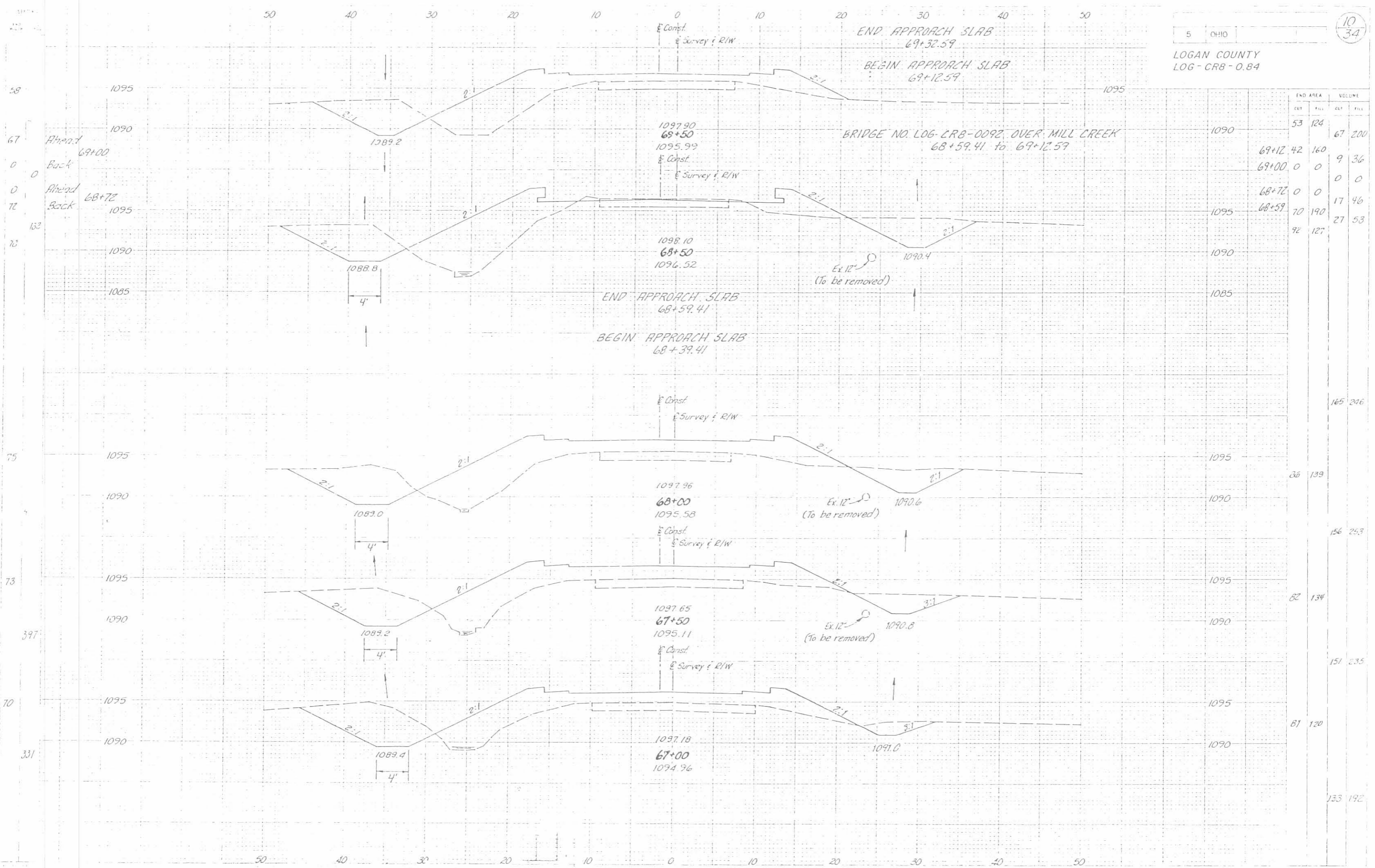
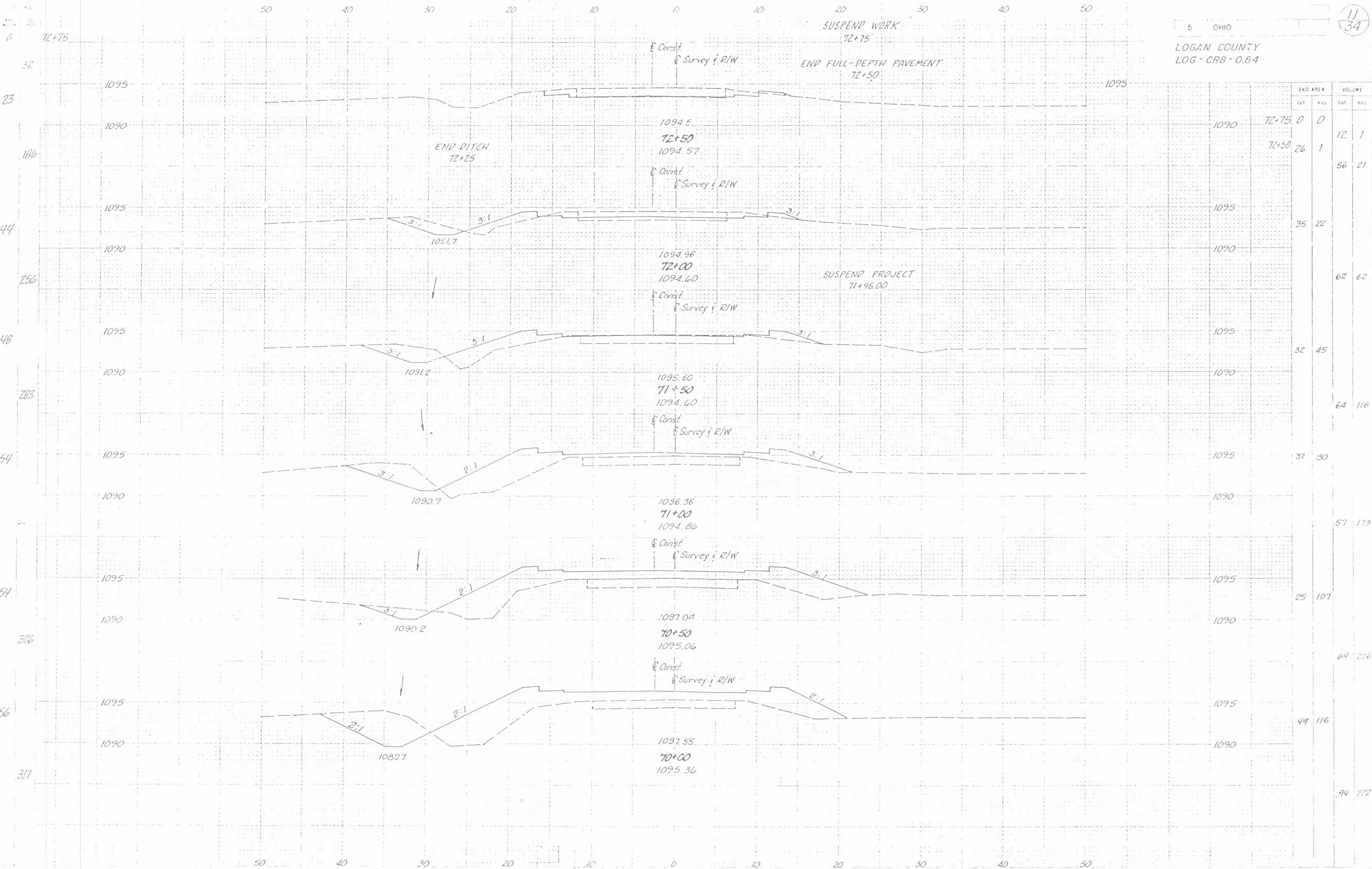


EAD AREA		VOLUME	
CUT	FILL	CUT	FILL
63	87		
		106	117
51	39		
		93	56
49	21		
		94	26
53	7		
		91	0
45	2		
		42	2
0	0		

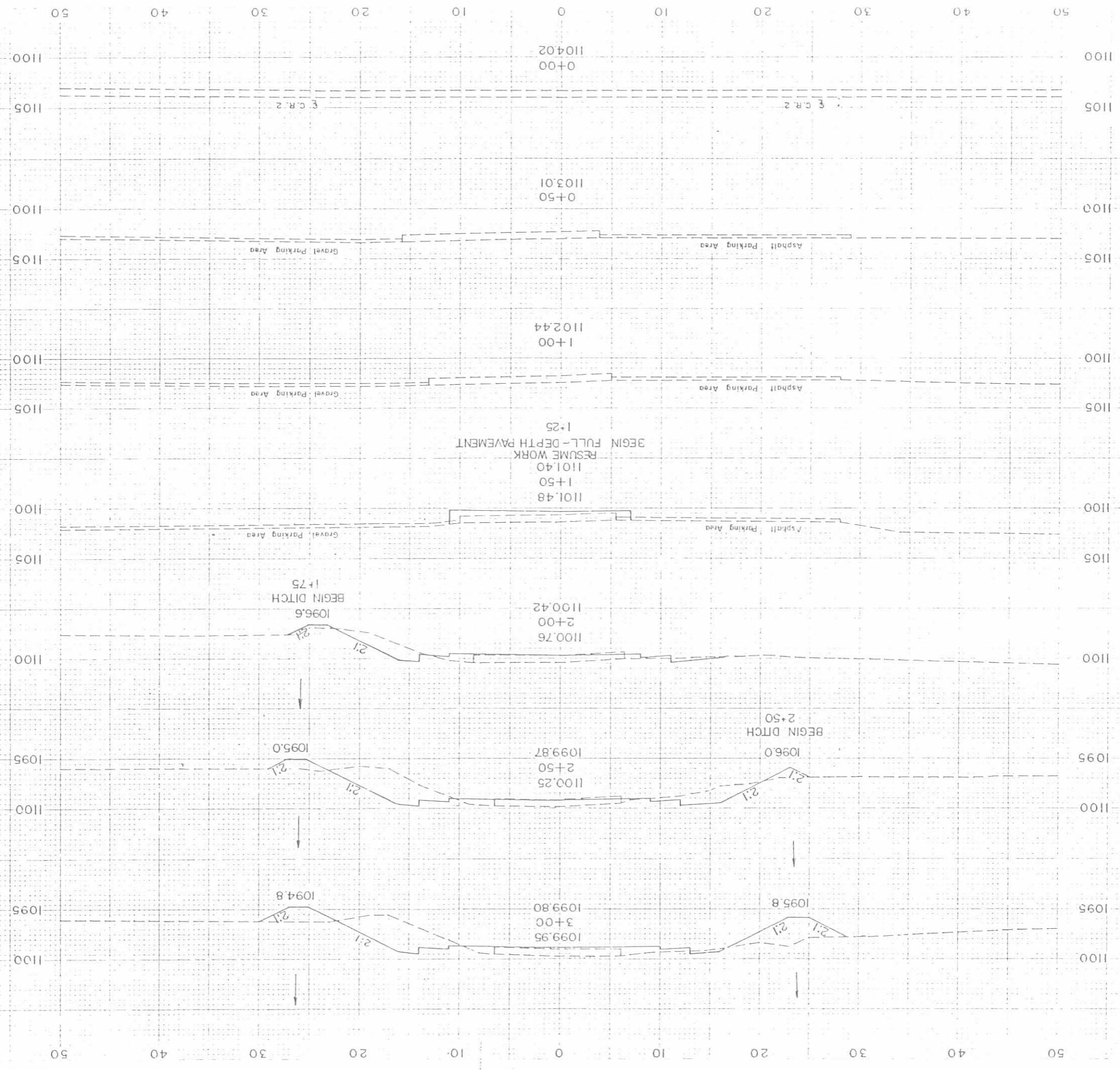


STATION	END AREA		VOLUME	
	CUT	FILL	CUT	FILL
69+12	42	160	67	200
69+00	0	0	9	36
68+72	0	0	0	0
68+59	70	190	17	46
	92	127	27	53
			165	246
	36	139		
			156	253
	82	134		
			151	235
	81	120		
			133	192



END AREA		VOLUME	
CUT	FILL	CUT	FILL
0	0	12	1
26	1	56	21
35	22	62	62
32	45	64	116
37	50	57	173
25	107	69	296
49	116	94	222

X-SECTIONS STA. 70+00 TO 72+50 CR8



LOGAN COUNTY
LOG - TR131 - 0.06

5 OHIO

Head 20
Back 0
1+25

43 21
CUT
M.L.
END 21.5

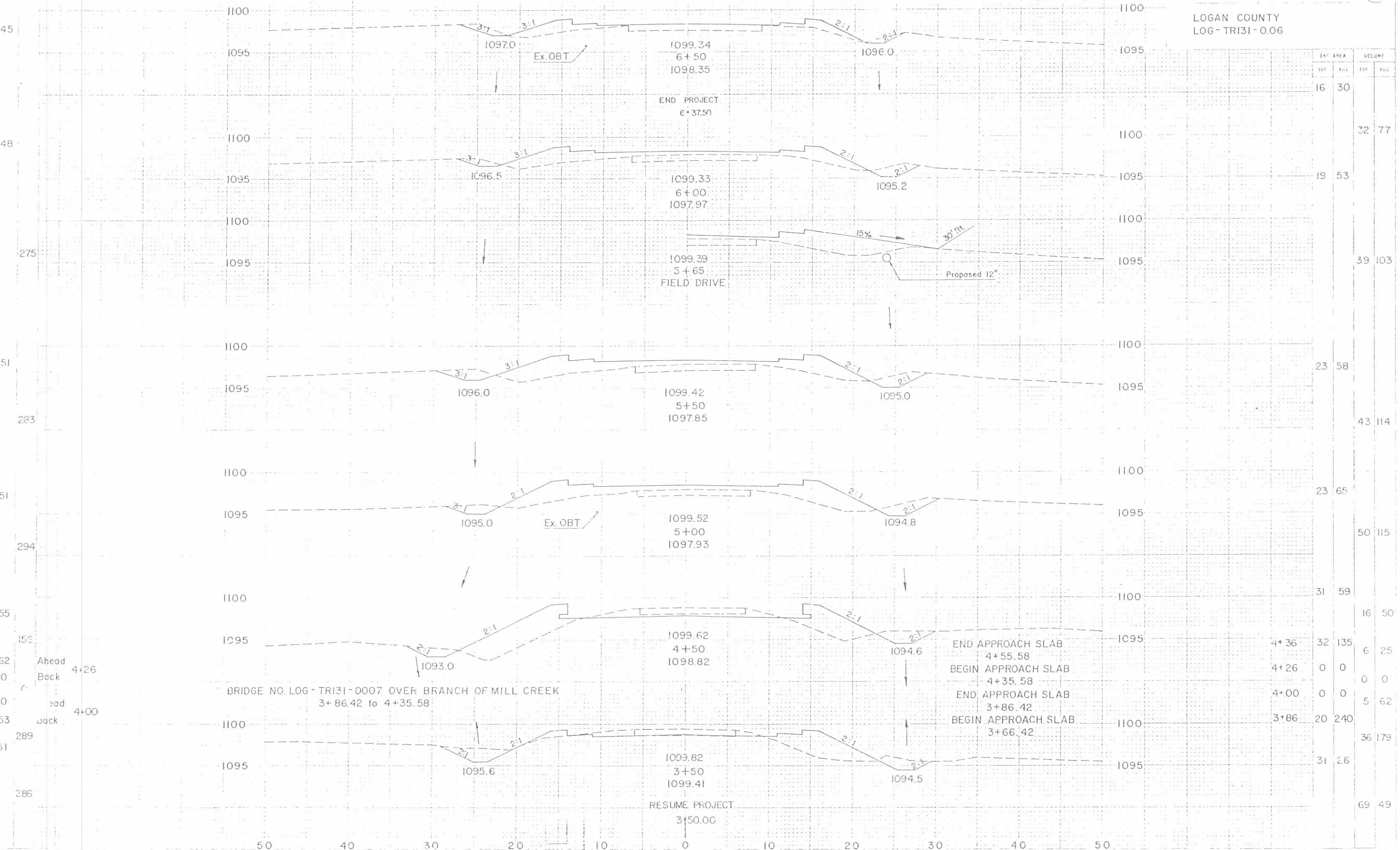
0

108

242

272

50 40 30 20 10 0 10 20 30 40 50



ENT. AREA		VOLUME	
CUT	FILL	CUT	FILL
16	30		
		32	77
19	53		
		39	103
23	58		
		43	114
23	65		
		50	115
31	59		
		16	50
32	135	6	25
4+26	0	0	0
4+35.58	0	0	0
4+00	0	5	62
3+86.42	20	240	
		36	179
31	26		
		69	49

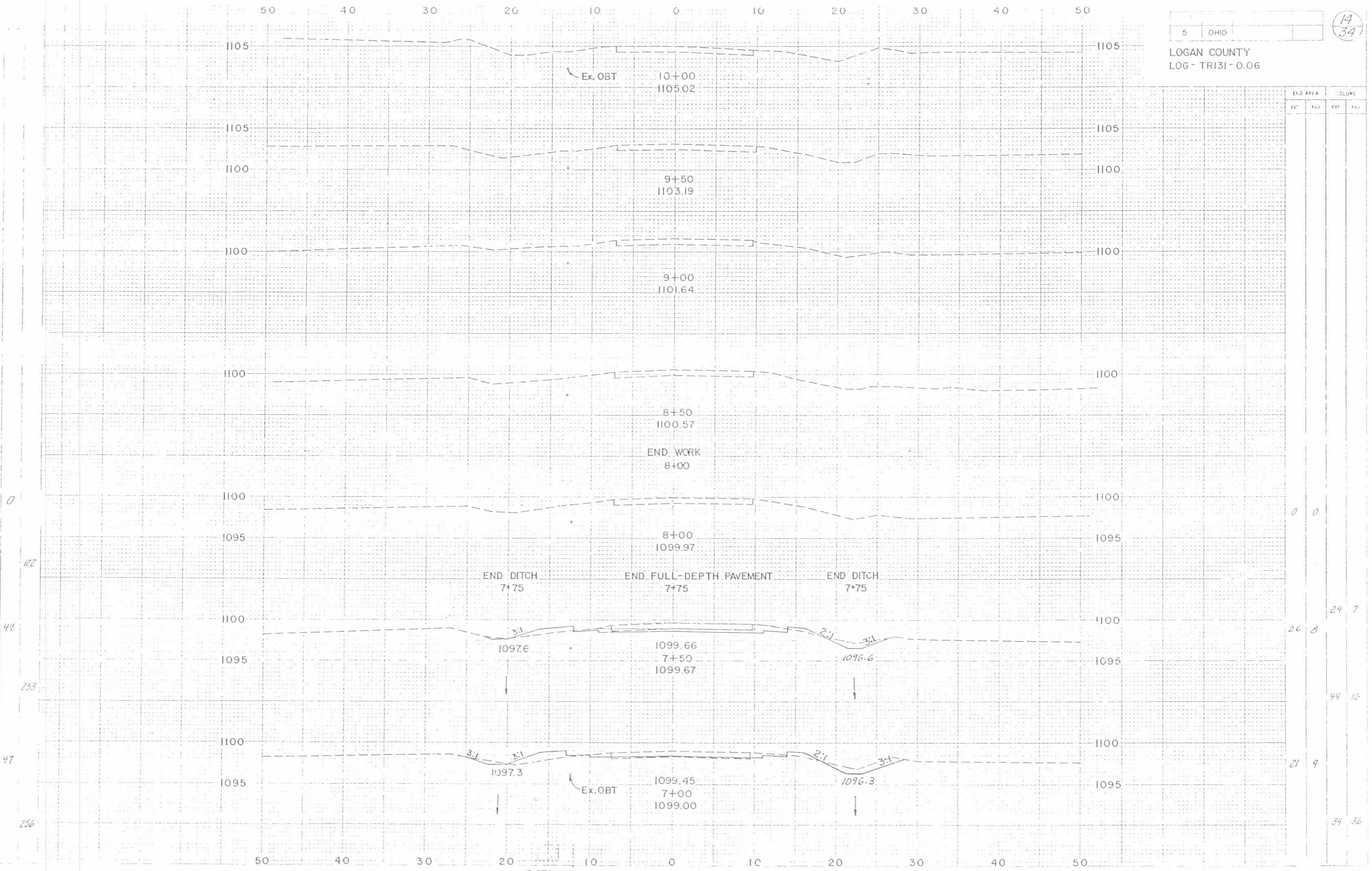
Ahead
 Back 4+26
 0
 0
 53
 289
 51
 285

BRIDGE NO. LOG-TR131-0007 OVER BRANCH OF MILL CREEK
 3+86.42 to 4+35.58

END APPROACH SLAB
 4+55.58
 BEGIN APPROACH SLAB
 4+35.58
 END APPROACH SLAB
 4+00
 BEGIN APPROACH SLAB
 3+86.42

RESUME PROJECT
 3+50.00

LOGAN COUNTY
LOG - TR131 - 0.06

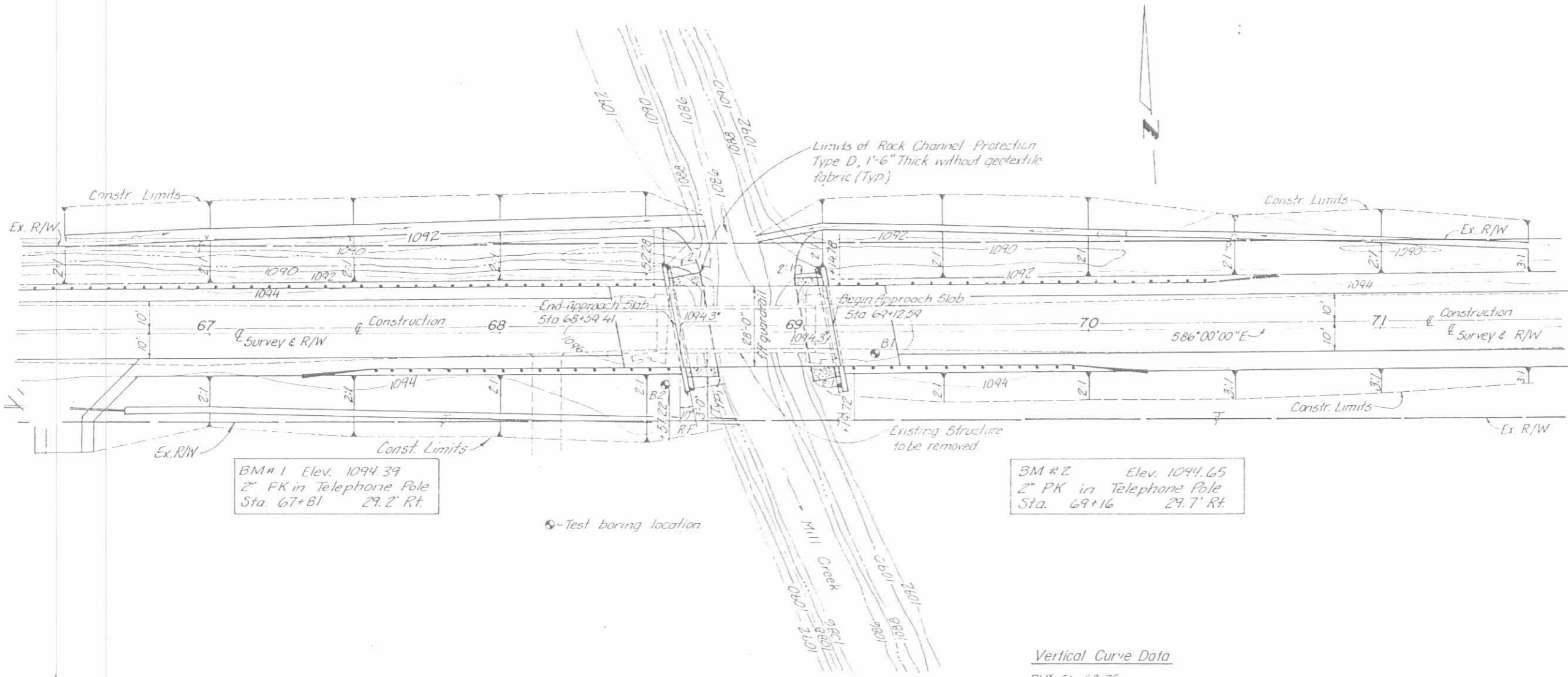


X-SECTIONS STA. 7+00 TO STA. 10+00 T.R. 131

LOGAN COUNTY
LOG-CR 8-0.84

NOTES:

- EARTHWORK LIMITS:**
Earthwork limits shown are approximate; actual slopes shall conform to plan cross sections.
- ELEVATIONS:**
Elevations shown with asterisk are top of slope at face of abutments.
- TRAFFIC DATA (YEAR 2010):**
Average daily traffic: 340
- HYDRAULIC DATA:**
Drainage Area = 11.0 sq. miles
10yr discharge = 445 cfs
100yr discharge = 1840 cfs
- VELOCITY THROUGH STRUCTURE:**
V₁₀ = 3.0 fps
V₁₀₀ = 2.6 fps
- WATER SURFACE ELEVATIONS:**
10yr = 1095.2 (1095.4)
100yr = 1096.7 (1097.0)
(Includes Backwater)
Structure clears 10yr design highwater by 0.5'



BM #1 Elev. 1094.39
2" FK in Telephone Pole
Sta. 67+81 29.2' Rt.

BM #2 Elev. 1094.65
2" PK in Telephone Pole
Sta. 69+16 29.7' Rt.

Vertical Curve Data
PVI Sta. 68+75
Elev. = 1099.78
VC = 450'
G₁ = 1.44%; G₂ = -1.52%
V = 55 mph (55D)

PLAN



PROFILE

EXISTING STRUCTURE
TYPE ~ Steel Pratt truss with timber deck on concrete abutments
SPAN ~ 53'-0" c/c bearings
ROADWAY ~ 15'-8" f/f truss members
SKEW ~ None
ALIGNMENT ~ Tangent
WEARING SURFACE ~ Asphalt Concrete
APPROACH SLABS ~ None
CONDITION ~ Poor (To be removed)
STRUCTURE FILE No. ~ 4630653

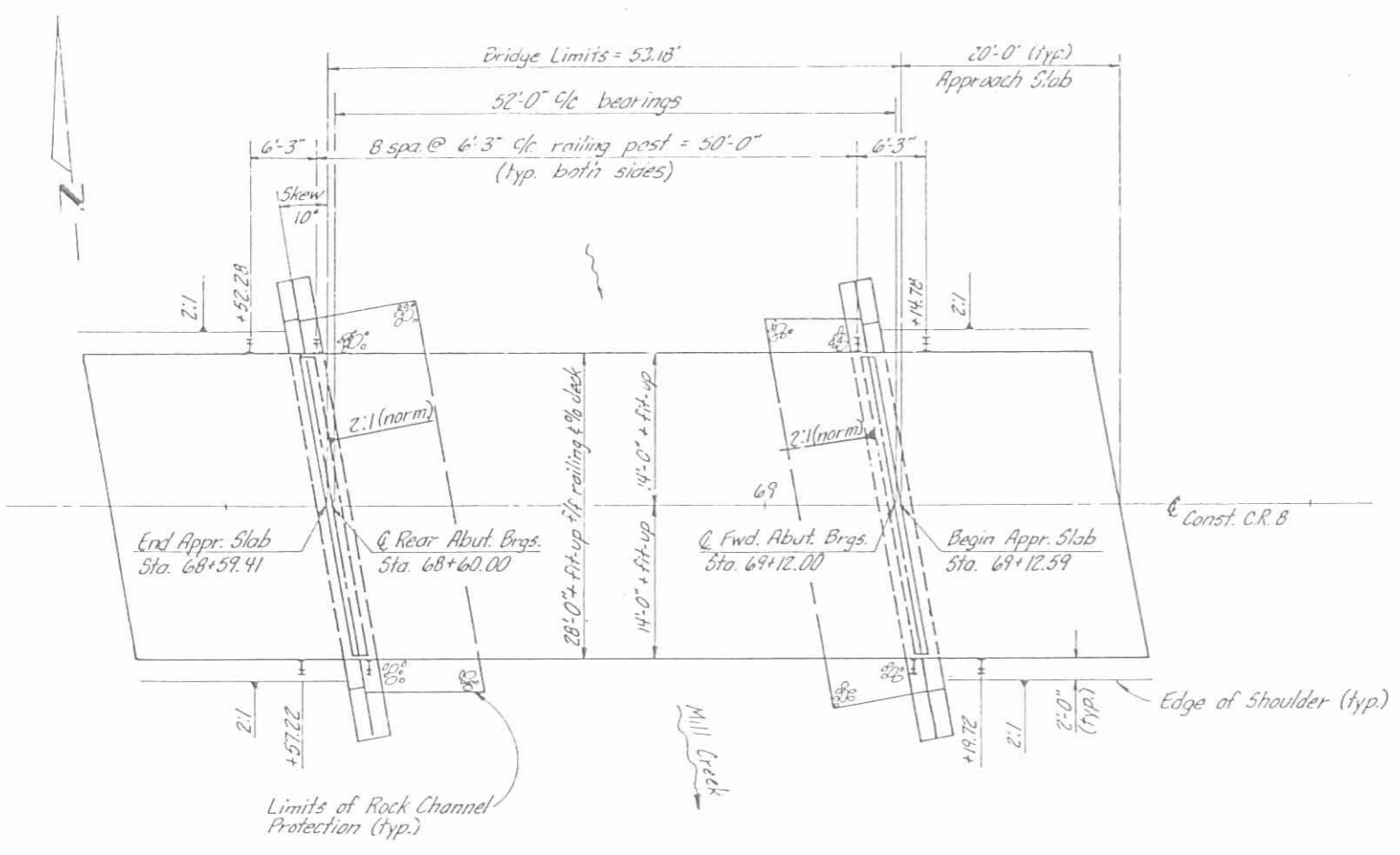
PROPOSED STRUCTURE
TYPE ~ Prestressed concrete, non-composite box beams with reinforced concrete abutments
SPAN ~ 52'-0" c/c bearings
ROADWAY ~ 28'-0" f/f guardrail
LOADING ~ HS20-44 and Alternate Military Loading
SKEW ~ 10° Right Forward
ALIGNMENT ~ Tangent
WEARING SURFACE ~ 2 1/2" min. Asphalt Concrete
APPROACH SLAB ~ 20'-0" Long (A5-1-81)
CROWN ~ 3/16" f/f

KORDA / NEMETH ENGINEERING, INC.
CONSULTING ENGINEERS

SITE PLAN
BRIDGE NO. LOG-CR8-C092
CR 8 OVER MILL CREEK
LOGAN COUNTY Sta. 68+59.41 to Sta. 69+12.59

DESIGNED	DRAWN	CHECKED	IN CHARGE	DATE	REVISION
DFT	G.F.		MTO	FWT 7/14/90	

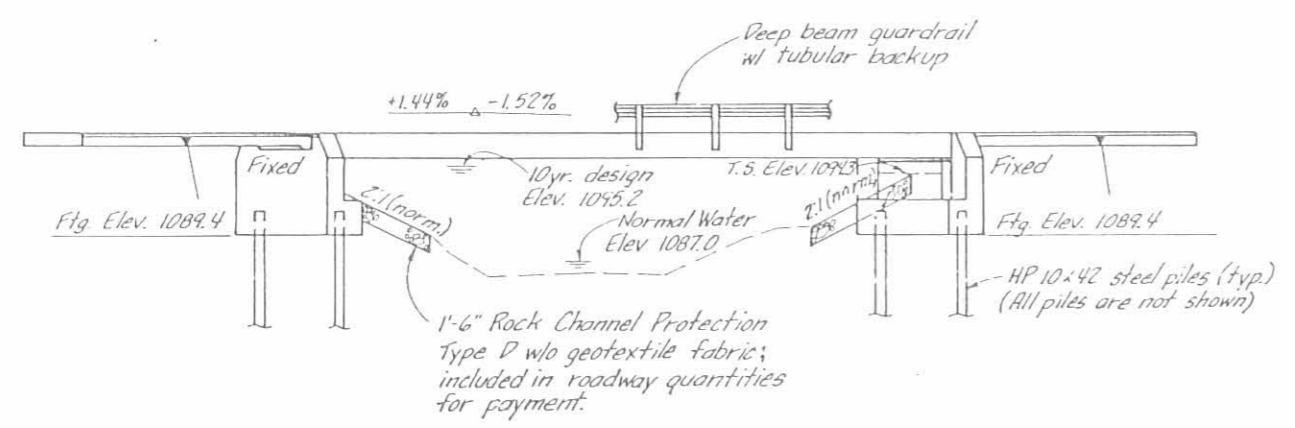
LOGAN COUNTY
LOG-CR8-0.84



GENERAL PLAN

VERTICAL CURVE DATA

PVI Sta. 68+75
Elev. = 1099.79
VC = 450'
G₁ = +1.44%, G₂ = -1.52%
V = 55 mph (SSD)



GENERAL ELEVATION

KORDA / NEMETH ENGINEERING, INC.
CONSULTING ENGINEERS

GENERAL PLAN & ELEVATION

BRIDGE-NO. LOG-CR8-0092

OVER MILL CREEK

DESIGNED	DRAWN	TITLE	CHECKED	DATE	REVISION
DFT	K.J.K.		MTD	JWE 10/22/90	

F.H.R.A. REGION	STAT.	PROJECT
5	OHIO	

17
34

LOGAN COUNTY
LOG-CR8-0.84

REFERENCE SHALL BE MADE TO STANDARD DRAWINGS:

AS-1-R1, SHEETS 1 AND 2	DATED	11-27-81
DNR-2-73	DATED	4-10-73
39-1-B1, SHEETS 1, 2, AND 3	REVISED	6-20-89
ADD TO SUPPLEMENTAL SPECIFICATIONS:		
836	DATED	11-12-85

BEARING PAD SHIMS

SHIMS: 1/8-INCH THICK PREFORMED BEARING PAD SHIMS, PLAN AREA 5 INCHES X 2 INCHES SHALL BE PLACED UNDER ELASTOMERIC BEARING PADS WHERE REQUIRED FOR PROPER BEARING. THE AMOUNT SUPPLIED IS SUFFICIENT FOR TWO SHIMS PER BEAM. PAYMENT WILL BE MADE AT THE CONTRACT BID PRICE FOR ITEM 516 - 1/8-INCH PREFORMED BEARING PADS. ANY UNUSED SHIMS SHALL BECOME THE PROPERTY OF THE STATE.

DESIGN SPECIFICATIONS

THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 1989 AND THE OHIO "SUPPLEMENT" TO THESE SPECIFICATIONS.

DESIGN DATA

DESIGN LOADING - HS20-44 AND THE ALTERNATE MILITARY LOADING.

CONCRETE CLASS C - COMPRESSIVE STRENGTH 4000 P.S.I.

REINFORCING STEEL - ASTM A615, A616, A617 - GRADE 60 MINIMUM YIELD STRENGTH 60,000 P.S.I.

CONCRETE FOR PRESTRESSED BEAMS - UNIT STRESS 2200 P.S.I. COMPRESSION 444 P.S.I. TENSION

PRESTRESSING STRAND ASTM A416 F'S = 270,000 P.S.I.

INITIAL STRESS = 0.70 F'S

NO REINFORCING STEEL FOR THE CONCRETE, PRESTRESSED BEAMS MAY BE EITHER DE 40, MINIMUM YIELD 40,000 P.S.I. OR GRADE 60, MINIMUM YIELD 60,000

DECK PROTECTION METHOD: TYPE D WATERPROOFING, ASPHALT CONCRETE OVERLAY, STEEL DRIP STRIP AND SEALING OF CONCRETE SURFACES.

ABUTMENT PILES: ABUTMENT PILING BENDING STRESSES MAY APPROACH, REACH OR EXCEED YIELD STRESS.

REMOVAL OF EXISTING STRUCTURE: WHEN NO LONGER NEEDED TO MAINTAIN TRAFFIC, THE EXISTING STRUCTURE SHALL BE REMOVED. SUITABLE WASTE MASONRY MAY BE PLACED AS BANK PROTECTION AS DIRECTED BY THE ENGINEER.

UTILITY LINES

ALL EXPENSE INVOLVED IN RELOCATING (INSTALLING) THE AFFECTED UTILITY LINES SHALL BE BORNE BY THE OWNER(S). THE CONTRACTOR AND OWNER(S) ARE REQUESTED TO COOPERATE BY ARRANGING THEIR WORK IN SUCH A MANNER THAT INTERFERENCE TO EITHER WILL BE HELD TO A MINIMUM.

EMBANKMENT CONSTRUCTION: THE EMBANKMENTS SHALL BE CONSTRUCTED TO THE FULL OF THE SUBGRADE. EXCAVATION MAY THEN BE MADE FOR THE ABUTMENTS AND PILES DRIVEN.

REFER SPECIAL, SEALING OF CONCRETE SURFACES.

A CONCRETE SEALER SHALL BE APPLIED TO THE FOLLOWING CONCRETE SURFACES:

BEAM FASCIA AS SHOWN IN DECK SECTION (EITHER AN EPOXY OR NON-EPOXY SEALER). ALSO ON BRIDGE ABUTMENT SEAT AND DOWN FACE OF ABUTMENT AS NOTED ON THE PLANS (EPOXY SEALER). SEE THE PROPOSAL FOR SURFACE PREPARATION REQUIREMENTS, APPLICATION RATES, MATERIALS REQUIREMENTS AND APPLICATION PROCEDURES.

PILES SHALL BE DRIVEN TO REFUSAL ON BEDROCK. REFUSAL SHALL BE CONSIDERED AS ATTAINED BY PENETRATING SOFT BEDROCK WITH A MINIMUM RESISTANCE OF 20 BLOWS PER INCH, OR REFUSAL SHALL BE CONSIDERED AS ATTAINED AFTER THE PILE HAS CONTACTED HARD BEDROCK AND THE PILE HAS THEN RECEIVED AT LEAST 20 BLOWS.

PILE DESIGN LOADS: THE DESIGN LOAD FOR THE ABUTMENT PILES IS 37 TONS PER PILE.

ITEM 507, STEEL POINTS, AS PER PLAN: STEEL PILE POINTS SHALL BE USED TO PROTECT THE TIPS OF THE PROPOSED STEEL "H" PILING. THE STEEL POINTS SHALL BE FURNISHED BY ASSOCIATED PILE AND FITTING CORPORATION, 262 RUTHERFORD BLVD., CLIFTON, NEW JERSEY 07014; INTERNATIONAL CONSTRUCTION EQUIPMENT, INC., 301 WAREHOUSE DRIVE, MATTHEWS, NORTH CAROLINA 28015; DOUGHERTY FOUNDATION PRODUCTS, INC., P.O. BOX 688, FRANKLIN LAKES, NEW JERSEY 07417; HEPCO, 7024 WALLACE RD., CHARLOTTE, NORTH CAROLINA 28212; TUSA STEEL INC., 3601 N.W. YEON AVE., P.O. BOX 10559, PORTLAND, OREGON 97210; OR BY A MANUFACTURER THAT CAN FURNISH A STEEL POINT THAT IS ACCEPTABLE TO THE DIRECTOR.

ITEM 518, POROUS BACKFILL, AS PER PLAN: TO INSURE THAT FINE SOIL PARTICLES INCLUDED WITHIN THE EMBANKMENT MATERIAL TO BE PLACED BEHIND BOTH ABUTMENTS DO NOT MIGRATE INTO OR THROUGH THE VOIDS OF THE POROUS BACKFILL MATERIAL LOCATED BEHIND THE ABUTMENTS, FILTER FABRIC 712.09 TYPE A, SHALL BE PLACED BETWEEN THE 518 POROUS BACKFILL MATERIAL AND THE 203 EMBANKMENT MATERIAL TO THE LIMITS AS SHOWN IN THE PLANS. THE COST OF THE FILTER FABRIC WILL BE PAID FOR AS AN INCIDENTAL ITEM TO BE INCLUDED WITH THE UNIT PRICE BID PER CUBIC YARD FOR THE ITEM 518 POROUS BACKFILL, AS PER PLAN, WHICH SHALL INCLUDE ALL LABOR, MATERIALS, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THIS WORK.

ESTIMATED QUANTITIES

Item	Item Ext.	Total	Unit	Description	Abuts.	Super	Gen'l.
202	11000	Lump	Sum	Structure Removed			Lump
403	20000	8	C.Y.	Asphalt Concrete, AC-20		8	
404	20000	6	C.Y.	Asphalt Concrete, AC-20		6	
503	21100	87	C.Y.	Unclassified Excavation	87		
505	11100	Lump	Sum	Pile Driving Equipment Mobilization			Lump
507	11100	180	L.F.	Steel Pile, HP10x42	180		
507	93301	12	Each	Steel Point, as per plan	12		
509	11400	2898	L.B.	Reinforcing Steel, Grade 60	2898		
509	15900	1839	L.B.	Epoxy Coated Reinforcing Steel, Grade 60	1839		
511	43500	54	C.Y.	Class C Concrete, Abutment including Footing	54		
512	54100	180	S.Y.	Type D Waterproofing		180	
Special	51267500	27	S.Y.	Sealing of Concrete Surfaces (See Proposal Note)		27	
Special	51267502	18	S.Y.	Sealing of Concrete Surfaces (Epoxy) (See Proposal Note)	18		
515	53800	7	Each	Prestressed Concrete Box Beam (B21-48, 53' Length)(See Prop Note)		7	
515	13600	100	S.F.	1" Preformed Expansion Joint Filler		100	
515	31011	60	L.F.	2" Deep Joint Sealer, as per plan		60	
Special	51531200	58	L.F.	Sawing and Sealing Bituminous Concrete Joints		58	
516	41200	4	S.F.	1/8" Preformed Bearing Pad, 711.21		4	
516	43100	28	Each	5" x 8" x 1" Elastomeric Bearing with Internal Laminates Only (Neoprene)		28	
517	72300	125.00	L.F.	Piling (Deep Beam Rail with Steel Tubular Backup and Type 2 Steel Posts and Anchor Bolts)(See Proposal Note)		125.00	
518	21101	21	C.Y.	Porous Backfill, as per plan	21		
Special	51822200	83	S.F.	Steel Drip Strip		83	
518	41100	87	L.F.	6" Perforated Helical Corrugated Steel Pipe, 707.01	87		
518	41200	24	L.F.	6" Non-Perforated Helical Corrugated Steel Pipe, Including Specials, 707.01	24		

3 / B

KORDA/NEMETH ENGINEERING, INC.
CONSULTING ENGINEERS
1650 WATERMARK DRIVE, SUITE 200 TEL (614) 487-1650
COLUMBUS, OHIO 43215-1084 FAX (614) 487-8987

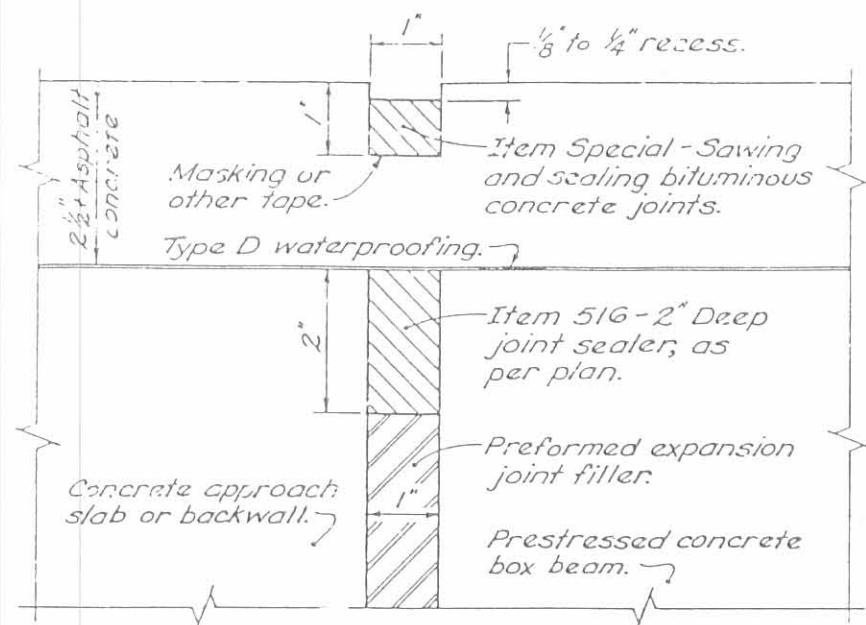
GENERAL NOTES &
ESTIMATED QUANTITIES
BRIDGE NO. LOG-CR8-009.2
OVER MILL CREEK

DESIGNED	DRAWN	CHECKED	REVIEWED	DATE	REVISION
DFT	K.J.K.	MTO	JWE	10/22/90	

FEDERAL REGION	STATE	PROJECT	
5	OHIO		

18
34

LOGAN COUNTY
LOG-CR8-0.84



SEALING OF JOINTS AT ABUTMENTS

ITEM SPECIAL - SAWING AND SEALING BITUMINOUS CONCRETE JOINTS

1) Description:

This work shall consist of cutting and sealing transverse joints on the new bituminous concrete overlay of box beam bridges. Bituminous concrete joints shall be constructed directly over, and in line with, the existing underlying transverse abutment joint of the box beams.

2) Materials:

The joint sealant shall meet the requirements of ASTM Specification D3405, Joint sealants, Hot-poured, for Concrete and Asphalt Pavements. Acceptable alternate materials are:

Root-Flex 176, polyurethane, as produced by the Carboline Company, 350 Hanley Industrial Court, St. Louis, Missouri 63144 (Roger Zubal, 614-877-3406); a silicone sealant meeting Federal Specifications TT-S-001543A Class A (one-part silicone sealants) and TT-S-00230C Class A (one-component sealants), such as those manufactured by General Electric, Silicone Products Division, 6155 Rockside Rd., Rockside Square I, Independence, Ohio 44131 (John Fromholtz, 216-447-1750) or Dow Corning, 3737 Park East, Beachwood, Ohio 44122 (Robert Ruppel, 216-464-2330); or Sof-Seal, a cold-applied, low-modulus, two-component polymeric compound horizontal sealant as manufactured by W. R. Meadows, Inc., P.O. Box 543, Elgin, Illinois 60121 (Robert Cameron, 312-683-4500). Sealant will be accepted on the basis of the manufacturer's certification that it conforms to the requirements of these specifications.

3) Construction Details:

A) General: The contractor shall conduct his operation so that the cutting, cleaning and sealing of transverse joints is a continuous operation that will be performed as soon as practical after the paving, but no later than four (4) days after placement of the asphalt concrete surface course. Traffic shall not be allowed to knead together or damage the joint cut prior to sealing.

B) Cutting of Transverse Joints: The contractor shall saw or rout transverse joints to the dimensions shown in the details on this sheet. The cut joints shall lie directly above each box beam abutment joint. The joint location shall be marked on the new asphalt surface with a chalk line, or by some other acceptable method, before cutting. Details of the method for locating and accurately marking the proposed cuts shall be subject to the approval of the Engineer prior to starting any surfacing or paving operations.

The blade or blades shall be of such size that the full width and depth of the cut can be made with one pass. Dry or wet cutting will be allowed. Joints shall extend the full width of the bridge.

C) Cleaning Joints: Dry sawed joints shall be thoroughly cleaned with a sufficient amount of compressed air to remove any dirt, dust, or deleterious matter. Wet sawed joints shall be washed clean of all cuttings by flushing with a jet of water and with other tools as necessary. After flushing, the joint shall be blown out with compressed air. When the surfaces are thoroughly clean and dry, and just prior to placing the joint sealer, compressed air having a pressure of at least 90 p.s.i. shall be used to blow out the joint and remove all traces of dust.

In the event freshly cut joints become contaminated before they are sealed, they shall be recleaned of all foreign material by high pressure water jet.

D) Sealing Joints: The joint shall be thoroughly dried before the sealant is placed. After cleaning and drying, a bond-breaker (tape) shall be applied to the bottom of the groove.

Hot-poured joint sealant material shall be heated in a kettle or melter constructed as a double boiler, with the space between the inner and outer shells filled with oil or other heat transfer medium. Positive temperature control and mechanical agitation shall be provided. Heating must be in strict accordance with the manufacturer's recommendation. Joint sealer material shall never be kept heated at the pouring temperature for more than four (4) hours and shall never be reheated. Sealer left in the applicator at the end of a day's work shall be removed and discarded.

Hot-poured sealant shall be applied immediately through a nozzle, which must project into the sawed joint, filling from the bottom up. The seal shall completely fill the joint in such a manner that, after cooling, the level of the sealer will not be higher than 1/8" below the pavement surface. Any depression in the cooled seal greater than 3/16" shall be brought up to the specified limit by further addition of hot-poured sealant. Care shall be taken in the sealing of the joints so that the final appearance will present a neat fine line.

The cold applied sealant materials (polyurethane, silicone, and polymeric compounds) shall be installed as per manufacturers' recommendations, or as directed by the Engineer. The sealant shall be installed when the ambient temperature is 40 degrees F or higher. Traffic shall not be allowed on the joint for one hour after application of the sealant.

4) Method of Measurement:

The quantity to be paid for under this item will be the number of linear feet of joints sawed and sealed as per the above requirements.

5) Basis of Payment:

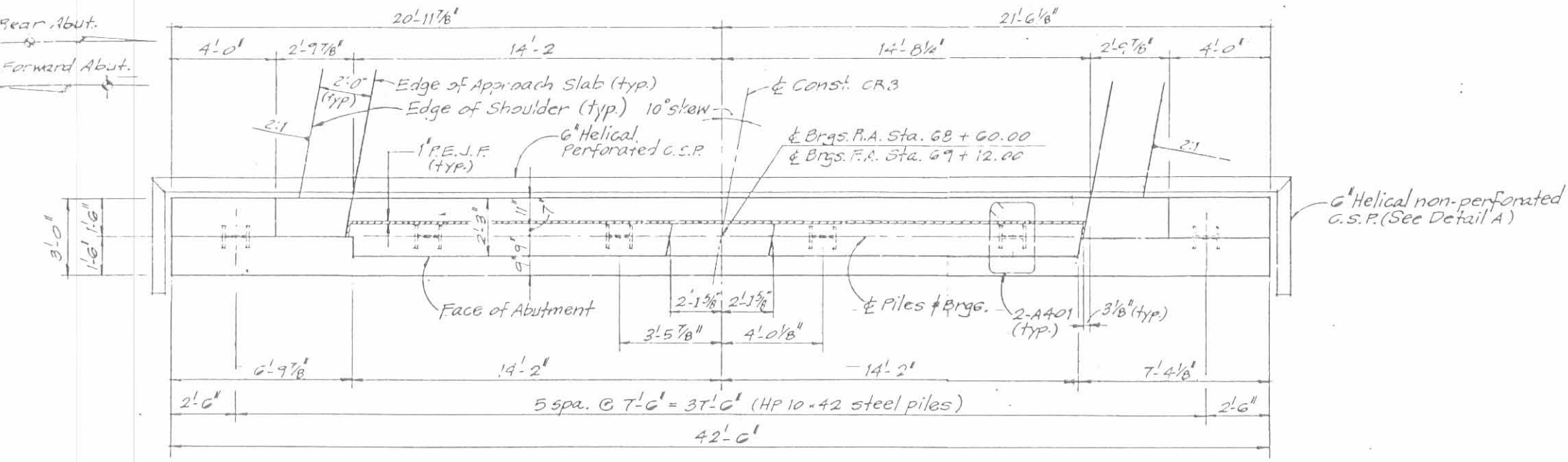
The unit price per linear foot for Item Special - "Sawing and sealing bituminous concrete joints" shall include the cost of all labor, materials, and equipment necessary to complete the work, including the furnishing and placing of the joint sealer material.

ITEM 516 - 2" DEEP JOINT SEALER, AS PER PLAN

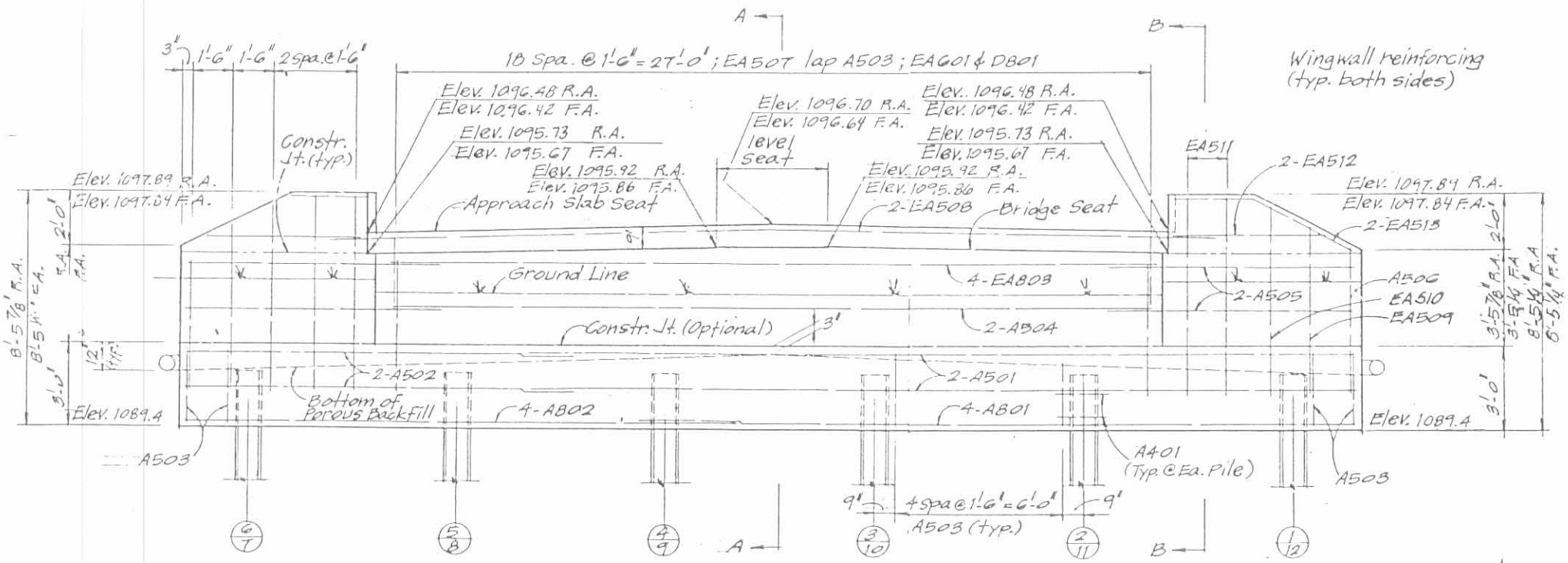
This item shall meet the material (para. 2) and sealing (para. 3D) specifications of Item Special - Sawing and sealing bituminous concrete joints.

REVISIONS	STATE OF OHIO DEPARTMENT OF TRANSPORTATION BUREAU OF BRIDGES AND STRUCTURAL DESIGN	4 / 8			
2-8-84	ABUTMENT JOINTS IN BITUMINOUS CONCRETE, BOX BEAM BRIDGES BRIDGE NO. LOG-CR8-0092				
3-10-87					
4-14-87					
6-16-87					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE
JEB	MJB		WTF	WJW	2-2-84

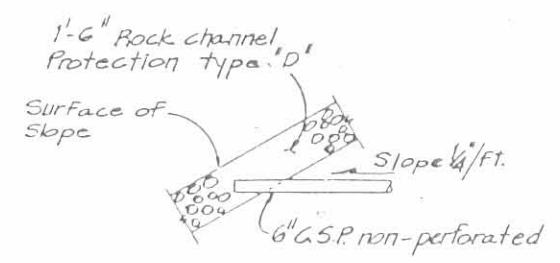
LOGAN COUNTY
LOG-CR8-0.84



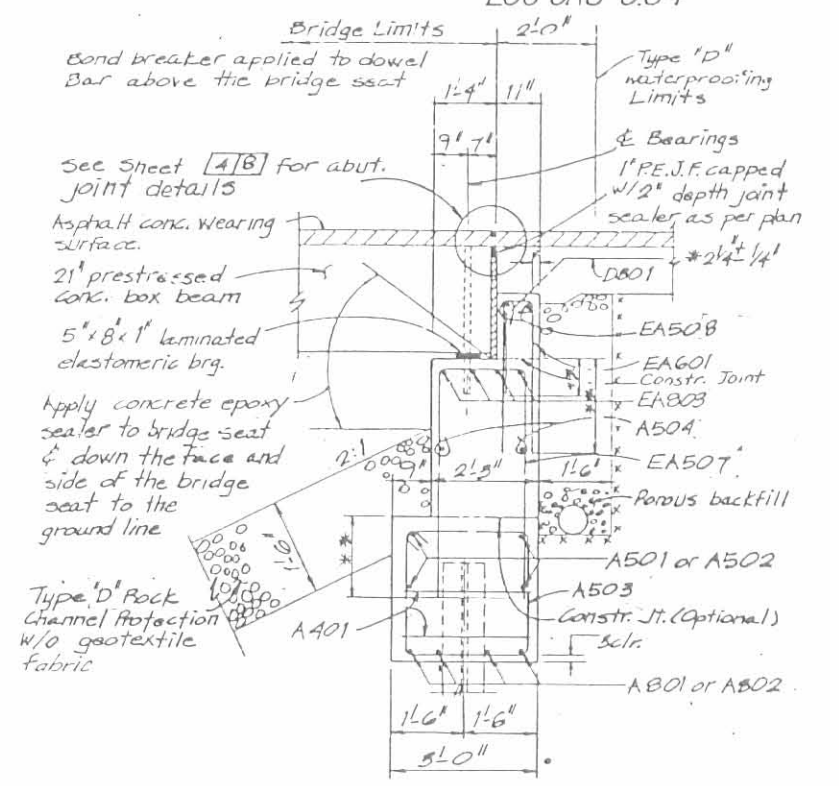
PLAN



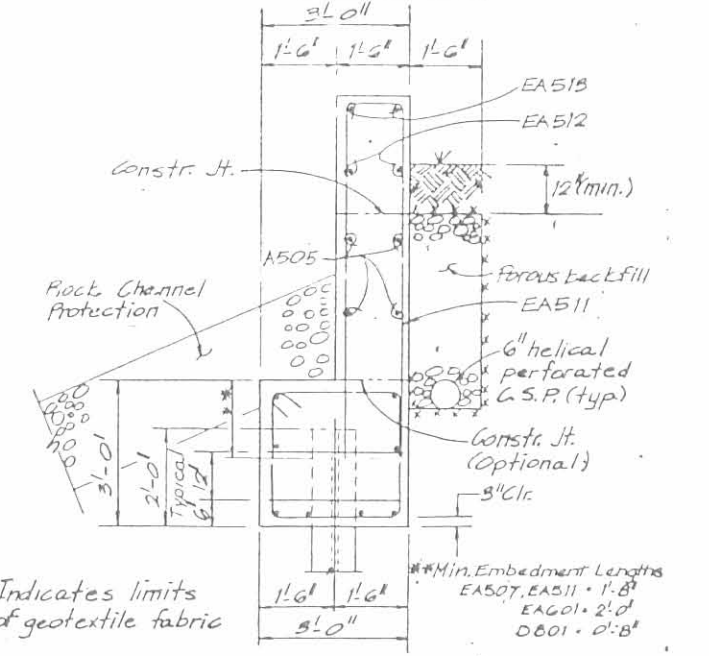
ELEVATION



DETAIL A



SECTION A-A



SECTION B-B

XXX ~ Indicates limits of geotextile fabric

NOTES:

- BRIDGE SEAT REINFORCING: REINFORCING STEEL IN THE VICINITY OF THE BRIDGE SEAT SHALL BE ACCURATELY PLACED TO AVOID INTERFERENCE WITH THE PLACING OF ANCHOR BAR HOLES.
- POROUS BACKFILL: 1.5 FT. THICK SHALL EXTEND UP TO THE PLANE OF THE SUBGRADE, TO 3 FT. BELOW PROPOSED GROUND SURFACE AND LATERALLY TO THE ENDS OF THE WINGWALLS.
- DOWEL BARS, DB01, SHALL BE PLACED PARALLEL TO CENTERLINE OF ROADWAY.
- ABUTMENT CONCRETE ABOVE THE BRIDGE SEAT CONSTRUCTION JOINT SHALL NOT BE PLACED UNTIL THE PRESTRESSED BEAMS HAVE BEEN ERECTED.
- POROUS BACKFILL SHALL BE ENCASED WITH GEOTEXTILE FABRIC. GEOTEXTILE FABRIC SHALL CONFORM TO 712.09, TYPE A AND SHALL BE INCLUDED WITH POROUS BACKFILL FOR PAYMENT. GEOTEXTILE FABRIC SHALL BE PLACED 6-INCH MINIMUM UP THE ABUTMENT BACKWALL.

LEGEND

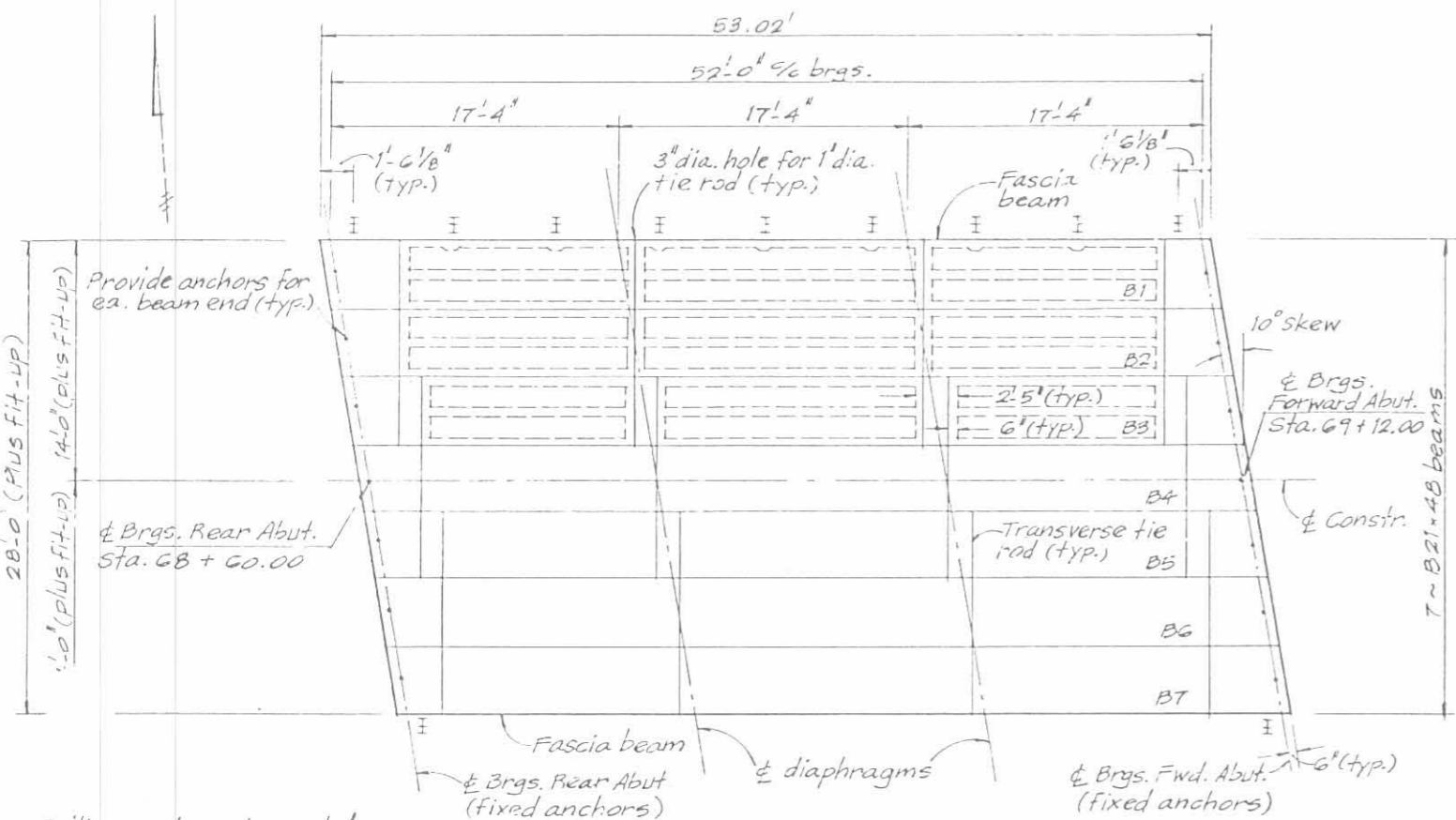
- P.E.J.F. ~ Preformed Expansion Jt. Filler
- (7) ~ Indicates pile numbering
- R.A. ~ Rear Abutment
- F.A. ~ Forward Abutment
- min. lap ~ #5 = 1'-8"
- ~ #8 = 3'-6"

KORDA / NEMETH ENGINEERING, INC. CONSULTING ENGINEERS						
ABUTMENT DETAILS						
BRIDGE NO. LOG-CR8-0092						
OVER MILL CREEK						
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
DFT	B.T.J.		MTO	JWE	10/21/90	

FR. & REV.	STATE	PROJECT
5	OHIO	

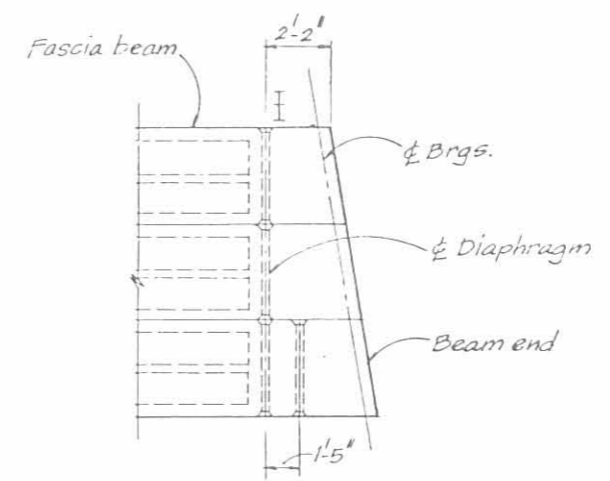
20
34

LOGAN COUNTY
LOG - CR8 - 0.84



Provide anchors for ea. beam end (typ.)
 20'-0" (PLUS FIT-UP)
 1'-0" (PLUS FIT-UP) 14'-0" (PLUS FIT-UP)
 Railing post spacing @ 6'-3" (typ. both sides)
 Railing posts dimensions from beam ends

SUPERSTRUCTURE PLAN

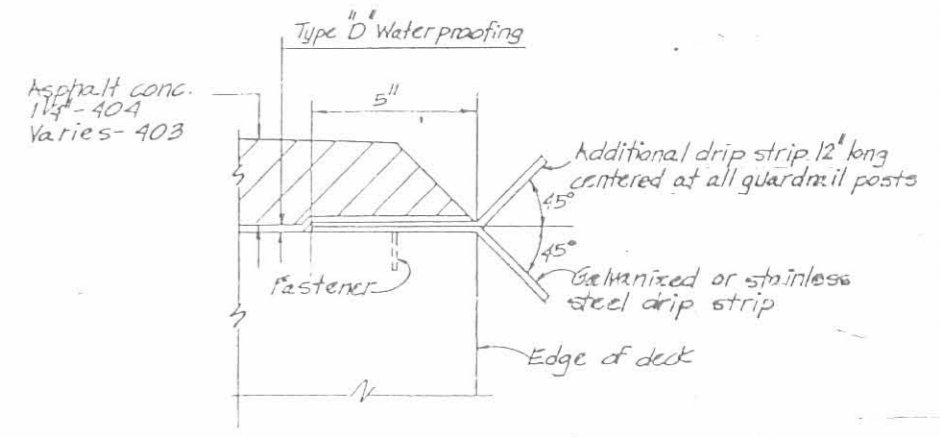


PARTIAL PLAN OF END DIAPHRAGM

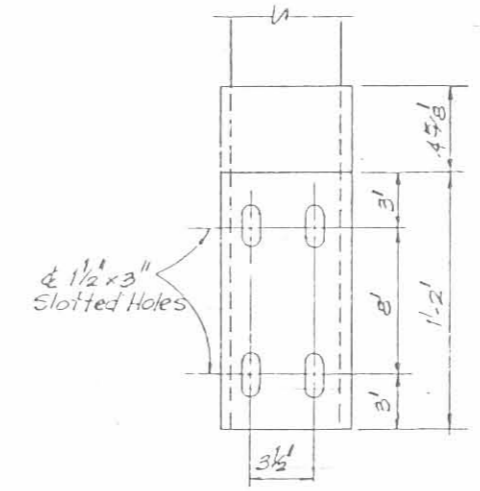
NOTES:

DRIP STRIP: PRIOR TO APPLYING TYPE D WATERPROOFING, A BENT DRIP STRIP SHALL BE INSTALLED ALONG THE EDGES OF THE DECK AS SHOWN. THE STRIPS SHALL BE FASTENED AT 1'-6" C/C MAXIMUM WITH 1-1/4" X 5/32" X 1/4" FLAT HEAD DRIVE PIN AND WASHER. (LENGTH X SHANK DIAMETER X HEAD DIAMETER) OR #10 GALVANIZED SCREWS AND EXPANSION ANCHORS, SUBJECT TO THE APPROVAL OF THE ENGINEER. THE STRIPS SHALL BE PLACED THE FULL LENGTH OF THE DECK, ENDING AT THE FACE OF THE ABUTMENT WING WALL. WHERE SPLICES ARE REQUIRED A 3-INCH (MINIMUM) LAP SHALL BE USED WITH A FASTENER THROUGH THE LAP. STEEL FOR GALVANIZED STRIPS SHALL BE 6" X 0.105" AND SHALL MEET THE REQUIREMENTS OF ASTM A568. GALVANIZING SHALL BE IN ACCORDANCE WITH 711.02. STAINLESS STEEL SHALL BE 20 GAUGE ASTM A167, TYPE 304, MILL FINISH. PAYMENT SHALL BE AT THE CONTRACT PRICE BID ITEM SPECIAL, SQ.FT. STEEL DRIP STRIP, WHICH SHALL INCLUDE ALL MATERIALS, LABOR, TOOLS AND INCIDENTALS NECESSARY TO COMPLETE THE ITEM.

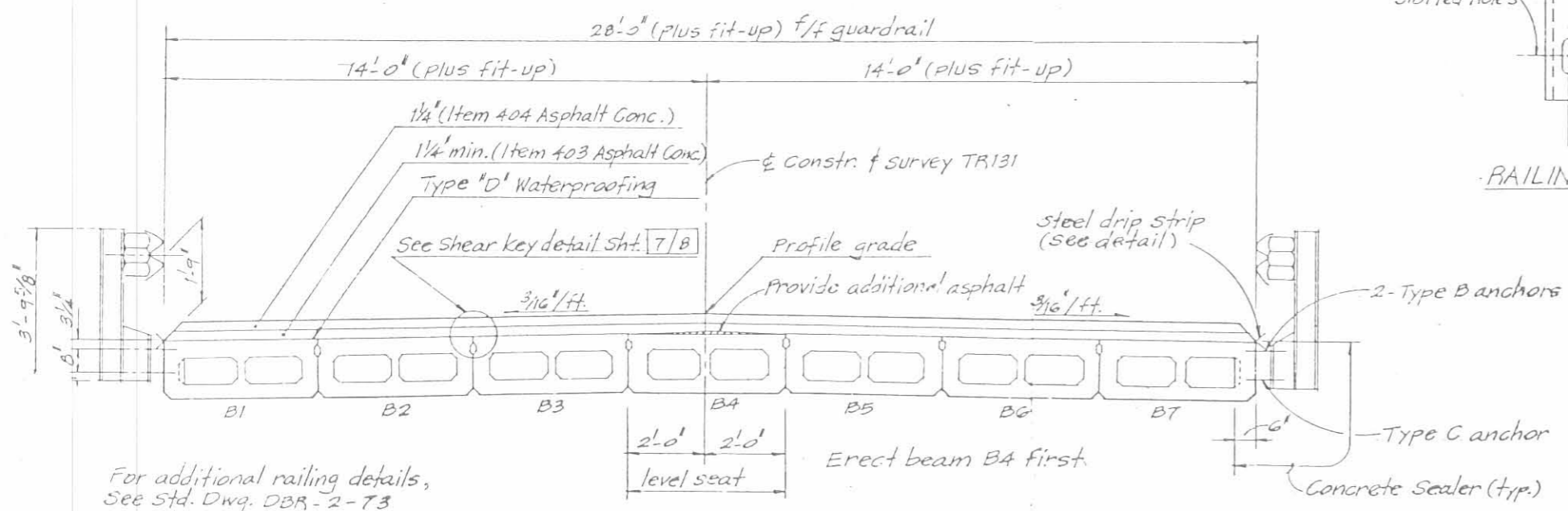
For additional superstructure details, see sh. 7/8



DRIP STRIP DETAIL



RAILING POST DETAIL



3'-9 1/2"
 3'-1 1/4"
 1'-9"
 For additional railing details, see Std. Dwg. DBR-2-73

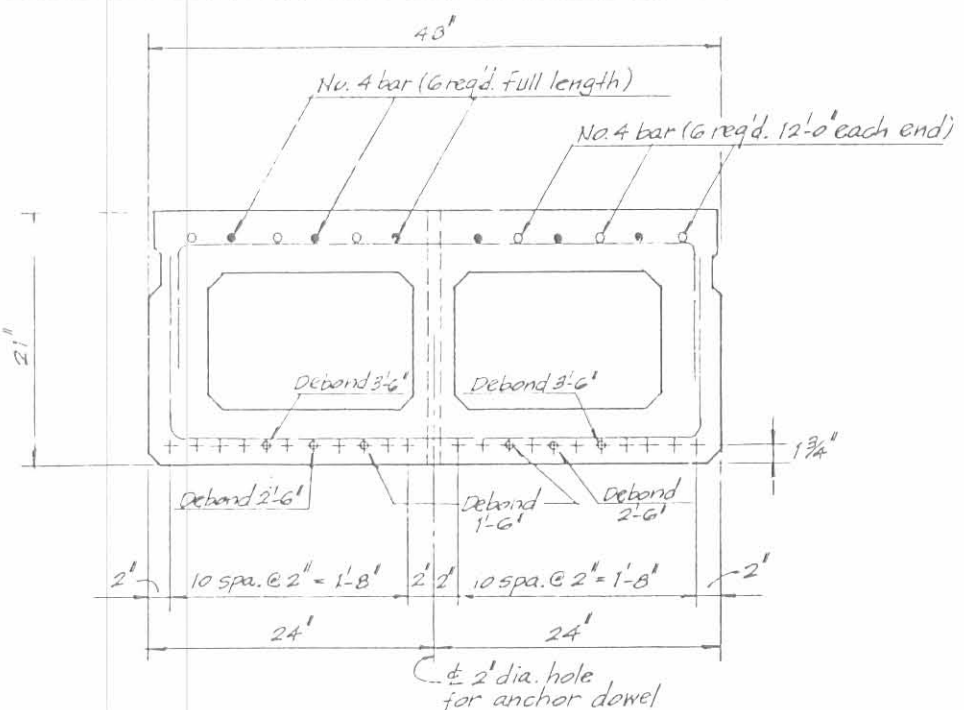
DECK SECTION

KORDA / NEMETH ENGINEERING, INC.
 CONSULTING ENGINEERS

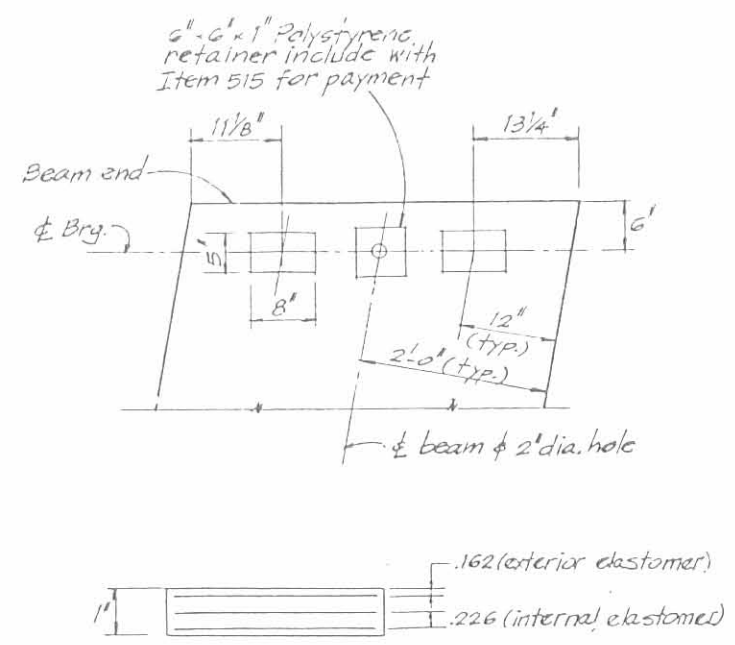
SUPERSTRUCTURE DETAILS
 BRIDGE NO. LOG - CR8 - 0092
 OVER MILL CREEK

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	BY/REV
DFT	B.T.V.		MTO	HWL	10/22/10	

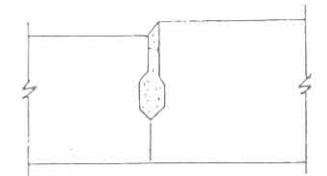
LOGAN COUNTY
LOG - CR8 - 0.84



BOX BEAM DETAILS
(22 strands)
For additional box beam details see Std. Dwg. PSBD-1-B1

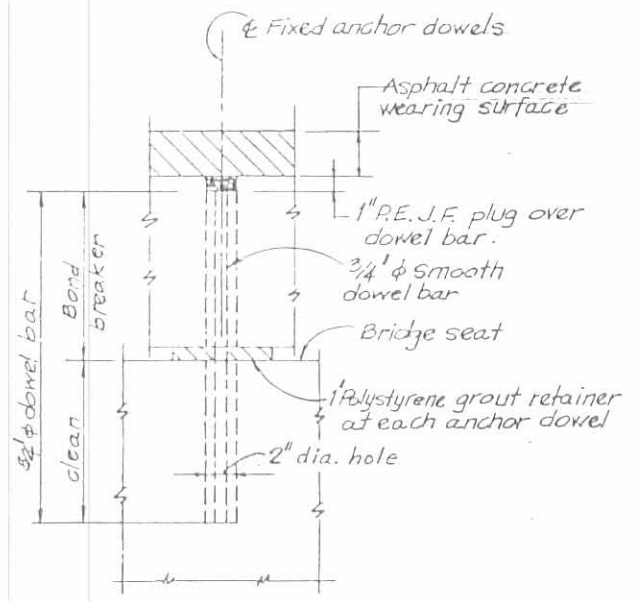


BEARING PAD LAYOUT
5" x 8" x 1" Laminated Elastomeric Bearing Pads
50 Durometer
3-14 gage steel laminated (0.0147")

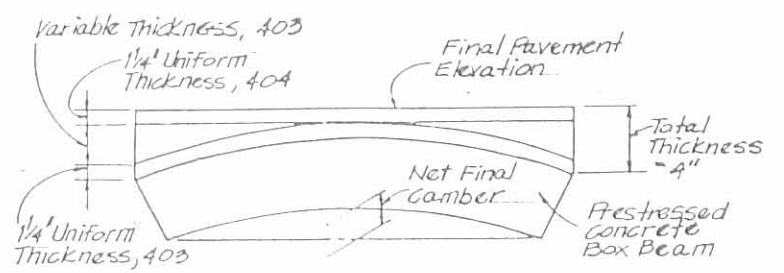


Shear Keys shall be mortared on a finished plane between the top edge of the adjacent beams where vertical offset within tolerance occurs.

SHEAR KEY DETAIL



FIXED ANCHOR DOWEL
Procedure: Place 1" Polystyrene grout retainer. Drill and clean dowel hole. Then place non-shrink grout, dowel and plug. Included for payment with Item 515.



ASPHALT THICKNESS DIAGRAM

NOTES:
FRESTRESSING STRANDS ARE ASTM A416, 1/2-INCH, 7 WIRE UNCOATED, STRESS-RELIEVED STRANDS WITH AN ULTIMATE STRENGTH OF 270,000 PSI AND AN INITIAL TENSION OF 28,900 LBS. PER STRAND.

REFER TO STANDARD DRAWING PSBD-1-B1 FOR THE FOLLOWING DETAILS:
BEAM LIFTING INSERTS
MILD STEEL REINFORCEMENT AND REINFORCING OF BEAM ENDS.
ANCHOR DOWELS
END DETAILS OF TRANSVERSE TIE ROD ANCHORAGE
BEAM DIMENSIONAL TOLERANCES
DIMENSIONS OF BEAM SECTION
WALL THICKENING AT RAILING POST ANCHORS
TYPICAL PLANS OF DIAPHRAGMS AND TRANSVERSE TIE ROOS
NORMAL CROWN TREATMENT AT CENTERLINE OF ROADWAY

REFER TO STANDARD DRAWING PSBD-1-B1 FOR THE FOLLOWING NOTES:
TRANSVERSE TIE RODS
GALVANIZING
ANCHOR DOWELS
END OF BEAMS
MORTARING OF SHEAR KEYS
NON-SHRINKING MORTAR
PREPARATION OF CONCRETE SURFACES IN CONTACT WITH NON-SHRINKING MORTAR

AS REQUIRED TO SUPPLEMENT APPLICABLE DETAILS.
ASPHALT CONCRETE SURFACE COURSE SHALL CONSIST OF A VARIABLE THICKNESS OF 403 AND A 1-1/4-INCH THICKNESS OF 404. THE 403 SHALL BE PLACED IN TWO OPERATIONS. THE FIRST COURSE SHALL BE OF 1-1/4-INCH THICKNESS. THE SECOND COURSE SHALL BE FEATHERED TO PLACE THE SURFACE PARALLEL TO AND 1-1/4-INCH BELOW FINAL PAVEMENT SURFACE ELEVATION.

CALCULATED CAMBER AT TIME OF PAVING, INCLUDING ALLOWANCE FOR CAMBER GROWTH DUE TO CREEP, IS 2-1/8-INCH. CALCULATED DEFLECTION DUE TO WEIGHT OF SURFACE COURSE AND RAILING IS 3/8-INCH. NET FINAL CAMBER OF BEAMS IS 1-3/4-INCH. THIS IS 1-3/4-INCH IN EXCESS OF THE AMOUNT REQUIRED TO PLACE THE TOP OF THE BEAM PARALLEL TO PROFILE GRADE. 1/4-INCH IS SUBTRACTED FROM THIS AMOUNT TO COMPENSATE FOR THE VERTICAL CURVE. THIS ADDITIONAL AMOUNT SHALL BE COMPENSATED FOR BY THICKENING THE 403 LEVELING COURSE FROM 1-1/4-INCH AT CENTER OF SPANS TO 2-3/4-INCH AT ENDS OF SPANS.

A BOND BREAKER SHALL BE USED ON ALL PORTIONS OF THE ANCHOR DOWELS PROJECTING ABOVE THE BRIDGE SEAT AT THE FIXED BEARING. DOWEL BARS SHALL BE 3/4-INCH DIAMETER PLAIN BARS.

TOLERANCES FOR LAMINATED ELASTOMERIC BEARING:
INDIVIDUAL ELASTOMER LAYER THICKNESS: +20% OF DESIGN VALUE (NOT TO EXCEED (+) 1/8-INCH)
PLAN DIMENSIONS: -0. +1/4-INCH
DESIGN THICKNESS < 1-1/4-INCH: -0. +1/8-INCH
EDGE COVER OF EMBEDDED LAMINATES: -0. +1/8-INCH

LAMINATED ELASTOMERIC BEARINGS:
THE MAXIMUM DESIGN LOAD FOR THE LAMINATED ELASTOMERIC BEARING PADS IS 22.7 KIPS. MAXIMUM DEAD LOAD IS 12.9 KIPS, AND MAXIMUM LIVE LOAD IS 9.8 KIPS.

For additional superstructure details, see sheet 6/8

KORDA / NEMETH ENGINEERING, INC. CONSULTING ENGINEERS						
SUPERSTRUCTURE DETAILS II						
BRIDGE NO. LOG - CR8 - 0092 OVER MILL CREEK						
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	APPROVED
DFT	BTJ		MTO	MTE	10/22/90	

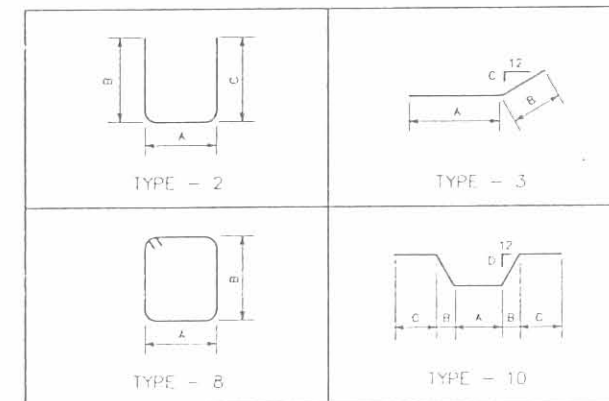
STATE	COUNTY	PROJECT	
OHIO	LOGAN COUNTY	LOG-CR8-0.84	

22/34

MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS						
	REAR	FWD	TOTAL				A	B	C	D	E	R	INC
ABUTMENTS													
A401	1	1	24	8-0	144	E	2-6	1-8					
B6	4	4	8	30-0	240	St							
B02	4	4	8	15-10	115	St							
B03	2	2	4	11-0	66	B	2-8	2-7					
A504	2	2	4	28-0	112	St							
A505	8	8	16	8-9	146	St							
A506	2	2	4	10-11	76	2	1-2	5-0	5-0				
A801	4	4	8	25-0	534	St							
A802	4	4	8	20-8	441	St							
D801	19	19	38	4-4	440	10	1-8	1-0	0	12			
				Total	2898	Lb.							

MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS						
	REAR	FWD	TOTAL				A	B	C	D	E	R	INC
ABUTMENTS (EPOXY COATED)													
EA507	19	19	38	11-8	462	2	1-11	5-0	5-0				
EA508	2	2	4	32-0	134	St							
EA509	2	2	4	12-5	52	2	1-2	5-5	5-9				
EA510	2	2	4	13-11	58	2	1-2	6-6	6-6				
EA511	4	4	8	14-9	123	2	1-2	6-11	6-11				
EA512	4	4	8	5-6	46	St							
EA513	4	4	8	6-10	57	3	2-7	4-3	6				
EA601	19	19	38	5-5	309	2	0-7	2-7	2-7				
EA803	4	4	8	28-0	598	St							
				Total	1839	Lb.							

BENDING DIAGRAMS



NOTES

1. BAR MARKS WITH LETTER PREFIX "E" SHALL BE EPOXY COATED.
2. LENGTHS ARE GIVEN IN FEET AND INCHES.
3. "ST" IN BAR MARKS INDICATES STRAIGHT BARS.
4. REFER TO D.M.S. SEC. 509.05 FOR STANDARD BEND DIMENSIONS.
5. ALL DIMENSIONS ARE OUT-TO-OUT.

KORDA/NEMETH ENGINEERING, INC.
CONSULTING ENGINEERS
1650 WATERMARK DRIVE, SUITE 200 TEL (614) 487-1657
COLUMBUS, OHIO 43215-1794 FAX (614) 487-1951

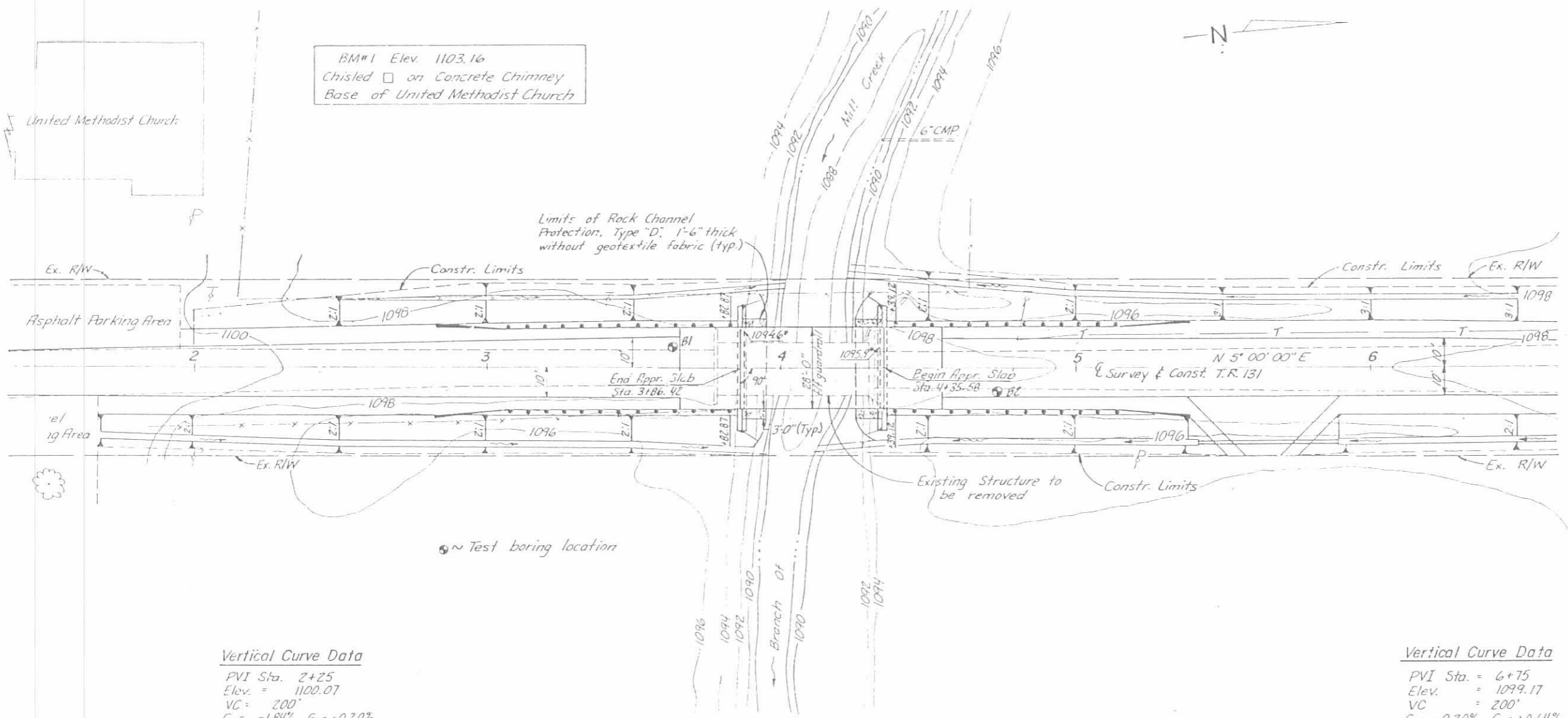
REINFORCING STEEL LIST
BRIDGE NO. LOG-CR8-0092
OVER MILL CREEK

DESIGNED	DRAWN	CHECKED	APPROVED	DATE	BY
DFT	K.J.K.	MTO	K.W.F.	12/2/90	

LOGAN COUNTY
LOG-TR131-0.06

- NOTES:**
- EARTHWORK LIMITS:**
Earthwork limits shown are approximate; actual slopes shall conform to plan cross sections.
- ELEVATIONS:**
Elevations shown with an asterisk are top of slope at face of abutments.
- TRAFFIC DATA: (YEAR 2010)**
Average Daily Traffic = 240
- HYDRAULIC DATA:**
Drainage Area = 5.6 sq. mi.
10 yr. discharge = 755 cfs.
100 yr. discharge = 1460 cfs.
- VELOCITY THROUGH STRUCTURE:**
V₁₀ = 3.3 fps
V₁₀₀ = 4.8 fps
- WATER SURFACE ELEVATIONS:**
10 yr.: 1095.7 (1095.8)
100 yr.: 1097.4 (1097.8)
(Includes Backwater)

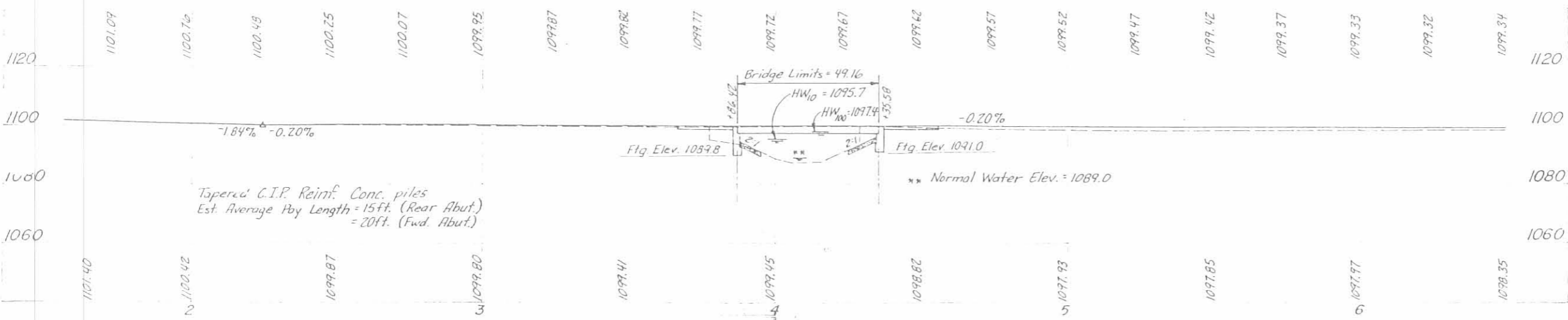
Structure clears 10yr. design HW by 1.6'



Vertical Curve Data
PVI Sta. = 2+25
Elev. = 1100.07
VC = 200'
G₁ = -1.84% G₂ = -0.20%
V = 55 mph (SSD)

Vertical Curve Data
PVI Sta. = 6+75
Elev. = 1099.17
VC = 200'
G₁ = -0.20% G₂ = +0.64%
V = 55 mph (SSD)

PLAN



PROFILE

EXISTING STRUCTURE

TYPE - Steel Pratt truss with timber deck on concrete abutments.
SPAN - 53'-0" c/c bearings
ROADWAY - 15'-7" f/f truss members
LOADING - Unknown
SKEW - None
ALIGNMENT - Tangent
WEARING SURFACE - Asphalt Concrete
APPROACH SLABS - None
CONDITION - POOR (to be removed)
STRUCTURE FILE No - 4642414

PROPOSED STRUCTURE

TYPE - Prestressed concrete, non-composite box beams w/ reinforced concrete abutments.
SPAN - 48'-0" c/c bearings.
ROADWAY - 28'-0" f/f guardrail
LOADING - HS-20-44 & Alternate Military Loading
SKEW - None
ALIGNMENT - Tangent
WEARING SURFACE - 2 1/2" min. Asphalt conc.
APPROACH SLAB - 20'-0" long (HS-1-bi).
CROWN - 3/16 in / ft.

Tapered C.I.P. Reinf. Conc. piles
Est. Average Pile Length = 15ft. (Rear Abut.)
= 20ft. (Fwd. Abut.)

KORDA / NEMETH ENGINEERING, INC.
CONSULTING ENGINEERS

SITE PLAN
BRIDGE NO. LOG-TR131-007
T.R. 131 OVER BRANCH OF MILL CREEK
LOGAN COUNTY Sta. 3+86.42 to Sta. 4+35.58

DESIGN	DATE	BY	CHKD	REV	DATE
DET	K.J.K.	MTO	RWT	3/14/10	