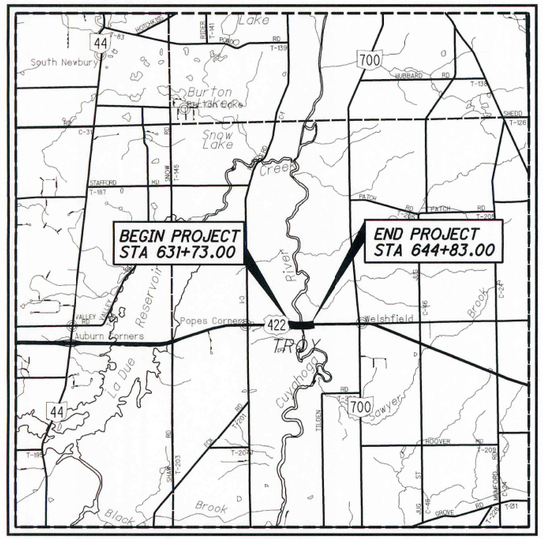
GEA - US 422-12.26 Deck
210056 PID - 102434
Dist 12 1/28/2021

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

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

GEA-422-12.26

TROY TOWNSHIP
GEAUGA COUNTY



LOCATION MAP

LATITUDE: 41° 23' 12" N LONGITUDE: 81° 09' 27" W

SCALE IN MILES
0 1 2 3 4

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

DESIGN DESIGNATION

CURRENT ADT (2021)	14,000
DESIGN YEAR ADT (2041)	15,000
DESIGN HOURLY VOLUME (2041)	1,500
DIRECTIONAL DISTRIBUTION	58%
TRUCKS (24 HOUR B&C)	10%
DESIGN SPEED	50 MPH
LEGAL SPEED	45 MPH
DESIGN FUNCTIONAL CLASSIFICATION: 03 PRINCIPAL ARTERIAL (RURAL)	
NHS PROJECT	YES

DESIGN EXCEPTIONS

NONE REQUIRED

UNDERGROUND UTILITIES

CONTACT BOTH SERVICES TWO WORKING DAYS BEFORE YOU DIG.

OHIO Utilities Protection SERVICE — Call Before You Dig 1-800-362-2764

(Non-members must be called directly)

OIL & GAS PRODUCERS UNDERGROUND PROTECTION SERVICE 1-800-925-0988

PLAN PREPARED BY:
AMERICAN STRUCTUREPOINT INC.
2550 CORPORATE EXCHANGE DR, STE 300
COLUMBUS, OH 43231
TEL 614.901.2235 FAX 614.901.2236
www.structurepoint.com

ENGINEERS SEAL:

STATE OF OHIO BRUCE FRASER E-59019 REGISTERED PROFESSIONAL ENGINEER

SIGNED: Bruce Fraser
DATE: 10/8/20

ENGINEERS SEAL:

STATE OF OHIO CHRISTOPHER L. BETTINGER 69366 REGISTERED PROFESSIONAL ENGINEER

SIGNED: Christopher L. Bettinger
DATE: 10/8/20

INDEX OF SHEETS:

PROJECT DESCRIPTION

IMPROVEMENT OF 0.25 MILES OF US ROUTE 422 BY DECK REPLACEMENT AND WIDENING OF STRUCTURE OVER THE CUYAHOGA RIVER, INCLUDING APPROACH RECONSTRUCTION AND WIDENING.

EARTH DISTURBED AREAS

PROJECT EARTH DISTURBED AREA:	2.64 ACRES
ESTIMATED CONTRACTOR EARTH DISTURBED AREA:	0.25 ACRES
NOTICE OF INTENT EARTH DISTURBED AREA:	2.89 ACRES

2019 SPECIFICATIONS

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

STANDARD CONSTRUCTION DRAWINGS

BP-3.1	1/17/20	MGS-6.1	1/19/18	MT-101.90	7/21/17						
BP-4.1	7/19/13			MT-105.10	1/17/20						
DM-1.1	7/21/17			TC-41.20	10/18/13						
DM-1.2	1/18/13			TC-42.20	10/18/13						
DM-4.1	7/20/18	AS-1-15	7/17/15	TC-52.10	10/18/13						
DM-4.2	7/20/12	AS-2-15	1/18/19	TC-52.20	7/20/18						
DM-4.3	1/15/16	GSD-1-19	1/18/19								
DM-4.4	1/15/16	PCB-91	1/18/13								
		SBR-1-13	7/20/18								
MGS-1.1	1/19/18	SICD-1-96	7/18/14								
MGS-2.1	1/19/18	SICD-2-14	7/18/14								
MGS-3.1	1/19/18										
MGS-3.2	1/18/13	MT-97.10	4/19/19								
MGS-4.2	7/19/13	MT-97.12	1/20/17								
MGS-4.3	1/18/13	MT-101.70	1/17/20								

SUPPLEMENTAL SPECIFICATIONS		SPECIAL PROVISIONS
800-2019	10/16/20	WATERWAY
832	10/19/18	PERMIT
846	4/17/15	12/10/2020

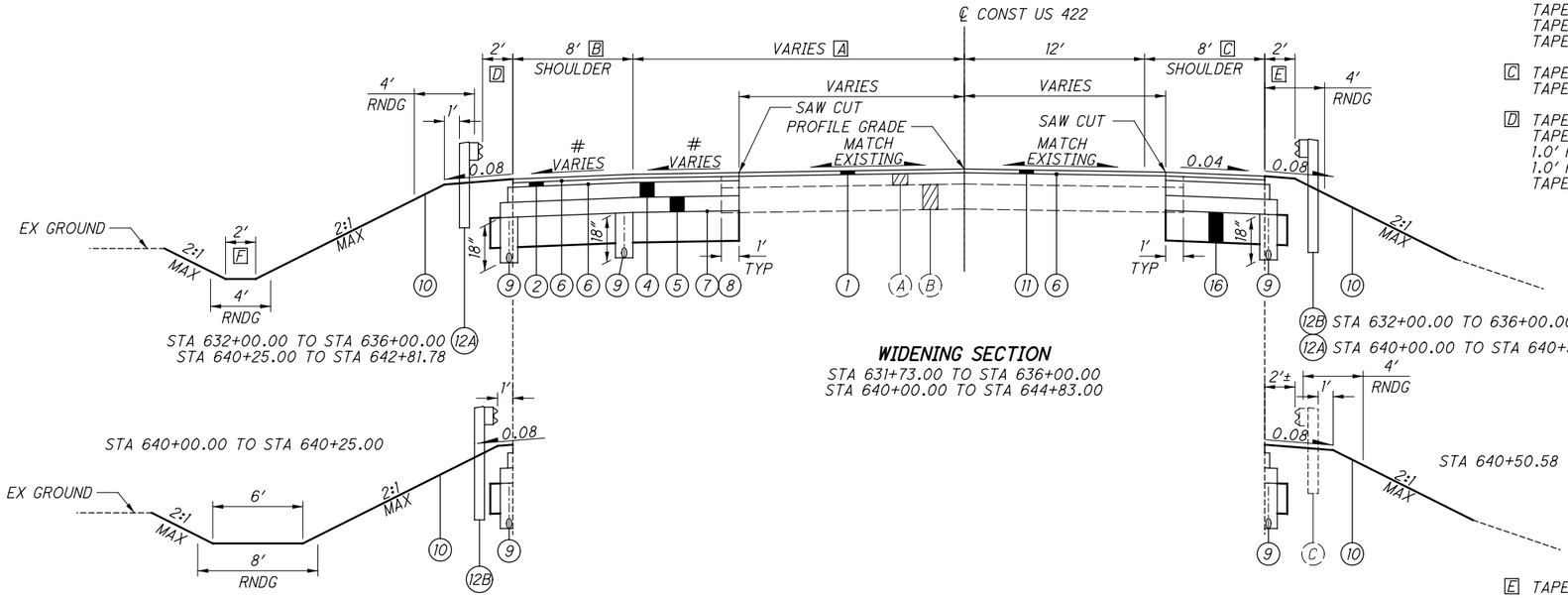
I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL NOT REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY AND THAT PROVISIONS FOR THE MAINTENANCE AND SAFETY OF TRAFFIC WILL BE AS SET FORTH ON THE PLANS AND ESTIMATES.

APPROVED
DATE 10/13/20 DISTRICT DEPUTY DIRECTOR

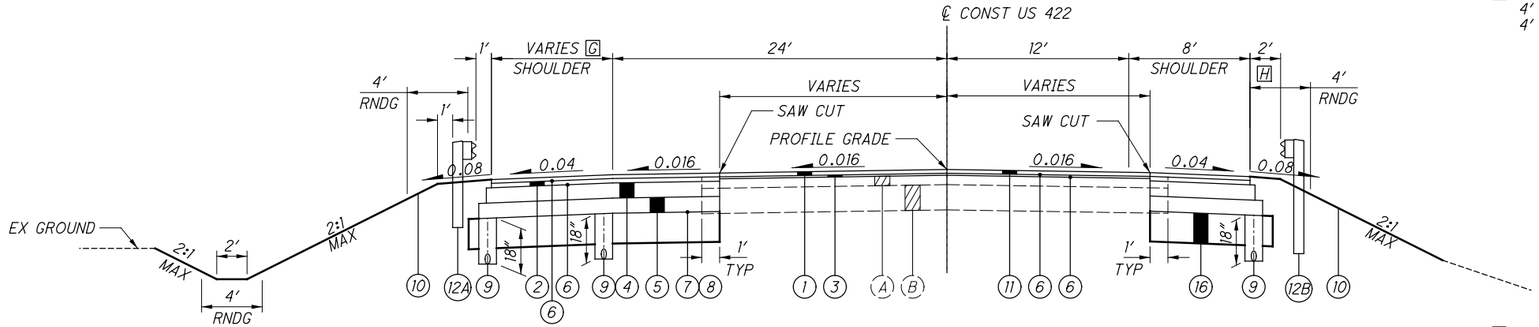
APPROVED
DATE DIRECTOR, DEPARTMENT OF TRANSPORTATION

Digitally signed by Tom Pannett
Date: 2020.12.18 11:53:18-05'00'

FEDERAL PROJECT NO. E170 (310)
PID NO. 102434
CONSTRUCTION PROJECT NO.
RAILROAD INVOLVEMENT NONE
GEA-422-12.26



WIDENING SECTION
STA 631+73.00 TO STA 636+00.00
STA 640+00.00 TO STA 644+83.00



WIDENING SECTION (WITH PROFILE ADJUSTMENT)
STA 636+00.00 TO STA 636+80.00

[A] TAPERS FROM 12.0′ AT STA 631+73.00 TO 24.0′ AT STA 635+73.00
24.0′ FROM STA 635+73.00 TO STA 636+00.00
24.0′ FROM STA 640+00.00 TO STA 640+83.00
TAPERS FROM 24.0′ AT STA 640+83.00 TO 12.0′ AT STA 644+83.00

[B] TAPERS FROM 3.2′ AT STA 631+73.00 TO 8.0′ AT STA 632+93.00
TAPERS FROM 8.0′ AT STA 635+62.93 TO 9.1′ AT STA 636+00.00
TAPERS FROM 11.0′ AT STA 640+00.00 TO 10.7′ AT STA 640+25.35
TAPERS FROM 10.7′ AT STA 640+25.35 TO 8.0′ AT STA 641+17.15
TAPERS FROM 8.0′ AT STA 644+33.00 TO 2.7′ AT STA 644+83.00

[C] TAPERS FROM 3.8′ AT STA 631+73.00 TO 8.0′ AT STA 632+23.00
TAPERS FROM 8.0′ AT STA 643+70.50 TO 3.5′ AT STA 644+83.00

[D] TAPERS FROM 5.1′ AT STA 632+00.00 TO 2.0′ AT STA 632+93.00
TAPERS FROM 2.0′ AT STA 635+62.93 TO 1.0′ AT STA 635+96.67
1.0′ FROM STA 635+96.67 TO STA 636+00.00
1.0′ FROM STA 640+25.00 TO STA 640+83.33
TAPERS FROM 1.0′ AT STA 640+83.33 TO 2.0′ AT STA 641+17.15

[E] TAPERS FROM 3.6′ AT STA 632+00.00 TO 2.0′ AT STA 632+23.00

[F] 6′ FROM STA 640+00.00 TO STA 641+19.97
4′ FROM STA 641+74.51 TO STA 642+90.11
4′ FROM STA 643+37.21 TO STA 644+50.00

[G] TAPERS FROM 9.1′ AT STA 636+00.00 TO 10.7′ AT STA 636+54.65
TAPERS FROM 10.7′ AT STA 636+54.65 TO 11.0′ AT STA 636+80.00

[H] TAPERS FROM 2.0′ AT STA 636+58.96 TO 1.4′ AT STA 636+80.00

SEE SUPERELEVATION TABLE FOR CROSS SLOPES

LEGEND

(1) ITEM 441 - 1.5″ ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), AS PER PLAN, PG70-22M
(2) ITEM 441 - 1.75″ ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, (448)
(3) ITEM 441 - VARIABLE DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, (448) (0″-2″)
(4) ITEM 301 - 6″ ASPHALT CONCRETE BASE, PG64-22
(5) ITEM 304 - 6″ AGGREGATE BASE
(6) ITEM 407 - NON-TRACKING TACK COAT
(7) ITEM 204 - SUBGRADE COMPACTION
(8) ITEM 204 - PROOF ROLLING
(9) ITEM 605 - 4″ BASE PIPE UNDERDRAINS
(10) ITEM 659 - SEEDING AND MULCHING
(11) ITEM 254 - PAVEMENT PLANING, ASPHALT CONCRETE (1.5″)
(12A) ITEM 606 - GUARDRAIL, TYPE MGS
(12B) ITEM 606 - GUARDRAIL, TYPE MGS WITH LONG POSTS
(13) ITEM 511 - CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK (PARAPET)
(14) ITEM 526 - REINFORCED CONCRETE APPROACH SLAB (T = 15″)
(15) ITEM 609 - CURB, TYPE 4-C
(16) ITEM 204 - EXCAVATION OF SUBGRADE, 12″
ITEM 204 - GRANULAR MATERIAL, TYPE B
ITEM 204 - GEOTEXTILE FABRIC
(17) ITEM 304 - 8″ AGGREGATE BASE
(18) ITEM 441 - 1.25″ ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG64-22
(A) EX ASPHALT PAVEMENT (±6″)
(B) EX AGGREGATE BASE (±10″)
(C) EX GUARDRAIL TO REMAIN

TYPICAL SECTIONS

GEA-422-12.26

ITEM 614, MAINTAINING TRAFFIC

A MINIMUM OF 1 LANE OF TRAFFIC IN EACH DIRECTION SHALL BE MAINTAINED AT ALL TIMES BY USE OF THE EXISTING PAVEMENT, THE COMPLETED PAVEMENT, ITEM 615 PAVEMENT FOR MAINTAINING TRAFFIC, ITEM 615 ROADS FOR MAINTAINING TRAFFIC, AND TEMPORARY SURFACES USING ITEMS 410 AND 614.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR USE AS DETERMINED BY THE ENGINEER FOR THE MAINTENANCE OF DRIVEWAY ACCESS DURING CONSTRUCTION.

ITEM 410, TRAFFIC COMPACTED SURFACE, TYPE A OR B 100 CU. YD.

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

THE LUMP SUM CONTRACT PRICE FOR ITEM 614, MAINTAINING TRAFFIC SHALL ALSO INCLUDE LABOR, EQUIPMENT AND MATERIALS REQUIRED TO MEET THE REQUIREMENTS DETAILED IN THE ENVIRONMENTAL COMMITMENT NOTES SHOWN WITHIN THE PLANS. THESE INCLUDE, BUT ARE NOT LIMITED TO, INSTALLATION OF TEMPORARY CONSTRUCTION FENCING, WATERWAY SIGNAGE, BOUYS, MARKERS, AND UNDER DECK APRONS.

PART-WIDTH CONSTRUCTION

BECAUSE OF THE NECESSITY TO BUILD THIS PROJECT UNDER TRAFFIC AND TO CONSTRUCT THE FULL PAVEMENT WIDTH IN STAGES, EXERCISE CARE TO PREVENT THE CONSTRUCTION OF A BUTT JOINT IN THE BASE COURSES. LAP LONGITUDINAL JOINTS AS SHOWN ON STANDARD CONSTRUCTION DRAWING BP-3.1.

PLACEMENT OF ASPHALT CONCRETE

TWO-WAY TRAFFIC SHALL BE MAINTAINED AT ALL TIMES EXCEPT THAT ONE-WAY TRAFFIC WILL BE PERMITTED FOR MINIMUM PERIODS OF TIME CONSISTENT WITH THE REQUIREMENTS OF THE SPECIFICATIONS FOR PROTECTION OF COMPLETED ASPHALT CONCRETE COURSES.

TRENCH FOR WIDENING

TRENCH EXCAVATION FOR BASE WIDENING SHALL BE ONLY ON ONE SIDE OF THE PAVEMENT AT A TIME. THE OPEN TRENCH SHALL BE ADEQUATELY MAINTAINED AND PROTECTED WITH DRUMS OR BARRICADES AT ALL TIMES. PLACEMENT OF PROPOSED SUBBASE AND BASE MATERIAL SHALL FOLLOW AS CLOSELY AS POSSIBLE BEHIND EXCAVATION OPERATIONS. THE LENGTH OF WIDENING TRENCH WHICH IS OPEN AT ANY ONE TIME SHALL BE HELD TO A MINIMUM AND SHALL AT ALL TIMES BE SUBJECT TO APPROVAL OF THE ENGINEER.

OVERNIGHT TRENCH CLOSING

THE BASE WIDENING SHALL BE COMPLETED TO A DEPTH OF NO MORE THAN 12 INCHES BELOW THE EXISTING PAVEMENT BY THE END OF EACH WORK DAY. NO TRENCH SHALL BE LEFT OPEN OVERNIGHT EXCEPT FOR A SHORT LENGTH (25 FEET OR LESS) OF A WORK SECTION AT THE END OF THE TRENCH. IN CASE WORK MUST BE SUSPENDED BECAUSE OF INCLEMENT WEATHER OR OTHER REASONS, THE TRENCH FOR THE UNCOMPLETED BASE WIDENING SHALL BE BACKFILLED AT THE DIRECTION OF THE ENGINEER.

DUST CONTROL

THE CONTRACTOR SHALL FURNISH AND APPLY WATER FOR DUST CONTROL AS DIRECTED BY THE ENGINEER. THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED FOR DUST CONTROL PURPOSES:

ITEM 616, WATER 15 M. GAL.

ITEM 614, WORK ZONE IMPACT ATTENUATOR, 24" WIDE HAZARDS, (BIDIRECTIONAL)

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING A NONGATING IMPACT ATTENUATOR. FURNISH AN IMPACT ATTENUATOR FROM THE OFFICE OF ROADWAY ENGINEERING'S APPROVED LIST FOR WORK ZONE IMPACT ATTENUATORS, FROM THE ROADWAY STANDARDS APPROVED PRODUCTS WEB PAGE.

INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.

THE CONTRACTOR SHALL REPAIR OR REPLACE A DAMAGED UNIT WITHIN 24 HOURS OF A DAMAGING IMPACT.

WHEN BIDIRECTIONAL DESIGNS ARE SPECIFIED, THE CONTRACTOR SHALL SUPPLY APPROPRIATE TRANSITIONS.

WHEN GATING IMPACT ATTENUATORS ARE DESIRED, THE CONTRACTOR SHALL SUBMIT DOCUMENTATION TO THE ENGINEER FOR ACCEPTANCE.

THE COST FOR THE ADDITIONAL BARRIER REQUIRED FOR A GATING IMPACT ATTENUATOR SHALL BE INCLUDED IN THE COST OF THE GATING IMPACT ATTENUATOR.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT AND MAINTAIN A COMPLETE AND FUNCTIONAL IMPACT ATTENUATOR SYSTEM, INCLUDING ALL RELATED BACKUPS, TRANSITIONS, LEVELING PADS, HARDWARE AND GRADING, NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER.

MAINTENANCE OF CANOE TRAFFIC

CANOE TRAFFIC SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION OF THE PROJECT EITHER THROUGH EXISTING RIVER CHANNEL OR THROUGH PORTAGE TRAIL APPROVED BY THE ENGINEER.

ADEQUATE SIGNING UPSTREAM SHALL BE INSTALLED AND MAINTAINED BY THE CONTRACTOR. THE FOLLOWING TYPE SIGNS ARE CONSIDERED TO BE MINIMUM TREATMENT:

1. APPROXIMATELY ONE-QUARTER MILE UPSTREAM, ADVANCED WARNING TYPE SIGNS ON BOTH BANKS;
2. APPROXIMATELY 300 FEET UPSTREAM, SIGNS SPECIFYING ACTIONS REQUIRED OF CANOEIST ON BOTH BANKS;
3. APPROXIMATELY ONE-QUARTER MILE DOWNSTREAM, ADVANCE WARNING TYPE SIGNS ON BOTH BANKS; AND
4. APPROXIMATELY 300 FEET DOWNSTREAM, SIGNS SPECIFYING ACTIONS REQUIRED OF CANOEIST OF BOTH BANKS.

THE ABOVE SIGNING SHALL BE MOUNTED IN SUCH A WAY AS TO BE A MINIMUM OF 4 FEET ABOVE THE WATER LEVEL, UNOBSTRUCTED BY TREE BRANCHES, AND PROPERLY ANGLED FOR MAXIMUM VISIBILITY FROM THE MAIN CLEAR CHANNEL. THE METHOD OF SUPPORTING THE SIGNS SHALL BE APPROVED BY THE ENGINEER PRIOR TO INSTALLATION. UPON COMPLETION OF THE PROJECT, THE SIGNS AND SUPPORT SYSTEMS SHALL BE COMPLETELY REMOVED FROM THE RIVER CHANNEL. THE CONTRACTOR SHALL NOTIFY LOCAL CANOE LIVERIES USING THIS PORTION OF THE RIVER AT LEAST 10 DAYS PRIOR TO ANY CHANGES AFFECTING CANOE TRAFFIC.

PORTAGE TRAILS IF USED SHALL BE CONSTRUCTED AND MAINTAINED BY THE CONTRACTOR WITH THE LEAST POSSIBLE DISTURBANCE TO THE SURROUNDING AREA. THE TRAIL SHALL BE ADEQUATELY MARKED IN BOTH DIRECTIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING THE RIGHT-OF-WAY FOR THE PORTAGE TRAILS IF REQUIRED.

IN THE EVENT PIPES ARE USED TO DIVERT OR CARRY RIVER WATER, BOTH THE INLET AND OUTLET ENDS SHALL BE ADEQUATELY PROTECTED BY GRATES OR FENCE SO THAT PEOPLE OR CANOES ARE NOT DRAWN THROUGH OR HELD BY THEM.

DELINEATION OF PORTABLE AND PERMANENT BARRIER

BARRIER REFLECTORS AND OBJECT MARKERS SHALL BE INSTALLED ON ALL PORTABLE BARRIER (PB) USED FOR TRAFFIC CONTROL; AND, ON PERMANENT CONCRETE BARRIER (INCLUDING BRIDGE PARAPETS) LOCATED WITHIN 5 FEET OF THE EDGE OF THE ADJACENT TRAVEL LANE.

BARRIER REFLECTORS SHALL CONFORM TO C&MS 626, EXCEPT THAT THE SPACING SHALL BE AS PER TRAFFIC SCD MT-101.70. OBJECT MARKERS AND THEIR INSTALLATION SHALL CONFORM TO C&MS 614.03 AND SCD MT-101.70. WHEN THE PB CONTAINS GLARE SCREEN, ONE SET OF THREE VERTICAL STRIPES OF SHEETING SHALL BE CONSIDERED EQUIVALENT TO AN OBJECT MARKER, ONE-WAY.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE PLANS AND CARRIED TO THE GENERAL SUMMARY:

ITEM 614, BARRIER REFLECTOR, TYPE 1 (ONE-WAY) 18 EACH
ITEM 614, OBJECT MARKER, ONE-WAY 18 EACH

PAYMENT SHALL BE FULL COMPENSATION FOR ALL MATERIAL, LABOR, INCIDENTALS AND EQUIPMENT NECESSARY FOR FURNISHING, INSTALLING, MAINTAINING AND REMOVING EACH OF THE ABOVE ITEMS.

EXISTING RUMBLE STRIPS

THE AREA OF THE EXISTING RUMBLE STRIPS SHALL BE MILLED AT LEAST 2 INCHES; THE MILLED SURFACE AND THE SIDES SHALL BE COVERED WITH ODOT APPROVED AC LIQUID AND THEN FILLED WITH ASPHALT. ITEM 441 ASPHALT CONCRETE SURFACE COURSE TYPE 1, (448), PG64-22 SHALL BE USED TO FILL THE RUMBLE STRIPS. PAYMENT FOR ALL WORK ASSOCIATED WITH MILLING, AC LIQUID, TRAFFIC CONTROL, AND FILLING OF THE RUMBLE STRIPS SHALL BE CONSIDERED INCIDENTAL TO AND INCLUDED IN THE LUMP SUM PRICE FOR ITEM 614 - MAINTAINING TRAFFIC, AS PER PLAN.

LOCAL ACCESS

INGRESS AND EGRESS SHALL BE MAINTAINED TO ALL RESIDENTIAL AND COMMERCIAL PROPERTIES. DRIVEWAY CLOSURE MAY BE NECESSARY TO ENABLE WORK ON OR IN FRONT OF A DRIVE. THE CONTRACTOR WILL BE RESPONSIBLE FOR NOTIFYING OWNERS, RESIDENTS, OR BUSINESS OPERATORS IN WRITING AT LEAST 48 HOURS BUT NOT MORE THAN 72 HOURS PRIOR TO CLOSURE. THE ENGINEER SHALL BE GIVEN A LIST OF THE PERSONS THAT WERE GIVEN NOTICES WITH THE DATE OF NOTICE INCLUDED. CLOSURE IS PERMITTED ONLY DURING WORK HOURS AND ACCESS MUST BE RETURNED AT THE END OF EACH WORKING DAY. PROPERTIES WITH MULTIPLE DRIVES MAY HAVE ONE DRIVE CLOSED AT A TIME, WHILE WORK IS PERFORMED IN THE AREA OF THE CLOSED DRIVE. ON COMMERICAL DRIVEWAYS, THE CONTRACTOR SHALL MAKE EVERY EFFORT TO MAINTAIN A MINIMUM 10' WIDE ACCESSIBLE PATH THROUGH THE DRIVE AREA AT ALL TIMES OF CONSTRUCTION.

INDIVIDUAL DRIVE CLOSURES SHALL BE KEPT TO THE MINIMUM TIME NEEDED FOR CONSTRUCTION ACTIVITIES. EVERY EFFORT MUST BE MADE TO ACCOMMODATE THE OWNER'S NEED FOR ACCESS.

ITEM 614 - BUSINESS ENTRANCE (M4-H15) SIGN, AS PER PLAN

THE BUSINESS ENTRANCE (M4-H15) SIGN SHOULD BE PROVIDED AT EACH TEMPORARILY RELOCATED COMMERCIAL DRIVEWAY FOR WHICH THE RELOCATION IS NOT OBVIOUS TO THE MOTORIST. THE PROJECT ENGINEER SHALL DETERMINE WHETHER OR NOT THE DRIVEWAY RELOCATION IS, OR IS NOT, OBVIOUS AND WHETHER OR NOT A SIGN SHOULD BE PROVIDED. ONLY ONE SIGN PER BUSINESS SHALL BE PERMITTED. THE SIGN SHALL BE 36 INCH X 48 INCH IN SIZE WITH TYPE G OR TYPE H ORANGE RETROREFLECTIVE SHEETING. THE SIGN LEGEND SHALL BE PLACED ON BOTH SIDES OF THE SIGN (BACK TO BACK). THE SIGN SHALL HAVE THE STANDARD M4-H15 LEGEND WITH THE WORD "BUSINESS" ON THE TOP LINE, EXCEPT UNDER UNUSUAL CIRCUMSTANCES WHERE IT MAY NOT BE INTUITIVE THAT A DRIVEWAY SERVES A SPECIFIC BUSINESS. IN SUCH UNUSUAL CASES, THE ACTUAL BUSINESS NAME MAY BE SUBSTITUTED FOR THE WORD "BUSINESS".

THE SIGN SHALL BE MOUNTED ON TWO NO. 3 POSTS OR ON TEMPORARY POSTS IN ACCORDANCE WITH SCD MT-105.10 AND IN ACCORDANCE WITH THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION. THE SIGN SHALL BE CLEARLY VISIBLE AND SHALL CLEARLY IDENTIFY THE LOCATION OF THE DRIVEWAY. THE SIGN SHOULD BE POSITIONED AT 90 DEGREES TO THE DIRECTION(S) OF TRAFFIC. THE SIGN MAY NEED TO BE MOVED FOR EACH PHASE OF THE MAINTENANCE OF TRAFFIC OPERATIONS.

PAYMENT FOR ALL COSTS ASSOCIATED WITH MANUFACTURING, MOUNTING, RELOCATING, AND REMOVING THE SIGN, INCLUDING ALL LABOR, MATERIALS AND EQUIPMENT SHALL BE INCLUDED IN THE CONTRACT PRICE PER EACH FOR ITEM 614-BUSINESS ENTRANCE SIGN.

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY FOR THIS ITEM.

ITEM 614, BUSINESS ENTRANCE SIGN, AS PER PLAN 1 EACH

CALCULATED MTL
CHECKED VDK

MAINTENANCE OF TRAFFIC GENERAL NOTES

GEA-422-12.26

REVISED: 2020-11-06

SHEET NUM.													PART.	ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
					OFFICE	6	16	17	18	19	33	41	01/NHS/BR						
																		ROADWAY	
						LS							LS	201	11000	LS		CLEARING AND GRUBBING	
						5							5	201	21800	5	EACH	TREE REMOVED, 18"	
								136					136	202	34900	136	FT	PIPE REMOVED	
								1,350					1,350	202	38000	1,350	FT	GUARDRAIL REMOVED	
								17					17	202	98100	17	EACH	REMOVAL MISC.: BOLLARD REMOVED	
								1					1	202	98100	1	EACH	REMOVAL MISC.: GATE AND POSTS REMOVED	
							200				2,948		3,148	203	10000	3,148	CY	EXCAVATION	
							400				3,942			203	20000	4,342	CY	EMBANKMENT	
							545		3,324					204	10000	3,869	SY	SUBGRADE COMPACTION	
									593				593	204	13000	593	CY	EXCAVATION OF SUBGRADE	
									593				593	204	30010	593	CY	GRANULAR MATERIAL, TYPE B	
									2				2	204	45000	2	HOUR	PROOF ROLLING	
									2,300					204	50000	2,300	SY	GEOTEXTILE FABRIC	
								776					776	606	15050	776	FT	GUARDRAIL, TYPE MGS	
								572					572	606	15100	572	FT	GUARDRAIL, TYPE MGS WITH LONG POSTS	
								1					1	606	26100	1	EACH	ANCHOR ASSEMBLY, TYPE E	
								5					5	606	26500	5	EACH	ANCHOR ASSEMBLY, TYPE T	
								2					2	606	35000	2	EACH	BRIDGE TERMINAL ASSEMBLY, TYPE 1	
								2					2	606	35100	2	EACH	BRIDGE TERMINAL ASSEMBLY, TYPE 2	
								1					1	SPECIAL	69050000	1	EACH	MAILBOX SUPPORT	6
																		EROSION CONTROL	
						2							2	659	00100	2	EACH	SOIL ANALYSIS TEST	
						455							455	659	00300	455	CY	TOPSOIL	
						4,103							4,103	659	00580	4,103	SY	SEEDING AND MULCHING, CLASS 5B	
						206							206	659	14000	206	SY	REPAIR SEEDING AND MULCHING	
						206							206	659	15000	206	SY	INTER-SEEDING	
						0.57							0.57	659	20000	0.57	TON	COMMERCIAL FERTILIZER	
						0.85							0.85	659	31000	0.85	ACRE	LIME	
						23							23	659	35000	23	MGAL	WATER	
						9							9	659	40000	9	MSF	MOWING	
								357					357	670	00700	357	SY	DITCH EROSION PROTECTION	
					LS								LS	832	15000	LS		STORM WATER POLLUTION PREVENTION PLAN	
					LS								LS	832	15002	LS		STORM WATER POLLUTION PREVENTION INSPECTIONS	
					LS								LS	832	15010	LS		STORM WATER POLLUTION PREVENTION INSPECTION SOFTWARE	
					22,000									832	30000	22,000	EACH	EROSION CONTROL	
																		LANDSCAPING	
												5	5	661	99900	5	EACH	PLANTING MISC.: TREE PLANTING	
																		DRAINAGE	
										8			8	601	21050	8	SY	TIED CONCRETE BLOCK MAT, TYPE 1	
										50			50	601	21060	50	SY	TIED CONCRETE BLOCK MAT, TYPE 2	
										13			13	605	05200	13	FT	4" UNCLASSIFIED PIPE UNDERDRAINS	
										2,933				605	06000	2,933	FT	4" BASE PIPE UNDERDRAINS	
						200							200	605	31100	200	FT	AGGREGATE DRAINS	
										92			92	611	00406	92	FT	4" CONDUIT, TYPE F	
										46			46	611	04900	46	FT	12" CONDUIT, TYPE D	
										123			123	611	06400	123	FT	15" CONDUIT, TYPE D	
										4			4	611	99710	4	EACH	PRECAST REINFORCED CONCRETE OUTLET	
									3,196				3,196	254	01000	3,196	SY	**PAVEMENT** PAVEMENT PLANING, ASPHALT CONCRETE, 1.5"	
									450				450	301	46000	450	CY	ASPHALT CONCRETE BASE, PG64-22	
							121		526				647	304	20000	647	CY	AGGREGATE BASE	
							41		890				931	407	20000	931	GAL	NON-TRACKING TACK COAT	
							19						19	441	50000	19	CY	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG64-22	
									243				243	441	50101	243	CY	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), AS PER PLAN, PG70-22M	6
							27		135				162	441	50200	162	CY	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, (448)	
									86				86	609	24510	86	FT	CURB, TYPE 4-C	

CALCULATED ARM
CHECKED MTL

GENERAL SUMMARY

GEA-422-12.26

13
77

$USER
$DATES
$FILEAS
STIMESTAMPS

REVISED: 2020-11-06

SHEET NUM.													PART.	ITEM	ITEM	GRAND	UNIT	DESCRIPTION	SEE SHEET NO.
										20	21	42	01/NHS/BR		EXT	TOTAL			
																		TRAFFIC CONTROL	
											0.35		0.35	618	43000	0.35	MILE	RUMBLE STRIPES, CENTER LINE (ASPHALT CONCRETE)	
											35		35	621	00100	35	EACH	RPM	
											17		17	621	54000	17	EACH	RAISED PAVEMENT MARKER REMOVED	
										127			127	630	03100	127	FT	GROUND MOUNTED SUPPORT, NO. 3 POST	
										30			30	630	80100	30	SF	SIGN, FLAT SHEET	
										8			8	630	84900	8	EACH	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	
										10			10	630	86002	10	EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	
										2			2	630	87500	2	EACH	REMOVAL OF POLE MOUNTED SIGN AND DISPOSAL	
											0.41		0.41	644	00104	0.41	MILE	EDGE LINE, 6"	
											0.38		0.38	644	00300	0.38	MILE	CENTER LINE	
											50		50	644	00400	50	FT	CHANNELIZING LINE, 8"	
											281		281	644	00700	281	FT	TRANSVERSE/DIAGONAL LINE	
											1		1	644	01300	1	EACH	LANE ARROW	
											0.08		0.08	646	10010	0.08	MILE	EDGE LINE, 6"	
											0.08		0.08	646	10200	0.08	MILE	CENTER LINE	
											68		68	646	10600	68	FT	TRANSVERSE/DIAGONAL LINE	
																		STRUCTURE OVER 20 FOOT SPAN (GEA-422-12.26)	
												LS	LS	202	11203	LS		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN	40, 47
												133	133	202	22900	133	SY	APPROACH SLAB REMOVED	
												LS	LS	503	11101	LS		COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN	40
												LS	LS	503	21300	LS		UNCLASSIFIED EXCAVATION	
												LS	LS	505	11100	LS		PILE DRIVING EQUIPMENT MOBILIZATION	
												1,080	1,080	507	00500	1,080	FT	12" CAST-IN-PLACE REINFORCED CONCRETE PILES, DRIVEN	
												1,170	1,170	507	00551	1,170	FT	12" CAST-IN-PLACE REINFORCED CONCRETE PILES, FURNISHED, AS PER PLAN	40
												510	510	507	00700	510	FT	16" CAST-IN-PLACE REINFORCED CONCRETE PILES, DRIVEN	
												540	540	507	00751	540	FT	16" CAST-IN-PLACE REINFORCED CONCRETE PILES, FURNISHED, AS PER PLAN	40
												121,067	121,067	509	10000	121,067	LB	EPOXY COATED REINFORCING STEEL	
												172	172	510	10001	172	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT, AS PER PLAN	40
												2	2	511	33500	2	EACH	SEMI-INTEGRAL DIAPHRAGM GUIDE	
												347	347	511	34446	347	CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK	
												66	66	511	34450	66	CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK (PARAPET)	
												8	8	511	42510	8	CY	CLASS QC1 CONCRETE, PIER CAP	
												92	92	511	43510	92	CY	CLASS QC1 CONCRETE, ABUTMENT INCLUDING FOOTING	
												791	791	512	10100	791	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	
												9	9	512	33000	9	SY	TYPE 2 WATERPROOFING	
												240,457	240,457	513	10260	240,457	LB	STRUCTURAL STEEL MEMBERS, LEVEL 3	
												5,784	5,784	513	20000	5,784	EACH	WELDED STUD SHEAR CONNECTORS	
												14,531	14,531	514	00060	14,531	SF	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT	
												14,531	14,531	514	00066	14,531	SF	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT	
												17	17	516	13600	17	SF	1" PREFORMED EXPANSION JOINT FILLER	
												44	44	516	13900	44	SF	2" PREFORMED EXPANSION JOINT FILLER	
												137	137	516	14020	137	FT	SEMI-INTEGRAL ABUTMENT EXPANSION JOINT SEAL	
												16	16	516	44201	16	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN (13" x 11 1/2" x 3 1/4")	67
												16	16	516	44201	16	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN (14" x 16" x 3 7/8")	68
												4	4	518	12301	4	EACH	SCUPPERS, INCLUDING SUPPORTS, AS PER PLAN	40
												78	78	518	21200	78	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC	
												172	172	518	40000	172	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	
												60	60	518	40010	60	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS	
												2	2	523	20000	2	EACH	DYNAMIC LOAD TESTING	
												335	335	526	25000	335	SY	REINFORCED CONCRETE APPROACH SLABS (T=15")	
												125	125	526	90010	125	FT	TYPE A INSTALLATION	
												278	278	601	32204	278	CY	ROCK CHANNEL PROTECTION, TYPE C WITH GEOTEXTILE FABRIC	
												56	56	846	00110	56	CF	POLYMER MODIFIED ASPHALT EXPANSION JOINT SYSTEM	

CALCULATED ARM
CHECKED MTL

GENERAL SUMMARY

GEA-422-12.26

$USER
$DATES
$FILEAS

STIMESTAMPS

REVISED: 2020-11-12

SHEET NUM.													PART.	ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
										OFFICE	7	16	01/NHS/BR						
																		MAINTENANCE OF TRAFFIC	
											100		100	410	12000	100	CY	TRAFFIC COMPACTED SURFACE, TYPE A OR B	
												4	4	614	12384	4	EACH	WORK ZONE IMPACT ATTENUATOR, 24" WIDE HAZARDS, (BIDIRECTIONAL)	
											18		18	614	13310	18	EACH	BARRIER REFLECTOR, TYPE 1, (ONE WAY)	
											18		18	614	13350	18	EACH	OBJECT MARKER, ONE WAY	
												0.42	0.42	614	21000	0.42	MILE	WORK ZONE CENTER LINE, CLASS I	
												0.84	0.84	614	22010	0.84	MILE	WORK ZONE EDGE LINE, CLASS I, 6"	
											1		1	614	40051	1	EACH	BUSINESS ENTRANCE SIGN, AS PER PLAN	7
										LS			LS	615	10000	LS		ROADS FOR MAINTAINING TRAFFIC	
												151	151	615	20000	151	SY	PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A	
											15		15	616	10000	15	MGAL	WATER	
												450	450	622	41100	450	FT	PORTABLE BARRIER, UNANCHORED	
												460	460	622	41110	460	FT	PORTABLE BARRIER, ANCHORED	
																		INCIDENTALS	
										LS			LS	614	11000	LS		MAINTAINING TRAFFIC	
										15			15	619	16011	15	MNTH	FIELD OFFICE, TYPE B, AS PER PLAN	8
										LS			LS	623	10000	LS		CONSTRUCTION LAYOUT STAKES AND SURVEYING	
										LS			LS	624	10000	LS		MOBILIZATION	

CALCULATED ARM
CHECKED MTL

GENERAL SUMMARY

GEA-422-12.26

$USER
$DATES
$FILEAS
$TIMESTAMPS

REVISED: 2020-11-06

SHEET NO.	REFERENCE NO.	ALIGNMENT	STATION		614			615	622	622
					WORK ZONE EDGE LINE, CLASS 1, 6"	WORK ZONE CENTER LINE, CLASS 1	WORK ZONE IMPACT ATTENUATOR, 24" WIDE HAZARDS, (BIDIRECTIONAL)	PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A	PORTABLE BARRIER, UNANCHORED	PORTABLE BARRIER, ANCHORED
			FROM	TO	MILE	MILE	EACH	SY	FT	FT
			US 422 PHASE 1							
9-10	EL-1	US 422	633+73	642+83	0.17					
9-10	EL-2	US 422	633+73	642+83	0.17					
9-10	CL-1	US 422	633+73	642+83		0.17				
9	IA-1	US 422	635+85	636+13			1			
9	IA-2	US 422	640+72	640+99			1			
9	TP-1	US 422	634+83	637+55				72		
9-10	TP-2	US 422	639+30	642+06				79		
9	PB-1	US 422	636+13	640+72					230	230
			US 422 PHASE 2							
11-12	EL-3	US 422	631+73	644+83	0.25					
11-12	EL-4	US 422	631+73	644+83	0.25					
11-12	CL-2	US 422	631+73	644+83		0.25				
11	IA-3	US 422	635+89	636+16			1			
11	IA-4	US 422	640+64	640+91			1			
11	PB-2	US 422	636+16	640+64					220	230
TOTALS CARRIED TO GENERAL SUMMARY					0.84	0.42	4	151	450	460

SHEET NO.	REF. NO.	STATION	SIDE	DRIVE TYPE	PAVEMENT TYPE	CADD GENERATED PAVEMENT REMOVED AREA	CADD GENERATED SURFACE AREA (ASPHALT)	203	203	204	304	441	407	441	
								EXCAVATION	EMBANKMENT	SUBGRADE COMPACTION (DRIVEWAYS)	8" AGGREGATE BASE	1.75" AC INTERMEDIATE COURSE, TYPE 1, (448)	NON-TRACKING TACK COAT	1 1/4" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG64-22	
						SQ FT	SQ FT	CU YD	CU YD	SQ YD	CU YD	CU YD	GAL	CU YD	
24	DR-1	639+59.00	LT	COMM.	ASPH	1357.60									
24	DR-2	640+10.00	RT	COMM.	ASPH	1170.30	2641.40	100	200	293	65	14	22	10	
25	DR-3	641+47.07	LT	COMM.	ASPH	1621.80	1222.00	50	100	136	30	7	10	5	
25	DR-4	643+12.35	LT	COMM.	ASPH	1181.00	1045.50	50	100	116	26	6	9	4	
TOTALS CARRIED TO GENERAL SUMMARY								200	400	545	121	27	41	19	

CALCULATED MTL
CHECKED VDK

TABLE OF TRAFFIC & DRIVEWAY SUBSUMMARY

MAINTENANCE

GEA-422-12.26

SUSER
SDATES
SFILEAS
STIMESTAMPS

REVISED: 2020-11-06

STATION TO STATION	SIDE	MATERIAL	CAD MEASURED AREAS	204	204	204	204	204	254	301	304	407	441	441	441	609
				SUBGRADE COMPACTION	PROOF ROLLING	EXCAVATION OF SUBGRADE, 12"	GRANULAR MATERIAL, TYPE B	GEOTEXTILE FABRIC	PAVEMENT PLANING, ASPHALT CONCRETE, 1.5"	6" ASPHALT CONCRETE BASE, PG64-22	6" AGGREGATE BASE	NON-TRACKING TACK COAT	ASPHALT CONCRETE SURFACE COURSE, TYPE 1 (448), AS PER PLAN, PG70-22M (1.50")	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1 (448) (1.75")	VARIABLE DEPTH ASPHALT CONCRETE INTERMEDIAT COURSE, TYPE 1, (448) (0" - 2")	CURB, TYPE 4-C
			SQ FT	SQ YD	HR	CU YD	CU YD	SQ YD	SQ YD	CU YD	CU YD	GAL	CU YD	CU YD		FT
US 422 - PAVEMENT PLANING																
STA 631+73.00 TO STA 636+00.00	*LT/RT*	*ASPHALT*	*12518.00*						*1391*			*250*	*58*			
STA 636+00.00 TO STA 636+80.00	*LT/RT*	*ASPHALT*	*2401.00*						*267*			*48*	*11*		*7*	
STA 640+00.00 TO STA 644+83.00	*LT/RT*	*ASPHALT*	*13842.40*						*1538*			*277*	*64*			
US 422 - APPROACH SLAB																
STA 637+28.17 TO STA 637+53.17	*LT/RT*	*CONC*	*1508.25*													*36*
STEP (LEVEL 2)	*LT/RT*	*CONC*	*1533.25*	*170*	*0.5*						*28*					
STA 639+26.83 TO STA 639+51.83	*LT/RT*	*CONC*	*1508.25*													*50*
STEP (LEVEL 2)	*LT/RT*	*CONC*	*1533.25*	*170*	*0.5*						*28*					
US 422 - FULL DEPTH																
STA 631+73.00 TO STA 637+28.17	*LT/RT*	*ASPHALT*	*11798.00*									*157*	*55*	*64*		
STEP (LEVEL 3)	*LT/RT*	*ASPHALT*	*12150.90*							*225*						
STEP (LEVEL 4)	*LT/RT*	*ASPHALT*	*12685.50*								*235*					
STEP (SUBGRADE)	*LT/RT*	*ASPHALT*	*13444.30*	*1494*	*0.5*	*297*	*297*	*1150*								
STA 639+51.83 TO STA 644+83.00	*LT/RT*	*ASPHALT*	*11821.90*									*158*	*55*	*64*		
STEP (LEVEL 3)	*LT/RT*	*ASPHALT*	*12156.60*							*225*						
STEP (LEVEL 4)	*LT/RT*	*ASPHALT*	*12663.60*								*235*					
STEP (SUBGRADE)	*LT/RT*	*ASPHALT*	*13403.60*	*1489*	*0.5*	*296*	*296*	*1150*								
SUBTOTAL				*3324*	*2*	*593*	*593*	*2300*	*3196*	*450*	*526*	*890*	*243*	*128*	*7*	*86*
TOTALS CARRIED TO GENERAL SUMMARY				**3324**	**2**	**593**	**593**	**2300**	**3196**	**450**	**526**	**890**	**243**	**135**		**86**

CALCULATED MTL
CHECKED VDK

PAVEMENT SUBSUMMARY

GEA-422-12.26

$USER
$DATES
$FILEAS
$TIMESTAMPS

ESTIMATED QUANTITIES

CALCULATED BY: AMI DATE: 4/26/2019
CHECKED BY: SJF DATE: 4/26/2019

ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	ABUTS.	PIERS	SUPER STR.	GENERAL	SEE SHT. NO.
202	11203	LUMP		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN				LUMP	2,9/35
202	22900	133	SY	APPROACH SLAB REMOVED				133	
503	11101	LUMP		COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN				LUMP	2/35
503	21300	LUMP		UNCLASSIFIED EXCAVATION				LUMP	
505	11100	LUMP		PILE DRIVING EQUIPMENT MOBILIZATION				LUMP	
507	00500	1080	FT	12" CAST-IN-PLACE REINFORCED CONCRETE PILES, DRIVEN	1080				
507	00551	1170	FT	12" CAST-IN-PLACE REINFORCED CONCRETE PILES, FURNISHED, AS PER PLAN	1170				2/35
507	00700	510	FT	16" CAST-IN-PLACE REINFORCED CONCRETE PILES, DRIVEN		510			
507	00751	540	FT	16" CAST-IN-PLACE REINFORCED CONCRETE PILES, FURNISHED, AS PER PLAN		540			19/35
509	10000	121067	LB	EPOXY COATED REINFORCING STEEL	7863	1220	111984		
510	10001	172	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT, AS PER PLAN	172				2/35
511	33500	2	EACH	SEMI-INTEGRAL DIAPHRAGM GUIDE	2				
511	34446	347	CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK			347		
511	34450	66	CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK (PARAPET)			66		
511	42510	8	CY	CLASS QC1 CONCRETE, PIER CAP		8			
511	43510	92	CY	CLASS QC1 CONCRETE, ABUTMENT INCLUDING FOOTING	92				
512	10100	791	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	42	63	686		
512	33000	9	SY	TYPE 2 WATERPROOFING	9				
513	10260	240457	LB	STRUCTURAL STEEL MEMBERS, LEVEL 3			240457		
513	20000	5784	EACH	WELDED STUD SHEAR CONNECTORS			5784		
514	00060	14531	SF	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT			14531		
514	00066	14531	SF	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT			14531		
516	13600	17	SF	1" PREFORMED EXPANSION JOINT FILLER				17	
516	13900	44	SF	2" PREFORMED EXPANSION JOINT FILLER	44				
516	14020	137	FT	SEMI-INTEGRAL ABUTMENT EXPANSION JOINT SEAL	137				
516	44201	16	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN	16				29/35
				(13" x 11 1/2" x 3 1/4")					
516	44201	16	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN	16				30/35
				(14" x 16" x 3 7/8")					
518	12301	4	EACH	SCUPPERS, INCLUDING SUPPORTS, AS PER PLAN				4	2/35
518	21200	78	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC	78				
518	40000	172	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	172				
518	40010	60	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS	60				
523	20000	2	EACH	DYNAMIC LOAD TESTING	1	1			
526	25000	335	SY	REINFORCED CONCRETE APPROACH SLABS (T=15")				335	
526	90010	125	FT	TYPE A INSTALLATION				125	
601	32204	278	CY	ROCK CHANNEL PROTECTION, TYPE C WITH GEOTEXTILE FABRIC	278				
846	00110	56	CF	POLYMER MODIFIED ASPHALT EXPANSION JOINT SYSTEM				56	

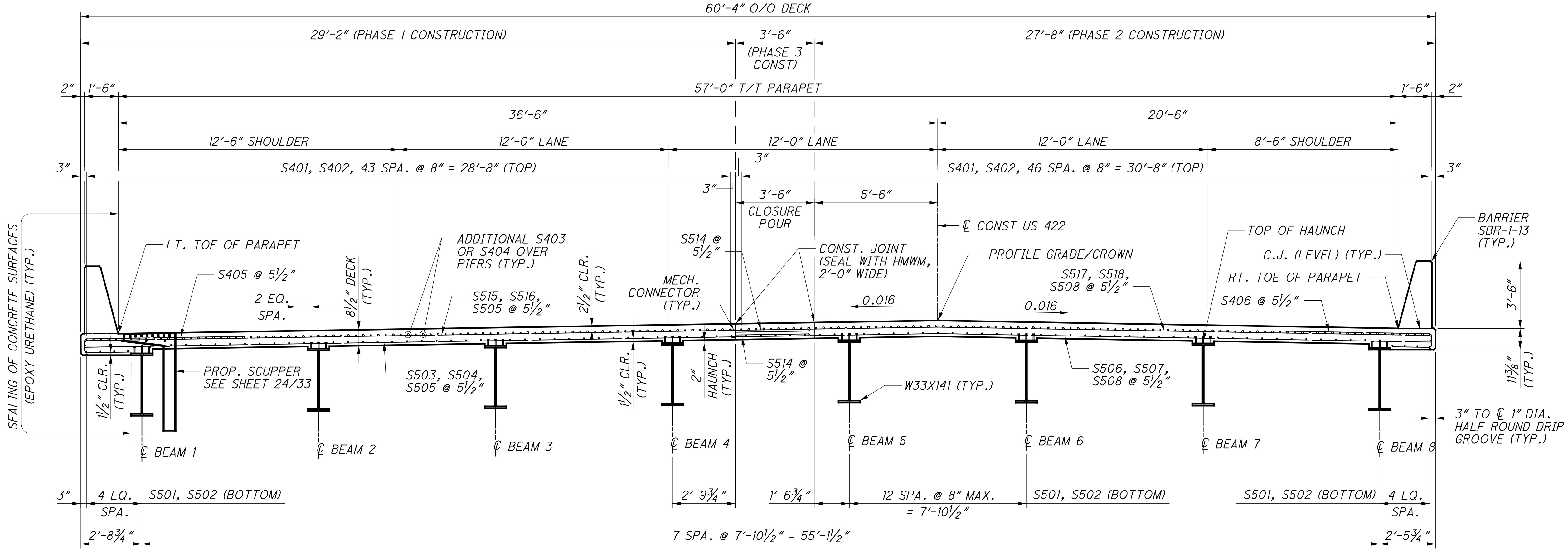
QUANTITIES CARRIED TO THE GENERAL SUMMARY

DESIGN AGENCY
STRUCTUREPOINT LLC
2001 CORPORATE EXCHANGE DR. STE 200
COLUMBUS, OH 43231
TEL 614.901.7700 FAX 614.901.7701
www.structurepoint.com

DESIGNED	DRAWN	REVIEWED	DATE
AMI	TLH	CLB	2/10/19
CHECKED	REVISED	STRUCTURE FILE NUMBER	
SJF		2801779	

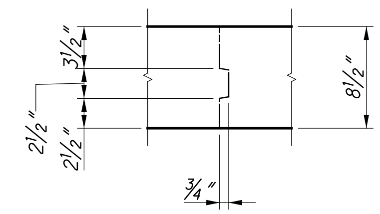
ESTIMATED QUANTITIES
BRIDGE NO. GEA-422-1226
OVER CUYAHOGA RIVER

GEA-422-12.26
PID No. 102434



TRANSVERSE SECTION

MINIMUM BAR LAP	
#4	2'-0"
#5	3'-3"



CONSTRUCTION JOINT KEYWAY DETAIL

REFER TO CMS 511.12 FOR ADDITIONAL INFORMATION

NOTES:

1. 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 BEAM HAUNCH. THE ESTIMATE ASSUMES A CONSTANT HAUNCH THICKNESS OF THREE 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 BEAM, 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 PARAPET REINFORCING, SEE SHEET 31/35.

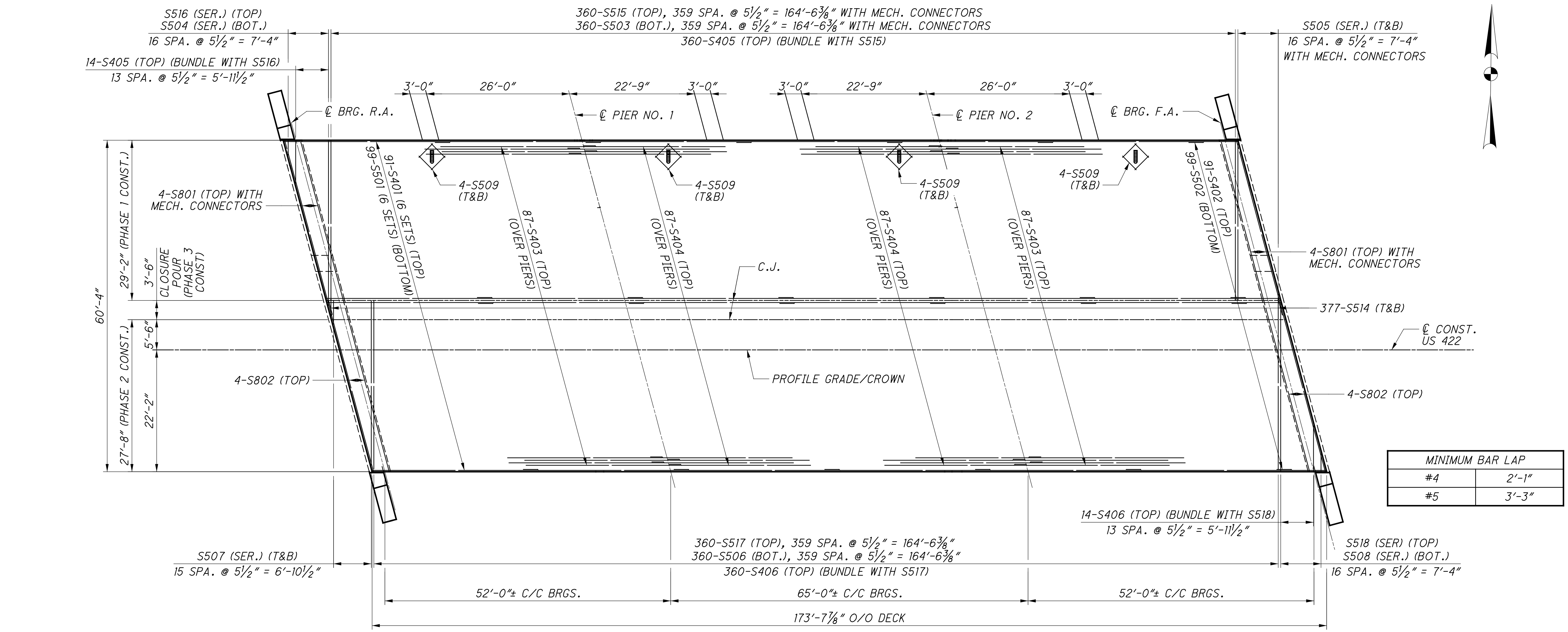
3. FOR INTERMEDIATE DIAPHRAGM DETAILS, SEE STANDARD DRAWING GSD-1-19 AND SHEET 22/35.

DESIGN AGENCY
STRUCTUREPOINT

DESIGNED	CHECKED	DRAWN	REVISED	REVIEWED	DATE	STRUCTURE FILE NUMBER
CLB	SJF	TMT		CLB	2/10/19	2801779

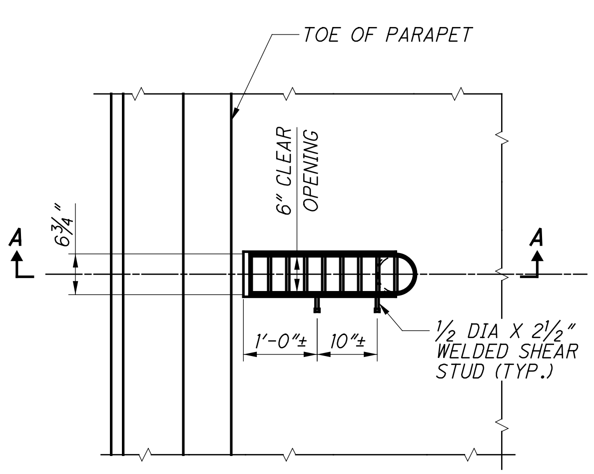
TRANSVERSE SECTION
BRIDGE NO. GEA-422-1226
OVER CUYAHOGA RIVER

GEA-422-12.26
PID No. 102434

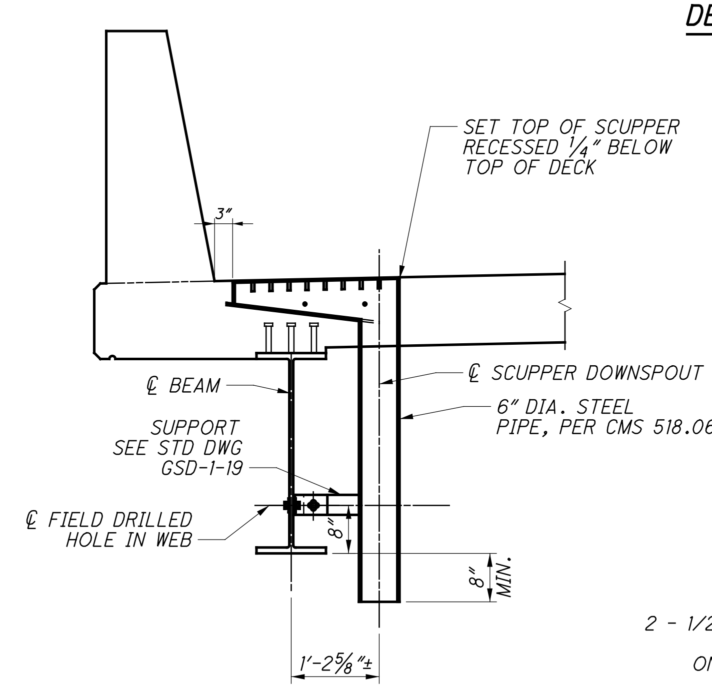


MINIMUM BAR LAP	
#4	2'-1"
#5	3'-3"

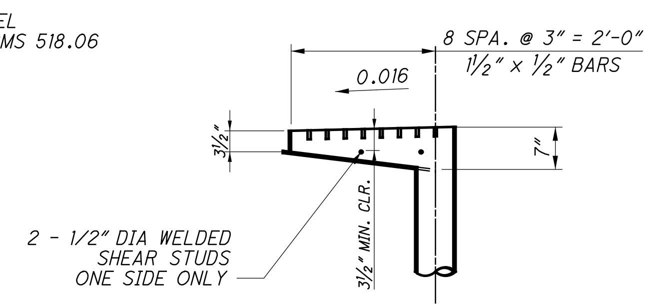
DECK REINFORCING PLAN



PLAN



TYPICAL SECTION



SECTION A-A

SCUPPER DETAILS

(4 REQUIRED)

NOTES:

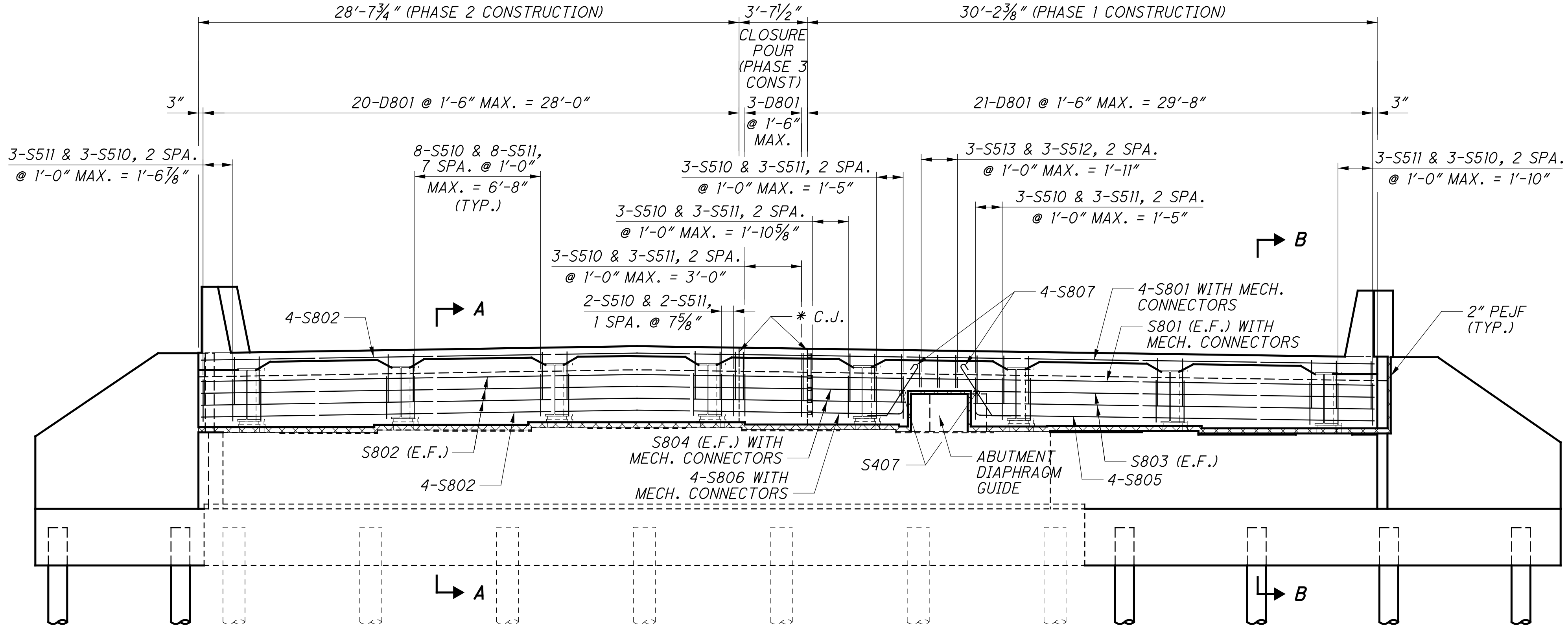
1. FABRICATE SCUPPERS FROM MIN. ⅜" THICK STEEL PLATE; ASTM A36 OR EQUAL.
2. ALL SCUPPER COMPONENTS (ANGLES, BARS, SCUPPERS, ETC.) SHALL BE GALVANIZED.
3. FOR TRANSVERSE SECTION, SEE SHEET 23/35.
4. FOR PARAPET DETAILS, SEE SHEET 31/35.
5. FOR END DIAPHRAGM DETAILS, SEE SHEETS 25/35 TO 26/35.
6. FOR ADDITIONAL SCUPPER DETAILS AND NOTES, SEE STANDARD DRAWING GSD-1-19.
7. DECK POUR SEQUENCE: CONTINUOUSLY POUR FROM ONE END TO OTHER IN EACH PHASE OF CONSTRUCTION.

DESIGN AGENCY: STRUCTUREPOINT

DESIGNED	CHECKED	DRAWN	REVISED	REVIEWED	DATE	STRUCTURE FILE NUMBER
AMI	JMM	TLH		CLB	2/10/19	2801779

DECK PLAN
BRIDGE NO. GEA-422-1226
OVER CUYAHOGA RIVER
GEA-422-12.26
PID No. 102434

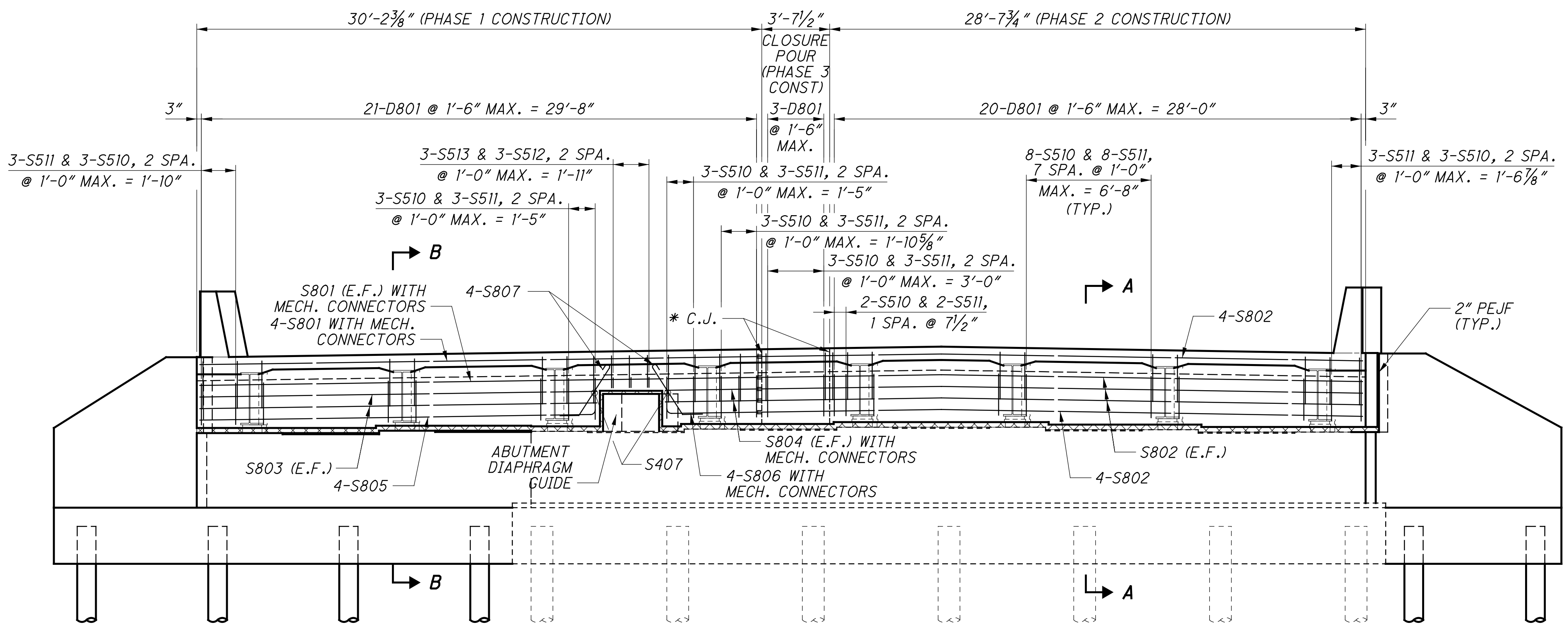
lhughes 1/13/2021 4:03:47 PM O:\2017\02036\C. Design\102434_GEA-422-12.26\Structures\GEA422_1226\Sheets\102434_DP001.dgn



END DIAPHRAGM ELEVATION

REAR ABUTMENT

* 3'-0" WIDE TYPE 2 WATERPROOFING ON BACKFACE CENTERED ON JOINT FROM TOP OF SEAT TO BOTTOM OF APPROACH SLEA



END DIAPHRAGM ELEVATION

FORWARD ABUTMENT

NOTES:

1. PLACE THE DIAPHRAGM CONCRETE ENCASING THE STRUCTURAL MEMBER ENDS OF AN INDIVIDUAL PHASE WITH THE DECK CONCRETE OR AT LEAST 48 HOURS BEFORE PLACEMENT OF THE DECK CONCRETE. IF PLACED SEPARATELY, LOCATE A HORIZONTAL CONSTRUCTION JOINT IN THE DIAPHRAGM AS SHOWN ON PSID-1-13, SHEET 7 OF 10 FOR PRESTRESSED I-BEAM SUPERSTRUCTURES OR AS SHOWN ON SICD-1-96 FOR STEEL SUPERSTRUCTURES AND PLACE REMAINING DIAPHRAGM CONCRETE WITH THE DECK. PLACE CLOSURE POUR CONCRETE IN THE DIAPHRAGM AND DECK CONCURRENTLY.
2. FOR SECTIONS A-A AND B-B, SEE SHEET 26/35.
3. FOR ABUTMENT DIAPHRAGM GUIDE DETAILS, SEE SHEETS 15/35 AND 18/35.
4. SEE STANDARD DRAWING SICD-1-96 FOR ADDITIONAL DETAILS.

DESIGN AGENCY: STRUCTUREPOINT

DESIGNED	DRAWN	REVIEWED	DATE
AMI	TLH	CLB	2/10/19
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JMM		2801779	

REAR AND FORWARD END DIAPHRAGM DETAILS

BRIDGE NO. GEA-422-1226
OVER CUYAHOGA RIVER

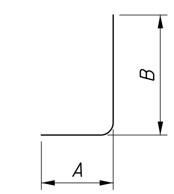
GEA-422-12.26
PID No. 102434

lhughes 1/6/2021 7:53:33 AM
O:\2017\02036\C. Design\102434_GEA-422-12.26\Structures\GEA422_1226\Sheets\102434_SD005.dgn

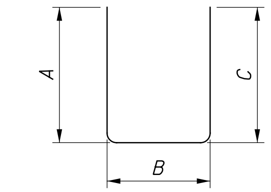
MARK	NUMBER TOTAL	LENGTH	WEIGHT (LBS.)	TYPE	A	B	C	D	E	R	INC
SUPERSTRUCTURE											
S401	546	30'-0"	10942	STR							
S402	91	5'-10"	355	STR							
S403	174	28'-1"	3264	STR							
S404	174	25'-9"	2993	STR							
S405	374	9'-5"	2353	2	7'-1"	0'-7 1/4"	1'-11"				
S406	374	9'-2"	2290	2	7'-1"	0'-7 1/4"	1'-8"				
S407	4	3'-6"	9	STR							
S501	594	30'-0"	18586	STR							
S502	99	8'-7"	886	STR							
(1) S503	360	29'-0"	10889	STR							
	1 SR	2'-5"									
S504	OF	TO	286	STR							1'-8 1/2"
	17	29'-10"									
	2 SR	1'-1"									
(1) S505	OF	TO	523	STR							1'-8 1/2"
	17	28'-5"									
S506	360	30'-11"	11609	STR							
	2 SR	4'-3"									
S507	OF	TO	570	STR							1'-8 1/2"
	16	29'-11"									
	1 SR	3'-0"									
S508	OF	TO	296	STR							1'-8 1/2"
	17	30'-4"									
S509	32	3'-6"	117	STR							
S510	120	11'-10"	1481	3	2'-1"	3'-6"					
S511	120	7'-9"	970	2	2'-6"	3'-0"	2'-6"				
S512	6	8'-8"	54	3	0'-6"	3'-6"					
S513	6	6'-1"	38	2	1'-8"	3'-0"	1'-8"				
S514	754	3'-5"	2687	STR							
(1) S515	360	29'-7"	11108	16	29'-0"						
	1 SR	3'-0"			2'-5"						
S516	OF	TO	297	16	TO						1'-8 1/2"
	17	30'-5"			29'-10"						
S517	360	31'-6"	11828	16	30'-11"						
	1 SR	3'-7"			3'-0"						
S518	OF	TO	306	16	TO						1'-8 1/2"
	17	30'-11"			30'-4"						
(1) S801	12	30'-0"	961	STR							
S802	28	32'-0"	2392	STR							
S803	8	21'-1"	450	STR							
(1) S804	8	5'-4"	114	STR							
S805	8	22'-4"	477	1	1'-5"	21'-1"					
(1) S806	8	6'-7"	139	1	1'-5"	5'-4"					
S807	16	4'-10"	206	18	3'-0"	0'-7"	0'-11"				
D801	88	4'-10"	1136	18	2'-8"	1'-0"	1'-0"				
		SUB-TOTAL	100,612								

(1) REQUIRES MECHANICAL CONNECTORS. (782 REQUIRED)

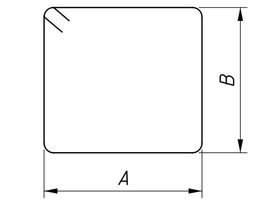
MARK	NUMBER TOTAL	LENGTH	WEIGHT (LBS.)	TYPE	A	B	C	D	E	R	INC
PARAPETS											
PS501	406	7'-4"	3105	23	0'-11"	3'-3"	3'-0"			0'-3"	
PS502	48	30'-0"	1502	STR							
PS503	8	8'-10"	74	STR							
PS504	8	9'-1"	76	STR							
PS505	16	14'-8"	245	STR							
PS506	32	7'-2"	239	STR							
PS507	12	11'-3"	141	STR							
PS601	406	2'-5"	1474	1	1'-0"	1'-7"					
PS602	406	3'-1"	1880	37	1'-7"	0'-11"	0'-3 1/2"				
PS603	4	9'-1"	55	STR							
PS604	8	14'-8"	176	STR							
PS605	16	7'-2"	172	STR							
PS606	6	11'-3"	101	STR							
		SUB-TOTAL	9,240								
PARAPETS (ON APPROACH SLAB)											
AS501	48	7'-4"	367	23	0'-11"	3'-3"	3'-0"			0'-3"	
AS502	16	5'-9"	96	25	1'-10"	2'-5"	1'-5"	0'-1 1/2"	0'-5"		
AS503	16	6'-5"	107	STR							
AS504	32	10'-0"	334	STR							
AS505	8	13'-5"	112	STR							
AS506	4	13'-0"	54	STR							
AS507	4	10'-8"	45	STR							
AS508	2	10'-3"	21	STR							
AS509	4	13'-9"	57	STR							
AS510	2	10'-11"	23	STR							
AS601	48	3'-1"	222	37	1'-7"	0'-11"	0'-3 1/2"				
	4 SR	4'-0"				3'-2"					
AS602	OF	TO	265	1	1'-0"	TO					0'-1"
	10	4'-10"				4'-0"					
AS603	32	4'-0"	192	1	1'-0"	3'-2"					
AS604	48	2'-5"	174	1	1'-0"	1'-7"					
AS605	2	10'-5"	31								
AS606	2	10'-9"	32	STR							
		SUB-TOTAL	2,132								



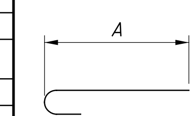
TYPE-1



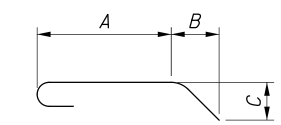
TYPE-2



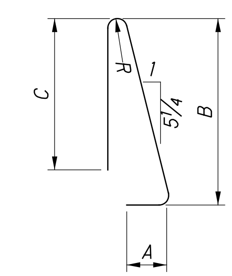
TYPE-3



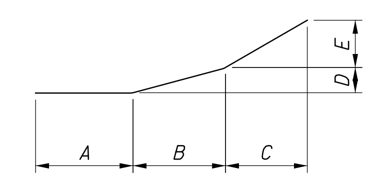
TYPE-16



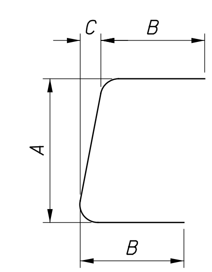
TYPE-18



TYPE-23



TYPE-25



TYPE-37

NOTES:

ALL REINFORCING STEEL SHALL BE EPOXY COATED, GRADE 60.

LENGTHS ARE RECORDED IN FEET - INCHES.

"STR" IN THE TYPE COLUMN INDICATES STRAIGHT BARS.

ALL DIMENSIONS ARE MEASURED OUT-TO-OUT OF BAR.

THE LENGTH OF BENT BARS IS MEASURED ALONG THE CENTERLINE.

THE BAR SIZE NUMBER IS SPECIFIED ON THE PLANS IN THE BAR MARK COLUMN. THE FIRST DIGIT WHERE THREE DIGITS ARE USED, AND THE FIRST TWO DIGITS WHERE FOUR DIGITS ARE USED, INDICATES THE BAR SIZE NUMBER. FOR EXAMPLE, P601 IS A NO. 6 BAR. "R" INDICATES INSIDE RADIUS, UNLESS OTHERWISE NOTED. "STD" WRITTEN IN PLACE OF A DIMENSION INDICATES A STANDARD BEND AT THE END OF THE BAR.

FOR STANDARD HOOK DIMENSIONS, SEE SECTION 509.05 OF THE SPECIFICATIONS.

PAYMENT FOR REINFORCING STEEL SHALL BE INCLUDED IN THE CONTRACT PRICE BID FOR ITEM 509, EPOXY COATED REINFORCING STEEL.

REINFORCING SAMPLES: REFER TO CMS SECTIONS 106.02, 700, 709.01 THROUGH 709.05 AND 709.08. SUFFICIENT ADDITIONAL REINFORCING STEEL SHALL BE PROVIDED FOR SAMPLING. RANDOM SAMPLES SHALL BE REPLACED IN THE STRUCTURE BY THE ADDITIONAL STEEL, SPLICED IN ACCORDANCE WITH 509.07.

NOTES (CONT'D.):

(1) REQUIRES MECHANICAL CONNECTORS (NON-PROTRUDING TYPE)

AN APPROVED TYPE OF MECHANICAL CONNECTOR FOR REINFORCING SHALL BE PROVIDED. INSTALLATION OF THE CONNECTORS SHALL CONFORM WITH RECOMMENDED MANUFACTURER'S PROCEDURES. IF A DOWEL BAR SPLICE IS FURNISHED, THE MINIMUM DOWEL BAR LENGTH TO BE INCLUDED WITH THE CONNECTOR SHALL BE GIVEN BY THE DIMENSION "L" SHOWN BELOW :

#5 REINFORCING BAR, L = 3'-3"

#8 REINFORCING BAR, L = 6'-9"

WHERE MECHANICAL CONNECTORS ARE REQUIRED THE REINFORCING BAR LENGTH IS MEASURED TO THE CONSTRUCTION JOINT. EXTRA BAR LENGTH AND/OR BAR PREPARATION MAY BE NECESSARY DEPENDING ON THE TYPE OF MECHANICAL CONNECTOR FURNISHED.

DESIGN AGENCY: STRUCTUREPOINT

DESIGNED: AMI | CHECKED: JMM | DRAWN: TLH | REVISED | REVIEWED: CLB | DATE: 4/10/19 | STRUCTURE FILE NUMBER: 2801779

REINFORCING STEEL LIST - 2

BRIDGE NO. GEA-422-1226

OVER CUYAHOGA RIVER

GEA-422-12.26

PID No. 102434