SHEET NUM.												PART.	ALT	ITEM	ITEM	GRAND	UNIT	DESCRIPTION	SEE SHEET NO.
			40	54	62	76	91	97	104			01/IMS/47	(X)		EXT	TOTAL			
																		ROADWAY	
												LS		201	11000	LS		CLEARING AND GRUBBING	
				1		10			16			27		441	50300	27	CY	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (448)	
						125						125		606	15050	125	FT	GUARDRAIL, TYPE MGS	
						2						2		606	26150	2	EACH	ANCHOR ASSEMBLY, MGS TYPE E (MASH 2016)	
						2		4				6		606	26550	6	EACH	ANCHOR ASSEMBLY, MGS TYPE T	
						4		3				7		606	35002	7	EACH	MGS BRIDGE TERMINAL ASSEMBLY, TYPE 1	
								1				1		606	35102	1	EACH	MGS BRIDGE TERMINAL ASSEMBLY, TYPE 2	
																		EROSION CONTROL	
												7,000		832	30000	7,000	EACH	EROSION CONTROL	
																		LIGHTING	
						3		2				5		625	00450	5	EACH	CONNECTION, FUSED PULL APART	
						3		2				5		625	00460	5	EACH	CONNECTION, UNFUSED PULL APART	
						3		2				5		625	00480	5	EACH	CONNECTION, UNFUSED PERMANENT	
						920		331				1,251		625	23200	1,251	FT	NO. 4 AWG 2400 VOLT DISTRIBUTION CABLE	
						920		331				1,251		625	23302	1,251	FT	NO. 6 AWG 2400 VOLT DISTRIBUTION CABLE	
						303		168				471		625	23400	471	FT	NO. 10 AWG POLE AND BRACKET CABLE	
						630		40				670		625	25409	670	FT	CONDUIT, 2", 725.051, AS PER PLAN	5
				12								12		625	27502	12	EACH	LUMINAIRE, UNDERPASS, SOLID STATE (LED)	5
						3		2				5		625	27520	5	EACH	REMOVAL OF LUMINAIRE AND REERECTION	
				35		12						47		625	27521	47	EACH	REMOVAL OF LUMINAIRE AND REERECTION, AS PER PLAN	5
						3		2				5		625	29920	5	EACH	STRUCTURE JUNCTION BOX	
						1		1				2		625	33000	2	EACH	STRUCTURE GROUNDING SYSTEM	
						3		2				5		625	35011	5	EACH	REMOVE AND REERECT EXISTING LIGHT POLE, AS PER PLAN	82, 101
						1		1				2		625	39520	2	EACH	PULL BOX CLEANED	
						LS		LS				LS		SPECIAL	62540000	LS		MAINTAIN EXISTING LIGHTING	
						1		1				2		625	75800	2	EACH	DISCONNECT CIRCUIT	
				2								2		631	94490	2	EACH	REMOVAL, MISC.:SIGNAL FLASHER ASSEMBLY	5
																		STRUCTURE REPAIR (CUY-090-1062, SFN 1808249 - LOCATION 1)	
			LS									LS		202	11203	LS		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN	34,36,42-44
			567									567		202	22900	567	SY	APPROACH SLAB REMOVED	
			2,811									2,811		509	10001	2,811	LB	EPOXY COATED REINFORCING STEEL, AS PER PLAN	34, 46
			500									500		509	20001	500	LB	REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN	34
			36									36		511	34411	36	CY	CLASS QC2 CONCRETE, SUPERSTRUCTURE, AS PER PLAN	44, 48
			15									15		511	45710	15	CY	CLASS QC1 CONCRETE, ABUTMENT	
			18									18		511	53010	18	CY	CLASS QC1 CONCRETE, MISC.: APPROACH SIDEWALKS, SAFETY BARRIER TRANSITIONS	49, 50
			294									294		512	10050	294	SY	SEALING OF CONCRETE SURFACES (NON-EPOXY)	
			602									602		512	10101	602	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE), AS PER PLAN	34
			70									70		512	10301	70	SY	SEALING CONCRETE BRIDGE DECKS WITH HMWM RESIN, AS PER PLAN	49
			235									235		516	10000	235	FT	PREFORMED ELASTOMERIC COMPRESSION JOINT SEAL	
			193									193		516	11210	193	FT	STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL	35
			90									90		516	13600	90	SF	1" PREFORMED EXPANSION JOINT FILLER	
			330									330		519	11101	330	SF	PATCHING CONCRETE STRUCTURE, AS PER PLAN	35, 45
			567									567		526	30010	567	SY	REINFORCED CONCRETE APPROACH SLABS WITH QC/QA (T=17")	
			680									680		607	39994	680	FT	TEMPORARY VANDAL FENCE, TYPE B	
																		STRUCTURE REPAIR (CUY-090-2910, SFN 1809008 - LOCATION 2)	
				LS								LS		202	11203	LS		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN	34, 36
				2,985								2,985		509	10000	2,985	LB	EPOXY COATED REINFORCING STEEL	
				680								680		510	10000	680	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT	
				26								26		511	50211	26	CY	CLASS QC1 CONCRETE, SUBSTRUCTURE, AS PER PLAN	57
				230								230		512	10101	230	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE), AS PER PLAN	34, 60
				1,012								1,012		SPECIAL	51271500	1,012	SY	URETHANE TOP COAT SEALER	
				1,338								1,338		513	10201	1,338	LB	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN	34
				355								355		516	10001	355	FT	PREFORMED ELASTOMERIC COMPRESSION JOINT SEAL, AS PER PLAN	34, 57
				355								355		516	11211	355	FT	STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL, AS PER PLAN	57
				13								13		516	45305	13	EACH	REFURBISH BEARING DEVICE, AS PER PLAN	34
				9								9		516	46200	9	EACH	BEARING DEVICE, ROCKER	
				9								9		516	46700	9	EACH	RESET BEARING	
				LS								LS		516	47001	LS		JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN	35

GENERAL SUMMARY - 1

CUY-BH-FY2023 MISC.

MODEL: Sheet PAPERSIZE: 34x22 (In.) DATE: 4/6/2023 TIME: 8:47:21 AM USER: mdcruz
P:\ODOT\2020\0855,000 Dist 12 - VAR Bridge Rehabs\105909\400-Engineering\Roadway\Sheets\105909_GG001.dgn

DESIGN AGENCY
OSBORN ENGINEERING
1100 Superior Avenue Suite 300
Cleveland, OH 44114
(216) 861-2020 www.osborn-eng.com

DESIGNER
MJD

REVIEWER
JDH 12-13-22

PROJECT ID
105909

SHEET 30 TOTAL 110

SHEET NUM.												PART.	ALT	ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
			40	54	62	76	91	97	104			01/IMS/47	(X)						
																		STRUCTURE REPAIR (CUY-090-2910, SFN 1809008 - LOCATION 2) CONT.	
				8,633								8,633		SPECIAL	51900100	8,633	SF	COMPOSITE FIBER WRAP SYSTEM	36, 38, 58
				212								212		SPECIAL	51900100	212	SF	COMPOSITE FIBER WRAP SYSTEM: E-GLASS (EGFRP)	36, 38, 58
				580								580		519	11101	580	SF	PATCHING CONCRETE STRUCTURE, AS PER PLAN	35
				20								20		519	12300	20	SY	PATCHING CONCRETE BRIDGE DECK - TYPE B	
				LS								LS		SPECIAL	53000200	LS		STRUCTURES: BRIDGE CLEANING	35
																		STRUCTURE REPAIR (CUY-237-0827, SFN 1810332 - LOCATION 3)	
					LS							LS		202	11203	LS		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN	34,36,64-68
					245							245		202	22900	245	SY	APPROACH SLAB REMOVED	
					306							306		202	75260	306	FT	VANDAL PROTECTION FENCE REMOVED	
					124							124		202	38001	124	FT	GUARDRAIL REMOVED, AS PER PLAN	61
					1,823							1,823		509	10000	1,823	LB	EPOXY COATED REINFORCING STEEL	
					500							500		509	20001	500	LB	REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN	34, 66, 68
					16							16		511	34410	16	CY	CLASS QC2 CONCRETE, SUPERSTRUCTURE	
					9							9		511	45710	9	CY	CLASS QC1 CONCRETE, ABUTMENT	
					361							361		512	10050	361	SY	SEALING OF CONCRETE SURFACES (NON-EPOXY)	
					228							228		512	10101	228	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE), AS PER PLAN	34, 71
					37							37		512	10300	37	SY	SEALING CONCRETE BRIDGE DECKS WITH HMWM RESIN	
					228							228		SPECIAL	51271500	228	SY	URETHANE TOP COAT SEALER	
					5,678							5,678		513	10201	5,678	LB	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN	34, 67, 69
					LS							LS		514	00100	LS		SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL	
					60							60		514	00504	60	MNHR	GRINDING FINS, TEARS, SLIVERS ON EXISTING STRUCTURAL STEEL	
					133							133		516	11210	133	FT	STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL	
					16							16		516	46200	16	EACH	BEARING DEVICE, ROCKER	
					LS							LS		516	47001	LS		JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN	35
					1,066							1,066		SPECIAL	51900100	1,066	SF	COMPOSITE FIBER WRAP SYSTEM: E-GLASS (EGFRP)	36, 38, 70
					480							480		519	11101	480	SF	PATCHING CONCRETE STRUCTURE, AS PER PLAN	35, 70
					245							245		526	98100	245	SY	APPROACH SLABS, MISC.: REINFORCED CONCRETE APPROACH SLABS WITH QC/QA (T=14")	74
					306							306		607	39930	306	FT	VANDAL PROTECTION FENCE, 12' CURVED, COATED FABRIC	
					164							164		607	39994	164	FT	TEMPORARY VANDAL FENCE, TYPE B	
					99							99		622	10161	99	FT	CONCRETE BARRIER, SINGLE SLOPE, TYPE D, AS PER PLAN	61
					743							743		848	10200	743	SY	SUPERPLASTICIZED DENSE CONCRETE OVERLAY USING HYDRODEMOLITION (3 ¼" THICK)	
					743							743		848	20000	743	SY	SURFACE PREPARATION USING HYDRODEMOLITION	
					67							67		848	30200	67	CY	SUPERPLASTICIZED DENSE CONCRETE OVERLAY (VARIABLE THICKNESS), MATERIAL ONLY	
					74							74		848	50000	74	SY	HAND CHIPPING	
					LS							LS		848	50100	LS		TEST SLAB	
					4							4		848	50200	4	CY	FULL-DEPTH REPAIR	
					743							743		848	50320	743	SY	EXISTING CONCRETE OVERLAY REMOVED 3" NOMINAL THICKNESS	
																		STRUCTURE REPAIR (CUY-252-0434, SFN 1810405 - LOCATION 4)	
						LS						LS		202	11203	LS		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN	34, 36, 83
						15,736						15,736		509	10000	15,736	LB	EPOXY COATED REINFORCING STEEL	
						1,966						1,966		510	10000	1,966	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT	
						14						14		511	34444	14	CY	CLASS QC2 CONCRETE, BRIDGE DECK	
						19						19		511	50210	19	CY	CLASS QC1 CONCRETE, SUBSTRUCTURE	
						940						940		512	10101	940	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE), AS PER PLAN	34, 78, 79
						628						628		SPECIAL	51271500	628	SY	URETHANE TOP COAT SEALER	
						10,116						10,116		513	10201	10,116	LB	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN	34
						237						237		516	11210	237	FT	STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL	
						22						22		516	46200	22	EACH	BEARING DEVICE, ROCKER	
						1						1		516	46700	1	EACH	RESET BEARING	
						LS						LS		516	47001	LS		JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN	35
						4,072						4,072		SPECIAL	51900100	4,072	SF	COMPOSITE FIBER WRAP SYSTEM	36, 38
						963						963		SPECIAL	51900100	963	SF	COMPOSITE FIBER WRAP SYSTEM: E-GLASS (EGFRP)	36, 38
						1,352						1,352		519	11101	1,352	SF	PATCHING CONCRETE STRUCTURE, AS PER PLAN	35,77,78,79,81
						14						14		519	12300	14	SY	PATCHING CONCRETE BRIDGE DECK - TYPE B	
						LS						LS		SPECIAL	53000200	LS		STRUCTURES: BRIDGE CLEANING	35
						17,861						17,861		SPECIAL	53000600	17,861	SF	STRUCTURES: TIMBER SUBDECK	35
						3,575						3,575		SPECIAL	53000600	3,575	SF	STRUCTURES: BOTTOM OF DECK SPALL REMOVAL	35

GENERAL SUMMARY - 2

CUY-BH-FY2023 MISC.

MODEL: Sheet 2 PAPERSIZE: 34x22 (In.) DATE: 4/5/2023 TIME: 6:24:02 PM USER: mdcruz
P:\ODOT\J20200855.000 Dist 12 - VAR Bridge Rehabs\105909\400-Engineering\Roadway\Sheets\105909_GG001.dgn

DESIGN AGENCY
OSBORN ENGINEERING
1100 Superior Avenue Suite 300
Cleveland, OH 44114
(216) 861-2020 www.osborn-eng.com

DESIGNER MJD
REVIEWER JDH 12-13-22
PROJECT ID 105909
SHEET 31 TOTAL 110

SHEET NUM.												PART.	ALT	ITEM	ITEM	GRAND	UNIT	DESCRIPTION	SEE SHEET NO.
9	10	13	14	15	26	27		76	91	97	104	01/IMS/47	(X)		EXT	TOTAL			
																		STRUCTURE REPAIR (CUY-252-0434, SFN 1810405 - LOCATION 4) CONT.	
																		CONCRETE PARAPET ALTERNATES	
								67				67	X	511	34449	67	CY	CLASS QC2 CONCRETE, BRIDGE DECK (PARAPET), AS PER PLAN (ALTERNATE 1)	35
								89				89	X	511	34449	89	CY	CLASS QC2 CONCRETE, BRIDGE DECK (PARAPET), AS PER PLAN (ALTERNATE 2)	84
																		FENCE ALTERNATES	
								670				670	X	607	39901	670	FT	VANDAL PROTECTION FENCE, 6' STRAIGHT, COATED FABRIC, AS PER PLAN (ALTERNATE 1)	35
								681				681	X	607	98000	681	FT	FENCE, MISC.:DECORATIVE FENCE, (ALTERNATE 2)	84
																		STRUCTURE REPAIR (CUY-271-1543, SFN 1811851 - LOCATION 5)	
									LS			LS		202	11203	LS		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN	34, 36
									39			39		512	10101	39	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE), AS PER PLAN	34
									340			340		SPECIAL	51271500	340	SY	URETHANE TOP COAT SEALER	
									82			82		516	10001	82	FT	PREFORMED ELASTOMERIC COMPRESSION JOINT SEAL, AS PER PLAN	34, 95
									20			20		516	45305	20	EACH	REFURBISH BEARING DEVICE, AS PER PLAN	34
									10			10		516	46200	10	EACH	BEARING DEVICE, ROCKER	
									LS			LS		516	47001	LS		JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN	35
									2,274			2,274		SPECIAL	51900100	2,274	SF	COMPOSITE FIBER WRAP SYSTEM	36
									569			569		SPECIAL	51900100	569	SF	COMPOSITE FIBER WRAP SYSTEM: E-GLASS (EGFRP)	36
									721			721		519	11101	721	SF	PATCHING CONCRETE STRUCTURE, AS PER PLAN	35
									1,028			1,028		607	23101	1,028	FT	FENCE REBUILT, AS PER PLAN	90
																		STRUCTURE REPAIR (CUY-480-0446, SFN 1814109 - LOCATION 6)	
										LS		LS		202	11203	LS		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN	34, 36
										11,536		11,536		509	10000	11,536	LB	EPOXY COATED REINFORCING STEEL	
										900		900		509	20001	900	LB	REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN	34
										59		59		511	34449	59	CY	CLASS QC2 CONCRETE, BRIDGE DECK (PARAPET), AS PER PLAN	35
										471		471		512	10101	471	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE), AS PER PLAN	34
										2,349		2,349		513	10201	2,349	LB	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN	34
										9		9		516	45305	9	EACH	REFURBISH BEARING DEVICE, AS PER PLAN	34
										1		1		516	46200	1	EACH	BEARING DEVICE, ROCKER	
										LS		LS		516	47001	LS		JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN	35
										265		265		519	11101	265	SF	PATCHING CONCRETE STRUCTURE, AS PER PLAN	35
										LS		LS		SPECIAL	53000200	LS		STRUCTURES: BRIDGE CLEANING	35
										590		590		607	39901	590	FT	VANDAL PROTECTION FENCE, 6' STRAIGHT, COATED FABRIC, AS PER PLAN	35
										645		645		608	10000	645	SF	4" CONCRETE WALK	
										807		807		848	10200	807	SY	SUPERPLASTICIZED DENSE CONCRETE OVERLAY USING HYDRODEMOLITION (1"-1.75")	
										807		807		848	20000	807	SY	SURFACE PREPARATION USING HYDRODEMOLITION	
										10		10		848	30200	10	CY	SUPERPLASTICIZED DENSE CONCRETE OVERLAY (VARIABLE THICKNESS), MATERIAL ONLY	
										85		85		848	50000	85	SY	HAND CHIPPING	
										LS		LS		848	50100	LS		TEST SLAB	
										2		2		848	50200	2	CY	FULL-DEPTH REPAIR	
																		STRUCTURE REPAIR (CUY-480-0870-ES, SFN 1814249 - LOCATION 7)	
											LS	LS		202	11203	LS		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN	34, 36
											820	820		512	10101	820	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE), AS PER PLAN	34
											350	350		SPECIAL	51271500	350	SY	URETHANE TOP COAT SEALER	
											3,746	3,746		513	10201	3,746	LB	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN	34
											10	10		516	45305	10	EACH	REFURBISH BEARING DEVICE, AS PER PLAN	34
											LS	LS		516	47001	LS		JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN	35
											3,145	3,145		SPECIAL	51900100	3,145	SF	COMPOSITE FIBER WRAP SYSTEM: E-GLASS (EGFRP)	36
											973	973		519	11101	973	SF	PATCHING CONCRETE STRUCTURE, AS PER PLAN	35
											213	213		SPECIAL	51911600	213	SF	PATCHING CONCRETE STRUCTURE: APPROACH SLABS	
											3	3		519	12300	3	SY	PATCHING CONCRETE BRIDGE DECK - TYPE B	
											484	484		844	10001	484	SF	CONCRETE PATCHING WITH GALVANIC ANODE PROTECTION, AS PER PLAN	35
																		TRAFFIC CONTROL	
					0.07							0.07		644	00104	0.07	MILE	EDGE LINE, 6"	
					640							640		644	00404	640	FT	CHANNELIZING LINE, 12"	
					298.5							298.5		644	00700	298.5	FT	TRANSVERSE/DIAGONAL LINE	
					15							15		644	01300	15	EACH	LANE ARROW	
					5							5		644	01400	5	EACH	WORD ON PAVEMENT, 72"	

GENERAL SUMMARY - 3

CUY-BH-FY2023 MISC.

MODEL: Sheet 3 PAPERSIZE: 34x22 (in.) DATE: 4/6/2023 TIME: 7:05:00 PM USER: mdcruz
P:\ODOT\J20200855.000 Dist 12 - VAR Bridge Rehabs\105909\400-Engineering\Roadway\Sheets\105909_GG001.dgn

DESIGN AGENCY
OSBORN ENGINEERING
1100 Superior Avenue Suite 300
Cleveland, OH 44114
(216) 861-2020 www.osborn-eng.com

DESIGNER MJD
REVIEWER JDH 12-13-22
PROJECT ID 105909
SHEET 32 TOTAL 110

ITEM 516 - JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN
FOR LOCATIONS: 2 (CUY-090-2910), 3 (CUY-237-0827), 4 (CUY-252-0434), 5 (CUY-271-1543), 6 (CUY-480-0446), AND 7 (CUY-480-0807 ES).

THIS WORK CONSISTS OF RAISING OR RE-POSITIONING EXISTING STRUCTURES TO THE DIMENSIONS AND REQUIREMENTS DEFINED IN THE PROJECT PLANS. SUBMIT CONSTRUCTION PLANS IN ACCORDANCE WITH CMS 501.05-B. IF, DURING JACKING OPERATIONS, CRACKING OF THE NEW CONCRETE SUPERSTRUCTURE, SEPARATION OF THE NEW CONCRETE DECK FROM THE STEEL GIRDERS, OR OTHER DAMAGE TO THE STRUCTURE IS VISUALLY OBSERVED, IMMEDIATELY CEASE THE JACKING OPERATION AND INSTALL SUPPORTS TO THE SATISFACTION OF THE ENGINEER. ANALYZE THE DAMAGE AND SUBMIT A METHOD OF CORRECTION TO THE ENGINEER FOR APPROVAL. EPOXY INJECT ALL BEAMS THAT SEPARATE FROM THE DECK FOR THE DISTANCE OF THE SEPARATION IN ACCORDNACE WITH CMS 512.07. THE DEPARTMENT WILL NOT PAY FOR THE COST OF THIS EPOXY INJECTION OR OTHER REQUIRED REPAIRS. THE BRIDGE BEARINGS SHALL BE FULLY SEATED AT ALL CONTACT AREAS. IF FULL SEATING IS NOT ATTAINED, SUBMIT A REPAIR PLAN TO THE ENGINEER. THE DEPARTMENT WILL NOT PAY FOR THE REPAIR COSTS TO ENSURE FULL SEATING ON BEARINGS.

THIS WORK INCLUDES RAISING AND SUPPORTING THE BEAMS/GIRDERS WHILE THE BEARINGS ARE REFURBISHED.

BRIDGE	DEAD LOAD (KIPS)	LIVE LOAD (KIPS)	TOTAL LOAD (KIPS)
Loc. 2 / CUY-090-2910	67.31	136.13	203.44
Loc. 3 / CUY-237-0827	76.91	117.41	194.32
Loc. 4 / CUY-252-0434	134.96	182.94	317.9
Loc. 5 / CUY-271-1543	118.7	139.8	258.5
Loc. 6 / CUY-480-0446	131.27	150.66	281.93
Loc. 7 / CUY-480-0870-ES	122.65	162.82	285.47

THE LOADS GIVEN ARE REACTIONS AT THE BEARINGS; THESE ARE NOT REQUIRED JACKING FORCES. THE CONTRACTOR IS LIMITED TO RAISING THE BEAMS/GIRDERS ¼".

THE DEPARTMENT WILL MEASURE THIS WORK ON A LUMP SUM BASIS.

THE DEPARTMENT WILL PAY FOR THE ACCPETED QUANTITIES AT THE CONTRACT BID PRICE FOR ITEM 516 JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN.

ITEM 516 - PREFORMED ELASTOMERIC COMPRESSION SEAL, (MEDIAN JOINT):
FOR LOCATION: 1 (CUY-090-1062)
INSTALL THE COMPRESSION SEAL ACCORDING TO MANUFACTURER'S SPECIFICATION. FURNISH SEAL IN A CONTINUOUS PIECE UNLESS APPROVED BY THE ENGINEER.
ACCEPTED MANUFACTURER'S ARE:
1. WATSON BOWMAN ACME CORP. (MODEL W PROFILE (W50))
2. AN APPROVED EQUIVALENT.

ITEM 519 – PATCHING CONCRETE STRUCTURE, AS PER PLAN
FOR LOCATIONS: 1 (CUY-090-1062), 2 (CUY-090-2910), 3 (CUY-237-0827), 4 (CUY-252-0434), 5 (CUY-271-1543), 6 (CUY-480-0446), AND 7 (CUY-480-0870 ES)

THIS WORK CONSISTS OF PATCHING EXISTING STRUCTURES AT THE SPECIFIED LOCATIONS SHOWN. PRIOR TO THE SURFACE CLEANING SPECIFIED IN 519.04 AND WITHIN 24 HOURS OF PLACING PATCHING MATERIAL, BLAST CLEAN ALL SURFACES TO BE PATCHED, INCLUDING THE EXPOSED REINFORCING STEEL. ACCEPTABLE METHODS INCLUDE HIGH PRESSURE WATER BLASTING WITH OR WITHOUT ABRASIVES IN THE WATER, ABRASIVE BLASTING WITH CONTAINMENT, OR VACUUM ABRASIVE BLASTING. WHERE APPLICABLE, CONTRACTOR SHALL ENSURE ANY EXISTING UNDERPASS LIGHTING, BRIDGE RAIL OR ANY OTHER BRIDGE COMPONENTS ARE PROTECTED DURING THE PATCHING OPERATIONS.

SPECIFIC PATCHING LOCATIONS SHALL BE DETERMINED BY THE ENGINEER IN ACCORDANCE WITH ITEM 519 UNLESS IDENTIFIED IN THE PLANS. IF EXISTING UTILITIES ARE LOCATED WITHIN THE SPECIFIED PATCHING AREAS, THE COST FOR REMOVAL AND REINSTALLING THE UTILITIES SHALL BE INCLUDED IN THIS ITEM. ALL EQUIPMENT, LABOR, MATERIALS, AND INCIDENTALS REQUIRED TO PERFORM THE ABOVE-DESCRIBED WORK SHALL BE INCLUDED FOR PAYMENT AT THE SQUARE FOOT CONTRACT PRICE FOR ITEM 519 – PATCHING CONCRETE STRUCTURE, AS PER PLAN.

FOR LOCATIONS: 5 (CUY-271-1543)

IF REMOVAL OF CONCRETE FOR ITEM 519 PATCHING CONCRETE STRUCTURES, AS PER PLAN, AT PIERS 1 AND 5 WILL EXPOSE MORE THAN 50% OF THE PIER CAP BOTTOM REINFORCING STEEL FOR THE FULL CIRCUMFERENCE OF THE BARS UNDER BEAMS 2 AND 4, THE CONTRACTOR SHALL DESIGN, FURNISH AND INSTALL TEMPORARY SUPPORTS FOR THE BEAM AND PIER CAP. THE TEMPORARY SUPPORTS FOR THE BEAM MUST BE ABLE TO SUPPORT A LOAD OF 150 KIPS (COMBINED DEAD LOAD AND LIVE LOAD) AND BE PLACED ON THE SLOPE SIDE OF THE PIER WITH THE BEARING POINT WITHIN 4'-0" OF THE EXISTING PIER CENTERLINE OF BEARING. THE SHORING FOR THE PIER CAP MUST BE ABLE TO SUPPORT 18 KIPS (DEAD LOAD).
IF TEMPORARY SUPPORTS, JACKING OR ADDITIONAL WORK AND EQUIPMENT IS REQUIRED FOR THE ABOVE, IT SHALL BE PAID UNDER ITEM 516 – JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN.

ITEM SPECIAL - STRUCTURES, BOTTOM OF DECK SPALL REMOVAL
FOR LOCATION: 4 (CUY-252-0434)

THE CONTRACTOR SHALL PROVIDE ACCESS, SOUND AREAS WHERE DESIGNATED ON THE PLANS AND MARK AREAS OF DETERIORATED CONCRETE. UPON APPROVAL FROM THE ENGINEER, SUBSEQUENT REMOVAL OF MARKED AREAS AND DISPOSAL OF ALL DEBRIS SHALL BE PERFORMED. STANDARD DESCRIPTIONS OF CONCRETE AREAS SUBJECT TO REMOVAL INCLUDE, BUT ARE NOT LIMITED TO: SPALLED, DELAMINATED, MOTTLED, DAMP, HONEYCOMBED, EFFLORESCENCE AND ANY SUSPECTED DETERIORATED DECK CONCRETE. IT SHALL BE AT THE DISCRETION OF THE FIELD ENGINEER AS TO THE ENTIRETY OF THE DECK AREAS THAT ARE TO BE SOUNDED; HE/SHE SHALL ONLY HAVE THE CONTRACTOR SOUND THOSE AREAS THAT ARE DESCRIBED ABOVE. ANY CONCRETE THAT APPEARS INTACT AND STRUCTURALLY SOUND SHALL NOT BE INCLUDED IN THIS QUANTITY.

THE CONTRACTOR SHALL EXERCISE CAUTION WHEN WORKING IN PROXIMITY TO THE EXISTING UTILITY FACILITIES. SECTIONS 105.07 AND 107.16 OF THE CMS REQUIRE THAT THE CONTRACTOR COOPERATE WITH ALL UTILITIES LOCATED WITHIN THE LIMITS OF THE CONSTRUCTION PROJECT AND TAKE RESPONSIBILITY FOR THE PROTECTION OF THE UTILITY PROPERTY AND SERVICES.

THE CONTRACTOR SHALL MAKE PROVISION TO ENSURE PUBLIC SAFETY WHILE REMOVING THE LOOSE AND DELAMINATED CONCRETE. THE MATERIAL CAN BE REMOVED BEFORE OR AFTER THE TIMBER SUBDECK IS INSTALLED, ALTHOUGH ALL DEBRIS/CONCRETE MUST BE REMOVED FROM THE SUBDECKING BEFORE WORK IS CONSIDERED COMPLETE. THE REMOVED CONCRETE SHALL BE DISPOSED OF OFF SITE IN CONFORMANCE WITH LOCAL, STATE AND FEDERAL POLLUTION CONTROL LAWS.

REMOVE CONCRETE BY MEANS OF APPROVED PNEUMATIC HAMMERS EMPLOYING POINTED AND BLUNT CHISEL TOOLS. HAND HELD CONVENTIONAL HAMMERS MAY BE USED TO REMOVE MINOR SPALLS. HOWEVER, PNEUMATIC HAMMERS SHOULD ALSO BE EMPLOYED TO ENSURE COMPLETE REMOVAL OF ALL DELAMINATED CONCRETE. RE-SOUNDING OF THE DELAMINATED AREA TO ENSURE COMPLETE REMOVAL WILL BE REQUIRED AT NO ADDITIONAL COST. THE WEIGHT OF THE HAMMER SHALL NOT BE MORE THAN 35 POUNDS. DO NOT PLACE PNEUMATIC HAMMERS IN DIRECT CONTACT WITH EXISTING REINFORCING STEEL.

METHOD OF MEASUREMENT: THE PAYMENT FOR THIS ITEM SHALL BE SQUARE FOOTAGE OF DECK BOTTOM SOUNDED, MARKED, REMOVED AND ACCEPTED. THIS INCLUDES ALL EQUIPMENT, LABOR AND MATERIALS NECESSARY FOR ACCESS, SOUNDING OF ENTIRE AREA DESIGNATED IN THE PLANS, SPALL REMOVAL AND DEBRIS REMOVAL. PAYMENT SHALL BE MADE UNDER ITEM SPECIAL – STRUCTURES: BOTTOM OF DECK SPALL REMOVAL.

ITEM SPECIAL - STRUCTURES: BRIDGE CLEANING
FOR LOCATIONS: 2 (CUY-090-2910), 4 (CUY-252-0434), 6 (CUY-480-0446)

THE WORK SHALL CONSIST OF THE REMOVAL OF DIRT, SAND, SOIL, PAPER, GLASS, CANS, AND OTHER DEBRIS FROM DRAINAGE SYSTEMS, SCUPPERS, AND EXPANSION JOINTS FROM THE ENDS OF APPROACH SLAB BARRIERS THROUGH THE DECK SECTION AND TO THE OPPOSITE END APPROACH SLAB BARRIER. THE BEAM ENDS (FOR AN APPROXIMATE 2 FOOT WIDTH), BEARINGS AND ABUTMENT SEATS SHALL BE CLEANED IN AREAS BELOW THE BRIDGE. ADDITIONALLY, AT LOCATION 2, THE OPEN JOINT SHOWN ON SHEET 57/110 SHALL BE CLEANED PRIOR TO PLACING ANY COMPRESSION SEALS. CONTRACTOR SHALL FOLLOW THE PLAN INSERT SHEET FOR BRIDGE CLEANING (BC) FOR ANY NOTES OR DIRECTION AND THE PLAN INSERT SHEET, BC, SHALL SUPERCEDE THESE NOTES IF ANY DISPUTE.

EQUIPMENT MAY CONSIST OF HAND TOOLS, MANUAL BROOMS, POWER BROOMS, AIR COMPRESSORS, WATER TANKS, AND WATER PUMPS WITH ASSOCIATED DELIVERY HARDWARE TO CLEAN, FLUSH, AND REMOVE DIRT AND DEBRIS. CONTRACTOR SHALL FURNISH ALL MATERIAL, EQUIPMENT, LABOR AND INCIDENTAL ITEMS NECESSARY TO PROPERLY REMOVE AND DISPOSE OF ALL DEBRIS AND OTHER FOREIGN MATERIAL BY POWER SWEEPING, SHOVELING, SCRAPING, ETC. FOLLOWED BY INSTALLING BMP'S AS IDENTIFIED IN THE WORK PLAN FOR BRIDGE CLEANING, AND PRESSURE WASHING THE CURB LINES, SHOULDERS, JOINTS, SCUPPERS, DOWNSPOUTS, BEAM ENDS, BEARINGS AND THE BRIDGE SEATS.

WATER QUALITY PROTECTION:
THIS PROJECT IS SUBJECT TO THE CONDITIONS OF NPDES PERMIT OHZ000001. THE CONTRACTOR MUST SUBMIT A NOTICE OF INTENT AS A CO-PERMITTEE UNDER THIS PROJECT AND RECEIVE OEPA APPROVAL TO OPERATE UNDER THE PERMIT PRIOR TO UNDERTAKING ITEM SPECIAL – STRUCTURES: BRIDGE CLEANING. CONTRACTOR MUST COMPLETE THE "WORK PLAN FOR BRIDGE CLEANING" FOR EACH BRIDGE IN ACCORDANCE WITH THE NPDES PERMIT.

CONTRACTOR SHALL FURNISH ALL MATERIAL, EQUIPMENT, LABOR AND INCIDENTAL ITEMS NECESSARY TO PROPERLY REMOVE AND DISPOSE OF ALL DEBRIS AND OTHER FOREIGN MATERIAL BY POWER SWEEPING, SHOVELING, SCRAPING, ETC. FOLLOWED BY INSTALLING BMPS AS IDENTIFIED IN THE WORK PLAN FOR BRIDGE CLEANING, AND PRESSURE WASHING THE CURB LINES, SHOULDERS, JOINTS, SCUPPERS, DOWNSPOUTS, AND THE BRIDGE SEAT ALONG WITH THE END OF THE BEAMS.

THE FOLLOWING AREAS OF THE BRIDGE ARE TO BE CLEANED:
1. CLEANING JOINTS FOR THE FULL WIDTH OF THE BRIDGE:
   A. PREVENT ALL DIRT, DEBRIS, AND WASHWATER FROM ENTERING ANY DRAINAGE SYSTEM DURING THE CLEANING OPERATIONS.
   B. REMOVE AND COLLECT LOOSE DEBRIS FROM THE JOINTS PRIOR TO INTRODUCING WATER. CARE SHOULD BE TAKEN WHEN BREAKING UP DEBRIS IN THE JOINTS IN ORDER NOT TO DAMAGE THE ELASTOMERIC SEAL.
   C. SWEEP AND COLLECT SAND, DEBRIS AND SEDIMENT BY PRESSURE WASHING THE JOINTS OR COMPRESSED AIR.
2. BRIDGE SEATS:
   A. REMOVE WITH A SHOVEL, BROOM, HAND SCRAPER OR OTHER MECHANICAL MEANS, ALL GROSS SOLIDS FROM THE ENTIRE BEAM SEATS AND AROUND ALL AREAS SURROUNDING THE BEAM BEARINGS, TO THE MAXIMUM EXTENT PRACTICABLE PRIOR TO INTRODUCING WATERS.
   B. AFTER REMOVING ALL GROSS SOLIDS PRESSURE WASH THE ABUTMENTS, BACKWALLS, BEAM SEATS AND THE END OF THE BEAMS AS SHOWN ON THE PLANS.
3. CLEANING & PRESSURE-WASHING THE CURB LINES:
   A. WORK SHALL CONSIST OF THE REMOVAL OF DIRT, SAND, SOIL, PAPER, GLASS, CANS AND OTHER DEBRIS FROM DRAINAGE SYSTEMS, SCUPPERS, EXPANSION JOINTS AND SHOULDERS FROM THE ENDS OF THE APPROACH SLAB BARRIERS THROUGH THE BRIDGE DECK SECTION AND TO THE OPPOSITE ENDS OF THE APPROACH SLAB BARRIERS.
   B. THE CONTRACTOR IS RESPONSIBLE FOR CONTROL OF DUST AT ALL TIMES DURING SWEEPING OPERATIONS. DRY POWER BROOMING WILL NOT BE PERMITTED. THE CONTRACTOR SHALL USE VACUUMING, WET SWEEPING, REGENERATIVE AIR SWEEPING, OR WET POWER BROOM SWEEPING. THE USE OF COMPRESSED AIR WILL BE PERMITTED ONLY WITH ACCEPTABLE DUST CONTROLS IN PLACE.

PRESSURE WASHING STRUCTURE CONCRETE THE CONTRACTOR SHALL USE POTABLE WATER FOR THE CLEANING OPERATION. DISCHARGING TO OR COLLECTING WATER FROM STREAMS IS PROHIBITED. PRESSURE WASHER WATER PRESSURE SHALL BE CAPABLE OF 1,500 PSI. CONTRACTOR SHALL NOT PRESSURE WASH NEAR EXISTING UTILITIES OR BRIDGE ITEMS CONTAINING OR COATED WITH ASBESTOS OR TRANSITE. OPERATING PRESSURES SHALL BE SUFFICIENT TO REMOVE THE ACCUMULATED MATERIAL WITHOUT DAMAGING PAINT COVERAGE OF THE STRUCTURAL STEEL. PRESSURE WASH THE ABUTMENTS, BACKWALLS AND SCUPPERS AS SHOWN IN THE PLANS TO REMOVE DIRT AND DEBRIS.

PAYMENT FOR ALL OF THE ABOVE WILL BE MADE AT CONTRACT BID PRICE AS FOLLOWS:
ITEM SPECIAL - STRUCTURES: BRIDGE CLEANING

ITEM SPECIAL - STRUCTURES, TIMBER SUBDECK
FOR LOCATION: 4 (CUY-252-0434)

DESCRIPTION: THIS ITEM SHALL CONSIST OF FURNISHING, CUTTING, FITTING, PLACING AND
ERECTING OF TIMBER, AND THE FURNISHING AND INSTALLING OF ALL NECESSARY HARDWARE AS SPECIFIED. SUBDECK AREAS ABOVE TRAVELED LANES, AS WELL AS PAVED SHOULDERS. TIMBER MUST BE COMPLETELY SECURED AS SHOWN IN THE PLANS BEFORE TRAFFIC IS ALLOWED UNDERNEATH.

MATERIALS: TIMBER BEAMS SHALL CONFORM TO CMS 711.26 AND SHALL BE DOUGLAS FIR LARCH, GRADE 2 OR BETTER.
PRESERVATIVE TREATMENT FOR TIMBER BEAMS SHALL CONFORM TO CMS 712.06.
THE TIMBER PLYWOOD SHEETING SHALL BE CDX - 3/4" THICK DOUGLAS FIR PLYWOOD OR BETTER. ALL TRANSVERSE EDGES OF THE PLYWOOD SHALL BE SUPPORTED BY THE TIMBER BEAMS. THE BOLTS SHALL BE ASTM A449 - TYPE 1 OR SAE J429 - GRADE 5, 3/8" DIAMETER GALVANIZED BOLTS WITH GALVANIZED
FENDER WASHERS AND LOCK NUTS. SPACING OF THE BOLTS SHALL BE A MAXIMUM
OF 2 FOOT SPACING. WOOD SCREWS SHALL BE GALVANIZED 3" LONG #10 FASTENERS SPACED AT 2 FOOT MAXIMUM, UNLESS OTHERWISE NOTED.

GENERAL: FIELD MEASUREMENTS SHALL BE TAKEN BEFORE ANY FABRICATION IS PERFORMED.

METHOD OF MEASUREMENT: THE PAYMENT FOR THIS ITEM SHALL BE SQUARE FOOTAGE IN PLACE AND
ACCEPTED. THIS ITEM SHALL INCLUDE ALL LABOR, MATERIAL, EQUIPMENT, AND ALL OTHER INCIDENTALS NECESSARY TO COMPLETE THE TIMBER SUBDECKS.
PAYMENT SHALL BE MADE UNDER ITEM SPECIAL - STRUCTURES, TIMBER SUBDECK.

ITEM 511 – CLASS QC2 CONCRETE, BRIDGE DECK (PARAPET), AS PER PLAN
FOR LOCATIONS: 4 (CUY-252-0434) AND 6 (CUY-480-0446)

THIS ITEM SHALL INCLUDE THE CONCRETE LIGHT PILASTERS AS SHOWN IN STANDARD DRAWING HL-20.14. CONCRETE REQUIRED TO PLACE EACH OF THE PILASTERS SHALL BE INCLUDED ALONG WITH ALL ANCHOR BOLTS, REBAR AND ANY APPURTENANCES REQUIRED TO RE-INSTALL THE EXISTING LIGHT POLES PER THE PLAN DOCUMENTS. EXISTING PLAN DRAWINGS AND CURRENT ODOT STANDARD DRAWINGS SHALL BE USED. JUNCTION BOXES, CONDUIT, WIRING AND SERVICE TO THE LIGHT POLES WILL BE PAID FOR SEPARATELY UNDER THE SPECIFIC ITEM OF WHICH THEY ARE A PART.

ITEM 844 – CONCRETE PATCHING WITH GALVANIC ANODE PROTECTION, AS PER PLAN
FOR LOCATION: 7 (CUY-480-0870 ES)

ALL REPAIR WORK SHALL BE PER SUPPLEMENTAL SPECIFICATION 844. THE MINIMUM SPACING OF 100 GRAM ZINC ANODES SHALL BE 18" OR EQUIVALENT TOTAL ZINC CONTENT PER AREA.

MEASUREMENT AND PAYMENT: THE DEPARTMENT WILL PAY FOR THIS ITEM PER SQUARE FOOT OF CONCRETE AREA PATCHED AND PROVIDED WITH ABOVE ZINC CONTENT. THIS WILL INCLUDE ALL CONCRETE PATCHING, PLACEMENT OF THE ZINC ANODES AS SPECIFIED AND LABOR, MATERIAL AND EQUIPMENT THAT MAY BE UTILIZED IN THE PREPARATION AND SUBSEQUENT WORK. ANY AREAS THAT ARE TO RECEIVE A FIBER WRAP SYSTEM WILL BE PAID SEPARATELY UNDER ITEM SPECIAL – STRUCTURES, COMPOSITE FIBER WRAP SYSTEM.

ITEM 607 - VANDAL PROTECTION FENCE, 6' STRAIGHT, COATED FABRIC, AS PER PLAN
FOR LOCATIONS: 4 (CUY-252-0434) AND 6 (CUY-480-0446)

THIS ITEM SHALL BE AS PER THE DETAILS IN THE PLAN, THE APPLICABLE PORTIONS OF STANDARD DRAWING VPF-1-90, AND THE MANUFACTURER'S RECOMMENDATIONS.

THE ANCHORS SHALL BE CAST IN PLACE WITH A 7" MINIMUM EMBEDMENT LENGTH.

AT LOCATIONS WHERE THE EXISTING FENCE SPANS ACROSS THE EXPANSION JOINT, DO NOT INSTALL LINE RAILS AND EXPANSION JOINT SLEEVES; HOWEVER, THE FABRIC SHALL REMAIN CONTINUOUS ACROSS THE EXPANSION JOINT.

THE COLOR OF THE FENCE FABRIC, RAILS, POSTS, PLATES, TIE WIRES, AND ADDITIONAL VISUAL HARDWARE AND CAULK SHALL BE BLACK.

PAYMENT FOR ALL OF THE ABOVE SHALL BE AT THE UNIT PRICE BID PER LINEAR FOOT FOR ITEM 607 - VANDAL PROTECTION FENCE 6' STRAIGHT, COATED FABRIC, AS PER PLAN WHICH SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS, AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE WORK.

STRUCTURE GENERAL NOTES - 2

SFN
VARIOUS

DESIGN AGENCY
OSBORN ENGINEERING
1100 Superior Avenue Suite 300
Cleveland, OH 44114
216) 861-2020 www.osborn-eng.com

DESIGNER	CHECKER
MJD	JDH

REVIEWER
SMK 12-13-22

PROJECT ID
105909

SUBSET	TOTAL
2	5

SHEET	TOTAL
35	110

CUY-BH-FY2023 MISC.

MODEL: Sheet 2 PAPERSIZE: 34x22 (in.) DATE: 4/5/2023 TIME: 2:52:39 PM USER: mdcruz
P:\ODOT\J2020855.000 Dist 12 - VAR Bridge Rehabs\105909\400-Engineering\Structures\SFN_VARIOUS\Sheets\105909_SFN_VARIOUS_SN001.dgn

ITEM SPECIAL – COMPOSITE FIBER WRAP SYTEM
FOR LOCATIONS: 2 (CUY-090-2910), 3 (CUY-237-0827), 4 (CUY-252-0434), 5 (CUY-271-1543), AND 7 (CUY-480-0870 ES)

DESCRIPTION: THIS WORK SHALL CONSIST OF PROVIDING AND INSTALLING A FIBER WRAP SYSTEM INCLUDING PREPARATION, WRAPPING THE PIER OR PIER CAP, AND ALL INCIDENTALS NECESSARY TO COMPLETE THIS WORK. THE INSTALLATION SHALL BE PER THE MANUFACTURER'S REQUIREMENTS AND FOLLOW ODOT'S PROPOSAL NOTE 519 DATED 7-21-2017.

THE FABRIC FOR THE COMPOSITE CASING SHALL BE CONTINUOUS FILAMENT WOVEN FABRIC. THE EPOXY SHALL BE SUPPLIED BY THE MANUFACTURER TO MEET THE COMPOSITE STRENGTHS GIVEN BELOW IN THE TABLE.

BRIDGE	FACTORED CAPACITY INCREASE	LOCATION ON STRUCTURE	TYPE OF LOAD
LOCATION 2 CUY-090-2910	311 KIPS	TOP SEAT	FLEXURE
	15 KIPS	BOTTOM OF PIER CAP, ABOVE COLUMNS	SHEAR
LOCATION 3 CUY-237-0827			
LOCATION 4 CUY-252-0434	283 KIPS	TOP SEAT	FLEXURE
	194 KIPS	BOTTOM OF PIER CAP, ABOVE COLUMNS	SHEAR
	158 KIPS	THROUGH ENTIRE CAP (SHEAR)	SHEAR
LOCATION 5 CUY-271-1543	79 KIPS	ENTIRE BOTTOM OF PIER CAP	FLEXURE
	126 KIPS	THROUGH ENTIRE CAP (SHEAR)	SHEAR
LOCATION 7 CUY-480-0870ES	NA	ONLY COLUMNS ARE BEING WRAPPED WITH E-GLASS FOR PATCHING PER BDM C405.10	

POLYESTER RESIN SHALL NOT BE ALLOWED AS A SUBSTITUTE FOR EPOXY RESIN. THE COMPOSITE OF THE FIBER WRAPPED COLUMN CASING (E-GLASS SYSTEM) SHALL CONFORM TO THE FOLLOWING REQUIREMENTS:

PROPERTY	REQUIREMENTS	ASTM TEST METHOD
ULTIMATE TENSILE STRENGTH, PSI MIN. – IN PRIMARY FIBER DIRECTION	60,000 PSI	D3039, AVERAGE OF 7, 1" x 10" NORMALIZED TO 0.80" THICK; 0.01" PER MINUTE TEST SPEED
ULTIMATE TENSILE STRENGTH, PSI MIN. – IN ORTHOGONAL FIBER DIRECTION	3000 PSI	D3039, AVERAGE OF 7, 1" x 10" NORMALIZED TO 0.80" THICK; 0.01" PER MINUTE TEST SPEED
TENSILE STRENGTH (MIN AFTER TEST) – 1000 HOURS EXPOSURE TO 100% HUMIDITY	60,000 PSI	c581
TENSILE STRENGTH (MIN AFTER TEST) – 1000 HOURS EXPOSURE TO OZONE	60,000 PSI	d1149 EXCEPT NOT UNDER STRESS DURING OZONE EXPOSURE
TENSILE STRENGTH (MIN AFTER TEST) – 1000 HOURS EXPOSURE TO ALKALI	60,000 PSI	D3038 USING SOIL BURIAL – WATER CONTENT OF 73% ±3%
TENSILE STRENGTH (MIN AFTER TEST) – 1000 HOURS EXPOSURE TO SALT WATER	60,000 PSI	C581 AND D1141 OMITTING ADDITION OF HEAVY METAL REAGENTS
TENSILE STRENGTH (MIN AFTER TEST) – 1000 HOURS EXPOSURE @ 140° F	60,000 PSI	D3045
ELONGATION: PERCENT, MIN.:	1.70%	
ELONGATION: PERCENT, MAX.:	5.00%	
TENSILE MODULUS, PSI MIN. OF PRIMARY FIBERS	3,000,000	D3039
VISUAL EFFECTS	ACCEPTANCE LEVEL III	D2563
COEFF. OF THERMAL EXPANSION IN THE PRIMARY DIRECTION	4,300,000 PPM/ DEG. F (±15%)	D696

METHOD OF MEASUREMENT: THIS WORK WILL BE MEASURED BY THE NUMBER OF SQUARE FEET OF CONCRETE SURFACE WRAPPED.

ASBESTOS NOTIFICATION

A CERTIFIED ASBESTOS HAZARD EVALUATION SPECIALIST SURVEYED THE BRIDGE STRUCTURES SCHEDULED FOR DEMOLTION AND/OR REHABILITATION; THE SURVEY DETERMINED THAT ASBESTOS IS PRESENT ON THE BRIDGE STRUCTURES. THE QUANTITY OF ASBESTOS CONTAINING MATERIAL (ACM) ON EACH BRIDGE IS:

LOCATION	BRIDGE STRUCTURE	ASBESTOS NOTIFICATION FORM TITLE	ACM (LINEAR FT)
1	CUY-90-1062	CUY-90-10.620	3472 FEET
2	CUY-90-2910	CUY-90-29.070	640 FEET
3	CUY-237-0827	CUY-480-7.920	375 FEET
4	CUY-252-0434	CUY-252-4.370	1712 FEET
5	CUY-271-1543	CUY-271-15.410	0 FEET
6	CUY-480-0446	CUY-480-4.440	819 FEET
7	CUY-480-0870-ES	CUY-480-0.000	0 FEET
MOVED TO NEW PID	CUY-6-0.42	CUY-6-0.42	640 FEET

ODOT SHALL PROVIDE A COPY OF THE OHIO ENVIRONMENTAL PROTECTION AGENCY (OEPA) NOTIFICATION OF DEMOLITION AND RENOVATION FORM, PARTIALLY COMPLETED TO THE SUCCESSFUL BIDDER. THE CONTRACTOR SHALL COMPLETE THE FORM AND SUBMIT IT TO ONE OF THE ADDRESSES BELOW AT LEAST TEN (10) WORKING DAYS PRIOR TO THE START OF ANY DEMOLITION AND/OR RENOVATION.

ASBESTOS PROGRAM
OHIO EPA, DAPC
P.O. BOX 1049
COLUMBUS, OH 43216-1049

OR

ASBESTOS PROGRAM
OHIO EPA, DAPC
50 W. TOWN ST., SUITE 700
COLUMBUS, OH 43215

THE CONTRACTOR SHALL PROVIDE A COPY OF THE COMPLETED FORM TO THE ENGINEER AT LEAST TEN (10) WORKING DAYS PRIOR TO THE START OF ANY DEMOLITION AND/OR RENOVATION. THE FORM SHALL INCLUDE: 1) THE CONTRACTORS NAME AND ADDRESS, 2) THE SCHEDULED DATES FOR THE START AND COMPLETION OF THE BRIDGE REMOVAL AND 3) A DESCRIPTION OF THE PLANNED DEMOLITION WORK AND THE METHOD(S) TO BE USED. COPIES OF THE OEPA FORM AND BRIDGE INSPECTION REPORT ARE AVAILABLE FOR REVIEW AT THE ODOT DISTRICT 12 OFFICE, 5500 TRANSPORTATION BOULEVARD, GARFIELD HEIGHTS, OHIO 44125.

BASIS FOR PAYMENT – THE CONTRACTOR SHALL FURNISH ALL FEES, LABOR, AND MATERIAL NECESSARY TO COMPLETE AND SUBMIT THE OEPA NOTIFICATION FORM. PAYMENT FOR THIS WORK SHALL BE INCLUDED IN:

ITEM 202 – PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN.

STRUCTURE GENERAL NOTES - 3

CUY-BH-FY2023 MISC.

MODEL: Sheet 3 PAPERSIZE: 34x22 (In.) DATE: 4/5/2023 TIME: 8:55:36 AM USER: mdcruz
P:\ODOT\J2020855.000 Dist 12 - VAR Bridge Rehabs\105909\400-Engineering\Structures\SFN_VARIOUS\Sheets\105909_SFN_VARIOUS_SN001.dgn

SFN VARIOUS

DESIGN AGENCY

OSBORN ENGINEERING
1100 Superior Avenue Suite 300
Cleveland, OH 44114
(216) 861-2020 www.osborn-eng.com

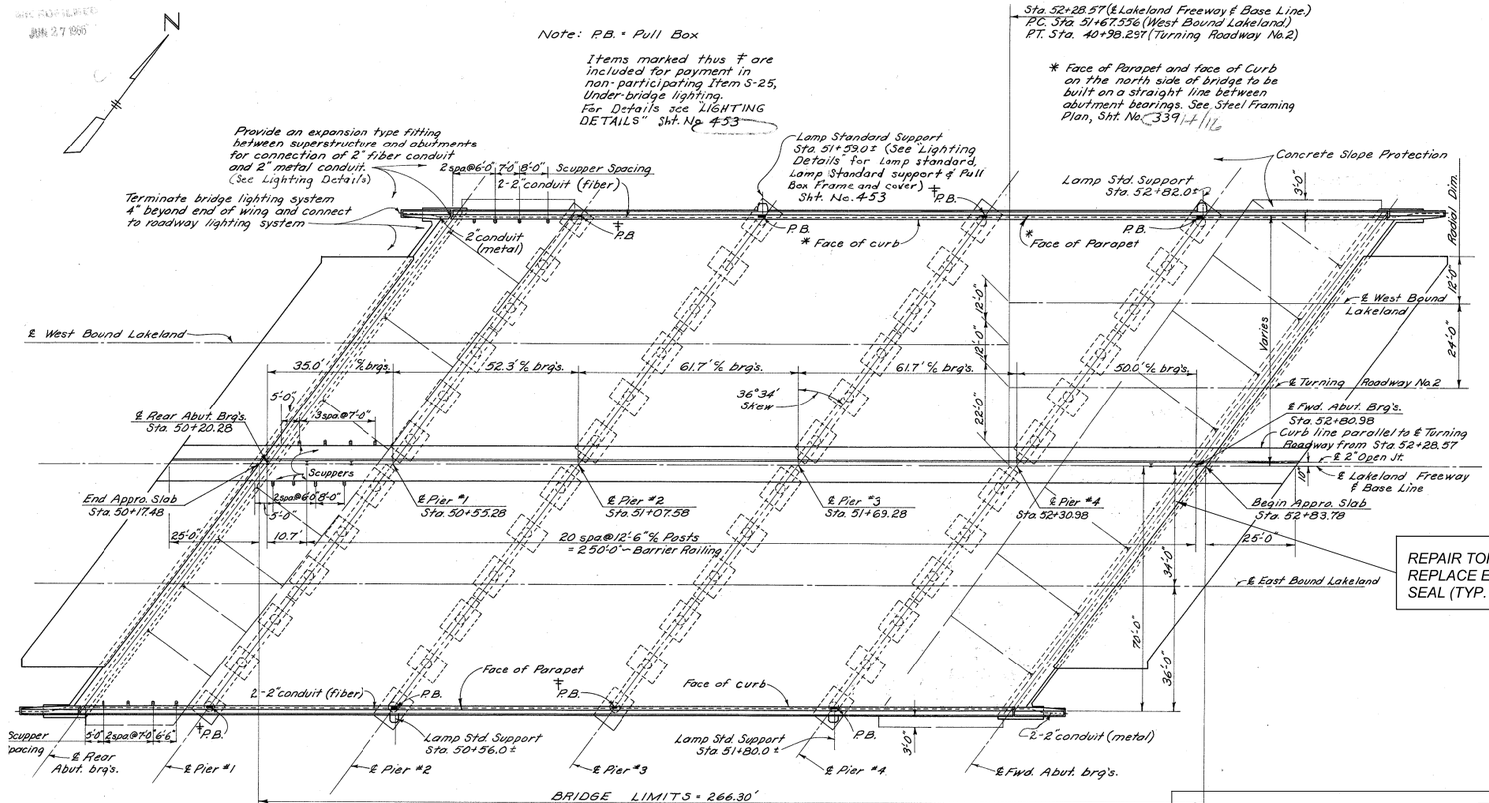
DESIGNER	CHECKER
MJD	JDH

REVIEWER SMK 12-13-22

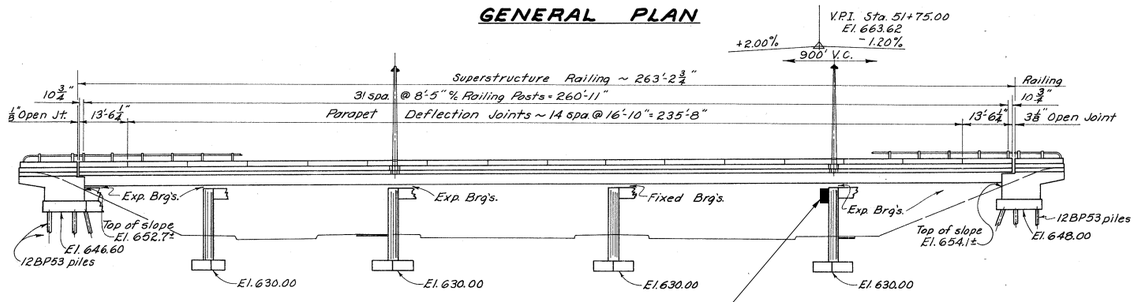
PROJECT ID 105909

SUBSET	TOTAL
3	5

SHEET	TOTAL
36	110



GENERAL PLAN



ELEVATION

LUMINARE REPLACEMENT AT PIER 4. REPAIR BROKEN WIRES AND LUMINARES.

REPAIR TOP OF BACKWALLS & REPLACE ELASTOMERIC STRIP SEAL (TYP. BOTH ABUTMENTS)

NOTES:

1. DETAILS ON THIS SHEET ARE TAKEN FROM EXISTING PLANS AND SHOULD BE USED FOR INFORMATION PURPOSES ONLY.

2. PERFORM ONLY THE WORK AS INDICATED IN THE STRUCTURE DATA TABLE SHEET, FRAMED TEXT, AND/OR DESCRIBED IN THE GENERAL NOTES.

3. FOR ESTIMATED QUANTITIES SEE TABLE ON THIS SHEET.

ESTIMATED QUANTITIES

CALCULATED: JDH DATED: 06/22
CHECKED: MJD DATED: 06/22

ITEM	EXT.	QUANTITY	UNIT	DESCRIPTION	REF. SHEET
202	11203	LS		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN	34
441	50301	1	CY	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (448)	57
509	10000	2985	LB	EPOXY COATED REINFORCING STEEL	
510	10000	680	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT	
511	50211	26	CY	CLASS QC1 CONCRETE, SUBSTRUCTURE, AS PER PLAN	57
512	10101	230	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE), AS PER PLAN	34, 60
SPECIAL	51271500	1012	SY	SPECIAL - URETHANE TOP COAT SEALER	
513	10201	1338	LB	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN	34
516	10001	355	FT	PREFORMED ELASTOMERIC COMPRESSION JOINT SEAL, AS PER PLAN	34, 57
516	11211	355	FT	STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL, AS PER PLAN	57
516	45305	13	EACH	REFURBISH BEARING DEVICE, AS PER PLAN	34
516	46200	9	EACH	BEARING DEVICE, ROCKER	
516	46700	9	EACH	RESET BEARING	
516	47001	LS		JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN	35
SPECIAL	51900100	8633	SF	SPECIAL - COMPOSITE FIBER WRAP SYSTEM	36, 38, 58
SPECIAL	51900100	212	SF	SPECIAL - COMPOSITE FIBER WRAP SYSTEM: E-GLASS (EGFRP)	36, 38, 58
519	11101	580	SF	PATCHING CONCRETE STRUCTURE, AS PER PLAN	35
519	12300	20	SY	PATCHING CONCRETE BRIDGE DECK - TYPE B	
SPECIAL	53000200	LS		SPECIAL - STRUCTURES: BRIDGE CLEANING	35
625	27502	12	EACH	LUMINAIRE, UNDERPASS, SOLID STATE (LED)	5

GENERAL PLAN - LOCATION 2
BRIDGE NO. CUY-90-2910
IR-90 OVER EAST 260TH STREET

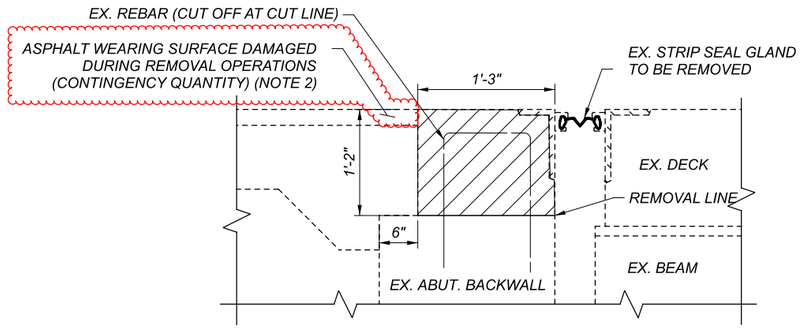
SFN 1809008

DESIGN AGENCY
OSBORN ENGINEERING
1100 Superior Avenue Suite 300
Cleveland, OH 44114
(216) 861-2020 www.osborn-eng.com

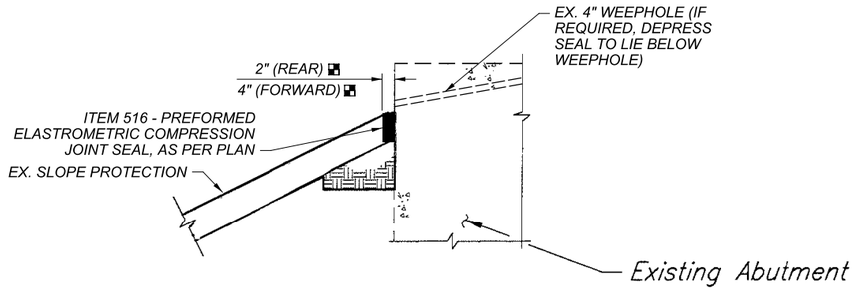
DESIGNER MJD | CHECKER JDH
REVIEWER SMK 12-13-22
PROJECT ID 105909
SUBSET 1 | TOTAL 7
SHEET 54 | TOTAL 110

CUY-BH-FY2023 MISC.

MODEL: Sheet PAPERSIZE: 34x22 (In.) DATE: 4/4/2023 TIME: 5:21:55 PM USER: mdcruz
P:\ODOT\J202008\55.000 Dist 12 - VAR Bridge Rehabs\105909\400-Engineering\Structures\SFN_1809008\Sheets\105909_SFN_1809008_SG001.dgn



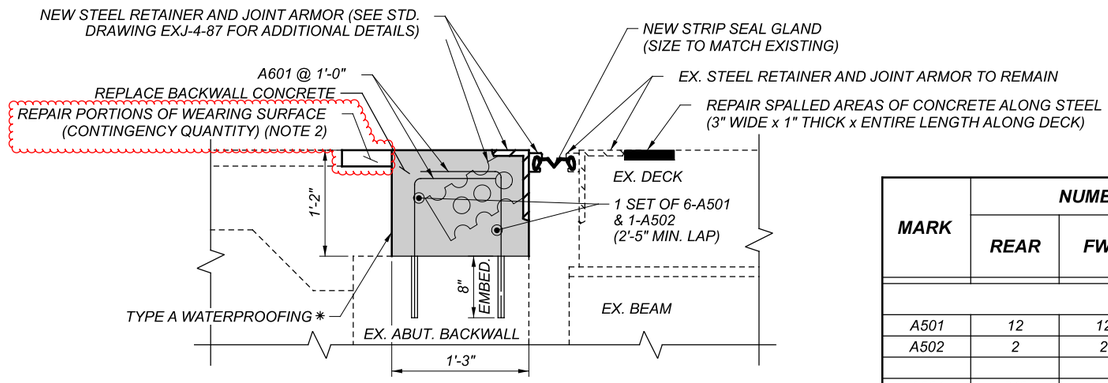
EXISTING EXPANSION JOINT



TOP OF SLOPE PROTECTION

■ *DIMENSIONS WERE FIELD MEASURED. CONTRACTOR SHALL VERIFY OPENING PRIOR TO ORDERING SEAL.*

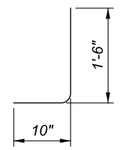
NOTE: ALL OPENINGS AND JOINTS SHALL BE CLEANED PRIOR TO PLACEMENT (ITEM SPECIAL - STRUCTURES: BRIDGE CLEANING).



PROPOSED EXPANSION JOINT

✳ *TO BE INCLUDED WITH ITEM 511 - CLASS QC1 CONCRETE, SUBSTRUCTURE, AS PER PLAN*

MARK	NUMBER			LENGTH	WEIGHT	TYPE
	REAR	FWD	TOTAL			
BACKWALLS						
A501	12	12	24	30'-0"	751	ST
A502	2	2	4	10'-0"	42	ST
A601	340	340	680	2'-2"	2213	1
				TOTAL	2985	



TYPE-1

LEGEND:

INDICATES APPROXIMATE AREAS OF ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN

INDICATES APPROXIMATE AREAS OF ITEM 511 - CLASS QC1 CONCRETE, SUBSTRUCTURE, AS PER PLAN

INDICATES APPROXIMATE AREAS OF ITEM 519 - PATCHING CONCRETE BRIDGE DECK - TYPE B

	MEASURED TOTAL (SF)	ESTIMATED TOTAL (SF)	ESTIMATED TOTAL (CY)
REAR	44	55	6.5
FORWARD	44	55	6.5
		TOTAL	**13 CY**

NOTES:

1. *THE EXISTING ANGLE ON THE DECK SIDE OF THE EXPANSION SHALL REMAIN IN PLACE. THE APPROACH SIDE ANGLE AND NEOPRENE STRIP SEAL SHALL BE REPLACED ONLY. ALL STEEL, ANCHORS, EXTRUSIONS, NEOPRENE AND APPURTENANCES REQUIRED TO PLACE THE NEW EXPANSION JOINT AS SHOWN, SHALL BE INCLUDED IN THE PRICE BID FOR ITEM 516 - STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL, AS PER PLAN.*
2. *AN APPROXIMATE 6" WIDTH BY 2" DEEP ASPHALT WEARING SURFACE CONTINGENCY ITEM HAS BEEN INCLUDED FOR THOSE AREAS ADJACENT TO THE BACKWALL AND LOCATED ON THE APPROACH SLABS. THE QUANTITY IS BASED ON THE FULL LENGTH OF THE JOINT ON THE SKEW AND SHALL BE INCLUDED WITH ITEM 441 - ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2 (448).*

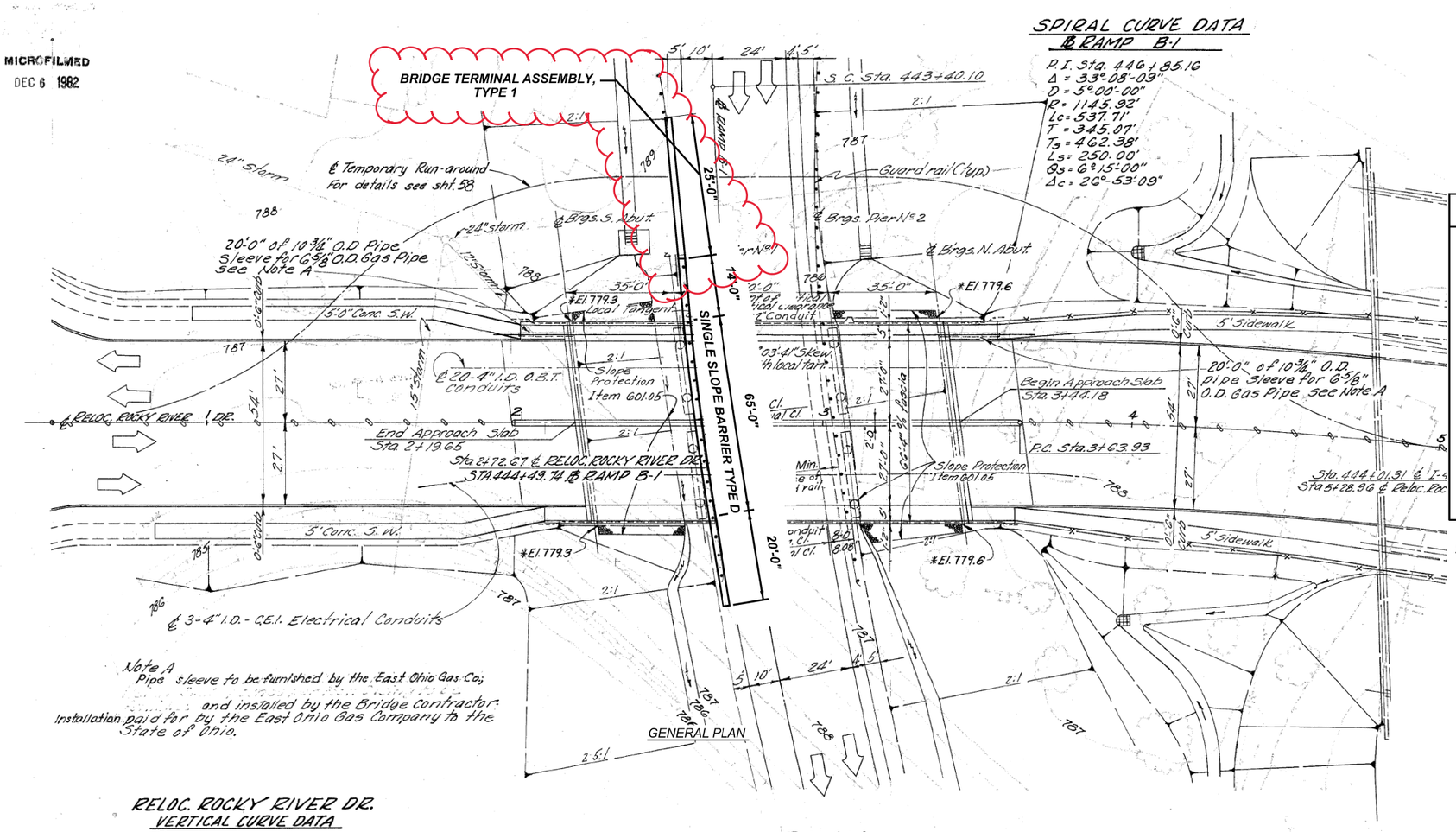
EXPANSION JOINT AND SLOPE PROTECTION DETAILS - LOCATION 2
BRIDGE NO. CUY-90-2910
IR-90 OVER EAST 260TH STREET

SFN 1809008
DESIGN AGENCY
OSBORN ENGINEERING
1100 Superior Avenue Suite 300 Cleveland, OH 44114
(216) 867-2020 www.osborneng.com
DESIGNER MJD | CHECKER JDH
REVIEWER SMK 12-13-22
PROJECT ID 105909
SUBSET 4 | TOTAL 7
SHEET 57 | TOTAL 110

CUY-BH-FY2023 MISC.

MODEL: Sheet 3 PAPERSIZE: 34x22 (In.) DATE: 4/4/2023 TIME: 2:38:59 PM USER: mdcruz
P:\ODOT\J2020\0855.000 Dist 12 - VAR Bridge Rehabs\105909\400-Engineering\Structures\SFN_1809008\Sheets\105909_SFN_1809008_SR001.dgn

MICROFILMED
DEC 6 1982



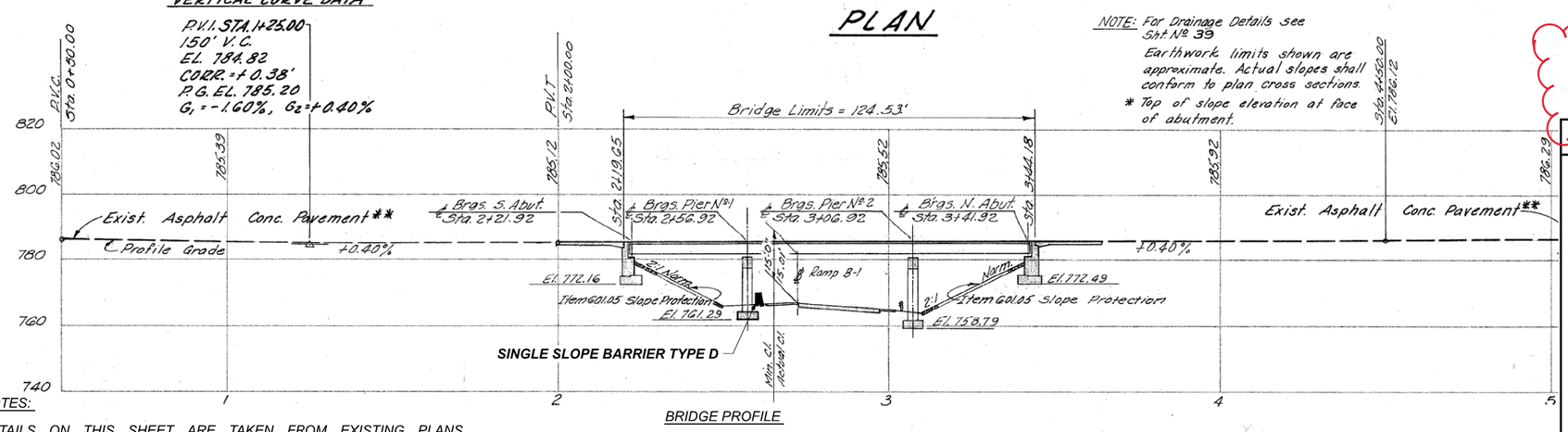
Note A
Pipe sleeve to be furnished by the East Ohio Gas Co.; and installed by the Bridge Contractor. Installation paid for by the East Ohio Gas Company to the State of Ohio.

SPIRAL CURVE DATA
℄ RAMP B-1

P.I. Sta. 446+85.16
Δ = 33°08'-09"
D = 5°00'-00"
R = 1145.92'
Lc = 537.71'
T = 345.07'
Ts = 462.38'
Ls = 250.00'
θs = 6°15'-00"
Δc = 20°-53'-09"

RELOC. ROCKY RIVER DR.
VERTICAL CURVE DATA

P.V.I. STA. 1+25.00
150' V.C.
EL. 784.82
CORR. = +0.38'
P.G. EL. 785.20
$G_1 = -1.60\%$, $G_2 = +0.40\%$



BRIDGE PROFILE

NOTE: For Drainage Details see Sht. N° 39
Earthwork limits shown are approximate. Actual slopes shall conform to plan cross sections.
* Top of slope elevation at face of abutment.

NOTES:

1. DETAILS ON THIS SHEET ARE TAKEN FROM EXISTING PLANS AND SHOULD BE USED FOR INFORMATION PURPOSES ONLY.
2. FOR ADDITIONAL INFORMATION REFER TO STANDARD DRAWING RM-4.5 (SINGLE SLOPE BARRIER, TYPE D).
3. EXISTING GUARDRAIL SHALL BE CONNECTED TO THE SINGLE SLOPE TYPE D BARRIER BY UTILIZING BRIDGE TERMINAL ASSEMBLY, TYPE 1 PER THE STANDARD DRAWING MGS- 3.1. PAYMENT FOR THE BRIDGE TERMINAL ASSEMBLY TYPE 1 SHALL BE INCLUDED WITH ITEM 622. PAYMENT FOR PARTIAL REMOVAL OF THE EXISTING GUARDRAIL SHALL BE INCLUDED WITH ITEM 202.

PROFILE ALONG ℄ RELOC. ROCKY RIVER DR.

EXISTING STRUCTURE

TYPE: CONTINUOUS STEEL BEAM WITH REINFORCED CONCRETE DECK AND REINFORCED CONCRETE SUBSTRUCTURE

SPANS: 35'-0"±, 50'-0"±, 35'-0"± C/C BEARINGS
ROADWAY: 54'-0" ± T/T CURBS, WITH 5'-0" SIDEWALKS,
LOADING: CF - 2000 (1957)
SKEW: 7° 03' 41" R.F.
WEARING SURFACE: 2 3/4" MICRO SILICA CONCRETE OVERLAY
APPROACH SLABS: 20"-0"± Long (AS-1-72)
ALIGNMENT: TANGENT
STRUCTURE FILE NUMBER: 1810332
DATE BUILT: 1978

PROPOSED WORK:

1. REMOVE AND REPLACE EXISTING MSMC OVERLAY WITH NEW SUPERPLASTICIZED DENSE CONCRETE OVERLAY OVER THE BRIDGE DECK.
2. CONCRETE PATCHING OF PIER COLUMNS AND ABUTMENT BACKWALLS.
3. WRAPPING OF PIER COLUMNS WITH FIBER WRAP / E-GLASS.
4. REMOVE AND REPLACE EX. VANDAL PROTECTION FENCE.
5. REMOVE AND REPLACE EX. APPROACH SLABS WITH NEW 20'-0" APPROACH SLABS.
6. REMOVE AND REPLACE EX. EXPANSION JOINT WITH NEW STRIP SEAL EXP. JOINT.
7. REMOVE AND REPLACE EX. END CROSS FRAMES.
8. REMOVE AND REPLACE EX. REAR AND FORWARD ABUTMENT BEARING WITH NEW BEARINGS.
9. REMOVE THE EXISTING SOUTH GUARDRAIL TO THE LIMITS SHOWN ON THE SITE PLAN, AND REPLACE WITH BRIDGE TERMINAL ASSEMBLY TYPE 1 AND SINGLE SLOPE BARRIER TYPE D.

PROPOSED STRUCTURE

TYPE: CONTINUOUS STEEL BEAM WITH REINFORCED CONCRETE DECK AND REINFORCED CONCRETE SUBSTRUCTURE

SPANS: 35'-0"±, 50'-0"±, 35'-0"± C/C BEARINGS
ROADWAY: 54'-0"± T/T CURBS, WITH 5'-0"± SIDEWALKS
LOADING: CF - 2000 (1957)
SKEW: 7° 03' 41" RIGHT FWD.
WEARING SURFACE: 3"± MICRO SILICA CONCRETE OVERLAY
APPROACH SLABS: 20'-0"± LONG (AS-1-15)
ALIGNMENT: TANGENT
SUPER ELEVATION: MATCH EXISTING
COORDINATES: LATITUDE 41° 25' 10" N
LONGITUDE 81° 49' 52" W
STRUCTURE FILE NUMBER: 1810332

HORIZONTAL SCALE IN FEET
0 0

SITE PLAN - LOCATION 3
BRIDGE NO. CUY-237-0827
ROCKY RIVER DR. OVER IR 480 EB RAMP

SFN 1810332
DESIGN AGENCY NEAS
National Engineering & Architectural Services Inc.
2800 CORPORATE EXCHANGE DR, SUITE 240 COLUMBUS, OH, 43231
TEL:614.714.0299
WWW.NEASINC.COM
DESIGNER AJS | CHECKER JS
REVIEWER ZM 06-08-22
PROJECT ID 105909
SUBSET 1 | TOTAL 14
SHEET 61 | TOTAL 110

CUY-BH-FY2023 MISC

ABBREVIATION LIST:

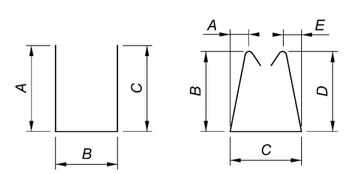
ABUT.	ABUTMENT.
ADT	AVERAGE DAILY TRAFFIC
ADTT	AVERAGE DAILY TRUCK TRAFFIC
APPR.	APPROACH SLAB
BRG.	BEARING
CL	CENTERLINE
C.J.	CONSTRUCTION JOINT
CLR.	CLEAR
CMS	CONSTRUCTION AND MATERIAL SPECIFICATIONS
CONR.	CONCRETE
DIA.	DIAMETER
DWG.	DRAWING
EB	EASTBOUND
EL.	ELEVATION
EX.	EXISTING
EXP.	EXPANSION
F.A.	FORWARD ABUTMENT
FT.	FOOT OR FEET
HMWM	HIGH MOLECULAR WEIGHT METHACRYLATE
O/O	OUT TO OUT
P.E.J.F.	PREFORMED EXPANSION JOINT FILLER
PROP.	PROPOSED
R.A.	REAR ABUTMENT
R.F.	RIGHT FORWARD
TEMP.	TEMPORARY
TYP.	TYPICAL
WB	WESTBOUND

ESTIMATED QUANTITIES

CALCULATED BY: AJS DATE: 05/25/2022
CHECKED BY: JS DATE: 06/08/2022

ITEM	EXTENSION	TOTAL	UNIT	DESCRIPTION	SHEET REFERENCE
202	11203	LUMP	LS	PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN	34, 36, 64, 65, 66, 67, 68
202	22900	245	SY	APPROACH SLAB REMOVED	
202	75260	306	FT	VANDAL PROTECTION FENCE REMOVED	
202	38001	124	FT	GUARDRAIL REMOVED, AS PER PLAN	61
509	10000	1823	LB	EPOXY COATED REINFORCING STEEL	
509	20001	500	LB	REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN	34, 66, 68
511	34410	16	CY	CLASS QC2 CONCRETE, SUPERSTRUCTURE	
511	45710	9	CY	CLASS QC1 CONCRETE, ABUTMENT	
512	10050	361	SY	SEALING OF CONCRETE SURFACES (NON-EPOXY)	
512	10101	228	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE), AS PER PLAN	34, 71
512	10300	37	SY	SEALING OF CONCRETE BRIDGE DECKS WITH HMWM RESIN	
SPECIAL	51271500	228	SY	SPECIAL - URETHANE TOP COAT SEALER	
513	10201	5678	LB	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN	
516	11210	133	FT	STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL	
516	46200	16	EACH	BEARING DEVICE, ROCKER	
516	47001	LUMP	LS	JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN	35
SPECIAL	51900100	1066	SF	SPECIAL - COMPOSITE FIBER WRAP SYSTEM: E-GLASS (EGFRP)	36, 38, 70
519	11101	480	SF	PATCHING CONCRETE STRUCTURE, AS PER PLAN	35, 70
526	98100	245	SY	APPROACH SLABS, MISC: REINFORCED CONCRETE APPROACH SLABS WITH QC/QA (T=14")	74
607	39930	306	FT	VANDAL PROTECTION FENCE, 12' CURVED, COATED FABRIC	
607	39994	164	FT	TEMPORARY VANDAL FENCE, TYPE B	63, 64
622	10161	99	FT	CONCRETE BARRIER, SINGLE SLOPE, TYPE D, AS PER PLAN	61
514	00100	LUMP	LS	SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL	
514	00504	60	MNHR	GRINDING FINS, TEARS, SLIVERS ON EXISTING STRUCTURAL STEEL	
848	10200	743	SY	SUPERPLASTICIZED DENSE CONCRETE OVERLAY USING HYDRODEMOLITION (3 1/4" THICK)	
848	20000	743	SY	SURFACE PREPARATION USING HYDRODEMOLITION	
848	30200	67	CY	SUPERPLASTICIZED DENSE CONCRETE OVERLAY (VARIABLE THICKNESS), MATERIAL ONLY	
848	50000	74	SY	HAND CHIPPING	
848	50100	LUMP	LS	TEST SLAB	
848	50200	4	CY	FULL DEPTH REPAIR	
848	50320	743	SY	EXISTING CONCRETE OVERLAY REMOVED 3" NOMINAL THICKNESS	

MARK	TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS					
					A	B	C	D	R	INC
A501	4	31' - 6"	131	STR						
A502	4	32' - 11"	137	STR						
A503	4	4' - 6"	19	STR						
S501	8	2' - 2"	30	1	0' - 6"	1' - 5"	0' - 6"			
S502	8	2' - 4"	18	1	0' - 6"	1' - 7"	0' - 6"			
S503	8	6' - 9"	56	1	0' - 8"	5' - 8"	0' - 8"			
S504	8	7' - 5"	61	2	0' - 0 3/4"	3' - 0"	0' - 8"	3' - 0"	0' - 0 3/4"	
S601	6	31' - 6"	284	STR						
S602	6	32' - 11"	297	STR						
S701	6	31' - 6"	386	STR						
S702	6	32' - 11"	404	STR						
BRIDGE TOTAL (LBS):			1823							



ESTIMATED QUANTITIES - LOCATION 3
BRIDGE NO. CUY-237-0827
ROCKY RIVER DR. OVER IR 480 EB RAMP

SFN 1810332

DESIGN AGENCY
NEAS
National Engineering & Architectural Services Inc.
2800 CORPORATE EXCHANGE DR, SUITE 240
COLUMBUS, OH, 43231
TEL:614.714.0299
WWW.NEASINC.COM

DESIGNER	CHECKER
AJS	JS

REVIEWER ZM 06-08-22

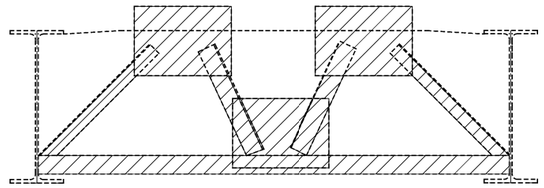
PROJECT ID 105909

SUBSET	TOTAL
2	14

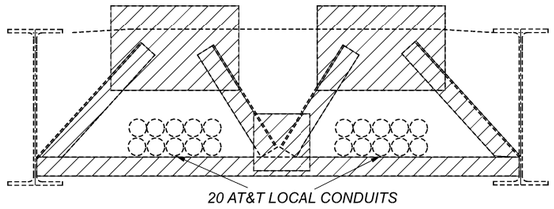
SHEET	TOTAL
62	110

CUY-BH-FY2023 MISC

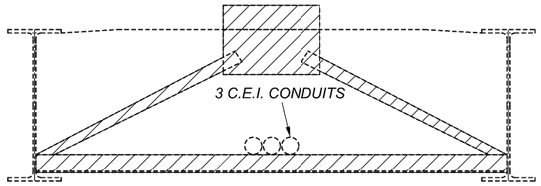
MODEL: Sheet PAPERSIZE: 17x11 (in.) DATE: 4/6/2023 TIME: 3:13:10 PM USER: Auneeb.Siddiqi
P:\OHDOT\WorkSets\105909_CUY BH FY2023 Misc\400-Engineering\Structures\SFN_1810332\Sheets\105909_SFN_1810332_SQ001.dgn



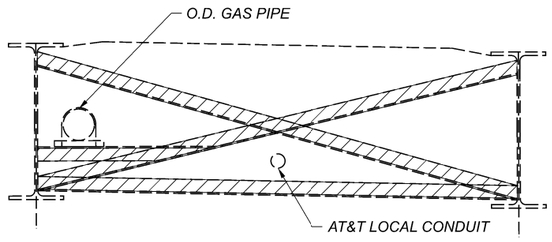
TYPICAL END CROSSFRAME



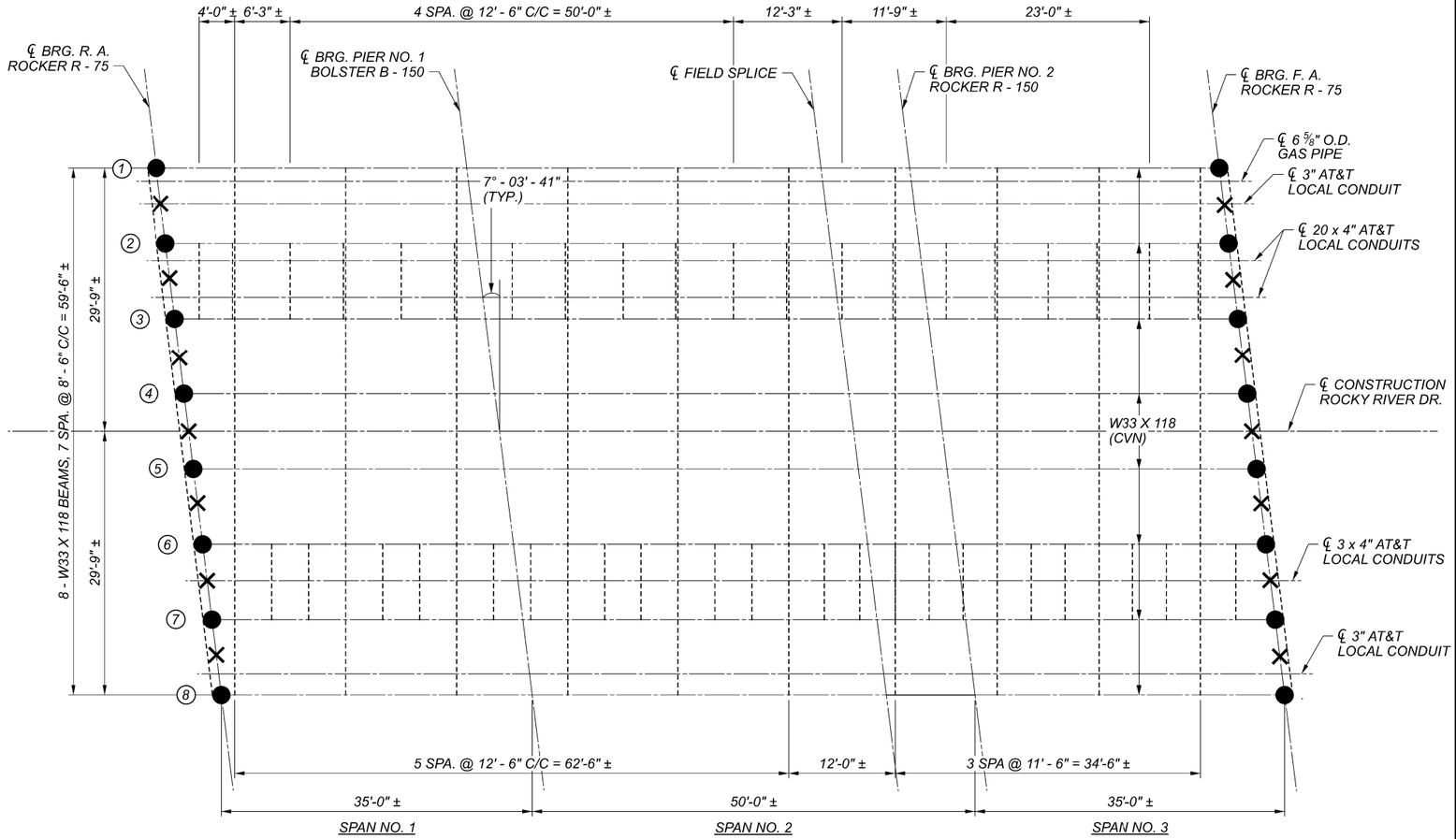
SPECIAL END CROSSFRAME FOR AT&T LOCAL CONDUITS



SPECIAL END CROSSFRAME FOR C.E.I. CONDUITS



SPECIAL END CROSSFRAME FOR O.D. GAS PIPE AND AT&T LOCAL CONDUIT



FRAMING PLAN

LEGEND:

× - INDICATES TYPICAL END CROSSFRAMES AND SPECIAL END CROSSFRAMES TO BE REMOVED. WELDS SHALL BE REMOVED AND GROUND FLUSH DURING REMOVAL. PAYMENT INCLUDED WITH ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN.

● - INDICATES TYPICAL R-75 BEARINGS TO BE REMOVED AND REPLACED IN KIND. REMOVAL OF BEARINGS IS INCLUDED WITH ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN. WELDS SHALL BE REMOVED AND GROUND FLUSH DURING REMOVAL. PAYMENT INCLUDED WITH ITEM 514 - GRINDING FINS, TAILS, SLIVERS ON EXISTING STRUCTURAL STEEL.

(#) - BEAM DESIGNATION

▨ - INDICATES AREAS TO BE REMOVED AS PER ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN.

NOTES:

1. AT&T LOCAL AND CEI FIRST ENERGY WILL TEMPORARILY SUPPORT THEIR CONDUITS AS NEEDED DURING CONSTRUCTION. THE CONTRACTOR SHALL COORDINATE WITH EACH UTILITY PRIOR TO BEGINNING WORK AT LOCATION 3.

FRAMING PLAN REMOVAL DETAILS - LOCATION 3
BRIDGE NO. CUY-237-0827
ROCKY RIVER DRIVE OVER IR 480 EB RAMP

SFN 1810332

DESIGN AGENCY
NEAS National Engineering & Architectural Services Inc.
2800 CORPORATE EXCHANGE DR, SUITE 240
COLUMBUS, OH, 43231
TEL:614.714.0299
WWW.NEASINC.COM

DESIGNER	CHECKER
AJS	JS

REVIEWER: ZM 06-08-22

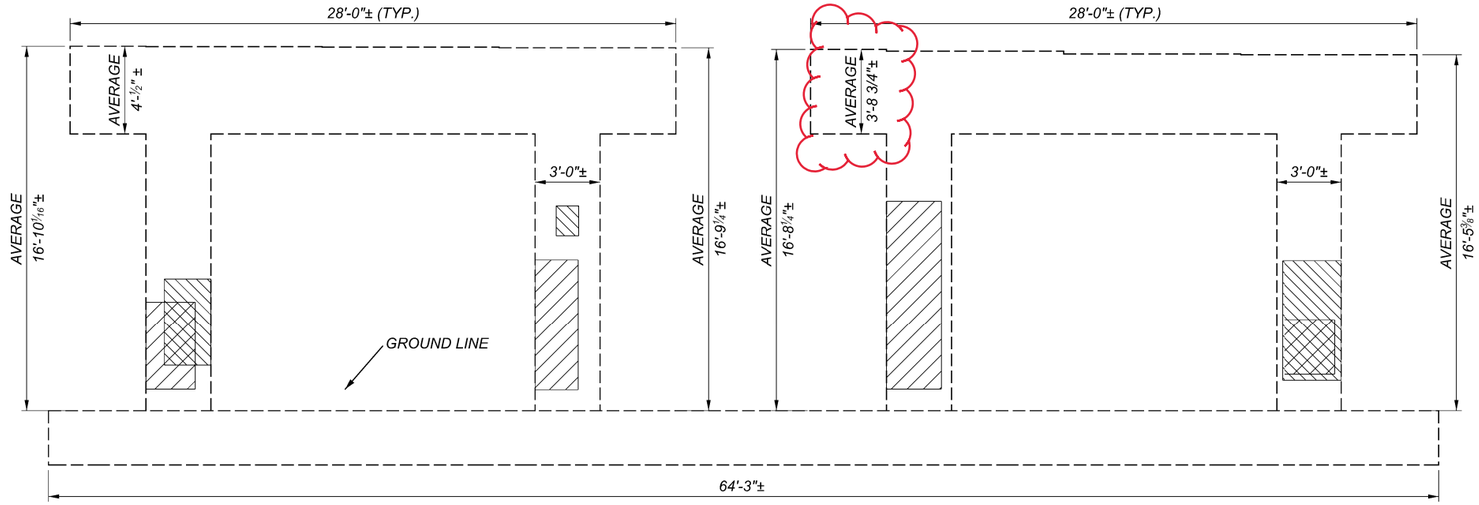
PROJECT ID: 105909

SUBSET	TOTAL
7	14

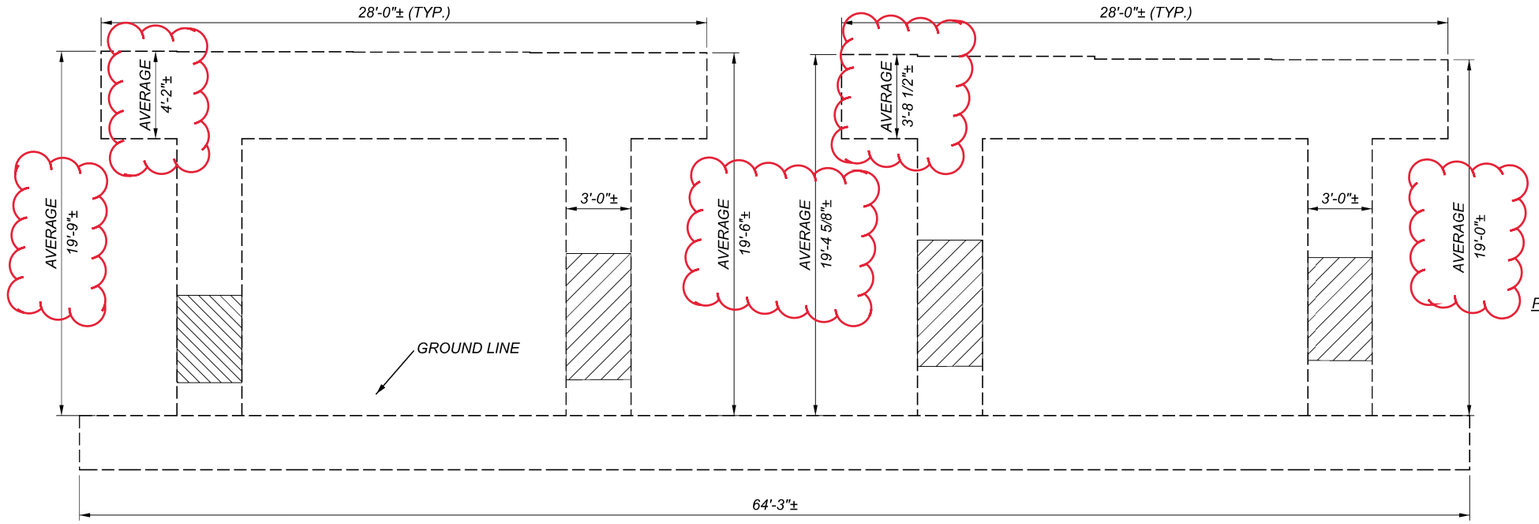
SHEET	TOTAL
67	110

CTY-RTE-SECTION

MODEL: Sheet PAPERSIZE: 17x11 (in.) DATE: 4/4/2023 TIME: 9:40:04 AM USER: Auneeb.Siddiqi
P:\OHDOT\WorkSets\105909_CUY BH FY2023 Misc\400-Engineering\Structures\SFN_1810332\Sheets\105909_SFN_1810332_SV001.dgn

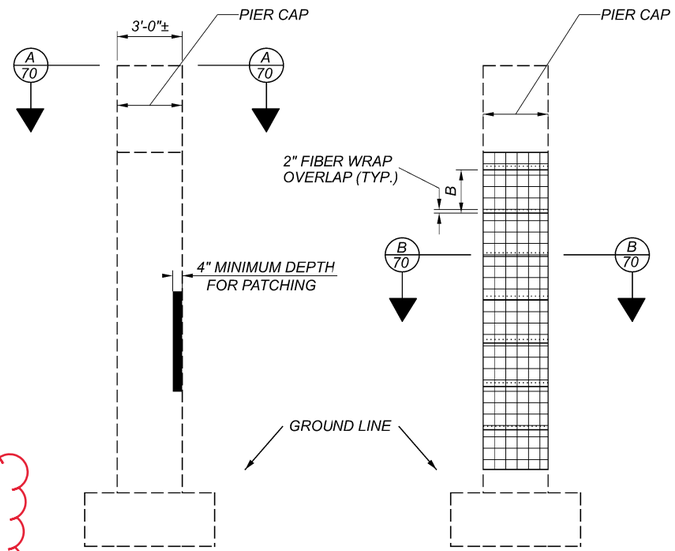


PIER 1 ELEVATION
LOOKING UPSTATION



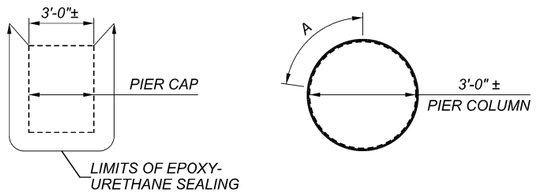
PIER 2 ELEVATION
LOOKING UPSTATION

PIER 1 SUMMARY OF PATCHING AREAS		PIER 2 SUMMARY OF PATCHING AREAS	
LOCATION	SQ. FT	LOCATION	SQ. FT
PIER 1 (SOUTH)	174	PIER 2 (SOUTH)	139
PIER 1 (NORTH)	57	PIER 2 (NORTH)	30
AS DIRECTED BY THE ENGINEER (20%)	46	AS DIRECTED BY THE ENGINEER (20%)	34
TOTAL	277	TOTAL	203



PIER COLUMN PATCHING DETAIL

PIER COLUMN FIBER WRAP DETAIL



SECTION A-A

SECTION B-B

LEGEND:

- ITEM 519 - PATCHING CONCRETE STRUCTURE, AS PER PLAN - NORTH FACE
- ITEM 519 - PATCHING CONCRETE STRUCTURE, AS PER PLAN - SOUTH FACE
- INDICATES APPROXIMATE AREAS OF E-GLASS FIBER REINFORCED POLYMER ((EGFRP) & URETHANE TOP COAT SEALER (ITEM SPECIAL - COMPOSITE FIBER WRAP SYSTEM; E-GLASS (EGFRP) AND ITEM SPECIAL - URETHANE TOP COAT SEALER).

NOTES:

1. AN ADDITIONAL 20% CONTINGENCY HAS BEEN ADDED TO THE FIELD MEASURED PATCHING AREAS TO ALLOW FOR ADDITIONAL AREAS OF DETERIORATION. THE FINAL DIMENSIONS AND LOCATION OF THE DETERIORATED AREAS TO BE PATCHED SHALL BE DETERMINED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER IN THE FIELD FOR FINAL PAYMENT.
2. FOR ADDITIONAL DIMENSIONS, SEE ORIGINAL CONSTRUCTION PLANS.
3. A = FIBER WRAP SHALL BE INSTALLED AS ONE CONTINUOUS WRAP, EXTENDING AROUND EACH COLUMN TWICE WITH A MINIMUM 1'-0" LAP.

   B = 2'-0" TYP. FABRIC WIDTH.
4. DURING THE REMOVAL OF CONCRETE FOR ITEM 519 - PATCHING CONCRETE STRUCTURES, AS PER PLAN, NO MORE THAN 50% OF THE MAIN VERTICAL REINFORCING STEEL IN THE COLUMNS SHALL BE EXPOSED FOR THE FULL CIRCUMFERENCE OF THE BARS WITHIN A SINGLE PATCHING AREA EXTENDING AROUND THE COLUMN AT ANY ONE TIME.

CTY-RTE-SECTION

MODEL: Shee PAPERSIZE: 17x11 (in.) DATE: 4/5/2023 TIME: 2:29:41 PM USER: Auneeb.Siddiqi
P:\OHDOT\WorkSets\105909_CUY BH FY2023 Misc\400-Engineering\Structures\SFN_1810332\Sheets\105909_SFN_1810332_SI001.dgn

PIER REPAIR DETAILS - LOCATION 3
BRIDGE NO. CUY-237-08.27
ROCKY RIVER DRIVE OVER IR 480 EB RAMP

SFN 1810332

DESIGN AGENCY
NEAS
National Engineering & Architectural Services Inc.
2800 CORPORATE EXCHANGE DR, SUITE 240
COLUMBUS, OH, 43231
TEL:614.714.0299
WWW.NEASINC.COM

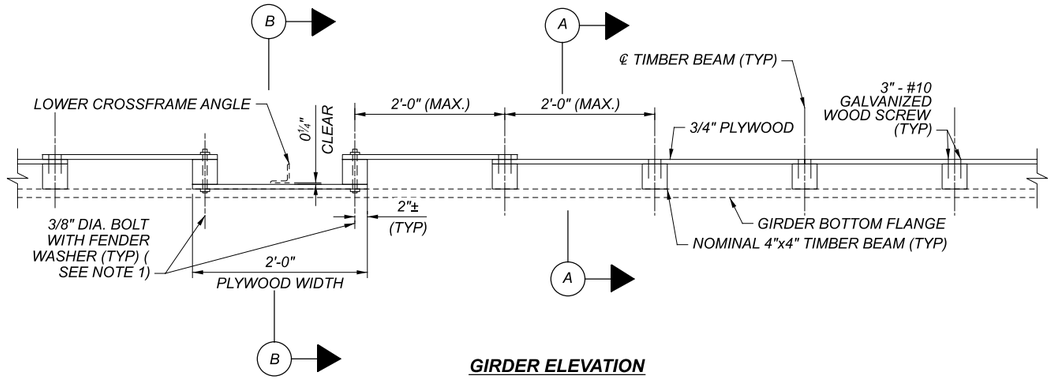
DESIGNER	CHECKER
AJS	JS

REVIEWER ZM 06-08-22

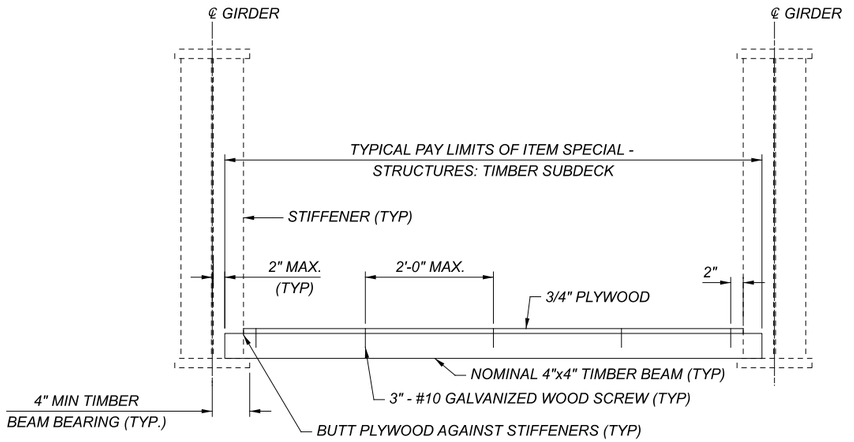
PROJECT ID 105909

SUBSET	TOTAL
10	14

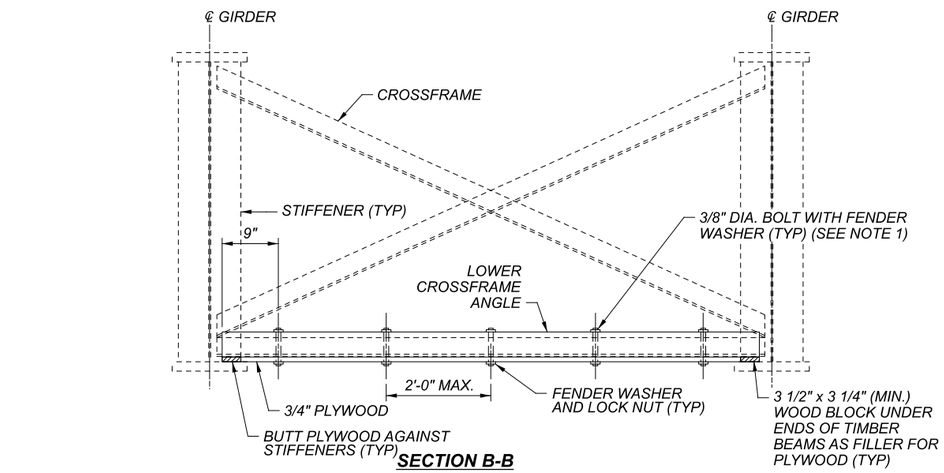
SHEET	TOTAL
70	110



GIRDER ELEVATION



SECTION A-A



SECTION B-B

AT INTERMEDIATE CROSSFRAMES

ESTIMATED QUANTITIES

CALCULATED: JDH DATED: 06/22
CHECKED: MJD DATED: 06/22

ITEM	EXT.	QUANTITY	UNIT	DESCRIPTION	REF. SHEET
202	11203	LS		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN	34, 83
441	50300	10	CY	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (448)	
509	10000	15736	LB	EPOXY COATED REINFORCING STEEL	
510	10000	1966	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT	
511	34444	14	CY	CLASS QC2 CONCRETE, BRIDGE DECK	
511	50210	19	CY	CLASS QC1 CONCRETE, SUBSTRUCTURE	
512	10101	940	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE), AS PER PLAN	34, 78, 79
SPECIAL	51271500	628	SY	SPECIAL - URETHANE TOP COAT SEALER	
513	10201	10116	LB	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN	34
516	11210	237	FT	STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL	
516	46200	22	EACH	BEARING DEVICE, ROCKER	
516	46700	1	EACH	RESET BEARING	
516	47001	LS		JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN	35
SPECIAL	51900100	4072	SF	SPECIAL - COMPOSITE FIBER WRAP SYSTEM	36, 38
SPECIAL	51900100	963	SF	SPECIAL - COMPOSITE FIBER WRAP SYSTEM: E-GLASS (EGFRP)	36, 38
519	11101	1352	SF	PATCHING CONCRETE STRUCTURE, AS PER PLAN	35, 77, 78, 79, 81
519	12300	14	SY	PATCHING CONCRETE BRIDGE DECK - TYPE B	
SPECIAL	53000200	LS		SPECIAL - STRUCTURES: BRIDGE CLEANING	35
SPECIAL	53000600	17861	SF	SPECIAL - STRUCTURES: TIMBER SUBDECK	35
SPECIAL	53000600	3575	SF	SPECIAL - STRUCTURES: BOTTOM OF DECK SPALL REMOVAL	35
606	15050	125	FT	GUARDRAIL, TYPE MGS	
606	26150	2	EACH	ANCHOR ASSEMBLY, MGS TYPE E (MASH 2016)	
606	26550	2	EACH	ANCHOR ASSEMBLY, MGS TYPE T	
606	35002	4	EACH	MGS BRIDGE TERMINAL ASSEMBLY, TYPE 1	
625	00450	3	EACH	CONNECTION, FUSED PULL APART	
625	00460	3	EACH	CONNECTION, UNFUSED PULL APART	
625	00480	3	EACH	CONNECTION, UNFUSED PERMANENT	
625	23200	920	FT	NO. 4 AWG 2400 VOLT DISTRIBUTION CABLE	
625	23302	920	FT	NO. 6 AWG 2400 VOLT DISTRIBUTION CABLE	
625	23400	303	FT	NO. 10 AWG POLE AND BRACKET CABLE	
625	25409	630	FT	CONDUIT, 2", 725.051, AS PER PLAN	5
625	27520	3	EACH	REMOVAL OF LUMINAIRE AND REERECTION	
625	27521	12	EACH	REMOVAL OF LUMINAIRE AND REERECTION, AS PER PLAN	5
625	29920	3	EACH	STRUCTURE JUNCTION BOX	
625	33000	1	EACH	STRUCTURE GROUNDING SYSTEM	
625	35011	3	EACH	REMOVE AND REERECT EXISTING LIGHT POLE, AS PER PLAN	82
625	39520	1	EACH	PULL BOX CLEANED	
SPECIAL	62540000	1	LS	SPECIAL - MAINTAIN EXISTING LIGHTING	
625	75800	1	EACH	DISCONNECT CIRCUIT	
				CONCRETE PARAPET ALTERNATES	
511	34449	67	CY	CLASS QC2 CONCRETE, BRIDGE DECK (PARAPET), AS PER PLAN (ALTERNATE 1)	35
511	34449	89	CY	CLASS QC2 CONCRETE, BRIDGE DECK (PARAPET), AS PER PLAN (ALTERNATE 2)	84
				FENCE ALTERNATES	
607	39901	670	FT	VANDAL PROTECTION FENCE, 6' STRAIGHT, COATED FABRIC, AS PER PLAN (ALTERNATE 1)	35
607	98000	681	FT	FENCE, MISC.: DECORATIVE FENCE, (ALTERNATE 2)	84

NOTES

1. 3/8" DIA. BOLTS SHALL BE INSTALLED FACE DOWN, WITH HEAD ON THE UPPER SIDE OF THE PLYWOOD. BOLT SHALL NOT EXTEND MORE THAN 1" BELOW PLYWOOD.

ESTIMATED QUANTITIES & TIMBER SUBDECKING DETAILS - LOCATION 4
BRIDGE NO. CUY-252-0434
GREAT NORTHERN BOULEVARD OVER IR-480

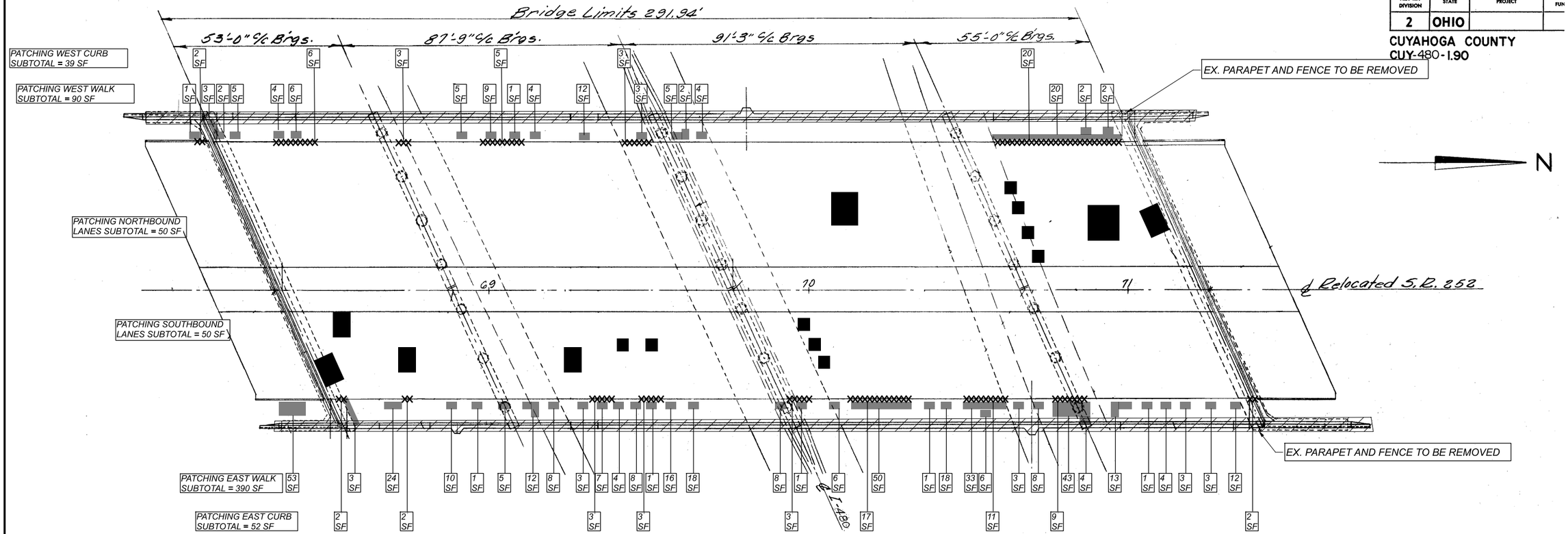
SFN 1810405
DESIGN AGENCY
OSBORN ENGINEERING
1100 Superior Avenue Suite 300 Cleveland, OH 44114
(216) 861-2020 www.osborn-eng.com
DESIGNER MJD | CHECKER JDH
REVIEWER SMK 12-13-22
PROJECT ID 105909
SUBSET 2 | TOTAL 15
SHEET 76 | TOTAL 110

CUY-BH-FY2023 MISC.

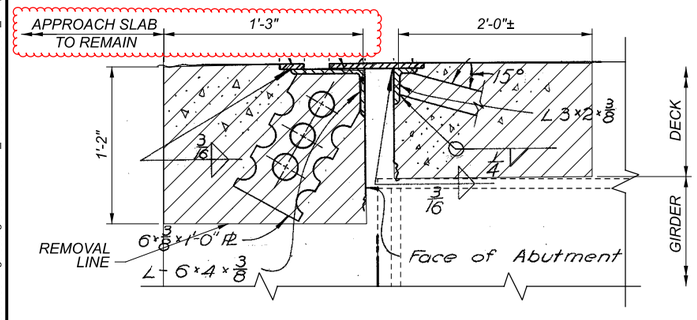
MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 4/5/2023 TIME: 3:00:33 PM USER: mdcruz
P:\ODOT\22\2200855.000 Dist 12 - VAR Bridge Rehabs\105909\400-Engineering\Structures\SFN_1810405\Sheets\105909_SFN_1810405_SM001.dgn

FED. RD. DIVISION	STATE	PROJECT	TYI FUN
2	OHIO		

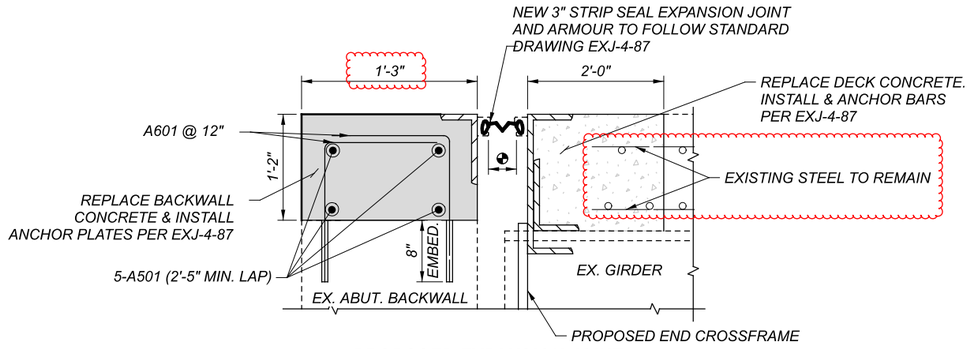
CUYAHOGA COUNTY
CUY-480-1.90



DECK REPAIR PLAN

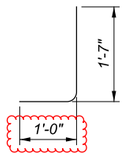


EXISTING EXPANSION JOINT REMOVAL



PROPOSED EXPANSION JOINT

MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE
BACKWALLS				
A501	40	25'-0"	1043	ST
A601	424	2'-5"	1539	1



TYPE-1

AMBIENT TEMP.	DIM. "A" REAR	DIM. "A" FWD.
30 °F	1.93"	1.94"
40 °F	1.82"	1.83"
50 °F	1.71"	1.71"
60 °F	1.60"	1.60"
70 °F	1.49"	1.49"
80 °F	1.38"	1.38"
90 °F	1.27"	1.26"

LEGEND:

INDICATES APPROXIMATE AREAS OF ITEM 519 - PATCHING CONCRETE BRIDGE DECK - TYPE B.

MEASURED TOTAL (SF)	ESTIMATED TOTAL (SF)	ESTIMATED TOTAL (SY)
100	125	14
	TOTAL	**14**

INDICATES APPROXIMATE AREAS OF ITEM 519 - PATCHING CONCRETE STRUCTURE, AS PER PLAN

MEASURED TOTAL (SF)	ESTIMATED TOTAL (SF)
480	600
TOTAL	**600**

INDICATES APPROXIMATE AREAS OF CURB TO BE PATCHED (6" WIDE) ITEM 519 - PATCHING CONCRETE STRUCTURE, AS PER PLAN

MEASURED TOTAL (SF)	ESTIMATED TOTAL (SF)
91	114
TOTAL	**114**

AREAS OF ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN

ITEM 511 – CLASS QC1 CONCRETE, SUBSTRUCTURE

ITEM 511 - CLASS QC2 CONCRETE, BRIDGE DECK

DECK REAPIR PLAN & EXPANSION JOINTS - LOCATION 4
BRIDGE NO. CUY-252-0434
GREAT NORTHERN BOULEVARD OVER IR-480

SFN 1810405

DESIGN AGENCY
OSBORN ENGINEERING
1100 Superior Avenue Suite 300
Cleveland, OH 44114
(216) 861-2020 www.osborn-eng.com

DESIGNER	CHECKER
MJD	JDH

REVIEWER
SMK 12-13-22

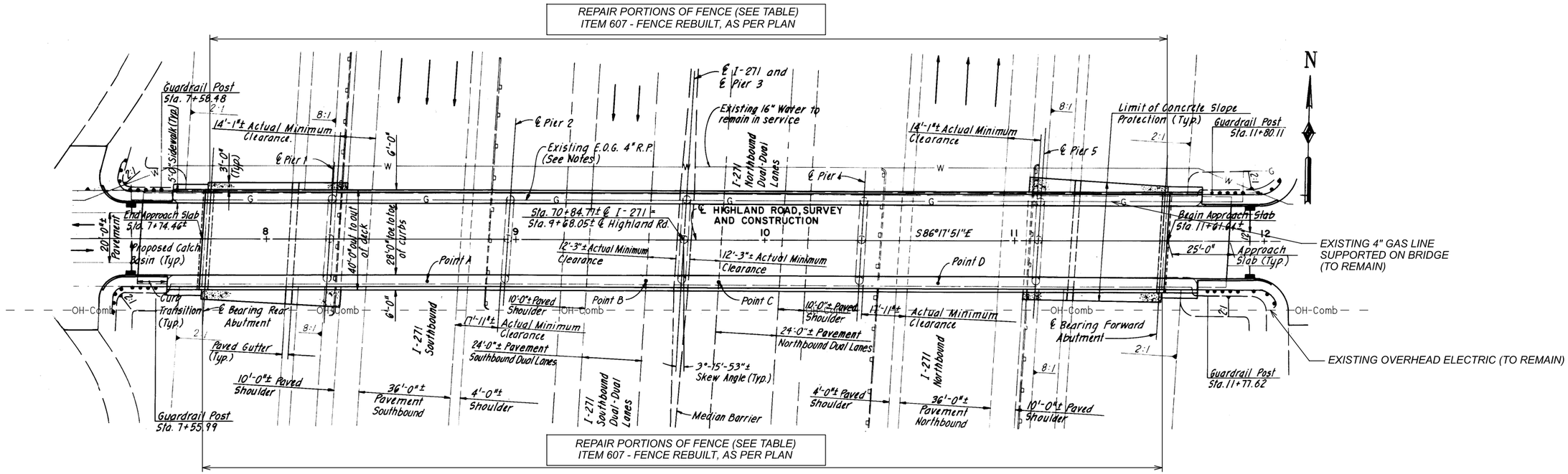
PROJECT ID
105909

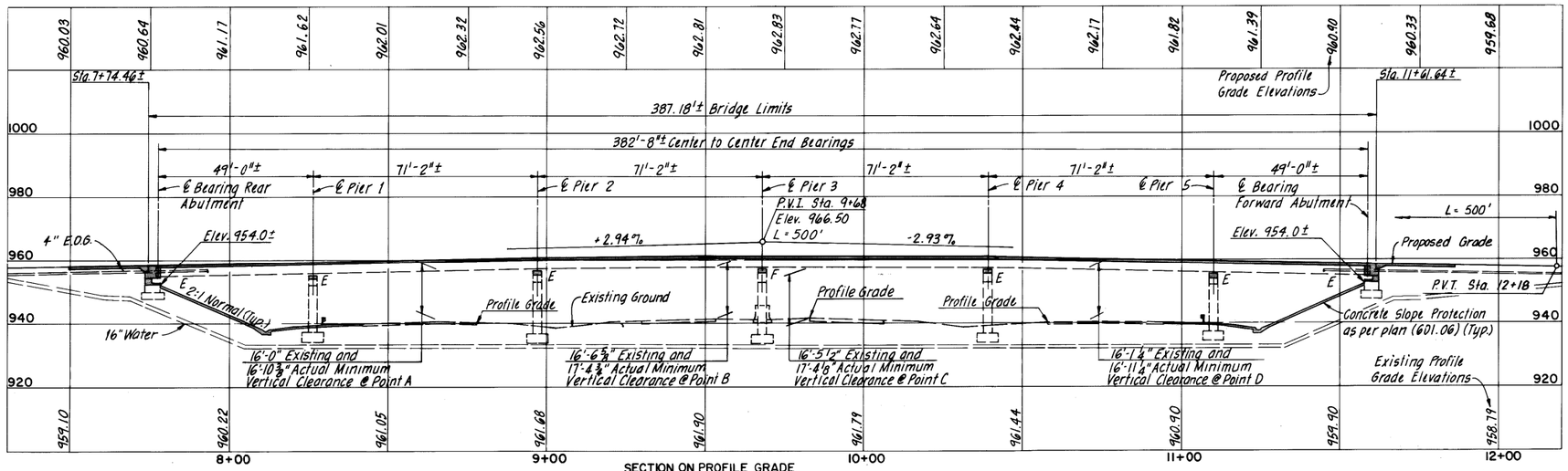
SUBSET	TOTAL
7	15

SHEET	TOTAL
81	110

CUY-BH-FY2023 MISC.

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 4/5/2023 TIME: 8:58:53 AM USER: mdcruz
P:\ODOT\2022\0855.000 Dist 12 - VAR Bridge Rehabs\1059099400-Engineering\Structures\SFN_1810405\Sheets\1059099_SFN_1810405_SD001.dgn

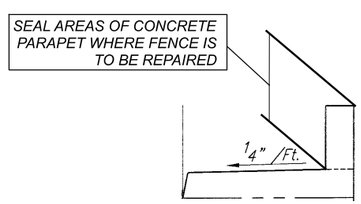




SECTION ON PROFILE GRADE

Location	Lower Rails (EA)	Lower Boulevards (EA)	Tension Bands (EA)	Middle Boulevards (EA)	Middle Rails (EA)
NORTH	46	45	8	10	12
SOUTH	46	45	8	15	18
Field Totals	92	90	16	25	30
ESTIMATED TOTAL	92	90	20	30	35

REPAIR PORTIONS OF FENCE
(SEE NOTE 4)



SEALING OF CONCRETE SURFACES
ITEM 512 - SEALING OF CONCRETE SURFACES (EPOXY-URETHANE), AS PER PLAN

NOTES:

1. *DETAILS ON THIS SHEET ARE TAKEN FROM EXISTING PLANS AND SHOULD BE USED FOR INFORMATION PURPOSES ONLY.*
2. *PERFORM ONLY THE WORK AS INDICATED IN THE STRUCTURE DATA TABLE SHEET, FRAMED TEXT, AND/OR DESCRIBED IN THE GENERAL NOTES.*
3. *FOR ESTIMATED QUANTITIES SEE SHEET* 91
4. *THE FENCE WORK IS MEASURED BY LINEAR FEET OF RAILS (BOTTOM OR MIDDLE AS LISTED IN THE TABLE ON SHEET 90) AS REPLACED. THE BOULEVARDS, TENSION BANDS, COUPLERS, TIES AND ANY OTHER COMPONENTS NEEDED TO PLACE THE RAILS IS INCIDENTAL TO THE WORK. ALL WORK TO REPAIR, REBUILD AND REPLACE PORTIONS OF THE FENCE SHALL BE PAID UNDER ITEM 607 – FENCE REBUILT, AS PER PLAN.*

GENERAL PLAN - LOCATION 5
BRIDGE NO. CUY-271-1543
HIGHLAND ROAD OVER IR-271 & IR-271X

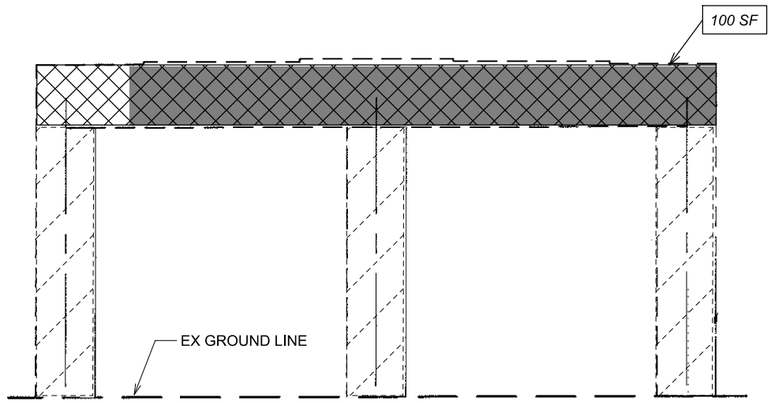
SFN 1811851

DESIGN AGENCY
OSBORN ENGINEERING
1100 Superior Avenue Suite 300
Cleveland, OH 44114
(216) 861-2020 www.osborn-eng.com

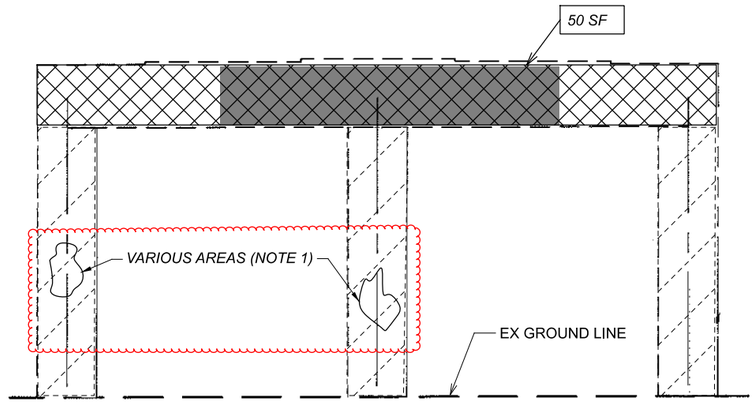
DESIGNER MJD | CHECKER JDH
REVIEWER SMK 12-13-22
PROJECT ID 105909
SUBSET 1 | TOTAL 6
SHEET 90 | TOTAL 110

CUY-BH-FY2023 MISC.

MODEL: Sheet PAPERSIZE: 34x22 (In.) DATE: 4/4/2023 TIME: 5:32:21 PM USER: mdcruz
P:\ODOT\J2020\855.000 Dist 12 - VAR Bridge Rehabs\105909\400-Engineering\Structures\SFN_1811851\Sheets\105909_SFN_1811851_SG001.dgn



EAST ELEVATION



WEST ELEVATION

PIER 1 ELEVATION

LEGEND:

INDICATES APPROXIMATE AREAS OF CARBON FIBER REINFORCED POLYMER (CFRP) & URETHANE TOP COAT SEALER (ITEM SPECIAL - COMPOSITE FIBER WRAP SYSTEM AND ITEM SPECIAL - URETHANE TOP COAT SEALER)

INDICATES APPROXIMATE AREAS OF E-GLASS FIBER REINFORCED POLYMER ((EGFRP) & URETHANE TOP COAT SEALER (ITEM SPECIAL - COMPOSITE FIBER WRAP SYSTEM: E-GLASS (EGFRP) AND ITEM SPECIAL - URETHANE TOP COAT SEALER)

EXISTING FIBER WRAP

INDICATES APPROXIMATE AREAS OF ITEM 519 - PATCHING CONCRETE STRUCTURE, AS PER PLAN.

	MEASURED TOTAL (SF)	ESTIMATED TOTAL (SF)
PIER 1	150	188
PIER 2	17	22
PIER 3	79	99
PIER 4	138	173
PIER 5	191	239
	TOTAL	**721**

NOTES:

1. FOR AREAS OF EXISTING FIBER WRAP, WHERE DAMAGED, WITH DEFUNCT SIGN ATTACHMENTS, RIPPED, TORN OR NON-EXISTENT, THE CONTRACTOR SHALL REMOVE ANY STEEL OR DEFUNCT ATTACHMENTS AND REPAIR THESE AREAS WITH AN OVERLAP OF 6" MINIMUM TO THE SATISFACTION OF THE ENGINEER. TO BE PAID UNDER ITEM SPECIAL - COMPOSITE FIBER WRAP SYSTEM: E-GLASS (EGFRP). AN ALLOWANCE OF 30 SF HAS BEEN INCLUDED FOR THESE AREAS.

2. SEE SHEETS 92 & 93 FOR PIERS 2, 3, 4 AND 5.

ESTIMATED QUANTITIES

CALCULATED: JDH DATED: 06/22
CHECKED: MJD DATED: 06/22

ITEM	EXT.	QUANTITY	UNIT	DESCRIPTION	REF. SHEET
202	11203	LS		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN	34
512	10101	39	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE), AS PER PLAN	34
SPECIAL	51271500	340	SY	SPECIAL - URETHANE TOP COAT SEALER	
516	10001	82	FT	PREFORMED ELASTOMERIC COMPRESSION JOINT SEAL, AS PER PLAN	34, 95
516	45305	20	EACH	REFURBISH BEARING DEVICE, AS PER PLAN	34
516	46200	10	EACH	BEARING DEVICE, ROCKER	
516	47001	LS		JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN	35
SPECIAL	51900100	2274	SF	SPECIAL - COMPOSITE FIBER WRAP SYSTEM	36
SPECIAL	51900100	569	SF	SPECIAL - COMPOSITE FIBER WRAP SYSTEM: E-GLASS (EGFRP)	36
519	11101	721	SF	PATCHING CONCRETE STRUCTURE, AS PER PLAN	35
607	23101	1028	FT	FENCE REBUILT, AS PER PLAN	90

PIER REPAIR DETAILS - LOCATION 5
BRIDGE NO. CUY-271-1543
HIGHLAND ROAD OVER IR-271 & IR-271X

CUY-BH-FY2023 MISC.

MODEL: Sheet PAPERSIZE: 34x22 (In.) DATE: 4/4/2023 TIME: 2:18:10 PM USER: mdcruz
P:\ODOT\J20200855.000 Dist 12 - VAR Bridge Rehabs\105909\400-Engineering\Structures\SFN_1811851\Sheets\105909_SFN_1811851_SI001.dgn

SFN 1811851

DESIGN AGENCY

OSBORN ENGINEERING
1100 Superior Avenue Suite 300
Cleveland, OH 44114
(216) 861-2020 www.osborn-eng.com

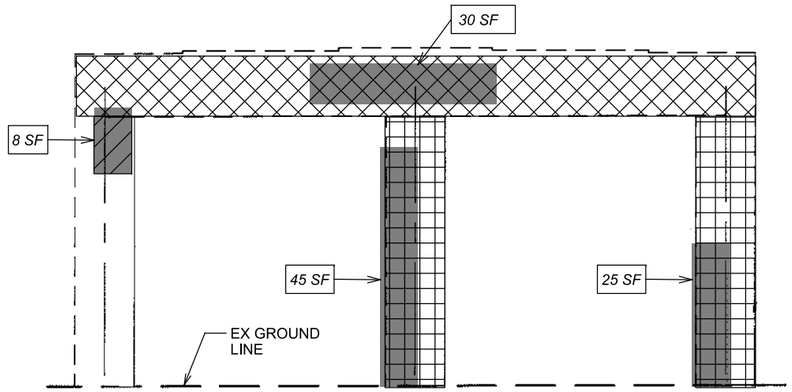
DESIGNER	CHECKER
MJD	JDH

REVIEWER SMK 12-13-22

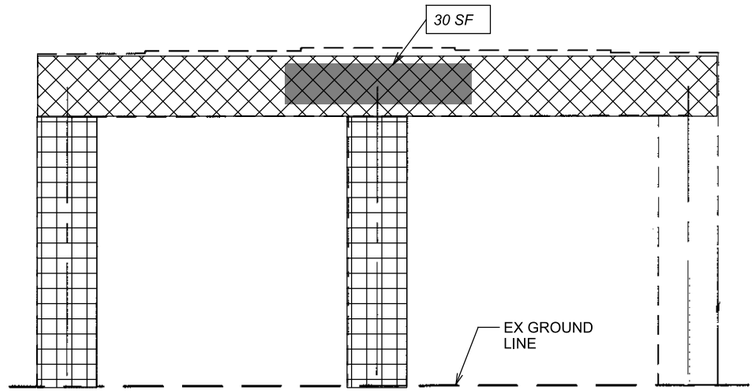
PROJECT ID 105909

SUBSET	TOTAL
2	6

SHEET	TOTAL
91	110

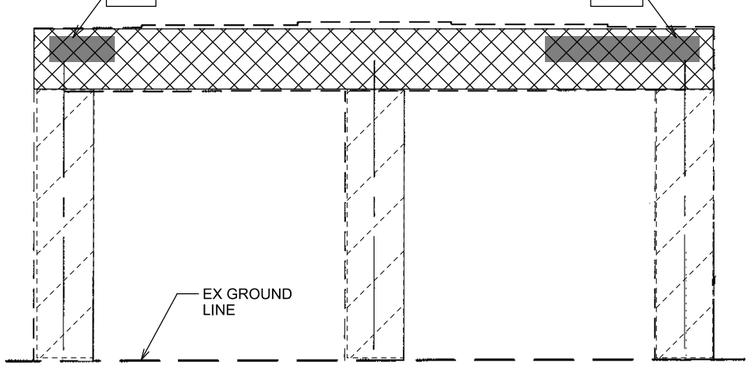


EAST ELEVATION

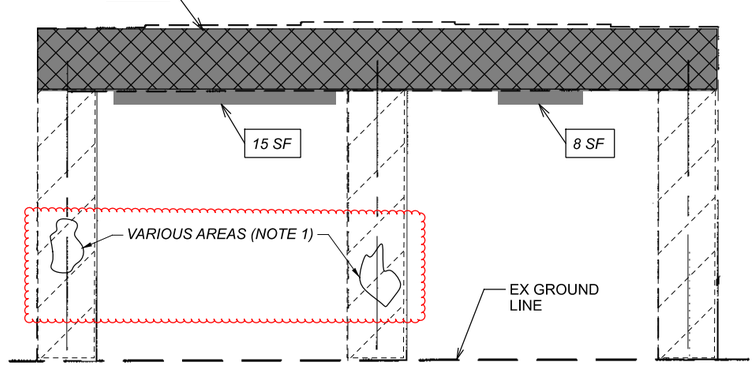


WEST ELEVATION

PIER 4 ELEVATION



EAST ELEVATION



WEST ELEVATION

PIER 5 ELEVATION

NOTES:

1. FOR AREAS OF EXISTING FIBER WRAP, WHERE DAMAGED, WITH DEFUNCT SIGN ATTACHMENTS, RIPPED, TORN OR NON-EXISTENT, THE CONTRACTOR SHALL REMOVE ANY STEEL OR DEFUNCT ATTACHMENTS AND REPAIR THESE AREAS WITH AN OVERLAP OF 6" MINIMUM TO THE SATISFACTION OF THE ENGINEER. PAID UNDER ITEM SPECIAL - COMPOSITE FIBER WRAP SYSTEM: E-GLASS (EGFRP), AN ALLOWANCE OF 30 SF HAS BEEN INCLUDED FOR THESE AREAS.

2. SEE SHEETS 91 & 92 FOR PIERS 1, 2 AND 3.

LEGEND:

INDICATES APPROXIMATE AREAS OF CARBON FIBER REINFORCED POLYMER (CFRP) & URETHANE TOP COAT SEALER (ITEM SPECIAL - COMPOSITE FIBER WRAP SYSTEM AND ITEM SPECIAL - URETHANE TOP COAT SEALER)

INDICATES APPROXIMATE AREAS OF E-GLASS FIBER REINFORCED POLYMER ((EGFRP) & URETHANE TOP COAT SEALER (ITEM SPECIAL - COMPOSITE FIBER WRAP SYSTEM: E-GLASS (EGFRP) AND ITEM SPECIAL - URETHANE TOP COAT SEALER)

INDICATES CONCRETE PATCHES TO BE SEALED ITEM 512 - SEALING OF CONCRETE SURFACES (EPOXY-URETHANE), AS PER PLAN

INDICATES APPROXIMATE AREAS OF ITEM 519 - PATCHING CONCRETE STRUCTURE, AS PER PLAN.

SEE SHEET 91 FOR PATCHING QUANTITIES

EXISTING FIBER WRAP

PIER REPAIR DETAILS 3 - LOCATION 5
BRIDGE NO. CUY-271-1543
HIGHLAND ROAD OVER IR-271 & IR-271X

SFN 1811851

DESIGN AGENCY
OSBORN ENGINEERING
1100 Superior Avenue Suite 300
Cleveland, OH 44114
(216) 861-2020 www.osborn-eng.com

DESIGNER	CHECKER
MJD	JDH

REVIEWER
SMK 12-13-22

PROJECT ID
105909

SUBSET	TOTAL
4	6

SHEET	TOTAL
93	110

CUY-BH-FY2023 MISC.

MODEL: Sheet 3 PAPERSIZE: 34x22 (in.) DATE: 4/4/2023 TIME: 2:12:38 PM USER: mdcruz
P:\ODOT\J20200855.000 Dist 12 - VAR Bridge Rehabs\105909400-Engineering\Structures\SFN_1811851\Sheets\105909_SFN_1811851_SI001.dgn

CONCRETE PARAPET AND FENCE TO BE REMOVED AND REPLACED

ITEM 606 - MGS BRIDGE TERMINAL ASSEMBLY, TYPE 1 AND ITEM 606 - ANCHOR ASSEMBLY, MGS TYPE T

25'-0" of 8 5/8" O.D. pipe casing for 4 1/2" Gas pipe.

ITEM 606 - MGS BRIDGE TERMINAL ASSEMBLY, TYPE 1 AND ITEM 606 - ANCHOR ASSEMBLY, MGS TYPE T

25'-0" of 8 5/8" O.D. pipe casing for 4 1/2" Gas pipe.

ITEM 606 - MGS BRIDGE TERMINAL ASSEMBLY, TYPE 1 AND ITEM 606 - ANCHOR ASSEMBLY, MGS TYPE T

40'-0" of 10 3/4" O.D. pipe casing for 6 5/8" Gas pipe.

ITEM 606 - MGS BRIDGE TERMINAL ASSEMBLY, TYPE 2 AND ITEM 606 - ANCHOR ASSEMBLY, MGS TYPE T

35'-0" of 10 3/4" O.D. pipe casing for 6 5/8" Gas pipe.

CEI POLE #300363

CEI POLE #309472

Sta. 18+93.41, Columbia = Sta. 335+94.23, I-480

31°20'51" Skew

Begin Approach Slab Sta. 20+24.79

End Appr. Slab Sta. 17+62.03

℄ Columbia Rd

Pt of critical Vertical cl.

℄ 2-Groups of 6-4 1/2" Dia C.B.T. Conduits

℄ CEI Ducts

Exist. R/W

Exist. R/W

Reqd cl. = 14'-0" Actual = 14.19'

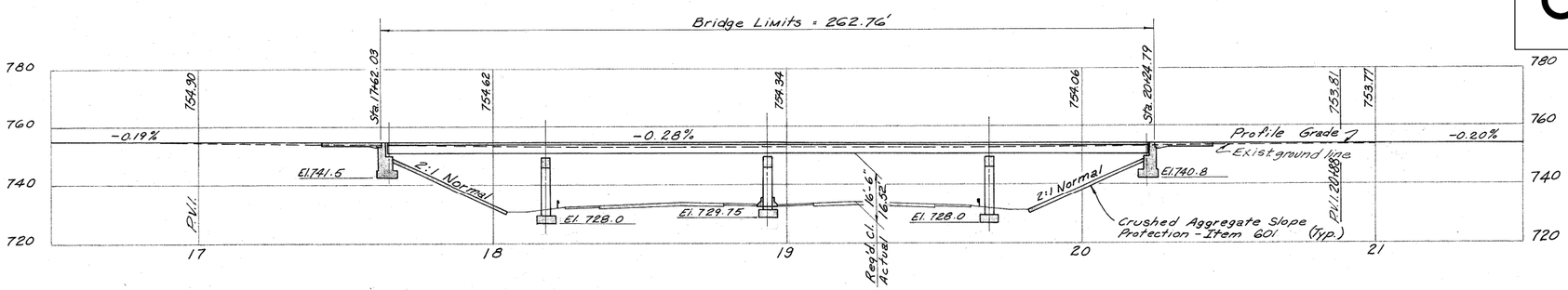
EXISTING AERIAL LINES INCLUDE:
CEI
CHARTER COMMUNICATIONS
BREEZELINE (WOW)
WINDSTREAM
CROWN CASTLE
(SEE NOTE 4)

* Elevations marked with an asterisk are at top of slope at face of abutment.

Earthwork limits shown are schematic. Actual slopes shall conform to plan cross-sections.

CONCRETE PARAPET AND FENCE TO BE REMOVED AND REPLACED

PLAN



PROFILE ALONG ℄ COLUMBIA ROAD

LEGEND:

ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN

ITEM 608 - 4" CONCRETE WALK

ITEM 625 - REMOVE AND REERECT EXISTING LIGHT POLE, AS PER PLAN

NOTES:

1. DETAILS ON THIS SHEET ARE TAKEN FROM EXISTING PLANS AND SHOULD BE USED FOR INFORMATION PURPOSES ONLY.

2. PERFORM ONLY THE WORK AS INDICATED IN THE STRUCTURE DATA TABLE SHEET, FRAMED TEXT, AND/OR DESCRIBED IN THE GENERAL NOTES.

3. FOR ESTIMATED QUANTITIES SEE SHEET 97.

4. ALL AERIAL UTILITY LINES, EXCEPT CEI, ON THE EAST SIDE OF COLUMBIA ROAD WILL BE RAISED UP BY THE UTILITY OWNERS SO AS TO PROVIDE SUFFICIENT CLEARANCE FOR THE CONTRACTOR TO PERFORM THE PROPOSED WORK.

GENERAL PLAN - LOCATION 6
BRIDGE NO. CUY-480-0446
COLUMBIA ROAD OVER IR-480

SFN 1814109

DESIGN AGENCY
OSBORN ENGINEERING
1100 Superior Avenue Suite 300
Cleveland, OH 44114
(216) 861-2020 www.osborn-eng.com

DESIGNER	CHECKER
MJD	JDH

REVIEWER
SMK 12-13-22

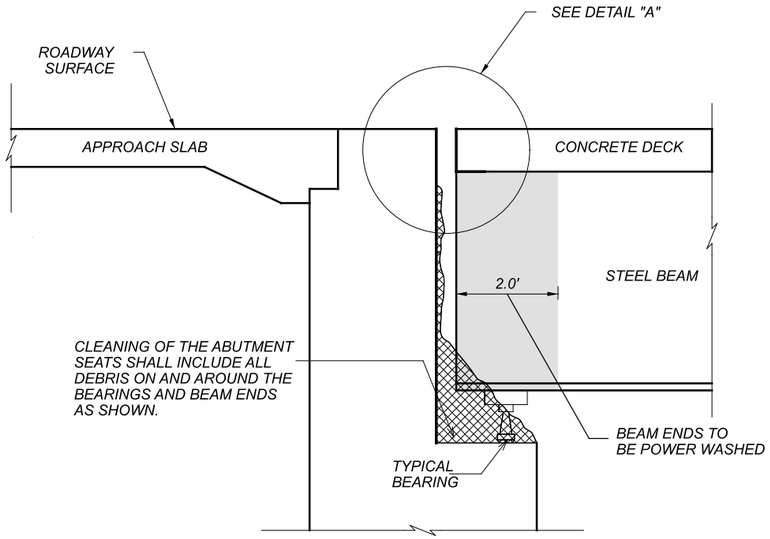
PROJECT ID
105909

SUBSET	TOTAL
1	7

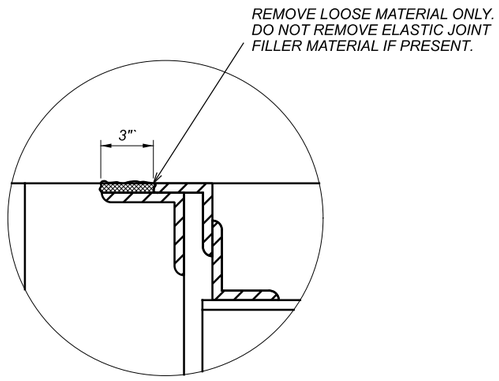
SHEET	TOTAL
96	110

CUY-BH-FY2023 MISC.

MODEL: Sheet PAPERSIZE: 34x22 (In.) DATE: 4/4/2023 TIME: 4:36:53 PM USER: mdcruz
P:\ODOT\J2020855.000 Dist 12 - VAR Bridge Rehabs\105909\400-Engineering\Structures\SFN_1814109\Sheets\105909_SFN_1814109_SG001.dgn



TYPICAL ABUTMENT DETAIL



DETAIL 'A'
(SLIDING PLATE)

LEGEND:

REMOVE DEBRIS AND OTHER FOREIGN MATERIALS, THEN PRESSURE WASH WITH PORTABLE WATER AS DESCRIBED IN THE GENERAL NOTES. (ITEM SPECIAL - STRUCTURES: BRIDGE CLEANING)

ESTIMATED QUANTITIES

CALCULATED: JDH DATED: 06/22
CHECKED: MJD DATED: 06/22

ITEM	EXT.	QUANTITY	UNIT	DESCRIPTION	REF. SHEET
202	11203	LS		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN	34
509	10000	11536	LBS	EPOXY COATED REINFORCING STEEL	
509	20001	900	LBS	REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN	34
511	34449	59	CY	CLASS QC2 CONCRETE, BRIDGE DECK (PARAPET), AS PER PLAN	35
512	10101	471	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE), AS PER PLAN	34
513	10201	2349	LBS	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN	34
516	45305	9	EA	REFURBISH BEARING DEVICE, AS PER PLAN	34
516	46200	1	EA	BEARING DEVICE, ROCKER	
516	47001	LS		JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN	35
519	11101	265	SF	PATCHING CONCRETE STRUCTURE, AS PER PLAN	35
SPECIAL	53000200	LS		SPECIAL - STRUCTURES: BRIDGE CLEANING	35
606	26550	4	EA	ANCHOR ASSEMBLY, MGS TYPE T	
606	35002	3	EA	MGS BRIDGE TERMINAL ASSEMBLY, TYPE 1	
606	35102	1	EA	MGS BRIDGE TERMINAL ASSEMBLY, TYPE 2	
607	39901	590	LF	VANDAL PROTECTION FENCE, 6' STRAIGHT, COATED FABRIC, AS PER PLAN	35
608	10000	645	SF	4" CONCRETE WALK	
625	00450	2	EA	CONNECTION, FUSED PULL APART	
625	00460	2	EA	CONNECTION, UNFUSED PULL APART	
625	00480	2	EA	CONNECTION, UNFUSED PERMANENT	
625	23200	331	FT	NO. 4 AWG 2400 VOLT DISTRIBUTION CABLE	
625	23302	331	FT	NO. 6 AWG 2400 VOLT DISTRIBUTION CABLE	
625	23400	168	FT	NO. 10 AWG POLE AND BRACKET CABLE	
625	25409	40	FT	CONDUIT, 2", 725.051, AS PER PLAN	5
625	27520	2	EA	REMOVAL OF LUMINAIRE AND REERECTION	
625	29920	2	EA	STRUCTURE JUNCTION BOX	
625	33000	1	EA	STRUCTURE GROUNDING SYSTEM	
625	35011	2	EA	REMOVE AND REERECT EXISTING LIGHT POLE, AS PER PLAN	101
625	39520	1	EA	PULL BOX CLEANED	
SPECIAL	62540000	1	LS	SPECIAL - MAINTAIN EXISTING LIGHTING	
625	75800	1	EA	DISCONNECT CIRCUIT	
848	10200	807	SY	SUPERPLASTICIZED DENSE CONCRETE OVERLAY USING HYDRODEMOLITION (T=1.75")	
848	20000	807	SY	SURFACE PREPARATION USING HYDRODEMOLITION	
848	30200	10	CY	SUPERPLASTICIZED DENSE CONCRETE OVERLAY (VARIABLE THICKNESS), MATERIAL ONLY	
848	50000	85	SY	HAND CHIPPING	
848	50100	LS		TEST SLAB	

BRIDGE CLEANING - LOCATION 6
BRIDGE NO. CUY-480-0446
COLUMBIA ROAD OVER IR-480

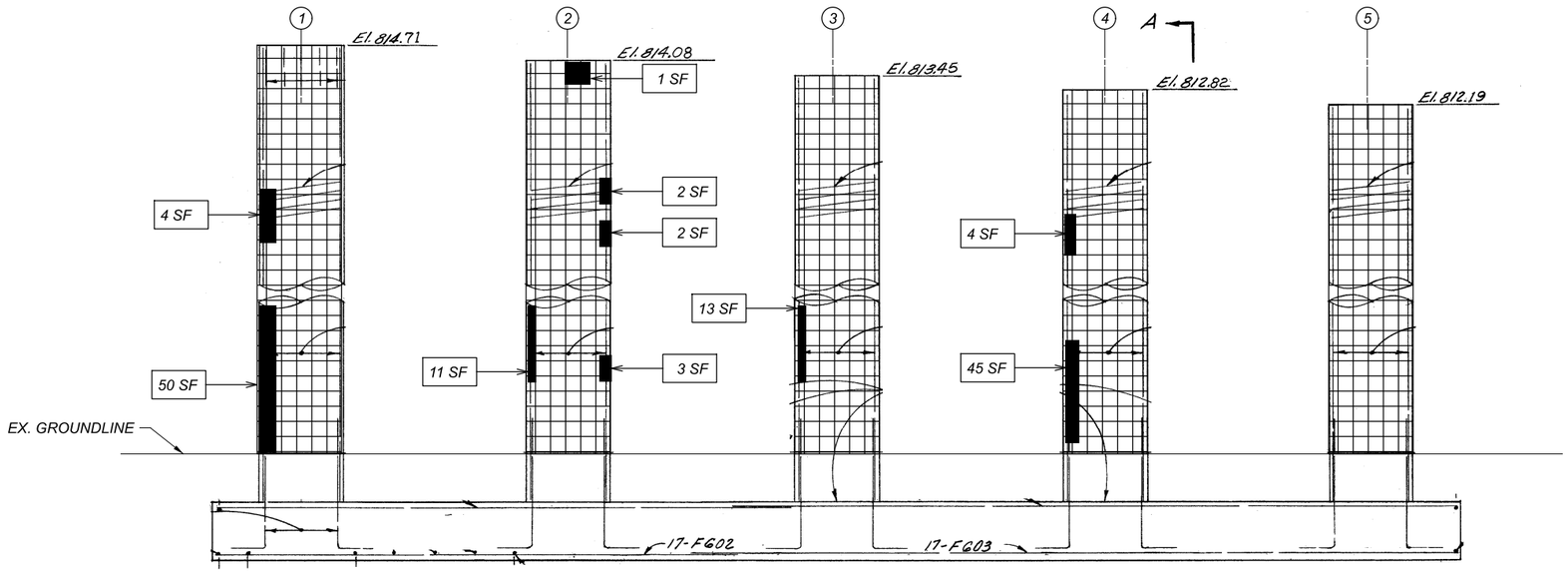
SFN 1814109

DESIGN AGENCY
OSBORN ENGINEERING
1100 Superior Avenue Suite 300
Cleveland, OH 44114
(216) 861-2020 www.osborn-eng.com

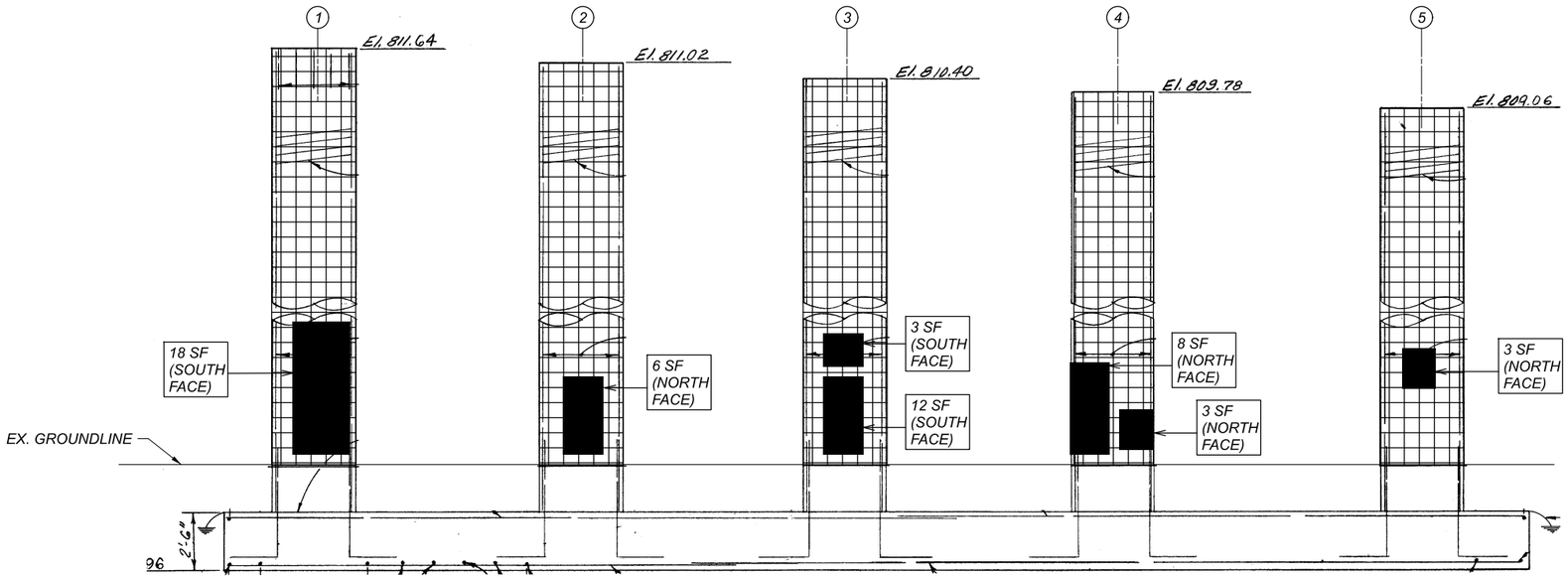
DESIGNER MJD | CHECKER JDH
REVIEWER SMK 12-13-22
PROJECT ID 105909
SUBSET 2 | TOTAL 7
SHEET 97 | TOTAL 110

CUY-BH-FY2023 MISC.

MODEL: Sheet PAPERSIZE: 34x22 (In.) DATE: 4/6/2023 TIME: 8:51:54 AM USER: mdcruz
P:\ODOT\J2020855,000 Dist 12 - VAR Bridge Rehabs\105909\400-Engineering\Structures\SFN_1814109\Sheets\105909_SFN_1814109_SM001.dgn



PIER 1 ELEVATION
LOOKING NORTH



PIER 2 ELEVATION
LOOKING NORTH

NOTES:

1. DETAILS ON THIS SHEET ARE TAKEN FROM EXISTING PLANS AND SHOULD BE USED FOR INFORMATION PURPOSES ONLY.

2. PERFORM ONLY THE WORK AS INDICATED IN THE STRUCTURE DATA TABLE SHEET, FRAMED TEXT, AND/OR DESCRIBED IN THE GENERAL NOTES.

3. DUE TO THE NON-REDUNDANT NATURE OF THE PIER COLUMNS, ITEM 519 PATCHING CONCRETE STRUCTURES, AS PER PLAN, WORK SHALL NOT BE PERFORMED ON ADJACENT COLUMNS AT THE SAME TIME.

LEGEND:

(2) BEAM NUMBER

INDICATES APPROXIMATE AREAS OF E-GLASS FIBER REINFORCED POLYMER ((EGFRP) & URETHANE TOP COAT SEALER (ITEM SPECIAL - COMPOSITE FIBER WRAP SYSTEM: E-GLASS (EGFRP) AND ITEM SPECIAL - URETHANE TOP COAT SEALER)

INDICATES APPROXIMATE AREAS OF ITEM 519 - PATCHING CONCRETE STRUCTURE, AS PER PLAN.

	MEASURED TOTAL (SF)	ESTIMATED TOTAL (SF)
PIER 1	135	169
PIER 2	53	67
PIER 3	29	37
	TOTAL	**273**

PIER REPAIR DETAILS - LOCATION 7
BRIDGE NO. CUY-480-0870-ES
IR-480 WB RAMP TO SB IR-71 OVER IR-480

SFN 1814249

DESIGN AGENCY
OSBORN ENGINEERING
1100 Superior Avenue Suite 300
Cleveland, OH 44114
(216) 861-2020 www.osbornveng.com

DESIGNER	CHECKER
MJD	JDH

REVIEWER
SMK 12-13-22

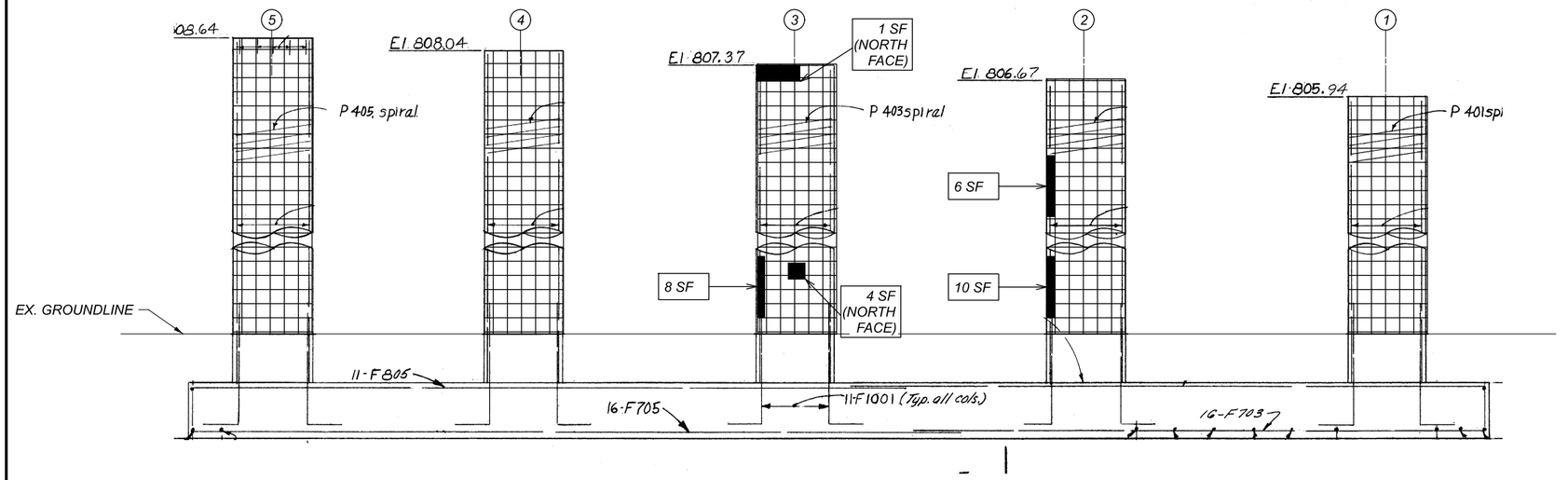
PROJECT ID
105909

SUBSET	TOTAL
4	8

SHEET	TOTAL
106	110

CUY-BH-FY2023 MISC.

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 4/6/2023 TIME: 8:41:28 AM USER: mdcruz
P:\ODOT\2020\0855.000 Dist 12 - VAR Bridge Rehabs\105909\400-Engineering\Structures\SFN_1814249\Sheets\105909_SFN_1814249_St001.dgn



PIER 3 ELEVATION
LOOKING SOUTH

NOTES:

1. DETAILS ON THIS SHEET ARE TAKEN FROM EXISTING PLANS AND SHOULD BE USED FOR INFORMATION PURPOSES ONLY.

2. PERFORM ONLY THE WORK AS INDICATED IN THE STRUCTURE DATA TABLE SHEET, FRAMED TEXT, AND/OR DESCRIBED IN THE GENERAL NOTES.

3. DUE TO THE NON-REDUNDANT NATURE OF THE PIER COLUMNS, ITEM 519 PATCHING CONCRETE STRUCTURES, AS PER PLAN, WORK SHALL NOT BE PERFORMED ON ADJACENT COLUMNS AT THE SAME TIME.

LEGEND:

(2) BEAM NUMBER

INDICATES APPROXIMATE AREAS OF E-GLASS FIBER REINFORCED POLYMER ((EGFRP) & URETHANE TOP COAT SEALER (ITEM SPECIAL - COMPOSITE FIBER WRAP SYSTEM AND ITEM SPECIAL - URETHANE TOP COAT SEALER)

INDICATES APPROXIMATE AREAS OF ITEM 519 - PATCHING CONCRETE STRUCTURE, AS PER PLAN.

SEE SHEET 106 FOR PATCHING QUANTITIES

PIER REPAIR DETAILS 2 - LOCATION 7
BRIDGE NO. CUY-480-0870-ES
IR-480 WB RAMP TO SB IR-71 OVER IR-480

SFN 1814249

DESIGN AGENCY

OSBORN ENGINEERING
1100 Superior Avenue Suite 300
Cleveland, OH 44114
(216) 861-2020 www.osborneng.com

DESIGNER	CHECKER
MJD	JDH

REVIEWER: SMK 12-13-22

PROJECT ID: 105909

SUBSET	TOTAL
5	8

SHEET	TOTAL
107	110

CUY-BH-FY2023 MISC.

MODEL: Sheet 2 PAPERSIZE: 34x22 (In.) DATE: 4/6/2023 TIME: 8:54:08 AM USER: mdcruz
P:\ODOT\J2022\0855.000 Dist 12 - VAR Bridge Rehabs\105909\400-Engineering\Structures\SFN_1814249\Sheets\105909_SFN_1814249_St001.dgn