

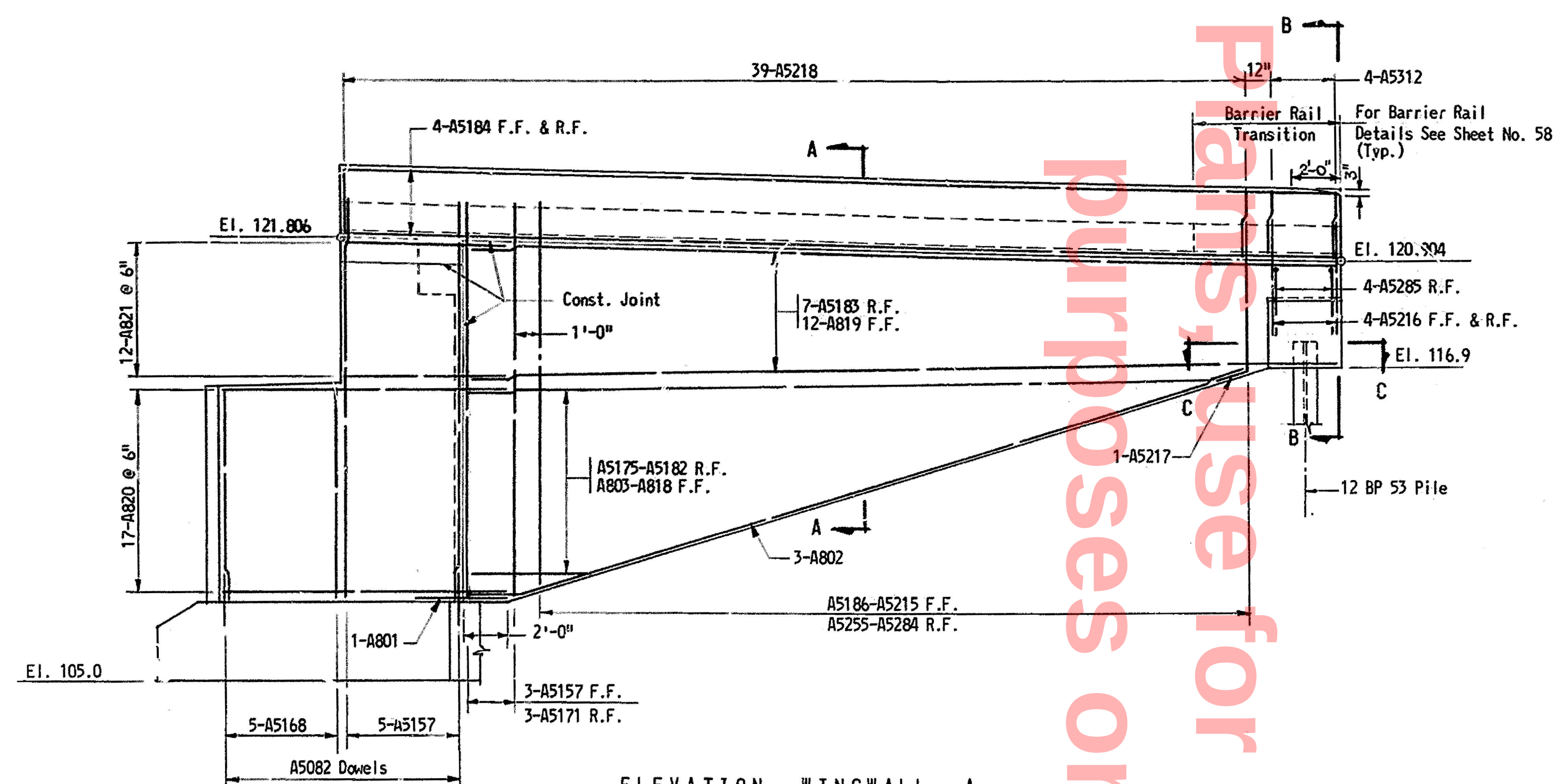
DIGITAL ACCESSIBILITY NOTICE

The Delaware Department of Transportation (DelDOT) is committed to ensuring that its digital services, content, and documents are accessible to all users and is actively working to comply with applicable federal and state accessibility requirements. DelDOT continues to make improvements over time, with current efforts focused on programs, applications, content, and documents that are actively in use and available to the public.

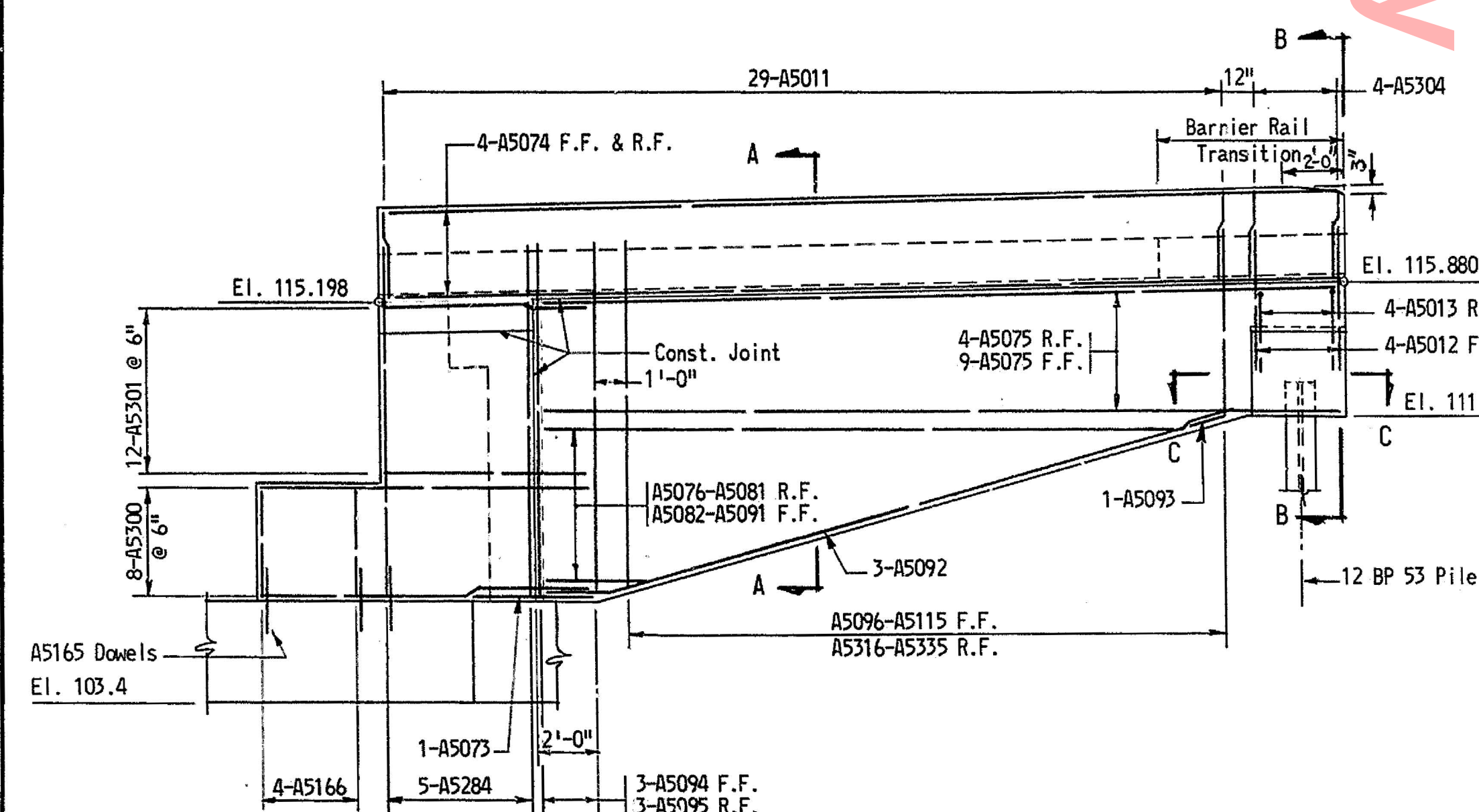
Due to the nature and complexity of certain materials, including construction plans, technical drawings, historical documents, maps, and other graphic-intensive files, some documents may not currently be fully digitally accessible or compliant with current accessibility standards. In some cases, these documents are provided for historical, reference, informational, or procurement purposes only.

If you require an accessible version of a document or need assistance accessing any content, please contact DelDOT, and reasonable efforts will be made to provide the information in an accessible format upon request. DelDOT appreciates your patience and understanding as accessibility improvements continue to be implemented.

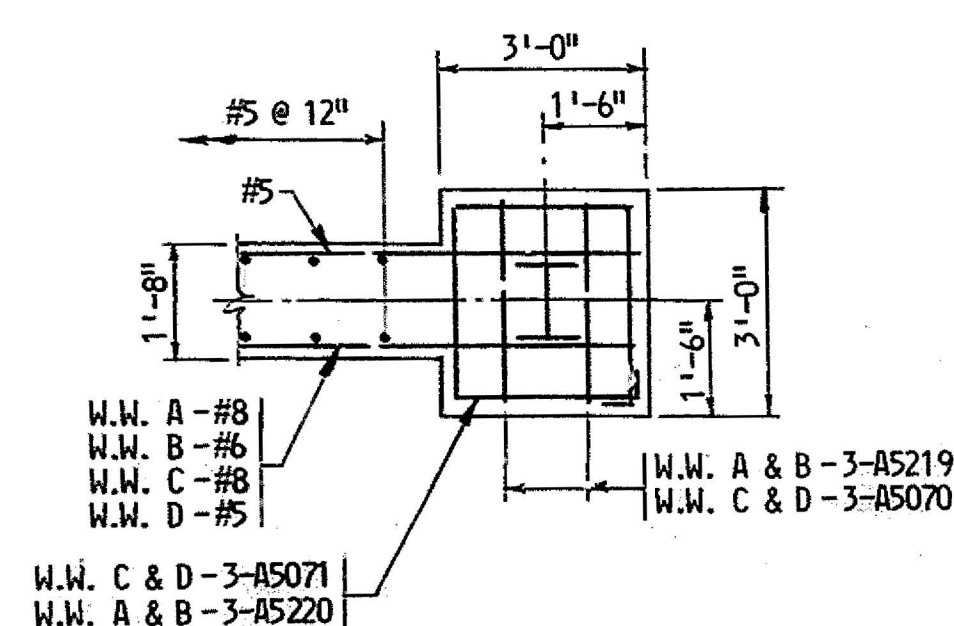
COUNTY	CONTRACT	P. & A. REG. NO.	STATE	FED. AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
NEW CASTLE	69-02-002	2	DEL.			46	108



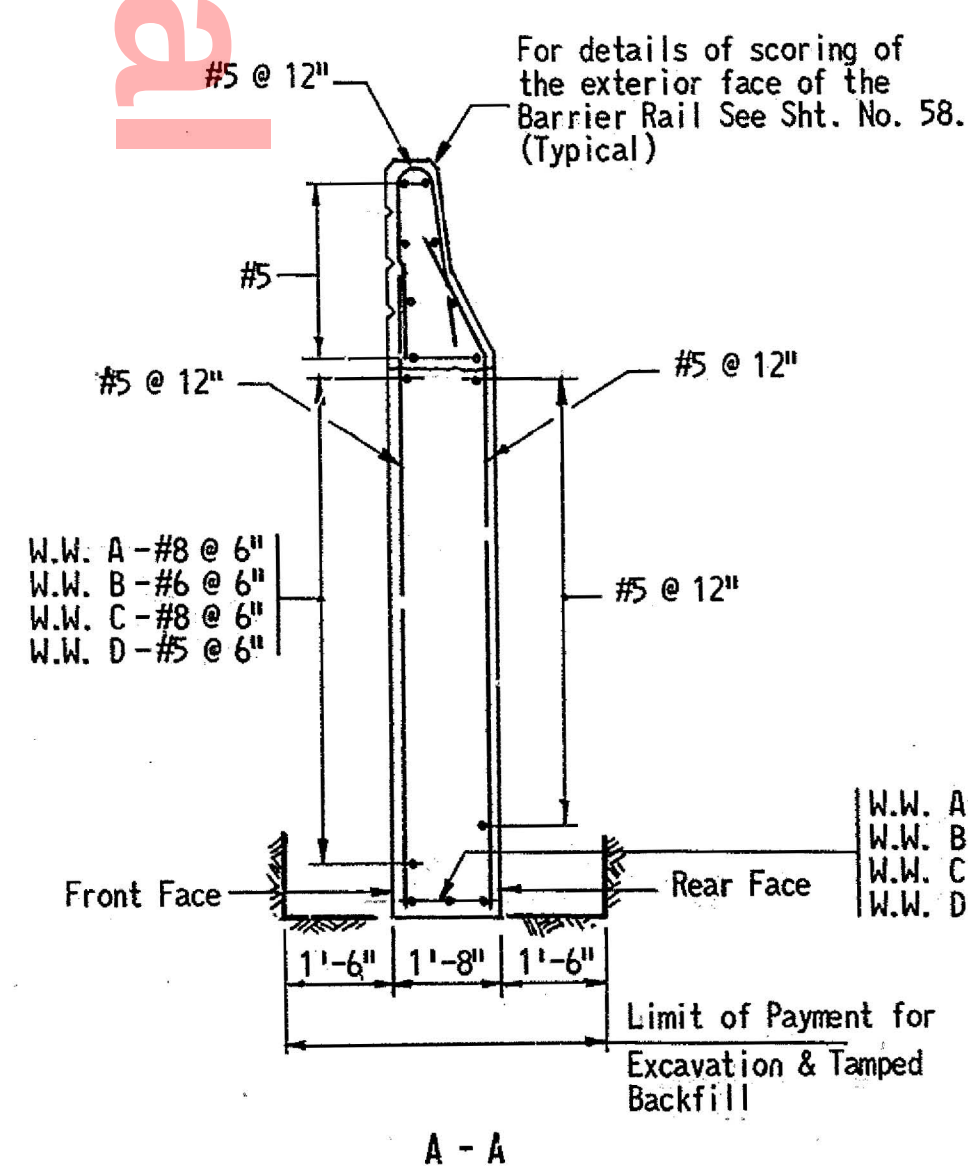
ELEVATION - WINGWALL A
Scale: 1/4" = 1'-0"



ELEVATION - WINGWALL D
Scale: 1/4" = 1'-0"

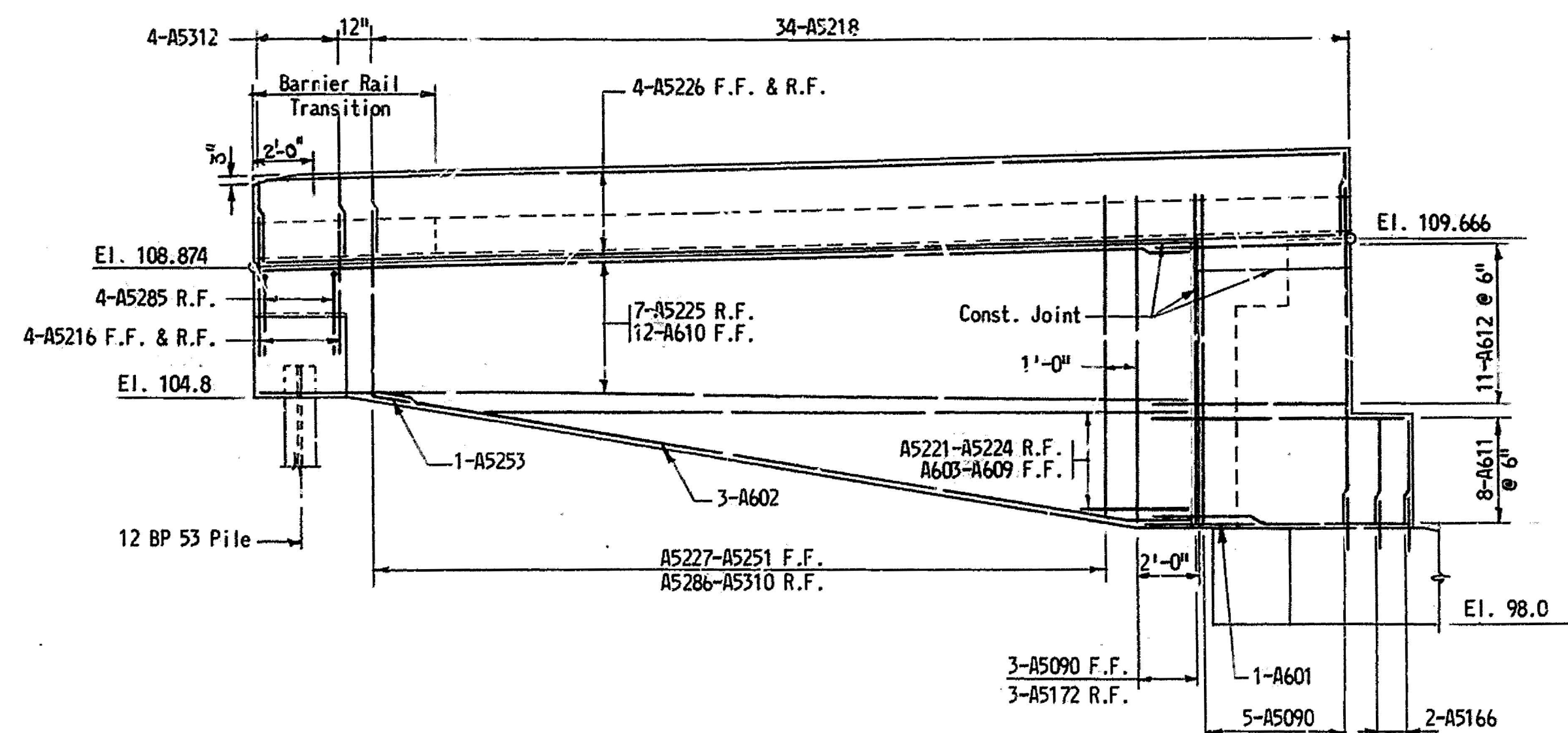


C - C

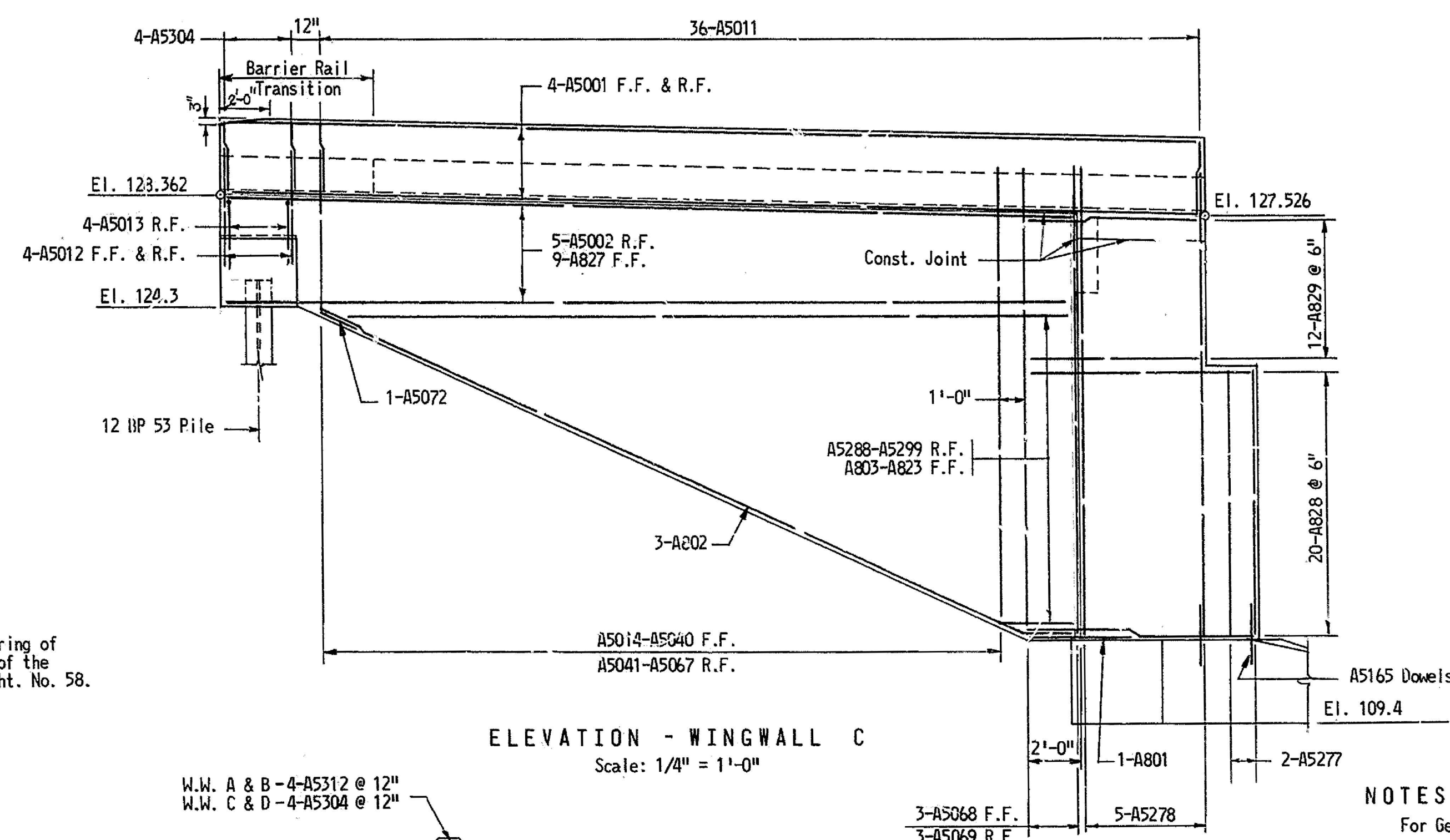


A - A

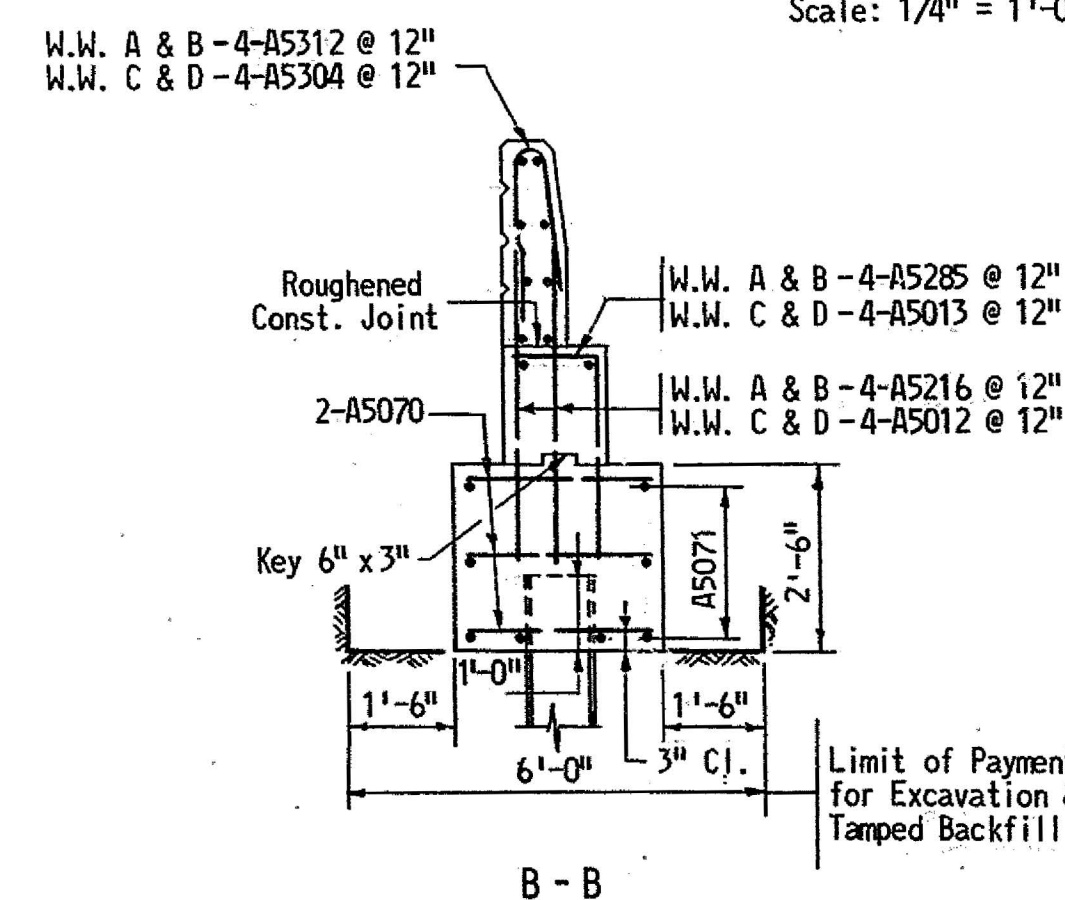
SECTIONS
Scale: 3/8" = 1'-0"



ELEVATION - WINGWALL B
Scale: 1/4" = 1'-0"



ELEVATION - WINGWALL C
Scale: 1/4" = 1'-0"



B - B

NOTES:
For General Notes, see Sheet No. 71.
For Wingwall Geometry, see Sheet Nos. 42 and 43.
For Abutment Reinf., see Sheet Nos. 44 and 45.
For Reinf. Schedule, see Sheet Nos. 44 and 45.

DELAWARE
STATE HIGHWAY DEPARTMENT

S. R. 141 OVER CENTERVILLE RD.
WINGWALLS A, B, C & D

J. E. GREINER COMPANY, INC.
CONSULTING ENGINEERS
BALTIMORE, MARYLAND

D. E.E.B.
T. T.G.
C. E.B.W.

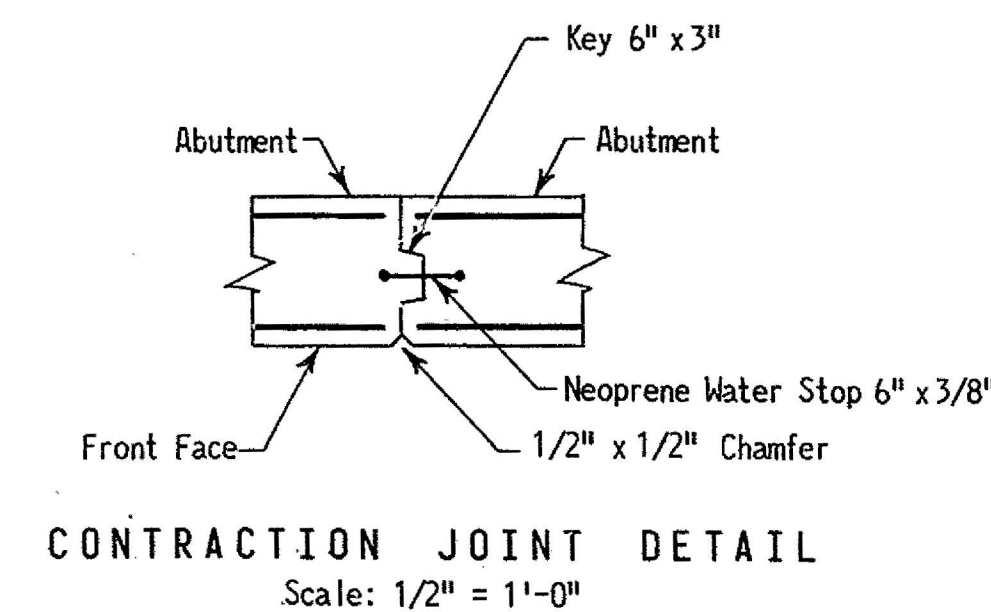
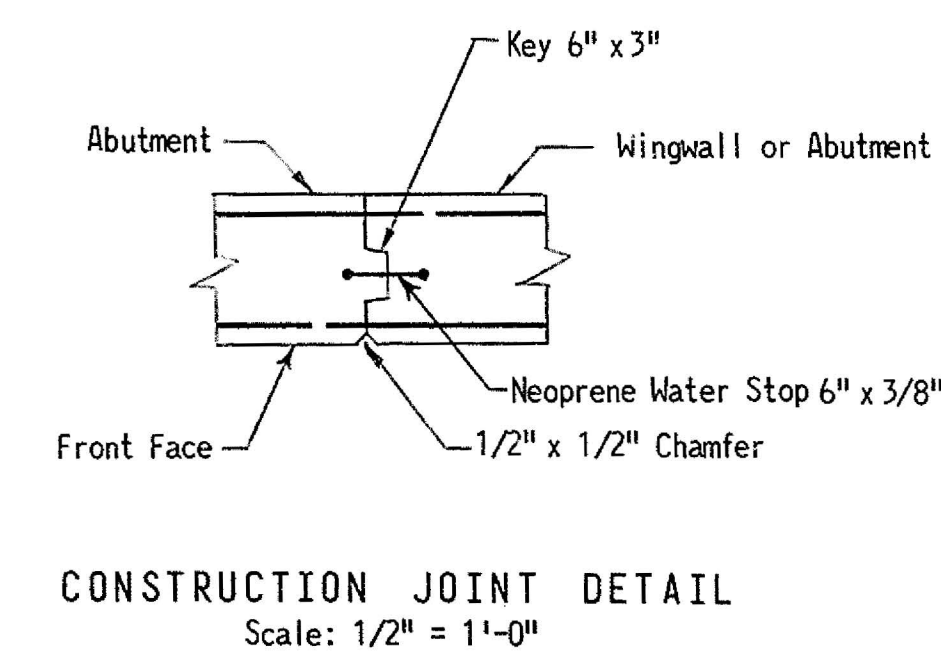
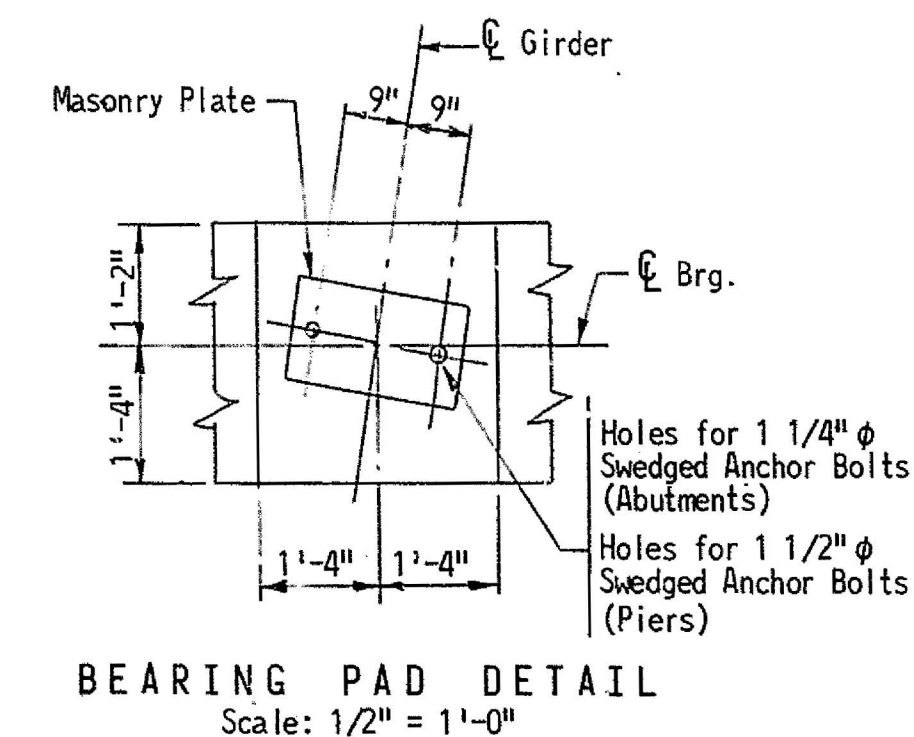
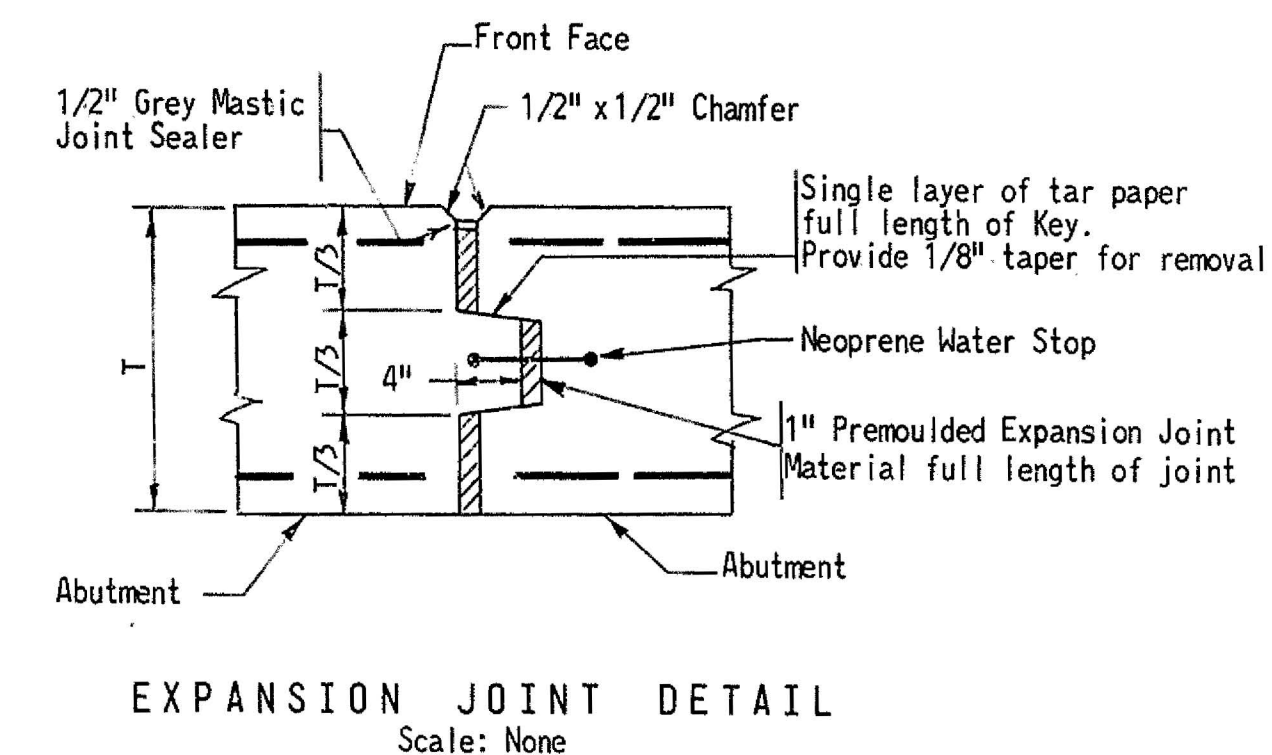
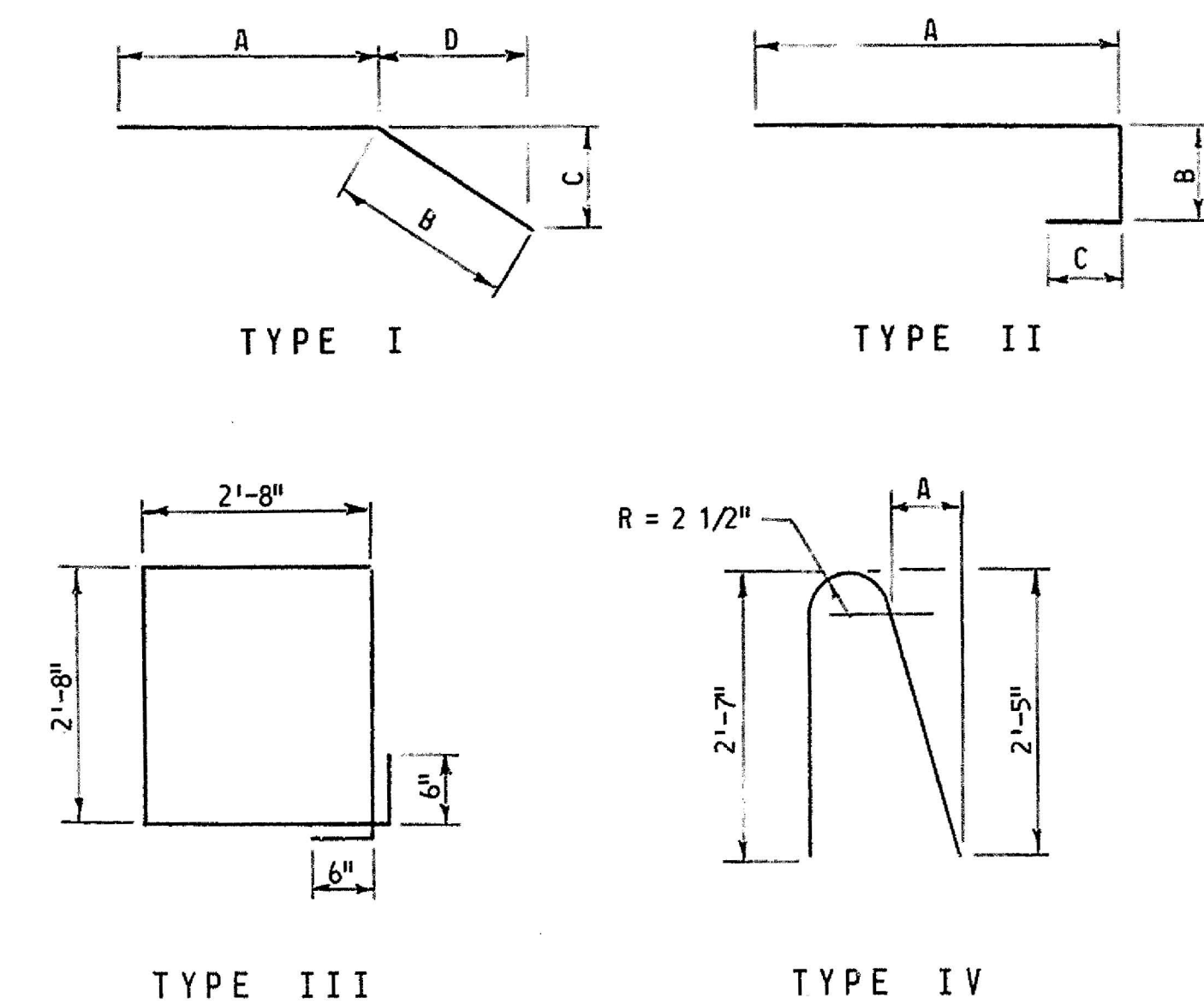
SCALE
As Shown
DATE

APPROVED BY:

John G. Rulter
BRIDGE ENGINEER

ABUTMENT A STRAIGHT BARS													
MARK	NO. OF BARS				LENGTH	REMARKS	MARK	NO. OF BARS				LENGTH	REMARKS
	ABUT.	W.W. A	W.W. B	TOTAL				ABUT.	W.W. A	W.W. B	TOTAL		
A5001 to A5007	1 Ea.			1 Ea.	3'-6" to 8'-0"	Incr. 9"	A601			1	1	4'-0"	
A5008	412			412	8'-5"		A603 to A609		1 Ea.	1 Ea.		5'-0" to 24'-0"	Incr. + 3'-2"
A5009 to A5012	1 Ea.			1 Ea.	4'-8" to 6'-4"	Incr. + 6 1/2"	A610			11	11	30'-10"	
A5025	337			337	5'-10"		A611	8			8	9'-0"	
A5027	43			43	6'-6"		A613	197			197	3'-0"	
A5027	51			51	7'-2"		A614	1			1	35'-9"	
A5033	61			61	7'-11"		A615	1			1	18'-3"	
A5035	39			39	8'-5"		A616	3			3	29'-10"	
A5037	18			18	5'-3"		A617	1			1	38'-9"	
A5073	16			16	9'-1"		A618	1			1	23'-3"	
A5075	18			18	9'-9"		A619	1			1	21'-3"	
A5082	588			588	2'-6"		A620	1			1	30'-11"	
A5087	67			67	29'-10"		A621	1			1	32'-6"	
A5088	4			4	26'-9"								
A5089	8			8	17'-10"		A701	119			119	29'-10"	
A5090	7	3		10	11'-0"		A702 to A705	2 Ea.			2 Ea.	28'-6" to 23'-3"	Incr. 1'-9"
A5092	2			2	23'-6"		A706	52			52	23'-6"	
A5093	2			2	7'-10"		A709	26			26	17'-0"	
A5094	20			20	38'-6"		A711	52			52	23'-0"	
A5095	2			2	33'-3"								
A5096	2			2	20'-3"		A714 to A719	2 Ea.			2 Ea.	30'-6" to 38'-5"	Incr. 1'-7"
A5098	24			24	23'-3"		A720	11			11	38'-6"	
A5099	2			2	16'-0"		A727	2			2	7'-7"	
A5100	2			2	6'-10"		A728	2			2	9'-3"	
A5101	8			8	26'-6"		A729	30			30	18'-0"	
A5102	2			2	17'-0"		A730	3			3	11'-0"	
A5103	12			12	24'-9"		A731	3			3	9'-0"	
A5104	2			2	10'-9"		A732	3			3	7'-10"	
A5106	2			2	24'-9"		A733	6			6	8'-0"	
A5107	12			12	30'-4"		A734	3			3	6'-2"	
A5109	2			2	12'-9"		A735	3			3	10'-4"	
A5110	8			8	38'-0"		A736	3			3	2'-6"	
A5111	10			10	35'-6"		A737	6			6	12'-9"	
A5112	2			2	10'-6"		A738	3			3	10'-9"	
A5113	13			13	21'-3"		A740	3			3	10'-8"	
A5115	8			8	32'-9"		A742	6			6	12'-9"	
A5117	3			3	6'-8"		A743	3			3	5'-6"	
A5118	1			1	15'-9"		A744 to A746	1 Ea.			1 Ea.	4'-8" to 6'-8"	Incr. + 1'-0"
A5137	24			24	15'-0"		A747	3			3	24'-0"	
A5139	2			2	5'-0"		A748	3			3	25'-0"	
A5144	4			4	11'-6"		A749	3			3	32'-1"	
A5145	2			2	9'-6"								
A5147	2			2	7'-9"		A801	1			1	4'-0"	
A5148	2			2	5'-0"		A803 to A818		1 Ea.	1 Ea.		5'-0" to 30'-0"	Incr. ± 1'-8"
A5149	2			2	14'-4"		A819		12	12		35'-10"	
A5150	6			6	34'-0"								
A5152	12			12	18'-0"								
A5157	5	3		8	16'-0"								
A5159	12			12	30'-8"								
A5160	6			6	32'-10"								
A5161	6			6	32'-6"								
A5162	16			16	3'-0"								
A5164	16		12	28	6'-3"								
A5166	2			2	3'-2"								
A5168	5			5	8'-2"								
A5175 to A5182	1 Ea.			1 Ea.	5'-0" to 30'-11"	Incr. 3'-7"							
A5183	7			7	35'-10"								
A5184	8			8	40'-8"								
A5186 to A5215	1 Ea.			1 Ea.	15'-7" to 6'-6"	Incr. 3 3/4"							
A5216	8	8		16	4'-6"								
A5219	6	6		12	2'-8"								
A5221 to A5224		1 Ea.	1 Ea.		5'-0" to 24'-0"	Incr. + 6'-4"							
A5225		7	7		30'-10"								
A5226		8	8		35'-8"								
A5227 to A5251		1 Ea.	1 Ea.		6'-6" to 10'-6"	Incr. + 2"							
A5313 to A5319	1 Ea.			1 Ea.	4'-9" to 8'-0"	Incr. 6 1/2"							
							</						

ABUTMENT A BENT BARS											
MARK	ABUT.	NO. OF BARS		TOTAL	LENGTH	TYPE	A	B	C	D	REMARKS
		W.W. A	W.W. B								
A5013 to A5015	1 Ea.			1 Ea.	6'-11 1/2" to 8'-2 1/2"	I	6'-6"	5 1/2" to 1'-8 1/2"	2 1/2" to 9"	0'-5" to 1'-6"	Incr. + 7 1/2"
A5016	271				8'-7"	I	6'-6"	2'-1"	1'-0"	1'-11"	
A5017 to A5023	1 Ea.			1 Ea.	8'-2" to 3'-9"	I	6'-1" to 1'-7"	2'-1"	1'-0"	1'-11"	Incr. 9"
A5024	35			35	7'-0"	II	3'-1"	3'-11"			
A5026	30			30	7'-8"	II	3'-9"	3'-11"			
A5028	45			45	8'-4"	II	4'-5"	3'-11"			
A5032	43			43	9'-0"	II	5'-1"	3'-11"			
A5034	124			124	9'-8"	II	5'-9"	3'-11"			
A5036	16			16	6'-8"	II	2'-9"	3'-11"			
A5038	14			14	7'-4"	II	3'-5"	3'-11"			
A5040	13			13	7'-11"	II	4'-0"	3'-11"			
A5064	4			4	8'-7"	II	4'-8"	3'-11"			
A5066	14			14	9'-3"	II	5'-4"	3'-11"			
A5068	15			15	9'-11"	II	6'-0"	3'-11"			
A5072	14			14	10'-7"	II	6'-8"	3'-11"			
A5074	14			14	11'-2"	II	7'-3"	3'-11"			
A5076	3			3	12'-1"	II	8'-2"	3'-11"			
A5084	285			285	4'-7"	II	3'-2"	1'-5"			
A5085	284			284	5'-7"	II	3'-2"	0'-8"	1'-9"		
A5170	8			8	7'-5"	I	5'-7"	1'-10"	3'-0"	1'-6"	
A5171	1	3		4	15'-10"	I	14'-0"	1'-10"	1'-0"	1'-6"	
A5172	1		3	4	10'-8"	I	8'-10"	1'-10"	1'-0"	1'-6"	
A5173	3			3	6'-10"	II	1'-5"	4'-0"	1'-5"		
A5174	8			8	5'-6"	II	3'-3"	1'-5"	0'-10"		
A5217		1		1	8'-6"	I	6'-6"	2'-0"	1'-10"	0'-8"	
A5218	39	34		73	5'-5"	IV	0'-3"	See Diagram			
A5220	3	3		6	11'-8"	III	See Diagram				
A5253			1	1	8'-6"	I	6'-6"	2'-0"	1'-11"	0'-5"	
A5255 to A5284	1 Ea.			1 Ea.	15'-3" to 6'-2 1/4"	I	13'-5" to 4'-4 1/4"	1'-10"	1'-0"	1'-6"	Incr. + 3 3/4"
A5285	4	4		8	3'-11"	II	2'-7"	1'-4"			
A5286 to A5310			1 Ea.	1 Ea.	6'-2" to 10'-2"	I	4'-4" to 8'-4"	1'-10"	1'-0"	1'-6"	Incr. + 2"
A5312		4	4	8	5'-3"	IV	0'-2"	See Diagram			
A602			3	3	28'-0"	I	26'-0"	2'-0"	0'-5"	1'-11"	
A612	11			11	9'-0"	II	7'-0"	2'-0"			
A708	20			20	12'-6"	II	5'-0"	2'-6"	5'-0"		
A721	10			10	9'-6"	II	3'-6"	2'-6"	3'-6"		
A726	13			13	3'-6"	II	2'-6"	1'-0"			
A802		3		3	34'-0"	I	32'-0"	2'-0"	0'-8"	2'-0"	
A820	17			17	13'-2"	I	12'-0"	1'-2"	1'-0"	0'-8"	
A821	12			12	8'-4"	II	7'-0"	1'-4"			



NOTES:
For General Notes, see Sheet No. 71.

DELAWARE
STATE HIGHWAY DEPARTMENT

S.R. 141 OVER CENTERVILLE RD.

REINFORCING SCHEDULE - ABUTMENT A

J. E. GREINER COMPANY, INC.
CONSULTING ENGINEERS
BALTIMORE, MARYLAND

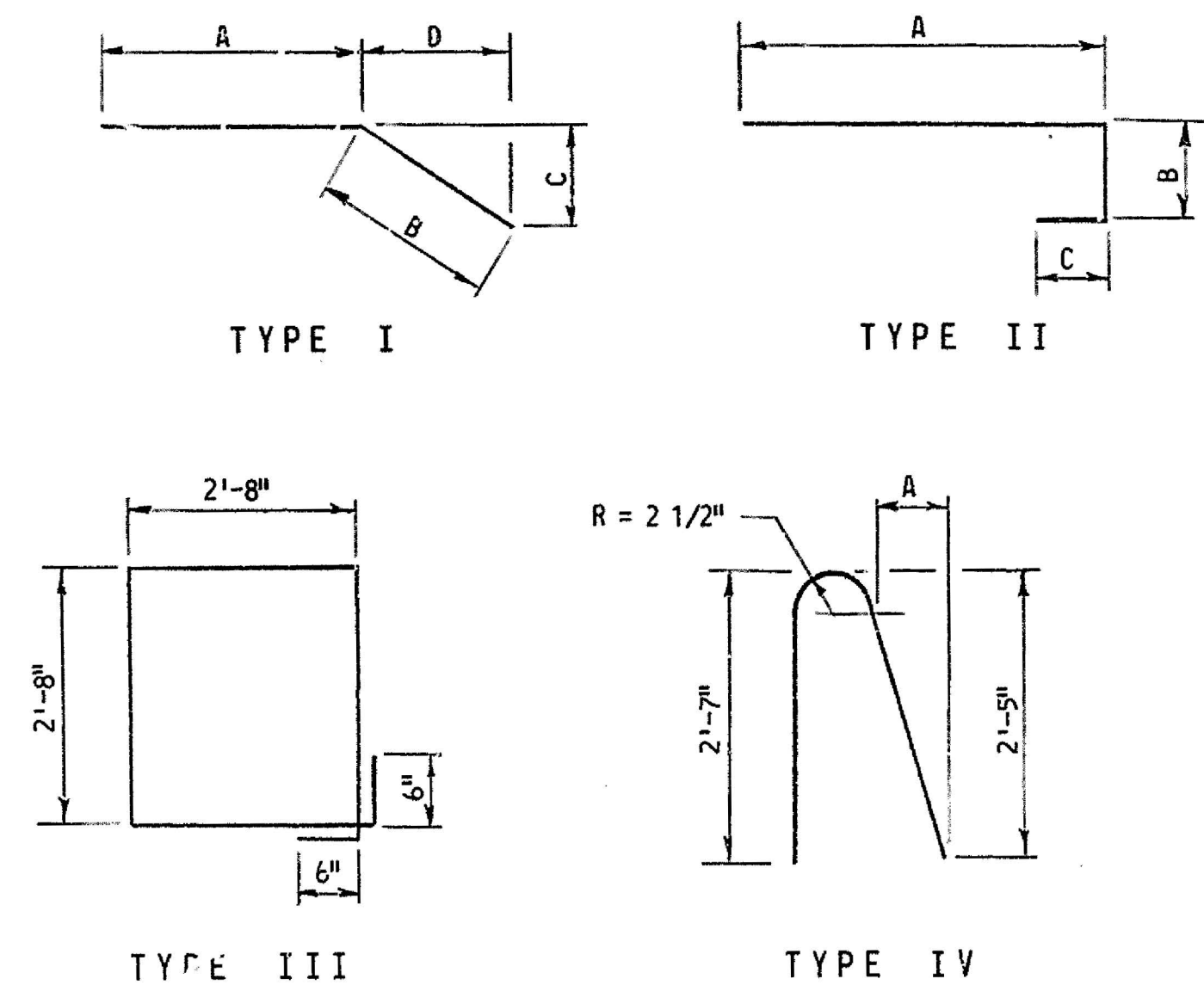
D. E.E.B.
T. T.G.
C. E.B.W.

SCALE
As Shown
DATE

APPROVED BY:
BRIDGE ENGINEER

ABUTMENT B						
STRAIGHT BARS						
MARK	NO. OF BARS			LENGTH	REMARKS	
	ABUT.	W.W. C	W.W. D	TOTAL		
A5001		8		8	37'-8"	
A5002		5		5	32'-10"	
A5012		8	8	16	4'-6"	
A5012 to A5040	1 Ea.		1 Ea.		6'-9" to 16'-6"	Incr. + 4 1/2"
A5068	3			3	17'-0"	
A5070	6	6	12	24	2'-8"	
A5073	1			1	4'-0"	
A5074		8	8	16	30'-8"	
A5075		13	13	26	25'-8"	
A5076 to A5081	1 Ea.		1 Ea.		20'-6" to 3'-5"	Incr. 3'-5"
A5082 to A5091	1 Ea.		1 Ea.		20'-6" to 3'-8"	Incr. 1'-10 1/2"
A5094	3			3	11'-0"	
A5096 to A5115	1 Ea.		1 Ea.		10'-9" to 6'-0"	Incr. 0'-3"
A5135 to A5140	1 Ea.		1 Ea.		4'-8" to 8'-3"	Incr. + 8 1/2"
A5141 to A5143	1 Ea.		1 Ea.		4'-8" to 6'-2"	Incr. + 9"
A5147	389			389	8'-5"	
A5149 to A5156	1 Ea.		1 Ea.		8'-5" to 3'-6"	Incr. + 8 1/2"
A5165	548			548	2'-6"	
A5166	8			8	3'-1"	
A5168	39			39	5'-6"	
A5170	42			42	6'-1"	
A5172	41			41	6'-9"	
A5174	26			26	7'-4"	
A5176	21			21	8'-0"	
A5178	12			12	5'-0"	
A5188	21			21	7'-6"	
A5202	14			14	8'-10"	
A5204	14			14	9'-6"	
A5206	15			15	10'-3"	
A5208	14			14	10'-11"	
A5210	7			7	11'-7"	
A5211	4			4	28'-3"	
A5212	4			4	23'-9"	
A5213	2			2	11'-2"	
A5214	10			10	35'-10"	
A5215	2			2	32'-4"	
A5216	2			2	19'-2"	
A5217	2			2	6'-2"	
A5218	6			6	31'-3"	
A5219	2			2	24'-5"	
A5220	2			2	11'-5"	
A5221	10			10	35'-10"	
A5222	2			2	32'-2"	
A5223	2			2	19'-0"	
A5224	2			2	6'-0"	
A5225	6			6	43'-3"	
A5226	2			2	38'-5"	
A5227	2			2	24'-5"	
A5228	2			2	10'-5"	
A5229	12			12	29'-10"	
A5230	2			2	24'-8"	
A5231	2			2	10'-6"	
A5232	12			12	43'-3"	
A5233	2			2	38'-8"	
A5234	2			2	25'-6"	
A5235	2			2	11'-6"	
A5236	9			9	21'-8"	
A5237	1			1	17'-9"	
A5238	1			1	4'-6"	
A5239	1			1	8'-6"	
A5240	12			12	25'-0"	
A5241	16			16	10'-6"	
A5243	24			24	35'-10"	
A5246	2			2	3'-6"	
A5247	12			12	31'-3"	
A5248	2			2	6'-5"	
A5254	2			2	3'-6"	
A5255	24			24	43'-3"	
A5256	2			2	4'-6"	
A5257	16			16	11'-6"	

ABUTMENT B											
BENT BARS											
MARK	NO. OF BARS				LENGTH	TYPE	A	B	C	D	REMARKS
	ABUT.	W.W. C	W.W. D	TOTAL							
A5011		36	29	65	5'-3"	IV	3	See	Diagram		
A5013		4	4	8	3'-11"	II	2'-7"	1'-4"			
A5041 to A5067	1 Ea.		1 Ea.		6'-9" to 16'-6"	I	4'-11" to 14'-8"	1'-10"	1'-0"	1'-6"	Incr. + 4 1/2"
A5069	3			3	17'-0"	I	15'-2"	1'-10"	1'-0"	1'-6"	
A5071	3	3	6	11'-8"	III	See	Diagram				
A5072	1			1	8'-0"	I	6'-0"	2'-0"	1'-11"	0'-7"	
A5092		3	3	23'-6"	I	21'-6"	2'-0"	0'-7"	1'-11"		
A5093		1	1	8'-0"	I	6'-0"	2'-0"	1'-11"	0'-7"		
A5095		3	3	11'-0"	I	9'-2"	1'-10"	1'-10"	1'-6"		
A5144 to A5146	1 Ea.		1 Ea.		6'-6" to 8'-2"	I	6'-6"	0'-4" to 1'-8"	1 1/2" to 8 1/2"	3 1/2" to 1'-6"	Incr. + 8"
A5148	257			257	8'-7"	I	6'-6"	2'-1"	1'-0"	1'-11"	
A5157 to A5164	1 Ea.		1 Ea.		8'-7" to 3'-7 1/2"	I	6'-6" to 1'-6 1/2"	2'-1"	1'-0"	1'-11"	Incr. 8 1/2"
A5167	40			40	7'-0"	II	3'-1"	3'-11"			
A5169	28			28	7'-7 1/2"	II	3'-8 1/2"	3'-11"			
A5171	13			13	8'-2 1/2"	II	4'-3 1/2"	3'-11"			
A5173	13			13	8'-10"	II	4'-11"	3'-11"			
A5175	13			13	9'-6"	II	5'-7"	3'-11"			
A5177	12			12	6'-6"	II	2'-7"	3'-11"			
A5181	14			14	7'-9"	II	3'-10"	3'-11"			
A5183	28			28	8'-4"	II	4'-5"	3'-11"			
A5185	27			27	9'-0"	II	5'-1"	3'-11"			
A5199	15			15	9'-8"	II	5'-9"	3'-11"			
A5201	14			14	10'-4 1/2"	II	6'-5 1/2"	3'-11"			
A5203	14			14	11'-0 1/2"	II	7'-1 1/2"	3'-11"			
A5205	15			15	11'-9"	II	7'-10"	3'-11"			
A5207	14			14	12'-5"	II	8'-6"	3'-11"			
A5209	5			5	13'-11"	II	9'-2"	3'-11"			
A5272	268			268	4'-7"	II	3'-2"	1'-5"			
A5273	265			265	5'-7"	II	3'-2"	0'-8"	1'-9"		
A5279	2			2	17'-1"	I	15'-3"	1'-10"	1'-0"	1'-6"	
A5280	6			6	4'-2"	I	2'-4"	1'-10"	1'-0"	1'-6"	
A5285	2			2	10'-10"	I	9'-0"	1'-10"	1'-0"	1'-6"	
A5300	8			8	11'-4"	I	10'-2"	1'-2"	0'-11"	0'-9"	
A5301	12			12	7'-10"	II	6'-6"	1'-4"			
A5304	4	4	8	5'-3"	IV	0'-2"	See	Diagram			
A5316 to A5335	1 Ea.		1 Ea.		10'-9" to 6'-0"	I	8'-11" to 4'-2"	1'-10"	1'-0"	1'-6"	Incr. 3"
A5337	8			8	5'-6"	II	3'-3"	1'-5"	0'-10"		
A5339	3			3	9'-9"	II	1'-5"	6'-9"	1'-5"		
A709	10			10	37'-2"	II	32'-2"	5'-0"			
A711	10			10	29'-0"	II	24'-0"	5'-0"			
A750	20			20	12'-6"	II	5'-0"	2'-6"	5'-0"		
A751	14			14	3'-6"	II	2'-6"	1'-0"			
A802	3			3	32'-0"	I	30'-0"	2'-0"	0'-7"	1'-11"	
A829	12			12	9'-0"	II	7'-0"	2'-0"			
A801	1			1	4'-0"						
A803 to A823	1 Ea.		1 Ea.		28'-9" to 2'-11"						Incr. 1'-3 1/2"
A827	9			9	32'-5"						
A828	20			20	9'-0"						



NOTES:
For General Notes, see Sheet No. 71.

DELAWARE
STATE HIGHWAY DEPARTMENT

S.R. 141 OVER CENTERVILLE RD.
REINFORCING SCHEDULE - ABUTMENT B

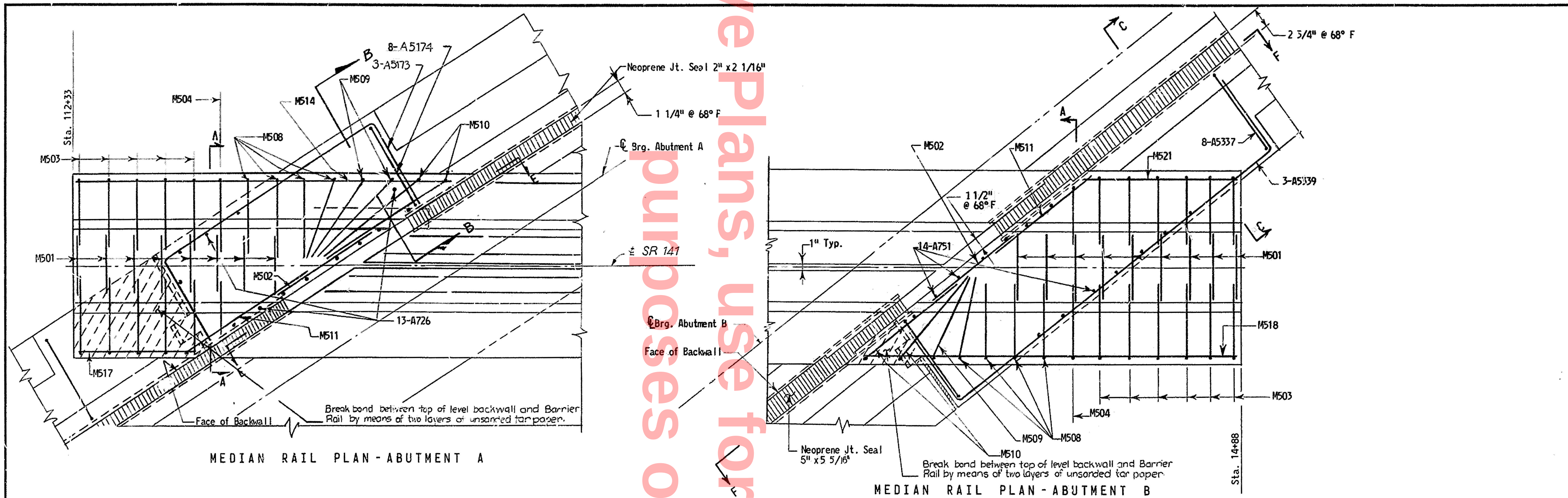
J. E. GREINER COMPANY, INC.
CONSULTING ENGINEERS
BALTIMORE, MARYLAND

D. E.E.B.
T. T.G.
C. E.B.W.

SCALE
None
DATE

APPROVED BY:

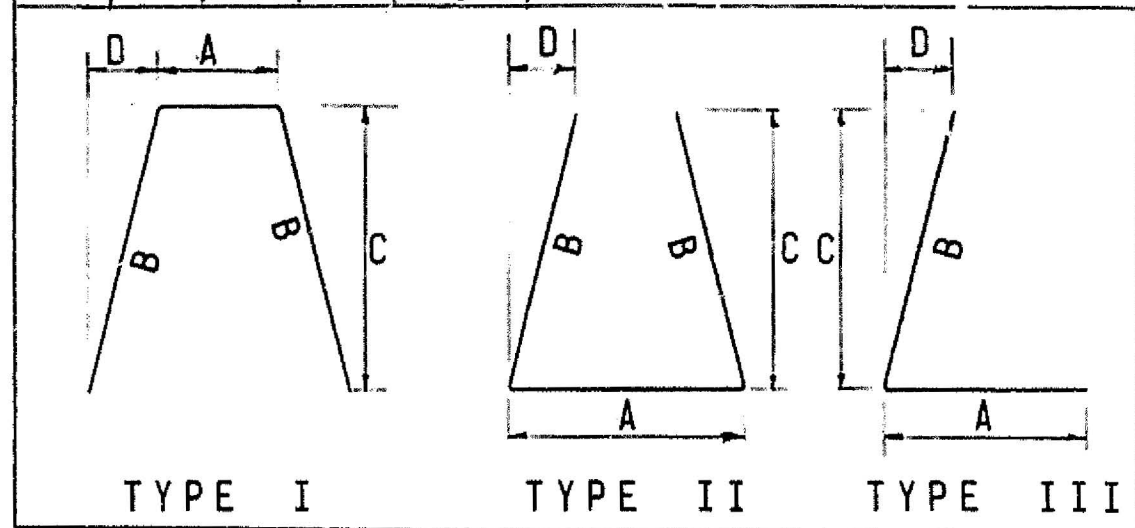
John E. Greiner
BRIDGE ENGINEER



COUNTY	CONTRACT	P. & A. REG. NO.	STATE	FED. AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
NEW CASTLE	69-02-002	2	DEL.			49	108

REINFORCING SCHEDULE									
BENT BARS									
MARK	NO. OF BARS			LENGTH	TYPE	A	B	C	D
	Abut. A	Abut. B	Total						
M501	8	9	17	5'-9"	I	0'-11"	2'-5"	2'-5"	0'-3"
M502	1	1	2	6'-5"	I	1'-7"	2'-5"	2'-5"	0'-4"
M503	5	6	11	6'-9"	II	2'-9"	2'-0"	1'-8"	1'-2"
M504	1	1	2	6'-6"	II	2'-6"	2'-0"	1'-8"	1'-2"
M508	4	4	8	3'-3"	III	1'-3"	2'-0"	1'-8"	1'-2"
M509	2	1	3	4'-1"	III	1'-8"	2'-5"	1'-8"	1'-9"
M510	2	2	4	5'-6"	III	2'-6"	3'-0"	2'-0"	2'-3"
M511	1	1	2	5'-6"	III	2'-6"	3'-0"	2'-0"	2'-3"

STRAIGHT BARS									
MARK	NO. OF BARS			LENGTH	REMARKS				
	Abut. A	Abut. B	Total						
M514	2	-	2	6'-8"					
M515	3	-	3	5'-4"					
M516	3	-	3	3'-1"					
M517	2	-	2	2'-0"					
M518	-	2	2	6'-6"					
M519	-	3	3	5'-6"					
M520	-	3	3	3'-6"					
M521	-	2	2	2'-6"					



NOTES:

For General Notes, see Sheet No. 71.

For Joint Seal at Abutments, see Sheet No. 56.

For Joint Flap, provide extra length of Seal at ends of preformed elastic Joint Sealer. Cut away all but top of shell to provide end flap, bend down and Seal with Lube Adhesive (Typ.)

DELAWARE
STATE HIGHWAY DEPARTMENT

S.R. 141 OVER CENTERVILLE RD.
ABUTMENT MEDIAN RAIL

J. E. GREINER COMPANY, INC.
CONSULTING ENGINEERS
BALTIMORE, MARYLAND

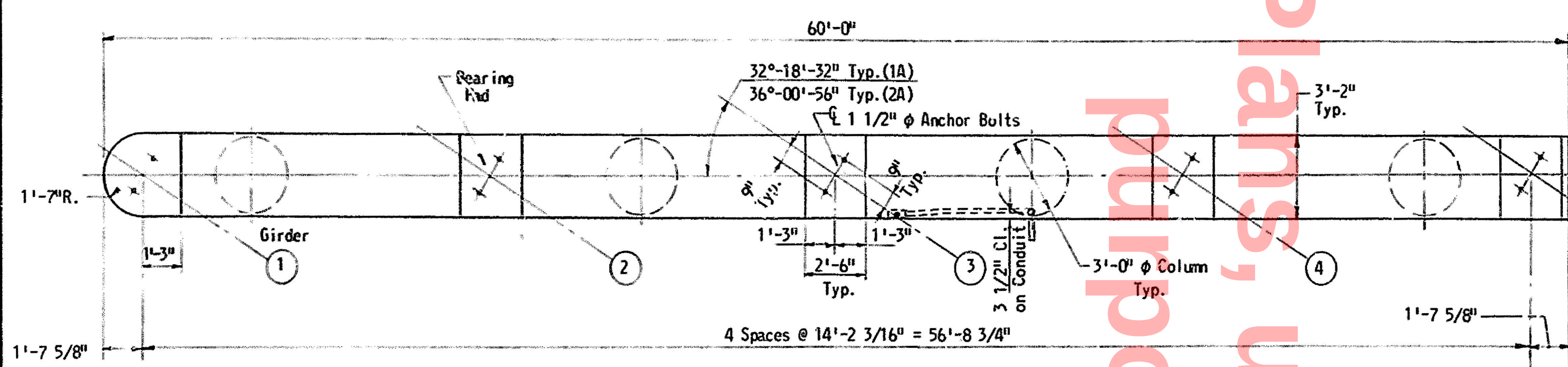
D. E.E.B.
T. T.G.
C. E.B.W.

SCALE
1" = 1'-0"
DATE

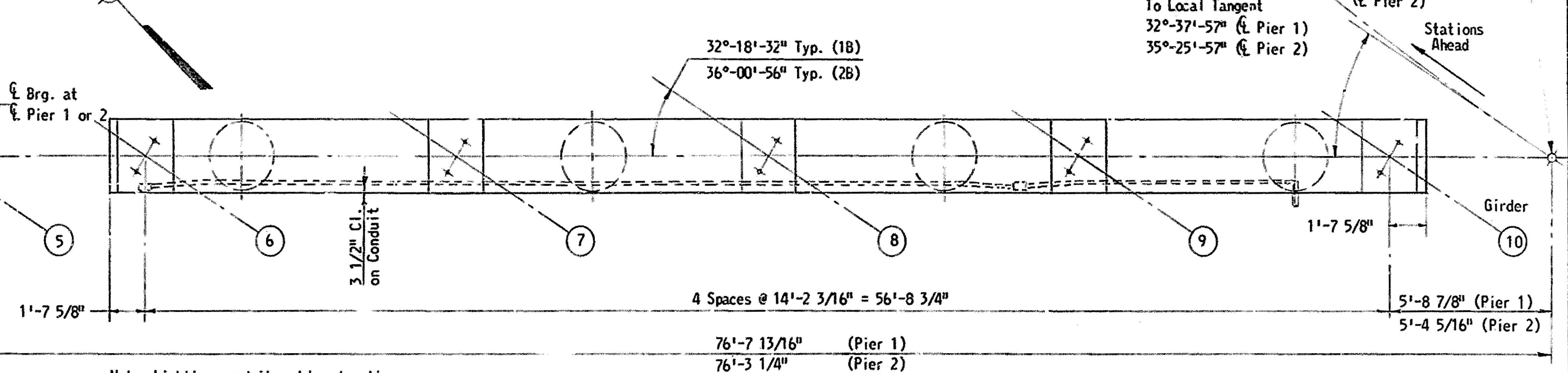
APPROVED BY:

BRIDGE ENGINEER

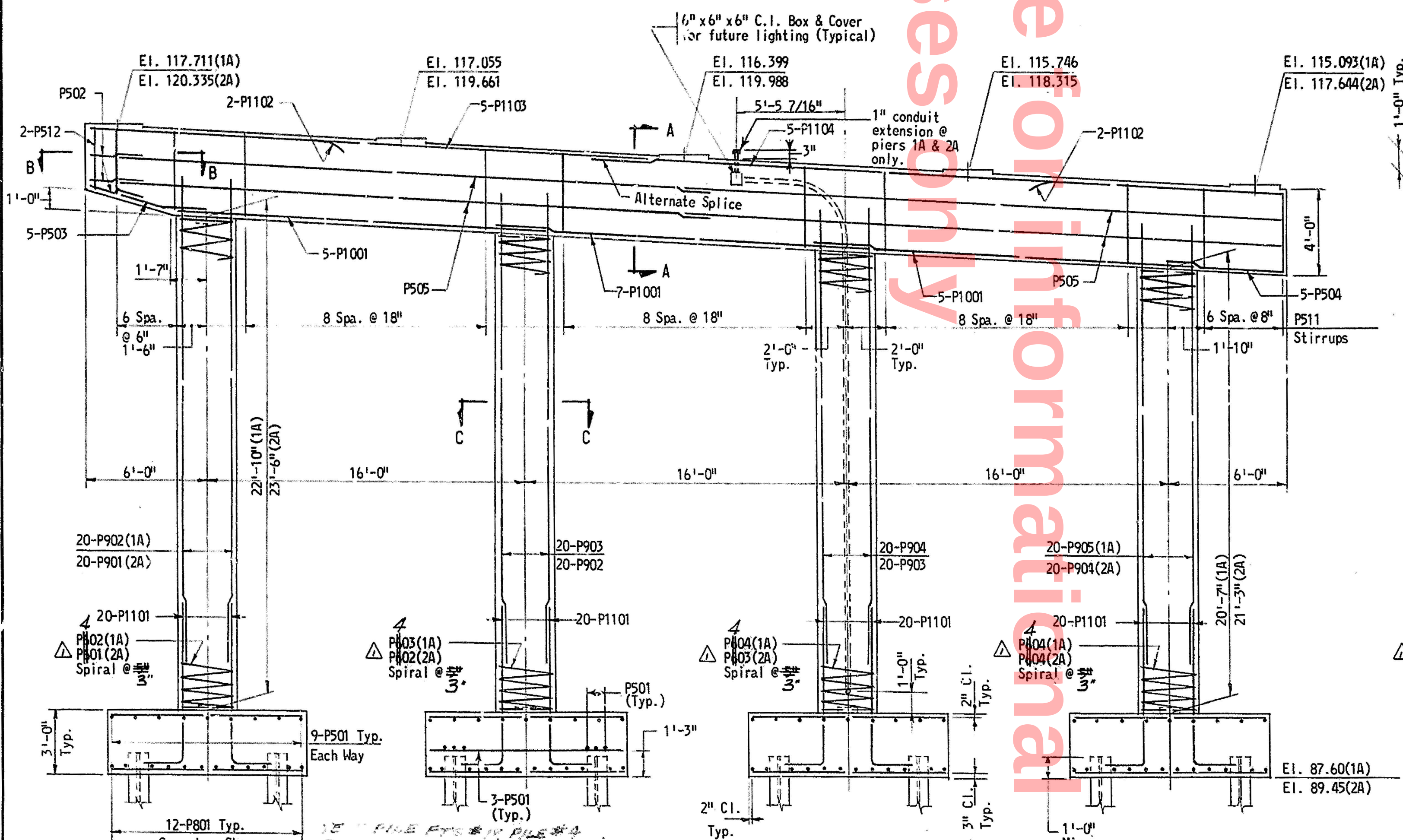
COUNTY	CONTRACT	P. A. NO.	STATE	FED. AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
NEW CASTLE	69-02-002	2	DEL.			50	108



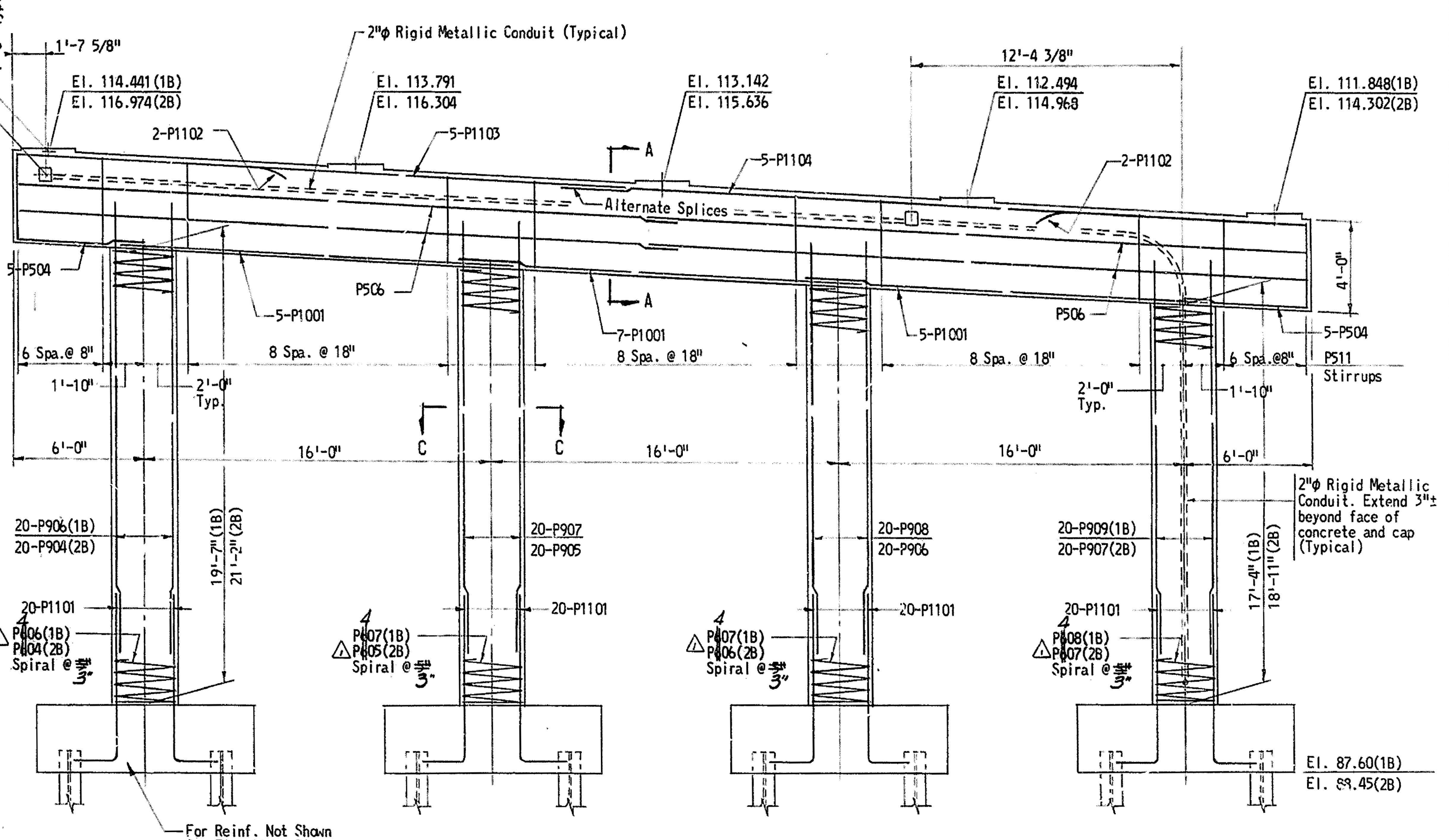
PLAN OF PIERS 1A AND 2A
Scale: 1/4" = 1'-0"



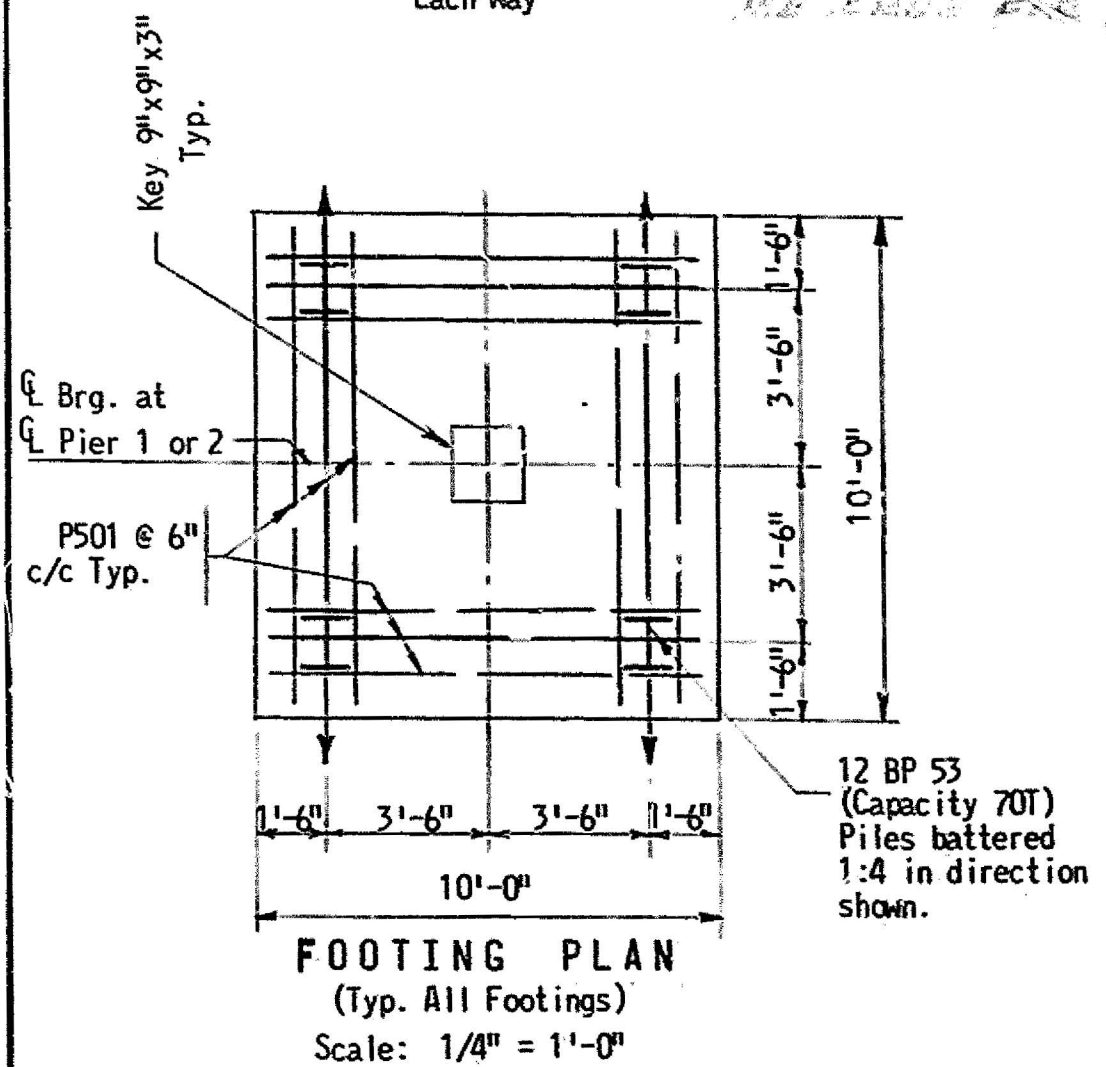
PLAN OF PIERS 1B AND 2B
Scale: 1/4" = 1'-0"



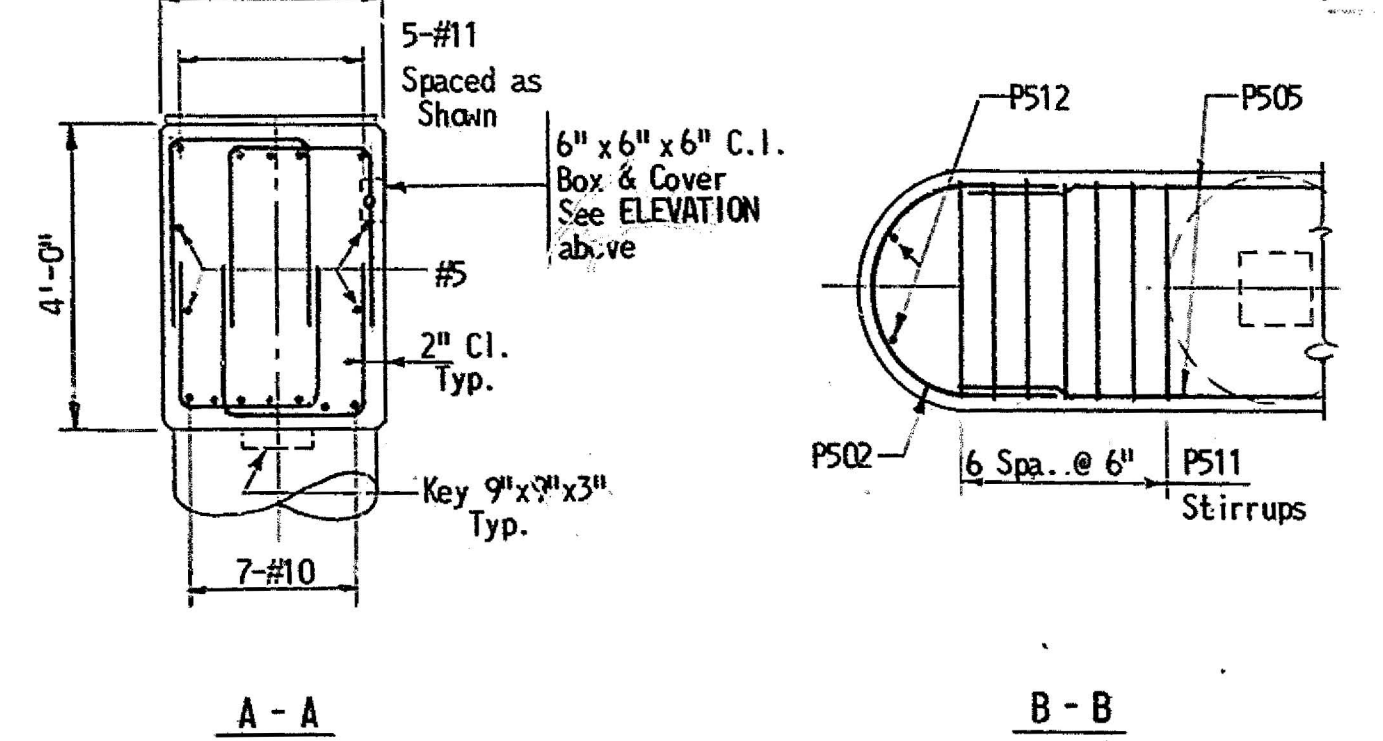
ELEVATION
Scale: 1/4" = 1'-0"



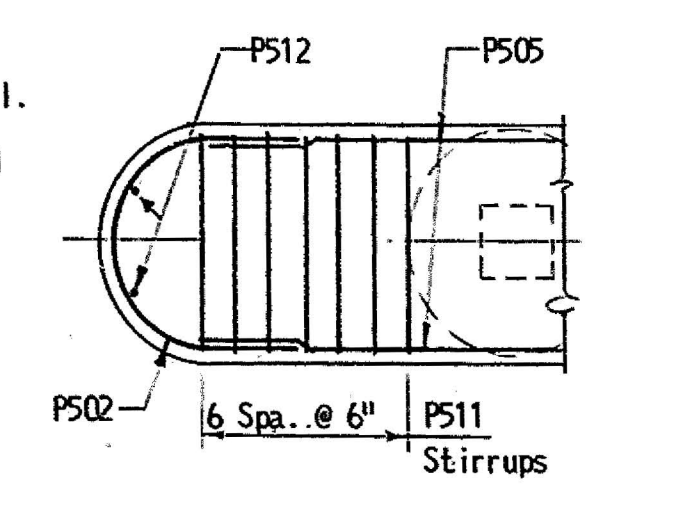
ELEVATION
Scale: 1/4" = 1'-0"



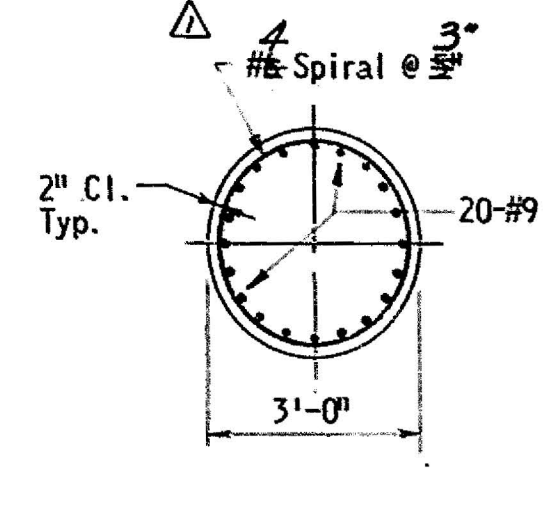
FOOTING PLAN
(Typ. All Footings)
Scale: 1/4" = 1'-0"



A - A

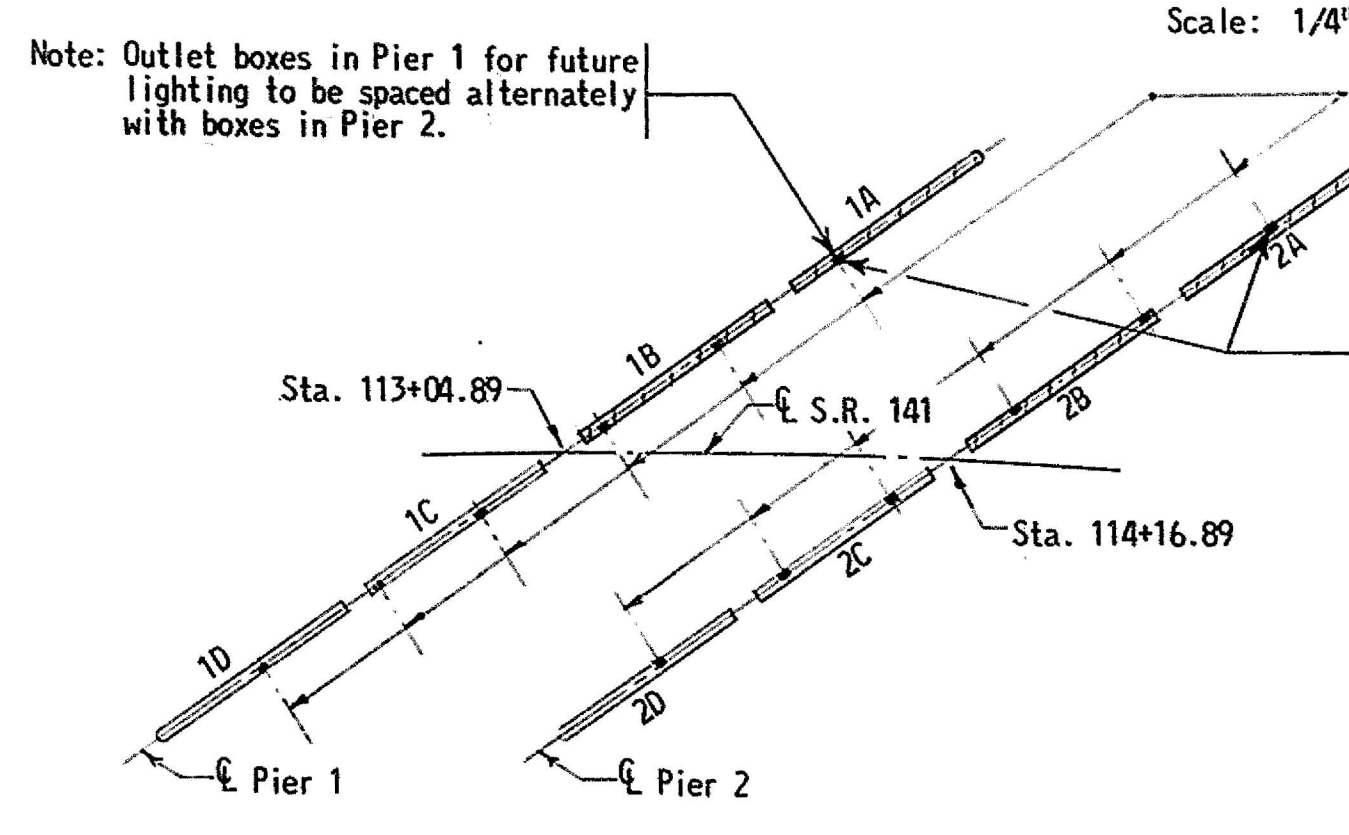


B - B



C - C

SECTIONS
Scale: 3/8" = 1'-0"



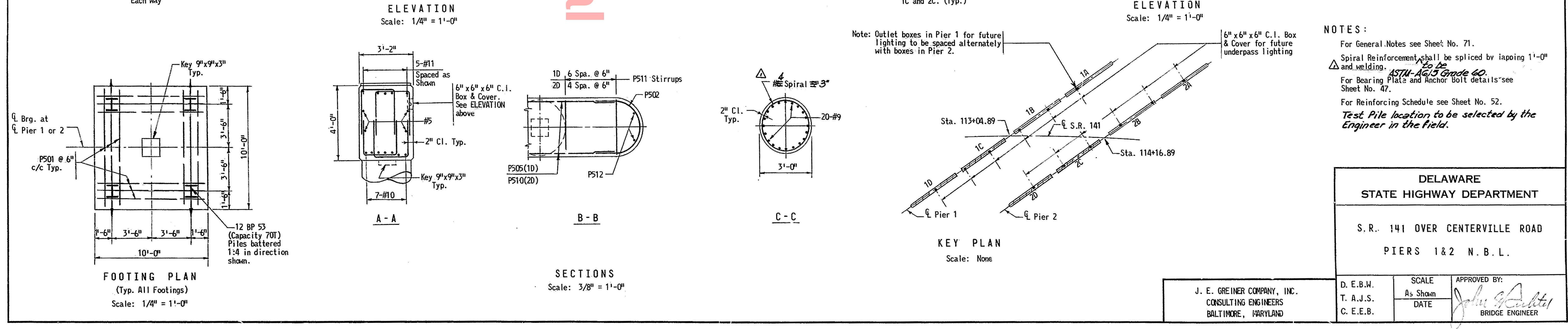
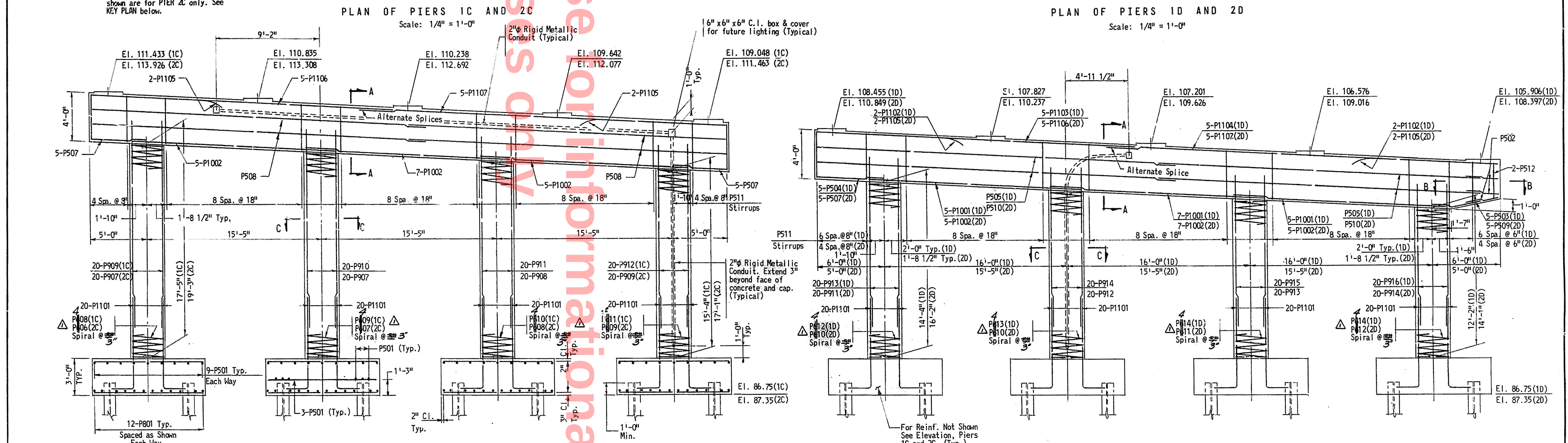
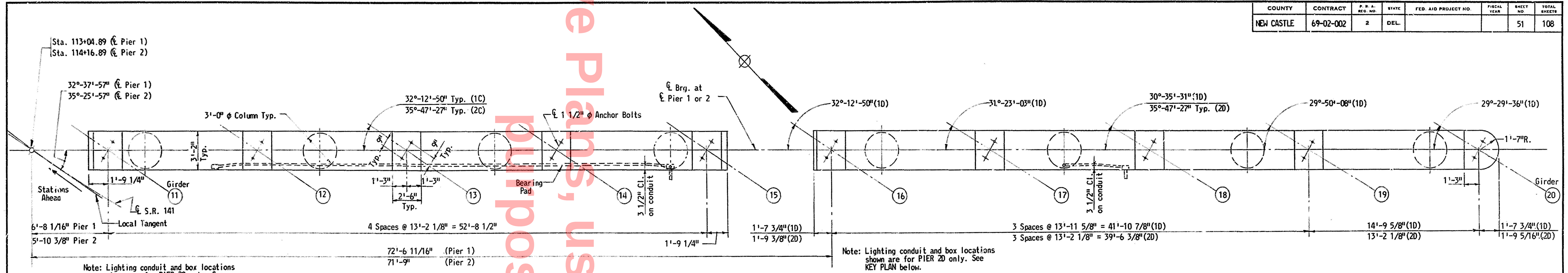
KEY PLAN
Scale: None

NOTES:
For General Notes see Sheet No. 71.
Spiral Reinforcement shall be spliced by lapping 1'-0" and welding.
For Bearing Plate and Anchor Bolt details see Sheet No. 47.
For Reinforcing Schedule see Sheet No. 52.
Test Pile location to be selected by the Engineer in the field.

DELAWARE STATE HIGHWAY DEPARTMENT		
S. R. 141 OVER CENTERVILLE ROAD PIERS 1&2 S.B.L.		
D. E. B. W. T. A. J. S. C. E. E. B.	SCALE As Shown DATE	APPROVED BY: BRIDGE ENGINEER

J. E. GREINER COMPANY, INC.
CONSULTING ENGINEERS
BALTIMORE, MARYLAND

COUNTY	CONTRACT	P. & A. RES. NO.	STATE	FED. AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
NEW CASTLE	69-02-002	2	DEL.			51	108



NOTES:

- For General Notes see Sheet No. 71.
- Spiral Reinforcement shall be spliced by lapping 1'-0" and welding.
- For Bearing Plate and Anchor Bolt details see Sheet No. 47.
- For Reinforcing Schedule see Sheet No. 52.
- Test Pile location to be selected by the Engineer in the field.

DELAWARE STATE HIGHWAY DEPARTMENT	
S.R. 141 OVER CENTERVILLE ROAD PIERS 1&2 N.B.L.	
D. E. B. W. T. A. J. S. C. E. E. B.	SCALE As Shown DATE
APPROVED BY: <i>John G. Smith</i> BRIDGE ENGINEER	

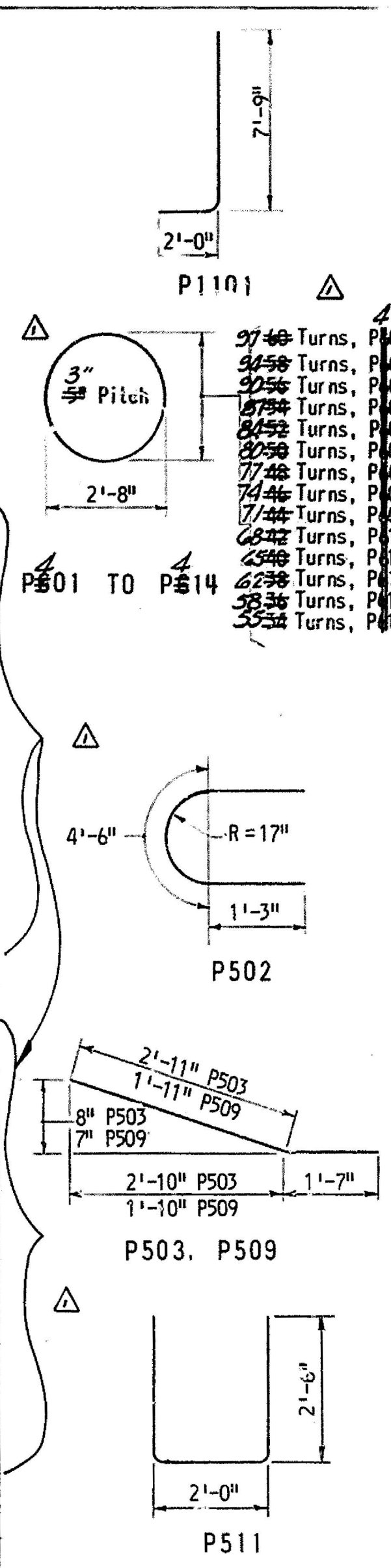
J. E. GREINER COMPANY, INC.
CONSULTING ENGINEERS
BALTIMORE, MARYLAND

Plans for informational purposes only

PIER REINFORCING SCHEDULE

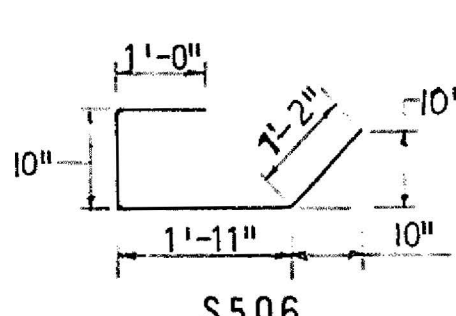
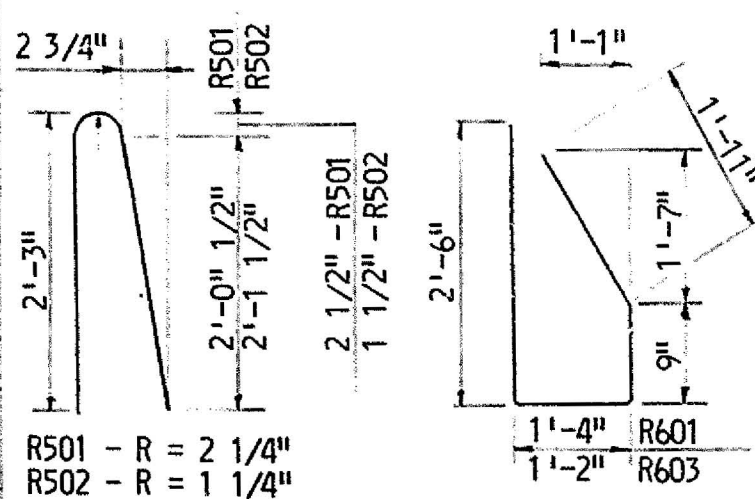
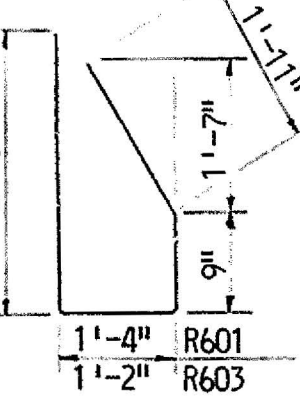
STRAIGHT BARS											BENT BARS										
MARK	NUMBER REQUIRED AT PIER								TOTAL	LENGTH	MARK	NUMBER REQUIRED AT PIER								TOTAL	LENGTH
	1A	1B	1C	1D	2A	2B	2C	2D				1A	1B	1C	1D	2A	2B	2C	2D		
P501	120	120	120	120	120	120	120	120	960	9'-6"	P1101	72	72	72	72	72	72	72	72	576	9'-9"
P801	96	96	96	96	96	96	96	96	768	9'-6"	P1101	80	80	80	80	80	80	80	80	640	
P901					20				20	23'-3"	P502	3			3	3			3	12	7'-0"
P902	20				20				40	22'-9"	P503	5			5	5			5	15	4'-6"
P903	20				20				40	22'-0"	P509								5	5	3'-6"
P904	20				20	20			60	21'-3"	P511	164	164	148	164	164	164	148	148	1264	7'-0"
P905	20					20			40	20'-6"											
P906		20				20			40	19'-6"											
P907		20				20	40		80	19'-0"	P401					1				1	4'-6"
P908		20					20		40	18'-0"	P402	1				1				2	4'-6"
P909		20	20				20		60	17'-3"	P403	1				1				2	4'-6"
P910			20						20	16'-6"	P404	2				1		1		4	4'-6"
P911			20					20	40	16'-0"	P405						1			1	4'-6"
P912			20					20	40	15'-3"	P406							1	1	3	4'-6"
P913				20				20	40	14'-9"	P407		2				1	1		4	4'-6"
P914				20				20	40	14'-0"	P408		1	1				1		3	4'-6"
P915				20				20	20	13'-0"	P409			1						2	4'-6"
P916				20				20	20	12'-0"	P410								2	3	4'-6"
											P411				1				1	2	4'-6"
											P412					1			1	2	4'-6"
P504	5	10		5	5	10			35	5'-10"	P413								1	1	4'-6"
P505	8			8	8				24	29'-9"	P414				2					2	4'-6"
P506		8				8			16	30'-6"											
P507			10					10	25	4'-10"											
P508			8				8		16	28'-7"											
P510								8	8	28'-0"											
P512	2			2	2			2	8	2'-9"											
P1001	17	17		17	17	17			85	19'-0"											
P1002			17				17	17	51	18'-5"											
P1102	4	4		4	4	4			20	12'-7"											
P1103	5	5		5	5	5			25	28'-3"											
P1104	5	5		5	5	5			25	34'-6"											
P1105			4				4	4	12	11'-7"											
P1106			5				5	5	15	26'-8"											
P1107			5				5	5	15	32'-3"											

BENDING DIAGRAMS

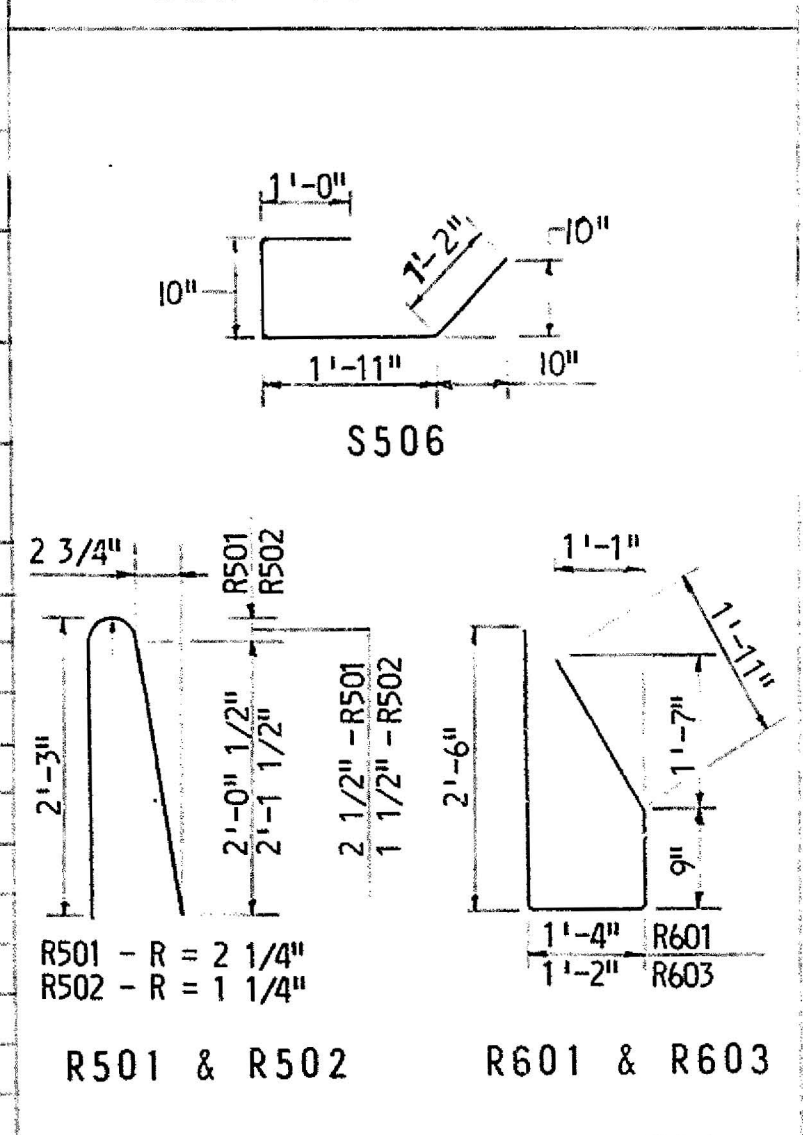


COUNTY	CONTRACT	F.R.A. NO.	STATE	FED. AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
NEW CASTLE	69-02-002	2	DEL.			52	108

DECK REINFORCING SCHEDULE

STRAIGHT BARS						BENT BARS					
BAR MARK	NO. BARS		TOTAL	LENGTH		BAR MARK	NO. BARS		TOTAL	LENGTH	
	S.B.L.	N.B.L.					S.B.L.	N.B.L.			
S501		1504	1504	32'-0"		S506	90	90	180	4'-11"	
S502		188	188	16'-0"							
S503	1504		1504	30'-0"							
S504	188		188	19'-0"							
S505	144	144	288	36'-0"							
S607	36		36	14'-0"							
S608		36	36	13'-0"							
S6001	542	492	1034	35'-0"							
S6002	156	710	866	25'-0"							
S6003	152	164	316	20'-0"		R501	266	266	532	4'-11"	
S6004		164	164	18'-4"		R502	266	266	532	4'-9"	
S6005		164	164	16'-8"							
S6006	456		456	30'-0"							
S6007	152		152	18'-0"		R601	266	266	532	6'-6"	
S6008	152		152	16'-0"		R603	266	266	532	6'-4"	
S6009	64	126	190	40'-0"							
S6010	46		46	37'-0"							
S6011	46		46	23'-0"							
S6012 to S6043	2 Ea.		2 Ea.	22'-9" to 35'-0" Incr. 4 3/4"							
S6044 to S6091	2 Ea.		2 Ea.	19'-8" to 37'-3" Incr. 4 1/2"							
S6092 to S6204	2 Ea.		2 Ea.	1'-8" to 41'-4" Incr. 4 1/4"							
S6205 to S6227	2 Ea.		2 Ea.	24'-9" to 16'-0" Incr. 4 3/4"							
S6228 to S6270	2 Ea.		2 Ea.	38'-6" to 20'-2" Incr. 5 1/4"							
S6271 to S6300	2 Ea.		2 Ea.	30'-0" to 17'-4" Incr. 5 1/4"							
S6301 to S6383	2 Ea.		2 Ea.	39'-6" to 1'-11" Incr. 5 1/2"							
S6384 to S6507	2 Ea.	2 Ea.		1'-7" to 40'-0" Incr. 3 3/4"		BENDING DIAGRAMS					
S6508 to S6566	2 Ea.	2 Ea.		18'-2" to 37'-6" Incr. 4"							
S6567 to S6594	2 Ea.	2 Ea.		22'-11" to 32'-6" Incr. 4 1/4"							
S6595 to S6629	2 Ea.	2 Ea.		35'-9" to 23'-0" Incr. 4 1/2"							
S6630 to S6679	2 Ea.	2 Ea.		37'-0" to 17'-7" Incr. 4 3/4"							
S6680 to S6771	2 Ea.	2 Ea.		39'-9" to 1'-10" Incr. 5"							
S901	10	10	20	30'-7"							
S902	10		10	29'-7"							
S903		10	10	28'-7"							
											
R602	296	296	592	12'-6"							
R604	4	4	8	13'-9"							
R605	4	4	8	11'-3"		R501 & R502					
						R601 & R603					

BENDING DIAGRAMS



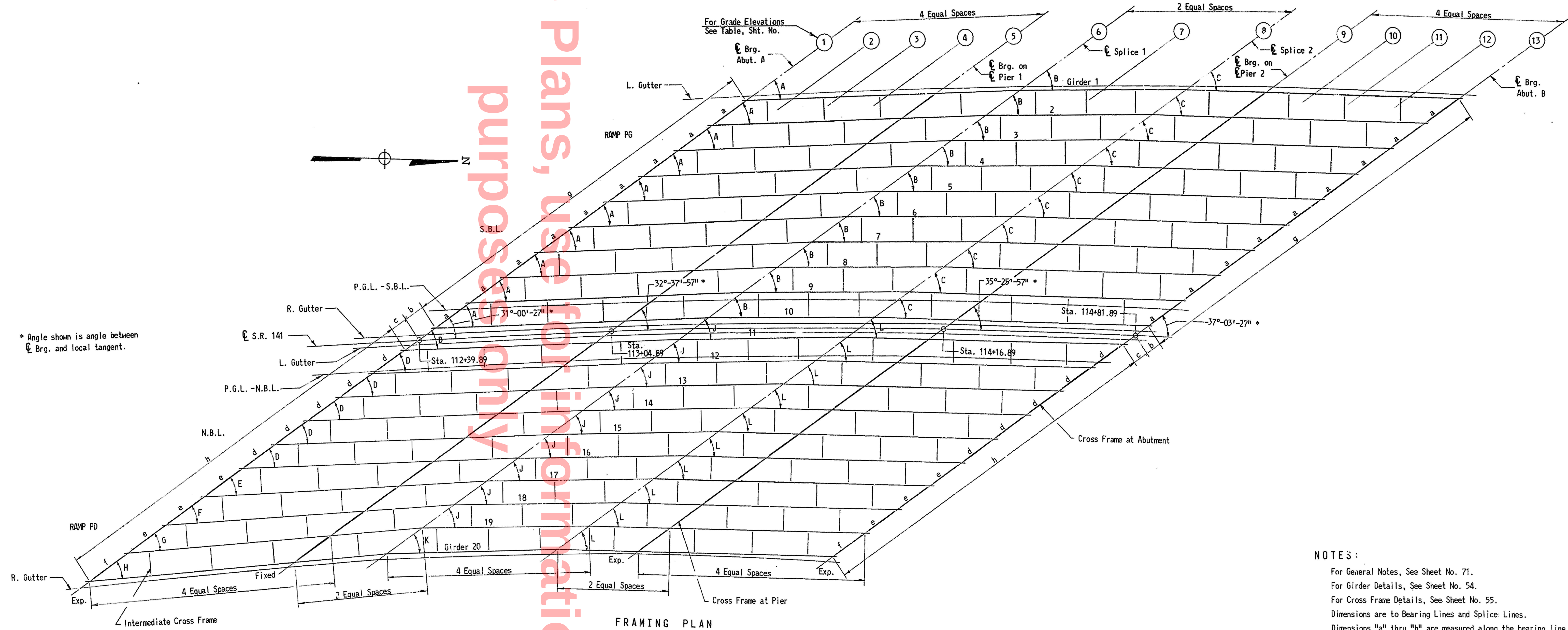
NOTES:
For General Notes, see Sheet No. 71.

DELAWARE
STATE HIGHWAY DEPARTMENT

S.R. 141 OVER CENTERVILLE RD.

REINFORCING SCHEDULE

J. E. GREINER COMPANY, INC. CONSULTING ENGINEERS BALTIMORE, MARYLAND	D. E.B.W. T. T.G. C. E.E.B.	SCALE None DATE	APPROVED BY: <i>John S. Greiner</i> BRIDGE ENGINEER
--	-----------------------------------	-----------------------	---



FRAMING PLAN
Scale: 1/16" = 1'-0"

SPACE	CL BRG. ABUT. A	CL PIER 1	CL SPLICE 1	CL SPLICE 2	CL PIER 2	CL BRG. ABUT. B
a	14'-2 3/16"	14'-2 3/16"	14'-2 3/16"	14'-2 3/16"	14'-2 3/16"	14'-2 3/16"
b	6'-9 3/8"	5'-8 7/8"	6'-4 5/16"	6'-1 9/16"	5'-4 5/16"	5'-9 5/8"
c	5'-10"	6'-8 1/16"	5'-11 5/8"	5'-3 1/4"	5'-10 3/8"	4'-11 13/16"
d	13'-2 1/8"	13'-2 1/8"	13'-2 1/8"	13'-2 1/8"	13'-2 1/8"	13'-2 1/8"
e	15'-9 1/8"	13'-11 5/8"	13'-2 1/8"	13'-2 1/8"	13'-2 1/8"	13'-2 1/8"
f	15'-9 1/8"	14'-9 5/8"	14'-4 1/2"	13'-2 1/8"	13'-2 1/8"	13'-2 1/8"
g	127'-7 11/16"	127'-7 11/16"	127'-7 11/16"	127'-7 11/16"	127'-7 11/16"	127'-7 11/16"
h	128'-11 1/8"	122'-7 1/8"	119'-9 1/2"	118'-7 1/8"	118'-7 1/8"	118'-7 1/8"

GIRDER	ABUT. A TO PIER 1	PIER 1 TO SPLICE 1	SPLICE 1 TO SPLICE 2	SPLICE 2 TO PIER 2	PIER 2 TO ABUT. B
1	64'-1 7/16"	28'-6 1/4"	55'-9 3/4"	27'-4 7/16"	65'-4 1/4"
2					
3					
4					
5					
6					
7					
8					
9					
10	64'-1 7/16"	28'-6 1/4"	55'-9 3/4"	27'-4 7/16"	65'-4 1/4"
11	64'-3 7/16"	28'-7 1/8"	56'-6 15/16"	27'-6 3/16"	65'-8 1/2"
12					
13					
14					
15					
16	64'-3 7/16"	28'-7 1/8"			
17	65'-9 11/16"	29'-3 1/4"			
18	67'-4 1/16"	29'-11 7/16"			
19	68'-10 5/8"	30'-7 5/8"	56'-6 15/16"		
20	69'-8 5/8"	31'-0 1/8"	57'-6 15/16"	27'-6 3/16"	65'-8 1/2"

ANGLES AT WORKING POINTS	
A	32°-18'-32"
B	34°-09'-42"
C	36°-00'-56"
D	32°-12'-50"
E	31°-23'-03"
F	30°-35'-31"
G	29°-50'-08"
H	29°-29'-36"
J	33°-38'-19"
K	32°-58'-43"
L	35°-41'-27"

NOTES:

- For General Notes, See Sheet No. 71.
- For Girder Details, See Sheet No. 54.
- For Cross Frame Details, See Sheet No. 55.
- Dimensions are to Bearing Lines and Splice Lines.
- Dimensions "a" thru "h" are measured along the bearing line between girders.
- All Structural Steel to be A36 except as noted.
- Girders shall be cambered for Dead Load deflection as indicated in the Camber Blocking Diagram. Girders shall not be cambered more than shown even though the camber is less than that likely to remain permanent.
- Girders shall be assembled in the shop in accordance with Section 606.16 of the Specifications.
- If girder sections over the piers do not have the indicated camber then the blocking elevations for the remaining girder sections shall be adjusted accordingly.
- After all girders are in place, elevations shall be taken along the top of girder at points where the grade elevations are shown. The difference between these two elevations plus the sum of the deflections shown in the table for "Concrete Slab" and "Barrier Rail" is the thickness of slab over top of girder at centerline of web. The minimum slab to top of flange over the centerline of web shall not be less than 8 3/8".

DELAWARE
STATE HIGHWAY DEPARTMENT

S.R. 141 OVER CENTERVILLE RD.

FRAMING PLAN

J. E. GREINER COMPANY, INC.
CONSULTING ENGINEERS
BALTIMORE, MARYLAND

D. K.K.S.
T. A.J.S.
C. C.P.G.

SCALE
1/16" = 1'-0"

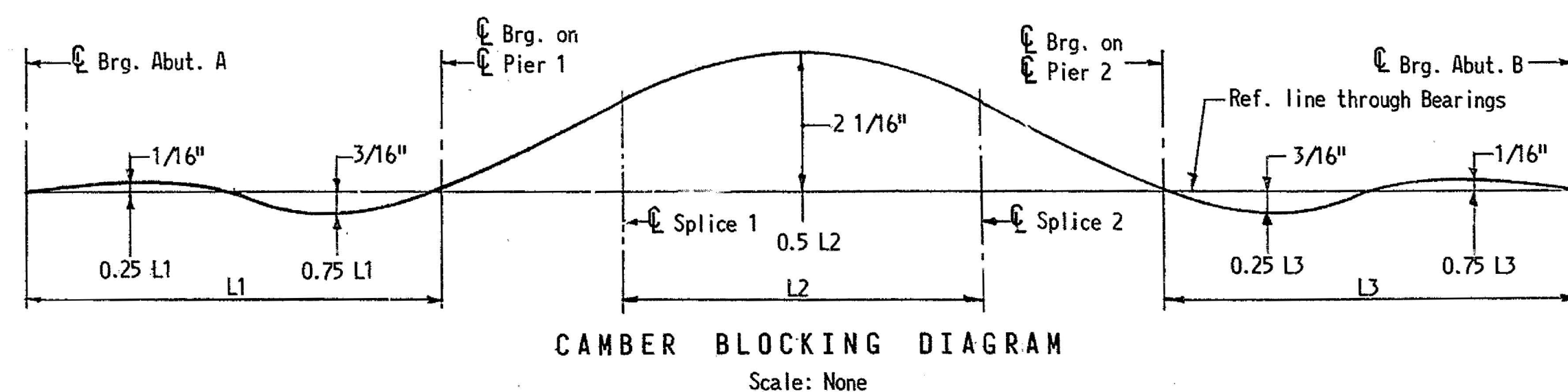
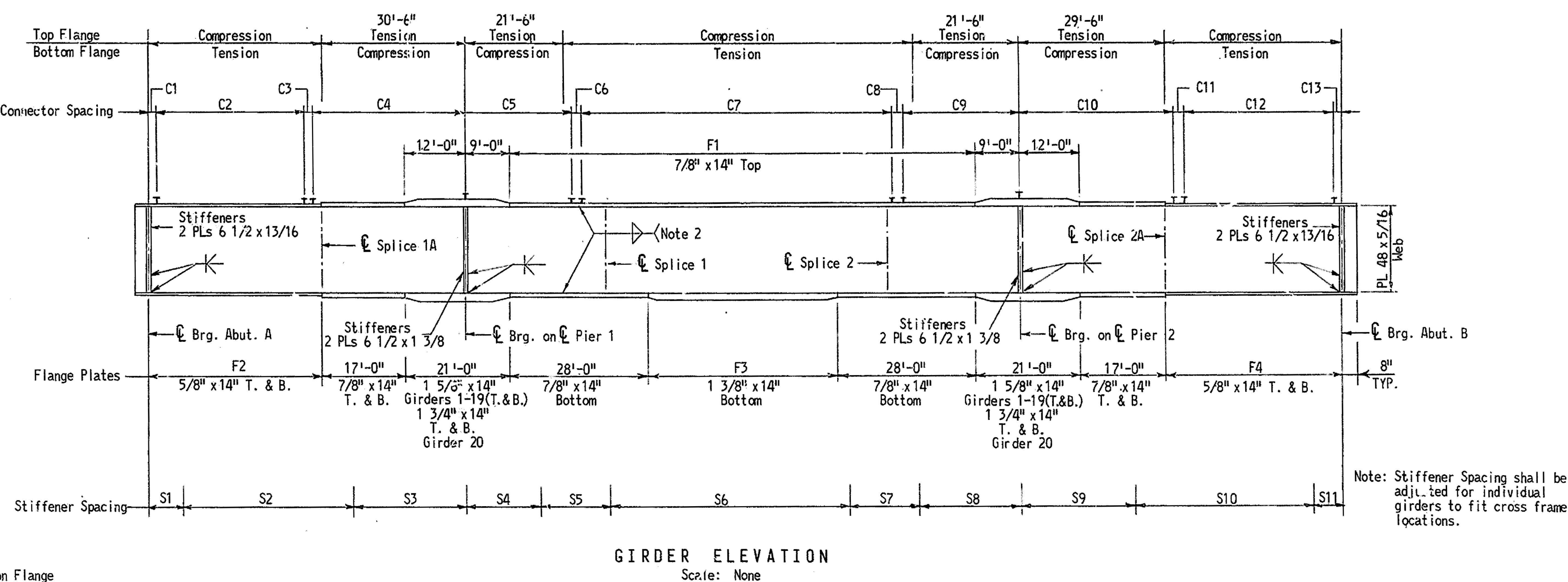
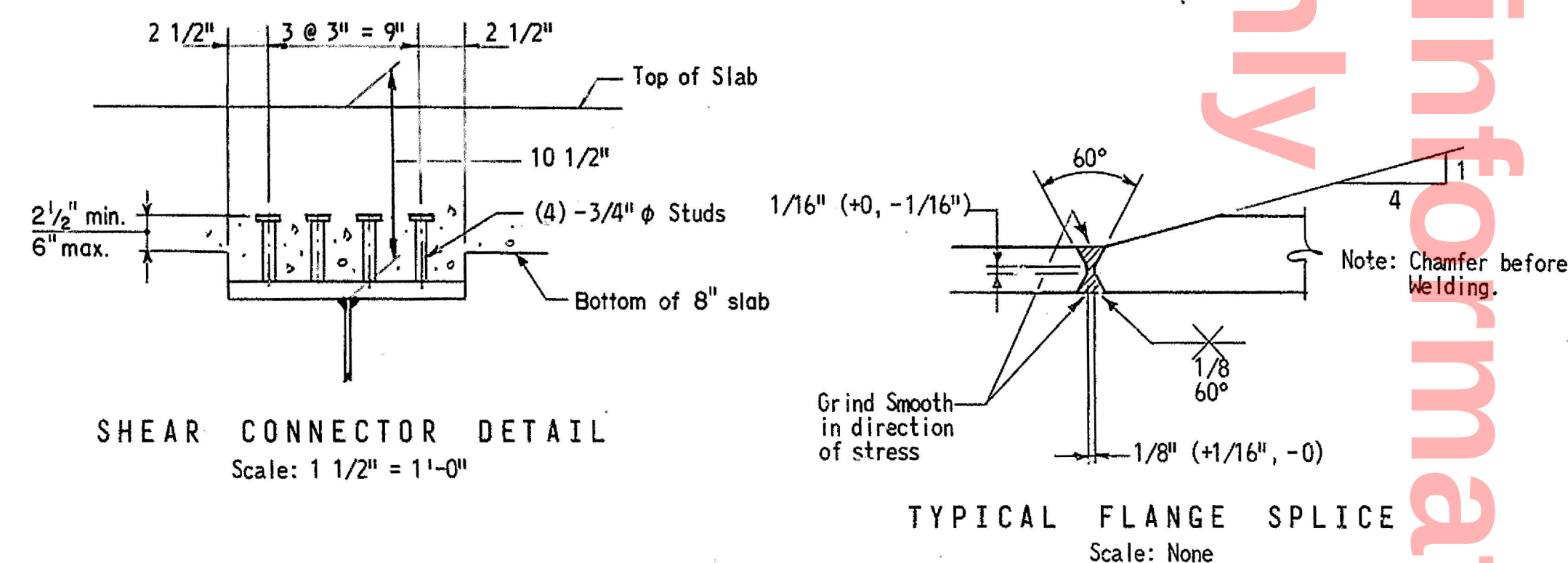
APPROVED BY:

DATE
BRIDGE ENGINEER

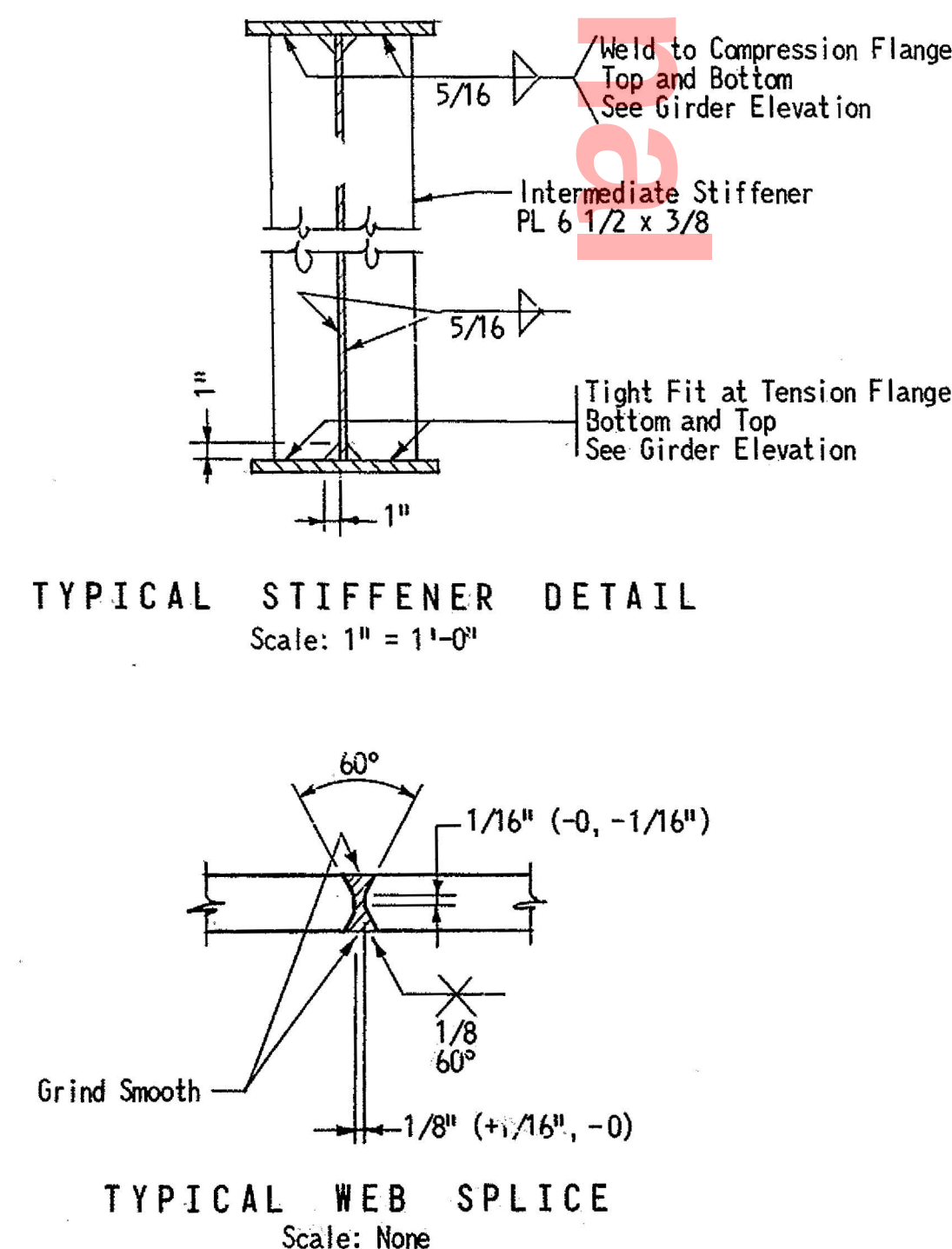
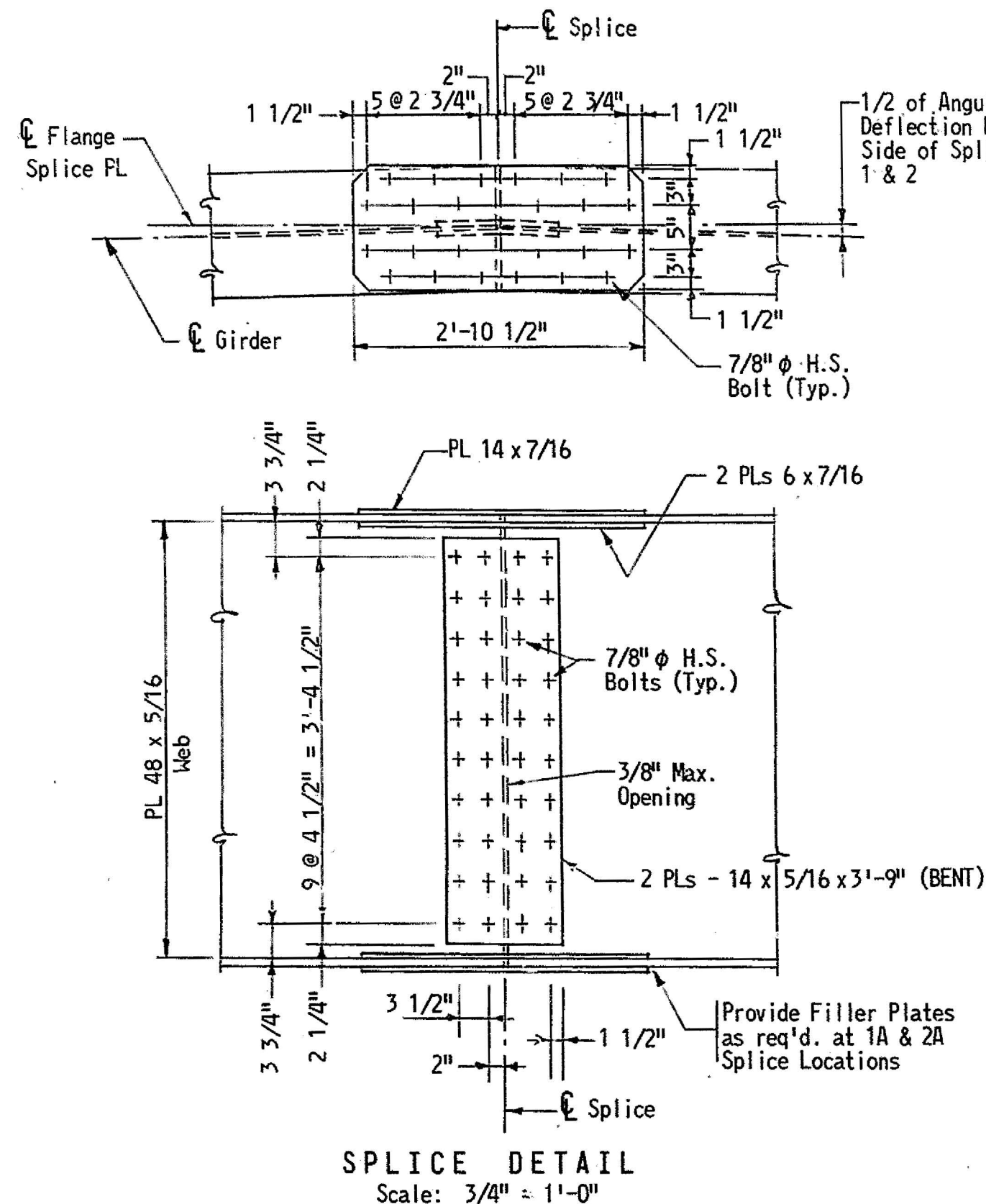
TABLE OF GRADE ELEVATIONS AND DEAD LOAD DEFLECTIONS IN FEET													
POINT	1	2	3	4	5	6	7	8	9	10	11	12	13
Girder 1	121.739	122.104	122.475	122.851	123.232	123.922	124.570	125.233	125.856	126.235	126.619	127.009	127.404
2	121.094	121.456	121.824	122.197	122.576	123.262	123.905	124.564	125.182	125.558	125.940	126.327	126.720
3	120.450	120.809	121.175	121.545	121.920	122.602	123.240	123.895	124.509	124.882	125.262	125.647	126.037
4	119.807	120.164	120.526	120.894	121.267	121.934	122.577	123.186	123.759	124.284	124.657	125.035	125.418
5	119.166	119.520	119.879	120.244	120.614	121.285	121.915	122.560	123.165	123.734	124.268	124.643	125.022
6	118.526	118.877	119.233	119.595	119.962	120.629	121.253	121.894	122.495	123.061	123.610	124.153	124.699
7	117.887	118.235	118.589	118.948	119.312	119.974	120.593	121.229	121.825	122.388	122.932	123.471	124.014
8	117.250	117.595	117.946	118.302	118.663	119.326	119.934	120.565	121.157	121.717	122.256	122.794	123.333
9	116.614	116.956	117.304	117.657	118.015	118.667	119.276	119.903	120.489	121.047	121.584	122.121	122.659
P.G.L.-S.B.L.	116.454	116.507	117.159	117.512	117.864	118.472	119.081	119.689	120.298	120.851	121.398	121.945	122.492
Girder 10	115.980	116.319	116.663	117.013	117.369	118.015	118.620	119.241	119.823	120.378	120.926	121.473	122.020
Girder 11	115.567	115.906	116.249	116.599	116.954	117.600	118.221	118.860	119.447	119.985	120.533	121.080	121.627
P.G.L.-N.B.L.	115.045	115.408	115.770	116.133	116.496	117.120	117.744	118.368	118.991	119.553	120.107	120.660	121.213
Girder 12	114.981	115.316	115.657	116.004	116.356	116.997	117.613	118.247	118.829	119.385	119.933	120.480	121.027
13	114.396	114.728	115.066	115.410	115.759	116.395	117.007	117.636	118.213	118.766	119.314	119.861	120.408
14	113.812	114.141	114.476	114.817	115.163	115.794	116.401	117.025	117.598	118.148	118.694	119.240	119.786
15	113.229	113.555	113.887	114.225	114.569	115.195	115.796	116.416	116.984	117.531	118.073	118.619	119.165
16	112.648	112.971	113.300	113.635	113.976	114.596	115.193	115.807	116.370	116.915	117.455	117.995	118.535
17	111.955	112.274	112.639	112.991	113.348	113.999	114.590	115.200	115.758	116.300	116.837	117.374	117.911
18	111.264	111.619	111.980	112.348	112.722	113.403	113.989	114.594	115.147	115.686	116.221	116.756	117.291
19	110.575	110.946	111.323	111.707	112.097	112.808	113.389	113.989	114.537	115.073	115.605	116.137	116.669
20	109.889	110.266	110.649	111.040	111.437	112.161	112.764	113.385	113.928	114.461	114.985	115.509	116.033
Struct. Steel	0	0	-0.001	-0.002	0	.015	.024	.015	0	-0.001	0	.001	0
Concr. Slab	0	.003	-0.004	-0.012	0	.074	.120	.073	0	-0.010	-0.010	.005	0
Carrier Rail	0	.001	0	-0.002	0	.017	.027	.017	0	-0.002	0	.001	0
Total Camber	0	.004	-0.005	-0.016	0	.106	.171	.105	0	-0.013	-0.001	.007	0

FLANGE LENGTH					STIFFENER SPACING										
GIRDER NO.	F1	F2	F3	F4	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11
1-10	93'-8 7/16"	35'-1 7/16"	37'-8 7/16"	36'-1 1/4"	2 @ 1'-7 3/4" (-)	10 @ 3'-9"	7 @ 3'-4"	7 @ 2'-9 1/2" (-)	4 @ 3'-7"	11 @ 4'-0"	4 @ 3'-7"	7 @ 2'-9 1/2" (-)	7 @ 3'-4"	10 @ 3'-10"	2 @ 1'-10 1/8"
11-16	94'-8 1/4"	35'-3 7/8"	38'-8 1/4"	36'-8 1/2"	2 @ 1'-8 3/4" (-)	10 @ 3'-9"		7 @ 2'-10 3/8" (-)				7 @ 2'-10 3/8" (-)		10 @ 3'-11"	2 @ 1'-7 1/4"
17	95'-4 3/8"	36'-9 11/16"	39'-4 3/8"		2 @ 1'-10 5/16" (+)	10 @ 3'-10 1/2"		7 @ 2'-10 7/8" (+)				7 @ 2'-10 7/8" (+)		10 @ 3'-10 1/2"	2 @ 1'-9 3/4"
18	96'-0 9/16"	38'-4 1/16"	40'-0 9/16"		2 @ 2'-0" (+)	10 @ 4'-0"		7 @ 2'-11 1/2" (-)				7 @ 2'-11 1/2" (-)			
19	96'-6 3/4"	39'-10 5/8"	40'-8 3/4"		2 @ 1'-11 1/16"	11 @ 3'-9 1/2"		7 @ 3'-0" (+)				7 @ 3'-0" (+)			
20	98'-1 1/4"	40'-8 5/8"	42'-1 1/4"	36'-8 1/2"	2 @ 1'-10 9/16"	11 @ 3'-10 1/2"	7 @ 3'-4"	8 @ 2'-8 5/8" (-)	4 @ 3'-7"	11 @ 4'-0"	4 @ 3'-7"	8 @ 2'-8 5/8" (-)	7 @ 3'-4"	10 @ 3'-10 1/2"	2 @ 1'-9 3/4"

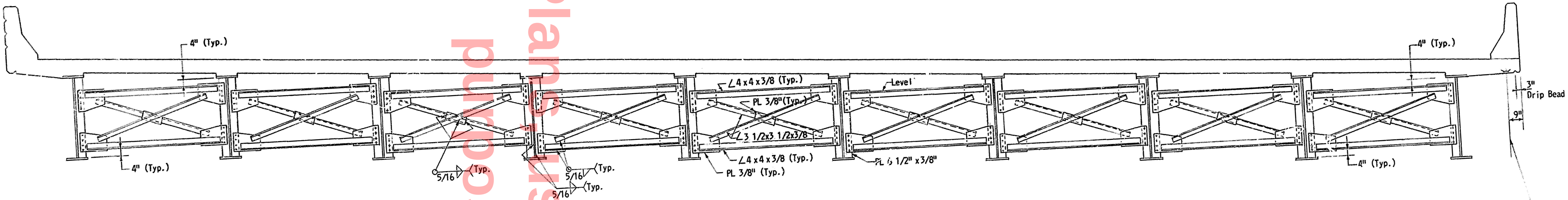
SHEAR CONNECTOR SPACING												
GIRDER NO.	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12
1-10	4"	23 @ 1'-4 1/2"	3 @ 6"	16 @ 2'-0" (±)	11 @ 1'-11"	3 @ 6"	48 @ 1'-4 1/2"	3 @ 6"	11 @ 2'-0" (±)	16 @ 2'-0" (±)	3 @ 6"	24 @ 1'-4 1/2"
11-16		23 @ 1'-4 1/2"					48 @ 1'-4 1/2"					
17		24 @ 1'-4 1/2"					49 @ 1'-4 1/2"					
18		24 @ 1'-4 1/2"		16 @ 2'-0" (±)	11 @ 1'-11"							
19		24 @ 1'-4 1/2"		17 @ 2'-0" (±)	11 @ 2'-0"				11 @ 2'-0" (±)			
20	4"	25 @ 1'-4 1/2"	3 @ 6"	17 @ 2'-0" (±)	11 @ 2'-0"	3 @ 6"	49 @ 1'-4 1/2"	3 @ 6"	12 @ 2'-0" (±)	16 @ 2'-0" (±)	3 @ 6"	24 @ 1'-4 1/2"



- NOTES:
- For General Notes, See Sheet No. 71.
 - Flange-to-Web, Weld Sizes shall be as follows:
Flange Plates of thickness equal to or less than 1 1/2": 5/16" Fillet.
Flange Plates of thickness greater than 1 1/2": 3/8" Fillet.
 - Splices 1A and 2A are optional.

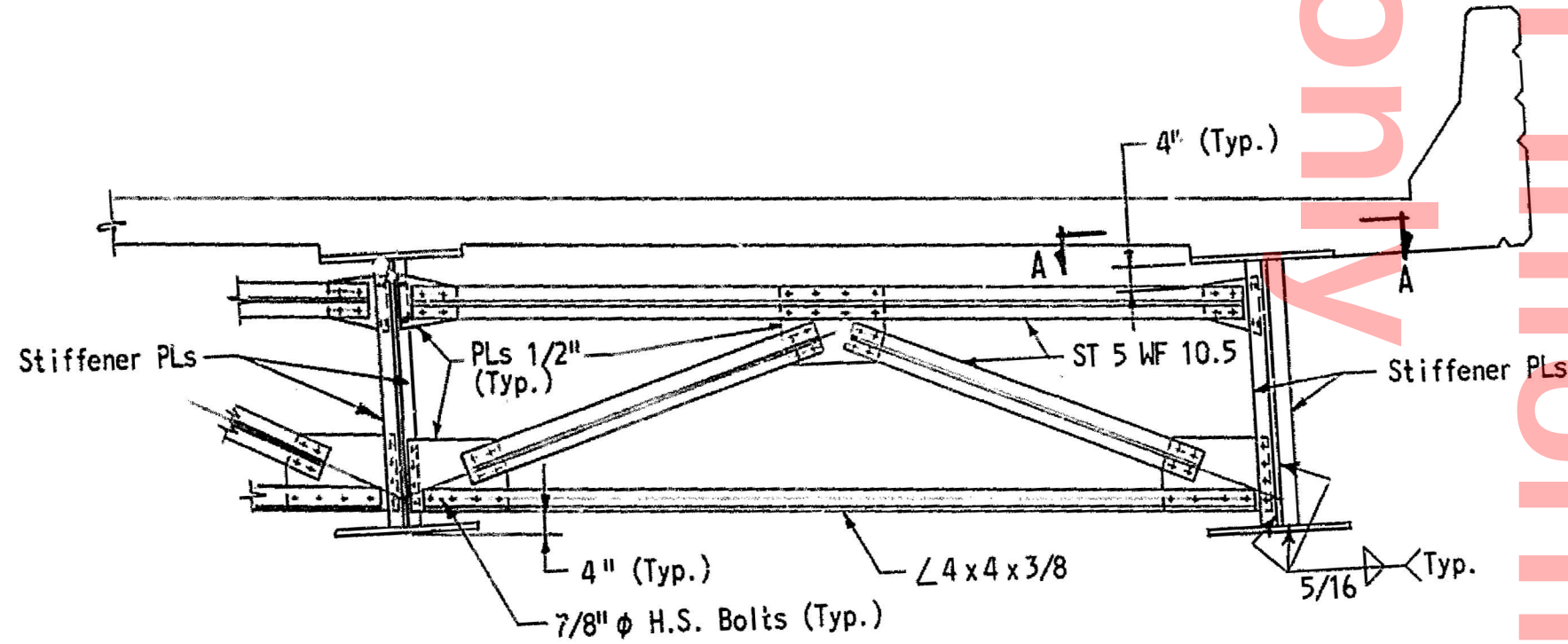


DELAWARE STATE HIGHWAY DEPARTMENT		
S.R. 141 OVER CENTERVILLE RD.		
GIRDER DETAILS		
J. E. GREINER COMPANY, INC. CONSULTING ENGINEERS BALTIMORE, MARYLAND	SCALE As Shown DATE	APPROVED BY: <i>John G. Greiner</i> BRIDGE ENGINEER

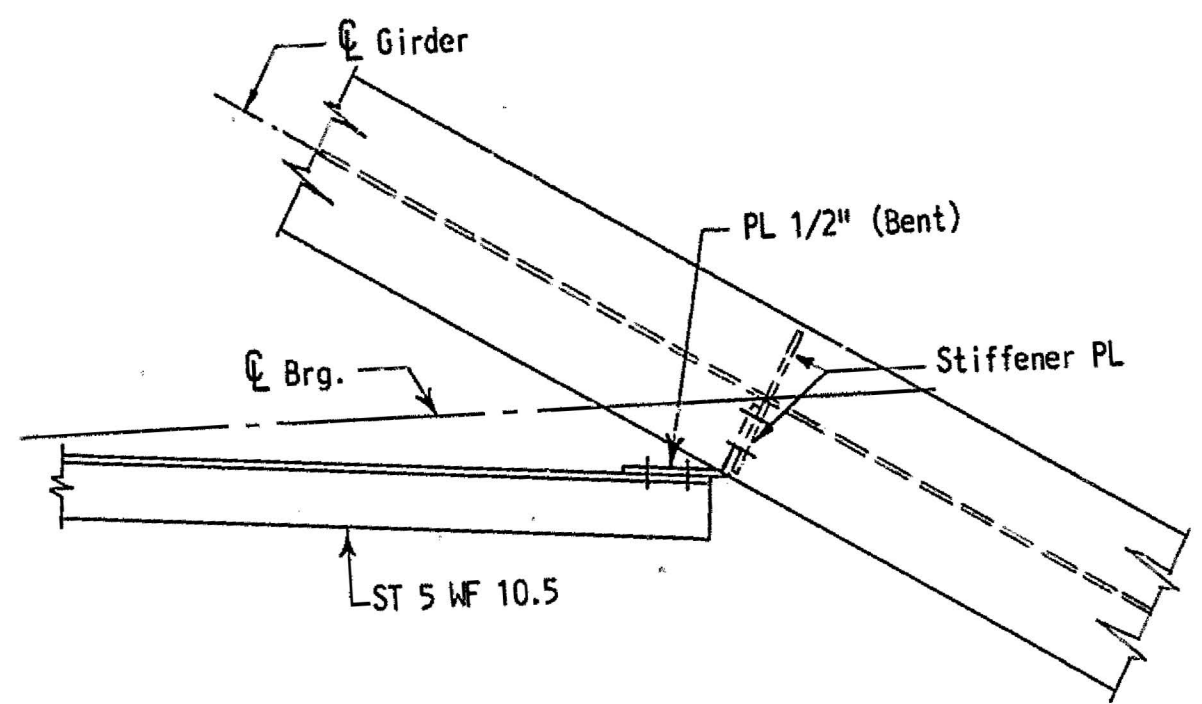


TYPICAL INTERMEDIATE CROSS FRAME
(Section Viewed Normal to Girders)
(S.B.L. Shown, N.B.L. Similar)
Scale: 3/8" = 1'-0"

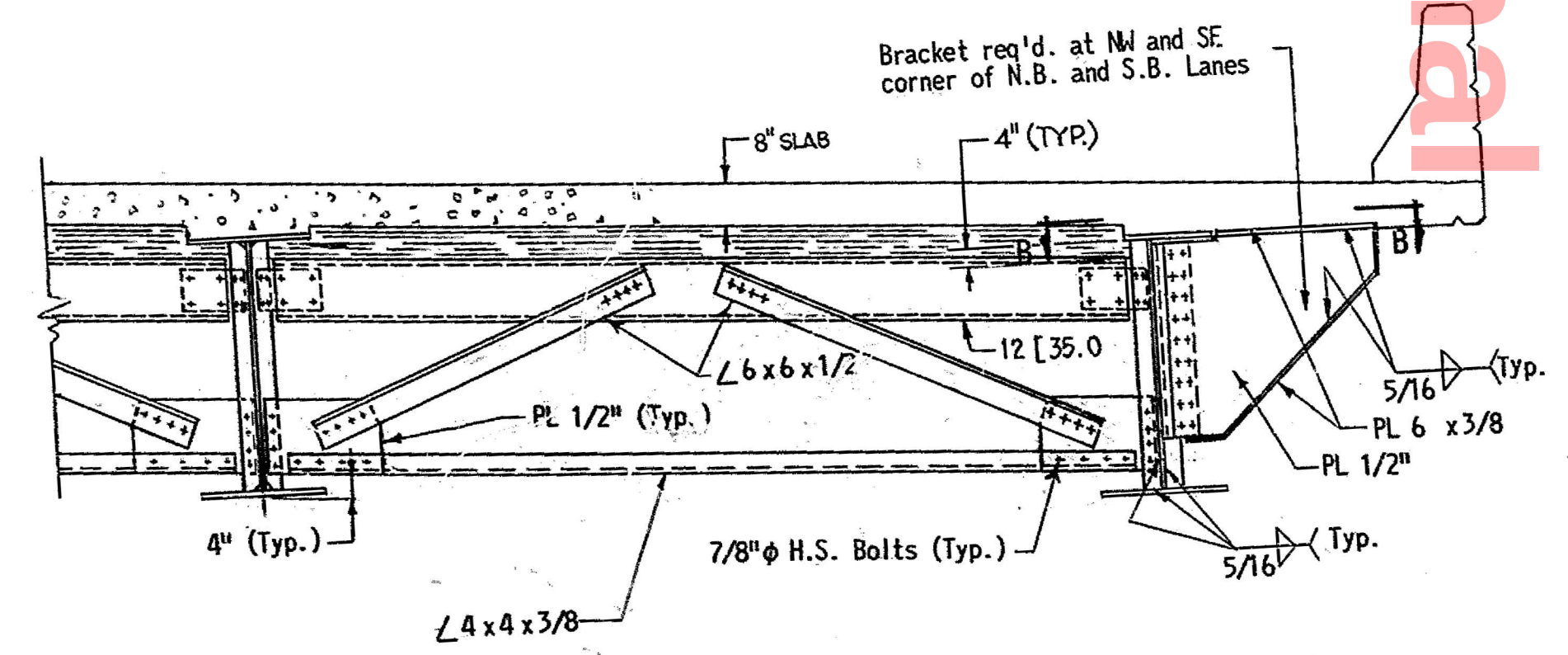
Furnish and install galv. concrete inserts this side of S.B.L. only, for future 3/8" ϕ conduit hanger rods, space inserts on 5' centers full length of structure



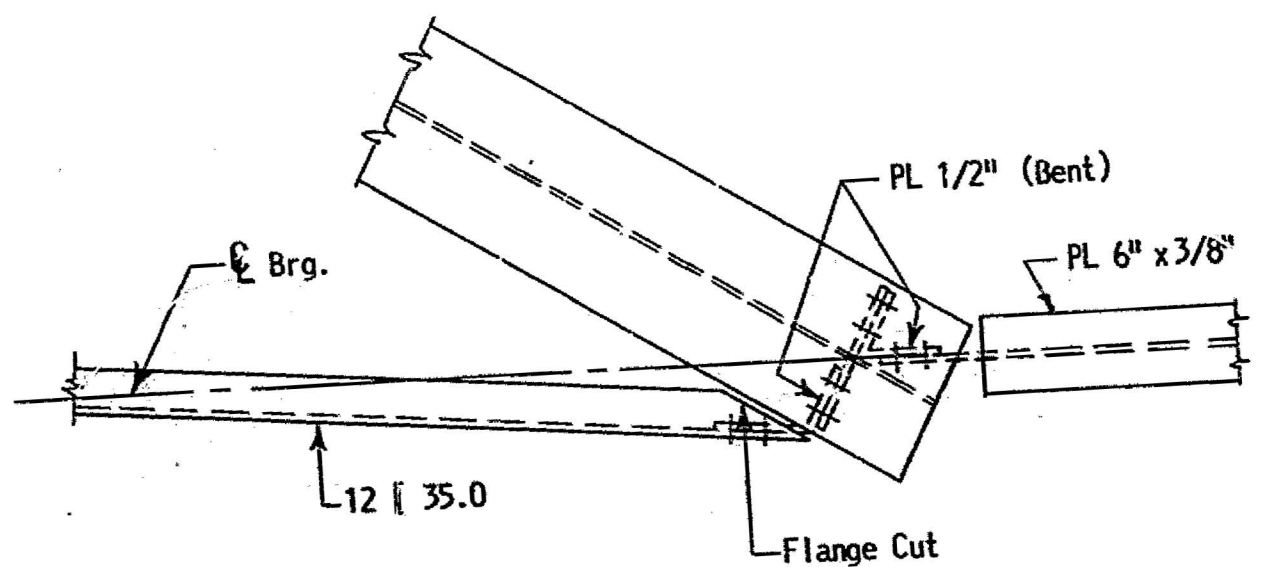
TYPICAL CROSS FRAME AT PIERS
(Section Viewed Along $\bar{C}$ Bearing)
Scale: 3/8" = 1'-0"



SECTION A-A
Scale: 3/4" = 1'-0"



TYPICAL CROSS FRAME AT ABUTMENTS
(Section Viewed Along $\bar{C}$ Bearing)
Scale: 3/8" = 1'-0"

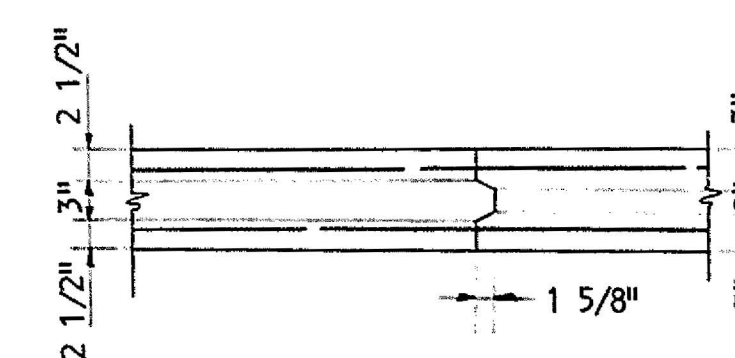
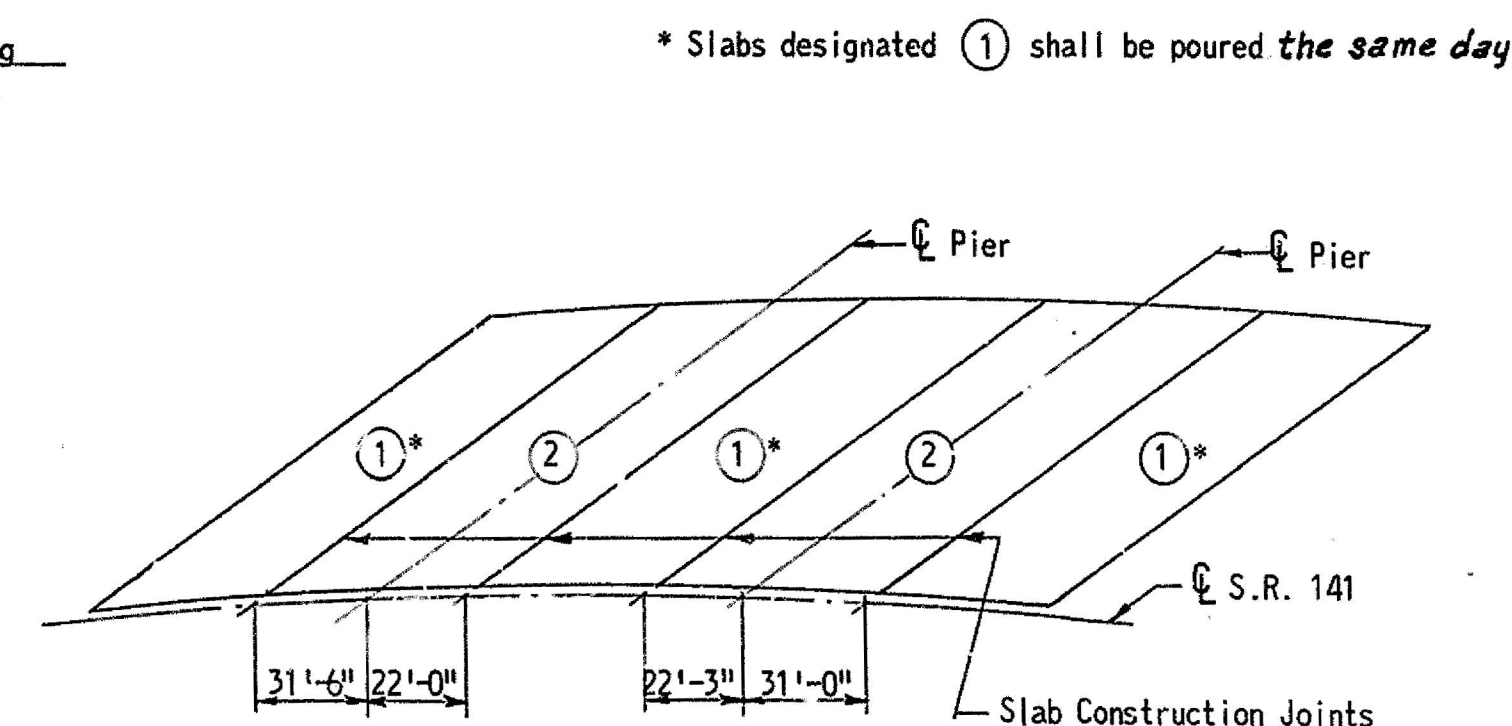
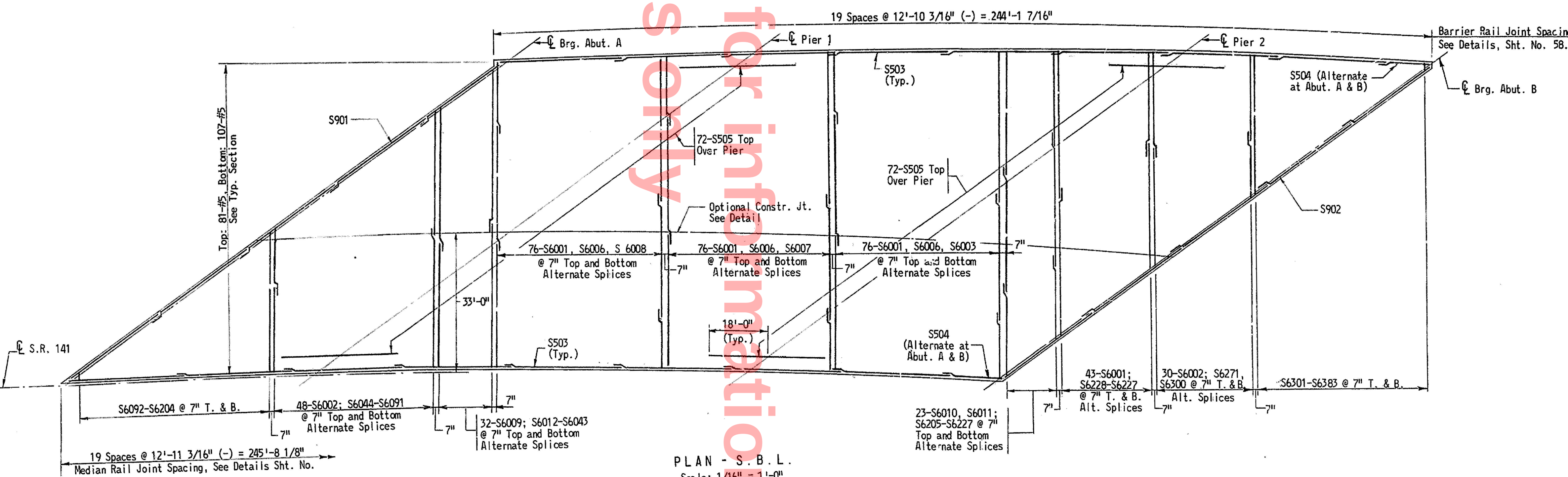
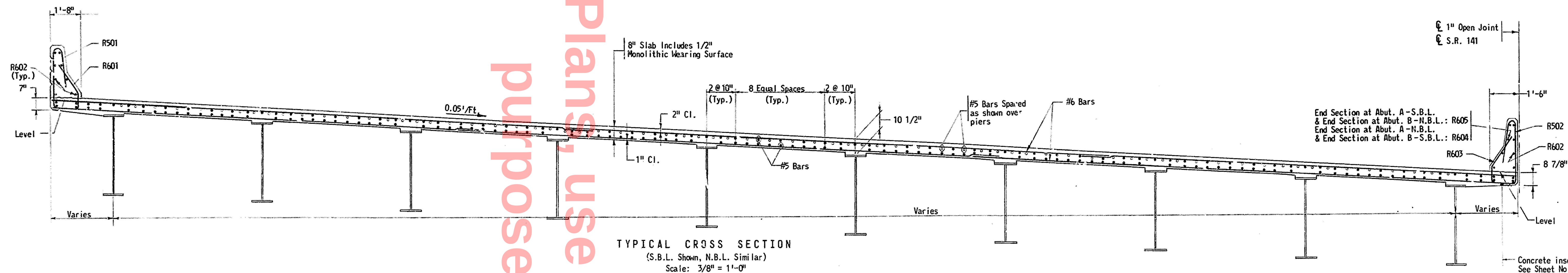


SECTION B-B
Scale: 3/4" = 1'-0"

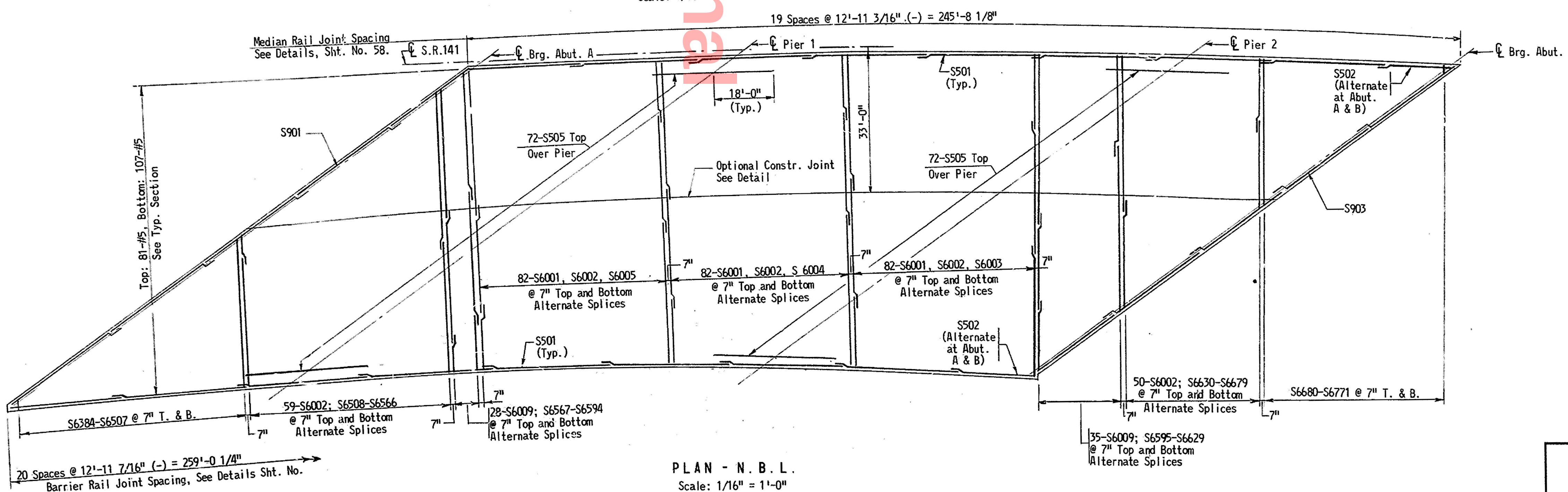
NOTES:
For General Notes, See Sheet No. 71.

J. E. GREINER COMPANY, INC. CONSULTING ENGINEERS BALTIMORE, MARYLAND		DELAWARE STATE HIGHWAY DEPARTMENT	
		S. R. 141 OVER CENTERVILLE RD. SUPERSTRUCTURE DETAILS - I	
D. E.B.W. T. A.J.S. C. E.E.B.	SCALE As Shown DATE	APPROVED BY: BRIDGE ENGINEER	

COUNTY	CONTRACT	P. & A. REG. NO.	STATE	FED. AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
NEW CASTLE	69-02-002	2	DEL.			57	108



NOTES:
For General Notes, see Sheet No. 71.
For Reinforcing Schedule, see Sheet No. 52.



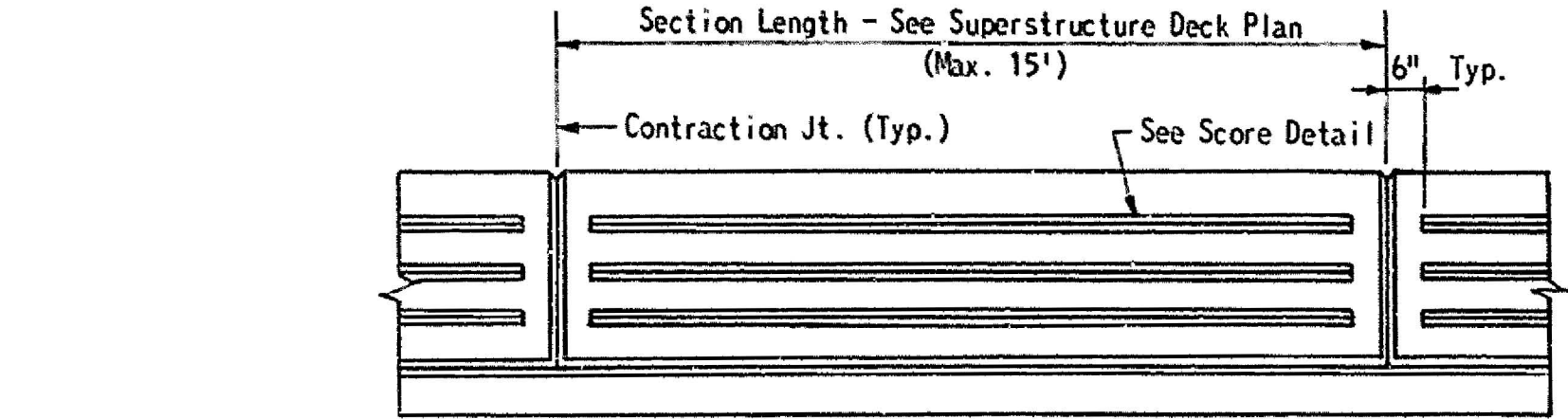
DELAWARE
STATE HIGHWAY DEPARTMENT

S. R. 141 OVER CENTERVILLE RD.
SUPERSTRUCTURE - DECK

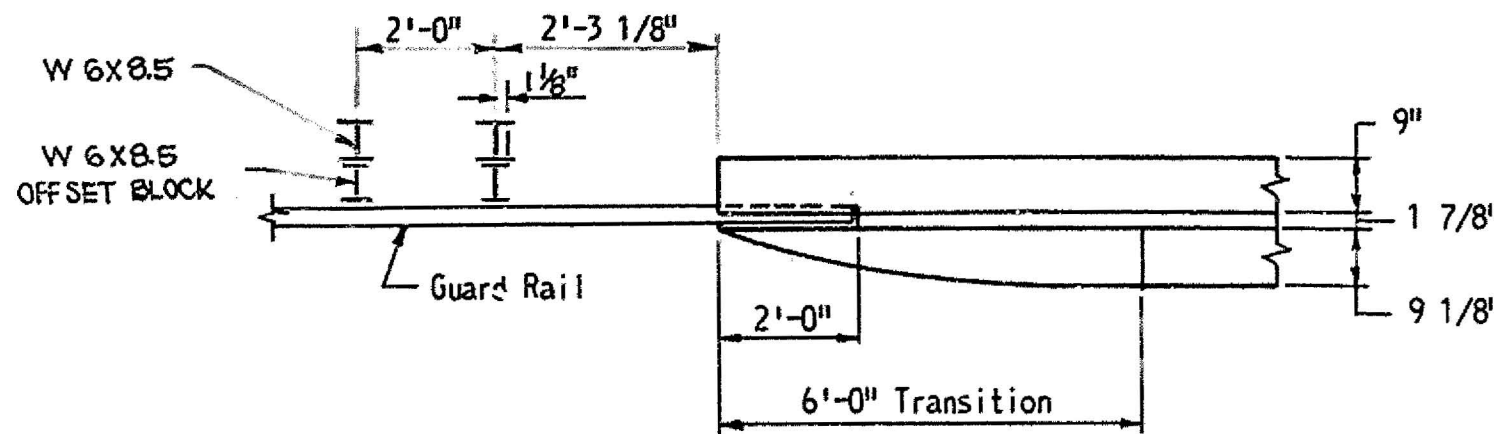
J. E. GREINER COMPANY, INC.
CONSULTING ENGINEERS
BALTIMORE, MARYLAND

APPROVED BY:
DATE
BRIDGE ENGINEER

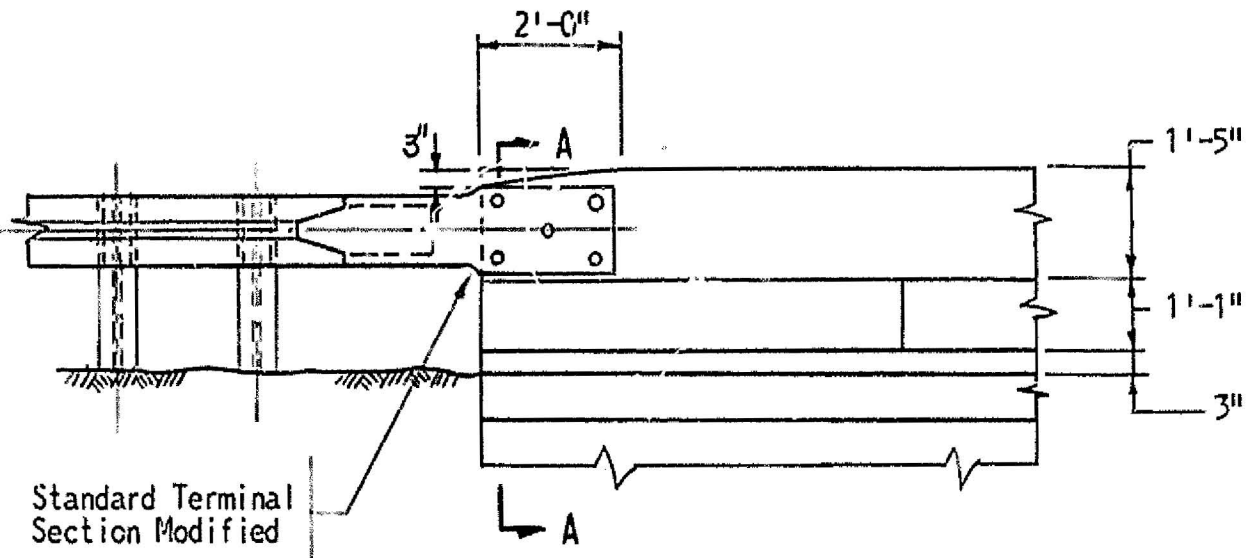
COUNTY	CONTRACT	P. E. A. REG. NO.	STATE	FED. AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
NEW CASTLE	69-02-002	2	DEL.			58	108



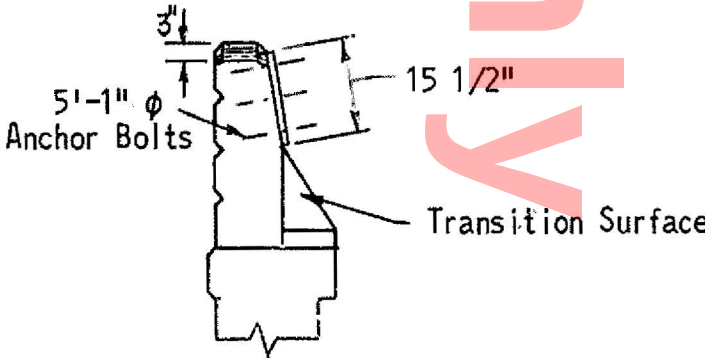
OUTSIDE ELEVATION - BARRIER RAIL
Scale: 3/8" = 1'-0"



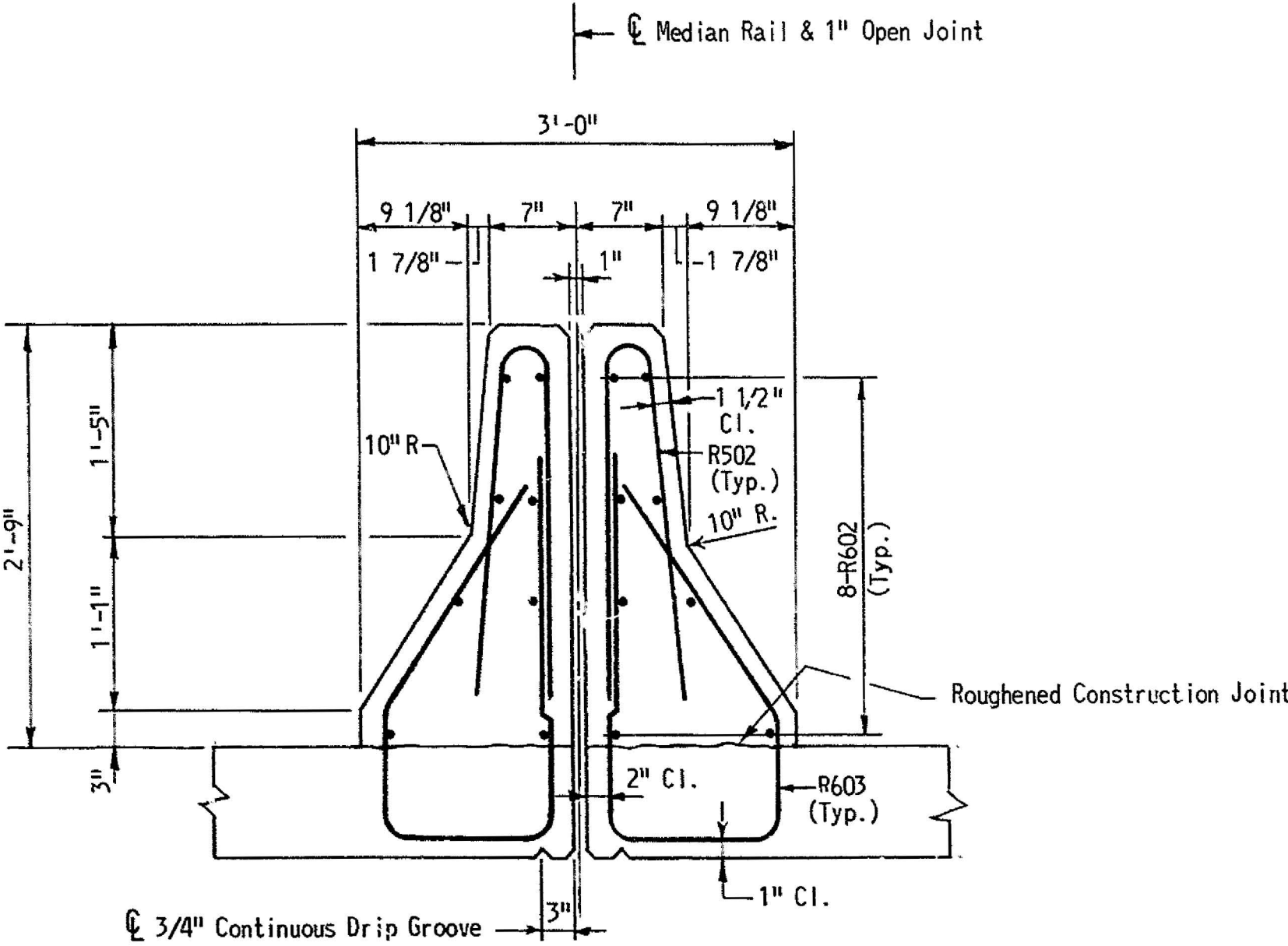
PLAN



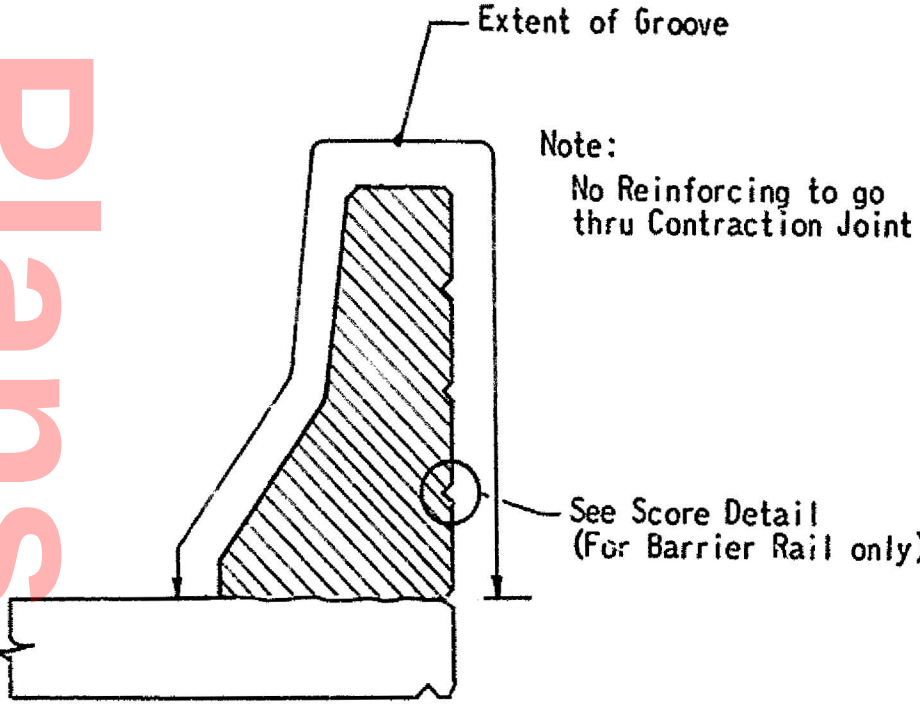
CONNECTION OF GUARD RAIL TO BARRIER RAIL
Scale: 3/8" = 1'-0"



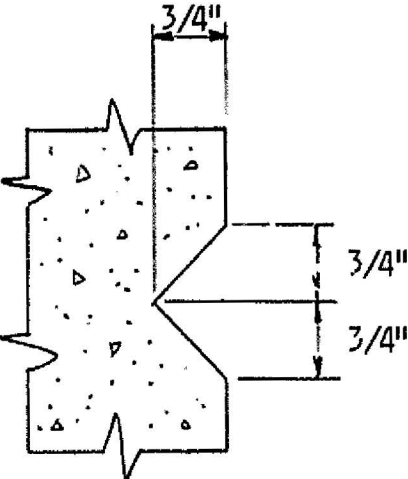
SECTION A-A



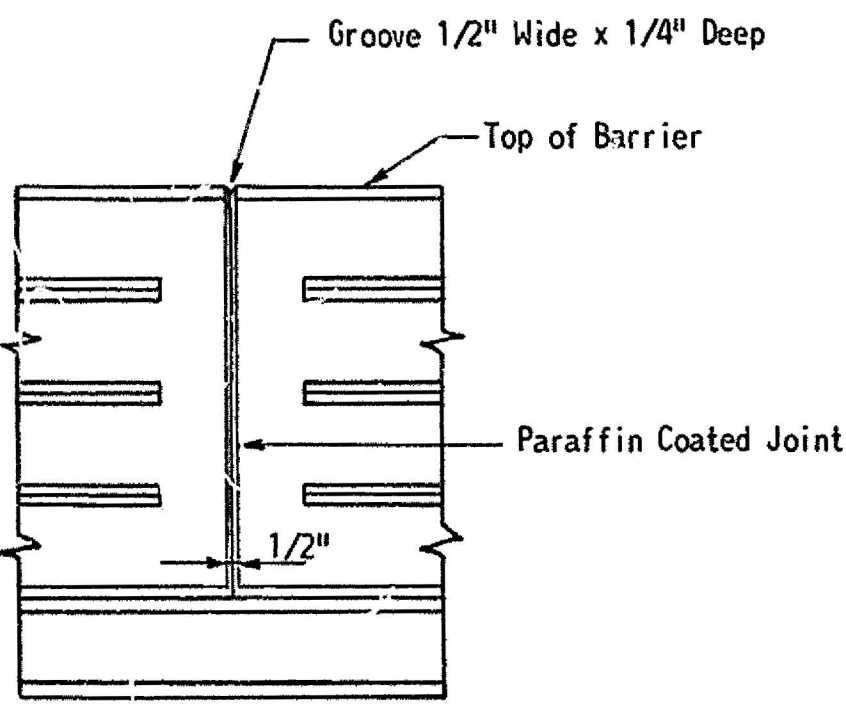
MEDIAN RAIL DETAIL WITH LONGITUDINAL JOINT
Scale: 1" = 1'-0"



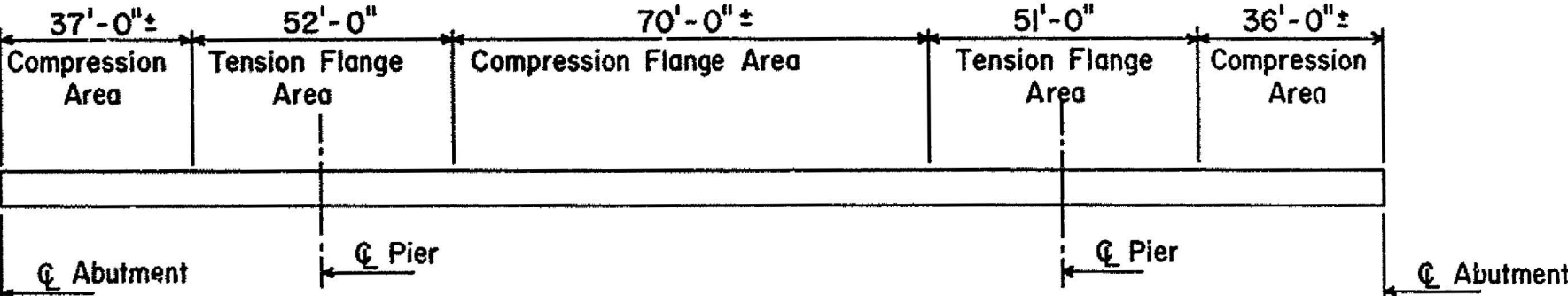
BARRIER & MEDIAN RAIL CONTRACTION JOINT DETAIL
Scale: 3/4" = 1'-0"



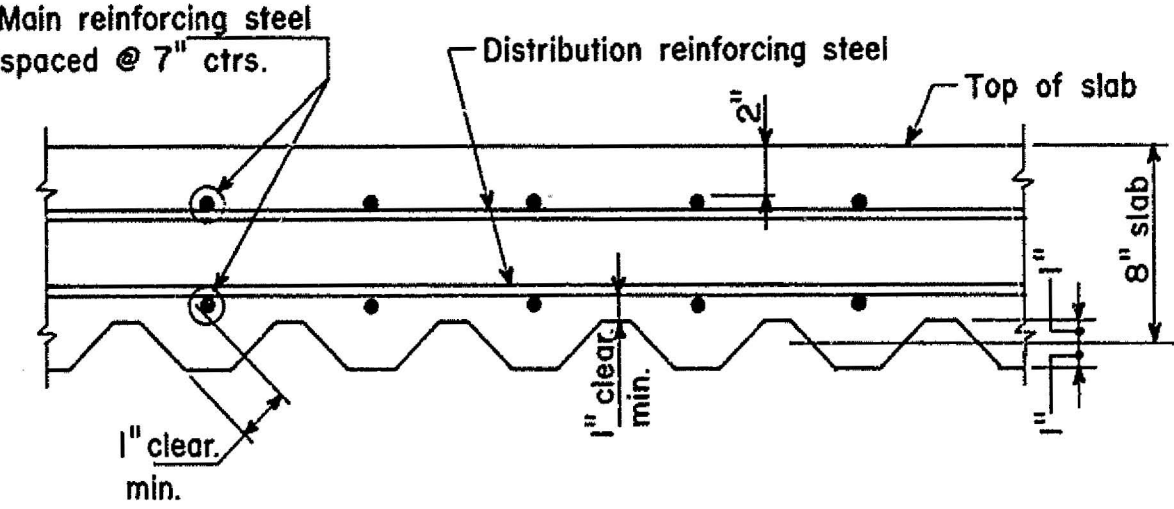
SCORE DETAIL
Scale: None



BARRIER RAIL DETAIL
Scale: 1" = 1'-0"



TOP FLANGE
LIMITS OF TENSION AND COMPRESSION AREAS
No Scale



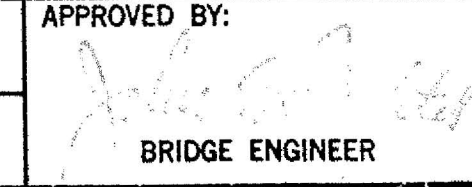
DECK & STEEL FORM SECTION
Scale: 1 1/2" = 1'-0"

Stay in Place Form Details

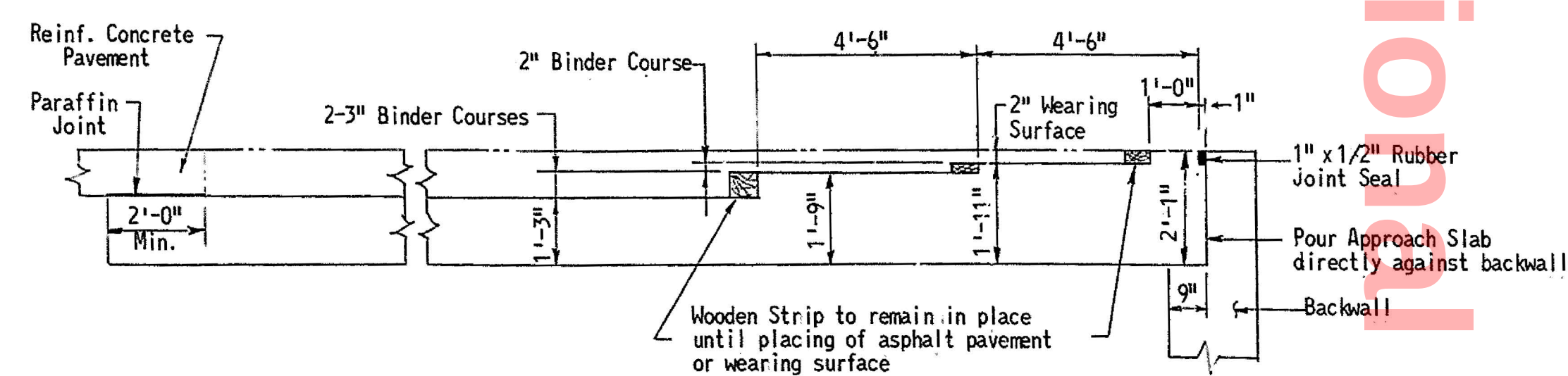
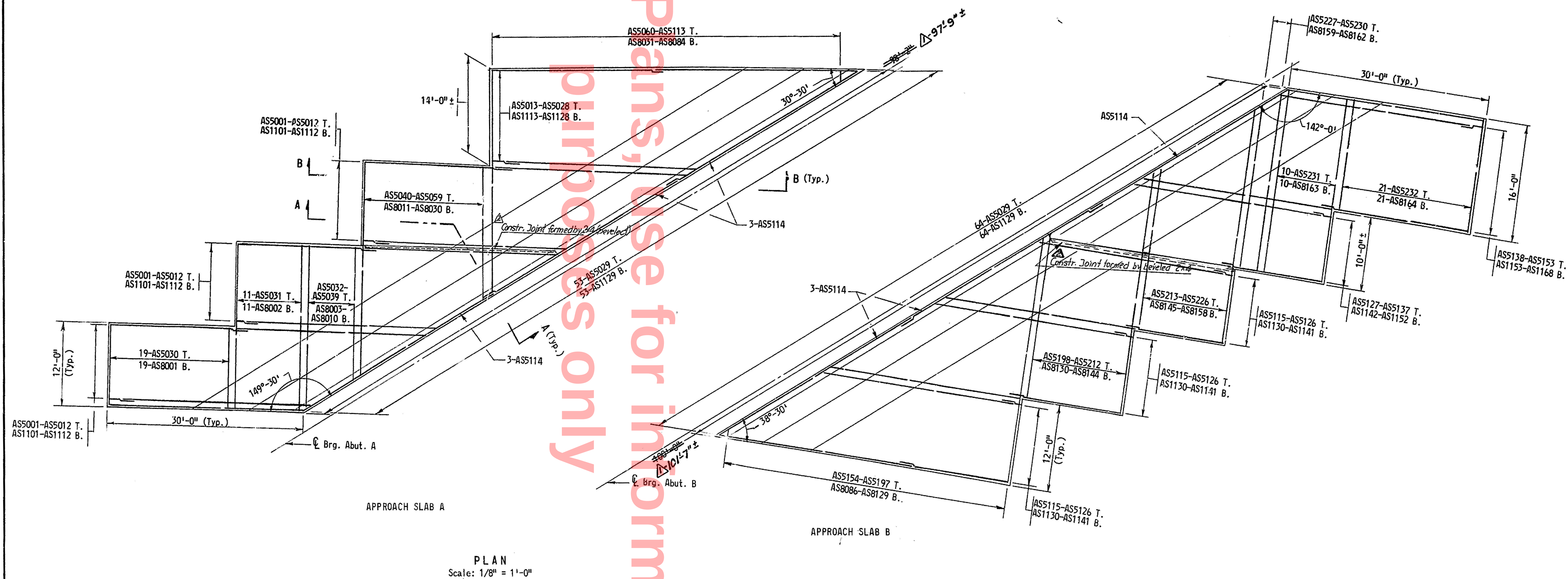
NOTE: Steel Forms to remain in place.
Min. required Moment Capacity: $M=1.000 \text{ K ft/ft}$
Min. required Inertia Moment: $I = .700 \text{ in}^4/\text{ft}$

NOTES:
For General Notes see Sheet No. 71.
For Reinforcing Schedule see Sheet No. 52.
Attachment of Guard Rail to the barrier rail shall be paid for under Section 715.
All exposed edges of concrete shall be chamfered 3/4" x 3/4" unless otherwise shown.

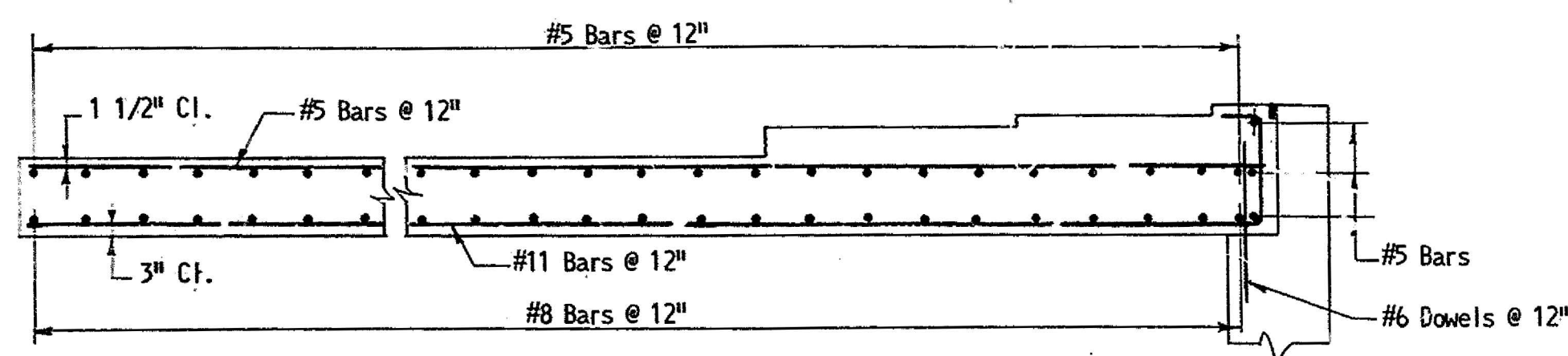
DELAWARE
STATE HIGHWAY DEPARTMENT
S.R. 141 OVER CENTERVILLE RD.
BARRIER, MEDIAN RAIL, PARKWAY
CURB & STAY IN PLACE FORMS

J. E. GREINER COMPANY, INC. CONSULTING ENGINEERS BALTIMORE, MARYLAND	D. T.G.	SCALE As Shown	APPROVED BY:  BRIDGE ENGINEER
	T. T.G.		
	C. K.K.S.	DATE	

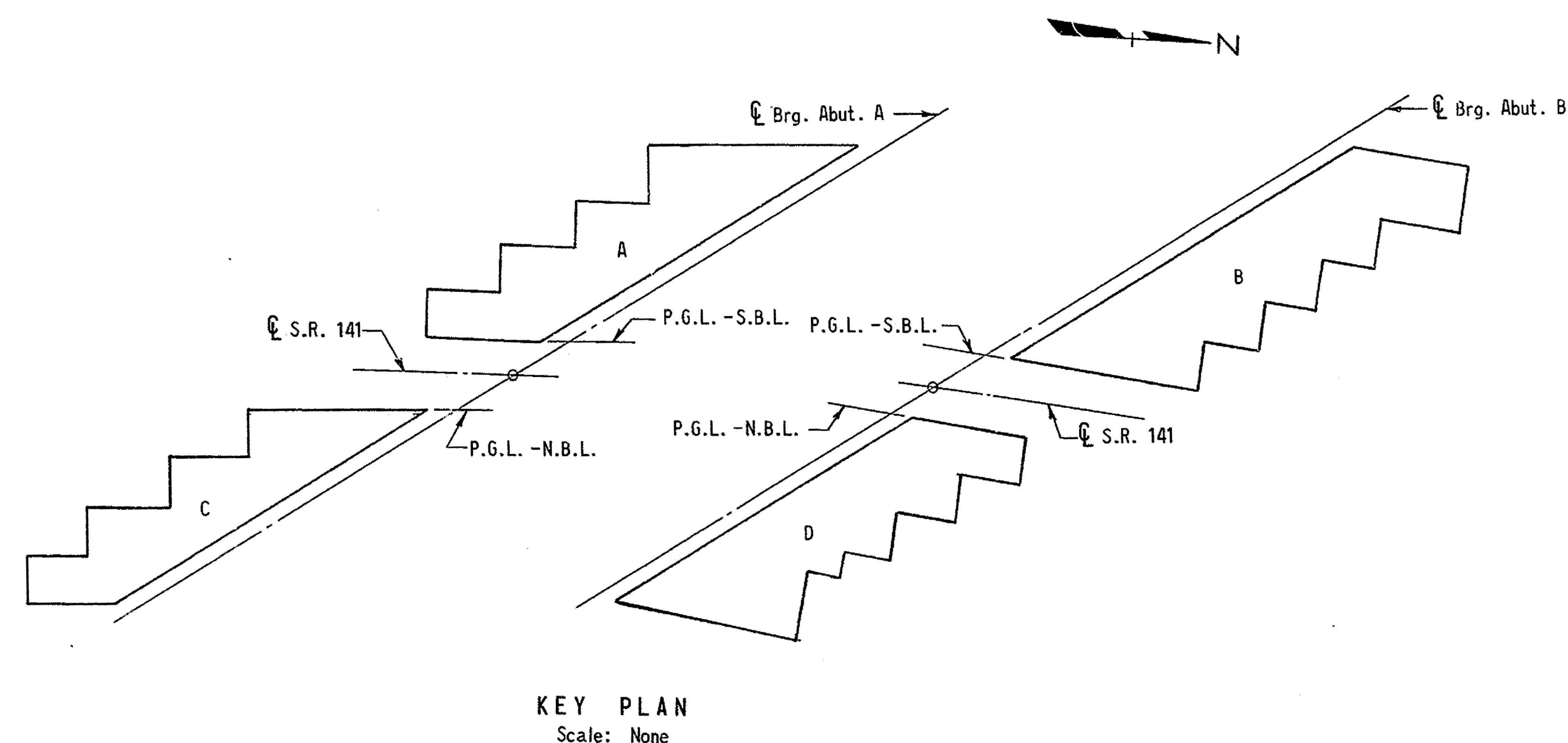
COUNTY	CONTRACT	P. R. A. REG. NO.	STATE	FED. AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
NEW CASTLE	69-02-002	2	DEL.			59	108



SECTION A - A
Scale: $\frac{3}{8}'' = 1'-0''$



SECTION B-B
Scale: 3/8" = 1'-0"



NOTES :

For General Notes, see Sheet No. 71.

For Reinforcing Schedule, see Sheet No. 60.

DELAWARE
STATE HIGHWAY DEPARTMENT

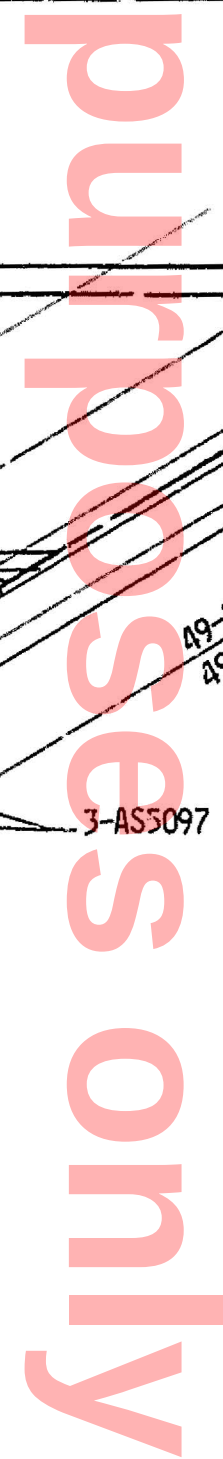
S. R. 141 OVER CENTERVILLE RD.
APPROACH SLABS A & B

J. E. GREINER COMPANY, INC.
CONSULTING ENGINEERS
BALTIMORE, MARYLAND

D.	E.E.B.
T.	T.G.
C.	E.B.W.

APPROVED BY: *John G. Roberts*
BRIDGE ENGINEER

1	Revised Dimension in Plan	B.G.S.	5-31-73
2	Construction Joints added	B.G.S.	8-16-74

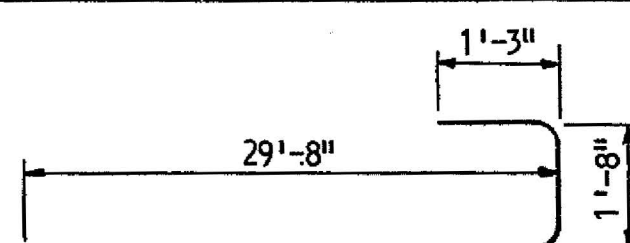


APPROACH SLAB D

REINFORCING SCHEDULE FOR SLABS C & D (N.B.L.)

[illegible]

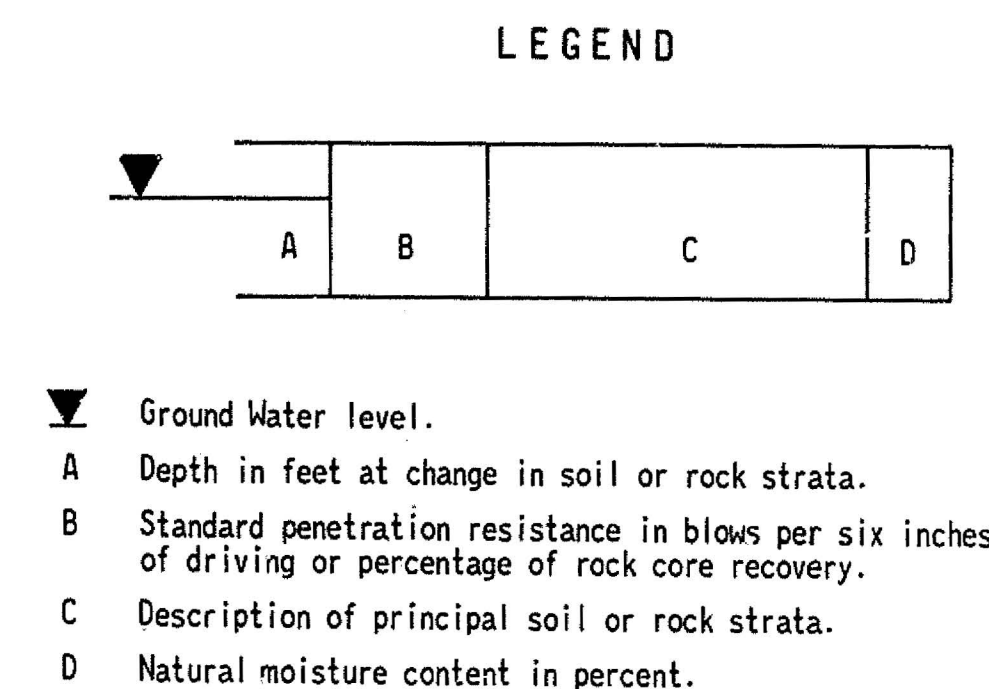
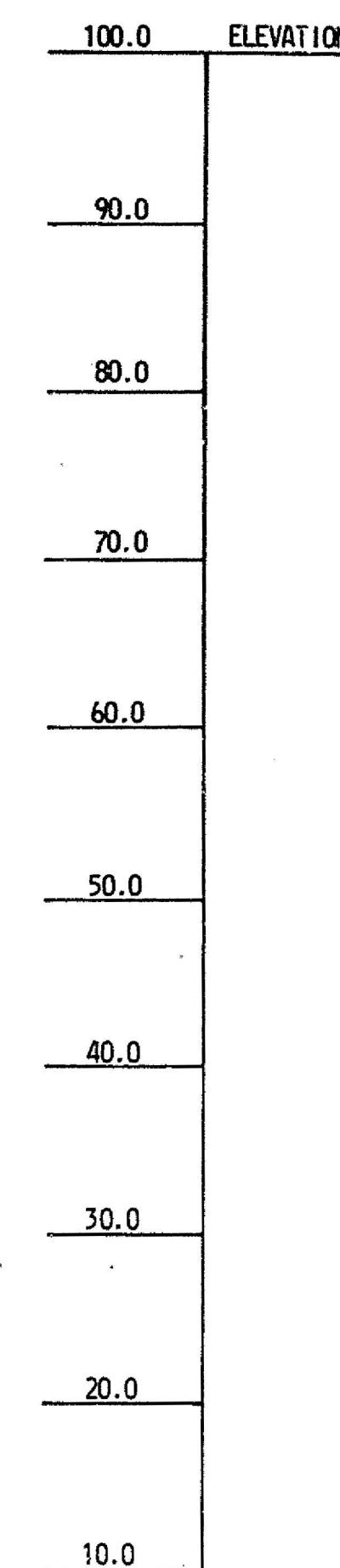
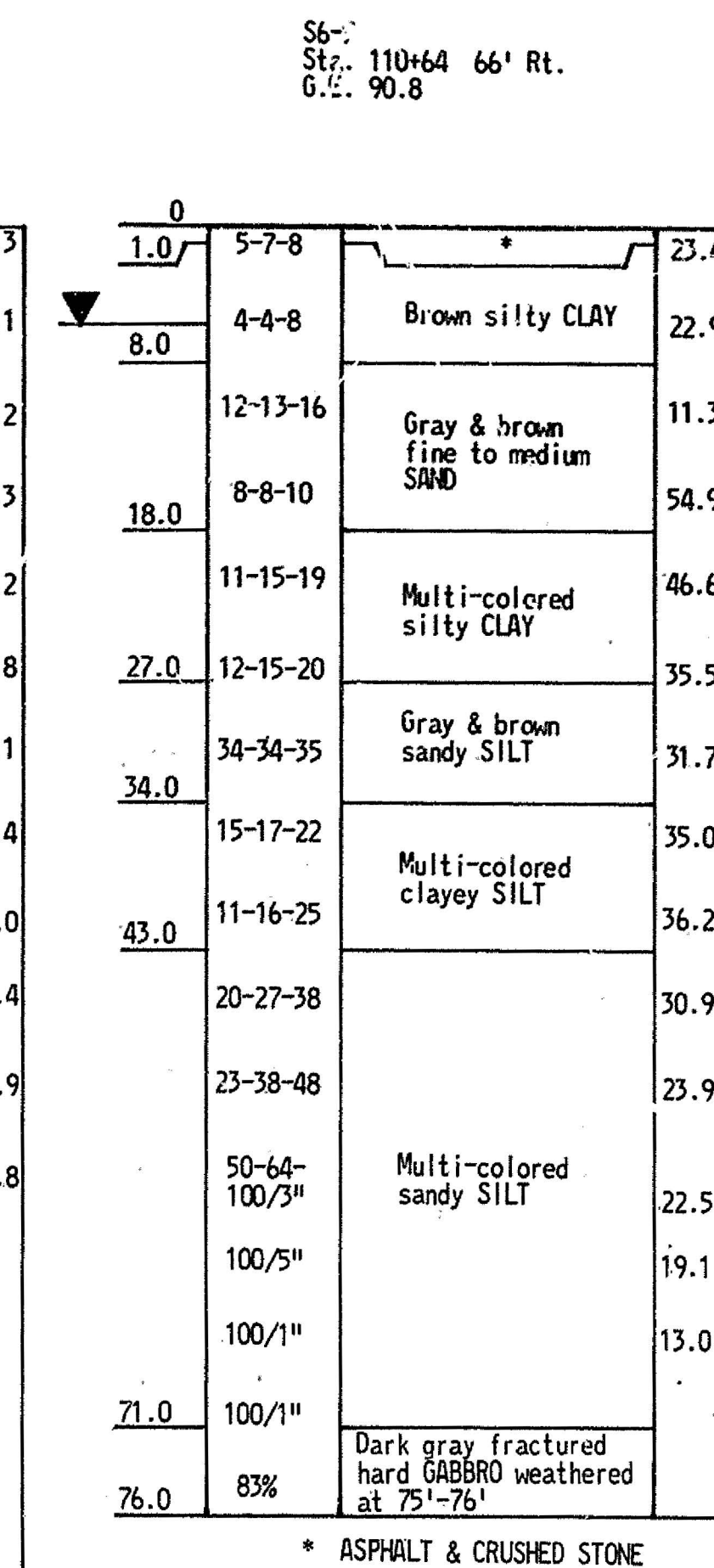
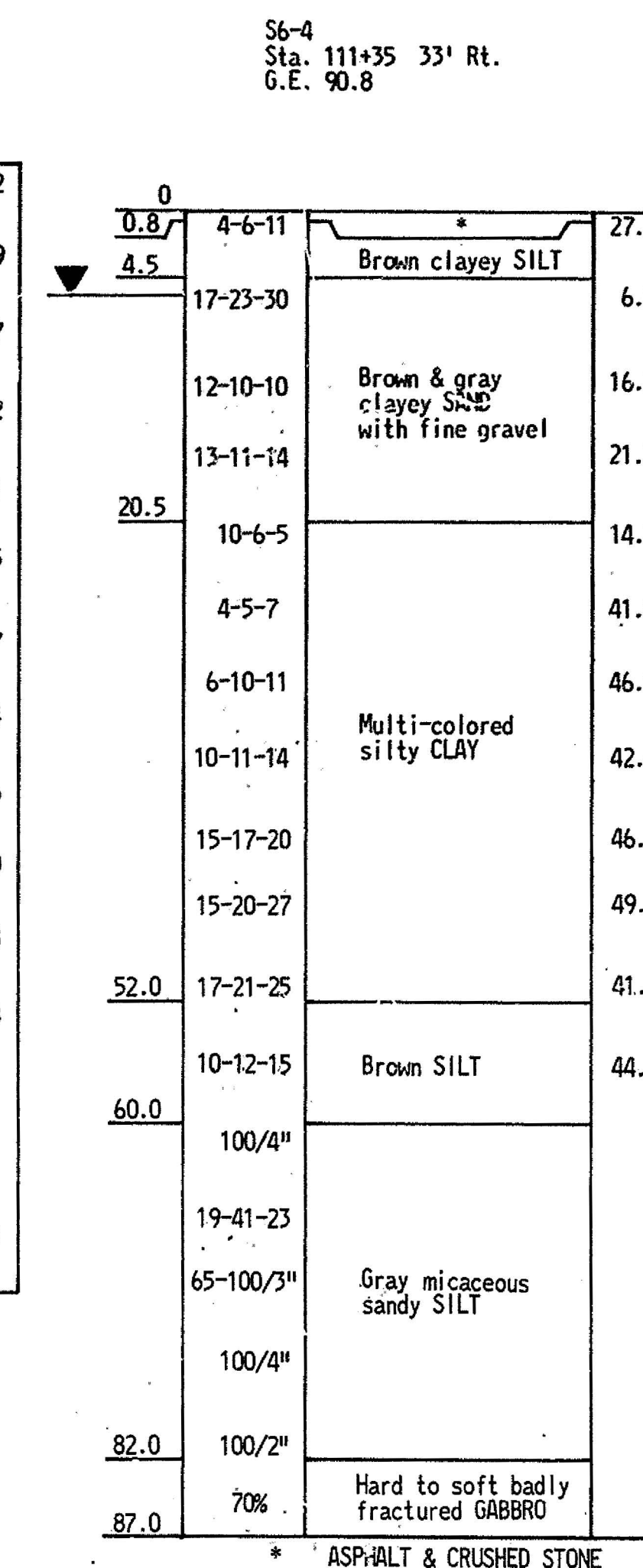
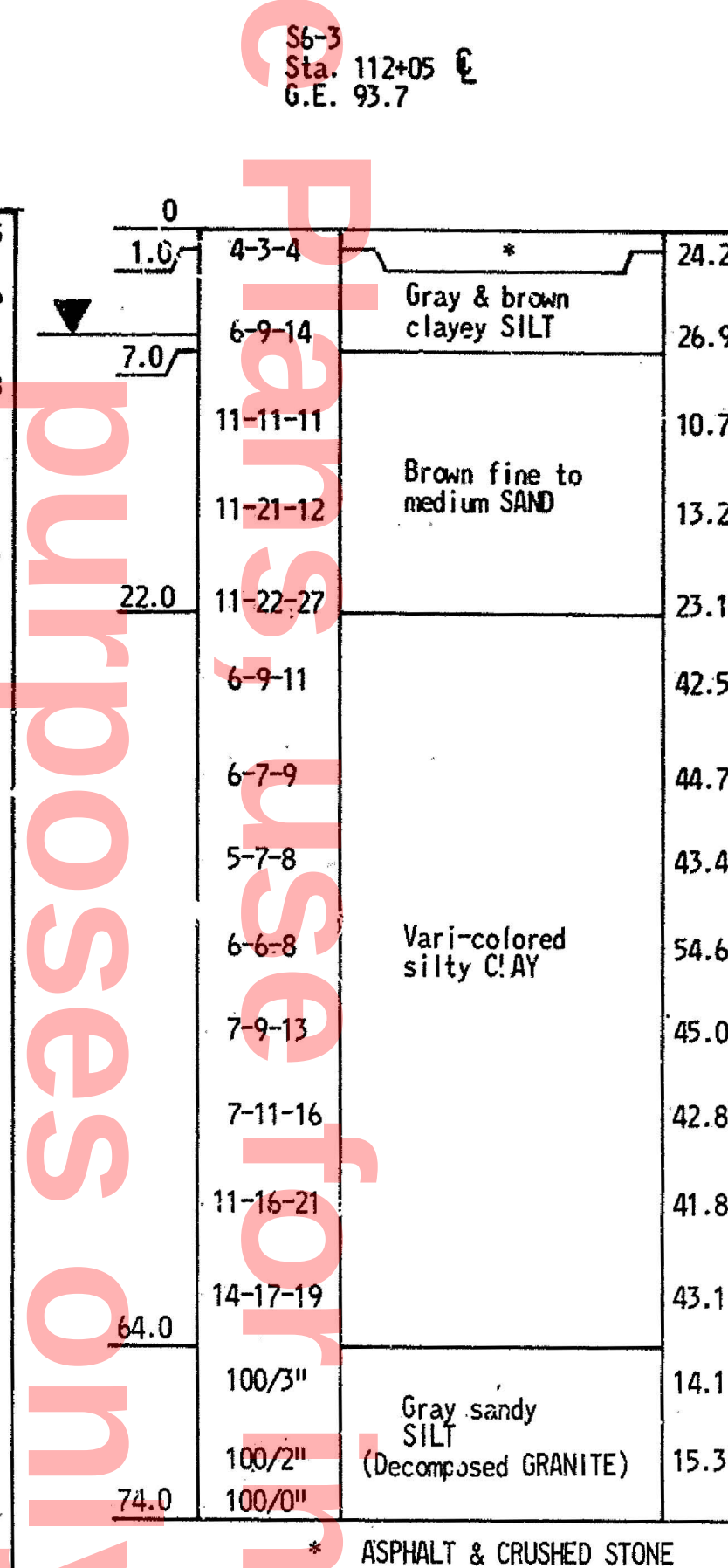
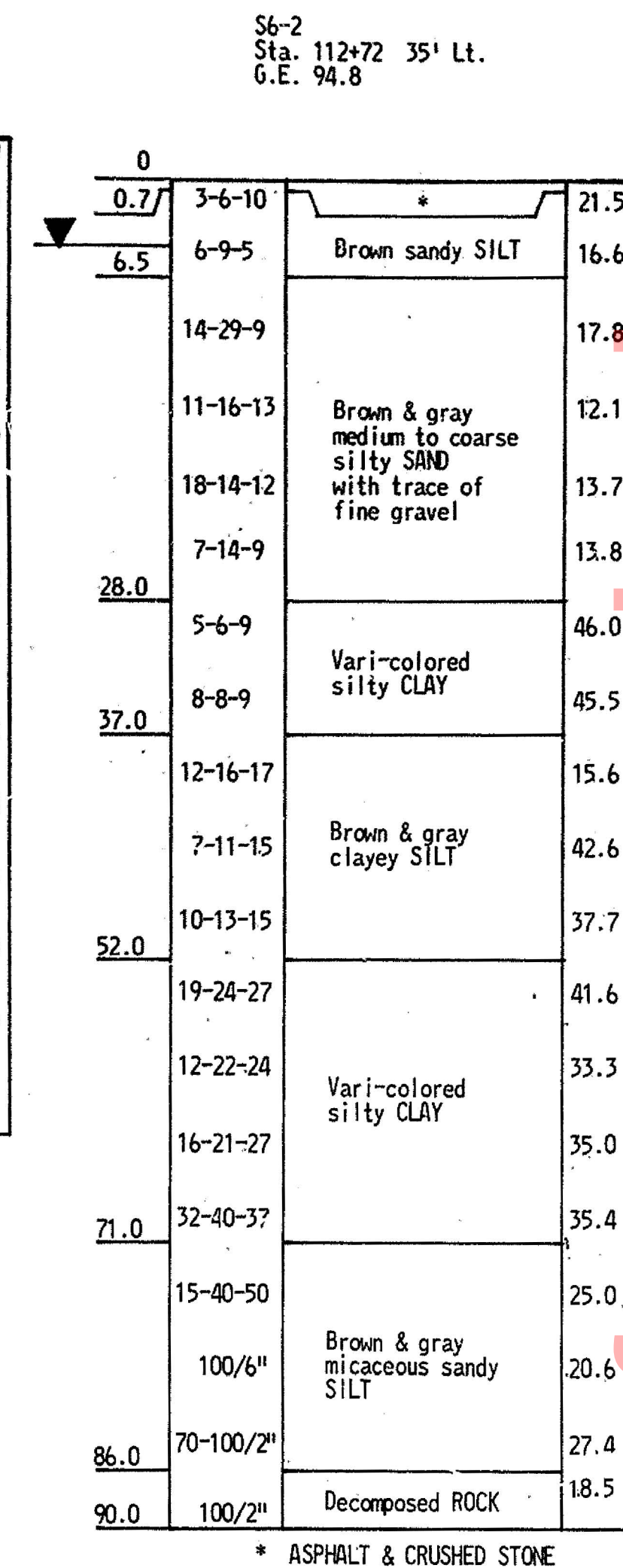
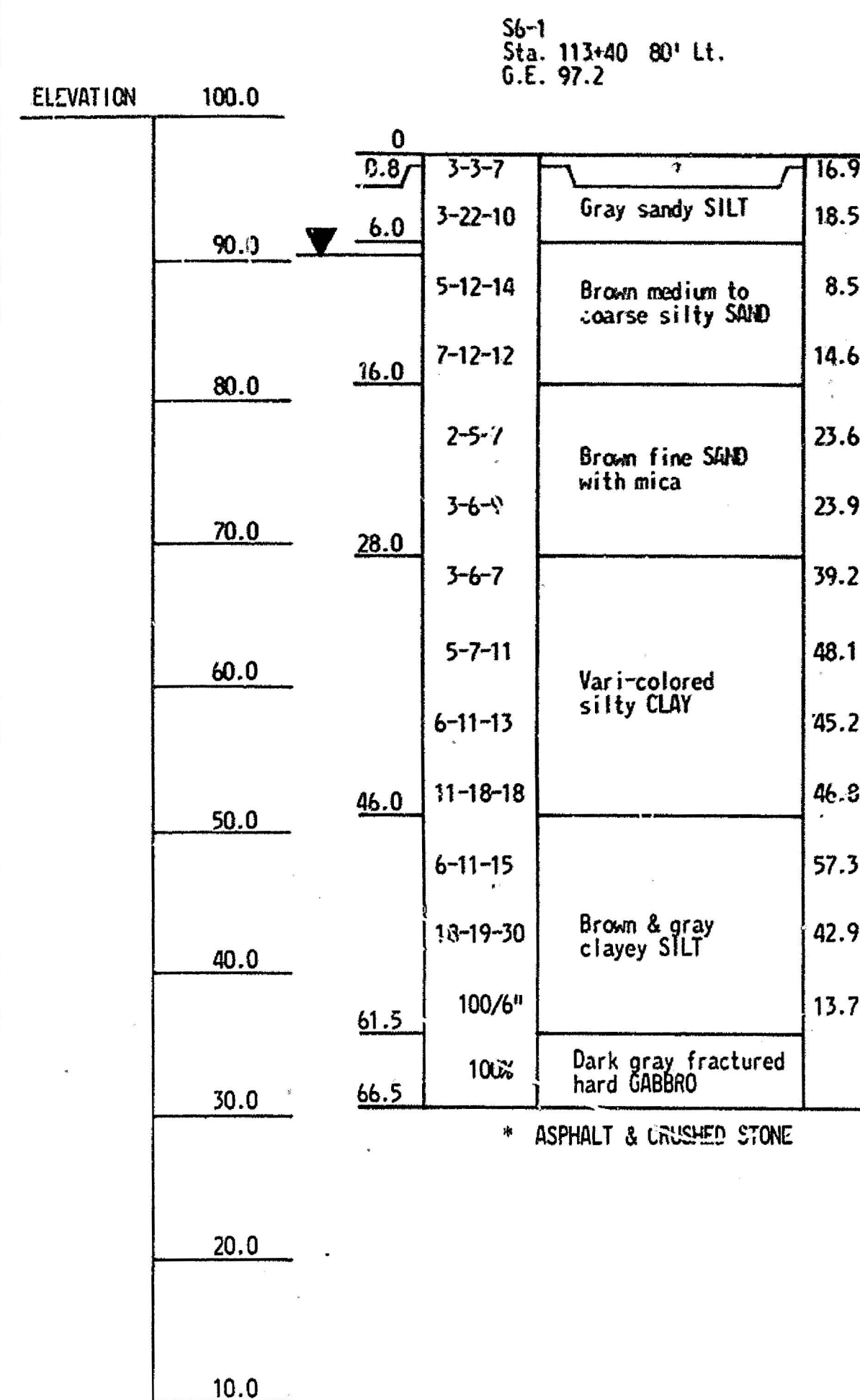
BENT BARS				
BAR MARK	NO.	SIZE	LENGTH	REMARKS
AS1113	111	11	32'-7"	



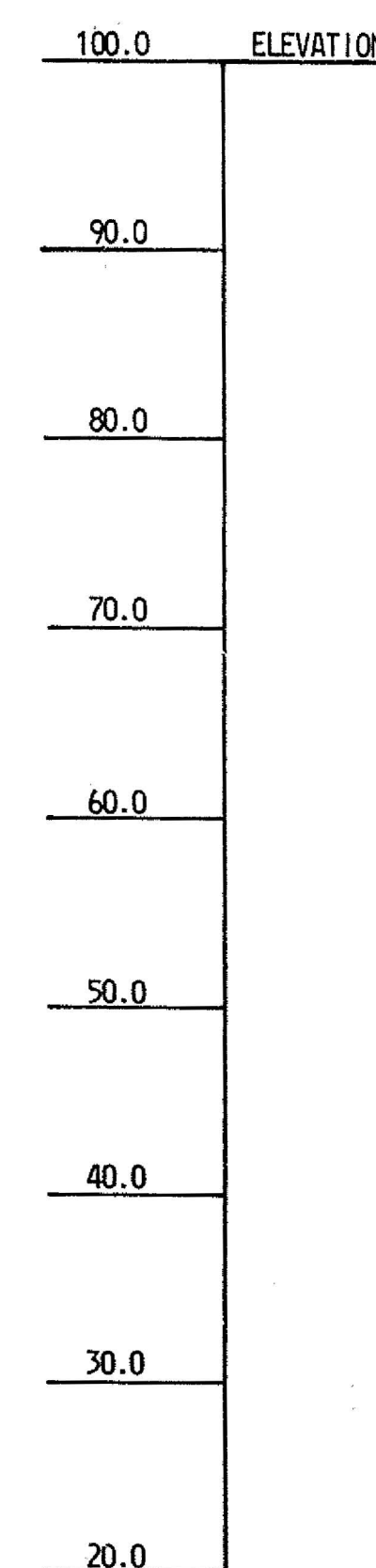
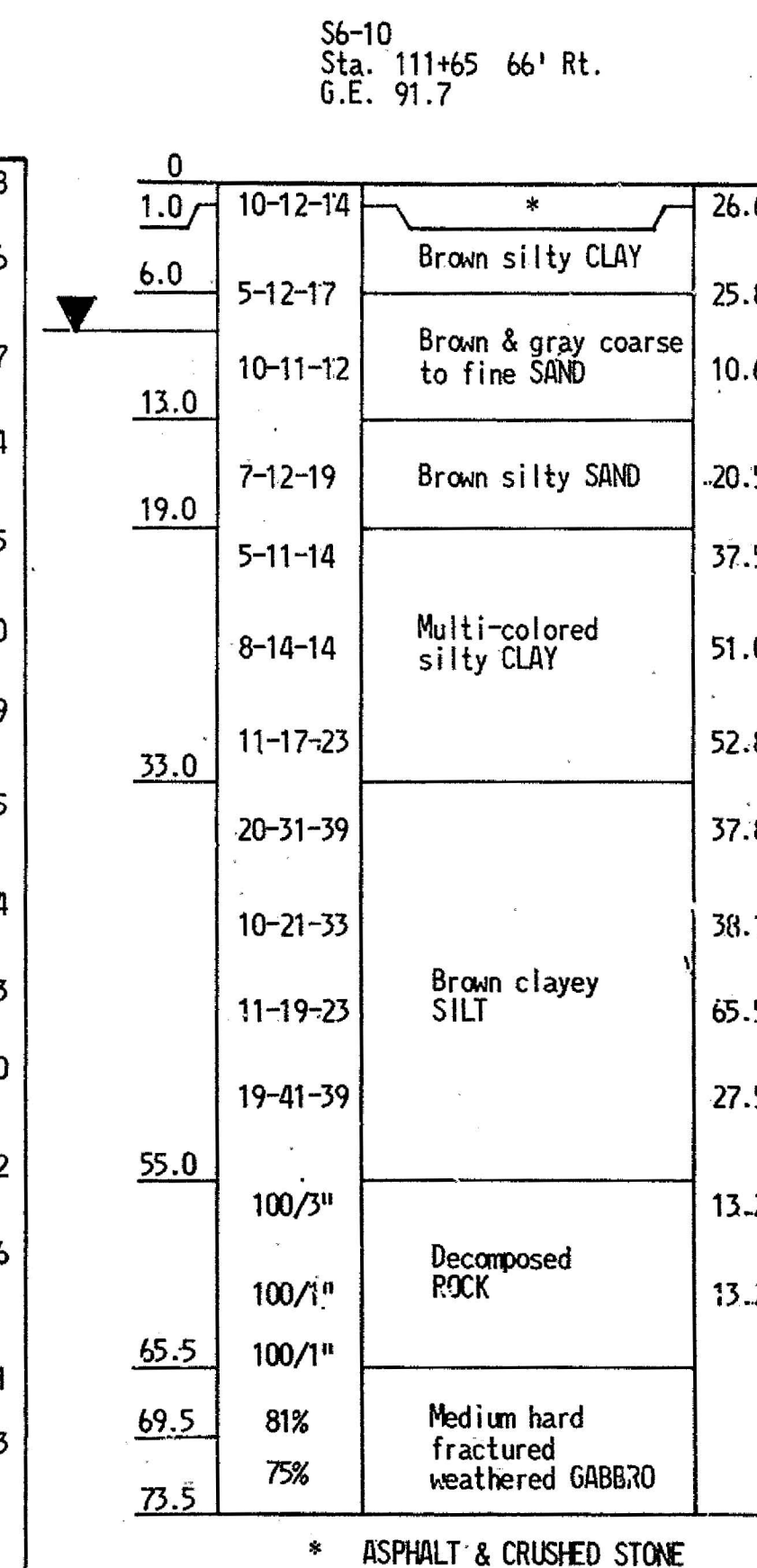
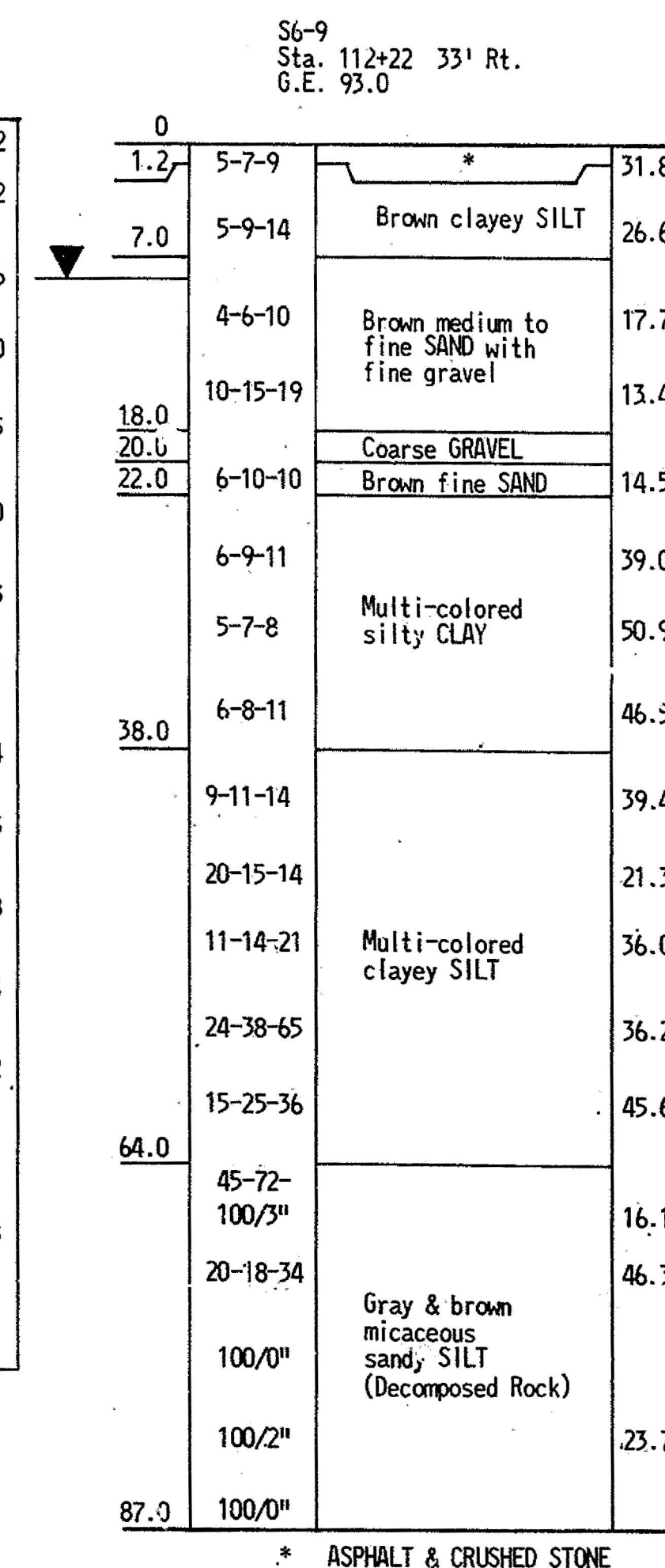
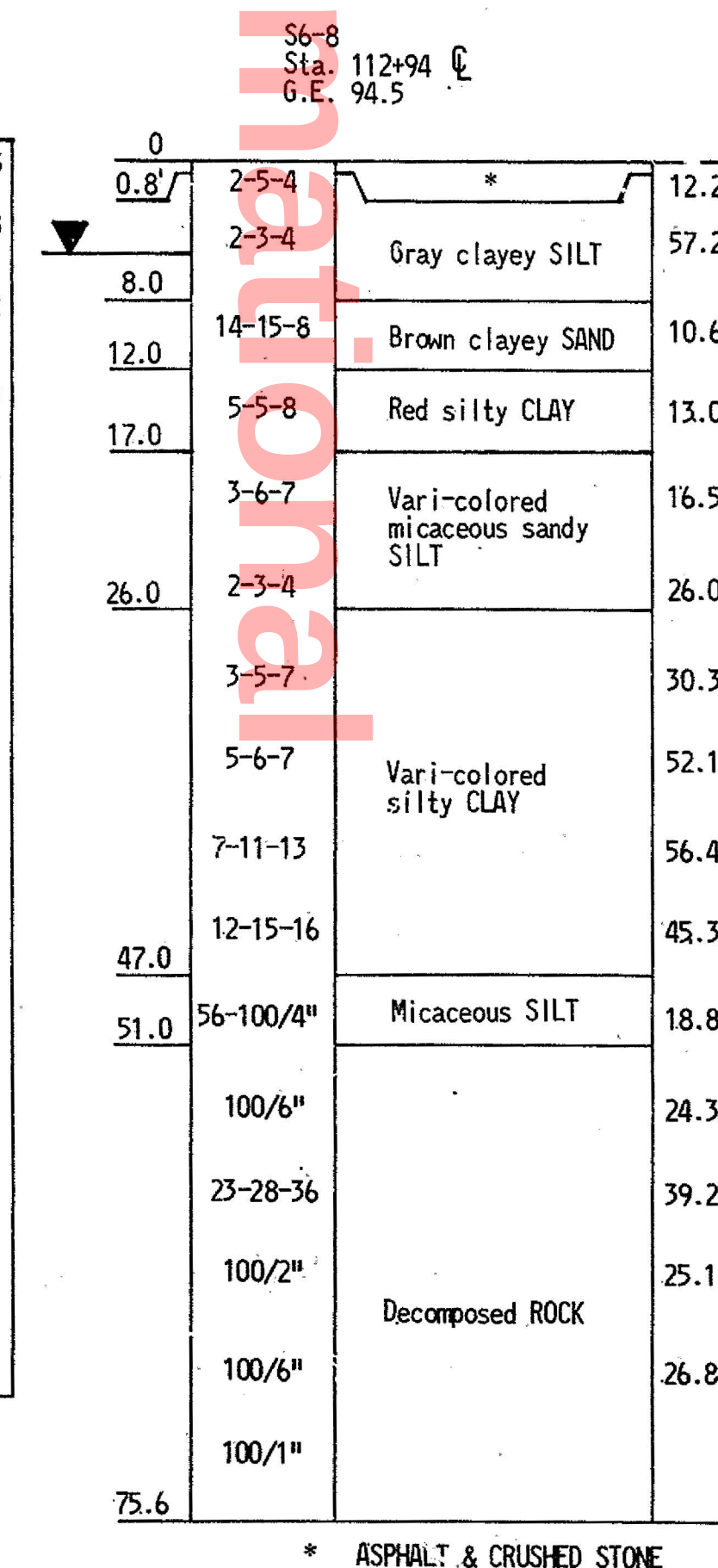
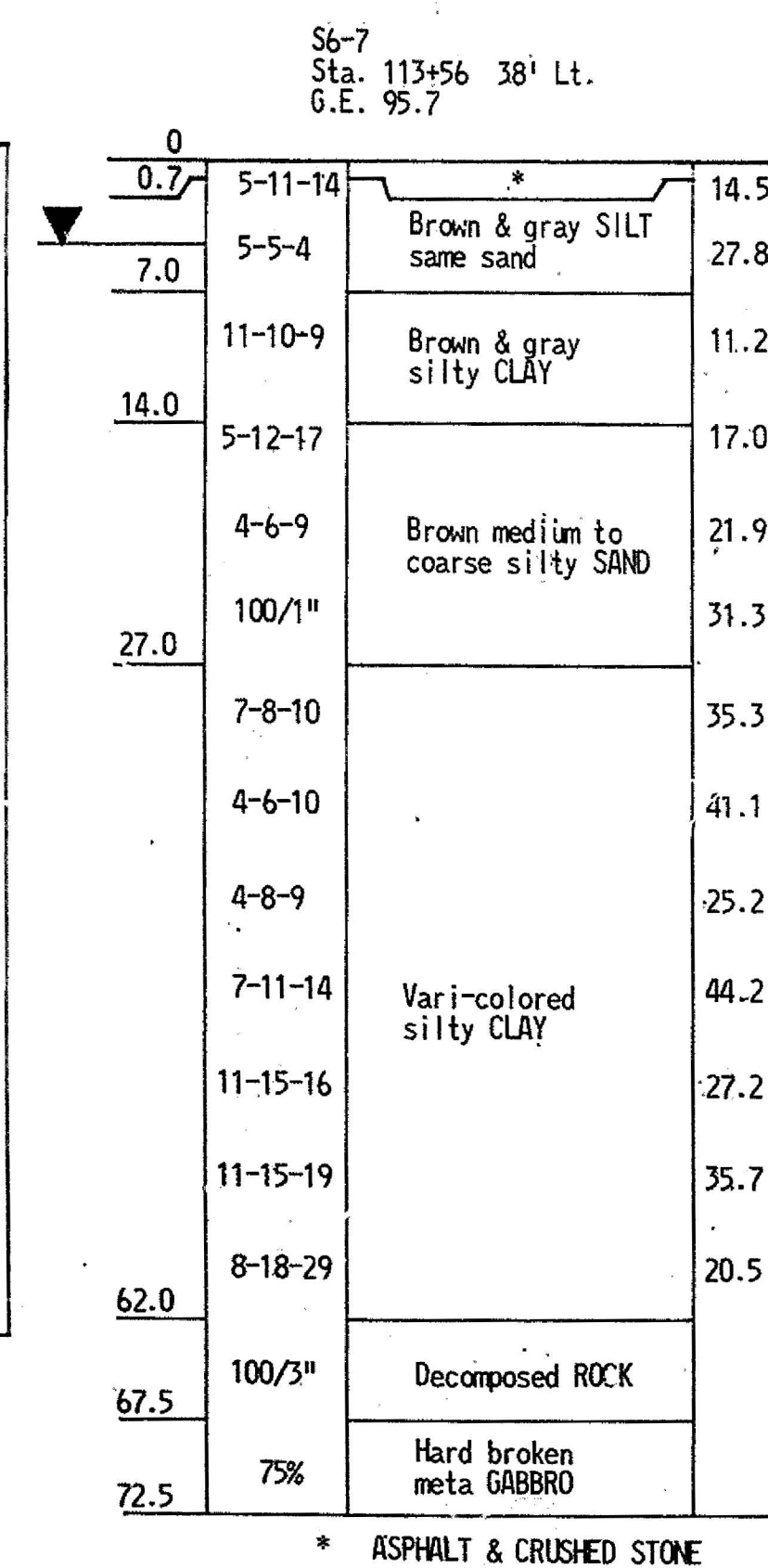
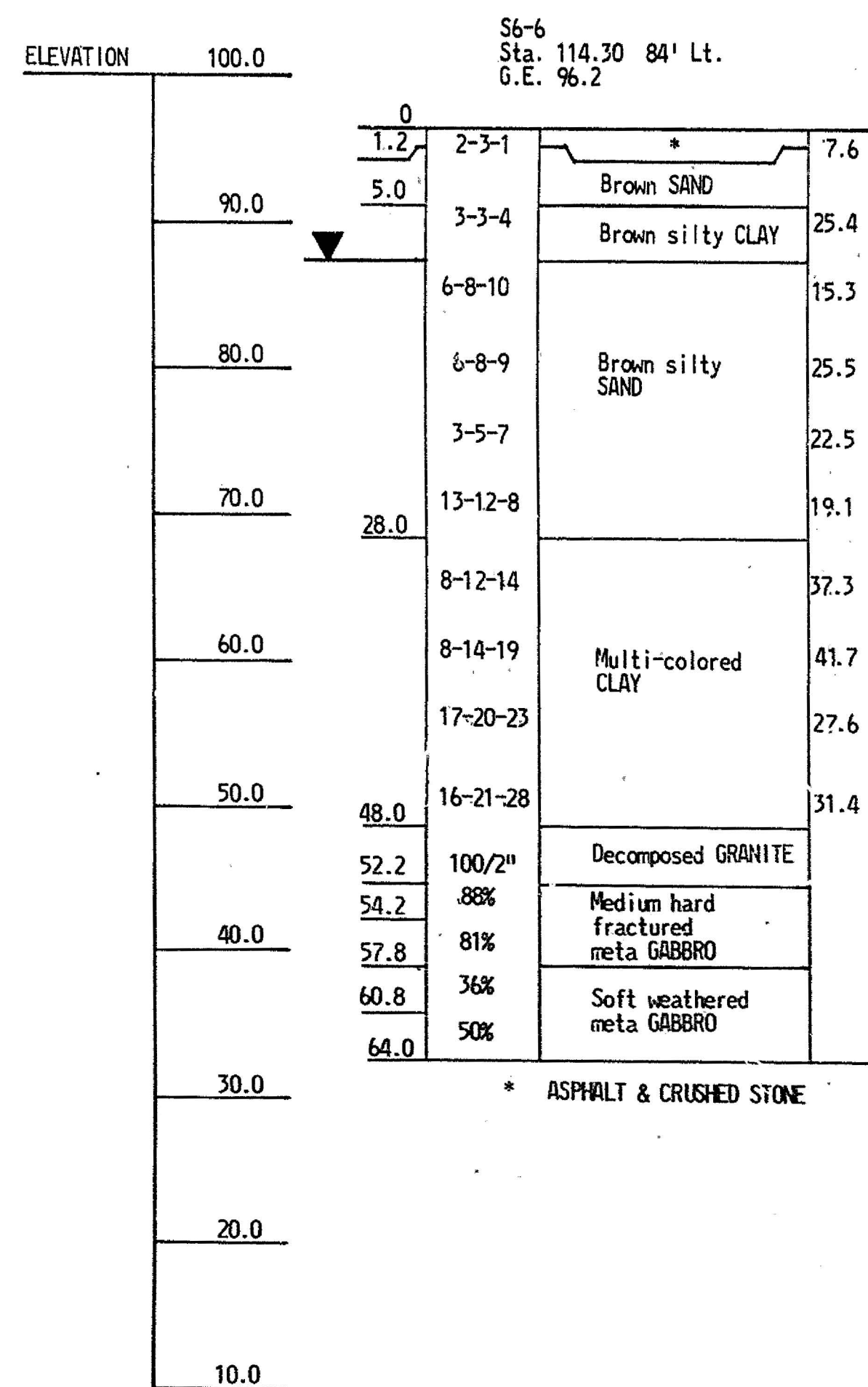
DELAWARE
STATE HIGHWAY DEPARTMENT

J. E. GREYNER COMPANY, INC.
CONSULTING ENGINEERS
BALTIMORE, MARYLAND

D. E.E.B.	SCALE	APPROVED BY:  BRIDGE ENGINEER
T. T.G.	As Shown	
C. E.B.W.	DATE	



NOTE:
Boring station and offset from C.S.R. 141.
Borings are 2 1/2" ID Casing with standard split spoon.



FOR INFORMATION ONLY

J. E. GREINER COMPANY, INC.
CONSULTING ENGINEERS
BALTIMORE, MARYLAND

DELAWARE
STATE HIGHWAY DEPARTMENT

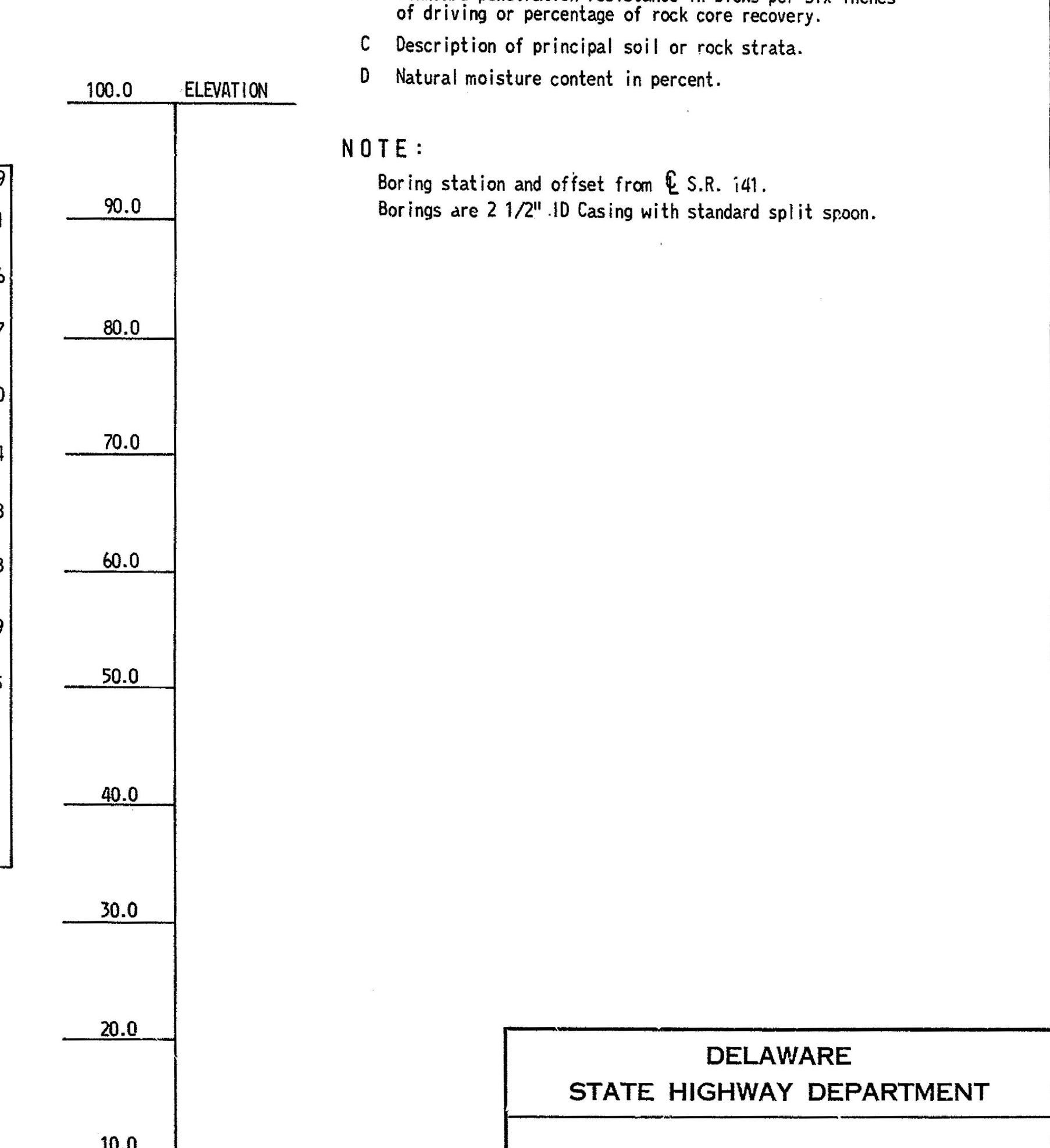
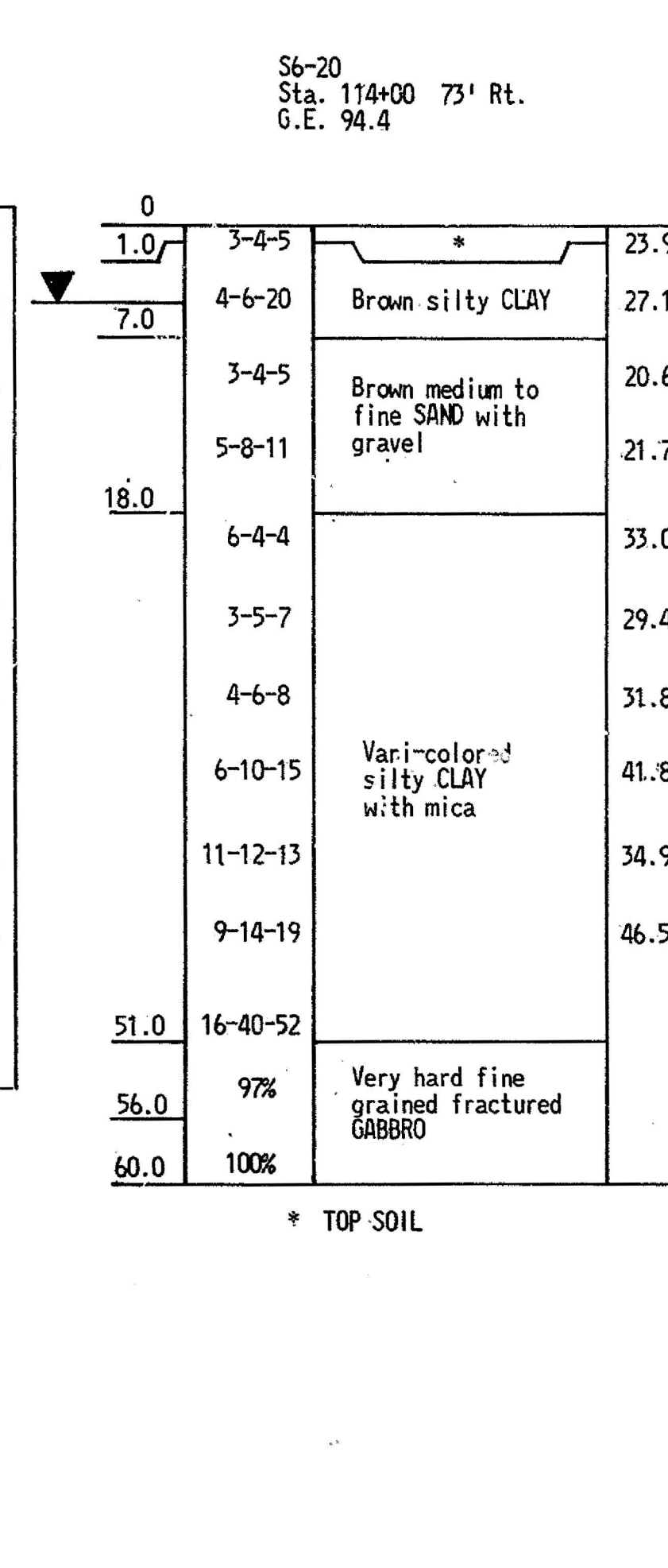
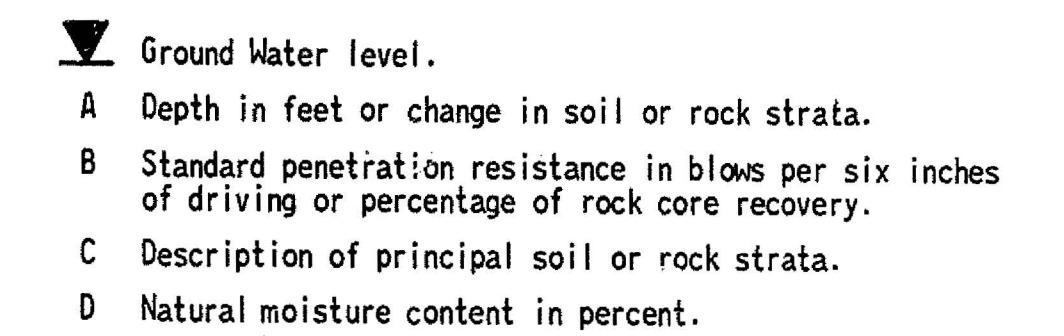
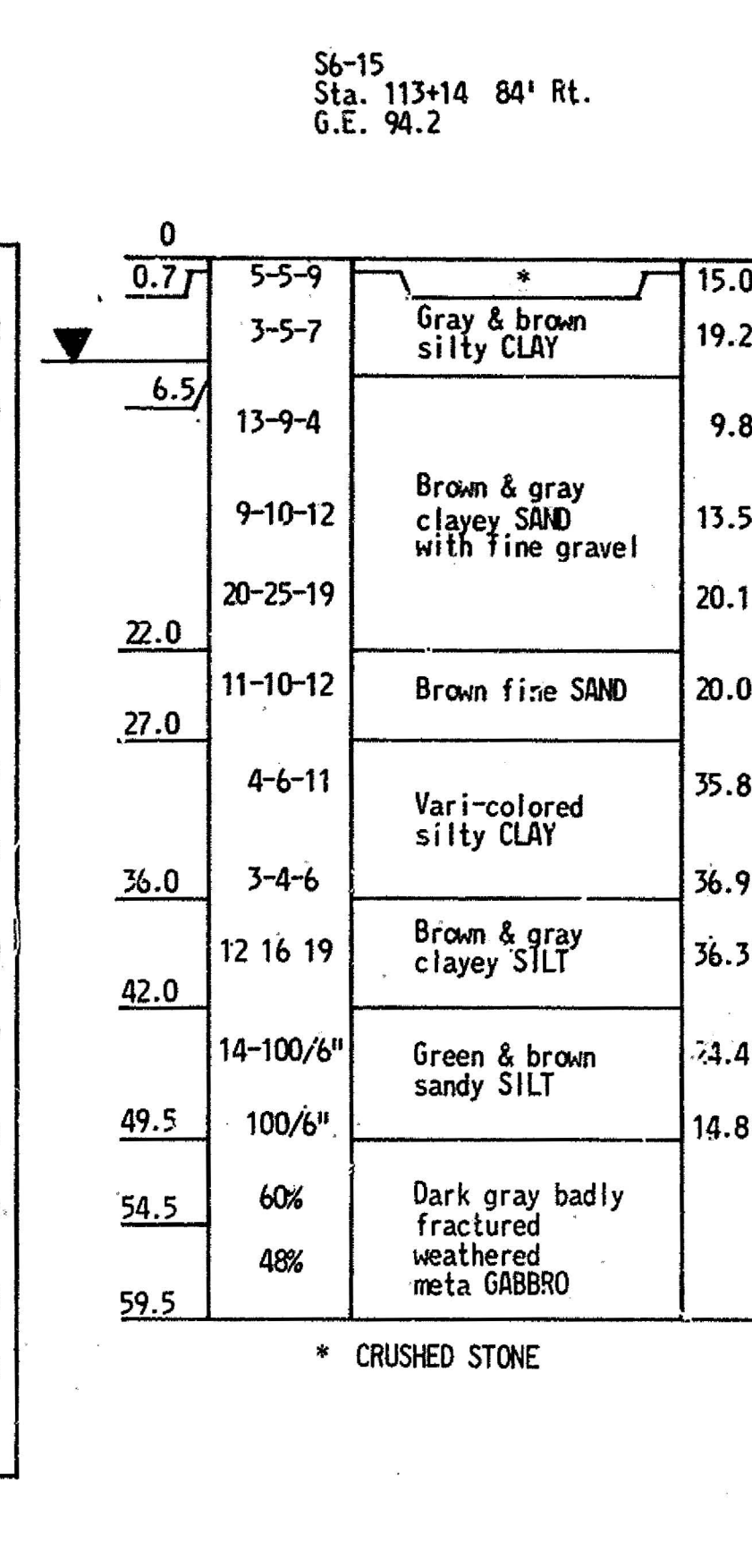
S. R. 141 OVER CENTERVILLE ROAD

BORING LOGS I

D. L.M.H.
T. H.A.S.
C. L.M.H.

SCALE
As Shown
DATE
9/13/78

APPROVED BY:
BRIDGE ENGINEER

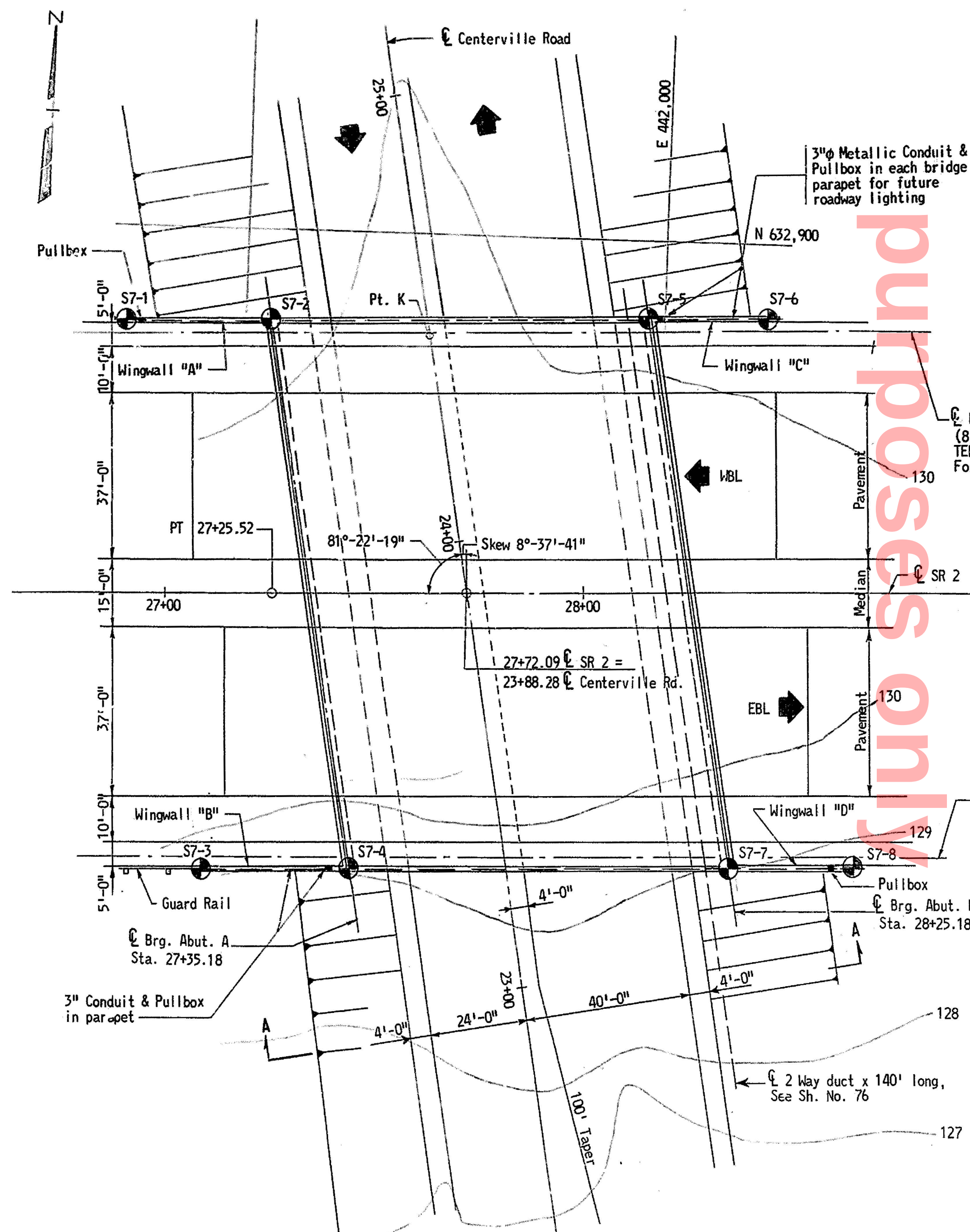
[illegible]

FOR INFORMATION ONLY

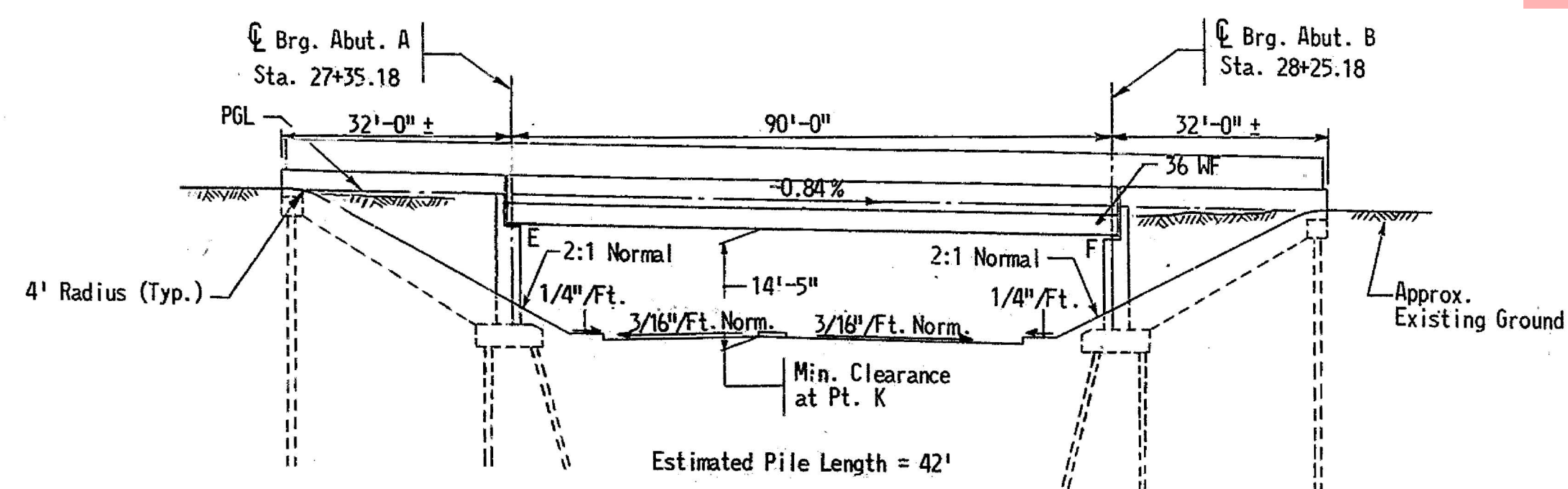
S. R. 141 OVER CENTERVILLE ROAD
BORING LOGS II

D.	L.M.H.	SCALE	APPROVED, BY:  BRIDGE ENGINEER
T.	H.A.S.	As Shown	
C.	L.M.H.	DATE 9/10/70	

COUNTY	CONTRACT	P. R. A. REG. NO.	STATE	FED. AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
NEW CASTLE	69-02-002	2	DEL.			64	108

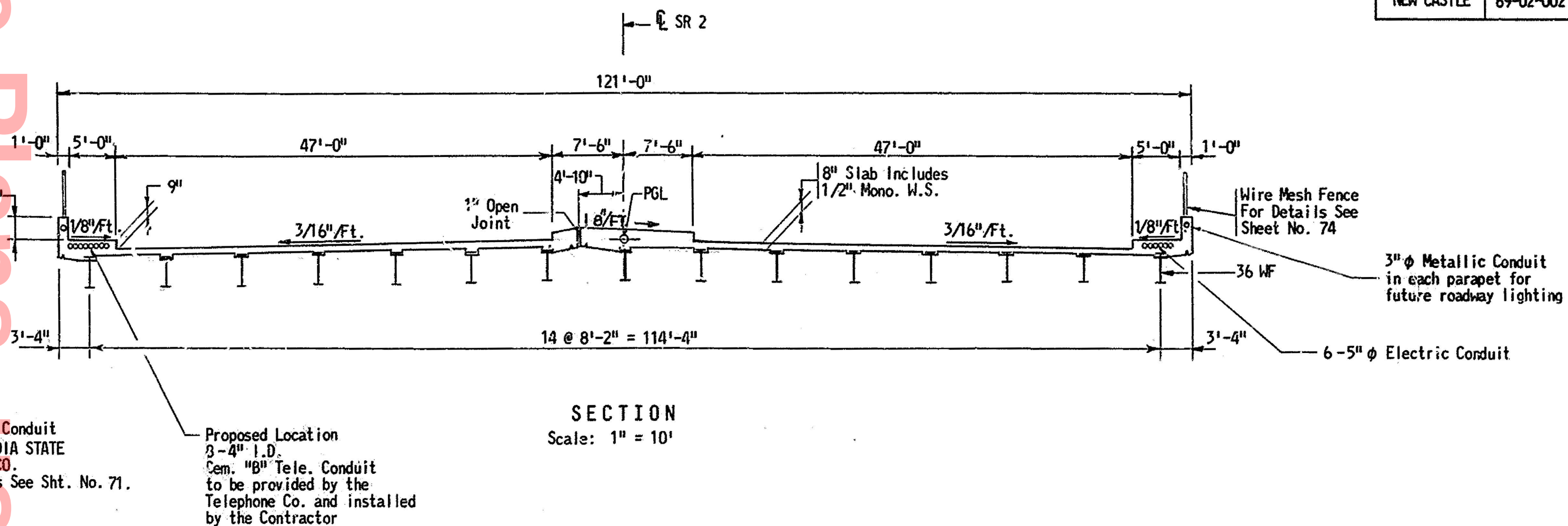


PLAN
Scale: 1" = 20'

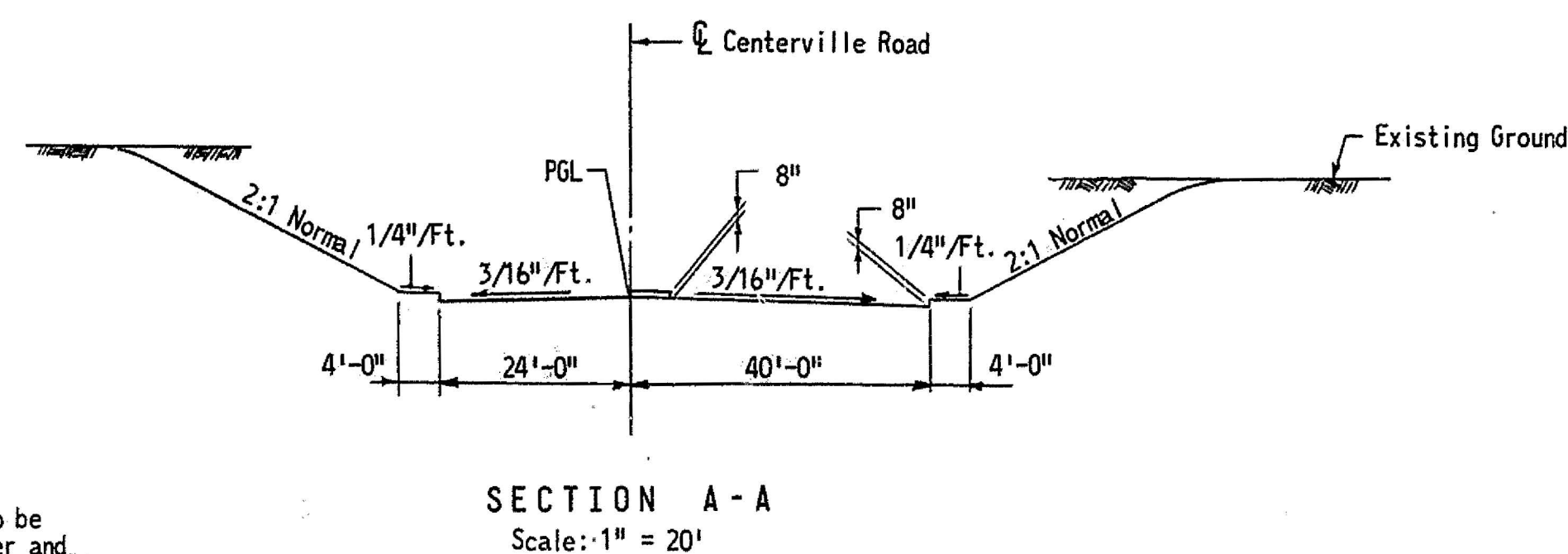


ELEVATION
Scale: 1" = 20'

Plans, use for informational purposes only

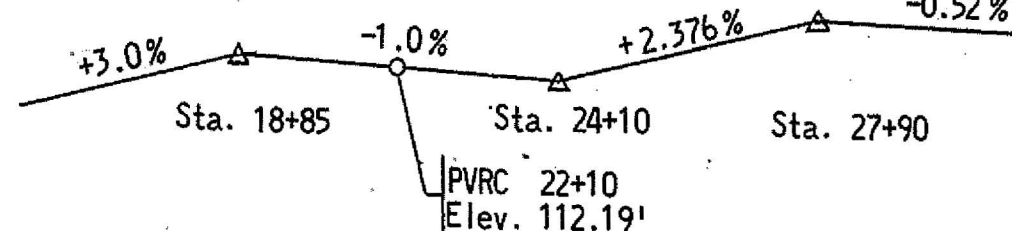


SECTION
Scale: 1" = 10'



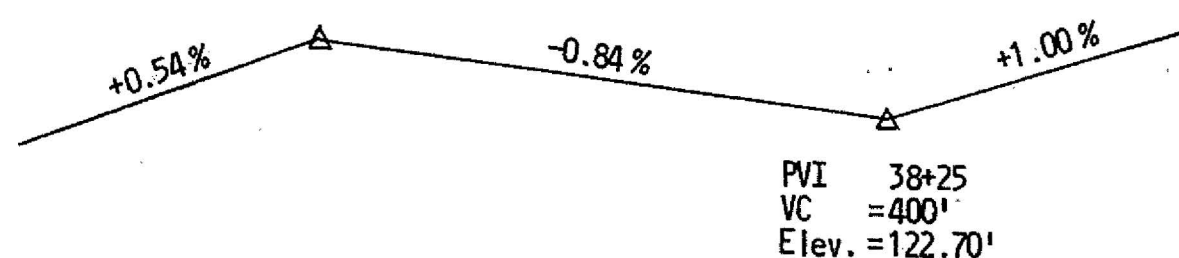
SECTION A-A
Scale: 1" = 20'

PVI = 18+85	PVI = 24+10	PVI = 27+90
VC = 650'	VC = 400'	VC = 360'
Elev. = 115.44'	Elev. = 110.19'	Elev. = 119.22'



CENTERVILLE ROAD PROFILE
Design Speed 50 M.P.H.

PVI = 25+50	PVI = 38+25
VC = 700'	VC = 400'
Elev. = 133.41'	Elev. = 122.70'



SR 2 PROFILE

NOTES:

- Specifications:
Construction: State of Delaware, State Highway Department Standard Specification, June 1970.
Design: A.A.S.H.O. Standard Specifications for Highway Bridges 1969, and 1970 Interim Specifications.
Dead Load: Concrete 150 lbs. per cu. ft.
Future Wearing Surface 25 lbs. per sq. ft.
Live Load: HS 20-44.
Unit Stress: Reinforcing Steel (Intermediate Grade) $f_s = 20,000$ p.s.i.
Concrete $f'_c = 4,500$ p.s.i., $f_c = 1,200$ p.s.i.
Structural Steel (A-588) $f_s = 27,000$ p.s.i.
Superstructure: Concrete Deck - Steel Beam construction.
Composite action under live load.
Traffic Data: SR 2 EBL
DHV = 1877
Design Speed = 60 M.P.H.
SR 2 WBL
DHV = 1812
Design Speed = 60 M.P.H.
Boring Locations: 2 1/2" ID Borings.

DELAWARE
STATE HIGHWAY DEPARTMENT

S.R. 2 OVER CENTERVILLE ROAD

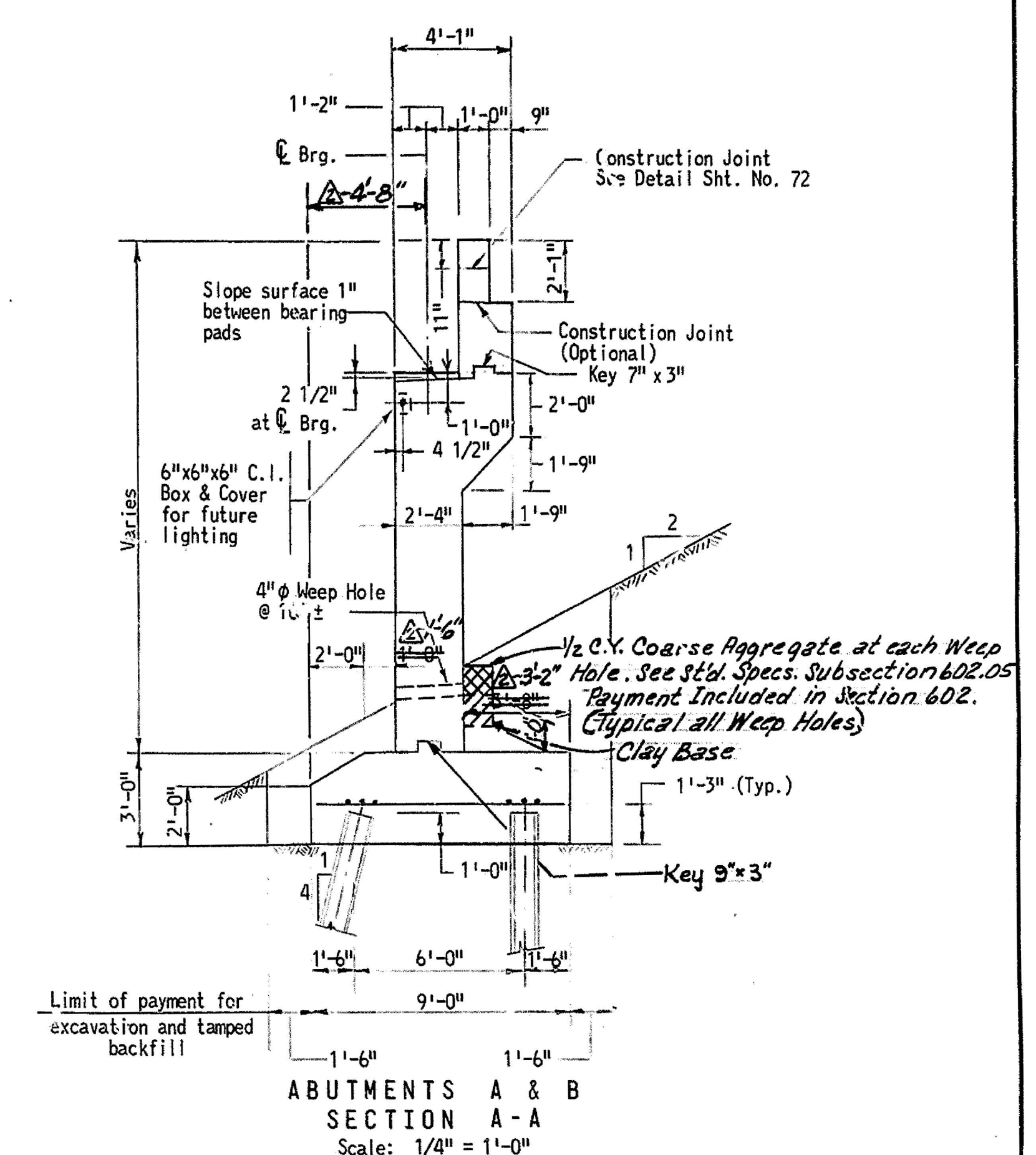
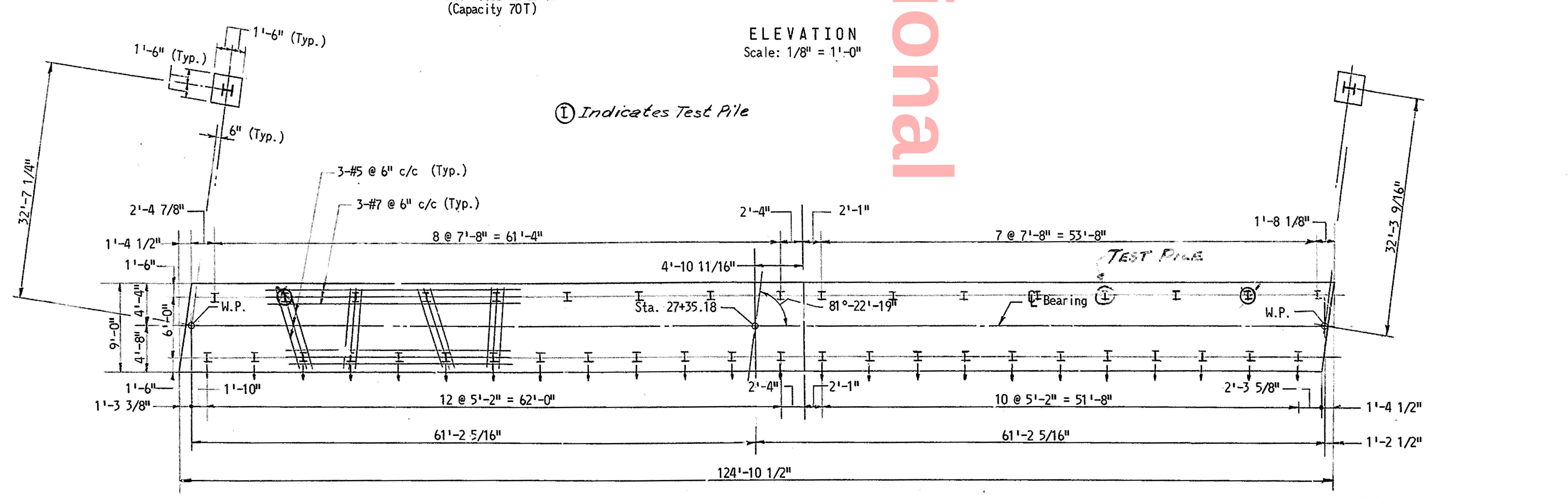
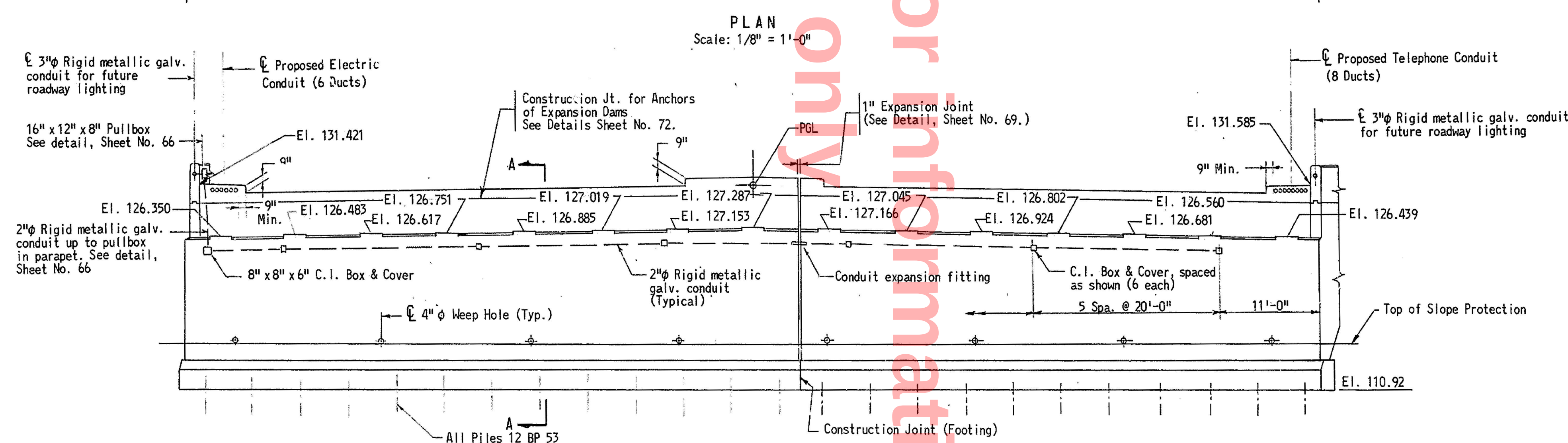
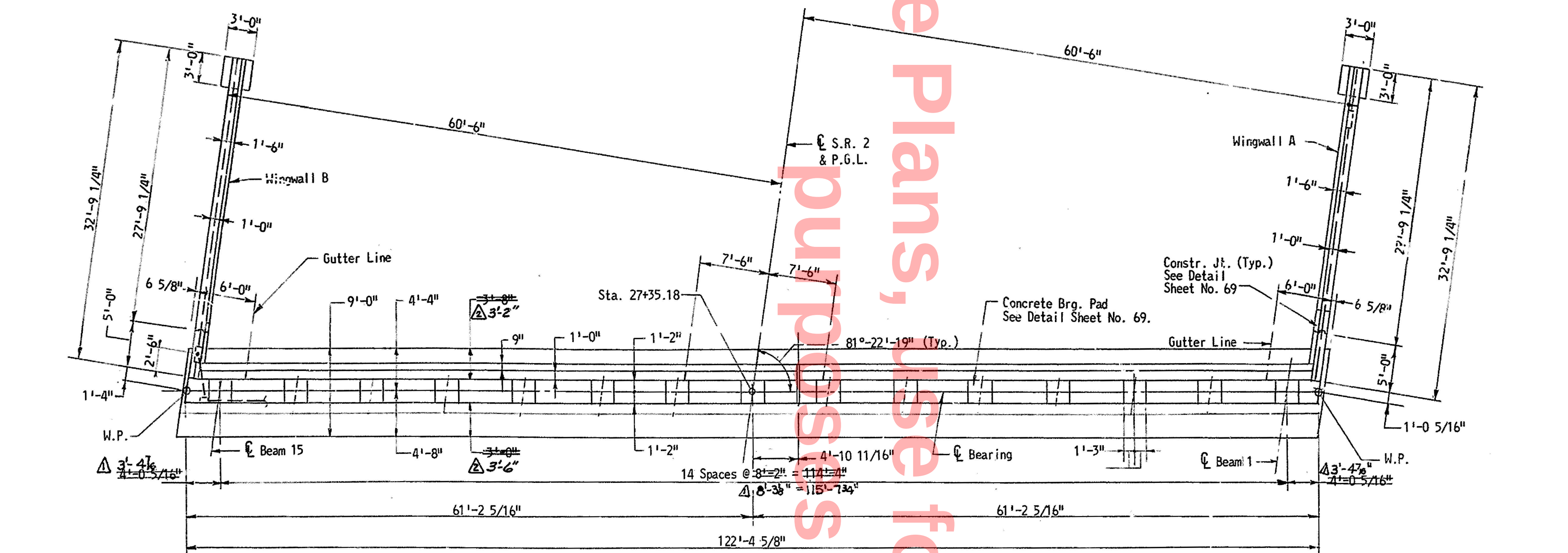
SITE PLAN

J. E. GREINER COMPANY, INC.
CONSULTING ENGINEERS
BALTIMORE, MARYLAND

D. T.G.
T. T.G.
C. B.S.C.

SCALE
As Shown
DATE
March 7, 1970

APPROVED BY:
John W. Greiner
BRIDGE ENGINEER

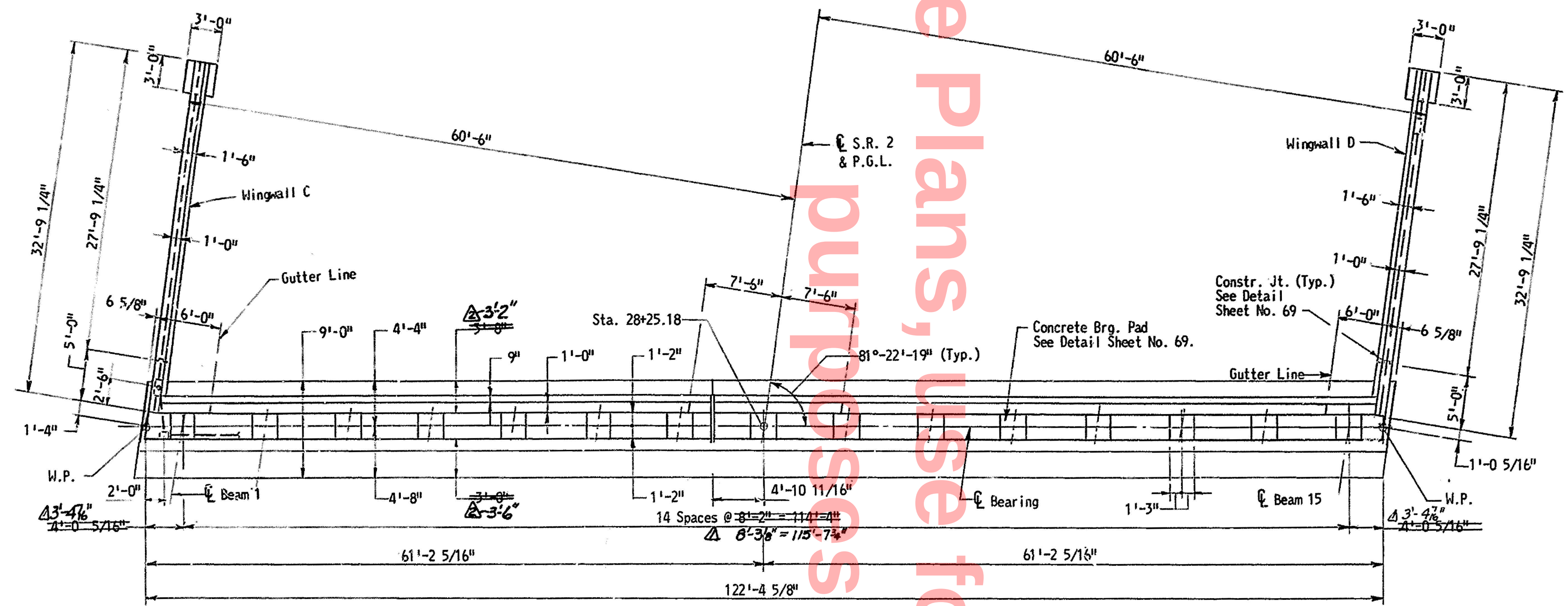


NOTES:
For General Notes, see Sheet No. 71.
For granular material at weep holes, see Standard Specifications.

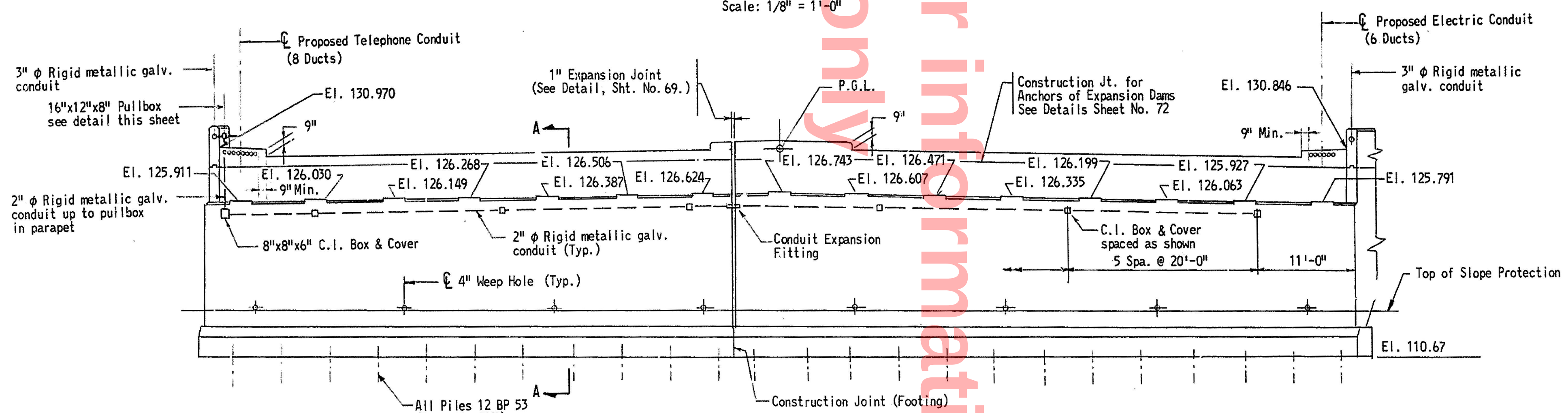
DELAWARE STATE HIGHWAY DEPARTMENT		
S. R. 2 OVER CENTERVILLE ROAD ABUTMENT A		
J. E. GREINER COMPANY, INC. CONSULTING ENGINEERS BALTIMORE, MARYLAND	SCALE As Shown DATE	APPROVED BY: <i>John S. Greiner</i> BRIDGE ENGINEER

Dimension Change per Consultant report, Oct. 9, 72, BGS.
Change Dimensions of Plan & Section of Abutment June 12, 1973 T.H.F.
A.B. 12-12-73

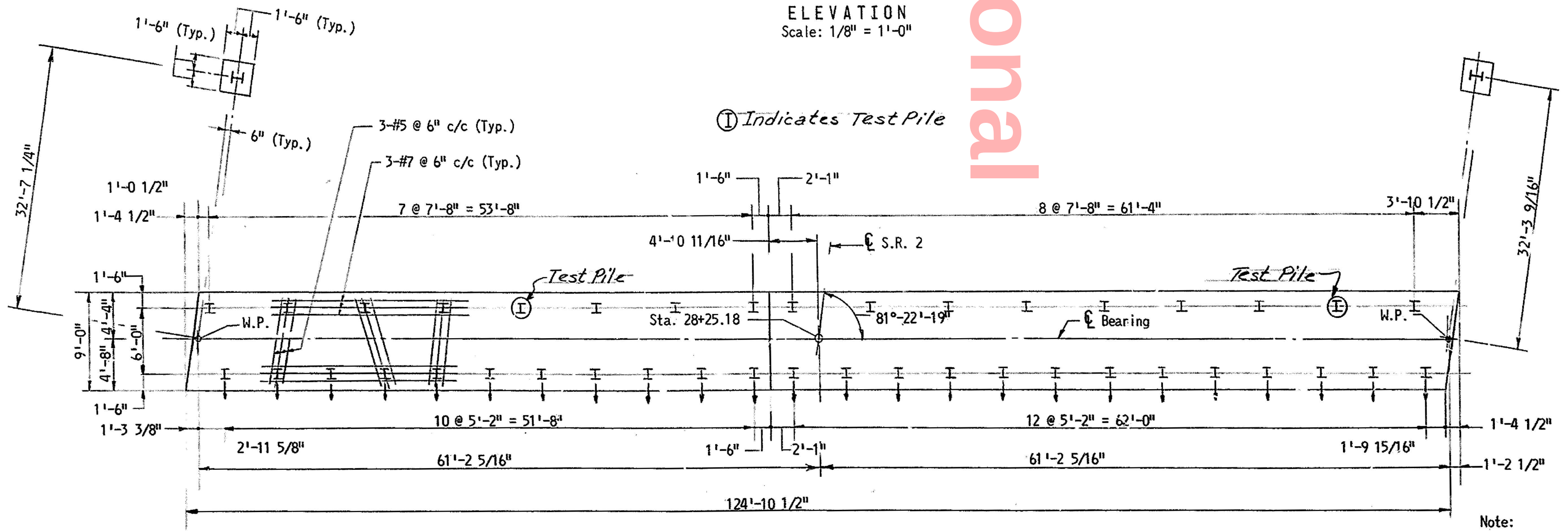
COUNTY	CONTRACT	P. & A. REG. NO.	STATE	FED. AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
NEW CASTLE	60-02-002	2	DEL.			66	108



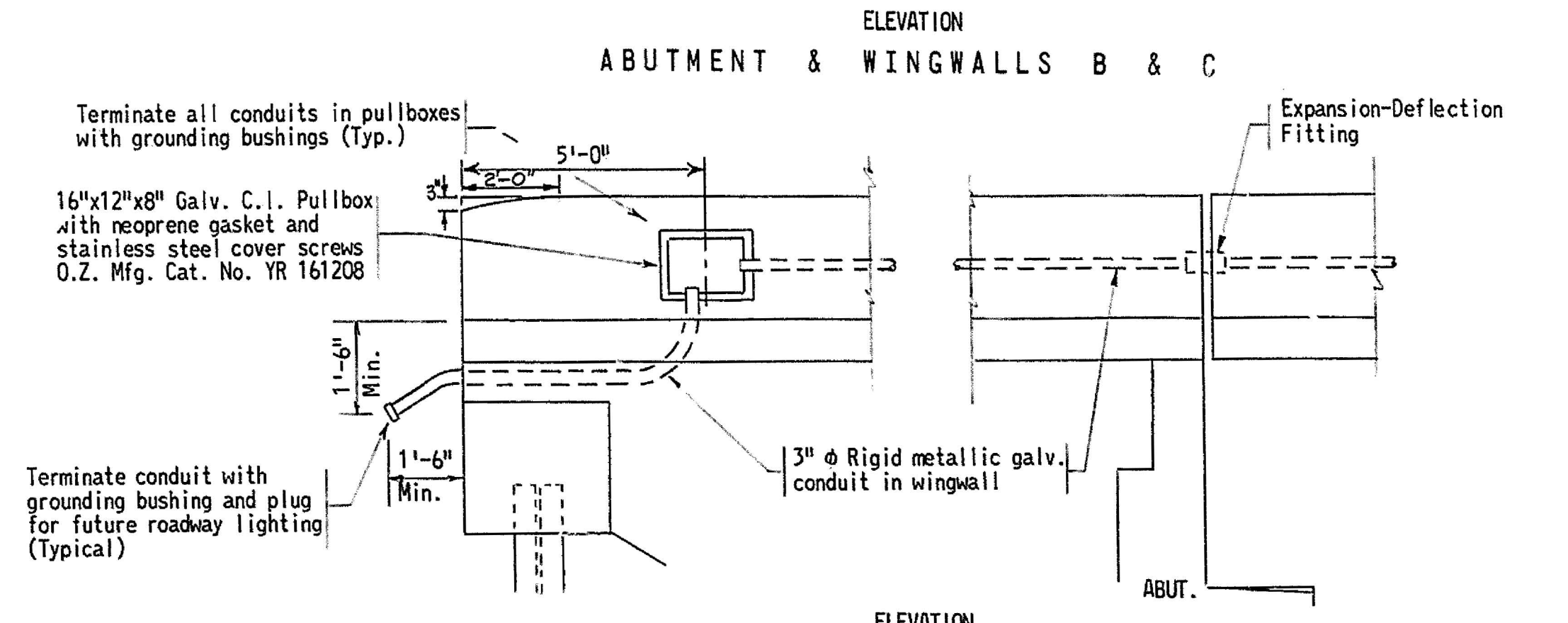
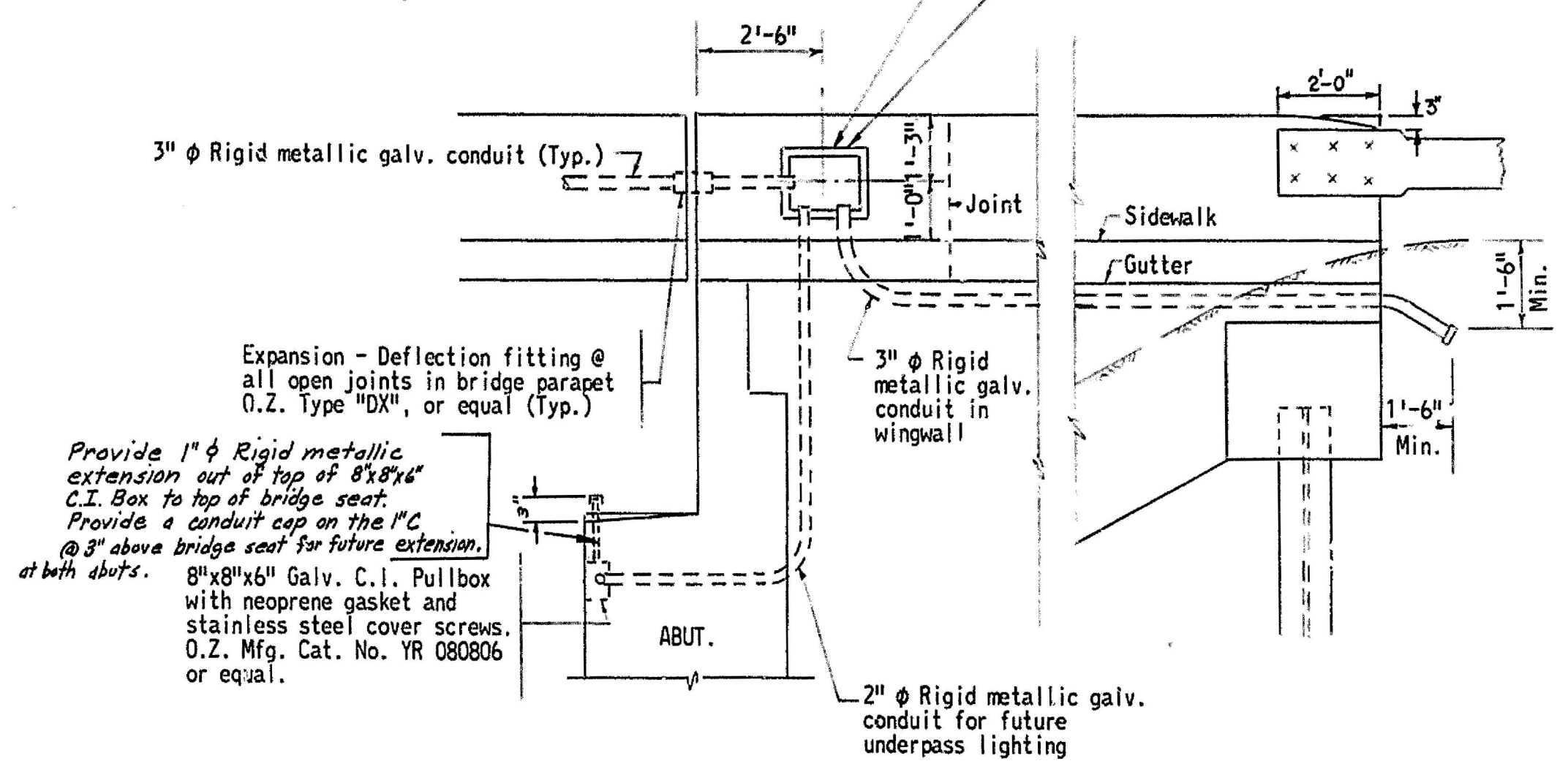
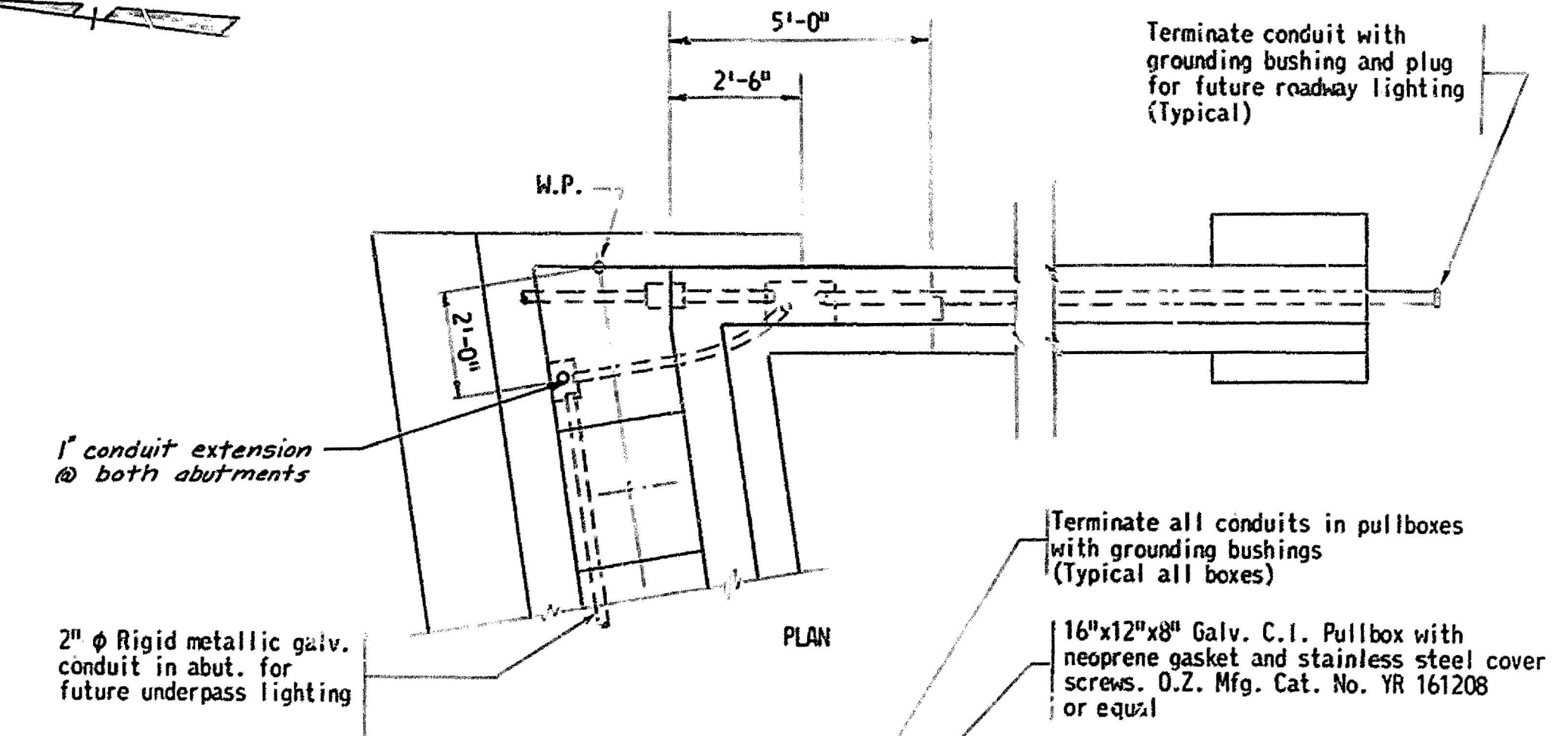
PLAN
Scale: 1/8" = 1'-0"



ELEVATION
Scale: 1/8" = 1'-0"



FOOTING & PILE PLAN
Scale: 1/8" = 1'-0"



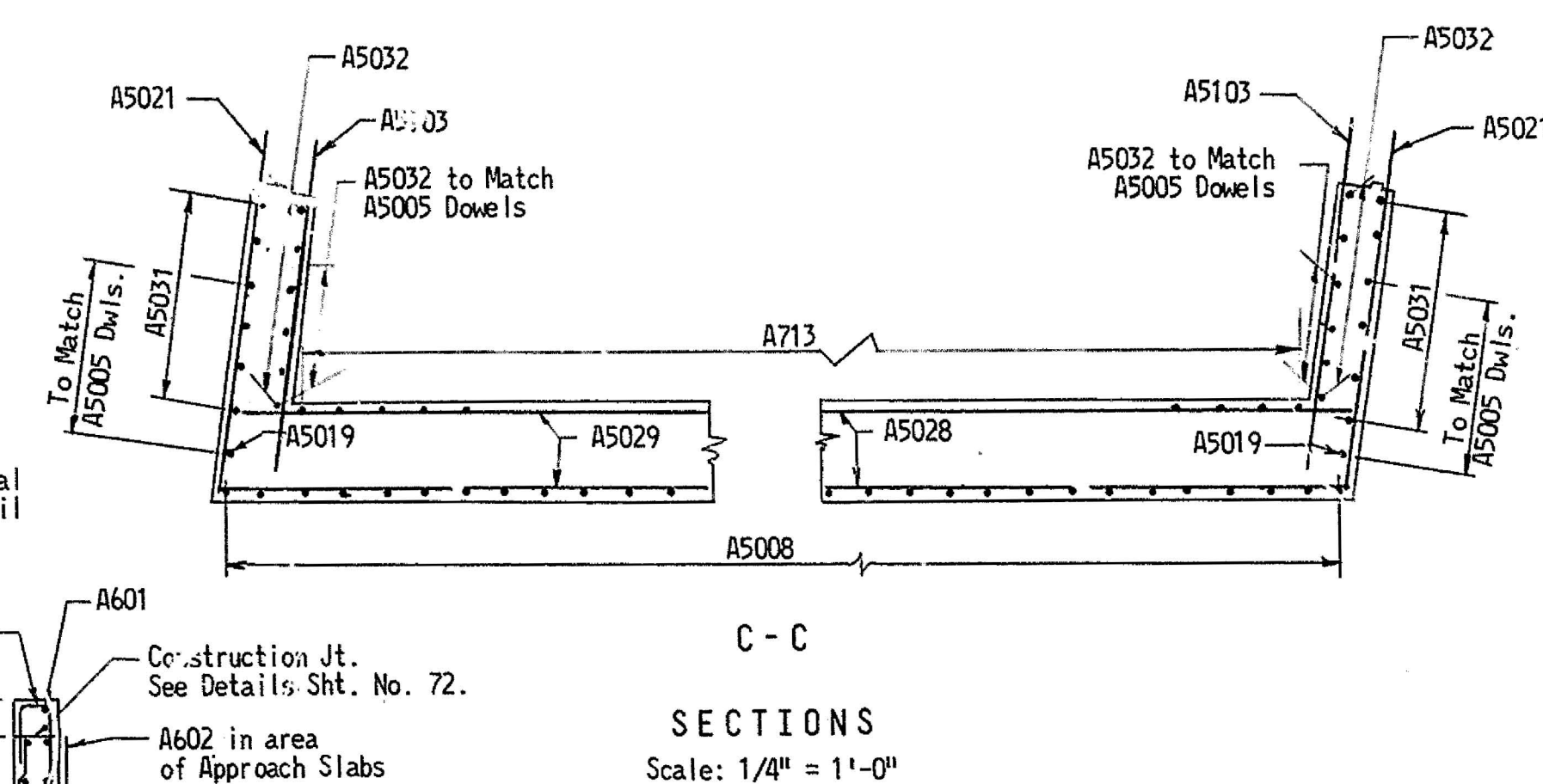
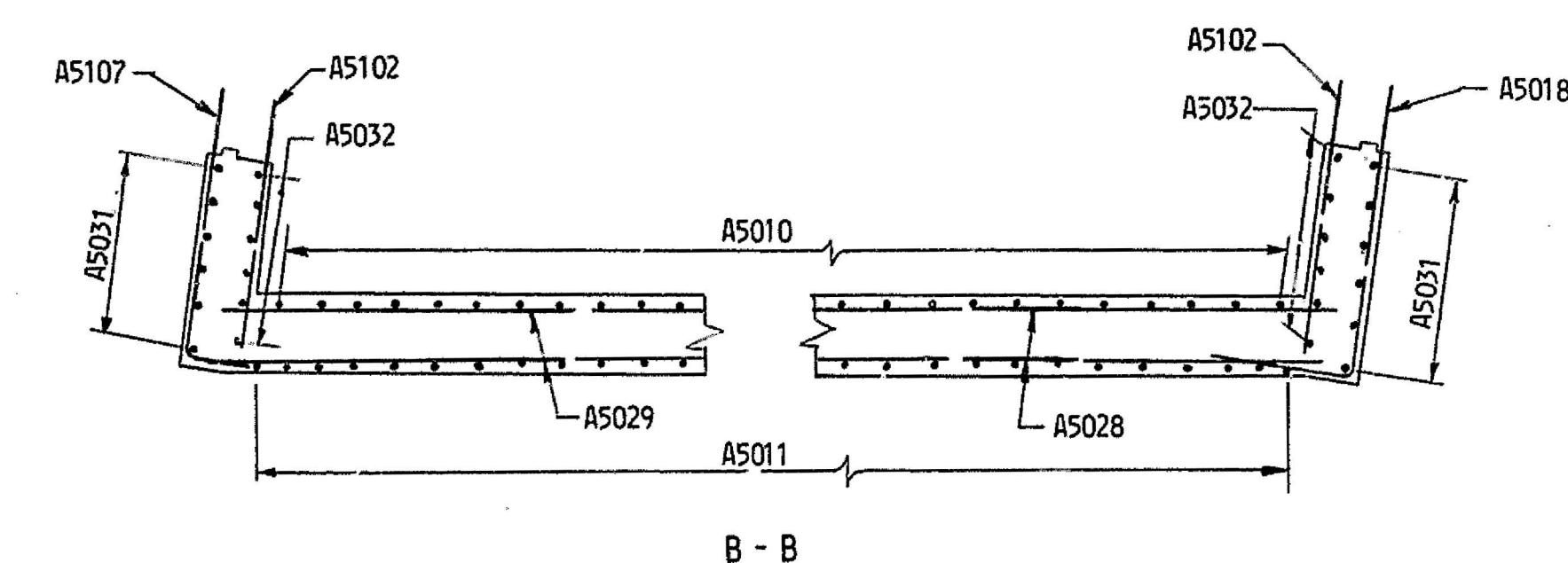
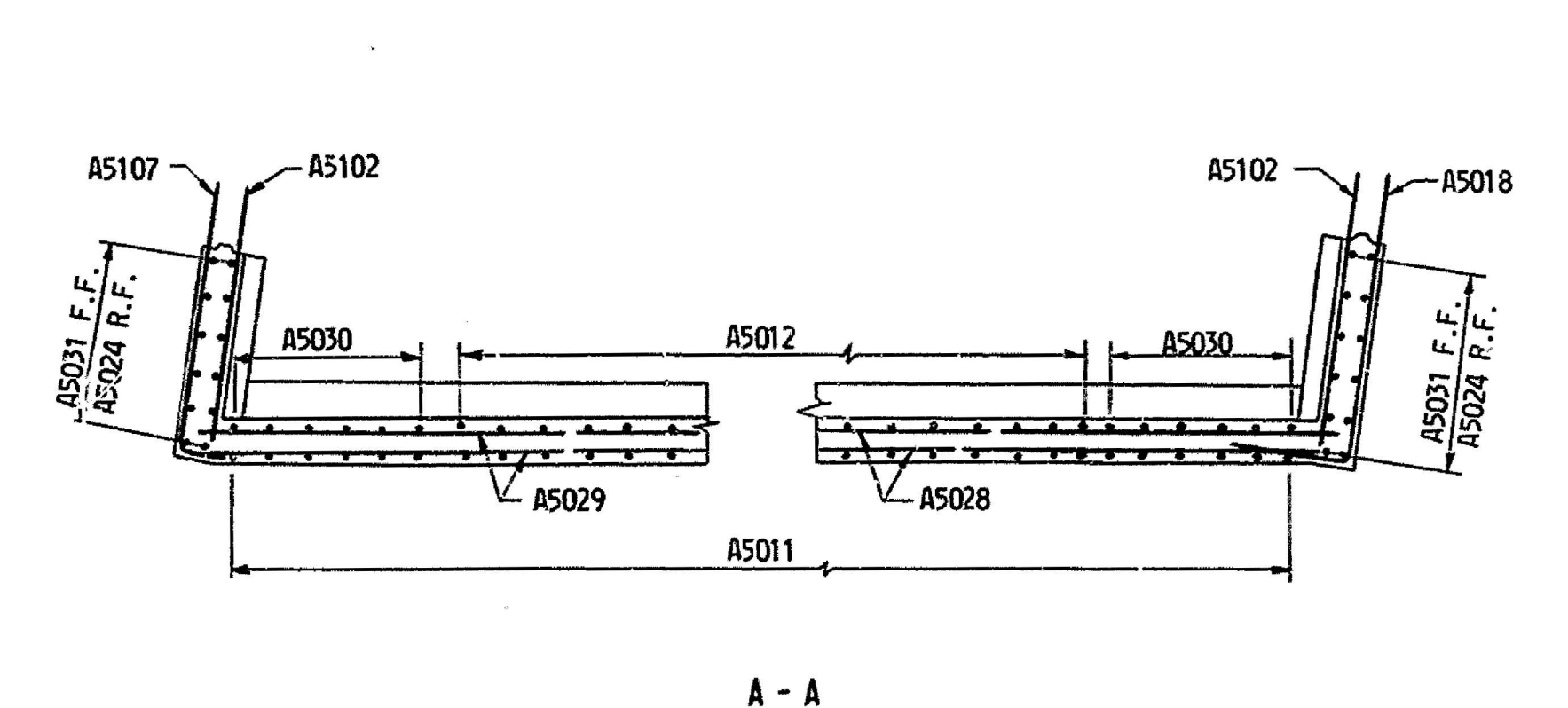
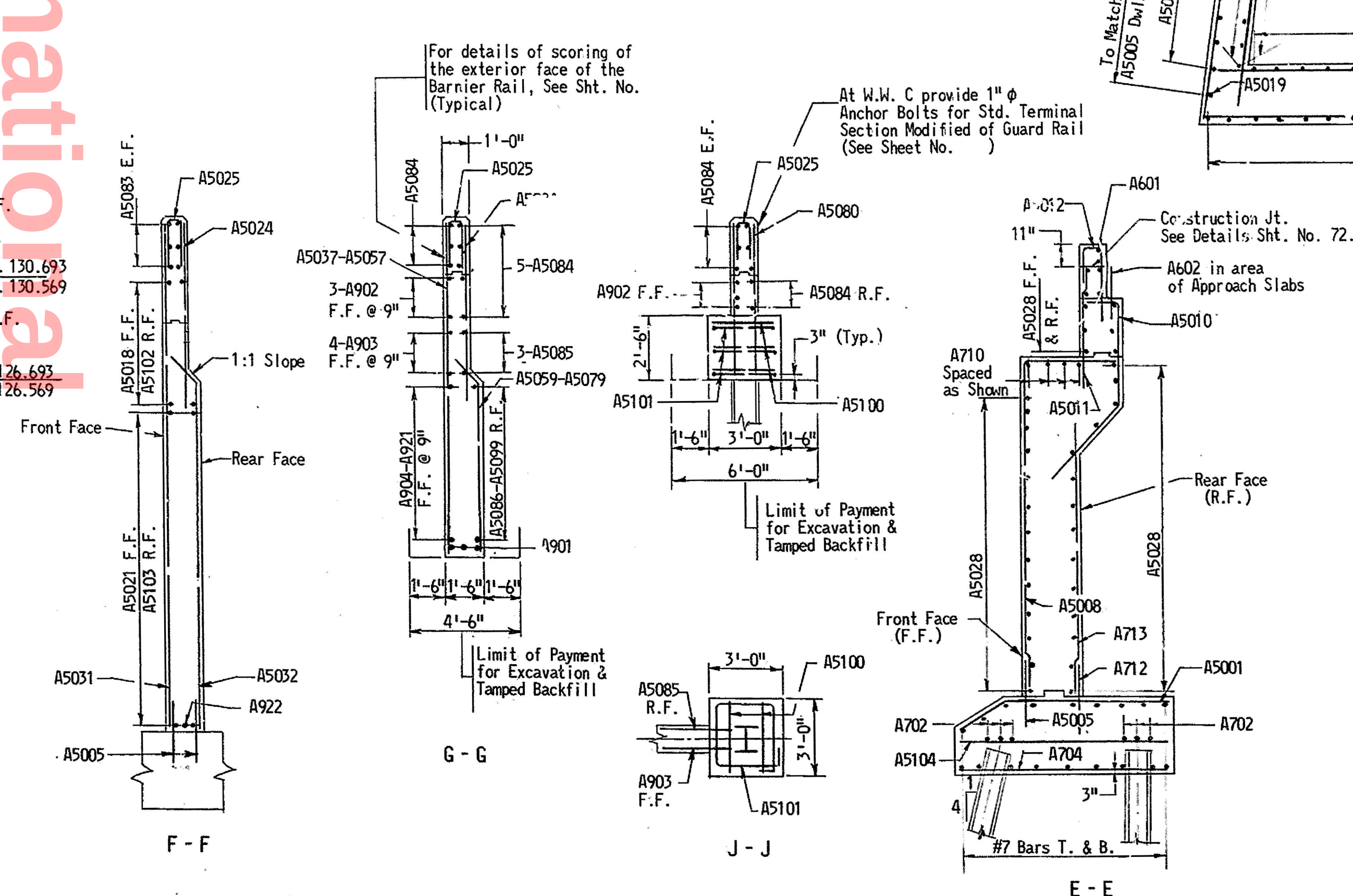
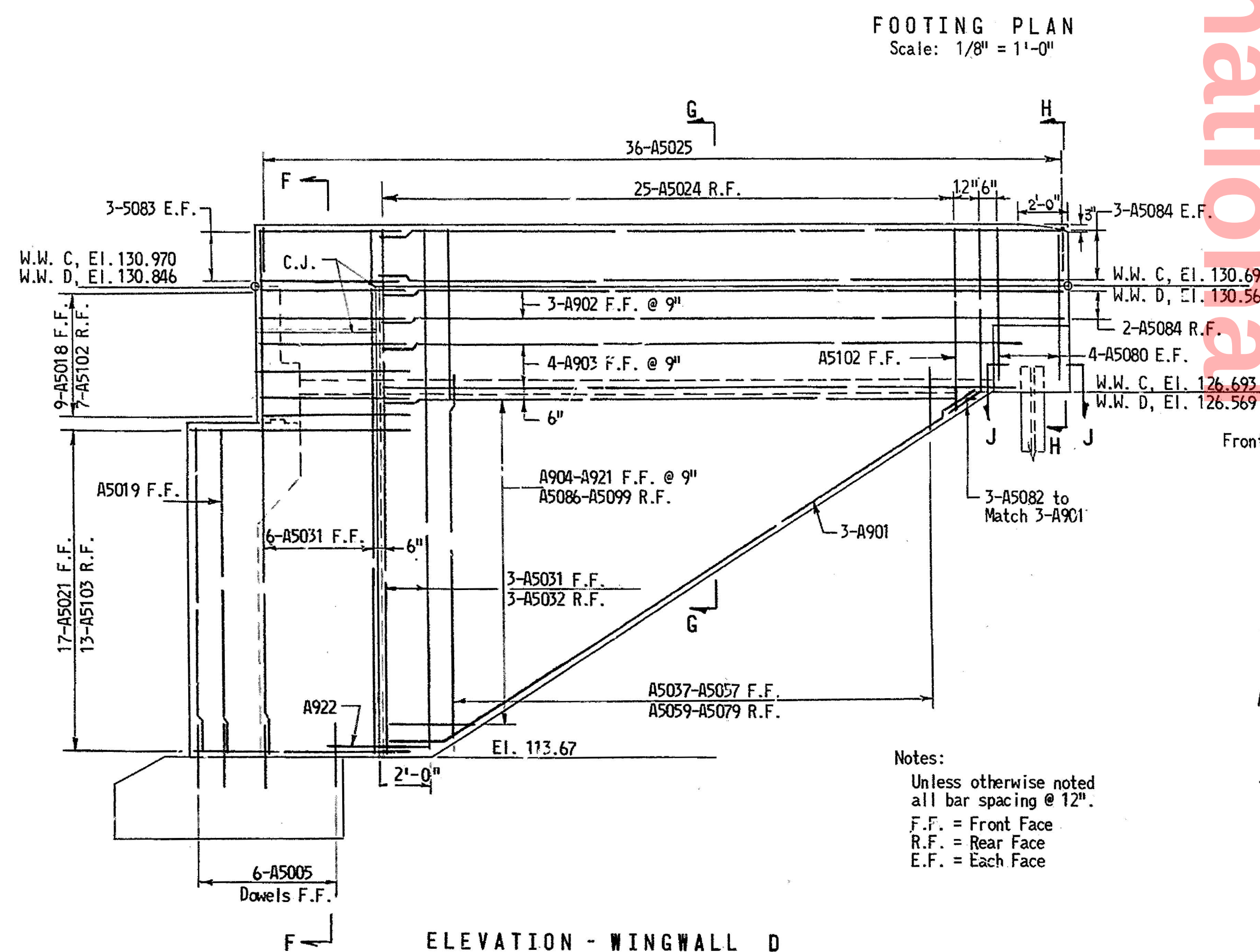
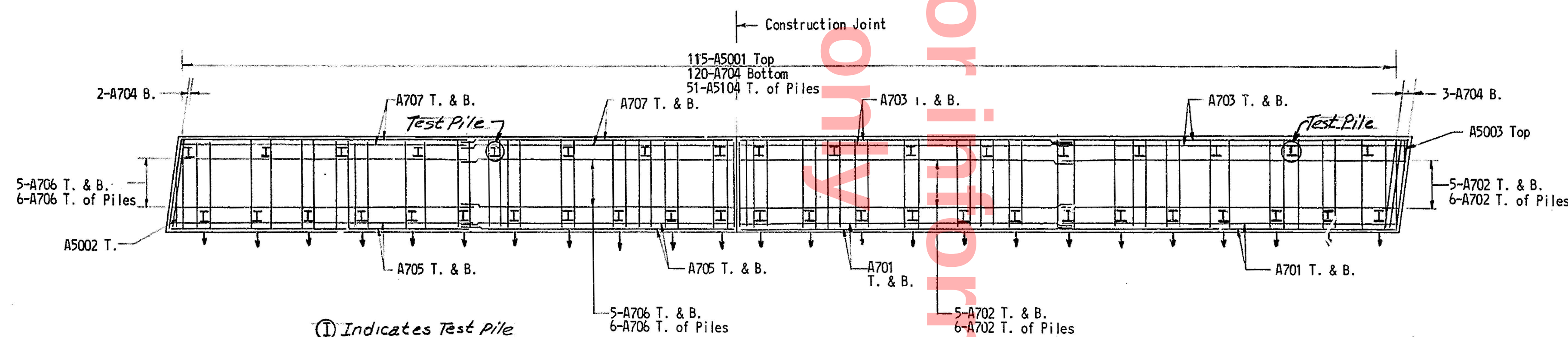
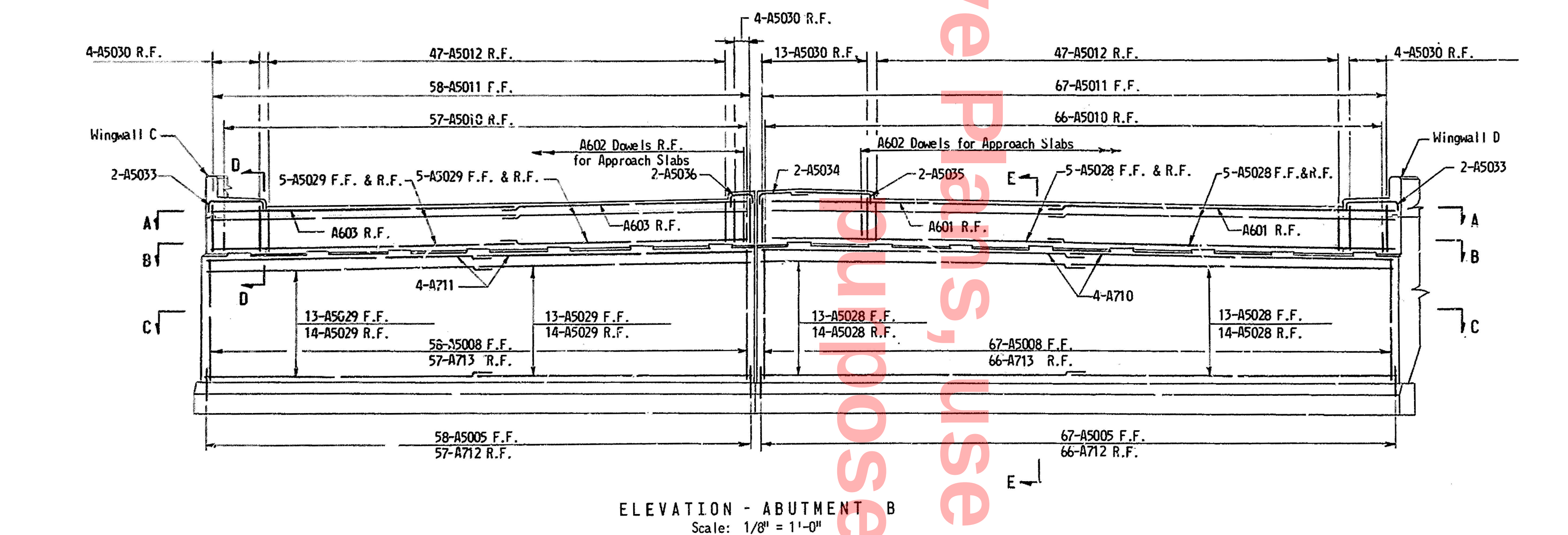
ABUTMENT & WINGWALLS B & C
ABUTMENT & WINGWALLS A & D
CONDUIT DETAILS AT ABUTMENTS & WINGWALLS
Scale: 3/8" = 1'-0"

NOTES:
For General Notes See Sheet No. 71
For granular material at weep holes, See Standard Specifications.
For Section A-A, see Sheet No. 65.

DELAWARE STATE HIGHWAY DEPARTMENT		
S.R. 2 OVER CENTERVILLE ROAD ABUTMENT B		
D. B.S.C.	SCALE As Shown	APPROVED BY:
T. T.G.	DATE	 BRIDGE ENGINEER
C. E.B.W.		

J. E. GREINER COMPANY, INC.
CONSULTING ENGINEERS
BALTIMORE, MARYLAND

COUNTY	CONTRACT	P. R. A. REG. NO.	STATE	FED. AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
NEW CASTLE	69-02-002	2	DEL.			68	108



NOTES:

For General Notes, see Sheet No. 71.

For Reinforcing Schedule, see Sheet No. 69.

DELAWARE
STATE HIGHWAY DEPARTMENT

S.R. 2 OVER CENTERVILLE ROAD
REINFORCING - ABUTMENT B

J. E. GREINER COMPANY, INC.
CONSULTING ENGINEERS
BALTIMORE, MARYLAND

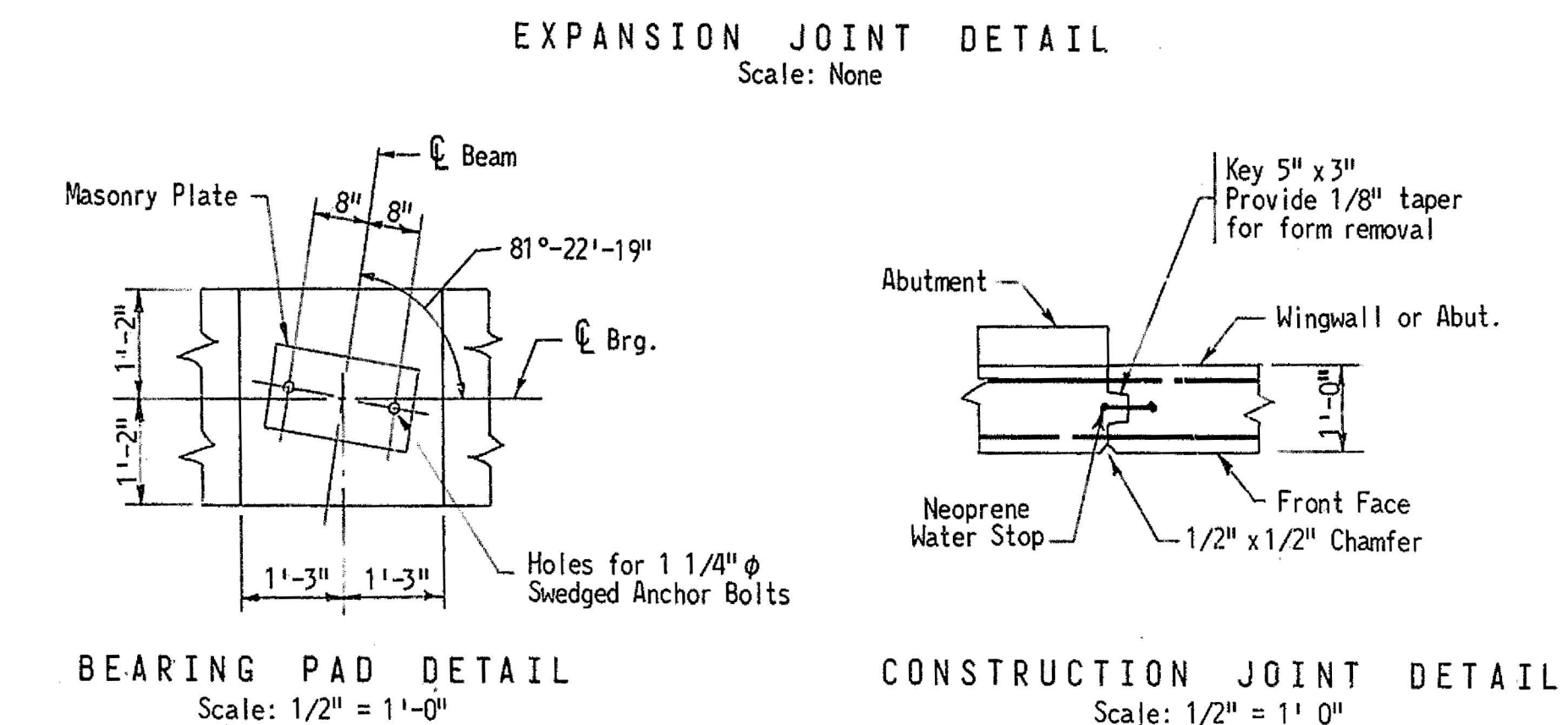
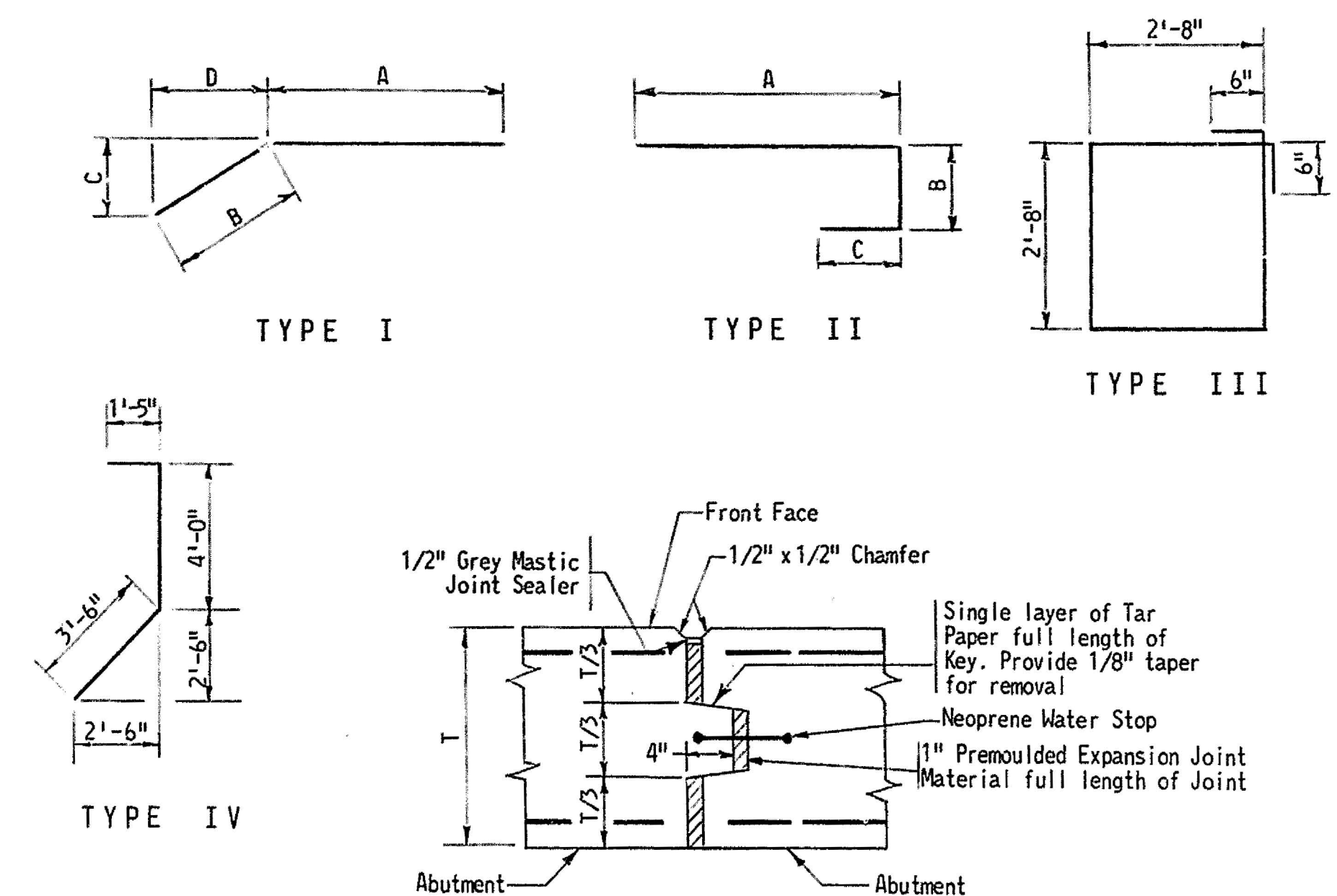
D.	B.S.C.	SCALE As Shown	APPROVED BY:  BRIDGE ENGINEER
T.	T.G.		
C.	E.B.W.	DATE	

ABUTMENT A											
BENT BARS											
MARK	NO. OF BARS				LENGTH	TYPE	A	B	C	D	REMARKS
	W.B.L.	E.B.L.	W.W. A & B	TOTAL							
A5001	52	64		116	8'-9"	I	6'-9"	2'-0"	1'-0"	1'-9"	
A5002		1		1	4'-6"	I	2'-6"	2'-0"	1'-0"	1'-9"	
A5006	67	57		124	15'-11"	II	12'-2"	3'-9"			
A5010	56	66		122	8'-11"	IV	See Diagram				
A5012	47	47		94	5'-9"	I	3'-2"	0'-8"	1'-11"		
A5016	6	6	6	18	15'-0"	I	13'-4"	1'-8"	1'-2"	1'-2"	
A5018	9	9		18	10'-0"	II	6'-6"	3'-6"			
A5025	6	6	60	72	3'-10"	II	1'-7"	0'-8"	1'-7"		
A5030	7	17		24	7'-3"	II	3'-11"	0'-8"	2'-8"		
A5033	2	2		4	3'-2"	II	1'-3"	5'-8"	1'-3"		
A5034		2		2	6'-7"	II	5'-4"	1'-3"			
A5035		2		2	9'-3"	II	8'-0"	1'-3"			
A5036	2			2	4'-10"	II	1'-3"	2'-4"	1'-3"		
A5059 to A5079			2 Ea.	2 Ea.	14'-2" to 2'-11"	I	12'-6" to 1'-3"	1'-8"	1'-2"	1'-2"	Incr. 6 3/4"
A5082			6	6	7'-7"	I	6'-4"	1'-3"	1'-1"	0'-7"	
A5101			6	6	11'-8"	III	See Diagram				
A5107	9			9	8'-6"	II	6'-6"	2'-0"			
A901			6	6	27'-7"	I	25'-7"	2'-0"	1'-0"	1'-9"	

STRAIGHT BARS											
MARK	NO. OF BARS				LENGTH	REMARKS	MARK	NO. OF BARS			
	W.B.L.	E.B.L.	W.W. A & B	TOTAL				W.B.L.	E.B.L.	W.W. C & D	TOTAL
A5003	1			1	6'-0"		A601	2			2
A5004	1			1	3'-0"		A602	37	37		74
A5005	66	76		142	2'-6"		A603		2		2
A5011	57	67		124	4'-9"		A701		8		8
A5013	74			74	29'-1"		A702		32		32
A5014		74		74	34'-1"		A703		8		8
A5015	6	6	6	18	19'-7"		A704	55	66		121
A5021	17	17		34	8'-5"		A705	8			8
A5023	1	1		2	12'-3"		A706	32			32
A5024	6	6	50	62	6'-10"		A707	8			8
A5037 to A5057			2 Ea.	2 Ea.	18'-6" to 6'-9"	Incr. 7"	A708	8			8
A5060			16	16	5'-11"		A709		8		8
A5083	6	6		12	7'-3"		A710	56	66		122
A5084			16	16	27'-7"		A711	56	66		122
A5085			6	6	26'-2"		A902		6		6
A5086 to A5099			2 Ea.	2 Ea.	24'-1" to 3'-5"	1'-7 1/4" Incr.	A903		8		8
A5100			12	12	2'-8"		A904 to A921		2 Ea.	2 Ea.	24'-1" to 3'-5"
A5102	7	7	2	16	6'-6"		A922	1	1		2
A5108	13	13		26	7'-9"						
A5109	24	27		51	8'-9"						

ABUTMENT B											
BENT BARS											
MARK	NO. OF BARS				LENGTH	TYPE	A	B	C	D	REMARKS
	W.B.L.	E.B.L.	W.W. C & D	TOTAL							
A5001	53	62		115	8'-9"	I	6'-9"	2'-0"	1'-0"	1'-9"	
A5002	1			1	5'-0"	I	3'-0"	2'-0"	1'-0"	1'-9"	
A5008	58	67		125	15'-8"	II	11'-11"	3'-9"			
A5010	57	66		123	8'-11"	IV	See Diagram				
A5012	47	47		94	5'-9"	II	3'-2"	0'-8"	1'-11"		
A5018	9	9		18	10'-0"	II	6'-6"	3'-6"			
A5025	6	6	60	72	3'-10"	II	1'-7"	0'-8"	1'-7"		
A5030	8	17		25	7'-3"	II	3'-11"	0'-8"	2'-8"		
A5032	6	6	6	18	15'-0"	I	13'-4"	1'-8"	1'-2"	1'-2"	
A5035	2	2		4	8'-2"	II	1'-3"	5'-8"	1'-3"		
A5034		2		2	6'-7"	II	5'-4"	1'-3"			
A5035		2		2	9'-3"	II	8'-0"	1'-3"			
A5036	2			2	5'-0"	II	1'-3"	2'-4"	1'-3"		
A5059 to A5079			2 Ea.	2 Ea.	14'-2" to 2'-11"	I	12'-6" to 1'-3"	1'-8"	1'-2"	1'-2"	Incr. 6 3/4"
A5082			6	6	7'-7"	I	6'-4"	1'-3"	1'-1"	0'-7"	
A5101			6	6	11'-8"	III	See Diagram				
A5107	9			9	8'-6"	II	6'-6"	2'-0"			
A901			6	6	27'-7"	I	25'-7"	2'-0"	1'-0"	1'-9"	

STRAIGHT BARS											
MARK	NO. OF BARS				LENGTH	REMARKS	MARK	NO. OF BARS			
	W.B.L.	E.B.L.	W.W. C & D	TOTAL				W.B.L.	E.B.L.	W.W. C & D	TOTAL
A5003		1		1	3'-6"		A601		2		2
A5005	67	76		143	2'-6"		A602	37	37		74
A5011	58	67		125	4'-9"		A603		2		2
A5019	1	1		2	11'-11"		A701		8		8
A5021	17	17		34	8'-5"		A702		32		32
A5024	6	6	50	62	6'-10"		A703		8		8
A5028		74		74	34'-1"		A704	55	66		120
A5029		74		74	29'-1"		A705	8			8
A5031	6	6	6	18	19'-7"		A706	32			32
A5037 to A5057			2 Ea.	2 Ea.	18'-6" to 6'-9"	Incr. 7"	A707	8			8
A5080			16	16	5'-11"		A710		8		8
A5083	6	6		12	7'-3"		A711	8			8
A5084			16	16	27'-7"		A712	57	66		123
A5085			6	6	26'-2"		A713	57	66		123
A5086 to A5099			2 Ea.	2 Ea.	24'-1" to 3'-5"	1'-7 1/4" Incr.	A902		6		6
A5100			12	12	2'-8"		A903		8		8
A5102	7	7	2	16	6'-6"		A904 to A921		2 Ea.	2 Ea.	24'-1" to 3'-5"
A5103	13	13		26	7'-9"		A922	1	1		2
A5104	24	27		51	8'-9"						



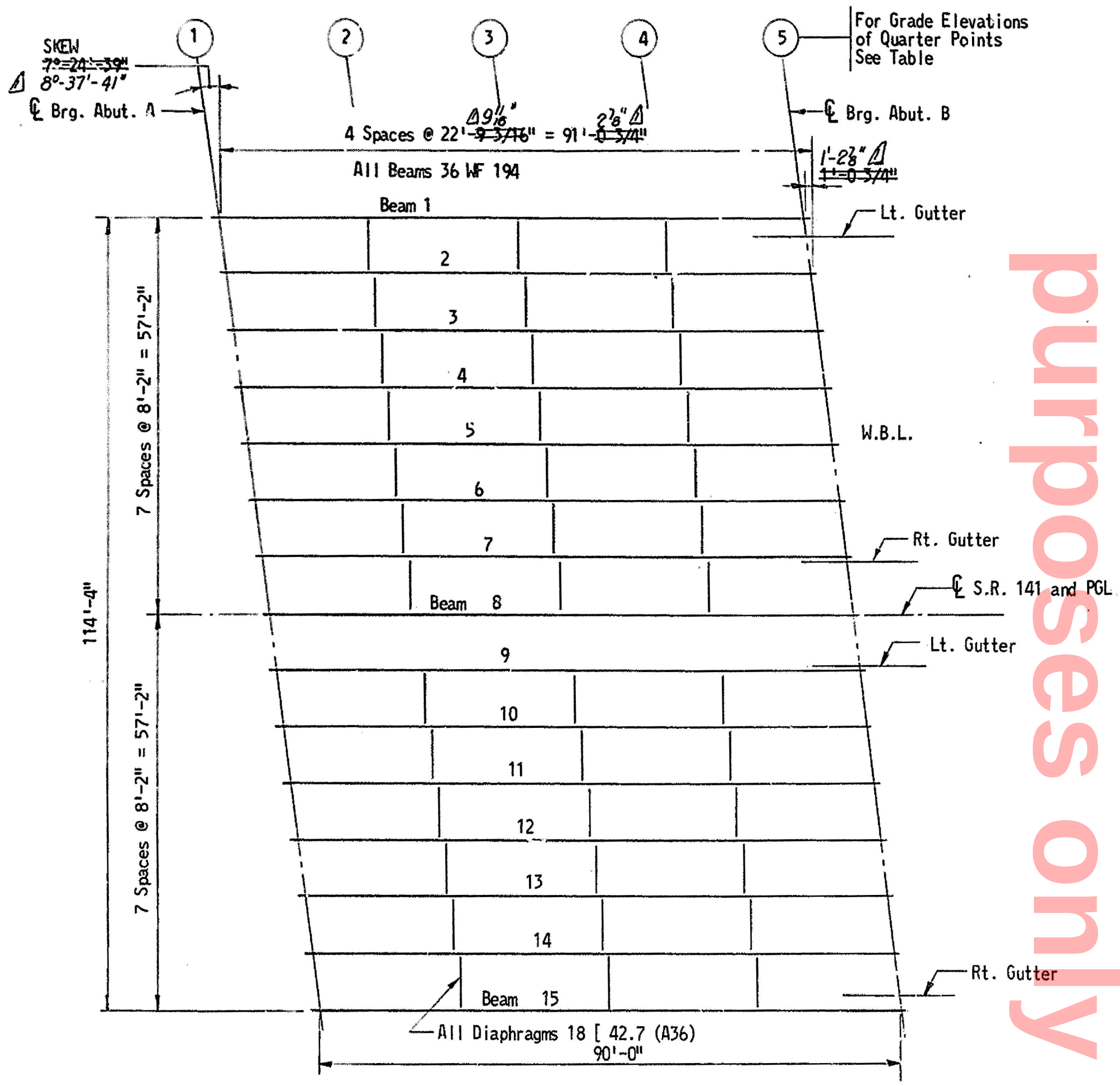
NOTES:
For General Notes See Sheet No. 71.

DELAWARE
STATE HIGHWAY DEPARTMENT
S.R. 2 OVER CENTERVILLE ROAD
REINFORCING SCHEDULE

J. E. GREINER COMPANY, INC.
CONSULTING ENGINEERS
BALTIMORE, MARYLAND

D. B.S.C.
T. T.G.
C. E.B.W.
SCALE
As Shown
DATE
APPROVED BY:
John J. Greiner
BRIDGE ENGINEER

COUNTY	CONTRACT	P. R. A. REC. NO.	STATE	FED. AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
NEW CASTLE	69-02-002	2	DEL.			70	108

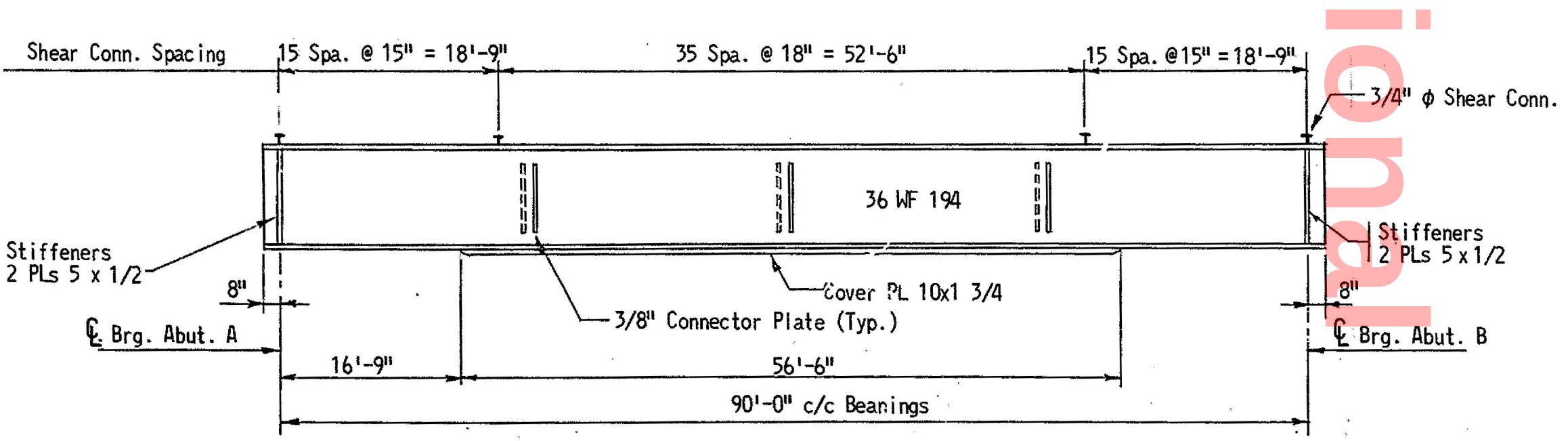


FRAMING PLAN
Scale: 1/16" = 1'-0"

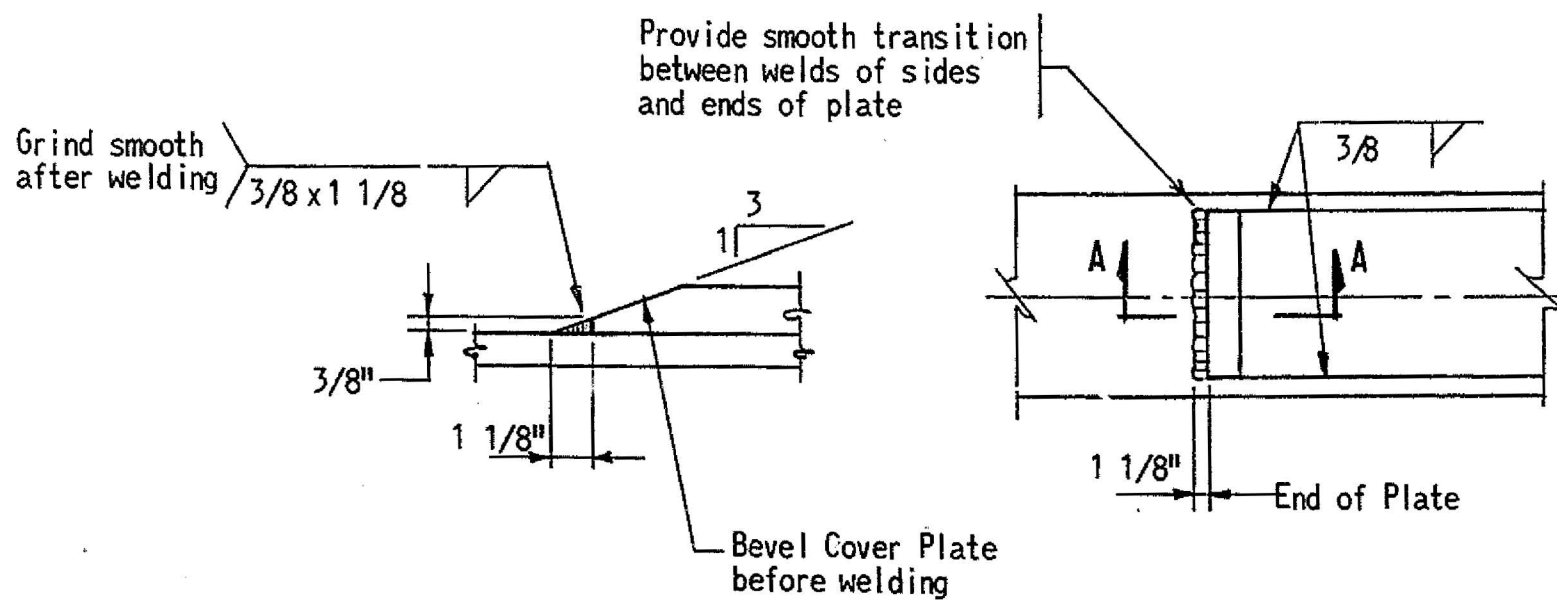
TABLE OF GRADE ELEVATIONS AND DEAD LOAD DEFLECTIONS IN FEET						
POINT						
	1	2	3	4	5	
Beam 1	130.754	130.638	130.512	130.377	130.231	
2	130.876	130.760	130.633	130.497	130.351	
3	130.998	130.881	130.755	130.618	130.471	
4	131.120	131.003	130.876	130.739	130.592	
5	131.242	131.125	130.997	130.859	130.712	
6	131.364	131.246	131.118	130.980	130.832	
7	131.486	131.368	131.239	131.101	130.952	
Beam 8 & PGL	131.608	131.489	131.360	131.221	131.072	
Beam 9	131.475	131.356	131.227	131.087	130.938	
10	131.343	131.223	131.093	130.953	130.803	
11	131.210	131.089	130.959	130.819	130.668	
12	131.077	130.956	130.825	130.684	130.534	
13	130.944	130.823	130.691	130.550	130.399	
14	130.811	130.689	130.558	130.416	130.264	
15	130.678	130.556	130.424	130.281	130.129	
Struct. Steel	0	0.035	0.049	0.055	0	
Concrete Slab	0	0.166	0.234	0.166	0	
Curb & Sidewalk	0	0.046	0.065	0.046	0	
Full Dead Load	0	0.247	0.348	0.247	0	
Vert. Curve	0	0.015	0.020	0.015	0	
Total Camber	0	0.262	0.368	0.262	0	

TABLE OF GRADE ELEVATIONS AND DEAD LOAD DEFLECTIONS IN FEET						
POINT						
	1	2	3	4	5	
Beam 1	130.739	130.622	130.495	130.358	130.211	
2	130.860	130.742	130.615	130.477	130.330	
3	130.981	130.863	130.735	130.597	130.449	
4	131.102	130.984	130.855	130.716	130.568	
5	131.224	131.104	130.975	130.836	130.687	
6	131.345	131.225	131.095	130.955	130.806	
7	131.466	131.345	131.215	131.075	130.924	
Beam 8 & PGL	131.587	131.466	131.335	131.194	131.043	
Beam 9	131.453	131.331	131.200	131.059	130.907	
10	131.319	131.197	131.065	130.923	130.771	
11	131.185	131.063	130.930	130.788	130.635	
12	131.051	130.928	130.795	130.652	130.499	
13	130.917	130.794	130.660	130.517	130.363	
14	130.783	130.659	130.525	130.381	130.227	
15	130.650	130.525	130.390	130.245	130.091	

CONTRACT NO. 69-02-002
S.R. 2 OVER CENTERVILLE ROAD
CHANGES TO
SHEET NO. 70 - "FRAMING PLAN"



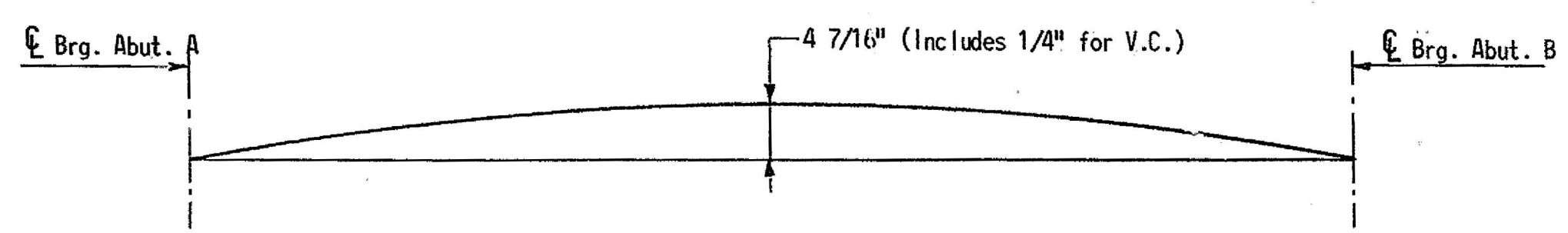
BEAM ELEVATION
Scale: None



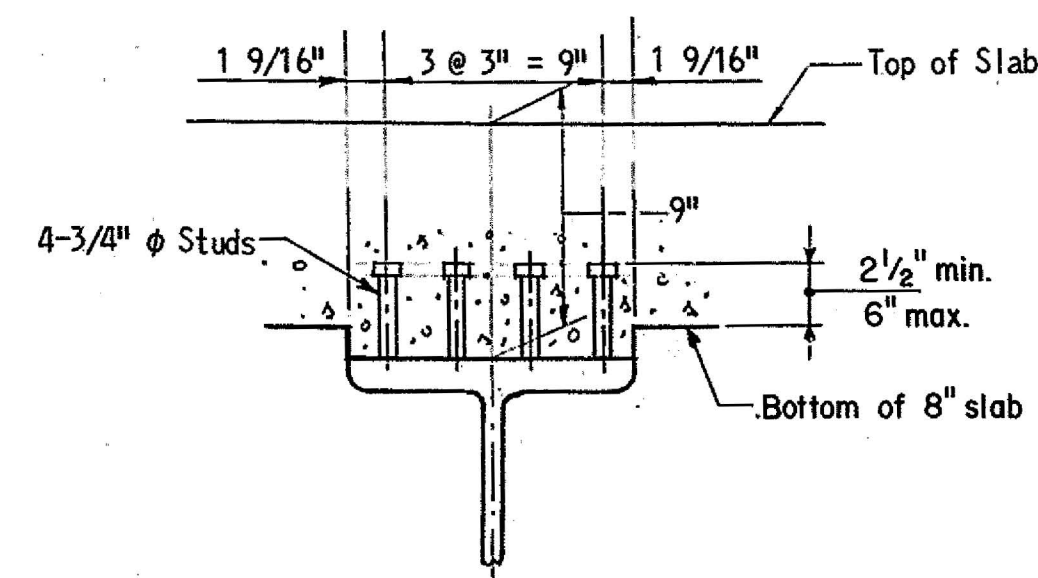
SECTION A-A
PLAN

COVER PLATE WELDING DETAILS

Scale: None



CAMBER BLOCKING DIAGRAM
Scale: None



SHEAR CONNECTOR DETAIL
Scale: 1 1/2" = 1'-0"

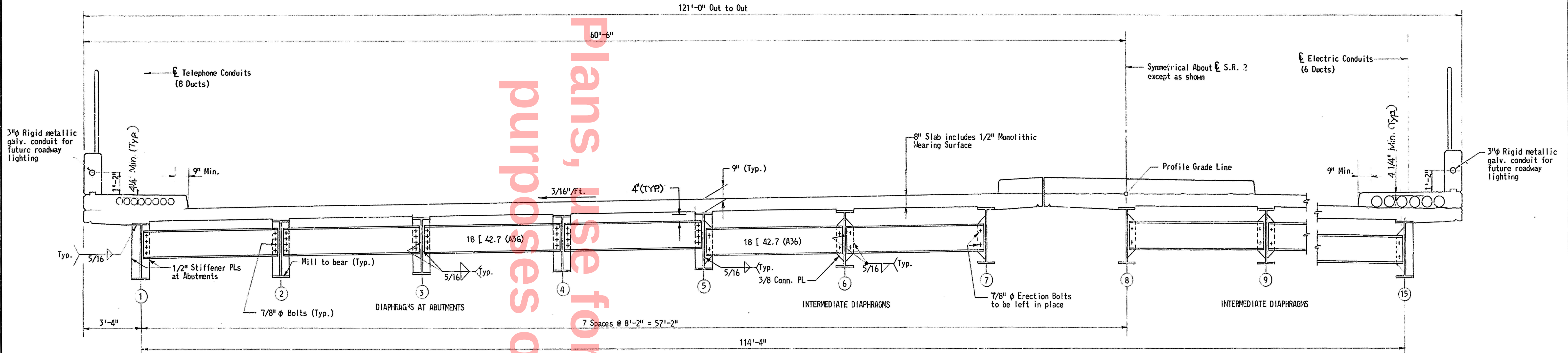
NOTES:
For General Notes see Sheet No. 71.
All Structural Steel to be A588 except as noted.
Beams shall be cambered for Dead Load deflection as indicated in the Camber Blocking Diagram. Beams shall not be cambered more than shown even though the camber is less than that likely to remain permanent.

After all beams are in place, elevations shall be taken along the top of beam at points where the grade elevations are shown. The difference between these two elevations plus the sum of the deflections shown in the table for "Concrete Slab" and "Curb & Sidewalk" is the thickness of slab over top of beam at centerline of beam. The minimum slab over the centerline of beam shall not be less than 9" to top of beam.

DELAWARE STATE HIGHWAY DEPARTMENT		
S. R. 2 OVER CENTERVILLE ROAD FRAMING PLAN		
D. H.H.W. T. A.J.S. C. H.H.W.	SCALE As Noted DATE	APPROVED BY: <i>John S. Richter</i> BRIDGE ENGINEER

J. E. GREINER COMPANY, INC.
CONSULTING ENGINEERS
BALTIMORE, MARYLAND

COUNTY	CONTRACT	P. & A. REG. NO.	STATE	FED. AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
NEW CASTLE	69-02-002	2	DEL.			71	106



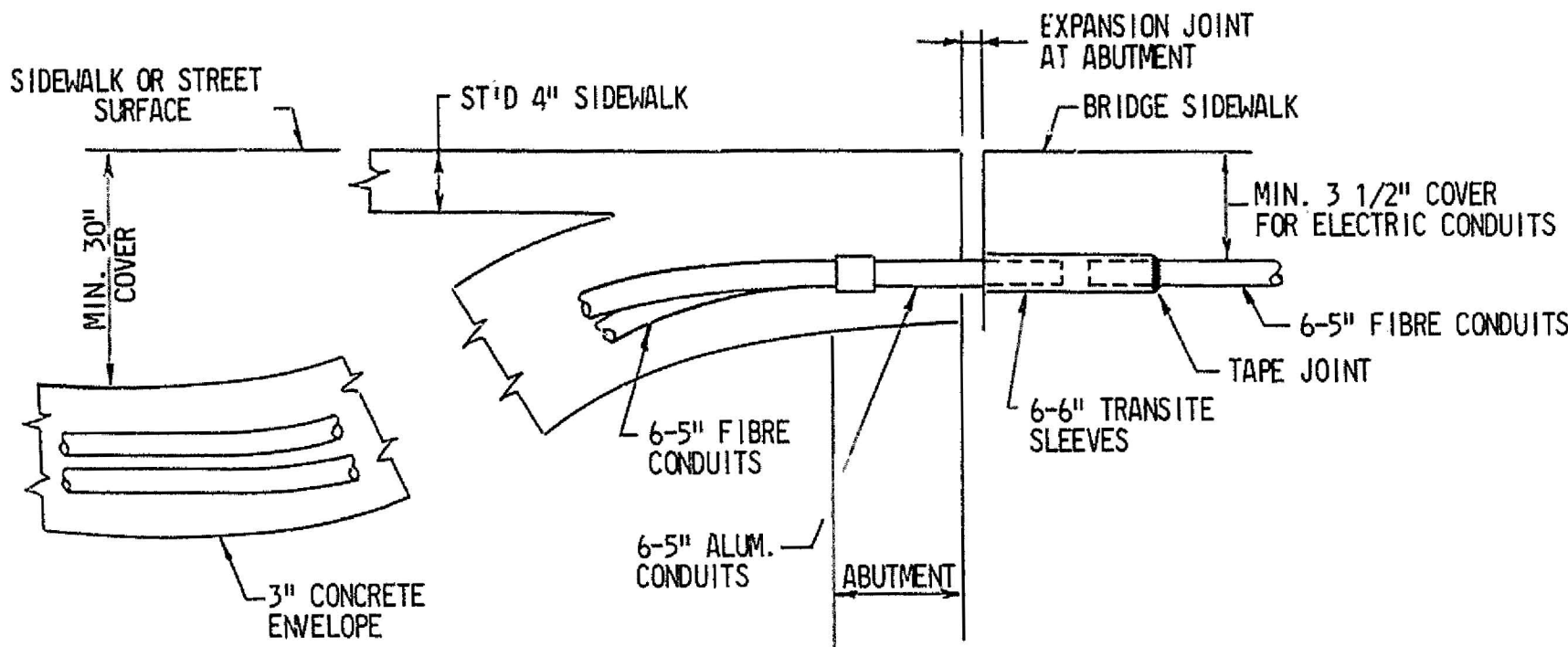
CROSS SECTION
Scale: 3/8" = 1'-0"

GENERAL NOTES

- SPECIFICATIONS:** Design Criteria are based on 1969 Standard Specifications for Highway Bridges, American Association of State Highway Officials, with Interim Specifications, 1970.
- Material and workmanship are to conform with State of Delaware, State Highway Department Standard Specifications dated June 1, 1970, unless otherwise noted and/or specified by Special Provisions.
- BORINGS:** The subsoil data and interpretations do not form a part of the contract, and are made available to the bidders for their information only. Available soil samples taken at the site may be examined by arrangement with State Highway Department of Delaware. The Contractor shall make his own interpretation and judgment of the boring results and assume full responsibility for same.
- ELEVATIONS:** Elevations are based on U.S.G.S. datum, 1929.
- FOUNDATIONS:** All piles shall be steel H piles driven to refusal in accordance with Section 625 of the Specifications. The size and capacity of the piles shall be as shown on the Plans. A minimum of one test pile shall be driven at a permanent pile location in each abutment and pier as directed by the Director.
- EXCAVATIONS FOR STRUCTURES:** The depth of excavation measured for payment shall be the vertical distance from the bottom of concrete to the ground line existing at the time of excavation but not above finished grade. The horizontal limits of excavation for payment shall be 1'-6" beyond the face of concrete.

- PORTLAND CEMENT CONCRETE MASONRY:** All concrete shall be controlled concrete with a minimum compression strength of 4,500 p.s.i. in 28 days. Cover over reinforcing bars shall be 2" except as otherwise noted on the drawings or as follows: Pile Caps - 3", Approach Slabs 3" bottom, 1-1/2" top. All exposed edges of concrete shall be chamfered 3/4" x 3/4" unless otherwise shown. Concrete in areas under bearing plates shall be constructed to smooth finish, to the elevations shown on Plans. See Specifications.
- BAR REINFORCEMENT:** Bar reinforcement to be deformed type (A.S.T.M. - A615), billet steel, Grade 40, lapped splices, unless otherwise noted, are to be a minimum of 24 bar diameters.
- SLOPE PROTECTION:** Slope protection to the extent indicated on the drawings shall be as specified in the Specifications.
- DECK SLABS:** Stay-in-place forms for the deck shall be used.

- STRUCTURAL STEEL & STEELWORK:** All structural carbon steel conform with the requirements of ASTM Designation A-36. Unit Stress $f_y = 20,000$ p.s.i. or ASTM Designation A588, Unit Stress $f_y = 27,000$ p.s.i. as shown on the Plans.
- All welding shall conform to the Standard Specifications for Welded Highway and Railway Bridges of the American Welding Society, with current corrections and addenda. See Special Provisions.
- All dimensions shown on the drawings are for structures at a normal temperature of +68°F. and measured horizontally. To avoid oversight the shop drawings shall show clearly the nature, dimensions and locations of all welds, bolt sizes, open holes, painting, etc.
- Rolled beams shall be cambered as shown on the drawings, allowing for loss of camber due to welding.
- Do not paint steel surfaces in contact with concrete. The bearing shoes, when in final position, are to be painted in order to prevent rust stains on the concrete.
- Anchor bolts shall be placed in accordance with the Special Provisions and set in grout. Immediately after the grout has attained its initial set the anchor bolts shall be thoroughly coated with an approved heavy grease and securely wrapped in burlap. Payment for these rust preventative measures shall be included in the price bid for Structural Steel.
- All stiffener plates are to be in a truly vertical plane when beams are in final erected position with the slab in place.
- No welded field splices will be permitted.



SLEEVE DETAILS AT ABUTMENT
SCALE: NONE

DELAWARE
STATE HIGHWAY DEPARTMENT

S. R. 2 OVER CENTERVILLE ROAD
SUPERSTRUCTURE DETAILS - I

J. E. GREINER COMPANY, INC.
CONSULTING ENGINEERS
BALTIMORE, MARYLAND

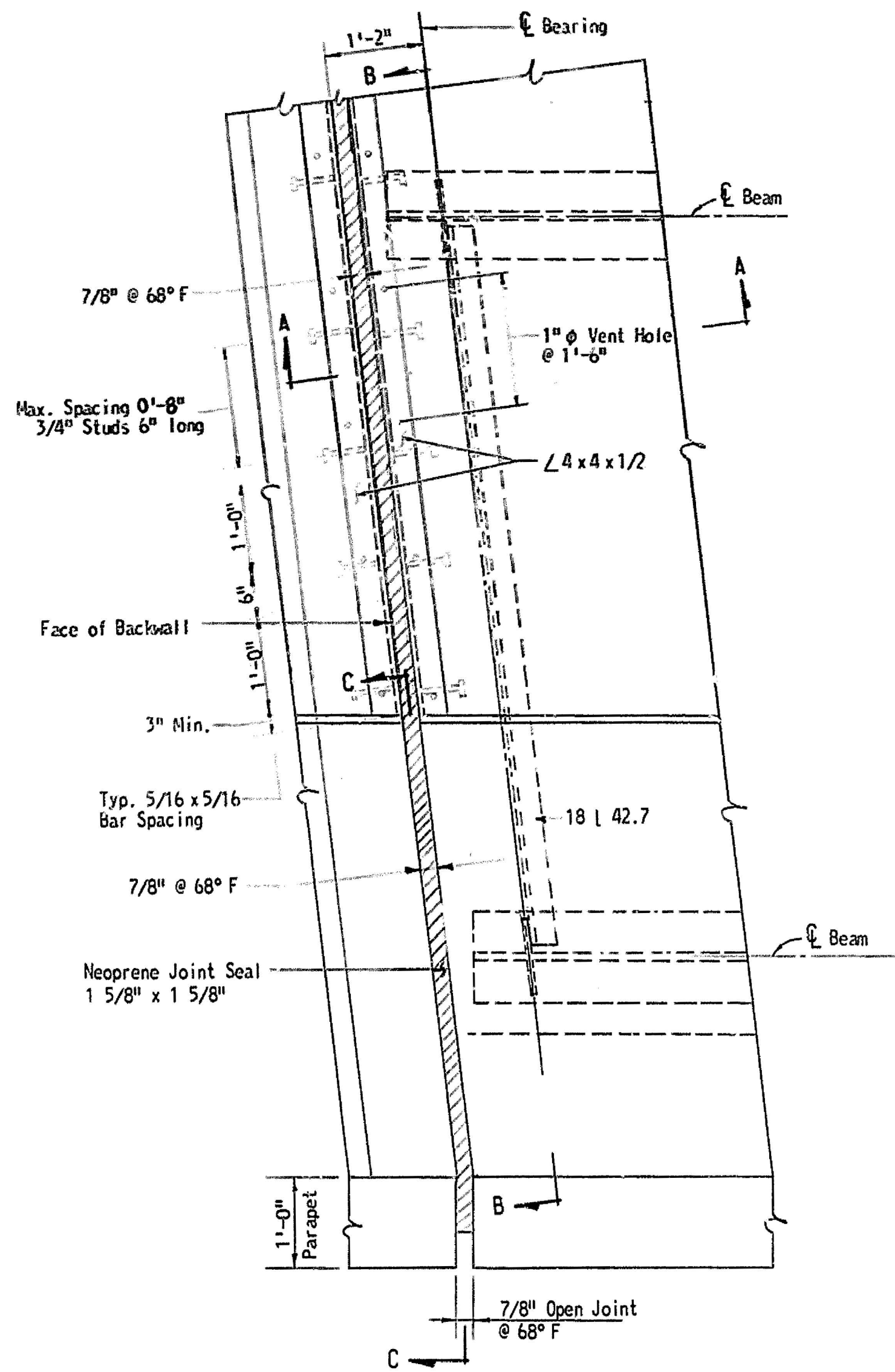
D. H.H.W.
T. A.J.S.
C. H.H.W.

SCALE
As Shown
DATE

APPROVED BY:

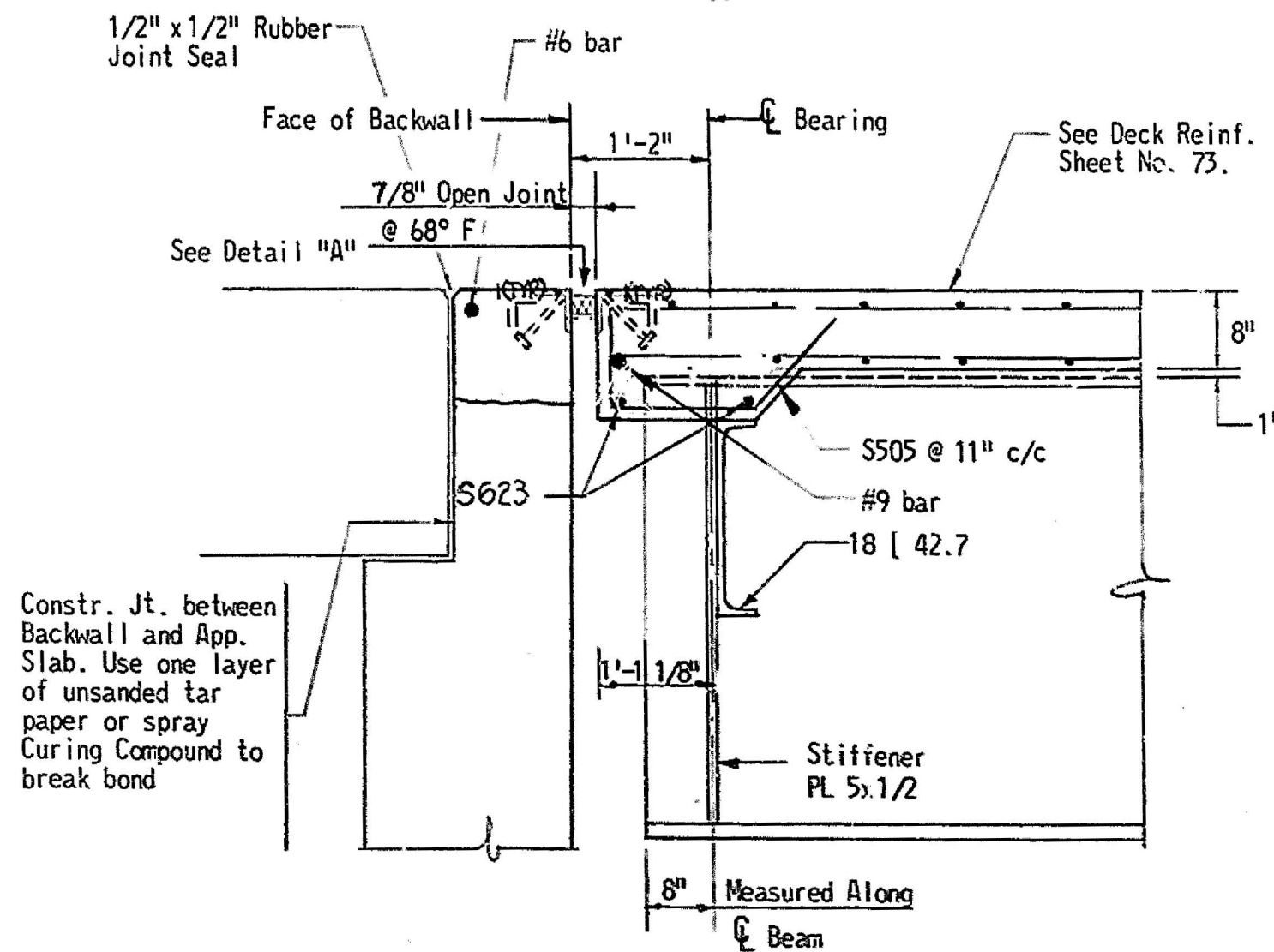
BRIDGE ENGINEER

COUNTY	CONTRACT	P. R. A. NO.	STATE	FED. AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
NEW CASTLE	69-02-002	2	DEL.			72	108

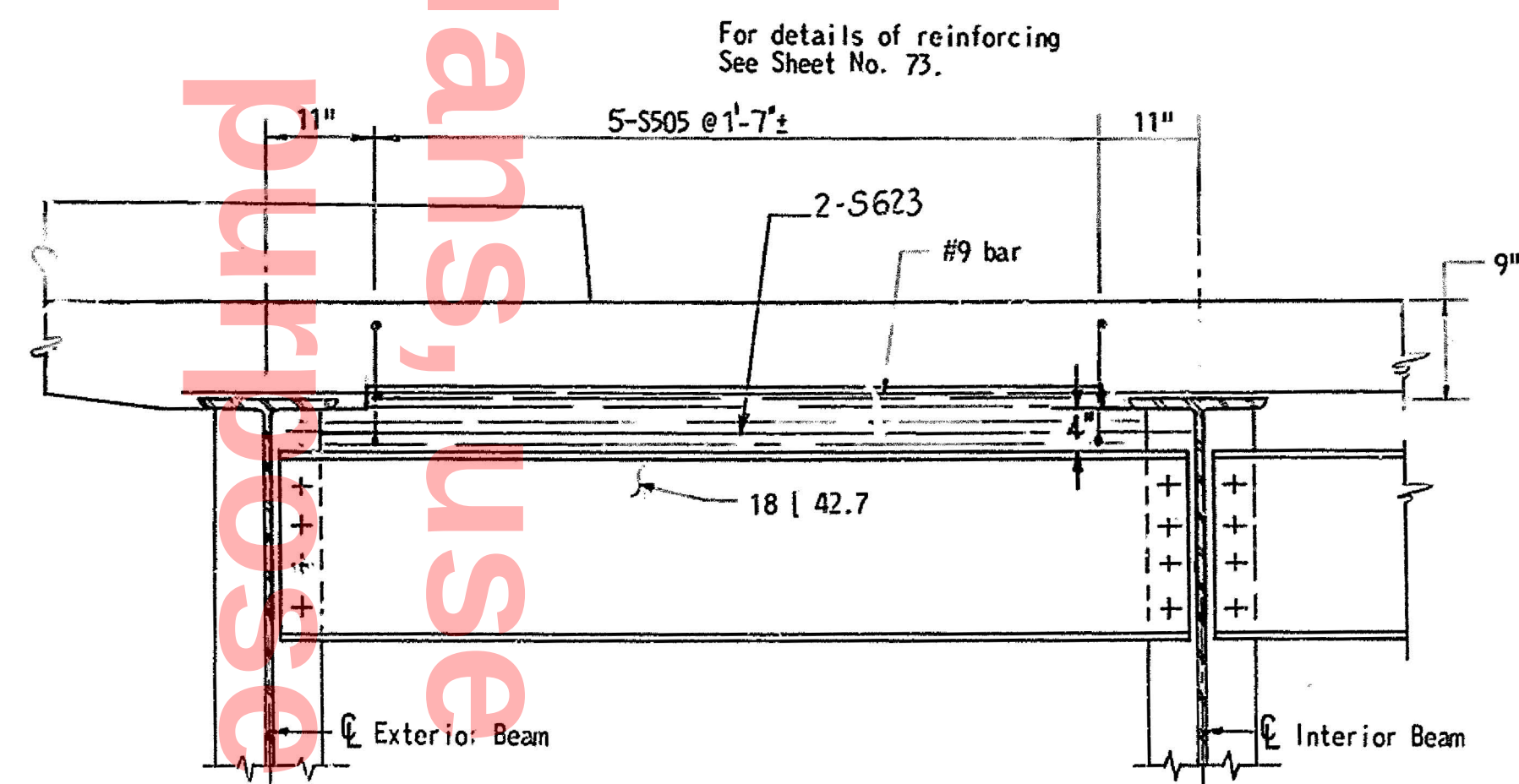


PLAN AT ABUTMENT
Scale: 3/4" = 1'-0"

Note: Typical Abutment A & B.

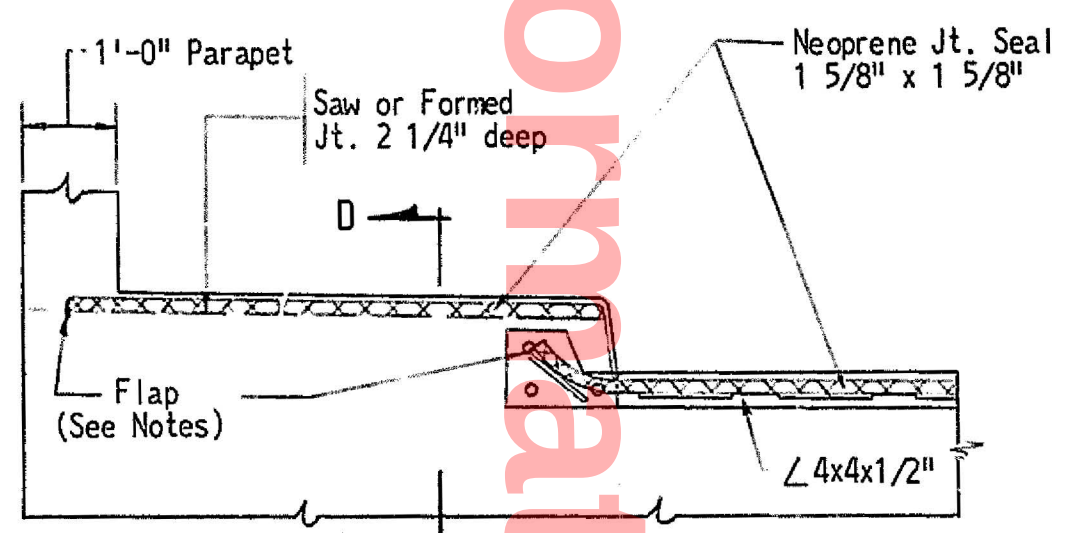


SECTION A-A
Scale: 3/4" = 1'-0"

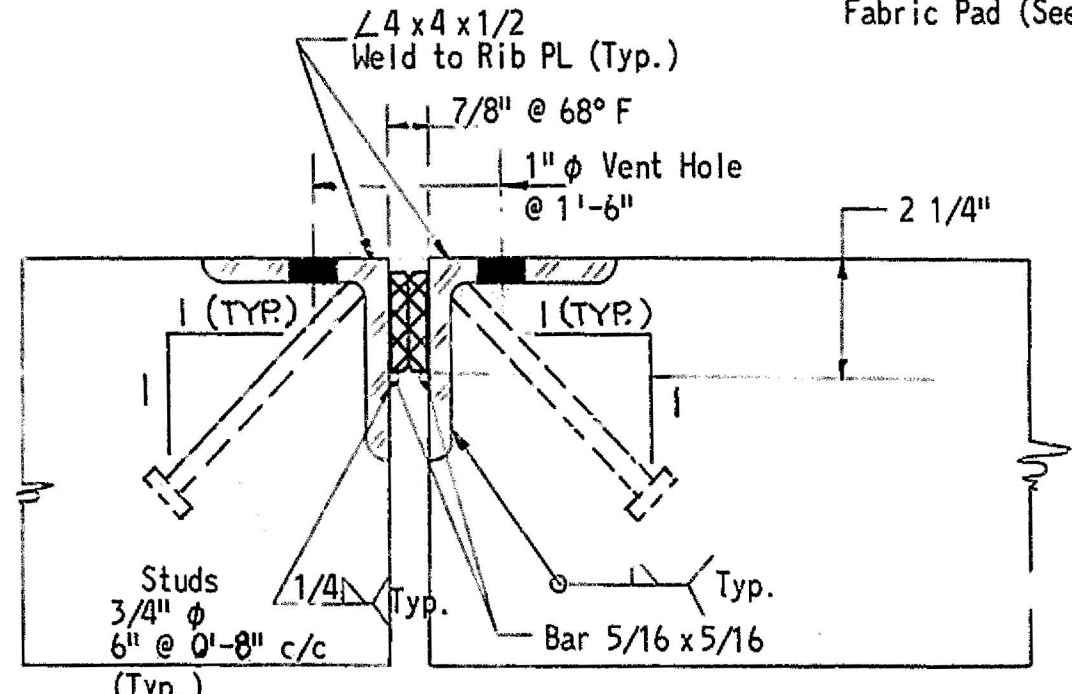


SECTION B-B
Scale: 3/4" = 1'-0"

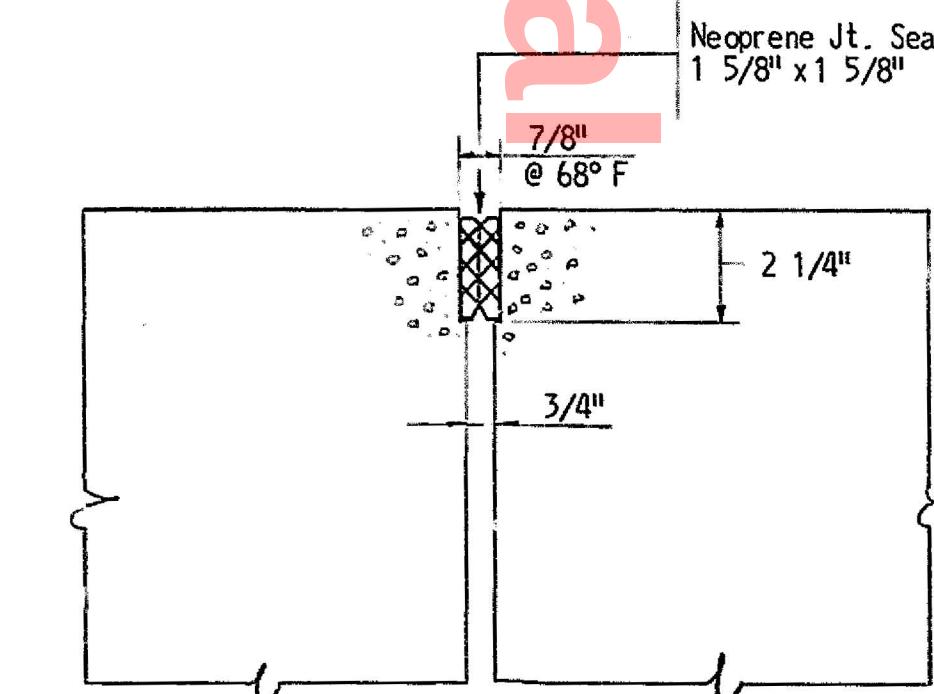
NOTE: Joints shall be attached to structural steel and backwall. See Special Provisions.



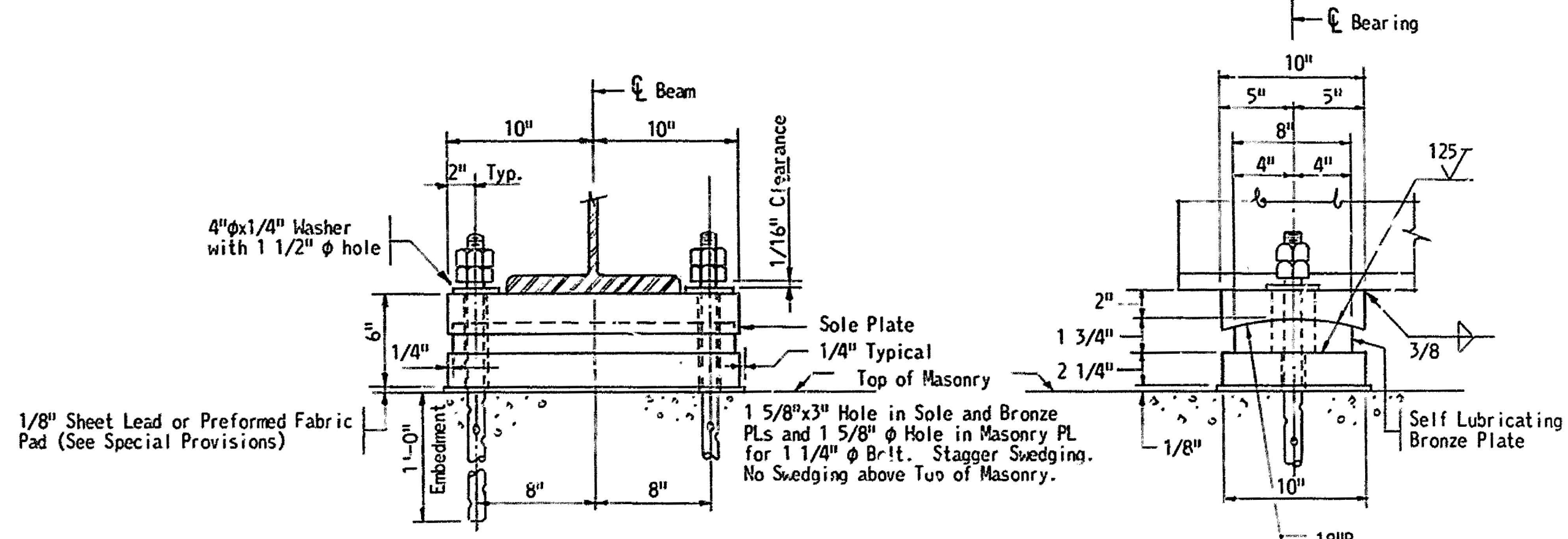
SECTION C-C
Scale: 1/2" = 1'-0"



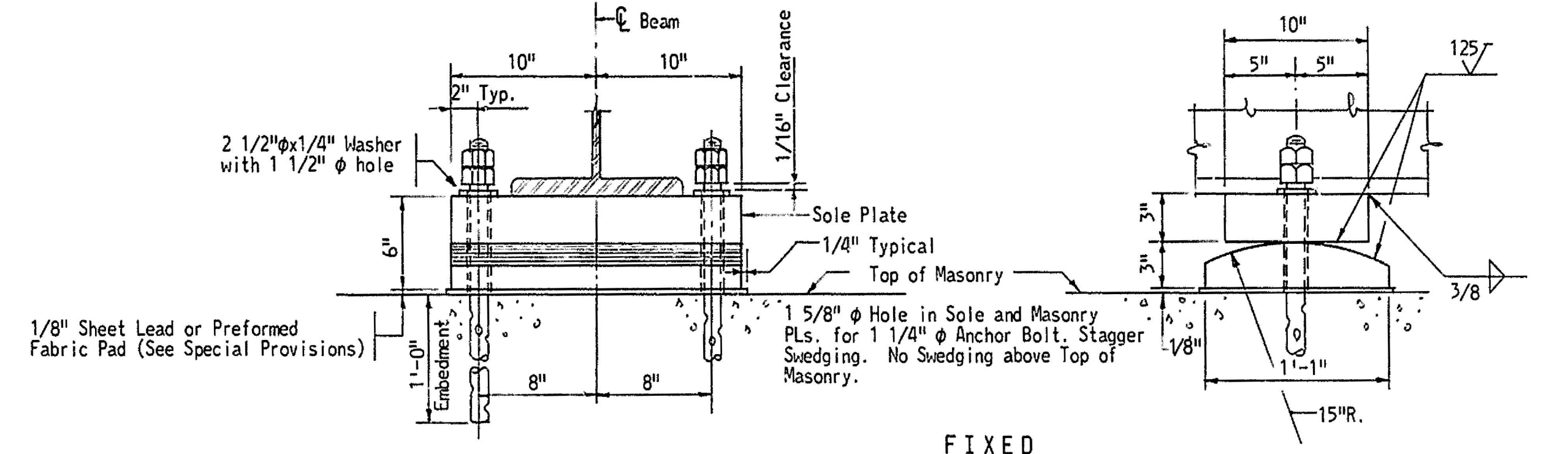
DETAIL A
Scale: 3" = 1'-0"



SECTION D-D
Scale: 3" = 1'-0"



EXPANSION

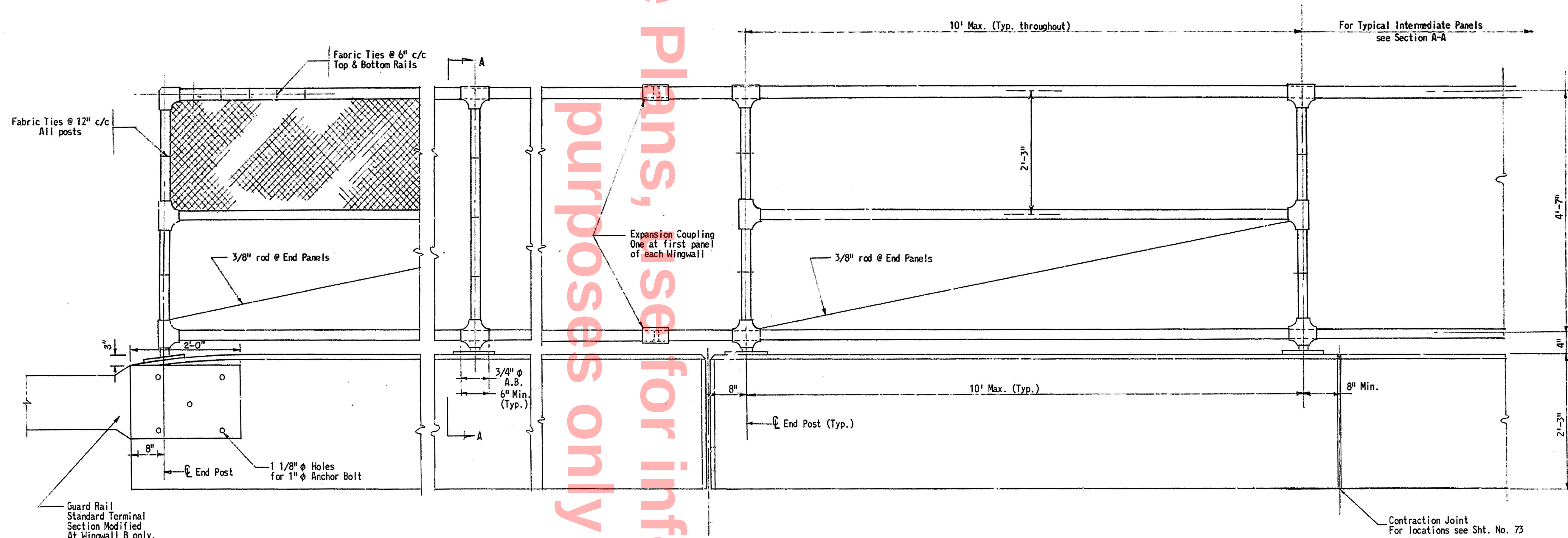


FIXED
BEARING DETAILS
Scale: 1 1/2" = 1'-0"

NOTES:
For General Notes see Sheet No. 71.
Bronze plates for Expansion Type Shoe shall conform to A.S.T.M. B22, Alloy A.
The surface finish of metal in contact indicated by the symbol $\sqrt{\hspace{0.5em}}$ shall meet the requirements as defined in United States of America Standards Institute USASI B46.1. All sliding surfaces to be finished in the direction of expansion or rotation.
For Joint Flap, provide extra length of Seal at ends of preformed elastic Jt. Sealer. Cut away all but top of shell to provide end flap, bend down and Seal with Lube Adhesive (Typ.).

DELAWARE STATE HIGHWAY DEPARTMENT		S.R. 2 OVER CENTERVILLE ROAD SUPERSTRUCTURE DETAILS - II	
J. E. GREINER COMPANY, INC. CONSULTING ENGINEERS BALTIMORE, MARYLAND	D. H.H.W. T. A.J.S. C. K.K.S.	SCALE As Shown DATE	APPROVED BY: BRIDGE ENGINEER

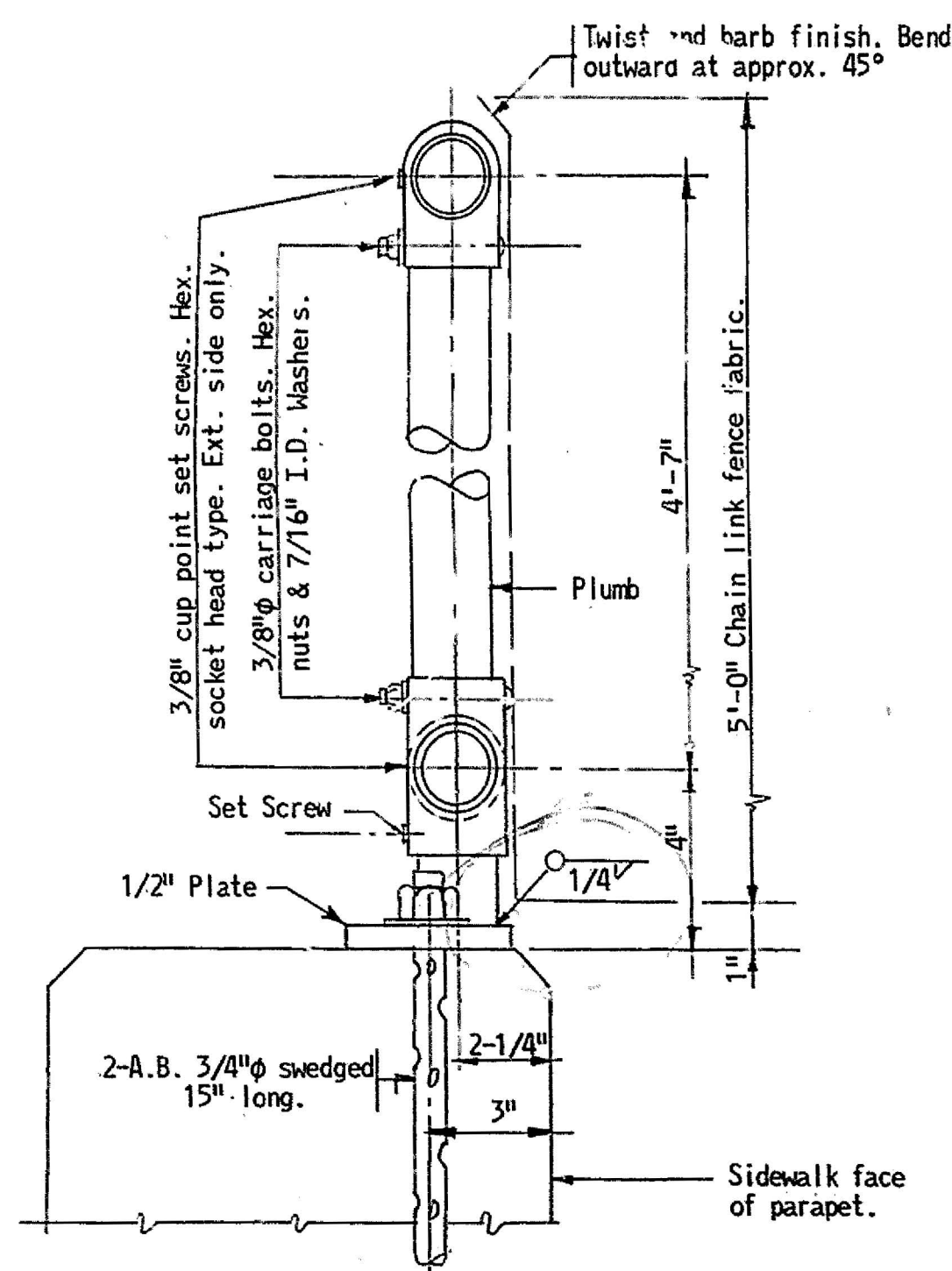
COUNTY	CONTRACT	P. R. A. REC. NO.	STATE	FED. AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
NEW CASTLE	69-02-002	2	DEL.			74	108



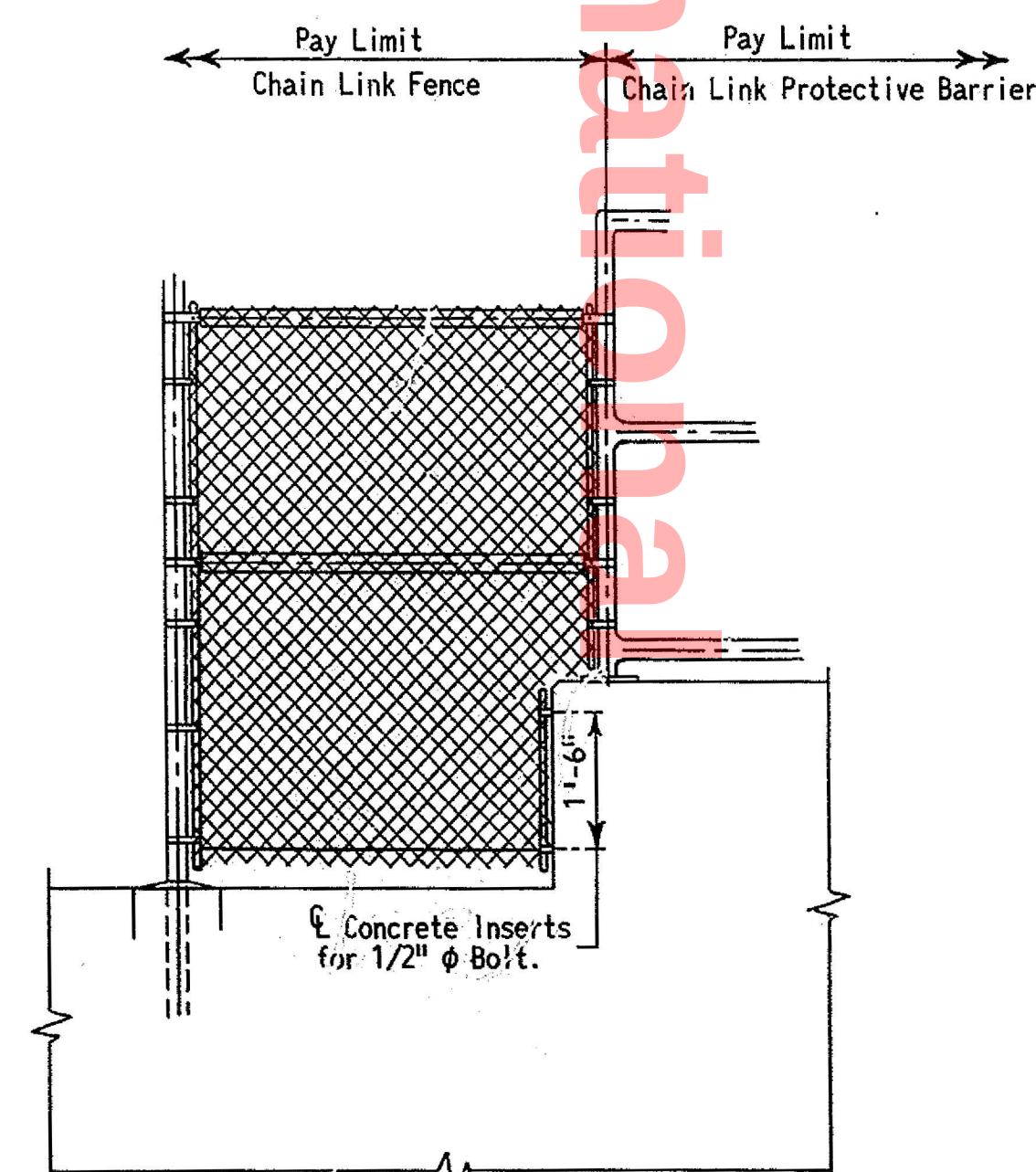
ELEVATION
Scale: 1" = 1'-0"

Note:

The chain link fence fabric shall have a one inch mesh and be of zinc coated steel or aluminum coated steel in accordance with the Special Provisions.
All posts shall be 2.875 O.D. standard weight zinc coated pipe, weight 5.79 lbs. per ft.; all rails shall be 1.66" O.D. standard weight zinc coated pipe, weight 2.27 lbs. per ft.



SECTION A-A
Scale: 3" = 1'-0"



LIMIT OF PAYMENT
No Scale

NOTES:
For General Notes see Sheet No. 71.

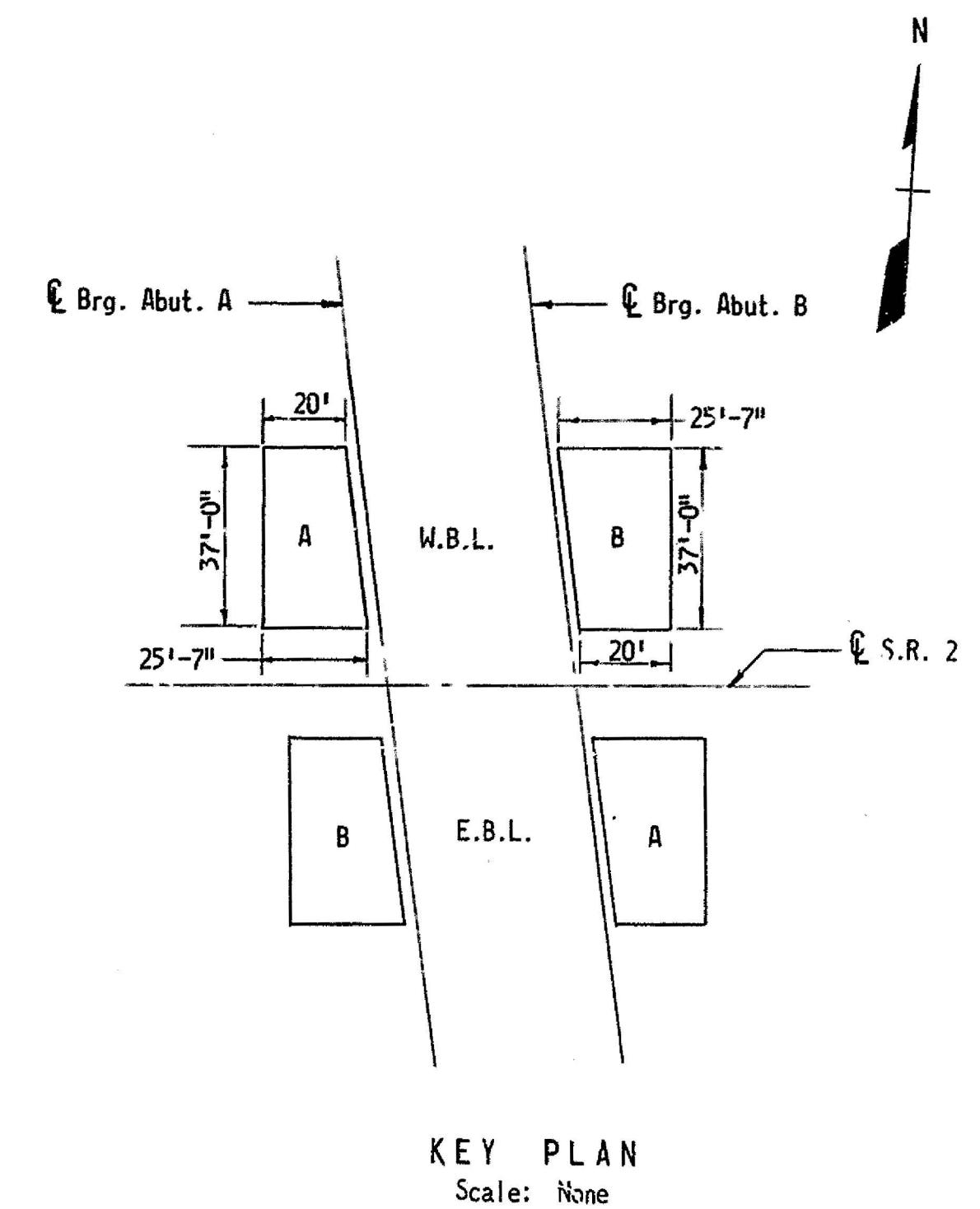
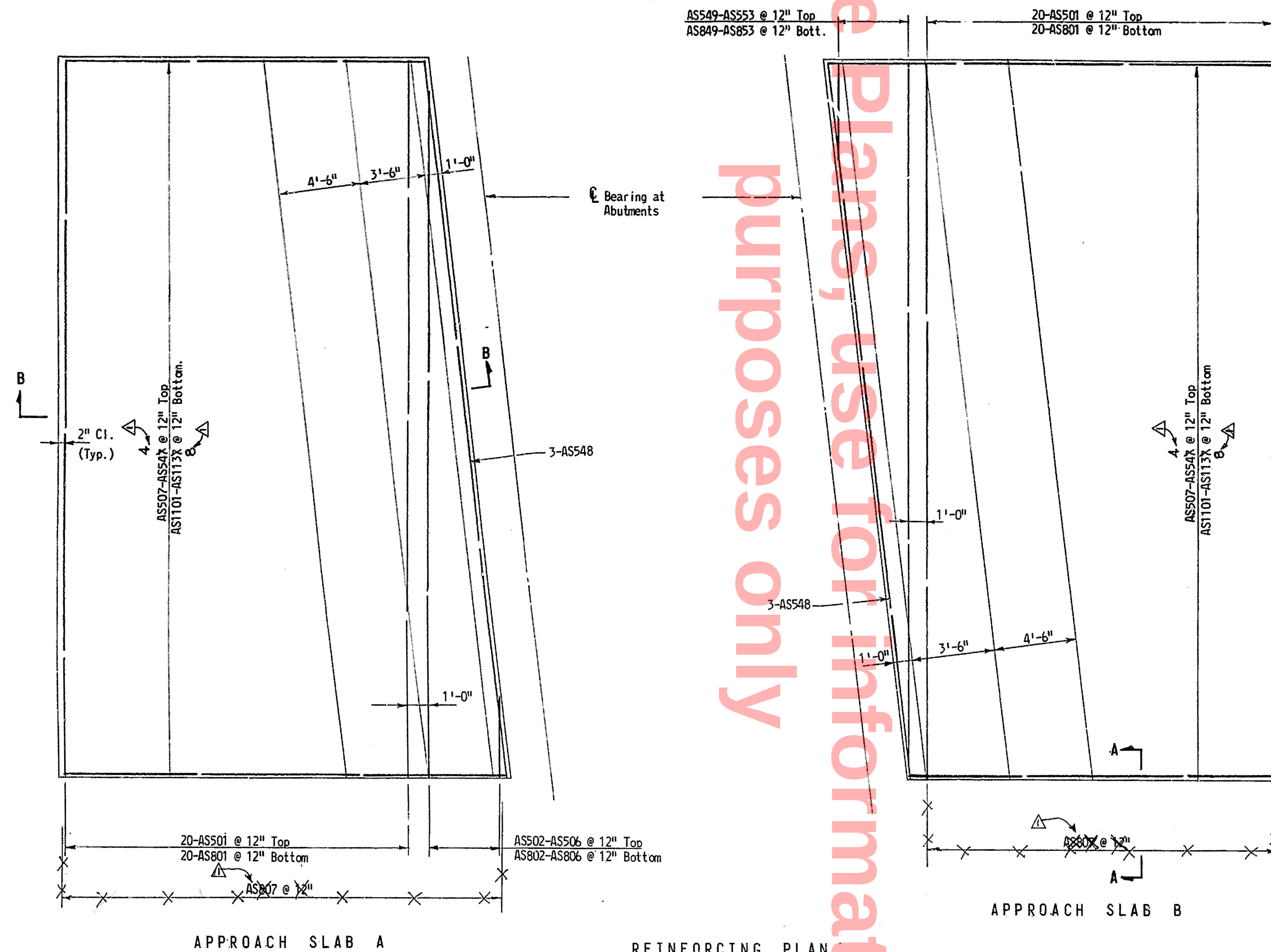
DELAWARE
STATE HIGHWAY DEPARTMENT

S. R. 2 OVER CENTERVILLE ROAD
CHAIN LINK FENCE

J. E. GREINER COMPANY, INC.
CONSULTING ENGINEERS
BALTIMORE, MARYLAND

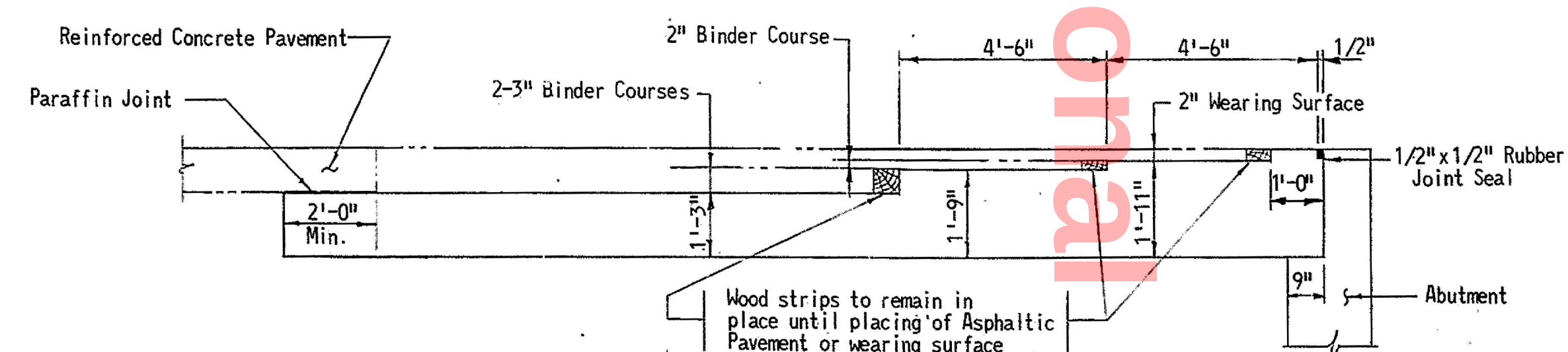
D. E.E.B.	SCALE As Shown	APPROVED BY: <i>John G. Greiner</i> BRIDGE ENGINEER
T. C.G.C.	DATE	
C. S.J.S.		

COUNTY	CONTRACT	P. R. A. REG. NO.	STATE	FED. AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
NEW CASTLE	69-02-002	2	DEL.			75	108

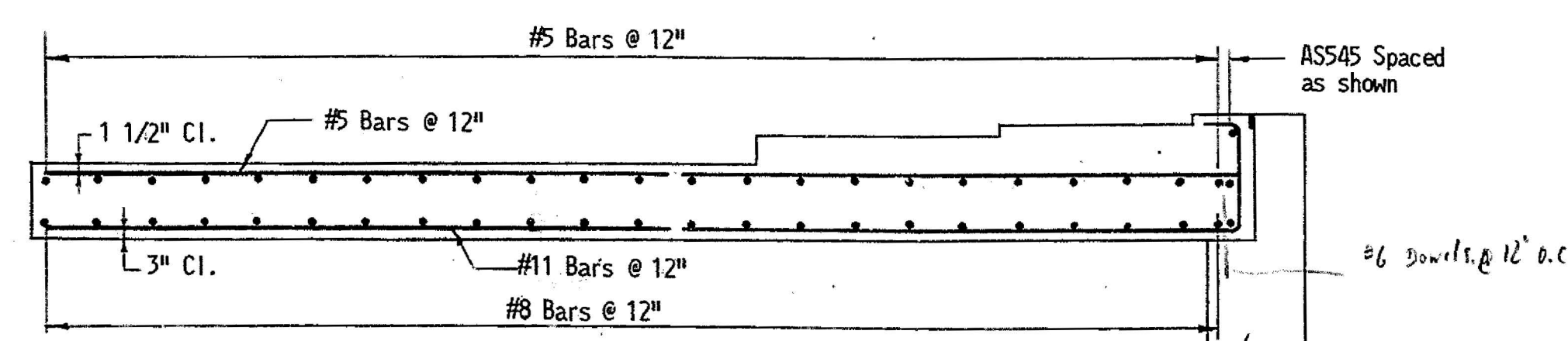


REINFORCING SCHEDULE FOR FOUR SLABS						
MARK	NUMBER REQ'D.	LENGTH	TYPE	A	B	C
ASS01	80	36'-8"	Str.			
ASS02 to ASS06	2 Ea. of 5	3'-6" to 34'-3" Increment 7'-8 1/4"	Str.			
ASS07 to ASS44	4 Ea. of 38	19'-8" to 25'-3" Increment 1 3/4"(+)	Str.			
ASS48	12	37'-0"	Str.			
ASS49 to ASS53	2 Ea. of 5	3'-6" to 34'-3" .Increments 7'-8 1/4"	Str.			
AS801	80	36'-8"	Str.			
AS802 to AS806	2 Ea. of 5	3'-6" to 34'-3" Increments 7'-8 1/4"	Str.			
AS849 to AS853	2 Ea. of 5	3'-6" to 34'-3" Increments 7'-8 1/4"				
AS1101 to AS1138	4 Ea. of 38	22'-0" to 27'-4" Increments 1 3/4" ()	I	19'-8" to 25'-2"	1'-8"	0'-8"

NOTES:
For General Notes, see Sheet No. 71.



SECTION B-B
Scale: 3/8" = 1'-0"
(Typ. for Approach Slab B)



SECTION B-B
SLAB REINFORCING
Scale: $3/8" = 1'-0"$
(Typ. for Approach Slab B)

DELAWARE
STATE HIGHWAY DEPARTMENT

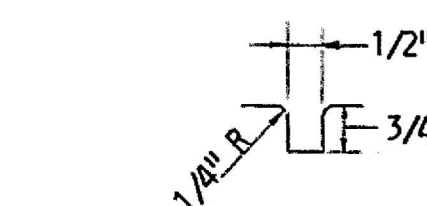
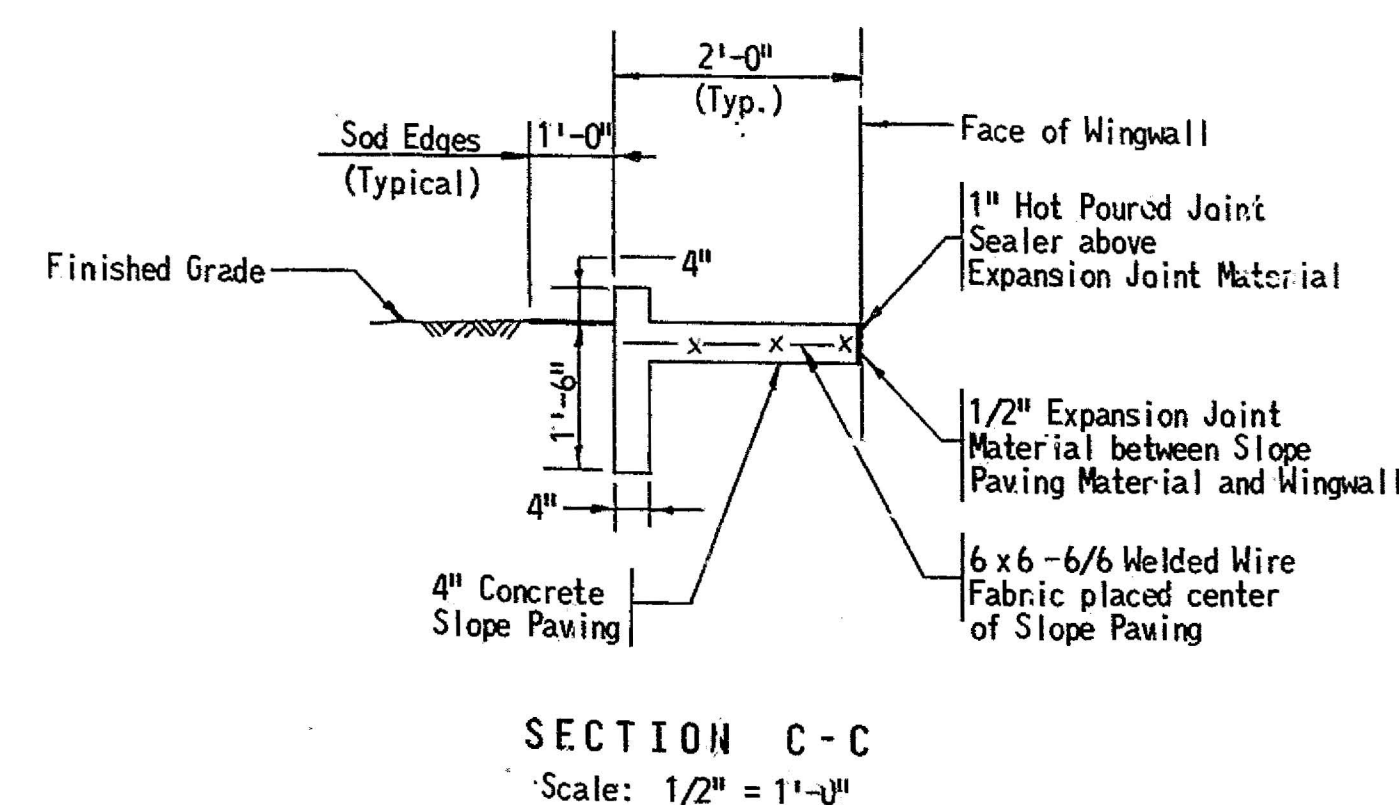
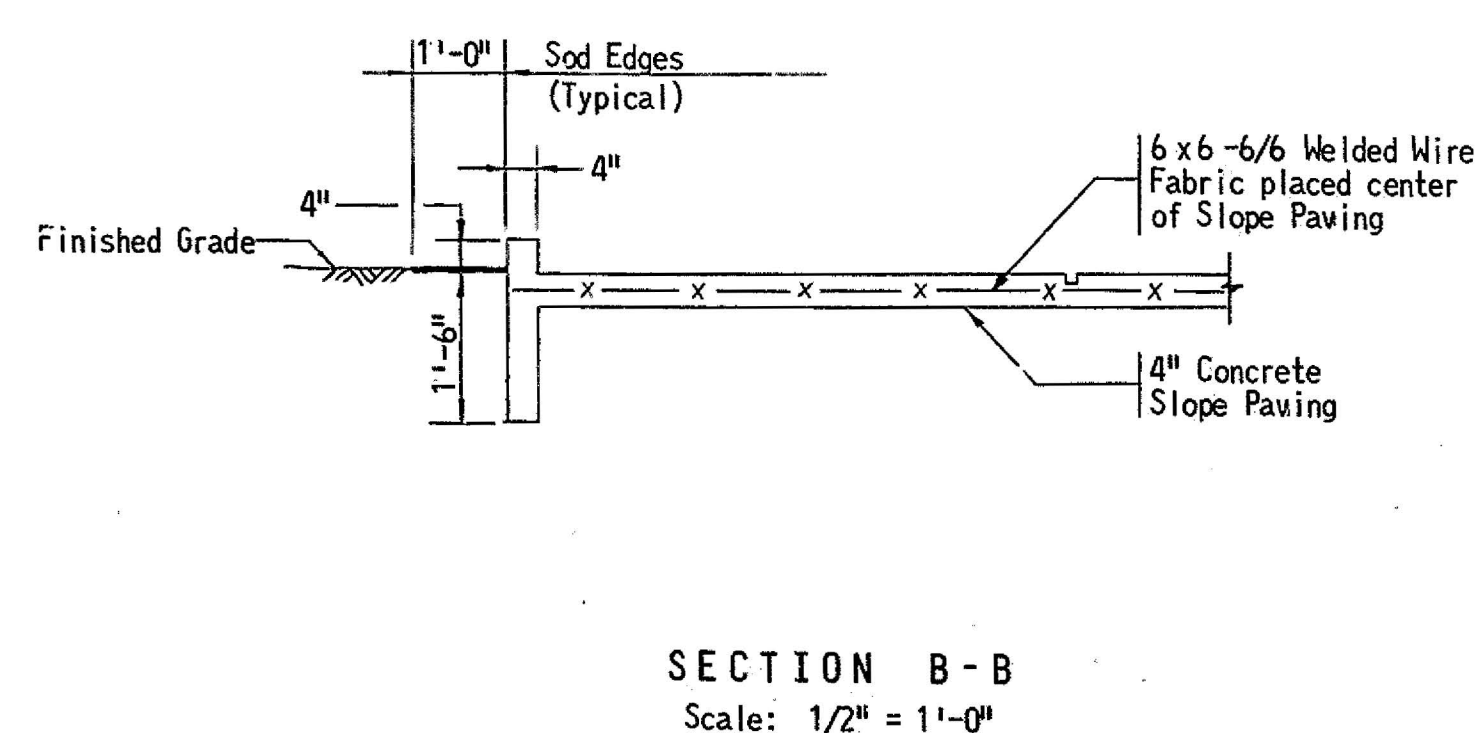
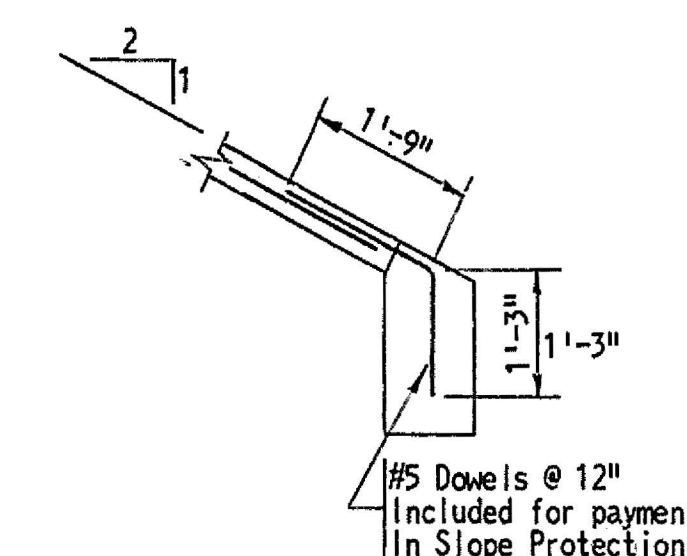
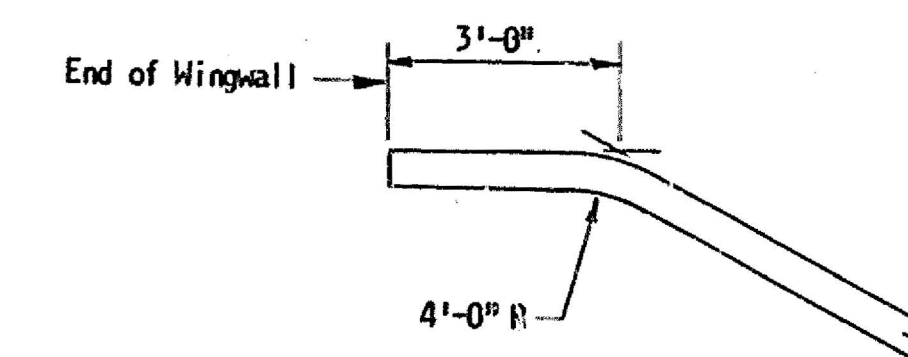
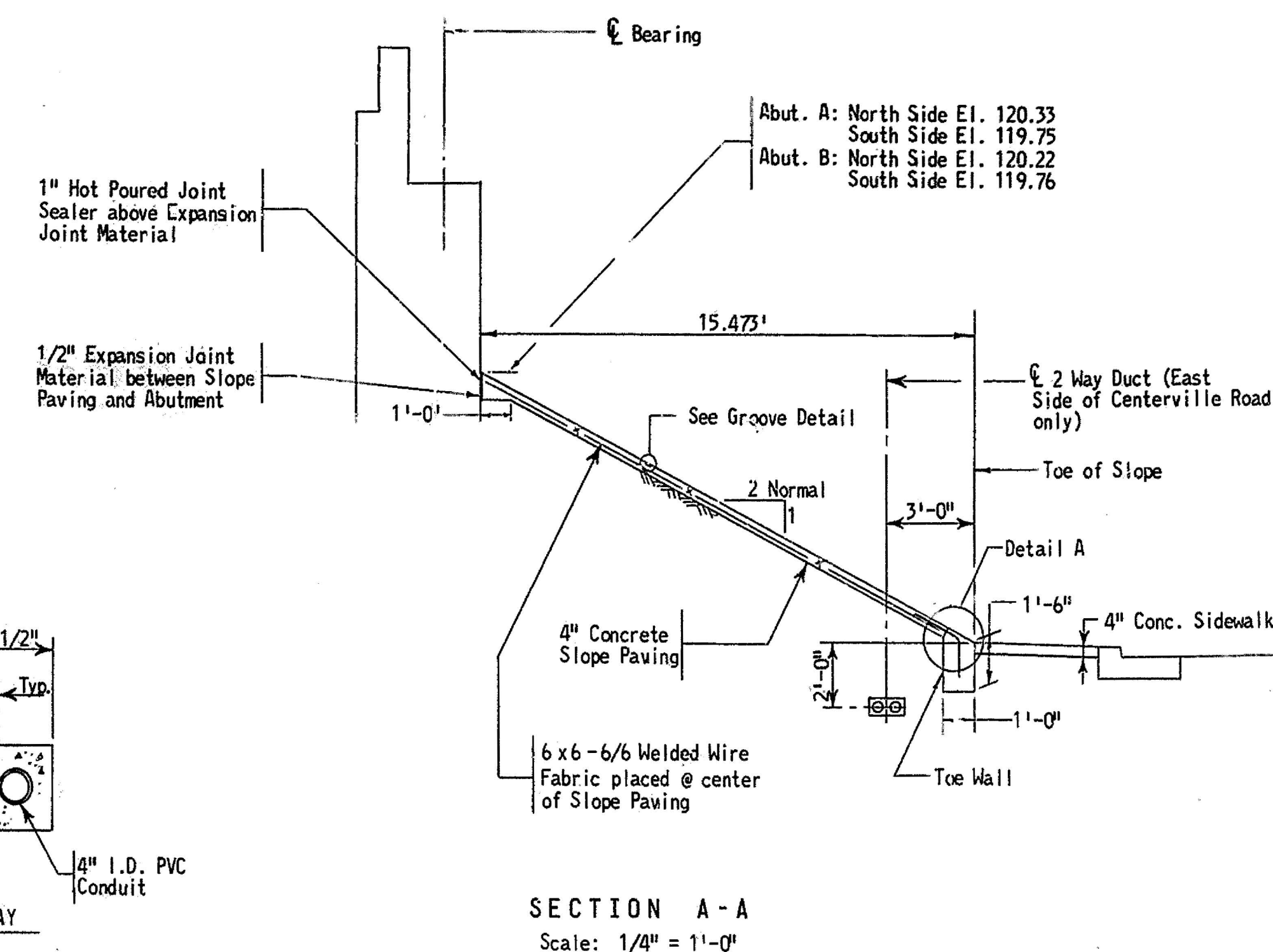
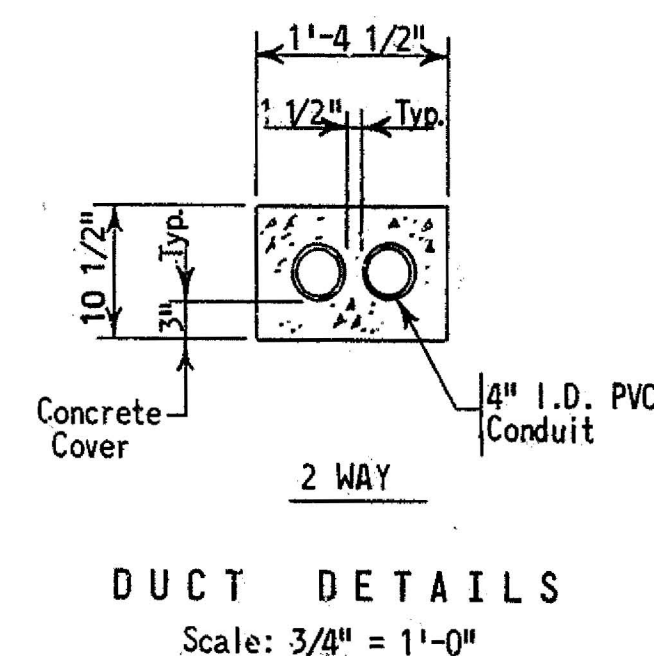
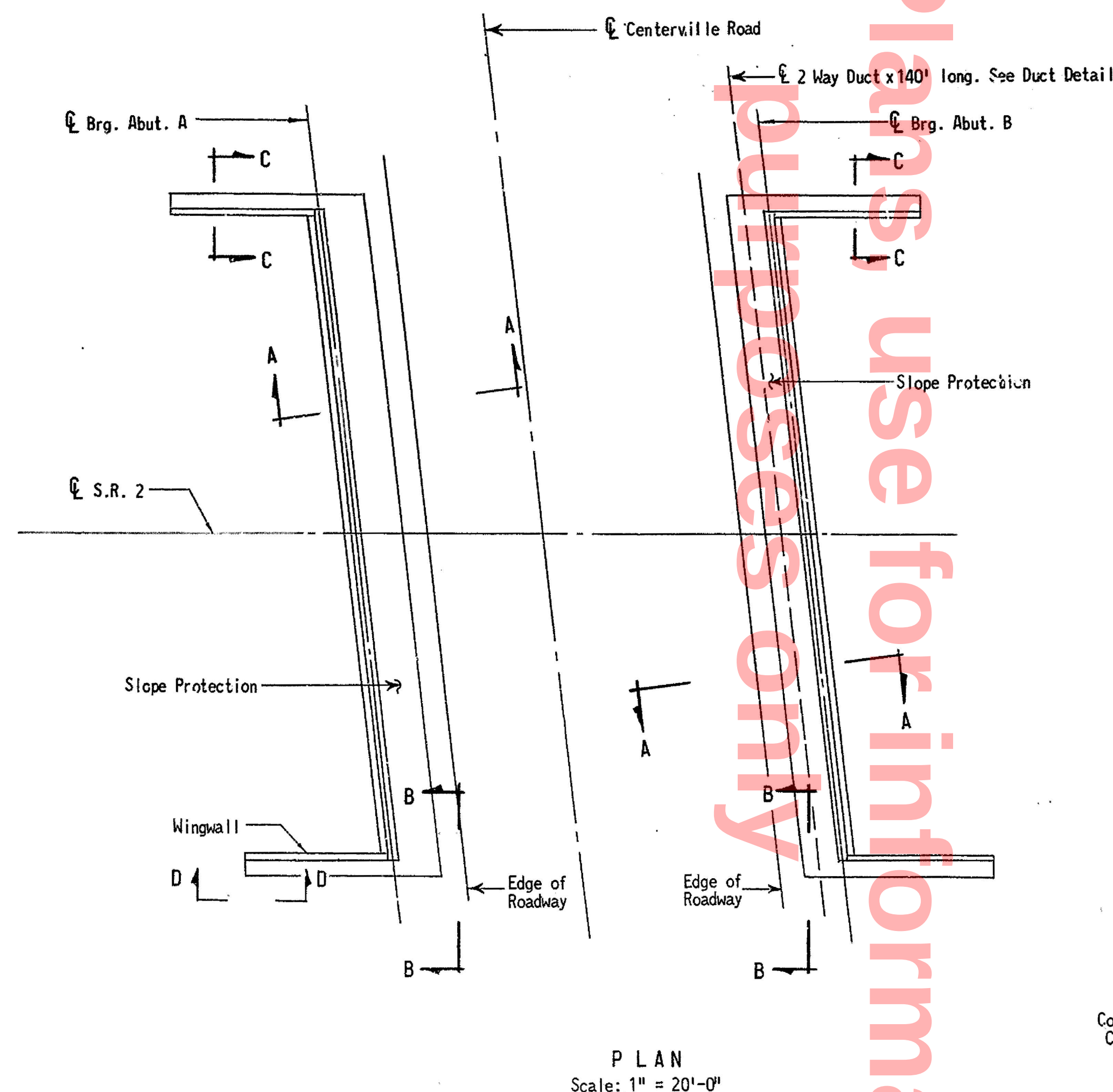
S.R. 2 OVER CENTERVILLE ROAD
APPROACH SLABS

J. E. GREINER COMPANY, INC.
CONSULTING ENGINEERS
BALTIMORE, MARYLAND

D.	D.F.I.
T.	D.F.I.
C.	B.S.C.

SCALE As Shown	APPROVED BY: 
DATE	BRIDGE ENGINEER

COUNTY	CONTRACT	P. E. A. NO.	STATE	FED. AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
NEW CASTLE	69-02-002	2	DEL.			76	108

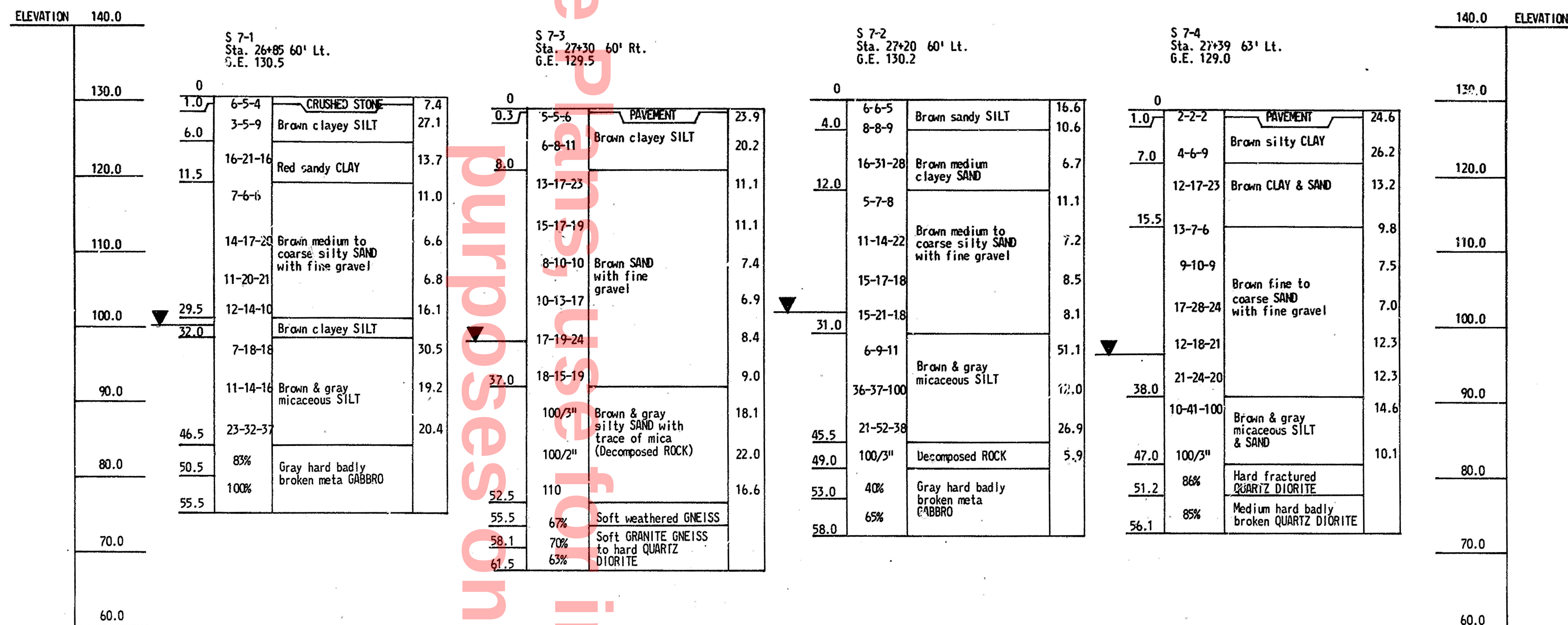


NOTES:
For General Notes see Sheet No. 71.

DELAWARE STATE HIGHWAY DEPARTMENT			
S.R. 2 OVER CENTERVILLE ROAD SLOPE PROTECTION DETAILS			
D. D.F.I.	SCALE AS SHOWN	APPROVED BY: <i>John E. Greiner</i> BRIDGE ENGINEER	
T. D.F.I.	DATE		
C. H.H.W.			

J. E. GREINER COMPANY, INC.
CONSULTING ENGINEERS
BALTIMORE, MARYLAND

COUNTY	CONTRACT	P. & A. RES. NO.	STATE	FED. AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
NEW CASTLE		2	DEL.			77	108



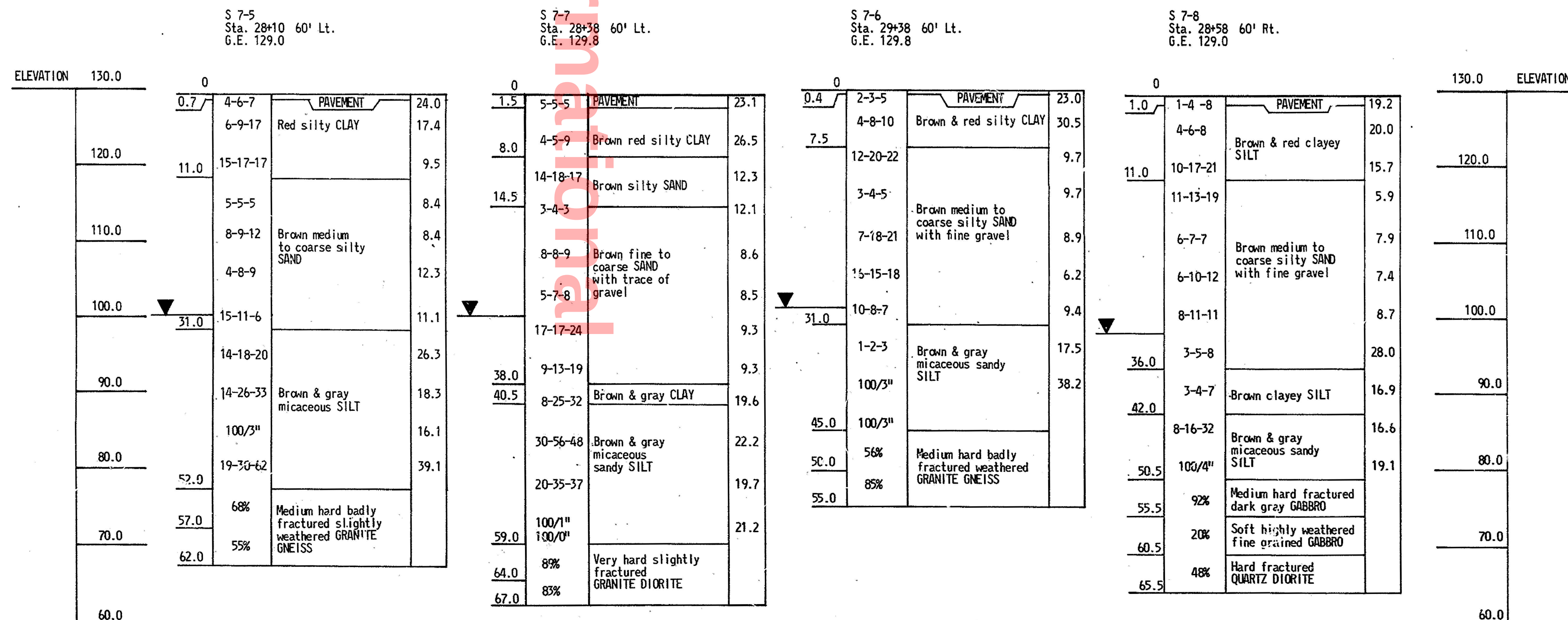
LEGEND

A	B	C	D
---	---	---	---

- ▼ Ground Water level.
- A Depth in feet at change in soil or rock strata.
- B Standard penetration resistance in blows per six inches of driving or percentage of rock core recovery.
- C Description of principal soil or rock strata.
- D Natural moisture content in percent

NOTE:

Boring station and offset from C.S.R. 2.
Borings are 2 1/2" ID Casing with standard split spoon.



FOR INFORMATION ONLY

DELAWARE
STATE HIGHWAY DEPARTMENT

S. R. 2 OVER CENTERVILLE ROAD
BORING LOGS

J. E. GREINER COMPANY, INC.
CONSULTING ENGINEERS
BALTIMORE, MARYLAND

D. L.M.H.	SCALE As Shown	APPROVED BY:
T. H.A.S.	DATE 9/10/70	<i>John G. Sauter</i>
C. L.M.H.		BRIDGE ENGINEER