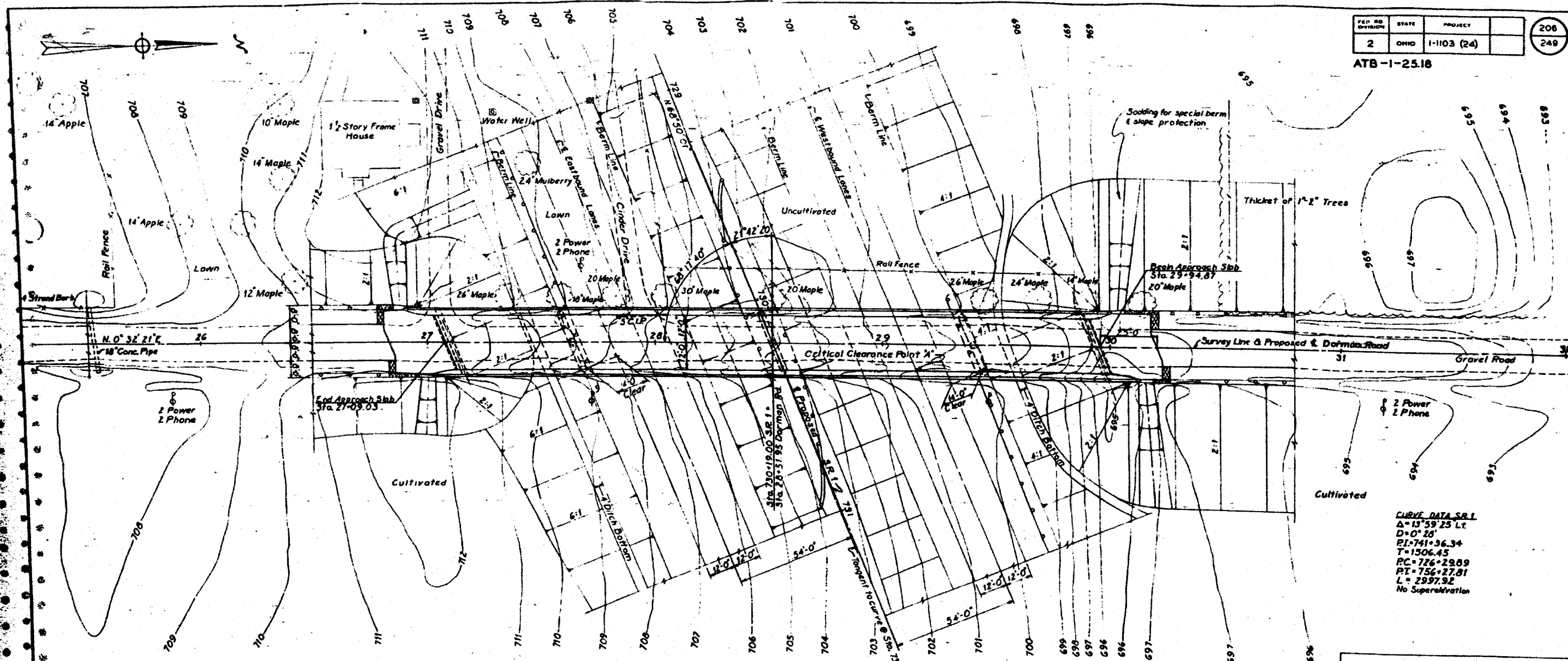


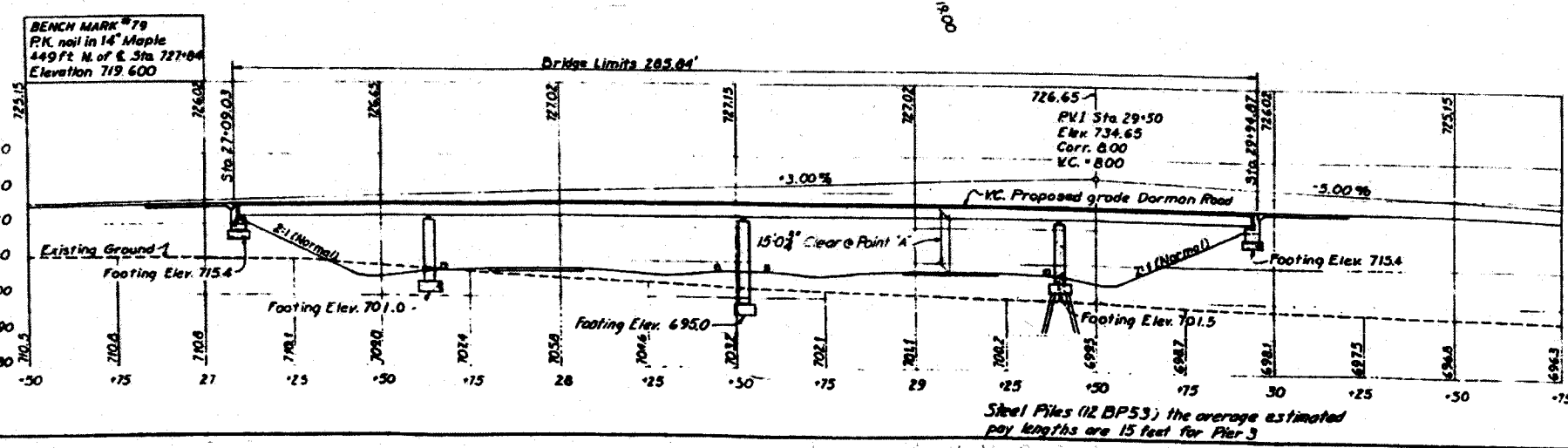
FED. RD. DIVISION	STATE	PROJECT	206
2	OHIO	I-1103 (24)	249

ATB-1-25.18



CURVE DATA SR.1
 $\Delta = 13^{\circ}59'25''$ LT
 $D = 0^{\circ}28'$
 $EI = 741 + 36.34$
 $T = 1506.45$
 $PC = 726 + 29.89$
 $PT = 756 + 27.81$
 $L = 2997.92$
 No Superelevation

FOUNDATION SOUNDINGS:
 Foundation design and foundation quantities are based on a log of test borings and tests made on soil samples taken at the site. This information may be inspected in the office of Interstate Projects in Columbus or in the Division office, but the State assumes no responsibility for the accuracy thereof.



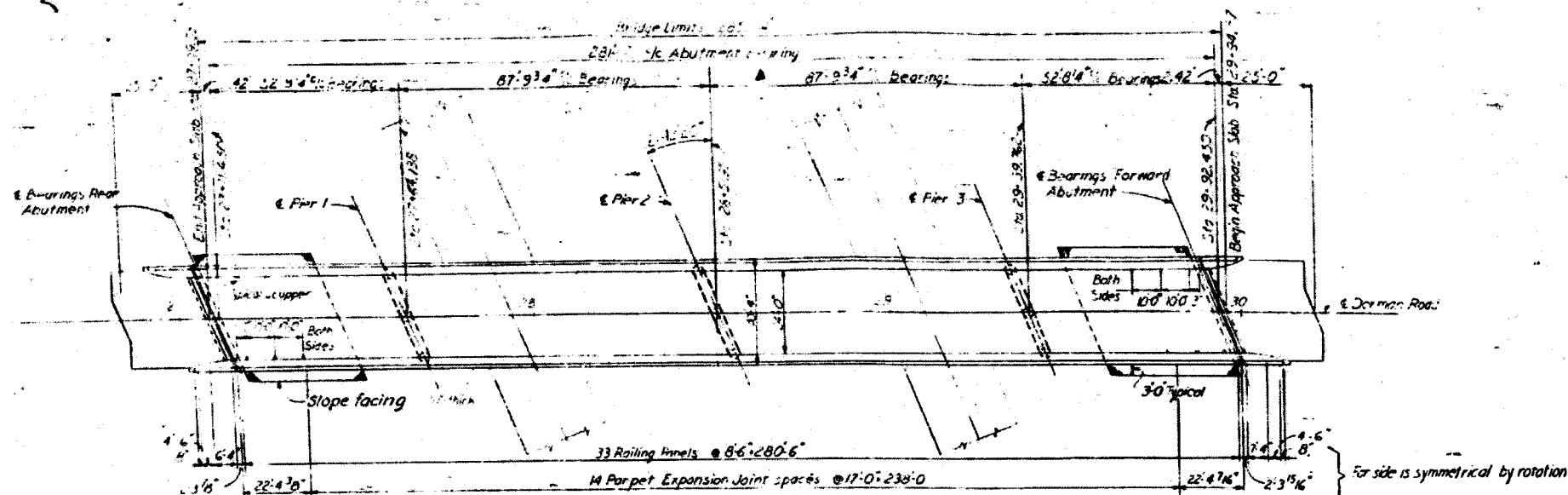
PROPOSED STRUCTURE
 TYPE: Continuous steel beam with reinforced concrete deck and substructure.
 SPANS: 52'-0" - 87'-9" - 87'-9" - 52'-0"
 ROADWAY: 24'-0" 11" 2'-0" Safety curbs
 LOAD FREQUENCY: CC 130 (S7)
 SKEN: 21' 42" 20" RT
 WEARING SURFACE: 1/2" Monolithic concrete
 APPROACH SLABS: 25'-0" Long
 ALIGNMENT: Tangent
 AVERAGE DAILY TRAFFIC (ADT): 720

SHAFFER, PARRETT & ASSOCIATES AND BROOKHART & TYO CONSULTING ENGINEERS MANSFIELD, OHIO					
SITE PLAN					
BRIDGE NO. ATB-1-2650 SR.1 UNDER DORMAN ROAD ASHTABULA CO. SR.1 SCALE: 1 IN. = 20 FT. STA. 730+80.00					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE
E.F.C.	E.F.C.	E.R.J.	R.M.M.	B.R.F.	9-8-57

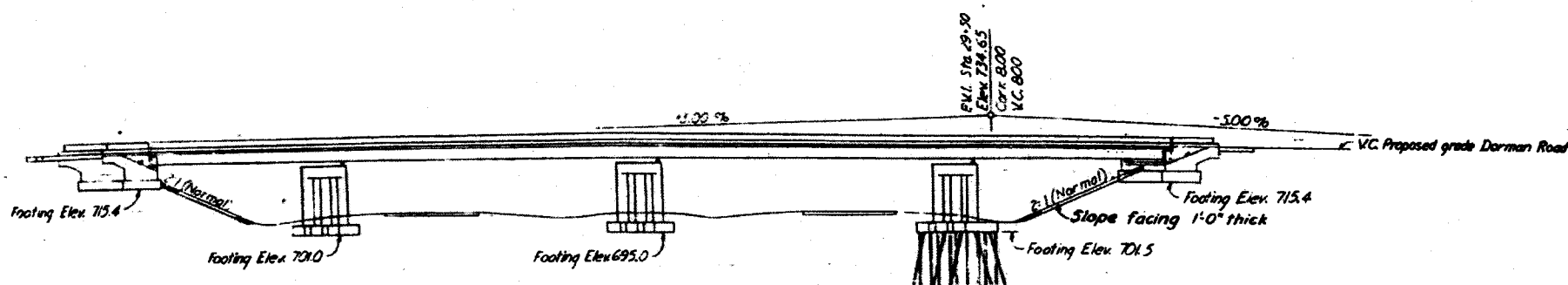
Steel Piles (12 BP53) the average estimated pile lengths are 15 feet for Pier 3

See ATB-7-2891 ATB-90-21650 for approach slab details

ATB-1-25.18



PLAN



ELEVATION

ESTIMATED QUANTITIES							
ITEM	TOTAL	UNIT	DESCRIPTION	SUPERSTR.	ABUTS.	PIERS	GENERAL
E 2	269	Cu Yds	Unclassified excavation including shale	-	210	59	-
E 2	Lump	Sum	Cofferdams, cribs and sheeting	-	-	-	Lump Sum
S 1	269	Cu Yds	Class C concrete; superstructure	269	-	-	-
S 1	68	Cu Yds	Class C concrete; pier caps and columns	-	-	68	-
S 1	87	Cu Yds	Class E concrete; abutments above footings	-	87	-	-
S 1	111	Cu Yds	Class E concrete; footings	-	47	64	-
S 4	66,229	Lbs.	Reinforcing steel	40,304	8,400	17,525	-
S 7	258,300	Lbs.	Structural steel	258,300	-	-	-
S 8	258,300	Lbs.	Field painting of structural steel	258,300	-	-	-
S 14	619	Lin Ft	Railing (aluminum rail on supports, concrete parapet and guard rail connections)	619	-	-	-
S 16	Lump	Sum	First test pile	-	-	Lump Sum	-
S 18	340	Lin Ft	Steel piles (2BP53)	-	-	340	-
S 29	20	Cu Yds	Porous backfill	-	20	-	-
S 29	105	Cu Yds	Slope facing (S-29.05 Type)	-	-	-	105

NOTES:

LOADING: C.F. 130 (57)

PILES: shall be driven to firm contact with shale. If the length of penetration is approximately equal to the depth to shale according to the bridge foundation investigation report, the firm contact shall be considered as obtained when the capacity according to the formula in Sec. S-18.03 is not less than the following value for a pile hammer of the indicated energy rating:

- For the pier piles
 - 44 tons per pile using a 7000 ft. lb hammer
 - 37 tons per pile using a 11000 ft. lb hammer
 - 35 tons per pile using a 15000 ft. lb hammer

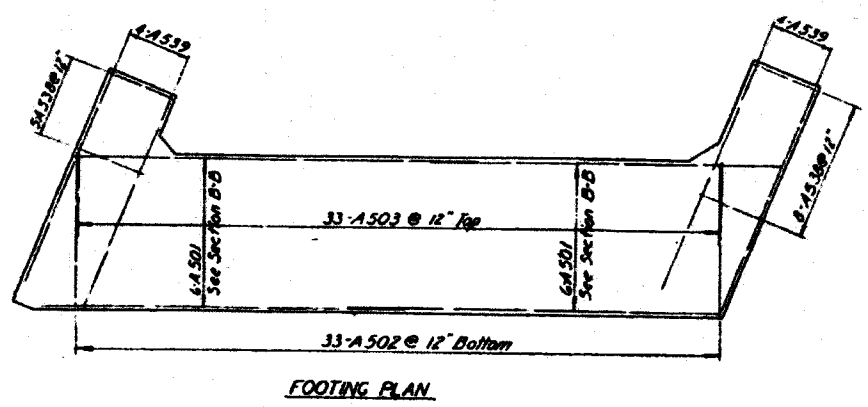
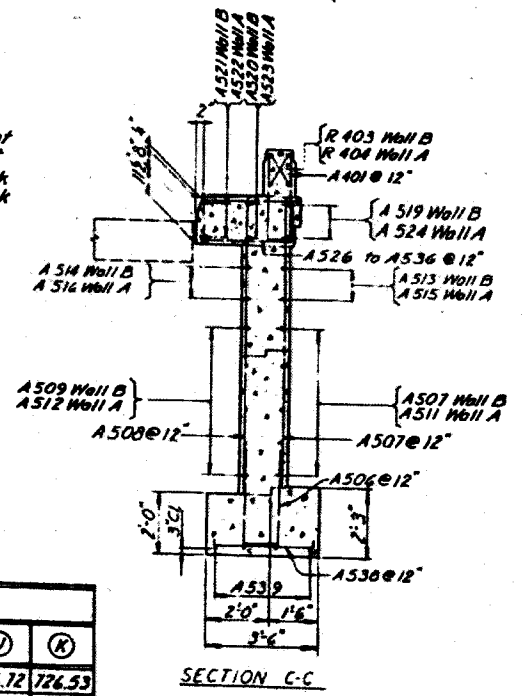
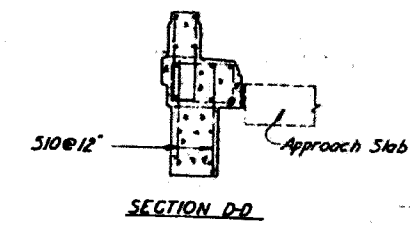
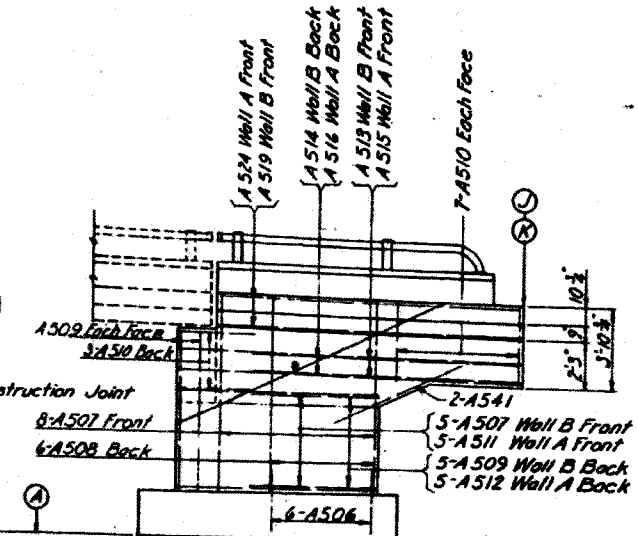
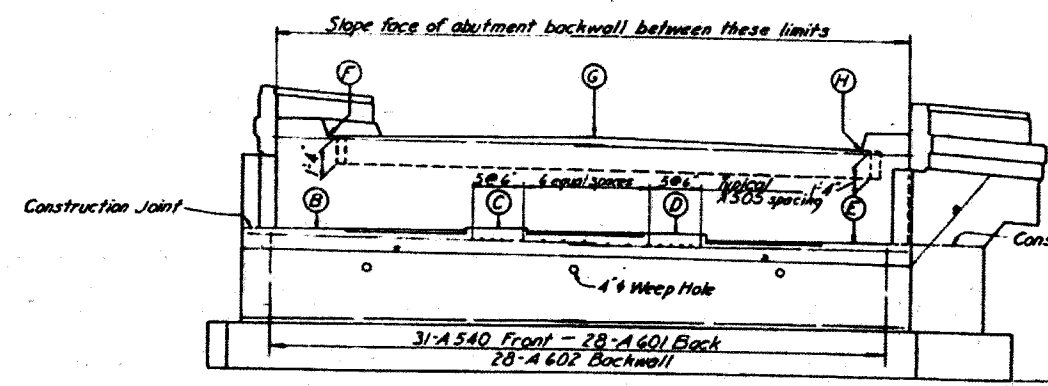
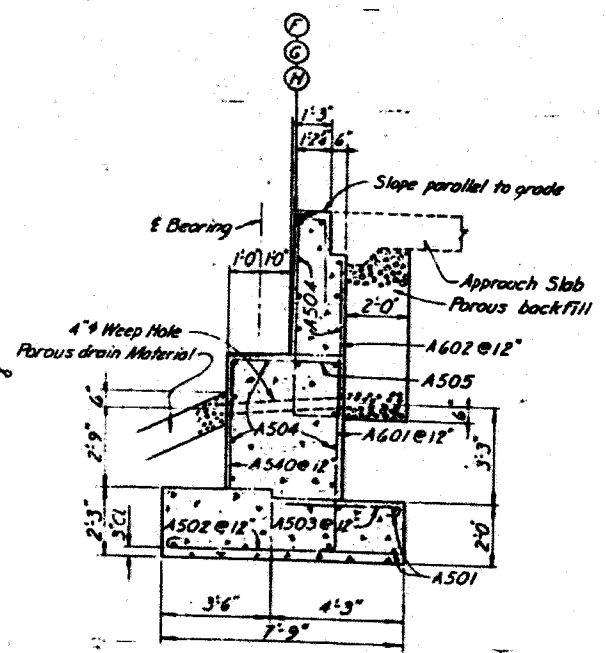
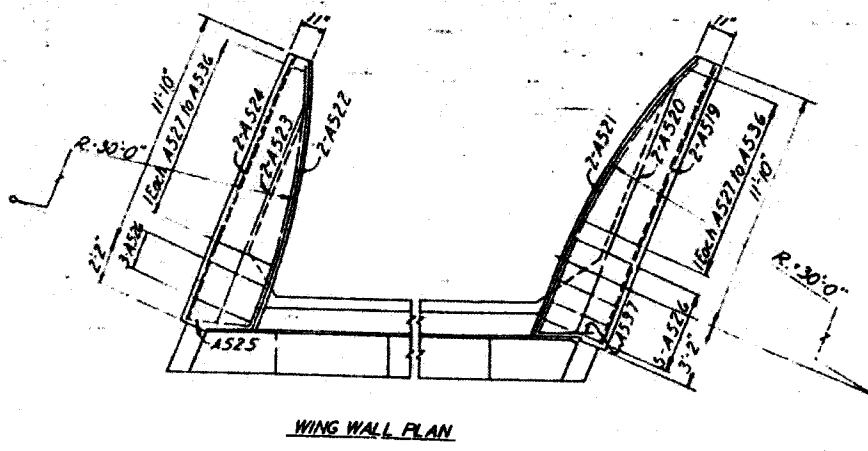
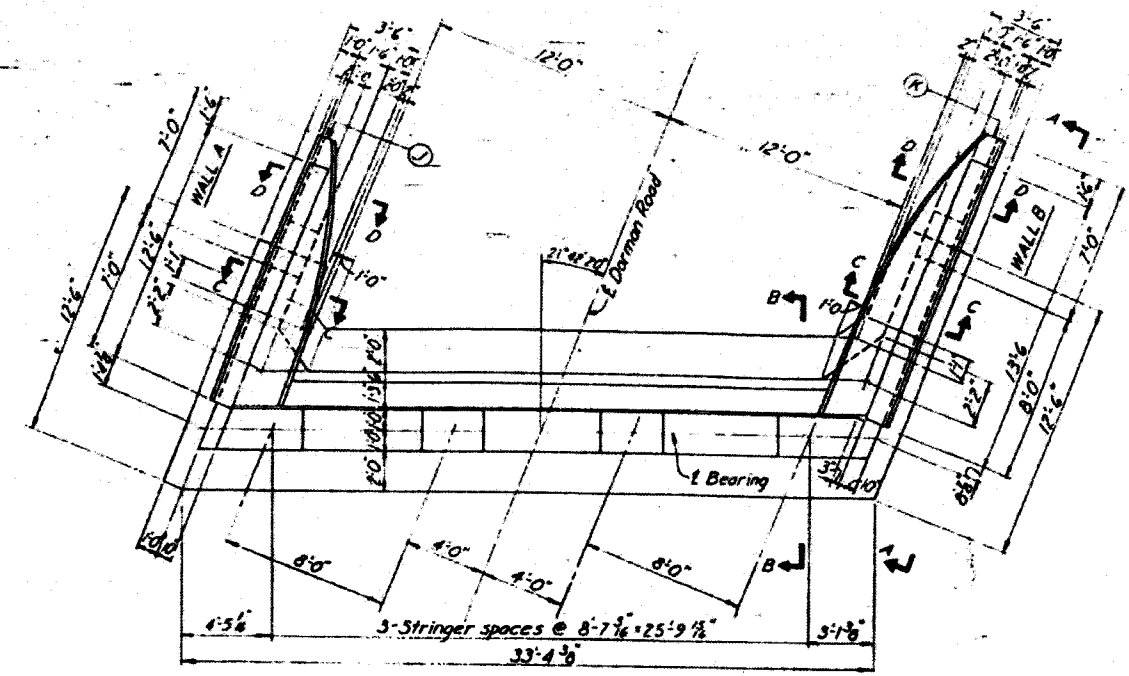
If the energy rating of the hammer is between the ratings as shown above, the required formula capacity shall be determined by interpolation. The design is 25 tons per pile for the pier piles.

GENERAL NOTES: See Sheet 19A

REFERENCE shall be made to Standard Drawing RB-1-55 dated 3-1-55 and CSB-2-56, sheets 2 and 3 of 6 dated 12-3-56.

SHAFER, PARRETT & ASSOCIATES AND BROOKHART & TYO CONSULTING ENGINEERS MANSFIELD, OHIO					
GENERAL PLAN					
BRIDGE NO ATB-1-2650 S.R. 1 UNDER DORMAN ROAD ASHTABULA CO. S.R. 1 STA. 730+8.00					
DESIGNED	DRAWN	TRACED	CHECKED	APPROVED	DATE
D.L.K.	M.A.G.	M.A.G.	C.M.F.	G.C.B.	1-3-58

ATB-1-25.18



LOCATION	A	B	C	D	E	F	G	H	J	K
Rear Abutment	714.9	721.550	721.632	721.588	721.415	726.05	726.17	725.92	726.72	726.53
Forward Abutment	714.9	721.497	721.578	721.532	721.361	726.00	726.12	725.86	726.66	726.47

NOTES:

FOUNDATION BEARING PRESSURE: Abutment footings are designed for a maximum bearing pressure of 1 1/2 tons per square foot.

CONCRETE: All abutment concrete shall be Class E except parapet which shall be Class C.

RAILINGS: See AR-1-57 and sheet 207

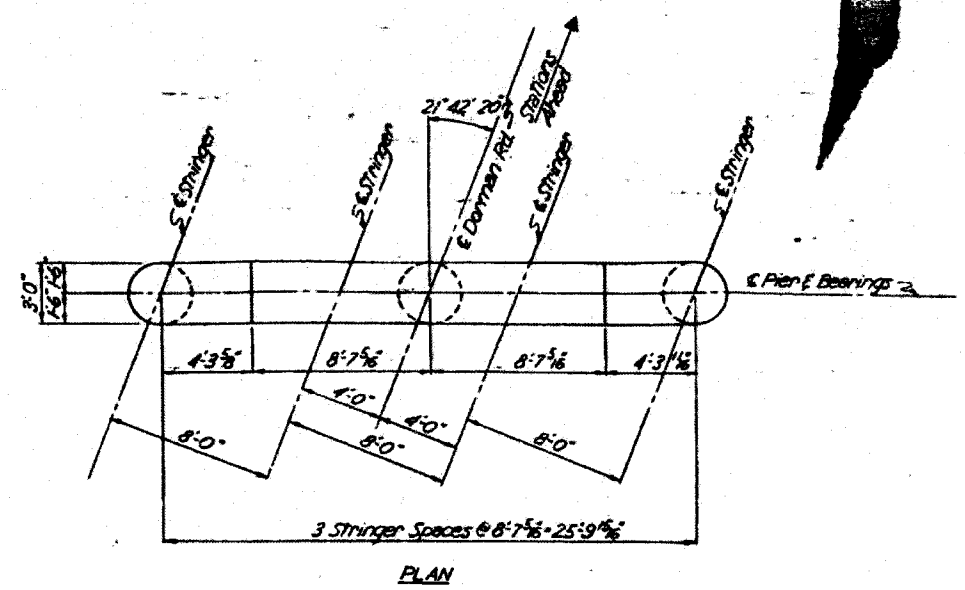
STANDARD DETAILS AND GENERAL NOTES: See sheet 198

SHAFER, PARRETT & ASSOCIATES AND BROOKHART & TYO
CONSULTING ENGINEERS
MANSFIELD, OHIO

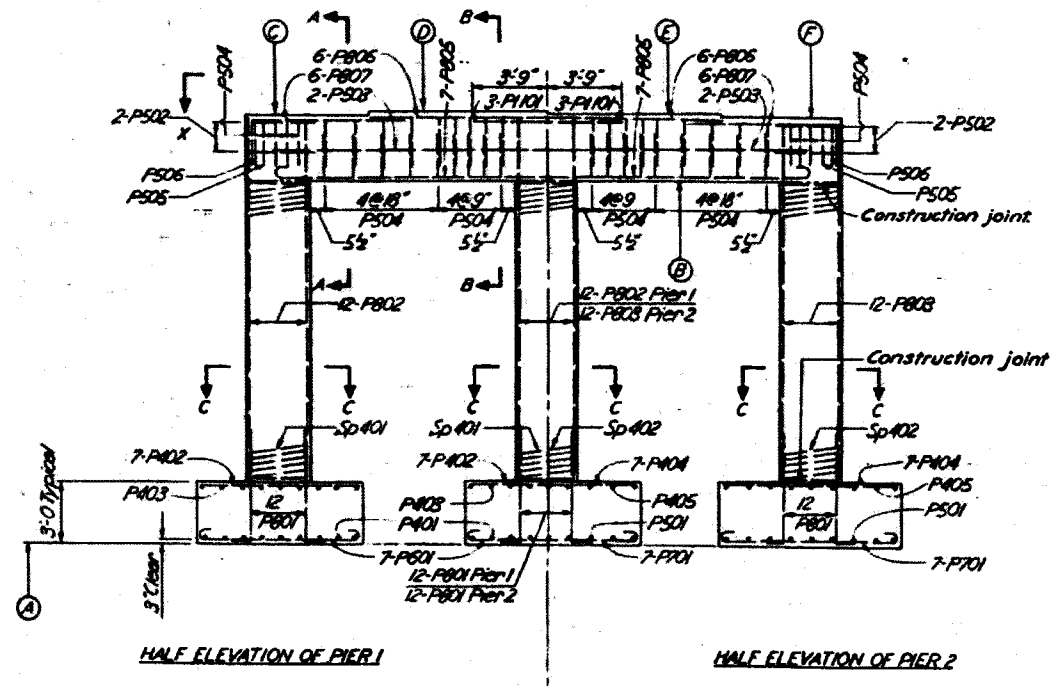
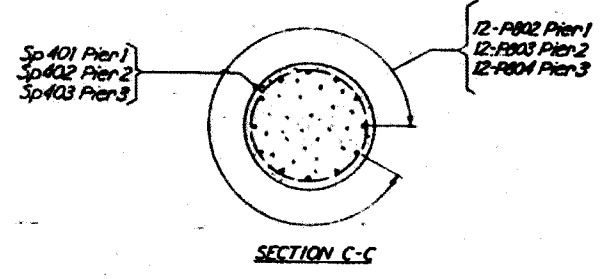
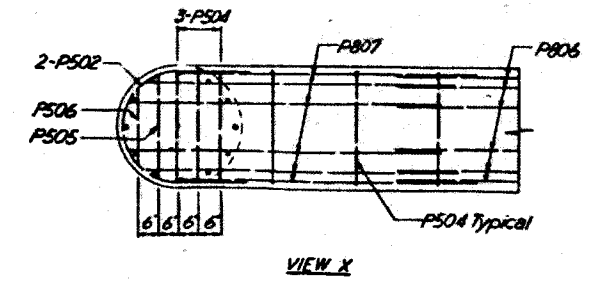
ABUTMENT
BRIDGE NO ATB-
SR 1 UNDER DORMAN ROAD
ASHTABLA CO. SR 1
STA. 730+18.00

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
DLH	CWF	ERJ	CWF	G.C.B.	1-3-58	

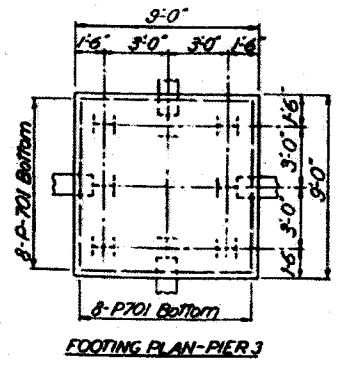
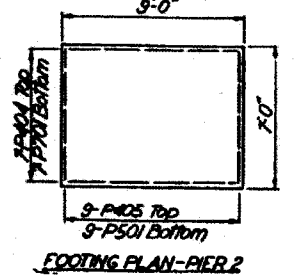
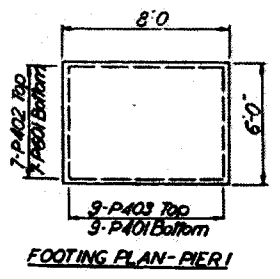
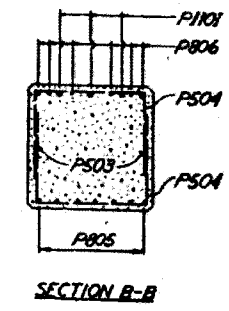
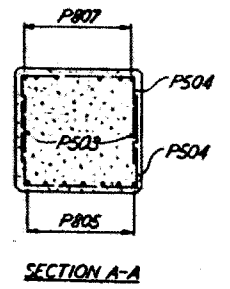
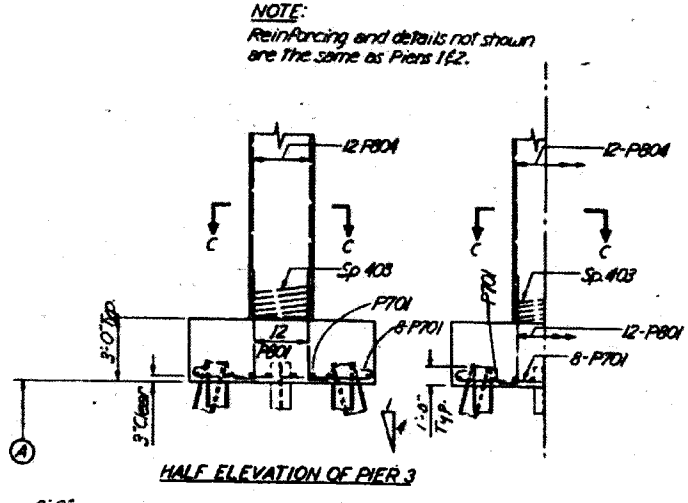
ATB-1-25.18



NOTES:
PROCEDURE: The embankment shall be placed and compacted up to a minimum of 6" above the bottom of the pier footing at pier 3, after which excavation shall be made for the pier footing.
EXCAVATION QUANTITY includes removal of fill material between the bottom of the pier footing and 6" above the bottom of the footing of pier 3.
FOOTINGS for piers 1 and 2 shall extend a minimum of 3' into shale or to the elevation shown which ever is lower.



NOTE:
 Reinforcing and details not shown are the same as Piers 1 & 2.



LOCATION	A	B	C	D	E	F
PIER 1	701.0	718.512	721.512	721.666	721.688	721.524
PIER 2	695.0	718.785	721.787	721.912	721.912	721.785
PIER 3	701.5	718.476	721.563	721.659	721.681	721.476

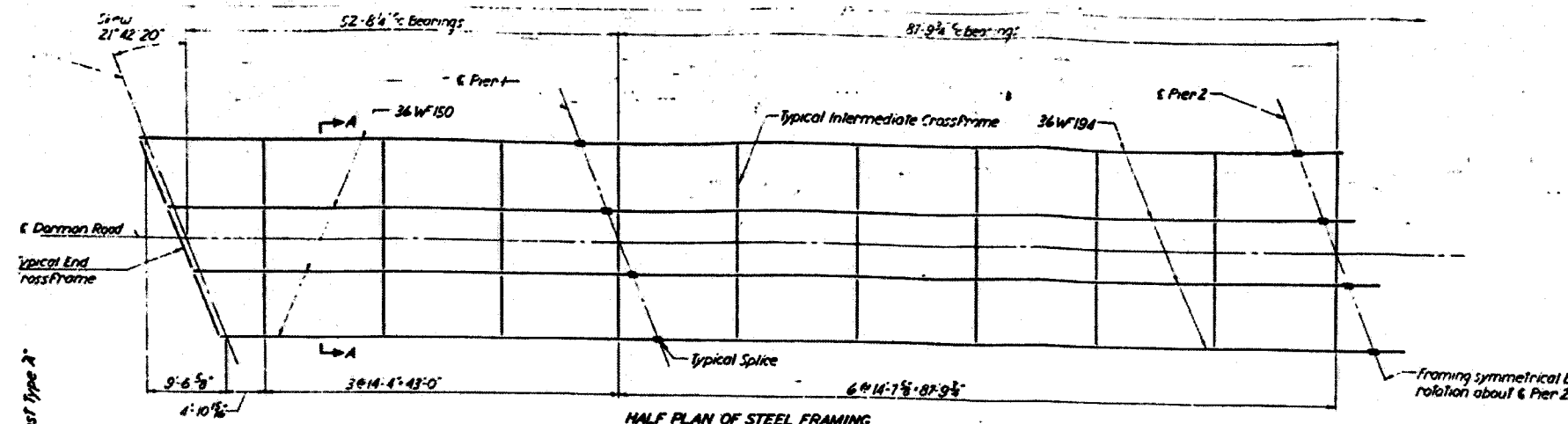
NOTES:
FOUNDATION BEARING PRESSURE: Footings for Piers 1 & 2 are designed for a minimum bearing pressure of 5 tons per square ft.
CONCRETE: All concrete for pier footings shall be Class E and all pier concrete above the top of footings shall be Class C.

GENERAL NOTES: See Sheet 138

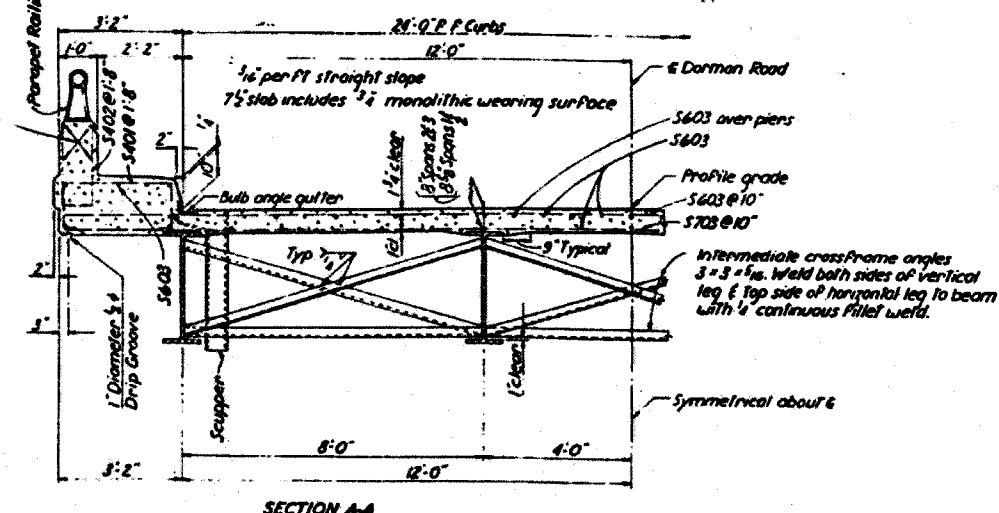
SHAFER, PARRETT & ASSOCIATES AND BROOKHUIS
 CONSULTING ENGINEERS
 MANSFIELD, OHIO

PIERS
 BRIDGE NO ATB-1-2850
 S.R.1 UNDER DORMAN ROAD
 ASHTABULA CO.

DESIGNED: E.F.C. DRAWN: M.M.K. TRACED: M.M.K. CHECKED: C.M.F. REVIEWED: G.C.B. DATE: 1-3-58



MOMENT PLATE SIZE			
	PIERS 1 & 3		PIER 2
TOP PLATE	10 1/2 x 15 1/2 = 25'3"		10 1/2 x 17 1/2 = 32'0"
BOTTOM PLATE	13 1/2 x 14 = 25'3"		13 1/2 x 16 = 32'0"
	36 W150	36 W194	36 W194
	16'-6"	8'-9"	16'-0" 16'-0"
	C Pier Splice		C Pier Splice



NOTES
 CAMBERING OF BEAMS is required in accordance with the following table:

	DEFLECTION AND CAMBER			
	OUTSIDE BEAMS		INSIDE BEAMS	
	END SPANS	MIDDLE SPANS	END SPANS	MIDDLE SPANS
Deflection due to weight of steel	0	1/4	0	1/4
Deflection due to remaining dead load	1/2	1 1/2	1/2	1 1/2
Converity required for vertical curve	1/2	1 1/2	1/2	1 1/2
Sum of deflection and converity	1/2	2 1/2	1/2	2 1/2
Required Camber	0	2 1/2	0	2 1/2

BEAM SPLICE WELDING PROCEDURE
 1 Raise end of beam at third pier 4 1/2".
 2 Bull-weld the beam flanges & web at second pier, using the following sequence: make one pass on each flange, then one on the web, repeat until welds are completed. Weld the top & bottom moment plates.
 3 Lower end of beam at third pier to final position.
 4 Make splice of first & third piers in the same manner, raising the end of the beam 1" at the abutments.
 5 After splices are completed at first and third piers, lower the ends of the beams at the abutments to final positions.

BEARINGS See RB-1-55 for the following: R-75 Abutments
 R-175 Piers 1 & 3
 B-200 Pier 2

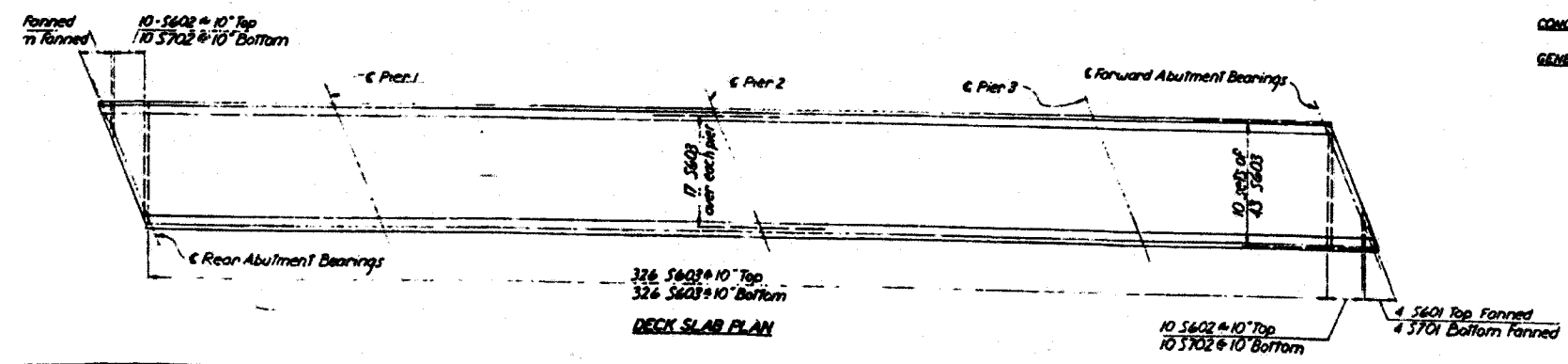
END CROSSFRAMES, END FINISH GUTTERS, SCUPPERS & CURB PLATE DETAILS: See CSB-2-56 Sheets 2 & 3 of 6

BAILING See AR-1-57

RAILING POST, PARAPET EXPANSION JOINT & SCUPPER SPACING: See Sheet 207

CONCRETE All superstructure concrete shall be Class C

GENERAL NOTES & BEAM SPLICE DETAILS: See Sheet 198

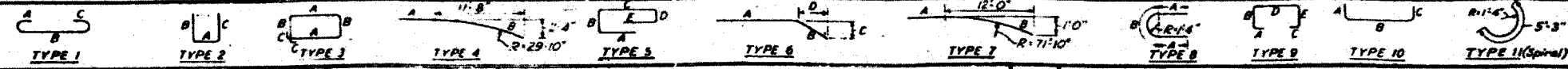


SHAPIR, PARRETT & ASSOCIATES AND BROODHART & TYO
 CONSULTING ENGINEERS
 MANSFIELD, OHIO

SUPERSTRUCTURE
 BRIDGE NO ATB-1-2550
 S.R. 1 UNDER DORMAN ROAD
 ASHTABULA CO., S.R. 1
 STA. 730+8.00

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
B.L.H.	M.M.M.	M.M.M.	C.M.F.	G.C.B.	1-3-58	

REINFORCING STEEL BAR SCHEDULE



ABUTMENTS									
MARK	NUMBER	LENGTH	TYPE	A	B	C	D	E	WEIGHT
R403	8	13'-0"	Str.	2 included with Railing					
R404	8	12'-0"	Str.	for Payment					
A401	54	6'-3"	2	8"	2'-9"	2'-9"			225
A501	24	18'-0"	Str.						451
A502	66	8'-0"	1	7'	7'-5"				551
A503	66	4'-7"	1	7'	4'-0"				315
A504	72	16'-9"	Str.						1258
A505	78	5'-3"	2	3'-5"	1'-10"				427
A506	24	8'-3"	2	1'-2"	3'-8"	3'-5"			207
A507	42	9'-4"	Str.						409
A508	24	9'-7"	Str.						240
A509	26	7'-8"	Str.						208
A510	68	3'-6"	Str.						234
A511	10	9'-0"	Str.						94
A512	10	6'-4"	Str.						66
A513	4	16'-4"	Str.						68
A514	4	14'-10"	G	12'-1"	2'-11"	2'-9"	1'-0"		62
A515	4	16'-0"	Str.						67
A516	4	13'-6"	G	10'-7"	2'-11"	2'-9"	1'-0"		56
A517									
A518									
A519	4	14'-8"	Str.						61
A520	4	12'-9"	Str.						53
A521	4	15'-6"	4	3'-6"	11'-11"				65
A522	4	13'-0"	4	1'-0"	11'-11"				54
A523	4	11'-0"	Str.						46
A524	4	13'-8"	Str.						57
A525	2	9'-1"	3	2'-9"	1'-3"	6"			79
A526	16	8'-10"	3	2'-8"	1'-3"	6"			147
A527	4	8'-9"	3	2'-7"	1'-3"	6"			37
A528	4	8'-7"	3	2'-6"	1'-3"	6"			36
A529	4	8'-4"	3	2'-5"	1'-3"	6"			37
A530	4	8'-0"	3	2'-3"	1'-3"	6"			33
A531	4	7'-8"	3	2'-1"	1'-3"	6"			32
A532	4	7'-3"	3	1'-10"	1'-3"	6"			30
A533	4	6'-9"	3	1'-7"	1'-3"	6"			28
A534	4	6'-2"	3	1'-4"	1'-3"	6"			26
A535	4	5'-6"	3	1'-0"	1'-3"	6"			23
A536	4	4'-9"	3	7"	1'-3"	6"			20
A537	2	6'-3"	2	1'-3"	2'-6"	2'-6"			73
A538	26	4'-2"	10	6"	3'-2"	6"			173
A539	16	11'-2"	Str.						186
A540	62	4'-0"	Str.						261
A541	8	7'-3"	Str.						60
AG01	56	6'-10"	10	8"	6'-2"				574
AG02	56	17'-3"	5	5'-5"	1'-4"	6'-9"	10'	2'-11"	1451
TOTAL WEIGHT									8,400

SUPERSTRUCTURE									
MARK	NUMBER	LENGTH	TYPE	A	B	C	D	E	WEIGHT
R401	112	16'-8"	Str.	2 included with Railing					
R402	16	22'-0"	Str.	for Payment					
S401	340	6'-0"	9	5'	1'-3"	5'	2'-8"	1'-3"	1363
S402	340	5'-0"	2	8"	2'-2"	2'-2"			1136
S601	8	6'-6"	Str.						78
S602	20	8'-6" to 27'-3"	Str.	2 Each Length, Vary by 2'-1"					
S603	807	30'-0"	Str.						36,363
S701	8	6'-6"	Str.						106
S702	20	8'-6" to 27'-3"	Str.	2 Each Length, Vary by 2'-1"					
S703	326	30'-0"	Str.						19,990
TOTAL WEIGHT									60,304

PIERS									
MARK	NUMBER	LENGTH	TYPE	A	B	C	D	E	WEIGHT
P401	27	6'-8"	1	6'	5'-8"	6'			120
P402	21	7'-8"	Str.						108
P403	27	5'-8"	Str.						102
P404	21	8'-8"	Str.						122
P405	27	6'-8"	Str.						120
P501	27	7'-10"	1	7'	6'-8"	7'			221
P502	12	5'-9"	8	1'-7"	4'-2"				72
P503	6	25'-10"	Str.						162
P504	126	6'-11"	2	2'-8"	2'-11"	2'-11"			909
P505	6	6'-8"	2	1'-11"	2'-11"	2'-11"			39
P506	6	6'-9"	2	2'-6"	2'-11"	2'-11"			42
P601	21	9'-0"	1	8'	7'-8"	8'			284
P701	69	10'-4"	1	10'	8'-8"	10'			1457
P801	108	6'-2"	10	11'	5'-3"				1779
P802	36	17'-0"	Str.						1634
P803	36	23'-3"	Str.						2235
P804	36	16'-6"	Str.						1586
P805	21	28'-0"	1	1'-1"	25'-10"	1'-1"			1370
P806	18	16'-0"	Str.						769
P807	36	11'-1"	2	2'-6"	8'-7"				1065
P1101	9	7'-6"	Str.						359
TOTAL WEIGHT									17,525

SPIRAL BARS						
MARK	NUMBER	LENGTH	PITCH	NR TURNS	CORE DIA	WEIGHT
SP401	3	14'-6"	48"	42	32"	823
SP402	3	20'-9"	48"	58	32"	1144
SP403	3	13'-11"	48"	41	32"	803
TOTAL WEIGHT						17,525

REPLACEMENT BARS				
MARK	NR	LENGTH	TYPE	WEIGHT
RE401	1	5'-3"	Str.	
RE501	1	5'-7"	Str.	
RE601	3	5'-11"	Str.	
RE701	2	6'-3"	Str.	
RE801	1	6'-6"	Str.	
RE901	1	5'-3"	Str.	
RE1101	1	7'-7"	Str.	

NOTES

REPLACEMENT BARS: If reinforcing bars are fabricated from stock which has been previously tested and approved by the Ohio Highway Testing Laboratory, test samples as provided in section 5-4.02 need not be furnished and replacement bars will not be required.

BAR SIZE: Bar size is indicated in the bar mark. The first digit where three digits are used and the first two where four are used, indicates the bar size number. For example, A401 is a No. 4 bar and A102 is a No. 11 bar.

LENGTH OF SPIRALS: Shown in the steel list for the spiral bars is the distance from the top of footing to the bottom of the pier cap.

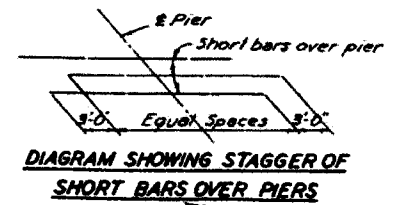
NR OF TURNS: Shown in the steel list for the spiral bars is the length divided by the pitch, plus three (3) turns (total number of closed coils), expressed to the nearest whole number. One and one half (1 1/2) closed coils shall be provided at ends of each spiral unit.

DEFORMATIONS: Spiral reinforcing bars shall not have deformations but shall in other respects conform to Item 5-4.

SPACERS: Four (4) steel channel, tee or angle spacers, weighing approximately 0.68 lb. per lin. foot of spacer, shall be provided for each spiral unit. They shall be equally spaced along the periphery of the coil. The number of pounds of these spacers, based on 0.68 lb. per lin. foot, will be paid for as reinforcing steel and is included in the tabulated quantity for spiral bars.

BAR HOOKS: For detail dimensions of 180° and 90° hooks for bar types 1, 3, 9 & 10, see section 5-4.05 of Specifications.

GENERAL NOTES: See sheet 19B.



SHAFFER, PARRETT & ASSOCIATES AND BROOKHART & TYO
CONSULTING ENGINEERS
MANSFIELD, OHIO

REINFORCING STEEL LIST

BRIDGE NO. ATB-1-2650
SR.1 UNDER DORMAN ROAD
ASHTABULA CO. SR.1
STA. 730+80.00

DESIGNED	DRAWN	TRACED	AL.C.	C.W.F.	REVIEWED	DATE	REVISED
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