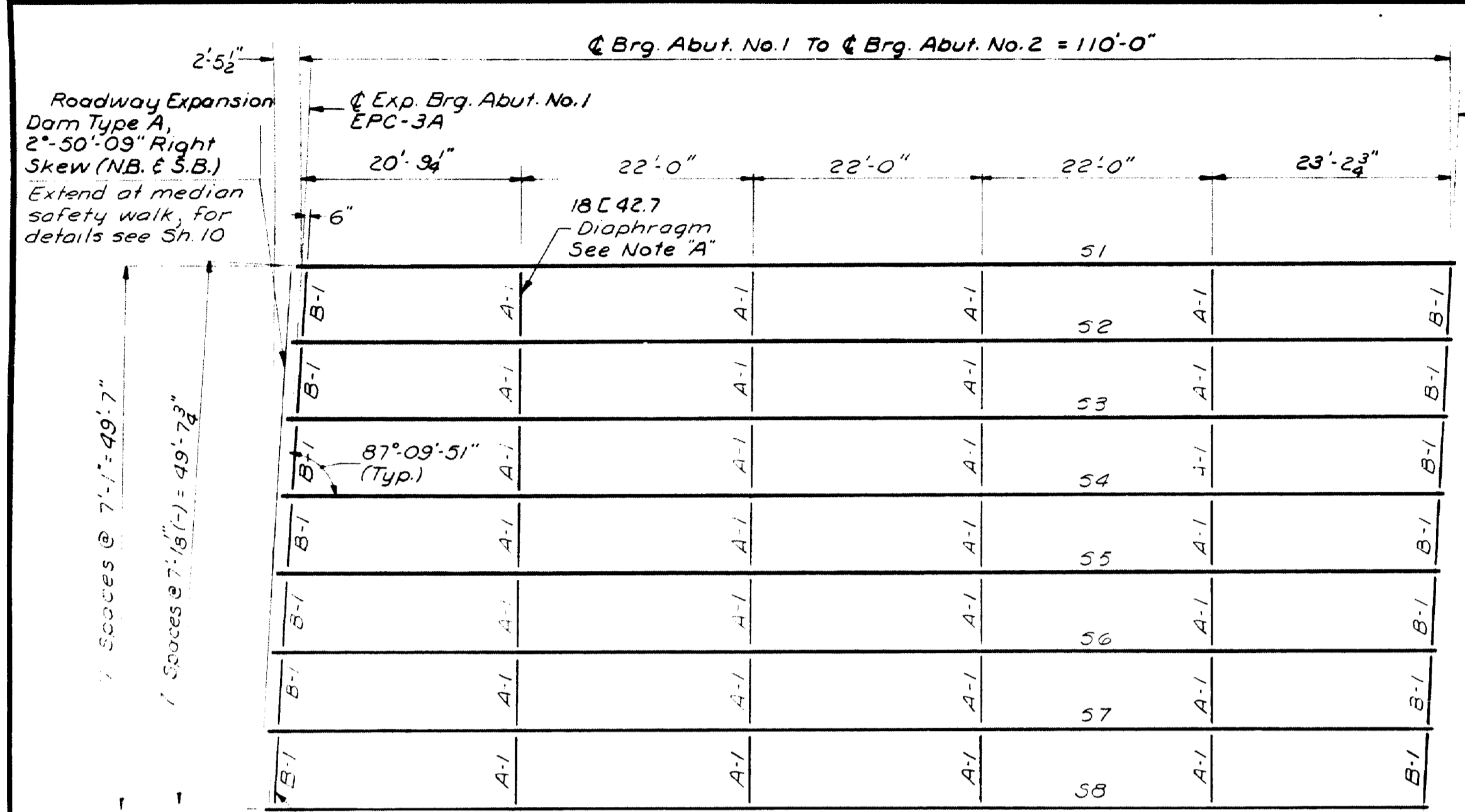
104-69

REFERENCE
 Diaphragms - See Standard Details BD104-66 and Note "A" this sheet.
 Pedestals - See Standard Details BD101-64 and Sh. 10.
 Armored Joint - See Standard Details BD104-66 and Sheets 9 and 10.
 Shear Connectors - See Standard Details BD104-66 and this sheet.
 Expansion Dam - See Standard Details BD105-64 and Sh. 10.

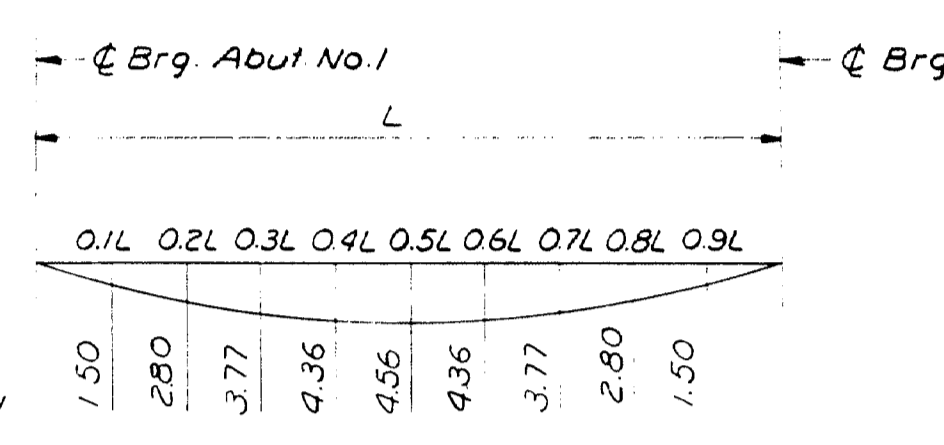
SPECIFICATIONS
 Fabrication and Erection: State of Maine Standard Specifications, Highways and Bridges Revision of June 1965.
 Design and Details: A.A.S.H.O. Standard Specifications for Highway Bridges of 1965.

Materials: Flanges and web for beams shall conform to A572 design or A-441. All other steel shall conform to A36 design or A-36. Unless otherwise noted on Standard Details.
 Welding: Specifications for welded roadway and railway bridges, American Welding Society (AWS D00.0-66) as modified by contract specifications.

NOTE "A" (STANDARD DIAPHRAGM MODIFICATION)
 The position of the diaphragm within the superstructure depth and the diaphragm connections shall conform to the Standard Details except as follows:
 1. C = 3'-8"
 2. N = 1/8" continuous fillet weld
 3. Substitute proper dimensions for diaphragm depth when positioning intermediate diaphragm.
 4. Connection R for end diaphragm:
 a. 6"x2" @ Abut. No. 1
 b. Brg. Stiffeners @ Abut. No. 2



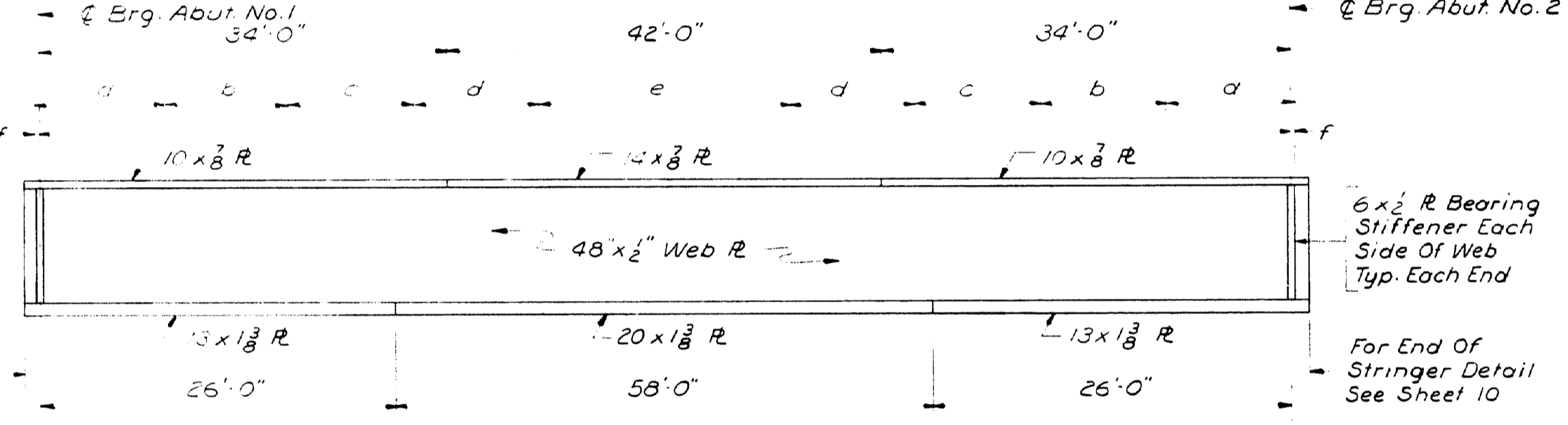
STRINGER LOCATION PLAN
No Scale



DEAD LOAD DEFLECTION DIAGRAM
ALL DEFLECTIONS IN INCHES

CAMBER NOTE:
 All beams to be cambered for dead load deflections shown and the effects of vertical curvature.

PEDESTALS
 EPC-3A 16 Required
 EPC-2A 16 Required



TYPICAL STRINGER ELEVATION
All dimensions are horizontal

NOTE
 For detail of flange plate transition see sheet 10.

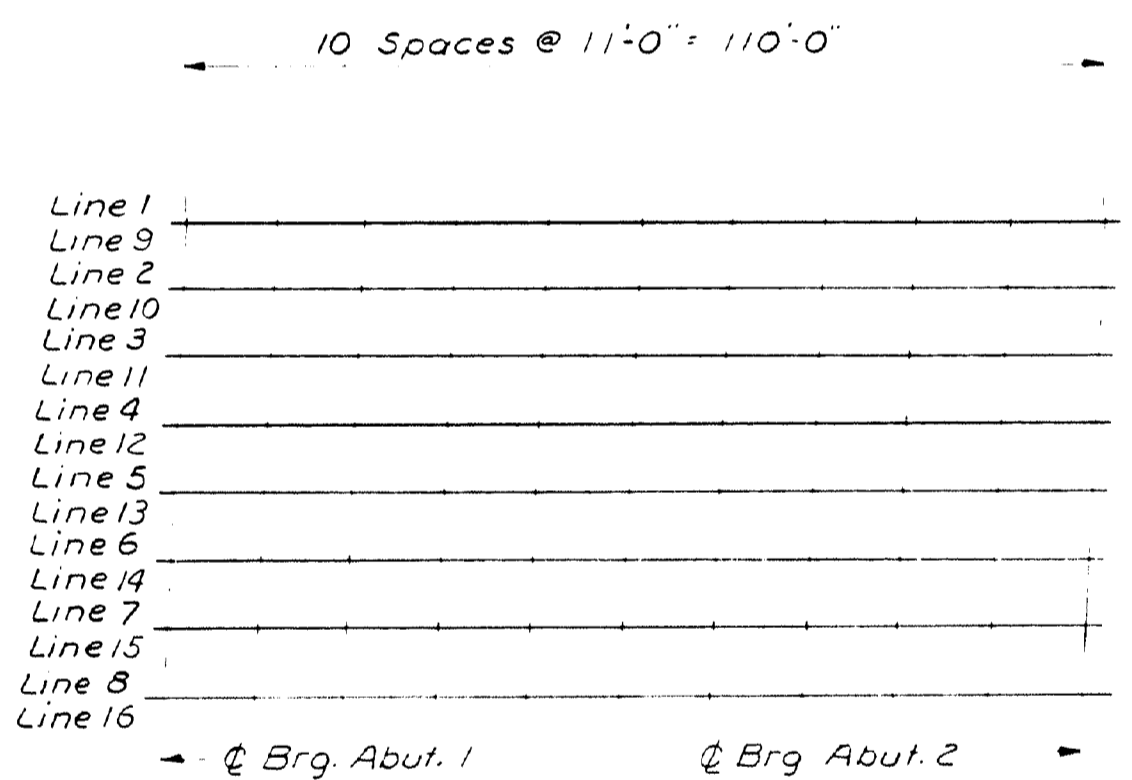
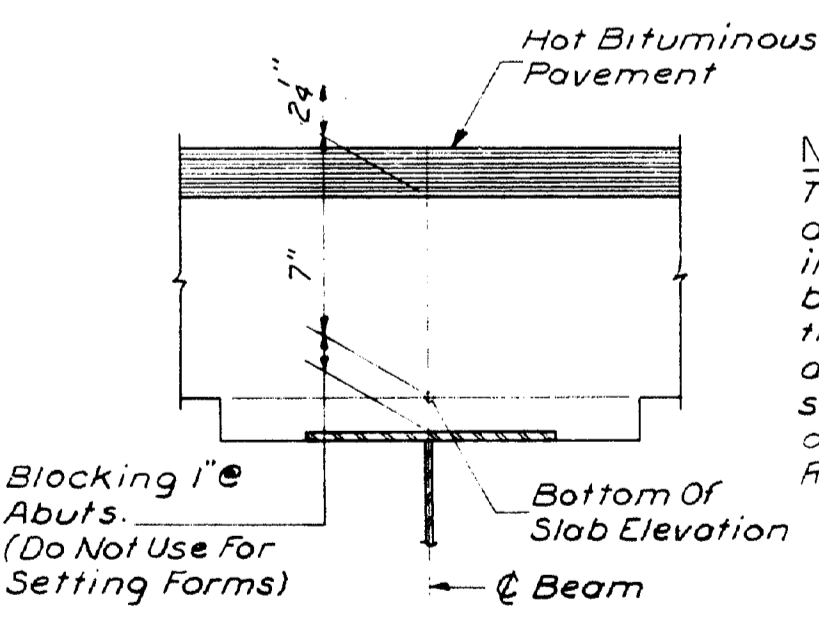


DIAGRAM OF BLOCKING POINTS

BOTTOM OF SLAB ELEVATIONS AT BLOCKING POINTS

	11'-0"	22'-0"	33'-0"	44'-0"	55'-0"	66'-0"	77'-0"	88'-0"	99'-0"	110'-0"
Line 1	57.34	57.32	57.28	57.22	57.11	56.97	56.80	56.59	56.34	56.07
Line 2	57.47	57.45	57.41	57.34	57.24	57.10	56.93	56.72	56.47	56.20
Line 3	57.60	57.58	57.54	57.47	57.37	57.23	57.06	56.85	56.60	56.33
Line 4	57.72	57.71	57.67	57.60	57.50	57.36	57.19	56.97	56.73	56.45
Line 5	57.85	57.83	57.80	57.73	57.63	57.49	57.31	57.10	56.86	56.58
Line 6	57.90	57.88	57.84	57.77	57.67	57.53	57.36	57.15	56.90	56.63
Line 7	57.78	57.76	57.72	57.65	57.55	57.41	57.24	57.03	56.79	56.51
Line 8	57.66	57.64	57.60	57.54	57.43	57.30	57.12	56.91	56.67	56.39
Line 9	57.68	57.66	57.62	57.56	57.46	57.32	57.14	56.93	56.69	56.42
Line 10	57.81	57.79	57.75	57.69	57.58	57.45	57.27	57.06	56.82	56.55
Line 11	57.94	57.92	57.88	57.81	57.71	57.57	57.40	57.19	56.95	56.67
Line 12	57.90	57.88	57.84	57.78	57.68	57.54	57.37	57.16	56.91	56.64
Line 13	57.78	57.76	57.73	57.66	57.56	57.42	57.25	57.04	56.79	56.52
Line 14	57.66	57.64	57.61	57.54	57.44	57.30	57.13	56.92	56.68	56.40
Line 15	57.54	57.53	57.49	57.42	57.32	57.18	57.01	56.80	56.56	56.28
Line 16	57.42	57.41	57.37	57.30	57.20	57.06	56.89	56.68	56.44	56.17



BLOCKING DETAIL
No Scale

NOTE
 To compensate for dead load deflections as well as possible irregularities in beams, set the bottom of slab elevations at the points indicated before any of the slab formwork is started. See Subsection 502.10a of the Standard Specifications, Revision of June 1965.

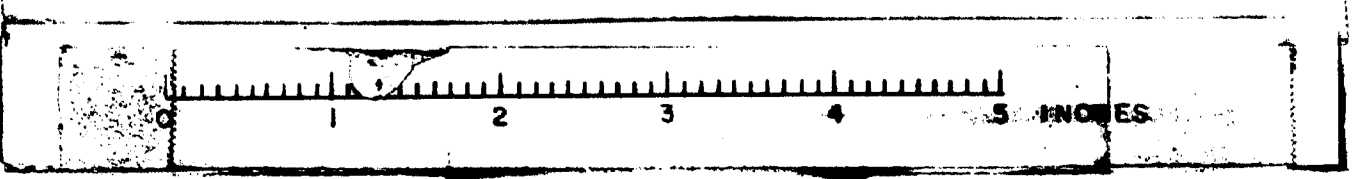
- 2-3/8" x 5" Studs
- a. 23 Sp @ 5" = 11'-6"
- b. 20 Sp @ 6 1/2" = 10'-10"
- c. 16 Sp @ 8" = 10'-8"
- d. 14 Sp @ 9 1/2" = 11'-1"
- e. 20 Sp @ 11" = 22'-0"
- f. "

NOTE
 Total number of studs required: 5472

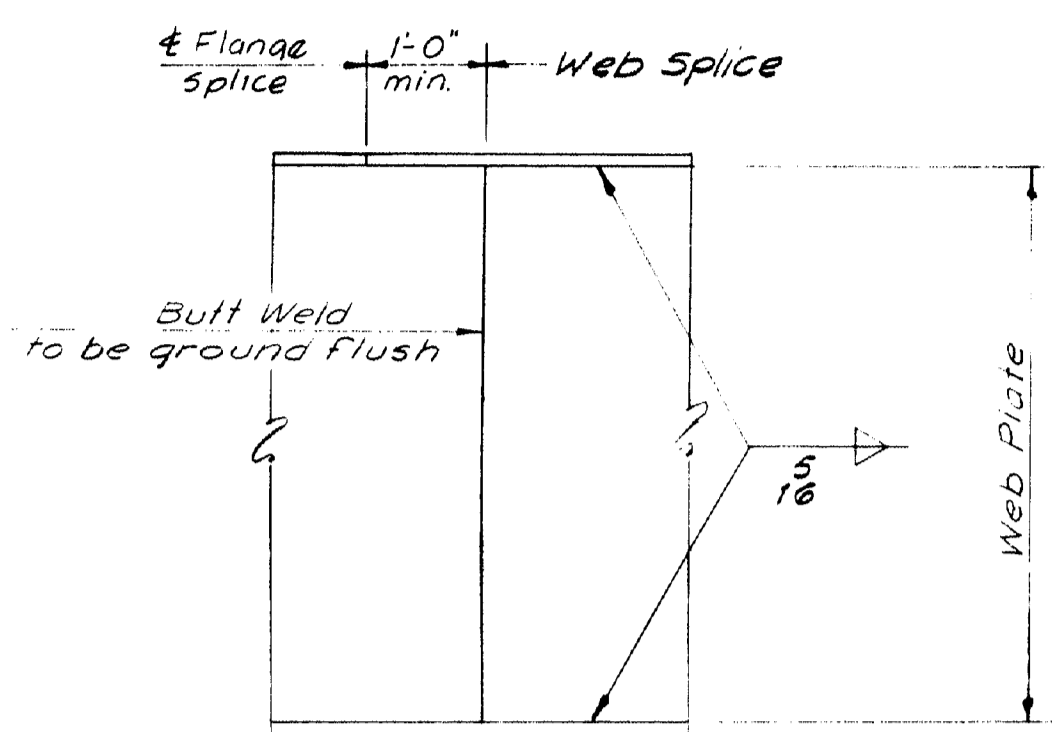
SHEAR CONNECTOR SPACING SCHEDULE

DESIGN - E.F.K.	DETAIL - R.D.F.	BRIDGE NO.
TRACE - S.M.	PLOT -	104-70
STATE HIGHWAY COMMISSION BRIDGE DIVISION		
INTERSTATE ROUTE 295		
OVER		
WESTBROOK ST.		
IN THE CITY OF		
SOUTH PORTLAND		
CUMBERLAND COUNTY		
STRUCTURAL STEEL & BLOCKING		
SHEET 9 OF 15 AUGUSTA, MAINE SEPT 1966		

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
NEW YORK BOSTON KANSAS CITY



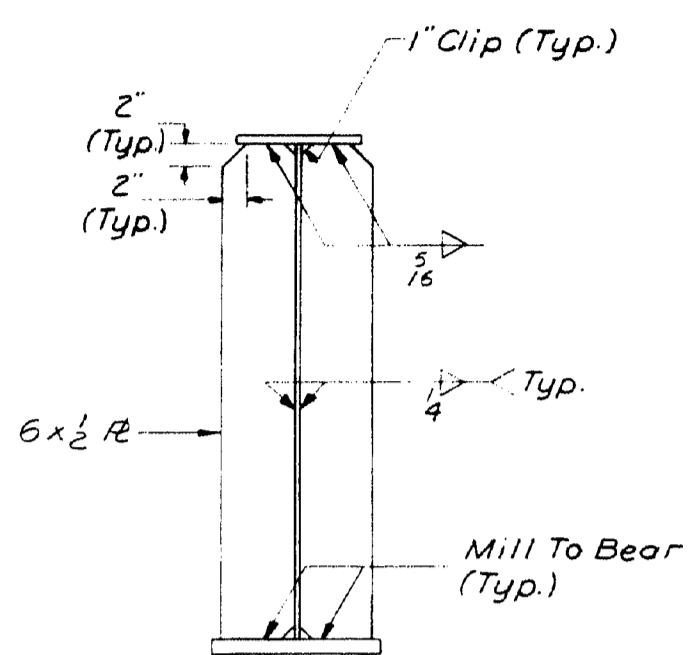
B. P. R. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	1-295-3 (33)	17	24



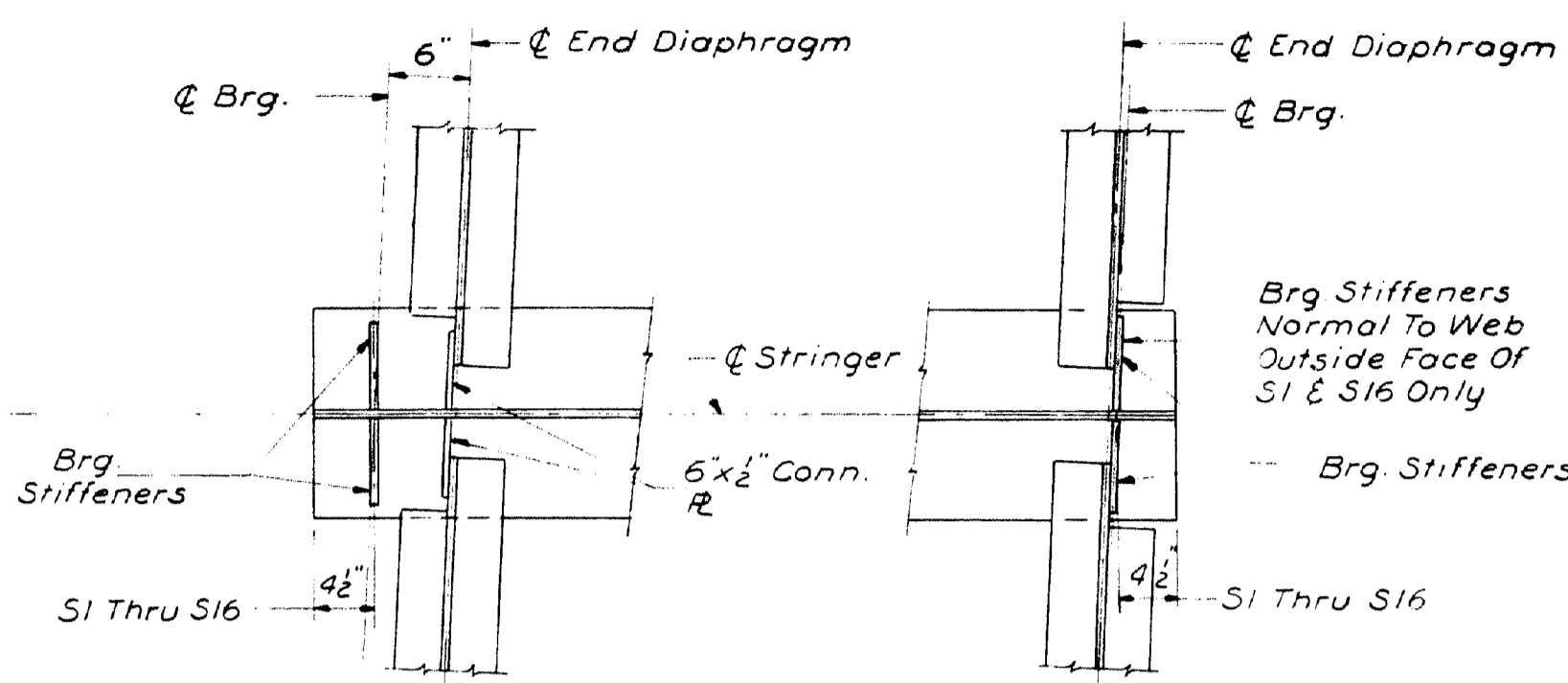
TYPICAL SHOP WEB SPLICE

NOTE:

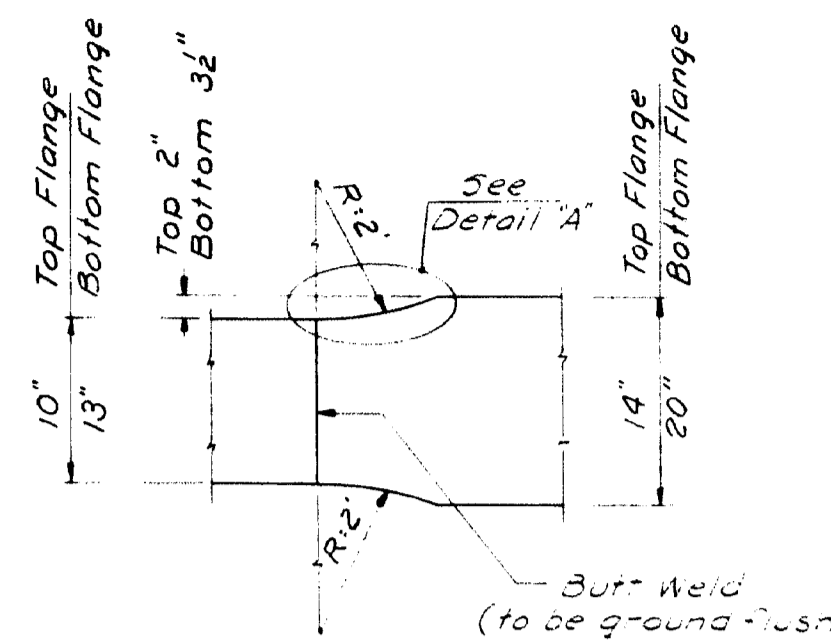
Not more than two shop web splices per beam will be permitted. These splices shall occur approximately at the 3 points of the beam. Field splicing of beams will not be permitted.



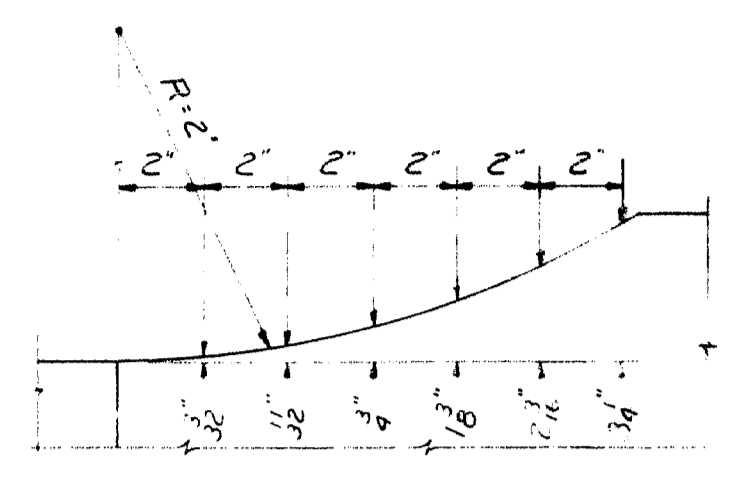
BEARING STIFFENER DETAIL



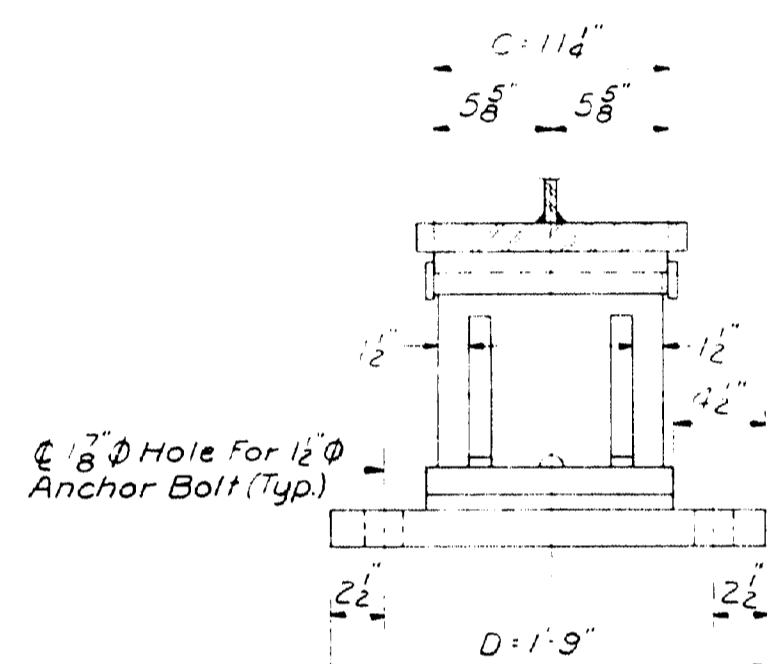
END OF STRINGER DETAIL



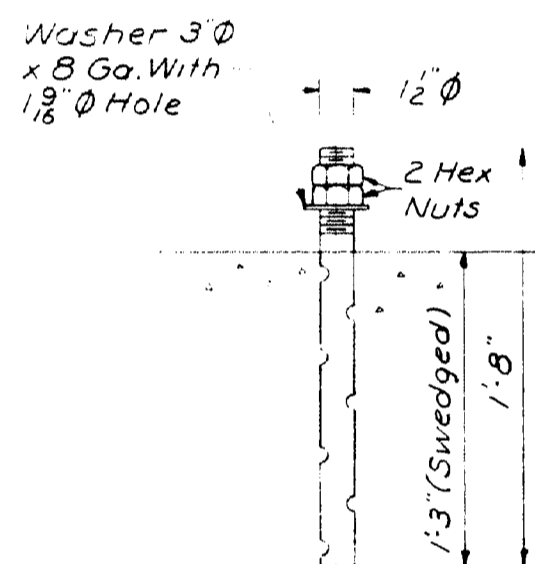
FLANGE WIDTH TRANSITION



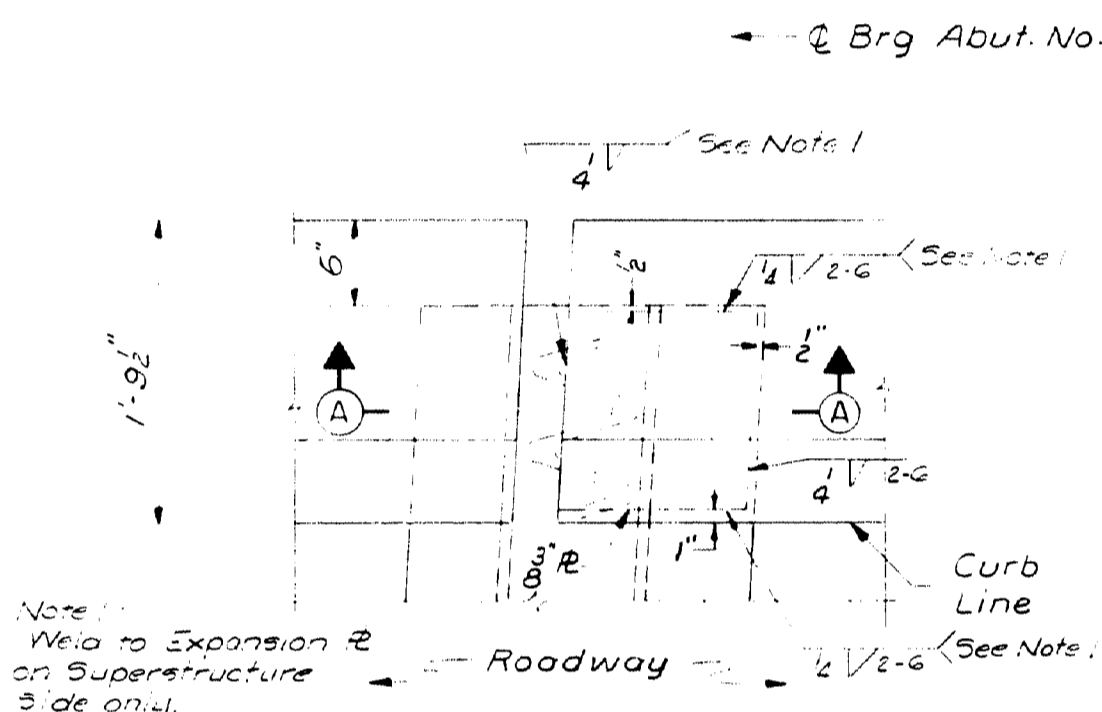
DETAIL A



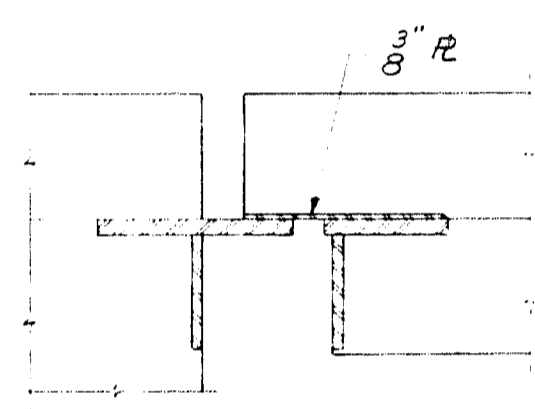
EPC-3A



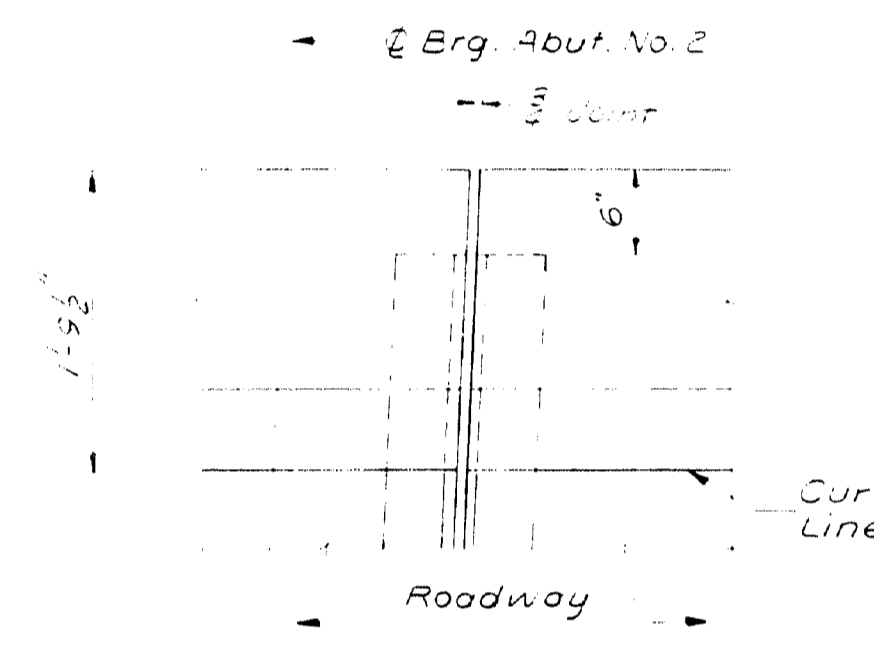
ANCHOR BOLT DETAIL



EXPANSION DAM AT SAFETY WALK



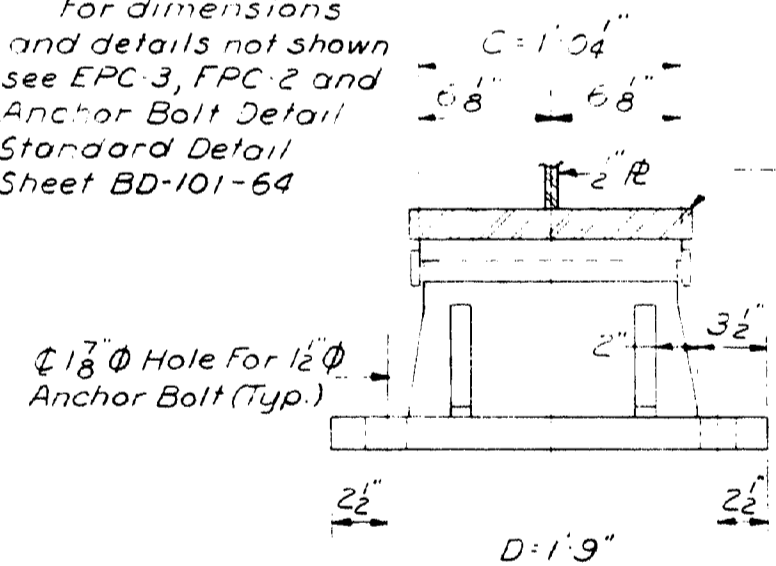
SECTION A-A



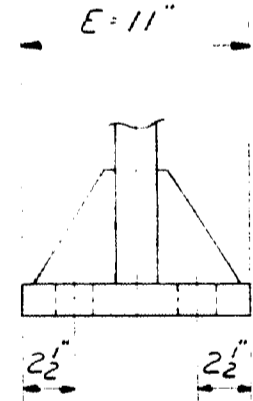
ARMORED JOINT AT SAFETY WALK

NOTE

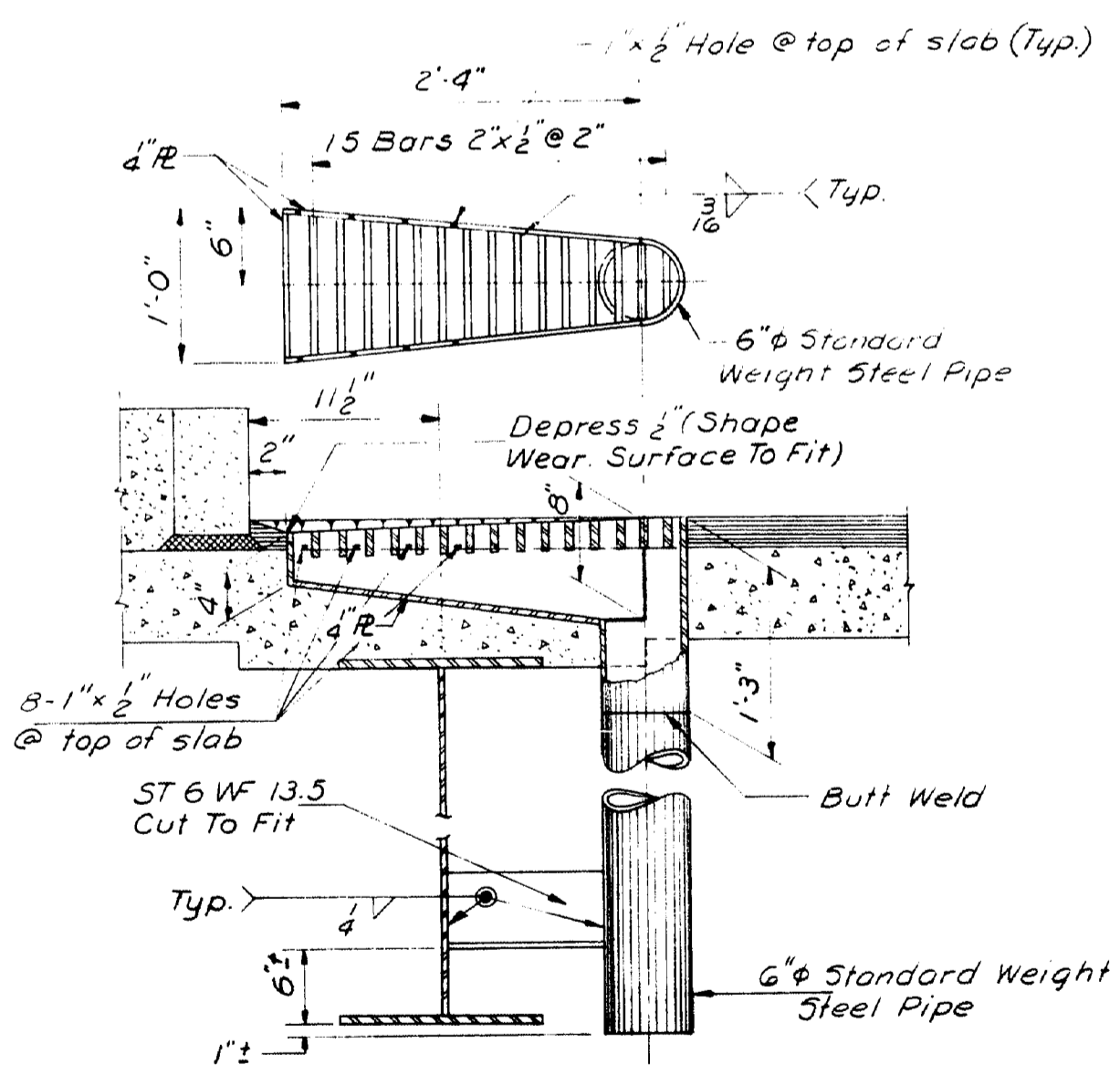
For dimensions and details not shown see EPC-3, FPC-2 and Anchor Bolt Detail Standard Detail Sheet BD-101-64



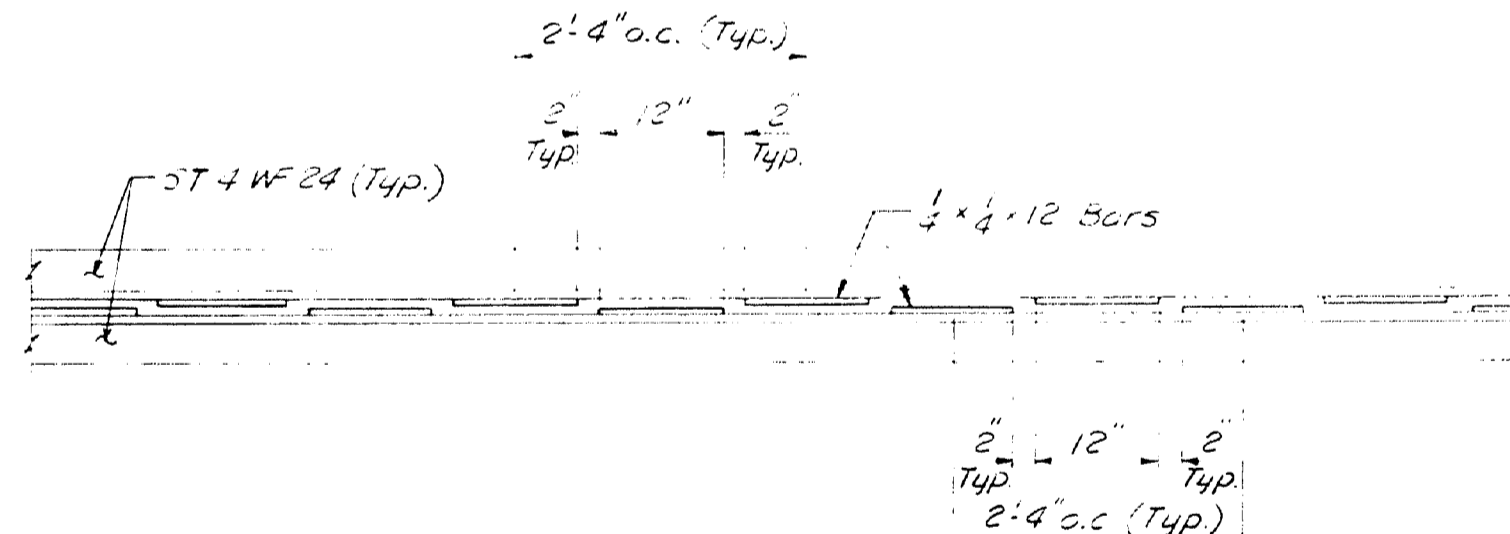
STANDARD PEDESTAL MODIFICATION



EPC-2A



SUPERSTRUCTURE DRAIN



PLAN - ARMORED JOINT

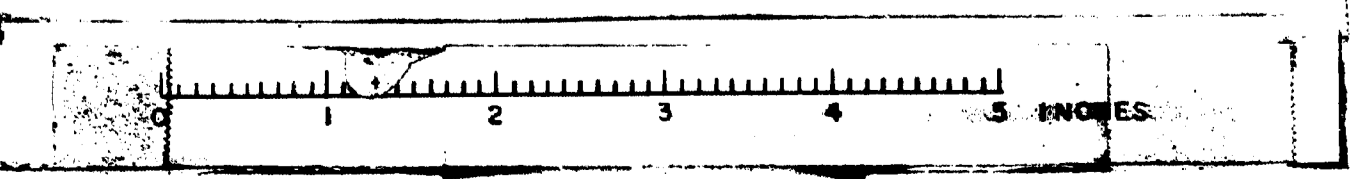
NOTE:

For section through Armored joint, see Detail C Sheet 11.

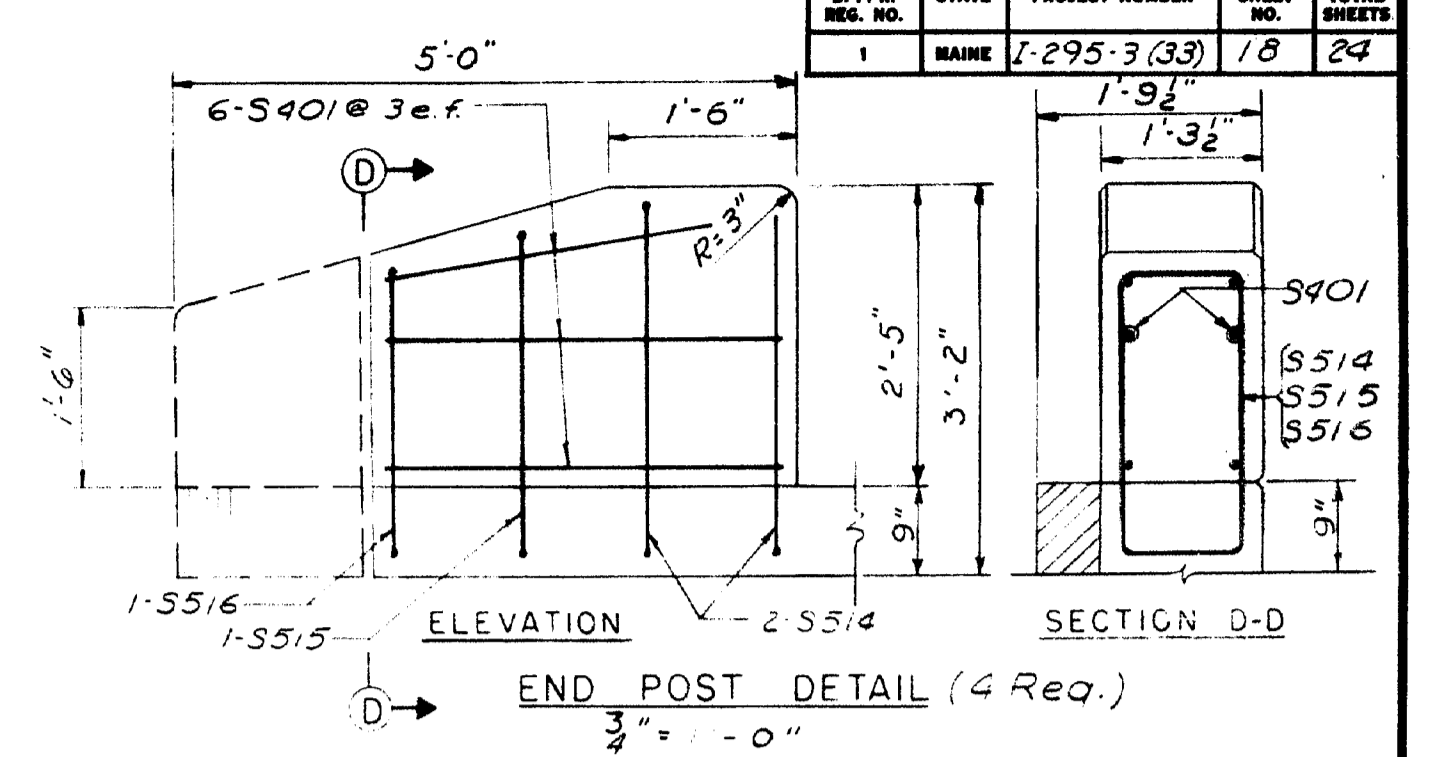
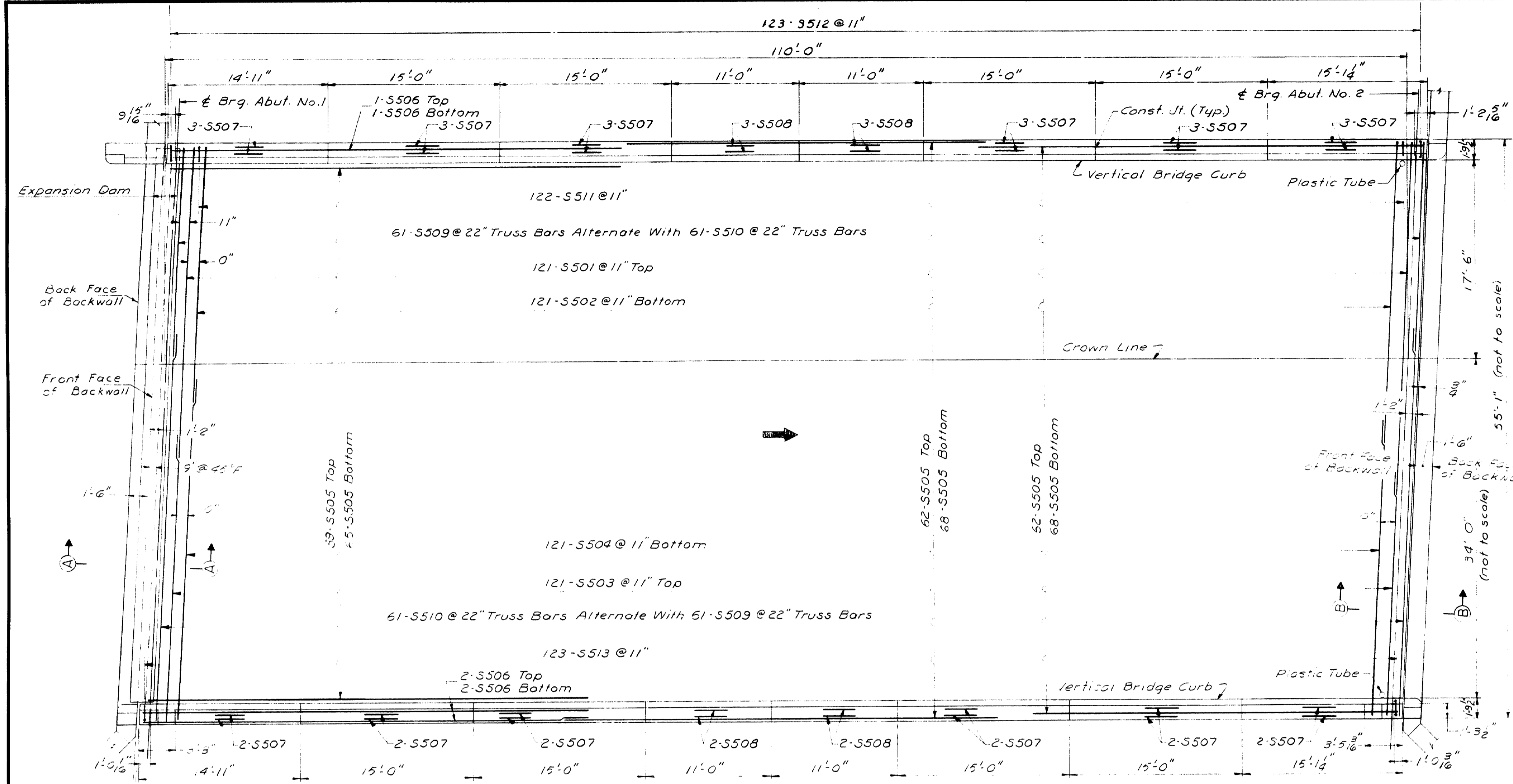
DESIGN - E.P.K.	DETAIL - R.D.F.	BRIDGE NO.
TRACE - S.M.	SURVEY -	104-71
CHECK - S.M.	PLAT -	

STATE HIGHWAY COMMISSION
BRIDGE DIVISION
INTERSTATE ROUTE 295
OVER
WESTBROOK ST.
IN THE CITY OF
SOUTH PORTLAND
CUMBERLAND COUNTY
STRUCTURAL STEEL DETAILS
SHEET 10 OF 15 AUGUSTA, MAINE SEPT. 1966

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
NEW YORK BOSTON KANSAS CITY



D. P. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	1-295-3(33)	18	24

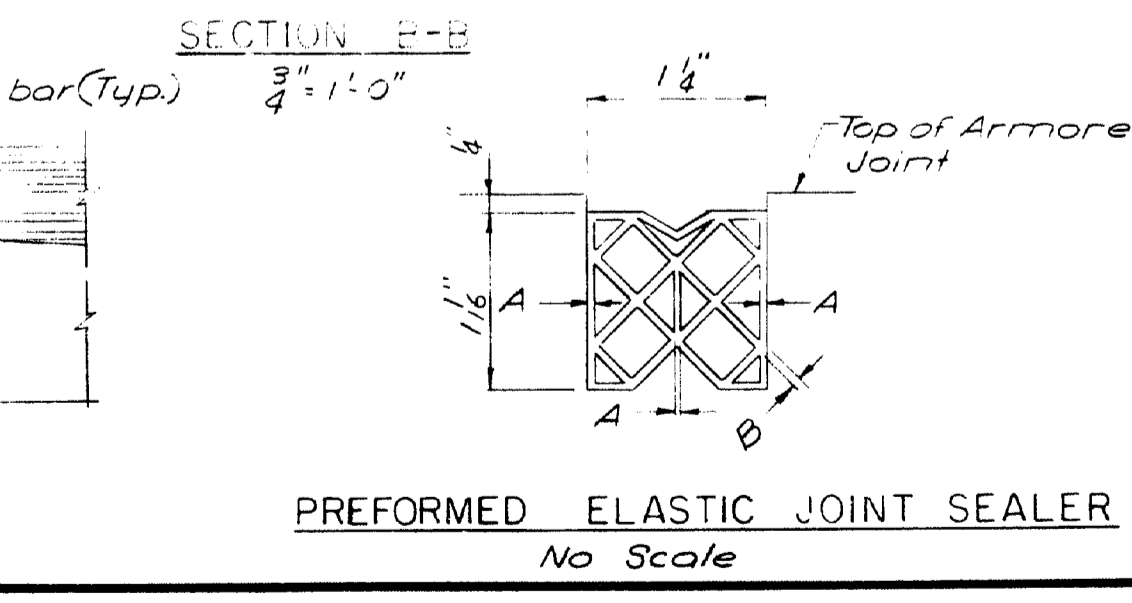
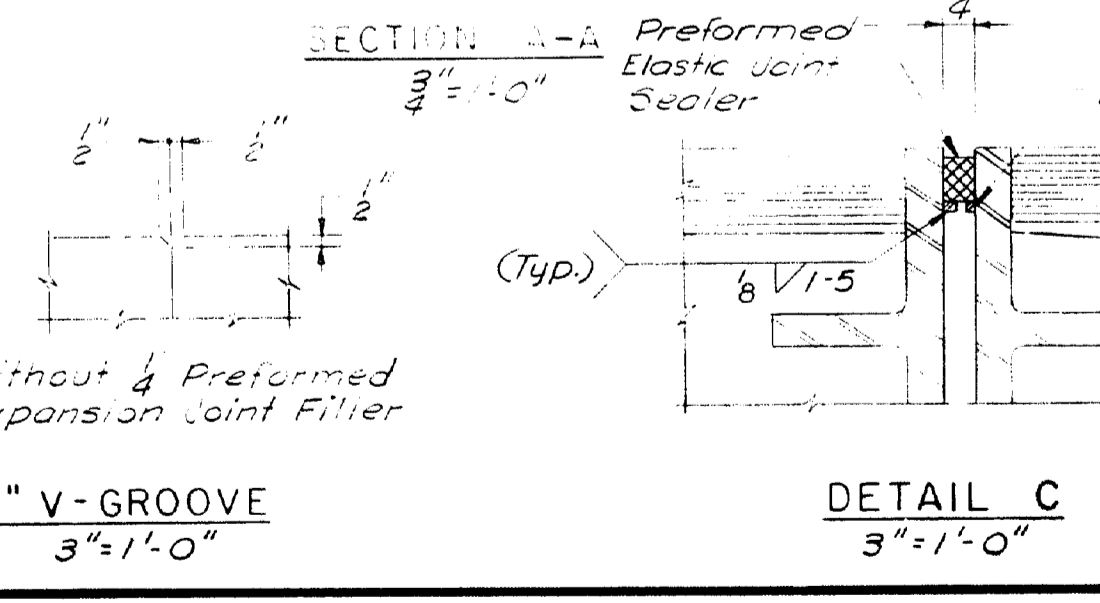
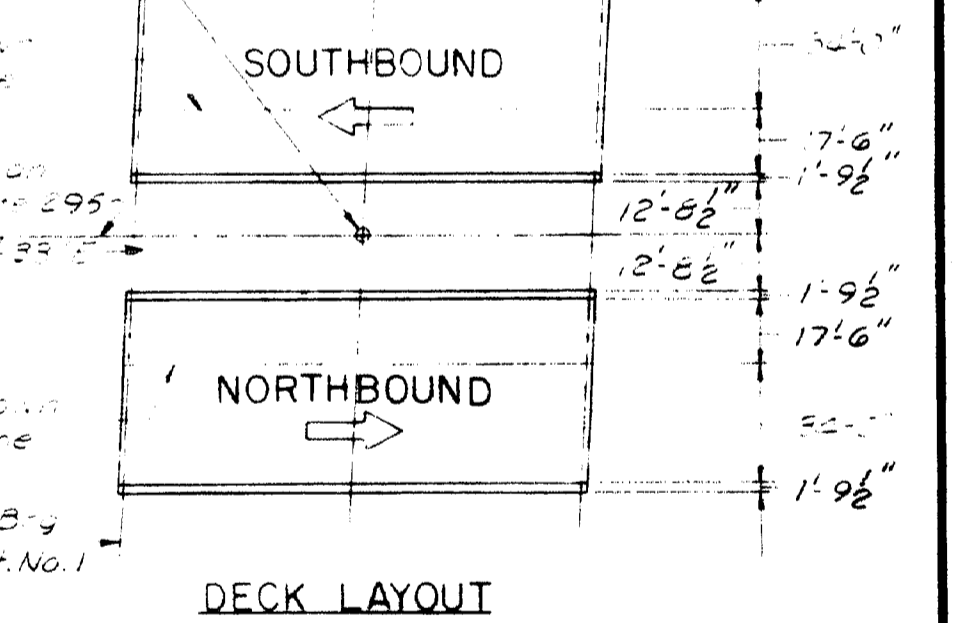
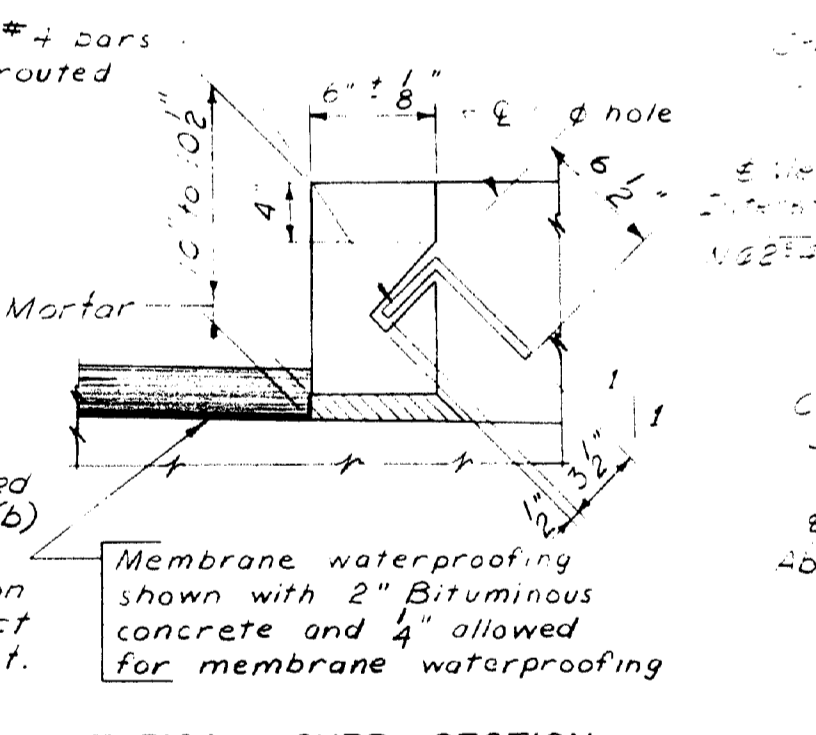
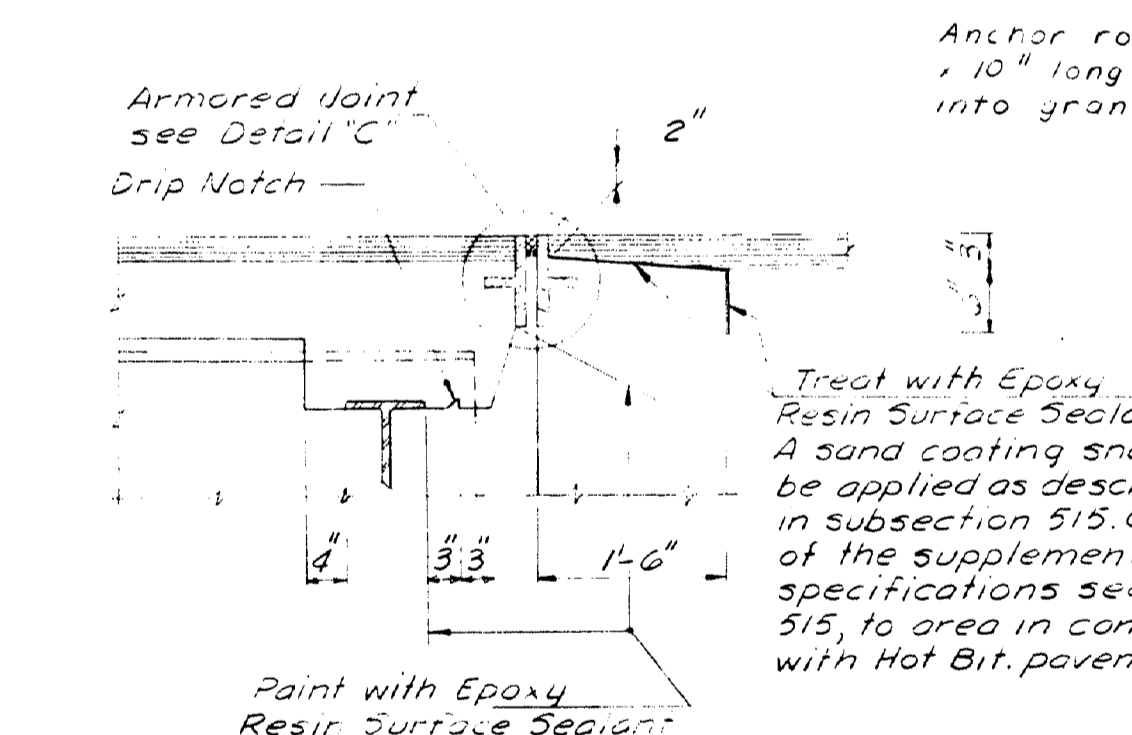
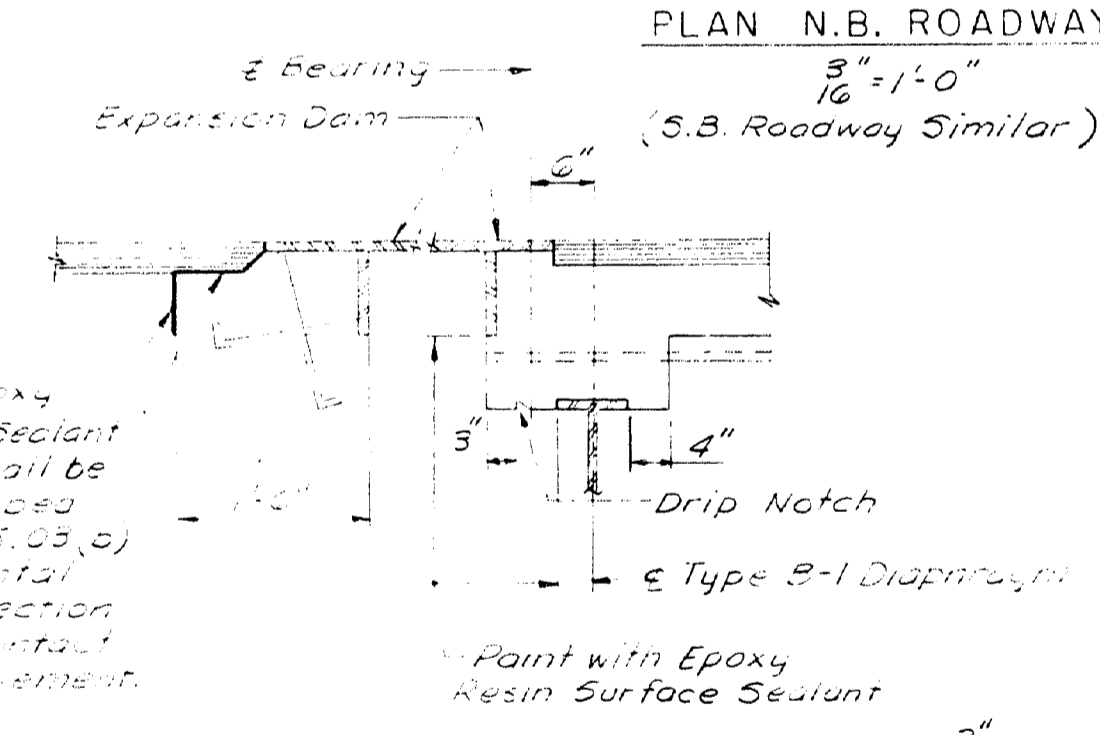
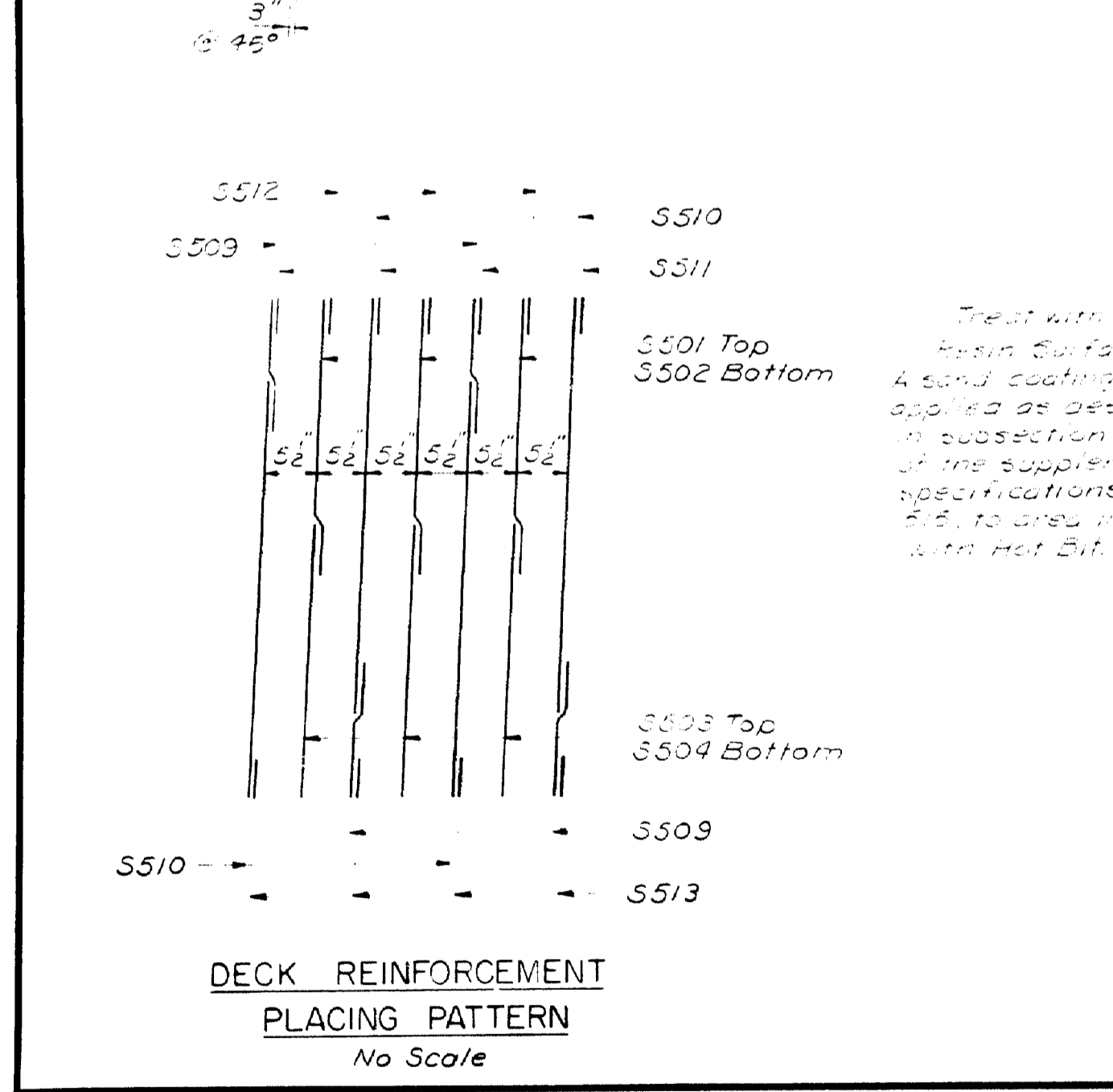
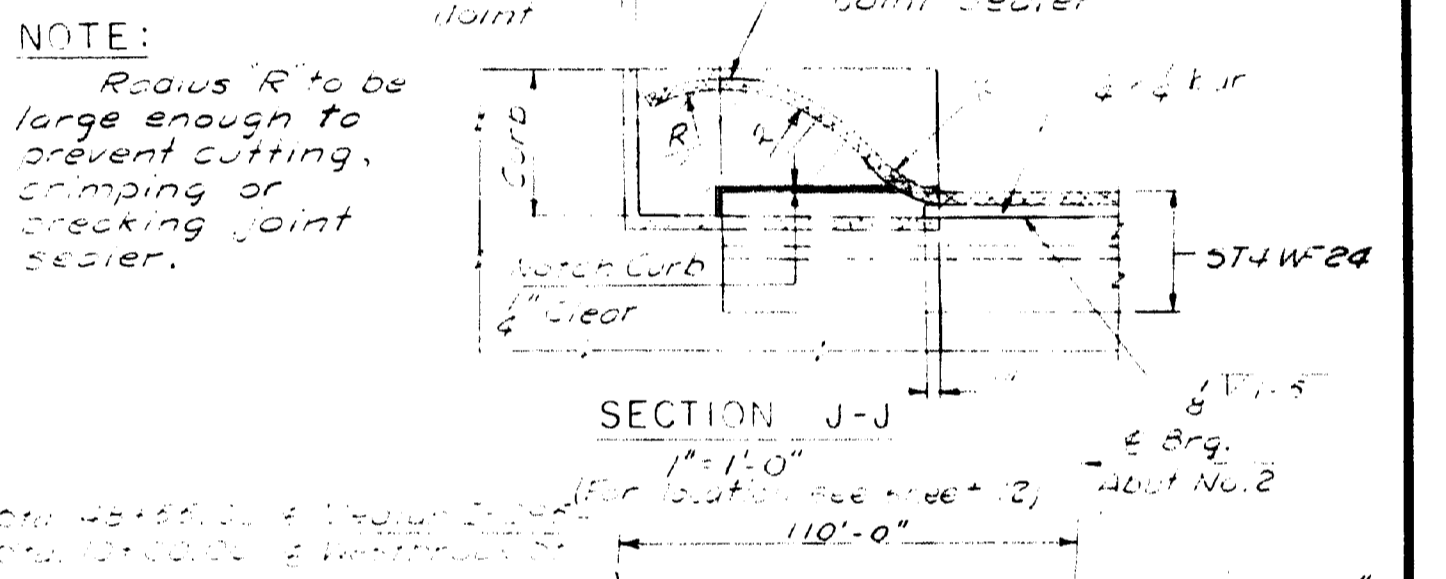


GENERAL SUPERSTRUCTURE NOTES

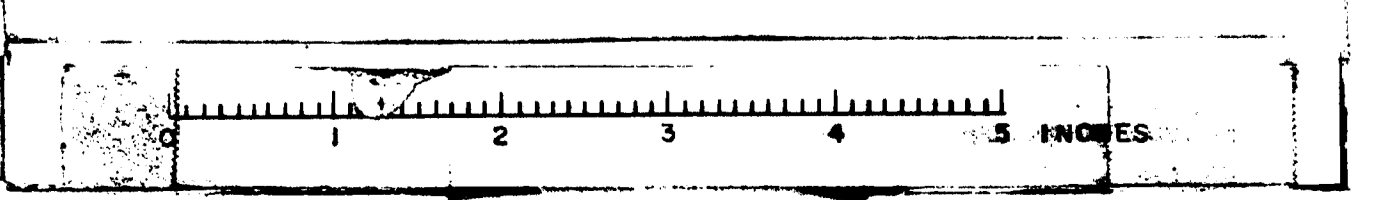
1. Vertical bridge curb joints break the bond between concrete surfaces with a 3/4" to 1" groove of asphalt joint. Form 1/4" groove on outside face of curb and side of each vertical joint. Provide joints in vertical bridge curb construction joints.
2. For bridge rail, see Standard Detail Sheets:

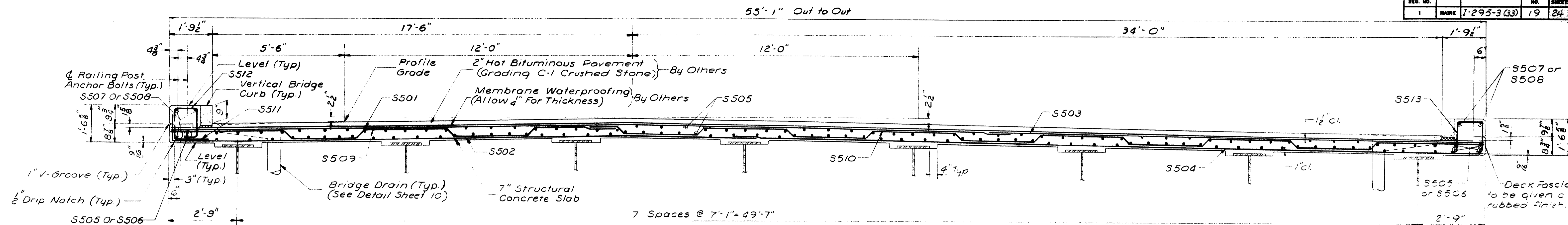
- HD 107-05 Steel Rail
- BD 105-05 Aluminum Rail and Sheet 12.

3. Vertical Bridge Curb will be used for under item 209.15.
4. For Transverse Section through deck, see Sheet 12.
5. For details of Expansion Dam, see Sheet 20 105-04.

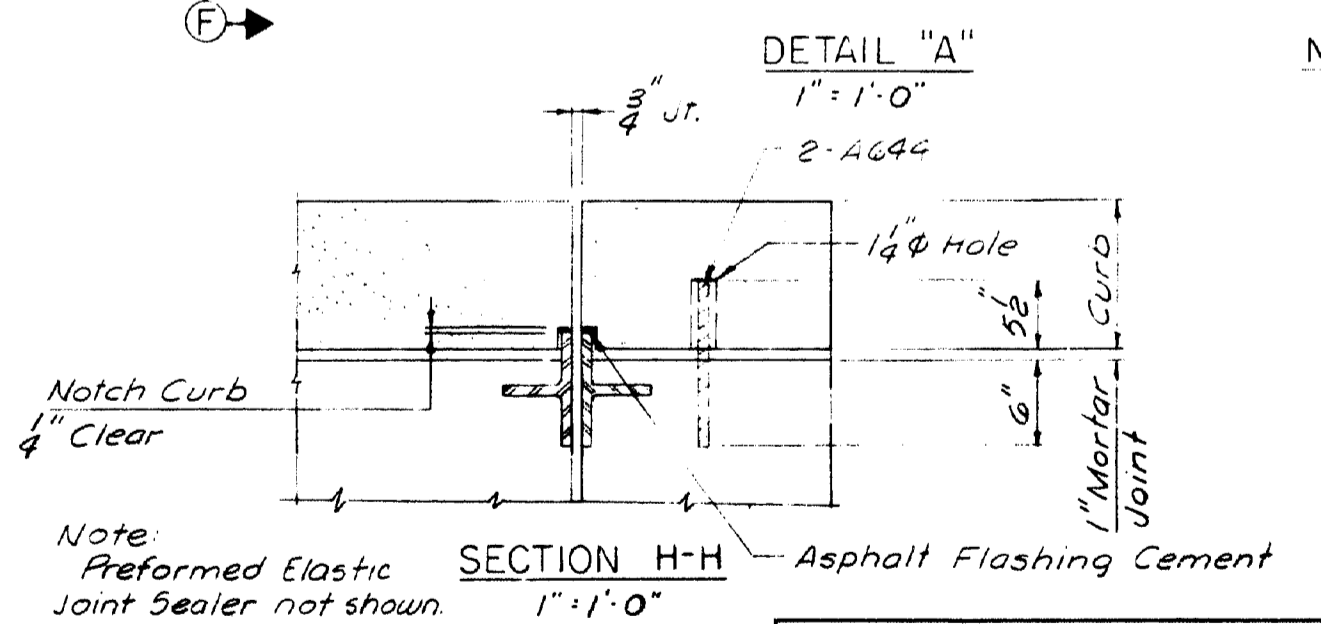
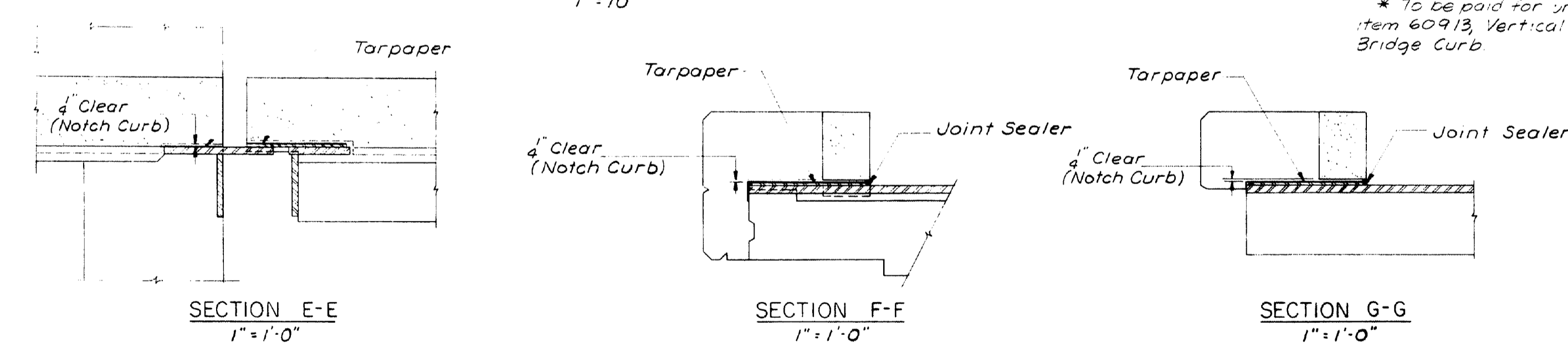
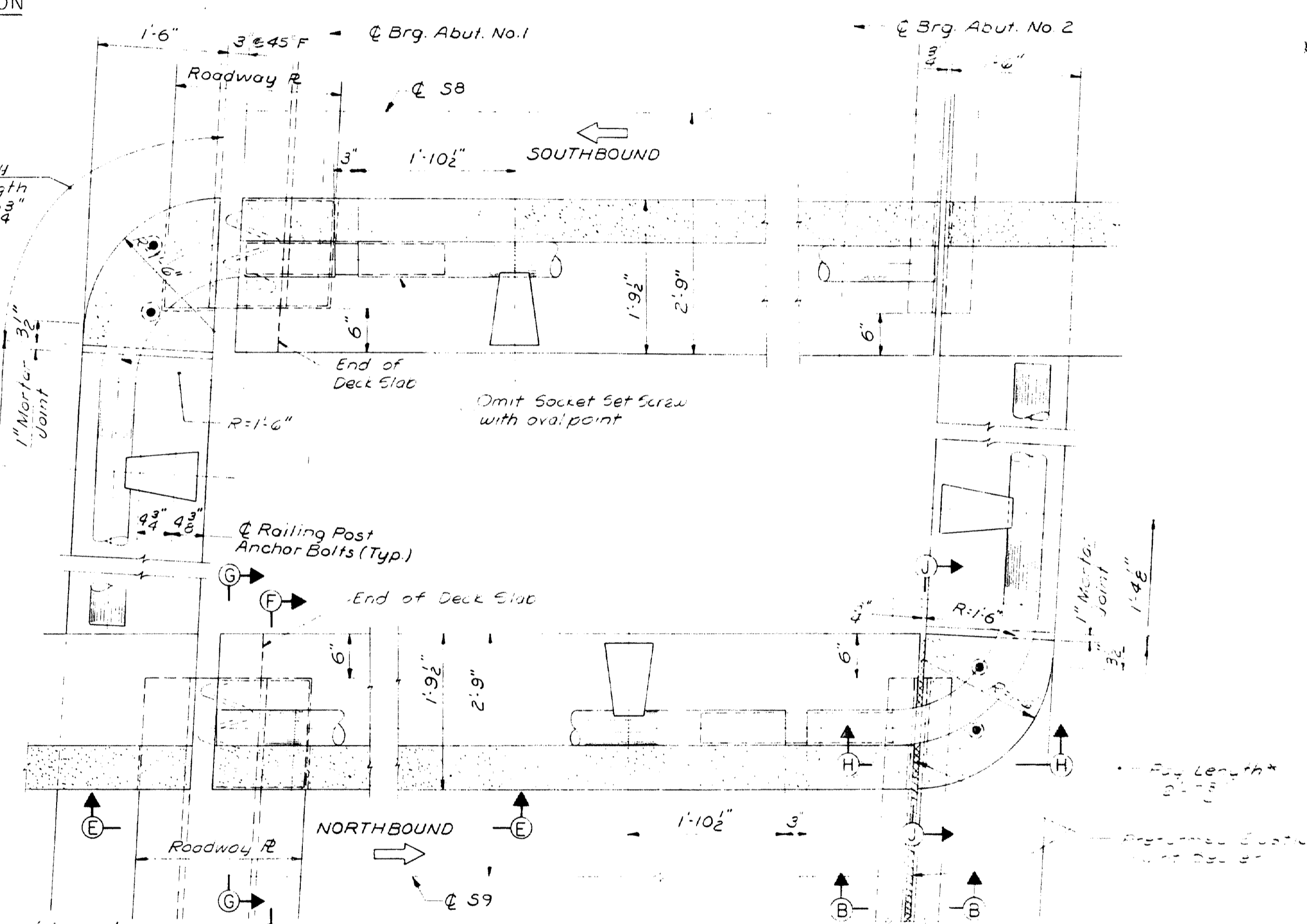
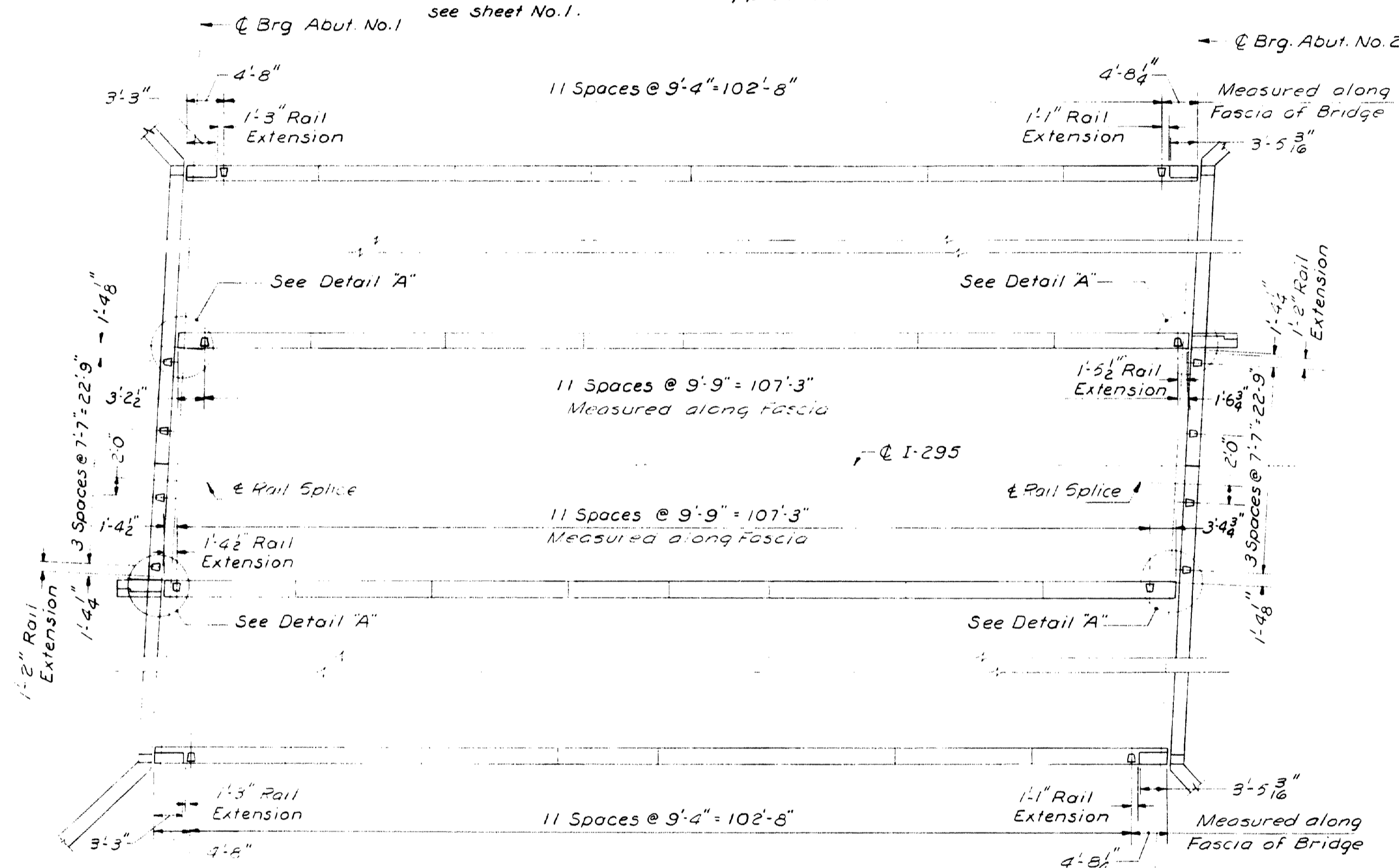


DESIGN - E.F.K. DETAIL - M.G.P. SURVEY - CHECK - S.M.	BRIDGE NO. SURVEY PLOT -
STATE HIGHWAY COMMISSION BRIDGE DIVISION	
INTERSTATE ROUTE 295 OVER WESTBROOK ST. IN THE CITY OF SOUTH PORTLAND CUMBERLAND COUNTY SUPERSTRUCTURE	
HOWARD, NEEDLES, TAMMEN & BERGENDOFF CONSULTING ENGINEERS	
NEW YORK BOSTON KANSAS CITY	
SHEET 11 OF 15 AUGUSTA, MAINE SEPT 1966	



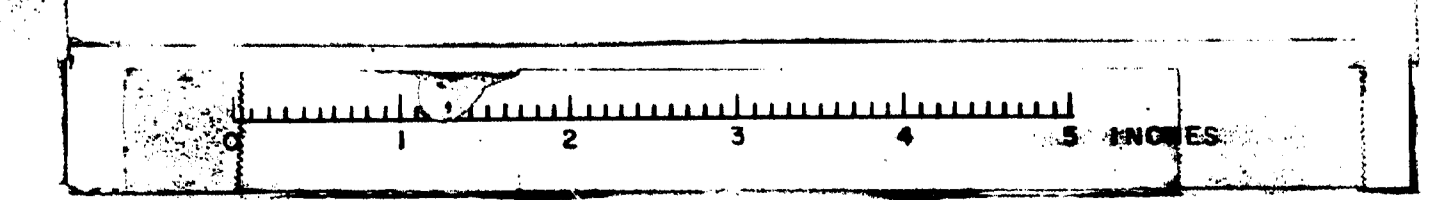


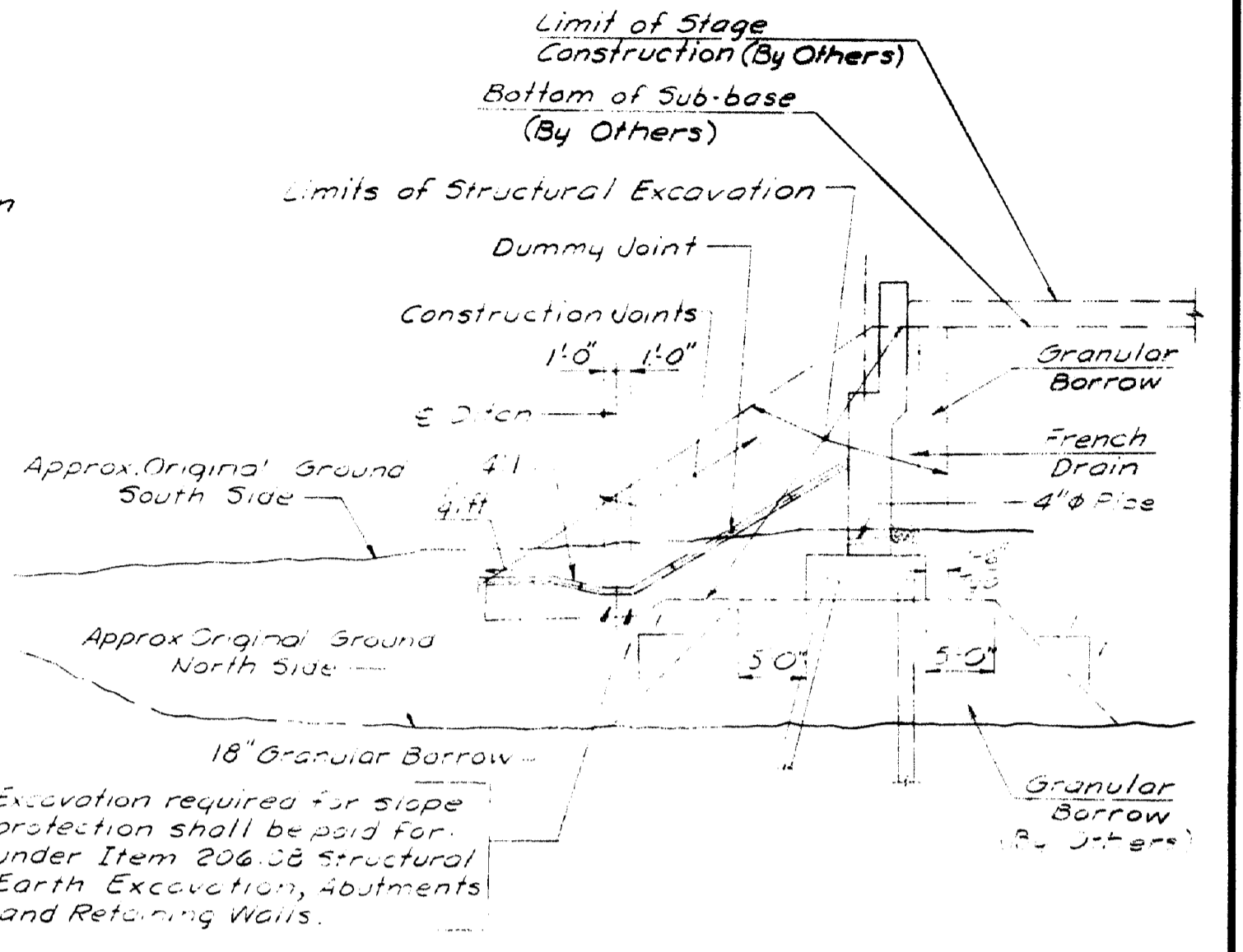
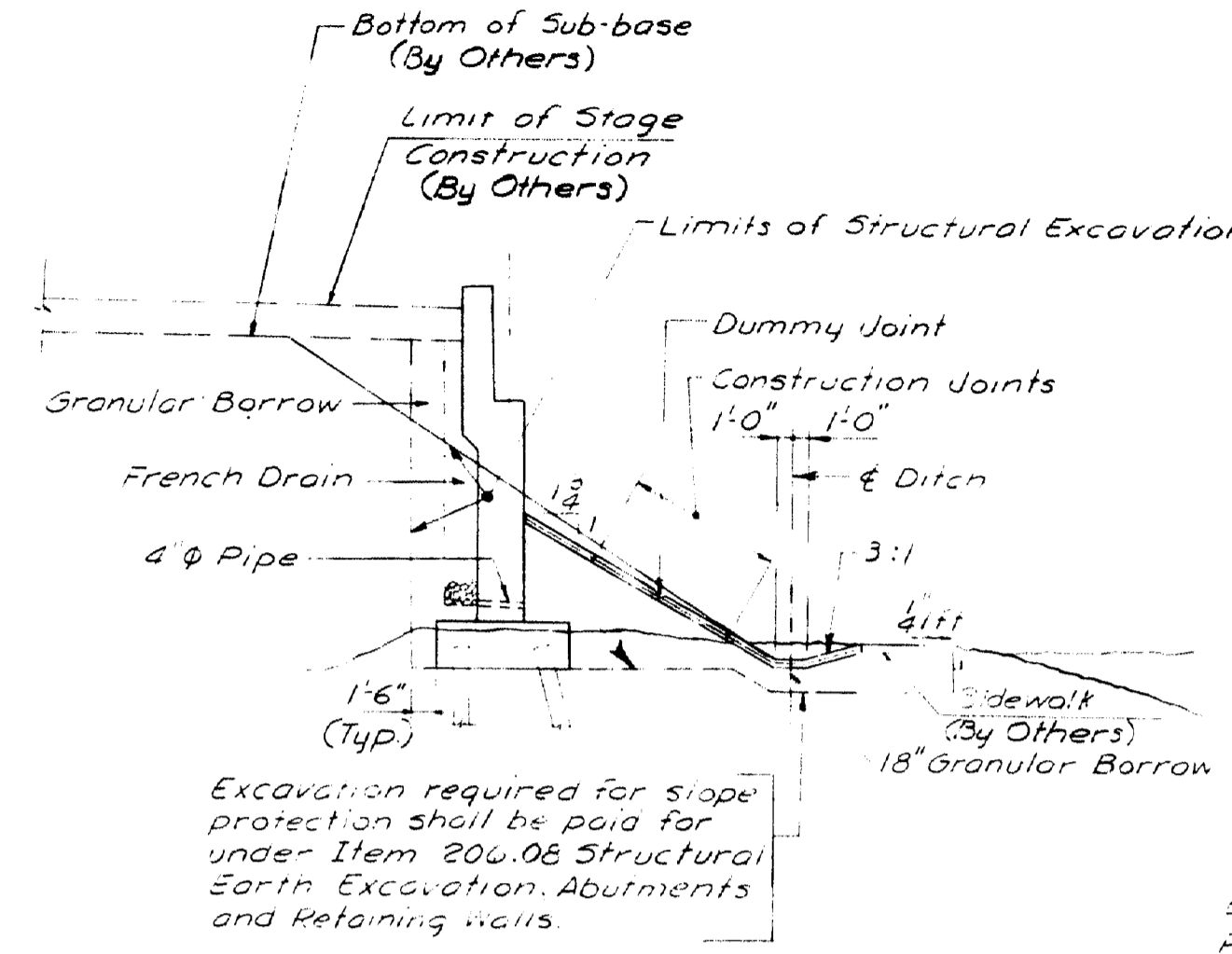
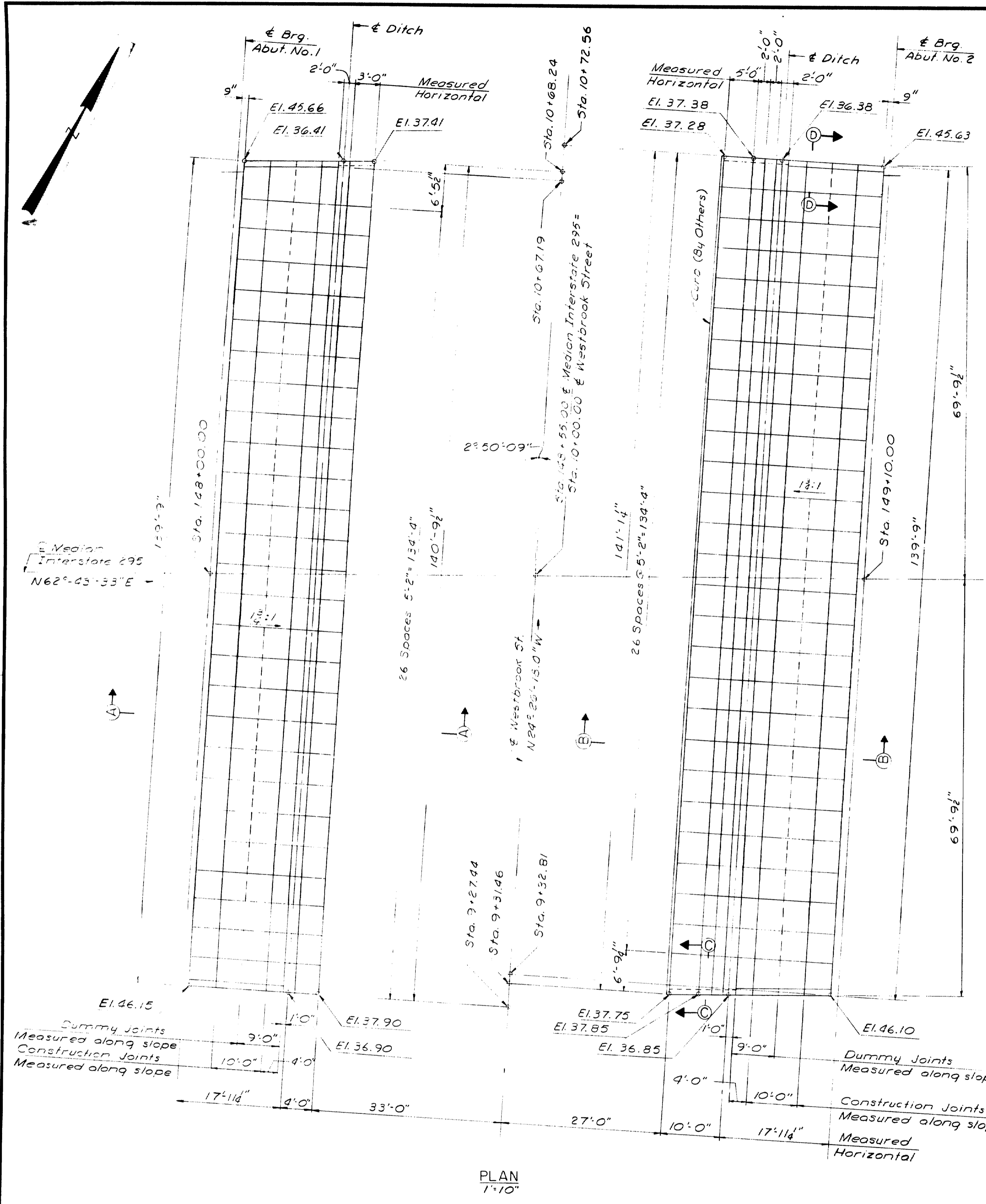
BRIDGE DRAIN NOTES:
 1. Two bridge drains on each side of span
 2. Drains shall be placed so they are at least 5'-0" clear of abutments; exact position to be determined in the field. For approximate locations see Sheet No. 1.



NOTES:
 1. For Section B-B, see Sheet 11.
 2. For Section U-U, see Sheet 11.

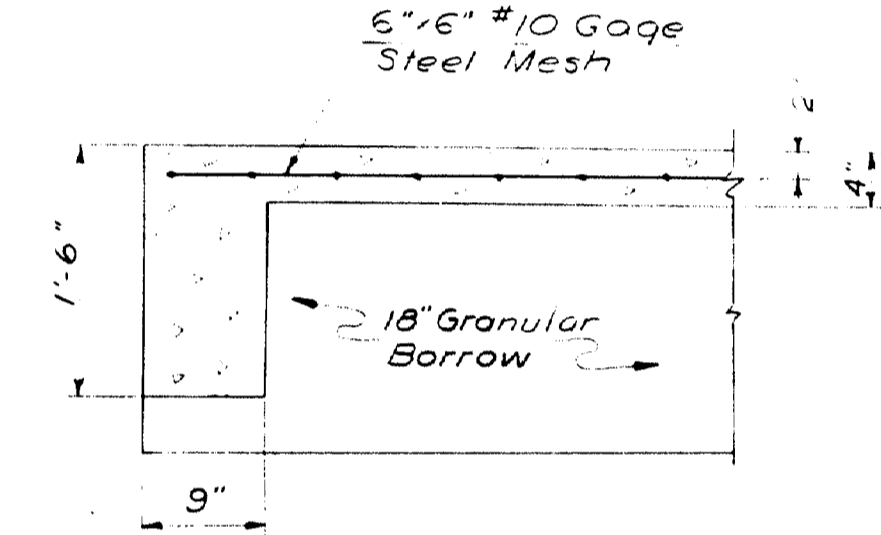
DESIGN - E.F.K. DETAIL - P.D.F. BRIDGE NO. SURVEY - PLOT -
 CHECK - S.M.
 STATE HIGHWAY COMMISSION
 BRIDGE DIVISION
 INTERSTATE ROUTE 295
 OVER
 WESTBROOK ST.
 IN THE CITY OF
 SOUTH PORTLAND
 CUMBERLAND COUNTY
 SUPERSTRUCTURE DETAILS
 HOWARD, NEEDLES, TAMMEN & BERGENDOFF
 CONSULTING ENGINEERS
 NEW YORK BOSTON KANSAS CITY
 SHEET 12 OF 15 AUGUSTA, MAINE SEPT. 1966



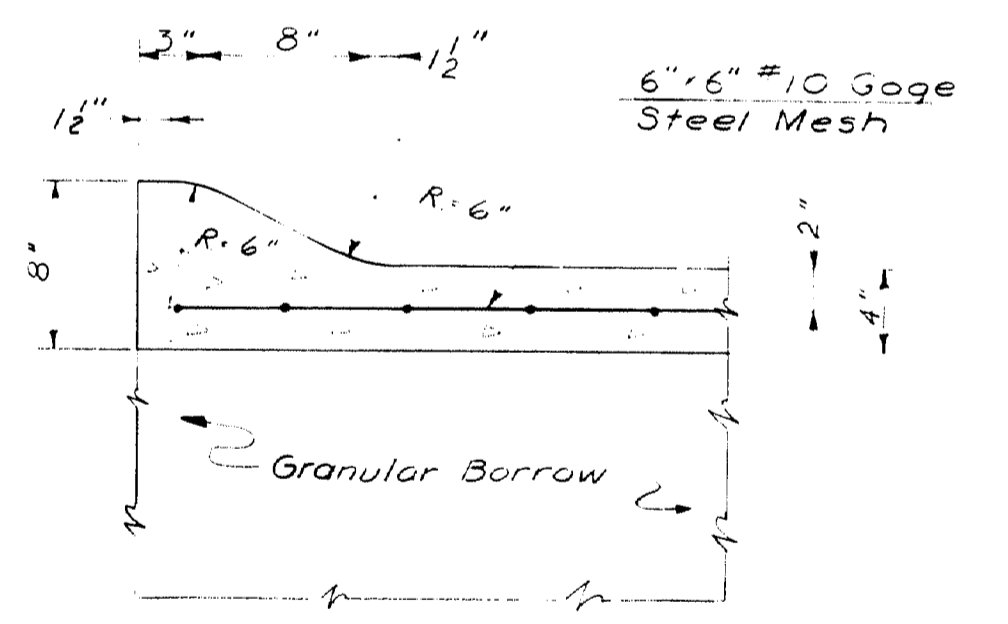


SECTION A-A
1"=10'

SECTION B-B
1"=10'



SECTION C-C
1"=1'-0"

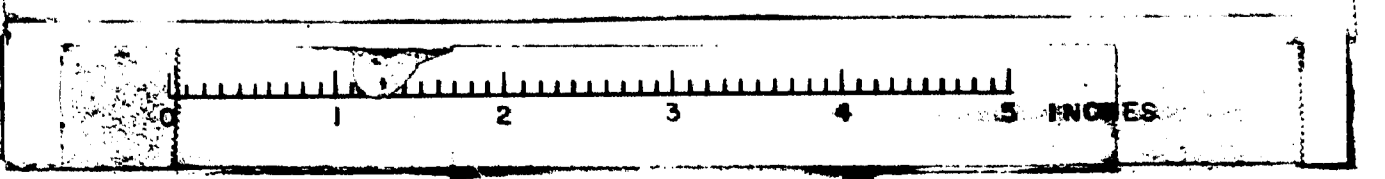


SECTION D-D
1/2"=1'-0"

- NOTES:
1. Break bond at construction joints with a coat of asphalt paint.
 2. Reinforce with #10 gage 6"x6" steel mesh not to pass through construction joints.
 3. Dummy joints shall be made with a sidewalk edging tool to a depth of 4".
 4. The 18" of Granular Borrow under slope protection may be reduced or omitted, if in the opinion of the Engineer the existing material is suitable.

DESIGN - E.F.K.	DETAIL - E.B.	BRIDGE NO.
TRACE - S.M.	CHECK - S.M.	SURVEY PLOT -
STATE HIGHWAY COMMISSION BRIDGE DIVISION INTERSTATE ROUTE 295 OVER WESTBROOK ST. IN THE CITY OF SOUTH PORTLAND CUMBERLAND COUNTY SLOPE PROTECTION		
HOWARD, NEEDLES, TAMMEN & BERGENOFF CONSULTING ENGINEERS <small>NEW YORK BOSTON KANSAS CITY</small>		SHEET 13 OF 15 AUGUSTA, MAINE SEPT 1966

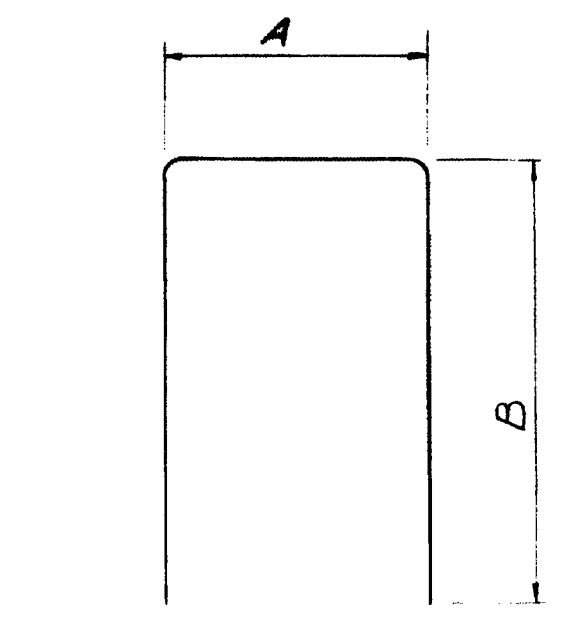
104-74 SOUTH PORTLAND



MARK	SIZE	NUMBER	LENGTH	INCR.	LOCATION
ABUTMENT NO. 1					
STRAIGHT BARS					
A401	4	2	15'-2"		Median Backwall
A402	4	2	9'-4"		" "
A403	4	2	16'-11"		" "
A404	4	2	11'-1"		Median "
A405	4	8	6'-0"		" "
A406	4	6	23'-6"		" "
A407	4	6	17'-6"		" "
A408	4	20	20'-6"		Backwall
A409	4	4	4'-6"		End Post
A410	4	20	25'-0"		Backwall
A501	5	121	2'-6"		Footing Dowels
A502	5	93	9'-6"		Stem
A503	5	186	6'-0"		Backwall
A504	5	101	3'-3"		Backwall Dowels
A505	5	10	12'-3"		Stem
A506	5	22	6'-9"		Backwall and Wingwall
A507	5	8	5'-1"		Closure Wall
A508	5	40	20'-6"		Stem
A509	5	20	17'-6"		" "
A510	5	20	23'-6"		" "
A511	5	40	25'-4"		Stem
A512	5	40	8'-2"		Wingwall
A513	5	36	6'-9"		" "
A514	5	18	13'-0"		" "
A515	5	20	5'-11"		" "
A516	5	12	3'-3"		" "
A517	5	20	6'-3"		Wingwall
A602	6	36	5'-6"		Stem
A603	6	6	12'-3"		Stem
A604	6	2	1'-0"		Curb Dowels
A605	6	3	3'-0"		End Post Dowels
A606	6	16	6'-3"		Wingwall
A607	6	18	13'-0"		Wingwall
BENT BARS					
A430	4	28	5'-5"		Pad
A431	4	28	6'-2"		Pad
A432	4	10	3'-11"		Backwall
A433	4	10	4'-9"		Backwall
A434	4	6	4'-4"		End Post
A435	4	4	12'-5"		End Post
A436	4	2	1'-11"		Curb
A437	4	2	2'-9"		Curb
A438	4	8	6'-8"		Closure Wall
A530	5	93	4'-8"		Stem
A531	5	71	6'-0"		Backwall Dowels
A532	5	18	4'-6"		Median Backwall
A533	5	16	5'-0"		Stem
A534	5	2	8'-7"		End Post
A535	5	2	8'-6"		" "
A536	5	1	6'-4"		" "
A537	5	1	6'-0"		End Post
A538	5	4	13'-9"		Wingwall
A601	6	42	6'-7"		Footing Dowels
A630	6	72	3'-6"		Approach Slab Dowels
A631	6	3	5'-0"		End Post Dowels
A632	6	2	10'-6"		End Post
A730	7	34	6'-8"		Footing Dowels

MARK	SIZE	NUMBER	LENGTH	INCR.	LOCATION
FOOTING, ABUTMENT NO. 1					
STRAIGHT BARS					
F607	6	54	7'-9"		Footing
STRAIGHT BARS					
F501	5	247	5'-8"		Footing
F502	5	12	34'-6"		" "
F503	5	12	35'-9"		" "
APPROACH SLAB, ABUTMENT NO. 1					
STRAIGHT BARS					
A5401	4	44	34'-6"		Approach Slab
A5402	4	44	17'-9"		" "
A5601	6	416	14'-6"		Approach Slab
ABUTMENT NO. 2					
STRAIGHT BARS					
A441	4	2	15'-2"		Median Backwall
A442	4	2	9'-4"		" "
A443	4	2	16'-11"		" "
A444	4	2	11'-1"		Median "
A445	4	8	6'-0"		" "
A446	4	6	23'-6"		" "
A447	4	6	17'-6"		" "
A448	4	20	20'-6"		Backwall
A449	4	4	4'-6"		End Post
A450	4	20	25'-0"		Backwall
A541	5	117	2'-6"		Footing Dowels
A542	5	93	9'-0"		Stem
A543	5	186	5'-1"		Backwall
A544	5	101	3'-9"		Backwall Dowels
A545	5	10	11'-0"		Stem
A546	5	18	6'-4"		Backwall
A547	5	8	4'-9"		Closure Walls
A548	5	36	20'-6"		Stem
A549	5	18	17'-6"		" "
A550	5	18	23'-6"		" "
A551	5	36	25'-4"		Stem
A552	5	36	5'-8"		Wingwall
A553	5	20	6'-3"		" "
A554	5	4	6'-9"		" "
A555	5	20	5'-11"		" "
A556	5	8	3'-0"		Wingwall
A557	5	14	13'-0"		Wingwall
A558	5	28	4'-3"		Wingwall
A642	6	136	9'-2"		Stem
A643	6	6	11'-0"		Stem
A644	6	2	1'-0"		Curb Dowels
A645	6	3	3'-0"		End Post Dowels
A646	6	12	6'-3"		Wingwall
A647	6	14	13'-0"		Wingwall
BENT BARS					
A460	4	28	4'-11"		Pad
A461	4	28	5'-8"		Pad
A462	4	10	3'-11"		Backwall
A463	4	10	4'-9"		Backwall
A464	4	6	4'-4"		End Post
A465	4	4	12'-5"		End Post
A466	4	2	1'-11"		Curb
A467	4	2	2'-9"		Curb
A468	4	8	6'-8"		Closure Wall
A560	5	93	4'-8"		Stem
A561	5	91	7'-6"		Backwall Dowels
A562	5	18	5'-6"		Median Backwall
A563	5	14	5'-0"		Backwall
A564	5	6	8'-7"		End Post
A565	5	2	8'-6"		" "
A566	5	1	6'-4"		" "
A567	5	1	6'-0"		End Post
A568	5	4	11'-0"		Wingwall
A640	6	142	6'-7"		Footing Dowels
A650	6	72	3'-6"		Approach Slab Dowels
A661	6	3	5'-0"		End Post Dowels

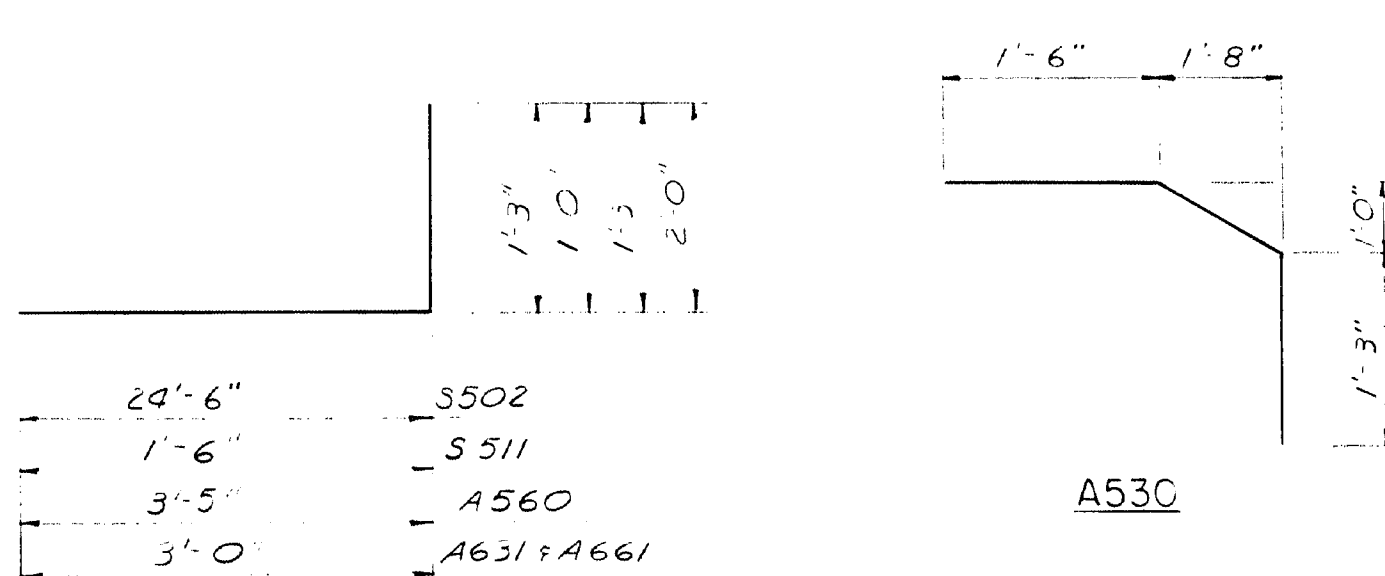
* Abutment No. 2 continued Sheet 15.



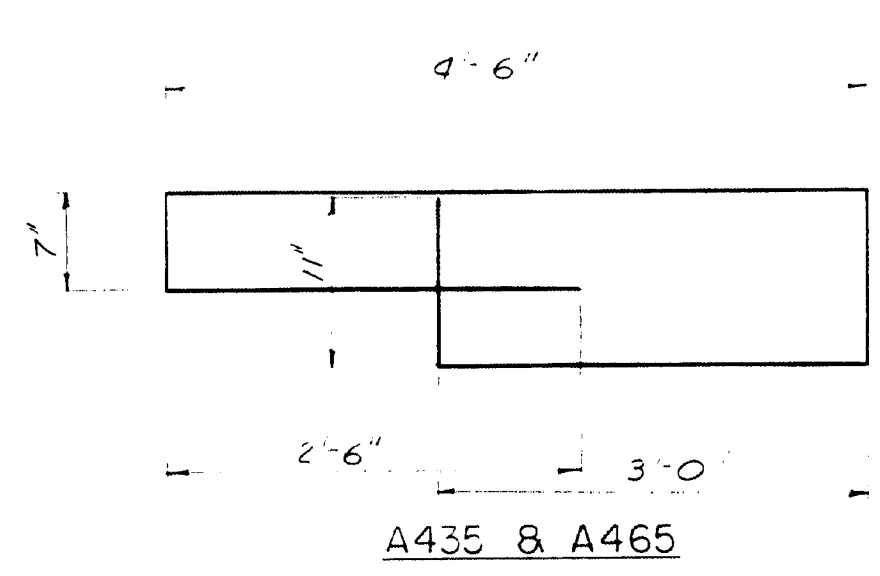
NOTE
For dimensions A and B
see Table I

TABLE I

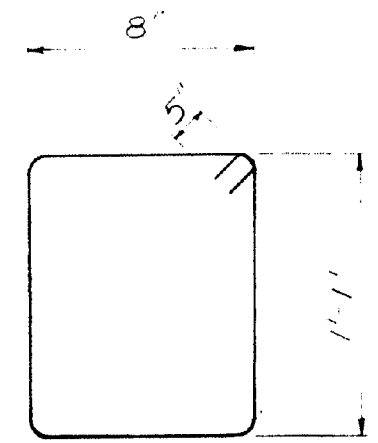
MARK	A	B
A430	1'-5"	2'-0"
A431	2'-2"	2'-0"
A438	8"	3'-0"
A460	1'-5"	1'-9"
A461	2'-2"	1'-9"
A468	8"	3'-0"
A532	1'-2"	1'-8"
A534	7"	4'-0"
A535	10"	3'-10"
A536	10"	2'-9"
A537	6"	2'-9"
A562	1'-2"	2'-2"
A564	7"	4'-0"
A565	10"	3'-10"
A566	10"	2'-9"
A567	6"	2'-9"
A632	10"	4'-10"
A662	10"	4'-10"



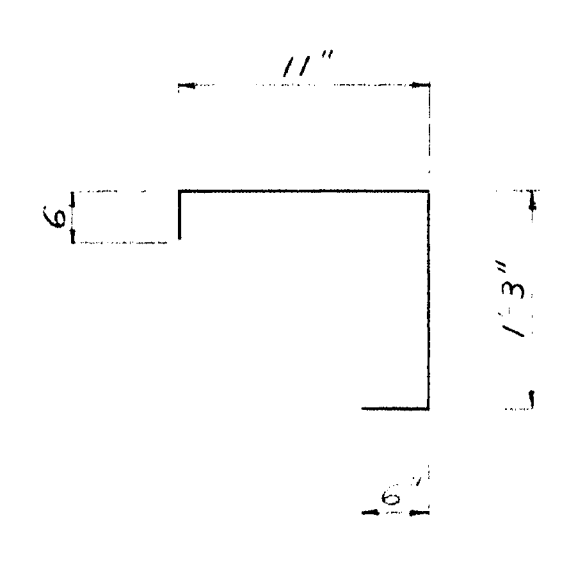
S502, S511, A560,
A631 & A661



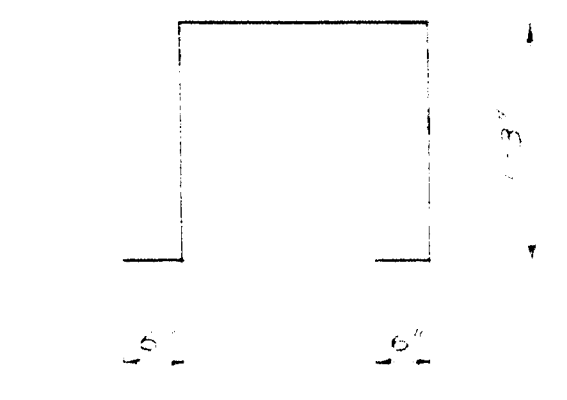
A435 & A465



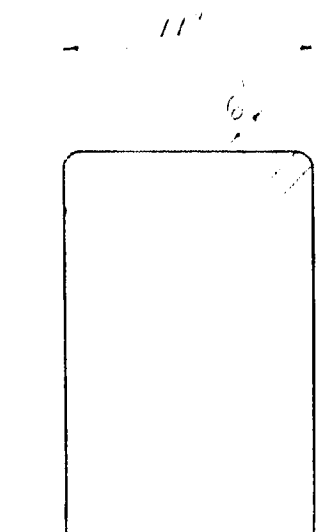
A434 & A464



S512



S513

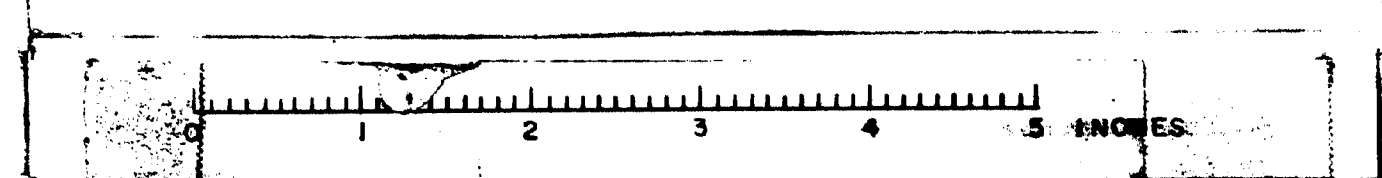


S514, S515 & S516

NOTES
1. All dimensions are to the face of bars.
2. All reinforcing bars shall be intermediate grade steel.
3. Reinforcing steel to have 1/2" minimum cover, unless otherwise shown.

DESIGN - E.K.	DETAIL - S.H.R.	BRIDGE NO.
TRACE - C.L.C.		SURVEY -
CHECK - R.E.F.		PLAT -
STATE HIGHWAY COMMISSION BRIDGE DIVISION		
INTERSTATE ROUTE 295 OVER WESTBROOK ST. IN THE CITY OF SOUTH PORTLAND CUMBERLAND COUNTY REINFORCING STEEL		
HOWARD, NEEDLES, TAMMEN & BERGENDOFF CONSULTING ENGINEERS NEW YORK BOSTON KANSAS CITY	SHEET 14 OF 15 AUGUSTA, MAINE SEPT. 1966	

104-75 SOUTH PORTLAND



MARK	SIZE	NUMBER	LENGTH	INCR.	LOCATION
ABUTMENT NO. 2 (CONTINUED)					
BENT BARS					
A662	6	2	10'6"		End Post
A760	7	26	6'8"		Footing Dowel
FOOTING, ABUTMENT NO. 2					
STRAIGHT BARS					
F651	6	120	8'0"		Footing
F652	6	18	34'6"		"
F653	6	14	6'0"		"
F654	6	18	33'9"		Footing
F655	6	24	10'0"		Footing
F656	6	22	12'2"		"
F657	6	46	7'9"		"
F55	5	247	5'8"		Footing
F552	5	12	34'6"		"
F553	5	12	33'9"		"
APPROACH SLAB, ABUTMENT NO. 2					
STRAIGHT BARS					
A344	2	44	34'6"		Approach Slab
A342	4	44	17'9"		"
A364	6	416	14'6"		Approach Slab
SUPERSTRUCTURE, NORTHBOUND					
STRAIGHT BARS					
S501	5	121	35'0"		Slab Transverse
S503	5	121	21'0"		"
S504	5	121	31'6"		Slab Transverse
S505	5	384	37'9"		Longitudinal Slab
S506	5	6	38'9"		Longitudinal Slab
S507	5	30	14'8"		Safety Walk
S508	5	10	10'8"		Safety Walk
S401	4	12	3'0"		End Post
BENT BARS					
S502	5	121	25'9"		Slab Transverse
S507	5	122	17'10"		"
S510	5	122	28'10"		Slab Transverse
S511	5	122	2'6"		Safety Walk
S512	5	123	3'2"		"
S513	5	123	4'5"		Safety Walk
S514	5	8	8'6"		End Post
S515	5	4	8'0"		"
S516	5	4	7'6"		End Post
SUPERSTRUCTURE, SOUTHBOUND					
SAME AS FOR NORTHBOUND					

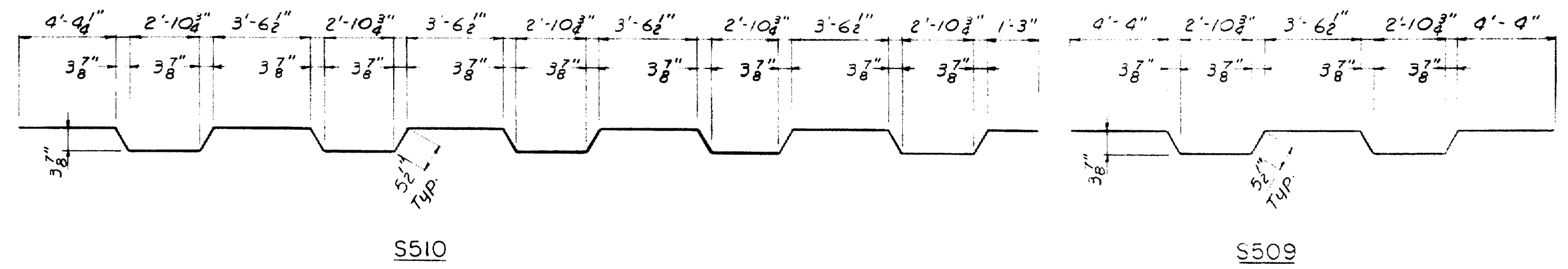
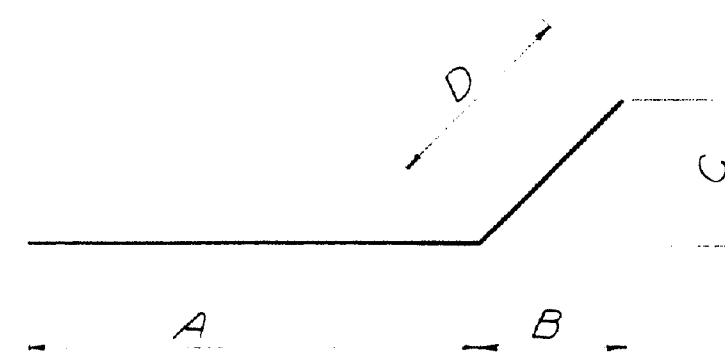
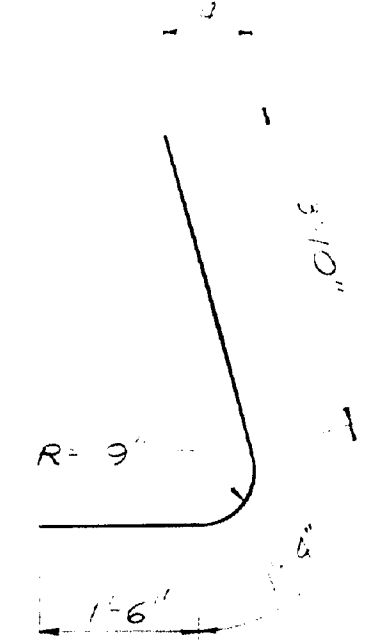
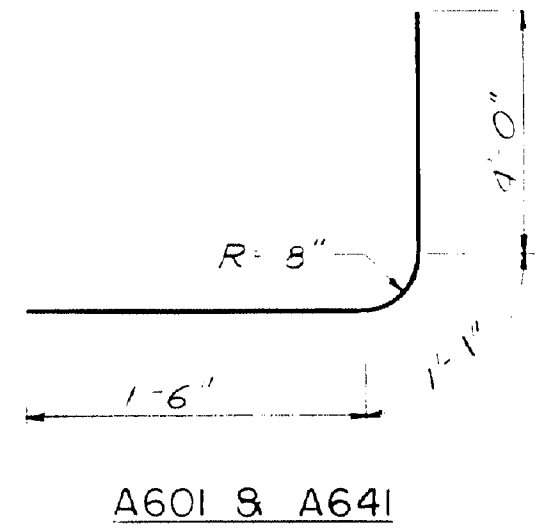


TABLE II

MARK	A	B	C	D
A531	3'-0"	2'-0"	2'-3"	3'-0"
A53B	13'-0"	8 1/2"	3"	9"
A561	4'-6"	2'-0"	2'-3"	3'-0"
A568	10'-3"	8 1/2"	2 1/2"	9"
A630	1'-9"	1'-3"	1'-3"	1'-9"
A660	1'-9"	1'-3"	1'-3"	1'-9"



NOTE
For dimensions A, B, C and D see Table II



A435, A436, A462 & A466

A433, A437, A463, A467, A573 & A583

NOTE
For notes see Sheet 2

DESIGN - E. V.	DETAILS - S.M.P.	BRIDGE NO. SURVEY - PLOT -
TRACE - R.E.F.		
STATE HIGHWAY COMMISSION BRIDGE DIVISION INTERSTATE ROUTE 295 OVER WESTBROOK ST. IN THE CITY OF SOUTH PORTLAND CUMBERLAND COUNTY REINFORCING STEEL		
HOWARD, NEEDLES, TAMMEN & BERGENOFF CONSULTING ENGINEERS NEW YORK BOSTON KANSAS CITY		SHEET 15 OF 15 AUGUSTA, MAINE SEPT. 1966

