BRS-735(5)

FHWA REGION	STATE	PROJECT	
5	OHIO	BRS-735(5)	

1/17

PREBLE COUNTY
PRE-122-24.36
PART II

FOR PART I SEE BUT-122-2.97

~~Green~~ ~~Yellow~~ Yellow 145
1-17

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
PRE-122-24.36
GRATIS TOWNSHIP
PREBLE COUNTY

DESIGN DESIGNATION

CURRENT ADT	3580
DESIGN YEAR ADT	5650
DHV.	570
D	60 %
T	7 %
V	60 mph

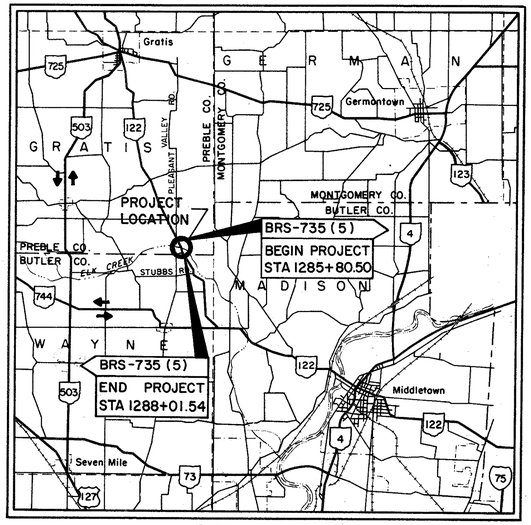
CONVENTIONAL SIGNS

COUNTY LINE
TOWNSHIP LINE
SECTION LINE
CORPORATION LINE
FENCE LINE
CENTER LINE

TREES (TO BE REMOVED)
UTILITY POLES ... TELE ϕ POWER ϕ LIGHT ϕ
RIGHT-OF-WAY ——— R/W ———
EXIST. RIGHT-OF-WAY ——— Exist. R/W ———
GUARDRAIL (EXIST.) ... (PROP.)

INDEX OF SHEETS

Sht. No 8 not used



LOCATION MAP
Scale of Miles
0 2 4 8

LINE DATA

BEGIN PROJECT	STA 1285+80.50
END PROJECT	STA 1288+01.54
LENGTH OF PROJECT	221.04 L.F. =0.041 Mi.
ADD FOR APPROACHES	
STA. 1284+98.97 TO STA. 1285+80.50 = 81.53 L.F.	
STA. 1288+01.54 TO STA. 1288+80.28 = 78.74 L.F.	
LENGTH OF WORK	381.31 L.F. = 0.072 Mi.

LEGEND
PROJECT LOCATION
STATE ROADS
U.S. ROUTE
COUNTY ROADS
DETOUR

SCALES
PLAN 0 20
PROFILE ... HORIZONTAL 0 20
VERTICAL 0 5
CROSS SECTIONS 0 5

1981 SPECIFICATIONS

THE STANDARD SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, INCLUDING CHANGES AND SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PROPOSAL, SHALL GOVERN THIS IMPROVEMENT.

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY AND THAT DETOURS WILL BE PROVIDED AS INDICATED ON THE PLANS.

Approved William W. Brayshaw
Date 3-1-82 District Deputy Director of Transportation

Approved Robert B Griffin
Date 5-7-82 Engineer, Bureau of Bridges and Structural Design

Approved Howard E Nolan
Date 6-29-82 Chief Engineer, Planning and Design

Approved David L. Weis
Date 6-29-82 Director, Department of Transportation

SUPPLEMENTAL PRINTS OF STANDARD CONSTRUCTION DRAWINGS		
SEE PART I		

SUPPLEMENTAL SPECIFICATIONS
SEE PART I

PLANS PREPARED BY
ERIKSSON ENGINEERING LTD.
Consulting Engineers
COLUMBUS, OHIO

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

Approved:

Division Administrator — Date

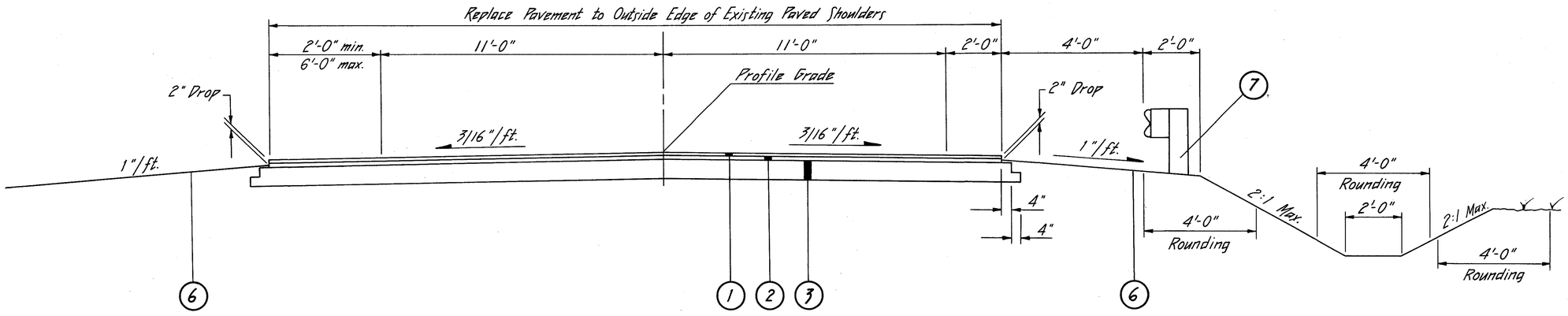
Project: PRE-122-24.36
Date of Letting ____ 19 ____ Contract No. ____

FHWA REGION	STATE	PROJECT	
5	OHIO	BRS-735(5)	

2/17

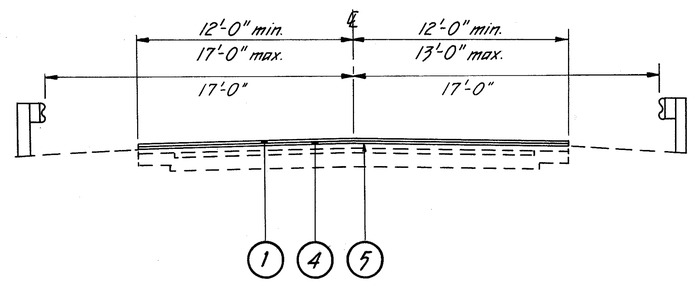
PREBLE COUNTY
PRE-122-24.36
PART II

TYPICAL SECTIONS
TYPE 404 ON 301



LIMITING STATIONS

Sta. 1285+73.97 to Sta. 1285+80.50 = 6.53 L.F.
Sta 1288+01.54 to Sta. 1288+08.07 = 6.53 L.F.
13.06 L.F.



TYPICAL FEATHER SECTION

Limiting Stations
1284+98.97 to 1285+73.97
1288+08.07 to 1288+58.07

(1) Item 404 1¼" Asphalt Concrete, AC-20
(2) Item 403 1¾" Asphalt Concrete, AC-20
(3) Item 301 8" Bituminous Aggregate Base, AC-20 or RT-11 or RT-12 (2-4" courses)
(4) Item 403 0" Min. Asphalt Concrete, AC-20
(5) Item 407 Tack Coat applied at the rate of 0.1 gal. per sq. yd. Cover aggregate shall conform to 703.06
(6) Item 659 Seeding & Mulching
(7) Item 606 Guardrail Standard Type 5

Calc. By WHH Date 12/16/81
Chk. By J.L. Date 12-16-81

FHWA REGION	STATE	PROJECT	
5	OHIO	BRS-735(5)	

3/17

PREBLE COUNTY
PRE-122-24.36
PART II

GENERAL NOTES

MOBILIZATION AS PER PLAN (PARTS I AND II)

THE CONTRACTOR SHALL PROVIDE A SUITABLE FIELD OFFICE HAVING A MINIMUM OF 300 SQ. FT. OF FLOOR SPACE WHICH SHALL BE IN ACCORDANCE WITH 619.01 and 619.02. PAYMENT SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 624, MOBILIZATION, AS PER PLAN.

ROUNDING OF CORNERS SHOWN ON CROSS SECTIONS

THE ROUNDED CORNERS SHOWN ON THE TYPICAL SECTIONS, APPLY TO ALL CROSS SECTIONS EVEN THOUGH OTHERWISE SHOWN ON THESE PLANS.

UNDERGROUND UTILITIES

THE LOCATIONS OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS HAVE BEEN OBTAINED BY DILIGENT FIELD CHECKS AND SEARCHES OF AVAILABLE RECORDS. IT IS BELIEVED THAT THEY ARE ESSENTIALLY CORRECT, BUT THE STATE OF OHIO DOES NOT GUARANTEE THEIR ACCURACY OR COMPLETENESS.

AT LEAST 48 HOURS BEFORE DIGGING, THE CONTRACTOR SHOULD CALL THE OHIO UTILITIES PROTECTION SERVICE, TOLL-FREE, 800-362-2764. NON-MEMBER UTILITY COMPANIES MUST BE CALLED DIRECTLY.

UTILITY OWNERSHIP

THE FOLLOWING UTILITIES AND OWNERS ARE LOCATED WITHIN THE WORK LIMITS OF THIS PROJECT:

ELECTRIC	DAYTON POWER & LIGHT P.O. BOX 1247 COURTHOUSE PLAZA S.W. DAYTON, OHIO 45401
TELEPHONE	GENERAL TELEPHONE COMPANY 6464 WEST BROOK ROAD CLAYTON, OHIO 45315

CONTINGENCY QUANTITIES

THE CONTRACTOR SHALL NOT ORDER MATERIALS OR PERFORM WORK FOR PLAN ITEMS SET UP TO BE USED "AS DIRECTED BY THE ENGINEER" UNLESS AUTHORIZED BY THE ENGINEER. THE ACTUAL WORK LOCATIONS AND QUANTITIES USED AT THE ENGINEER'S DISCRETION SHALL BE MADE A MATTER OF RECORD BY INCORPORATION INTO THE FINAL CHANGE ORDER GOVERNING COMPLETION OF THIS PROJECT.

REMOVAL OF TREES OR STUMPS

ALL TREES AND STUMPS SPECIFICALLY MARKED FOR REMOVAL WITHIN THE CONSTRUCTION LIMITS OF THIS PROJECT SHALL BE REMOVED UNDER THE LUMP SUM PRICE BID FOR ITEM 201, CLEARING AND GRUBBING, EXCEPT THAT THOSE TREES FOR WHICH PROTECTION AND PRESERVATION WORK IS INDICATED ELSEWHERE IN THESE PLANS SHALL NOT BE REMOVED.

THE FOLLOWING IS AN APPROXIMATE ESTIMATE OF THE NUMBER OF TREES AND STUMPS TO BE REMOVED:

SIZES	NO. TREES	NO. STUMPS	TOTAL
18"	0	0	0
30"	0	0	0
48"	0	0	0
60"	0	0	0

THE ABOVE ESTIMATE IS APPROXIMATE AND THE STATE OF OHIO RESERVES THE RIGHT TO ORDER THE REMOVAL OF ADDITIONAL TREES OR STUMPS OUTSIDE OF THE LIMITS OF CONSTRUCTION BUT WITHIN THE RIGHT-OF-WAY AND/OR EASEMENT LINES. PAYMENT FOR THE REMOVAL OF THESE ADDITIONAL TREES OR STUMPS SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 201, CLEARING AND GRUBBING.

SEEDING

QUANTITIES FOR SEEDING ARE CALCULATED FOR THE SOIL AREAS BETWEEN (10) FEET OUTSIDE THE WORK LIMITS, AS SHOWN ON THE CROSS SECTIONS, OR TO THE RIGHT-OF-WAY LINE, IF SUCH LINE IS LESS THAN TEN (10) FEET FROM THE WORK LIMITS.

TEMPORARY SOIL EROSION AND SEDIMENT CONTROL

THE FOLLOWING ESTIMATED QUANTITIES ARE TO BE USED AS DIRECTED BY THE ENGINEER, FOR TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES:

207	TEMPORARY SEEDING AND MULCHING	300	SQ. YD.
207	STRAW OR HAY BALES	10	EACH
207	TEMPORARY BENCHES, DIKES DAMS AND SEDIMENT BASINS	50	CU. YD.

RAISED PAVEMENT MARKERS REMOVED FOR STORAGE

Raised Pavement Markers shall be removed by the State Forces prior to resurfacing. The Contractor shall notify District Operations Engineer one (1) week before he plans to start resurfacing work.

MAINTAINING TRAFFIC

SR 122 WILL BE CLOSED TO TRAFFIC WITHIN THE LIMITS OF THIS PROJECT. DETOUR SIGNS WILL BE ERECTED AND MAINTAINED BY ODOT FORCES.

THE CONTRACTOR SHALL NOTIFY THE DISTRICT OFFICE OF THE OHIO DEPARTMENT OF TRANSPORTATION ONE (1) WEEK BEFORE HE WISHES TO HAVE SR 122 CLOSED AND TRAFFIC DETOURED.

THE CONTRACTOR SHALL CLOSE SR 122 AS REQUIRED UNDER ITEM 614.03 USING BARRICADES AS PER STANDARD DRAWING MC-3. *

LIGHTS AND SIGNS AT ADJACENT ROAD INTERSECTIONS

THE CONTRACTOR SHALL, IN ADDITION TO THE GENERAL REQUIREMENTS OF ITEM 614 ON THIS PROJECT PERFORM THE FOLLOWING:

PROVIDE, ERECT, AND MAINTAIN STANDARD 48" X 30" SIZE "ROAD CLOSED" SIGNS, SIGN SUPPORTS, AND LIGHTS AT THE FOLLOWING LOCATION DURING THE PERIOD IN WHICH THE AFFECTED ROAD IS CLOSED TO TRAFFIC:

1. SR 122 JUST SOUTH OF PLEASANT VALLEY RD.

SIGN SUPPORTS AND LIGHTS FOR "ROAD CLOSED" SIGNS SHALL BE AS DETAILED IN THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. PAYMENT FOR PROVIDING, ERECTING, MAINTAINING, AND REMOVING LIGHTS, SIGNS, AND SIGN SUPPORTS SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 614 MAINTAINING TRAFFIC.

*Only one bridge may be closed to traffic at the same time. A detour will be provided for each bridge closure.

LOCATION OF GUARDRAIL

Location of guardrail runs as shown in these plans, are subject to adjustment prior to final acceptance. The Engineer shall be satisfied that all installations will afford maximum protection for traffic.

GENERAL SUMMARY

ITEM	SHEET NUMBER 3		SHEET NUMBER 4		SHEET NUMBER 9		TOTAL	UNIT	ITEM	DESCRIPTION
										ROADWAY
201	Lump						Lump	Lump	201	Clearing & Grubbing
202			312.5				312.5	L.F.	202	Guardrail Removed
202	219						219	S.Y.	202	Wearing Course Removed
203			158				158	C.Y.	203	Excavation Not Including Embankment Construction
203			106				106	C.Y.	203	Embankment
203	229						229	S.Y.	203	Subgrade Compaction
606			207.92				207.92	L.F.	606	Guardrail Type 5
606			3				3	Ea.	606	Anchor Assembly, Standard Type A
606			1				1	Ea.	606	Anchor Assembly, Standard Type T
606			4				4	Ea.	606	Bridge Terminal Assembly, Standard Type B
										EROSION CONTROL
207	300						300	S.Y.	207	Temporary Seeding & Mulching
207	10						10	Ea.	207	Straw or Hay Bales
207	50						50	C.Y.	207	Temporary Benches, Dikes, Dams, and Sediment Basins
659			925				925	S.Y.	659	Seeding & Mulching
659	.09						.09	Tons	659	Commercial Fertilizer
										PAVEMENT
301	14						14	C.Y.	301	Bituminous Aggregate Base: AC-20 or RT-11 or RT-12
403	17						17	C.Y.	403	Asphalt Concrete, AC-20
407	57						57	Gal.	407	Tack Coat
404	22						22	C.Y.	404	Asphalt Concrete, AC-20
407	2						2	Ton	407	Cover aggregate
611			190				190	S.Y.	611	Reinforced Concrete Approach Slab (T=15")
										TRAFFIC CONTROL
621					0.14		0.14	Mile	621	Edge Lines
621					0.07		0.07	Mile	621	Center Lines
										For Structures 20' Span & Over, See Sheet No. 11
614	Lump						Lump	Lump	614	Maintaining Traffic
623							Lump	Lump	623	Construction Layout Stakes
624	Lump						Lump	Lump	624	Mobilization, as per plan

CALCULATIONS

202 WEARING COURSE REMOVED

At Butt Joints

(43.75 L.F. x 29' + 29.17 L.F. x 24') ÷ 9 sf/sy.

= 219 s.y.

404 ASPHALT CONCRETE

(6.53 L.F. x 29' + 6.53 L.F. x 24') ÷ 9 sf/sy = 38.5 s.y.

38.5 s.y. x 1 1/4" ÷ 36 "/yd. = 1.4 c.y.
Add For Approach Slabs 190 s.y. x 1 1/4" ÷ 36 "/yd. = 6.6 c.y.
Add Feathers ((75 L.F. x 29' + 50 L.F. x 24') x 1 1/4") ÷ (9 sf/sy. x 36 "/yd.) = 13.1 c.y.

21.1 c.y. = 22 c.y.

301 BITUMINOUS AGGREGATE BASE

From 404 38.5 s.y. x 8" ÷ 36 "/yd. = 8.6 c.y.

Add Driveway Feather 107.8 s.y. x 3" x 1/2 ÷ 36 "/yd. = 4.5 c.y.

13.1 c.y. = 14 c.y.

407 TACK COAT

Approach Slabs = 190 S.Y
Feathers (75 x 29 + 50 x 24) ÷ 9 = 375 S.Y
Total 565 S.Y

Tack Coat 565 x 0.1 = 57 Gal

403 ASPHALT CONCRETE

From 404 38.5 s.y. x 1 3/4" ÷ 36 "/yd. = 1.9 c.y.
Add For Approach Slabs 190 s.y. x 1 3/4" ÷ 36 "/yd. = 9.3 c.y.
Add Feathers 1/2 ((43.75 L.F. x 29' + 29.17 L.F. x 24') x 1 3/4") ÷ (9 sf/sy. x 36 "/yd.) = 5.3 c.y.

16.5 c.y. = 17 c.y.

203 SUBGRADE COMPACTION

From 404 38.5 s.y.
From 611 190.0 s.y.
228.5 s.y. = 229 s.y.

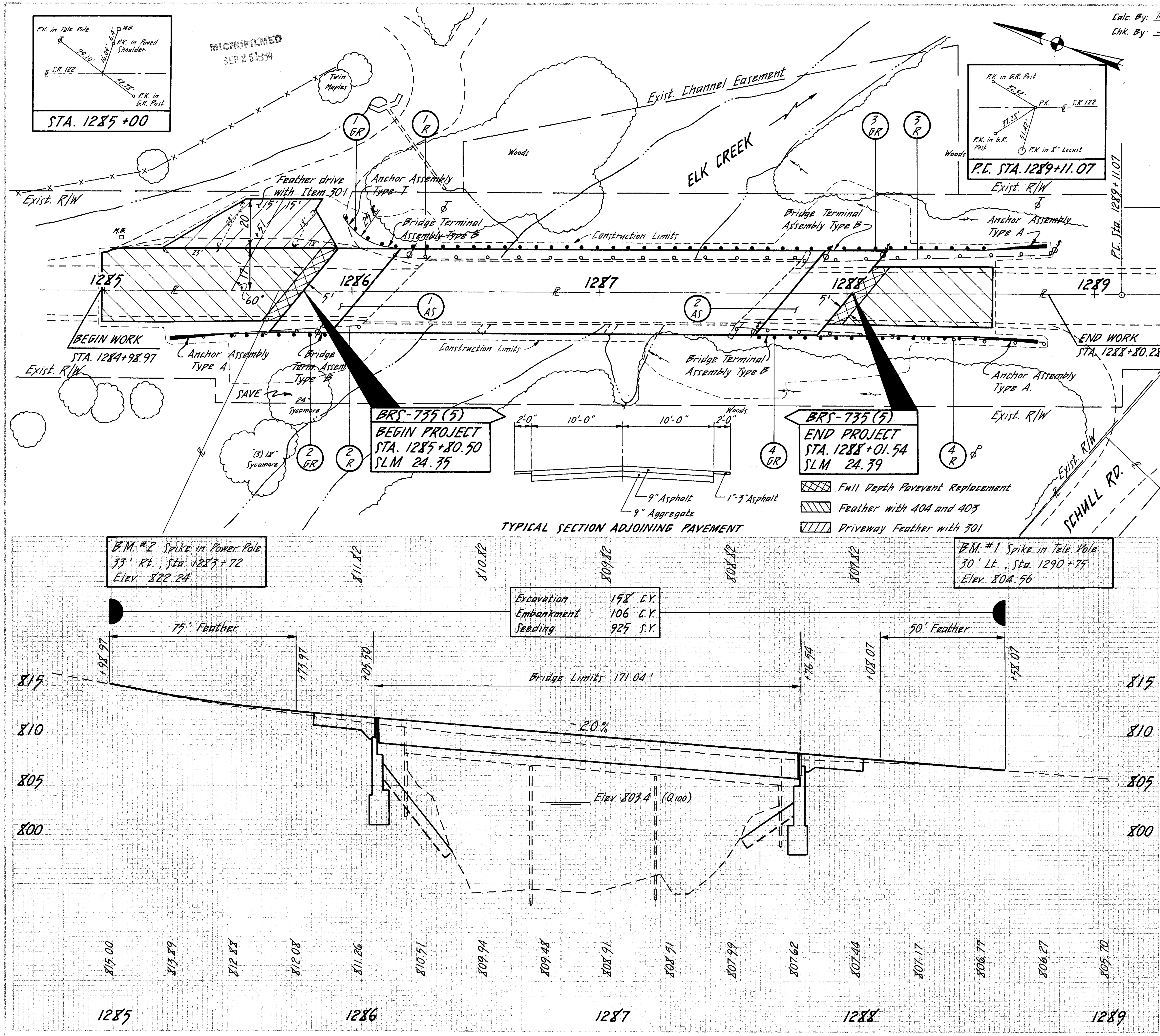
407 COVER AGGREGATE

565 S.Y x 7#/S.Y ÷ 2000 #/Ton 2 Ton

659 COMMERCIAL FERTILIZER

From Seeding & Mulching 925 s.y.

925 s.y. x 9 sf/sy. x 20#/1000 s.f. x 1 Ton/2000 # = 0.09 Tons.


MICROFILMED SEP 25 1984
P.K. in Tele. Pole
M.B.
P.K. in Paved Shoulder
S.R. 122
P.K. in G.R. Post
STA. 1285+00
Twin Maples
Exist. Channel Easement
ELK CREEK
Woods
P.K. in G.R. Post
P.K.
P.K. in 8" Locust
P.C. STA. 1289+11.07
Exist. R/W
Feather drive with Item 301
Anchor Assembly Type T
Bridge Terminal Assembly Type B
Construction Limits
Anchor Assembly Type A
1GR
1R
3GR
3R
1AS
2AS
2GR
2R
4GR
4R
1285
1286
1287
1288
1289
BEGIN WORK STA. 1284+98.97
END WORK STA. 1288+80.28
SAVE
24" Sycamore
(3) 18" Sycamore
BRS-735(5) BEGIN PROJECT STA. 1285+80.50 SLM 24.35
BRS-735(5) END PROJECT STA. 1288+01.54 SLM 24.39
2'-0" 10'-0" 10'-0" 2'-0"
9" Asphalt
9" Aggregate
1"-3" Asphalt
TYPICAL SECTION ADJOINING PAVEMENT
Full Depth Pavement Replacement
Feather with 404 and 403
Driveway Feather with 301
SCHULL RD.
EXISTING STRUCTURE
TYPE: Steel beams w/ wood deck on wood substructures.
SPANS: 3@50'
ROADWAY: 24'
WEARING SURFACE: Asphalt Concrete
APPROACH SLABS: None
ALIGNMENT: Tangent
CONDITIONS: 50% of Legal Load
PROPOSED STRUCTURE
TYPE: Prestressed concrete box beams on reinforced concrete substructures.
SPANS: 53'-9", 53'-9", & 53'-9" c/c bearings.
ROADWAY: 34'-0" f/f Guardrail
LOADING: HS20-44 and the alternate Military loading
SKEW: 40° L.F.
SURFACE COURSE: 2 1/2" asphalt concrete
APPROACH SLAB: AS-1-81 (25' long)
ALIGNMENT: Tangent
SUPERELEVATION: None
DRAINAGE AREA: 20.8 sq. miles
B.M. #2 Spike in Power Pole 33' Rt., Sta. 1283+72 Elev. 822.24
B.M. #1 Spike in Tele. Pole 30' Lt., Sta. 1290+75 Elev. 804.56
Excavation 158 C.Y.
Embankment 106 C.Y.
Seeding 925 S.Y.
75' Feather
50' Feather
Bridge Limits 171.04'
-2.0%
Elev. 803.4 (Q100)
815
810
805
800
815.00 813.89 812.88 812.08 811.26 810.51 809.94 809.48 808.91 808.51 807.99 807.62 807.44 807.17 806.77 806.27 805.70

ESTIMATED QUANTITIES

REF NO.	STATION TO STATION	SIDE	606 Guardrail Type 5 (L.F.)	606 Bridge Terminal Assembly Type B (Ea.)	606 Anchor Assembly Type A (Ea.)	606 Anchor Assembly Type T (Ea.)	611 Rein. Conc. Approach Slab (T=15") (S.Y.)	202 Guardrail Removed (L.F.)
1GR	1285+96.75-1286+19.76	Lt.	14.48	1		1		
2GR	1285+26.76-1286+19.24	Rt.	39.48	1	1			
3GR	1287+90.80-1288+80.28	Lt.	64.48	1	1			
4GR	1287+62.28-1288+76.76	Rt.	89.48	1	1			
1AS	1285+80.50-1286+05.50	℄					99	
2AS	1287+76.74-1288+01.54	℄					99	
1R	1286+17-1286+29.5	Lt.						125
2R	1286+18-1286+05	Rt.						75
3R	1287+83-1288+83	Lt.						100
4R	1287+55-1288+30	Rt.						125
			207.92	4	3	1	190	325

PLAN & PROFILE STA. 1285+00 to STA 1289+00

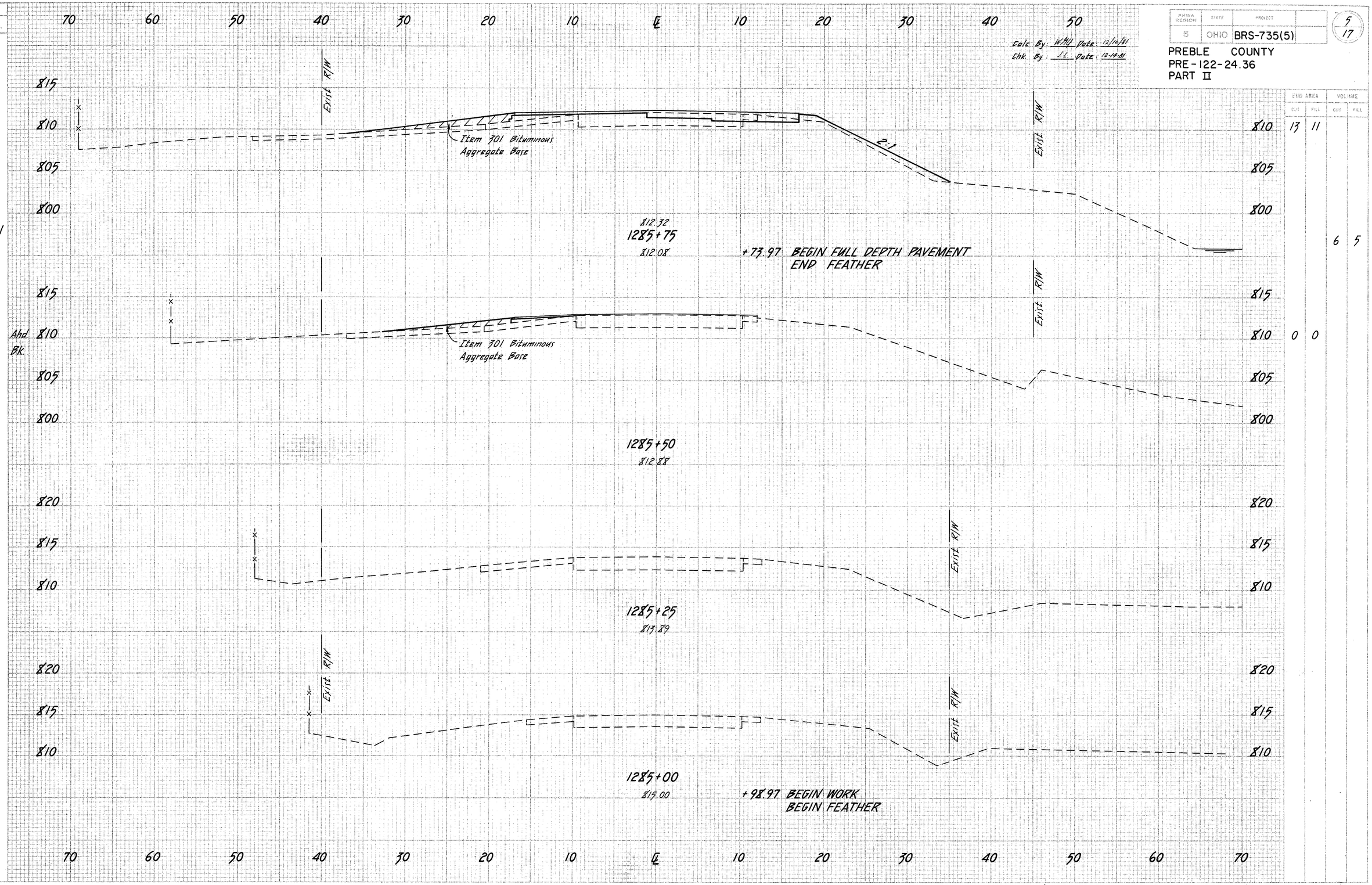
FHWA REGION	STATE	PROJECT	
5	OHIO	BRS-735(5)	

5
17

PREBLE COUNTY
PRE-122-24.36
PART II

Calc By: WMJ Date: 12/10/81
Chk. By: JL Date: 12-14-81

SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL
30	71	13	11	6	5
21	Ahd	0	0		
0	Bk.				



X-SECTIONS S.R. 122 STA. 1285+00 to STA. 1285+75

FHWA REGION	STATE	PROJECT	
5	OHIO	BRS-735(5)	

6
17

PREBLE COUNTY
PRE-122-24.36
PART II

Calc By WBH Date 12/10/81
Chk By J.L. Date 12-14-81

SEEDING END WIDTH	SEEDING SQ. YDS.	STATION	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
		STA. 1285+75				
30		810				
	109	805			36	10
48		1286+00 811.26				
	132	810	64	9		
47					51	5
		800				
	27	805	46	2		
0		STA. 1286+35	0	0	9	1
0		STA. 1287+20	0	0	0	0
	79	795			5	11
47		800	9	19		
	325	1288+00 807.44			37	55
70		800	30	40		
		805				
	182	810			14	19
61		800	0	0		
		805				
		810				
		STA. 1287+75				

70 60 50 40 30 20 10 ℄ 10 20 30 40 50 60 70

EXIST. R/W

Bk. Only

0.4%

2:1

798.2

807.87

807.17

1288+25

STA. 1287+76.54

STA. 1286+07.50

BRIDGE LIMIT

1287+50

1286+25

WINGWALL

ABUTMENT

6:1

X-SECTIONS S.R. 122 STA. 1286+00 to STA. 1288+25

SEEDING	
END WIDTH	SQ. YDS

FHWA REGION	STATE	PROJECT	
5	OHIO	BRS-735(5)	

7
17

PREBLE COUNTY
PRE-122-24.36
PART II

END AREA		VOLUME	
CUT	FILL	CUT	FILL

70 60 50 40 30 20 10 ℄ 10 20 30 40 50

Exist. R/W

810
805
800

1289+25
805.23

1289+00
805.70

+80.28 END WORK

1288+75
806.27

1288+50
806.77

+50 END FEATHER

70 60 50 40 30 20 10 ℄ 10 20 30 40 50 60 70

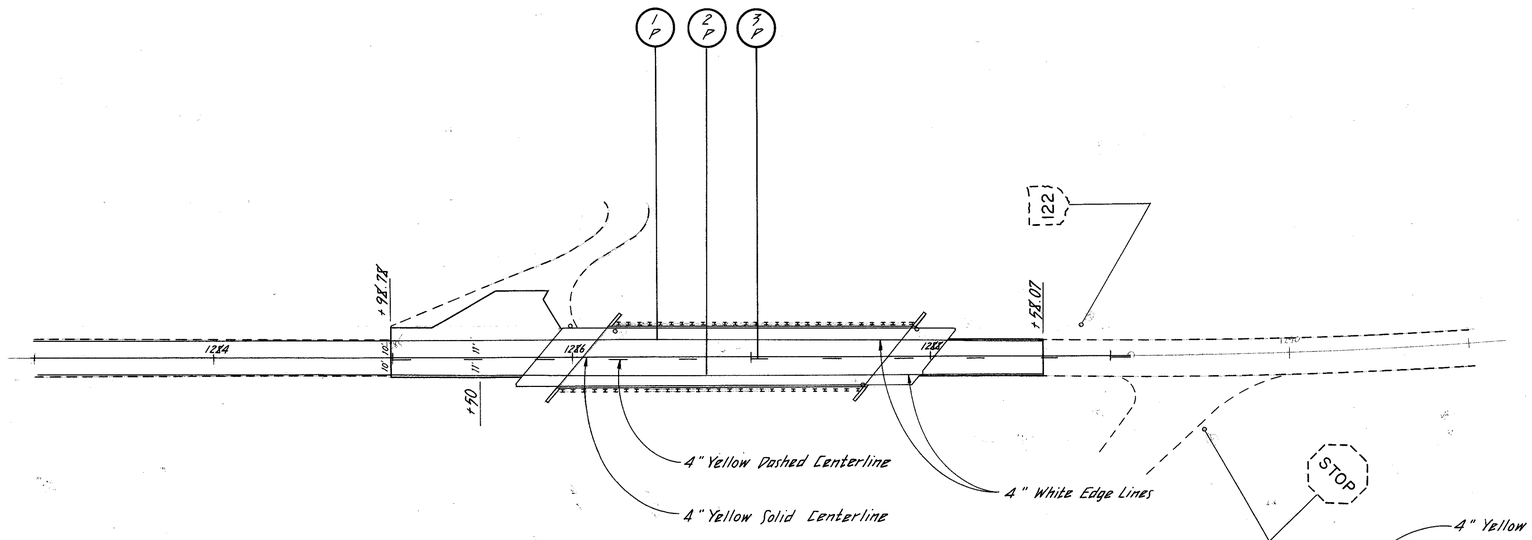
X-SECTIONS S.R. 122 STA. 1288+50 to STA. 1289+25

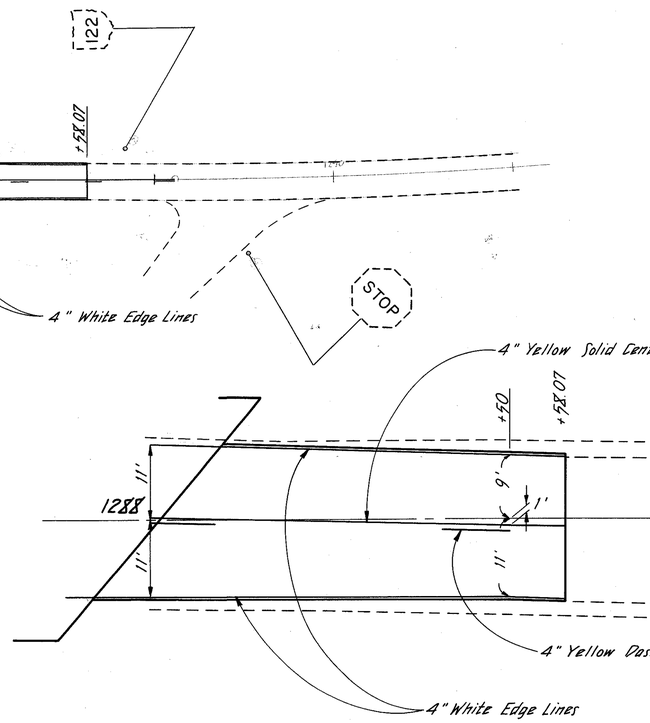
Calc. By W.H.H. Date 12/11/81
Chk. By J.L. Date 12-17-81

FHWA REGION	STATE	PROJECT	
5	OHIO	BRS-735(5)	

9/17

PREBLE COUNTY
PRE-122-24.36
PART II





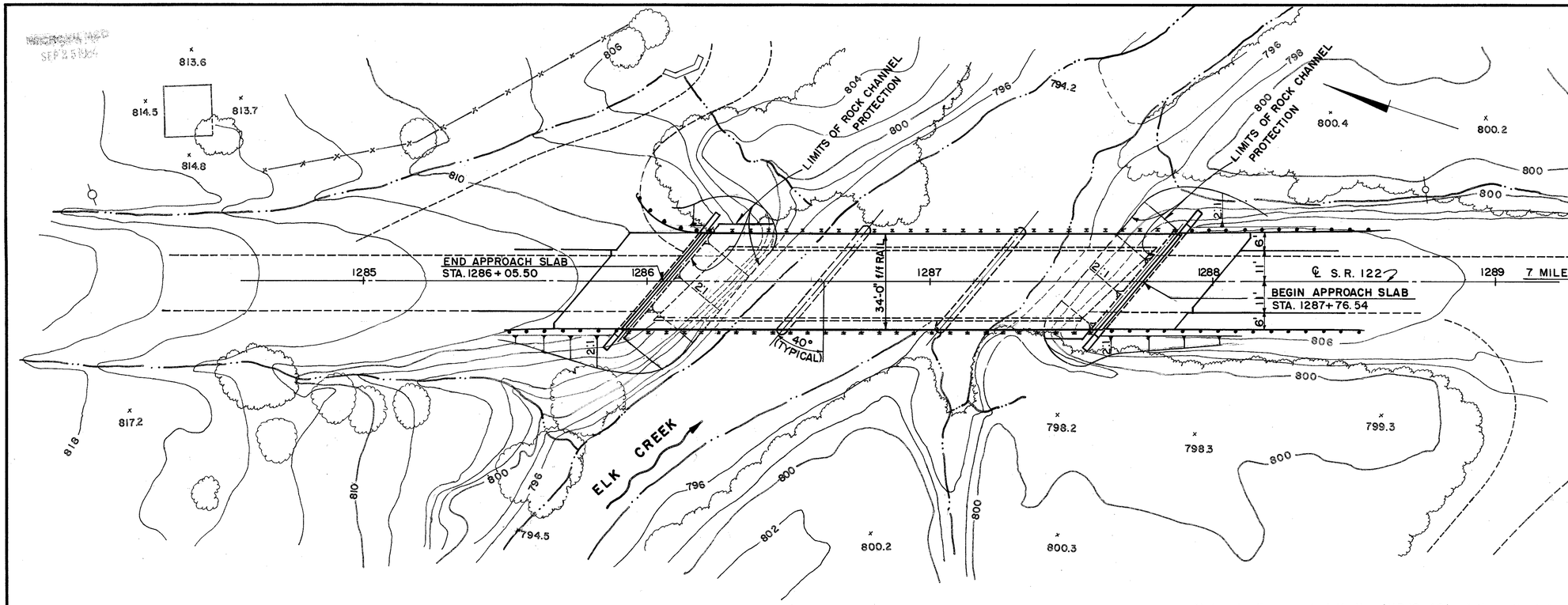
ESTIMATED QUANTITIES

REF. NO.	STATION FROM	STATION TO	SIDE	621 4" White Edge Lines Miles	621 4" Double Center Lines Miles		
1P	1284+98.78	1288+50.07	Lt.	.07			
2P	"	"	Rt.	.07			
3P	"	"	℄		.07		
	TOTAL			0.14	.07		

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
5	OHIO	BRS-735(5)	

10/17

PREBLE COUNTY
PRE-122-24.36
PART II



PLAN

EARTHWORK LIMITS shown are approximate, actual slope shall conform to plan cross-sections.

DESIGN TRAFFIC

1982 ADT = 3580
2002 -- 5650
7% TRUCKS

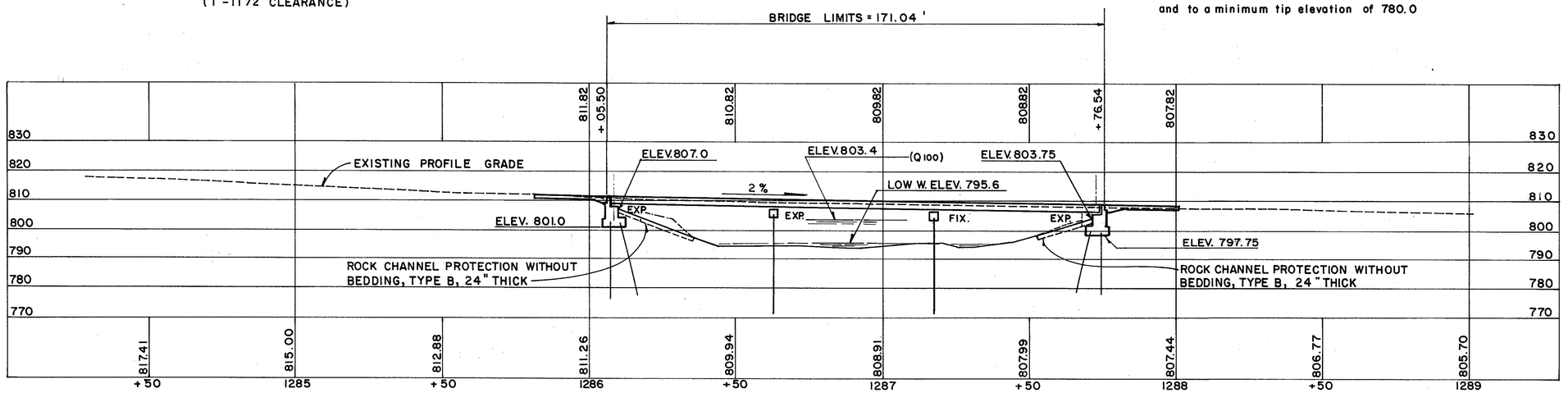
ESTIMATED DISCHARGES:

Q_{10} = 3,770 c.f.s. V_{10} = 6.9 f.p.s. ELEV. 800.7
Q_{25} = 4,950 c.f.s. V_{25} = 7.6 f.p.s. ELEV. 801.9
Q_{50} = 5,850 c.f.s. V_{50} = 7.9 f.p.s. ELEV. 802.7
Q_{100} = 6,800 c.f.s. V_{100} = 8.3 f.p.s. ELEV. 803.4
(1'-11½" CLEARANCE)

Abutment piles are steel H piles (HP 10x42) and the estimated average pay length is 25 feet at the rear abutment and 20 feet at the forward abutment.

Pier piles are steel H piles (HP 12 x 53) and the estimated average pay length is 35 feet.

All piles shall be driven to the required design load capacity and to a minimum tip elevation of 780.0



PROFILE

EXISTING STRUCTURE

TYPE: Steel beams with wood deck on wood substructures.
SPANS: 3 at 50'
ROADWAY: 24'
WEARING SURFACE: Asphalt concrete.
APPROACH SLABS: None.
ALIGNMENT: Tangent.
CONDITIONS: 50 % of legal load.

PROPOSED STRUCTURE

TYPE: Prestressed concrete box beams on reinforced concrete substructures.
SPANS: 53'-9", 53'-9" & 53'-9" ℄ bearings.
ROADWAY: 34'-0" f/f guardrail.
LOADING: HS 20-44 and the alternate military loading.
SKEW: 40° L.F.
SURFACE COURSE: 2½" asphalt concrete.
APPROACH SLAB: AS-1-81 (25' long).
ALIGNAMENT: Tangent.
SUPERELEVATION: None.
DRAINAGE AREA: 20.8 sq. miles.

1/8

ERIKSSON ENGINEERING LIMITED
1523 Chesapeake Avenue • Columbus, Ohio 43212 • 614/488-0731

SITE PLAN

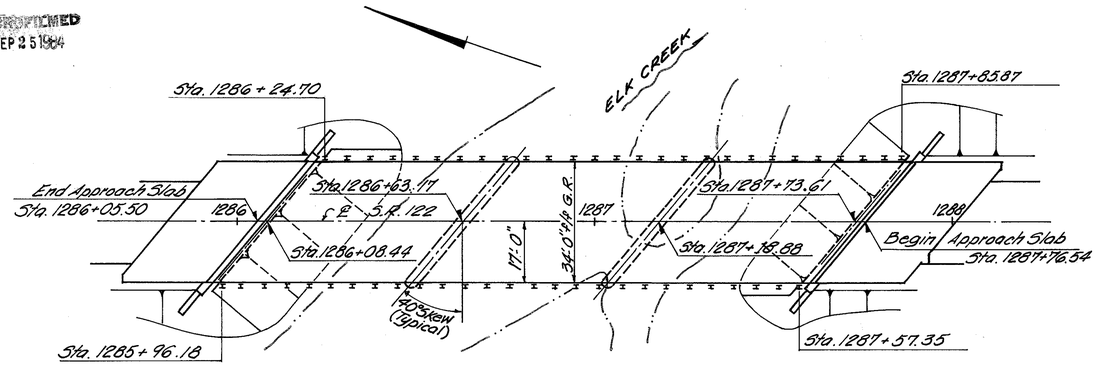
BRIDGE NO. PRE-122-2436
S.R. 122 OVER ELK CREEK
PREBLE COUNTY
STA. 1286+05.50 TO STA. 1287+76.54

Designed	Drawn	Checked	Reviewed	Date	Revised
V.K.	V.K.	C.E.E.		1.18.82	

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
5	OHIO	BRS-735(5)	

11/17

PREBLE COUNTY
PRE-122-24.36
PART II



GENERAL PLAN

GENERAL NOTES

REFERENCE shall be made to Standard Drawings
- SD-1-81 dated 11-27-81 Sheet No. 1
- PSBD-1-81 dated 9-18-81 Sheets No. 1, No. 2, No. 3 & No. 4
- DBR-2-73 dated 4-10-73
- TS-EXJ-1-81 dated 9-1-81 Sheets No. 1 & No. 3

DESIGN SPECIFICATIONS: This structure conforms to "Standard Specifications for Highway Bridges" adopted by the American Association of State Highway and Transportation Officials, 1977, including 1981 Interim Specifications and the Ohio "Supplement" to these specifications.

DESIGN DATA:
- Design Loading - H S20-44 and the alternate Military Loading
- Concrete Class S - Compressive Strength 4500 P.S.I.
- Cocrete Class C - Compressive strength 4000 P.S.I.
- Reinforcing Steel - ASTM A615, A616 or A617 grade 60, minimum yield strength 60,000 P.S.I.
- Prestressing Strand ASTM A416
  - F's = 270,000 P.S.I.
  - Initial Stress = 0.70 F's.

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

PILES: Piles shall be driven to a minimum bearing capacity of 30 tons per pile for the abutments and 55 tons per pile for the piers.

DRIP STRIP: Prior to applying deck membrane 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 1¼" x 5/32" x ¼" flat head drive pin and washer. (Length x shank dia. x head dia.) 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 wingwall or steel end dam angle. Where splices are required a 3" (min.) lap shall be used with a fastener through the lap. Steel for galvanized strips shall be 8" 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 for Item Special, Sq. Ft., steel drip strip, which shall include all materials, labor, tools and incidentals necessary to complete the item.

ESTIMATED QUANTITIES

ITEM	TOTAL	UNIT	DESCRIPTION	ABUT.	PIERS	SUPER.	GEN.	AS BUILT	
202	Lump	Sum	Structure removed				Lump		
403	28	Cu.Yd.	Asphalt concrete (AC-20)			28			
404	22	Cu.Yd.	Asphalt concrete (AC-20)			22			
503	228	Cu.Yd.	Unclassified excavation	228					
505	Lump	Sum	Test pile				Lump		
523	3	Hr.	Dynamic pile tests				3		
507	630	Lin.Ft.	Steel piles, HP 12x53		630				
507	630	Lin.Ft.	Steel piles, HP 10x42	630					
509	12,664	Lb.	Reinforcing steel, grade 60	9,141	3,385	138			
Special	2,167	Lb.	Epoxy coated reinforcing steel, grade 60 (see Proposal Note)	1,028		1,139			
511	74	Cu.Yd.	Class C concrete, footings	74					
511	86	Cu.Yd.	Class C concrete, abutments above footings	86					
511	41	Cu.Yd.	Class C concrete, pier caps		41				
511	13	Cu.Yd.	Class S concrete, superstructure			13			
512	622	Sq.Yd.	Type D waterproofing			622			
515	1,156.16	Lin.Ft.	Prestressed concrete bridge members (27-48)			1,156.16			
515	330.33	Lin.Ft.	Prestressed concrete bridge members (27-36)			330.33			
516	88.21	Lin.Ft.	Structural steel expansion joints				88.21		
516	34	Sq.Ft.	1¼" Preformed expansion joint filler				34		
516	34	Sq.Ft.	¾" Preformed expansion joint filler				34		
516	36	Each	Laminated elastomeric bearings 1¼"x5"x12" (uniform thickness)		36				
516	18	Each	Laminated elastomeric bearings 2¼"x5"x12" (Variable thickness)	18					
516	18	Each	Laminated elastomeric bearings 1¼"x5"x12" (variable thickness)	18					
516	27	Sq.Ft.	⅛" Preformed bearing pads (as per plan) 711.21				27		
516	36	Each	¾"x5"x18" elastomeric bearing pads		36				
517	342.08	Lin.Ft.	Railing (deep beam rail with steel tubular backup and steel posts and bolts).			342.08			
518	55	Cu.Yd.	Porous backfill				55		
518	132	Lin.Ft.	6" perforated, helical corrugated steel pipe, 707.01				132		
518	30	Lin.Ft.	6" non-perforated helical corrugated steel pipe, including specials, 707.01				30		
601	200	Cu.Yd.	Rock channel protection, Type B without bedding				200		
Special	271	Sq.Ft.	Steel drip strips			271			
Special	121	Sq.Yd.	Silane treatment, application 175 (see Proposal Note)			121			

Computed by: V.K. Date: 1.4.1982
Checked by: C.E. Date: 1.12.82

2/8

ERIKSSON ENGINEERING LIMITED
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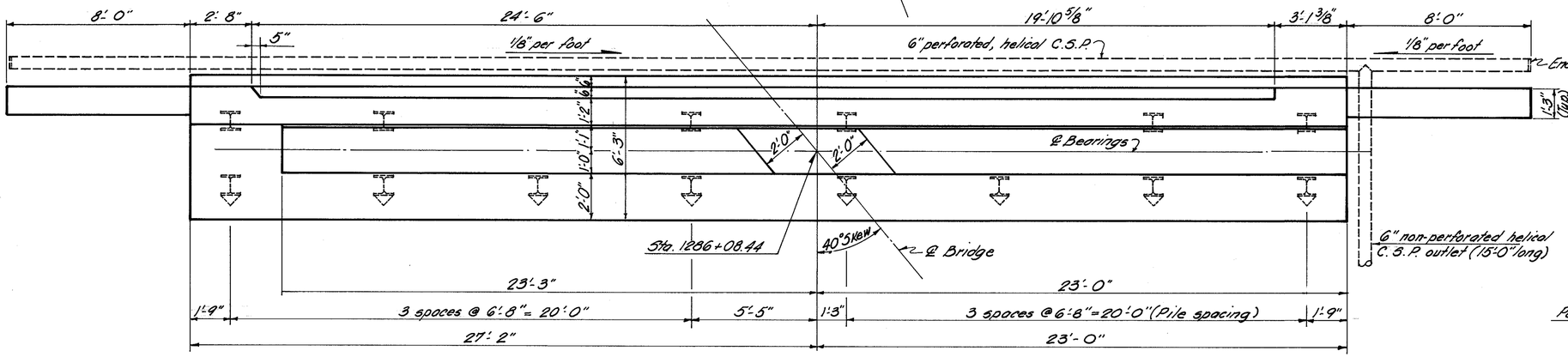
GENERAL PLAN GENERAL NOTES
ESTIMATED QUANTITIES
BRIDGE NO. PRE-122-2436
S.R. 122 OVER ELK CREEK
PREBLE COUNTY
STA. 1286+05.50 TO STA. 1287+76.54

Designed	Drawn	Checked	Reviewed	Date	Revised
V. K.	V. K.	C.E.	C.E.	1.12.82	

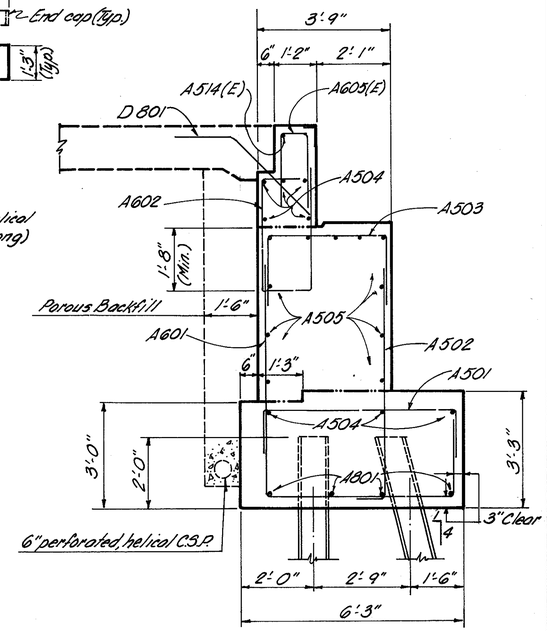
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
5	OHIO	BRS-735(5)	

12/17

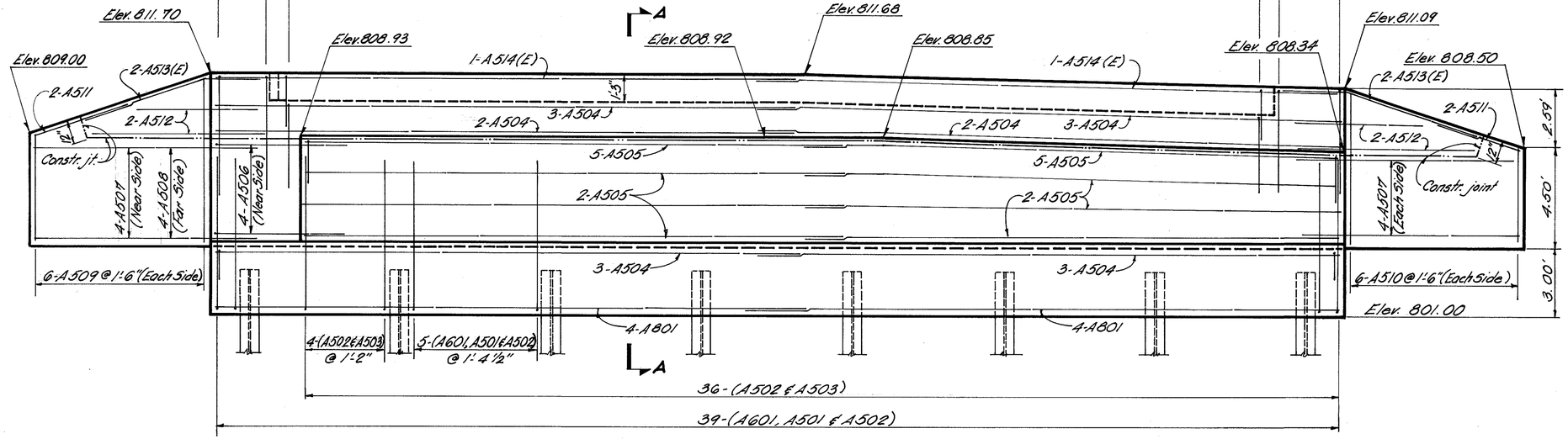
PREBLE COUNTY
PRE-122-24.36
PART II



PLAN



SECTION A-A



ELEVATION

Porous Backfill shall extend upward to the subgrade and laterally to the surface of the embankment slopes.

Portions of backwall above beam seats shall be placed after placement of box beams.

Bridge Seat Reinforcing: Reinforcing steel in the vicinity of the bridge seat shall be accurately placed to avoid interference with the drilling of anchor bar holes.

Bridge Seat Elevations have been adjusted upward 0.1069" to compensate for the vertical deformation of the bearings.

Lap No. 5 bars 1'-8" & No. 8 bars 2'-8".

(E) in bar mark indicates reinforcing bars to be epoxy coated.

3/8

ERIKSSON ENGINEERING LIMITED
1523 Chesapeake Avenue • Columbus, Ohio 43212 • 614/488-0731

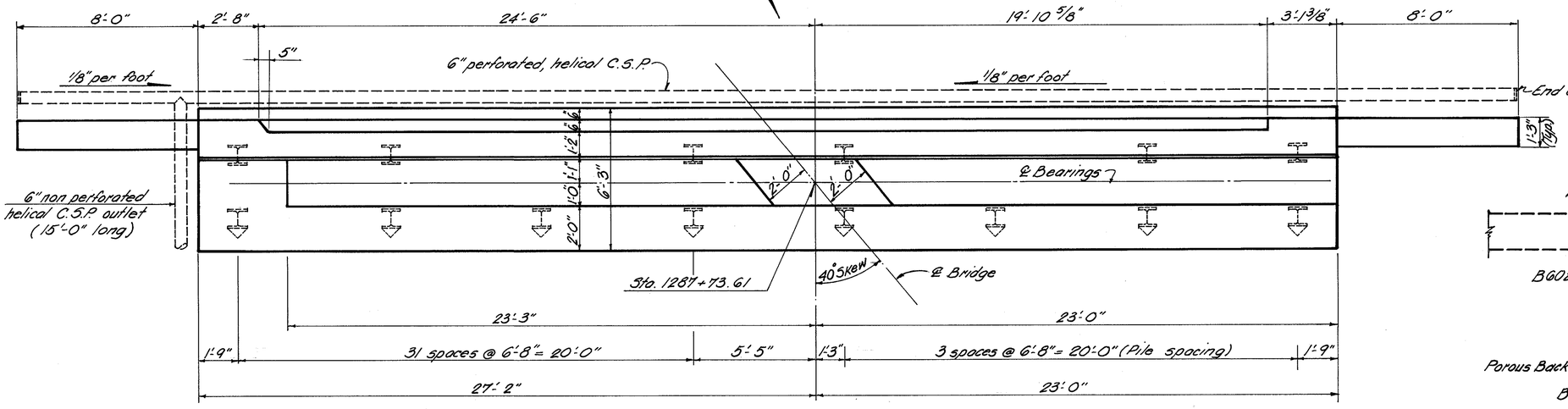
ABUTMENT NO. 1
BRIDGE NO. PRE-122-2436
S.R. 122 OVER ELK CREEK
PREBLE COUNTY
STA. 1286+05.50 TO STA. 1287+76.54

Designed	Drawn	Checked	Reviewed	Date	Revised
V. K.	V. K.	C.E.		1.19.82	

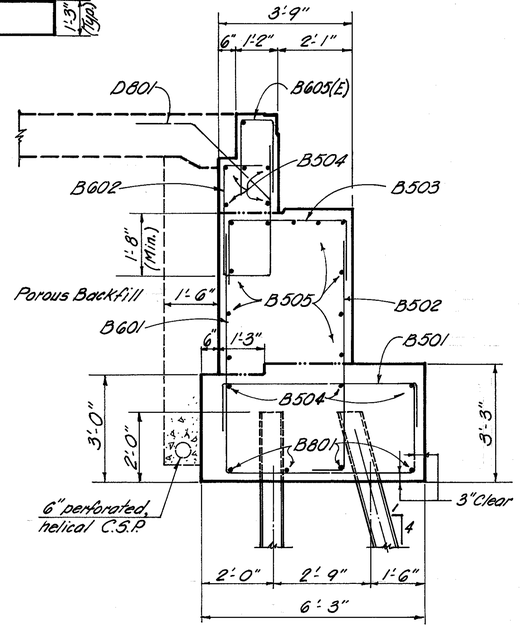
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
5	OHIO	BRS-735(5)	

13/17

PREBLE COUNTY
PRE-122-24.36
PART II



PLAN

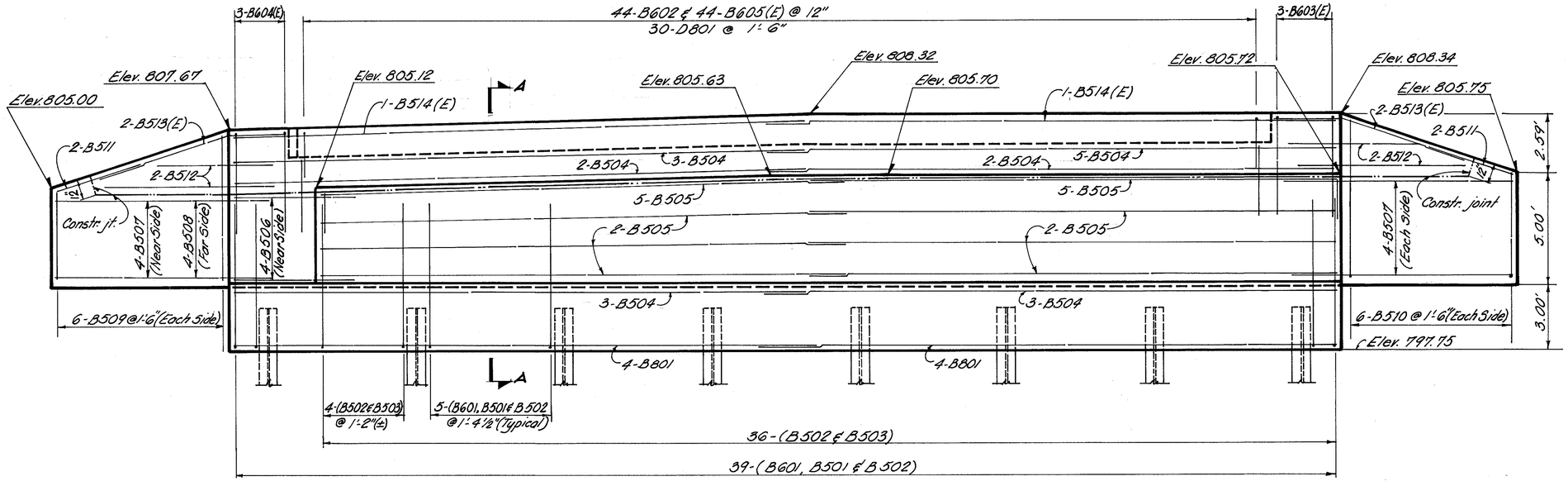


SECTION A-A

(E) in bar mark indicates reinforcing bars to be epoxy coated.

For notes see sheet 3/8

BRIDGE SEAT ELEVATIONS have been adjusted upward 0.0625" to compensate for the vertical deformation of the bearings.



ELEVATION

4/8

ERIKSSON ENGINEERING LIMITED
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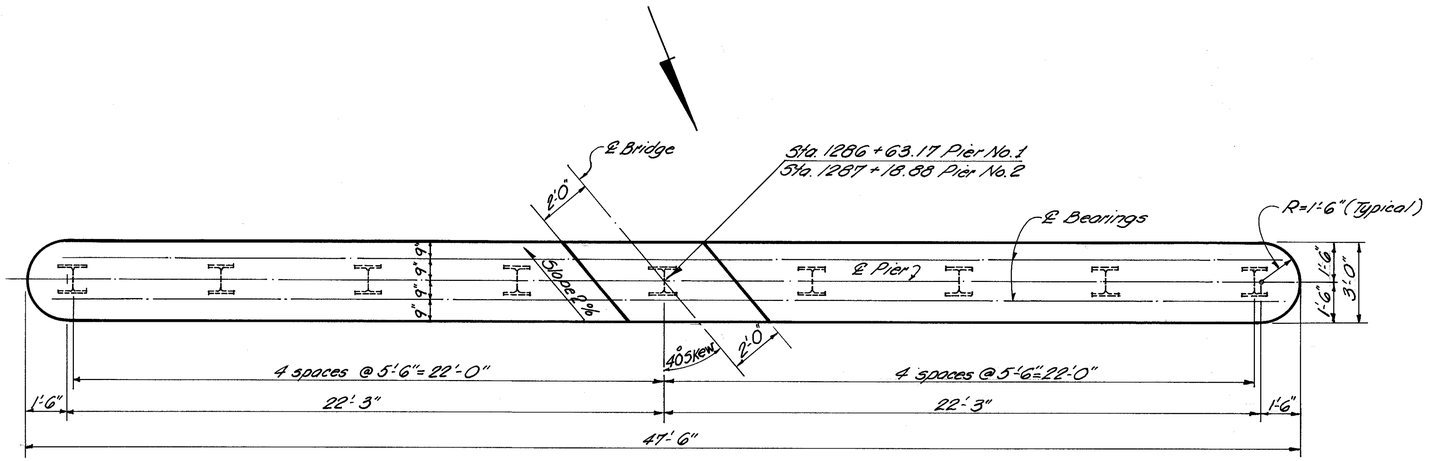
ABUTMENT NO. 2
BRIDGE NO. PRE-122-2436
S.R. 122 OVER ELK CREEK
PREBLE COUNTY
STA. 1286+05.50 TO STA. 1287+76.54

Designed	Drawn	Checked	Reviewed	Date	Revised
V. K.	V. K.	C.E.	[illegible]	1.18.82	

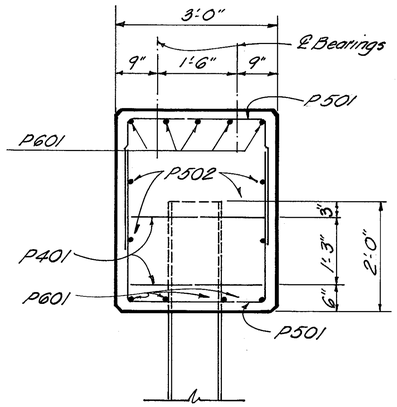
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
5	OHIO	BRS-735 (5)	

14/17

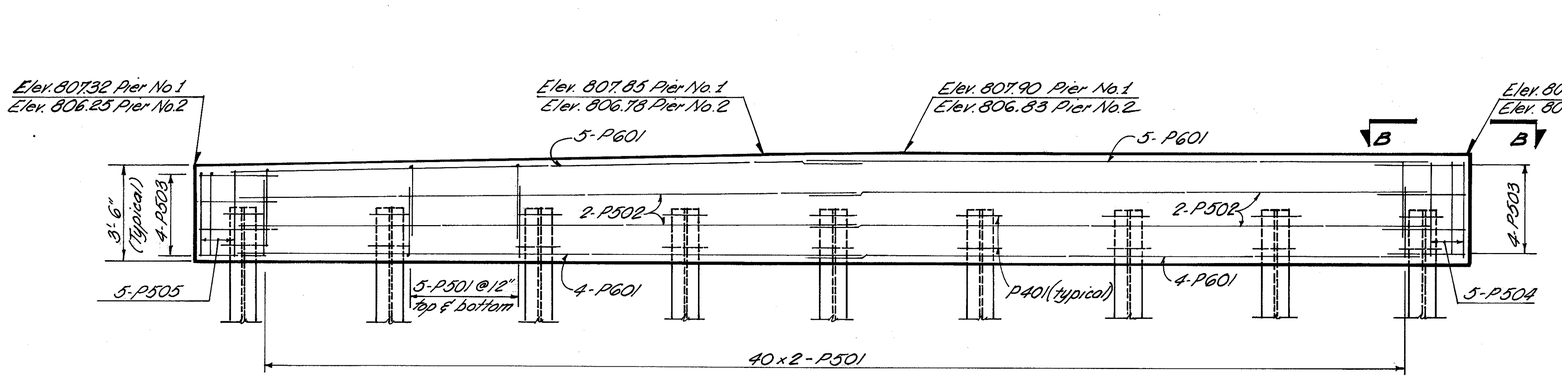
PREBLE COUNTY
PRE-122-24.36
PART II



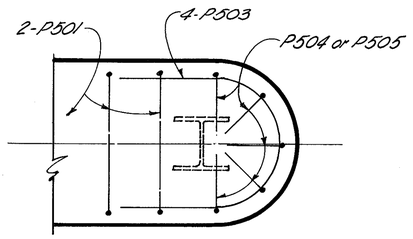
PLAN



SECTION A-A



ELEVATION



VIEW B-B

NOTES:

BRIDGE SEAT REINFORCING: Reinforcing steel in the vicinity of the bridge seat shall be accurately placed to avoid interference with the drilling of anchor bar holes.

BRIDGE SEAT ELEVATIONS: Elevations are shown along center line of pier and top of pier caps must be sloped 2% parallel to profile grade.

BRIDGE SEAT ELEVATIONS: have been adjusted upward 0.0625" at Pier No. 1 and 0.0375" at Pier No. 2 to compensate for the vertical deformation of the bearings.

Lap No. 5 bars 1'-8" and No. 6 bars 2'-0".

5/8

ERIKSSON ENGINEERING LIMITED
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PIERS

BRIDGE NO. PRE-122-2436
S.R. 122 OVER ELK CREEK

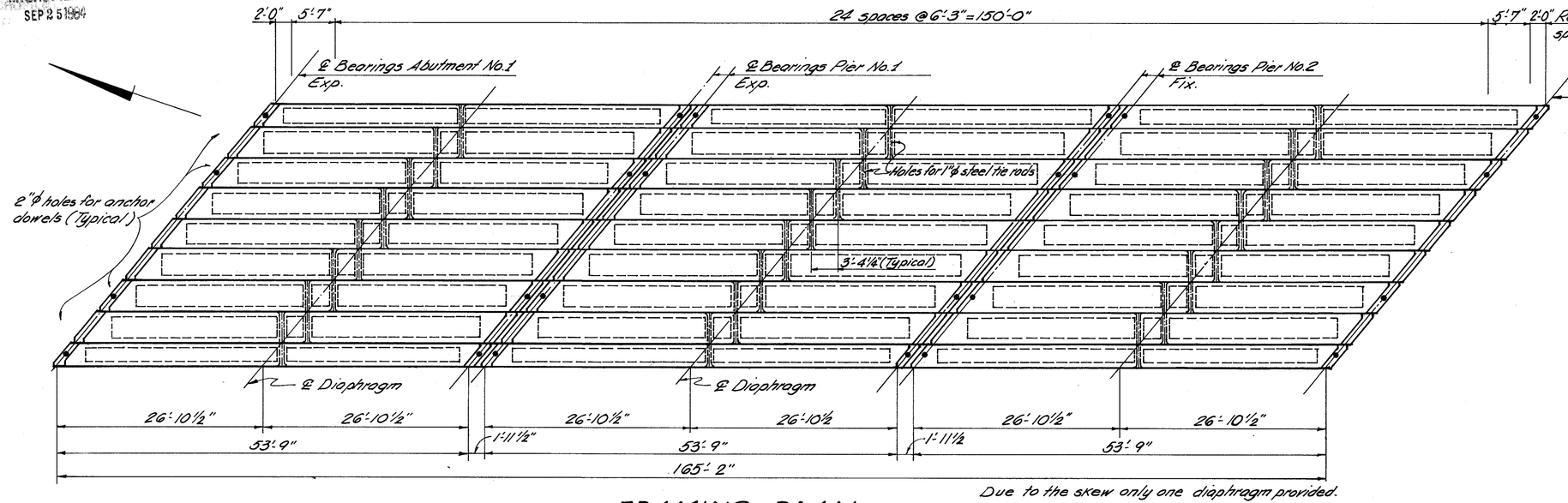
PREBLE COUNTY — STA. 1286+05.50 TO STA. 1287+76.54

Designed	Drawn	Checked	Reviewed	Date	Revised
V.K.	V.K.	C.E.	[illegible]	1.18.82	

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
5	OHIO	BRS-735 (5)	

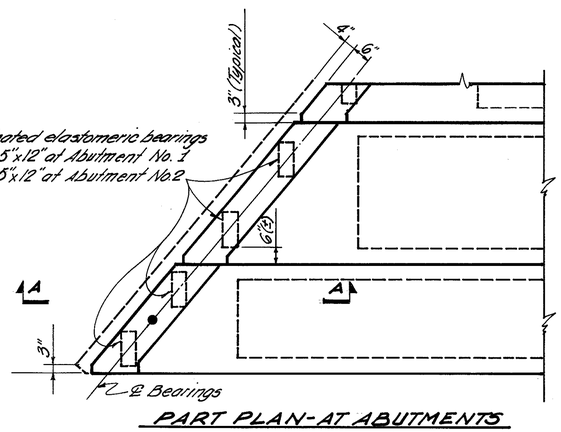
15/17

PREBLE COUNTY
PRE-122-24.36
PART II

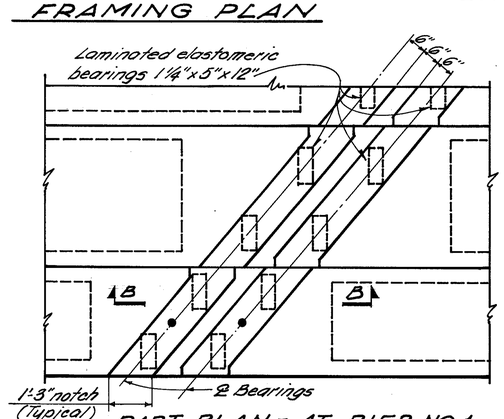


Due to the skew only one diaphragm provided.

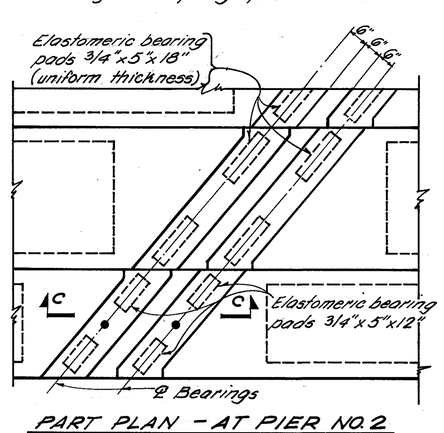
FRAMING PLAN



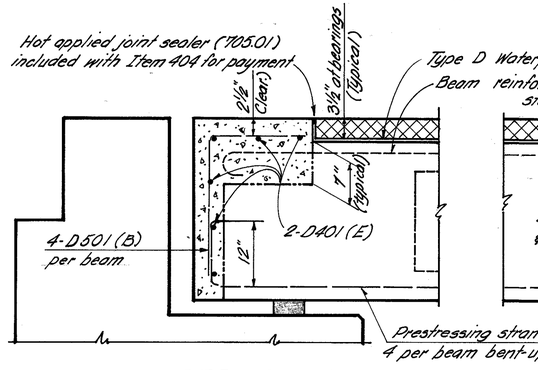
PART PLAN-AT ABUTMENTS



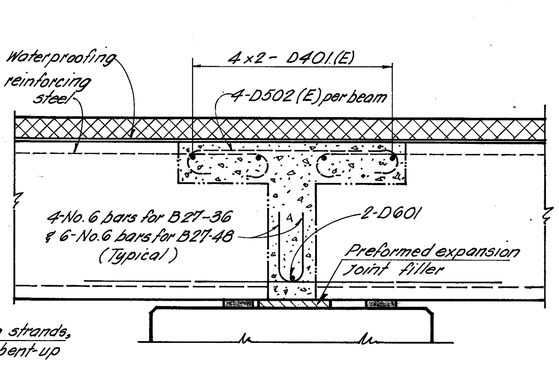
PART PLAN - AT PIER NO.1



PART PLAN - AT PIER NO.2



SECTION A-A



SECTION B-B
(Section C-C similar)

NOTES:

Opening between the beam ends shall be carefully sealed at the bottom of the beams to prevent any seepage before concrete is placed.

(E) in bar mark indicates reinforcing bars to be epoxy coated.

NOTE:

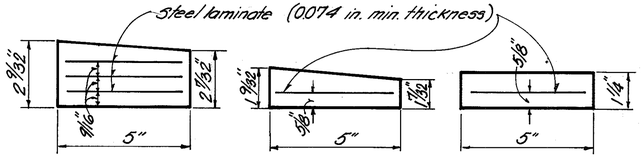
Calculated camber at time of paving, including allowance for camber growth due to creep, is 1"

Calculated deflection due to weight of surface course and railing, is 0".

Net final camber of beams is 1". This is 1" in excess of the amount required to place the top of the beam parallel to profile grade. This excess amount shall be compensated for by thickening the 403 leveling course from 1¼" at center of spans to 2¼" at ends of spans.

ASPHALT CONCRETE SURFACE COURSE shall consist of a variable thickness of 403 and a 1¼" thickness of 404. The 403 shall be placed in two operations. The first course shall be of 1¼" uniform thickness. The second course shall be feathered to place the surface parallel to and 1¼" below final pavement surface elevation.

For more details and notes reference is made to Standard Drawing PS BD-1-81 sheets No.1, No.2 & No.4.



LAMINATED ELASTOMERIC BEARINGS

Laminated elastomeric bearings and elastomeric bearing pads shall be manufactured of 50 durometer neoprene.

PREFORMED BEARING PAD SHIMS for the abutments and Pier No.1 shall be 1/8"x5"x12" (36 required) and for Pier No.2 shall be 1/8"x5"x18" (18 required). The shims shall be used where non-parallelism of the bottom of the beam with respect to the bridge seat exists to provide proper seating. Shims not used shall become the property of the State.

6/8

ERIKSSON ENGINEERING LIMITED
1523 Chesapeake Avenue • Columbus, Ohio 43212 • 614/488-0731

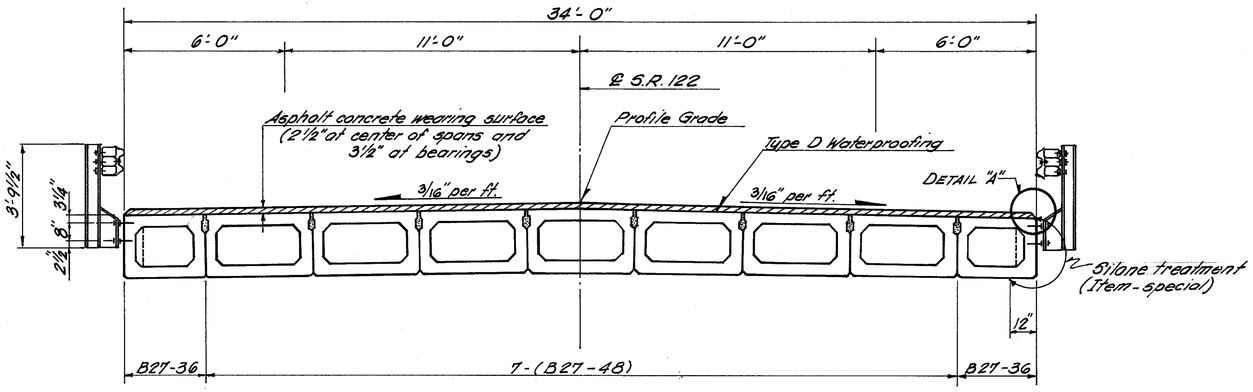
SUPERSTRUCTURE DETAILS
BRIDGE NO. PRE-122-2436
SR. 122 OVER ELK CREEK
PREBLE COUNTY
STA. 1286+05.50 TO STA. 1287+76.54

Designed	Drawn	Checked	Reviewed	Date	Revised
V.K.	V.K.	C.E.		1.18.82	

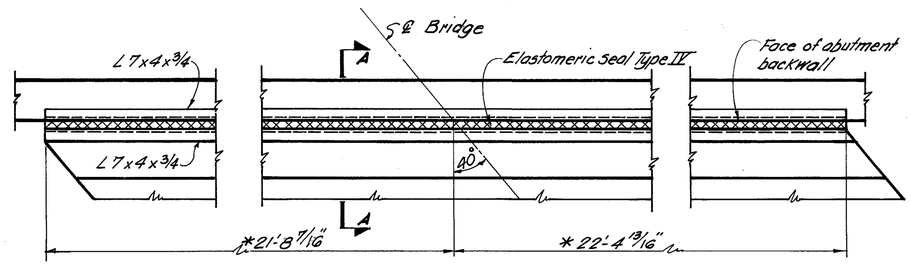
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
5	OHIO	BRS-735 (5)	

16/17

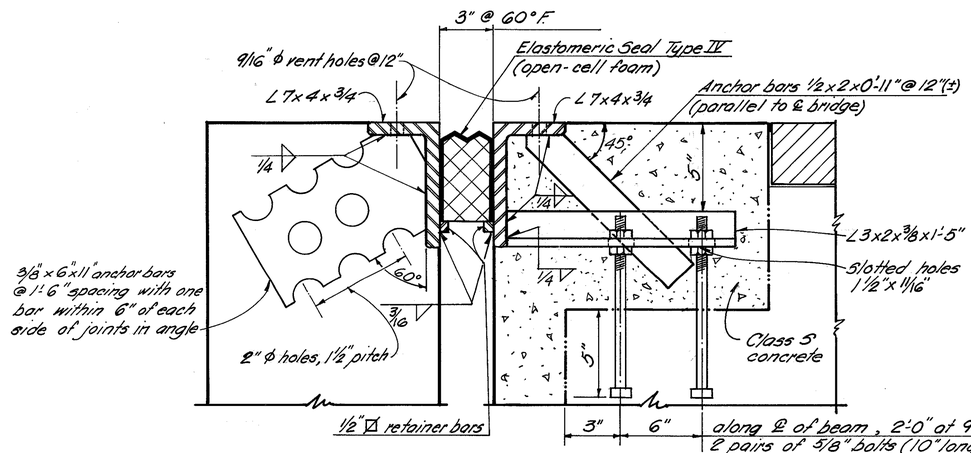
PREBLE COUNTY
PRE-122-24.36
PART II



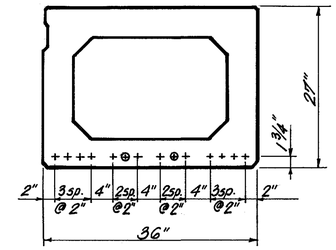
TRANSVERSE SECTION



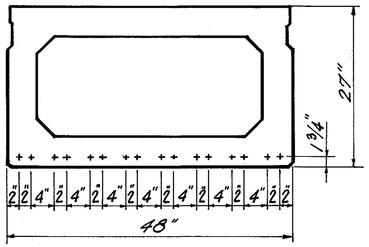
PART PLAN OF END DAM



SECTION A-A



B27-36



B27-48

NOTES:

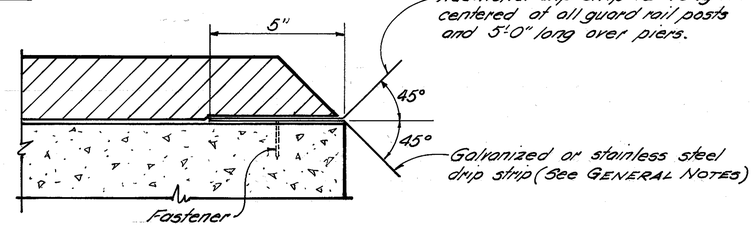
CONCRETE STRESSES: Minimum concrete strength at 28 days f'_c = 5500 p.s.i. Minimum concrete strength at time of initial prestress f'_{ci} = 4000 p.s.i.

PRESTRESSING STRANDS: ½" dia. 270 K seven-wire, uncoated, stress-relieved strand. As = 0.154 sq. in.
Initial tension = 28,900 Lbs. per strand.
14 strands required for B27-36 and 16 strands for B27-48
⊕ 1'-6" at each end of strand shall be debonded.

Reinforcing steel in beam sections not shown, however the fabricator must submit shop drawings showing complete details of the reinforcing for approval. For more details and notes reference is made to Standard Drawing P.S.B.D.-1-81 sheet No. 3.

At top of each end of beams B27-36 shall be provided 4 No. 5 (8'-6" long) and for beams, B27-48, 5 No. 5 (6'-6" long) additional bars to the reinforcement already shown on the mentioned Standard Drawing.

For railing post anchorage details and notes reference is made to Standard Drawing QBR-2-73.



DETAIL "A"

NOTES:

* These dimensions may vary due to prestressed beam width tolerance and must be checked in field after beams have been erected.

ELASTOMERIC SEAL TYPE IV: reference is made to Standard Drawing TS-EXJ-1-81 "Special Provisions"

MATERIALS: A588 exposed steel; A36 encased steel; System B paint on exposed steel surfaces (field paint shall consist of two prime coats and one finish coat)

PAYMENT per linear feet for Item 516, structural steel expansion joints, includes all labor, materials, equipment and incidentals necessary to complete the expansion joints as shown.

DECK PROTECTION

A. Asphalt concrete wearing surface with type D waterproofing and steel drip strips.

B. Top reinforcing bars in all beams and all bars in outside beams shall be epoxy coated. Outside beams shall be coated with liquid sealant, as shown in transverse section. Type of sealant must be approved.

7/8

ERIKSSON ENGINEERING LIMITED
1523 Chesapeake Avenue • Columbus, Ohio 43212 • 614/488-0731

SUPERSTRUCTURE DETAILS
BRIDGE NO. PRE-122-2436
S.R. 122 OVER ELK CREEK
PREBLE COUNTY STA. 1286+05.50 TO STA. 1287+76.54

Designed	Drawn	Checked	Reviewed	Date	Revised
V. K.	V.K.	C.E.	[illegible]	1.18.82	

REINFORCING STEEL LIST

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
5	OHIO	BRS-735 (5)	

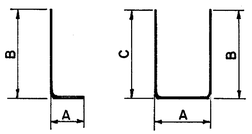
17/17

PREBLE COUNTY
PRE-122-24.36
PART II

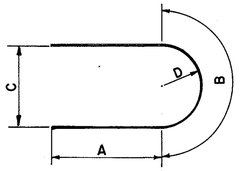
Refer to C.M.S. Sections 106.03.700, 709.01 through 709.05 and 709.08. Sufficient additional reinforcing steel shall be provided for sampling. Random samples shall be replaced in the structures by the additional steel, spliced in accordance with 509.06.

In bar mark with the letter (E) indicated reinforcing steel shall be epoxy coated.

BENDING DIAGRAMS



TYPE 1 TYPE 2



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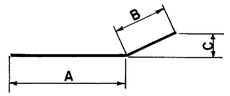

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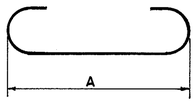
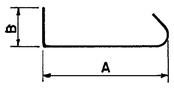


TYPE 5



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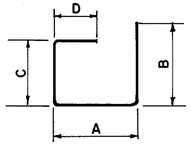

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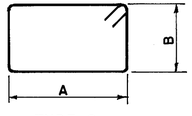


TYPE 8

Dimensions shown are out to out.

MARK	NO.	LENGTH	WEIGHT	TYPE	A	B	C	D	REMARKS
		ABUTMENT NO. 1							
A801	8	26-3	561	3					
D801	30	4-8	374	4	3-2	1-6	1-1		
A601	39	14-0	820	2	5-4	2-6	6-6		
A602	44	8-7	567	7	1-4	3-6	3-1	1-2	
A501	39	7-5	302	2	5-4	1-2	1-2		
A502	39	7-0	285	1	0-7½	6-6			
A503	36	7-2	269	2	3-5	2-0	2-0		
A504	16	25-9	430	3					
A505	22	23-10	547	3					
A506	4	7-0	29	1	1-3	5-10½			
A507	12	10-0	125	3					
A508	4	14-0	58	3					
A509	12	4-8 to 7-2	74	3					2 sets of 6, vary by 6"
A510	12	4-1 to 6-7	67	3					2 sets of 6, vary by 6"
A511	4	4-0	17	3					
A512	8	7-3 to 5-3	52	3					2 sets of 4, vary by 2'-0"
			4,577 Lbs.						
A513(E)	4	8-6	35	4	6-0	2-6	0-9		
A514(E)	2	25-9	54	3					
A603(E)	3	11-0	50	2	1-4	5-0	5-0		
A604(E)	3	10-0	45	2	1-4	4-6	4-6		
A605(E)	44	5-0	330	2	0-10	2-3	2-3		
			514 Lbs. epoxy coated						
		ABUTMENT NO. 2							
B801	8	26-3	561	3					
D801	30	4-8	374	4	3-2	1-6	1-1		
B601	39	14-0	820	2	5-4	2-6	6-6		
B602	44	8-5	556	7	1-4	3-6	2-11	1-2	
B501	39	7-5	302	2	5-4	1-2	1-2		
B502	39	7-0	285	1	0-7½	6-6			
B503	36	7-2	269	2	3-5	2-0	2-0		
B504	16	25-9	430	3					
B505	22	23-10	547	3					
B506	4	7-0	29	1	1-3	5-10½			
B507	12	10-0	125	3					
B508	4	14-0	58	3					
B509	12	3-11 to 6-5	65	3					2 sets of 6, vary by 6"
B510	12	4-8 to 7-2	74	3					2 sets of 6, vary by 6"
B511	4	4-0	17	3					
B512	8	7-3 to 5-3	52	3					
			4,564 Lbs.						
B513(E)	4	8-6	35	4	6-0	2-6	0-9		
B514(E)	2	25-9	54	3					
B603(E)	3	11-0	50	2	1-4	5-0	5-0		
B604(E)	3	10-0	45	2	1-4	4-6	4-6		
B605(E)	44	5-0	330	2	0-10	2-3	2-3		
			514 Lbs. epoxy coated.						

MARK	NO.	LENGTH	WEIGHT	TYPE	A	B	C	D	REMARKS
			PIERS						
P401	36	9-1	218	8	2-6¾	1-9			
P501	160	7-9	1,293	2	2-8	2-8	2-8		
P502	16	23-1	385	5					
P503	16	8-0	134	3	2-0	4-0	2-0	1-5⅜	
P504	10	5-0	52	1	1-4½	3-9			
P505	10	4-5	46	1	1-4½	3-2			
P601	36	23-3	1,257	8					
			3,385 Lbs.						
			SUPERSTRUCTURE						
D401(E)	40	22-6	601	5					
D501(E)	72	3-2	238	1	1-3½	2-0			
D502(E)	72	4-0	300	5	2-10				
			1,139 Lbs. epoxy coated						
D601	4	23-0	138	5					
			138 Lbs.						

8/8

ERIKSSON ENGINEERING LIMITED
1523 Chesapeake Avenue • Columbus, Ohio 43212 • 614/488-0731

REINFORCING STEEL LIST
BRIDGE NO. PRE-122-2436
S.R. 122 OVER ELK CREEK
PREBLE COUNTY
STA. 1286+05.50 TO STA. 1287+76.54

Designed	Drawn	Checked	Reviewed	Date	Revised
V.K.	V.K.	C.E.	[illegible]	1.18.82	

GEOLOGY OF THE SITE

THE STRUCTURE IS LOCATED IN THE ROLLING GLACIATED PORTION OF THE LEXINGTON PENEPLAIN REGION, ON THE NARROW FLOODPLAIN OF AND OVER ELK CREEK, IN AN AREA WHERE DEEP GLACIAL AND ALLUVIAL DEPOSITS OVERLIE SHALE BEDROCK, OF ORDOVICIAN AGE.

EXPLORATION

THE EXPLORATION CONSISTED OF ONE DRIVE SAMPLE BORING AND ONE DRIVE SAMPLE-CORE BORING MADE BY MEANS OF A MECHANICALLY-POWERED HOLLOW STEM AUGER MOUNTED ON A MOBILE PLATFORM, PERFORMED BETWEEN NOVEMBER 3 AND 5, 1981.

INVESTIGATIONAL FINDINGS AND OBSERVATIONS

THE BORINGS DISCLOSED THAT INTERVALS OF LOOSE TO EXTREMELY DENSE UNSTRATIFIED BASIC SILTS, CLAYS, SAND AND GRAVEL, EACH MODIFIED BY VARIOUS PERCENTAGES OF THE OTHER AND GRADUALLY INCREASING IN DENSITY WITH INCREASE IN DEPTH OVERLIE SLOPING BEDROCK SURFACE. BORING B-2 (IN THE VICINITY OF THE REAR ABUTMENT) ENCOUNTERED BEDROCK SURFACE AT 38.0-FOOT DEPTH, ELEVATION 771.2 FEET AND WAS TERMINATED AT 49.0-FOOT DEPTH, ELEVATION 760.2 FEET AFTER PENETRATING 11.0 FEET BELOW BEDROCK SURFACE. BORING B-7 (IN THE VICINITY OF THE FORWARD ABUTMENT) PENETRATED TO A DEPTH OF 40.6 FEET, ELEVATION 767.4 FEET, AND WAS TERMINATED AFTER PENETRATING IN EXCESS OF 25 FEET OF MATERIAL REQUIRING IN EXCESS OF 30 BLOWS PER FOOT IN THE STANDARD PENETRATION TEST.

FREE WATER WAS OBSERVED AND MEASURED IN BORING B-7 AT 16.5-FOOT DEPTH, ELEVATION 791.5 FEET AND IN BORING B-2 AT 16.0-FOOT DEPTH, ELEVATION 793.2 FEET. IN ADDITION BORING B-2 DISCLOSED A WET ZONE FROM 16.0 TO 26.0-FOOT DEPTH, ELEVATION 793.2 TO 783.2 FEET.

LEGEND

- Auger Boring Location - Plan View.
- Press and / or Drive Sample and / or Core Boring Location - Plan View.
- Drive Rod Penetration Resistance Sounding Location - Plan View.
- Capped Pile
- Footing
- Footing on Pile
- TR — Top of Rock
- Horizontal Bar on Boring Log Indicates the Depth the Sample Was Taken.
- X/Y/Z — Figures Beside the Boring Log in Profile Indicate the Number of Blows for Standard Penetration Test.
  - X = Number of Blows for First 6 inches.
  - Y = Number of Blows for Second 6 inches.
  - Z = Number of Blows for Third 6 inches.
- Drive Rod Penetration Resistance Sounding Log - Profile
- Casing
- Resistance "R" < 10,000 lbs.
- Resistance "R" > 10,000 lbs.
- Z — Indicates Final Measurement of Penetration, in Inches.
- W — Indicates Free Water Elevation.
- Indicates Static Water Elevation.

SYMBOLS OF ROCK TYPES

- Coal
- Weathered Mudstone or Claystone
- Mudstone or Claystone
- Weathered Shale
- Shale
- Weathered Siltstone
- Siltstone
- Weathered Sandstone
- Sandstone
- Leached Dolomite
- Dolomite
- Leached Limestone
- Limestone
- Boulders or Cobbles

GENERAL INFORMATION

Drive Rod Penetration Sounding Tests

Drive rod penetration resistance tests constitute driving a 1.315-inch diameter steel rod, with a 45° cone point, into the ground, using a 122-pound drop-hammer with a free fall of five feet. At one or two-foot depth intervals, a measurement is taken to determine the amount of penetration achieved in three hammer drops. This reading is converted to an empirical value for capacity "R", in thousands of pounds (which is a measure of both the point resistance and frictional resistance on the rod), by using charts prepared by the Ohio Department of Highways, Bureau of Bridges, on the basis of correlation study of rod penetration with past performance of pile driving. For interpretation, a graph is prepared by plotting the value "R" against the depth at which the reading was taken, and connecting the plotted points. The curve so obtained reflects the density of subsurface materials in a manner that can be readily compared with data from similar tests at other locations on the structure site. From this comparison, the overall uniformity of subsurface condition may be evaluated.

Drive Sample Borings - Drive-Press Sample Borings

Drive sample borings are made by means of a rotary-type drill rig, employing a 2" O.D., 1-3/8" I.D. sampler, at 2-1/2 and / or 5-foot depth intervals, driven by means of a 140 - pound drop-hammer with a free fall of 30 inches. The number of blows required to drive the sampler 18 inches is considered the standard penetration test.

Drive-press sample borings are made by means of a rotary-type drill rig, employing a 2" O.D., 1-3/8" I.D. drive sampler, and 3" O.D. thin-wall press sampler. The press sampler is advanced by continuous uniform pressure, applied by the drill rig.

The boring log sheets show a graphic plot of the information obtained, including depth and elevation of the sample, number of blows for the standard penetration tests in three 6-inch increments, depth of press samples, field sample number, sample description - based on laboratory tests and the Casagrande AC classification system - and gradation, plasticity, and moisture content determinations. Results of strength and consolidation testing, if performed, appear on separate enclosures.

At depths where materials are bouldery or gravelly to the extent that the sampler can not be driven, a wash sample is procured for visual classification, in order to determine the general character of the material. These samples are not considered sufficiently representative to warrant laboratory testing.

Particle Size Definitions

Boulders	Cobbles	Gravel	Coarse Sand	Fine Sand	Silt	Clay
12"	3"	2.0mm (No. 10 sieve)	0.42mm (No. 40 sieve)	0.074mm (No. 200 sieve)	0.005mm	

NOTE - ALL AVAILABLE SOIL AND BEDROCK INFORMATION WHICH CAN BE CONVENIENTLY SHOWN ON THE STRUCTURE FOUNDATION INVESTIGATION SHEETS HAS BEEN SO REPORTED. ADDITIONAL SUBSURFACE INVESTIGATIONS MAY HAVE BEEN MADE TO STUDY SOME SPECIAL ASPECT OF THE PROJECT. COPIES OF THIS DATA, IF ANY, MAY BE INSPECTED IN THE DISTRICT DEPUTY DIRECTOR'S OFFICE, THE BUREAU OF TESTS AT 1600 WEST BROAD STREET, THE PAVEMENT AND SOILS SECTION OF THE BUREAU OF LOCATION AND DESIGN OR IN THE BRIDGE BUREAU AT 25 SOUTH FRONT STREET.

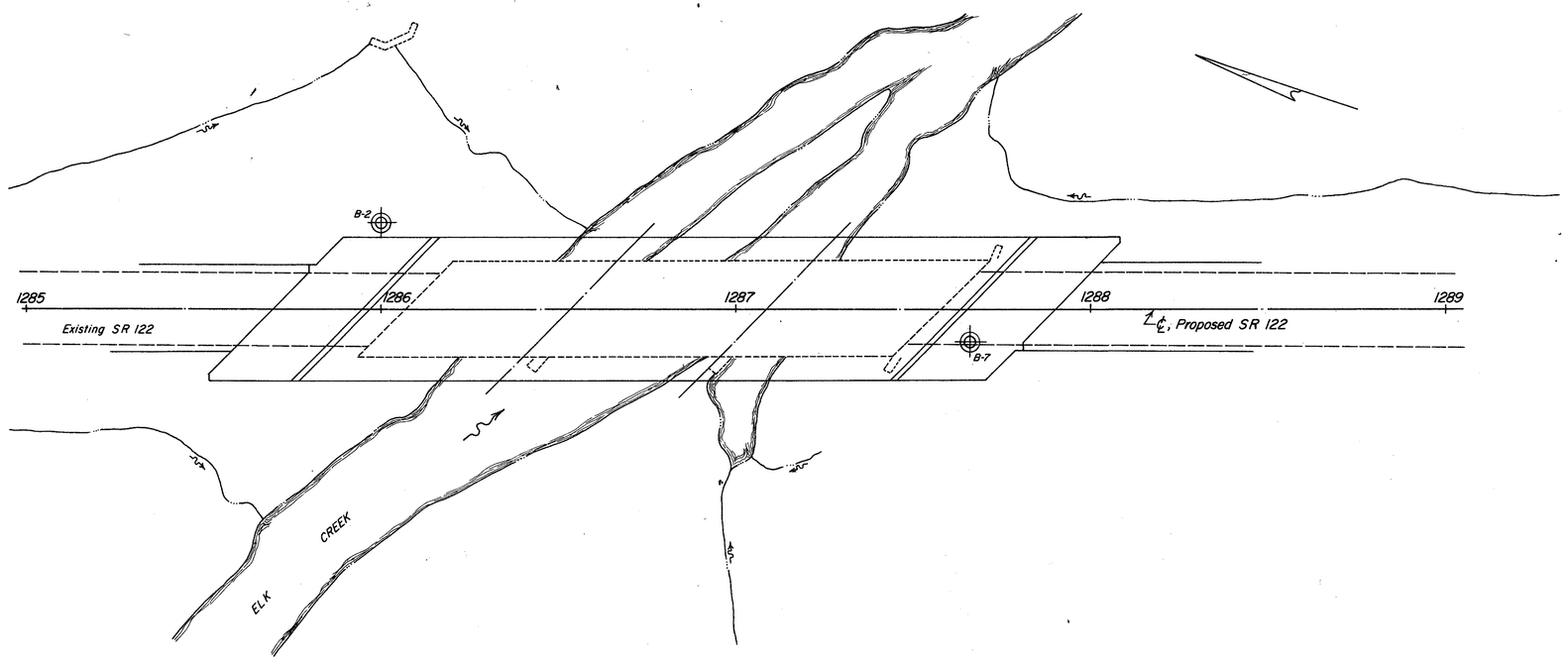
OHIO DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS — TESTING LABORATORY
1600 WEST BROAD STREET, COLUMBUS, OHIO 43223

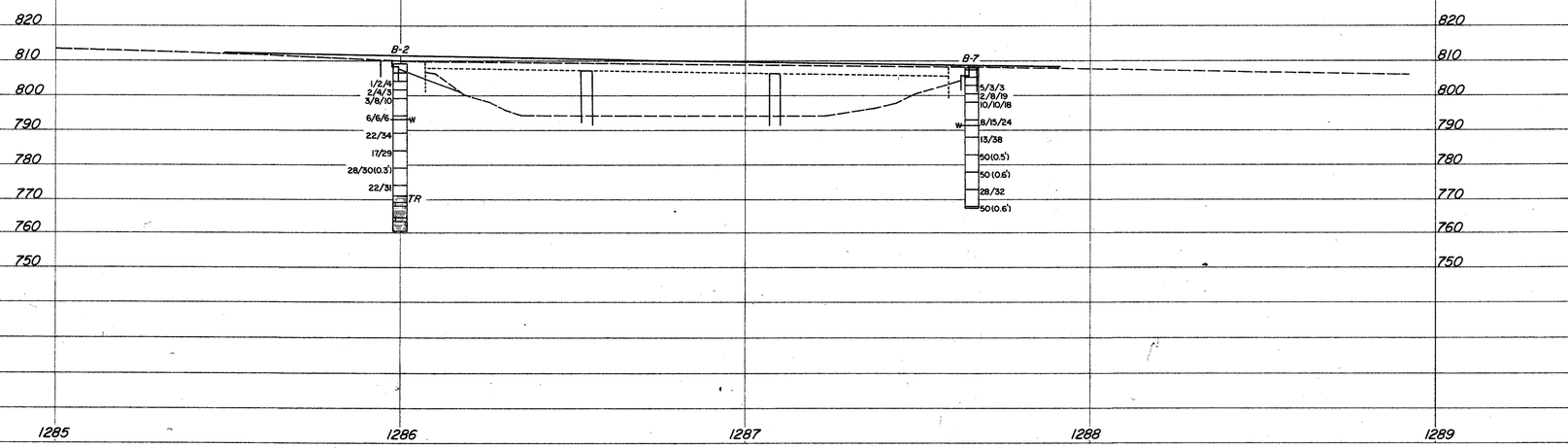
STRUCTURE FOUNDATION INVESTIGATION

BRIDGE NO. PRE-122-2436
OVER ELK CREEK
SEC. PRE-122-24.36

CHECKED BY	REVIEWED BY	DATE
L. N. L.	R. D. R.	12/14/81

PRE-122-24.36
PART II





SCALE: 1" = 20'

OHIO DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS-TESTING LABORATORY
1600 WEST BROAD STREET, COLUMBUS, OHIO 43223

STRUCTURE FOUNDATION INVESTIGATION

BRIDGE NO. PRE-122-2436
OVER ELK CREEK
SEC. PRE-122-24.36

PLAN AND PROFILE

DRAWN BY	CHECKED BY	REVIEWED BY	DATE
L. N. L.	L. N. L.	R. D. R.	12/14/81

LOG OF BORING

WET ZONE ELEV. 793.2' to 783.2'

Date Started 11/4/81 Sampler Type SS Dia 1 3/8" Water Elev 793.2'
Date Completed 11/5/81 Casing: Length ____ Dia ____
Boring No. B-2 Station & Offset 1286+00 - 24' LT. (REAR ABUTMENT) Surface Elev 809.2'

Elev.	Depth	Std. Pen. (N)	Rec. ft.	Loss ft.	Description	Sample No.	Physical Characteristics: % Agg.	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	SHTL Class.
809.2	0														
806.7	2	AUGERED			BROWN SANDY GRAVELLY SILT	11	27	12	15	27	19	NP	NP	21	A-4a
804.2	4														
801.7	6	1/2/4			BROWN GRAVELLY SANDY SILT	12	16	14	22	23	25	27	9	23	A-4a
799.2	8	2/4/3			BROWN SANDY SILT	13	10	18	25	23	24	NP	NP	20	A-4a
	10	3/8/10			BROWN SILTY SANDY GRAVEL	14	49	19	8	13	11	NP	NP	10	A-1-b
794.2	12														
	14	6/6/6			BROWN SILTY SANDY GRAVEL	15	48	24	10	9	9	NP	NP	12	A-1-b
789.2	16														
	18	22/34			BROWN SILTY GRAVELLY SAND	16	31	26	14	15	14	NP	NP	14	A-2-4
784.2	20														
	22	17/29			GRAY GRAVELLY SAND	17	34	17	41	2	6	NP	NP	12	A-1-b
779.2	24														
	26	28/30 (0.3')			GRAY SILTY SANDY GRAVEL	18	51	18	16	7	8	NP	NP	8	A-1-b
774.2	28														
	30	22/31			GRAY SANDY GRAVEL	19	78	16	3	1	2	NP	NP	8	A-1-a
771.2	32				TOP OF ROCK										
769.2	34				INTERBEDDED CLAY SHALE AND LIMESTONE										
	36		1.0	4.0	CLAY SHALE, GRAY, FIRM, FISSILE WITH SCATTERED THIN CLAY SEAMS AND INTERBEDDED GRAY, HARD, DENSE (0.1' TO 0.3' THICK) LIMESTONE INTERBEDS (COMPRESSING 23% OF THE INTERVAL) BADLY BROKEN AND JOINTED. CORE LOSS 45%.										
	38														
	40														
	42														
	44														
	46		3.9	0.1											
760.2	48														

BOTTOM OF BORING

LOG OF BORING

Date Started 11/3/81 Sampler Type SS Dia 1 3/8" Water Elev 791.5'
Date Completed 11/4/81 Casing: Length ____ Dia ____
Boring No. B-7 Station & Offset 1287+66 - 9' RT. (FORWARD ABUTMENT) Surface Elev 808.0'

Elev.	Depth	Std. Pen. (N)	Rec. ft.	Loss ft.	Description	Sample No.	Physical Characteristics: % Agg.	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	SHTL Class.
808.0	0														
807.4					BLACKTOP										VISUAL
805.5	2	AUGERED			BROWN GRAVELLY SANDY CLAY	1	18	13	14	24	31	32	15	21	A-6a
803.0	4														
	6	5/3/3			BROWN GRAVELLY SANDY GILT	2	15	14	22	25	24	NP	NP	20	A-4a
800.5	8														
	10	2/8/19			BROWN SILTY GRAVELLY SAND	3	16	17	36	18	13	NP	NP	11	A-3a
798.0	12	10/10/18			BROWN SILTY GRAVELLY SAND	4	40	28	17	8	7	NP	NP	5	A-1-b
793.0	14														
	16	8/15/24			BROWN-GRAY SILTY SANDY GRAVEL	5	51	14	14	13	8	NP	NP	12	A-1-b
788.0	18														
	20	13/38			BROWN SILTY SANDY GRAVEL	6	64	15	8	8	5	NP	NP	9	A-1-a
783.0	22														
	24	50(0.5')			BROWN SAND	7	0	46	49	0	5	NP	NP	20	A-3
778.0	26														
	28	50(0.6')			GRAY GRAVELLY SAND	8	43	26	21	5	5	NP	NP	8	A-1-b
773.0	30														
	32	28/32			GRAY SANDY GRAVEL	9	72	13	6	5	4	NP	NP	14	A-1-a
768.0	34														
767.4	36	50(0.6')			BROWN SANDY GRAVEL	10	56	30	8	0	6	NP	NP	10	A-1-a

BOTTOM OF BORING

OHIO DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS - TESTING LABORATORY
1600 WEST BROAD STREET COLUMBUS, OHIO 43223

STRUCTURE FOUNDATION INVESTIGATION

BRIDGE NO. PRE-122-2436
OVER ELK CREEK
SEC. PRE-122-24.36

BORING DATA

TYPED BY	CHECKED BY	REVIEWED BY	DATE
S. M. G.	L. N. L.	R. D. R.	12/14/81