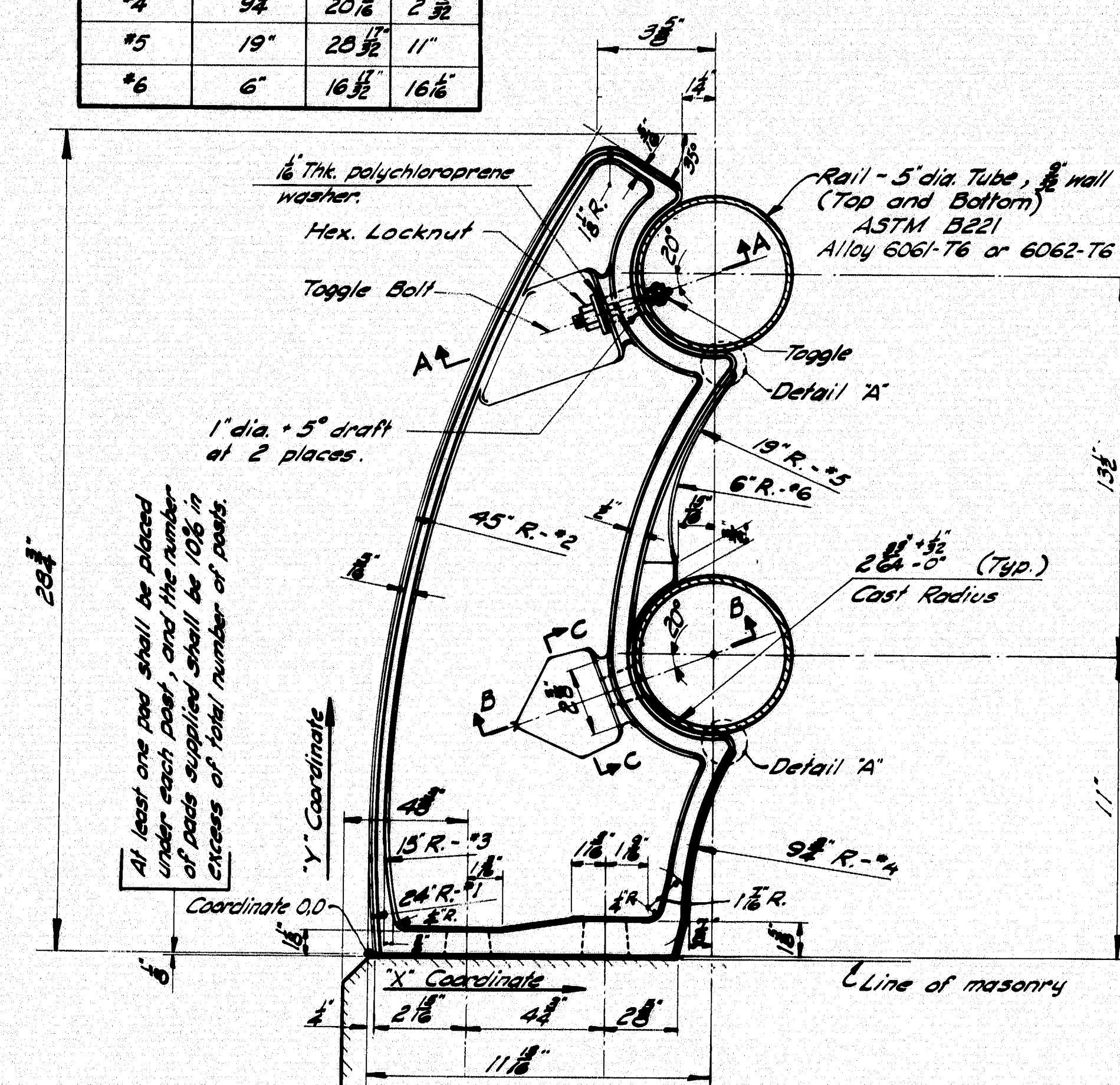


RAIL ELEVATION

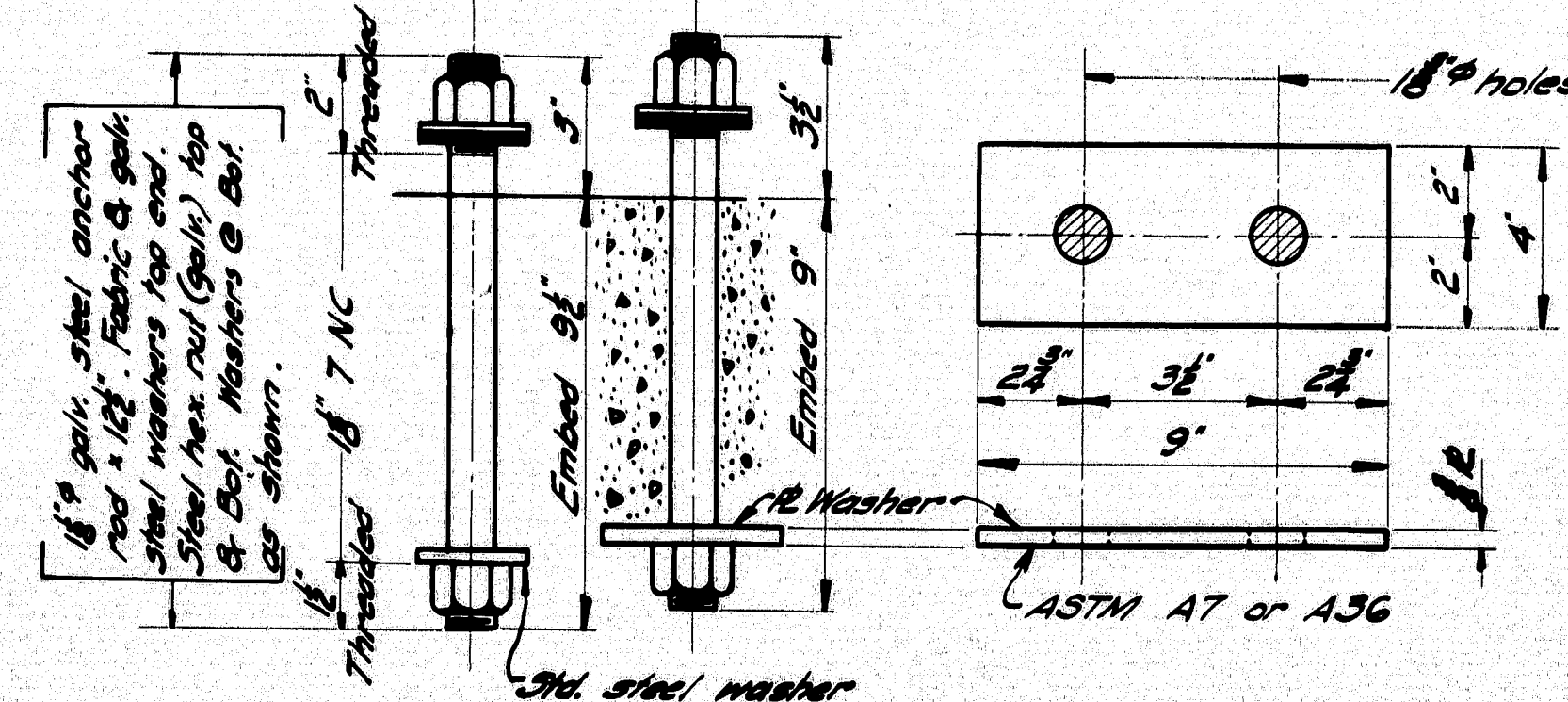
ORIGIN LOCATION-PRINCIPAL CURVES

Curve	Radius	"X"	"Y"
*1	24"	24"	3 1/2"
*2	45"	45"	2 3/4"
*3	15"	15 1/8"	4 3/4"
*4	9 1/2"	20 1/8"	2 1/2"
*5	19"	20 3/4"	11"
*6	6"	16 1/2"	16 1/2"

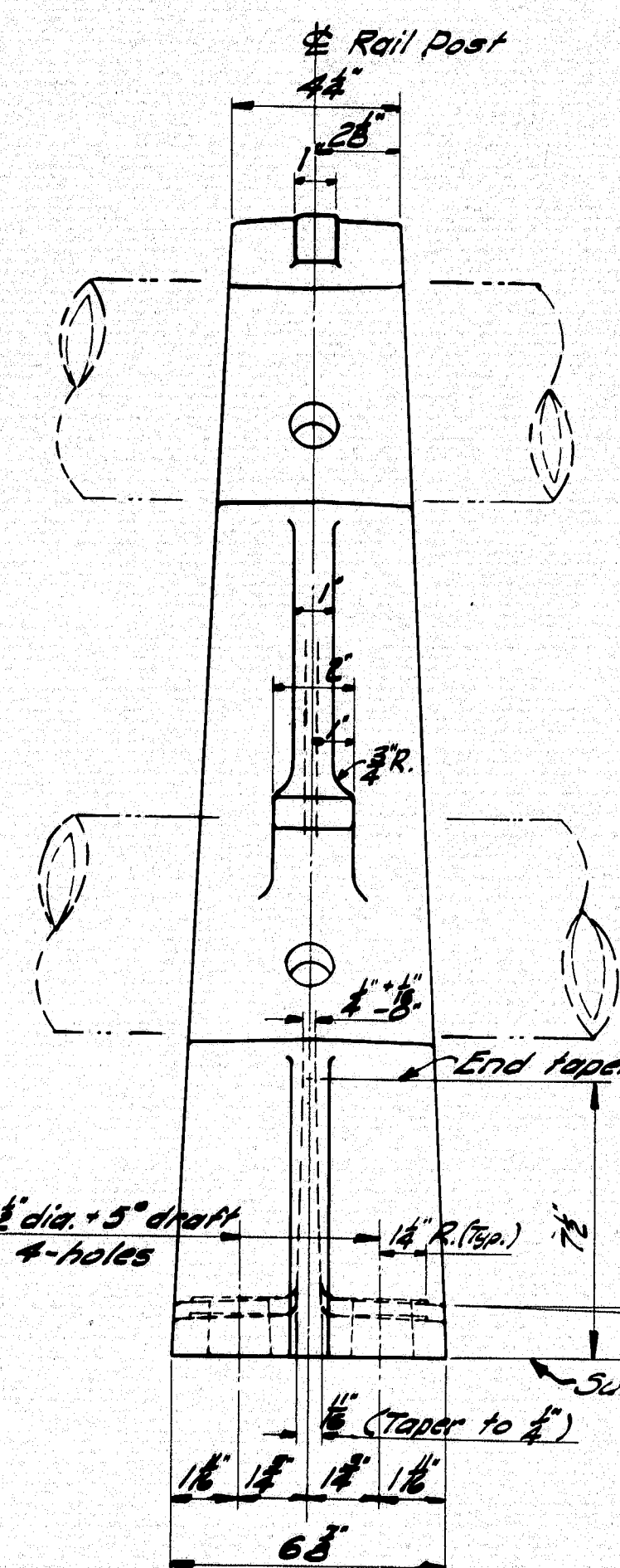
Lengths of rail shall be attached to a minimum of (4) four rail posts, wherever possible, and in any case never less than (2) two.



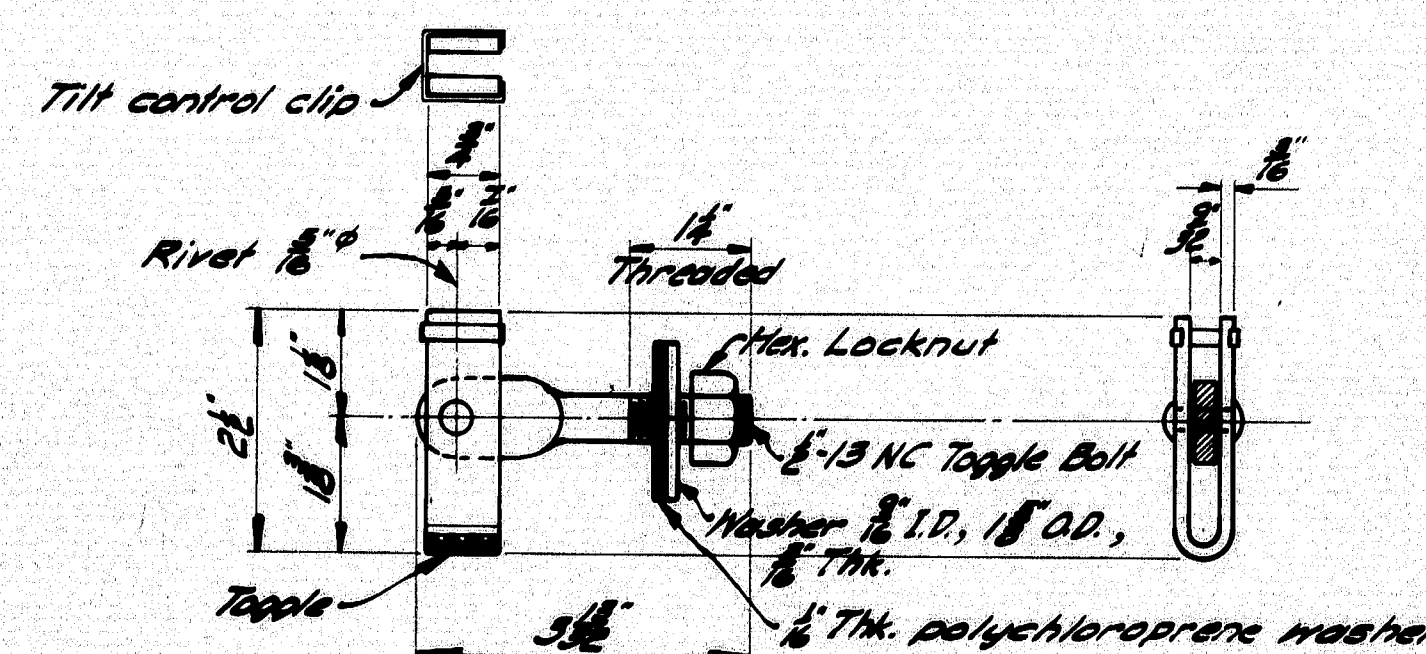
RAIL POST
Aluminum Association Alloy A344-T4



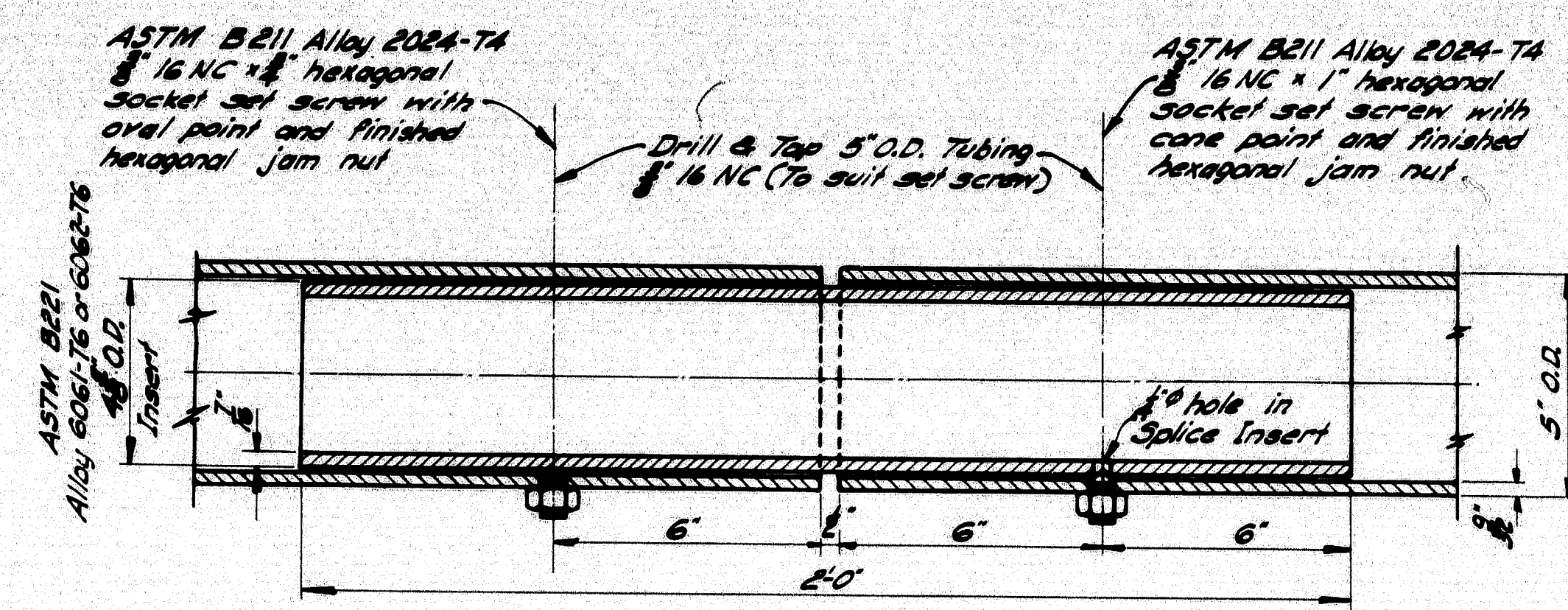
RAIL POST ANCHORAGE
Bolts, Nuts & Std. Washers = ASTM A325 Galvanized ASTM A153



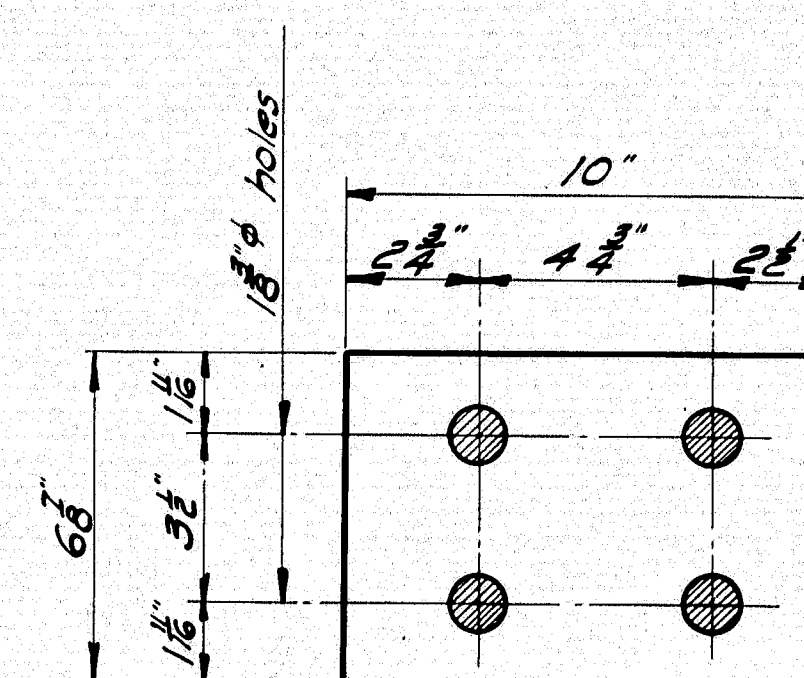
FRONT ELEVATION



TOGGLE BOLT DETAIL
Cadmium Plate metal parts ASTM A163-35, Type N3, .0005 thick

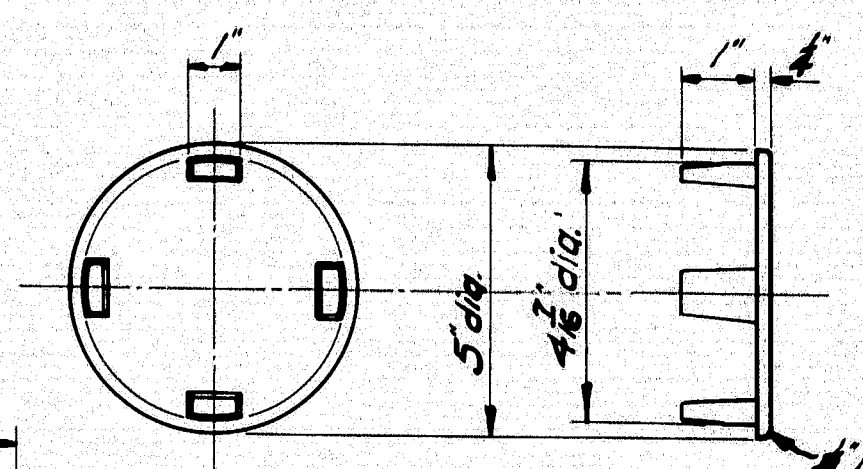


SPlice



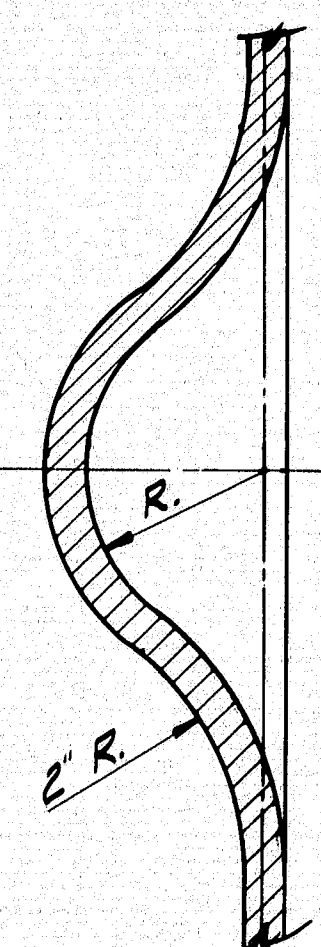
PAD

At each rail post
See Article 702-20, Supplemental Specifications
of Feb. 1960 for Pad & Fabric Washers.



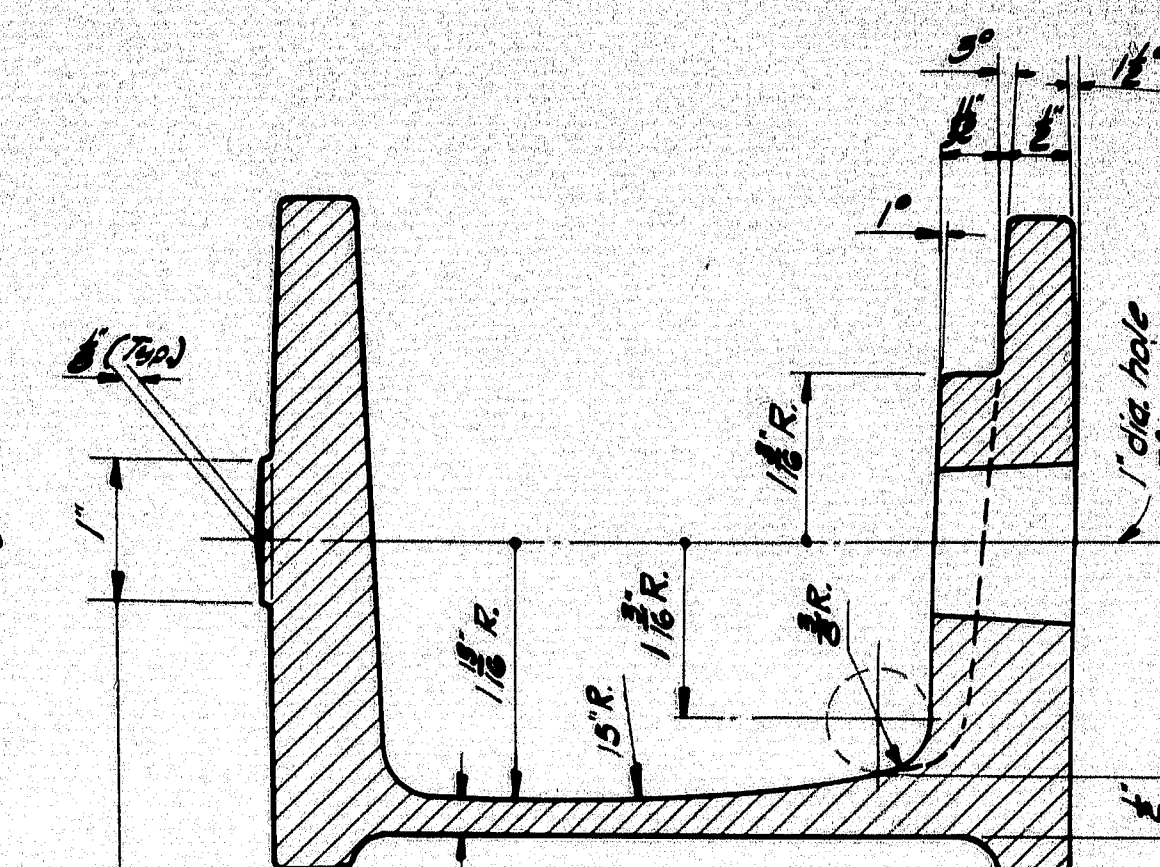
RAIL CAP

ASTM B26 Alloy 5670 A or 55 A

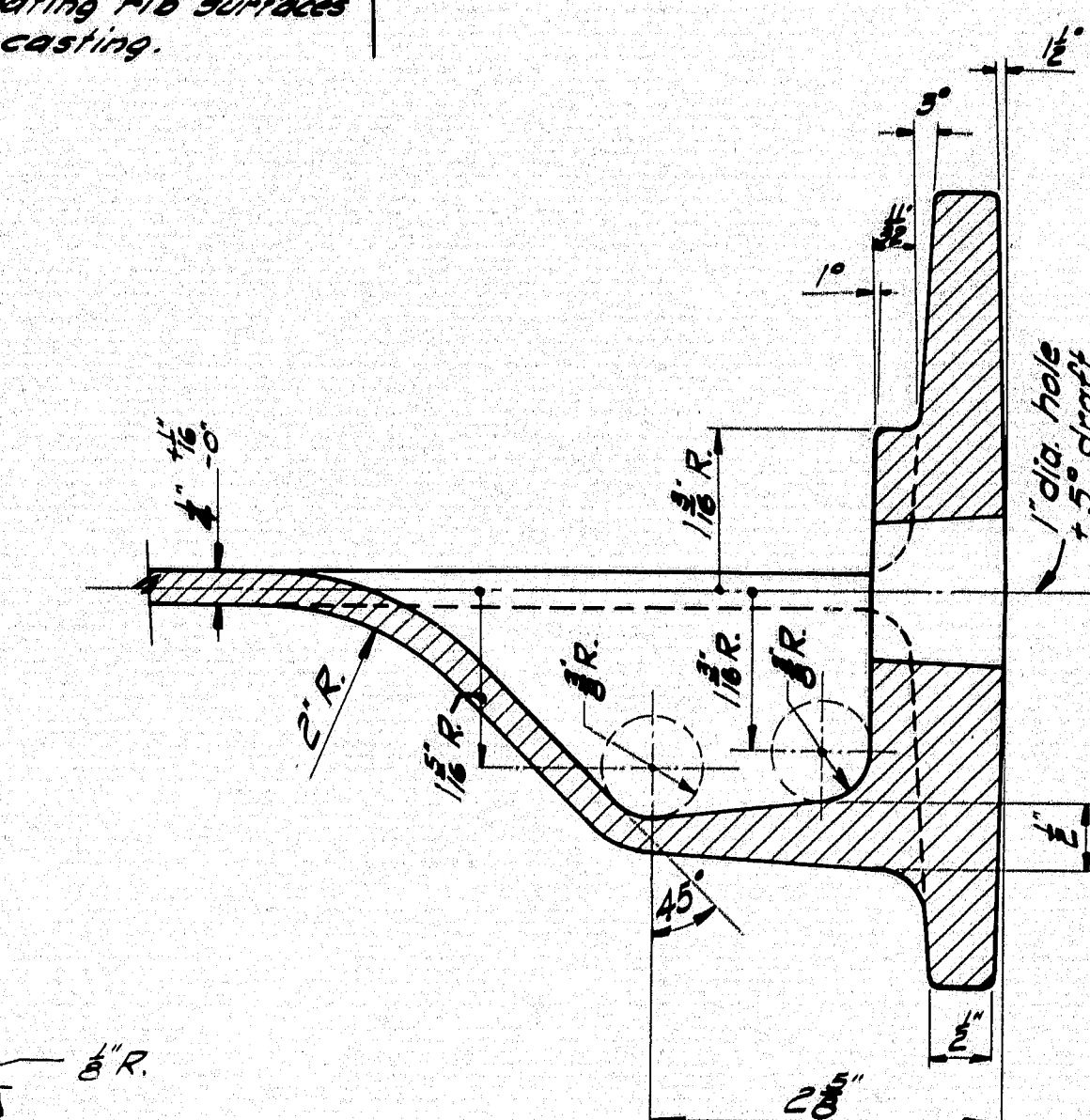


SECTION C-C

Casting to be supplied
with a 60 grid belt grind
finish on all gating rib surfaces
around entire casting.



SECTION A-A



SECTION B-B

DESIGN SPECIFICATIONS

A.A.S.H.O. Interim Specifications
Int. 1 (64).

A344-T4 Alloy to meet the
Specification outlined by Aluminum
Association.

ALTERATION:

Added Detail 'A' and Origin Location-
Principal Curves. Nov. 19, 1964.

MAINE STATE HIGHWAY COMMISSION
AUGUSTA, MAINE

STANDARD DETAILS
(BD 108-64)
ALUMINUM RAIL
2-BAR (TUBE RAIL)
CAST POST

OCT. 1964

96-100J

STATE OF MAINE STATE HIGHWAY COMMISSION



INTERSTATE 95

OVER

TIMONEY ROAD

IN THE TOWN OF

SMYRNA

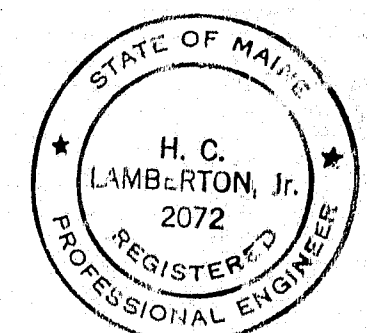
AROOSTOOK COUNTY

FEDERAL AID PROJECT NO. I-95-9(19)285

LENGTH OF PROJECT 0.016 MILE

TRAFFIC

INTERSTATE 95	TIMONEY ROAD
1710 _____ A.D.T. 1966 _____ 150	
2565 _____ A.D.T. 1986 _____ 210	
305 _____ D.H.V. _____ 25	
14% _____ T.	
60% _____ D.	
60 MPH _____ V.	50 MPH



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

H.C. Lamberton, Jr. 12/24/66
DATE

PROJECT COMPLETED 10 NOV.'66

APPROVED
MAINE STATE HIGHWAY COMMISSION DATE
Don M. Sturges 12-2-66
CHAIRMAN
Carl M. Stephens 12-2-66
Bartholomew A. Richards 12-2-66
Augustine J. ... 12-2-66
CHIEF ENGINEER

DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS
REGION 1

APPROVED
DIVISION ENGINEER DATE

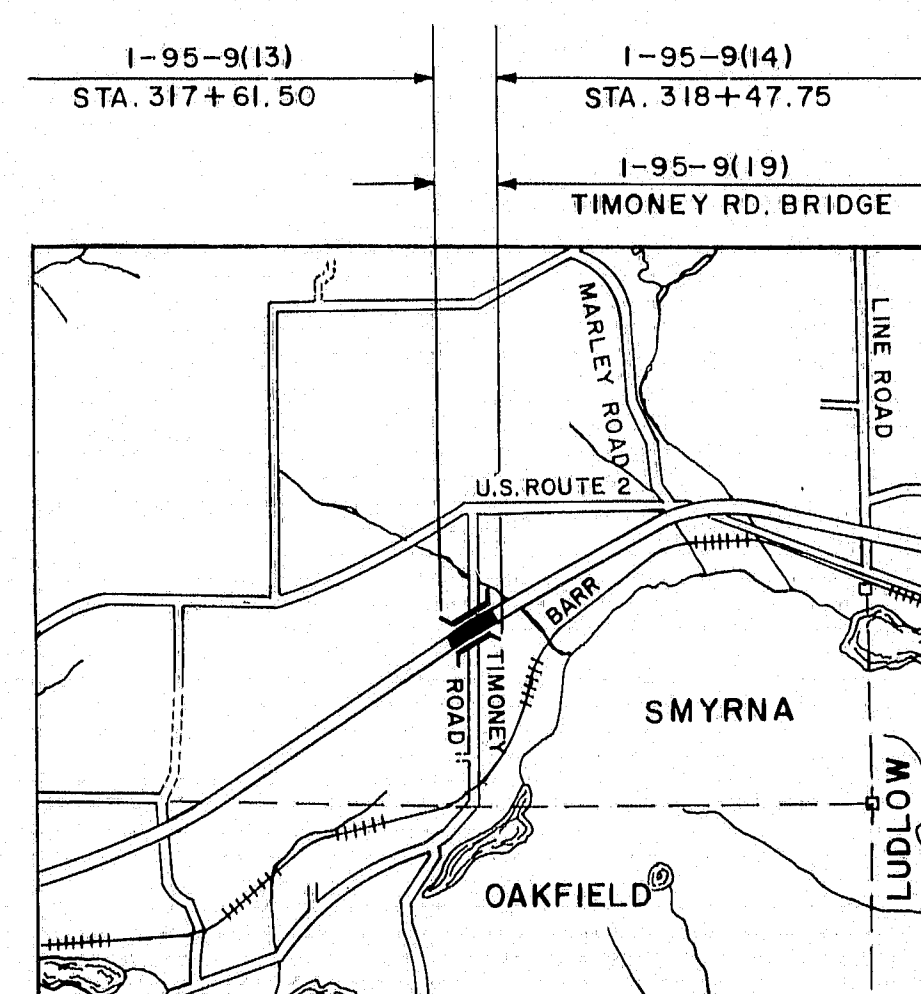
SURVEY CROSS SECTION SCALES } HOR. 1"=50' VERT. 1"=5'
INTERSTATE 1"=10' TIMONEY ROAD 1"=5'

INDEX OF SHEETS

- 1 _____ TITLE SHEET
- 2 _____ GENERAL PLAN & QUANTITIES
- 3 _____ PLANS, PROFILES, & TYPICAL SECTIONS
- 4 _____ CROSS SECTIONS - S.B. ROADWAY
- 5 _____ CROSS SECTIONS - S.B. ROADWAY
- 6 _____ CROSS SECTIONS - TIMONEY ROAD
- 7 _____ CROSS SECTIONS - TIMONEY ROAD
- 8 _____ FOUNDATION SURVEY
- 9 _____ ABUTMENT NO. 1
- 10 _____ ABUTMENT NO. 2
- 11 _____ ABUTMENT NO. 2 - WINGWALLS - APPROACH SLABS
- 12 _____ STRUCTURAL STEEL & BLOCKING
- 13 _____ SUPERSTRUCTURE
- 14 _____ REINFORCING STEEL

STANDARD DETAILS SHEETS

- BD 101-64 _____ BEARING PEDESTALS
BD 104-64 _____ DIAPHRAGMS, ARMORED JOINT, SHEAR CONNECTORS, DRAIN
BD 107-64 _____ STEEL RAIL
BD 108-64 _____ ALUMINUM RAIL
ENGINEERS FIELD OFFICES NOV. 1964



LOCATION MAP
APPROX. SCALE - 1" = 1 MILE

SPECIFICATIONS

DESIGN
A.A.S.H.O. Standard Specification for Highway Bridges, 1961 with Interim Specifications, 1961, 1962, 1963 & 1964.

CONTRACT
State of Maine, State Highway Commission
Standard Specifications for Highways and Bridges, Revision of January 1956 and Supplemental Specifications of February 1960.

LIVE LOADING
HS20-44 (Modified for Interstate).

ALLOWABLE STRESSES
Concrete (f_c = 10) - 1200 p.s.i.
Reinforcing Steel, Int. Grade - f_s = 20,000 p.s.i.
Structural Steel - f_s = 20,000 p.s.i. (A.S.T.M. Designation A-36).

CONCRETE CLASSIFICATION
All Concrete shall be Class 'A'.

FOUNDATIONS
Abutment No. 1 and Wingwalls spread footing on Ledge 5 Tons/S.F.
Abutment No. 2 and Wingwalls 10BP42 End Bearing Piles 37 Ton Capacity.

ESTIMATE OF BRIDGE QUANTITIES

ITEM NO.	DESCRIPTION	UNITS	QUANT.	BRIDGE
204-12	Struct. Earth Exc., Abuts & Ret. Walls	C.Y.	760	760
204-13	Struct. Rock Exc., Abuts & Ret. Walls	C.Y.	110	110
205-9	Granular Borrow	C.Y.	18,500	
205-12	Gravel Borrow (I.P.M.)	C.Y.	720	
302-7	Gravel Base Course (I.P.M.)	C.Y.	1,360	
404-31	Bit. Conc. Surface Course (Hand Placed) Type B	Tons	4	
701-33	Port. Cem. Conc., Abuts. & Ret. Walls	C.Y.	501	501
701-40	Port. Cem. Conc. Rdwy. & Sidewalk Slabs on Steel Bridges	C.Y.	102	102
701-55	Curing Box for Conc. Cylinders	Each	1	1
702-103	Structural Steel, Fabricated & Delivered	L.S.	L.S.	L.S.
702-104	Structural Steel, Erection	L.S.	L.S.	L.S.
702-105	Structural Steel, Field Painting	L.S.	L.S.	L.S.
705-13	Reinforcing Steel, Delivered	Lbs.	73,100	73,100
705-14	Reinforcing Steel, Placing	Lbs.	73,100	73,100
705-17	Shear Connectors	L.S.	L.S.	L.S.
804-6	French Drains	C.Y.	103	
805-8	Bridge Rail	L.F.	156	156
807-11	Epoxy Resin Surface Sealant	S.Y.	275	275
901-24	Vertical Bridge Curb - Type 1	L.F.	165	165
901-25	Vertical Bridge Curb - Circular Type 1	L.F.	12	12
908-10	Loam (I.P.M.)	C.Y.	60	
910-13	Seeding - Method No. 2	Units	10	
912-7	Hay Mulch	Tons	1	
938-1	Warning Lights & Illuminating Signs	Group	2	
939-9	Field Office, Type "C"	L.S.	L.S.	
708-16	Steel H-Beam Piles 10BP42	L.F.	1520	1520

Estimated Wt. of Struct. Steel Including Drains 146,700 Lbs.
Estimated Wt. of Shear Connectors, Spirals 2,645 Lbs.
Estimated Number of Shear Connectors, Studs 2,268 Pcs.

NOTE:
All fill within the stations shown on the Profile Sheet shall be placed by the controlled density method.

Revised 8-23-65

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS

NEW YORK BOSTON KANSAS CITY

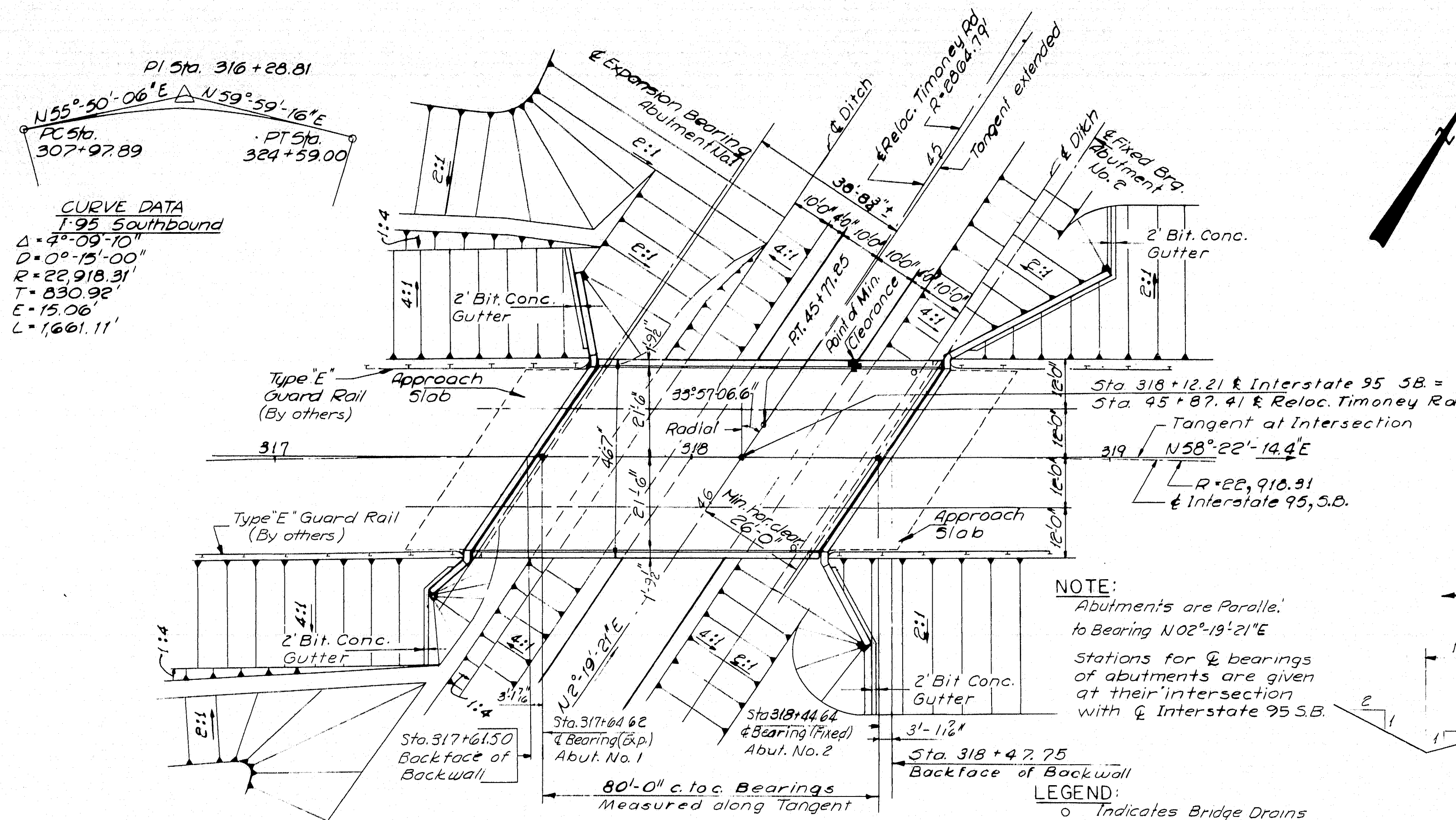
DESIGN -
TRACE -
CHECK - P.R.N.

DETAIL D.A.T. BRIDGE NO. SURVEY -
PLOT

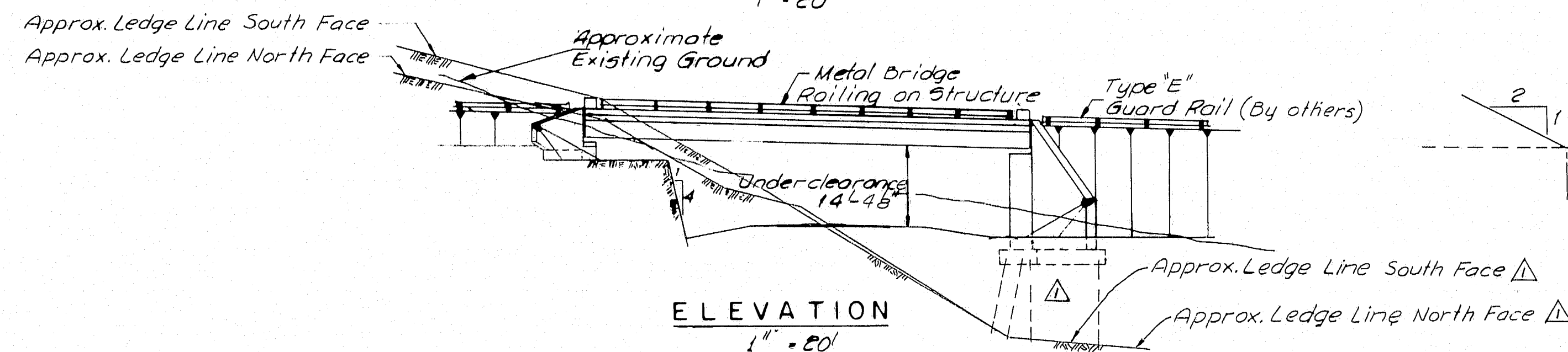
STATE HIGHWAY COMMISSION
BRIDGE DIVISION
INTERSTATE 95 SB
OVER
RELOCATED TIMONEY ROAD
IN THE TOWN OF
SMYRNA
AROOSTOOK COUNTY
GENERAL PLAN & QUANTITIES

SHEET 2 OF 14 AUGUSTA, MAINE MARCH 1965

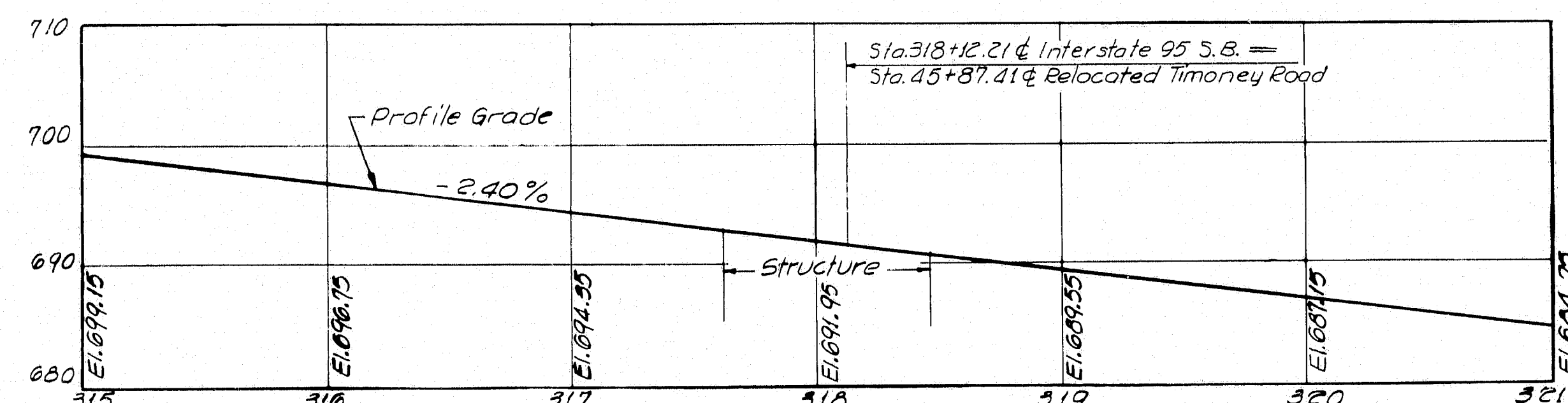
96.92 SMYRNA (19)



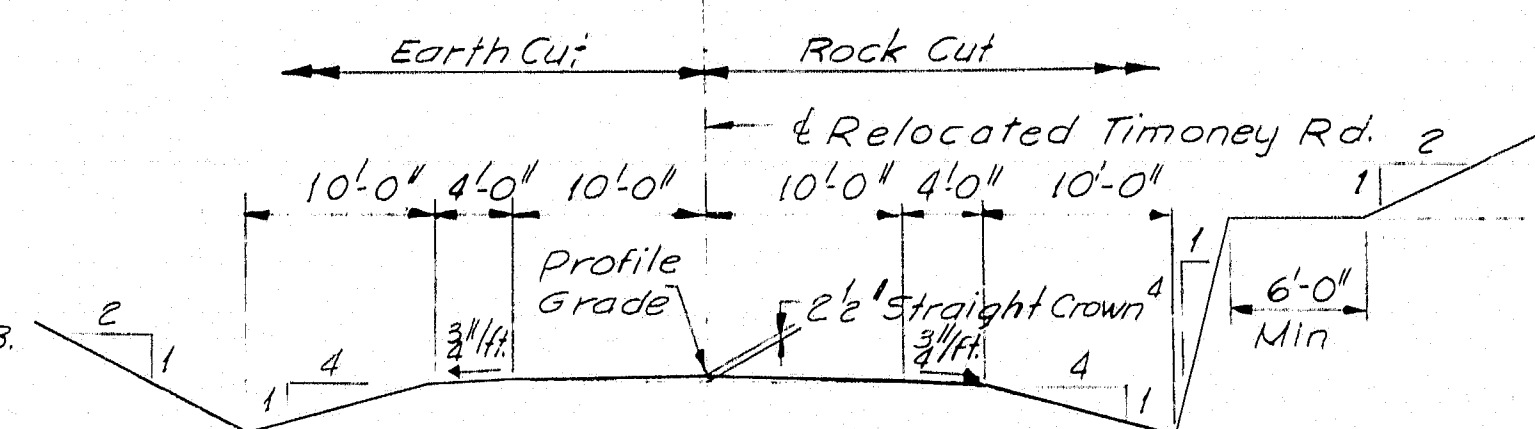
PLAN
1" = 20'



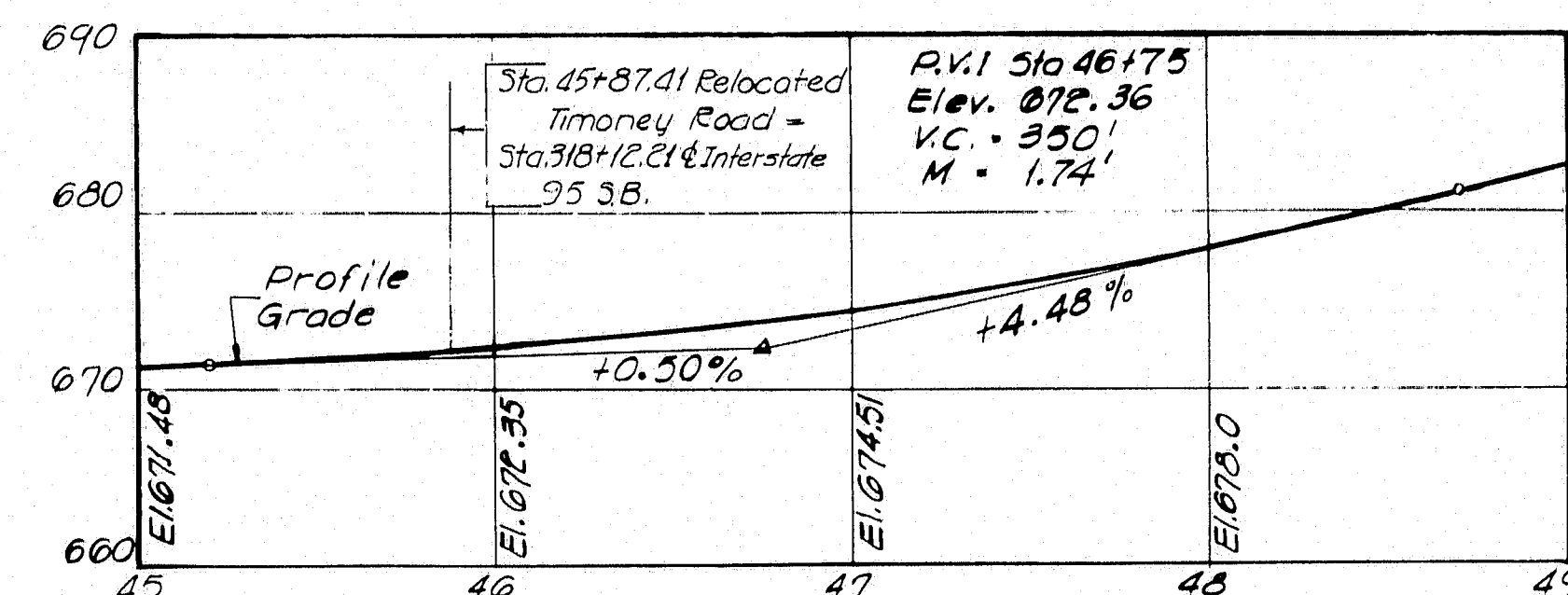
PROFILE-INTERSTATE 95 S.B.
Hor. 1" = 50'
Vert. 1" = 10'



SECTION RELOCATED TIMONEY RD.
1" = 10'



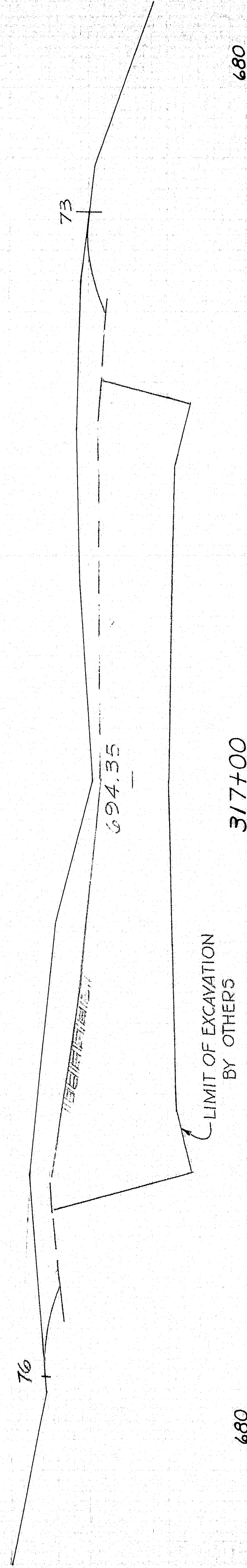
SECTION-INTERSTATE 95 SB
1" = 10'



PROFILE-RELOCATED TIMONEY ROAD
Hor. 1" = 50'
Vert. 1" = 10'

4

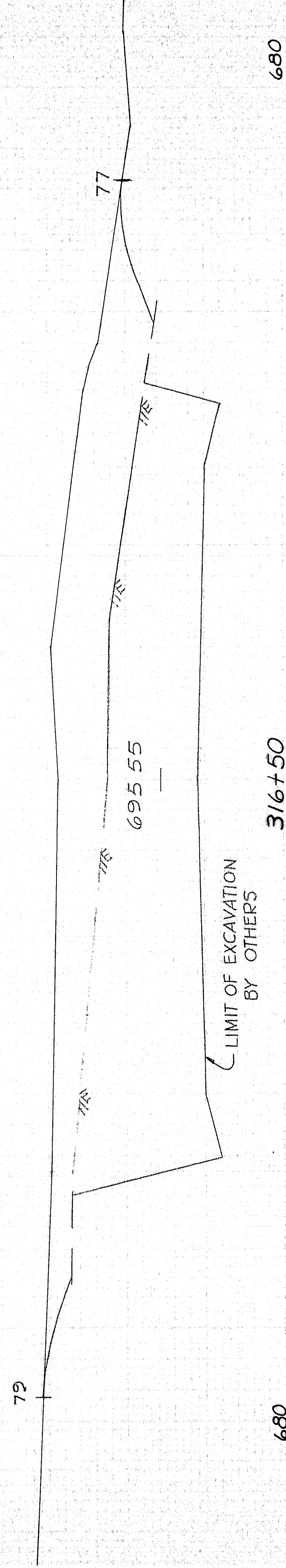
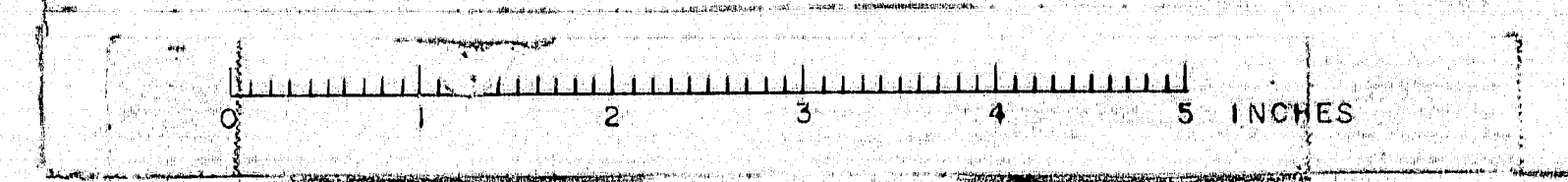
STA 317+61.50
END PROJECT 1-25-8 (12)
BEGIN PROJECT 1-25-8 (12)



680

317+00

680

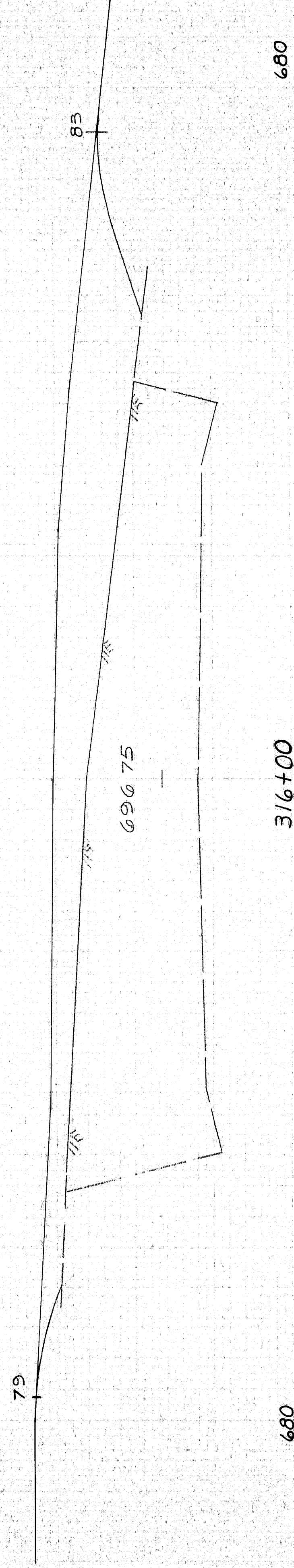


680

316+50

680

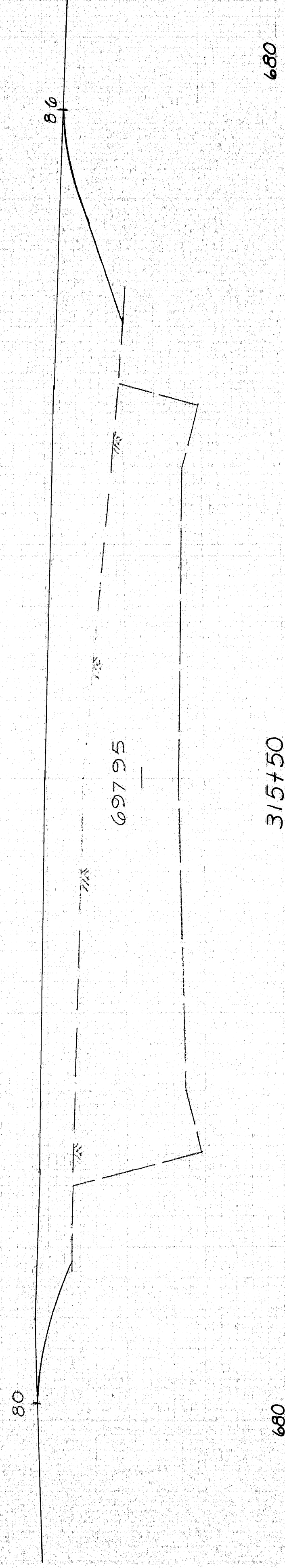
LIMIT OF WORK
STA 316+25



680

316+00

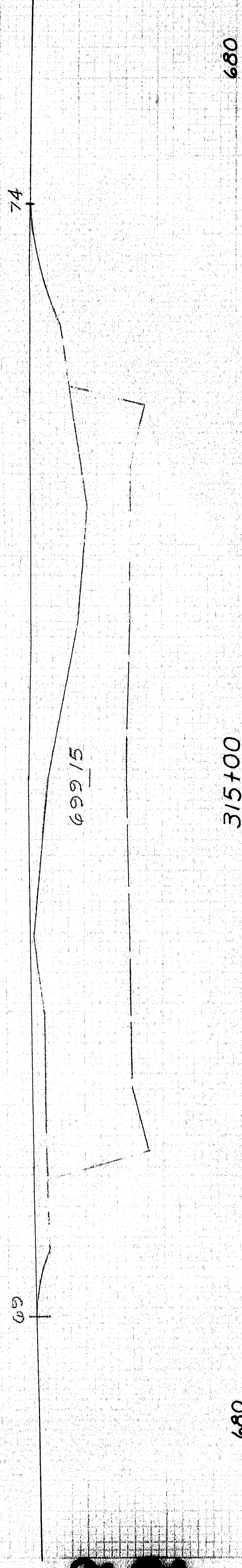
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680

315+50

680



680

315+00

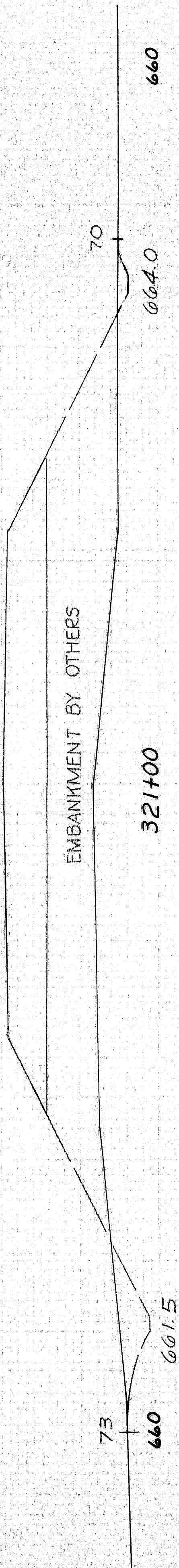
680

S.P.R. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	1-25-8 (12)	1	1

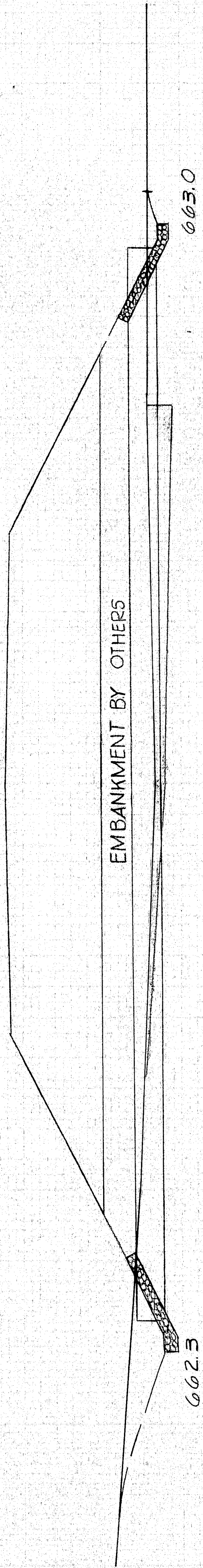
D.P.R. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	1-95-9(19)	5	14

4
 LIMIT OF WORK
 STA 321+50

684.75

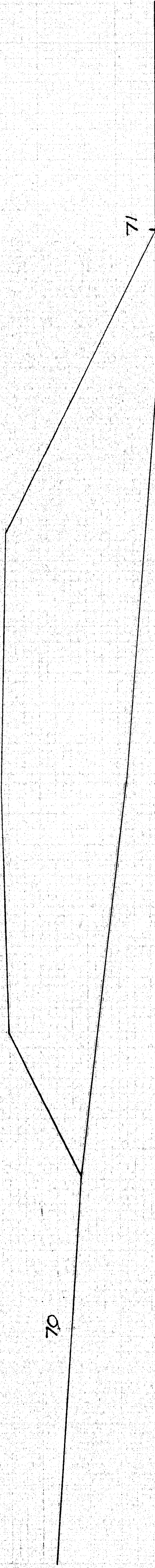


687.15

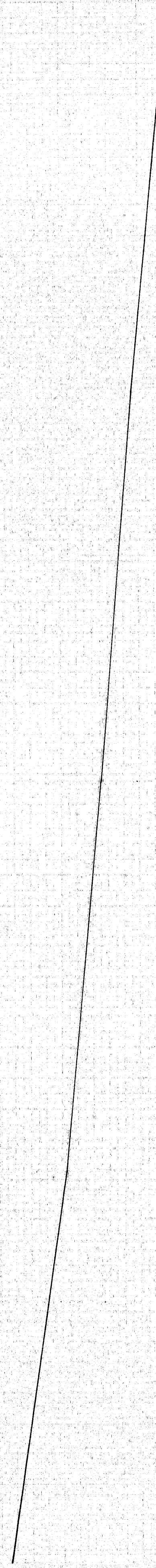


TO BE INSTALLED BY OTHERS
 STA 320+25 S.B. (SKEW 30° AHEAD) 650
 INSTALL BY PRECOMPACTED METHOD
 42" X 160' R.C. P. CLASS III
 PLACE HAND LAID RIPRAP GROUTED
 AROUND INLET AND OUTLET.

689.55



690.75



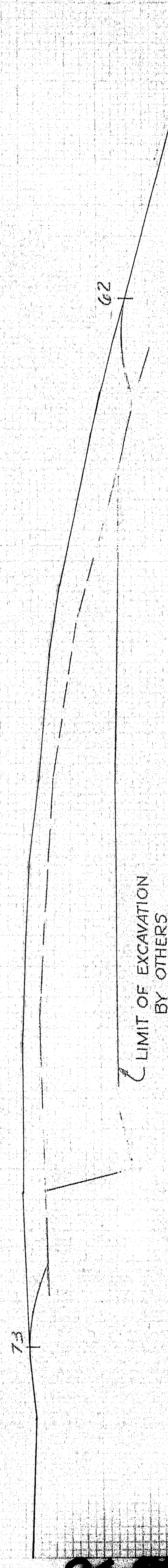
691.95

STA 318+47.75
 END PROJECT 1-95-9(19)
 BEGIN PROJECT 1-95-9(14)

691.95



691.95



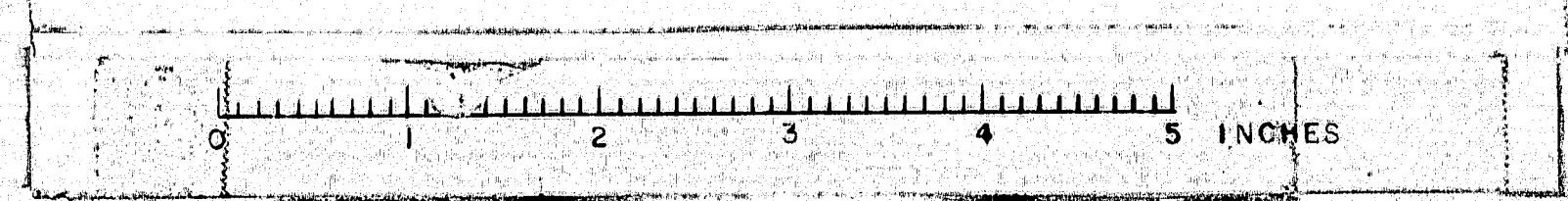
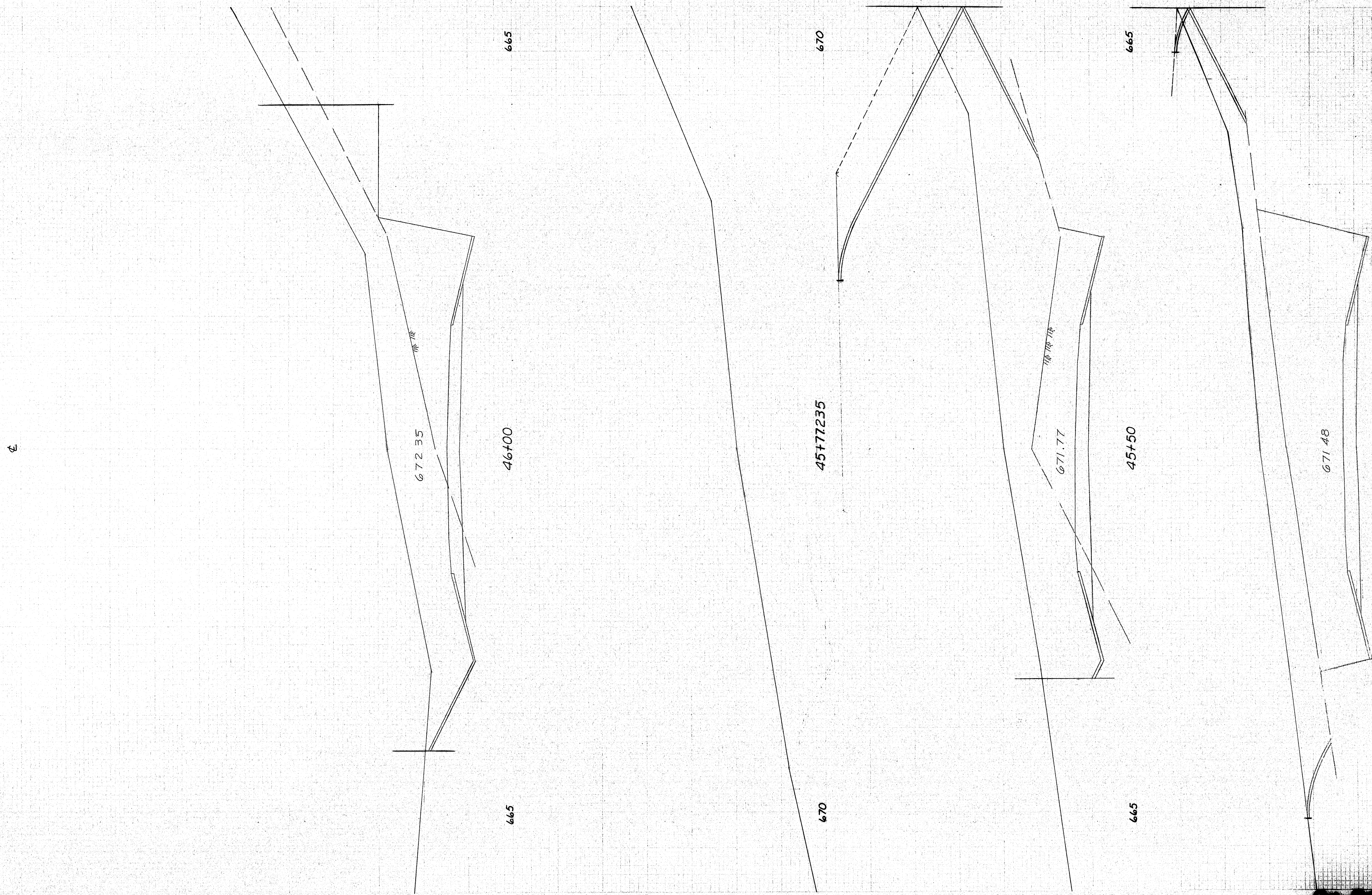
691.95

(19)

S & X SECTION 317+45 TO 321+00

S.P.R. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	1-95-9(10)	9	14

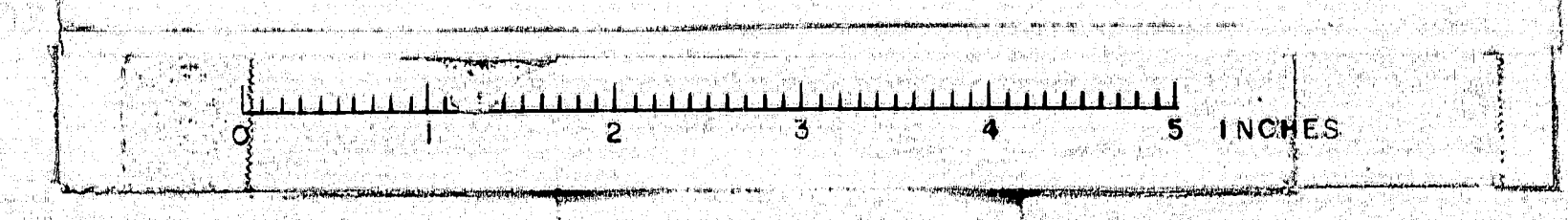
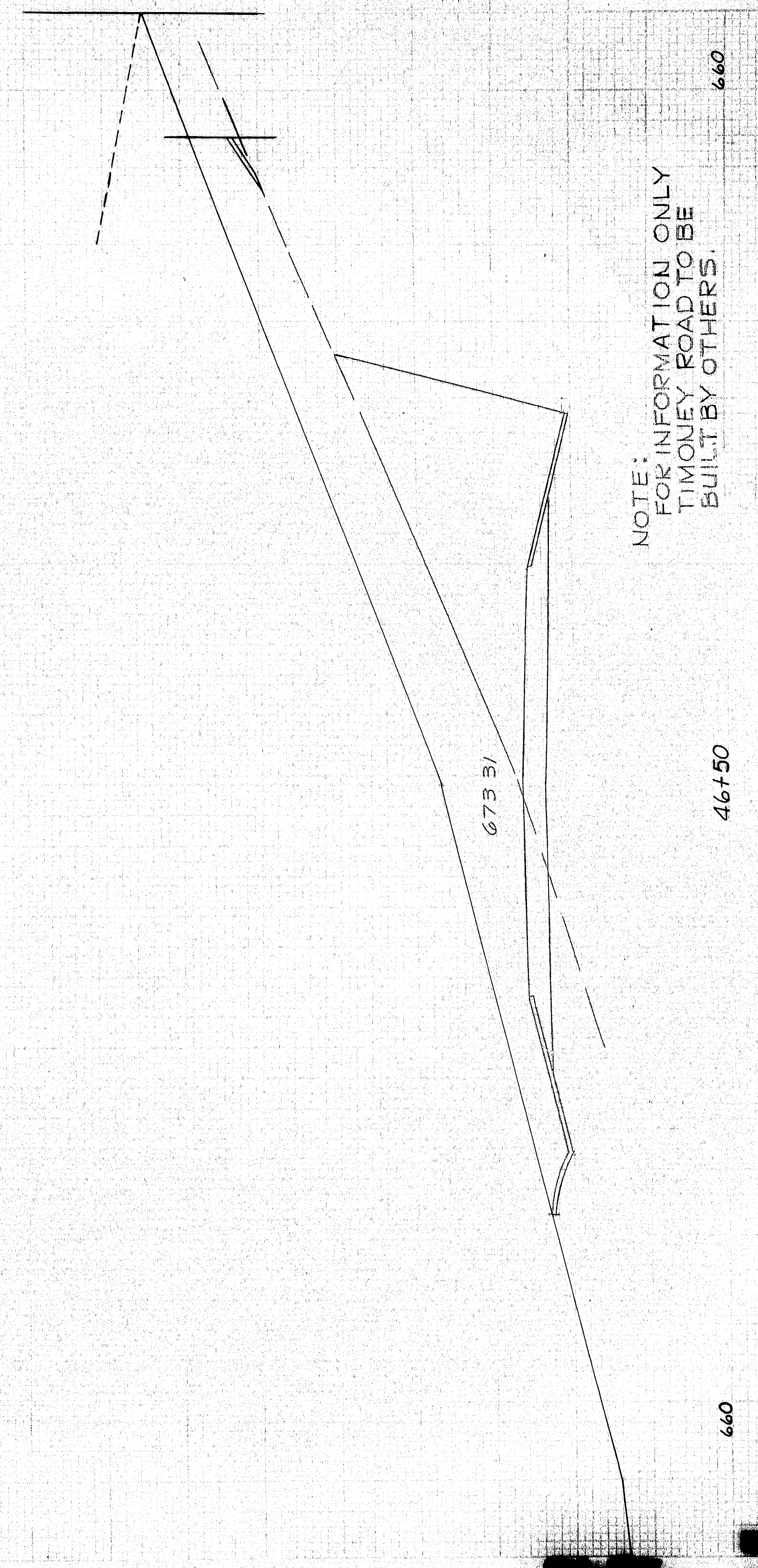
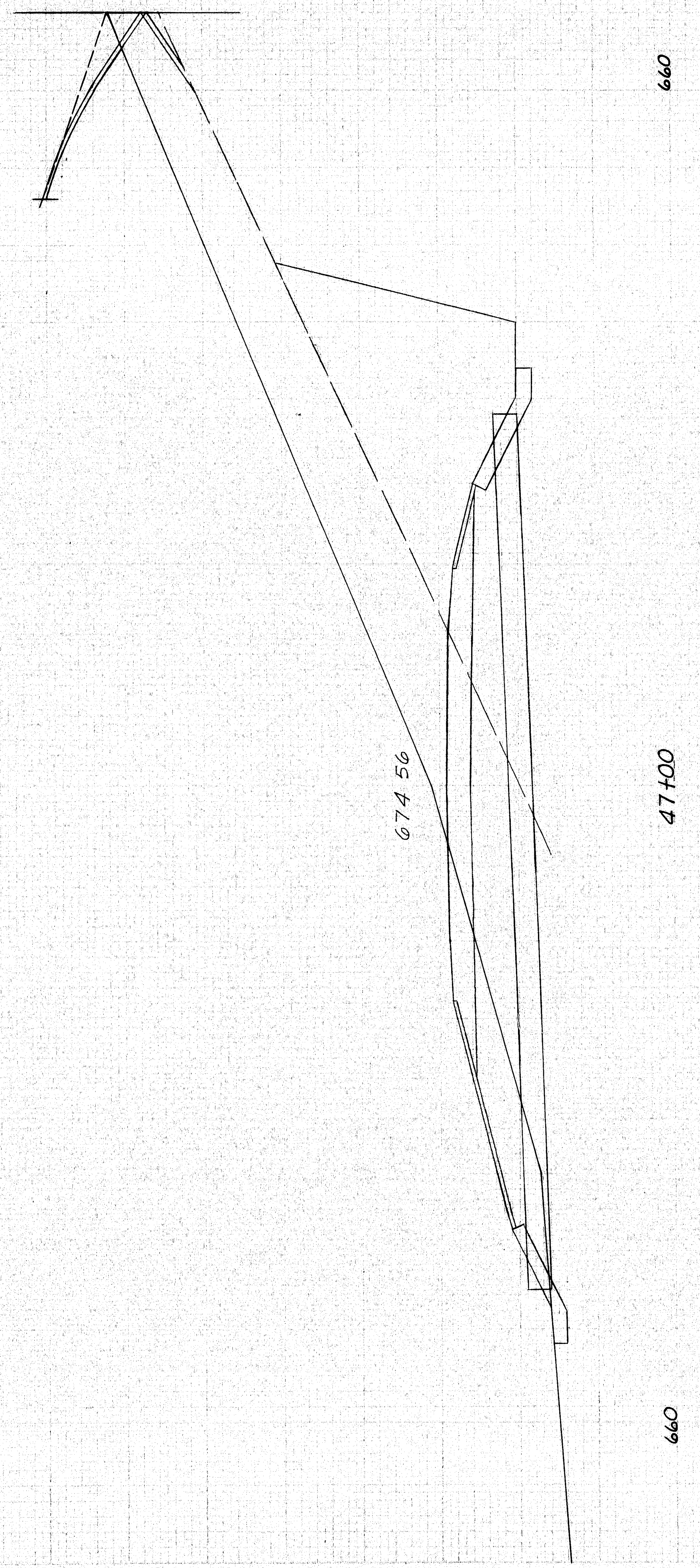
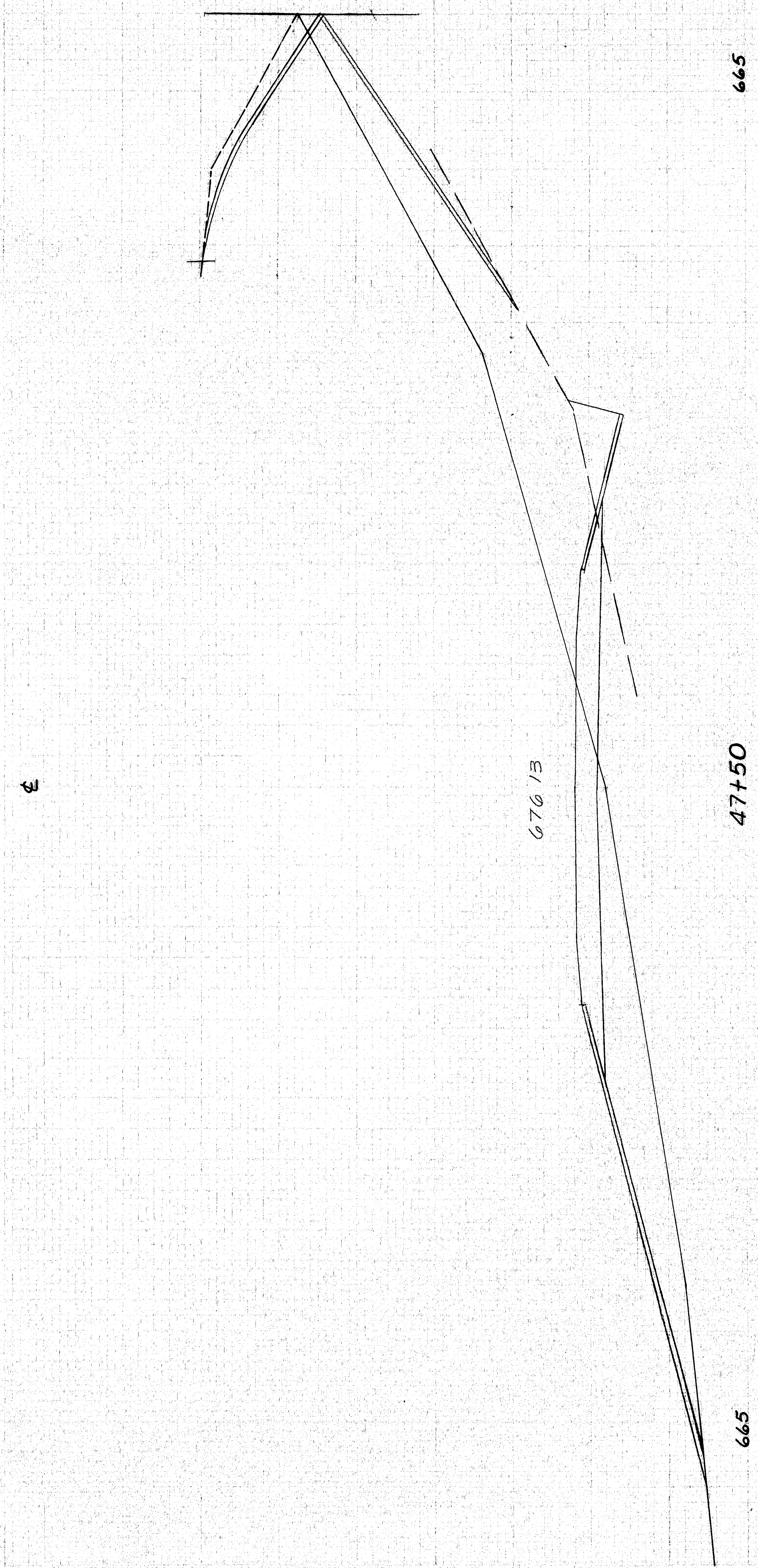
NOTE
FOR INFORMATION ONLY
TIMONEY ROAD TO BE
BUILT BY OTHERS.



STA 45+50 TO STA 46+00

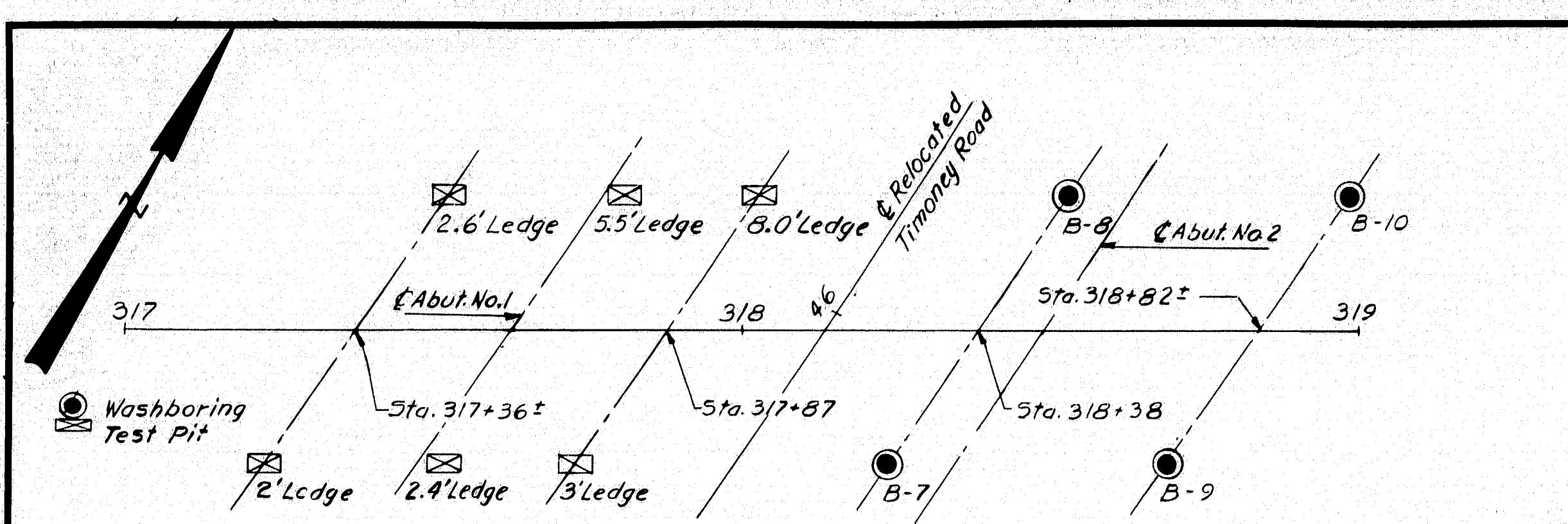
B.P.R. REQ. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	1-95-919	7	14

NOTE:
FOR INFORMATION ONLY
TIMONEY ROAD TO BE
BUILT BY OTHERS.

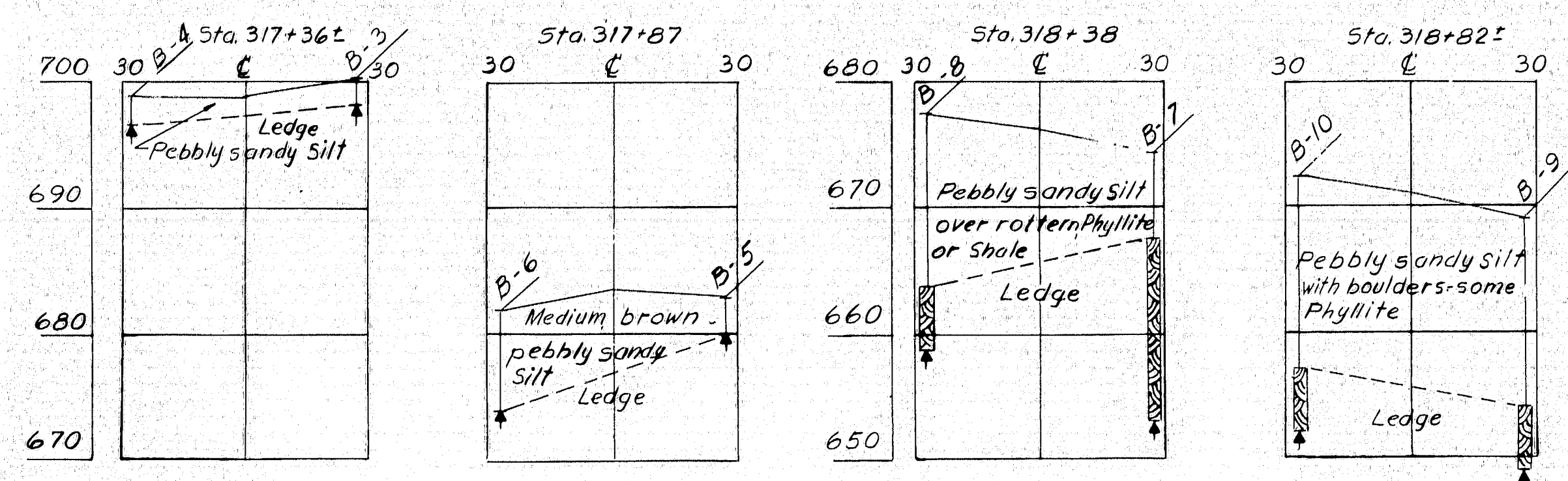


STA. 46+50 TO STA. 47+50

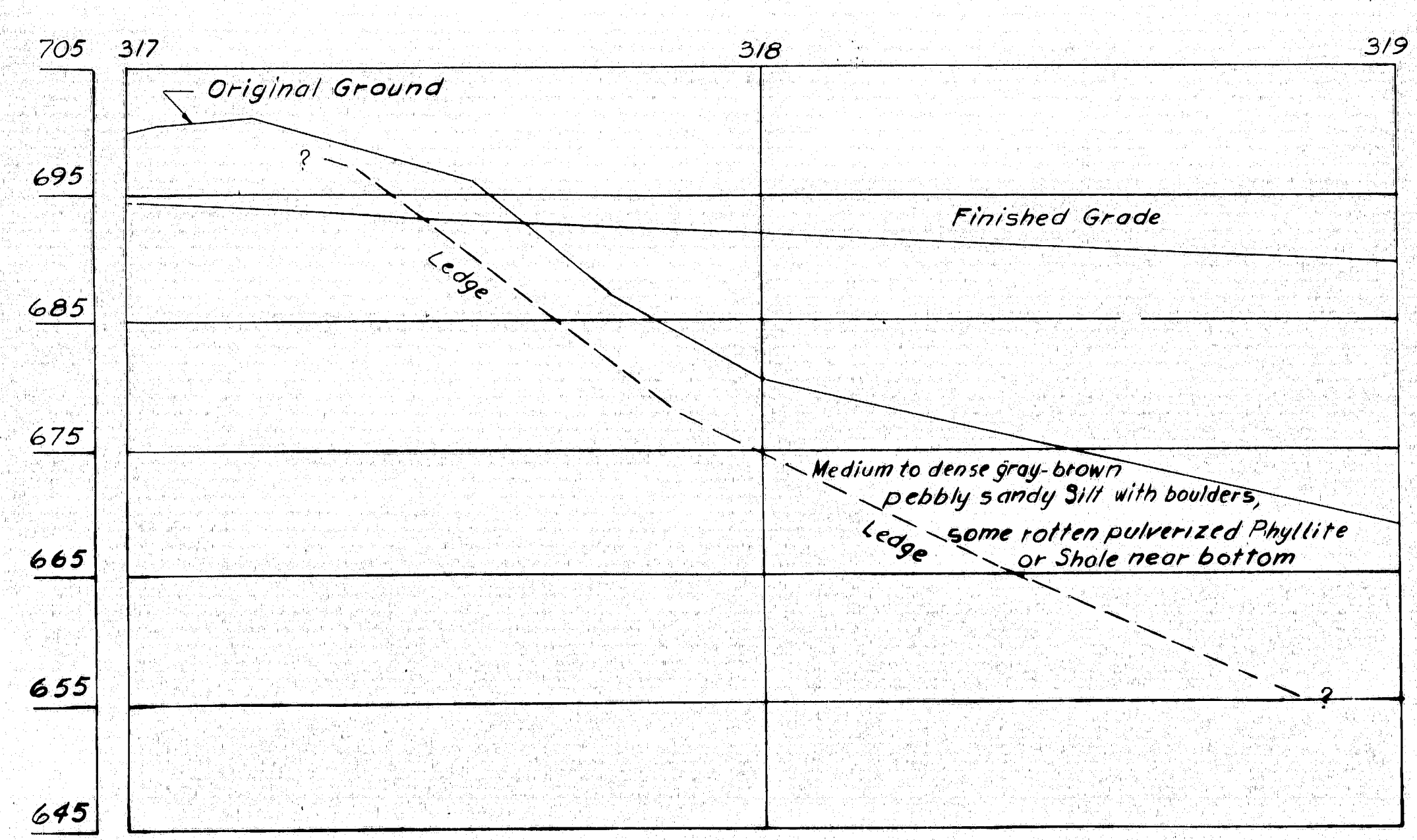
(19)



PLAN
1" = 20'



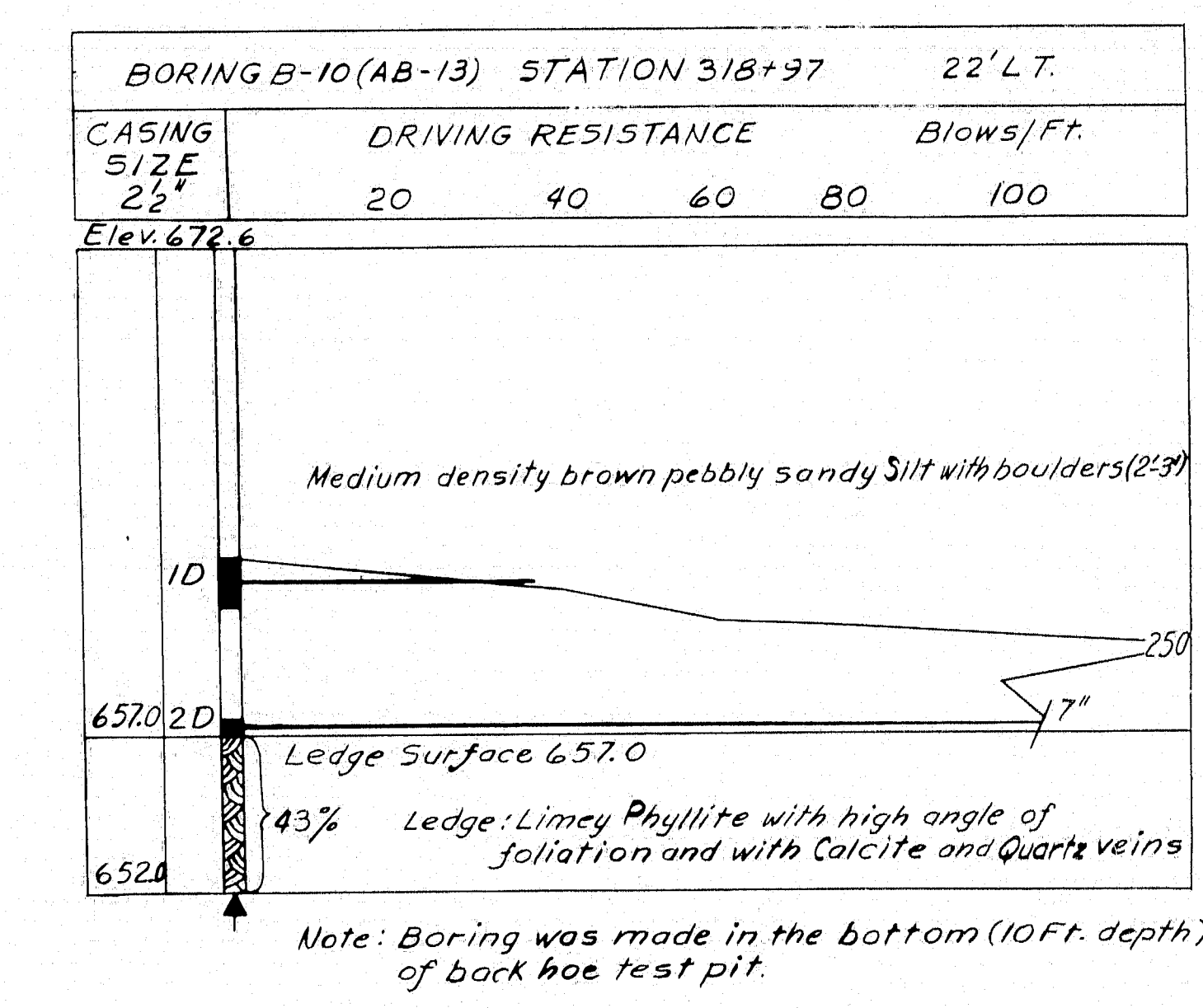
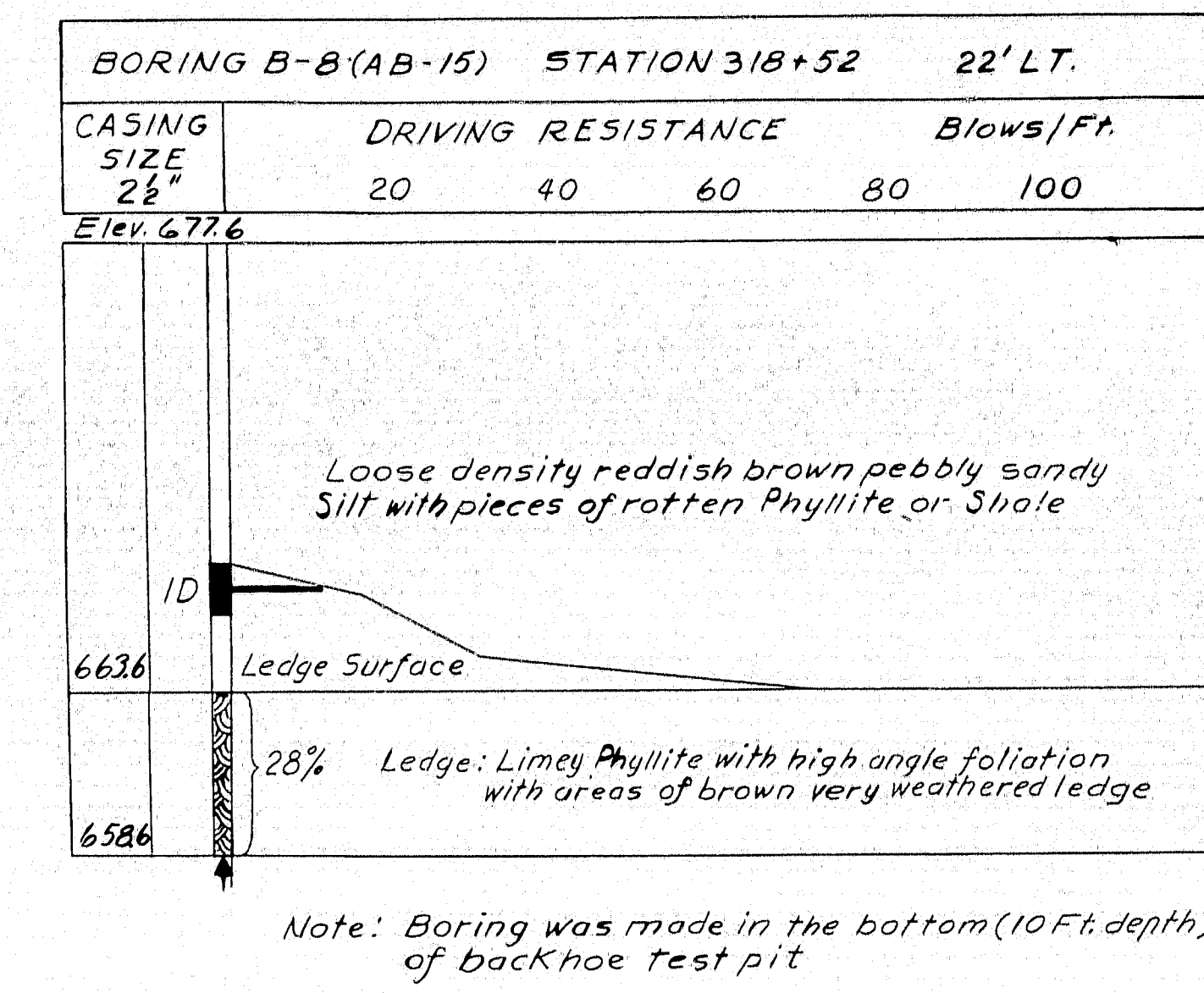
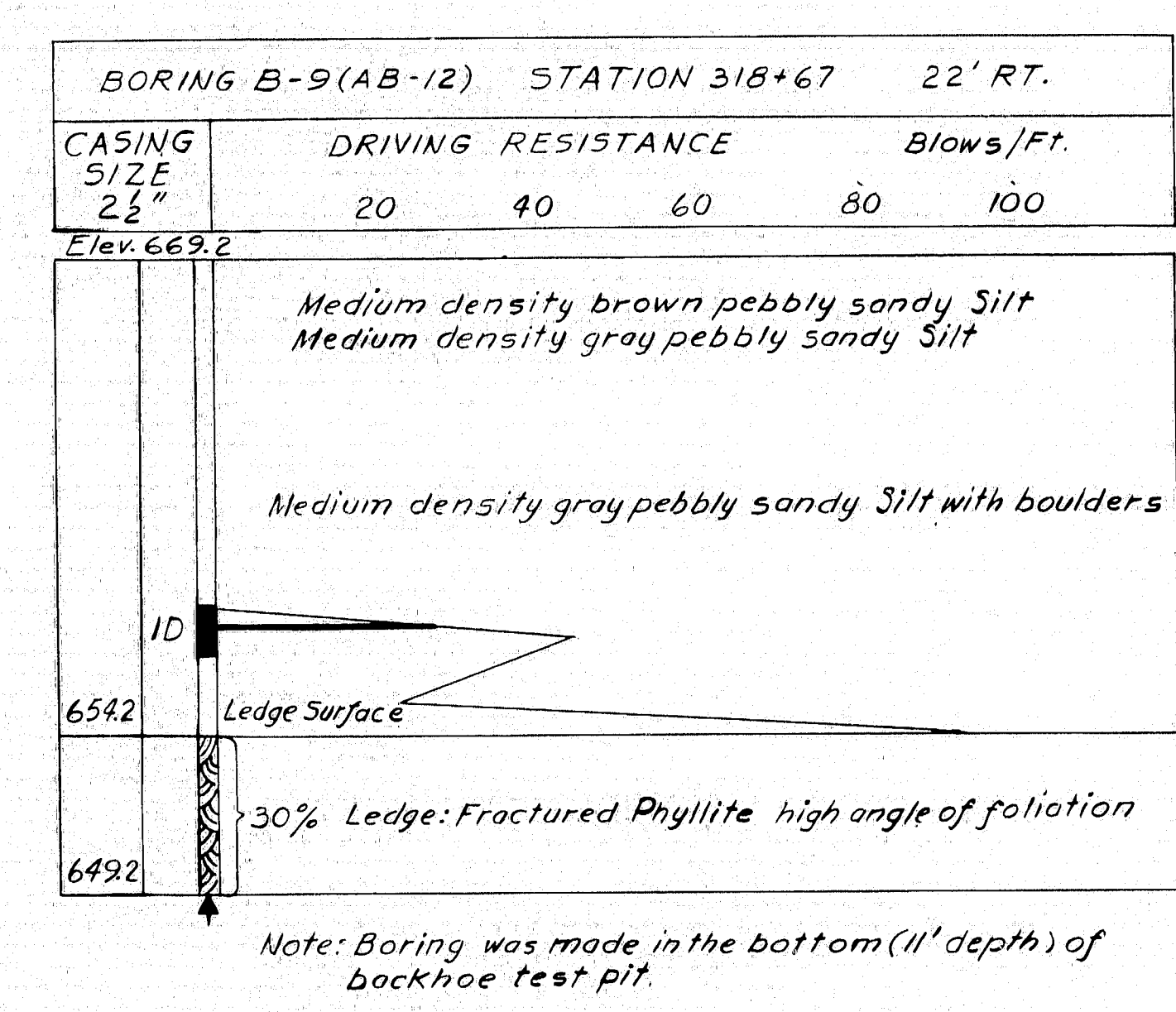
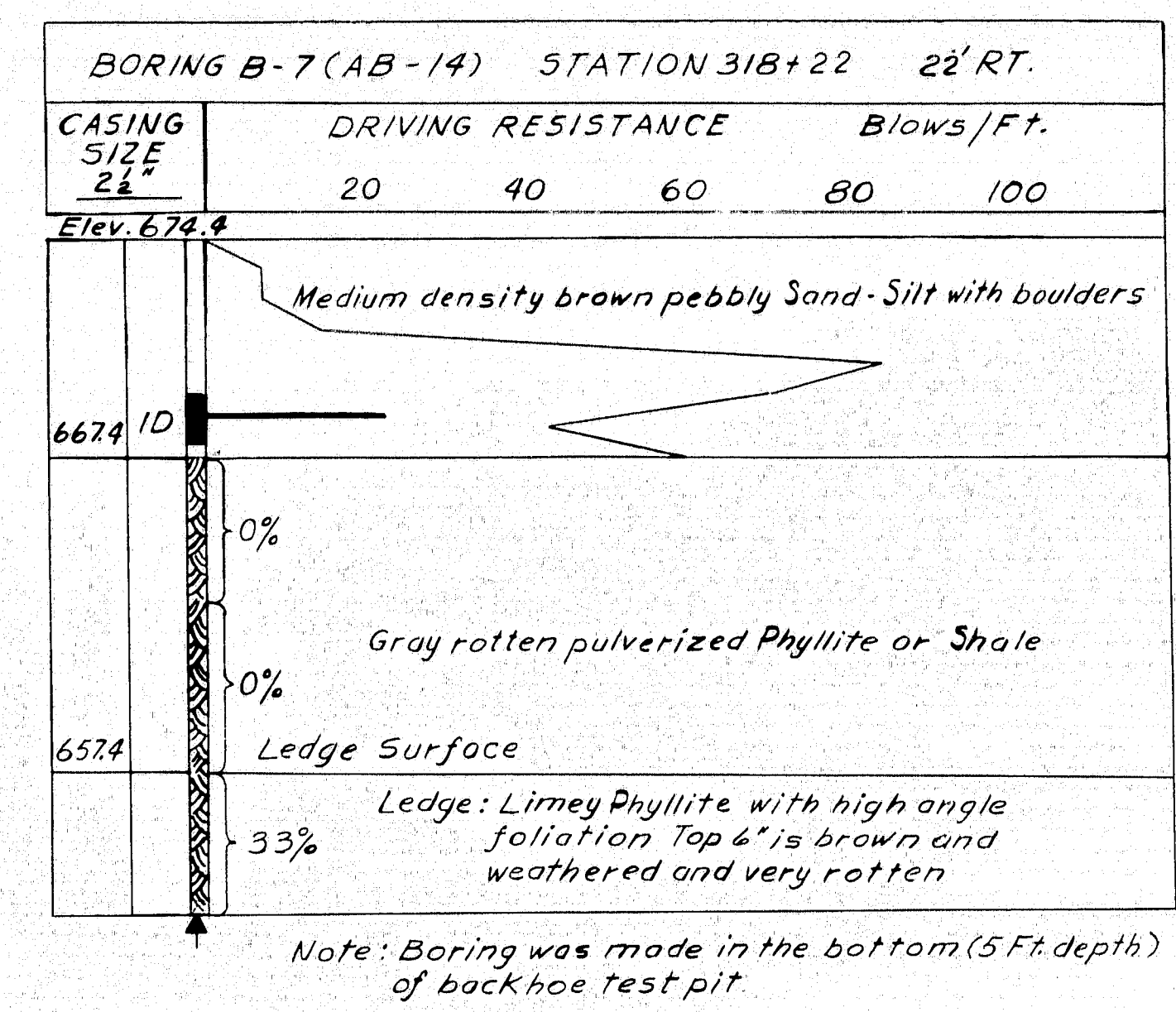
TRANSVERSE SECTIONS



PROFILE
1" = 10' Vert.
1" = 20' Horiz.

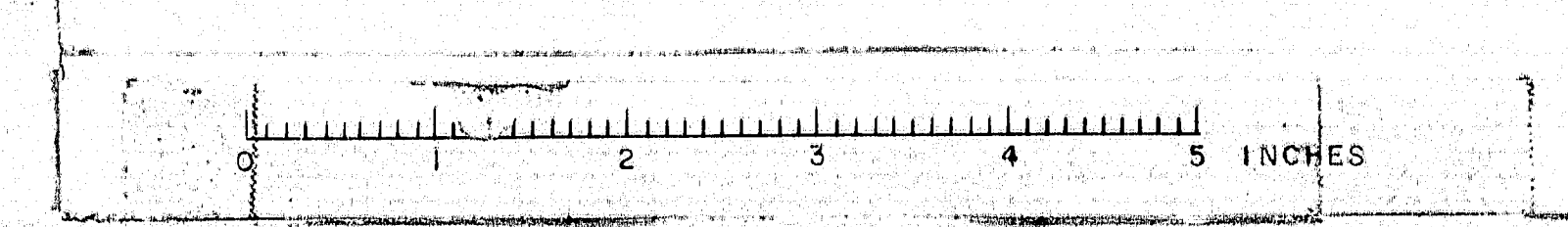
NOTES:

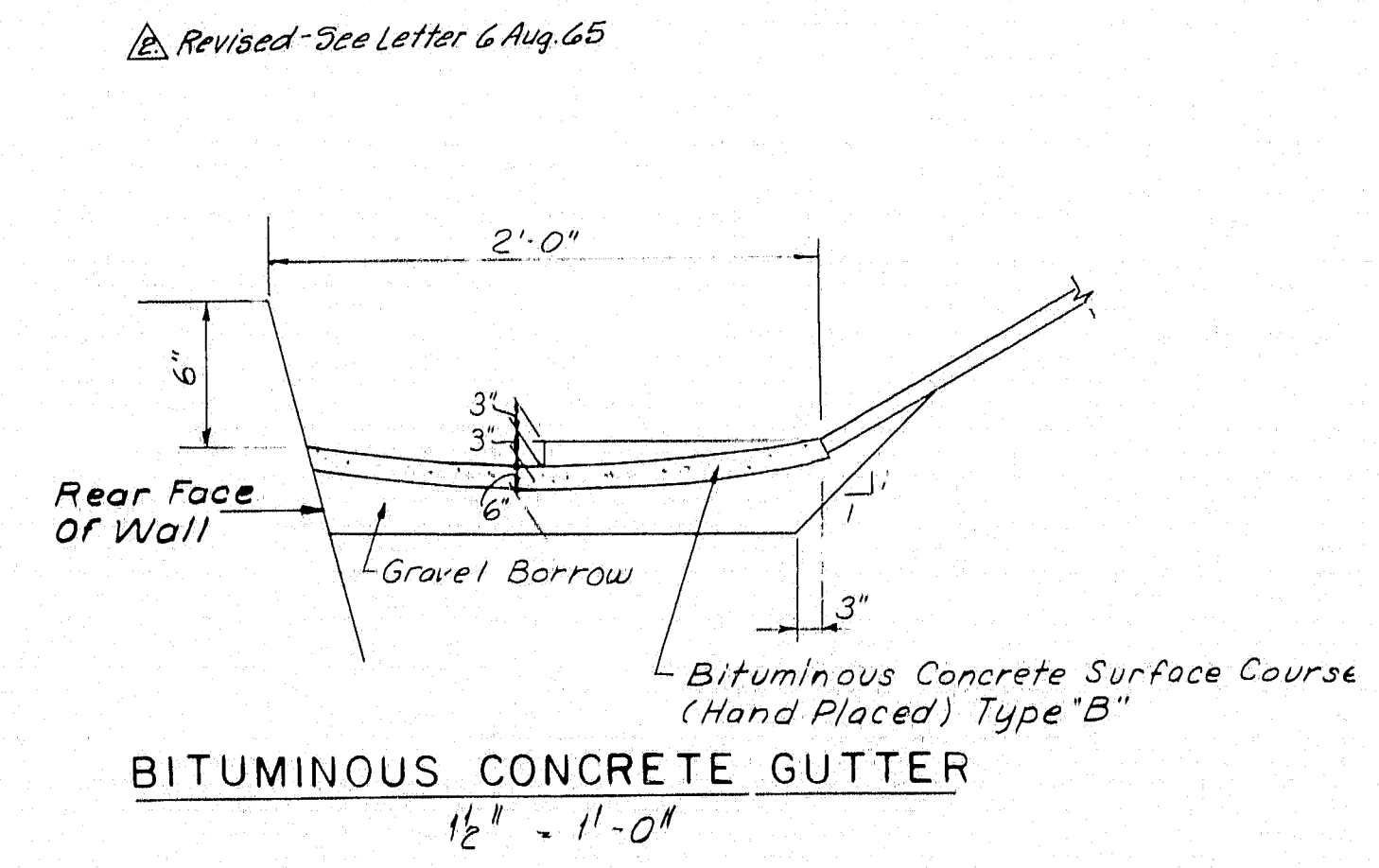
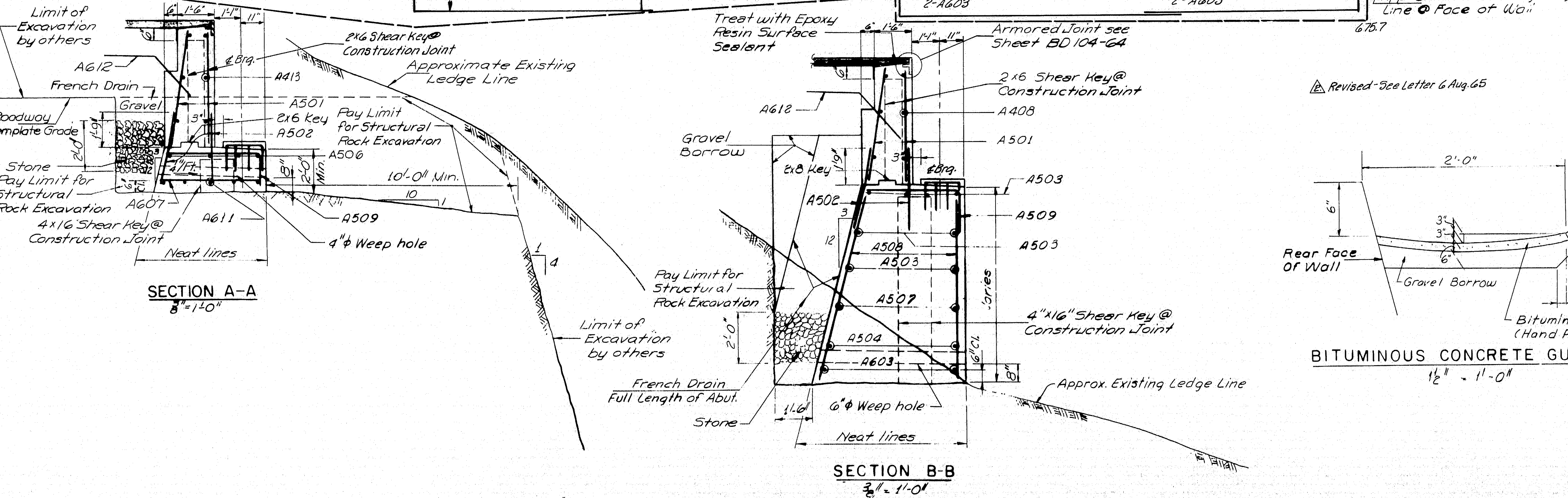
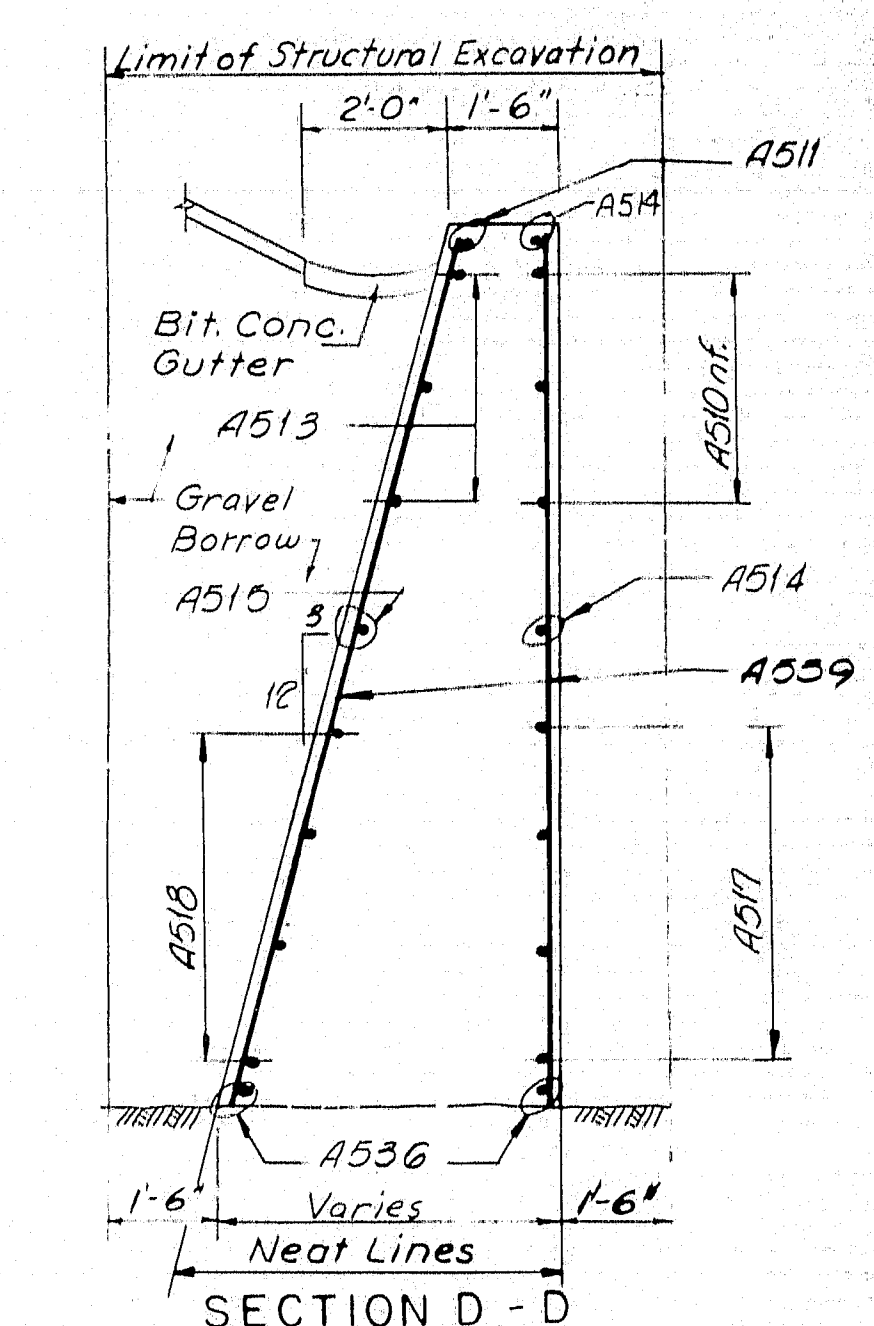
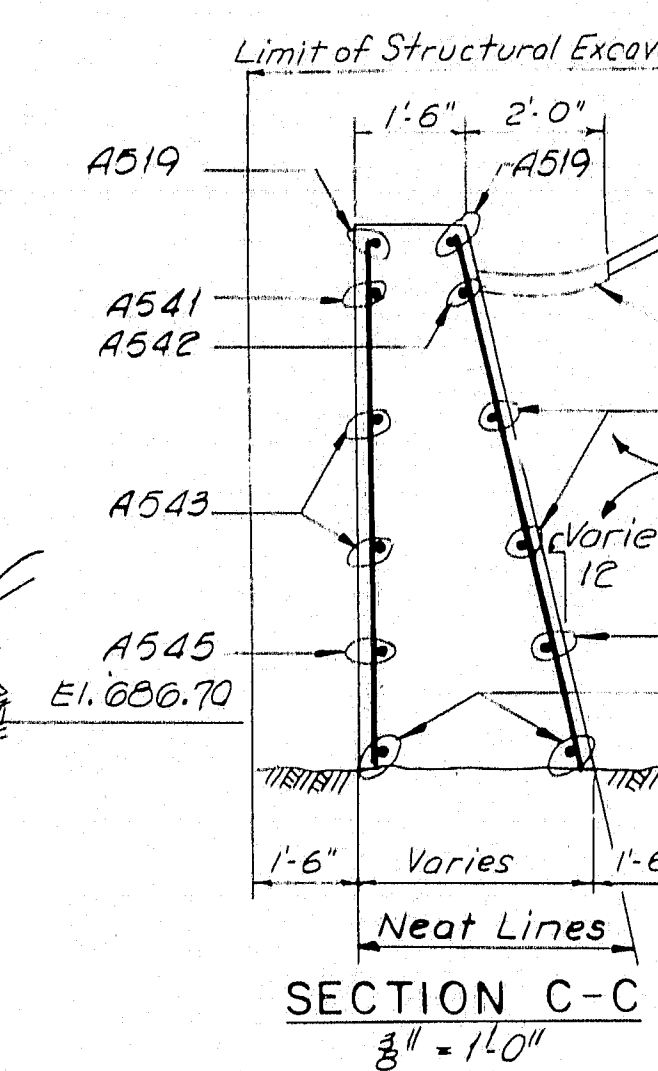
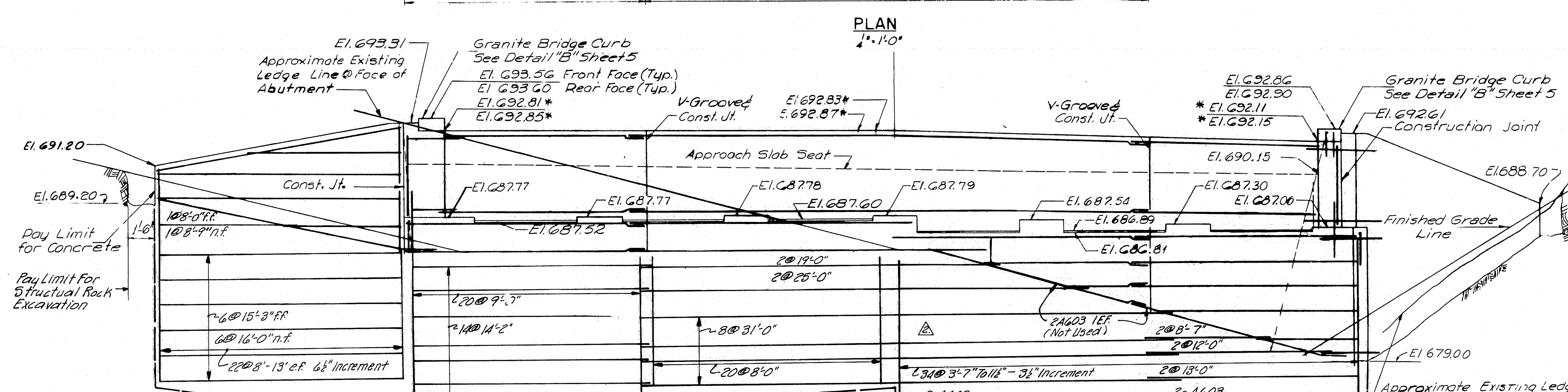
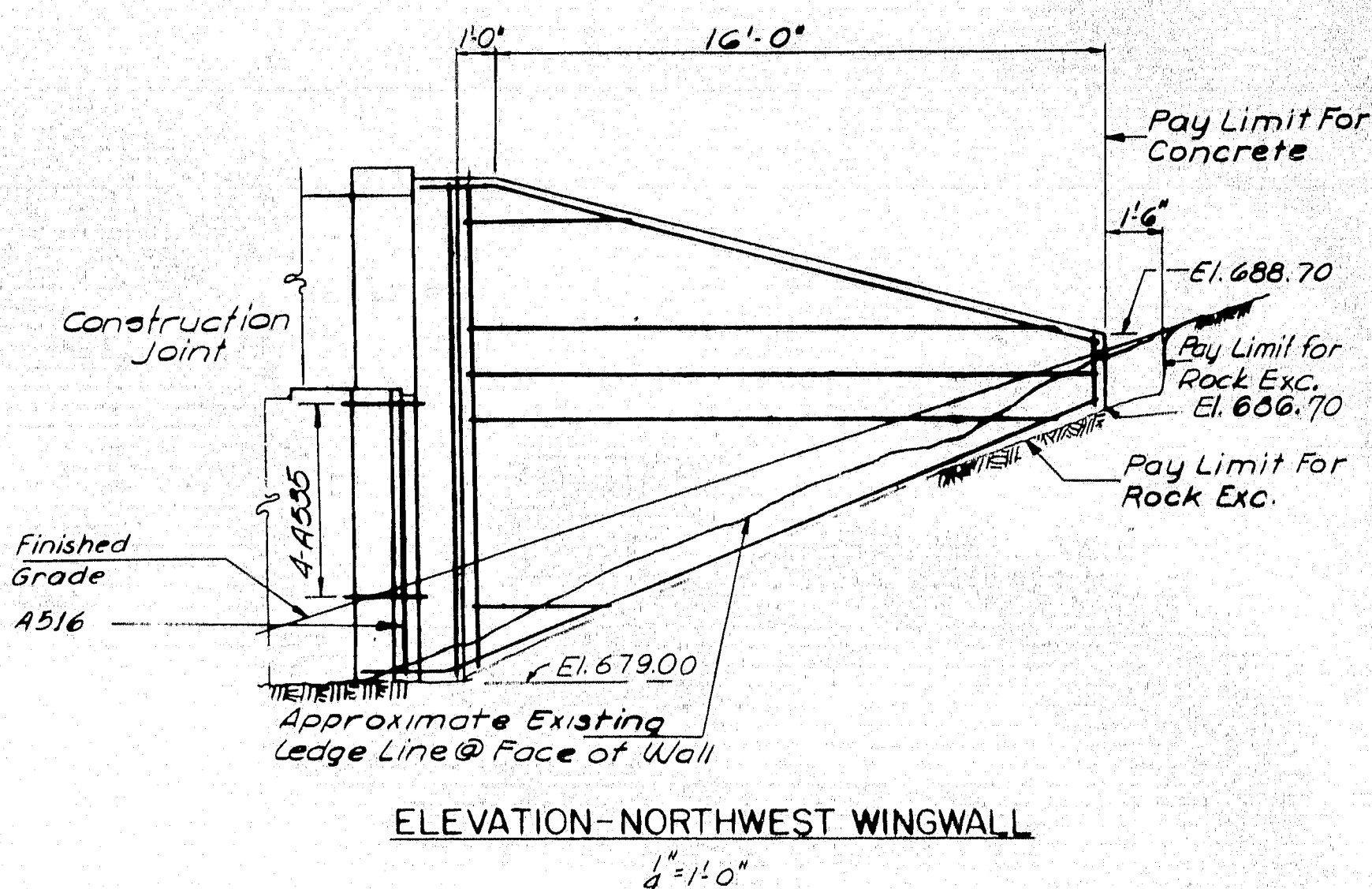
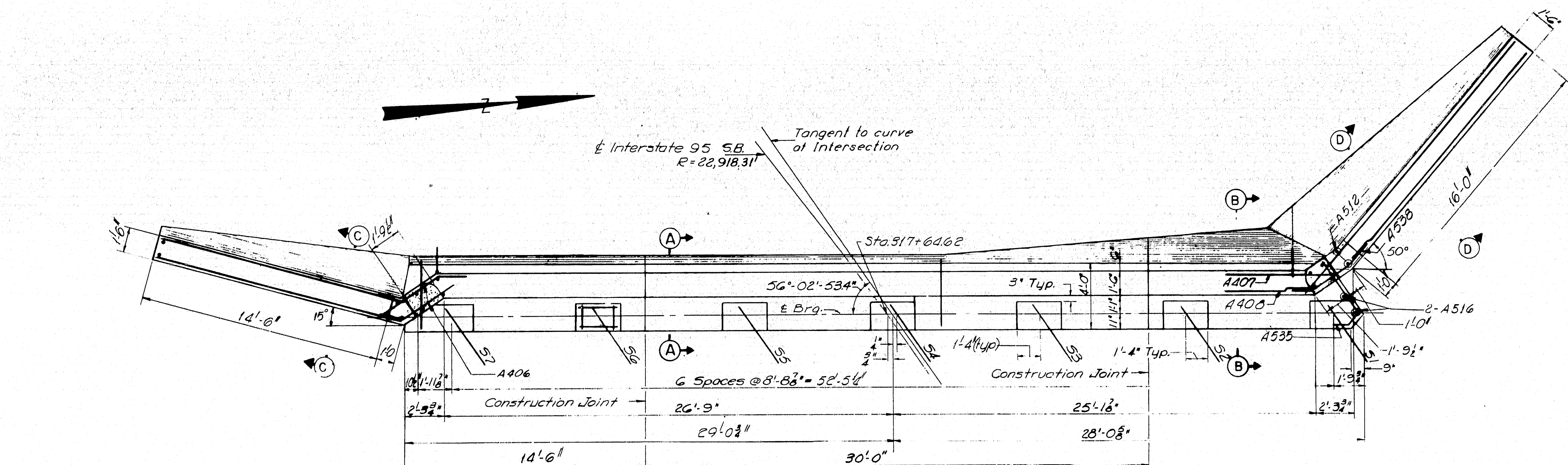
- Number of blows required to drive extra heavy casing one foot with 400 ft. lbs. of energy per blow.
- Location of sample or sample attempt. Number and type of dry sample.
- ID S&H Sampler #1290's
- Number of blows required to drive spoon or tubing one foot with 350 ft. lbs. of energy per blow.
- Bottom of boring (may not be of soil strata)
- 71% Locations cored by diamond bit and per cent recovery of rock.



DESIGN- TRACE- CHECK- W.A.V.	DETAIL- R.F.	BRIDGE NO. SURVEY- PLOT-
STATE HIGHWAY COMMISSION BRIDGE DIVISION		
INTERSTATE 95 OVER RELOCATED TIMONEY ROAD IN THE TOWN OF SMYRNA ARROSTOOK COUNTY FOUNDATION SURVEY		
HOWARD, NEEDLES, TAMMEN & BERGENDOFF CONSULTING ENGINEERS NEW YORK BOSTON KANSAS CITY		SHEET 8 OF 14 AUGUSTA, MAINE MARCH 1965

96-98 SMYRNA(19)





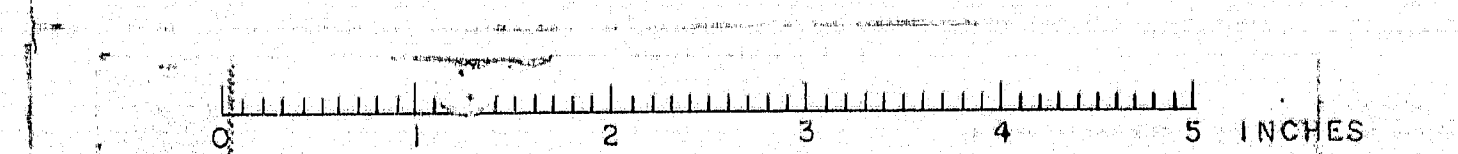
- NOTES:
- For General Notes see Sheet 10.
 - Spread Footing on Ledge 5 Tons/5.F.
 - All weathered or broken ledge shall be removed before any concrete is placed.
 - No payment will be made for concrete outside neat lines shown.
 - No payment will be made for concrete or rock excavation required by an overbreakage of ledge in excess of 6" downward.

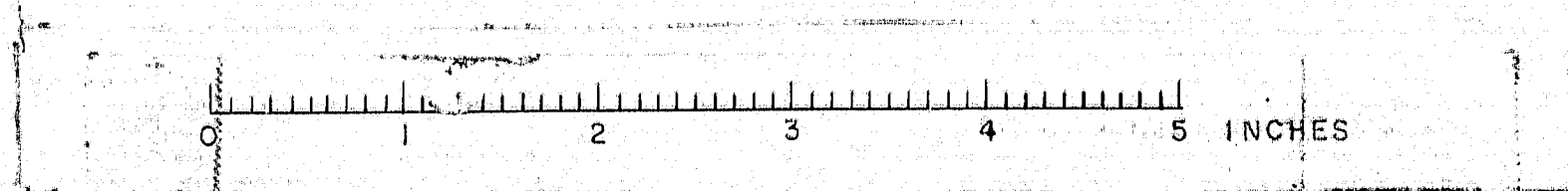
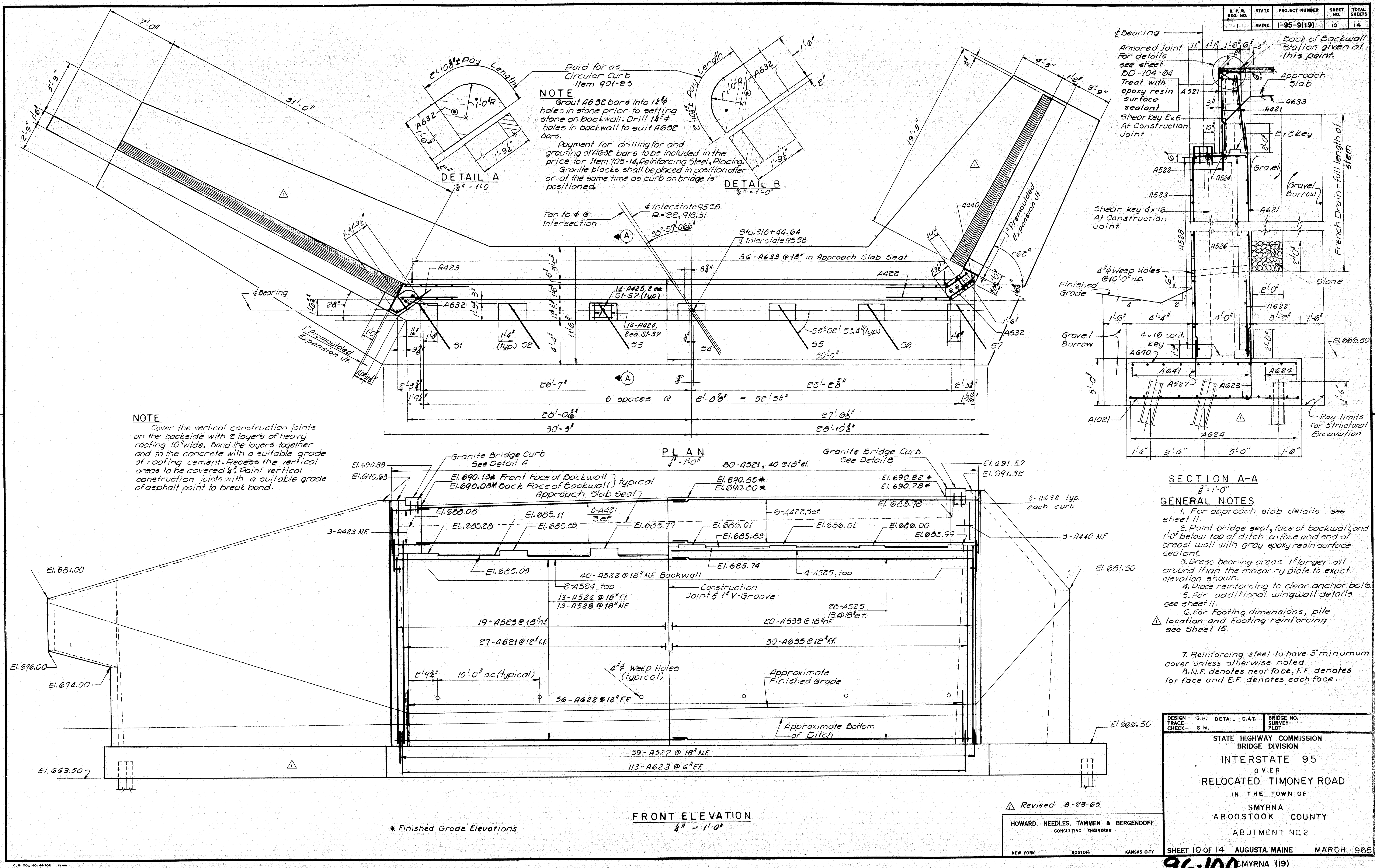
DESIGN - R.E. DETAIL - A.A. BRIDGE NO. 104-64
TRACE - P.R.N. SURVEY - PLOT -

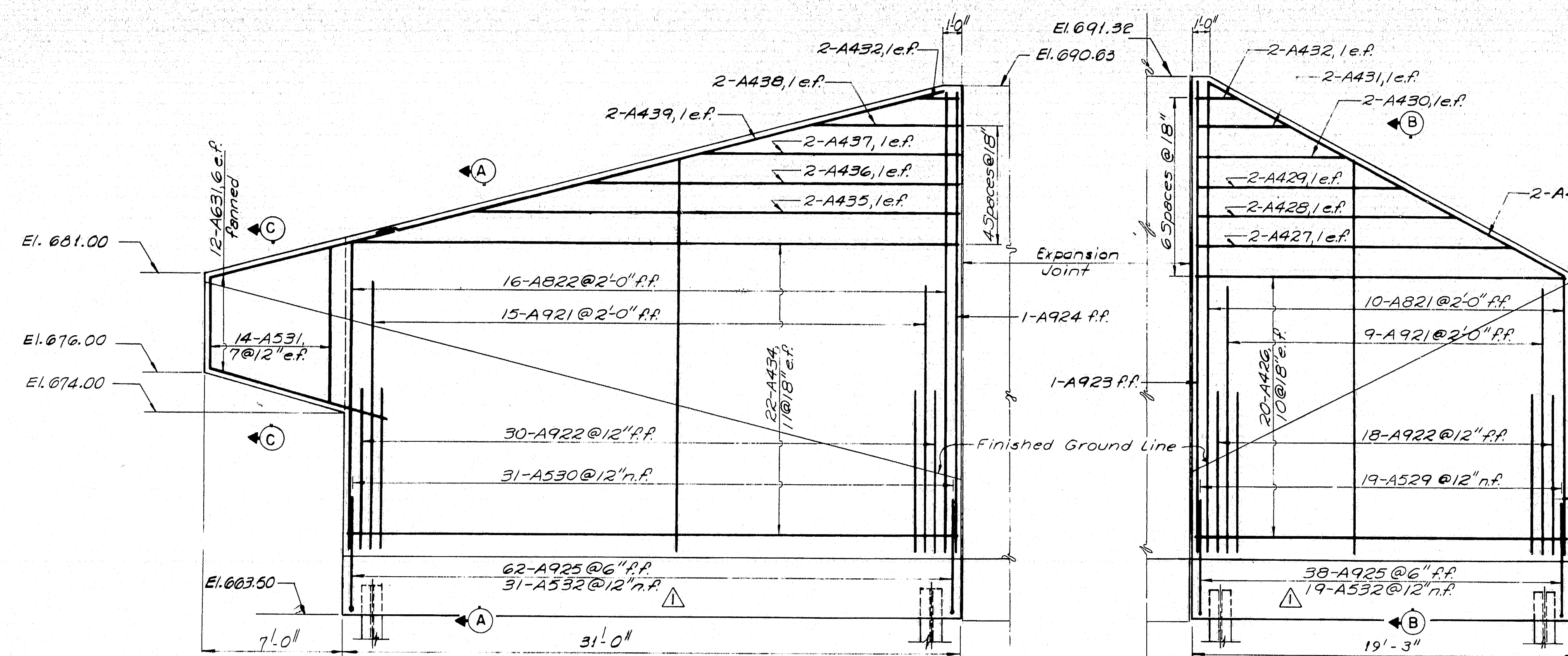
STATE HIGHWAY COMMISSION
BRIDGE DIVISION
INTERSTATE 95 SB
OVER
RELOCATED TIMONEY ROAD
IN THE TOWN OF
SMYRNA
ARROOSTOOK COUNTY
ABUTMENT NO. 1

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

SHEET 9 OF 14 AUGUSTA, MAINE MARCH 1965

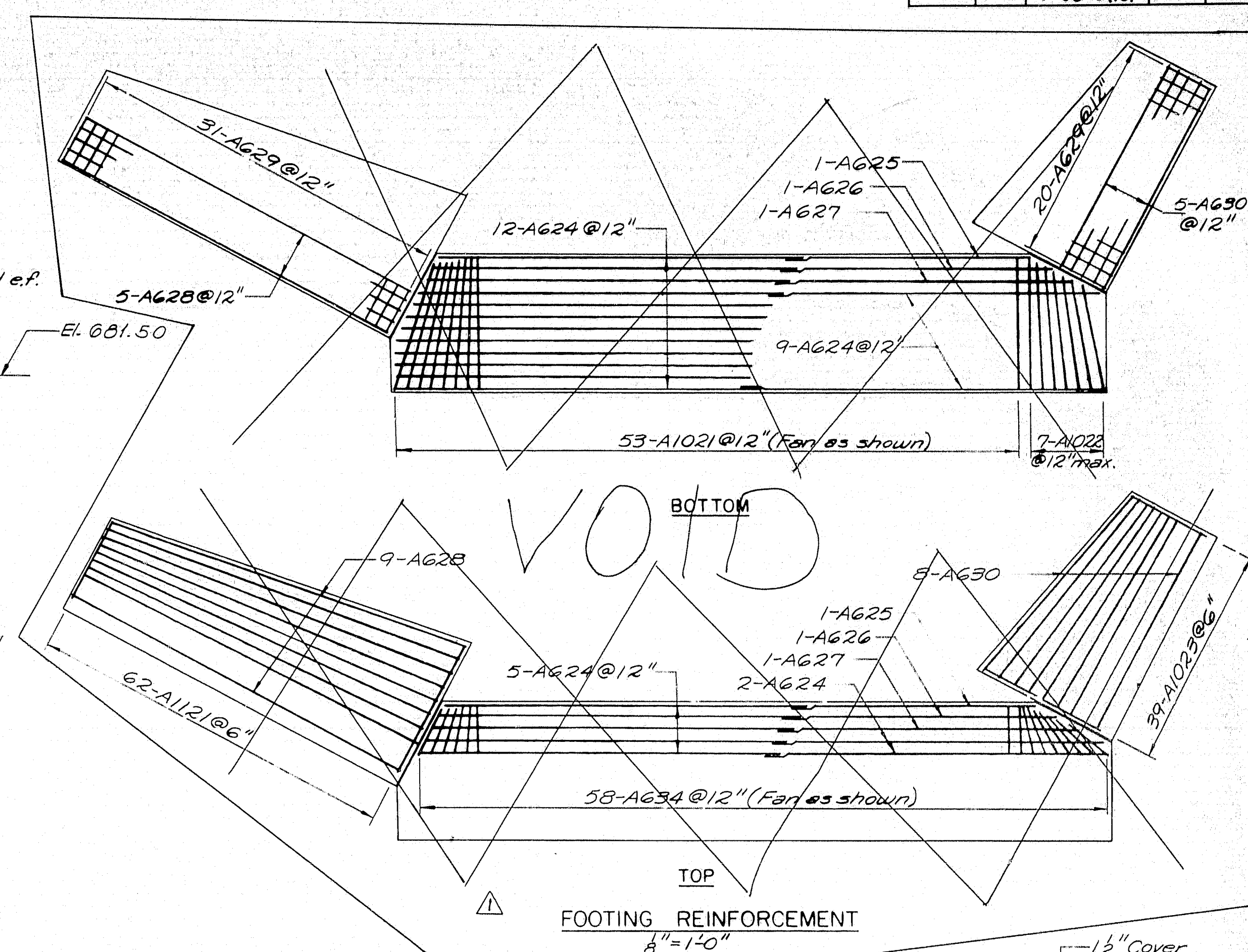




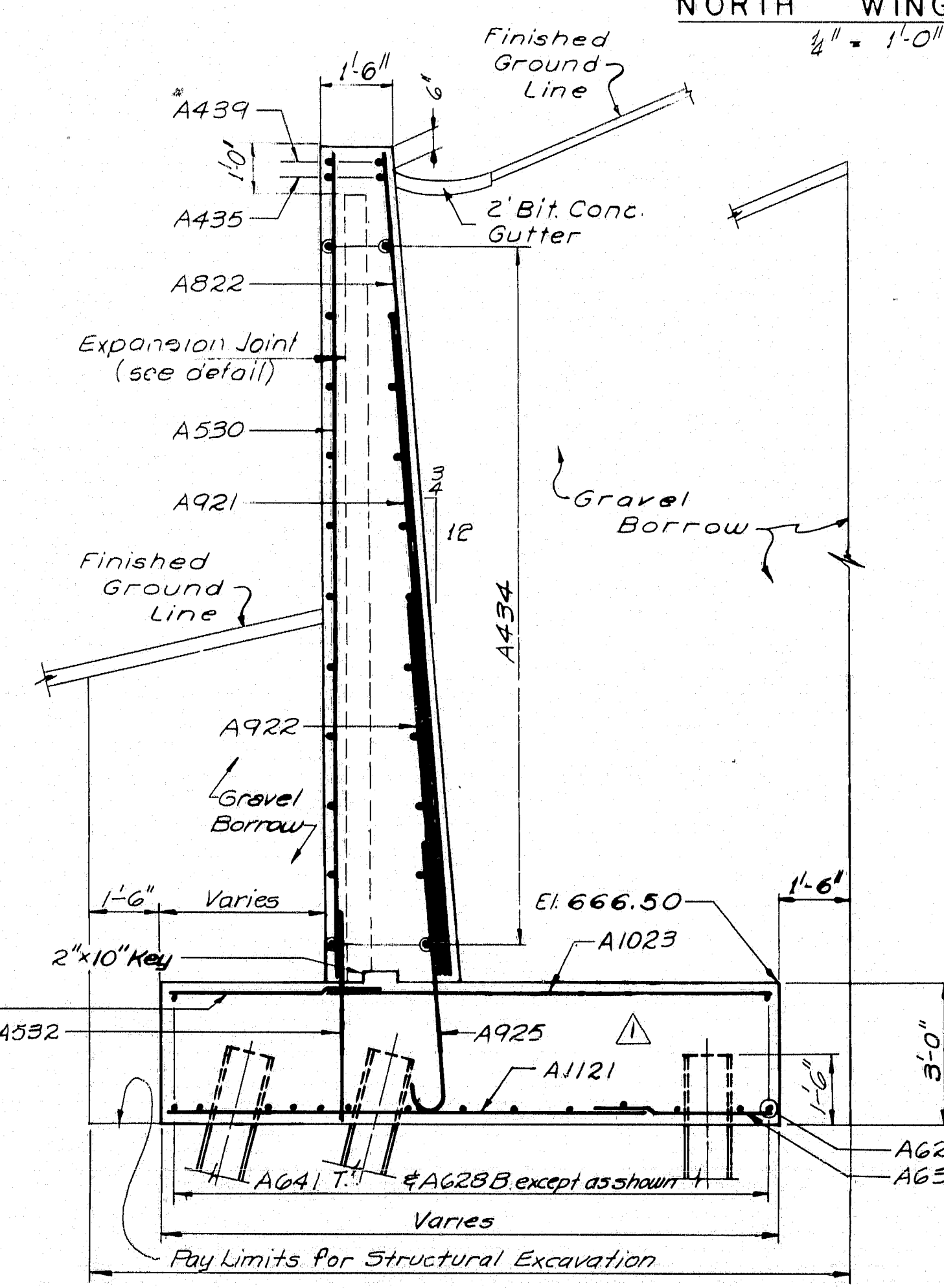


NORTH WINGWALL
1/8" = 1'-0"

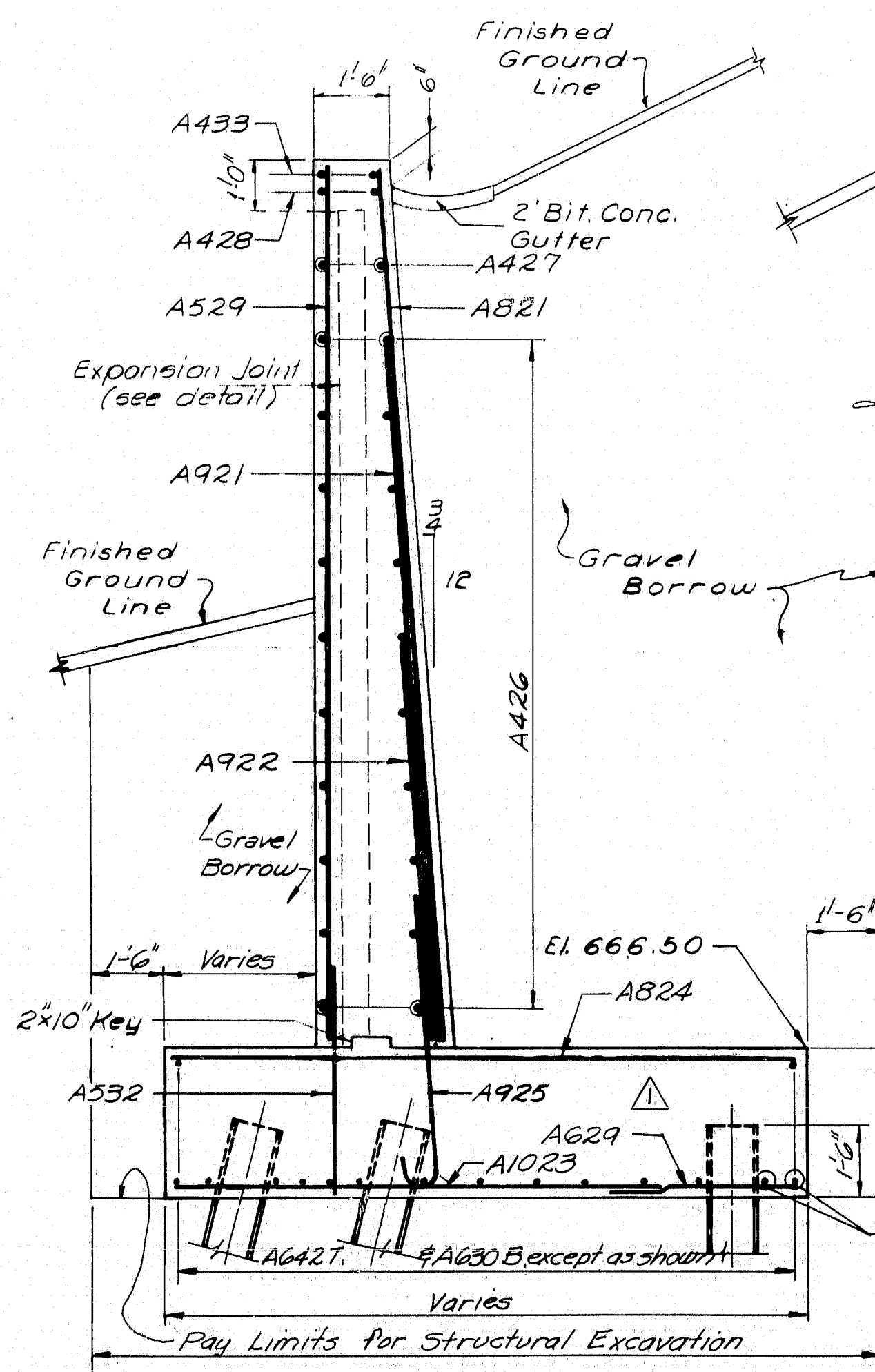
SOUTH WINGWALL
1/8" = 1'-0"



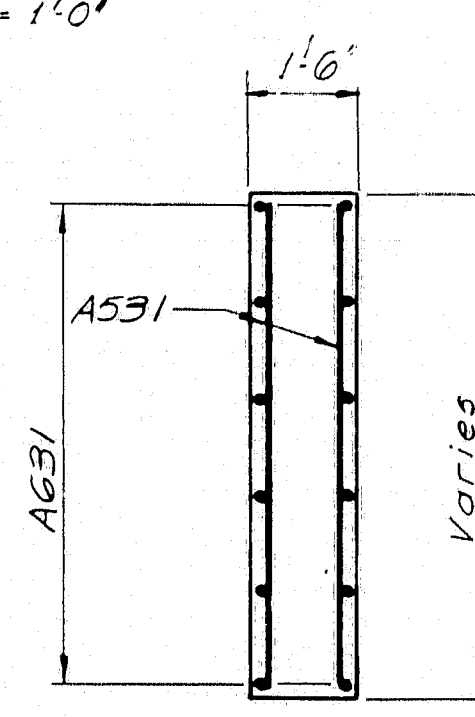
FOOTING REINFORCEMENT
1/8" = 1'-0"



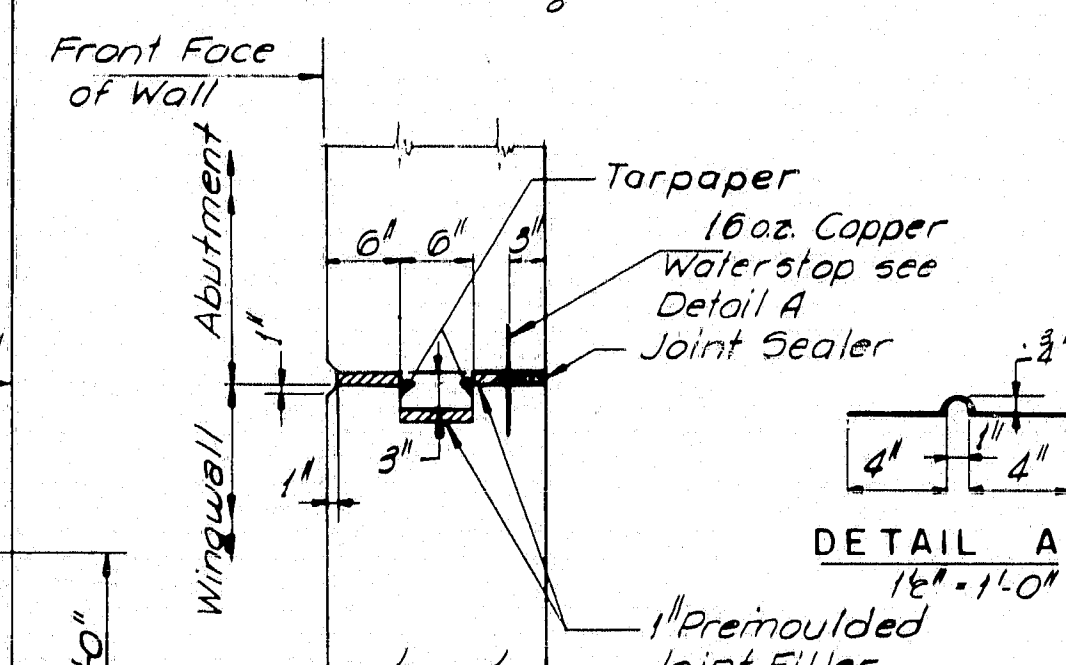
SECTION A-A
1/8" = 1'-0"



SECTION B-B
1/8" = 1'-0"

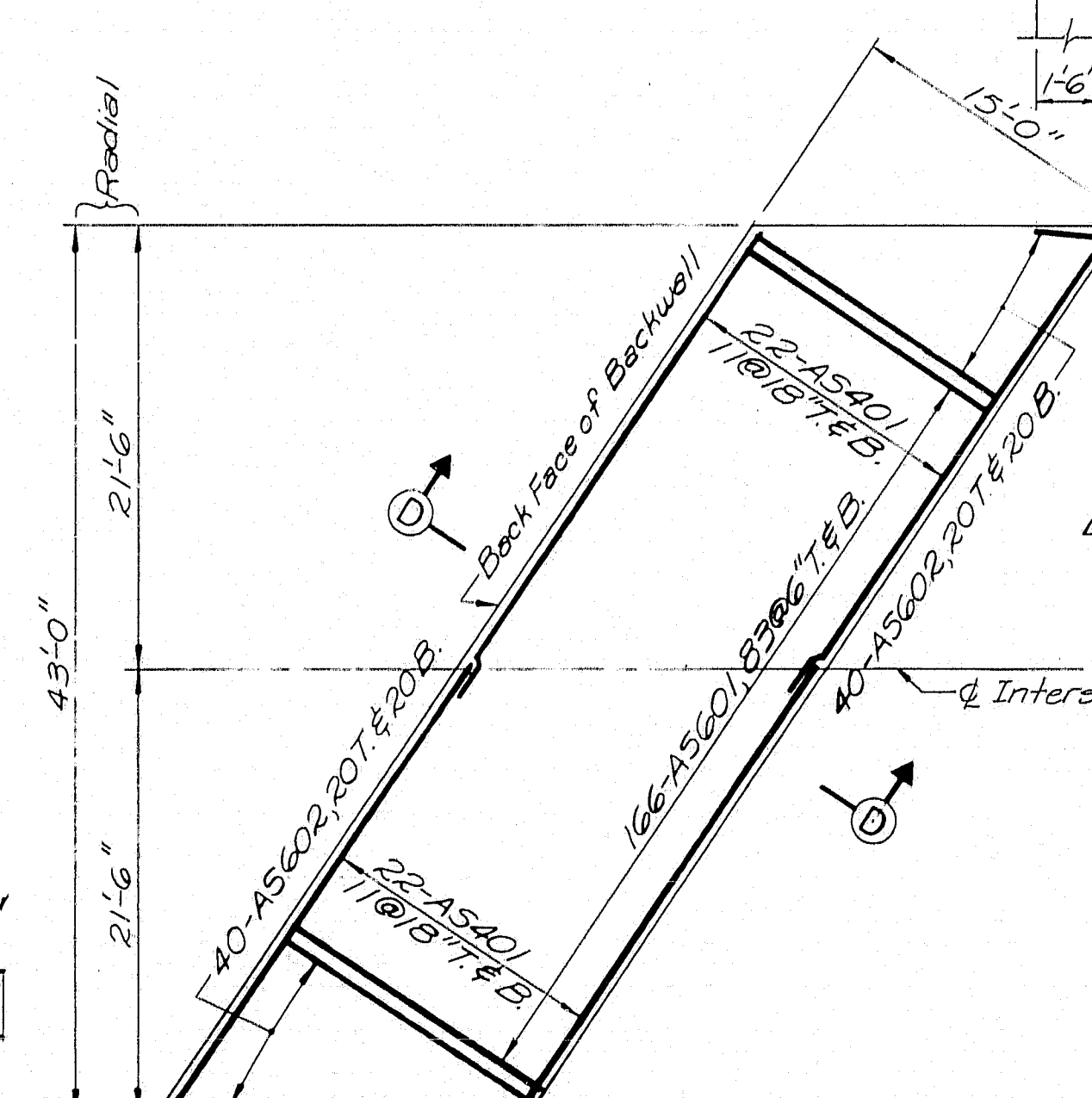


SECTION C-C
1/8" = 1'-0"



NOTE: Joint sealer shall conform to Federal Specification TT-C-598 and shall be gray Grade I Compound.

EXPANSION JOINT DETAIL
1/8" = 1'-0"



APPROACH SLAB DETAILS
1/8" = 1'-0"

Approach Slab Abut. No. 2 shown
Approach Slab Abut. No. 1 similar
Reinforcing same for both
Concrete in approach slabs will be paid for under Item 701-33.

- NOTES:
1. For General Notes see sheet 10.
 2. For plan of wingwall's see sheet 10.
 3. South Wing Wall spread footing on ledge 4.0 Tens./S.F.
 4. North Wing Wall spread footing on soil 3.5 Tens./S.F.
 5. For footing dimensions, pile location and footing reinforcing see sheet 15.

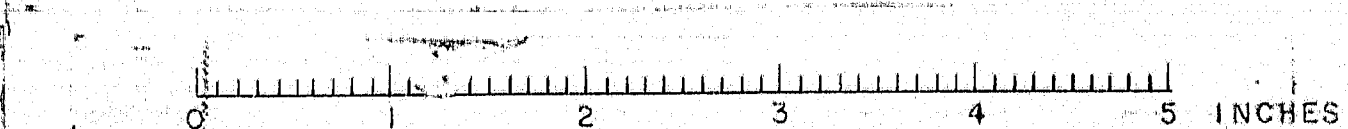
DESIGN-G.H.	DETAIL D.A.T.	BRIDGE NO.
TRACE		
CHECK-P.R.N.		

STATE HIGHWAY COMMISSION
BRIDGE DIVISION
INTERSTATE 95
OVER
RELOCATED TIMONEY ROAD
IN THE TOWN OF
SMYRNA
AROSTOOK COUNTY
ABUTMENT NO. 2- WINGWALLS
APPROACH SLAB
SHEET 11 OF 14 AUGUSTA, MAINE MARCH 1965

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

Revised 8-23-65

96-100A SMYRNA (19)



Fabrication and Erection: State of Maine Standard Specifications for Highways and Bridges, Revision of Jan. 1956 and Supplemental, Feb. 1960.
Design and Detail: A.A. SHO. Standard Specifications for Highway Bridges of 1961, and Interim Specifications, 1961, 1962, 1963, 1964.
Materials: Except as otherwise noted on the Standard Details, all materials shall conform to A.S.T.M. designation A36.

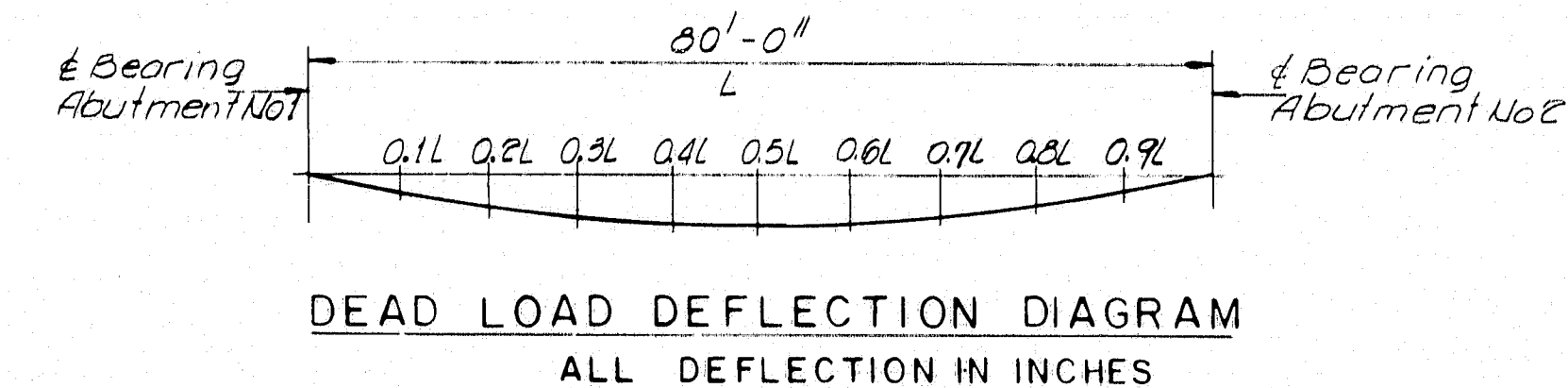
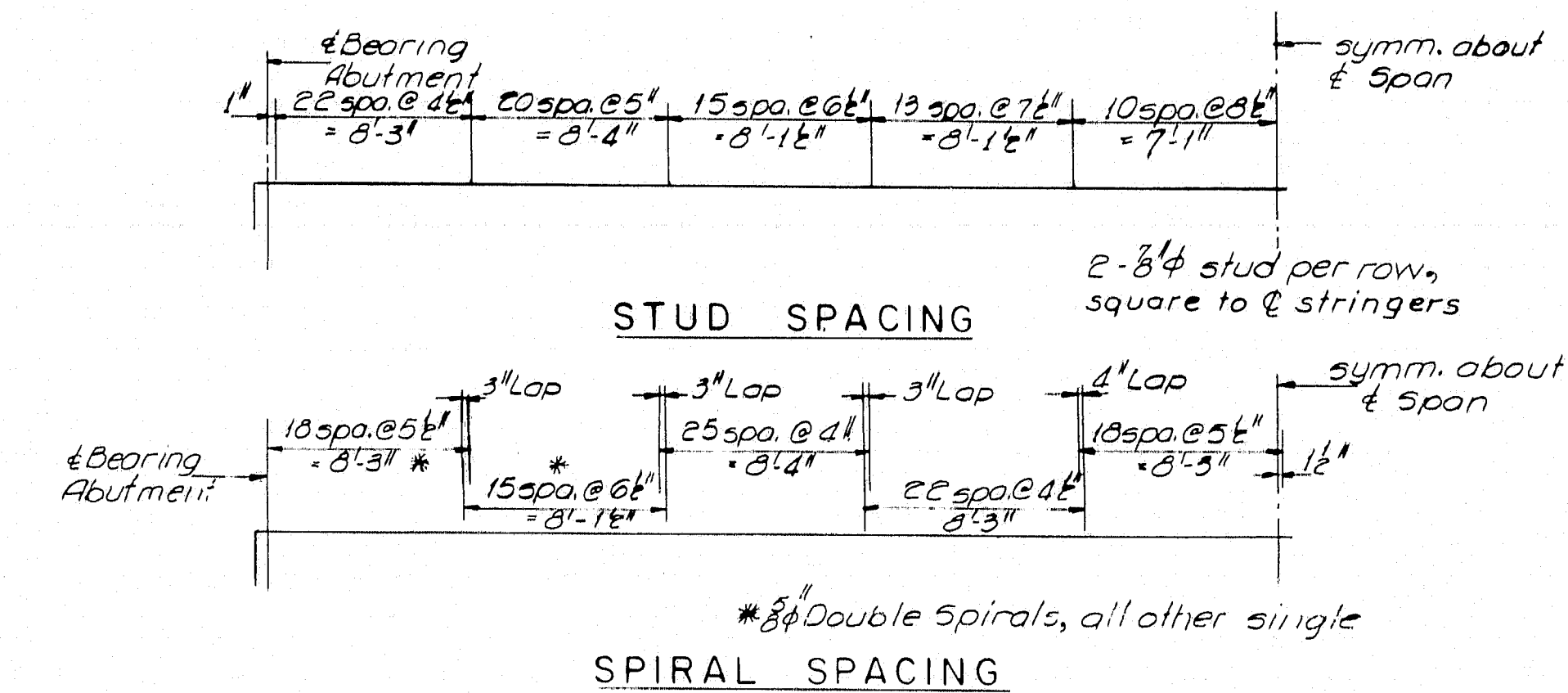
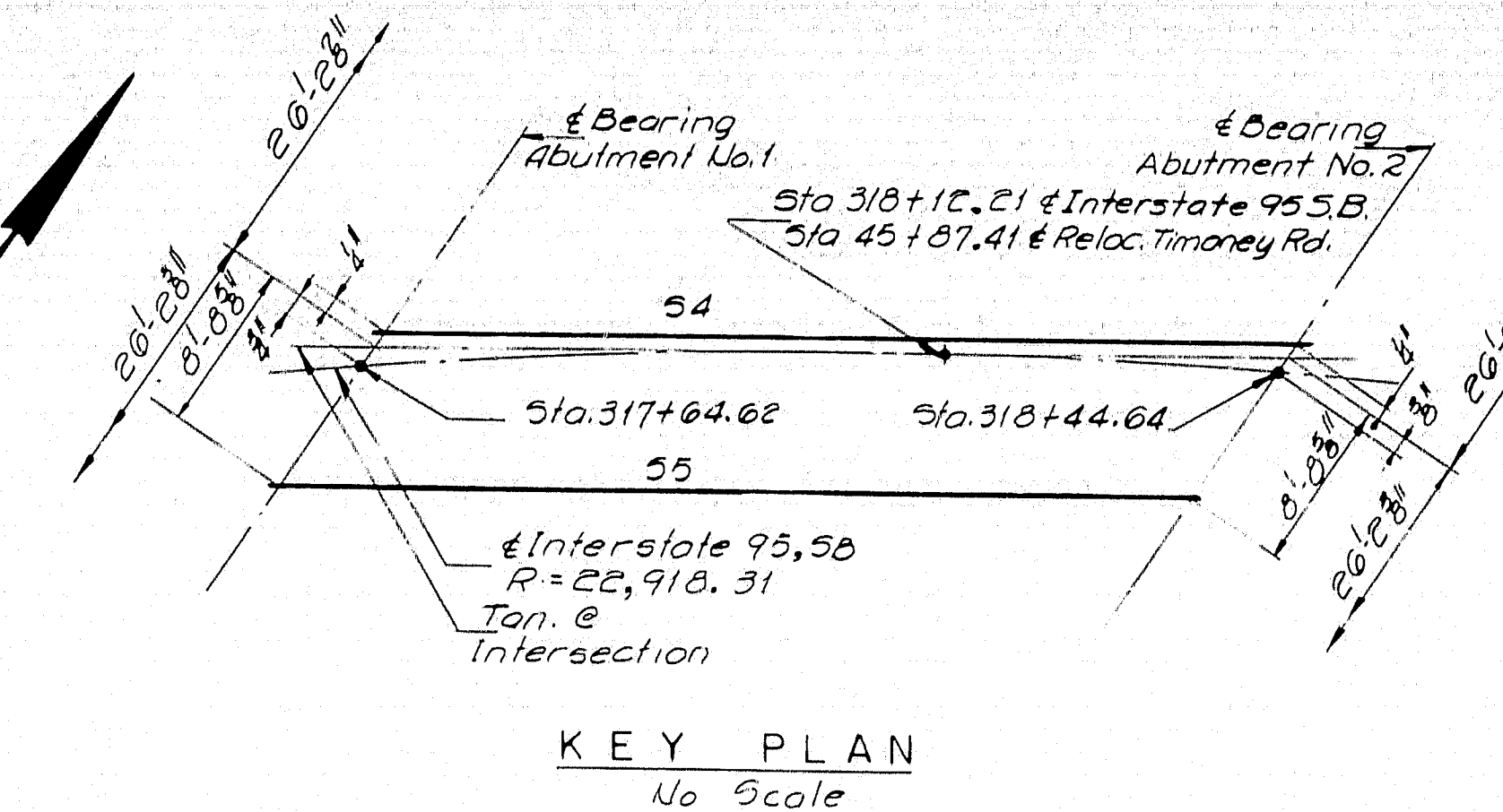
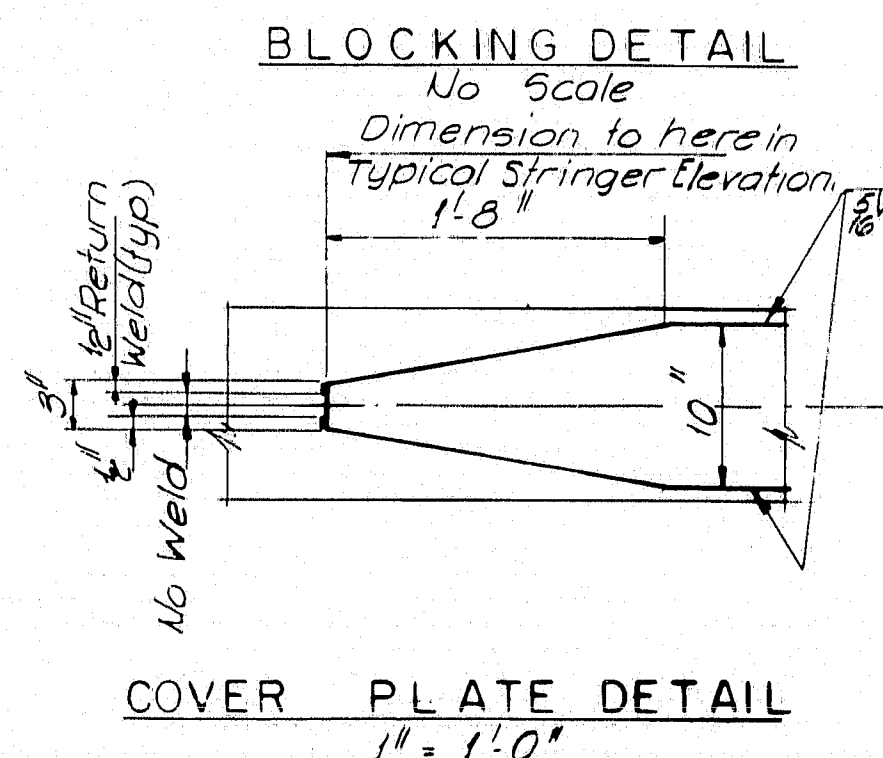


Diagram showing the bottom of a slab elevation. A dimension of $2\frac{1}{2}''$ is indicated. A note states: "Blocking @ 1' @ Brg. Abutments (Do not use for setting form)".

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 slab form work is started.



DEAD LOAD DEFLECTION SCHEDULE INCHES						
STRINGER	LOCATION	STEEL	CONC.	B.D.L	TOTAL	
5E-57		ALC/CL	0.15	0.31	0.06	0.52
		OR/CL	0.29	0.60	0.12	1.01
		3/4CL	0.40	0.83	0.16	1.39
		1/4CL	0.47	0.97	0.19	1.63
		0.5L	0.50	1.02	0.20	1.72
5E-56		ALC/CL	0.15	0.43	0.07	0.65
		OR/CL	0.29	0.82	0.13	1.24
		3/4CL	0.40	1.13	0.18	1.71
		1/4CL	0.47	1.32	0.21	2.00
		0.5L	0.50	1.39	0.22	2.11

B.D.L. deflection includes the effect of safety walk, rail and pavement dead load.

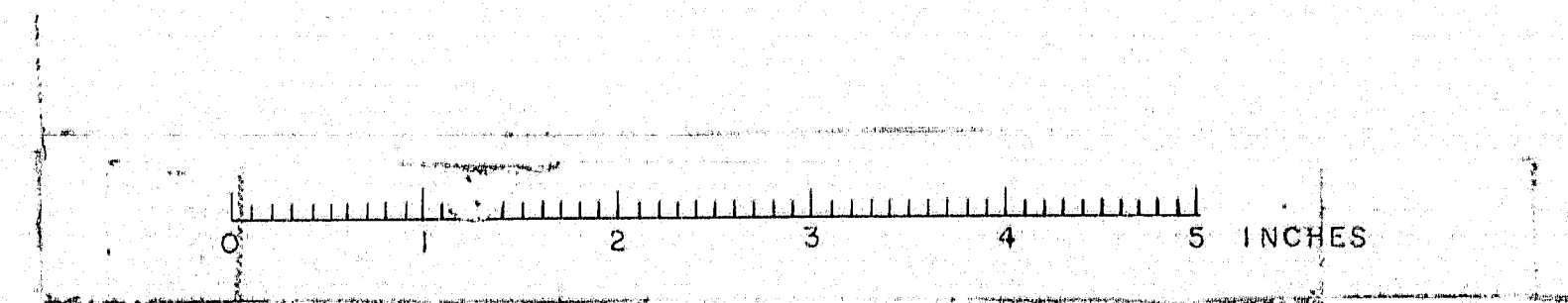
All beams are to be combered a minimum 3" with a tolerance of $+8", -0"$.

	Org.	0.1L	0.2L	0.3L	0.4L	0.5L	0.6L	0.7L	0.8L	0.9L	End
Dimension A	1'6"	1'6 1/2"	1'6 1/4"	1'6 3/4"	1'6 1/2"	1'6 1/4"	1'6 1/2"	1'6 1/4"	1'6 1/2"	1'5 3/4"	1'5"
Dimension B	1'7 3/4"	1'7 1/2"	1'7 3/4"	1'7 1/2"	1'6 1/2"	1'6 1/2"	1'6 1/4"	1'6 1/2"	1'6 3/4"	1'6 1/2"	1'6"

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS

NEW YORK	BOSTON	KANSAS CITY	SHEET 12 OF 14	AUGUSTA, MAINE	MARCH 1965
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96-100B SMYRNA (19)



MARK	SIZE	NUMBER	LENGTH	INCR.	LOCATION
ABUTMENT NO. 1					
STRAIGHT BARS					
A401	4	6	12'3"		Backwall
A407	4	3	12'6"		"
A408	4	3	11'0"		"
A413	4	6	31'0"		Backwall
A501	5	76	5'0"		Backwall & Stem
A502	5	74	3'0"		Footing Stem & Walls
A503	5	8	13'9"		Stem
A504	5	2	6'0"		"
A505	5	4	13'3"		"
A506	5	4	17'0"		"
A507	5	4	12'0"		"
A508	5	30	2'0" to 7'0"	4"	Stem 2 Groups of 15
A510	5	3	3'0" to 15'0"	6'0"	Wingwall
A512	5	2	13'3"		"
A513	5	3	6'0" to 18'0"	6'0"	"
A514	5	2	17'0"		"
A515	5	1	20'0"		Wingwall
A516	5	4	15'0"		Stem
A517	5	4	4'9" to 16'9"	4'0"	Wingwall
A518	5	4	7'9" to 19'9"	4'0"	"
A519	5	2	14'9"		"
A539	5	24	2'0" to 13'3"	12"	" 2 Groups of 12
A540	5	22	20' to 7'6"	6"	" 2 Groups of 11
A541	5	1	9'3"		"
A542	5	1	10'0"		"
A543	5	2	15'3"		"
A544	5	2	16'0"		"
A545	5	2	9'0"		Wingwall & Stem
A601	6	5	14'3"		Footing Longitudinal
A603	6	4	14'0"		Footing Longitudinal
A607	6	32	14'0"		Footing Transverse
A608	6	4	7'0"		Curb
A611	6	5	21'0"		Footing Longitudinal
BENT BARS					
A404	4	14	4'9"		Pads
A405	4	14	5'8"		Pads
A406	4	6	5'0"		Backwall
A509	5	37	4'9"		Stem
A511	5	1	20'0"		"
A520	5	6	4'0"		"
A535	5	4	5'8"		"
A536	5	2	21'0"		"
A537	5	2	17'6"		Stem
A538	5	3	5'3"		Backwall
A612	6	35	3'6"		Approach Slab Seat
ABUTMENT NO. 2					
STRAIGHT BARS					
A421	4	6	27'7"		Backwall
A426	4	20	18'6"		Walls
A427	4	2	15'9"		"
A428	4	2	13'0"		"
A429	4	2	10'5"		"
A430	4	2	7'6"		"
A431	4	2	4'9"		"
A432	4	4	2'0"		"
A433	4	2	20'6"		"
A434	4	22	30'6"		"
A435	4	2	24'9"		"
A436	4	2	19'0"		"
A437	4	2	13'3"		"
A438	4	2	7'4"		"
A439	4	2	31'0"		Walls
A521	5	80	4'6"		Backwall
A522	5	40	3'5"		Stem & Backwall, Footing & Walls
A524	5	2	28'0"		Stem

MARK	SIZE	NUMBER	LENGTH	INCR.	LOCATION
ABUTMENT NO. 2 (CONTINUED)					
STRAIGHT BARS					
A525	5	30	29'8"		Stem
A526	5	13	26'9"		Stem
A527	5	39	2'6"		Footing & Stem
A529	5	19	14'9" to 24'6"	6"	Wall 1 Group of 19
A530	5	31	16'0" to 23'4"	3"	" 1 Group of 31
A531	5	14	4'6" to 8'0"	7"	Wall 2 Groups of 7
A532	5	50	3'0"		Wall Footing
A621	6	27	20'7"		Stem
A622	6	56	5'0"		Stem
A624	6	28	30'0"		Footing
A625	6	2	20'5"		"
A626	6	2	22'9"		"
A627	6	2	25'5"		"
A628	6	14	30'6"		"
A629	6	51	4'0"		"
A630	6	13	18'9"		Footing
A631	6	12	8'6"		Walls
A632	6	4	1'0"		Curb Dowels
A634	6	58	4'4"		Footing
A635	6	30	21'4"		Stem
A821	8	10	14'9" to 24'6"	1'1"	Walls 1 Group of 10
A822	8	16	16'0" to 23'4"	6"	Walls 1 Group of 16
A921	9	24	14'0"		Walls
A922	9	48	8'6"		"
A923	9	1	24'6"		"
A924	9	1	23'10"		Walls
A1021	10	53	11'0"		Footing
A1022	10	7	9'0" to 11'0"	4"	" 1 Group of 7
A1023	10	39	7'6" to 12'0"	1'8"	Footing 1 Group of 39
A1121	11	62	8'0" to 13'0"	1"	Footing 1 Group of 62
BENT BARS					
A422	4	6	30'0"		Backwall
A423	4	3	4'6"		Backwall
A424	4	14	4'9"		Pads
A425	4	14	5'8"		Pads
A440	4	3	1'8"		Backwall
A523	5	19	21'9"		Stem
A528	5	13	28'5"		Stem
A533	5	20	22'6"		Stem
A623	6	113	5'2"		Footing & Stem
A633	6	36	3'6"		Approach Slab Seat
A925	9	100	6'0"		Footing & Wall Stem
APPROACH SLAB - ABUT. NO. 1					
STRAIGHT BARS					
A5401	4	44	26'5"		Approach Slab
A5601	6	166	14'6"		Approach Slab
A5602	6	80	4'0" to 14'6"	6"	Approach Slab 4 Groups of 20
APPROACH SLAB - ABUT. NO. 2					
STRAIGHT BARS					
A5401	4	44	26'5"		Approach Slab
A5601	6	166	14'6"		Approach Slab
A5602	6	80	4'0" to 14'6"	6"	Approach Slab 4 Groups of 20

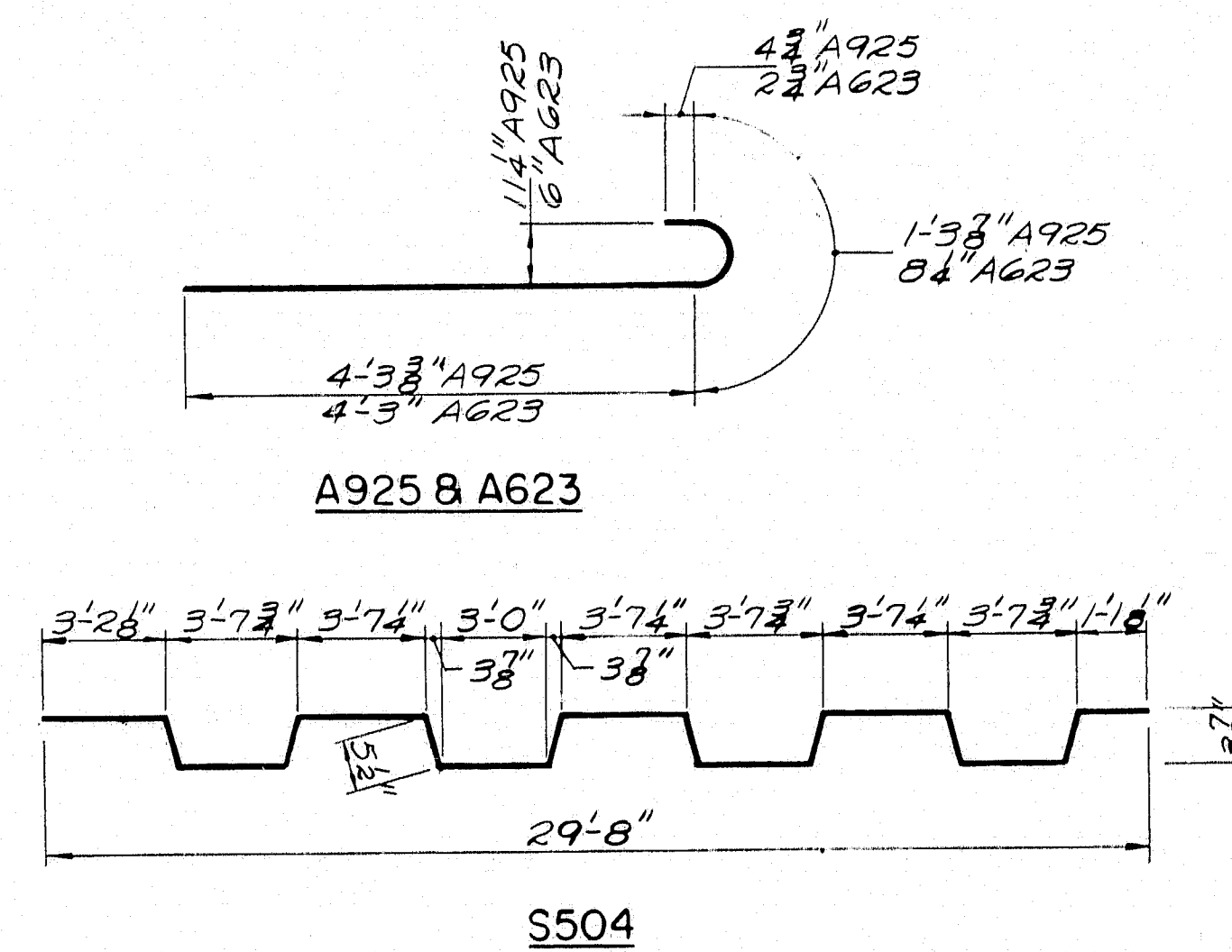
MARK	SIZE	NUMBER	LENGTH	INCR.	LOCATION
SUPERSTRUCTURE					
STRAIGHT BARS					
S402	4	40	1'8"		End Post
S501	5	59	20'1"		Slab Transverse
S502	5	59	27'3"		"
S503	5	222	2'9" to 2'3" to 26'0"	8"	" 4 Groups of 56
S506	5	144	4'0" to 21'0"	8"	" 4 Groups of 26
S508	5	104	26'6"		"
S509	5	8	26'6"		"
S510	5	20	8'0"		Slab Transverse
S511	5	266	30'0"		Slab Longitudinal
S512	5	153	24'6"		Slab Longitudinal
S514	5	20	16'1"		Safety Curb
BENT BARS					
S401	4	16	8'7"		End Post
S504	5	58	30'9"		Slab Transverse
S505	5	58	18'3"		"
S507	5	4	5'7"		Slab Transverse
S513	5	170	5'2"		Safety Curb
ADDITIONAL REINFORCEMENT ABUTMENT NO. 2 FOOTING					
A636	6	4	3'0"		Footing
A637	6	11	6'5" to 10'11"	5"	"
A638	6	6	10'11" to 12'3"	1'9"	"
A639	6	4	10'12" to 11'0"	6"	"
A640	6	37	11'0"		"
A641	6	32	30'0"		"
A642	6	15	26'0"		"
A643	6	15	10'8" to 10'9"	3"	"
A823	8	7	5'0" to 10'9"	3"	"
A824	8	9	10'9" to 13'8"	3"	Footing

A404, A405, A424 & A425

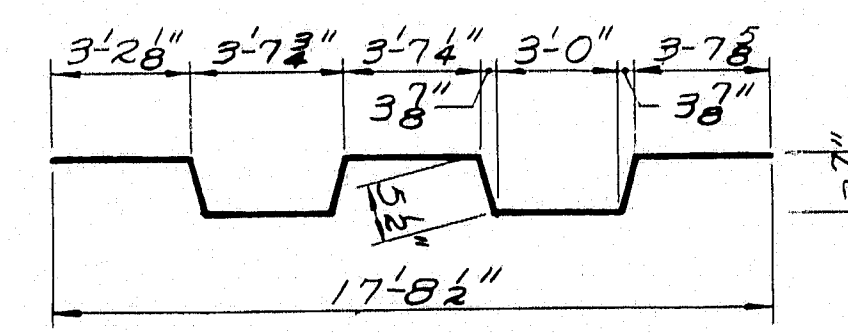
A509, A523 & A533

S401 & S513

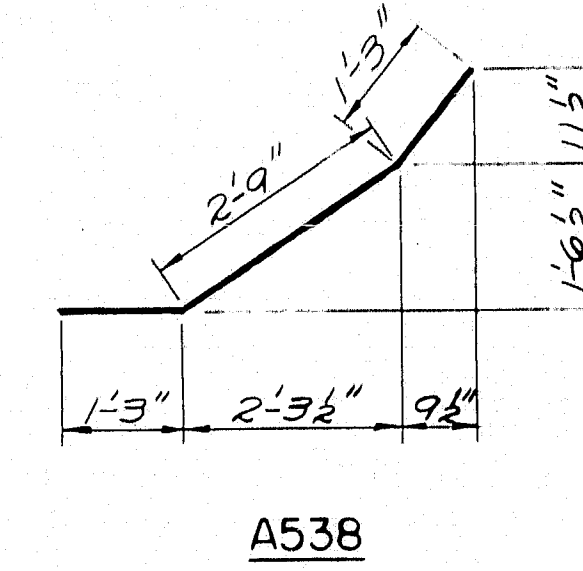
A535



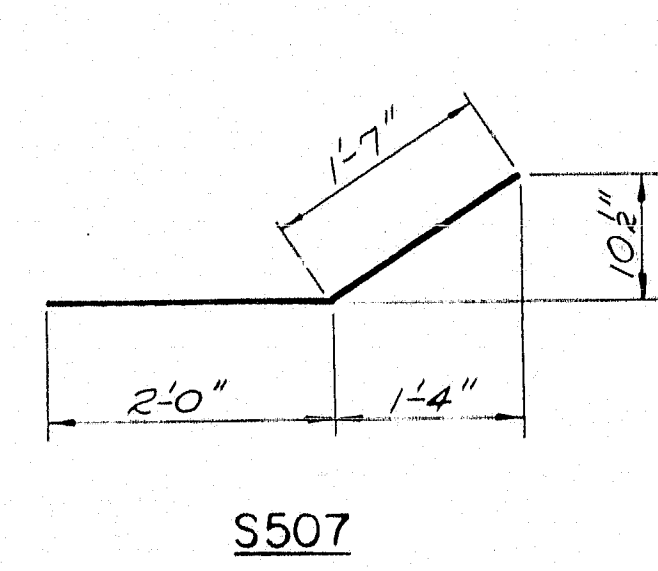
S504



S505



A538

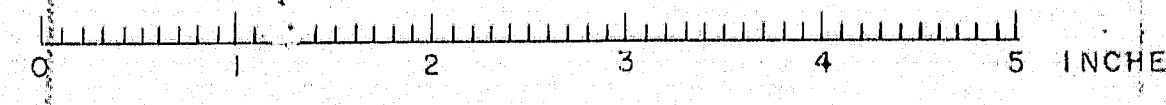


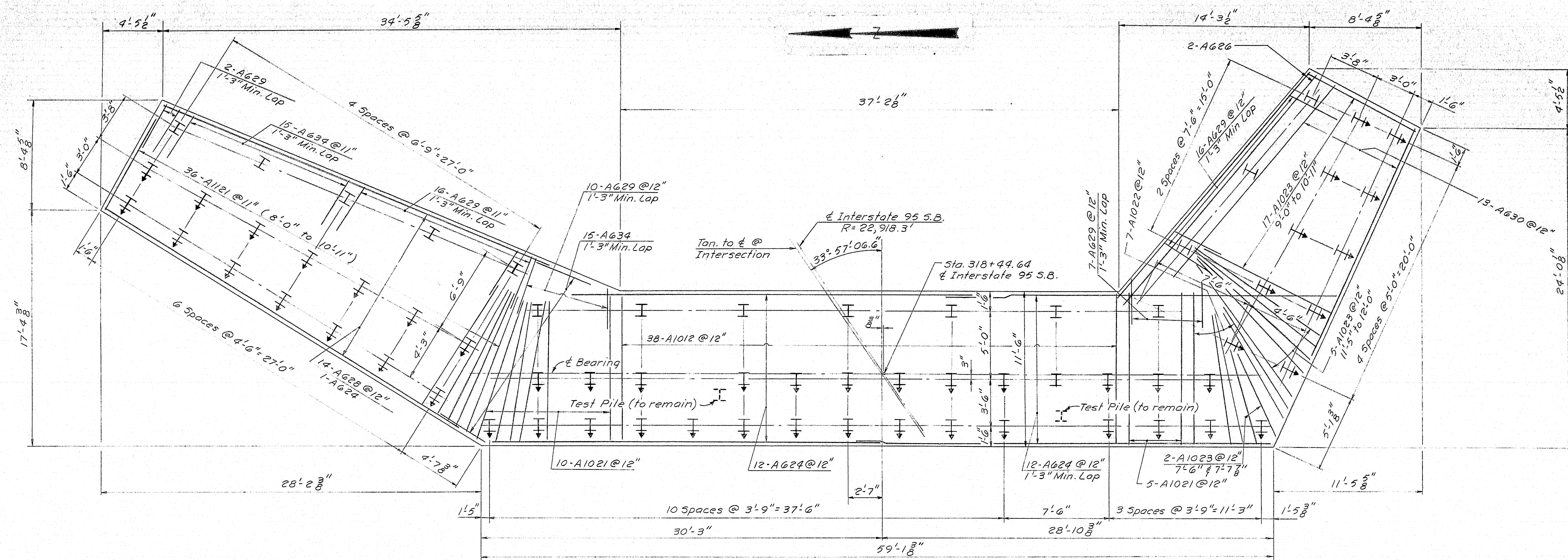
S507

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

DESIGN - TRACE - P.R.N.
DETAIL - R.O.L.
BRIDGE NO. SURVEY - PLOT -
STATE HIGHWAY COMMISSION
BRIDGE DIVISION
INTERSTATE 95
OVER
RELOCATED TIMONEY ROAD
IN THE TOWN OF
SMYRNA
AROOSTOOK COUNTY
REINFORCING STEEL
SHEET 14 OF 14 AUGUSTA, MAINE MARCH 1965

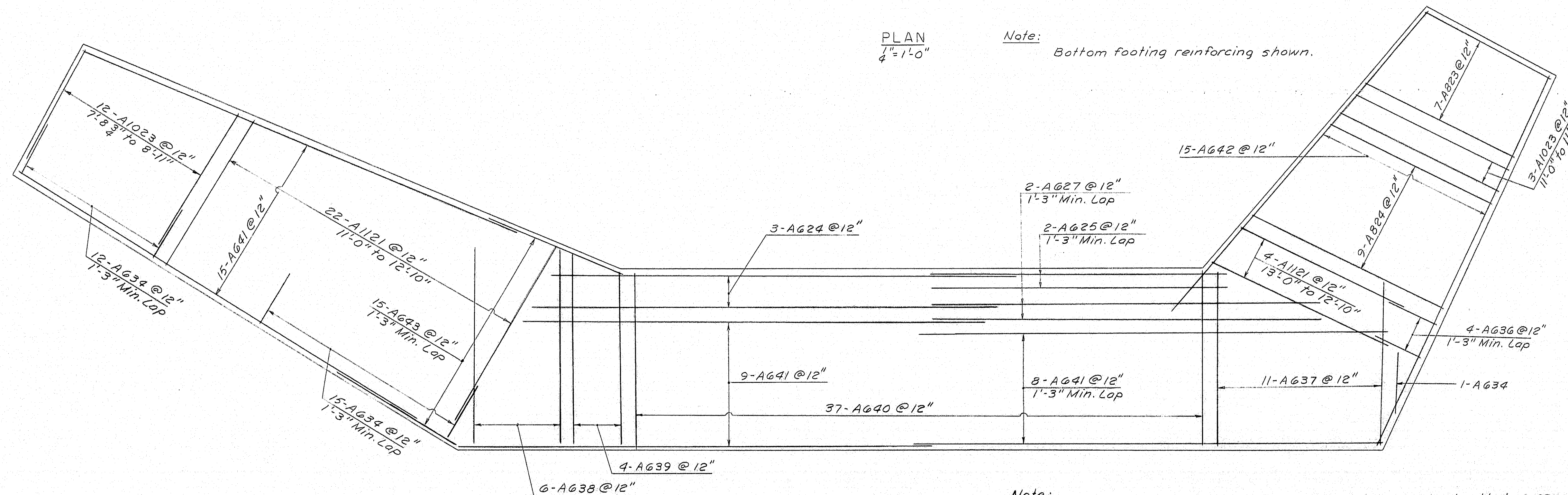
96-100D SMYRNA (19)





PLAN
1" = 1'-0"

Note: Bottom footing reinforcing shown.



PLAN
1" = 1'-0"

Note: Top footing reinforcing shown.

LEGEND

- Indicates Vertical Piles
- Indicates Battered Piles 3:12

Notes:

- Pile cut off Elev. 665.0
- Bottom of Footing Elev. 663.5
- Estimated Pile length 17'
- All Piles to be 108P42, 37 Ton Maximum Design Load.
- Depth of Footing shall be 3'-0"

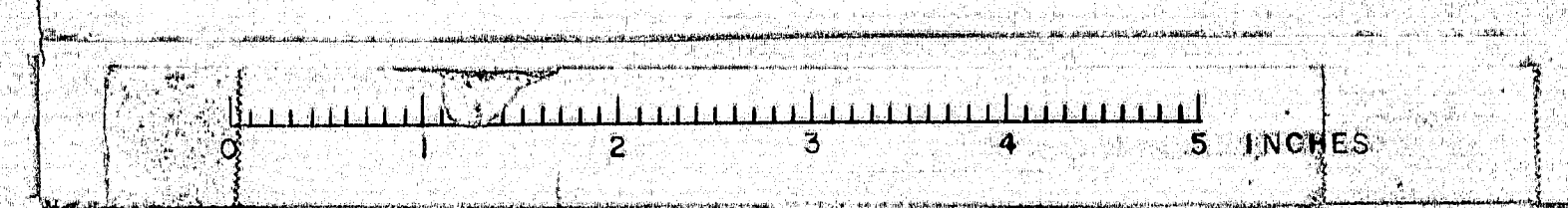
DESIGN - E.P.K.	DETAIL - J.M.M.	BRIDGE NO.
TRACE - I.S.	PLOT -	
STATE HIGHWAY COMMISSION BRIDGE DIVISION INTERSTATE 95 OVER RELOCATED TIMONEY ROAD IN THE TOWN OF SMYRNA AROOSTOOK COUNTY ABUTMENT NO. 2 FOOTING		
SHEET 14A OF 14 AUGUSTA, MAINE AUGUST 1965		

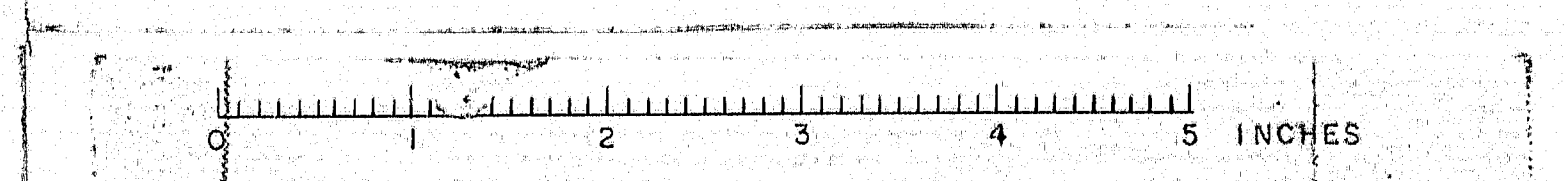
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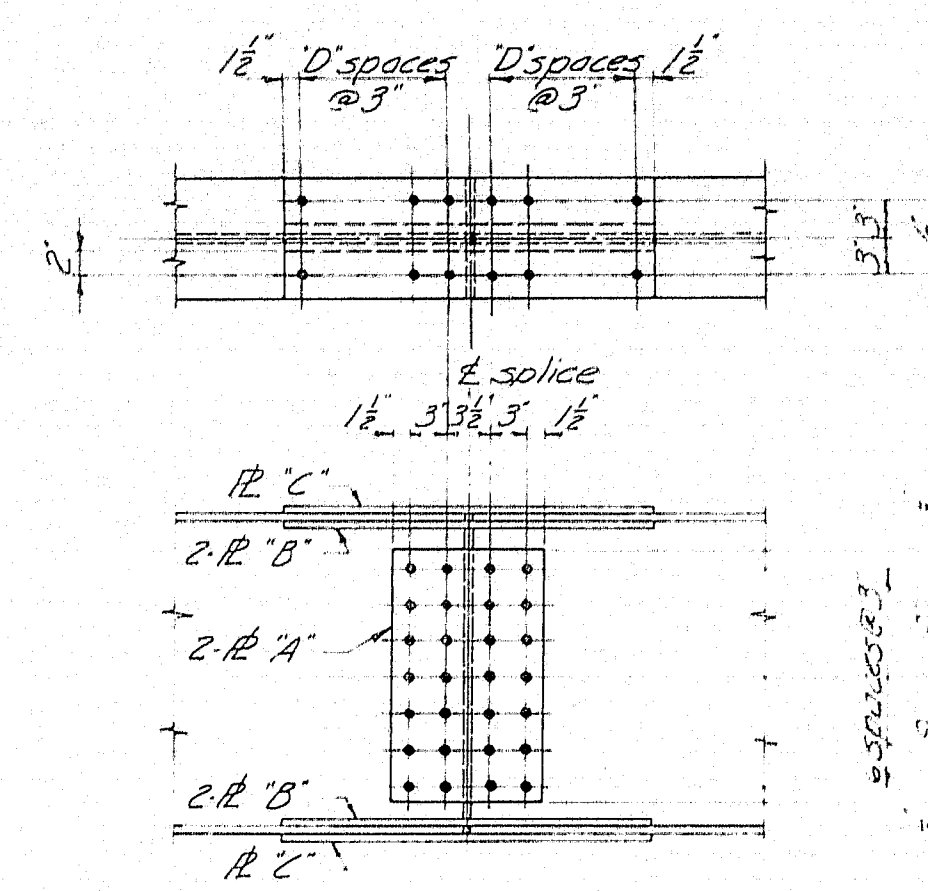
HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS

NEW YORK BOSTON KANSAS CITY

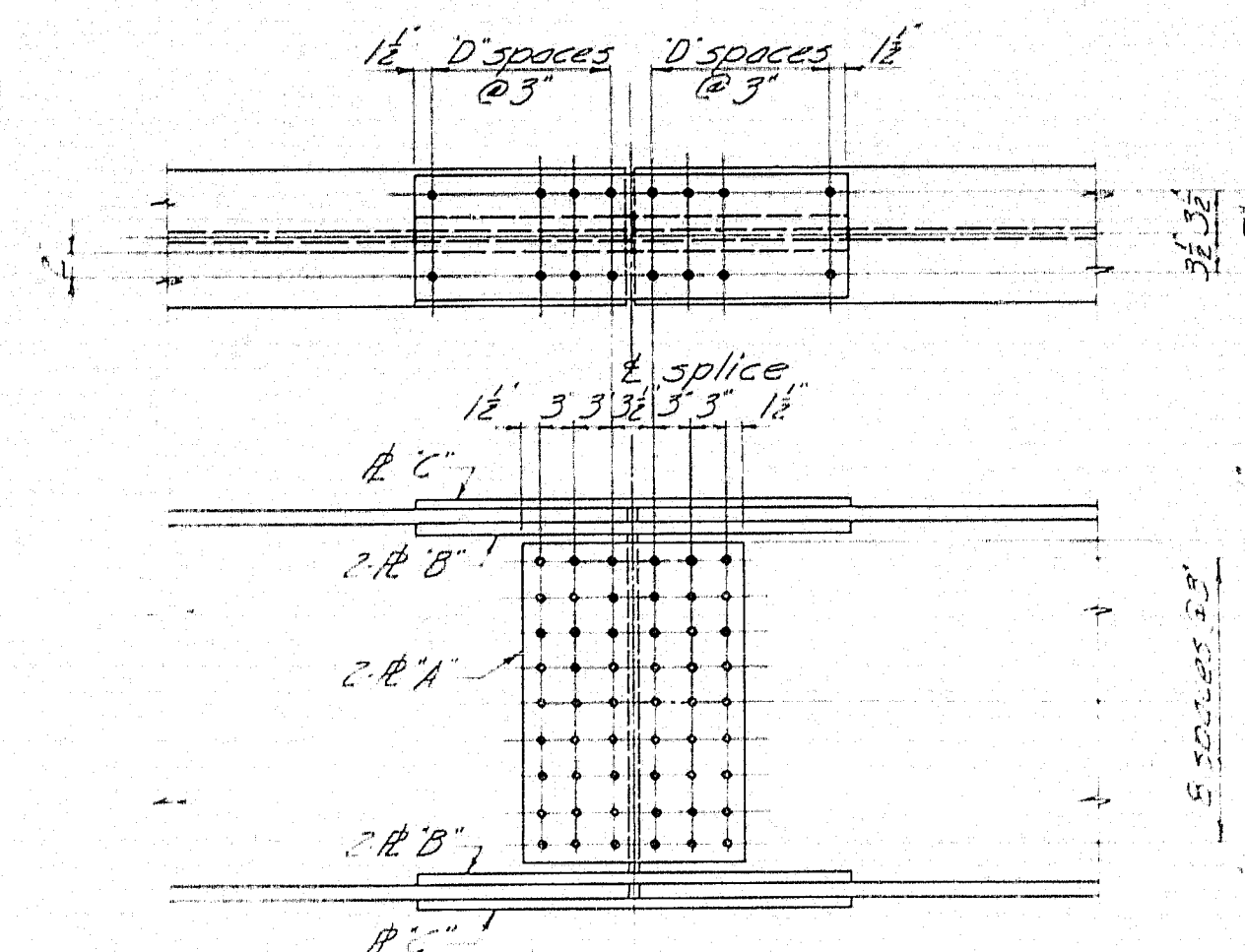
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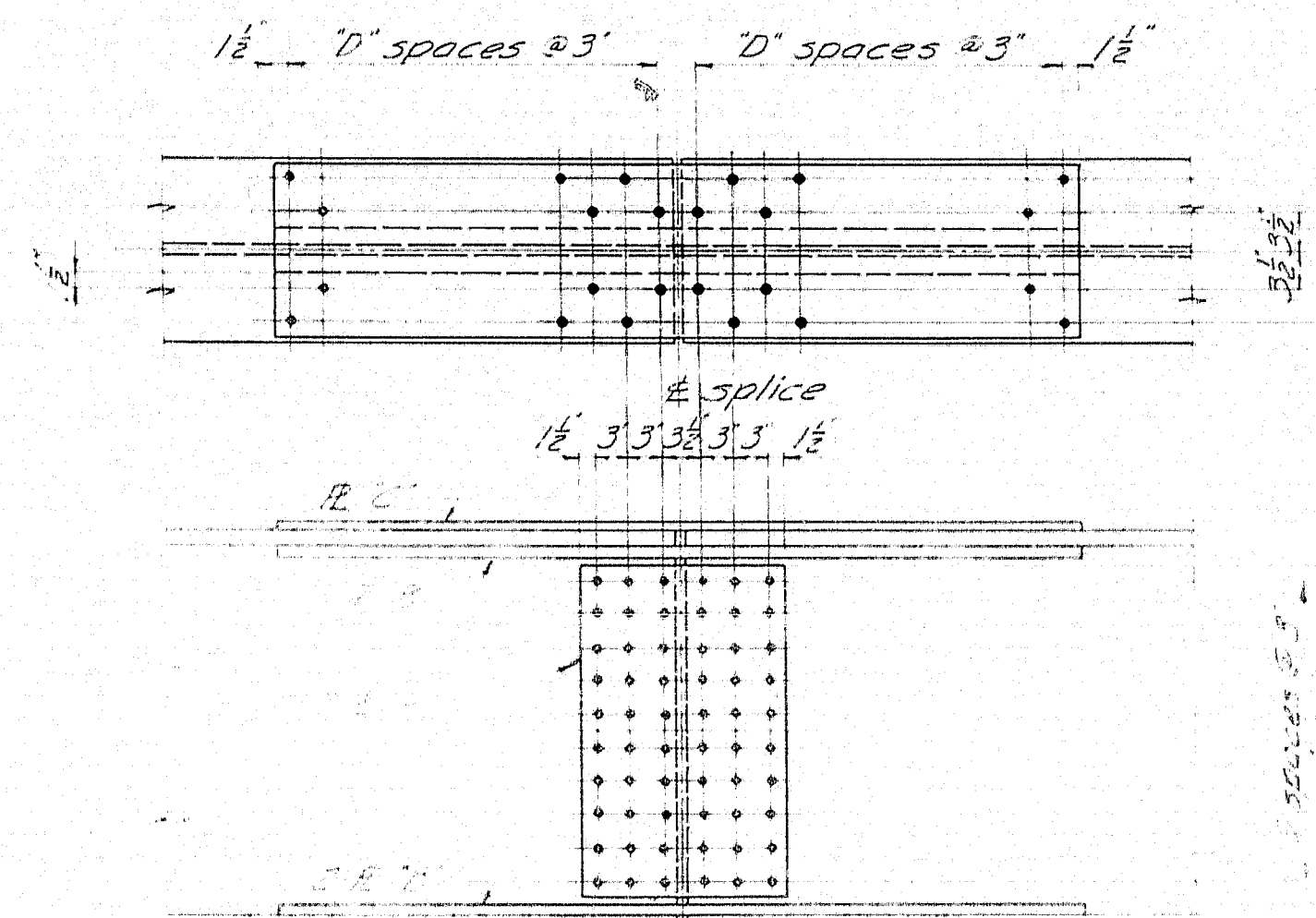




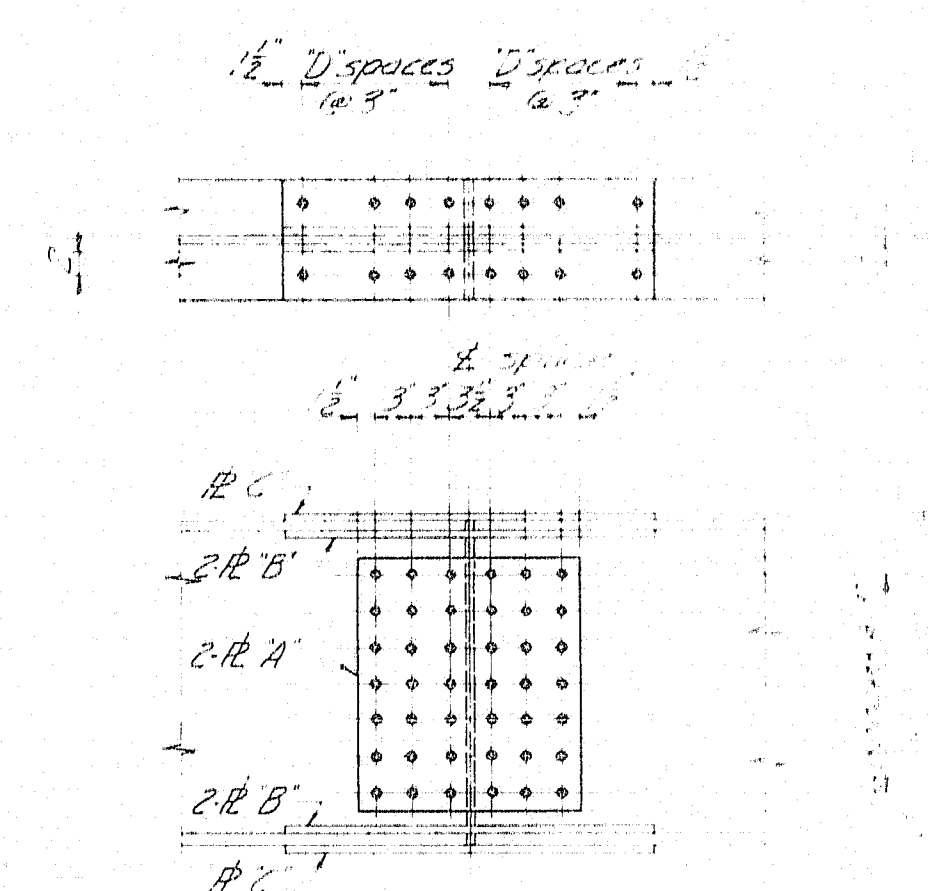
27 WF 84



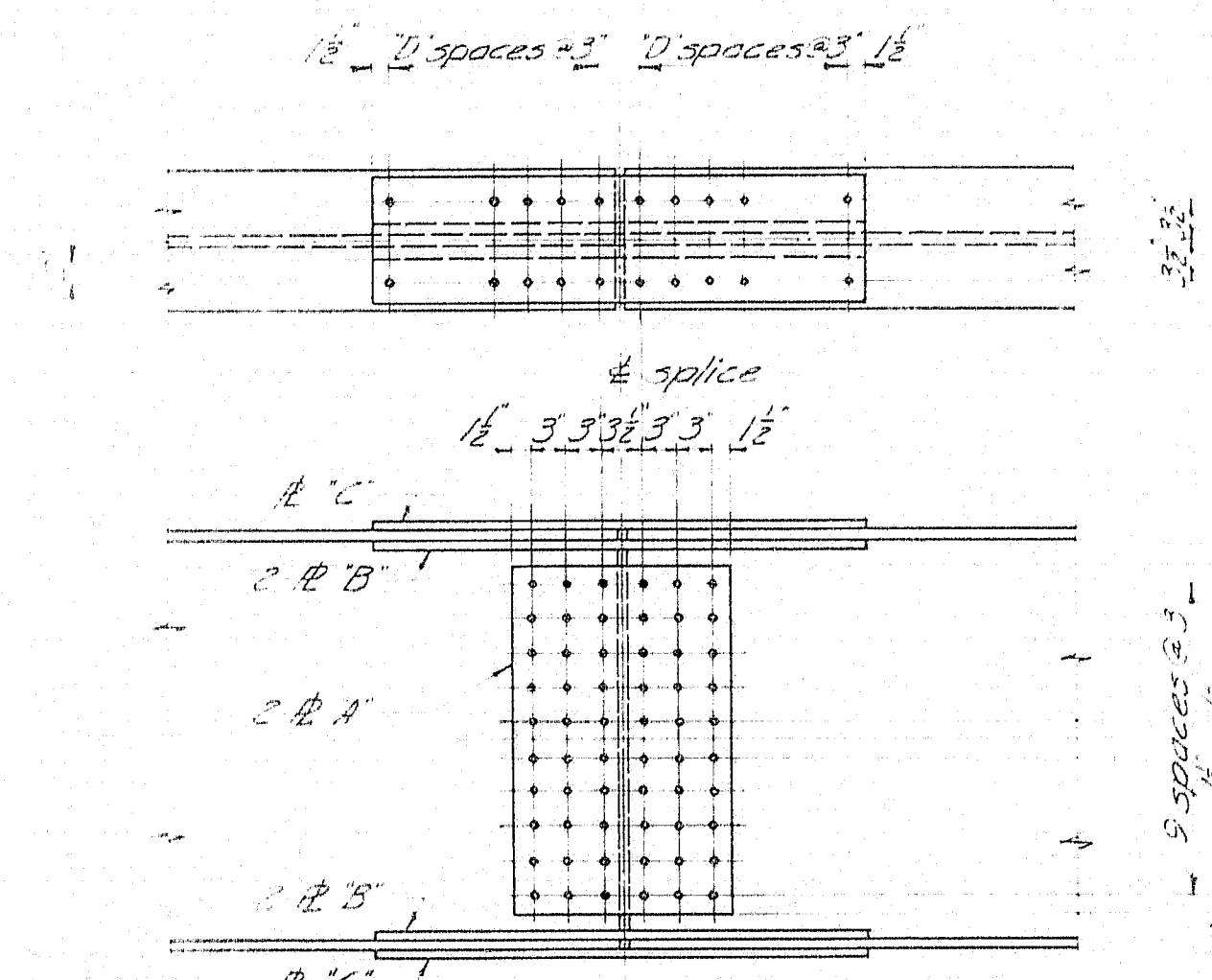
33 WF 118, 130, 141, 152



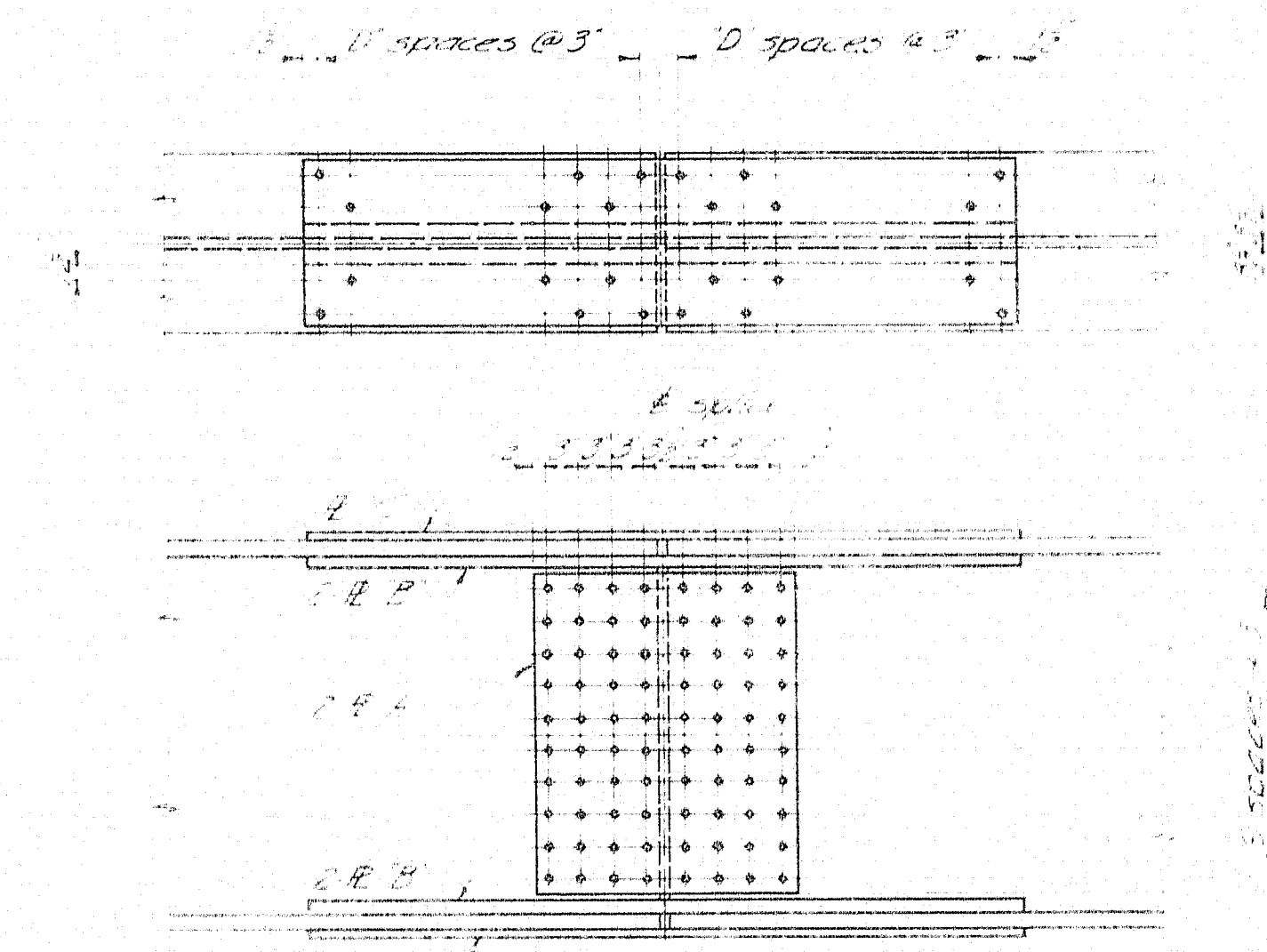
36 WF 245, 280



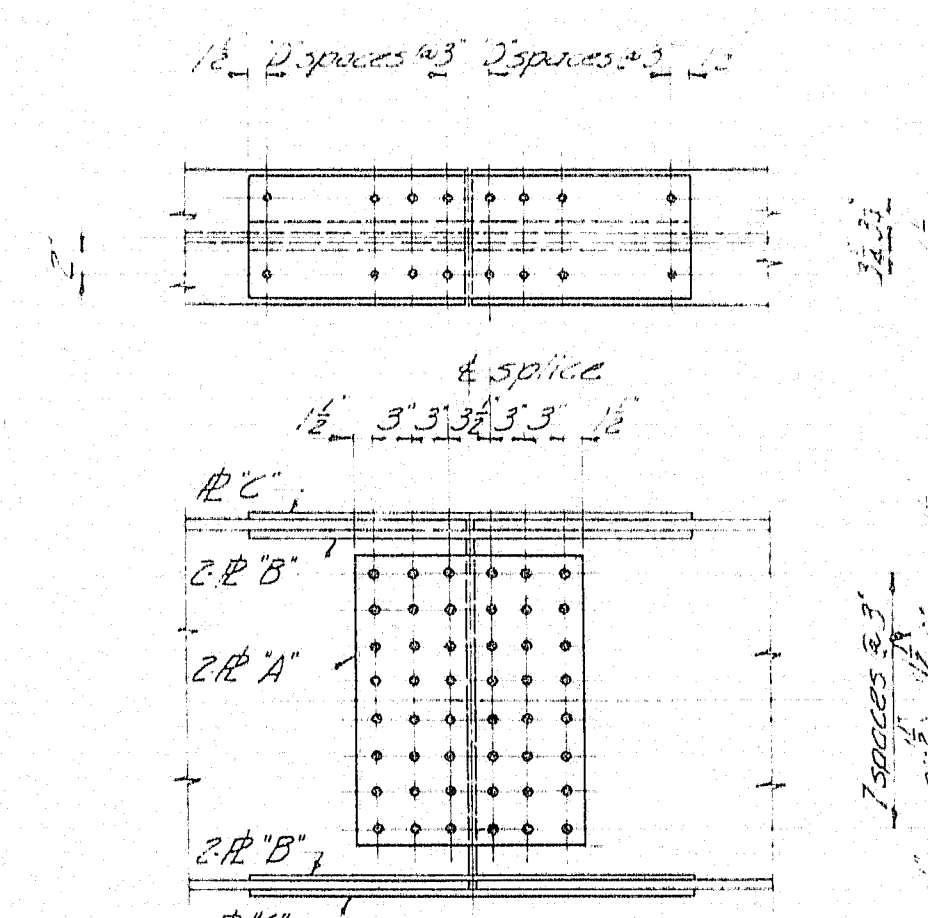
27 WF 94, 102, 114



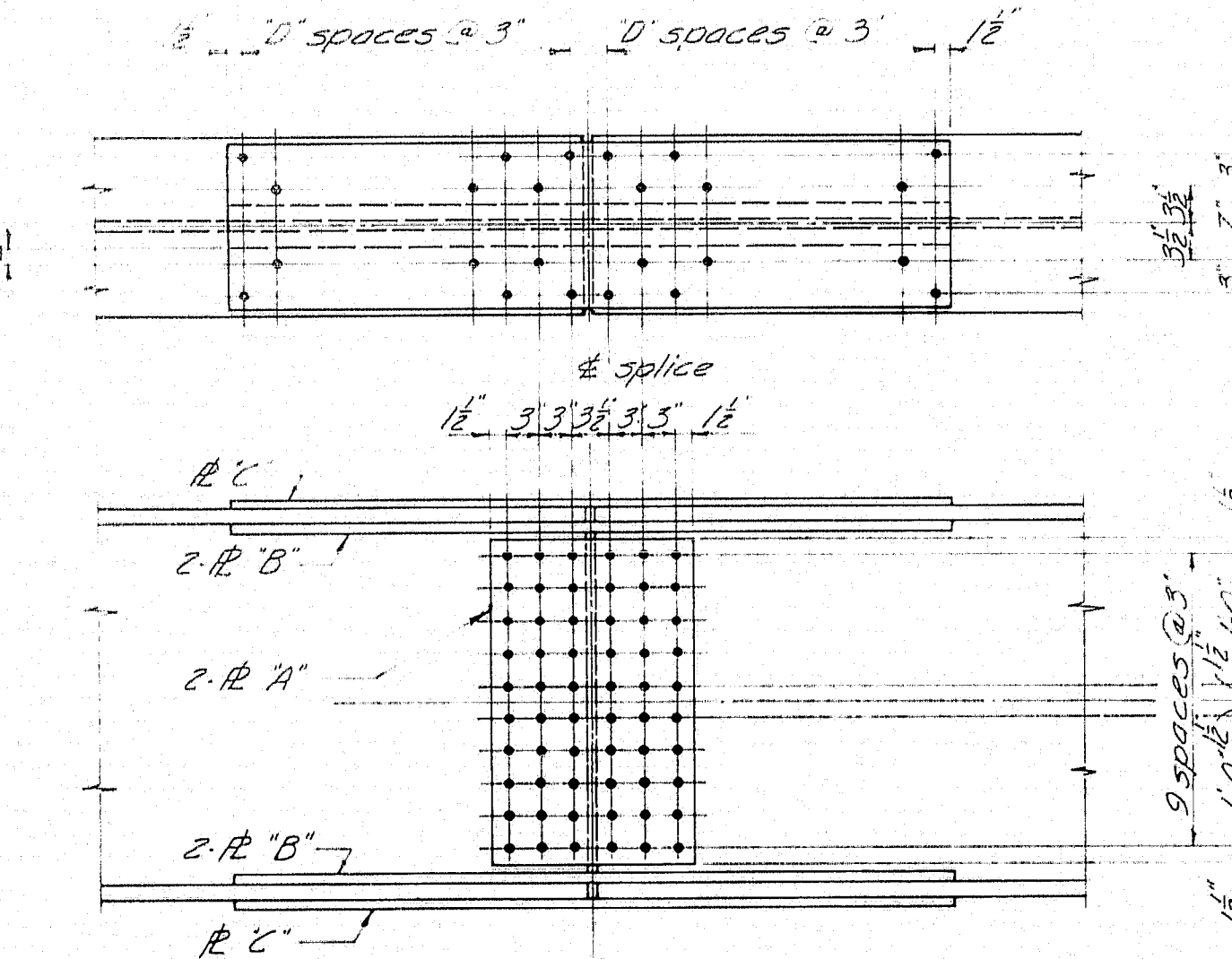
36 WF 135, 150, 160, 170, 182, 194



36 WF 300



30 WF 99, 108, 116, 124, 132



36 WF 230, 260

SPlice DESIGN, PLATES AND FLANGE HOLES						
BEAM	BEND. M.	SHEAR	PLATE "A"	PLATE "B"	PLATE "C"	"D"
27 WF 84	3070"	111"	12 x 2	4 x 2	10 x 2	3
27 WF 94	3520"	111"	12 x 2	4 x 2	10 x 2	3
27 WF 102	3910"	111"	12 x 2	4 x 2	10 x 2	4
27 WF 114	4340"	111"	12 x 2	4 x 2	10 x 2	4
30 WF 99	3120"	111"	12 x 2	4 x 2	10 x 2	3
30 WF 108	4300"	111"	12 x 2	4 x 2	10 x 2	4
30 WF 116	4780"	111"	12 x 2	4 x 2	10 x 2	4
30 WF 124	5260"	111"	12 x 2	4 x 2	10 x 2	4
30 WF 132	5740"	111"	12 x 2	4 x 2	10 x 2	4
33 WF 118	3520"	111"	12 x 2	4 x 2	10 x 2	3
33 WF 130	3910"	111"	12 x 2	4 x 2	10 x 2	4
33 WF 141	4340"	111"	12 x 2	4 x 2	10 x 2	4
33 WF 152	4780"	111"	12 x 2	4 x 2	10 x 2	4
36 WF 245	3120"	111"	12 x 2	4 x 2	10 x 2	3
36 WF 280	4300"	111"	12 x 2	4 x 2	10 x 2	4
36 WF 300	5260"	111"	12 x 2	4 x 2	10 x 2	4

GENERAL NOTES

1. All dimensions are in inches unless otherwise specified.

2. The splice plates shall be of the same material and thickness as the beam flanges.

3. The splice plates shall be welded to the beam flanges in accordance with the AISC specifications.

4. The splice plates shall be bolted to the beam flanges in accordance with the AISC specifications.

5. The splice plates shall be bolted to the beam flanges in accordance with the AISC specifications.

A.S.T.M. STEEL CLASSIFICATION

High Tensile Structural Steel
Splice Plates

DESIGN SPECIFICATIONS

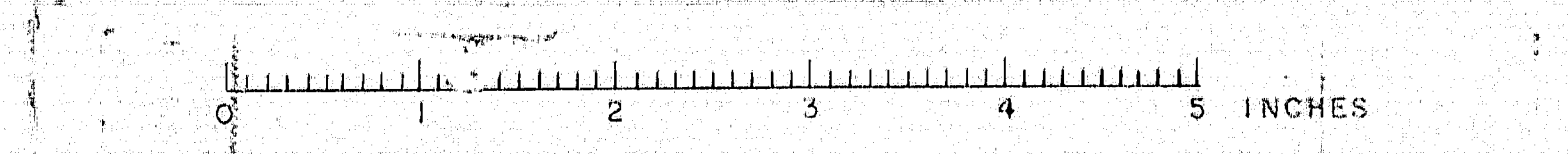
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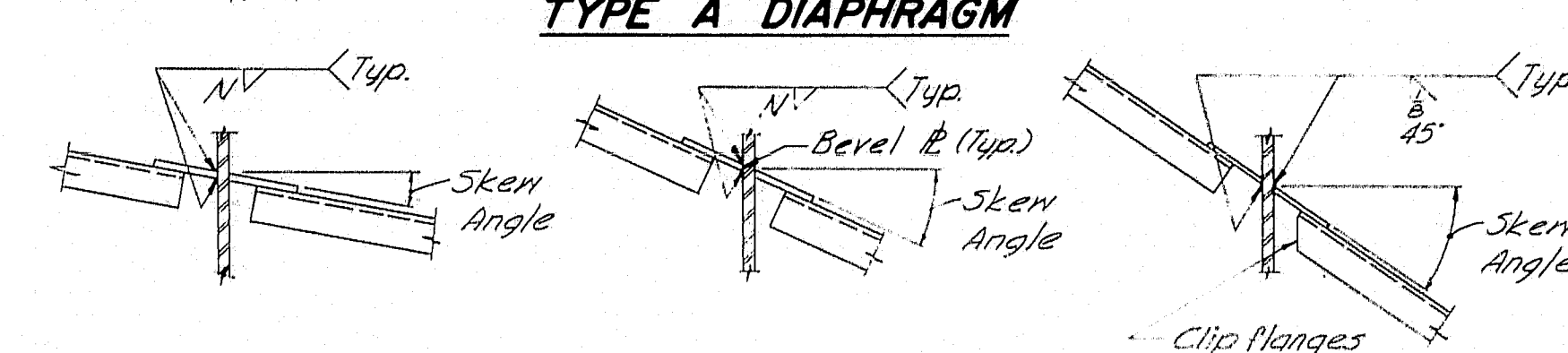
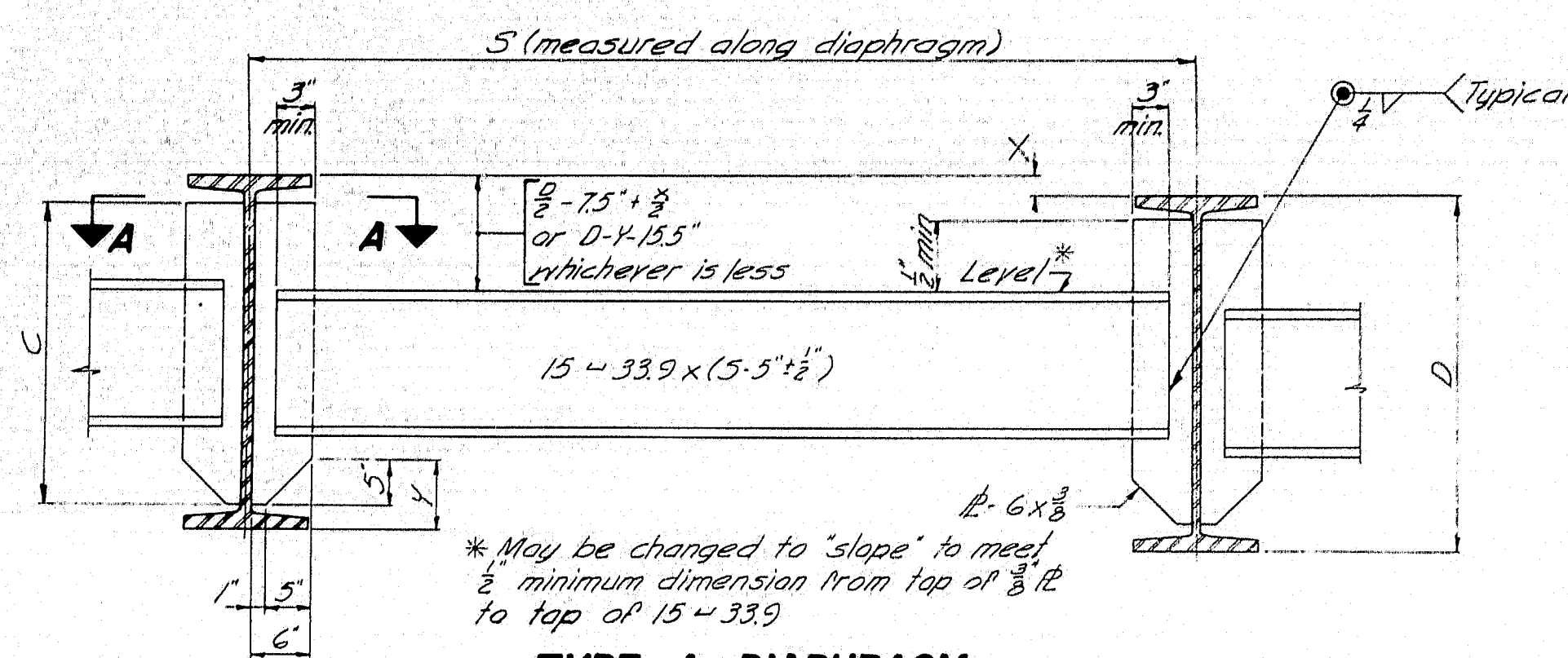
MAINE STATE HIGHWAY COMMISSION
AUGUSTA, MAINE

STANDARD DETAILS
(BD 103-64)
BEAM SPLICES

JANUARY 1964

96-100G



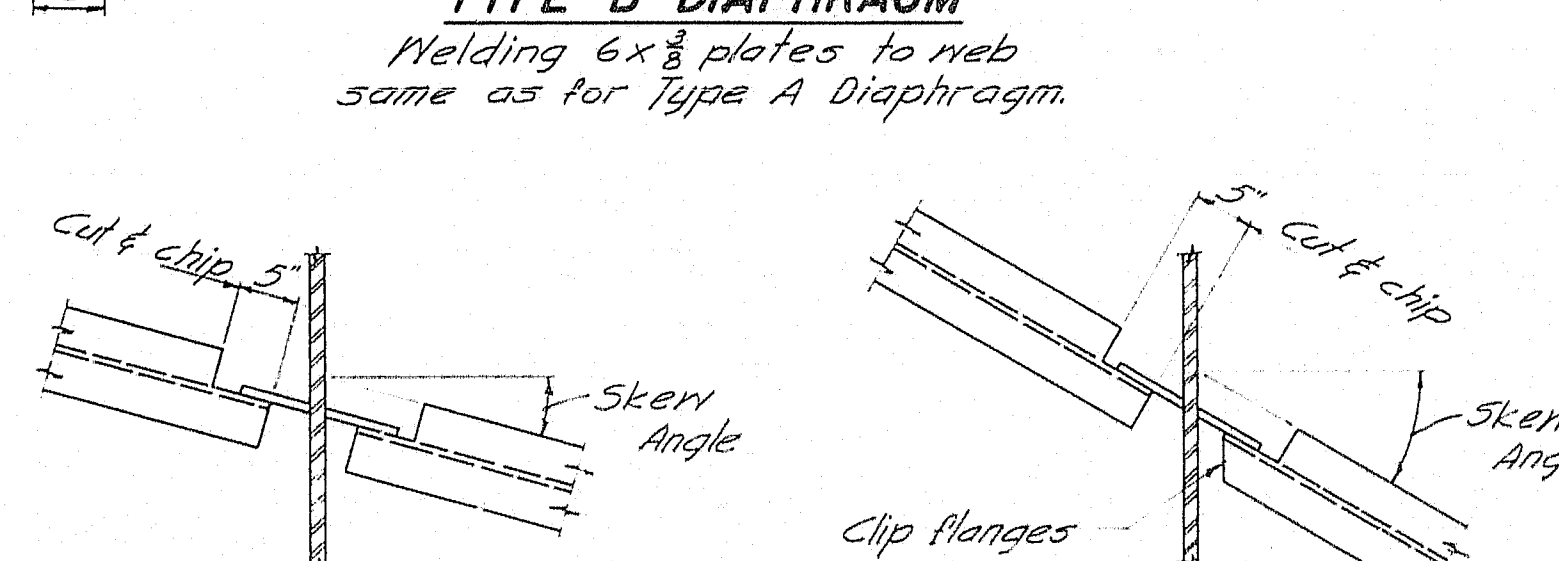
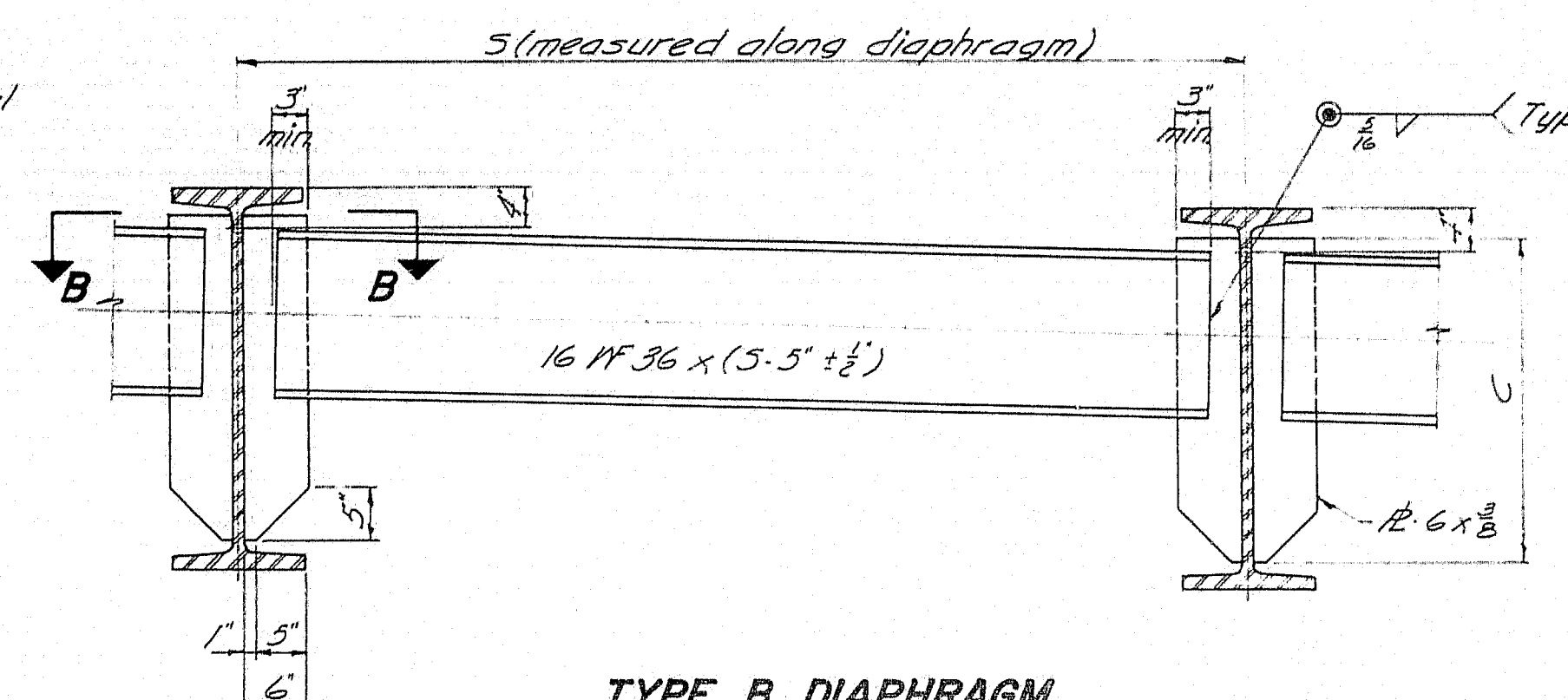


SECTION A-A
Skew Angle 0° to 15°-30'

SECTION A-A
Skew Angle over 15°-30' to 30°-00'

SECTION A-A
Skew Angle over 30°-00'

FILLET WELD SIZE "N" & DIMENSION "C" FOR DIAPHRAGM PLATES		
BEAM	C	N
27 WF 84 to 114 incl.	1-11"	3/8"
30 WF 99 to 132 incl.	2-0"	1/2"
33 WF 118 to 152 incl.	2-5"	5/8"
36 WF 135 to 194 incl.	2-7"	3/4"
36 WF 230 to 300 incl.	2-6"	3/4"

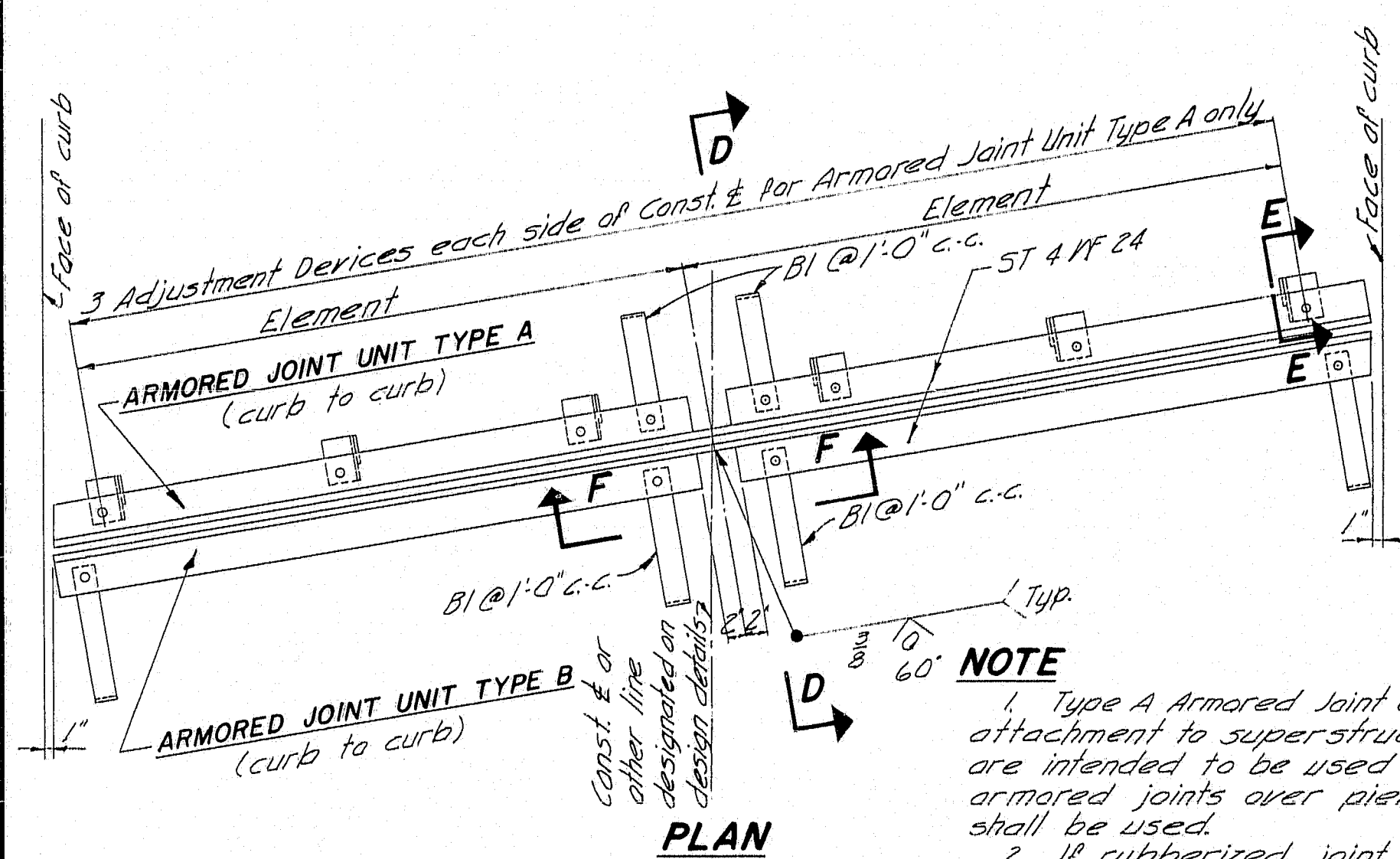


SECTION B-B
Skew Angle 0° to 25°-00'

SECTION B-B
Skew Angle over 25°-00'

NOTE
See design details for diaphragm type, location and skew.

DIAPHRAGMS

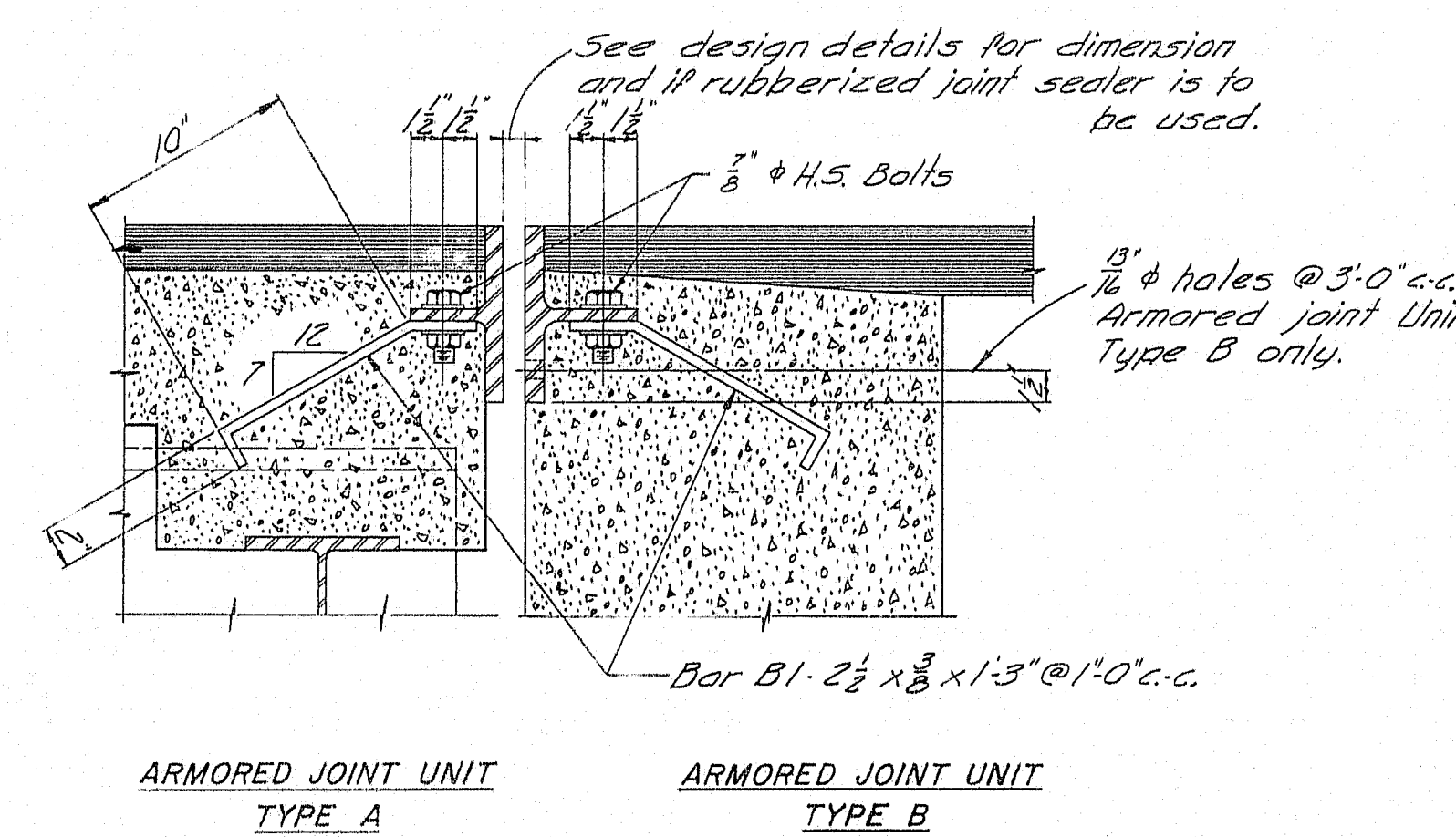


NOTE

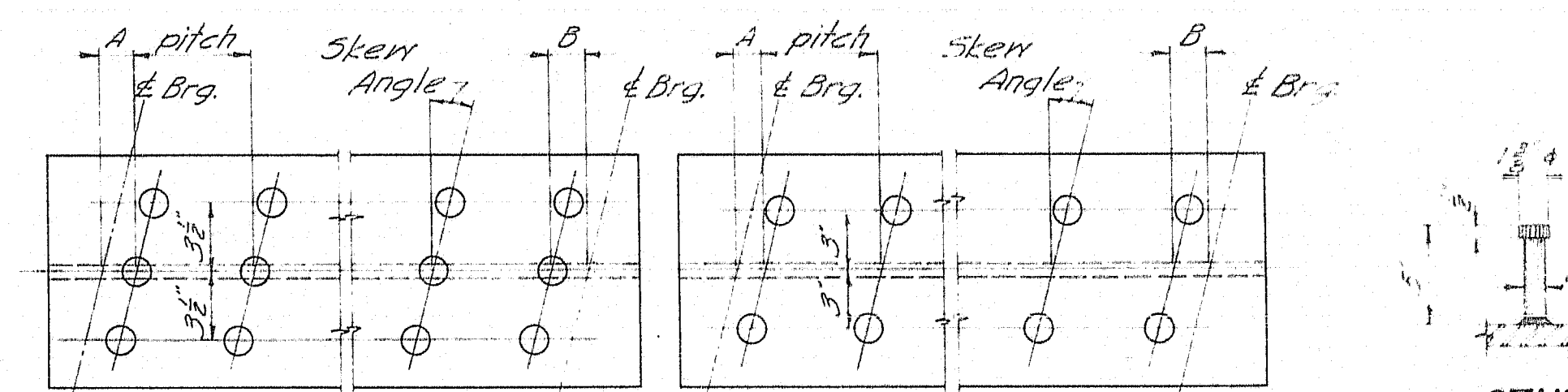
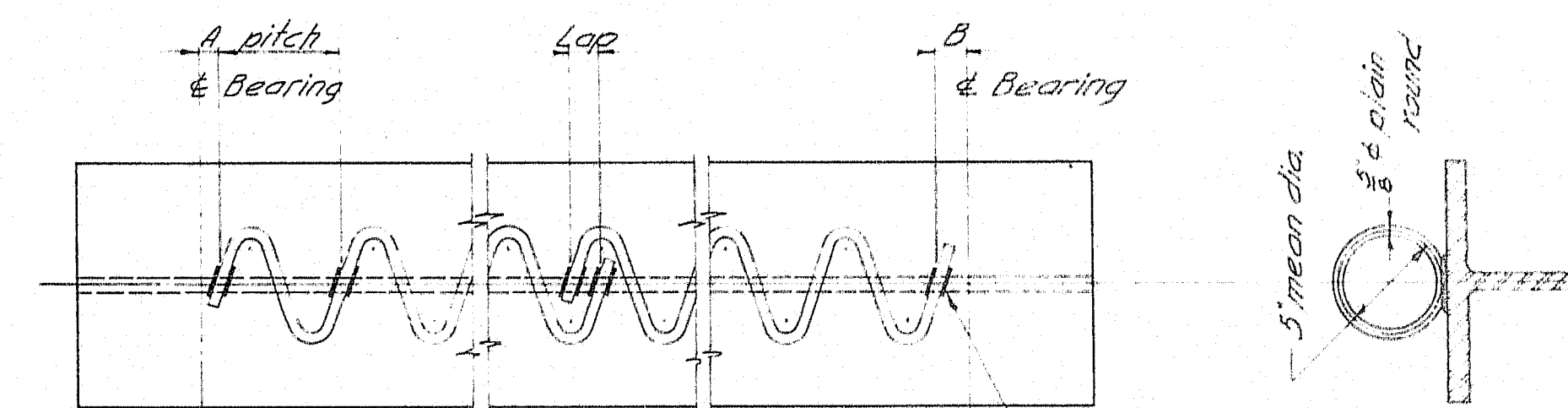
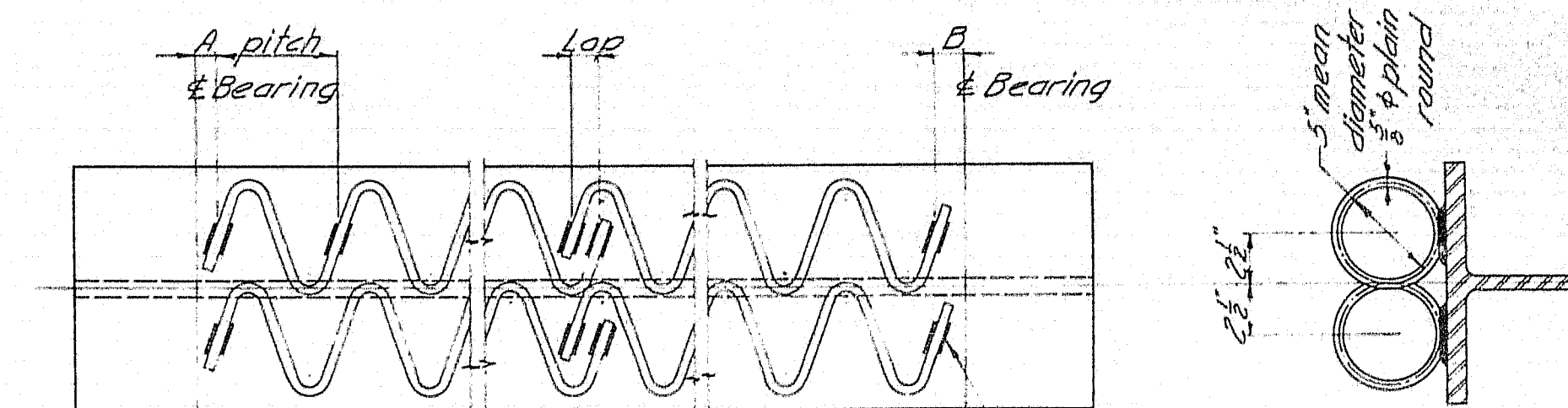
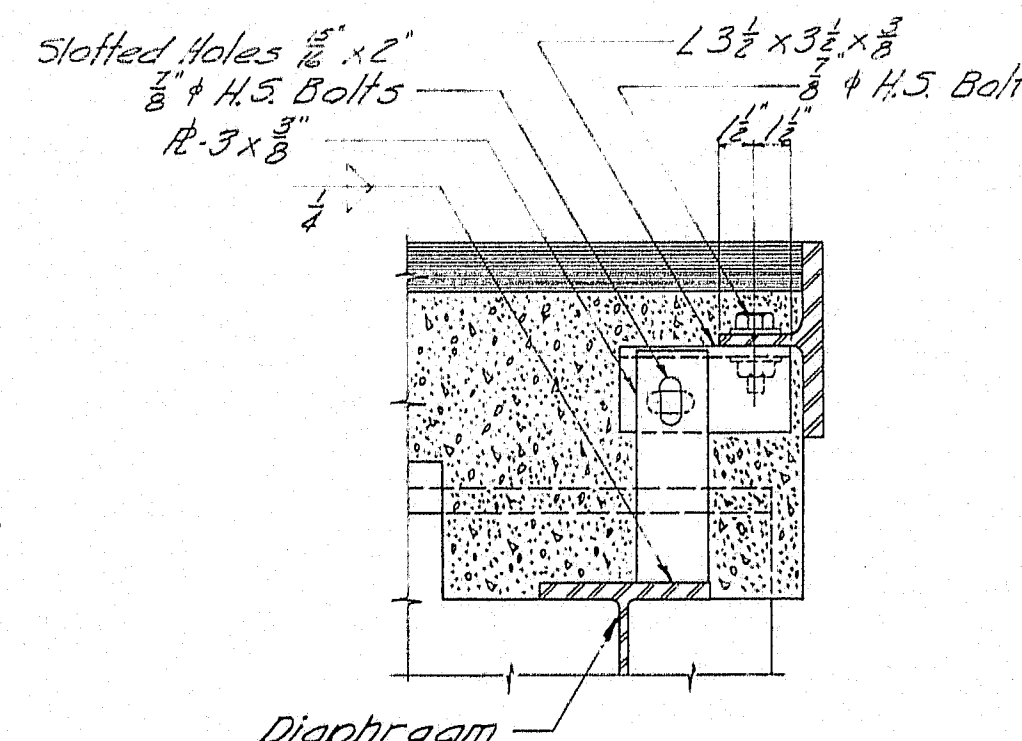
1. Type A Armored Joint Units are intended to be used for attachment to superstructures. Type B Armored Joint Units are intended to be used for attachment to abutments. At armored joints over piers, two Type A Armored Joint Units shall be used.
2. If rubberized joint sealer is called for on the design details the area to which it is to be banded shall not be painted and it shall be supported on non-bituminous material. At the Contractor's option the supporting material may be left in place or be removed. If the supporting material is left in place, it shall be compressible in accordance with specification AASHTO M 153.5.4. In either case band between the supporting material and the rubberized joint sealer shall be prevented by a 1" minimum thickness of Poly-urethane foam.
3. If more elements than the two shown in the "Plan" are required by the design details, there shall be three adjustment devices for each element for Armored Joint Unit Type A and the elements of both units shall be field welded together in the same manner as shown in the "Plan".
4. Armored Joints to be paid for as Structural Steel.

ARMORED JOINT

An armored joint consists of two armored joint units. See note 1.

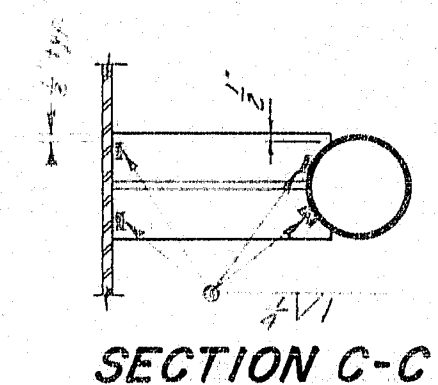
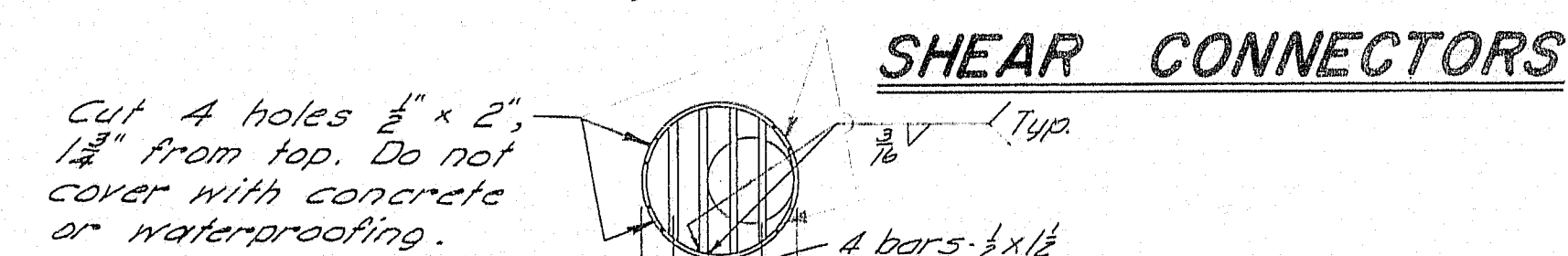


SECTION D-D



NOTE

1. Spiral reinforcing or studs may be used at the option of the Contractor.
2. If studs are used they shall be granular or solid flux filled and automatically end welded to the top flange in the shop or field.
3. Studs are a patented product. If the Contractor elects to use them, he shall pay the royalty and payment to the contractor will be included in the lump sum price for Shear Connectors.
4. See the design details for Dimensions "A" and "B", spiral and stud pitch and skew angle for Studs.



NOTE

1. Drain may be rotated 180°. See design details.
2. See design details for location and number of drains and beam size to which it is connected.
3. Drains to be paid for as structural steel.

DRAIN

GENERAL NOTE

Use only those items called for on design details. In case of conflict between these Standard Details and the design details, the requirements of the design details shall be followed.

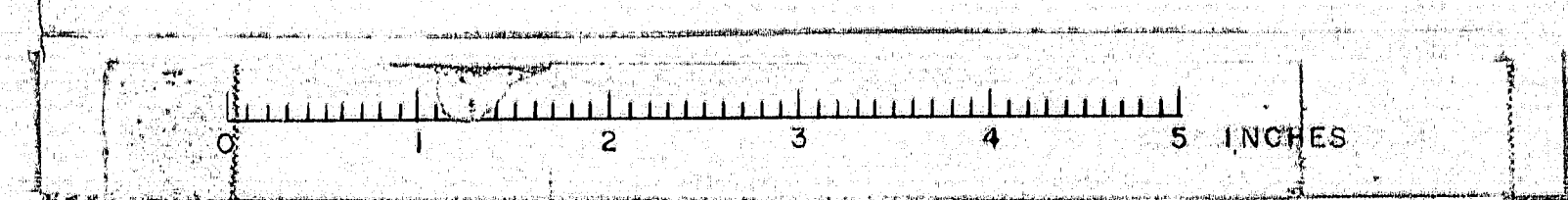
MAINE STATE HIGHWAY COMMISSION
AUGUSTA, MAINE

STANDARD DETAILS
(BD 104-64)
DIAPHRAGMS, ARMORED JOINT, SHEAR CONNECTORS, DRAIN

Revised Nov. 1964, Welding Drain Support

JANUARY 1964

96-100H



STATE OF MAINE STATE HIGHWAY COMMISSION



INTERSTATE 95

OVER

TIMONEY ROAD

IN THE TOWN OF

SMYRNA

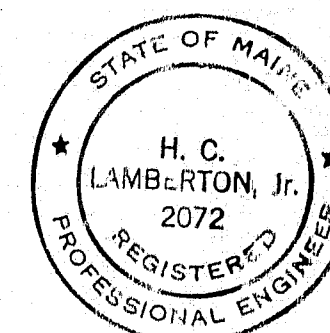
AROOSTOOK COUNTY

FEDERAL AID PROJECT NO. I-95-9(19)285

LENGTH OF PROJECT 0.016 MILE

TRAFFIC

INTERSTATE 95	TIMONEY ROAD
1710 _____ A.D.T. 1966 _____ 150	
2565 _____ A.D.T. 1986 _____ 210	
305 _____ D.H.V. _____ 25	
14% _____ T.	
60% _____ D.	
60 MPH _____ V.	50 MPH



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

H.C. Lamberton, Jr. 12/24/66
DATE

PROJECT COMPLETED 10 NOV.'66

APPROVED
MAINE STATE HIGHWAY COMMISSION DATE
Don M. Sturges 12-2-66
CHAIRMAN
Carl M. Stephens 12-2-66
Richard A. Richards 12-2-66
Augustine J. ... 12-2-66
CHIEF ENGINEER

DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS
REGION 1

APPROVED
DIVISION ENGINEER DATE

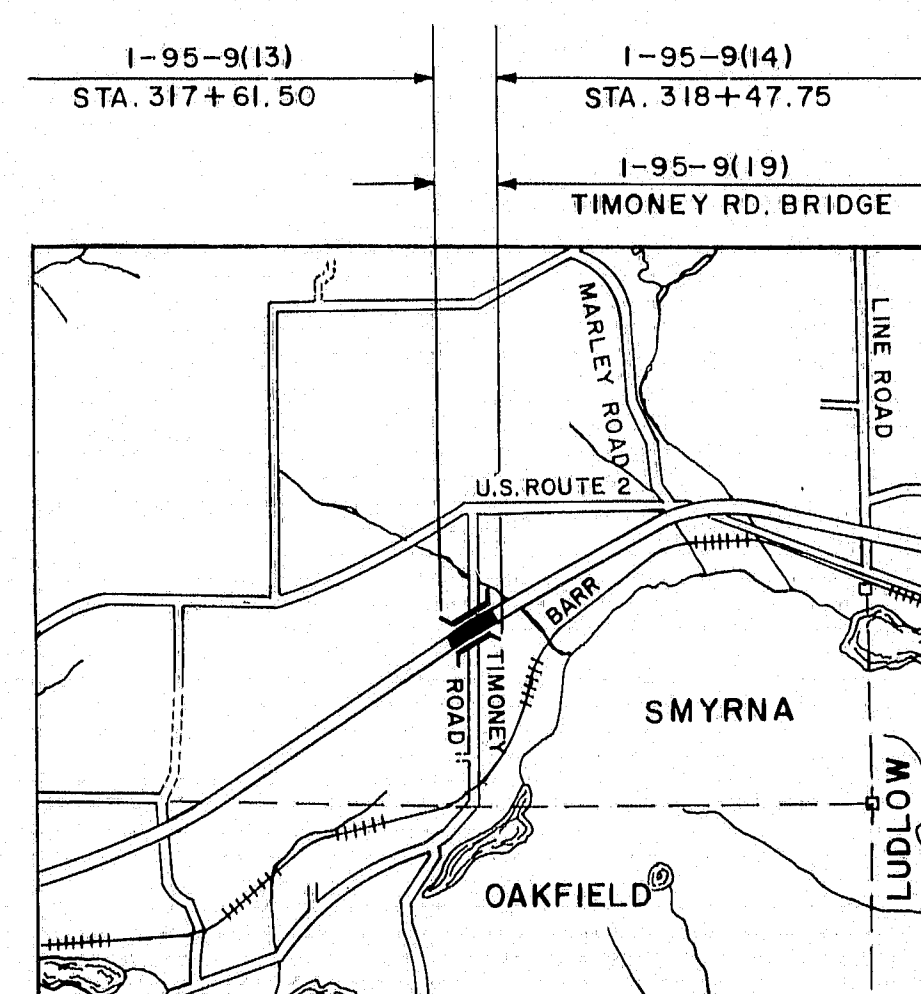
SURVEY CROSS SECTION SCALES } HOR. 1"=50' VERT. 1"=5'
INTERSTATE 1"=10' TIMONEY ROAD 1"=5'

INDEX OF SHEETS

- 1 _____ TITLE SHEET
- 2 _____ GENERAL PLAN & QUANTITIES
- 3 _____ PLANS, PROFILES, & TYPICAL SECTIONS
- 4 _____ CROSS SECTIONS - S.B. ROADWAY
- 5 _____ CROSS SECTIONS - S.B. ROADWAY
- 6 _____ CROSS SECTIONS - TIMONEY ROAD
- 7 _____ CROSS SECTIONS - TIMONEY ROAD
- 8 _____ FOUNDATION SURVEY
- 9 _____ ABUTMENT NO.1
- 10 _____ ABUTMENT NO.2
- 11 _____ ABUTMENT NO.2 - WINGWALLS - APPROACH SLABS
- 12 _____ STRUCTURAL STEEL & BLOCKING
- 13 _____ SUPERSTRUCTURE
- 14 _____ REINFORCING STEEL

STANDARD DETAILS SHEETS

- BD 101-64 _____ BEARING PEDESTALS
BD 104-64 _____ DIAPHRAGMS, ARMORED JOINT, SHEAR CONNECTORS, DRAIN
BD 107-64 _____ STEEL RAIL
BD 108-64 _____ ALUMINUM RAIL
ENGINEERS FIELD OFFICES NOV. 1964



LOCATION MAP
APPROX. SCALE - 1" = 1 MILE

SPECIFICATIONS

DESIGN
A.A.S.H.O. Standard Specification for Highway Bridges, 1961 with Interim Specifications, 1961, 1962, 1963 & 1964.

CONTRACT
State of Maine, State Highway Commission
Standard Specifications for Highways and Bridges, Revision of January 1956 and Supplemental Specifications of February 1960.

LIVE LOADING
HS20-44 (Modified for Interstate).

ALLOWABLE STRESSES
Concrete (f_c = 10) - f_c = 1200 p.s.i.
Reinforcing Steel, Int. Grade - f_s = 20,000 p.s.i.
Structural Steel - f_s = 20,000 p.s.i. (A.S.T.M. Designation A-36).

CONCRETE CLASSIFICATION
All Concrete shall be Class 'A'.

FOUNDATIONS
Abutment No. 1 and Wingwalls spread footing on Ledge 5 Tons/S.F.
Abutment No. 2 and Wingwalls 10BP42 End Bearing Piles 37 Ton Capacity.

ESTIMATE OF BRIDGE QUANTITIES

ITEM NO.	DESCRIPTION	UNITS	QUANT.	BRIDGE
204-12	Struct. Earth Exc., Abuts & Ret. Walls	C.Y.	760	760
204-13	Struct. Rock Exc., Abuts & Ret. Walls	C.Y.	110	110
205-9	Granular Borrow	C.Y.	18,500	
205-12	Gravel Borrow (I.P.M.)	C.Y.	720	
302-7	Gravel Base Course (I.P.M.)	C.Y.	1,360	
404-31	Bit. Conc. Surface Course (Hand Placed) Type B	Tons	4	
701-33	Port. Cem. Conc., Abuts. & Ret. Walls	C.Y.	501	501
701-40	Port. Cem. Conc. Rdwy. & Sidewalk Slabs on Steel Bridges	C.Y.	102	102
701-55	Curing Box for Conc. Cylinders	Each	1	1
702-103	Structural Steel, Fabricated & Delivered	L.S.	L.S.	L.S.
702-104	Structural Steel, Erection	L.S.	L.S.	L.S.
702-105	Structural Steel, Field Painting	L.S.	L.S.	L.S.
705-13	Reinforcing Steel, Delivered	Lbs.	73,100	73,100
705-14	Reinforcing Steel, Placing	Lbs.	73,100	73,100
705-17	Shear Connectors	L.S.	L.S.	L.S.
804-6	French Drains	C.Y.	103	
805-8	Bridge Rail	L.F.	156	156
807-11	Epoxy Resin Surface Sealant	S.Y.	275	275
901-24	Vertical Bridge Curb - Type 1	L.F.	165	165
901-25	Vertical Bridge Curb - Circular Type 1	L.F.	12	12
908-10	Loam (I.P.M.)	C.Y.	60	
910-13	Seeding - Method No. 2	Units	10	
912-7	Hay Mulch	Tons	1	
938-1	Warning Lights & Illuminating Signs	Group	2	
939-9	Field Office, Type "C"	L.S.	L.S.	
708-16	Steel H-Beam Piles 10BP42	L.F.	1520	1520

Estimated Wt. of Struct. Steel Including Drains 146,700 Lbs.
Estimated Wt. of Shear Connectors, Spirals 2,645 Lbs.
Estimated Number of Shear Connectors, Studs 2,268 Pcs.

NOTE:
All fill within the stations shown on the Profile Sheet shall be placed by the controlled density method.

Revised 8-23-65

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS

NEW YORK BOSTON KANSAS CITY

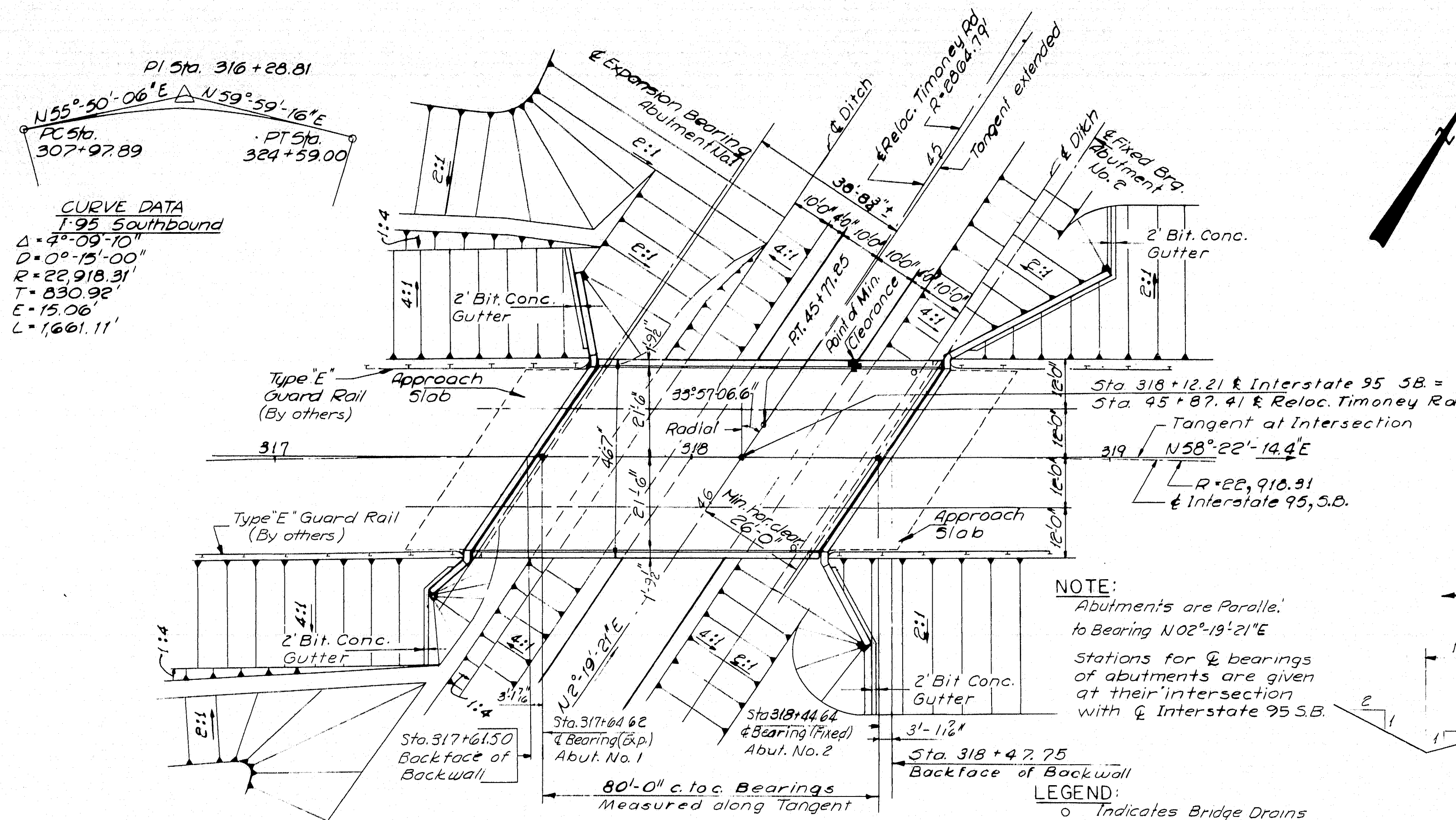
DESIGN -
TRACE -
CHECK - P.R.N.

DETAIL D.A.T. BRIDGE NO. SURVEY -
PLOT

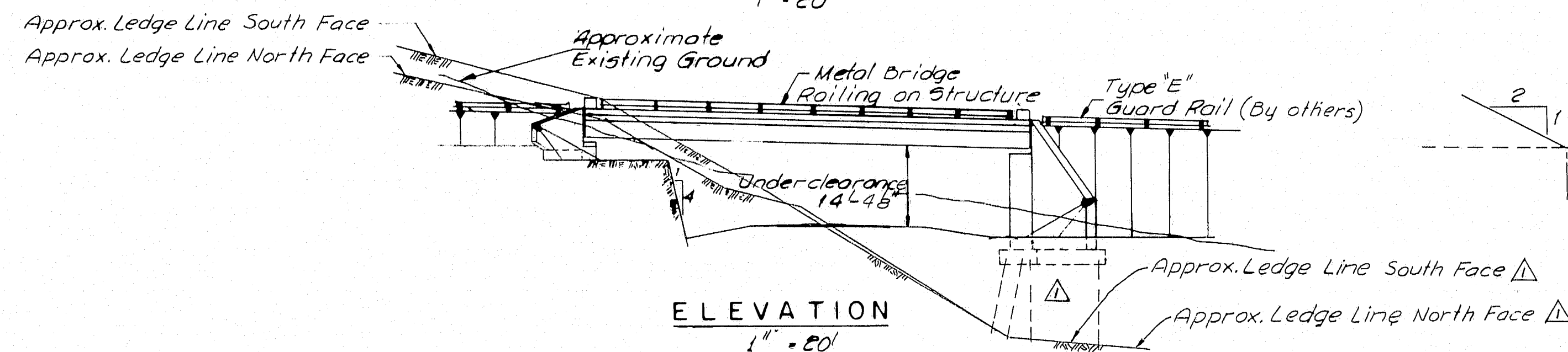
STATE HIGHWAY COMMISSION
BRIDGE DIVISION
INTERSTATE 95 SB
OVER
RELOCATED TIMONEY ROAD
IN THE TOWN OF
SMYRNA
AROOSTOOK COUNTY
GENERAL PLAN & QUANTITIES

SHEET 2 OF 14 AUGUSTA, MAINE MARCH 1965

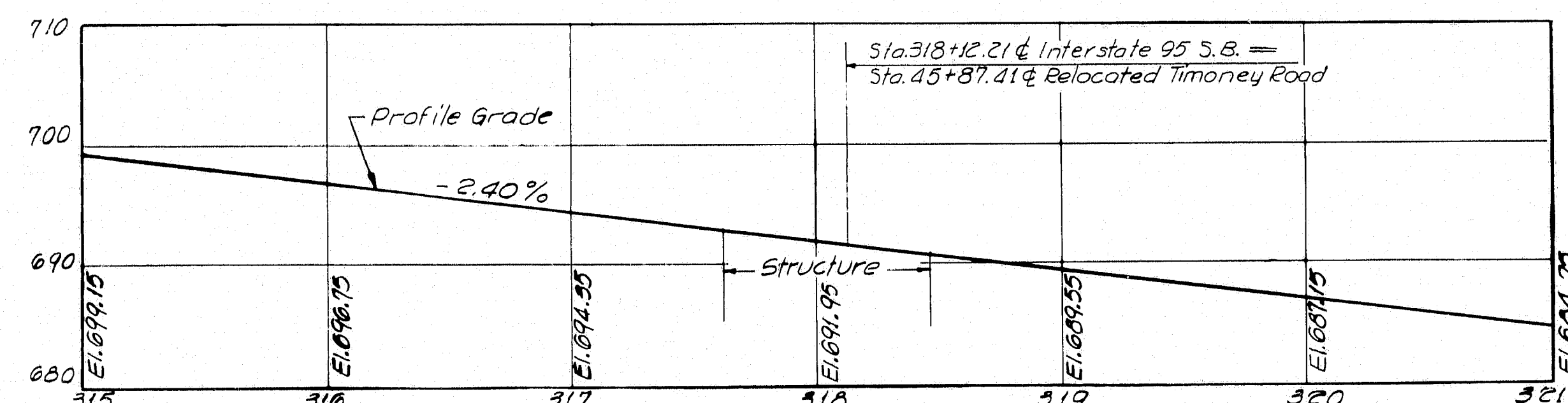
96.92 SMYRNA (19)



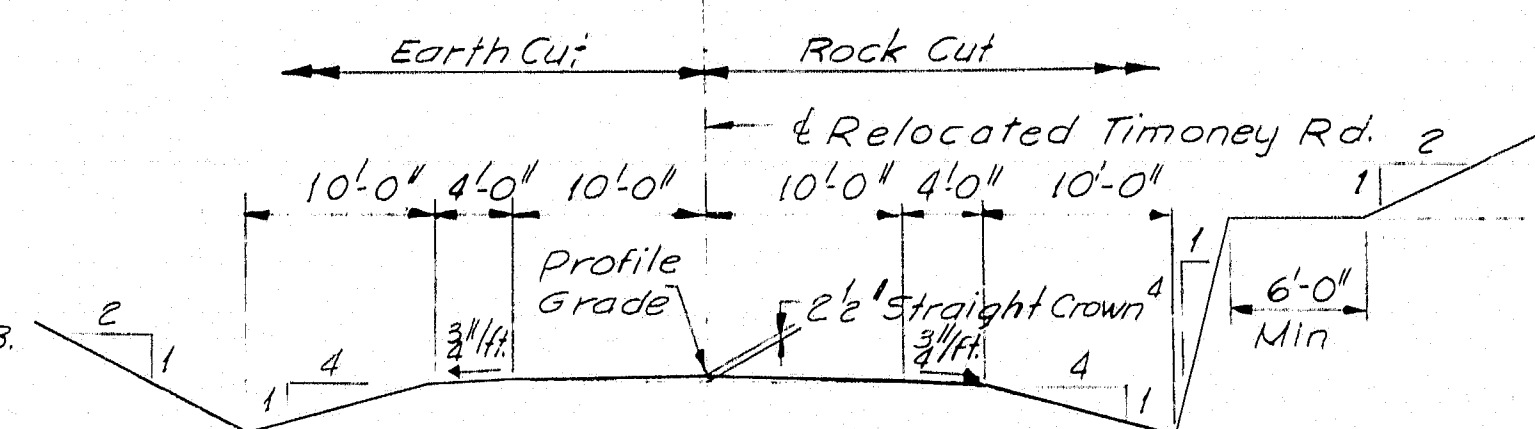
PLAN
1" = 20'



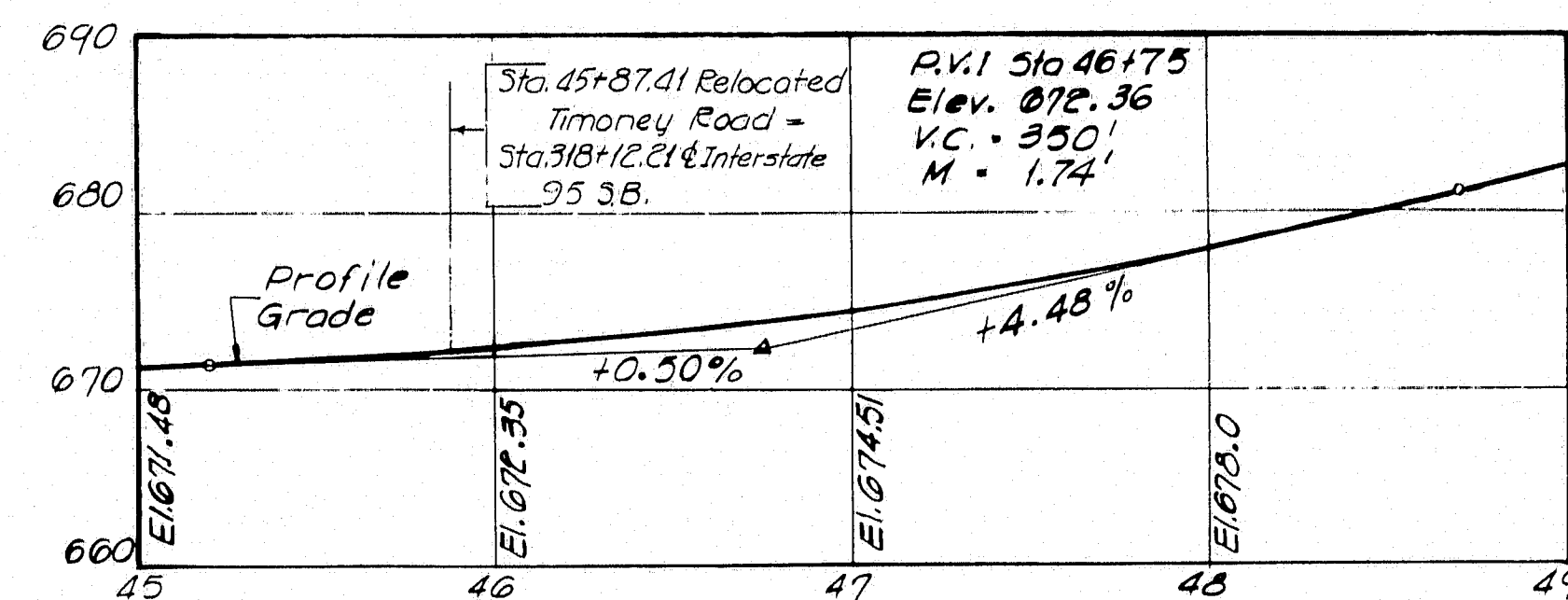
PROFILE-INTERSTATE 95 S.B.
Hor. 1" = 50'
Vert. 1" = 10'



SECTION RELOCATED TIMONEY RD.
1" = 10'



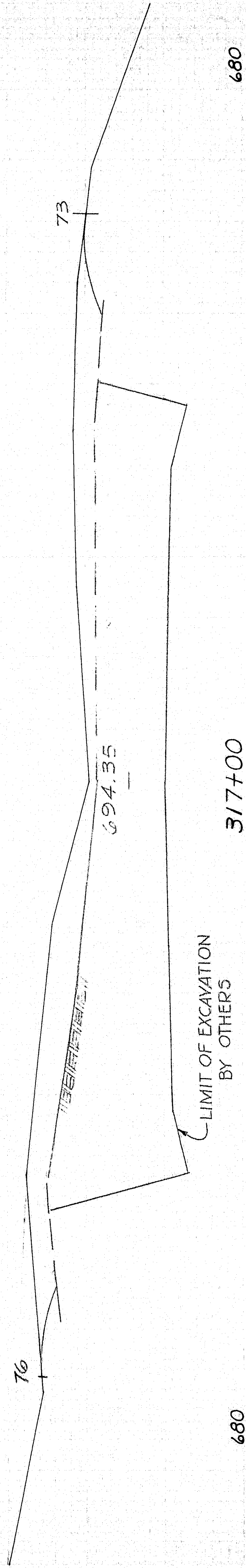
SECTION-INTERSTATE 95 SB
1" = 10'



PROFILE-RELOCATED TIMONEY ROAD
Hor. 1" = 50'
Vert. 1" = 10'

4

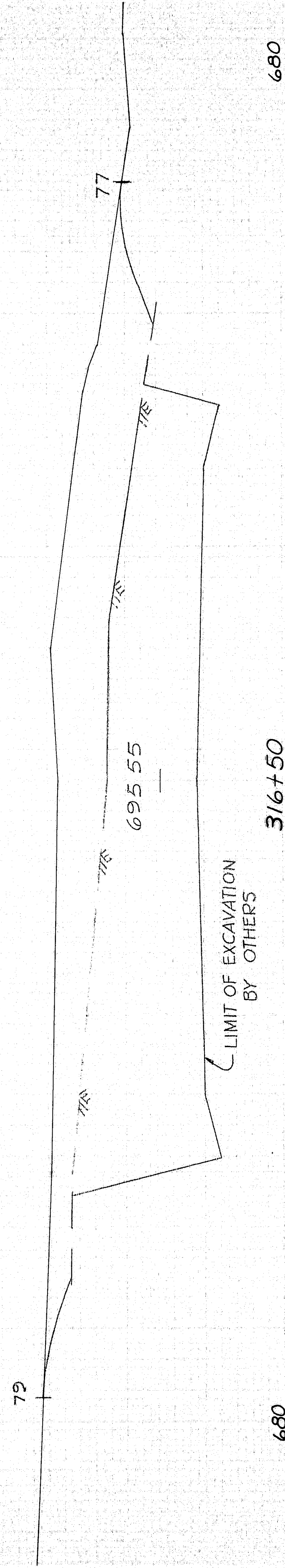
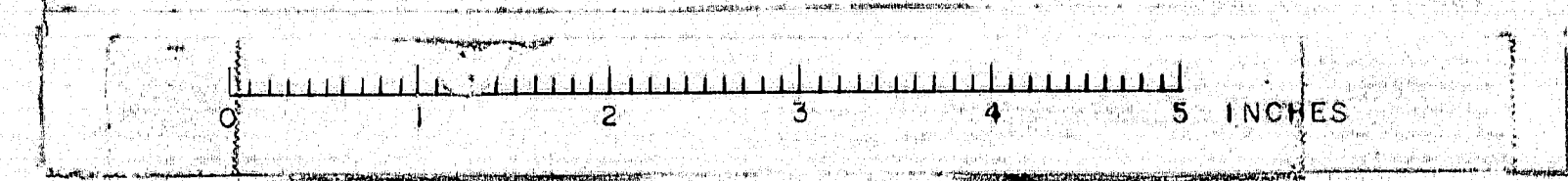
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END PROJECT 1-25-8 (12)
BEGIN PROJECT 1-25-8 (12)



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317+00

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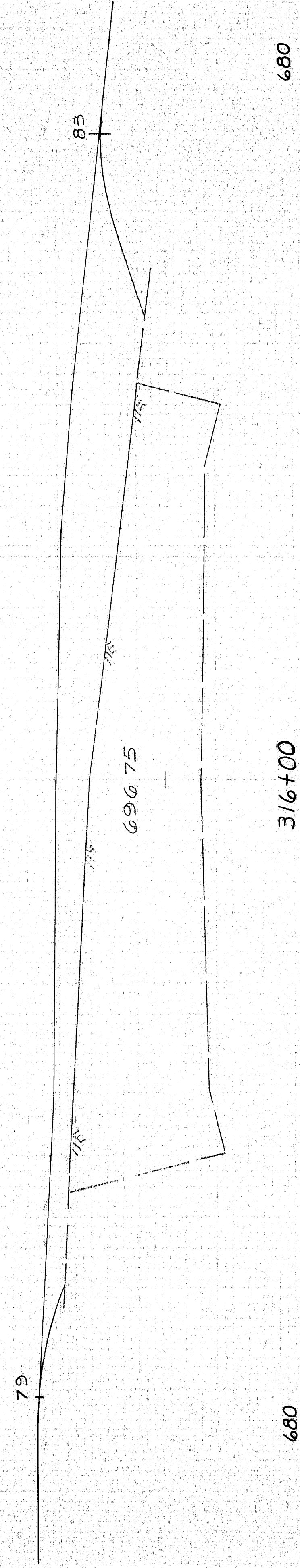


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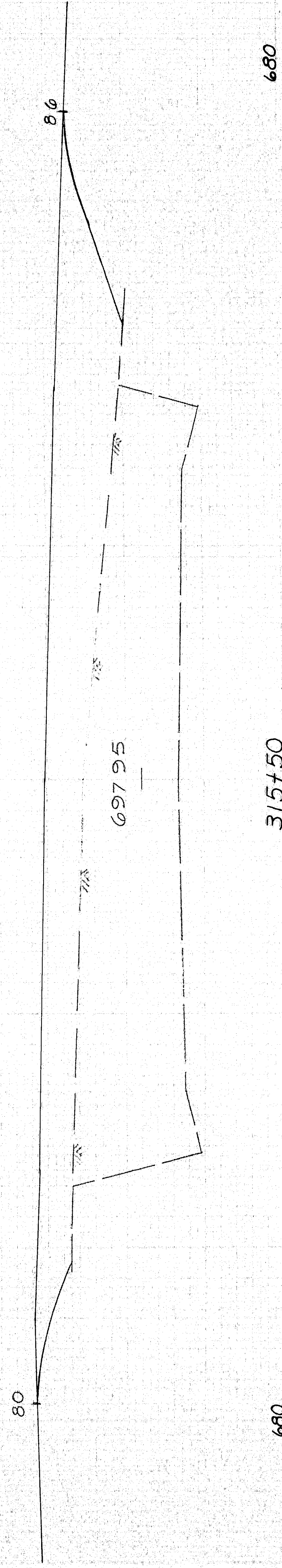
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STA 316+25



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316+00

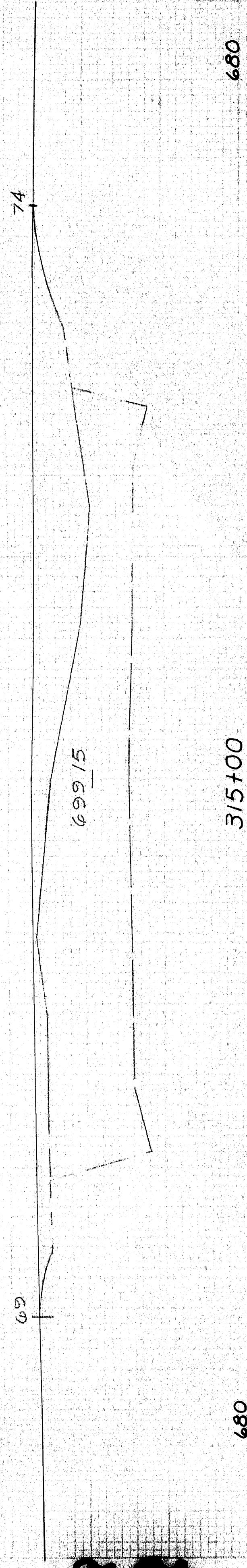
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315+50

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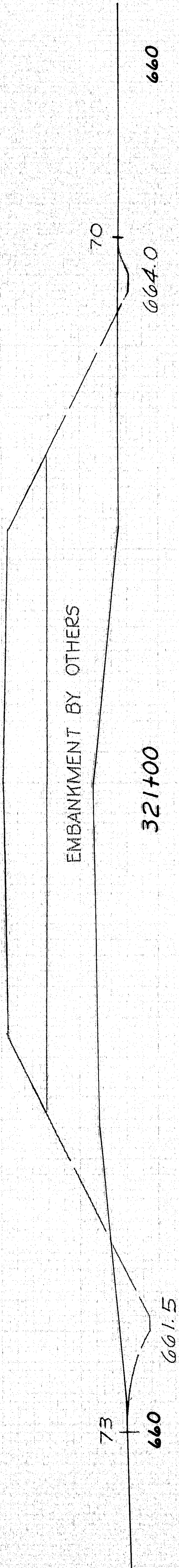
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S.P.R. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	1-25-8 (12)	1	1

D.P.R. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
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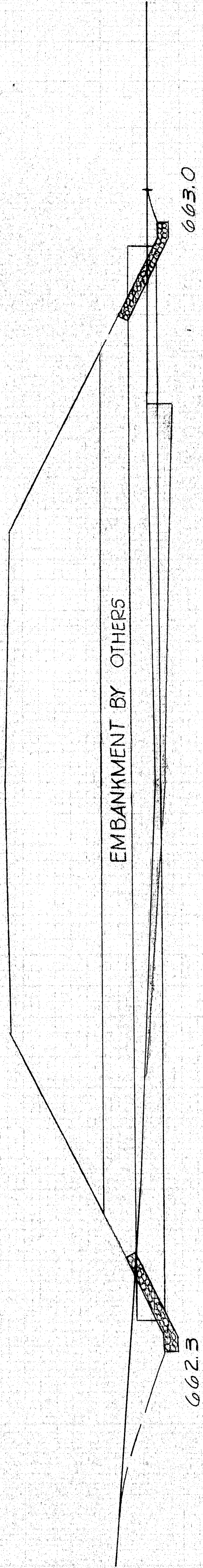
4
 LIMIT OF WORK
 STA 321+50

684.75



321+00

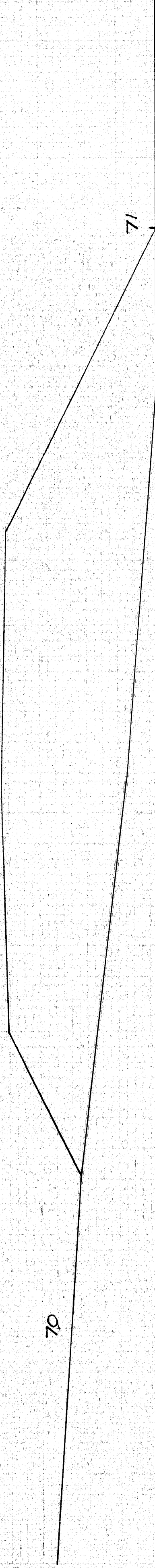
687.15



320+00

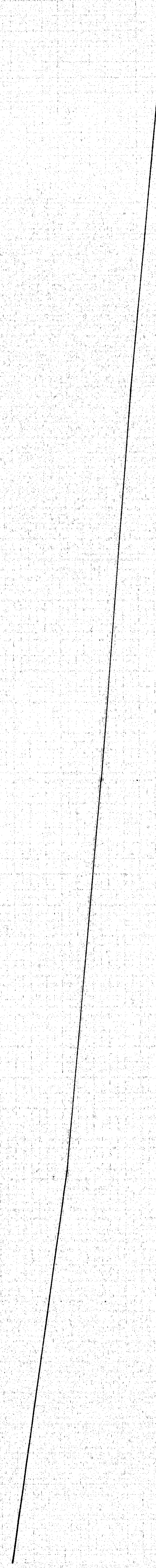
TO BE INSTALLED BY OTHERS
 STA 320+25 S.B. (SKEW 30° AHEAD) 650
 INSTALL BY PRECOMPACTED METHOD
 42" X 160' R.C. P. CLASS III
 PLACE HAND LAID RIPRAP GROUTED
 AROUND INLET AND OUTLET.

689.55



319+00

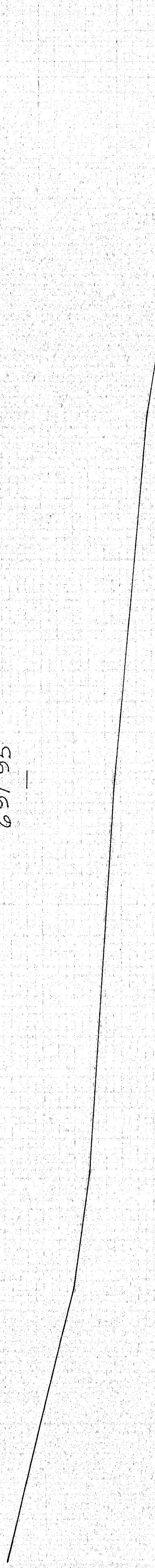
690.75



318+50

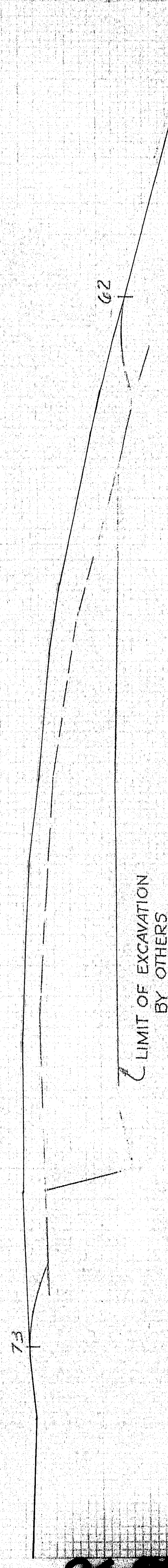
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 END PROJECT 1-95-9(19)
 BEGIN PROJECT 1-95-9(14)

691.95



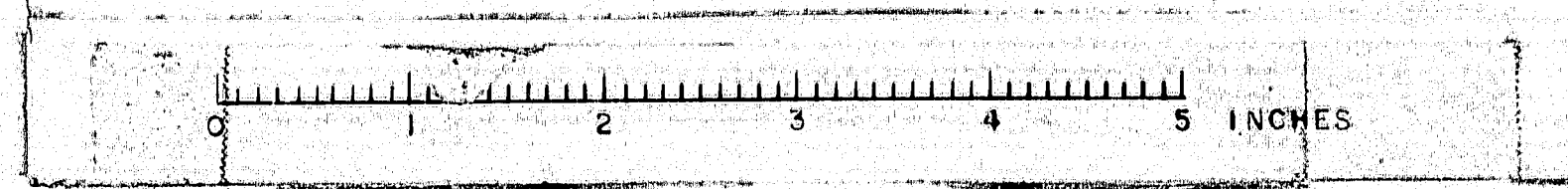
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660



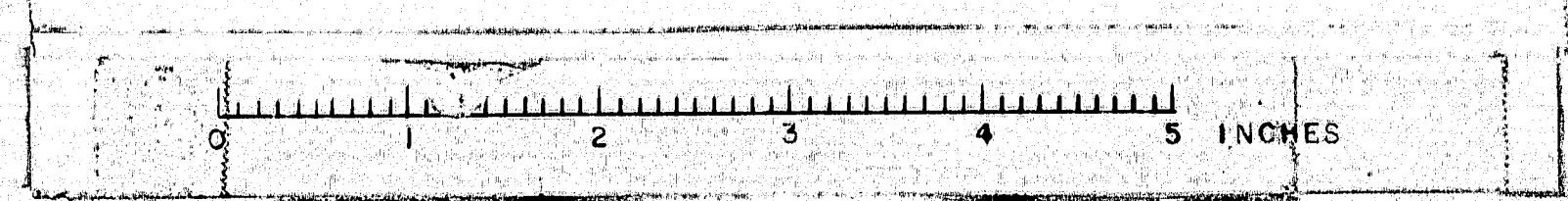
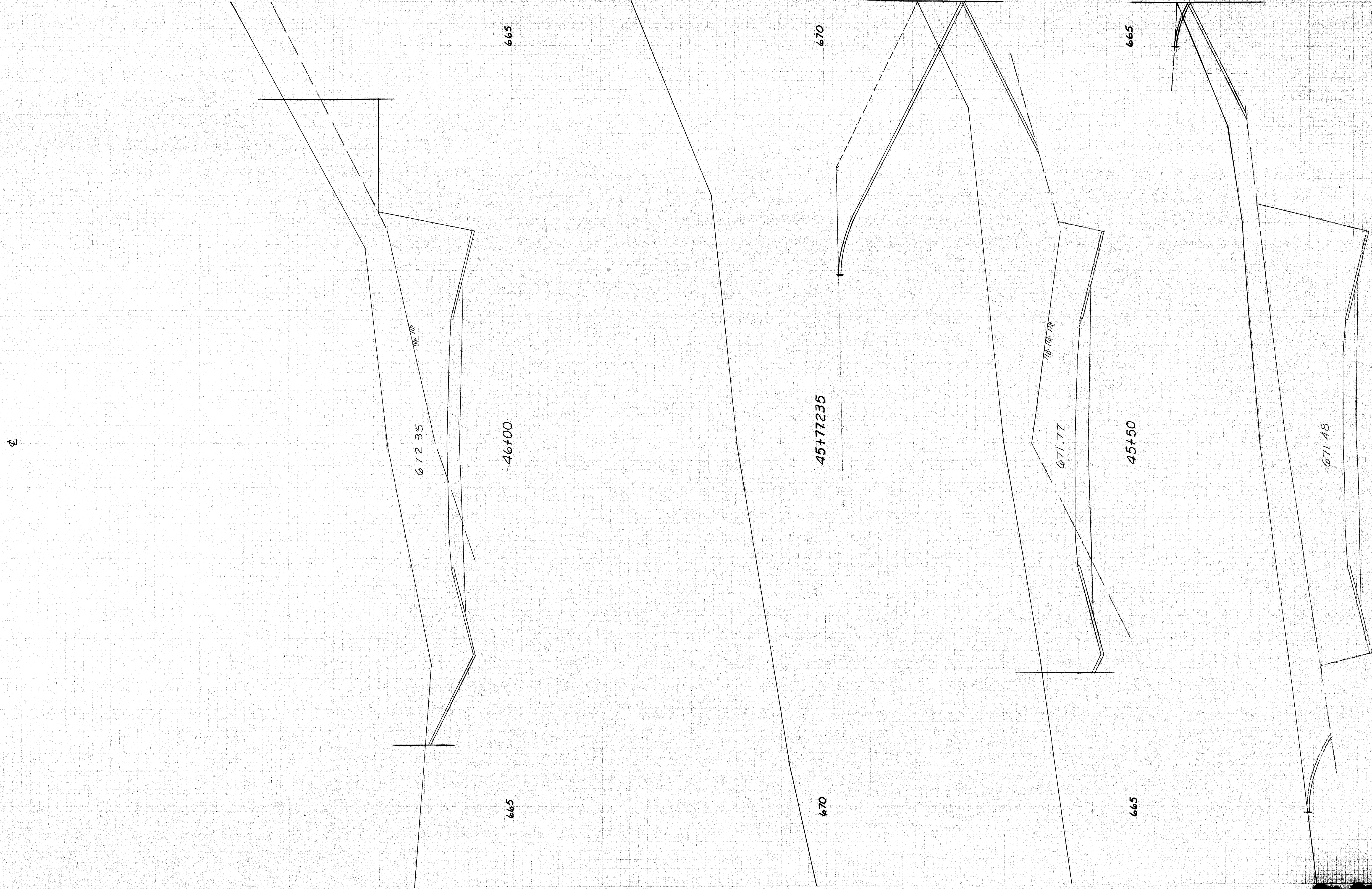
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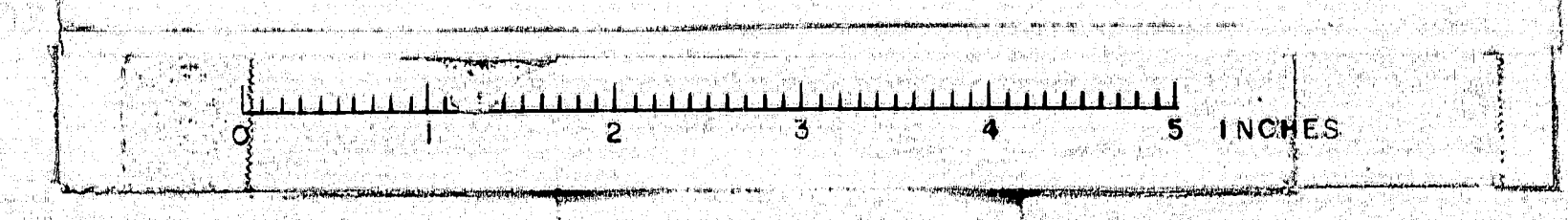
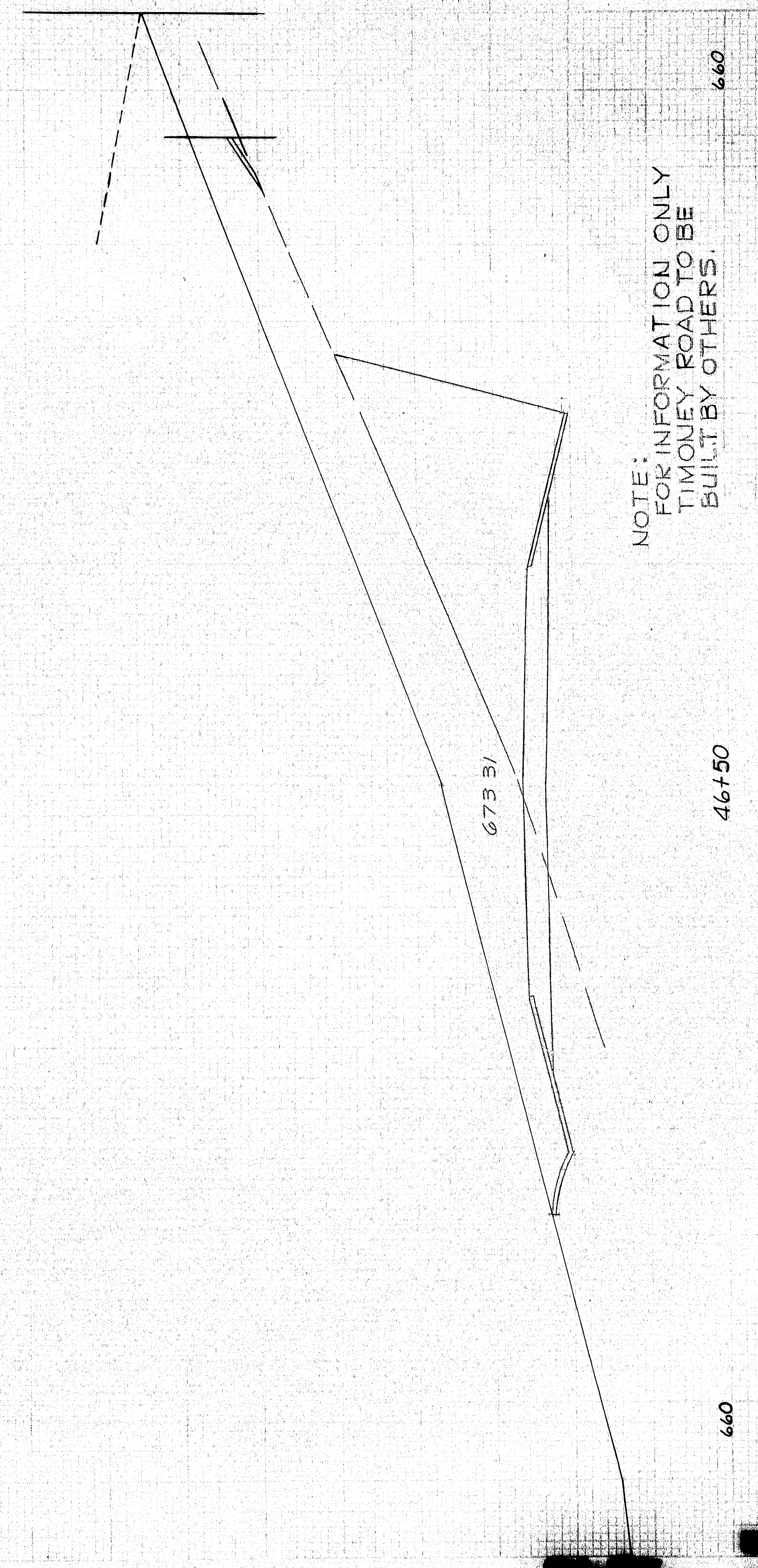
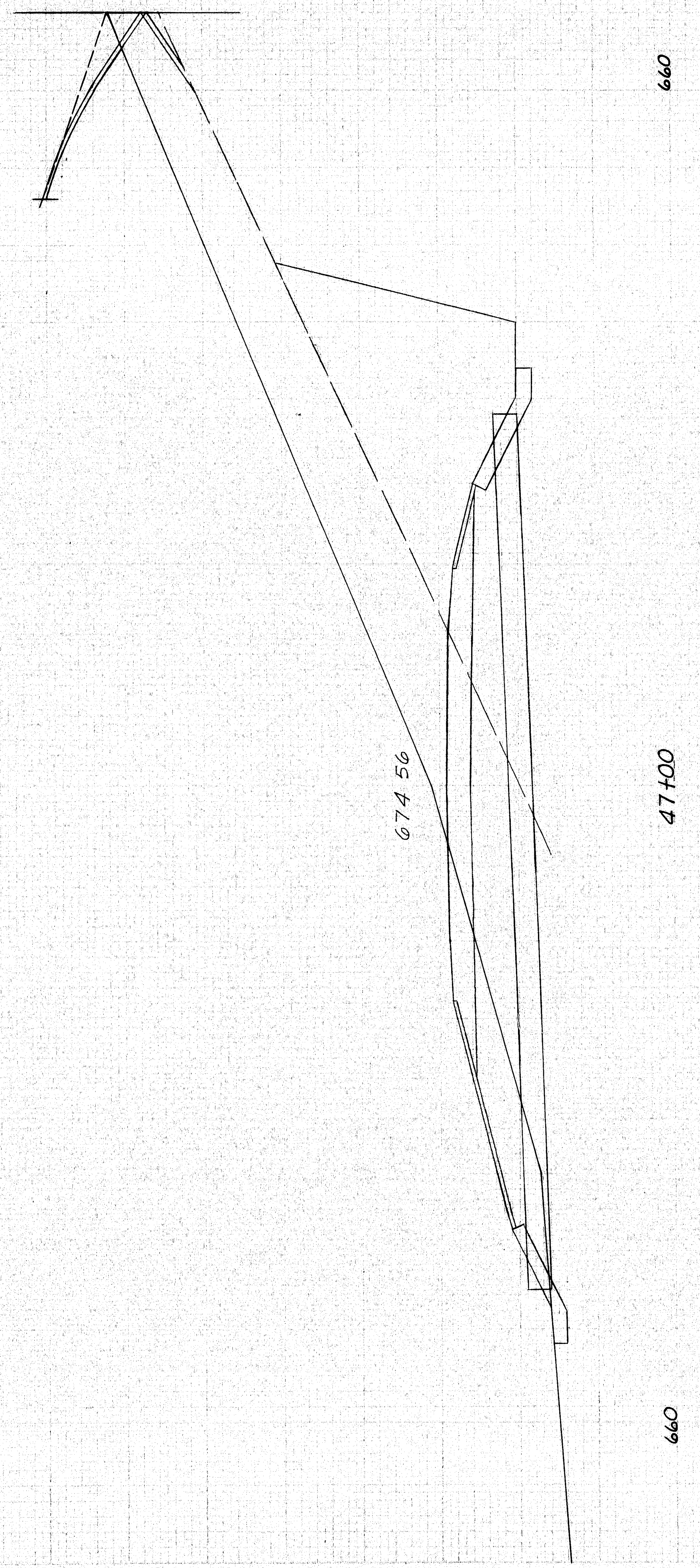
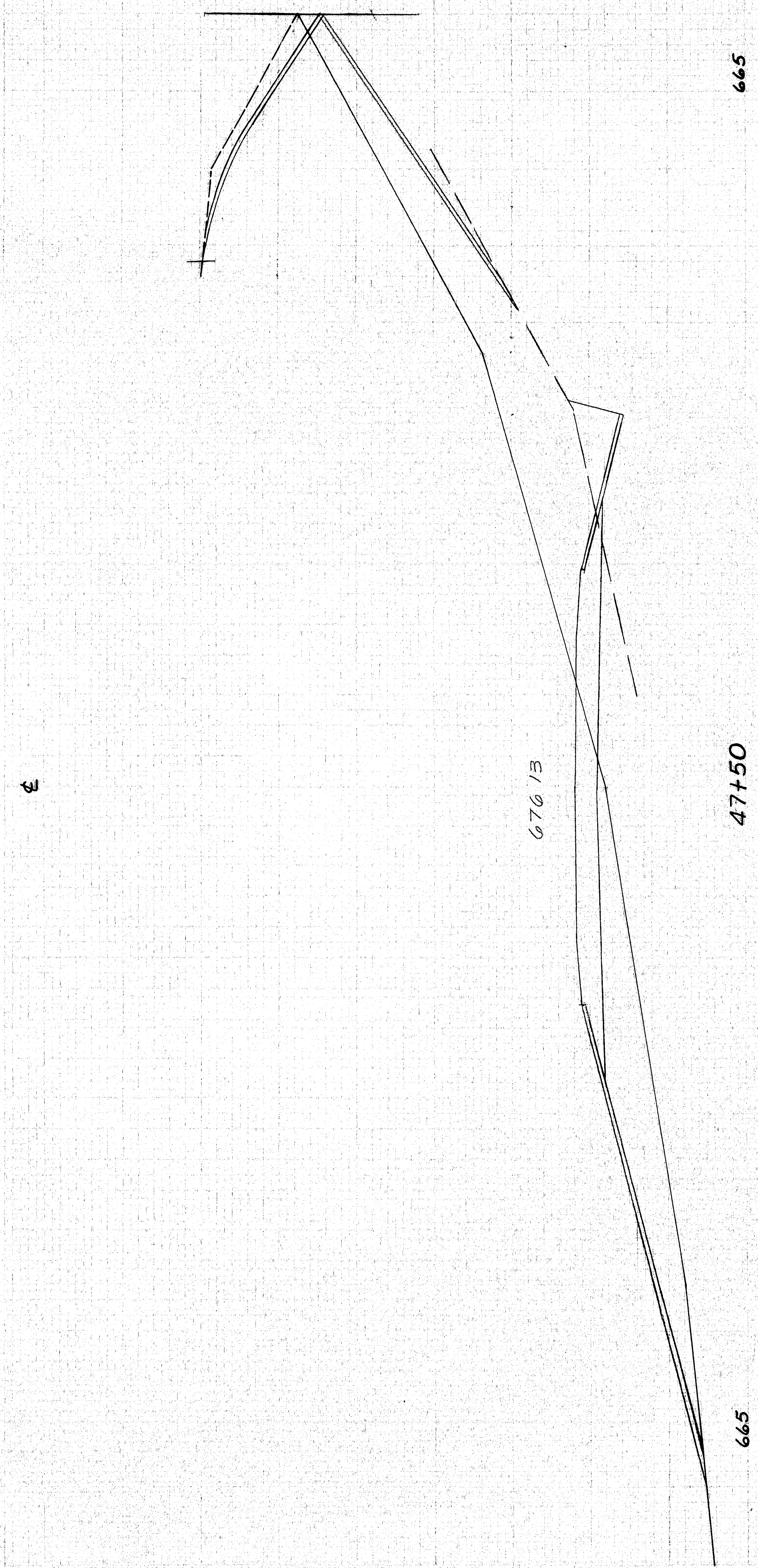
NOTE
FOR INFORMATION ONLY
TIMONEY ROAD TO BE
BUILT BY OTHERS.



STA 45+50 TO STA 46+00

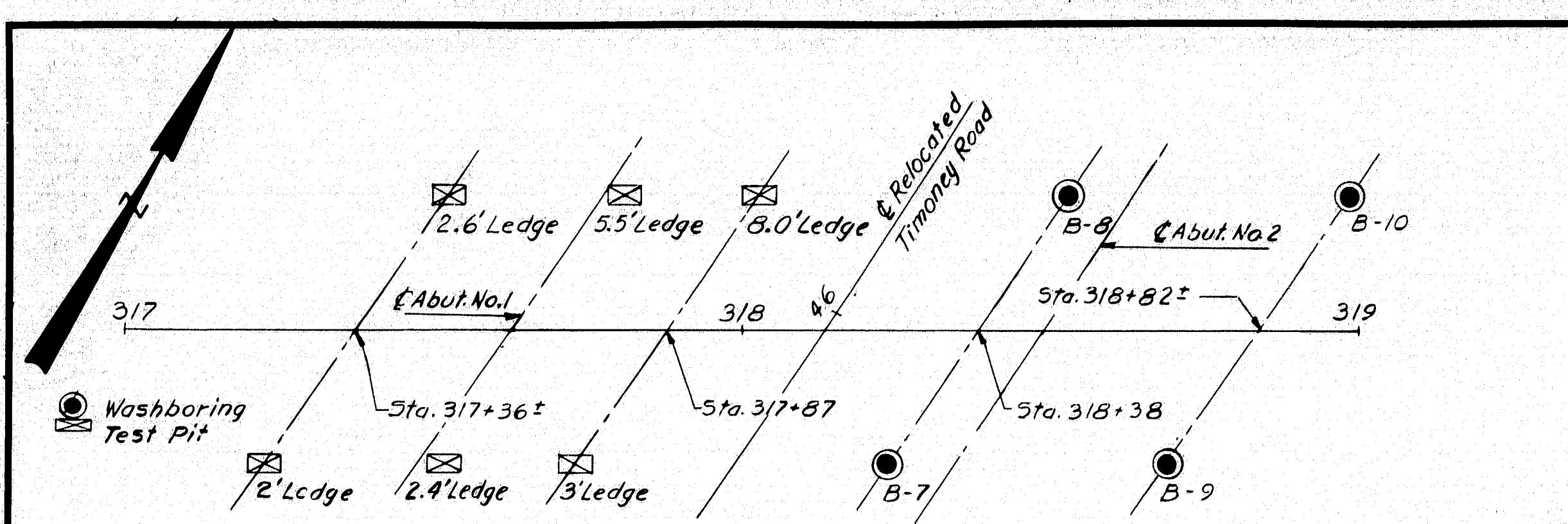
B.P.R. REQ. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
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NOTE:
FOR INFORMATION ONLY
TIMONEY ROAD TO BE
BUILT BY OTHERS.

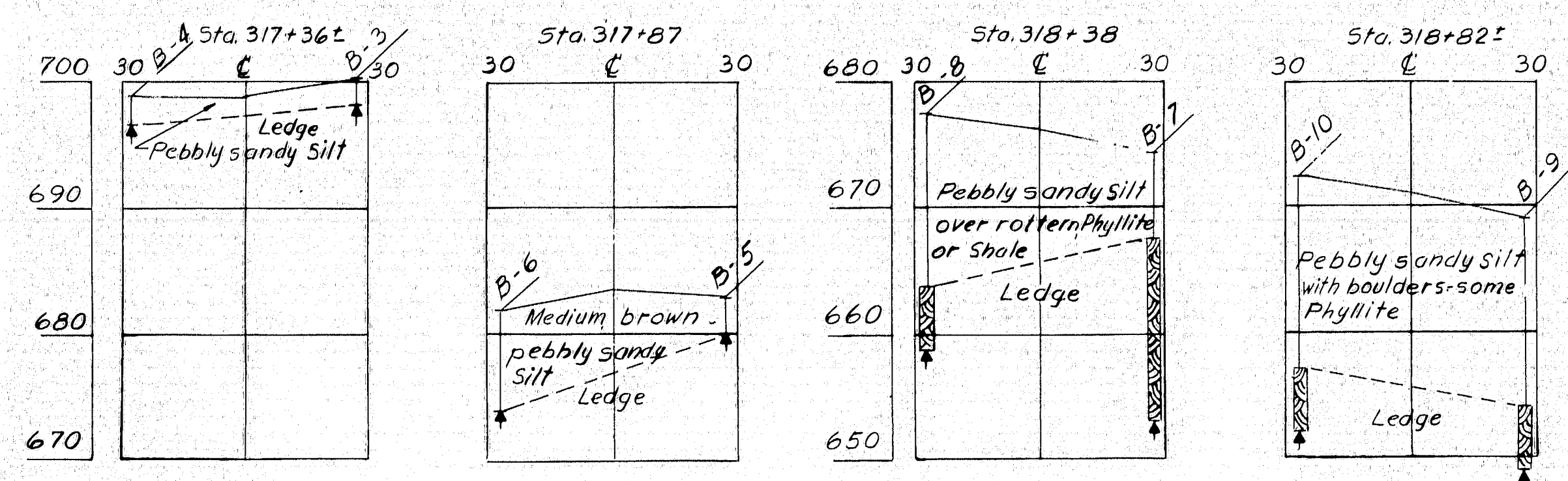


STA. 46+50 TO STA. 47+50

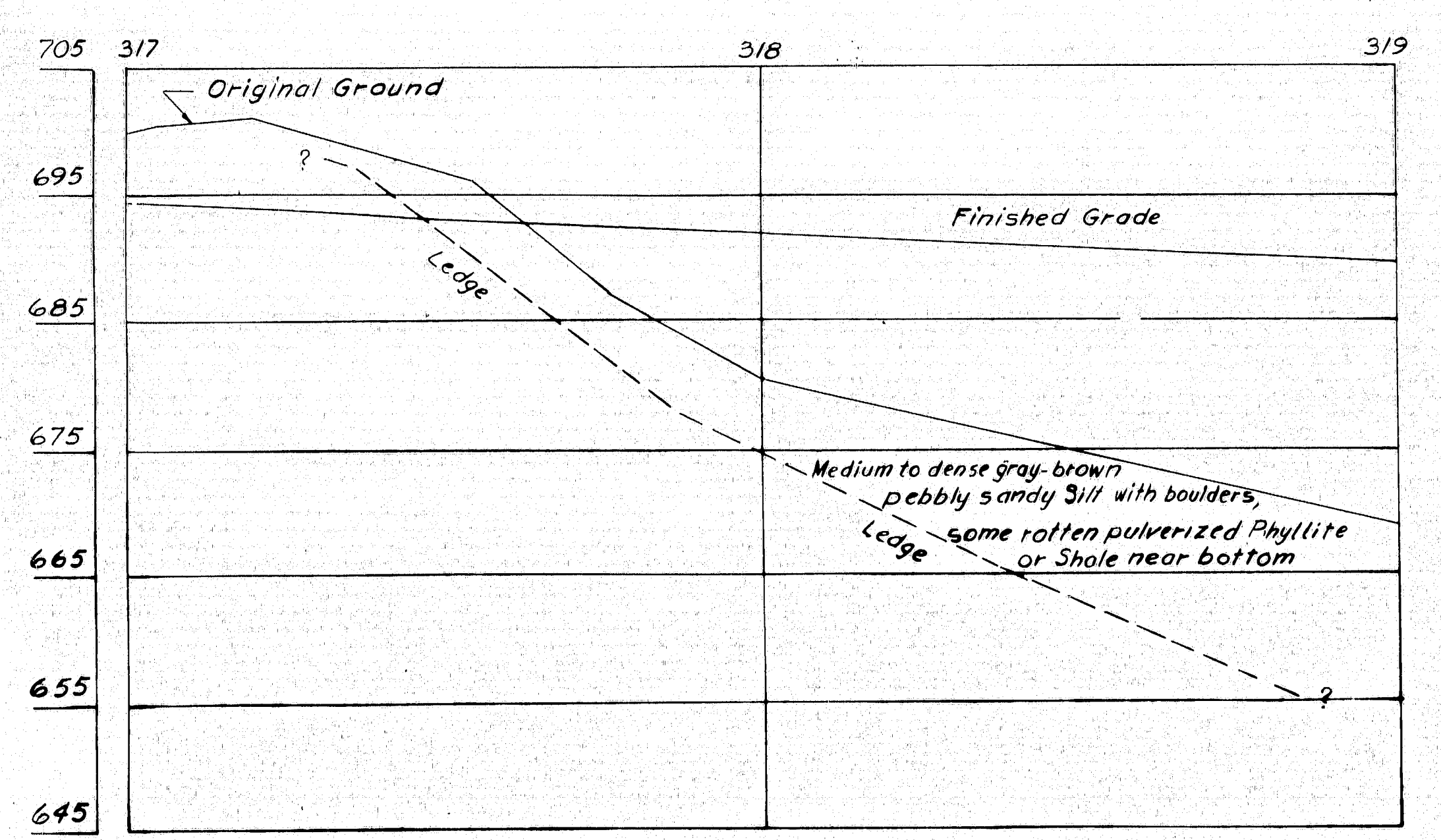
(19)



PLAN
1" = 20'



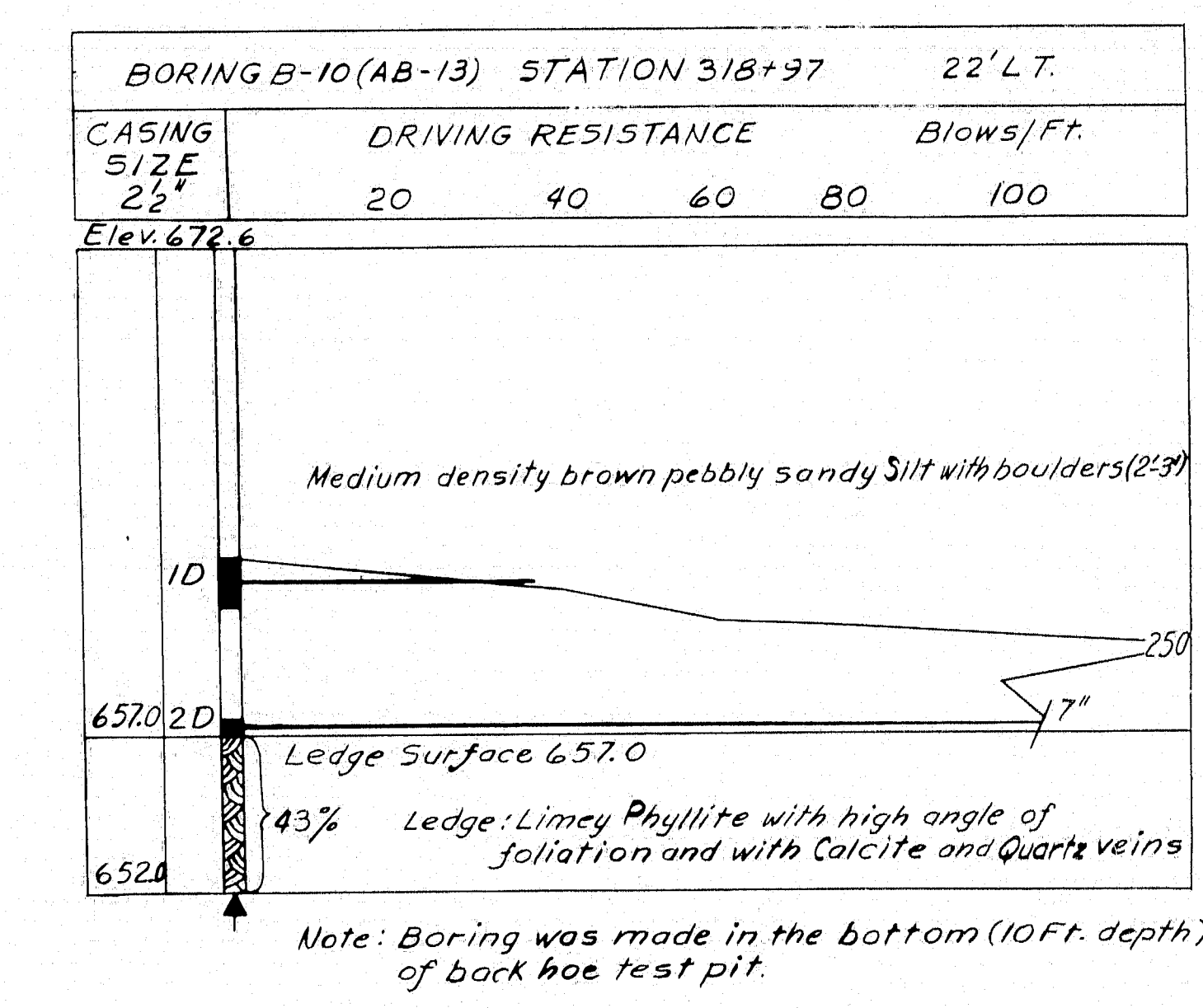
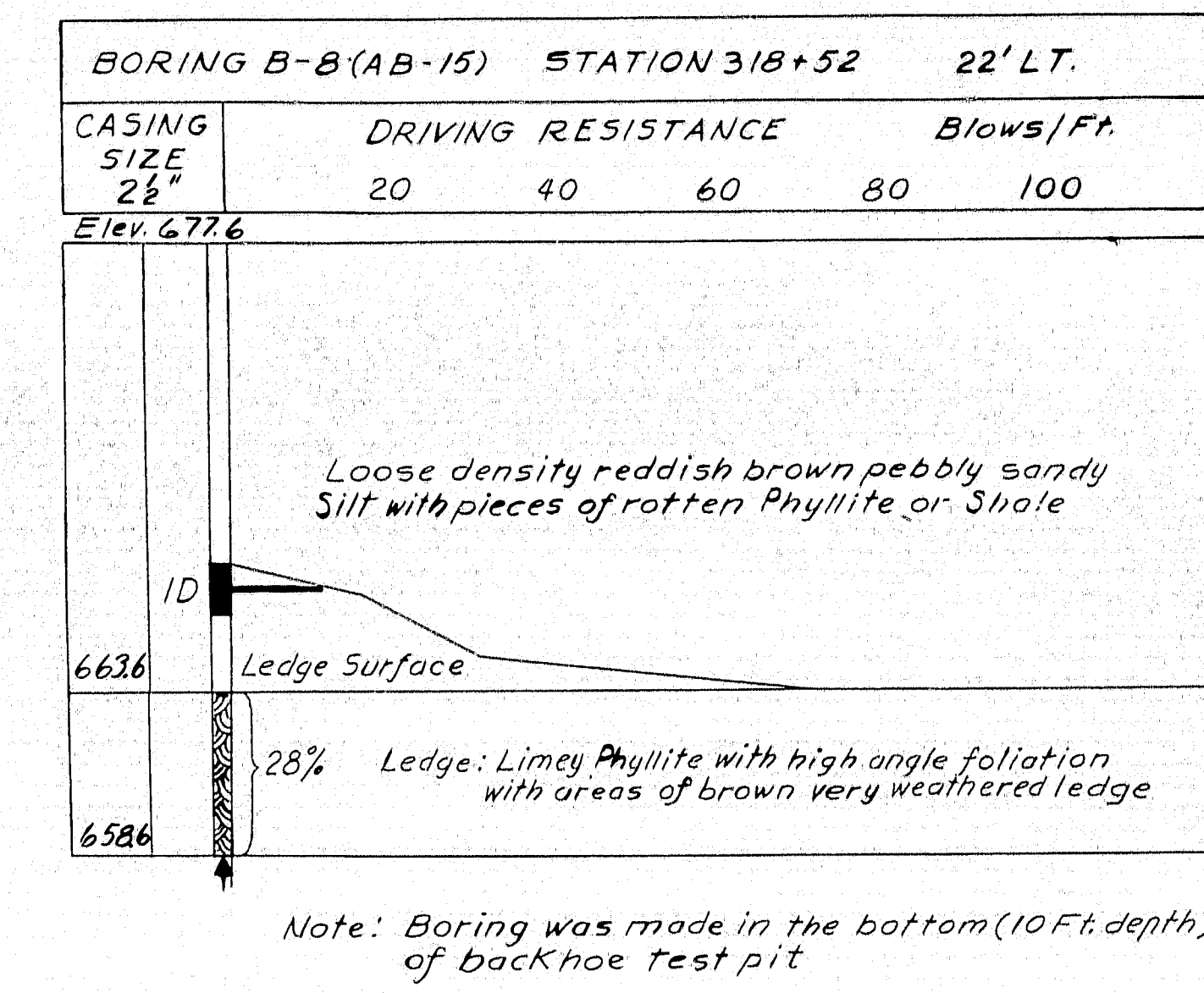
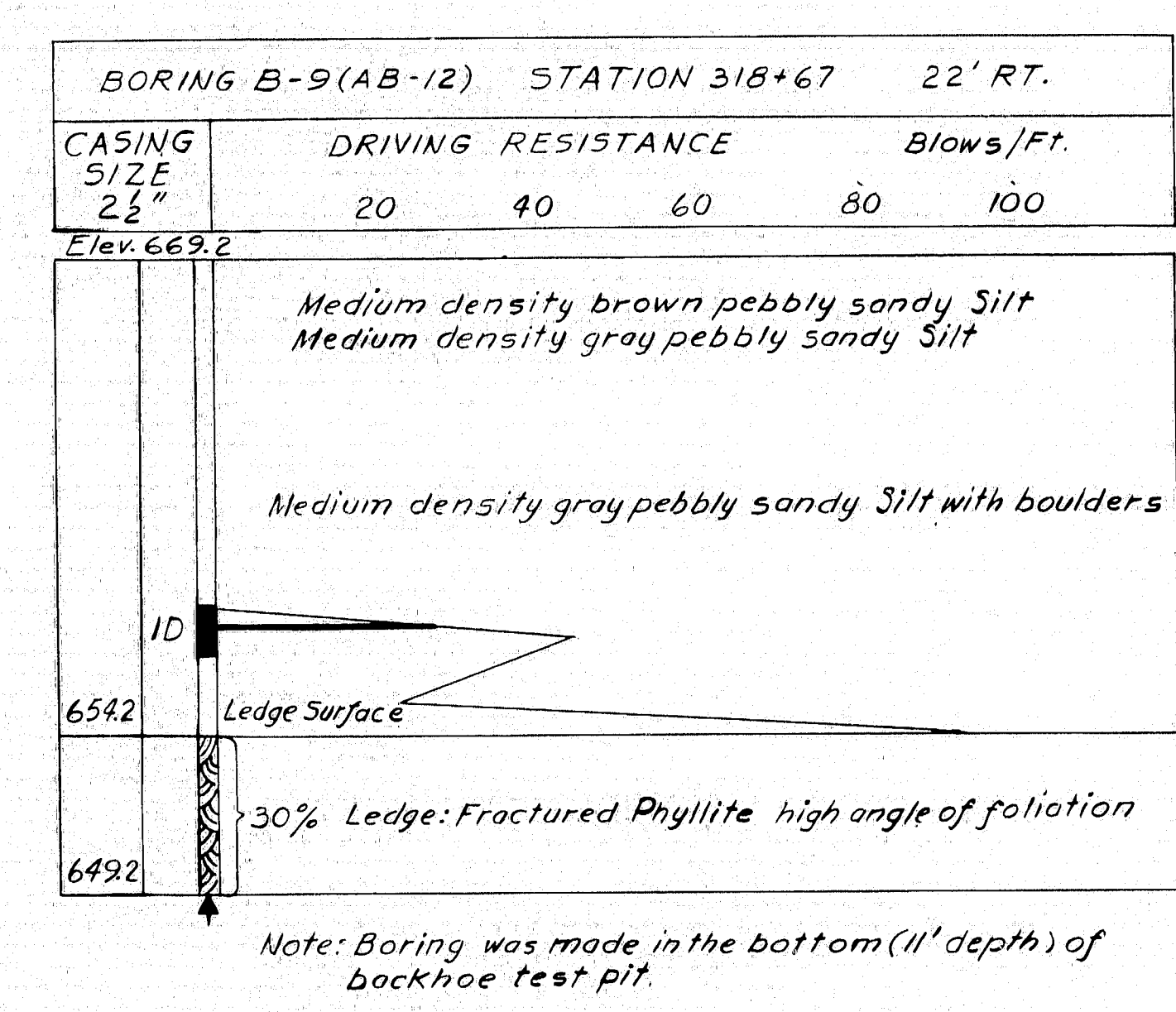
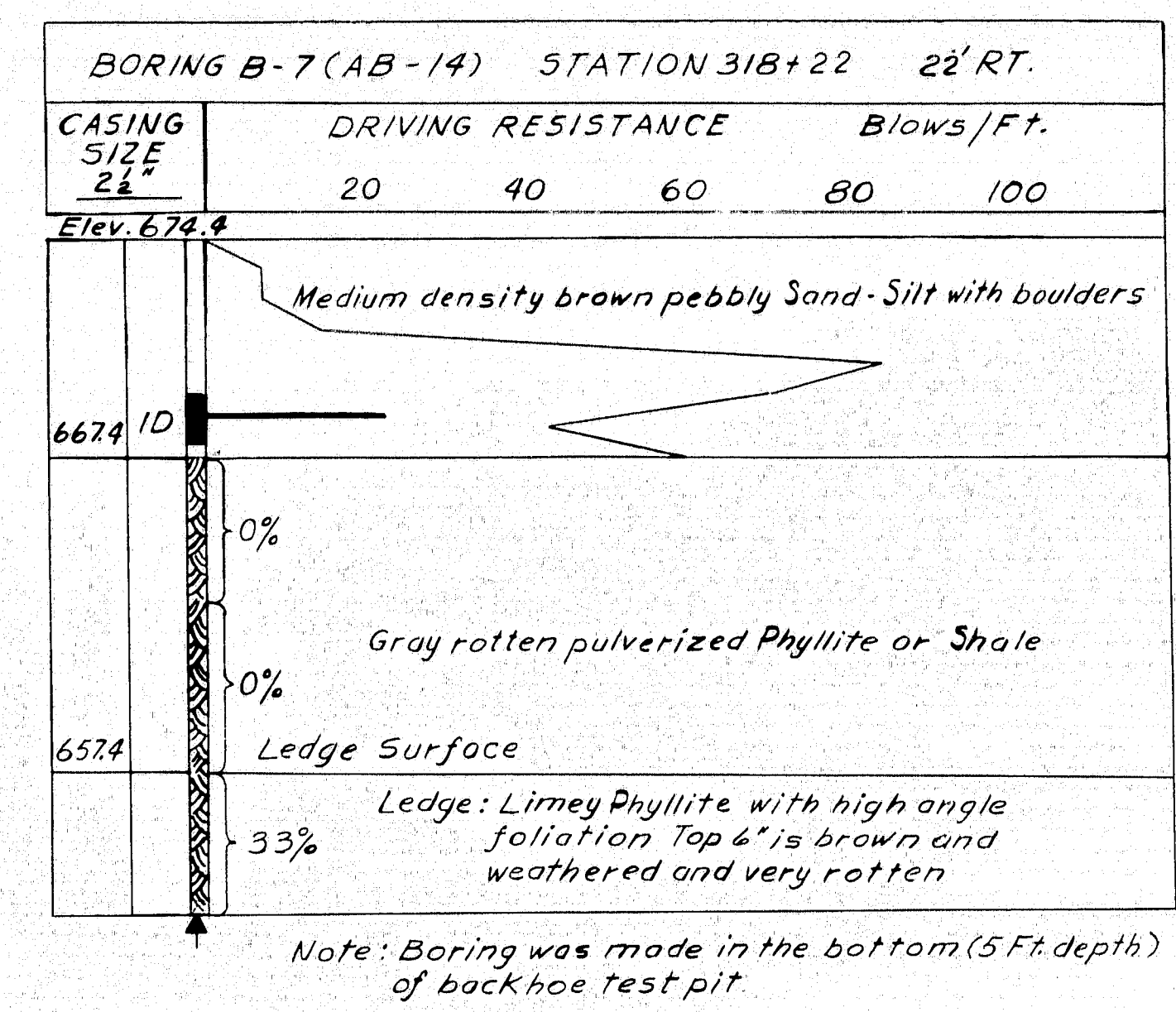
TRANSVERSE SECTIONS



PROFILE
1" = 10' Vert.
1" = 20' Horiz.

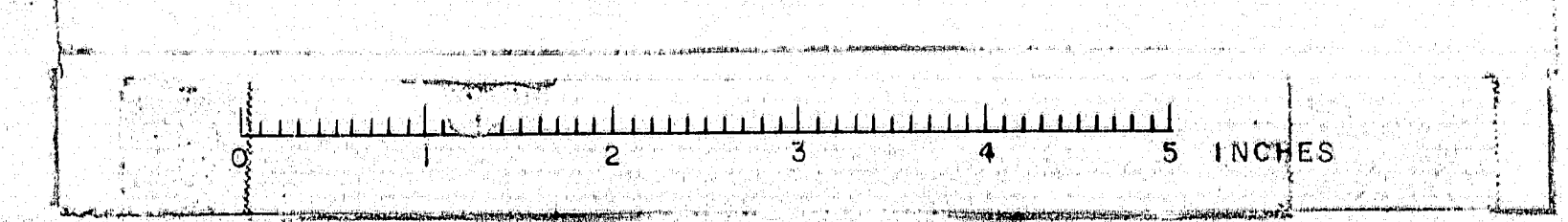
NOTES:

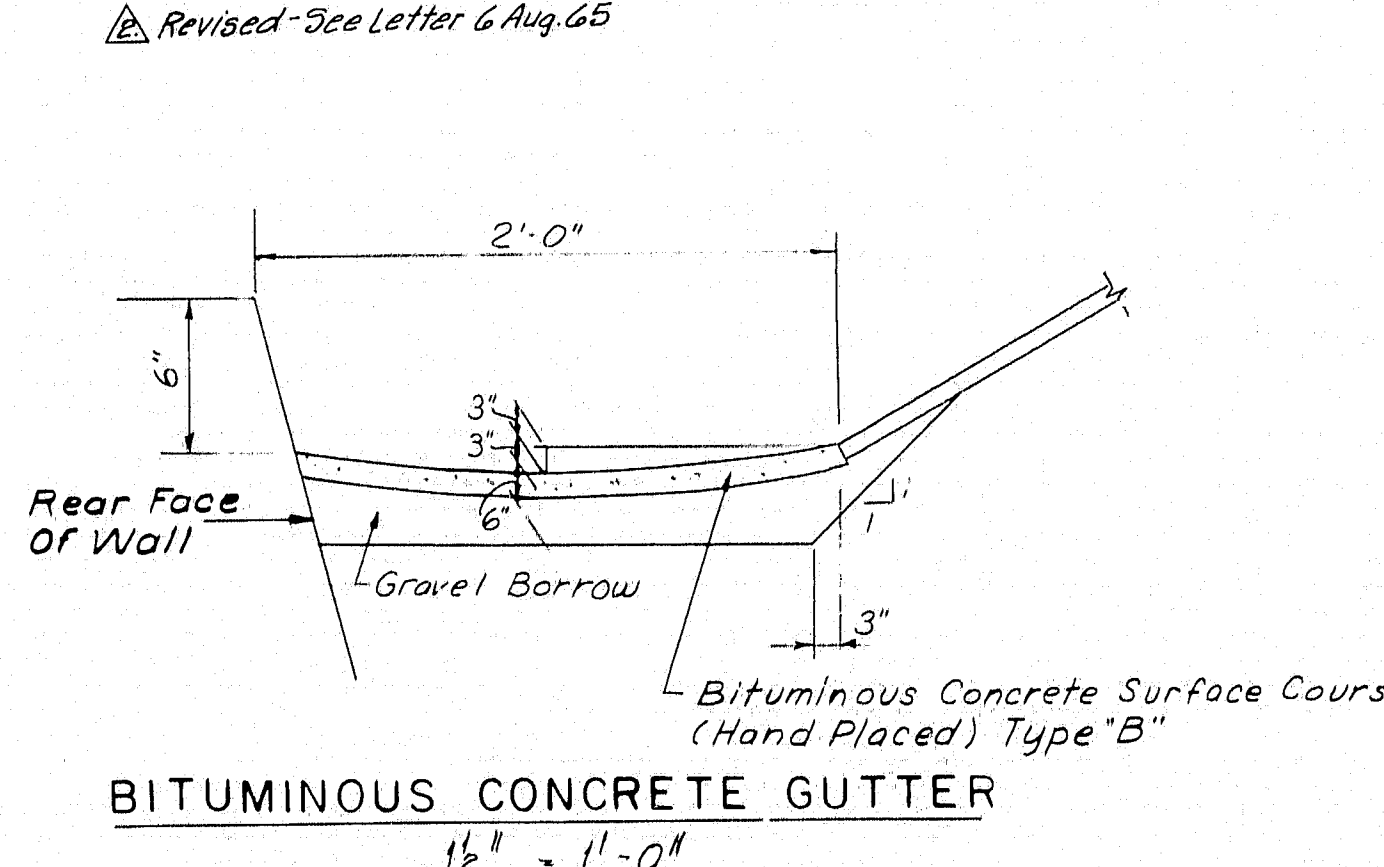
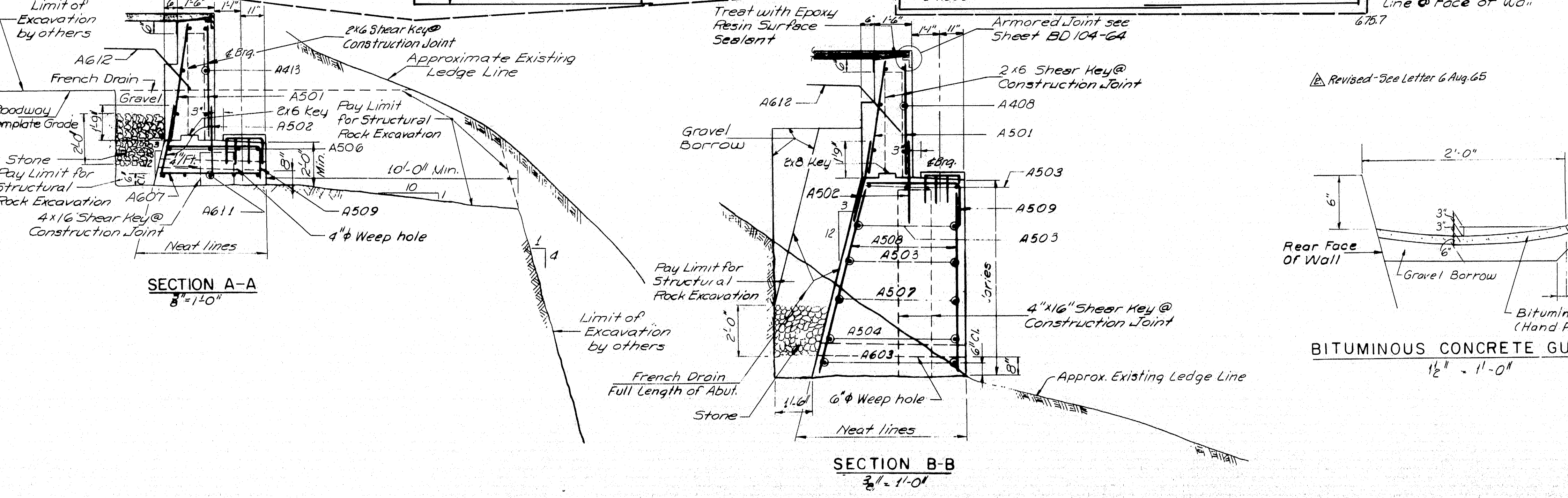
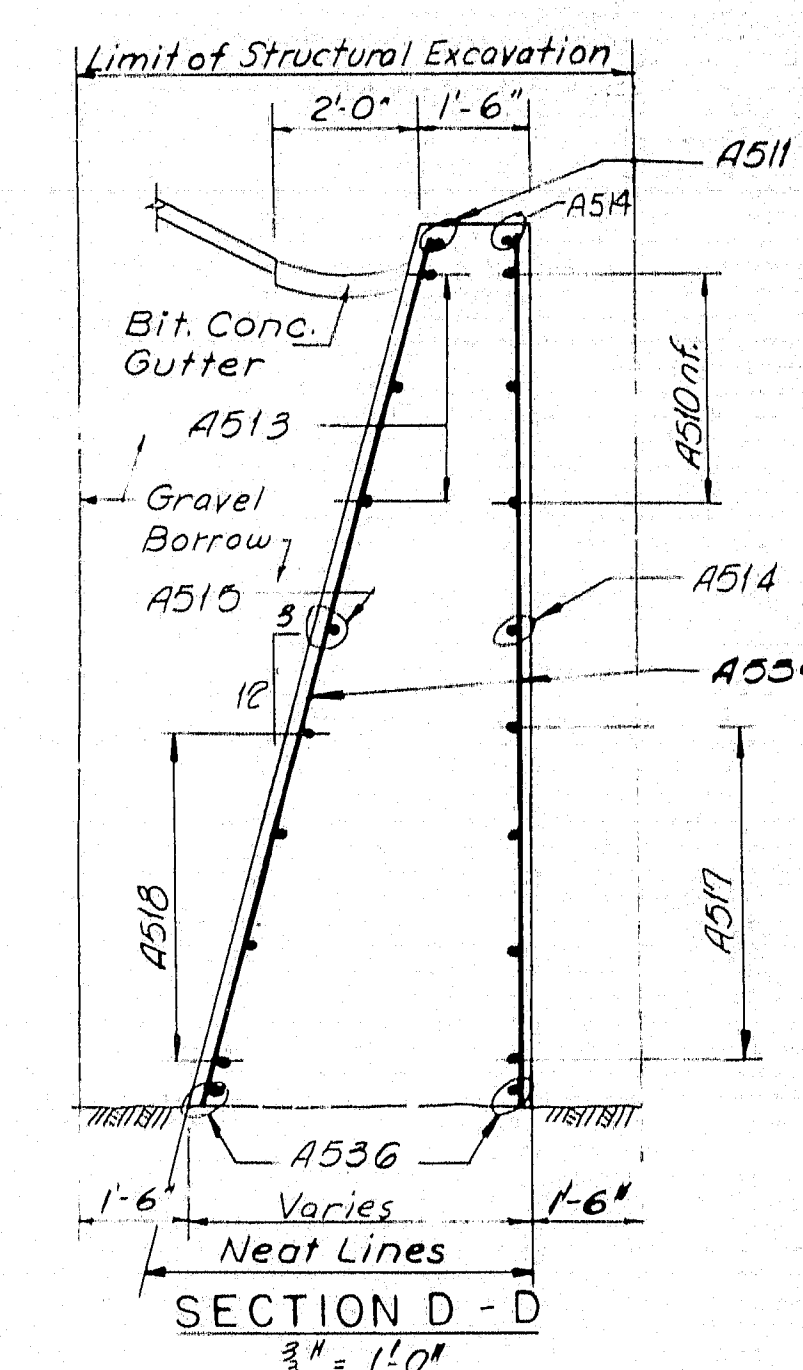
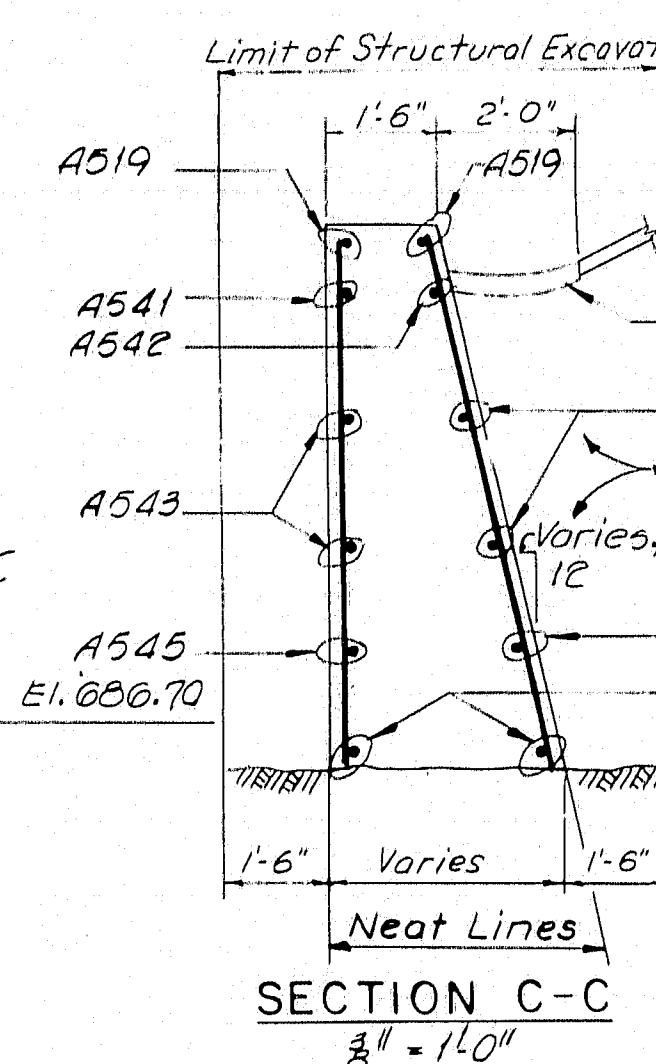
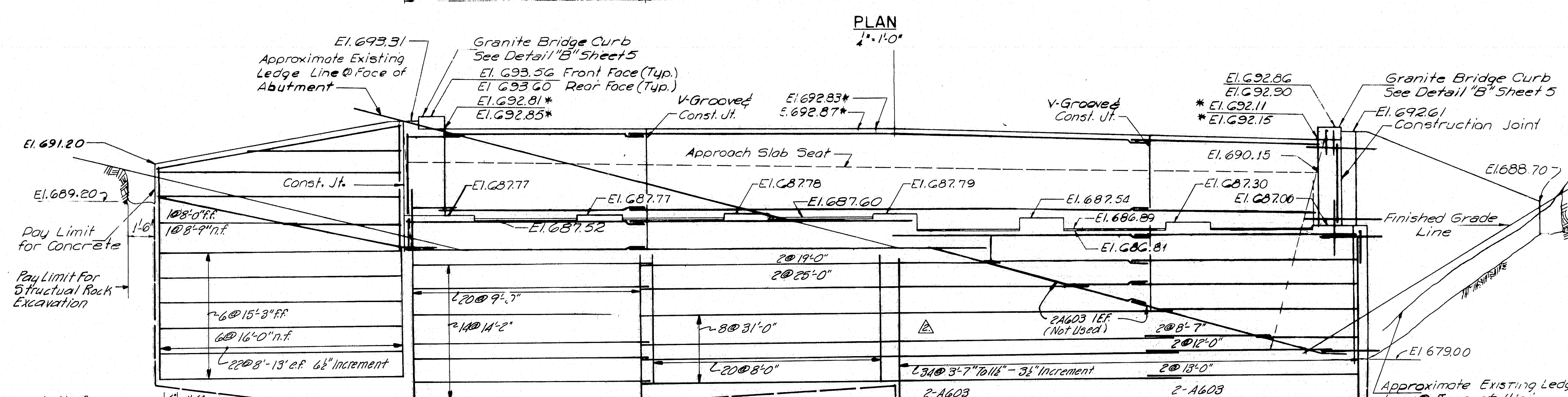
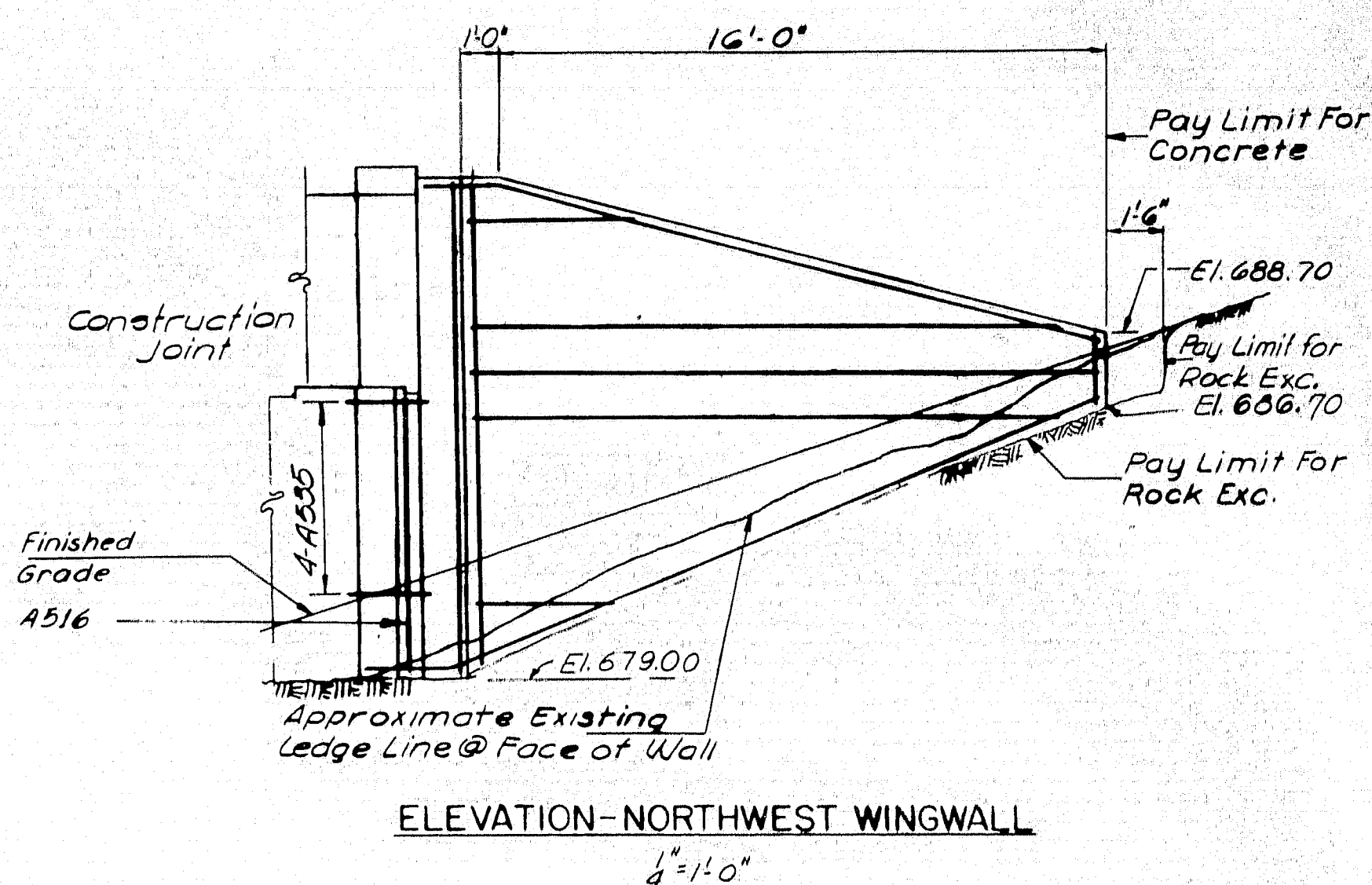
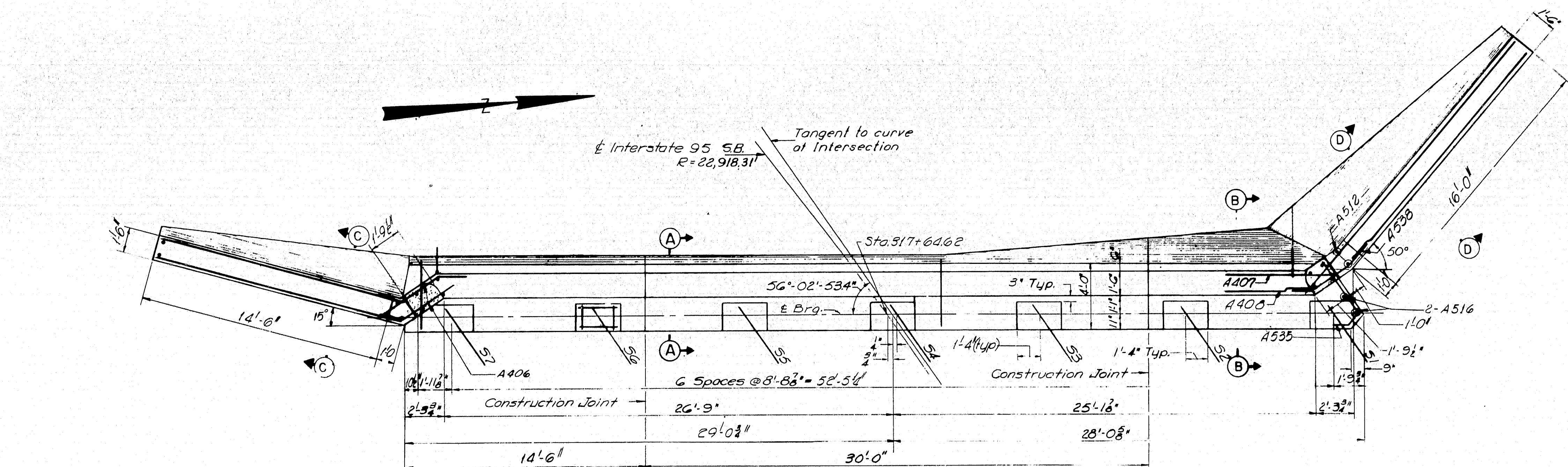
- Number of blows required to drive extra heavy casing one foot with 400 ft. lbs. of energy per blow.
- Location of sample or sample attempt. Number and type of dry sample.
- ID S&H Sampler #1290's
- Number of blows required to drive spoon or tubing one foot with 350 ft. lbs. of energy per blow.
- Bottom of boring (may not be of soil strata)
- 71% Locations cored by diamond bit and per cent recovery of rock.



DESIGN- TRACE- CHECK- W.A.V.	DETAIL- R.F.	BRIDGE NO. SURVEY- PLOT-
STATE HIGHWAY COMMISSION BRIDGE DIVISION		
INTERSTATE 95 OVER RELOCATED TIMONEY ROAD IN THE TOWN OF SMYRNA ARROSTOOK COUNTY FOUNDATION SURVEY		
HOWARD, NEEDLES, TAMMEN & BERGENDOFF CONSULTING ENGINEERS NEW YORK BOSTON KANSAS CITY		SHEET 8 OF 14 AUGUSTA, MAINE MARCH 1965

96-98 SMYRNA(19)

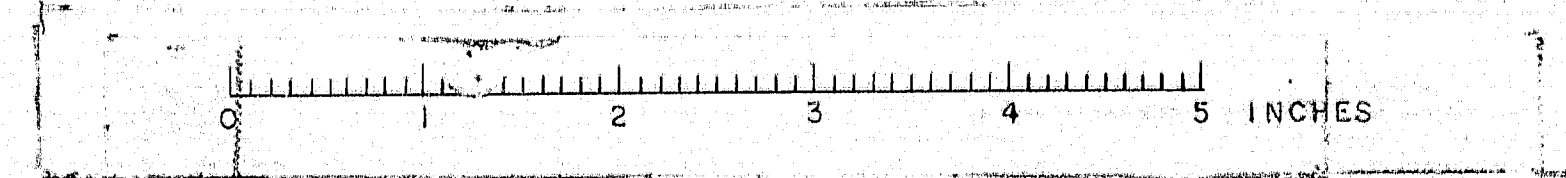


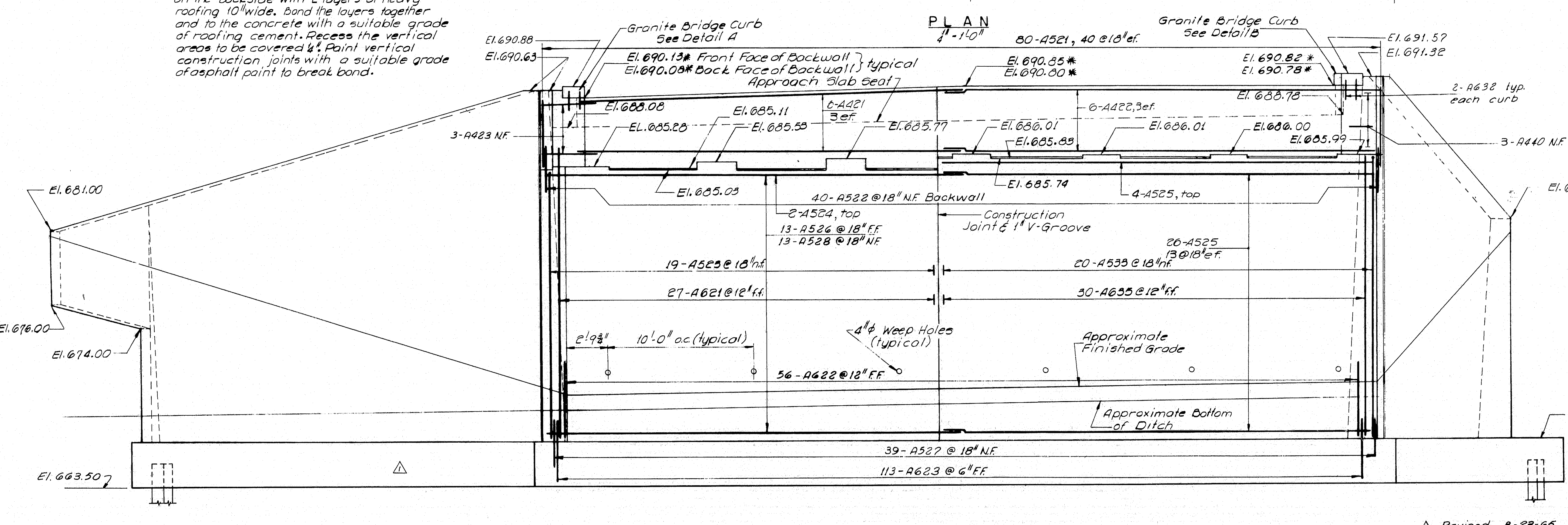
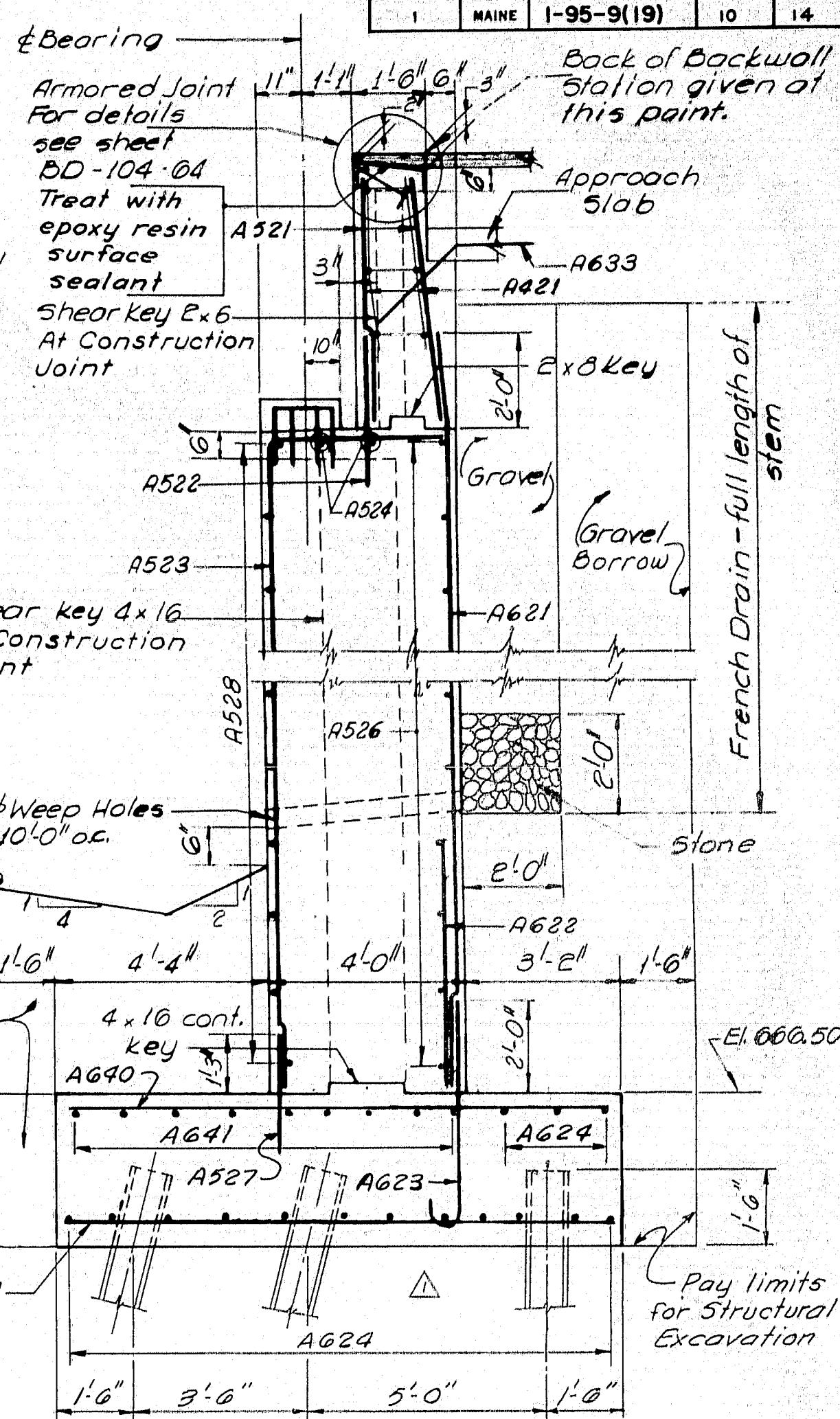
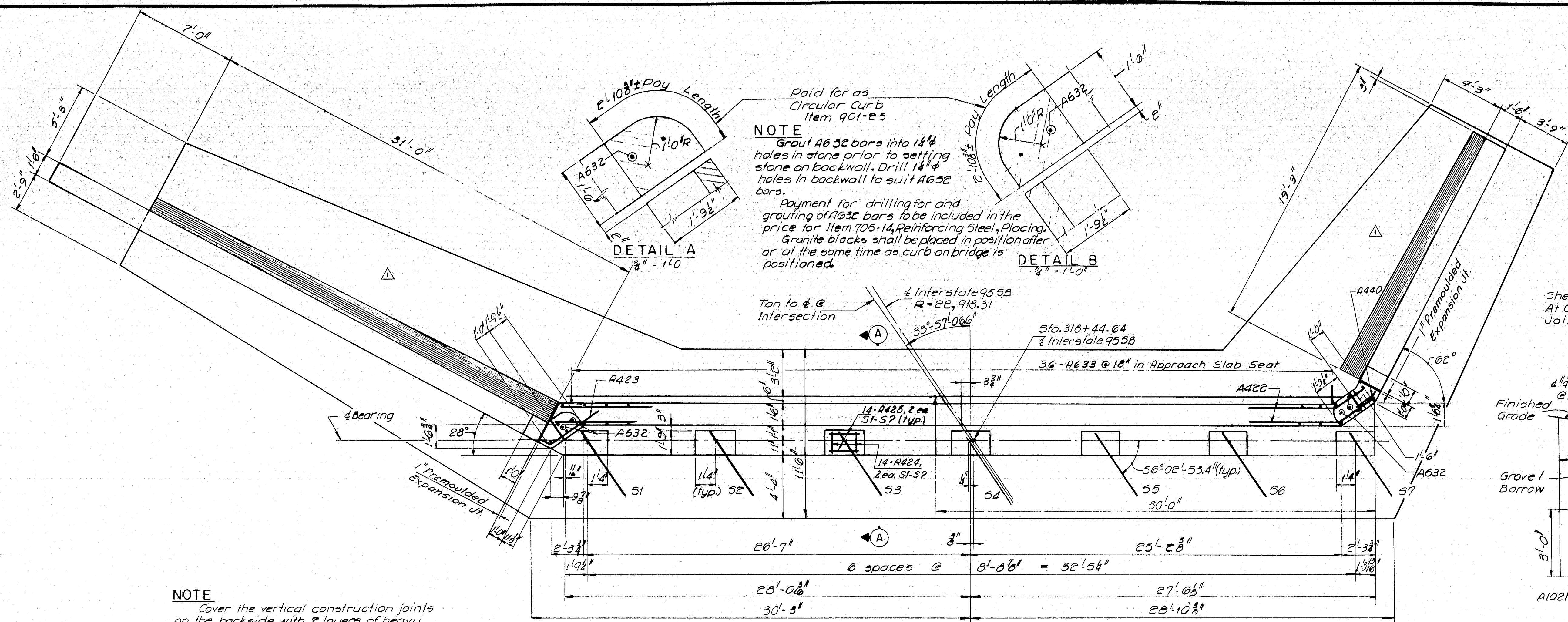


- NOTES:
- For General Notes see Sheet 10.
 - Spread Footing on Ledge 5 Tons/5.F.
 - All weathered or broken ledge shall be removed before any concrete is placed.
 - No payment will be made for concrete outside neat lines shown.
 - No payment will be made for concrete or rock excavation required by an overbreakage of ledge in excess of 6" downward.

DESIGN - R.E.	DETAIL - A.A.	BRIDGE NO.
TRACE - P.R.N.	SURVEY - PLOT	
STATE HIGHWAY COMMISSION BRIDGE DIVISION		
INTERSTATE 95 SB OVER RELOCATED TIMONEY ROAD IN THE TOWN OF SMYRNA ARROOSTOOK COUNTY ABUTMENT NO. 1		
HOWARD, NEEDLES, TAMMEN & BERGENDOFF CONSULTING ENGINEERS		
SHEET 9 OF 14 AUGUSTA, MAINE MARCH 1965		

96-99 SMYRNA (19)





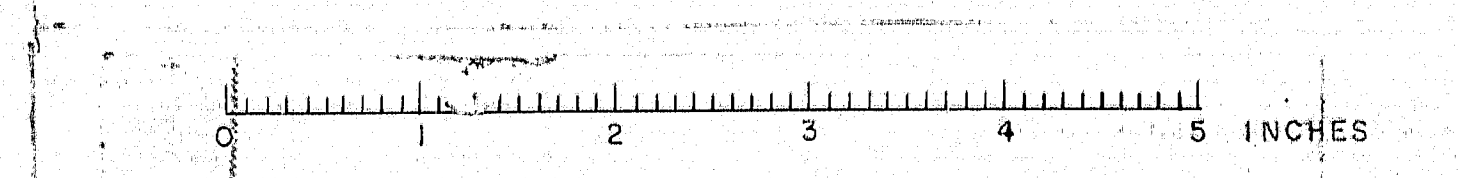
DESIGN— G.H. DETAIL— D.A.T. BRIDGE NO. SURVEY— PLOT—
CHECK— S.M.

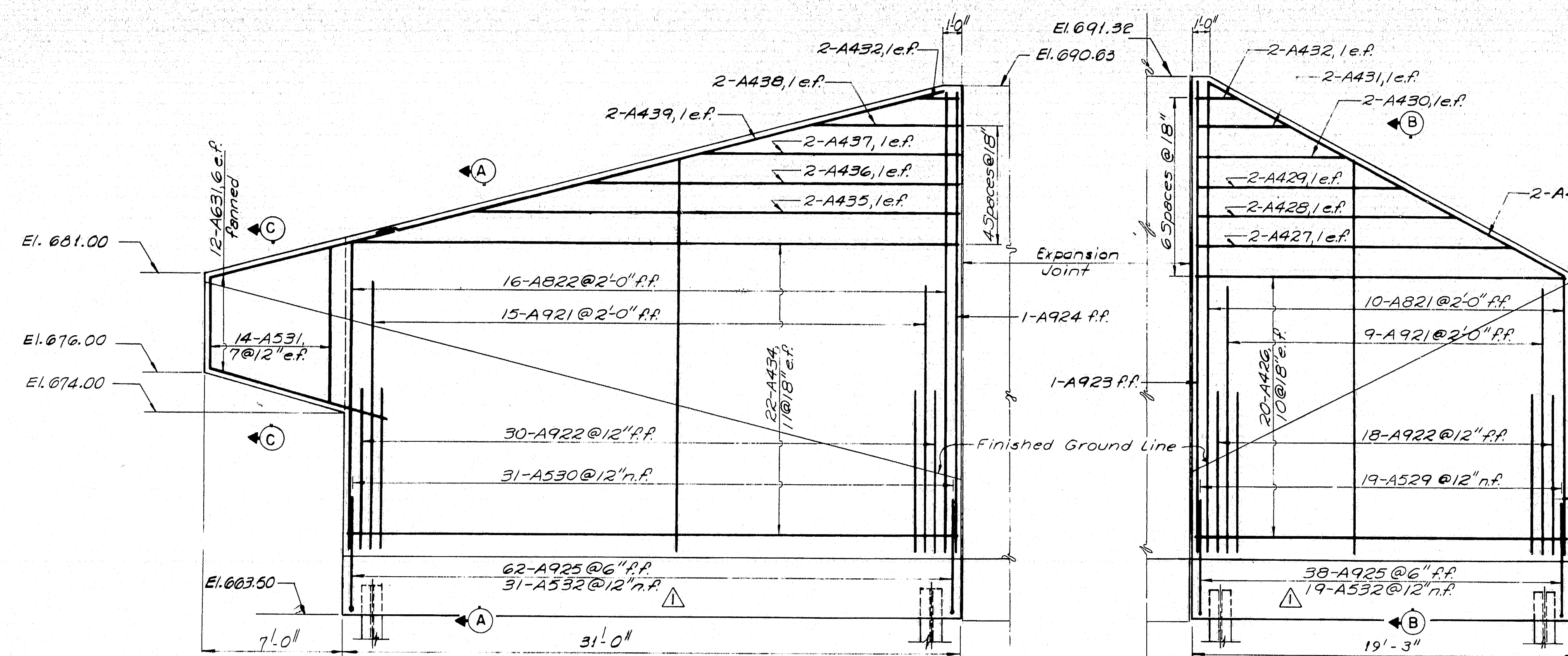
STATE HIGHWAY COMMISSION
BRIDGE DIVISION
INTERSTATE 95
OVER
RELOCATED TIMONEY ROAD
IN THE TOWN OF
SMYRNA
AROOSTOOK COUNTY
ABUTMENT NO. 2

Revised 8-23-65
HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
NEW YORK BOSTON KANSAS CITY

SHEET 10 OF 14 AUGUSTA, MAINE MARCH 1965

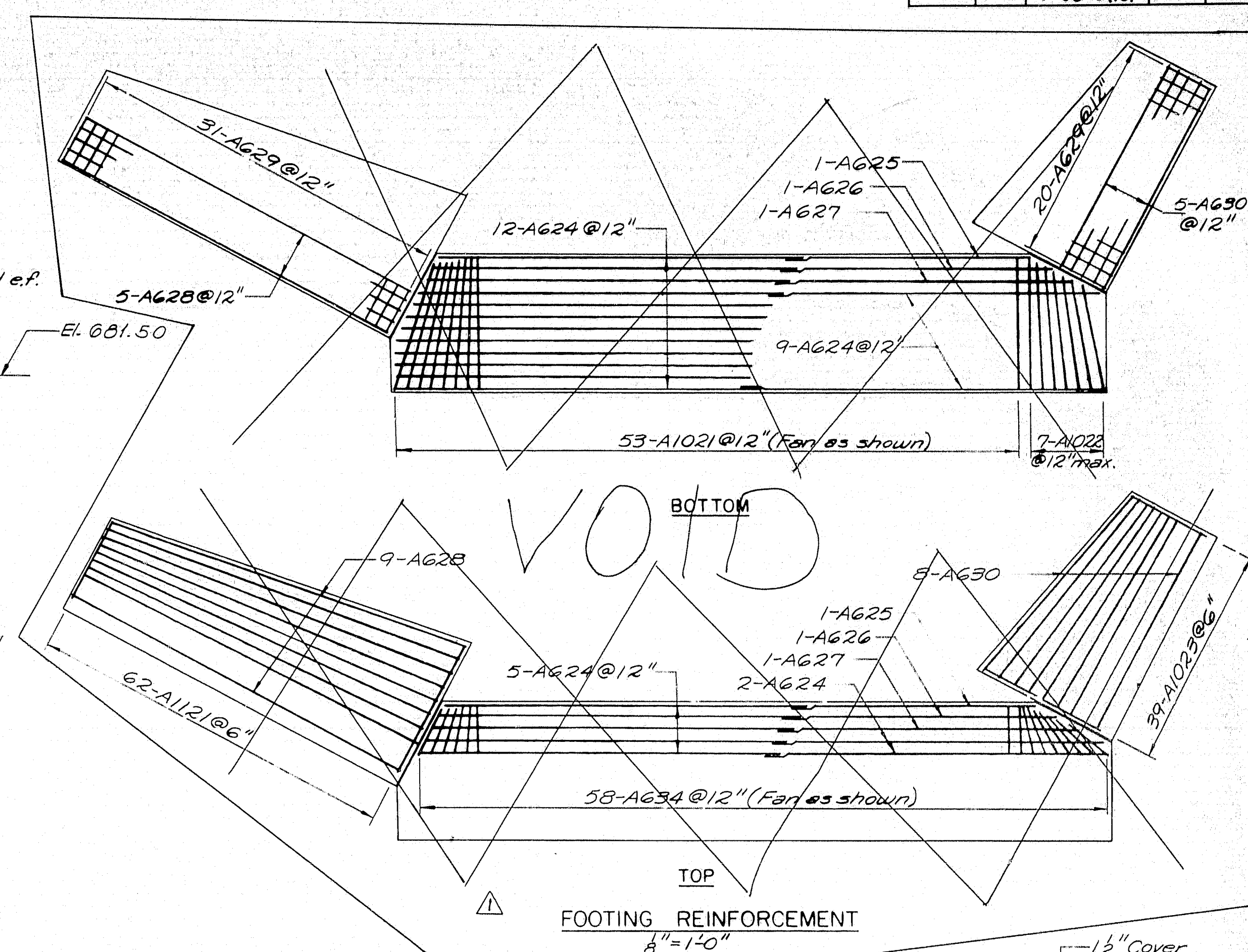
96-100 SMYRNA (19)



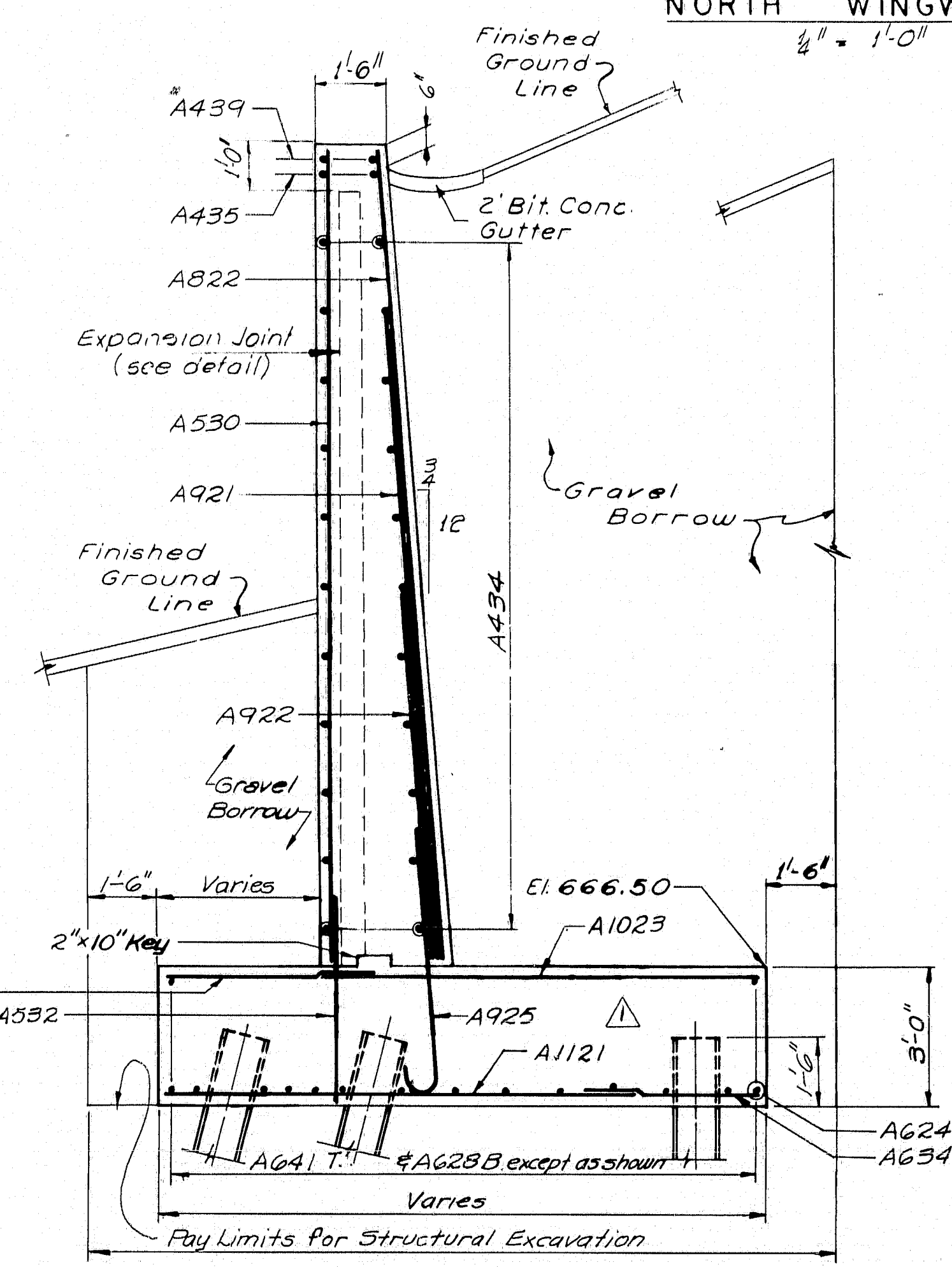


NORTH WINGWALL
1/8" = 1'-0"

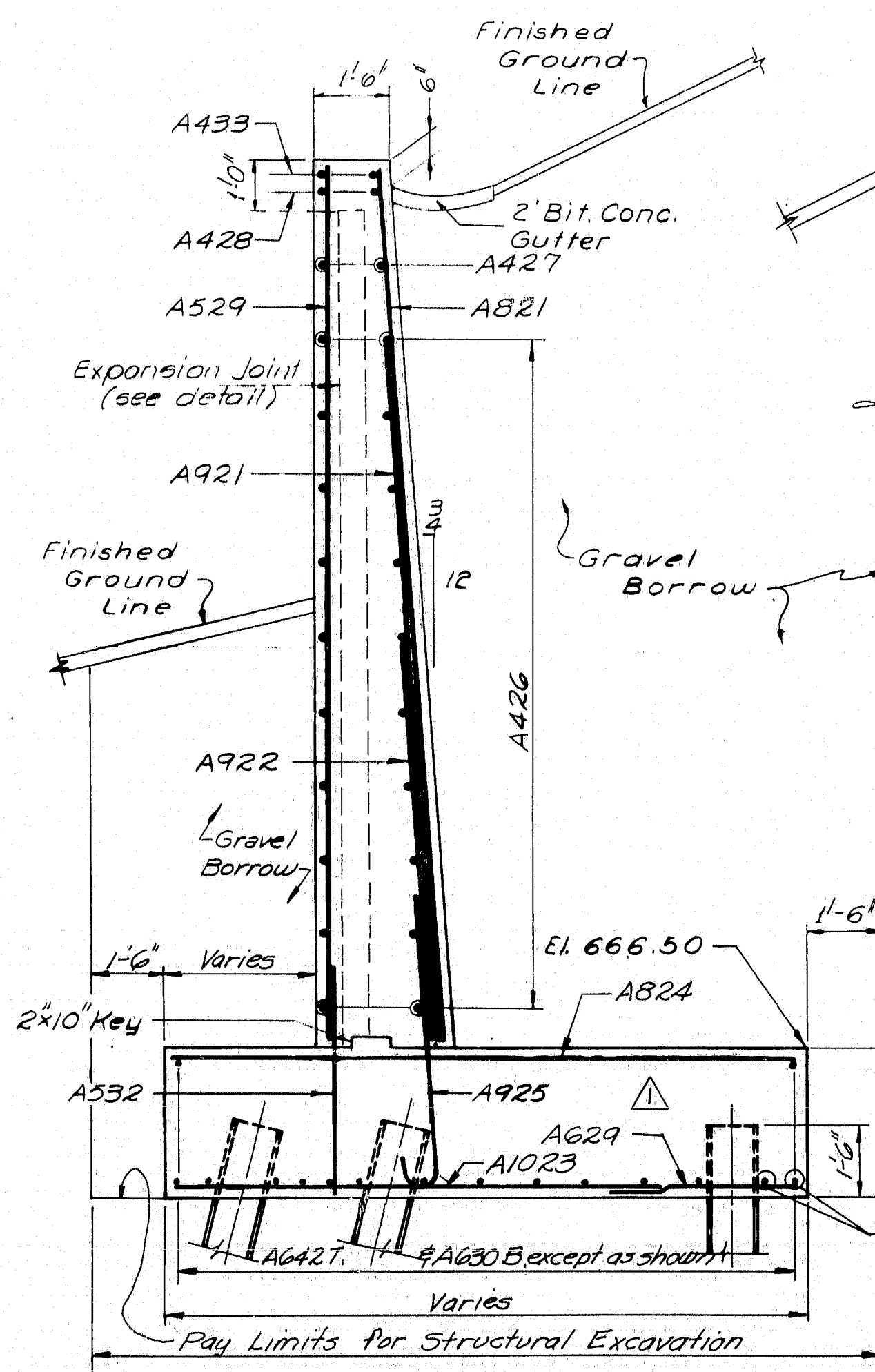
SOUTH WINGWALL
1/8" = 1'-0"



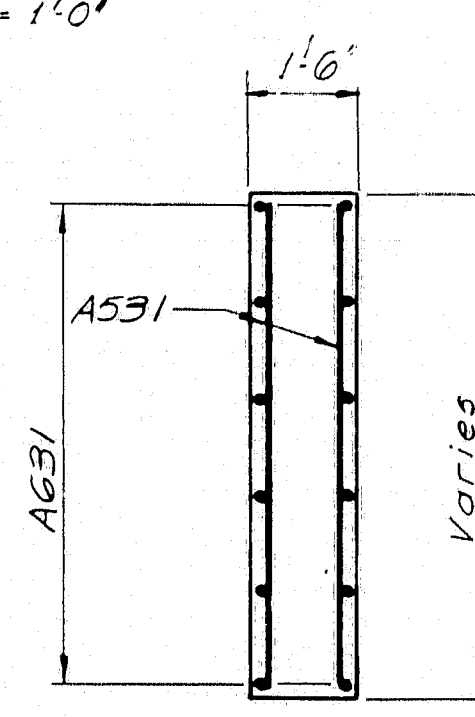
FOOTING REINFORCEMENT
1/8" = 1'-0"



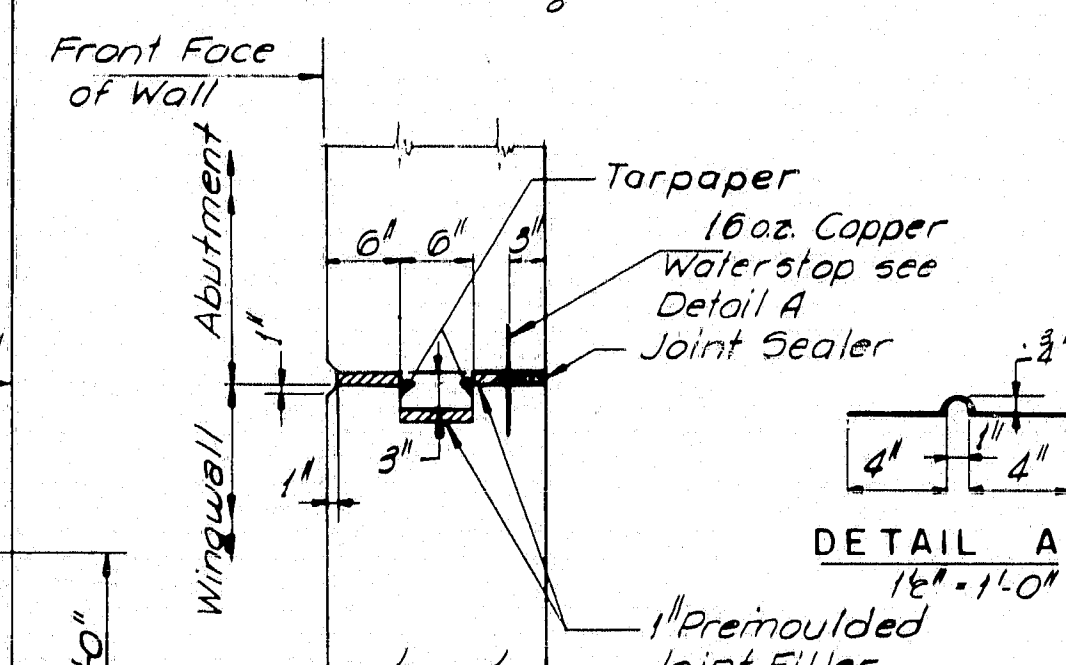
SECTION A-A
1/8" = 1'-0"



SECTION B-B
1/8" = 1'-0"

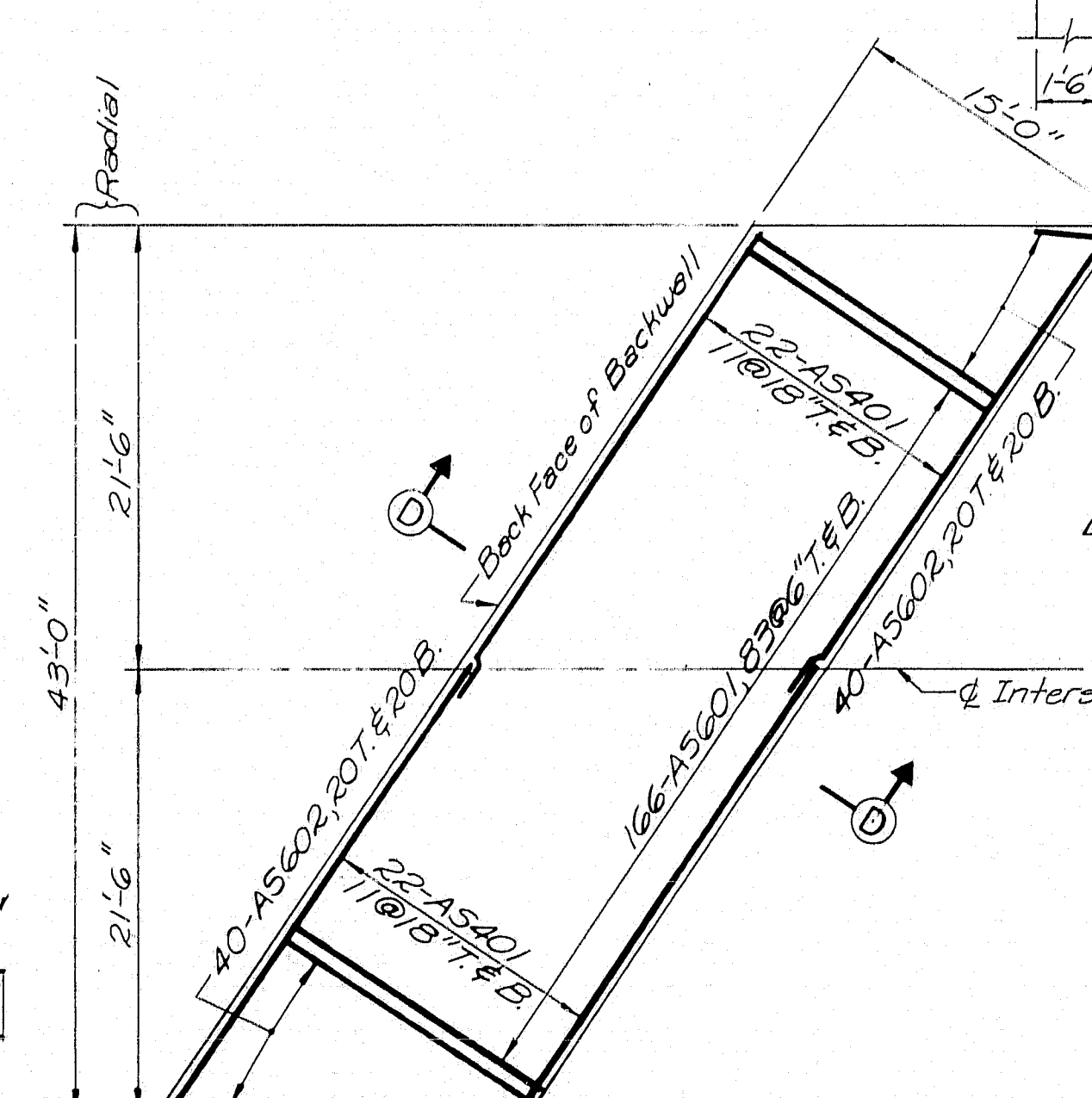


SECTION C-C
1/8" = 1'-0"



NOTE: Joint sealer shall conform to Federal Specification TT-C-598 and shall be gray Grade II Compound.

EXPANSION JOINT DETAIL
1/8" = 1'-0"



APPROACH SLAB DETAILS
1/8" = 1'-0"

Approach Slab Abut. No. 2 shown
Approach Slab Abut. No. 1 similar
Reinforcing same for both
Concrete in approach slabs will be paid for under Item 701-33.

- NOTES:
1. For General Notes see sheet 10.
 2. For plan of wingwall's see sheet 10.
 3. South Wing Wall spread footing on ledge 4.0 Tens./S.F.
 4. North Wing Wall spread footing on soil 3.5 Tens./S.F.
 5. For footing dimensions, pile location and footing reinforcing see sheet 15.

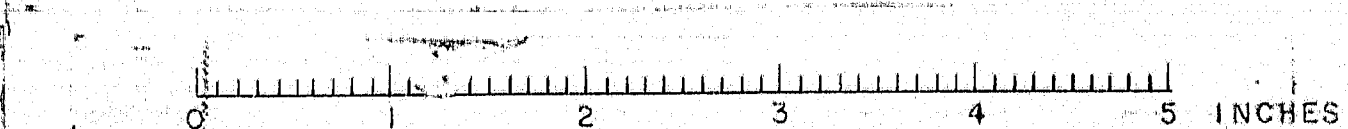
DESIGN-G.H.	DETAIL D.A.T.	BRIDGE NO.
TRACE		
CHECK-P.R.N.		

STATE HIGHWAY COMMISSION
BRIDGE DIVISION
INTERSTATE 95
OVER
RELOCATED TIMONEY ROAD
IN THE TOWN OF
SMYRNA
AROSTOOK COUNTY
ABUTMENT NO. 2- WINGWALLS
APPROACH SLAB
SHEET 11 OF 14 AUGUSTA, MAINE MARCH 1965

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

Revised 8-23-65

96-100A SMYRNA (19)



Fabrication and Erection: State of Maine Standard Specifications for Highways and Bridges, Revision of Jan. 1956 and Supplemental, Feb. 1960.
Design and Detail: A.A. SHO. Standard Specifications for Highway Bridges of 1961, and Interim Specifications, 1961, 1962, 1963, 1964.
Materials: Except as otherwise noted on the Standard Details, all materials shall conform to A.S.T.M. designation A36.

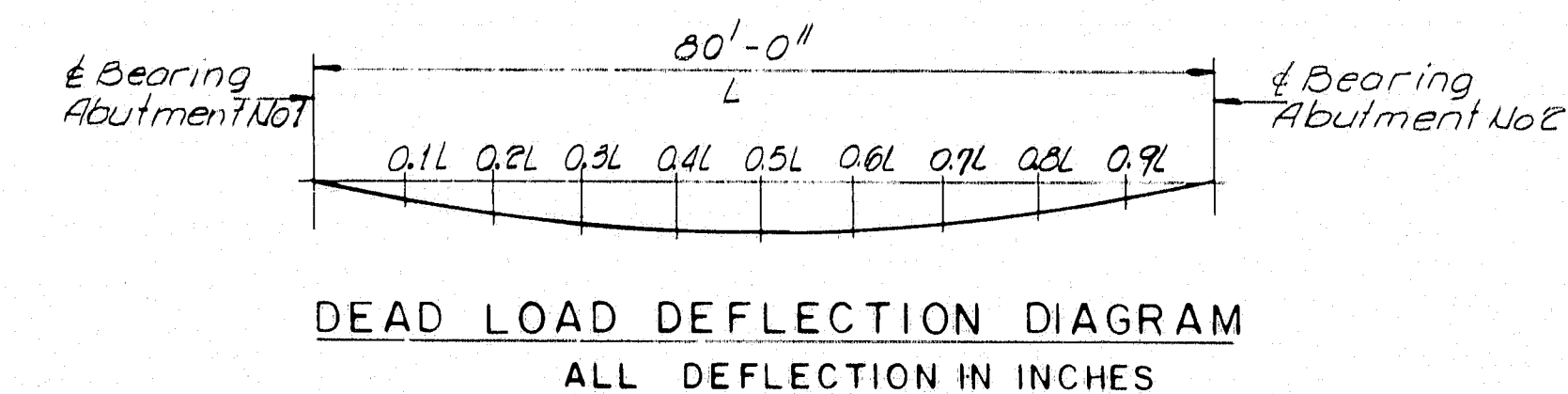
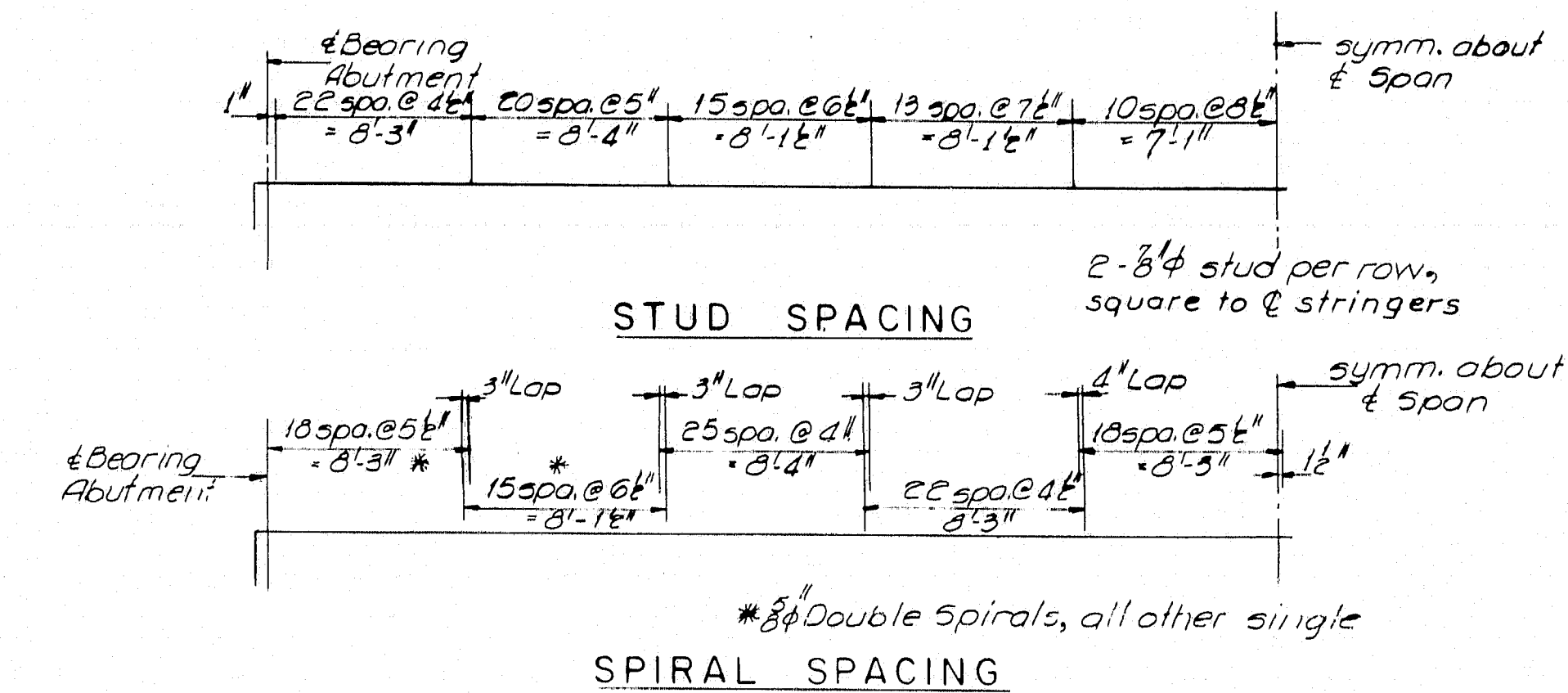
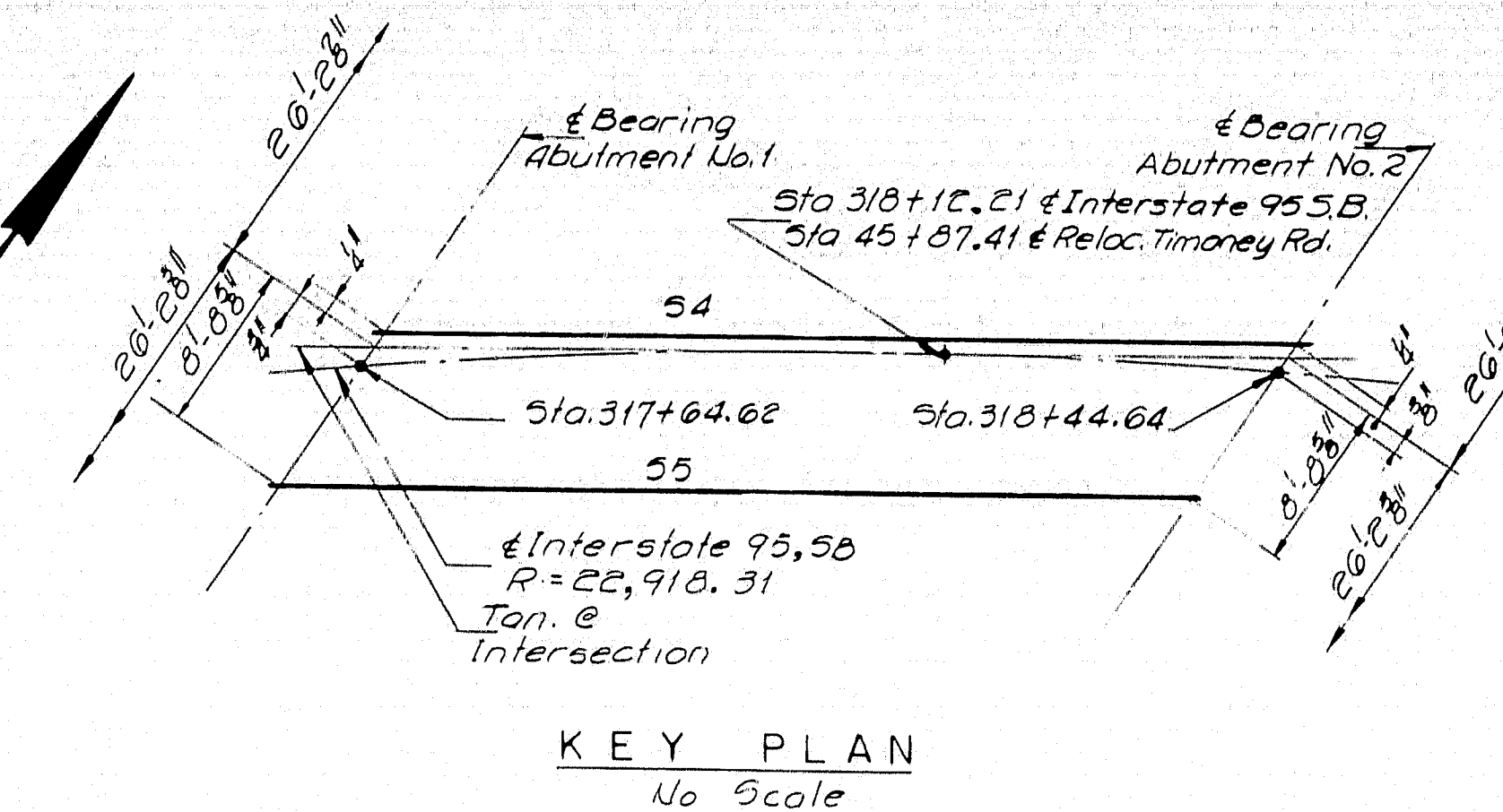
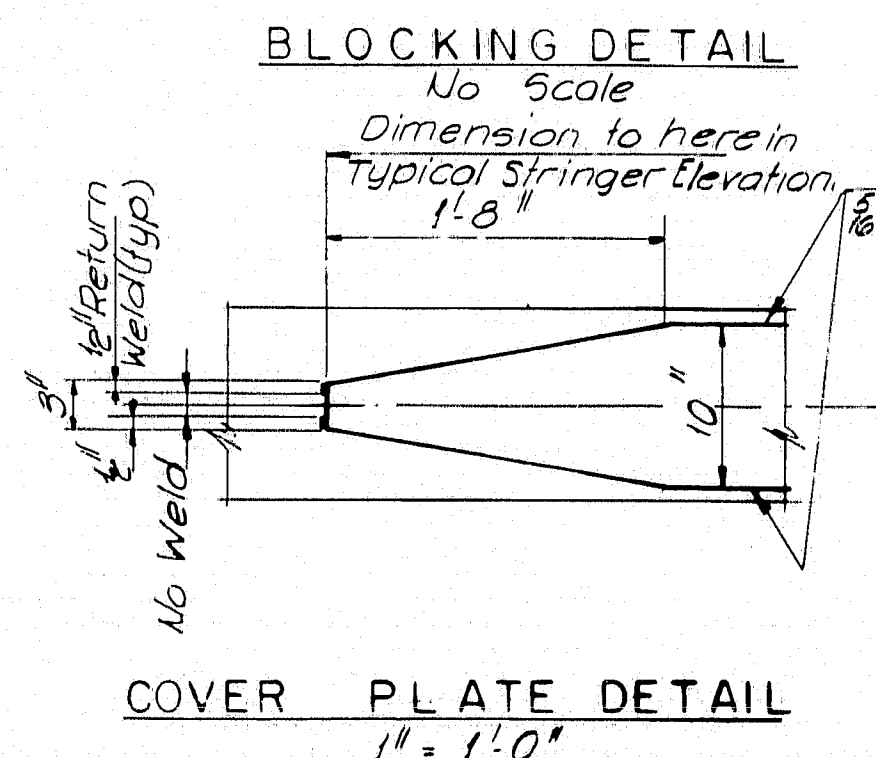


Diagram showing the bottom of a slab elevation. A dimension of $2\frac{1}{2}''$ is indicated. A note states: "Blocking @ 1' @ Brg. Abutments (Do not use for setting form)".

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 slab form work is started.



DEAD LOAD DEFLECTION SCHEDULE INCHES					
STRINGER	LOCATION	STEEL	CONC.	B.D.L	TOTAL
51E57	01E50R	0.15	0.31	0.06	0.52
	02E50R	0.29	0.60	0.12	1.01
	03E50R	0.40	0.83	0.16	1.39
	04E50R	0.47	0.97	0.19	1.63
	05E50R	0.50	1.02	0.20	1.72
5E-56	01E50R	0.15	0.43	0.07	0.65
	02E50R	0.59	0.82	0.13	1.54
	03E50R	0.40	1.13	0.13	1.71
	04E50R	0.47	1.32	0.21	2.00
	05E50R	0.50	1.39	0.22	2.11

B.D.L. deflection includes the effect of safety walk, rail and pavement dead load.

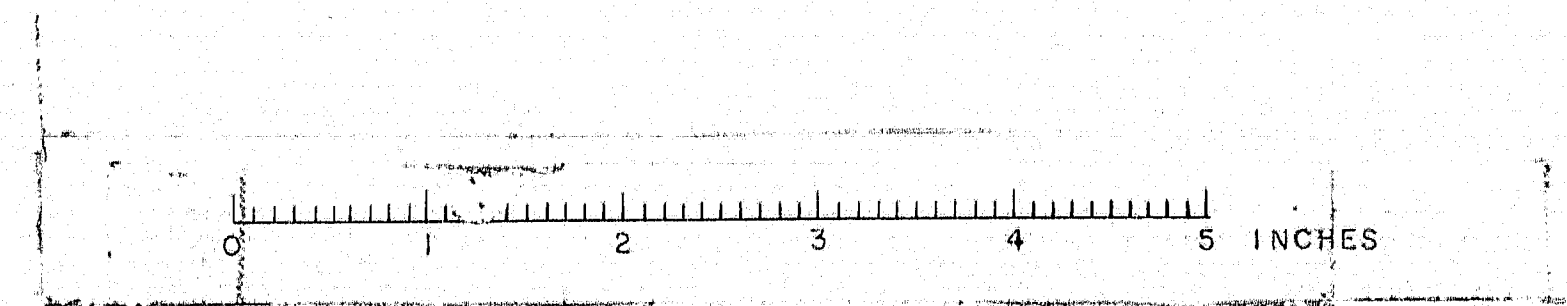
All beams are to be combered a minimum 3" with a tolerance of +3", -0".

	Org.	0.1L	0.2L	0.3L	0.4L	0.5L	0.6L	0.7L	0.8L	0.9L	End
Dimension A	1'6"	1'6 1/2"	1'6 3/4"	1'6 1/2"	1'6 3/4"	1'6 1/2"	1'6 3/4"	1'6 1/2"	1'6 3/4"	1'5 3/4"	1'5"
Dimension B	1'7 3/4"	1'7 1/2"	1'7 3/4"	1'7 1/2"	1'6 1/2"	1'6 3/4"	1'6 1/2"	1'6 3/4"	1'6 3/4"	1'6 3/4"	1'6"

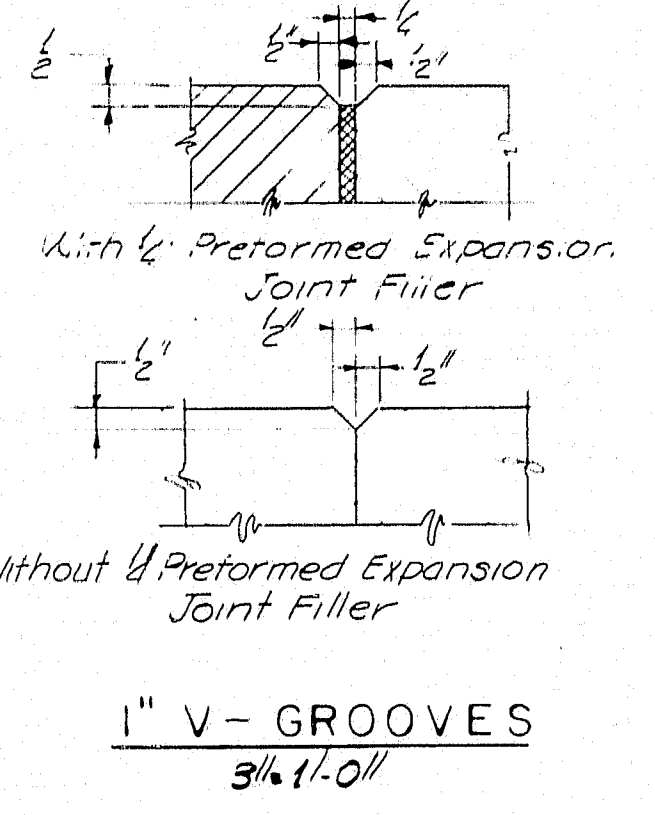
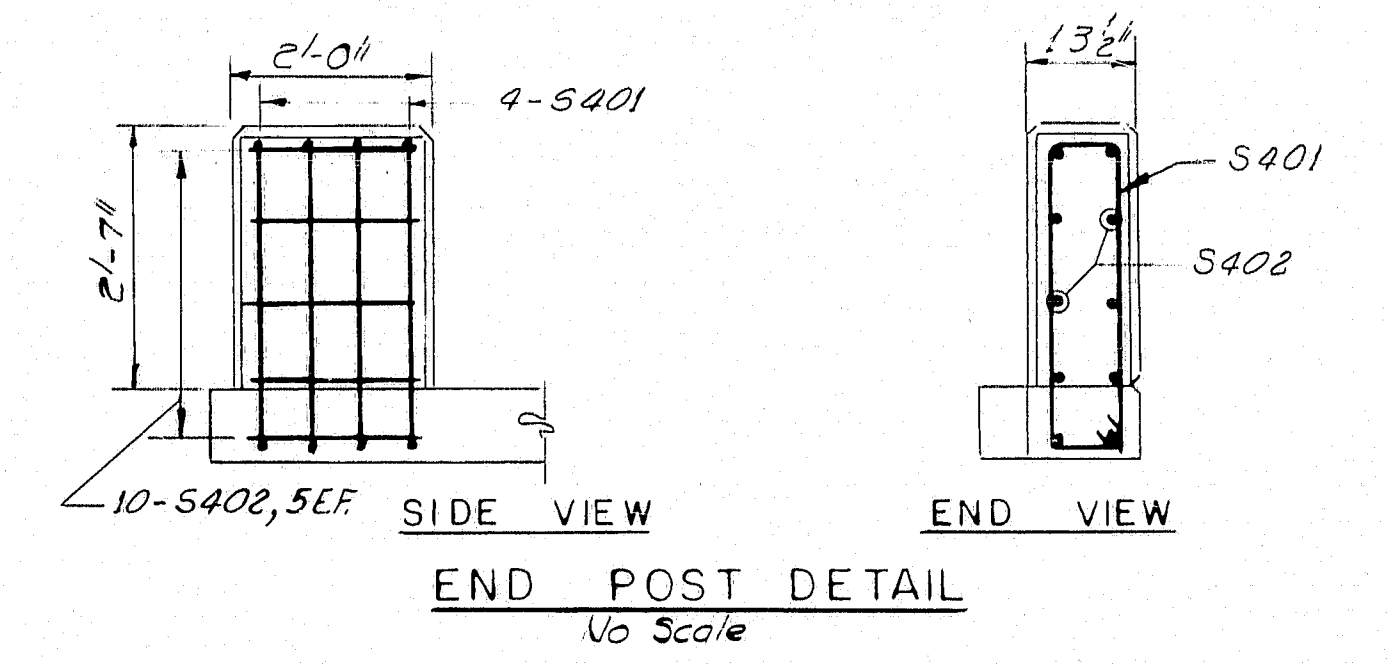
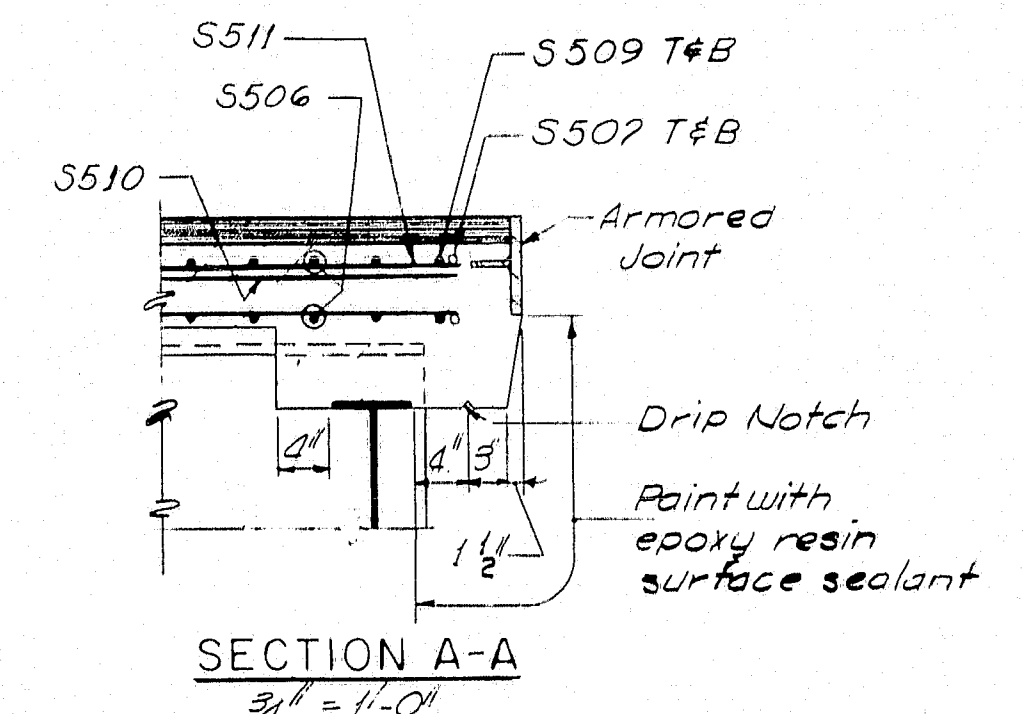
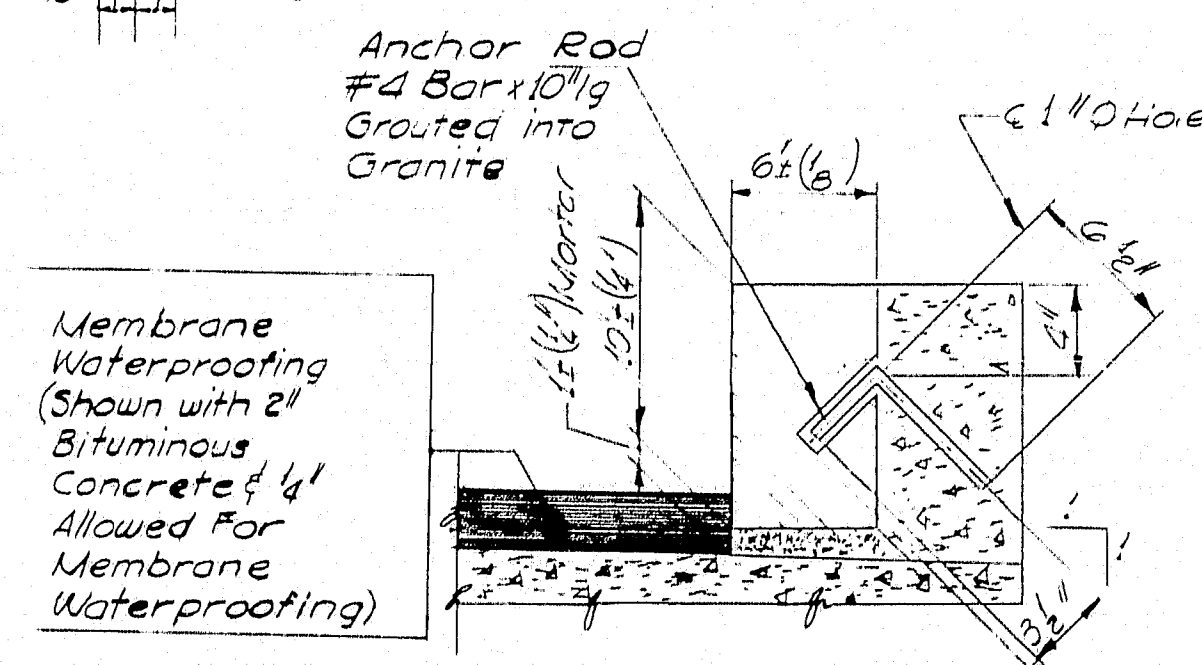
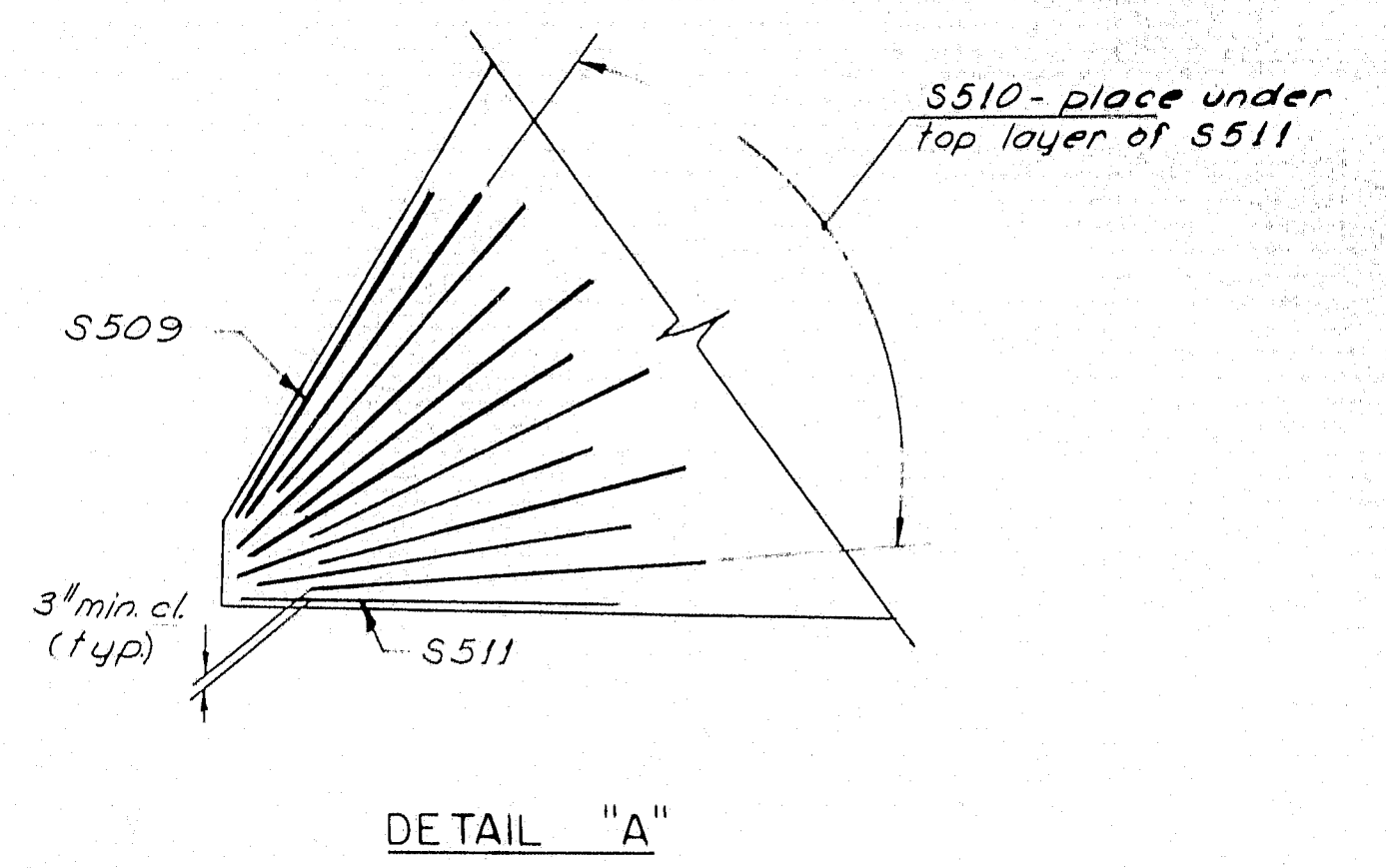
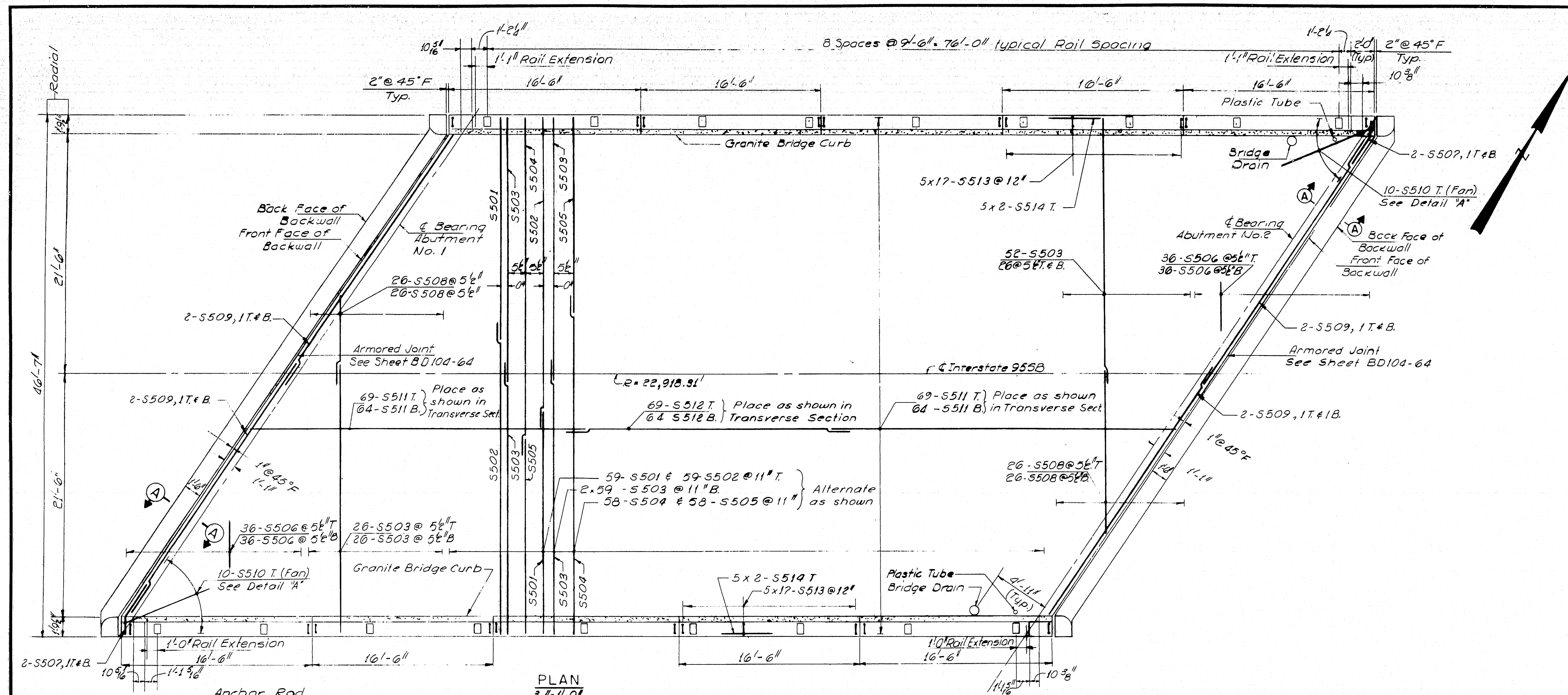
HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS

NEW YORK BOSTON KANSAS CITY SHEET 12 OF 14 AUGUSTA, MAINE MARCH 1965

91-100B SMYRNA (19)

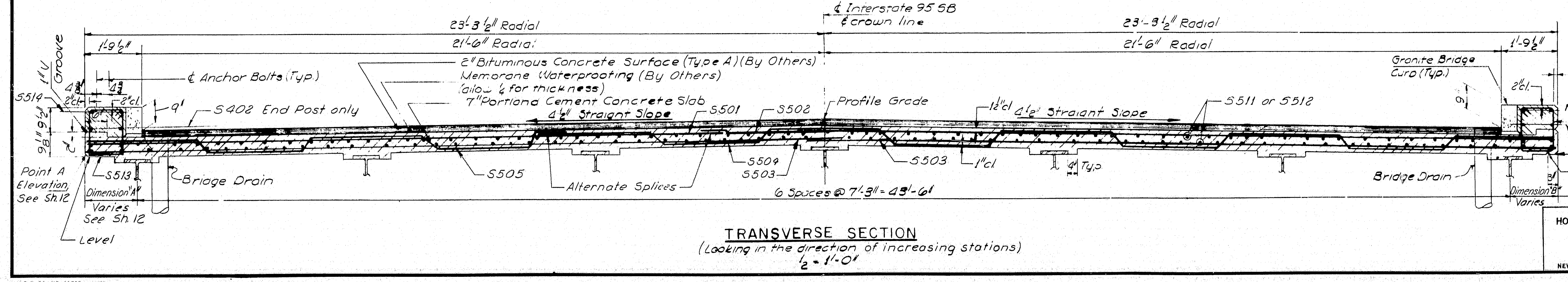


R. P. R. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	1-95-9(19)	13	14



GENERAL SUPERSTRUCTURE NOTES

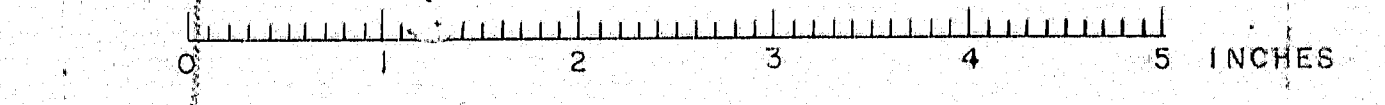
- At joints in curbs and granite bridge curbs, break the bond between concrete surfaces with a suitable grade of asphalt paint. Form "V" Groove on outside face of curb and slab at each vertical joint. Provide joints in granite bridge curb at curb construction joints.
- At low points in slabs, place a plastic tube 1" Ø through the slab for drainage. Exact location to be determined in the field. Do not cover the tube with waterproofing. This work will be incidental to contract items. Tubes shall extend 2" below bottom of slab. Place tubes to drip clear of bridge seat.
- For details of bridge drain see BD 104-64
- For bridge rail, see Standard Details BD 107-64 & BD 108-64.
- Payment for concrete end post shall be made under Item 701-40.
- Granite Bridge Curb means Vertical Bridge Curb-Type 1 and will be paid for under Items 901-24 or 901-25.



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

DESIGN - G.H. DETAIL - P.B.D. BRIDGE NO. SURVEY - PLOT -
CHECK - P.R.N.
STATE HIGHWAY COMMISSION
BRIDGE DIVISION
INTERSTATE 95 SB
OVER
RELOCATED TIMONEY ROAD
IN THE TOWN OF
SMYRNA
AROSTOOK COUNTY
SUPERSTRUCTURE
SHEET 13 OF 14 AUGUSTA, MAINE MARCH 1965
SMYRNA (19)

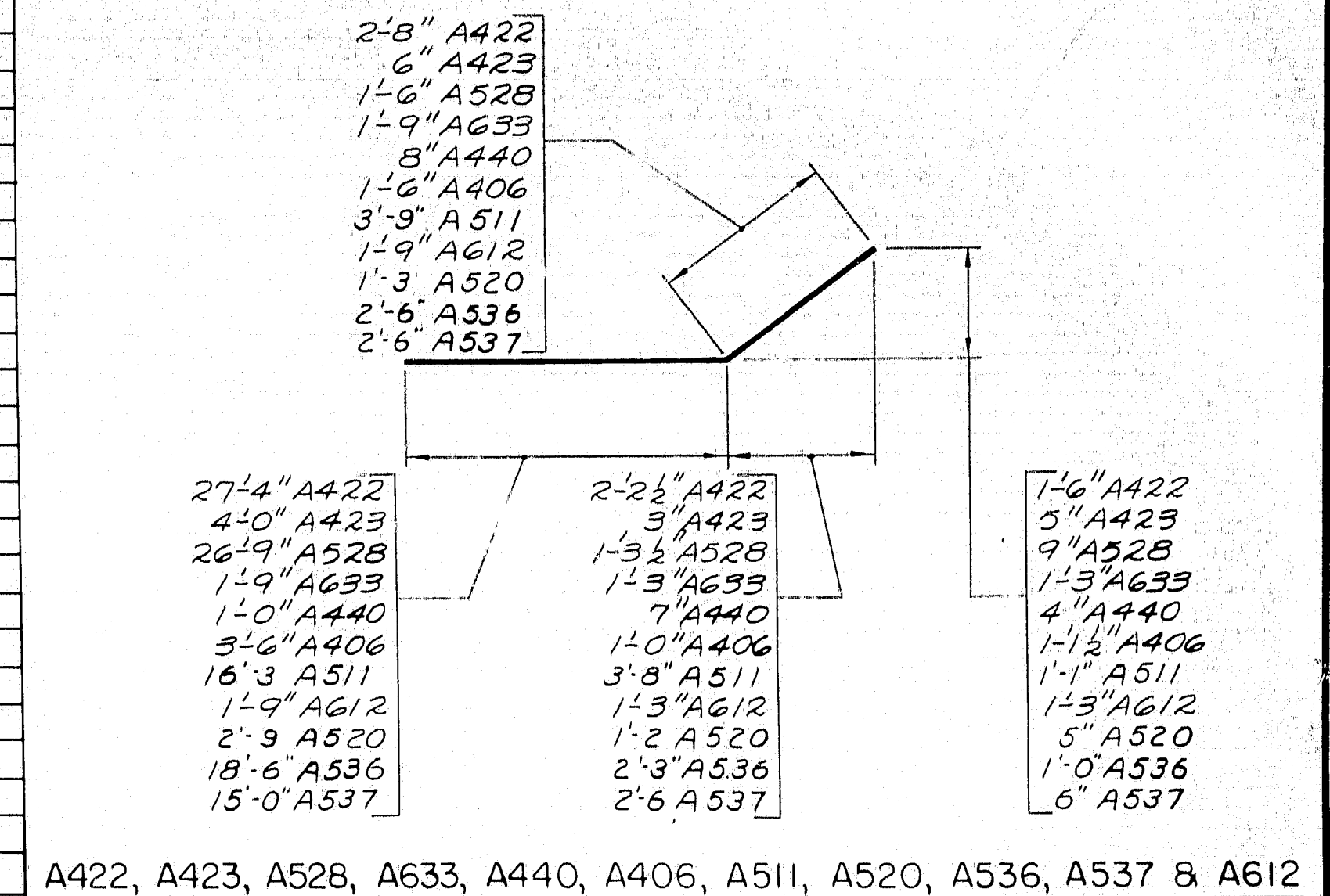
96-100C



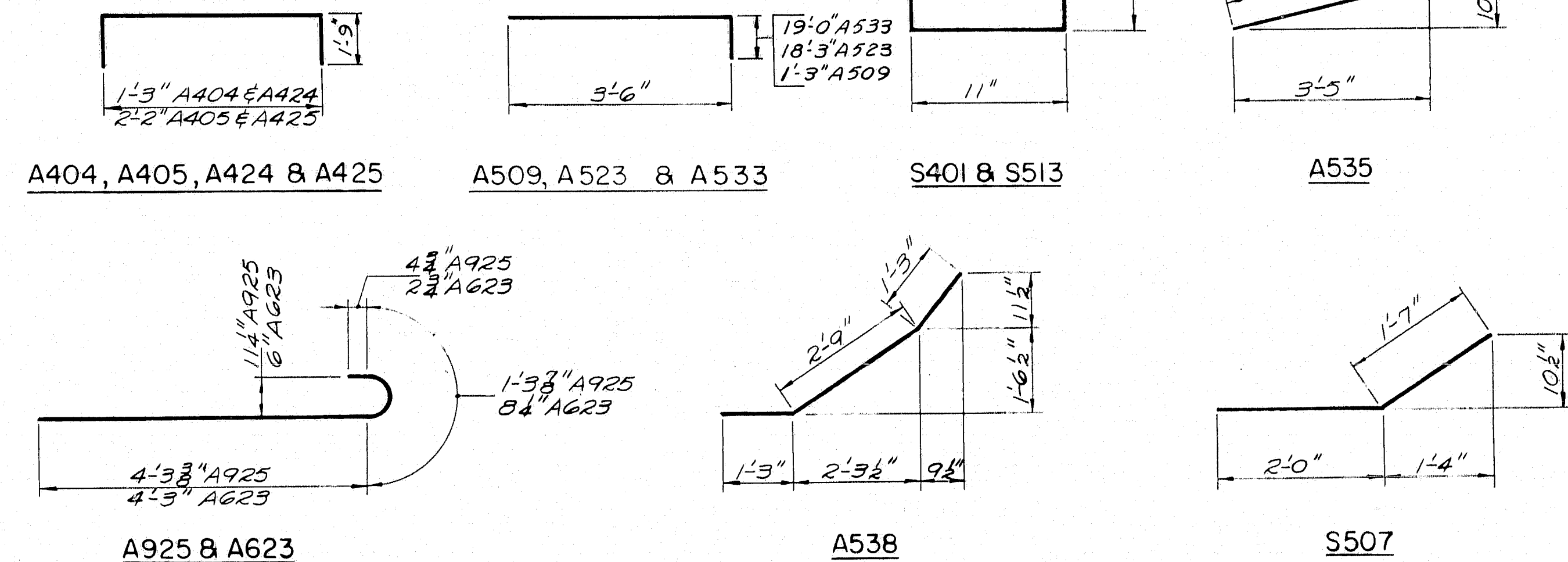
MARK	SIZE	NUMBER	LENGTH	INCR.	LOCATION
ABUTMENT NO. 1					
STRAIGHT BARS					
A401	4	6	12'3"		Backwall
A407	4	3	12'6"		"
A408	4	3	11'0"		"
A413	4	6	31'0"		Backwall
A501	5	76	5'0"		Backwall & Stem
A502	5	74	3'0"		Footing Stem & Walls
A503	5	8	13'9"		Stem
A504	5	2	6'0"		"
A505	5	4	13'3"		"
A506	5	4	17'0"		"
A507	5	4	12'0"		"
A508	5	30	2'0" to 7'0"	4"	Stem 2 Groups of 15
A510	5	3	3'0" to 15'0"	6'0"	Wingwall
A512	5	2	13'3"		"
A513	5	3	6'0" to 18'0"	6'0"	"
A514	5	2	17'0"		"
A515	5	1	20'0"		Wingwall
A516	5	4	15'0"		Stem
A517	5	4	4'9" to 16'9"	4'0"	Wingwall
A518	5	4	7'9" to 19'9"	4'0"	"
A519	5	2	14'9"		"
A539	5	24	2'0" to 13'3"	12"	" 2 Groups of 12
A540	5	22	20' to 7'6"	6"	" 2 Groups of 11
A541	5	1	9'3"		"
A542	5	1	10'0"		"
A543	5	2	15'3"		"
A544	5	2	16'0"		"
A545	5	2	9'0"		Wingwall & Stem
A601	6	5	14'3"		Footing Longitudinal
A603	6	4	14'0"		Footing Longitudinal
A607	6	32	14'0"		Footing Transverse
A608	6	4	7'0"		Curb
A611	6	5	21'0"		Footing Longitudinal
BENT BARS					
A404	4	14	4'9"		Pads
A405	4	14	5'8"		Pads
A406	4	6	5'0"		Backwall
A509	5	37	4'9"		Stem
A511	5	1	20'0"		"
A520	5	6	4'0"		"
A535	5	4	5'8"		"
A536	5	2	21'0"		"
A537	5	2	17'6"		Stem
A538	5	3	6'3"		Backwall
A612	6	35	3'6"		Approach Slab Seat
ABUTMENT NO. 2					
STRAIGHT BARS					
A421	4	6	27'7"		Backwall
A426	4	20	18'6"		Walls
A427	4	2	15'9"		"
A428	4	2	13'0"		"
A429	4	2	10'5"		"
A430	4	2	7'6"		"
A431	4	2	4'9"		"
A432	4	4	2'0"		"
A433	4	2	20'6"		"
A434	4	22	30'6"		"
A435	4	2	24'9"		"
A436	4	2	19'0"		"
A437	4	2	13'3"		"
A438	4	2	7'4"		"
A439	4	2	31'0"		Walls
A521	5	80	4'6"		Backwall
A522	5	40	3'5"		Stem & Backwall, Footing & Walls
A524	5	2	28'0"		Stem

MARK	SIZE	NUMBER	LENGTH	INCR.	LOCATION
ABUTMENT NO. 2 (CONTINUED)					
STRAIGHT BARS					
A525	5	30	29'8"		Stem
A526	5	13	26'9"		Stem
A527	5	39	2'6"		Footing & Stem
A529	5	19	14'9" to 24'6"	6"	Wall 1 Group of 19
A530	5	31	16'0" to 23'4"	3"	" 1 Group of 31
A531	5	14	4'6" to 8'0"	7"	Wall 2 Groups of 7
A532	5	50	3'0"		Wall Footing
A621	6	27	20'7"		Stem
A622	6	56	5'0"		Stem
A624	6	28	30'0"		Footing
A625	6	2	20'5"		"
A626	6	2	22'9"		"
A627	6	2	25'5"		"
A628	6	14	30'6"		"
A629	6	51	4'0"		"
A630	6	13	18'9"		Footing
A631	6	12	8'6"		Walls
A632	6	4	1'0"		Curb Dowels
A634	6	58	4'4"		Footing
A635	6	30	21'4"		Stem
A821	8	10	14'9" to 24'6"	1'1"	Walls 1 Group of 10
A822	8	16	16'0" to 23'4"	6"	Walls 1 Group of 16
A921	9	24	14'0"		Walls
A922	9	48	8'6"		"
A923	9	1	24'6"		"
A924	9	1	23'10"		Walls
A1021	10	53	11'0"		Footing
A1022	10	7	9'0" to 11'0"	4"	" 1 Group of 7
A1023	10	39	7'6" to 12'0"	1'8"	Footing 1 Group of 39
A1121	11	62	8'0" to 13'0"	1"	Footing 1 Group of 62
BENT BARS					
A422	4	6	30'0"		Backwall
A423	4	3	4'6"		Backwall
A424	4	14	4'9"		Pads
A425	4	14	5'8"		Pads
A440	4	3	1'8"		Backwall
A523	5	19	21'9"		Stem
A528	5	13	28'5"		Stem
A533	5	20	22'6"		Stem
A623	6	113	5'2"		Footing & Stem
A633	6	36	3'6"		Approach Slab Seat
A925	9	100	6'0"		Footing & Wall Stem
APPROACH SLAB - ABUT. NO. 1					
STRAIGHT BARS					
A5401	4	44	26'5"		Approach Slab
A5601	6	166	14'6"		Approach Slab
A5602	6	80	4'0" to 14'6"	6"	Approach Slab 4 Groups of 20
APPROACH SLAB - ABUT. NO. 2					
STRAIGHT BARS					
A5401	4	44	26'5"		Approach Slab
A5601	6	166	14'6"		Approach Slab
A5602	6	80	4'0" to 14'6"	6"	Approach Slab 4 Groups of 20

MARK	SIZE	NUMBER	LENGTH	INCR.	LOCATION
SUPERSTRUCTURE					
STRAIGHT BARS					
S402	4	40	1'8"		End Post
S501	5	59	20'1"		Slab Transverse
S502	5	59	27'3"		"
S503	5	222	2'9" to 2'3" to 26'0"	8"	" 4 Groups of 56
S506	5	144	4'0" to 21'0"	8"	" 4 Groups of 26
S508	5	104	26'6"		"
S509	5	8	26'6"		"
S510	5	20	8'0"		Slab Transverse
S511	5	266	30'0"		Slab Longitudinal
S512	5	153	24'6"		Slab Longitudinal
S514	5	20	16'1"		Safety Curb
BENT BARS					
S401	4	16	8'7"		End Post
S504	5	58	30'9"		Slab Transverse
S505	5	58	18'3"		"
S507	5	4	5'7"		Slab Transverse
S513	5	170	5'2"		Safety Curb
ADDITIONAL REINFORCEMENT ABUTMENT NO. 2 FOOTING					
A636	6	4	3'0"		Footing
A637	6	11	6'5" to 10'11"	5"	"
A638	6	6	10'11" to 12'3"	1'9"	"
A639	6	4	10'12" to 11'0"	6"	"
A640	6	37	11'0"		"
A641	6	32	30'0"		"
A642	6	15	26'0"		"
A643	6	15	10'8" to 10'9"	3"	"
A823	8	7	10'9" to 10'11"	3"	"
A824	8	9	10'11" to 13'8"	3"	Footing



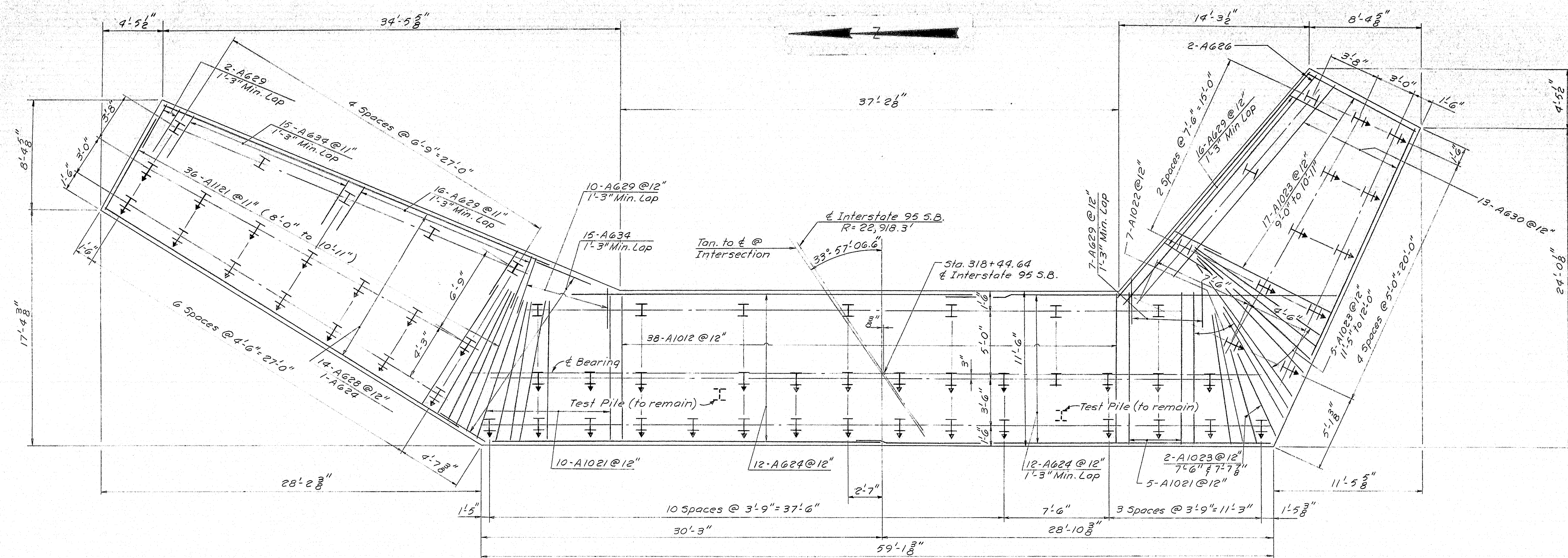
A422, A423, A528, A633, A440, A406, A511, A520, A536, A537 & A612



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

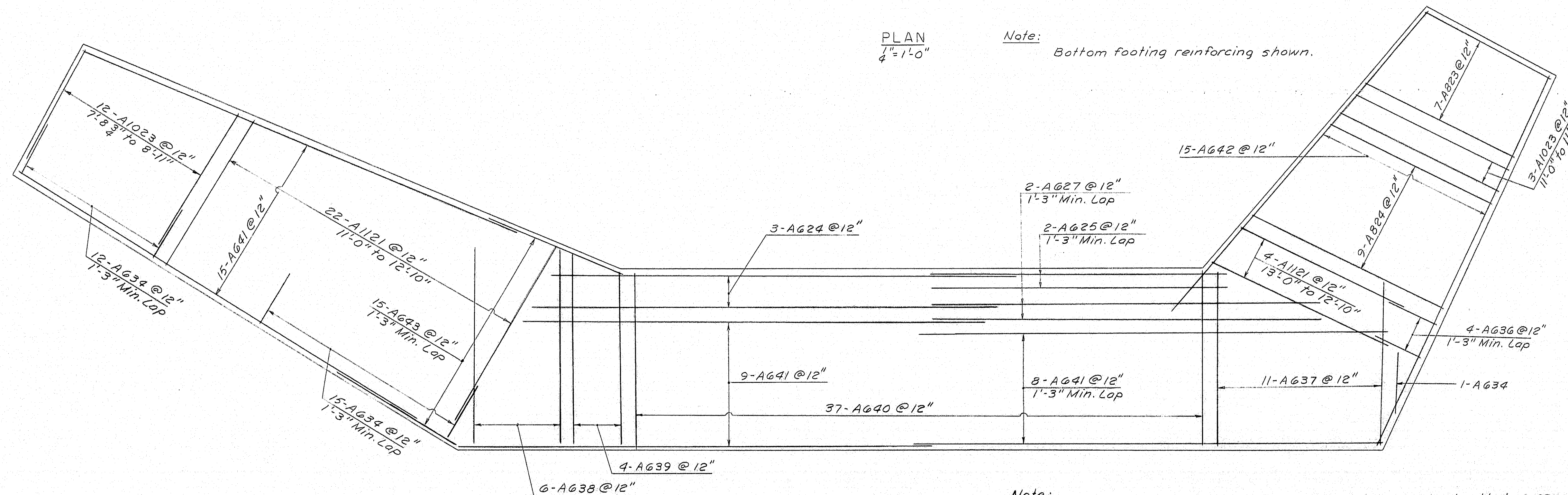
DESIGN - TRACE - R.R.N.
DETAIL - R.O.L.
BRIDGE NO. SURVEY - PLOT -
STATE HIGHWAY COMMISSION
BRIDGE DIVISION
INTERSTATE 95
OVER
RELOCATED TIMONEY ROAD
IN THE TOWN OF
SMYRNA
AROOSTOOK COUNTY
REINFORCING STEEL
SHEET 14 OF 14 AUGUSTA, MAINE MARCH 1965

96-100D SMYRNA (19)



PLAN
1" = 1'-0"

Note: Bottom footing reinforcing shown.



PLAN
1" = 1'-0"

Note: Top footing reinforcing shown.

LEGEND

- Indicates Vertical Piles
- Indicates Battered Piles 3:12

Notes:

- Pile cut off Elev. 665.0
- Bottom of Footing Elev. 663.5
- Estimated Pile length 17'
- All Piles to be 108P42, 37 Ton Maximum Design Load.
- Depth of Footing shall be 3'-0"

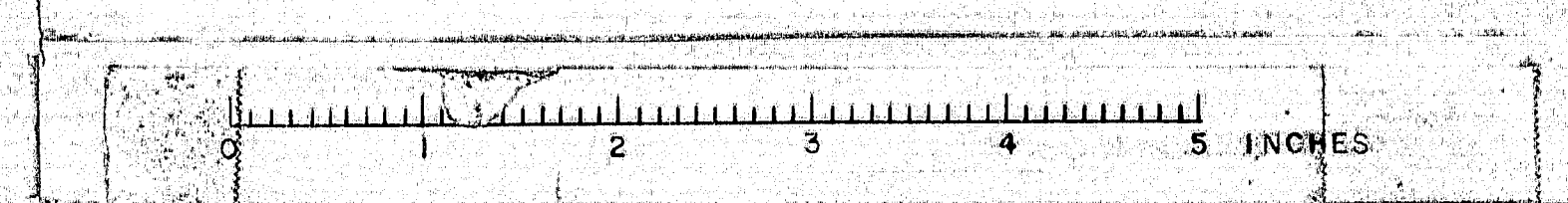
DESIGN - E.P.K.	DETAIL - J.M.M.	BRIDGE NO.
TRACE - I.S.	PLOT -	
STATE HIGHWAY COMMISSION BRIDGE DIVISION INTERSTATE 95 OVER RELOCATED TIMONEY ROAD IN THE TOWN OF SMYRNA AROOSTOOK COUNTY ABUTMENT NO. 2 FOOTING		
SHEET 14A OF 14 AUGUSTA, MAINE AUGUST 1965		

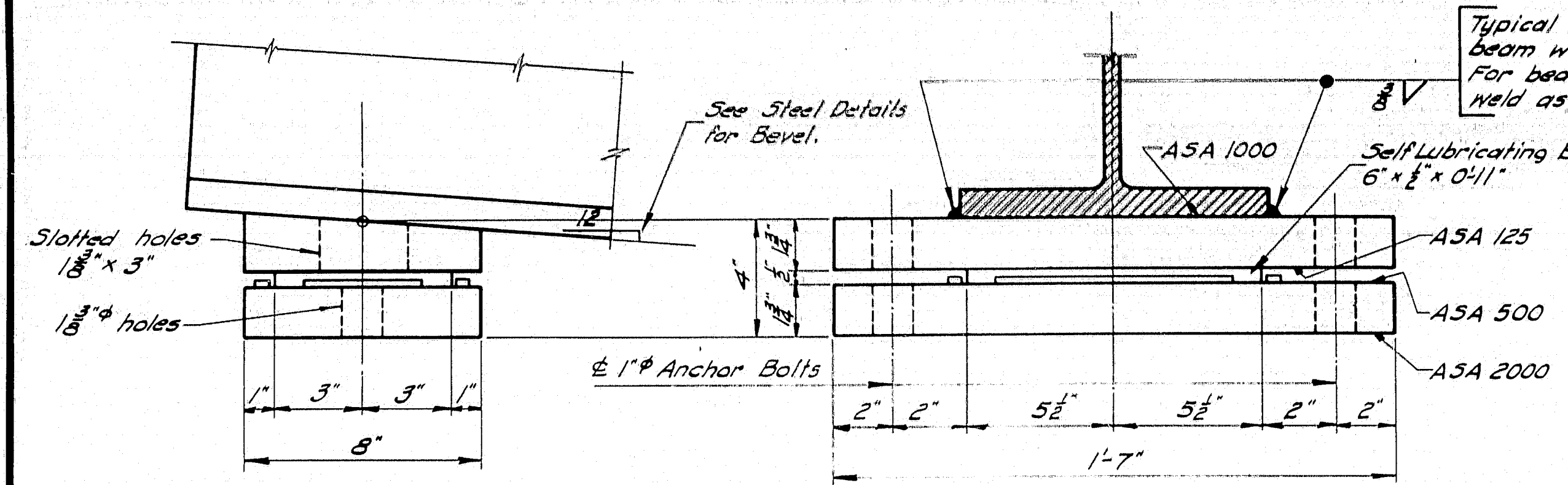
Sheet added 8-23-65

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS

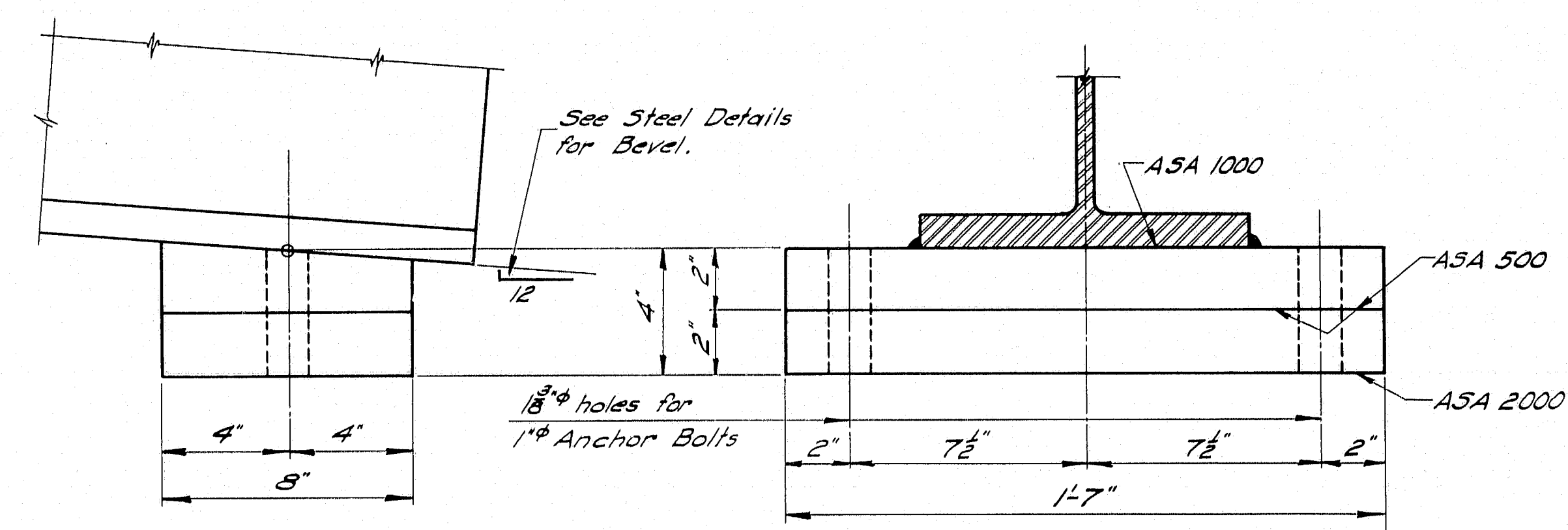
NEW YORK BOSTON KANSAS CITY

96-100E SMYRNA (19)

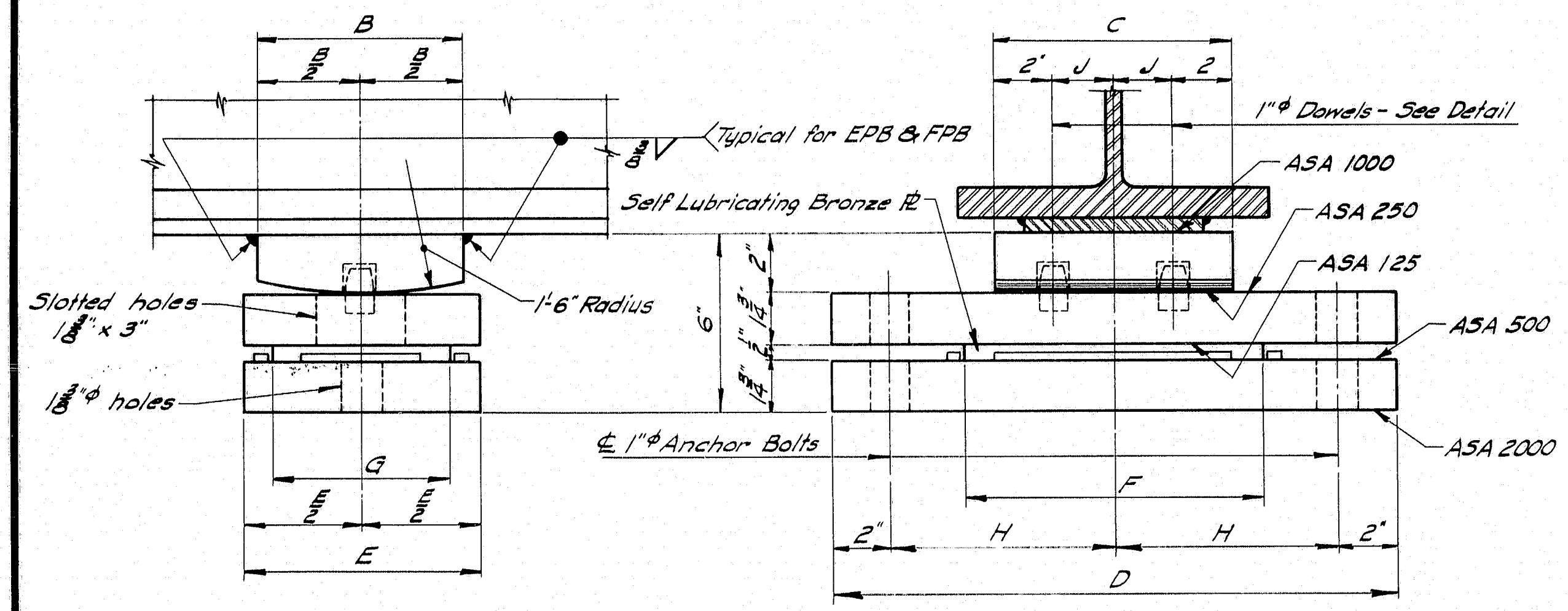




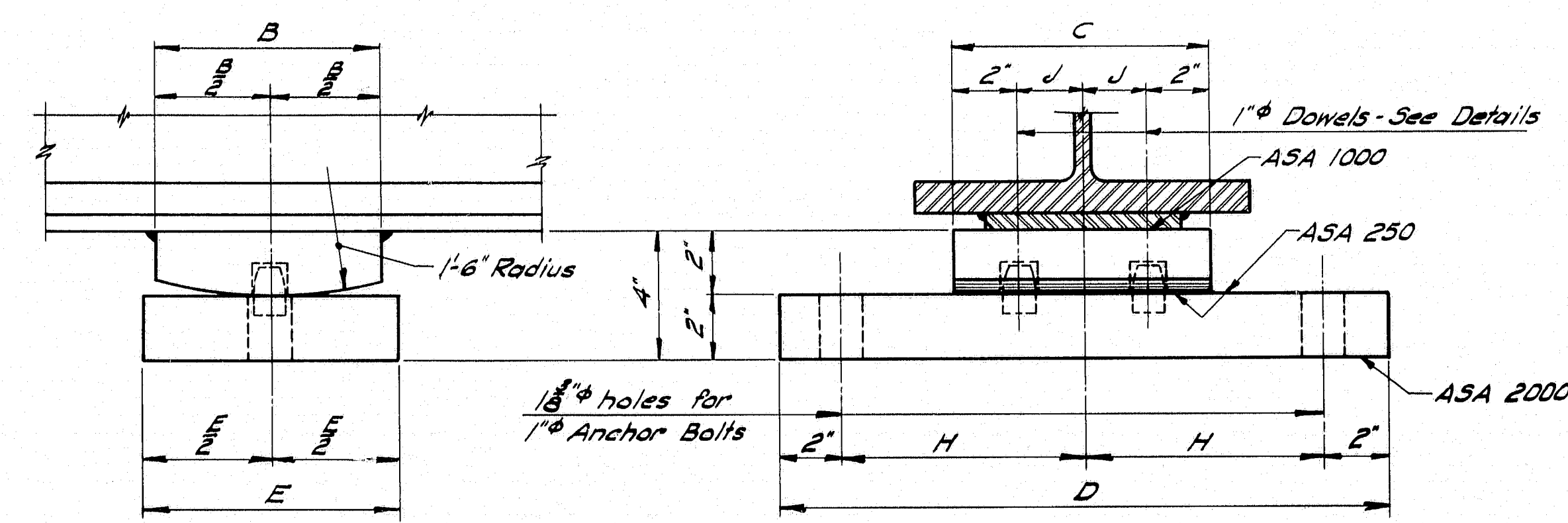
EXPANSION PEDESTAL - EPA



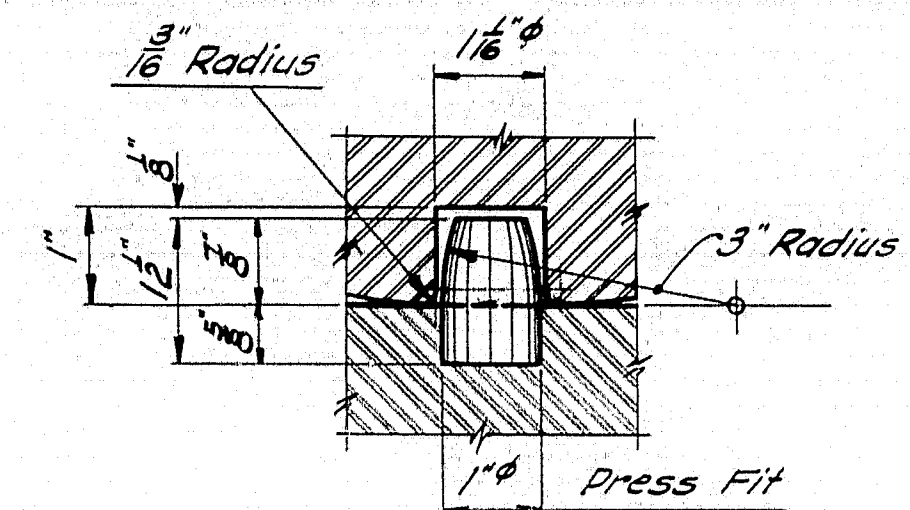
FIXED PEDESTAL - FPA



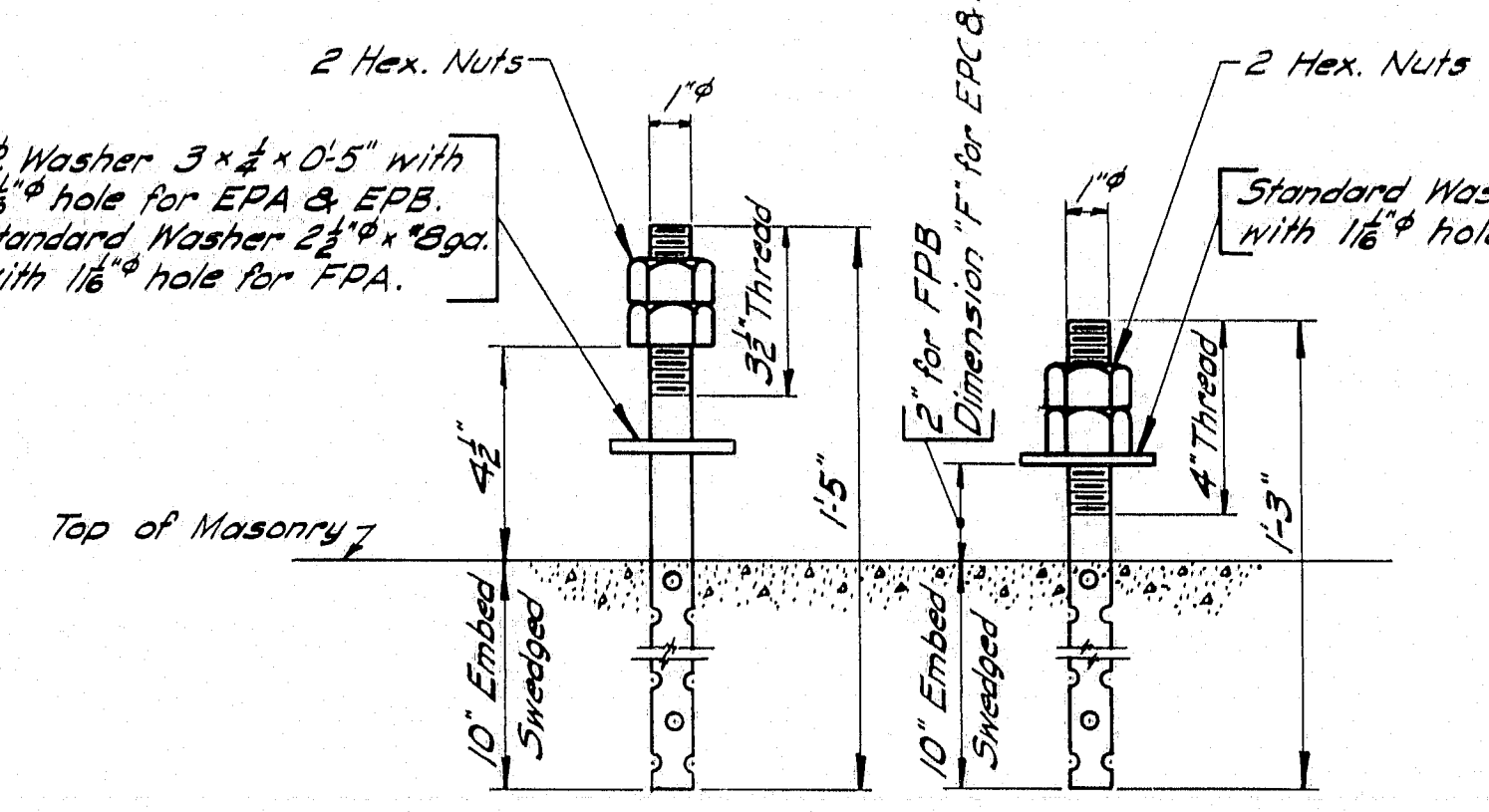
EXPANSION PEDESTAL - EPB



FIXED PEDESTAL - FPB



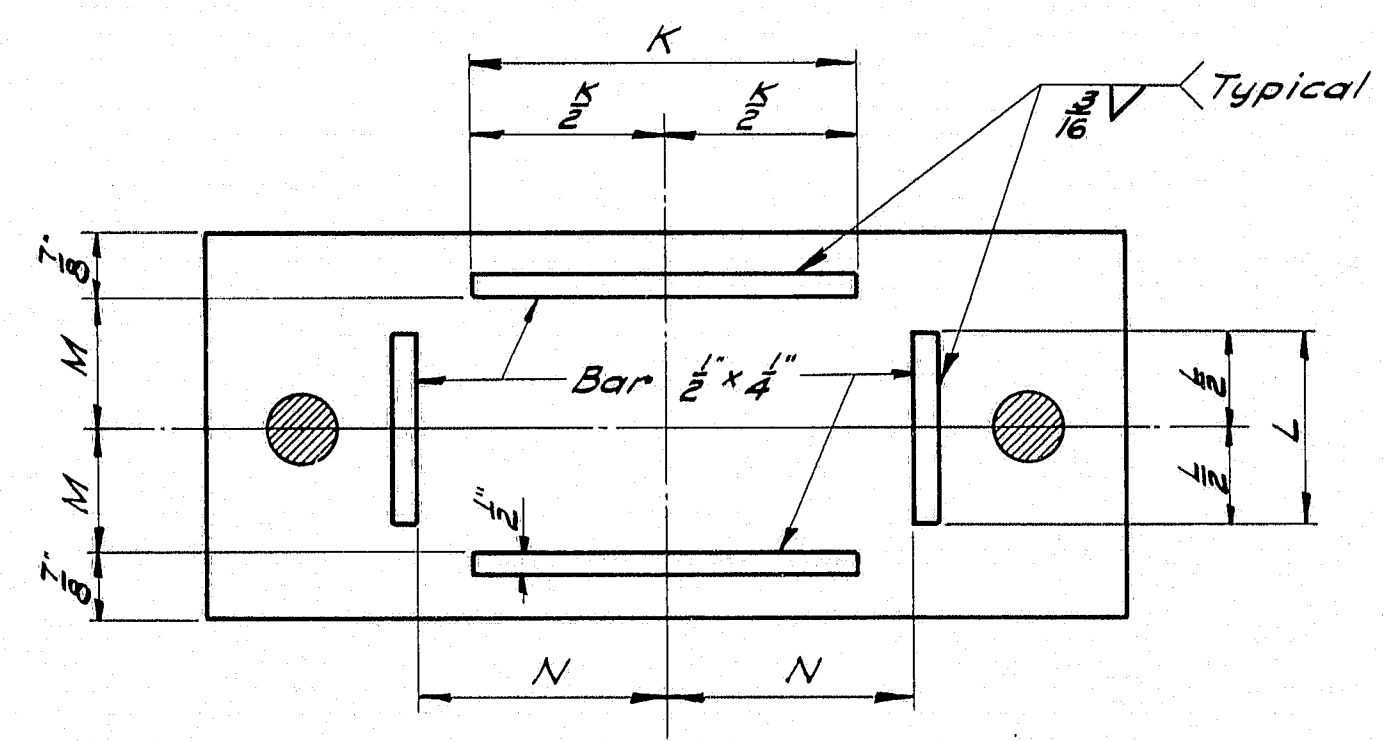
DOWEL DETAIL



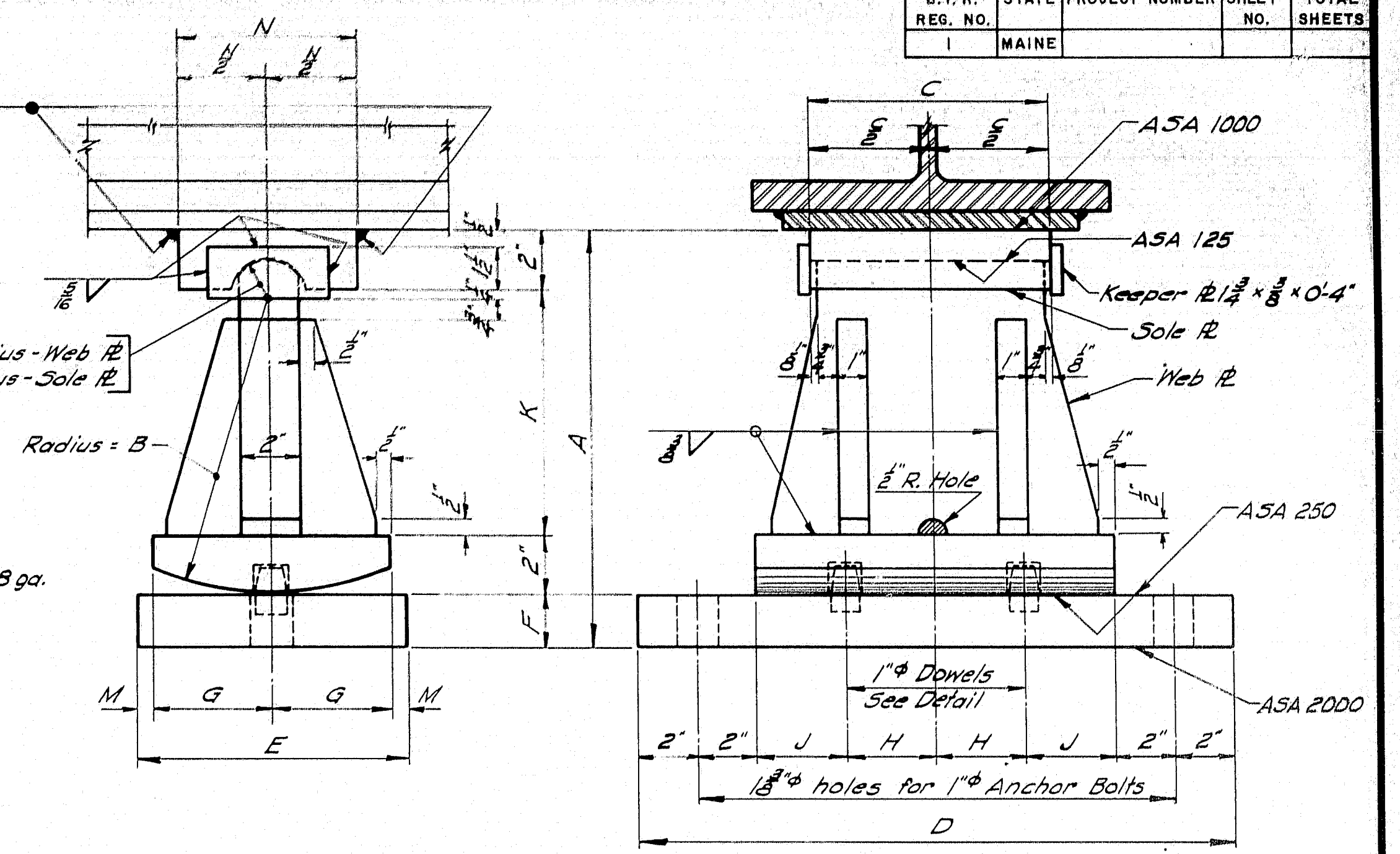
For EPA - 2 reqd.
For FPA - 2 reqd.
For EPB - 2 reqd.

For FPB - 2 reqd.
For EPC - 2 reqd.
For FPC - 4 reqd.

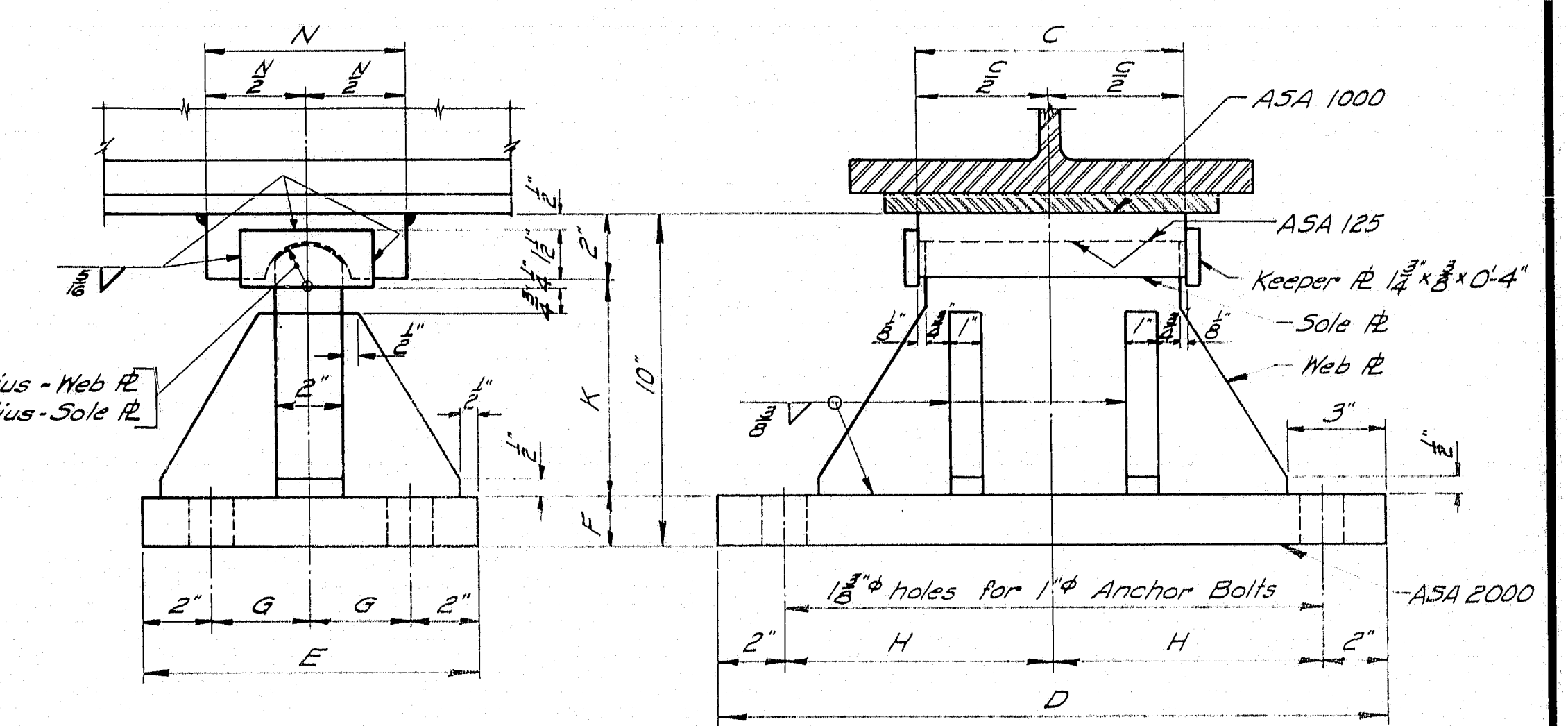
ANCHOR BOLT DETAIL



MASONRY PLATE



EXPANSION PEDESTAL - EPC



FIXED PEDESTAL - FPC

NOTE: At the location of bearing pedestals the concrete bridge seats shall be dressed one inch larger all around than size of masonry plates and to exact elevations shown on the plans. If dressed areas are below the surface of the surrounding bridge seat a small channel shall be cut to the edge of the bridge seat for drainage where required by the Engineer. Channels shall have a min. width of 2", and min. slope of 1/8" inch per foot. No separate payment for this work will be made as it shall be considered incidental to contract items.

DESIGN SPECIFICATIONS

A.A.S.H.O., Standard Specifications for Highway Bridges, 1961, with Interim Specifications, 1961 & 1962

A.S.T.M. STEEL CLASSIFICATION

Anchor Bolts - A7, A36, or A307
All other - A36.

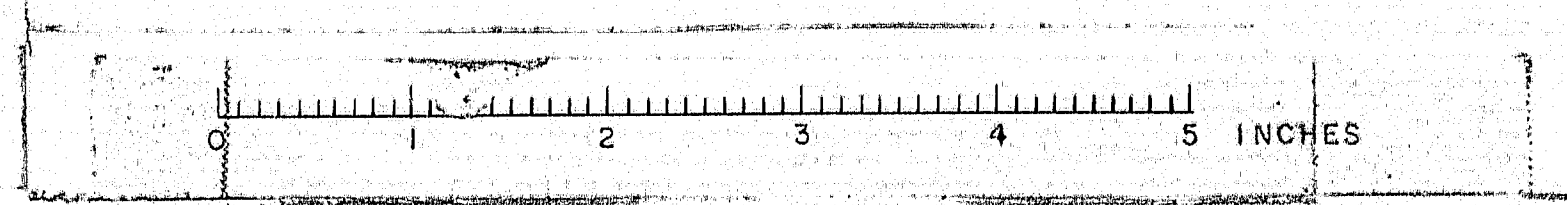
PEDESTALS - ALLOWABLE LOADS & DIMENSIONS														
Pedestal	Load	A	B	C	D	E	F	G	H	J	K	L	M	N
EPA	132K	-	-	-	-	-	-	-	-	-	8"	4"	3 1/2"	5 1/2"
FPA	150K	-	-	-	-	-	-	-	-	-	-	-	-	-
EPB-1	120K	-	6"	8"	12"	8"	10"	6"	7 1/2"	2"	8"	4"	3 1/2"	5 1/2"
EPB-2	165K	-	7"	10"	14"	9"	14"	7"	8"	3"	10"	5"	3 1/2"	6 1/2"
EPB-3	224K	-	8"	12"	20"	10"	14"	7"	10"	4 1/2"	12"	5"	3 1/2"	6 1/2"
FPB-1	120K	-	6"	8"	12"	8"	-	-	7 1/2"	2"	-	-	-	-
FPB-2	165K	-	7"	10"	14"	9"	-	-	8"	3"	-	-	-	-
FPB-3	224K	-	8"	12"	20"	10"	-	-	10"	5"	-	-	-	-
EPC-1	70K	9 1/2"	6"	8"	12"	8"	12"	3 1/2"	3"	3"	4 1/2"	-	1"	6"
EPC-2	100K	11 1/2"	8"	8"	12"	8"	12"	3 1/2"	3"	3"	6 1/2"	-	1"	6"
EPC-3	130K	12"	10"	8"	12"	9"	14"	4"	3"	3"	8 1/2"	-	1"	7"
EPC-4	160K	12"	10"	8"	12"	9"	14"	4"	4"	3"	8 1/2"	-	1"	7"
EPC-5	190K	12 1/2"	10"	9"	20"	10"	2"	4 1/2"	5"	3"	8 1/2"	-	1"	8"
EPC-6	220K	14 1/2"	10"	10"	20"	10"	2 1/2"	5"	5"	3"	10 1/2"	-	1"	8"
EPC-7	250K	14 1/2"	10"	10"	20"	10"	2 1/2"	5"	5"	4"	10 1/2"	-	1"	8"
FPC-1	100K	-	-	8"	12"	9"	14"	2 1/2"	8"	-	6 1/2"	-	-	6"
FPC-2	160K	-	-	8"	12"	10"	14"	3"	8"	-	6 1/2"	-	-	7"
FPC-3	190K	-	-	9"	20"	10"	12"	3"	10"	-	6 1/2"	-	-	8"
FPC-4	220K	-	-	10"	20"	10"	14"	4"	10"	-	6 1/2"	-	-	8"
FPC-5	250K	-	-	10"	20"	10"	2"	4"	10"	-	6"	-	-	8"

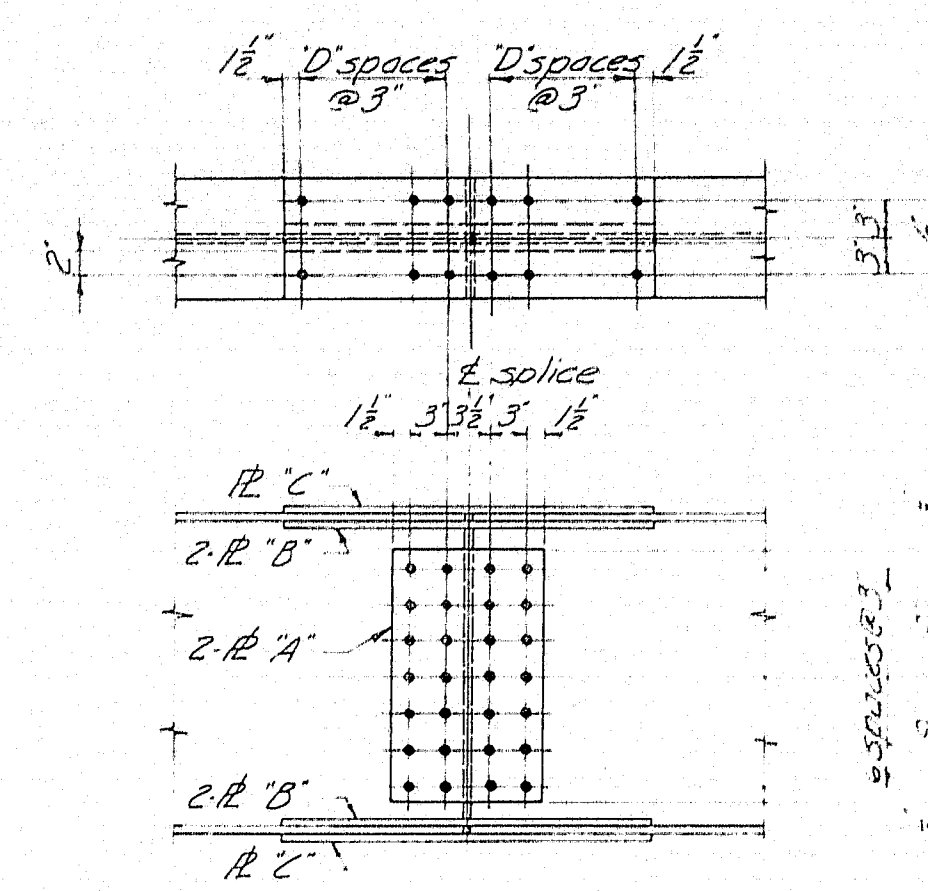
MAINE STATE HIGHWAY COMMISSION
AUGUSTA, MAINE

STANDARD DETAILS
(BD 101-64)

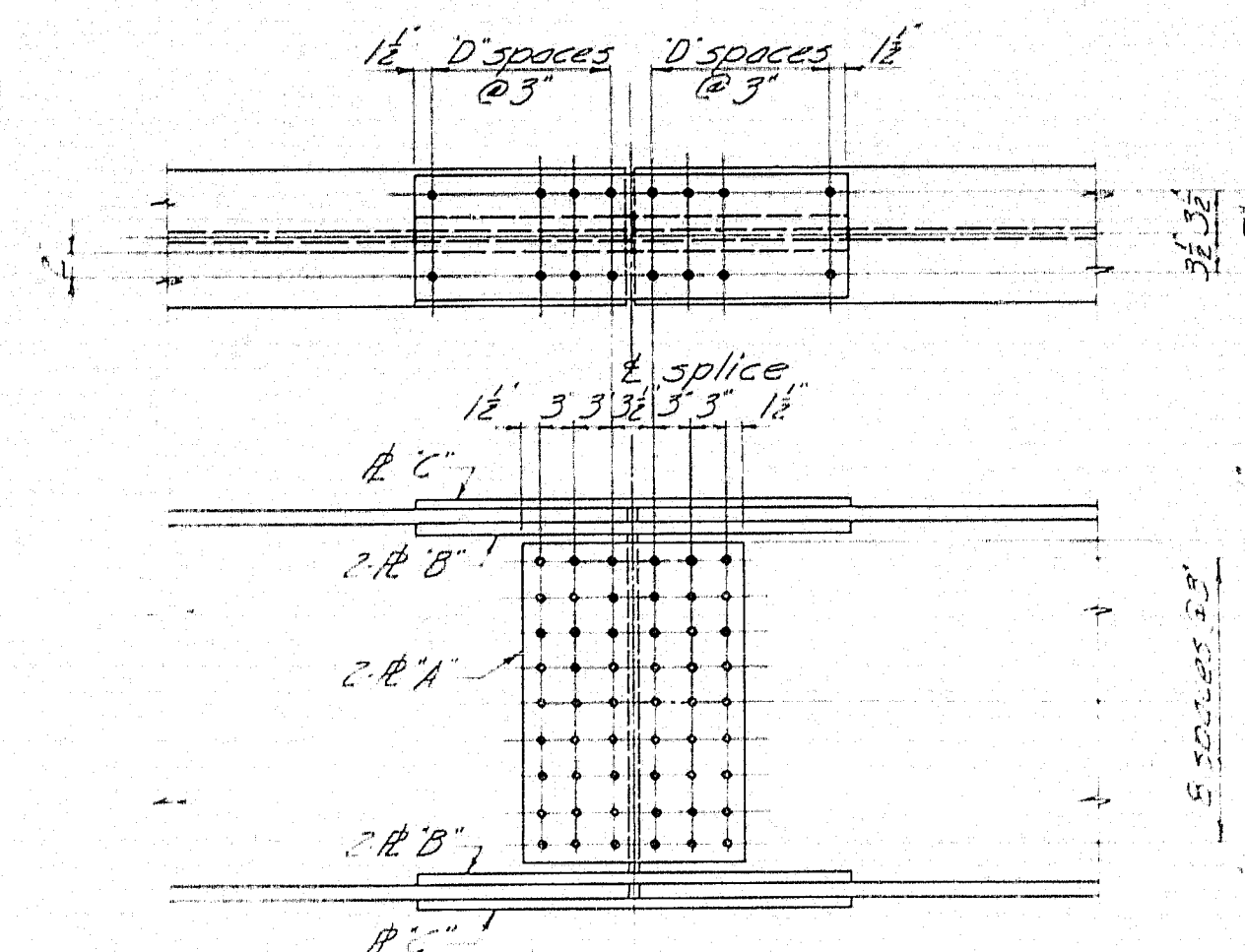
BEARING PEDESTALS

96-100F

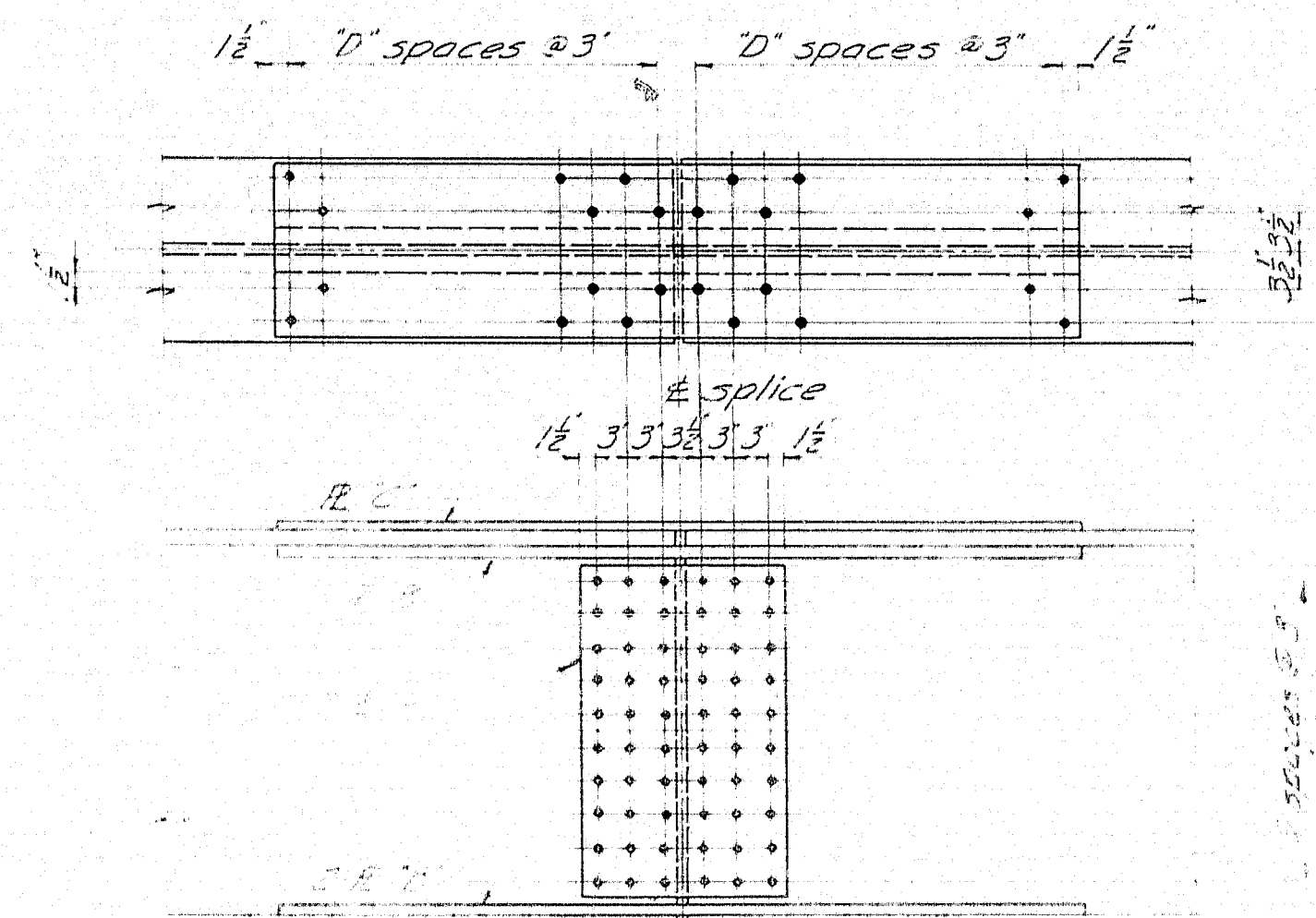




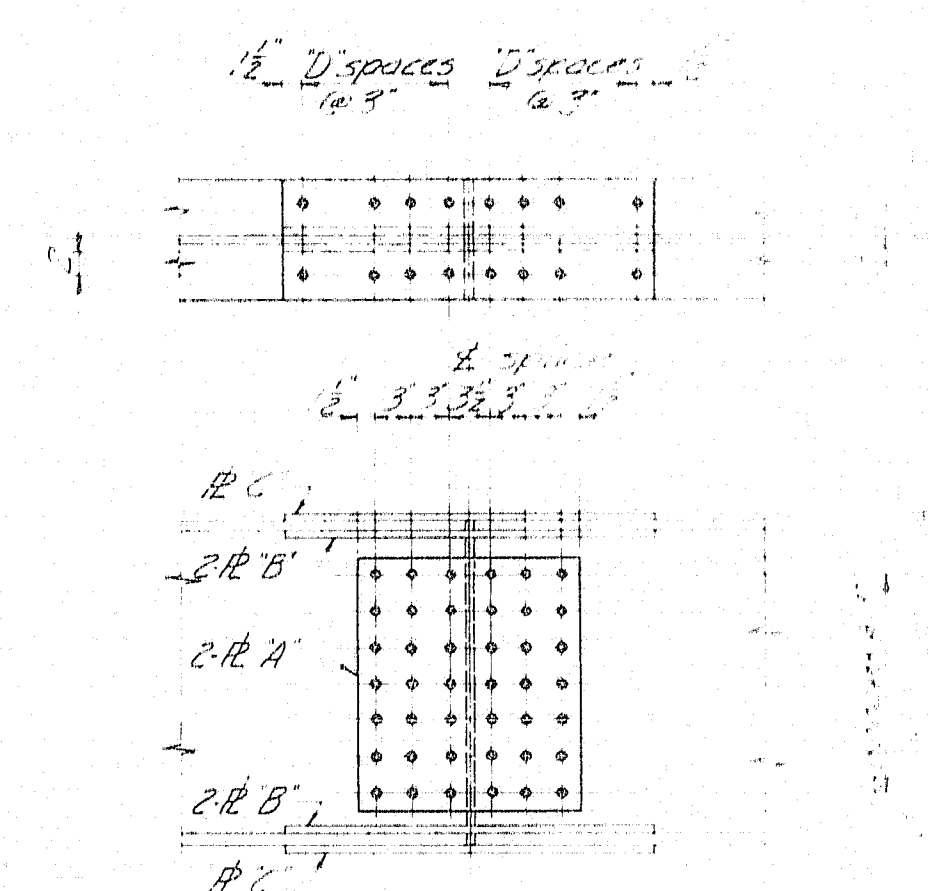
27 WF 84



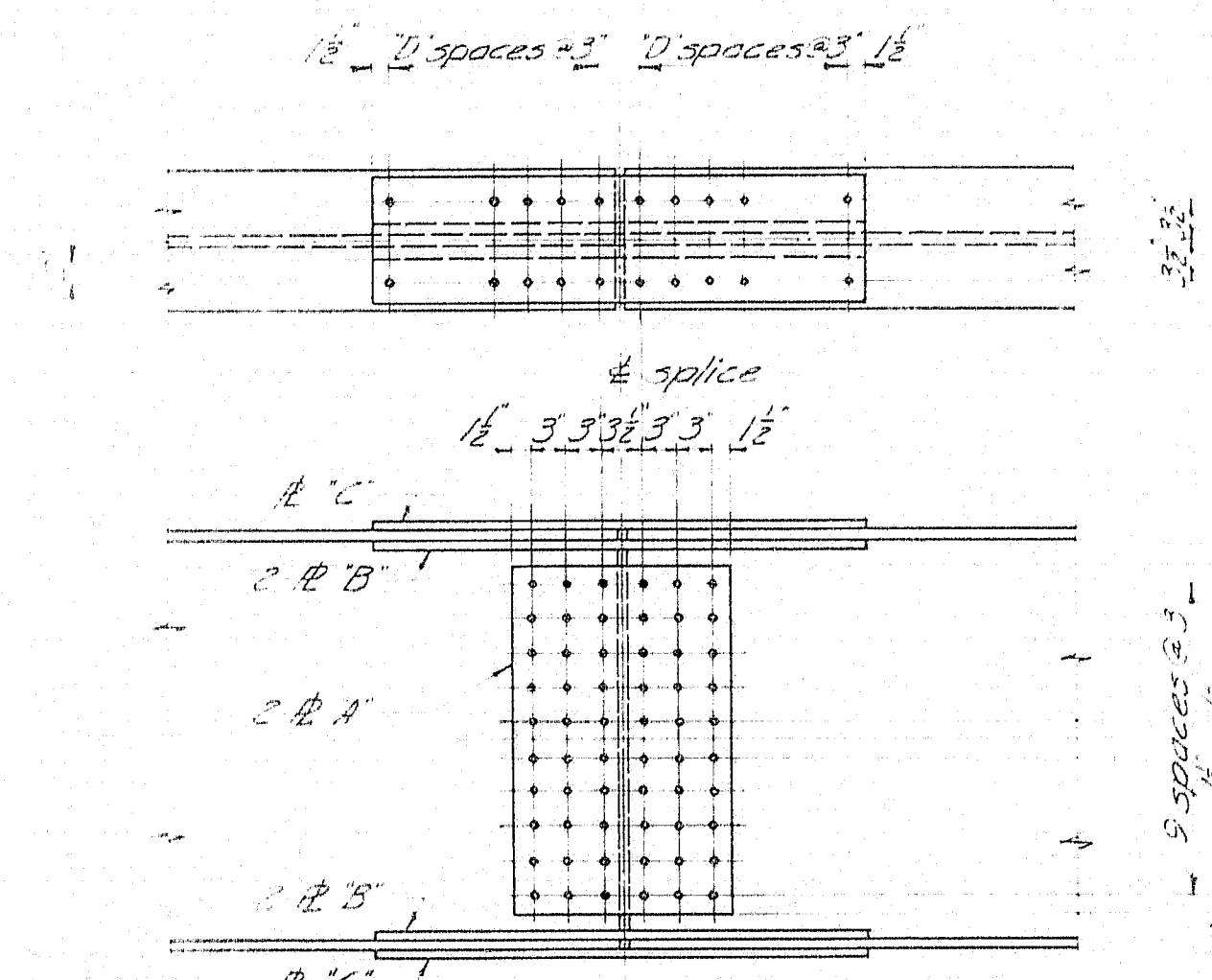
33 WF 118, 130, 141, 152



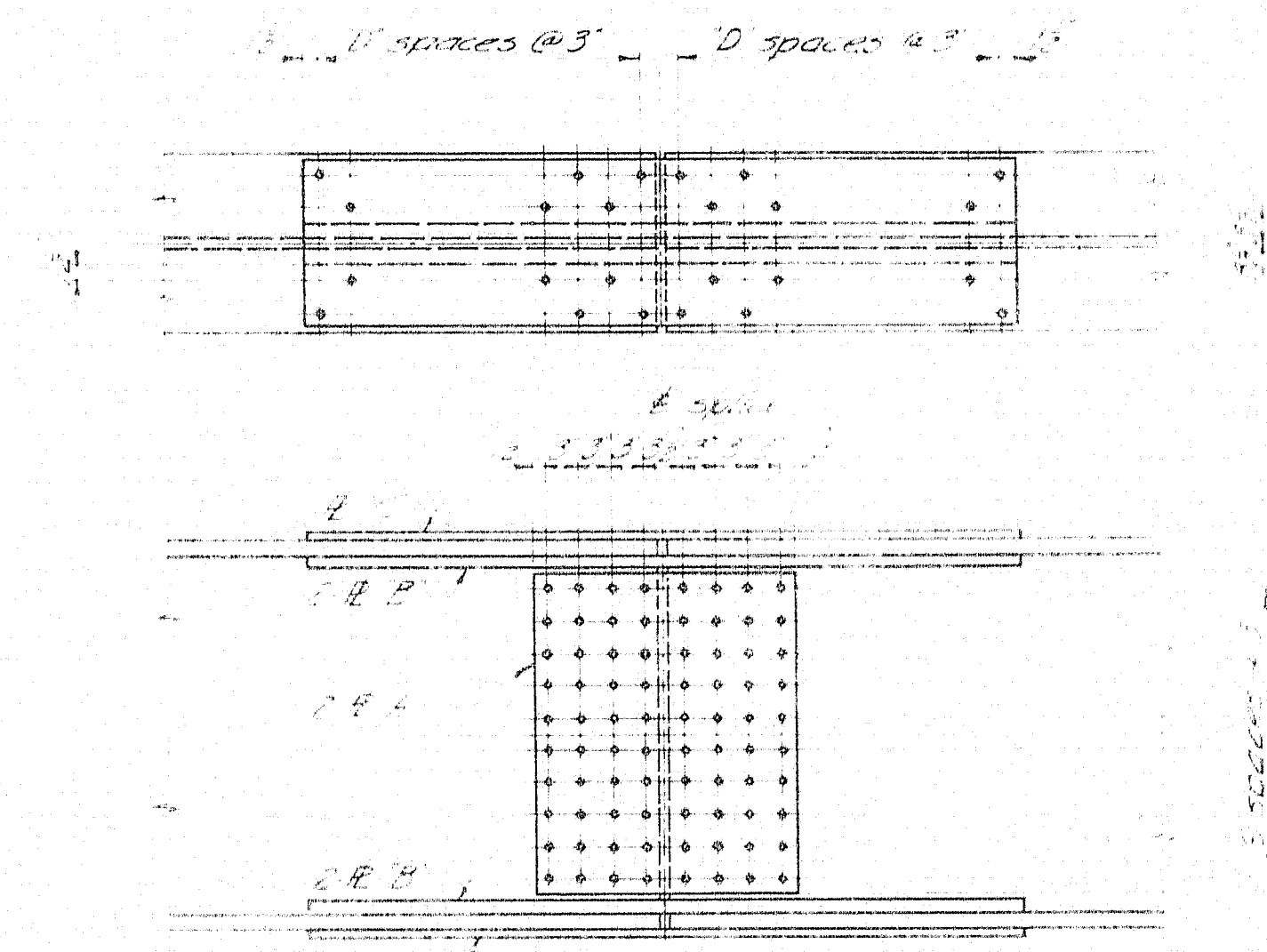
36 WF 245, 280



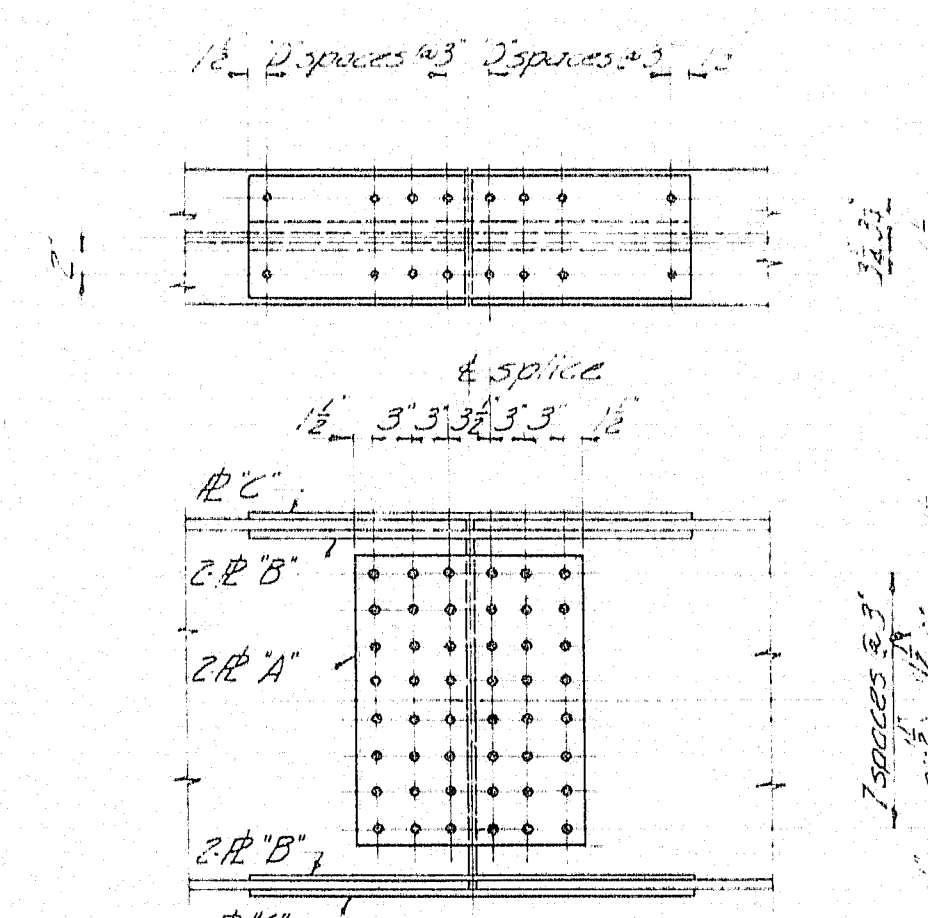
27 WF 94, 102, 114



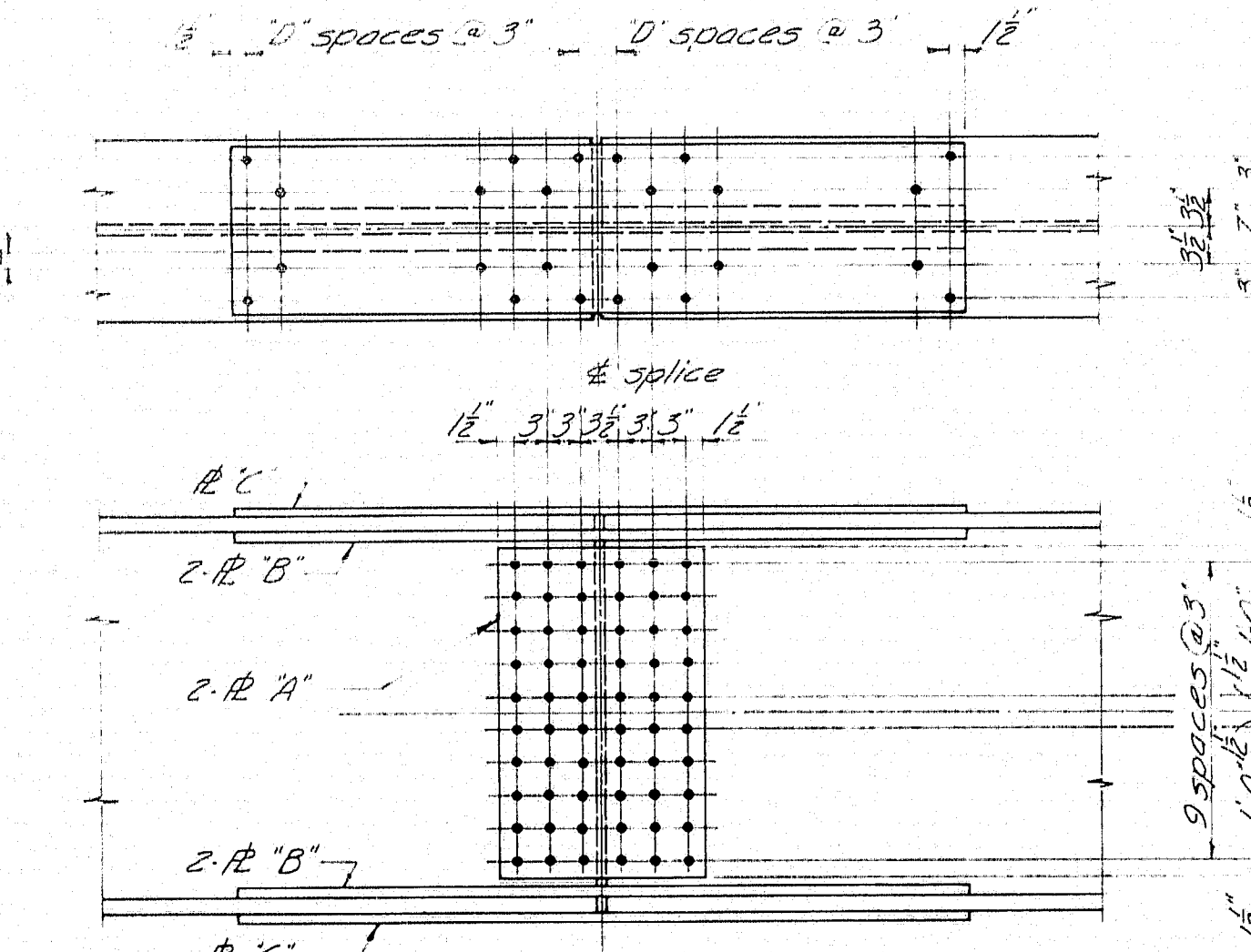
36 WF 135, 150, 160, 170, 182, 194



36 WF 300



30 WF 99, 108, 116, 124, 132



36 WF 230, 260

SPlice DESIGN, PLATES AND FLANGE HOLES						
BEAM	BEND. M.	SHEAR	PLATE "A"	PLATE "B"	PLATE "C"	"D"
27 WF 84	3070"	111"	12 x 2	4 x 2	10 x 2	3
27 WF 94	3520"	111"	12 x 2	4 x 2	10 x 2	3
27 WF 102	3910"	111"	12 x 2	4 x 2	10 x 2	4
27 WF 114	4340"	111"	12 x 2	4 x 2	10 x 2	4
30 WF 99	3120"	111"	12 x 2	4 x 2	10 x 2	3
30 WF 108	4300"	111"	12 x 2	4 x 2	10 x 2	4
30 WF 116	4780"	111"	12 x 2	4 x 2	10 x 2	4
30 WF 124	5260"	111"	12 x 2	4 x 2	10 x 2	4
30 WF 132	5740"	111"	12 x 2	4 x 2	10 x 2	4
33 WF 118	3120"	111"	12 x 2	4 x 2	10 x 2	3
33 WF 130	3520"	111"	12 x 2	4 x 2	10 x 2	3
33 WF 141	3910"	111"	12 x 2	4 x 2	10 x 2	4
33 WF 152	4340"	111"	12 x 2	4 x 2	10 x 2	4
36 WF 135	3120"	111"	12 x 2	4 x 2	10 x 2	3
36 WF 150	4300"	111"	12 x 2	4 x 2	10 x 2	4
36 WF 160	4780"	111"	12 x 2	4 x 2	10 x 2	4
36 WF 170	5260"	111"	12 x 2	4 x 2	10 x 2	4
36 WF 182	5740"	111"	12 x 2	4 x 2	10 x 2	4
36 WF 194	6220"	111"	12 x 2	4 x 2	10 x 2	4
36 WF 230	3120"	111"	12 x 2	4 x 2	10 x 2	3
36 WF 245	3520"	111"	12 x 2	4 x 2	10 x 2	3
36 WF 260	3910"	111"	12 x 2	4 x 2	10 x 2	4
36 WF 280	4340"	111"	12 x 2	4 x 2	10 x 2	4
36 WF 300	4780"	111"	12 x 2	4 x 2	10 x 2	4

GENERAL NOTES

1. All dimensions are in inches unless otherwise specified.

2. The splice length shall be 12 inches.

3. The splice plates shall be 1/2 inch thick.

4. The splice plates shall be 12 inches long.

5. The splice plates shall be 12 inches wide.

6. The splice plates shall be 12 inches high.

7. The splice plates shall be 12 inches deep.

8. The splice plates shall be 12 inches thick.

9. The splice plates shall be 12 inches long.

10. The splice plates shall be 12 inches wide.

A.S.T.M. STEEL CLASSIFICATION

High Tensile Structural Steel
Splice Plates

DESIGN SPECIFICATIONS

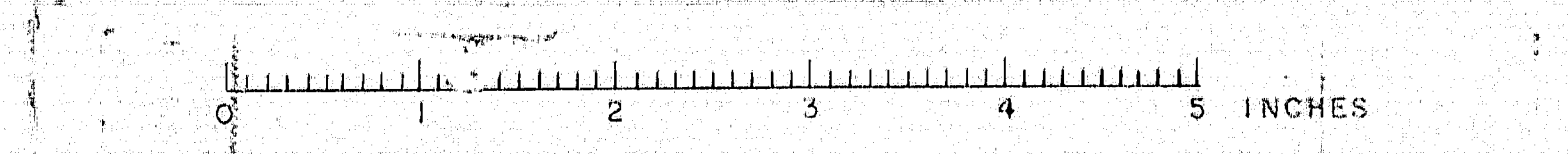
AASHTO Standard Specifications for Highway Bridges, 1964 Edition, Section 10.10.1, 10.10.2, 10.10.3, 10.10.4, 10.10.5, 10.10.6, 10.10.7, 10.10.8, 10.10.9, 10.10.10, 10.10.11, 10.10.12, 10.10.13, 10.10.14, 10.10.15, 10.10.16, 10.10.17, 10.10.18, 10.10.19, 10.10.20, 10.10.21, 10.10.22, 10.10.23, 10.10.24, 10.10.25, 10.10.26, 10.10.27, 10.10.28, 10.10.29, 10.10.30, 10.10.31, 10.10.32, 10.10.33, 10.10.34, 10.10.35, 10.10.36, 10.10.37, 10.10.38, 10.10.39, 10.10.40, 10.10.41, 10.10.42, 10.10.43, 10.10.44, 10.10.45, 10.10.46, 10.10.47, 10.10.48, 10.10.49, 10.10.50, 10.10.51, 10.10.52, 10.10.53, 10.10.54, 10.10.55, 10.10.56, 10.10.57, 10.10.58, 10.10.59, 10.10.60, 10.10.61, 10.10.62, 10.10.63, 10.10.64, 10.10.65, 10.10.66, 10.10.67, 10.10.68, 10.10.69, 10.10.70, 10.10.71, 10.10.72, 10.10.73, 10.10.74, 10.10.75, 10.10.76, 10.10.77, 10.10.78, 10.10.79, 10.10.80, 10.10.81, 10.10.82, 10.10.83, 10.10.84, 10.10.85, 10.10.86, 10.10.87, 10.10.88, 10.10.89, 10.10.90, 10.10.91, 10.10.92, 10.10.93, 10.10.94, 10.10.95, 10.10.96, 10.10.97, 10.10.98, 10.10.99, 10.10.100.

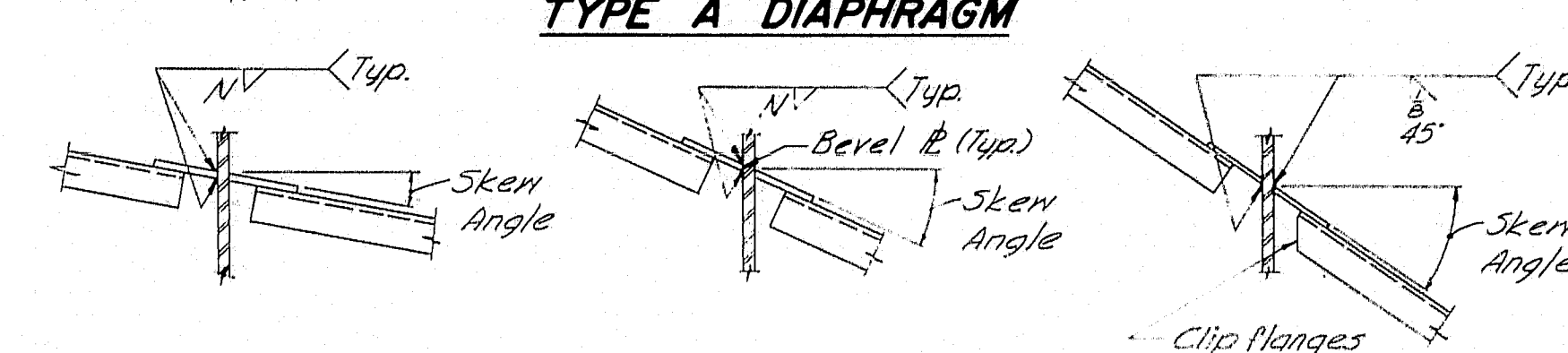
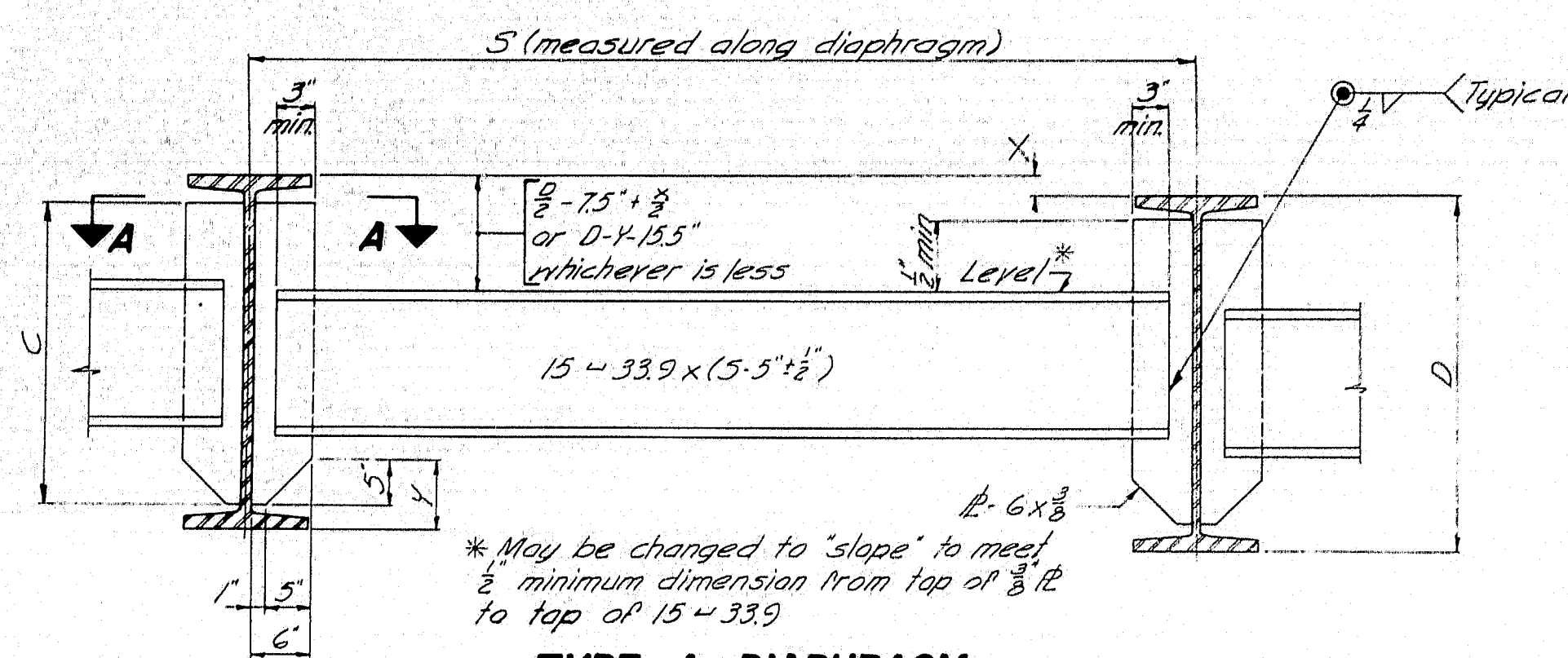
MAINE STATE HIGHWAY COMMISSION
AUGUSTA, MAINE

STANDARD DETAILS
(BD 103-64)
BEAM SPLICES

JANUARY 1964

96-100G



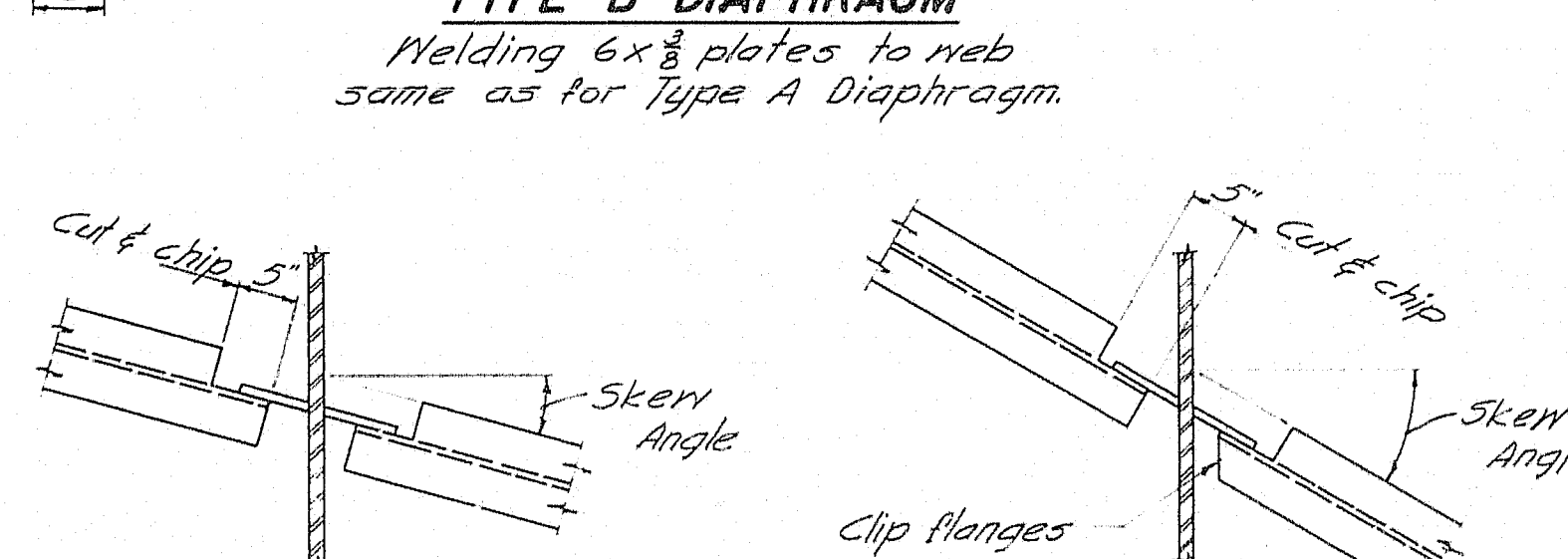
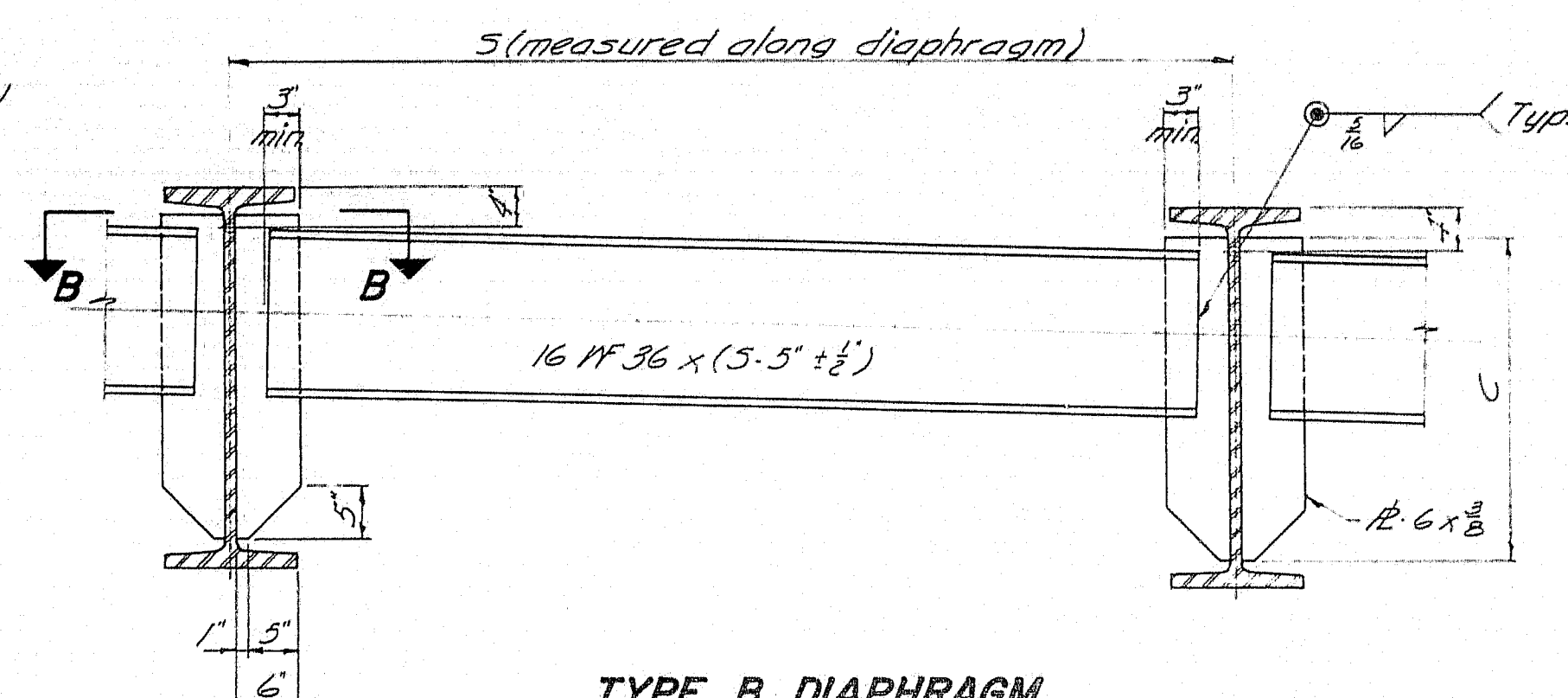


SECTION A-A
Skew Angle 0° to 15°-30'

SECTION A-A
Skew Angle over 15°-30' to 30°-00'

SECTION A-A
Skew Angle over 30°-00'

FILLET WELD SIZE "N" & DIMENSION "C" FOR DIAPHRAGM PLATES		
BEAM	C	N
27 WF 84 to 114 incl.	1-11"	3/8"
30 WF 99 to 132 incl.	2-0"	1/2"
33 WF 118 to 152 incl.	2-5"	5/8"
36 WF 135 to 194 incl.	2-7"	3/4"
36 WF 230 to 300 incl.	2-6"	3/4"

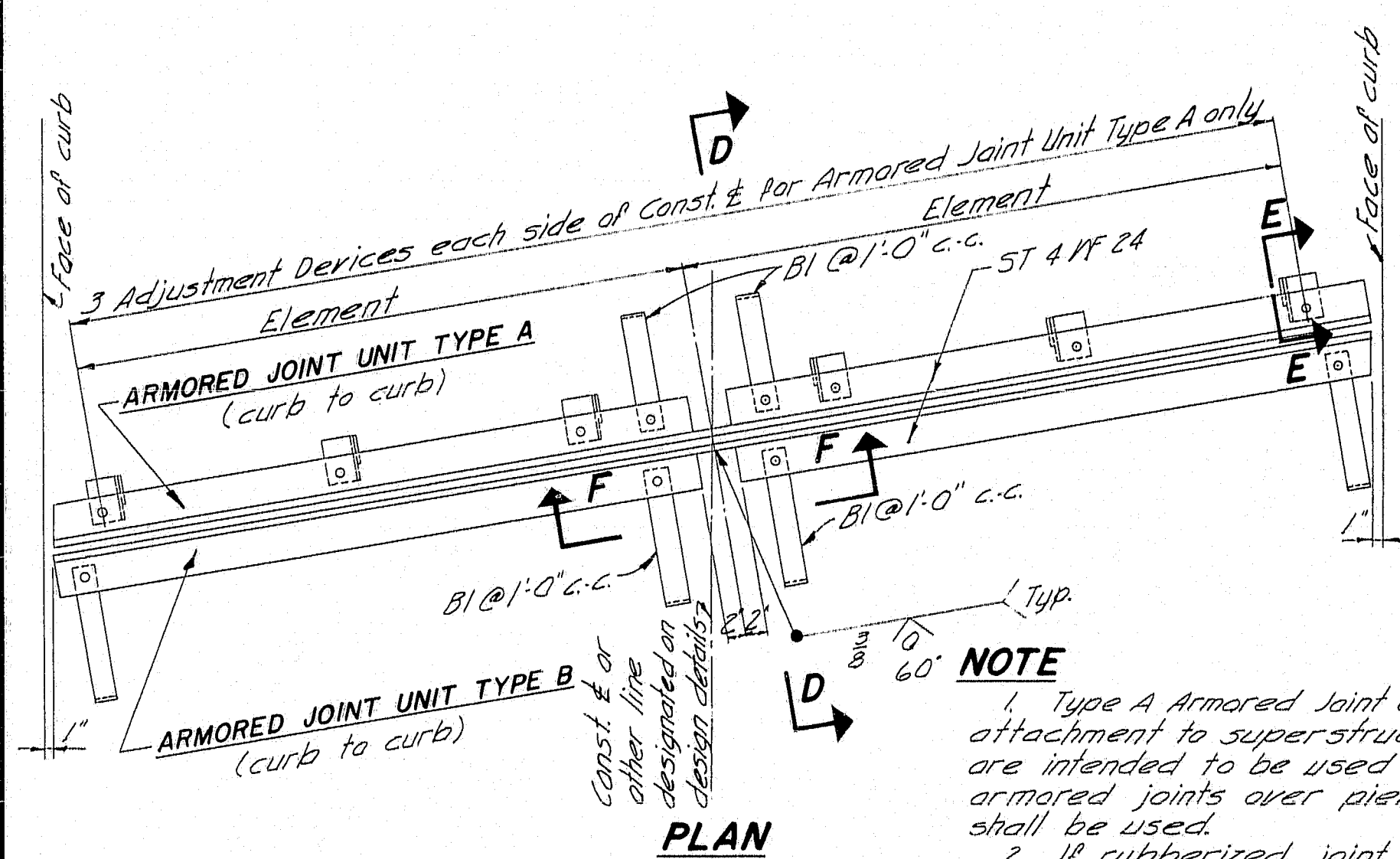


SECTION B-B
Skew Angle 0° to 25°-00'

SECTION B-B
Skew Angle over 25°-00'

NOTE
See design details for diaphragm type, location and skew.

DIAPHRAGMS

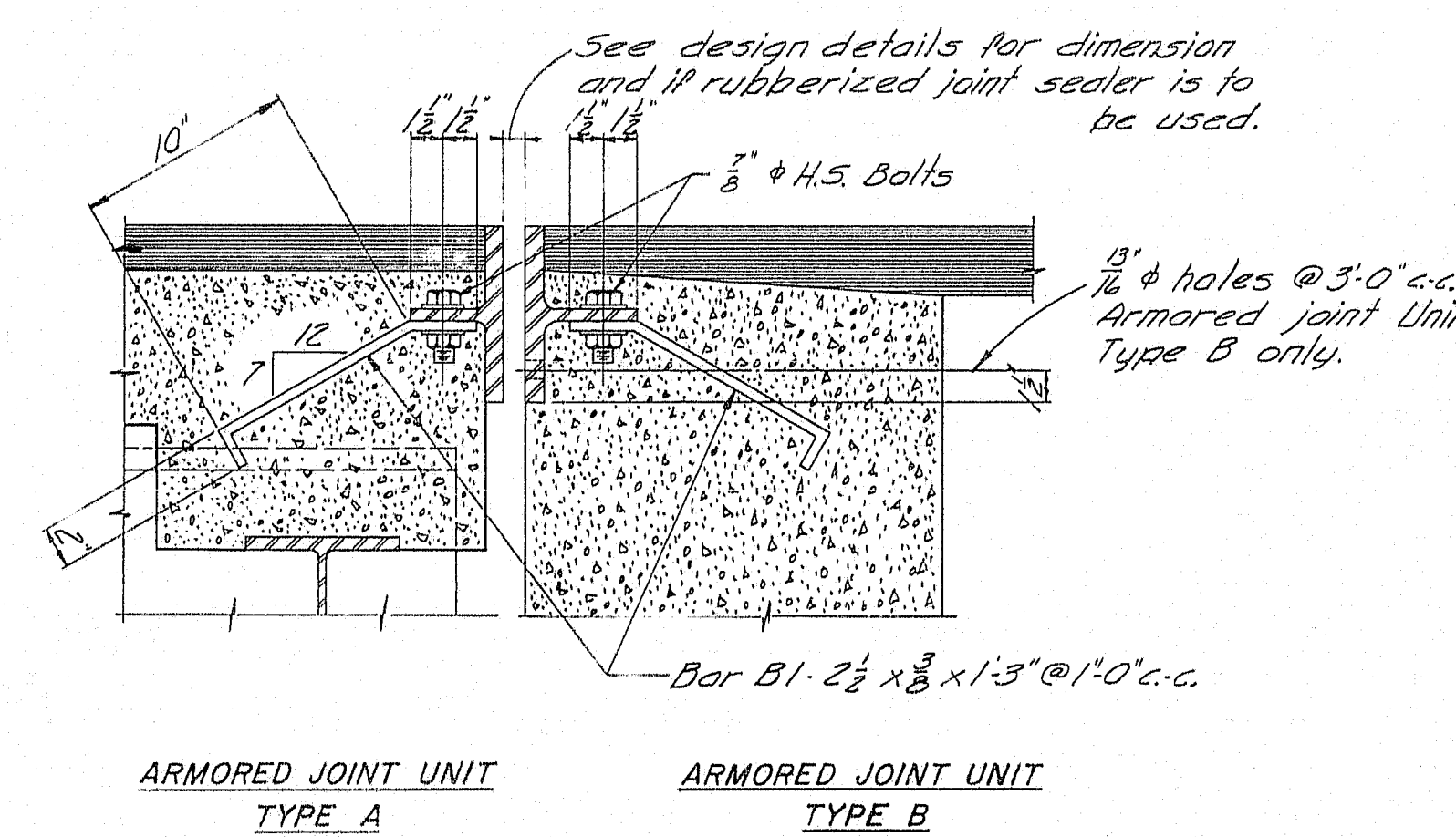


NOTE

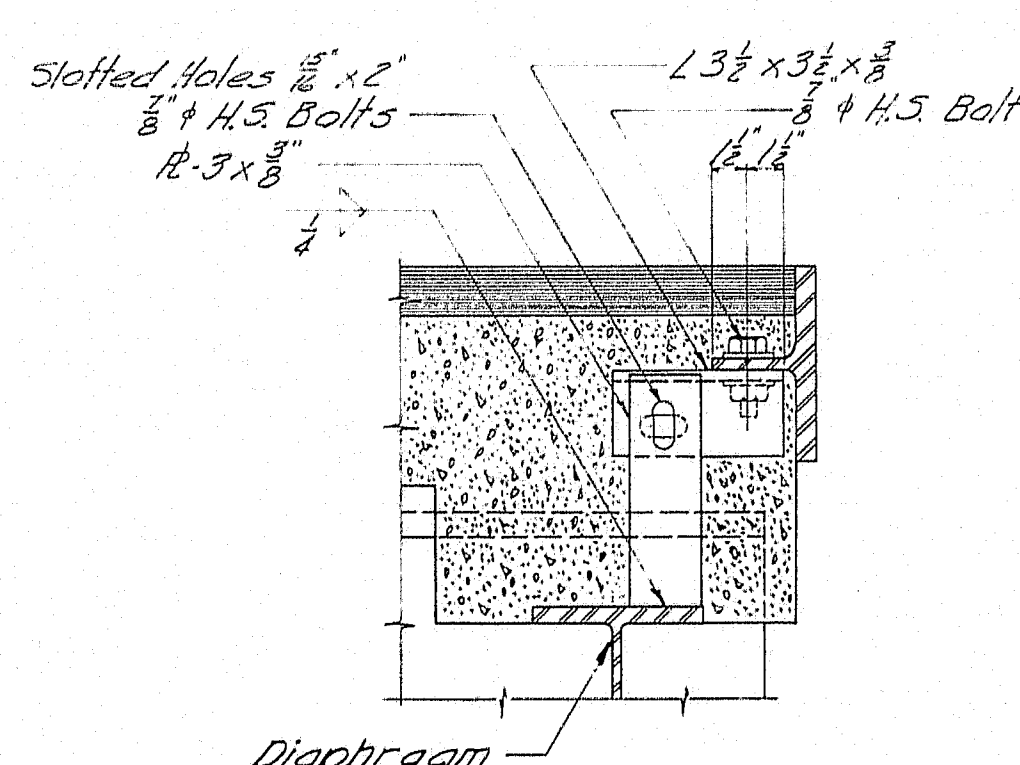
1. Type A Armored Joint Units are intended to be used for attachment to superstructures. Type B Armored Joint Units are intended to be used for attachment to abutments. At armored joints over piers, two Type A Armored Joint Units shall be used.
2. If rubberized joint sealer is called for on the design details the area to which it is to be banded shall not be painted and it shall be supported on non-bituminous material. At the Contractor's option the supporting material may be left in place or be removed. If the supporting material is left in place, it shall be compressible in accordance with specification AASHTO M 153.5.4. In either case band between the supporting material and the rubberized joint sealer shall be prevented by a 1" minimum thickness of Poly-urethane foam.
3. If more elements than the two shown in the "Plan" are required by the design details, there shall be three adjustment devices for each element for Armored Joint Unit Type A and the elements of both units shall be field welded together in the same manner as shown in the "Plan".
4. Armored Joints to be paid for as Structural Steel.

ARMORED JOINT

An armored joint consists of two armored joint units. See note 1.

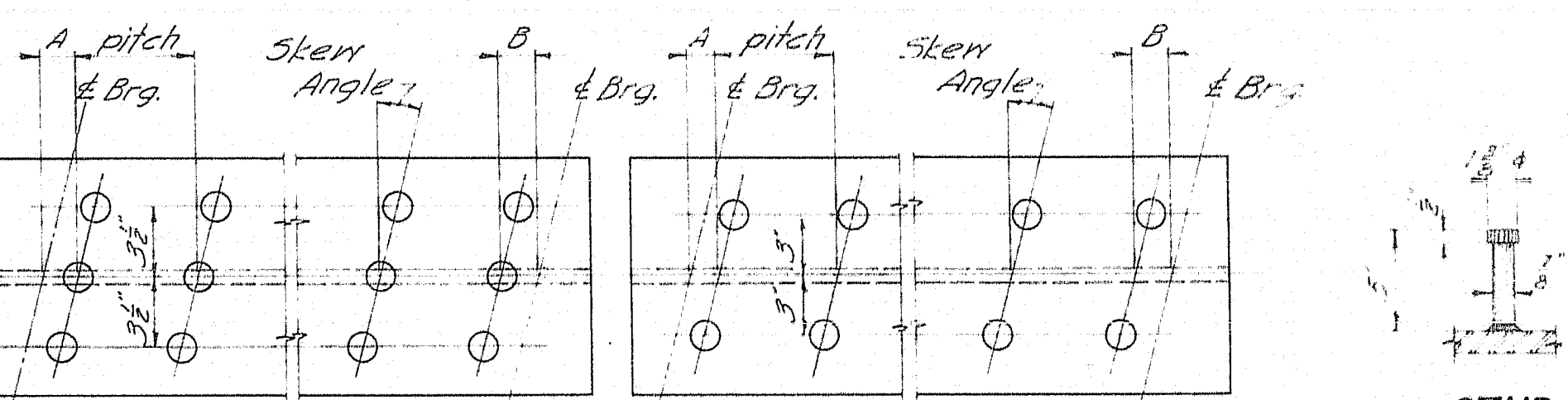
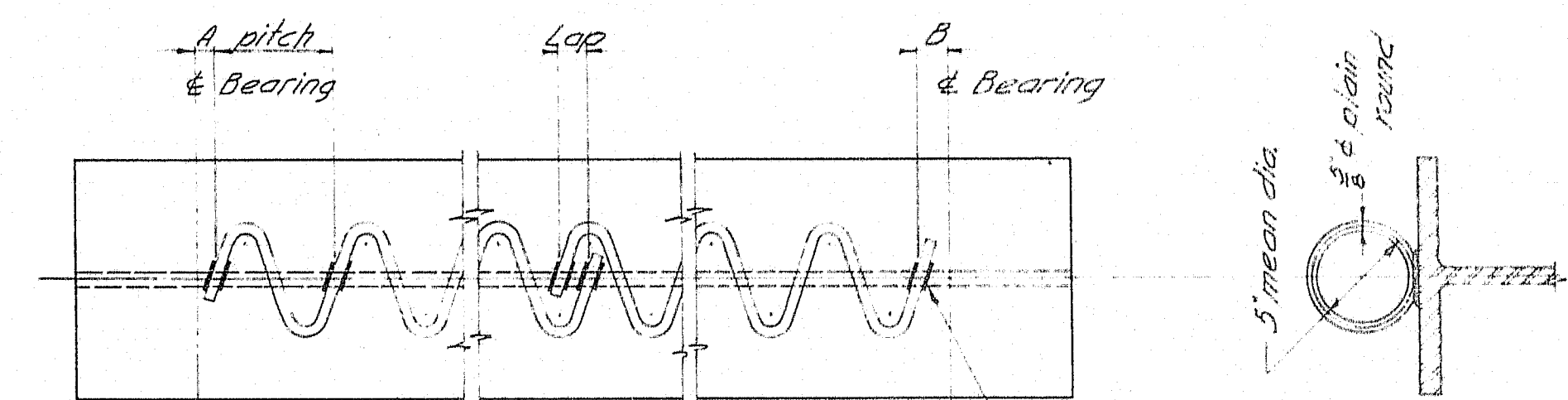
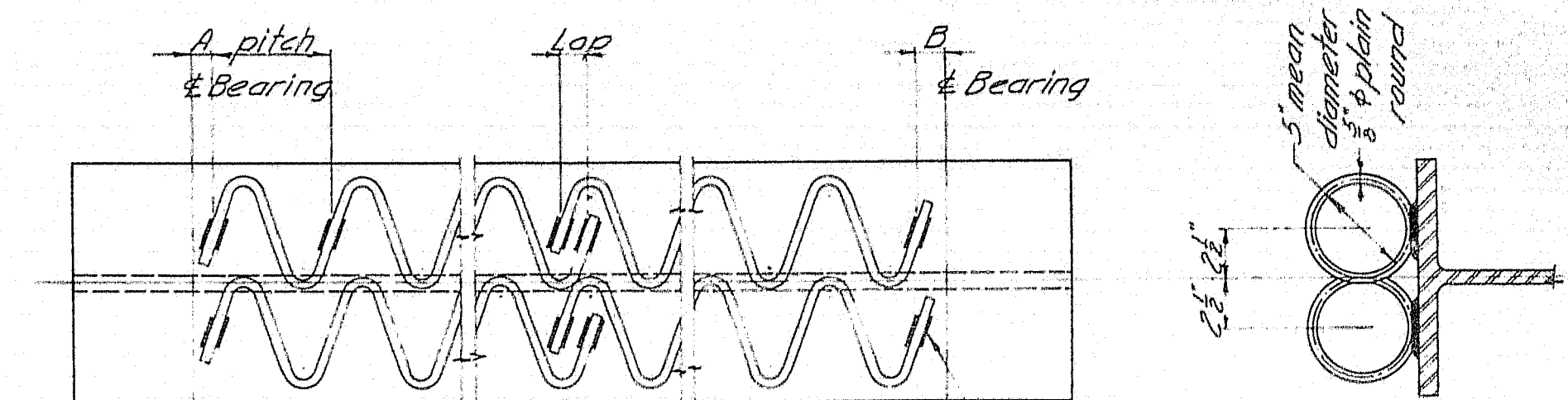


SECTION D-D



SECTION E-E

Showing Adjustment Device Armored Joint Unit Type A only - After Unit is in final position weld 3/8" R to angle with 1/2" fillet

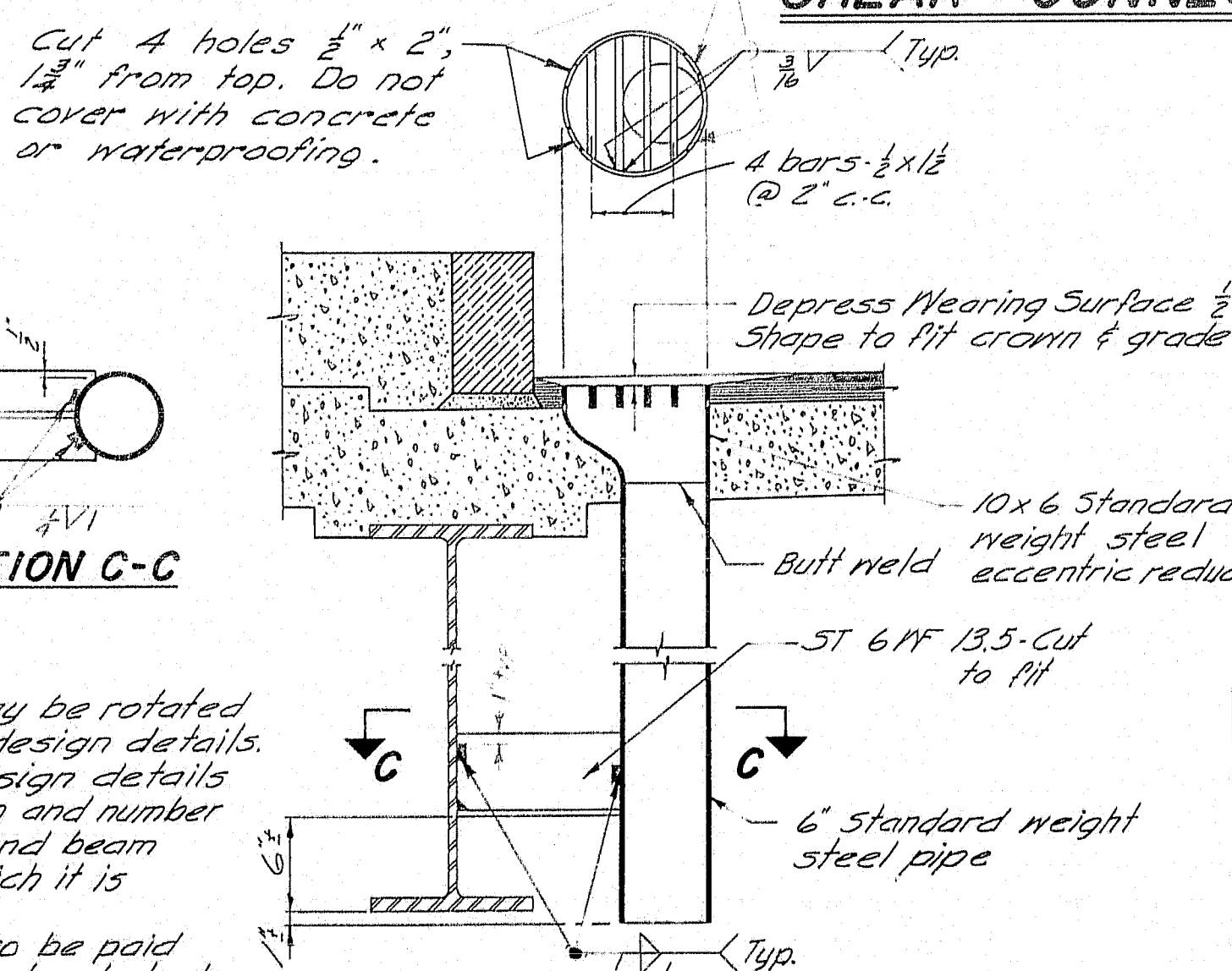


STUD DETAIL

NOTE

1. Spiral reinforcing or studs may be used at the option of the Contractor.
2. If studs are used they shall be granular or solid flux filled and automatically end welded to the top flange in the shop or field.
3. Studs are a patented product. If the Contractor elects to use them, he shall pay the royalty and payment to the contractor will be included in the lump sum price for Shear Connectors.
4. See the design details for Dimensions "A" and "B", spiral and stud pitch and skew angle for Studs.

SHEAR CONNECTORS



NOTE

1. Drain may be rotated 180°. See design details.
2. See design details for location and number of drains and beam size to which it is connected.
3. Drains to be paid for as structural steel.

DRAIN

Revised Nov. 1964, Welding Drain Support

GENERAL NOTE

Use only those items called for on design details. In case of conflict between these Standard Details and the design details, the requirements of the design details shall be followed.

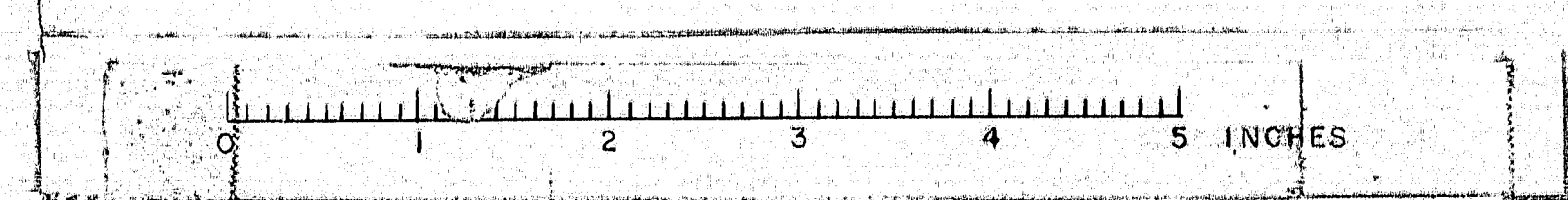
MAINE STATE HIGHWAY COMMISSION
AUGUSTA, MAINE

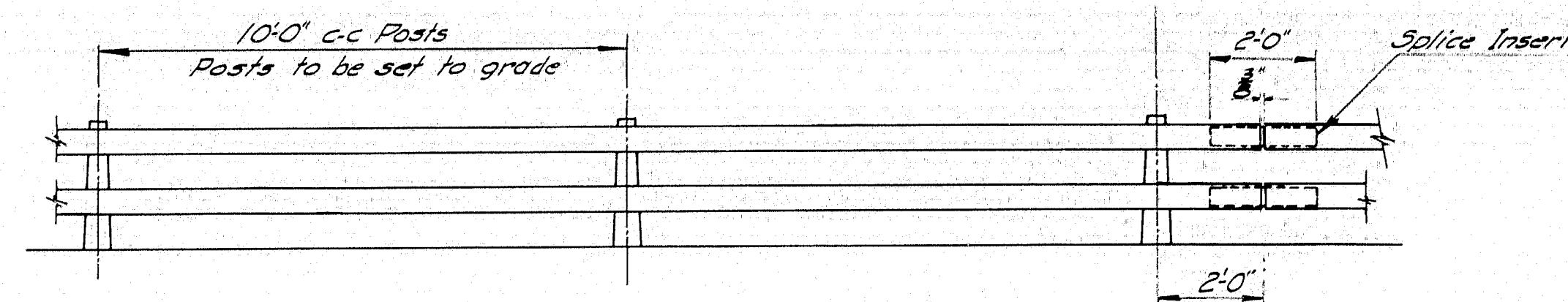
STANDARD DETAILS

(BD 104-64)
DIAPHRAGMS, ARMORED JOINT,
SHEAR CONNECTORS, DRAIN

JANUARY 1964

96-100H





RAIL ELEVATION

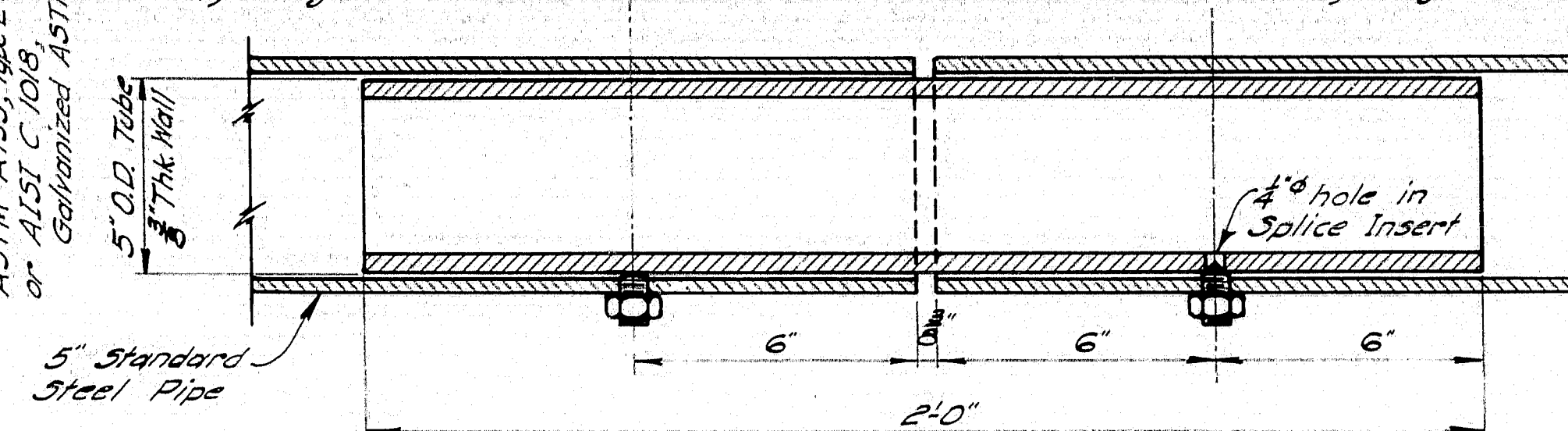
Lengths of rail shall be attached to a minimum of (4) four rail posts, whenever possible, and in any case never less than (2) two.

ASTM A153, Type E or S, Grade B
or A151 C-1016,
Galvanized ASTM A123

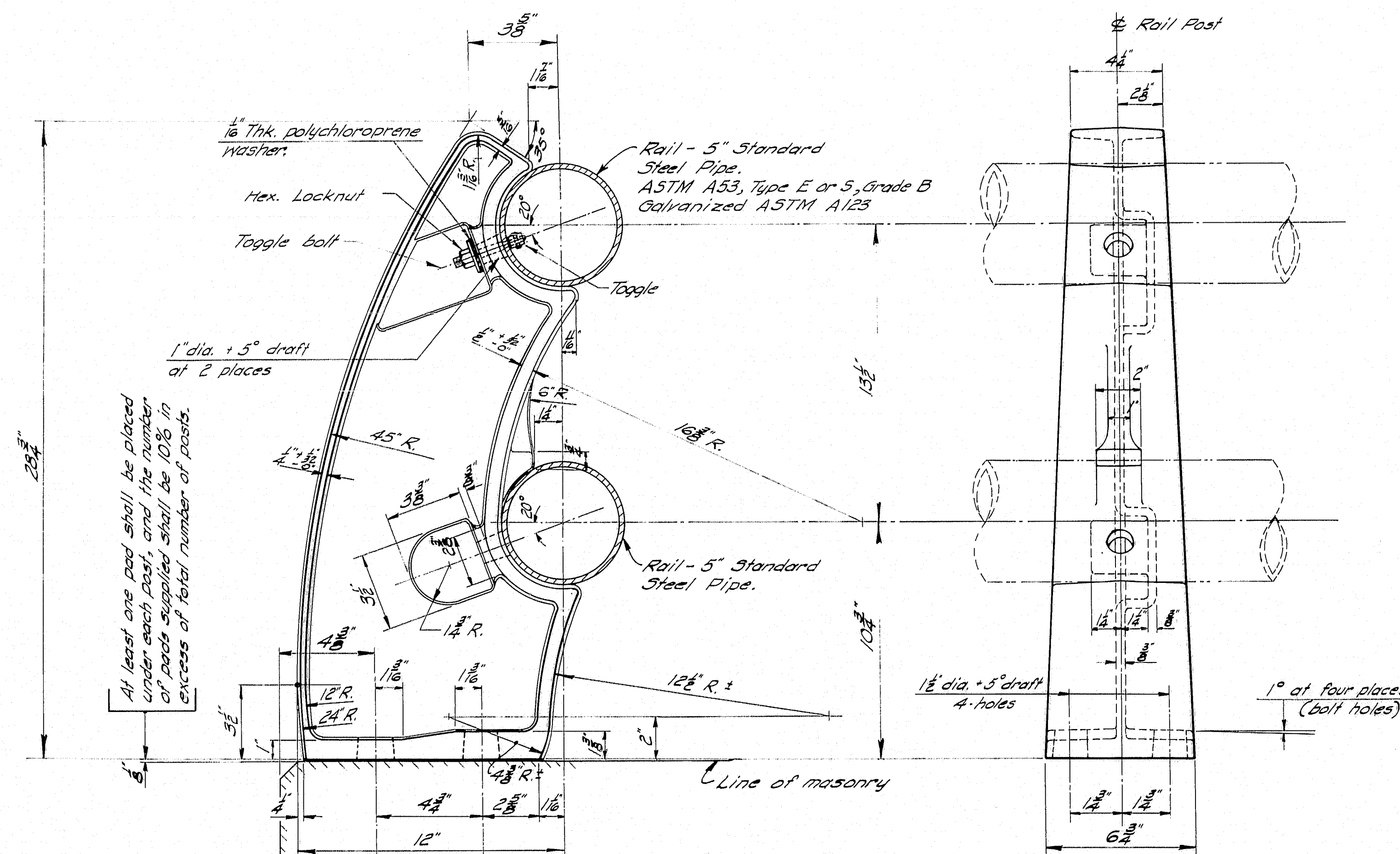
1/2" 16 NC x 1/2" hexagonal
Socket set screw with
oval point and finished
hexagonal jam nut.

Set Screws = ASA B18.3 Galv. ASTM A153

1/2" 16 NC x 1" hexagonal
Socket set screw with
cone point and finished
hexagonal jam nut.



SPlice INSERT

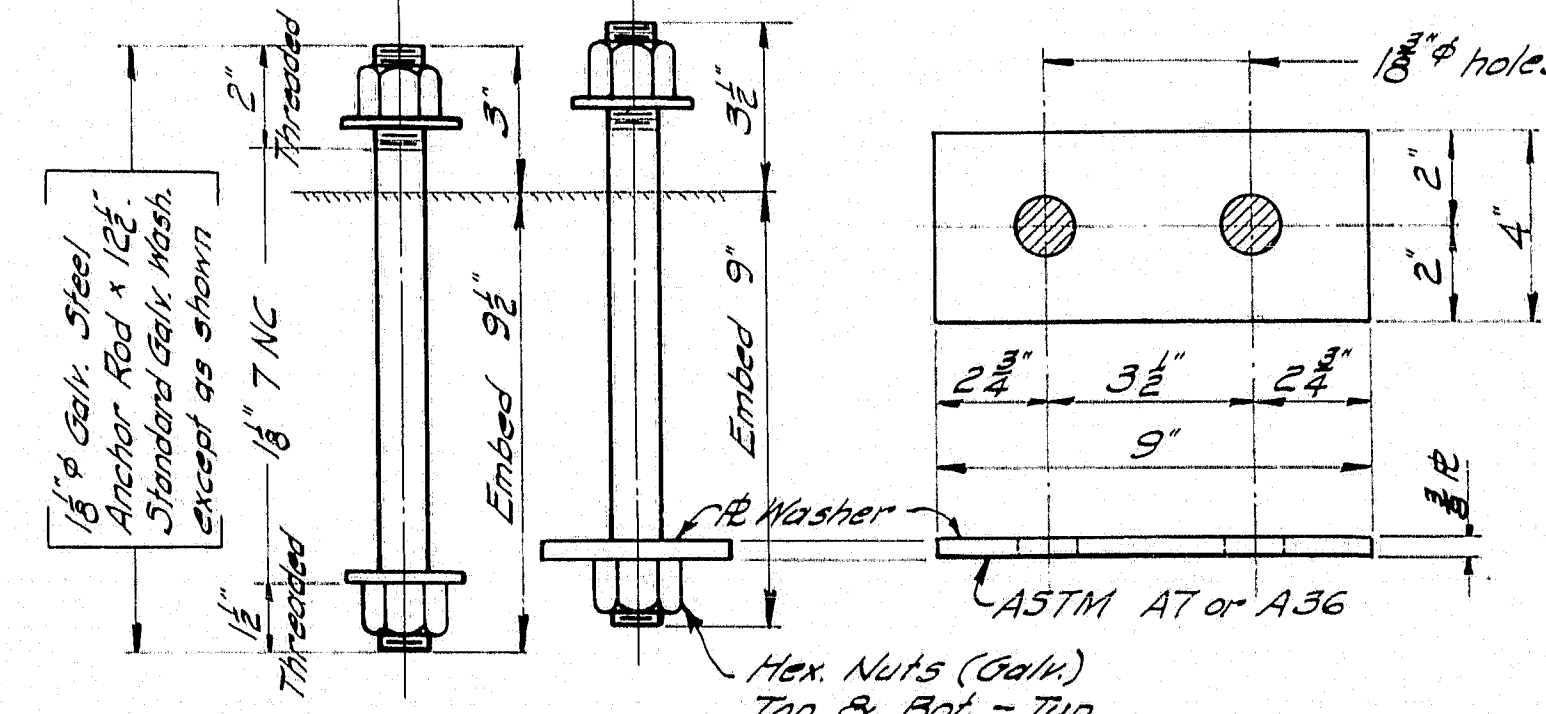


RAIL POST

ASTM A27, Grade 65-35, Galvanized ASTM A153

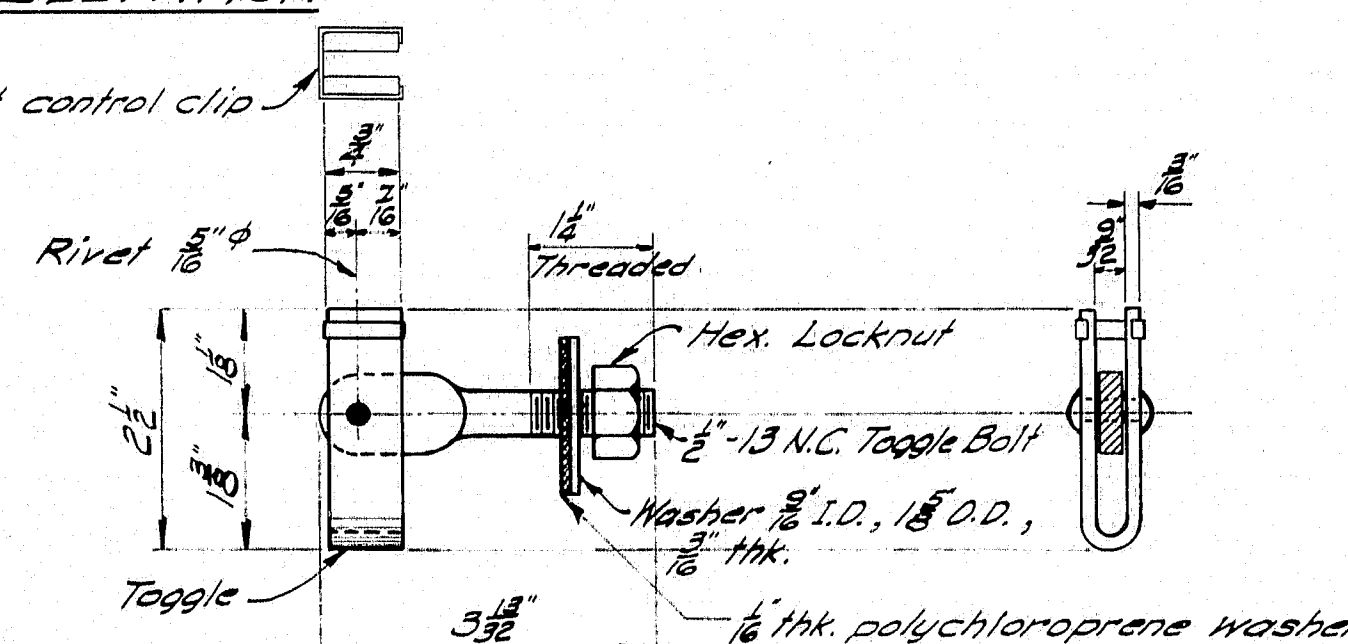
FRONT ELEVATION

Tilt control clip



RAIL POST ANCHORAGE

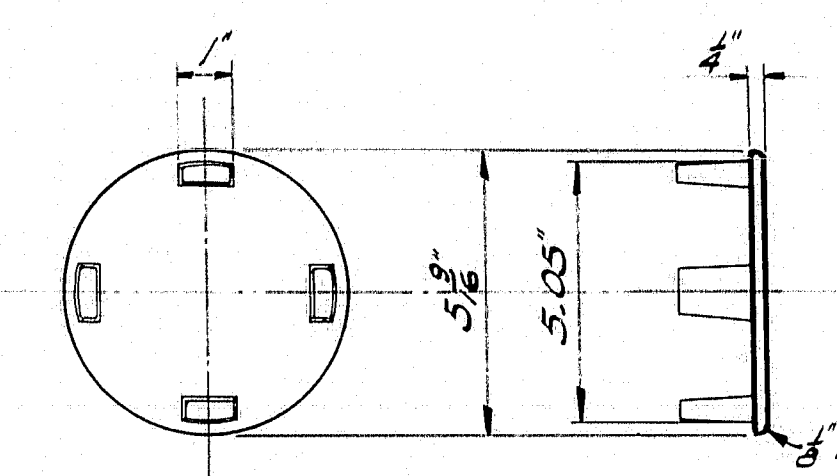
Bolts, Nuts, & Std. Washers = ASTM A325 Galvanized ASTM A153



TOGGLE BOLT DETAIL

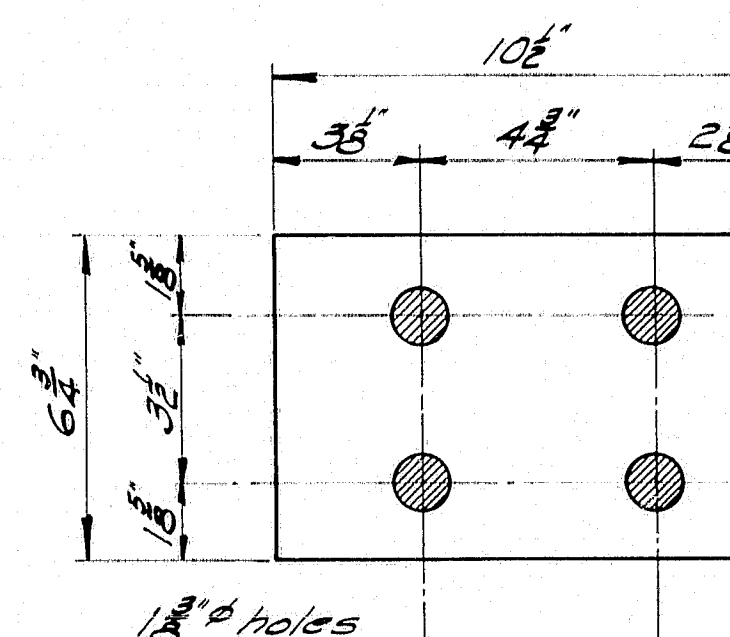
Cadmium Plate metal parts ASTM A165-55, Type N5, .0005" thick

- Toggle = ASTM A303, 1015 H.R. Steel.
- Rivet = ASTM A195, 1038 C.R. Steel, Heat Treated
- Toggle Bolt = ASTM A354, 1335 C.R. Steel, Heat Treated RC 32-38.
- Washer = ASTM A7, 1020 H.R. Steel
- Hex. Locknut = Finished Hexagonal Locknut Prevailing Torque Type Steel Grade Cor D, Industrial Fasteners Institute.



RAIL CAP

ASTM A27, Grade 65-35, Galv. ASTM A153



PAD

At each rail post
See Article 702-80 Supplemental Specifications of Feb. 1960.

DESIGN SPECIFICATIONS

A.A.S.H.O. Interim Specifications Int. 1 (64)

MAINE STATE HIGHWAY COMMISSION
AUGUSTA, MAINE

STANDARD DETAILS

(BD 107 - 64)

STEEL RAIL

(2-BAR PIPE RAIL)
CAST POST

OCT. 1964

96-1001

