

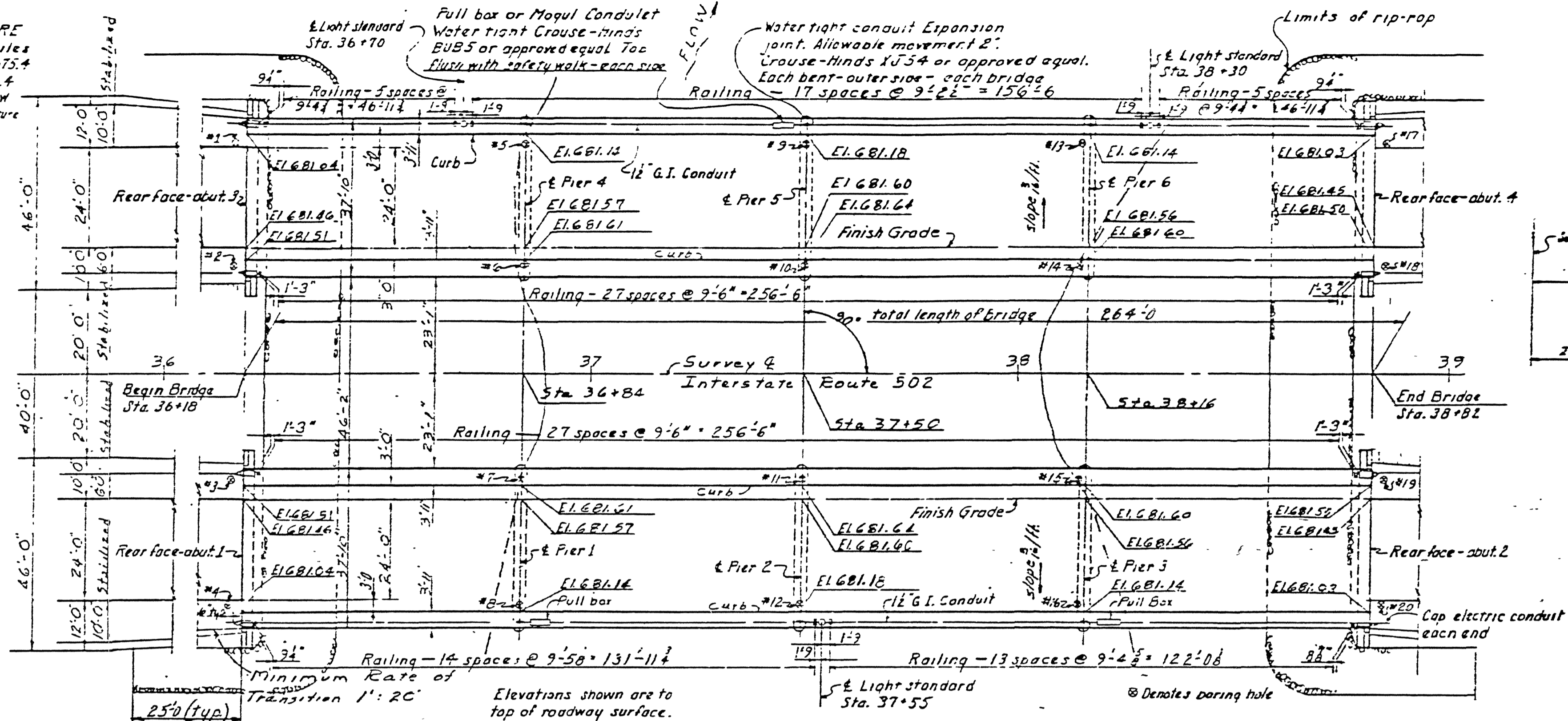
HYDRAULIC DATA
PROPOSED STRUCTURE
 Drainage Area: 4.26 sq. miles
 Max. High Water: 50 yr. Flood - El. 675.4
 High Water: March 1951 - El. 673.4
 Waterway Opening: 4550 sq. ft. to H.W.
 Design V: 0.65 ft. thru structure
 Discharge: 30960 c.f.s.
 Channel Slope: 0.7%

FED. ROAD DIST. NO.	T. E. N.	FEDERAL AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
3	N	-75-1(0)2	1960	38	244

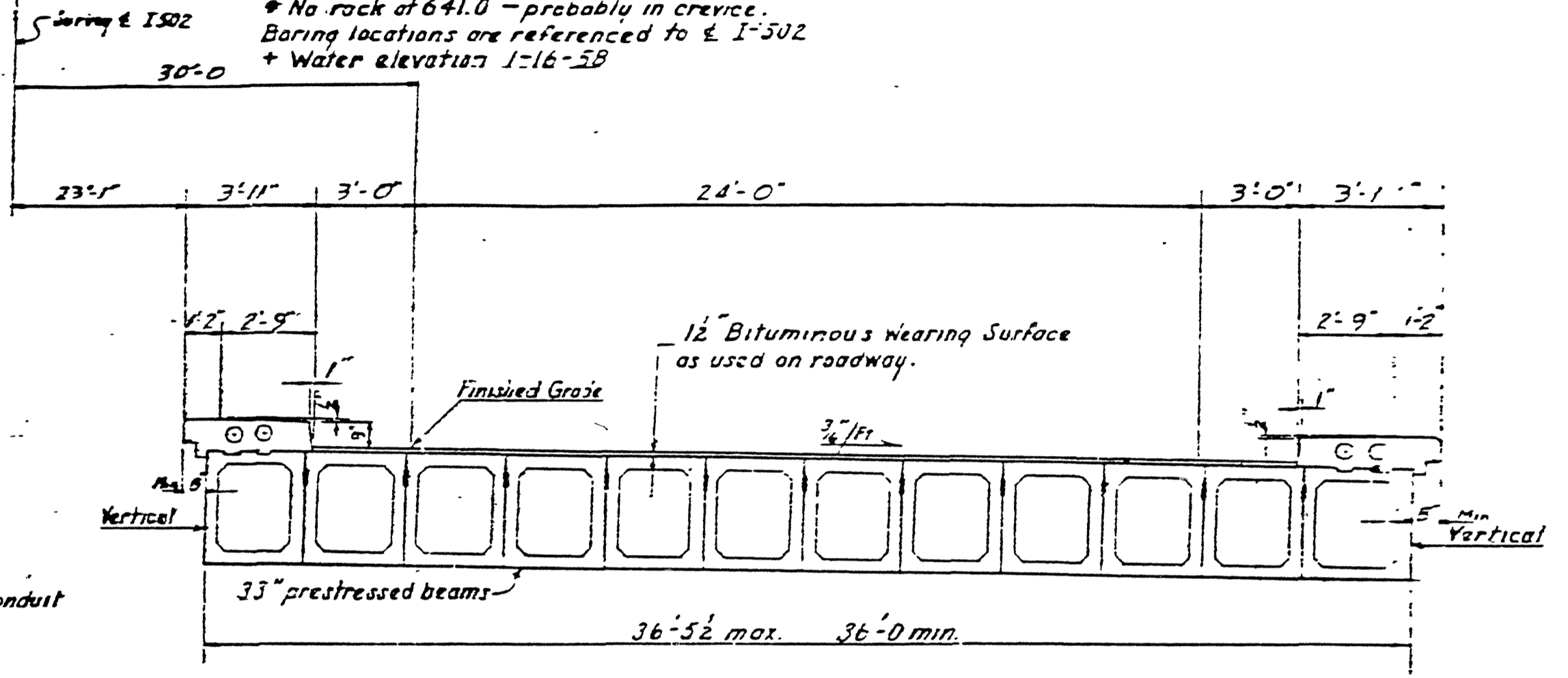
BORINGS

NO.	STATION	OFFSET	WATER ELEV.	ROCK ELEV.	WATER ELEV. 10' DEEP	ROCK ELEV. 10' DEEP
1	36+15.54	---	670.6	667.5	11.37+50	277.656.0 649.0 647.3
2	36+15.27	---	667.4	642.4	12.37+50	354. not sounded
3	36+15.27	---	664.8	659.3	13.39+14	551. 656.0 651.0
4	36+15.55	---	663.9	656.9	14.32+14	274. 656.0 650.9 645.0
5	36+84.53	11	656.0	643.0	15.32+14	277. 656.0 650.6 649.0
6	36+84.27	11	656.0	643.0	16.38+14	334. 656.0 651.3 646.0
7	36+84.12	11	656.0	643.0	17.36+14	365. 656.0 651.3 646.0
8	36+84.55	11	656.0	643.0	18.38+14	371. 656.0 650.2
9	37+50.55	10	649.4	640.0	19.38+14	385. 649.0 645.5
10	37+50.27	10	649.3	646.5	20.38+14	385. 649.0 647.5

Holes 5 through 16 inclusive sounded with steel rod by hand.
 * No rock at 641.0 - probably in crevice.
 Boring locations are referenced to \pm I-502
 + Water elevation 1-16-58



PLAN



CROSS SECTION

LIGHTING ACCESSORIES
 532' G.I. Conduit 12" (4x2)
 3 Full Boxes
 6 Expansion joints
 4 caps
 Wiring not included.

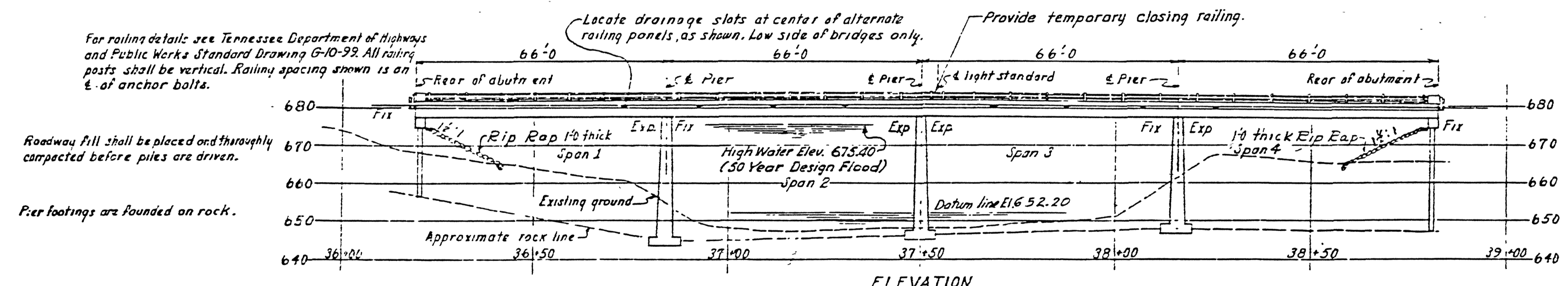
GENERAL NOTES

- Specifications: A. A. S. H. O. 1937 Standard Specifications for Highway Bridges, and tentative revisions thereto, except as modified by the Bureau of Public Roads Policy on Interstate Construction and Criteria for Prestressed Concrete Bridges, 1954, and the Standard Specifications for Road and Bridge Construction, of the Tennessee Department of Highways and Public Works.
- Loading: H20-S16-44 and P.P.M. 20-4
- Cost of joint material shall be included in Class "A" concrete unless otherwise provided for in special provisions.
- The 12" Bituminous Wearing Surface is included in Bridge Quantities on Roadway Plans.
- Lighting Accessories installation shall include all lighting accessories shown on plan complete in place, except wiring. Special provisions for roadway lighting shall apply. Wiring to be installed under Roadway Lighting item.
- The contractor for prestressed members must submit details of members and obtain approval from the engineer before proceeding with manufacture.
- Steel bar reinforcement shall be intermediate grade or hard grade steel.
- Steel bar reinforcement shall be lapped a minimum of 30 diameters.
- For masonry piers, prestressed beams, see special provisions.
- All poured in place concrete shall be Class "A".
- Rock Drilling: After Bent Foundations Are Uncovered, Holes Six (6) Feet Deep Shall Be Drilled Into Rock At Points Designated By The ENGINEER.

TRAFFIC VOLUMES ON I-502

For railing details see Tennessee Department of Highways and Public Works Standard Drawing G-10-99. All railing posts shall be vertical. Railing spacing shown is an \pm of anchor bolts.

Roadway fill shall be placed and thoroughly compacted before piers are driven.
 Pier footings are founded on rock.



ELEVATION

TABLE OF ESTIMATED QUANTITIES

Item No.	Unit	Item	Span 1	Span 2	Span 3	Span 4	Span 5	Span 6	Span 7	Span 8	Span 9	Span 10	Total
17-2	C.Y.	Dry Excavation (Bridges)	5		5	5		5					20
17-3	C.Y.	Wet Excavation (Bridges)	9	29	26	44	32	69					209
17-4	C.Y.	Rock Excavation (Piers)	40	12	23	23	13	11					122
17-5	L.F.	Rock Drilling (Bridges)											72
135-4	C.Y.	Class A Concrete	14	14	14	14	72	69	69	76	70	72	371
135-12	Lbs	Steel Bar Reinforcement	1200	1200	1200	1200	9443	3097	8981	9890	9236	9444	13941
137-3	L.F.	Steel Piles 10 BP 42											672
154-7A	Ea.	33" deep x 65" dia. long Uniform section											48
154-7B	Ea.	33" deep x 65" dia. long Uniform section											48
702	L.F.	Steel Handrail (2 Rail)											1054
176	C.Y.	Fill Haz	118	118	118	118							472
601	L.F.	Lighting Accessories (see notes)											1

* Rubble stone (plain) or sacked sand-cement

QUANTITIES IN PRESTRESSED BEAMS

Concrete : 982 C.Y.
 Strands : 61,300 LB.
 Reinf. steel : 96,000 LB.

VERTICAL CURVE DATA
INTERSTATE ROUTE 502

+0.314%
 -0.318%
 P.V.I. Sta. 37+50
 Elev. 681.91
 L.V.C. = 400'
 M.O. = .32'

33-75-1.92

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 FOR

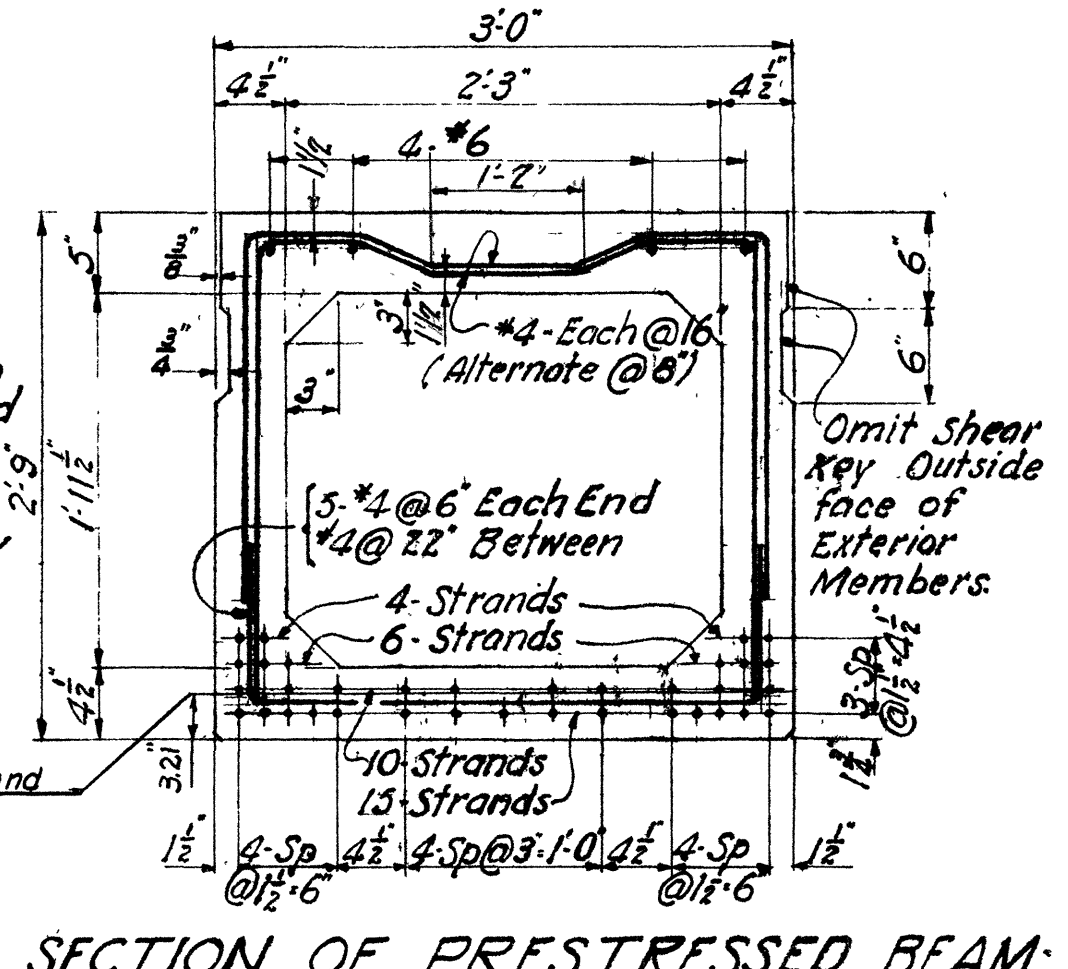
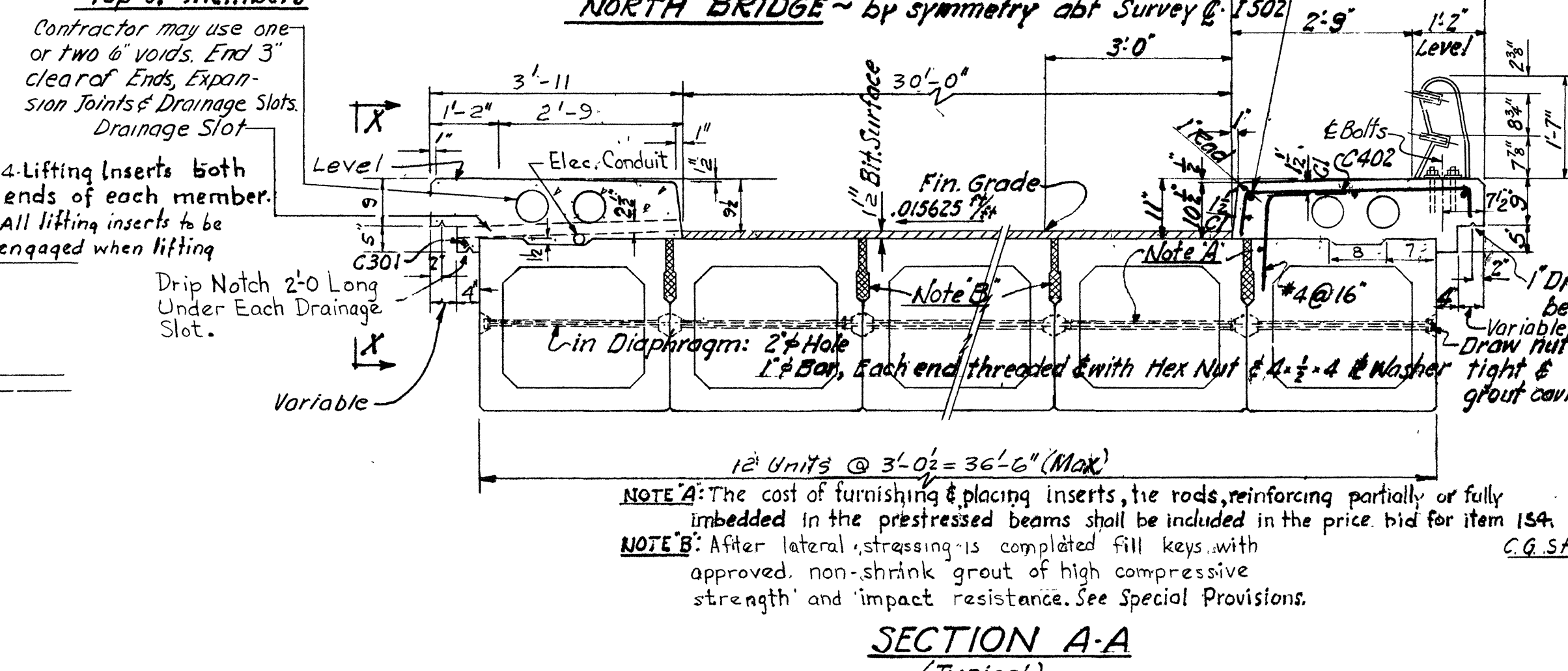
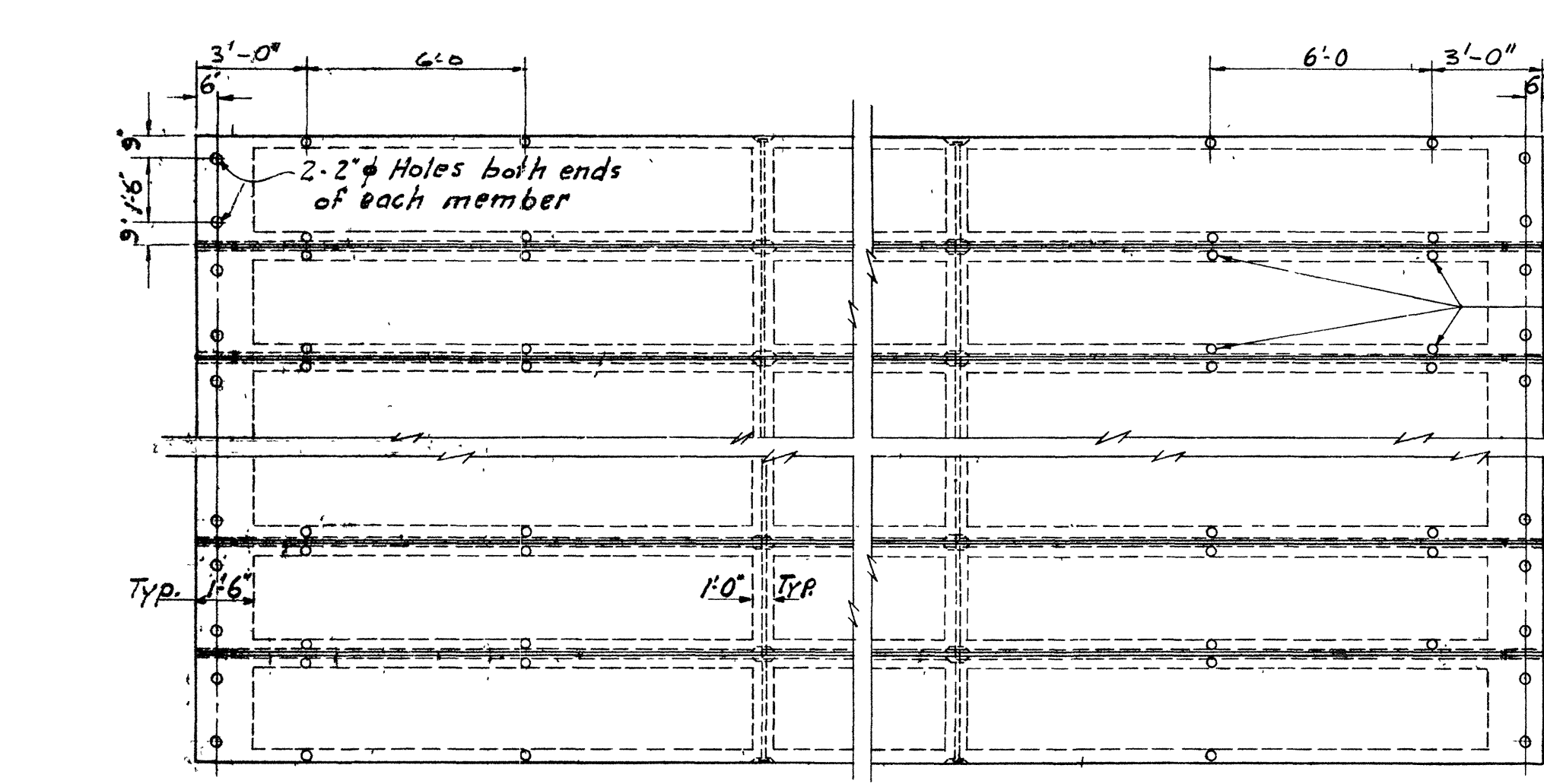
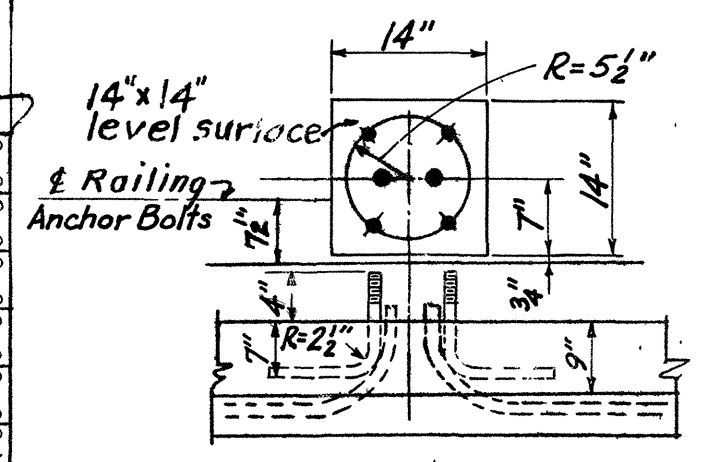
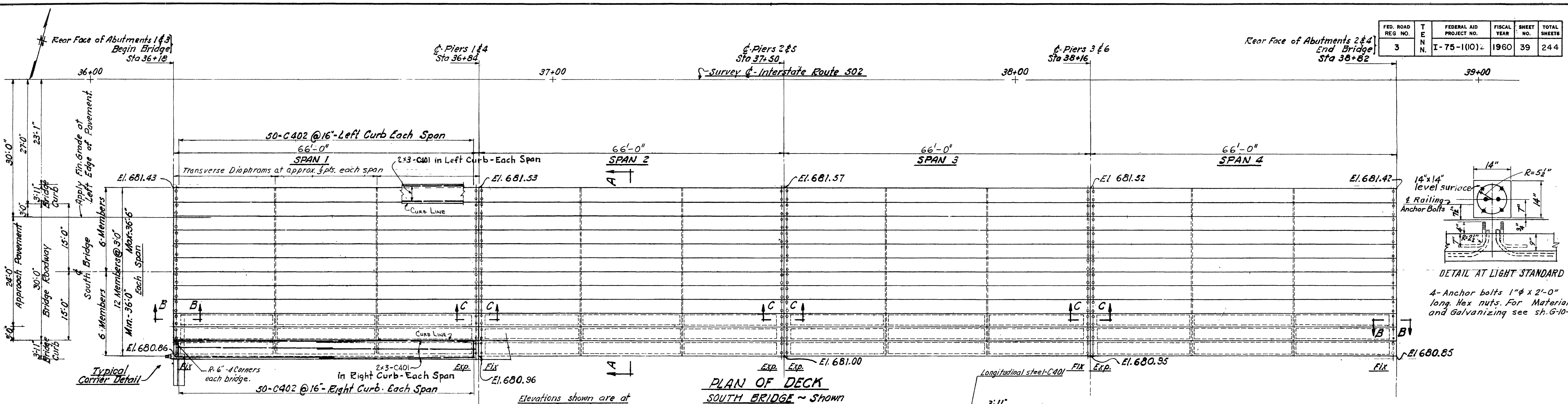
STATE OF TENNESSEE
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 AND PUBLIC WORKS
 NASHVILLE

GENERAL PLAN
 STRUCTURES OVER
 SOUTH CHICKAMAUGA CREEK
 INTERSTATE ROUTE 502 STATION 37+50
 HAMILTON COUNTY

LIST OF DRAWINGS

TITLE	NO.
GENERAL PLAN	H-7-117
BECK PLAN & DETAILS	H-7-118
ABUTMENTS	H-7-119
PIERS	H-7-120
STEEL HANDRAIL STD. RAIL TYPE	G-10-99
STEEL PILE DETAILS	H-5-100

FED. ROAD REG. NO.	T E N N.	FEDERAL AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
3		I-75-1(10)2	1960	39	244



NOTES

Contractor for Prestressed Members must submit details of members and obtain approval from the engineer before proceeding with manufacture of members.

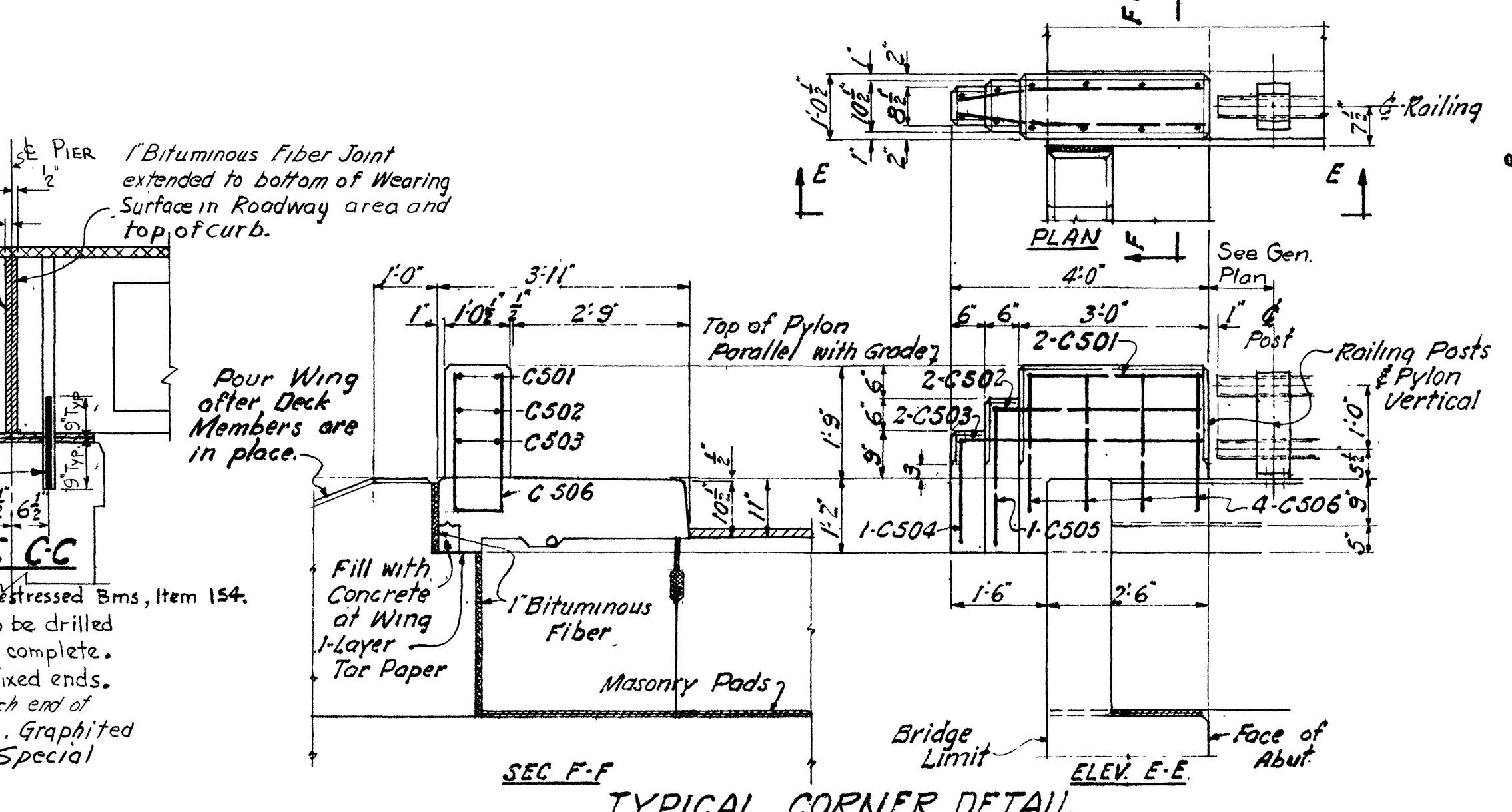
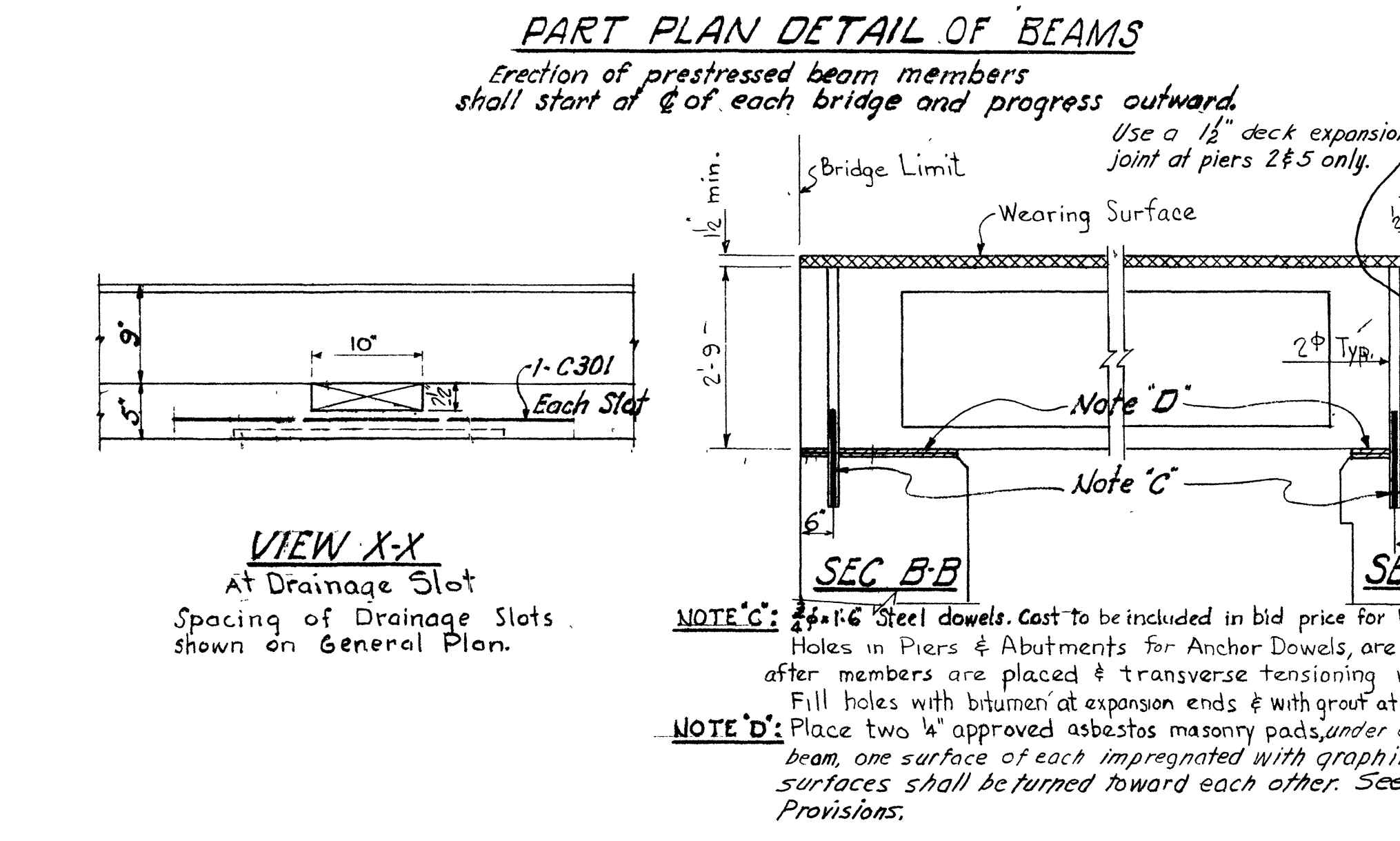
Provision may be made in the fascia of exterior units to facilitate forming of curbs. This shall require approval by the engineer.

Initial stress/strand = 14000 LB.
 Lateral tension shall be 17000 LB. in 1"φ bar = 22000 Lb/in² on gross section of bar.

Curbs cast in place after grouting and lateral stressing.

Beams may be made rectangular, with sides normal to the roadway, or with sides vertical, except that outside faces of curb beams shall be vertical.

Railing and curbs shall conform to vertical curve.



SUPERSTRUCTURE BAR LIST

MARK	SIZE	QUANTITY				LGTH	TYPE	WEIGHT (LB)					
		BY SPAN	BY SPAN	BY SPAN	BY SPAN			TOT.	BY SPAN	BY SPAN	BY SPAN	BY SPAN	TOT.
C301	3	2	6	6	2	16	3'-0"	St	3	6	6	3	18
C401	4	24	24	24	24	96	33'-6"	St	548	548	548	548	2192
C402	4	200	200	200	200	800	4'-0"	St	635	635	635	635	2540
C501	5	8	8	8	8	16	2'-9"	St	23				46
C502	5	8	8	8	8	16	3'-3"	St	27				54
C503	5	8	8	8	8	16	3'-9"	St	32				64
C504	5	4	4	4	4	8	3'-9"	St	16				32
C505	5	4	4	4	4	8	4'-11"	St	21				42
C506	5	16	16	16	16	32	5'-3"	St	89				178
									1394	1189	1189	1394	5166

Bar List includes reinforcing for both North & South Bridges.

QUANTITIES

ITEM NO.	ITEM	SPANS				TOTAL
		1	2	3	4	
135-4	CY Glass 'A' Concrete	37	36	36	37	146
135-42	LB Steel Bar Reinforcing	1394	1189	1189	1394	5166

Quantities are identical for North & South Bridges.
 Quantities shown are for both Bridges.

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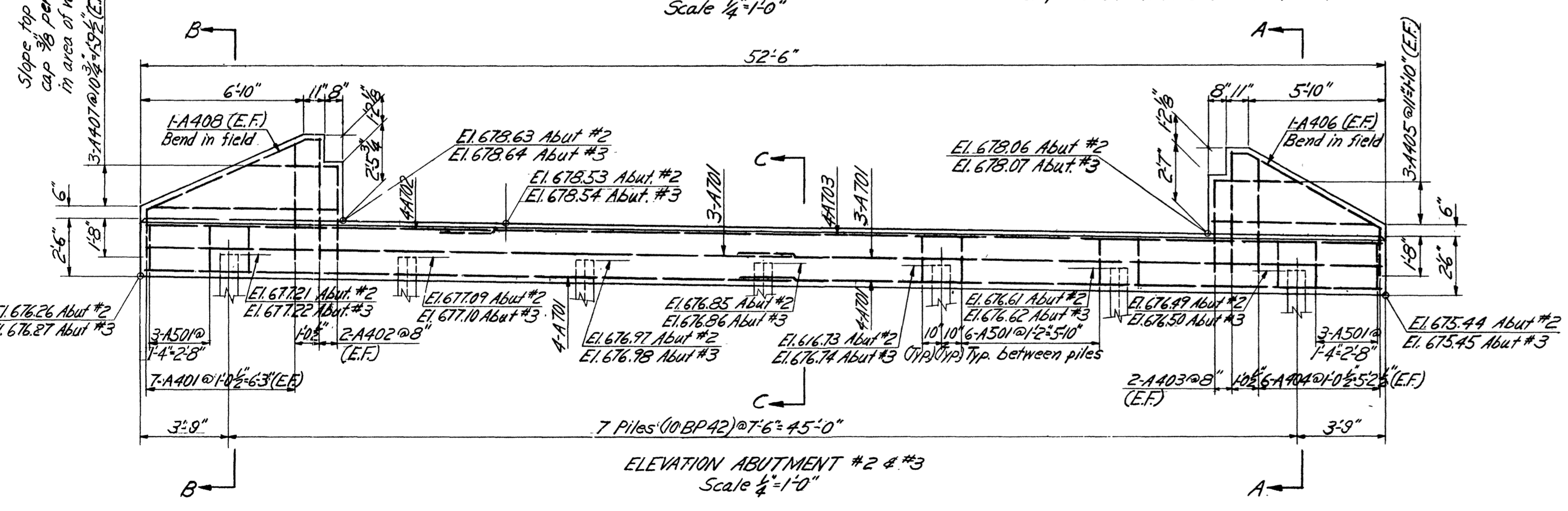
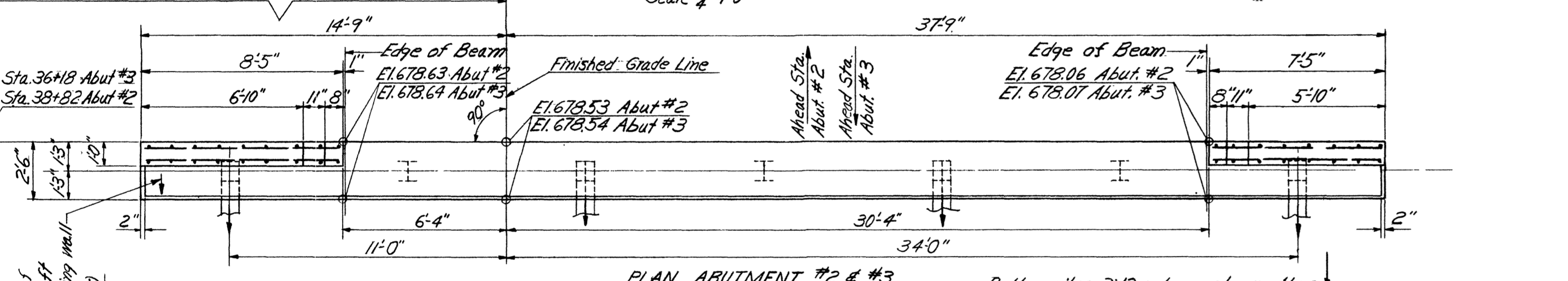
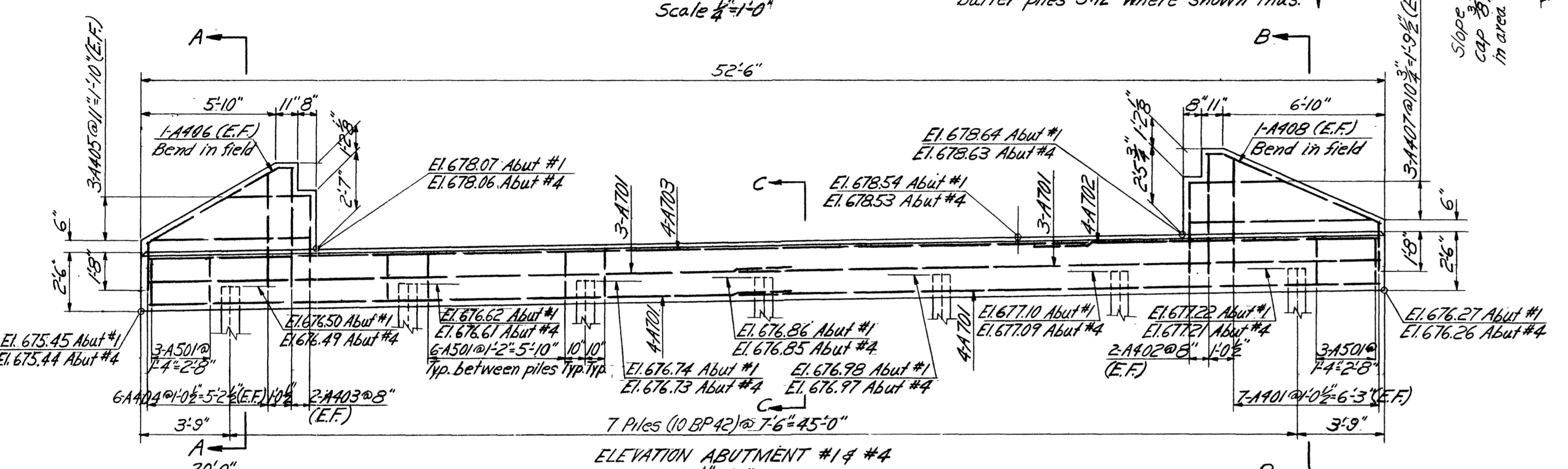
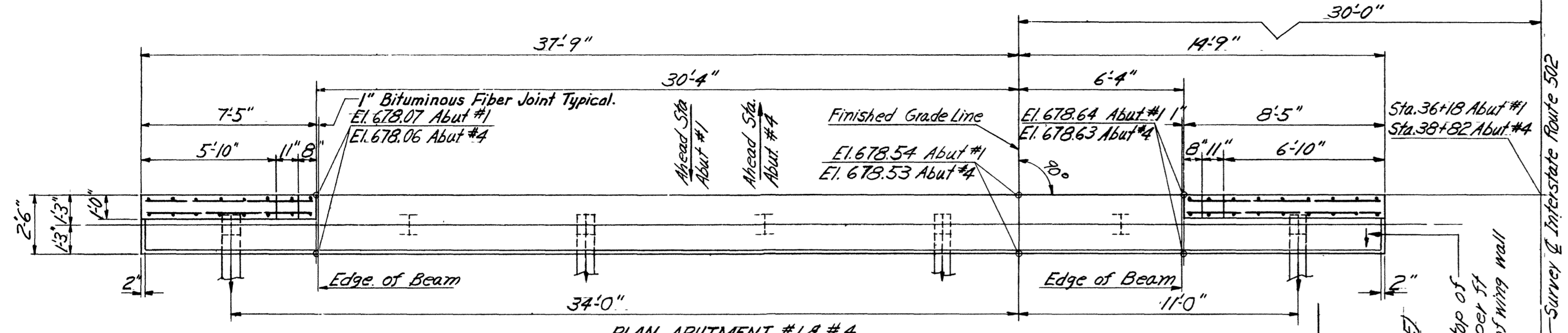
STATE OF TENNESSEE
 DEPARTMENT OF HIGHWAYS
 AND PUBLIC WORKS
 NASHVILLE

DECK PLAN & DETAILS
 STRUCTURES OVER
 SOUTH CHICKAMAUGA CREEK
 INTERSTATE ROUTE 502 STATION 37+50
 HAMILTON COUNTY

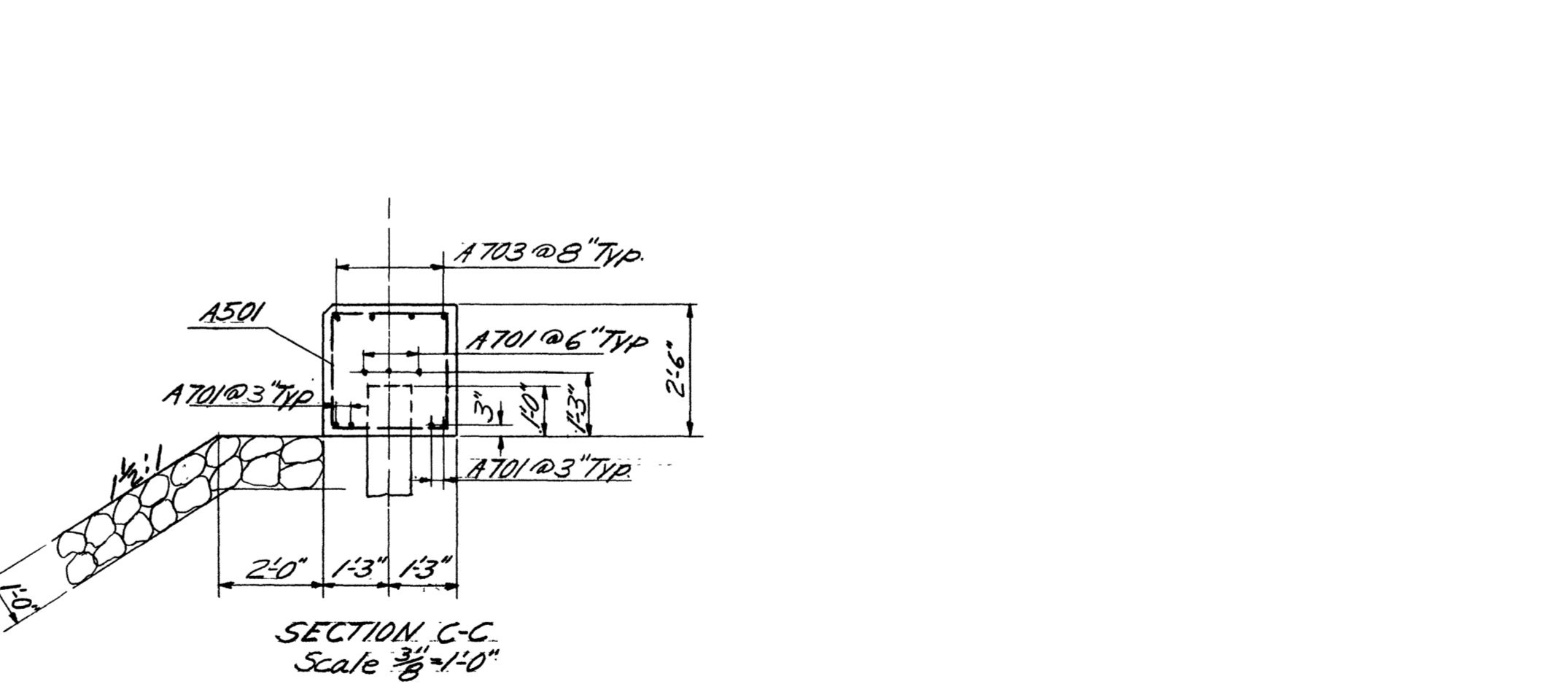
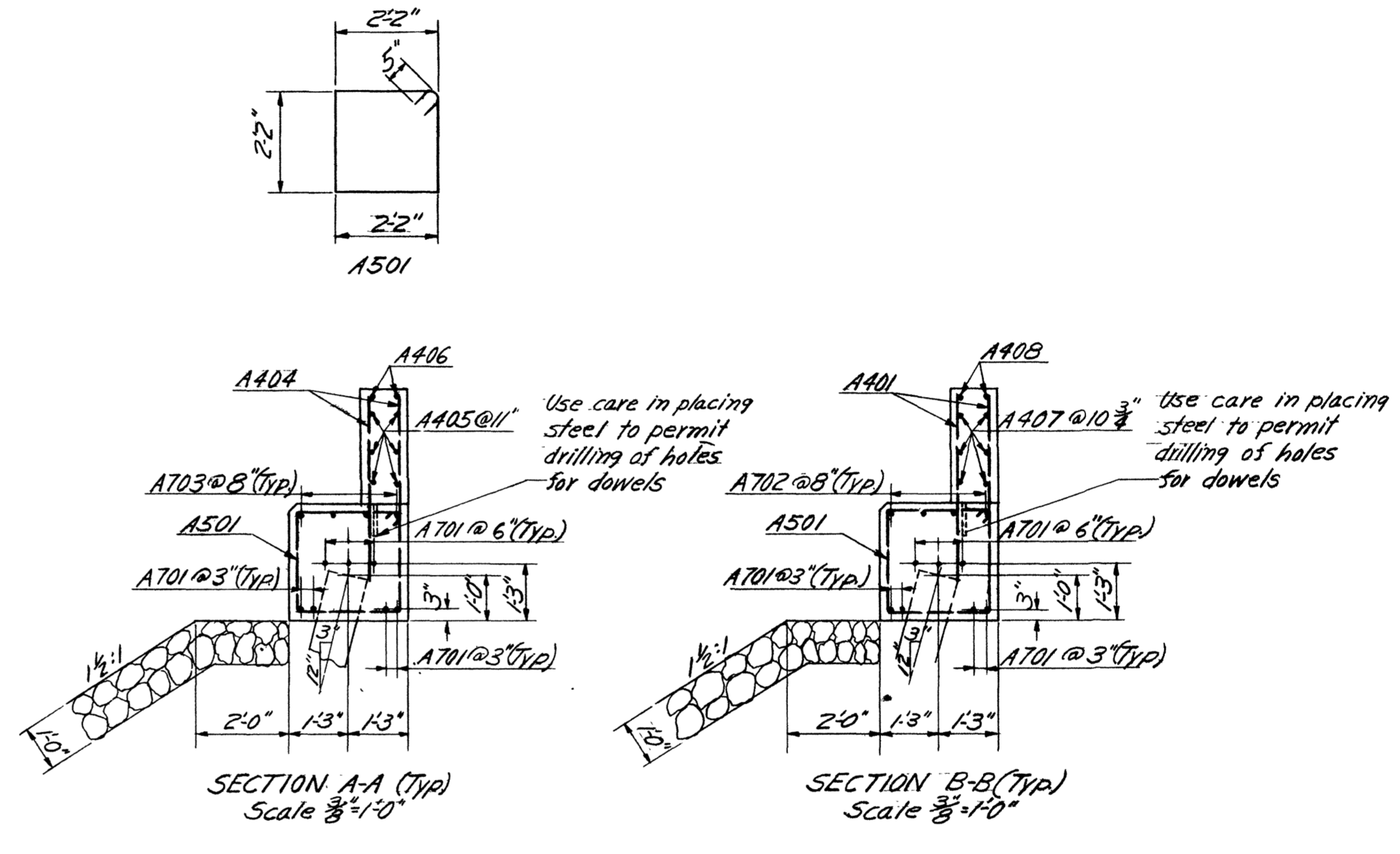
H-7-118

SEE M.248-84

REVISED 6-21-60 as per letter of 5-23-60 and Conference of 6-7-60
 REVISED 9-23-59 in accordance with letter of 6-5-59.
 DESIGNED BY A.R.
 DRAWN BY DATE
 CHECKED BY H.F.B. DATE 5-11-59



MARK	SIZE	TYPE	ABUTMENT #1 NO	WEIGHT	ABUTMENT #2 NO	WEIGHT	ABUTMENT #3 NO	WEIGHT	ABUTMENT #4 NO	WEIGHT	TOTAL NO	LENGTH	VARIABLE BY	NO OF EACH	WEIGHT		
A401	4	Stk	14	31	14	31	14	31	14	31	56	2'-0" to 5'-0"	6"	8	124		
A402	4	"	12	12	12	12	12	12	12	16	3'-11" to 5'-1"	1'-2"	8	48			
A403	4	"	12	12	12	12	12	12	12	16	4'-0" to 5'-2"	1'-2"	8	48			
A404	4	"	12	26	12	26	12	26	12	48	2'-0" to 5'-0"	7'-8"	8	104			
A405	4	"	6	19	6	19	6	19	6	19	24	3'-6" to 7'-0"	1'-9"	8	76		
A406	4	"	2	10	2	10	2	10	2	10	8	7'-3"		8	40		
A407	4	"	6	24	6	24	6	24	6	24	24	3'-0" to 5'-0"	2'-4"	8	96		
A408	4	"	2	11	2	11	2	11	2	11	8	8'-0"		8	44		
A501	5	Bent	42	423	42	423	42	423	42	423	168	9'-6"			1692		
A701	7	Stk	14	783	14	783	14	783	14	783	56	2'-0"			3132		
A702	7	"	4	123	4	123	4	123	4	123	16	14'-10"			492		
A703	7	"	4	326	4	326	4	326	4	326	16	3'-9"			1304		
TOTAL WEIGHT											1800			1800			7200



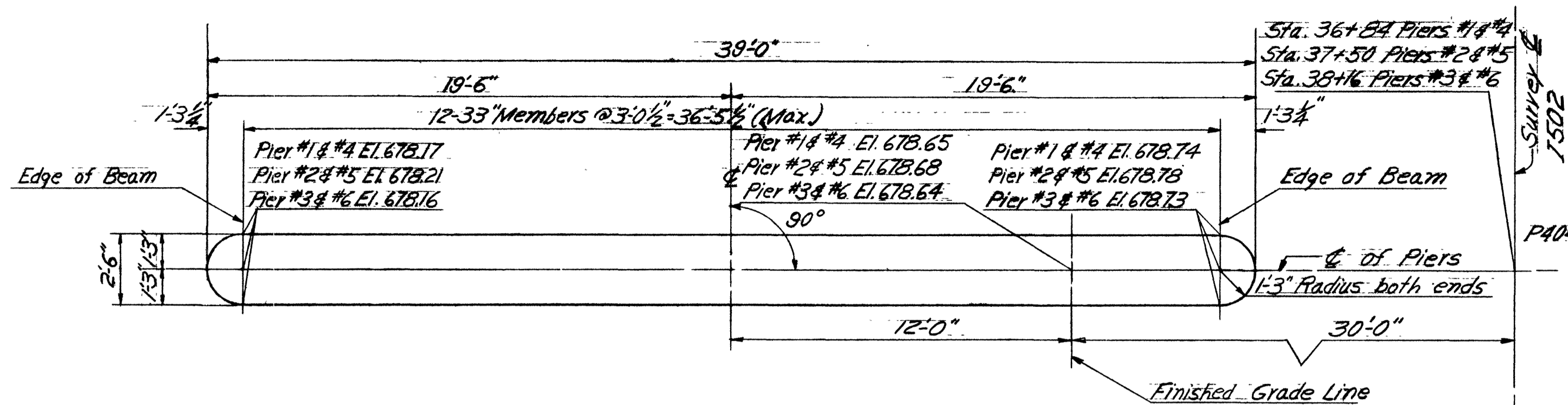
- NOTES
- Reinforcing in cap shall be placed to clear anchor dowels.
 - For spacing anchor dowels, see details of members by prestress contractor.
 - Reinforcing steel shall have 2" of cover from all faces.
 - Wings shall be poured after deck members are in place.
 - Piles are 10 BP 42. Point Bearing on rock or driven to the minimum design bearing of 36 tons per pile.
 - For pile details see Tennessee Department of Highways and Public Works standard drawing H-5-100.
 - E.F. indicates Each Face.
 - Top of each abutment shall be stringlined for slope with adjacent substructure unit before placing concrete.

ITEM NO	UNIT	ITEM	ABUT #1	ABUT #2	ABUT #3	ABUT #4	TOTAL
135-4	C.Y.	Class A Concrete	14	14	14	14	56
135-12	Lbs.	Steel Bar Reinforcement	1800	1800	1800	1800	7200

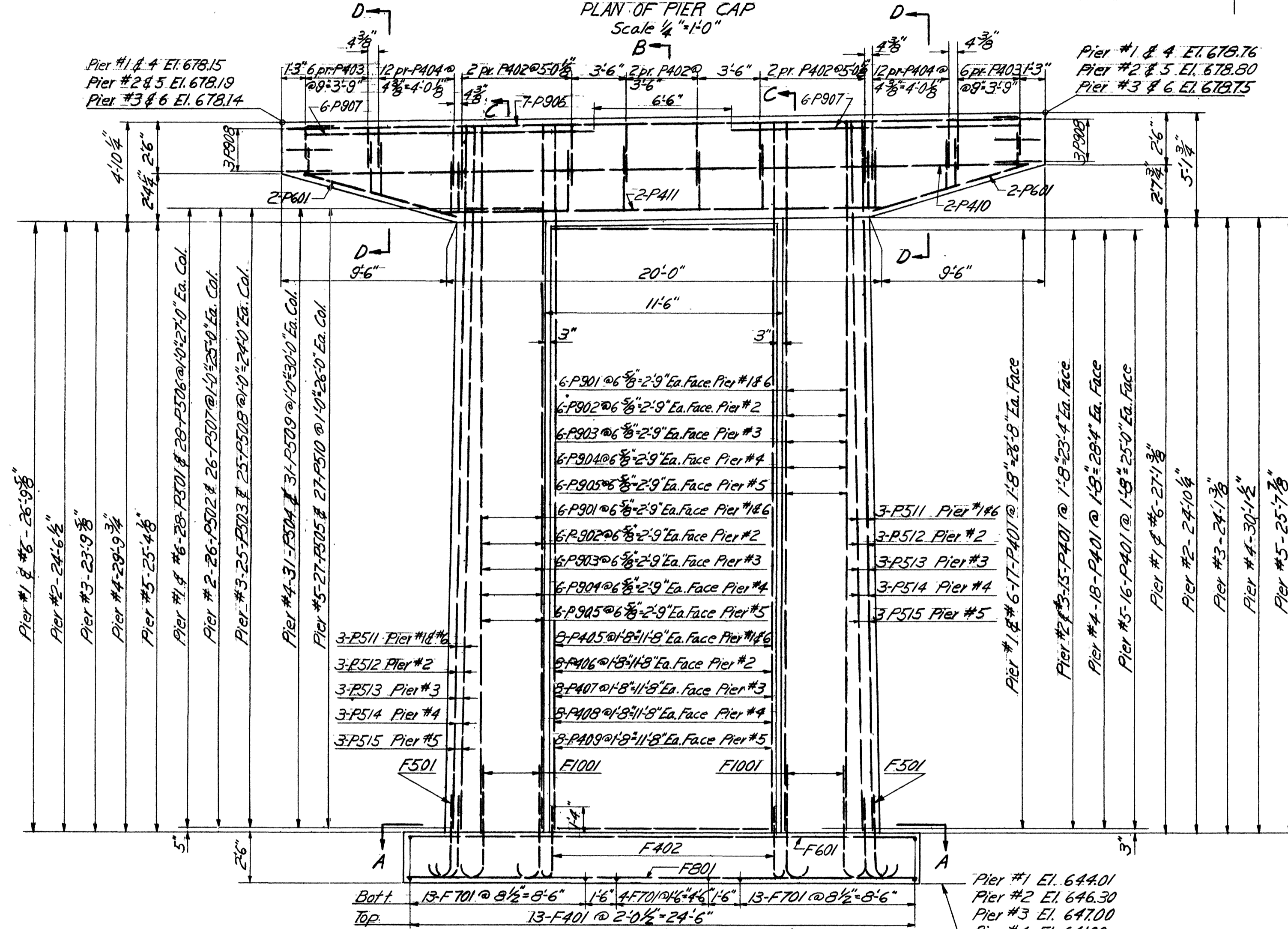
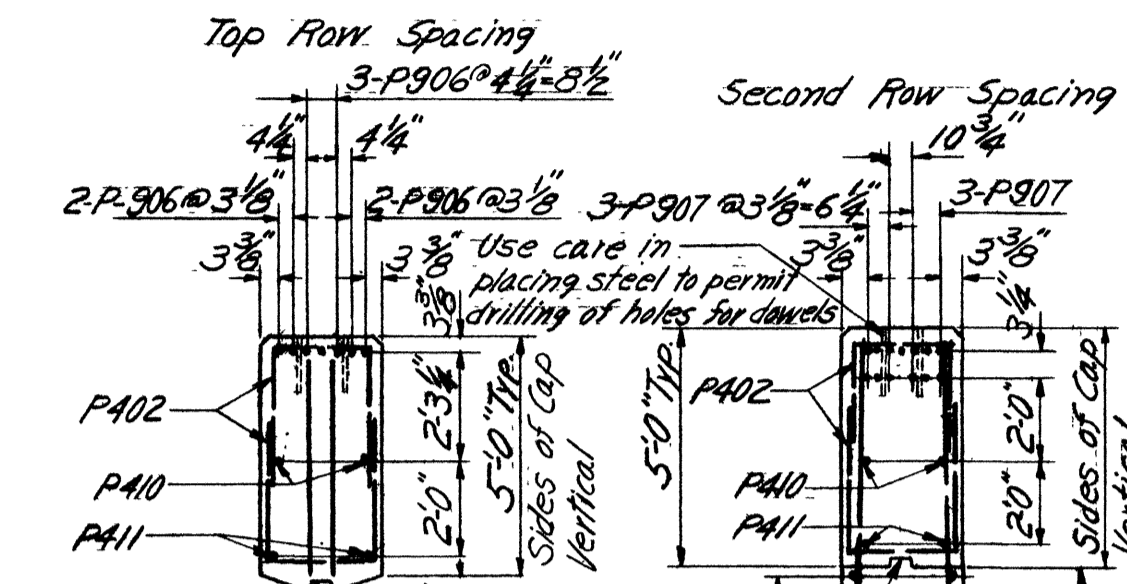
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FOR
STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS
AND PUBLIC WORKS
NASHVILLE
ABUTMENTS
STRUCTURES OVER
SOUTH CHICKAMAUGA CREEK
INTERSTATE ROUTE 502 STATION 37+50
HAMILTON COUNTY

Revised Jan 19-61
 Revised 6-21-60 as per letter of
 5-23-60 and Conference of 6-7-60.
 Revised 9-23-59 in un...
 with letter of 6-5-59.

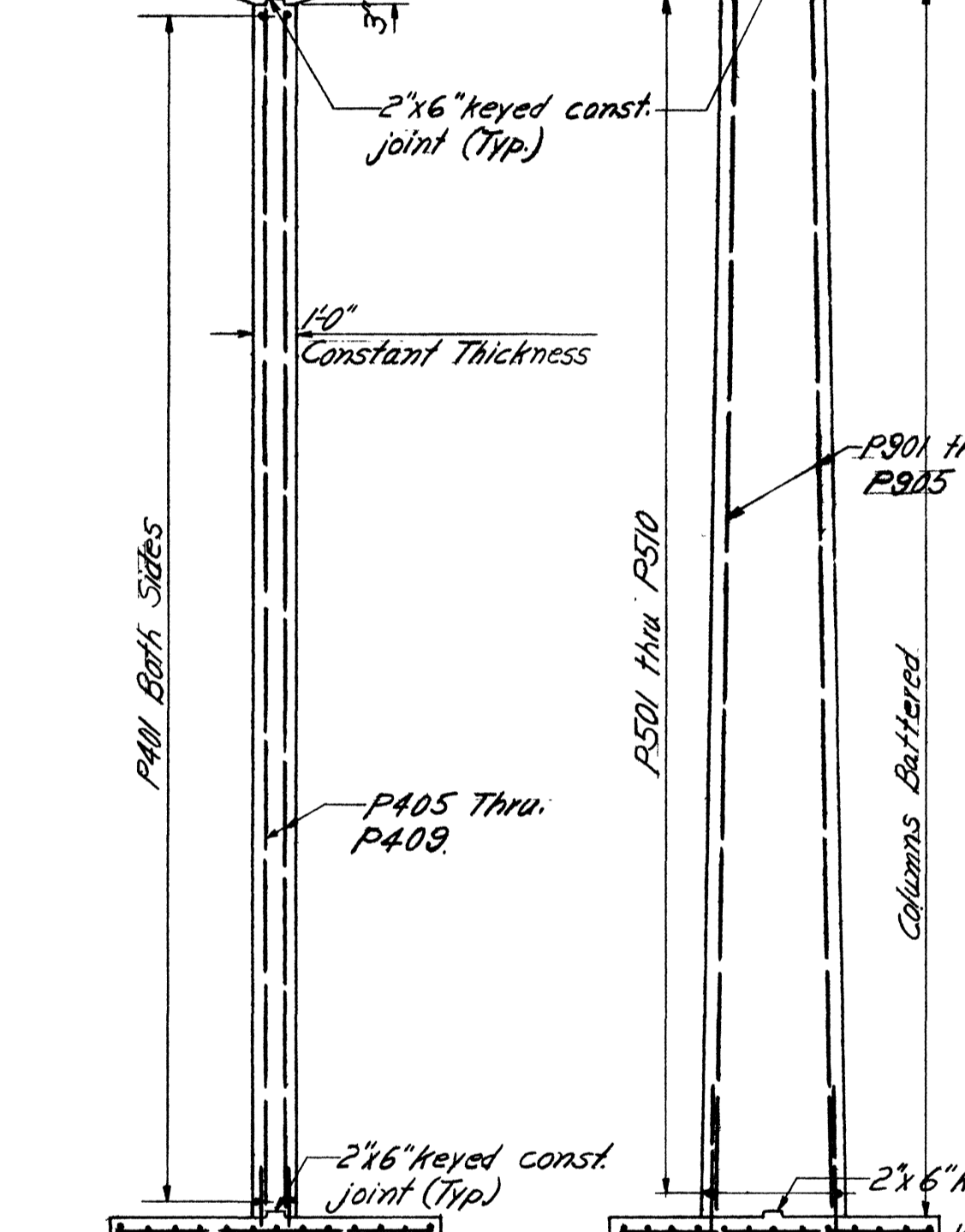
DESIGNED BY J.M.F.
 DRAWN BY J.M.F.
 TRACED BY J.M.F.
 CHECKED BY H.F.B.



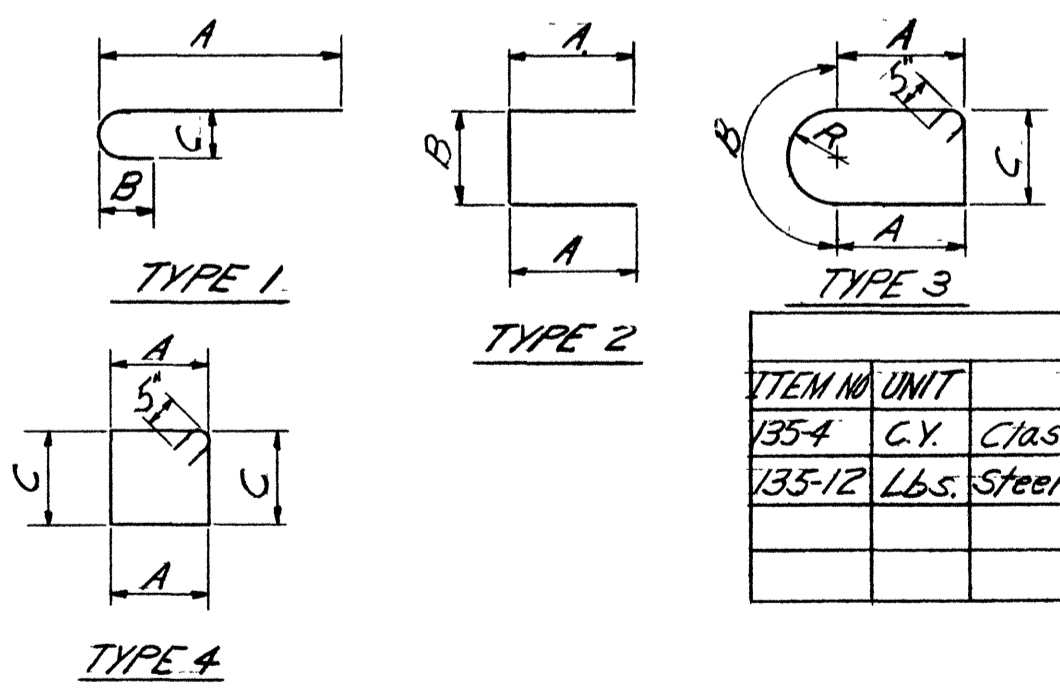
SECTION D-D



ELEVATION LOOKING AHEAD STA. PIERS 4, 5 & 6
ELEVATION LOOKING BACK STA. PIERS 1, 2 & 3



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



PIER QUANTITIES									
ITEM NO	UNIT	ITEM	PIER #1	PIER #2	PIER #3	PIER #4	PIER #5	PIER #6	TOTAL
135-4	C.Y.	Class "A" Concrete	72	69	68	76	70	72	427
135-12	Lbs.	Steel Bar Reinforcement	9443	9097	8981	9390	9236	9444	56091

MARK	SIZE	TYPE	PIER #						TOTAL NO	LENGTH BY	DIMENSION			WEIGHT			
			NO	WEIGHT	NO	WEIGHT	NO	WEIGHT			NO	WEIGHT	R		A	B	C
F401	4	STY.	13	66	13	66	13	66	13	66	78	7'6"				386	
F402	4	"	16	45	16	45	16	45	16	45	18	4'-1"				270	
F501	5	"	6	28	6	28	6	28	6	28	36	4'-5"				168	
F601	6	STY.	13	485	13	485	13	485	13	485	13	24'-6"				2910	
F701	7	"	30	466	30	466	30	466	30	466	30	7'-6"				2796	
F801	8	"	13	860	13	860	13	860	13	860	13	24'-6"				5160	
F1001	10	"	24	730	24	730	24	730	24	730	24	7'-0"				4380	
P401	4	STY.	34	312	30	276	30	276	36	330	32	295	34	313	196	13'-6"	1802
P402	4	"	12	66	12	66	12	66	12	66	72	6'-8"				396	
P403	4	"	24	106	24	106	24	106	24	106	144	12'-0"				636	
P404	4	"	48	242	48	242	48	242	48	242	288	24'-0"				1452	
P405	4	STY.	16	343							16	343	32	3'-6"		686	
P406	4	"									16	29'-3"				318	
P407	4	"									16	28'-6"				310	
P408	4	"									16	34'-6"				375	
P409	4	"									16	30'-1"				327	
P410	4	STY.	2	49	2	49	2	49	2	49	2	49	12	36'-0"		294	
P411	4	"	2	28	2	28	2	28	2	28	2	28	12	20'-0"		168	
P501	5	"	3	56	622						56	622	112	3'-6"		1244	
P502	5	"	3		52	574					52	574	104	3'-6"		574	
P503	5	"	3			50	550				50	550	100	3'-6"		550	
P504	5	"	3				62	696			62	696	124	3'-6"		696	
P505	5	"	3					54	588		54	588	108	3'-6"		588	
P506	5	"	4	56	494						56	494	98	3'-6"		989	
P601	6	STY.	4	58	4	58	4	58	4	58	4	58	24	9'-6"		348	
P511	5	"	6	201							6	201	12	3'-6"		402	
P512	5	"									6	186	6	29'-3"		186	
P513	5	"									6	182	6	28'-6"		182	
P514	5	"									6	220	6	34'-5"		220	
P515	5	"									6	191	6	30'-0"		191	
P901	9	"	24	2601							24	2601	48	3'-6"		5202	
P902	9	"									24	2415	24	29'-3"		2415	
P903	9	"									24	2353	24	28'-6"		2353	
P904	9	"									24	2849	24	34'-6"		2849	
P905	9	"									24	2477	24	30'-0"		2477	
P906	9	"	7	879	7	879	7	879	7	879	7	879	42	36'-6"		5274	
P907	9	"	12	578	12	578	12	578	12	578	12	578	72	14'-0"		3468	
P908	9	"	3	184	6	184	6	184	6	184	6	184	36	8'-11"	1'-1"	1104	
P507	5	"	4								52	458	104	3'-6"		458	
P508	5	"	4								50	440	100	3'-6"		440	
P509	5	"	4								62	550	124	3'-6"		550	
P510	5	"	4								54	477	108	3'-6"		477	
TOTAL WEIGHT				9443		9097		8981		9390		9236		9444		56091	

NOTES
 Top of each Pier shall be stringlined for slope with adjacent substructure unit before placing concrete. Reinforcing steel shall have 3" of cover in the footing & 2" cover elsewhere. Reinforcing steel in the cap shall be placed so as to clear anchor dowels for dowel spacing see details of members by prestress contractor. Max. foundation pressure = 5.35 Tons per sq ft.

PREPARED BY
 CAPITOL ENGINEERING CORPORATION, DILLSBURG, PA.
 FOR
 STATE OF TENNESSEE
 DEPARTMENT OF HIGHWAYS
 AND PUBLIC WORKS
 NASHVILLE

PIERS
 STRUCTURES OVER
 SOUTH CHICKAMAUGA CREEK
 INTERSTATE ROUTE 502 STATION 37+50
 HAMILTON COUNTY

DATE 5-21-60 as per letter of
 5-23-60 and Conference of 6-7-60.
 DRAWN BY
 TRACED BY
 CHECKED BY H.F.B.
 DATE 5-14-59