SHEET NUMBER								PARTICIPATION						ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
P1/158	P2/37	P3/188	P4/152	P5/13				01/IMS/04	02/IMS/11	05/IMS/14	06/MPO/04	07/NHS/04/COL	08/ENH/04/COL						
																		ROADWAY	
LS	LS		LS	LS				LS	LS					201	11000	LS		CLEARING AND GRUBBING	P1,P2,P4
1		1	2					4						202	20010	4	EACH	HEADWALL REMOVED	
32580	3886	21016	43428					100910						202	23000	100910	SY	PAVEMENT REMOVED	
	9050	3016	18064					30130						202	30000	30130	SF	WALK REMOVED	
	9							9						202	30200	9	FT	STEPS REMOVED	
		114						114						202	30600	114	SY	CONCRETE MEDIAN REMOVED	
1406		5525	3687					10618						202	30700	10618	FT	CONCRETE BARRIER REMOVED	
175								175						202	30701	175	FT	CONCRETE BARRIER REMOVED, AS PER PLAN "4A"	P1
		1280						1280						202	30701	1280	FT	CONCRETE BARRIER REMOVED, AS PER PLAN "6A"	P3
2870	1001	5724	4809	2230 ⚠				14404	1820	410 ⚠				202	32000	16634 ⚠	FT	CURB REMOVED	
		271						271						202	32500	271	FT	CURB AND GUTTER REMOVED	
		655						655						202	32800	655	SY	CONCRETE SLOPE PROTECTION REMOVED	
835	60	2324	2381	54				5600	54					202	35100	5654	FT	PIPE REMOVED, 24" AND UNDER	
4722		5283	1745	1647 ⚠				11750	1222	425 ⚠				202	38000	13397 ⚠	FT	GUARDRAIL REMOVED	
1		4						5						202	47800	5	EACH	IMPACT ATTENUATOR REMOVED	
2		9	1					12						202	58000	12	EACH	MANHOLE REMOVED	
13	2	10	13	3				38	3					202	58100	41	EACH	CATCH BASIN REMOVED	
4		33	13					50						202	58200	50	EACH	INLET REMOVED	
		1						1						202	58201	1	EACH	INLET REMOVED, AS PER PLAN	P3
			1					1						202	58400	1	EACH	INLET ABANDONED	
			3					3						202	58401	3	EACH	INLET ABANDONED, AS PER PLAN	P4
1			1					2						202	58500	2	EACH	CATCH BASIN ABANDONED	
			4					4						202	58501	4	EACH	CATCH BASIN ABANDONED, AS PER PLAN	P4
			323					323						SPECIAL	20270000	323	FT	FILL AND PLUG EXISTING CONDUIT, 12"	P4
162			50					212						SPECIAL	20270000	212	FT	FILL AND PLUG EXISTING CONDUIT, 15"	P1,P4
126								126						SPECIAL	20270000	126	FT	FILL AND PLUG EXISTING CONDUIT, 18"	P1
740	428	1156	1222					3546						202	75000	3546	FT	FENCE REMOVED	
2		1						3						202	75250	3	EACH	GATE REMOVED	
		1						1						202	75255	1	EACH	GATE REMOVED FOR REUSE, AS PER PLAN	P3
			4					4						202	75610	4	EACH	VALVE BOX REMOVED	
	3		6					9						202	98100	9	EACH	REMOVAL MISC.: TRASH RECEPTACLES	P2,P4
		2						2						202	98100	2	EACH	REMOVAL MISC.: INSPECTION WELL	P3
1070		1272	428					2770						202	98200	2770	FT	REMOVAL MISC.: PORTABLE BARRIER	P1,P3,P4
739								739						202	98200	739	FT	REMOVAL MISC.: PORTABLE BARRIER WITH VANDAL FENCE	P1
	303							303						202	98200	303	FT	REMOVAL MISC.: CURB REMOVED FOR STORAGE	P2
		100						100						202	98200	100	FT	REMOVAL MISC.: MISC CONDUIT	P3
		101						101						202	98200	101	FT	REMOVAL MISC.: TRENCH DRAIN	P3
	4845		307					5152						202	98400	5152	SF	REMOVAL MISC.: BRICK PAVERS REMOVED	P2,P4
	3 ⚠																		
19022	623	44689	44578	1149				108912	953	196				203	10000	110061	CY	EXCAVATION	
35175	7648	94130	45546	6658 ⚠				182499	6658					203	20000	189157 ⚠	CY	EMBANKMENT	
3977		24962		5561				28939	5561	⚠				203	20001	34500	CY	EMBANKMENT, AS PER PLAN	P1,P3,P5
3360								3360						203	35000	3360	CY	GRANULAR EMBANKMENT	
4592								4592						203	35001	4592	CY	GRANULAR EMBANKMENT, AS PER PLAN	P1
		2806						2806						203	35110	2806	CY	GRANULAR MATERIAL, TYPE B	
	3 ⚠																		
24495	4558	29583	6606					64994			248			204	10000	65242	SY	SUBGRADE COMPACTION	
250	975		1923					3148						204	13000	3148	CY	EXCAVATION OF SUBGRADE	
		172						172						204	13001	172	CY	EXCAVATION OF SUBGRADE, AS PER PLAN	P3
250	975		1923					3148						204	30010	3148	CY	GRANULAR MATERIAL, TYPE B	
28	4	12	32	4				74	4		2			204	45000	80	HOUR	PROOF ROLLING	
		1						1						204	45001	1	HOUR	PROOF ROLLING, AS PER PLAN	P3
500	3868		6338					10501			205			204	50000	10706	SY	GEOTEXTILE FABRIC	
		1032						1032						204	50001	1032	SY	GEOTEXTILE FABRIC, AS PER PLAN	P3
500	3868		6338					10501			205			204	51000	10706	SY	GEOGRID	

NO.	DESCRIPTION	REV. BY	DATE
1	REVISED PART 5	CWL	10-2-23
3	REVISED PART 3	CWL	10-23-23

CALCULATED CJC
CHECKED CWL

BIG BUILD MASTER GENERAL SUMMARY

FRA-70-13.11

SHEET NUMBER								PARTICIPATION						ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
P1/162	P2/39	P3/191	P4/157					01/IMS/04			07/NHS/04/COL								
																		WATER WORK	
			1					1						611	99655	1	EACH	MANHOLE ADJUSTED TO GRADE, AS PER PLAN	P4
	1		1					2						638	10400	2	EACH	FIRE HYDRANT ADJUSTED TO GRADE	P2,P4
	26							26						SPECIAL	63811602	26	FT	6" WATER MAIN DIP AND FITTINGS (COLUMBUS 801)	P2
	10							10						SPECIAL	63811604	10	FT	8" WATER MAIN DIP AND FITTINGS (COLUMBUS 801)	P2
	219		9					228						SPECIAL	63811608	228	FT	12" WATER MAIN DIP AND FITTINGS (COLUMBUS 801)	P2,P4
127								127						SPECIAL	63811614	127	FT	20" WATER MAIN DIP AND FITTINGS (COLUMBUS 801)	P1
			698					698						SPECIAL	63811616	698	FT	24" WATER MAIN DIP AND FITTINGS (COLUMBUS 801)	P4
			207					207						SPECIAL	63820476	207	EACH	42" STEEL PIPE ENCASEMENT, BORED OR JACKED (COLUMBUS 806)	P4
	7	1	16					24						SPECIAL	63820500	24	EACH	VALVE BOX ADJUSTED TO GRADE (COLUMBUS 807)	P2,P3,P4
	3							3						SPECIAL	63820538	3	EACH	6" GATE VALVE WITH VALVE BOX (COLUMBUS 802)	P2
	3		1					4						SPECIAL	63820586	4	EACH	12" GATE VALVE WITH VALVE BOX (COLUMBUS 802)	P2,P4
			4					4						SPECIAL	63820682	4	EACH	24" BUTTERFLY VALVE WITH VALVE BOX (COLUMBUS 802)	P4
	2							2						SPECIAL	63820750	2	EACH	6" FIRE HYDRANT, TYPE "A" (COLUMBUS 809)	P2
	2							2						SPECIAL	63820758	2	EACH	FIRE HYDRANT ABANDONED (COLUMBUS 809)	P2
	2							2						SPECIAL	63820880	2	EACH	CUT AND PLUG EXISTING 8" WATER LINE (COLUMBUS 808)	P2
			3					3						SPECIAL	63820884	3	EACH	CUT AND PLUG EXISTING 12" WATER LINE (COLUMBUS 808)	P4
			3					3						SPECIAL	63820886	3	EACH	CUT AND PLUG EXISTING 16" WATER LINE (COLUMBUS 808)	P4
2								2						SPECIAL	63820888	2	EACH	CUT AND PLUG EXISTING 20" WATER LINE (COLUMBUS 808)	P1
			2					2						SPECIAL	63820890	2	EACH	CUT AND PLUG EXISTING 24" WATER LINE (COLUMBUS 808)	P4
			1					1						638	98000	1	EACH	WATER WORK, MISC.: 24" x 24" TAPPING SLEEVE AND VALVE AND APPURTENANCES (COLUMBUS 803)	P4
			2					2						638	98000	2	EACH	WATER WORK, MISC.: FIRE HYDRANT, RELOCATED (COLUMBUS 809)	P4
			1					1						638	98000	1	EACH	WATER WORK, MISC.: 12" WATER MAIN ABANDONED (COLUMBUS 808)	P4
			1 (3)					1 (3)						638	98000	1 (3)	EACH	WATER WORK, MISC.: 16" WATER MAIN ABANDONED (COLUMBUS 808)	P4
			1					1						638	98000	1	EACH	WATER WORK, MISC.: 24" WATER MAIN ABANDONED (COLUMBUS 808)	P4
			1					1						638	98000	1	EACH	WATER WORK, MISC.: 1/2 INCH WATER SERVICE LINE TRANSFER (COLUMBUS 805)	P4
			2					2						638	98000	2	EACH	WATER WORK, MISC.: FIRE DEPARTMENT CONNECTION	P4
LS			LS					LS						638	98100	LS		WATER WORK, MISC.: CORROSION PROTECTION (20" DIAMETER AND GREATER) (COLUMBUS 801)	P1,P4
LS	LS		LS					LS						638	98100	LS		WATER WORK, MISC.: SURVEY COORDINATES	P1,P2,P4
			288					288						638	98600	288	FT	WATER WORK, MISC.: DRY STANDPIPE	P4
		1						1						SPECIAL	69098000	1	EACH	3.5 INCH HYDRANT EXTENSION (COLUMBUS 810)	P3
40	10		40					90						SPECIAL	69098700	90	CY	INCREASE OR DECREASE IN EXCAVATION AND BACKFILL (COLUMBUS 811)	P1,P2,P4
100	100		500					700						SPECIAL	69099400	700	LB	DUCTILE IRON FITTINGS, INCREASE OR DECREASE (COLUMBUS 801)	P1,P2,P4
																		SANITARY SEWER	
			4					4						611	99655	4	EACH	MANHOLE ADJUSTED TO GRADE, AS PER PLAN	P4
			1					1						611	99661	1	EACH	MANHOLE RECONSTRUCTED TO GRADE, AS PER PLAN	P4
			3								3			SPECIAL	69098000	3	EACH	CITY OF COLUMBUS MANHOLE, TYPE C (AA-S102)	P4
			21								21			SPECIAL	69098100	21	FT	CITY OF COLUMBUS 6" PIPE, 801.03, WITH TYPE 1 BEDDING, WITH ITEM 912 COMPACTED GRANULAR MATERIAL	P4
			267								267			SPECIAL	69098100	267	FT	CITY OF COLUMBUS 8" C905 PIPE, WITH TYPE 1 BEDDING, WITH ITEM 912 COMPACTED GRANULAR MATERIAL	P4
			31								31			SPECIAL	69098100	31	FT	CITY OF COLUMBUS 8" C905 PIPE, WITH TYPE 1 BEDDING, WITH ITEM 912 COMPACTED GRANULAR MATERIAL, AS PER PLAN	P4

CALCULATED CJC
CHECKED CWL

NO.	DESCRIPTION	REV. BY	DATE
3	REVISED 16" ABAND	CWL	10-20-23

BIG BUILD MASTER GENERAL SUMMARY

FRA-70-13.11

SHEET NUMBER								PARTICIPATION						ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
P1/163	P3/197B	P4/158						01/IMS/04											
																		RETAINING WALLS	
																		FOR RETAINING WALL 4W3 GENERAL SUMMARY	P1/327
																		FOR RETAINING WALL 4W8 GENERAL SUMMARY	P1/340
																		FOR RETAINING WALL 4W10 GENERAL SUMMARY	P1/345
																		FOR TEMPORARY SHORING AND WALL GENERAL SUMMARY	P1/349
																		FOR RETAINING WALL E2 GENERAL SUMMARY	P3/194
																		FOR RETAINING WALL E3 GENERAL SUMMARY	P3/194
																		FOR RETAINING WALL E4 GENERAL SUMMARY	P3/194
																		FOR RETAINING WALL E7 GENERAL SUMMARY	P3/195
																		FOR RETAINING WALL E9 GENERAL SUMMARY	P3/195
																		FOR RETAINING WALL 4W13 GENERAL SUMMARY	P4/306
																		FOR RETAINING WALL 4W14 GENERAL SUMMARY	P4/316
																		FOR RETAINING WALL 4W15 GENERAL SUMMARY	P4/325
																		FOR RETAINING WALL 4W16 GENERAL SUMMARY	P4/336
																		FOR RETAINING WALL 4W17 GENERAL SUMMARY	P4/358
																		FOR RETAINING WALL 4W18 GENERAL SUMMARY	P4/369
																		FOR RETAINING WALL 4W22 GENERAL SUMMARY	P4/377
																		FOR RETAINING WALL W4 GENERAL SUMMARY	P5/14A
																		3 FOR RETAINING WALL W6 GENERAL SUMMARY	P5/14A
																		STRUCTURE OVER 20 FOOT SPAN	
																		FOR FRA-70-1321R GENERAL SUMMARY	P1/436
																		FOR FRA-70-1358R GENERAL SUMMARY	P1/530
																		FOR FRA-70-1405C GENERAL SUMMARY	P2/207
																		FOR FRA-70-1405C CAP GENERAL SUMMARY	P2/260
																		FOR FRA-70-1405C AESTHETIC ENHANCEMENT GENERAL SUMMARY	P2/314
																		FOR FRA-70-1395C AESTHETIC ENHANCEMENT GENERAL SUMMARY	P2/370A
																		FOR FRA-70-1322L GENERAL SUMMARY	P3/195-196
																		FOR FRA-70-1323C GENERAL SUMMARY	P3/196
																		FOR FRA-70-1358L GENERAL SUMMARY	P3/197
																		FOR FRA-70-1373L GENERAL SUMMARY	P3/197-197A
																		FOR FRA-70-1358R GENERAL SUMMARY	P3/197A
																		FOR FRA-33-1747C GENERAL SUMMARY	P4/563
																		FOR FRA-33-1747C CAP GENERAL SUMMARY	P4/604
																		FOR FRA-23-1075C GENERAL SUMMARY	P4/642
																		FOR FRA-23-1075C AESTHETIC ENHANCEMENT GENERAL SUMMARY	P4/705
																		FOR FRA-70-1301L GENERAL SUMMARY	P5/14
																		FOR FRA-70-1301R GENERAL SUMMARY	P5/14-14A
																		MISCELLANEOUS STRUCTURE	
	LS							LS						202	11000	LS		STRUCTURE REMOVED	
	LS							LS						202	11003	LS		STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN	P3
	LS							LS						202	11201	LS		PORTIONS OF STRUCTURE REMOVED, AS PER PLAN	P3
	LS							LS						202	11201	LS		PORTIONS OF STRUCTURE REMOVED, AS PER PLAN "A"	P3
	LS							LS						202	11201	LS		PORTIONS OF STRUCTURE REMOVED, AS PER PLAN "B"	P3
	LS							LS						202	11201	LS		PORTIONS OF STRUCTURE REMOVED, AS PER PLAN "C"	P3
	218							218						202	22900	218	SY	APPROACH SLAB REMOVED	
69	55	27						151						511	50211	151	CY	CLASS QC1 CONCRETE, SUBSTRUCTURE, AS PER PLAN	P1,P3,P4
	87							87						511	53012	87	CY	CLASS QC2 CONCRETE, MISC.: LOAD DISTRIBUTION SLAB	P3
	6727							6727						512	10000	6727	SY	SEALING OF CONCRETE SURFACES	
	443							443						SPECIAL	69098100	443	FT	COVERED WALKWAY SYSTEM	P3

NO.	DESCRIPTION	REV. BY	DATE
3	ADDED W4 & W6	CWL	10-23-23

CALCULATED CJC
CHECKED CWL

BIG BUILD MASTER GENERAL SUMMARY

FRA-70-13.11

155
1151

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10/23/2023
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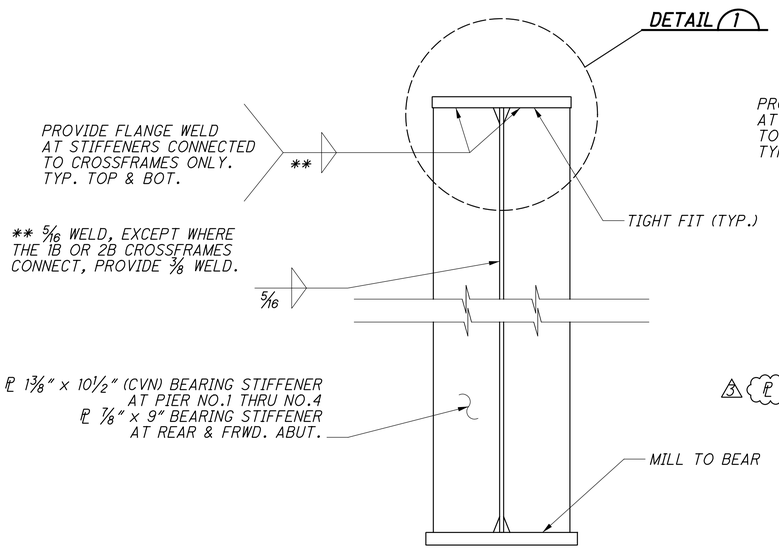
SHEET NUMBER								PARTICIPATION						ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
P1/65	P2/40	P3/197B	P4/49	P5/14B	3			01/IMS/04	02/IMS/11										
																		MAINTENANCE OF TRAFFIC	
6000								6000						254	01000	6000	SY	PAVEMENT PLANING, ASPHALT CONCRETE, 1.5"	P1
200								200						410	12000	200	CY	TRAFFIC COMPACTED SURFACE, TYPE A OR B	P1
1000			1000	2				2000	2					607	30001	2000	FT	FENCE, SNOW, AS PER PLAN	P1,P4
174								174						611	05900	174	FT	15" CONDUIT, TYPE B	
1405								1405						611	97010	1405	FT	SLOTTED DRAIN, TYPE 2, 12"	
1								1						611	98150	1	EACH	CATCH BASIN, NO. 3	
3								3						611	98370	3	EACH	CATCH BASIN, NO. 6	
5								5						611	99500	5	EACH	INLET, MISC.: INLET, CAPPED BELOW GRADE	
2400		944	2000					5344						614	11110	5344	HOUR	LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE	P1
			2					2						SPECIAL	61411300	2	EACH	WORK ZONE TRAFFIC SIGNAL	P4
17120			27376					44496						614	11630	44496	FT	INCREASED BARRIER DELINEATION	P1
12		19	13	4				44	4					614	12380	48	EACH	WORK ZONE IMPACT ATTENUATOR, 24" WIDE HAZARDS, (UNIDIRECTIONAL)	P1
LS		LS	LS					LS						614	12420	LS		DETOUR SIGNING	P1
			11					11						614	12470	11	EACH	WORK ZONE SPEED LIMIT SIGN	P1
6		9	10					25						614	12484	25	EACH	WORK ZONE INCREASED PENALTIES SIGN	
50		20	50					120						614	12500	120	EACH	REPLACEMENT SIGN	P1
300		50	300					650						614	12600	650	EACH	REPLACEMENT DRUM	P1
			2					2						614	12756	2	EACH	WORK ZONE CROSSOVER LIGHTING SYSTEM	
			3645					3645						614	12800	3645	EACH	WORK ZONE RAISED PAVEMENT MARKER	
193		3504						3697						614	12801	3697	EACH	WORK ZONE RAISED PAVEMENT MARKER, AS PER PLAN	P1,P3
				120					120					614	13310	120	EACH	BARRIER REFLECTOR, TYPE 1 (ONE WAY)	
349		1566						1915						614	13310	1915	EACH	BARRIER REFLECTOR, TYPE 1, ONE-WAY	P1
			1440					1,440						614	13310	1440	EACH	BARRIER REFLECTOR, TYPE 1, BIDIRECTIONAL	
		29						29						614	13312	29	EACH	BARRIER REFLECTOR, TYPE 2, ONE-WAY	
349		548		40				897	40					614	13350	937	EACH	OBJECT MARKER, ONE WAY	P1
				4					4					614	13600	4	EACH	MAINTENANCE OF TRAFFIC, ONE LANE CLOSURE ON A TWO LANE HIGHWAY	
50000								50000						614	18000	50000	EACH	MAINTAINING TRAFFIC, MISC.: BRIDGE DECK AND PAVEMENT PATCHING	P1
1000								1000						614	18030	1000	FT	MAINTAINING TRAFFIC, MISC.: CONSTRUCTION FENCE	P1
		1000						1000						614	18030	1000	FT	MAINTAINING TRAFFIC, MISC.: PORTABLE WATER FILLED BARRIER PROTECTED PEDESTRIAN WALKWAY	P3
144		89	48					281						614	18601	281	SNMT	PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN	P1,P3,P4
2.21								2.21						614	20011	2.21	MILE	WORK ZONE LANE LINE, CLASS I, 6", AS PER PLAN, SPRAY THERMOPLASTIC	P1
4.30		12.87	3.41					20.58						614	20056	20.58	MILE	WORK ZONE LANE LINE, CLASS I, 6", 807 PAINT	
			0.62					0.62						614	20200	0.62	MILE	WORK ZONE LANE LINE, CLASS I, 4", 740.06, TYPE I	
		0.11						0.11						614	21050	0.11	MILE	WORK ZONE CENTER LINE, CLASS I, 807 PAINT, DOUBLE SOLID, WHITE	
0.51								0.51						614	21100	0.51	MILE	WORK ZONE CENTER LINE, CLASS I, 642 PAINT	
5.98								5.98						614	22011	5.98	MILE	WORK ZONE EDGE LINE, CLASS I, 6", AS PER PLAN, SPRAY THERMOPLASTIC	P1
9.22		25.10	13.08					47.40						614	22056	47.40	MILE	WORK ZONE EDGE LINE, CLASS I, 6", 807 PAINT	
			1.42					1.42						614	22200	1.42	MILE	WORK ZONE EDGE LINE, CLASS I, 4", 740.06, TYPE I	
11491								11491						614	23011	11491	FT	WORK ZONE CHANNELIZING LINE, CLASS I, 12", AS PER PLAN, SPRAY THERMOPLASTIC	P1
13094		64782	30704					108580						614	23110	108580	FT	WORK ZONE CHANNELIZING LINE, CLASS I, 12", 807 PAINT	
			275					275						614	23400	275	FT	WORK ZONE CHANNELIZING LINE, CLASS I, 8", 740.06, TYPE I	
3302								3302						614	24001	3302	FT	WORK ZONE DOTTED LINE, CLASS I, AS PER PLAN, SPRAY THERMOPLASTIC	P1
1401			7974					9375						614	24100	9375	FT	WORK ZONE DOTTED LINE, CLASS I, 4", 807 PAINT	
		11051						11051						614	24102	11051	FT	WORK ZONE DOTTED LINE, CLASS I, 6", 807 PAINT	
			857					857						614	24400	857	FT	WORK ZONE DOTTED LINE, CLASS 1, 740.06, TYPE I	
			1159					1159						614	25000	1159	FT	WORK ZONE TRANSVERSE/DIAGONAL LINE, CLASS I	
95								95						614	26200	95	FT	WORK ZONE STOP LINE, CLASS I, 642 PAINT	
			53					53						614	26400	53	FT	WORK ZONE STOP LINE, CLASS I, 740.06 TYPE I	
	639		466					1105						614	27070	1105	FT	WORK ZONE CROSSWALK LINE, CLASS I, 12", 740.06, TYPE I	
		2026						2026						614	28400	2026	FT	WORK ZONE GORE MARKING, CLASS II, 740.06, TYPE I	
6								6						614	30200	6	EACH	WORK ZONE ARROW, CLASS I, 642 PAINT	
		8	12					20						614	30400	20	EACH	WORK ZONE ARROW, CLASS I, 740.06, TYPE I	
		73						73						614	98200	73	EACH	WORK ZONE PAVEMENT MARKING, MISC.: ROUTE SHIELDS	P3

NO.	DESCRIPTION	REV. BY	DATE
2	TEMP FENCE/BRICK X-WALK TEMP	CWL	10-13-23
3	REVISED P5 SHEET #	CWL	10-23-23

CALCULATED CJC
CHECKED CWL

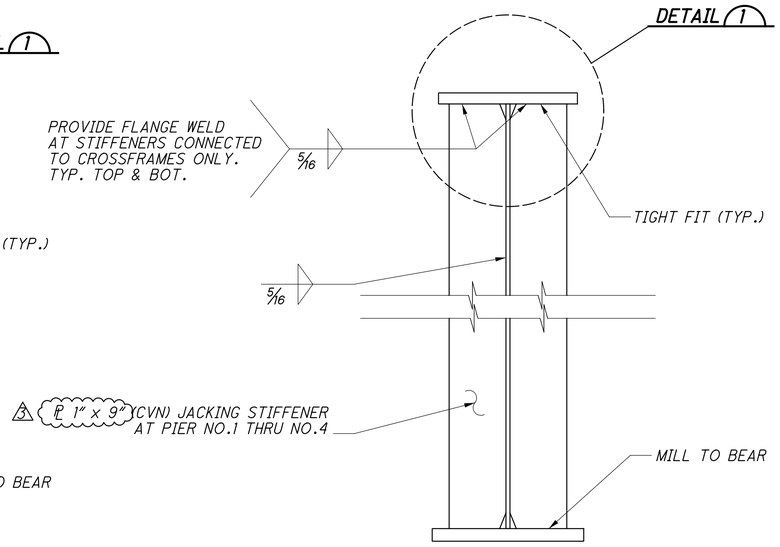
BIG BUILD MASTER GENERAL SUMMARY

FRA-70-13.11



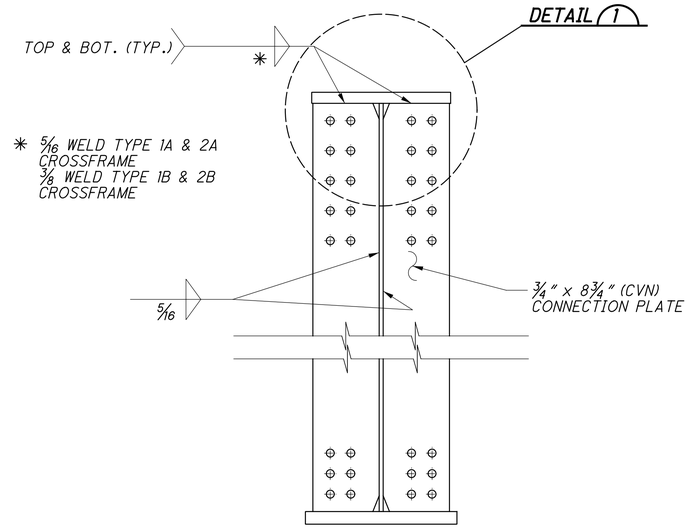
BEARING STIFFENER

PLACE BEARING STIFFENERS NORMAL TO GIRDER



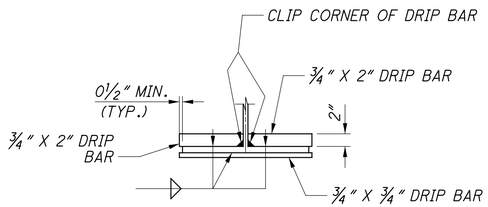
JACKING STIFFENER

PLACE JACKING STIFFENERS NORMAL TO GIRDER

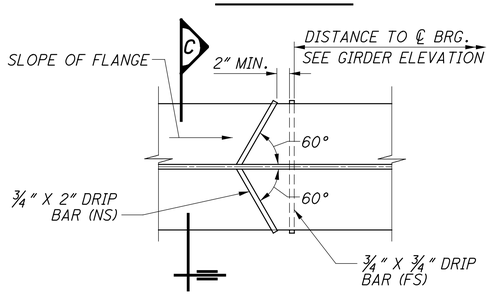


INTERMEDIATE CROSSFRAME CONNECTION PLATES

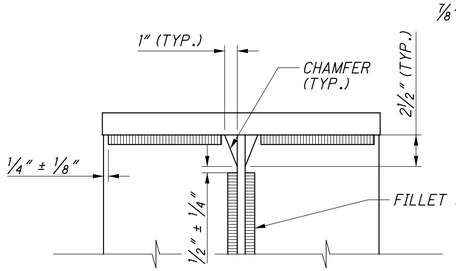
FOR BOLT HOLE LOCATIONS, SEE INTERMEDIATE CROSSFRAME DETAILS.



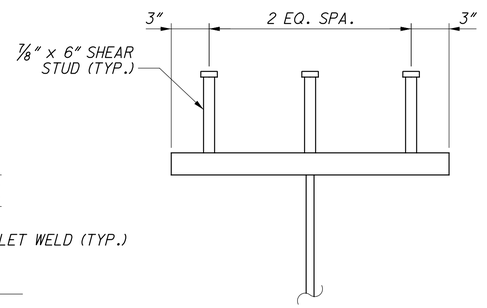
SECTION C



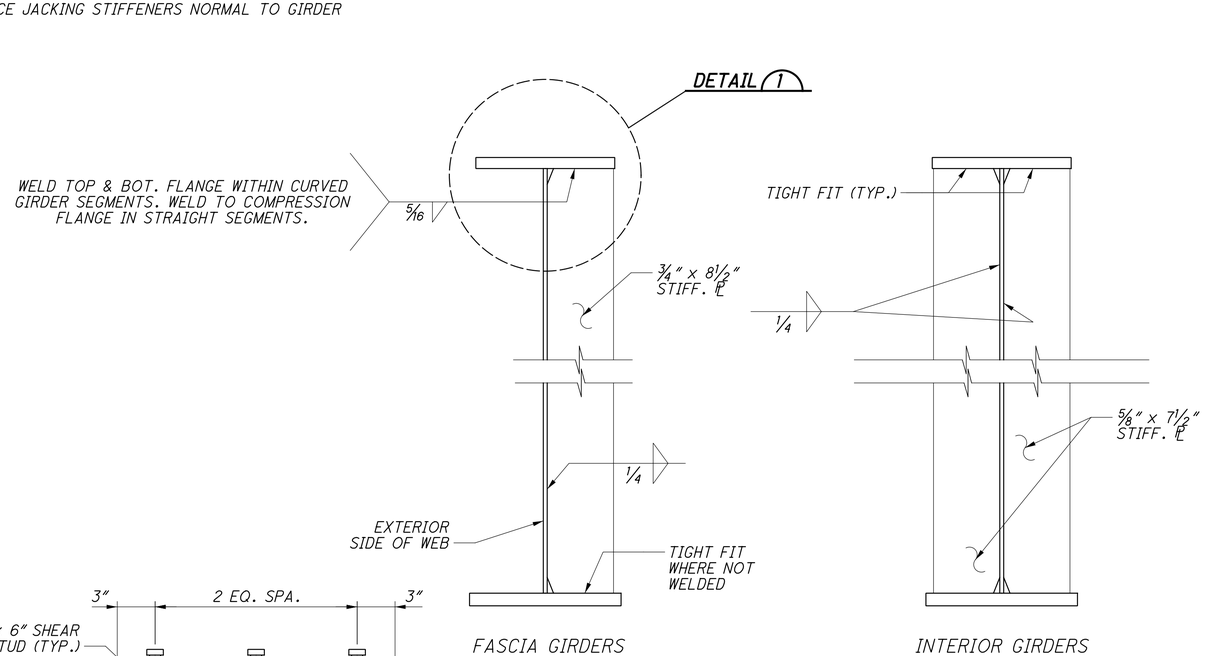
DRIP BAR DETAIL



DETAIL 1



SHEAR STUD CONNECTION LAYOUT



INTERMEDIATE TRANSVERSE STIFFENER PLATES

PLACE STIFFENER PLATES NORMAL TO GIRDER

NOTES:

1. CVN: WHERE A SHAPE OR PLATE IS DESIGNATED (CVN), FURNISH MATERIAL THAT MEETS THE MINIMUM NOTCH TOUGHNESS REQUIREMENTS AS SPECIFIED IN 711.01.
2. INSTALL STIFFENERS IN ACCORDANCE WITH CMS 513.13 AND AS SPECIFIED HERE IN.

NO.	DESCRIPTION	REV. BY	DATE
3	PLATE SIZE REVISED	DJC	10-23-23

DESIGN AGENCY
GPD GROUP
Glaus, Pyle, Schomer, Burns & DeHaven, Inc.
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614.210.0751
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DESIGNED	DRAWN	REVIEWED	DATE
TJW/DGN	JLH	RHC	4-21-23
CHECKED	REVISED	STRUCTURE FILE NUMBER	
DJC		2510016	

MISCELLANEOUS GIRDER DETAILS
BRIDGE NO. FRA-70-1321R
I-70 E.B. OVER THE SCIOTO RIVER

FRA-70-13.11
PID No. 77372

52 / 101

475
1151

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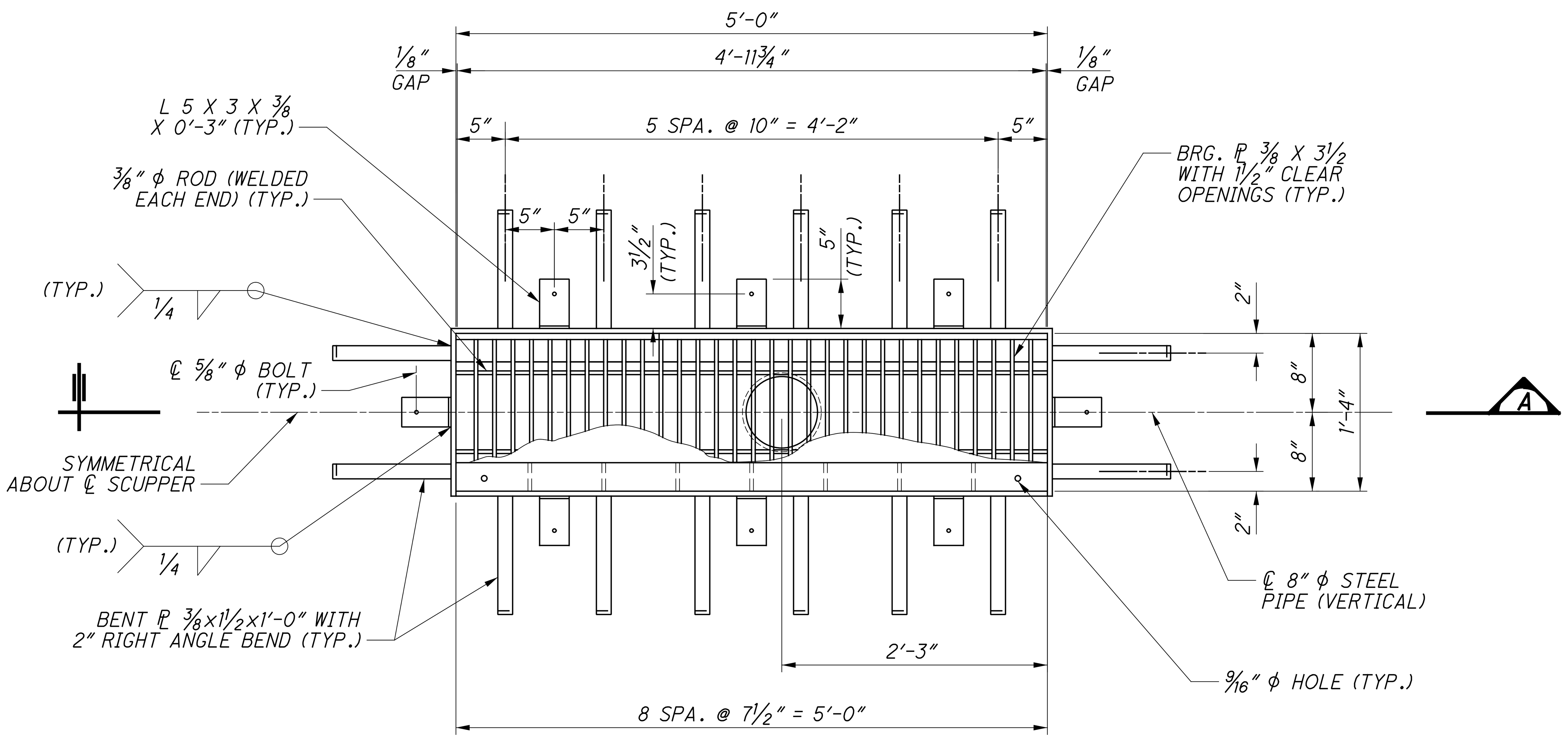
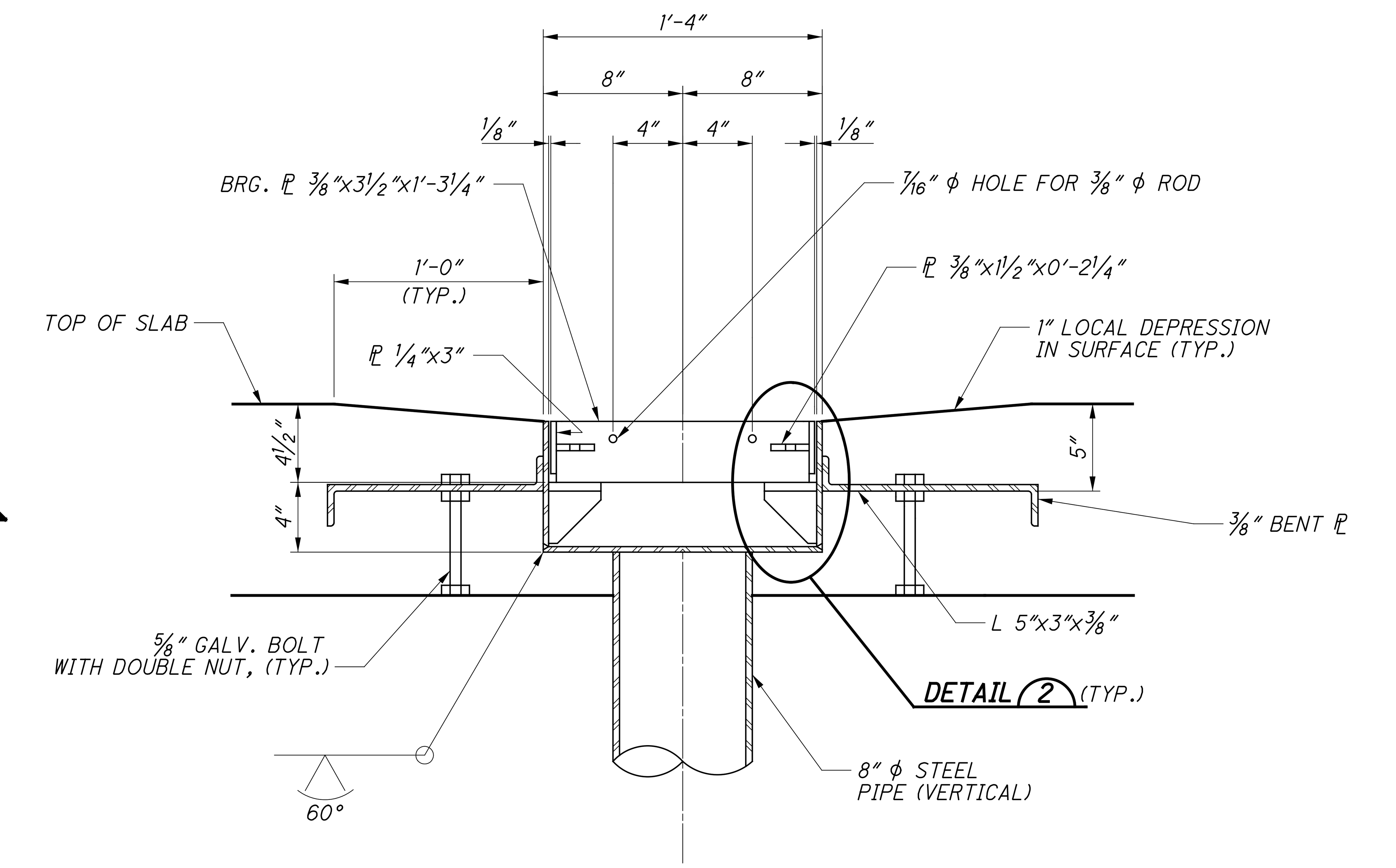
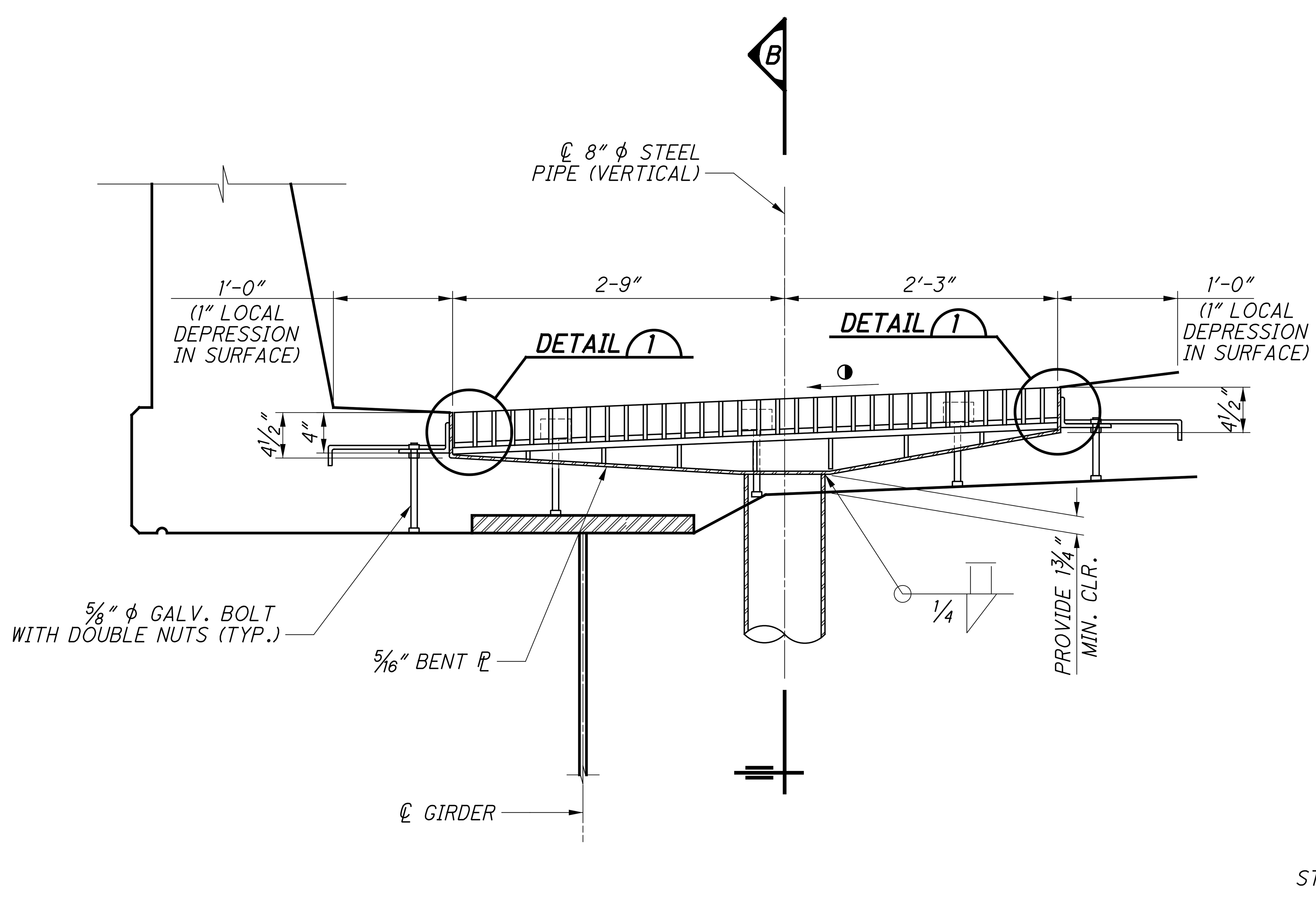


PLAN - TYPICAL SCUPPER



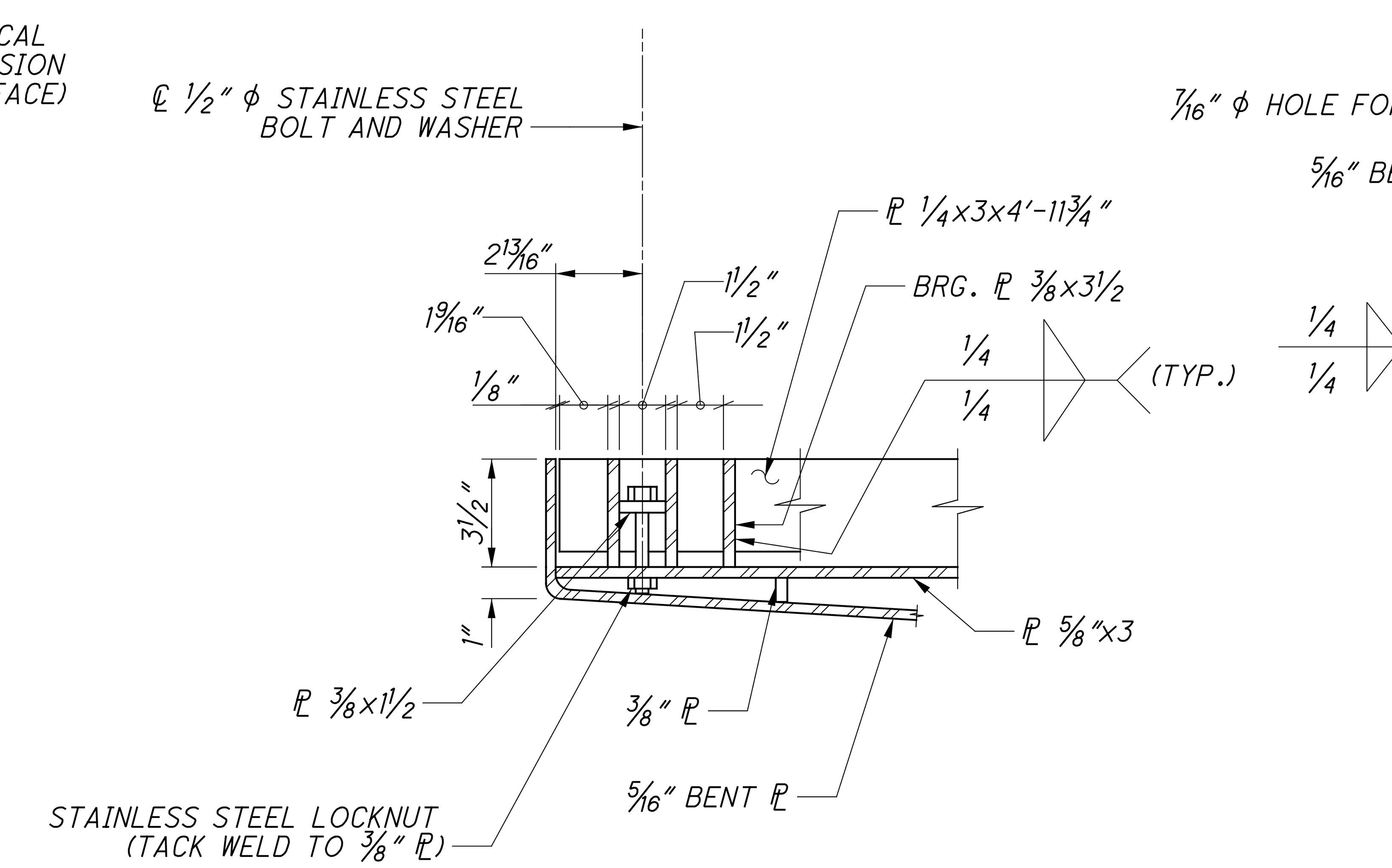
SECTION B

SCUPPER CROSS SLOPE TABLE	
SCUPPER LOCATION	CROSS SLOPE (FT/FT)
148+40 LT	0.0160
3 149+40 LT	0.0160
151+39 LT	0.0160

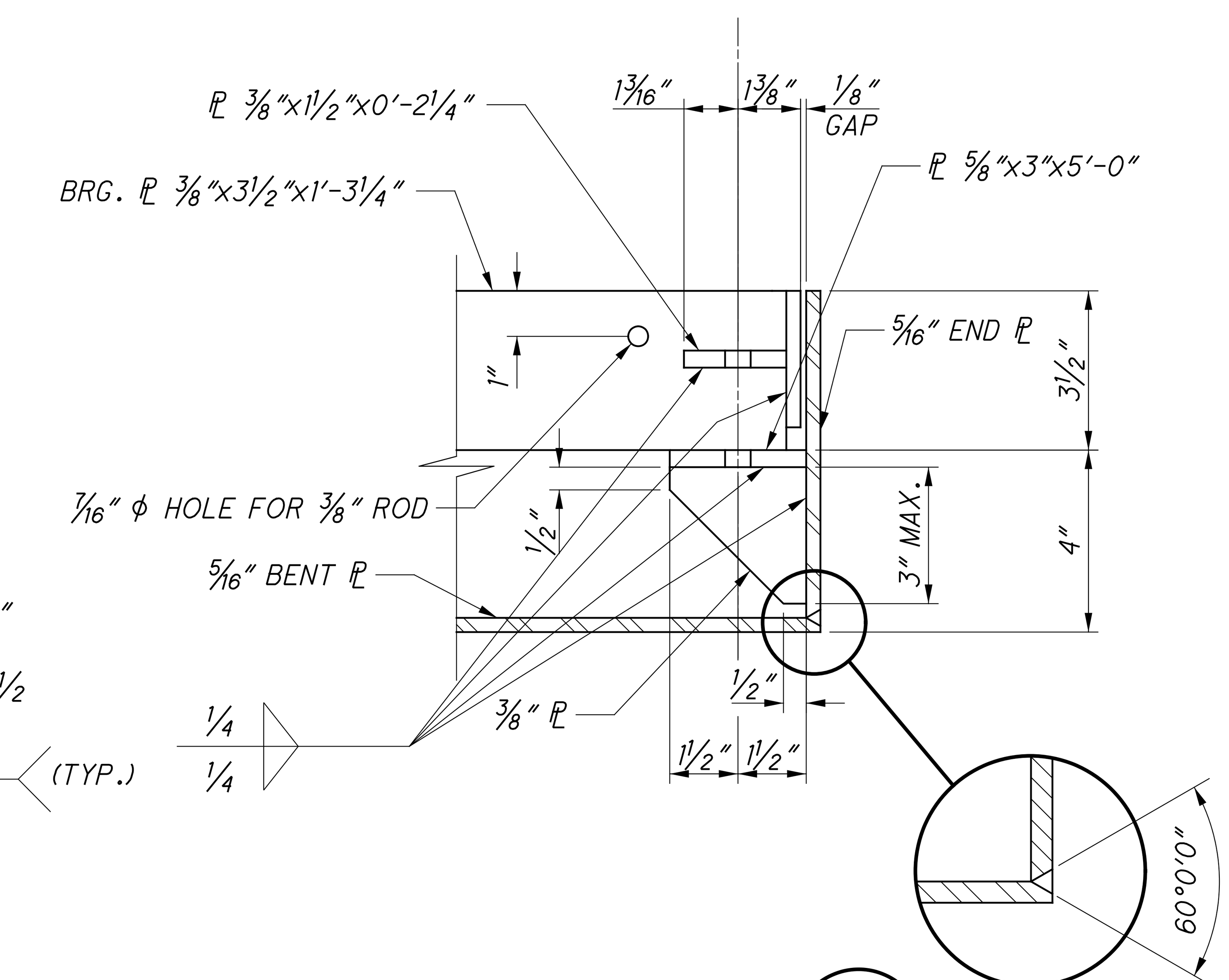


SECTION A

◑ SEE TABLE FOR CROSS SLOPE TO BE PROVIDED IN SCUPPER SURFACE. OUTLET PIPE SHALL BE VERTICAL AFTER ERECTION.



DETAIL 1



DETAIL 2

NOTES:

1. FOR ADDITIONAL SCUPPER OUTLET DETAILS, SEE SHEET 68/101.
2. GALVANIZE ALL SCUPPER COMPONENTS AFTER FABRICATION ACCORDING TO 711.02.

NO.	DESCRIPTION	REV. BY	DATE
3	TABLE REVISED	DJC	10-23-23

DESIGN AGENCY
GPD GROUP
Glaus, Pyle, Schomer, Burns & DeHaven, Inc.
1801 Watermark Drive, Suite 210, Columbus, OH 43215 614.210.0751

DESIGNED	DRAWN	REVIEWED	DATE
TJW	SAT	DGN	4-21-23
CHECKED	REVISED	STRUCTURE FILE NUMBER	
RHC		2510016	

SCUPPER DETAILS
BRIDGE NO. FRA-70-1321R
I-70 E.B. OVER THE SCIOTO RIVER

FRA-70-13.11
PID No. 77372

ITEM	EXT.	TOTAL	PARTICIPATION 01/IMS/04	PARTICIPATION 02/IMS/11	PARTICIPATION 09/IMS/17/COL	UNITS	DESCRIPTION	ABUTMENT	PIER	SUPER-STRUCTURE	GENERAL	REFERENCE SHEET NO.
202	11003	LS		LS			STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN					5
202	22900	400		400		SY	APPROACH SLAB REMOVED				400	
202	23500	1,932		1,932		SY	WEARING COURSE REMOVED				1,932	
503	11101	LS		LS			COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN					4
503	21100	2,175		2,175		CY	UNCLASSIFIED EXCAVATION	1,518	657			
509	10000	318,451		318,451		LB	EPOXY COATED REINFORCING STEEL	86,021	84,244	148,186		
511	34446	544		544		CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK			544		
511	41012	252		252		CY	CLASS QC1 CONCRETE WITH QC/QA, PIER ABOVE FOOTINGS		252			
511	44113	572		572		CY	CLASS QC1 CONCRETE WITH QC/QA, ABUTMENT NOT INCLUDING FOOTING, AS PER PLAN	572				4
511	46512	532		532		CY	CLASS QC1 CONCRETE WITH QC/QA, FOOTING	374	158			
511	51513	98		98		CY	CLASS QC2 CONCRETE WITH QC/QA, SIDEWALK, AS PER PLAN			98		4
512	10050	640		640		SY	SEALING OF CONCRETE SURFACES (NON-EPOXY)	13		627		
512	10100	1,071		1,071		SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	744	327			
512	33000	42		42		SY	TYPE 2 WATERPROOFING	42				
513	10200	12,292	12,292			LB	STRUCTURAL STEEL MEMBERS, LEVEL UF (COC, COC DOT, AND ODOT DUCT BANK SUPPORT)			12,292		
513	10200	12,292			12,292	LB	STRUCTURAL STEEL MEMBERS, LEVEL UF (AT&T DUCT BANK SUPPORT)			12,292		
513	10200	11,837			11,837	LB	STRUCTURAL STEEL MEMBERS, LEVEL UF (AEP DUCT BANK SUPPORT)			11,837		
513	10280	639,400	3	639,400		LB	STRUCTURAL STEEL MEMBERS, LEVEL 4		3	639,400		
513	20000	6,090		6,090		EACH	WELDED STUD SHEAR CONNECTORS			6,090		
514	00060	32,100		32,100		SF	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT			32,100		
514	00066	32,100		32,100		SF	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT			32,100		
516	10010	166		166		FT	ARMORLESS PREFORMED JOINT SEAL				166	
516	11210	189		189		FT	STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL			189		
516	13600	1,215		1,215		SF	1" PREFORMED EXPANSION JOINT FILLER	464	751			
516	13900	189		189		SF	2" PREFORMED EXPANSION JOINT FILLER		189			
516	44101	10		10		EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE) 9 ½" x 1'-4" x 2.67" PAD WITH 10 ½" x 1'-10" BEVELED PLATE, AS PER PLAN			10		32
516	44101	10		10		EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE) 10 ½" x 1'-5" x 2.67" PAD WITH 11 ½" x 1'-10" BEVELED PLATE, AS PER PLAN			10		32
516	44201	10		10		EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE) 1'-5" x 2'-2" x 3.21" PAD WITH 1'-6" x 2'-11" BEVELED PLATE, AS PER PLAN			10		32
518	21200	146		146		CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC	146				
518	40000	290		290		FT	6" PERFORATED CORRUGATED PLASTIC PIPE	290				
524	94997	1,056		1,056		FT	DRILLED SHAFTS, 96" DIAMETER, ABOVE BEDROCK, AS PER PLAN	1,056				4
524	95100	1		1		EACH	DRILLED SHAFTS,MISC.: CSL TESTING, 96" DIAMETER SHAFT	1				4
526	25011	196		196		SY	REINFORCED CONCRETE APPROACH SLABS WITH QC/QA (T=15"), AS PER PLAN				196	49
526	30011	216		216		SY	REINFORCED CONCRETE APPROACH SLABS WITH QC/QA (T=17"), AS PER PLAN				216	49
526	90031	170		170		FT	TYPE C INSTALLATION, AS PER PLAN				170	49
622	10160	185		185		FT	CONCRETE BARRIER, SINGLE SLOPE, TYPE D		185			
622	25050	2		2		EACH	CONCRETE BARRIER, END ANCHORAGE, REINFORCED, TYPE D		2			
625	10620	5		5		EACH	LIGHT POLE ANCHOR BOLTS, MISC.: LIGHT POLE AND PEDESTRIAN POLE ANCHOR BOLT ASSEMBLIES EMBEDDED IN CONCRETE BRIDGE DECK			5		5
867	00100	LS		LS			TEMPORARY WIRE FACED MECHANICALLY STABILIZED EARTH WALL					
894	10000	12		12			THERMAL INTEGRITY PROFILER (T.I.P.) TEST	12				
SPECIAL	53000200	LS			LS		STRUCTURES: LUMEN COMMUNICATION DUCT BANK COMPLETE					5
SPECIAL	53000200	LS	LS				STRUCTURES: CITY OF COLUMBUS DUCT BANK COMPLETE					5
SPECIAL	53000200	LS	LS				STRUCTURES: CITY OF COLUMBUS (DEPARTMENT OF TECH) DUCT BANK COMPLETE					5
SPECIAL	53000200	LS	LS				STRUCTURES: ODOT DUCT BANK COMPLETE					5
SPECIAL	53000200	LS			LS		STRUCTURES: AT&T DUCT BANK COMPLETE					5
SPECIAL	53000200	LS			LS		STRUCTURES: TEMPORARY UTILITY SUPPORTS					5
SPECIAL	53000200	LS			LS		STRUCTURES: AEP DUCT BANK COMPLETE					5
SPECIAL	53000600	2,866		2,866		SF	STRUCTURES: PRECAST FACADE PANELS	2,866				5

CALCULATED: RHC
DATE: 6-25-20

CHECKED: MOJ
DATE: 6-26-20

NO.	DESCRIPTION	REV. BY	DATE
3	QUANTITY REVISED	DJC	10-23-23

DESIGN AGENCY
GPD GROUP
Glaus, Pyle, Schomer, Burns & DeHaven, Inc.
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DESIGNED MOJ | CHECKED RHC
DRAWN MOJ | REVISED
REVIEWED DGN | DATE 4-21-23
STRUCTURE FILE NUMBER 25100024

ESTIMATED QUANTITIES
BRIDGE NO. FRA-70-1405C
S. HIGH STREET (U.S. 23D) OVER I-70/71

FRA-70-14.05C
PID No. 105596

6 / 55

207
395

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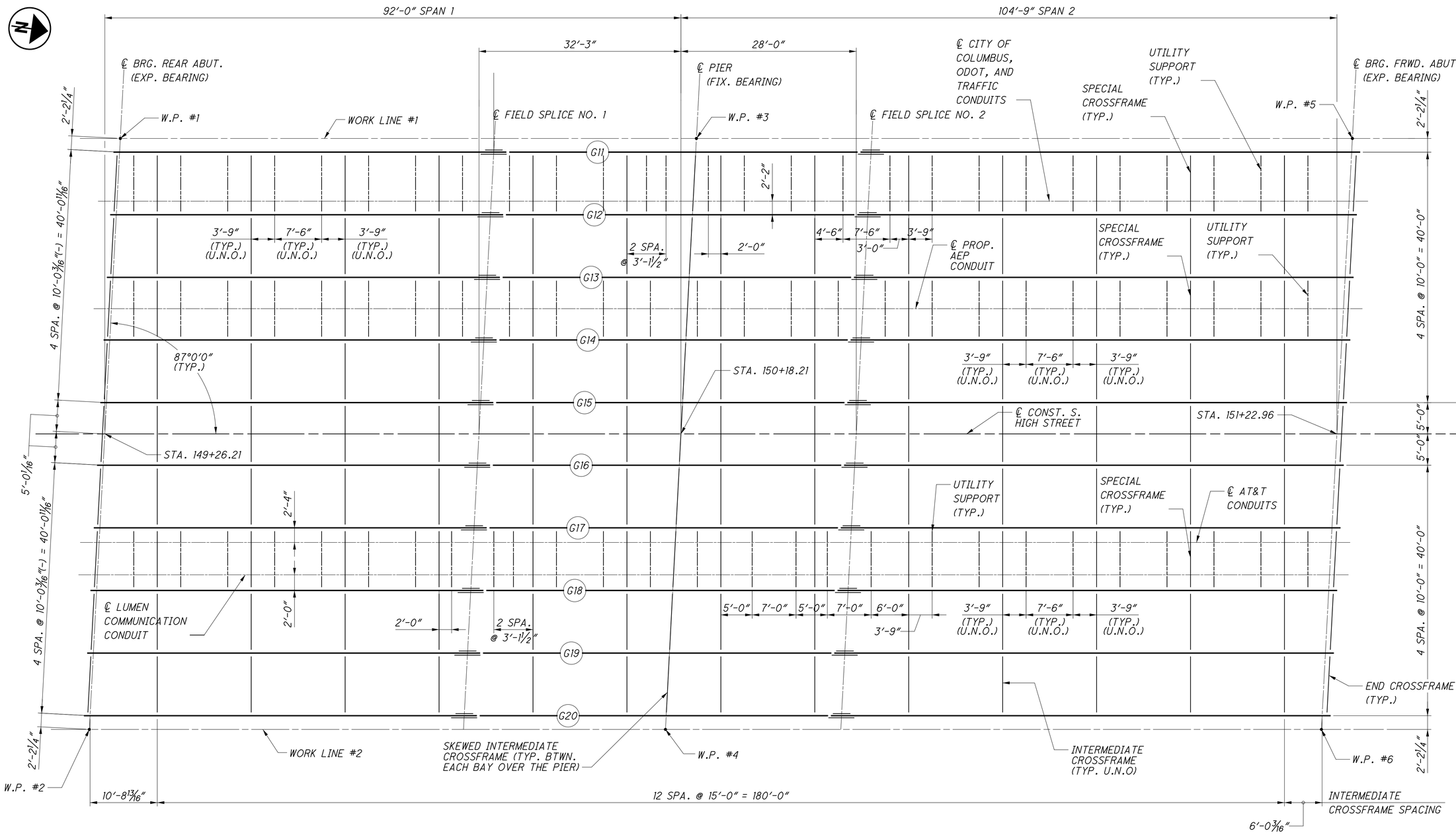

FRAMING PLAN

NOTES:

1. INTERMEDIATE CROSSFRAMES SHALL BE TYPE B (3) USING L4" x 4" x ⅜" ANGLES AS DETAILED IN STD. DWG. GSD-1-19. AT SKEWED INTERMEDIATE CROSSFRAME, PROVIDE ½" THICK BENT PLATE CONNECTED TO BEARING STIFFENERS.
2. FOR CAMBER & DEFLECTION TABLE, SEE SHT. NOS. 38/55 & 39/55 .
3. FOR SPECIAL CROSSFRAME DETAILS, SEE SHT. NOS. 36/55 & 36A/55 .
4. FOR UTILITY SUPPORT DETAILS, SEE SHT. NOS. 36B/55 & 37/55.

NO.	DESCRIPTION	REV. BY	DATE
3	REVISED CROSSFRAME TYPE	DJC	10-23-23

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10/19/2023
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DESIGN AGENCY
GPD GROUP
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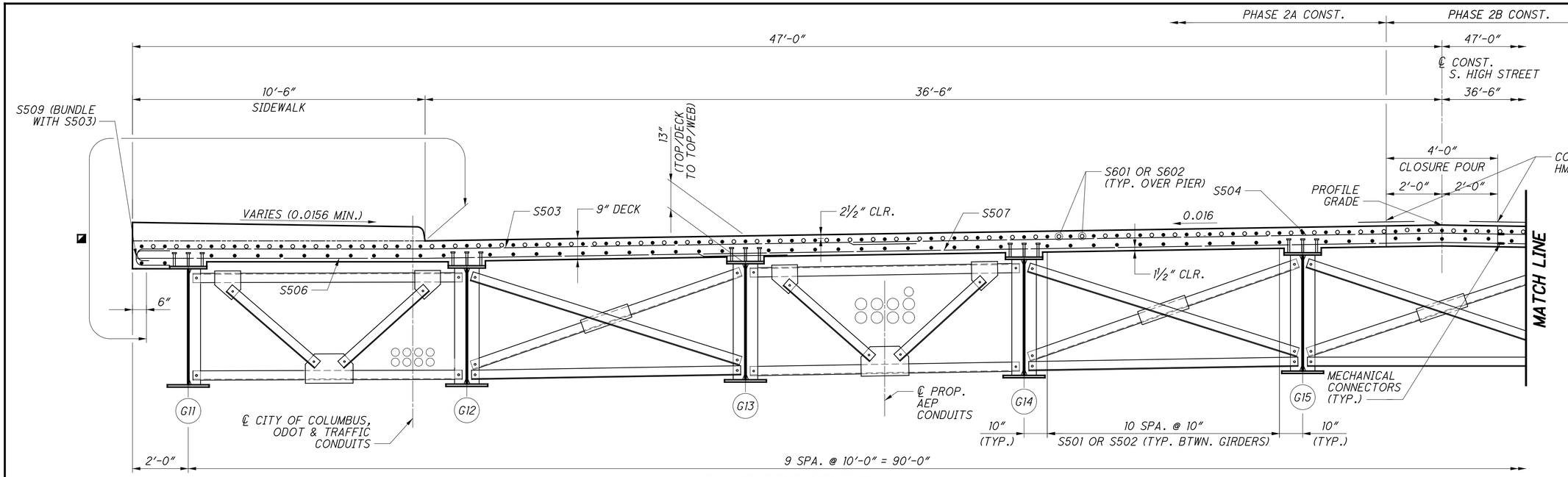
DESIGNED	DRAWN	REVIEWED	DATE
RHC	RPR	TJW	4-21-23
CHECKED	REVISED	STRUCTURE FILE NUMBER	
DGN		2510024	

FRAMING PLAN
BRIDGE NO. FRA-70-1405C
S. HIGH STREET (U.S. 23D) OVER I-70/71

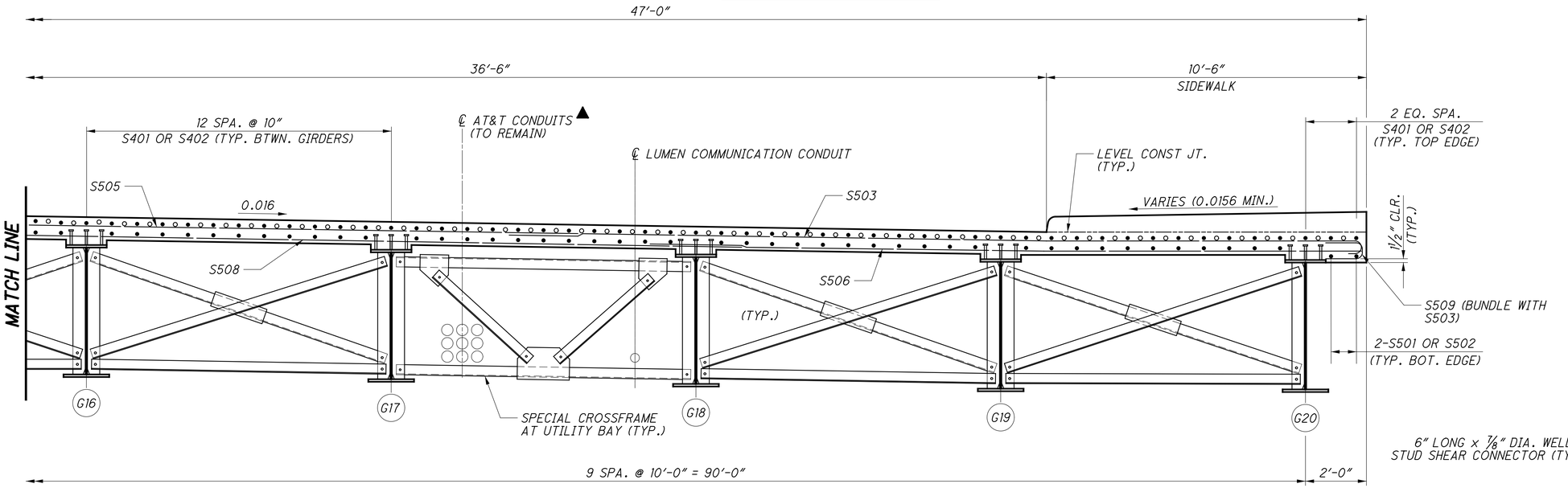
FRA-70-14.05C
PID No. 105596

34/55

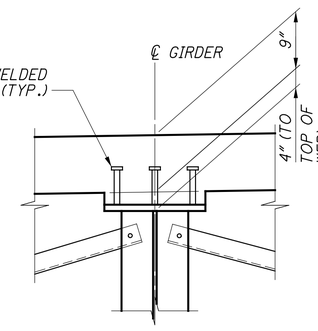
235/395



TRANSVERSE SECTION



TRANSVERSE SECTION



DETAIL 1

DECK SLAB REINFORCING NOT SHOWN

LEGEND:

▲ EXISTING CONDUITS TO BE TEMPORARILY SUPPORTED DURING CONSTRUCTION AND INCORPORATED INTO NEW STRUCTURE ON NEW SUPPORT MEMBERS.

◪ INDICATES LIMITS OF "ITEM 512 - SEALING OF CONCRETE SURFACES (NON-EPOXY)" (TYP. EACH SIDE)

✳ THE HMWM SEALER IS INCIDENTAL TO ITEM 511, CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK

NO.	DESCRIPTION	REV. BY	DATE
3	REVISED CROSSFRAME TYPE	DJC	10-23-23

NOTES:

1. DECK SLAB CONCRETE QUANTITY: THE ESTIMATED QUANTITY OF DECK SLAB CONCRETE IS BASED ON THE CONSTANT DECK SLAB THICKNESS, AS SHOWN, PLUS THE QUANTITY OF CONCRETE THAT FORMS EACH GIRDER HAUNCH. THE ESTIMATE ASSUMES A CONSTANT HAUNCH THICKNESS OF 4 INCHES AND A HAUNCH WIDTH EQUAL TO THE TOP FLANGE WIDTH. DEVIATE FROM THIS HAUNCH THICKNESS AS NECESSARY TO PLACE THE DECK SURFACE AT THE FINISHED GRADE. THE HAUNCH THICKNESS WAS MEASURED AT THE CENTERLINE OF THE GIRDER, FROM THE SURFACE OF THE DECK TO THE BOTTOM OF THE TOP FLANGE MINUS THE DECK SLAB THICKNESS. THE AREA OF ALL EMBEDDED STEEL PLATES HAS BEEN DEDUCTED FROM THE HAUNCH QUANTITY IN ACCORDANCE WITH 511.23.
2. FOR DECK SLAB PLAN, SEE SHT. NO. 43/55.
3. FOR SCREED, TOP OF HAUNCH, AND FINISHED ELEVATIONS, SEE SHT. NOS. 47/55 THRU 48/55.
4. FOR SIDEWALK DETAILS AND REINFORCING, SEE SHT. NOS. 44/55 AND 45/55.
5. FOR ADDITIONAL (TYPE B) INTERMEDIATE CROSSFRAME DETAILS, SEE STD. DWG. GSD-1-19.

DESIGN AGENCY
GPD GROUP
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DESIGNED RHC | DRAWN MLS | REVIEWED TJW | DATE 4-21-23
CHECKED DGN | REVISED | STRUCTURE FILE NUMBER 25100024

TRANSVERSE SECTION
BRIDGE NO. FRA-70-1405C
S. HIGH STREET (U.S. 23D) OVER I-70/71

FRA-70-14.05C
PID No. 105596

42/55
243/395

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ESTIMATED QUANTITIES

CALCULATED BY: RHC DATE: 6-25-20
CHECKED BY: MOJ DATE: 6-29-20

ITEM	EXT.	TOTAL	PARTICIPATION		UNITS	DESCRIPTION	ABUTMENT	PIER	SUPER-STRUCTURE	GENERAL	REFERENCE SHEET NO.
			02/IMS/11	07/NHS/04/COL							
503	11100	LS	LS			COFFERDAMS AND EXCAVATION BRACING					
503	21100	2,872	2,048	824	CY	UNCLASSIFIED EXCAVATION	2,048	824			
509	10000	455,505	142,506	312,999	LB	EPOXY COATED REINFORCING STEEL	142,506	101,063	211,936		
511	34447	728		728	CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK, AS PER PLAN			728		2
511	34451	118		118	CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK (PARAPET), AS PER PLAN			118		2
511	41012	320		320	CY	CLASS QC1 CONCRETE WITH QC/QA, PIER ABOVE FOOTINGS		320			
511	44113	873	873		CY	CLASS QC1 CONCRETE WITH QC/QA, ABUTMENT NOT INCLUDING FOOTING, AS PER PLAN	873				2
511	46512	722	521	201	CY	CLASS QC1 CONCRETE WITH QC/QA, FOOTING	521	201			
511	53012	18		18	CY	CLASS QC2 CONCRETE, MISC.: EXPANSION DEVICE SLAB			18		
511	53012	33		33	CY	CLASS QC2 CONCRETE, MISC.: TRELLIS BASE AND STAIR BASE			33		
512	10050	608	85	523	SY	SEALING OF CONCRETE SURFACES (NON-EPOXY)	85		523		
512	10100	1,669	1,093	576	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	1,093	576			
512	33000	25	25		SY	TYPE 2 WATERPROOFING	25				
513	10200	14,970		14,970	LB	STRUCTURAL STEEL MEMBERS, LEVEL UF (CITY OF COLUMBUS DUCT BANK SUPPORT)			14,970		
513	10280	1,928,660 ③	③	1,928,660	LB	STRUCTURAL STEEL MEMBERS, LEVEL 4		③	1,928,660		
513	20000	8,460		8,460	EACH	WELDED STUD SHEAR CONNECTORS			8,460		
514	00060	69,100		69,100	SF	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT			69,100		
514	00066	69,100		69,100	SF	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT			69,100		
516	11210	639		639	FT	STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL			639		
516	13600	327	327		SF	1" PREFORMED EXPANSION JOINT FILLER	327				
516	44101	20		20	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE) 11 1/2" x 1'-6" x 2.36" PAD WITH 1'-0 1/2" x 2'-1" BEVELED PLATE, AS PER PLAN			20		21
516	44101	20		20	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE) 1'-1" x 1'-8" x 2.59" PAD WITH 1'-2" x 2'-1" BEVELED PLATE, AS PER PLAN			20		21
516	44301	20		20	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE) 1'-9" x 2'-2" x 4.36" PAD WITH 1'-10" x 2'-11" BEVELED PLATE, AS PER PLAN			20		21
518	21200	140	140		CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC	140				
518	40000	470	470		FT	6" PERFORATED CORRUGATED PLASTIC PIPE	470				
524	94997	1,848	1,848		FT	DRILLED SHAFTS, 96" DIAMETER, ABOVE BEDROCK, AS PER PLAN	1,848				2
524	95100	2	2		EACH	DRILLED SHAFTS,MISC.: CSL TESTING, 96" DIAMETER SHAFT	2				
SPECIAL	53000200	LS		LS		STRUCTURES: CITY OF COLUMBUS DUCT BANK COMPLETE					3
SPECIAL	53000600	7,809	7,809		SF	STRUCTURES: PRECAST FACADE PANELS	7,809				3
607	98000	60	60		FT	FENCE, MISC.: WALL MOUNTED TYPE A (W/ VANDAL MESH)	60				
594	10000	16	16		EACH	THERMAL INTEGRITY PROFILING (TIP) TEST	16				

NO.	DESCRIPTION	REV. BY	DATE
3	QUANTITY REVISED	DJC	10-23-23

DESIGN AGENCY
GPD GROUP
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DESIGNED MOJ | CHECKED RHC
DRAWN MOJ | REVISED
REVIEWED TJW | DATE 4-21-23
STRUCTURE FILE NUMBER 2510032/2510034

ESTIMATED QUANTITIES
BRIDGE NO. FRA-70-1405E/W - CAPS
S. HIGH STREET (U.S. 23D) OVER I-70/71

FRA-70-14.05C
PID No. 105596

D:\2012\2012048\FRA\105596\STRUCTURES\FRA070_1405C\SHEETS-CAP\070_1405CEQ001.DGN
10/20/2023
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℄ BRG. REAR ABUT. (EXP. BEARING)

SKEWED INTERMEDIATE CROSSFRAME (TYP. BTWN. EACH BAY OVER THE PIER)

℄ PIER (FIXED BEARING)

℄ BRG. FRWD. ABUT. (EXP. BEARING)

92′-0″ SPAN 1

104′-9″ SPAN 2

2′-5 3/16″

88°45′0″ (TYP.)

W.P. #2

WORK LINE #2

℄ FIELD SPLICE NO. 1

W.P. #4

℄ FIELD SPLICE NO. 2

W.P. #6

2′-5¾″

9 SPA. @ 6′-2″ (+) = 55′-6 3/16″

9 SPA. @ 6′-2″ = 55′-6″

G21

G22

G23

G24

G25

G26

G27

G28

G29

G30

℄ CITY OF COLUMBUS CONDUITS

1′-9″ 9′-6″ 3′-9″ 3′-1″

2′-3″ 3′-9″ 7′-6″ 3′-9″

INTERMEDIATE UTILITY CROSSFRAME (TYP. UTILITY BAY ONLY)

END CROSSFRAME (TYP.)

UTILITY SUPPORT (TYP.)

INTERMEDIATE CROSSFRAME (TYP.)

32′-8″ 28′-0″

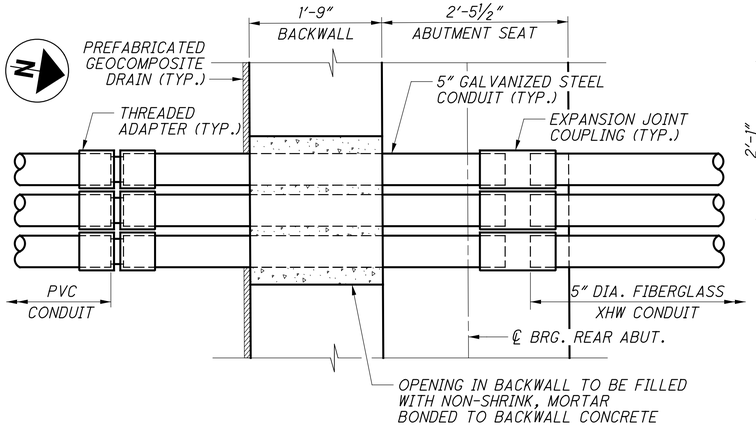
8′-11¾″ 12 SPA. @ 15′-0″ = 180′-0″ 7′-9¼″

INTERMEDIATE CROSSFRAME SPACING

FRAMING PLAN - EAST CAP

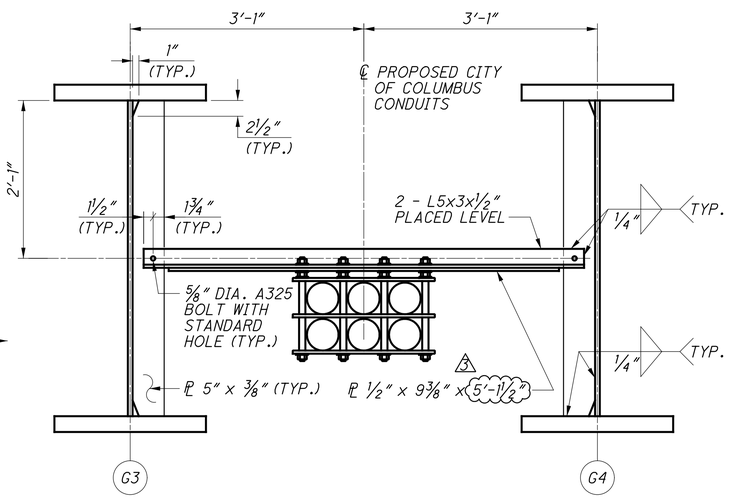
LEGEND:

◑ TYPICAL UNLESS NOTED OTHERWISE



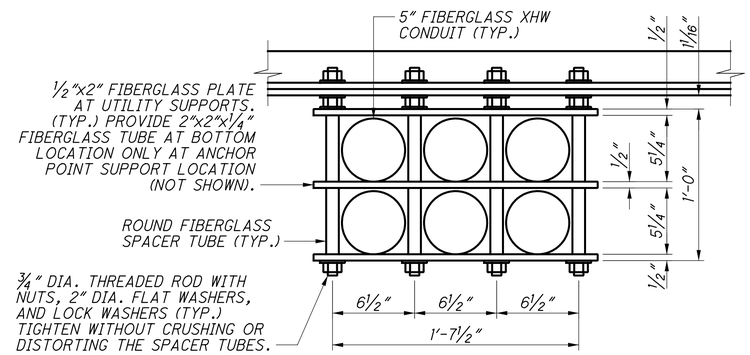
CITY OF COLUMBUS CONDUIT EXPANSION JOINT DETAILS

REAR ABUTMENT SHOWN, FORWARD ABUTMENT SIMILAR.



CITY OF COLUMBUS CONDUIT UTILITY SUPPORT DETAIL

BAY BETWEEN (G3) AND (G4) SHOWN, BAY BETWEEN (G27) AND (G28) SIMILAR



CITY OF COLUMBUS CONDUIT RACK DETAIL

NOTES:

1. INTERMEDIATE CROSSFRAMES MEMBERS SHALL BE L4x4x½″ FOR ADDITIONAL DETAILS, SEE STD. DWG. GSD-1-19. AT SKEWED INTERMEDIATE CROSSFRAME, PROVIDE ½″ THICK BENT PLATE CONNECTED TO BEARING STIFFENERS.
2. FOR CAMBER AND DEFLECTION TABLE, SEE SHEETS 26/52 THROUGH 28/52.
3. FOR WORK POINT STATIONS AND OFFSETS, SEE GEOMETRY PLAN ON SHEET 15/55 FROM HIGH STREET BRIDGE.
4. FOR OVERALL FRAMING PLAN, SEE SHEET 33/55 FROM HIGH STREET BRIDGE.
5. FOR ADDITIONAL END CROSSFRAME NOTES & DETAILS, SEE ODOT STD. DWG. GSD-1-19.

NO.	DESCRIPTION	REV. BY	DATE
3	REVISED PLATE LENGTH CALLOUT	DJC	10-23-23

D:\2012\2012049\FRA\105596\STRUCTURES\FRA078_1405CSD004.DGN
10/19/2023
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DESIGN AGENCY
GPD GROUP
Glaus, Pyle, Schomer, Burns & DeHaven, Inc.
1801 Watermark Drive, Suite 210, Columbus, OH 43215
614.2103751
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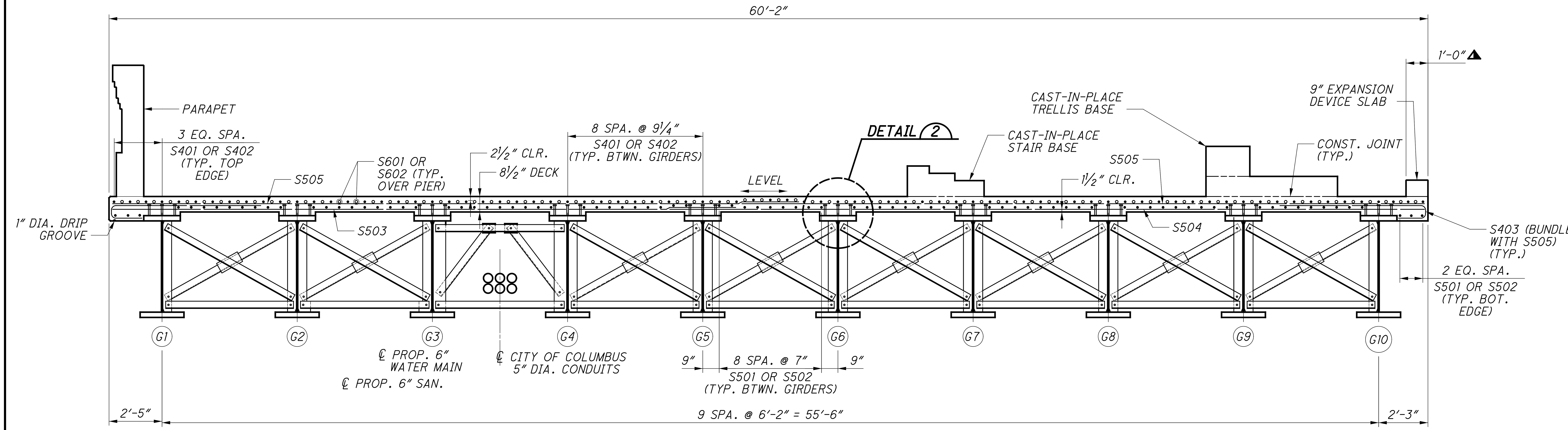
DESIGNED	DRAWN	REVIEWED	DATE
RHC/MOJ	MOJ	TJW	4-21-23
CHECKED	REVISED	STRUCTURE FILE NUMBER	
DGN		2510032/2510034	

FRAMING PLAN - EAST CAP
BRIDGE NO. FRA-70-1405E/W - CAPS
S. HIGH STREET (U.S. 23D) OVER I-70/71

FRA-70-14.05C
PID No. 105596

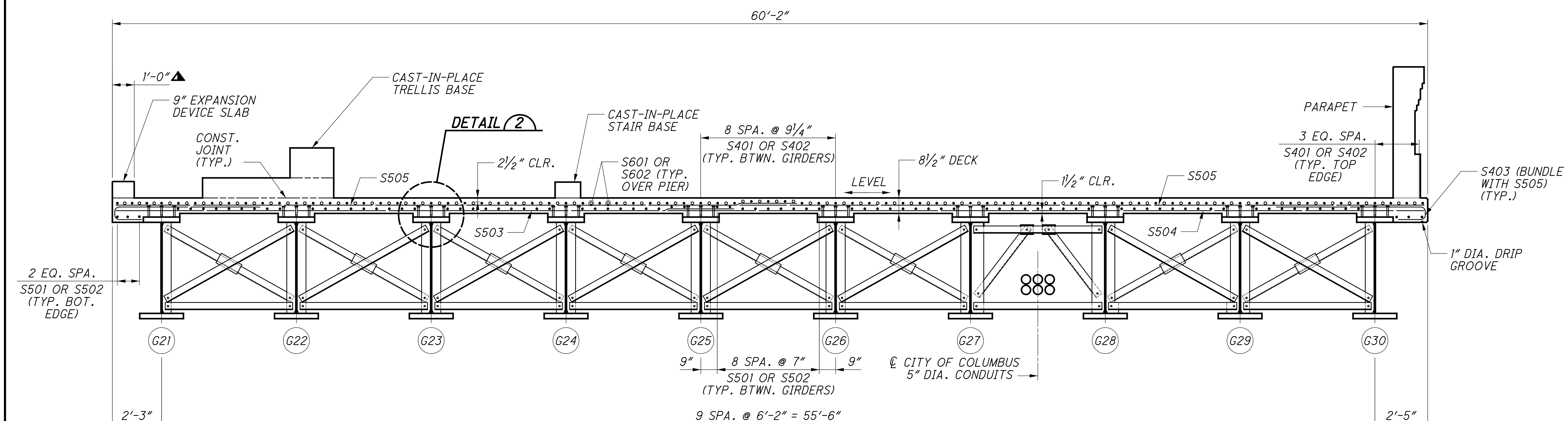
24/52

280/395



TRANSVERSE SECTION - WEST CAP

PARAPET, STAIR BASE, TRELLIS BASE, AND EXPANSION DEVICE REINFORCING NOT SHOWN



TRANSVERSE SECTION - EAST CAP

PARAPET, STAIR BASE, TRELLIS BASE, AND EXPANSION DEVICE REINFORCING NOT SHOWN

NOTES:

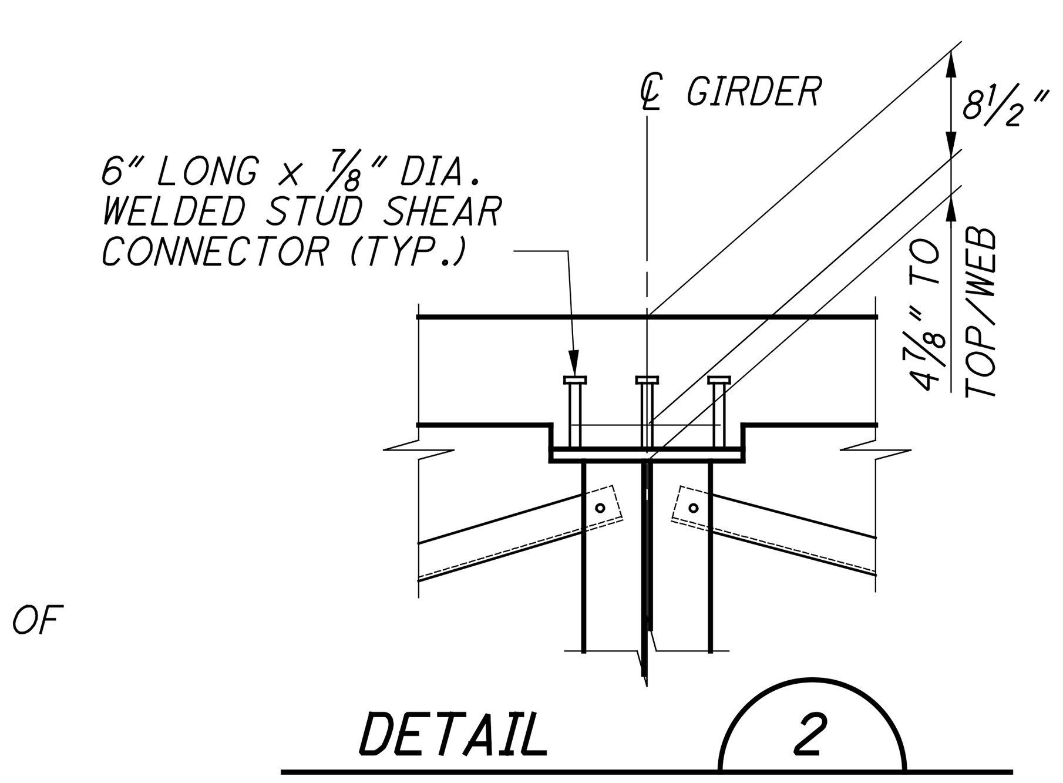
1. DECK SLAB CONCRETE QUANTITY: THE ESTIMATED QUANTITY OF DECK SLAB CONCRETE IS BASED ON THE CONSTANT DECK SLAB THICKNESS, AS SHOWN, PLUS THE QUANTITY OF CONCRETE THAT FORMS EACH GIRDER HAUNCH. THE ESTIMATE ASSUMES A CONSTANT HAUNCH THICKNESS OF 4⅞ INCHES AND A CONSTANT HAUNCH WIDTH OUTSIDE THE EDGE OF EACH GIRDER FLANGE OF 9 INCHES. DEVIATE FROM THIS HAUNCH THICKNESS AS NECESSARY TO PLACE THE DECK SURFACE AT THE FINISHED GRADE. THE ALLOWABLE TOLERANCE FOR THE HAUNCH WIDTH OUTSIDE THE EDGE OF EACH GIRDER FLANGE IS ± 3 INCHES.

   THE HAUNCH THICKNESS WAS MEASURED AT THE CENTERLINE OF THE GIRDER, FROM THE SURFACE OF THE DECK TO THE BOTTOM OF THE TOP FLANGE MINUS THE DECK SLAB THICKNESS. THE AREA OF ALL EMBEDDED STEEL PLATES HAS BEEN DEDUCTED FROM THE HAUNCH QUANTITY IN ACCORDANCE WITH 511.24.

2. FOR PARAPET DETAILS AND SEALING LIMITS (INCLUDING PILASTER AND PYLONS), SEE SHEETS 38/52 THROUGH 45/52.
3. FOR C.I.P. STAIR BASE DETAILS, SEE SHEET 36/52 AND 37/52.
4. FOR TRELLIS BASE DETAILS, SEE SHEET 35/52.
5. FOR EXPANSION DEVICE SLAB DETAILS, SEE SHEET 34/52.
6. FOR SCREED, TOP OF HAUNCH, AND FINISHED ELEVATIONS, SEE SHEETS 48/52 THROUGH 49/52.
7. FOR ADDITIONAL (TYPE B) INTERMEDIATE CROSSFRAME DETAILS, SEE STD. DWG. GSD-1-19. (3)
8. FOR UTILITY CROSSFRAME AND SUPPORT DETAILS, SEE SHEETS 23/52 & 24/52.

LEGEND:

▲ INDICATES LIMITS OF ITEM 512 -SEALING OF CONCRETE SURFACES (NON-EPOXY)



DETAIL 2

DECK SLAB REINFORCING NOT SHOWN

NO.	DESCRIPTION	REV. BY	DATE
3	REVISED CROSSFRAME TYPE	DJC	10-23-23

DESIGN AGENCY: GPD GROUP — Glaus, Pyle, Schomer, Burns & DeHaven, Inc. 1801 Watermark Drive, Suite 210, Columbus, OH 43215 614.210.0751

DESIGNED MOJ/RSN | DRAWN MOJ | REVIEWED DGN | DATE 4-21-23 | CHECKED RHC | REVISED | STRUCTURE FILE NUMBER 2510032/2510034

TRANSVERSE SECTIONS - EAST & WEST CAPS

BRIDGE NO. FRA-70-1405E/W - CAPS

S. HIGH STREET (U.S. 23D) OVER I-70/71

FRA-70-14.05C

PID No. 105596

PLOT.CEL

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GENERAL SUMMARY

SHEET NUM. 33	36	52	59E	117	122	159	167B	198	199	200	693	Office	PART. 01/IMS/04	ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
																		ROADWAY	
								1					1	202	20010	1	EACH	HEADWALL REMOVED	
						219		20,797					21,016	202	23000	21,016	SY	PAVEMENT REMOVED	
								3,016					3,016	202	30000	3,016	SF	WALK REMOVED	
								114					114	202	30600	114	SY	CONCRETE MEDIAN REMOVED	
				313	384		205	4,623					5,525	202	30700	5,525	FT	CONCRETE BARRIER REMOVED	
		1,280											1,280	202	30701	1,280	FT	CONCRETE BARRIER REMOVED, AS PER PLAN	52
						236		5,488					5,724	202	32000	5,724	FT	CURB REMOVED	
								271					271	202	32500	271	FT	CURB AND GUTTER REMOVED	
								655					655	202	32800	655	SY	CONCRETE SLOPE PROTECTION REMOVED	
				230		81		2,013					2,324	202	35100	2,324	FT	PIPE REMOVED, 24" AND UNDER	
								5,283					5,283	202	38000	5,283	FT	GUARDRAIL REMOVED	
								4					4	202	47800	4	EACH	IMPACT ATTENUATOR REMOVED	
									9				9	202	58000	9	EACH	MANHOLE REMOVED	
						1			9				10	202	58100	10	EACH	CATCH BASIN REMOVED	
				1					32				33	202	58200	33	EACH	INLET REMOVED	
				1									1	202	58201	1	EACH	INLET REMOVED, AS PER PLAN	117
									1,156				1,156	202	75000	1,156	FT	FENCE REMOVED	
									1				1	202	75250	1	EACH	GATE REMOVED	
									1				1	202	75255	1	EACH	GATE REMOVED FOR REUSE, AS PER PLAN	35
	2												2	202	98100	2	EACH	REMOVAL MISC.: INSPECTION WELL	36
	100												100	202	98200	100	FT	REMOVAL MISC.: MISC CONDUIT	36
									1,272				1,272	202	98200	1,272	FT	REMOVAL MISC.: PORTABLE BARRIER	
				101									101	202	98200	101	FT	REMOVAL MISC.: TRENCH DRAIN 3	117
				9	56	2,773	29					41,822	44,689	203	10000	44,689	CY	EXCAVATION	
					19	143						93,968	94,130	203	20000	94,130	CY	EMBANKMENT	
	50											24,912	24,962 3	203	20001	24,962 3	CY	EMBANKMENT, AS PER PLAN	35
											3	2,806	2,806	203	35110	2,806	CY	GRANULAR MATERIAL, TYPE B	
												29,583	29,583	204	10000	29,583	SY	SUBGRADE COMPACTION	
												172	172	204	13001	172	CY	EXCAVATION OF SUBGRADE, AS PER PLAN	42
												12	12	204	45000	12	HOUR	PROOF ROLLING	38
												1	1	204	45001	1	HOUR	PROOF ROLLING, AS PER PLAN	42
												1,032	1,032	204	50001	1,032	SY	GEOTEXTILE FABRIC, AS PER PLAN	42
												380	380	206	10500	380	TON	CEMENT	
												14,684	14,684	206	11000	14,684	SY	CURING COAT	
												14,684	14,684	206	15010	14,684	SY	CEMENT STABILIZED SUBGRADE, 12 INCHES DEEP	
												7	7	206	20000	7	HOUR	TEST ROLLING	
												LUMP	LUMP	206	30000	LS		MIXTURE DESIGN FOR CHEMICALLY STABILIZED SOILS	
LUMP													LUMP	208	14001	LS		VIBRATION CONTROL AND MONITORING, AS PER PLAN	33
										3,063			3,063	606	15050	3,063	FT	GUARDRAIL, TYPE MGS	
			2							1			3	606	26150	3	EACH	ANCHOR ASSEMBLY, MGS TYPE E (MASH 2016)	
										1			1	606	26550	1	EACH	ANCHOR ASSEMBLY, MGS TYPE T	
			2										2	606	35000	2	EACH	BRIDGE TERMINAL ASSEMBLY, TYPE 1	
										1			1	606	35002	1	EACH	MGS BRIDGE TERMINAL ASSEMBLY, TYPE 1	
										5			5	606	35102	5	EACH	MGS BRIDGE TERMINAL ASSEMBLY, TYPE 2	
										1			1	606	60041	1	EACH	IMPACT ATTENUATOR, TYPE 3 UNIDIRECTIONAL, AS PER PLAN "A", 62 MPH, 69.0" WIDTH	37
										1			1	606	60041	1	EACH	IMPACT ATTENUATOR, TYPE 3 UNIDIRECTIONAL, AS PER PLAN "A", 62 MPH, 90.0" WIDTH	37
										1			1	606	60041	1	EACH	IMPACT ATTENUATOR, TYPE 3 UNIDIRECTIONAL, AS PER PLAN, 62 MPH, 24.0" WIDTH	37
										1,434			1,434	607	23000	1,434	FT	FENCE, TYPE CLT	
										228			228	607	98000	228	FT	FENCE, MISC.: 6' CHAIN LINK FENCING	383
										1			1	607	98100	1	EACH	FENCE, MISC.: 30 INDUSTRIAL GATE	383

NO.	DESCRIPTION	REV. BY	DATE
3	QUANTITY CHANGES	ACW	10/20/23

CALCULATED TAZ CHECKED LM

FRA-70-13.10

188
702

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70\71 East Interchange 6A

1" 0.5" 0

DGN: ohdot\V8i
DCF: 60-06634-6A_Columbus

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SHEET NUM.														PART.	ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
668	671	680												01/IMS/04						
																			RETAINING WALLS (E2)	
261														261	203	20000	261	CY	EMBANKMENT	
1,112														1,112	203	35110	1,112	CY	GRANULAR MATERIAL, TYPE B	
2	3													2	SPECIAL	20365000	2	EACH	SETTLEMENT PLATFORM	
273														273	203	98100	273	SY	ROADWAY, MISC.: COLUMN SUPPORTED WALLS	
45														45	601	21000	45	SY	CONCRETE SLOPE PROTECTION	
LUMP														LUMP	503	11101	LS		COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN	
129														129	512	10001	129	SY	SEALING OF CONCRETE SURFACES, AS PER PLAN (PERMANENT GRAFFITI PROTECTION)	660
168														168	512	10100	168	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	660
121														121	516	13200	121	SF	1/2" PREFORMED EXPANSION JOINT FILLER	
2,115														2,115	840	20001	2,115	SF	MECHANICALLY STABILIZED EARTH WALL, AS PER PLAN	660
298														298	840	21000	298	CY	WALL EXCAVATION	
368														368	840	22000	368	SY	FOUNDATION PREPARATION	
1,851														1,851	840	23000	1,851	CY	SELECT GRANULAR BACKFILL	
312														312	840	25010	312	FT	6" DRAINAGE PIPE, PERFORATED	
135														135	840	26000	135	FT	CONCRETE COPING	
2,115	3												3	2,115	840	26050	2,115	3 SF	AESTHETIC SURFACE TREATMENT	
5														5	840	27000	5	DAY	ON-SITE ASSISTANCE	
																			RETAINING WALLS (E3)	
	73													73	203	20000	73	CY	EMBANKMENT	
	LUMP													LUMP	503	11101	LS		COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN	660
	27,989													27,989	509	10001	27,989	LB	EPOXY COATED REINFORCING STEEL, AS PER PLAN	660
	196													196	511	53012	196	CY	CLASS QC2 CONCRETE, MISC.: PARAPET INCLUDING SLEEPER SLAB WITH QC/QA	
	618													618	512	10100	618	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	
	670													670	516	13900	670	SF	2" PREFORMED EXPANSION JOINT FILLER	
	3,854													3,854	840	20001	3,854	SF	MECHANICALLY STABILIZED EARTH WALL, AS PER PLAN	660
	443													443	840	22000	443	SY	FOUNDATION PREPARATION	
	1,097													1,097	840	23000	1,097	CY	SELECT GRANULAR BACKFILL	
	709													709	840	25010	709	FT	6" DRAINAGE PIPE, PERFORATED	
	335													335	840	26000	335	FT	CONCRETE COPING	
	3,854													3,854	840	26050	3,854	SF	AESTHETIC SURFACE TREATMENT	
	5													5	840	27000	5	DAY	ON-SITE ASSISTANCE	
																			RETAINING WALLS (E4)	
		1,334												1,334	203	20000	1,334	CY	EMBANKMENT	
		919												919	203	35110	919	CY	GRANULAR MATERIAL, TYPE B	
		2												2	SPECIAL	20365000	2	EACH	SETTLEMENT PLATFORM	661
		1,393												1,393	203	98100	1,393	SY	ROADWAY, MISC.: COLUMN SUPPORTED WALLS	664
		LUMP												LUMP	503	11101	LS		COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN	660
		49,546												49,546	509	10001	49,546	LB	EPOXY COATED REINFORCING STEEL, AS PER PLAN	660
		332												332	511	53012	332	CY	CLASS QC2 CONCRETE, MISC.:PARAPET INCLUDING SLEEPER SLAB WITH QC/QA	
		216												216	512	10001	216	SY	SEALING OF CONCRETE SURFACES, AS PER PLAN (PERMANENT GRAFFITI PROTECTION)	660
		1,841												1,841	512	10100	1,841	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	
		70	3											70	516	13200	70	SF	1/2" PREFORMED EXPANSION JOINT FILLER	
		35												35	601	21000	35	SY	CONCRETE SLOPE PROTECTION	
		1,241												1,241	516	13900	1,241	SF	2" PREFORMED EXPANSION JOINT FILLER	
		14,829												14,829	840	20001	14,829	SF	MECHANICALLY STABILIZED EARTH WALL, AS PER PLAN	660
		1,098												1,098	840	21000	1,098	CY	WALL EXCAVATION	
		1,511												1,511	840	22000	1,511	SY	FOUNDATION PREPARATION	
		7,391												7,391	840	23000	7,391	CY	SELECT GRANULAR BACKFILL	
		1,172												1,172	840	25010	1,172	FT	6" DRAINAGE PIPE, PERFORATED	
		707												707	840	26000	707	FT	CONCRETE COPING	
		123												123	840	26001	123	FT	CONCRETE COPING, AS PER PLAN	686
		14,829	3										3	14,829	840	26050	14,829	3 SF	AESTHETIC SURFACE TREATMENT	
		5												5	840	27000	5	DAY	ON-SITE ASSISTANCE	

NO.	DESCRIPTION	REV. BY	DATE
3	QUANTITY CHANGES	ACW	10/20/23

CALCULATED TAZ
CHECKED DEA

GENERAL SUMMARY

FRA-70-13.10

SHEET NUM.												PART.		ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
480	693	696										01/IMS/04	04/NHS/10						
																		RETAINING WALLS (E7)	
	12,305											12,305		SPECIAL	20302000	12,305	CY	ENGINEERED FILL: LIGHTWEIGHT CELLULAR CONCRETE FILL, CLASS II	
	758											758		SPECIAL	20302000	758	CY	ENGINEERED FILL: LIGHTWEIGHT CELLULAR CONCRETE FILL, CLASS III	
	18											18		203	20000	18	CY	EMBANKMENT	
	691											691		203	35110	691	CY	GRANULAR MATERIAL, TYPE B	
	2											2		SPECIAL	20365000	2	EACH	SETTLEMENT PLATFORM	
	3,117											3,117		203	98000	3,117	CY	ROADWAY, MISC.: EPS GEOFOAM FILL	
	LUMP											LUMP		503	11101	LS		COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN	660
	87											87		511	53012	87	CY	CLASS QC2 CONCRETE, MISC.: LOAD DISTRIBUTION SLAB	
	281		△3									281		512	10100	281	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	
	16											16		601	21000	16	SY	CONCRETE SLOPE PROTECTION	
	68											68		516	13200	68	SF	1/2" PREFORMED EXPANSION JOINT FILLER	
	59											59		516	13900	59	SF	2" PREFORMED EXPANSION JOINT FILLER	
	2,906											2,906		840	20001	2,906	SF	MECHANICALLY STABILIZED EARTH WALL, AS PER PLAN	660
	1,300											1,300		840	21000	1,300	CY	WALL EXCAVATION	
	315											315		840	22000	315	SY	FOUNDATION PREPARATION	
	2,660											2,660		840	23000	2,660	CY	SELECT GRANULAR BACKFILL	
	97										△3	97		840	26000	97	△3 FT	CONCRETE COPING	
	2,906	△3									△3	2,906		840	26050	2,906	△3 SF	AESTHETIC SURFACE TREATMENT	
	5											5		840	27000	5	DAY	ON-SITE ASSISTANCE	
																		RETAINING WALLS (E9)	
		1,523										1,523		203	20000	1,523	CY	EMBANKMENT	
		1,229										1,229		203	35110	1,229	CY	GRANULAR MATERIAL, TYPE B	
		LUMP										LUMP		503	11101	LS		COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN	660
		3,766										3,766		509	10001	3,766	LB	EPOXY COATED REINFORCING STEEL, AS PER PLANPARAPET INCLUDING SLEEPER SLAB WITH QC/QA	660
		24										24		511	53012	24	CY	CLASS QC2 CONCRETE, MISC.: (PERMANENT GRAFFITI PROTECTION)	
		41										41		512	10001	41	SY	SEALING OF CONCRETE SURFACES, AS PER PLAN	660
		500										500		512	10100	500	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	
		70										70		516	13200	70	SF	1/2" PREFORMED EXPANSION JOINT FILLER	
		195										195		516	13900	195	SF	2" PREFORMED EXPANSION JOINT FILLER	
		17	△3								△3	17		601	21000	17	△3 SY	CONCRETE SLOPE PROTECTION	
		5,574										5,574		840	20001	5,574	SF	MECHANICALLY STABILIZED EARTH WALL, AS PER PLAN	660
		2,754										2,754		840	21000	2,754	CY	WALL EXCAVATION	
		502										502		840	22000	502	SY	FOUNDATION PREPARATION	
		13,143										13,143		840	23000	13,143	CY	SELECT GRANULAR BACKFILL	
		334										334		840	25010	334	FT	6" DRAINAGE PIPE, PERFORATED	
		169										169		840	26000	169	△3 FT	CONCRETE COPING	
		5,574	△3								△3	5,574		840	26050	5,574	△3 SF	AESTHETIC SURFACE TREATMENT	
		5										5		840	27000	5	DAY	ON-SITE ASSISTANCE	
																		STRUCTURE OVER 20 FOOT SPAN (FRA-070-1322L)	
565													565	503	21101	565	CY	UNCLASSIFIED EXCAVATION, AS PER PLAN	477
LUMP													LUMP	505	11100	LS		PILE DRIVING EQUIPMENT MOBILIZATION	
3,300													3,300	507	00100	3,300	FT	STEEL PILES HP10X42, FURNISHED	
3,055													3,055	507	00150	3,055	FT	STEEL PILES HP10X42, DRIVEN	
49													49	507	93300	49	EACH	STEEL POINTS OR SHOES	
618,934													618,934	509	10001	618,934	LB	EPOXY COATED REINFORCING STEEL, AS PER PLAN	477
1,328													1,328	511	34447	1,328	CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK, AS PER PLAN	477
325													325	511	34450	325	CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK (PARAPET)	
253													253	511	44112	253	CY	CLASS QC1 CONCRETE WITH QC/QA, ABUTMENT NOT INCLUDING FOOTING	
477													477	511	45602	477	CY	CLASS QC4 MASS CONCRETE, SUBSTRUCTURE WITH QC/QA	
22													22	511	46012	22	CY	CLASS QC1 CONCRETE WITH QC/QA, RETAINING/WINGWALL NOT INCLUDING FOOTING	
146													146	511	46512	146	CY	CLASS QC1 CONCRETE WITH QC/QA, FOOTING	
254													254	512	10001	254	SY	SEALING OF CONCRETE SURFACES, AS PER PLAN (PERMANENT GRAFFITI PROTECTION)	477
2,927													2,927	512	10100	2,927	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	
300,500													300,500	513	10280	300,500	LB	STRUCTURAL STEEL MEMBERS, LEVEL 4	
1,634,600													1,634,600	513	10401	1,634,600	LB	STRUCTURAL STEEL MEMBERS, HYBRID GIRDER, LEVEL SIX (6) FABRICATION, AS PER PLAN	479
9,471													9,471	513	20000	9,471	EACH	WELDED STUD SHEAR CONNECTORS	
27,528													27,528	514	00060	27,528	SF	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT	
27,528													27,528	514	00066	27,528	SF	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT	
111													111	SPECIAL	51612400	111	FT	MODULAR EXPANSION JOINT	478

NO.	DESCRIPTION	REV. BY	DATE
3	QUANTITY CHANGES	ACW	10/20/23

CALCULATED TAZ
CHECKED DEA

GENERAL SUMMARY

FRA-70-13.10

195
702

PLOT.CEL
ms consultants, inc.
msconsultants.com

SHEET NUM.					PART.	ITEM	ITEM	GRAND	UNIT	DESCRIPTION	SEE
619	636				04/NHS/10		EXT	TOTAL			SHEET NO.
										STRUCTURE OVER 20 FOOT SPAN (FRA-070-1358L)	
	LUMP				LUMP	202	11003	LS		STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN	602
	645				645	202	22900	645	SY	APPROACH SLAB REMOVED	
	645				645	202	23500	645	SY	WEARING COURSE REMOVED	
	LUMP				LUMP	505	11100	LS		PILE DRIVING EQUIPMENT MOBILIZATION	
	5,490	3			5,490	507	00200	5,490	FT	STEEL PILES HP12X53, FURNISHED	
	219				219	503	21100	219	CY	UNCLASSIFIED EXCAVATION	
	5,185				5,185	507	00250	5,185	FT	STEEL PILES HP12X63, DRIVEN	
	2,210				2,210	507	00300	2,210	FT	STEEL PILES HP14X73, FURNISHED	
	2,040				2,040	507	00350	2,040	FT	STEEL PILES HP14X73, DRIVEN	
	95				95	507	93300	95	EACH	STEEL POINTS OR SHOES	
	334,495				334,495	509	10001	334,495	LB	EPOXY COATED REINFORCING STEEL, AS PER PLAN	602
	371				371	511	33418	371	CY	CLASS QC2 CONCRETE WITH QC/QA, SUPERSTRUCTURE	
	2				2	511	33501	2	EACH	SEMI-INTEGRAL DIAPHRAGM GUIDE, AS PER PLAN	602
	777				777	511	34446	777	CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK	
	98				98	511	34450	98	CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK (PARAPET)	
	377				377	511	40512	377	CY	CLASS QC1 CONCRETE WITH QC/QA, PIER ABOVE FOOTINGS	
	404				404	511	43512	404	CY	CLASS QC1 CONCRETE WITH QC/QA, ABUTMENT INCLUDING FOOTING	
	104				104	511	46512	104	CY	CLASS QC1 CONCRETE WITH QC/QA, FOOTING	
	2,548				2,548	512	10100	2,548	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	
	95				95	512	33000	95	SY	TYPE 2 WATERPROOFING	
	24				24	515	15130	24	EACH	DRAPED STRAND PRESTRESSED CONCRETE BRIDGE I-BEAM MEMBERS, LEVEL 3, TYPE WF72-49, 135' - 1.25" BEAM LENGTH	
	66				66	515	20000	66	EACH	INTERMEDIATE DIAPHRAGMS	
	232				232	516	10010	232	FT	ARMORLESS PREFORMED JOINT SEAL	
	356				356	516	13900	356	SF	2" PREFORMED EXPANSION JOINT FILLER	
	328				328	516	14020	328	FT	SEMI-INTEGRAL ABUTMENT EXPANSION JOINT SEAL	
	12				12	516	44301	12	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN1'-3" X 1 1/2" X 2'-4" PAD, 1'-4" X 2" X 2'-5" STEEL LOAD PLATE	602
	12				12	516	44301	12	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN1'-3" X 1 1/2" X 2'-4" PAD, BEVELED 1'-4" X 3" X 2'-5" STEEL LOAD PLATE	602
	12				12	516	44301	12	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN1' 1" X 1 1/2" X 2' 6" PAD, 1' 5" X 2" X 2' 7" STEEL LOAD PLATE	602
	12				12	516	44301	12	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN1'-4" X 1 1/2" X 2'-6" PAD, BEVELED 1'-5" X 2" X 2'-7" STEEL LOAD PLATE	602
	204				204	518	21200	204	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC	
	283				283	518	40000	283	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	
	131				131	518	40010	131	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS	
	784				784	526	30000	784	SY	REINFORCED CONCRETE APPROACH SLABS (T=17")	
	232				232	526	90030	232	FT	TYPE C INSTALLATION	
	114				114	605	14000	114	FT	6" BASE PIPE UNDERDRAINS	
	470				470	607	39900	470	FT	VANDAL PROTECTION FENCE, 6' STRAIGHT, COATED FABRIC	
										STRUCTURE OVER 20 FOOT SPAN (FRA-070-1373L)	
	LUMP				LUMP	202	11203	LS		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN	635
	335				335	202	22900	335	SY	APPROACH SLAB REMOVED	
	897				897	202	23500	897	SY	WEARING COURSE REMOVED	
	28				28	202	98100	28	EACH	REMOVAL MISC.::PILE REMOVED, EXISTING STRUCTURE FRA-70-1379S	
	LUMP				LUMP	503	11100	LS		COFFERDAMS AND EXCAVATION BRACING	
	LUMP				LUMP	505	11100	LS		PILE DRIVING EQUIPMENT MOBILIZATION	
	2,870				2,870	507	00200	2,870	FT	STEEL PILES HP12X53, FURNISHED	
	2,730				2,730	507	00250	2,730	FT	STEEL PILES HP12X53, DRIVEN	
	28				28	507	93300	28	EACH	STEEL POINTS OR SHOES	
	73,484				73,484	509	10001	73,484	LB	EPOXY COATED REINFORCING STEEL, AS PER PLAN	635
	120				120	511	33418	120	CY	CLASS QC2 CONCRETE WITH QC/QA, SUPERSTRUCTURE	
	2				2	511	33501	2	EACH	SEMI-INTEGRAL DIAPHRAGM GUIDE, AS PER PLAN	635
	155				155	511	34446	155	CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK	
	49				49	511	34450	49	CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK (PARAPET)	
	179				179	511	43512	179	CY	CLASS QC1 CONCRETE WITH QC/QA, ABUTMENT INCLUDING FOOTING	
	702				702	512	10100	702	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	
	50				50	512	33000	50	SY	TYPE 2 WATERPROOFING	
	7				7	515	15020	7	EACH	DRAPED STRAND PRESTRESSED CONCRETE BRIDGE I-BEAM MEMBERS, LEVEL 3, TYPE 4, 91' - 11" BEAM LENGTH	
	18				18	515	20001	18	EACH	INTERMEDIATE DIAPHRAGMS, AS PER PLAN	635
	136				136	516	10010	136	FT	ARMORLESS PREFORMED JOINT SEAL	

NO.	DESCRIPTION	REV. BY	DATE
3	QUANTITY CHANGES	ACW	10/20/23

CALCULATED TAZ
CHECKED DEA

GENERAL SUMMARY

FRA-70-13.10

197
702

ms consultants, inc.
msconsultants.com

PLOT.CEL
Ohio DOT Workspace
70\71 East Interchange 6A
www.msconsultants.com
1" 0.5" 0
Batchplot Spec: \\msconsultants.com\files\production\03\60\06634_6A\standards\plotdir\batchplt.spc
Pen Table: \\msconsultants.com\files\Standards\astm\ohdot\V8i\ms\plotting\pen\V8i_ms_std.tbl
Plot Driver: \\msconsultants.com\files\Standards\astm\ohdot\v8i\ms\plotting\PDF.pltdrv
DGN: ohdotV8i
DCF: 60-06634_6A_Columbus
34" x 22"
View: FENCE_VIEW1
By: awhite
Model: Sheet
Printed: 10/23/2023 @ 4:54:07 PM
File: \\msconsultants.com\files\Production\03\60\06634_6A\roadway\sheets\894646G010.dgn

ESTIMATED QUANTITIES

ITEM	EXTENSION	TOTAL	UNIT	DESCRIPTION	ABUT.	PIERS	SUPER.	GEN.	SHEET #
202	11003	1	LS	STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN				LUMP	2/32
202	22900	645	SY	APPROACH SLAB REMOVED				645	
202	23500	645	SY	WEARING COURSE REMOVED				645	
503	21100	219	CY	UNCLASSIFIED EXCAVATION		219			
505	11100	1	LS	PILE DRIVING EQUIPMENT MOBILIZATION				LUMP	
507	00200	5490	FT	STEEL PILES HP12X53, FURNISHED	5490				
507	00250	5185	FT	STEEL PILES HP12X53, DRIVEN	5185				
507	00300	2210	FT	STEEL PILES HP14X73, FURNISHED		2210			
507	00350	2040	FT	STEEL PILES HP14X73, DRIVEN		2040			
507	93300	95	EACH	STEEL POINTS OR SHOES	61	34			
509	10001	334495	LB	EPOXY COATED REINFORCING STEEL, AS PER PLAN	28690	48172	257633		2/32
511	33418	371	CY	CLASS QC2 CONCRETE WITH QC/QA, SUPERSTRUCTURE			371		
511	33501	2	EACH	SEMI-INTEGRAL DIAPHRAGM GUIDE	2				2/32
511	34446	777	CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK			777		
511	34450	98	CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK (PARAPET)			98		
511	40512	377	CY	CLASS QC1 CONCRETE WITH QC/QA, PIER ABOVE FOOTINGS		377			
511	43512	404	CY	CLASS QC1 CONCRETE WITH QC/QA, ABUTMENT INCLUDING FOOTING	404				
511	46512	104	CY	CLASS QC1 CONCRETE WITH QC/QA, FOOTING		104			
512	10100	2548	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	273	698	1577		
512	33000	95	SY	TYPE 2 WATERPROOFING	95				
515	15130	24	EACH	DRAPED STRAND PRESTRESSED CONCRETE BRIDGE I-BEAM MEMBERS, LEVEL 3, TYPE WF72-49, 135'-1¼" BEAM LENGTH			24		
515	20000	66	EACH	INTERMEDIATE DIAPHRAGMS			66		
516	10010	232	FT	ARMORLESS PREFORMED JOINT SEAL			232		
516	13900	356	SF	2" PREFORMED EXPANSION JOINT FILLER	356				
516	14020	328	FT	SEMI-INTEGRAL ABUTMENT EXPANSION JOINT SEAL	328				
516	44301	12	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), (1'-3"x 4½"x 2'-4" PAD, 1'-4"x 2"x 2'-5" STEEL LOAD PLATE), AS PER PLAN	12				2/32
516	44301	12	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), (1'-4"x 4½"x 2'-6" PAD, 1'-5"x 2"x 2'-7" STEEL LOAD PLATE), AS PER PLAN	12				2/32
516	44301	12	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), (1'-3"x 4½"x 2'-4" PAD, BEVELED 1'-4"x 3"x 2'-5" STEEL LOAD PLATE), AS PER PLAN		12			2/32
516	44301	12	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), (1'-4"x 4½"x 2'-6" PAD, BEVELED 1'-5"x 2"x 2'-7" STEEL LOAD PLATE), AS PER PLAN		12			2/32
518	21200	204	CY	POROUS BACKFILL WITH FILTER FABRIC	204				
518	40000	283	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	283				
518	40010	131	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS	131				
526	30000	784	SY	REINFORCED CONCRETE APPROACH SLABS (T=17")			784		
526	90030	232	FT	TYPE C INSTALLATION			232		
605	14000	114	FT	6" BASE PIPE UNDERDRAINS				114	
607	39900	470	FT	VANDAL PROTECTION FENCE, 6' STRAIGHT, COATED FABRIC			470		

ABBREVIATIONS

THE FOLLOWING ABBREVIATIONS HAVE BEEN USED THROUGHOUT THESE PLANS:

& = AND
@ = AT
° = DEGREES
' = FEET OR MINUTES
" = INCHES OR SECONDS
± = PLUS OR MINUS

AASHTO = AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS
ABUT. = ABUTMENT
ADT = AVERAGE DAILY TRAFFIC
ADTT = AVERAGE DAILY TRUCK TRAFFIC
A.P.P. = AS PER PLAN
APPR. = APPROACH
APPROX. = APPROXIMATE
ASTM = AMERICAN SOCIETY OF TESTING AND MATERIALS

BM = BENCHMARK
BOT. = BOTTOM
BOT./FTG. = BOTTOM OF FOOTING
BRGS. = BEARINGS
B/W = BETWEEN

℄ = CENTERLINE
C/C = CENTER TO CENTER
CFS = CUBIC FEET PER SECOND
CJ = CONSTRUCTION JOINT
CLR. = CLEAR
CMP = CORRUGATED METAL PIPE
CMS = CONSTRUCTION AND MATERIAL SPECIFICATIONS
CONSTR./CONST. = CONSTRUCTION
CON'T = CONTINUED
COL. = COLUMN
C.R./CR = COUNTY ROAD
CU = CUBIC
CVN = CHARPY V-NOTCH

DEFL. = DEFLECTION
ϕ/DIA. = DIAMETER
DIM. = DIMENSION
DL = DEAD LOAD
DWG. = DRAWING

E =EAST
EA. = EACH
EF = EACH FACE
EL./ELEV. = ELEVATION

EMBED. = EMBEDMENT
EQ. = EQUAL
EX./EXIST. = EXISTING
EXP. = EXPANSION
EXT. = EXTENSION

F = FAHRENHEIT
FF = FAR FACE
F/F = FACE TO FACE
FS = FIELD SPLICE
FT. = FEET
FT/FT. = FOOT/FOOT
FT/S = FEET PER SECOND
FTG. = FOOTING
FWD. = FORWARD
FWS = FUTURE WEARING SURFACE

GEN. = GENERAL

HR = HOUR
HW = HIGH WATER

IN. = INCHES
INT. = INTERMEDIATE

JT. = JOINT

LF = LEFT FORWARD
LONG. = LONGITUDINAL
LT. = LEFT

MAX. = MAXIMUM
MIN. = MINIMUM
MISC. = MISCELLANEOUS

N = NORTH
NF = NEAR FACE
NPCPP = NON-PERFORATED CORRUGATED PLASTIC PIPE
#/NO. = NUMBER

OHWM = ORDINARY HIGH WATER MARK
OUT/OUT = OUT TO OUT

PEJF = PREFORMED EXPANSION JOINT FILLER
PCPP = PERFORATED CORRUGATED PLASTIC PIPE
℄/PL = PLATE
PSF = POUND PER SQUARE FOOT
PSI = POUND PER SQUARE INCH
PT. = POINT
PVI = POINT OF VERTICAL INTERSECTION

Q = FLOW

R = RADIUS
REF. = REFERENCE
REINF. = REINFORCED
REQ'D. = REQUIRED
RF = RIGHT FORWARD
RT. = RIGHT

SHLDR. = SHOULDER
SPA. = SPACING
SQ = SQUARE
STA. = STATION
STD. = STANDARD
STR. = STRAIGHT
SUPER = SUPERSTRUCTURE

T = THICKNESS
TBR = TO BE REMOVED
TELE = TELEPHONE
TRANS. = TRANSVERSE
TWP. = TOWNSHIP
TYP. = TYPICAL

UBV = ULTIMATE BEARING VALUE

V = VELOCITY
V.C. = VERTICAL CURVE
VERT. = VERTICAL

W = WEST
W/ = WITH
W/O = WITHOUT
W.P. = WORKING POINT
WT. = WEIGHT

YD = YARD

NO.	DESCRIPTION	REV. BY	DATE
3	ADDED UNCLASSIFIED EXCAVATION QUANTITY	JTC	10/20/23

DESIGN AGENCY
ch2m.
1103 Schrock Road, Suite 400
Columbus, Ohio 43229

DESIGNED ZNG | CHECKED VS
DRAWN JBA | REVISED
REVIEWED JTC | DATE 5/15
STRUCTURE FILE NUMBER 2510028

ESTIMATED QUANTITIES
BRIDGE NO. FRA-070-1358L
I-70 WB OVER CSX AND NS RAILROAD

FRA-70-13.10
PID No. 89464

6 / 32

606
702

CALCULATED BY: MMS DATE: 11/18/2021
CHECKED BY: JGM DATE: 11/18/2021

ESTIMATED QUANTITIES

ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	AS PER PLAN REFERENCE SHEET
203	20000	261	CU YD	EMBANKMENT	
203	35110	1112	CU YD	GRANULAR MATERIAL, TYPE B	
203	65000	2	EACH	SPECIAL - SETTLEMENT PLATFORM	661
203	98100	273	SQ YD	ROADWAY MISC.: COLUMN SUPPORTED WALLS	664
503	11101	LS	LS	COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN	660
512	10001	129	SQ YD	SEALING OF CONCRETE SURFACES, AS PER PLAN (PERMANENT GRAFFITI PROTECTION)	660
512	10100	168	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY URETHANE)	
516	13200	121	SQ FT	1/2" PREFORMED EXPANSION JOINT FILLER	
601	21000	45	SY	CONCRETE SLOPE PROTECTION	3
840	20001	2115	SQ FT	MECHANICALLY STABILIZED EARTH WALL, AS PER PLAN	660
840	21000	298	CU YD	WALL EXCAVATION	
840	22000	368	SQ YD	FOUNDATION PREPARATION	
840	23000	1851	CU YD	SELECT GRANULAR BACKFILL	
840	25010	312	FT	6" DRAINAGE PIPE, PERFORATED	
840	26060	136	FT	CONCRETE COPING	3
840	26050	2115	SQ FT	AESTHETIC SURFACE TREATMENT	
840	27000	5	DAY	ON-SITE ASSISTANCE	

NO.	DESCRIPTION	REV. BY	DATE
3	ADDED CONCRETE SLOPE PROTECTION QUANTITY	MMS	10-19-23
3	UPDATED QUANTIY	MMS	10-19-23

RESOURCE INTERNATIONAL INC.
6350 PRESIDENTIAL GATEWAY
COLUMBUS, OHIO 43231
(614) 823-4949

DESIGNED MMS | DRAWN MMS | REVIEWED NCK | DATE 11/18/2021
CHECKED JGM | REVISED | STRUCTURE FILE NUMBER

ESTIMATED QUANTITIES
RETAINING WALL E2
1-70/1-71 WEST INTERCHANGE PROJECT

FRA-70-.13.10
PID No. 77372

CALCULATED BY: JGM DATE: 11/18/2021
CHECKED BY: MMS DATE: 11/18/2021

ESTIMATED QUANTITIES					AS PER PLAN REFERENCE SHEET
ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	
203	20000	1334	CU YD	EMBANKMENT	
203	35110	919	CU YD	GRANULAR MATERIAL, TYPE B	
203	98100	1393	SQ YD	ROADWAY MISC.: COLUMN-SUPPORTED WALLS *	664
203	65000	2	EACH	SPECIAL - SETTLEMENT PLATFORM	661
503	11101	LS	LS	COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN	660
509	10001	49546	LB	EPOXY COATED REINFORCING STEEL, AS PER PLAN	660
511	53012	332	CU YD	CLASS QC2 CONCRETE, MISC.: PARAPET INCLUDING SLEEPER SLAB WITH QC/QA	
512	10001	216	SQ YD	SEALING OF CONCRETE SURFACES, (PERMANENT GRAFFITI PROTECTION), AS PER PLAN	660
512	10100	1841	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY URETHANE)	
516	13200	70	SQ FT	1/2" PREFORMED EXPANSION JOINT FILLER	
516	13900	1241	SQ FT	2" PREFORMED EXPANSION JOINT FILLER	
601	21000	35	SY	CONCRETE SLOPE PROTECTION	
840	20001	14829	SQ FT	MECHANICALLY STABILIZED EARTH WALL, AS PER PLAN	660
840	21000	1098	CU YD	WALL EXCAVATION	
840	22000	1511	SQ YD	FOUNDATION PREPARATION	
840	23000	7391	CU YD	SELECT GRANULAR BACKFILL	
840	25010	1172	FT	6" DRAINAGE PIPE, PERFORATED	
840	26000	707	FT	CONCRETE COPING	
840	26001	123	FT	CONCRETE COPING, AS PER PLAN	686
840	26050	14829	SQ FT	AESTHETIC SURFACE TREATMENT	
840	27000	5	DAY	OM-SITE ASSISTANCE	

* - QUANTITY FOR COLUMN-SUPPORTED WALLS INCLUDES GROUND IMPROVEMENTS PERFORMED UNDER THIS SET OF PLANS. SEE SHEETS 692 FOR LIMITS.

NO.	DESCRIPTION	REV. BY	DATE
3	ADDED CONCRETE SLOPE PROTECTION QUANTITY	MMS	10-19-23
3	UPDATED QUANTIY	MMS	10-19-23

RESOURCE INTERNATIONAL INC.
6350 PRESIDENTIAL GATEWAY
COLUMBUS, OHIO 43231
(614) 823-4949

DESIGNED KSJ | DRAWN MMS | REVIEWED NCK 11/18/2021 DATE | CHECKED MMS | REVISED | STRUCTURE FILE NUMBER

ESTIMATED QUANTITIES
RETAINING WALL E4
I-70/I-71 WEST INTERCHANGE PROJECT

FRA-70-13.10
PID No. 77372

CALCULATED BY: MMS DATE: 11/18/2021
CHECKED BY: JGM DATE: 11/18/2021

ESTIMATED QUANTITIES					AS PER PLAN REFERENCE SHEET
ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	
203	02000	12305	CU YD	SPECIAL - ENGINEERED FILL: LIGHTWEIGHT CELLULAR CONCRETE FILL, CLASS II	663
203	02000	758	CU YD	SPECIAL - ENGINEERED FILL: LIGHTWEIGHT CELLULAR CONCRETE FILL, CLASS III	663
203	20000	18	CU YD	EMBANKMENT	
203	35110	691	CU YD	GRANULAR MATERIAL, TYPE B	
203	98000	3117	CU YD	ROADWAY MISC.: EPS GEOFOAM FILL	662
203	65000	2	EACH	SPECIAL - SETTLEMENT PLATFORM	661
503	11101	LS	LS	COFFERDAMS AND EXCAVATION, AS PER PLAN	660
511	53012	87	CU YD	CLASS QC2 CONCRETE, MISC.: LOAD DISTRIBUTION SLAB	660
512	10100	281	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY URETHANE)	
516	13200	68	SQ FT	1/2" PREFORMED EXPANSION JOINT FILLER	
516	13900	59	SQ FT	2" PREFORMED EXPANSION JOINT FILLER	
601	21000	16	SQ YD	CONCRETE SLOPE PROTECTION	
840	20001	2906	SQ FT	MECHANICALLY STABILIZED EARTH WALL, AS PER PLAN	660
840	21000	1300	CU YD	WALL EXCAVATION	
840	22000	315	SQ YD	FOUNDATION PREPARATION	
840	23000	2660	CU YD	SELECT GRANULAR BACKFILL	
840	26000	94	FT	CONCRETE COPING	
840	26050	2906	SQ FT	AESTHETIC SURFACE TREATMENT	
840	27000	5	DAY	ON-SITE ASSISTANCE	

ABOVE WALL QUANTITIES ALSO INCLUDE ROADWAY QUANTITIES LISTED BELOW BETWEEN STATION 177+17.60 TO 179+00.00.
THE BELOW ROADWAY QUANTITIES ARE PAID FOR WITH WALL E7 AS THE PLAN NOTES INDICATE. THE TABLE BELOW IS FOR INFORMATION ONLY AND THE QUANTITIES ARE NOT CARRIED TO THE ROADWAY GENERAL SUMMARY.

ESTIMATED QUANTITIES - ROADWAYS					AS PER PLAN REFERENCE SHEET
ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	
203	02000	7941	CU YD	SPECIAL - ENGINEERED FILL: LIGHTWEIGHT CELLULAR CONCRETE FILL, CLASS II	663
203	02000	555	CU YD	SPECIAL - ENGINEERED FILL: LIGHTWEIGHT CELLULAR CONCRETE FILL, CLASS III	663
203	35110	564	CU YD	GRANULAR MATERIAL, TYPE B	
203	98000	3117	CU YD	ROADWAY MISC.: EPS GEOFOAM FILL	662

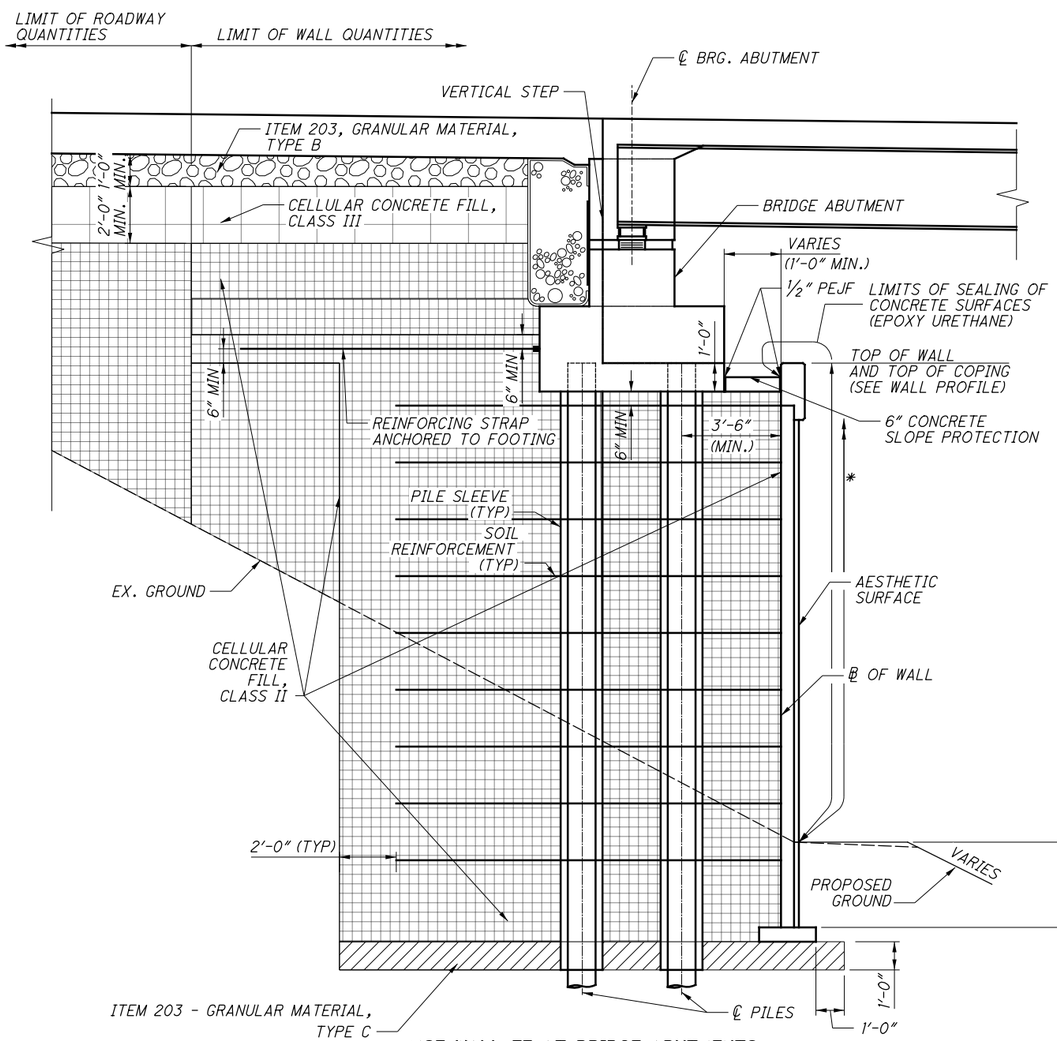
NO.	DESCRIPTION	REV. BY	DATE
3	ADDED CONCRETE SLOPE PROTECTION QUANTITY	MMS	10-19-23
3	UPDATED QUANTIY	MMS	10-19-23
3	UPDATED NOTE	MMS	10-19-23
3	REMOVED LOAD DISTRIBUTION SLAB QUANTITY	MMS	10-19-23

RESOURCE INTERNATIONAL INC.
6350 PRESIDENTIAL GATEWAY
COLUMBUS, OHIO 43231
(614) 823-4949

DESIGNED JGM | DRAWN MMS | REVIEWED NCK 11/18/2021 DATE | CHECKED MMS | REVISED | STRUCTURE FILE NUMBER

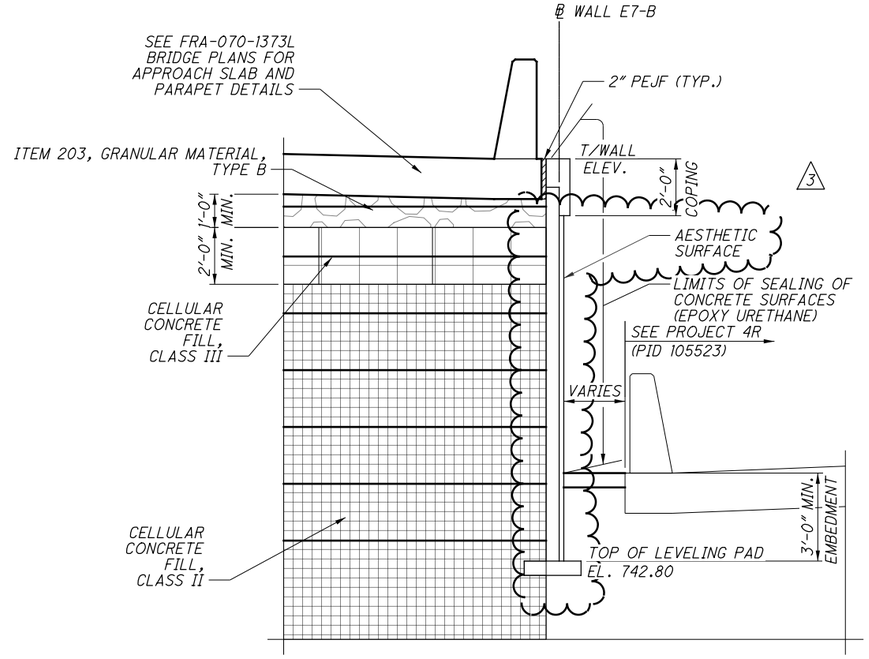
ESTIMATED QUANTITIES
RETAINING WALL E7
1-70/1-71 WEST INTERCHANGE PROJECT

FRA-70-13.10
PID No. 77372

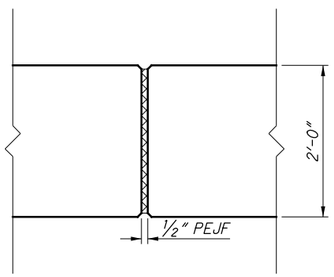


MSE WALL E7 AT BRIDGE ABUTMENTS

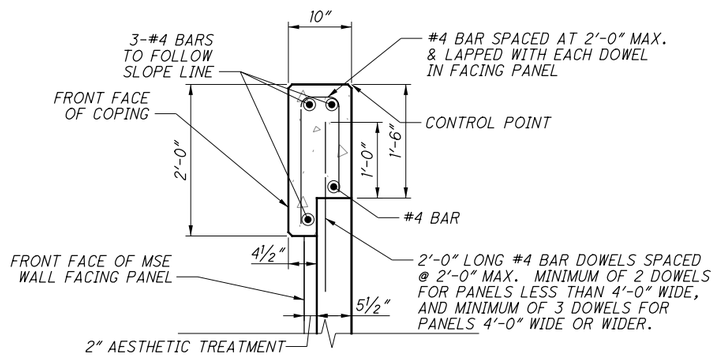
WALL E7 STA. 705+60.87 TO STA. 706+28.57



WALL SECTION E7-B



COPING EXPANSION JOINTS



COPING DETAIL

LEGEND:

* - LIMITS OF ITEM 512 - SEALING OF CONCRETE SURFACES, AS PER PLAN (PERMANENT GRAFFITI PROTECTION) SEAL ALL EXPOSED SURFACES EXTENDING 10'-0" VERTICAL FROM GROUND LINE.

- CELLULAR CONCRETE FILL, CLASS II
- CELLULAR CONCRETE FILL, CLASS III
- GRANULAR MATERIAL, TYPE B
- GRANULAR MATERIAL, TYPE C
- EXCAVATION LIMITS

NO.	DESCRIPTION	REV. BY	DATE
3	UPDATED ASTHETIC SURFACE TREATMENT	MMS	10-19-23

NOTES:

1. SEE BRIDGE PLANS FOR ADDITIONAL ABUTMENT AND WINGWALL DETAILS.
2. SOIL REINFORCEMENT SHALL BE CONSTRUCTED SO AS TO AVOID INTERFERENCE WITH BRIDGE PILING.
3. FOR ABBREVIATION LEGEND, SEE SHEET 660 .
4. COPING EXPANSION JOINT SHALL BE SPACED NO MORE THAN 20 FEET APART AND ALIGNED WITH JOINTS BETWEEN FACING PANELS.

RESOURCE INTERNATIONAL INC.
6350 PRESIDENTIAL GATEWAY
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DESIGNED	DRAWN	REVIEWED	DATE
MMS	MMS	NCK	11/18/2021
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JGM			

CROSS SECTIONS 1 OF 1
RETAINING WALL E7 & E7-B
I-70/I-71 WEST INTERCHANGE PROJECT

FRA-70-13.10
PID No. 77372

3 / 3

695
702

CALCULATED BY: MMS DATE: 11/18/2021
CHECKED BY: JGM DATE: 11/18/2021

ESTIMATED QUANTITIES					AS PER PLAN REFERENCE SHEET
ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	
203	20000	1523	CU YD	EMBANKMENT	
203	35110	1229	CU YD	GRANULAR MATERIAL, TYPE B	
503	11101	LS	LS	COFFERDAMS AND EXCAVATION, AS PER PLAN	660
509	10001	3766	LB	EPOXY COATED REINFORCING STEEL, AS PER PLAN	660
511	53012	24	CU YD	CLASS QC2 CONCRETE, MISC.: PARAPET INCLUDING SLEEPER SLAB WITH QC/QA	
512	10001	41	SQ YD	SEALING OF CONCRETE SURFACES, (PERMANENT GRAFFITI PROTECTION), AS PER PLAN	660
512	10100	500	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY URETHANE)	
516	13200	70	SQ FT	1/2" PREFORMED EXPANSION JOINT FILLER	
516	13900	195	SQ FT	2" PREFORMED EXPANSION JOINT FILLER	
601	21000	17	SY	CONCRETE SLOPE PROTECTION	
840	20001	5574	SQ FT	MECHANICALLY STABILIZED EARTH WALL, AS PER PLAN	660
840	21000	2754	CU YD	WALL EXCAVATION	
840	22000	502	SQ YD	FOUNDATION PREPARATION	
840	23000	13143	CU YD	SELECT GRANULAR BACKFILL	
840	25010	334	FT	6" DRAINAGE PIPE, PERFORATED	
840	26000	168	FT	CONCRETE COPING	
840	26050	5574	SQ FT	AESTHETIC SURFACE TREATMENT	
840	27000	5	DAY	ON SITE ASSISTANCE	

3

3

NO.	DESCRIPTION	REV. BY	DATE
3	ADDED CONCRETE SLOPE PROTECTION QUANTITY	MMS	10-19-23
3	UPDATED QUANTIY	MMS	10-19-23

RESOURCE INTERNATIONAL INC.
6350 PRESIDENTIAL GATEWAY
COLUMBUS, OHIO 43231
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DESIGNED MMS | DRAWN MMS | REVIEWED NCK 11/18/2021 DATE | CHECKED JGM | REVISED | STRUCTURE FILE NUMBER

ESTIMATED QUANTITIES
RETAINING WALL E9
I-70/I-71 WEST INTERCHANGE PROJECT

FRA-70-13.10
PID No. 77372

SHEET NUMBER								PARTICIPATION						ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
	40		164							01/IMS/04		07/NHS/04/COL							
																		WATER WORK	
			1							1				611	99655	1	EACH	MANHOLE ADJUSTED TO GRADE, AS PER PLAN	39
			1							1				638	10400	1	EACH	FIRE HYDRANT ADJUSTED TO GRADE	38
			9							9				SPECIAL	63811608	9	FT	12" WATER MAIN DIP AND FITTINGS (COLUMBUS 801)	38
			698							698				SPECIAL	63811616	698	FT	24" WATER MAIN DIP AND FITTINGS (COLUMBUS 801)	38
			207							207				SPECIAL	63820476	207	EACH	42" STEEL PIPE ENCASEMENT, BORED OR JACKED (COLUMBUS 806)	38
			16							16				SPECIAL	63820500	16	EACH	VALVE BOX ADJUSTED TO GRADE (COLUMBUS 807)	38, 39
			1							1				SPECIAL	63820586	1	EACH	12" GATE VALVE WITH VALVE BOX (COLUMBUS 802)	38, 39
			4							4				SPECIAL	63820682	4	EACH	24" BUTTERFLY VALVE WITH VALVE BOX (COLUMBUS 802)	38, 39
			3							3				SPECIAL	63820884	3	EACH	CUT AND PLUG EXISTING 12" WATER LINE (COLUMBUS 808)	38
			3							3				SPECIAL	63820886	3	EACH	CUT AND PLUG EXISTING 16" WATER LINE (COLUMBUS 808)	38
			2							2				SPECIAL	63820890	2	EACH	CUT AND PLUG EXISTING 24" WATER LINE (COLUMBUS 808)	38
			1							1				638	98000	1	EACH	WATER WORK, MISC.: 24" x 24" TAPPING SLEEVE AND VALVE AND APPURTENANCES (COLUMBUS 803)	38, 39
			2							2				638	98000	2	EACH	WATER WORK, MISC.: FIRE HYDRANT, RELOCATED (COLUMBUS 809)	38
			3 1							3 1				638	98000	1	EACH	WATER WORK, MISC.: 12" WATER MAIN ABANDONED (COLUMBUS 808)	38
			1							1				638	98000	1 3	EACH	WATER WORK, MISC.: 16" WATER MAIN ABANDONED (COLUMBUS 808)	38
			1							1				638	98000	1	EACH	WATER WORK, MISC.: 24" WATER MAIN ABANDONED (COLUMBUS 808)	38
			1							1				638	98000	1	EACH	WATER WORK, MISC.: 1/2 INCH WATER SERVICE LINE TRANSFER (COLUMBUS 805)	38
			2							2				638	98000	2	EACH	WATER WORK, MISC.: FIRE DEPARTMENT CONNECTION	393
	LS									LS				638	98100	LS		WATER WORK, MISC.: SURVEY COORDINATES	38
			LS							LS				638	98100	LS		WATER WORK, MISC.: CORROSION PROTECTION (20" DIAMETER AND GREATER) (COLUMBUS 801)	38
			288							288				638	98600	288	FT	WATER WORK, MISC.: DRY STANDPIPE	393
			40							40				SPECIAL	69098700	40	CY	INCREASE OR DECREASE IN EXCAVATION AND BACKFILL (COLUMBUS 811)	38
			500							500				SPECIAL	69099400	500	LB	DUCTILE IRON FITTINGS, INCREASE OR DECREASE (COLUMBUS 801)	38
			4							4				611	99655	4	EACH	SANITARY SEWER MANHOLE ADJUSTED TO GRADE, AS PER PLAN	39
			1							1				611	99661	1	EACH	MANHOLE RECONSTRUCTED TO GRADE, AS PER PLAN	39
			3									3		SPECIAL	69098000	3	EACH	CITY OF COLUMBUS MANHOLE, TYPE C (AA-S102)	39
			21									21		SPECIAL	69098100	21	FT	CITY OF COLUMBUS 6" PIPE, 801.03, WITH TYPE 1 BEDDING, WITH ITEM 912 COMPACTED GRANULAR MATERIAL	39
			267									267		SPECIAL	69098100	267	FT	CITY OF COLUMBUS 8" C905 PIPE, WITH TYPE 1 BEDDING, WITH ITEM 912 COMPACTED GRANULAR MATERIAL	39
			31									31		SPECIAL	69098100	31	FT	CITY OF COLUMBUS 8" C905 PIPE, WITH TYPE 1 BEDDING, WITH ITEM 912 COMPACTED GRANULAR MATERIAL, AS PER PLAN	39

NO.	DESCRIPTION	REV. BY	DATE
3	REVISED 16" ABAND	CWL	10-20-23

CALCULATED ATR
CHECKED CWL

4B PART 4 GENERAL SUMMARY

FRA-70-14.05

SHEET NO.	SPECIAL INCREASE OR DECREASE IN EXCAVATION AND BACKFILL (COLUMBUS 811) CY						638 WATER WORK, MISC.: 24" x 24" TAPPING SLEEVE AND VALVE AND APPURTENANCES EACH				SPECIAL 24" BUTTERFLY VALVE WITH VALVE BOX (COLUMBUS 802) EACH	SPECIAL 12" WATER MAIN DIP AND FITTINGS (COLUMBUS 801) FT	SPECIAL 24" WATER MAIN DIP AND FITTINGS (COLUMBUS 801) FT	SPECIAL 12" GATE VALVE WITH VALVE BOX (COLUMBUS 802) EACH		SPECIAL 42" STEEL PIPE ENCASEMENT, BORED OR JACKED (COLUMBUS 806) FT			638 WATER WORK, MISC.: CORROSION PROTECTION (20" DIAMETER & GREATER) (COLUMBUS 801) LUMP	SPECIAL CUT AND PLUG EXISTING 12" WATER LINE (COLUMBUS 808) EACH	SPECIAL CUT AND PLUG EXISTING 16" WATER LINE (COLUMBUS 808) EACH	SPECIAL CUT AND PLUG EXISTING 24" WATER LINE (COLUMBUS 808) EACH
	01/IMS/04						01/IMS/04				01/IMS/04	01/IMS/04	01/IMS/04	01/IMS/04		01/IMS/04			01/IMS/04	01/IMS/04	01/IMS/04	01/IMS/04
175							1				4	9	698	1		207			LS	3	3	2
TOTALS CARRIED TO GENERAL SUMMARY	40						1				4	9	698	1		207			LS	3	3	2

SHEET NO.	638 WATER WORK, MISC.: 16" WATER MAIN ABANDONED (COLUMBUS 808) EACH	638 WATER WORK, MISC.: 24" WATER MAIN ABANDONED (COLUMBUS 808) EACH	638 WATER WORK, MISC.: 12" WATER MAIN ABANDONED (COLUMBUS 808) EACH	638 WATER WORK, MISC.: 1/2 INCH WATER SERVICE LINE TRANSFER (COLUMBUS 805) EACH	611 MANHOLE ADJUSTED TO GRADE, AS PER PLAN EACH			638 WATER WORK, MISC.: FIRE HYDRANT, RELOCATED (COLUMBUS 809) EACH	638 FIRE HYDRANT ADJUSTED TO GRADE EACH			SPECIAL VALVE BOX ADJUSTED TO GRADE (COLUMBUS 807) EACH		SPECIAL DUCTILE IRON FITTINGS, INCREASE OR DECREASE (COLUMBUS 801) LB	SPECIAL CITY OF COLUMBUS MANHOLE, TYPE C (AA-5102) EACH	638 WATER WORK, MISC.: DRY STANDPIPE FT	638 WATER WORK, MISC.: FIRE DEPARTMENT CONNECTION EACH	SPECIAL CITY OF COLUMBUS 6" PIPE, 801.03, WITH TYPE 1 BEDDING, WITH ITEM 912 COMPACTED GRANULAR MATERIAL FT	SPECIAL CITY OF COLUMBUS 8" C905 PIPE, WITH TYPE 1 BEDDING, WITH ITEM 912 COMPACTED GRANULAR MATERIAL FT	SPECIAL CITY OF COLUMBUS 8" C905 PIPE, WITH TYPE 1 BEDDING, WITH ITEM 912 COMPACTED GRANULAR MATERIAL, AS PER PLAN FT	611 MANHOLE ADJUSTED TO GRADE, AS PER PLAN (SANITARY) EACH	611 MANHOLE RECONSTRUCTED TO GRADE, AS PER PLAN (SANITARY) EACH
	01/IMS/04	01/IMS/04	01/IMS/04	01/IMS/04	01/IMS/04			01/IMS/04	01/IMS/04			01/IMS/04		01/IMS/04	07/NHS/04/COL	01/IMS/04	01/IMS/04	07/NHS/04/COL	07/NHS/04/COL	07/NHS/04/COL	07/NHS/04/COL	01/IMS/04	01/IMS/04
171															3			21	267	31	4	1
175	1	1	1	1																		
176					1			2	1			16				288	2					
TOTALS CARRIED TO GENERAL SUMMARY	1	1	1	1	1			2	1			16		500	3	288	2	21	267	31	4	1

3

NO.	DESCRIPTION	REV. BY	DATE
3	REVISED 16" ABAND	CWL	10-20-23

CALCULATED CJC
CHECKED CWL

WATER WORK & SANITARY SUBSUMMARY

FRA-70-14.05

REF. NO.	SHEET NO.	STATION FROM	STATION TO	SIDE	202 PIPE REMOVED, 24" AND UNDER		SPECIAL 12" WATER MAIN DIP AND FITTINGS (COLUMBUS 801)	SPECIAL 24" WATER MAIN DIP AND FITTINGS (COLUMBUS 801)	638 WATER WORK, MISC.: 12" WATER MAIN ABANDONED (COLUMBUS 808)	638 WATER WORK, MISC.: 16" WATER MAIN ABANDONED (COLUMBUS 808)	638 WATER WORK, MISC.: 24" WATER MAIN ABANDONED (COLUMBUS 808)	SPECIAL 12" GATE VALVE WITH VALVE BOX (COLUMBUS 802)	638 WATER WORK, MISC.: CORROSION PROTECTION (20" DIAMETER & GREATER) (COLUMBUS 801)	SPECIAL CUT AND PLUG EXISTING 12" WATER LINE (COLUMBUS 808)	SPECIAL CUT AND PLUG EXISTING 16" WATER LINE (COLUMBUS 808)	SPECIAL CUT AND PLUG EXISTING 24" WATER LINE (COLUMBUS 808)		SPECIAL 24" BUTTERFLY VALVE WITH VALVE BOX (COLUMBUS 802)	SPECIAL 42" STEEL PIPE ENCASEMENT, BORED AOR JACKED (COLUMBUS 806)	638 WATER WORK MISC.: 24" x 24" TAPPING SLEEVE AND VALVE AND APPURTENANCES	202 VALVE BOX REMOVED	638 WATER WORK, MISC.: 1/2 INCH WATER SERVICE LINE TRANSFER (COLUMBUS 805)	FOR INFORMATION ONLY 12" x 24"- TEE	12" x 24"- REDUCER	24" - 22.5° BEND	24" - 45° BEND	24" x 24"- TEE
					EACH		FT	FT	EACH	EACH	EACH	EACH	LUMP	EACH	EACH	EACH		EACH	FT	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH
					01/IMS/04		01/IMS/04	01/IMS/04	01/IMS/04	01/IMS/04	01/IMS/04	01/IMS/04	01/IMS/04	01/IMS/04	01/IMS/04	01/IMS/04		01/IMS/04	01/IMS/04	01/IMS/04	01/IMS/04	01/IMS/04					
W-1	386	29+78.92 (FULTON)	214+43.71 (LIVINGSTON)	LT/RT				415					LS					2	207	1						6	1
W-2	387	214+26.65 (LIVINGSTON)	216+98.22 (LIVINGSTON)	LT				283										2				1	1	1	6	1	
W-8	387	216+92.66 (LIVINGSTON)	216+86.30 (LIVINGSTON)	LT			9					1															
WR-1	388	32+56.87 (FULTON)	216+98.22 (LIVINGSTON)	LT/RT	327										2												
WR-2	389	35+45.48 (FULTON)	219+61.46 (LIVINGSTON)	LT/RT	366						1					2				2							
WR-3	387	214+45.78 (LIVINGSTON)	215+99.22 (LIVINGSTON)	LT	20				1					2						1							
WR-4	391	31+43.05 (FULTON)	32+13.34 (FULTON)	LT/RT	103					1				1	1					1							
TOTALS CARRIED TO SUBSUMMARY SHEET 159,164					816		9	698	1	1 (3)	1	1	LS	3	3	2		4	207	1	4	1	1	1	6	7	1

NO.	DESCRIPTION	REV. BY	DATE
3	REVISED 16" ABAND	CWL	10-20-23

CALCULATED ATR
CHECKED CWL

ESTIMATED QUANTITIES

FRA-70-14.05

175
855

D:\2015\20153701FRA\960853\ROADWAY\SHEETS\960853G0020.DGN
10/20/2023
9:11:38 AM
DOTYBISTID_USER

DRILLED SHAFTS (4W16, 4W17, 4W18)

CONCRETE FOR THE DRILLED SHAFTS:
THE COARSE AGGREGATE SIZE FOR ALL DRILLED SHAFTS SHALL BE A MAXIMUM OF NO. 8.

LOADS:
THE MAXIMUM FACTORED LOAD TO BE SUPPORTED BY EACH DRILLED SHAFT IS INDICATED IN THE TABLES BELOW FOR EACH SHAFT SIZE. VERTICAL LOAD IS RESISTED BY TIP RESISTANCE AS NOTED HERE.

THE DESIGN OF THE WALL AND TANGENT DRILLED SHAFTS IS GENERALLY GOVERNED BY LATERAL SOIL PRESSURE ACTING ON THE SHAFTS. RESISTANCE IS PROVIDED THROUGH LATERAL SOIL RESISTANCE AND EMBEDMENT OF THE DRILLED SHAFTS. THE MAXIMUM FACTORED LATERAL LOAD TO BE SUPPORTED BY EACH DRILLED SHAFT IS INDICATED IN THE TABLE BELOW FOR EACH SHAFT SIZE. TIP RESISTANCE IS PROVIDED FOR THE AXIAL LOADS THAT ARE PRESENT, AS INDICATED IN THE TABLE. SIDE RESISTANCE IS NEGLECTED.

WALL 4W16				
SHAFT SIZE (DIAMETER)	SHAFT ID	MAX FACTORED LATERAL LOAD (KIPS)	MAX FACTORED VERTICAL LOAD (KIPS)	FACTORED TIP RESISTANCE (KIPS)
60"	#1 TO #56, #59 TO #73 & #76 TO #89	228	169	530
72"	#57, #74, #75 & #58	304	211	763

WALL 4W17				
SHAFT SIZE (DIAMETER)	SHAFT ID	MAX FACTORED LATERAL LOAD (KIPS)	MAX FACTORED VERTICAL LOAD (KIPS)	FACTORED TIP RESISTANCE (KIPS)
48"	#59	-	108	339
60"	#1 TO #58 & #60	190	162	530

WALL 4W18				
SHAFT SIZE (DIAMETER)	SHAFT ID	MAX FACTORED LATERAL LOAD (KIPS)	MAX FACTORED VERTICAL LOAD (KIPS)	FACTORED TIP RESISTANCE (KIPS)
30"	#9	-	31	133
42"	#1 TO #8 & #10	83	63	189

ITEM 511 - CLASS QC1 CONCRETE, MISC.: CAST-IN-PLACE CONCRETE WALL (4W16)

THIS ITEM SHALL INCLUDE THE CONSTRUCTION OF THE CONCRETE WALL AT THE LOCATIONS INDICATED IN THE PLANS FOR WALLS 4W16 AND 4W17. ALL CONCRETE WORK SHALL BE DONE IN ACCORDANCE WITH CMS 511. THE SHEAR STUDS INSTALLATION SHALL BE IN ACCORDANCE WITH ITEM 513.

METHOD OF MEASUREMENT: THE DEPARTMENT WILL MEASURE THE APPROPRIATE CONCRETE ITEM BY THE NUMBER OF CUBIC YARDS DETERMINED BY CALCULATIONS FROM PLAN DIMENSION, IN PLACE, COMPLETED AND ACCEPTED.

PAYMENT: ALL LABOR EQUIPMENT AND MATERIALS INCLUDING THE SHEAR STUDS NECESSARY TO COMPLETE THE WORK SHALL BE INCLUDED IN THE CONTRACT BID PRICE FOR ITEM 511 - CLASS QC1 CONCRETE, MISC.: CAST-IN-PLACE CONCRETE WALL.

3

ITEM 511 - CLASS QC1 CONCRETE, MISC.: DRILLED SHAFT CAP WITH QC/QA (4W16, 4W17, 4W18)

THIS ITEM SHALL INCLUDE THE CONSTRUCTION OF THE REINFORCED CONCRETE DRILLED SHAFT CAP, RETAINING WALL, AND COPING ABOVE THE PRECAST FACADE PANELS. ALL CONCRETE WORK SHALL BE DONE IN ACCORDANCE WITH CMS 511.

METHOD OF MEASUREMENT: THE DEPARTMENT WILL MEASURE THE APPROPRIATE CONCRETE ITEM BY THE NUMBER OF CUBIC YARDS DETERMINED BY CALCULATIONS FROM PLAN DIMENSION, IN PLACE, COMPLETED AND ACCEPTED.

PAYMENT: ALL LABOR, EQUIPMENT, AND MATERIALS NECESSARY TO COMPLETE THE WORK SHALL BE INCLUDED IN THE ~~CONTRACT~~ BID PRICE FOR ITEM 511-CLASS QC1 CONCRETE, MISC.: DRILLED SHAFT CAP WITH QC/QA. 3

ITEM 524 - DRILLED SHAFTS, 42" DIAMETER, ABOVE BEDROCK WITH QC/QA, AS PER PLAN: (4W18)
ITEM 524 - DRILLED SHAFTS, 60" DIAMETER, ABOVE BEDROCK WITH QC/QA, AS PER PLAN: (4W16, 4W17)

THE DRILLED SHAFT CAP AND P.E.J.F. JOINTS SHALL BE ACCURATELY PLACED ACCORDING TO THE DESIGN PLAN. IF THE LOCATIONS OF THE INSTALLED DRILLED SHAFTS VARY FROM THE DESIGN PLAN AND RESULT IN THE P.E.J.F. IN THE DRILLED SHAFT CAP FALLING OVER A DRILLED SHAFT INSTEAD OF BETWEEN SHAFTS, ALL VERTICAL SHAFT BARS INTERFERING WITH, OR CROSSING, THE CAP JOINT SHALL BE CUT FLUSH WITH THE TOP OF THE DRILLED SHAFT SO THAT BOTH SIDES OF THE CAP ARE NOT TIED TOGETHER BY SHAFT REINFORCING STEEL. THE CONTRACTOR SHALL OBTAIN APPROVAL FROM THE ENGINEER PRIOR TO CUTTING ANY REINFORCING STEEL. THE DEPARTMENT WILL CONSIDER THIS WORK AS INCIDENTAL AND SHALL BE INCLUDED WITH ITEM 524 FOR PAYMENT.

NO.	DESCRIPTION	REV. BY	DATE
3	REVISED ITEM DESCRIPTION	DJC	10-23-23

ITEM 524 - DRILLED SHAFTS, 72" DIAMETER, ABOVE BEDROCK WITH QC/QA, AS PER PLAN (4W16)

ALL WORK SHALL BE IN ACCORDANCE WITH ITEM 524. AT SHAFT NUMBERS 57, 58, 74, AND 75, STEEL CASING WITHIN THE LIMITS OF THE CAST-IN-PLACE CONCRETE WALL SHALL BE LEFT IN PLACE AND BE INCLUDED FOR PAYMENT WITH ITEM 524.

ITEM SPECIAL - STRUCTURE, MISC.: PRECAST WALL PANELS (4W13, 4W14, 4W15)

THIS BID ITEM CONSISTS OF PRECAST PANELS MANUFACTURED AND CONSTRUCTED IN ACCORDANCE WITH THIS SPECIFICATION AND DESIGNED IN ACCORDANCE WITH THE 8TH EDITION OF THE "LRFD BRIDGE DESIGN SPECIFICATIONS" ADOPTED BY AASHTO, AND THE ODOT BRIDGE DESIGN MANUAL, 2019.

DESIGN STRESSES:

CONCRETE - COMPRESSIVE STRENGTH 4,000 PSI
REINFORCING STEEL - GRADE 60

MATERIALS - CONCRETE:

THE CONCRETE FOR THE WALL SECTIONS SHALL BE COMPOSED OF PORTLAND CEMENT, FINE & COARSE AGGREGATES, ADMIXTURES, AND WATER. PORTLAND CEMENT SHALL CONFORM TO THE REQUIREMENTS OF ASTM SPECIFICATION C150, TYPE I, II, OR III. THE AIR ENTRAINING ADMIXTURE SHALL CONFORM TO AASHTO M154. THE CONCRETE SHALL CONTAIN 6% ±2% ENTRAINED AIR, AND SLUMP SHALL BE MAINTAINED WITHIN THE RANGE OF 1" TO 4". THE SLUMP MAY BE INCREASED TO 7" PROVIDED THE INCREASE IS ACHIEVED BY THE ADDITION OF A CHEMICAL WATER-REDUCING ADMIXTURE APPROVED BY THE ENGINEER.

MATERIALS - REINFORCING AND HARDWARE:

REINFORCEMENT SHALL CONSIST OF WELDED WIRE FABRIC CONFORMING TO ASTM A185 OR A497, OR DEFORMED BILLET-STEEL BARS CONFORMING TO ASTM A615, A616, OR A617, GRADE 60.

SHOP DRAWING REQUIREMENTS:

THE MANUFACTURER SHALL SUBMIT SHOP DRAWINGS FOR REVIEW AND APPROVAL PRIOR TO MANUFACTURE. THE SHOP DRAWINGS SHALL INCLUDE THE FOLLOWING:
- ALL STRUCTURAL DESIGN AND LOADING INFORMATION.
- A PLAN VIEW.
- ALL ELEVATION VIEWS.
- ALL DIMENSIONS.

MANUFACTURING SHALL NOT BEGIN UNTIL WRITTEN APPROVAL OF THE SUBMITTED SHOP DRAWINGS HAS BEEN RECEIVED.

TESTING AND INSPECTION:

ACCEPTABILITY OF THE CONCRETE FOR THE PRECAST PANELS WILL BE DETERMINED ON THE BASIS OF COMPRESSION TESTS, CERTIFICATIONS AND VISUAL INSPECTION. THE CONCRETE STRENGTH REQUIREMENTS FOR THE PRECAST PANELS SHALL BE CONSIDERED ATTAINED REGARDLESS OF CURING AGE WHEN COMPRESSION TEST RESULTS INDICATE STRENGTH WILL CONFORM TO 28-DAY SPECIFICATIONS AS STATED BELOW. THE MANUFACTURER SHALL FURNISH FACILITIES AND PERFORM ALL NECESSARY SAMPLING AND TESTING IN AN EXPEIDITIOUS AND SATISFACTORY MANNER. PANELS UTILIZING TYPE I OR II CEMENT SHALL BE CONSIDERED ACCEPTABLE FOR PLACEMENT IN THE WALL WHEN 7-DAY INITIAL STRENGTHS EXCEED 85% OF 28-DAY REQUIREMENTS. PANELS UTILIZING TYPE III CEMENT SHALL BE CONSIDERED ACCEPTABLE FOR PLACEMENT IN THE WALL PRIOR TO 28 DAYS ONLY WHEN COMPRESSIVE STRENGTH TEST RESULTS INDICATE THAT THE STRENGTH EXCEEDS THE 28-DAY SPECIFICATION.

MANUFACTURE:

THE AGGREGATES, CEMENT, AND WATER SHALL BE PROPORTIONED AND MIXED IN A BATCH MIXER TO PRODUCE A HOMOGENEOUS CONCRETE MEETING THE STRENGTH REQUIREMENTS OF THESE NOTES. THE PROPORTION OF PORTLAND CEMENT IN THE MIXTURE SHALL NOT BE LESS THAN 564 POUNDS PER CUBIC YARD OF CONCRETE.

THE WALL SECTIONS SHALL BE CURED FOR A SUFFICIENT LENGTH OF TIME SO THAT THE CONCRETE WILL DEVELOP THE SPECIFIED COMPRESSIVE STRENGTH IN 28 DAYS OR LESS. ANY ONE OF THE METHODS OF CURING OR COMBINATION THEREOF SHALL BE USED:

STEAM CURING - THE SECTIONS MAY BE LOW PRESSURE, STEAM CURED BY A SYSTEM THAT WILL MAINTAIN A MOIST ATMOSPHERE.

WATER CURING - THE SECTIONS MAY BE WATER CURED BY ANY METHOD THAT WILL KEEP THE SECTIONS MOIST.

THE FORMS USED IN MANUFACTURE SHALL BE SUFFICIENTLY RIGID AND ACCURATE TO MAINTAIN THE SECTION DIMENSIONS WITHIN THE PERMISSIBLE VARIATIONS GIVEN IN THESE NOTES. ALL CASTING SURFACES SHALL BE OF SMOOTH MATERIAL.

THE WALL SECTIONS SHALL BE STORED IN SUCH A MANNER TO PREVENT CRACKING OR DAMAGES.

THE FRONT FACE OF THE REINFORCED CONCRETE PANELS SHALL HAVE A SMOOTH CONCRETE FINISH AND INCORPORATE THE PATTERNS SHOWN IN THE STRUCTURE AESTHETIC DETAIL PLANS. CAULKING BETWEEN PRECAST PANELS SHALL BE IN ACCORDANCE WITH THE PLAN DETAILS. THE BACK SIDE OF THE REINFORCED CONCRETE PANELS SHALL HAVE AND UNFORMED SURFACE FINISH AND SHALL BE ROUGH SCREEDED TO ELIMINATE OPEN POCKETS OF AGGREGATE AND SURFACE DISTORTIONS IN EXCESS OF 1/4".

ALL PANELS SHALL BE MANUFACTURED WITH ALL PANEL DIMENSIONS WITHIN 1/4"

COMPRESSIVE STRENGTH:

ACCEPTANCE OF THE CONCRETE PANELS WITH RESPECT TO COMPRESSIVE STRENGTH WILL BE DETERMINED ON THE BASIS OF PRODUCTION LOTS. A PRODUCTION LOT IS DEFINED AS A GROUP OF PANELS THAT WILL BE REPRESENTED BY A SINGLE COMPRESSIVE STRENGTH SAMPLE AND WILL CONSIST OF EITHER 6 PANELS OR A SINGLE DAY'S PRODUCTION, WHICHEVER IS LESS.

DURING THE PRODUCTION OF THE CONCRETE PANELS, THE MANUFACTURER WILL RANDOMLY SAMPLE THE CONCRETE IN ACCORDANCE WITH ASTM C172. A SINGLE COMPRESSIVE STRENGTH SAMPLE, CONSISTING OF A MINIMUM OF FOUR CYLINDERS, WILL BE RANDOMLY SELECTED FOR EVERY PRODUCTION LOT.

CYLINDERS FOR COMPRESSIVE STRENGTH TESTS SHALL BE 6" DIA. X 1'-0" SPECIMENS PREPARED IN ACCORDANCE WITH ASTM C31. FOR EVERY COMPRESSIVE STRENGTH SAMPLE, A MINIMUM OF 2 CYLINDERS WILL BE CURED IN THE SAME MANNER AS THE PANELS AND TESTED AT APPROXIMATELY 7 DAYS. THE AVERAGE COMPRESSIVE STRENGTH OF THESE CYLINDERS, WHEN TESTED IN ACCORDANCE WITH ASTM C39, WILL PROVIDE A TEST RESULT WHICH WILL DETERMINE THE INITIAL STRENGTH OF THE CONCRETE. IN ADDITION, 2 CYLINDERS SHALL BE CURED IN ACCORDANCE WITH ASTM C31 AND TESTED AT 28 DAYS. THE AVERAGE COMPRESSIVE STRENGTH OF THESE TWO CYLINDERS, WHEN TESTED IN ACCORDANCE WITH ASTM C39, WILL PROVIDE A COMPRESSIVE STRENGTH TEST RESULT WHICH WILL DETERMINE THE COMPRESSIVE STRENGTH OF THE PRODUCTION LOT.

IF THE INITIAL STRENGTH TEST RESULTS INDICATE A COMPRESSIVE STRENGTH IN EXCESS OF 4,000 PSI, THEN THESE TEST RESULTS WILL BE UTILIZED AS THE COMPRESSIVE STRENGTH TEST RESULT FOR THE PRODUCTION LOT AND THE REQUIREMENT FOR TESTING AT 28 DAYS WILL BE WAIVED FOR THAT PARTICULAR PRODUCTION LOT.

ACCEPTANCE OF A PRODUCTION LOT WILL BE MADE IF THE COMPRESSIVE STRENGTH TEST RESULT IS GREATER THAN OR EQUAL TO 4,000 PSI. IF THE RESULT IS LESS THAN 4,000 PSI, THE ACCEPTANCE OF THE PRODUCTION LOT WILL BE BASED ON ITS MEETING THE FOLLOWING THREE ACCEPTANCE CRITERIA: - 90% OF THE COMPRESSIVE STRENGTH TEST RESULTS FOR THE OVERALL PRODUCTION SHALL EXCEED 4,000 PSI. - THE AVERAGE OF ANY SIX CONSECUTIVE COMPRESSIVE STRENGTH TEST RESULTS SHALL EXCEED 4,000 PSI. - NO INDIVIDUAL COMPRESSIVE STRENGTH TEST RESULT SHALL FALL BELOW 3,600 PSI.

IN THE EVENT THAT A PRODUCTION LOT FAILS TO MEET THE SPECIFIED COMPRESSIVE STRENGTH REQUIREMENTS, THE PRODUCTION LOT SHALL BE REJECTED. SUCH REJECTION SHALL PREVAIL UNLESS THE MANUFACTURER, AT HIS OWN EXPENSE, OBTAINS AND SUBMITS EVIDENCE ACCEPTABLE TO THE ENGINEER THAT THE STRENGTH AND QUALITY OF THE CONCRETE PLACED WITHIN THE PANELS OF THE PRODUCTION LOT IS ACCEPTABLE. IF SUCH EVIDENCE CONSISTS OF TESTS MADE ON CORES TAKEN FROM THE PANELS WITHIN THE PRODUCTION LOT, THE CORES SHALL BE OBTAINED AND TESTED IN ACCORDANCE WITH THE SPECIFICATIONS OF ASTM C42.

REJECTION:

PANELS SHALL BE SUBJECT TO REJECTION BECAUSE OF FAILURE TO MEET ANY OF THE REQUIREMENTS SPECIFIED ABOVE. IN ADDITION, ANY OR ALL OF THE FOLLOWING DEFECTS MAY BE SUFFICIENT CAUSE FOR REJECTION:
- DEFECTS THAT INDICATE IMPERFECT MOLDING.
- DEFECTS INDICATING HONEYCOMBED OR OPEN TEXTURED CONCRETE.
- DEFECTS IN THE PHYSICAL CHARACTERISTICS OF THE CONCRETE, SUCH AS BROKEN OR CHIPPED CONCRETE.
- STAINED FORM FACE, DUE TO EXCESS FORM OIL OR OTHER CONTAMINATIONS.
- SIGNS OF AGGREGATE SEGREGATION.
- BROKEN OR CRACKED CORNERS.
- LIFTING INSERTS NOT USABLE.
- EXPOSED REINFORCING STEEL.
- INSUFFICIENT CONCRETE COMPRESSIVE STRENGTH.

THE ENGINEER WILL DECIDE IF AN ATTEMPT MAY BE MADE TO REPAIR A DEFECTIVE PANEL. THE CONTRACTOR OR MANUFACTURER SHALL MAKE THE REPAIRS. IF THE REPAIRS ARE MADE TO THE ENGINEER'S SATISFACTION, THE PANEL WILL BE ACCEPTABLE.

MARKING:

THE DATE OF MANUFACTURE, THE PRODUCTION LOT NUMBER, AND THE PIECE MARK SHALL BE CLEARLY SCRIBED ON THE BACK SURFACE OF EACH PANEL.

CONCRETE LEVELING PAD:

THE CONCRETE LEVELING PAD (MUD SLAB) SHALL BE CONSTRUCTED AS SHOWN IN THE PLANS WITH CONCRETE HAVING A STRENGTH THAT IS NOT LESS THAN 3,500 PSI AND SHALL HAVE SUFFICIENT STRENGTH TO ADEQUATELY SUPPORT THE PANELS AT THE BOTTOM OF THE WALL IN A LEVEL POSITION DURING INSTALLATION. THE PAD SHALL BE CURED A MINIMUM OF 24 HOURS BEFORE PLACING WALL PANELS ON THE LEVELING PAD.

FOUNDATION PREPARATION:

PRIOR TO WALL CONSTRUCTION, THE FOUNDATION, IF NOT IN ROCK, SHALL BE LEVELED AND ROLLED WITH A SMOOTH WHEEL VIBRATORY ROLLER. ANY FOUNDATION SOILS FOUND TO BE UNSUITABLE SHALL BE REMOVED AND REPLACED, AS DIRECTED BY THE ENGINEER.

WALL ERECTION:

PANELS ARE HANDLED BY MEANS OF A LIFTING DEVICE CONNECTED TO THE LIFTING INSERT WHICH IS CAST INTO THE UPPER EDGE OR BACK SIDE OF THE PANELS. ALL PANELS SHALL BE BRACED TO RESIST THE TEMPORARY CONSTRUCTION LOADS INCLUDING WIND LOADS, PRIOR TO FOOTING CONSTRUCTION.

PAYMENT:

PAYMENT FOR ITEM SPECIAL - STRUCTURE, MISC.: PRECAST WALL PANELS COVERS ALL LABOR, MATERIAL, AND INCIDENTALS NECESSARY TO COMPLETE THE WORK DESCRIBED ABOVE.

DESIGN AGENCY
GPD GROUP
Glaus, Pyle, Schomer, Burns & DeHaven, Inc.
1801 Watermark Drive, Suite 210, Columbus, OH 43215 614.210.0751

DESIGNED MOJ | DRAWN MOJ | REVIEWED DGN | DATE 4-21-23
CHECKED DJC | REVISED | STRUCTURE FILE NUMBER

RETAINING WALL GENERAL NOTES
DRILLED SHAFT AND/OR PRECAST PANEL WALLS

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ESTIMATED QUANTITIES

CALCULATED: RFV DATE: 10-2-19
CHECKED: TJW DATE: 4-3-20

ITEM	EXT.	PARTICIPATION TOTAL	PARTICIPATION 01/IMS/04	UNITS	DESCRIPTION	A.P.P REFERENCE SHEET NO.
503	11100			LS	COFFERDAMS AND EXCAVATION BRACING	
503	21100	1,142	1,142	CY	UNCLASSIFIED EXCAVATION	
507	98020			LS	PILING, MISC.: SOLDIER PILES	301
509	10000	63,829	63,829	LB	EPOXY COATED REINFORCING STEEL	
511	34451	70	70	CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK (PARAPET), AS PER PLAN	301
511	46512	115	115	CY	CLASS QC1 CONCRETE WITH QC/QA, FOOTING	
511	53010	45	45	CY	CLASS QC1 CONCRETE, MISC.: CAST-IN-PLACE CONCRETE WALL	304
511	53010	556	556	CY	CLASS QC1 CONCRETE, MISC.: DRILLED SHAFT CAP WITH QC/QA (3)	304
511	81200			LS	CONCRETE, MISC.: PRECAST LAGGING	301
512	10050	314	314	SY	SEALING OF CONCRETE SURFACES (NON-EPOXY)	
512	10100	1,392	1,392	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	
512	33000	203	203	SY	TYPE 2 WATERPROOFING	
516	13600	586	586	SF	1" PREFORMED EXPANSION JOINT FILLER	
518	21200	246	246	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC	
518	40000	1,002	1,002	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	
524	95472	6,016	6,016	FT	DRILLED SHAFTS, 60" DIAMETER, ABOVE BEDROCK WITH QC/QA, AS PER PLAN	304
524	95492	292	292	FT	DRILLED SHAFTS, 72" DIAMETER, ABOVE BEDROCK WITH QC/QA. AS PER PLAN	304
894	10000	86	86	EACH	THERMAL INTEGRITY PROFILING (TIP) TEST	
SPECIAL	20302000	926	926	CY	ENGINEERED FILL (LIGHTWEIGHT CELLULAR CONCRETE FILL), PERVIOUS	302
SPECIAL	53000600	12,867	12,867	SF	STRUCTURES - PRECAST FACADE PANELS	305
SPECIAL	60798000	498	498	FT	FENCE, MISC.: WALL MOUNTED TYPE A (W/ VANDAL MESH)	301

NO.	DESCRIPTION	REV. BY	DATE
3	REVISED ITEM DESCRIPTION	DJC	10-23-23

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DESIGN AGENCY
GPD GROUP
Glaus, Pyle, Schomer, Burns & DeHaven, Inc.
1801 Watermark Drive, Suite 210, Columbus, OH 43215 614.210.0751

REVIEWED DGN DATE 4-21-23
STRUCTURE FILE NUMBER
DESIGNED RHC DRAWN JJB REVISED
CHECKED DJC

ESTIMATED QUANTITIES
TANGENT DRILLED SHAFT WALL 4W16
NORTHSIDE OF I-70 WB FROM FRA-70-1405C TO FRA-33-1747C

FRA-70-14.05
PID No. 96053

1/22

336/855

ESTIMATED QUANTITIES

CALCULATED: RFV DATE: 10-2-19
CHECKED: TJW DATE: 4-3-20

ITEM	EXT.	TOTAL	PARTICIPATION 01/IMS/04	UNITS	DESCRIPTION	A.P.P. REFERENCE SHEET NO.
503	11100			LS	COFFERDAMS AND EXCAVATION BRACING	
503	21100	1,065	1,065	CY	UNCLASSIFIED EXCAVATION	
509	10000	29,151	29,151	LB	EPOXY COATED REINFORCING STEEL	
511	34451	43	43	CY	CLASS QC2 CONCRETE WTH QC/QA, BRIDGE DECK (PARAPET), AS PER PLAN	301
511	46512	67	67	CY	CLASS QC1 CONCRETE WITH QC/QA, FOOTING	
511	53010	336	336	CY	CLASS QC1 CONCRETE, MISC.: DRILLED SHAFT CAP WITH QC/QA 3	304
512	10050	191	191	SY	SEALING CONCRETE SURFACES (NON-EPOXY)	
512	10100	826	826	SY	SEALING CONCRETE SURFACES (EPOXY-URETHANE)	
512	33000	121	121	SY	TYPE 2 WATERPROOFING	
516	13600	302	302	SF	1" PREFORMED EXPANSION JOINT FILLER	
518	21200	118	118	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC	
518	40000	442	442	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	
524	95453	74	74	FT	DRILLED SHAFTS, 48" DIAMETER, ABOVE BEDROCK WITH QC/QA, AS PER PLAN	304
524	95472	4,347	4,347	FT	DRILLED SHAFTS, 60" DIAMETER, ABOVE BEDROCK WITH QC/QA, AS PER PLAN	304
SPECIAL	53000600	8,451	8,451	SF	STRUCTURES: PRECAST FACADE PANELS	305
607	98000	303	303	FT	FENCE, MISC.: WALL MOUNTED TYPE A (W/ VANDAL MESH)	301
894	10000	60	60	EACH	THERMAL INTEGRITY PROFILING (TIP) TEST	

NO.	DESCRIPTION	REV. BY	DATE
3	REVISED ITEM DESCRIPTION	DJC	10-23-23

DESIGN AGENCY
GPD GROUP
Glaus, Pyle, Schomer, Burns & DeHaven, Inc.
1801 Watermark Drive, Suite 210, Columbus, OH 43215 614.210.0751

DESIGNED TJW | CHECKED RHC | DRAWN RPR | REVISED | REVIEWED DGN | DATE 4-21-23 | STRUCTURE FILE NUMBER

ESTIMATED QUANTITIES
TANGENT DRILLED SHAFT WALL 4W17
NORTHSIDE OF I-70 WB FROM FRA-33-1747C TO FRA-23-1075C

FRA-70-14.05
PID No. 96053

1/11

358/855

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ESTIMATED QUANTITIES

CALCULATED BY: MOJ DATE: 4-2-20
CHECKED BY: TJW DATE: 4-3-20

ITEM	EXT.	TOTAL	PARTICIPATION 01/IMS/04	UNITS	DESCRIPTION	REFERENCE SHEET NO. ___ / 855
503	11100	LS	LS	LS	COFFERDAMS AND EXCAVATION BRACING	
503	21101	125	125	CY	UNCLASSIFIED EXCAVATION, AS PER PLAN	301
509	10000	3,256	3,256	LB	EPOXY COATED REINFORCING STEEL	
511	34451	4	4	CY	CLASS QC2 CONCRETE WTH QC/QA, BRIDGE DECK (PARAPET), AS PER PLAN	693
511	46512	8	8	CY	CLASS QC1 CONCRETE WITH QC/QA, FOOTING	
511	53010	31	31	CY	CLASS QC1 CONCRETE, MISC.: DRILLED SHAFT CAP WITH QC/QA 3	304
512	10050	24	24	SY	SEALING OF CONCRETE SURFACES (NON-EPOXY)	693
512	10100	75	75	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	693
512	33000	23	23	SY	TYPE 2 WATERPROOFING	
516	13600	25	25	SF	1" PREFORMED EXPANSION JOINT FILLER	
518	21200	18	18	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC	
518	40000	71	71	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	
524	95422	23	23	FT	DRILLED SHAFTS, 30" DIAMETER, ABOVE BEDROCK WITH QC/QA	
524	95443	431	431	FT	DRILLED SHAFTS, 42" DIAMETER, ABOVE BEDROCK WITH QC/QA, AS PER PLAN	304
SPECIAL	53000600	720	720	SF	STRUCTURES: PRECAST FACADE PANELS	305
607	98000	39	39	FT	FENCE, MISC.: WALL MOUNTED TYPE A (W/O VANDAL MESH)	693
894	10000	1	1	EACH	THERMAL INTEGRITY PROFILING (TIP) TEST	

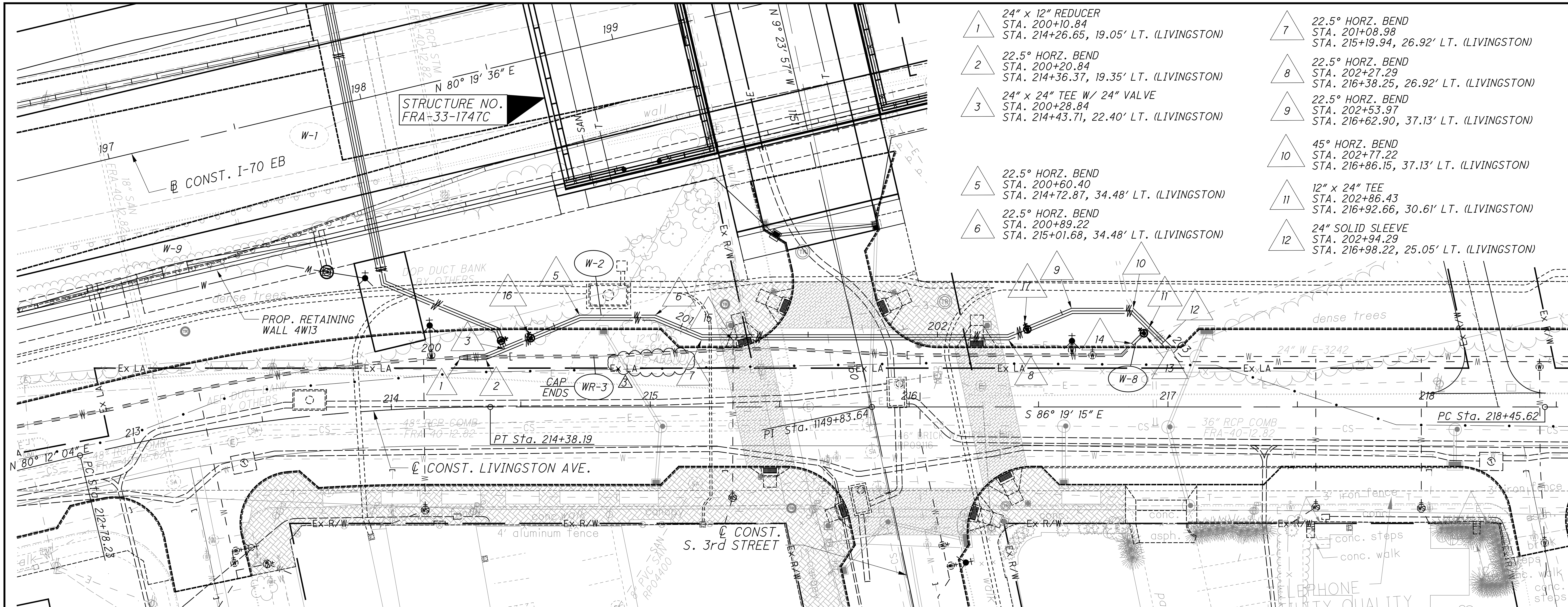
NO.	DESCRIPTION	REV. BY	DATE
3	REVISED ITEM DESCRIPTION	DJC	10-23-23

DESIGN AGENCY
GPD GROUP®
Glaus, Pyle, Schomer, Burns & DeHaven, Inc.
1801 Watermark Drive, Suite 210, Columbus, OH 43215 614.210.0751

DESIGNED MOJ | CHECKED TJW | DRAWN MOJ | REVISED | REVIEWED DGN | DATE 4-21-23 | STRUCTURE FILE NUMBER

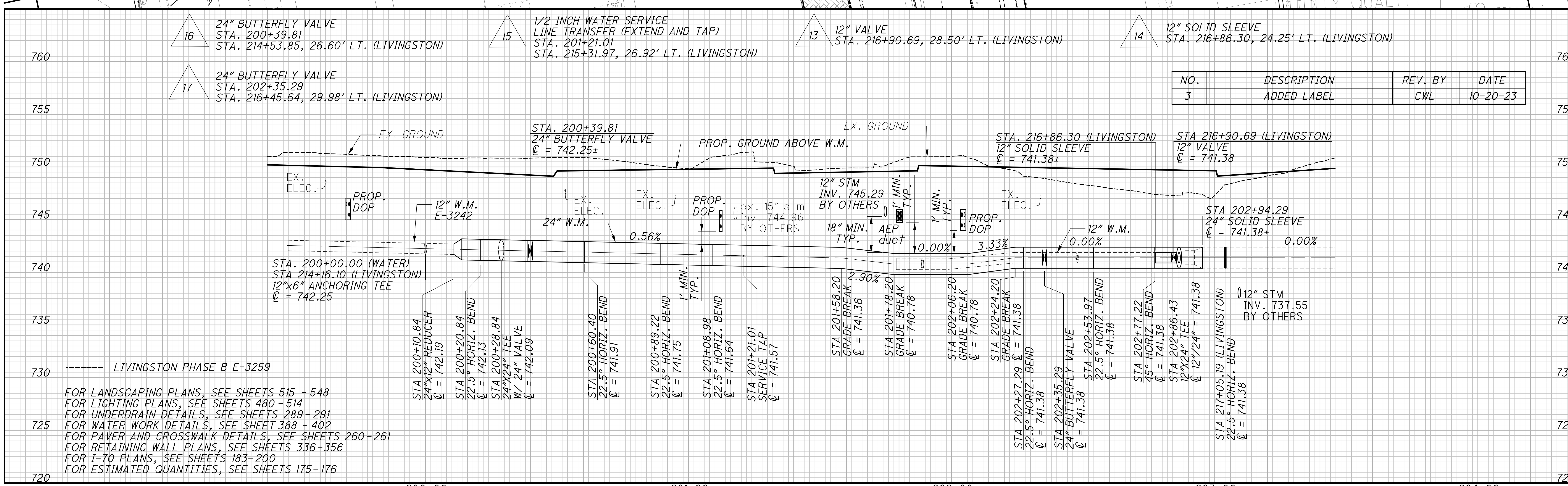
ESTIMATED QUANTITIES
TANGENT DRILLED SHAFT WALL 4W18
NORTH SIDE OF I-70 WB - EAST OF FRA-23-1075C

FRA-70-14.05
PID No. 96053



1	24" x 12" REDUCER STA. 200+10.84 STA. 214+26.65, 19.05' LT. (LIVINGSTON)
2	22.5° HORZ. BEND STA. 200+20.84 STA. 214+36.37, 19.35' LT. (LIVINGSTON)
3	24" x 24" TEE W/ 24" VALVE STA. 200+28.84 STA. 214+43.71, 22.40' LT. (LIVINGSTON)
5	22.5° HORZ. BEND STA. 200+60.40 STA. 214+72.87, 34.48' LT. (LIVINGSTON)
6	22.5° HORZ. BEND STA. 200+89.22 STA. 215+01.68, 34.48' LT. (LIVINGSTON)
7	22.5° HORZ. BEND STA. 201+08.98 STA. 215+19.94, 26.92' LT. (LIVINGSTON)
8	22.5° HORZ. BEND STA. 202+27.29 STA. 216+38.25, 26.92' LT. (LIVINGSTON)
9	22.5° HORZ. BEND STA. 202+53.97 STA. 216+62.90, 37.13' LT. (LIVINGSTON)
10	45° HORZ. BEND STA. 202+77.22 STA. 216+86.15, 37.13' LT. (LIVINGSTON)
11	12" x 24" TEE STA. 202+86.43 STA. 216+92.66, 30.61' LT. (LIVINGSTON)
12	24" SOLID SLEEVE STA. 202+94.29 STA. 216+98.22, 25.05' LT. (LIVINGSTON)
13	12" VALVE STA. 216+90.69, 28.50' LT. (LIVINGSTON)
14	12" SOLID SLEEVE STA. 216+86.30, 24.25' LT. (LIVINGSTON)
15	1/2 INCH WATER SERVICE LINE TRANSFER (EXTEND AND TAP) STA. 201+21.01 STA. 215+31.97, 26.92' LT. (LIVINGSTON)
16	24" BUTTERFLY VALVE STA. 200+39.81 STA. 214+53.85, 26.60' LT. (LIVINGSTON)
17	24" BUTTERFLY VALVE STA. 202+35.29 STA. 216+45.64, 29.98' LT. (LIVINGSTON)

NO.	DESCRIPTION	REV. BY	DATE
3	ADDED LABEL	CWL	10-20-23



------- LIVINGSTON PHASE B E-3259

FOR LANDSCAPING PLANS, SEE SHEETS 515 - 548
FOR LIGHTING PLANS, SEE SHEETS 480 - 514
FOR UNDERDRAIN DETAILS, SEE SHEETS 289 - 291
FOR WATER WORK DETAILS, SEE SHEET 388 - 402
FOR PAVER AND CROSSWALK DETAILS, SEE SHEETS 260 - 261
FOR RETAINING WALL PLANS, SEE SHEETS 336 - 356
FOR I-70 PLANS, SEE SHEETS 183 - 200
FOR ESTIMATED QUANTITIES, SEE SHEETS 175 - 176

HORIZONTAL SCALE IN FEET: 0 10 20 40

CALCULATED ATR
CHECKED CWL

PLAN AND PROFILE
24" WATER LINE ALONG LIVINGSTON AVE

FRA-70-14.05

PLAN
EXISTING 24" WATERLINE ABANDONMENT

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED ATR
CHECKED CWL

FRA-70-14.05

PROJECT 2E (105322)
LIVINGSTON PHASE B

FOR LANDSCAPING PLANS, SEE SHEETS 515 - 548
FOR LIGHTING PLANS, SEE SHEETS 480 - 514
FOR UNDERDRAIN DETAILS, SEE SHEETS 289 - 291
FOR WATER WORK DETAILS, SEE SHEET 388 - 402
FOR PAVER AND CROSSWALK DETAILS, SEE SHEETS 260 - 261
FOR RETAINING WALL PLANS, SEE SHEETS 336-356
FOR I-70 PLANS, SEE SHEETS 183-200
FOR ESTIMATED QUANTITIES, SEE SHEETS 175 - 176

NO.	DESCRIPTION	REV. BY	DATE
3	ADDED LABEL	CWL	10-20-23

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ESTIMATED QUANTITIES

CALCULATED BY: RHC DATE: 7-5-22
CHECKED BY: DJC DATE: 7-7-22

ITEM	EXT.	TOTAL	PARTICIPATION 01/IMS/04	PARTICIPATION 02/IMS/11	PARTICIPATION 09/IMS/17/ COL	UNITS	DESCRIPTION	ABUTMENT	PIER	SUPER-STRUCTURE	GENERAL	REFERENCE SHEET NO.
202	11002	LS		LS			STRUCTURE REMOVED, OVER 20 FOOT SPAN					
202	22900	370		370		SY	APPROACH SLAB REMOVED				370	
202	23500	731		731		SY	WEARING COURSE REMOVED				731	
503	11100	LS		LS			COFFERDAMS AND EXCAVATION BRACING					
503	21100	1,872		1,872		CY	UNCLASSIFIED EXCAVATION	1,479	393			
509	10000	188,244		188,244		LB	EPOXY COATED REINFORCING STEEL	41,330	50,212	96,702		
511	34446	357		357		CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK			357		
511	41012	119		119		CY	CLASS QC1 CONCRETE WITH QC/QA, PIER ABOVE FOOTINGS		119			
511	44113	336		336		CY	CLASS QC1 CONCRETE WITH QC/QA, ABUTMENT NOT INCLUDING FOOTING, AS PER PLAN	336				3
511	46512	278		278		CY	CLASS QC1 CONCRETE WITH QC/QA, FOOTING	155	123			
511	51513	91		91		CY	CLASS QC2 CONCRETE WITH QC/QA, SIDEWALK, AS PER PLAN			91		3
512	10050	602		602		SY	SEALING OF CONCRETE SURFACES (NON-EPOXY)	12		590		3
512	10100	456		456		SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	350	106			3
512	33000	23		23		SY	TYPE 2 WATERPROOFING	23				
513	10200	11,219	11,219			LB	STRUCTURAL STEEL MEMBERS, LEVEL UF (COC, COC DOT, AND ODOT DUCT BANK SUPPORT)			11,219		
513	10200	11,219			11,219	LB	STRUCTURAL STEEL MEMBERS, LEVEL UF (AEP DUCT BANK SUPPORT)			11,219		
513	10280	410,900		410,900		LB	STRUCTURAL STEEL MEMBERS, LEVEL 4			410,900		
513	20000	4,872		4,872		EACH	WELDED STUD SHEAR CONNECTORS			4,872		
514	00060	23,000		23,000		SF	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT			23,000		
514	00066	23,000		23,000		SF	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT			23,000		
514	10000	14		14		EACH	FINAL INSPECTION REPAIR			14		
516	10010	116		116		FT	ARMORLESS PREFORMED JOINT SEAL				116	
516	11210	128		128		FT	STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL (4")			128		
516	13600	344		344		SF	1" PREFORMED EXPANSION JOINT FILLER	344				
516	13900	136		136		SF	2" PREFORMED EXPANSION JOINT FILLER	136				
516	44101	14		14		EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE) 9.5" x 1'-4" x 2.67" PAD WITH 10.5" x 1'-10" BEVELED PLATE, AS PER PLAN			14		21
516	44201	7		7		EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE) 1'-5" x 2'-2" x 3.21" PAD WITH 1'-6" x 2'-11" BEVELED PLATE, AS PER PLAN			7		21
518	12301	2		2		EACH	SCUPPERS, INCLUDING SUPPORTS, AS PER PLAN			2		27
518	20000	227		227		SY	PREFABRICATED GEOCOMPOSITE DRAIN	227				
518	21200	35		35		CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC	35				
518	40000	220		220		FT	6" PERFORATED CORRUGATED PLASTIC PIPE	220				
518	40012	45		45		FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE	45				
518	60031	70		70		FT	PIPE HORIZONTAL CONDUCTOR, INCLUDING SPECIALS, AS PER PLAN (8")			70		
524	95472	984		984		FT	DRILLED SHAFTS, 60" DIAMETER, ABOVE BEDROCK WITH QC/QA, AS PER PLAN	984				3
526	25011	104		104		SY	REINFORCED CONCRETE APPROACH SLABS WITH QC/QA (T=15"), AS PER PLAN				104	36 TO 39
526	30011	214		214		SY	REINFORCED CONCRETE APPROACH SLABS WITH QC/QA (T=17"), AS PER PLAN				214	36 TO 39
526	90031	120		120		FT	TYPE C INSTALLATION, AS PER PLAN				120	38
625	10620	6		6		EACH	LIGHT POLE ANCHOR BOLTS, MISC.: LIGHT POLE ANCHOR BOLT ASSEMBLIES EMBEDDED IN CONCRETE BRIDGE DECK			6		3
SPECIAL	53000200	LS	LS				STRUCTURES: CITY OF COLUMBUS DUCT BANK COMPLETE					4
SPECIAL	53000200	LS	LS				STRUCTURES: CITY OF COLUMBUS (DEPARTMENT OF TECH) DUCT BANK COMPLETE					4
SPECIAL	53000200	LS	LS				STRUCTURES: ODOT DUCT BANK COMPLETE					4
SPECIAL	53000200	LS			LS		STRUCTURES: AEP DUCT BANK COMPLETE					4
SPECIAL	53000600	1,460		1,460		SF	STRUCTURES: PRECAST FACADE PANELS	1,460				4
894	10000	15		15		EACH	THERMAL INTEGRITY PROFILING (TIP) TEST	15				

NO.	DESCRIPTION	REV. BY	DATE
3	QUANTITY REVISED	DJC	10-23-23

DESIGN AGENCY: GPD GROUP

DESIGNED: MOJ · CHECKED: RHC · DRAWN: MOJ · REVISED · REVIEWED: DGN · DATE: 4-21-23 · STRUCTURE FILE NUMBER: 2501554

ESTIMATED QUANTITIES
BRIDGE NO. FRA-33-1747C
S. 3RD STREET (U.S. 33) OVER I-70/71

FRA-70-14.05
PID No. 96053

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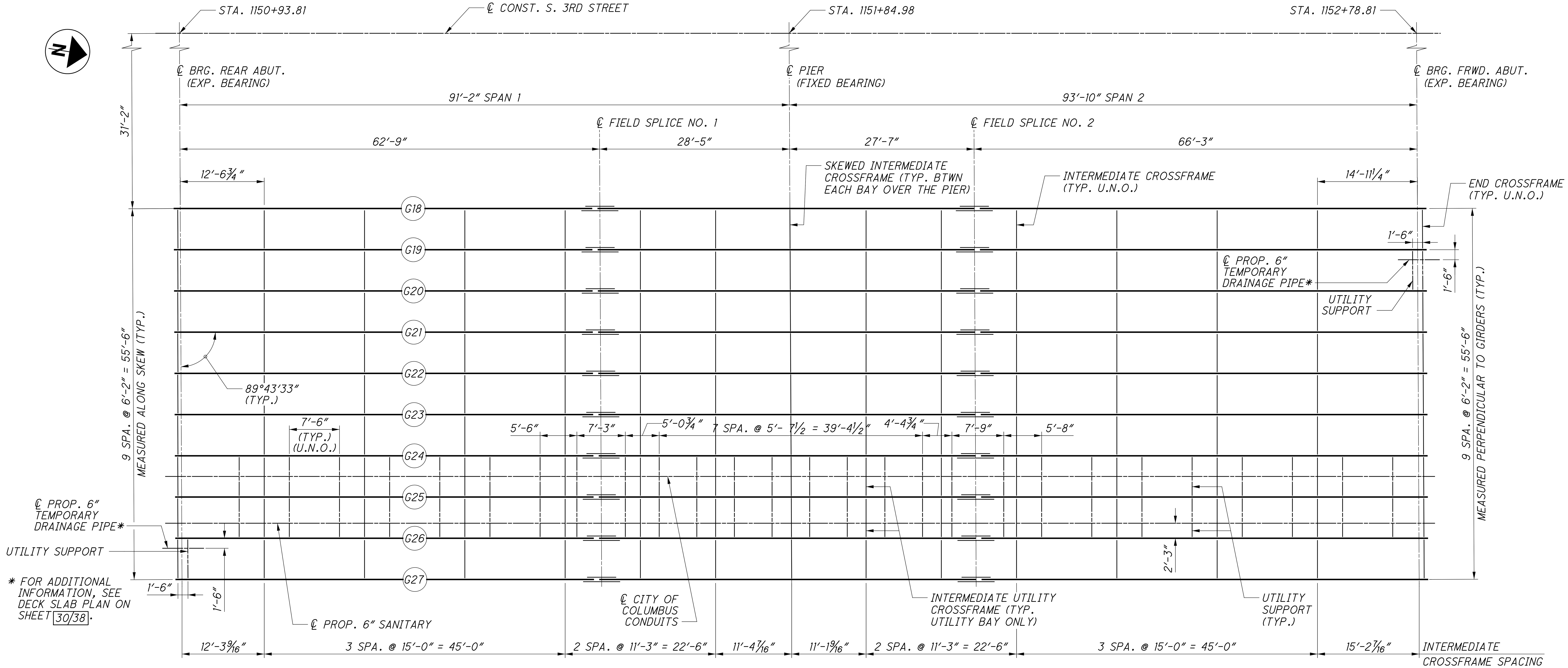
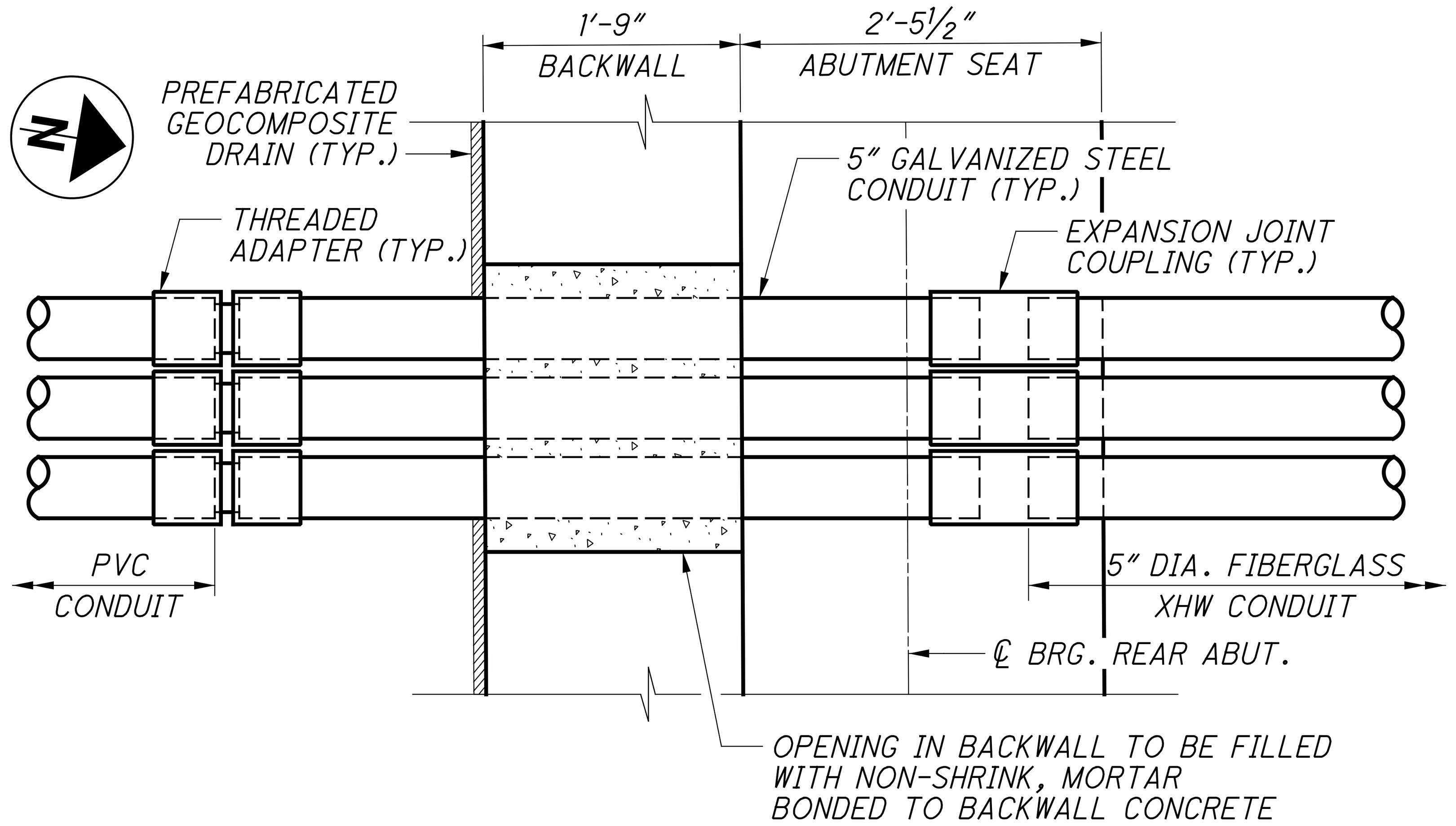


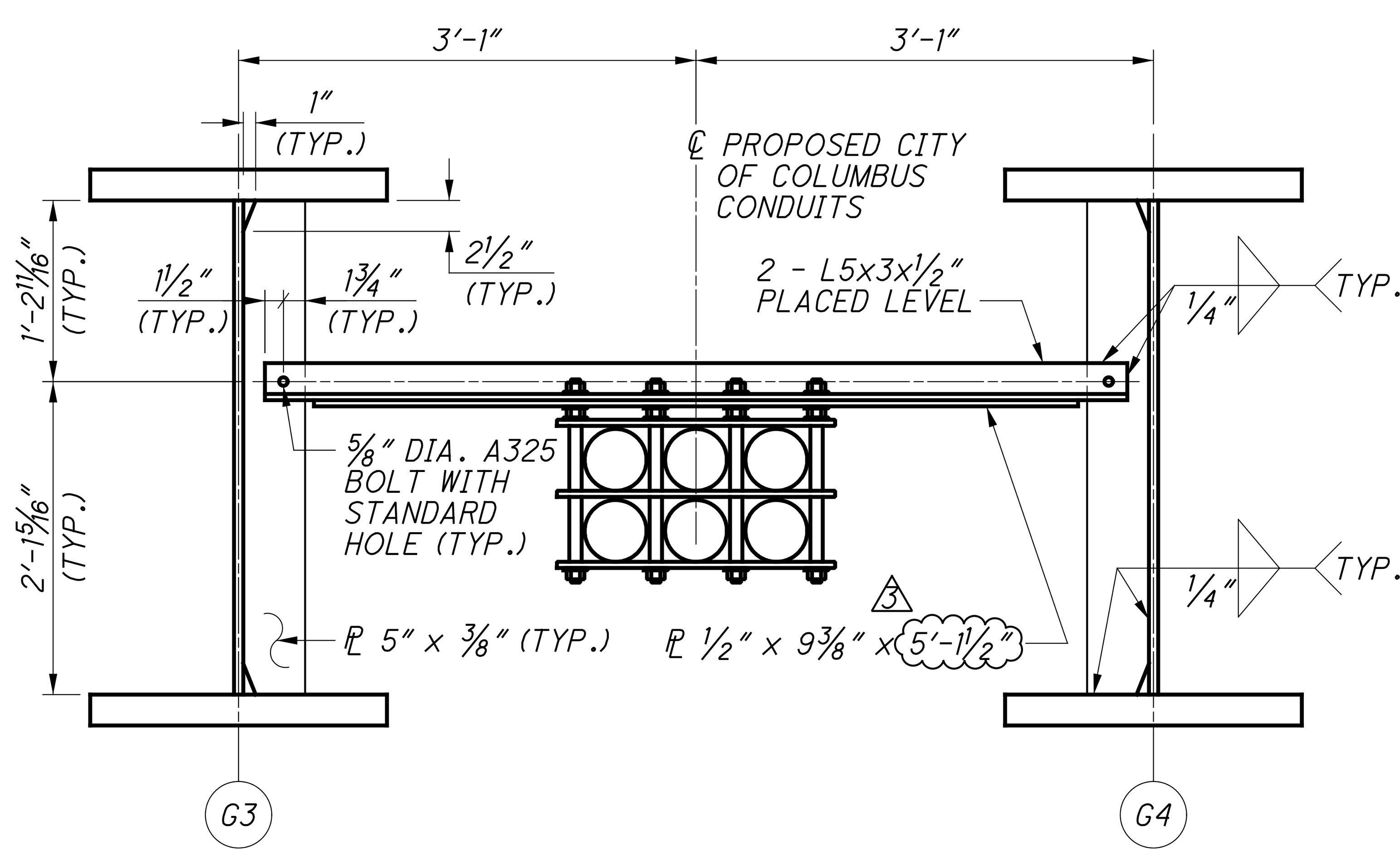
FRAMING PLAN - EAST CAP



CITY OF COLUMBUS CONDUIT EXPANSION JOINT DETAILS

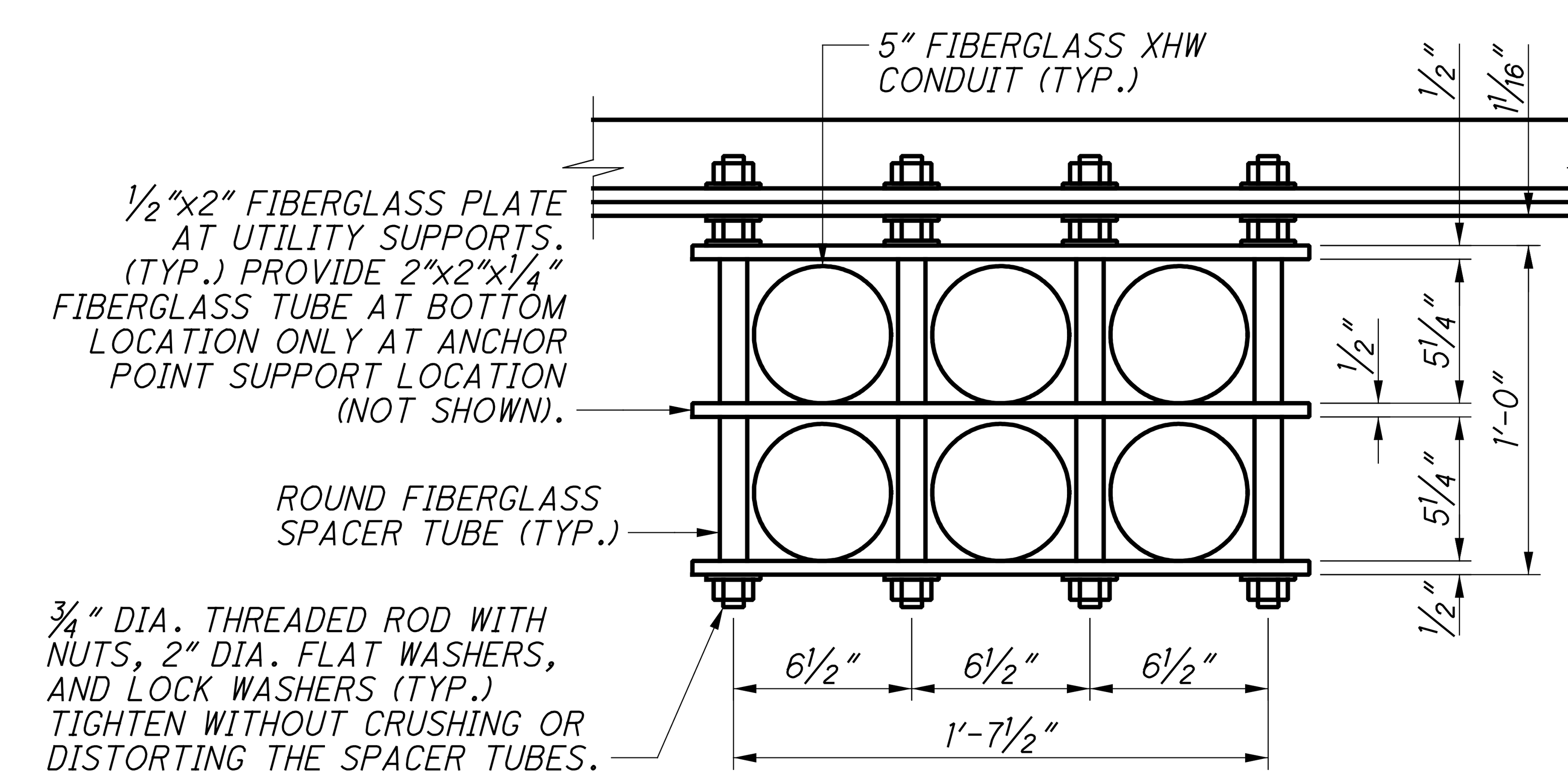
REAR ABUTMENT SHOWN, FORWARD ABUTMENT SIMILAR.

NO.	DESCRIPTION	REV. BY	DATE
3	REVISED PLATE LENGTH CALLOUT	DJC	10-23-23



CITY OF COLUMBUS CONDUIT SUPPORT DETAIL

BAY BETWEEN G3 AND G4 SHOWN, BAY BETWEEN G24 AND G25 SIMILAR



CITY OF COLUMBUS CONDUIT RACK DETAIL

NOTES:

1. INTERMEDIATE CROSSFRAMES SHALL BE TYPE A USING L4X4X½" ANGLES AS DETAILED IN STD. DWG. GSD-1-19.
2. FOR CAMBER AND DEFLECTION TABLE, SEE SHT. NO. 25/38 THRU 27/38.
3. FOR ADDITIONAL UTILITY SUPPORT DETAILS, SEE SHT. NO. 22/38 .
4. FOR UTILITY BAY INTERMEDIATE CROSSFRAME DETAILS, SEE SHT. NO. 22/38 .

DESIGN AGENCY: GPD GROUP® Glaus, Pyle, Schomer, Burns & DeHaven, Inc. 1801 Watermark Drive, Suite 210, Columbus, OH 43215 614.210.0751

DESIGNED	DRAWN	REVIEWED	DATE
MOJ	MLS	TJW	4-21-23
CHECKED	REVISED	STRUCTURE FILE NUMBER	
DGN		2501554	

FRAMING PLAN - EAST CAP
BRIDGE NO. FRA-33-1747C - CAPS
S. 3RD STREET (U.S. 33) OVER I-70/71

FRA-70-14.05
PID No. 96053

23/38

623/855

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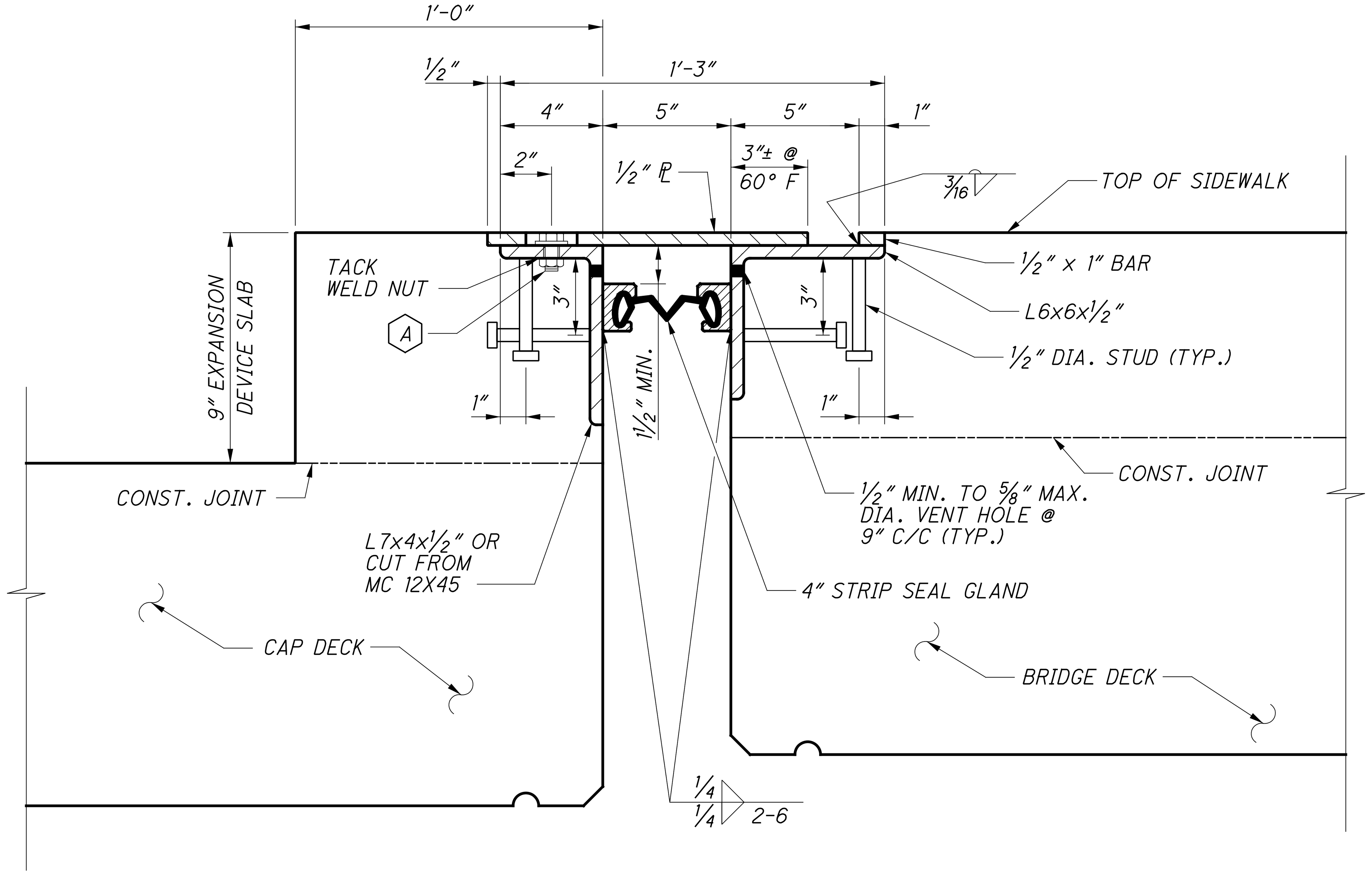
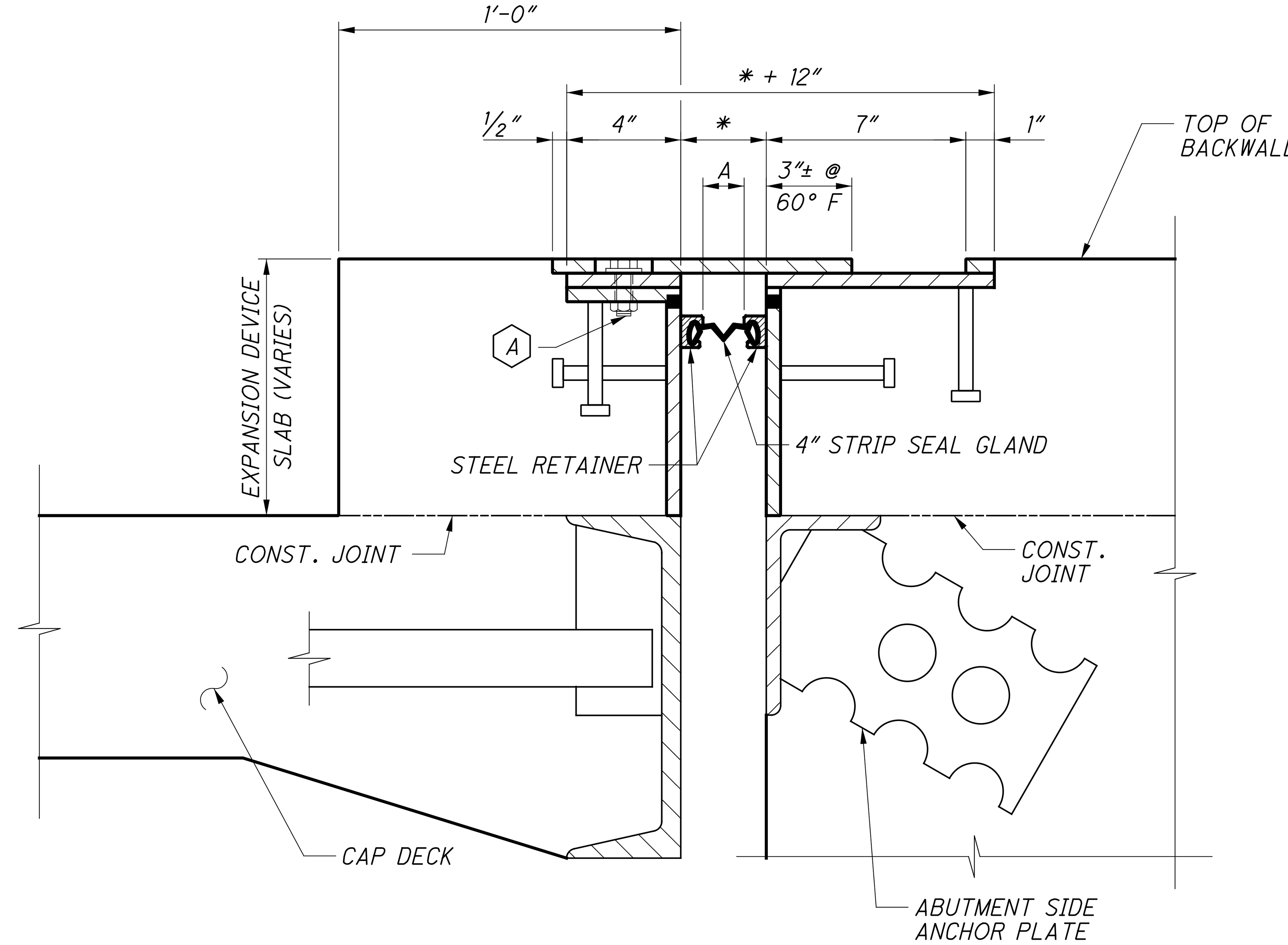


3 LONGITUDINAL EXPANSION JOINT DETAIL

REINFORCING NOT SHOWN



3 ABUTMENT EXPANSION JOINT DETAIL

REINFORCING NOT SHOWN

REAR ABUTMENT	
4" STRIP SEAL JOINT WIDTH	
AMBIENT TEMPERATURE	DIMENSION "A"
90°	1⅜"
80°	1½"
70°	1⁹⁄₁₆"
60°	1⅝"
50°	1¾"
40°	1¹³⁄₁₆"
30°	1⅞"

FORWARD ABUTMENT	
4" STRIP SEAL JOINT WIDTH	
AMBIENT TEMPERATURE	DIMENSION "A"
90°	1⅜"
80°	1½"
70°	1⁹⁄₁₆"
60°	1⅝"
50°	1¾"
40°	1¹³⁄₁₆"
30°	1⅞"

LEGEND:

* THIS DIMENSION IS THE SUM OF (2 X "STEEL RETAINER WIDTH" + DIM. "A")

(A) ½" DIA. x 1½" STAINLESS STEEL SOCKET FLAT HEAD SCREWS, ASTM F879 SPACED AT 6" MAX. C/C WITH ANTI-SEIZE LUBRICANT. PLACE IN COUNTERSUNK HOLE FLUSH WITH PLATE SURFACE. DRILL ⅝" DIA. HOLES IN L7x4x½".

NOTES:

1. FOR ADDITIONAL DETAILS, SEE STD. DWG. EXJ-4-87.
2. THE ELASTOMERIC STRIP SEAL SHALL BE ONE PIECE ACROSS THE ENTIRE WIDTH OF THE STRUCTURE. NO SPLICES ARE ACCEPTABLE.

NO.	DESCRIPTION	REV. BY	DATE
3	TITLE REVISED	MOJ	10-23-23

DESIGN AGENCY
GPD GROUP
Glaus, Pyle, Schomer, Burns & DeHaven, Inc.
1801 Watermark Drive, Suite 210, Columbus, OH 43215 614.210.0751

DESIGNED MOJ | CHECKED RHC | DRAWN MOJ | REVISED | REVIEWED DGN | DATE 4-21-23 | STRUCTURE FILE NUMBER 2501554

EXPANSION JOINT DETAILS
BRIDGE NO. FRA-33-1747C - CAPS
S. 3RD STREET (U.S. 33) OVER I-70/71

FRA-70-14.05
PID No. 96053

ITEM	EXT.	TOTAL	PARTICIPATION 01/IMS/04	PARTICIPATION 02/IMS/11	PARTICIPATION 09/IMS/17/COL	UNITS	DESCRIPTION	ABUTMENT	PIER	SUPER-STRUCTURE	GENERAL	REFERENCE SHEET NO.
202	11002	LS		LS			STRUCTURE REMOVED, OVER 20 FOOT SPAN					2
202	22900	219		219		SY	APPROACH SLAB REMOVED				219	
202	23500	906		906		SY	WEARING COURSE REMOVED				906	
503	11100	LS		LS			COFFERDAMS AND EXCAVATION BRACING					
503	21100	3,173		3,173		CY	UNCLASSIFIED EXCAVATION	2,438	735			
509	10000	357,555		357,555		LB	EPOXY COATED REINFORCING STEEL	127,946	74,285	155,324		
511	34446	485		485		CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK			485		
511	34451	145		145		CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK (PARAPET), AS PER PLAN			145		2
511	41012	183		183		CY	CLASS QC1 CONCRETE WITH QC/QA, PIER ABOVE FOOTINGS		183			
511	44113	1,186		1,186		CY	CLASS QC1 CONCRETE WITH QC/QA, ABUTMENT NOT INCLUDING FOOTING, AS PER PLAN	1,186				2
511	46512	604		604		CY	CLASS QC1 CONCRETE WITH QC/QA, FOOTING	443	161			
511	51513	98		98		CY	CLASS QC2 CONCRETE WITH QC/QA, SIDEWALK, AS PER PLAN			98		2
512	10050	1,236		1,236		SY	SEALING OF CONCRETE SURFACES (NON-EPOXY)	165		1,071		2
512	10100	1,393		1,393		SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	1,171	222			2
512	33000	193		193		SY	TYPE 2 WATERPROOFING	193				
										3		
513	10200	5,360		5,360		LB	STRUCTURAL STEEL MEMBERS, LEVEL UF (PIPE HORIZONTAL CONDUCTOR)			5,360		
513	10200	4,840	4,840			LB	STRUCTURAL STEEL MEMBERS, LEVEL UF (COC, COC DOT, AND ODOT DUCT BANK SUPPORT)			4,840		
513	10200	4,740	4,740			LB	STRUCTURAL STEEL MEMBERS, LEVEL UF (COC: DOT - TELECOM DUCT BANK SUPPORT)			4,740		
513	10200	12,510			12,510	LB	STRUCTURAL STEEL MEMBERS, LEVEL UF (AEP DUCT BANK SUPPORT)			12,510		
513	10200	12,510			12,510	LB	STRUCTURAL STEEL MEMBERS, LEVEL UF (AT&T DUCT BANK SUPPORT)			12,510		
513	10280	553,000		553,000		LB	STRUCTURAL STEEL MEMBERS, LEVEL 4			553,000		
513	20000	6,507		6,507		EACH	WELDED STUD SHEAR CONNECTORS			6,507		
514	00060	24,600		24,600		SF	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT			24,600		
514	00066	24,600		24,600		SF	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT			24,600		2
514	10000	25		25		EACH	FINAL INSPECTION REPAIR			25		
516	10010	155		155		FT	ARMORLESS PREFORMED JOINT SEAL				155	
516	11210	177		177		FT	STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL (3")			177		
516	13600	584		584		SF	1" PREFORMED EXPANSION JOINT FILLER	584				
516	44101	18		18		EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE) 9 1/2" x 1'-4" x 2.67" PAD WITH 10 1/2" x 1'-10" BEVELED PLATE, AS PER PLAN			18		28
516	44201	9		9		EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE) 1'-5" x 2'-2" x 3.21" PAD WITH 1'-6" x 2'-11" BEVELED PLATE, AS PER PLAN			9		28
518	12301	2		2		EACH	SCUPPERS, AS PER PLAN			2		37
518	20000	655		655		SY	PREFABRICATED GEOCOMPOSITE DRAIN	655				
518	21200	104		104		CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC	104				
518	40000	650		650		FT	6" PERFORATED CORRUGATED PLASTIC PIPE	650				
518	40012	40		40		FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE	40				
518	60031	90		90		FT	PIPE HORIZONTAL CONDUCTOR, AS PER PLAN (8")			90		2 & 37
524	95472	2,602		2,602		FT	DRILLED SHAFTS, 60" DIAMETER, ABOVE BEDROCK WITH QC/QA, AS PER PLAN	2,602				2
526	25010	153		153		SY	REINFORCED CONCRETE APPROACH SLABS WITH QC/QA (T=15")				153	
526	30011	254		254		SY	REINFORCED CONCRETE APPROACH SLABS WITH QC/QA (T=17"), AS PER PLAN				254	49
526	90031	160		160		FT	TYPE C INSTALLATION, AS PER PLAN				160	49
625	10620	6		6		EACH	LIGHT POLE ANCHOR BOLTS, MISC.: LIGHT POLE ANCHOR BOLT ASSEMBLIES EMBEDDED IN CONCRETE BRIDGE DECK			6		2
SPECIAL	53000200	LS	LS			LS	STRUCTURES: CITY OF COLUMBUS DUCT BANK COMPLETE					3
SPECIAL	53000200	LS	LS			LS	STRUCTURES: CITY OF COLUMBUS (DEPARTMENT OF TECH) DUCT BANK COMPLETE					3
SPECIAL	53000200	LS			LS	LS	STRUCTURES: AEP DUCT BANK COMPLETE					3
SPECIAL	53000200	LS			LS	LS	STRUCTURES: AT&T DUCT BANK COMPLETE					3
SPECIAL	53000200	LS	LS			LS	STRUCTURES: ODOT DUCT BANK COMPLETE					3
SPECIAL	53000200	LS			LS	LS	STRUCTURES: TEMPORARY UTILITY SUPPORTS					3
SPECIAL	53000600	3,639		3,639		SF	STRUCTURES: PRECAST FACADE PANELS	3,639				3
607	98000	112		112		FT	FENCE, MISC.: WALL MOUNTED TYPE A (W/ VANDAL MESH)	112				2
607	98000	135		135		FT	FENCE, MISC.: WALL MOUNTED TYPE A (W/O VANDAL MESH)	135				2
894	10000	43		43		EACH	THERMAL INTEGRITY PROFILING (TIP) TEST	43				

CALCULATED BY: RHC DATE: 7-5-22
CHECKED BY: DJC DATE: 7-7-22

NO.	DESCRIPTION	REV. BY	DATE
3	QUANTITIES REVISED	DJC	10-23-23

DESIGNED MLS | DRAWN MLS | REVIEWED DGN | DATE 4-21-23 | CHECKED RHC | REVISED | STRUCTURE FILE NUMBER 2502620

DESIGN AGENCY
GPD GROUP
Glaus, Pyle, Schomer, Burns & DeHaven, Inc.
1801 Watermark Drive, Suite 210, Columbus, OH 43215
614.210.0751
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ESTIMATED QUANTITIES
BRIDGE NO. FRA-23-1075C
S. 4TH STREET (U.S. 23) OVER I-70/71

FRA-70-14.05
PID No. 96053

4 / 54

642
855

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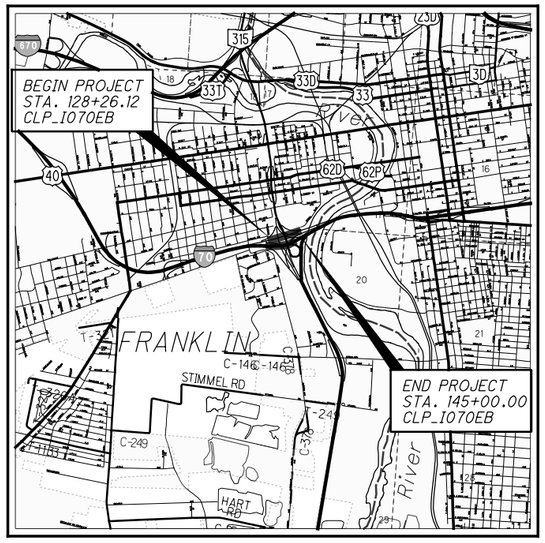

LOCATION MAP

LATITUDE: 39°57'02" LONGITUDE: 83°01'00"

SCALE IN MILES

0 .5 1 1.5 2

PORTION TO BE IMPROVED

INTERSTATE HIGHWAY

FEDERAL ROUTES

STATE ROUTES

COUNTY & TOWNSHIP ROADS

OTHER ROADS

DESIGN DESIGNATION

	I70 EB	ROAD "D"
CURRENT ADT (2015)	67,330	23,330
DESIGN YEAR ADT (2035)	96,300	31,700
DESIGN HOURLY VOLUME (2035)	13,300	2,990
DIRECTIONAL DISTRIBUTION	N/A	N/A
TRUCKS (24 HOUR B&C)	11%	14
DESIGN SPEED	60	60
LEGAL SPEED	55	55
DESIGN FUNCTIONAL CLASSIFICATION:	01 INTERSTATE (URBAN)	
NHS PROJECT	YES	

DESIGN EXCEPTIONS

	DATE	SHEETS
STOPPING SIGHT DISTANCE (I-70 EB HORZ.)	5/11/23	18-25

UNDERGROUND UTILITIES

OHIO811.org Before You Dig

PLAN PREPARED BY:

ms consultants, inc.
2221 Schrock Road
Columbus, Ohio 43229

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

FRA-70-13.01
(1301 BRIDGES OVER 315)
PART 5

CITY OF COLUMBUS
FRANKLIN COUNTY

FOR PART 1, SEE FRA-70-13.11 (4A)
FOR PART 2, SEE FRA-70-14.05C (4H)
FOR PART 3, SEE FRA-70-13.10 (6A)
FOR PART 4, SEE FRA-70-14.05 (4B)

INDEX OF SHEETS:

STANDARD CONSTRUCTION DRAWINGS	SUPPLEMENTAL SPECIFICATIONS	SPECIAL PROVISIONS
SEE PART 1	SEE PART 1	SEE PART 1

PROJECT DESCRIPTION

THE PROJECT CONSISTS OF STRUCTURE REPLACEMENT FOR STRUCTURE AND APPROACH ROADWAY WORK ON BOTH SIDES OF FRA-70-13.01 R (I.R. 70 EB OVER S.R. 315 AND RAMPS). ALSO INCLUDED IS (I.R. 70 WB) STRUCTURE FRA-70-13.01 L REDECKING AND ASSOCIATED WORK.

EARTH DISTURBED AREAS

PROJECT EARTH DISTURBED AREA: 4.35 ACRES
ESTIMATED CONTRACTOR EARTH DISTURBED AREA: 1.59 ACRES
NOTICE OF INTENT EARTH DISTURBED AREA: 5.94 ACRES

THIS PROJECT IS ENTIRELY WITHIN ODOT LIMITED ACCESS RIGHT-OF-WAY AND HAS A DIRECT OUTFALL TO THE SCIOTO RIVER. PROJECT STORMWATER REQUIREMENTS WILL BE DESIGNED PER ODOT L&D SINCE THERE IS NO DISCHARGE TO THE COLUMBUS DOSD MS4.

LIMITED ACCESS

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

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.

FEMA

PROJECT SITE LOCATED WITHIN FIRM 39049C0309K
EFFECTIVE DATE: 6/17/2008
FEMA SPECIAL FLOOD HAZARD AREA, ZONE X
BFE = 716.00

IN THIS PROJECT (PART 5,) NO FILL IS BEING ADDED IN THE 100-YR FLOOD PLAN.

NO.	DESCRIPTION	REV. BY	DATE
3	ADDED SHEET	ACW	10/23/23

FOR CITY OF COLUMBUS SIGNATURES, SEE SEPARATE SIGNATURE PAGE.

OHIO DEPARTMENT OF TRANSPORTATION:

Anthony C. Turowski, P.E.
District 06 Deputy Director

Jack Marchbanks, PhD
Director, Department of Transportation

3717-E

FEDERAL PROJECT NO. E040 (634)
PID NO. 77372
CONSTRUCTION PROJECT NO.
RAILROAD INVOLVEMENT NONE
FRA-70-13.01
1 / 137

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UTILITIES

PRIOR TO EXCAVATION, THE CONTRACTOR SHALL GIVE A 48 HOUR NOTICE TO THE OHIO UTILITIES PROTECTION SERVICE (OUPS) NOW DOING BUSINESS AS OHIO 811 BY CALLING 811 OR (800-362-2764).

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

ELECTRIC

AMERICAN ELECTRIC POWER
(TRANSMISSION)
ATTN: MICHAEL CARR
8600 SMITHS MILL ROAD
NEW ALBANY, OH 43054
OFFICE: 380-205-5072
TL_PUBLICPROJECTS@AEP.COM

AMERICAN ELECTRIC POWER
(CITY PROJECTS/DISTRIBUTION)
ATTN: PAUL PAXTON
777 HOPEWELL DRIVE
HEATH, OHIO 43056
OFFICE: 740-348-5322
AEP SOLUTION CENTER:
800-277-2177
PTPAXTON@AEP.COM
ALSO COPY:
UNA BLANUSA
OHFIBERRELOCATE@AEP.COM

CITY OF COLUMBUS
DIVISION OF POWER
ATTN: CHARLES HORNER
3500 INDIANOLA AVENUE
COLUMBUS, OHIO 43214
614-645-7569
CRHORNER@COLUMBUS.GOV

WATER

CITY OF COLUMBUS
DIVISION OF WATER
910 DUBLIN ROAD
COLUMBUS, OHIO 43215
OFFICE: 614-645-7788

CABLE

CHARTER COMMUNICATIONS/
SPECTRUM
(AKA TIME WARNER COMMUNICATIONS)
3760 INTERCHANGE ROAD
COLUMBUS, OH 43204
DL-MOH-CONSTRUCTION-FRELO-
TEAM@CHARTER.COM

BREEZELINE (FKA WOW)
3675 CORPORATE DRIVE
COLUMBUS, OH 43231
ADD BOTH:
DL_CMHFR@ATLANTICBB.COM
MFREY@BREEZELINE.COM

GAS

COLUMBIA GAS OF OHIO
ATTN: ROB CALDWELL
LEADER FIELD ENGINEERING
3550 JOHNNY APPLESEED CT.
COLUMBUS, OHIO 43231
OFFICE: 614-818-2104
CELL: 614-370-1906
CUSTOMER SERVICE: 1-800-344-4077
DAMAGE PREVENTION: 1-866-632-6243
COLUMBIAGAS_COLUMBUSENG@NISOURCE.COM
ALSO COPY: RCALDWELL@NISOURCE.COM

TELEPHONE/ TELECOMMUNICATIONS

3

LUMEN (FKA CENTURYLINK/
LEVEL 3 COMMUNICATIONS/
TW TELECOM/QWEST)
250 W. OLD WILSON BRIDGE
SUITE 130
WORTHINGTON, OH 43085
PLEASE SEND PLANS ELECTRONICALLY
TO: RELOCATIONS@LUMEN.COM
RELOCATIONS@BRIGHTSPEED.COM
HALEY.WOOD@LUMEN.COM

AT&T (FKA SBC)
ATTN: DONALD G. MARSHALL JR.
MANAGER OSP PLANNING
111 N 4TH ST
COLUMBUS, OHIO 43215
CELL: 614-216-2396
AT&T REPAIR SERVICE: 888-611-4466
DAMAGE PREVENTION: 937-296-3929
dm619w@ATT.COM
ALSO COPY:
G01553@ATT.COM
KG1963@ATT.COM
BT2178@ATT.COM

WINDSTREAM-KDL INC. (McLEODUSA)
ATTN: LEON TAYLOR
2165 STATE ROUTE 133 SOUTH
BLANCHESTER, OHIO 45107
CELL: 937-725-5358
LEON.TAYLOR@WINDSTREAM.COM

ZAYO GROUP (FKA CITY NET)
ATTN: ERIC L. ALEXANDER
251 NEILSTON STREET
COLUMBUS, OH 43215
CELL: 614-989- 9655
ERIC.ALEXANDER@ZAYO.COM

3

COGENT COMMUNICATIONS
(fka SPRINT/T-MOBILE)
ATTN: STEVEN HUGHES
OSP ENGINEER II
11370 ENTERPRISE PARK DR.
SHARONVILLE, OH 45241
513-459-5796
513-462-7221 CELL
SHUGHES@COGENTCO.COM

VERIZON BUSINESS (AKA MCI/XO)
757 COMMERCE CT
LEWIS CENTER, OH 43035
CELL: 614-593-6685 (MAURICE JONES)
CELL: 614-816-0361 (BOB DILLOW)
VZ.NET.COLUMBUS@VERIZON.COM
ALSO COPY:
JOHN.CORNELL@VERIZONWIRELESS.COM
MICHAEL.HENNON@VERIZONWIRELESS.COM
MICHAEL.BONDY@VERIZONWIRELESS.COM
SVEN.CHRISTIANSON@VERIZONWIRELESS.COM

EVERSTREAM
ATTN: SCOTT LANCIA
240 N 5TH ST. SUITE 168
COLUMBUS, OH 43215
OFFICE: 380-204-5465
CELL: 614-515-3479
SLANCIA@EVERSTREAM.NET
SSALEH@EVERSTREAM.NET
KKHAY@EVERSTREAM.NET

CROWN CASTLE FIBER
AKA (FIBERTECH & LIGHTOWER)
ATTN: JOHN TARNOWSKI
COLUMBUS / DAYTON / CINCINNATI
T: (585) 445-5813
M: (614) 940-2462
2 EASTON OVAL - SUITE 425
COLUMBUS OH 43219
JON.TARNOWSKI@CROWNCASTLE.COM

SEWER

DPU - DIVISION OF SEWERAGE & DRAINAGE
SEWER MAINTENANCE MANAGER
1250 FAIRWOOD AVE.
COLUMBUS, OHIO 43206
OFFICE: 614-645-7102

ODOT ITS
1606 W. BROAD ST.
COLUMBUS, OH 43223
614-387-4113
CEN.ITS.LAB@DOT.OHIO.GOV
NOTE: ODOT ITS IS NOT
CURRENTLY AN OUPS MEMBER.
ALL REQUESTS FOR LOCATES
OF ITS INFRASTRUCTURE SHOULD
BE SENT TO THE ABOVE EMAIL
ADDRESS.

* THE FOLLOWING CITY OF COLUMBUS UTILITIES MAY BE LOCATED WITHIN THE WORK LIMITS OF THIS PROJECT AND DO NOT SUBSCRIBE TO A REGISTERED UNDERGOUND PROTECTION SERVICE.

FAX REQUEST FOR MARKINGS TWO (2) BUSINESS DAYS PRIOR TO WORKING IN THIS AREA.

THE UNDERGROUND UTILITIES ON THIS PLAN HAVE BEEN LOCATED USING A SUBSURFACE UTILITY ENGINEERING COMPANY (SUE) AND EXISTING PLANS AS SUPPLIED BY THE RESPECTIVE UTILITY OWNERS, AS REQUIRED BY SECTION 153.64 O.R.C.

CITY OF COLUMBUS *
DEPARTMENT OF TECHNOLOGY
CABLE INTERCONNECT SECTION
ATTN: DAVE MCNALLY
1355 MCKINLEY AVENUE
BUILDING C
COLUMBUS, OHIO 43222
OFFICE: 614-645-1501
CONTRACTOR LINE: 614-645-7756
CABLE LOCATES FAX: 614-645-6627
DWMCNALLY@COLUMBUS.GOV
ALSO COPY
DARRYL JOYCE AT DHJOYCE@COLUMBUS.GOV

CITY OF COLUMBUS *
DAMAGE PREVENTION SUPERVISOR
TRAFFIC SIGNALS
ATTN: BRAD HEGWOOD
1820 E. 17TH AVE.
COLUMBUS, OHIO 43219
OFFICE: 614-560-0839
BDHEGWOOD@COLUMBUS.GOV

CITY OF COLUMBUS *
SUPPORT SERVICES DIVISION
(COMMUNICATIONS)
4211 GROVES ROAD
COLUMBUS, OH 43232
JOHN GREMBOWSKI
(RADIO) JAGEMBOWSKI@COLUMBUS.GOV
OFFICE: 614-724-4006
WILLIAM GRIFFITH
WRGRIFFITH@COLUMBUS.GOV
OFFICE: 614-645-7344 EXT. 100

SURVEY PARAMETERS

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

VERTICAL POSITIONING

ORTHOMETRIC HEIGHT DATUM:	NAVD 88
GEOID:	GEOID 99

HORIZONTAL POSITIONING

HORIZONTAL DATUM	NAD 83 (1986)
COORDINATE SYSTEM:	OHIO STATE PLAN - SOUTH ZONE
COMBINED SCALE FACTOR	1.000043907
ORIGIN OF COORDINATE SYSTEM:	

FRANKLIN COUNTY MONUMENT "FRANK 143"
NORTHING = 711726.0754
EASTING = 1840542.0310

USE THE POSITIONING METHODS AND MONUMENTS 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 SUPPLEMENTAL SPECIFICATION 823.

UNITS ARE IN U.S. SURVEY FEET. USE THE FOLLOWING CONVERSION FACTOR: 1 METER = 3.280833333 U.S. SURVEY FEET.

CROSSINGS AND CONNECTIONS TO EXISTING PIPES AND UTILITIES

WHERE PLANS PROVIDE FOR A PROPOSED CONDUIT TO BE CONNECTED TO, OR CROSS OVER OR UNDER AN EXISTING SEWER OR UNDERGROUND UTILITY, THE CONTRACTOR SHALL LOCATE THE EXISTING PIPES OR UTILITIES BOTH AS TO LINE AND GRADE BEFORE STARTING TO LAY THE PROPOSED CONDUIT.

IF IT IS DETERMINED THAT THE ELEVATION OF THE EXISTING CONDUIT, OR EXISTING APPURTENANCE TO BE CONNECTED, DIFFERS FROM THE PLAN ELEVATION OR RESULTS IN A CHANGE IN THE PLAN CONDUIT SLOPE, THE ENGINEER SHALL BE NOTIFIED BEFORE STARTING CONSTRUCTION OF ANY PORTION OF THE PROPOSED CONDUIT WHICH WILL BE AFFECTED BY THE VARIANCE IN THE EXISTING ELEVATIONS.

IF IT IS DETERMINED THAT THE PROPOSED CONDUIT WILL INTERSECT AN EXISTING SEWER OR UNDERGROUND UTILITY IF CONSTRUCTED AS SHOWN ON THE PLAN, THE ENGINEER SHALL BE NOTIFIED BEFORE STARTING CONSTRUCTION OF ANY PORTION OF THE PROPOSED CONDUIT WHICH WOULD BE AFFECTED BY THE INTERFERENCE WITH AN EXISTING FACILITY.

PAYMENT FOR ALL THE OPERATIONS DESCRIBED ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 611 CONDUIT ITEM.

REVIEW OF DRAINAGE FACILITIES

BEFORE ANY WORK IS STARTED ON THE PROJECT AND AGAIN BEFORE FINAL ACCEPTANCE BY THE STATE, REPRESENTATIVES OF THE STATE AND THE CONTRACTOR, ALONG WITH LOCAL REPRESENTATIVES, SHALL MAKE AN INSPECTION OF ALL EXISTING SEWERS WHICH ARE TO REMAIN IN SERVICE AND WHICH MAY BE AFFECTED BY THE WORK. THE CONDITION OF THE EXISTING CONDUITS AND THEIR APPURTENANCE SHALL BE DETERMINED FROM FIELD OBSERVATIONS. RECORDS OF THE INSPECTION SHALL BE KEPT IN WRITING BY THE STATE.

ALL NEW CONDUITS, INLETS, CATCH BASINS, AND MANHOLES CONSTRUCTED AS A PART OF THE PROJECT SHALL BE FREE OF ALL FOREIGN MATTER AND IN A CLEAN CONDITION BEFORE THE PROJECT WILL BE ACCEPTED BY THE STATE.

ALL EXISTING SEWERS INSPECTED INITIALLY BY THE ABOVE MENTIONED PARTIES SHALL BE MAINTAINED AND LEFT IN A CONDITION REASONABLY COMPARABLE TO THAT DETERMINED BY THE ORIGINAL INSPECTION. ANY CHANGE IN THE CONDITION RESULTING FROM THE CONTRACTOR'S OPERATIONS SHALL BE CORRECTED BY THE CONTRACTOR TO THE SATISFACTION OF THE ENGINEER.

PAYMENT FOR ALL OPERATIONS DESCRIBED ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 611 CONDUIT ITEMS.

ODOT CONCRETE BARRIER INLETS

PER ODOT'S STANDARD CONSTRUCTION DRAWINGS FOR CONCRETE BARRIER INLET DETAILS, THE STATION AND OFFSET IS CALLED OUT TO THE CENTER OF THE GRATE. THE GRATE ELEVATION CALLED OUT IN THE STORM SEWER PROFILES AND CROSS SECTIONS ARE TO THE CENTER EDGE OF THE GRATE WHERE IT ABUTS TO THE FACE OF THE BARRIER.

NO.	DESCRIPTION	REV. BY	DATE
3	CONTACT INFO CHANGED	ACW	10/23/23

CALCULATED GAN
CHECKED CWB

GENERAL NOTES

FRA-70-13.01

SHEET NUM.												PART.		ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
15	15A	44	54	85	OFFICE CALCS							02/IMS/11	05/IMS/14						
																		PAVEMENT	
	464												464	254	01000	464	SY	PAVEMENT PLANING, ASPHALT CONCRETE , AVERAGE DEPTH 4.33"	
				11,000								11,000		256	10000	11,000	SF	BONDED PATCHING OF PORTLAND CEMENT CONCRETE PAVEMENT, TYPE A	
	2,272											2,215	57	302	56000	2,272	CY	ASPHALT CONCRETE BASE, PG64-22, (449)	
	1,327											1,298	29	304	20000	1,327	CY	AGGREGATE BASE	
	1,426											1,344	82	407	20000	1,426	GAL	NON-TRACKING TACK COAT	
	442											398	44	442	00100	442	CY	ANTI-SEGREGATION EQUIPMENT	
	342											305	37	442	10001	342	CY	ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (446), AS PER PLAN	9
	409											366	43	442	10080	409	CY	ASPHALT CONCRETE INTERMEDIATE COURSE, 12.5 MM, TYPE A (446)	
1,491												1,070	421	609	24510	1,491	FT	CURB, TYPE 4-C	
					587								587	872	10000	587	FT	VOID REDUCING ASPHALT MEMBRANE (VRAM)	
																		TRAFFIC CONTROL	
		25										15	10	621	00100	25	EACH	RPM	
		4										4		630	87400	4	EACH	REMOVAL OF OVERHEAD MOUNTED SIGN AND DISPOSAL	
		1										1		630	89804	1	EACH	REMOVAL OF OVERHEAD SIGN SUPPORT AND DISPOSAL, TYPE TC-15.115	
		68										68		644	00700	68	FT	TRANSVERSE/DIAGONAL LINE	
		204										204		646	10600	204	FT	TRANSVERSE/DIAGONAL LINE	
		0.53										0.15	0.38	807	14010	0.53	MILE	WET REFLECTIVE THERMOPLASTIC PAVEMENT MARKING, EDGE LINE, 6"	
		0.27										0.07	0.2	807	14110	0.27	MILE	WET REFLECTIVE THERMOPLASTIC PAVEMENT MARKING, LANE LINE, 6"	
		0.46										0.27	0.19	807	12010	0.46	MILE	WET REFLECTIVE EPOXY PAVEMENT MARKING, EDGE LINE, 6"	
		0.23										0.13	0.1	807	12110	0.23	MILE	WET REFLECTIVE EPOXY PAVEMENT MARKING, LANE LINE, 6"	
		0.8										0.22	0.58	850	10010	0.8	MILE	GROOVING FOR 6" RECESSED PAVEMENT MARKING, (ASPHALT)	
		0.69										0.4	0.29	850	20010	0.69	MILE	GROOVING FOR 6" RECESSED PAVEMENT MARKING, (CONCRETE)	
																		STRUCTURE OVER 20 FOOT SPAN (FRA-70-1301L)	
													LUMP	202	11203	LS		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN	53
			225										225	202	22900	225	SY	APPROACH SLAB REMOVED	
													LUMP	503	21300	LS		UNCLASSIFIED EXCAVATION	
			270,460										270,460	509	10000	270,460	LB	EPOXY COATED REINFORCING STEEL	
			332										332	510	10000	332	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT	
			858										858	511	34446	858	CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK	
			222										222	511	34451	222	CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK (PARAPET), AS PER PLAN	53
			20										20	511	44110	20	CY	CLASS QC1 CONCRETE, ABUTMENT NOT INCLUDING FOOTING	
			1,570										1,570	512	10100	1,570	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	
			11,970 3									3	11,970	513	20000	11,970 3	EACH	WELDED STUD SHEAR CONNECTORS	
			2,520										2,520	513	21600	2,520	LB	STRUCTURAL STEEL FOR REHABILITATION, AS PER PLAN	53
			630										630	514	00050	630	SF	SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL	
			630										630	514	00056	630	SF	FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT	
			630										630	514	00060	630	SF	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT	
			630										630	514	00066	630	SF	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT	
			128										128	516	11210	128	FT	STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL	
			62										62	516	13600	62	SF	1" PREFORMED EXPANSION JOINT FILLER	
			12										12	516	46701	12	EACH	RESET BEARING, AS PER PLAN	53
													LUMP	516	47001	LS		JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN	53
			200										200	519	11100	200	SF	PATCHING CONCRETE STRUCTURE	53
			225										225	526	25010	225	SY	REINFORCED CONCRETE APPROACH SLABS WITH QC/QA (T=15")	
			81										81	526	90010	81	FT	TYPE A INSTALLATION	
													LUMP	SPECIAL	53000200	LS		STRUCTURES: ACCESS DOOR	53
			34										34	846	00110	34	CF	POLYMER MODIFIED ASPHALT EXPANSION JOINT SYSTEM	
																		STRUCTURE OVER 20 FOOT SPAN (FRA-70-1301R)	
												LUMP		202	11003	LS		STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN	83
				246								246		202	22900	246	SY	APPROACH SLAB REMOVED	
				3,789								3,789		202	23500	3,789	SY	WEARING COURSE REMOVED	
				2								2		SPECIAL	20365000	2	EACH	SETTLEMENT PLATFORM	84

NO.	DESCRIPTION	REV. BY	DATE
3	QUANTITY CHANGED	ACW	10/23/23

CALCULATED DNO
CHECKED DLT

GENERAL SUMMARY

FRA-70-13.01

SHEET NUM.														PART.		ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
12	85											132	OFFICE CALCS	02/IMS/11	05/IMS/14						
																				STRUCTURE OVER 20 FOOT SPAN (FRA-70-1301R) (CONT.)	
														LUMP		503	11100	LS		COFFERDAMS AND EXCAVATION BRACING	
	479													479		503	21100	479	CY	UNCLASSIFIED EXCAVATION	
														LUMP		505	11100	LS		PILE DRIVING EQUIPMENT MOBILIZATION	
	1,700													1,700		507	00100	1,700	FT	STEEL PILES HP10X42, FURNISHED	
	1,615													1,615		507	00150	1,615	FT	STEEL PILES HP10X42, DRIVEN	
	4,890													4,890		507	00200	4,890	FT	STEEL PILES HP12X53, FURNISHED	
	4,450													4,450		507	00250	4,450	FT	STEEL PILES HP12X53, DRIVEN	
	266													266		507	92200	266	FT	PREBORED HOLES	
	105													105		507	93300	105	EACH	STEEL POINTS OR SHOES	
	408,419													408,419		509	10000	408,419	LB	EPOXY COATED REINFORCING STEEL	
	948													948		511	34446	948	CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK	
	172													172		511	34451	172	CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK (PARAPET), AS PER PLAN	83
	236													236		511	41012	236	CY	CLASS QC1 CONCRETE WITH QC/QA, PIER ABOVE FOOTINGS	
	173													173		511	44112	173	CY	CLASS QC1 CONCRETE WITH QC/QA, ABUTMENT NOT INCLUDING FOOTING	
	303													303		511	46512	303	CY	CLASS QC1 CONCRETE WITH QC/QA, FOOTING	
	1,835													1,835		512	10100	1,835	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	
	1,553,954													1,553,954		513	10301	1,553,954	LB	STRUCTURAL STEEL MEMBERS, LEVEL 5, AS PER PLAN	84
	7,926													7,926		513	20000	7,926	EACH	WELDED STUD SHEAR CONNECTORS	
	10,859													10,859		514	00060	10,859	SF	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT	
	10,859													10,859		514	00066	10,859	SF	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT	
	65													65		516	10010	65	FT	ARMORLESS PREFORMED JOINT SEAL	
	127													127		516	11210	127	FT	STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL	
	104													104		516	13600	104	SF	1" PREFORMED EXPANSION JOINT FILLER	
	43													43		516	13900	43	SF	2" PREFORMED EXPANSION JOINT FILLER	
	137													137		518	21200	137	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC	
	178													178		518	40000	178	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	
	28													28		518	40010	28	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS	
	176													176		526	25010	176	SY	REINFORCED CONCRETE APPROACH SLABS WITH QC/QA (T=15")	
	212													212		526	30010	212	SY	REINFORCED CONCRETE APPROACH SLABS WITH QC/QA (T=17")	
	64													64		526	90010	64	FT	TYPE A INSTALLATION	
	64													64		526	90030	64	FT	TYPE C INSTALLATION	
	1													1		625	33000	1	EACH	STRUCTURE GROUNDING SYSTEM	
	27													27		846	00110	27	CF	POLYMER MODIFIED ASPHALT EXPANSION JOINT SYSTEM	
	28													28		869	00100	28	EACH	HIGH LOAD MULTI-ROTATIONAL (HLMR) BEARINGS	
																				RETAINING WALLS (MSE W4)	
												6		6		203	20001	6	CY	EMBANKMENT, AS PER PLAN	
												427		427		203	35110	427	CY	GRANULAR MATERIAL, TYPE B	
												164		164		203	35120	164	CY	GRANULAR MATERIAL, TYPE C	
												9,226		9,226		509	10000	9,226	LB	EPOXY COATED REINFORCING STEEL	
												78		78		511	53012	78	CY	CLASS QC2 CONCRETE, MISC.:MOMENT SLAB AND PARAPET WITH QC/QA	
												530		530		512	10100	530	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	
												91		91		516	13600	91	SF	1" PREFORMED EXPANSION JOINT FILLER	
												409		409		516	13900	409	SF	2" PREFORMED EXPANSION JOINT FILLER	
												20		20		601	21000	20	SY	CONCRETE SLOPE PROTECTION	
												3,252		3,252		840	20000	3,252	SF	MECHANICALLY STABILIZED EARTH WALL	
												1,139		1,139		840	21000	1,139	CY	WALL EXCAVATION	
												491		491		840	22000	491	SY	FOUNDATION PREPARATION	
												1,666		1,666		840	23000	1,666	CY	SELECT GRANULAR BACKFILL	
												543		543		840	25010	543	FT	6" DRAINAGE PIPE, PERFORATED	
												22		22		840	25020	22	FT	6" DRAINAGE PIPE, NON-PERFORATED	
												277		277		840	26000	277	FT	CONCRETE COPING	
												3,252		3,252		840	26050	3,252	SF	AESTHETIC SURFACE TREATMENT	
												5		5		840	27000	5	DAY	ON-SITE ASSISTANCE	
												LS		LS		840	28000	LS		SGB INSPECTION AND COMPACTION TESTING	

NO.	DESCRIPTION	REV. BY	DATE
3	WALL QUANTITIES ADDED	ACW	10/23/23

CALCULATED DNO
CHECKED DLT

GENERAL SUMMARY

FRA-70-13.01

14A
137

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SHEET NUM.												PART.		ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
									12	132	OFFICE CALCS	02/IMS/11	05/IMS/14						
																		RETAINING WALLS (MSE W6)	
										37		37		203	35120	37	CY	GRANULAR MATERIAL, TYPE C	
										122		122		512	10100	122	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	
										1,005		1,005		840	20000	1,005	SF	MECHANICALLY STABILIZED EARTH WALL	
										227		227		840	21000	227	CY	WALL EXCAVATION	
										111		111		840	22000	111	SY	FOUNDATION PREPARATION	
																		△3	
										479		479		840	23000	479	CY	SELECT GRANULAR BACKFILL	
										156		156		840	25010	156	FT	6" DRAINAGE PIPE, PERFORATED	
										24		24		840	25020	24	FT	6" DRAINAGE PIPE, NON-PERFORATED	
										73		73		840	26000	73	FT	CONCRETE COPING	
										1,005		1,005		840	26050	1,005	SF	AESTHETIC SURFACE TREATMENT	
										5		5		840	27000	5	DAY	ON-SITE ASSISTANCE	
										LS		LS		840	28000	LS		SGB INSPECTION AND COMPACTION TESTING	
																		MAINTENANCE OF TRAFFIC	
									4			4		614	12380	4	EACH	WORK ZONE IMPACT ATTENUATOR, 24" WIDE HAZARDS, (UNIDIRECTIONAL)	
									120			120		614	13310	120	EACH	BARRIER REFLECTOR, TYPE 1 (ONE WAY)	
									40			40		614	13350	40	EACH	OBJECT MARKER, ONE WAY	
									4			4		614	13600	4	EACH	MAINTENANCE OF TRAFFIC, ONE LANE CLOSURE ON A TWO LANE HIGHWAY	

NO.	DESCRIPTION	REV. BY	DATE
3	ADDED QUANTS FOR WALL	ACW	10/23/23

CALCULATED DNO
CHECKED DLT

GENERAL SUMMARY

FRA-70-13.01

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ESTIMATED QUANTITIES

ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	ABUT.	CALC. DBL/ATM PIERS	DATE 10/4/2021 SUPER.	CHK'D ELP/ATM GEN.	DATE 11/9/2021 SHEET REF.
202	11203	LS		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN					4/30
202	22900	225	SY	APPROACH SLAB REMOVED				225	
503	21300	LS		UNCLASSIFIED EXCAVATION					
509	10000	270,460	LB	EPOXY COATED REINFORCING STEEL	3,914		265,721	825	
510	10000	332	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT	332				
511	34446	858	CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK			858		
511	34451	222	CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK (PARAPET), AS PER PLAN			222		4/30, 24/30
511	44110	20	CY	CLASS QC1 CONCRETE, ABUTMENT NOT INCLUDING FOOTING	20				
512	10100	1,570	SY	SEALING OF CONCRETE SURFACES (EPOXY - URETHANE)			1,570		
513	20000	11970 (3)	EACH	WELDED STUD SHEAR CONNECTORS			11970 (3)		
513	21600	2,520	LB	STRUCTURAL STEEL FOR REHABILITATION, AS PER PLAN			2,520		4/30
514	00050	630	SF	SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL			630		
514	00056	630	SF	FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT			630		
514	00060	630	SF	FIELD PAINTING OF STRUCTURAL STEEL, INTERMEDIATE COAT			630		
514	00066	630	SF	FIELD PAINTING OF STRUCTURAL STEEL, FINISH COAT			630		
516	11210	128	FT	STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL				128	
516	13600	62	SF	1" PREFORMED EXPANSION JOINT FILLER	62				
516	46701	12	EACH	RESET BEARING, AS PER PLAN				12	4/30
516	47001	LS		JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN					4/30
519	11100	200	SF	PATCHING CONCRETE STRUCTURE, AS PER PLAN	200				4/30
526	25010	225	SY	REINFORCED CONCRETE APPROACH SLABS WITH QC/QA (T=15")				225	
526	90010	81	FT	TYPE A INSTALLATION				81	
530	00200	LS		SPECIAL - STRUCTURES: ACCESS DOOR					13/30
846	00110	34	CF	POLYMER MODIFIED ASPHALT EXPANSION JOINT SYSTEM				34	

NO.	DESCRIPTION	REV. BY	DATE
3	QUANTITY CHANGED	ACW	10/23/23

DESIGN AGENCY
ms consultants, inc.
2221 Schrock Road
Columbus, Ohio 43229

DESIGNED DBL/ATM | DRAWN DBL | REVIEWED YSJ | DATE 3/8/2023
CHECKED DEA | REVISED | STRUCTURE FILE NUMBER 2504677

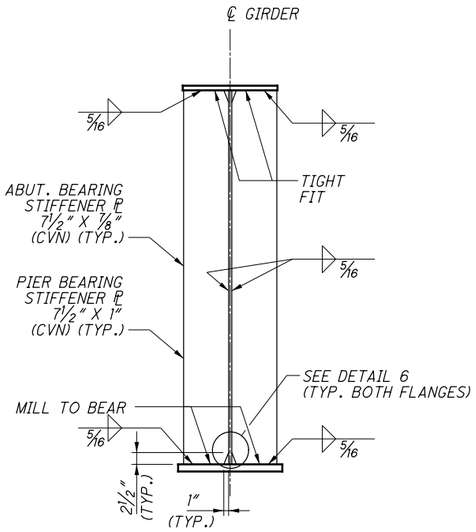
ESTIMATED QUANTITIES
BRIDGE NO. FRA-70-1301L
WESTBOUND I-70 OVER S.R. 315

FRA-70-13.01
PID No. 77372

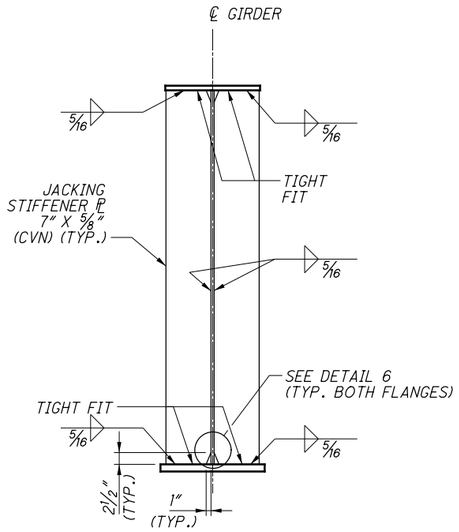
5 / 30

54
137

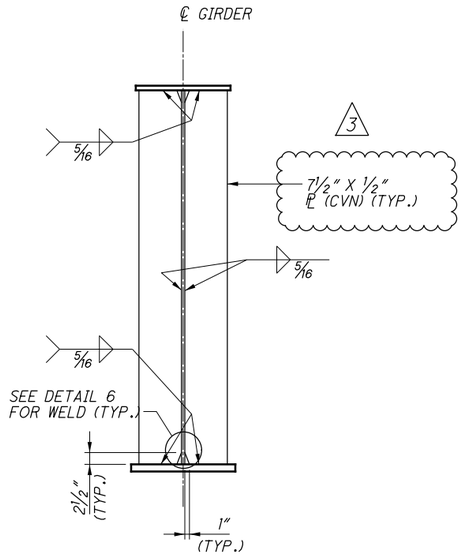
N:\03\60\08353\05430_FRA-70-13.0\Design\Structures\FRA070_1301L\Sheets\070_1301L_S0001.dgn Sheet 10/23/2023 6:20:20 PM awhite



BEARING STIFFENER DETAIL

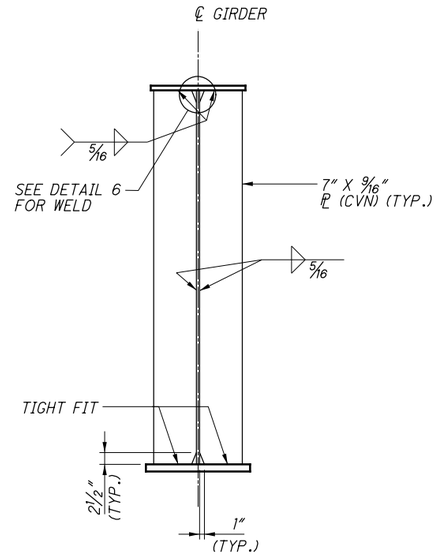


JACKING STIFFENER DETAIL



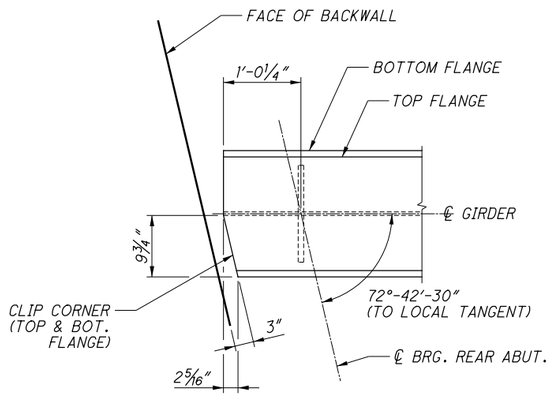
CROSSFRAME CONNECTION PLATE DETAIL

(INTERIOR GIRDER SHOWN)



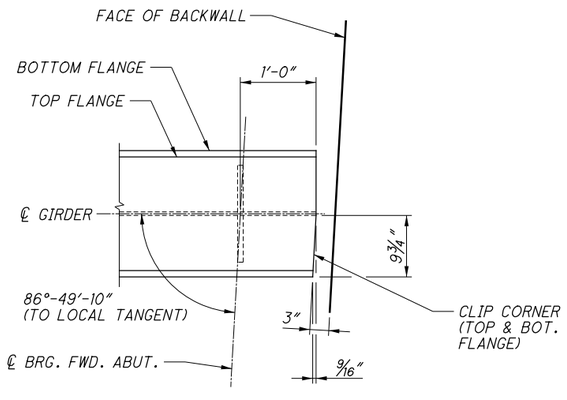
INTERMEDIATE TRANSVERSE STIFFENER DETAIL

(INTERIOR GIRDER SHOWN)



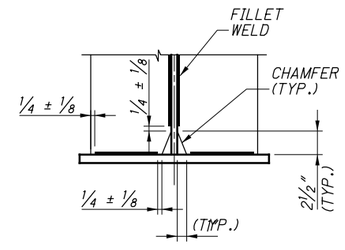
VIEW A-A

(REAR ABUTMENT)



VIEW B-B

(FORWARD ABUTMENT)



DETAIL 6

(BOTTOM FLANGE SHOWN, TOP FLANGE SIMILAR)

NOTES:

1. FOR FRAMING PLAN, SEE SHEETS 26/58 AND 27/58 .
2. FOR GIRDER ELEVATION, SEE SHEET 28/58 .
3. FOR CROSSFRAME DETAILS, SEE SHEETS 31/58 AND 32/58 .
4. FOR LOCATION OF VIEWS A-A AND B-B, SEE SHEET 28/58 .
5. BEARING STIFFENERS AND JACKING STIFFENERS SHALL BE INSTALLED ON BOTH SIDES OF THE GIRDER WEB FOR BOTH INTERIOR AND EXTERIOR GIRDERS.
6. CROSSFRAME CONNECTION PLATES SHALL BE INSTALLED ON BOTH SIDES OF THE GIRDER WEB FOR INTERIOR GIRDERS AND ONLY ON THE INSIDE OF THE GIRDER WEB FOR THE EXTERIOR GIRDERS.

NO.	DESCRIPTION	REV. BY	DATE
3	DIMENSION CHANGED	ACW	10/23/23

DESIGN AGENCY
ms consultants, inc.
2221 Schrock Road
Columbus, Ohio 43229

DESIGNED	DRAWN	REVIEWED	DATE
SJR	ATM	YSJ	11/5/2021
CHECKED	REVISED	STRUCTURE FILE NUMBER	
ATM/DEA		2504767	

GIRDER DETAILS
BRIDGE NO. FRA-70-1301R
EASTBOUND I-70 OVER S.R. 315

FRA-70-13.01
PID No. 105430

30/58
109/137

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