

STATE OF MAINE STATE HIGHWAY COMMISSION



INTERSTATE 95 OVER B&ARR & EXIST. ROUTE 159 AND FISH STREAM & STATE AID-1 IN THE TOWN OF ISLAND FALLS AROOSTOOK COUNTY

FEDERAL AID PROJECT NO. I-IG-95-9(43) 272
LENGTH OF PROJECT 0.318 MILE

TRAFFIC

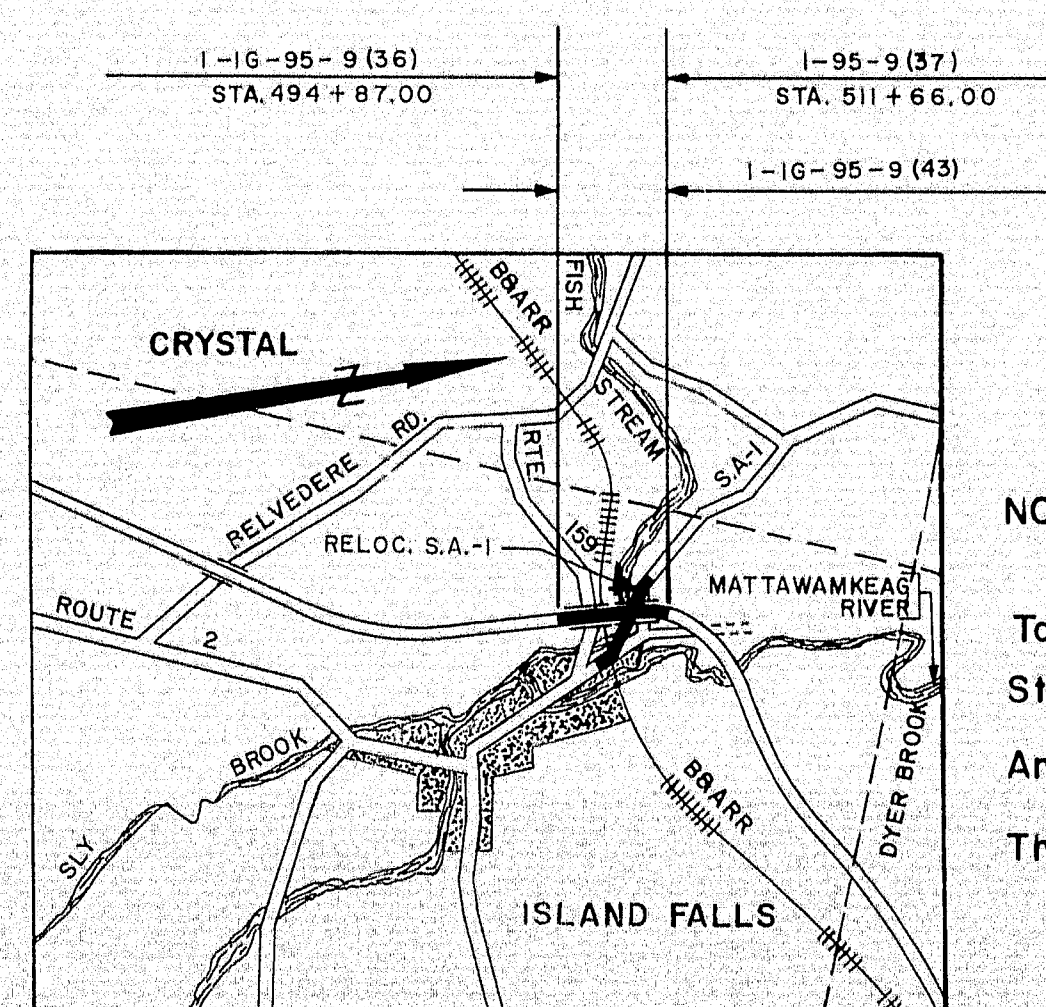
	INTERSTATE 95	ROUTE 159	STATE AID-1
1966 A.D.T.	1600	70	100
1986 A.D.T.	2500	100	140
D.H.V.	300	15	20
T.	14%	14%	14%
D.	60%	60%	60%
V.	60 MPH	50 MPH	50 MPH

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28-29	PLAN AND PROFILE RELOC. STATE AID-1 & MARGINAL ROAD
30-35	CROSS SECTIONS STA. 494+87 TO STA. 511+66
36-45	CROSS SECTIONS RELOC. STATE AID-1 & MARGINAL ROAD

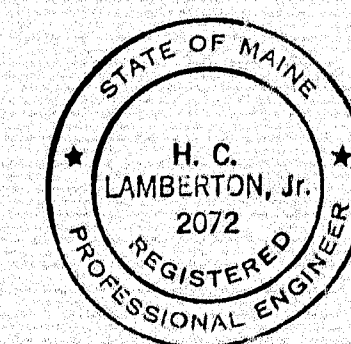
STANDARD DETAIL SHEETS

BD 105-64	EXPANSION DAMS
3-65	MISCELLANEOUS ITEMS
4-65	DETAIL OF TRAP
AUGUST 1965	FIELD OFFICES & TESTING LABORATORY
2-64	GUARD RAIL, ETC.
3-64	MISCELLANEOUS ITEMS
4-64	DETAIL OF TRAP, ETC.
BD 101-64	BEARING DETAILS
BD 103-64	BEAM SPLICES
BD 104-64	DIAPHRAGMS, ARMORED JOINT, SHEAR CONNECTORS, DRAIN
BD 107-64	STEEL RAIL
BD 108-64	ALUMINUM RAIL
	STANDARD BARRICADE DETAIL



LOCATION MAP
APPROX. SCALE - 1" = 1 MILE

NOTE:
All Work Contemplated Under This Contract
To Be Governed By And In Conformity With The
Standard Specifications (Revision of January 1956)
And Supplementals Thereto, Except As Modified On
The Plans And In The Special Provisions.

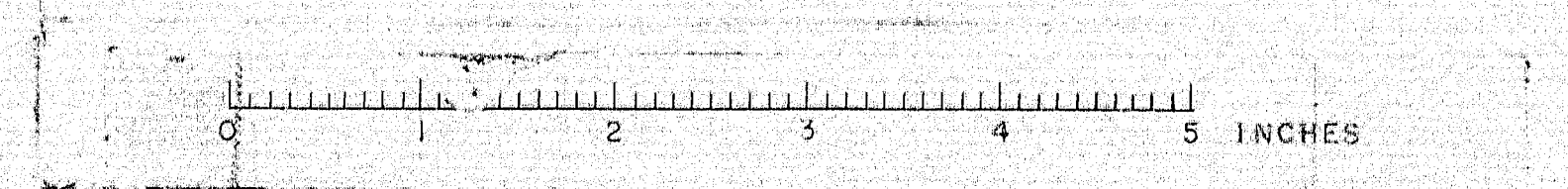


HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
NEW YORK BOSTON KANSAS CITY
H. C. Lamberton, Jr. 8-25-65
DATE

APPROVED
MAINE STATE HIGHWAY COMMISSION DATE
David H. Stearns 7-14-65
CHAIRMAN
Paul M. Stiefphen 7-14-65
ENGINEER
Constance D. Dyer 7-14-65
ENGINEER

DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS
REGION 1
APPROVED
DIVISION ENGINEER DATE

101-191



DRAINAGE																						
STATION	A.C.C.M.P.		R.C.P.		A.C.C.M.P.		A.C.C.M.P.		C.M.P.		CATCH BASINS				DROP INLETS		Bands	UNDERDRAINS				REMARKS
	LEFT EXTENSION				RIGHT EXTENSION													TYPE		TYPE C		
	SIZE	LENGTH	SIZE	LENGTH	SIZE	LENGTH	SIZE	LENGTH	SIZE	LENGTH	A	B	C	D	E	A		B	A	B	SIZE	
State Aid #1																						
Sta. 5+23 to 5+49 - 35' Rt.										15"	26'							1				
Sta. 8+15								36"	86'									4				
Sta. 15+48								24"	72'									3				
Sta. 17+12								24"	80'									3				
Sta. 18+24 to 19+00 - 45' Rt.								18"	32'									2				
Sta. 6+36 to 6+64 - 42' Rt.										15"	28'							1				

ESTIMATED QUANTITIES		
ITEM NO	DESCRIPTION	QUANTITY
201-5	Clearing	1.8
201-6	Selective Clearing and Thinning	1
203-9	Earth Excavation	6,000
203-12	Muck Excavation	25
204-10	Excavation For Slope Gravel Blanket	4,500
204-14	Structural Earth Excavation - Drainage	500
205-9	Structural Rock Excavation - Drainage	175
205-12	Structural Earth Excavation - Piers	25
205-12	Gravel Borrow	807
207-10	Gravel Borrow (I.P.M.)	175,000
209-6	Machine Aerialing	5,010
209-7	Bulldozer Grading (Including Operator)	200
209-8	Grader Rental (Including Operator)	20
209-9	All Purpose Excavator Rental (Including Operators)	20
209-10	Truck Rental (Including Operator)	20
209-11	Air Compressor Rental (Including Operator)	20
209-11	Air Tool Rental (Including Operator)	20
302-7	Gravel Base Course (I.P.M.)	9,000
310-6	Gravel For Foundations	100
311-6	Gravel Base Course for Slope Blanket	500
311-6	Sprinkling	200
311-6	Calcium Chloride	10
401-11	Gravel Surface Course	500
402-16	Stone Chips	90
404-31	Bituminous Conc. Surface Course, Type "B" (Hand Placed)	29
501-7	Road Tar	4,700
601-11	15" Corrugated Metal Pipe	56
602-12	18" Asphalt Coated Corrugated Metal Pipe	34
602-14	24" Asphalt Coated Corrugated Metal Pipe	15.8
602-16	36" Asphalt Coated Corrugated Metal Pipe	90
602-23	Remove and Relay 18" A.C.C.M.P.	40
606-10	Underdrain Type "B"	500
606-16	Underdrain Outlet	50
701-33	P.C.C. Abutments & Retaining Walls	412
701-35.1	P.C.C. Piers (I-95 over B & A.R.R. & Rte. 159)	234
701-35.2	P.C.C. Piers (I-95 over Fish Stream & S.A.-1)	543
701-40	P.C.C. Roadway & Sidewalk Slabs on Steel Bridges	647
701-50	P.C.C. Approach Slabs	64
701-54	Portland Cement for Riprap Grout	4
701-55	Curing Box for Concrete Cylinders	1
702-103.1	Structural Steel Fabricated & Delivered (I-95 over B & A.R.R. & Rte. 159)	L.S.
702-103.2	Structural Steel Fabricated & Delivered (I-95 over Fish Stream & S.A.-1)	L.S.
702-104.1	Structural Steel Erection (I-95 over B & A.R.R. & Rte. 159)	L.S.
702-104.2	Structural Steel Erection (I-95 over Fish Stream & S.A.-1)	L.S.
702-105.1	Structural Steel Field Painting (I-95 over B & A.R.R. & Rte. 159)	L.S.
702-105.2	Structural Steel Field Painting (I-95 over Fish Stream & S.A.-1)	L.S.
705-13	Reinforcing Steel Delivered	283,200
705-14	Reinforcing Steel Placing	283,200
705-17	Shear Connectors (I-95 Over Fish Stream & S.A.-1)	L.S.
708-16	Steel H Beam Piles 42 lbs./ft.	4,103
803-7	Cofferdam Pier 1 (I-95 over Fish Stream & S.A.-1)	L.S.
803-8	Cofferdam Pier 2 (I-95 over Fish Stream & S.A.-1)	L.S.
805-8	Bridge Rail	1,018
807-11	Epoxy Resin Surface Sealant	248
901-24	Vertical Bridge Curb Type 1	1,034
901-25	Vertical Bridge Curb, Circular, Type 1	16
905-24	Guard Rail Type "B"	1,300
905-31	Anchor for Guard Rail Type "B"	8
905-49	Single Posts Type "A"	5
906-18	Fencing Metal Posts	3,430
907-10	Hand Laid Riprap	777
908-10	Loam (I.P.M.)	2,250
909-7	Sodding	90
909-9	Wool Matting Weave "H"	250
910-13	Seeding Method No. 2	510
912-7	Hay Mulch	35
913-8	Bituminous Treated Stone Slope Protection	852
917-7	Hand Labor - Straight Time	25
929-10	Portable Barricades	4
938-1	Warning Lights & Illuminating Signs	2
939-8	Field Office Type "B"	L.S.

S.P.R.	STATE	PROJ. NO.	SHEET NO.	TOTAL SHEETS
1	MAINE	1x95-9(43)	2	45

SUMMARY OF EARTH EXCAVATION - LEDGE EXCAVATION AND BORROW QUANTITIES

EARTH EXCAVATION FOR ESTIMATE	
Earth Excavation (from cross sections)	2,214
Grubbing in Fill Sections	189
Top 2' Muck Excavation	2,508
(1) Total Earth Excavation	4,911

FILL FOR GRANULAR BORROW CALCULATIONS	
Fill (from cross sections)	
Grubbing (fill areas)	189
Muck Excavation (incl. top 2')	6,364
(2) Total Fill	141,999

LEDGE EXCAVATION FOR ESTIMATE	
Ledge Excavation (to 1/4:1 backslope)	
Ledge Excavation (between 1/4:1 & 1/2:1 backslope)	
Total Ledge Excavation	None

AVAILABLE EARTH EXCAVATION FOR GRANULAR BORROW CALCULATIONS	
Total Earth Excavation	4,911
Deductions:	
Grubbing in Cut Areas	712
Grubbing in Fill Areas	189
Top 2' Muck Excavation	2,508
Total Deductions	3,409
Total Available Earth Excavation	1,502

COMPUTATION OF GRANULAR BORROW FOR ESTIMATE	
(2) Total Fill	141,999
Total Available Earth	1,502
Total Available Ledge	1,277
Total Available Earth And Ledge	1,277
(3) Total Fill Minus Total Available Earth And Ledge	140,722
Granular Borrow = (3) 140,722 x 1.15 =	161,830
Granular Borrow Subbase 5,083 x 1.15 =	5,845
Total Granular Borrow	167,675

* Undetermined Location
The location of 1 Single Post Type "A" is noted on the plans. The remainder are at undetermined locations.

Structural Steel including drains (I-95 over B & A.R.R. & Rte. 159) is 199,100 Lbs.

Structural Steel including drains (I-95 over Fish Stream & S.A.-1) is 462,800 Lbs.

Estimated weight of Shear Connectors
Spirals = 7,530 Lbs.

Estimated number of Shear Connectors
Studs = 6,384 Pcs.

The Curing Box for Concrete Cylinders shall be used for both structures.

DESIGN:
A.A.S.H.O. Standard Specifications for Highway Bridges 1961 with Interim Specifications, 1962, 1963 and 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
H520-44 (Modified for Interstate)

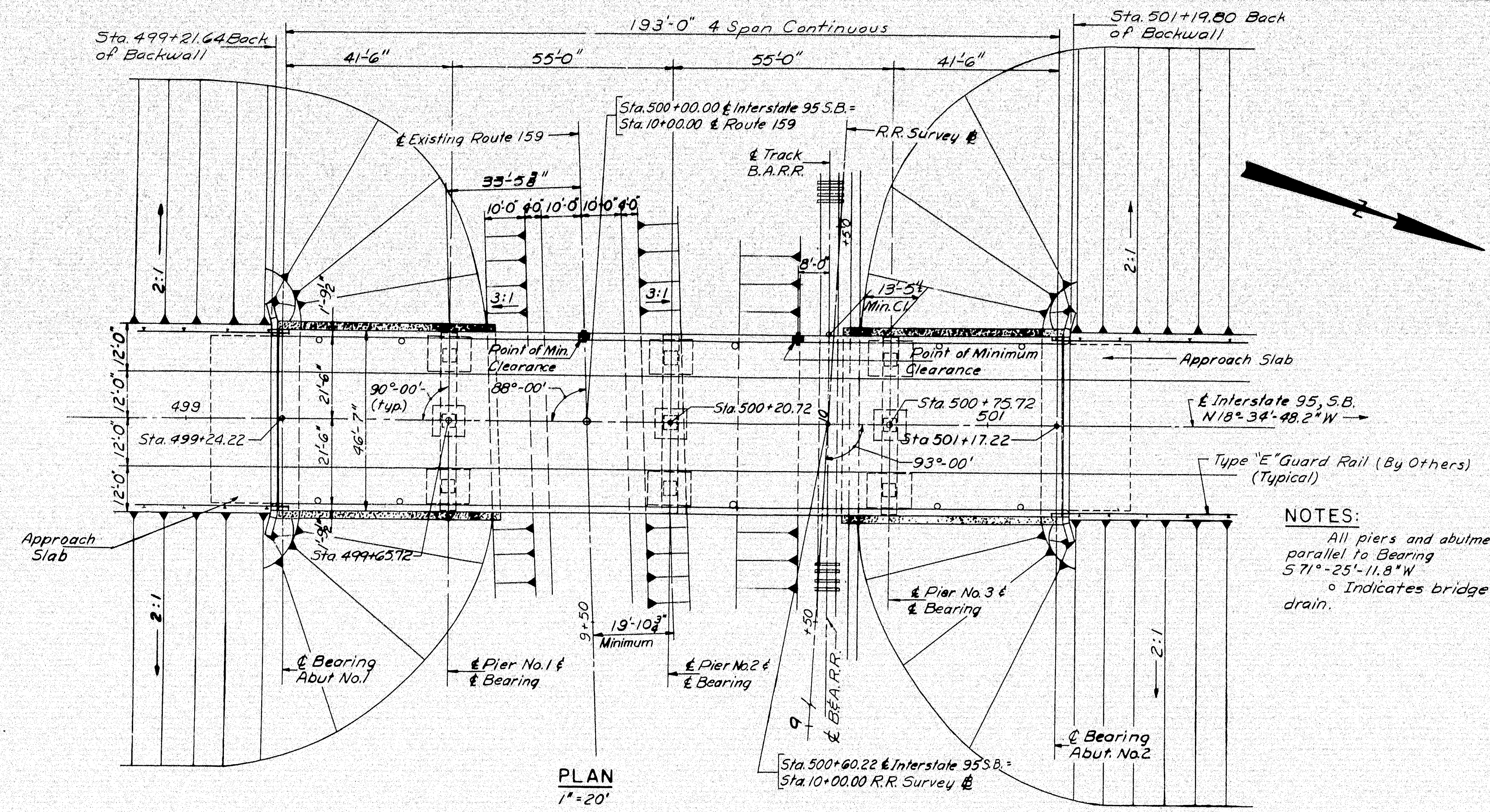
FOUNDATIONS
Abutments: 108P42 End Bearing Piles 57 Ton Capacity
Piers: 108P42 End Bearing Piles 37 Ton Capacity

ALLOWABLE STRESSES
Concrete ($n=10$) - $f_c = 1200$ psi
Reinforcing Steel, Intermediate Grade - $f_s = 20,000$ psi
Structural Steel - $f_s = 20,000$ psi (ASTM-A36)

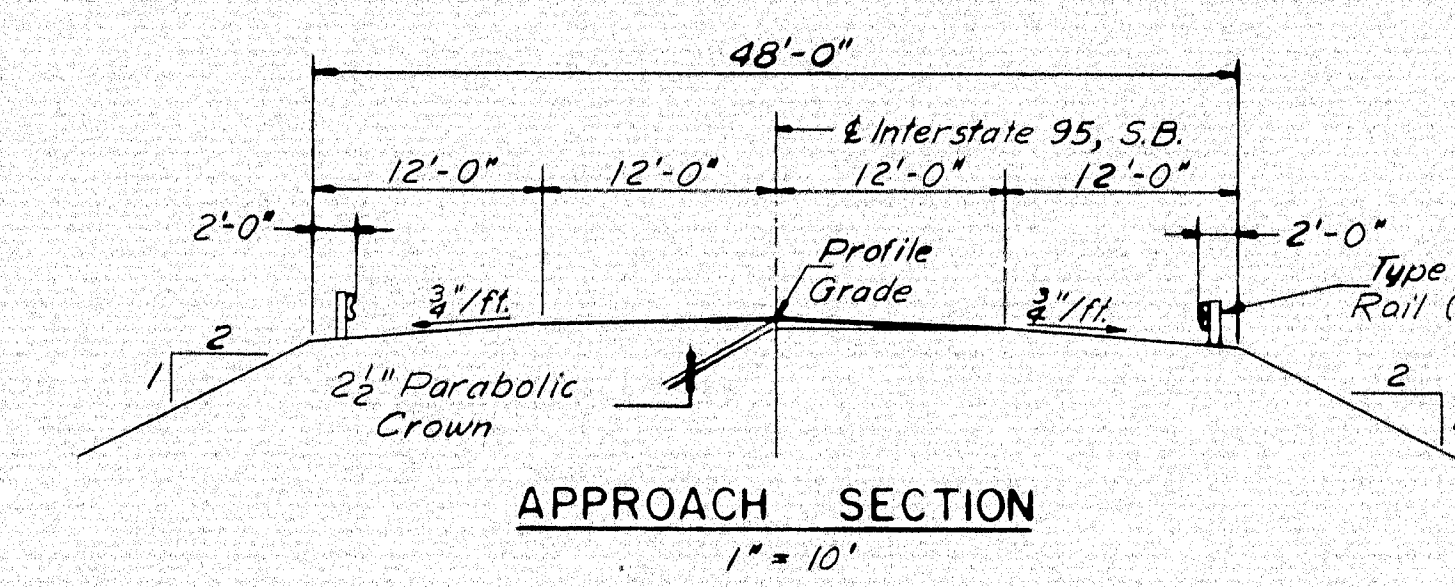
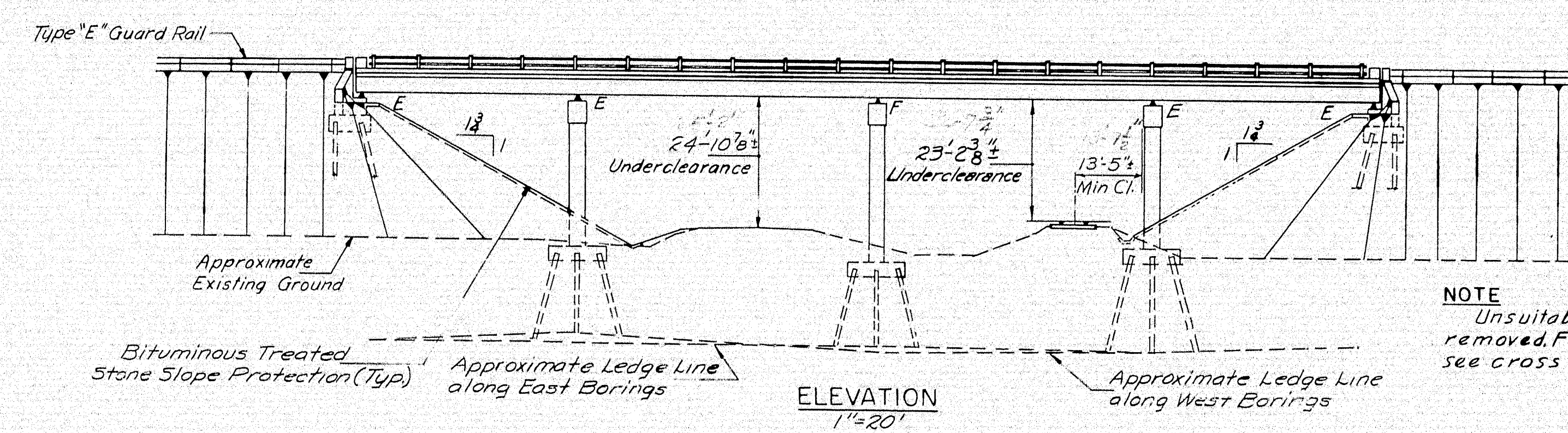
CONCRETE CLASSIFICATION
All concrete shall be Class #1.

INDEX OF SHEETS	
1.	GENERAL PLAN & QUANTITIES
2.	FOUNDATION SURVEY
3.	FOUNDATION SURVEY
4.	ABUTMENT NO. 1
5.	ABUTMENT NO. 2 & APPROACH SLAB
6.	PIERS
7.	STRUCTURAL STEEL & BLOCKING
8.	SUPERSTRUCTURE
9.	SLOPE PROTECTION
10.	REINFORCING STEEL

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

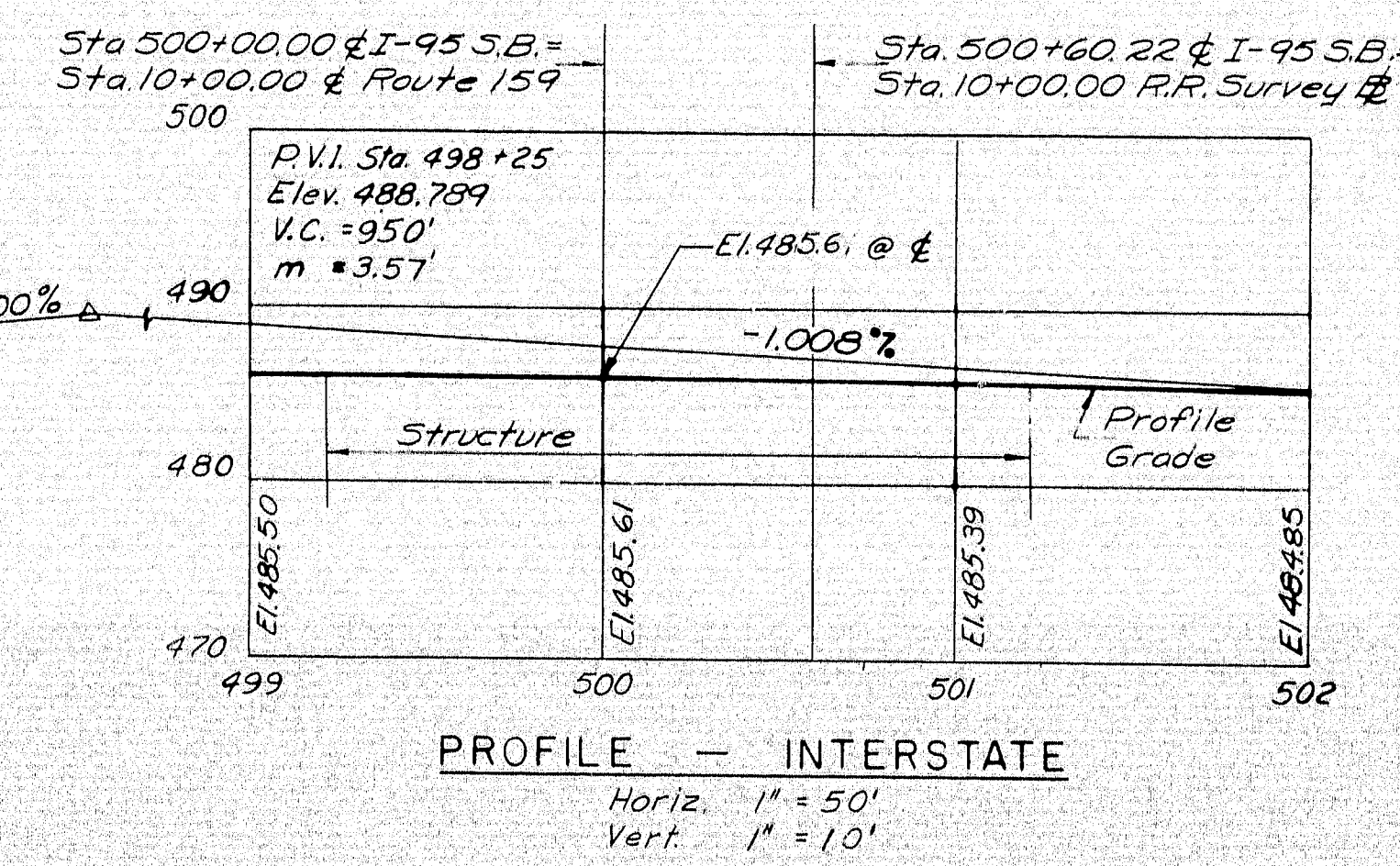
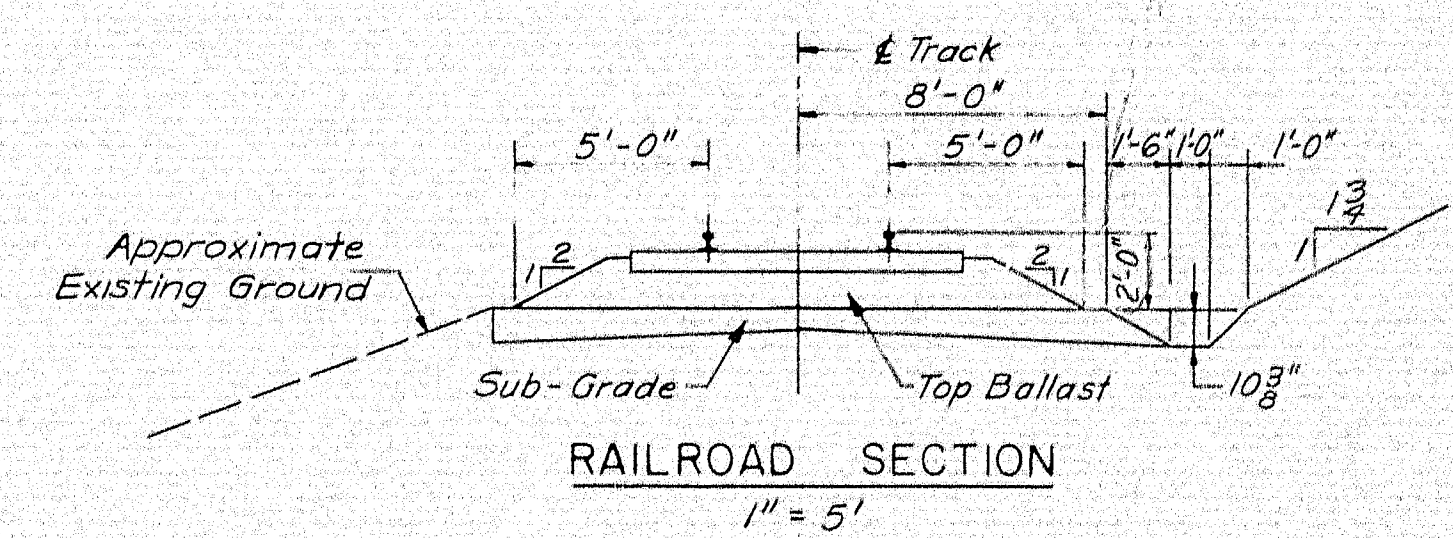
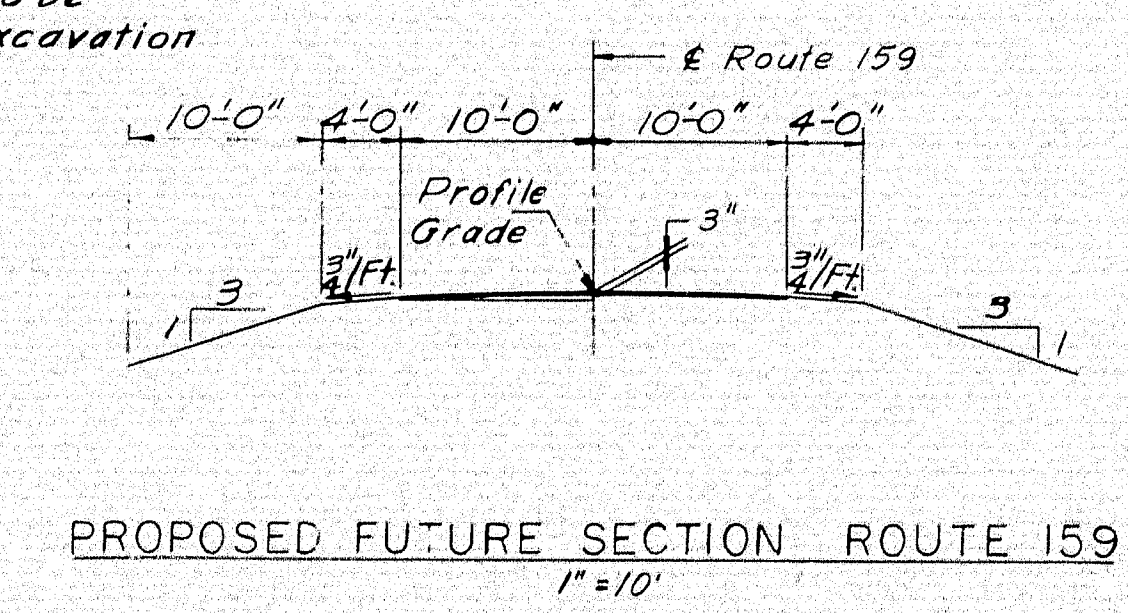


NOTES:
All piers and abutment parallel to Bearing $S 71^{\circ} 25' 11.8'' W$
o Indicates bridge drain.



Estimated weight of structural steel including drains is 199,100 lbs.
* This curing box shall also be used for I-95 S.B. over Fish Stream and Reloc. S.A.-1.

All exposed surfaces of the substructure shall be given a rubbed finish.



ELEVATION TOP OF RAILS					
Station	9+00	9+50	10+00	10+50	11+00
Left Rail	458.04	458.05	458.15	458.40	458.52
Right Rail	457.88	457.88	458.01	458.27	458.37

DESIGN - M.K.
TRACE - PRN.
BRIDGE NO. SURVEY - PLOT -

STATE HIGHWAY COMMISSION
BRIDGE DIVISION

INTERSTATE 95 S.B.
OVER
B.B.A. R.R. & EXISTING ROUTE 159
IN THE TOWN OF
ISLAND FALLS
AROOSTOOK COUNTY

GENERAL PLAN & QUANTITIES

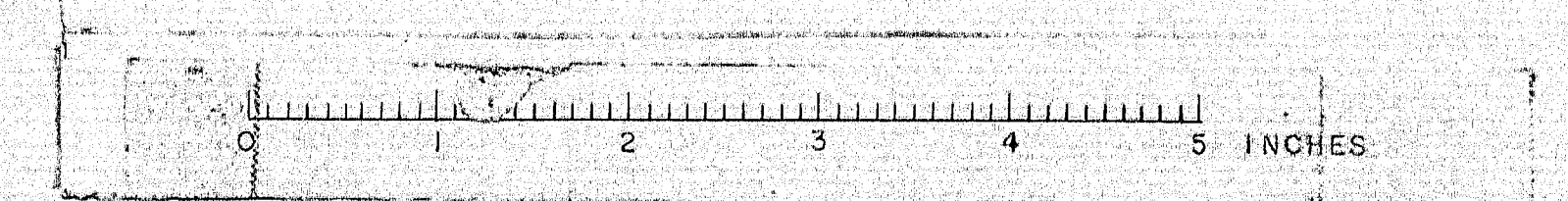
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CONSULTING ENGINEERS

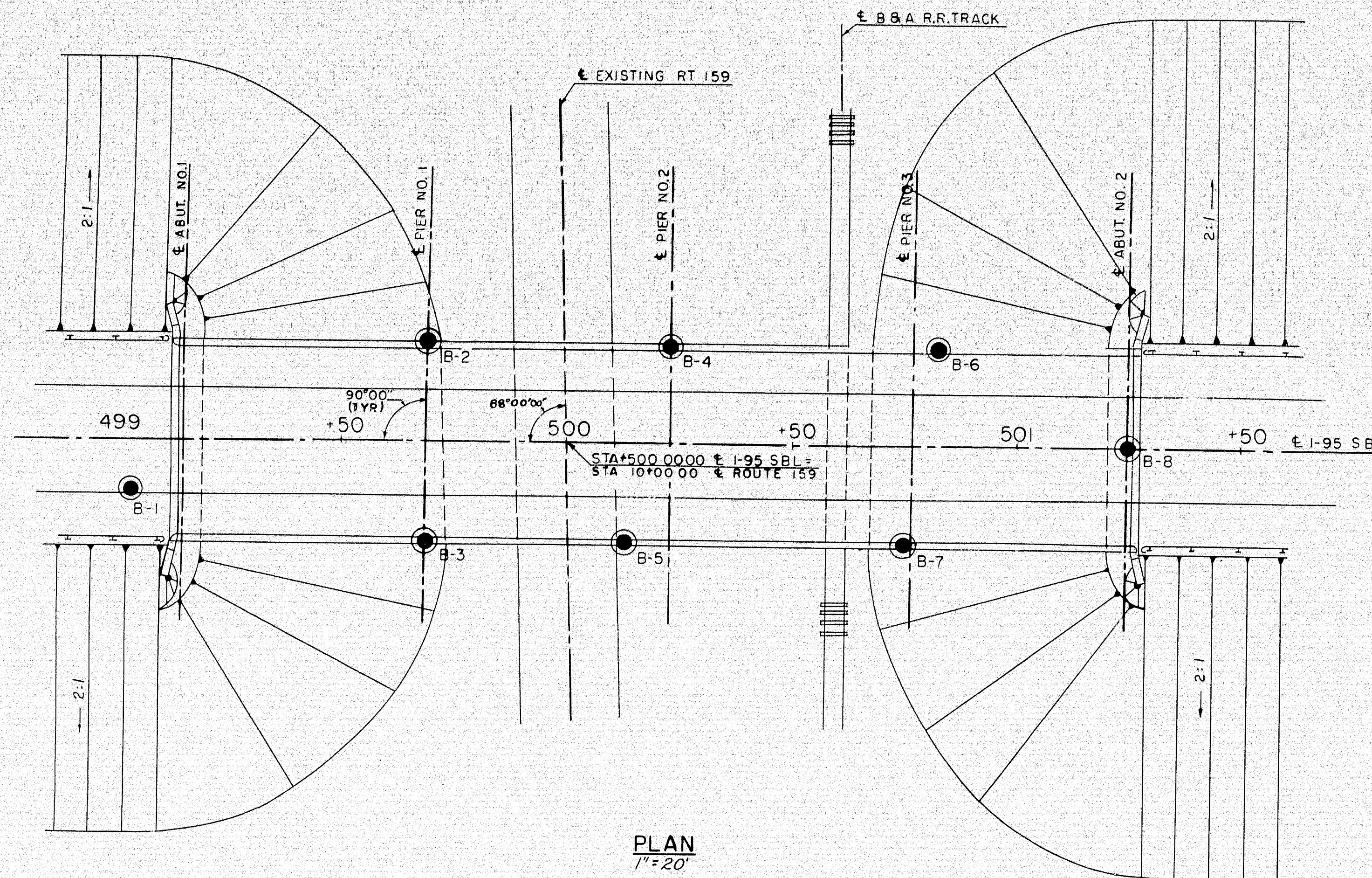
NEW YORK BOSTON KANSAS CITY

SHEET 1 OF 10 AUGUSTA, MAINE AUGUST 1965

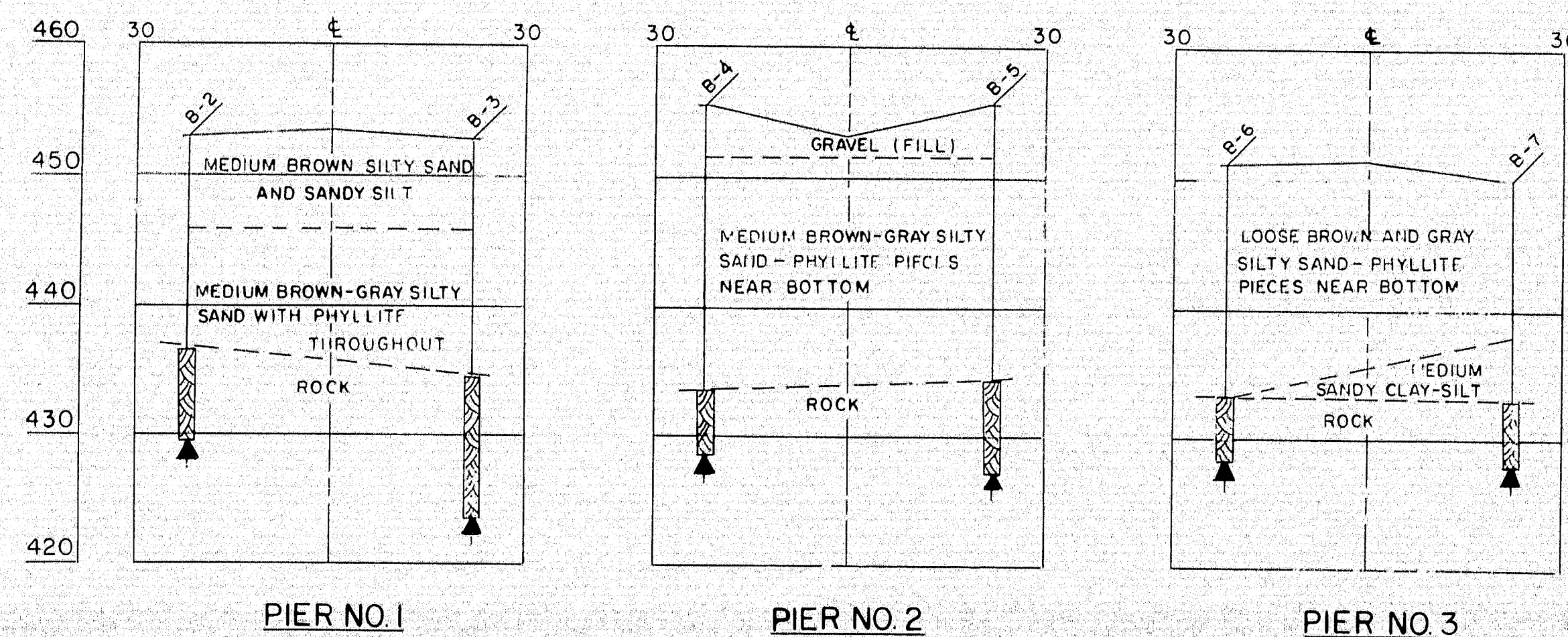
ISLAND FALLS (43)

101-193

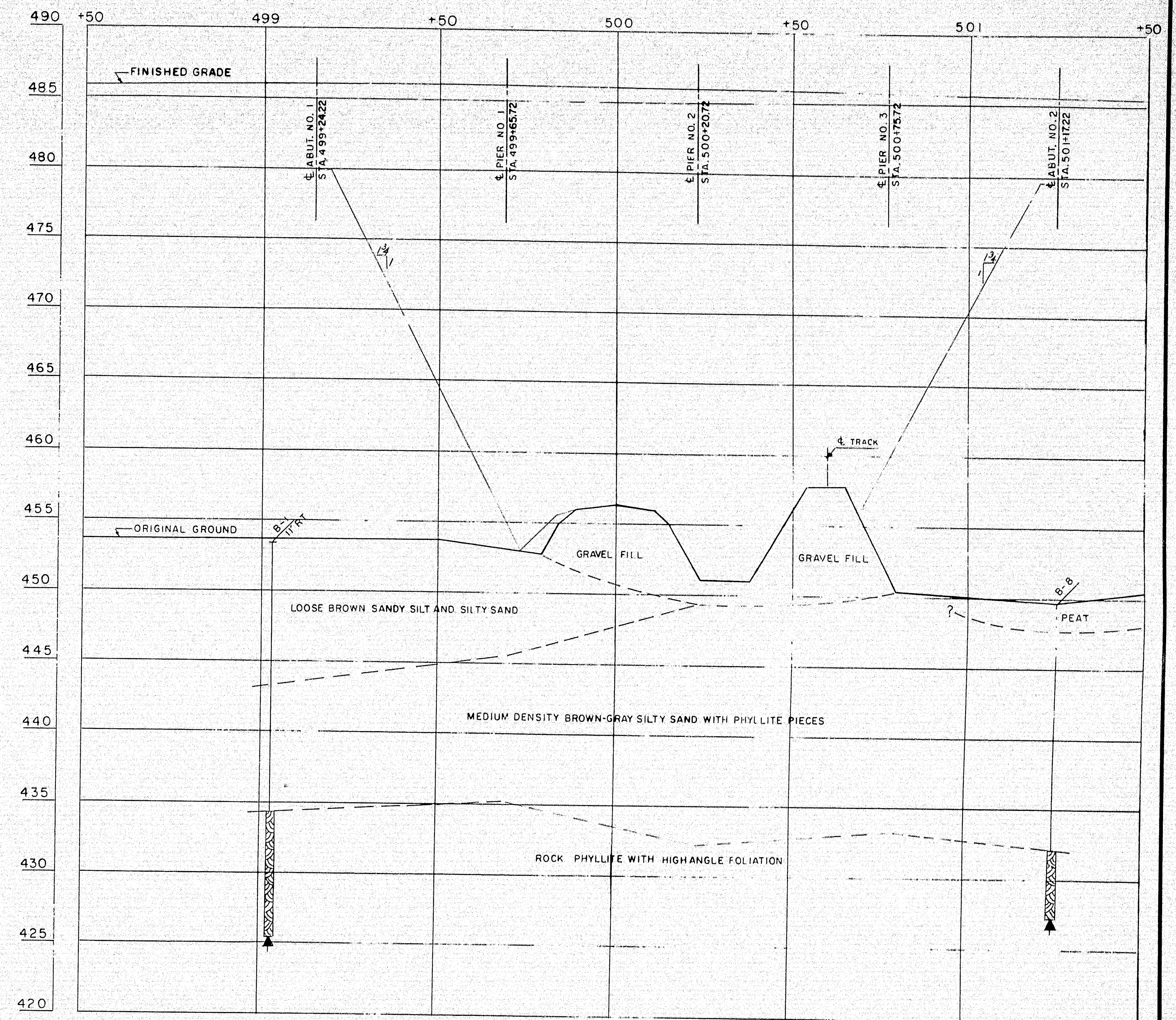




PLAN
1"=20'



TRANSVERSE SECTIONS



PROFILE
1"=20' Horiz
1"=50' Vert.

NOTE
For boring logs and notes see
Sheet 3.

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CONSULTING ENGINEERS
NEW YORK BOSTON KANSAS CITY

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

DETAIL A.J.M.

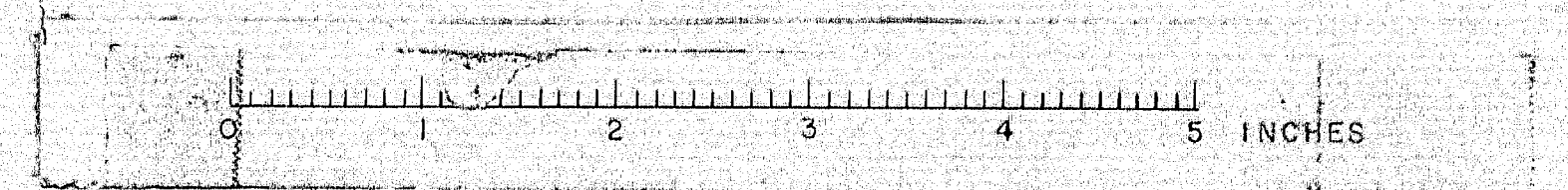
BRIDGE NO.
SURVEY-
PLOT-

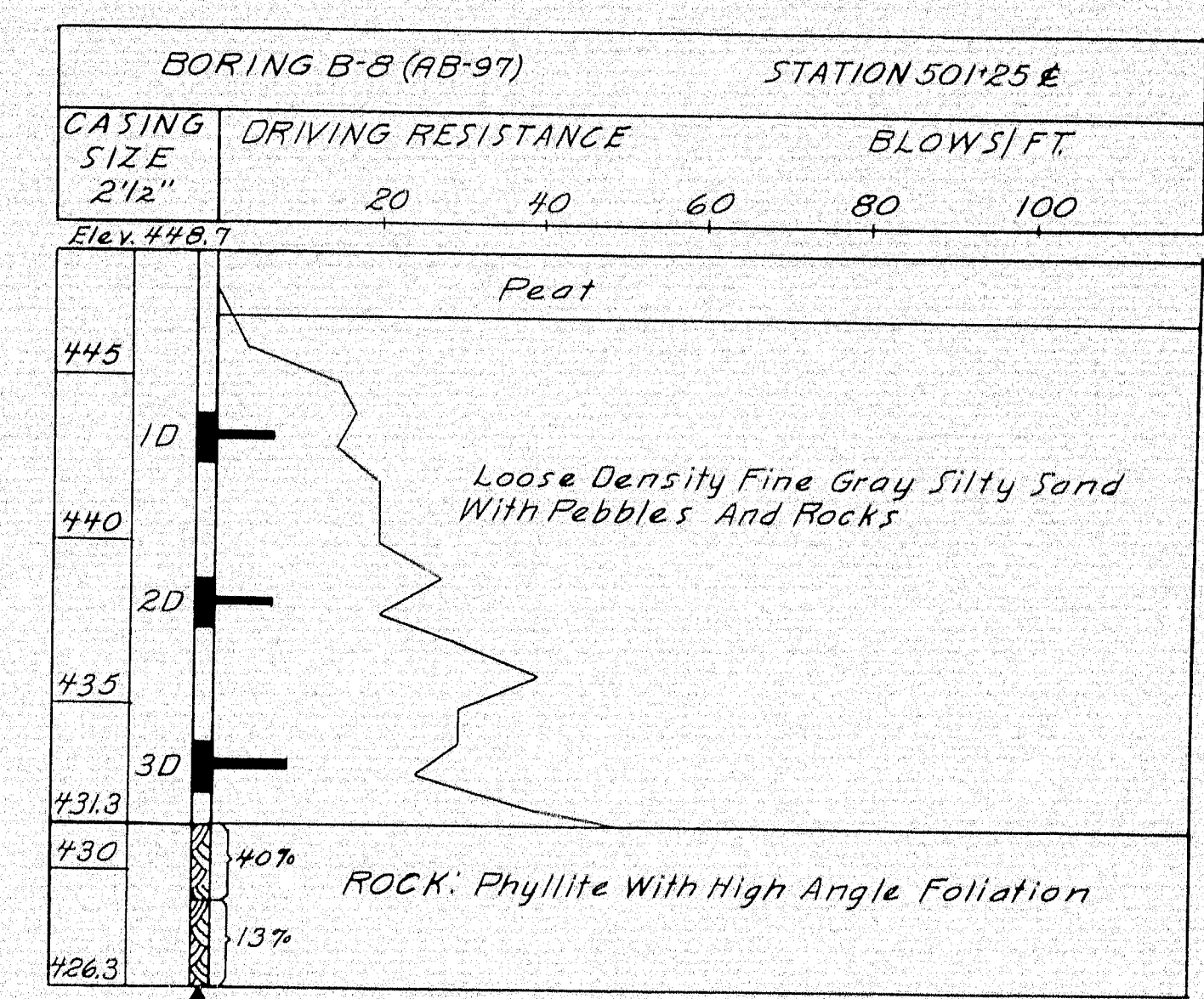
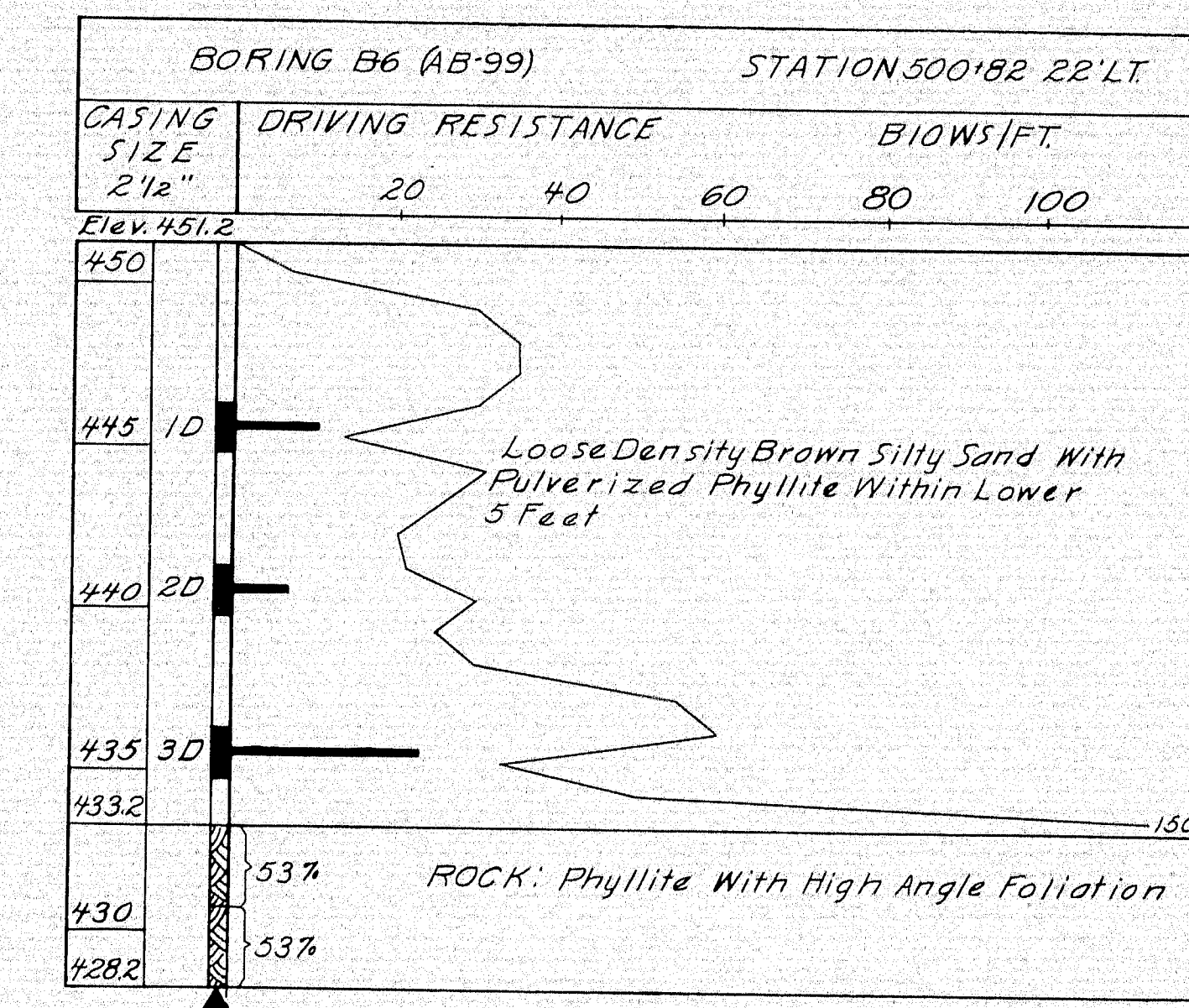
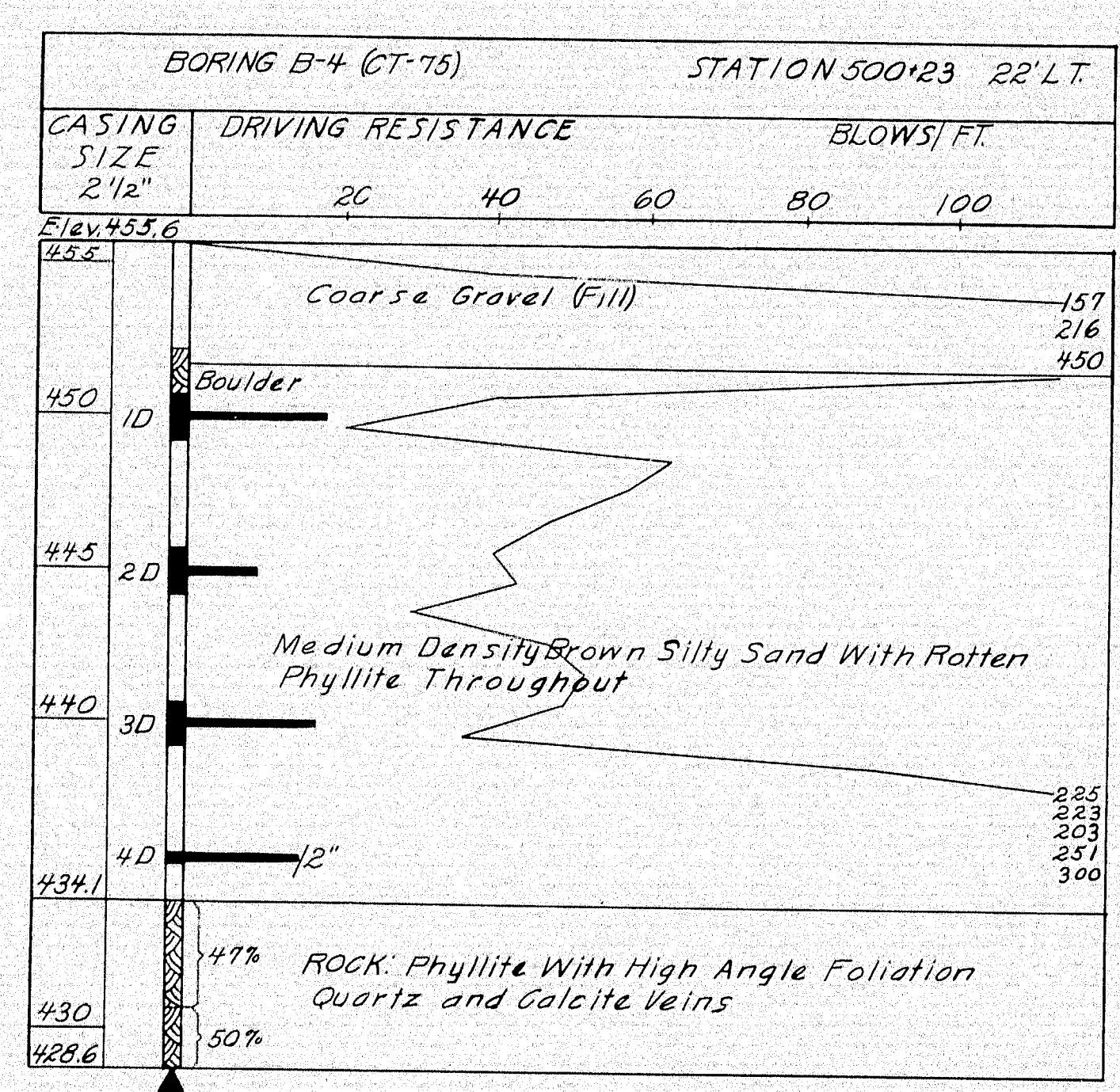
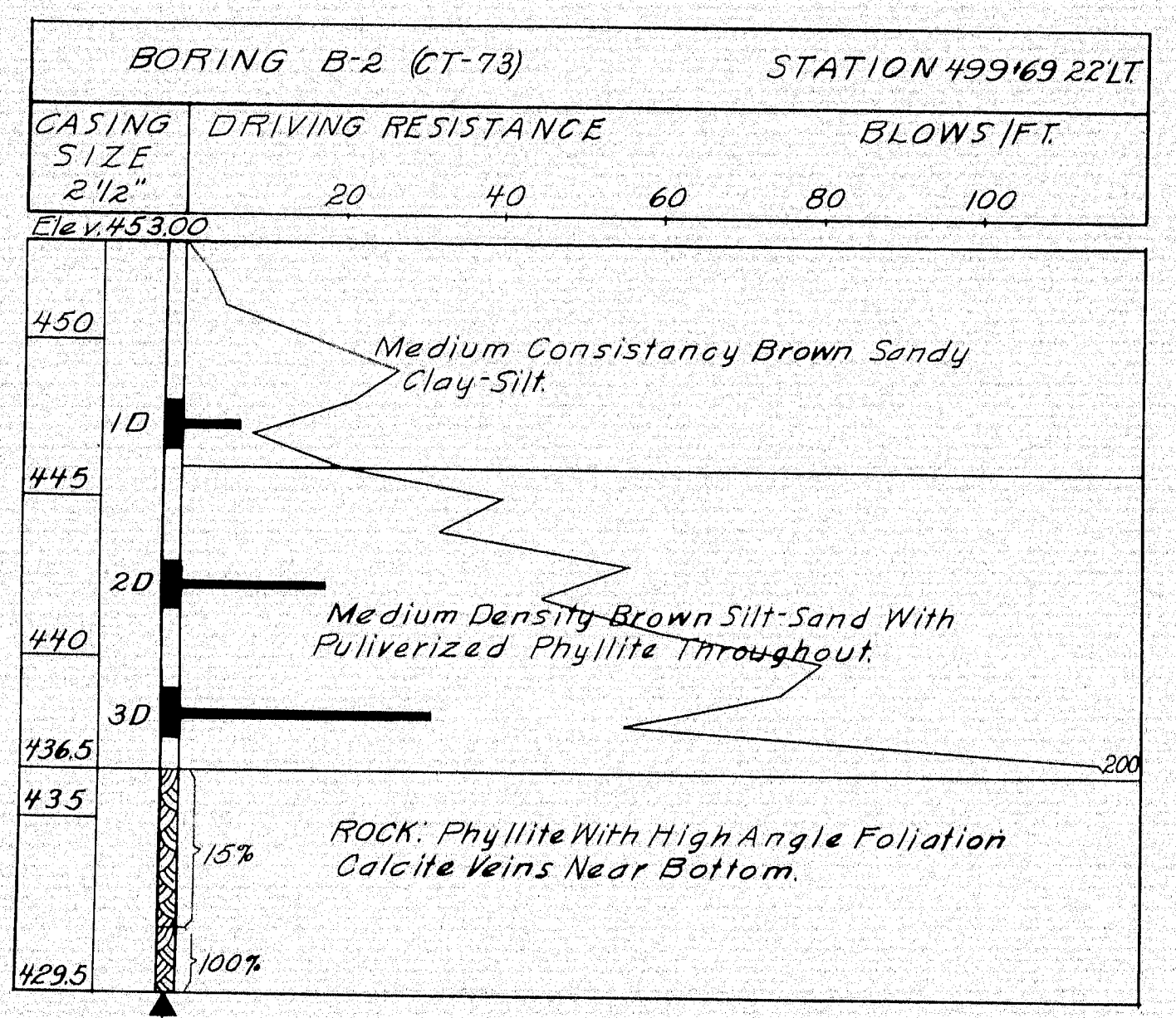
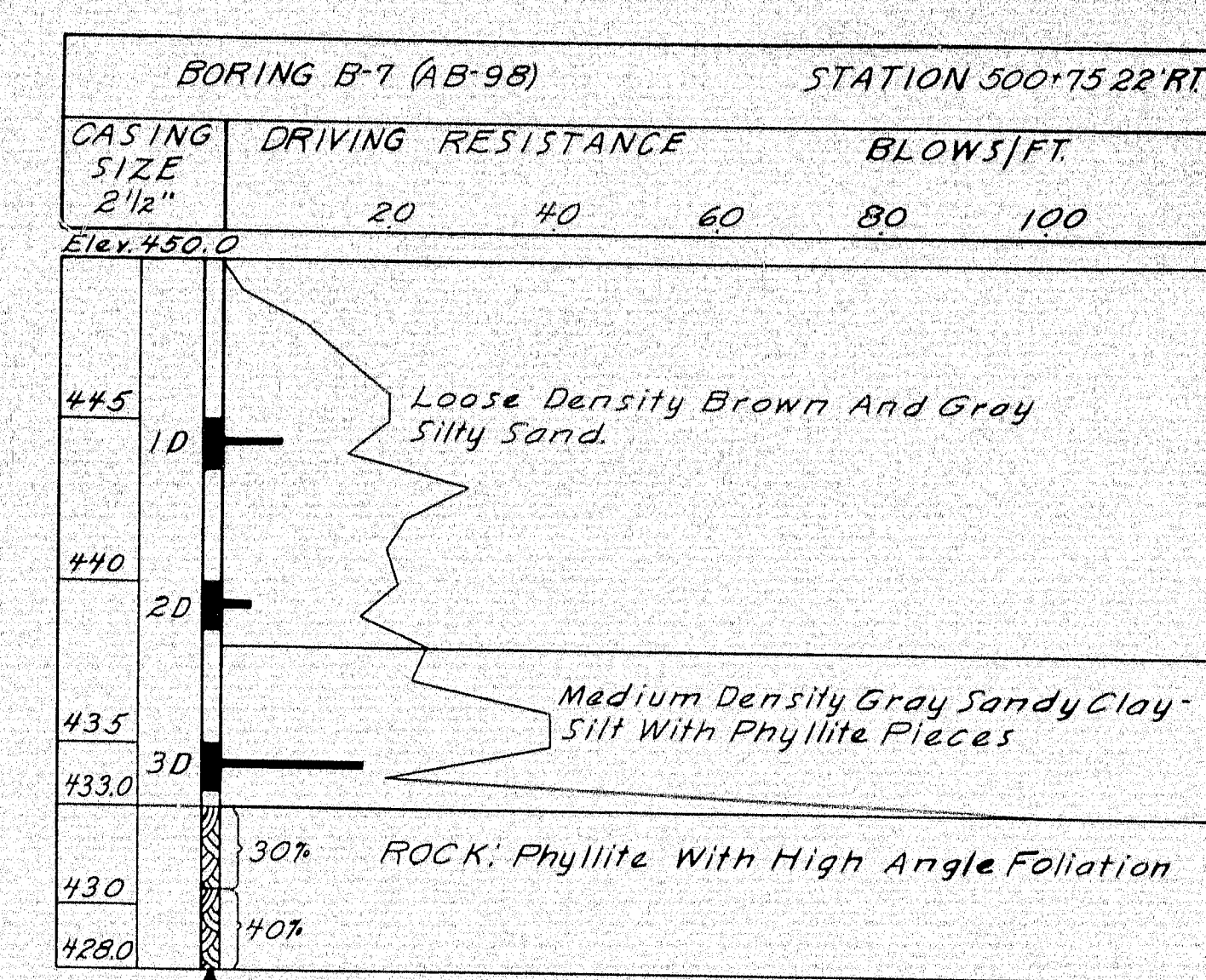
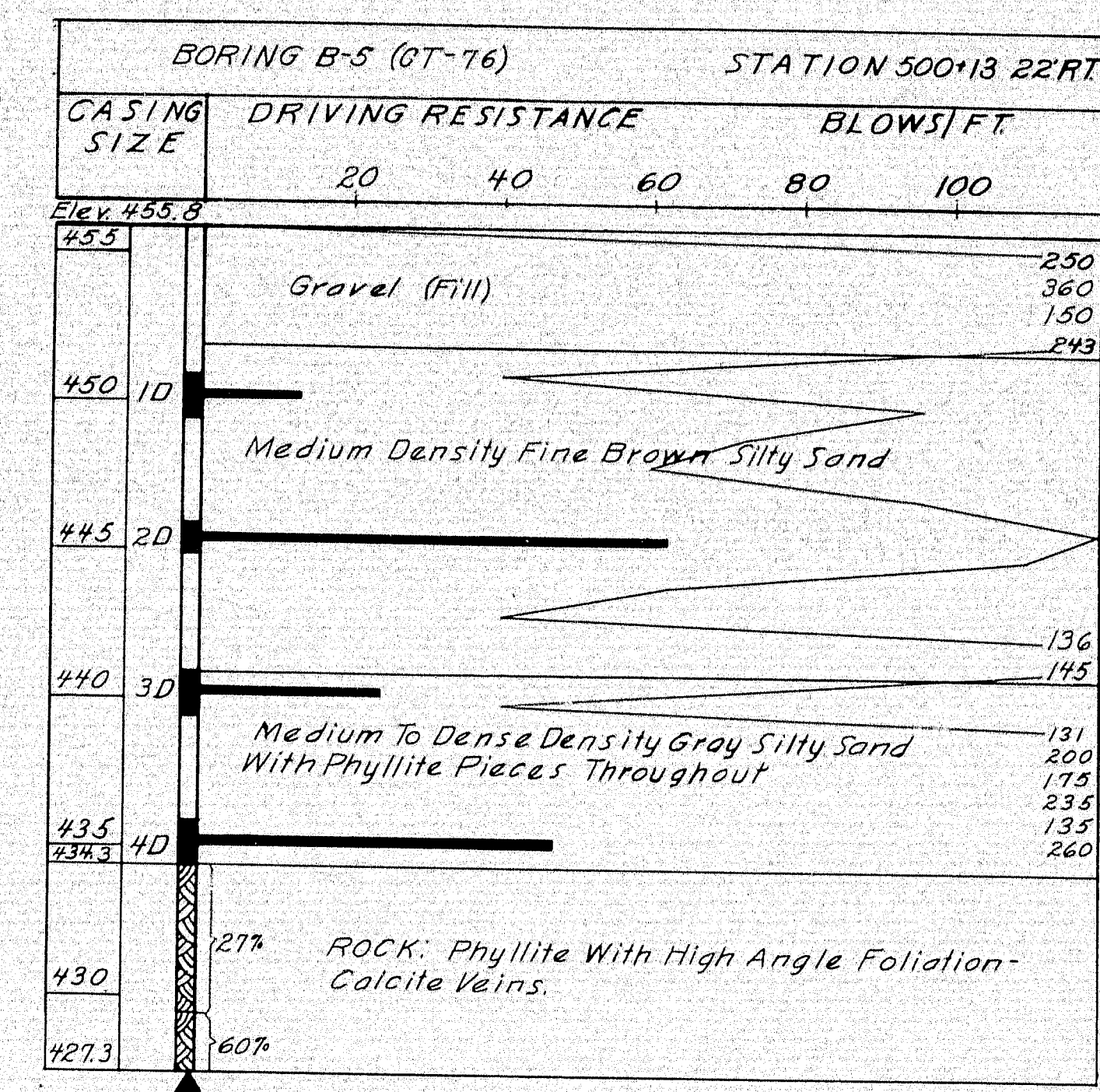
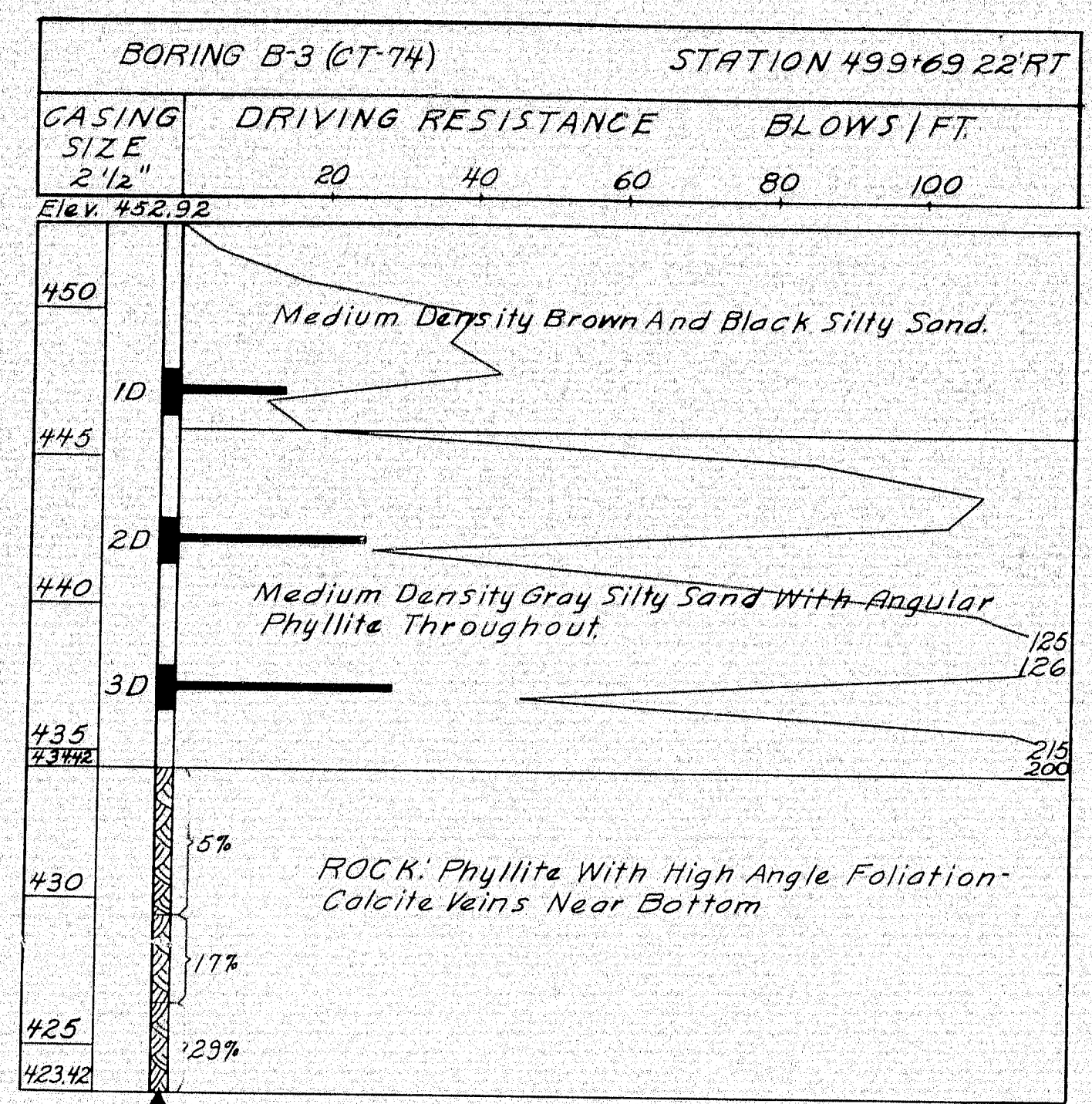
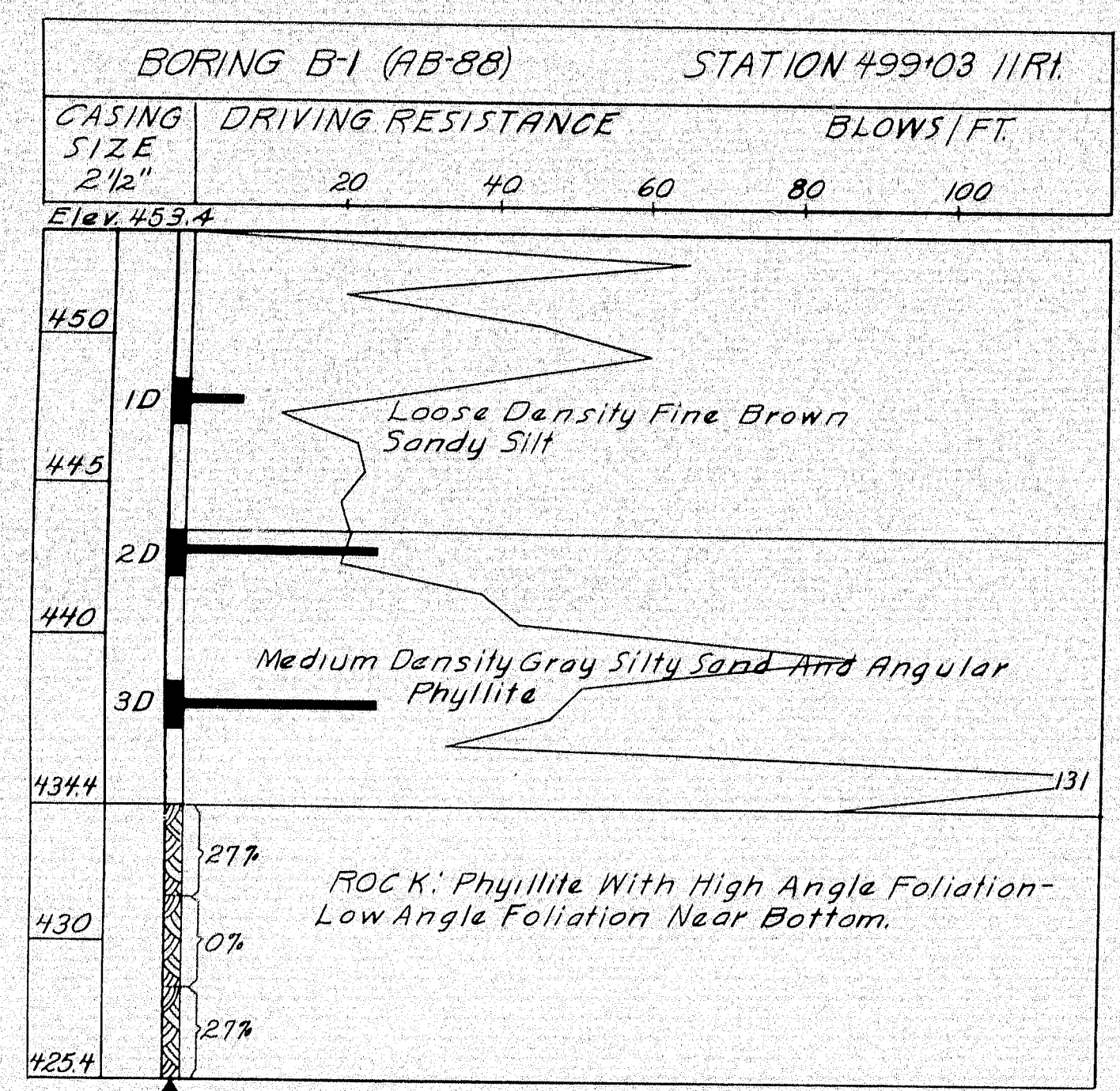
STATE HIGHWAY COMMISSION
BRIDGE DIVISION

INTERSTATE 95 S.B.
OVER
B&A R.R. & EXISTING ROUTE 159
IN THE TOWN OF
ISLAND FALLS
AROOSTOOK COUNTY
FOUNDATION SURVEY

SHEET 2 OF 10 AUGUSTA, MAINE AUGUST 1965
ISLAND FALLS (43)

101-194





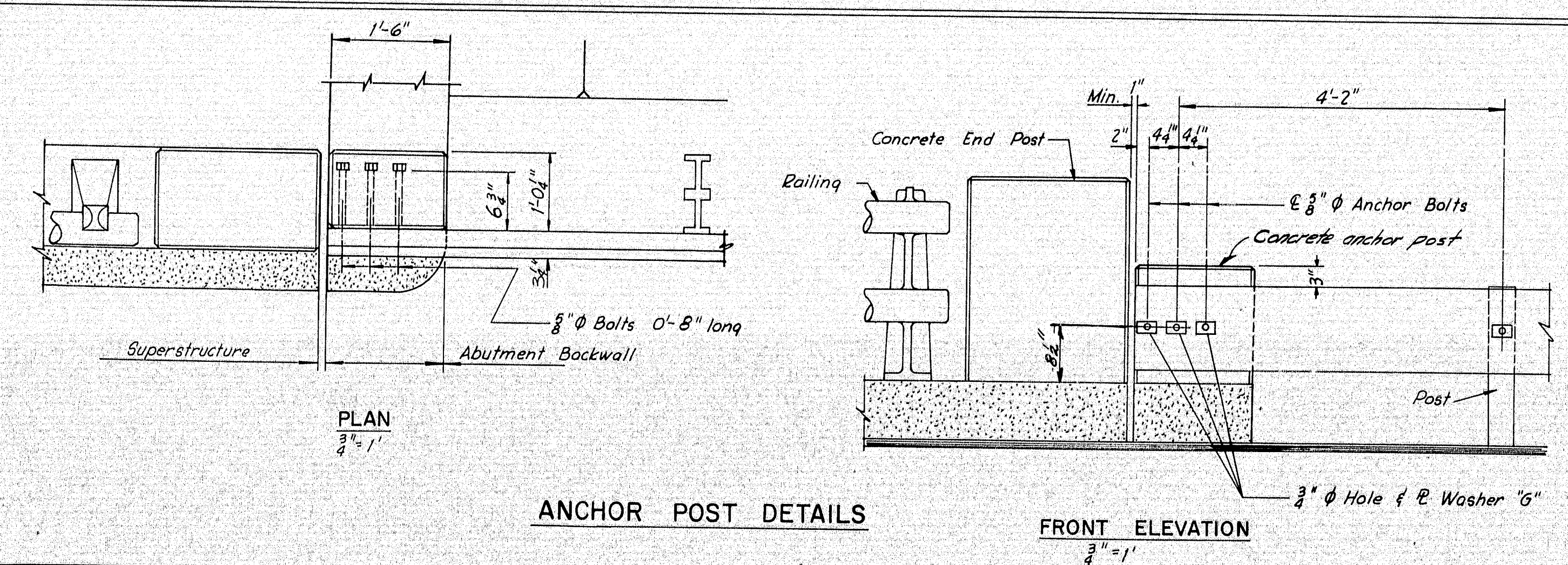
BORING NOTES

- > 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.
- 1D 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 bottom of soil strata)
- Location cored by diamond bit and percent recovery of rock.

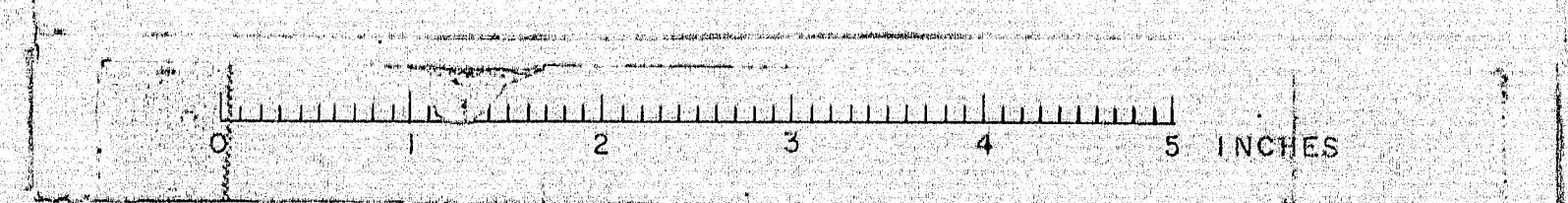
DESIGN - TRACE - CHECK - P.R.N.	DETAIL G.F.K.	BRIDGE NO. SURVEY - PLOT -
STATE HIGHWAY COMMISSION BRIDGE DIVISION		
INTERSTATE 95 S.B OVER B. & A. R.R. & EXISTING ROUTE 159 IN THE TOWN OF ISLAND FALLS ARROOSTOOK COUNTY FOUNDATION SURVEY		

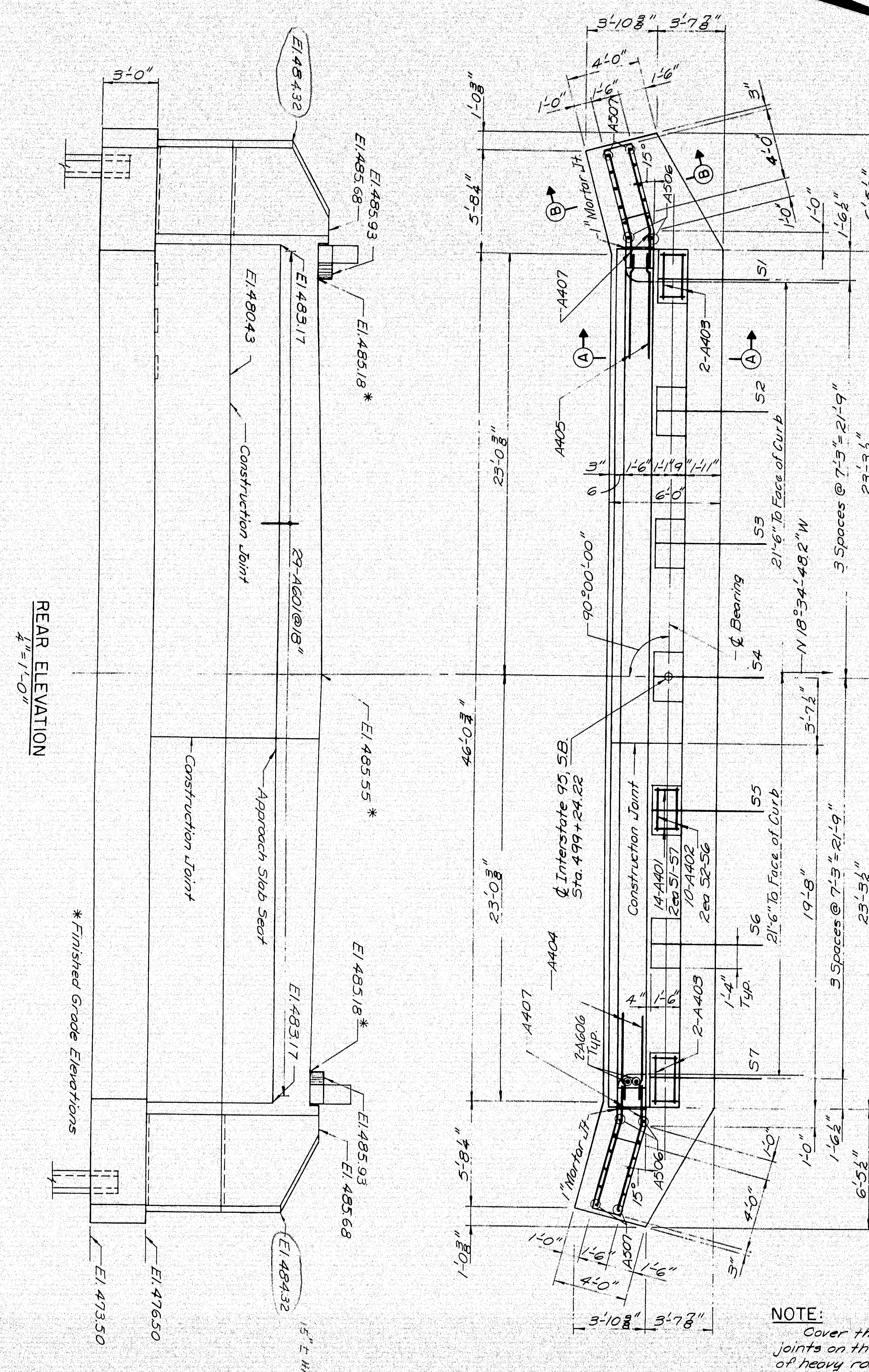
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ANCHOR POST NOTES

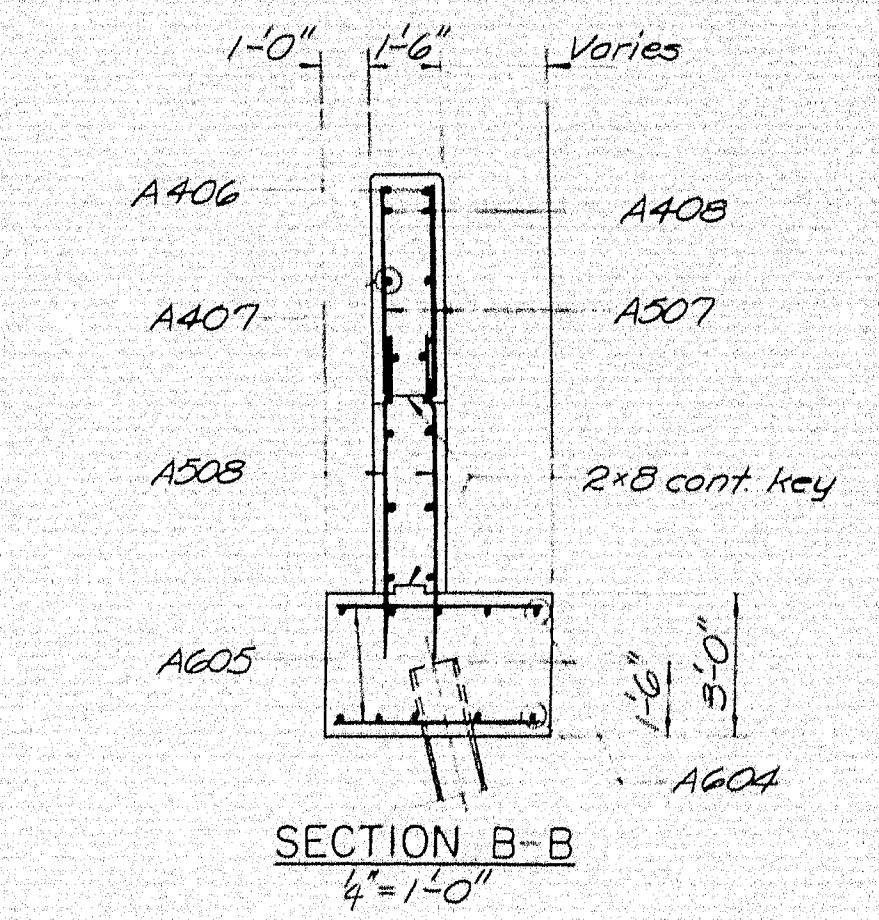
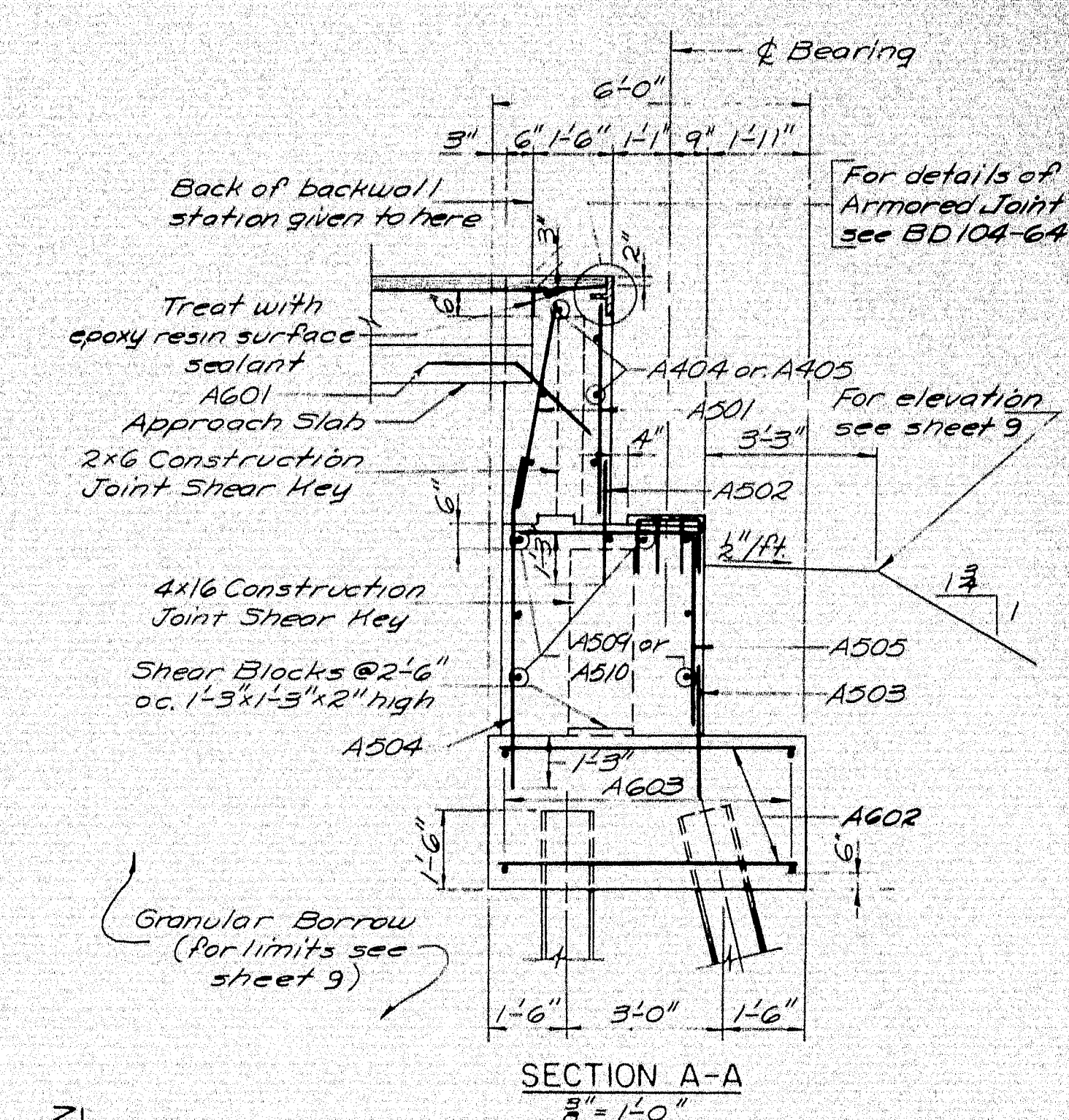
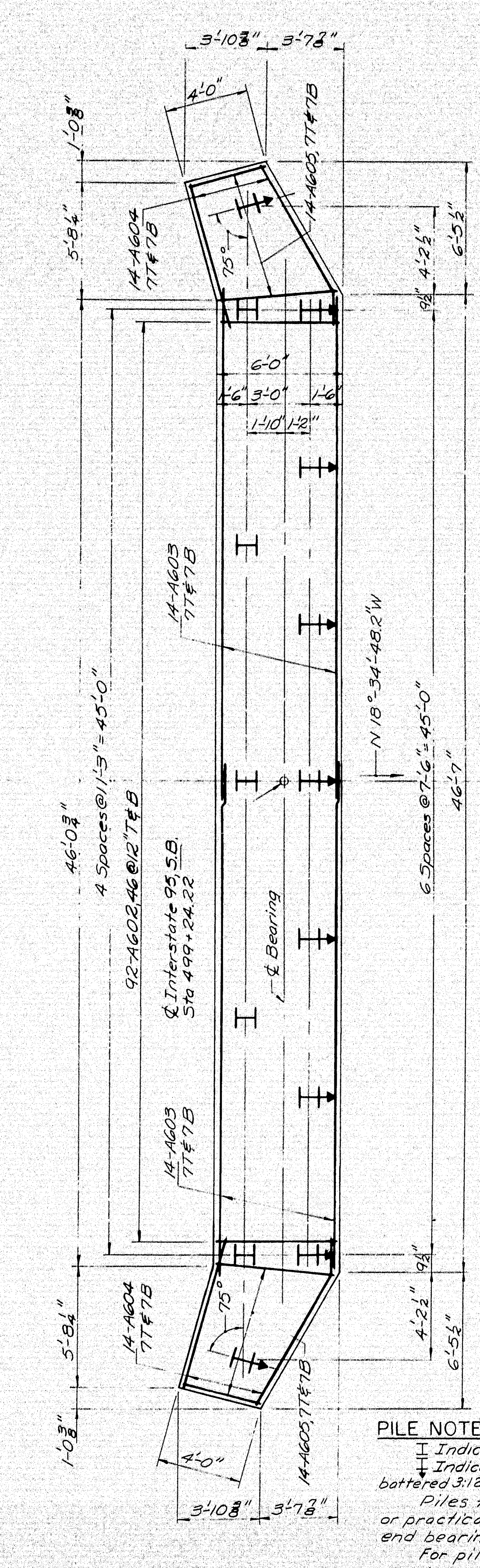
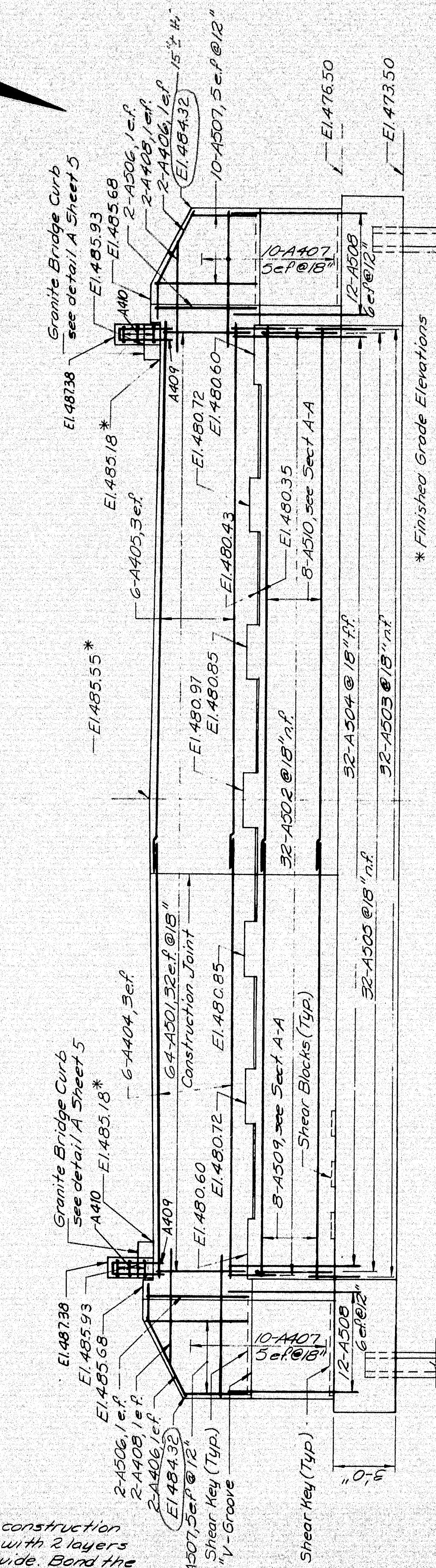


- Concrete in anchor post to be paid for under item 701-33.
- Three anchor bolts required at each anchor post. Bolts to be furnished with hex head nut and washer. All parts to be galvanized. Payment for furnishing and installing bolts shall be incidental to concrete items.





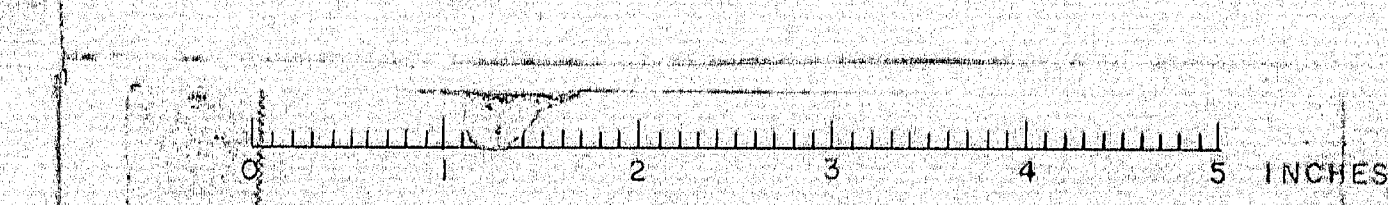
NOTE: *Cover the vertical construction joints on the backside with 2 layers of heavy roofing 10" wide. Bond the layers together and to the concrete with a suitable grade of roofing cement. Recess the vertical areas to be covered 4". Paint vertical construction joints with a suitable grade of asphalt paint to break bond.*

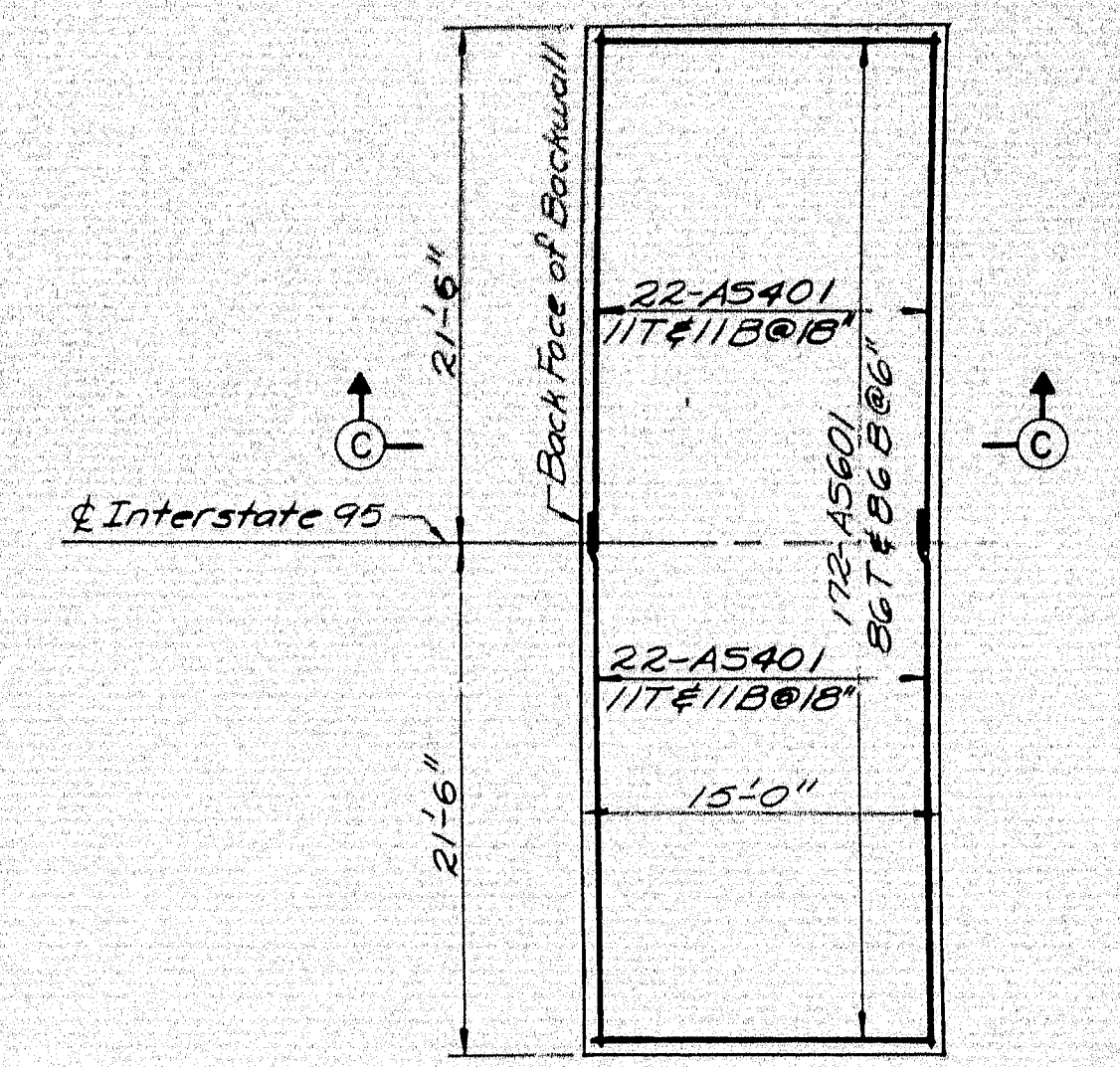
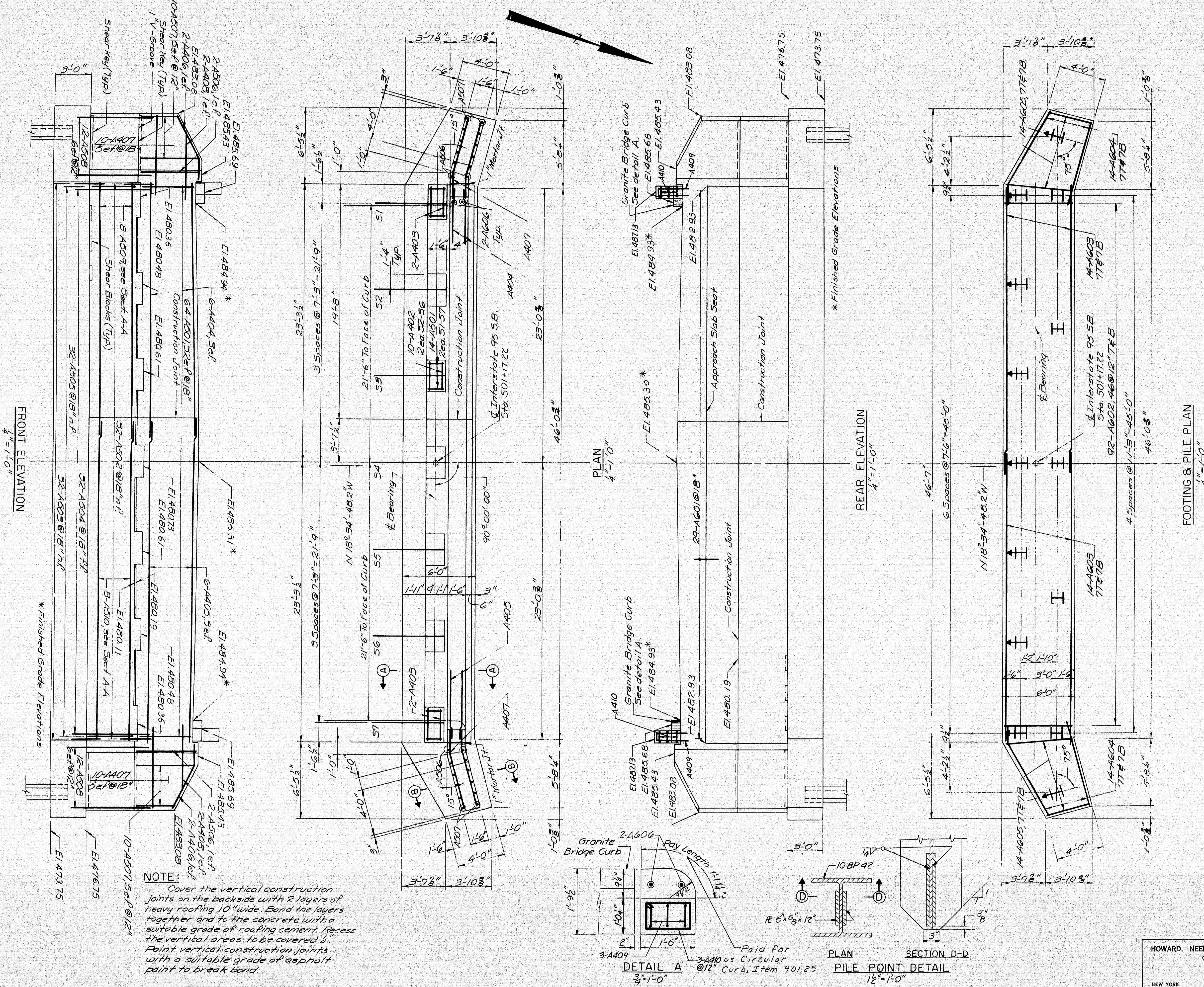


- ## NOTES:
1. For approach slab details see sheet 5.
 2. Paint bridge seat, face of backwall, and 1'-0" below top of slope protection on face and ends of breast wall with gray epoxy resin surface sealant.
 3. Dress bearing areas 1" larger all around than the masonry plates to exact elevations shown.
 4. Reinforcing steel to have 3" minimum cover unless otherwise shown.
 5. Place reinforcing to clear anchor bolts.
 6. n.f. denotes near face, r.f. denotes far face, e.f. denotes each face.
 7. For guard rail and post details see sheet 3.

- PILE NOTES:
- ↑ Indicates vertical piles,
↓ Indicates battered piles,
battered 3:12 in direction of arrow.
- Piles to be driven to ledge
or practical refusal to develop
end bearing
- For pile point detail see Sh. 6
- All piles are 10B P42 with
a capacity of 37 tons
- Estimated pile length 46'

DESIGN— TRACE— CHECK—	DETAIL—R.O'L.	BRIDGE NO.— SURVEY— PLOT—
<p>STATE HIGHWAY COMMISSION BRIDGE DIVISION</p> <p>INTERSTATE 95 SB OVER B&A.R.R. & EXISTING ROUTE 159 IN THE TOWN OF ISLAND FALLS ARROSTOOK COUNTY</p> <p>ABUTMENT NO. 1</p>		
<p>SHEET 4 OF 10 AUGUSTA, MAINE AUGUST 1965</p>		





NOTES:

- For General Notes and Pile Notes, see Sheet 4.
- For Sections A-A & B-B, see Sheet 4.
- Estimated Pile Length 50'.

GRANITE CURB NOTES:

Grout A606 bars into 14" d holes in stone prior to setting stone on backwall. Drill 14" d holes in backwall to suit A606 bars. Payment for drilling for and grouting of A606 bars to be included in the price for Item 705-14, Reinforcing Steel, Placing. Granite blocks shall be placed in position after or at the same time as curb on bridge is positioned.

DESIGN - G.H. TRACE - P.R.N. DETAIL - R.O.L. BRIDGE NO. SURVEY - PLOT -

STATE HIGHWAY COMMISSION
BRIDGE DIVISION

INTERSTATE 95 S.B.
OVER
B. & A. R. & EXISTING ROUTE 159
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ARROOSTOOK COUNTY

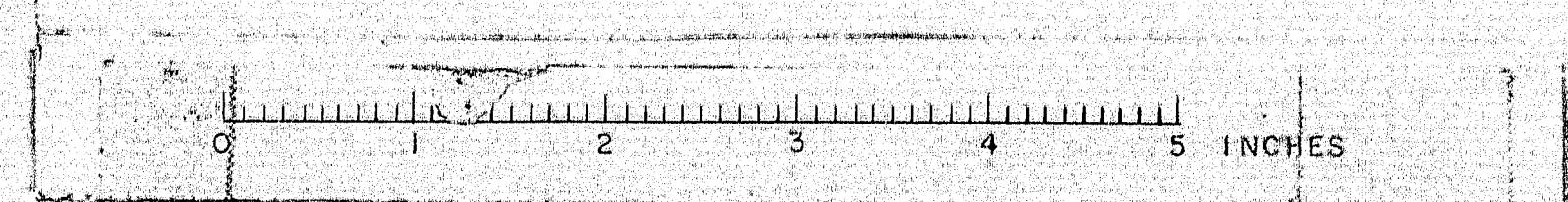
ABUTMENT NO. 2 & APPROACH SLAB

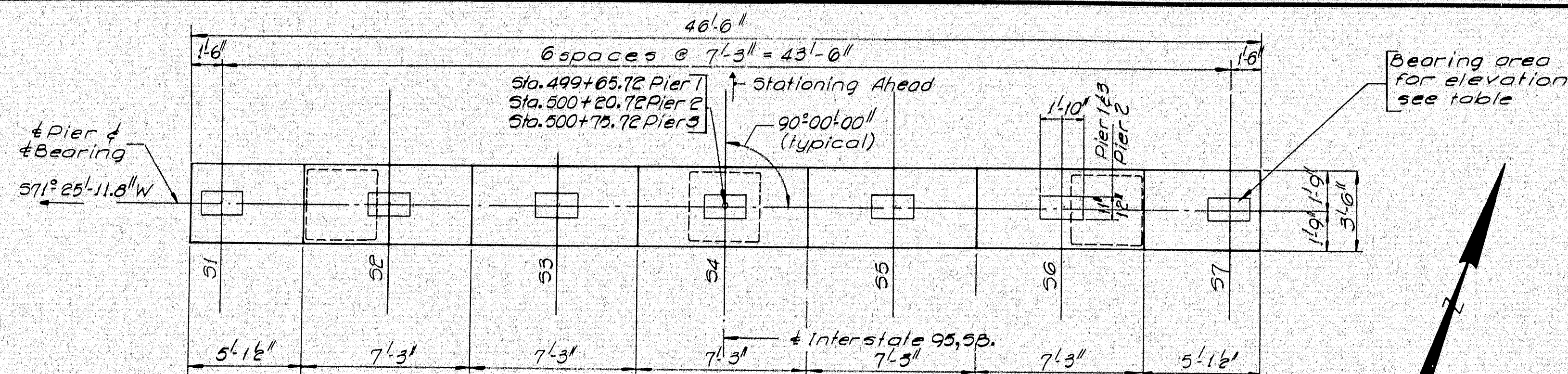
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CONSULTING ENGINEERS

NEW YORK BOSTON KANSAS CITY

SHEET 5 OF 10 AUGUSTA, MAINE AUGUST 1965

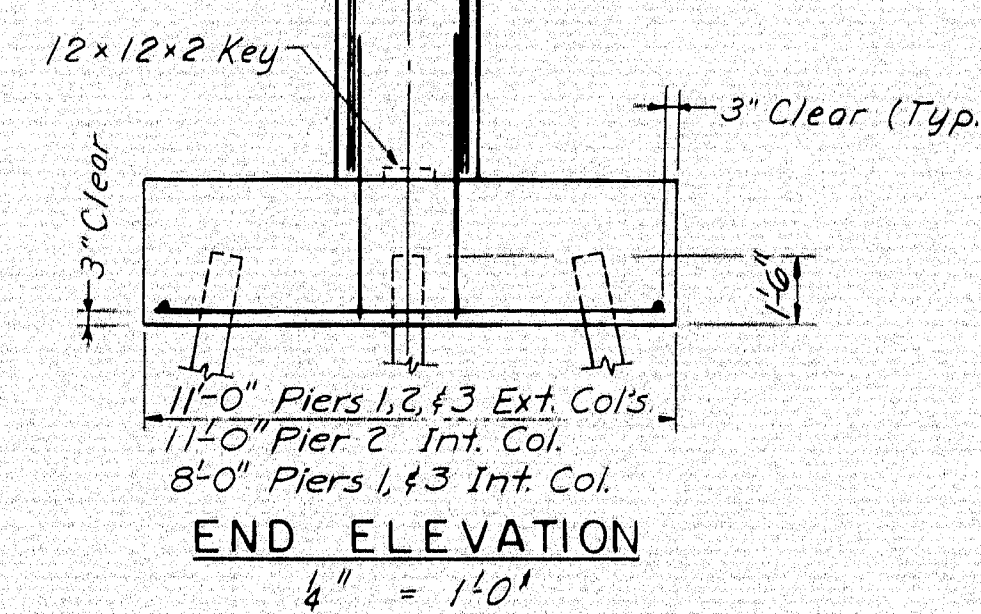
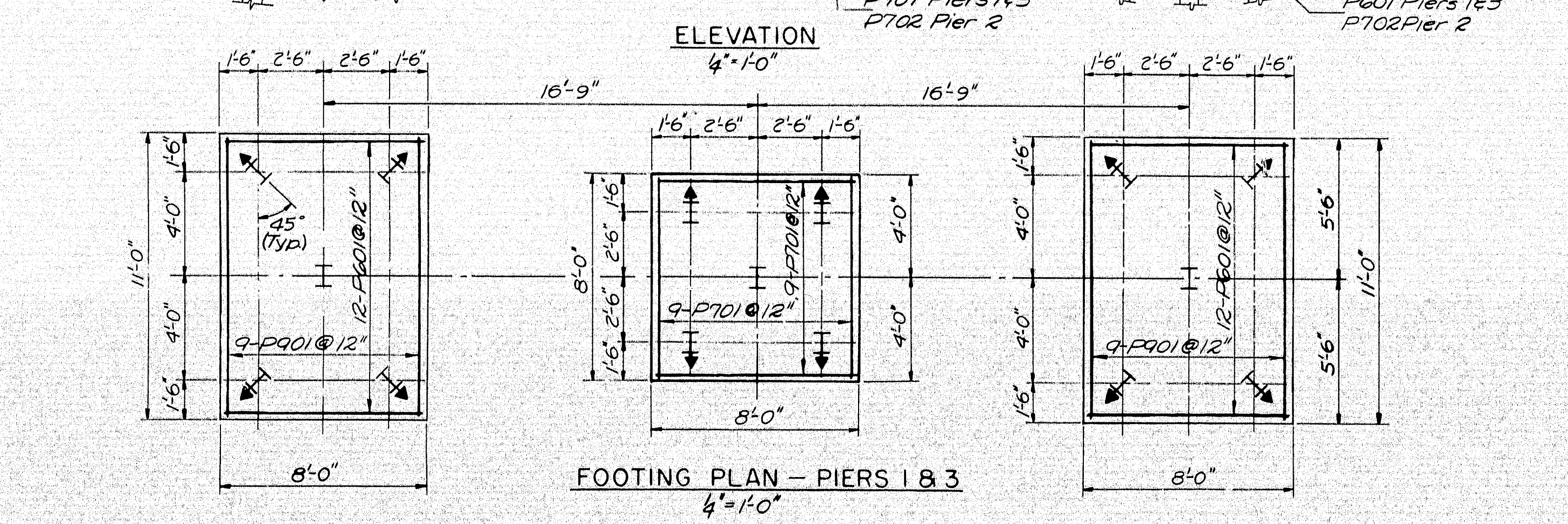
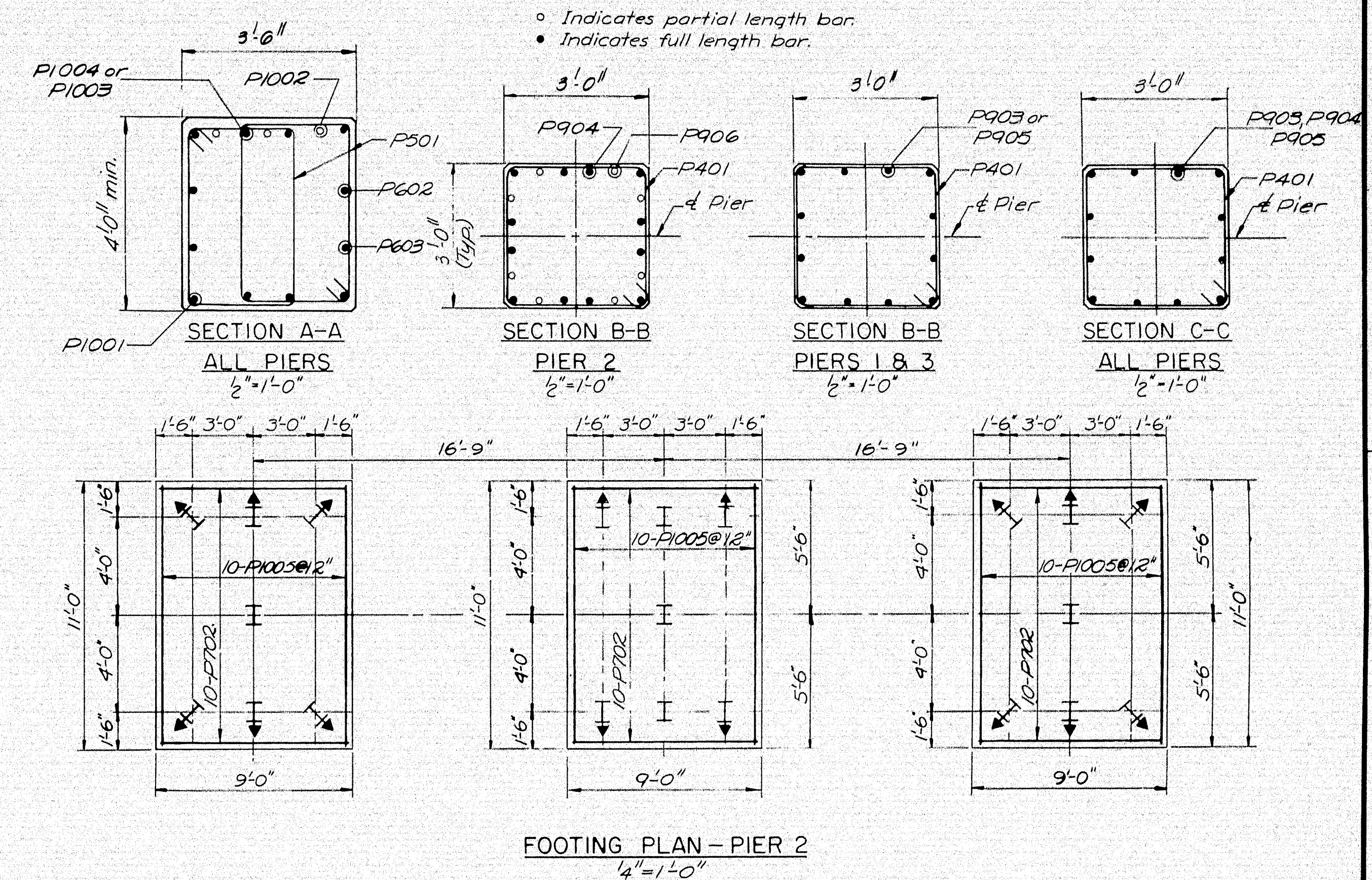
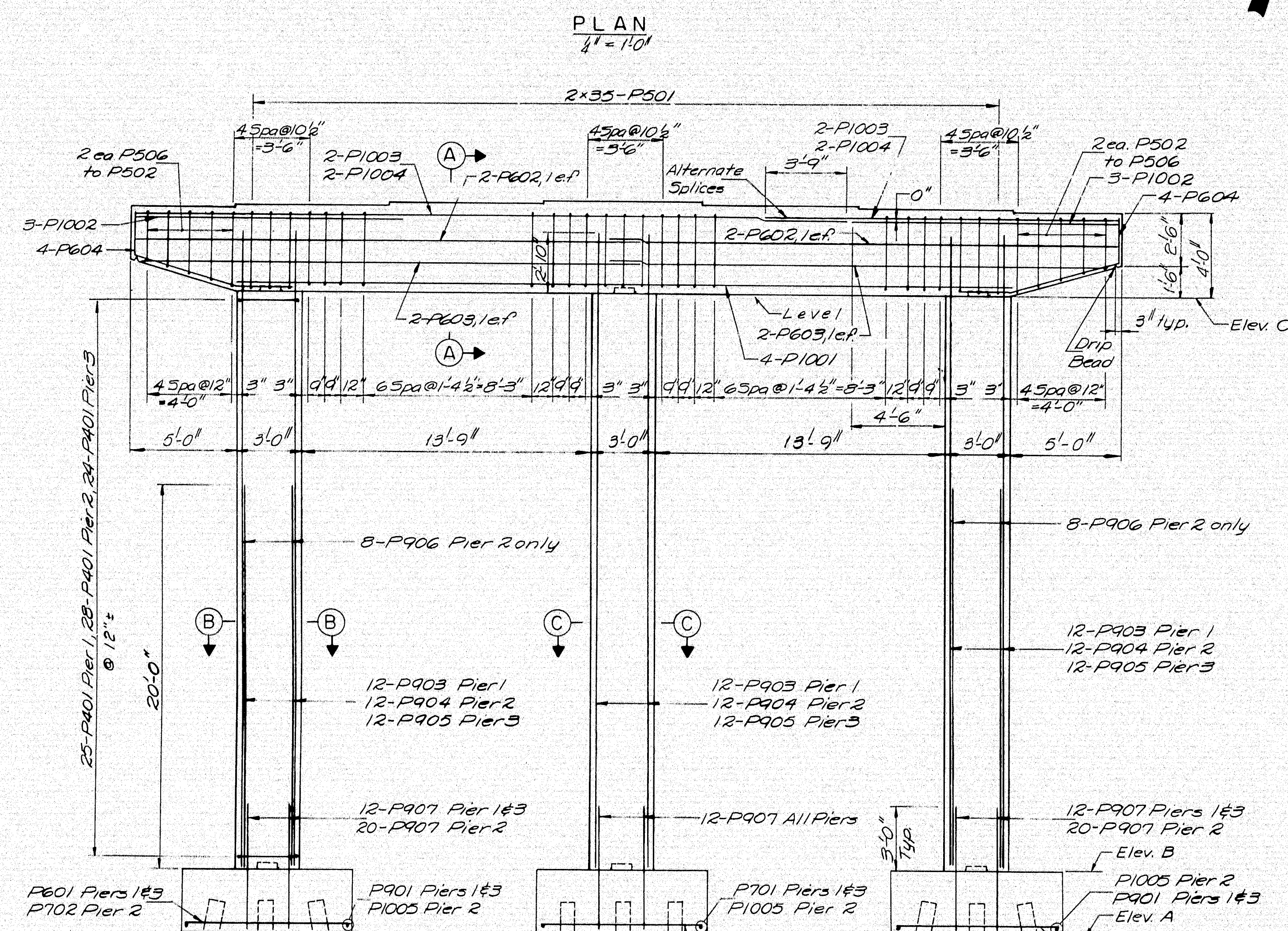
101-197





Beam	Pier No. 1	Pier No. 2	Pier No. 3
51	480.44	480.73	480.30
52	480.57	480.86	480.43
53	480.69	480.98	480.56
54	480.82	481.11	480.68
55	480.69	480.98	480.56
56	480.57	480.86	480.43
57	480.44	480.73	480.30

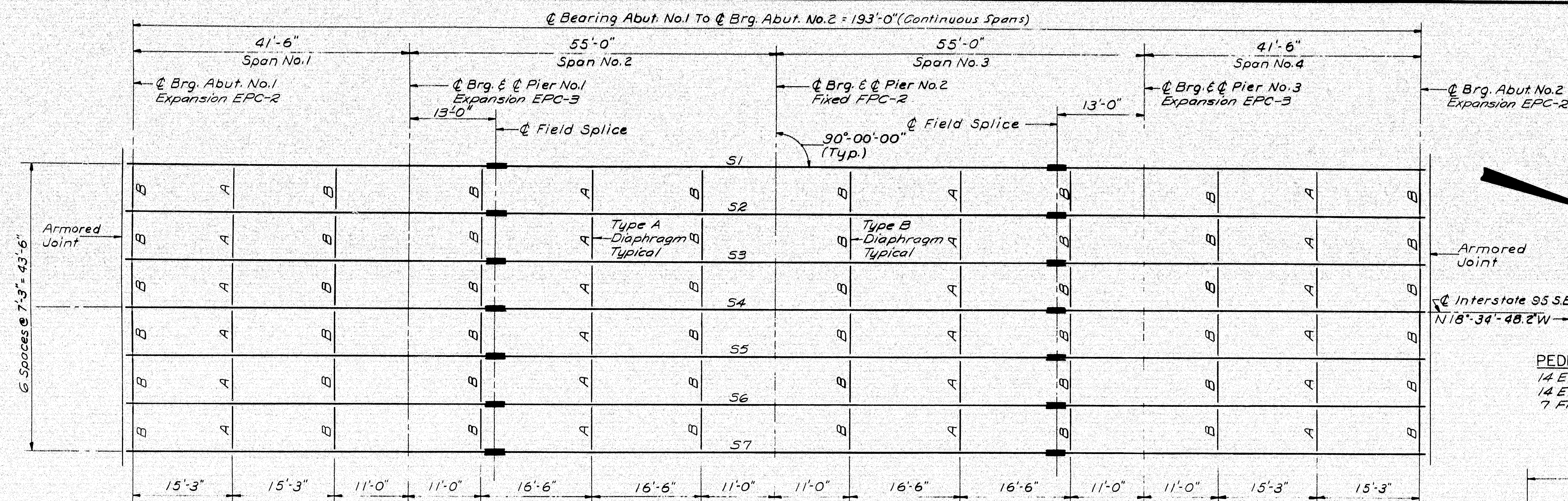
	A	B	C
Pier 1	449.50	452.50	476.44
Pier 2	446.00	449.00	476.73
Pier 3	450.00	453.00	476.30



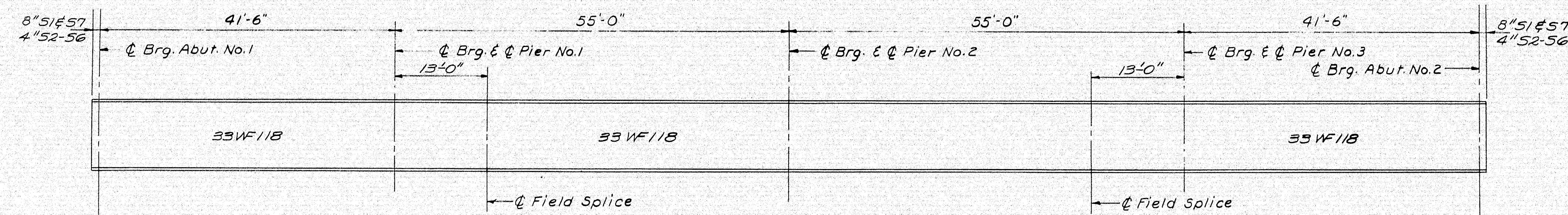
- PILE NOTES**
1. H Indicates vertical piles.
 2. H Indicates battered piles, with 3:12 batter in direction of arrow.
 3. All piles 108P42, 37 Ton Capacity.
 4. Estimated Pile Length;
 5. Piles to be driven to ledge or practical refusal to develop end bearing.
 6. Pile points not required for pier footing piles.

- NOTES:**
1. Reinforcing steel to have 2" minimum cover unless otherwise shown.
 2. All exposed corners to have 1" chamfer.
 3. Dress bearing areas 1" larger all around than masonry plate to exact elevation shown.
 4. Place reinforcing to clear anchor bolts.
 5. Soils information indicates that some ground water should be anticipated at footing elevation of pier 3.

DESIGN—G.H. DETAIL D.A.T.	BRIDGE NO.
TRACE—	SURVEY—
CHECK—P.R.N.	PLOT—
STATE HIGHWAY COMMISSION BRIDGE DIVISION	
INTERSTATE 95 SB. OVER B. & A. R.R. & EXISTING ROUTE 159 IN THE TOWN OF ISLAND FALLS AROOSTOOK COUNTY PIERS	
HOWARD, NEEDLES, TAMMEN & BERGENDOFF CONSULTING ENGINEERS	SHEET 6 OF 10 AUGUSTA, MAINE AUGUST 1965



ERECTOR DIAGRAM
1" = 10'



TYPICAL STRINGER ELEVATION
All Dimensions Are Horizontal

	5 Spaces @ 8'-3 3/8" = 41'-6"		5 Spaces @ 11'-0" = 55'-0"		5 Spaces @ 8'-3 3/8" = 41'-6"		
	← Brg. Abut. No.1	← Brg. & Pier No.1	← Brg. & Pier No.2	← Brg. & Pier No.3	← Brg. Abut. No.2		
Line 1							
Line 2							
Line 3							
Line 4							
Line 5							
Line 6							
Line 7							

	← Brg. Abut. No.1		← Brg. & Pier No.1		← Brg. & Pier No.2		← Brg. & Pier No.3		← Brg. Abut. No.2	
S1	+0.075%		-0.124%				-0.323%			
S2	+0.077%		-0.124%				-0.325%			
S3	+0.077%		-0.124%				-0.325%			
S4	+0.075%		-0.123%				-0.325%			
S5	+0.077%		-0.124%				-0.325%			
S6	+0.075%		-0.124%				-0.325%			
S7	+0.075%		-0.124%				-0.323%			

DIAGRAM OF BLOCKING POINTS

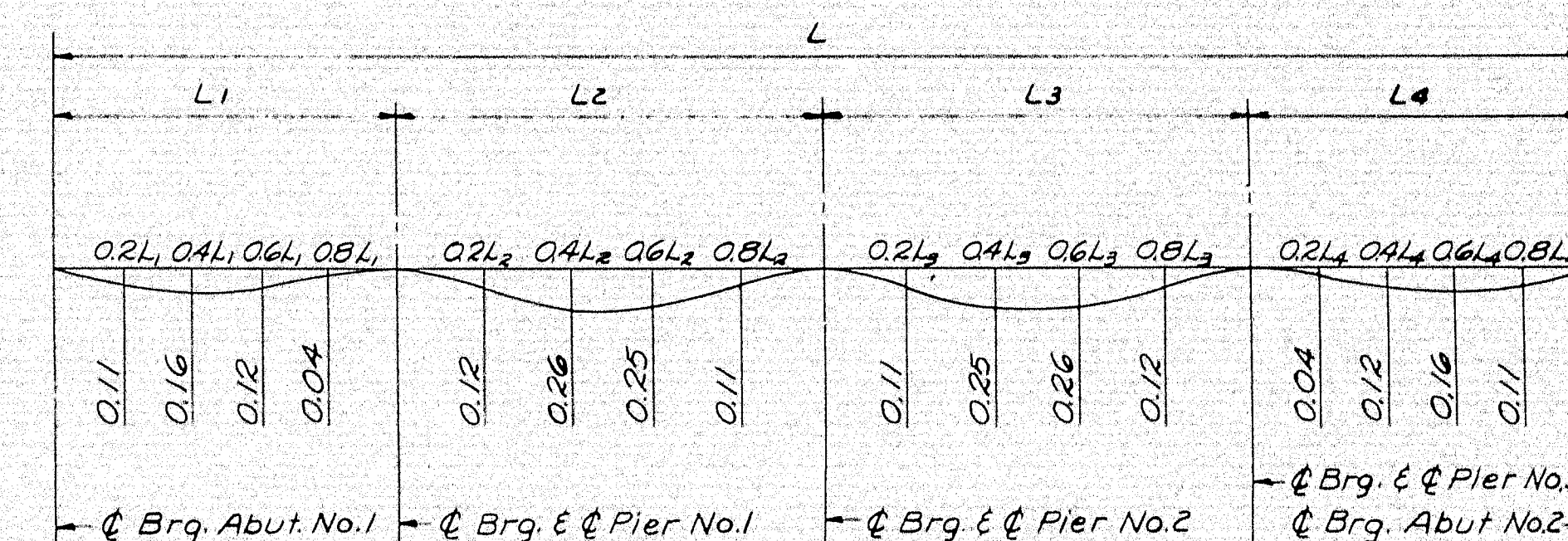
← Brg. Abut. No.1		← Brg. & Pier No.1		← Brg. & Pier No.2		← Brg. & Pier No.3	
+0.075%		-0.124%				-0.323%	
+0.077%		-0.124%				-0.325%	
+0.077%		-0.124%				-0.325%	
+0.075%		-0.123%				-0.325%	
+0.077%		-0.124%				-0.325%	
+0.075%		-0.124%				-0.325%	
+0.075%		-0.124%				-0.323%	
54'-6"		← Field Splice		84'-0"		← Field Splice	
						54'-6"	

BEAM GRADES

REFERENCE
Splice - See Standard Details BD/03-64
Diaphragms - See Standard Details BD/04-64
Pedestals - See Standard Details BD/01-64
Armored Joints - See Standard Details BD/04-64

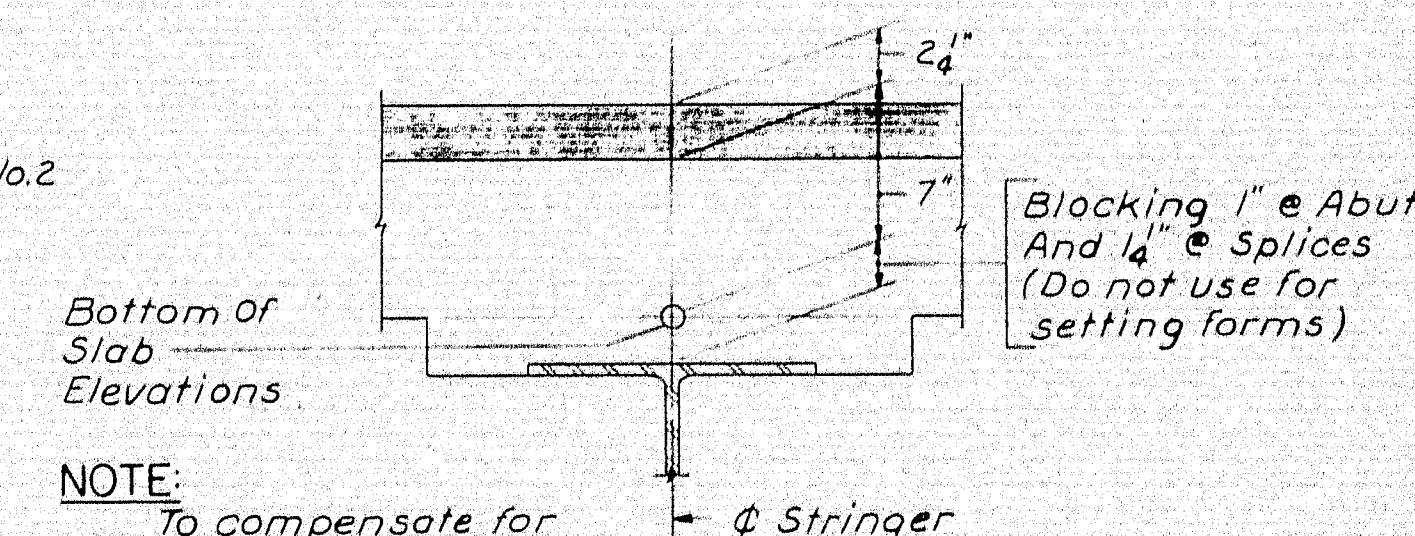
SPECIFICATIONS
Fabrication and Erection: State of Maine
Standard Specifications, Highways and
Bridges, Revision of Jan. 1956 and Supplemental
Specifications of Feb. 1960
Design and Detail: A.A.S.H.O. Standard Specifications for Highway
Bridges of 1961 and Interim Specifications 1961, 1962, 1963 & 1964
Materials: Except as otherwise noted on the
Standard Details, all materials shall conform to
A.S.T.M. designation A-36

PEDESTALS
14 EPC-2 Required
14 EPC-3 Required
7 FPC-2 Required



DEAD LOAD DEFLECTION DIAGRAM
All Deflections in Inches

NOTE:
No shop camber required - natural
mill camber to be placed up.



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

BLOCKING DETAIL
No Scale

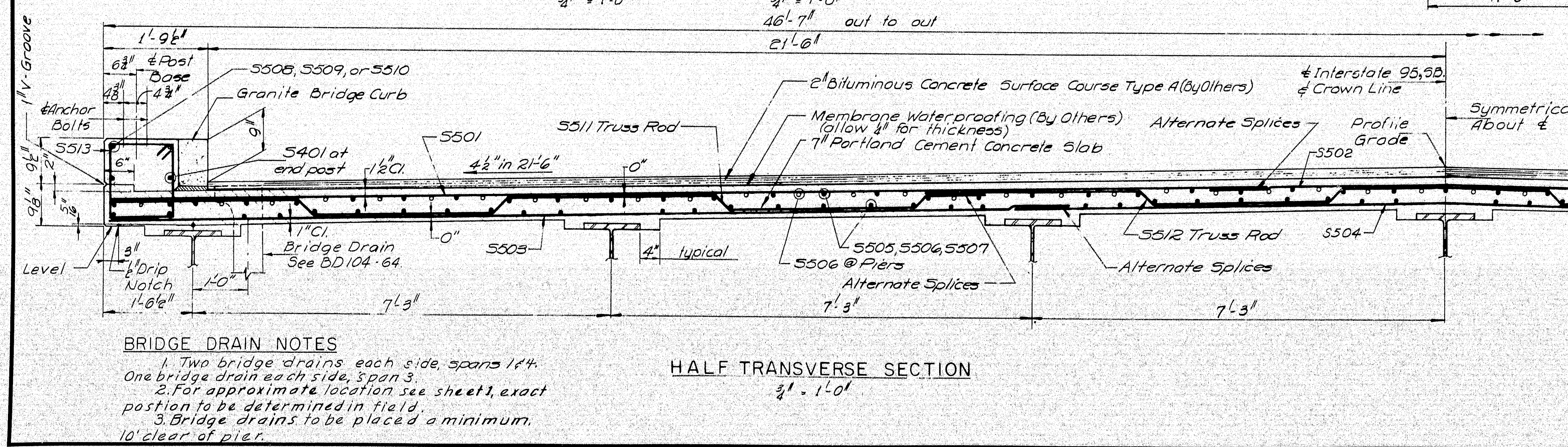
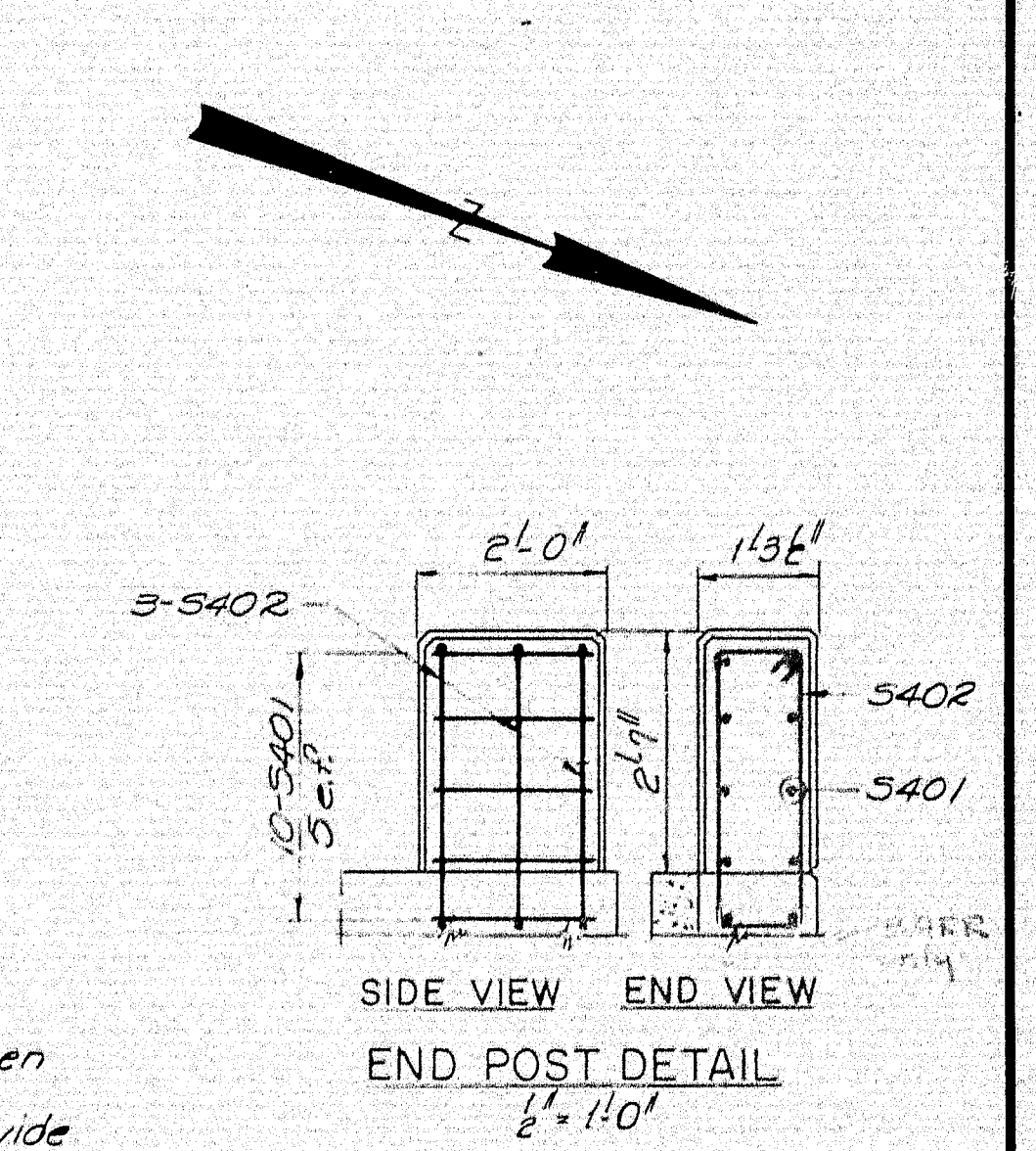
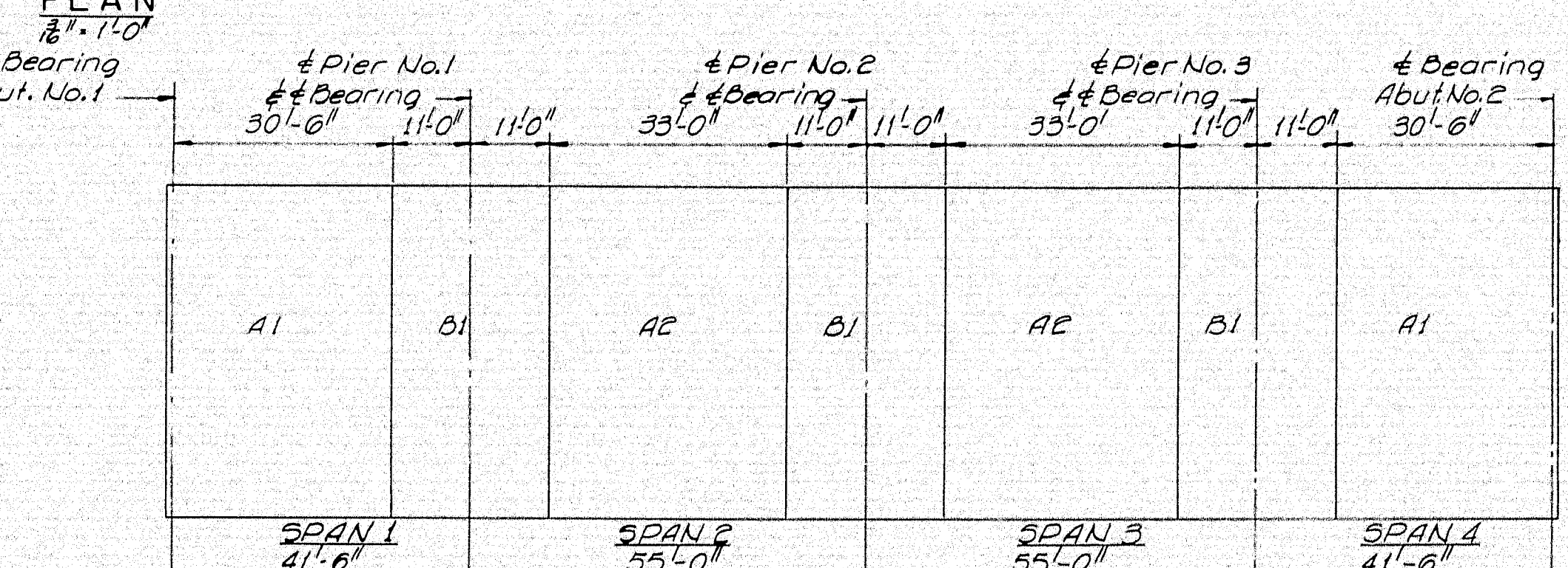
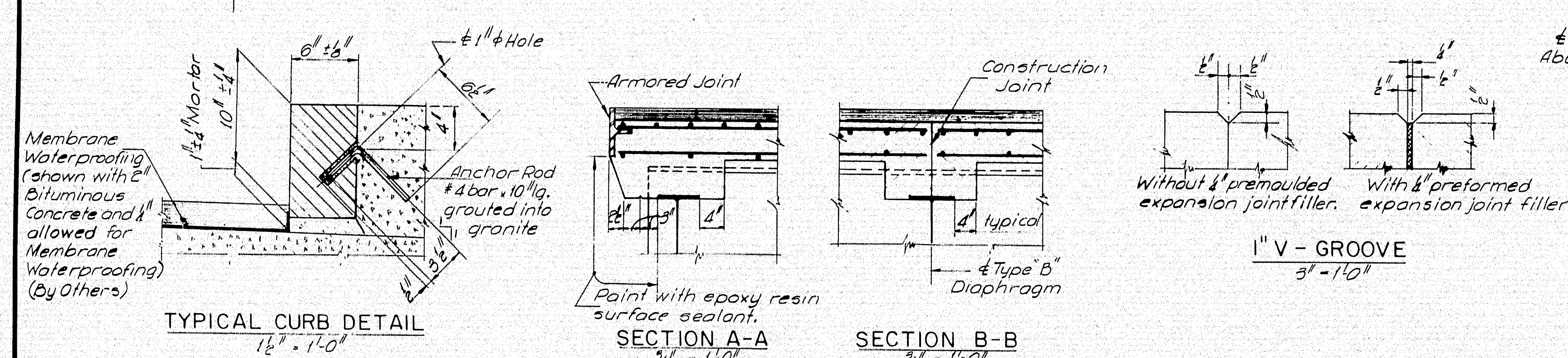
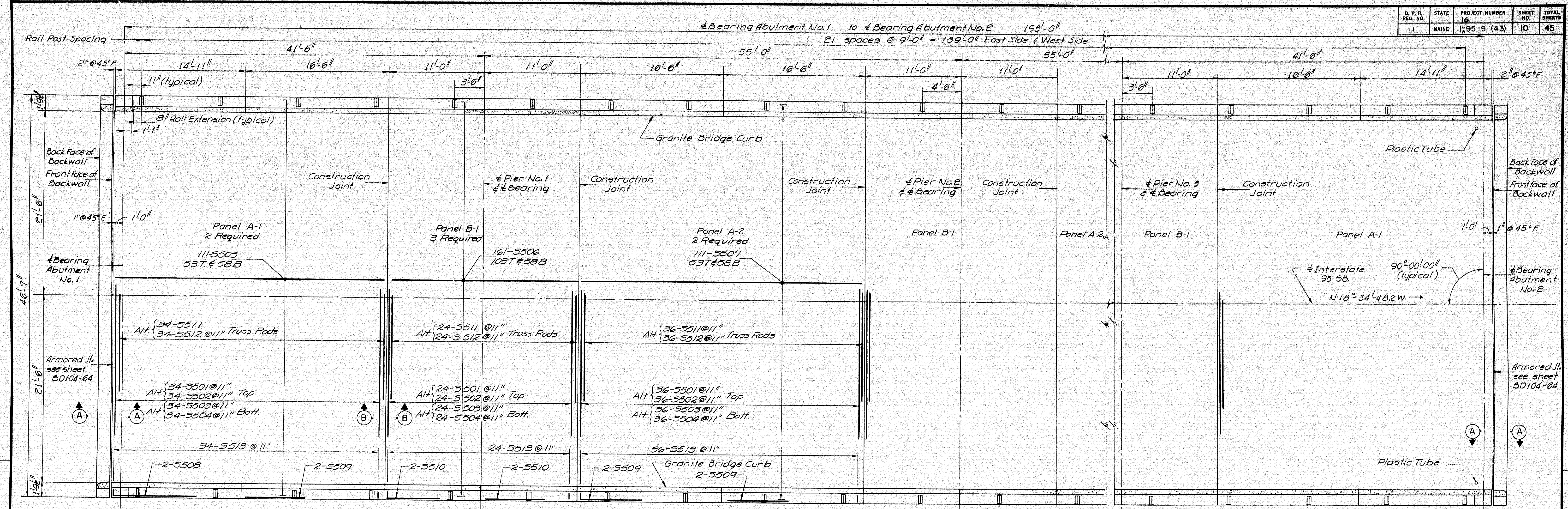
BOTTOM OF SLAB ELEVATIONS AT BLOCKING POINTS																					
	Ⓒ Brg. Abut. No. 1	SPAN NO. 1				Ⓒ Pier No. 1	SPAN NO. 2				Ⓒ Pier No. 2	SPAN NO. 3				Ⓒ Pier No. 3	SPAN NO. 4				Ⓒ Brg. Abut. No. 2
		8'3 ³ / ₈ "	16'7 ¹ / ₂ "	24'10 ¹ / ₈ "	33'2 ¹ / ₂ "		11'0"	22'0"	33'0"	44'0"		11'0"	22'0"	33'0"	44'0"		8'3 ³ / ₈ "	16'7 ¹ / ₂ "	24'10 ¹ / ₈ "	33'2 ¹ / ₂ "	
Line 1	4844.1	4844.43	484.44	484.45	484.45	484.47	484.48	484.47	484.45	484.43	484.43	484.92	484.39	484.36	484.32	484.30	484.27	484.25	484.21	484.17	
Line 2	484.53	484.55	484.57	484.58	484.58	484.59	484.60	484.60	484.58	484.56	484.55	484.54	484.52	484.48	484.44	484.42	484.40	484.37	484.34	484.28	
Line 3	484.66	484.68	484.69	484.70	484.70	484.71	484.72	484.73	484.72	484.71	484.69	484.68	484.67	484.65	484.61	484.57	484.55	484.52	484.50	484.46	484.43
Line 4	484.78	484.81	484.82	484.83	484.83	484.84	484.85	484.85	484.83	484.81	484.80	484.80	484.77	484.74	484.70	484.67	484.65	484.62	484.59	484.54	
Line 5	484.66	484.68	484.69	484.70	484.70	484.71	484.72	484.73	484.72	484.71	484.69	484.68	484.67	484.65	484.61	484.57	484.55	484.52	484.50	484.46	484.43
Line 6	484.53	484.55	484.57	484.58	484.58	484.59	484.60	484.60	484.58	484.56	484.55	484.54	484.52	484.48	484.44	484.42	484.40	484.37	484.34	484.28	
Line 7	484.41	484.43	484.44	484.45	484.45	484.47	484.48	484.47	484.45	484.43	484.43	484.42	484.39	484.36	484.32	484.30	484.27	484.25	484.21	484.17	

BOTTOM OF SLAB ELEVATIONS AT BLOCKING POINTS

DESIGN - G.H. TRACEY
CHECK - C.W.A.
DETAIL - R.D.F.
BRIDGE NO. SURVEY - PLOT -
STATE HIGHWAY COMMISSION
BRIDGE DIVISION
INTERSTATE 95 S.B.
OVER
B.B.A. R.R. & EXISTING ROUTE 159
IN THE TOWN OF
ISLAND FALLS
AROOSTOOK COUNTY
STRUCTURAL STEEL & BLOCKING
SHEET 7 OF 10 AUGUSTA, MAINE AUGUST 1965

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

101-199 ISLAND FALLS (43)



GENERAL SUPERSTRUCTURE NOTES

- At joint in curbs and granite bridge curbs over piers, use 1" preformed expansion joint filler. At all other curb joints, 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 joint.
- At low point in slabs, place a plastic tube 1" 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 seal.
- For bridge rail, see standard details, BD 107-64, BD 108-64.
- Place concrete in A panels before placing concrete in B panels.
- Concrete in End Posts will be paid for 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.

BRIDGE DRAIN NOTES

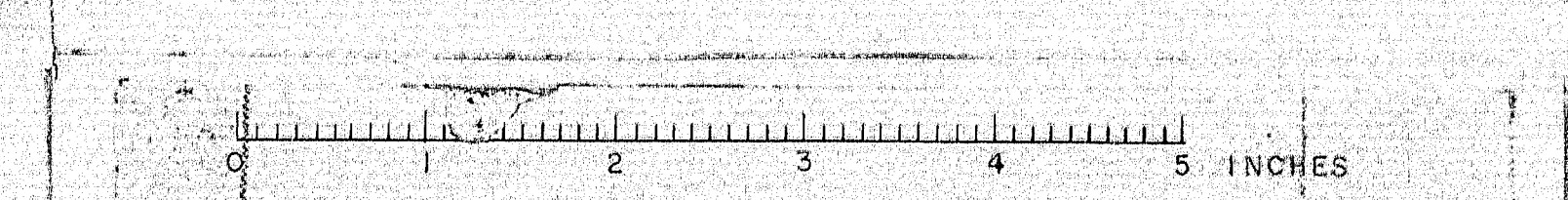
- Two bridge drains, each side, spans 1/4. One bridge drain each side, span 3.
- For approximate location see sheet 1, exact position to be determined in field.
- Bridge drains to be placed a minimum 10' clear of pier.

HALF TRANSVERSE SECTION
2' - 1'0"

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

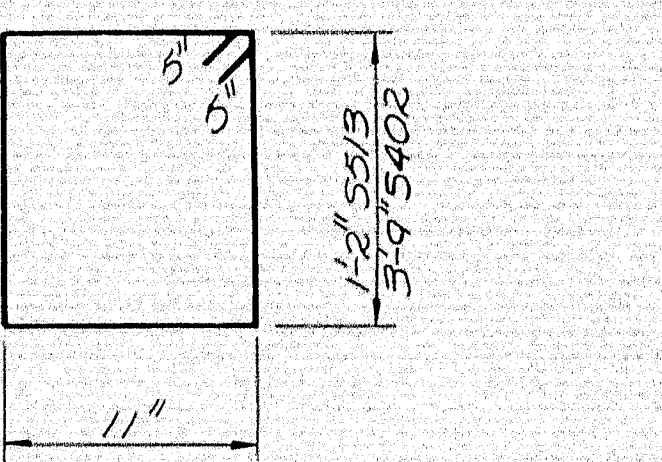
STATE HIGHWAY COMMISSION
BRIDGE DIVISION
INTERSTATE 95 SB.
OVER
B.A.R.R. & EXISTING ROUTE 159
IN THE TOWN OF
ISLAND FALLS
AROSTOOK COUNTY
MAINE
SUPERSTRUCTURE
SHEET 8 OF 10 AUGUSTA, MAINE AUGUST 1965

101-200



MARK	SIZE	NUMBER	LENGTH	INCR.	LOCATION
PIER 2					
STRAIGHT BARS					
P602	6	4	23'-9"		Cap
P603	6	4	22'-6"		Cap
P702	7	30	8'-6"		Footings
P904	9	36	31'-0"		Columns
P906	9	16	20'-0"		Columns
P907	9	52	5'-9"		Column Dowels
P1001	10	4	36'-6"		Cap
P1002	10	6	12'-4"		"
P1003	10	4	33'-4"		"
P1004	10	4	16'-7"		Cap
P1005	10	30	10'-6"		Footings
BENT BARS					
P401	4	84	11'-4"		Column Ties
P501	5	70	12'-5"		Stirrups
P502	5	4	12'-2"		"
P503	5	4	11'-7"		"
P504	5	4	11'-0"		"
P505	5	4	10'-5"		"
P506	5	4	9'-10"		Stirrups
P604	6	8	8'-8"		Cap
PIER 3					
STRAIGHT BARS					
P601	6	24	7'-6"		Footings
P602	6	4	25'-9"		Cap
P603	6	4	22'-6"		Cap
P701	7	18	7'-6"		Footings
P901	9	18	10'-6"		Footings
P905	9	36	26'-6"		Column
P907	9	36	5'-9"		Dowels
P1001	10	4	36'-6"		Cap
P1002	10	6	12'-4"		Cap
P1003	10	4	33'-4"		Cap
P1004	10	4	16'-7"		Cap
BENT BARS					
P401	4	72	11'-4"		Column Ties
P501	5	70	12'-5"		Stirrups
P502	5	4	12'-2"		"
P503	5	4	11'-7"		"
P504	5	4	11'-0"		"
P505	5	4	10'-5"		"
P506	5	4	9'-10"		Stirrups
P604	6	8	8'-8"		Cap
SUPERSTRUCTURE					
STRAIGHT BARS					
S401	4	40	1'-8"		End Posts
S501	5	212	20'-1"		Top Transverse
S502	5	212	27'-4"		Top Transverse
S503	5	212	16'-5"		Bottom Transverse
S504	5	212	30'-11"		Bottom Transverse
S505	5	222	31'-4"		Longitudinal A-1
S506	5	483	21'-8"		Longitudinal B-1
S507	5	222	32'-8"		Longitudinal A-2
S508	5	8	14'-7"		Sidewalk A-1
S509	5	24	16'-2"		Sidewalk A-1, A-2
S510	5	24	10'-8"		Sidewalk B-1

A technical drawing of a rectangular plate. The horizontal dimension is labeled $1'-1''$ and the vertical dimension is labeled $7\frac{1}{2}''$. Below the drawing is the label **A410**.



DESIGN-- TRACE-- CHECK--P.R.N.	DETAIL - R.O.L. STATE HIGHWAY COMMISSION BRIDGE DIVISION INTERSTATE 95 S.B. OVER B & A RR & EXISTING ROUTE 159 IN THE TOWN OF ISLAND FALLS AROSTOOK COUNTY REINFORCING STEEL	BRIDGE NO. SURVEY-- PLOT--
SHEET 10 OF 10 AUGUSTA, MAINE AUGUST, 1965		

SPECIFICATIONS

DESIGN:
A.A.S.H.O. 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 of February 1960.

LIVE LOADING
HS20-44 (Modified for Interstate)

FOUNDATIONS
Abutments: 10BP42 End Bearing Piles. 37 Ton Capacity.
Piers: Spread Footings on Ledge.

ALLOWABLE STRESSES
Concrete ($n=10$) - $f_c = 1200$ psi.
Reinforcing Steel, Intermediate Grade - $f_s = 20,000$ psi.
Structural Steel - $f_s = 20,000$ psi. (A.S.T.M. - A36).

CONCRETE CLASSIFICATION
All concrete shall be Class "A".

HYDRAULIC DATA:
A=113.2 Sq. Mi.
S=11.1 Ft./Mi.
Q₉₀=5250 cfs.

ITEM NO.	DESCRIPTION	QUANTITY	UNIT
204-14	Structural Earth Exc. - Piers	561	C.Y.
205-12	Gravel Borrow (I.R.M.)	5010	C.Y.
404-31	Bit. Conc. Surface Course (Hand Placed) Type "B"	6	Tons
701-33	P.C.C. Abut. & Retaining Wall	246	C.Y.
701-35.2	P.C.C. Piers (I-95 over Fish Stream & S.A.)	543	C.Y.
701-40	P.C.C. Rdwy & Sidewalk Slabs, on Steel Bridges	412	C.Y.
701-50	P.C.C. Approach Slabs	32	C.Y.
701-54	Portland Cement for Riprap Grout	4	Bb's.
702-103.2	Structural Steel Fabricated & Delivered (Fish Stream & S.A.)	L.S.	L.S.
702-104.2	Structural Steel Erection (Fish Stream & S.A.)	L.S.	L.S.
702-105.2	Structural Steel Field Painting (Fish Stream & S.A.)	L.S.	L.S.
705-13	Reinforcing Steel - Delivered	175,100	Lbs.
705-14	Reinforcing Steel - Placing	175,100	Lbs.
705-17	Shear Connectors (I-95 over Fish Stream & S.A.)	L.S.	L.S.
708-16	Steel H-Beam Piles #2 Lbs./Ft.	1,485	L.F.
803-7	Cofferdam Pier 1 (I-95 over Fish Stream & S.A.)	L.S.	L.S.
803-8	Cofferdam Pier 2 (I-95 over Fish Stream & S.A.)	L.S.	L.S.
805-8	Bridge Rail	636	L.F.
907-11	Epoxy Resin Surface Sealant	137	S.Y.
901-24	Vertical Bridge Curb Type 1	644	L.F.
901-25	Vertical Bridge Curb Type 1 Circular	8	L.F.
907-10	Hand Laid Riprap	777	C.Y.
913-8	Bituminous Treated Stone Slope Protection	204	S.Y.

Estimated weight of structural steel including drains is 462,800 lbs.
Curing Box for I-95 S.B. over B.A. R.R. and Existing Rte. 159 shall be
used for this structure.
Estimated weight of shear connectors Spinals - 7530 lbs.
Estimated number of shear connectors Studs - 6384 pcs.
All exposed surfaces of the
substructure shall be given a
rubbed finish.

INDEX OF SHEETS

- GENERAL PLAN & QUANTITIES
- FOUNDATION SURVEY
- FOUNDATION SURVEY
- ABUTMENT NO. 1
- ABUTMENT NO. 2
- APPROACH SLAB & ABUT. NO. 2 SECTIONS
- PIERS 1 & 2
- PIER 3
- STRUCTURAL STEEL & BLOCKING
- SUPERSTRUCTURE
- SLOPE PROTECTION
- REINFORCING STEEL

STANDARD DETAILS

- BD 101-64 BEARING PEDESTALS
- BD 103-64 BEAM SPLICES
- BD 104-64 DIAPHRAGMS, ARMORED JOINT, SHEAR CONNECTORS, DRAIN
- BD 105-64 EXPANSION DAMS
- BD 107-64 STEEL RAIL
- BD 108-64 ALUMINUM RAIL

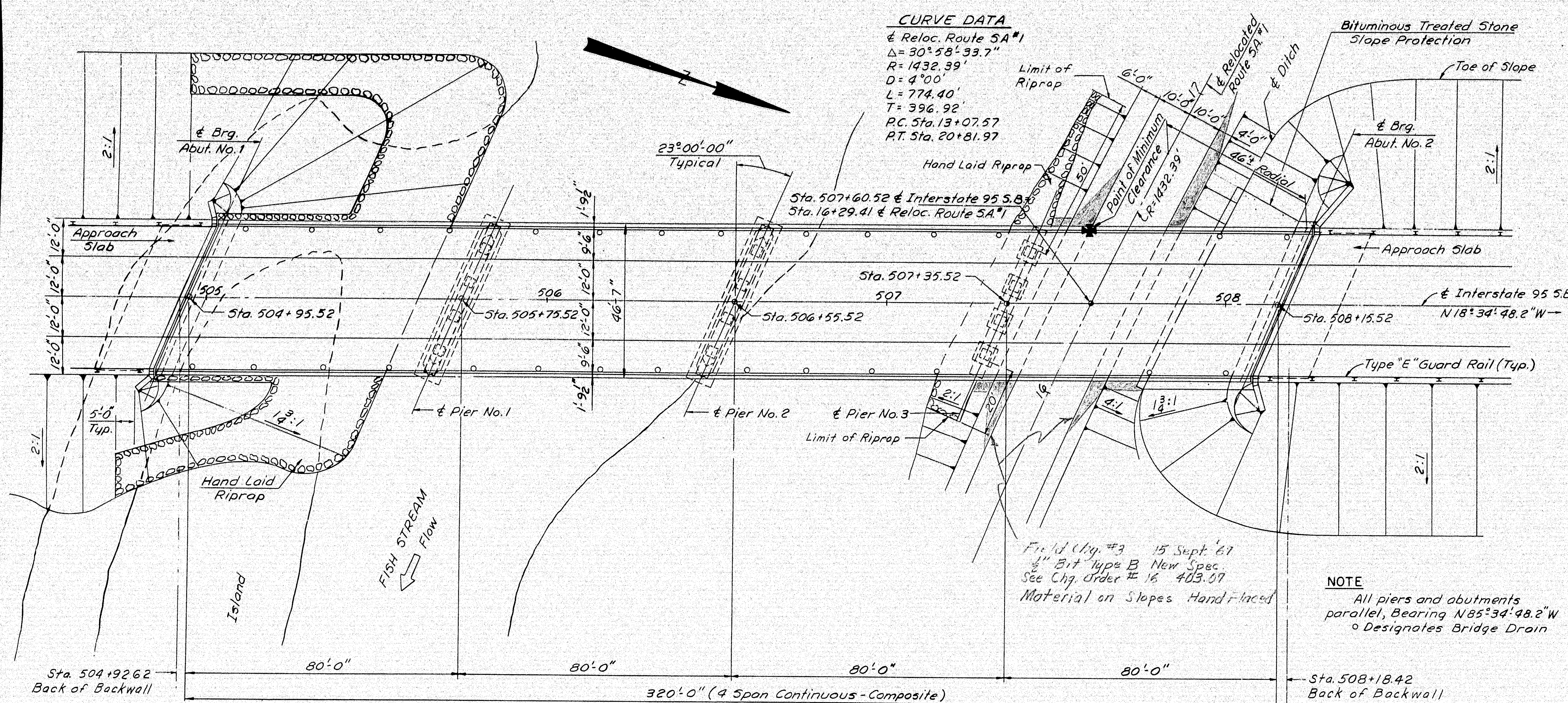
DESIGN - J.M.M.
CHECK - P.R.N.
BRIDGE NO. SURVEY - PLOT -

STATE HIGHWAY COMMISSION
BRIDGE DIVISION
INTERSTATE 95 S.B.
OVER
FISH STREAM & RELOC. ROUTE S.A. NO. 1
IN THE TOWN OF
ISLAND FALLS
AROOSTOOK COUNTY
GENERAL PLAN & QUANTITIES
SHEET 1 OF 12 AUGUSTA, MAINE AUGUST 1965

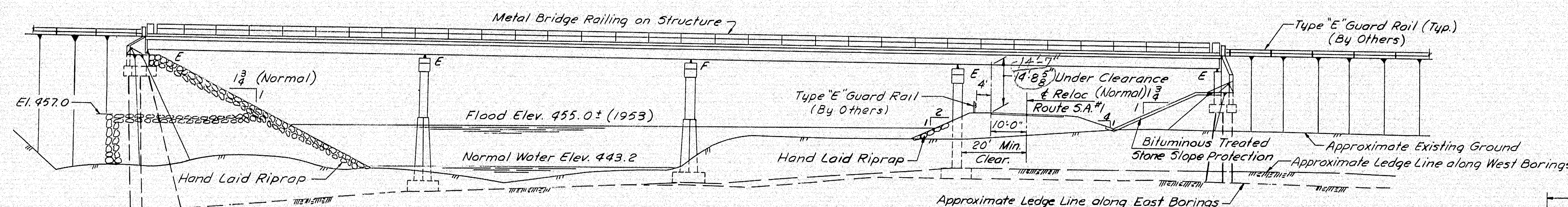
101-203

ISLAND FALLS (43)

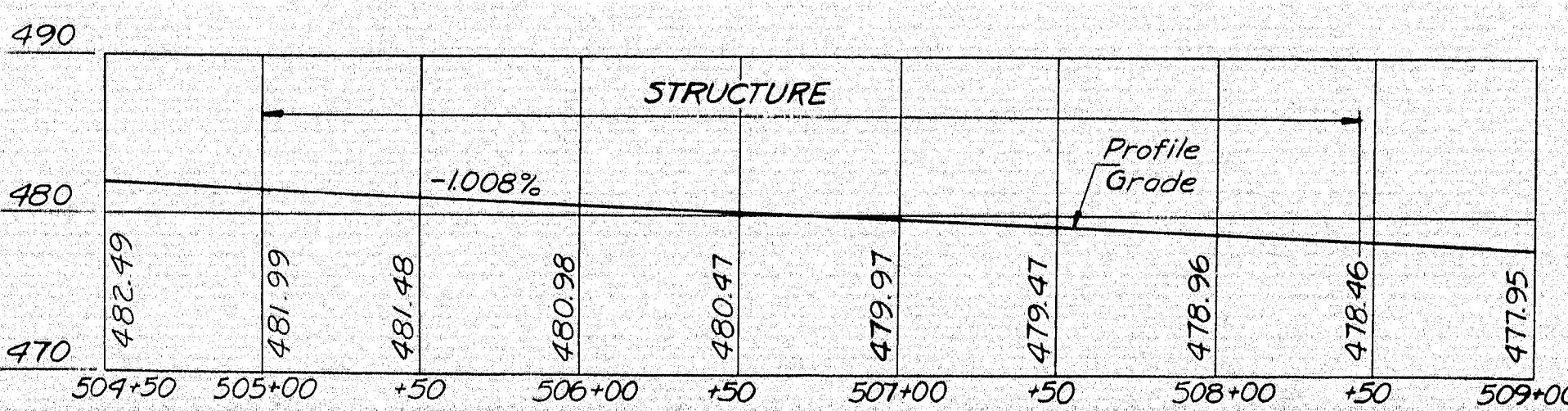
13



PLAN
1" = 20'

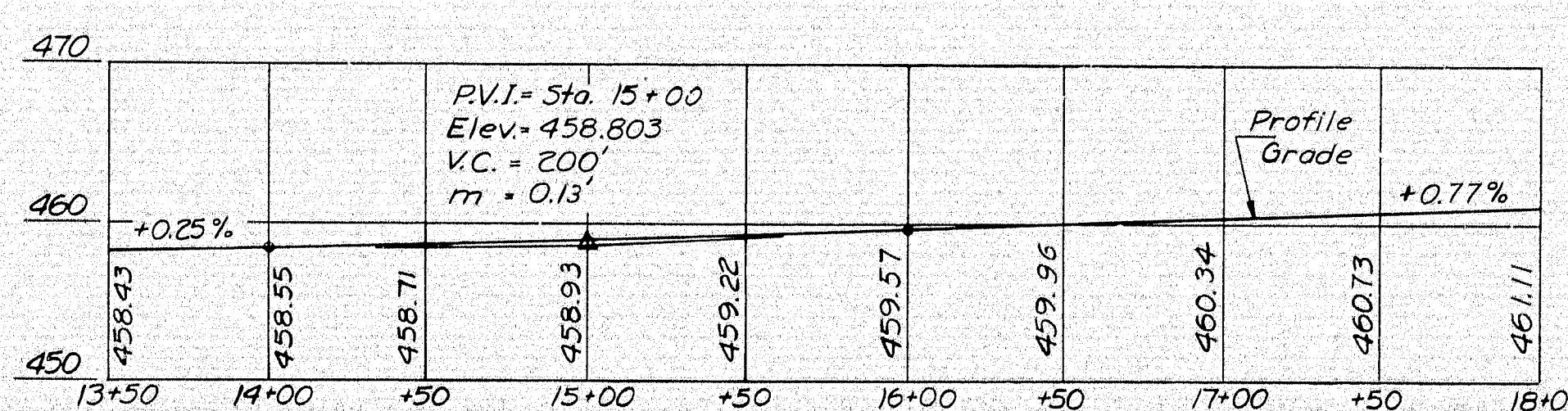


ELEVATION
1" = 20'



PROFILE INTERSTATE 95

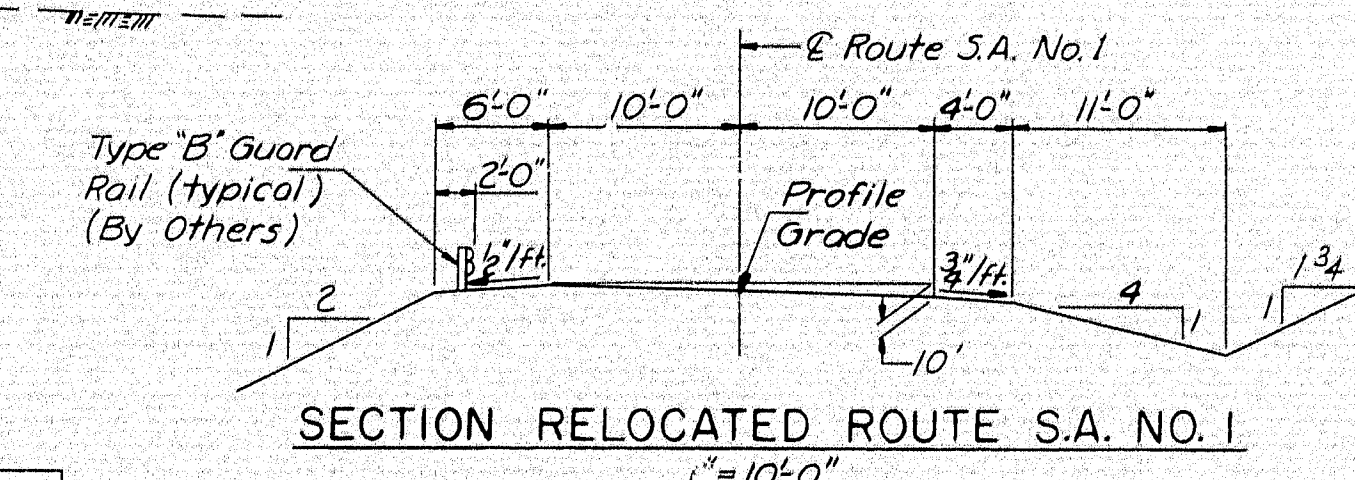
1" = 50' Horiz.
1" = 10' Vert.



PROFILE RELOCATED ROUTE S.A. NO. 1

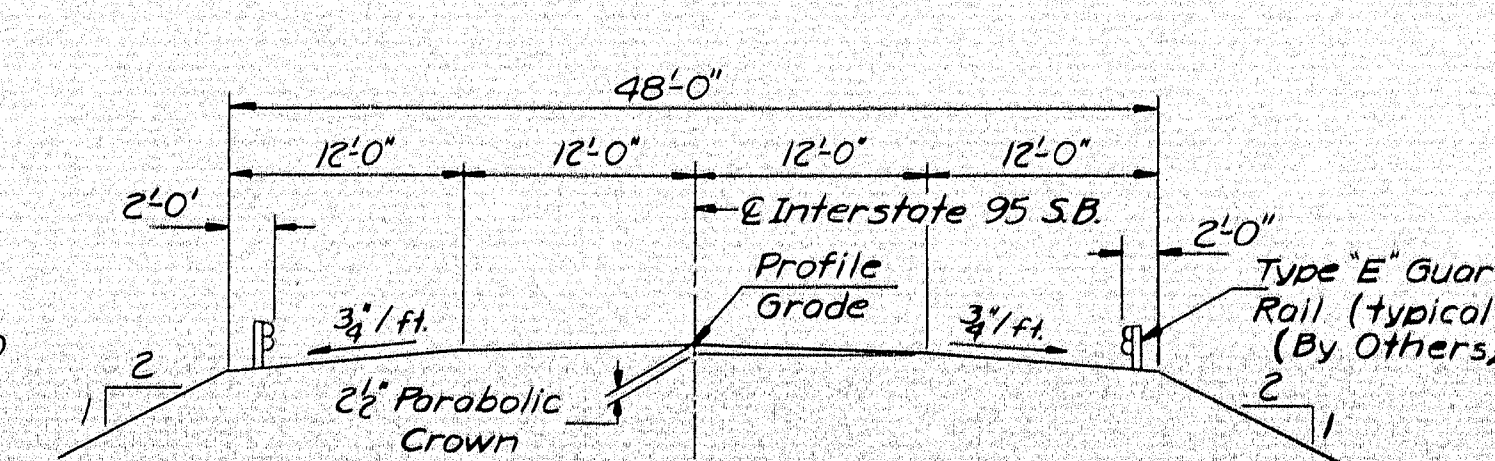
1" = 50' Horiz.
1" = 10' Vert.

- NOTES:**
- All fill within the limits as shown on Profile, sheet 27, shall be placed by the controlled density method.
 - Size of stone in gravel or granular borrow through which abutment piles are driven should not exceed 6 inches and concentrations of stones in the area shall be avoided.
 - Place gravel borrow or granular borrow to elevation of abutment footings before driving piles.



SECTION RELOCATED ROUTE S.A. NO. 1

1" = 10'-0"

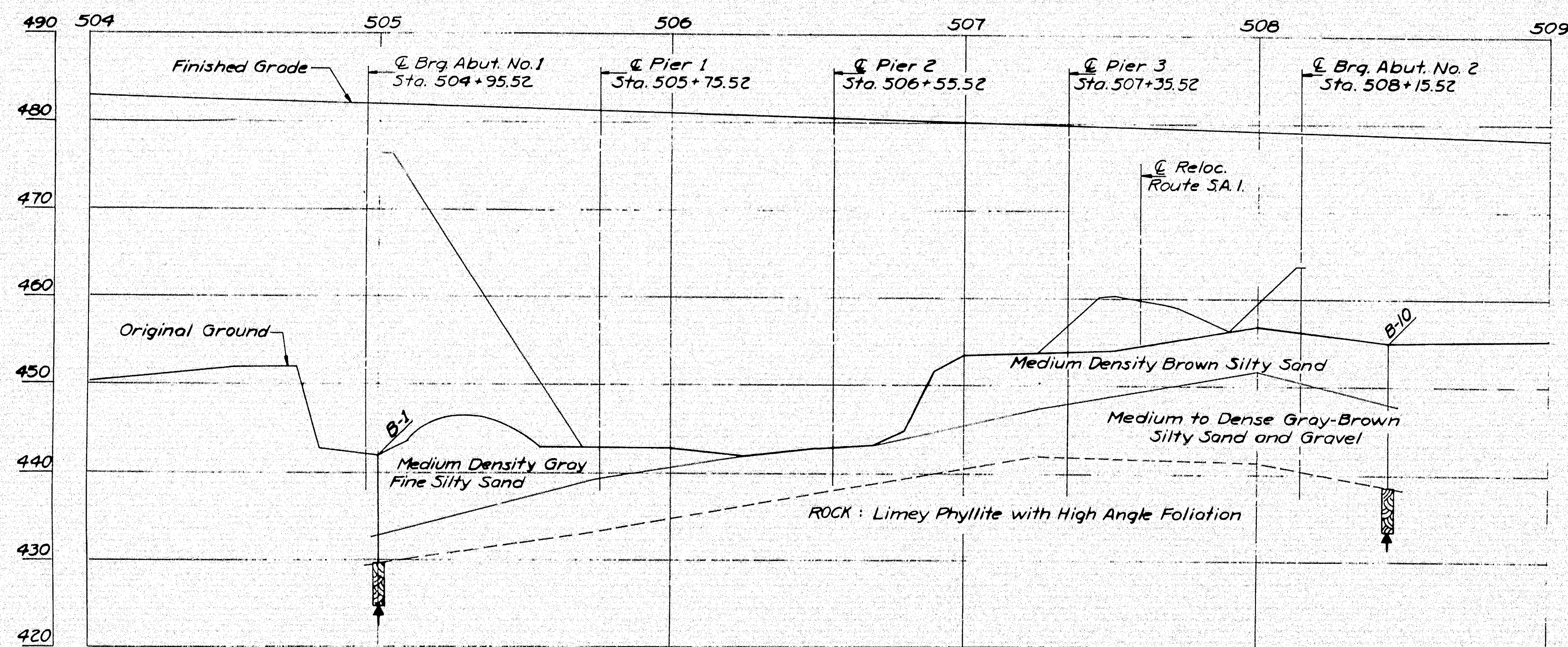
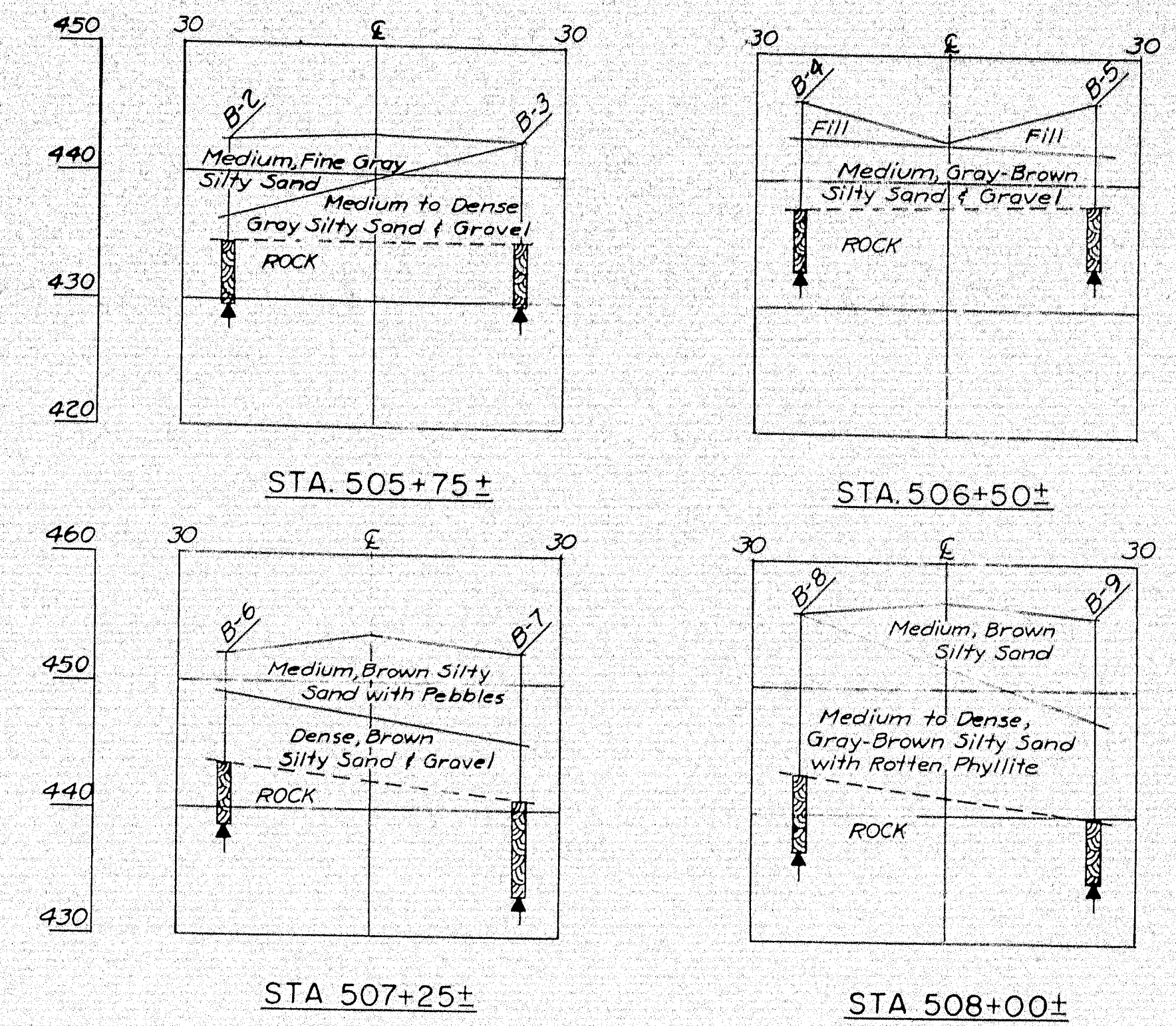
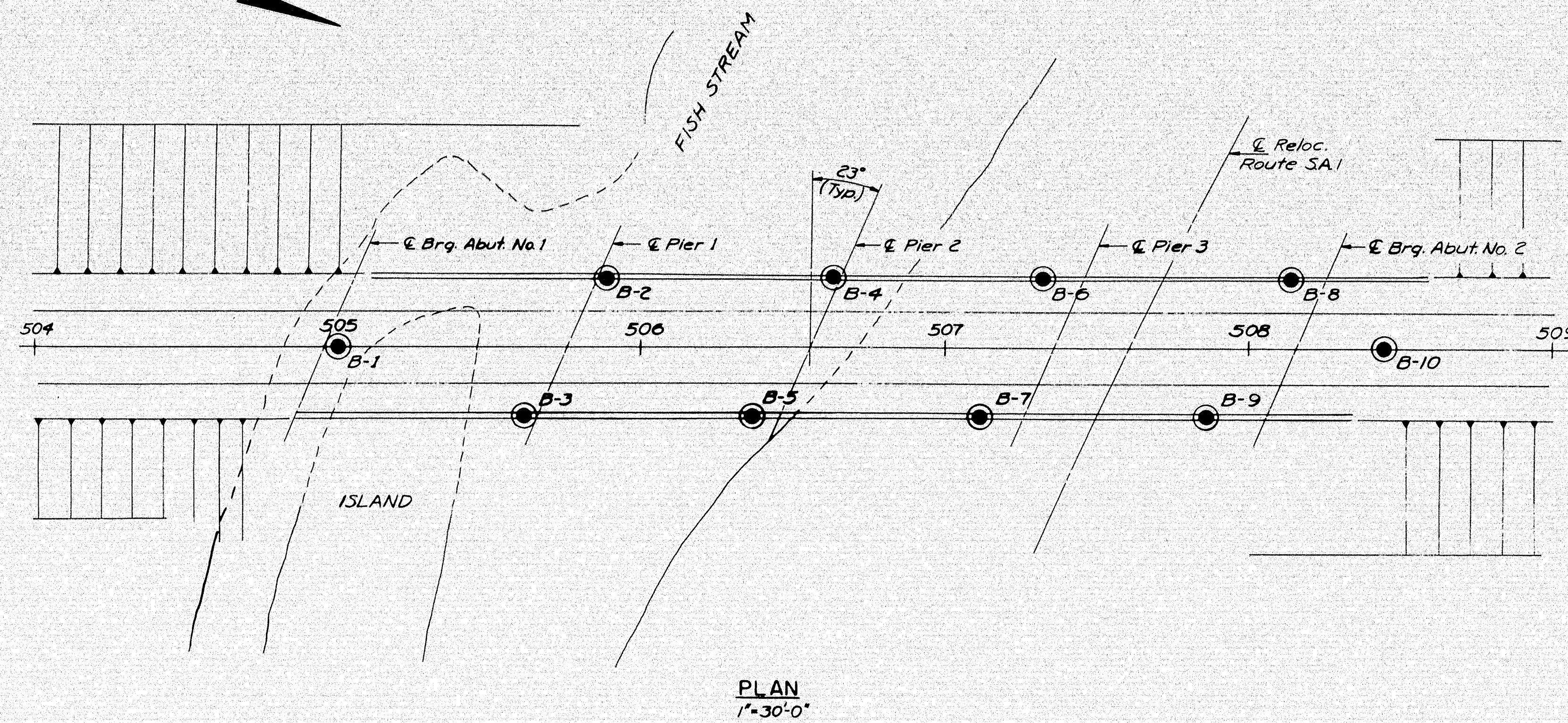


APPROACH SECTION

1" = 10'-0"

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS

NEW YORK BOSTON KANSAS CITY

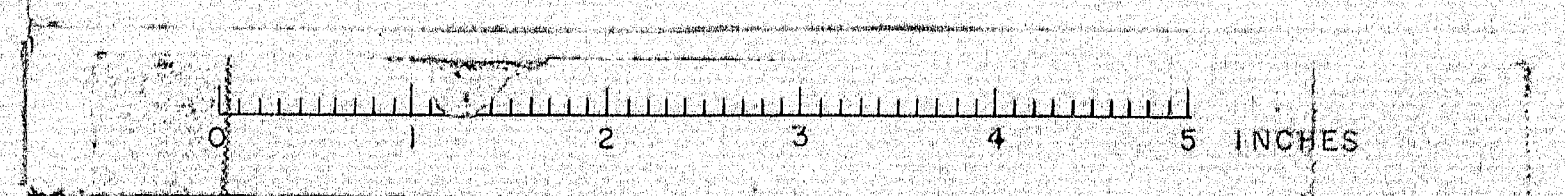


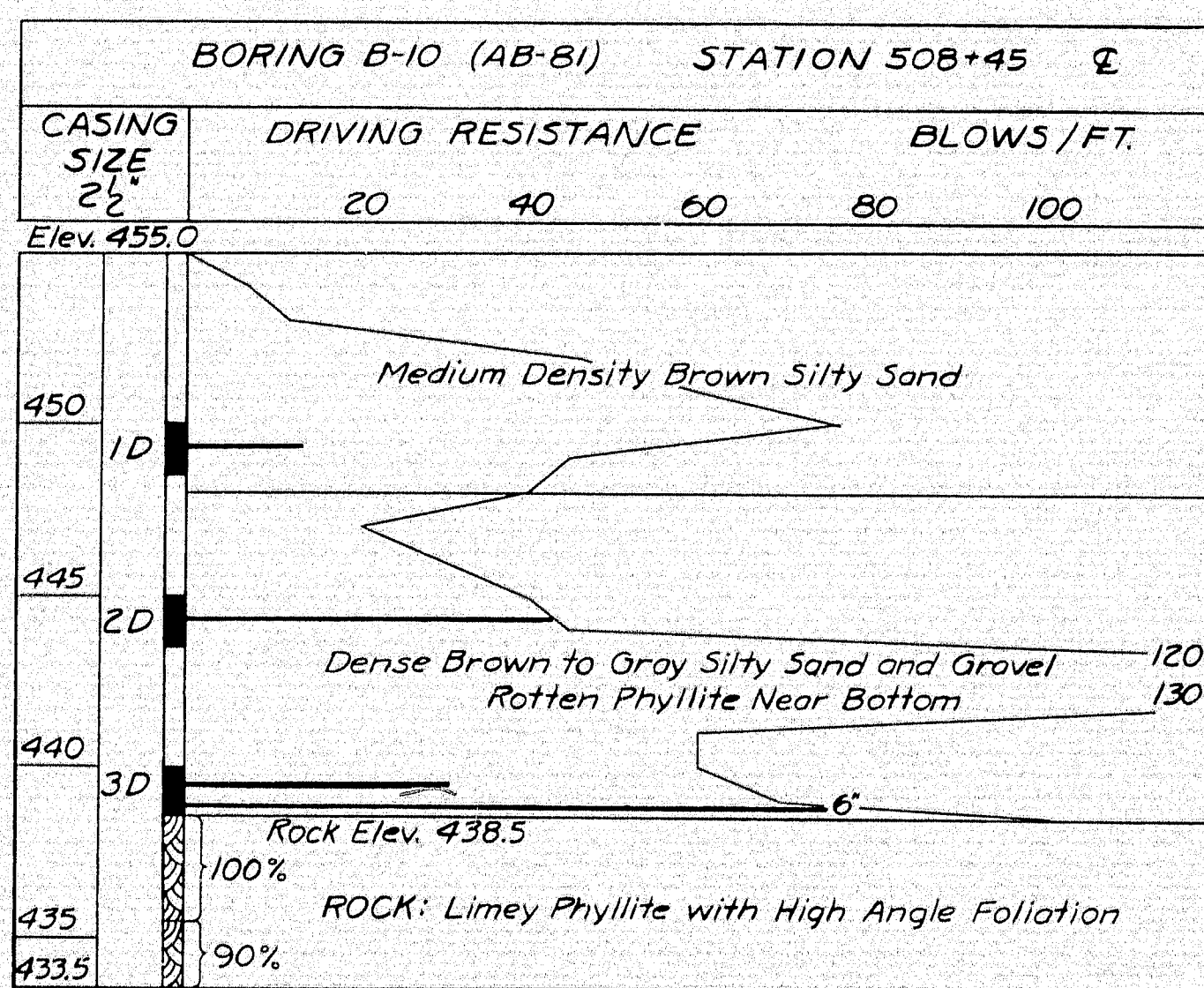
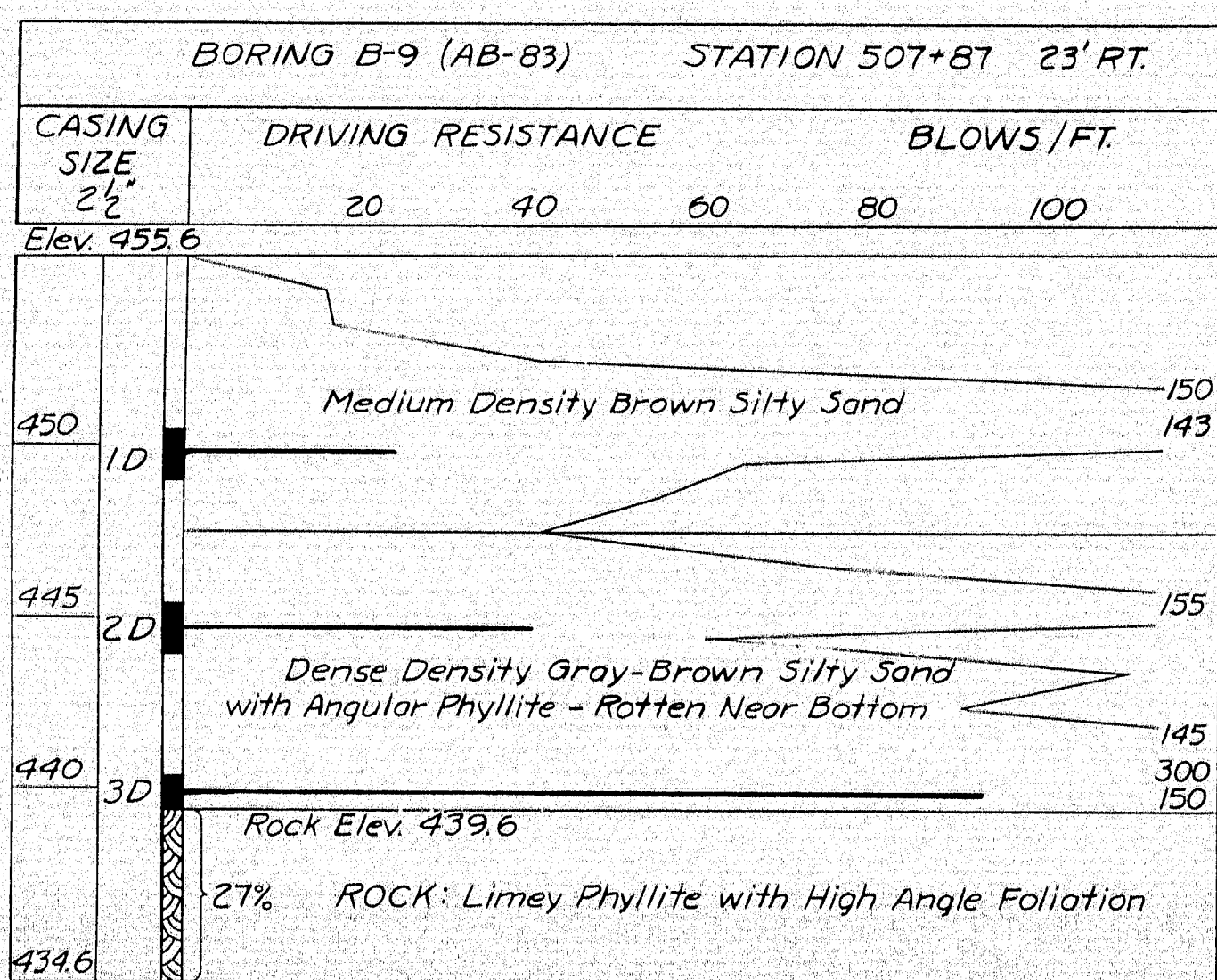
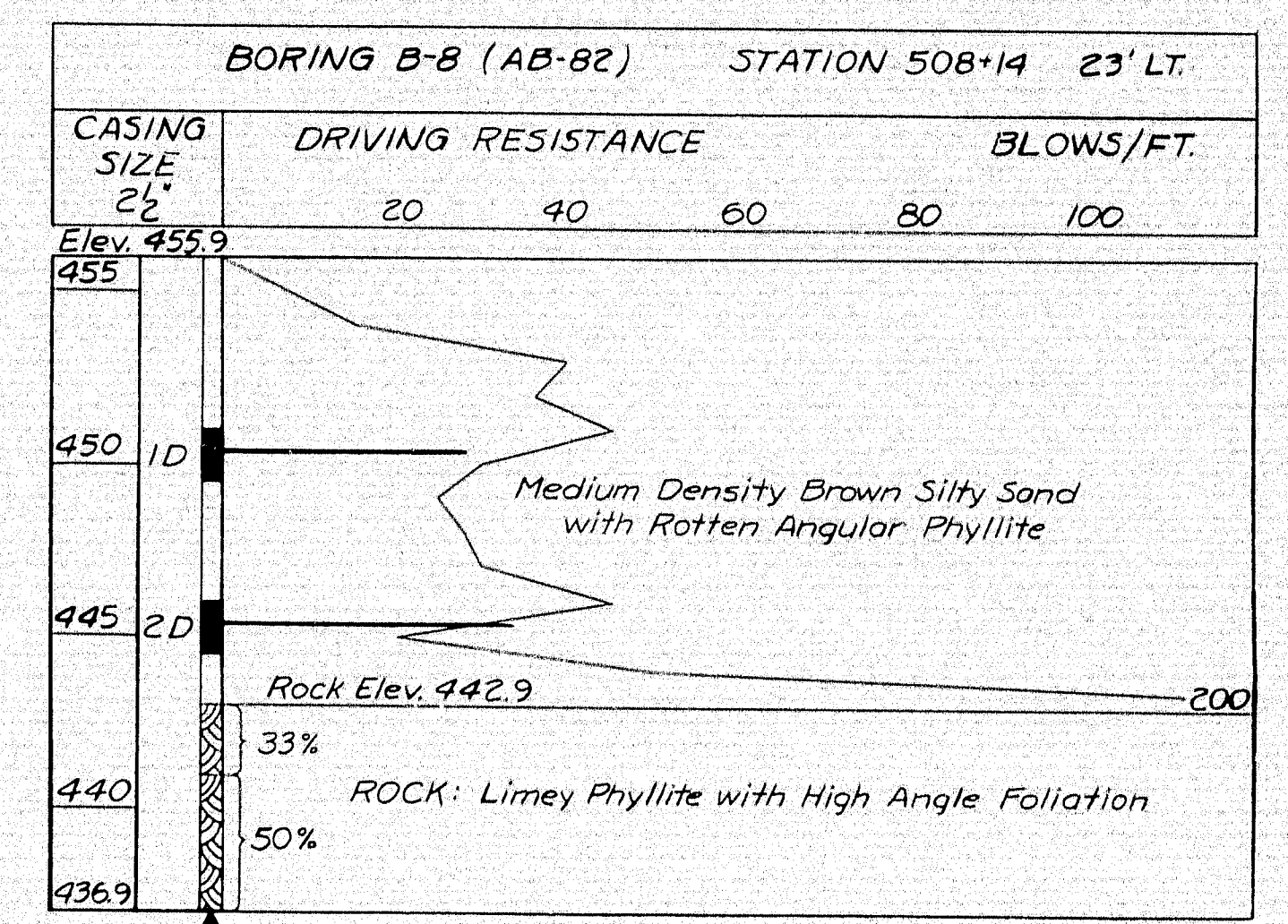
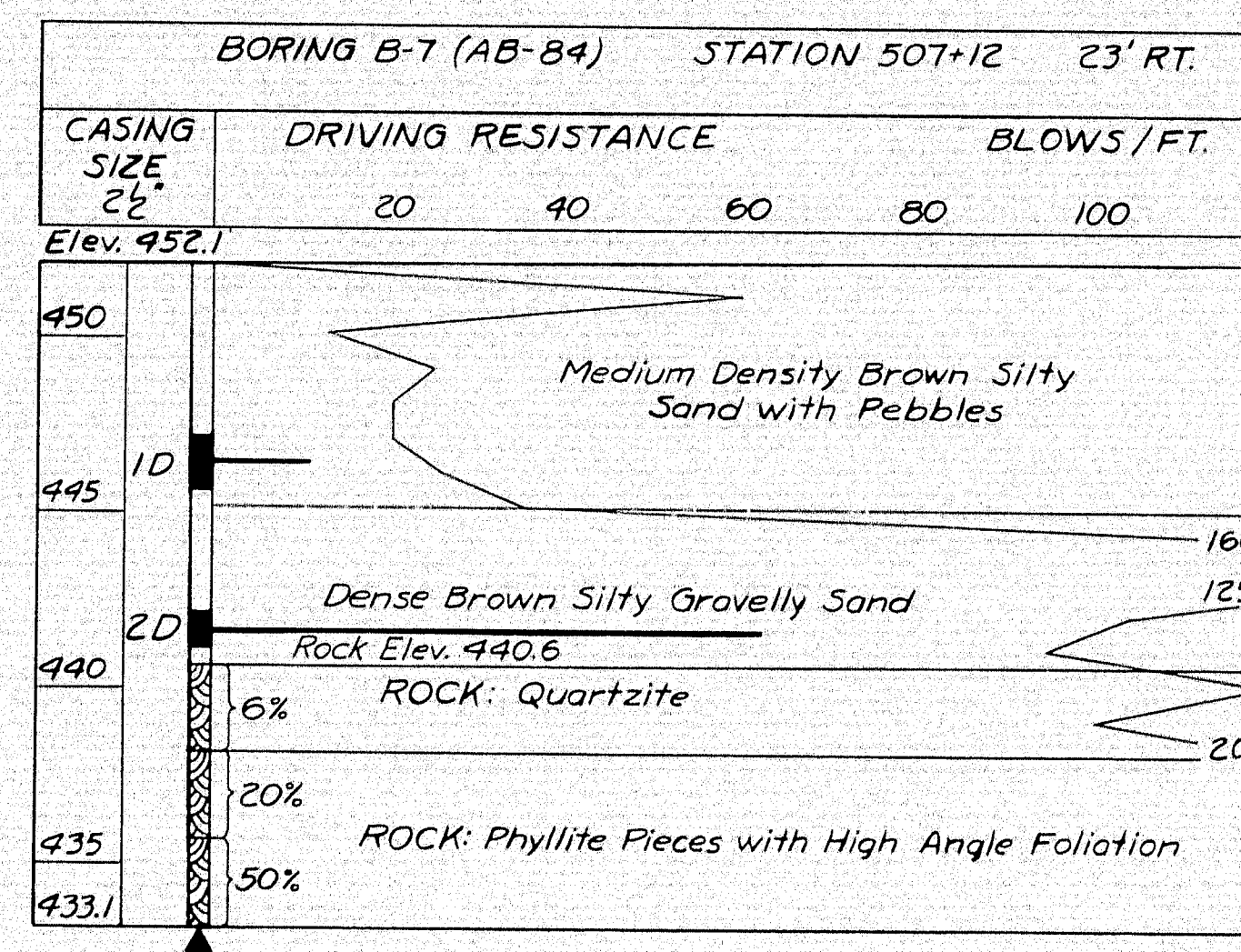
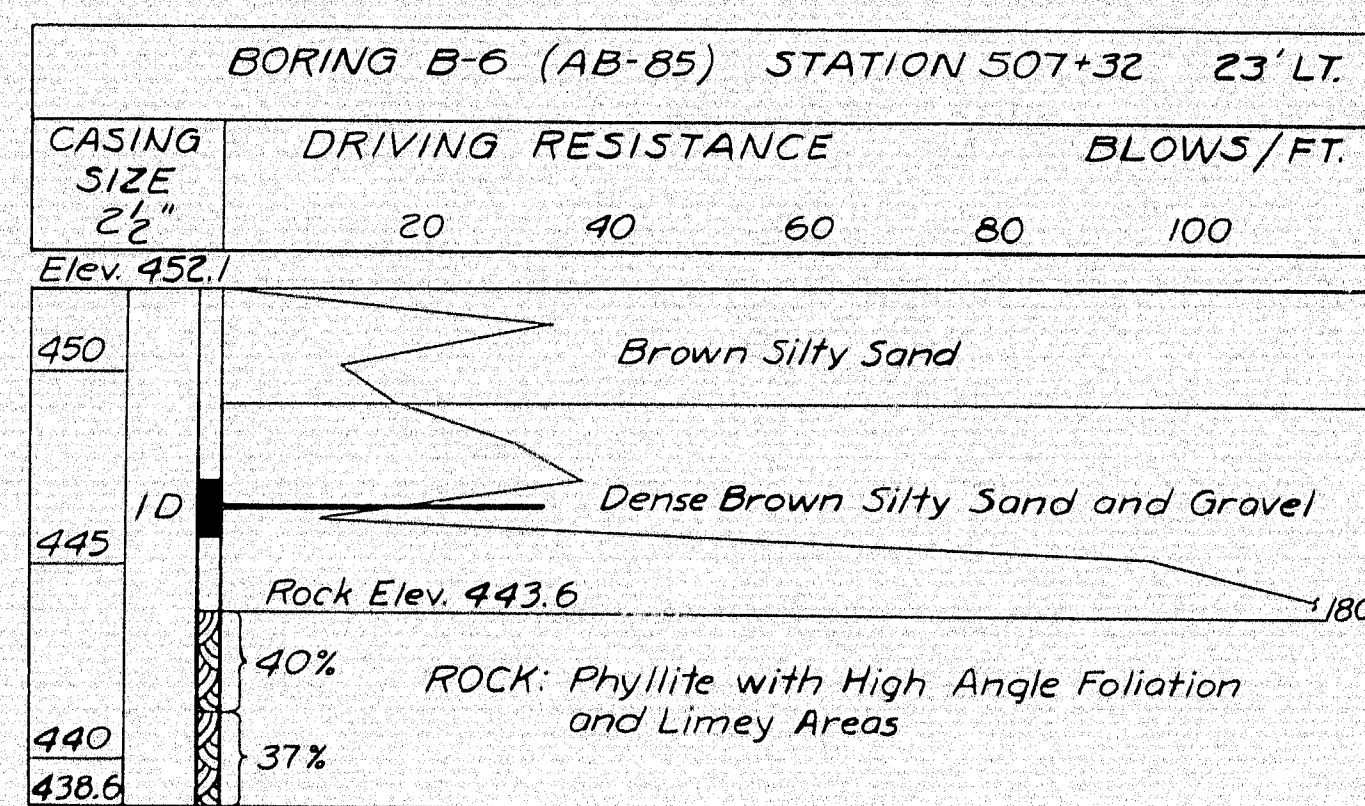
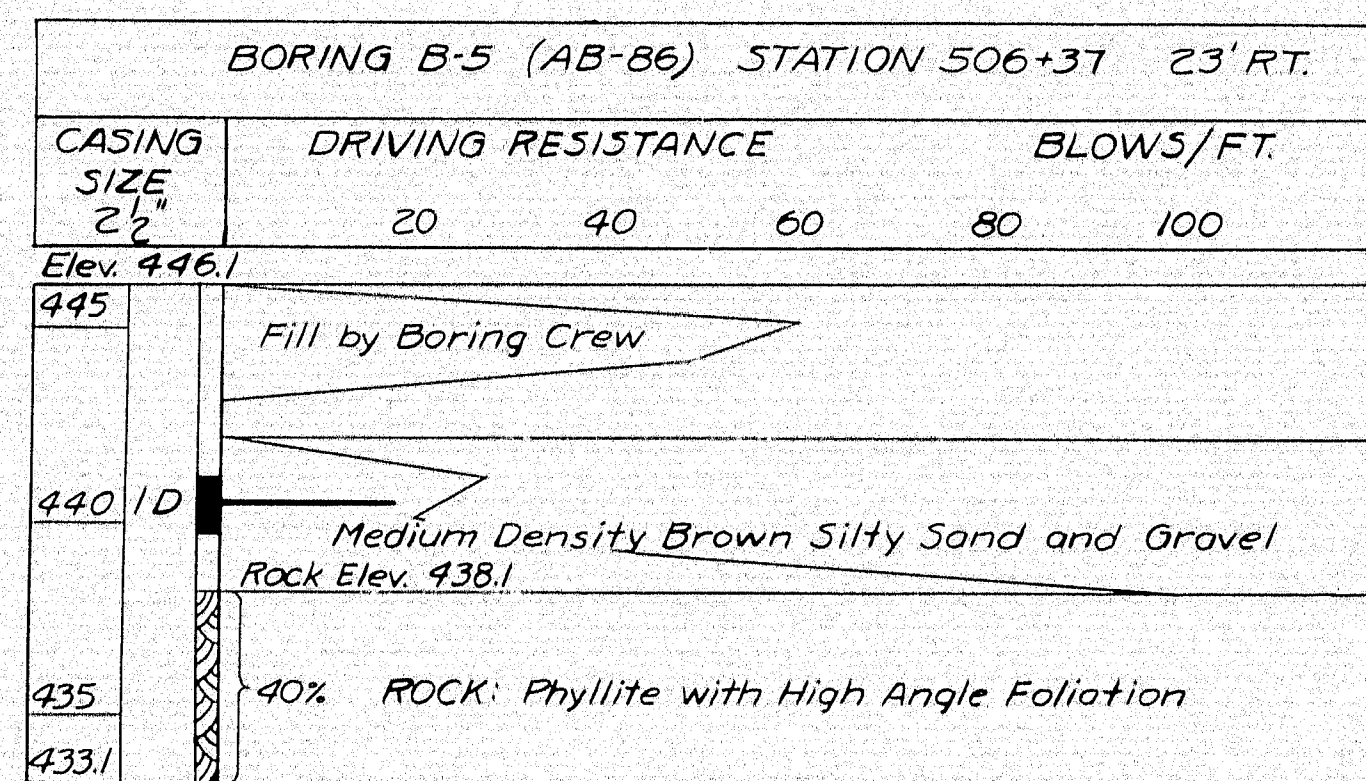
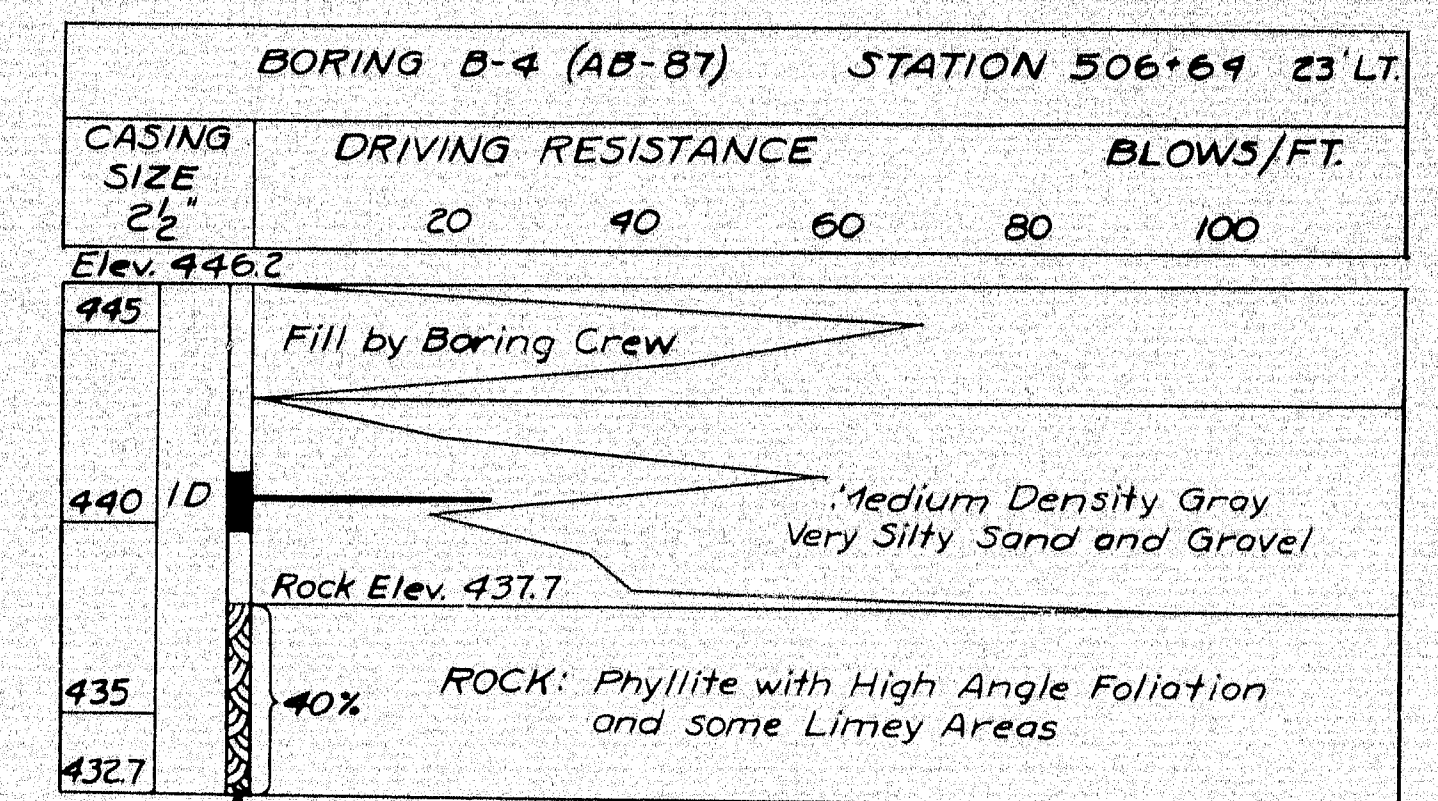
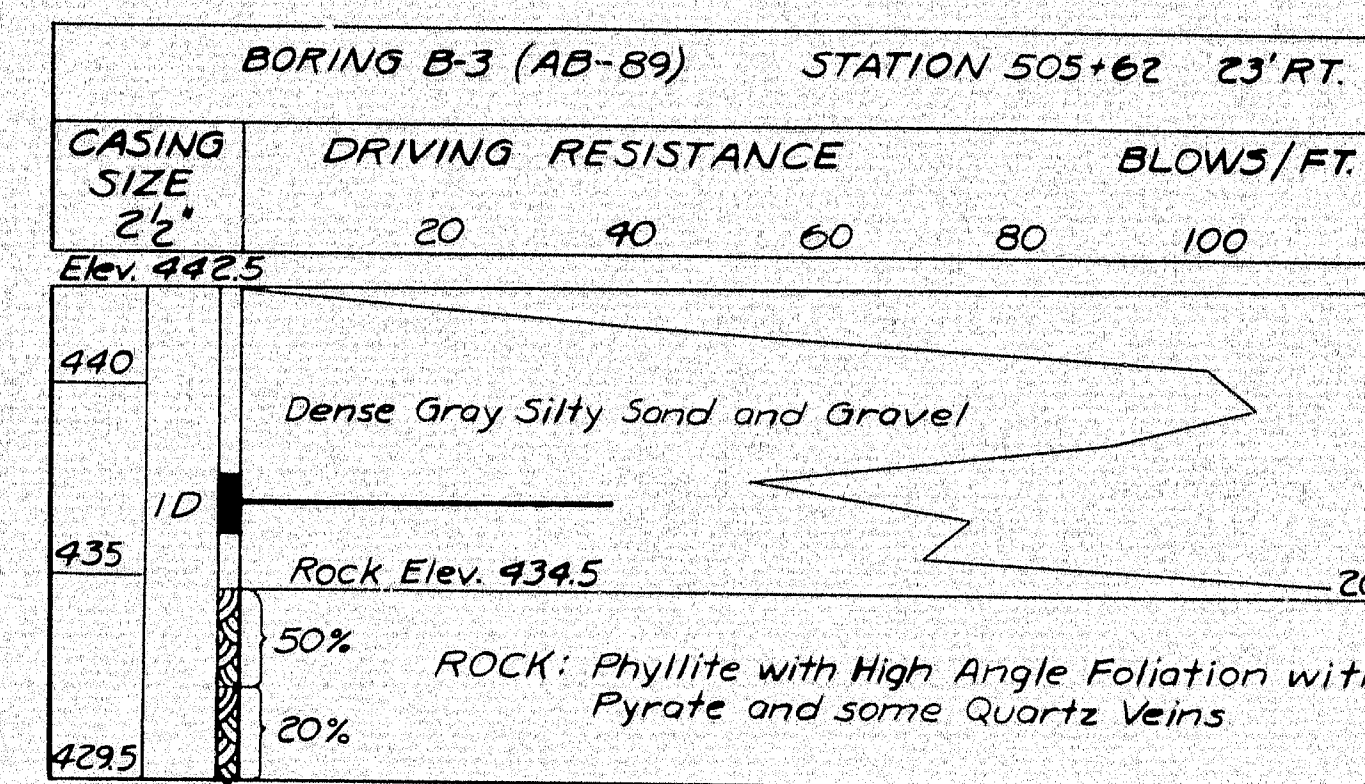
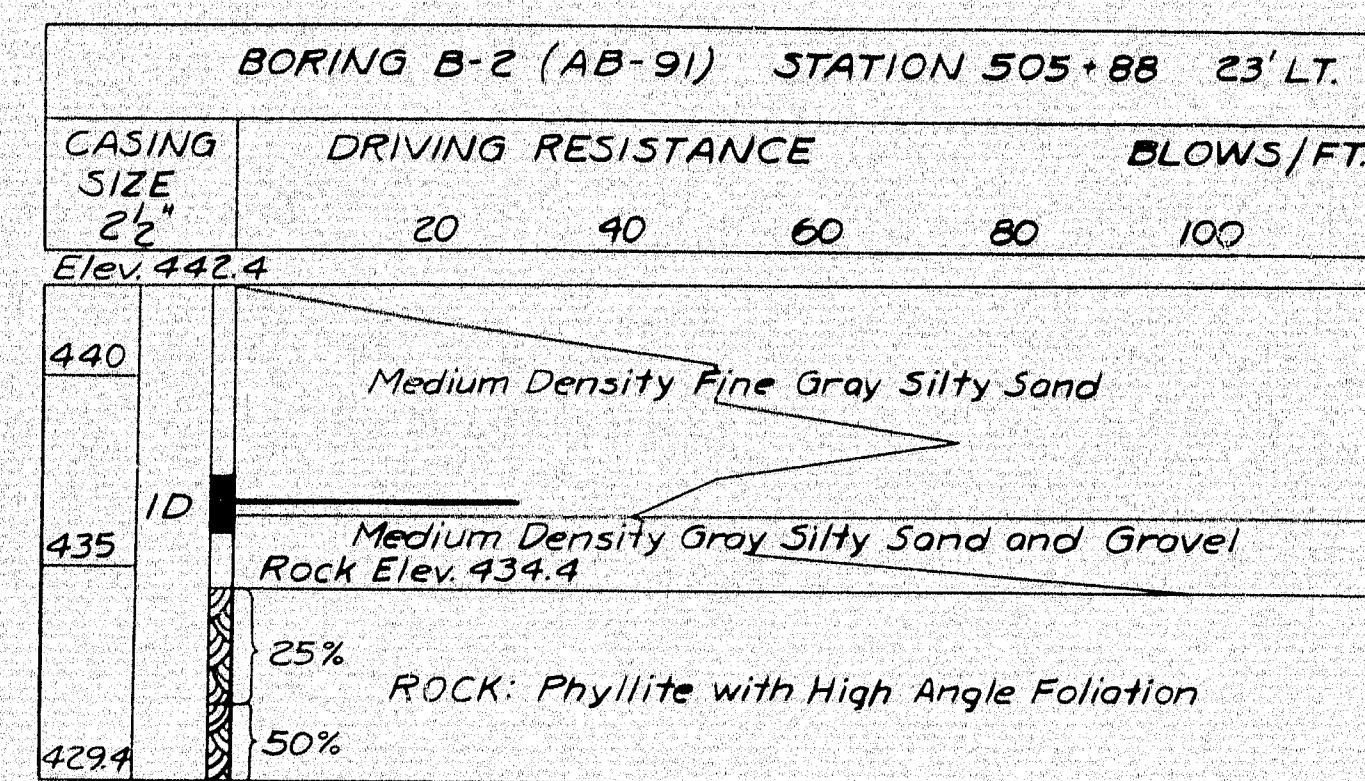
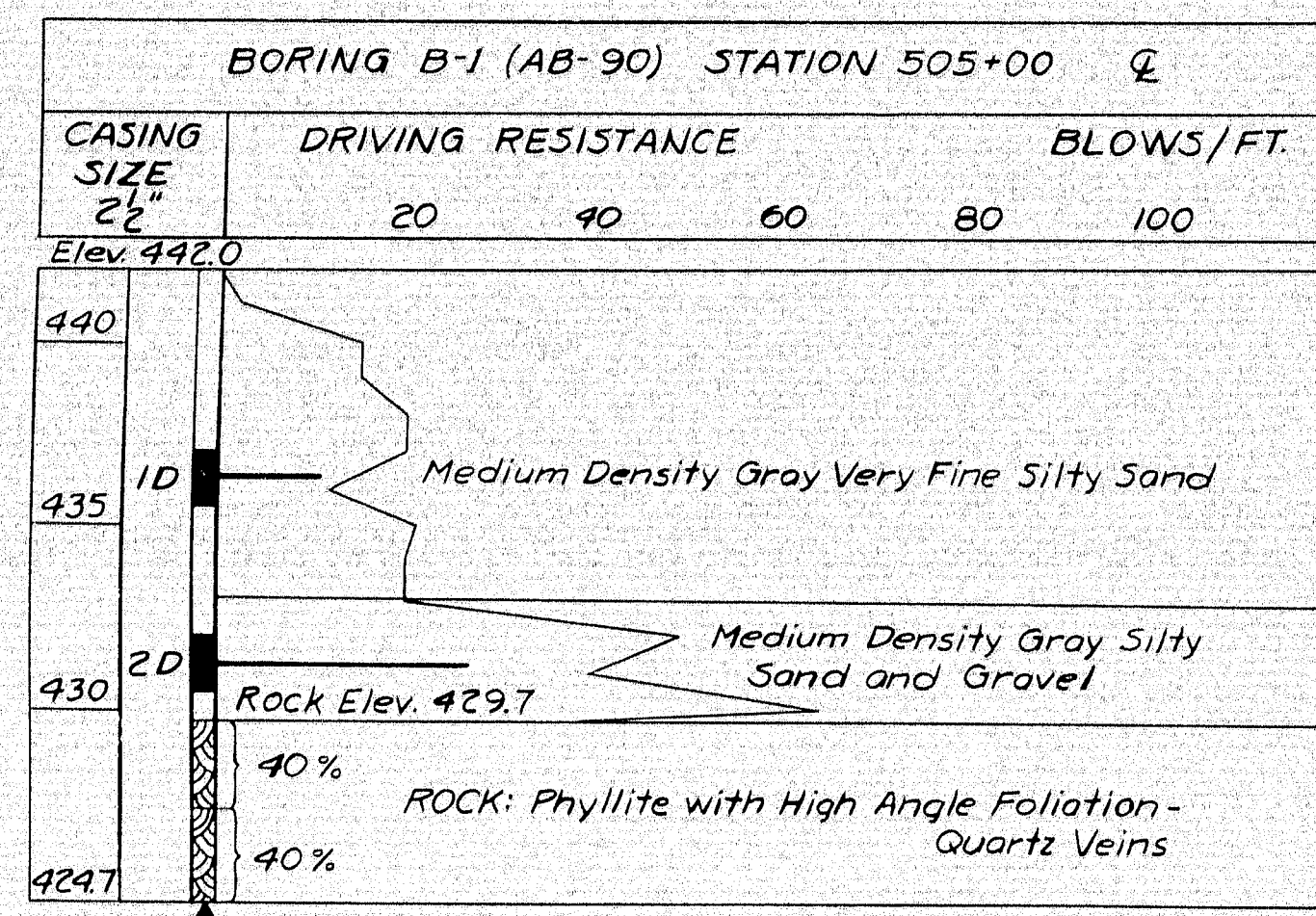
NOTES:
For Boring Logs and notes, see sheet 3.

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

DESIGN-
TRACE-
CHECK- P.R.N.
DETAIL- R.R.S.
BRIDGE NO.
SURVEY-
PLOT-
STATE HIGHWAY COMMISSION
BRIDGE DIVISION
INTERSTATE 95 S.B.
OVER
FISH STREAM & RELOC. ROUTE S.A. I
IN THE TOWN OF
ISLAND FALLS
AROSTOOK COUNTY
FOUNDATION SURVEY
SHEET 2 OF 12 AUGUSTA, MAINE AUGUST 1965

101-204 ISLAND FALLS (43)





BORING 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.
- 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 bottom of soil strata).
- 71% Locations cored by diamond bit and percent recovery of rock.

NOTES

For Plan, Profile, and Transverse Sections, see sheet 2.

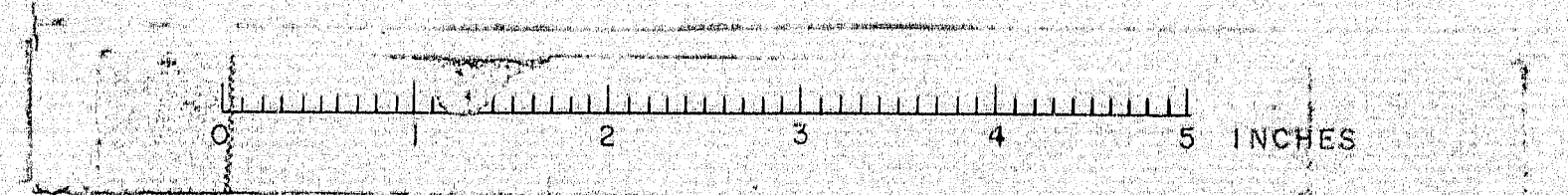
HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS

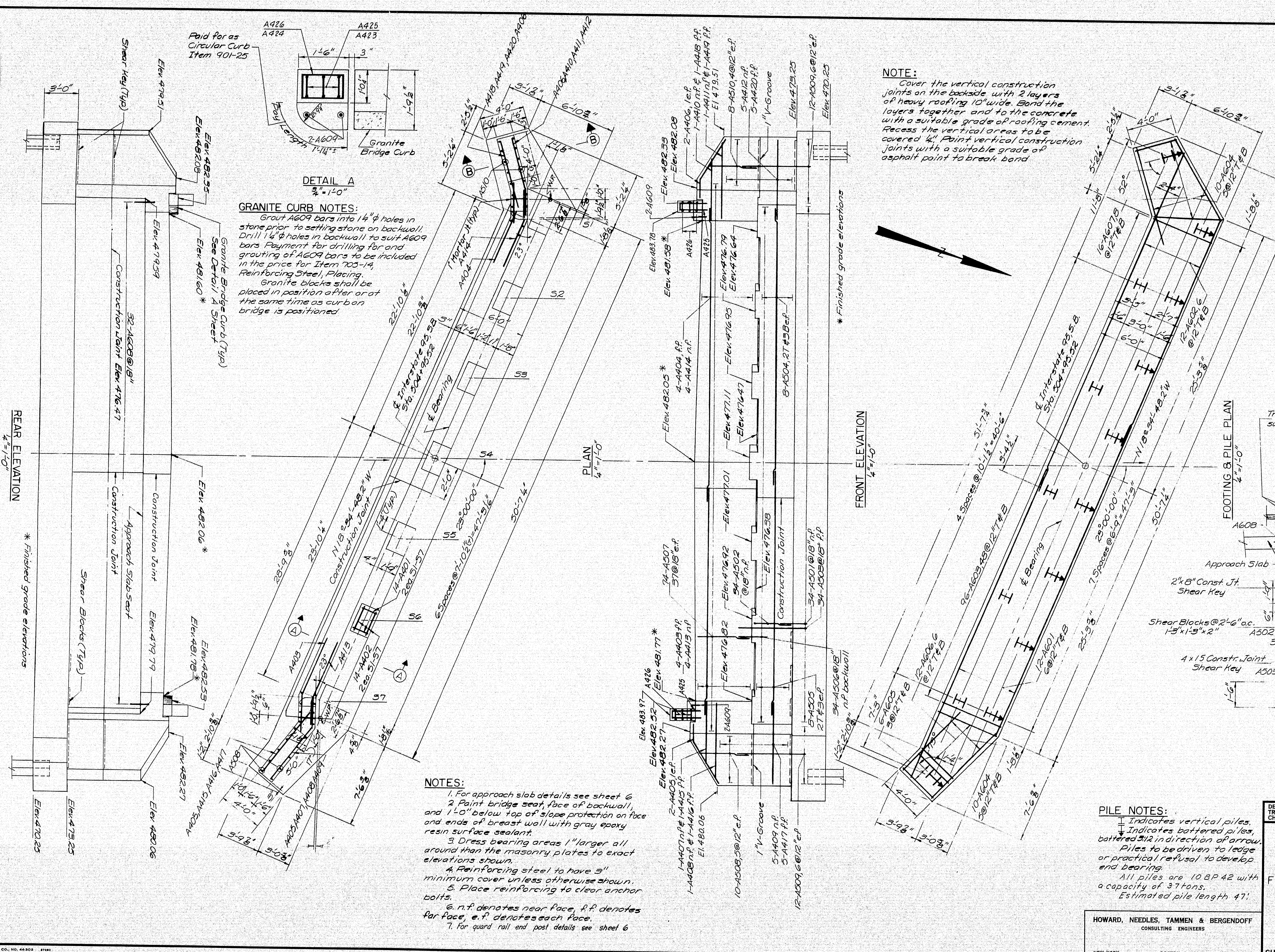
NEW YORK BOSTON KANSAS CITY

DESIGN- TRACE- CHECK- S.M.	DETAIL- R.R.S.	BRIDGE NO. SURVEY- PLOT-
STATE HIGHWAY COMMISSION BRIDGE DIVISION		
INTERSTATE 95 S.B. OVER FISH STREAM & RELOC. ROUTE S.A.1 IN THE TOWN OF ISLAND FALLS AROOSTOOK COUNTY FOUNDATION SURVEY		
SHEET 3 OF 12 AUGUSTA, MAINE AUGUST 1965		

101-205

ISLAND FALLS (43)

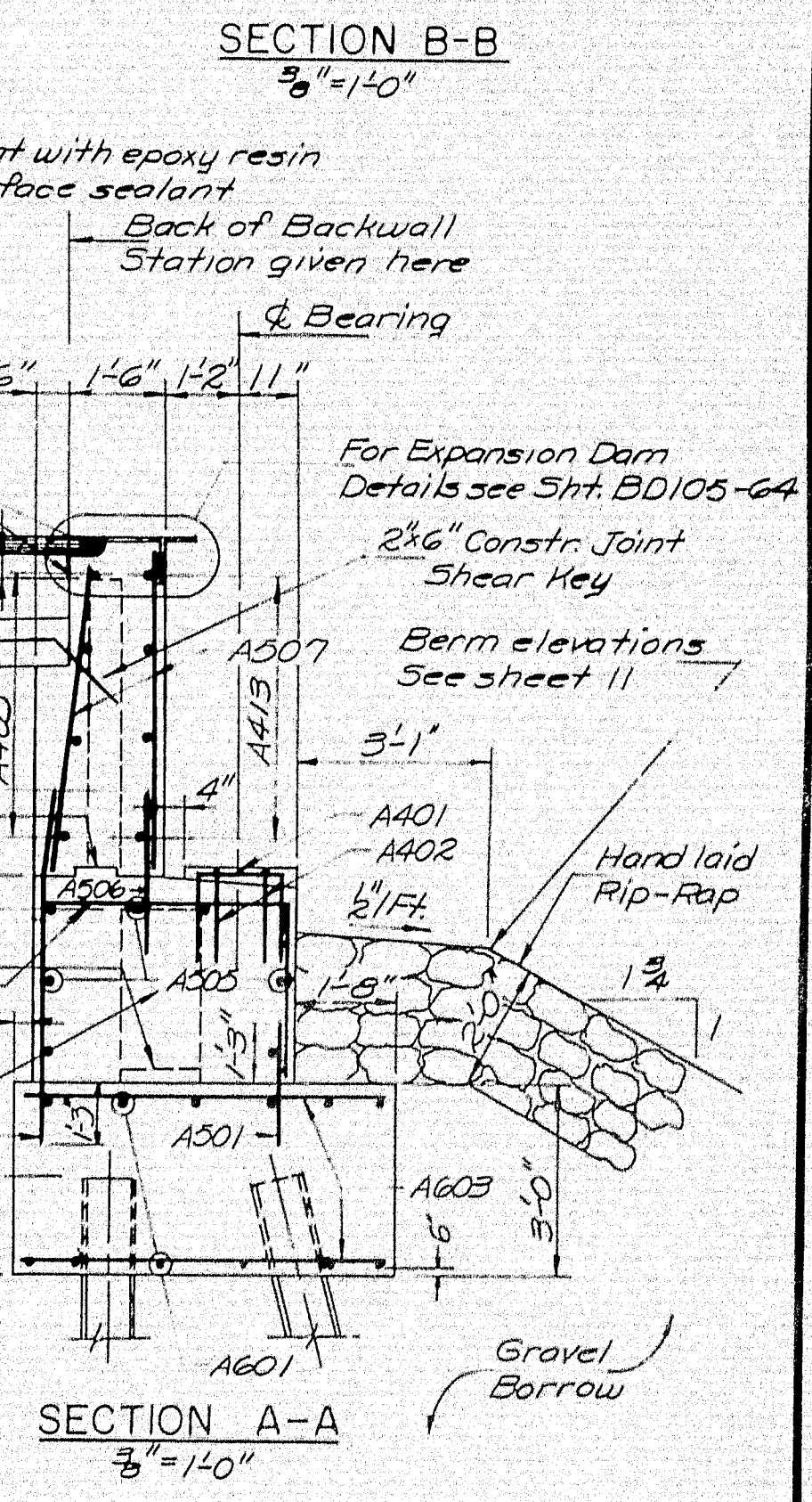
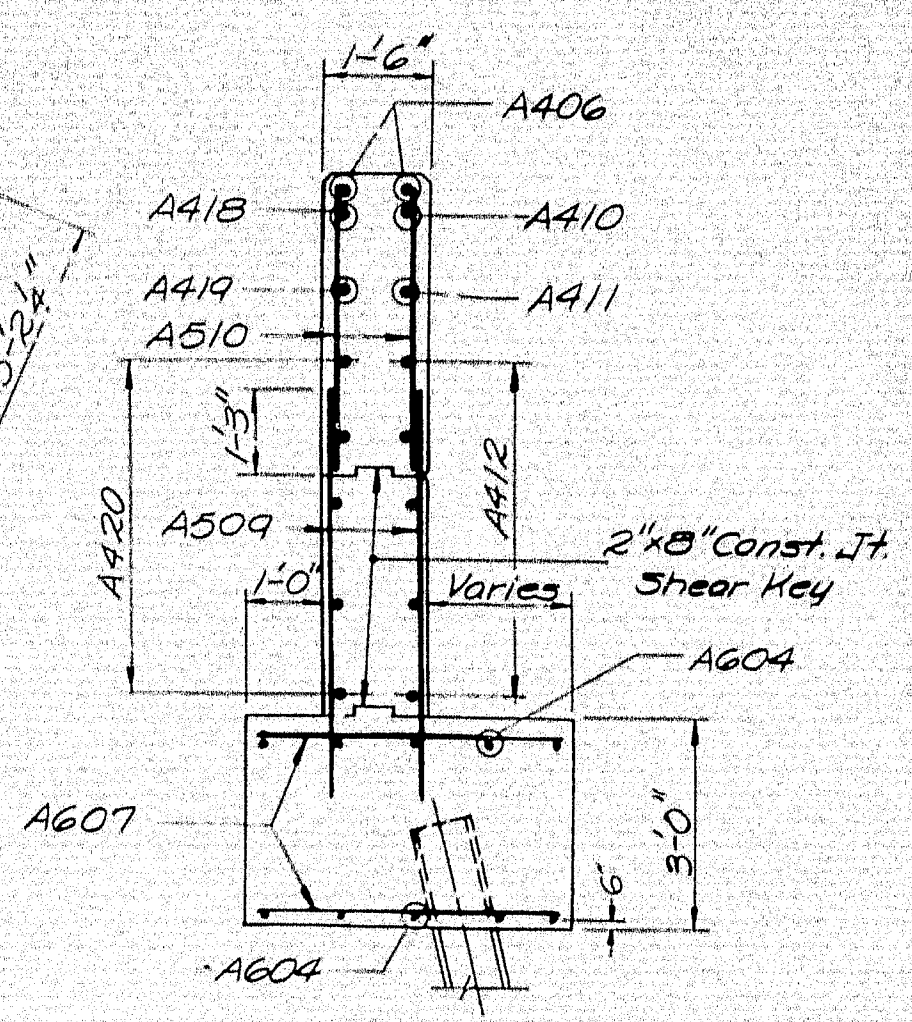




DETAIL A
3/4" x 1'-0"

GRANITE CURB NOTES:
Grout A609 bars into 1/4" holes in stone prior to setting stone on backwall. Drill 1/4" holes in backwall to suit A609 bars. Payment for drilling for and grouting of A609 bars to be included in the price for Item 703-14, Reinforcing Steel, Placing. Granite blocks shall be placed in position after or at the same time as curb on bridge is positioned.

NOTE:
Cover the vertical construction joints on the backside with 2 layers of heavy roofing 10" wide. Bond the layers together and to the concrete with a suitable grade of roofing cement. Recess the vertical areas to be covered 1/4". Paint vertical construction joints with a suitable grade of asphalt paint to break bond.



NOTES:
1. For approach slab details see sheet 6.
2. Paint bridge seat, face of backwall, and 1'-0" below top of slope protection on face and ends of breast wall with gray epoxy resin surface sealant.
3. Dress bearing areas 1" larger all around than the masonry plates to exact elevations shown.
4. Reinforcing steel to have 3" minimum cover unless otherwise shown.
5. Place reinforcing to clear anchor bolts.
6. n.f. denotes near face, r.f. denotes far face, e.f. denotes each face.
7. For guard rail end post details see sheet 6.

PILE NOTES:
+ Indicates vertical piles.
+ Indicates battered piles, battered 3/2 in direction of arrow.
Piles to be driven to ledge or practical refusal to develop end bearing.
All piles are 10 BP 42 with a capacity of 37 tons.
Estimated pile length 47'.

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

DESIGN—E.F.K. DETAIL—R.W.O.L.
TRACE—CHECK—P.R.N.
BRIDGE NO. SURVEY PLOT—
STATE HIGHWAY COMMISSION
BRIDGE DIVISION
INTERSTATE 95 S.B.
OVER
FISH STREAM & RELOC. ROUTE S.A. NO. 1
IN THE TOWN OF
ISLAND FALLS
AROSTOOK COUNTY
ABUTMENT NO. 1
SHEET 4 OF 12 AUGUSTA, MAINE AUGUST 1, 1959

101-206 ISLAND FALLS (43)

3'-6"

3'-0"

3"

12x12x2 Key (Typ.)

2'-6"

2'-6"

12x12x2 Key (1)

8'-0"

END ELEVATION

1" = 1'-0"

The drawing consists of two views: SECTION A-A and SECTION B-B.

SECTION A-A: This is a side elevation of a rectangular frame. The overall width is 3'-6" and the overall height is 4'-6" (Min.). The frame has a central vertical opening. The top corners are labeled P1104 and P1105, and the bottom corners are labeled P1106. The right side features a vertical track with four circular components labeled P501, P616, P616, and P903 from top to bottom. The frame is shown in a perspective view, indicating its three-dimensional structure.

SECTION B-B: This is a top-down view of the same rectangular frame. The overall width is 3'-0" and the overall height is 3'-0". The frame has a central square opening. The corners are labeled P401 G and P903. The frame is shown in a perspective view, indicating its three-dimensional structure.

Diagram illustrating a footing on a ledge. The footing is a rectangle with a width of 2'-0" and a height of 2'-0". The ledge is 3'-0" high. The footing is placed on the ledge such that the top edge of the footing is 2'-0" from the top of the ledge. The bottom edge of the footing is 2'-0" from the bottom of the ledge. The footing is labeled "FOOTING ON LEDGE" and "Approximate Edge Line".

DESIGN—E.F.K. DETAIL — R.R.S.	BRIDGE NO.
TRACE—	SURVEY—
CHECK—P.R.N.	PLOT—

STATE HIGHWAY COMMISSION
BRIDGE DIVISION

INTERSTATE 95 S.B.

OVER

FISH STREAM & RELOC. ROUTE S.A.NO.

IN THE TOWN OF

ISLAND FALLS

AROOSTOOK COUNTY

PIER NO. 3

SHEET 8 OF 12 AUGUSTA, MAINE AUGUST 1965

ISLAND FALLS (43)

101-210