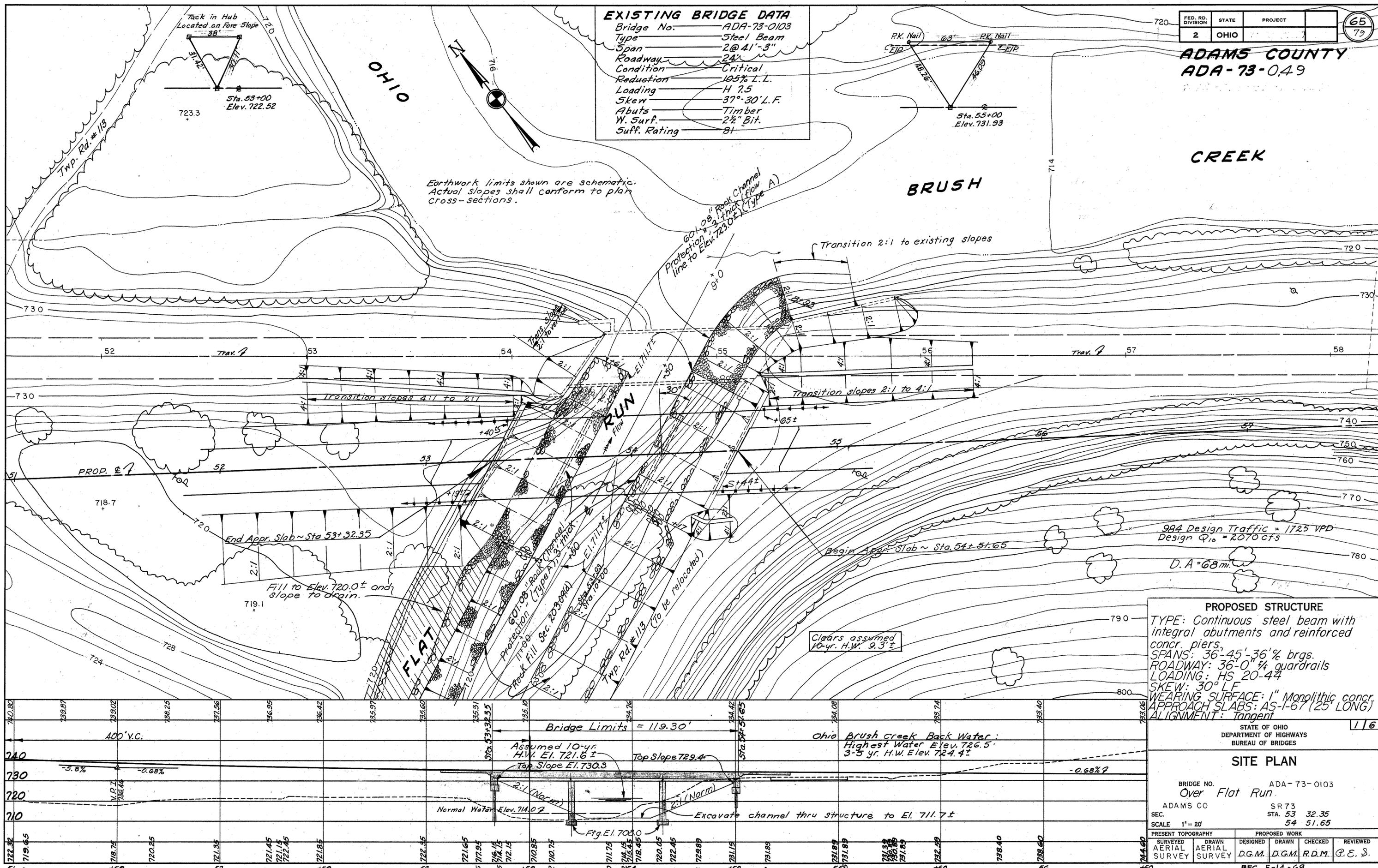


EXISTING BRIDGE DATA

Bridge No.	ADA-73-0103
Type	Steel Beam
Span	2@41'-3"
Roadway	24'
Condition	Critical
Reduction	105% L.L.
Loading	H 7.5
Skew	37°-30' L.F.
Abuts	Timber
W. Surf.	2 1/2" Bit.
Suff. Rating	81

ADAMS COUNTY
ADA-73-049



Earthwork limits shown are schematic. Actual slopes shall conform to plan cross-sections.

Transition 2:1 to existing slopes

Transition slopes 4:1 to 2:1

Transition slopes 2:1 to 4:1

End Appr. Slab ~ Sta 53+32.35

Begin Appr. Slab ~ Sta 54+51.65

994 Design Traffic = 1725 VPD
Design Q_{10} = 2070 cfs

D.A = 68m

Clears assumed
10-yr. H.W. 9.3'

PROPOSED STRUCTURE
TYPE: Continuous steel beam with integral abutments and reinforced concr. piers.
SPANS: 36'-45'-36" brgs.
ROADWAY: 36'-0" 1/4 guardrails
LOADING: HS 20-44
SKEW: 30° L.F.
WEARING SURFACE: 1" Monolithic concr.
APPROACH SLABS: AS-1-67 (25' LONG)
ALIGNMENT: Tangent

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

SITE PLAN

BRIDGE NO. ADA-73-0103
Over Flat Run

ADAMS CO SR73
SEC. STA. 53 32.35
SCALE 1" = 20' 54 51.65

PRESENT TOPOGRAPHY		PROPOSED WORK			
SURVEYED	DRAWN	DESIGNED	DRAWN	CHECKED	REVIEWED
AERIAL SURVEY	AERIAL SURVEY	D.G.M.	D.G.M.	R.D.M.	P.E.S.

ADA-73-0.49

GENERAL NOTES

REFERENCE shall be made to Standard Drawings SD-1-65, Sh. No. 3, dated 11-8-65 and CSB-1-63, Sh. No. 1, revised 12-8-65; and to Supplemental Specifications No. 808, 811 and 825, all dated 1-1-69.

DESIGN SPECIFICATIONS: This structure conforms to "Standard Specifications for Highway Bridges" adopted by the American Association of State Highway Officials, 1965, including the Ohio "Supplement" to these specifications.

DESIGN DATA:
Design Loading - HS 20-44

Concrete Class C - unit stress 1200 psi for superstructure
unit stress 1333 psi for substructure.
Structural Steel - ASTM A36 - unit stress 20,000 psi.
Reinforcing Steel - ASTM A615, A616 or A617 - unit stress 20,000 p.s.i.

REMOVAL OF EXISTING STRUCTURE: When no longer needed to maintain traffic the existing structure shall be removed.

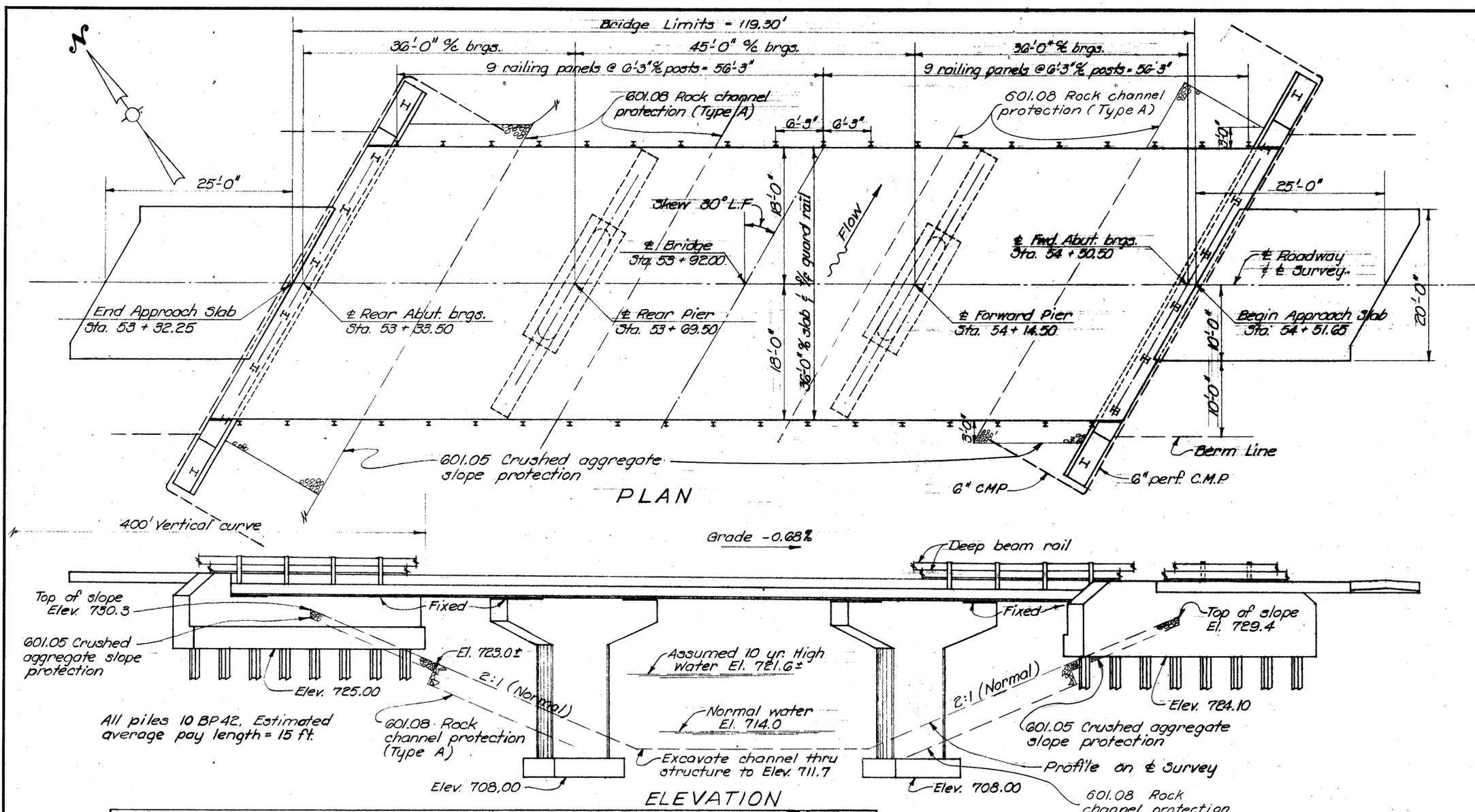
EMBANKMENT CONSTRUCTION: The embankment shall be constructed to the level of the subgrade for a minimum distance of 200 feet back of the rear abutment. Excavation shall then be made for the rear abutment and rear pier.

ABUTMENT PILES shall be driven to firm contact with bedrock. If the length of penetration is approximately equal to the depth to bedrock according to the bridge foundation investigation report, the firm contact shall be considered as attained when the capacity according to the formula in 507.05 is not less than the following value for a pile hammer of the indicated energy rating:

- 50 tons per pile using a 7000 ft. lb. hammer
- 45 tons per pile using an 11000 ft. lb. hammer
- 40 tons per pile using a 15,000 ft. lb. or greater 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 load is 25 tons per pile.

FOUNDATION BEARING PRESSURE: Pier footings are designed for a maximum bearing pressure of 4 tons per sq. ft.



ESTIMATED QUANTITIES

Item	Total	Unit	Description	Abuts.	Piers	Superst.	Gen'l	As Built
202	Lump	Sum	Existing structure removed				Lump	
211	503	Lump	Cofferdams, cribs and sheeting				Lump	
	503	207	Cu. yd. Unclassified excavation, including rock	136	75			C2+4 CU. YD.
	505	Lump	First test pile				Lump	
	507	240	Lin. ft. Steel piles 10 BP 42	240				
	509	52,807	Lbs. Reinforcing steel	8152	9946	34,709		
	511	132	Cu. yd. Class C concrete, superstructure			132		
	511	83	Cu. yd. Class C concrete, piers above footings		83			
21	511	95	Cu. yd. Class C concrete, pier footings		95			C2+4 CU. Y
	511	95	Cu. yd. Class C concrete, abutments	95				
	512	84	Lin. ft. Premolded sealing strip				84	
	513	66,300	Lbs. Structural steel			66,300		
	514	66,300	Lbs. Field painting of structural steel			66,300		
	516	84	Sq. ft. 1" preformed expansion joint filler				84	
	516	71	Sq. ft. 1/4" preformed expansion joint filler				71	
	517	238.60	Lin. ft. Railing (two deep beam rails with steel posts and bolts)			238.60		
	518	62	Cu. yds. Porous backfill	62				
	518	123	Lin. ft. 6" perforated, helical corrugated metal pipe, including specials, 70701		123			
52	518	48	Lin. ft. 6" non-perforated helical corrugated metal pipe, 70701		48			C2+4 LIN. FT.
	601	179	Sq. yd. Crushed aggregate slope protection			179		
	601	733	Cu. yd. Rock channel protection, Type A				733	
	808	132	Units Water-reducing, set-retarding admixture			132		
	825	510	Sq. yds. Concrete surface treatment			510		

THESE ADJUSTMENTS DETERMINED FROM FIELD MEASUREMENTS, AND RESULT FROM THE ADDITIONAL DEPTH OF REAR PIER FOOTER TO ATTAIN FIRM ROCK FOUNDATION.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
DIVISION OF DESIGN AND CONSTRUCTION
BUREAU OF BRIDGES

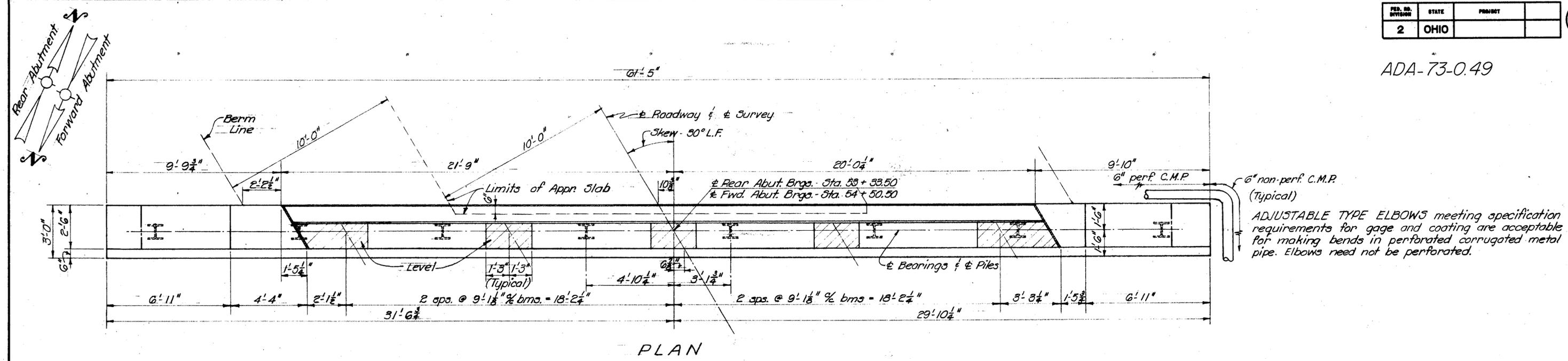
216

GENERAL PLAN & ELEVATION NOTES & ESTIMATED QUANTITIES
BRIDGE NO. ADA-73-0103
OVER FLAT RUN

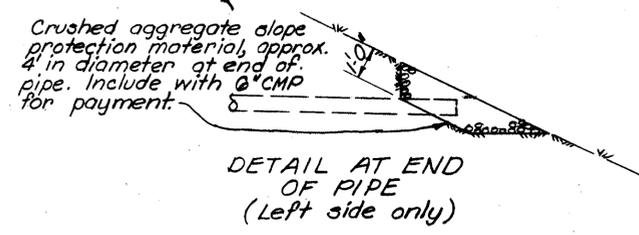
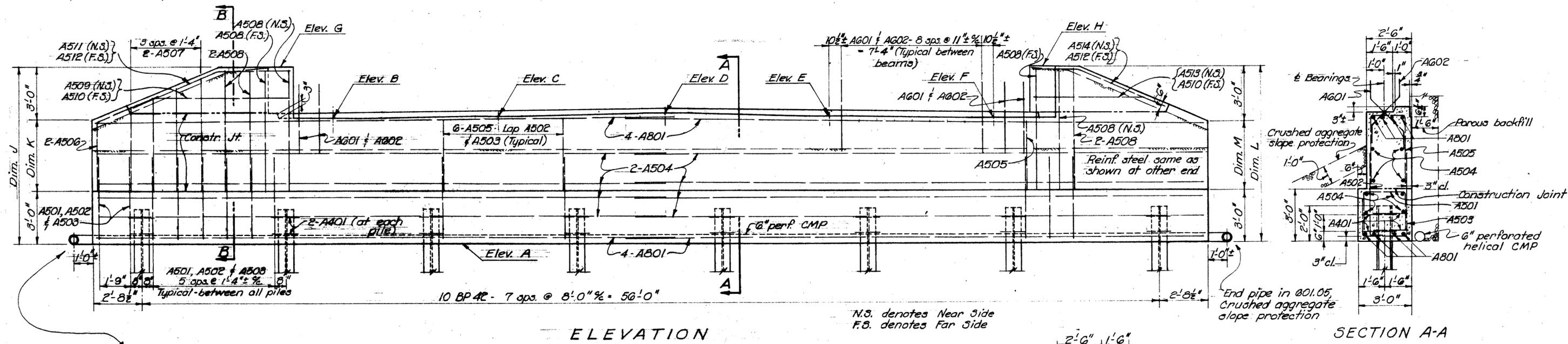
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
NAA	NAA		4-3-69	BFG	5-14-69	

Revised As-Built

ADA-73-0.49

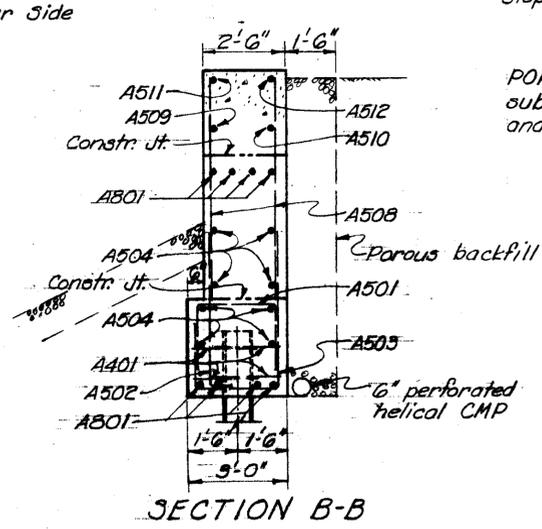


ADJUSTABLE TYPE ELBOWS meeting specification requirements for gage and coating are acceptable for making bends in perforated corrugated metal pipe. Elbows need not be perforated.



SECTION A-A

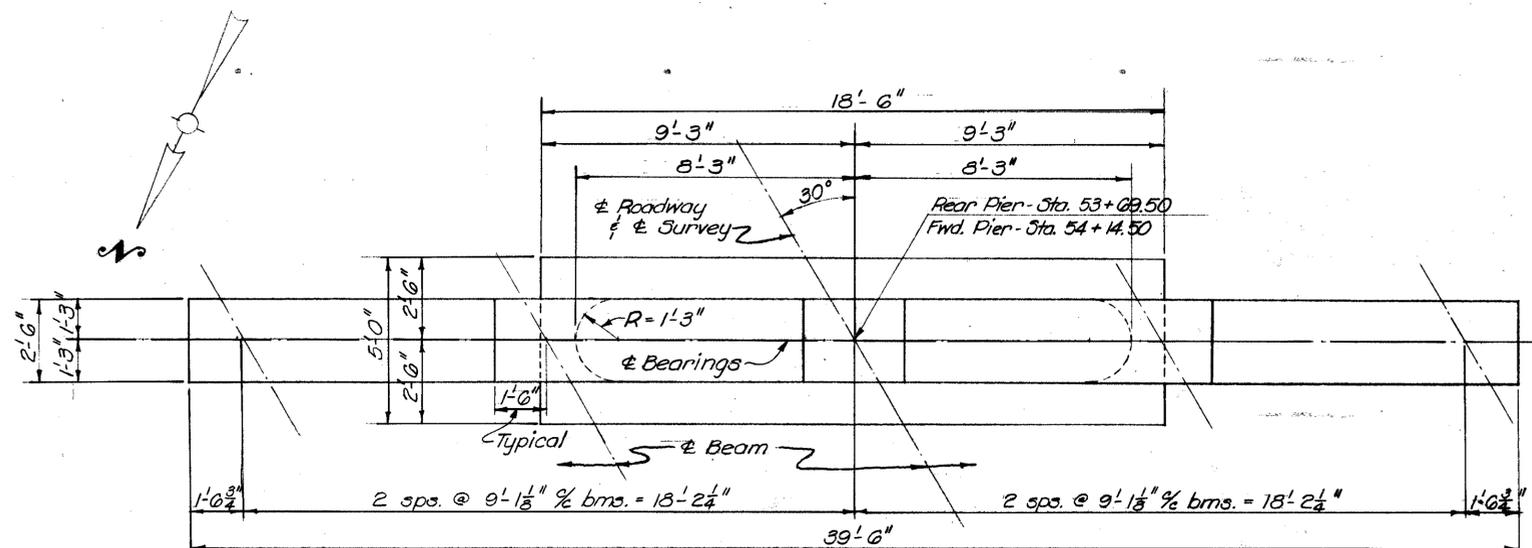
POROUS BACKFILL shall extend upward to the subgrade and to the surface of the earth shoulders, and outward to the end of abutment.



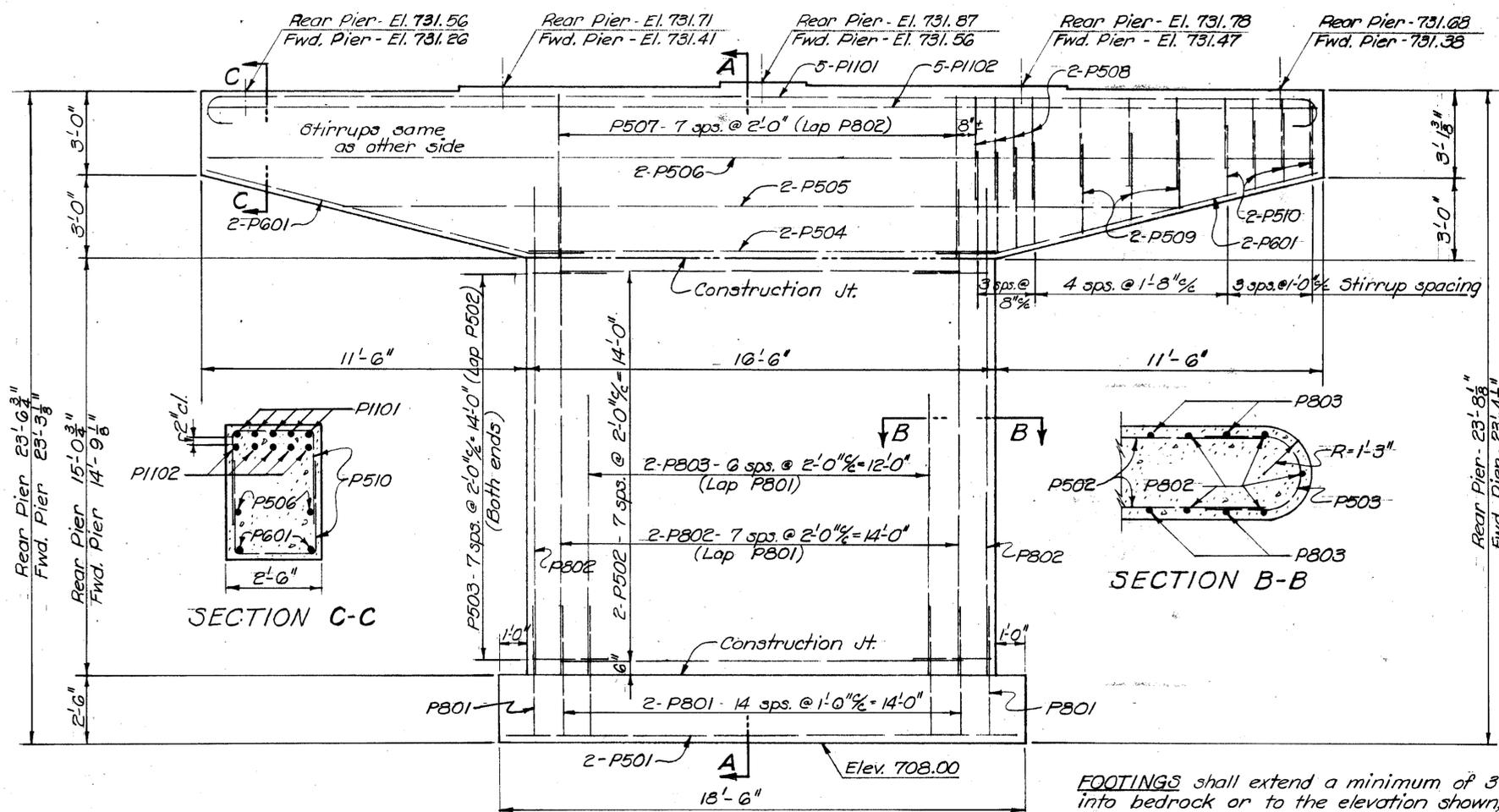
	ELEVATIONS								DIMENSIONS			
	A	B	C	D	E	F	G	H	J	K	L	M
Rear Abutment	723.00	722.10	732.18	732.26	732.10	732.04	733.05	734.86	10'-0"	4'-0"	9'-10"	3'-10"
Forward Abutment	724.10	721.14	731.29	731.45	731.36	731.27	732.04	734.19	9'-11"	3'-11"	10'-1"	4'-7"

STATE OF OHIO DEPARTMENT OF HIGHWAYS DIVISION OF DESIGN AND CONSTRUCTION BUREAU OF BRIDGES						3/6
ABUTMENT DETAILS BRIDGE NO. ADA-73-0103 OVER FLAT RUN						
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
NAA	NAA		WJ	DFG	5-14-69	

ADA-73-0.49



PLAN



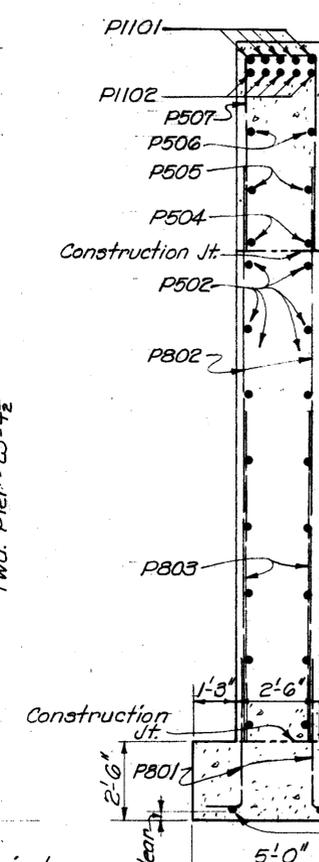
ELEVATION

FOOTINGS shall extend a minimum of 3 inches into bedrock or to the elevation shown, whichever is lower.

BRIDGE SEAT REINFORCING: Special care shall be taken in placing reinforcing steel in the vicinity of the bridge seat so as to avoid interference with the drilling of anchor bar holes.

REINFORCING STEEL LIST				
Mark	No.	Length	Weight	Shp.
SUPERSTRUCTURE				
S801	44	21'-10"	2565	Str.
S601	326	35'-6"	17383	Str.
S602	30	34'-6"	3497	Str.
S501	219	30'-0"	6853	Str.
S502	73	33'-9"	2570	Str.
S503	64	18'-0"	1202	Str.
S504	30	5'-10"	183	Str.
S505	30	4'-11"	154	Str.
S506	48	5'-4"	267	Str.
S507	4	8'-6"	35	Str.
ABUTMENTS				
A801	32	31'-9"	2712	Str.
A601	80	4'-11"	591	Str.
A602	80	4'-4"	521	Str.
A501	92	6'-3"	600	Str.
A502	92	5'-3"	504	Str.
A503	92	9'-0"	864	Str.
A504	32	3'-4"	1046	Str.
A505	62	9'-4"	604	Str.
A506	8	7'-8"	64	Str.
A507	30	4'-4"	174	Str.
A508	20	6'-8"	139	Str.
A509	2	7'-8"	16	Str.
A510	4	6'-3"	26	Str.
A511	2	9'-0"	19	Str.
A512	4	7'-7"	32	Str.
A513	2	4'-10"	10	Str.
A514	2	6'-1"	13	Str.
A401	64	5'-1"	217	Str.
PIERS				
P1101	10	42'-2"	2240	Str.
P1102	10	39'-0"	2072	Str.
P801	64	5'-8"	968	Str.
P802	36	17'-6"	1682	Str.
P803	28	10'-0"	747	Str.
P601	8	13'-7"	163	Str.
P501	4	18'-0"	75	Str.
P502	32	14'-0"	467	Str.
P503	32	6'-2"	206	Str.
P504	4	16'-6"	69	Str.
P505	4	29'-6"	123	Str.
P506	4	39'-0"	163	Str.
P507	16	13'-5"	224	Str.
P508	32	9'-3"	309	Str.
P509	24	8'-3"	207	Str.
P510	32	6'-11"	231	Str.
REPLACEMENT STEEL				
RE1101	1	8'-6"	-	Str.
RE801	1	7'-6"	-	Str.
RE601	2	6'-11"	-	Str.
RE501	1	6'-7"	-	Str.
RE401	1	5'-1"	-	Str.

BAR SIZE is indicated in the bar mark. The first digit where three digits are used, and the first two digits where four are used, indicate the bar size number. For example, AG01 is a No. 6 size bar and P1101 is a No. 11 size.

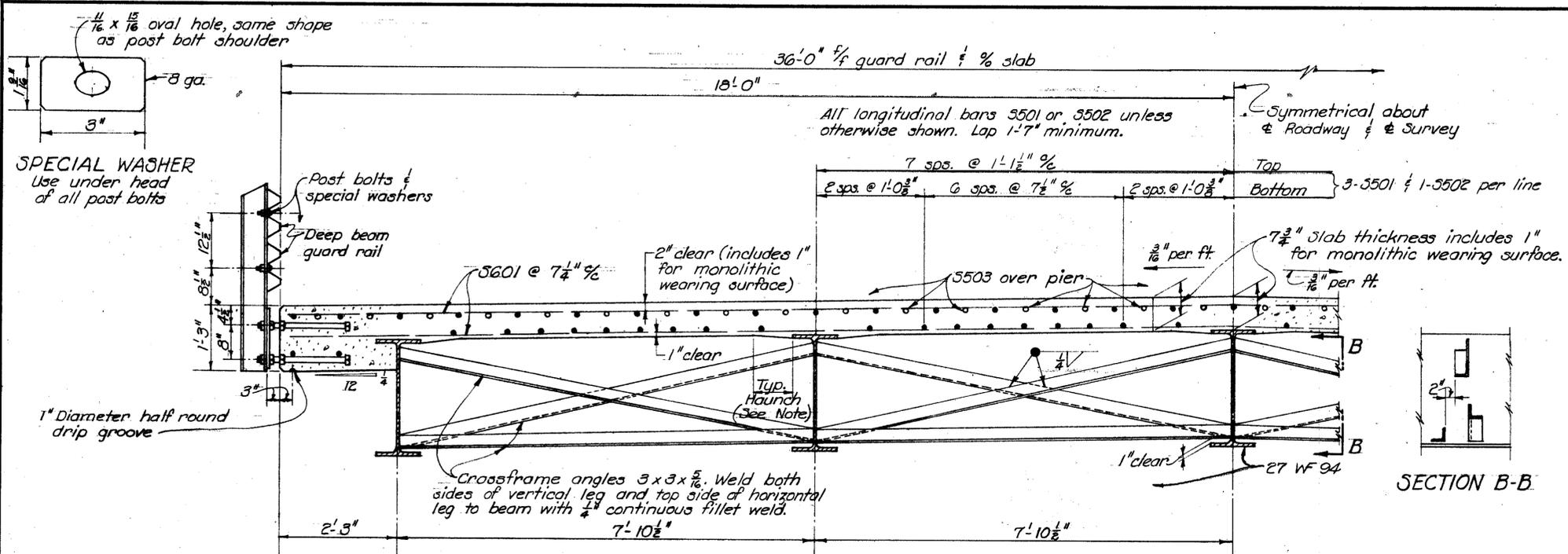


SECTION A-A

SECTION B-B

STATE OF OHIO DEPARTMENT OF HIGHWAYS DIVISION OF DESIGN AND CONSTRUCTION BUREAU OF BRIDGES					
PIER DETAILS REINFORCING STEEL LIST BRIDGE NO. ADA-73-0103 OVER FLAT RUN					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE
NAA	NAA				5-14-69

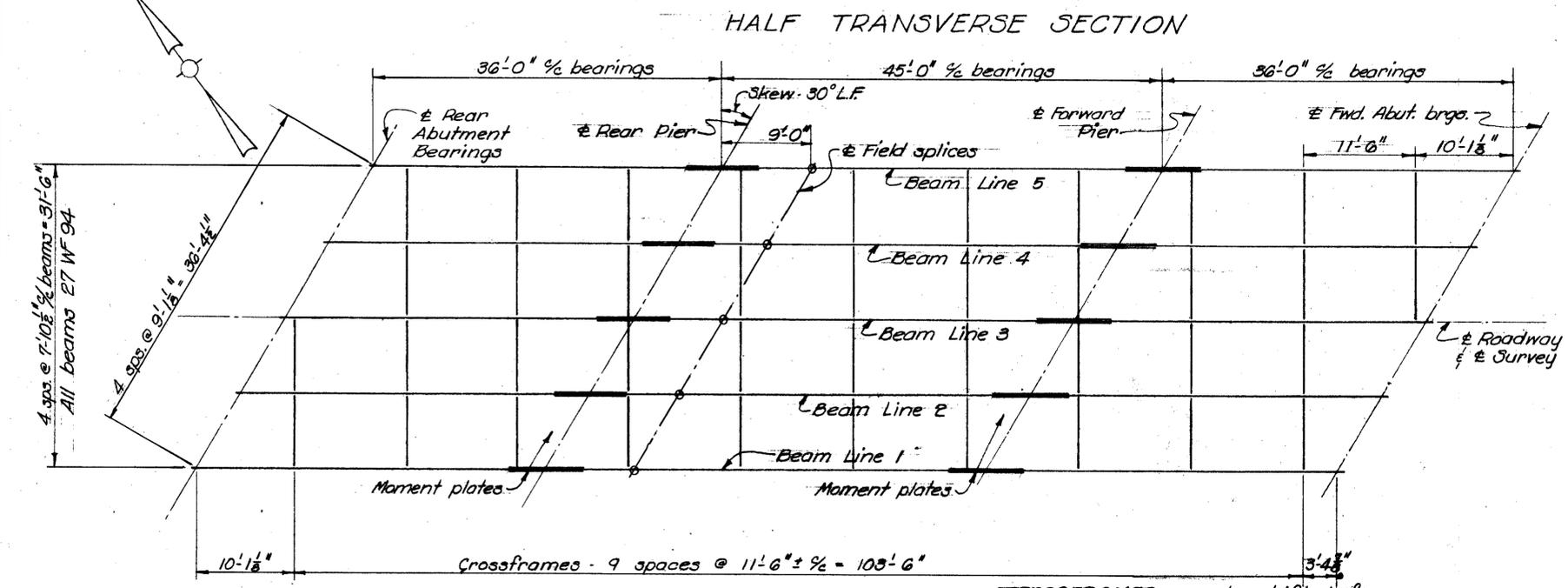
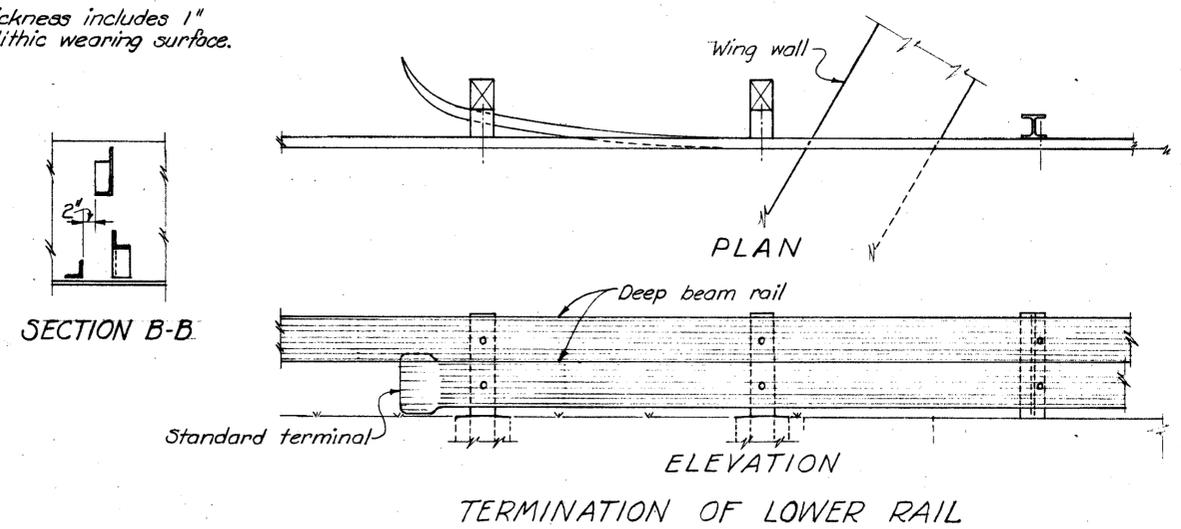
ADA-73-0.49



NOTE: For railing details not shown see Std. Drwg. CSB-1-63, Sh. No. 1 and Sh. no. 216

A HAUNCH WIDTH of 9" has been used for computing quantity of concrete. However, the haunch width may vary between 6" and 12" provided that the slope shall be not more than 1:4 for a haunch less than 9" in width. Payment shall be on the basis of the 9" dimension.

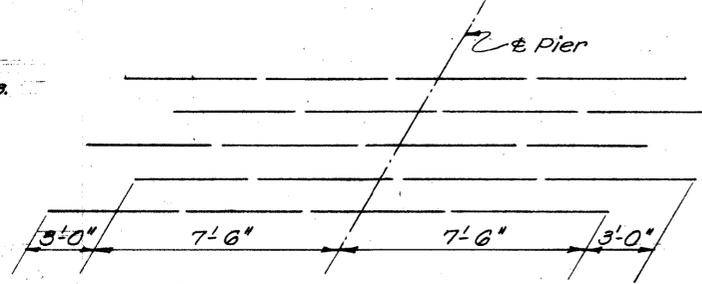
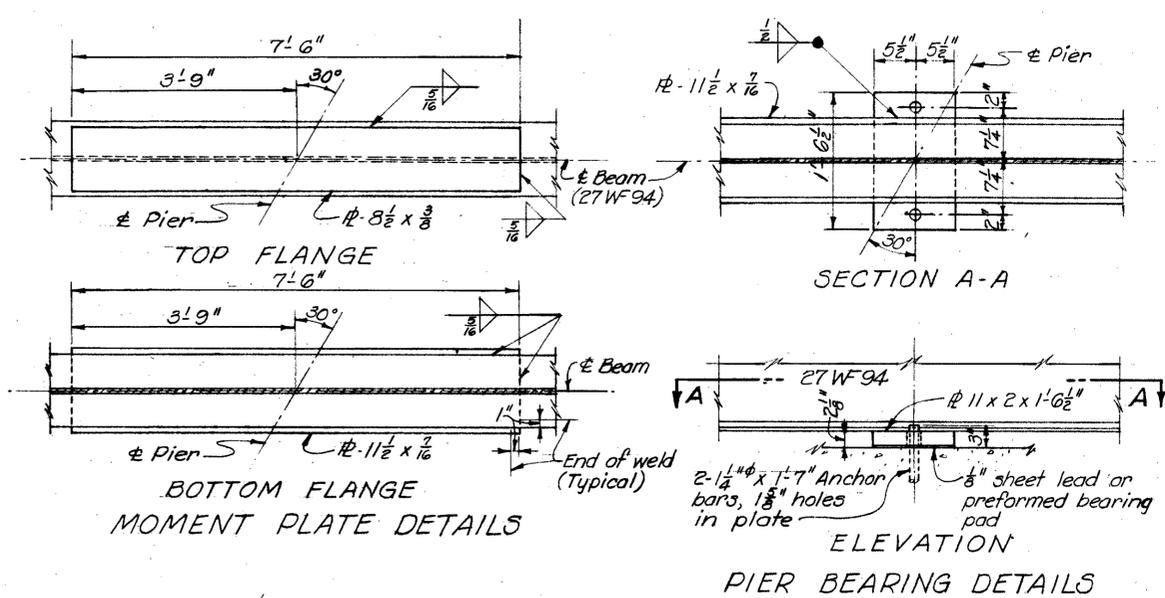
DECK SLAB DEPTH: The distance shown from top of deck slab to top of steel beam is the design dimension. The quantity of deck concrete to be paid for shall be based on this dimension, even though deviation from it may be necessary because the top flange of the beam may not have the exact camber or conformation required to place it parallel to the finished grade.



PLAN OF STEEL FRAMING

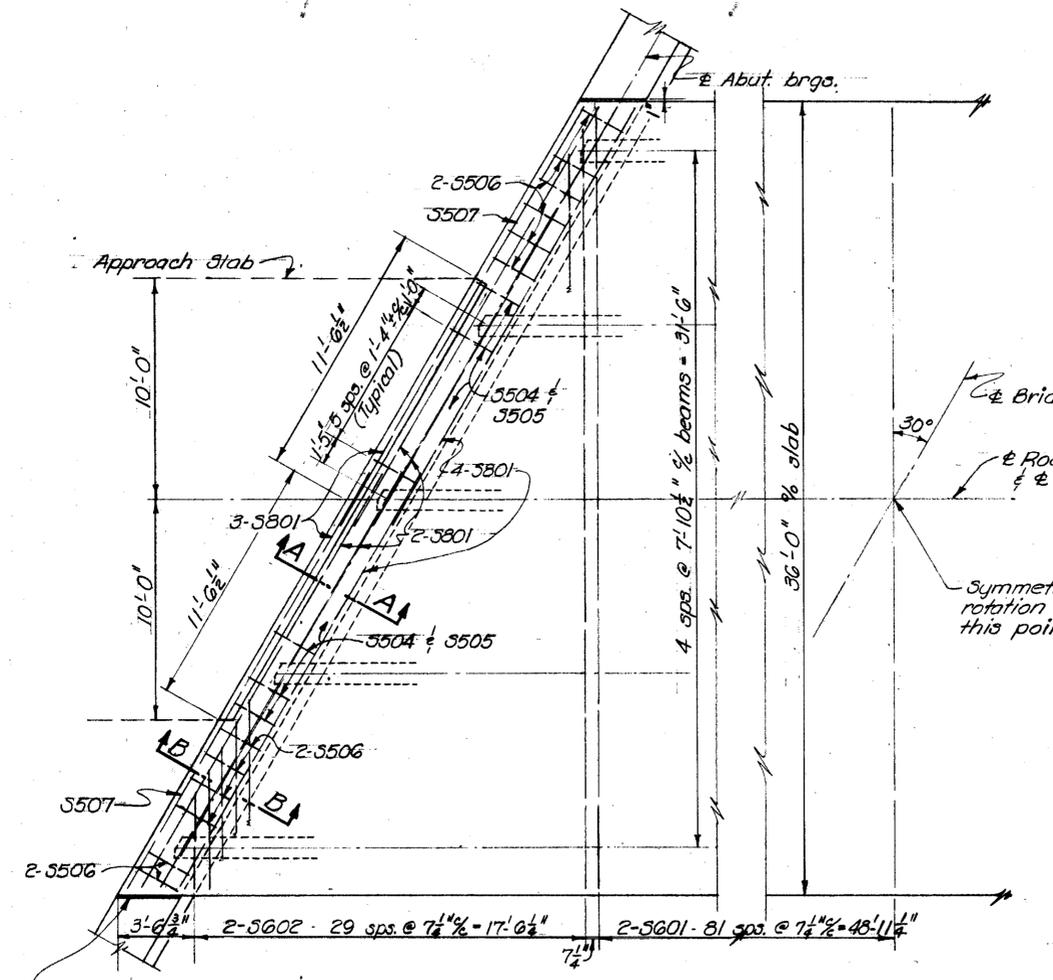
CROSSFRAMES may be shifted, if necessary, to avoid beam web splices.

NOTE: See Std. Drwg. SD-1-65, Sh. No. 3 for details of bolted field splice of beams. See Sh. No. 616 for details of Abutment Bearings.



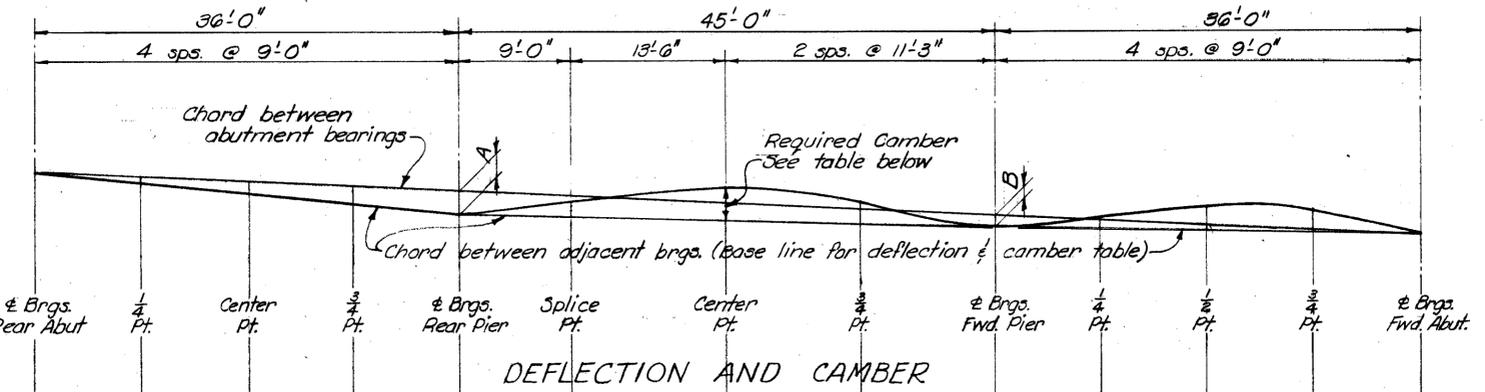
STATE OF OHIO DEPARTMENT OF HIGHWAYS DIVISION OF DESIGN AND CONSTRUCTION BUREAU OF BRIDGES						516
SUPERSTRUCTURE DETAILS BRIDGE NO. ADA-73-0103 OVER FLAT RUN						
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
NAA	NAA				BFG 5-14-69	

ADA-73-0.49



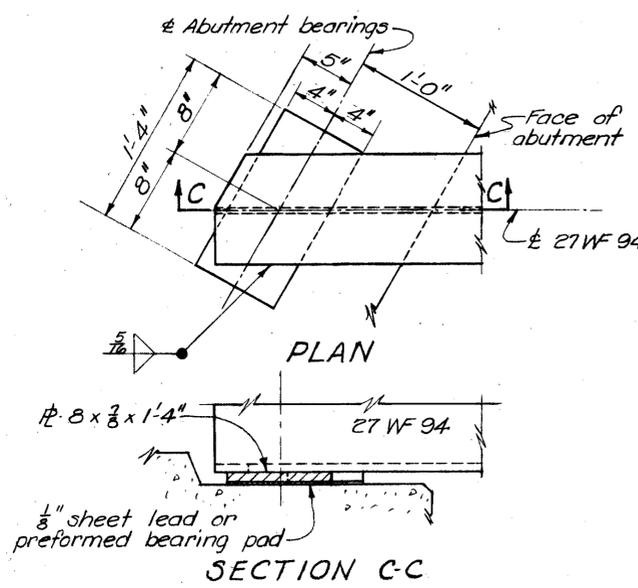
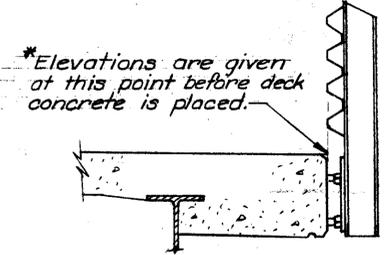
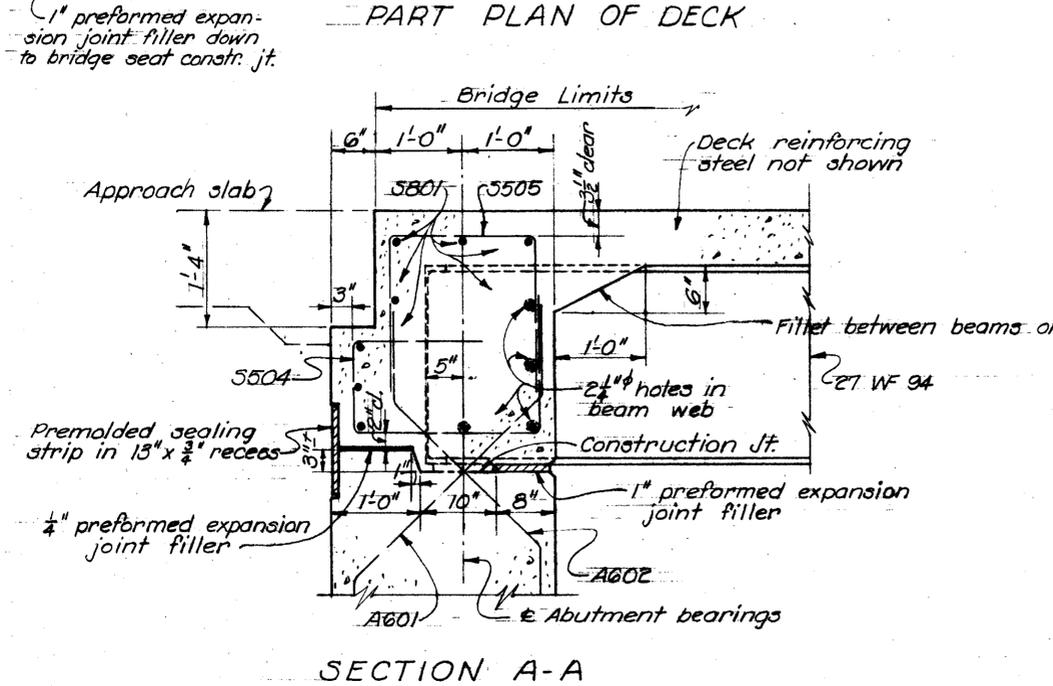
Beam Line	Dim. A	Dim. B
1	$\frac{3}{8}$ "	$\frac{1}{8}$ "
2	$\frac{1}{4}$ "	$\frac{1}{8}$ "
3	$\frac{1}{8}$ "	$\frac{1}{16}$ "
4	$\frac{1}{16}$ "	$\frac{1}{16}$ "
5	—	—

For location of beam lines see PLAN OF STEEL FRAMING, Sh. No. 516



	1/4 Pt. Rear Abut	Center Pt.	3/4 Pt.	1/4 Pt. Rear Pier	Splice Pt.	Center Pt.	3/4 Pt.	1/4 Pt. Fwd. Pier	1/2 Pt.	3/4 Pt.	1/4 Pt. Fwd. Abut.
Deflection due to weight of steel	—	—	—	—	—	—	—	—	—	—	—
Deflection due to remaining dead load	$\frac{1}{8}$ "	$\frac{1}{8}$ "	$\frac{1}{16}$ "	$\frac{1}{16}$ "	$\frac{3}{16}$ "	$\frac{1}{8}$ "	$\frac{1}{8}$ "	$\frac{1}{16}$ "	$\frac{1}{8}$ "	$\frac{1}{8}$ "	$\frac{1}{8}$ "
Adjustment required for vertical curve	$-\frac{1}{8}$ "	$-\frac{1}{8}$ "	$-\frac{1}{16}$ "	0	0	0	0	0	0	0	0
Sum of deflection & adjustment equals required shop camber	0	0	0	$\frac{1}{16}$ "	$\frac{3}{16}$ "	$\frac{1}{8}$ "	$\frac{1}{8}$ "	$\frac{1}{16}$ "	$\frac{1}{8}$ "	$\frac{1}{8}$ "	$\frac{1}{8}$ "

	1/4 Pt. Rear Abut	Center Pt.	3/4 Pt.	1/4 Pt. Rear Pier	Splice Pt.	Center Pt.	3/4 Pt.	1/4 Pt. Fwd. Pier	1/2 Pt.	3/4 Pt.	1/4 Pt. Fwd. Abut.
*Right edge elevation	735.05	734.89	734.76	734.62	734.45	734.34	734.21				
Right edge station	53+23.11	53+41.11	53+59.11	53+81.61	54+04.11	54+22.11	54+40.11				
*Left edge elevation	734.86	734.75	734.62	734.43	734.31	734.20	734.07				
Left edge station	53+43.89	53+61.89	53+79.89	54+02.39	54+24.89	54+42.89	54+60.89				



*Elevations are given at this point before deck concrete is placed.

STATE OF OHIO DEPARTMENT OF HIGHWAYS DIVISION OF DESIGN AND CONSTRUCTION BUREAU OF BRIDGES					
SUPERSTRUCTURE DETAILS					
BRIDGE NO. ADA-73-0103 OVER FLAT RUN					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE
NAA	NAA		wf	BFG	5-14-69