REVISION 1: 10/24/2022

SHEET NO. 6	13	14	15	FUNDING SPLIT 01/STR/BR	ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
									ROADWAY	
LS				LS	201	11001	LS		CLEARING AND GRUBBING, AS PER PLAN	6
	948			948	202	38000	948	LF	GUARDRAIL REMOVED	
	4			4	202	42000	4	EA	ANCHOR ASSEMBLY REMOVED, TYPE A	
	4			4	202	47000	4	EA	BRIDGE TERMINAL ASSEMBLY REMOVED	
		613		613	202	23000	613	SY	PAVEMENT REMOVED	
			277	277	203	10000	277	CY	EXCAVATION	
			278	278	203	20000	278	CY	EMBANKMENT	
		1660		1660	204	10000	1660	SY	SUBGRADE COMPACTION	
			464	464	204	13000	464	CY	EXCAVATION OF SUBGRADE	
			464	464	204	30010	464	CY	GRANULAR MATERIAL, TYPE B	
			1	1	204	45000	1	HRS	PROOF ROLLING	
			22	22	204	50000	22	SY	GEOTEXTILE FABRIC	
		11		11	209	15001	11	STA	RESHAPING UNDER GUARDRAIL, AS PER PLAN	6
	425			425	606	15101	425	LF	GUARDRAIL, TYPE MGS WITH LONG POSTS, AS PER PLAN	6
	2			2	606	26000	2	EA	ANCHOR ASSEMBLY, TYPE B	
	2			2	606	26100	2	EA	ANCHOR ASSEMBLY, TYPE E	
	4			4	606	35003	4	EA	MGS BRIDGE TERMINAL ASSEMBLY, TYPE 1, AS PER PLAN	6
	52			52	609	24510	52	LF	CURB, TYPE 4-C	
									EROSION CONTROL	
	26			26	601	21050	26	SY	TIED CONCRETE BLOCK MAT, TYPE 1	
	346			346	601	21060	346	SY	TIED CONCRETE BLOCK MAT, TYPE 2	
	510			510	601	32000	510	CY	ROCK CHANNEL PROTECTION, TYPE A WITH FILTER	
			2	2	659	00100	2	EA	SOIL ANALYSIS TEST	
			198	198	659	00300	198	CY	TOPSOIL	
			1589	1589	659	00510	1589	SY	SEEDING AND MULCHING, CLASS 2	6
			194	194	659	00580	194	SY	SEEDING AND MULCHING, CLASS 5B	6
			89	89	659	14000	89	SY	REPAIR SEEDING AND MULCHING	
			89	89	659	15000	89	SY	INTER-SEEDING	
			0.26	0.26	659	20000	0.26	TON	COMMERCIAL FERTILIZER	
			0.37	0.37	659	31000	0.37	ACRES	LIME	
			10	10	659	35000	10	MGAL	WATER	
			4	4	659	40000	4	MSF	MOWING	
	202			202	660	25000	202	SY	SODDING STAKED	
				LS	832	15000	LS		STORM WATER POLLUTION PREVENTION PLAN	
				LS	832	15002	LS		STORM WATER POLLUTION INSPECTIONS	
				LS	832	15010	LS		STORM WATER POLLUTION PREVENTION INSPECTION SOFTWARE	
				20000	832	30000	20000	EA	EROSION CONTROL	
									DRAINAGE	
	0.4			0.4	602	20000	0.4	CY	CONCRETE MASONRY	
	29			29	611	04900	29	LF	12" CONDUIT, TYPE D	
	236			236	605	11100	236	LF	6" SHALLOW PIPE UNDERDRAIN	
	21			21	611	00510	21	LF	6" CONDUIT, TYPE F FOR UNDERDRAIN OUTLETS	
	2			2	611	99710	2	EA	PRECAST REINFORCED CONCRETE OUTLET	
									PAVEMENT	
		159		159	254	01000	159	SY	PAVEMENT PLANING, ASPHALT CONCRETE	
		201		201	301	56000	201	CY	ASPHALT CONCRETE BASE, PG64-22 (449)	
		476		476	304	20000	476	CY	AGGREGATE BASE	
		108		108	407	10000	108	GAL	TACK COAT (BELOW EACH SURFACE LIFT - 2 TOTAL)	
		522		522	422	11000	522	SY	AGGREGATE, SINGLE CHIP SEAL, TYPE A	
		78		78	441	50000	78	CY	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG64-22	

CALCULATED JTS
CHECKED KMD

GENERAL SUMMARY

DEF-127-00.53

SHEET NO. 7	SHEET NO. 8	SHEET NO. 28	FUNDING SPLIT 01/STR/BR	ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
								TRAFFIC CONTROL	
		5	5	630	84900	5	EA	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	
		5	5	630	86002	5	EA	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	
		56.5	56.5	630	80100	56.5	SF	SIGN, FLAT SHEET	
		52	52	630	02100	52	EA	GROUND MOUNTED SUPPORT, NO. 2 POST	
		52	52	630	03100	52	EA	GROUND MOUNTED SUPPORT, NO. 3 POST	
		2	2	630	79605	2	EA	SIGN SUPPORT ASSY, BRIDGE MOUNTED, TYPE 2, AS PER PLAN	7
		0.16	0.16	642	00300	0.16	MILE	CENTER LINE, TYPE 1	
		0.32	0.32	642	00100	0.32	MILE	EDGE LINE, 4", TYPE 1 (WHITE)	
								LANDSCAPING	
	667		667	661	99900	667	EA	PLANTING, MISC.: 1" CALIPER, 3-GALLON CONTAINER TREE	
	2001		2001	661	99000	2001	EA	PLANTING, MISC.: 1-GALLON CONTAINER SHRUB	
	18009		18009	662	31000	18009	GAL	LANDSCAPE WATERING	
								STRUCTURES OVER 20' SPAN	
								STRUCTURE DEF-127-0053 GENERAL SUMMARY	35
								MAINTENANCE OF TRAFFIC	
2			2	614	12500	2	EA	REPLACEMENT SIGN	
5			5	614	18000	5	EA	MAINTAINING TRAFFIC, MISC.: REPLACEMENT BUOY	
2			2	614	18000	2	EA	MAINTAINING TRAFFIC, MISC.: SIGN PLATFORM	
			LS	614	18002	LS		MAINTAINING TRAFFIC, MISC.: FLOATING SIGNS AND BUOY	
								INCIDENTALS	
			LS	614	11000	LS		MAINTAINING TRAFFIC	
			LS	623	10000	LS		CONSTRUCTION LAYOUT STAKES AND SURVEYING	
			LS	623	50000	LS		PRECONSTRUCTION SURVEY MONUMENT VERIFICATION AND REPORT	
			LS	624	10000	LS		MOBILIZATION	

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REVISION 1: 10/24/2022

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GENERAL SUMMARY

DEF-127-00.53

REF NO.	SHEET NO.	STATION TO STATION FROM	STATION TO STATION TO	SIDE	CADD GENERATED AREA	202 GUARDRAIL REMOVED	202 ANCHOR ASSEMBLY REMOVED, TYPE A	202 BRIDGE TERMINAL ASSEMBLY REMOVED	601 TIED CONCRETE BLOCK MAT, TYPE 1	601 TIED CONCRETE BLOCK MAT, TYPE 2	601 ROCK CHANNEL PROTECTION, TYPE A WITH FILTER	602 CONCRETE MASONRY	603 12" CONDUIT, TYPE D	605 6" SHALLOW PIPE UNDERDRAIN	606 GUARDRAIL, TYPE MGS WITH LONG POSTS, AS PER PLAN	606 ANCHOR ASSEMBLY, TYPE B	606 ANCHOR ASSEMBLY, TYPE E	606 MGS BRIDGE TERMINAL ASSEMBLY, TYPE 1, AS PER PLAN	609 CURB, TYPE 4-C	611 6" CONDUIT, TYPE F FOR UNDERDRAIN OUTLET	611 PRECAST REINFORCED CONCRETE OUTLET	660 SODDING STAKED
					SF	LF	EA	EA	SY	SY	CY	CY	LF	LF	LF	EA	EA	EA	LF	LF	EA	SY
R-1	GP00 - GP00	423+72.22	428+05.58	RT		433	1	1														
R-2	GP00 - GP00	425+26.91	428+37.54	LT		310	1	1														
GR-1	GP00 - GP00	426+43.70	428+29.73	RT											112.5		1	1				
GR-2	17	427+01.32	428+61.73	LT											87.5		1	1				
UD-1	17	427+25.45	428+59.23	LT					1.8					134						11	1	
UD-2	17	427+25.45	428+27.23	RT					1.8					102						10	1	
RCP-1	17	428+16.39	429+07.79	RT&LT	1736.2						192.9											
E-5	17	429+22.63		RT					11.1													
E-6	17	429+39.63		LT					11.1													
RCP-2	18	432+86.80	433+97.78	RT&LT	2849.0						316.5											
GR-3	18	433+62.56	434+88.83	RT											62.5	1		1				
C-1	18	433+65.06	433+91.06	RT															26			
R-5	18	433+78.06	434+76.27	RT		98	1	1														
E-1	18	433+91.06	433+96.56	RT						201.3												
GR-4	18	433+94.56	436+24.44	LT											162.5	1		1				
C-2	18	433+97.06	434+23.06	LT															26			
R-6	18	434+11.89	435+19.27	LT		107	1	1														
E-2	18	434+23.06	434+28.56	LT						88.55												
E-3	19	201+50.00	204+00.00	LT	1821.7																	202.4
D-1	19	203+95.00		RT&LT								0.4	29									
E-4	19	204+85.60	205+07.83	RT&LT	506.5					56.3												
TOTALS CARRIED TO GENERAL SUMMARY						948	4	4	26	346	510	0.4	29	236	425	2	2	4	52	21	2	202

1 REVISION 1: 10/24/2022

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ESTIMATED QUANTITIES

DEF-127-00.53

13
69

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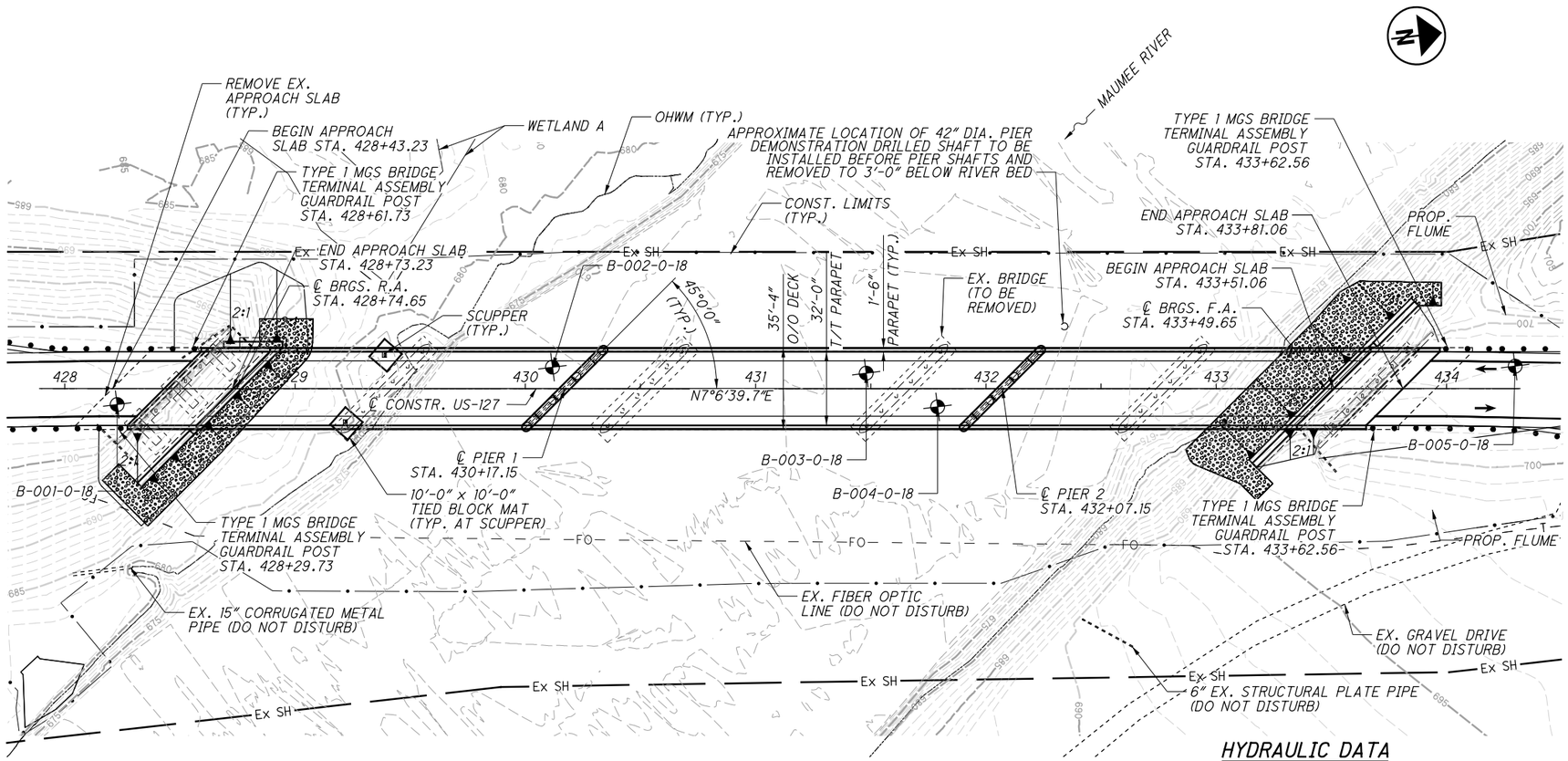


PLAN

BENCHMARK DATA

BM #300 STA. 416+75.16,	EL. 707.171,	OFFSET 17.62,	RT.
BM #303 STA. 437+51.08,	EL. 701.476,	OFFSET 15.61,	RT.
BM #304 STA. 446+63.60,	EL. 705.689,	OFFSET 15.85,	RT.

FOR ADDITIONAL BENCHMARK INFORMATION. SEE ROADWAY PLAN SHEET 8/69

NOTES

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

DESIGN TRAFFIC:
2022 ADT = 3300
2042 ADT = 3900
2022 ADTT = 660
2042 ADTT = 780
DIRECTIONAL DISTRIBUTION = 0.51

LEGEND

- BORING LOCATION
- TOP OF ROCK
- * = EXISTING GROUND
- □ = PROPOSED PROFILE GRADE

BORING LOCATIONS

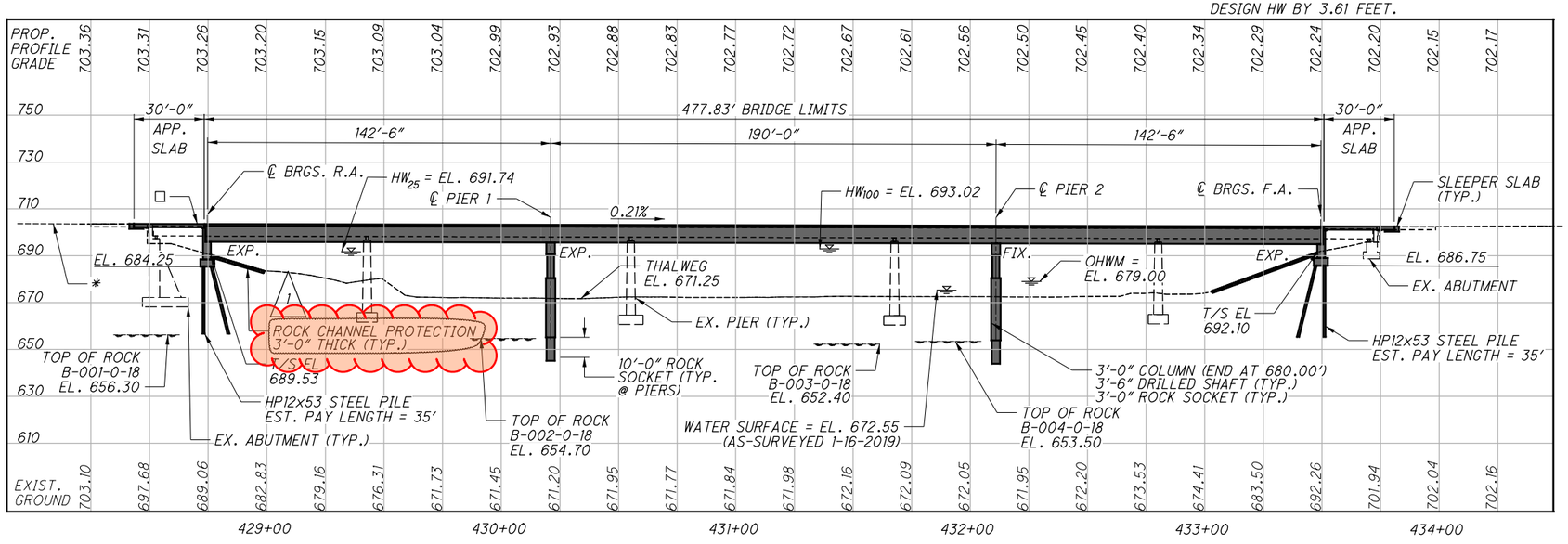
BORING	STATION	OFFSET	TOP OF ROCK
B-001-0-18	428+21.22	6.52 RT.	656.3
B-002-0-18	430+20.80	6.62 LT.	654.7
B-003-0-18	431+47.84	6.59 LT.	652.4
B-004-0-18	431+97.91	6.31 RT.	653.5
B-005-0-18	434+23.54	7.01 LT.	N/A

EXISTING STRUCTURE

TYPE: 5-SPAN RIVETED PLATE GIRDER WITH REINFORCED CONCRETE SLAB, SOLID PIERS AND STUB ABUTMENTS FOUNDED ON CONCRETE FOOTINGS.
SPANS: 90'-0"±, 112'-6"±, 112'-6"±, 112'-6"±, 90'-0"± C/C BRGS.
ROADWAY: 32'-2"± TOE/TOE PARAPET
LOADING: S-15-40
SKEW: 45°00'00"± LEFT FORWARD
DECK: 7.5"± CAST-IN-PLACE CONCRETE DECK
APPROACH SLABS: 25'-0"± LONG (AS-1-81)
ALIGNMENT: TANGENT
CROWN: 0.0179± FT/FT
WEARING SURFACE: 1¼"± LATEX MODIFIED CONCRETE OVERLAY
STRUCTURAL FILE NUMBER: 2001950
DATE BUILT: 1946, 1986 (REHAB)
DISPOSITION: REMOVAL

HYDRAULIC DATA

DRAINAGE AREA = 2,240 SQ. MILES
Q (25) = 24,936 CFS V (25) = 4.70 FT/S
Q (100) FIS = 30,800 CFS V (100) = 5.42 FT/S
STRUCTURE CLEARS THE 25 YEAR DESIGN HW BY 3.61 FEET.



PROFILE ALONG ℄ CONSTR. US-127

PROPOSED STRUCTURE

TYPE: 3-SPAN STEEL PLATE GIRDER SUPERSTRUCTURE WITH COMPOSITE REINFORCED CONCRETE, CAP AND COLUMN PIERS AND SEMI-INTEGRAL ABUTMENTS
SPANS: 142'-6", 190'-0", 142'-6" C/C BRGS.
ROADWAY: 32'-0" TOE/TOE PARAPET
LOADING: HL-93, FWS = 60 PSF
SKEW: 45°00'00" LEFT FORWARD
APPROACH SLABS: 30'-0" LONG (AS-1-15)
ALIGNMENT: TANGENT
CROWN: 0.016 FT/FT
WEARING SURFACE: 1" MONOLITHIC CONCRETE
COORDINATES: LATITUDE 41°15'33.46" N
LONGITUDE 84°33'15.33" W
DECK AREA: 16,883 SF

REVISION 1: 10/24/2022

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DESIGN AGENCY
Michael Baker INTERNATIONAL
250 WEST STREET, SUITE 400, COLUMBUS, OH 43215

REVIEWED	DATE
TMP	04/16/21
STRUCTURE FILE NUMBER	
2001951	
DRAWN	REVISED
GMC	
DESIGNED	CHECKED
AJE	BCM

DEFIANCE COUNTY
STA. 428+73.23
STA. 433+51.06

SITE PLAN
DEF-127-0053
US-127 OVER MAUMEE RIVER

DEF-127-00.53
PID No. 102669

1 / 38

32 / 69

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWINGS:

AS-1-15	DATED (REVISED)	7/17/2015
AS-2-15	DATED (REVISED)	1/18/2019
EXJ-4-87	DATED (REVISED)	1/19/2018
GSD-1-19	DATED (REVISED)	1/18/2019
SBR-1-20	DATED (REVISED)	1/17/2020
SICD-1-96	DATED (REVISED)	7/18/2014
SICD-2-14	DATED (REVISED)	7/18/2014

AND THE FOLLOWING SUPPLEMENTAL SPECIFICATIONS:

840	DATED (REVISED)	1/19/2017
863	DATED (REVISED)	10/19/2012

DESIGN SPECIFICATIONS:

THIS STRUCTURE CONFORMS TO THE "AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS", 8TH EDITION, 2017 AND THE ODOT BRIDGE DESIGN MANUAL, 2020, INCLUDING REVISIONS THROUGH JANUARY 2020.

OPERATIONAL IMPORTANCE:

A LOAD MODIFIER OF 1.00 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.

DESIGN LOADING:

HL-93
FUTURE WEARING SURFACE (FWS) OF 0.060 KSF

DESIGN DATA:

CONCRETE CLASS QC2 - COMPRESSIVE STRENGTH 4.5 KSI (SUPERSTRUCTURE)
CONCRETE CLASS QC1 - COMPRESSIVE STRENGTH 4.0 KSI (SUBSTRUCTURE)
CONCRETE CLASS QC5 - COMPRESSIVE STRENGTH 4.5 KSI WITH 1 IN. MAX. AGGREGATE SIZE (DRILLED SHAFT)
REINFORCING STEEL - MINIMUM YIELD STRENGTH 60 KSI INCLUDING SPIRAL BARS
STRUCTURAL STEEL - ASTM A709 GRADE 50W YIELD STRENGTH 50 KSI
STEEL H-PILES - ASTM A572 YIELD STRENGTH 50 KSI

DECK PROTECTION METHOD:

EPOXY COATED REINFORCING STEEL
2½" CONCRETE COVER

MONOLITHIC WEARING SURFACE:

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

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

FOLLOW CMS 202 EXCEPT AS NOTED, REMOVE THE PIERS TO 1 FOOT BELOW THE CURRENT RIVERBED ELEVATION. REMOVE THE ABUTMENTS TO THE GREATER OF 1 FOOT BELOW FINISHED GRADE OR AS REQUIRED FOR GEOGRID REINFORCING.

ITEM 511, CLASS QC1 CONCRETE, PIER ABOVE FOOTINGS, AS PER PLAN:

FOLLOW CMS 511 EXCEPT INCLUDE THE COST OF THE WEBWALLS WITH ITEM 511. THIS SHALL INCLUDE ALL NECESSARY WORK, AND MATERIALS, EXCEPT FOR EPOXY COATED REINFORCING STEEL, TO FURNISH AND CONSTRUCT THE WEBWALLS. THIS INCLUDES, BUT MAY NOT BE LIMITED TO, COSTS ASSOCIATED WITH DEWATERING, EXCAVATION AND FILL, TEMPORARY FORMS, SEDIMENT CONTROL, AND REMOVAL OF SPOILS AND TAINTED CONCRETE.

ITEM 513, STRUCTURAL STEEL MEMBERS, LEVEL 4, AS PER PLAN:

WELD DRIP PLATES NEAR THE GIRDER ENDS AS SHOWN ON THE GIRDER DETAILS SHEETS.

SHOP PAINT THE GIRDER ENDS, CROSS FRAMES, ETC. WITHIN THE AREAS DESCRIBED ON THE TRANSVERSE SECTION SHEET. ACCORDING TO THE "PARTIAL PAINTING OF A709 GRADE 50W STEEL" NOTE. USE A 3 COAT PAINT SYSTEM CONSISTING OF AN INORGANIC ZINC PRIME COAT, AN EPOXY INTERMEDIATE COAT AND A URETHANE FINISH COAT (FORMERLY CALLED SYSTEM IZEU).

PAYMENT FOR ALL OF THE ABOVE SHALL BE AT THE UNIT PRICE BID PER POUND FOR ITEM 513 - STRUCTURAL STEEL MEMBERS, LEVEL 4, AS PER PLAN, WHICH SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE WORK.

1

ITEM 524 - DRILLED SHAFTS, MISC: DEMONSTRATION DRILLED SHAFT:

PART 1: DESCRIPTION
THIS WORK CONSISTS OF ALL LABOR, MATERIALS, EQUIPMENT AND INCIDENTALS TO CONSTRUCT A DEMONSTRATION DRILLED SHAFT FOR TESTING AND EVALUATION TO VERIFY THE PROPOSED CONSTRUCTION METHODS FOR THE PRODUCTION DRILLED SHAFTS.
COMPLETE THE INSTALLATION OF THE DEMONSTRATION DRILLED SHAFTS 30 DAYS OR MORE BEFORE INSTALLATION OF PRODUCTION DRILLED SHAFTS BEGINS. THE DEPARTMENT WILL CONSIDER THE DEMONSTRATION DRILLED SHAFT COMPLETE AFTER RECEIVING WRITTEN ACCEPTANCE FROM THE ENGINEER.

PART 2: MATERIALS
THE DEMONSTRATION DRILLED SHAFT SHALL USE THE SAME CONCRETE MIX DESIGN AND STEEL REINFORCEMENT AS THE PRODUCTION DRILLED SHAFTS.

PART 3: EXECUTION
SUBMIT A DRILLED SHAFT INSTALLATION PLAN TO THE ENGINEER FOR ACCEPTANCE IN ACCORDANCE WITH THE REQUIREMENTS OF C&MS 524.03. CONSTRUCT AT LEAST ONE DEMONSTRATION DRILLED SHAFT IN THE AREA SHOWN IN THE PLANS AND IN ACCORDANCE WITH THE ACCEPTED WRITTEN INSTALLATION. UPON CONSTRUCTION OF THE DEMONSTRATION DRILLED SHAFT, AND RECEIPT OF TESTING AND EVALUATION RESULTS CONFIRMING THE DEMONSTRATION DRILLED SHAFT HAS BEEN INSTALLED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS, THE ENGINEER WILL ISSUE A LETTER ACCEPTING THE INSTALLATION PLAN FOR THE CONSTRUCTION OF THE SUBSEQUENT PRODUCTION DRILLED SHAFTS.
IF MODIFICATIONS TO THE INSTALLATION PLAN ARE MADE, WHETHER DUE TO THE TESTING AND EVALUATION RESULTS OR FOR OTHER REASON, THE DEPARTMENT WILL REQUIRE CONSTRUCTION OF AN ADDITIONAL DEMONSTRATION SHAFT CONSTRUCTED IN ACCORDANCE WITH THE MODIFIED INSTALLATION PLAN, AT NO ADDITIONAL COST.
THE DIAMETER, LENGTH, REINFORCING, INSTALLATIONS METHODS, AND OTHER MISCELLANEOUS DETAILS OF THE DEMONSTRATION SHAFT SHALL BE THE SAME AS THE PRODUCTION DRILLED SHAFTS. SUBMIT THE LOCATION OF THE DEMONSTRATION SHAFT TO THE ENGINEER FOR ACCEPTANCE. LOCATE THE DEMONSTRATION DRILLED SHAFT SUCH THAT NO INTERFERENCE OCCURS WITH THE FOUNDATIONS OF EXISTING OR PROPOSED STRUCTURES, THE PROPOSED MAINTENANCE OF TRAFFIC, OR EXISTING OR PROPOSED UTILITIES. TEST THE DEMONSTRATION DRILLED SHAFT BY THERMAL INTEGRITY PROFILING (TIP) ACCORDING TO ASTM D7949, METHOD B.

PART 4: MEASUREMENT AND PAYMENT
THE DEPARTMENT WILL MEASURE DEMONSTRATION DRILLED SHAFT BY THE NUMBER OF FEET, MEASURED ALONG THE AXIS OF THE DRILLED SHAFT FROM THE REQUIRED BOTTOM ELEVATION OF THE SHAFT TO THE PROPOSED TOP PLAN ELEVATION.
IN ADDITION TO THE PROVISIONS OF C&MS 524.17, THE DEPARTMENT WILL PAY FOR ACCEPTED QUANTITIES OF DEMONSTRATION DRILLED SHAFT AFTER INSTALLATION OF THE DEMONSTRATION SHAFT AND AFTER BEING PROVIDED WITH WRITTEN TESTING AND EVALUATION RESULTS ACCEPTABLE TO THE ENGINEER.
THE CONTRACT PRICE IS FULL COMPENSATION FOR FURNISHING AND INSTALLING DRILLED SHAFTS IN ACCORDANCE WITH THE ABOVE REQUIREMENTS, INCLUDING MOBILIZATION, SITE ACCESS, AND FINAL REMOVAL OF THE SHAFT TO 36 INCHES BELOW FINAL GRADE.
THE DEPARTMENT WILL PAY FOR TESTING AND EVALUATION OF THE ACCEPTED DEMONSTRATION SHAFT SEPARATELY.
THE DEPARTMENT WILL NOT PAY FOR TESTING AND EVALUATION OF ADDITIONAL DEMONSTRATION DRILLED SHAFTS.
THE DEPARTMENT WILL PAY FOR ACCEPTED QUANTITIES AT THE CONTRACT PRICE AS FOLLOWS:
ITEM 524 - DRILLED SHAFTS, MISC: DEMONSTRATION DRILLED SHAFT

DRILLED SHAFTS:

THE MAXIMUM FACTORED LOAD TO BE SUPPORTED BY EACH DRILLED SHAFT IS 1,239 KIPS AT THE PIERS. THIS LOAD IS RESISTED BY SIDE RESISTANCE WITHIN A PORTION OF THE BEDROCK SOCKET AND ALSO BY TIP RESISTANCE. THE FACTORED RESISTANCE DEVELOPED BY SIDE RESISTANCE IS 589 KIPS, ASSUMED TO ACT ALONG THE BOTTOM 8 FEET OF THE BEDROCK SOCKET FOR THE PIERS. THE FACTORED RESISTANCE PROVIDED BY THE DRILLED SHAFT TIP IS 5089 KIPS.

THE MAXIMUM FACTORED LATERAL LOAD AND BENDING MOMENT TO BE SUPPORTED BY EACH DRILLED SHAFT ARE 41.5 KIPS AND 560 KIP-FEET, RESPECTIVELY. THESE LOADS PRODUCE A MAXIMUM FACTORED BENDING MOMENT OF 1,558 KIP-FEET, AND A MAXIMUM FACTORED SHEAR OF 195 KIPS, WITHIN THE DRILLED SHAFT.

DECK PLACEMENT ASSUMPTIONS:

THE FOLLOWING ASSUMPTIONS OF CONSTRUCTION MEANS AND METHODS WERE MADE FOR THE ANALYSIS OF 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 2.48 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".

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

PILES DRIVEN TO BEDROCK:

DRIVE REAR ABUTMENT PILES TO REFUSAL ON BEDROCK. THE DEPARTMENT WILL CONSIDER REFUSAL TO BE OBTAINED WHEN THE PILE PENETRATION IS AN INCH OR LESS AFTER RECEIVING AT LEAST 20 BLOWS FROM THE PILE HAMMER. SELECT THE HAMMER SIZE TO ACHIEVE THE REQUIRED DEPTH TO BEDROCK AND REFUSAL.

THE TOTAL FACTORED LOAD IS 92.7 KIP PER PILE FOR THE REAR ABUTMENT PILES.

REAR ABUTMENT PILES:

HP12x53 PILES 40 FEET LONG, ORDER LENGTH

PILES DESIGN LOADS (ULTIMATE BEARING VALUE):

THE ULTIMATE BEARING VALUE (UBV) IS 166.3 KIPS PER PILE FOR THE FORWARD ABUTMENT PILES. THE UBV FOR THE FORWARD ABUTMENT PILES INCLUDES AN ADDITIONAL 33.9 KIPS PER PILE DUE TO THE POSSIBILITY OF LOSING 13.08 FT OF FRICTIONAL RESISTANCE DUE TO SCOUR. DRIVE THE FORWARD ABUTMENT PILES TO UBV OR A TIP ELEVATION OF 655, WHICHEVER IS DEEPER.

FORWARD ABUTMENT PILES:

HP12x53 PILES 40 FEET LONG, ORDER LENGTH
1 DYNAMIC LOAD TESTING ITEM

STEEL PILE POINTS:

USE STEEL PILE POINTS TO PROTECT THE TIPS OF THE STEEL H-PILES AT FORWARD AND REAR ABUTMENTS.

PILE DRIVING:

THE MINIMUM RATED ENERGY OF THE HAMMER USED TO INSTALL THE PILES SHALL BE 42,000 FOOT-POUNDS. ENSURE THE STRESSES IN THE PILES DURING DRIVING DO NOT EXCEED 45,000 POUNDS PER SQUARE INCH.

1 REVISION 1: 10/24/2022

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DESIGN AGENCY
Michael Baker INTERNATIONAL
250 WEST STREET, SUITE 400, COLUMBUS, OH 43215

DESIGNED	DRAWN	REVIEWED	DATE
AJE	AJE	TMP	04/16/21
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BCM		2001951	

GENERAL NOTES
DEF-127-0053
US-127 OVER MAUMEE RIVER

DEF-127-00.53
PID No. 102669

ITEM 524 - DRILLED SHAFTS, MISC: THERMAL INTEGRITY PROFILER (T.I.P.) WIRE CABLE TESTING OF DRILLED SHAFTS:

PERFORM INTEGRITY TESTING ON ONE DRILLED SHAFT AT PIER 1 AND 2 AS WELL AS THE DEMONSTRATION DRILLED SHAFT BY THERMAL INTEGRITY PROFILING (TIP). PERFORM TIP TESTING PER ASTM D7949, "STANDARD TEST METHODS FOR THERMAL INTEGRITY PROFILING OF CONCRETE DEEP FOUNDATIONS," METHOD B, AND PER THE PROJECT SPECIAL PROVISIONS.

TEMPORARY CAUSEWAY

THE TEMPORARY CAUSEWAY IS TO CONFORM TO ITEM 503 AND THE SPECIAL PROVISIONS OF THE WATERWAY PERMIT.

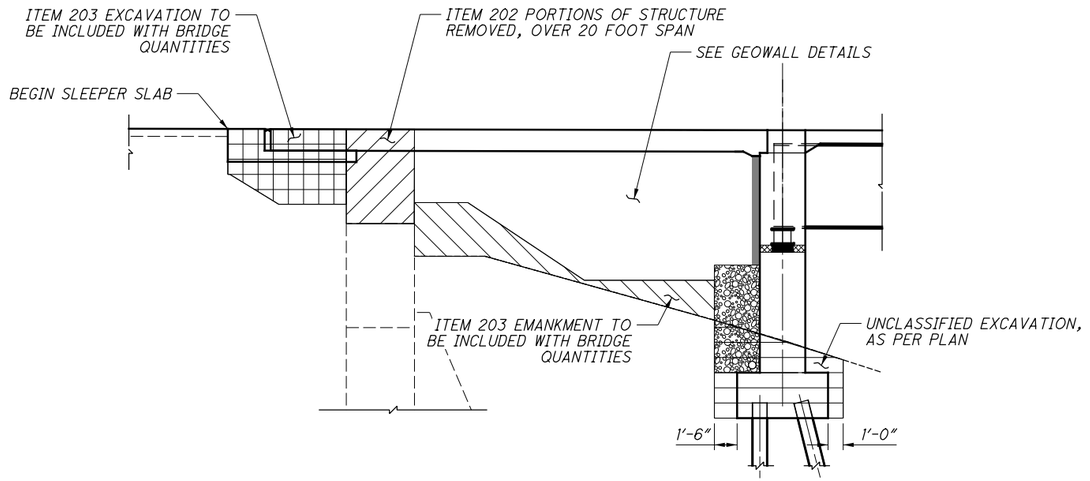
PAYMENT FOR CAUSEWAY CONSTRUCTION MATERIALS AND THE INSTALLATION, MAINTENANCE AND REMOVAL OF THE CAUSEWAY INCLUDING ALL NECESSARY PROTECTION OF THE EXISTING FIBER OPTIC LINE SHALL BE PAID THROUGH THE FOLLOWING ITEM:

ITEM 503 - COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN (LUMP SUM)

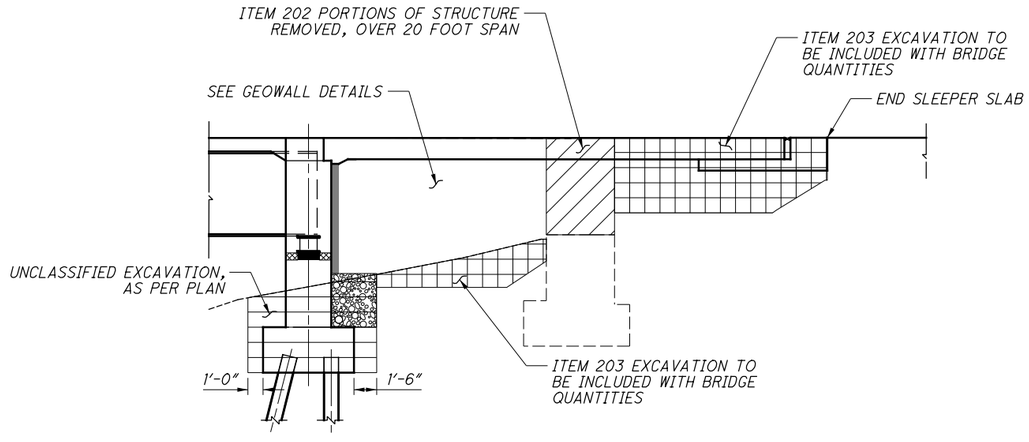
ABBREVIATIONS:

THE FOLLOWING ABBREVIATIONS HAVE BEEN USED THROUGHOUT THESE PLANS TO INDICATE THE DESIGNATIONS CONTAINED IN THE LEGEND BELOW:

ABUT. = ABUTMENT
ADT = AVERAGE DAILY TRAFFIC
ADTT = AVERAGE DAILY TRUCK TRAFFIC
APP. = APPROACH
BRGS. = BEARINGS
C/C = CENTER-TO-CENTER
C.J. = CONSTRUCTION JOINT
CLR. = CLEAR
CMS = CONSTRUCTION & MATERIALS SPECIFICATIONS
CONST. = CONSTRUCTION
CY = CUBIC YARD
DIA. = DIAMETER
EA = EACH
E.F. = EACH FACE
EL. = ELEVATION
EQ. = EQUAL
EX. = EXISTING
F.A. = FORWARD ABUTMENT
FF = FRONT FACE
F/F = FACE-TO-FACE
F.F. = FAR FACE
FIS = FLOOD INSURANCE STUDY
F.S. = FIELD SPLICE
FWD. = FORWARD
FWS = FUTURE WEARING SURFACE
GFRP = GLASS FIBER REINFORCED POLYMER
HW = HEADWATER
KIPS = KILOPOUNDS
KSF = KIPS PER SQUARE FOOT
KSI = KIPS PER SQUARE INCH
LT. = LEFT
MAX. = MAXIMUM
MIN. = MINIMUM
N.F. = NEAR FACE
OHWM = ORDINARY HIGH WATER MARK
O/O = OUT-TO-OUT
PEJF = PREFORMED EXPANSION JOINT FILLER
PROP. = PROPOSED
PSF = POUNDS PER SQUARE FOOT
R.A. = REAR ABUTMENT
REQ'D = REQUIRED
RT. = RIGHT
SER. = SERIES
SPA. = SPACES
STD. = STANDARD
STA. = STATION
T/S = TOP OF SLOPE
T/T = TOE-TO-TOE
TYP. = TYPICAL
U.N.O. = UNLESS NOTED OTHERWISE



REAR ABUTMENT LIMITS OF EXCAVATION AND FILL



FORWARD ABUTMENT LIMITS OF EXCAVATION AND FILL

NOTES:

1. FOR GEOWALL SECTION & DETAILS AND ADDITIONAL GEOWALL NOTES, SEE SHEET 18/38.

REVISION 1: 10/24/2022

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GENERAL NOTES
DEF-127-0053
US-127 OVER MAUMEE RIVER

DEF-127-00.53
PID No. 102669

ITEM NO.	EXTENSION	TOTAL	UNIT	DESCRIPTION	ABUT.	PIERS	SUPER.	GEN	SEE SHEET NO.
202	11003	LS		STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN				LS	5 / 38
202	22900	198	SY	APPROACH SLAB REMOVED				198	
202	23500	2111	SY	WEARING COURSE REMOVED				2111	
203	10000	252	CY	EXCAVATION	252				
203	20000	330	CY	EMBANKMENT	330				
204	30010	78	CY	GRANULAR MATERIAL, TYPE B	78				
204	50000	694	SY	GEOTEXTILE FABRIC	694				
503	11101	LS		COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN	LS				3 / 38
503	21100	245	CY	UNCLASSIFIED EXCAVATION	245				
505	11100	LS		PILE DRIVING EQUIPMENT MOBILIZATION	LS				
507	00200	2760	FT	STEEL PILES HP12X53, FURNISHED	2760				
507	00250	2415	FT	STEEL PILES HP12X53, DRIVEN	2415				
507	93300	69	EACH	STEEL POINTS OR SHOES	69				
509	10000	237523	LB	EPOXY COATED REINFORCING STEEL	31109	42654	163760		
509	30030	4116	FT	NO. 5 GFRP DEFORMED BARS			4116		
509	30040	7592	FT	NO. 6 GFRP DEFORMED BARS			7592		
511	33500	2	EACH	SEMI-INTEGRAL DIAPHRAGM GUIDE	2				
511	34446	556	CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK			556		
511	34448	163	CY	CLASS QC2 CONCRETE, BRIDGE DECK (PARAPET)			163		
511	41011	167	CY	CLASS QC1 CONCRETE, PIER ABOVE FOOTINGS, AS PER PLAN		167			2/38
511	43512	306	CY	CLASS QC1 CONCRETE WITH QC/QA, ABUTMENT INCLUDING FOOTING	306				
512	10100	1663	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)				1663	
513	10280	894000	LB	STRUCTURAL STEEL MEMBERS, LEVEL 4			894000		
513	20000	8430	EACH	WELDED STUD SHEAR CONNECTORS			8430		
516	11210	46	FT	STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL				46	
516	11211	46	FT	STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL, AS PER PLAN				46	36/38
516	13600	17	SF	1" PREFORMED EXPANSION JOINT FILLER	17				
516	13900	141	SF	2" PREFORMED EXPANSION JOINT FILLER	141				
516	14020	131	FT	SEMI-INTEGRAL ABUTMENT EXPANSION JOINT SEAL	131				
516	44100	10	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), 20.5"x24"x2.982"			10		
516	44400	10	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), 17"x17"x5.565"			10		
518	12200	4	EACH	SCUPPERS, INCLUDING SUPPORTS			4		
518	21200	119	CY	POROUS BACKFILL WITH FILTER FABRIC	119				
518	40000	190	FT	6" PERFORATED CORRUGATED PLASTIC PIPE				190	
518	40010	70	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS				70	
523	20000	1	EACH	DYNAMIC LOAD TESTING				1	
524	94704	80	FT	DRILLED SHAFTS, 36" DIAMETER, INTO BEDROCK		80			
524	94802	208	FT	DRILLED SHAFTS, 42" DIAMETER, ABOVE BEDROCK		208			
524	95000	36	FT	DRILLED SHAFTS, MISC.: DEMONSTRATION DRILLED SHAFT		36			
524	95100	3	EACH	DRILLED SHAFTS, MISC.: THERMAL INTEGRITY PROFILER (T.I.P.) WIRE CABLE TESTING OF DRILLED SHAFTS		3			
526	30001	230	SY	REINFORCED CONCRETE APPROACH SLABS (T=17"), AS PER PLAN				230	10&16/38
526	90031	100	FT	TYPE C INSTALLATION, AS PER PLAN				100	36/38
840	23000	484	CY	SELECT GRANULAR BACKFILL	484				
863	00100	2614	SY	GEOGRID, TYPE P1	26142				

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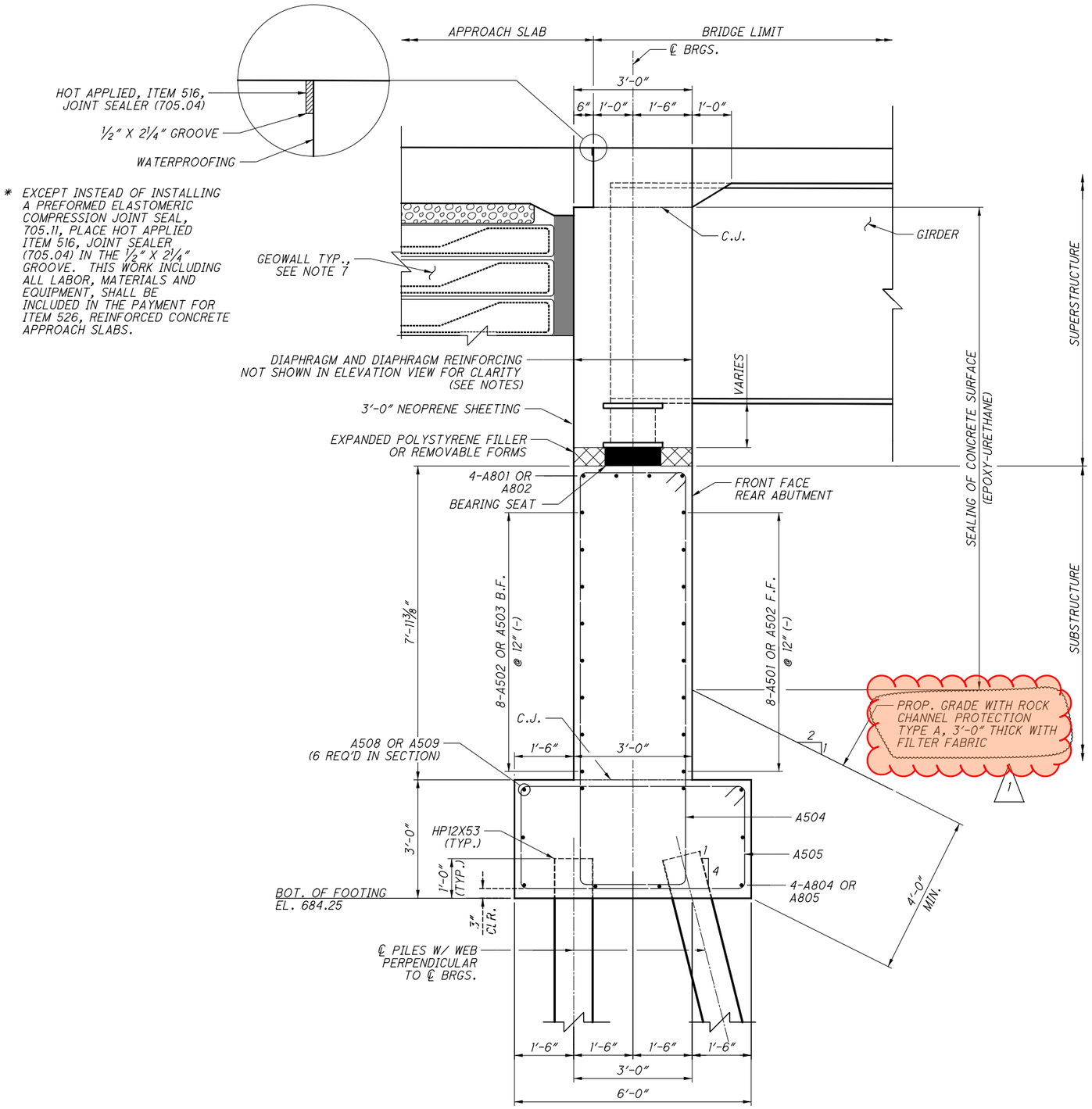
ESTIMATED QUANTITIES
DEF-127-0053
US-127 OVER MAUMEE RIVER

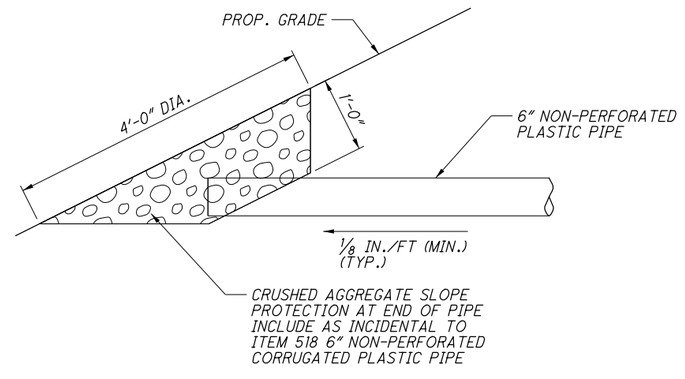
DEF-127-00.53
PID No. 102669

4 / 38

35
69



ABUTMENT SECTION



DETAIL A

NOTES:

1. FOR ABUTMENT DIAPHRAGM DETAILS, SEE SHEET 27/38 .
2. FOR ABUTMENT PLAN AND ELEVATION VIEW AND ADDITIONAL ABUTMENT NOTES, SEE SHEET 9/38 .
3. FOR BEARING DETAILS, SEE SHEET 28/38 .
4. FOR REINFORCEMENT SCHEDULE, SEE SHEET 37/38 .
5. FOR REAR ABUTMENT REMOVAL DETAILS, SEE SHEET 5/38 .
6. FOR ABUTMENT GEOWALL PLAN, ELEVATION AND LIMITS OF POROUS BACKFILL, SEE SHEET 12/38 .
7. FOR GEOWALL SECTION AND LIMITS OF POROUS BACKFILL, SEE SHEET 18/38 .
8. SEAL ALL THE EXPOSED SURFACES OF THE ABUTMENTS AND WINGWALLS (EPOXY-URETHANE).

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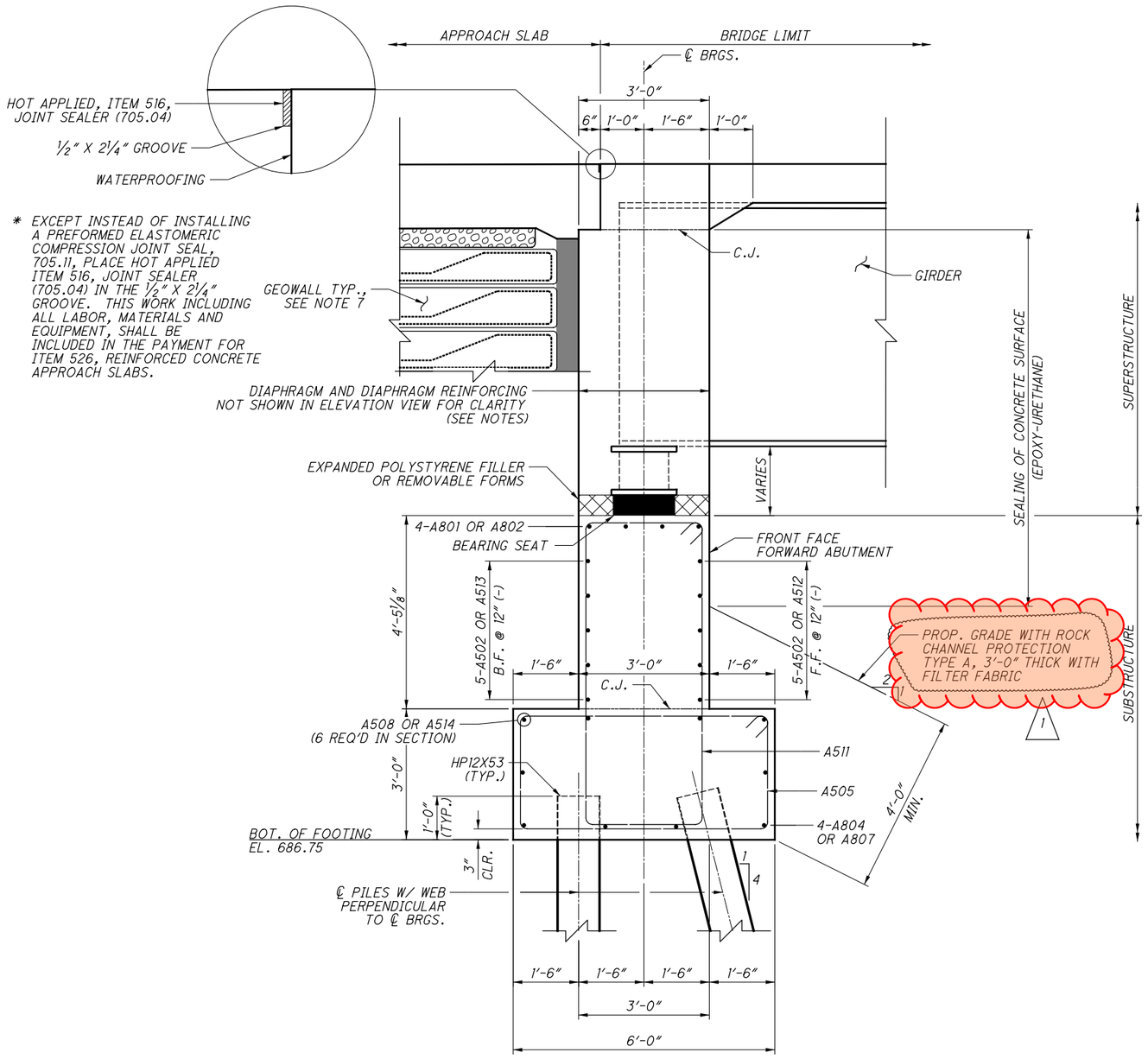
REAR ABUTMENT SECTION & DETAILS
DEF-127-0053
US-127 OVER MAUMEE RIVER

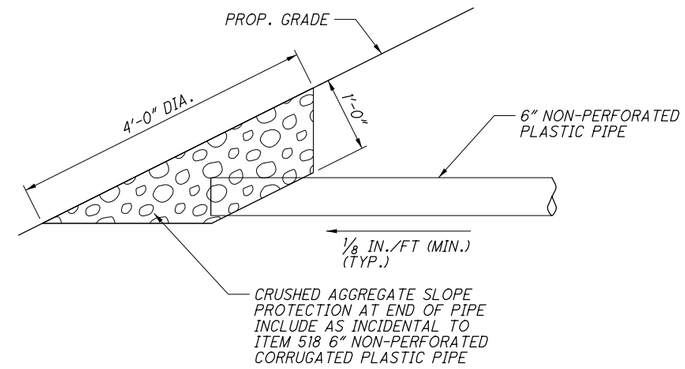
DEF-127-00.53
PID No. 102669

10 / 38

41
69



ABUTMENT SECTION



DETAIL A

NOTES:

1. FOR ABUTMENT DIAPHRAGM DETAILS, SEE SHEET 26/38 .
2. FOR ABUTMENT PLAN AND ELEVATION VIEW AND ADDITIONAL ABUTMENT NOTES, SEE SHEET 14/38 .
3. FOR BEARING DETAILS, SEE SHEET 28/38 .
4. FOR REINFORCEMENT SCHEDULE, SEE SHEET 37/38 .
5. FOR FORWARD ABUTMENT REMOVAL DETAILS, SEE SHEET 5/38 .
6. FOR FORWARD ABUTMENT GEOWALL PLAN AND ELEVATION AND LIMITS OF POROUS BACKFILL, SEE SHEET 17/38 .
7. FOR GEOWALL SECTION AND DETAILS, SEE SHEET 18/38 .
8. SEAL ALL THE EXPOSED SURFACES OF THE ABUTMENTS AND WINGWALLS (EPOXY-URETHANE).

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FORWARD ABUTMENT SECTION & DETAILS
DEF-127-0053
US-127 OVER MAUMEE RIVER

DEF-127-00.53
PID No. 102669

15 / 38

46
69