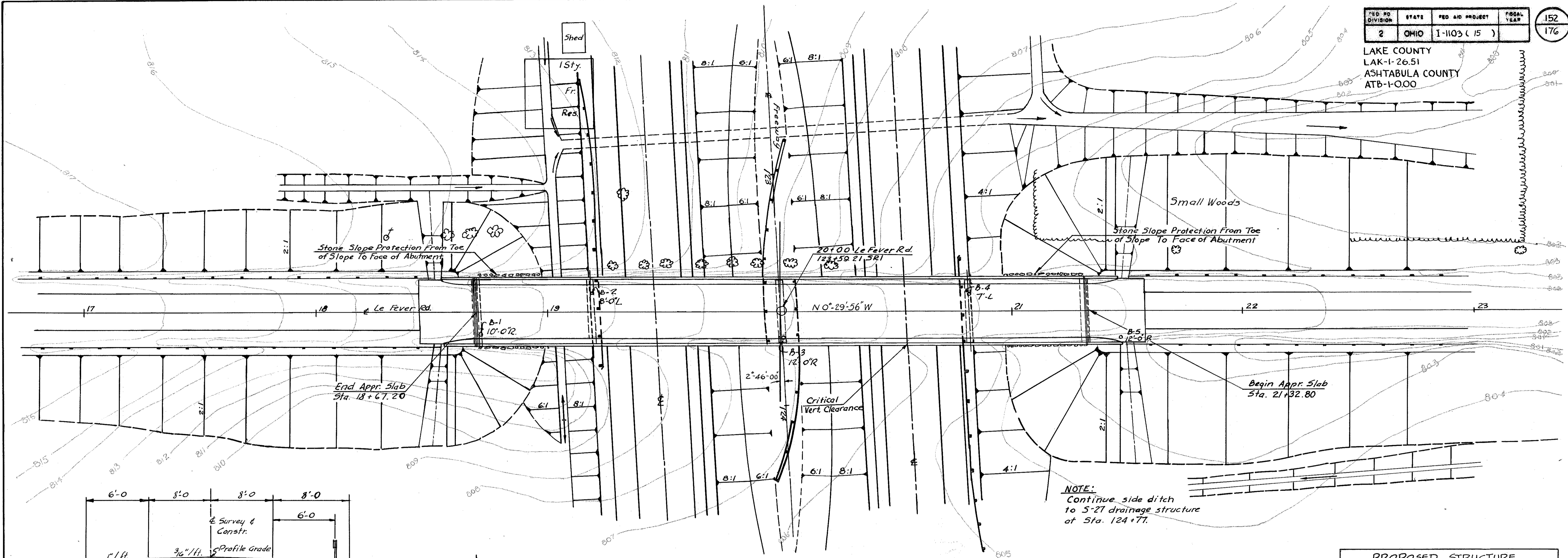
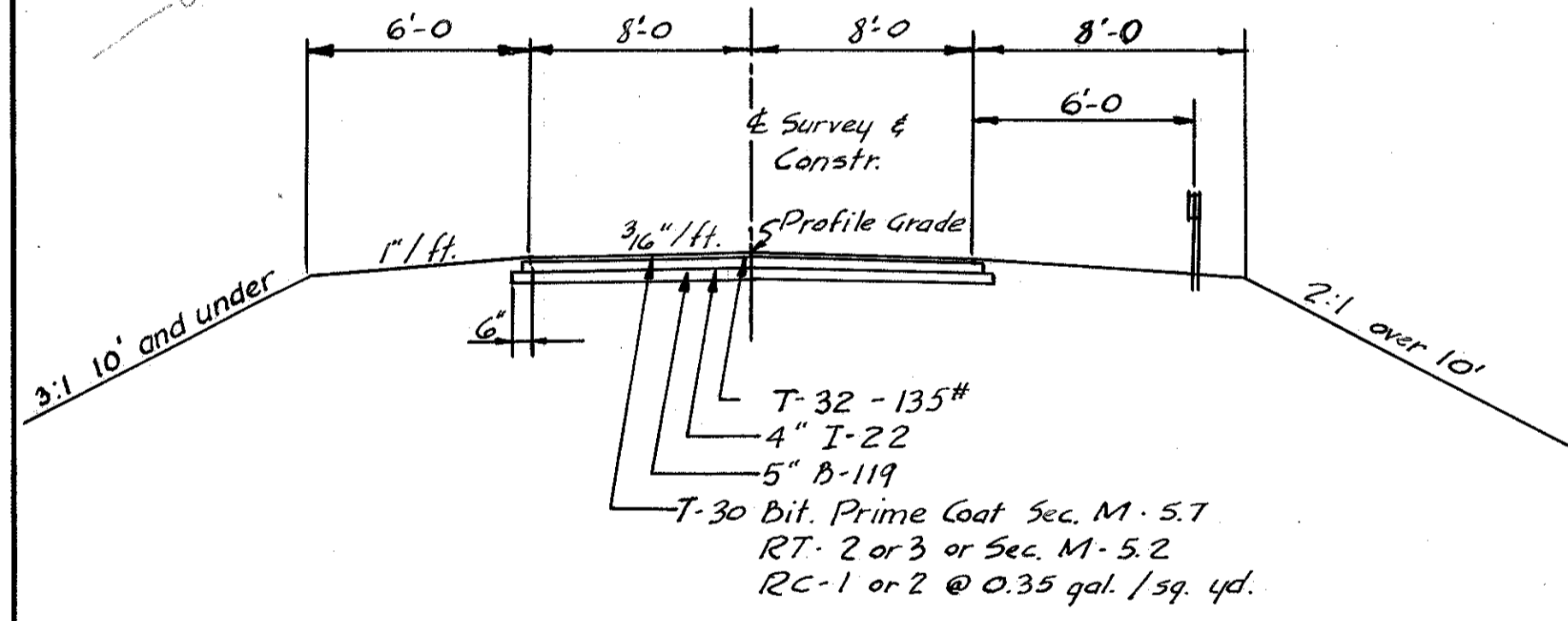


LAKE COUNTY
LAK-1-26.51
ASHTABULA COUNTY
ATB-1-0.00

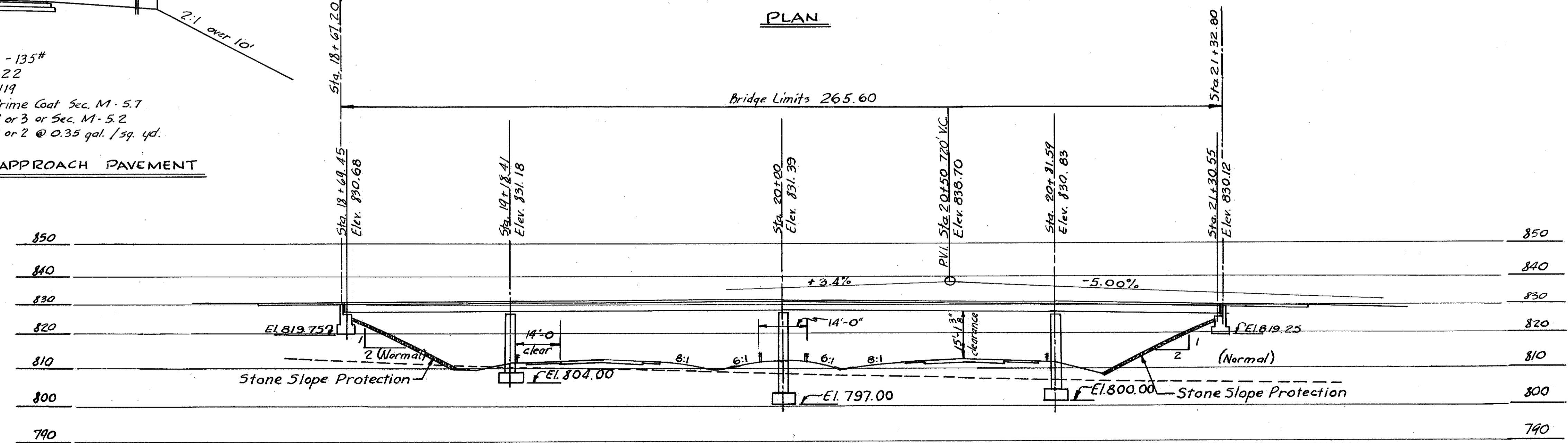


PLAN



TYPICAL SECTION THRU APPROACH PAVEMENT

BenchMark: R.R. Spike in
18" Maple, Sta. 123+56
20'4" L. Elev. 804.71



SECTION ALONG ϵ

NOTE:
Continue side ditch
to S-27 drainage structure
at Sta. 124+77.

PROPOSED STRUCTURE
Type: Continuous Steel beam with Reinforced Concrete Deck and Substructure.
Span: 48'-11 $\frac{1}{2}$ ", 81'-7 $\frac{1}{8}$ ", 81'-7 $\frac{1}{8}$ ", 48'-11 $\frac{1}{2}$ " 9/16 Brg.
Roadway: 24'-0" 1/2 Safety Curbs.
Load Frequency: C.F.=30(51)
Skew: 2°46' RF
Wearing Surface: 1/2" Monolithic Conc.
Approach Slabs: 25'-0" Long
Alignment: Tangent
Safety Curb: 2'-0" each side.

NOTES
Foundation Soundings - Foundation design and foundation quantities are based on a study of soil sampling soundings made at the site. This sounding information may be inspected at the Interstate Projects Office in Columbus or in the Division office, but the State assumes no responsibility for the accuracy thereof.

1955 TRAFFIC - 110 VPD with under 30 combination trucks.

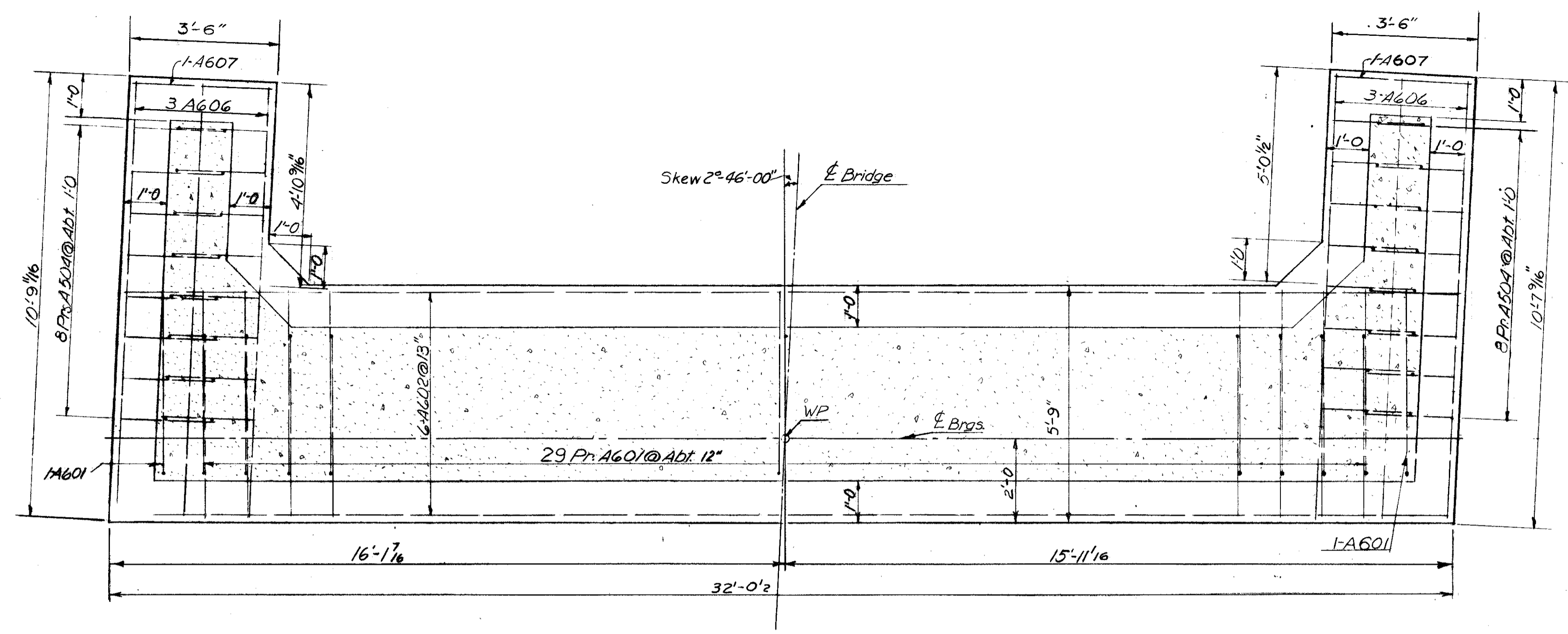
CHARLES L. BARBER AND ASSOCIATES
HARRY BALKE ENGINEERS
TOLEDO, OHIO

SITE PLAN
BRIDGE No ATB-1-0233
SRI UNDER LEFEVER RD.
ASHTABULA CO. SR1
STA. 123+59.21

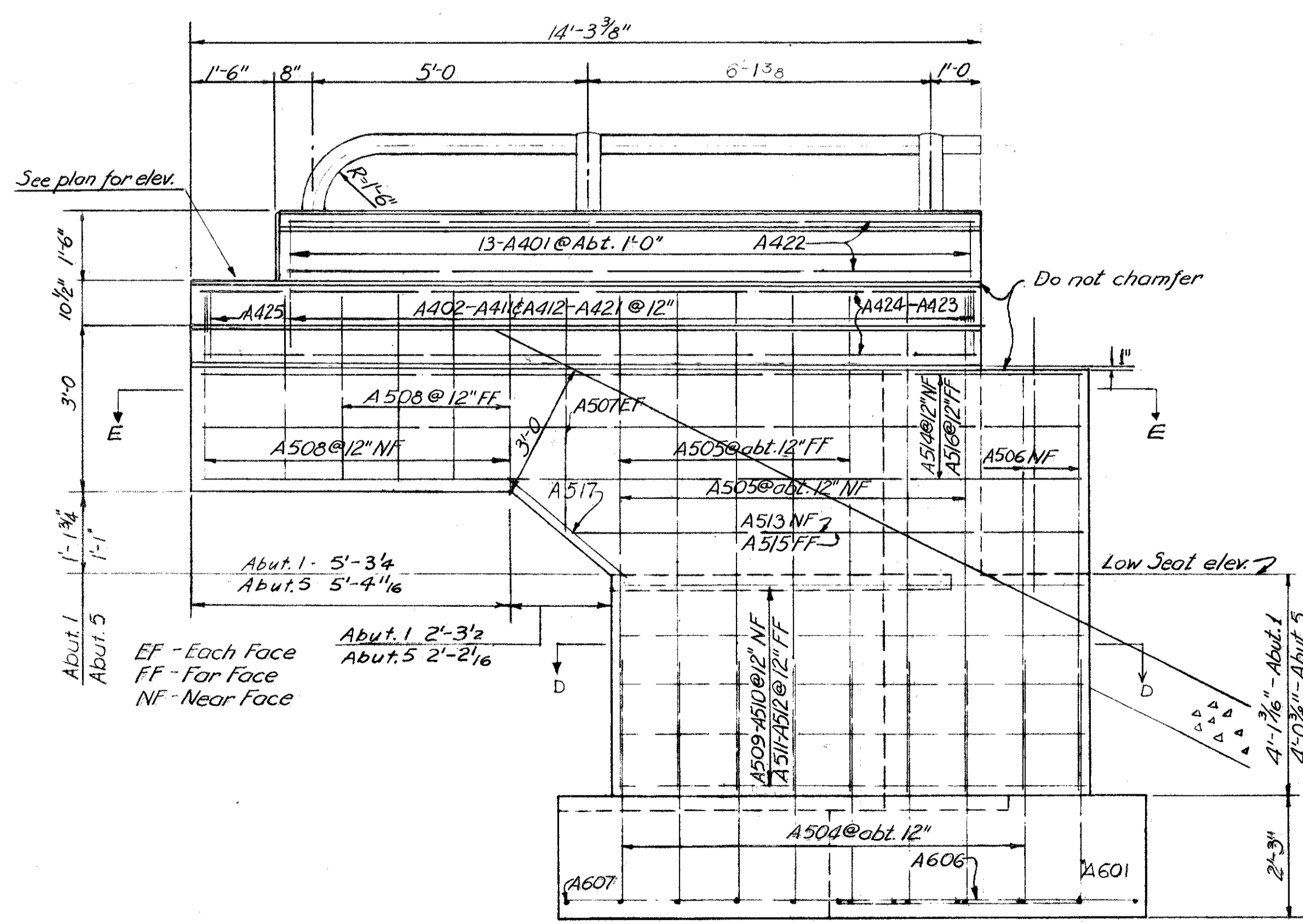
SCALE: 1" = 20'-0"

PRESENT TOPOGRAPHY		PROPOSED WORK			
SURVEYED	DRAWN	DESIGNED	DRAWN	CHECKED	REVIEWED
VAL	WAP	RGE	DKM	DKM	ACA

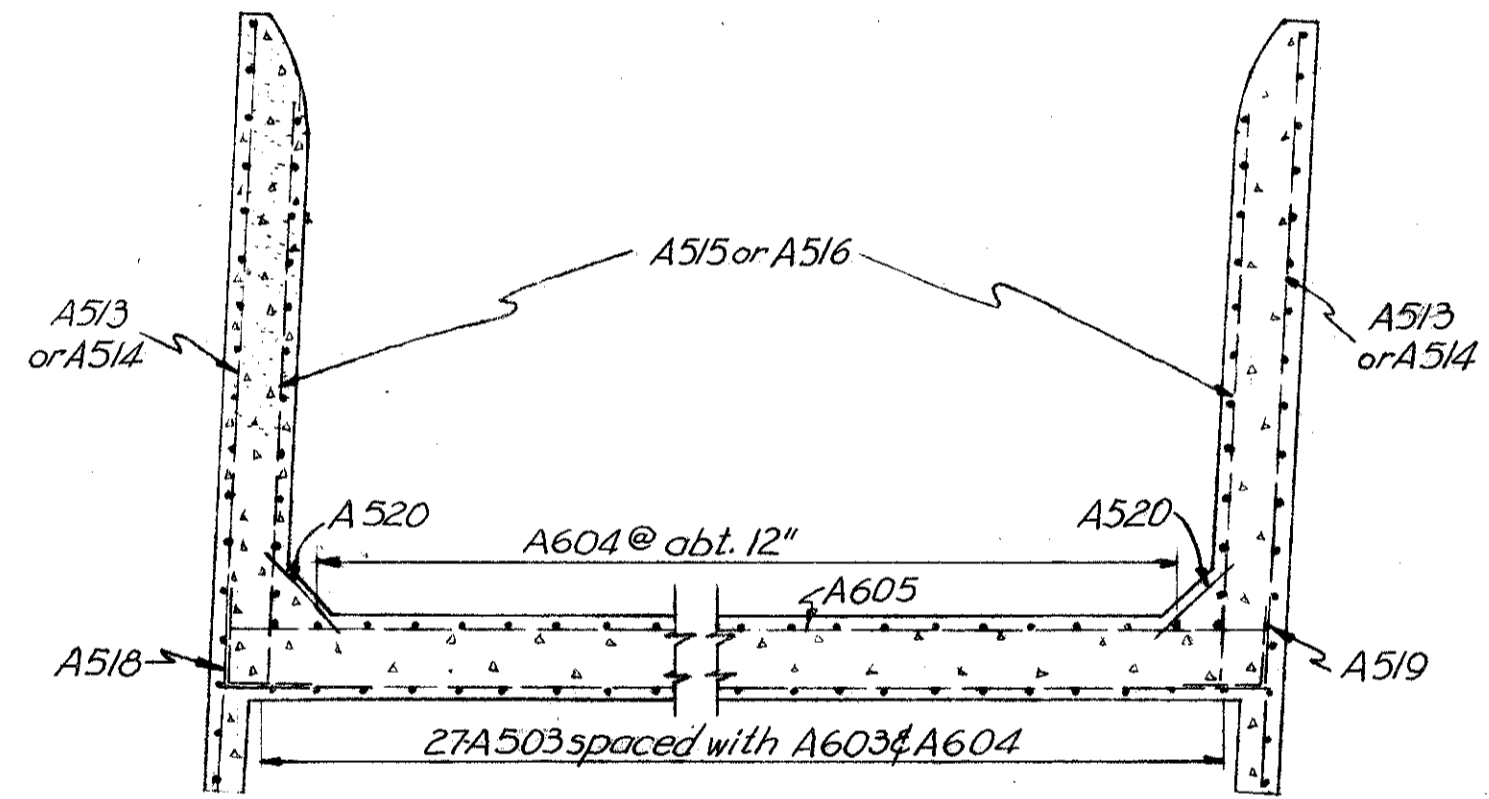
LAKE COUNTY
LAK-1-26.51
ASHTABULA COUNTY
ATB-1-000



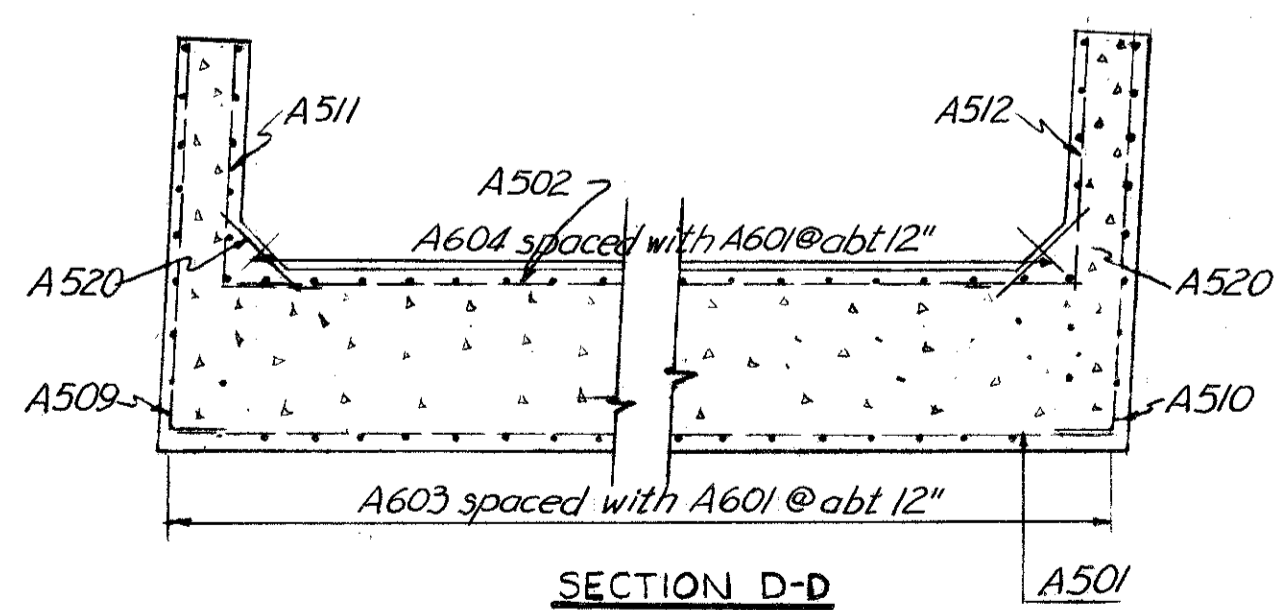
FOOTING PLAN



ELEVATION F-F



SECTION E-E



SECTION D-D

REINFORCING STEEL LIST					Bar Diagrams
Mark	Length	Shape	No.	Weight	
Both Abutments					
A401	5'-8"	Bent	52	197	
A402	5'-8"	Bent	12	45	
A403	5'-6"	Bent	8	29	
A404	5'-4"	Bent	4	14	
A405	5'-2"	Bent	4	14	
A406	5'-0"	Bent	4	13	
A407	4'-9"	Bent	4	13	
A408	4'-6"	Bent	4	12	
A409	4'-3"	Bent	4	11	
A410	3'-7"	Bent	4	10	
A411	3'-3"	Bent	4	9	
A412	4'-0"	Bent	12	32	
A413	3'-10"	Bent	8	20	
A414	3'-8"	Bent	4	10	
A415	3'-6"	Bent	4	9	
A416	3'-4"	Bent	4	9	
A417	3'-1"	Bent	4	8	
A418	2'-10"	Bent	4	8	
A419	2'-7"	Bent	4	7	
A420	2'-4"	Bent	4	6	
A421	2'-0"	Bent	4	5	
A422	12'-5"	Str.	16	133	
A423	10'-0"	Str.	8	53	
A424	14'-0"	Str.	16	150	
A425	1'-8"	Bent	4	4	
A501	29'-8"	Str.	28	866	
A502	27'-2"	Str.	10	283	
A503	9'-0"	Bent	54	507	
A504	6'-6"	Bent	64	434	
A505	8'-10"	Str.	48	442	
A506	7'-3"	Str.	8	60	
A507	3'-11"	Str.	8	33	
A508	3'-5"	Str.	40	143	
A509	10'-0"	Bent	10	104	
A510	10'-0"	Bent	10	104	
A511	6'-5"	Bent	10	67	
A512	6'-9"	Bent	10	70	
A513	9'-4"	Str.	4	39	
A514	15'-9"	Str.	12	197	
A515	7'-3"	Str.	4	30	
A516	11'-4"	Str.	12	142	
A517	4'-3"	Str.	8	35	
A518	3'-4"	Bent	8	28	
A519	3'-4"	Bent	8	28	
A520	3'-2"	Str.	32	106	
A601	9'-0"	Bent	120	1622	
A602	3'-8"	Str.	12	571	
A603	8'-5"	Bent	62	784	
A604	8'-2"	Bent	58	711	
A605	29'-8"	Str.	6	267	
A606	10'-4"	Str.	12	186	
A607	3'-2"	Str.	4	19	
A426	1'-6"	Str.	56	56	
A427	2'-4"	Str.	40	62	
Total				8817	

Parapet Concrete included with S-14 for payment.

El. Abut. 1: 8/19.75
El. Abut. 5: 8/19.25

CHARLES L. BARBER AND ASSOCIATES
HARRY BALKE ENGINEERS
TOLEDO, OHIO

ABUTMENT DETAILS

BRIDGE No ATB-1 -0233
SR 1 UNDER LEFEVER RD.
ASHTABULA CO. SR 1
STA. 123+59.21

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
CTL	MS		JPR	A.C.A.	8/28/57	

LAKE COUNTY
LAK-1-2651
ASHTABULA COUNTY
ATB-1-0.00

	EI. A	EI. B	EI. C	EI. D	EI. Bot Ftg.	H
Pier 2	826.25	826.38	826.38	826.26	804.00	16'-3"
Pier 3	826.31	826.44	826.44	826.31	797.00	23'-3 1/2"
Pier 4	825.91	826.03	826.03	825.90	800.00	19'-10 3/4"

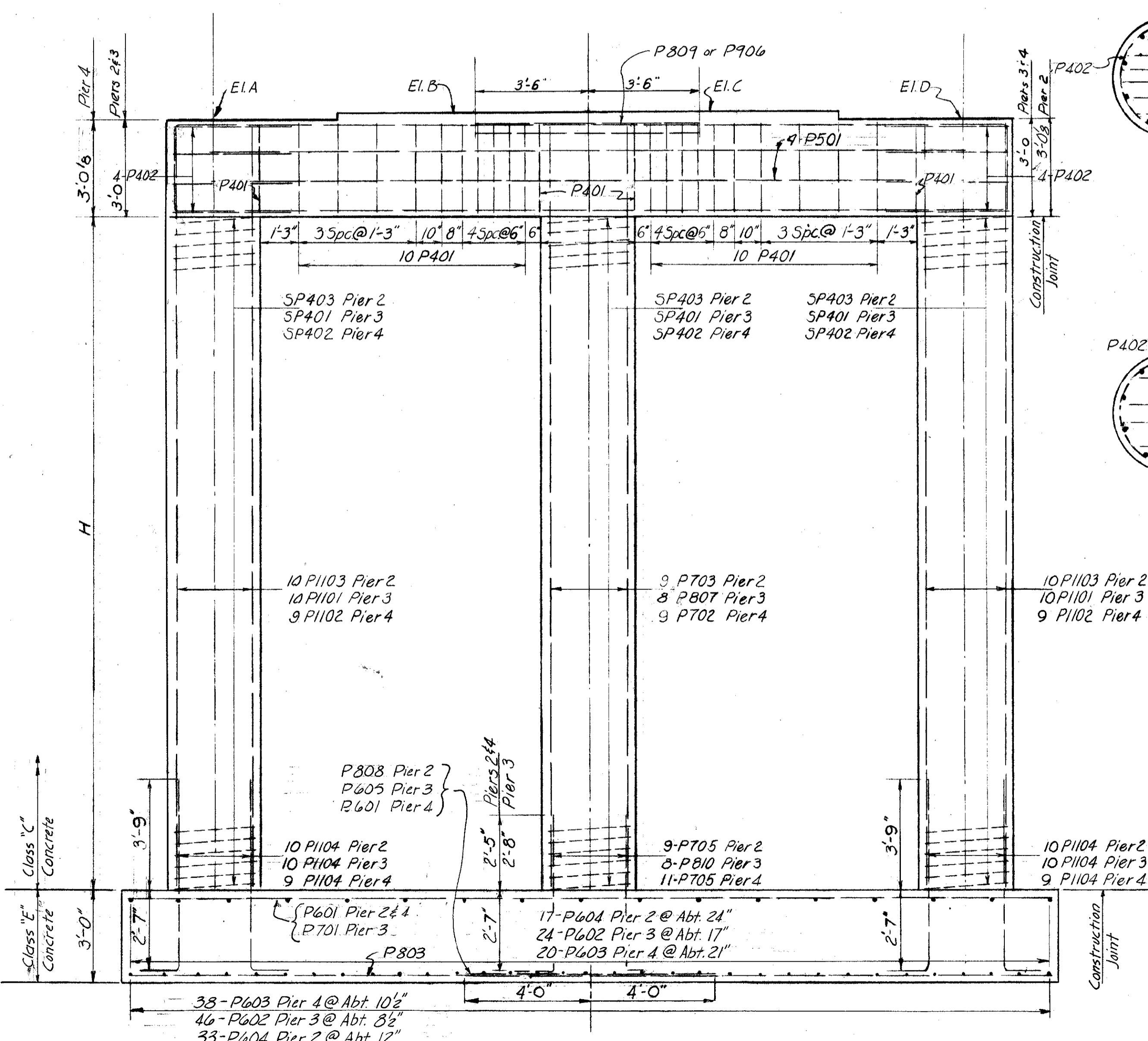
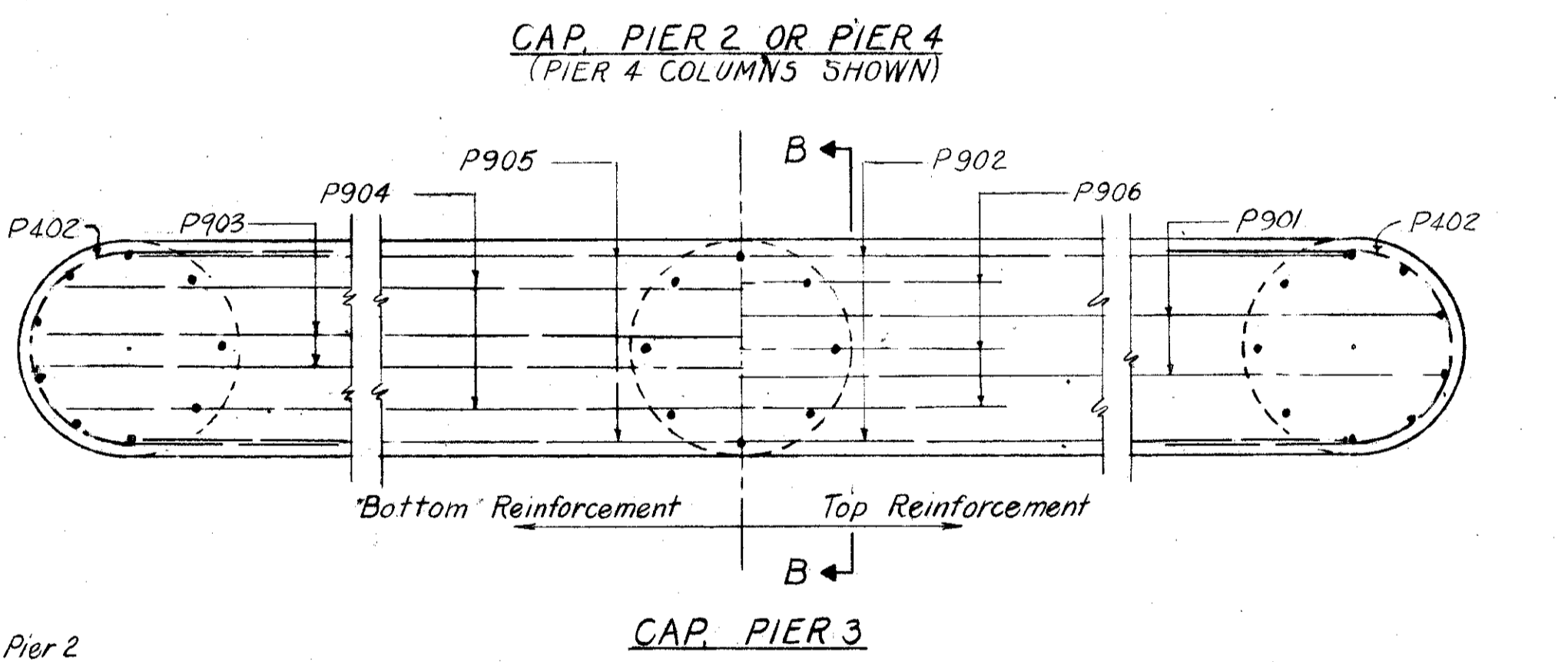
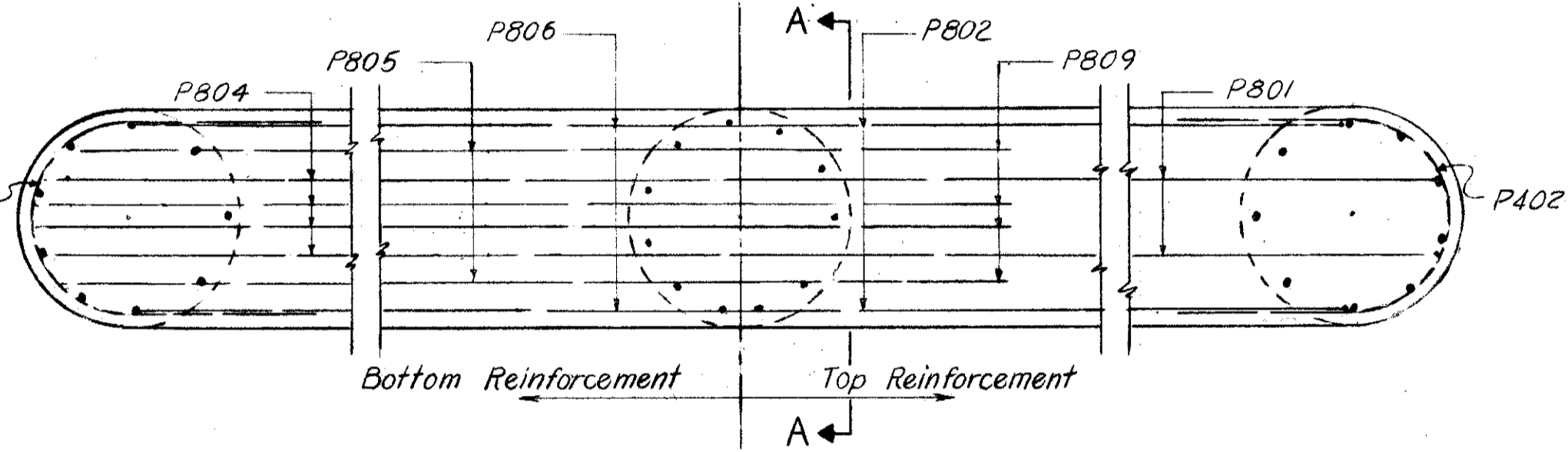
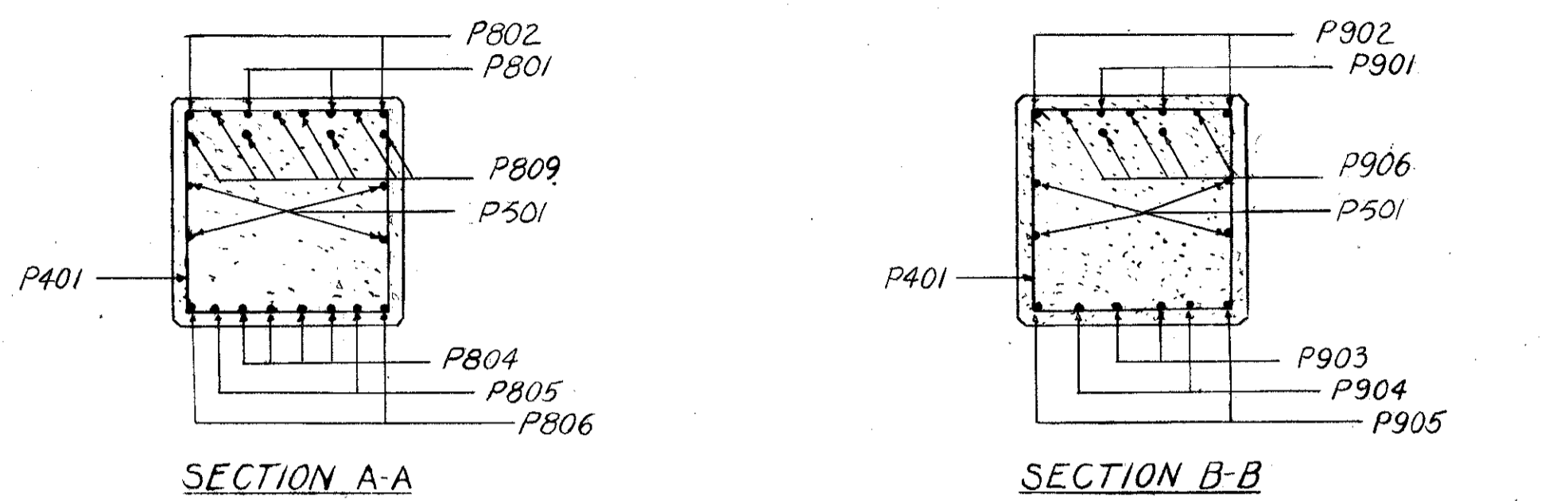
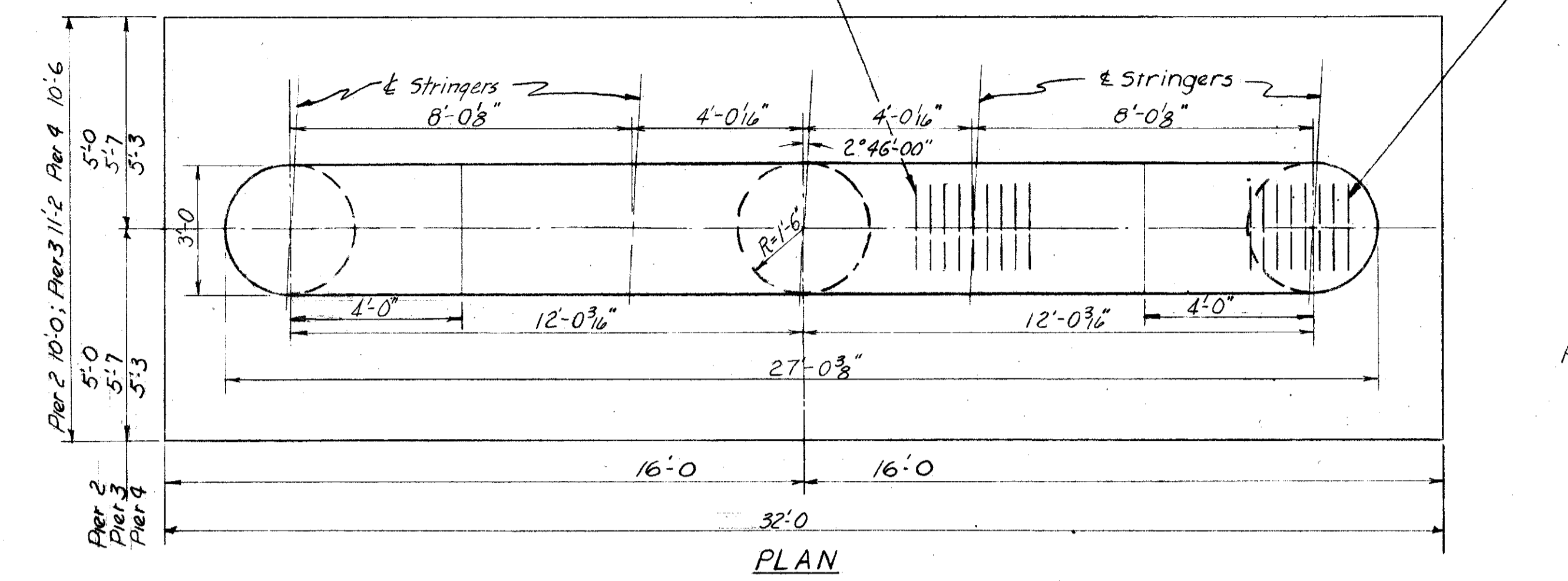
Note:
P403 @ 4" c.c., 3 under each exterior stringer & 9 under each interior stringer at each pier; space as shown to clear anchor bolts at pier 3. Clear concrete by 2".

REINFORCING STEEL LIST

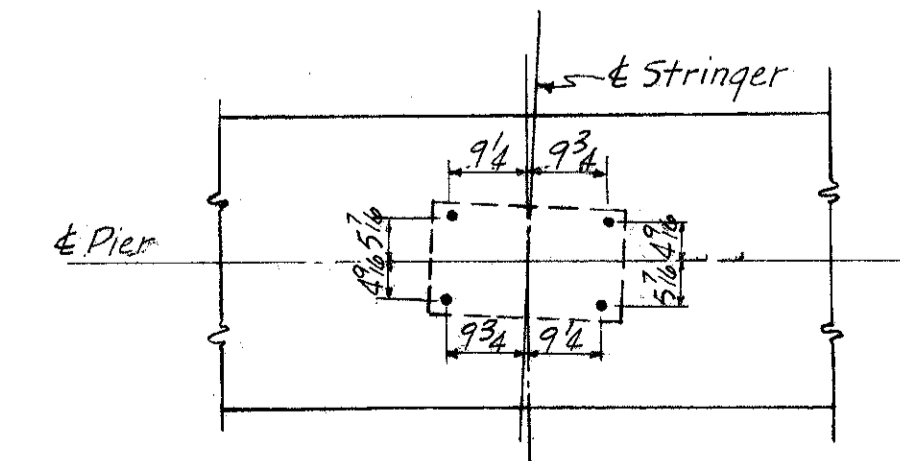
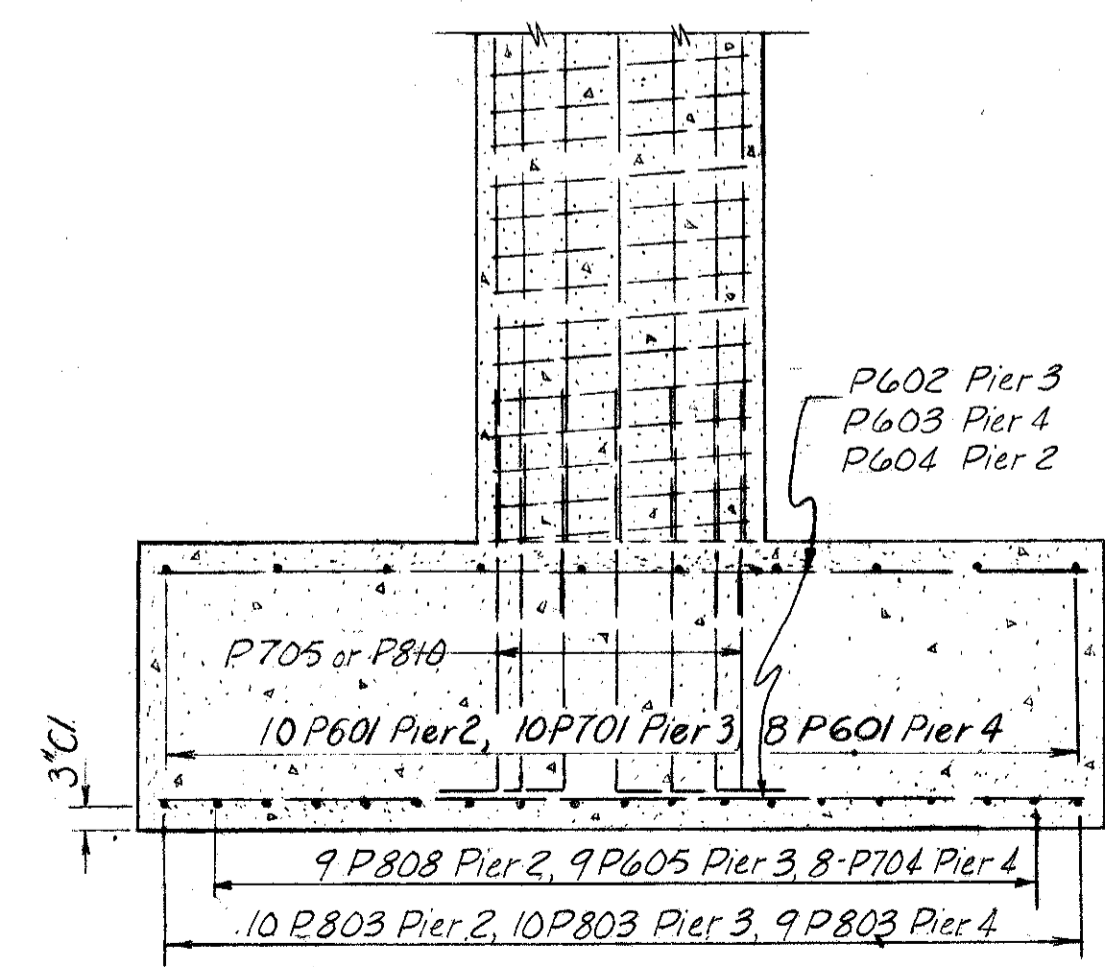
MK	Length	Shape	No.	Weight	Bending Schedule
THREE PIERS					
P401	11'-6"	Bent	72	553	
P402	10'-2"	Bent	24	163	
P501	24'-0"	Str.	12	300	
P601	31'-8"	Str.	19	904	
P602	10'-10"	Str.	70	1139	
P603	10'-2"	Str.	58	886	
P701	31'-8"	Str.	10	647	
P702	21'-7"	Str.	9	397	
P703	17'-11"	Str.	9	330	
P704	8'-0"	Str.	8	131	
P705	5'-5"	Bent	20	221	
P801	32'-0"	Bent	4	342	
P802	29'-4"	Bent	4	313	
P803	31'-8"	Str.	29	2,452	
P804	26'-8"	Str.	8	570	
P805	26'-0"	Str.	4	278	
P806	24'-0"	Str.	4	256	
P807	23'-0"	Str.	8	491	
P808	8'-0"	Str.	9	192	
P809	7'-0"	Str.	16	299	
P810	5'-9"	Bent	8	123	
P901	32'-0"	Bent	2	218	
P902	29'-4"	Bent	2	199	
P903	26'-8"	Str.	2	272	
P904	26'-0"	Str.	2	177	
P905	24'-0"	Str.	2	163	
P906	7'-0"	Str.	5	119	
P1101	23'-0"	Str.	20	2444	
P1102	21'-7"	Str.	18	2064	
P1103	17'-11"	Str.	20	1904	
P1104	7'-1"	Bent	58	2183	
P403	2'-0"	Str.	102	136	
P604	9'-8"	Str.	50	726	
P605	8'-0"	Str.	9	108	
				Total	21,700

MK	No.	Size	Core Dia.	Length	Pitch	No. of Turns	Weight	
SP401	3	2"	2'-8"	23.31	4 1/2"	65	2282	
SP402	3	2"	2'-8"	19.90	4'2"	56	1103	
SP403	3	2"	2'-8"	16.25	4'2"	46	906	
							Total	4291

Notes:
Spiral reinforcing bars shall not have deformations but shall in other respects conform to Item 54.
Four steel channel, tee or angle spacers, weighing approximately 0.68 lb per lin. ft. of spacer, shall be provided for each spiral unit. They shall be equally spaced along the periphery of the coil. The number of lbs. of these spacers, based on 0.68 lb per lin. ft. will be paid for as reinforcing steel and is included in the tabulated quantity of spiral bars.
The "Length" shown in the steel list for the spiral bars is the distance from the top of the footing to the bottom of the pier cap.
The "No. of Turns" shown in the steel list for the spiral bars is the "Length divided by the Pitch", plus 3 turns (total number of closed coils), expressed as the nearest whole number.
1/2 closed coils shall be provided at the ends of each spiral unit.
Reinforcing steel shall clear the face of the concrete by 2" unless otherwise noted.



Note: Maximum Footing Pressure 4.5 k/ft²



CHARLES L. BARBER AND ASSOCIATES
HARRY BALKE ENGINEERS
TOLEDO, OHIO

PIER DETAILS

BRIDGE No ATB-1-0233
SRI UNDER LEFEVER RD.
ASHTABULA CO. SR 1
STA. 123+59.21

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
C.T.L.	C.T.L.		J.B.	ACA	8/28/57	

SECTION THROUGH INTERIOR COLUMN
TYPICAL ANCHOR BOLT DETAIL
B175 BOLSTER PIER 3

LAKE COUNTY
LAK-1-26.51
ASHTABULA COUNTY
ATB-1-0.00

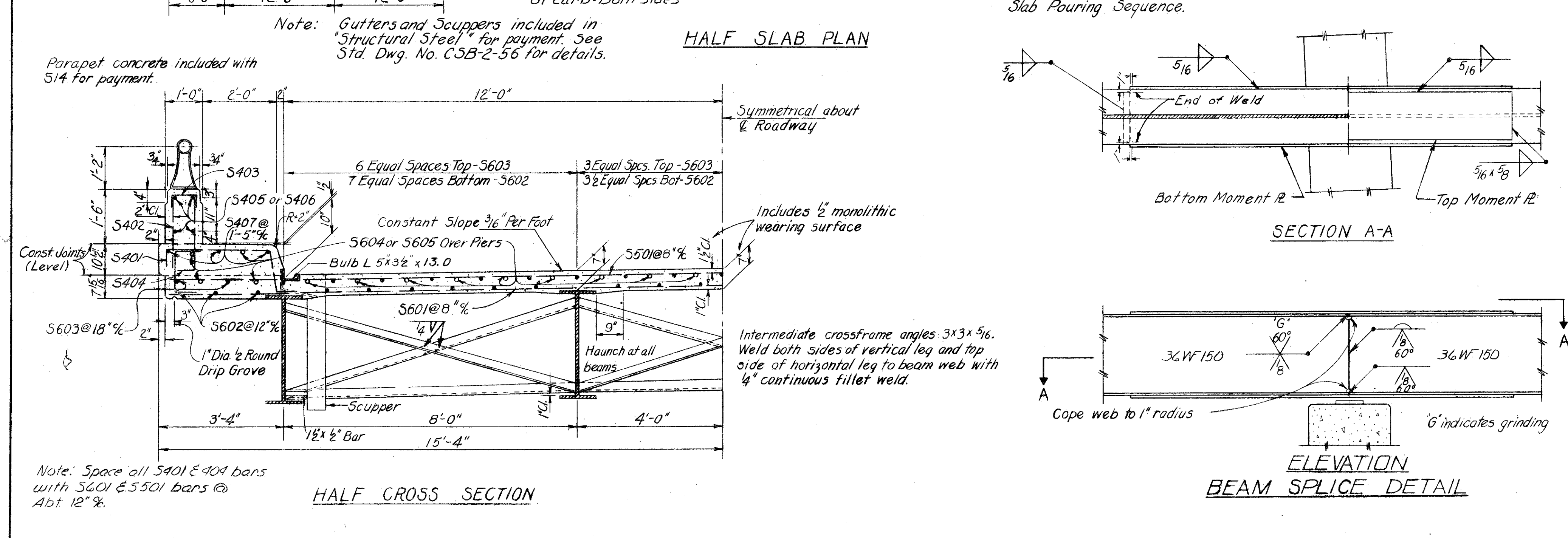
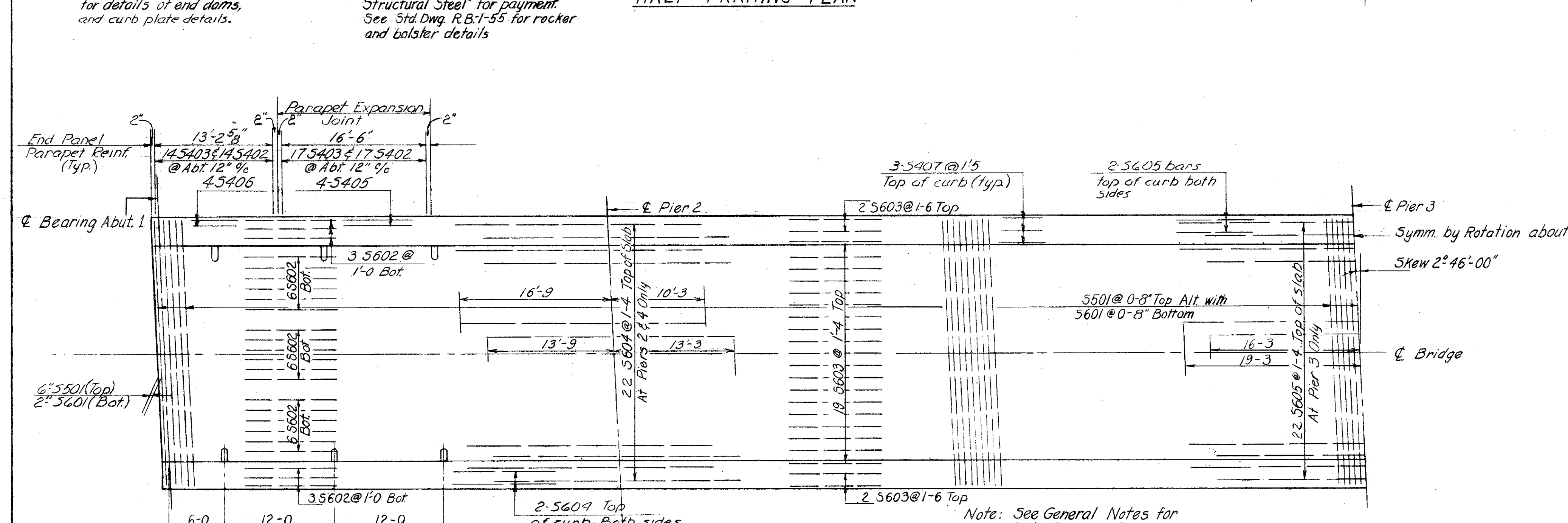
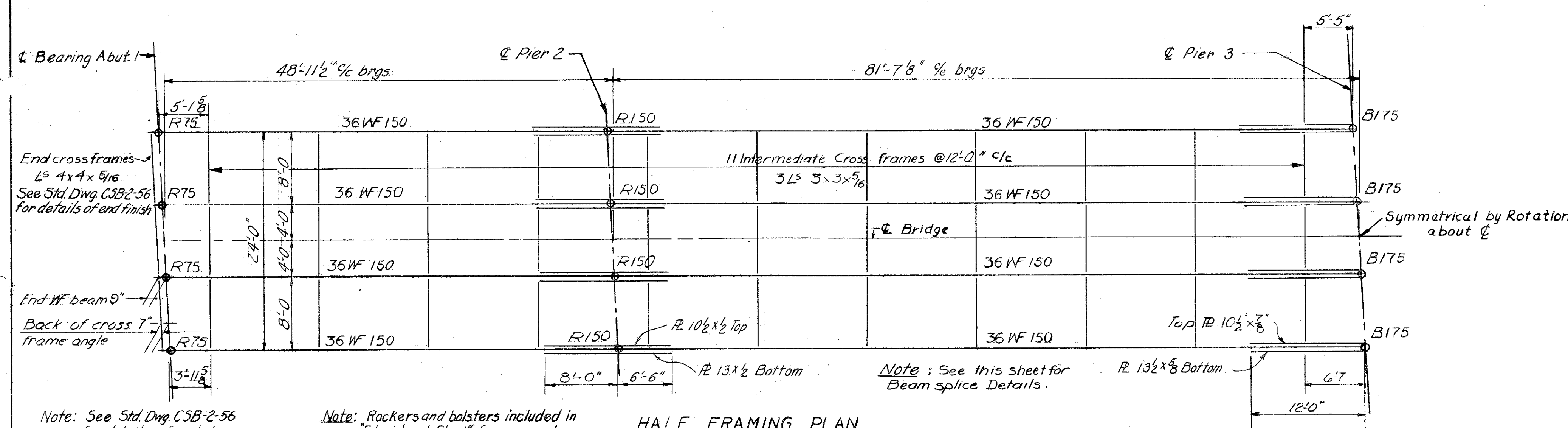
REINFORCING STEEL LIST				
SUPERSTRUCTURE				
MK	Length	Shape	No	Weight
5401	5-2	Bent	526	1815
5402	4-10	Bent	532	1718
5403	1-4	Bent	532	474
5404	2-6	Bent	526	878
5405	16-6	Str.	112	1234
5406	13-2	Str.	16	141
5407	30-4	Str.	54	1094
5501	30-0	Str.	393	12297
5601	30-0	Str.	394	17754
5602	28-0	Str.	240	10093
5603	30-11	Str.	207	9612
5604	27-0	Str.	52	2109
5605	35-6	Str.	26	1386
			Total	60,605

REPLACEMENT BARS			
Mark	Length	Shape	No.
RB401	5'3"	Str.	1
RB501	5'7"	Str.	1
RB601	5'11"	Str.	3
RB701	6'3"	Str.	1
RB801	6'6"	Str.	1
RB901	6'10"	Str.	1
RB1101	7'7"	Str.	1

Note: REPLACEMENT BARS: If reinforcing bars are fabricated from stock which has previously been tested and approved by the Ohio Highway Testing Laboratory, test samples as provided in Sec. 5-402 need not be furnished and replacement bars will not be required.

DEFLECTION AND CAMBER							
Location	Outside Beam				Inside Beam		
	Span1	Span2	Span3	Span4	Span1	Span2	Span3
Deflection due to weight of steel	0	1/8	1/8	0	0	1/8	1/8
Deflection due to remaining dead load	1/8	1/16	1/16	1/16	0	1/2	1/2
Convexity required for vertical curve	1/16	1/16	1/16	1/16	1/16	1/16	1/16
Sum of deflection and convexity	2	2 3/8	2 3/8	2	1/16	1 1/8	1 1/8
Required camber	0	2 3/8	2 3/8	0	1 1/8	1 1/8	0

Where no camber is required the beams shall be so fabricated that any curved beam will be placed with convex flange up.



- BEAM SPLICE WELDING PROCEDURE:**
- Erect span 2 and 3 beams first.
 - Raise the pier no.2 end of span no.2 beams 3 3/4\".
 - Butt weld the beam flanges and webs at pier no.3 using the following sequence: Make one pass on each flange then one on the web; repeat until welds are complete.
 - Weld the bottom and top moment plates.
 - Lower the pier no.2 end of span no.2 to the final position.
 - Raise the abutment end of span no.1 3/4\".
 - Repeat steps 3 and 4 at pier no.2.
 - Lower the abutment end of span no.1 to the final position.
 - Repeat steps 3, 4, 6, and 8 at pier no.4 and abutment no.5

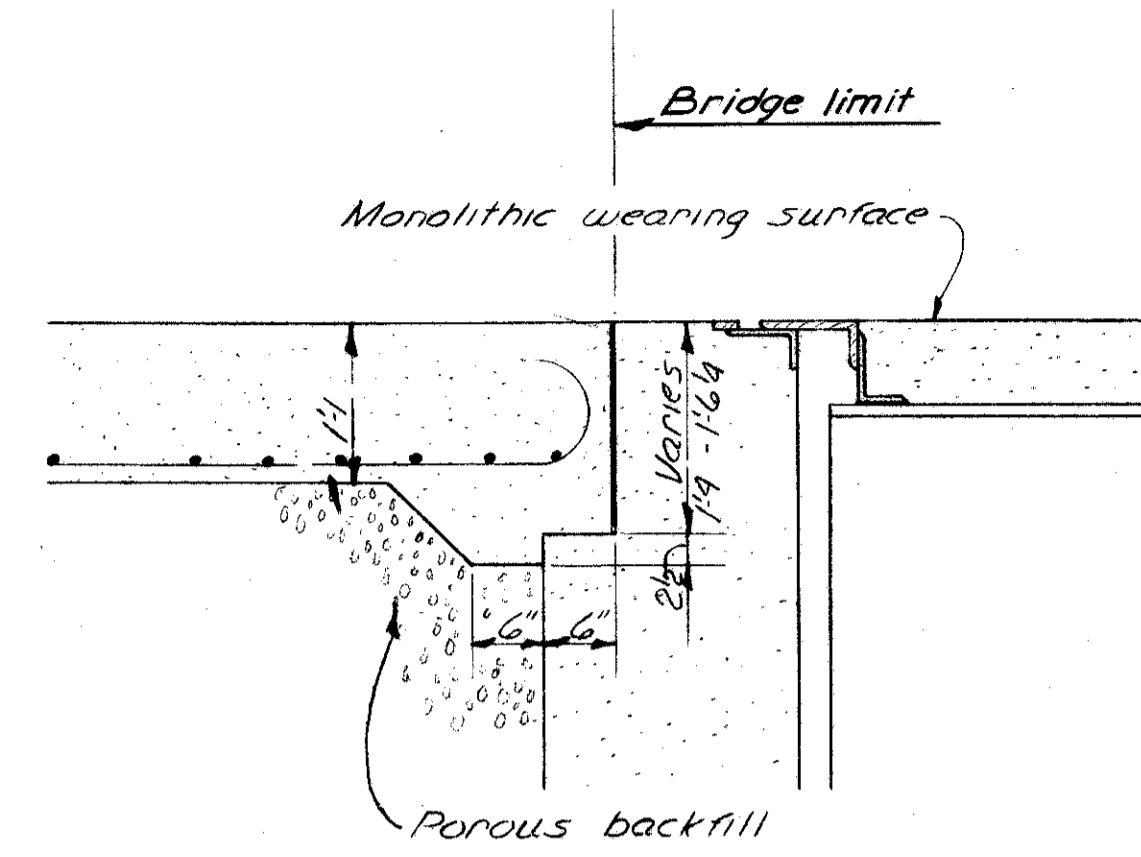
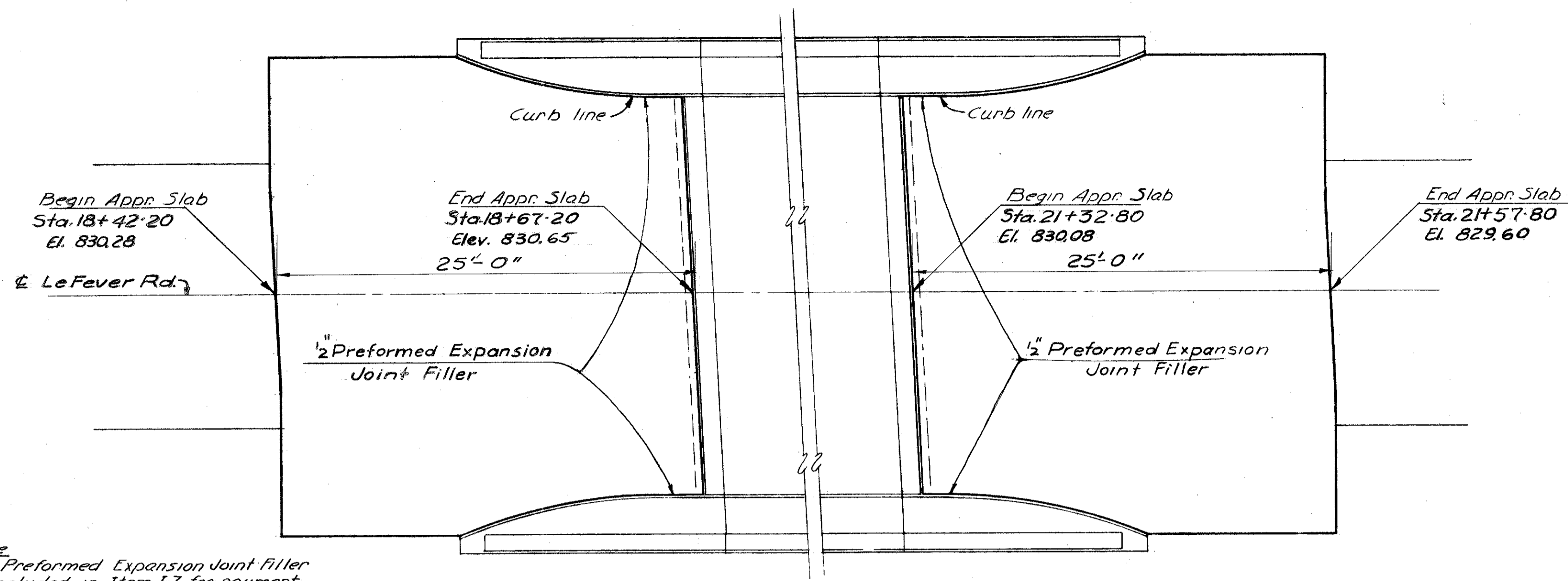
**CHARLES L. BARBER AND ASSOCIATES
HARRY BALK ENGINEERS
TOLEDO, OHIO**

SUPERSTRUCTURE DETAILS

BRIDGE N° ATB-1-0233
SRI UNDER LEFEVER RD.
ASHTABULA CO SR I
STA 123+59.21

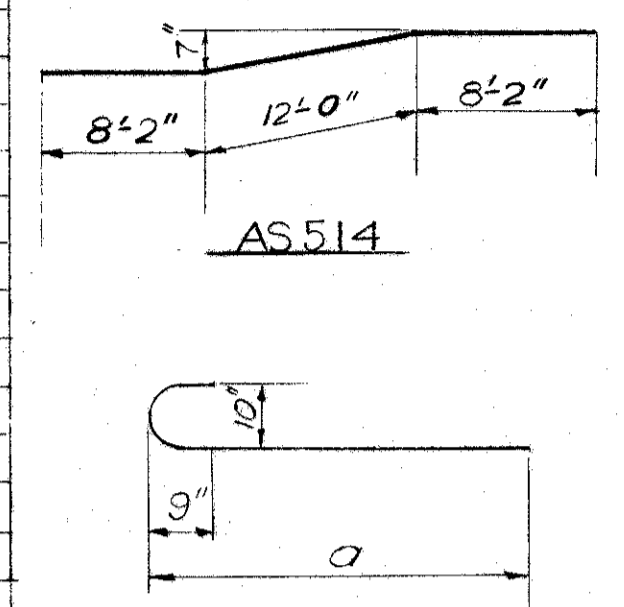
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
C.T.L.	W.S.		R.G.E.	A.C.A.	8/28/57	

LAKE COUNTY
LAK-1-26.51
ASHTABULA COUNTY
ATB-1-0.00



SECTION C-C

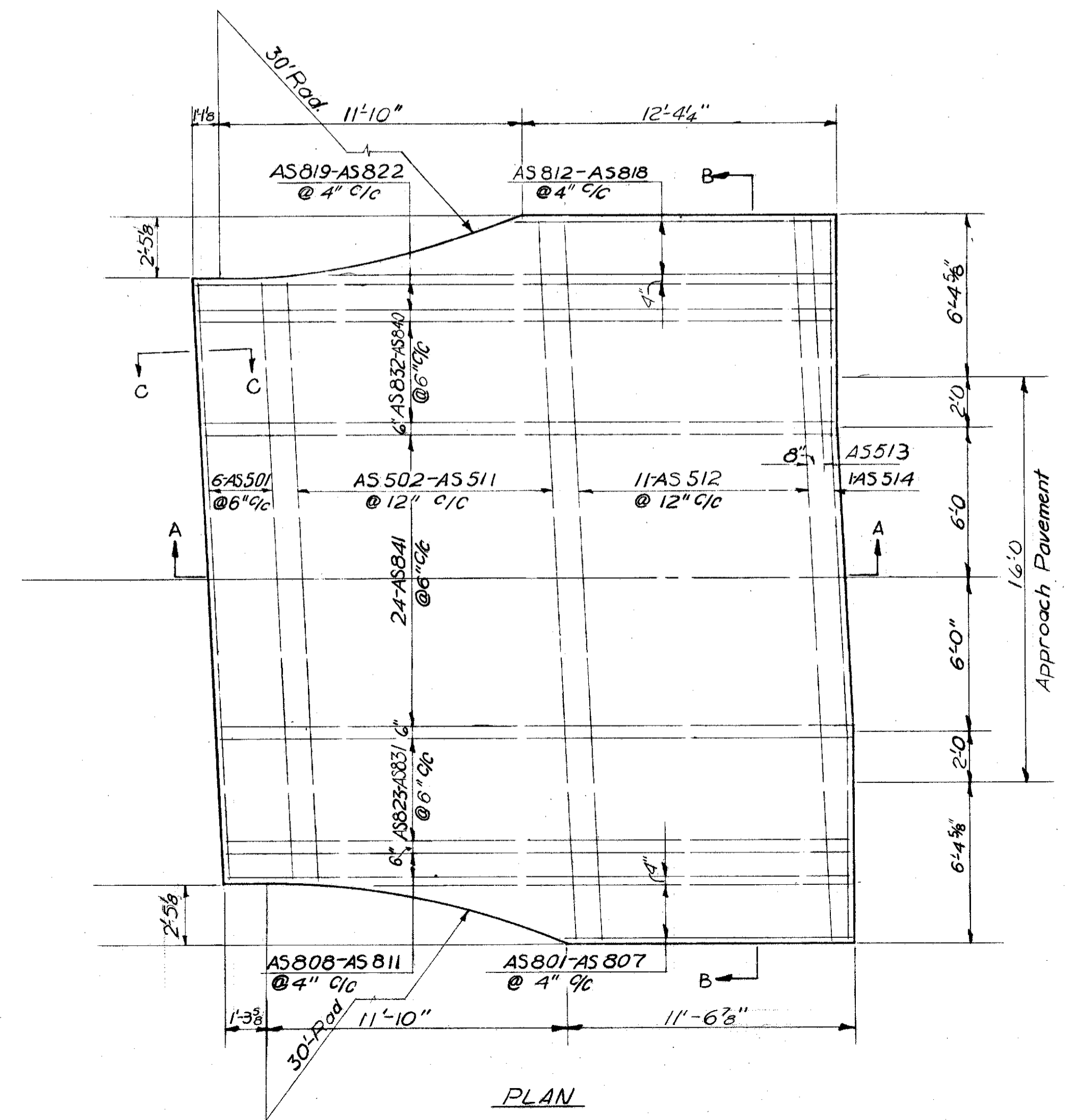
REINFORCING STEEL LIST				
BOTH APPROACH SLABS				
Mark	Length	Shape	No.	Wt.
AS 501	23'-7"	Str.	12	295
AS 502	23'-9"	"	2	50
AS 503	23'-11"	"	2	50
AS 504	24'-3"	"	2	51
AS 505	24'-7"	"	2	51
AS 508	25'-1"	"	2	52
AS 507	25'-7"	"	2	53
AS 508	26'-1"	"	2	54
AS 509	26'-9"	"	2	56
AS 510	27'-5"	"	2	57
AS 511	28'-4"	"	2	59
AS 512	28'-4"	"	22	650
AS 513	8'-0"	"	2	17
AS 514	28'-4"	Bent	2	59
AS 801	11'-9"	Str.	2	63
AS 802	12'-8"	"	2	68
AS 803	13'-8"	"	2	73
AS 804	14'-10"	"	2	79
AS 805	16'-2"	"	2	86
AS 806	17'-6"	"	2	93
AS 807	19'-11"	"	2	106
AS 808/AS 811	25'-3"	Bent	8	539
AS 812	19'-10"	Str.	2	106
AS 813	18'-3"	"	2	97
AS 814	16'-11"	"	2	90
AS 815	15'-6"	"	2	83
AS 816	14'-6"	"	2	77
AS 817	13'-6"	"	2	72
AS 818	12'-6"	"	2	67
AS 819-AS 822	25'-10"	Bent	8	552
AS 823	25'-4"	"	2	135
AS 824	25'-5"	"	2	136
AS 825	25'-5"	"	2	136
AS 826	25'-5"	"	2	136
AS 827	25'-6"	"	2	136
AS 828	25'-6"	"	2	136
AS 829	25'-6"	"	2	136
AS 830	25'-7"	"	2	137
AS 831	25'-7"	"	2	137
AS 832	25'-7"	"	2	137
AS 833	25'-7"	"	2	137
AS 834	25'-8"	"	2	137
AS 835	25'-8"	"	2	137
AS 836	25'-8"	"	2	137
AS 837	25'-9"	"	2	138
AS 838	25'-9"	"	2	138
AS 839	25'-9"	"	2	138
AS 840	25'-10"	"	2	138
AS 841	25'-7"	"	48	3279
Total				9546



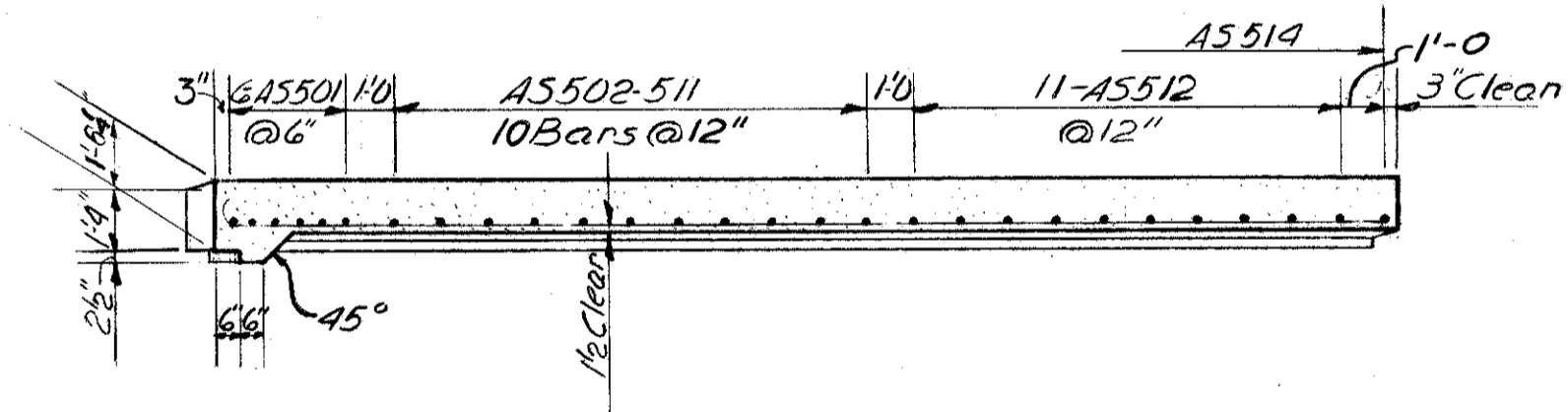
Note: 1/2" Preformed Expansion Joint Filler included in Item I-7 for payment.

Notes: Approach Slabs to be class "C" Concrete. In the reinforcing steel bar marks, the numeral following the second letter is the Bar Number which indicates the size of the bar.

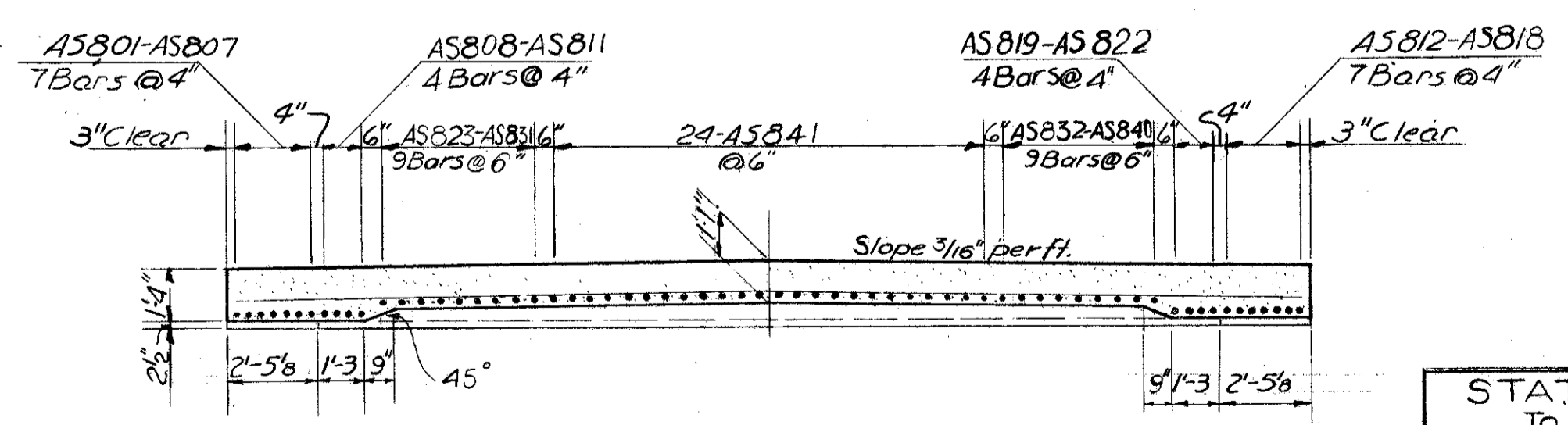
Note: This Reinforcing Steel is included in the item "Reinforced Concrete Approach Slab Item I-7" and is not paid for separately.



PLAN



SECTION A-A



SECTION B-B

STATION TO STATION	REINFORCED CONCRETE APPROACH SLABS ITEM I-7
18+42.20 to 18+67.20	76 Sq. yd.
21+32.80 to 21+57.80	76 Sq. yd.
TOTAL	152 Sq. yd.

CHARLES L. BARBER AND ASSOCIATES
HARRY BALKE ENGINEERS
TOLEDO, OHIO

APPROACH SLAB DETAILS
BRIDGE NO. ATB-1-0233
SRI UNDER LE. FEVER RD.
ASHTABULA CO. SRI
STA. 123+59.21

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RTS.	M.S.		J.R.	ACA.	8/28/57	