



**County Engineer  
Environmental Engineer**  
233 W. Sixth Street  
Marysville, Ohio 43040  
P 937. 645. 3021  
F 937. 645. 3161

[www.unioncountyohio.gov/engineer](http://www.unioncountyohio.gov/engineer)

**Building Department**  
233 W. Sixth Street  
Marysville, Ohio 43040  
P 937. 645. 3018

**Marysville Operations Facility**  
16400 County Home Road  
Marysville, Ohio 43040  
P 937. 645. 3017  
F 937. 645. 3111

**Richwood Outpost**  
190 Beatty Avenue  
Richwood, Ohio 43344

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*Public Service with integrity*

## **ADDENDUM #1**

FROM: Union County Engineers Office  
Josh Holtschulte

DATE: April 17, 2025

RE: **UNI-CR129H-5.612 Claibourne Road Bridge Rehabilitation Project**

PAGES: 2

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This addendum supplements and amends the original Drawings and Specification issued and shall be taken into account in preparing proposals, and shall become a part of the Contract Documents.

1. *Reference plan sheet 5 of 24:* ITEM 605 – AGGREGATE DRAINS changed to units of FT.
2. *Reference plan sheet 4 of 24, 5 of 24 and 7 of 24 and Proposal:* Quantities adjusted to include area under approach slab for ITEM 204 – SUBGRADE COMPACTION and ITEM 204 – PROOF ROLLING and ITEM 304 – AGGREGATE BASE.
3. *Reference Proposal:* Items added for 204 – CLEARING AND GRUBBING, 614 – MAINTENANCE OF TRAFFIC, 623 – CONSTRUCTION AND LAYOUT STAKES AND SURVEYING and 624 – MOBILIZATION.
4. *Reference plan sheet 6 of 24 and Proposal:* Detour signing shall be the responsibility of the contractor and shall be paid under 614 – MAINTENANCE OF TRAFFIC.
5. *Reference Proposal:* Item 626 – BARRIER REFLECTOR, TYPE 2 quantity changed to 12 EA.
6. Sawing of the existing structure will be an acceptable method of removal for the existing abutment backwall and wingwalls.
7. *Reference plan sheet 15 of 24:* ITEM 613 – LOW STRENGTH MORTAR BACKFILL is not relevant to this project. The general note has been removed.
8. *Reference plan sheet 4 of 24 and 16 of 24 and Proposal:* ITEM 518 – POROUS BACKFILL WITH GEOTEXTILE FABRIC has been added.

9. *Reference plan sheet 4 of 24 and 16 of 24 and Proposal:* ITEM 517 – RAILING (TWIN STEEL TUBE) quantity corrected to 306.83 FT.
10. *Reference plan sheet 4 of 24, 16 of 24 and 18 of 24 and Proposal:* Note 2 about neoprene sheeting and Type 3 waterproofing has been replaced with Notes 2 and 3 about neoprene sheeting and Type 2 waterproofing. The quantity for ITEM 512 – TYPE 2 WATERPROOFING has been changed to 9 SY.
11. *Reference plan sheet 4 of 24 and 16 of 24 and Proposal:* ITEM 510 – DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT has been added with a quantity of 56 EA.
12. *Reference plan sheet 4 of 24 and 5 of 24 and Proposal:* Type and quantities for pavement markings have been changed to 0.18 MILE of ITEM 642 – EDGE LINE, 6”, TYPE 1 and 0.09 MILE of ITEM 642 – CENTER LINE, TYPE 1.
13. The revised proposal has been included as an attachment to this addendum.
14. The revised construction plans with these changes identified have been included as an attachment to this addendum.
15. The existing bridge plans have been included as an attachment to this addendum.

**Please note and sign the bottom portion of 6.6 of the bid packet proposal acknowledging that this Addendum was received.**

**TO: Board of Commissioners, Union County, Ohio**  
**PROJECT: 2025 UNI CR-129H Claibourne Road Bridge Rehabilitation**

**COMPANY NAME:** \_\_\_\_\_

The undersigned, having full knowledge of the site(s) to the Project, the specifications applicable to the Project, and the conditions of this Proposal hereby agrees to furnish all services, labor, materials, and equipment necessary to complete the Project in accordance with the Detailed Specifications, within the time specified for completion and to accept payment in accordance with the unit prices stated below as full compensation for all furnished services, labor, materials, and equipment.

REF#	ITEM	ITEM DESCRIPTION	QUANTITY	UNITS	UNIT PRICE	TOTAL PRICE
<b>ROADWAY</b>						
1	201	CLEARING AND GRUBBING	1.00	LS		\$0.00
2	202	GUARDRAIL REMOVED	536.50	FT		\$0.00
3	203	EXCAVATION	269.00	CY		\$0.00
4	203	EMBANKMENT	46.00	CY		\$0.00
5	204	SUBGRADE COMPACTION	652.00	SY		\$0.00
6	204	PROOF ROLLING	0.22	HR		\$0.00
7	252	FULL DEPTH PAVEMENT SAWING	42.00	FT		\$0.00
8	301	ASPHALT CONCRETE BASE, PG64-22 (449)	86.00	CY		\$0.00
9	304	AGGREGATE BASE	108.00	CY		\$0.00
10	407	TACK COAT	24.00	GAL		\$0.00
11	411	STABILIZED CRUSHED AGGREGATE	36.00	CY		\$0.00
12	441	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG64-22	22.00	CY		\$0.00
13	441	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (448)	24.00	CY		\$0.00
14	605	AGGREGATE DRAINS	64.00	FT		\$0.00
15	606	GUARDRAIL, TYPE MGS	300.00	FT		\$0.00
16	606	ANCHOR ASSEMBLY, MGS TYPE E	4.00	EA		\$0.00
17	606	BRIDGE TERMINAL ASSEMBLY, TYPE TST	4.00	EA		\$0.00
18	626	BARRIER REFLECTOR, TYPE 2	0.00	EA		\$0.00
19	642	EDGE LINES, 6", TYPE 1	0.18	MILE		\$0.00
20	642	CENTER LINE, TYPE 1	0.09	MILE		\$0.00
<b>SEEDING AND MULCHING</b>						
21	659	SOIL AND ANALYSIS TEST	2.00	EA		\$0.00
22	659	TOPSOIL	63.00	CY		\$0.00
23	659	SEEDING AND MULCHING	561.00	SY		\$0.00
24	659	REPAIR SEEDING AND MULCHING	28.00	SY		\$0.00
25	659	INTER-SEEDING	28.00	SY		\$0.00
26	659	COMMERCIAL FERTILIZER	0.08	TON		\$0.00
27	659	LIME	0.12	ACRE		\$0.00
28	659	WATER	3.00	MGAL		\$0.00
29	659	MOWING	1.00	MSF		\$0.00
<b>STRUCTURES OVER 20'</b>						
30	202	PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN	1.00	LS		\$0.00
31	202	WEARING COURSE REMOVED	461.00	SY		\$0.00
32	503	COFFERDAMS AND EXCAVATION BRACING	1.00	LS		\$0.00
33	503	UNCLASSIFIED EXCAVATION	1.00	LS		\$0.00
34	509	EPOXY COATED STEEL REINFORCING	24390.00	LBS		\$0.00
35	510	DOWELL HOLES WITH NONSHRINK, NONMETALLIC GROUT	56.00	EA		\$0.00
36	511	CLASS QC2 CONCRETE WITH QC/QA, SUPERSTRUCTURE	85.00	CY		\$0.00
37	511	CLASS QC1 CONCRETE, ABUTMENT NOT INCLUDING FOOTING	3.00	CY		\$0.00
38	512	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	55.00	SY		\$0.00
39	512	TYPE 2 WATERPROOFING	9.00	SY		\$0.00
40	515	PRESTRESSED CONCRETE COMPOSITE BOX BEAM BRIDGE MEMBERS LEVEL 1, CB17-48 (L=49'-0")	21.00	EACH		\$0.00
41	516	1" PREFORMED EXPANSION JOINT FILLER	15.00	SF		\$0.00
42	516	NYLON REINFORCED NEOPRENE SHEETING	186.00	SF		\$0.00
43	516	2" DEEP JOINT SEALER, AS PER PLAN	56.00	FT		\$0.00
44	516	1/8" PREFORMED BEARING PAD (6" X 8")	42.00	EACH		\$0.00
45	516	ELASTOMERIC BEARING WITH INTERNAL LAMINATES ONLY (NEOPRENE) (6" X 8" X 1.32")	84.00	EACH		\$0.00
46	517	RAILING (TWIN STEEL TUBE)	306.83	FT		\$0.00
47	518	POROUS BACKFILL WITH GEOTEXTILE FABRIC	6.00	CY		\$0.00
48	518	SPECIAL - STEEL DRIP STRIP	366.00	FT		\$0.00
49	519	PATCHING CONCRETE STRUCTURE, AS PER PLAN	8.00	SF		\$0.00
50	526	REINFORCED CONCRETE APPROACH SLABS WITH QC/QA (T=12")	31.00	SY		\$0.00

**Proposal ADDENDUM #1**

Date: \_\_\_\_\_

TO: Board of Commissioners, Union County, Ohio

PROJECT: 2025 UNI CR-129H Claibourne Road Bridge Rehabilitation

COMPANY NAME: \_\_\_\_\_

The undersigned, having full knowledge of the site(s) for the Project, the specifications applicable to the Project, and the conditions of this Proposal hereby agrees to furnish all services, labor, materials, and equipment necessary to complete the Project in accordance with the Detailed Specifications, within the time specified for completion and to accept payment in accordance with the unit prices stated below as full compensation for all furnished services, labor, materials, and equipment.

REF#	ITEM	ITEM DESCRIPTION	QUANTITY	UNITS	UNIT PRICE	TOTAL PRICE
		<b>INCIDENTALS</b>				
51	614	MAINTENANCE OF TRAFFIC	1.00	LS		\$0.00
52	623	CONSTRUCTION LAYOUT STAKES AND SURVEYING	1.00	LS		\$0.00
53	624	MOBILIZATION	1.00	LS		\$0.00
54	SPECIAL	PERFORMANCE AND PAYMENT BOND	1.00	LS		\$0.00

6.1

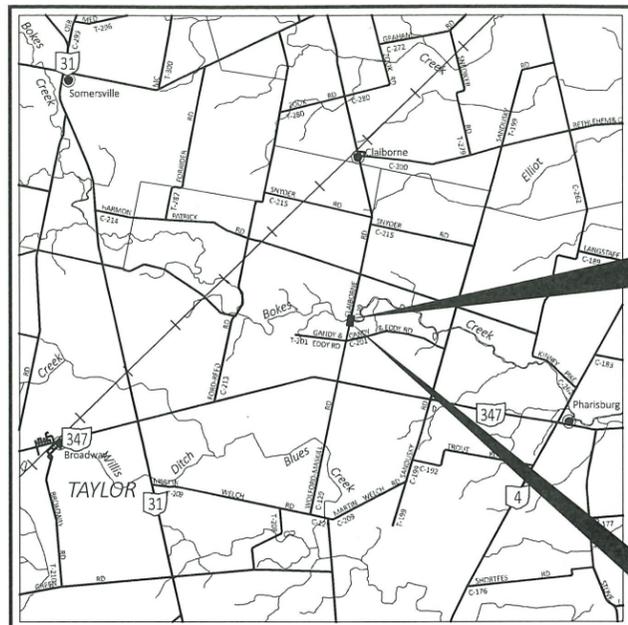
<b>TOTAL</b>	<b>\$0.00</b>
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# STATE OF OHIO UNION COUNTY ENGINEER'S OFFICE

## UNI-CR129H-5.612

LEESBURG AND TAYLOR TOWNSHIPS

UNION COUNTY



**LOCATION MAP**

LATITUDE: 40°21'41.5" LONGITUDE: 83°21'01.5"



PORTION TO BE IMPROVED	—————
INTERSTATE HIGHWAY	—————
FEDERAL ROUTES	—————
STATE ROUTES	—————
COUNTY & TOWNSHIP ROADS	—————
OTHER ROADS	—————

**DESIGN DESIGNATION**

CURRENT ADT (2024)	662
DESIGN YEAR ADT (2044)	794
DESIGN HOURLY VOLUME (2044)	71
DIRECTIONAL DISTRIBUTION	61%
TRUCKS (24 HOUR B&C)	10%
DESIGN SPEED	60 MPH
LEGAL SPEED	55 MPH
DESIGN FUNCTIONAL CLASSIFICATION:	
MAJOR COLLECTOR	
NHS PROJECT	NO

**DESIGN EXCEPTIONS**

NONE REQUIRED

**ADA DESIGN WAIVERS**

NONE REQUIRED

**UNDERGROUND UTILITIES**  
Contact Two Working Days Before You Dig

**OHIO811.org**  
Before You Dig

OHIO811, 8-1-1, or 1-800-362-2764  
(Non members must be called directly)

PLAN PREPARED BY:  
RESOURCE INTERNATIONAL INC  
6350 PRESIDENTIAL GATEWAY  
COLUMBUS, OHIO 43231  
(614) 823-4949

ENGINEERS SEAL:



SIGNED: *[Signature]*  
DATE: 8/28/25

**INDEX OF SHEETS:**

TITLE SHEET	P.01
TYPICAL SECTIONS	P.02
GENERAL NOTES	P.03
GENERAL SUMMARY	P.04 - P.05
MAINTENANCE OF TRAFFIC	P.06
PLAN & PROFILE	P.07
CROSS SECTIONS	P.08 - P.013
STRUCTURE (20' AND OVER)	P.014 - P.024

STANDARD CONSTRUCTION DRAWINGS				SUPPLEMENTAL SPECIFICATIONS	SPECIAL PROVISIONS
BP-3.1	1/19/24	TC-61.30	1/17/24	800	1/17/25
DM-4.2	7/20/12	TC-65.10	1/17/14	814	7/15/16
DM-4.4	1/15/16				
MGS-1.1	1/17/25				
MGS-2.1	1/17/25				
AS-1-15	1/20/23				
DS-1-92	7/15/22				
PSBD-2-07	7/20/18				
TST-1-99	1/15/21				
MT-101.601	1/17/25				
TC-61.30	7/19/24				

**FEDERAL PROJECT NUMBER**

NONE

**RAILROAD INVOLVEMENT**

NONE

**PROJECT DESCRIPTION**

SUPERSTRUCTURE BRIDGE REPLACEMENT OF UNI-CR129-05612 H WITH PRESTRESSED PRECAST CONCRETE BOX BEAMS (CB27-48) WITH A COMPOSITE DECK, MINOR RECONSTRUCTION AND PATCHING OF ABUTMENTS AND PIERS, AND ADDITION OF REINFORCED CONCRETE APPROACH SLABS. IN ADDITION, VERTICAL PROFILE CORRECTION AND MINIMAL ROADWAY IMPROVEMENT WORK. (CLAIRBORNE ROAD) OVER BOKES CREEK IN UNION COUNTY, OHIO

**EARTH DISTURBED AREAS**

PROJECT EARTH DISTURBED AREA:	0.28 ACRES
ESTIMATED CONTRACTOR EARTH DISTURBED AREA:	0.10 ACRES
NOTICE OF INTENT EARTH DISTURBED AREA:	N/A ACRES (UNDER 1 AC. EDA)

**LIMITED ACCESS**

THIS IMPROVEMENT IS ESPECIALLY DESIGNED FOR THROUGH TRAFFIC AND HAS BEEN DECLARED A LIMITED ACCESS HIGHWAY OR FREEWAY BY ACTION OF THE DIRECTOR IN ACCORDANCE WITH THE PROVISIONS OF SECTION 5511.02 OF THE OHIO REVISED CODE.

**2023 SPECIFICATIONS**

THE STANDARD SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, INCLUDING SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PLANS, CHANGES LISTED IN THE PROPOSAL, AND THE SUPPLEMENTAL SPECIFICATION 800 VERSION INDICATED ON THE PROPOSAL SHALL GOVERN THIS IMPROVEMENT.

APPROVED *[Signature]*  
DATE 7/2/25 JEFF STAUCH, (P.S., P.E.)  
UNION COUNTY ENGINEER

APPROVED *[Signature]*  
DATE \_\_\_\_\_ UNION COUNTY COMMISSIONER

APPROVED *[Signature]*  
DATE 4-2-25 UNION COUNTY COMMISSIONER

APPROVED *[Signature]*  
DATE 4-2-25 UNION COUNTY COMMISSIONER

UNI-CR129H-5.612

MODEL: Title Sheet PAPER SIZE: 17x11 (in.) DATE: 3/28/2025 TIME: 10:22:12 AM USER: coltir G:\Design\Connect\Projects\2024\W-24-135 UNI-CR129-05612\110225\100-Engineering\Roadway\Sheets\10525\_GT001.dgn

TITLE SHEET

DESIGN AGENCY



6350 PRESIDENTIAL GATEWAY  
COLUMBUS, OHIO 43231  
(614) 823-4949

DESIGNER

CFR

REVIEWER

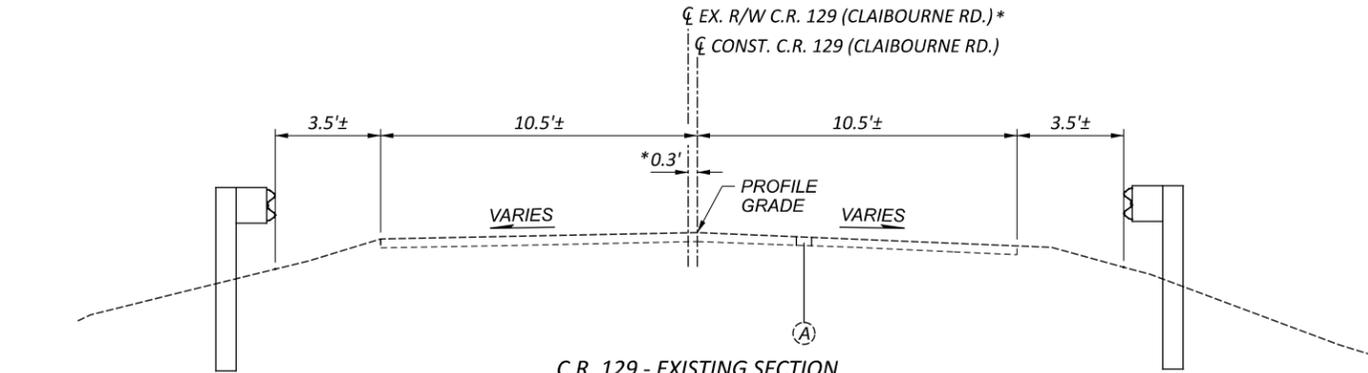
JWE 03-28-25

PROJECT ID

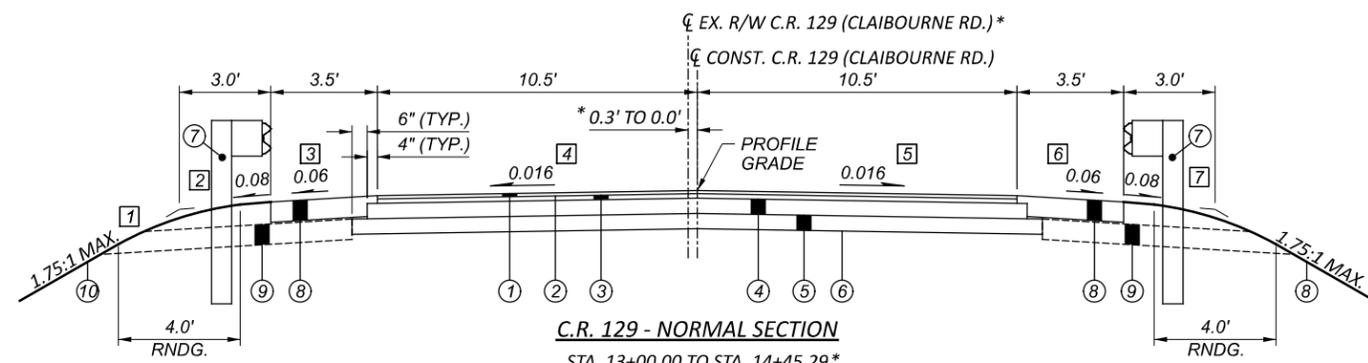
10525

SHEET TOTAL

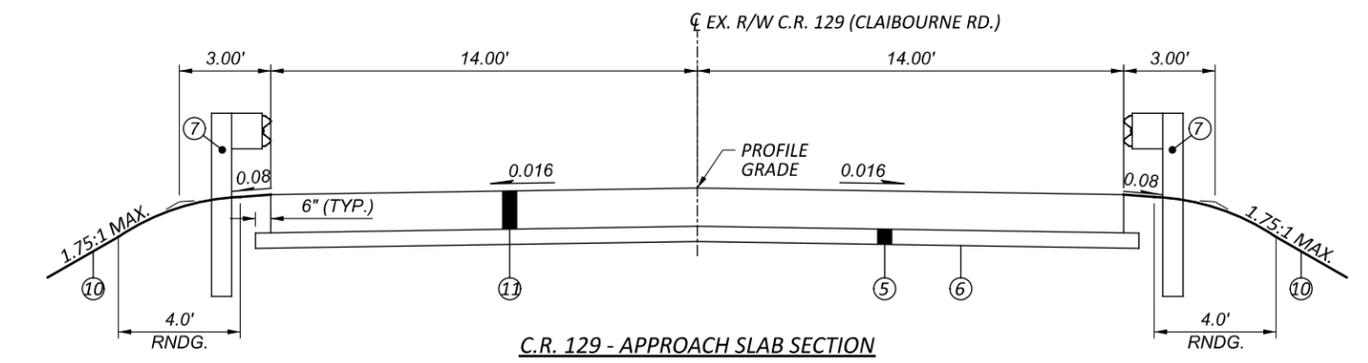
P.01 24



**C.R. 129 - EXISTING SECTION**  
 STA. 12+98.04 TO STA. 13+00.00\*  
 STA. 17+00.00 TO STA. 17+59.04



**C.R. 129 - NORMAL SECTION**  
 STA. 13+00.00 TO STA. 14+45.29\*  
 STA. 16+24.29 TO STA. 17+00.00



**C.R. 129 - APPROACH SLAB SECTION**  
 STA. 14+45.29 TO STA. 14+60.29  
 STA. 16+09.29 TO STA. 16+24.29

- 1 FORESLOPE SLOPE TRANS  
1.5:1 TO 1.75:1  
STA. 13+45.00 TO STA. 13+55.00 LT.
- 2 GRADED SHOULDER TRANS  
-0.2642± TO -0.08  
STA. 13+00.00 TO STA. 13+45.00 LT.  
-0.08 TO -0.1380±  
STA. 16+75.00 TO STA. 17+00.00 LT.
- 3 SHOULDER TRANS  
-0.2642± TO -0.06  
STA. 13+00.00 TO STA. 13+25.00 LT.  
-0.06 TO -0.1473  
STA. 16+75.00 TO STA. 17+00.00 LT.
- 4 PAVMT. CROSS SLOPE TRANS  
-0.022± TO -0.0160  
STA. 13+00.00 TO STA. 13+14.25 LT.  
-0.0160± TO -0.0146  
STA. 16+96.70 TO STA. 17+00.00 LT.
- 5 PAVMT. CROSS SLOPE TRANS  
-0.0429± TO -0.0160  
STA. 13+00.00 TO STA. 13+62.80 RT  
-0.016 TO -0.0358  
STA. 16+54.00 TO STA. 17+00.00 RT
- 6 SHOULDER TRANS  
-0.3844± TO -0.06  
STA. 13+00.00 TO STA. 13+25.00 RT.  
-0.06 TO -0.2573±  
STA. 16+75.00 TO STA. 17+00.00 RT.
- 7 GRADED SHOULDER TRANS  
-0.3844± TO -0.08  
STA. 13+00.00 TO STA. 13+25.00 RT.  
-0.08 TO -0.240±  
STA. 16+75.00 TO STA. 17+00.00 RT.

**LEGEND**

- 1 ITEM 441 - 1 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG 64-22
- 2 ITEM 407 - TACK COAT @ 0.05 GAL./S.Y.
- 3 ITEM 441 - 1 3/4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (448)
- 4 ITEM 301 - 6" ASPHALT CONCRETE BASE, (449), PG 64-22
- 5 ITEM 304 - 6" AGGREGATE BASE
- 6 ITEM 204 - SUBGRADE COMPACTION
- 7 ITEM 606 - GUARDRAIL, TYPE MGS
- 8 ITEM 411 - STABILIZED CRUSHED AGGREGATE
- 9 ITEM 605 - AGGREGATE DRAIN
- 10 ITEM 659 - SEEDING AND MULCHING
- 11 ITEM 526 - REINFORCED CONCRETE APPROACH SLAB (T=12")

**EXISTING LEGEND**

- (A) 3.5" ASPHALT CONCRETE

**AGGREGATE DRAIN LOCATIONS**

LEFT	RIGHT
STA. 13+00.00	STA. 14+00.00
STA. 13+75.00	STA. 16+50.00
STA. 14+25.00	STA. 17+00.00
STA. 16+25.00	
STA. 16+75.00	

DESIGN AGENCY  
  
 6350 PRESIDENTIAL GATEWAY  
 COLUMBUS, OHIO 43231  
 (614) 823-4549

DESIGNER  
 CFR

REVIEWER  
 JWE 03-28-25

PROJECT ID  
 10525

SHEET TOTAL  
 P.02 24

**ROUNDING**

THE ROUNDING AT SLOPE BREAKPOINTS SHOWN ON THE TYPICAL SECTIONS APPLIES TO ALL CROSS-SECTIONS, EVEN THOUGH OTHERWISE SHOWN.

**UTILITIES**

LISTED BELOW ARE ALL UTILITIES LOCATED WITHIN THE PROJECT CONSTRUCTION LIMITS TOGETHER WITH THEIR RESPECTIVE OWNERS:

URE COOPERATIVE INC.	TELEPHONE
15461 SR 36	CENTURYLINK
MARYSVILLE, OHIO 43040	WWW.CENTURYLINK.COM
(937) 645-1826	1-800-366-8201 OR
	(937) 599-9285

**EXISTING PLANS**

EXISTING PLANS ENTITLED UNI-COUNTY ROAD NO. 129-H MAY BE INSPECTED IN THE UNION COUNTY ENGINEERS OFFICE.

**SURVEYING PARAMETERS**

PRIMARY PROJECT CONTROL MONUMENTS GOVERN ALL POSITIONING ON THIS PROJECT. SEE THIS SHEET FOR A TABLE CONTAINING PROJECT CONTROL INFORMATION.

USE THE FOLLOWING PROJECT CONTROL, VERTICAL POSITIONING, AND HORIZONTAL POSITIONING PARAMETERS FOR ALL SURVEYING:

**PROJECT CONTROL**

POSITIONING METHOD: ODOT VRS

**VERTICAL POSITIONING**

ORTHOMETRIC HEIGHT DATUM: NAVD88  
 GEOID: GEOID12B

**HORIZONTAL POSITIONING**

REFERENCE FRAME: NAD83(NSRS 2011)  
 ELLIPSOID: GRS 80  
 MAP PROJECTION: LAMBERT CONFORMAL CONIC 2 PARALLEL  
 COORDINATE SYSTEM: OHIO OH83/2011-NF  
 COMBINED SCALE FACTOR: 1.0  
 ORIGIN OF COORDINATE SYSTEM: 0,0

USE THE POSITIONING METHODS AND MONUMENT TYPE USED IN THE ORIGINAL SURVEY TO RESTORE ALL MONUMENTS RELATED TO PRIMARY PROJECT CONTROL THAT ARE DAMAGED OR DESTROYED BY CONSTRUCTION ACTIVITIES. RESTORE THE DAMAGED OR DESTROYED MONUMENTS IN ACCORDANCE WITH CMS 623.

UNITS ARE IN U.S. SURVEY FEET.

**WORK LIMITS**

THE WORK LIMITS SHOWN ON THESE PLANS ARE FOR PHYSICAL CONSTRUCTION ONLY. PROVIDE THE INSTALLATION AND OPERATION OF ALL WORK ZONE TRAFFIC CONTROL AND WORK ZONE TRAFFIC CONTROL DEVICES REQUIRED BY THESE PLANS WHETHER INSIDE OR OUTSIDE THESE WORK LIMITS.

**CLEARING AND GRUBBING**

ALTHOUGH THERE ARE NO TREES OR STUMPS SPECIFICALLY MARKED FOR REMOVAL WITHIN THE LIMITS OF THE PROJECT, A LUMP SUM QUANTITY IS INCLUDED IN THE GENERAL SUMMARY FOR ITEM 201, CLEARING AND GRUBBING. ALL PROVISIONS AS SET FORTH IN THE SPECIFICATIONS UNDER THIS ITEM ARE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 201, CLEARING AND GRUBBING.

**SEEDING AND MULCHING**

THE FOLLOWING QUANTITIES ARE PROVIDED TO PROMOTE GROWTH AND CARE OF PERMANENT SEEDED AREAS:

659, SOIL ANALYSIS TEST 2 EACH  
 659, TOPSOIL 63 CY  
 659, SEEDING AND MULCHING 561 SY  
 659, REPAIR SEEDING AND MULCHING 28 SY  
 659, INTER-SEEDING 28 SY  
 659, COMMERCIAL FERTILIZER 0.08 TON  
 659, LIME 0.12 ACRES  
 659, WATER 3 MGAL  
 659, MOWING 1 MSF

SEEDING AND MULCHING SHALL BE APPLIED TO ALL AREAS OF EXPOSED SOIL BETWEEN THE RIGHT-OF-WAY LINES, AND WITHIN THE CONSTRUCTION LIMITS FOR AREAS OUTSIDE THE RIGHT-OF-WAY LINES COVERED BY WORK AGREEMENT OR SLOPE EASEMENT. QUANTITY CALCULATIONS FOR SEEDING AND MULCHING ARE BASED ON THESE LIMITS.

**ITEM 606 - ANCHOR ASSEMBLY, MGS TYPE E**

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING ANY OF THE GUARDRAIL END TERMINALS FOR TYPE MGS GUARDRAIL AS LISTED ON ROADWAY ENGINEERING'S WEB PAGE UNDER ROADSIDE SAFETY DEVICES FOR APPROVED GUARDRAIL END TREATMENTS. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.

THE FACE OF THE TYPE E IMPACT HEAD SHALL BE COVERED WITH A SHEET OF TYPE G REFLECTIVE SHEETING, PER CMS 730.19.

REFER TO THE MANUFACTURER'S INSTRUCTIONS REGARDING THE INSTALLATION OF, AND THE GRADING AROUND THE FOUNDATION TUBES AND GROUND STRUT. THE TOP OF ANY FOUNDATION TUBE SHOULD BE LESS THAN 4 INCHES ABOVE THE GROUND. THE PLACEMENT OF THE FOUNDATION TUBES SHOULD BE AN APPROPRIATE DEPTH BELOW THE LEVEL LINE IN ORDER TO MAINTAIN THE FINISHED GUARDRAIL HEIGHT OF 31 INCHES FROM THE EDGE OF THE SHOULDER.

ON-SITE GRADING IS REQUIRED IF THE TOP OF THE FOUNDATION TUBES OR TOP OF THE GROUND STRUT DOES PROJECT MORE THAN 4 INCHES ABOVE THE GROUND LINE.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 606, ANCHOR ASSEMBLY, MGS TYPE E, EACH, AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT A COMPLETE AND FUNCTIONAL ANCHOR ASSEMBLY SYSTEM, INCLUDING ALL RELATED TRANSITIONS, REFLECTIVE SHEETING, HARDWARE, GRADING, EMBANKMENT AND EXCAVATION NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER.

PROJECT COORDINATE TABLE				
LOCATION	STATION	NORTHING	EASTING	
C/L CR 129	12+75.00	254036.265	1731449.833	POT
C/L CR 129	13+75.00	254133.962	1731471.171	PI
C/L CR 129	14+45.29	254202.700	1731485.878	PI
C/L CR 129	16+24.29	254377.578	1731524.073	PT
C/L CR 129	17+75.00	254524.813	1731556.231	POT

PROJECT CONTROL				
POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
CP1	254067.363	1731440.327	968.259	CNPT
CP2	254505.432	1731539.164	974.053	CNPT

DESIGN AGENCY



6350 PRESIDENTIAL GATEWAY  
 COLUMBUS, OHIO 43231  
 (614) 823-4549

DESIGNER  
**CFR**

REVIEWER  
**JWE 03-28-25**

PROJECT ID  
**10525**

SHEET TOTAL  
**P.03 | 24**

SHEET NUMBER													PART.	ITEM	ITEM	GRAND	UNIT	DESCRIPTION	SEE SHEET NO.
P.03	P.05	P.08	P.09	P.010	P.011	P.012	P.014							ITEM	EXT	TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
																		<b>ROADWAY</b>	
	536.5													201	11000	LS		CLEARING AND GRUBBING	P.03
														202	38000	536.5	FT	GUARDRAIL REMOVED	
		29	63	65	25	87								203	10000	269	CY	EXCAVATION	
		5	14	10	7	10								203	20000	46	CY	EMBANKMENT	
	300													606	15050	300	FT	GUARDRAIL, TYPE MGS	
	4													606	26150	4	EACH	ANCHOR ASSEMBLY, MGS TYPE E	
	4													606	32160	4	EACH	BRIDGE TERMINAL ASSEMBLY, TYPE TST	
																		<b>EROSION CONTROL</b>	
2														659	00100	2	EACH	SOIL ANALYSIS TEST	P.03
63														659	00300	63	CY	TOPSOIL	P.03
561														659	10000	561	SY	SEEDING AND MULCHING	P.03
28														659	14000	28	SY	REPAIR SEEDING AND MULCHING	P.03
0.08														659	15000	0.08	SY	INTER-SEEDING	P.03
0.12														659	20000	0.12	TON	COMMERCIAL FERTILIZER	P.03
3														659	31000	3	ACRE	LIME	P.03
1														659	35000	1	MGAL	WATER	P.03
																		<b>DRAINAGE</b>	
	64													605	31100	64	FT	AGGREGATE DRAINS	
																		<b>PAVEMENT</b>	
	652													204	10000	652	SY	SUBGRADE COMPACTION	
	0.22													204	45000	0.22	HOUR	PROOF ROLLING	
	42													252	01500	42	FT	FULL DEPTH PAVEMENT SAWING	
	86													301	56000	86	CY	ASPHALT CONCRETE BASE, PG64-22, (449)	
	108													304	20000	108	CY	AGGREGATE BASE	
	24													407	10000	24	GAL	TACK COAT	
	36													411	10000	36	CY	STABILIZED CRUSHED AGGREGATE	
	22													441	50000	22	CY	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG64-22	
																		<b>TRAFFIC CONTROL</b>	
	12													626	00110	12	EACH	BARRIER REFLECTOR, TYPE 2, (BI-DIRECTIONAL)	
	0.18													642	00104	0.18	MILE	EDGE LINE, 6", TYPE 1	
	0.09													642	00300	0.09	MILE	CENTER LINE, TYPE 1	
																		<b>STRUCTURE OVER 20 FOOT SPAN (UNI-CR129H-05612)</b>	
							461							202	11203	LS		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN	P.013,P.014
														202	23500	461	SY	WEARING COURSE REMOVED	
														503	11100	LS		COFFERDAMS AND EXCAVATION BRACING	P.014
														503	21300	LS		UNCLASSIFIED EXCAVATION	P.014
							24,390							509	10000	24,390	LB	EPOXY COATED STEEL REINFORCEMENT	
							56							510	10000	56	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT	
							85							511	51812	85	CY	CLASS QC2 CONCRETE WITH QC/QA, SUPERSTRUCTURE	
							3							511	44110	3	CY	CLASS QC1 CONCRETE, ABUTMENT NOT INCLUDING FOOTING	
							55							512	10100	55	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	
							9							512	33000	9	SY	TYPE 2 WATERPROOFING	
							21							515	12030	21	EACH	PRESTRESSED CONCRETE COMPOSITE BOX BEAM BRIDGE MEMBERS, LEVEL 1, CB17-48	
							15							516	13600	15	SF	1" PREFORMED EXPANSION JOINT FILLER	
							186							516	25000	186	SF	NYLON REINFORCED NEOPRENE SHEETING	
							56							516	31011	56	FT	2" DEEP JOINT SEALER, AS PER PLAN	P.013,P.014
							42							516	41100	42	EACH	1/8" PREFORMED BEARING PAD, TYPE CDP	
							84							516	43100	84	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES ONLY (NEOPRENE)	
							306.83							517	70000	306.83	FT	RAILING (TWIN STEEL TUBE)	
							6							518	21200	6	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC	
							366							SPECIAL	51822300	366	PI	STEEL DRIP STRIP	P.014
							8							519	11101	8	SF	PATCHING CONCRETE STRUCTURE, AS PER PLAN	P.013,P.014
							31							526	10010	31	SY	REINFORCED CONCRETE APPROACH SLABS WITH QC/QA (T=12")	
																		<b>INCIDENTALS</b>	
														614	11000	LS		MAINTAINING TRAFFIC	
														623	10000	LS		CONSTRUCTION LAYOUT STAKES AND SURVEYING	
														624	10000	LS		MOBILIZATION	

GENERAL SUMMARY

DESIGN AGENCY  
  
 6350 PRESIDENTIAL GATEWAY  
 COLUMBUS, OHIO 43231  
 (614) 823-1519  
 DESIGNER  
**CFR**  
 REVIEWER  
**JWE 03-28-25**  
 PROJECT ID  
**10525**  
 SHEET TOTAL  
**P.04 24**

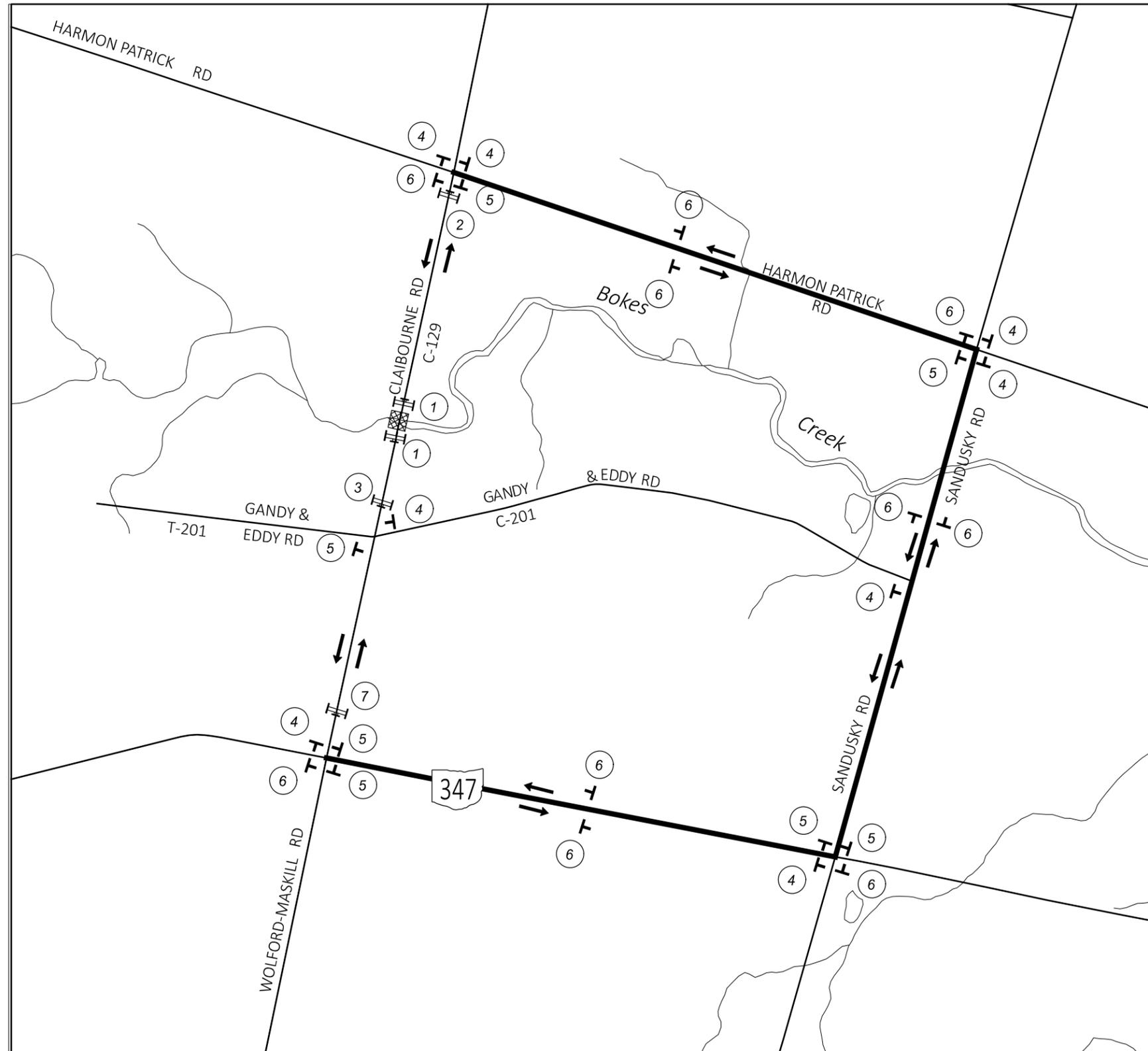
REV. DATE: 04/17/2025

REFERENCE NO.	SHEET NO.	ROUTE	STATION TO STATION		SIDE	LENGTH (L) FT.	AVERAGE WIDTH (W) FT.	SURFACE AREA (A) A=L*W SQ. FT.	202	204	204	252	301	304	407	411	441	441	605	606	606	606	626
			GUARDRAIL REMOVED FT.	SUBGRADE COMPACTION SQ. YD.					PROOF ROLLING HOUR	FULL DEPTH PAVEMENT SAWING FT.	ASPHALT CONCRETE BASE, PG64-22 CU. YD.	AGGREGATE BASE CU. YD.	TACK COAT (0.05 GAL./S.Y.) GAL.	STABILIZED CRUSHED AGGREGATE CU. YD.	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG64-22 CU. YD.	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (448) CU. YD.	AGGREGATE DRAINS FT.	GUARDRAIL, TYPE MGS FT.	ANCHOR ASSEMBLY, TYPE E FT.	BRIDGE TERMINAL ASSEMBLY, TST FT.	BARRIER REFLECTOR, TYPE 2 (BI-DIRECTIONAL) EA.		
P-1	P.07	CR 129	13+00.00	TO 14+45.29	LT	145.3	10.5	1525.55		183	0.061	10.5	28	30	8	12	7	8	22				
P-2	P.07	CR 129	13+00.00	TO 14+45.29	RT	145.3	10.5	1525.55		183	0.061	10.5	28	30	8	12	7	8	10				
P-3	P.07	CR 129	14+45.29	TO 14+60.29	LT/RT	15.0	28	420.00		48	0.016												
P-4	P.07	CR 129	16+09.29	TO 16+24.29	LT/RT	15.0	28	420.00		48	0.016												
P-5	P.07	CR 129	16+24.29	TO 17+00.00	LT	75.7	10.5	795		95	0.032	10.5	15	16	4	6	4	4	17				
P-6	P.07	CR 129	16+24.29	TO 17+00.00	RT	75.7	10.5	795		95	0.032	10.5	15	16	4	6	4	4	15				
GR-1	P.07	CR 129	12+98.04	TO 14+60.54	LT.	162.5				150										88	1	1	3
GR-2	P.07	CR 129	12+98.04	TO 14+60.54	RT.	162.5				150										88	1	1	3
GR-3	P.07	CR 129	16+09.04	TO 17+59.04	LT.	150.0				130										75	1	1	3
GR-4	P.07	CR 129	16+09.04	TO 17+34.04	RT.	125.0				106.5										50	1	1	3
<b>TOTALS CARRIED TO GENERAL SUMMARY</b>									536.5	652	0.22	42	86	108	24	36	22	24	64	300	4	4	12

REF NO.	SHEET NO.	STATION TO STATION		SIDE	642	642	642
					CENTER LINE, TYPE 1, SINGLE BROKEN MILE	CENTER LINE, TYPE 1, SINGLE LANE PERMITTED TO PASS LEFT MILE	EDGE LINE, 6", TYPE 1 MILE
S.R. 7							
CL-1	P.07	13+00.00	TO 13+75.00	CL	0.01		
CL-2	P.07	13+75.00	TO 17+75.00	CL		0.08	
ELW-1	P.07	13+00.00	TO 17+58.00	LT			0.09
ELW-2	P.07	13+00.00	TO 17+58.00	RT			0.09
<b>TOTALS CARRIED TO GENERAL SUMMARY</b>					0.01	0.08	0.18

ROADWAY SUBSUMMARY

DESIGN AGENCY  
  
 6350 PRESIDENTIAL GATEWAY  
 COLUMBUS, OHIO 43231  
 (614) 823-1519  
 DESIGNER  
**CFR**  
 REVIEWER  
**JWE 03-28-25**  
 PROJECT ID  
**10525**  
 SHEET TOTAL  
 P.05 | 24



**DETOUR MAP**   
**COORDINATES FOR BRIDGE**  
 40.361546, -83.350412

- LEGEND**
-  WORK ZONE
  -  DIRECTION OF DETOUR
  -  DETOUR ROUTE
  -  TYPE III BARRICADES

<p>①</p> <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 0 auto;"> <p><b>ROAD CLOSED</b></p> <p><small>R11-2-48 10' TYPE III BARRICADE, PER MT-101.60</small></p> </div>	<p>②</p> <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 0 auto;"> <p><b>ROAD CLOSED</b></p> <p><b>0.54</b> MILES AHEAD</p> <p><small>LOCAL TRAFFIC ONLY</small></p> <p><small>R11-3A-60 10' TYPE III BARRICADE</small></p> </div>	<p>③</p> <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 0 auto;"> <p><b>ROAD CLOSED</b></p> <p><b>0.22</b> MILES AHEAD</p> <p><small>LOCAL TRAFFIC ONLY</small></p> <p><small>R11-3A-60 10' TYPE III BARRICADE</small></p> </div>
<p>④</p> <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 0 auto;"> <p><b>CLAIBOURNE RD</b></p> <p><small>D3-1-12</small></p> <div style="border: 1px solid black; padding: 2px; width: fit-content; margin: 0 auto;"> <p><b>DETOUR</b></p>  </div> <p><small>M4-9L-30</small></p> </div>	<p>⑤</p> <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 0 auto;"> <p><b>CLAIBOURNE RD</b></p> <p><small>D3-1-12</small></p> <div style="border: 1px solid black; padding: 2px; width: fit-content; margin: 0 auto;"> <p><b>DETOUR</b></p>  </div> <p><small>M4-9R-30</small></p> </div>	<p>⑥</p> <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 0 auto;"> <p><b>CLAIBOURNE RD</b></p> <p><small>D3-1-12</small></p> <div style="border: 1px solid black; padding: 2px; width: fit-content; margin: 0 auto;"> <p><b>DETOUR</b></p>  </div> <p><small>M4-9c-30</small></p> </div>
<p>⑦</p> <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 0 auto;"> <p><b>ROAD CLOSED</b></p> <p><b>0.68</b> MILES AHEAD</p> <p><small>LOCAL TRAFFIC ONLY</small></p> <p><small>R11-3A-60 10' TYPE III BARRICADE</small></p> </div>		

**ITEM 614 - MAINTAINING TRAFFIC**

THE CONTRACTOR SHALL PROVIDE, ERECT, AND MAINTAIN STANDARD 48X30 INCH ROAD CLOSED SIGNS, SIGN SUPPORTS, BARRICADES, AND LIGHTS, AS DETAILED IN MT-101.60 AT THE FOLLOWING LOCATIONS DURING PERIODS IN WHICH THE AFFECTED ROADS ARE CLOSED TO TRAFFIC.

CR-129 AT THE INTERSECTION OF TR 214 (HARMON PATRICK RD.)

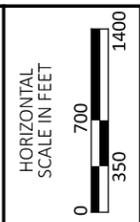
CR-129 AT THE INTERSECTION OF TR 201 (GAUDY EDDY RD)

THE CONTRACTOR SHALL PROVIDE, ERECT, AND MAINTAIN SIGNS AND SIGN SUPPORTS, AS DETAILED IN THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, AND TYPE III BARRICADES OF TYPE AND LOCATIONS AS FOLLOWS:

CR-129 AT STA. 12+80.00

CR-129 AT STA. 17+70.00

ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH CMS 614 AND OTHER APPLICABLE PORTIONS OF THE SPECIFICATIONS, AS WELL AS THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. PAYMENT FOR ALL LABOR, EQUIPMENT, SIGNS, AND MATERIAL SHALL BE INCLUDED IN THE LUMP SUM CONTRACT BID FOR ITEM 614 - MAINTAINING TRAFFIC, UNLESS SEPARATELY ITEMIZED IN THE PLAN.



**MAINTENANCE OF TRAFFIC  
DETOUR MAP**

DESIGN AGENCY



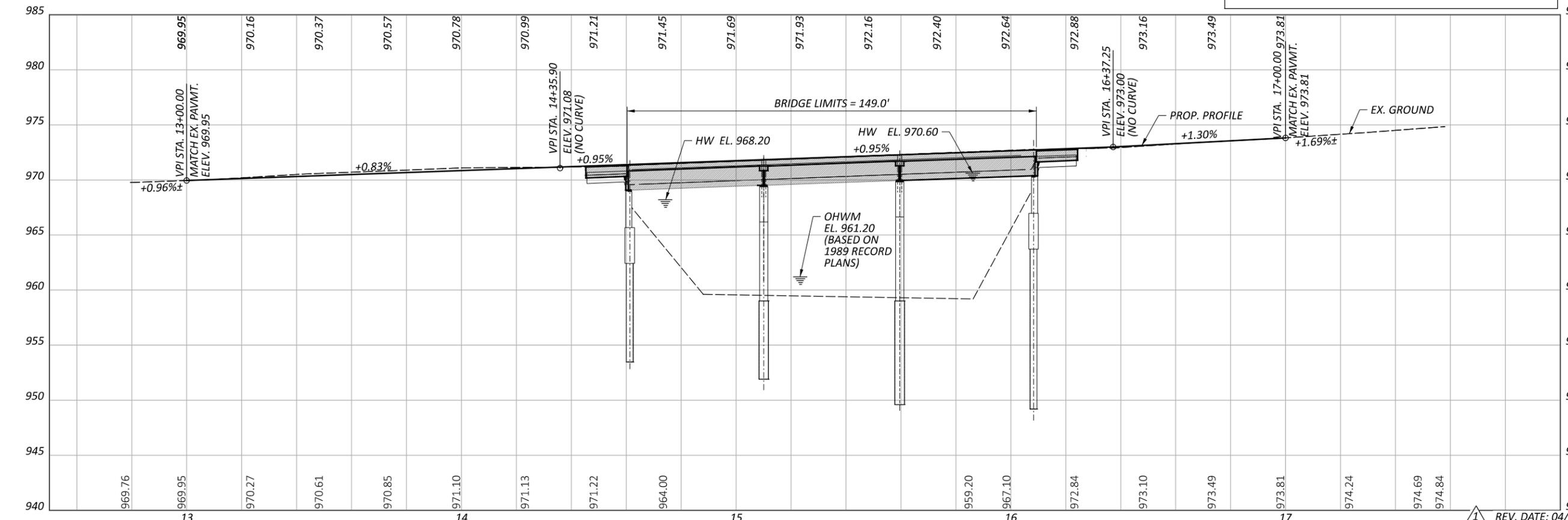
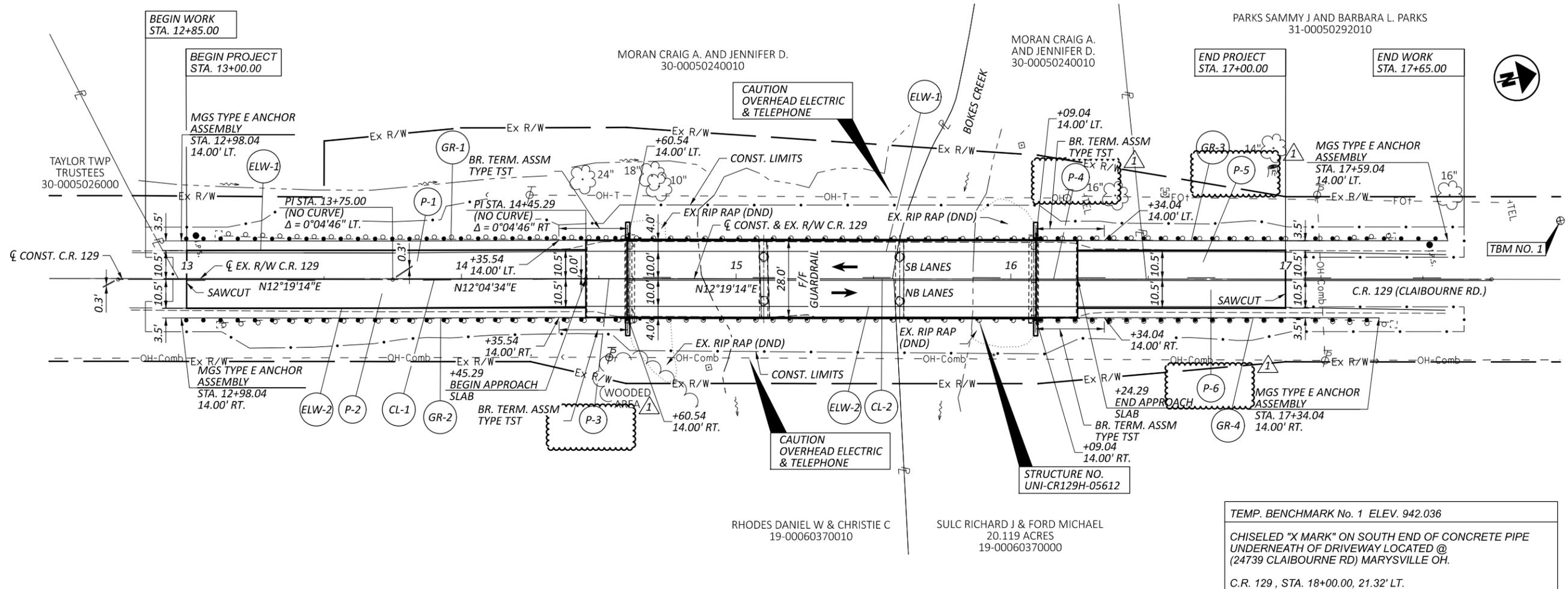
8350 PRESIDENTIAL GATEWAY  
COLUMBUS, OHIO 43231  
(614) 823-4549

DESIGNER  
**JAS**

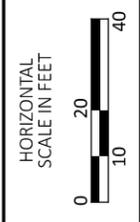
REVIEWER  
**JWE 03-28-25**

PROJECT ID  
**10525**

SHEET TOTAL  
P.06 | 24



TEMP. BENCHMARK No. 1 ELEV. 942.036  
 CHISELED "X MARK" ON SOUTH END OF CONCRETE PIPE UNDERNEATH OF DRIVEWAY LOCATED @ (24739 CLAIBOURNE RD) MARYSVILLE OH.  
 C.R. 129 , STA. 18+00.00, 21.32' LT.



PLAN AND PROFILE - C.R. 129  
 STA. 12+50.00 TO STA. 18+00.00

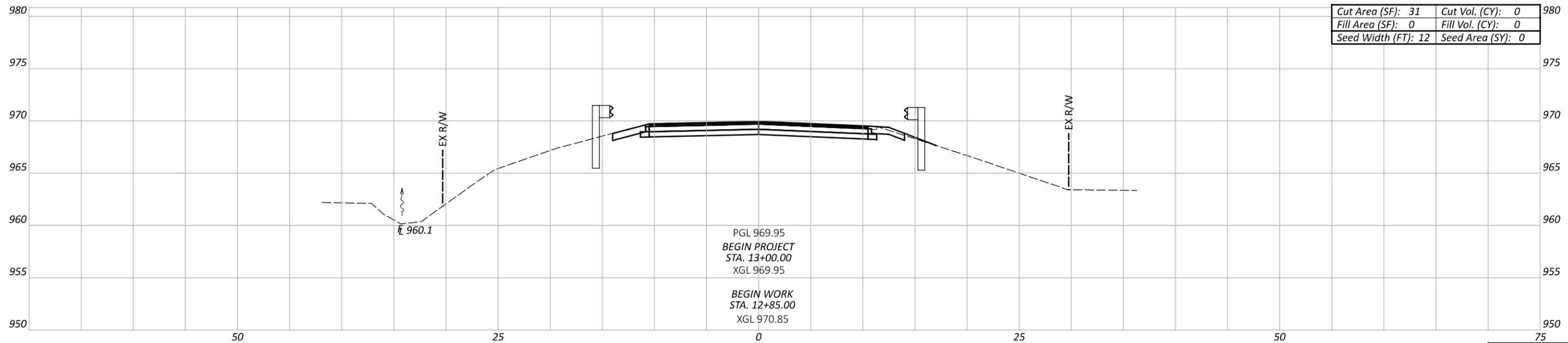
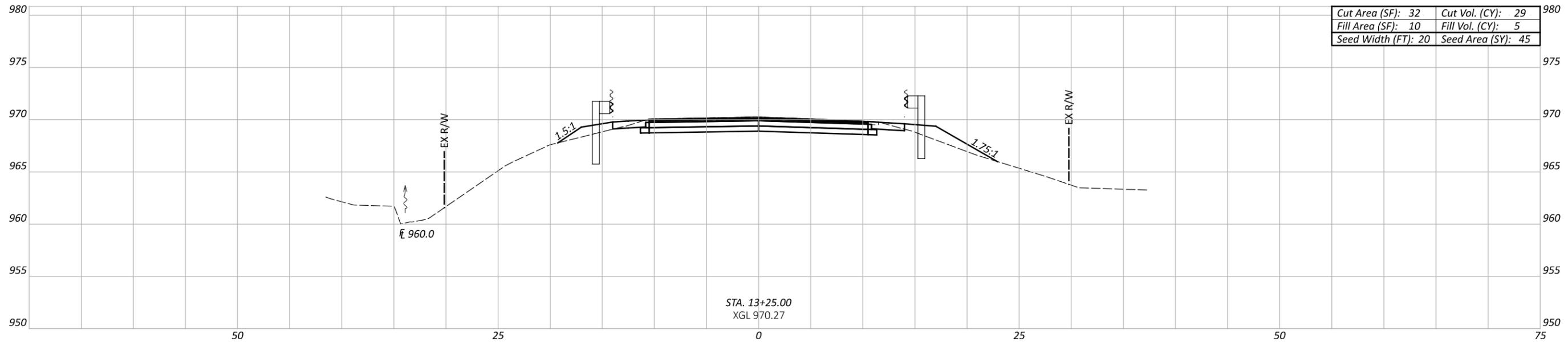
DESIGN AGENCY  
**Resource**  
 6350 PRESIDENTIAL GATEWAY  
 COLUMBUS, OHIO 43231  
 (614) 823-4949

DESIGNER  
**CFR**

REVIEWER  
**JWE 03-28-25**

PROJECT ID  
**10525**

SHEET TOTAL  
**P.07 24**



CROSS SECTION - C.R. 129  
 STA. 12+85.00 TO STA. 13+25.00

DESIGN AGENCY



6350 PRESIDENTIAL GATEWAY  
 COLUMBUS, OHIO 43231  
 (614) 823-4949

DESIGNER

CFR

REVIEWER

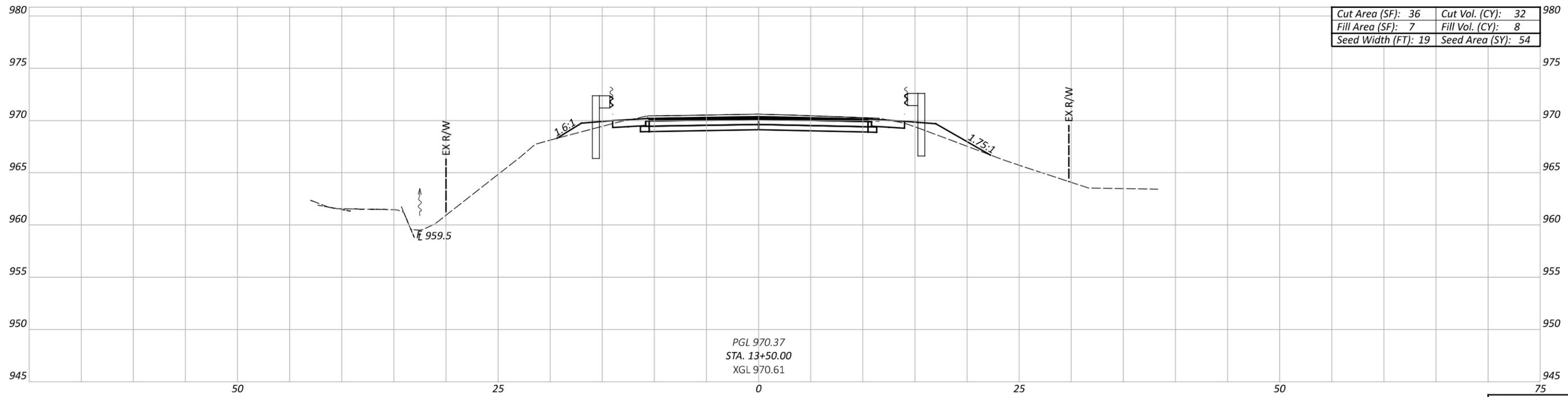
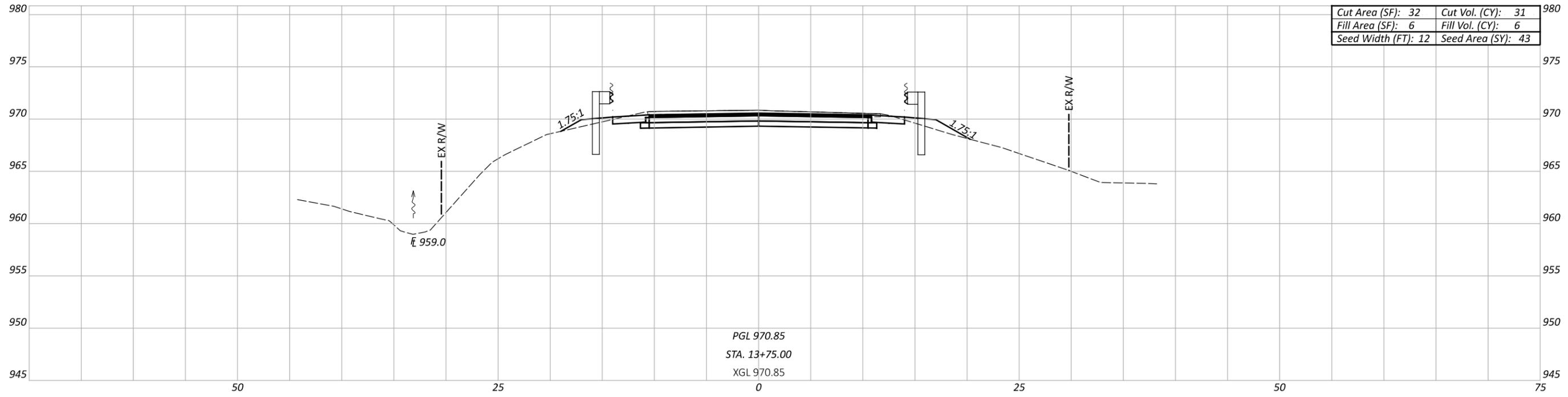
JWE 03-28-25

PROJECT ID

10525

Sheet Totals		
Seeding	Cut	Fill
45	29	5

SHEET	TOTAL
P.08	24



CROSS SECTION - C.R. 129  
 STA. 13+50.00 TO STA. 13+75.00



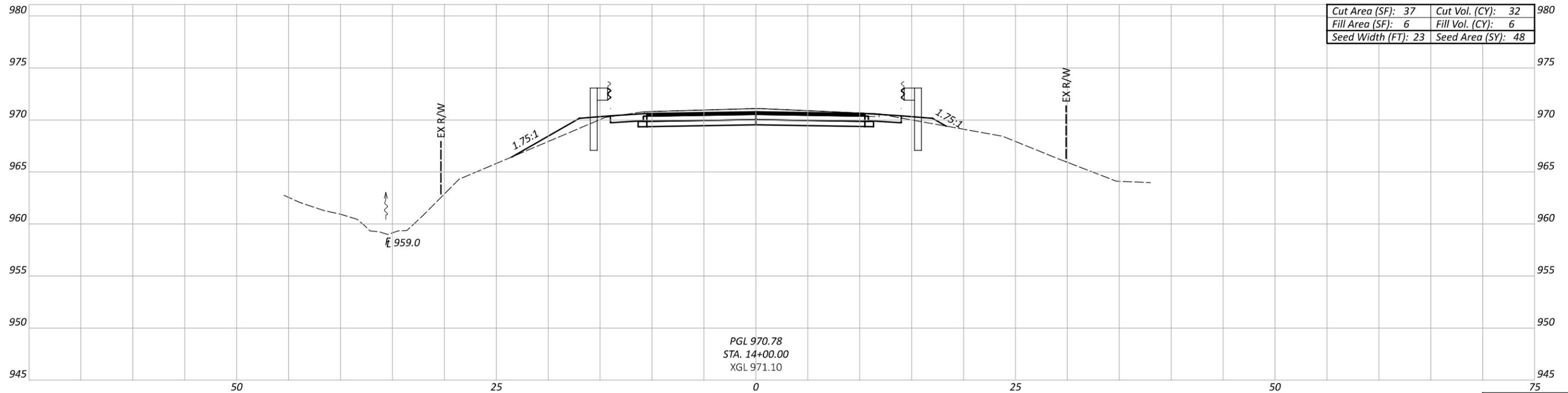
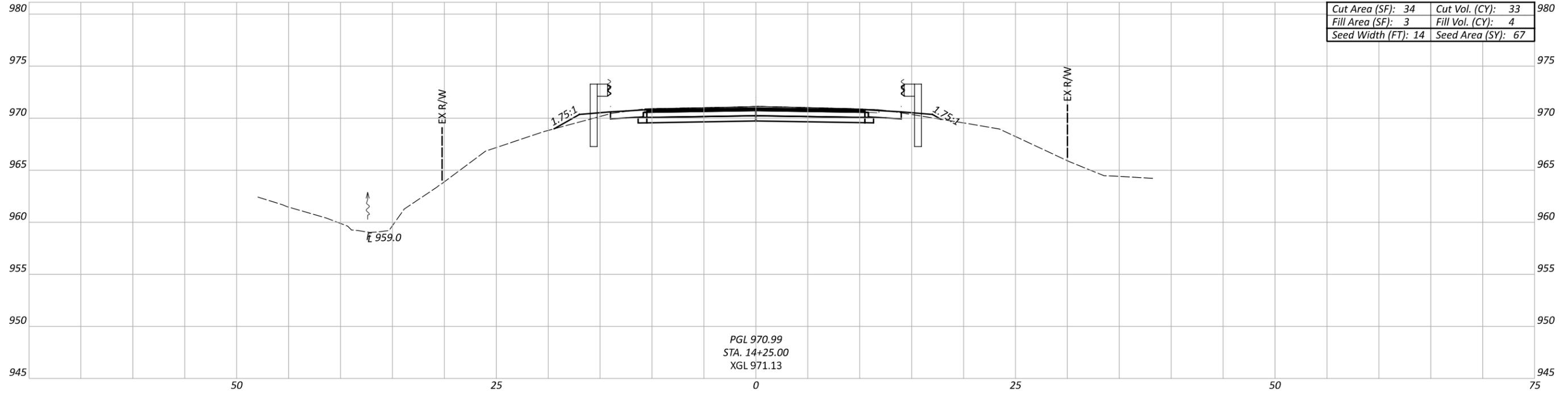
6350 PRESIDENTIAL GATEWAY  
 COLUMBUS, OHIO 43231  
 (614) 823-4949

DESIGNER  
 CFR

REVIEWER  
 JWE 03-28-25

PROJECT ID  
 10525

Sheet Totals			SHEET TOTAL	
Seeding	Cut	Fill	P.09	TOTAL
97	63	14		24



CROSS SECTION - C.R. 129  
 STA. 14+00.00 TO STA. 14+25.00

DESIGN AGENCY



6350 PRESIDENTIAL GATEWAY  
 COLUMBUS, OHIO 43231  
 (614) 823-4949

DESIGNER

CFR

REVIEWER

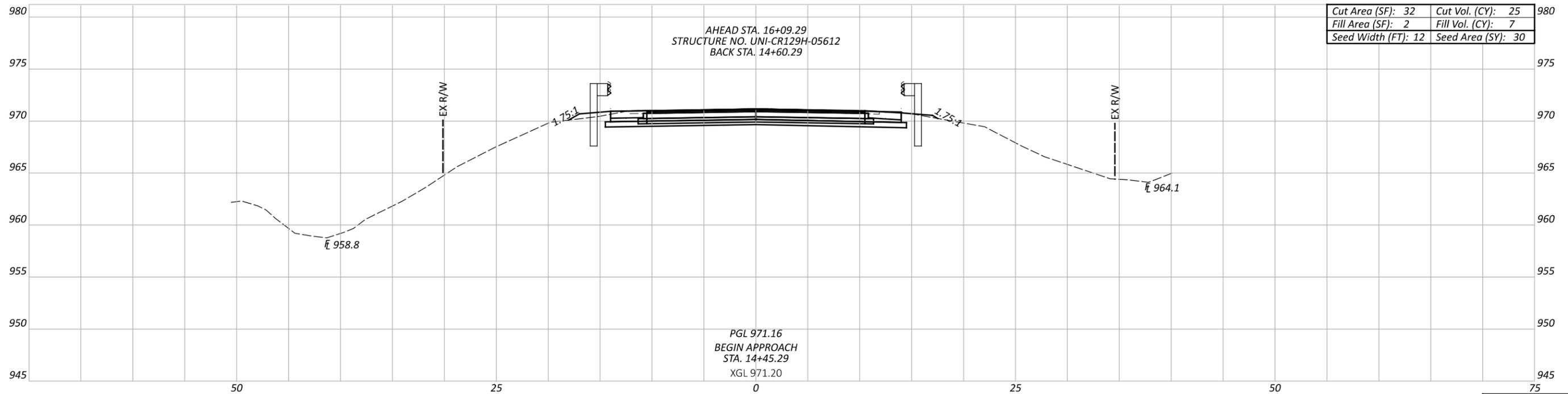
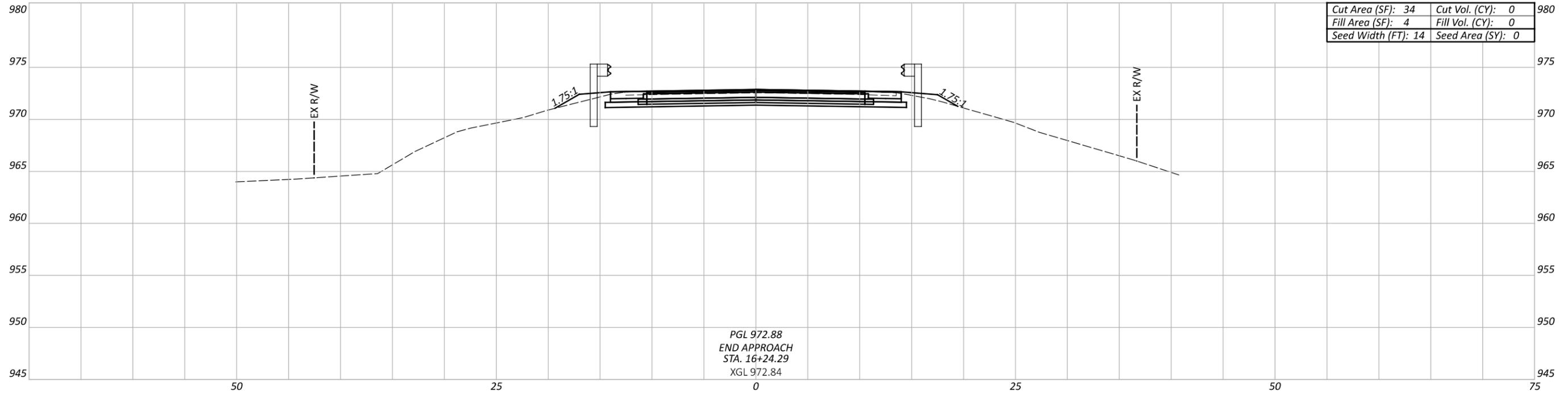
JWE 03-28-25

PROJECT ID

10525

Sheet Totals		
Seeding	Cut	Fill
115	65	10

SHEET	TOTAL
P.010	24



Sheet Totals		
Seeding	Cut	Fill
30	25	7

CROSS SECTION - C.R. 129  
 STA. 14+45.29 TO STA. 16+24.29

DESIGN AGENCY



6350 PRESIDENTIAL GATEWAY  
 COLUMBUS, OHIO 43231  
 (614) 823-4949

DESIGNER

CFR

REVIEWER

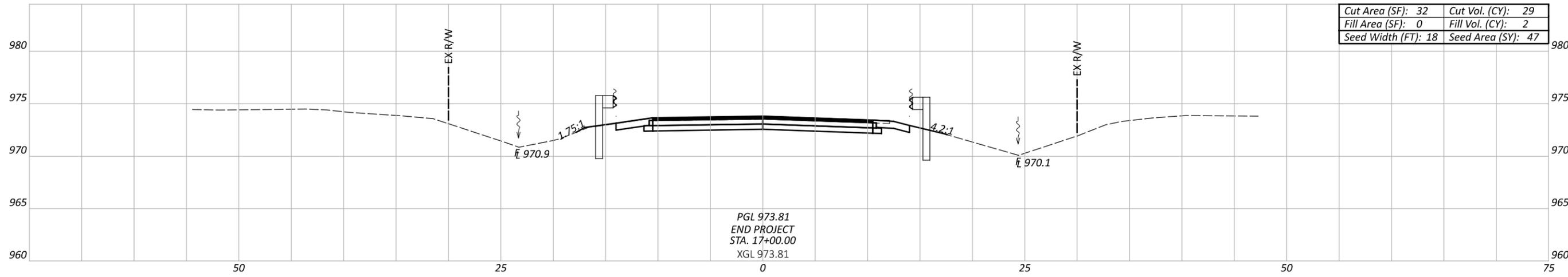
JWE 03-28-22

PROJECT ID

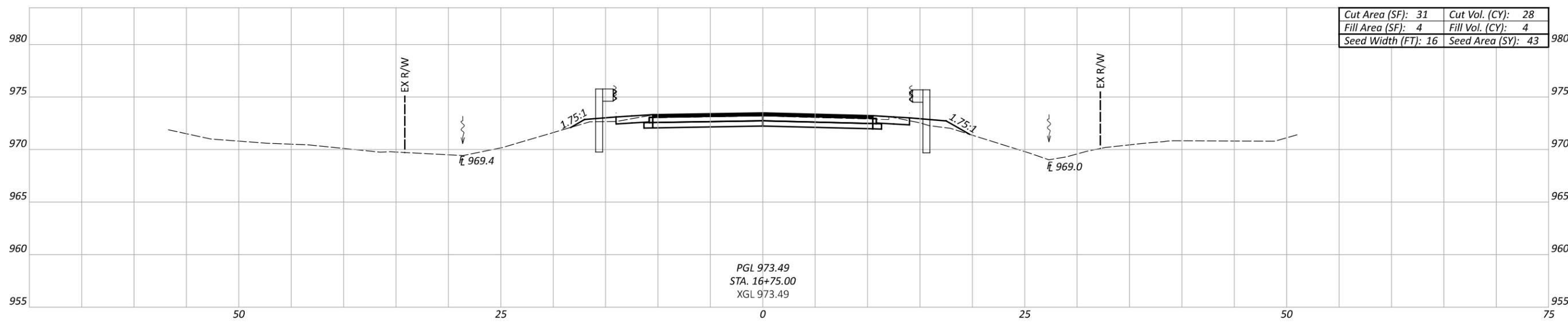
10525

SHEET TOTAL

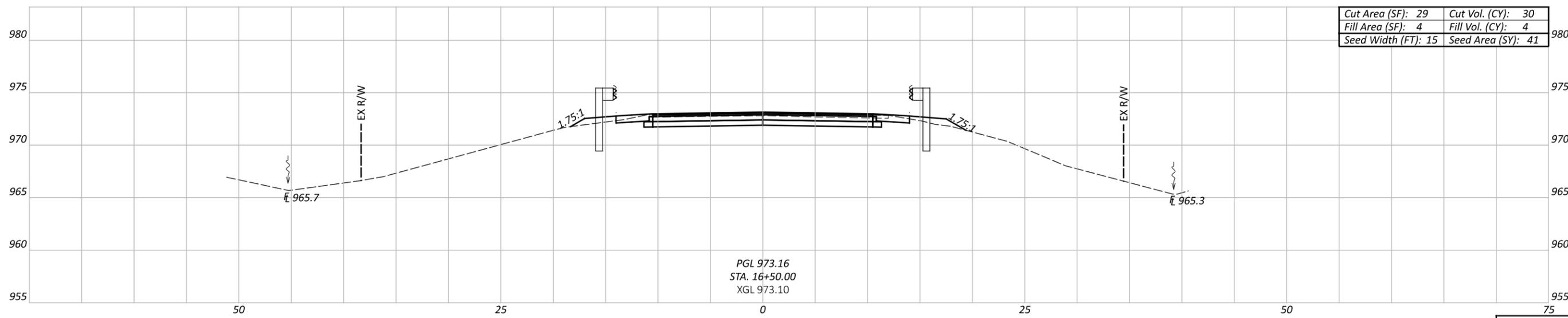
P.011 24



Cut Area (SF): 32	Cut Vol. (CY): 29
Fill Area (SF): 0	Fill Vol. (CY): 2
Seed Width (FT): 18	Seed Area (SY): 47



Cut Area (SF): 31	Cut Vol. (CY): 28
Fill Area (SF): 4	Fill Vol. (CY): 4
Seed Width (FT): 16	Seed Area (SY): 43

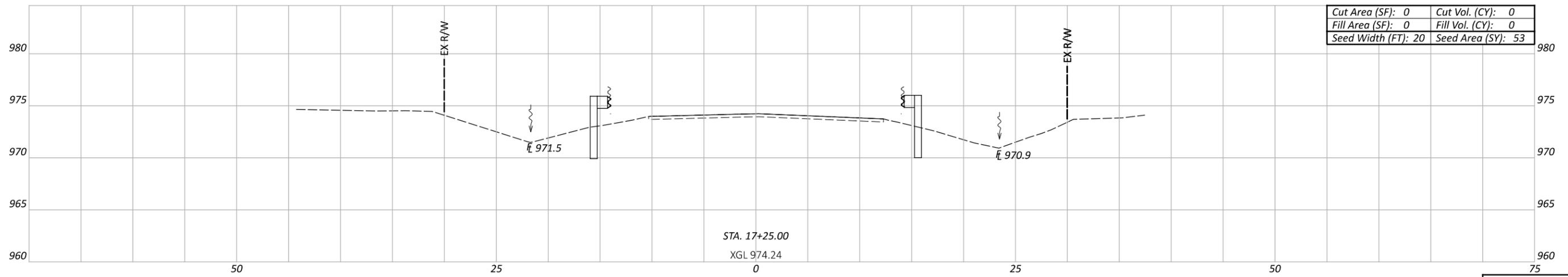
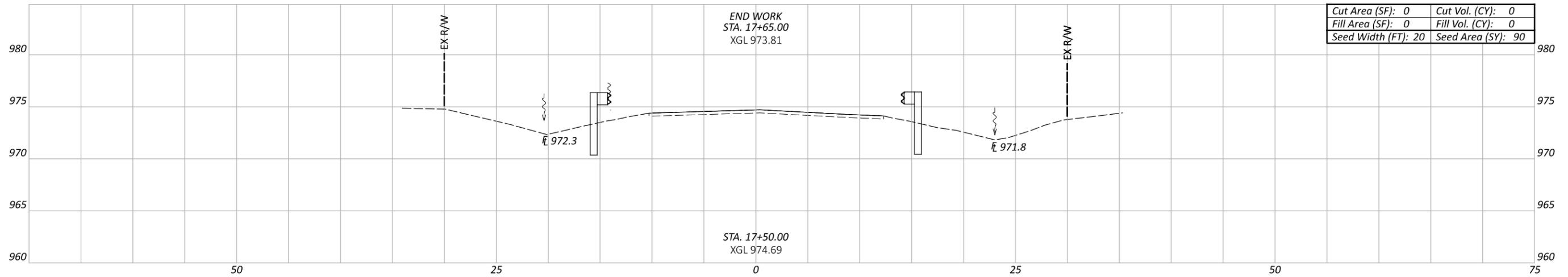


Cut Area (SF): 29	Cut Vol. (CY): 30
Fill Area (SF): 4	Fill Vol. (CY): 4
Seed Width (FT): 15	Seed Area (SY): 41

CROSS SECTION - C.R. 129  
 STA. 16+50.00 TO STA. 17+00.00

DESIGN AGENCY  
  
 6350 PRESIDENTIAL GATEWAY  
 COLUMBUS, OHIO 43231  
 (614) 823-4949  
 DESIGNER  
 CFR  
 REVIEWER  
 JWE 03-28-25

Sheet Totals			10525	
Seeding	Cut	Fill	SHEET	TOTAL
131	87	10	P.012	24



Sheet Totals		
Seeding	Cut	Fill
143	0	0

CROSS SECTION - C.R. 127  
 STA. 17+25.00 TO STA. 17+65.00



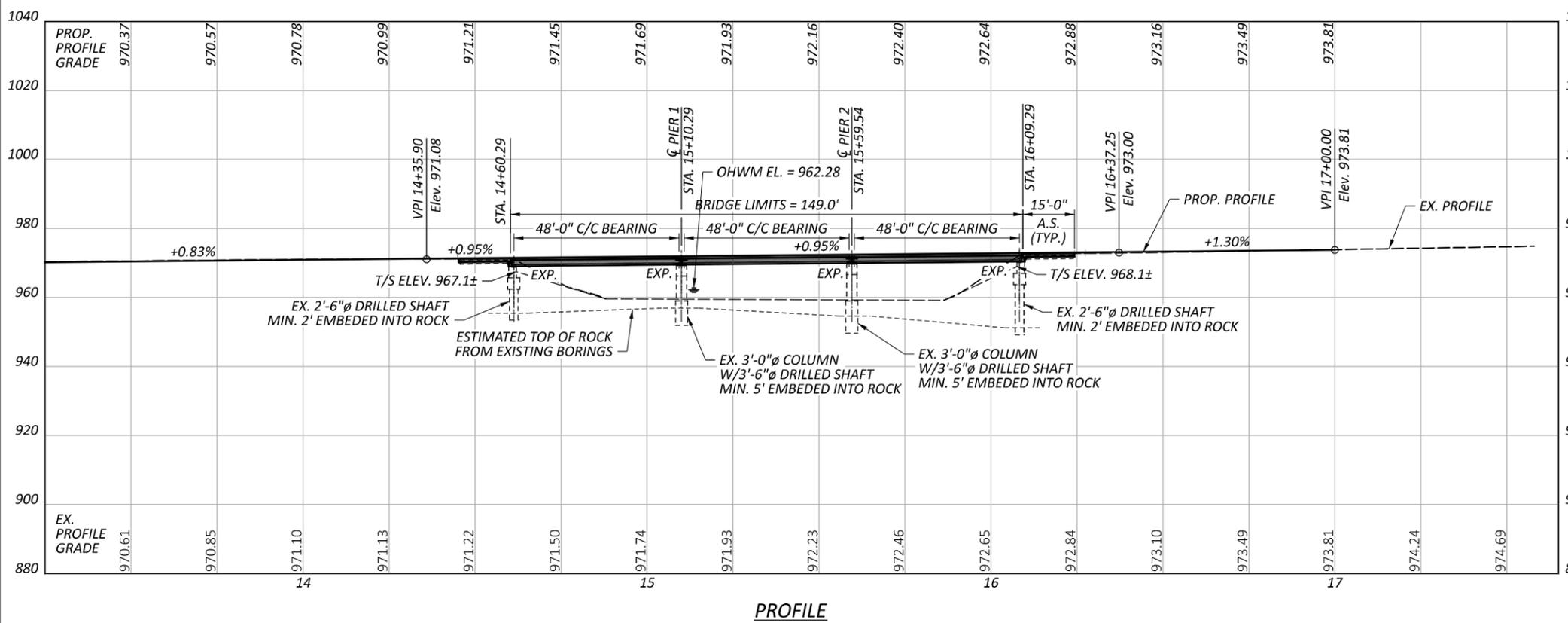
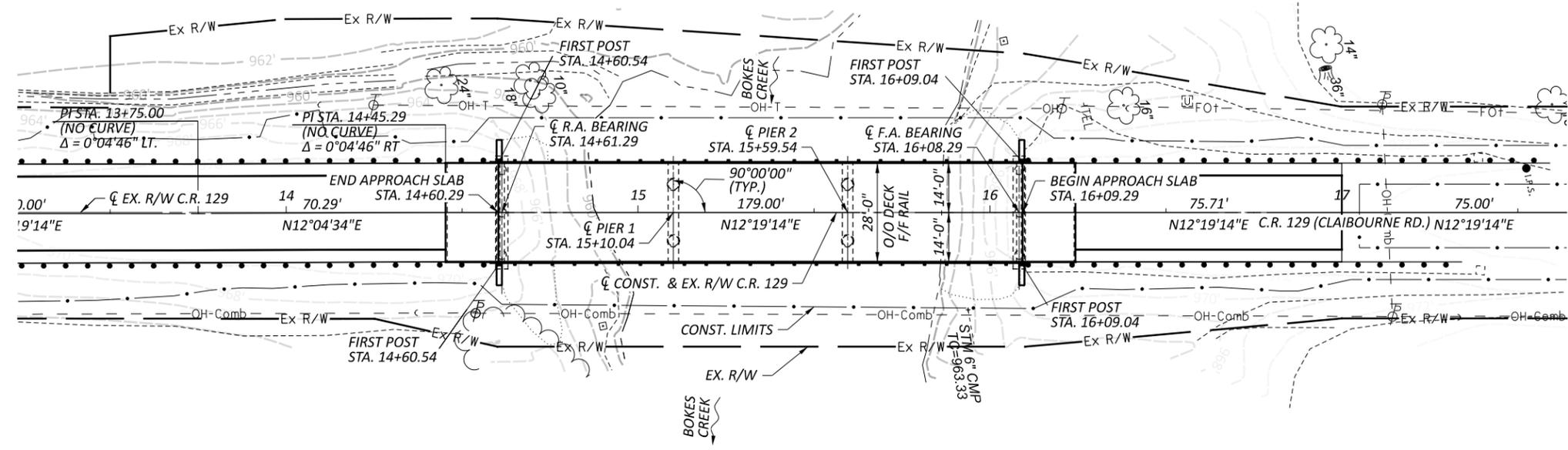
6350 PRESIDENTIAL GATEWAY  
 COLUMBUS, OHIO 43231  
 (614) 823-4949

DESIGNER  
 CFR

REVIEWER  
 JWE 03-28-25

PROJECT ID  
 10525

SHEET	TOTAL
P.013	24



**BENCHMARK DATA**

BM #1 STA.	24+81.41,	ELEV.	1145.89,	OFFSET	14.46',	LT.
BM #2 STA.	21+52.04,	ELEV.	1161.08,	OFFSET	12.98',	LT.
BM #3 STA.	12+00.17,	ELEV.	1142.99,	OFFSET	26.51',	LT.

FOR ADDITIONAL BENCHMARK INFORMATION. SEE ROADWAY PLAN SHEET P.07/21

**NOTES**

EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.

**DESIGN TRAFFIC:**

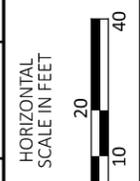
2024 ADT = 662	2024 ADTT =
2044 ADT = 794	2044 ADTT =
DIRECTIONAL DISTRIBUTION = 0.61	

**LEGEND**

× - BENCHMARK

**HYDRAULIC DATA**

N/A



**SITE PLAN**  
**UNI-CR129H-0561**  
**C.R. 129 OVER BOKES CREEK**

**EXISTING STRUCTURE**

**TYPE:** THREE SPAN PRESTRESSED BOX BEAMS ON REINFORCED CONCRETE SUBSTRUCTURES

**SPANS:** 48'-8"±, 48'-0"±, 48'-0"± C/C BEARINGS

**ROADWAY:** 28'-0"± F/F GUARDRAIL & O/O BRIDGE DECK

**LOADING:** HS-20-44 AND ALT. MILITARY LOADING

**SKEW:** NONE

**WEARING SURFACE:** 2½"± (MIN.) ASPHALT CONCRETE

**APPROACH SLABS:** 15'-0"± LONG (AS-1-81)

**ALIGNMENT:** TANGENT

**CROWN:** 3/16" PER FOOT

**STRUCTURE FILE NUMBER:** 8054169

**DATE BUILT:** 1989

**DISPOSITION:** REMOVAL AND REPLACEMENT OF EXISTING DECK, PATCHING SUBSTRUCTURE

**PROPOSED STRUCTURE**

**TYPE:** THREE SPAN COMPOSITE PRESTRESSED BOX BEAMS (CB21-48) WITH REINFORCED CONCRETE DECK AND REHABILITATED SEMI-INTEGRAL ABUTMENTS AND PIERS ON EXISTING FOOTINGS

**SPANS:** 48'-8"±, 48'-0"±, 48'-0"± C/C BEARINGS

**ROADWAY:** 28'-0" F/F GUARDRAIL & O/O BRIDGE DECK

**LOADING:** HL93 AND 0.06 KSF FWS (SUPERSTRUCTURE) HS-20-44 AND ALTERNATE MILITARY LOADING (EXISTING SUBSTRUCTURE)

**SKEW:** NONE

**WEARING SURFACE:** 1" MONOLITHIC CONCRETE WEARING SURFACE

**APPROACH SLABS:** 15'-0" LONG (AS-1-15, AS-2-15)

**ALIGNMENT:** TANGENT

**CROWN:** 0.016 FT/FT

**DECK AREA:** 4172 SF

**COORDINATES:** LATITUDE 40° 22' 31.1" N  
LONGITUDE 83° 24' 17.0" W

SFN	8054169
DESIGN AGENCY	RESOURCE INTERNATIONAL
DESIGNER	MMS
CHECKER	EDW
REVIEWER	JWE
PROJECT ID	10525
SUBSET	1
TOTAL	11
SHEET	P.014
TOTAL	24

**STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS:**

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWING(S):

AS-1-15 REVISED 01-20-23  
 DS-1-92 REVISED 07-15-22  
 PSBD-2-07 REVISED 07-20-18  
 TST-1-99 REVISED 01-15-21

AND TO THE FOLLOWING SUPPLEMENTAL SPECIFICATION(S):

NONE

**DESIGN SPECIFICATIONS:**

THIS STRUCTURE CONFORMS TO THE "LRFD BRIDGE DESIGN SPECIFICATIONS" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 9TH EDITION 2020, AND THE ODOT BRIDGE DESIGN MANUAL, 2020, INCLUDING REVISIONS THROUGH JANUARY 2025.

**DESIGN LOADING:**

HL-93 AND FWS OF 0.060 KSF (SUPERSTRUCTURE)  
 HS-20-44 AND ALTERNATE MILITARY LOADING (EXISTING SUBSTRUCTURE)

**DESIGN DATA:**

CONCRETE CLASS QC2 - COMPRESSIVE STRENGTH 4.5 KSI (SUPERSTRUCTURE)

CONCRETE CLASS QC1 - COMPRESSIVE STRENGTH 4.0 KSI (SUBSTRUCTURE)

**CONCRETE REINFORCEMENT:**

EPOXY COATED STEEL REINFORCEMENT - MINIMUM YIELD STRENGTH 60 KSI (DECK, ABUTMENT)

STEEL C.I.P. PILES - ASTM A252 GRADE 2  
 - YIELD STRENGTH 35 KSI

CONCRETE FOR PRESTRESSED BEAMS:

COMPRESSIVE STRENGTH (FINAL) - 7.0 KSI

COMPRESSIVE STRENGTH (RELEASE) - 5.0 KSI

PRESTRESSING STRAND:

AREA = 0.167 SQ. IN.

ULTIMATE STRENGTH = 270 KSI

INITIAL STRESS = 202.5 KSI (LOW RELAXATION STRANDS)

**DECK PROTECTION METHOD:**

EPOXY COATED REINFORCING STEEL

2 1/2" CONCRETE COVER  
 STEEL DRIP STRIP

**MONOLITHIC WEARING SURFACE:**

MONOLITHIC WEARING SURFACE IS ASSUMED, FOR DESIGN PURPOSES, TO BE 1 INCH THICK.

**EXISTING STRUCTURE VERIFICATION:**

DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURE HAVE BEEN OBTAINED FROM FIELD OBSERVATIONS AND MEASUREMENTS. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING STRUCTURE AND THE PROPOSED WORK BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO CMS SECTIONS 102.05 AND 105.02.

**DEMOLITION & REMOVED MATERIALS**

THE CONTRACTOR SHALL TAKE PRECAUTIONS TO AVOID AND/OR LIMIT DEMOLITION DEBRIS FROM ENTERING THE STREAM BELOW. ANY MATERIAL THAT DOES FALL INTO THE STREAM SHALL BE REMOVED AS SOON AS POSSIBLE.

**ITEM 202: PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN.****SUBSTRUCTURE:**

PORTIONS OF EXISTING REAR ABUTMENT ARE TO BE REMOVED AS DETAILED IN THE PLANS AND AS DIRECTED BY THE ENGINEER. THE REMOVAL SHALL INCLUDE BUT NOT LIMITED TO THE ELEVATION MARKED IN PLANS.

ALL CONCRETE REMOVED AS DETAILED IN THE PLANS SHALL BE REMOVED BY MEANS OF APPROVED PNEUMATIC HAMMERS EMPLOYING POINTED AND BLUNT CHISEL TOOLS. HYDRAULIC HOE-RAM TYPE HAMMERS WILL NOT BE PERMITTED. THE WEIGHT OF THE HAMMER SHALL NOT BE MORE THAN 35 POUNDS [16 KILOGRAMS] FOR REMOVAL WITHIN 18 INCHES [450 MM] OF PORTIONS TO BE PRESERVED. OUTSIDE THE 18 INCH [450 MM] LIMIT, THE CONTRACTOR MAY USE HAMMERS NOT EXCEEDING 90 POUNDS [41 KILOGRAMS] UPON THE APPROVAL OF THE ENGINEER. DO NOT PLACE PNEUMATIC HAMMERS IN DIRECT CONTACT WITH REINFORCING STEEL THAT IS TO BE RETAINED IN REBUILT STRUCTURE.

**UTILITY LINES:**

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

**ITEM 519 - PATCHING CONCRETE STRUCTURE, AS PER PLAN:**

WITHIN 24 HOURS OF PLACING PATCHING MATERIAL, BLAST CLEAN ALL SURFACES TO BE PATCHED INCLUDING THE EXPOSED REINFORCING STEEL. ACCEPTABLE METHODS INCLUDE HIGH PRESSURE WATER BLASTING WITH OR WITHOUT ABRASIVES IN THE WATER, ABRASIVE BLASTING WITH CONTAINMENT, OR VACUUM ABRASIVE BLASTING.

PIER 1: WEST UNDERSIDE - 3 SF  
 EAST FACE - 1 SF  
 PIER 2: NORTH FACE - 4 SF

FINAL LOCATION OF PATCHING ON THE WILL BE DETERMINED IN THE FIELD BY THE ENGINEER, A QUANTITY OF 8 SF HAS BEEN PROVIDED FOR THE COST ESTIMATION PURPOSES.

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

A 2" DEEP X 1" WIDE STRIP SEAL SHALL BE SAWCUT OUT OF ALL APPROACH SLAB CONCRETE BUTTING AGAINST THE CONCRETE BACKWALL AFTER THE APPROACH SLABS HAVE BEEN CONSTRUCTED. JOINT SEALER PER 705.04 SHALL BE USED TO SEAL THE JOINT CREATED.

**BEARING PAD SHIMS:**

PLACE 1/8" THICK PREFORMED BEARING PAD SHIMS, PLAN AREA 6" X 8", UNDER THE ELASTOMERIC BEARING PADS WHERE REQUIRED FOR PROPER BEARING. FURNISH TWO SHIMS PER BEAM.

**ABBREVIATIONS:**

ABUT - ABUTMENT	N.F. - NEAR FACE
APPROX. - APPROXIMATE	NO. - NUMBER
A.S. - APPROACH SLAB	NPCPP - NON-PERFORATED
BRG - BEARING	CORRUGATED PLASTIC PIPE
C/C - CENTER TO CENTER	PCPP - PERFORATED CORRUGATED
C.I.P. - CAST-IN-PLACE	PLASTIC PIPE
C.J. - CONSTRUCTION JOINT	PEJF - PREFORMED EXPANSION
CLR. - CLEAR	JOINT FILLER
CONST - CONSTRUCTION	PG - PROFILE GRADE
E.F. - EACH FACE	PROP. - PROPOSED
EL. - ELEVATION	R.A. - REAR ABUTMENT
EST. - ESTIMATED	REQ'D - REQUIRED
EX. - EXISTING	RT. - RIGHT
EXP. - EXPANSION	SB - SOUTH BOUND
F.A. - FORWARD ABUTMENT	SER - SERIES
F.F. - FAR FACE	SPA. - SPACES
F.S. - FIELD SPLICE	STA. - STATION
FT. - FEET	STR. - STRAIGHT
FWD. - FORWARD	SUPER. - SUPERSTRUCTURE
G/R - GUARD RAIL	T & B - TOP & BOTTOM
INCR. - INCREMENT	T/T - TOE TO TOE
LT. - LEFT	TYP. - TYPICAL
MAX. - MAXIMUM	VERT. - VERTICAL
MIN. - MINIMUM	W/ - WITH
NB - NORTH BOUND	

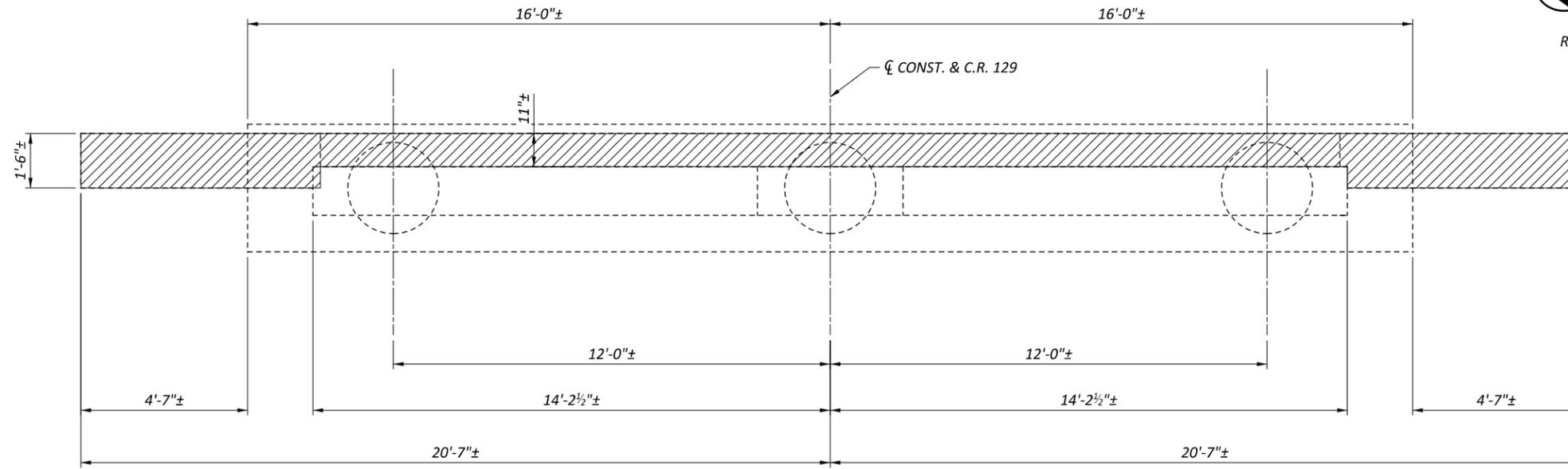
ESTIMATED QUANTITIES

CALC BY : EDW 03/05/25  
 CHECKED BY: MMS 03/07/25

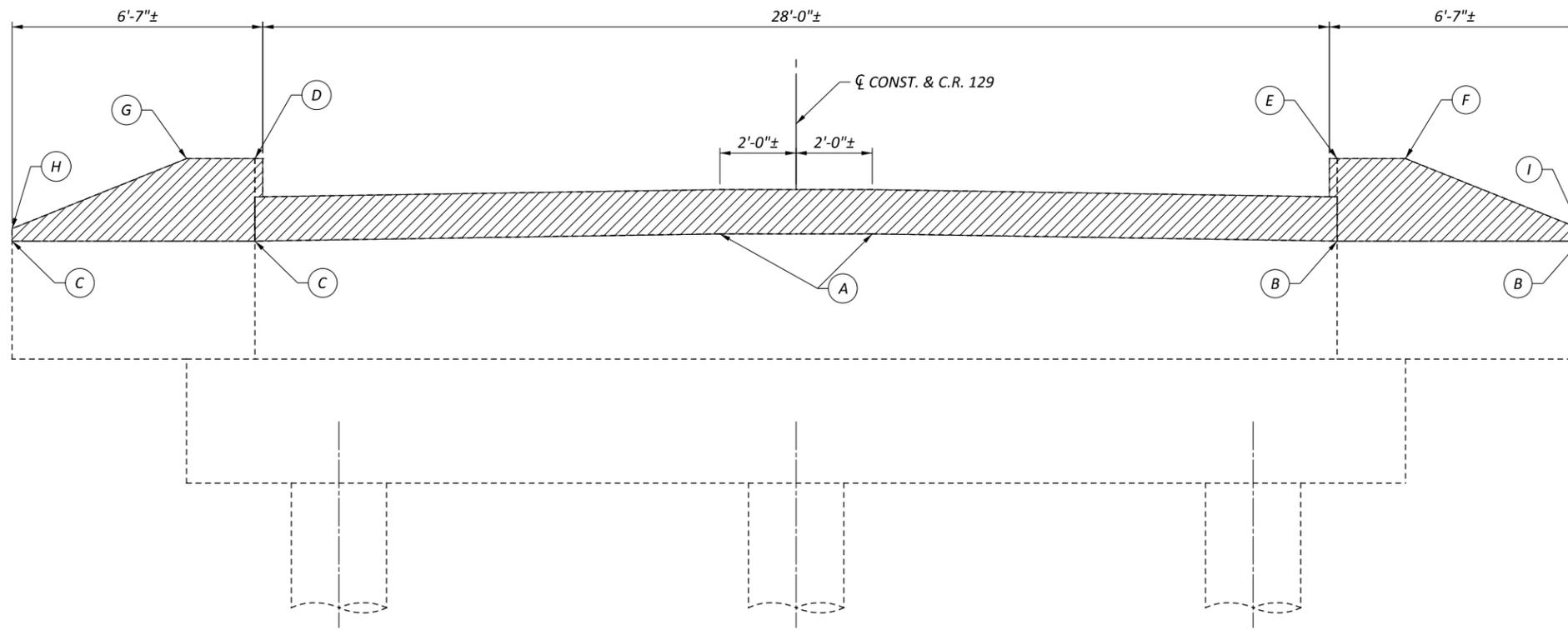
ITEM	EXT.	QUANTITY	UNIT	DESCRIPTION	SUB.	SUPER.	GEN.	SHEET NO.
202	11203	LUMP	LUMP	PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN			LUMP	2
202	23500	461	SQ YD	WEARING COURSE REMOVED			461	
503	11100	LUMP	LUMP	COFFERDAMS AND EXCAVATION BRACING			LUMP	
503	21300	LUMP	LUMP	UNCLASSIFIED EXCAVATION			LUMP	
509	10000	24,390	POUND	EPOXY COATED REINFORCING STEEL	344	24,046		
1	510	10000	56	EACH				
				DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT				
511	31612	85	CU YD	CLASS QC2 CONCRETE WITH QC/QA, SUPERSTRUCTURE		85		
511	44110	3	CU YD	CLASS QC1 CONCRETE WITH QC/QA, ABUTMENT NOT INCLUDING FOOTING	3			
512	10100	55	1	SQ YD	25	30		
512	33000	9	1	SQ YD	9			
515	12030	21	EACH	PRESTRESSED CONCRETE COMPOSITE BOX BEAM BRIDGE MEMBERS, LEVEL 1, CB21-48 (L = 49'-0")		21		
516	13600	15	SQ FT	1" PREFORMED EXPANSION JOINT FILLER	15			
516	25000	186	SQ FT	NYLON REINFORCED NEOPRENE SHEETING	186			
516	31011	56	FT	2" DEEP JOINT SEALER, AS PER PLAN	56			2
516	41100	42	EACH	3/8" PREFORMED BEARING PAD (6" X 8")		42		
516	43100	84	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES ONLY (NEOPRENE) (6" X 8" X 1.32")		84		
517	70000	306.83	1	FT			306.83	
1	518	21200	6	CU YD				
				POROUS BACKFILL WITH GEOTEXTILE FABRIC				
SPECIAL	518E22300	366	FT	STEEL DRIP STRIP			366	
519	11101	8	SF	PATCHING CONCRETE STRUCTURE, AS PER PLAN	8			2
526	10010	31	SY	REINFORCED CONCRETE APPROACH SLABS WITH QC/QA (T=12")			31	

ESTIMATED QUANTITIES  
 UNI-CR129H-0561  
 C.R. 129 OVER BOKES CREEK

SFN 8054169  
 DESIGN AGENCY  
  
 6350 PRESIDENTIAL GATEWAY  
 COLUMBUS, OHIO 43231  
 (614) 823-4949  
 DESIGNER: MMS CHECKER: EDW  
 REVIEWER: JWE 03-27-25  
 PROJECT ID: 10525  
 SUBSET TOTAL: 3 11  
 SHEET TOTAL: P.016 24

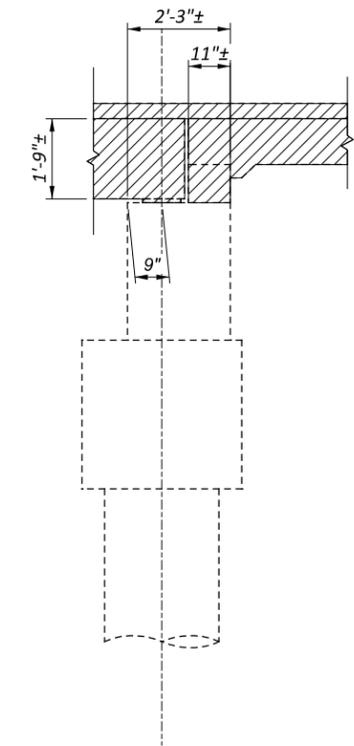


PLAN



ELEVATION

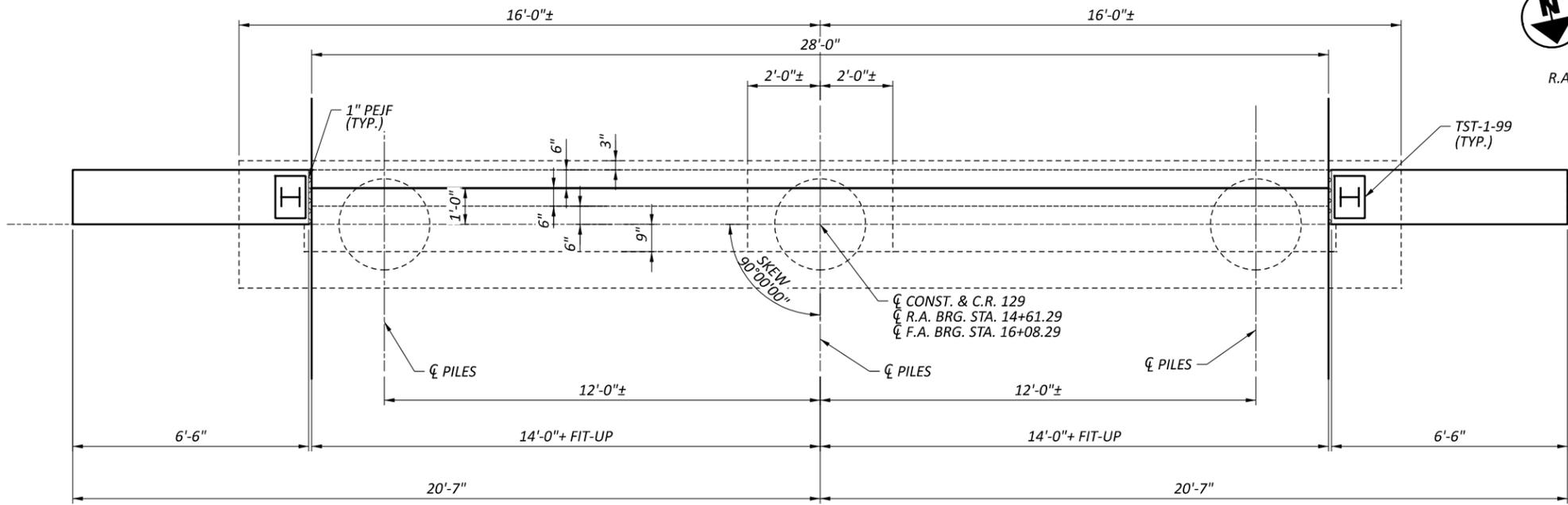
ELEVATION	A	B	C	D	E	F	G	H	I
R.A.	968.96±	968.81±	968.80±	971.04±	971.01±	970.94±	971.03±	969.12±	969.13±
F.A.	970.36±	970.19±	970.17±	972.42±	972.40±	972.38±	972.36±	970.37±	970.36±



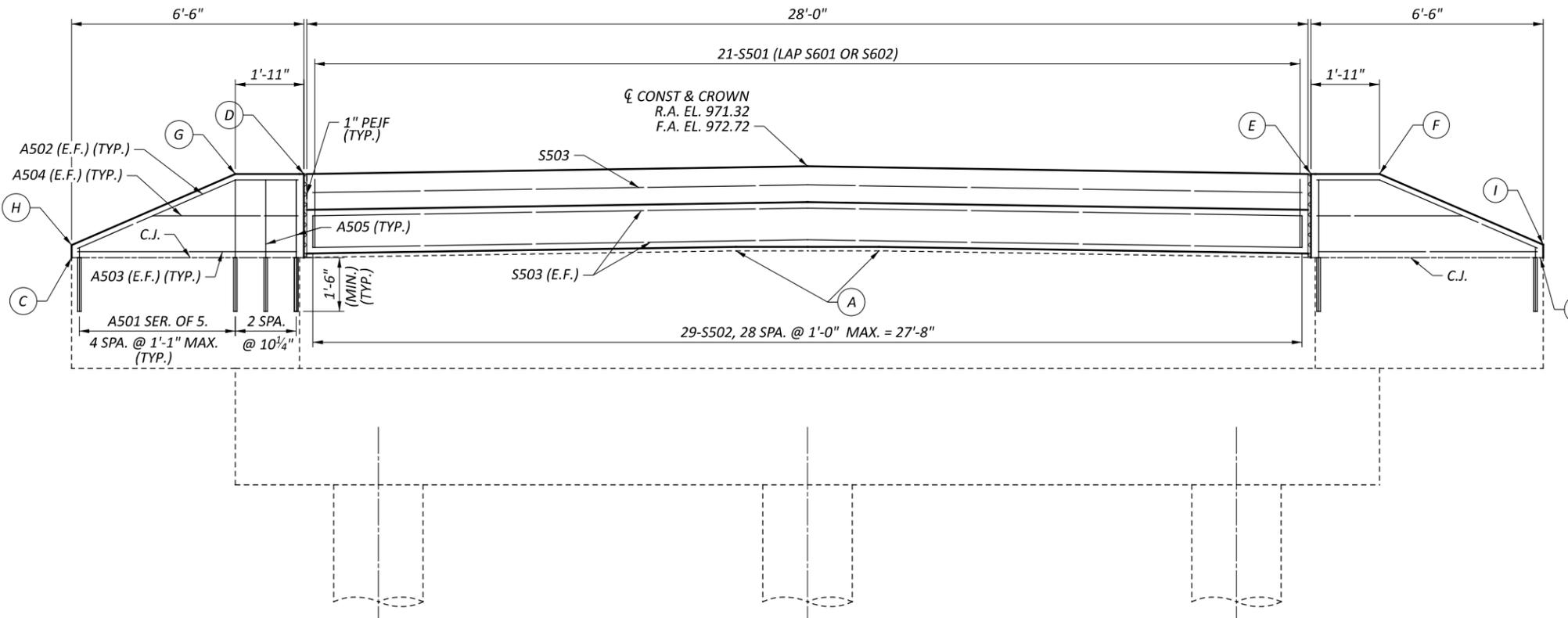
EXISTING ABUTMENT SECTION

LEGEND:

- ITEM 202 - PORTIONS OF STRUCTURE REMOVED



**PLAN**  
 REAR ABUTMENT SHOWN  
 (F.A SIMILAR)

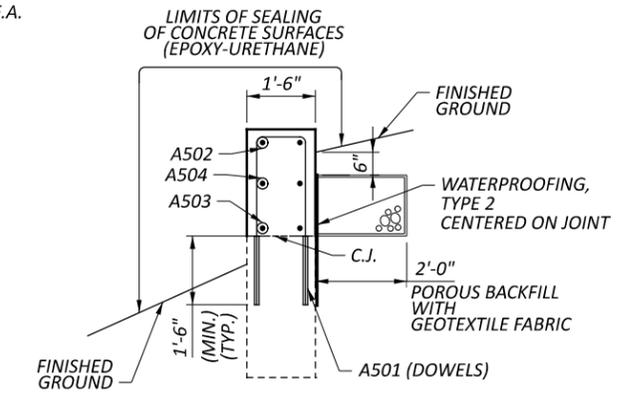
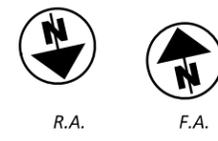


**ELEVATION**  
 REAR ABUTMENT SHOWN  
 (F.A SIMILAR)

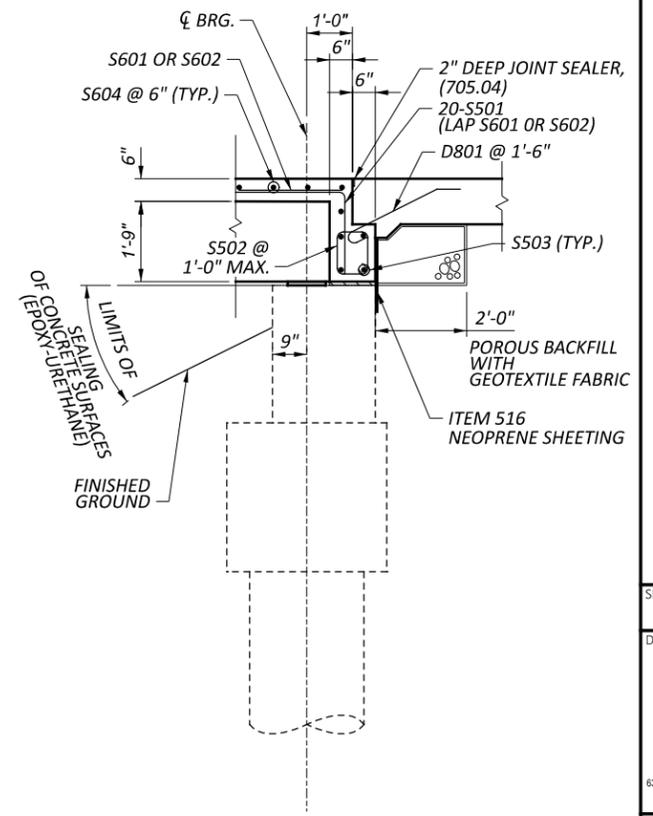
ELEVATION	A	B	C	D	E	F	G	H	I
R.A.	968.96	968.81	968.80	971.10	971.10	971.10	971.10	969.31	969.30
F.A.	970.36	970.19	970.17	972.50	972.50	972.50	972.50	970.67	970.69

**NOTES:**

- DO NOT PLACE THE ABUTMENT CONCRETE ABOVE THE BRIDGE SEAT CONSTRUCTION JOINT UNTIL THE PRESTRESSED CONCRETE BOX BEAMS HAVE BEEN ERECTED.
- INSTALL A 3'-0" WIDE STRIP OF ITEM 516 NEOPRENE SHEETING CENTERED ON THE JOINT.
- INSTALL TYPE 2 WATERPROOFING, 3 FT. WIDE, CENTERED ON THE CONSTRUCTION JOINT AT WINGWALLS.

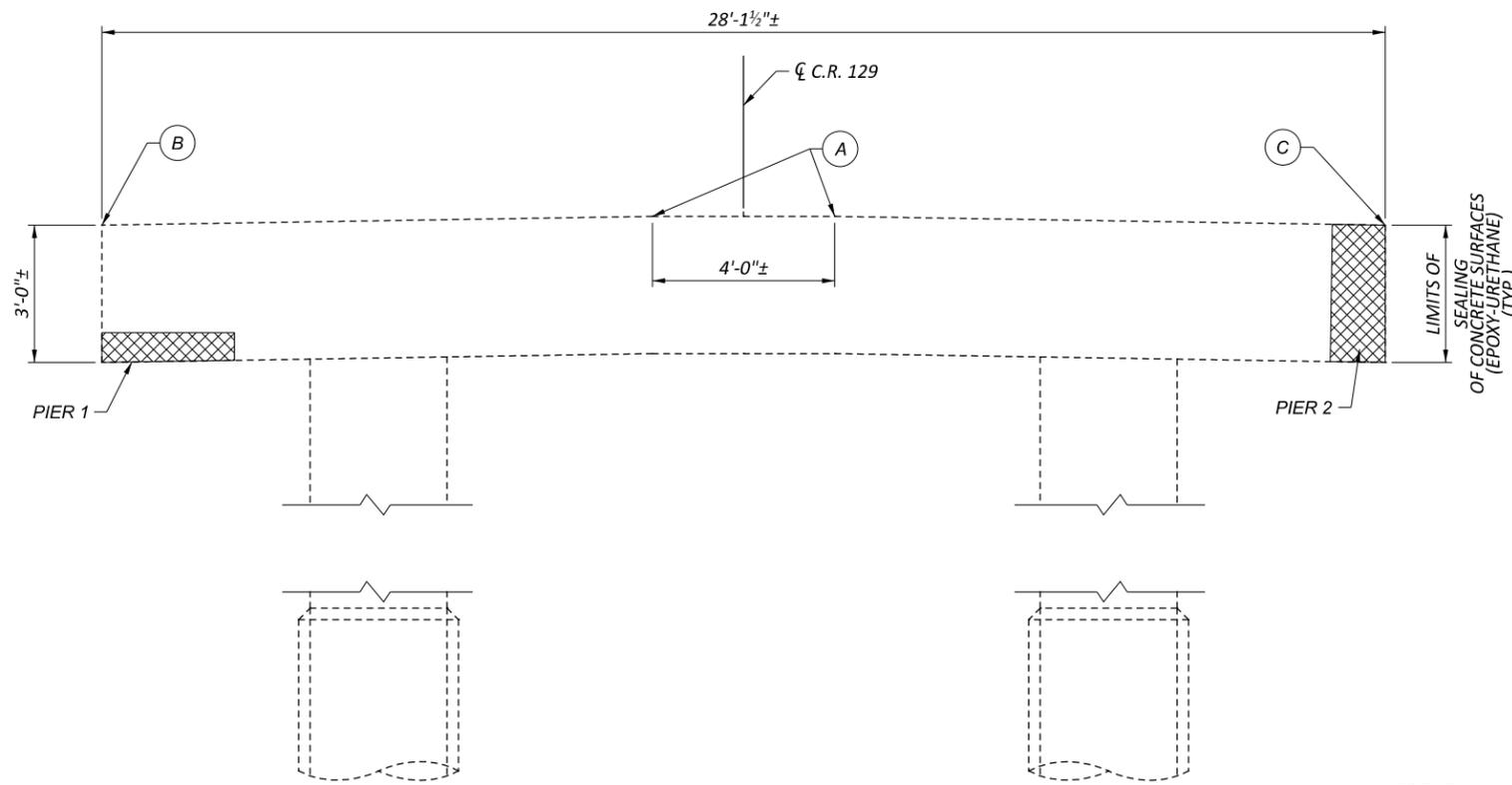
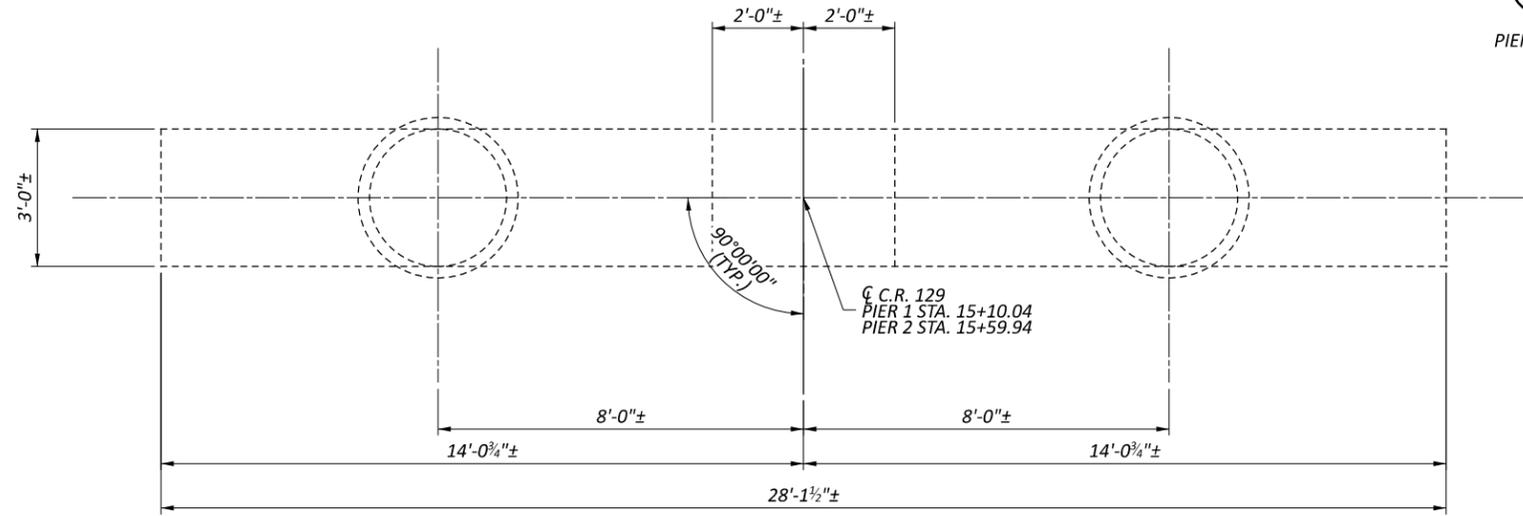


**PROPOSED WINGWALL SECTION**



**PROPOSED ABUTMENT SECTION**

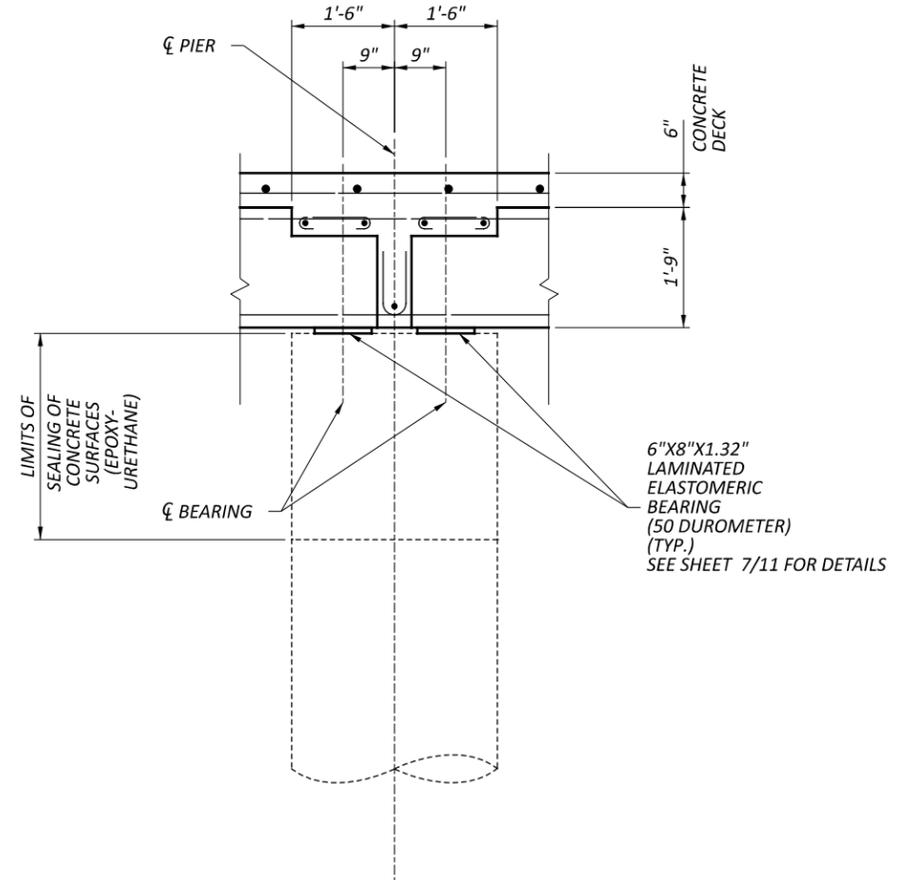
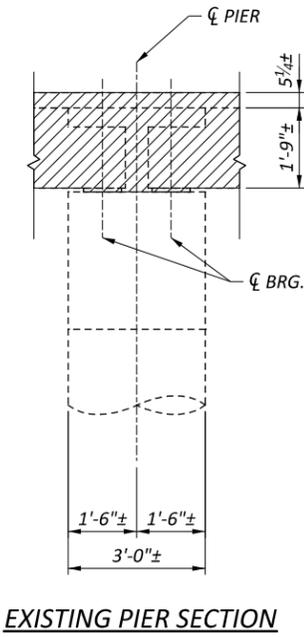
SFN  
 8054169  
 DESIGN AGENCY  
  
 8350 PRESIDENTIAL GATEWAY  
 COLUMBUS, OHIO 43231  
 (614) 823-4949  
 DESIGNER: MMS  
 CHECKER: EDW  
 REVIEWER:  
 JWWE 03-27-25  
 PROJECT ID: 10525  
 SUBSET: 5 TOTAL: 11  
 SHEET: P.018 TOTAL: 24  
 REV. DATE: 04/17/2025

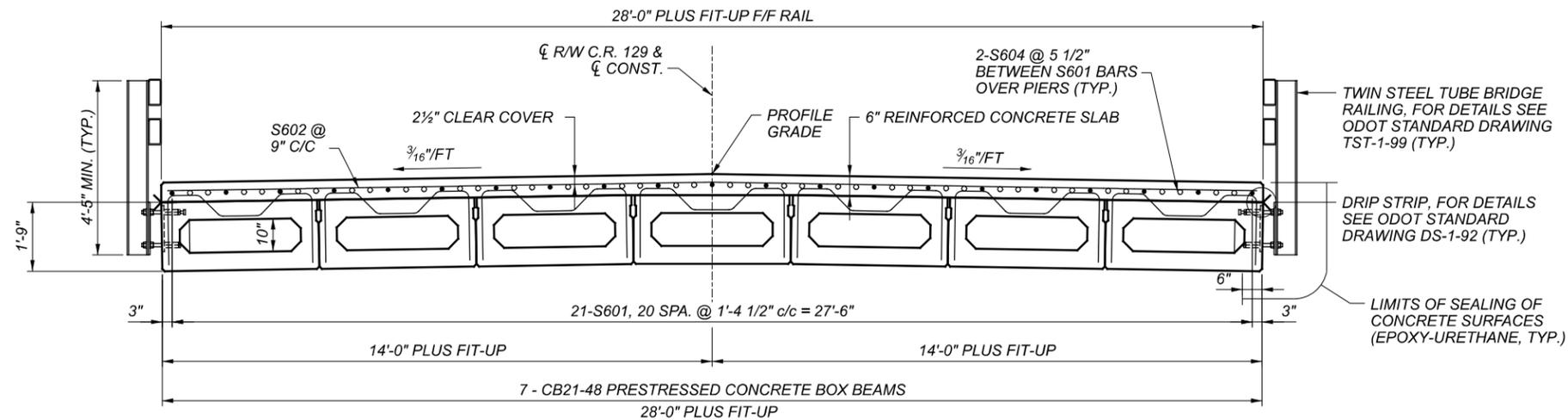


ELEVATION	A	B	C
PIER 1	969.44	969.23	969.20
PIER 2	969.97	969.72	969.74

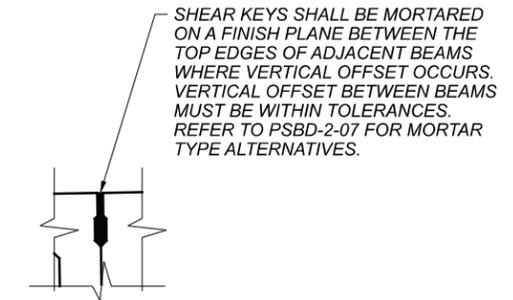
LEGEND:

- ITEM 202 - PORTIONS OF STRUCTURE REMOVED
- ITEM 519 - PATCHING CONCRETE STRUCTURE, AS PER PLAN

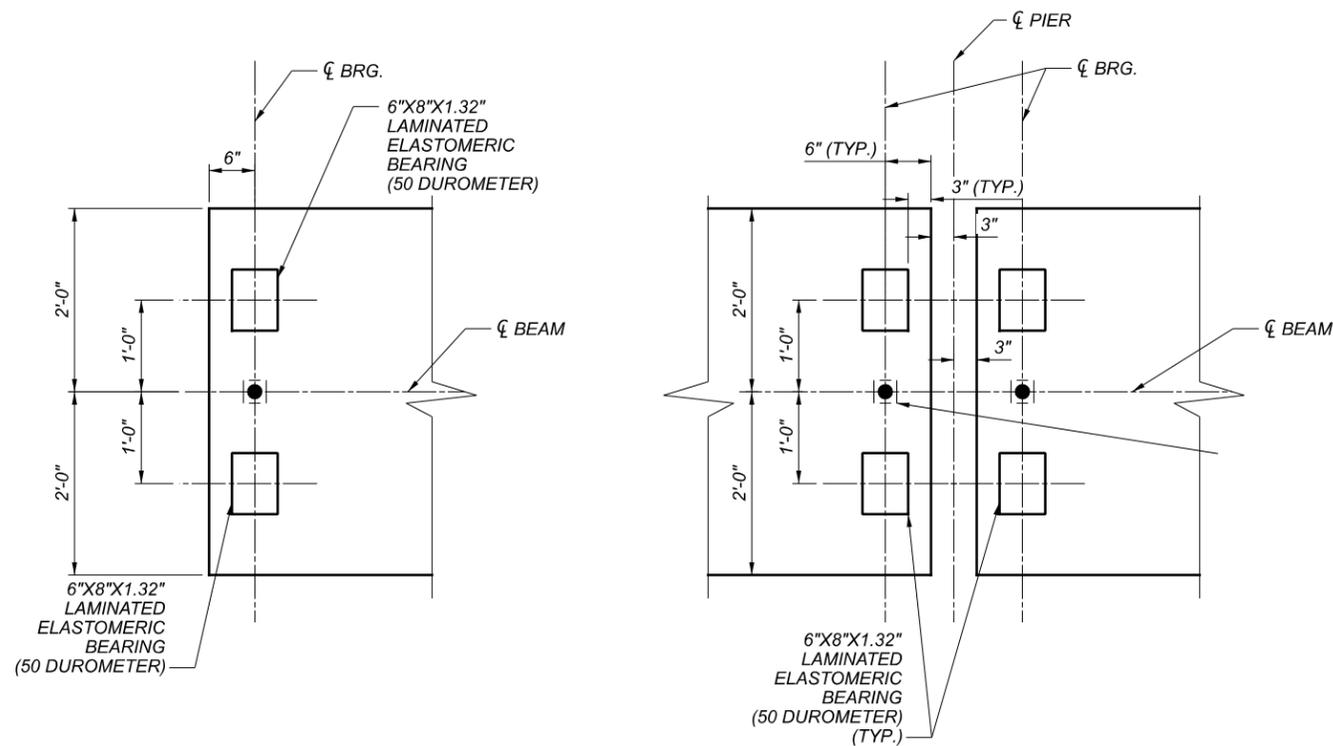




**TRANSVERSE SECTION**

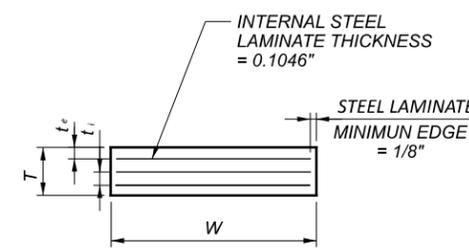


**SHEAR KEY DETAIL**

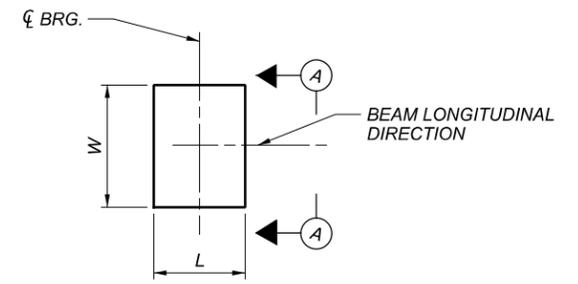


**ABUTMENT BEARING PAD LAYOUT**

**PIER BEARING PAD LAYOUT**



**VIEW A-A**



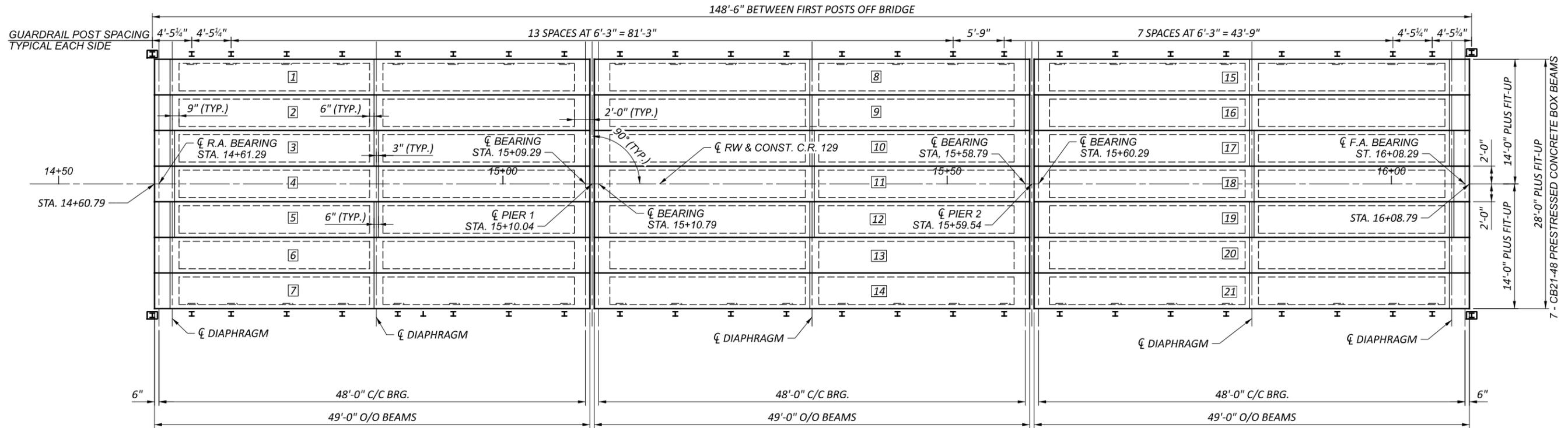
**BEARING PLAN**

**LAMINATED ELASTOMERIC BEARING DETAILS**

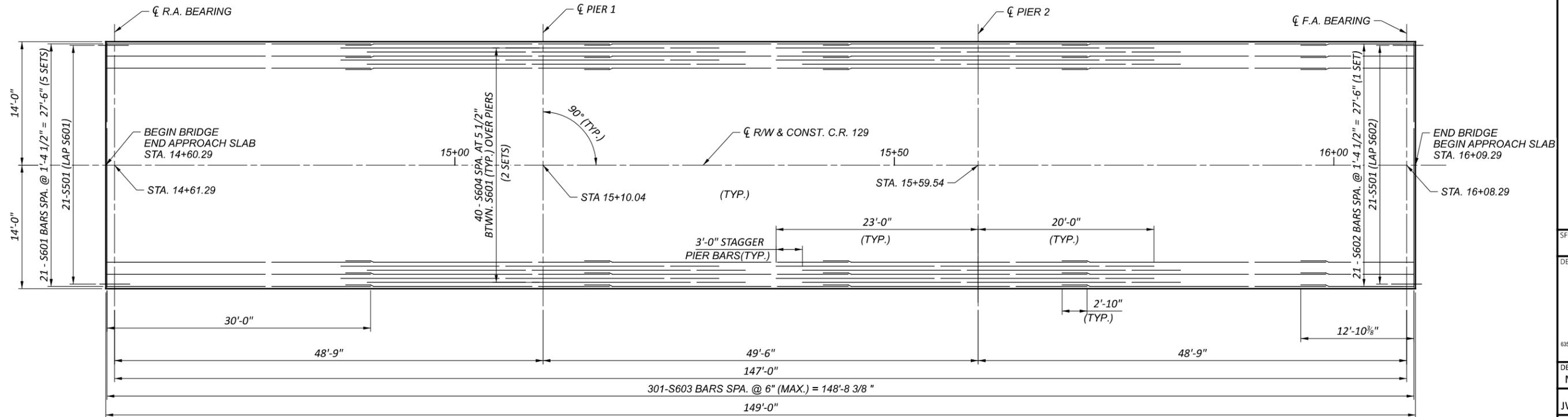
LOCATION	PAD DIMENSIONS							NO. STEEL LAMINATES	REACTIONS		MAXIMUM DESIGN LOAD
	L	W	T	t <sub>e</sub>	NO.	t <sub>i</sub>	NO.		DL	LL	
	ABUTMENTS	6"	8"	1.32"	0.20"	2	0.30"		2	3	
PIERS	6"	8"	1.32"	0.20"	2	0.30"	2	3	17.32 K	12.23 K	29.55K

**NOTES:**

1. THE ELASTOMER SHALL HAVE A HARDNESS OF 50 DUROMETER. THE BEARINGS WERE DESIGNED IN ACCORDANCE WITH SECTION 14.7.6 (METHOD A) OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS. THE LONG TERM COMPRESSION PROOF LOAD TEST (AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, DIVISION II, SECTION 18.7.2.6) IS NOT REQUIRED.



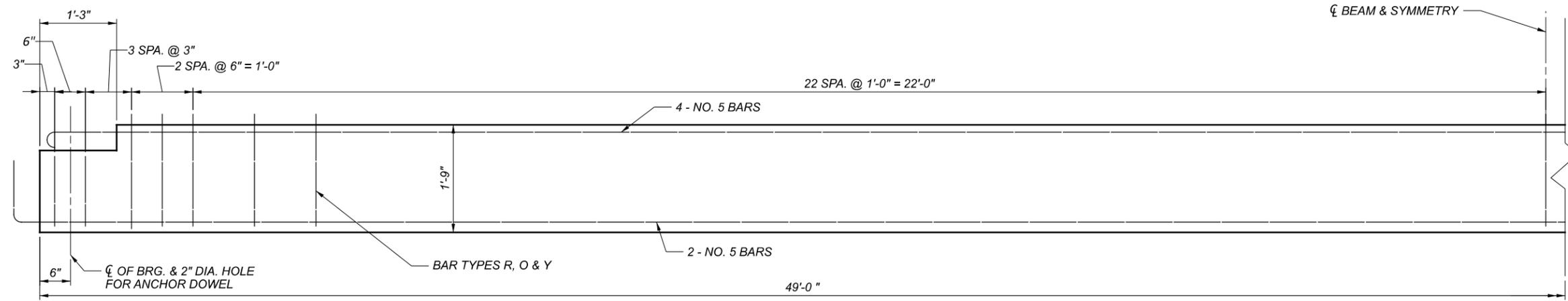
FRAMING PLAN



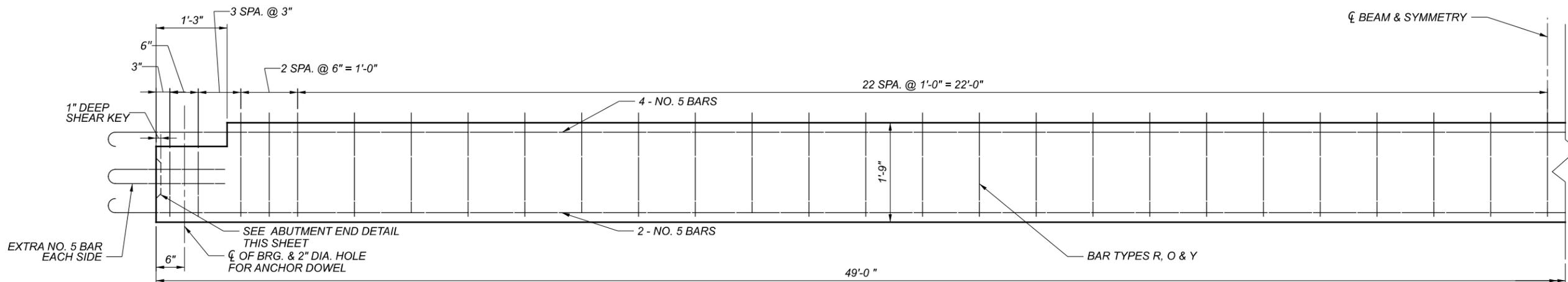
DECK REINFORCEMENT

SUPERSTRUCTURE DETAILS  
 UNI-CR129H-0561  
 C.R. 129 OVER BOKES CREEK

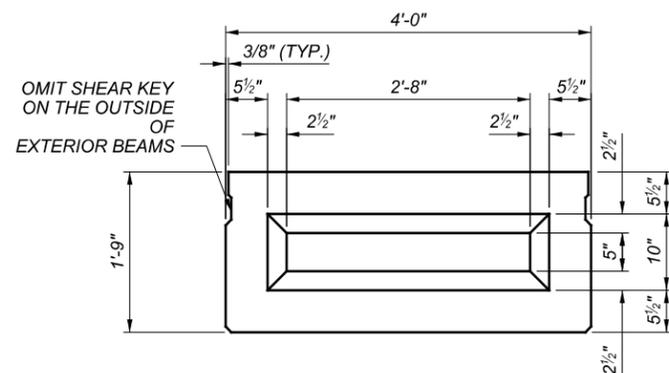
SFN 8054169	
DESIGN AGENCY	
8350 PRESIDENTIAL GATEWAY COLUMBUS, OHIO 43231 (614) 823-4949	
DESIGNER	CHECKER
MMS	EDW
REVIEWER	
JWE	03-27-25
PROJECT ID	
10525	
SUBSET	TOTAL
8	11
SHEET	TOTAL
P.021	24



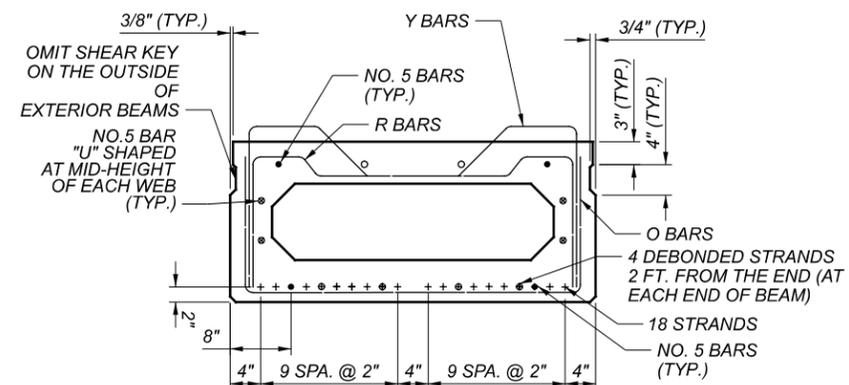
**PIER END SHOWN**



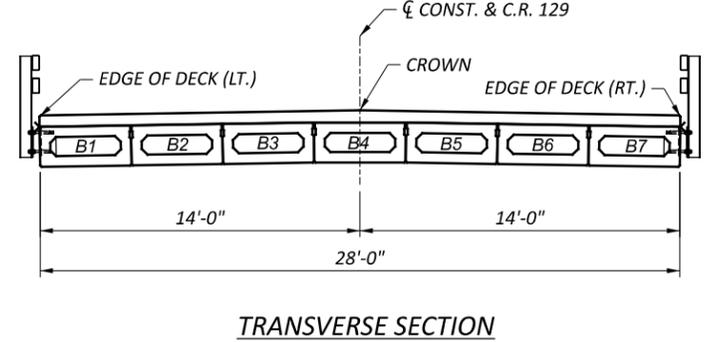
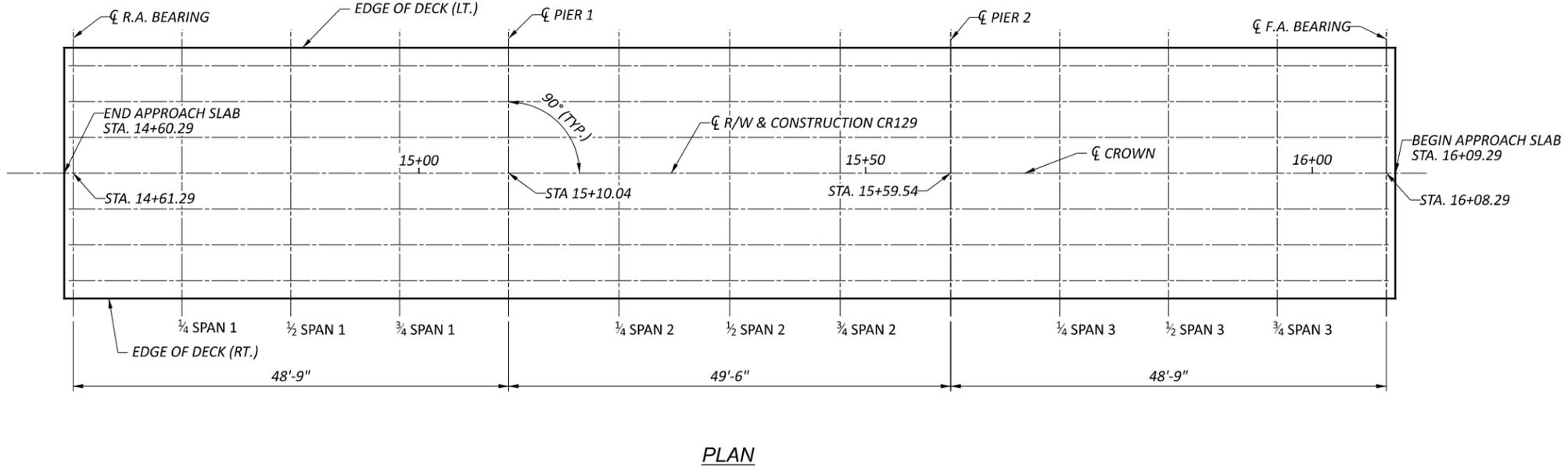
**ABUTMENT END SHOWN**



**ABUTMENT END DETAIL**



**BEAM DETAILS - CB21-48**

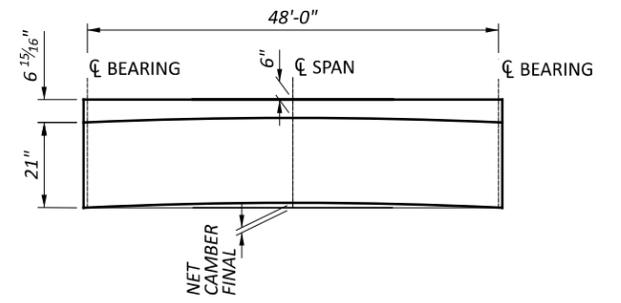


TRANSVERSE SECTION

PLAN

SCREED ELEVATION & FINAL DECK ELEVATION TABLE														
SCREED LINE	DESCRIPTION	CL BRGS. R.A.	SPAN 1 (C/C BRG.)			CL PIER 1	SPAN 2 (C/C BRG.)			CL PIER 2	SPAN 3 (C/C BRG.)			CL BRGS. F.A.
			¼ SPAN	½ SPAN	¾ SPAN		¼ SPAN	½ SPAN	¾ SPAN		¼ SPAN	½ SPAN	¾ SPAN	
EDGE OF DECK (LT.)	STATION	14+61.29	14+73.29	14+85.29	14+97.29	15+10.04	15+22.79	15+34.79	15+46.79	15+59.54	15+72.29	15+84.29	15+96.29	16+08.29
	FINAL DECK EL.	971.08	971.21	971.32	971.44	971.56	971.68	971.79	971.91	972.03	972.15	972.26	972.38	972.49
PG/CROWN/BEAM #4	STATION	14+61.29	14+73.29	14+85.29	14+97.29	15+10.04	15+22.79	15+34.79	15+46.79	15+59.54	15+72.29	15+84.29	15+96.29	16+08.29
	FINAL DECK EL.	971.31	971.43	971.55	971.66	971.78	971.90	972.02	972.13	972.25	972.37	972.49	972.60	972.71
EDGE OF DECK (RT.)	STATION	14+61.29	14+73.29	14+85.29	14+97.29	15+10.04	15+22.79	15+34.79	15+46.79	15+59.54	15+72.29	15+84.29	15+96.29	16+08.29
	FINAL DECK EL.	971.08	971.21	971.32	971.44	971.56	971.68	971.79	971.91	972.03	972.15	972.26	972.38	972.49
	STATION	14+61.29	14+73.29	14+85.29	14+97.29	15+10.04	15+22.79	15+34.79	15+46.79	15+59.54	15+72.29	15+84.29	15+96.29	16+08.29
	SCREED EL.	971.08	971.22	971.35	971.45	971.56	971.69	971.82	971.92	972.03	972.16	972.29	972.39	972.49

**SCREED ELEVATION & FINAL DECK SURFACE ELEVATION:**  
 SCREED ELEVATIONS SHOWN REPRESENT THE THEORETICAL DECK SURFACE LOCATION PRIOR TO DEFLECTIONS CAUSED BY DECK PLACEMENT AND OTHER ANTICIPATED LOADS.  
 FINAL DECK SURFACE ELEVATIONS SHOWN REPRESENT THE DECK SURFACE LOCATION AFTER ALL ANTICIPATED DEAD LOAD DEFLECTIONS HAVE OCCURED.

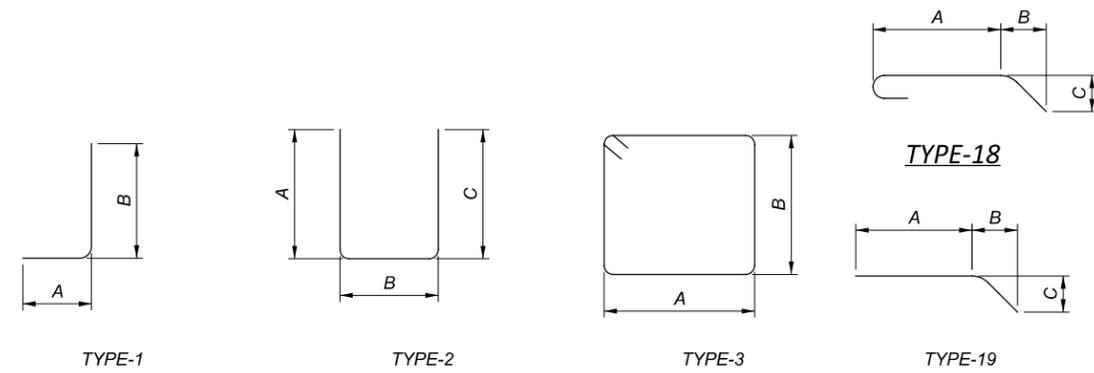


SLAB THICKNESS AND CAMBER DIAGRAM

ESTIMATED CAMBER AT DAY 0 (D0) IS 1 15/16 INCHES.  
 ESTIMATED CAMBER AT DAY 30 (D30) IS 1 1/8 INCHES.  
 DEFLECTION DUE TO REMAINING DEAD LOAD (E.G CONCRETE DECK, DIAPHRAGMS, ETC.) IS 1/4 INCH.  
 THE BEAM SEAT ELEVATIONS ASSUME ESTIMATED CAMBER D30.

MARK	NUMBER			LENGTH	WEIGHT (LBS.)	TYPE	DIMENSIONS						
	R.A	F.A	TOTAL				A	B	C	D	E	R	INC
<b>ABUTMENTS</b>													
A501*	2	2	4	4'-5"	132	2	1'-10"	1'-10"					
	SER. OF	SER. OF	SER. OF	TO			TO	TO				11 2/8"	
	5	5	5	8'-2"			3'-8"	3'-8"					
A502	4	4	8	6'-5"	54	19	1'-7"	4'-5"	2'-0"				
A503	4	4	8	6'-2"	52	ST							
A504	4	4	8	4'-6"	38	ST							
A505	4	4	8	8'-2"	68	2	3'-8"	1'-1"	3'-8"				
<b>SUB-TOTAL</b>					<b>344</b>								

MARK	NUMBER			LENGTH	WEIGHT (LBS.)	TYPE	DIMENSIONS						
			TOTAL				A	B	C	D	E	R	INC
<b>SUPERSTRUCTURE</b>													
S501			42	3'-11"	172	1	2'-5"	1'-8"					
S502			58	4'-8"	282	3	10"	1'-2"					
S503			10	27'-8"	289	ST							
S601			105	30'-0"	4731	ST							
S602			21	12'-11"	407	ST							
S603			301	27'-8"	12508	ST							
S604			80	43'-0"	5167	ST							
D801			40	4'-7"	490	18	2'-5"	1'-0"	1'-0"				
<b>SUB-TOTAL</b>					<b>24046</b>								
<b>TOTAL</b>					<b>24390</b>								



**BENDING DIAGRAMS**

**LEGEND:**

\* - DENOTES DOWEL BAR

**NOTES:**

- THE BAR SIZE NUMBER IS SPECIFIED ON THE PLANS IN THE BAR MARK COLUMN. THE FIRST DIGIT WHERE 3 DIGITS ARE USED, AND THE FIRST 2 DIGITS WHERE FOUR DIGITS ARE USED, INDICATES THE BAR SIZE NUMBER. FOR EXAMPLE, P601 IS A NO. 6 BAR. BAR DIMENSIONS SHOWN ARE OUT TO OUT UNLESS OTHERWISE INDICATED. "R" INDICATES INSIDE RADIUS, UNLESS OTHERWISE NOTED. "STD." WRITTEN IN PLACE OF A DIMENSION INDICATES A STANDARD BEND AT THE END OF THE BAR.
- ALL REINFORCING STEEL TO BE EPOXY COATED, UNLESS NOTED OTHERWISE.

# STATE OF OHIO

## DEPARTMENT OF TRANSPORTATION UNI-COUNTY ROAD NO. 129-H (CLAIBOURNE ROAD) LEESBURG AND TAYLOR TOWNSHIPS UNION COUNTY

BRS-1321(3)  
UNION COUNTY  
CO. RD. NO. 129-H

OHIO  
F.H.W.A.  
REGION 6

1  
21

BRS-1321(3)

MICROFILMED  
FEB 2 1994

### 1989 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: Max E. Robinson  
Date: 6-12-89 Union County Commissioner

Approved: [Signature]  
Date: 6-12-89 Union County Commissioner

Approved: [Signature]  
Date: 6-12-89 Union County Commissioner

Approved: [Signature]  
Date: 6-12-89 Union County Engineer

Approved: [Signature]  
Date: 6-19-89 District Deputy Director of Transportation

Approved: [Signature]  
Date: 7/22/89 Engineer, Bureau of Bridges and Structural Design

Approved: [Signature]  
Date: 4/3/90 Chief Engineer, Planning and Design

Approved: [Signature]  
Date: 4/5/90 Director, Department of Transportation

### DESIGN DESIGNATION

Current A.D.T. (1989) = 354  
Design Year A.D.T. (2009) = 566  
D.H.V. = 60  
D. = 50%  
T. = 10%  
Design Speed = 60 MPH  
Legal Speed = 55 MPH  
Functional Classification = MAJOR COLLECTOR

Design Exception: None  
Approval Date: \_\_\_\_\_

### CONVENTIONAL SIGNS

Existing Right of Way \_\_\_\_\_  
Proposed Right of Way \_\_\_\_\_ R/W \_\_\_\_\_  
Centerline \_\_\_\_\_  
Corporation Line \_\_\_\_\_  
County Line \_\_\_\_\_  
Township Line \_\_\_\_\_  
Fence Line (existing) \_\_\_\_\_ x \_\_\_\_\_  
Guardrail (existing) \_\_\_\_\_ (proposed) \_\_\_\_\_  
Property Line \_\_\_\_\_  
Railroad \_\_\_\_\_  
Underground Utility Lines: Telephone -T-, Power -P-, Gas -G-  
Utility Poles: Telephone \_\_\_\_\_, Power \_\_\_\_\_  
Trees \_\_\_\_\_, Stumps \_\_\_\_\_ (to be removed) \_\_\_\_\_

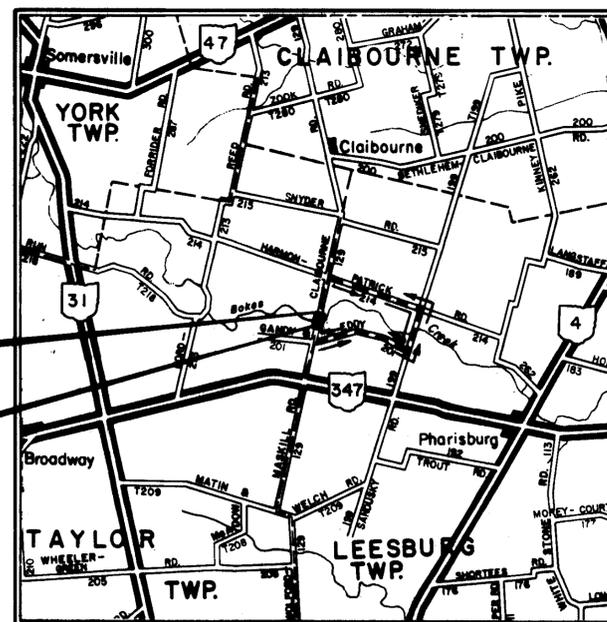
### INDEX OF SHEETS

Title Sheet \_\_\_\_\_ 1  
Typical Section \_\_\_\_\_ 2  
General Notes \_\_\_\_\_ 3  
General Summary and Pavement Calculation \_\_\_\_\_ 4  
Plan and Profile \_\_\_\_\_ 5-6  
Cross Section \_\_\_\_\_ 7-9  
Structure over 20' Span \_\_\_\_\_ 10-19  
Right-of-Way Plan \_\_\_\_\_ 20-21

### LINE DATA

Begin Project Sta. 14+45.92  
End Project Sta. 16+24.08  
Length of Project 178.16 Lin. Ft. or 0.034 Mile  
Add for Work \_\_\_\_\_  
Begin Work Sta. 9+90.00  
End Work Sta. 17+42.00  
Length of Work 752.00 Lin. Ft. or 0.142 Mile

**UNDERGROUND UTILITIES**  
**TWO WORKING DAYS BEFORE YOU DIG**  
Call 800-362-2764 (Toll Free)  
OHIO UTILITIES PROTECTION SERVICE  
NON-MEMBERS MUST BE CALLED DIRECTLY



Portion to be improved \_\_\_\_\_  
State & Federal Routes \_\_\_\_\_  
Other Roads \_\_\_\_\_  
Detour Route \_\_\_\_\_

### SCALES

Plan: \_\_\_\_\_ 0 10 20 40  
Profile: \_\_\_\_\_ Horizontal 0 10 20, Vertical 0 5  
Cross Section: Horizontal 0 5, Vertical 0 5

### SUPPLEMENTAL SPECIFICATIONS

802	5-4-88
836	11-12-85
847	10-17-83
947	10-17-83

Plan Prepared By  
Jones-Stuckey Ltd., Inc.  
1500 West First Avenue  
Columbus, Ohio 43212

[Signature]  
PE 46197

SUPPLEMENTAL PRINTS OF STANDARD CONSTRUCTION DRAWINGS			
BP-5	10-1-87	AS-1-81	11-27-81
GR-1	1-11-85	DBR-2-73	4-10-73
GR-2B	2-5-82	PSBD-1-81	6-20-89
GR-3	1-21-85	LA-1	6-1-79
GR-4	2-5-82		
MC-4	7-26-76		
MC-11	8-1-78		
MT-99.10	11-14-86		

Project: Co. Rd. No. 129-H.  
Date of Letting \_\_\_\_\_ 19\_\_\_\_ Contract No. \_\_\_\_\_

DEPARTMENT OF TRANSPORTATION  
FEDERAL HIGHWAY ADMINISTRATION  
APPROVED: \_\_\_\_\_  
DIVISION ADMINISTRATOR \_\_\_\_\_ DATE \_\_\_\_\_

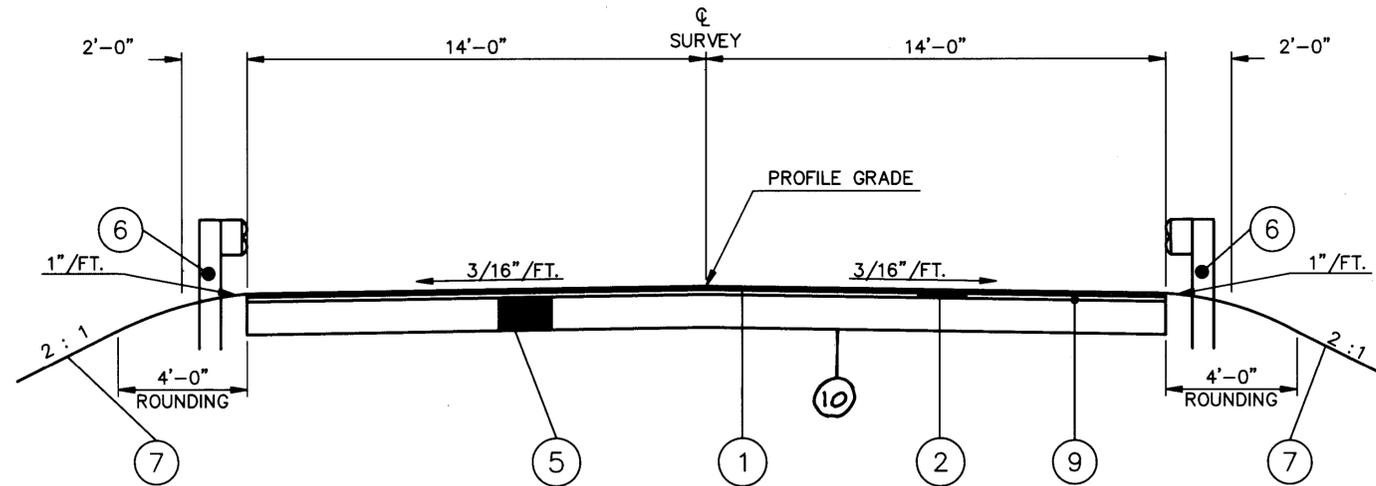
# TYPICAL SECTIONS

TYPE 404 ON 301

FHWA REGION	STATE	PROJECT	
5	OHIO		

2  
21

UNION COUNTY  
CO. RD. NO. 129-H

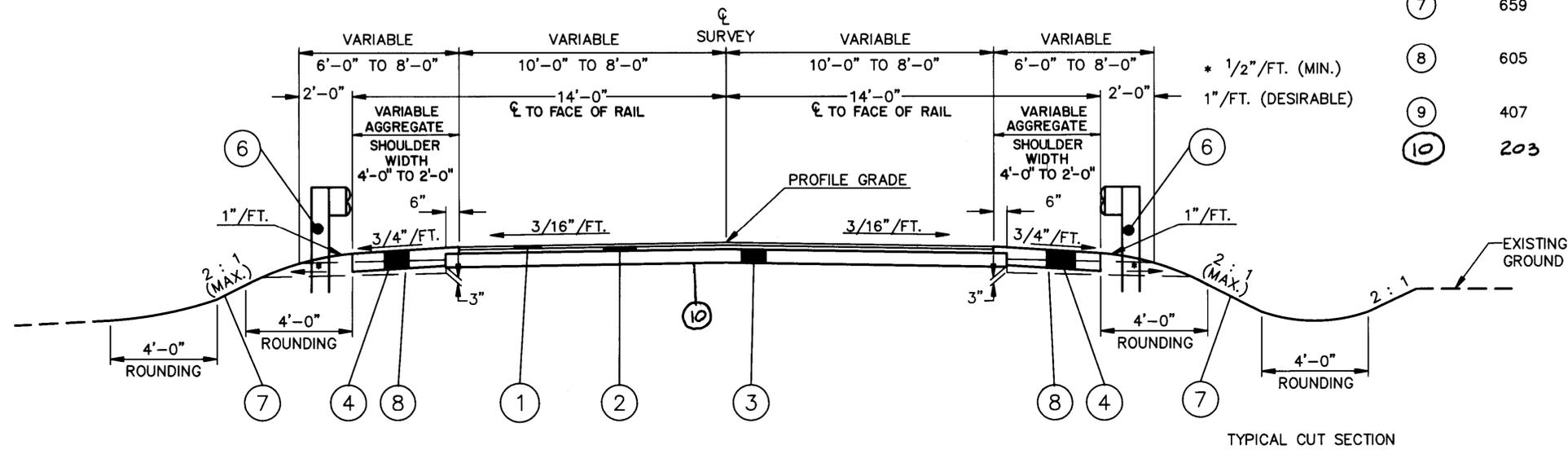


NORMAL APPROACH SLAB SECTION

STA. 14+45.92 TO STA. 14+60.92 = 15.00 LIN. FT.  
 STA. 16+09.08 TO STA. 16+24.08 = 15.00 LIN. FT.  
 30.00 LIN. FT.

## LEGEND

- ① 404 1 1/4" ASPHALT CONCRETE, AC-20
- ② 402 1 3/4" ASPHALT CONCRETE, AC-20
- ③ 301 6" BITUMINOUS AGGREGATE BASE, AC-20
- ④ 304 8" AGGREGATE BASE, AS PER PLAN (SEE GENERAL NOTE)
- ⑤ 611 REINFORCED CONCRETE APPROACH SLAB (T=12")
- ⑥ 606 GUARDRAIL, TYPE 5
- ⑦ 659 SEEDING AND MULCHING, (SEE GENERAL NOTE)
- ⑧ 605 AGGREGATE DRAINS
- ⑨ 407 TACK COAT
- ⑩ 203 SUBGRADE COMPACTION



TYPICAL FILL SECTION

TRANSITION SECTION

IN TRANSITION SECTION DIMENSIONS VARY FROM FULL WIDTH TO EXISTING

STA. 13+50.00 TO STA. 14+45.92 = 95.92 LIN. FT.  
 STA. 16+24.08 TO STA. 17+00.00 = 75.92 LIN. FT.  
 171.84 LIN. FT.

TYPICAL CUT SECTION

# GENERAL NOTES

FHWA REGION	STATE	PROJECT	
5	OHIO		

UNION COUNTY  
CO. RD. NO. 129-H

## FIELD OFFICE

THE CONTRACTOR SHALL PROVIDE A SUITABLE FIELD OFFICE HAVING A MINIMUM OF 300 SQ. FT. OF FLOOR SPACE. PAYMENT SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 619 FIELD OFFICE.

## ELEVATION DATA

ALL ELEVATIONS ARE BASED ON U.S.G.S DATUM. U.S.G.S. REFERENCE BENCH MARK (PRIM. TRAV. STA. NO. 81 OHIO 1910-981) FOUND AT NORTHWEST CORNER OF INTERSECTION OF UNI. C.R. 129 AND UNI. C.R. 214. ELEV. 981.181

## 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.

## CONTINGENCY QUANTITIES

THE CONTRACTOR SHALL NOT ORDER MATERIALS OR PERFORM WORK LIST IN THE GENERAL SUMMARY FOR ITEMS DESIGNATED BY PLAN NOTE 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.

## LOCATION OF GUARDRAIL

THE 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.

## SEEDING

QUANTITIES FOR SEEDING ARE CALCULATED FOR SOIL AREAS BETWEEN TEN (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 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:

ITEM 207 STRAW OR HAY BALES      100 EACH

## EROSION CONTROL

ITEM 601 IS PROVIDED IN THE PLANS FOR EROSION CONTROL. ROCK OF A STABLE NATURE WILL NOT BE REMOVED IN ORDER TO PLACE THIS ITEM. THE ENGINEER SHALL CHECK AND NON-PERFORM QUANTITIES OR ADJUST LOCATIONS AND QUANTITIES FOR THIS ITEM WHERE INDICATED BY FIELD CONDITIONS DURING CONSTRUCTION.

## JOINT SEALERS

ALL REFERENCES TO 705.01 OR 705.02, APPEARING ON STANDARD DRAWINGS OR ON THE PLANS, SHALL BE CONSIDERED TO READ 705.04.

## UTILITIES

THE LOCATIONS OF THE UTILITIES SHOWN ON THE PLANS ARE AS OBTAINED FROM THE OWNERS OF THE UTILITY AS REQUIRED BY SECTION 153.64 ORC. THERE ARE NO KNOWN UNDERGROUND UTILITIES.

## UTILITY OWNERSHIP

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

ELECTRIC:      UNION RURAL ELECTRIC COOP. INC.  
15461 S.R. 36  
BOX 393  
MARYSVILLE, OHIO    43040  
(513) 642-1947

TELEPHONE:    UNITED TELEPHONE CO. OF OHIO  
127 NORTH MAIN STREET  
BELLEFONTAINE, OHIO    43311  
(513) 599-9276

## 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 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"	3	0	3
30"	1	0	1
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.

## ITEM 614 - MAINTAINING TRAFFIC

MAINTAINING TRAFFIC SHALL BE IN ACCORDANCE WITH ITEM 614 AND THE FOLLOWING:

COUNTY ROAD 129-H (CLAIBOURNE ROAD) SHALL BE CLOSED TO THRU TRAFFIC FROM ITS INTERSECTION WITH COUNTY ROAD 201 (GANDY & EDDY ROAD) TO COUNTY ROAD 214 (HARMON-PATRICK ROAD). THE PERIOD OF CLOSURE SHALL NOT EXCEED 120 CALENDER DAYS. LIQUIDATED DAMAGES SHALL BE ASSESSED IN ACCORDANCE WITH SECTION 108.07 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS FOR EACH CALENDER DAY THAT THE ROADWAY REMAINS CLOSED BEYOND THE SPECIFIED LIMIT. DURING THIS PERIOD OF CLOSURE THE CONTRACTOR SHALL IN ADDITION TO THE GENERAL REQUIREMENTS OF ITEM 614 PERFORM THE FOLLOWING:

PROVIDE, ERECT AND MAINTAIN STANDARD 60" X 30" SIZE "ROAD CLOSED TO THRU TRAFFIC" SIGNS, SIGN SUPPORTS, BARRICADES AND LIGHTS AT THE FOLLOWING LOCATIONS:

- 1) THE INTERSECTION OF CO. RD. 129-H AND CO. RD. 201.
- 2) THE INTERSECTION OF CO. RD. 129-H AND CO. RD. 214.

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

## ALTERNATE METHODS

IF THE CONTRACTOR SO ELECTS, HE MAY SUBMIT ALTERNATE METHODS FOR THE MAINTENANCE OF TRAFFIC, PROVIDED THE INTENT OF THE ABOVE PROVISIONS IS FOLLOWED AND NO ADDITIONAL INCONVENIENCE TO THE TRAVELING PUBLIC RESULTS THEREFROM. NO ALTERNATE PLAN SHALL BE PLACED INTO EFFECT UNTIL APPROVAL HAS BEEN GRANTED, IN WRITING BY THE DIRECTOR.

## ITEM 407 - TACK COAT

THE TACK COAT AND COVER AGGREGATE OPERATION SHALL BE DETERMINED AS PER 407.05 AND 407.06 OF THE CMS. PLAN QUANTITIES INDICATE AN AVERAGE APPLICATION RATE OF 0.075 GALLONS PER SQUARE YARD OF TACK COAT FOR ESTIMATING PURPOSES ONLY.

## TEMPORARY FILL

NO TEMPORARY FILL WILL BE ALLOWED BELOW ELEVATION 962.00

## ITEM 304 - AGGREGATE BASE, AS PER PLAN

MATERIALS FURNISHED FOR THIS ITEM SHALL EXCLUDE ALL SLAG EXCEPT GRANULATED SLAG OR CRUSHED AIR-COOLED BLAST FURNACE SLAG.

## ITEM 605 - AGGREGATE DRAINS

AGGREGATE DRAINS SHALL BE PLACED AT (50) FOOT INTERVALS ON EACH SIDE OF NORMAL CROWNED SECTIONS.

## ADDITIONAL SOIL INFORMATION

ALL AVAILABLE SOIL AND BEDROCK INFORMATION WHICH CAN BE CONVENIENTLY SHOWN ON THE SOIL PROFILE AND/OR 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.

# GENERAL SUMMARY

UNION COUNTY  
CO. RD. NO. 129-H

Calc. By: D.W.L. Date: 2-88	FHWA REGION 5	STATE OHIO	PROJECT
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**ITEM 404 - ASPHALT CONCRETE, AC-20**  
Transition Section

$\left(\frac{20.0 + 16.0}{2}\right)$  Sta. 13+50.00 to Sta. 14+45.92 = 1726.6 Sq. Ft.  
 $\left(\frac{20.0 + 17.0}{2}\right)$  Sta. 16+24.08 to Sta. 17+00.00 = 1404.5 Sq. Ft.  
 3131.1 Sq. Ft.

**ADD FOR APPROACH SLAB**

STA. 14+45.92 TO STA. 14+60.92 = 15.00 LIN. FT.  
 STA. 16+09.08 TO STA. 16+24.08 = 15.00 LIN. FT.  
 30.00 LIN. FT. x 28.0' = 840.0 SQ. FT.  
 3971.1 SQ. FT.

3971.1 Sq. Ft. x 1 1/4" + 12 + 27 = 15.3 or 15 Cu. Yds.

**ITEM 402 - ASPHALT CONCRETE, AC-20**

Area from Item 404 3971.1 Sq. Ft.  
 3971.1 Sq. Ft. x 1 3/4" + 12 = 579.12 Cu. Ft.  
 579.12 Cu. Ft. + 27 = 21.5 or 22 Cu. Yds.

**ITEM 301 - BITUMINOUS AGGREGATE BASE**

Transition Section  
 $\left(\frac{21.0 + 17.0}{2}\right)$  x Sta. 13+50.00 to Sta. 14+45.92 = 1822.5 Sq. Ft.  
 $\left(\frac{21.0 + 18.0}{2}\right)$  x Sta. 16+24.08 to Sta. 17+00.00 = 1480.4 Sq. Ft.  
 3302.9 Sq. Ft.

3302.9 Sq. Ft. x 6" + 12 + 27 = 61.2 or 61 Cu. Yds.

**ITEM 304 - AGGREGATE BASE, AS PER PLAN**

Transition Section  
 $\left(\frac{4.0 + 2.0}{2}\right)$  Sta. 13+50.00 to Sta. 14+45.92 x 8" + 12 = 191.8 Cu. Ft.  
 $\left(\frac{4.0 + 2.0}{2}\right)$  Sta. 16+24.08 to Sta. 17+00.00 x 8" + 12 = 151.8 Cu. Ft.  
 343.6 Cu. Ft.

Deduct  
 5' x 6" x 171.84' = 35.8 Cu. Ft.  
 307.8 Cu. Ft.

307.8 Cu. Ft. x 2 Sides + 27 = 22.8 or 23 Cu. Yds.

**Item 203 - Subgrade Compaction**  
Area from Item 404 3131.1 Sq. Ft.

Area Under Approach Slab  
 28.0' x 15.0' x 2 Slabs = 840.0 Sq. Ft.  
 3971.1 Sq. Ft. + 9 = 441.2 or 441 Sq. Yds.

**Item 659 - Commercial Fertilizer**

From Item 659 Seeding And Mulching, 1263 Sq. Yds.  
 1263 x 0.00009 Tons Per Sq. Yd. = 0.11 Or 0.11 Ton

**Item 659 - WATER**  
 $(1263 \times 240 \times 9 / 1000) / 1000 = 3 \text{ M.GAL.}$

**Item 605 - Aggregate Drains**

From Item 404 171.84 Lin. Ft.  
 171.84 Lin. Ft. + 25 Ft. = 6.9 Or 7 Ea.  
 7 Ea. x 7.5 Lin. Ft. = 53 Lin. Ft.

**Item 407 - Tack Coat**

From Item 404 840.00 Sq. Ft. + 9 = 93.33 Sq. Yd. x 0.075 Gal./Sq. Yd. = 7.0 or 7 Gal.

**Item 614 - Temporary Centerline, Class II**

Sta. 13+50 to Sta. 17+00 = 350' + 5,280 = 0.07 MILE

SHEET NUMBERS					ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION
3	4	5	6						
<b>ROADWAY</b>									
LUMP					201	11000	LUMP		CLEARING AND GRUBBING
		688	276		202	30000	964	LIN. FT.	GUARDRAIL REMOVED
		74	237		203	12000	311	CU. YD.	EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION
		32	387		203	20000	419	CU. YD.	EMBANKMENT
	441				203	50000	441	SQ. YD.	SUBGRADE COMPACTION
		123.76	313.74		606	13000	437.50	LIN. FT.	GUARDRAIL, TYPE 5
		2	2		606	25000	4	EACH	ANCHOR ASSEMBLY, TYPE A
			4		606	30500	4	EACH	BRIDGE TERMINAL ASSEMBLY, TYPE B
<b>EROSION CONTROL</b>									
100					207	70000	100	EACH	STRAW OR HAY BALES
			76		601	34200	76	CU. YD.	ROCK CHANNEL PROTECTION, TYPE C WITHOUT FILTER
		341	922		659	10000	1263	SQ. YD.	SEEDING AND MULCHING
	0.11				659	20000	0.11	TON	COMMERCIAL FERTILIZER
	3				659	35000	3	M.GAL.	WATER
<b>DRAINAGE</b>									
			55		603	01500	55	LIN. FT.	6" CONDUIT, TYPE F
	53				605	31100	53	LIN. FT.	AGGREGATE DRAINS
<b>PAVEMENT</b>									
	61				301	10002	61	CU. YD.	BITUMINOUS AGGREGATE BASE, AC-20
	23				304	20001	23	CU. YD.	AGGREGATE BASE, AS PER PLAN (SEE SHT. 3)
	22				402	20000	22	CU. YD.	ASPHALT CONCRETE, AC-20
	15				404	20000	15	CU. YD.	ASPHALT CONCRETE, AC-20
			94		611	10001	94	SQ. YD.	REINFORCED CONCRETE APPROACH SLAB (T=12")
	7				407	10000	7	GAL.	TACK COAT
<b>TRAFFIC CONTROL</b>									
		0.078	0.065		621	20100	0.14	MILE	CENTER LINES
		0.156	0.130		621	00100	0.29	MILE	EDGE LINES
		4	8		802	00100	12	EACH	BARRIER REFLECTOR, TYPE A
<b>MAINTENANCE OF TRAFFIC</b>									
	0.07				614	21400	0.07	MILE	TEMPORARY CENTER LINES, CLASS II
<b>STRUCTURES OVER 20' SPAN</b> COUNTY ROAD 129-H OVER BOKES CREEK (FOR ESTIMATED QUANTITIES SEE SHEET NO. 12/21)									
LUMP					614	11000	LUMP		MAINTAINING TRAFFIC
LUMP					619	10000	LUMP		FIELD OFFICE
					623	10000	LUMP		CONSTRUCTION LAYOUT STAKES
					624	10000	LUMP		MOBILIZATION



TAYLOR TOWNSHIP  
V.M.S. 3691

John Fredrick &  
Enda W. Moore

H.J. & Tenah I.  
Ridge

Calc. By: D.W.L.	FHWA REGION	STATE	PROJECT
Date: 2-89	5	OHIO	
Chkd. By: C.R.M.			
Date: 2-89			

6  
21

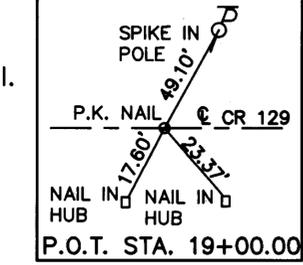
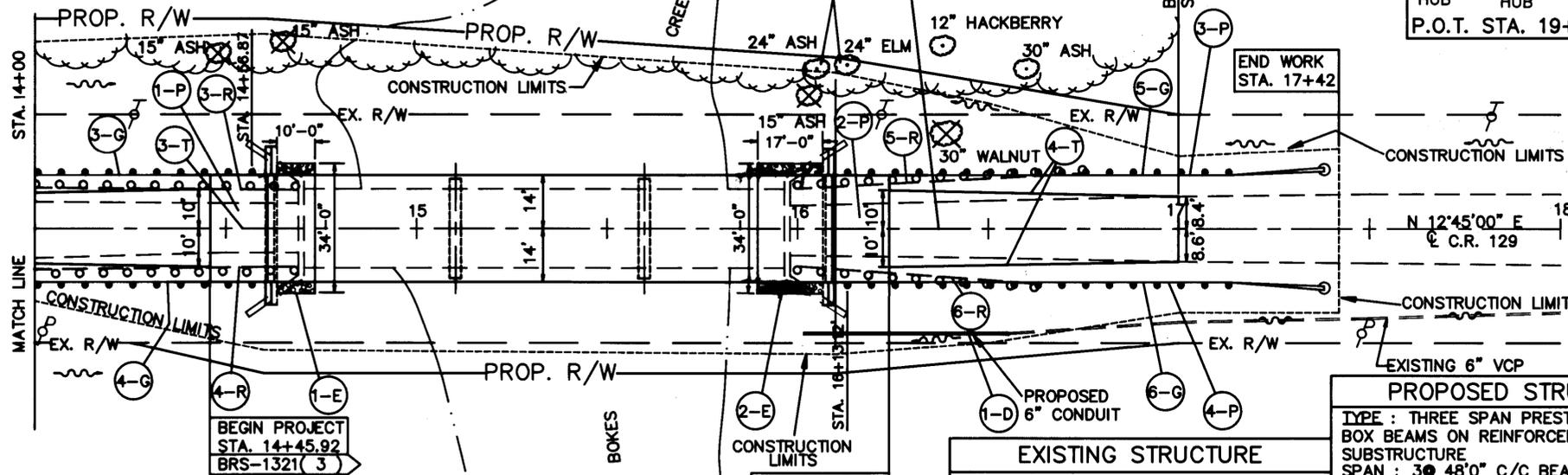
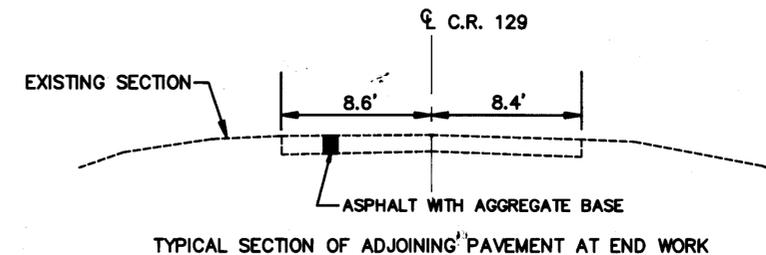
UNION COUNTY  
CO. RD. NO. 129-H

ROCK CHANNEL PROTECTION CALCS.

- 1-E  $10.0' \times 34.0' \times \frac{\sqrt{5}}{2} \times 2' + 27 = 28 \text{ CU. YD.}$
- 2-E  $17.0' \times 34.0' \times \frac{\sqrt{5}}{2} \times 2' + 27 = 48 \text{ CU. YD.}$

APPROACH SLAB CALCULATIONS

- 1-P  $15.0' \times 28.0' + 9 = 47.0 \text{ SQ. YDS.}$
- 2-P  $15.0' \times 28.0' + 9 = 47.0 \text{ SQ. YDS.}$



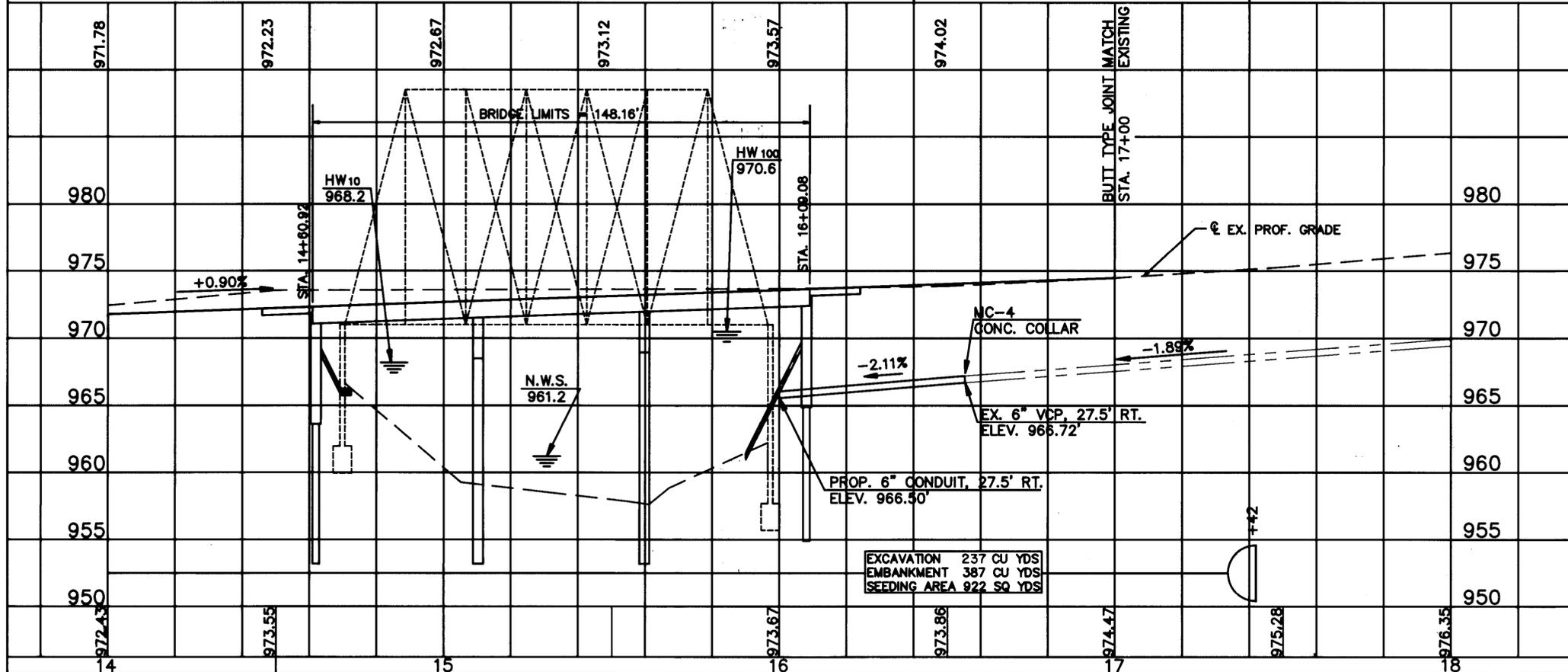
**BENCH MARK#2**  
NAIL IN POWER POLE  
STA. 17+50 28' RT.  
ELEVATION 975.63

Paul E. & Minerva  
Schertzer

LEESBURG TOWNSHIP  
V.M.S. 3692

**EXISTING STRUCTURE**  
TYPE : SINGLE SPAN PRATT TRUSS ON  
REINFORCED CONCRETE ABUTMENTS  
SPAN : 129 FT. F/F ABUTMENTS  
ROADWAY : 17.45 FT. F/F RAIL  
LOADING : H-15-44  
SKEW : NONE  
DATE BUILT : 1915

**PROPOSED STRUCTURE**  
TYPE : THREE SPAN PRESTRESSED  
BOX BEAMS ON REINFORCED CONCRETE  
SUBSTRUCTURE  
SPAN : 3 @ 48'0\"/>



ESTIMATED QUANTITIES	ITEM NO.	DESCRIPTION	UNIT	QUANTITY		TOTAL
				AMOUNT	PRICE	
802	BARRIER REFLECTOR, TYPE A	EACH			8	
601	ROCK CHANNEL PROTECTION, TYPE C WITHOUT FILTER	CU. YD.			76.00	
621	4\"/>					

FINAL SURVEY SURVIVED BY DATE  
 SURVEY PLOTTED  
 NOTE BOOK AREAS NO.  
 AREAS CHECKED

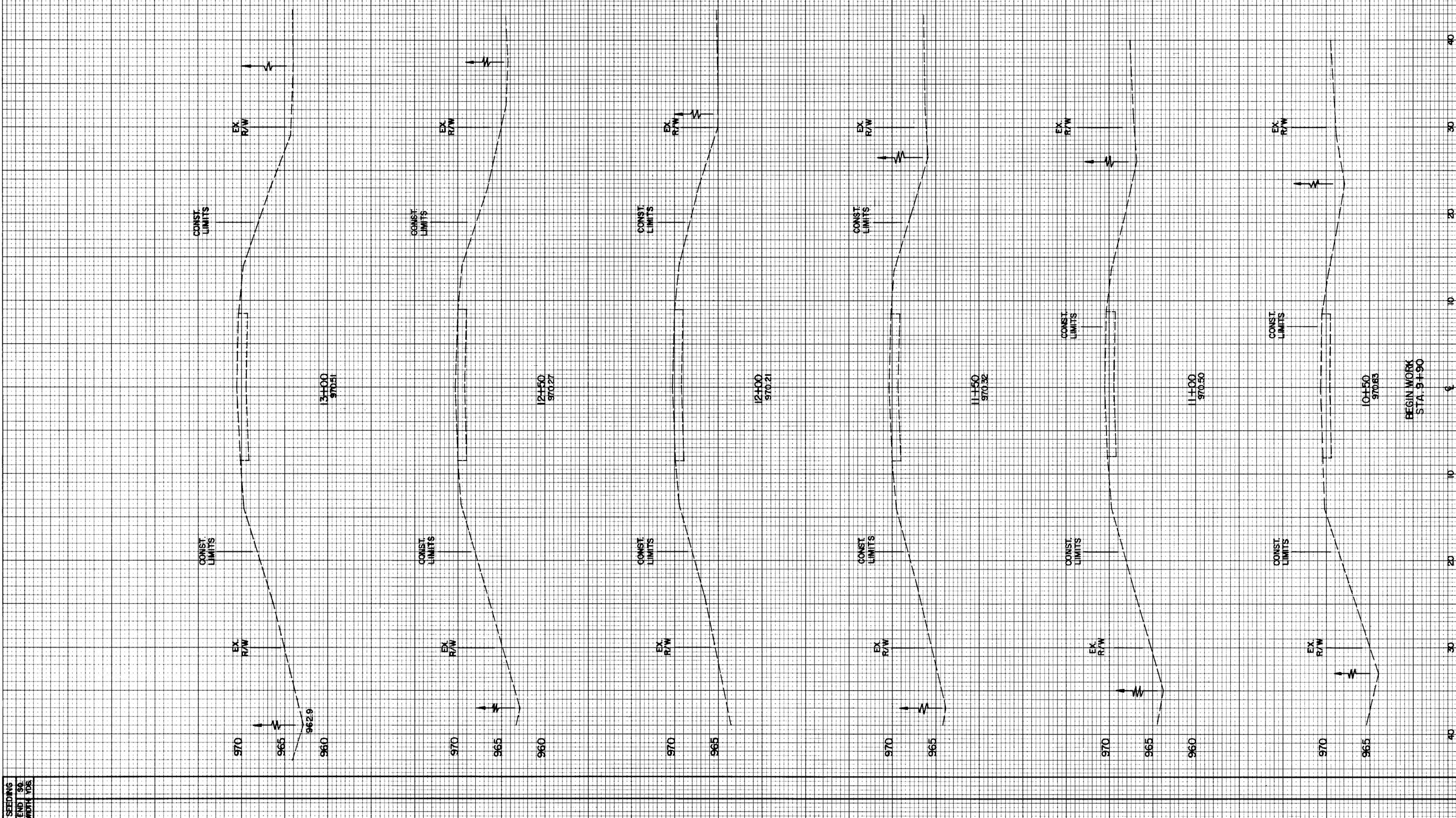
ORIGINAL SURVEY SURVIVED BY DATE  
 SURVEY PLOTTED  
 NOTE BOOK AREAS NO.  
 AREAS CHECKED

END VOLUME  
 AREA CUT/FILL CUT/FILL

CALC. BY D.W.J.	F.H.W.A. REGION	STATE	PROJECT
DATE 11-4-88	5	OHIO	
CHND BY D.W.J.			
DATE 11-4-88			

7  
21

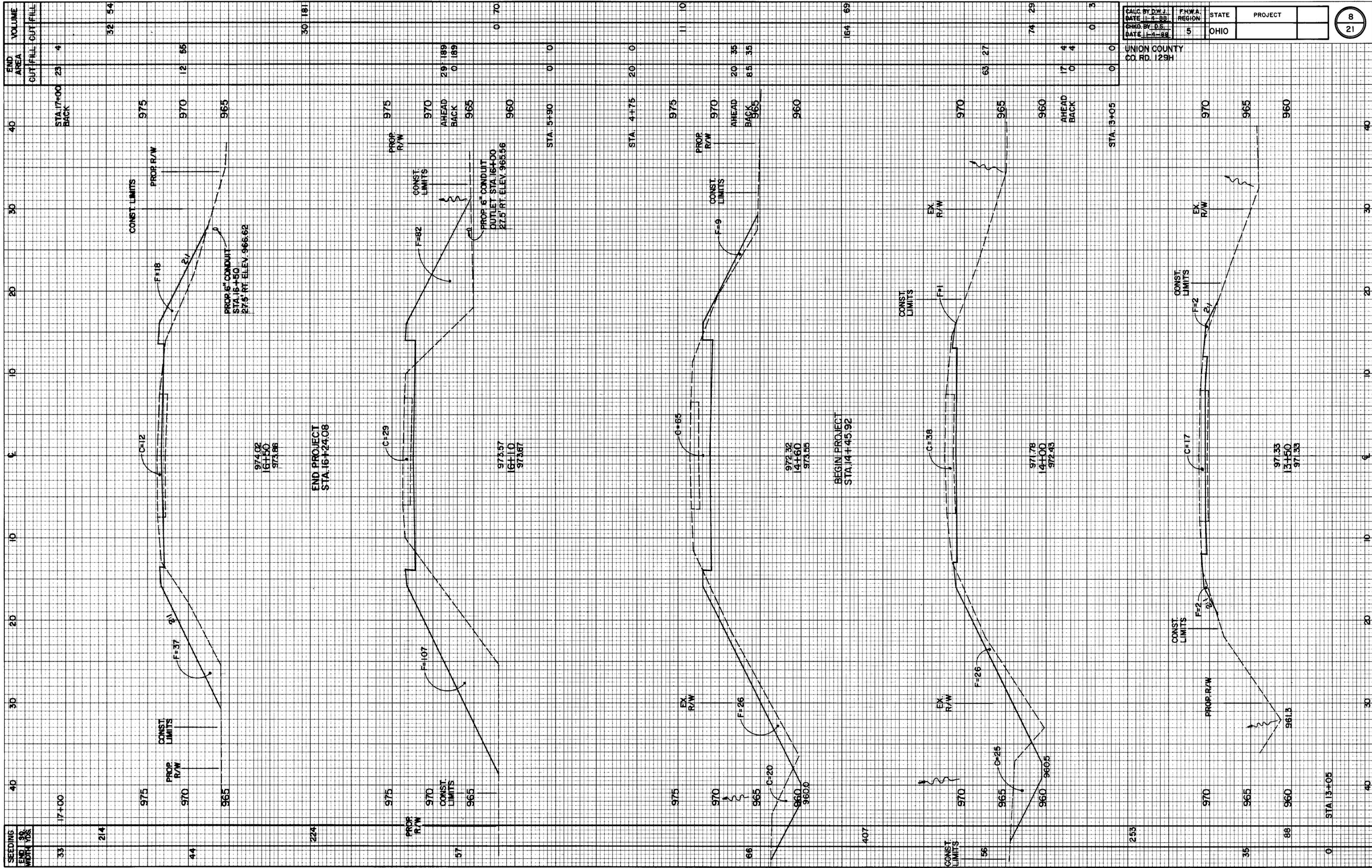
UNION COUNTY  
 CO. RD. 129 H



BEGIN WORK  
 STA. 9+90

FINAL SURVEY SURVEYED BY DATE  
 PLOTTED BY DATE  
 NOTE BOOK TEMPLATE NO. AREAS CHECKED

ORIGINAL SURVEY SURVEYED BY DATE  
 PLOTTED BY DATE  
 NOTE BOOK TEMPLATE NO. AREAS CHECKED



DATE 1-1-88	F.H.W.A. REGION 5	STATE OHIO	PROJECT
UNION COUNTY	C.O. RD. 129H		

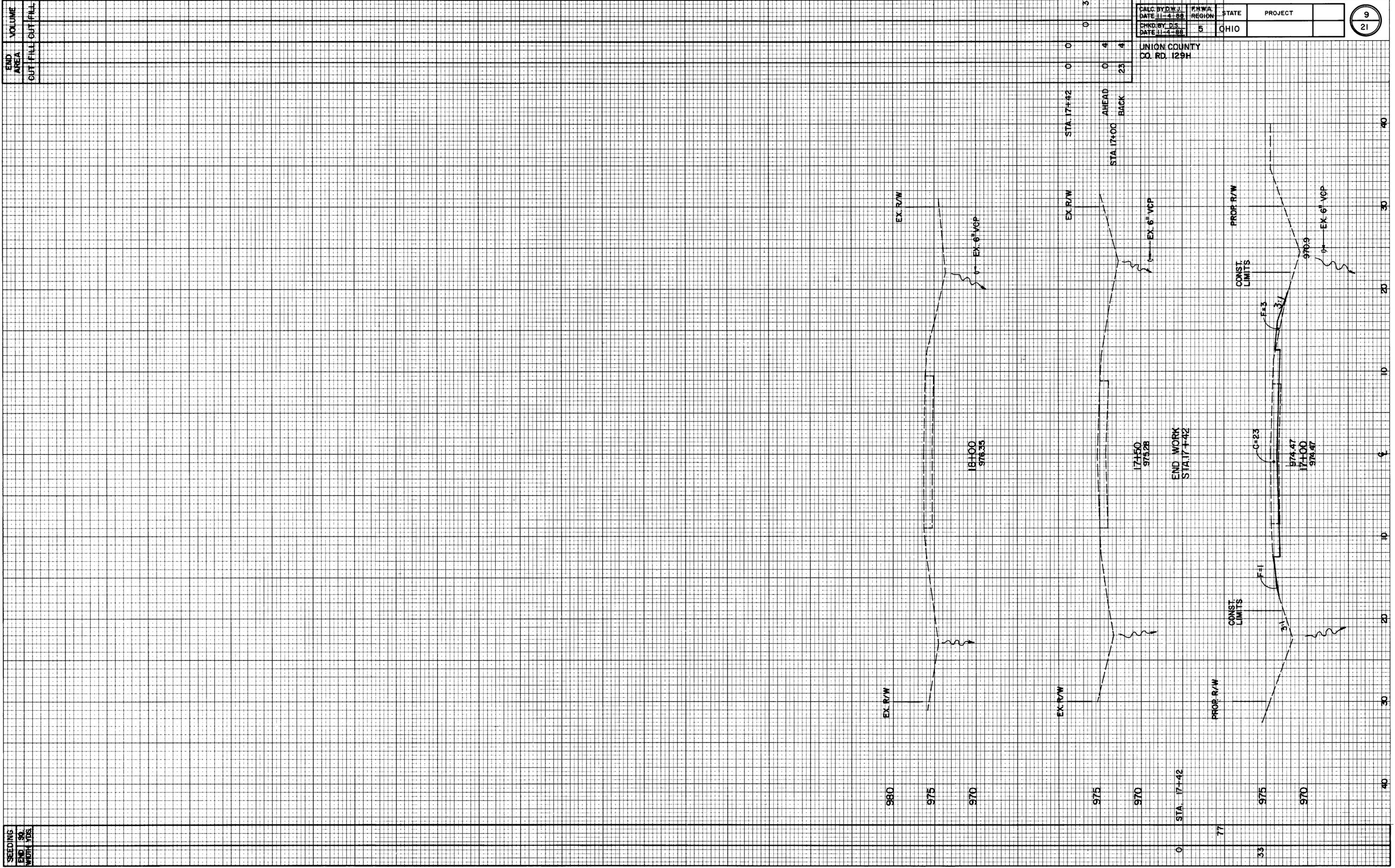
FINAL SURVEY SURVEYED, PLOTTED, NOTE BOOK, AREAS CHECKED.

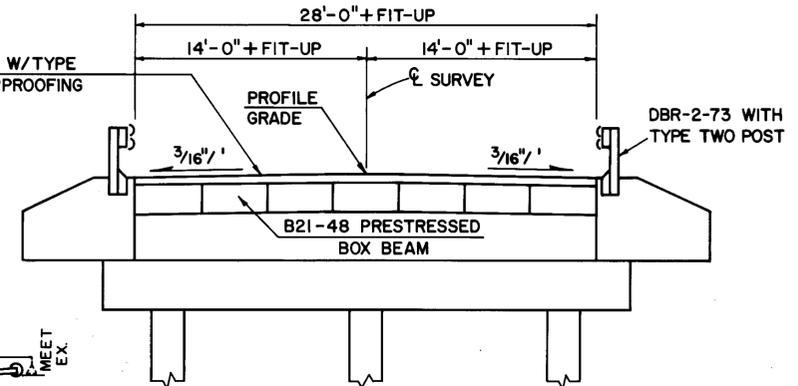
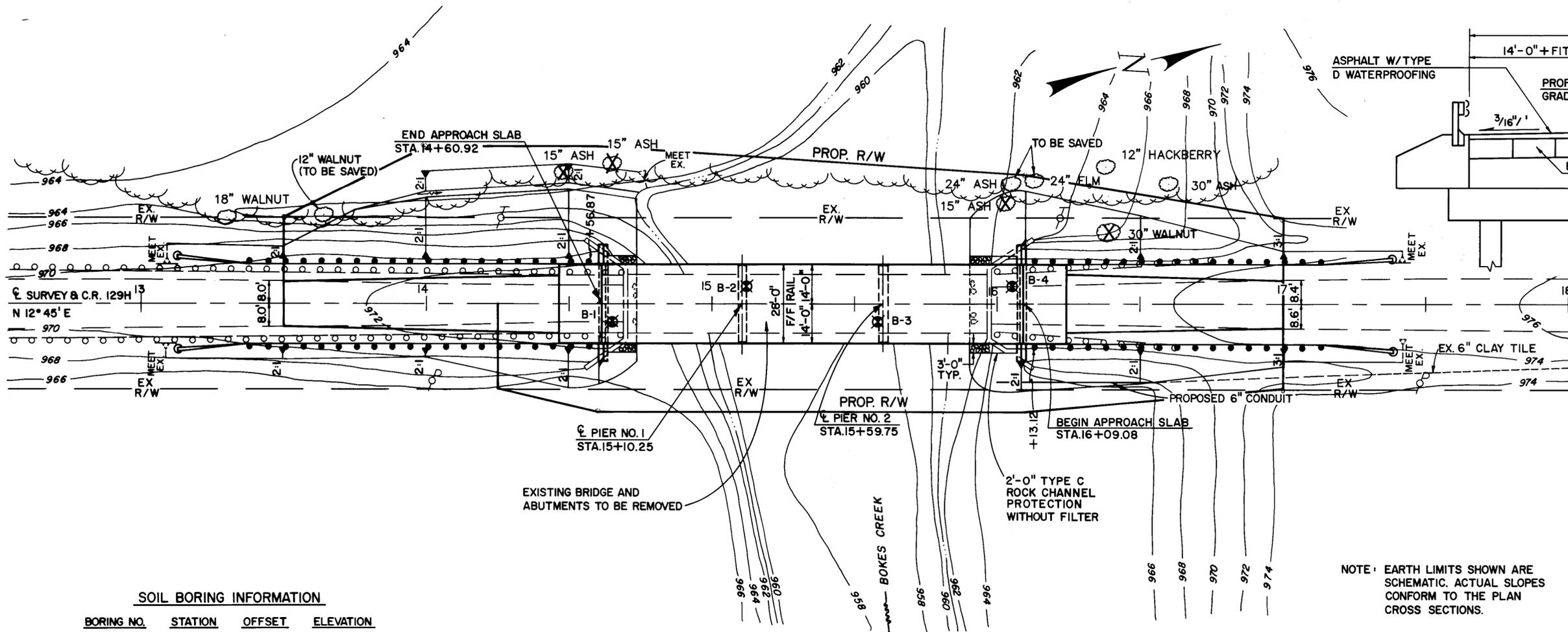
ORIGINAL SURVEY SURVEYED, PLOTTED, NOTE BOOK, AREAS CHECKED.

END AREA	VOLUME
GUT FILL	CUT FILL

CALC. BY: E.W.J.	DATE: 11-4-99	REGION: 5	STATE: OHIO	PROJECT:
CHKD. BY: D.S.	DATE: 11-4-99	UNION COUNTY CO. RD. 129H		

SEEDING END 50 WIDTH YDS.





**TRAFFIC DATA**

A.D.T. (1989) = 354
A.D.T. (2009) = 566
A.D.T.T. (2008) = 60

**STREAM DATA**

INTERVAL (YEAR)	ELEV. (FT.)	Q (CFS)	V (F/S)
10	968.2	3,031	5.1
100	970.6	5,289	6.9

DRAINAGE AREA = 59.5 SQ. MI.  
THE LOW POINT OF THE SUPERSTRUCTURE CLEARS THE Q10 DESIGN YEAR WATER ELEVATION BY 1.8 FEET.

**EXISTING STRUCTURE**

TYPE: SINGLE SPAN PRATT TRUSS ON REINFORCED CONCRETE ABUTMENTS  
SPAN: 129' F/F ABUTMENT  
ROADWAY: 17.45' F/F RAIL  
LOADING: H-15-44  
SKEW: NONE  
DATE BUILT: 1915  
STRUCTURAL FILE NUMBER: 8054150

**PROPOSED STRUCTURE**

TYPE: THREE SPAN PRESTRESSED BOX BEAMS ON REINFORCED CONCRETE SUBSTRUCTURES.  
SPAN: 3 AT 48'-0" C/C BEARING  
ROADWAY: 28'-0" F/F RAIL  
LOADING: HS-20-44 AND ALTERNATE MILITARY LOADING  
SKEW: NONE  
WEARING SURFACE: 2 1/2" (MIN) ASPHALT CONC.  
APPROACH SLAB: AS-1-81 (15' LONG)  
ALIGNMENT: TANGENT  
CROWN: 3/16" / FT

JONES-STUCKEY, Ltd., Inc. 1/10  
1500 West First Avenue  
Columbus, Ohio 43212

**SITE PLAN**

UNION CO. RD. 129-H  
OVER  
BOKES CREEK

UNION COUNTY  
BRIDGE LIMITS: STA. 14+60.92 TO STA. 16+09.08

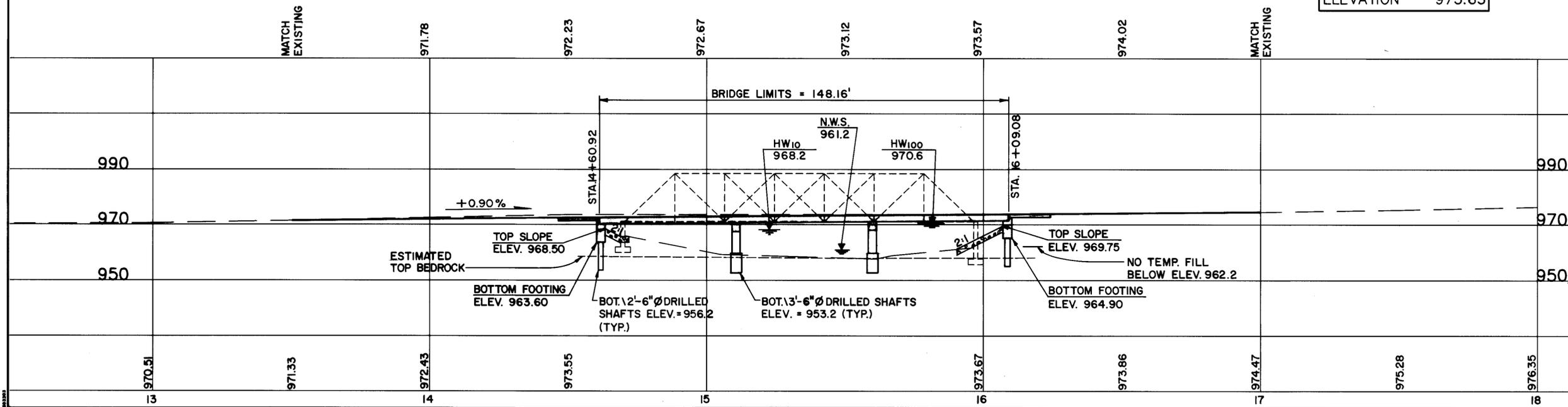
DESIGNED	DRAWN	CHECKED	REVIEWED	DATE	REVISED
D.W.J.	B.A.W.	G.L.H.	D.D.S.	4-17-89	

**SOIL BORING INFORMATION**

BORING NO.	STATION	OFFSET	ELEVATION
B-1	14+65	6.0' RT.	973.7
B-2	15+09	3.0' LT.	973.6
B-3	15+51	5.0' RT.	973.6
B-4	16+05	6.0' LT.	973.6

**BENCH MARK#2**  
NAIL IN POWER POLE  
STA. 17+50 28' RT.  
ELEVATION 975.63

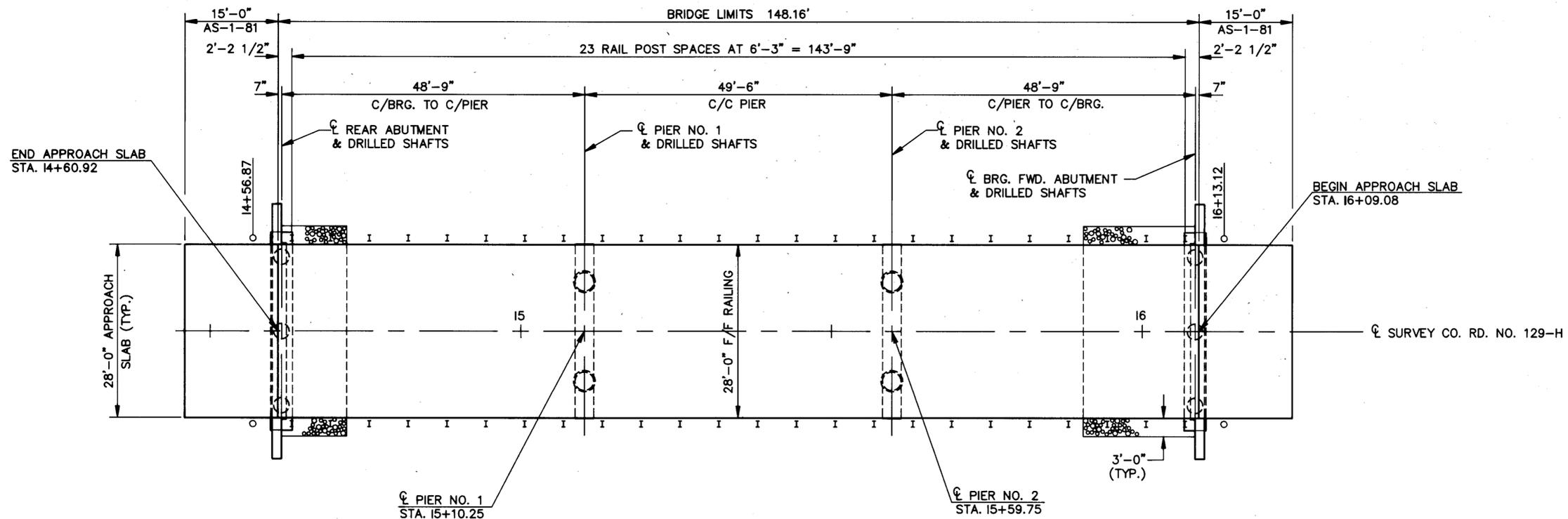
NOTE: EARTH LIMITS SHOWN ARE SCHEMATIC. ACTUAL SLOPES CONFORM TO THE PLAN CROSS SECTIONS.



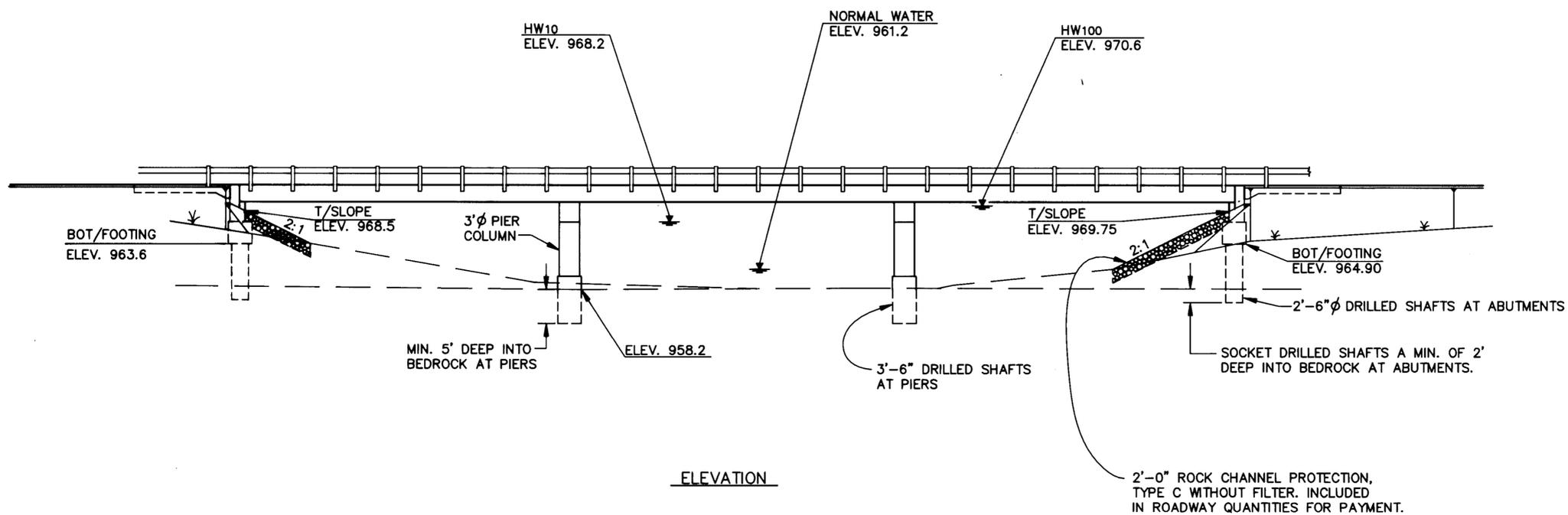
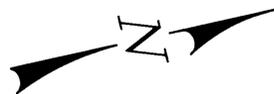
FHWA REGION	STATE	PROJECT
5	OHIO	

11  
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UNION COUNTY  
CO. RD. NO. 129-H



PLAN



ELEVATION

JONES-STUCKEY, Ltd., Inc. 2/10 1500 West First Avenue Columbus, Ohio 43212					
GENERAL PLAN & ELEVATION					
UNION CO. RD. 129-H OVER BOKES CREEK					
UNION COUNTY					
DESIGNED	DRAWN	CHECKED	REVIEWED	DATE	REVISED
D.W.J.	K.S.E.	G.L.H.	D.D.S.	4-17-89	

UNION COUNTY  
CO. RD. NO. 129-H

ESTIMATED QUANTITIES						CALC. BY K.S.E.	CHK'D BY D.W.J.	
ITEM	ITEM EXT.	QUANTITY	UNIT	DESCRIPTION	ABUT.	PIER	SUPER.	GEN.
202	11000	LUMP		STRUCTURES REMOVED				LUMP
403	20000	26	CU. YD.	ASPHALT CONCRETE, AC-20			26	
404	20000	16	CU. YD.	ASPHALT CONCRETE, AC-20			16	
503	21100	101	CU. YD.	UNCLASSIFIED EXCAVATION	101			
509	11500	8209	LB.	REINFORCING STEEL, GRADE 60	4348	3861		
509	15800	1726	LB.	EPOXY REINFORCING STEEL, GRADE 60	858		868	
511	41500	8	CU. YD.	CLASS C CONCRETE, 3' PIER COLUMNS		8		
511	43500	52	CU. YD.	CLASS C CONCRETE, ABUTMENTS	52			
511	42500	20	CU. YD.	CLASS C CONCRETE, PIERS		20		
511	34002	4	CU. YD.	CLASS S CONCRETE, SUPERSTRUCTURE HIGH EARLY STRENGTH			4	
512	55800	473	SQ. YD.	TYPE D WATERPROOFING			473	
515	53900	21	EACH	PRESTRESSED CONCRETE BRIDGE MEMBERS (B21-4B) (SEE PROPOSAL NOTE)			21	
516	41500	84	EACH	1" X 10" X 12" ELASTOMERIC BEARING PADS			84	
516	13600	132	SQ. FT.	1" PREFORMED EXPANSION JOINT FILLER	95	37		
516	31001	57	LIN. FT.	2" DEEP JOINT SEALER, AS PER PLAN (SEE SHT. 19)	57			
517	72300	312.50	LIN. FT.	RAILING, (DEEP BEAM RAIL WITH STEEL TUBULAR BACKUP, TYPE 2 STEEL POST AND ANCHOR BOLTS) (SEE PROPOSAL NOTE)			312.50	
518	21101	17	CU. YD.	POROUS BACKFILL, AS PER PLAN (SEE SHT. 15)	17			
SPECIAL	51267502	15	SQ. YD.	SEALING OF CONCRETE SURFACES (EPOXY) (SEE PROPOSAL NOTE)	15			
SPECIAL	51622200	228	SQ. FT.	STEEL DRIP STRIP (SEE SHT. 18)			228	
SPECIAL	51267500	73	SQ. YD.	SEALING OF CONCRETE SURFACES (SEE PROPOSAL NOTE)			73	
SPECIAL	50794602	38	LIN. FT.	2'-6" DIA. DRILLED SHAFT ABOVE THE BEDROCK SOCKET	38			
SPECIAL	50794604	12	LIN. FT.	2'-6" DIA. DRILLED SHAFT IN BEDROCK	12			
SPECIAL	50794602	8	LIN. FT.	3'-6" DIA. DRILLED SHAFT ABOVE THE BEDROCK SOCKET		8		
SPECIAL	50794604	20	LIN. FT.	3'-6" DIA. DRILLED SHAFT IN BEDROCK		20		
SPECIAL	54631200	56	LIN. FT.	SAWING AND SEALING BITUMINOUS CONCRETE JOINTS (SEE SHT. 19)			56	

REFERENCE SHALL BE MADE TO STANDARD DRAWINGS

AS-1-81 DATED 11-27-81  
 DBR-2-73 DATED 4-10-73  
 PSBD-1-81 DATED 6-20-89

SUPPLEMENTAL SPECIFICATIONS

836 DATED 11-12-85

DESIGN SPECIFICATIONS: THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 1983 INCLUDING THE 1984, 1985, 1986 AND 1987 INTERIM SPECIFICATIONS AND THE OHIO "SUPPLEMENT" TO THESE SPECIFICATIONS.

DESIGN DATA

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

CONCRETE CLASS S - COMPRESSIVE STRENGTH 4500 P.S.I.  
 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.  
 PRESTRESSING STRAND ASTM A416  
 $f_s = 270,000$  P.S.I.  
 INITIAL STRESS = 0.70  $f_s$   
 PRESTRESSED BEAM REINFORCING STEEL - ASTM A615, A616, A617 -  
 MINIMUM YIELD STRENGTH 40,000 P.S.I.\*  
 CONCRETE FOR PRESTRESSED BEAMS - UNITS STRESS 2,200 P.S.I.  
 COMPRESSION, 444 P.S.I. TENSION.

ITEM SPECIAL SEALING OF CONCRETE SURFACES: A CONCRETE SEALER SHALL BE APPLIED TO THOSE SURFACES SHOWN ON SHEET [6/10] & [8/10] SEE PROPOSAL NOTE FOR SURFACE PREPARATION REQUIREMENTS, APPLICATION RATES, MATERIAL REQUIREMENTS AND APPLICATION PROCEDURES:

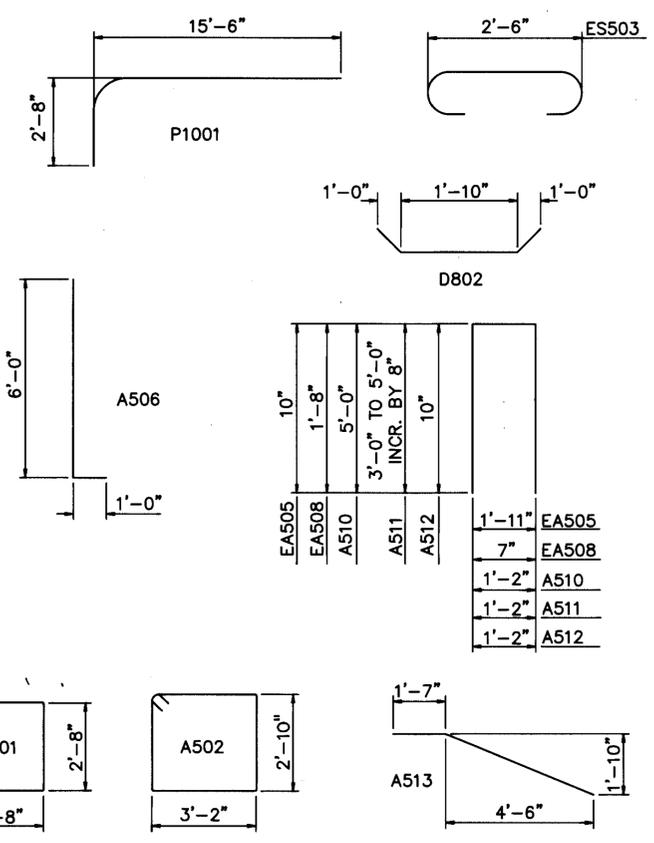
REMOVAL OF EXISTING STRUCTURES: WHEN NO LONGER NEEDED TO MAINTAIN TRAFFIC THE EXISTING STRUCTURE SHALL BE REMOVED. SUITABLE WASTE MASONRY MAY BE PLACED AS BANK PROTECTION AS DIRECTED BY THE ENGINEER.

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 INCONVENIENCE TO EITHER WILL BE HELD TO A MINIMUM.

NON-SHRINKING MORTAR: MORTAR OR GROUT FOR KEYWAYS BETWEEN PRESTRESSED CONCRETE BOX BEAMS, FOR TIE ROD RECESSES AND FOR ANCHOR DOWEL HOLES SHALL BE NON-SHRINKING NON-METALLIC MORTAR HAVING A MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS OF 5000, P.S.I. ACCORDING TO THE CORP OF ENGINEERS SPECIFICATION CRD-C621-83 WHEN PREPARED TO A MODERATE FLUIDITY (124-145% FLOW TABLE FLOW). THE MORTAR OR GROUT SHALL ALSO MEET ALL OTHER REQUIREMENTS OF SPECIFICATION CRD-C621-83. THE MORTAR SHALL BE PREPARED, PLACED AND CURED IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS, AGAINST SURFACES AS SPECIFIED BELOW.

DECK PROTECTION METHOD: TYPE D WATERPROOFING WITH ASPHALT CONCRETE OVERLAY, SEALING OF CONCRETE SURFACES AND EPOXY COATED REINFORCING STEEL.

EPOXY REINFORCING STEEL SUPERSTRUCTURE				
MARK	NO.	LENGTH	SHP.	WEIGHT
ES401	8	26'-8"	ST	143
ES501	168	3'-8"	BT	642
ES601	2	27'-8"	ST	83
TOTAL =				868
REAR AND FORWARD ABUTMENT				
MARK	NO.	LENGTH	SHP.	WEIGHT
EA505	40	3'-4"	BT	139
EA507	4	28'-0"	ST	117
EA508	40	3'-8"	BT	153
EA802	6	28'-0"	ST	449
TOTAL =				858



REINFORCING STEEL REAR AND FORWARD ABUTMENT				
MARK	NO.	LENGTH	SHP.	WEIGHT
SA501	3	8'-6"	BT	*
SA502	3	7'-6"	BT	*
A501	8	31'-6"	ST	263
A502	48	12'-6"	BT	626
A503	12	28'-0"	ST	350
A504	40	6'-0"	ST	250
A506	40	6'-11"	BT	289
A509	16	5'-0"	ST	83
A510	4	5'-11"	BT	25
A511	4 SETS OF 4 BARS	9'-11" TO 13'-11" BY 1'-4" INCR.	BT	200
A512	12	2'-7"	BT	32
A513	8	6'-5"	BT	54
A514	8	3'-10"	ST	32
A515	8	6'-0"	ST	50
A516	32	8'-0"	ST	267
A801	16	31'-6"	ST	1346
D802	40	4'-6"	BT	481
SA901	24	10'-6"	ST	*
SA902	24	9'-6"	ST	*
TOTAL =				4348

PIER				
MARK	NO.	LENGTH	SHP.	WEIGHT
SP501	2	14'-0"	BT	*
SP502	2	14'-6"	BT	*
P501	70	11'-3"	BT	821
P502	8	28'-0"	ST	234
P1001	24	17'-10"	BT	1842
P1002	8	28'-0"	BT	964
P1003	10	17'-0"	ST	*
P1004	10	17'-4"	ST	*
TOTAL =				3861

\* INCLUDED WITH DRILLED SHAFT FOR PAYMENT.

ALL DIMENSIONS ARE OUT TO OUT

REINFORCING STEEL SAMPLES  
 REFER TO CMS SECTION 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 509.08.

EPOXY COATED REINFORCING STEEL:  
 BAR MARKS FOR REINFORCING BARS WHICH ARE TO BE EPOXY COATED INCLUDE A LETTER PREFIX E.

PREPARATION OF CONCRETE SURFACES IN CONTACT WITH NON-SHRINKING MORTAR: THE KEYWAY SURFACES SHALL BE GIVEN A MEDIUM SANDBLAST AT THE PLANT WITHIN FOUR (4) DAYS BEFORE THE BEAMS LEAVE THE PLANT. BEFORE MORTARING, THE KEYWAYS SHALL BE THOROUGHLY CLEAN OF ALL DIRT, DUST AND OTHER FOREIGN MATTER. THE KEYWAY SURFACES SHALL BE WETTED, BUT NO FREE WATER SHALL BE ALLOWED TO REMAIN IN THE KEYWAYS.

DRILLED SHAFTS: THE REAR AND FORWARD ABUTMENTS ARE EACH SUPPORTED ON THREE (3) 2'-6" DIA. REINFORCED CONCRETE DRILLED SHAFTS. THE CAPPED COLUMN PIERS ARE EACH SUPPORTED ON TWO (2) 3'-6" DIA. REINFORCED CONCRETE DRILLED SHAFTS. DRILLED SHAFTS SHALL BE DRILLED A MINIMUM OF 2'-0" INTO BEDROCK AT THE ABUTMENTS AND 5'-0" INTO BEDROCK AT THE PIERS. SEE SHEET [4/10] FOR SPECIFICATIONS.

JONES-STUCKEY, LTD., INC. 3/10  
 1500 WEST FIRST AVENUE  
 COLUMBUS, OHIO 43212

GENERAL NOTES, ESTIMATED QUANTITIES & REINFORCING STEEL LIST

UNION CO. RD. 129-H  
 OVER  
 BOKES CREEK

UNION COUNTY

DESIGNED	DRAWN	CHECKED	REVIEWED	DATE	REVISED
D.W.J.	K.S.E.	G.L.H.	D.D.S.	4-17-89	

DESCRIPTION  
THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING DRILLED SHAFTS OF THE TYPE AND SIZE SPECIFIED ON THE PLANS. THE CONTRACTOR SHALL FURNISH ALL LABOR, MATERIAL AND APPURTENANCES REQUIRED TO COMPLETE THE WORK AS SPECIFIED.

THE LIMITS OF EACH DRILLED SHAFT SHALL BE DEFINED AT THE TOP BY THE PLAN ELEVATION AND AT THE BOTTOM BY THE ELEVATION OF THE BOTTOM OF THE BEDROCK SOCKET AS APPROVED BY THE ENGINEER.

A CASING WILL BE NECESSARY FOR THE CONSTRUCTION OF EACH PIER DRILLED SHAFT AND THE CASINGS SHALL BE LEFT IN PLACE.

CONTRACTOR QUALIFICATION  
THE CONTRACTOR SHALL SUBMIT INFORMATION TO THE ENGINEER TO DOCUMENT THAT HIS PERSONNEL ARE EXPERIENCED IN THE CONSTRUCTION OF DRILLED SHAFTS OF THE TYPE AND SIZE SPECIFIED ON THE PLANS. THIS INFORMATION SHALL BE SUBMITTED AT THE PRECONSTRUCTION CONFERENCE. THE PROJECT ENGINEER IS REQUESTED TO INFORM BUREAU OF BRIDGES, ATTENTION: FOUNDATION ENGINEER (TEL. 614-466-2399) OF THE DATES WHEN THE CONTRACTOR WILL BEGIN CONSTRUCTING THE DRILLED SHAFTS.

CASING  
THE CASINGS SHALL BE MADE OF STEEL. SHALL BE WATER TIGHT AND SHALL BE OF AMPLE STRENGTH TO WITH STAND HANDLING STRESSES AND EXTERNAL SUBSURFACE PRESSURES. THE CASINGS SHALL BE SEATED INTO THE BEDROCK. THUS ATTEMPTING TO SEAL OUT INCOMING WATER. THE CASING LENGTH SHALL BE AS NECESSARY TO CONSTRUCT EACH DRILLING SHAFT.

THE DIAMETER OF THE FURNISHED CASING(S) SHALL BE LARGE ENOUGH TO ALLOW THE CONSTRUCTION OF A BEDROCK SOCKET WITH A DIAMETER EQUAL TO OR GREATER THAN THE PLAN DIAMETER.

EXCAVATION  
WHEN OBJECTS SUCH AS LARGE BOULDERS ARE ENCOUNTERED, THEY SHALL BE REMOVED. BLASTING METHODS MAY BE USED, AND WHEN USED, SHALL BE CONDUCTED SO AS TO AVOID DISTURBANCE TO THE BEDROCK FORMATION BELOW AND OUTSIDE THE LIMITS OF THE PROPOSED DRILLED SHAFT EXCAVATIONS. THE DRILLED SHAFTS SHALL PENETRATE INTO SOLID BEDROCK TO A DEPTH THAT PROVIDES A BEDROCK SOCKET LENGTH THAT IS NOT LESS THAN THE BEDROCK SOCKET SHOWN IN THE PLANS. WHEN A CASING WHICH EXTENDS DOWN TO BEDROCK IS USED, THE BEDROCK SOCKET SHALL BE MEASURED FROM THE BOTTOM OF THE CASING TO THE BOTTOM OF THE DRILLED BEDROCK EXCAVATION. WHEN THE ENGINEER IS ASSURED THAT A PORTION OF THE METAL CASING IS EMBEDDED IN SOLID BEDROCK, UPON THE ENGINEER'S CONCURRENCE, THE EMBEDDED DISTANCE MAY BE INCLUDED AS A PART OF THE BEDROCK SOCKET.

DEWATERING  
THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTROLLING ANY INCOMING WATER TO THE EXTENT THAT THE SHAFT EXCAVATION IS MAINTAINED DRY ENOUGH FOR PERFORMANCE OF THE REQUIRED INSPECTION OPERATION. THE PREFERRED METHOD OF CONSTRUCTION IS TO PLACE THE CONCRETE IN A CLEAN, DRY EXCAVATION. THE CONTRACTOR IS EXPECTED TO MAKE A REASONABLE ATTEMPT TO SEAL WATER OUT OF THE DRILLED SHAFT EXCAVATION.

BOTTOM CLEANOUT  
THE BOTTOM OF THE DRILLED SHAFT EXCAVATION SHALL BE AS CLEAN AS IS PRACTICABLE (NO MORE THAN ONE INCH OF LOOSE MATERIAL ON THE BOTTOM) PRIOR TO CONCRETE PLACEMENT. DRILLING SPOILS THAT ADHERE TO THE VERTICAL SIDES OF THE BEDROCK SOCKETS ARE TO BE REMOVED.

APPROVAL BEFORE CONCRETE PLACEMENT  
CONCRETE SHALL NOT BE PLACED IN ANY DRILLED SHAFT EXCAVATION WITHOUT PRIOR APPROVAL FROM THE ENGINEER. THE DRILLED SHAFT EXCAVATION SHALL BE INSPECTED IMMEDIATELY BEFORE THE CONCRETE IS PLACED. A LIGHT POWERFUL ENOUGH TO THOROUGHLY INSPECT THE SIDES, BOTTOM AND REINFORCING STEEL CAGE OF THE DRILLED SHAFT IS REQUIRED. CONCRETE SHALL NOT BE PLACED DURING INCLEMENT WEATHER CONDITIONS WHICH PREVENT A THOROUGH INSPECTION.

CONCRETE PLACEMENT  
THE CONCRETE FOR THE DRILLED SHAFTS SHALL BE PLACED AS PER 511 EXCEPT AS MODIFIED BY THE PLANS. THE CONCRETE PLACEMENT OPERATION SHALL BE CONTINUOUS FROM START TO FINISH. THE CONCRETE FOR THE BEDROCK SOCKET SHALL BE PLACED AGAINST THE INSITU BEDROCK AND SHALL BE PLACED PROMPTLY AFTER THE FINAL INSPECTION OF THE SHAFT. IF PRACTICABLE, THE CONCRETE SHALL BE PLACED IN A CLEAN DRY EXCAVATION. CARE SHALL BE TAKEN TO INSURE THAT CONCRETE IS NOT BEING PLACED IN MOVING WATER. THE CONCRETE CAN BE PLACED IN A DRY DRILLED SHAFT EXCAVATION BY THE FREE FALL METHOD PROVIDED THE CONCRETE FALLS TO ITS FINAL POSITION THROUGH AIR WITHOUT STRIKING THE SIDES OF THE HOLE. THE REINFORCING STEEL CAGE, OR ANY OTHER OBSTRUCTION. THE FREE FALL METHOD ALLOWS THE CONCRETE TO BE DROPPED FROM THE TOP THROUGH A CENTERING CHUTE TO THE CONCRETE'S FINAL POSITION.

IF THE ENGINEER DETERMINES THAT DEWATERING IS NOT PRACTICABLE, THE CONTRACTOR WILL BE GIVEN PERMISSION TO PLACE THE CONCRETE UNDER WATER. TO PLACE CONCRETE UNDER WATER, THE DRILLED SHAFT EXCAVATION SHALL BE FILLED WITH WATER TO SUCH A DEPTH THAT ALL WATER MOTION HAS CEASED. THE CONCRETE SHALL THEN BE PLACED BY MEANS OF A CONCRETE PUMP. THE CONCRETE PUMP SHALL HAVE A DIAMETER THAT IS NOT LESS THAN 4 INCHES. THE CONCRETE PUMP EQUIPMENT SHALL BE SO ARRANGED THAT NO VIBRATIONS RESULT WHICH MIGHT DAMAGE FRESH CONCRETE. PIPES CARRYING CONCRETE FROM THE PUMP TO THE SHAFT SHOULD BE ARRANGED WITH A MINIMUM NUMBER OF BENDS. THE PIPE USED TO CONVEY THE CONCRETE TO THE BOTTOM OF THE DRILLED SHAFT EXCAVATION SHALL BE ANCHORED TO THE STEEL CASING TO PREVENT THE PIPE FROM UNDULATING DURING THE INITIAL PLACEMENT OF THE CONCRETE.

THE PUMPING EQUIPMENT SHALL BE SUITABLE IN KIND AND ADEQUATE IN CAPACITY FOR THE WORK REQUIRED. THE USE OF ALUMINUM PIPE AS A CONVEYANCE FOR THE CONCRETE WILL NOT BE PERMITTED. AN ADEQUATE QUANTITY OF GROUT, MORTAR OR CONCRETE WITH COARSE AGGREGATE OMITTED SHALL BE PUMPED THROUGH THE EQUIPMENT AHEAD OF THE SPECIFICATION CONCRETE TO PROVIDE LUBRICATION TO THE PUMPING SYSTEM. THE CONCRETE USED FOR LUBRICATION SHALL NOT BE PLACED IN THE SHAFT. THE LUBRICATION PROCESS WILL NOT BE REPEATED AS LONG AS THE PUMPING OPERATIONS ARE CONTINUOUS. THE OPERATION OF THE PUMP SHALL BE SUCH THAT A CONTINUOUS STREAM OF CONCRETE WITHOUT AIR POCKETS IS PRODUCED. IN ORDER TO PREVENT THE CONTAMINATION OF THE CONCRETE PLACED INITIALLY AT THE BOTTOM OF THE SHAFT. THE OUTLET END OF THE PUMPING PIPE SHALL BE SEALED WITH A DIAPHRAM OR PLUG THAT IS FLUSHED OUT WHEN THE HYDROSTATIC PRESSURE FROM THE COLUMN OF CONCRETE EXCEEDS THAT OF THE WATER IN THE SHAFT. THE INITIAL RATE OF CONCRETE PLACEMENT MUST BE CAREFULLY CONTROLLED SO AS NOT TO LIFT OR DISPLACE THE CAGE OF REINFORCING STEEL. THE CONVEYING SYSTEM SHALL BE WATER TIGHT AND THE OUTLET END SHALL ALWAYS REMAIN WELL BELOW THE TOP OF THE FRESHLY PLACED CONCRETE. THE PREFERRED CONCRETE PLACEMENT PROCEDURE IS TO MAINTAIN THE OUTLET END OF THE PUMPING SYSTEM AT APPROXIMATELY 3 FEET BELOW THE TOP OF THE FRESH CONCRETE. WHEN THE CONCRETE REACHES THE TOP OF THE DRILLED SHAFT COLUMN ALL LAITANCE SHALL BE REMOVED.

TOLERANCES  
THE CONTRACTOR SHALL LOCATE AND CONSTRUCT THE TOP CENTER OF THE PIER DRILLED SHAFTS WITHIN A TWO-INCH RADIUS OF THE POSITION INDICATED BY THE PLANS. THE SHAFTS ARE TO BE INSTALLED VERTICALLY AND MUST BE WITHIN 1.0 PERCENT OF PLUMB FOR THE TOTAL LENGTH OF THE DRILLED SHAFT.

CONCRETE  
CONCRETE FOR ALL DRILLED SHAFTS SHALL BE CLASS S CONCRETE AND SHALL BE IN ACCORDANCE WITH 5.11 EXCEPT AS MODIFIED AND SUPPLEMENTED HEREIN. THE REQUIRED SLUMP IS SIX (6) INCHES. PLUS OR MINUS ONE-HALF INCH. THE MAXIMUM WATER TO CEMENT RATIO SHALL BE 0.50. IF CONCRETE IS PLACED UNDER WATER. THE REQUIREMENTS OF ADDING 10 PERCENT MORE CEMENT TO THE CONCRETE MIX SHALL BE WAIVED. THE TOP 2 TO 3 FEET OF CONCRETE IN THE DRILLED SHAFTS ARE REQUIRED TO BE VIBRATED. ONLY A MINIMAL VIBRATORY EFFORT IS NECESSARY. SPECIAL CARE SHALL BE TAKEN NOT TO OVER-VIBRATE THE DRILLED SHAFT CONCRETE.

IF THE CASINGS FOR THE DRILLED SHAFTS ARE TO BE WITHDRAWN, THE CONCRETE SHALL NOT BE VIBRATED UNTIL THE CASING IS COMPLETELY REMOVED AND THE SHAFT TOP IS FORMED TO THE PLAN CROSS-SECTION. CARE SHALL BE TAKEN WHEN REMOVING THE CASING SO THAT THE REINFORCING STEEL CAGE IS NOT DEFORMED BY THE FORCE OF THE DOWNWARD FLOWING CONCRETE. THE CONTRACTOR SHALL FURNISH A PRECONSTRUCTED TOP FORM FOR USE IN ACCURATELY CONFINING THE CONCRETE AT THE TOP OF THE DRILLED SHAFT WHEN THE CASING IS REMOVED. THE TOP FROM SHALL BE NOT LESS THAN THREE FEET LONG.

REINFORCING STEEL  
REINFORCING STEEL SHALL MEET THE REQUIREMENTS OF 509. THE REINFORCING STEEL SHALL BE GRADE 60. THE SPIRAL REINFORCING STEEL MAY BE PLAIN BARS ASTM A82 OR A615. THE REINFORCING STEEL CAGE SHALL BE COMPLETELY ASSEMBLED PRIOR TO PLACEMENT AND THE LENGTH SHALL BE AS NECESSARY TO CONSTRUCT EACH DRILLED SHAFT. SEE PLAN SHEETS FOR DETAILS OF REINFORCING STEEL. NOTE THAT THE LENGTHS PROVIDED IN THE REINFORCING STEEL LIST ARE ESTIMATED LENGTHS. THE REINFORCING STEEL SHOULD BE PLACED AT PLAN LOCATION.

INSPECTION  
THE CONTRACTOR SHALL PROVIDE AND MAINTAIN SUITABLE MEANS FOR ACCESS AND SAFE DESCENT INTO ALL DRILLED SHAFT EXCAVATIONS THAT ARE PROTECTED BY A CASING AND HAVE A DIAMETER THAT IS LARGE ENOUGH TO ALLOW A PERSON TO SAFELY ENTER AND PERFORM THE REQUIRED INSPECTION. ACCESS MAY BE PROVIDED BY A POSITIVE FORWARD AND REVERSE HYDRAULIC WINCH OR POWER-UP AND POWER-DOWN HOIST ON A CRANE. THE METHOD CHOSEN FOR ENTERING OR LEAVING THE SHAFT SHALL BE CONVENIENT, SAFE AND NOT UNCOMFORTABLE FOR THE USER. THE CONTRACTOR SHALL ALSO PROVIDE PROTECTIVE CLOTHING FOR THOSE MAKING AN INSPECTION OF THE SHAFT.

SMALL DIAMETER AND/OR UNCASSED DRILLED SHAFT EXCAVATIONS SHALL BE INSPECTED AS THOROUGHLY AS PRACTICABLE

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UNION COUNTY  
CO. RD. NO. 129-H

AN INSPECTION RECORD CHART HAS BEEN INCLUDED WITH THE PLANS ON SHEETS OF 10 AND SHOULD BE COMPLETED BY THE ENGINEER. MEASUREMENTS SHOULD BE OBTAINED PRIOR TO PLACING CONCRETE. THE CONTRACTOR SHOULD PROVIDE ALL NECESSARY EQUIPMENT NEEDED TO OBTAIN MEASUREMENTS FOR COMPLETING THE CHART. THE CONTRACTOR SHALL ASSIST THE ENGINEER IN OBTAINING THESE MEASUREMENTS. WHEN THE INSPECTION RECORD CHART IS COMPLETED, THE PROJECT ENGINEER SHOULD SUBMIT A COPY TO THE BUREAU OF BRIDGES, ATTENTION: FOUNDATION ENGINEER.

SAFETY PROVISIONS  
THE CONTRACTOR SHALL HAVE AT THE JOB SITE ALL EQUIPMENT AND MATERIALS NEEDED TO PROVIDE SAFE CONSTRUCTION AND INSPECTION OF THE DRILLED SHAFTS AS REQUIRED BY CITY, STATE AND FEDERAL SAFETY REQUIREMENTS.

SAFETY PROVISIONS SHALL INCLUDE BUT NOT BE LIMITED TO THE REQUIREMENTS SPECIFIED BY THE PLANS, SPECIAL PROVISIONS AND PROPOSAL.

THE CONTRACTOR SHALL PROVIDE CONTINUOUS SURVEILLANCE OF ALL PERSONS IN THE DRILLED SHAFT EXCAVATIONS. AT ALL TIMES WHEN A PERSON IS IN THE DRILLED SHAFT EXCAVATION, PROVISIONS SHALL BE MADE FOR PUMPING FRESH AIR TO SAID PERSON. ALL LIGHTING SHALL BE WITH ELECTRICAL LIGHTS. MECHANICAL EQUIPMENT USED INSIDE THE SHAFTS SHALL BE OPERATED BY AIR OR ELECTRICITY. THE USE OF GASOLINE ENGINES OR OTHER TYPES OF EQUIPMENT PRODUCING FUMES THAT MAY ENTER THE EXCAVATION WILL NOT BE PERMITTED. THE CONTRACTOR SHALL PROVIDE GAS DETECTION AND OXYGEN ANALYZERS, AND SHALL TEST THE DRILLED SHAFT EXCAVATION ATMOSPHERE QUALITATIVELY THROUGHOUT THE COLUMN'S ENTIRE LENGTH AND ASSURE THAT THE QUANTITIES OF GASES AND OXYGEN PRESENT ARE IN SAFE AMOUNT AND SAFE PROPORTION PRIOR TO PERMITTING ANY PERSON TO ENTER THE SHAFT.

METHOD OF MEASUREMENT  
THE TOTAL PAY LENGTH OF EACH DRILLED SHAFT SHALL BE THE COMPLETED AND ACCEPTED LENGTH MEASURED ALONG THE AXIS OF THE DRILLED SHAFT FROM THE BOTTOM OF THE BEDROCK SOCKET TO THE PROPOSED TOP ELEVATION, AS PER PLAN. THE REINFORCING STEEL THAT PROJECTS FROM THE DRILLED SHAFT INTO THE PIER COLUMN OR THE ABUTMENT FOOTING AS SPECIFIED BY THE PLANS IS INCLUDED WITH THE DRILLED SHAFT FOR PAYMENT BUT SHALL NOT BE INCLUDED IN THE MEASURED LENGTH OF THE DRILLED SHAFT.

THE TOTAL LENGTH OF EACH DRILLED SHAFT SHALL BE DIVIDED INTO TWO SEGMENTS. THE LENGTH OF THE LOWER SEGMENT IS THE LENGTH OF THE BEDROCK SOCKET AND THE LENGTH OF THE UPPER SEGMENT IS THE LENGTH OF THE DRILLED SHAFT ABOVE THE BEDROCK SOCKET.

BASIC OF PAYMENT  
PAYMENT FOR FURNISHING AND INSTALLING DRILLED SHAFTS WILL BE MADE AT THE CONTRACT UNIT PRICE PER LINEAR FOOT OF ACCEPTED SHAFT LENGTH AS PER ITEM SPECIAL "2'-6" DIAMETER DRILLED SHAFTS ABOVE THE BEDROCK SOCKET", ITEM SPECIAL "2'-6" DIAMETER DRILLED SHAFTS IN BEDROCK", ITEM SPECIAL "3'-6" DIAMETER DRILLED SHAFTS ABOVE THE BEDROCK SOCKET" AND ITEM SPECIAL "3'-6" DIAMETER DRILLED SHAFTS IN BEDROCK". WHICH SHALL INCLUDE ALL LABOR MATERIALS, AND EQUIPMENT NECESSARY TO COMPLETE THE ITEMS AS SPECIFIED.

DESIGN PARAMETERS  
THE CALCULATED DESIGN LOADING FOR A PIER DRILLED SHAFT IS 183 TONS AND FOR AN ABUTMENT DRILLED SHAFT IS 70 TONS THE ALLOWABLE DESIGN END BEARING PRESSURE IS 50 TONS PER SQUARE FOOT.

JONES-STUCKEY, LTD., INC. 4 / 10 1500 WEST FIRST AVENUE COLUMBUS, OHIO 43212				
<u>DRILLED SHAFT NOTES</u>				
UNION CO. RD. 129-H OVER BOKES CREEK				
UNION COUNTY				
DESIGNED	DRAWN	CHECKED	REVIEWED	DATE
D.W.J.		G.L.H.	D.D.S.	4/17/89

# INSPECTION RECORD FOR DRILLED SHAFTS

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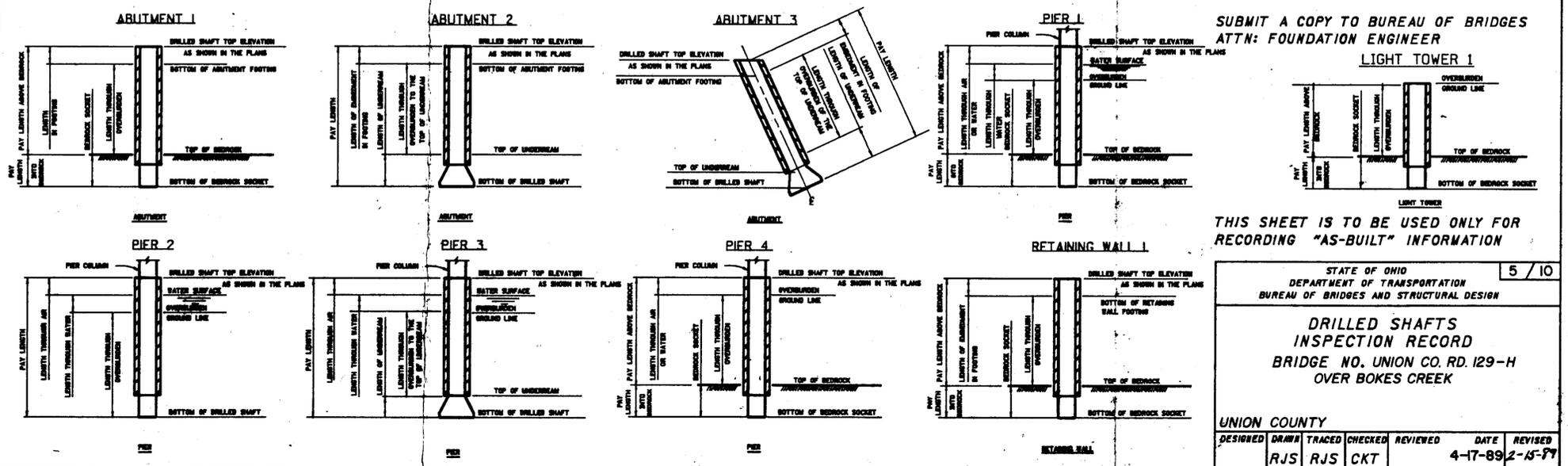
 UNION COUNTY  
CO. RD. NO. 129-H

PROJECT NO. _____	GENERAL CONTRACTOR _____	TYPE & MODEL OF DRILLING MACHINERY _____	TYPE OF CONCRETE PUMP _____	COST PER LINEAL FOOT _____
	DRILLING CONTRACTOR _____	MAX. CONTINUOUS TORQUE _____ FT.-LB.	HOSE DIAMETER _____ INCHES	ABOVE THE BEDROCK SOCKET _____
	PROJECT ENGINEER _____	CROWD (MAX. CONTINUOUS DOWNWARD FORCE) _____ LBS.	CAPACITY _____ CU.FT./MIN.	IN BEDROCK SOCKET _____
				TYPE OF ROCK _____

SUBSTRUCTURE UNIT		DATE AND TIME OF DRILLING		APPROX. ELEVATION OF TOP OF OVER BURDEN	LENGTH OF DRILLED SHAFTS ABOVE THE BEDROCK SOCKET				OBSTRUCTIONS ENCOUNTERED			LENGTH OF DRILLED SHAFTS IN BEDROCK SOCKET			STEEL CASING			REINFORCING STEEL				CONCRETE				TOLERANCES		PLAN SHAFT DIAMETER (INCH)	CONSTRUCTED SHAFT DIAMETER (INCH)				
					THROUGH AIR (FEET)	THROUGH WATER (FEET)	THROUGH OVER BURDEN (FEET)	PAY LENGTH (FEET)	NUMBER	SIZE (INCH)	ELAPSED TIME FOR REMOVAL (HR.)	APPROX. ELEVATION OF TOP OF BEDROCK	ELEV. OF BOTT. OF BEDROCK SOCKET	LENGTH OF BEDROCK SOCKET (FEET)	LENGTH (FEET)	CASING GAUGE	WAS CASING LEFT IN PLACE ?	VERTICAL		SPIRAL		SLUMP TEST RESULT (INCH)	CYLINDER STRENGTH f'c (P.S.I.)	AIR TEMP. (F)	TIME NEEDED TO PLACE CONCRETE (HR.)	QUANTITY (CU.YD.)	DEVIATION FROM PLUMB			DEVIATION OF COLUMN TOP CENTER FROM PLAN LOCATION HORIZONTALLY (INCH)			
PIER OR ABUT	SHAFT NO.	STARTED		FINISHED																													
		DATE	TIME	DATE	TIME																										N-S (INCH)	E-W (INCH)	

**PROJECT ENGINEER COMMENTS**

1. LOCATION AND EXTENT OF CAVITIES
2. PROCEDURES FOR CONTROLLING WATER
3. WERE UNEXPECTED SUBSURFACE CONDITIONS ENCOUNTERED
4. ANY SUGGESTIONS FOR IMPROVING THE PLANS

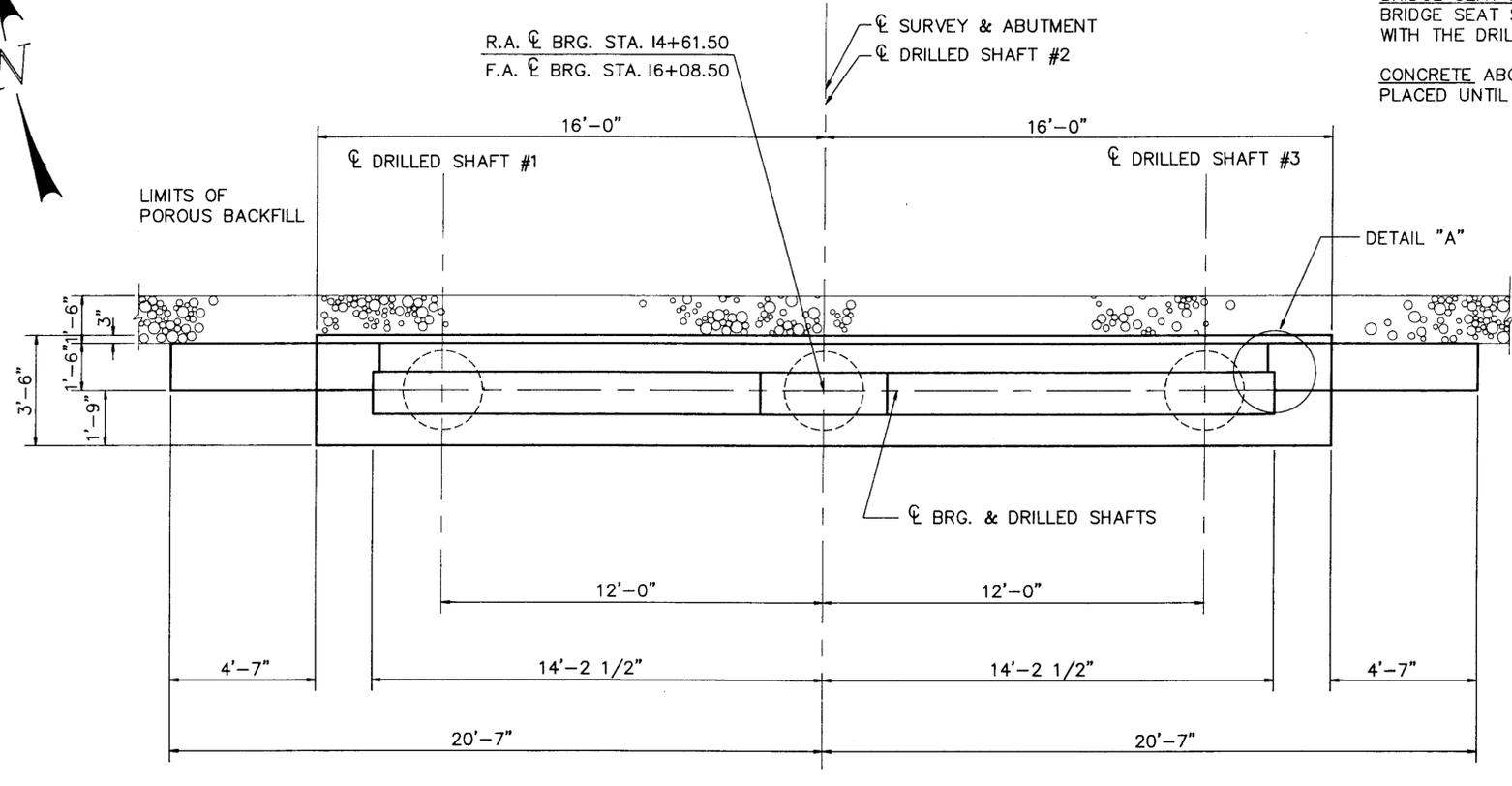
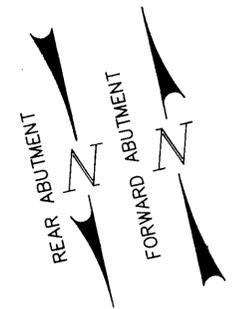


UNION COUNTY  
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**POROUS BACKFILL:** SHALL EXTEND UP TO THE PLANE OF THE SUBGRADE AND LATERALLY TO THE SURFACE OF THE EMBANKMENT SLOPES.

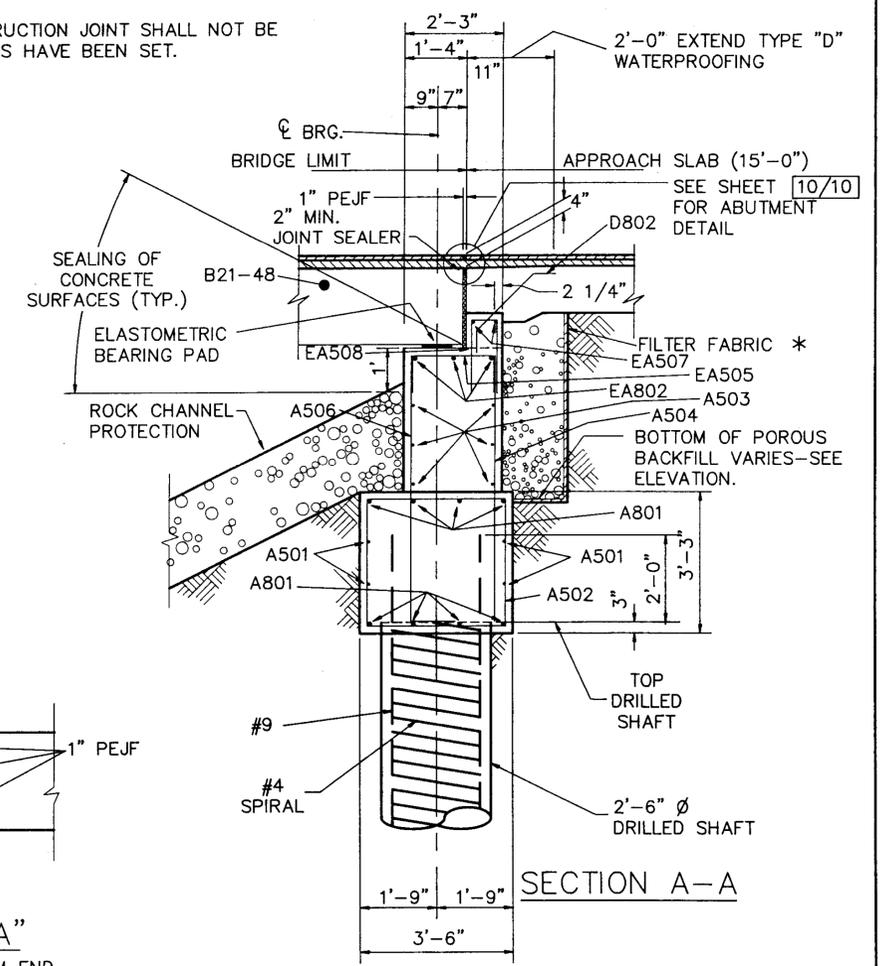
**BRIDGE SEAT REINFORCING:** REINFORCING STEEL IN THE VICINITY OF THE BRIDGE SEAT SHALL BE ACCURATELY PLACED TO AVOID INTERFERENCE WITH THE DRILLING OF ANCHOR BAR HOLES.

**CONCRETE ABOVE THE BRIDGE SEAT CONSTRUCTION JOINT** SHALL NOT BE PLACED UNTIL THE PRESTRESSED BOX BEAMS HAVE BEEN SET.



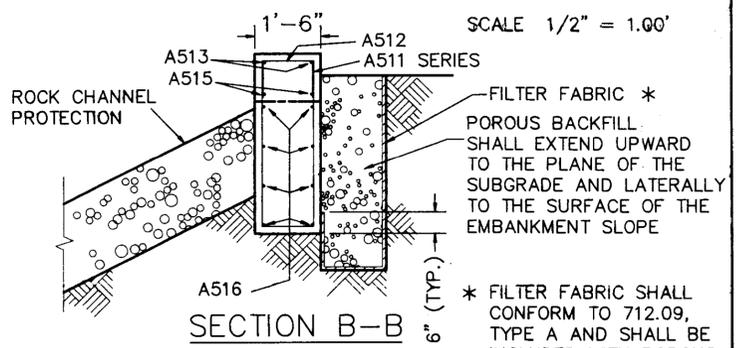
PLAN

SCALE 3/8" = 1.00'



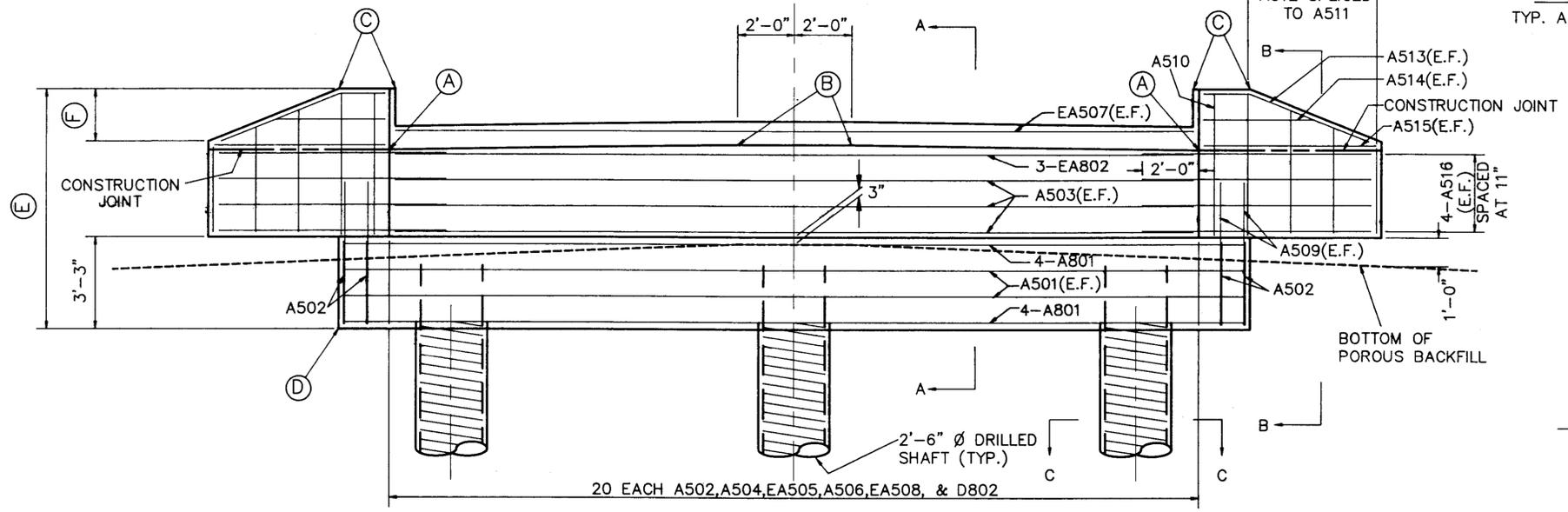
SECTION A-A

DETAIL "A"  
TYP. AT BOX BEAM END



SECTION B-B

SCALE 1/2" = 1.00'

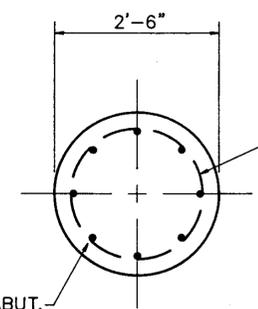


ELEVATION

LOCATION	(A)	(B)	(C)	(D)	(E)	(F)
REAR ABUT.	969.94	970.13	972.10	963.60	8'-6"	1'-10"
FWD. ABUT.	971.26	971.45	973.44	964.90	8'-6 1/2"	2'-0"

8-A901 FWD. ABUT.  
8-A902 REAR ABUT.

SECTION C-C



NOTE: ALL REINFORCING STEEL INCLUDING A 2'-0" PROJECTION OF #9 BARS OUT OF THE TOP SHALL BE INCLUDED WITH THE APPROPRIATE DRILLED SHAFT ITEM FOR PAYMENT

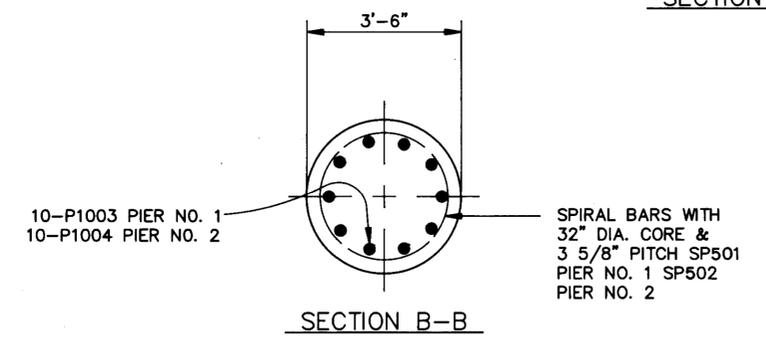
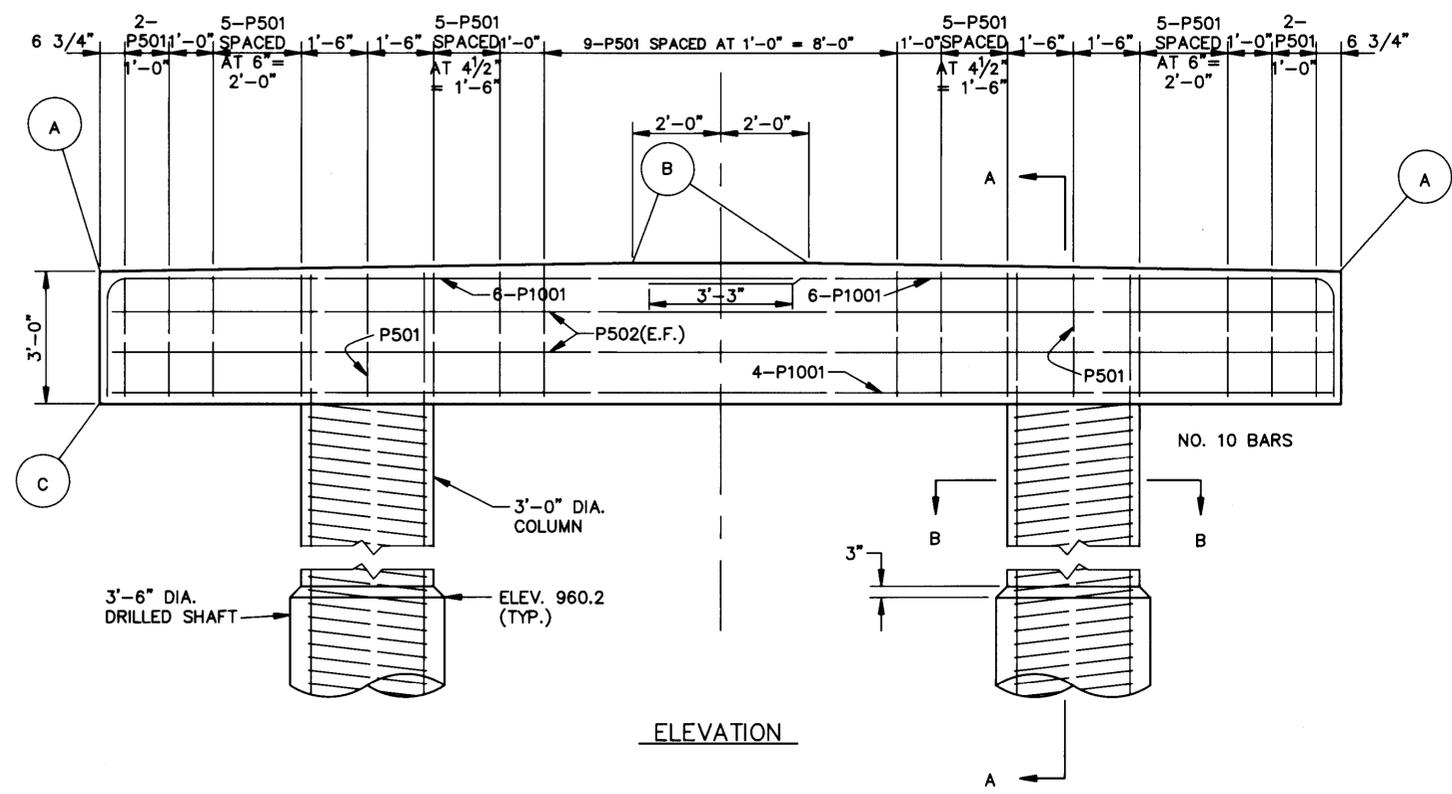
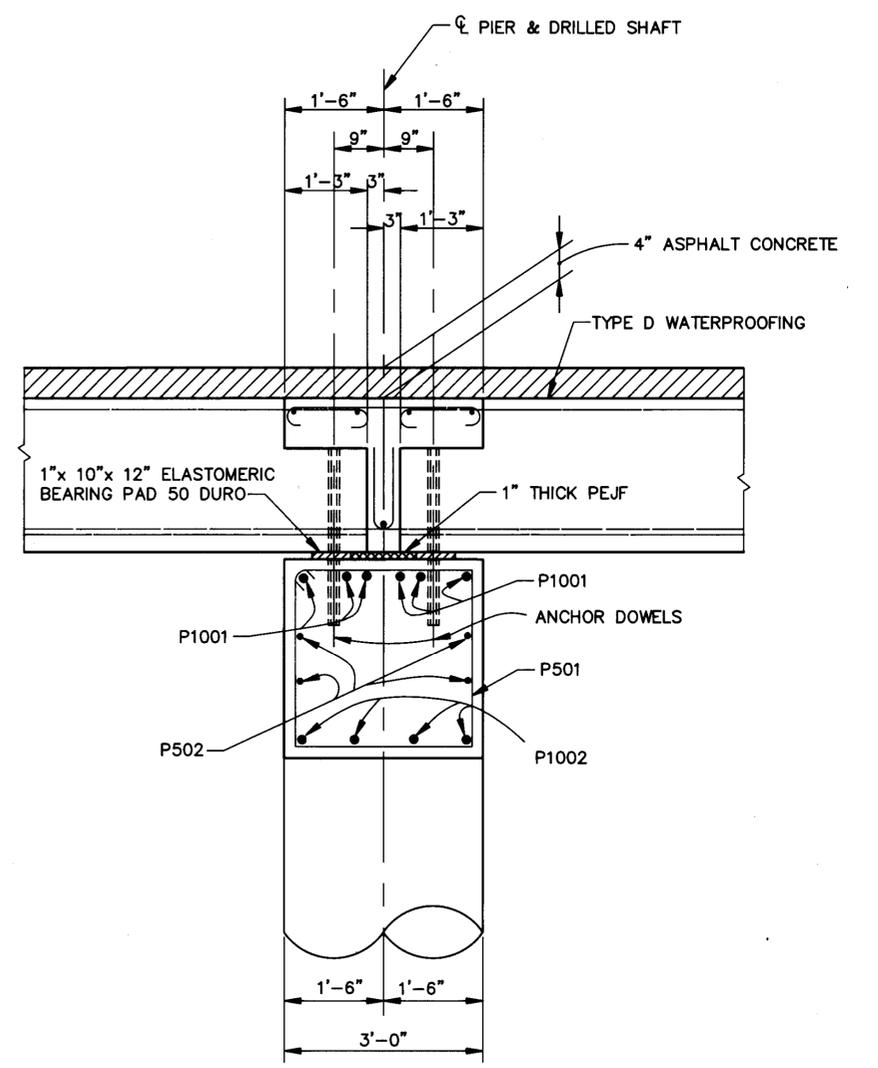
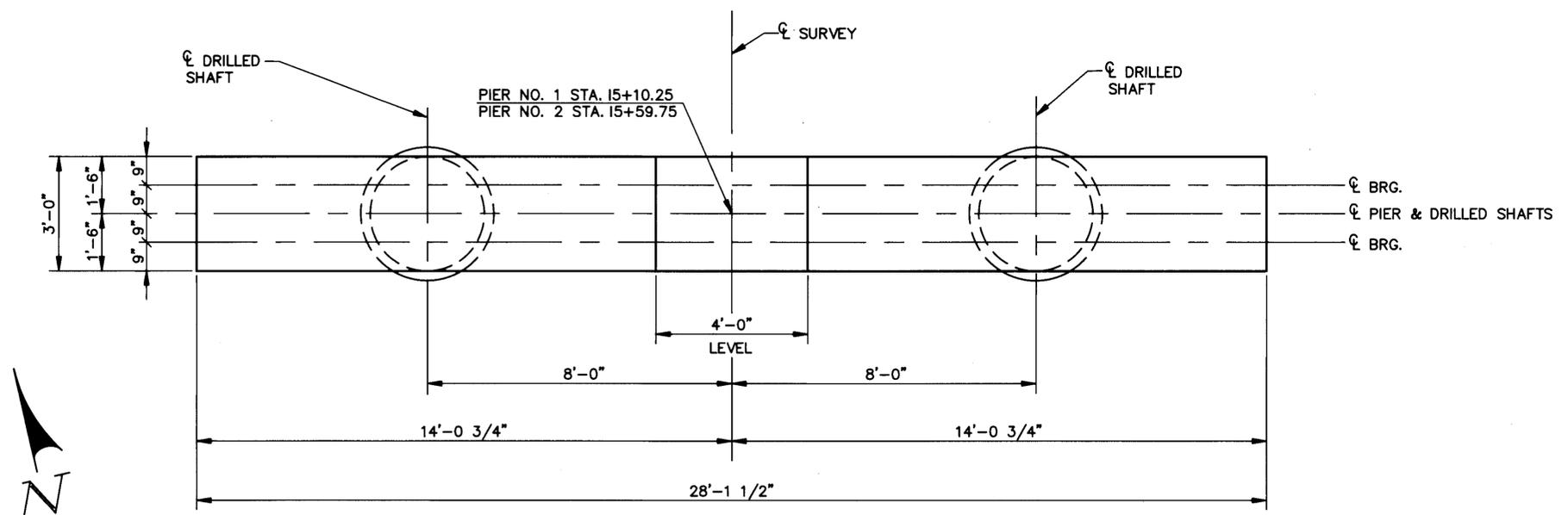
JONES-STUCKEY, LTD., INC. 6/10  
1500 WEST FIRST AVENUE  
COLUMBUS, OHIO 43212

**REAR AND FORWARD ABUTMENT DETAILS**

COUNTY ROAD 129-H  
OVER BOKES CREEK

UNION COUNTY

DESIGNED	DRAWN	CHECKED	REVIEWED	DATE	REVISED
C.R.M.	C.R.M.	G.L.H.	D.D.S.	4-17-89	



E.F. = EACH FACE

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 AND DOWEL HOLES.

NOTE: ALL COLUMN REINFORCING STEEL INCLUDING A 2'-9" PROJECTION OF NO. 10 BARS INTO THE PIER CAP SHALL BE INCLUDED WITH THE APPROPRIATE DRILLED SHAFT ITEM FOR PAYMENT

PIER ELEVATIONS

LOCATION	(A)	(B)	(C)
PIER NO. 1	970.37	970.56	967.37
PIER NO. 2	970.82	971.01	967.82

JONES-STUCKEY, LTD., INC. 7 / 10  
1500 WEST FIRST AVENUE  
COLUMBUS, OHIO 43212

PIER DETAILS

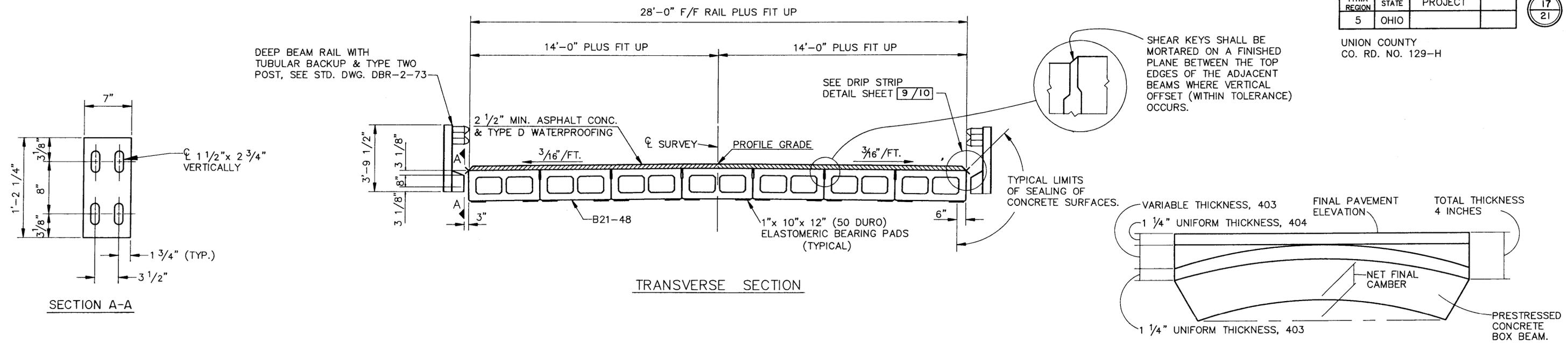
UNION CO. RD. 129-H  
OVER  
BOKES CREEK

UNION COUNTY				
DESIGNED	DRAWN	CHECKED	REVIEWED	DATE
D.W.J.	K.S.E.	G.L.H.	D.D.S.	4-17-89

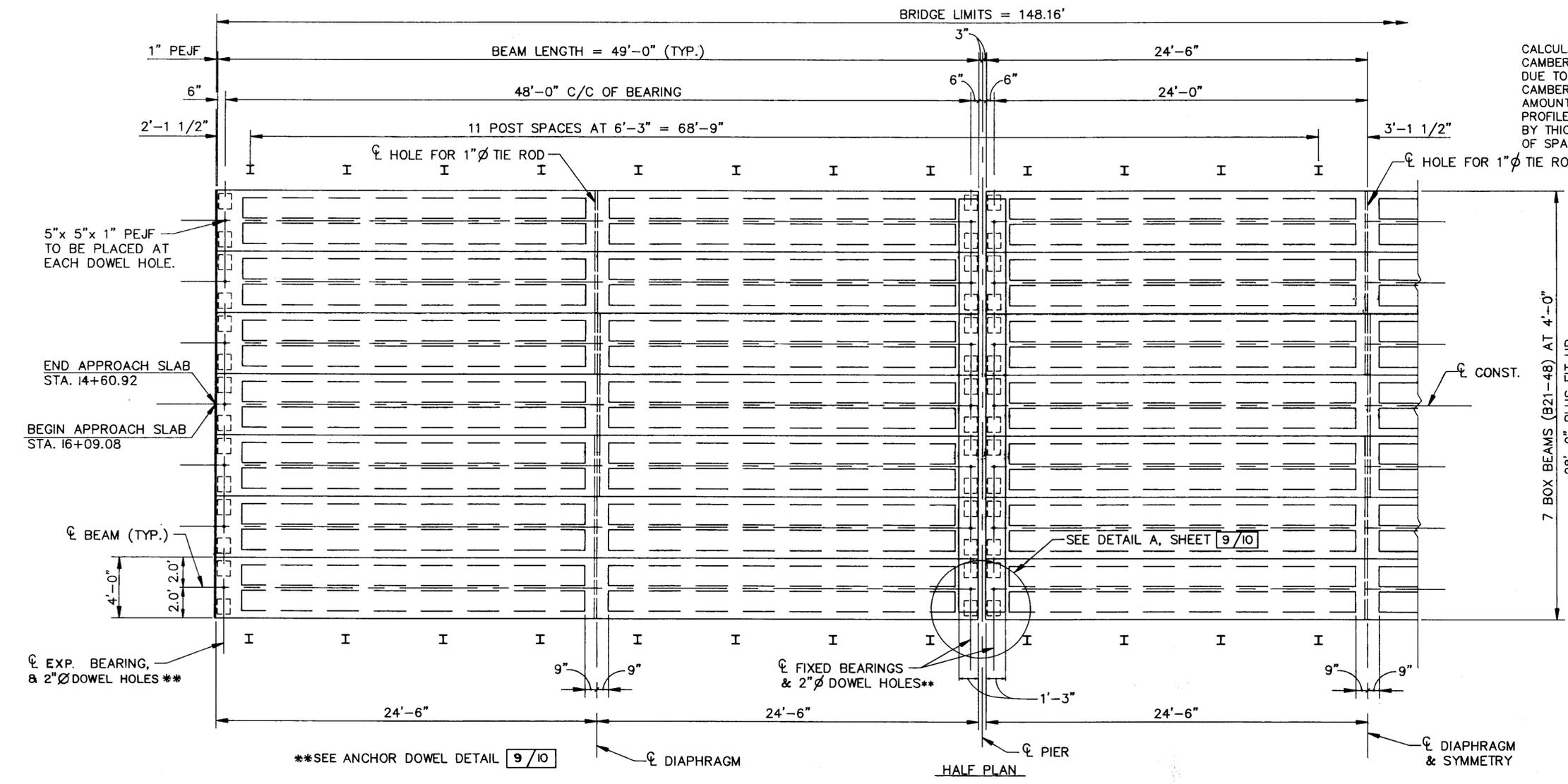
FHWA REGION	STATE	PROJECT
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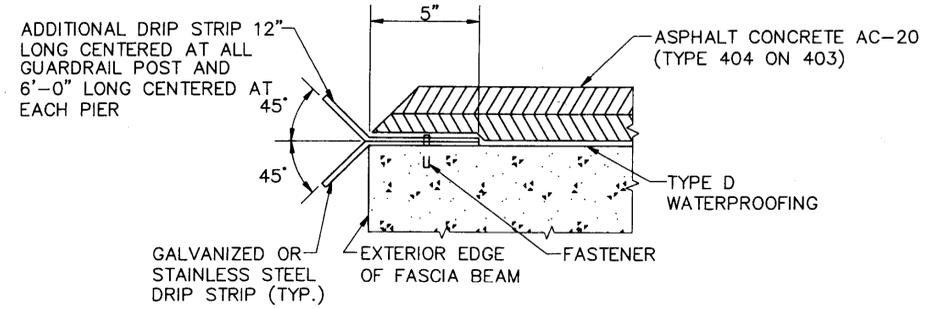
UNION COUNTY  
CO. RD. NO. 129-H



CALCULATED CAMBER AT TIME OF PAVING, INCLUDING ALLOWANCE FOR CAMBER GROWTH DUE TO CREEP IS 1 5/8". CALCULATED DEFLECTION DUE TO WEIGHT OF SURFACE COURSE AND RAILING IS 1/8". NET FINAL CAMBER OF BEAMS IS 1 1/2". THIS IS 1 1/2" 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 1 1/4" AT CENTER OF SPANS TO 2 3/4" AT ENDS OF SPANS.



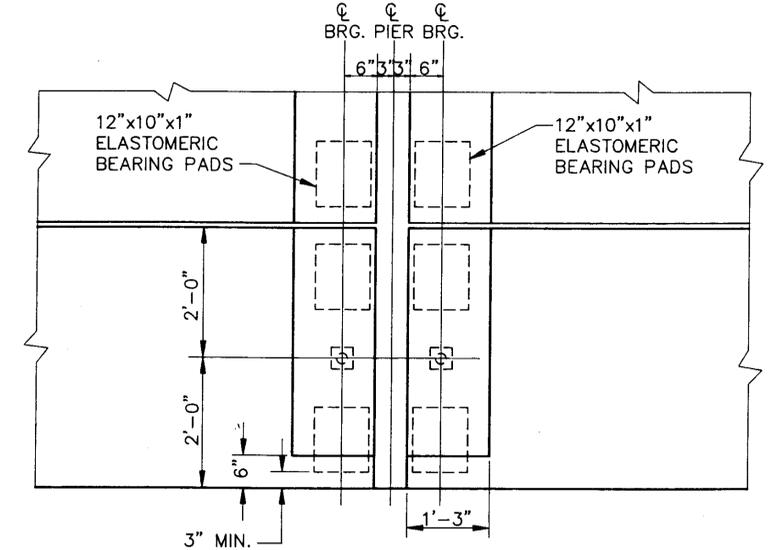
JONES-STUCKEY, LTD., INC. 8/10 1500 WEST FIRST AVENUE COLUMBUS, OHIO 43212				
<b>SUPERSTRUCTURE DETAILS</b>				
UNION CO. RD. 129-H OVER BOKES CREEK				
UNION COUNTY				
DESIGNED	DRAWN	CHECKED	REVIEWED	DATE
D.W.J.	K.S.E.	G.L.H.	D.D.S.	4-17-89



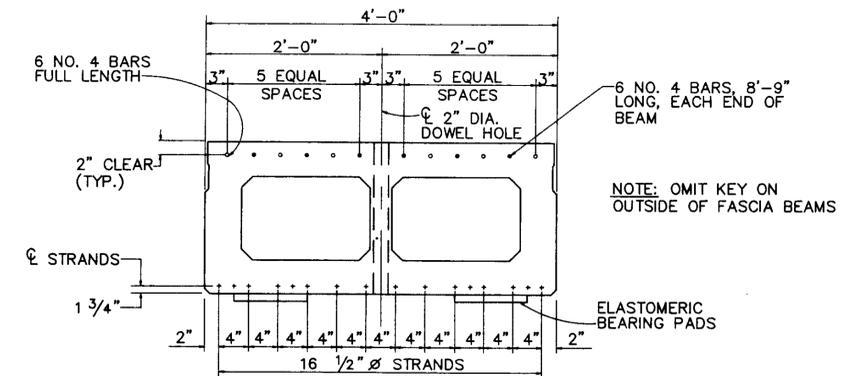
**TYPICAL DRIP STRIP DETAIL**

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 PINS AND WASHERS (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 WINGWALL.

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 ITEM 711.02. STAINLESS STEEL SHALL BE 20 GAGE 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.



**DETAIL A**



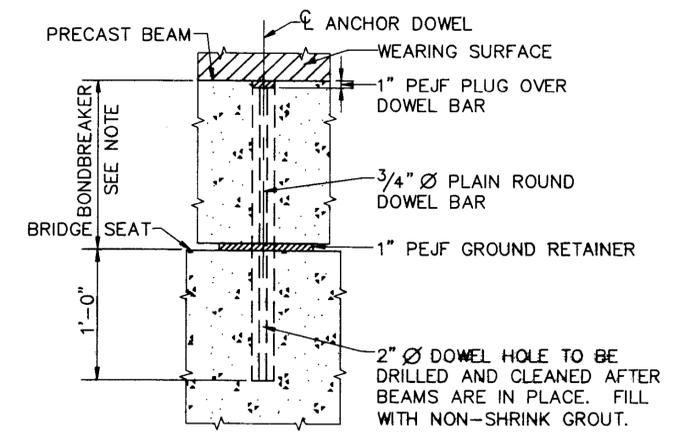
**B21-48 (TYP.)**

THE FOLLOWING DETAILS FROM PSBD-1-81 APPLY TO THIS PROJECT:

- SHEET 1 OF 4 - BEAM LIFTING INSERTS, WALL THICKENING AT RAIL ANCHORS, DETAILS AND REINFORCING OF BEAM ENDS.
- SHEET 2 OF 4 - TYPICAL PLANS OF DIAPHRAGMS AND TRANSVERSE TIE RODS, NORMAL CROWN TREATMENT AT CENTER LINE OF ROADWAY, BEAM DIMENSION TOLERANCES, END DETAILS OF TRANSVERSE TIE ROD ANCHORAGE.
- SHEET 3 OF 4 - 48" WIDE NON-COMPOSITE BEAMS (B21-48)

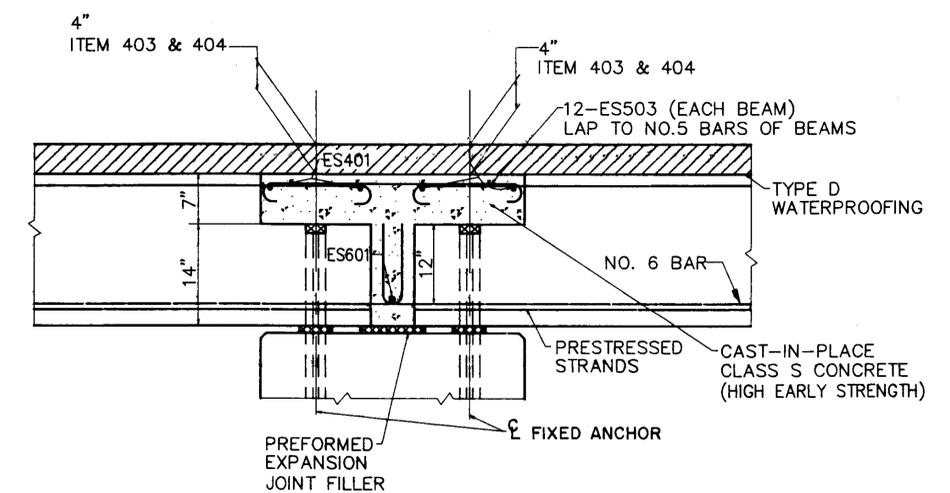
THE FOLLOWING NOTES FROM PSBD-1-81 APPLY TO THIS PROJECT:

- SHEET 1 OF 4 - TRANSVERSE TIE RODS, GALVANIZING, ANCHOR DOWELS, END OF BEAMS AND AS REQUIRED TO SUPPLEMENT APPLICABLE DETAILS.
- SHEETS 2&3 OF 4 - AS REQUIRED TO SUPPLEMENT APPLICABLE DETAILS.



**FIXED ANCHOR DOWEL DETAIL**

NOTE: THE BOND BREAKER SHALL BE APPLIED TO PLAIN ROUND DOWELS ABOVE BRIDGE SEAT. FILL 2" Ø HOLE ON EXPANSION ANCHOR WITH 705.04 JOINT SEALER.



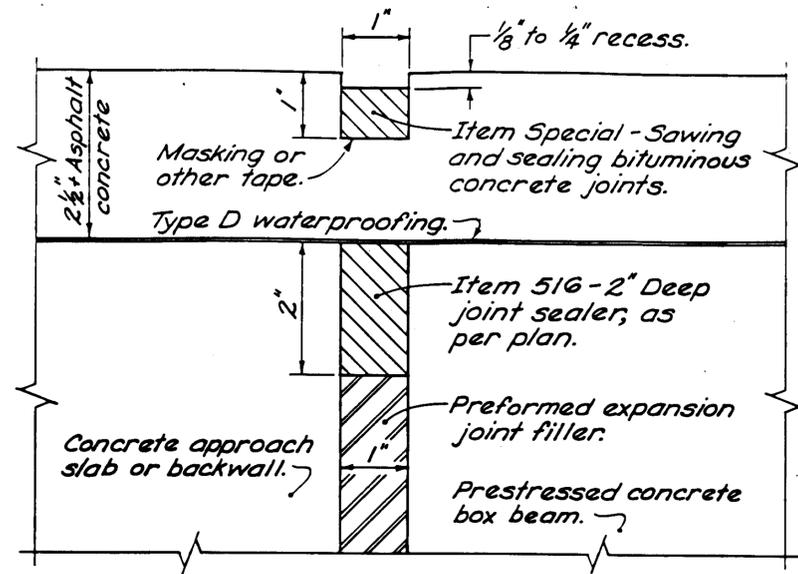
**SECTION B-B**

JONES-STUCKEY, LTD., INC. 9 / 10					
1500 WEST FIRST AVENUE					
COLUMBUS, OHIO 43212					
<b>MISCELLANEOUS SUPERSTRUCTURE DETAILS</b>					
UNION CO. RD. 129-H OVER BOKES CREEK					
UNION COUNTY					
DESIGNED	DRAWN	CHECKED	REVIEWED	DATE	REVISED
D.W.J.	K.S.E.	B.A.W.	D.D.S.	4-17-89	

FHWA REGION	STATE	PROJECT
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UNION COUNTY  
CO. RD. NO. 129-H



**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:

Roof-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 1, 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				10 / 10
2-8-84	<b>ABUTMENT JOINTS IN BITUMINOUS CONCRETE, BOX BEAM BRIDGES</b> BRIDGE NO. UNION C.R. 129-H OVER BOKES CREEK				
3-10-87					
4-14-87					
6-16-87					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE
JEB	MJB		WTF	WJJ	2-2-84

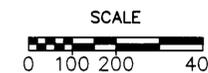
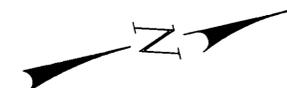
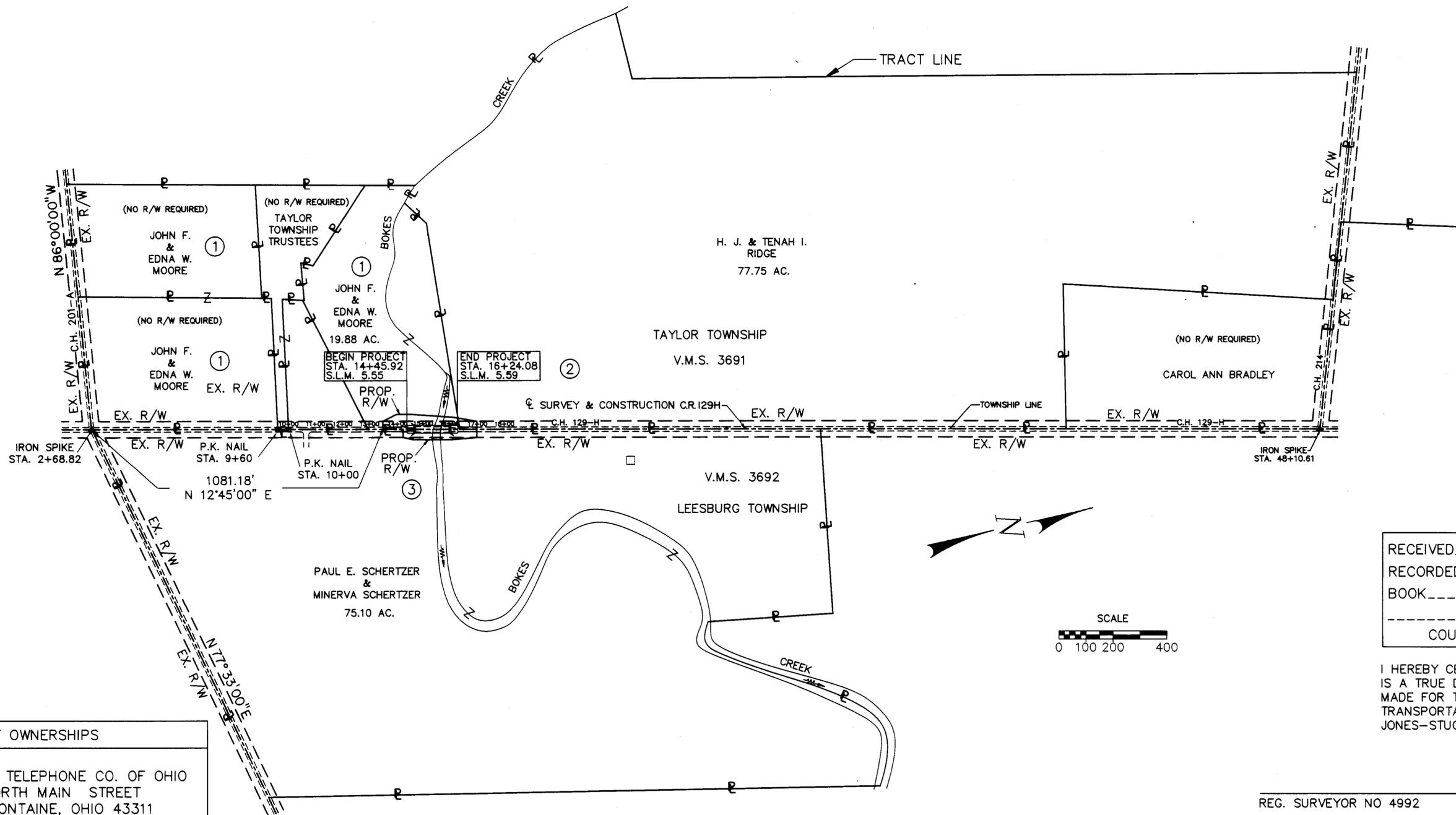
CENTER LINE SURVEY PLAT  
 UNION COUNTY  
 UNI - C.R. - 129H  
 TAYLOR & LEESBURG TOWNSHIPS  
 VIRGINIA MILITARY SURVEYS 3691 & 3692

FHWA REGION	STATE	PROJECT
5	OHIO	BRS-1321(3)

UNION COUNTY  
 CO. RD. NO. 129-H

20  
21

1  
2



RECEIVED \_\_\_\_\_ 19\_\_\_\_  
 RECORDED \_\_\_\_\_ 19\_\_\_\_  
 BOOK \_\_\_\_\_ PAGE \_\_\_\_\_  
 COUNTY RECORDER

I HEREBY CERTIFY THAT THIS PLAT IS A TRUE DELINEATION OF A SURVEY MADE FOR THE OHIO DEPARTMENT OF TRANSPORTATION BY JONES-STUCKEY, LTD., INC.

UTILITY OWNERSHIPS	
TELEPHONE	UNITED TELEPHONE CO. OF OHIO 127 NORTH MAIN STREET BELLEFONTAINE, OHIO 43311
POWER	UNION RURAL ELECTRIC COOP. INC. 15461 S.R. 36 P.O. BOX 393 MARYSVILLE, OHIO 43040

REG. SURVEYOR NO 4992 \_\_\_\_\_ DATE \_\_\_\_\_  
 DATE OF COMPLETION \_\_\_\_\_

REV.	DATE	DESCRIPTION

TOTAL NUMBER OF :  
 3 OWNERSHIPS  
 - TOTAL TAKES  
 0 OWNERSHIPS WITH STRUCTURES INVOLVED  
 0 OWNERSHIPS WITH "P" ITEMS

JOB NO. 06573(0)  
 P.F. NO. UNI. .017

FHWA REGION	STATE	PROJECT
5	OHIO	BRS-132I(3)

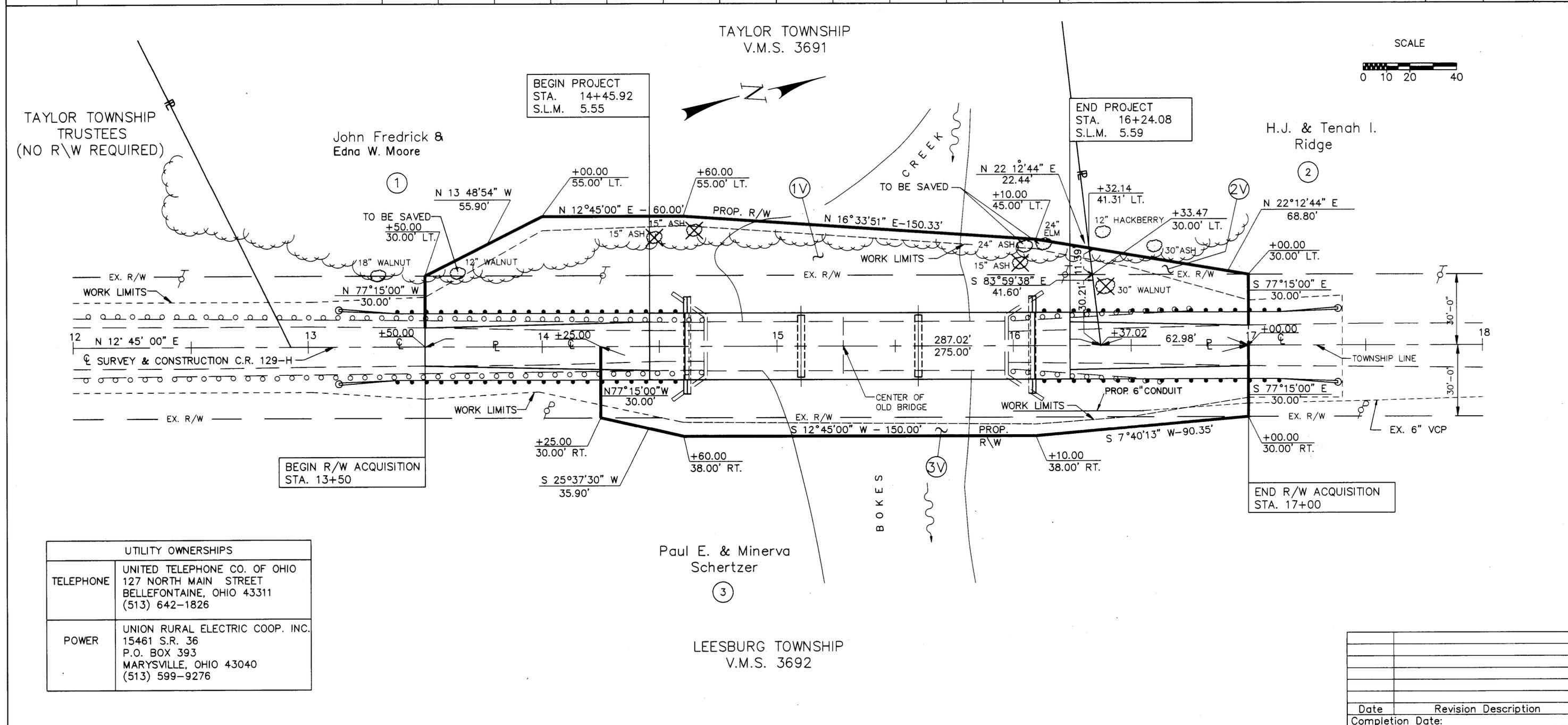
21  
21

UNION COUNTY  
 CO.RD. NO. 129-H

2  
2

# SUMMARY OF ADDITIONAL RIGHT-OF-WAY

PARCEL	OWNER	SHEET NO.	OWNER'S RECORD		RECORD AREA	TOTAL P.R.O.	GROSS TAKE	P.R.O. IN TAKE	NET TAKE	STRUCTURE	NET RESIDUE		TYPE FUND	REMARKS & PERSONALTY	AS ACQUIRED		
			BOOK	PAGE							LEFT	RIGHT			DATE	BOOK	PAGE
1 V	JOHN FREDRICK and EDNA W. MOORE	3	168	497	19.88	1.54	.321	.196	.125		18.22		COUNTY	* , AUDITORS PARCEL NO.'S 30-0005024.001 & 31-0005028.000			
2 V	H.J. and TENAH I. RIDGE	3	163	255	193.10	2.12	.053	.044	.009		190.97		COUNTY	* , AUDITORS PARCEL NO. 31-0005029.000, 77.75 ACRE TRACT BEING TRACT NO. 3 OF RECORDED 193.10 ACRE			
3 V	PAUL E. and MINERVA SCHERTZER	3	208	457	75.10	2.89	0.228	0.189	0.039		72.17		COUNTY	* , AUDITORS PARCEL NO. 19-0006037.000			
* ACQUIRED IN NAME OF UNION COUNTY																	



GEOLOGY OF THE SITE

GENERALIZED GEOLOGICAL REFERENCES REPORT THE BRIDGE SITE AREA LIES ON THE GLACIATED MISSISSIPPI VALLEY PLAIN AND HAS BEEN ABRADED BY BOTH THE ILLINOIAN AND WISCONSIN ICE SHEETS. THE SITE LIES ON WHAT IS REPORTED TO BE GLACIAL TILL. THE BEDROCK UNDERLYING THE SITE IS REPORTED TO BE OF THE MONROE FORMATION CONSISTING OF THIN TO MASSIVE-BEDDED DOLOMITE.

EXPLORATION

THE EXPLORATION CONSISTED OF FOUR (4) DRIVE SAMPLE - CORE BORINGS, USING HOLLOW STEM AUGERS, AND MADE BY A TRUCK MOUNTED DRILL RIG. THE BORINGS WERE DRILLED ON OCTOBER 4 THROUGH 10, 1988.

INVESTIGATIONAL FINDINGS

BORINGS B-1 AND B-4 WERE DRILLED AND SAMPLED FROM THE LEVEL OF THE EXISTING ROADWAY SURFACE AT THE APPROXIMATE LOCATION OF THE PROPOSED ABUTMENTS. BORINGS B-2 AND B-3 WERE DRILLED FROM THE EXISTING BRIDGE DECK AT APPROXIMATE LOCATIONS OF THE PROPOSED PIERS.

FILL WAS ENCOUNTERED BENEATH 3.5 TO 4.0 INCHES OF ASPHALT CONCRETE WEARING COURSE IN BOTH BORINGS B-1 AND B-4. FILL EXTENDED TO APPROXIMATELY ELEVATIONS 958.5 AND 949.0 FEET IN BORINGS B-1 AND B-4, RESPECTIVELY. THE UPPER PORTION OF THE FILL IN BOTH OF THE BORINGS CONSISTED OF DENSE BROWN SAND AND GRAVEL, CLASSIFIED AS A-1-b AND IS PROBABLY THE AGGREGATE BASE COURSE. BENEATH THIS LAYER, THE FILL MATERIAL WAS PRIMARILY COMPOSED OF VERY STIFF SILT AND CLAY SOILS, CLASSIFIED AS A-6a AND A-6b. A THIN LAYER OF MEDIUM STIFF ORGANIC SILTY CLAY WAS ENCOUNTERED IN BORING B-1 AT APPROXIMATELY ELEVATION 964.5 FEET. THE MOISTURE CONDITION OF THE FILL WAS DAMP-MOIST. UNDERLYING THE FILL IN BORING B-4, A 1.3-FOOT LAYER OF DENSE GRAVEL WAS ENCOUNTERED.

BENEATH THE FILL IN BORING B-1 AND GRAVEL LAYER IN BORING B-4, BEDROCK WAS ENCOUNTERED. THE BEDROCK IS A HARD, GRAY DOLOMITIC LIMESTONE CONTAINING ORGANIC PARTINGS. FRACTURES AND JOINTS WERE OBSERVED THROUGHOUT THE ROCK CORE SAMPLES TOGETHER WITH SEVERAL BROWN ZONES. THE ROCK QUALITY DESIGNATION VALUES INDICATE THE ROCK TO BE IN A POOR CONDITION.

THE ELEVATIONS AT WHICH BEDROCK WAS ENCOUNTERED IN THE BORINGS ARE:

- BORING B-1 - ELEVATION 958.5 FEET
- BORING B-2 - ELEVATION 958.2 FEET
- BORING B-3 - ELEVATION 955.9 FEET
- BORING B-4 - ELEVATION 958.4 FEET

WATER SEEPAGE WAS ENCOUNTERED IN BORING B-4 APPROXIMATELY AT ELEVATION 960.0 FEET. AT THE COMPLETION OF THE DRILLING OPERATION, THE WATER LEVELS MEASURED IN THE HOLLOW STEMS WERE AT ELEVATIONS 962.6 FEET IN BORING B-1, 950.3 FEET IN BORING B-2, AND 958.4 FEET IN BORING B-3. AFTER REMOVAL OF THE HOLLOW STEMS, THE WATER LEVEL MEASURED IN BORING B-1 WAS AT 964.9 FEET.

IN BORINGS B-4, THE HOLE CAVED IN UPON REMOVAL OF THE AUGERS AND NO WATER LEVEL MEASUREMENT WAS RECORDED AT THE COMPLETION OF DRILLING.

IT SHOULD BE NOTED THAT WATER WAS USED IN THE CORING OF THE BEDROCK AND THE WATER AT COMPLETION OF DRILLING INCLUDES DRILLING WATER.

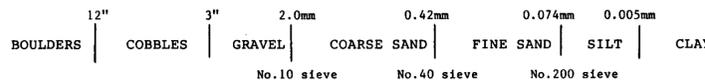
LEGEND

-  DRIVE SAMPLE AND/OR CORE BORING - PLAN VIEW
-  DRIVE SAMPLE AND/OR CORE BORING PLOTTED TO VERTICAL SCALE ONLY - PROFILE
-  FREE WATER OR WATER SEEPAGE
-  DRILLING WATER AT COMPLETION OF BORING (MEASURED IN HOLLOW STEM AUGERS OR FLUSH JOINT CASING)
-  TOP OF ROCK
-  NUMBER OF BLOWS FOR "STANDARD PENETRATION" TEST
-  X = NUMBER OF BLOWS FOR SEATING, IN CASES WHERE THE SAMPLER ENCOUNTERED RESISTANCE TO PENETRATION OF 6 INCHES OR LESS, FROM 50 BLOWS OF THE DROP HAMMER.
-  Y = NUMBER OF BLOWS FOR SECOND 6 INCHES
-  Z = NUMBER OF BLOWS FOR THIRD 6 INCHES

SYMBOL OF ROCK TYPE

 DOLOMITE

PARTICLE SIZE DEFINITIONS



GENERAL INFORMATION

DRIVE SAMPLE/PRESS SAMPLE/CORE BORINGS

DRIVE SAMPLE BORINGS ARE MADE BY MEANS OF A MECHANICALLY-POWERED ROTARY-TYPE DRILLING MACHINE, EMPLOYING A 2" O.D., 1-3/8" I.D. SPLIT SPOON SAMPLING DEVICE, 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 SAMPLING DEVICE THE LAST 12 INCHES OF THE 18 INCH SAMPLING INTERVAL IS CONSIDERED THE STANDARD PENETRATION VALUE.

DRIVE/PRESS SAMPLE BORINGS ARE MADE BY MEANS OF A MECHANICALLY-POWERED ROTARY-TYPE DRILLING MACHINE, EMPLOYING A 2" O.D., 1-3/8" I.D. SPLIT SPOON SAMPLING DEVICE, AND 3" O.D. THIN WALL PRESS SAMPLING DEVICE. THE PRESS SAMPLER IS ADVANCED BY CONTINUOUS UNIFORM PRESSURE, APPLIED BY THE DRILLING MACHINE.

CORE BORINGS ARE MADE BY MEANS OF A MECHANICALLY-POWERED ROTARY-TYPE DRILLING MACHINE, EMPLOYING A NXM CORE BARREL WITH INDUSTRIAL DIAMOND CUTTING HEAD.

THE BORING LOG SHEETS DISPLAY A GRAPHIC PLOT OF THE INFORMATION OBTAINED, INCLUDING DEPTH AND ELEVATION OF THE SAMPLE, TYPE OF SAMPLE, THE STANDARD PENETRATION TEST READINGS IN THREE 6-INCH INCREMENTS, FIELD NUMBER ASSIGNED TO SAMPLE, SAMPLE DESCRIPTION - BASED ON LABORATORY TESTS UTILIZING THE CASAGRANDE A C CLASSIFICATION SYSTEM AND GRADATION, PLASTICITY AND MOISTURE CONTENT DETERMINATIONS. RESULTS OF STRENGTH AND CONSOLIDATION TESTING, IF PERFORMED ON UNDISTURBED SAMPLES, WILL APPEAR GRAPHICALLY ON SEPARATE ENCLOSURES. ROCK SAMPLES ARE DISPLAYED ON THE LOG SHEETS INCLUDING DEPTH AND ELEVATION OF THE SAMPLE, AMOUNT OF RECOVERY AND A VISUAL CLASSIFICATION BASED ON TYPE, COLOR, DEGREE OF HARDNESS, GRAIN SIZE, DETERIORATION, BEDDING, ACID REACTION AND OTHER QUALIFYING FACTORS.

AT DEPTHS WHERE MATERIALS ARE BOULDERY OR GRAVELLY TO THE EXTENT THAT THE SAMPLER CAN NOT BE UTILIZED, A WASH SAMPLE IS PROCURED AND VISUALLY CLASSIFIED, IN ORDER TO DETERMINE THE GENERAL CHARACTERISTICS OF THE MATERIAL. THESE SAMPLES ARE NOT CONSIDERED SUFFICIENTLY REPRESENTATIVE TO WARRANT LABORATORY TESTING.

NOTE: INFORMATION SHOWN BY THIS SUBSURFACE INVESTIGATION WAS OBTAINED SOLELY FOR USE IN ESTABLISHING DESIGN CONTROLS FOR THE PROJECT. THE STATE OF OHIO DOES NOT GUARANTEE THE ACCURACY OF THIS DATA AND IT IS NOT TO BE CONSTRUED AS A PART OF THE PLAN GOVERNING CONSTRUCTION OF THIS PROJECT.

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.

**MASON - de VERTEUIL GEOTECHNICAL SERVICES**  
6035 HUNTLEY ROAD  
COLUMBUS, OHIO 43229

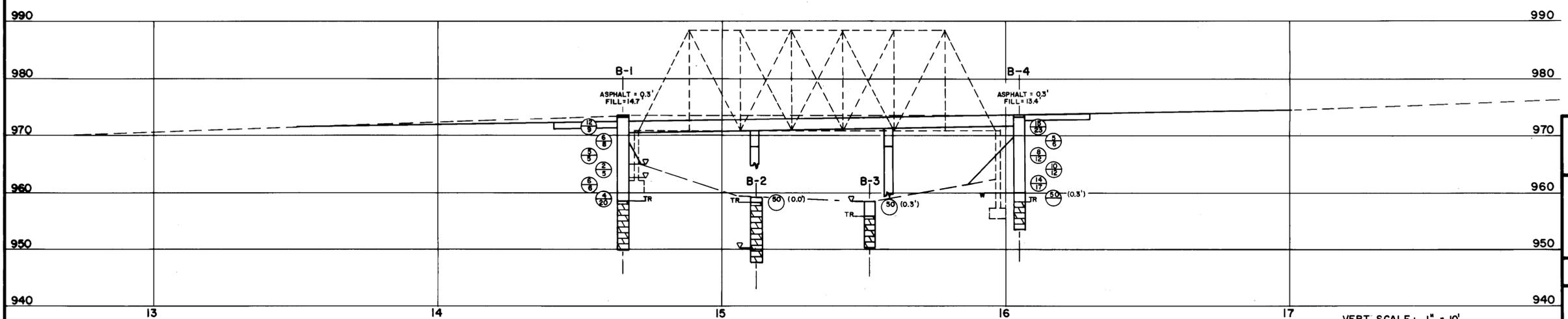
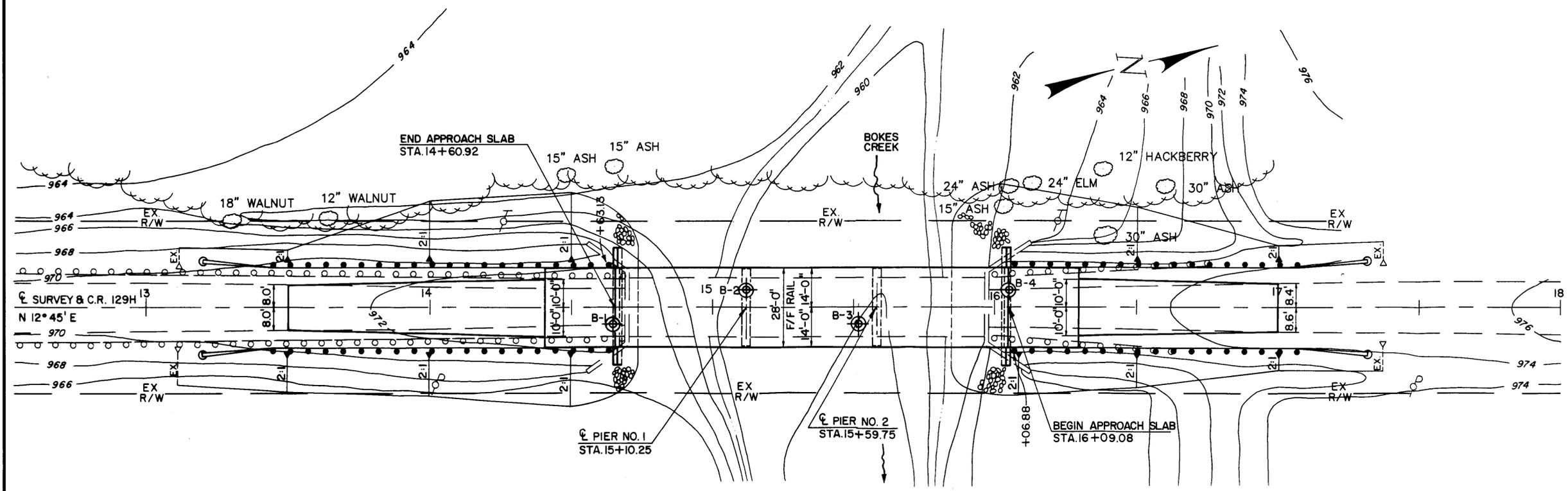
**STRUCTURE FOUNDATION INVESTIGATION**

BRIDGE NO. UNION CO. RD. 129-H  
OVER BOKES CREEK

SEC.

**TITLE SHEET**

DRAWN BY <b>JMA</b>	CHECKED BY <b>P deV</b>	REVIEWED BY	DATE
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**MASON - de VERTEUIL GEOTECHNICAL SERVICES**  
6035 HUNTLEY ROAD  
COLUMBUS, OHIO 43229

**STRUCTURE FOUNDATION INVESTIGATION**  
BRIDGE NO. UNION CO. RD. 129-H  
OVER BOKES CREEK

PLAN AND PROFILE

DRAWN BY <b>JMA</b>	CHECKED BY <b>P deV</b>	REVIEWED BY	DATE
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VERT. SCALE: 1" = 10'  
HORIZ. SCALE: 1" = 20'

MASON-deVERTEUIL GEOTECHNICAL SERVICES, 6035 HUNTLEY ROAD, COLUMBUS, OHIO 43229, 614/888-0576

Client: Jones-Stuckey Ltd., Inc. Project: UNI. C.R. 129H over Bokes Creek M-V Job No. 88-223

LOG OF Boring B-1 Location: Station 14+65, 6.0' Right of C Date Drilled: 10/4 & 5/88 STANDARD PENETRATION (M) Blows per foot

DEPTH in feet	ELEVATION in feet	PENETRA- TION RECOVERY INCHES	SAMPLE NO.	HAND TRONMETER (psi)	DRIVE PRESS.	GRADATION	STANDARD PENETRATION (M)			MOISTURE CONTENT - %				
							10	20	30	40	PL	Natural	LL	
0	973.7													
0.5	973.5													
2.3	971.4													
5														
10														
15	968.7													
20														
23.6	950.1													
28														

DESCRIPTION: Asphalt Concrete - 4"  
FILL: Dense brown fine to coarse SAND "and" GRAVEL (A-1-b), little silt (Aggregate base); damp  
FILL: Very stiff brown SILTY CLAY (A-6b) little fine to coarse sand; damp  
@ 6.0' - 7.5' with light gray steaks  
@ 9.0' - 10.0' changes to dark brown and becomes organic  
@ 11.0' color changes to brown  
Drillers Note: drove on large gravel. auger refusal at 13.0'  
Hard gray DOLOMITE, fractures and joints throughout, organic (carbonaceous) partings common.  
@ 15.0' - 15.5' vuggy porosity very well developed  
@ 17.0' - 18.0' broken zone  
Notes:  
Used 4 1/2" diameter continuous flight augers to 15.0'  
Changed to hollow stem augers at 15.0'  
Used NX core barrel from 15.0' to 23.6'  
Water level at completion includes drilling water

MASON-deVERTEUIL GEOTECHNICAL SERVICES, 6035 HUNTLEY ROAD, COLUMBUS, OHIO 43229, 614/888-0576

Client: Jones-Stuckey Ltd., Inc. Project: UNI. C.R. 129H over Bokes Creek M-V Job No. 88-223

LOG OF Boring B-3 Location: Station 15+52, 4.0' Right of C Date Drilled: 10/5 & 6/88 STANDARD PENETRATION (M) Blows per foot

DEPTH in feet	ELEVATION in feet	PENETRA- TION RECOVERY INCHES	SAMPLE NO.	HAND TRONMETER (psi)	DRIVE PRESS.	GRADATION	STANDARD PENETRATION (M)			MOISTURE CONTENT - %				
							10	20	30	40	PL	Natural	LL	
0	958.4													
2.5	955.9													
5														
8.1	950.3													
10														
15														
20														
25														

DESCRIPTION: Drillers Note: No recovery  
Hard gray DOLOMITE, fractures and joints throughout, organic (carbonaceous) partings common.  
@ 2.5' - 2.7', 3.1' - 3.7', and 6.3' - 6.6' broken zones  
Drillers Note: No water return in broken zones  
@ 6.6' - 8.0' vuggy porosity present  
Bottom of Boring - 8.1'  
Notes:  
Used hollow stem augers to 2.5'  
Used NX core barrel from 2.5' - 8.1'  
5(3) - 50 blows for 0.3' penetration  
Water level at completion includes drilling water

MASON-deVERTEUIL GEOTECHNICAL SERVICES, 6035 HUNTLEY ROAD, COLUMBUS, OHIO 43229, 614/888-0576

Client: Jones-Stuckey Ltd., Inc. Project: UNI. C.R. 129H over Bokes Creek M-V Job No. 88-223

LOG OF Boring B-7 Location: Station 15+12, 3.0' Left of C Date Drilled: 10-10-88 STANDARD PENETRATION (M) Blows per foot

DEPTH in feet	ELEVATION in feet	PENETRA- TION RECOVERY INCHES	SAMPLE NO.	HAND TRONMETER (psi)	DRIVE PRESS.	GRADATION	STANDARD PENETRATION (M)			MOISTURE CONTENT - %				
							10	20	30	40	PL	Natural	LL	
0	959.2													
1.0	958.2													
5														
10														
11.5	947.7													
15														
20														
25														

DESCRIPTION: Augered to 1.0'  
Drillers Note: No water return at 2.5'  
Hard gray DOLOMITE, fractures and joints throughout, occurring at 1" to 3" intervals, organic (carbonaceous) partings common, secondary crystallization present  
@ 1.7' - 3.0', 5.0' - 5.2', and 6.8' - 7.1' broken zones  
Bottom of Boring - 11.5'  
Notes:  
Used hollow stem augers to 1.7'  
Used NX core barrel from 1.7' to 11.5'  
5(0) - 50 blows for 0.0' penetration  
Water level at completion includes drilling water

MASON-deVERTEUIL GEOTECHNICAL SERVICES, 6035 HUNTLEY ROAD, COLUMBUS, OHIO 43229, 614/888-0576

Client: Jones-Stuckey Ltd., Inc. Project: UNI. C.R. 129H over Bokes Creek M-V Job No. 88-223

LOG OF Boring B-4 Location: Station 16+05, 6.0' Left of C Date Drilled: 10-10-88 STANDARD PENETRATION (M) Blows per foot

DEPTH in feet	ELEVATION in feet	PENETRA- TION RECOVERY INCHES	SAMPLE NO.	HAND TRONMETER (psi)	DRIVE PRESS.	GRADATION	STANDARD PENETRATION (M)			MOISTURE CONTENT - %				
							10	20	30	40	PL	Natural	LL	
0	973.6													
0.5	973.1													
2.0	971.1													
5														
10														
11	962.6													
13.7	948.9													
15.3	956.6													
20	953.4													
20.2														
25														

DESCRIPTION: Asphalt Concrete - 3 1/2"  
FILL: Dense brown fine to coarse SAND and GRAVEL, (A-1-b), little silt (Aggregate base); damp  
FILL: Very stiff brown SILTY CLAY (A-6b), and fine to coarse sand, trace fine gravel; damp  
@ 8.5' brownish gray  
FILL: Very stiff brown CLAY SILT (A-6a), little fine sand; damp to moist  
Very dense yellowish brown GRAVEL (A-1-b) some fine to coarse sand, little silt, trace clay; moist  
Drillers note: top 4" of core sample is concrete from bridge foundation  
Hard gray DOLOMITE, horizontal fractures and joints throughout, organic (carbonaceous) partings common.  
Bottom of Boring - 20.2'  
Notes:  
Used 4 1/2" diameter continuous flight augers to 14.5'  
Changed to hollow stem augers at 14.5'  
Used NX core barrel from 15.0' to 20.0'  
5(3) - 50 blows for 0.3' penetration

MASON - de VERTEUIL GEOTECHNICAL SERVICES  
6035 HUNTLEY ROAD  
COLUMBUS, OHIO 43229

STRUCTURE FOUNDATION INVESTIGATION

BRIDGE NO. UNION CO. RD. 129-H  
OVER BOKES CREEK

SEC.

LOGS OF BORINGS

DRAWN BY JMA	CHECKED BY P de V	REVIEWED BY	DATE
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91602 2392 NH104 C.R. 129-H