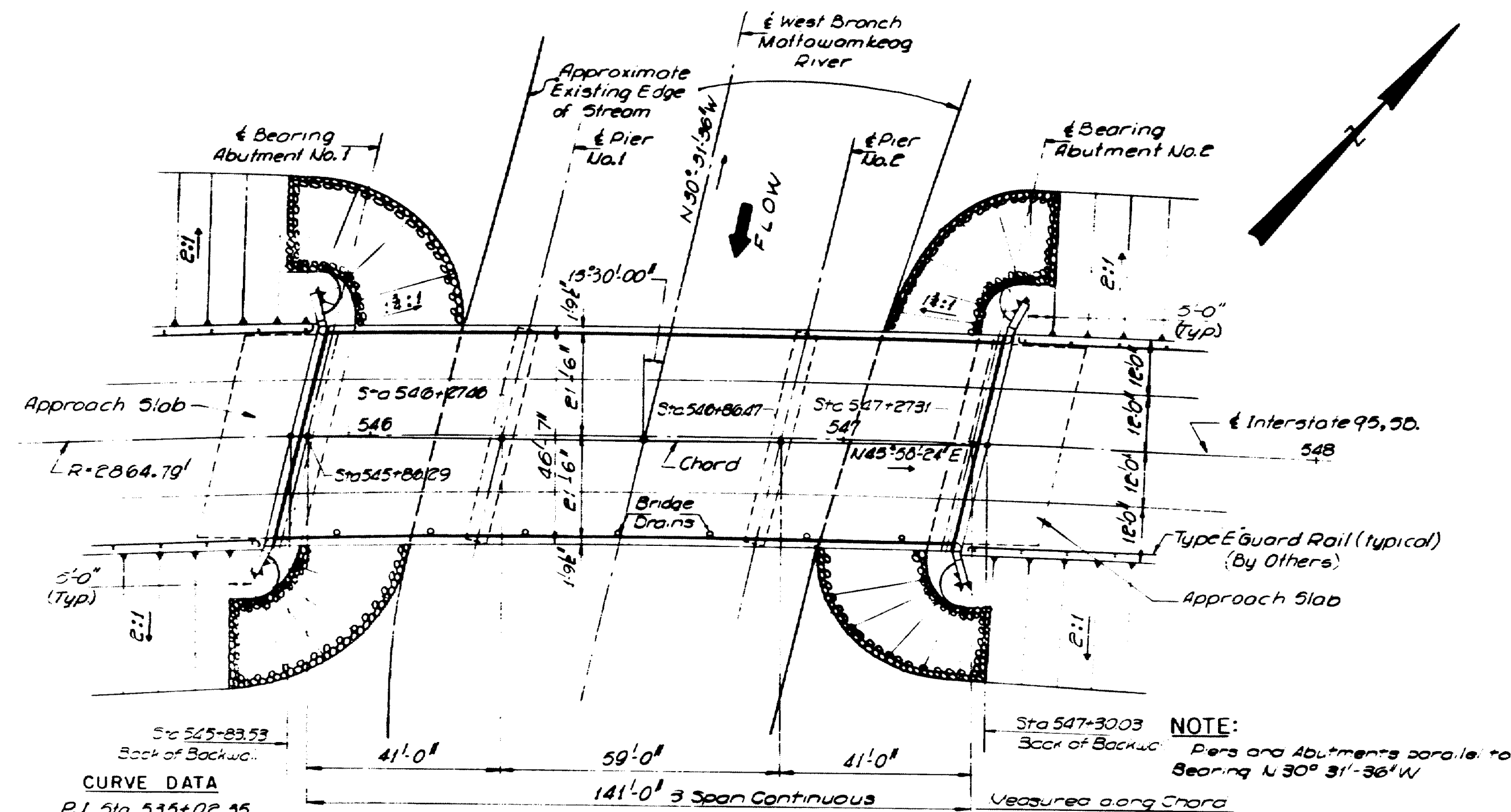
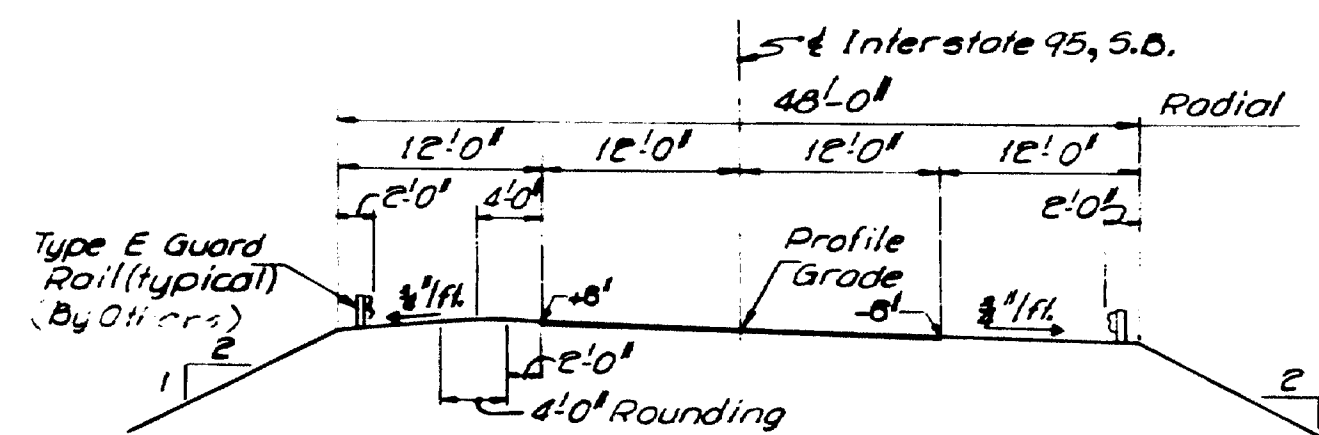
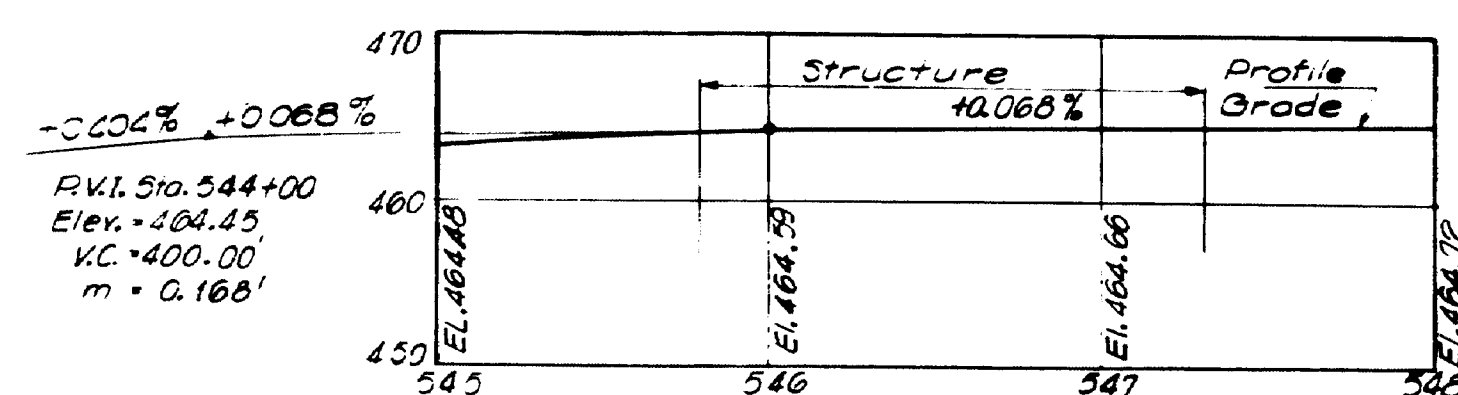
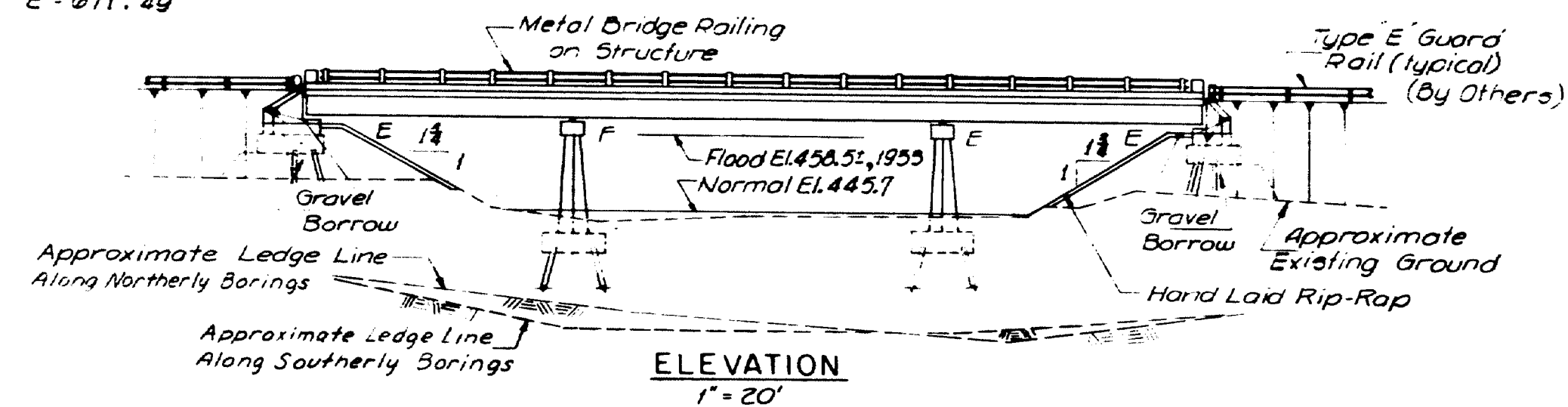




CURVE DATA
P.I. Sta. 535+02.95
 $\Delta = 71^\circ 47' 09.6''$
 $O = 2^\circ 00' 00''$
 $R = 2064.79'$
 $T = 2075.23'$
 $L = 3509.30'$
 $E = 671.49'$



SPECIFICATIONS

DESIGN

AASHTO Standard Specifications 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 February 1960.

LIVE LOADING

HS 20-44 (Modified for Interstate)

FOUNDATIONS

Abutments - 10 BP42 End Bearing Piles (Capacity 37 Tons)

Piers - 10 BP42 End Bearing Piles (Capacity 37 Tons)

ALLOWABLE STRESSES

Concrete ($f_c = 10$) $\sim f_c = 1200$ p.s.i.
Reinforcing Steel, Int. Grade $\sim f_s = 20,000$ p.s.i.
Structural Steel $\sim f_s = 20,000$ p.s.i. (A57M, A36)

CONCRETE CLASSIFICATION

All Concrete shall be Class "A"

HYDRAULIC DATA

$L = 24.8$ Sq.
 $S = 23.8$ Ft./Sq.Mi.
 $C_{50} = 8500$ C.F.S.

ESTIMATE OF QUANTITIES

ITEM NO.	DESCRIPTION	QUANTITY	UNIT
204-4	Structural Earth Excavation, Piers	382	C.Y.
205-12	Gravel Borrow (1 P.M.)	855	C.Y.
701-35	P.C. Pavt & Retaining Wall	200	C.Y.
701-36	P.C. Piers	302	C.Y.
701-40	P.C. Roadway & Sidewalk Slabs on Steel Bridges	172	C.Y.
701-54	Portland Cement for Riprap Grout	8	Bbls.
701-55	Curing Box for Conic Cylinders	1	Each
702-103	Structural Steel Fabricated & Delivered	L.S.	L.S.
702-104	Structural Steel Erection	L.S.	L.S.
702-105	Structural Steel Field Painting	L.S.	L.S.
705-13	Reinforcing Steel Delivered	80,000	Lbs.
705-14	Reinforcing Steel Placing	80,000	Lbs.
708-16	Steel H-Beam Piles 48 Lbs./Ft.	1,596	L.F.
803-7	Cofferdam Pier 1	1 Ea.	L.S.
803-8	Cofferdam Pier 2	1 Ea.	L.S.
805-8	Bridge Rail	277	L.F.
807-11	Epoxy Resin Surface Sealant	132	S.Y.
901-24	Vertical Bridge Curb Type I	285	L.F.
901-25	Vertical Bridge Curb Type Circular	12	L.F.
907-10	Hand Laid Riprap	210	C.Y.
701-50	P.C. Approach Slabs	7	C.Y.
939-9	Field Office Type C	L.S.	L.S.

Estimated weight of structural steel including drains is 161,500 lbs.

NOTES

- All fill within the limits as shown on Profile Sheet 1G shall be placed by the Controlled Density Method.
- Size of stones in gravel borrow through which abutment piles are driven shall not exceed 9 inches, and concentrations of stones shall be avoided.
- Place gravel borrow to elevation of abutment footing before driving piles.

INDEX OF SHEETS

- GENERAL PLAN & QUANTITIES
- FOUNDATION SURVEY
- FOUNDATION SURVEY
- ABUTMENT NO. 1
- ABUTMENT NO. 2 & APPROACH SLAB
- PIERS
- STRUCTURAL STEEL & BLOCKING
- SUPERSTRUCTURE
- SLOPE PROTECTION
- REINFORCING STEEL

STANDARD DETAIL SHEETS

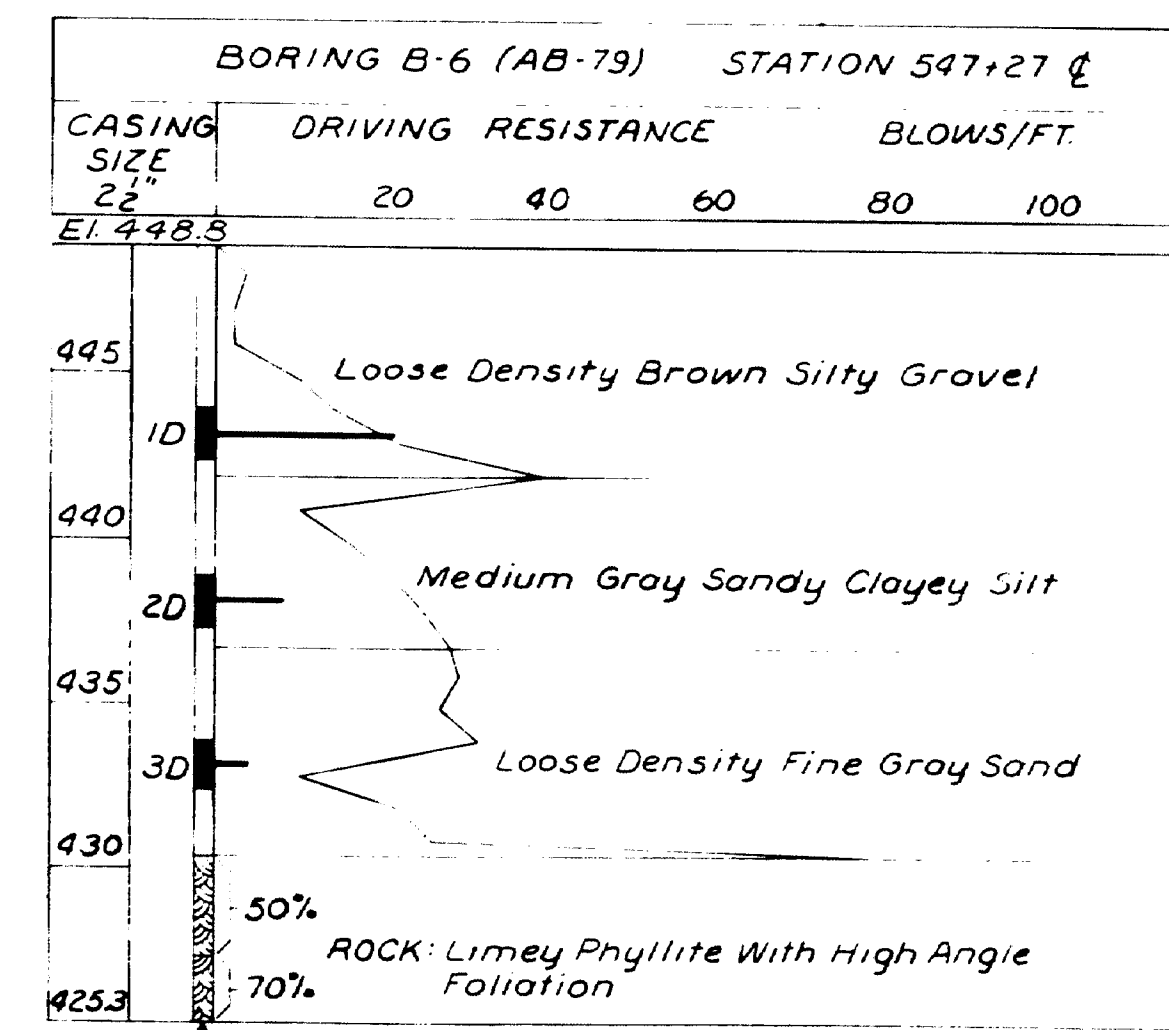
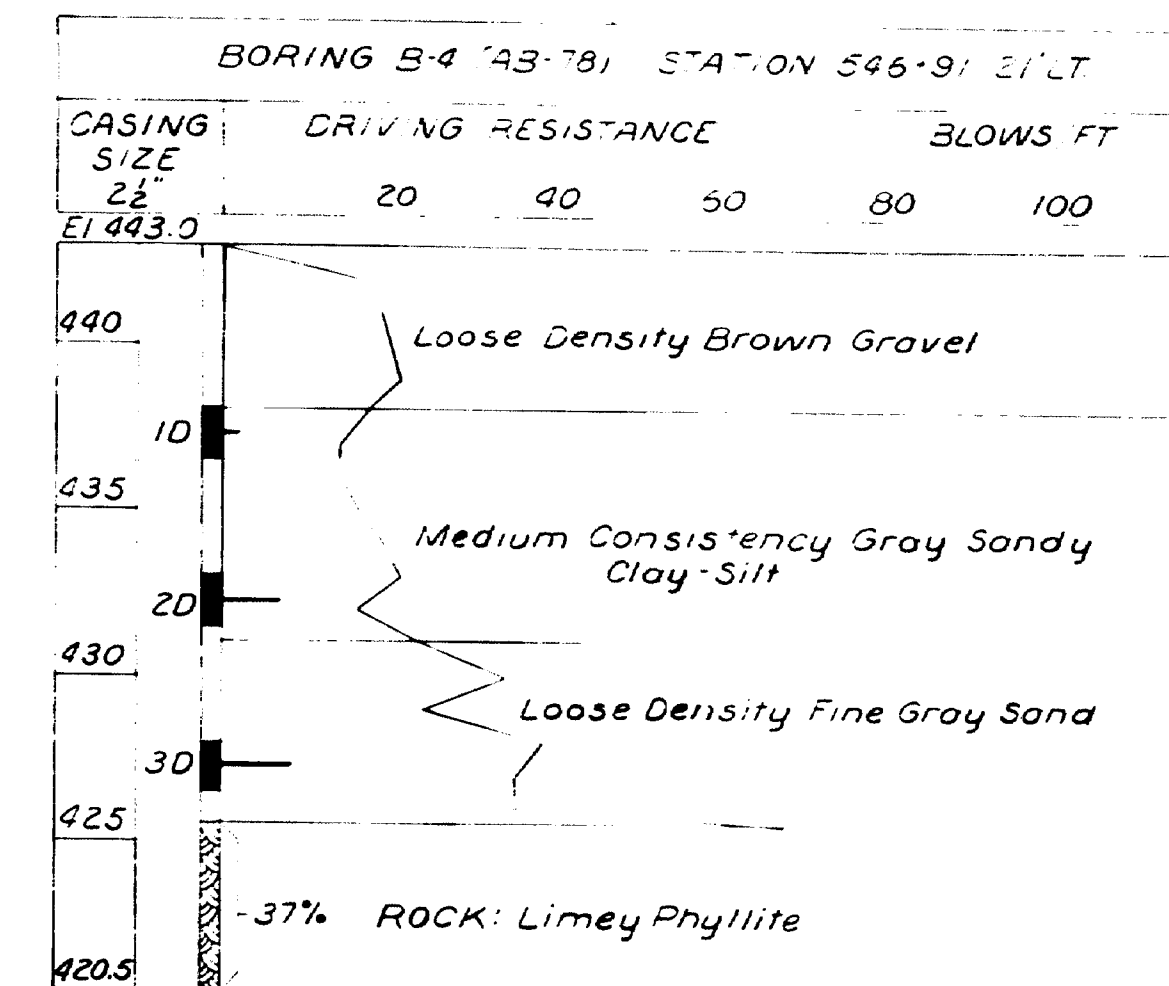
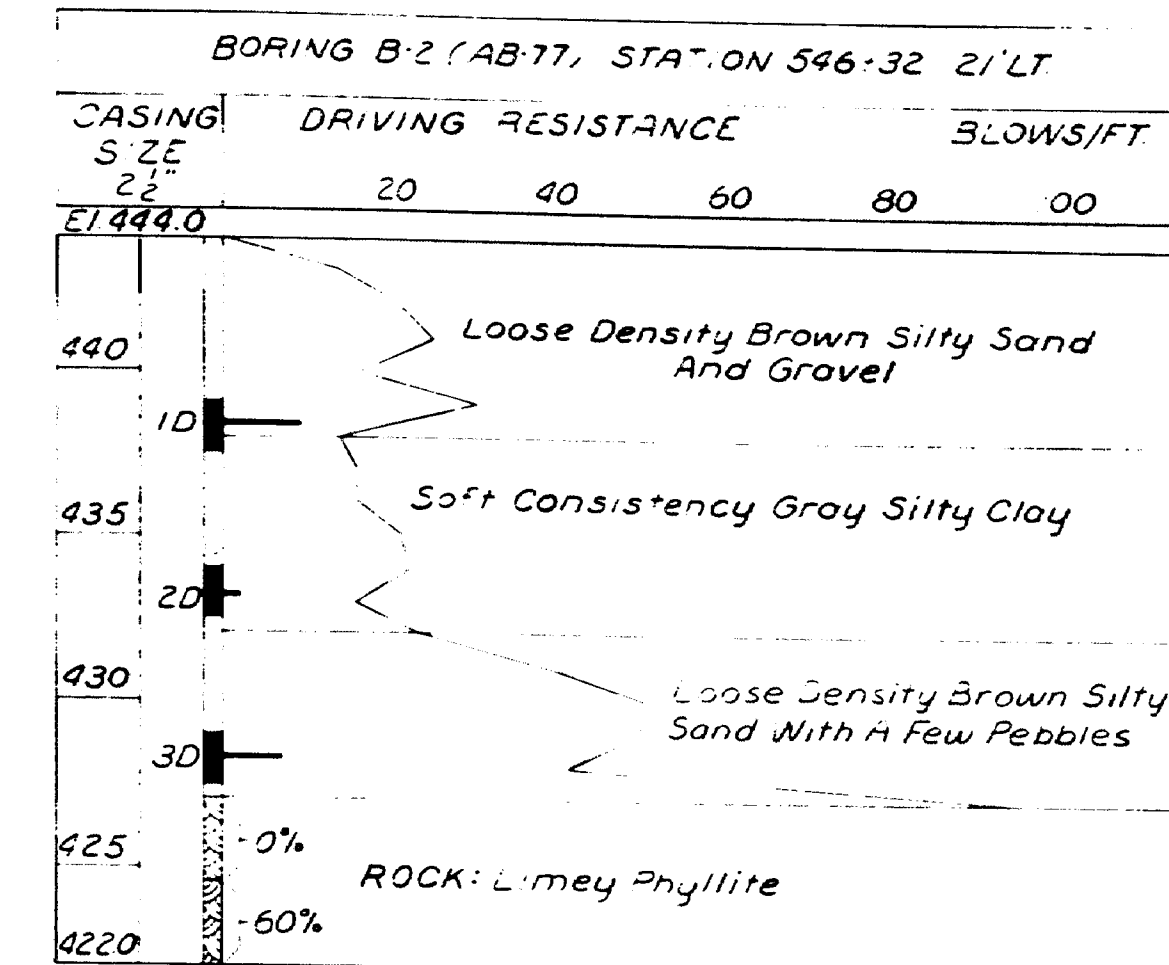
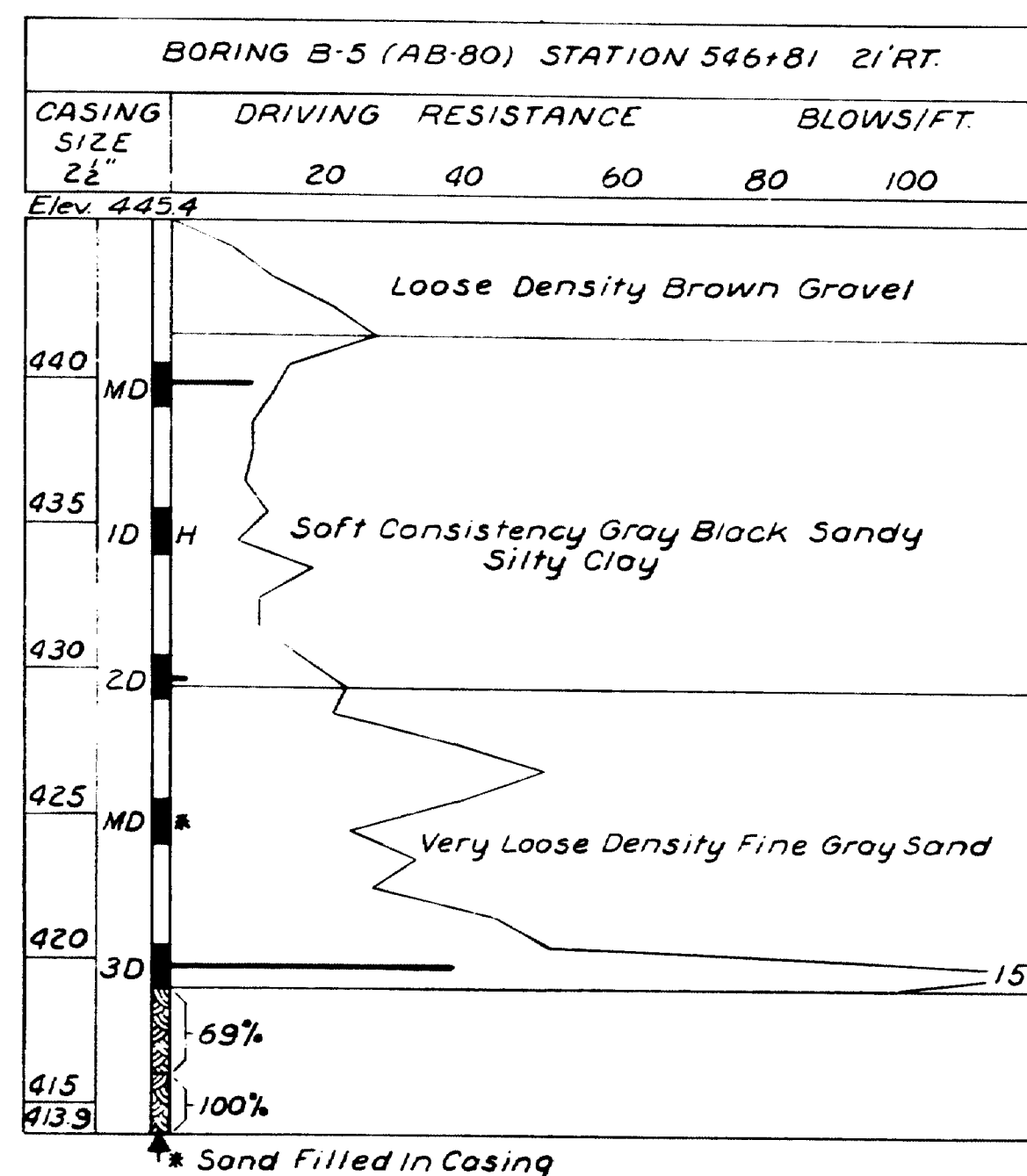
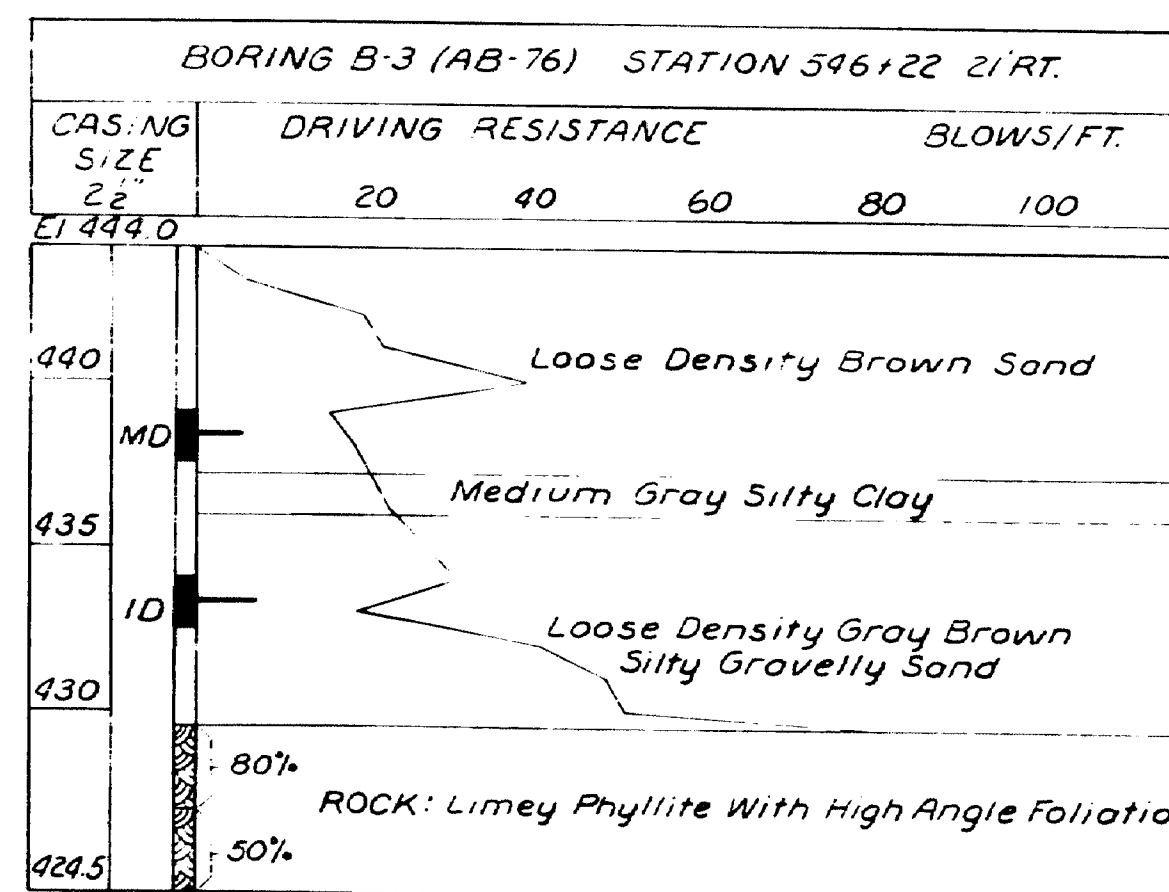
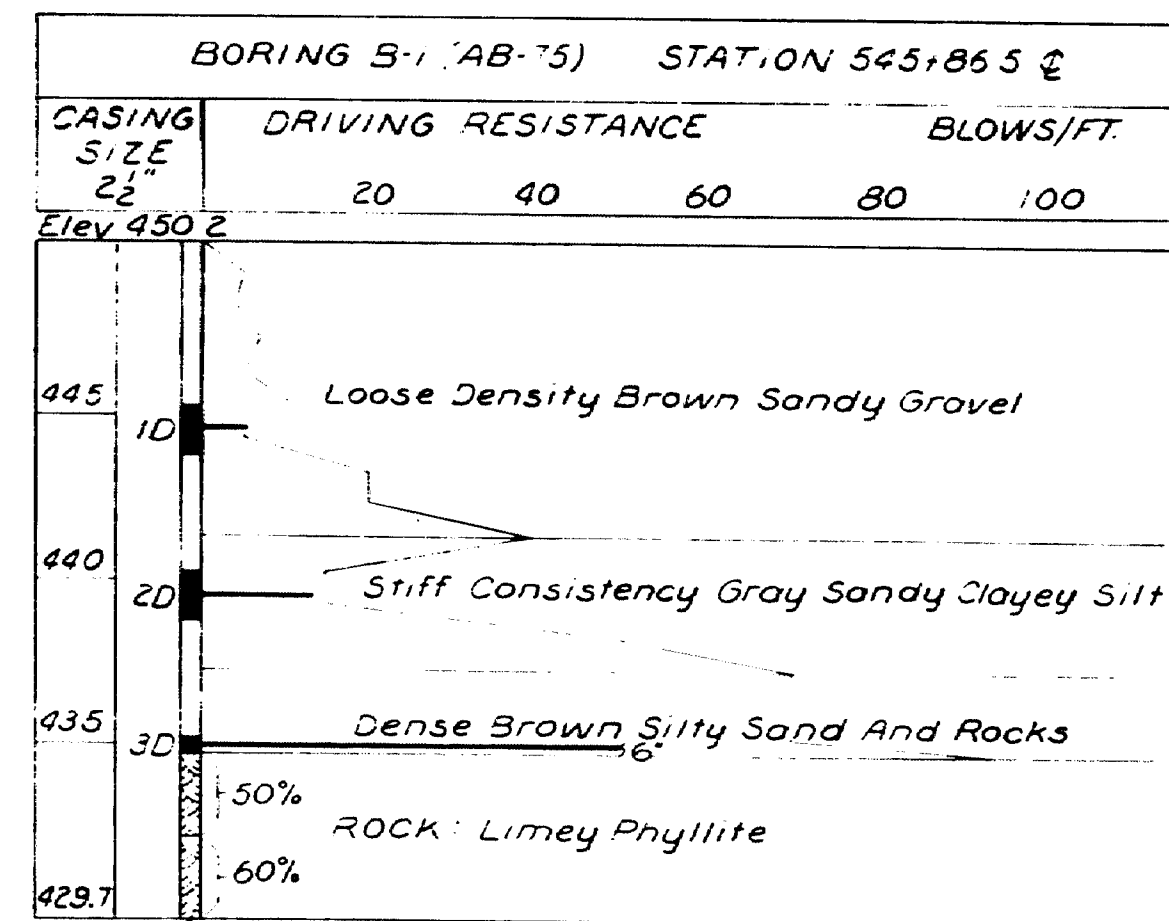
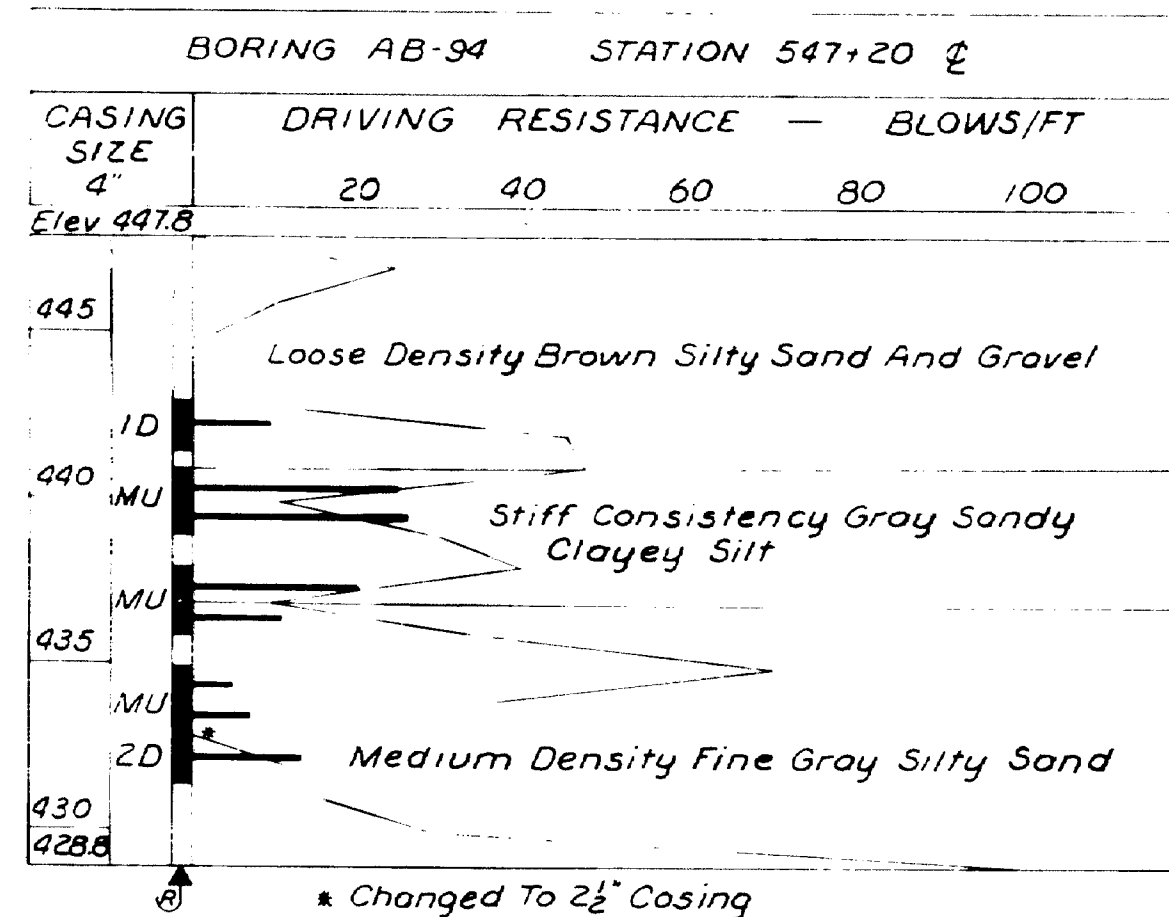
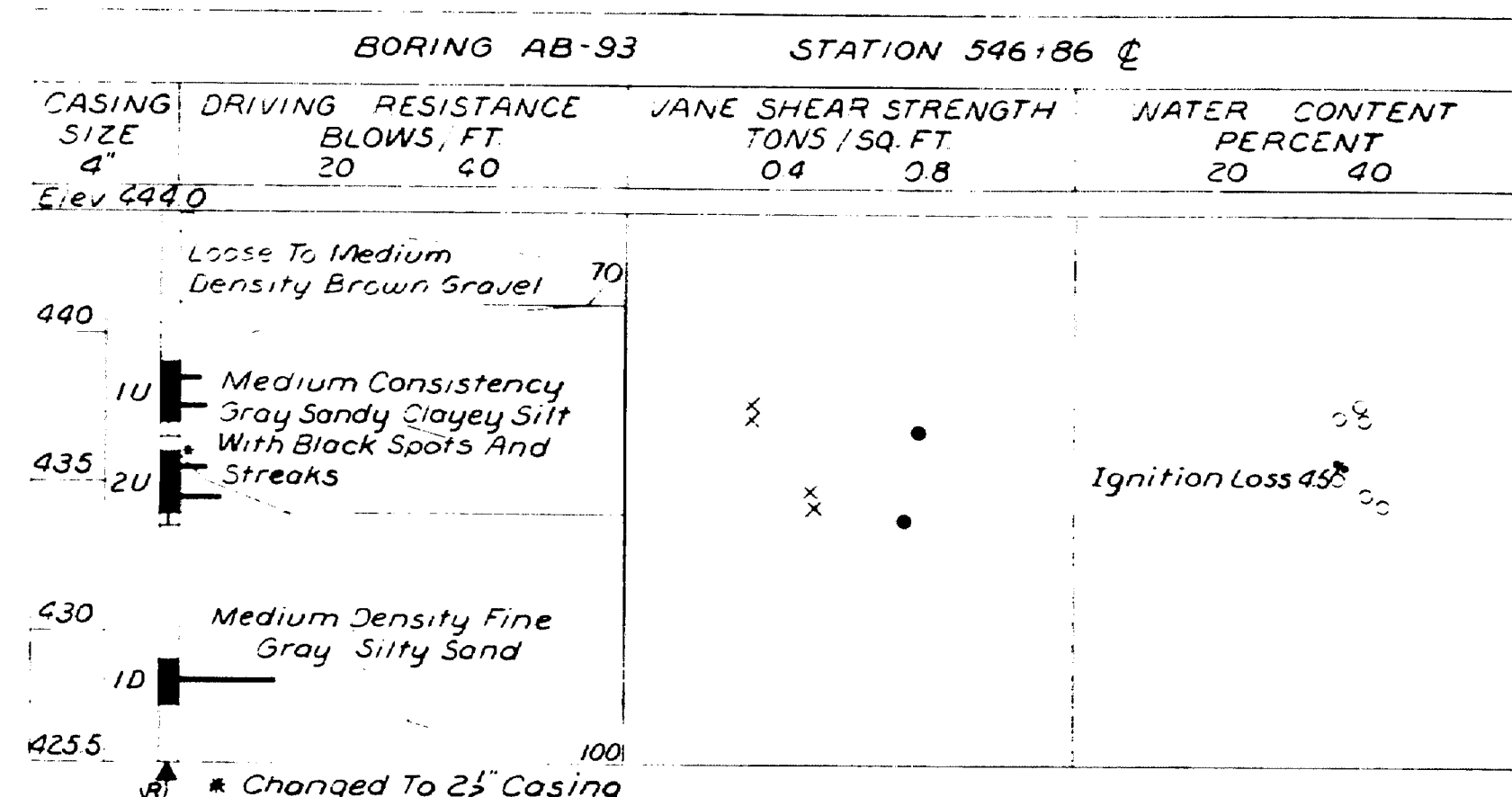
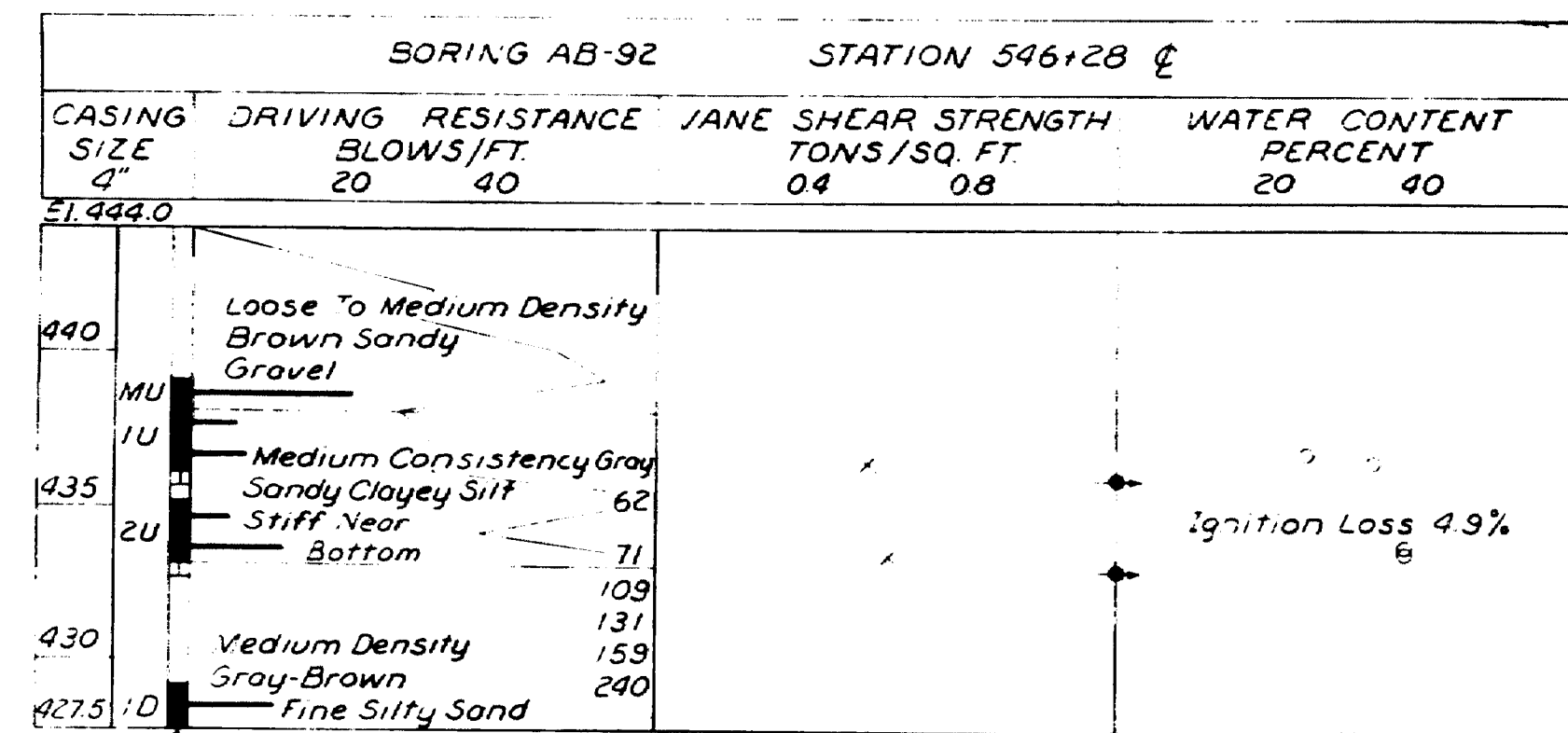
- BD 101-64 BEARING PEDESTALS
- BD 103-64 BEAM SPLICES
- BD 104-64 DIAPHRAGMS, ARMORED JOINT, SHEAR CONNECTORS, DRAIN.
- BD 107-64 STEEL RAIL
- BD 108-64 ALUMINUM RAIL

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS

NEW YORK BOSTON KANSAS CITY

DESIGN- TRACE- CHECK-	DETAIL 047	BRIDGE NO. SURVEY- PLOT-
STATE HIGHWAY COMMISSION BRIDGE DIVISION		
INTERSTATE 95 SB OVER WEST BRANCH MATTAWAMKEAG RIVER IN THE TOWN OF ISLAND FALLS AROOSTOOK COUNTY GENERAL PLAN & QUANTITIES		
SHEET 1 OF 10 AUGUSTA, MAINE JUNE 1965		

M-2433 ISLAND FALLS DYERBROOK (37)



WATER CONTENT NOTES:
 Natural water contents, given as per cent of dry weight.
 Ignition losses are given as per cent of dry weight.

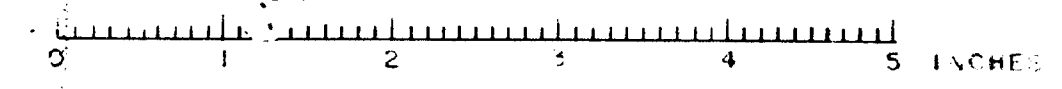
SHEAR NOTES:
 • Field vane shear strengths.
 x Laboratory vane shear strengths.
 → Shear strengths in excess of capacity of equipment.

BORING NOTES:
 < Number of blows required to drive extra heavy casing one foot with 400 ft. lbs. of energy per blow.
 ID Location of sample or sample attempt.
 MD S&H Sampler #1290's.
 MD Unsuccessful sample attempt and type of sampler.
 H Number of blows required to drive spoon or tubing one foot with 350 ft. lbs. of energy per blow.
 H Sampling spoon or seamless tubing driven by static weight of drill rods and hammer.
 ▲ Bottom of boring (may not be bottom of soil strata).
 1/2 Locations cored by diamond bit and per cent recovery of rock.
 1U 3 1/2" O.D. 16 ga. seamless tubing.
 ▲ Refusal of drill rods or casing (may not be ledge).

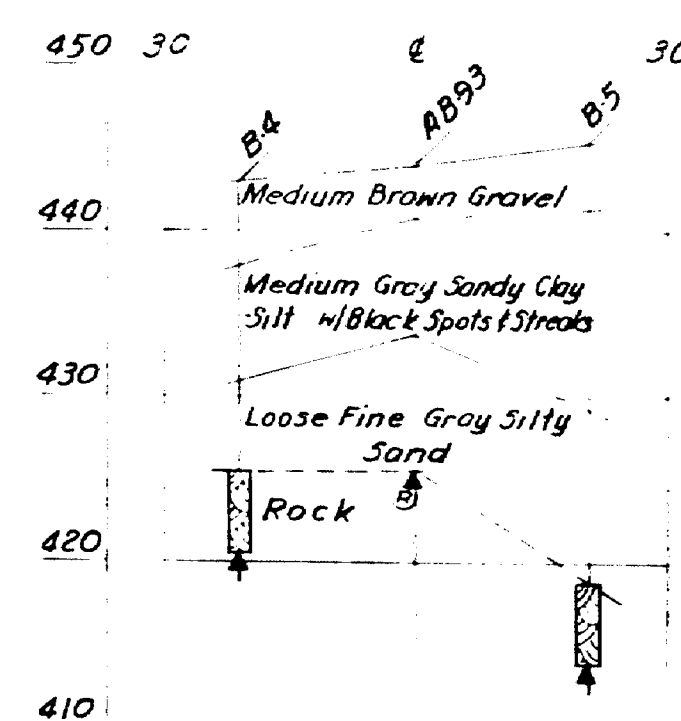
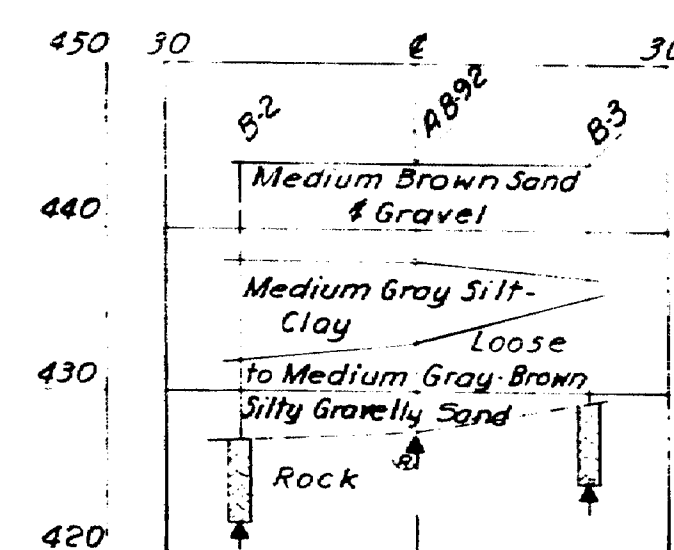
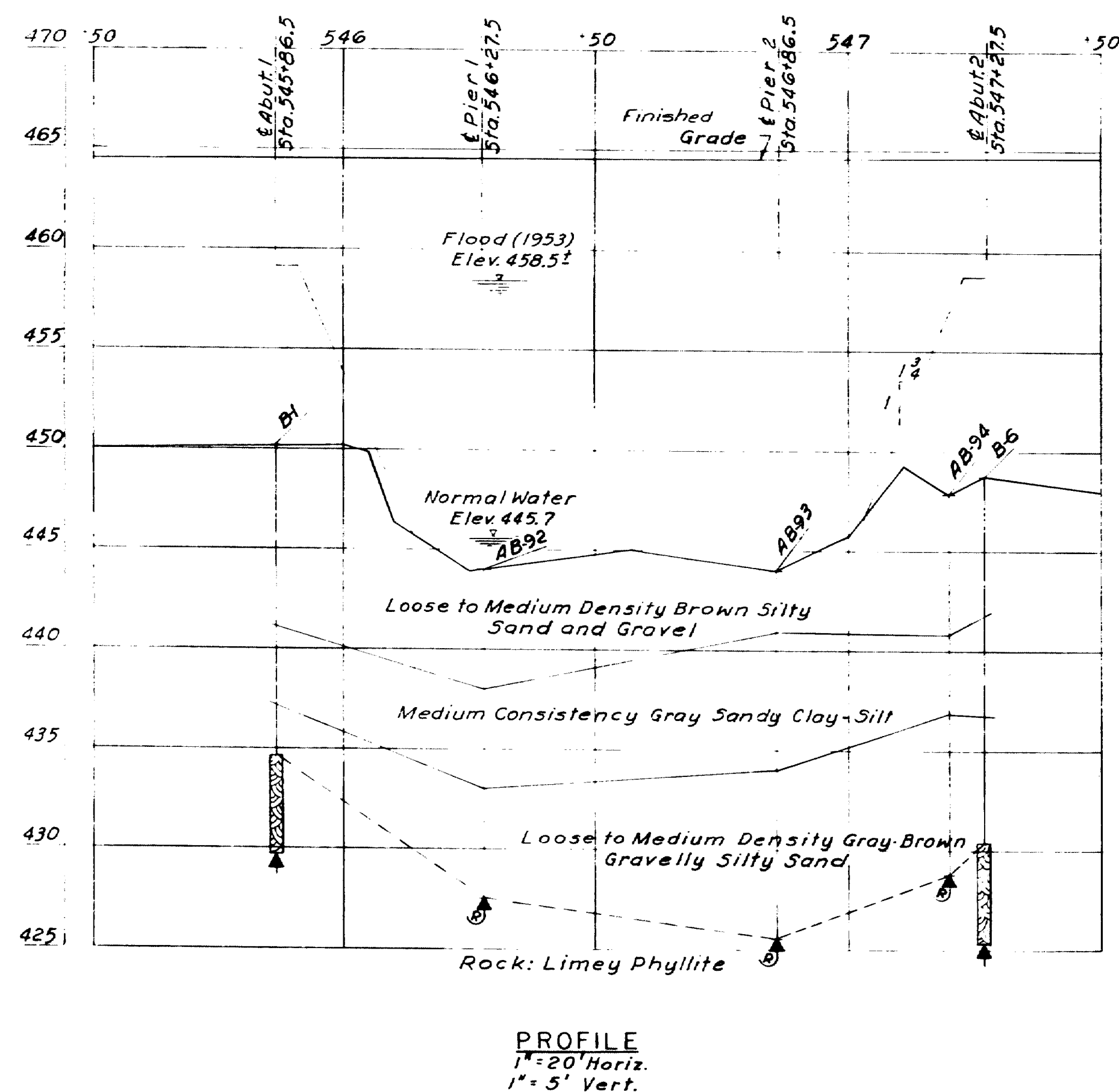
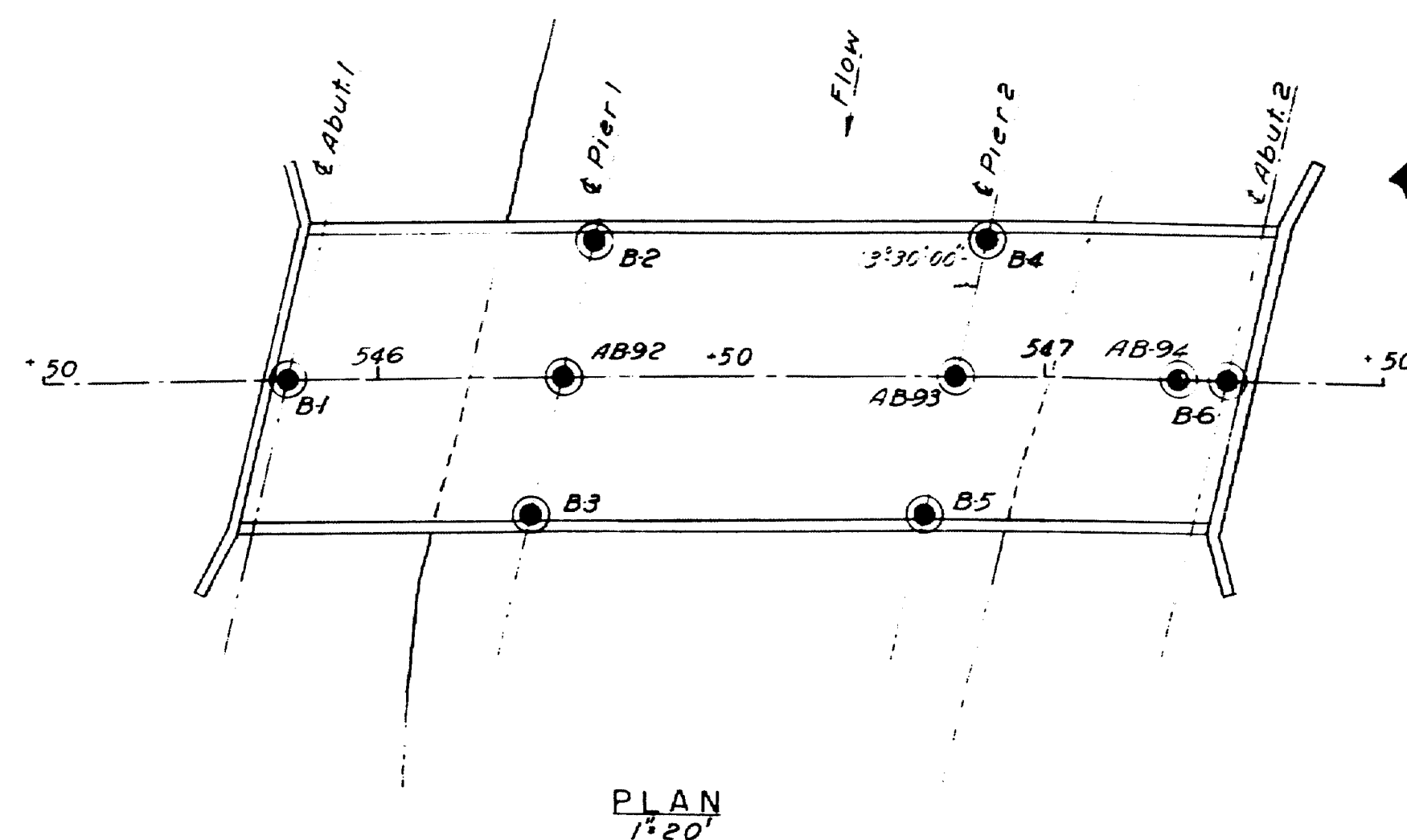
DESIGN: DETAIL: P.D.F.
 SURVEY: BRIDGE NO. 1290
 CHECK: R.R.S. PLOT:

STATE HIGHWAY COMMISSION
 BRIDGE DIVISION
 INTERSTATE 95 S.B.
 OVER
 WEST BRANCH
 MATTAWAMKEAG RIVER
 IN THE TOWN OF
 ISLAND FALLS
 ARDOSTOOK COUNTY
 FOUNDATION SURVEY

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



S. P. R. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	1-95-9(37)	12	88



TRANSVERSE SECTIONS

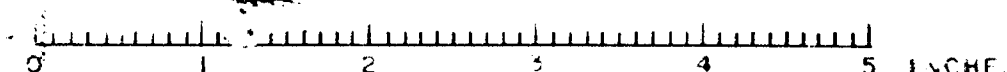
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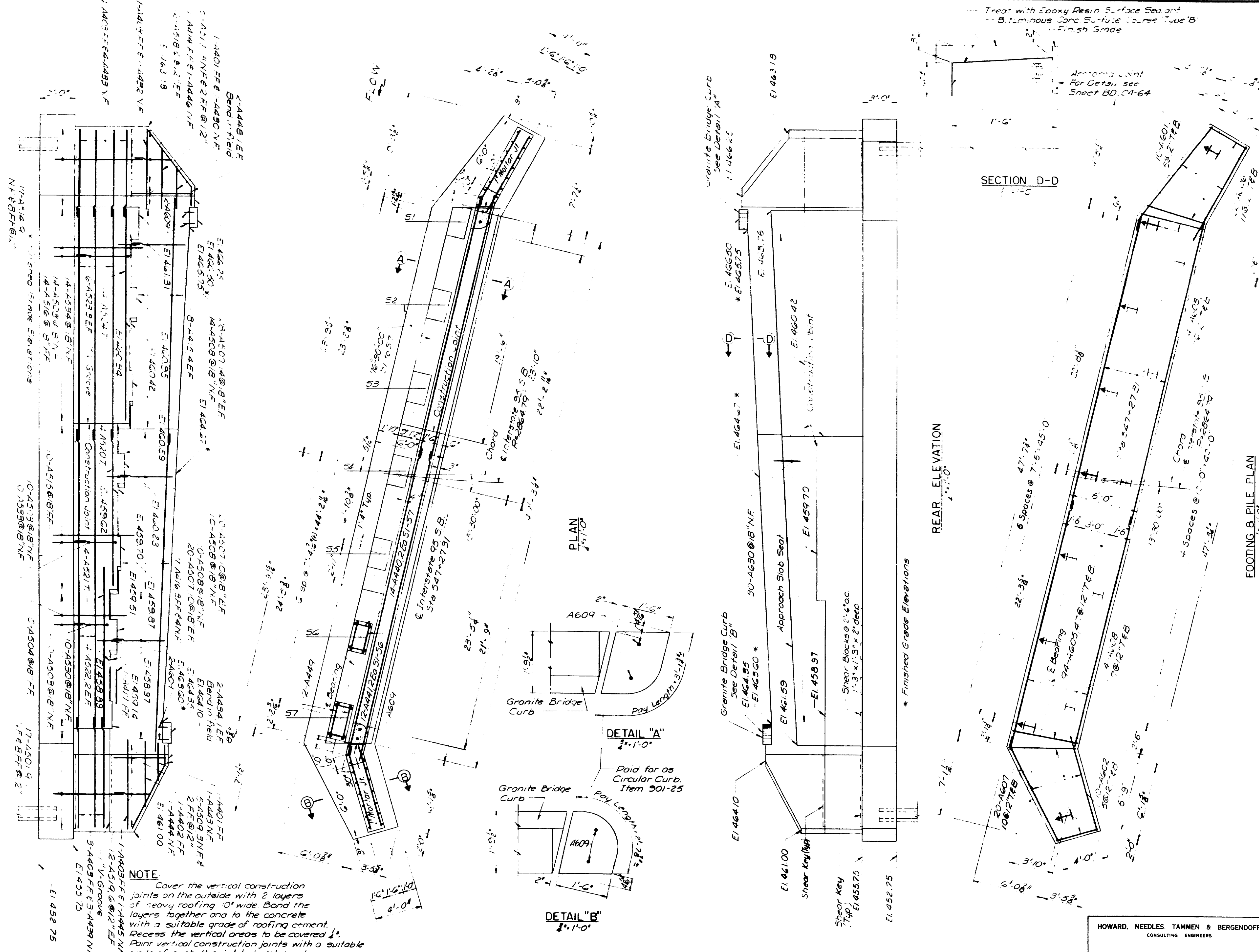
1. For boring logs see sheet 2.
2. For boring notes see sheet 2.

DESIGN- TRACE- CHECK- RAS	DETAIL- SEC	BRIDGE NO. SURVEY- PLOT
		STATE HIGHWAY COMMISSION BRIDGE DIVISION
		INTERSTATE 95 S.B. OVER WEST BRANCH MATTAWAMKEAG RIVER IN THE TOWN OF ISLAND FALLS AROOSTOOK COUNTY FOUNDATION SURVEY
		SHEET 3 OF 10 AUGUSTA, MAINE JUNE 1965

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

M-2435 ISLAND FALLS DYERBROOK (37)





Treat with Epoxy Resin Surface Sealant
-- Bituminous Sand Surface Course Type B
-- Finish Grade

Working Point
For Detail, see
Sheet BD, CD-64

2 REQUIRED
PLAN

SECTION C-C

APPROACH SLAB DETAILS

NOTES:

1. For original Notes and Pile Notes, see Sheet No. 1.

2. For Sections A-A & B-B, see Sheet No. 1.

3. Estimated pile length 29.

GRANITE CURB NOTES

Drill 1/2" holes into 4" holes in stone prior to setting stone on backwall. Drill 1/2" holes in backwall to suit A609 bars. Payment for drilling for and grouting of A609 bars to be included in the price for Item 105-14 Reinforcing Steel, Placing. Granite blocks shall be placed in position after or at the same time as curb on bridge is positioned.

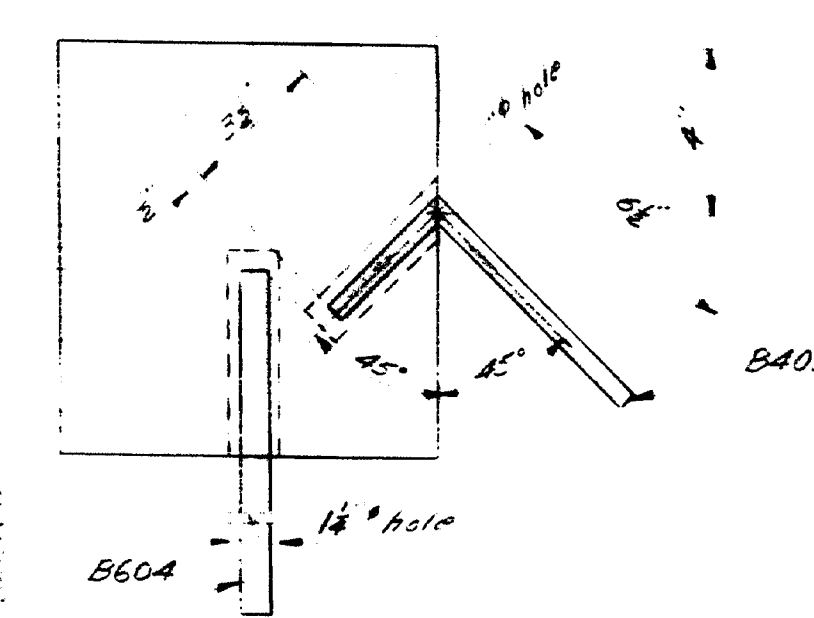
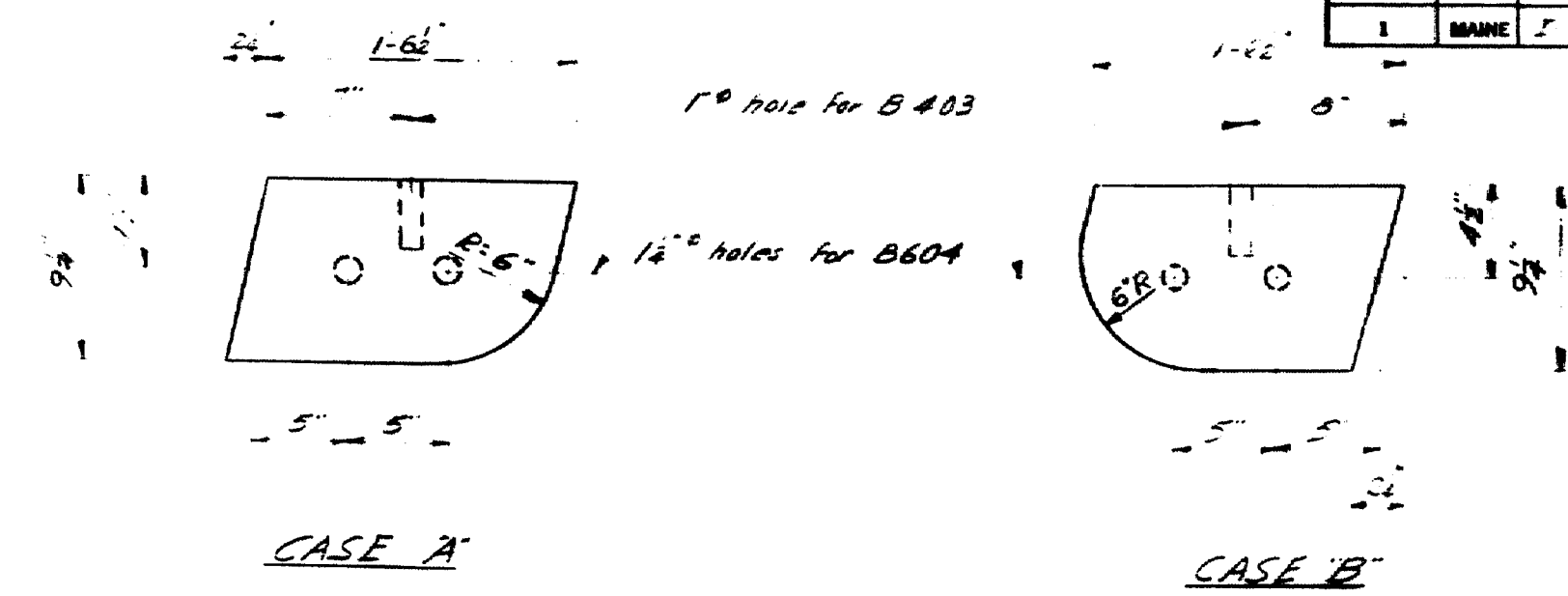
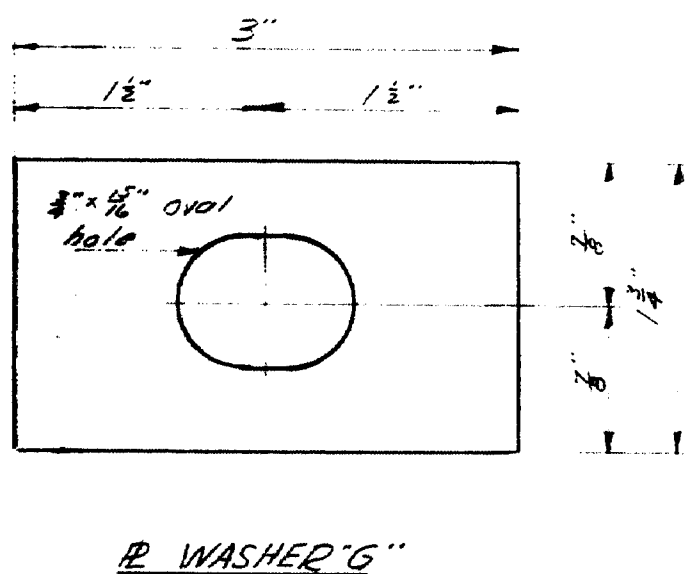
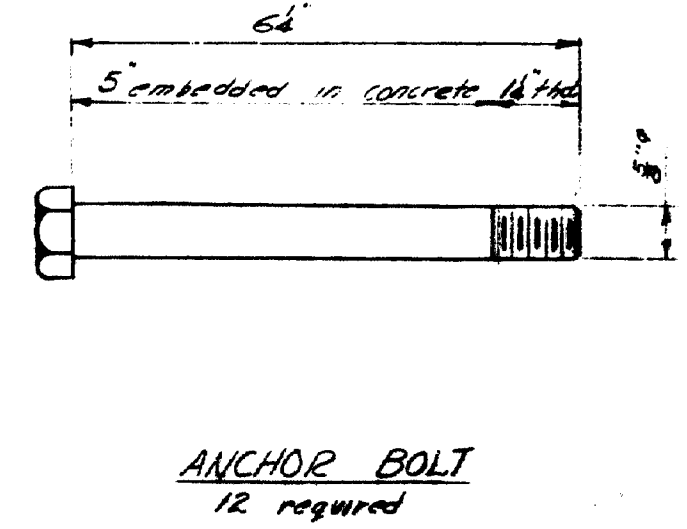
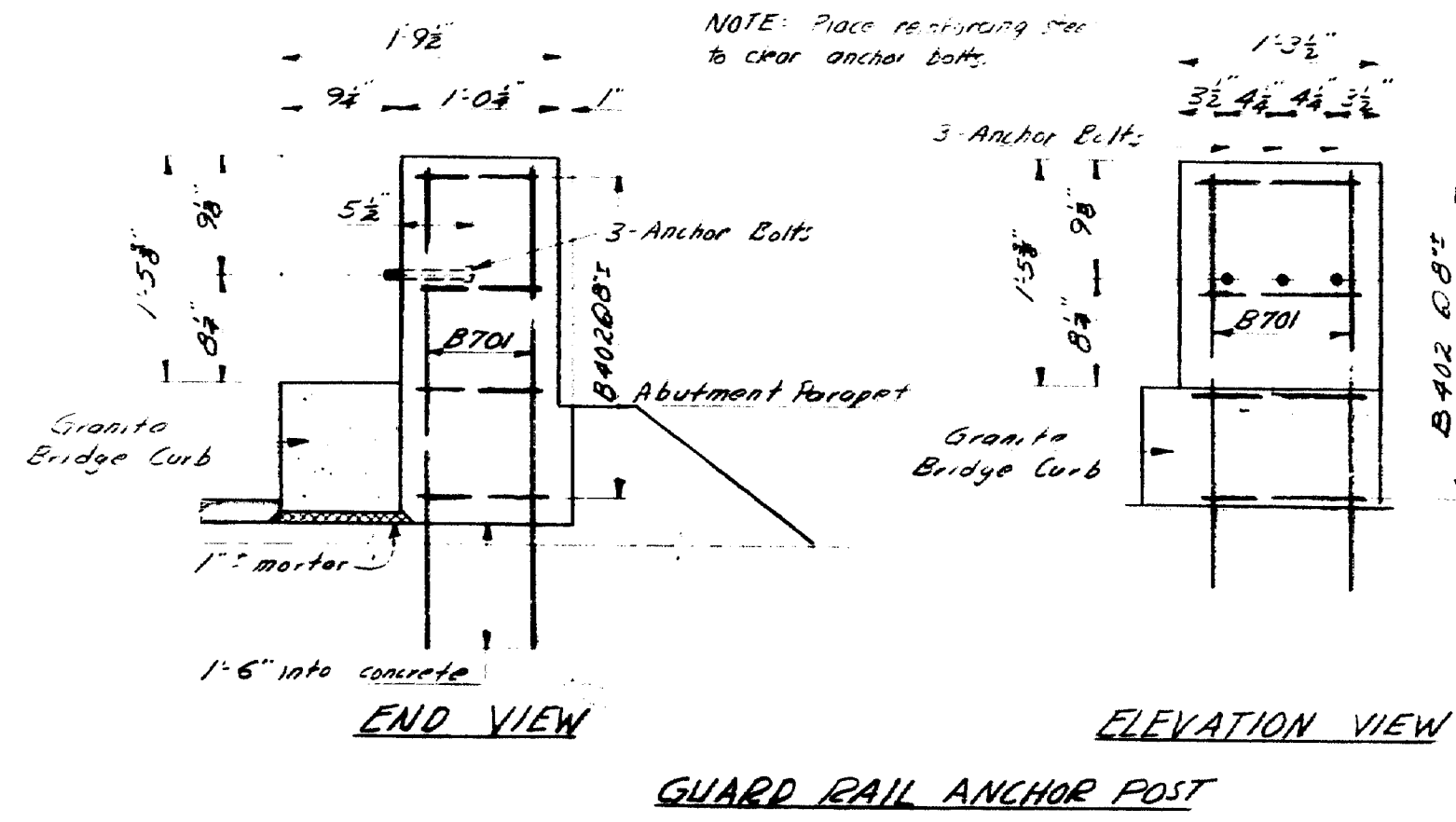
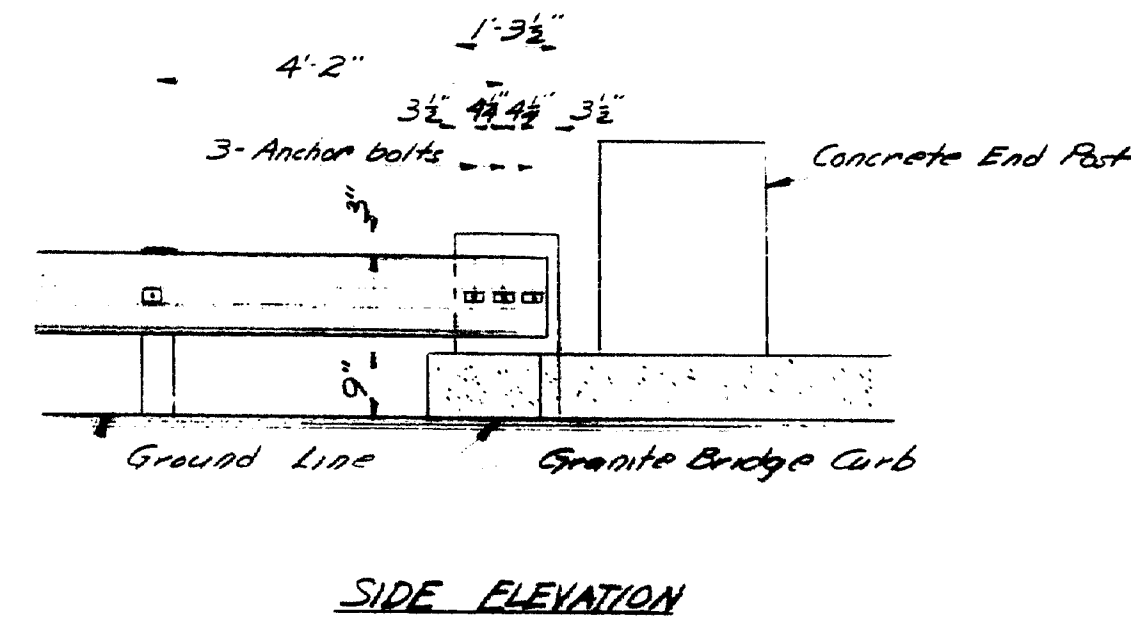
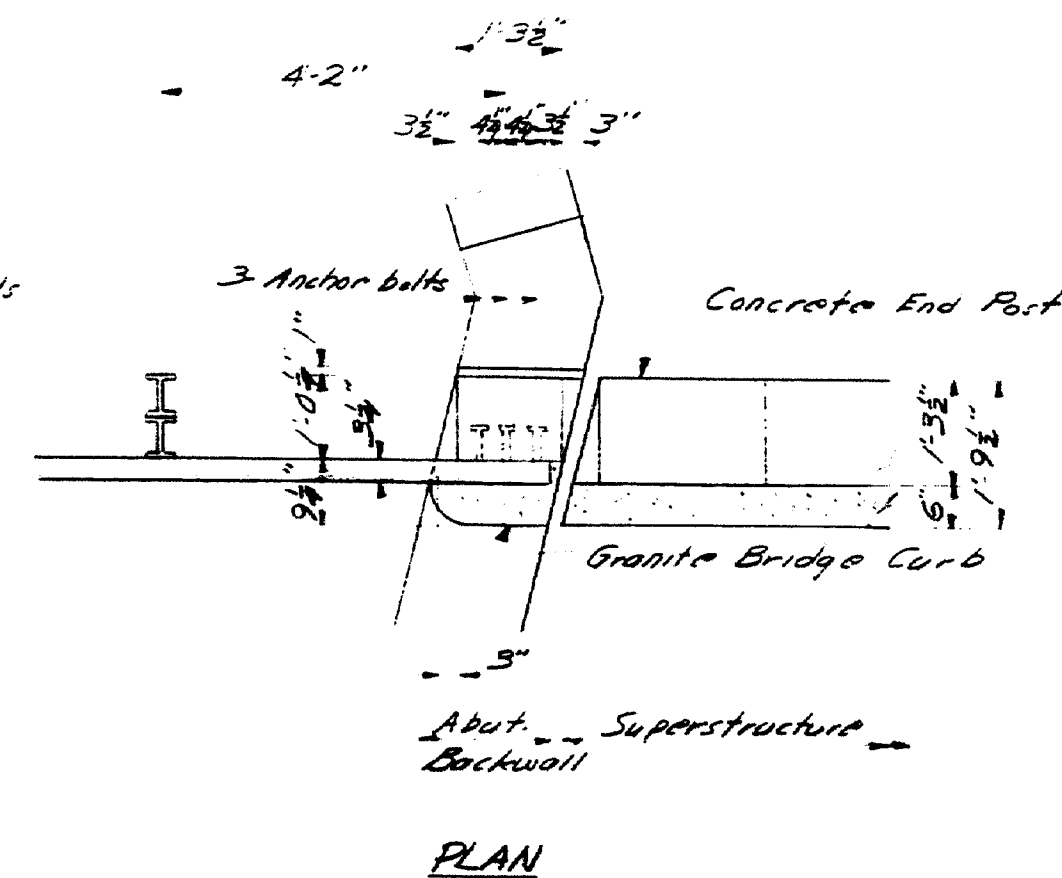
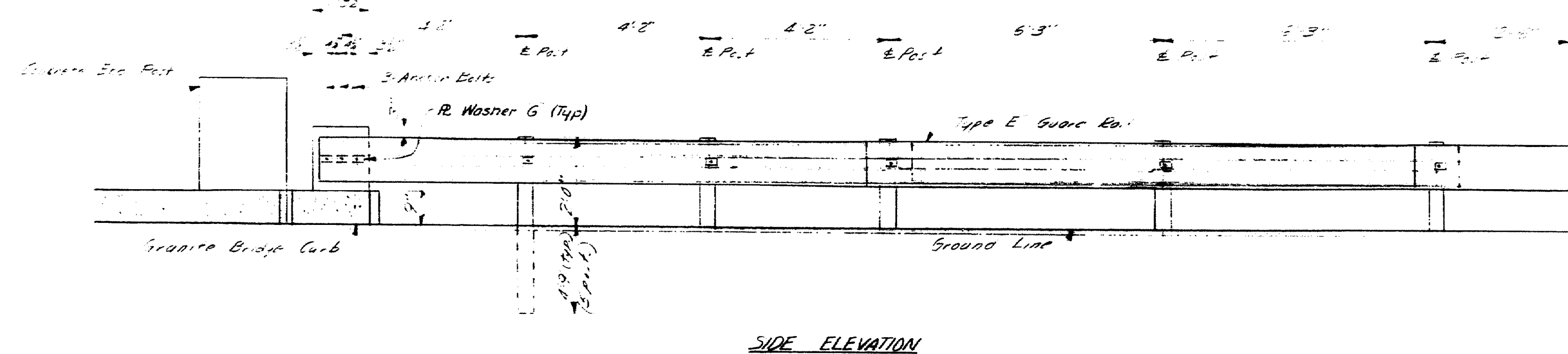
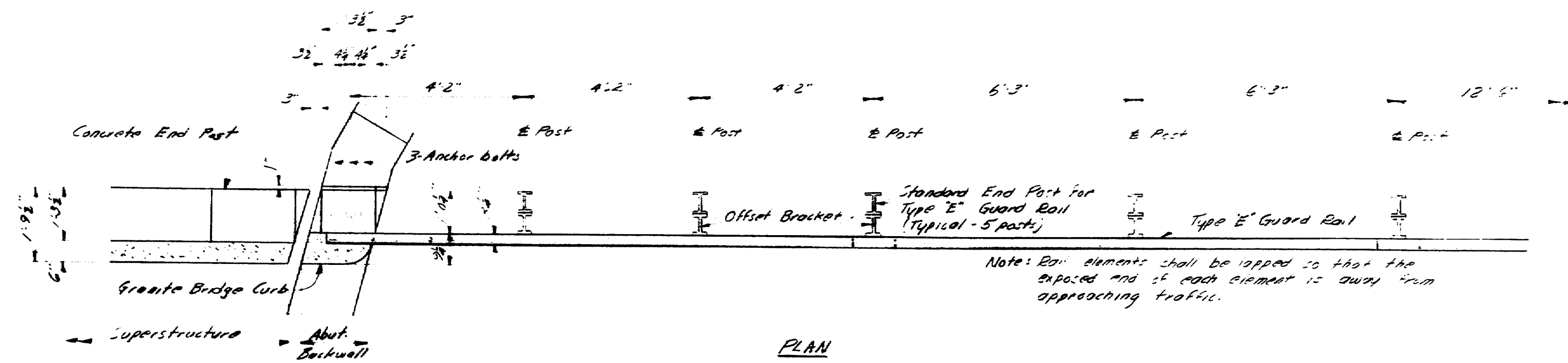
DESIGN-REF
TRACE
CHECK

DETAIL-A-A
BRIDGE NO.
SURVEY
PLOT

STATE HIGHWAY COMMISSION
BRIDGE DIVISION
INTERSTATE 95 SB
OVER
WEST BRANCH
MATTAWAMKEAG RIVER
IN THE TOWN OF
ISLAND FALLS
ARCOCK COUNTY
ABUTMENT NO. 2 & APPROACH SLAB
SHEET 5 OF 10 AUGUSTA, MAINE
JUNE 1965

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

M-2437 ISLAND FALLS DYERBROOK (37)



- NOTES:
1. Drill 1/2" dia. hole in concrete 24 hours prior to placing in grout-filled holes.
 2. Grout bars B403 into granite at least 24 hours prior to placing concrete in guard rail anchor post.

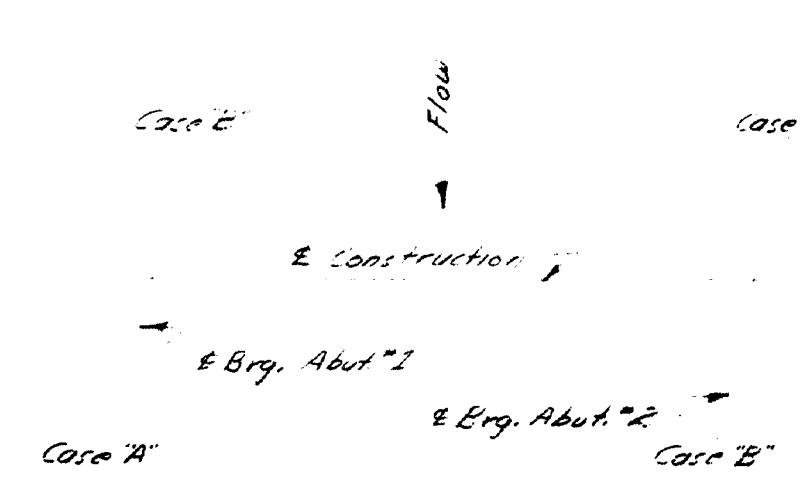
GRANITE BRIDGE CURB

- 2 required for Case "A"
2 required for Case "B"

REINFORCING STEEL SCHEDULE				
NOTES: 1. Dimensions to center of bar. 2. Reinforcing bars shall be intermediate grade.				
BENT BARS				
MARK	SIZE	NO.	LENGTH	LOCATION
B402	"4	16	3'-9"	Guard rail anchor post
B403	"4	4	0'-10"	Granite bridge curb
STRAIGHT BARS				
B701	"7	16	3'-8"	Guard rail anchor post
B604	"6	8	1'-0"	Granite bridge curb

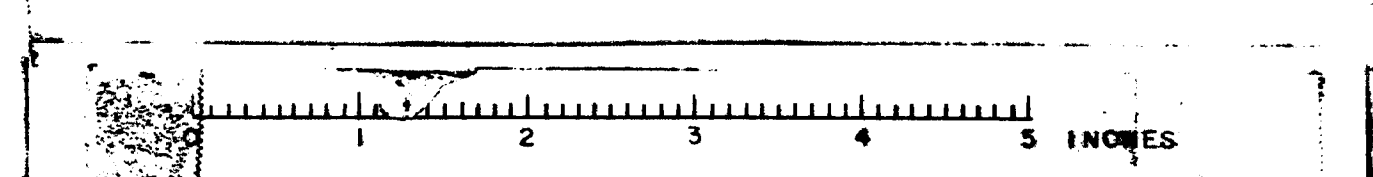
ESTIMATED QUANTITIES

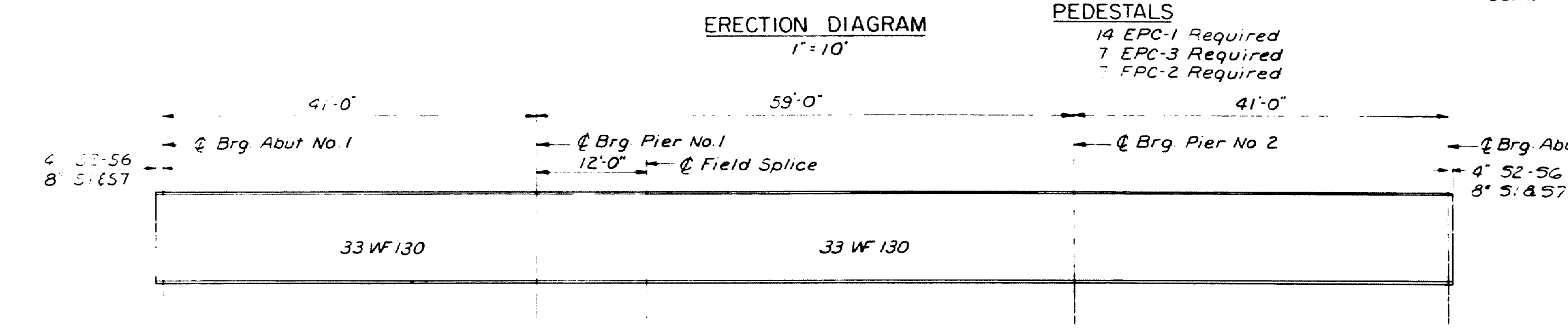
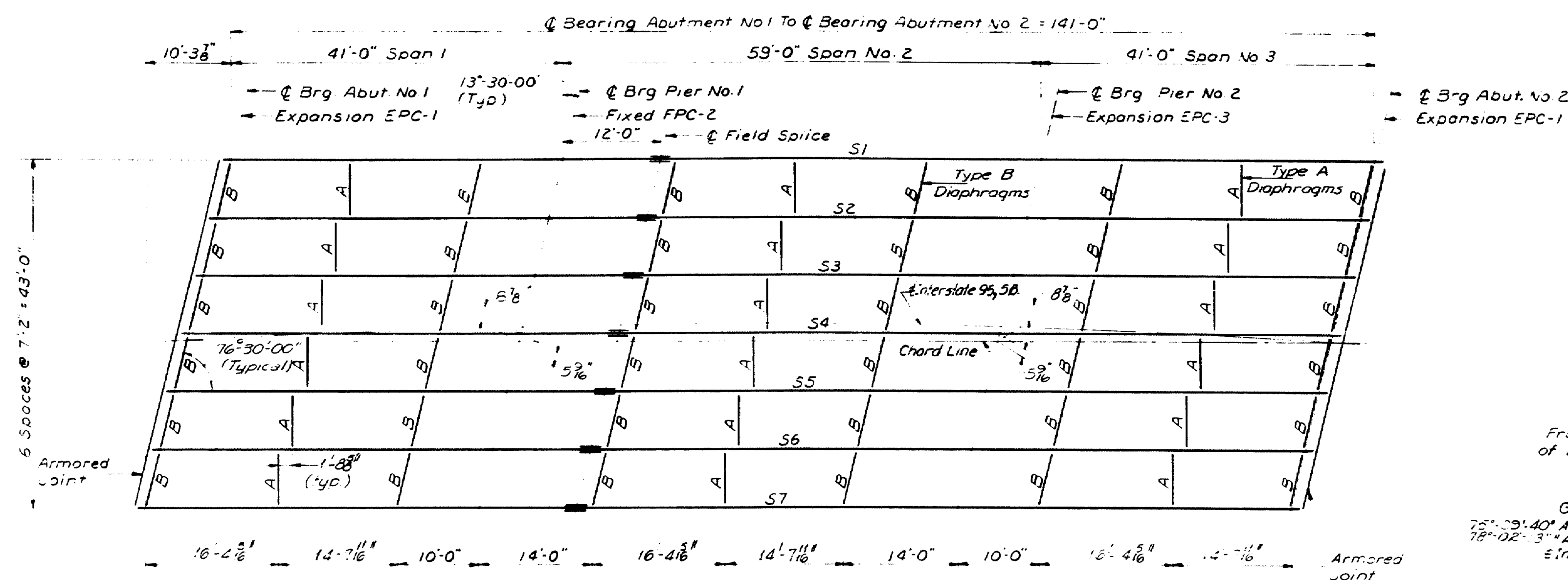
1. Portland Cement Concrete - 0.50 c.y.
2. Reinforcing Steel - 174 lbs.
3. Anchor Bolts (with reg. hex nut and R washer "G") - 12 each
4. Granite Bridge Curb - 4 stones



DESIGN - E. FOSTER	BRIDGE NO.
TRACE - G. A.	SURVEY -
CHECK - J. CHANDLER	PLAT -
STATE HIGHWAY COMMISSION BRIDGE DIVISION	
INTERSTATE 95 S.B. OVER WEST BRANCH MATTAWAMKEAG RIVER IN THE TOWN OF ISLAND FALLS AROOSTOOK COUNTY GUARD RAIL ANCHORAGE	
SHEET 5A OF 10 AUGUSTA, MAINE APRIL 1966	

M-2437A





TYPICAL STRINGER ELEVATION
All Dimensions Are Horizontal

	Abut. No. 1	SPAN NO. 1				Pier No. 1	SPAN NO. 2				Pier No. 2	SPAN NO. 3				Abut. No. 2
Dimension A	1'-5 1/2"	1'-7 1/2"	1'-9 1/2"	1'-11"	2'-0"	2'-1 1/2"	2'-2 1/2"	2'-2 1/2"	2'-2 1/2"	2'-1 1/2"	1'-11 1/2"	1'-10 1/2"	1'-9"	1'-7 1/2"	1'-4 1/2"	2'-1 1/2"
Dimension B	2'-4 1/2"	2'-2 1/2"	1'-11 1/2"	1'-10"	1'-8 1/2"	1'-7 1/2"	1'-5 1/2"	1'-4 1/2"	1'-4 1/2"	1'-4 1/2"	1'-5 1/2"	1'-6 1/2"	1'-8 1/2"	1'-9 1/2"	1'-11 1/2"	2'-1 1/2"

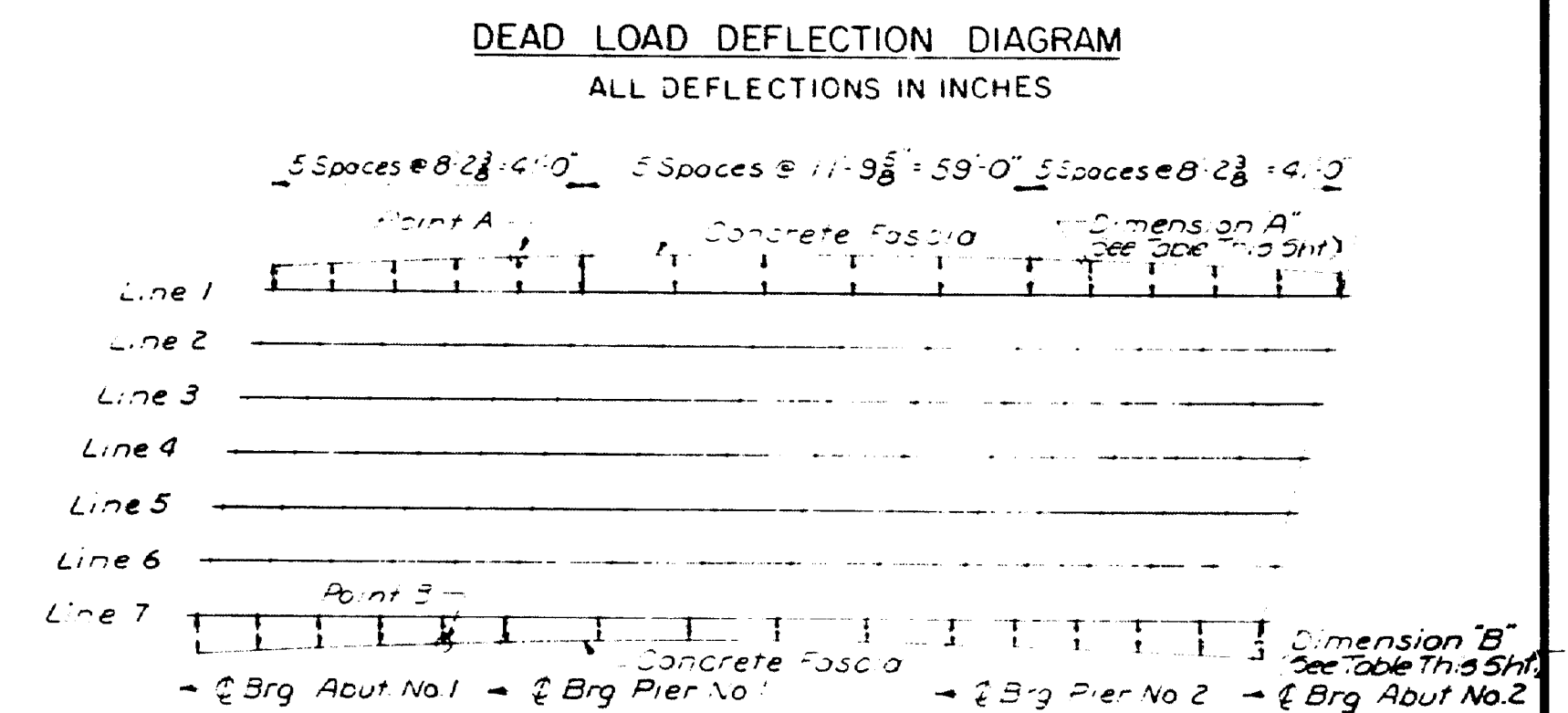
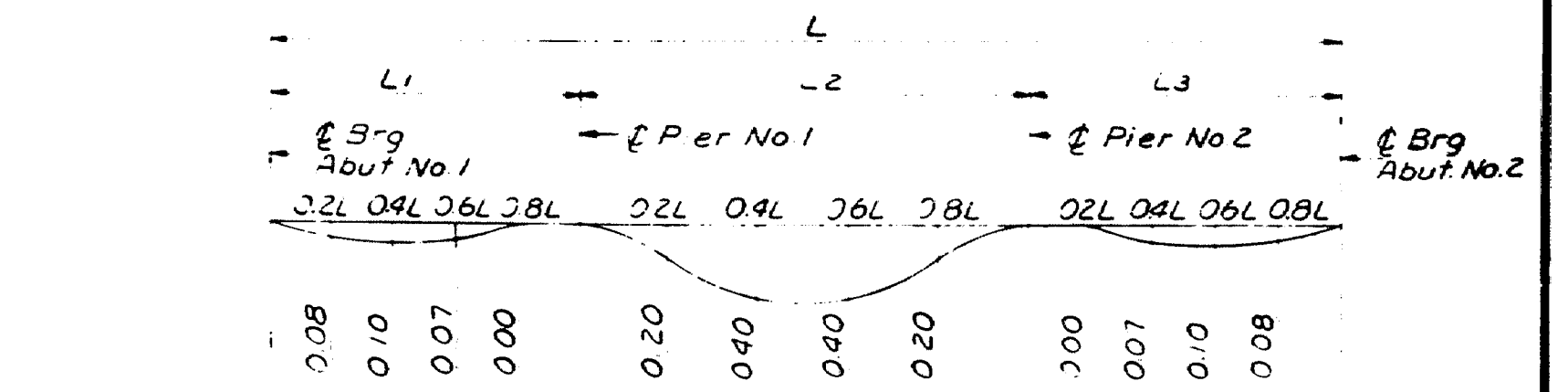
NOTE:
To compensate for dead load deflections as well as possible irregularities in beams, set the bottom of slab elevations of the points indicated before any of the slab formwork is started.

BLOCKING DETAIL
No Scale

BOTTOM OF SLAB ELEVATIONS AT BLOCKING POINTS

	Abut. No. 1	SPAN NO. 1				Pier No. 1	SPAN NO. 2				Pier No. 2	SPAN NO. 3				Abut. No. 2
Line 1	464.90	464.90	464.90	464.90	464.90	464.90	464.92	464.94	464.95	464.94	464.94	464.95	464.97	464.99	465.00	465.01
Line 2	464.54	464.55	464.55	464.54	464.54	464.54	464.56	464.58	464.59	464.58	464.58	464.59	464.61	464.63	464.64	464.65
Line 3	464.19	464.19	464.19	464.18	464.18	464.18	464.20	464.22	464.23	464.22	464.22	464.23	464.25	464.27	464.28	464.29
Line 4	463.83	463.83	463.83	463.83	463.82	463.82	463.84	463.86	463.87	463.86	463.86	463.87	463.89	463.90	463.92	463.92
Line 5	463.47	463.47	463.47	463.47	463.46	463.46	463.48	463.50	463.51	463.50	463.50	463.51	463.53	463.54	463.56	463.56
Line 6	463.11	463.12	463.11	463.11	463.10	463.10	463.12	463.14	463.15	463.14	463.14	463.15	463.17	463.18	463.19	463.20
Line 7	462.75	462.76	462.76	462.75	462.74	462.74	462.76	462.78	462.79	462.78	462.78	462.79	462.81	462.82	462.83	462.84
Point A	464.96	464.97	464.98	464.98	464.98	464.98	465.01	465.03	465.04	465.03	465.02	465.03	465.04	465.05	465.06	465.06
Point B	462.66	462.67	462.67	462.67	462.67	462.68	462.70	462.73	462.73	462.72	462.72	462.72	462.74	462.75	462.75	462.75

For location of Points A & B see Sheet B.



	Abut. No. 1	Pier No. 1	Pier No. 2	Abut. No. 2
S1	-0.026%	+0.33%		
S2	-0.030%	+0.38%		
S3	-0.034%	+0.34%		
S4	-0.036%	+0.32%		
S5	-0.040%	+0.30%		
S6	-0.042%	+0.26%		
S7	-0.043%	+0.24%		

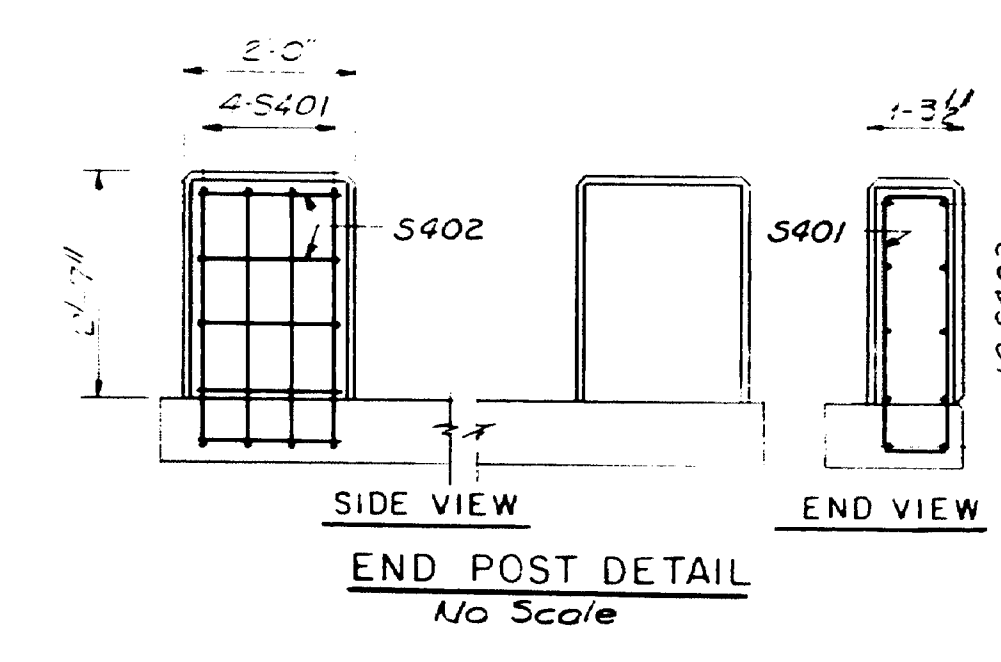
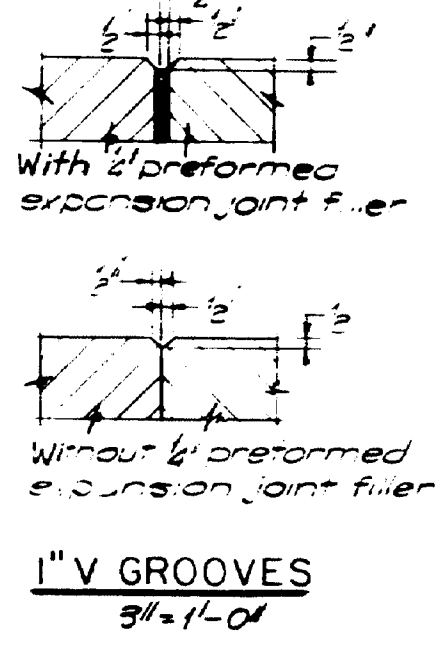
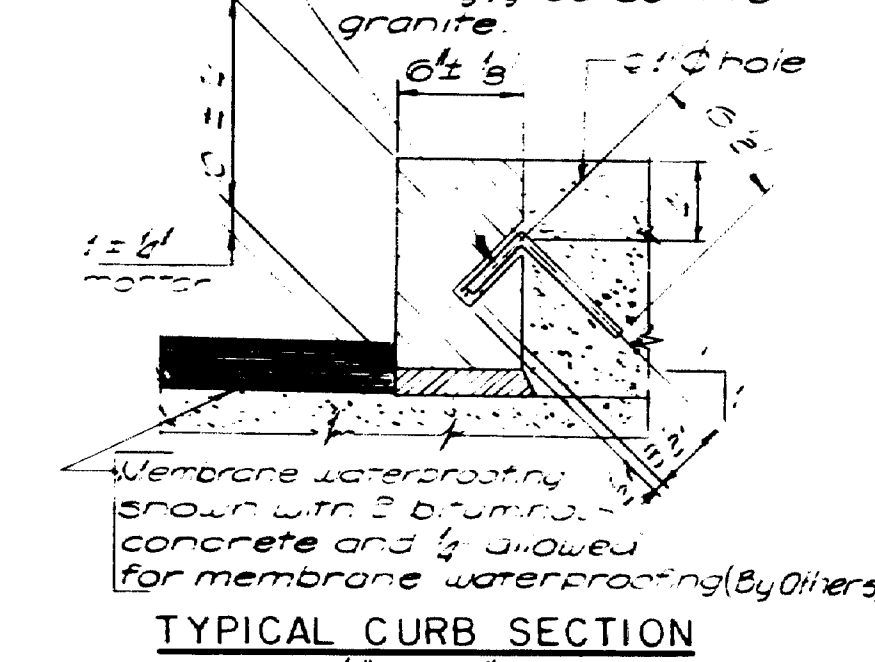
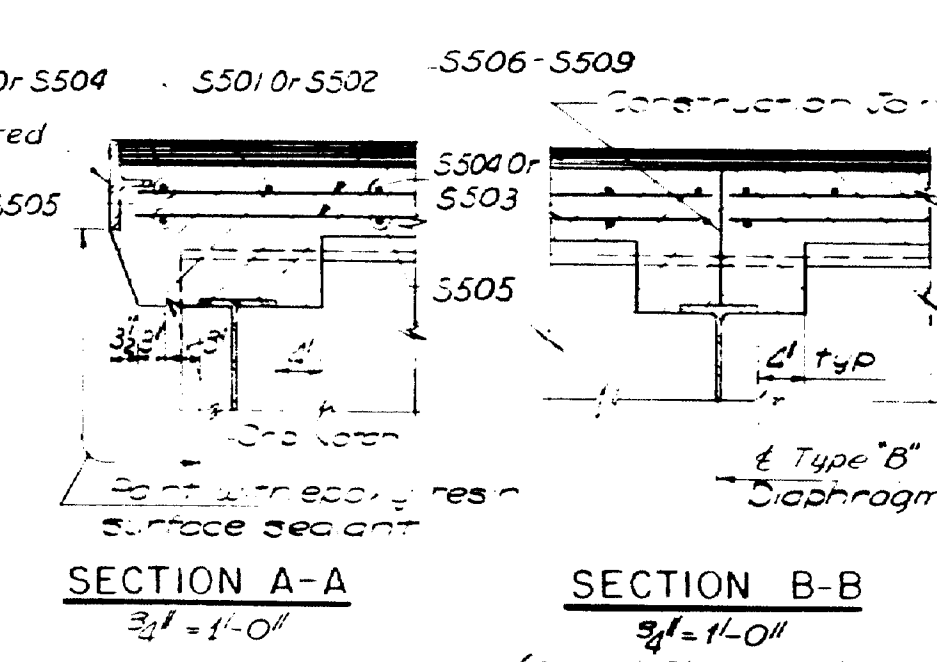
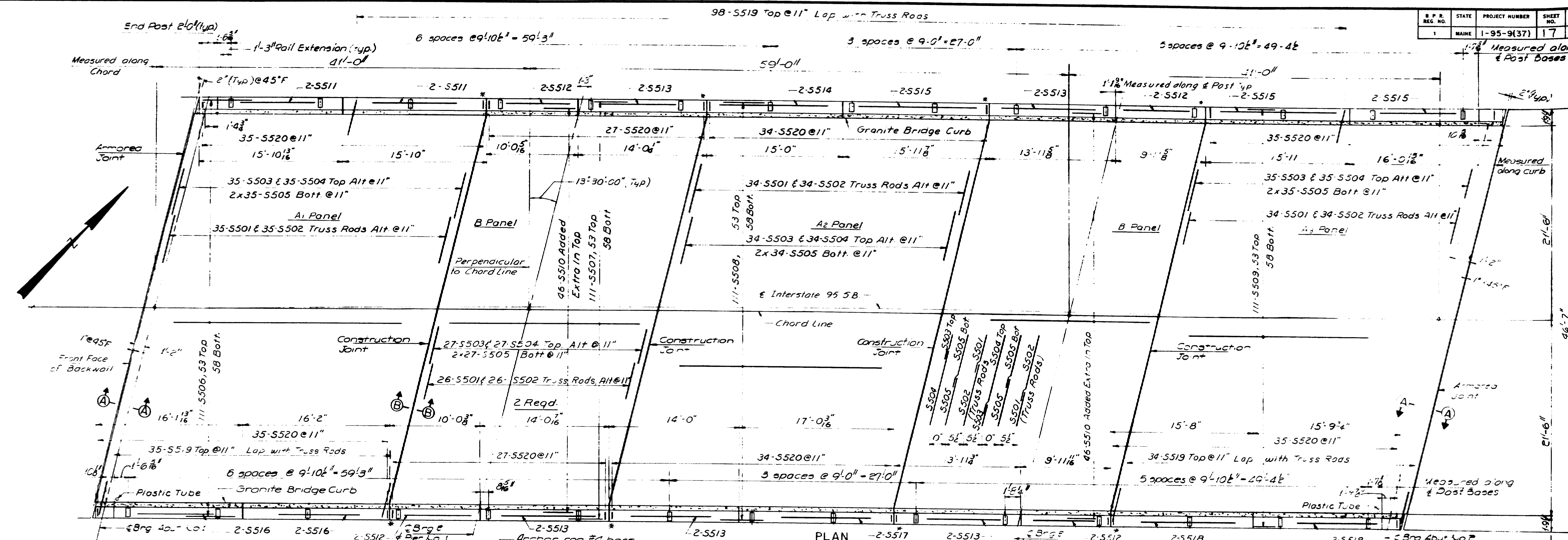
BEAM GRADES

REFERENCE
Splice - See Standard Details, SD 03-64
Diaphragms - See Standard Details, SD 04-64
Pedestals - See Standard Details, SD 01-64
Armored Joint - See Standard Details, SD 04-64.

SPECIFICATIONS
Fabrication and Erection: State of Maine Standard Specifications, Highways and Bridges, Revision of Jan. 35 and Supplemental Specifications of Feb. 1960.
Design and Detail: A.A.S.H.O. Standard Specifications for Highway Bridges of 1961 and Interim Specifications, 191, 1952, 1963, & 1964.
Materials: Except as otherwise noted on the standard details, all materials shall conform to A.S.T.M. designation A-36.

DESIGN - REF TRACE - CHECK - PLAN	BRIDGE NO. SURVEY - PLOT
STATE HIGHWAY COMMISSION BRIDGE DIVISION	
INTERSTATE 95 SB OVER	
WEST BRANCH MATTAWAMKEAG RIVER IN THE TOWN OF	
ISLAND FALLS AROSTOOK COUNTY	
STRUCTURAL STEEL & BLOCKING	
HOWARD, NEEDLES, TAMMEN & BERGENDOFF CONSULTING ENGINEERS NEW YORK BOSTON KANSAS CITY	SHEET 7 OF 10 AUGUSTA, MAINE JUNE 1965

M-2439 ISLAND FALLS DYERBROOK (37)

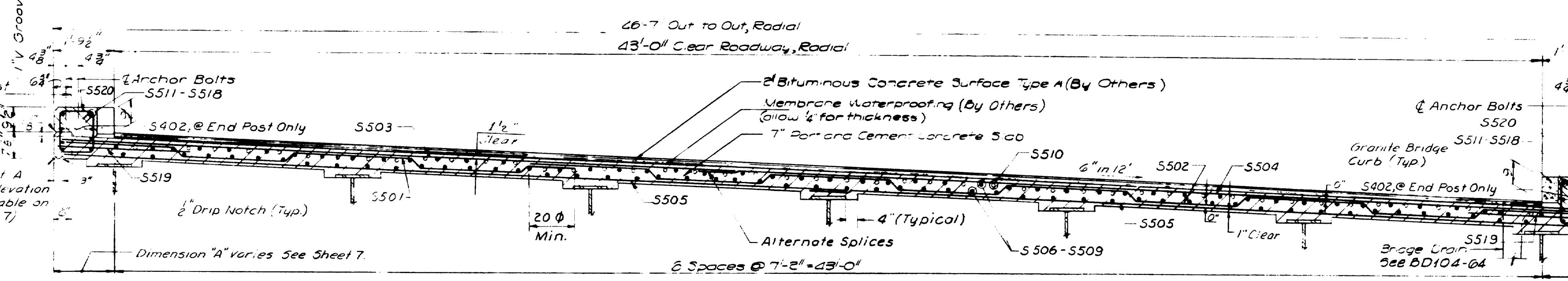


BRIDGE DRAINS NOTES

- Two bridge drains on south side spans 1&3 and three bridge drains on south side span 2.
- For approximate location see sheet 1. Exact position to be determined in field.
- Bridge drains to be placed a minimum 10' clear of pile.

GENERAL SUPERSTRUCTURE NOTES

- Reinforce concrete and granite bridge curbs over 6 inches use 1/2 preformed expansion joint filler. Where curbs break the band between concrete surfaces with a suitable grade of concrete or cast in place concrete or both at face of curb and slab at each vertical joint. Provide joints in granite bridge curbs at construction joints.
- At all curbs in slabs, place a plastic tube 1/2 inch through the slab for drainage. Exact position to be determined in the field. Do not cover the tube with waterproofing. This work will be subject to contract items. Tubes shall extend 2' below bottom of slab. Place tube to one side of bridge seat.
- For bridge no. 1 see structural details, SD 107-64, SD 108-64.
- Place concrete in 4 cores before casting concrete in B' panels.
- Concrete in end posts will be paid for under item 701-40.



NOTE:

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

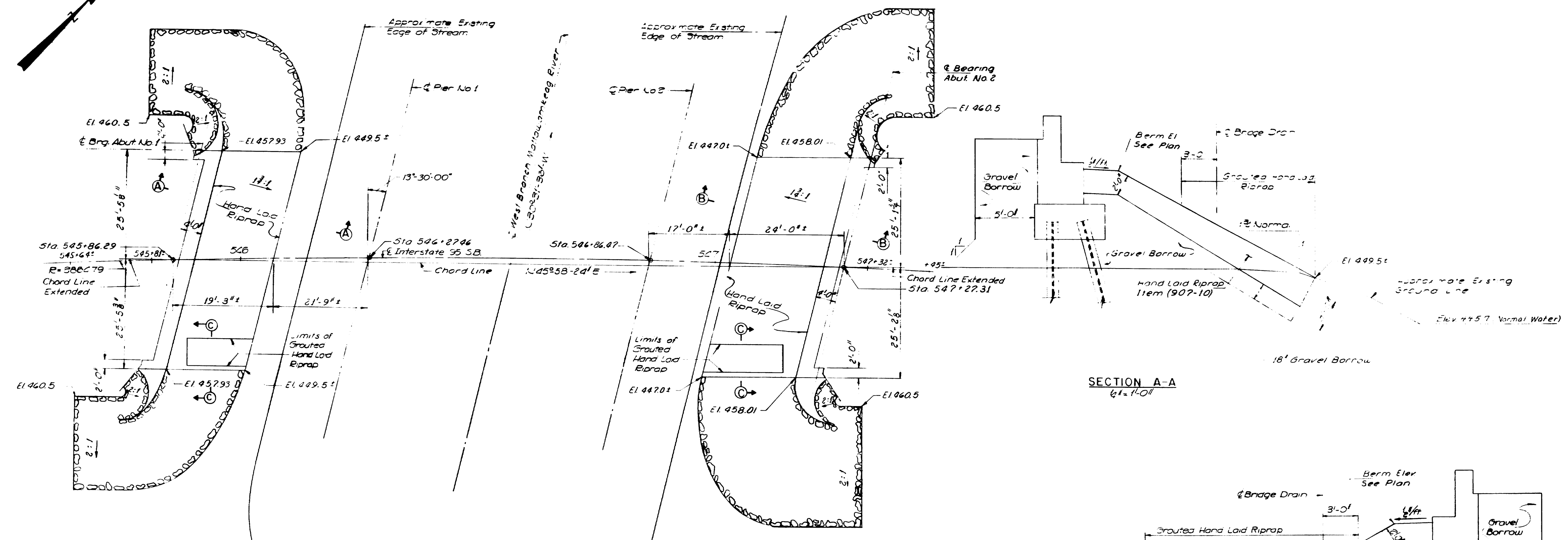
NEW YORK BOSTON KANSAS CITY

STATE HIGHWAY COMMISSION
BRIDGE DIVISION
INTERSTATE 95 SB
OVER
WEST BRANCH
MATTAWAMKEAG RIVER
IN THE TOWN OF
ISLAND FALLS
ARROSTOOK COUNTY
SUPERSTRUCTURE

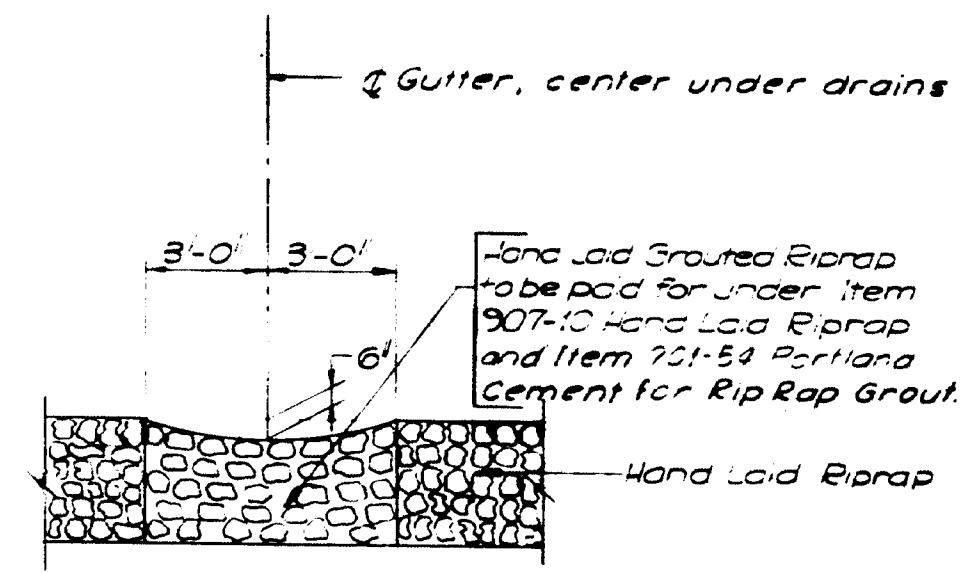
SHEET 8 OF 10 AUGUSTA, MAINE JUNE, 1965

M-2440 ISLAND FALLS DYERBROOK (37)

B.P.R. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	1-95-9(37)	18	88



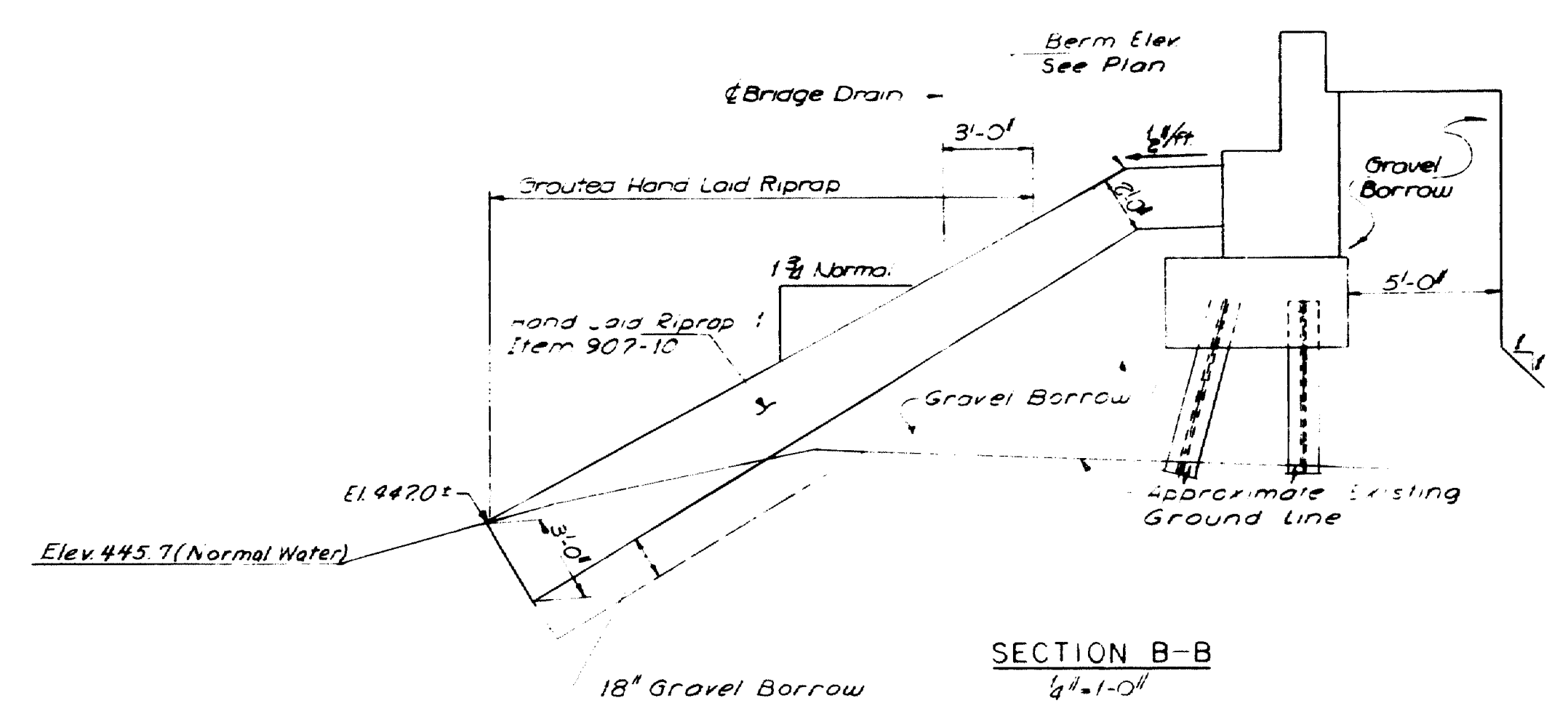
PLAN
1"=10'



SECTION C-C
1/4"=1'-0"

- NOTES**
1. Provide 18" Gravel Borrow in excavation under Riprap.
 2. The 18" of Gravel Borrow under the Riprap may be reduced or omitted, if in the opinion of the Engineer the existing material is suitable.
 3. Payment for any excavation required for slope protection will be made under the Item for Structural Earth Excavation, Pier Item 204-14.

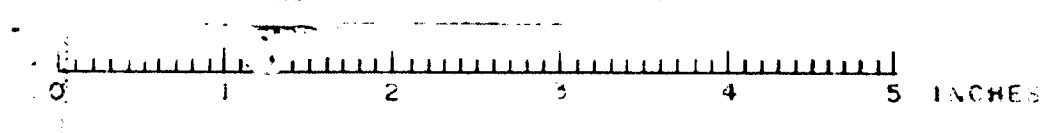
SECTION A-A
1/4"=1'-0"



SECTION B-B
1/4"=1'-0"

DESIGN - TRACE - CHECK -	DETAIL - PRO	BRIDGE NO. SURVEY - PLOT -
STATE HIGHWAY COMMISSION BRIDGE DIVISION		
INTERSTATE 95 SB OVER WEST BRANCH MATTAWAMKEAG RIVER IN THE TOWN OF ISLAND FALLS ARROOSTOOK COUNTY SLOPE PROTECTION		
HOWARD, NEEDLES, TAMMEN & BERGENDOFF CONSULTING ENGINEERS NEW YORK BOSTON KANSAS CITY		SHEET 9 OF 10 AUGUSTA, MAINE JUNE 1965

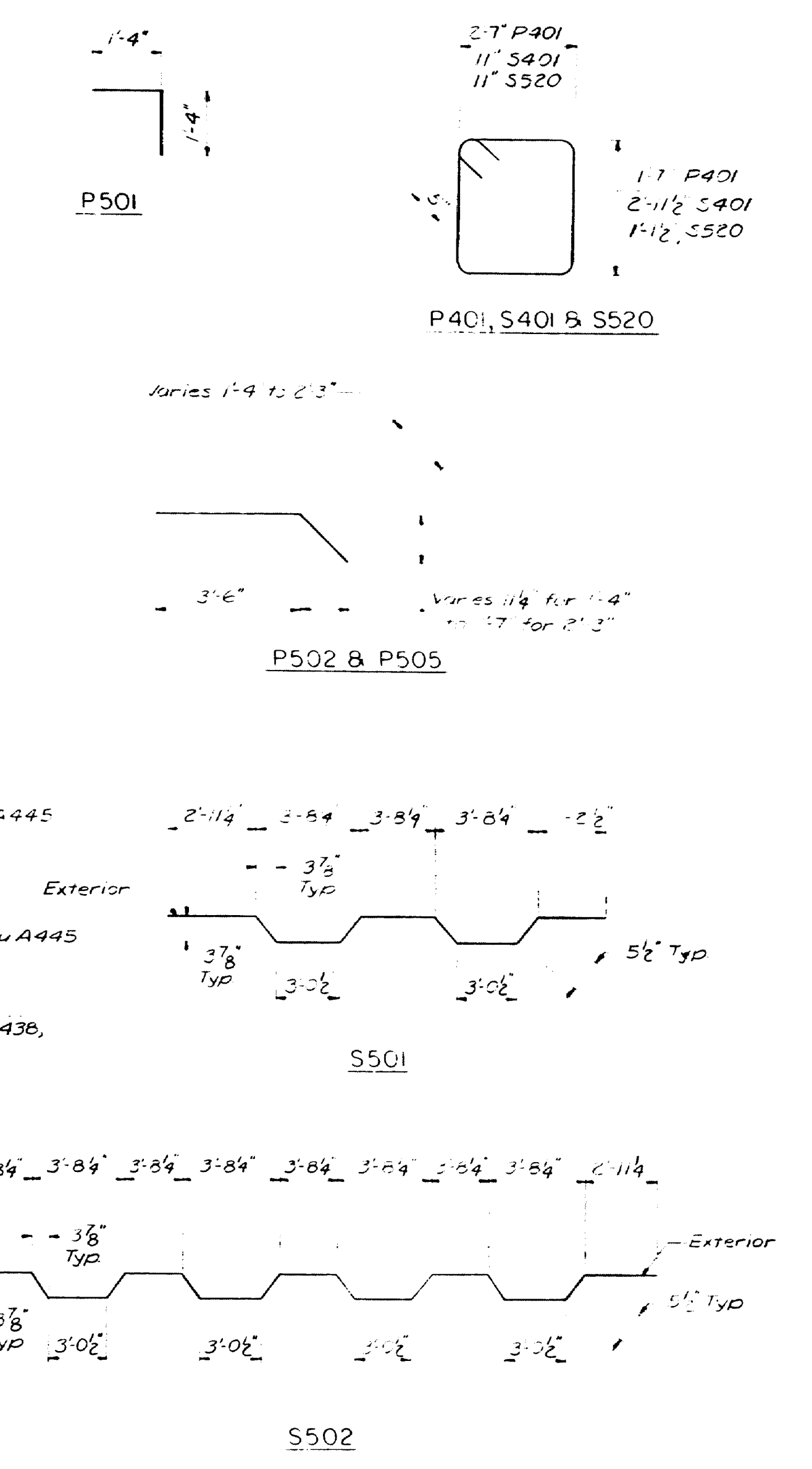
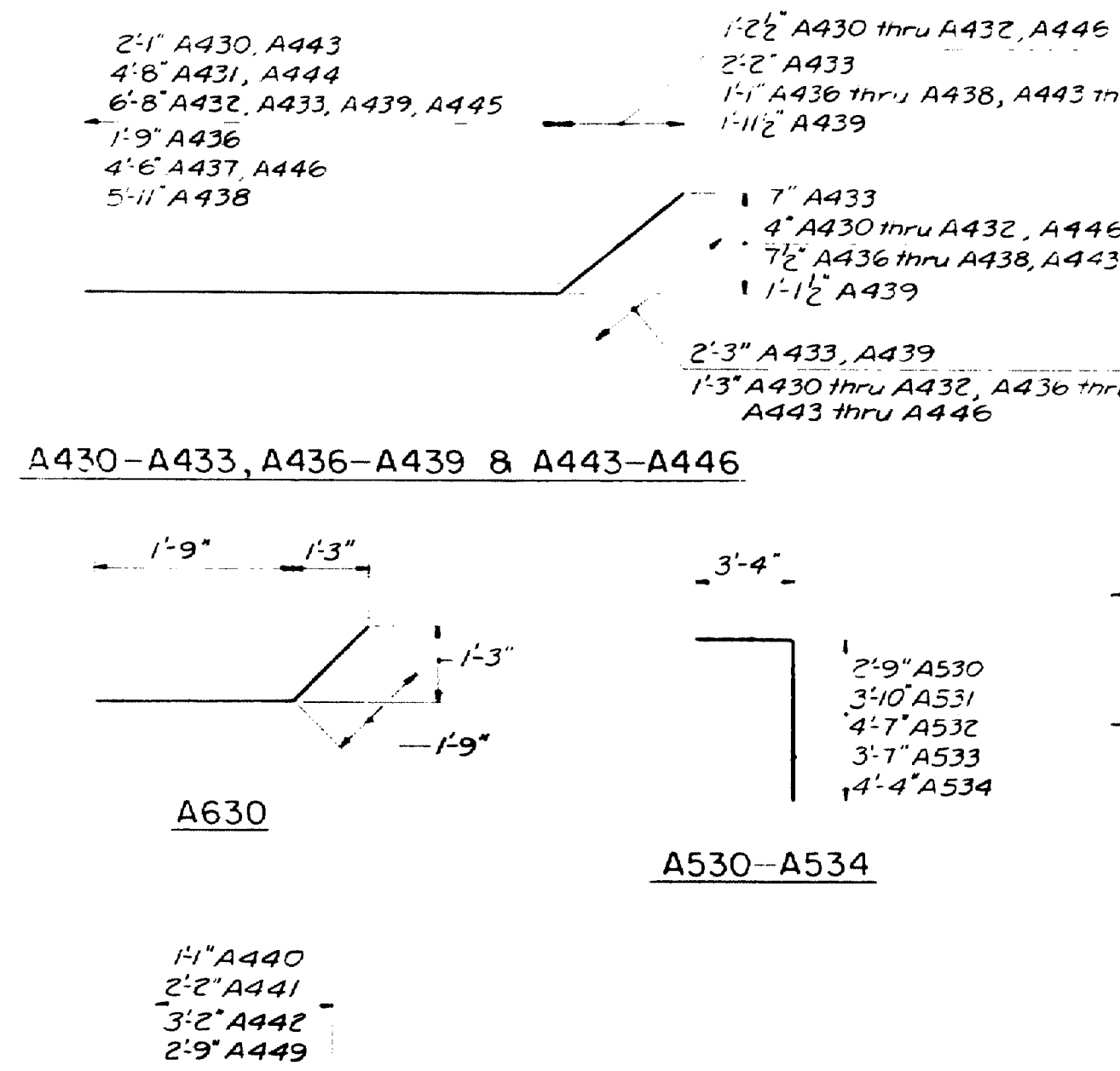
M-244 | ISLAND FALLS DYERBROOK (37)



MARK	SIZE	NUMBER	LENGTH	INCR.	LOCATION
ABUTMENT NO. 1					
STRAIGHT BARS					
A401	4	1	3'-11"		Wingwall Stem
A402	4	1	6'-6"		"
A403	4	8	8'-6"		"
A404	4	1	3'-8"		"
A405	4	1	5'-8"		"
A406	4	1	7'-9"		Wingwall Stem
A407	4	8	23'-0"		Abutment Stem
A408	4	7	28'-4"		"
A409	4	1	27'-1"		Abutment Stem
BENT BARS					
A501	5	17	5'-8"		Footings Dowels
A502	5	17	7'-5"		"
A503	5	34	2'-6"		"
A504	5	14	6'-8"		"
A505	5	11	7'-8"		"
A506	5	9	8'-5"		Footings Dowels
A507	5	68	4'-0"		Abutment Stem
A508	5	34	3'-6"		Abutment Stem
A509	5	5	4'-11"		Wingwall Stem
A510	5	5	5'-3"		"
A511	5	12	20'-4"	6"	(2 Groups Of 6)
A512	5	12	11'-4"	8"	Wingwall Stem (2 Groups Of 5)
A513	5	8	22'-3"		Abutment Stem
A514	5	6	26'-8"		"
A515	5	4	16'-0"		Abutment Stem
A516	5	4	12'-0"	3	Abutment Stem
BENT BARS					
A601	6	10	10'-3"		Footings
A602	6	10	9'-0"		"
A603	6	14	30'-0"		"
A604	6	94	5'-6"		"
A605	6	22	36'-5"	2 1/2"	(2 Groups Of 11)
A606	6	20	36'-5"	3"	(2 Groups Of 10)
A607	6	14	18'-9"		Footings
A608	6	4	1'-0"		Curb Dowels
BENT BARS					
A430	4	1	3'-4"		Wingwall Stem
A431	4	1	5'-11"		"
A432	4	1	7'-11"		"
A433	4	3	8'-11"		"
A434	4	2	7'-10"		" (Bend in field)
A435	4	2	8'-8"		" (Bend in field)
A436	4	1	3'-0"		"
A437	4	1	5'-9"		"
A438	4	1	7'-2"		"
A439	4	4	8'-11"		Wingwall
A440	4	14	4'-5"		Masonry Pads
A441	4	12	5'-6"		Masonry Pads
A442	4	2	6'-6"		Masonry Pads
A530	5	14	6'-1"		Abutment Stem
A531	5	11	7'-2"		"
A532	5	9	7'-11"		Abutment Stem
A630	6	30	3'-6"		Approach Slab Dowels
APPROACH SLAB					
STRAIGHT BARS					
A5401	4	44	22'-6"		Approach Slab
A5601	6	178	14'-6"		Approach Slab
ABUTMENT NO. 2					
STRAIGHT BARS					
A401	4	2	3'-11"		Wingwall Stem
A402	4	1	6'-6"		"
A403	4	9	8'-6"		"
A414	4	1	6'-4"		Wingwall Stem
A415	4	8	22'-0"		Abutment Stem
A416	4	7	28'-9"		"
A417	4	1	27'-0"		Abutment Stem
A501	5	17	5'-8"		Footings Dowels
A503	5	34	2'-6"		"

MARK	SIZE	NUMBER	LENGTH	INCR.	LOCATION
ABUTMENT NO. 2 (Cont)					
A504	5	10	6'-8"		Footings Dowels
A507	5	68	4'-0"		Abutment Stem
A508	5	34	3'-6"		Abutment Stem
A509	5	5	4'-11"		Wingwall Stem
A514	5	17	7'-2"		Footings Dowels
A515	5	10	7'-5"		"
A516	5	14	8'-2"		Footings Dowels
A517	5	5	5'-7"		Wingwall Stem
A518	5	12	20'-5"	7 1/2"	(2 Groups Of 6)
A519	5	12	18'-4"	7"	Wingwall Stem (2 Groups Of 6)
A520	5	4	13'-7"		Abutment Stem
A521	5	4	15'-6"		"
A522	5	4	27'-1"		"
A523	5	6	21'-3"		"
A524	5	4	10'-11"	3"	Abutment Stem
A601	6	10	10'-3"		Footings
A602	6	10	9'-0"		"
A603	6	14	30'-0"		"
A605	6	94	5'-6"		"
A606	6	22	36'-5"	2 1/2"	(2 Groups Of 11)
A607	6	20	36'-5"	3"	(2 Groups Of 10)
A608	6	14	18'-9"		Footings
A609	6	4	1'-0"		Curb Dowels
BENT BARS					
A430	4	1	3'-4"		Wingwall Stem
A432	4	1	7'-11"		"
A433	4	4	8'-11"		"
A434	4	2	7'-10"		" (Bend in field)
A439	4	3	8'-11"		Wingwall Stem
A440	4	14	4'-5"		Masonry Pads
A441	4	12	5'-6"		Masonry Pads
A443	4	1	3'-4"		Wingwall Stem
A444	4	1	5'-11"		"
A445	4	1	7'-11"		"
A446	4	1	5'-9"		"
A448	4	2	8'-5"		Wingwall Stem (Bend in field)
A449	4	2	6'-1"		Masonry Pads
A530	5	10	6'-1"		Abutment Stem
A533	5	10	6'-11"		"
A534	5	14	7'-8"		Abutment Stem
A630	6	30	3'-6"		Approach Slab Dowels
APPROACH SLAB					
STRAIGHT BARS					
A5401	4	44	22'-6"		Approach Slab
A5601	6	178	14'-6"		Approach Slab
PIER NO. 1					
STRAIGHT BARS					
P503	5	30	19'-1"		Stem
P504	5	32	25'-8"		Stem
P601	6	20	27'-1"		Footings
P602	6	16	24'-6"		Cap
P603	6	106	163'-18"	1/2"	Stem (2 Groups of 53)
P604	6	106	4'-9"		Footings Dowels
P701	7	54	8'-6"		Footings
BENT BARS					
P401	4	24	9'-2"		Cap
P501	5	32	2'-8"		Stem
P502	5	30	4'-10"	3/4"	(2 Groups of 15)
P505	5	34	4'-10"	3/4"	Stem (2 Groups of 17)
PIER NO. 2 (SAME AS PIER NO. 1)					

MARK	SIZE	NUMBER	LENGTH	INCR.	LOCATION
SUPERSTRUCTURE					
STRAIGHT BARS					
S402	4	40	1'-8"		End Post
S503	5	158	20'-10"		Slab Transverse
S504	5	158	28'-2"		"
S505	5	316	24'-6"		Slab Transverse (2 Groups of 158)
S506	5	111	31'-7"		Slab Longitudinal
S507	5	222	23'-8"		(2 Groups of 111)
S508	5	111	30'-8"		"
S509	5	111	31'-0"		"
S510	5	92	19'-0"		Slab Longitudinal
S511	5	4	15'-6"		Safety Walk
S512	5	8	9'-8"		"
S513	5	10	13'-8"		"
S514	5	2	14'-8"		"
S515	5	6	15'-8"		"
S516	5	4	15'-10"		"
S517	5	2	16'-8"		"
S518	5	4	15'-4"		Safety Walk
S519	5	167	4'-0"		Slab Transverse
BENT BARS					
S401	4	16	8'-7"		End Post
S501	5	55	15'-9"		Slab Transverse (Truss Bar)
S502	5	155	33'-6"		Slab Transverse (Truss Bar)
S520	5	316	4'-11"		Safety Walk

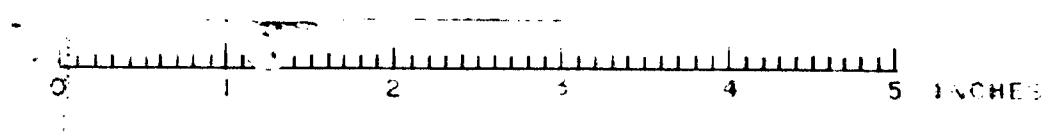


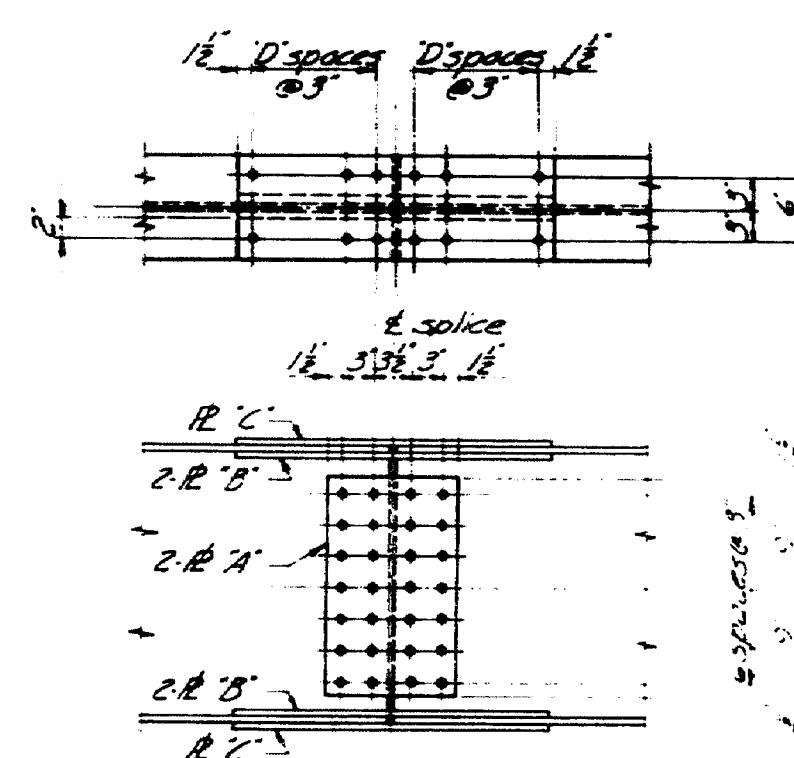
NOTES:

- All dimensions are to E of bars.
- All reinforcing bars shall be intermediate grade steel.
- Reinforcing steel to have 2" minimum cover unless otherwise shown.

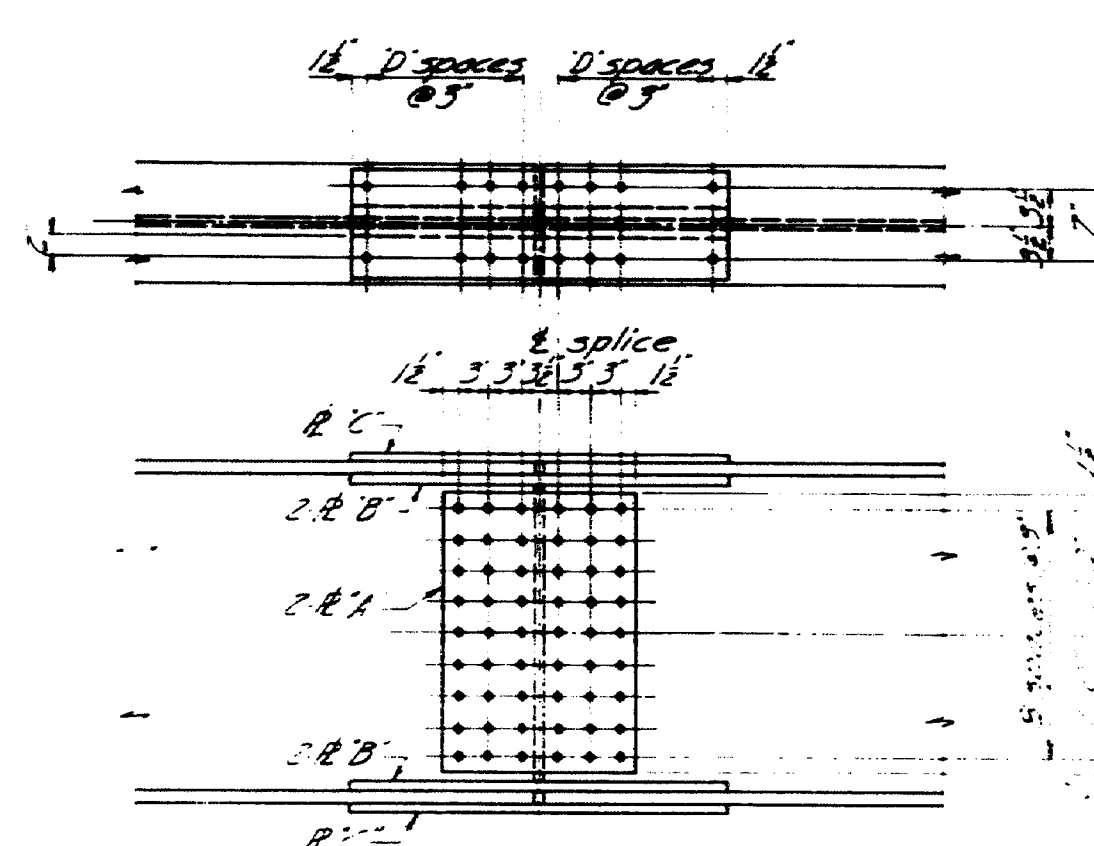
DESIGN- TRACE- CHECK-PEN	DETAIL R O F	BRIDGE NO SURVEY- PLOT
STATE HIGHWAY COMMISSION BRIDGE DIVISION		
INTERSTATE 95 SB OVER WEST BRANCH MATTAWAMKEAG RIVER IN THE TOWN OF ISLAND FALLS AROOSTOOK COUNTY REINFORCING STEEL		
HOWARD, NEEDLES, TAMMEN & BERGENDOFF CONSULTING ENGINEERS		SHEET 10 OF 10
NEW YORK	BOSTON	KANSAS CITY

M-2442 ISLAND FALLS DYERBROOK (37)

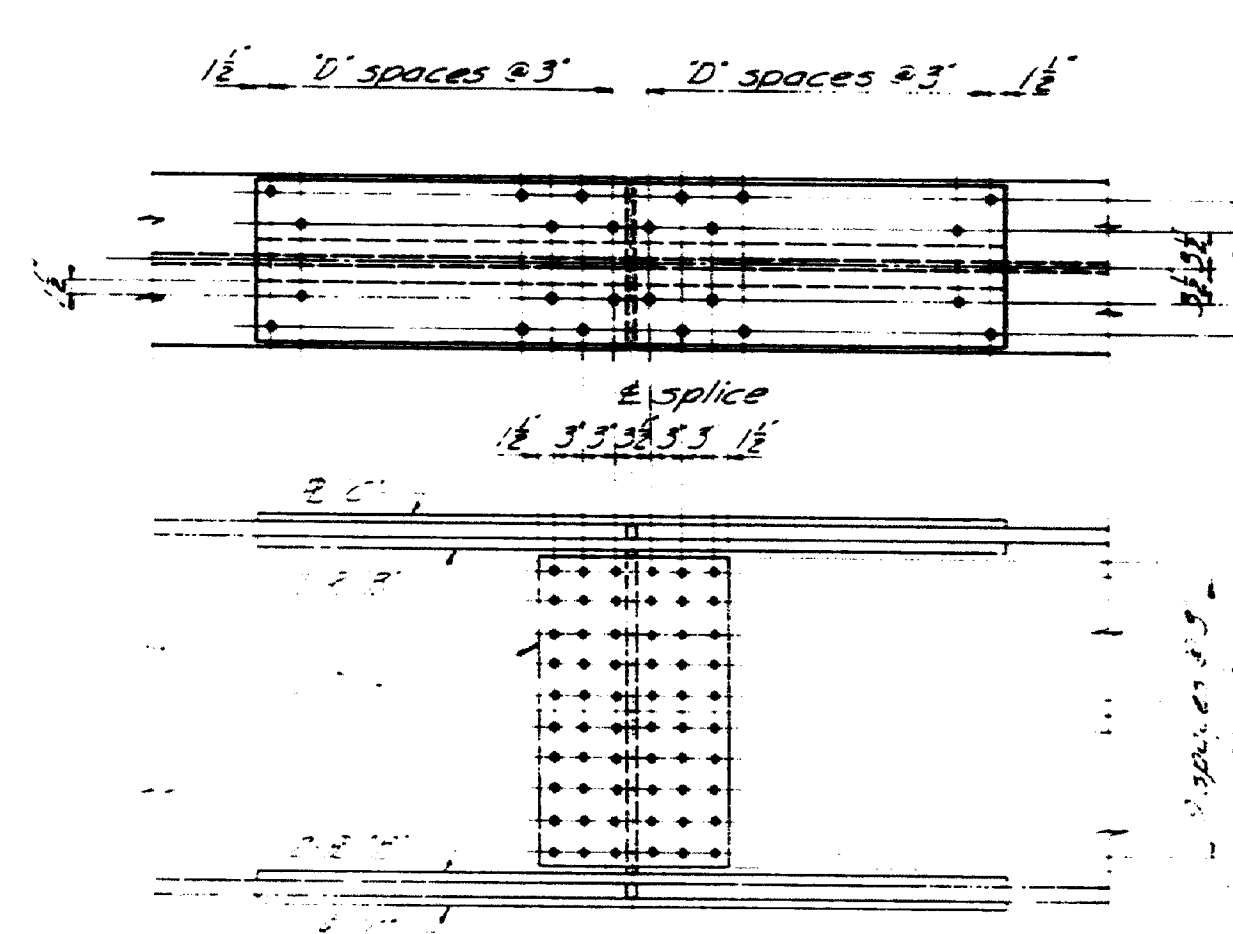




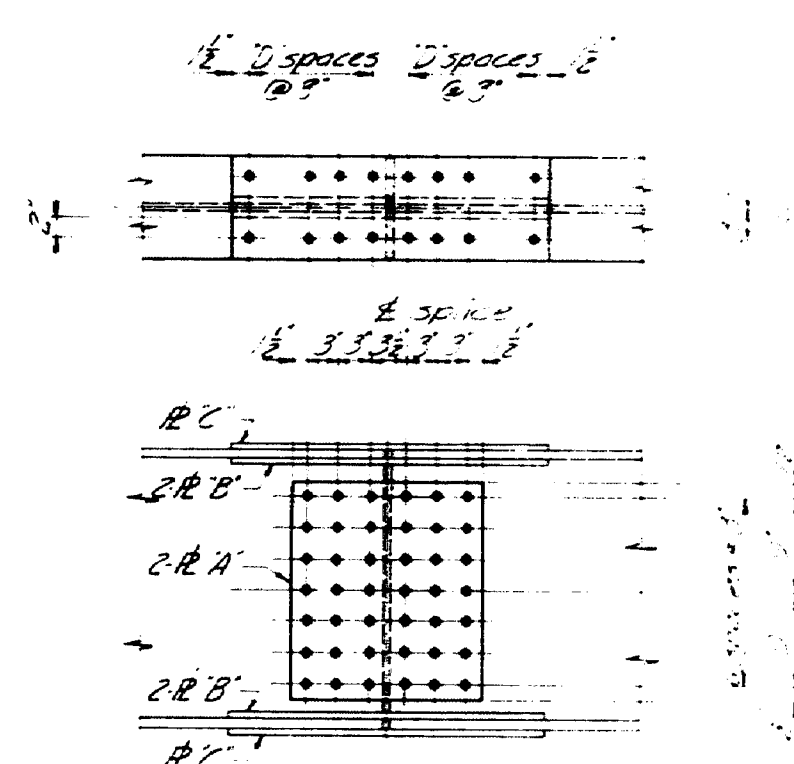
27 WF 84



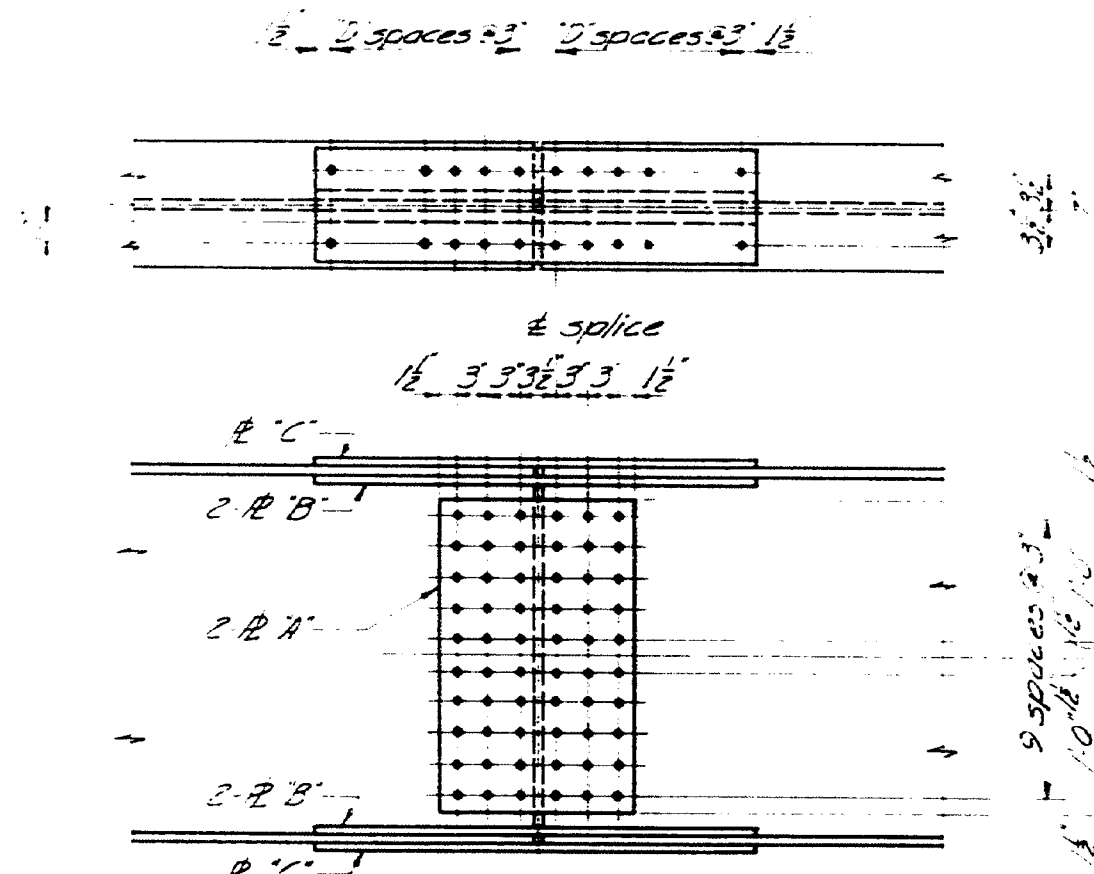
33 WF 118, 130, 141, 152



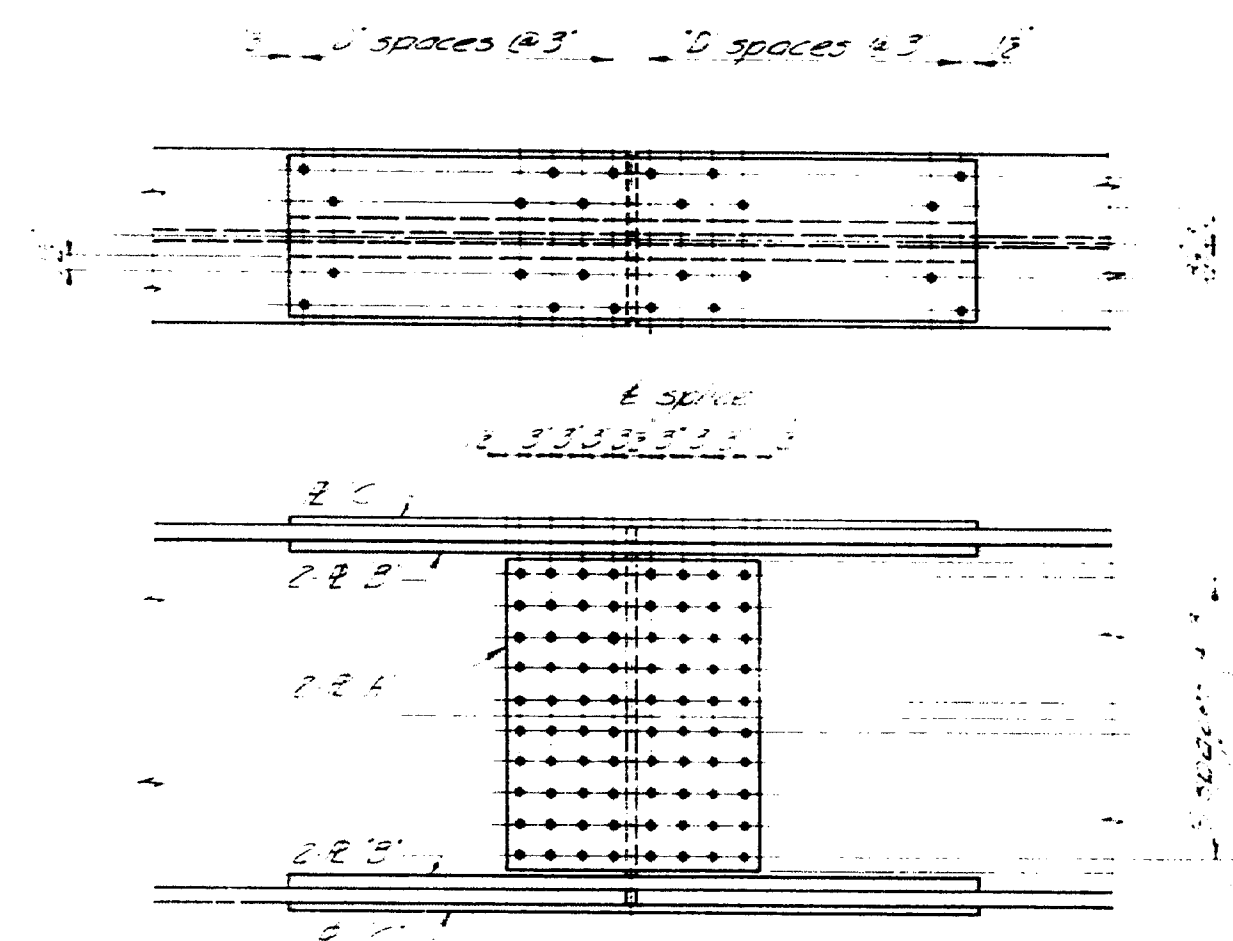
36 WF 245, 280



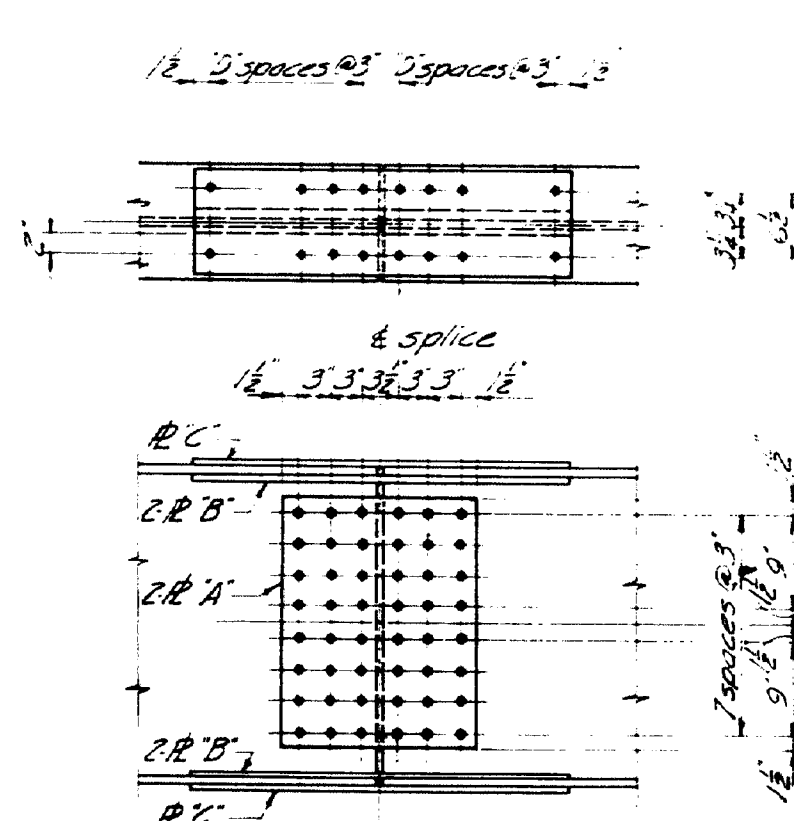
27 WF 94, 102, 114



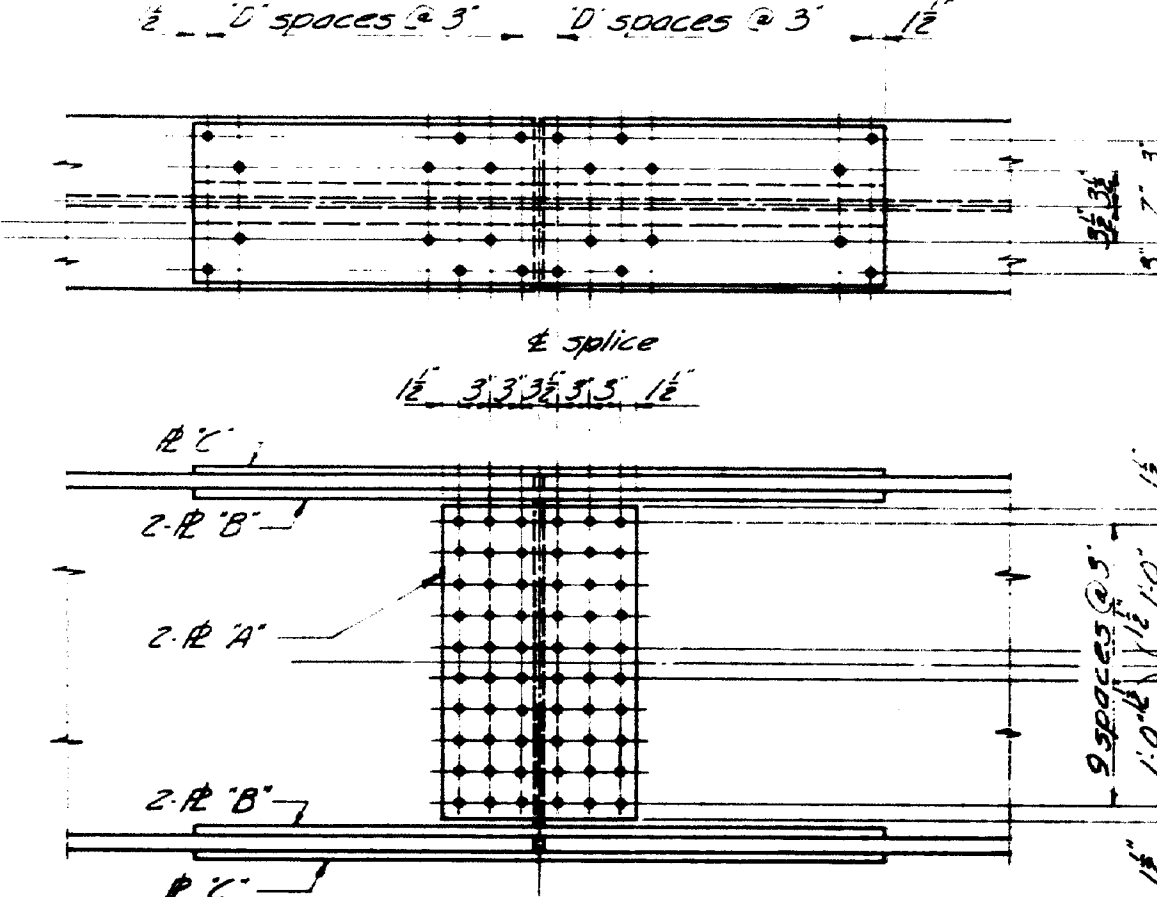
36 WF 135, 150, 160, 170, 182, 194



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"	25	2 1/2 x 3	4 x 1/2	10 x 1/2	3
27 WF 94	3520"	25	2 1/2 x 3	4 x 1/2	10 x 1/2	3
27 WF 102	3862"	25	2 1/2 x 3	4 x 1/2	10 x 1/2	4
27 WF 114	434"	25	2 1/2 x 3	4 x 1/2	10 x 1/2	4
30 WF 99	302"	25	2 1/2 x 3	4 x 1/2	10 x 1/2	3
30 WF 108	342"	25	2 1/2 x 3	4 x 1/2	10 x 1/2	4
30 WF 116	370"	25	2 1/2 x 3	4 x 1/2	10 x 1/2	4
30 WF 124	410"	25	2 1/2 x 3	4 x 1/2	10 x 1/2	4
30 WF 132	450"	25	2 1/2 x 3	4 x 1/2	10 x 1/2	4
33 WF 118	3520"	25	2 1/2 x 3	4 x 1/2	10 x 1/2	3
33 WF 130	3862"	25	2 1/2 x 3	4 x 1/2	10 x 1/2	4
33 WF 141	434"	25	2 1/2 x 3	4 x 1/2	10 x 1/2	4
33 WF 152	482"	25	2 1/2 x 3	4 x 1/2	10 x 1/2	4
36 WF 135	302"	25	2 1/2 x 3	4 x 1/2	10 x 1/2	3
36 WF 150	342"	25	2 1/2 x 3	4 x 1/2	10 x 1/2	4
36 WF 160	370"	25	2 1/2 x 3	4 x 1/2	10 x 1/2	4
36 WF 170	410"	25	2 1/2 x 3	4 x 1/2	10 x 1/2	4
36 WF 182	450"	25	2 1/2 x 3	4 x 1/2	10 x 1/2	4
36 WF 194	490"	25	2 1/2 x 3	4 x 1/2	10 x 1/2	4
36 WF 230	302"	25	2 1/2 x 3	4 x 1/2	10 x 1/2	3
36 WF 245	342"	25	2 1/2 x 3	4 x 1/2	10 x 1/2	4
36 WF 260	370"	25	2 1/2 x 3	4 x 1/2	10 x 1/2	4
36 WF 280	410"	25	2 1/2 x 3	4 x 1/2	10 x 1/2	4
36 WF 300	450"	25	2 1/2 x 3	4 x 1/2	10 x 1/2	4

GENERAL NOTES

1. The splice shall be made with a 1/2" thick splice plate.
2. The net tensile strength is 90% of the net remaining strength of the beam with an allowable stress of 20,000 psi. The design shear is 1/2 of the shear strength of the beam with an allowable stress of 10,000 psi.
3. The beam shall be spliced with the splice plate and flange holes. The splice plate shall be 1/2" thick and 10" wide. The flange holes shall be 10" diameter. The splice plate shall be 10" long and 10" wide. The flange holes shall be 10" diameter. The splice plate shall be 10" long and 10" wide. The flange holes shall be 10" diameter.
4. See design details for splice of beams with flange plates only, with no extensions.
5. See design details for splice of beams with flange plates only, with no extensions.

A.S.T.M. STEEL CLASSIFICATION

High Tensile Strength Bolts	A 325
Splice Plates	A 36

DESIGN SPECIFICATIONS

AASHTO Standard Specifications for Highway Bridges, 1961 with Interim Specifications, 1961 & 1962

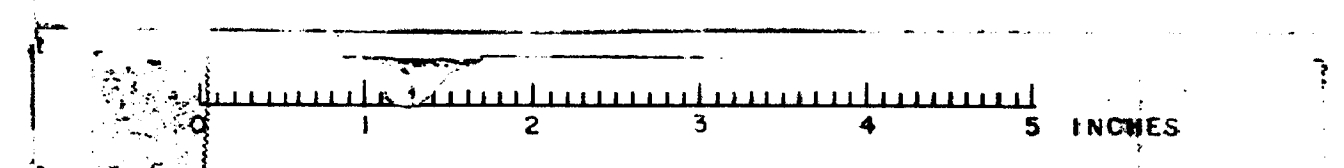
MAINE STATE HIGHWAY COMMISSION
AUGUSTA, MAINE

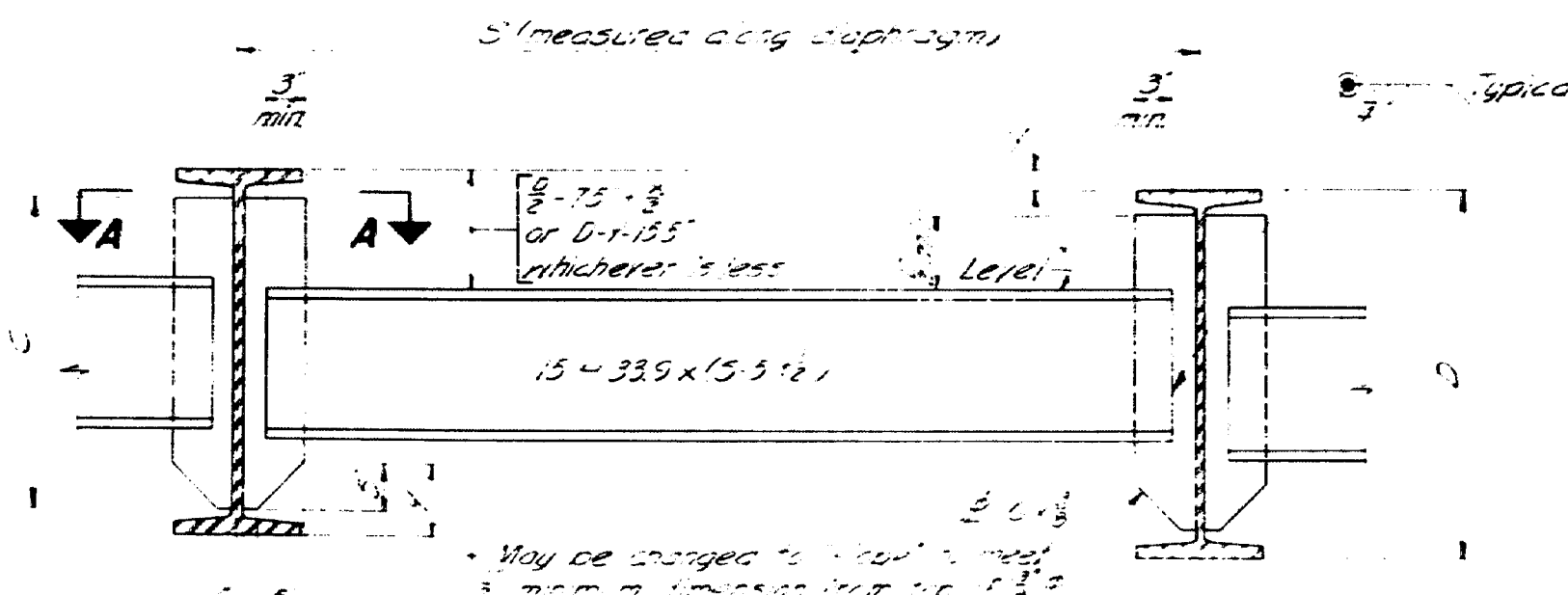
STANDARD DETAILS
(BD 103-64)

BEAM SPLICES

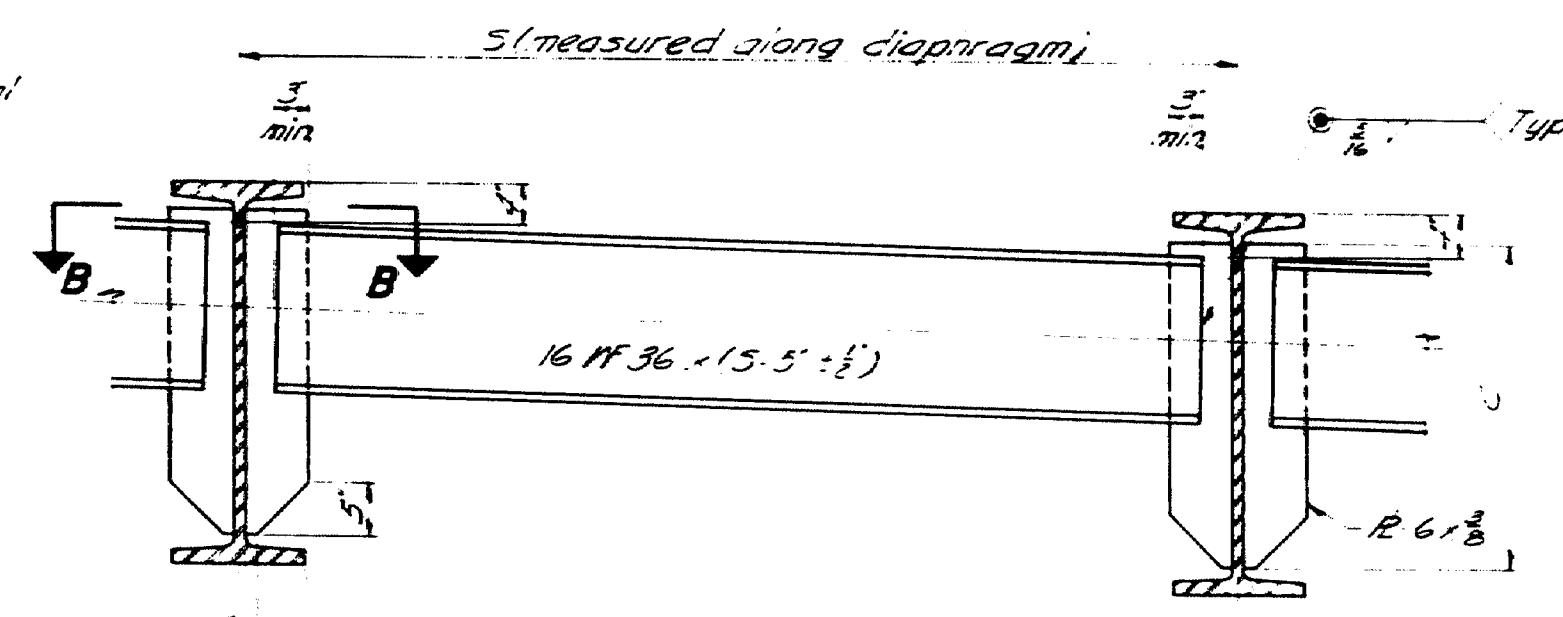
JANUARY 1964

11-2442B

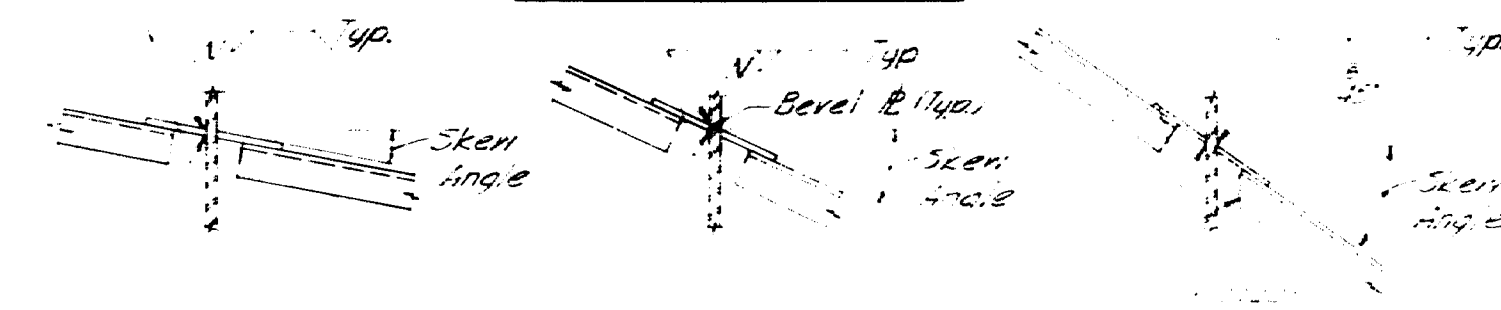




TYPE A DIAPHRAGM



TYPE B DIAPHRAGM
Welding 6 x 3/8 plates to web same as for Type A Diaphragm.

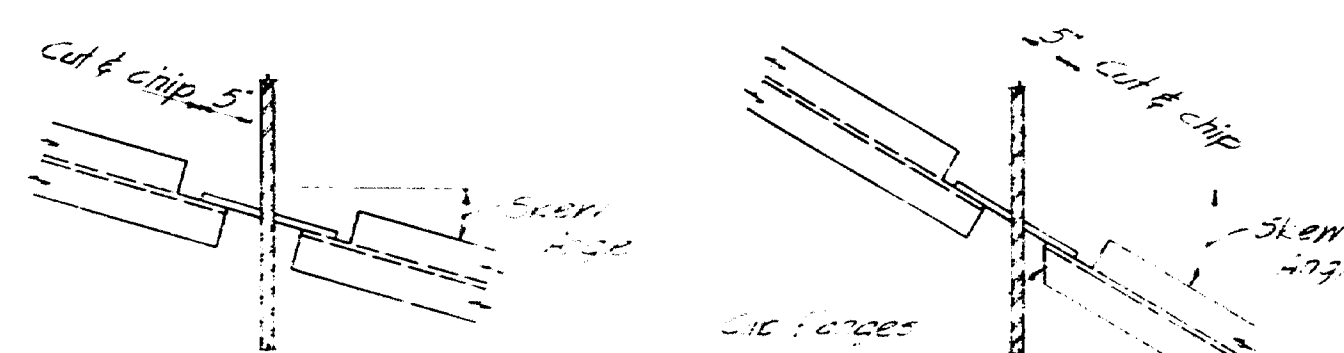


SECTION A-A
Skew Angle 0° to 25°

SECTION A-A
Skew Angle over 25°

SECTION A-A
Skew Angle over 25°

BEAM	C	N
15 1/2 x 33.5 to 36 in.	1	3
33 1/2 x 36 to 39 in.	2	4
39 1/2 x 36 to 42 in.	3	5
42 1/2 x 36 to 45 in.	4	6
45 1/2 x 36 to 48 in.	5	7
48 1/2 x 36 to 51 in.	6	8

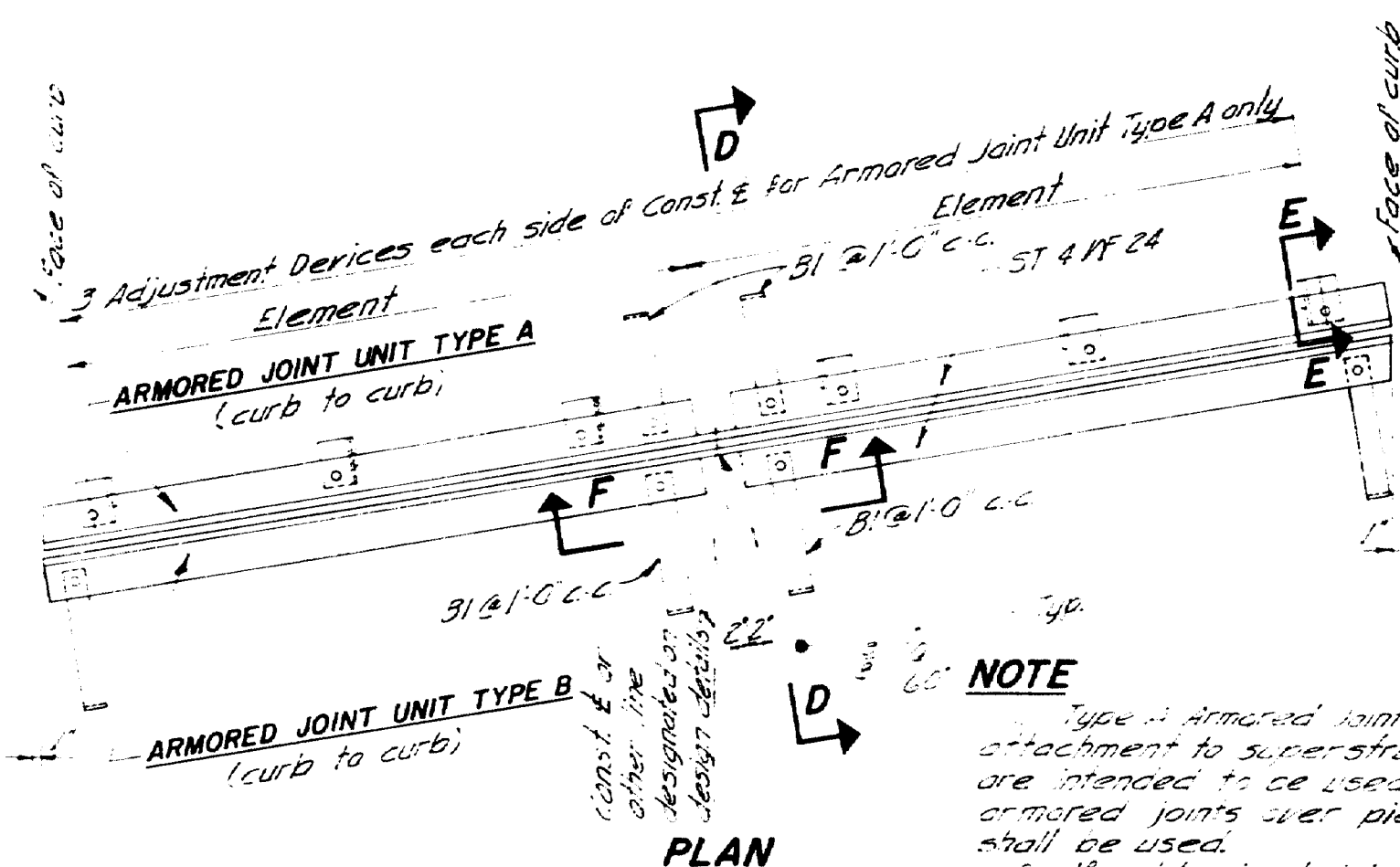


SECTION B-B
Skew Angle 0° to 25°

SECTION B-B
Skew Angle over 25°

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. If 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 bonded 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 153-54. In either case bond 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'.

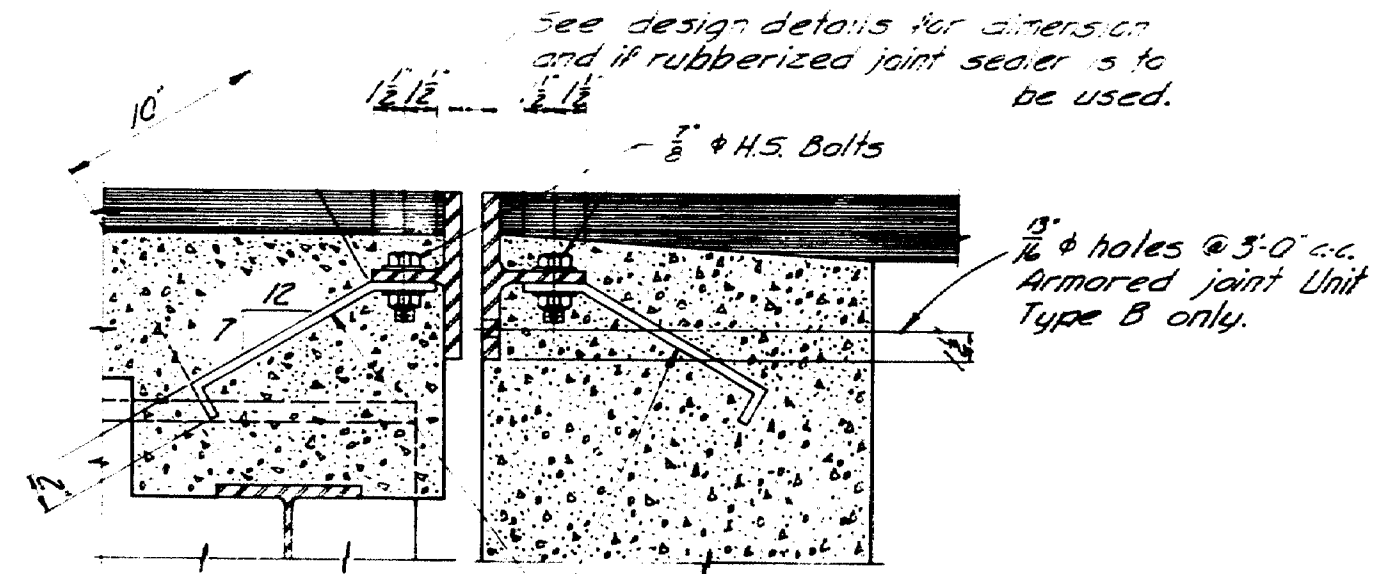
4. Armored Joints to be paid for as Structural Steel.

SECTION F-F

Note: See design details for Const. & to curb dimensions, skew, crown slope, slab thickness, other dimensions necessary to complete the fabrication details, and location.

ARMORED JOINT

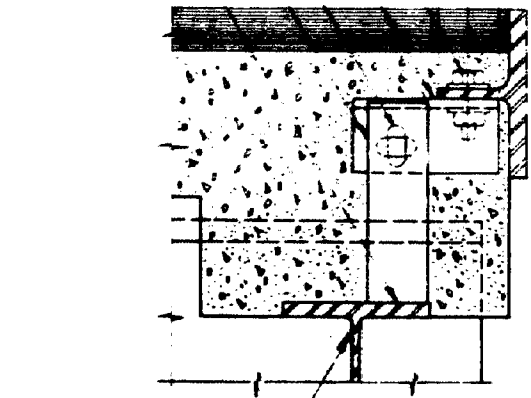
An armored joint consists of two armored joint units. See note 1.



ARMORED JOINT UNIT TYPE A

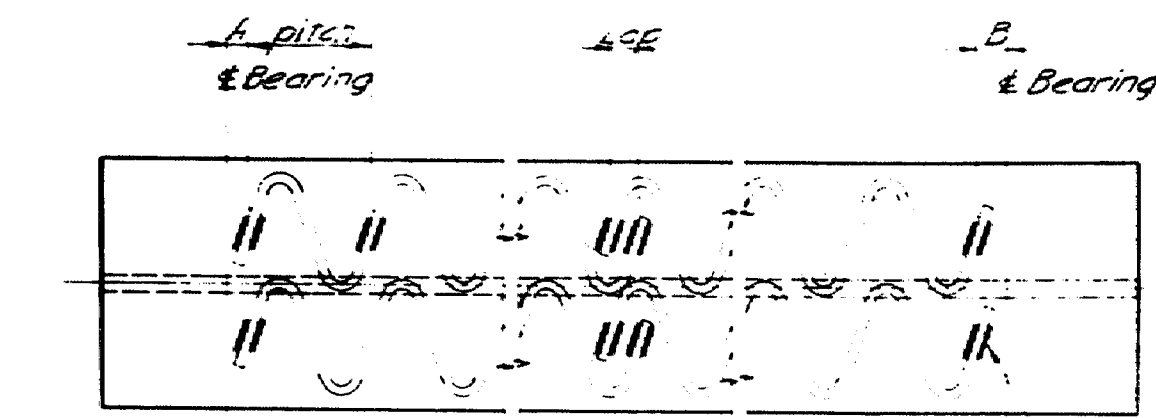
ARMORED JOINT UNIT TYPE B

SECTION D-D

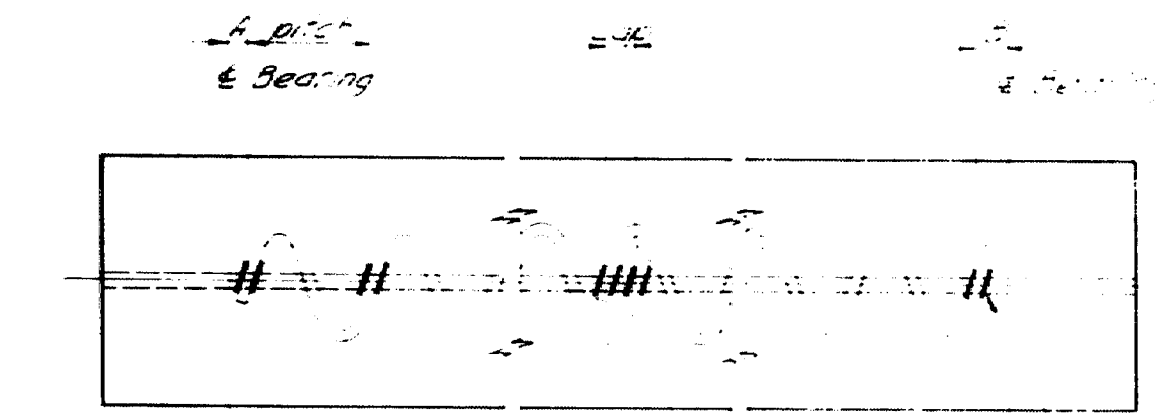


SECTION E-E

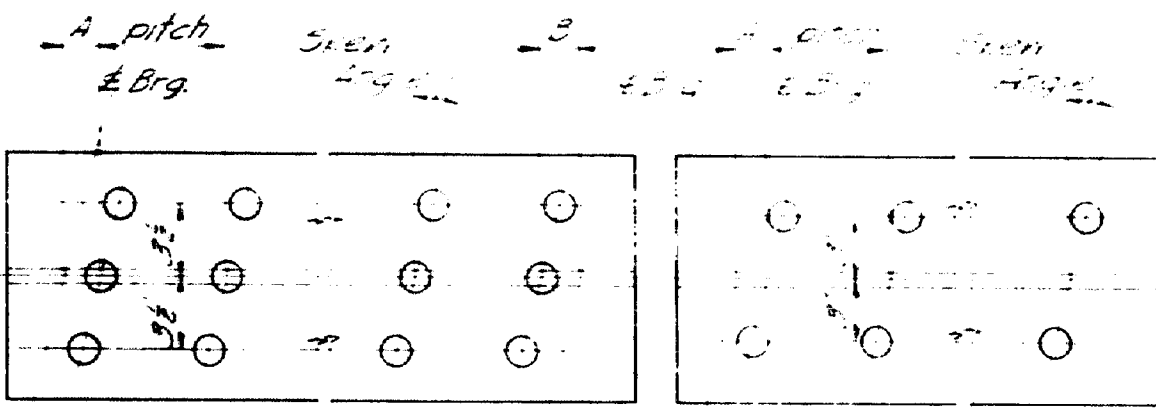
Showing Adjustment Device Armored Joint Unit Type A only - After Unit is in final position weld & E to angle with & fillet



DOUBLE SPIRAL



SINGLE SPIRAL



TRIPLE STUDS

DOUBLE STUDS

STUD DETAIL

NOTE

1. Spiral reinforcing or studs may be used at the option of the contractor.

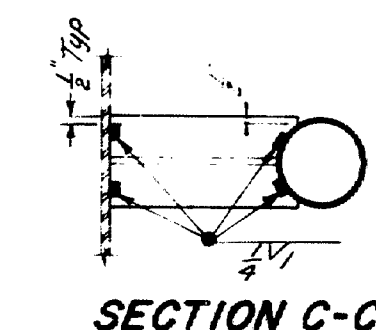
2. If studs are used they shall be granular or solid flux fused and welded to the top flange in the shop or field.

3. Studs are a patented product. If the Contractor elects to use studs, he shall pay the royalty and payment to the contractor will be included in the contract 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

Cut 4 holes 1/2 x 2", 1/2" from top. Do not cover with concrete or waterproofing.



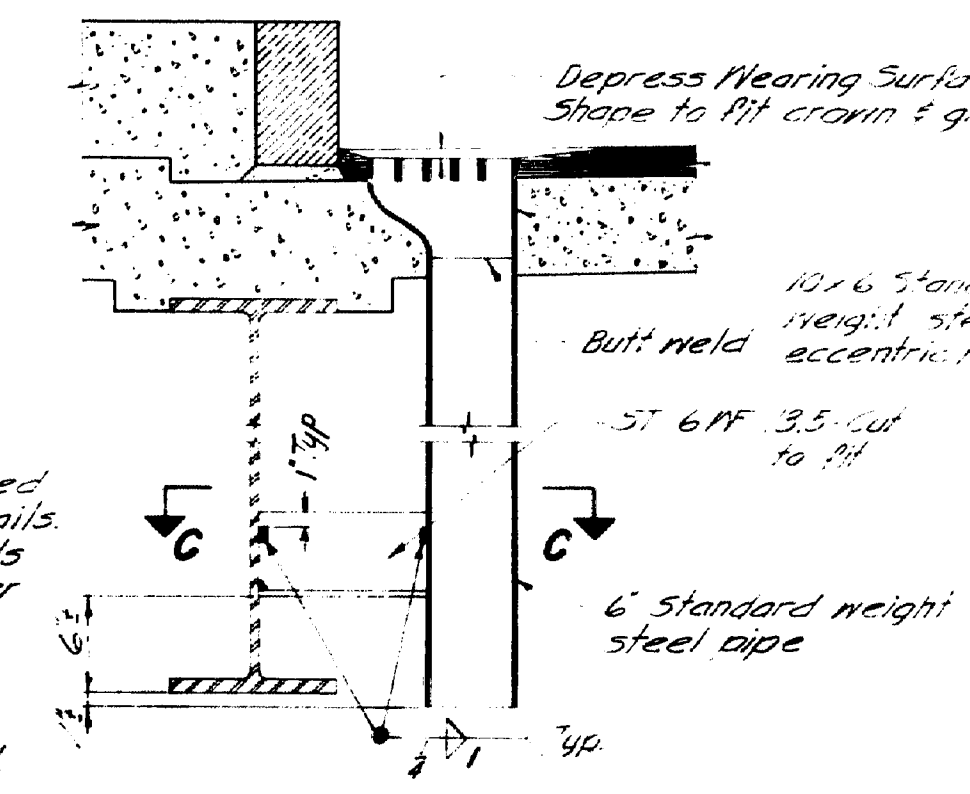
SECTION C-C

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

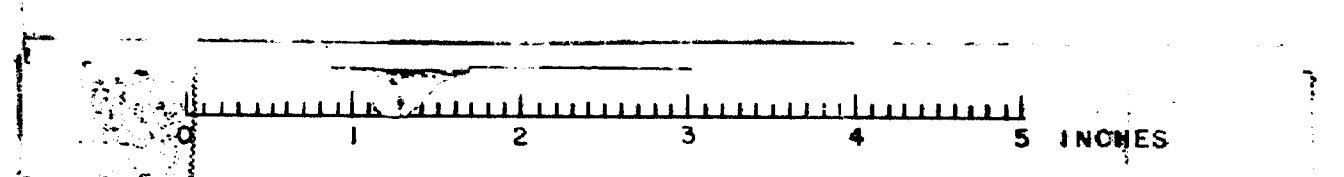
Use only those items shown on design details. Do not conflict between these Standard Details and the design details. The requirements of the design details shall be followed.

MAINE STATE HIGHWAY COMMISSION
AUGUSTA, MAINE

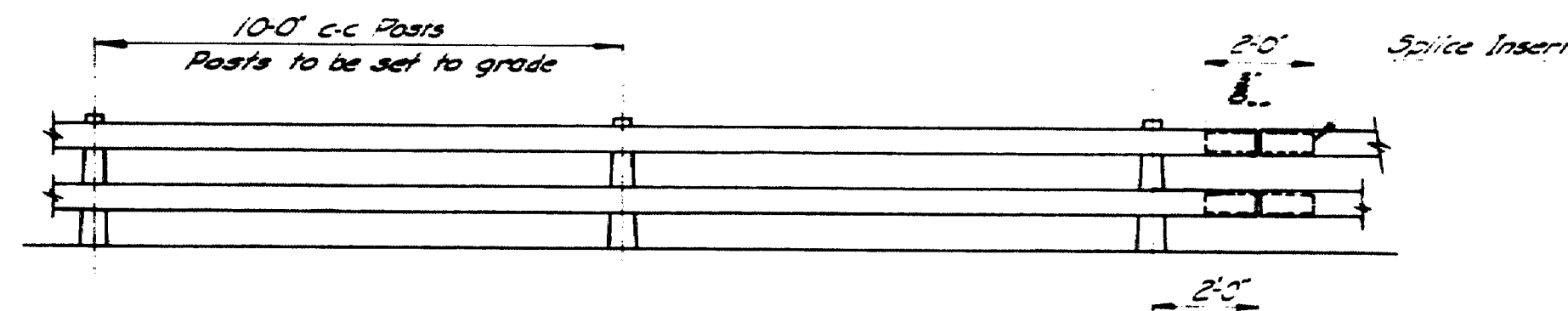
STANDARD DETAILS
(BD 104-64)
DIAPHRAGMS, ARMORED JOINT, SHEAR CONNECTORS, DRAIN

JANUARY 1964

ML-2442C

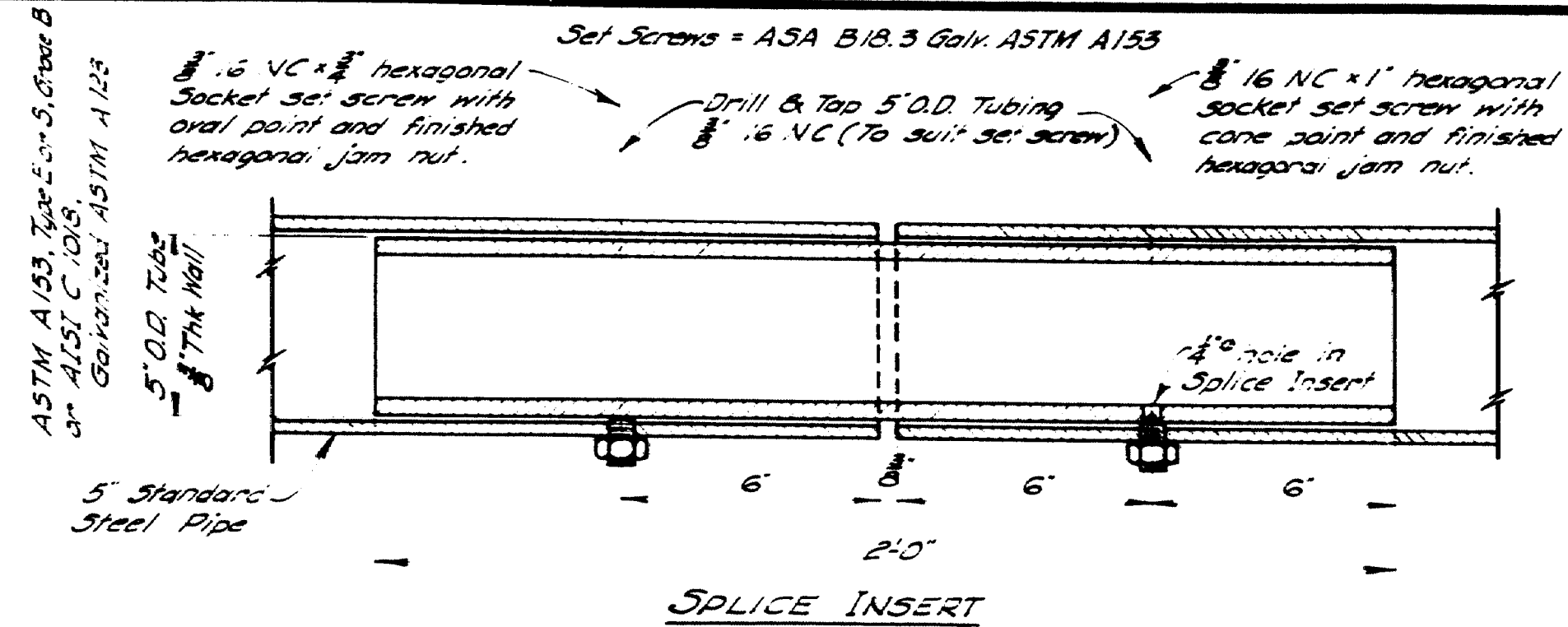


B. P. R.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	1-95-9(37)	19 D	88

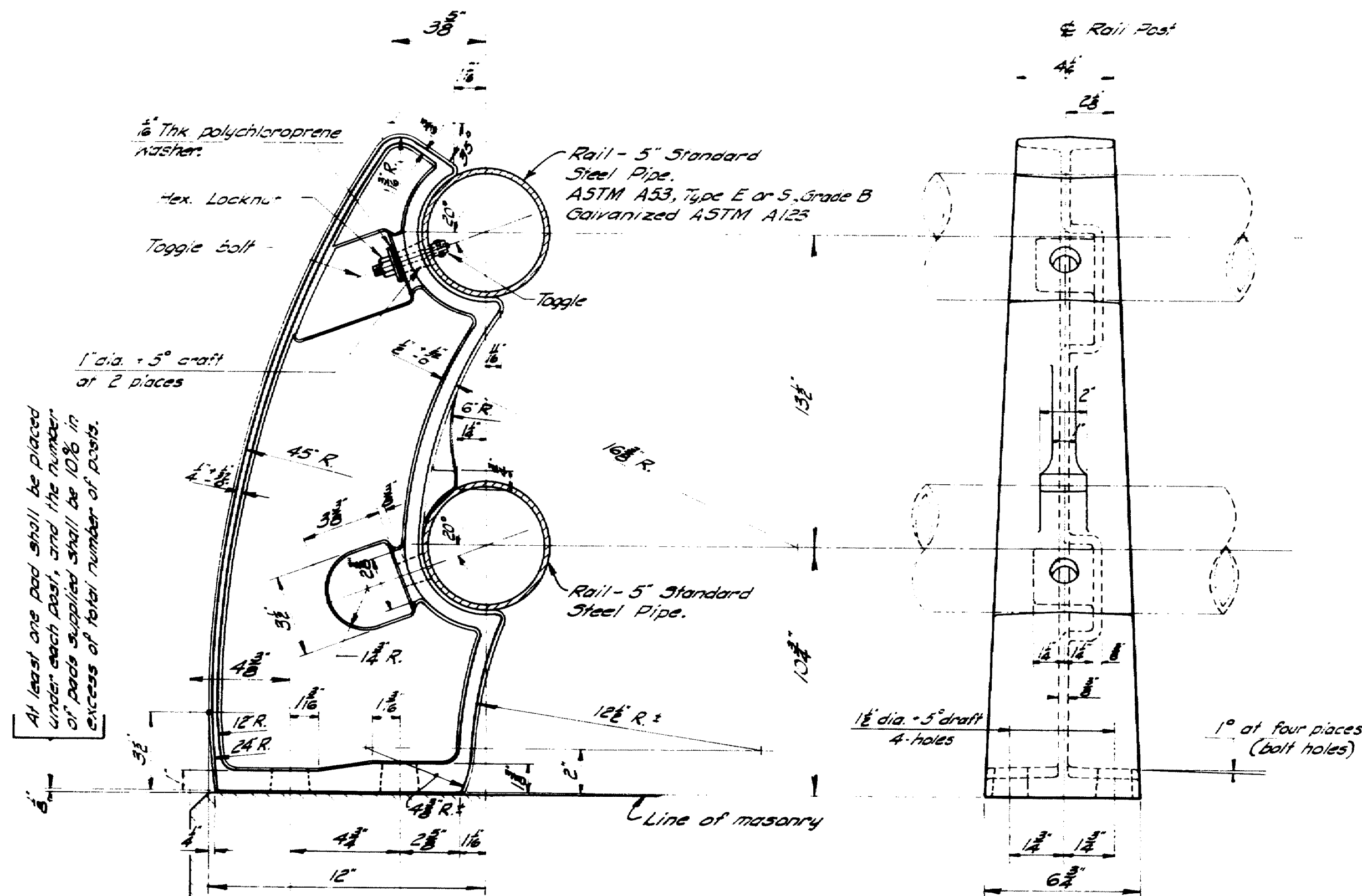


RAIL ELEVATION

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.

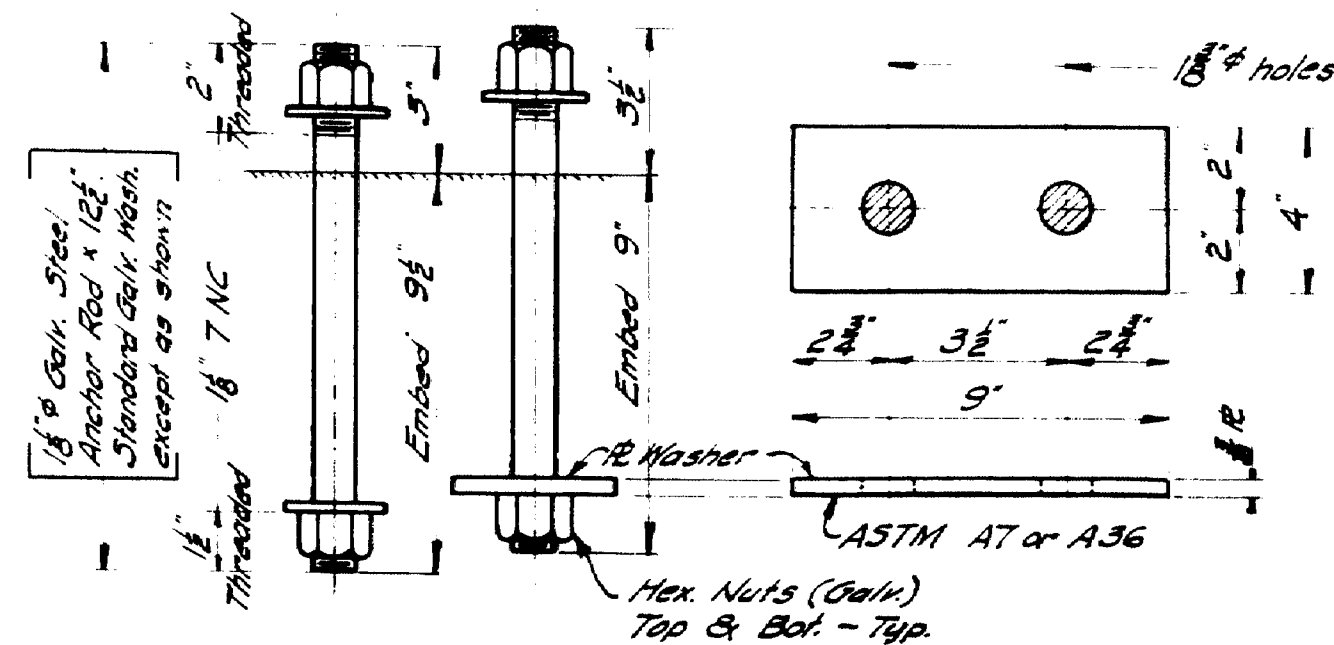


SPICE INSERT



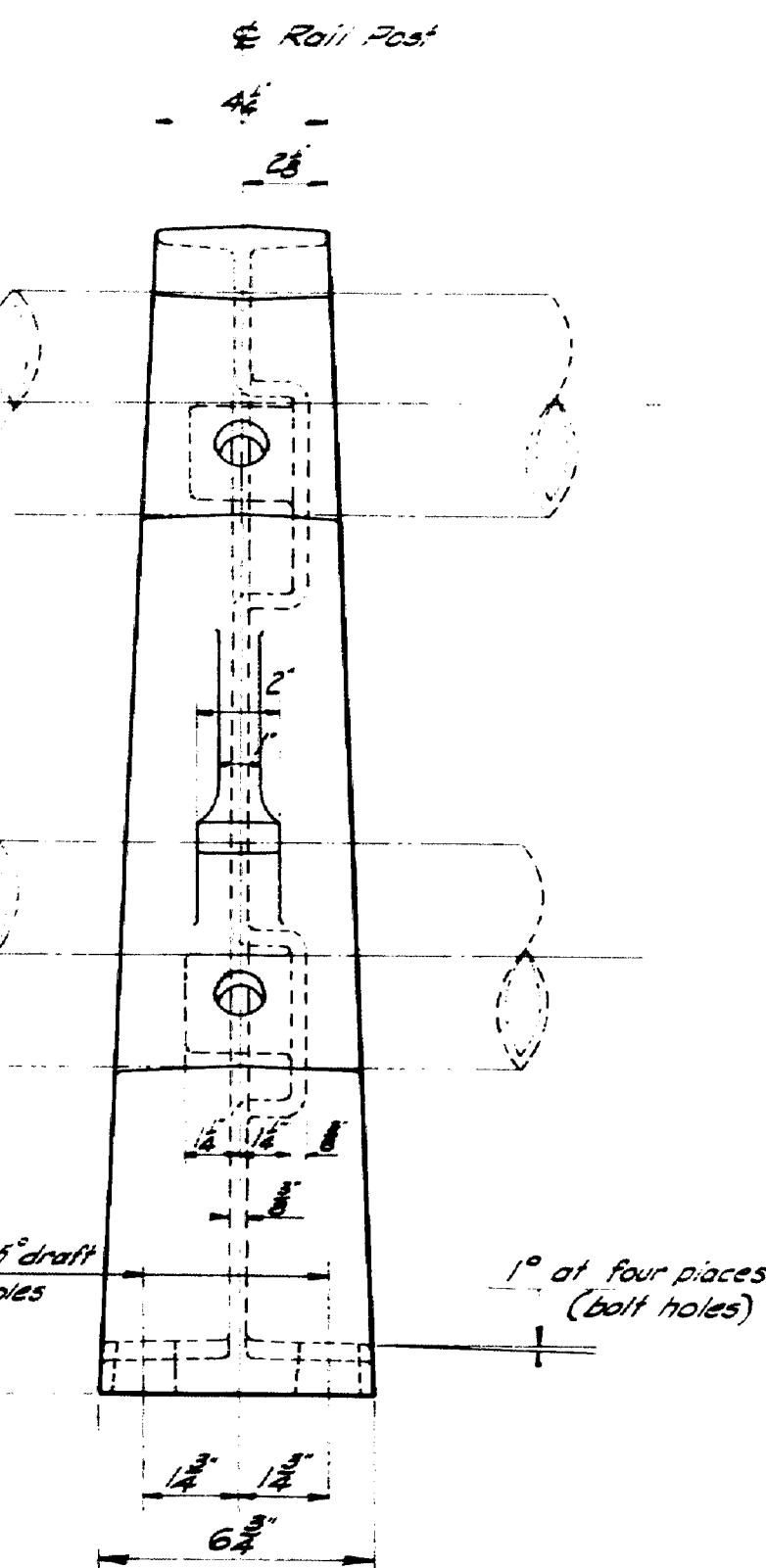
RAIL POST

ASTM A27, Grade 65-35, Galvanized ASTM A153

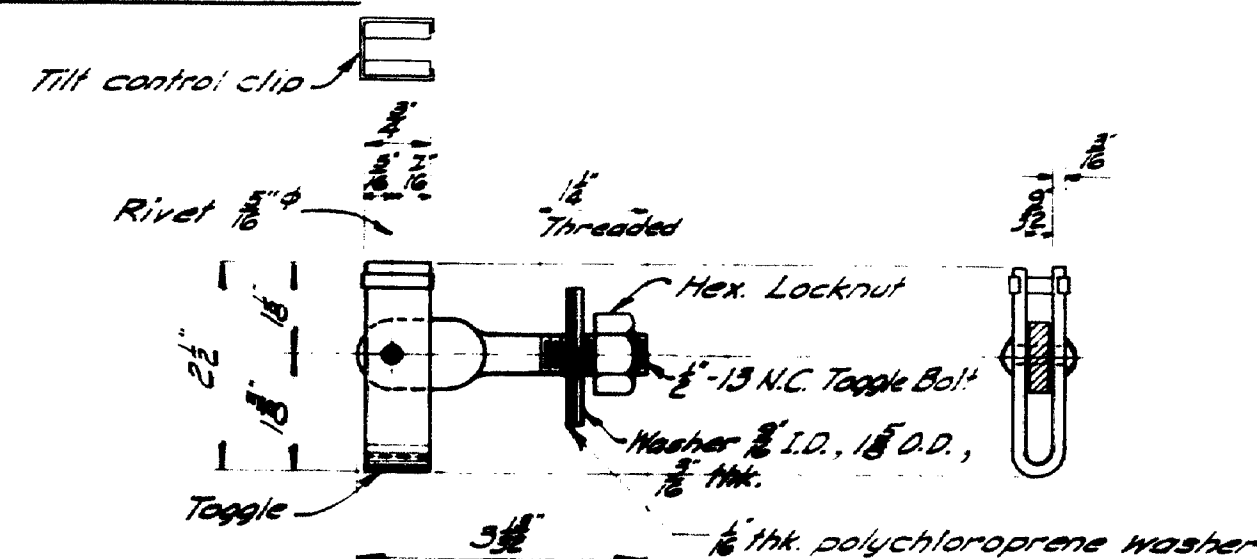


RAIL POST ANCHORAGE

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

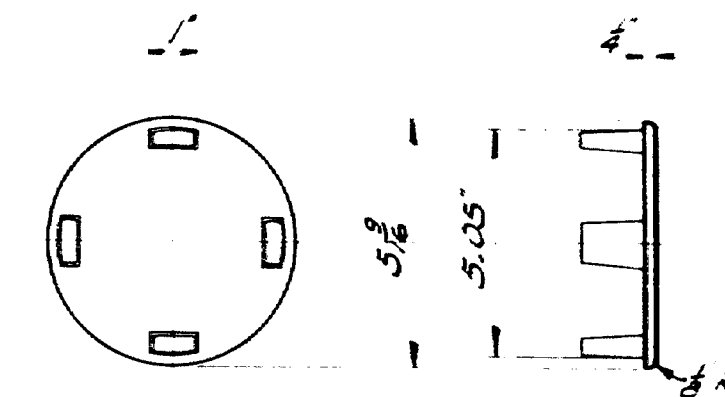


FRONT ELEVATION



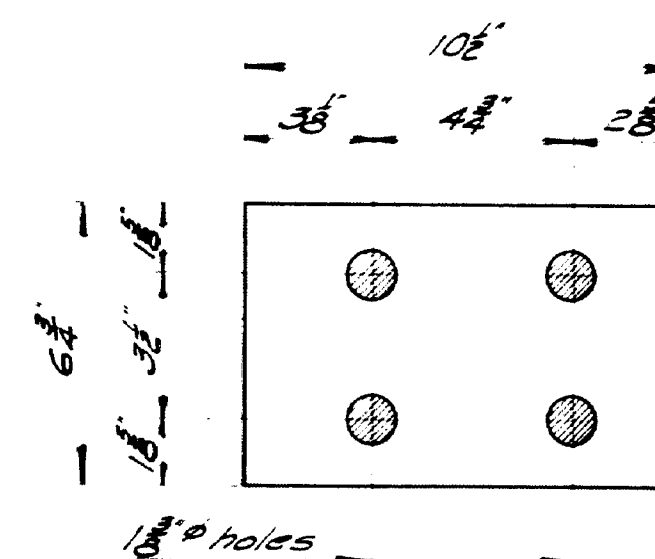
TOGGLE BOLT DETAIL

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



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

M-2442D

