STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

MOT-VANDALIA BIKEWAY CONNECTOR

CITY OF VANDALIA

MONTGOMERY COUNTY

LOCATION MAP

LATITUDE: 39 °53'01" LONGITUDE: 84 °10'01"

N

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

DESIGN DESIGNATION

CURRENT ADT (20)	N/A
DESIGN YEAR ADT (20)	N/A
DESIGN HOURLY VOLUME (20)	N/A
DIRECTIONAL DISTRIBUTION	N/A
TRUCKS (24 HOUR B&C)	N/A
DESIGN SPEED	N/A
LEGAL SPEED	N/A

DESIGN FUNCTIONAL CLASSIFICATION:

NHS PROJECT

DESIGN EXCEPTIONS

NONE

ADA DESIGN WAIVERS

NONE

UNDERGROUND UTILITIES
Contact Two Working Days Before You Dig
OHIO811.org Before You Dig
OHIO811, 8-1-1, or 1-800-362-2764
(Non members must be called directly)

PLAN PREPARED BY:
DESIGN AGENCY
LJB Inc. • 2500 Newmark Drive
Miamisburg, OH 45342
(937) 259-5000 tel • (937) 259-5100 fax • LJBinc.com

INDEX OF SHEETS:

FEDERAL PROJECT NUMBER

E200134

RAILROAD INVOLVEMENT

CSX TRANSPORTATION

PROJECT DESCRIPTION

THIS PROJECT WILL CONNECT THE EXISTING PATH AT FOLEY DRIVE TO THE GREAT MIAMI TRAIL USING A COMBINATION OF ON-ROAD AND OFF-ROAD OPTIONS. A BRIDGE OVER THE CSX RR/GREAT MIAMI BIKE TRAIL IS ALSO INCLUDED.

EARTH DISTURBED AREAS

PROJECT EARTH DISTURBED AREA:	3.34 ACRES
ESTIMATED CONTRACTOR EARTH DISTURBED AREA:	0.45 ACRES
NOTICE OF INTENT EARTH DISTURBED AREA:	3.79 ACRES

2023 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.

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY AND THAT DETOURS WILL BE COORDINATED DURING CONSTRUCTION.

Jack Marchbanks, PhD
Director, Department of Transportation

John W. O'Brien
District 07 Deputy Director

ENGINEER'S SEAL
ROADWAY
STATE OF OHIO · JOSEPH R. ESPELAGE · E-61783 · REGISTERED · PROFESSIONAL ENGINEER

ENGINEER'S SEAL
TRAFFIC CONTROL
STATE OF OHIO · LAURENCE A. SACK · E-49837 · REGISTERED · PROFESSIONAL ENGINEER

ENGINEER'S SEAL
BRIDGE
STATE OF OHIO · ANGELA TREMBLAY · E-70248 · REGISTERED · PROFESSIONAL ENGINEER

STANDARD CONSTRUCTION DRAWINGS

BP-3.1	1/21/22	RM-5.2	7/21/23	HL-10.11	7/21/23	TC-42.20	10/18/13	A-1-20	1/21/22		
BP-4.1	7/19/13			HL-10.12	7/21/23	TC-52.10	10/18/13	AS-1-15	1/20/23		
BP-5.1	7/15/22			HL-50.21	7/15/22	TC-52.20	1/15/21	VPF-1-90	7/21/23		
BP-7.1	7/21/23					TC-71.10	4/21/23				
				MT-95.31	7/19/19	TC-74.10	7/21/23				
CB-2-2A, 2B, 2C	1/20/23			MT-95.32	4/19/19	TC-81.22	7/21/23				
CB-2-3, 2-4	1/20/23			MT-95.60	4/19/19	TC-83.10	1/17/20				
				MT-95.61	4/19/19	TC-83.20	7/15/22				
DM-1.1	7/17/20			MT-97.12	1/20/17	TC-85.10	10/21/22				
DM-4.3	1/15/16			MT-99.20	4/19/19	TC-85.20	4/21/23				
DM-4.4	1/15/16										
				TC-16.22	7/21/23						
F-1.1	7/19/13			TC-21.21	1/20/23						
F-3.3	7/19/13			TC-41.20	10/18/13						
				TC-41.30	4/21/23						
RM-1.1	1/20/23			TC-41.40	10/18/13						

SUPPLEMENTAL SPECIFICATIONS		SPECIAL PROVISIONS	
800	1/19/24	WPC	4/20/23
809	10/20/23		
813	7/21/23		
821	4/20/12		
828	1/19/18		
832	7/21/23		
840	7/21/23		
878	1/21/22		
909	10/20/23		
913	4/16/21		
916	7/21/23		
921	4/20/12		
928	1/19/18		

TITLE SHEET

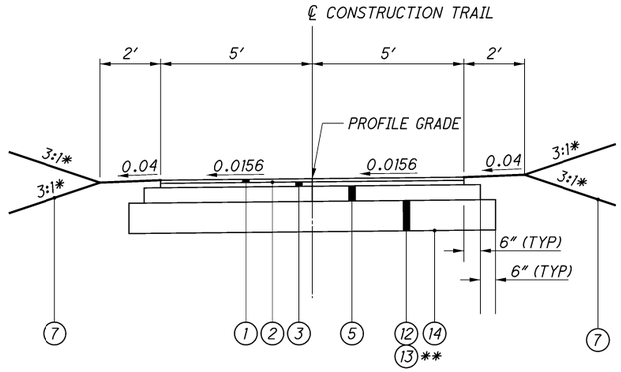
DESIGN AGENCY
DESIGNER JRE
REVIEWER DWS 11/01/23
PROJECT ID 111388
SHEET 1 TOTAL 171

MOT-VANDALIA BIKEWAY

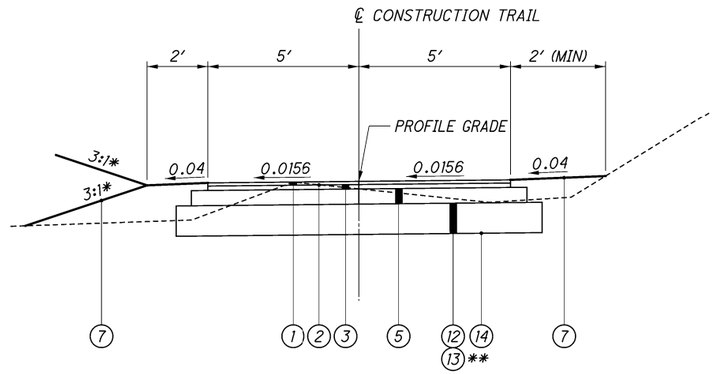
MODEL: Sheet PAPERSIZE: 17x11 (in.) DATE: 4/25/2024 TIME: 12:39:39 PM USER: jespelage
Q:\City of Vancalia\0116494A.01 - MOT-Vandalia Bikeway Part 2\111388\400-Engineering\Roadway\Sheets\111388_GT001.dgn

LEGEND

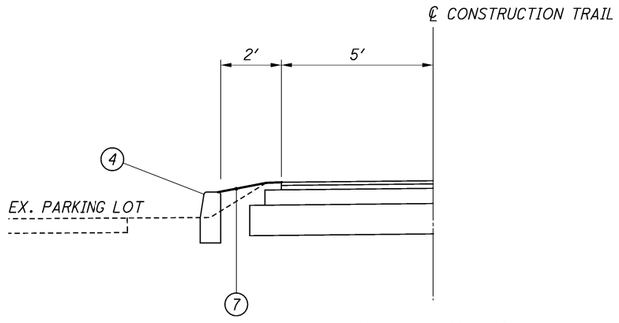
1. ITEM 441 - 1 ¼" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (449), PG64-22
2. ITEM 407 - TACK COAT (APPLIED AT 0.055 GAL/SY)
3. ITEM 441 - 1 ¾" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (449)
4. ITEM 609, CURB, TYPE 7
5. ITEM 304 - 6" AGGREGATE BASE
6. NOT USED
7. ITEM 659 - SEEDING AND MULCHING
8. ITEM 526 - REINFORCED CONCRETE APPROACH SLABS (T=12")
9. ITEM 607 - FENCE, MISC.: WOOD FENCE
10. ITEM 254 - PAVEMENT PLANING, ASPHALT CONCRETE (1.25")
11. ITEM 608 - 4" CONCRETE WALK
12. ITEM 204 - EXCAVATION OF SUBGRADE (12")
13. ITEM 204 - GRANULAR MATERIAL, TYPE C (12")
14. ITEM 204 - GEOTEXTILE FABRIC (712.09, TYPE D)



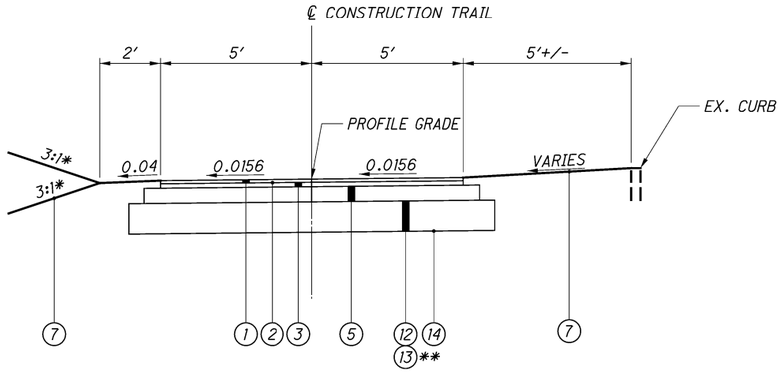
TRAIL NORMAL SECTION
STA. 25+00.00 TO STA. 28+75.00
STA. 33+50.00 TO STA. 39+50.00
STA. 50+14.50 TO STA. 55+20.15



TRAIL NORMAL SECTION
STA. 21+90.00 TO STA. 23+50.00
STA. 28+75.00 TO STA. 33+50.00
STA. 39+50.00 TO STA. 47+98.00



CURB SECTION
STA. 10+43.00 TO STA. 11+40.00
STA. 11+81.00 TO STA. 12+99.00



TRAIL NORMAL SECTION
STA. 10+02.62 TO STA. 21+90.00 #
STA. 23+50.00 TO STA. 25+00.00

* OR AS SHOWN ON CROSS SECTIONS
** UNDERCUT STA. 10+02.62 TO STA. 45+00.00 (FOR ADDITIONAL INFORMATION SEE SUBGRADE COMPACTION AND PROOF ROLLING NOTE, SHEET 9)
# SEE CURB SECTION:
STA. 10+43 TO STA. 11+40 LT
STA. 11+81 TO STA. 12+99 LT

TYPICAL SECTIONS

MOT-VANDALIA BIKEWAY

MODEL: Sheet PAPERSIZE: 17x11 (in.) DATE: 4/25/2024 TIME: 12:42:05 PM USER: jespellage
Q:\City of Vancalia\0116494A.01 - MOT-Vandalia Bikeway Part 2\111388\400-Engineering\Roadway\Sheets\111388_GY001.dgn

DESIGN AGENCY

DESIGNER JRE

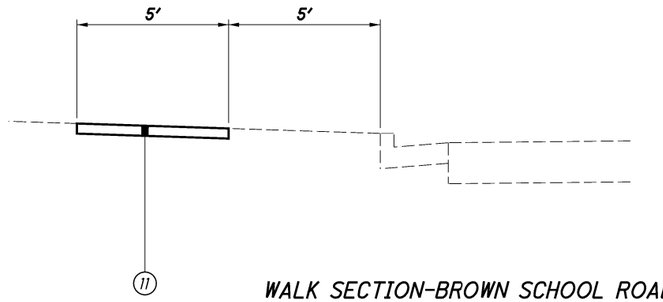
REVIEWER DWS 11/01/23

PROJECT ID 111388

SHEET 6 TOTAL 171

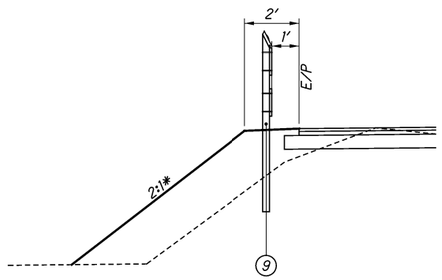
LEGEND

1. ITEM 441 - 1 ¼" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (449), PG64-22
2. ITEM 407 - TACK COAT (APPLIED AT 0.055 GAL/SY)
3. ITEM 441 - 1 ¾" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (449)
4. ITEM 609, CURB, TYPE 7
5. ITEM 304 - 6" AGGREGATE BASE
6. NOT USED
7. ITEM 659 - SEEDING AND MULCHING
8. ITEM 526 - REINFORCED CONCRETE APPROACH SLABS (T=12")
9. ITEM 607 - FENCE, MISC.: WOOD FENCE
10. ITEM 254 - PAVEMENT PLANING, ASPHALT CONCRETE (1.25")
11. ITEM 608 - 4" CONCRETE WALK



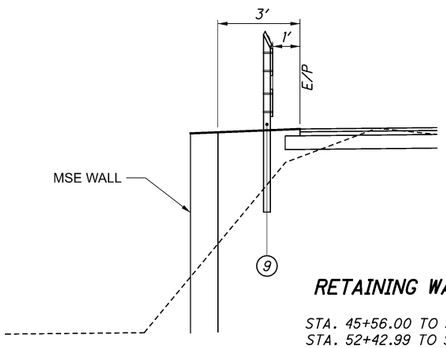
WALK SECTION-BROWN SCHOOL ROAD

(SEE SHEETS 98-99)
STA. 20+50.61 TO STA. 27+12.48
STA. 28+00.45 TO STA. 28+74.13



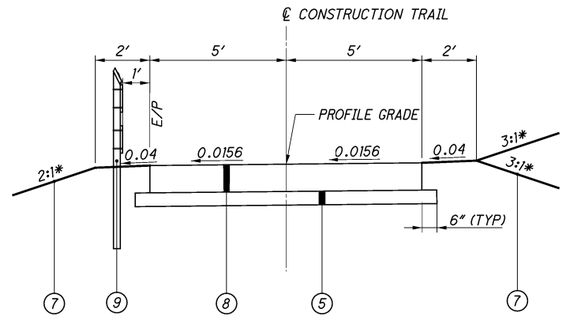
FENCE DETAIL

STA. 20+50.00 TO 21+25.00 (LT)
STA. 44+00 TO STA. 48+13 (LT)
STA. 49+99.50 TO STA. 53+00 (LT)
STA. 52+42 TO STA. 55+00 (RT)



RETAINING WALL SECTION

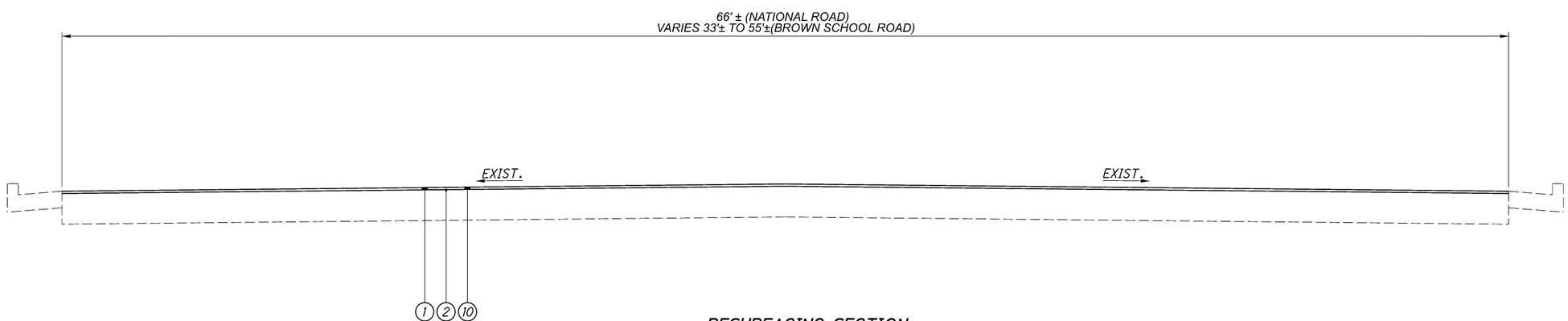
STA. 45+56.00 TO STA. 48+06.09 (LT)
STA. 52+42.99 TO STA. 54+90.06 (RT)



TRAIL APPROACH SLAB SECTION

STA. 47+98.00 TO STA. 48+13.00
STA. 49+99.50 TO STA. 50+14.50

BRIDGE LIMITS: STA. 48+13.00 TO STA. 49+99.50



RESURFACING SECTION

STA. 83+00.00 TO STA. 99+07.20 (NATIONAL ROAD)
STA. 62+79.00 TO STA. 70+67.83 (BROWN SCHOOL ROAD)

TYPICAL SECTIONS

MOT-VANDALIA BIKEWAY

MODEL: Sheet 2 PAPERSIZE: 17x11 (in.) DATE: 4/25/2024 TIME: 7:33:25 AM USER: jespelage
Q:\City of Vandalia\0116494A.01 - MOT-Vandalia Bikeway Part 2\111388\400-Engineering\Roadway\Sheets\111388_GY001.dgn

DESIGN AGENCY

DESIGNER JRE
REVIEWER DWS 11/01/23
PROJECT ID 111388
SHEET 7 TOTAL 171

THE LEOS WORK AT THE DIRECTION OF THE CONTRACTOR. THE CONTRACTOR IS RESPONSIBLE FOR SECURING THE SERVICES OF THE LEOS WITH THE APPROPRIATE AGENCIES AND COMMUNICATING THE INTENTIONS OF THE PLANS WITH RESPECT TO DUTIES OF THE LEOS. THE ENGINEER SHALL HAVE FINAL CONTROL OVER THE LEOS' DUTIES AND PLACEMENT, AND WILL RESOLVE ANY ISSUES THAT MAY ARISE BETWEEN THE TWO PARTIES.

ENSURE PROVIDED LEOS HAVE BEEN TRAINED APPROPRIATE TO THE JOB DECISIONS THEY ARE REQUIRED TO MAKE WHILE ON THE PROJECT, IN ACCORDANCE WITH C&MS 614.03.

THE LEO SHALL REPORT IN TO THE CONTRACTOR PRIOR TO THE START OF THE SHIFT, IN ORDER TO RECEIVE INSTRUCTIONS REGARDING THE SPECIFIC WORK ASSIGNMENTS DURING HIS/HER SHIFT. THE LEO IS EXPECTED TO STAY AT THE PROJECT SITE FOR THE ENTIRE DURATION OF HIS/HER SHIFT. THE LEO SHALL REPORT TO THE CONTRACTOR AT THE END OF HIS/HER SHIFT. SHOULD IT BE NECESSARY TO LEAVE THE PROJECT SITE, THE LEO SHALL NOTIFY THE ENGINEER. THE CONTRACTOR SHALL PROVIDE THE LEO WITH A TWO-WAY COMMUNICATION DEVICE WHICH SHALL BE RETURNED TO THE CONTRACTOR AT THE END OF HIS/HER SHIFT.

LEOS (WITH PATROL CAR) REQUIRED BY THE TRAFFIC MAINTENANCE TASKS ABOVE SHALL BE PAID FOR ON A UNIT PRICE (HOURLY) BASIS UNDER ITEM 614, LAW ENFORCEMENT OFFICER (WITH PATROL CAR) FOR ASSISTANCE. THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY:

ITEM 614, LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE 50 HOURS

THE HOURS PAID SHALL INCLUDE ANY MINIMUM SHOW-UP TIME REQUIRED BY THE LAW ENFORCEMENT AGENCY INVOLVED.

ANY ADDITIONAL COSTS (ADMINISTRATIVE OR OTHERWISE) INCURRED BY THE CONTRACTOR TO OBTAIN THE SERVICES OF A LEO ARE INCLUDED WITH THE BID UNIT PRICE FOR ITEM 614, LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE.

NOTIFICATION OF TRAFFIC RESTRICTIONS

THROUGHOUT THE DURATION OF THE PROJECT, THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER IN WRITING OF ALL TRAFFIC RESTRICTIONS AND UPCOMING MAINTENANCE OF TRAFFIC CHANGES. THE CONTRACTOR SHALL ENSURE THE WRITING OF ALL TRAFFIC RESTRICTIONS AND UPCOMING MAINTENANCE OF TRAFFIC CHANGES. THE CONTRACTOR SHALL ENSURE THE WRITTEN NOTIFICATION IS SUBMITTED IN A TIMELY MANNER TO ALLOW THE PROJECT ENGINEER TO MEET THE REQUIRED TIME FRAMES SET FORTH IN THE TABLE BELOW TO INFORM THE SPECIAL HAULING PERMITS SECTION (HAULING.PERMITS@DOT.OHIO.GOV) AND THE DISTRICT PUBLIC INFORMATION OFFICE (PIO). THIS NOTIFICATION SHALL BE RECEIVED BY THE PROJECT ENGINEER PRIOR TO THE PHYSICAL SETUP OF ANY APPLICABLE SIGNS OR MESSAGE BOARDS.

INFORMATION SHOULD INCLUDE, BUT IS NOT LIMITED TO, ALL CONSTRUCTION ACTIVITIES THAT IMPACT OR INTERFERE WITH TRAFFIC AND SHALL LIST THE SPECIFIC LOCATION, TYPE OF WORK, ROAD STATUS, DATE AND TIME OF RESTRICTION, DURATION OF RESTRICTION, NUMBER OF LANES MAINTAINED, NUMBER OF LANES CLOSED, MINIMUM VERTICAL CLEARANCE, MINIMUM WIDTH OF DRIVABLE PAVEMENT, DETOUR ROUTES, IF APPLICABLE, AND ANY OTHER INFORMATION REQUESTED BY THE PROJECT ENGINEER.

NOTIFICATION OF TRAFFIC RESTRICTIONS TIME TABLE

ITEM	DURATION OF CLOSURE	NOTICE DUE TO PERMITS & PIO
ROAD CLOSURES	>= 2 WEEKS	21 CALENDAR DAYS PRIOR TO CLOSURE
	> 12 HOURS & < 2 WEEKS	14 CALENDAR DAYS PRIOR TO CLOSURE
	<= 12 HOURS	4 CALENDAR DAYS PRIOR TO CLOSURE
LANE CLOSURES & RESTRICTIONS	>= 2 WEEKS	14 CALENDAR DAYS PRIOR TO CLOSURE
	< 2 WEEKS	5 BUSINESS DAYS PRIOR TO CLOSURE
START OF CONSTRUCTION & TRAFFIC PATTERN CHANGES	N/A	14 CALENDAR DAYS PRIOR TO IMPLEMENTATION

ANY UNFORESEEN CONDITIONS NOT SPECIFIED IN THE PLANS REQUIRING TRAFFIC RESTRICTIONS SHALL ALSO BE REPORTED TO THE PROJECT ENGINEER USING THE NOTIFICATION TIME TABLE.

ITEM 614, MAINTAINING TRAFFIC

A MINIMUM OF ONE LANE OF TRAFFIC IN EACH DIRECTION SHALL BE MAINTAINED AT ALL TIMES ON ALL ROADWAYS, EXCEPT FOR A PERIOD NOT TO EXCEED THREE DAYS, WHEN US 40 MAY BE CLOSED TO TRAFFIC.

NO WORK SHALL BE PERFORMED AND ALL EXISTING LANES SHALL BE OPEN TO TRAFFIC DURING THE FOLLOWING DESIGNATED HOLIDAYS OR SPECIAL EVENTS:

NEW YEAR'S (OBSERVED)
TOTAL SOLAR ECLIPSE (4/8/24)
MEMORIAL DAY
FOURTH OF JULY (OBSERVED)
LABOR DAY
GENERAL/REGULAR ELECTION DAY ((NOV)
THANKSGIVING
CHRISTMAS (OBSERVED)
DAYTON AIR SHOW (6/21-22/25
UNANNOUNCED & ESTIMATED DATE BASED ON SHOW MOVING FROM JULY)

THE PERIOD OF TIME THAT THE LANES ARE TO BE OPEN DEPENDS ON THE DAY OF THE WEEK ON WHICH THE HOLIDAY OR SPECIAL EVENT FALLS. THE FOLLOWING SCHEDULE SHALL BE USED TO DETERMINE THIS PERIOD:

DAY OF HOLIDAY OR SPECIAL EVENT	TIME ALL LANES MUST BE OPEN TO TRAFFIC
SUNDAY	12:00N FRIDAY THROUGH 6:00 AM MONDAY
MONDAY	12:00N FRIDAY THROUGH 6:00 AM TUESDAY
MONDAY	(TOTAL SOLAR ECLIPSE) 12:00N MONDAY THROUGH 6:00 AM WEDNESDAY
TUESDAY	12:00N MONDAY THROUGH 6:00 AM WEDNESDAY
TUESDAY	(GEN./REG. ELECTION) 5:00 AM TUESDAY THROUGH 12:00 AM WEDNESDAY
WEDNESDAY	12:00N TUESDAY THROUGH 6:00 AM THURSDAY
THURSDAY	12:00N WEDNESDAY THROUGH 6:00 AM FRIDAY
THURSDAY	(THANKSGIVING ONLY) 6:00 AM WEDNESDAY THROUGH 6:00 AM MONDAY
FRIDAY	12:00N THURSDAY THROUGH 6:00 AM MONDAY
SATURDAY	12:00N FRIDAY THROUGH 6:00 AM MONDAY

DURING THE SAME PERIODS, MAINTAIN PEDESTRIAN ACCESS IF PEDESTRIAN ACCESS WAS PRESENT PRIOR TO CONSTRUCTION. THE GREAT MIAMI RIVER TRAIL TRAFFIC IS TO BE MAINTAINED AS DESCRIBED SEPARATELY IN THE "GREAT MIAMI RIVER TRAIL CLOSURES" NOTE BELOW.

SHOULD THE CONTRACTOR FAIL TO MEET ANY OF THESE REQUIREMENTS, THE CONTRACTOR SHALL BE ASSESSED A DISINCENTIVE PER THE LANE VALUE CONTRACT (PN 127).

LENGTH AND DURATION OF LANE CLOSURES AND RESTRICTIONS SHALL BE AT THE APPROVAL OF THE ENGINEER. IT IS THE INTENT TO MINIMIZE THE IMPACT TO THE TRAVELING PUBLIC. LANE CLOSURES OR RESTRICTIONS OVER SEGMENTS OF THE PROJECT IN WHICH NO WORK IS ANTICIPATED WITHIN A REASONABLE TIME FRAME, AS DETERMINED BY THE ENGINEER, SHALL NOT BE PERMITTED. THE LEVEL OF UTILIZATION OF MAINTENANCE OF TRAFFIC DEVICES SHALL BE COMMENSURATE WITH THE WORK IN PROGRESS.

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

THE SIGNS SHALL BE ERECTED ON THE RIGHT-HAND SIDE OF THE ROAD/RAMP FACING TRAFFIC. THEY SHALL BE PLACED SO AS NOT TO INTERFERE WITH THE VISIBILITY OF ANY OTHER TRAFFIC CONTROL SIGNS. ON ROADWAYS, THEY SHOULD BE ERECTED AT OR NEAR THE POINT OF CLOSURE.

NOTICE OF CLOSURE SIGN TIME TABLE

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

US 40 WILL BE
CLOSED MMM-DD
FOR X DAYS
INFO: 1-888-200-9919

W20-H13-60

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

THE CONTRACTOR SHALL PROVIDE, ERECT AND MAINTAIN STANDARD 48 X 30 INCH ROAD CLOSED SIGNS, SIGN SUPPORTS, BARRICADES AND LIGHTS, AS DETAILED IN SCD MT-101.60 AT THE FOLLOWING LOCATIONS DURING PERIODS IN WHICH THE AFFECTED ROADS ARE CLOSED TO TRAFFIC.

US 40 AT BROWN SCHOOL ROAD
US 40 AT BRIDGEWATER ROAD

THE CONTRACTOR SHALL PROVIDE, ERECT AND MAINTAIN SIGNS AND SIGN SUPPORTS, AS DETAILED IN THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, AND TYPE III BARRICADES OF THE TYPE AND LOCATION AS FOLLOWS:

ROAD WORK AHEAD (W20-1-36)

US 40 NATIONAL RD 450' WEST OF FOLEY DR.
FOLEY DR 250' NORTH OF WESTHAFER RD
WESTHAFER RD 250' WEST OF FOLEY DR
LARRY AVE 250' SOUTH OF NATIONAL RD
WALLER AVE 250' SOUTH OF NATIONAL RD
BROWN SCHOOL RD 250' NORTH OF WESTHAFER RD
HALIFAX DR 250' EAST OF BROWN SCHOOL RD
SUNDERLAND DR 250' NORTH OF NATIONAL RD
NATIONAL RD 650' EAST OF SUNDERLAND DR
LARRY AVE 250' WEST OF BROWN SCHOOL RD
MARICON CT 250' WEST OF BROWN SCHOOL RD
TAYLORSVIEW DR 250' EAST OF BROWN SCHOOL RD
WOLLENHAUPT DR 250' EAST OF BROWN SCHOOL RD
CENTER DR 250' WEST OF BROWN SCHOOL RD
BRINDLESTONE DR 250' EAST OF BROWN SCHOOL RD
SCHOLZ DR 250' WEST OF BROWN SCHOOL RD
CASSEL CREEK DR 250' EAST OF BROWN SCHOOL RD
BROWN SCHOOL RD 500' SOUTH OF US 40
US 40 500' EAST OF SOUTH CASSEL ROAD (METROPARK DRIVEWAY)

ROAD WORK AHEAD (W20-1-30)

GREAT MIAMI RIVER TRAIL 250' SOUTH OF US 40
GREAT MIAMI RIVER TRAIL 350' NORTH OF US 40

END ROAD WORK (G20-2-36)

US 40 NATIONAL RD 450' WEST OF FOLEY DR.
FOLEY DR 250' NORTH OF WESTHAFER RD
WESTHAFER RD 250' WEST OF FOLEY DR
LARRY AVE 250' SOUTH OF NATIONAL RD
WALLER AVE 250' SOUTH OF NATIONAL RD
BROWN SCHOOL RD 250' NORTH OF WESTHAFER RD
HALIFAX DR 250' EAST OF BROWN SCHOOL RD
SUNDERLAND DR 250' NORTH OF NATIONAL RD
NATIONAL RD 650' EAST OF SUNDERLAND DR
LARRY AVE 250' WEST OF BROWN SCHOOL RD
MARICON CT 250' WEST OF BROWN SCHOOL RD
TAYLORSVIEW DR 250' EAST OF BROWN SCHOOL RD
WOLLENHAUPT DR 250' EAST OF BROWN SCHOOL RD
CENTER DR 250' WEST OF BROWN SCHOOL RD
BRINDLESTONE DR 250' EAST OF BROWN SCHOOL RD
SCHOLZ DR 250' WEST OF BROWN SCHOOL RD
CASSEL CREEK DR 250' EAST OF BROWN SCHOOL RD
BROWN SCHOOL RD 500' SOUTH OF US 40
US 40 500' EAST OF SOUTH CASSEL ROAD (METROPARK DRIVEWAY)

END ROAD WORK (G20-2-36)

GREAT MIAMI RIVER TRAIL 250' SOUTH OF US 40
GREAT MIAMI RIVER TRAIL 350' NORTH OF US 40

ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH C&MS 514 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.

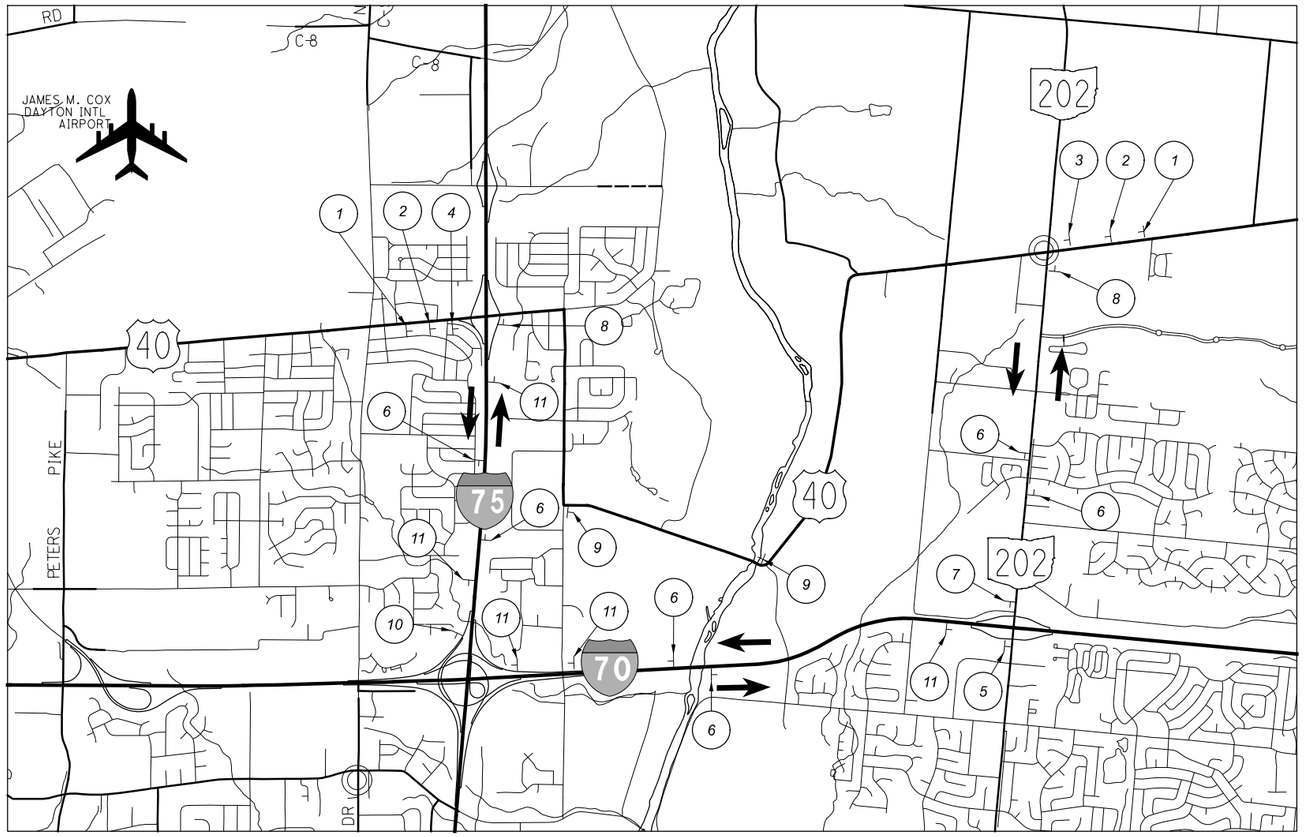
MAINTENANCE OF TRAFFIC GENERAL NOTES

DESIGN AGENCY

DESIGNER LAS
REVIEWER JRE 11/01/23
PROJECT ID 111388
SHEET 11 TOTAL 171

MOT-VANDALIA BIKEWAY

MODEL: Sheet PAPERSIZE: 17x11 (in.) DATE: 4/25/2024 TIME: 7:49:56 AM USER: jespelage
Q:\City of Vandalia\0116494A.01 - MOT-Vandalia Bikeway Part 2\111388\400-Engineering\MOT\Sheets\111388_MN002.dgn



DETOUR SIGNS

1 — ROAD CLOSED AHEAD — *W20-3-36*

2 — DETOUR AHEAD — *W20-2-36*

3 — ROAD CLOSED 2.6 MILES AHEAD / LOCAL TRAFFIC ONLY / DETOUR
R11-3A-60
M4-10L-48
(MOUNT ON TYPE 3 BARRICADE)

4 — ROAD CLOSED 2.6 MILES AHEAD / LOCAL TRAFFIC ONLY / DETOUR
R11-3A-60
M4-10R-48
(MOUNT ON TYPE 3 BARRICADE)

5 — DETOUR ← 40
M4-9L-30
M1-4-24-2

6 — DETOUR 40 ↑
M4-8-24
M1-4-24-2
M6-3-12

7 — DETOUR → 40
M4-9R-30
M1-4-24-2

8 — END DETOUR
M4-8-24

9 — ROAD CLOSED
R11-2-48
(MOUNT ON TYPE 3 BARRICADE)

10 — DETOUR 40 ↖
M4-8-24
M1-4-24-2
M6-2L-30

11 — DETOUR 40 ↗
M4-8-24
M1-4-24-2
M6-2R-30

← → *DETOUR ROUTE*

Sheet added

DETOUR MAP

DESIGN AGENCY

DESIGNER JRE
REVIEWER DWS 4/25/24
PROJECT ID 111388
SHEET 12A TOTAL 171

MOT-VANDALIA BIKEWAY

MODEL: Sheet PAPERSIZE: 17x11 (in.) DATE: 5/2/2024 TIME: 4:55:52 PM USER: awildmeier
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SHEET NUM.													PART.	ITEM	ITEM	GRAND	UNIT	DESCRIPTION	SEE SHEET NO.
8		17	18	19	71	RW3							01/SAF/28		EXT	TOTAL			
																		ROADWAY	
LUMP													LUMP	201	11000	LS		CLEARING AND GRUBBING	
			61										61	202	23000	61	SY	PAVEMENT REMOVED	
		171											171	202	30000	171	SF	WALK REMOVED	
		17											17	202	32000	17	FT	CURB REMOVED	
		87	153										240	202	32500	240	FT	CURB AND GUTTER REMOVED	78
		26											26	202	35100	26	FT	PIPE REMOVED, 24" AND UNDER	
		455											455	202	75000	455	FT	FENCE REMOVED	
					992								992	203	10000	992	CY	EXCAVATION	
					5,040								5,040	203	20000	5,040	CY	EMBANKMENT	
			1,525										1,525	204	13000	1,525	CY	EXCAVATION OF SUBGRADE, 12"	
			1,525										1,525	204	30020	1,525	CY	GRANULAR MATERIAL, TYPE C ,12"	
8													8	204	45000	8	HOUR	PROOF ROLLING	
			4,576										4,576	204	50000	4,576	SY	GEOTEXTILE FABRIC	
		436											436	607	23000	436	FT	FENCE, TYPE CLT	
		793											793	607	98000	793	FT	FENCE, MISC.:WOOD FENCE	
		668											668	608	10000	668	SF	4" CONCRETE WALK	
		516											516	608	52000	516	SF	CURB RAMP	
						22							22	623	40520	22	EACH	RIGHT-OF-WAY MONUMENT, TYPE B	
																		EROSION CONTROL	
2													2	659	00100	2	EACH	SOIL ANALYSIS TEST	
7,236													7,236	659	00500	7,236	SY	SEEDING AND MULCHING, CLASS 1	
365													365	659	14000	365	SY	REPAIR SEEDING AND MULCHING	
365													365	659	15000	365	SY	INTER-SEEDING	
1													1	659	20000	1	TON	COMMERCIAL FERTILIZER	
1.5													1.5	659	31000	1.5	ACRE	LIME	
39													39	659	35000	39	MGAL	WATER	
				LUMP									LUMP	832	15000	LS		STORM WATER POLLUTION PREVENTION PLAN	
				LUMP									LUMP	832	15002	LS		STORM WATER POLLUTION PREVENTION INSPECTIONS	
				LUMP									LUMP	832	15010	LS		STORM WATER POLLUTION PREVENTION INSPECTION SOFTWARE	
				25,000									25,000	832	30000	25,000	EACH	EROSION CONTROL	
																		DRAINAGE	
		1											1	602	20000	1	CY	CONCRETE MASONRY	
		206											206	611	04900	206	FT	12" CONDUIT, TYPE D	
		6											6	611	05700	6	FT	15" CONDUIT, TYPE A	
		8											8	611	13600	8	FT	30" CONDUIT, TYPE C	
		2											2	611	98470	2	EACH	CATCH BASIN, NO. 2-2B	
		1											1	611	98510	1	EACH	CATCH BASIN, NO. 2-3	
2													2	611	98644	2	EACH	CATCH BASIN GRATE	
		2											2	611	99660	2	EACH	MANHOLE RECONSTRUCTED TO GRADE	
																		PAVEMENT	
			12,256										12,256	254	01000	12,256	SY	PAVEMENT PLANING, ASPHALT CONCRETE	
			906										905	304	20000	906	CY	AGGREGATE BASE	
			860										860	407	10000	860	GAL	TACK COAT	
			588										588	441	70000	588	CY	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (449), PG64-22	
			227										227	441	70300	227	CY	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (449)	
			13										13	441	70500	13	CY	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (449), (DRIVEWAYS)	
			6										6	441	70700	6	CY	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (449), (DRIVEWAYS)	
			105										105	452	10010	105	SY	6" NON-REINFORCED CONCRETE PAVEMENT, CLASS QC 1P	
			131										131	452	12010	131	SY	8" NON-REINFORCED CONCRETE PAVEMENT, CLASS QC 1P	
			153										153	609	12000	153	FT	COMBINATION CURB AND GUTTER, TYPE 2, W=21"	
		215											215	609	28000	215	FT	CURB, TYPE 7	
																		WATER WORK	
		1											1	638	10800	1	EACH	VALVE BOX ADJUSTED TO GRADE	

GENERAL SUMMARY

MOT-VANDALIA BIKEWAY

MODEL: Sheet PAPERSIZE: 17x11 (in.) DATE: 5/22/2024 TIME: 9:59:14 AM USER: jespelage
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DESIGN AGENCY

DESIGNER JRE

REVIEWER DWS 11/01/23

PROJECT ID 111388

SUBSET 0 | TOTAL 0

SHEET 13 | TOTAL 171

SHEET NUM.													PART.	ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
10	11	12											01/SAF/28						
																		MAINTENANCE OF TRAFFIC	
	50												50	614	11110	50	HOUR	LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE	
													LUMP	614	12420	LS		DETOUR SIGNING	12A
		3											3	614	18601	3	SNMT	PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN	12
26													26	616	10000	26	MGAL	WATER	
																		STRUCTURE OVER 20 FOOT SPAN	
																		FOR STRUCTURE ESTIMATED QUANTITIES	137
																		RETAINING WALLS	
																		FOR RETAINING WALL ESTIMATED QUANTITIES	144
																		INCIDENTALS	
													LUMP	108	10000	LS		CPM PROGRESS SCHEDULE	
													LUMP	614	11000	LS		MAINTAINING TRAFFIC	
													LUMP	623	10000	LS		CONSTRUCTION LAYOUT STAKES AND SURVEYING	
													LUMP	624	10000	LS		MOBILIZATION	

GENERAL SUMMARY

MOT-VANDALIA BIKEWAY

MODEL: Sheet PAPERSIZE: 17x11 (in.) DATE: 5/22/2024 TIME: 3:41:13 PM USER: Isack
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DESIGN AGENCY

DESIGNER JRE

REVIEWER DWS 11/01/23

PROJECT ID 111388

SHEET 16 TOTAL 171

ROADWAY AND DRAINAGE SUBSUMMARY

REF NO.	SHEET NO.	STATION TO STATION			SIDE	202 CURB REMOVED (FT)		202 WALK REMOVED (SF)	202 FENCE REMOVED (FT)	202 CURB AND GUTTER REMOVED (FT)	202 PIPE REMOVED, 24" AND UNDER (FT)		602 CONCRETE MASONRY (CY)	607 FENCE, MISC.:WOOD FENCE (FT)	607 FENCE, TYPE CLT (FT)	608 4" CONCRETE WALK (SF)	608 CURB RAMP (SF)	609 CURB, TYPE 7 (FT)	611 30" CONDUIT, TYPE C (FT)	611 12" CONDUIT, TYPE D (FT)	611 CATCH BASIN, NO. 2-2B (EACH)	611 MANHOLE RECONSTRUCTED TO GRADE (EACH)	611 15" CONDUIT, TYPE A (FT)	611 CATCH BASIN, NO. 2-3 (EACH)	638 VALVE BOX ADJUSTED TO GRADE (EACH)	
			TO																								
R1	20	26+44		26+63	RT			100.75																			
R2	20	26+46		26+61	RT			48.54		25.41																	
R3	20	25+80		25+99	RT					26.78																	
R4	20	26+51		26+80	LT					34.81																	
R5	20	26+51		26+65	LT			21.64																			
R6	20	25+80		25+95	LT	16.23																					
R7	26	39+06		39+23	L/R						26																
R8	26	39+40		42+66	LT				330																		
R9	27	44+75		46+00	LT				125																		
SW1	20	26+46		26+61	RT												111.85										
SW2	20	26+44		26+63	RT											68.86											
SW3	20	25+80		25+99	RT												207.39										
SW4	20	26+51		26+65	LT												97.19										
SW5	20	25+80		25+95	LT												99.47										
SW6	20	26+62		27+12	LT											236.97											
SW7	99	28+01.45		28+74.13	LT											361.29											
C1	20	10+43		11+40	LT													97									
C2	20	11+81		12+99	LT													118									
W1	20	25+80			LT																					1	
D1	22	19+18			LT																	1					
D2	22	20+88			LT														8								
D3	22	20+91			RT																	1					
D4	22	23+00			L/R															28	1						
D5	22	24+02			L/R															22							
D6	23	28+68		29+11	L/R															57							
D7	26	39+00		39+10	L/R								0.21							25							
D8	26	39+00		39+40	LT								0.21							35	1						
D9	26	42+80			LT																			6			
D10	28	53+00			L/R															39					1		
F1	26	39+64		42+66	LT										310												
F2	27	44+00		48+13	LT									413													
F3	27	44+75		46+00	LT										126												
F4	28	50+00		53+00	LT									186													
F5	28	52+43		55+00	RT									194													
TOTALS CARRIED TO GENERAL SUMMARY						17		171	455	87	26		1	793	436	668	516	215	8	206	2	2	6	1	1		

MOT-VANDALIA BIKEWAY

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DESIGN AGENCY

DESIGNER JRE

REVIEWER DWS 11/01/23

PROJECT ID 111388

SHEET 17 TOTAL 171

PAVEMENT/DRIVEWAY SUBSUMMARY

REF. NO.	SHEET NO.	STATION			TYPE	PAVEMENT		CADD GENERATED AREA (APRON)	CADD GENERATED AREA (DRIVE BEYOND APRON)	304 AGGREGATE BASE	407 TACK COAT	441 ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (449), (DRIVEWAYS)	441 ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (449), (DRIVEWAYS)	452 6" NON-REINFORCED CONCRETE PAVEMENT, CLASS QC 1P	452 8" NON-REINFORCED CONCRETE PAVEMENT, CLASS QC 1P	202 PAVEMENT REMOVED	202 CURB AND GUTTER REMOVED	609 COMBINATION CURB AND GUTTER, TYPE 2, W=21"
							FT	SQ FT	SQ FT	CY	GAL	CY	CY	SY	SY	SY	FT	FT
DW1	20	11+61			COM	ASPH		507.24	585.45	14.46	3.25	2.26	3.16		56.36		42	42
DW2	20	13+64			COM	ASPH		670.89							74.54		42	42
DW3	20	14+06			RES	ASPH		278.86	567.58	10.51	3.15	3.50		30.98			27	27
DW4	21	17+48			RES	ASPH		460.33						51.15		51.00	20	20
DW5	21	18+95			RES	ASPH		197.50	888.95	16.46	4.94	5.49		21.94		10.00	22	22
DW6	26	39+18			COM	ASPH			349.75	8.64	1.94	1.35	1.89					
									SUBTOTALS	50.06	13.29	12.60	5.05	104.08	130.90	61.00	153.00	153.00
									TOTALS CARRIED TO GENERAL SUMMARY	51	14	13	6	105	131	61	153	153

		STATION RANGE			TYPICAL SECTION	SIDE	DISTANCE (D)			CADD GENERATED AREA	204 EXCAVATION OF SUBGRADE, 12"	204 GRANULAR MATERIAL, TYPE C , 12"	204 GEOTEXTILE FABRIC	254 PAVEMENT PLANING, ASPHALT CONCRETE	304 AGGREGATE BASE	407 TACK COAT	441 ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (449), PG64-22	441 ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (449)
							FT			SQ SF	CY	CY	SY	SY	CY	GAL	CY	CY
PATH		10+06	TO	11+45			139.00			1355.92	60.52	60.52	181.55		27.68	7.53	5.36	7.51
		11+77		13+48			171.00			1693.15	75.38	75.38	226.13		34.52	9.41	6.60	9.24
		13+76		13+97			21.00			205.27	9.16	9.16	27.47		4.19	1.14	0.81	1.13
		14+14		17+43			329.00			3295.00	146.41	146.41	439.22		67.11	18.31	12.69	17.77
		17+53		18+89			136.00			1362.50	60.54	60.54	181.61		27.75	7.57	5.25	7.35
		19+01		39+13			2012.00			20104.14	893.63	893.63	2680.90		409.56	111.69	77.62	108.67
		39+20		47+98			878.00			8766.52	279.35	279.35	838.17		178.60	48.70	33.87	47.42
		50+15		55+20			505.00			5173.77					105.16	28.74	19.48	27.28
NATIONAL RD/BROWN SCHOOL RD		83+00.00		99+07.20			1607.20			110297				12255.22		612.76	425.53	
		62+79.00		70+67.83			788.83											
										SUBTOTALS	1524.98	1524.98	4575.06	12255.22	854.58	845.85	587.22	226.37
										TOTALS CARRIED TO GENERAL SUMMARY	1525	1525	4576	12256	855	846	588	227

MOT-VANDALIA BIKEWAY

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DESIGN AGENCY

DESIGNER JRE

REVIEWER DWS 11/01/23

PROJECT ID 111388

SHEET 18 TOTAL 171

A WRITTEN REPORT STATING THE CABINET INTERSECTION NUMBER, DATE AND TIME OF TEST, SIGNED OFF BY THE TECHNICIAN WHO PERFORMED THE TESTS, SHALL BE SUBMITTED TO THE PROJECT ENGINEER UPON SUCCESSFUL COMPLETION OF THE ABOVE TESTS. THE SUCCESSFUL TESTING SHALL BE DEMONSTRATED TO THE PROJECT ENGINEER PRIOR TO INSTALLATION IF REQUESTED. THE TEST AREA MAY BE ERECTED AT A LOCATION DETERMINED BY THE CONTRACTOR. ALL COSTS RELATED TO INSPECT AND OBSERVE THE BENCH TESTING SHALL BE INCLUDED AS PART OF TESTING.

THE CONTROLLER AND ALL RELATED COMPONENTS SHALL BE IN WORKING ORDER AND READY FOR INSTALLATION/OPERATION AT THE SPECIFIED INTERSECTION. THE COST FOR THE CONTROLLER AND CABINET TESTING SHALL BE INCLUDED IN THE PRICE OF THE CABINET FURNISHED COMPLETE.

PAYMENT WILL BE MADE AT THE CONTRACT UNIT PRICE BID PER EACH OF "ITEM 633 - CONTROLLER ITEM, MISC.: CABINET, TYPE TS1" IN PLACE INCLUDING ALL CONNECTIONS, SYSTEM ANALYSIS, TESTED AND ACCEPTED.

PREEMPTION

EXISTING PREEMPTION AT NATIONAL ROAD AND BROWN SCHOOL ROAD IS TO BE REINSTALLED AT THAT SAME INTERSECTION. EXISTING CONFIRMATION LIGHTS WILL BE REPLACED WITH LED UNITS. PREEMPTION IS TO BE ADDED TO THE SCHOLZ DRIVE/CASSEL CREEK DRIVE AND BROWN SCHOOL ROAD INTERSECTION.

809 EMERGENCY VEHICLE PREEMPTION, AS PER PLAN

THIS ITEM OF WORK SHALL CONSIST OF FURNISHING AND INSTALLING PREEMPTION EQUIPMENT IN THE LOCATIONS AND LOCAL CONTROLLERS AS SHOWN IN THE PLANS. THE PREEMPTION SHALL CONFORM TO ODOT SUPPLEMENTAL SPECIFICATION 809 AND SHALL UTILIZE COMMUNICATIONS TO IDENTIFY THE PRESENCE OF AN EMERGENCY PRIORITY VEHICLE. IT SHALL CAUSE THE TRAFFIC SIGNAL CONTROLLER TO SELECT A PRE-PROGRAMMED PREEMPTION PLAN THAT WILL DISPLAY AND HOLD THE DESIRED SIGNAL PHASE FOR THE DIRECTION OF THE EMERGENCY VEHICLE.

THIS ITEM SHALL UTILIZE SONEM 2000 EQUIPMENT MANUFACTURED BY TRAFFIC SYSTEMS LLC.

THE EQUIPMENT SHALL BE SHELF OR RACK MOUNTED AND EASILY REMOVABLE AND REPLACEABLE WITHIN THE CABINET. SUPPLY EQUIPMENT COMPLETELY WIRED IN THE CONTROLLER CABINET AND TESTED. THE SYSTEM SHALL BE CAPABLE OF PREEMPTING AND RECEIVING PRIORITY FOR EACH APPROACH TO THE INTERSECTION. IT SHALL BE POSSIBLE TO DETECT THE EMERGENCY VEHICLE AT LEAST 2000 FEET FROM THE INTERSECTION IN AN 80dB-A NOISE ENVIRONMENT.

ALL PREEMPTION PLANS SHOULD BE PROGRAMMED TO PREVENT THE YELLOW TRAP, UNLESS AS DIRECTED BY THE DISTRICT TRAFFIC ENGINEER. YELLOW TRAP PREVENT WILL FORCE THE TRANSITION THROUGH YELLOW CHANGE AND RED CLEARANCE FOR RESOLUTION OF YELLOW TRAP IF ANY PHASE OPPOSING THE PREEMPTION CLEARANCE PHASE(S) IS ACTIVE AND DISPLAYING A GREEN OR FLASHING YELLOW ARROW INDICATION WHEN THE PREEMPTION PLAN IS ACTIVATED AND THE PREEMPTION CLEARANCE PHASE(S) ARE GREEN.

THE SCHOLZ DRIVE/CASSEL CREEK DRIVE AND BROWN SCHOOL INTERSECTION HAS THE FOLLOWING COMPONENTS, EACH BID SEPARATELY:

1. PREEMPT RECEIVING UNIT.
2. PREEMPT DETECTOR CABLE.
3. PREEMPT PHASE SELECTOR ASSEMBLY AND INTERFACE WIRING PANEL.
4. CONFIRMATION LIGHT.

THE NATIONAL ROAD AND BROWN SCHOOL ROAD INTERSECTION WILL HAVE THE FOLLOWING COMPONENTS REPLACED, EACH BID SEPARATELY:

1. PREEMPT DETECTOR CABLE.
2. CONFIRMATION LIGHT.

THE CONTRACTOR SHALL THOROUGHLY TEST THE INSTALLED SYSTEM. AS A MINIMUM, THE CONTRACTOR SHALL VERIFY THAT ALL CONNECTIONS ARE PROPERLY MADE TO THE CONTROLLER CABINETS. THE CONTRACTOR SHALL CHECK THAT THE RANGE SETTING IS PROPER FOR EACH INTERSECTION. THE CONTRACTOR SHALL DETERMINE THAT ALL PHASE SELECTORS ARE SELECTING THE PROPER PHASE AND TIMING ACCURATELY. THE CONTRACTOR SHALL VERIFY THAT ALL VEHICLE EMITTERS ARE BEING PROPERLY DETECTED.

PAYMENT FOR ITEM 809 EMERGENCY VEHICLE PREEMPTION, AS PER PLAN SHALL BE MADE AT THE CONTRACT UNIT PRICE FOR EACH PREEMPTION IN PLACE AND FULLY OPERATIONAL AS SHOWN IN THE PLANS, EXCEPT FOR THOSE ITEMS BID SEPARATELY.

809 PREEMPT RECEIVING UNIT

RECEIVING UNITS SHALL CONSIST OF A LIGHTWEIGHT, WEATHER-PROOF AND DIRECTIONAL ASSEMBLY. EACH RECEIVING UNIT SHALL BE 360 DEGREE ADJUSTABLE. THE RECEIVING UNIT SHALL BE CAPABLE OF SENDING THE PROPER ELECTRICAL SIGNAL TO THE TRAFFIC SIGNAL CONTROLLER VIA THE PREEMPTION DETECTOR CABLE. RECEIVING UNITS SHALL BE SUPPLIED WITH MAST ARM MOUNTING HARDWARE AS SHOWN IN THE PLANS.

FURNISH PREEMPTION RECEIVING UNITS WITH 60-MONTH WARRANTIES OR FOR THE MANUFACTURER'S STANDARD WARRANTY WHICHEVER IS GREATER. ENSURE THAT THE WARRANTY PERIOD BEGINS ON THE DATE OF SHIPMENT TO THE PROJECT. ENSURE THAT EACH UNIT HAS A PERMANENT LABEL OR STAMP INDICATING THE DATE OF SHIPMENT.

PAYMENT FOR ITEM 809 PREEMPT RECEIVING UNIT SHALL BE AT THE CONTRACT UNIT FOR EACH RECEIVING UNIT IN PLACE, COMPLETELY INSTALLED AT THE LOCATION SHOWN IN THE PLANS, WIRED, TESTED AND ACCEPTED.

809 PREEMPT RECEIVING UNIT, AS PER PLAN

EXISTING RECEIVING UNITS SHALL BE REINSTALLED ON NEW SIGNAL SUPPORTS. ADJUST THE ORIENTATION OF EACH RECEIVING UNIT.

PAYMENT FOR ITEM 809 PREEMPT RECEIVING UNIT, AS PER PLAN SHALL BE AT THE CONTRACT UNIT FOR EACH RECEIVING UNIT IN PLACE, COMPLETELY REINSTALLED AT THE LOCATION SHOWN IN THE PLANS, WIRED, TESTED AND ACCEPTED.

809 PREEMPT DETECTOR CABLE

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING PREEMPTION DETECTOR HOME RUN CABLE IN THE LOCATIONS SHOWN IN THE PLANS. IT SHALL CONNECT THE PREEMPT RECEIVING UNITS TO THE PHASE SELECTORS IN THE LOCAL CONTROLLER CABINET.

PREEMPT DETECTOR CABLE SHALL CONFORM TO ODOT SPECIFICATION 632. ONLY ONE EXTERNAL SPLICE SHALL BE PERMITTED BETWEEN PREEMPT RECEIVER UNIT AND CONTROLLER CABINET. THIS SPLICE SHALL MEET THE REQUIREMENTS OF C&MS 632.23 USING A WATERPROOF EPOXY SPLICE KIT. THE CABLE SHALL BE APPROVED FOR BOTH OVERHEAD AND UNDERGROUND USE. THE JACKET SHALL WITHSTAND EXPOSURE TO SUNLIGHT AND ATMOSPHERIC TEMPERATURES AND STRESSES REASONABLY EXPECTED IN NORMAL INSTALLATIONS.

PAYMENT FOR ITEM 809 PREEMPT DETECTOR CABLE SHALL BE MADE AT THE CONTRACT UNIT PRICE PER FOOT FOR THE CABLE FURNISHED, IN PLACE, ALL CONNECTIONS MADE AND WIRING COMPLETED, TESTED AND ACCEPTED.

809 PREEMPT PHASE SELECTOR

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING PREEMPT PHASE SELECTORS INCLUDING WIRING INTERFACE PANELS IN THE LOCAL CONTROLLER CABINET AND ALL OTHER ACCESSORIES THAT ARE NECESSARY TO MAKE THE PREEMPT PHASE SELECTORS COMPLETELY FUNCTIONAL AND OPERATIONAL AS SHOWN IN THE PLANS. THIS ITEM SHALL INCLUDE THE EXTRA CABINET SPACE NECESSARY TO BE LOCATED IN THE LOCAL CONTROLLER CABINETS WHERE INDICATED IN THE PLANS.

THE PHASE SELECTORS SHALL CONSIST OF A MODULE OR MODULES THAT WILL PROVIDE THE NECESSARY INPUTS TO THE CONTROLLER. PHASE SELECTORS SHALL BE SUPPLIED WITH SUFFICIENT QUANTITIES OF CHANNELS TO PROVIDE PREEMPTION FOR ALL APPROACHES TO THE INTERSECTION SEPARATELY. POWER SHALL BE OBTAINED FROM THE PHASE SELECTOR OR PHASE SELECTOR POWER SUPPLY AND NOT FROM THE LOCAL CONTROLLER TIMER.

THE PHASE SELECTORS SHALL HAVE FRONT PANEL INDICATORS FOR ACTIVE PREEMPT CHANNEL STATUS. IT SHALL HAVE TEST SWITCHES TO ACTIVATE ALL PREEMPT CHANNELS.

FURNISH PREEMPT PHASE SELECTORS WITH 60-MONTH WARRANTIES OR FOR THE MANUFACTURER'S STANDARD WARRANTY WHICHEVER IS GREATER. ENSURE THAT THE WARRANTY PERIOD BEGINS ON THE DATE OF SHIPMENT TO THE PROJECT. ENSURE THAT EACH UNIT HAS A PERMANENT LABEL OR STAMP INDICATING THE DATE OF SHIPMENT.

PAYMENT FOR ITEM 809 PREEMPT PHASE SELECTOR SHALL BE MADE AT THE CONTRACT UNIT PRICE FOR EACH PHASE SELECTOR IN PLACE, COMPLETELY INSTALLED IN THE LOCAL CONTROLLER SHOWN IN THE PLANS, WIRED, TESTED AND ACCEPTED.

809 PREEMPT PHASE SELECTOR, AS PER PLAN

THIS ITEM SHALL CONSIST OF REINSTALLING EXISTING PREEMPT PHASE SELECTORS INCLUDING WIRING INTERFACE PANELS IN THE LOCAL CONTROLLER CABINET AND ALL OTHER ACCESSORIES THAT ARE NECESSARY TO MAKE THE PREEMPT PHASE SELECTORS COMPLETELY FUNCTIONAL AND OPERATIONAL AS SHOWN IN THE PLANS. THIS ITEM SHALL INCLUDE THE EXTRA CABINET SPACE NECESSARY TO BE LOCATED IN THE LOCAL CONTROLLER CABINETS WHERE INDICATED IN THE PLANS.

THE PHASE SELECTORS SHALL HAVE FRONT PANEL INDICATORS FOR ACTIVE PREEMPT CHANNEL STATUS. IT SHALL HAVE TEST SWITCHES TO ACTIVATE ALL PREEMPT CHANNELS.

PAYMENT FOR ITEM 809 PREEMPT PHASE SELECTOR, AS PER PLAN SHALL BE MADE AT THE CONTRACT UNIT PRICE FOR EACH PHASE SELECTOR IN PLACE, COMPLETELY REINSTALLED IN THE LOCAL CONTROLLER SHOWN IN THE PLANS, WIRED, TESTED AND ACCEPTED.

809 PREEMPT CONFIRMATION LIGHT

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING PREEMPT CONFIRMATION LIGHTS INCLUDING HARDWARE AND ALL OTHER ACCESSORIES THAT ARE NECESSARY TO MAKE THE PREEMPT CONFIRMATION LIGHT COMPLETELY FUNCTIONAL AND OPERATIONAL AS SHOWN IN THE PLANS.

A CONFIRMATION LIGHT SHALL BE SUPPLIED FOR EACH INTERSECTION APPROACH TO INDICATE THAT THE EMERGENCY VEHICLE ACHIEVED CONTROL OF THE TRAFFIC SIGNAL.

THE CONFIRMATION LIGHT SHALL BE A WEATHER TIGHT LIGHTING FIXTURE. IT SHALL BE SUPPLIED WITH A GLOBE, LED LAMP AND MOUNTING HARDWARE TO ATTACH TO THE TRAFFIC SIGNAL MAST ARM. THE CONFIRMATION LIGHT SHALL BE POWERED BY A LOAD SWITCH IN THE TRAFFIC SIGNAL CONTROLLER. SIGNAL CABLE CONFORMING TO 732.19 SHALL BE USED FOR CONFIRMATION LIGHTS. A MINIMUM OF 4-CONDUCTOR CABLE SHALL BE USED WITH THE GREEN WIRE SERVING AS THE SAFETY GROUND CONDUCTOR. PAYMENT FOR ITEM 809 PREEMPT CONFIRMATION LIGHT SHALL BE MADE AT THE CONTRACT UNIT PRICE FOR EACH LIGHT IN PLACE, COMPLETELY INSTALLED IN THE LOCATION SHOWN IN THE PLANS, WIRED, TESTED AND ACCEPTED.

TRAFFIC SIGNAL GENERAL NOTES

DESIGN AGENCY

DESIGNER JDO

REVIEWER LAS 11/01/23

PROJECT ID 111388

SHEET 116 TOTAL 171

MOT-VANDALIA BIKEWAY

MODEL: Sheet PAPERSIZE: 17x11 (in.) DATE: 4/25/2024 TIME: 1:12:00 PM USER: lsack
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632, SIGNAL SUPPORT, MISC.: ANCHOR BOLTS

--PROVIDE ANCHOR BOLTS OF THE CORRECT SIZE AND LENGTH CONFORMING TO TC-21.10 OF THE SAME DIAMETER AS EXISTING.

--VERIFY THE DIAMETER OF THE ANCHOR BOLT WITH THE EXISTING SIGNAL SUPPORT TO BE RELOCATED.

PAYMENT WILL BE MADE AT THE CONTRACT UNIT PRICE BID PER EACH OF "ITEM 632 SIGNAL SUPPORT, MISC.: ANCHOR BOLTS".

ITEM 633 CONTROLLER ITEM, MISC.: REUSE OF SPREAD SPECTRUM RADIO

THE CONTRACTOR WILL REMOVE THE EXISTING SPREAD SPECTRUM RADIO FROM THE EXISTING SIGNAL INSTALLATION AT BROWN SCHOOL ROAD AND NATIONAL ROAD FOR REINSTALLATION IN THE NEW SIGNAL CONTROLLER CABINET. THIS ITEM SHALL INCLUDE THE REINSTALLATION OF THE ANTENNA SYSTEM IN ACCORDANCE WITH ODOT SUPPLEMENTAL SPECIFICATION 815.04 AND THE WATERPROOFING NOTE HEREIN.

THE TRAFFIC SIGNAL INSTALLATION SHALL COMMUNICATE WITH THE CONTROLLER LOCATED AT NATIONAL ROAD AND FOLEY DRIVE. PROVIDE A NEW ANTENNA FEEDLINE BETWEEN THE ANTENNA AND THE TRANSCEIVER. PROVIDE A NEW CONTROL CABLE BETWEEN THE TRANSCEIVER AND THE SIGNAL CONTROLLER.

PAYMENT WILL BE MADE AT THE CONTRACT PRICE BID PER EACH OF ITEM 633 CONTROLLER ITEM, MISC.: REUSE OF SPREAD SPECTRUM RADIO AND SHALL INCLUDE WORK ITEMS THAT ARE NECESSARY TO PROVIDE RELIABLE COMMUNICATIONS.

ANTENNA FEED LINE WATERPROOFING

APPLY TWO WRAPS OF 3M SCOTCH BRAND SUPER 88 ELECTRICAL TAPE OR EQUIVALENT OVER THE JOINT.

APPLY A LAYER OF BUTYL RUBBER TAPE/VAPOR WRAP OVER THE JOINT MAKING SURE THAT THERE ARE NO AIR CAVITIES OR OPENINGS IN THE WRAP. USE 3M SCOTCH 130C, LINERLESS RUBBER SPLICING TAPE, OR SCOTCH #23 RUBBER SPLICING TAPE OR EQUIVALENT. DO NOT APPLY BUTYL RUBBER TAPE DIRECTLY TO THE CONNECTOR.

APPLY 2 WRAPS OF 3M SCOTCH BRAND SUPER 88 ELECTRICAL TAPE OR EQUIVALENT UV RESISTANT TAPE OVER THE JOINT WITH THE FINAL WRAP GOING UP TO MINIMIZE WATER MIGRATION.

FOR CONNECTIONS THAT WILL ON OR UNDER THE GROUND, COAT JOINT WITH SCOTCH-KOTE SEALER OR EQUIVALENT. FOR CONNECTIONS EXPOSED TO THE SUNLIGHT, COAT JOINT WITH BLACK PLASTI-DIP EITHER BY BRUSHING OR BY SPRAY.

632, POWER SERVICE, AS PER PLAN

IN ADDITION TO ITEM 632.24:

--OBTAIN ELECTRIC POWER FROM THE DAYTON POWER AND LIGHT COMPANY (AES OHIO) AT THE LOCATIONS INDICATED ON THE PLANS.

--ENSURE POWER IS A 3-WIRE, SINGLE PHASE, 120 / 240 VOLT POWER SERVICE.

--PROVIDE A 120 VOLT, SINGLE-PHASE, 30 AMP DISCONNECT SWITCH WITH 30 AMP CIRCUIT PROTECTION FOR THE TRAFFIC SIGNAL CONTROL.

-- WHERE LUMINAIRES ARE SPECIFIED, PROVIDE A SEPARATE 120 VOLT, SINGLE PHASE, 30 AMP DISCONNECT SWITCH WITH 30 AMP CIRCUIT PROTECTION FOR LUMINAIRES.

--POWDER COAT OR PAINT THE EXTERIOR OF METER BASES, DISCONNECT SWITCHES AND MISCELLANEOUS MOUNTING HARDWARE BLACK WITH A PAINT INTENDED FOR THE PURPOSE. FOLLOW PAINT MANUFACTURER'S DIRECTIONS.

--COORDINATE WITH THE POWER COMPANY FOR THE POWER SERVICE SOURCE. REQUEST AND SCHEDULE ANY INSPECTIONS AND PROVIDE LOAD CALCULATIONS THE POWER COMPANY MAY REQUIRE FOR THE POWER SERVICE.

--ATTACH UNFUSED POWER CABLE EXTERNAL TO THE INDICATED SUPPORT VIA A 2 INCH GALVANIZED RISER TO THE DISCONNECT SWITCH. POWDER COAT OR PAINT THE RISER BLACK WITH A PAINT INTENDED FOR THE PURPOSE. FOLLOW PAINT MANUFACTURER'S DIRECTIONS.

--GROUND BOTH THE DISCONNECT SWITCH AND THE SUPPORT POLE WITH GROUND RODS DRIVEN OUTSIDE THE POLE FOUNDATION.

--ROUTE POWER CABLE FOR THE TRAFFIC SIGNAL INSTALLATION FROM THE METER TO THE CONTROLLER VIA A 2 INCH GALVANIZED CONDUIT.

--ENSURE THAT EACH POWER SERVICE ELECTRICAL ENERGY ACCOUNT IS IN THE NAME OF THE CITY OF VANDALIA AND THAT THE BILLING ADDRESS IS CORRECT. PERFORM THIS FOR EACH NEW AND EXISTING POWER SERVICES, SINCE THERE MAY BE A REASSIGNMENT OF THE RESPONSIBILITY FOR AN EXISTING SERVICE.

--PROVIDE A UNIQUE KEYED PADLOCK OR DEVICE APPROVED BY THE MAINTAINING AGENCY FOR EACH DISCONNECT SWITCH ENCLOSURE.

THE FOLLOWING MATERIALS ARE INCLUDED IN THIS PAY ITEM UNLESS SEPARATELY ITEMIZED IN THE PLANS:

--GROUND ROD FOR THE DISCONNECT SWITCH(ES).
--2 INCH GALVANIZED RISER ON THE SUPPORT INDICATED. PAINT THE RISER BLACK.
--METER AND BASE.
--DISCONNECT SWITCH(ES).
--CIRCUIT PROTECTION DEVICES.
--CONDUIT, TRENCH AND CABLE FROM THE POWER COMPANY POWER SOURCE TO THE POWER SERVICE LOCATION.

THE FOLLOWING MATERIALS ARE SEPARATELY ITEMIZED ELSEWHERE IN THESE PLANS:

--CONDUIT, TRENCH AND FITTINGS FROM DISCONNECT SWITCH TO THE CONTROLLER.
--POWER AND SERVICE CABLE.

PAYMENT SHALL BE MADE AT THE CONTRACT UNIT PRICE BID PER EACH OF "ITEM 632 POWER SERVICE, AS PER PLAN", WHICH SHALL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS, AND INCIDENTALS REQUIRED TO COMPLETE THIS ITEM.

632, REUSE OF SIGNAL SUPPORT, AS PER PLAN

THE INTENT OF THIS ITEM IS TO RELOCATE AN EXISTING SIGNAL SUPPORT IN A DIFFERENT LOCATION AND ORIENTATION. IN ADDITION TO THE REQUIREMENTS OF CMS 632.27:

--REMOVE EXISTING SIGNAL SUPPORTS AND BRACKET ARMS.

--PLUG UNUSED COUPLINGS IN THE EXISTING SUPPORT WITH GALVANIZED CAST IRON PLUGS. PLUG OTHER UNUSED OPENINGS WITH PLASTIC PLUGS.

--REPAINT SCRATCHES AND CAST IRON PLUGS ON THE SUPPORT TO MATCH THE EXISTING FINISH.

--REERECT EXISTING SIGNAL SUPPORTS AND BRACKET ARMS.

--FIELD MODIFY THE POLE HEIGHT OF SUPPORT SP-3 AT CASSEL CREEK/SCHOLZ TO 22'. REATTACH THE BRACKET ARM FITTING, CABLE SUPPORT ASSEMBLY AND POLE CAP.

THE EXISTING SUPPORT'S MANUFACTURER, MODEL NUMBER, ETC. ARE UNKNOWN. IF THE EXISTING POLE CAP IS UNUSABLE, PROVIDE A SUBSTITUTE PAINTED CAP. NORMAL WORKMANSHIP IS ANTICIPATED FOR THE REMOVAL OF BURRS, CARE OF RING CUTTING THE POLE WITH A CUT OFF SAW, TOUCH UP OF THE FINISH, ETC.

PAYMENT WILL BE MADE AT THE CONTRACT UNIT PRICE BID PER EACH OF "ITEM 632 REUSE OF SIGNAL SUPPORT, AS PER PLAN". ANCHOR BOLTS ARE ITEMIZED SEPARATELY.

ITEM 632 TEST HOLE PERFORMED

IT IS ANTICIPATED THAT THE CONTRACTOR WILL ENCOUNTER UNDERGROUND UTILITIES WHILE EXCAVATING FOR SIGNAL SUPPORT FOUNDATIONS OR SIMILAR FOUNDATIONS. AFTER ACCURATELY IDENTIFYING THE PROPOSED LOCATION OF THE FOUNDATION, AS SHOWN IN THE PLANS AND AFTER MODIFYING THAT LOCATION, IF NECESSARY, BASED ON THE FIELD MARKING OF UNDERGROUND UTILITY LOCATION, THE CONTRACTOR DISCOVERS A UTILITY CONFLICT DURING THE EXCAVATION OPERATION, THE CONTRACTOR WILL BE COMPENSATED FOR EACH PARTIAL FOUNDATION EXCAVATION ACCORDING TO THE BID PRICE.

BEFORE THE CONTRACTOR BEGINS THE EXCAVATION AT THE MODIFIED LOCATION, THE CONTRACTOR SHALL VERIFY THAT THERE WILL BE NO OVERHEAD UTILITY CONFLICTS RESULTING FROM THE NEW SIGNAL SUPPORT LOCATION. NEW SUPPORT LOCATIONS ARE TO BE APPROVED BY THE PUBLIC WORKS DIRECTOR.

THE WORK WILL INCLUDE BACKFILLING, COMPACTING, AND RESTORATION OF THE EXCAVATION TO THE SITE'S ORIGINAL CONDITION.

EXCAVATIONS SHALL NOT BE LEFT OPEN OVERNIGHT.

PAYMENT FOR THIS ITEM SHALL BE AT THE UNIT PRICE BID PER EACH ITEM 632 TEST HOLE PERFORMED TO BE USED AT THE DIRECTION OF THE ENGINEER.

THE FOLLOWING QUANTITIES ARE FORWARDED TO THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER.

632 TEST HOLE PERFORMED	8 EACH

TRAFFIC SIGNAL GENERAL NOTES

DESIGN AGENCY

DESIGNER JDO

REVIEWER LAS 11/01/23

PROJECT ID 111388

SHEET 119 TOTAL 171

MOT-VANDALIA BIKEWAY

MODEL: Sheet PAPERSIZE: 17x11 (in.) DATE: 4/30/2024 TIME: 4:31:25 PM USER: lsack
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GENERAL NOTES:

STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS
REFER TO THE FOLLOWING STANDARD BRIDGE DRAWINGS:

A-1-20	REVISED 1-21-22
AS-1-15	REVISED 1-20-23
VPF-1-90	REVISED 7-21-23

DESIGN SPECIFICATIONS
THIS STRUCTURE CONFORMS TO THE 9TH EDITION OF THE "LRFD BRIDGE DESIGN SPECIFICATIONS" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2020, THE 2ND EDITION OF THE AASHTO LRFD GUIDE SPECIFICATIONS FOR THE DESIGN OF PEDESTRIAN BRIDGES, 2009 WITH 2015 INTERIMS, AND THE ODOT BRIDGE DESIGN MANUAL, 2020.

OPERATIONAL IMPORTANCE
A LOAD MODIFIER OF 1.0 HAS BEEN ASSUMED FOR THE DESIGN OF THIS STRUCTURE IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, ARTICLE 1.3.5 AND THE ODOT BRIDGE DESIGN MANUAL, 2020.

DESIGN LOADING INCLUDES:
PEDESTRIAN LIVE LOAD: 0.090 KIPS/FT^2
VEHICULAR LIVE LOAD: H15-44 (TRUCK ONLY)

THE BRIDGE DESIGN SHALL BE BASED ON THE COMBINATION OF THE FOLLOWING LOADS THAT WILL PRODUCE MAXIMUM CRITICAL STRESSES:

A) ONE AASHTO H15-44 TRUCK. CONSIDERATION OF DYNAMIC LOADING IS NOT REQUIRED.
B) PEDESTRIAN LIVE LOAD OF 0.090 KIPS/FT^2. DOES NOT NEED TO BE PLACED IN COMBINATION WITH THE TRUCK LOAD.
C) 20 PSF VERTICAL WIND FORCE APPLIED TO THE WIDTH OF THE BRIDGE.
D) THE WIND LOAD ON THE FULL HEIGHT OF THE STRUCTURE AS IF ENCLOSED PER LRFD 3.8.1.2.1-1.

DESIGN DATA
CONCRETE CLASS QC1 - COMPRESSIVE STRENGTH 4.0 KSI (SUBSTRUCTURE)
CONCRETE CLASS QC2 - COMPRESSIVE STRENGTH 4.5 KSI (SUPERSTRUCTURE)
EPOXY COATED STEEL REINFORCEMENT - MINIMUM YIELD STRENGTH 60 KSI
ANCHOR BOLTS - ASTM F3125, GRADE A325, TYPE III
STEEL PLATES AND STRUCTURAL SHAPES - ASTM A709 GRADE 50W - YIELD STRENGTH 50 KSI
STEEL TUBE SECTIONS - ASTM A847
STAY-IN-PLACE FORM PANS - ASTM A653, GALVANIZED
STEEL CIP PILES - ASTM A252 GRADE 2 - YIELD STRENGTH 35 KSI

NON-USE OF ASBESTOS-CONTAINING MATERIALS
THE CONTRACTOR SHALL AT NO TIME INCORPORATE ANY MATERIALS WHICH ARE COMPOSED OF OR CONTAIN ANY AMOUNTS OF ASBESTOS. THE SUBSTITUTION OF MATERIALS WHICH CONTAIN ANY AMOUNTS OF ASBESTOS WILL IN NO CIRCUMSTANCES BE ACCEPTABLE. UPON COMPLETION OF THE PROJECT, THE CONTRACTOR SHALL SUBMIT A WRITTEN STATEMENT OF CERTIFICATION ASSERTING THAT NO ASBESTOS CONTAINING MATERIALS WERE USED IN ANY PORTION OF THE CONSTRUCTION.

ITEM SPECIAL - STRUCTURE, MISC.: PREFABRICATED BRIDGE
THIS ITEM SHALL CONSIST OF DESIGNING, FURNISHING, TRANSPORTING, ERECTING, AND INSTALLING IN PLACE THE COMPLETE TRUSS SUPERSTRUCTURE, INCLUDING ALL FRAMING, RAILINGS, CONCRETE DECK, BEARINGS, AND ALL INCIDENTALS, IN ACCORDANCE WITH THE DETAILS SHOWN IN THE PLANS AND SPECIFICATIONS. SHOP DRAWINGS AND LOAD RATING FOR THE BRIDGE SHALL BE SUBMITTED FOR REVIEW AND ACCEPTANCE BY THE ENGINEER PRIOR TO FABRICATION.

CONSTRUCTION CLEARANCE
MAINTAIN A CONSTRUCTION CLEARANCE OF 65 FEET HORIZONTALLY FROM THE CENTER OF TRACKS AND 23 FEET VERTICALLY FROM A POINT LEVEL WITH THE TOP OF THE HIGHER RAIL, AND 6 FEET FROM THE CENTER OF TRACKS AT ALL TIMES.

TEMPORARY CONSTRUCTION CLEARANCES (HORIZONTAL AND VERTICAL) PROPOSED - FOR EXISTING OR LESS THAN STANDARD CONDITIONS - SHALL BE SUBJECT TO APPROVAL BY CSX TRANSPORTATION. TYPICALLY REDUCTION IN CONSTRUCTION CLEARANCES ARE NOT PERMITTED.

PILE DESIGN LOADS (ULTIMATE BEARING VALUE)
ULTIMATE BEARING VALUE IS 275 KIPS PER PILE FOR THE 12 ABUTMENT PILES.

ABUTMENT PILES:
12 - 12" DIAMETER CIP REINFORCED CONCRETE PILES, 65 FT LONG, ORDER LENGTH

PROVIDE PLAIN CYLINDRICAL CASINGS WITH A MINIMUM PILE WALL THICKNESS OF ¼ INCH FOR THE CAST-IN-PLACE REINFORCED CONCRETE PILES.

EXISTING US-40 BRIDGE RESTRICTION
HEAVY EQUIPMENT SUCH AS THE CRANE FOR ERECTING THE PEDESTRIAN TRUSS IS NOT TO BE STAGED ON THE EXISTING US-40 BRIDGE.

ITEM 516 - STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC COMPRESSION SEAL, AS PER PLAN
THIS WORK SHALL CONSIST OF FURNISHING AND INSTALLING PREFORMED ELASTOMERIC COMPRESSION JOINT SEALS AT THE SUPERSTRUCTURE DECK SLAB EXPANSION JOINTS LOCATED AT THE REAR AND FORWARD ABUTMENTS. THE MULTICELLULAR, ADHESIVE BONDED SEALS SHALL BE CAPABLE OF FLEXING IN RESPONSE TO JOINT MOVEMENT AND SEAL AGAINST INTRUSION OF DECK DRAINAGE. ALL WORK SHALL CONFORM TO ITEM 516, THE DETAILS SHOWN IN THE PLANS, AND THE COMPRESSION SEAL MANUFACTURER'S REQUIREMENTS.

THE JOINT MANUFACTURER AND TYPE SHALL BE ONE OF THE FOLLOWING OR AN ENGINEER APPROVED EQUAL.

THE D.S. BROWN COMPANY (TYPE JP SERIES SEALING SYSTEM)
300 EAST CHERRY STREET
NORTH BALTIMORE, OHIO 45872
PHONE: 419-257-3561
WWW.DSBROWN.COM

WATSON BOWMAN ACME CORPORATION (JEENE BRIDGE SERIES TYPE FW PROFILE)
95 PINEVIEW DRIVE
AMHERST, NEW YORK 14228
PHONE: 716-691-7566
WWW.WBACORP.COM

ERIE METAL SPECIALTIES (TYP JP SERIES SEALING SYSTEM)
13311 MAIN ROAD
AKRON, NEW YORK 14001
PHONE: 716-542-3991
WWW.ERIEMETAL.COM

THE TOP SURFACE OF THE SEAL SHALL BE NON-SLIP AND COMPLY WITH ADA GUIDELINES WHEN INSTALLED. FIELD OR SHOP FABRICATE THE JOINT SEAL, AS REQUIRED BY THE EXPANSION JOINT MANUFACTURER, TO CONFORM TO THE DIRECTIONAL CHANGES. UPTURNS ARE REQUIRED AT THE CURBS TO PROVIDE A WATERTIGHT GUTTER SEAL.

THE NEOPRENE SEALS SHALL BE BONDED TO THE CONCRETE SURFACES WITH AN EPOXY BASED STRUCTURAL ADHESIVE ACCORDING TO THE MANUFACTURER'S REQUIREMENTS.

PREPARE ALL SURFACES AND INSTALL THE SEAL ACCORDING TO THE MANUFACTURER'S SPECIFICATIONS AND UNDER THE DIRECTION OF THE MANUFACTURER'S RECOMMENDATIONS.

THE COSTS FOR THE BACKWALL JOINT ARMOR SHALL BE INCLUDED WITH ITEM 516 - STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC COMPRESSION SEAL, AS PER PLAN. SEE THIS SHEET FOR ADDITIONAL DETAILS.

THE DEPARTMENT WILL MEASURE THE EXPANSION JOINT FOR PAYMENT PURPOSES BY THE NUMBER OF FEET HORIZONTALLY ALONG THE CENTERLINE FROM EDGE OF DECK TO EDGE OF DECK.

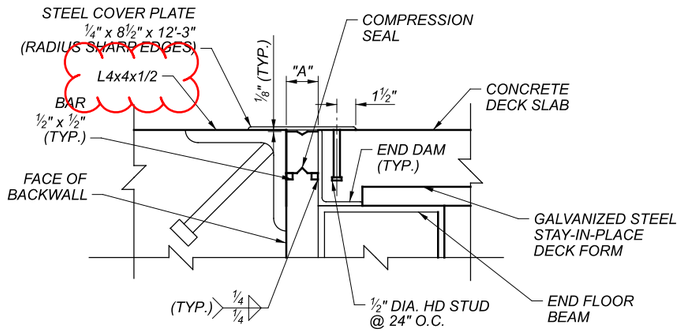
ITEM	UNIT	DESCRIPTION
516	FOOT	STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC COMPRESSION SEAL, AS PER PLAN

ABBREVIATIONS

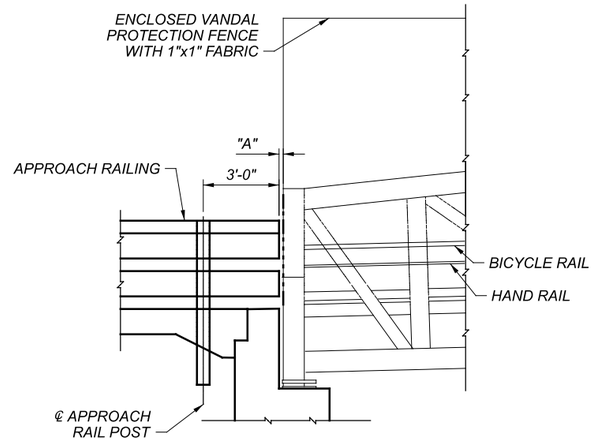
ABUT. = ABUTMENT
ADT = AVERAGE DAILY TRAFFIC
ADTT = AVERAGE DAILY TRUCK TRAFFIC
A.S. = APPROACH SLAB
APPR. = APPROACH
BRG. = BEARING
C/C = CENTER TO CENTER
CLR. = CLEAR
C.J. = CONSTRUCTION JOINT
C.I.P. = CAST-IN-PLACE
℄ = CENTERLINE
CLR. = CLEAR
CMS = CONSTRUCTION AND MATERIAL SPECIFICATIONS
CONC. = CONCRETE
CONSTR. = CONSTRUCTION
DIA. = DIAMETER
EF = EACH FACE
EL. = ELEVATION
EQ. = EQUAL
EX. = EXISTING
EXP. = EXPANSION
F.A. = FORWARD ABUTMENT
FF = FAR FACE
F/F = FACE TO FACE
FT. = FEET
FWD. = FORWARD
HWE = HIGH WATER ELEVATION
IN. = INCHES
INCR. = INCREMENT
JT. = JOINT
L.F. = LEFT FORWARD
LT. = LEFT
MID. = MIDDLE
MIN. = MINIMUM
NF = NEAR FACE
NB = NORTHBOUND
NO. = NUMBER
NPCPP = NON-PERFORATED CORRUGATED PLASTIC PIPE
O/O = OUT TO OUT
OHWM = ORDINARY HIGH WATER MARK
PCB = PORTABLE CONCRETE BARRIER
PCPP = PERFORATED CORRUGATED PLASTIC PIPE
PEJF = PREFORMED EXPANSION JOINT FILLER
℗ = PLATE
PROP. = PROPOSED
PVI = POINT OF VERTICAL INTERSECTION
R.A. = REAR ABUTMENT
RAD. = RADIUS
RD. = ROAD
REF. = REFERENCE
REQ'D = REQUIRED
RT. = RIGHT
SB = SOUTHBOUND
SER. = SERIES
SHLDR. = SHOULDER
SPA. = SPACES
SQ. = SQUARE
STA. = STATION
STR. = STRAIGHT
SUPER. = SUPERSTRUCTURE
TEMP. = TEMPORARY
T&B = TOP AND BOTTOM
T/T = TOE TO TOE
TYP. = TYPICAL
U.N.O. = UNLESS NOTED OTHERWISE
VAR. = VARIES
VERT. = VERTICAL
W/ = WITH

ITEM 503 - COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN
THE DESIGN SHOWN ON THE PLANS FOR TEMPORARY SUPPORT OF EXCAVATION IS ONE REPRESENTATIVE DESIGN THAT MAY BE USED TO CONSTRUCT THE PROJECT. THE CONTRACTOR MAY CONSTRUCT THE DESIGN SHOWN ON THE PLANS OR PREPARE AN ALTERNATE DESIGN TO SUPPORT THE SIDES OF EXCAVATIONS. IF CONSTRUCTING AN ALTERNATE DESIGN FOR TEMPORARY SUPPORT OF EXCAVATION, PREPARE AND PROVIDE PLANS IN ACCORDANCE WITH CMS 501.05. THE DEPARTMENT WILL PAY FOR THE TEMPORARY SUPPORT OF EXCAVATION AT THE CONTRACT LUMP SUM PRICE FOR COFFERDAMS AND EXCAVATION BRACING. THE DEPARTMENT WILL NOT MAKE ADDITIONAL PAYMENT FOR PROVIDING AN ALTERNATE DESIGN.

TEMPERATURE (° F)	REAR ABUT. FIXED DIMENSION "A" (INCHES)	FWD. ABUT. EXPANSION DIMENSION "A" (INCHES)
30	2 1/2	2 7/8
40	2 1/2	2 3/4
50	2 1/2	2 5/8
60	2 1/2	2 1/2
70	2 1/2	2 3/8
80	2 1/2	2 1/4
90	2 1/2	2 1/8



DECK EXPANSION JOINT DETAIL AT ABUTMENT



APPROACH RAILING DETAIL

MOT-VANDALIA BIKEWAY

MODEL: Sheet PAPERSIZE: 34x22 (In.) DATE: 4/25/2024 TIME: 10:57:18 AM USER: atremblay
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GENERAL NOTES
BRIDGE NO. MOT-VANDALIA BIKEWAY
VANDALIA BIKEWAY CONNECTOR OVER CSX TRANSPORTATION RAILROAD

SFN	5765131
DESIGN AGENCY	
DESIGNER	AMT
CHECKER	NRP
REVIEWER	DWS 11/01/23
PROJECT ID	111388
SUBSET	2
TOTAL	12
SHEET	132
TOTAL	171

PREFABRICATED BRIDGE SPECIFICATIONS (CONT.)

3.0 ENGINEERING (CONT.)

3.2 DESIGN LIMITATIONS

3.2.1 DEFLECTION:

3.2.1.1 VERTICAL DEFLECTION:
THE VERTICAL DEFLECTION OF THE TRUSS DUE TO SERVICE PEDESTRIAN LIVE LOAD SHALL NOT EXCEED 1/400 OF THE SPAN.

THE VERTICAL DEFLECTION OF CANTILEVER SPANS OF THE STRUCTURE DUE TO SERVICE PEDESTRIAN LIVE LOAD SHALL NOT EXCEED 1/300 OF THE CANTILEVER ARM LENGTH.

THE DELFECTION OF THE FLOOR SYSTEM MEMBERS (FLOOR BEAMS AND STRINGERS) DUE TO SERVICE PEDESTRIAN LIVE LOAD SHALL NOT EXCEED 1/360 OF THEIR RESPECTIVE SPANS.

THE SERVICE PEDESTRIAN LIVE LOAD SHALL BE 90 PSF.

DEFLECTION LIMITS DUE TO OCCASIONAL VEHICULAR TRAFFIC SHALL NOT BE CONSIDERED.

3.2.1.2 HORIZONTAL DEFLECTION:
THE HORIZONTAL DEFLECTION OF THE STRUCTURE DUE TO LATERAL WIND LOADS SHALL NOT EXCEED 1/500 OF THE SPAN UNDER A 115 MPH (35 PSF) WIND LOAD.

3.2.2 MINIMUM THICKNESS OF METAL:
THE MINIMUM THICKNESS OF ALL STRUCTURAL STEEL MEMBERS SHALL BE ¼" NOMINAL AND BE IN ACCORDANCE WITH THE AISC MANUAL OF STEEL CONSTRUCTIONS' "STANDARD MILL PRACTICE GUIDELINES". FOR ASTM A500 AND ASTM A847 TUBING, THE SECTION PROPERTIES USED FOR DESIGN SHALL BE PER THE STEEL TUBE INSTITUTE OF NORTH AMERICA'S HOLLOW STRUCTURAL SECTIONS "DIMENSIONS AND SECTION PROPERTIES".

3.3 GOVERNING DESIGN CODES/REFERENCES:
STRUCTURAL MEMBERS SHALL BE DESIGNED IN ACCORDANCE WITH RECOGNIZED ENGINEERING PRACTICES AND PRINCIPLES AS FOLLOWS:

3.3.1 STRUCTURAL STEEL:
AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC).

3.3.2 WELDED TUBULAR CONNECTIONS:
AMERICAN NATIONAL STANDARDS INSTITUTE/AMERICAN WELDING SOCIETY (ANSI/AWS) AND THE CANADIAN INSTITUTE OF STEEL CONSTRUCTION (CISC).

ALL WELDED TUBULAR CONNECTIONS SHALL BE CHECKED, WHEN WITHIN APPLICABLE LIMITS, FOR THE LIMITING FAILURE MODES OUTLINED IN THE ANSI/AWS D1.1 STRUCTURAL WELDING CODE OR IN ACCORDANCE WITH THE "DESIGN GUIDE FOR HOLLOW STRUCTURAL SECTION CONNECTIONS" AS PUBLISHED BY THE CANADIAN INSTITUTE OF STEEL CONSTRUCTION (CISC).

WHEN OUTSIDE THE "VALIDITY RANGE" DEFINED IN THESE DESIGN GUIDELINES, THE FOLLOWING LIMIT STATES OR FAILURE MODES MUST BE CHECKED:

A. CHORD FACE PLASTIFICATION

B. PUNCHING SHEAR (THROUGH MAIN MEMBER FACE)

C. MATERIAL FAILURE
a. TENSION FAILURE OF THE WEB MEMBER
b. LOCAL BUCKLING OF A COMPRESSION WEB MEMBER

D. WELD FAILURE - "ULTIMATE" CAPACITY

E. LOCAL BUCKLING OF A MAIN MEMBER FACE

F. MAIN MEMBER FAILURE:
a. WEB OR SIDEWALL YIELDING
b. WEB OR SIDEWALL CRIPPLING
c. WEB OR SIDEWALL BUCKLING
d. OVERALL SHEAR FAILURE

ALL TUBULAR JOINTS SHALL BE PLAIN UNSTIFFENED JOINTS (MADE WITHOUT THE USE OF REINFORCING PLATES) EXCEPT AS FOLLOWS:

A. FLOOR BEAMS HUNG BENEATH THE LOWER CHORD OF THE STRUCTURE MAY BE CONSTRUCTED WITH OR WITHOUT STIFFENER (OR GUSSET) PLATES, AS REQUIRED BY DESIGN.

B. FLOOR BEAMS THAT FRAME DIRECTLY INTO THE TRUSS VERTICALS (H-SECTION BRIDGES) MAY BE DESIGNED WITH OR WITHOUT END STIFFENING PLATES AS REQUIRED BY DESIGN.

C. WHERE CHORDS, END FLOOR BEAMS AND IN HIGH PROFILES THE TOP END STRUTS WELD TO THE END VERTICALS, THE END VERTICALS (OR CONNECTIONS) MAY REQUIRE STIFFENING TO TRANSFER THE FORCES FROM THESE MEMBERS INTO THE END VERTICAL.

D. TRUSS VERTICAL TO CHORD CONNECTIONS.

3.3 GOVERNING DESIGN CODES/REFERENCES (CONT.)

NOTE: THE EFFECTS OF FABRICATION TOLERANCES SHALL BE ACCOUNTED FOR IN THE DESIGN OF THE STRUCTURE. SPECIAL ATTENTION SHALL BE GIVEN TO THE ACTUAL FIT-UP GAP AT WELDED TRUSS JOINTS.

3.3.3 CONCRETE:
REINFORCED CONCRETE SHALL BE DESIGNED IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS AND CONSTRUCTED IN ACCORDANCE WITH CMS 511.

4.0 MATERIALS

4.1 STEEL

4.1.1 WEATHERING STEEL BRIDGES:
BRIDGES SHALL BE FABRICATED FROM ASTM A709 50W STEEL FOR PLATES AND STRUCTURAL SHAPES AND ASTM A847 FOR TUBULAR SECTIONS. MINIMUM YIELD STRENGTH (Fy) SHALL BE GREATER THAN 50,000 POUNDS PER SQUARE INCH.

4.1.2 MATERIAL THICKNESS:
ALL STRUCTURAL MEMBERS SHALL HAVE A MINIMUM THICKNESS OF MATERIAL OF AT LEAST ¼".

4.2 DECKING

4.2.1 CONCRETE DECK:
THIS WORK SHALL CONSIST OF THE COMPLETE STRUCTURAL DESIGN OF THE DECK AND FORM SYSTEM BY THE PREFABRICATED BRIDGE DESIGNER AND CONTRACTOR. THE WORK SHALL INCLUDE BUT NOT BE LIMITED TO: PROVIDING HOT DIP GALVANIZED STAY-IN-PLACE FORM PANS (MATERIAL SHALL BE IN ACCORDANCE WITH ASTM A653, GALVANIZED TO A MINIMUM G165 COATING WEIGHT, 20-GAUGE MINIMUM THICKNESS) AND ALL OTHER NECESSARY FORMING; FURNISHING AND PLACING EPOXY COATED REINFORCING STEEL; AND FURNISHING, PLACING, CONSOLIDATING, FINISHING AND CURING A PORTLAND CEMENT CONCRETE DECK SLAB ON THE PREFABRICATED WEATHERING STEEL TRUSS SUPERSTRUCTURE. ALL WORK AND MATERIALS SHALL CONFORM TO THE REQUIREMENTS OF THE PREFABRICATED BRIDGE MANUFACTURER AND CMS 508, 509 AND 511, UNLESS OTHERWISE NOTED. FOR THE PURPOSES OF DECK SLAB STRUCTURAL DESIGN, THE GALVANIZED STAY-IN-PLACE FORM SYSTEM SHALL NOT BE CONSIDERED AS A STRUCTURAL REINFORCEMENT OF THE HARDENED DECK. FOAM OR OTHER FILLERS WITHIN THE TROUGHS OF THE FORM PANS WILL NOT BE PERMITTED.

CONCRETE MATERIALS SHALL CONFORM TO CMS 499.02 AND 499.03 USING CLASS QC2 CONCRETE MIX. PROVIDE A BROOM FINISH ON THE CONCRETE DECK IN THE TRANSVERSE DIRECTION. BRIDGE DECK GROOVING OF THE CURED DECK PER CMS 511.17 IS NOT REQUIRED.

DESIGN LOADING FOR THE DECK SLAB SHALL BE THE SAME AS REQUIRED FOR THE PREFABRICATED BRIDGE. UPPER AND LOWER LAYERS OF LONGITUDINAL REINFORCEMENT ARE REQUIRED. AT LEAST ONE LAYER OF TRANSVERSE REINFORCEMENT SHALL BE PROVIDED WHEN THE DECK THICKNESS ABOVE THE FORM PAN RIBS IS LESS THAN 7½ INCHES. UPPER AND LOWER LAYERS OF TRANSVERSE REINFORCEMENT SHALL BE PROVIDED WHEN THE DECK THICKNESS ABOVE THE FORM PAN RIBS IS 7½ INCHES OR GREATER. LONGITUDINAL REINFORCEMENT PLACED WITHIN FORM PAN TROUGHS MAY BE CONSIDERED AS CONTRIBUTING TO THE STRENGTH OF THE DECK WHEN THE DESIGNER CAN SHOW THIS ASSUMPTION IS VALID. REINFORCING BARS SHALL BE PLACED 2 INCHES MINIMUM CLEAR TO TOP AND SIDE SURFACES AND 1½ INCHES MINIMUM CLEAR TO THE BOTTOM SURFACE OF THE SLAB. AS PART OF THE PREFABRICATED BRIDGE SHOP DRAWING SUBMITTAL, SUBMIT STRUCTURAL DESIGN CALCULATIONS FOR THE DECK AND FORM SYSTEM. CALCULATIONS MUST BE SIGNED AND SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF OHIO.

4.3 FIELD SPLICES
SHALL BE BOLTED WITH ASTM A325 HIGH STRENGTH BOLTS IN ACCORDANCE WITH THE "SPECIFICATIONS FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS".

5.0 WELDING

5.1 WELDING
WELDING AND WELD PROCEDURE QUALIFICATION TESTS SHALL CONFORM TO THE PROVISIONS OF ANSI/AWS D1.1 "STRUCTURAL WELDING CODE". FILLER METAL SHALL BE IN ACCORDANCE WITH THE APPLICABLE AWS FILLER METAL SPECIFICATION (FOR EXAMPLE, AWS A5.28 FOR THE GMAW PROCESS). FOR EXPOSED, BARE, UNPAINTED APPLICATIONS OF CORROSION RESISTANT STEELS (FOR EXAMPLE, ASTM A588 AND A847), THE FILLER METAL SHALL BE IN ACCORDANCE WITH AWS D1.1, SECTION 3.7.3.

5.2 WELDERS
WELDERS SHALL BE PROPERLY ACCREDITED OPERATORS, EACH OF WHOM SHALL SUBMIT CERTIFICATION OF SATISFACTORILY PASSING AWS STANDARD QUALIFICATION TESTS FOR ALL POSITIONS WITH UNLIMITED THICKNESS OF BASE METAL, HAVE A MINIMUM OF 6 MONTHS EXPERIENCE IN WELDING TUBULAR STRUCTURES AND HAVE DEMONSTRATED THE ABILITY TO MAKE UNIFORM SOUND WELDS OF THE TYPE REQUIRED.

WORKMANSHIP, FABRICATION, AND SHOP CONNECTIONS SHALL BE IN ACCORDANCE WITH AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS SPECIFICATIONS (AASHTO).

6.0 SUBMITTALS

6.1 SUBMITTAL DRAWINGS
SCHEMATIC DRAWINGS AND DIAGRAMS SHALL BE SUBMITTED TO THE APPROVING ENGINEER FOLLOWING CMS 501.01.A. SUBMITTAL DRAWINGS SHALL BE UNIQUE DRAWINGS, PREPARED TO ILLUSTRATE THE SPECIFIC PORTION OF THE WORK TO BE DONE. ALL RELATIVE DESIGN INFORMATION SUCH AS MEMBER SIZES, BRIDGE REACTIONS, AND GENERAL NOTES SHALL BE CLEARLY SPECIFIED ON THE DRAWINGS. DRAWINGS SHALL HAVE CROSS REFERENCED DETAILS AND SHEET NUMBERS. ALL DRAWINGS SHALL BE SIGNED AND SEALED BY A PROFESSIONAL ENGINEER WHO IS LICENSED IN ACCORDANCE WITH SECTION 3.0 OF THESE SPECIFICATIONS.

6.2 STRUCTURAL CALCULATIONS
STRUCTURAL CALCULATIONS FOR THE BRIDGE SUPERSTRUCTURE SHALL BE SUBMITTED TO THE ENGINEER FOLLOWING CMS 501.01.A. ALL CALCULATIONS SHALL BE SIGNED AND SEALED BY A PROFESSIONAL ENGINEER WHO IS LICENSED IN ACCORDANCE WITH SECTION 3.0 OF THESE SPECIFICATIONS. THE CALCULATIONS SHALL INCLUDE ALL DESIGN INFORMATION NECESSARY TO DETERMINE THE STRUCTURAL ADEQUACY OF THE BRIDGE. AT A MINIMUM, THE CALCULATIONS SHALL INCLUDE THE FOLLOWING:

A. ALL AASHTO CHECKS FOR AXIAL, BENDING AND SHEAR FORCES IN THE CRITICAL MEMBER OF EACH TRUSS MEMBER TYPE (I.E. TOP CHORD, BOTTOM CHORD, FLOOR BEAM, VERTICAL, ETC.).
B. CHECKS FOR THE CRITICAL CONNECTION FAILURE MODES FOR EACH TRUSS MEMBER TYPE (I.E. VERTICAL, DIAGONAL, FLOOR BEAM, ETC.). SPECIAL ATTENTION SHALL BE GIVEN TO ALL WELDED TUBE ON TUBE CONNECTIONS (SEE SECTION 3.3.2 FOR DESIGN CHECK REQUIREMENTS).
C. ALL BOLTED SPLICE CONNECTIONS.
D. MAIN TRUSS DEFLECTION CHECKS.
E. U-FRAME STIFFNESS CHECKS (USED TO DETERMINE K FACTORS FOR OUT-OF-PLANE BUCKLING OF THE TOP CHORD) FOR ALL HALF THROUGH OR "PONY" TRUSS BRIDGES.
F. DECK DESIGN.
G. LOAD RATING FOR H15-44 VEHICLE.

NOTE: THE ANALYSIS AND DESIGN OF TRIANGULATED TRUSS BRIDGES SHALL ACCOUNT FOR MOMENTS INDUCED IN MEMBERS DUE TO JOINT FIXITY WHERE APPLICABLE. MOMENTS DUE TO BOTH TRUSS DEFLECTION AND JOINT ECCENTRICITY MUST BE CONSIDERED.

6.3 WELDER CERTIFICATIONS
WELDER CERTIFICATIONS IN COMPLIANCE WITH AWS STANDARD QUALIFICATION TESTS.

6.4 WELDING PROCEDURES
WELDING PROCEDURES IN COMPLIANCE WITH SECTION 5.1.

7.0 FABRICATION

7.1 GENERAL REQUIREMENTS

7.1.1 DRAIN HOLES:
WHEN THE COLLECTION OF WATER INSIDE A STRUCTURAL TUBE IS A POSSIBILITY, EITHER DURING CONSTRUCTION OR DURING SERVICE, THE TUBE SHALL BE PROVIDED WITH A DRAIN HOLE AT ITS LOWEST POINT TO LET WATER OUT.

7.1.2 WELDS:
SPECIAL ATTENTION SHALL BE GIVEN TO DEVELOPING SUFFICIENT WELD THROATS ON TUBULAR MEMBERS. FILLET WELD DETAILS SHALL BE IN ACCORDANCE WITH AWS D1.1, SECTION 3.9 (SEE AWS FIGURE 3.2). UNLESS DETERMINED OTHERWISE BY TESTING, THE LOSS FACTOR "Z" FOR HEEL WELDS SHALL BE IN ACCORDANCE WITH AWS TABLE 2.8. FILLET WELDS THAT RUN ONTO THE RADIUS OF A TUBE SHALL BE BUILT UP TO OBTAIN THE FULL THROAT THICKNESS. THE MAXIMUM ROOT OPENINGS OF FILLET WELDS SHALL NOT EXCEED 3/16" IN CONFORMANCE WITH AWS D1.1, SECTION 5.22. WELD SIZE OR EFFECTIVE THROAT DIMENSIONS SHALL BE INCREASED IN ACCORDANCE WITH THIS SAME SECTION WHEN APPLICABLE (I.E. FIT-UP GAPS >1/16").

THE FABRICATOR SHALL HAVE VERIFIED THAT THE THROAT THICKNESS OF PARTIAL JOINT PENETRATION GROOVE WELDS (PRIMARILY MATCHED EDGE WELDS OR THE FLARE-BEVEL-GROOVE WELDS ON UNDERHUNG FLOOR BEAMS) SHALL BE OBTAINABLE WITH THEIR FIT-UP AND WELD PROCEDURES. MATCHED EDGE WELDS SHALL BE "FLUSHED" OUT WHEN REQUIRED TO OBTAIN THE FULL THROAT OR BRANCH MEMBER WALL THICKNESS.

FOR FULL PENETRATION BUTT WELDS OF TUBULAR MEMBERS, THE BACKING MATERIAL SHALL BE FABRICATED PRIOR TO INSTALLATION IN THE TUBE SO AS TO BE CONTINUOUS AROUND THE FULL TUBE PERIMETER, INCLUDING CORNERS.

BACKING MAY BE OF FOUR TYPES:
A. A "BOX" WELDED UP FROM FOUR (4) PLATES.
B. TWO "CHANNEL" SECTIONS, BENT TO FIT THE INSIDE RADIUS OF THE TUBE, WELDED TOGETHER WITH FULL PENETRATION WELDS.
C. A SMALLER TUBE SECTION WHICH SLIDES INSIDE THE SPLICED TUBE.
D. A SOLID PLATE CUT TO FIT THE INSIDE RADIUS OF THE TUBE.

PREFABRICATED BRIDGE SPECIFICATIONS
BRIDGE NO. MOT-VANDALIA BIKEWAY
VANDALIA BIKEWAY CONNECTOR OVER CSX TRANSPORTATION RAILROAD

SFN 5765131

DESIGN AGENCY

DESIGNER	CHECKER
AMT	NRP

REVIEWER: DWS 11/01/23

PROJECT ID: 111388

SUBSET	TOTAL
5	12

SHEET	TOTAL
135	171

MOT-VANDALIA BIKEWAY

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 4/30/2024 TIME: 10:03:10 AM USER: atremblay
Q:\City of Vandalia\01116494A.01 - MOT-Vandalia Bikeway Part 2\111388\400-Engineering\Structures\SFN_0000000\Sheets\111388_SFN_0000000_SN003.dgn

GENERAL NOTES:

REFER TO THE FOLLOWING SUPPLEMENTAL SPECIFICATIONS

840 DATED 7-21-23
878 DATED 1-21-22

DESIGN SPECIFICATIONS

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

DESIGN DATA

CONCRETE CLASS QC-1 - COMPRESSIVE STRENGTH 4.0 KSI (CIP COPING)
EPOXY COATED STEEL REINFORCEMENT - MINIMUM YIELD STRENGTH 60 KSI

ITEM 512 - SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)

SEALING OF MSE WALLS PANELS AND COPING SHALL BE PER ITEM 512. THE TOP COAT COLOR FOR THE EPOXY-URETHANE SEALER SHALL BE LIGHT NEUTRAL AND MEET THE STANDARD FEDERAL COLOR NUMBER FS-595B-17778. THE COST OF SEALING THE ADDITIONAL SURFACE AREA OF THE AESTHETIC TREATMENT SHALL BE CONSIDERED INCIDENTAL TO THIS ITEM.

ITEM 605 - AGGREGATE DRAINS, AS PER PLAN

CONSTRUCT THE TWO-STAGE AGGREGATE DRAINS FOR THE MSE WALL AS DETAILED IN THE PLANS. THE COARSE AGGREGATE FILTER MATERIAL SHALL BE NO. 8 STONE CONFORMING TO CMS 703.02B. THE FINE AGGREGATE FILTER MATERIAL SHALL CONFORM TO CMS 703.02A.

PROVIDE AGGREGATES THAT LOSE NO MORE THAN 5% MASS WHEN TESTED ACCORDING TO ASTM D3042 WITH AN ACID BATH PH OF 4.0.

ALL LABOR AND MATERIAL NEEDED TO INSTALL THE TWO-STAGE AGGREGATE DRAINS SHALL BE INCLUDED WITH THIS ITEM.

ITEM 840 - MECHANICALLY STABILIZED EARTH WALL, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF SS 840, WALL SOIL REINFORCEMENT LOCATIONS SHALL BE COORDINATED WITH THE WOOD FENCE POST LOCATIONS TO AVOID INTERFERENCE.

GEOTEXTILE FABRIC WRAPPED DRAINAGE MAY ONLY BE USED FOR MSE WALL NO. 1. GEOTEXTILE FABRIC IS PROHIBITED WITHIN THE LIMITS OF THE TAYLORSVILLE DAM AND BASIN. SEE AGGREGATE FILTER DRAINAGE DETAIL ON SHEET 4/5. FACING PANEL JOINT COVER GEOTEXTILE FABRIC IS STILL ACCEPTABLE IN MSE WALL NO. 2.

ITEM 840 - AESTHETIC SURFACE TREATMENT

THIS ITEM OF WORK SHALL CONSIST OF PROVIDING AESTHETIC TREATMENT TO THE CONCRETE SURFACES OF MSE WALLS AS SHOWN IN THE PLANS. IT SHALL INCLUDE BUT NOT BE LIMITED TO FORM LINERS AND TEXTURED SURFACES.

MSE WALL PANELS SHALL HAVE A SURFACE FINISH WITH A MAXIMUM OF 1½" RELIEF. ALL MSE WALL BASELINES ARE ALONG THE STRUCTURAL BACK FACE OF A 5½" MINIMUM THICKNESS FACING PANEL.

ACCEPTABLE PATTERNED FORMLINERS ARE:

STONE FORM LINER:

PATTERN	DESCRIPTION	MANUFACTURER
1103	RUSTIC ASHLAR	CUSTOM ROCK FORMLINER
17002	AUSTIN ASHLAR	FITZGERALD FORMLINERS
1502	ASHLAR STONE	SPEC FORMLINERS

FORM LINER MANUFACTURER INFORMATION:

CUSTOM ROCK FORMLINER
2020 WEST 7TH STREET
ST. PAUL, MN 55116
PHONE: (651)699-1345

FITZGERALD FORMLINERS
1500 EAST CHESTNUT AVENUE
SANTA ANA, CA 92701
PHONE: (800)547-7760

SPEC FORMLINERS
1038 EAST 4TH STREET
SANTA ANA, CA 92701
PHONE: (714)429-9500

THE CONTRACTOR SHALL SUBMIT PRODUCT INFORMATION FOR THE PROPOSED PATTERNED FORM LINER TO THE ENGINEER FOR APPROVAL. ALL PRODUCT INFORMATION AND SHOP DRAWINGS SHALL BE SUBMITTED PRIOR TO BEGINNING ANY WORK.

PAYMENT FOR ALL MATERIALS, LABOR, EQUIPMENT AND INCIDENTALS NECESSARY TO PRODUCE THE AESTHETIC TREATMENT AS SHOWN IN THE PLANS SHALL BE INCLUDED WITH ITEM 840, AESTHETIC SURFACE TREATMENT. PAYMENT FOR ALL MSE WALL PANELS SHALL BE INCLUDED IN ITEM 840, MECHANICALLY STABILIZED EARTH WALLS, AS PER PLAN.

ITEM 607 - FENCE, MISC.: WOOD FENCE

CONSTRUCT THE WOOD FENCE PER STANDARD ROADWAY DRAWING RM-5.2. THE CONTRACTOR IS RESPONSIBLE TO LIMIT A MAXIMUM OPENING OF 6" BETWEEN RAILING ELEMENTS.

AT THE BRIDGE ABUTMENTS, THE FENCE SHALL END ADJACENT TO THE ENDS OF THE BRIDGE RAILING. THE GAP BETWEEN THE ENDS OF THE FENCE AND THE ENDS OF THE BRIDGE RAILING SHALL BE LIMITED TO A MAXIMUM OF 2 INCHES AT A TEMPERATURE OF 50 DEGREES. THE FENCE POSTS THAT COINCIDE WITH THE BRIDGE APPROACH SLABS SHALL BE INSTALLED BEFORE THE APPROACH SLAB IS CAST. THE POSTS WILL EXTEND THROUGH THE APPROACH SLABS TO THE EMBEDMENT SHOWN ON THE FENCE STANDARD.

ALL LABOR AND MATERIAL NEEDED TO INSTALL THE FENCE SHALL BE INCLUDED WITH THIS ITEM, WHICH IS INCLUDED WITH THE ROADWAY QUANTITIES FOR PAYMENT.

ITEM 840 - FOUNDATION PREPARATION, AS PER PLAN

THIS ITEM INCLUDES THE ADDITIONAL EXCAVATION AS SHOWN IN THE PLANS FOR MSE WALL NUMBER 2 AND THE INSTALLATION OF THE COARSE AGGREGATE FILTER MATERIAL AROUND THE FOUNDATION PREPARATION MATERIALS (GRANULAR MATERIAL, TYPE C). INSTALL FOUNDATION PREPARATION MATERIALS PER CMS 840.03G AND 840.06D.

ALL LABOR AND MATERIAL REQUIRED TO INSTALL THE FOUNDATION PREPARATION MATERIALS AND THE SURROUNDIN COARSE AGGREGATE FILTER MATERIAL AS SHOWN IN THE PLANS SHALL BE INCLUDED WITH THIS ITEM FOR PAYMENT.

FOUNDATION BEARING RESISTANCE

THE MSE WALL NO. 1 REINFORCED SOIL MASS, AS DESIGNED, PRODUCES A MAXIMUM SERVICE LIMIT STATE BEARING PRESSURE OF 1.67 KIPS PER SQUARE FOOT AND A MAXIMUM STRENGTH LIMIT STATE BEARING PRESSURE OF 2.255 KIPS PER SQUARE FOOT. THE FACTORED BEARING RESISTANCE IS 2.734 KIPS SQUARE FOOT.

THE MSE WALL NO. 2 REINFORCED SOIL MASS, AS DESIGNED, PRODUCES A MAXIMUM SERVICE LIMIT STATE BEARING PRESSURE OF 4.187 KIPS PER SQUARE FOOT AND A MAXIMUM STRENGTH LIMIT STATE BEARING PRESSURE OF 5.652 KIPS PER SQUARE FOOT. THE FACTORED BEARING RESISTANCE IS 12.465 KIPS SQUARE FOOT.

ITEM 503 - COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN

THE DESIGN SHOWN ON THE PLANS FOR TEMPORARY SUPPORT OF EXCAVATION IS ONE REPRESENTATIVE DESIGN THAT MAY BE USED TO CONSTRUCT THE PROJECT. THE CONTRACTOR MAY CONSTRUCT THE DESIGN SHOWN ON THE PLANS OR PREPARE AN ALTERNATE DESIGN TO SUPPORT THE SIDES OF EXCAVATIONS. IF CONSTRUCTING AN ALTERNATE DESIGN FOR TEMPORARY SUPPORT OF EXCAVATION, PREPARE AND PROVIDE PLANS IN ACCORDANCE WITH CMS 501.05. THE DEPARTMENT WILL PAY FOR THE TEMPORARY SUPPORT OF EXCAVATION AT THE CONTRACT LUMP SUM PRICE FOR COFFERDAMS AND EXCAVATION BRACING. THE DEPARTMENT WILL NOT MAKE ADDITIONAL PAYMENT FOR PROVIDING AN ALTERNATE DESIGN.

ESTIMATED QUANTITES - MSE WALLS NUMBER 1 AND 2

ITEM	EXTENSION	TOTAL	UNIT	DESCRIPTION	MSE WALL NO. 1	MSE WALL NO. 2	GENERAL	AS PER PLAN SHEET NUMBER
503	11101	1	LUMP	COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN			1	1 / 5
512	10100	941	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	286	655		
518	62100	525	FT	STRUCTURE DRAINAGE, MISC.: 12" PERFORATED PLASTIC DRAINAGE PIPE		525		
518	62100	50	FT	STRUCTURE DRAINAGE, MISC.: 12" NON-PERFORATED PLASTIC DRAINAGE PIPE		50		
601	21050	10	SQ YD	TIED CONCRETE BLOCK MAT WITH TYPE 1 UNDERLAYMENT	6	4		
605	31101	525	FT	AGGREGATE DRAINS, AS PER PLAN		525		1 / 5
611	99710	5	EACH	PRECAST REINFORCED CONCRETE OUTLET	3	2		
840	20001	9880	SQ FT	MECHANICALLY STABILIZED EARTH WALL, AS PER PLAN	3360	6520		1 / 5
840	21000	3877	CU YD	WALL EXCAVATION	1371	2506		
840	22000	417	SQ YD	FOUNDATION PREPARATION	417			
840	22001	652	SQ YD	FOUNDATION PREPARATION, AS PER PLAN		652		1 / 5
840	23000	6213	CU YD	SELECT GRANULAR BACKFILL	1467	4746		
840	23050	735	CU YD	NATURAL SOIL	301	434		
840	25010	526	FT	6" DRAINAGE PIPE, PERFORATED	526			
840	25020	36	FT	6" DRAINAGE PIPE, NON-PERFORATED	36			
840	26000	515	FT	CONCRETE COPING	265	250		
840	26050	9108	SQ FT	AESTHETIC SURFACE TREATMENT	2963	6145		
840	27000	5	DAY	ON-SITE ASSISTANCE			5	
840	28000	1	LUMP	SGB INSPECTION AND COMPACTION TESTING			1	

CALCULATED BY: AMT 07 / 22
CHECKED BY: NRP 02 / 23

MSE WALL - GENERAL NOTES & ESTIMATED QUANTITIES

DESIGN AGENCY

DESIGNER NRP
REVIEWER AMT 11/01/23
PROJECT ID 111388
SUBSET 1 TOTAL 5
SHEET 144 TOTAL 171

MOT-VANDALIA BIKEWAY

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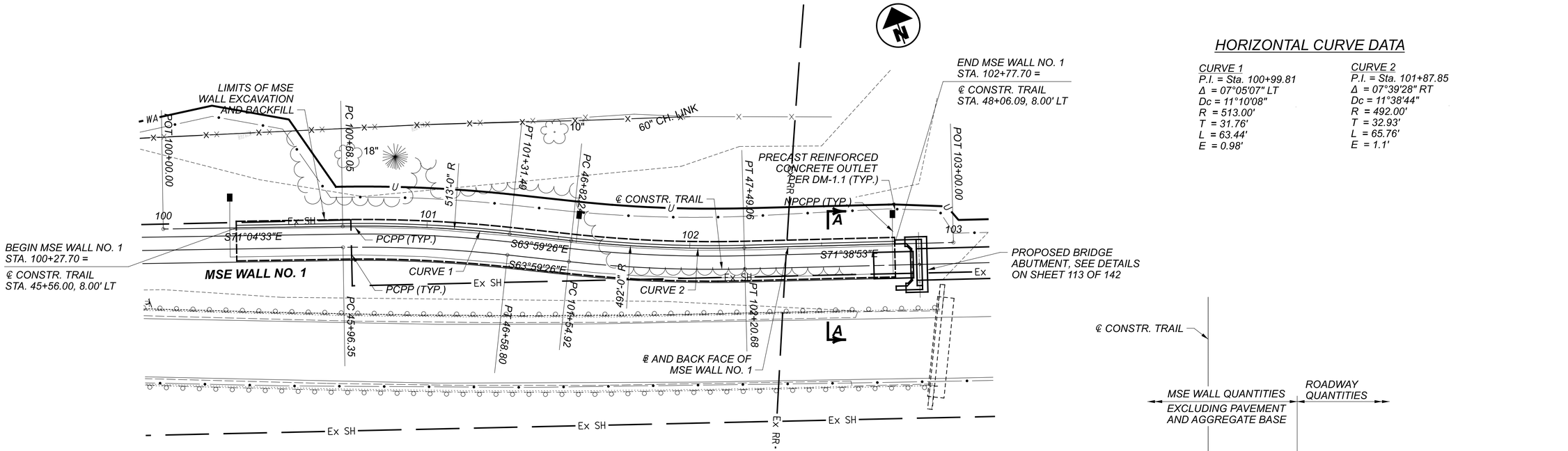
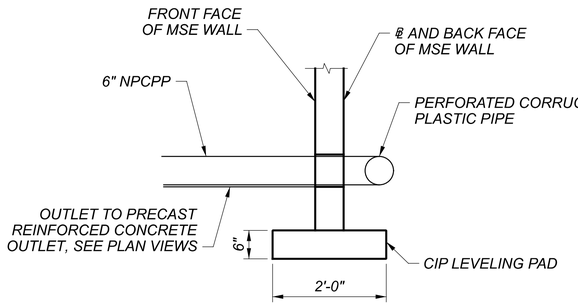


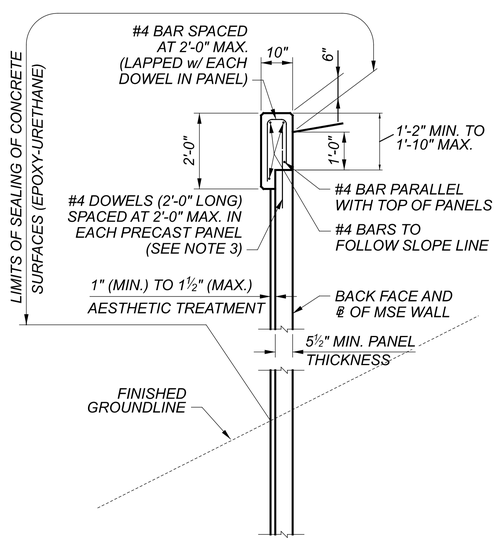
MSE WALL NO. 1 PLAN

HORIZONTAL CURVE DATA

CURVE 1	CURVE 2
P.I. = Sta. 100+99.81	P.I. = Sta. 101+87.85
Δ = 07°05'07" LT	Δ = 07°39'28" RT
Dc = 11°10'08"	Dc = 11°38'44"
R = 513.00'	R = 492.00'
T = 31.76'	T = 32.93'
L = 63.44'	L = 65.76'
E = 0.98'	E = 1.1'



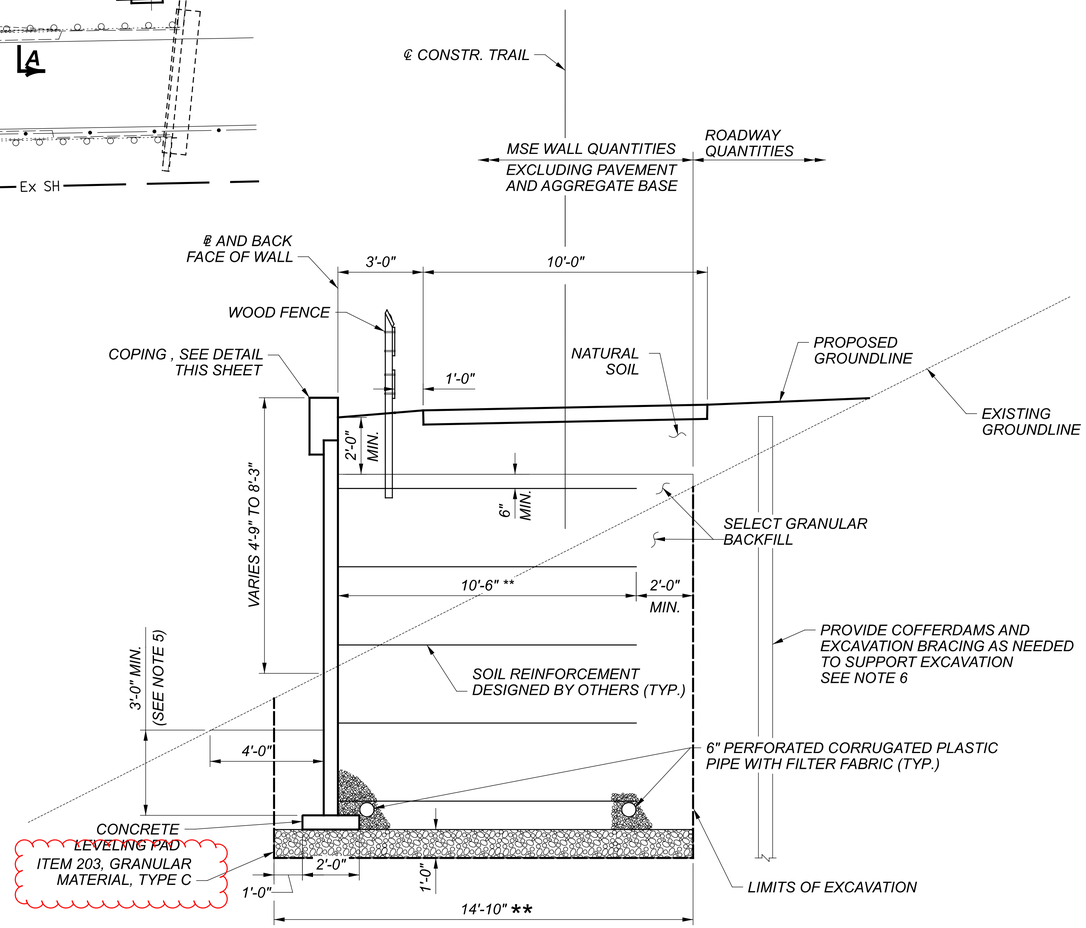
TYPICAL MSE WALL NO. 1 PIPE OUTLET DETAIL



MSE WALL COPING DETAIL

NOTES

1. ALL WALL STATIONS GIVEN ALONG BACK FACE OF WALL.
2. FOR MSE WALL NO. 1 ELEVATION, SEE SHEET 3 OF 5.
3. MINIMUM 2 DOWELS FOR PANELS LESS THAN 4'-0" WIDE, AND MINIMUM 3 DOWELS FOR PANELS 4'-0" WIDE OR WIDER.
4. FOR DRAINAGE OUTLET LOCATIONS, SEE ELEVATION VIEW ON SHEET 3 OF 5.
5. TOP OF LEVELING PAD SHALL BE A MINIMUM OF 3'-0" BELOW A POINT 4'-0" IN FRONT OF THE FRONT FACE OF WALL.
6. TEMPORARY SHORING SHALL BE CANTILEVER SHEET PILING (ASTM A328) WITH A MINIMUM SECTION MODULUS OF 40.40 CU. IN PER FT, A MAXIMUM RETAINED FILL HEIGHT OF 13'-6", AND A MINIMUM EMBEDDED DEPTH OF 22'-0". THIS DESIGN IS IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS.



SECTION A-A

PROPOSED MSE WALL NO. 1 TYPICAL SECTION

** MINIMUM VALUE ASSUMED, SUPPLIER TO CONFIRM DESIGN AND STABILITY PER SUPPLEMENTAL SPECIFICATION 840

MSE WALL NO. 1 - PLAN

MOT-VANDALIA BIKEWAY

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DESIGN AGENCY

DESIGNER NRP
REVIEWER AMT 11/01/23
PROJECT ID 111388
SUBSET 2 TOTAL 5
SHEET 145 TOTAL 171