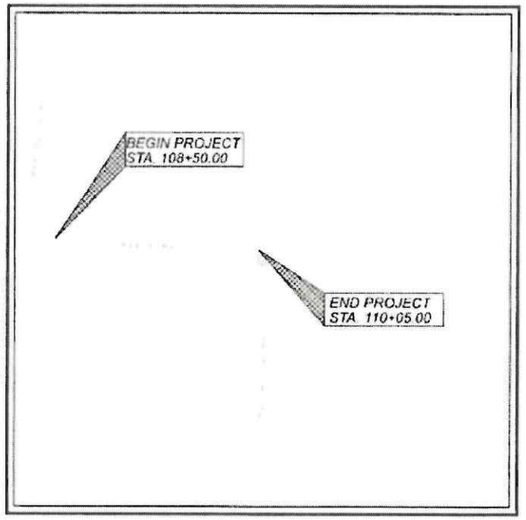
PIK - CR 77-02.07 OBPP
230058 PID - 112286
Dist 9 1/26/2023

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

PIK-CR 77-2.07

UNION TOWNSHIP

PIKE COUNTY, OHIO



LOCATION MAP

LATITUDE 39°01'02" N LONGITUDE 82°52'44" W

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

DESIGN DESIGNATION

CURRENT ADT (2022)	490
DESIGN YEAR ADT (2042)	530
DESIGN HOURLY VOLUME (2022)	64
DIRECTIONAL DISTRIBUTION	0.55
TRUCKS (24 HOUR B&C)	0.03
DESIGN SPEED	55
LEGAL SPEED	55
DESIGN FUNCTIONAL CLASSIFICATION	
LOCAL (RURAL)	
NHS PROJECT	NO

DESIGN EXCEPTIONS

DESIGN FEATURES	APPROVAL DATE	SHEET NUMBER
VERTICAL ALIGNMENT STOPPING SITE DISTANCE	7/21/2020	8

ADA DESIGN WAIVER

NONE

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
OHM ADVISORS
580 NORTH FORTH STREET, SUITE 610
COLUMBUS, OHIO 43215

ENGINEER'S SEAL
ROADWAY
STATE OF OHIO · BECKY L SWORA · E-72439 · PROFESSIONAL ENGINEER
SIGNED: Becky Sworn
DATE: 7-25-22

ENGINEER'S SEAL
BRIDGE
STATE OF OHIO · JOHN L JEBBING · E-83487 · PROFESSIONAL ENGINEER
SIGNED:
DATE: 07/25/22

INDEX OF SHEETS:

TITLE SHEET	1
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MAINTENANCE OF TRAFFIC	5
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PLAN & PROFILE	8
CROSS SECTIONS	9-12
STRUCTURE OVER 20 FOOT SPAN	13-25
RIGHT OF WAY	26-30
SOIL PROFILE - BRIDGE	31-33

FEDERAL PROJECT NUMBER

E200(618)

RAILROAD INVOLVEMENT

NONE

PROJECT DESCRIPTION

IMPROVEMENT OF 0 03 MILE OF CR 77 (ADAMS ROAD) BY REPLACEMENT OF THE DEFICIENT STRUCTURE OVER A TRIBUTARY OF BIG BEAVER CREEK, INCLUDING ROADWAY APPROACH WORK WITH NEW GUARDRAILS

EARTH DISTURBED AREAS

PROJECT EARTH DISTURBED AREA	0 20 ACRES
ESTIMATED CONTRACTOR EARTH DISTURBED AREA	0 13 ACRES
NOTICE OF INTENT EARTH DISTURBED AREA	N/A (NOT REQUIRED)

2019 SPECIFICATIONS

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

STANDARD CONSTRUCTION DRAWINGS

MGS-1 1	7/16/21	AS-1-15	7/17/15				
MGS-2 1	1/19/18	AS 2-15	1/18/19				
MGS-3 1	1/19/18	DS-1-92	7/15/22				
MGS-4 2	7/19/13	PSBD-2-04	7/20/18				
		SICD-1-96	7/18/14				
BP-3 1	1/21/22	TST-1-99	1/15/21				
MT-101 60	1/17/20						
MT-105 10	1/17/20						
DM-4 4	1/15/16						

SUPPLEMENTAL SPECIFICATIONS	SPECIAL PROVISIONS
800 2019 SEE PROPOSAL	WATERWAY PERMIT 01/13/22
832 10/19/18	

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 SHEET

APPROVED _____
DATE 8-3-22 PIKE COUNTY ENGINEER

APPROVED _____
DATE 10-21-2022 DISTRICT DEPUTY DIRECTOR

APPROVED _____
DATE 12-7-22 DIRECTOR, DEPARTMENT OF TRANSPORTATION

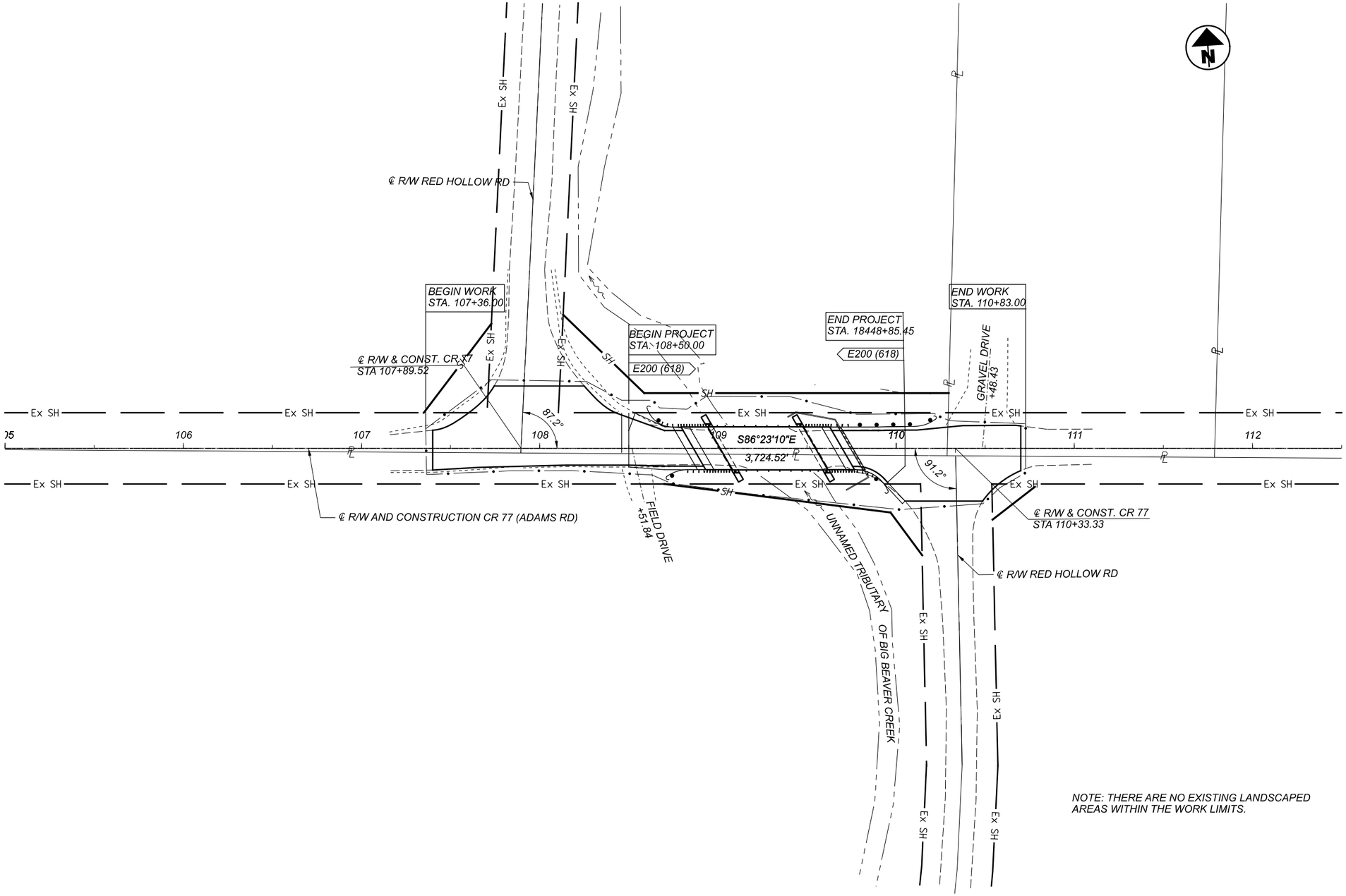
TITLE SHEET

DESIGN AGENCY
OHM
DESIGNER BLS
REVIEWER FRR 01/13/21
PROJECT ID 112286
SHEET P.1 TOTAL 33

PIK-77-2.07

Contract Proposal available @
www.contracts.dot.state.oh.us

SCHEMATIC PLAN



NOTE: THERE ARE NO EXISTING LANDSCAPED AREAS WITHIN THE WORK LIMITS.

PIK-77-2.07

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DESIGN AGENCY

OHM

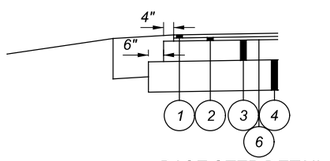
DESIGNER	BLS
REVIEWER	FRR 01/13/21
PROJECT ID	112286
SHEET	P.2
TOTAL	33

LEGEND

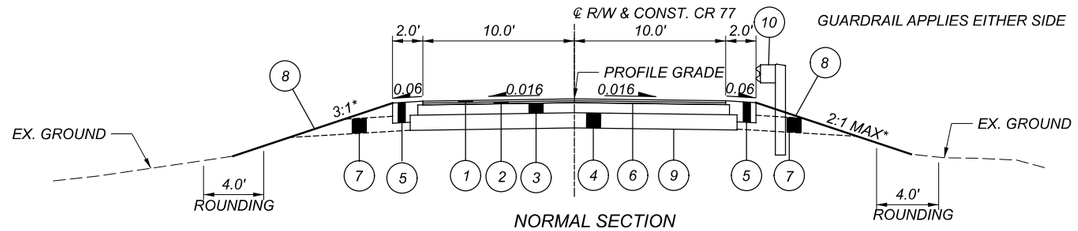
1. ITEM 441 - 1 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE 1 (449), PG64-22
2. ITEM 441 - 1 1/2" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1 (449)
3. ITEM 301 - 4" ASPHALT CONCRETE BASE, PG64-22 (449)
4. ITEM 304 - 6" AGGREGATE BASE
5. ITEM 411 - 8" STABILIZED CRUSHED AGGREGATE
6. ITEM 407 - TACK COAT
7. ITEM 605 - AGGREGATE DRAINS, SLOPED 0.04 MIN., 0.08 DESIRABLE
8. ITEM 659 - SEEDING AND MULCHING
9. ITEM 204 - SUBGRADE COMPACTION
10. ITEM 606 - GUARDRAIL, TYPE MGS WITH LONG POSTS
11. ITEM 526 - REINFORCED CONCRETE APPROACH SLAB (T=12")
12. ITEM 254 - 1.5" PAVEMENT PLANING, ASPHALT CONCRETE

A. EXISTING PAVEMENT

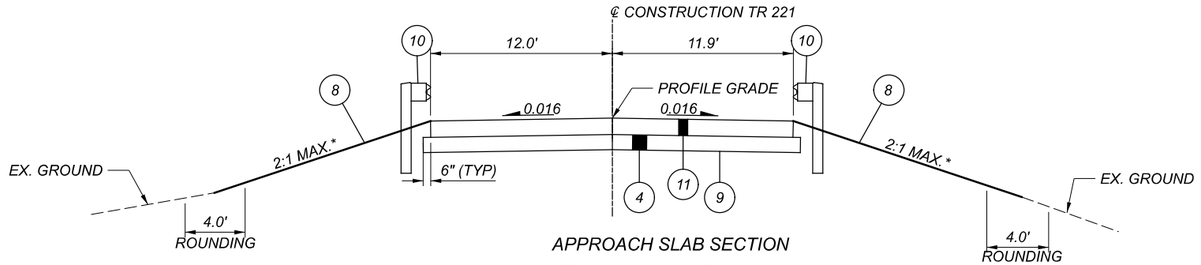
* GRADING AS SHOWN ON CROSS SECTIONS



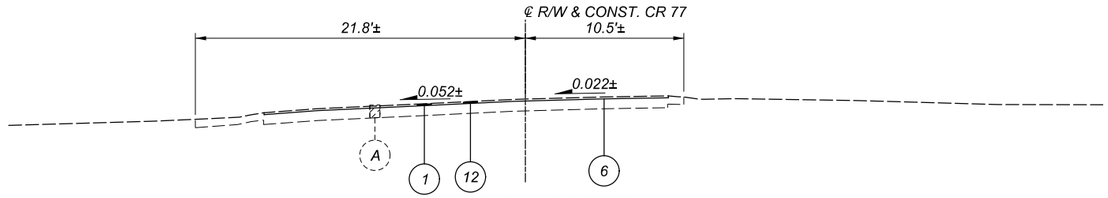
BASE STEP DETAIL



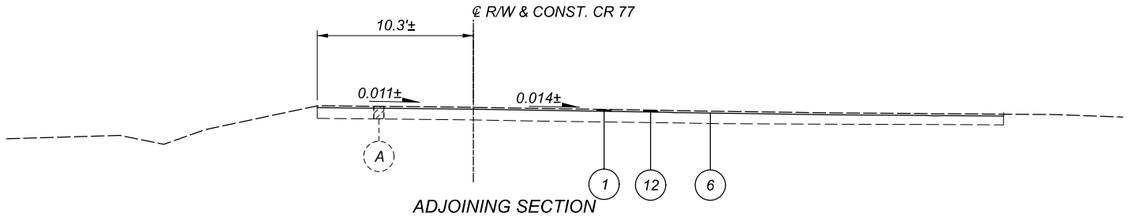
NORMAL SECTION
STA. 108+50.00 TO STA. 108+86.27
STA. 109+69.73 TO STA. 110+05.00



APPROACH SLAB SECTION
STA. 108+86.27 TO STA. 109+01.27
STA. 109+54.73 TO STA. 109+69.73



ADJOINING SECTION
STA. 108+50.00



ADJOINING SECTION
STA. 110+05.00

TYPICAL SECTIONS

DESIGN AGENCY
OHM

DESIGNER
BLS

REVIEWER
FRR 01/13/21

PROJECT ID
112286

SHEET P.3 | TOTAL 33

PIK-77-2.07

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UTILITIES

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

FRONTIER COMMUNICATIONS
DENA MARTIN
1315 ALBERT STREET
PORTSMOUTH, OHIO 45662
PHONE: (740) 354-0521

AEP
MR. PAUL PAXTON
850 TECH CENTER DRIVE
GAHANNA, OHIO 43230
PHONE: (740) 348-5322

SCIOTO WATER
JOEY MADER
P.O. BOX 1001
FRANKLIN FURNACE, OHIO 45629
PHONE: (740) 354-9205

CHARTER COMMUNICATIONS
JIM DEEDS
32 ENTERPRISE DRIVE
CHILLICOTHE, OHIO 45601
PHONE: (740) 503-2861

ROUNDING

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

SURVEYING PARAMETERS

PRIMARY PROJECT CONTROL MONUMENTS GOVERN ALL POSITIONING ON ODOT PROJECTS. SEE SHEET 27 OF THE PLANS 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
MONUMENT TYPE:	TYPE B

VERTICAL POSITIONING

ORTHOMETRIC HEIGHT DATUM:	NAVD 88
GEOID:	GEOID18

HORIZONTAL POSITIONING

REFERENCE FRAME:	NAD83(2011)
ELLIPSOID:	GRS80
MAP PROJECTION:	LAMBER CONFORMAL CONIC
COORDINATE SYSTEM:	OHIO STATE PLANE SOUTH ZONE GRID COORDINATES
COMBINED SCALE FACTOR:	1
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.

ITEM 605 - AGGREGATE DRAINS

AGGREGATE DRAINS SHALL BE PLACED AT 50 FOOT INTERVALS ON EACH SIDE OF NORMAL CROWNED SECTIONS, STAGGERED SO THAT EACH DRAIN IS 25 FEET FROM THE ADJACENT DRAIN ON THE OPPOSITE SIDE, AND AT 25 FOOT INTERVALS ON THE LOW SIDE ONLY OF SUPERELEVATED SECTIONS. AN AGGREGATE DRAIN SHALL BE PLACED AT THE LOW POINT OF EACH SAG VERTICAL CURVE.

LOCATION	SIDE
STA. 108+55, LT	15.0'
STA. 108+80, RT	5.0'
STA. 109+75, RT	10.0'
STA. 110+00, LT	7.0'
	37.0'

SEEDING AND MULCHING

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

659, TOPSOIL	93 CU. YD.
659, SEEDING AND MULCHING	834 SQ. YD.
659, REPAIR SEEDING AND MULCHING	42 SQ. YD.
659, COMMERCIAL FERTILIZER	0.11 TON
659, LIME	0.17 ACRES
659, WATER	3 M. GAL.

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.

GENERAL NOTES

DESIGN AGENCY
OHM

DESIGNER
BLS

REVIEWER
FRR 01/13/21

PROJECT ID
112286

SHEET P.4 | TOTAL 33

PIK-77-2.07

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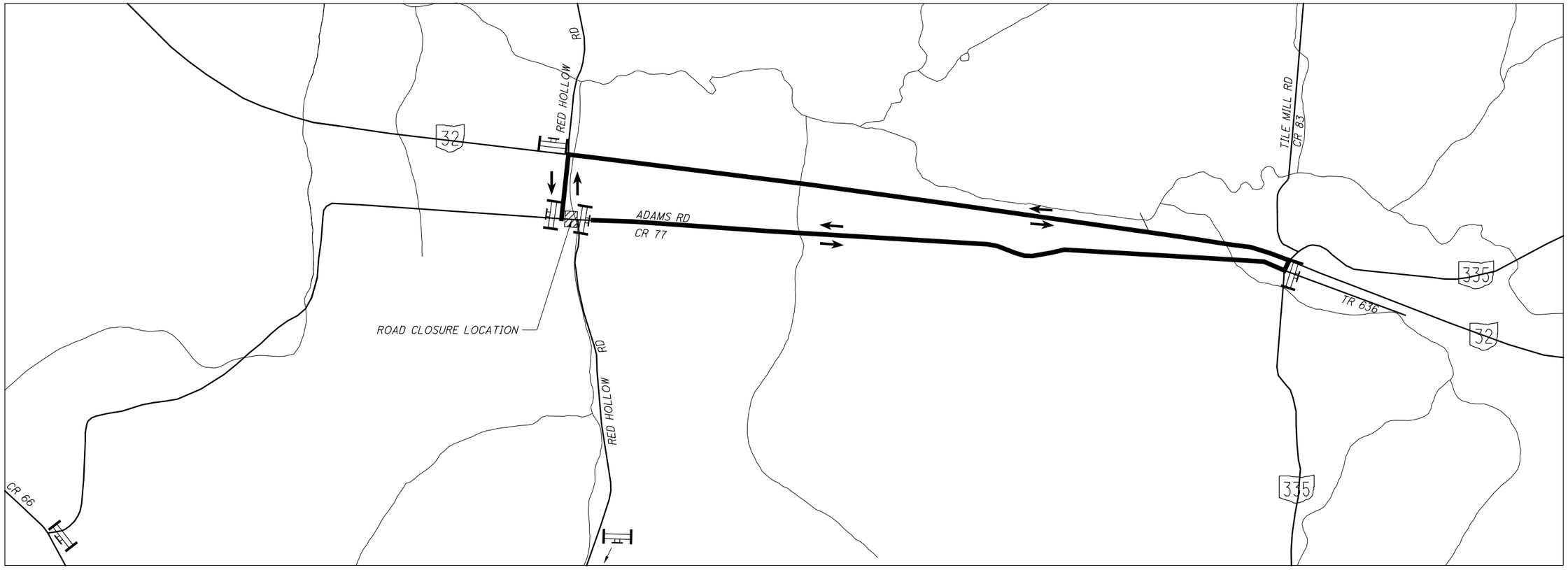

ITEM 614, MAINTAINING TRAFFIC (SIGNS AND BARRICADES)

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 THE TYPE AND LOCATION AS FOLLOWS:

TYPE	LOCATION
BARRICADE (DOUBLE) WITH ROAD CLOSED SIGN (R11-2-48) EACH	STA. 108+30 AND STA. 110+20
ROAD CLOSED AHEAD AND 500 FEET SIGNS (W20-3-48/W16-2-30)	500 FT BEFORE DOUBLE BARRIER AT STA. 108+30 AND STA. 110+20
ROAD CLOSED AHEAD AND 1000 FEET SIGNS (W20-3-48/W16-2-30)	1000 FT BEFORE DOUBLE BARRIER AT STA. 108+30 AND STA. 110+20
ROAD CLOSED AHEAD SIGN (W20-1-48)	1500 FT BEFORE DOUBLE BARRIER AT STA. 108+30 AND STA. 110+20
BARRICADE (SINGLE) WITH ROAD CLOSED XX MILES AHEAD SIGN (R11-3a-66)	CR 66 & CR 77 INTERSECTION CR 76 & GRAVEL HILL RD INTERSECTION CR 66 & SR 335 INTERSECTION CR 76 & SR 32 INTERSECTION

TRAFFIC SHALL BE MAINTAINED THROUGH THE ADAMS RD AND RED HOLLOW ROAD INTERSECTIONS AT ALL TIMES EXCEPT A 1 DAY CLOSURE AS NEEDED FOR THE SETTING OF THE PROPOSED BRIDGE BEAMS.

ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH C&MS 614 AND OTHER APPLICABLE PORTIONS OF THE SPECIFICATIONS, AS WELL AS THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614, MAINTAINING TRAFFIC, UNLESS SEPARATELY ITEMIZED IN THE PLAN.

ITEM 614, MAINTAINING TRAFFIC (NOTICE OF CLOSURE SIGN)

NOTICE OF CLOSURE SIGNS (W20-H13) SHALL BE ERECTED BY THE CONTRACTOR PRIOR TO THE SCHEDULED ROAD OR RAMP CLOSURE IN ACCORDANCE WITH THE NOTICE OF CLOSURE TIME TABLE BELOW. [AT THE APPROVAL OF THE ENGINEER, PORTABLE CHANGEABLE MESSAGE SIGNS MAY BE USED IN LIEU OF THE STANDARD FLATSHEET SIGN FOR CLOSURE DURATIONS OF LESS THAN 1 WEEK.]

THE SIGNS SHALL BE ERECTED ON THE RIGHT-HAND SIDE OF THE ROAD/RAMP FACING TRAFFIC. THEY SHALL BE PLACED SO AS NOT TO INTERFERE WITH THE VISIBILITY OF ANY OTHER TRAFFIC CONTROL SIGNS. ON ROADWAYS, THEY SHOULD BE ERECTED AT OR NEAR THE POINT OF CLOSURE. THE SIGNS MAY BE ERECTED ANYWHERE ON RAMPS AS LONG AS THEY ARE VISIBLE TO THE MOTORISTS USING THE RAMP. ON ENTRANCE RAMPS, THE SIGN SHALL BE ERECTED WELL IN ADVANCE OF THE MERGE AREA TO AVOID DISTRACTING MOTORISTS.

NOTICE OF CLOSURE SIGN TIME TABLE

ITEM	DURATION OF CLOSURE	SIGN DISPLAYED TO PUBLIC
RAMP & ROAD	>=2 WEEKS	14 CALENDAR DAYS PRIOR TO CLOSURE
	> 12 HOURS & < 2 WEEKS	7 CALENDAR DAYS PRIOR TO CLOSURE
CLOSURES	<= 12 HOURS	2 BUSINESS DAYS PRIOR TO CLOSURE

ITEM 614, MAINTAINING TRAFFIC (NOTICE OF CLOSURE SIGN) (CONT.)

THE SIGN SHALL DISPLAY THE DATE OF THE CLOSURE IN MMM-DD FORMAT AND THE NUMBER OF DAYS OF THE CLOSURE. THE LAST LINE OF THE W20-H13 SIGN LISTS A PHONE NUMBER WHICH A MOTORIST MAY CALL FOR ADDITIONAL INFORMATION. THIS IS TO BE A SPECIFIC OFFICE WITHIN THE DISTRICT RATHER THAN THE GENERAL SWITCHBOARD NUMBER.

LEGEND	
→	FLOW ARROW
	DETOUR ROUTE
	CLOSURE AREA
	TYPE III BARRICADE

NOTE:
1. ROAD CLOSURE AS PER ODOT SCD MT-101.60.

MAINTENACE OF TRAFFIC AND DETOUR PLAN

PIK-77-2.07

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DESIGN AGENCY
OHM

DESIGNER	BLS
REVIEWER	FRR 01/13/21
PROJECT ID	112286
SHEET	P.5
TOTAL	33

SHEET NUM.													PART.	ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
	4			7		10		11		12			01/BRF/BR						
																		ROADWAY	
	LS												LS	201	11000	LS		CLEARING AND GRUBBING	
						48		48		28			124	203	10000	124	CY	EXCAVATION	
				267									267	204	10000	267	SY	SUBGRADE COMPACTION	
				37.5									37.5	606	15100	37.5	FT	GUARDRAIL, TYPE MGS WITH LONG POSTS	
				4									4	606	26550	4	EACH	ANCHOR ASSEMBLY, MGS TYPE T	
				4									4	606	35002	4	EACH	MGS BRIDGE TERMINAL ASSEMBLY, TYPE 1	
													LS	623	10000	LS		CONSTRUCTION LAYOUT STAKES AND SURVEYING	
																		EROSION CONTROL	
				57									57	601	32204	57	CY	ROCK CHANNEL PROTECTION, TYPE C WITH GEOTEXTILE FABRIC	
	93												93	659	00300	93	CY	TOPSOIL	
	834												834	659	10000	834	SY	SEEDING AND MULCHING	
	42												42	659	14000	42	SY	REPAIR SEEDING AND MULCHING	
	0.11												0.11	659	20000	0.11	TON	COMMERCIAL FERTILIZER	
	0.17												0.17	659	31000	0.17	ACRE	LIME	
	3												3	659	35000	3	MGAL	WATER	
													3,500	832	30000	3,500	EACH	EROSION CONTROL	
																		DRAINAGE	
	37												37	605	31100	37	FT	AGGREGATE DRAINS	
																		PAVEMENT	
				749									749	254	01000	749	SY	PAVEMENT PLANING, ASPHALT CONCRETE, 1.5"	
				20									20	301	56000	20	CY	ASPHALT CONCRETE BASE, PG64-22, (449)	
				45									45	304	20000	45	CY	AGGREGATE BASE	
				65									65	407	10000	65	GAL	TACK COAT @ 0.07 GAL/SY	
				8									8	411	10000	8	CY	STABILIZED CRUSHED AGGREGATE	
				39									39	441	70000	39	CY	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (449), PG64-22	
				8									8	441	70200	8	CY	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, (449)	
																		TRAFFIC CONTROL	
				6									6	626	00110	6	EACH	BARRIER REFLECTOR, TYPE 2, BIDIRECTIONAL	
				4									4	630	85000	4	EACH	REMOVAL OF GROUND MOUNTED SIGN AND STORAGE	
				4									4	630	86002	4	EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	
																		STRUCTURE OVER 20 FOOT SPAN (PIK-CR77-0206)	
																		FOR PIK-CR77-0206 ESTIMATED QUANTITIES	15
																		MAINTENANCE OF TRAFFIC	
													LS	614	11000	LS		MAINTAINING TRAFFIC	
																		INCIDENTALS	
													4	619	16000	4	MNTH	FIELD OFFICE, TYPE A	
													LS	624	10000	LS		MOBILIZATION	

GENERAL SUMMARY

PIK-77-2.07

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DESIGN AGENCY
OHM

DESIGNER
BLS

REVIEWER
JLU 09/29/21

PROJECT ID
112286

SHEET P.6 TOTAL 33

STATION RANGE				SIDE	DISTANCE (D)	AVERAGE WIDTH (W)	SURFACE AREA (A) A=DxW/9	CADD GENERATED AREA (SURFACE)	254 PAVEMENT PLANING, ASPHALT CONCRETE	204 SUBGRADE COMPACTION	301 ASPHALT CONCRETE BASE, PG64-22	304 AGGREGATE BASE	407 TACK COAT @ 0.07 GAL/SY	411 STABILIZED CRUSHED AGGREGATE	441 ASPHALT CONCRETE SURFACE COURSE, TYPE 1 (448), PG64-22	441 ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1 (448)		606 GUARDRAIL, TYPE MGS WITH LONG POSTS	606 ANCHOR ASSEMBLY, MGS TYPE T	606 MGS BRIDGE TERMINAL ASSEMBLY, TYPE 1		601 ROCK CHANNEL PROTECTION, TYPE C WITH GEOTEXTILE FABRIC		626 BARRIER REFLECTOR, TYPE 2, BIDIRECTIONAL	630 REMOVAL OF GROUND MOUNTED SIGN AND STORAGE	630 REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL
					FT	FT	SY	SY	SY	SY	CY	CY	GAL	CY	CY			FT	EACH	EACH		CY		EACH	EACH	EACH
	TO																									
108+50.00		109+01.27		LT/RT				87.09		132	10.0	22.0	6		4	4										
109+54.73		110+05.00		LT/RT				89.16		135	10.2	22.5	6		4	4										
108+50.00		108+80.49		LT				7.90						2												
108+50.00		108+93.20		RT				8.38						2												
109+62.80		110+05.00		LT				9.52						2												
10+75.53		110+05.00		RT				7.85						2												
107+40.00		108+50.00		LT/RT				461.90	462				32		19											
110+05.00		110+70.00		LT/RT				287.25	287				20		12											
108+60.35		108+95.09		LT															1	1						
108+83.01		109+09.76		RT															1	1						
109+46.24		110+22.12		LT														37.5	1	1						
106+60.91		109+95.45		RT															1	1						
108+93.00		109+22.00		LT/RT																		28				
109+34.00		109+63.00		LT/RT																		29				
108+60.36		110+22.12		LT																				3		
108+83.01		109+95.45		RT																				3		
108+95.10				LT																					1	1
109+13.60				RT																					1	1
109+41.00				LT																					1	1
109+63.90				RT																					1	1
TOTALS CARRIED TO GENERAL SUMMARY									749	267	20	45	65	8	39	8		37.5	4	4		57		6	4	4

SUBSUMMARY

DESIGN AGENCY

OHM

DESIGNER
BLS

REVIEWER
JLU 09/29/21

PROJECT ID
112286

SHEET P.7 | TOTAL 33

PIK-77-2.07

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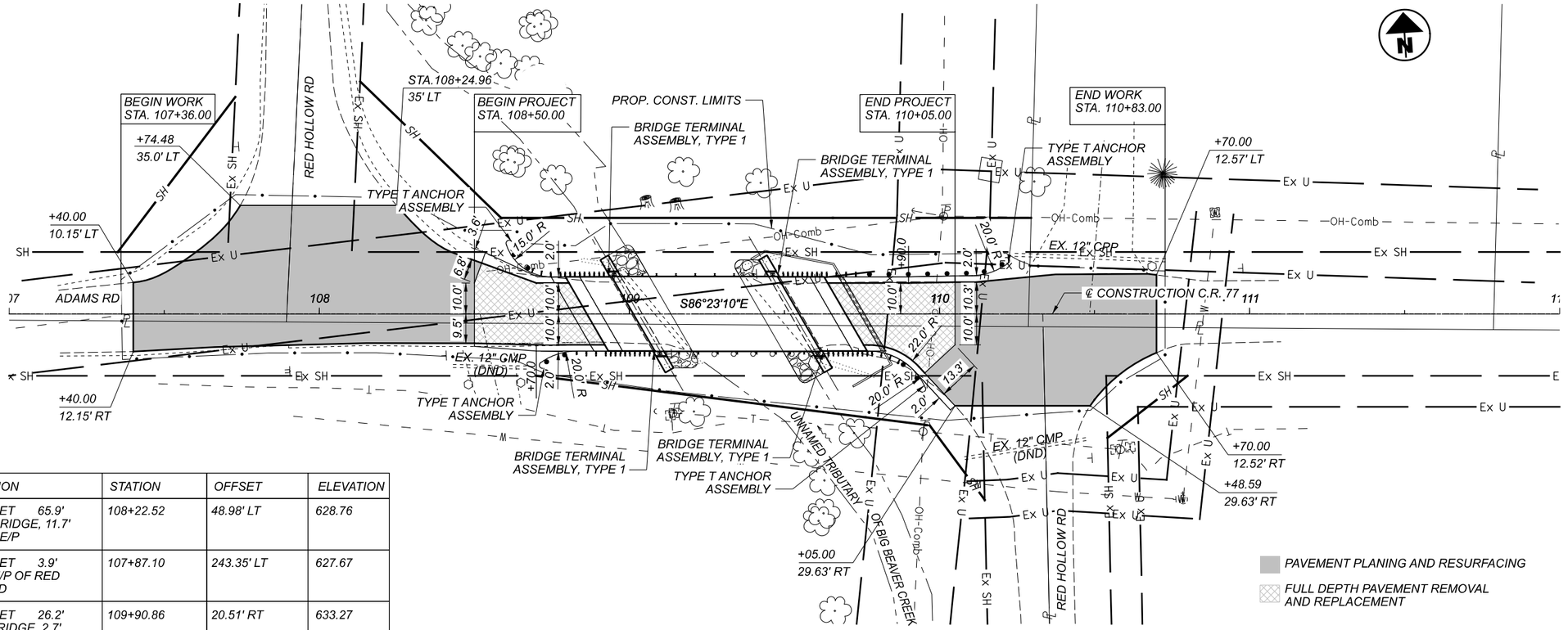
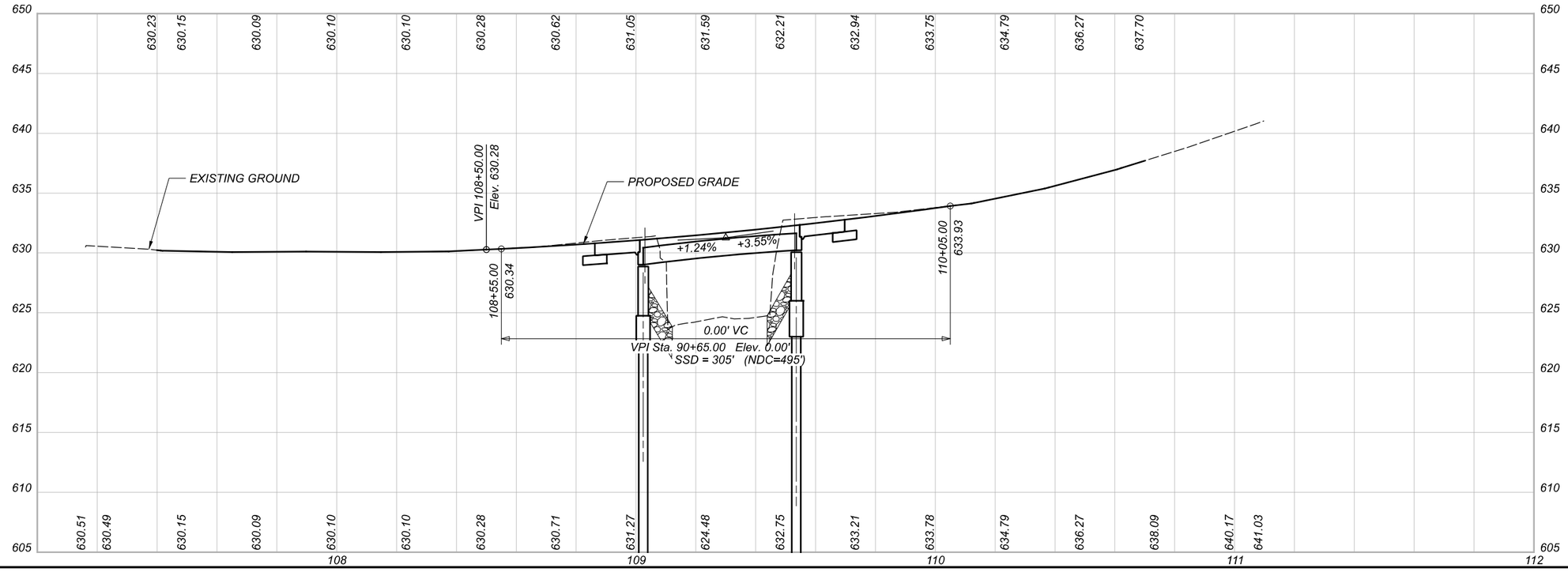


	DESCRIPTION	STATION	OFFSET	ELEVATION
MN100	MAGNAIL SET 65.9' WEST OF BRIDGE, 11.7' NORTH OF E/P	108+22.52	48.98' LT	628.76
MN101	MAGNAIL SET 3.9' WEST OF E/P OF RED HOLLOW RD	107+87.10	243.35' LT	627.67
MN102	MAGNAIL SET 26.2' EAST OF BRIDGE, 2.7' SOUTH OF E/P	109+90.86	20.51' RT	633.27



PLAN AND PROFILE
STA. 107+00 TO STA. 112+00

DESIGN AGENCY
OHM

DESIGNER
BLS
REVIEWER
FRR 01/13/21
PROJECT ID
112286
SHEET P.8 TOTAL 33

PIK-77-2.07

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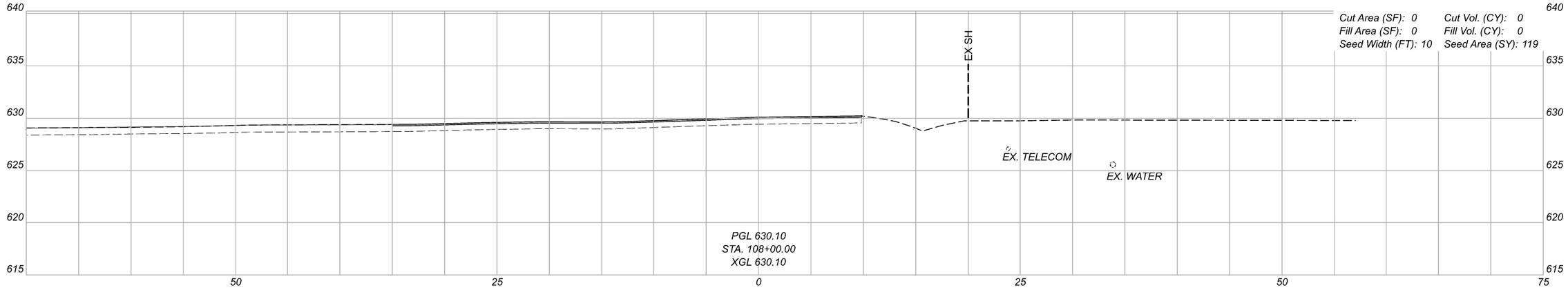

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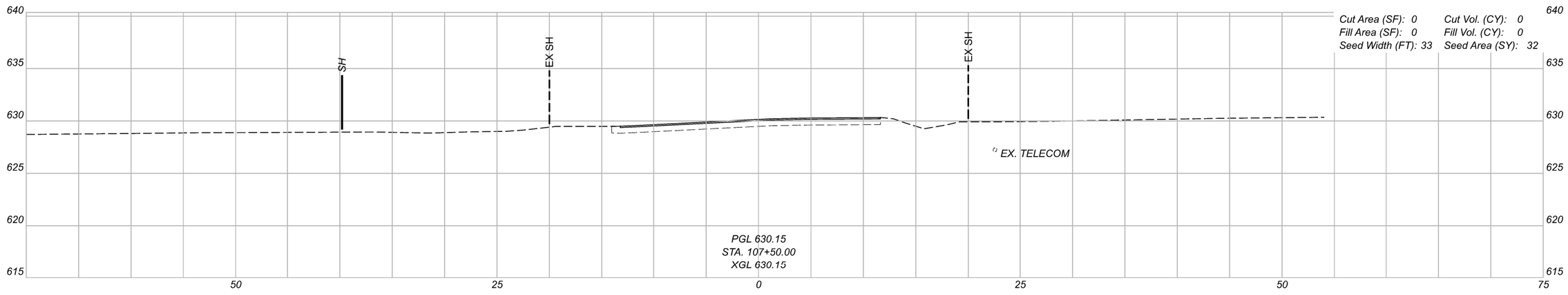

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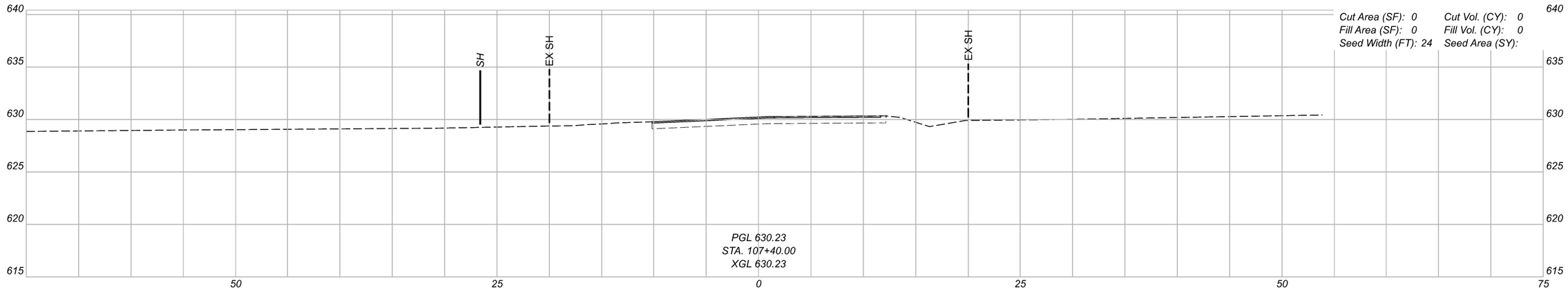

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Seed Width (FT): 24 Seed Area (SY):

CROSS SECTIONS
STA. 107+40 TO STA. 108+00

DESIGN AGENCY
OHM

DESIGNER
BLS

REVIEWER
JLU 09/29/21

PROJECT ID
112286

Sheet Totals		
Seeding	Cut	Fill
151	0	0

SHEET P.9 TOTAL 33

PIK-77-2.07

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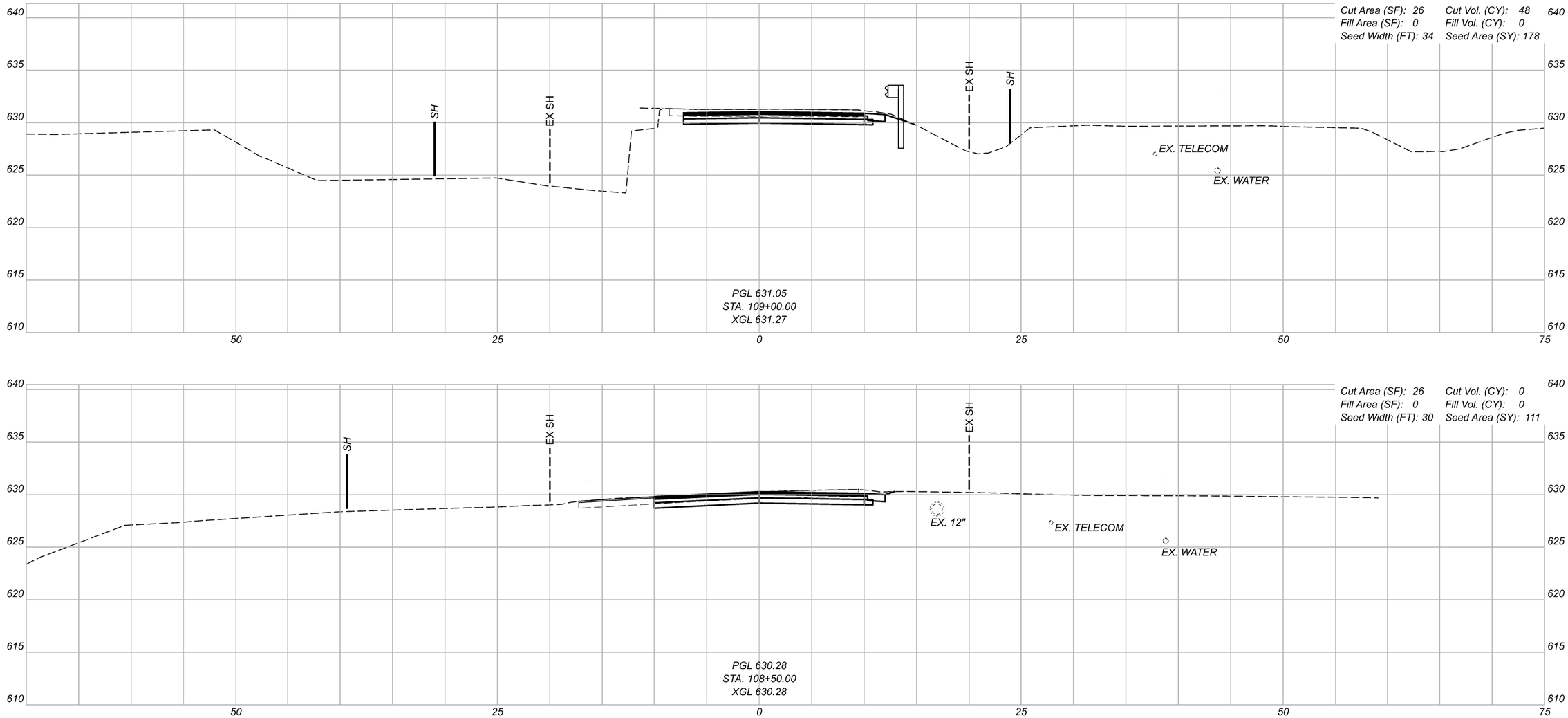

CROSS SECTIONS
STA. 108+50 TO STA. 109+00

PIK-77-2.07

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DESIGN AGENCY: OHM

DESIGNER	BLS
REVIEWER	JLU 09/29/21
PROJECT ID	112286
SHEET	P.10
TOTAL	33

Sheet Totals		
Seeding	Cut	Fill
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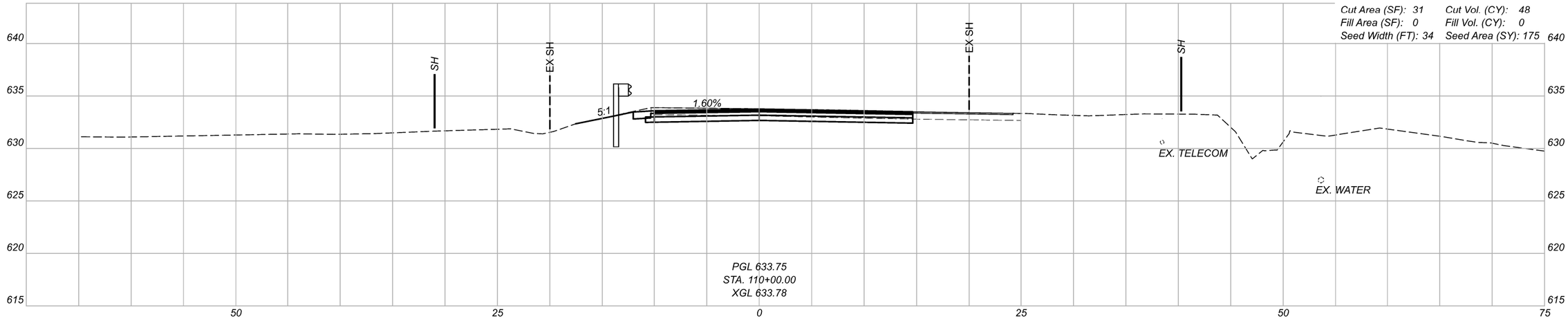

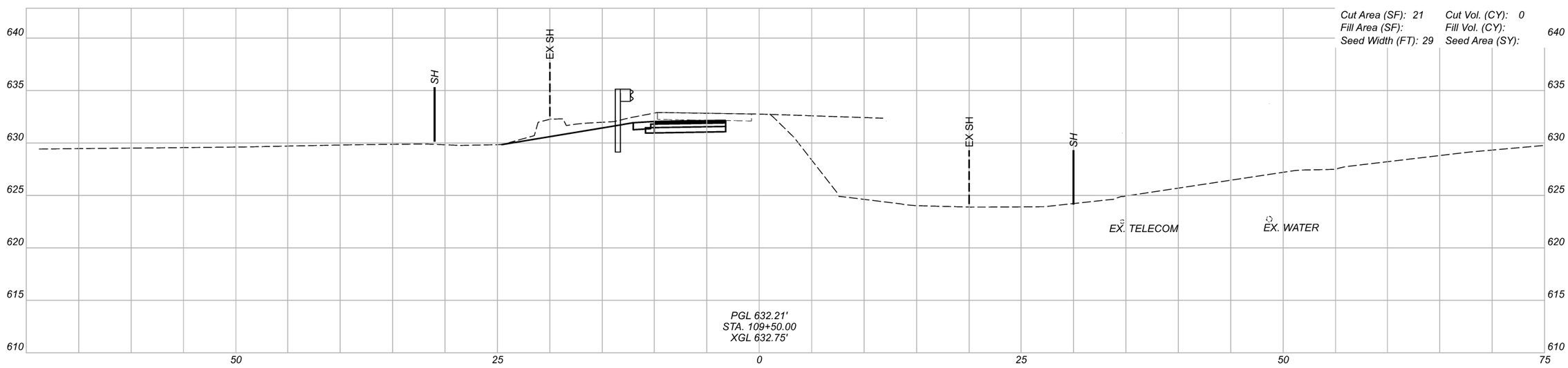

CROSS SECTIONS
STA. 109+50 TO STA. 110+00

DESIGN AGENCY
OHM

DESIGNER
BLS

REVIEWER
JLU 09/29/21

PROJECT ID
112286

Sheet Totals		
Seeding	Cut	Fill
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SHEET P.11 TOTAL 33

PIK-77-2.07

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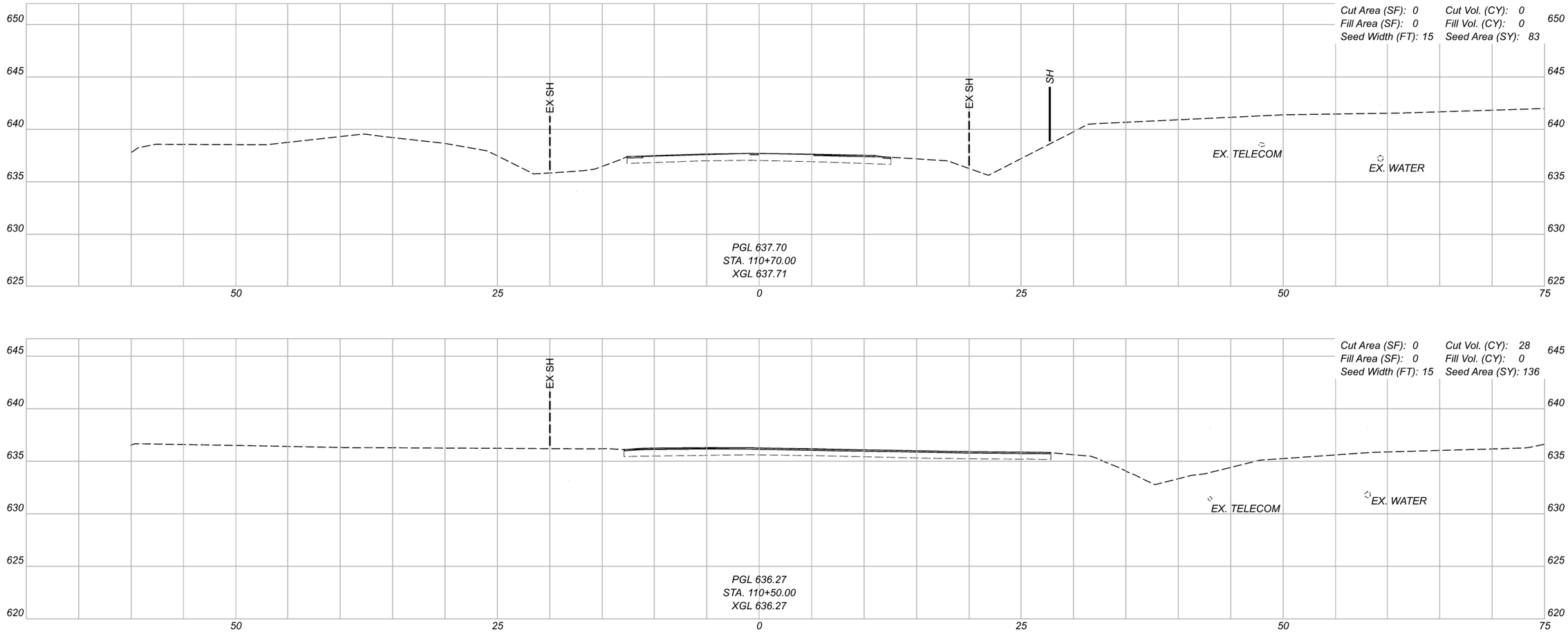

CROSS SECTIONS
STA. 110+50 TO STA. 110+70

PIK-77-2.07

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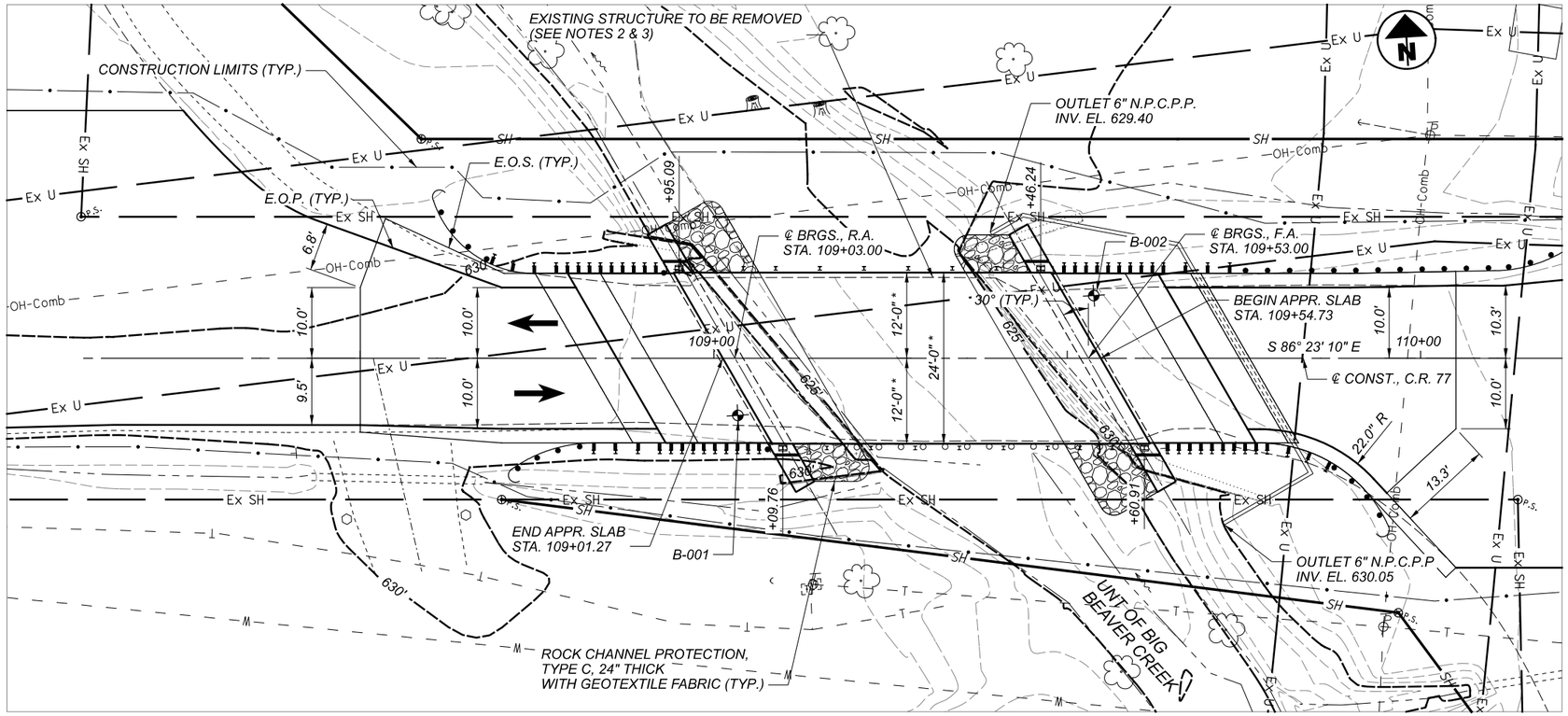
DESIGN AGENCY

OHM

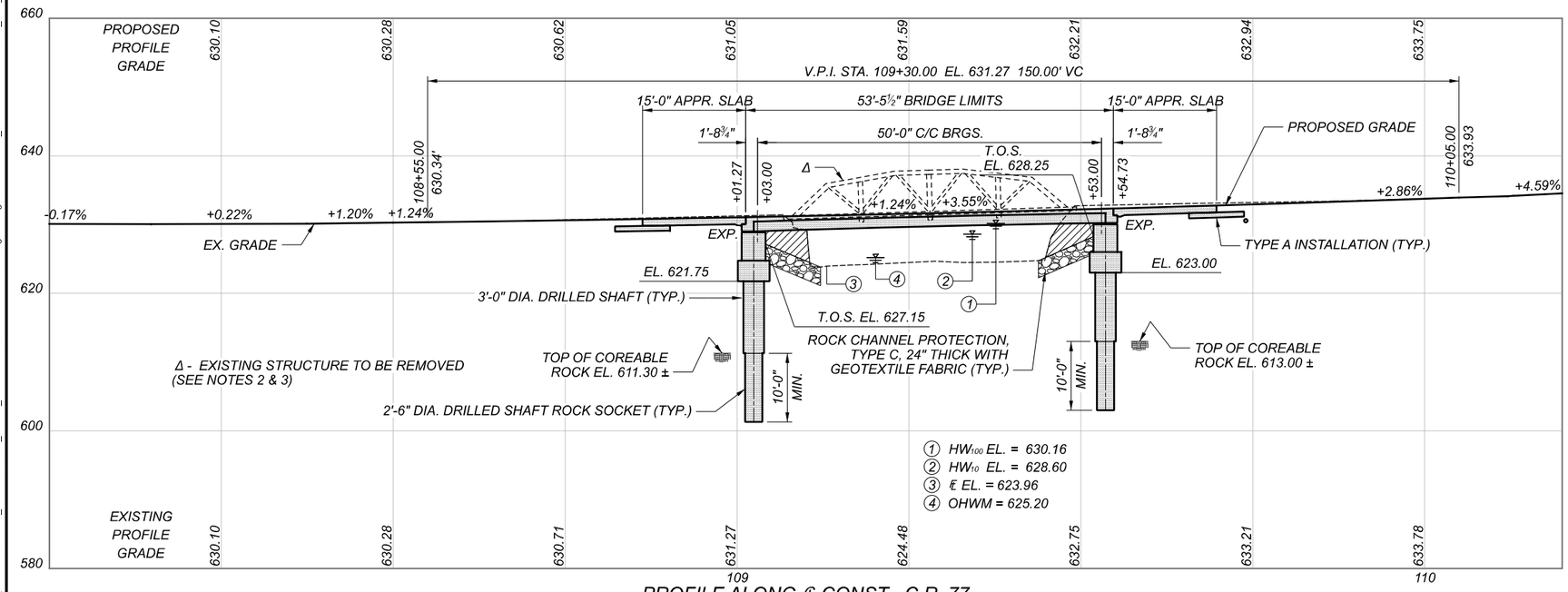
DESIGNER	BLS
REVIEWER	JLU 09/29/21
PROJECT ID	112286
SHEET	P.12
TOTAL	33

Sheet Totals		
Seeding	Cut	Fill
219	28	-



PLAN

* - PLUS FIT-UPS



PROFILE ALONG ℄ CONST., C.R. 77

BENCHMARK DATA

MN100 NORTHING 370822.82 EASTING 1860772.73 EL. 628.76

MN101 NORTHING 371019.04 EASTING 1860749.63 EL. 627.67

MN102 NORTHING 370742.86 EASTING 1860936.35 EL. 633.27

FOR ADDITIONAL BENCHMARK INFORMATION. SEE ROADWAY PLAN SHEET 4.

NOTES

1. EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.
2. REMOVE EXISTING SUPERSTRUCTURE STEEL TRUSS, WEARING SURFACE, RAILINGS AND DECK.
3. REMOVE EXISTING ABUTMENTS, WINGWALLS TO 1'-0" BELOW FINISH GRADE.

DESIGN TRAFFIC:

2022 ADT = 490 2022 ADTT = 15

2042 ADT = 530 2042 ADTT = 16

DIRECTIONAL DISTRIBUTION = 0.55

LEGEND

BORING LOCATION

- CHANNEL EXCAVATION

- ROCK CHANNEL PROTECTION

HYDRAULIC DATA

DRAINAGE AREA = 2.13 SQ. MILES

Q (10) = 601 CFS V (10) = 4.15 FT/S

Q (100) = 1280 CFS V (100) = 5.54 FT/S

STRUCTURE CLEARS THE 10 YEAR DESIGN HW BY 0.45 FEET.

EXISTING STRUCTURE

TYPE: SINGLE SPAN STEEL TRUSS BRIDGE ON CONCRETE ABUTMENTS SUPPORTED ON SPREAD FOOTINGS

SPANS: 39'±

ROADWAY: 22'-0" ± F/F RAILINGS

LOADING: HS-20

SKEW: 45 ° ± R.F.

WEARING SURFACE: 1" ± BITUMINOUS OVERLAY

APPROACH SLABS: NONE

ALIGNMENT: TANGENT

CROWN: 2% ±

STRUCTURAL FILE NUMBER: 6631312

DATE BUILT: 1970

DISPOSITION: TO BE REPLACED

PROPOSED STRUCTURE

TYPE: SINGLE SPAN PRESTRESSED CONCRETE BOX BEAM BRIDGE WITH COMPOSITE CONCRETE DECK, SEMI-INTEGRAL ABUTMENTS SUPPORTED ON DRILLED SHAFTS.

SPANS: 50'-0" C/C BEARINGS

ROADWAY: 24'-0" (PLUS FIT-UPS) F/F RAILINGS

LOADING: HL-93 AND FWS

SKEW: 30 ° RIGHT FORWARD

WEARING SURFACE: 1" MONOLITHIC CONCRETE

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

ALIGNMENT: TANGENT

CROWN: 0.016 FT/FT

DECK AREA: 1248 SF

COORDINATES: LATITUDE N 39° 01' 02.57"

LONGITUDE W 82° 52' 44.11"

SITE PLAN
BRIDGE NO. PIK-CR77-0207
UNT OF BIG BEAVER CREEK

DESIGN AGENCY

OHM

DESIGNER	JH
REVIEWER	BLS 02/18/22
PROJECT ID	112286
SUBSET	1
TOTAL	13
SHEET	P.13
TOTAL	33

PIK-77-2.07

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REFER TO THE FOLLOWING STANDARD BRIDGE DRAWINGS:

AS-1-15	REVISED	07-17-15
AS-2-15	REVISED	01-18-19
DS-1-92	REVISED	07-15-22
PSBD-2-07	REVISED	07-20-18
SICD-1-96	REVISED	07-18-14
TST-1-99	REVISED	01-15-21

AND TO THE FOLLOWING SUPPLEMENTAL SPECIFICATIONS:

800	DATED	01-21-22

DESIGN SPECIFICATIONS:

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

OPERATIONAL IMPORTANCE:

A LOAD MODIFIER OF 1.0 HAS BEEN ASSUMED FOR THE DESIGN OF THIS STRUCTURE IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, ARTICLE 1.3.5 AND THE ODOT BRIDGE DESIGN MANUAL, 2007.

DESIGN LOADING:

HL-93 AND 0.06 KSF FWS

DESIGN DATA:

CONCRETE, CLASS QC2 - COMPRESSIVE STRENGTH 4500 P.S.I. (SUPERSTRUCTURE)
CONCRETE, CLASS QC1 - COMPRESSIVE STRENGTH 4000 P.S.I. (SUBSTRUCTURE)
CONCRETE, CLASS QC5, WITH 1" MAX AGGREGATE SIZE - COMPRESSIVE STRENGTH 4500 P.S.I. (DRILLED SHAFT)

REINFORCING STEEL - ASTM A615, OR A996
GRADE 60 MINIMUM YIELD STRENGTH 60,000 P.S.I.

PRESTRESSED CONCRETE BRIDGE MEMBERS:
CONCRETE FOR BOX BEAMS:
COMPRESSIVE STRENGTH (FINAL) = 7000 P.S.I.
COMPRESSIVE STRENGTH (RELEASE) = 5000 P.S.I.

PRESTRESSING STRAND:
PRESTRESSING STRAND - ASTM A416, UNCOATED, SEVEN WIRE STRAND GRADE 270, ULTIMATE STRENGTH = 270 K.S.I.
AREA OF STRANDS = 0.167 SQ. IN.
INITIAL STRESS = 202.5 K.S.I. (LOW RELAXATION STRANDS)

DECK PROTECTION METHOD:

EPOXY COATED REINFORCING STEEL
2½" CONCRETE COVER
STEEL DRIP STRIP

MONOLITHIC WEARING SURFACE:

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

BASE CONTRACT BID PRICES UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PREBID EXAMINATION OF THE EXISTING STRUCTURE. HOWEVER, THE COUNTY WILL PAY FOR ALL PROJECT WORK BASED UPON ACTUAL DETAILS AND DIMENSIONS THAT HAVE BEEN VERIFIED IN THE FIELD.

ITEM 202, STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN:

WHEN NO LONGER NEEDED TO MAINTAIN TRAFFIC, THE EXISTING STRUCTURE SHALL BE REMOVED UPON RECEIVING PERMISSION FROM THE ENGINEER. REMOVE EXISTING WEARING SURFACE, RAILING, AND DECK JOINTS. REMOVE AND DISPOSE OF ALL EXISTING STRUCTURAL STEEL. REMOVE EXISTING ABUTMENT AND WINGWALLS TO 1 FOOT BELOW FINISH GROUND. CLEAR AND CLEAN UP ALL DEBRIS WHICH FELL DURING REMOVAL OPERATIONS. THE USE OF EXPLOSIVES, HEADACHE BALLS AND/OR HOE RAM TYPE OF EQUIPMENT IS PROHIBITED.

THE CONTRACTOR SHALL SUBMIT CONSTRUCTION PLANS ACCORDING TO CMS 501.05. SUBMIT A DEMOLITION PLAN DEVELOPED BY AN OHIO REGISTERED PROFESSIONAL ENGINEER AT LEAST 14 DAYS BEFORE STARTING THE DEMOLITION WORK TO OBTAIN THE ENGINEER'S APPROVAL BEFORE STARTING THE DEMOLITION WORK.

THE CONTRACTOR MUST REVIEW THE STRUCTURE WHEN PREPARING HIS BID. THE CONTRACTOR WILL REVIEW THE CONDITION OF THE STRUCTURE TO DETERMINE WHAT DEBRIS WILL FALL FROM THE STRUCTURE DURING REMOVAL. THE CONTRACTOR WILL DETERMINE THE CORRESPONDING COST TO CLEAN UP ANY AND ALL DEBRIS WHICH FALLS FROM THE STRUCTURE DURING REMOVAL OPERATIONS. THE COST TO CLEAR AND CLEAN UP ALL DEBRIS DURING REMOVAL SHALL BE INCLUDED WITH THE BID FOR THIS ITEM OF WORK. NO ADDITIONAL COST WILL BE RECOGNIZED TO CLEAN DEBRIS RESULTING FROM THE STRUCTURE REMOVAL OPERATION.

ALL COSTS ASSOCIATED WITH EXISTING WEARING SURFACE REMOVAL INCLUDED WITH ITEM 202, PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN FOR PAYMENT.

DRILLED SHAFTS:

THE DRILLED SHAFTS SHALL BE CONSTRUCTED IN ACCORDANCE WITH CMS 524. USE OF DRILLING MUD OR CASING IS ANTICIPATED WHEN THE DRILLED SHAFTS ARE INSTALLED IN LOOSE GRANULAR MATERIALS. CASING MAY NEED TO BE REMAINED IN PLACE IF THE SAND LAYERS ARE THICKER WITH THE RISK OF CAVING IN. THE FOUNDATION EXCAVATION SHALL BE CLEANED OF LOOSE OR DISTURBED MATERIAL AND ANY FREE WATER BEFORE PLACING REINFORCING STEEL AND CONCRETE. LOOSE MATERIALS ON THE BEARING SURFACE SHALL BE REMOVED PRIOR TO CONCRETE PLACEMENT.

TO FACILITATE DRILLED SHAFT CONSTRUCTION, CONCRETE SHOULD BE ON SITE AND READY FOR PLACEMENT AS THE DRILLED SHAFT EXCAVATION IS COMPLETED. TO REDUCE THE LATERAL MOVEMENT OF THE DRILLED SHAFT, THE CONTRACTOR SHALL PLACE THE DRILLED SHAFT CONCRETE IN INTIMATE CONTACT WITH UNDISTURBED NATURAL SOIL. THE CONTRACTOR SHALL FILL VOIDS OR ENLARGEMENTS IN THE DRILLED SHAFT EXCAVATION WITH CONCRETE AT THE TIME OF CONCRETE PLACEMENT.

VARIABLE TOP OF ROCK DEPTH IS ANTICIPATED AT THE VARIOUS DRILLED SHAFT LOCATIONS ON THIS SITE. THE BOTTOM ELEVATION OF DRILLED SHAFT ROCK SOCKETS SHALL HAVE MINIMUM COREABLE BEDROCK PENETRATION OF 10 FEET. BEDROCK QUALITY AND CONDITION SHALL BE CONFIRMED BY THE ENGINEER.

THE MAXIMUM FACTORED LOAD TO BE SUPPORTED BY EACH DRILLED SHAFT IS 180 KIPS. THE FACTORED RESISTANCE PROVIDED BY THE DRILLED SHAFT TIP IS 440 KIPS.

BEARING PAD SHIMS:

PLACE 1/8" THICK PREFORMED BEARING PAD SHIMS, PLAN AREA 8 INCHES BY 10 INCHES, UNDER THE ELASTOMERIC BEARING PADS WHERE REQUIRED FOR PROPER BEARING. FURNISH TWO SHIMS PER BEAM. THE COUNTY WILL MEASURE THIS ITEM BY THE TOTAL NUMBER SUPPLIED. THE COUNTY WILL PAY FOR ACCEPTED QUANTITIES AT THE CONTRACT PRICE FOR ITEM 516 - 1/8" PREFORMED BEARING PADS. ANY UNUSED SHIMS WILL BECOME THE PROPERTY OF THE COUNTY.

ITEM 518 - 6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS, AS PER PLAN:

ANIMAL GUARDS SHALL BE PROVIDED AT THE OUTLET OF THE DRAINAGE PIPES. THE STEEL BOLTS OR RODS FOR THE ANIMAL GUARDS SHALL BE GALVANIZED PER CMS 711.02. THE ANIMAL GUARDS AND CRUSHED AGGREGATE SLOPE PROTECTION, 601.06, AT END OF DRAINAGE PIPE (12" DEEP) ARE INCIDENTAL TO ITEM 518, 6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS, AS PER PLAN.

DECK PLACEMENT DESIGN ASSUMPTIONS:

THE FOLLOWING ASSUMPTIONS OF CONSTRUCTION MEANS AND METHODS WERE MADE FOR THE ANALYSIS AND DESIGN OF THE SUPERSTRUCTURE. THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN OF THE FALSEWORK SUPPORT SYSTEM WITHIN THESE PARAMETERS AND WILL ASSUME RESPONSIBILITY FOR SUPERSTRUCTURE ANALYSIS FOR DEVIATION FROM THESE DESIGN ASSUMPTIONS.

AN EIGHT WHEEL FINISHING MACHINE WITH A MAXIMUM WHEEL LOAD OF 2.2 KIPS.

A MINIMUM OUT-TO-OUT WHEEL SPACING AT EACH END OF THE MACHINE OF 103".

A MAXIMUM SPACING OF OVERHANG FALSEWORK BRACKETS OF 48 IN.

A MAXIMUM DISTANCE FROM THE CENTERLINE OF THE FASCIA GIRDER TO THE FACE OF THE SAFETY HANDRAIL OF 65".

ABBREVIATIONS:

ADT - AVERAGE DAILY TRAFFIC
ADTT - AVERAGE DAILY TRUCK TRAFFIC
APPR. - APPROACH
ASTM - AMERICAN SOCIETY OF TESTING AND MATERIALS

BOT. - BOTTOM
BRGS. - BEARINGS

℄ - CENTERLINE
C/C - CENTER TO CENTER
C.I.P. - CAST-IN-PLACE
CLR. - CLEARANCE
CONST. - CONSTRUCTION
C.J. - CONSTRUCTION JOINT
C.R. - COUNTY ROUTE

DIA. - DIAMETER
DWG. - DRAWING

E.O.P. - EDGE OF PAVEMENT
E.O.S. - EDGE OF SHOULDER
EL. - ELEVATION
EQ. - EQUAL
EX. - EXISTING
EXP. - EXPANSION
EXT. - EXTENSION

F/F - FACE TO FACE
F.A. - FORWARD ABUTMENT
FT/FT - FOOT PER FOOT

GEN. - GENERAL

INV. - INVERT

LT. - LEFT

MAX. - MAXIMUM
MID. - MIDDLE
MIN. - MINIMUM
MISC. - MISCELLANEOUS

NO./# - NUMBER
N.P.C.P.P. - NON-PERFORATED CORRUGATED PLASTIC PIPE
N.T.S. - NOT TO SCALE

O/O - OUT TO OUT

P.C.P.P. - PERFORATED CORRUGATED PLASTIC PIPE
P.E.J.F. - PREFORMED EXPANSION JOINT FILLER
P/G - PROFILE GRADE
PROP. - PROPOSED
PVI - POINT OF VERTICAL INTERSECTION

R.A. - REAR ABUTMENT
RT. - RIGHT
R/W - RIGHT OF WAY

S.O. - SERIES OF
SPA. - SPACES OR SPACING
S.R. - STATE ROUTE
STA. - STATION
STD. - STANDARD
STM. - STORM

T.B.D. - TO BE DETERMINED
T/T - TOE TO TOE
TYP. - TYPICAL

GENERAL NOTES
BRIDGE NO. PIK-CR77-0207
UNT OF BIG BEAVER CREEK

SFN 6631313
DESIGN AGENCY
OHM
DESIGNER JH | CHECKER JLU
REVIEWER BLS 09/29/21
PROJECT ID 112286
SUBSET 2 | TOTAL 13
SHEET P.14 | TOTAL 33

PIK-77-2.07

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CALC:	JH	DATE:	12/21/2020
CHECKED:	JLU	DATE:	2/18/2022

ESTIMATED QUANTITIES(1)

ITEM	EXTENSION	TOTAL	UNIT	DESCRIPTION	ABUT.	PIERS	SUPER.	GEN.	SEE SHEET
202	11003	LS		STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN					
503	11100	LS		COFFERDAMS AND EXCAVATION BRACING					
503	21300	LS		UNCLASSIFIED EXCAVATION					
509	10000	12392	LB	EPOXY COATED REINFORCING STEEL	7699		4693		
511	31610	35	CY	CLASS QC2 CONCRETE, SUPERSTRUCTURE			35		
511	43510	83	CY	CLASS QC1 CONCRETE, ABUTMENT INCLUDING FOOTING	83				
512	10100	71	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	44		27		
512	33000	8	SY	TYPE 2 WATERPROOFING	8				
515	12031	6	EACH	PRESTRESSED CONCRETE COMPOSITE BOX BEAM BRIDGE MEMBERS, LEVEL 1, CB17-48, AS PER PLAN (51'-1 7/8" o/o)			6		
516	13900	28	SF	2" PREFORMED EXPANSION JOINT FILLER	28				
516	14020	76	FT	SEMI-INTEGRAL ABUTMENT EXPANSION JOINT SEAL	76				
516	41100	12	EACH	1/8" PREFORMED BEARING PAD	12				
516	42600	56	FT	ELASTOMERIC BEARING PAD, MISC.:6"x2" ELASTOMERIC BEARING STRIP	56				
516	43200	24	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES ONLY (NEOPRENE) (8"x10"x2")	24				
517	70000	113	FT	RAILING (TWIN STEEL TUBE)			113		
518	21200	49	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC	49				
SPECIAL	51822300	124	FT	STEEL DRIP STRIP			124		
518	40000	96	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	96				
518	40011	40	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS, AS PER PLAN	40				
524	94604	80	FT	DRILLED SHAFTS, 30" DIAMETER, INTO BEDROCK	80				
524	94702	40	FT	DRILLED SHAFTS, 36" DIAMETER, ABOVE BEDROCK	40				
524	94704	42	FT	DRILLED SHAFTS, 36" DIAMETER, INTO BEDROCK	42				
526	10000	80	SY	REINFORCED CONCRETE APPROACH SLABS (T=12")				80	
526	90010	56	FT	TYPE A INSTALLATION				56	

ESTIMATED QUANTITIES
BRIDGE NO. PIK-CR77-0207
UNT OF BIG BEAVER CREEK

SFN 6631313

DESIGN AGENCY

OHM

DESIGNER	CHECKER
JH	JLU

REVIEWER: BLS 02/21/22

PROJECT ID: 112286

SUBSET	TOTAL
3	13

SHEET	TOTAL
P.15	33

PIK-77-2.07

MODEL: Sheet PAPERSIZE: 17x11 (in.) DATE: 7/25/2022 TIME: 8:38:28 AM USER: bswora
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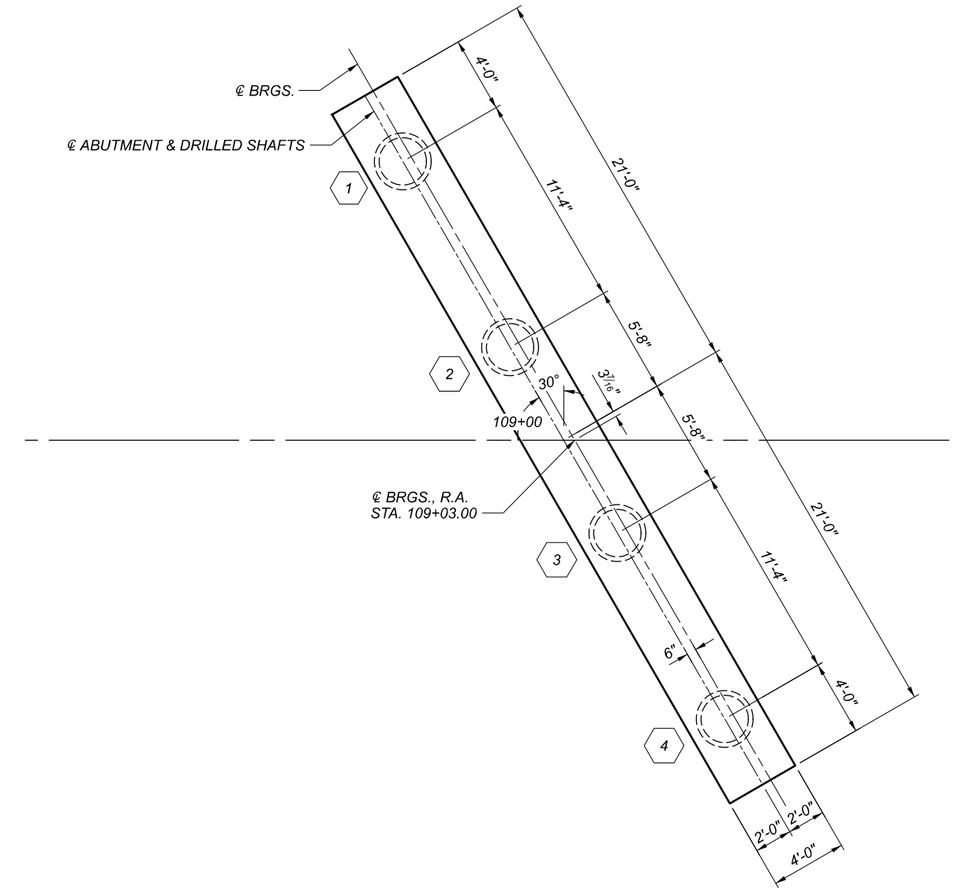
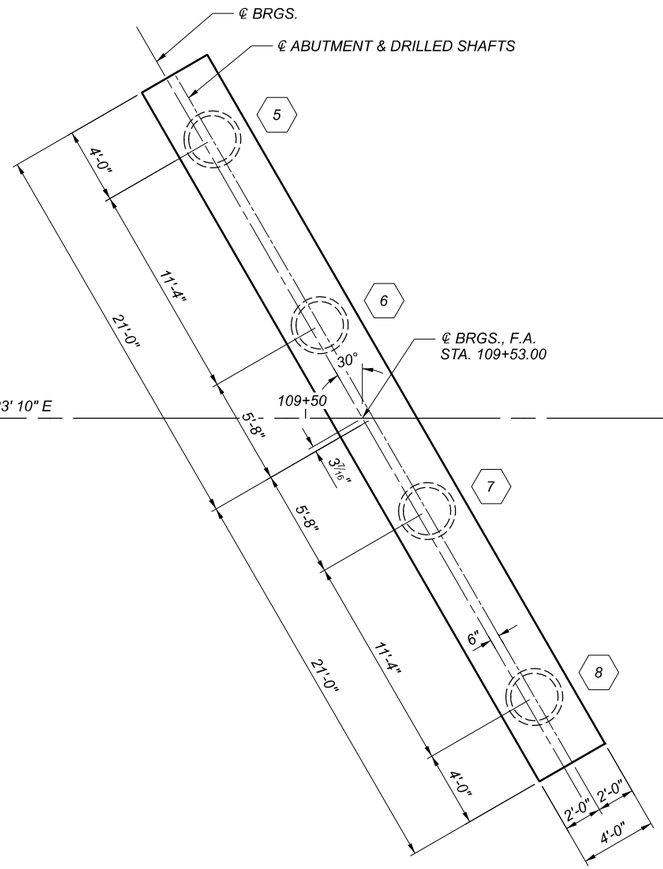


(REAR ABUTMENT)



(FORWARD ABUTMENT)

FOUNDATION LAYOUT

LEGEND:

- ◯ - 3'-0" DIA. DRILLED SHAFT & 2'-6" ROCK SOCKET
- ⬡ 1 - DRILLED NUMBER

ABUTMENT DRILLED SHAFTS TABLE									
LOCATION	NUMBER	SIZE	TOP OF D.S. ELEVATION	TOP OF ROCK ELEVATION	TOP OF COREABLE ROCK ELEVATION	ESTIMATED D.S. LENGTH ABOVE BEDROCK	ESTIMATED D.S. INTO ABOVE BEDROCK	ROCK SOCKET SIZE	ROCK SOCKET LENGTH (MIN.)
REAR ABUTMENT	1 - 4	36" DIA.	EL. 621.75	EL. 616.80±	EL. 611.30 ±	4.95'	5.50'	2'-6" DIA.	10'-0"
FORWARD ABUTMENT	5 - 8	36" DIA.	EL. 623.00	EL. 618.00±	EL. 613.00 ±	5.00'	5.00'	2'-6" DIA.	10'-0"

FOUNDATION LAYOUT
BRIDGE NO. PIK-CR77-0207
UNT OF BIG BEAVER CREEK

SFN 6631313
DESIGN AGENCY
OHM
DESIGNER JH | CHECKER JLU
REVIEWER BLS 09/29/21
PROJECT ID 112286
SUBSET 4 | TOTAL 13
SHEET P.16 | TOTAL 33

PIK-77-2.07

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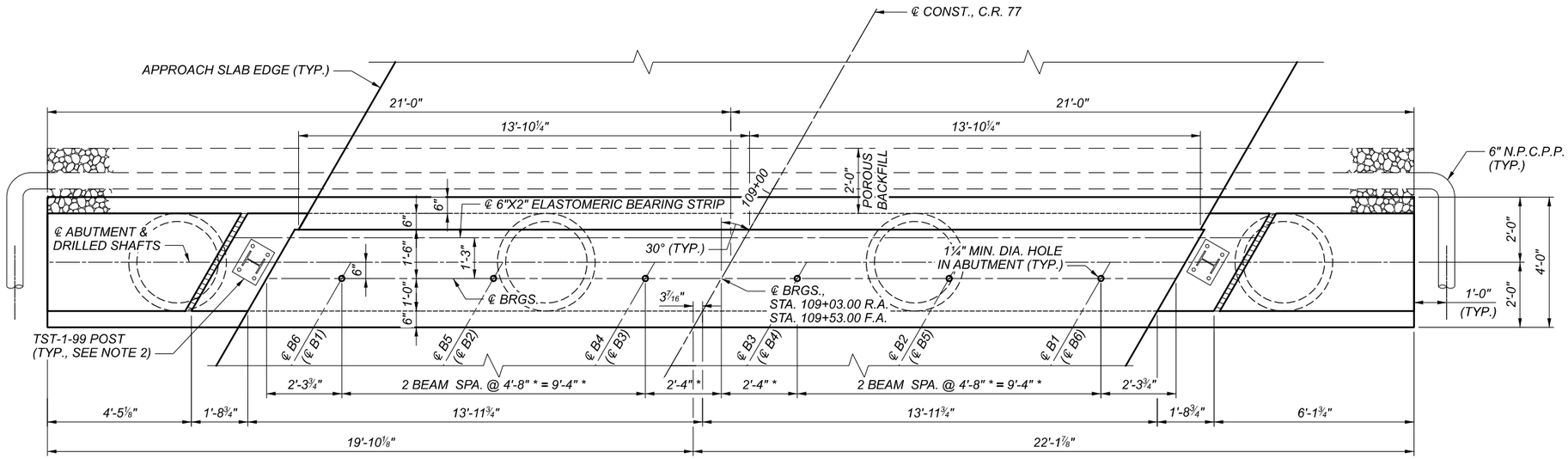
REAR ABUTMENT

FORWARD ABUTMENT



ABUTMENT PLAN

* - PLUS FIT-UPS
BEAM NUMBER IN ( ) ARE FOR FORWARD ABUTMENT

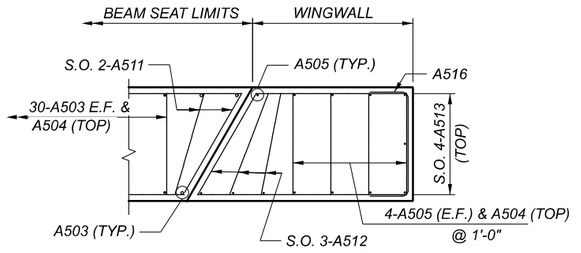
NOTES:

1. FOR DRILLED SHAFT LAYOUT, SEE SHEET 4/13 .
2. SEE BEAM LAYOUT PLAN ON SHEET 8/13 FOR LOCATION OF RAILING POST ON ABUTMENT DIAPHRAGM.
3. VERTICAL DIAPHRAGM BARS SHALL BE PLACED PARALLEL TO ℄ BEAMS.
4. ABUTMENT CONCRETE: DO NOT PLACE THE ABUTMENT CONCRETE ABOVE THE BRIDGE SEAT CONSTRUCTION JOINT UNTIL THE PRESTRESSED CONCRETE BOX BEAMS HAVE BEEN ERECTED.
5. BRIDGE SEAT REINFORCING, SETTING ANCHORS: ACCURATELY PLACE REINFORCING STEEL IN THE VICINITY OF THE BRIDGE SEAT TO AVOID INTERFERENCE WITH THE DRILLING OF BEARING ANCHOR HOLES OR THE PRE-SETTING OF BEARING ANCHORS.
6. MINIMUM BAR LAP LENGTH:
   LAP NO. 5 BARS 3'-2"
   LAP NO. 8 BARS 6'-4"

LEGEND:

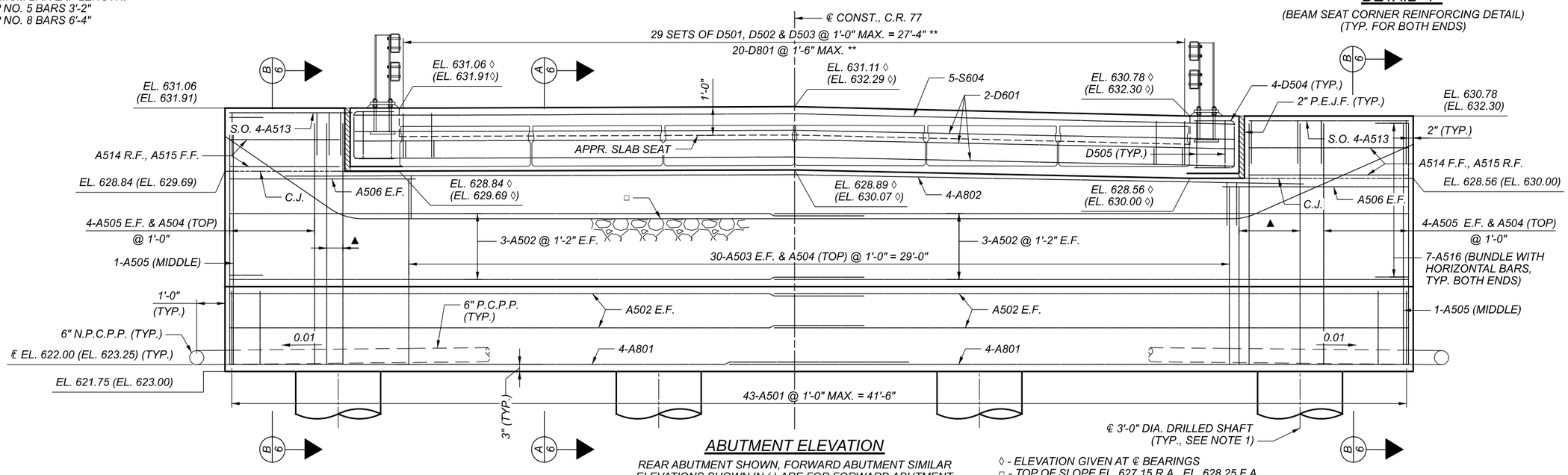
E.F. - EACH FACE
F.F. - FRONT FACE
R.F. - REAR FACE

- 3'-0" DIA. DRILLED SHAFT & 2'-6" ROCK SOCKET (SEE NOTE 1)



DETAIL "1"

(BEAM SEAT CORNER REINFORCING DETAIL)
(TYP. FOR BOTH ENDS)



ABUTMENT ELEVATION

REAR ABUTMENT SHOWN, FORWARD ABUTMENT SIMILAR
ELEVATIONS SHOWN IN ( ) ARE FOR FORWARD ABUTMENT

◊ - ELEVATION GIVEN AT ℄ BEARINGS
□ - TOP OF SLOPE EL. 627.15 R.A., EL. 628.25 F.A.
** - PLACE ALONG SKEW
▲ - S.O. 2-A511, 3-A503, S.O. 3-A512 & 4-A505 (SEE DETAIL "1")

ABUTMENT DETAILS
BRIDGE NO. PIK-CR77-0207
UNT OF BIG BEAVER CREEK

SFN 6631313
DESIGN AGENCY OHM
DESIGNER JH | CHECKER JLU
REVIEWER BLS 02/21/22
PROJECT ID 112286
SUBSET 5 | TOTAL 13
SHEET P.17 | TOTAL 33

PIK-77-2.07

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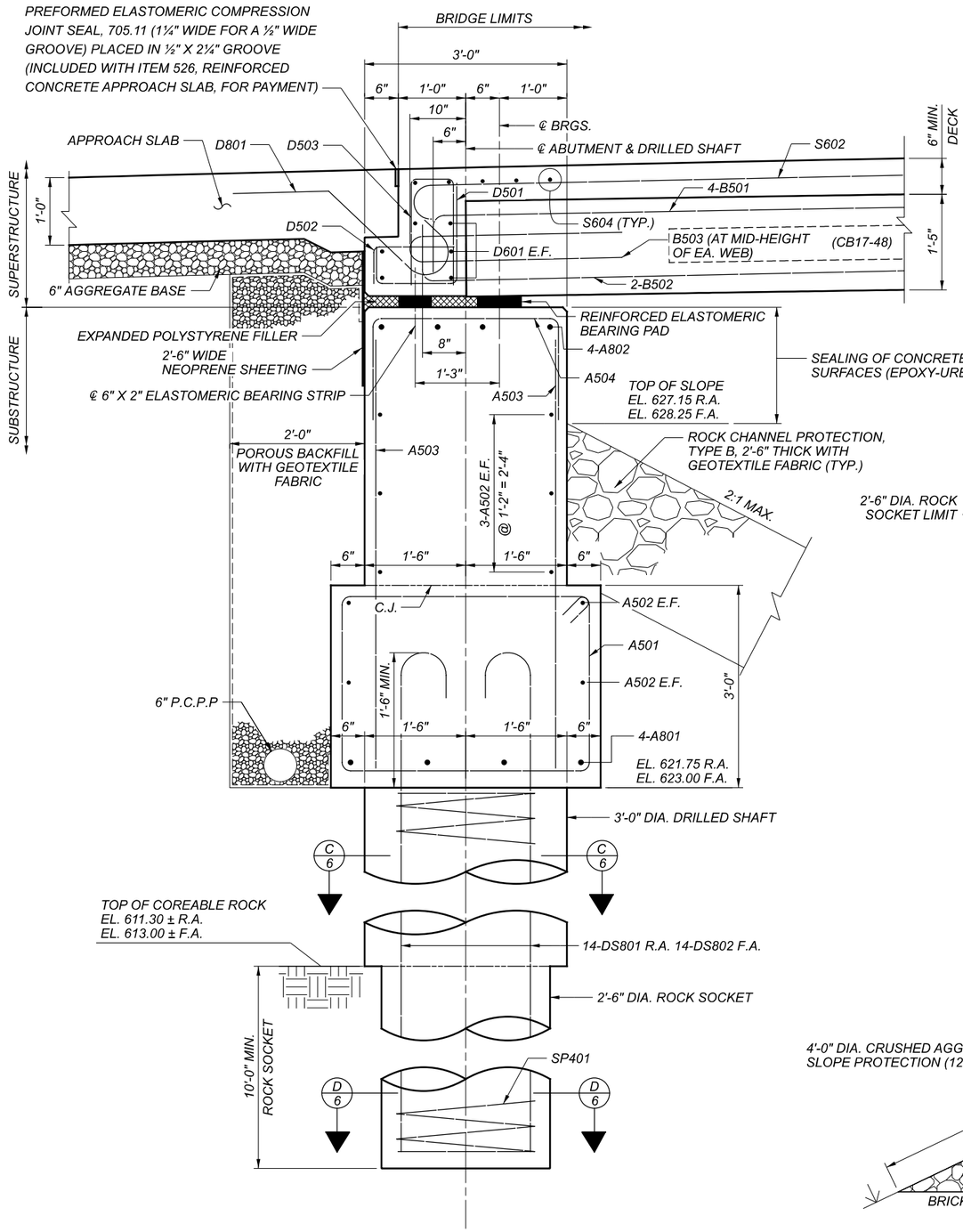
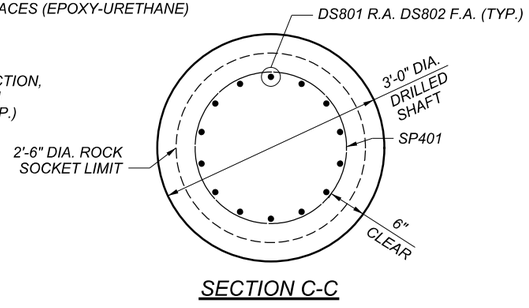
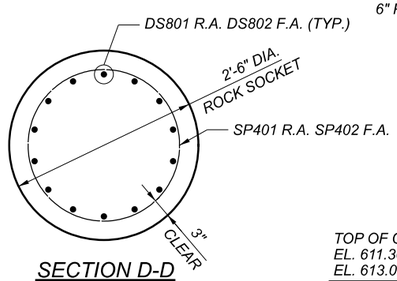


ABUTMENT SECTION (SECTION A-A)

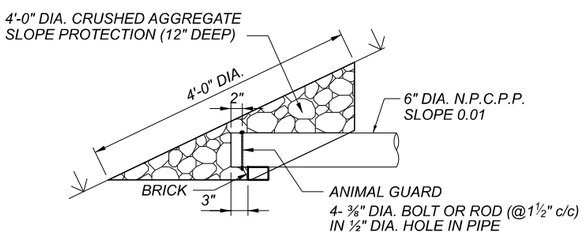
(SEMI-INTEGRAL ABUTMENT)
(REAR ABUTMENT SHOWN, FORWARD ABUTMENT SIMILAR)



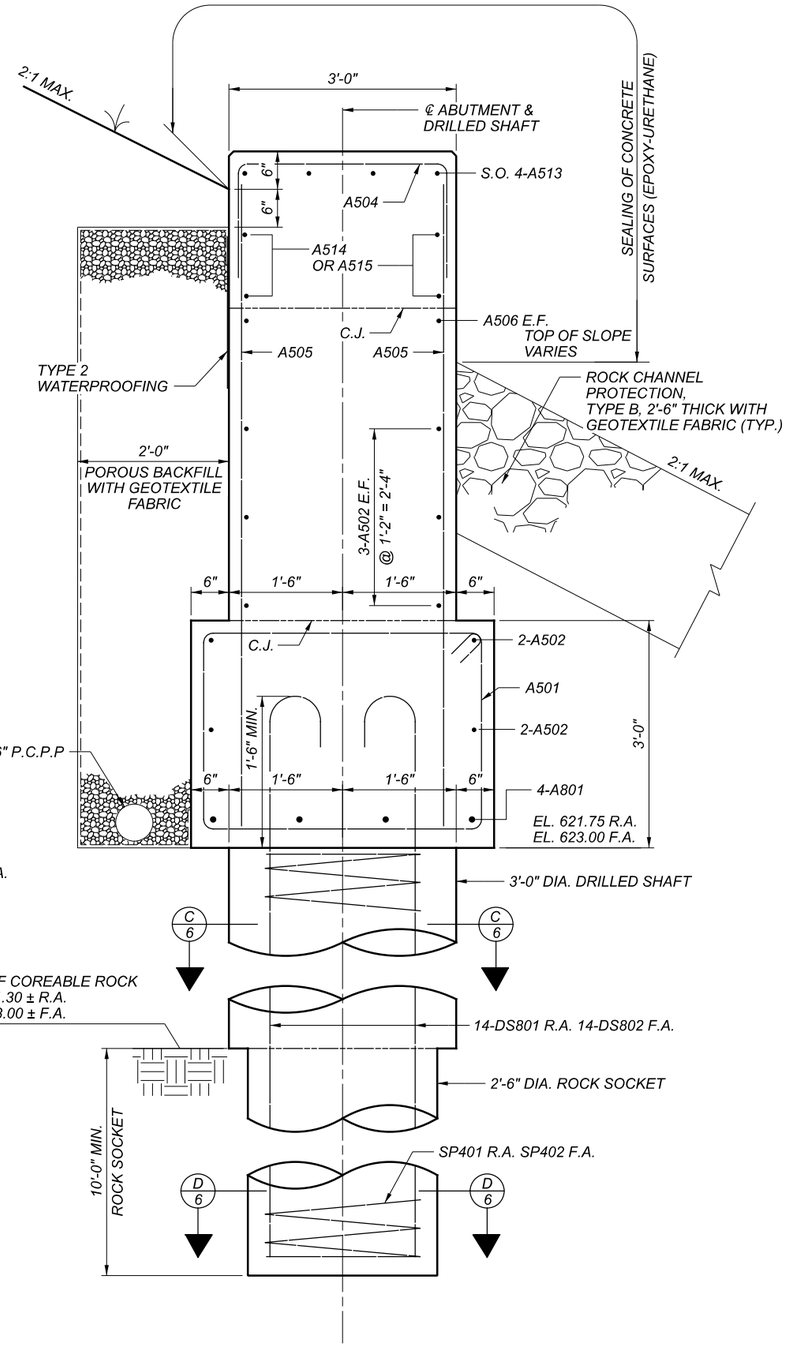
SECTION C-C



SECTION D-D



TERMINATION OF 6" N.P.C.P.P. DETAIL



WINGWALL SECTION (SECTION B-B)

ABUTMENT SECTIONS
BRIDGE NO. PIK-CR77-0207
UNT OF BIG BEAVER CREEK

SFN	6631313
DESIGN AGENCY	OHM
DESIGNER	JH
CHECKER	JLU
REVIEWER	BLS 02/21/22
PROJECT ID	112286
SUBSET	6
TOTAL	13
SHEET	P.18
TOTAL	33

PIK-77-2.07

MODEL: Sheet PAPERSIZE: 17x11 (in.) DATE: 7/25/2022 TIME: 8:38:32 AM USER: bswora
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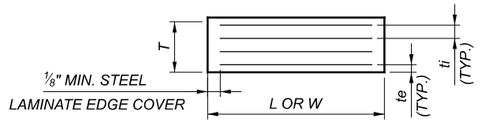
ELASTOMERIC BEARING PAD DATA											
LOCATION	BEAM NO.	TYPE	L	W	T	N	ti	te	DESIGN LOAD * (KIPS)		
									DL	LL	TOTAL
ABUTMENTS	1 THROUGH 6	EXP.	8"	10"	2.00"	4	0.40"	0.25"	25	25	50

ti = THICKNESS OF INTERNAL LAYER
te = THICKNESS OF EXTERNAL LAYER
T = TOTAL THICKNESS OF ELASTOMERIC BEARING
N = NO. OF STEEL LAMINATES
INTERNAL STEEL LAMINATE THICKNESS = 0.0747"

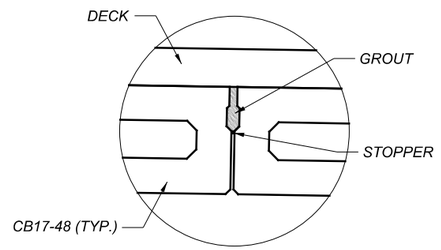
* - LOADS GIVEN IN THE BEARINGS TABLE ARE SERVICE LOAD AND WITH NO IMPACT

ELASTOMERIC BEARINGS:

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.



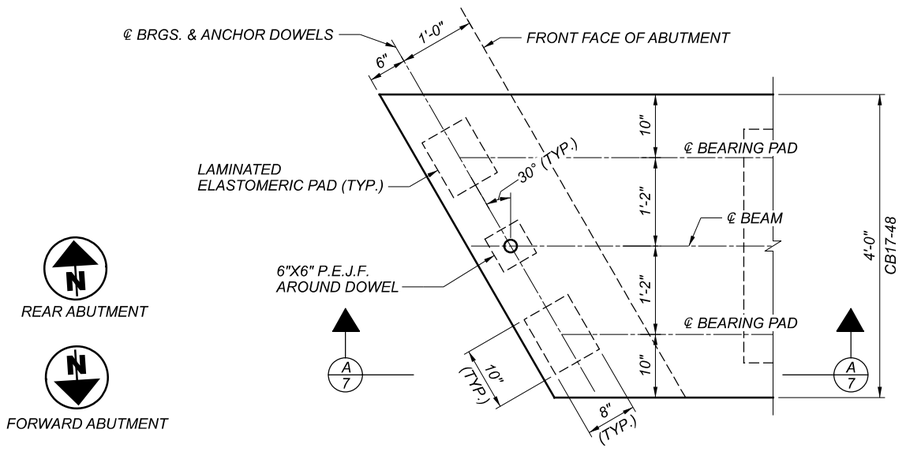
LAMINATED ELASTOMERIC BEARING



SHEAR KEY DETAIL

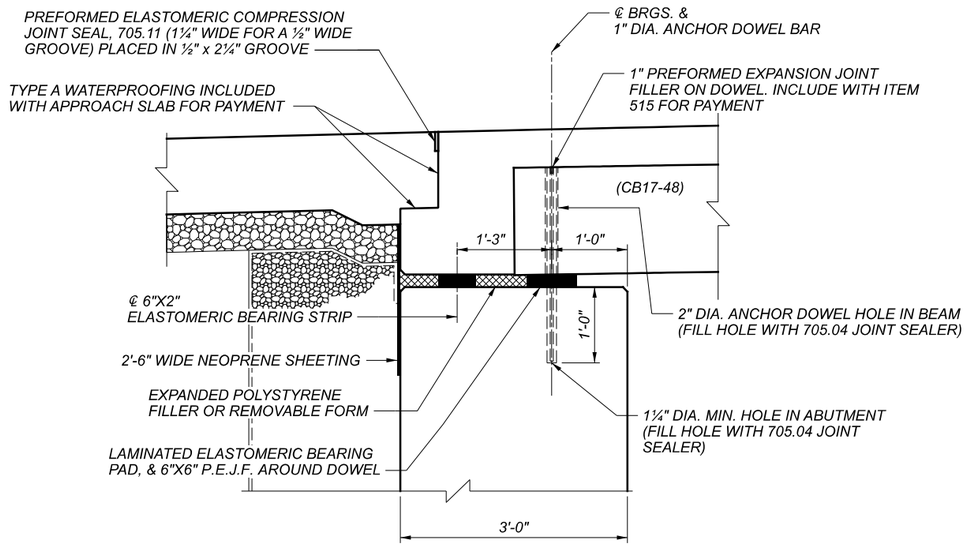
NOTES:

1. SEE STANDARD DRAWING PSBD-2-07 FOR PRESTRESSED CONCRETE BOX BEAM DETAILS.
2. COSTS ASSOCIATED WITH EXPANDED POLYSTYRENE FILLER OR REMOVABLE FORMS ARE INCLUDED WITH ITEM 511, CLASS QC2 CONCRETE, SUPERSTRUCTURE, FOR PAYMENT.



BEARING PAD LAYOUT

(REAR ABUTMENT SHOWN, TYP. FOR BOTH ABUTMENTS)



SECTION A-A

BEARING DETAILS
BRIDGE NO. PIK-CR77-0207
UNT OF BIG BEAVER CREEK

SFN 6631313
DESIGN AGENCY
OHM

DESIGNER	CHECKER
JH	JLU

REVIEWER: BLS 09/29/21
PROJECT ID: 112286
SUBSET 7 / TOTAL 13
SHEET P.19 / TOTAL 33

PIK-77-2.07

MODEL: Sheet PAPERSIZE: 17x11 (in.) DATE: 7/25/2022 TIME: 8:38:33 AM USER: tswora
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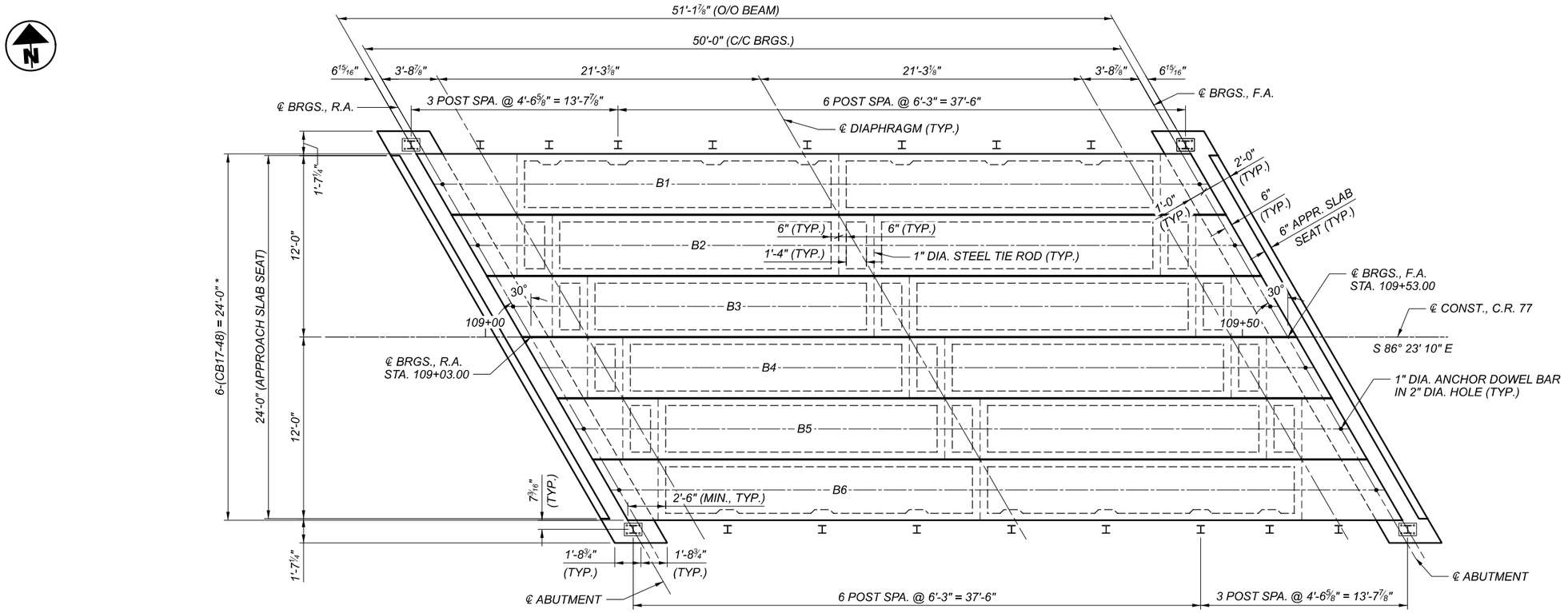
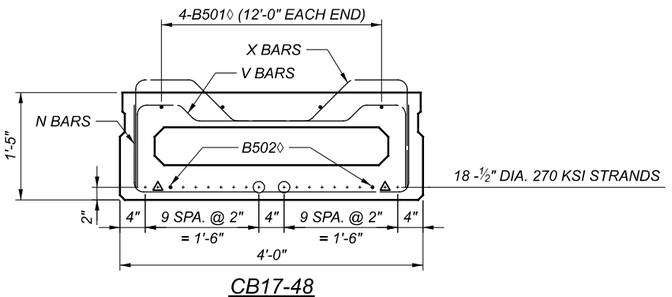


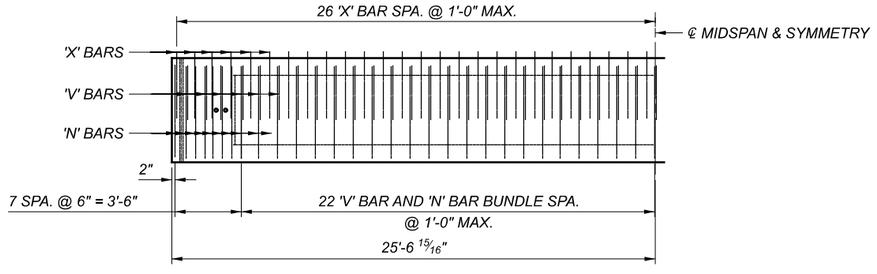
BEAM LAYOUT PLAN

* - PLUS FIT-UPS

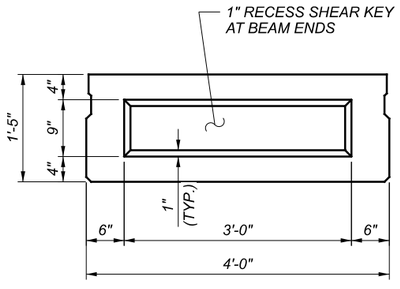


CB17-48

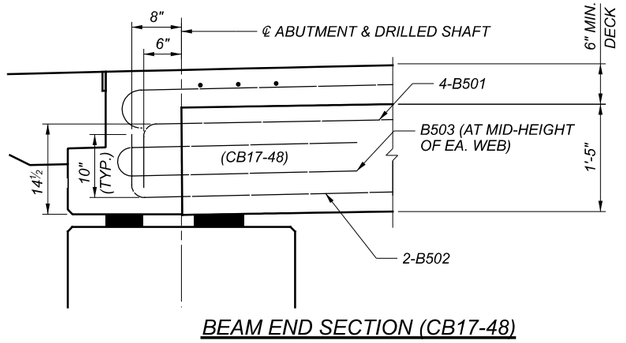
(TYP. FOR BEAMS 1-6)
(◊ BARS IN BEAMS, SEE NOTE 3 & DETAIL BELOW)



BEAM ELEVATION (CB17-48)



BEAM END SHEAR KEY DETAIL



BEAM END SECTION (CB17-48)

LEGEND:

- ▲ - DEBOND STRAND FOR 2'-0" AT EACH END
- ⊕ - DEBOND STRAND FOR 4'-0" AT EACH END

NOTES:

1. SEE STANDARD DRAWING PSBD-2-07 FOR PRESTRESSED CONCRETE BOX BEAM DETAILS.
2. FOR TRANSVERSE SECTION AND DECK REINFORCEMENT DETAILS, SEE SHEET 9/13 .
3. SEE SHEET 6/13 FOR ADDITIONAL DETAILS OF LONGITUDINAL BARS (B501 & B502) PRECAST IN BEAMS.
4. PRECAST BARS PROJECTING FROM THE BEAM SHALL BE EPOXY COATED AND BE INCLUDED WITH ITEM 515, PRESTRESSED CONCRETE COMPOSITE BOX BEAM BRIDGE MEMBER, FOR PAYMENT.

FRAMING PLAN AND BEAM LAYOUT
BRIDGE NO. PIK-CR77-0207
UNT OF BIG BEAVER CREEK

SFN 6631313

DESIGN AGENCY: OHM

DESIGNER	CHECKER
JH	JLU

REVIEWER: BLS 09/29/21

PROJECT ID: 112286

SUBSET	TOTAL
8	13

SHEET	TOTAL
P.20	33

PIK-77-2.07

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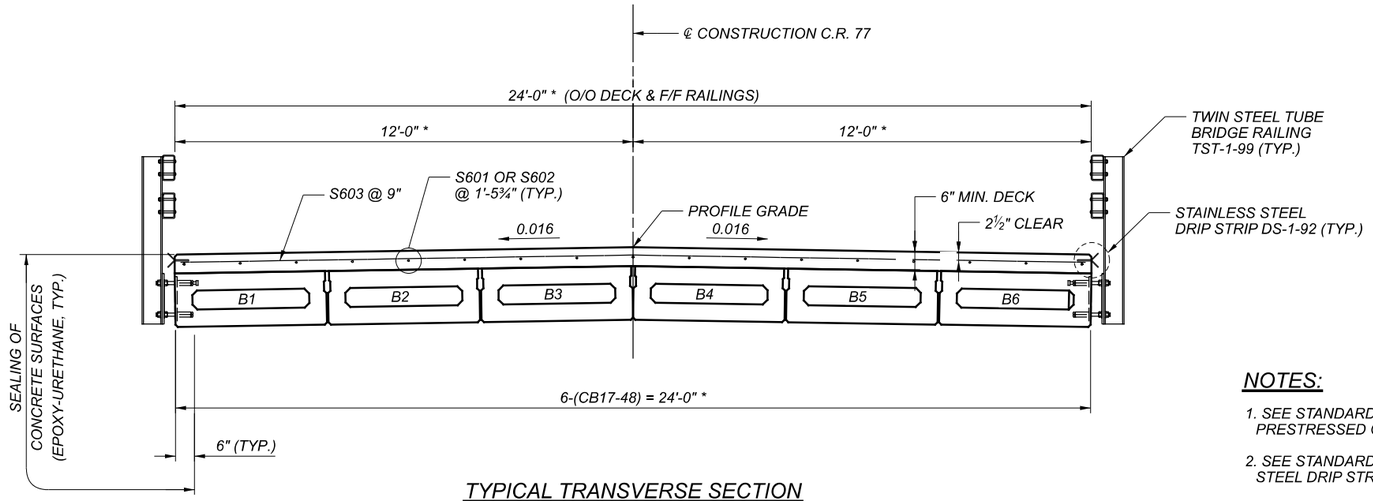
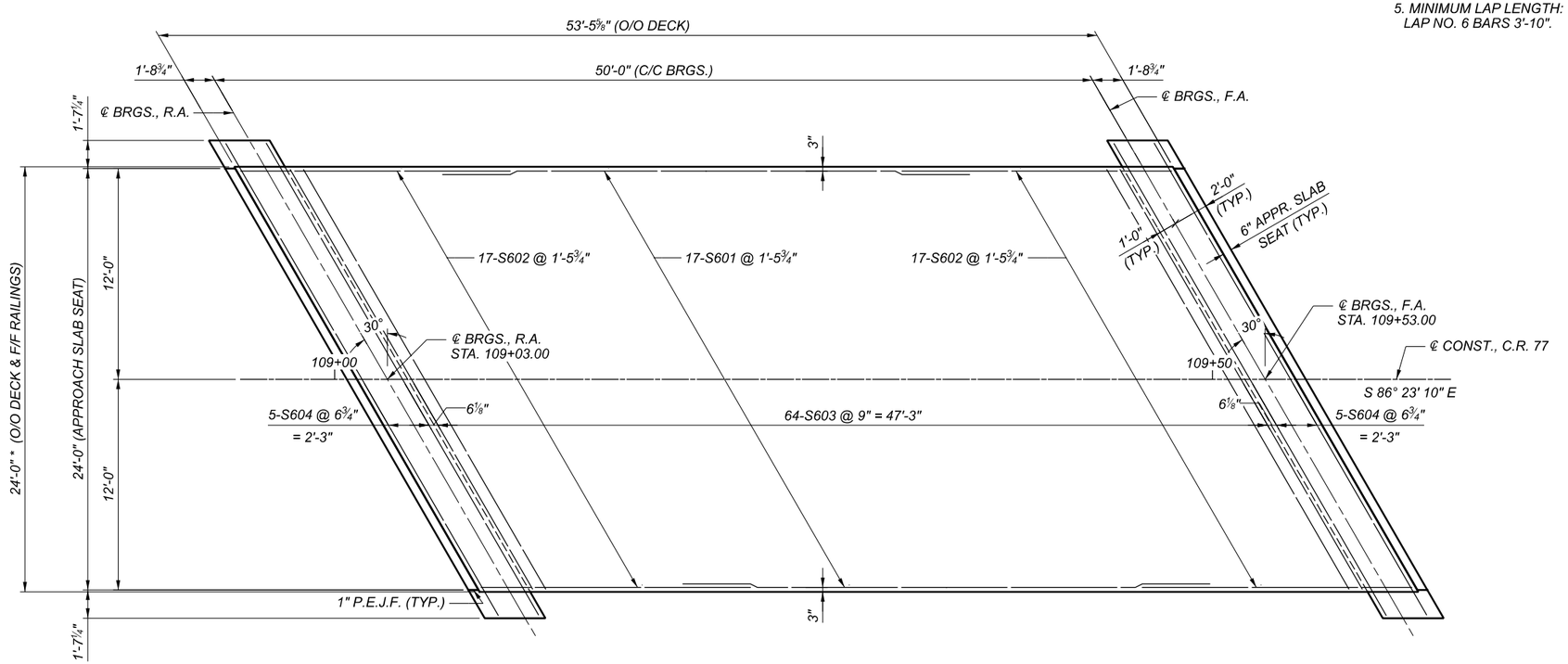


TYPICAL TRANSVERSE SECTION

* PLUS FIT-UPS

NOTES:

1. SEE STANDARD DRAWING PSBD-2-07 FOR PRESTRESSED CONCRETE BOX BEAM DETAILS.
2. SEE STANDARD DRAWING DS-1-92 FOR STAINLESS STEEL DRIP STRIP DETAILS.
3. SEE ABUTMENT DIAPHRAGM DETAIL ON SHEET 6/13 .
4. DECK SLAB THICKNESS FOR CONCRETE QUANTITY: THE ESTIMATED QUANTITY OF DECK CONCRETE IS MEASURED ACCORDING TO C&MS 511. IN ADDITION TO THE DESIGN SLAB THICKNESS, THE QUANTITY INCLUDES A VARIABLE HAUNCH THICKNESS THAT PROVIDES AN ALLOWANCE FOR: VERTICAL GRADE ADJUSTMENT AND BEAM CAMBER.
5. MINIMUM LAP LENGTH: LAP NO. 6 BARS 3'-10".



DECK REINFORCING PLAN

* PLUS FIT-UPS

TYPICAL SECTION AND DECK PLAN
BRIDGE NO. PIK-CR77-0207
UNT OF BIG BEAVER CREEK

SFN	6631313
DESIGN AGENCY	OHM
DESIGNER	JH
CHECKER	JLU
REVIEWER	BLS 09/29/21
PROJECT ID	112286
SUBSET	9
TOTAL	13
SHEET	P.21
TOTAL	33

PIK-77-2.07

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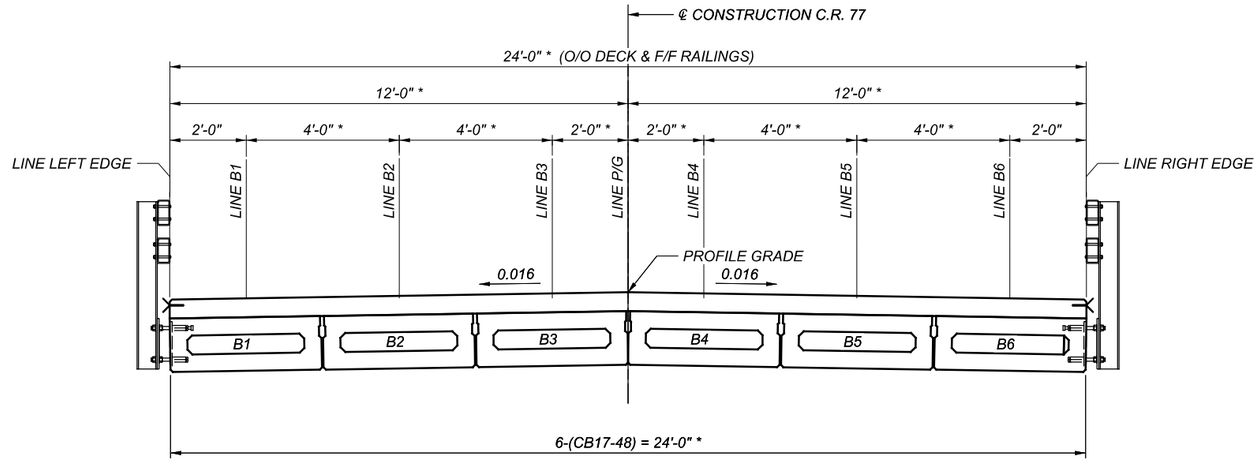
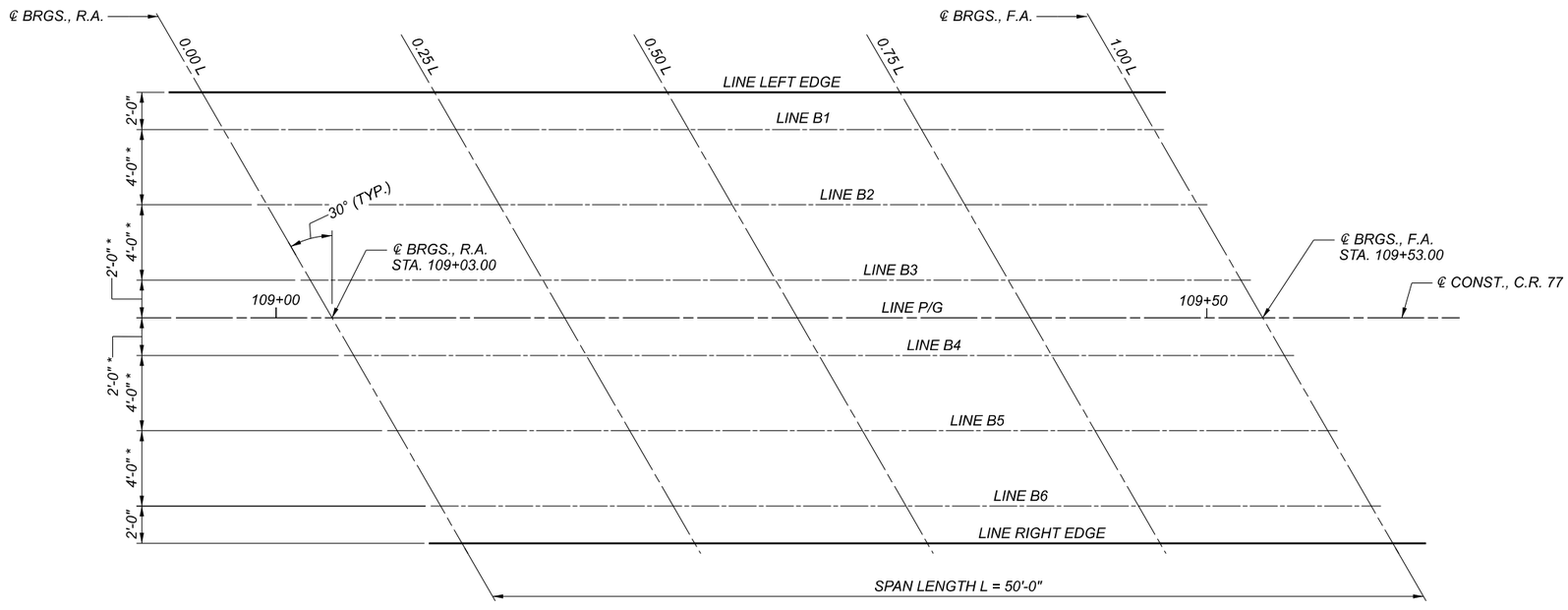


SCREED LINES LOCATION

* PLUS FIT-UPS

NOTES:

1. SEE SHEET 11/13 FOR SCREED ELEVATIONS AND FINAL DECK SURFACE ELEVATIONS.



SCREED LINES LAYOUT

* PLUS FIT-UPS

SCREED LINES LAYOUT
BRIDGE NO. PIK-CR77-0207
UNT OF BIG BEAVER CREEK

SFN	6631313
DESIGN AGENCY	OHM
DESIGNER	JH
CHECKER	JLU
REVIEWER	BLS 09/29/21
PROJECT ID	112286
SUBSET	10
TOTAL	13
SHEET	P.22
TOTAL	33

PIK-77-2.07

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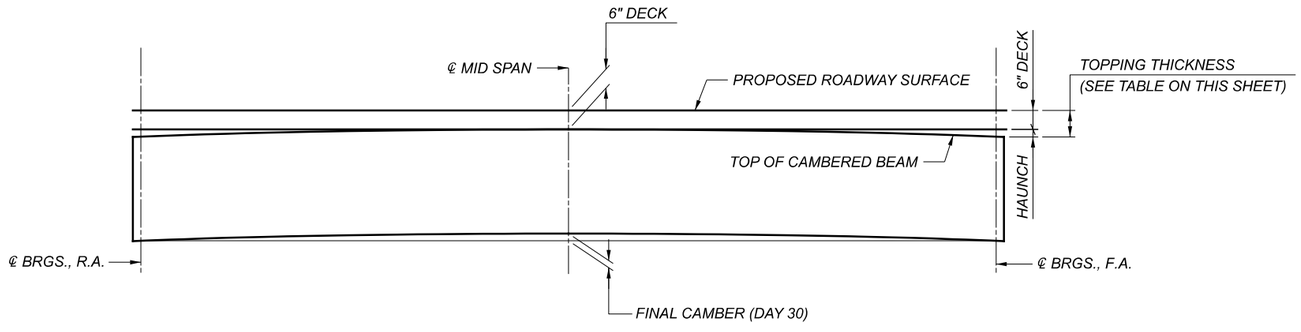
SCREED ELEVATIONS						
	LINE LEFT EDGE		LINE P/G		LINE RIGHT EDGE	
LOCATION	STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION
0.00 L	108+96.01	630.78	109+03.00	631.11	109+09.99	631.06
0.25 L	109+08.51	631.06	109+15.50	631.40	109+22.49	631.36
0.50 L	109+21.01	631.34	109+28.00	631.70	109+34.99	631.67
0.75 L	109+33.51	631.62	109+40.50	631.99	109+47.49	631.98
1.00 L	109+46.01	631.91	109+53.00	632.29	109+59.99	632.30

FINAL DECK SURFACE ELEVATIONS																		
	LINE LEFT EDGE		LINE B1		LINE B2		LINE B3		LINE P/G		LINE B4		LINE B5		LINE B6		LINE RIGHT EDGE	
LOCATION	STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION
0.00 L	108+96.01	630.78	108+97.17	630.84	108+99.50	630.95	109+01.83	631.06	109+03.00	631.11	109+04.17	631.10	109+06.50	631.09	109+08.83	631.07	109+09.99	631.06
0.25 L	109+08.51	631.03	109+09.67	631.09	109+12.00	631.20	109+14.33	631.31	109+15.50	631.37	109+16.67	631.37	109+19.00	631.35	109+21.33	631.34	109+22.49	631.33
0.50 L	109+21.01	631.30	109+22.17	631.36	109+24.50	631.48	109+26.83	631.60	109+28.00	631.66	109+29.17	631.65	109+31.50	631.64	109+33.83	631.63	109+34.99	631.63
0.75 L	109+33.51	631.59	109+34.67	631.65	109+37.00	631.78	109+39.33	631.90	109+40.50	631.96	109+41.67	631.96	109+44.00	631.96	109+46.33	631.95	109+47.49	631.95
1.00 L	109+46.01	631.91	109+47.17	631.98	109+49.50	632.10	109+51.83	632.23	109+53.00	632.29	109+54.17	632.29	109+56.50	632.29	109+58.83	632.30	109+59.99	632.30



CAMBER AND TOPPING THICKNESS

NOTES:

1. SEE SHEET 10/13 FOR SCREED LINES LAYOUT AND LOCATION.
2. SCREED ELEVATIONS SHOWN REPRESENT THE THEORETICAL DECK SURFACE LOCATION PRIOR TO DEFLECTIONS CAUSED BY DECK PLACEMENT AND OTHER ANTICIPATED DEAD LOADS.
3. FINAL DECK SURFACE ELEVATIONS SHOWN REPRESENT THE DECK SURFACE LOCATION AFTER ALL ANTICIPATED DEAD LOAD DEFLECTIONS HAVE OCCURRED.
4. AN ASSUMED WIDTH OF ½" FOR EACH FIT-UP IS USED IN CALCULATING TRANSVERSE BEAM LINE LOCATIONS FOR SCREED ELEVATIONS AND FINAL DECK SURFACE ELEVATIONS.
5. THE TOPPING THICKNESS PROVIDED IS THE SUM OF THE DESIGN DECK THICKNESS PLUS THE HAUNCH DEPTH ALONG THE BEAM CENTER LINE.
6. CAMBER (FOR ALL BEAMS):
   ESTIMATED CAMBER AT DAY 0 (D0) IS $^{15}/_{16}$".
   ESTIMATED CAMBER AT DAY 30 (D30) IS $1^{5}/_{8}$"
   DEFLECTION DUE TO REMAINING DEAD LOAD (INCLUDING CONCRETE DECK AND RAILING LOADS) IS ½".
   THE ESTIMATED DAY 30 FINAL CAMBER IS $1^{1}/_{16}$".
   THE BEAM SEAT ELEVATIONS ARE BASED ON THE ESTIMATED CAMBER DAY 30.
7. L = SPAN LENGTH.

TOPPING THICKNESS (TYP. FOR BEAMS 1-6)	
0.00 L	$7^{5}/_{8}$"
0.25 L	$6^{3}/_{8}$"
0.50 L	6"
0.75 L	$6^{3}/_{8}$"
1.00 L	$7^{5}/_{8}$"

DECK ELEVATION TABLES AND CAMBER DIAGRAM
BRIDGE NO. PIK-CR77-0207
UNT OF BIG BEAVER CREEK

SFN 6631313
DESIGN AGENCY: OHM
DESIGNER JH | CHECKER JLU
REVIEWER BLS 09/29/21
PROJECT ID 112286
SUBSET 11 | TOTAL 13
SHEET P.23 | TOTAL 33

PIK-77-2.07

MODEL: Sheet PAPERSIZE: 17x11 (in.) DATE: 7/25/2022 TIME: 8:38:38 AM USER: bswora
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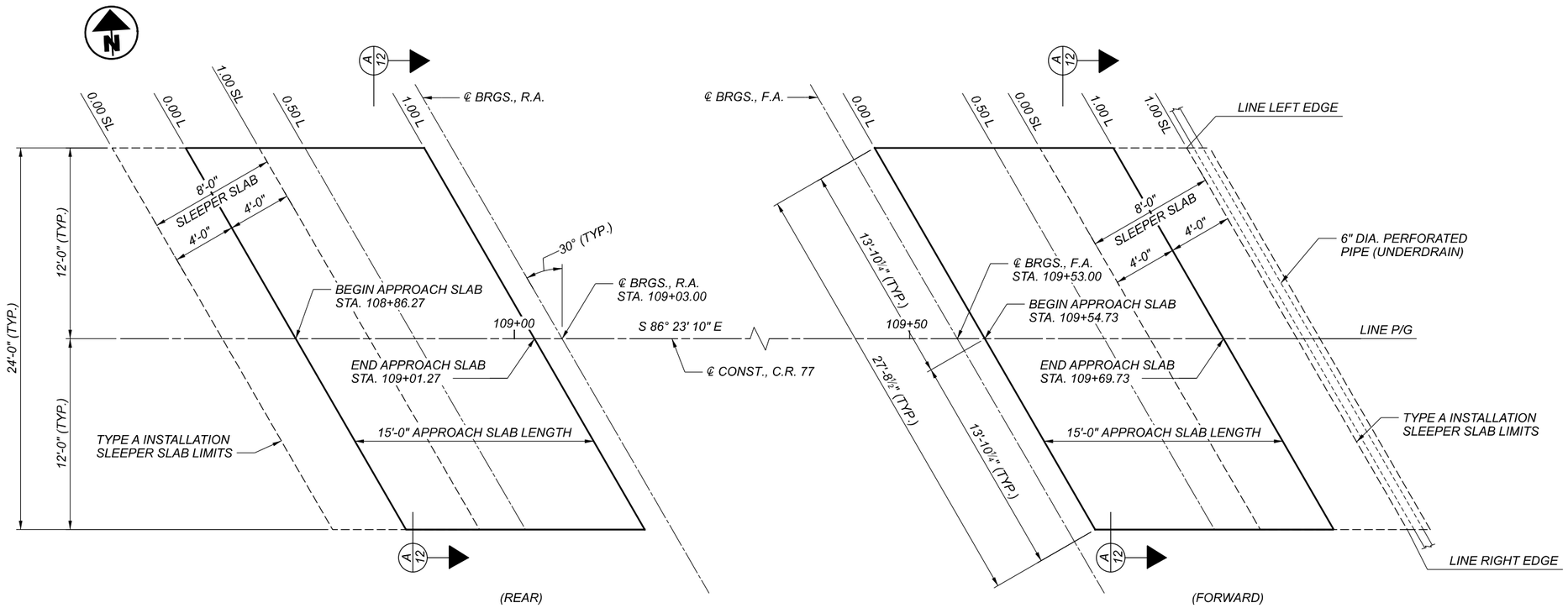


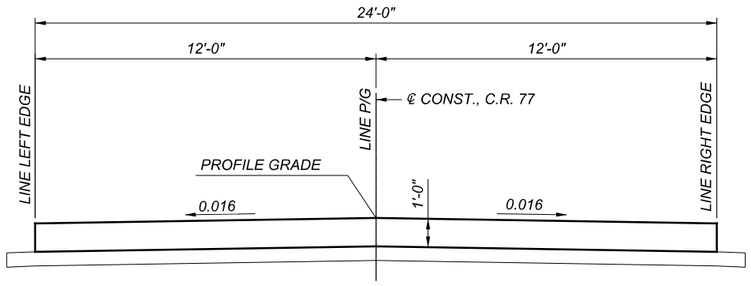
APPROACH SLAB PLAN

LEGEND:

L = APPROACH SLAB LENGTH
SL = SLEEPER SLAB LENGTH

NOTES:

1. *SEE STANDARD DRAWING AS-1-15 FOR ADDITIONAL REINFORCED CONCRETE APPROACH SLAB NOTES AND DETAILS.*
2. *SEE STANDARD DRAWING AS-2-15 FOR ADDITIONAL APPROACH SLAB INSTALLATION NOTES AND DETAILS.*
3. *SEE DRAIN DETAIL ON SHEET 6/13 FOR OUTLET PROTECTION OF SLEEPER SLAB UNDERDRAIN.*



SCREED LINE LOCATIONS (SECTION A-A)

TOP OF APPROACH SLAB ELEVATIONS

APPROACH SLAB	LOCATION	LINE LEFT EDGE		LINE P/G		LINE RIGHT EDGE	
		STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION
REAR	0.00 L	108+79.34	630.50	108+86.27	630.80	108+93.20	630.73
	0.50 L	108+86.84	630.62	108+93.77	630.94	109+00.70	630.88
	1.00 L	108+94.34	630.76	109+01.27	631.08	109+08.20	631.03
FORWARD	0.00 L	109+47.80	631.96	109+54.73	632.34	109+61.66	632.35
	0.50 L	109+55.30	632.17	109+62.23	632.56	109+69.16	632.57
	1.00 L	109+62.80	632.38	109+69.73	632.78	109+76.66	632.80

TOP OF SLEEPER SLAB ELEVATIONS

SLEEPER SLAB	LOCATION	LINE LEFT EDGE		LINE P/G		LINE RIGHT EDGE	
		STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION
REAR	0.00 SL	108+74.72	629.42	108+81.65	629.73	108+88.58	629.65
	1.00 SL	108+83.96	629.57	108+90.89	629.88	108+97.82	629.82
FORWARD	0.00 SL	109+58.18	631.25	109+65.11	631.64	109+72.04	631.65
	1.00 SL	109+67.42	631.52	109+74.35	631.92	109+81.28	631.94

APPROACH SLAB DETAILS
BRIDGE NO. PIK-CR77-0207
UNT OF BIG BEAVER CREEK

SFN 6631313
DESIGN AGENCY
OHM
DESIGNER JH | CHECKER JLU
REVIEWER BLS 02/19/22
PROJECT ID 112286
SUBSET 12 | TOTAL 13
SHEET P.24 | TOTAL 33

PIK-77-2.07

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MARK	NUMBER			LENGTH	WEIGHT (LB)	TYPE	DIMENSIONS						
	REAR	FORWARD	TOTAL				A	B	C	D	E	R	INC
ABUTMENTS													
A801	8	8	16	24'-0"	1025	STR							
A802	4	4	8	36'-0"	769	STR							
A501	43	43	86	13'-2"	1181	3	3'-8"	2'-7"					
A502	20	20	40	22'-3"	928	STR							
A503	66	66	132	6'-6"	895	STR							
A504	38	38	76	5'-7"	443	2	1'-6"	2'-10"	1'-6"				
A505	26	26	52	8'-6"	461	STR							
A506	4	4	8	6'-7"	55	STR							
			4 SR	5'-6"				2'-9"					
A511	4	4	OF	TO	47	2	1'-6"	TO	1'-6"				0'-4"
			2	5'-10"				3'-1"					
			4 SR	5'-5"				2'-8 "					
A512	6	6	OF	TO	70	2	1'-6"	TO	1'-6"				0'-2 ,"
			3	5'-10"				3'-1"					
			4 SR	3'-11"									0'-6"
A513	8	8	OF	TO	76	STR							
			4	5'-6"									
A514	4	4	8	5'-4"	22	STR							
A515	4	4	8	3'-11"	33	STR							
A516	14	14	28	4'-5"	129	2	1'-0"	2'-8"	1'-0"				

RIGHT OF WAY
LEGEND SHEET
PIK-CR 77-2.07

PIKE COUNTY
UNION TOWNSHIP
SEC. 7, T. 5 N, R. 20 W

LOCATION MAP

LATITUDE: 39°01'02" N LONGITUDE: 82°52'44" W

N

UTILITY OWNERS		UTILITY OWNERS	
TYPE	NAME & ADDRESS	TYPE	NAME & ADDRESS
TELECOM	FRONTIER COMMUNICATIONS MS. DENA MARTIN 1315 ALBERT STREET PORTSMOUTH, OHIO 45662 (740)354-0521	CATV	CHARTER COMMUNICATIONS MR. JIM DEEDS 32 ENTERPRISE DRIVE CHILLICOTHE, OHIO 45601 (740)503-2861
ELECTRIC	AEP 850 TECH CENTER DRIVE GAHANNA, OHIO, 43230 (614)883-6831		
WATER	SCIOTO WATER P.O. BOX 1001 FRANKLIN FURNACE, OHIO 45629 (740)354-9205		

NOTES: THE LOCATION OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE OBTAINED FROM THE OWNER OF THE UTILITIES AS REQUIRED BY SECTION 153.64 O.R.C.

CONVENTIONAL SYMBOLS

County Line
Township Line
Section Line
Corporation Line ... or ...
Fence Line (Ex) ... (Pr)
Center Line
Right of Way (Ex) ... Ex R/W
Right of Way (Pr) ... R/W
Standard Highway Ease.(Ex) ... Ex SH
Standard Highway Ease.(Pr) ... SH
Temporary Right of Way ... TMP
Channel Ease. (Pr) ... CH
Utility Ease. (Ex) ... Ex U
Railroad ... or ...
Guardrail (Ex) ... (Pr)
Construction Limits
Edge of Pavement (Ex)
Edge of Pavement (Pr)

Edge of Shoulder (Ex)
Edge of Shoulder (Pr)
Ditch / Creek (Ex)
Ditch / Creek (Pr)
Tree Line (Ex)
Ownership Hook Symbol , Example
Property Line Symbol , Example
Break Line Symbol , Example
Tree (Pr), Tree (Ex), Shrub (Ex)
Tree (Remove) , Shrub (Remove)
Evergreen (Ex) , Stump
Evergreen (Remove) , Stump (Remove)
Wetland (Pr) , Grass (Pr) , Aerial Target
Post (Ex) , Mailbox (Ex) , Mailbox (Pr)
Light (Ex) , Telephone Marker (Ex) TEL
Fire Hydrant (Ex) , Water Meter (Ex)
Water Valve (Ex) , Utility Valve Unknown (Ex.)
Telephone Pole (Ex) , Power Pole (Ex)
Light Pole (Ex)

INDEX OF SHEETS:

LEGEND SHEET	1
CENTERLINE PLAT	2
PROPERTY MAP	3
SUMMARY OF ADDITIONAL R/W	4
R/W DETAIL	5

PROJECT DESCRIPTION

IMPROVEMENT OF CR 77 (ADAMS ROAD) BY REPLACEMENT OF THE DEFICIENT STRUCTURE OVER A TRIBUTARY OF BIG BEAVER CREEK, INCLUDING ROADWAY APPROACH WORK WITH NEW GUARDRAILS

THE EXISTING AND PROPOSED RIGHT OF WAY SHALL BE REFERENCED FROM THE CENTERLINE OF THE RIGHT OF WAY.

PLANS PREPARED BY:

FIRM NAME : OHM ADVISORS
R/W DESIGNER: BECKY SWORA
R/W REVIEWER: JOHN RAAB
FIELD REVIEWER: RYAN KING
PRELIMINARY FIELD REVIEW DATE: 3/29/2021
TRACINGS FIELD REVIEW DATE:
OWNERSHIP UPDATED BY: STEPHANIE HICKEY
DATE COMPLETED: 3/29/2021
PLAN COMPLETION DATE:

TYPES OF TITLE LEGEND:

SH = STANDARD HIGHWAY EASEMENT

STRUCTURE KEY

RESIDENTIAL
COMMERCIAL
OUT-BUILDING

I, JOHN J. RAAB, P. S. have conducted a survey of the existing conditions for Pike County in March, 2020. The results of that survey are contained herein. The horizontal coordinates expressed herein are based on the Ohio State Plane Coordinates system NAD 83 (2011), South Zone, Grid Coordinates. The Project Adjustment Factor used for this project is 1.000025761. As a part of this project I have reestablished the locations of the existing property lines and centerline of existing Right of Way for property takes contained herein.

As a part of this project, I have established the proposed property lines, calculated the Gross Take, Present Roadway Occupied (PRO), Net Take and Net Residue; as well as prepared the legal descriptions necessary to acquire these parcels as shown herein. As a part of this work I have set right of way monuments at the property corners, property line intersections, points along the right of way and/or angle points on the right of way, Section Corners and other points as shown herein. All of my work contained herein was conducted in accordance with Ohio Administrative Code 4733-37 commonly known as "Minimum Standards for Boundary Surveys in the State of Ohio" unless noted. The words I and my as used herein are to mean either myself or someone working under my direct supervision.

JOHN J. RAAB, Professional Land Surveyor No. 7863, Date:

SURVEYORS SEAL

RIGHT OF WAY
LEGEND SHEET

DESIGN AGENCY
OHM

DESIGNER BLS
REVIEWER JJR 01/08/21
PROJECT ID 112286
SUBSET 1 | TOTAL 5
SHEET P.26 | TOTAL 33

PIK-77-2.07

MODEL: Sheet PAPERSIZE: 17x11 (in.) DATE: 7/25/2022 TIME: 8:38:41 AM USER: bswora
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PIKE COUNTY
UNION TOWNSHIP
SEC. 7, T. 5 N, R. 20 W

MONUMENT LEGEND

- ○I.P.F. IRON PIN FOUND
- ①I.P.F. IRON PIN FOUND W/ ID CAP
- ○M.N.F. MAG NAIL FOUND
- ⌭SPK FD RAILROAD SPIKE FOUND
- ⊙P.S. IRON PIPE SET 3/4" I.D. IRON PIPE 30" LONG WITH A YELLOW CAP STAMPED "OHM"

BASIS FOR BEARINGS:

ALL BEARINGS SHOWN ARE FOR PROJECT USE ONLY.

BEARINGS SHOWN HEREON ARE BASED ON THE OHIO STATE PANE COORDINATE SYSTEM, SOUTH ZONE (GRID) AND NORTH AMERICAN DATUM ON 1983 (2011), AS ESTABLISHED BY A SURVEY PERFORMED BY OHM ADVISORS.

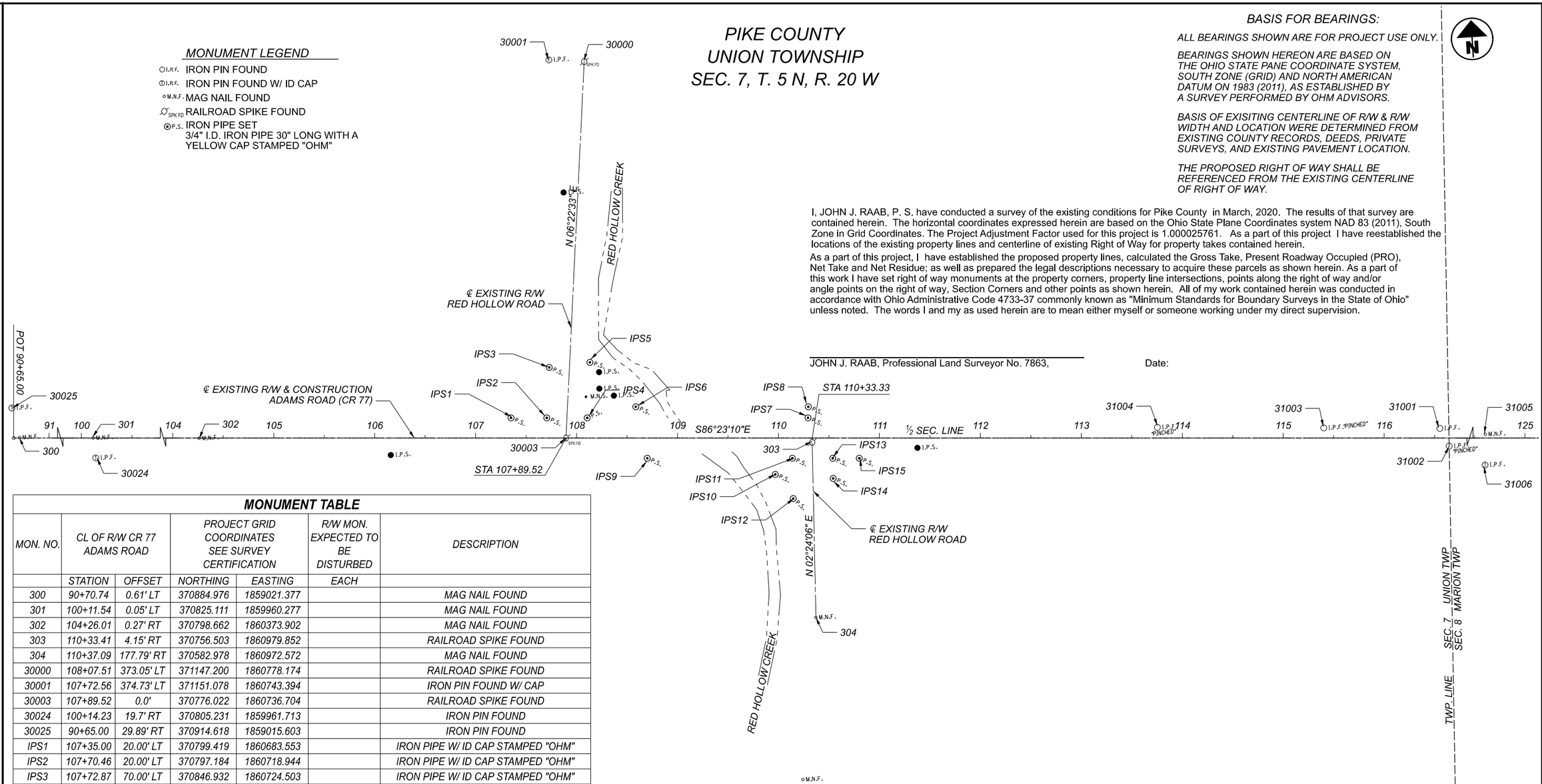
BASIS OF EXISITING CENTERLINE OF R/W & R/W WIDTH AND LOCATION WERE DETERMINED FROM EXISTING COUNTY RECORDS, DEEDS, PRIVATE SURVEYS, AND EXISTING PAVEMENT LOCATION.

THE PROPOSED RIGHT OF WAY SHALL BE REFERENCED FROM THE EXISTING CENTERLINE OF RIGHT OF WAY.

I, JOHN J. RAAB, P. S. have conducted a survey of the existing conditions for Pike County in March, 2020. The results of that survey are contained herein. The horizontal coordinates expressed herein are based on the Ohio State Plane Coordinates system NAD 83 (2011), South Zone in Grid Coordinates. The Project Adjustment Factor used for this project is 1.000025761. As a part of this project I have reestablished the locations of the existing property lines and centerline of existing Right of Way for property takes contained herein.

As a part of this project, I have established the proposed property lines, calculated the Gross Take, Present Roadway Occupied (PRO), Net Take and Net Residue; as well as prepared the legal descriptions necessary to acquire these parcels as shown herein. As a part of this work I have set right of way monuments at the property corners, property line intersections, points along the right of way and/or angle points on the right of way, Section Corners and other points as shown herein. All of my work contained herein was conducted in accordance with Ohio Administrative Code 4733-37 commonly known as "Minimum Standards for Boundary Surveys in the State of Ohio" unless noted. The words I and my as used herein are to mean either myself or someone working under my direct supervision.

JOHN J. RAAB, Professional Land Surveyor No. 7863, Date:



MONUMENT TABLE

MON. NO.	CL OF R/W CR 77 ADAMS ROAD		PROJECT GRID COORDINATES SEE SURVEY CERTIFICATION		R/W MON. EXPECTED TO BE DISTURBED	DESCRIPTION
	STATION	OFFSET	NORTHING	EASTING	EACH	
300	90+70.74	0.61' LT	370884.976	1859021.377		MAG NAIL FOUND
301	100+11.54	0.05' LT	370825.111	1859960.277		MAG NAIL FOUND
302	104+26.01	0.27' RT	370798.662	1860373.902		MAG NAIL FOUND
303	110+33.41	4.15' RT	370756.503	1860979.852		RAILROAD SPIKE FOUND
304	110+37.09	177.79' RT	370582.978	1860972.572		MAG NAIL FOUND
30000	108+07.51	373.05' LT	371147.200	1860778.174		RAILROAD SPIKE FOUND
30001	107+72.56	374.73' LT	371151.078	1860743.394		IRON PIN FOUND W/ CAP
30003	107+89.52	0.0'	370776.022	1860736.704		RAILROAD SPIKE FOUND
30024	100+14.23	19.7' RT	370805.231	1859961.713		IRON PIN FOUND
30025	90+65.00	29.89' RT	370914.618	1859015.603		IRON PIN FOUND
IPS1	107+35.00	20.00' LT	370799.419	1860683.553		IRON PIPE W/ ID CAP STAMPED "OHM"
IPS2	107+70.46	20.00' LT	370797.184	1860718.944		IRON PIPE W/ ID CAP STAMPED "OHM"
IPS3	107+72.87	70.00' LT	370846.932	1860724.503		IRON PIPE W/ ID CAP STAMPED "OHM"
IPS4	108+10.51	20.00' LT	370794.659	1860758.911		IRON PIPE W/ ID CAP STAMPED "OHM"
IPS5	108+13.16	75.00' LT	370849.383	1860765.026		IRON PIPE W/ ID CAP STAMPED "OHM"
IPS6	108+58.63	31.00' LT	370802.604	1860807.633		IRON PIPE W/ ID CAP STAMPED "OHM"
IPS7	110+29.25	20.00' LT	370780.871	1860977.218		IRON PIPE W/ ID CAP STAMPED "OHM"
IPS8	110+29.54	31.00' LT	370791.831	1860978.199		IRON PIPE W/ ID CAP STAMPED "OHM"
IPS9	108+70.00	20.00' RT	370750.989	1860815.763		IRON PIPE W/ ID CAP STAMPED "OHM"
IPS10	109+96.84	36.00' RT	370727.026	1860941.339		IRON PIPE W/ ID CAP STAMPED "OHM"
IPS11	110+13.75	20.00' RT	370741.928	1860959.223		IRON PIPE W/ ID CAP STAMPED "OHM"
IPS12	110+14.59	60.00' RT	370701.954	1860957.546		IRON PIPE W/ ID CAP STAMPED "OHM"
IPS13	110+53.75	20.00' RT	370739.406	1860999.153		IRON PIPE W/ ID CAP STAMPED "OHM"
IPS14	110+54.18	40.00' RT	370719.419	1860998.314		IRON PIPE W/ ID CAP STAMPED "OHM"
IPS15	110+80.00	20.00' RT	370737.752	1861025.346		IRON PIPE W/ ID CAP STAMPED "OHM"
31001	116+55.16	9.63' LT	370731.068	1861601.232		IRON PIN FOUND, "PINCHED"
31002	116+64.41	7.99' RT	370712.898	1861609.347		IRON PIN FOUND, "PINCHED"
31003	115+40.17	10.07' LT	370738.758	1861486.501		IRON PIN FOUND, "PINCHED"
31004	113+75.32	10.51' LT	370749.584	1861322.004		IRON PIN FOUND, "PINCHED"
31005	124+60.77	3.78' LT	370674.451	1862404.864		MAG NAIL FOUND
31006	124+60.50	26.6' RT	370644.061	1862402.677		IRON PIN FOUND

SETTING OF ALL MONUMENTS SHALL BE PERFORMED BY A SURVEYOR REGISTERED IN THE STATE OF OHIO. THE MONUMENT ASSEMBLIES AND REFERENCE MONUMENTS WILL BE INSTALLED BY THE CONTRACTOR AT THE TIME OF CONSTRUCTION. THE IRON PIN AND CAP (WHEN REQUIRED) ARE TO BE INSTALLED BY THE CONTRACTOR'S SURVEYOR.

CHANGES OR ALTERATIONS TO THE LOCATION OF ANY MONUMENTS SHOWN IN THIS TABLE, REQUIRE PRIOR APPROVAL FROM THE DISTRICT REAL ESTATE ADMINISTRATOR OF THE OHIO DEPARTMENT OF TRANSPORTATION. IN THE EVENT THAT CHANGES OR ALTERATIONS ARE APPROVED, A REVISED CENTERLINE PLAT WITH THE NEW LOCATIONS SHALL BE RECORDED IN THE APPLICABLE COUNTY RECORDS AND THE OHIO DEPARTMENT OF TRANSPORTATION. SPECIFICATIONS FOR MONUMENT ASSEMBLIES, REFERENCE MONUMENTS AND RIGHT OF WAY MONUMENTS ARE SHOWN ON STANDARD CONSTRUCTION DRAWING RM-1.1.

SURVEYORS SEAL

RECEIVED _____, 20 ____
RECORDED _____, 20 ____
BOOK _____ PAGE _____
COUNTY RECORDER

CENTERLINE PLAT

DESIGN AGENCY
OHM

DESIGNER	BLS
REVIEWER	JJR 01/08/21
PROJECT ID	112286
SUBSET	2
TOTAL	5
SHEET	P.27
TOTAL	33

PIK-77-2.07

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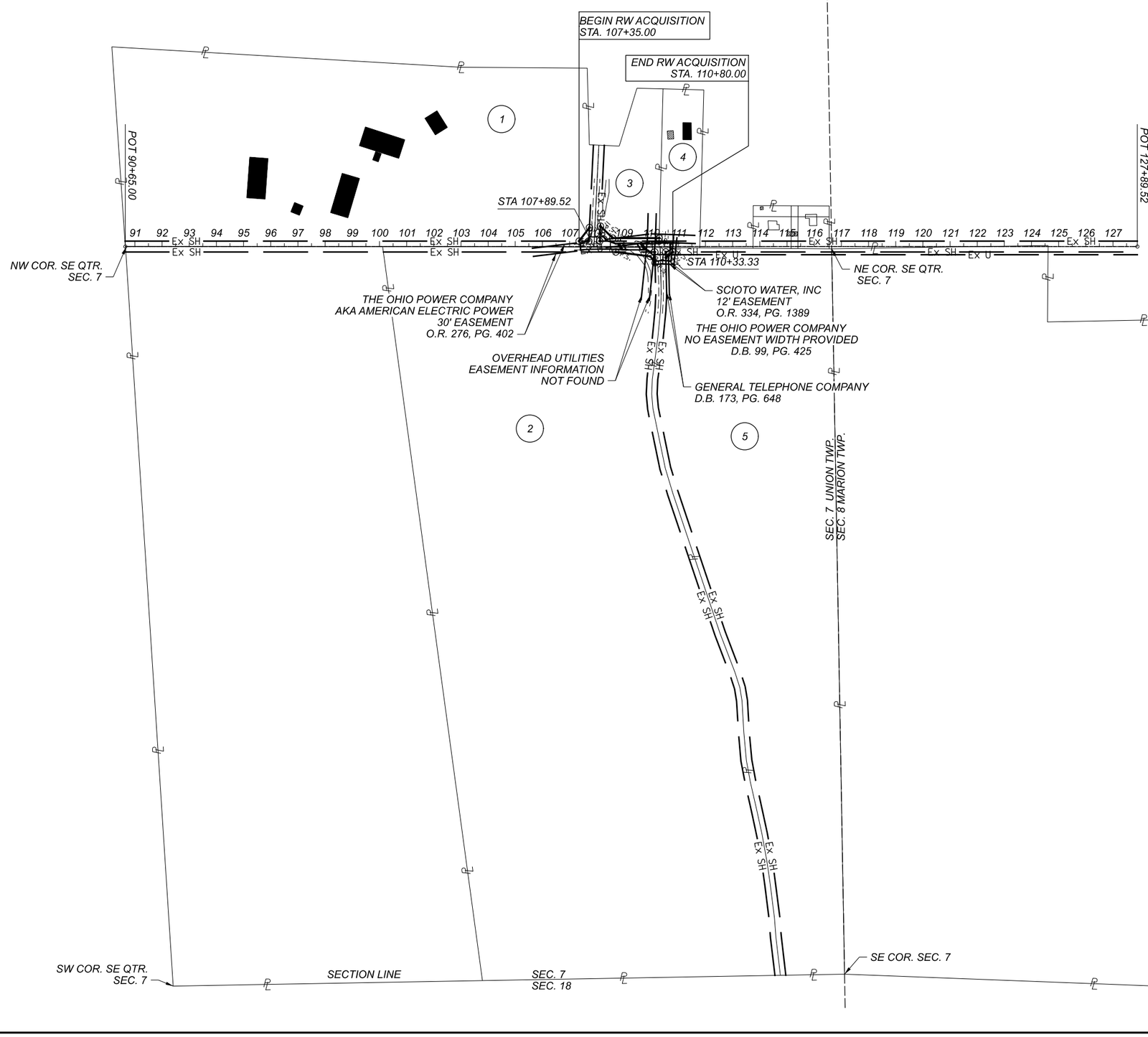
PIKE COUNTY
UNION TOWNSHIP
SEC. 7, T. 5 N, R. 20 W



OWNER NAME AND NUMBER

1. TURBULENT AIR, INC
   PARCEL ID 250-17700-0000
2. NORMAN SWAREY AND EVA SWAREY
   PARCEL ID 250-48200-0000
3. ERIC R. SULLIVAN AND MICHELLE E. SULLIVAN
   PARCEL ID 250-00700-0000
4. VETERANS OF FOREIGN WARS, POST 9942
   PARCEL ID 250-55900-0000
5. TURBULENT AIR INC
   PARCEL ID 250-48101-0000

PROPERTY MAP

REV. BY	DATE	DESCRIPTION
DATE COMPLETED		

DESIGN AGENCY
OHM

DESIGNER	BLS
REVIEWER	JJR 01/08/21
PROJECT ID	112286
SUBSET	3
TOTAL	5
SHEET	P.28
TOTAL	33

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TOTAL NUMBER OF :

4 OWNERSHIPS
4 PARCELS
0 TOTAL TAKES
0 OWNERSHIPS W/ STRUCTURES INVOLVED

NET RESIDUE = RECORD AREA - TOTAL PRO - NET TAKE
NET TAKE = GROSS TAKE - PRO IN TAKE

GRANTEE:

ALL RIGHT OF WAY ACQUIRED IN THE NAME OF THE
BOARD OF PIKE COUNTY COMMISSIONERS OF PIKE COUNTY, OHIO
UNLESS OTHERWISE SHOWN.

PARCEL NO.	OWNER	SHEET NO.	OWNERS RECORD	AUDITOR'S PARCEL	RECORD AREA	TOTAL P.R.O.	GROSS TAKE	P.R.O. IN TAKE	NET TAKE	STRUC-TURE	NET RESIDUE		TYPE FUND	REMARKS	AS ACQUIRED	
											LEFT	RIGHT			INSTRUMENT	NUMBER
1-SH	TURBULENT AIR, INC	5	OR 189, PG 794	250-17700-0000	27.474	0.966	0.020	0.000	0.020		26.488		100% COUNTY	TO INCLUDE ROAD AND DITCH ENCROACHMENT AT INTERSECTION		
2-SH	NORMAN SWAREY AND EVA SWAREY	5	OR 353, PG 93	250-48200-0000	64.216	1.687	0.034	0.000	0.034			62.495	100% COUNTY	EXISTING INTERSECTION PAVEMENT TO CONSTRUCT GUARDRAIL, TO COMPLETE GRADING		
3-SH	ERIC R. SULLIVAN AND MICHELLE E. SULLIVAN	5	OR 4, PG 551	250-00700-0000	3.000	0.290	0.079	0.000	0.079		2.631		100% COUNTY	EXISTING INTERSECTION PAVEMENT TO CONSTRUCT GUARDRAIL, TO COMPLETE GRADING		
4	VETERANS OF FOREIGN WARS, POST 9942	5	DB 171, PG 883	250-55900-0000	2.000									NO TAKE		
5-SH	TURBULENT AIR, INC	5	OR 312, PG 178	250-48101-0000	21.343	1.452	0.006	0.000	0.006			19.885	100% COUNTY	TO INCLUDE ROAD AND DITCH ENCROACHMENT AT INTERSECTION		

TYPES OF TITLE LEGEND:
SH = STANDARD HIGHWAY EASEMENT

** DENOTES RIGHT OF WAY ENCROACHMENT*

REV. BY	DATE	DESCRIPTION

DATE COMPLETED

SUMMARY OF ADDITIONAL RIGHT OF WAY

DESIGN AGENCY
OHM

DESIGNER: BLS
REVIEWER: JJR 01/08/21
PROJECT ID: 112286
SUBSET: 4 TOTAL: 5
SHEET: P.29 TOTAL: 33

PIK-77-2.07

MODEL: Sheet PAPERSIZE: 17x11(in.) DATE: 7/25/2022 TIME: 8:38:48 AM USER: bswor a
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PIKE COUNTY
UNION TOWNSHIP
SEC. 7, T. 5 N, R. 20 W

HORIZONTAL SCALE IN FEET
0 10 20 40

RIGHT OF WAY PLAN
STA. 107+00.00 TO STA. 112+00.00

1
TURBULENT AIR, INC
1881 ADAMS RD
BEAVER, OHIO 45613
O.R. 189, PG. 794
PARCEL ID 250177000000
27.474 ACRE

3
ERIC C. SULLIVAN AND MICHELLE E. SULLIVAN
N SIDE OF ADAMS RD C-77
BEAVER, OHIO 45613
O.R. 4, PG. 551
PARCEL ID 250007000000
3.00 ACRE

4
VETERANS OF FOREIGN WARS, POST 9942
2081 ADAMS RD
BEAVER, OHIO, 45613
D.B. 171 PG. 883
PARCEL ID 250559000000
2.00 ACRE

2
NORMAN SWAREY AND EVA SWAREY
1786 RED HOLLOW/ADAMS RD
BEAVER, OHIO 45613
O.R. 353. PG. 93
PARCEL ID 250482000000
64.216 ACRE

5
TURBULENT AIR, INC
RED HOLLOW RD
BEAVER, OHIO 45613
O.R. 312, PG. 172
PARCEL ID 250481010000
21.343 ACRE

	BEARING	DISTANCE
L1	S 86°23'10" E	26.25'
L2	S 55°51'18" W	32.66'
L3	N 02°24'06" E	20.00'
L4	S 03°58'44" W	15.72'
L5	N 05°06'54" E	24.13'

REV. BY	DATE	DESCRIPTION
DATE COMPLETED		

DESIGN AGENCY: OHM
DESIGNER: BLS
REVIEWER: JJR 01/08/21
PROJECT ID: 112286
SUBSET: 5 TOTAL: 5
SHEET: P.30 TOTAL: 33

PIK-77-2.07

MODEL: Plan (Sheet) PAPERSIZE: 17x11(in.) DATE: 1/25/2022 TIME: 8:38:49 AM USER: bswor
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PROJECT DESCRIPTION

REPLACE EXISTING SINGLE SPAN BRIDGE OVER TRIBUTARY OF BIG BEAVER CREEK IN UNION TOWNSHIP, PIKE COUNTY, OHIO.

HISTORIC RECORDS

ODOT'S ONLINE HISTORIC BORING DATABASE WAS SEARCHED FOR HISTORIC BORING RECORDS NEAR THE EXISTING STRUCTURE, HOWEVER NO SUCH RECORDS EXISTED.

GEOLOGY

SOILS OF PIKE COUNTY CONSIST OF GLACIAL, COLLUVIAL AND ALLUVIAL DEPOSITS OVERLYING A SEQUENCE OF RELATIVELY HORIZONTALLY BEDDED SEDIMENTARY ROCKS. PIKE COUNTY IS LOCATED IN THE DISSECTED PART OF THE OLD APPALACHIAN PLATEAU. THE SOIL DEPOSITS ARE UNDERLAIN BY MISSISSIPPIAN AGE SEDIMENTARY ROCK IDENTIFIED AS THE LOGAN AND CUYAHOGA FORMATIONS UNDIVIDED. THESE FORMATIONS CONSIST OF SANDSTONE, SILTSTONE AND MINOR SHALE; SHALE INTERBEDDED WITH MINOR SANDSTONE AND SILTSTONE GRADING TO MASSIVE SANDSTONE, RESPECTIVELY. DEPTH TO BEDROCK IN THE IMMEDIATE PROJECT AREA IS LESS THAN 20 FEET BELOW THE GROUND SURFACE.

RECONNAISSANCE

A FIELD RECONNAISSANCE WAS PERFORMED BY CTL PERSONNEL ON MARCH 6, 2020. THE SITE IS LOCATED WHERE A TRIBUTARY OF BEAVER CREEK FLOWS FROM SOUTH TO NORTH BENEATH ADAMS ROAD. THE TOPOGRAPHY IN THE SURROUNDING AREA IS RELATIVELY FLAT TO GENTLY SLOPING, WHILE THE GROUND SURFACE ADJACENT TO THE STREAM SLOPES STEEPLY DOWNWARD IN THE IMMEDIATE AREA OF THE BRIDGE. ALONG THE STREAM IN THE IMMEDIATE AREA OF THE BRIDGE THE AREA IS WOODED WITH PASTURE OR FARMLAND LOCATED BEYOND THE TREE LINES. THE EXISTING BRIDGE ABUTMENTS WERE PLACED ON CONCRETE FOUNDATIONS. EROSION PROTECTION AT THE ABUTMENTS WAS NOT OBSERVED.

SUBSURFACE EXPLORATION

A TOTAL OF TWO (2) TEST BORINGS, IDENTIFIED AS B-001-0-20 AND B-002-0-20 WERE COMPLETED AS PART OF THIS SUBSURFACE EXPLORATION. THE TEST BORINGS WERE EACH DRILLED TO A DEPTH OF 30 FEET.

THE TEST BORINGS WERE DRILLED WITH A TRUCK-MOUNTED ROTARY DRILL RIG USING 3-1/4 INCH I.D. HOLLOW-STEM AUGERS. DISTURBED SOIL SAMPLES WERE OBTAINED IN ACCORDANCE WITH THE STANDARD PENETRATION TEST (AASHTO T206) UTILIZING SAMPLING AT 2.5 TO 5-FOOT INTERVALS. THE HAMMER WAS CALIBRATED ON MARCH 10, 2020 AND HAD A DRILL ROD ENERGY RATIO OF 79.7%.

EXPLORATION FINDINGS

MEDIUM STIFF TO HARD, FINE GRAINED SOILS (A-4a, A-6a, A-6b AND A-7-6) AND MEDIUM DENSE, COARSE GRAINED SOILS (A-2-6) WERE ENCOUNTERED IN THE TEST BORINGS.

ROCK CORING WAS PERFORMED IN BOTH TEST BORINGS. THE RECOVERED ROCK WAS DESCRIBED AS SHALE. THE SHALE WAS DESCRIBED AS DARK GRAY IN COLOR, SEVERELY TO SLIGHTLY WEATHERED, VERY WEAK, THINLY LAMINATED FISSILE. ROCK QUALITY DESIGNATION (RQD) VALUES WERE DETERMINED AND RANGED FROM 68 TO 90 PERCENT WITH CORE LOSS VALUES RANGING OF 0 PERCENT.

GROUNDWATER WAS ENCOUNTERED IN TEST BORINGS B-001-0-20 AND B-002-0-20 DURING DRILLING AT DEPTHS OF 4.0 FEET AND 9.3 FEET (ELEVATIONS 623.7 FEET AND 627.3 FEET), RESPECTIVELY.

SPECIFICATIONS

THIS GEOTECHNICAL EXPLORATION WAS PERFORMED IN ACCORDANCE WITH THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, OFFICE OF GEOTECHNICAL ENGINEERING, SPECIFICATIONS FOR GEOTECHNICAL EXPLORATIONS, DATED JANUARY 2020.

AVAILABLE INFORMATION

THE SOIL, BEDROCK, AND GROUNDWATER INFORMATION COLLECTED FOR THIS SUBSURFACE EXPLORATION THAT CAN BE CONVENIENTLY DISPLAYED ON THE SOIL PROFILE SHEETS HAS BEEN PRESENTED. GEOTECHNICAL REPORTS, IF PREPARED, ARE AVAILABLE FOR REVIEW ON THE OFFICE OF CONTRACT SALES WEBSITE

LEGEND

DESCRIPTION	ODOT CLASS	CLASSIFIED MECH./VISUAL	
GRAVEL AND/OR STONE FRAGMENTS W/SAND, SILT & CLAY	*A-2-6*	*0*	*2*
SANDY SILT	*A-4a*	*3*	*0*
SILT AND CLAY	*A-6a*	*3*	*0*
CLAY	*A-7-6*	*0*	*7*
	TOTAL	*6*	*9*
SHALE	*VISUAL*		
PAVEMENT OR BASE = X = APPROXIMATE THICKNESS	*VISUAL*		

EXPLORATION LOCATION - PLAN VIEW

DRIVE SAMPLE AND/OR ROCK CORE BORING PLOTTED TO VERTICAL SCALE ONLY. HORIZONTAL BAR INDICATES A CHANGE IN STRATIGRAPHY.

WC INDICATES WATER CONTENT IN PERCENT.

N_{60} INDICATES STANDARD PENETRATION RESISTANCE NORMALIZED TO 60% DRILL ROD ENERGY RATIO.

X/Y/D" NUMBER OF BLOWS FOR STANDARD PENETRATION TEST (SPT): X= NUMBER OF BLOWS FOR 6 INCHES (UNCORRECTED).

W— INDICATES FREE WATER ELEVATION.

TR INDICATES TOP OF ROCK.

D_{50} VALUES			
BORING NO.	SAMPLE NO.	ELEVATION	D_{50} VALUE (mm)
B-001-0-20	SS-6	622.8 - 621.3	0.2148
	SS-7	621.3 - 619.8	0.0573
	SS-8	619.8 - 618.3	0.1107
	SS-9	618.3 - 616.8	0.0146

LOCATION MAP

SCALE IN MILES

0 1 2 3 4

N

PARTICLE SIZE DEFINITIONS

12"	3"	2.0 mm	0.42 mm	0.074 mm	0.005 mm
BOULDERS	COBBLES	GRAVEL	COARSE SAND	FINE SAND	SILT	CLAY
		No. 10 SIEVE	No. 40 SIEVE	No. 200 SIEVE		

RECON. - DB 03/06/2020
DRILLING - CTL ENGINEERING INC. 03/16/2020
DRAWN - NKS 07/28/2020
REVIEWED - SM 07/28/2020

CTL ENGINEERING, INC.
2860 FISHER ROAD
COLUMBUS, OHIO 43204
PHONE:(614)276-8123 FAX:(614)276-6377

PID NO. 112286

SOIL PROFILE - BRIDGE
BRIDGE NO. PIK-CR77-2.07
OVER TRIBUTARY OF BIG BEAVER CREEK

PIK-CR77-2.07

1 / 3

31
33

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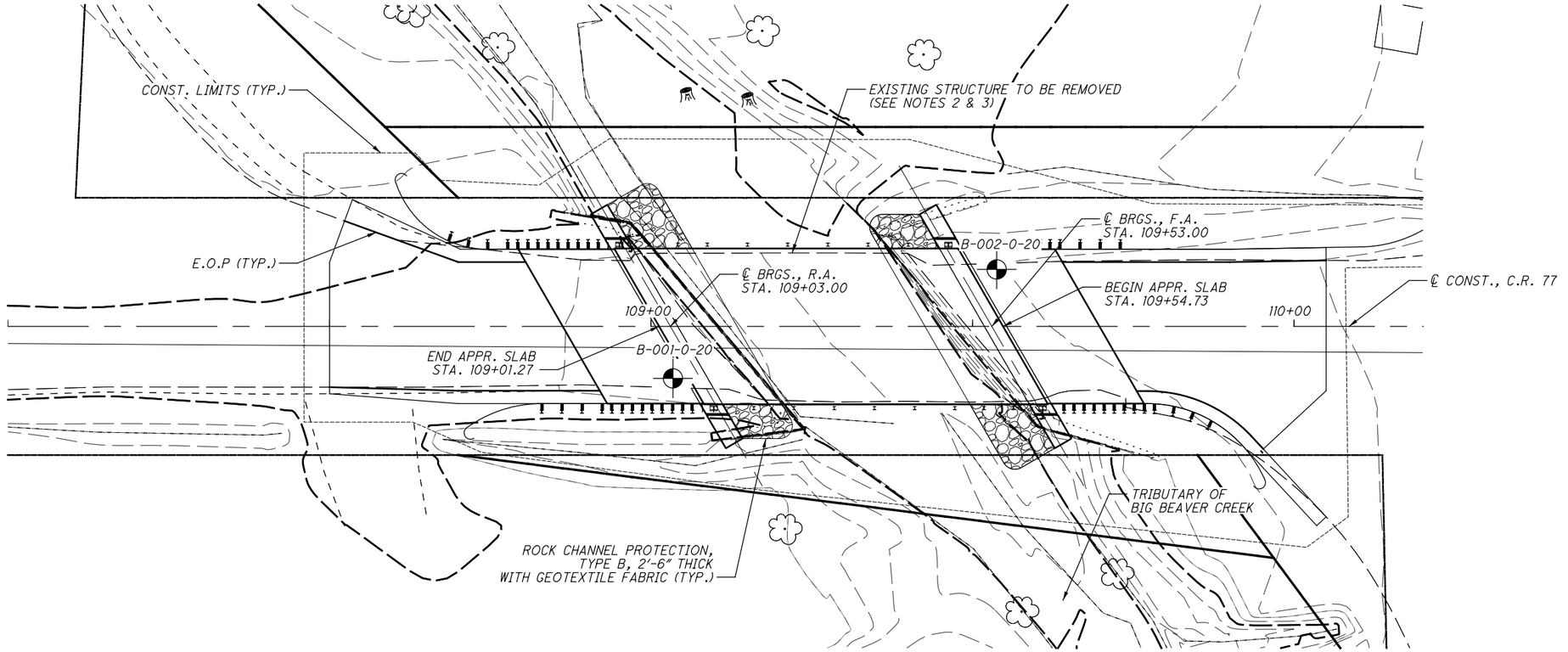

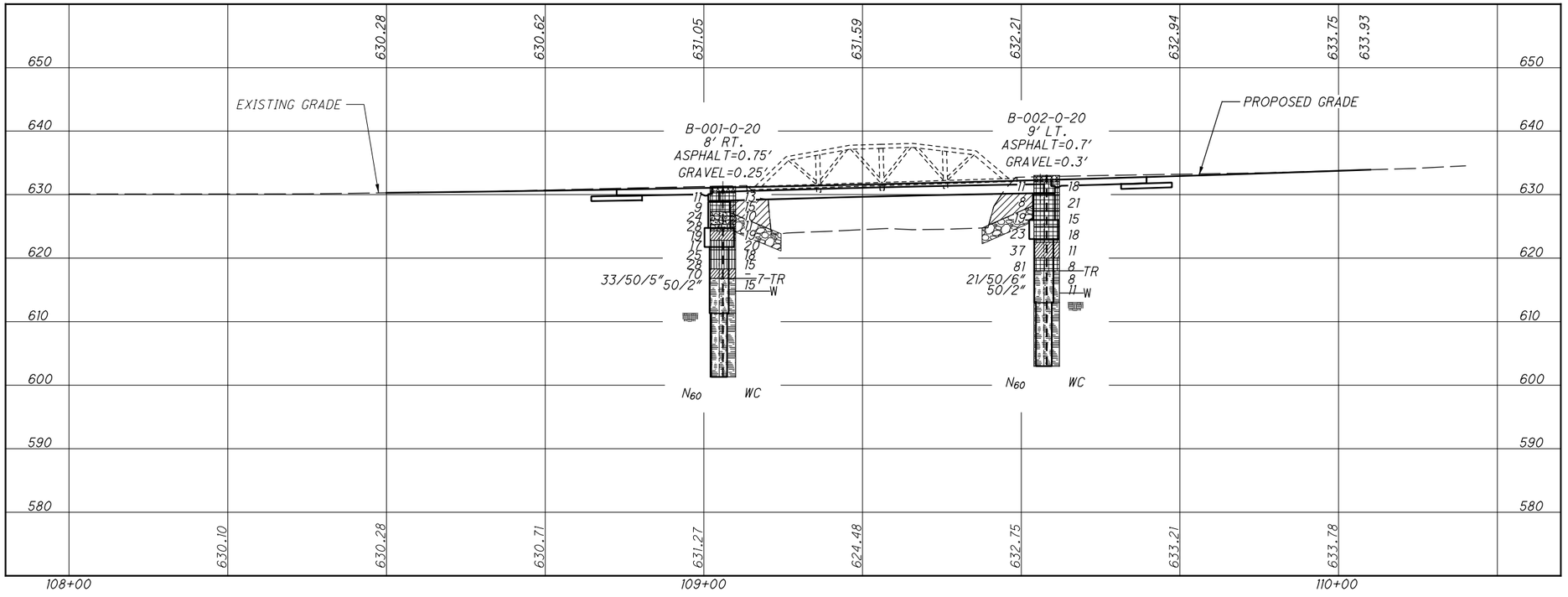

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HORIZONTAL SCALE IN FEET
0 5 10 20

DRAWN N.K.S
CHECKED SM

SOIL PROFILE - BRIDGE
BRIDGE NO. PIK-CR77-2.07
OVER TRIBUTARY OF BIG BEAVER CREEK

PIK-CR77-2.07

2 / 3

32
33

PROJECT: PIK-CR77-2.07 BRIDGE | DRILLING FIRM / OPERATOR: CTL / DS | DRILL RIG: CME 550/ #349 | STATION / OFFSET: 109+03, 8' RT. | EXPLORATION ID B-001-0-20
TYPE: BRIDGE | SAMPLING FIRM / LOGGER: CTL / DS | HAMMER: CME AUTOMATIC | ALIGNMENT:
PID: 112286 SFN: 6631312 | DRILLING METHOD: 3.25" HSA / NQ | CALIBRATION DATE: 3/10/20 | ELEVATION: 631.3 (MSL) EOB: 30.0 ft. | PAGE 1 OF 1
START: 3/16/20 END: 3/16/20 | SAMPLING METHOD: SPT | ENERGY RATIO (%): 79.7 | COORD: 370760.7700 N, 1860849.8500 E

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GR	CS	FS	SI	CL	LL	PL	PI	WC	ODOT CLASS (GI)	BACK FILL
Asphalt (9")	630.5																	
Gravel (3")	630.3																	
STIFF, BROWN, **CLAY**, AND SAND, TRACE STONE FRAGMENTS, FILL, MOIST	628.8		2 3 5	11	72	SS-1	3.00	-	-	-	-	-	-	-	-	13	A-7-6 (V)	
STIFF, BROWN, **CLAY**, AND SAND, SOME STONE FRAGMENTS, FILL, MOIST	627.3		3 3 4	9	100	SS-2	2.75	-	-	-	-	-	-	-	-	15	A-7-6 (V)	
MEDIUM DENSE, BROWN, **STONE FRAGMENTS WITH SAND, SILT, AND CLAY**, FILL, MOIST	624.3		6 8 10	24	100	SS-3	-	-	-	-	-	-	-	-	-	10	A-2-6 (V)	
			8 9 12	28	100	SS-4	-	-	-	-	-	-	-	-	-	11	A-2-6 (V)	
VERY STIFF, BROWN, **SILT AND CLAY**, AND SAND, SOME GRAVEL, MOIST	622.8		6 6 8	19	100	SS-5	2.75	23	23	15	27	12	32	20	12	19	A-6a (1)	
VERY STIFF, BROWN, **SANDY SILT**, SOME GRAVEL, LITTLE CLAY, MOIST	621.3		7 4 9	17	100	SS-6	1.50	31	12	18	27	12	27	19	8	20	A-4a (1)	
VERY STIFF, ORANGISH BROWN, **SANDY SILT**, LITTLE GRAVEL, LITTLE CLAY, MOIST	619.8		6 7 12	25	100	SS-7	4.50	15	5	19	47	14	28	24	4	18	A-4a (5)	
VERY STIFF, BROWN, **SANDY SILT**, SOME GRAVEL, LITTLE CLAY, MOIST	618.3		7 7 14	28	100	SS-8	3.25	24	14	16	33	13	26	22	4	15	A-4a (2)	
HARD, BROWN, **SILT AND CLAY**, SOME GRAVEL, TRACE SAND, MOIST	616.8		7 20 33	70	100	SS-9	2.50	23	4	3	42	28	36	24	12	-	A-6a (8)	
SHALE, GRAY, SEVERELY TO MODERATELY WEATHERED.		TR	33 50/5"	-	109	SS-10	-	-	-	-	-	-	-	-	-	7	Rock (V)	
		W 614.8	50/2"	-	100	SS-11	-	-	-	-	-	-	-	-	-	15	Rock (V)	
	611.3																	
SHALE, DARK GRAY, SLIGHTLY WEATHERED, VERY WEAK, THINLY LAMINATED, FISSILE.			90		100	NQ-1											CORE	
			82		100	NQ-2											CORE	
	601.3	EOB																

NOTES: NONE

ABANDONMENT METHODS, MATERIALS, QUANTITIES: MIXED BENTONITE CHIPS; BACKFILLED WITH SOIL CUTTINGS

PROJECT: PIK-CR77-2.07 BRIDGE | DRILLING FIRM / OPERATOR: CTL / DS | DRILL RIG: CME 550/ #349 | STATION / OFFSET: 109+54, 9' LT. | EXPLORATION ID B-002-0-20
TYPE: BRIDGE | SAMPLING FIRM / LOGGER: CTL / DS | HAMMER: CME AUTOMATIC | ALIGNMENT:
PID: 112286 SFN: 6631312 | DRILLING METHOD: 3.25" HSA / NQ | CALIBRATION DATE: 3/10/20 | ELEVATION: 633.0 (MSL) EOB: 30.0 ft. | PAGE 1 OF 1
START: 3/16/20 END: 3/16/20 | SAMPLING METHOD: SPT | ENERGY RATIO (%): 79.7 | COORD: 370774.5100 N, 1860901.1800 E

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GR	CS	FS	SI	CL	LL	PL	PI	WC	ODOT CLASS (GI)	BACK FILL
Asphalt (8")	632.3																	
Gravel (4")	632.0																	
STIFF, BROWN, **CLAY**, SOME SOME, LITTLE SILT, TRACE STONE FRAGMENTS AND GRAVEL, MOIST	630.0		3 3 5	11	100	SS-1	1.75	-	-	-	-	-	-	-	-	18	A-7-6 (V)	
MEDIUM STIFF, BROWN, **CLAY**, AND SAND, SOME SILT, TRACE STONE FRAGMENTS AND GRAVEL, HYDROCARBON ODOR, MOIST	627.5		2 3 3	8	67	SS-2	0.50	-	-	-	-	-	-	-	-	21	A-7-6 (V)	
VERY STIFF, BROWN, **CLAY**, AND SAND, SOME SILT, FILL, MOIST	625.0		4 6 8	19	100	SS-3	1.50	-	-	-	-	-	-	-	-	15	A-7-6 (V)	
VERY STIFF, GRAYISH BROWN, **CLAY**, SOME SILT, DAMP	622.5		7 7 10	23	100	SS-4	4.50	-	-	-	-	-	-	-	-	18	A-7-6 (V)	
HARD, GRAY, **SILT AND CLAY**, DAMP	620.0		8 13 15	37	100	SS-5	4.50	0	0	1	50	49	40	27	13	11	A-6a (9)	
HARD, GRAY, **CLAY**, WITH HIGHLY WEATHERED SHALE FRAGMENTS, DRY	618.0		10 21 40	81	78	SS-6	4.50	-	-	-	-	-	-	-	-	8	A-7-6 (V)	
SHALE, GRAY, SEVERELY TO MODERATELY WEATHERED.		TR	21 50	-	100	SS-7	4.00	-	-	-	-	-	-	-	-	8	Rock (V)	
		W 614.5	50/2"	-	100	SS-8	-	-	-	-	-	-	-	-	-	11	Rock (V)	
	613.0																	
SHALE, DARK GRAY, SLIGHTLY WEATHERED, VERY WEAK, THINLY LAMINATED, FISSILE.			68		100	NQ-1											CORE	
			80		100	NQ-2											CORE	
	603.0	EOB																

NOTES: NONE

ABANDONMENT METHODS, MATERIALS, QUANTITIES: MIXED BENTONITE CHIPS; BACKFILLED WITH SOIL CUTTINGS

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 7/24/20 16:54 - L:\COLUMBUS\DEPT 5\20050001CIN\20050001CIN.GPJ

SOIL PROFILE - BRIDGE

BRIDGE NO. PIK-CR77-2.07 OVER TRIBUTARY OF BIG BEAVER CREEK

BORING LOG - B-001-0-20 & B-002-0-20

DRAWN N.K.S | CHECKED SM

SPECIAL PROVISIONS

WATERWAY PERMITS CONDITIONS

C-R-S: PIK-CR 77-2.07

PID: 112286

Date: 01/13/2022

1. Waterway Permits Time Restrictions:

Regional General Permit (RGP) Section B (Maintenance) is authorized for PIK-CR 77-2.07, PID 112286. A copy of the RGP shall be kept at the work site at all times and made available to all contractors and subcontractors. The permit is effective starting: **January 13, 2022**. The permit expires: **October 24, 2024.**

For authorized work in aquatic resources (including streams, wetlands, jurisdictional ditches, captured streams, lakes, ponds), the Department will consider the Contractor's submission of a reauthorization to the waterway permit expiration date based on project constraints. If more than one permit is authorized for the project, then all permits become invalid once the first permit expires. In order for the request to be considered, the Contractor must submit a justification to the Engineer at least 90 days prior to the waterway permit expiration date. The Engineer will submit the request for a time extension to the Ohio Department of Transportation, Office of Environmental Services, Waterway Permits Unit (ODOT-OES-WPU) for consideration and coordination with the U.S. Army Corps of Engineers (USACE), Ohio Environmental Protection Agency (OEPA), U.S. Coast Guard (USCG), U.S. Fish and Wildlife Service (USFWS), and Ohio Department of Natural Resources (ODNR) as appropriate.

2. Deviations From Permitted Construction Activities:

No deviation from the requirements for work in aquatic resources depicted in the plans, Special Provisions, and/or Working Drawings may be made unless a modification has been submitted to ODOT-OES-WPU and approved by the appropriate agencies (i.e., USACE, OEPA, USCG, ODNR, and USFWS).

For emergency situations resulting in unanticipated impacts to aquatic resources, provide notification (verbal or written) to the Engineer as soon as possible following discovery of the situation. Written notification to the Engineer and notification to the ODOT-OES-WPU (614-466-2159) must be made within 24 hours.

For non-emergency situations, notify the Engineer in writing for submission to the ODOT-OES-WPU (614-466-2159) for consideration and coordination with the appropriate agencies. Notification must be made at least 90 days prior to planned, non-permitted activities. Consideration of the requested deviation is at the discretion of the Director and must be coordinated with the appropriate regulatory agencies.

3. In-Stream Work Restrictions:

Work in the following aquatic resources is further restricted as follows:

Stream Name /Description	Location	Work restriction dates (No in-stream work permitted)
UNT to Big Beaver	STA 109+00	None

UNT = unnamed tributary stream

In-stream work has been defined as the placement and/or removal of fill materials (temporary or permanent) below ordinary high water of a stream. Examples of "fill" include, but are not limited to: bridge piers, abutments, culverts, rock channel protection, scour protection, and temporary access fills.

Fills placed within a stream identified in the above table (outside of the work restriction dates) can continue to be worked from during the work restriction dates, but cannot be expanded, removed, or otherwise modified (below ordinary high water) until once again outside of the work restriction dates.

4. Materials:

Materials utilized in or adjacent to aquatic resources for temporary or permanent fill or bank protection shall consist of suitable material free from toxic contaminants in other than trace quantities. Asphalt products are specifically excluded for use as fill. Chromated Copper Arsenate (CCA), creosote, and other pressure treated lumber shall not be used in structures that are placed in aquatic resources.

5. Cultural Resources:

Per CMS 107.10, if archeological sites, historical sites, or human remains are discovered, cease all work in the immediate area and notify the Engineer who will immediately contact the ODOT-District Environmental Coordinator and ODOT-OES-Cultural Resource Section at 614-466-2159. In the event of human remains are identified by OES-Cultural Resources Section, the Engineer shall also contact the Pike County Sheriff's Office at (740) 947-2111.

6. Aquatic Resource Demarcation:

The table below includes detailed fill quantities authorized within the aquatic resources. Aquatic resources not authorized for impact by these Special Provisions shall be demarcated in the field as per SS 832 prior to site disturbance. The fence shall remain in place and be maintained throughout the construction process. Following the completion of the project, the fence and posts shall be removed.

Resource ID	Impact Location	Temporary Impact Amount	Permanent Impact Amount	Total Impact Amount
UNT to Big Beaver	STA 109+00	75 feet (0.069 acre)	65 feet (0.015 acre)	75 feet (0.069 acre)

7. Spill containment:

Provide and Maintain an Oil Spill Kit with a minimum capacity of 65 gallons. The Spill Kit shall contain:
- 6 - 3 in. X 8 ft. Oil only socks
- 4 - 18 in. X18 in. Oil only pillows

- 2 - 5 in. X 10ft. Booms
- 50 - 16in. X 20 in. Oil only pads
- 10- Disposable Bags
- 1 - 65 Gallon drum with lid
- 25 pounds of Granular Oil Absorbent

The Oil Spill Kit shall be located within 150 feet of any equipment working in a stream or wetland. The oil Spill Kit shall be maintained for the life of the contract. Any materials utilized during the project will be replaced within 48 hours. All costs associated with furnishing and maintaining the above referenced spill containment kit is incidental to work.

8. Blasting:

State law requires notification to the Ohio Department of Natural Resources should blasting be required within or near stream channels (See ORC 1533.58 & CMS 107.09). Notify the Engineer, in writing, a minimum of 30 days in advance of blasting, for submission to ODOT-OES-WPU (614-466-2159) for coordination with ODNR.

9. Project Inspection:

Inspection of Work may include inspection by representatives of other government agencies or railroad corporations that pay a portion of the cost of the Work or regulate the Work through State and Federal law. Comments from the representatives of these agencies shall be directed to the Engineer. Please forward a copy to ODOT-OES-WPU (614-466-2159).

10. Temporary Access Fills:

Special Provisions Notes:

Definitions:

Hydraulic Opening
The cross-sectional area allowing an unimpeded discharge equal to twice the highest monthly flow without producing a rise in the backwater above the Ordinary High Water Mark (OHWM).

Standard Temporary Discharge
Discharge equal to twice the *highest monthly flow* without producing a rise in the backwater above the OHWM. The U.S. Geologic Service publication "Techniques for estimating Selected Streamflow Characteristics of Rural Unregulated Streams in Ohio" provides equations that estimate monthly flow for Ohio Waterways These flows are also available in a web application by USGS StreamStats, (https://water.usgs.gov/osw/streamstats/ohio.html). The highest monthly flow is the highest monthly mean discharge occurring in a 12-month period from January to December.

Average Monthly Flow
The average monthly flow represents the estimated "normal" flow.

Temporary Access Fills (TAFs)
Include, but are not limited to, dewatering fills, causeways, cofferdams, access pads, temporary bridges, etc. below the OHWM.

Requirements
21 calendar days prior to the initiation of any in-stream work, provide the Engineer with Working Drawings that include:

- Plan view drawing (50 scale or less) showing the location of all TAFs proposed for use on the project
- Scaled cross section and profile drawing showing the OHWM and the proposed hydraulic opening.
- Identify the minimum diameter size, placement location and thickness of non-erodible Dumped Rock Fill material on the plan and profile.
- Calculations analyzing the hydraulic impacts of the TAF on the waterway. Include in the calculations an analysis of the hydraulic opening sized adequately to pass the Standard Temporary Discharge without producing a rise in backwater above the OHWM. Include, in the analysis, calculated channel velocities adjacent to the TAF, culvert exit velocities, calculated headwater and tailwater elevations, and any additional appropriate calculations to assess potential impacts to the waterway during normal and anticipated high flow (twice the highest monthly flow) events.
- A description of all temporary material to be placed below the OHWM elevation.
- A description of the installation and staging of all temporary fill over the life of the contract.
- Identify the protection methods and/or structural Best Management Practices for minimizing impacts to the waterway.
- Volume of temporary fill below the OHWM elevation.
- A description of the diversion ditches, equipment, conduits or means for maintaining normal flows in the waterway.
- A description of the removal of all temporary fill and restoration of the channel and all areas impacted by the TAFs.
- A schedule outlining the timing of the placement and removal of all temporary fill.
- Have competent individuals prepare and check the Working Drawings and hydraulic calculations. Provide a cover sheet containing the preparer(s) and checker(s): First Name, Last Name and Initials. The preparer(s) and checker(s) shall not be the same individual. Have an Ohio Registered Engineer review, approve, sign, seal and date the Working Drawings and hydraulic calculations according to ORC 4733 and OAC 4733-35. Include the following statement on the Working Drawings:
  "These Working Drawings were prepared in compliance with the terms of these Special Provisions and all contract documents."

Do not begin in-stream work until the Engineer has accepted the Working Drawings and hydraulic calculations.

The design and construction of the Contractor's TAF must minimize impacts to water bodies, stream banks, stream beds, and riparian zones to the maximum extent practicable.

Fording of waterways and other aquatic resources is prohibited.

Construct TAFs in such a manner that will maintain flows, minimize upstream flooding, and avoid overtopping the TAF on a regular basis. ***TAFs shall be designed and constructed so that the hydraulic opening provides capacity for a discharge equal to twice the highest monthly flow without producing a rise in the backwater above the (OHWM).***

If the Contractor proposes a TAF which does not meet all the requirements of these Special Provisions, the Contractor must submit a request in writing for a modified TAF to the Engineer. The request must include all Working Drawings and hydraulic calculations required by these Special Provisions. The Department makes no guarantee to grant the request. The Contractor's proposed TAF request will be coordinated by OES with the USACE and the OEPA, as appropriate. The time frame allowed for the coordination of the contractor's proposed TAF will be a minimum of 60 days.

Installation of any temporary fill without appropriate authorization is strictly prohibited. All direct coordination with the USACE and/or OEPA will be performed through OES.

TAFs Construction and Payment
Begin planning and installing causeways and access fills as early in construction as possible to avoid conflicts with these Special Provisions or other environmental commitments that have been included in the construction plans.

TAFs in Streams and Rivers may include, but are not limited to, causeways, cofferdams, access pads, sheet piling, temporary bridges, etc. The Contractor must make every attempt to minimize disturbance to waterbodies, stream banks, stream beds and riparian zones during the construction, maintenance, and removal of the TAF. Construct the TAFs as narrow as practical. Install in-stream conduits parallel to the stream banks. Make the TAFs in shallow areas rather than deep pools where possible. Minimize clearing, grubbing, and excavation of stream banks, and approach sections. Construct the TAFs as to not cause erosion or allow sediment deposits in the waterway.

Prior to the initiation of any in-stream work, establish a monument upstream of the proposed TAF to visually monitor the water elevation in the waterway where the fill is permitted. Maintain the monument throughout the project. Provide a visual mark on the monument that identifies the elevation 1 foot above the OHWM. Ensure that the monument can be read from the bank of the waterway. Have this elevation set and certified by an Ohio Registered Surveyor. All costs associated with furnishing and maintaining the above referenced monument is incidental to the work.

Should the surface water elevation exceed the elevation 1 foot above OHWM, the Department will compensate the Contractor for repair of any resulting damage to the TAF up to the elevation of 1 foot above the OHWM, except as noted. The Department will recognize this event as an excusable, non-compensable delay in accordance with Section 108.06 B. of the Construction & Materials Specifications.

Follow the requirements in Item 502 for Structures for Maintaining Traffic and in Item 503 for Cofferdams and Excavation Bracing and any modifications to these items as shown in the plans. The Department will not pay for repair and maintenance of TAFs associated with Items 502 and 503 as a result of surface water elevation exceeding 1 foot above the OHWM. Compensation for damages associated with waterway flows will be provided as described in Items 502 and 503.

Construct the TAFs, not including Items 502 and 503, to a water elevation at least 1 foot (0.3 m) above the OHWM. If more than one-third the width of the stream is filled, then use culvert pipes to allow the movement of aquatic life. Ensure that any ponding of water behind the TAF will not damage property, flood roadways, or threaten human health and safety.

The following minimum requirements apply to TAFs where culverts are used.

A. Furnish culverts on the existing stream bottom.
B. Avoid a drop in water elevation at the downstream end of the culvert that would result in an adverse impact to the waterway.
C. Furnish a sufficient number of culverts in addition to stream openings to provide a discharge equal to twice the highest monthly flow without producing a rise in the backwater above the OHWM.
D. Furnish culverts with a minimum diameter of 18 inches (0.5 m).

All TAFs must be constructed of suitable materials. Causeways and access fills must be encapsulated with clean, non-erodible, nontoxic Dumped Rock Fill, Type A, B, C, or D, meeting the requirements of C&MS 703.19.B. Utilize appropriately sized Dumped Rock Fill determined by the Contractor's engineer for encapsulating the sides of the TAF. Encapsulate all sides of the TAF with the non-erodible material. For causeways, contractors may use clean aggregate meeting C&MS 703.01 Size Number 1 and 2 for creating a working surface above the OHWM. Extend the non-erodible encapsulating material to at least the elevation of the top of the working surface. Extend clean aggregate up the slope from the original stream bank for 50 feet (10 m) to remove erodible material and prevent tracking from equipment onto the TAF.

When the work requiring TAF is complete, all portions of the TAF (including all rock and culverts) will be removed in its entirety. Do not dispose of TAF material in other aquatic resources or where erosion into another aquatic resource is possible. The stream bottom affected by the TAFs will be restored to its pre-construction elevations. The TAFs will not be paid as a separate item but will be included by the Contractor as part of the total project cost.

Unless specific TAF compensation is included in the plans, all environmental protection and control associated with the authorized activities, are incidental to the work within the boundaries of the aquatic resources.

11. Excavation Activities:

Excavated material will be placed at an upland site and disposed of in such a manner that sediment and runoff to streams and other aquatic resources is controlled and minimized. Additionally, no more than incidental fallback into jurisdictional waters of the U.S. is permitted during the excavation process. If any changes to the proposed work are deemed necessary, Notify the Engineer who will immediately contact the ODOT-District Environmental Coordinator and ODOT-OES-WPU (614-466-2159).

12. Demolition Debris:

The temporary discharge of demolition debris into aquatic resources (including but not limited to bridges, culverts, abutments, wing walls, piers) is conditionally authorized for this project.

Perform demolition activities in a manner to prevent the discharge of fine (erodible) debris into aquatic resources. Utilize TAF or other catchment methods accepted by the Engineer and authorized by these Special Provisions to prevent erodible demolition debris from entering aquatic resources. Demolition debris may not remain in the waterway for more than 72 hours and must be removed in its entirety. If removal of debris material cannot be achieved within 72 hours, notify the Engineer in writing and contact ODOT-OES-WPU at 614-466-2159.

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