

**DESIGN DESIGNATION**

FOR DESIGN DESIGNATIONS, SEE SHEET P.0002

**DESIGN EXCEPTIONS**

DESIGN FEATURE	APPROVAL DATE	SHEET NUMBERS
SHOULDER WIDTH	07/07/2025	P.0030, P.1016

HORIZONTAL CURVE RADIUS & SUPERELEVATION RATES 09/30/2025 P.0007

**ADA DESIGN WAIVERS**

NONE REQUIRED

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

PLAN PREPARED BY:

**TRANSYSTEMS**  
 400 W. NATIONWIDE BLVD., STE 225  
 COLUMBUS, OHIO 43215

**STATE OF OHIO  
 DEPARTMENT OF TRANSPORTATION**

**ERI-US 0006-  
 CONNECTIVITY CORRIDOR**

**HURON TOWNSHIP & PERKINS TOWNSHIP  
 ERIE COUNTY**

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**FEDERAL PROJECT NUMBER**

E(220) 276

**RAILROAD INVOLVEMENT**

NORFOLK SOUTHERN RAILWAY COMPANY

**PROJECT DESCRIPTION**

THIS PROJECT INCLUDES THE CONSTRUCTION OF FIVE NEW ROUNDBOUTS ALONG US ROUTE 6 IN ERIE COUNTY AT PERKINS AVE, CAMP RD, RYE BEACH RD, AND THE EASTBOUND AND WESTBOUND RAMP TERMINALS AT THE INTERCHANGE OF US 6, SR 2, AND RYE BEACH RD. US 6 IS ALSO BEING RESURFACED AND WIDENED (ALONG CLEVELAND RD W) BETWEEN CAMP RD AND RYE BEACH RD TO ACCOMMODATE A TWO-WAY LEFT TURN LANE. MULTI-MODAL CONNECTIVITY IS BEING IMPROVED THROUGHOUT THE PROJECT BY EXTENDING THE SANDUSKY BAY PATHWAY FROM CEDAR POINT DRIVE TO SPORTS FORCE PARK, THEN ALONG US 6 (CLEVELAND RD W) TO RYE BEACH RD, THEN SOUTH ALONG RYE BEACH RD TO UNIVERSITY DR. A NEW PEDESTRIAN BRIDGE OVER SAWMILL CREEK IS BEING ADDED TO ACCOMMODATE THE SHARED USE PATH.

**EARTH DISTURBED AREAS**

PROJECT EARTH DISTURBED AREA:	50.18 ACRES
ESTIMATED CONTRACTOR EARTH DISTURBED AREA:	9.00 ACRES
NOTICE OF INTENT EARTH DISTURBED AREA:	59.18 ACRES

**2023 SPECIFICATIONS**

THE STANDARD SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, INCLUDING SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PLANS, CHANGES LISTED IN THE PROPOSAL, AND THE SUPPLEMENTAL SPECIFICATION 800 VERSION INDICATED ON THE PROPOSAL SHALL GOVERN THIS IMPROVEMENT.

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL NOT REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY EXCEPT AS NOTED ON SHEETS P.0104- P.0108, AND THAT PROVISIONS FOR THE MAINTENANCE AND SAFETY OF TRAFFIC WILL BE AS SET FORTH ON THE PLANS AND ESTIMATES.

Robert Weaver  
 District 03 Deputy Director

Pamela Boratyn  
 Director, Department of Transportation

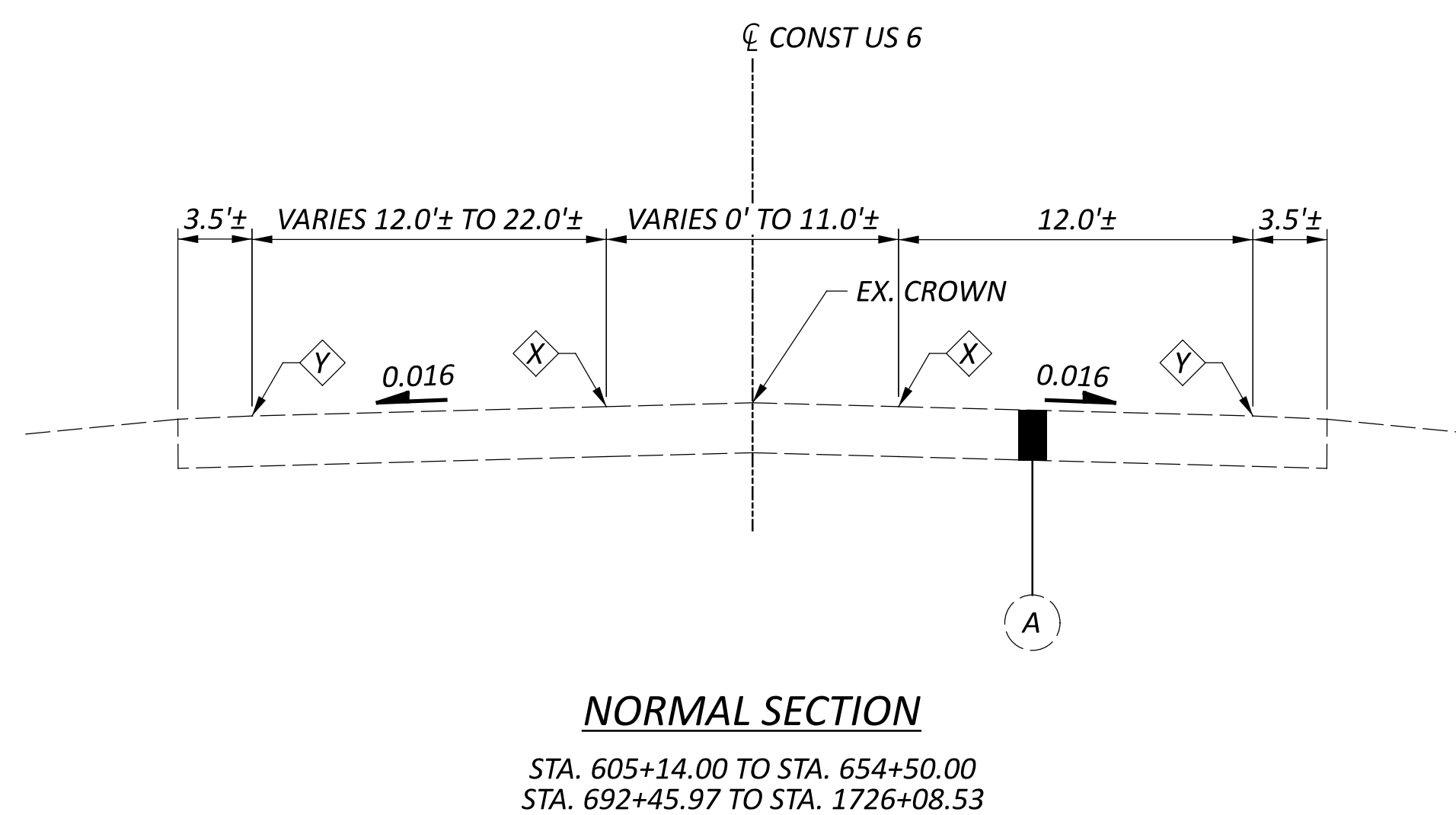
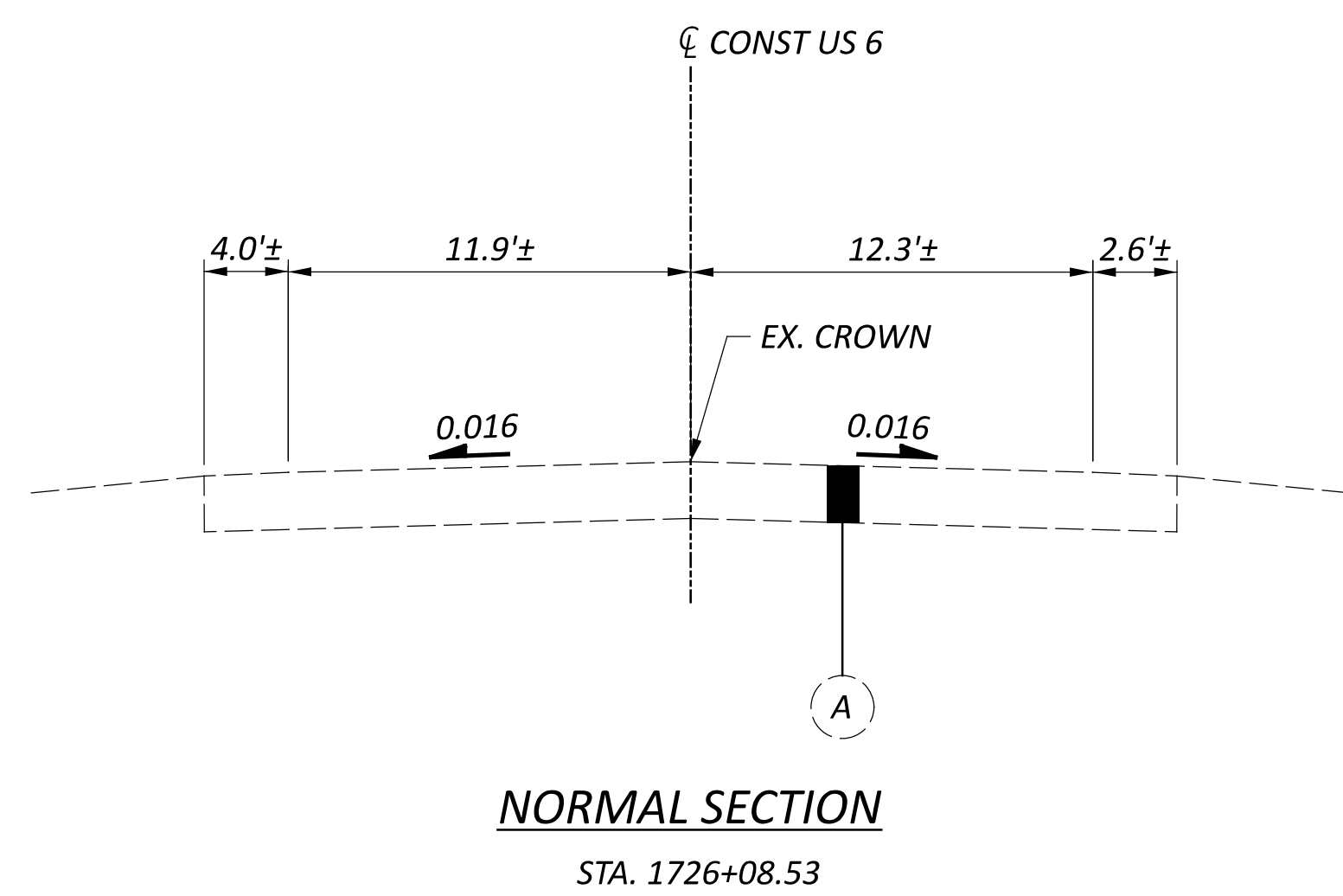
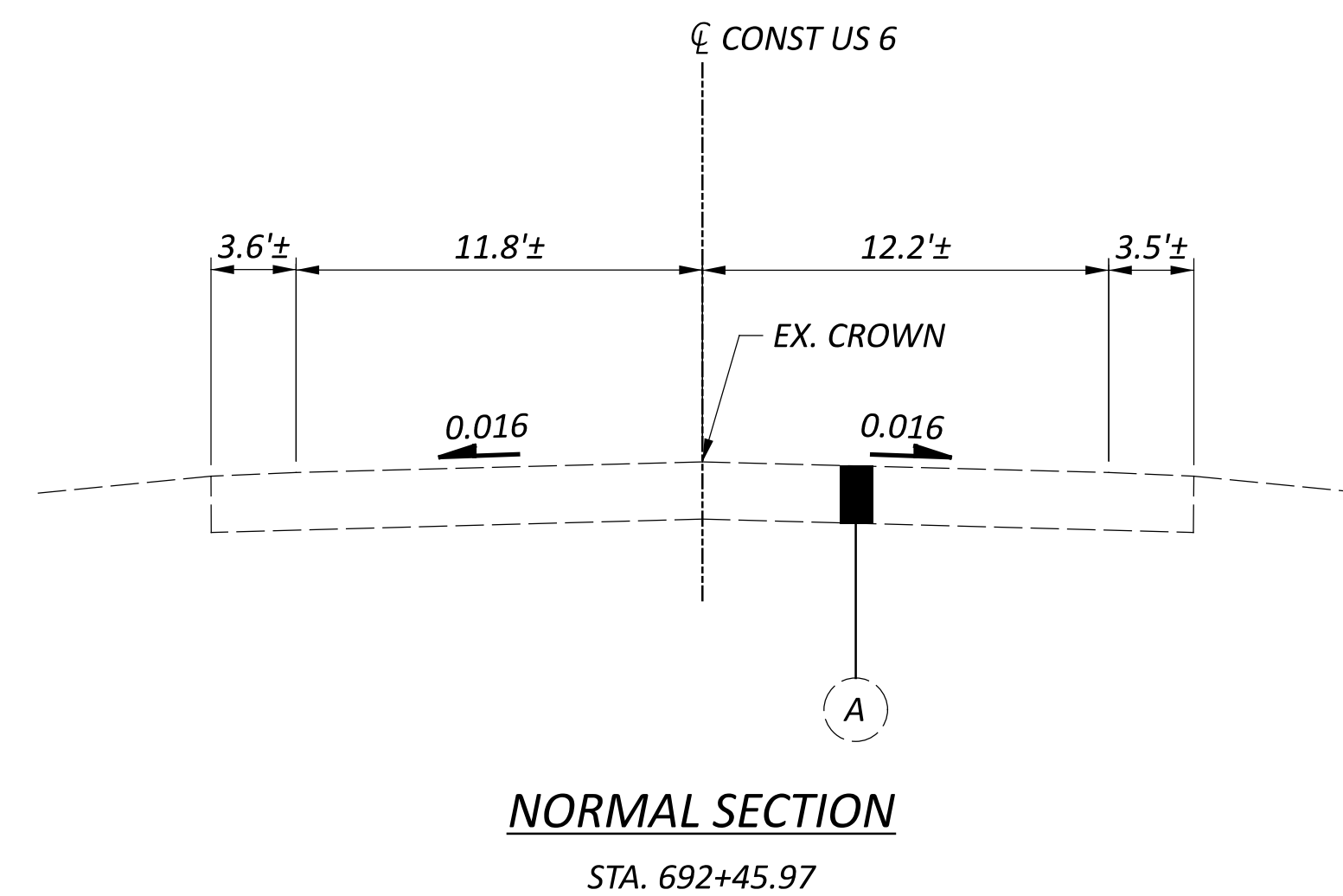
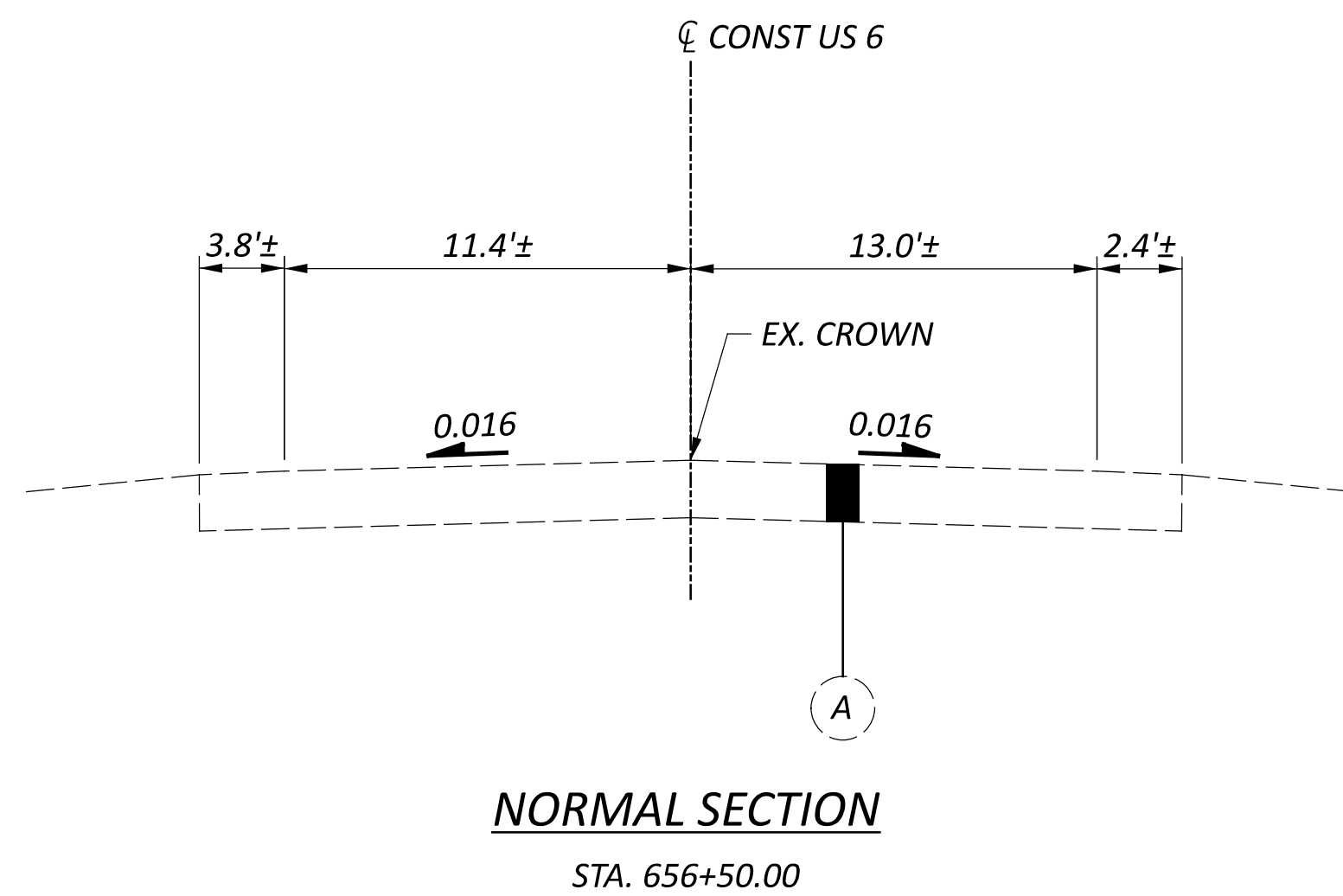
STANDARD CONSTRUCTION DRAWINGS										SUPPLEMENTAL SPECIFICATIONS	SPECIAL PROVISIONS				
BP-1.1	7/28/00	DM-4.3	1/15/16	RM-4.6	7/18/25	HL-50.11	1/16/15	MT-101.60	1/17/25	TC-42.20	10/18/13	800-2023	7/18/25	NSRR	11/04/22
BP-2.1	1/21/22	DM-4.4	1/15/16	RM-5.2	7/21/23	HL-60.11	7/21/17	MT-101.70	7/19/24	TC-51.11	7/18/25	807	1/17/25	WATERWAY PERMIT	
BP-2.2	1/15/21					HL-60.12	7/21/23	MT-101.75	7/21/23	TC-52.10	10/18/13	813	7/21/23		
BP-3.1	1/19/24	F-2.1	7/20/18	A-1-20	7/19/24	HL-60.31	7/19/24	MT-101.90	7/17/20	TC-52.20	1/15/21	832	7/18/25		
BP-3.2	1/18/19	F-3.3	7/19/13	DBR-2-73	7/19/02			MT-103.10	7/18/25	TC-61.10	4/21/23	870	7/18/25		
BP-4.1	7/19/13			DBR-3-11	7/15/11	ITS-13.10	7/19/24	MT-105.10	1/17/20	TC-64.10	1/16/26	902	7/19/19		
BP-5.1	7/18/25	I-3D	7/19/24	EXI-2-81	7/15/22	ITS-14.10	1/17/25	MT-110.10	7/19/13	TC-65.10	1/17/14	913	4/16/21		
BP-7.1	7/18/25			HW-1.1	7/18/25	ITS-15.10	7/18/25			TC-65.11	1/17/25	921	7/19/24		
		MGS-2.1	7/18/25	HW-2.1	7/15/22			TC-16.22	7/18/25	TC-71.10	7/18/25	997	1/16/26		
CB-1	7/19/24	MGS-3.1	7/18/25	HW-2.2	7/20/18	MT-95.31	7/18/25	TC-21.11	7/16/21	TC-72.20	7/18/25	999	1/16/26		
CB-2-2A, 2B, 2C	7/19/24	MGS-3.2	7/18/25			MT-95.32	7/18/25	TC-21.21	7/18/25	TC-74.10	7/21/23				
CB-2-3, 2-4	7/19/24	MGS-4.2	7/18/25	HL-10.11	7/21/23	MT-95.41	7/18/25	TC-22.10	1/17/25	TC-84.20	1/19/24				
CB-3	7/19/24	MGS-4.3	7/18/25	HL-10.12	7/21/23	MT-95.60	4/19/19	TC-22.20	7/18/25	TC-84.21	10/18/13				
CB-3A	7/19/24			HL-10.13	1/20/23	MT-95.61	4/19/19	TC-41.10	7/19/13	TC-85.21	7/18/25				
CB-5	7/19/24	MH-3	7/19/24	HL-20.11	7/18/25	MT-97.10	7/18/25	TC-41.20	10/18/13	TC-85.22	4/21/23				
CB-6	7/19/24			HL-30.11	7/21/23	MT-98.10	1/17/20	TC-41.30	4/21/23	TC-87.10	1/16/26				
		RM-1.1	1/20/23	HL-30.21	4/17/20	MT-98.20	4/19/19	TC-41.40	10/18/13						
DM-1.1	1/17/25	RM-3.1	7/20/18	HL-30.22	1/17/25	MT-98.29	1/17/20	TC-41.41	7/19/19						
DM-1.2	1/17/25	RM-4.2	7/18/25	HL-40.10	7/19/24	MT-98.30	7/18/25	TC-41.50	10/18/13						
DM-4.1	7/17/20	RM-4.5	*1/17/25	HL-40.20	7/18/25	MT-99.30	1/17/20	TC-42.10	10/18/13						

ENGINEER'S SEAL	ENGINEER'S SEAL	ENGINEER'S SEAL
ROADWAY: TRANSYSTEMS SHEETS 	ROADWAY: OHM SHEETS 	MAINTENANCE OF TRAFFIC TRAFFIC CONTROL/LIGHTING 
ENGINEER'S SEAL	ENGINEER'S SEAL	ENGINEER'S SEAL
TRAFFIC CONTROL: OHM SHEETS 	STRUCTURES: ERI-00006-15.071 	ALL OTHER STRUCTURES OVER 20' 

DESIGN AGENCY	TRANSYSTEMS 400 W. NATIONWIDE BLVD., STE 225 COLUMBUS, OHIO 43215
DESIGNER	JIW
REVIEWER	GHM 07/30/25
PROJECT ID	116570
SHEET	P.0001
TOTAL	1106

EXISTING LEGEND:

- (A) 9"± ASPHALT OVER VARIABLE THICKNESS SUBBASE
- (B) 3"± SURFACE TREATED AGGREGATE BASE
- (C) 5"± STABILIZED CRUSHED AGGREGATE OVER VARIABLE THICKNESS SUBBASE
- (D) 6"± PIPE UNDERDRAIN
- (E) EXISTING GUARDRAIL, TYPE 5
- (F) EXISTING CURB
- (G) 4"± CONCRETE MEDIAN PAVEMENT
- (H) 3"± ASPHALT CONCRETE
- (I) 6"± AGGREGATE BASE OVER 4"± SUBBASE
- (J) VARIABLE DEPTH ASPHALT INTERMEDIATE COURSE
- (K) VARIABLE DEPTH AGGREGATE BASE
- (L) AGGREGATE DRAIN
- (M) SUBBASE
- (N) 3"± BITUMINOUS AGGREGATE BASE OVER 6"± AGGREGATE BASE
- (O) 6"± BITUMINOUS AGGREGATE BASE
- (P) 9"± BITUMINOUS AGGREGATE BASE
- (Q) 5"± BITUMINOUS AGGREGATE BASE
- (R) 4"± AGGREGATE BASE
- (S) 6"± AGGREGATE BASE



(X) ITEM 618 - RUMBLE STRIPES, CENTER LINE  
 (Y) ITEM 618 - RUMBLE STRIPES, EDGE LINE

SEE TC-64.10 AND PAVEMENT MARKING ESTIMATED QUANTITIES P.0883

DESIGN AGENCY



DESIGNER

AHH

REVIEWER

BLC 10/27/25

PROJECT ID

116570

SHEET TOTAL

P.0023 1106

**ITEM 614 PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN - (CONTINUED)**

ALL MESSAGES TO BE DISPLAYED ON THE SIGN WILL BE PROVIDED BY THE ENGINEER. A LIST OF ALL REQUIRED PRE-PROGRAMMED MESSAGES WILL BE GIVEN TO THE CONTRACTOR AT THE PROJECT PRECONSTRUCTION CONFERENCE. THE SIGN SHALL HAVE THE CAPABILITY TO STORE UP TO 99 MESSAGES. MESSAGE MEMORY OR PRE-PROGRAMMED DISPLAYS SHALL NOT BE LOST AS A RESULT OF POWER FAILURES TO THE ON-BOARD COMPUTER. THE SIGN LEGEND SHALL BE CAPABLE OF BEING CHANGED IN THE FIELD. THREE-LINE PRESENTATION FORMATS WITH UP TO SIX MESSAGE PHASES SHALL BE SUPPORTED. PCMS FORMAT SHALL PERMIT THE COMPLETE MESSAGE FOR EACH PHASE TO BE READ AT LEAST TWICE. THE PCMS SHALL CONTAIN AN ACCURATE CLOCK AND PROGRAMMING LOGIC WHICH WILL ALLOW THE SIGN TO BE ACTIVATED, DEACTIVATED OR MESSAGES CHANGED AUTOMATICALLY AT DIFFERENT TIMES OF THE DAY FOR DIFFERENT DAYS OF THE WEEK.

(THE PCMS SHALL CONTAIN A CELLULAR TELEPHONE DATA LINK WHICH WILL (IN ACTIVE CELLULAR PHONE AREAS) ALLOW REMOTE SIGN ACTIVATION, MESSAGE CHANGES, MESSAGE ADDITIONS AND REVISIONS TO TIME OF DAY PROGRAMS. THE SYSTEM SHALL ALSO PERMIT VERIFICATION OF CURRENT AND PROGRAMMED MESSAGES. ONE REMOTE DATA INPUT DEVICE (LAPTOP COMPUTER PLUS MODEM OR EQUIVALENT) SHALL BE FURNISHED FOR USE BY THE DISTRICT TRAFFIC ENGINEER, OR EQUIVALENT, AND SHALL BE INSURED AGAINST THEFT.)

THE PCMS UNIT SHALL BE MAINTAINED IN GOOD WORKING ORDER BY THE CONTRACTOR IN ACCORDANCE WITH THE PROVISIONS OF C&MS 614.07. THE CONTRACTOR SHALL, PRIOR TO ACTIVATING THE UNIT, MAKE ARRANGEMENTS, WITH AN AUTHORIZED SERVICE AGENT FOR THE PCMS, TO ASSURE PROMPT SERVICE IN THE EVENT OF FAILURE. ANY FAILURE SHALL NOT RESULT IN THE SIGN BEING OUT OF SERVICE FOR MORE THAN 12 HOURS, INCLUDING WEEKENDS. FAILURE TO COMPLY MAY RESULT IN AN ORDER TO STOP WORK AND OPEN ALL TRAFFIC LANES AND/OR IN THE DEPARTMENT TAKING APPROPRIATE ACTION TO SAFELY CONTROL TRAFFIC. THE ENTIRE COST TO CONTROL TRAFFIC, ACCRUED BY THE DEPARTMENT DUE TO THE CONTRACTOR'S NONCOMPLIANCE, WILL BE DEDUCTED FROM MONEYS DUE, OR TO BECOME DUE THE CONTRACTOR ON HIS CONTRACT.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR 24-HOUR-PER-DAY OPERATION AND MAINTENANCE OF THESE SIGNS ON THE PROJECT FOR THE DURATION OF THE PHASES WHEN THE PLAN REQUIRES THEIR USE.

PAYMENT FOR THE ABOVE DESCRIBED ITEM SHALL BE AT THE CONTRACT UNIT PRICE. PAYMENT SHALL INCLUDE ALL LABOR, MATERIALS, EQUIPMENT, FUELS, LUBRICATING OILS, SOFTWARE, HARDWARE AND INCIDENTALS TO PERFORM THE ABOVE DESCRIBED WORK.

ITEM 614 PORTABLE CHANGEABLE MESSAGE SIGN AS PER PLAN, 288 SIGN MONTH  
FOR CY 2026  
(NOTE: 8 SIGNS WILL BE REQUIRED FOR THIS PROJECT ON US-6, PERKINS RD, 8 SIGNS x 12 MONTHS = 96 SIGN MONTH).

FOR CY 2027/2028  
(8 SIGNS WILL BE REQUIRED FOR THIS PROJECT ON US-6 (CLEVELAND RD), CAMP RD, RYE BEACH RD, 8 SIGNS x 24 MONTHS = 192 SIGN MONTH).

**ITEM 614, WORK ZONE IMPACT ATTENUATOR FOR 24" WIDE HAZARDS (UNIDIRECTIONAL OR BIDIRECTIONAL)**

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING A NON-GATING 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.

**ITEM 642, 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 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 3 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.

ALL WORK SHALL CONFORM WITH SCD MT-101.90 FOR DROP-OFF TREATMENT. CONTRACTOR SHALL PROVIDE PLANS TO ODOT FOR APPROVAL IF TREATMENT DOES NOT ADHERE WITH MT-101.90.

**ITEM 614, DETOUR SIGNING**

SIZE AND PLACEMENT OF DETOUR SIGNS (M4-9) SHOULD FOLLOW THE REQUIREMENTS OF THE OMUTCD SECTION GF.03, SECTION 2A.11 AND TABLE 6F.01.

DETOUR SIGNING SHALL PROVIDE DRIVERS ADEQUATE TIME TO CLEARLY READ THE SIGNS AND MAKE THE PROPER DECISIONS AT EACH REQUIRED TURNING MOVEMENT, THE DESIGNATED DETOUR ROUTE SHALL BE SIGNED IN ACCORDANCE WITH THE REQUIREMENTS BELOW:

APPROXIMATELY 1500 FEET PRIOR TO TIP OF THE PAINTED GORE AT AN INTERCHANGE WHEN EXITING A HIGH SPEED (45 MPH OR HIGHER) FACILITY.

- AT OR NEAR THE EXISTING SIGN IN THE GORE OF AN INTERCHANGE RAMP.

- AT OR NEAR THE FIRST EXISTING LANE ASSIGNMENT SIGN ON AN INTERCHANGE EXIT RAMP.

- AT OR NEAR THE EXISTING LANE ASSIGNMENT SIGN OR EXISTING ROUTE MARKER AT THE END OF AN EXIT RAMP

- APPROXIMATELY 500 FEET PRIOR TO A REQUIRED TURN AT AN INTERSECTION NOT CONTROLLED BY A STOP SIGN (FOR 45 MPH OR HIGHER ONLY).

- AT OR NEAR THE EXISTING LANE ASSIGNMENT SIGN OR EXISTING ROUTE MARKER AT AN INTERSECTION.

- AT ANY OTHER INTERSECTION OR DECISION POINT WHERE THE DETOUR ROUTE IS CONTRARY TO THE NORMAL, EXPECTED TURNING MANEUVER OR OTHERWISE UNCLEAR.

DETOUR SIGNS SHALL BE PLACED, WHEN POSSIBLE, NEXT TO BUT NOT BLOCKING EXISTING ROUTE MARKERS OR LANE ASSIGNMENT SIGNS. DETOUR SIGNS SHALL NOT OBSCURE OR BE OBSCURED BY OTHER EXISTING OR TEMPORARY SIGNS.

DETOUR SIGNS SHALL BE ERECTED AND/OR UNCOVERED PRIOR TO THE ROAD OR RAMP BEING CLOSED TO TRAFFIC BUT NO EARLIER THAN FOUR HOURS PRIOR TO THE CLOSURE. DETOUR SIGNS SHALL BE COVERED AND/OR REMOVED NO LATER THAN FOUR HOURS FOLLOWING THE ROAD OR RAMP RE-OPENING TO TRAFFIC.

PAYMENT FOR ACCEPTED QUANTITIES WILL BE MADE AT THE CONTRACT UNIT PRICE. PAYMENT SHALL BE FOR ALL MATERIALS, LABOR, INCIDENTALS AND EQUIPMENT FOR FURNISHING, PROPER SIGN PLACEMENT AND SIZING, TIMELY ERECTING AND/OR UNCOVERING OF SIGNS, MAINTAINING SIGNS, AND TIMELY COVERING AND/OR REMOVING SIGNS AND SUPPORTS.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY.

ITEM 614 - DETOUR SIGNING (LUMP SUM)

**ITEM 614, DETOUR SIGNING - (CONTINUED)**

THE CONTRACTOR SHALL ADVISE THE ODOT DISTRICT 3 OFFICE (419-281-0513), CITY OF SANDUSKY, HURON TOWNSHIP, CITY OF HURON, PERKINS TOWNSHIP AND ENGINEERING EIGHTEEN (18) DAYS IN ADVANCE OF WHEN ANY DETOUR ROUTE SHOULD BE IN EFFECT. ALL WORK ZONE DEVICES REQUIRED SHALL BE FURNISHED, ERECTED, MAINTAINED, AND SUBSEQUENTLY REMOVED BY THE CONTRACTOR.

PAYMENT FOR ALL WORK ASSOCIATED WITH THE DETOUR SHALL BE INCLUDED UNDER THE LUMP SUM BID FOR ITEM 614, DETOUR SIGNING.

**STORM DRAIN CONSTRUCTION**

THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING POSITIVE DRAINAGE THROUGHOUT CONSTRUCTION BY UTILIZING EXISTING, PERMANENT, AND TEMPORARY DRAINAGE STRUCTURES AND CONDUIT. FOR PROPOSED STORM PIPE RUNS THAT NEEDS TO BE INSTALLED IN SEPARATE PHASES AND STUBBED, TEMPORARILY PLUG THE PROTRUDING CONDUIT WITH A MANUFACTURED CAP. ANY LANE CLOSURES REQUIRED FOR DRAINAGE CONSTRUCTION, IN ADDITION TO THOSE PROVIDED IN THE PLANS, SHALL BE IMPLEMENTED AS PER THE CURRENT EDITION OF THE OMUTCD AND THE CURRENT STANDARD CONSTRUCTION DRAWINGS, AND SHALL REQUIRE FINAL WRITTEN APPROVAL BY THE ENGINEER. ANY TRAFFIC LANES REQUIRING TEMPORARY CLOSURE SHALL BE REOPENED AT THE END OF THE WORK DAY.

THE USE OF TEMPORARY PAVEMENT, OTHER THAN THE TEMPORARY PAVEMENT SHOWN IN THE PLAN SHEETS, IS NOT ANTICIPATED FOR THE CONSTRUCTION OF STORM SEWER SYSTEMS. ADDITIONAL TEMPORARY PAVEMENT, IF USED, IS THE RESPONSIBILITY OF THE CONTRACTOR.

TEMPORARY DRAINAGE CONNECTIONS ARE SHOWN IN THE PLANS FOR USE BY THE CONTRACTOR DURING CONSTRUCTION BASED UPON THE MAINTENANCE OF TRAFFIC PLANS. THE CONTRACTOR SHALL PROVIDE TEMPORARY FACILITIES TO ADEQUATELY DRAIN THE WORK SITE DURING ALL PHASES OF CONSTRUCTION. THE CONTRACTOR SHALL REFER TO PLAN SHEETS FOR DISPOSITION OF DRAINAGE FACILITIES AFFECTED BY TEMPORARY PAVEMENT INSTALLED AS PART OF THE MOT PHASING. ANY TEMPORARY DRAINAGE WORK NOT SEPARATELY ITEMIZED IN THE PLANS SHALL BE INCLUDED UNDER ITEM 614 - MAINTAINING TRAFFIC.

**SPECIAL - WORK ZONE TRAFFIC SIGNAL**

THE CONTRACTOR SHALL UTILIZE THE EXISTING SIGNAL INSTALLATION OR PROVIDE A NEW TEMPORARY SPAN WIRE INSTALLATION AS SHOWN ON THE PLANS FOR EACH RESPECTIVE MOT PHASE(S) AT:

1. US 6 @ RYE BEACH RD
2. RYE BEACH RD @ SR 2 WB RAMPS
3. RYE BEACH RD @ SR 2 EB RAMPS

EXISTING/PROPOSED SIGNAL HEADS WILL BE UTILIZED, AND SIGNAL CONTROLLER OPERATIONS MAY BE ADJUSTED AS NECESSARY TO ACCOMODATE EACH PHASE UNTIL SIGNAL CONTROL IS NO LONGER NEEDED.

PAYMENT FOR ALL LABOR, EQUIPMENT, AND MATERIAL TO COVER AND ADJUST THE PROPOSED SIGNAL HEADS AS NEEDED SHALL BE PAID FOR UNDER ITEM SPECIAL - WORK ZONE TRAFFIC SIGNAL, 3 EACH.

TOTAL CARRIED TO GENERAL SUMMARY.







**ERI-US 0006-CONNECTIVITY CORRIDOR**

MODEL: Sheet 4.1 PAPER: 34x22 (in.) DATE: 5/4/2026 TIME: 3:59:28 PM PLTDRV: OHDOT\_PDF.plt PENTBL: OHDOT\_Pen.tbl USER: ikontalauite@gfinc.com WORKSPACE: OHDOTCv02 WORKSET: 116570 PRODUCT: OpenRoadsDesigner 24.00.00.205  
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PART.								ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.	
01/SAF	02/SAF	03/S50	04/ENH	05/ENH	06/BRO	07/BRO	08/NFA							
<b>PAVEMENT</b>														
8	1	14,584	4					254	01000	14,597	SY	PAVEMENT PLANING, ASPHALT CONCRETE (DEPTH VARIES 0.02' - 0.75')		
7,176	589	3,695	523					301	56000	11,983	CY	ASPHALT CONCRETE BASE, PG64-22, (449)		
10,439	1,080	2,827	5,465	119				304	20000	19,930	CY	AGGREGATE BASE		
6,971	425	4,887	1,187	39				407	20000	13,509	GAL	NON-TRACKING TACK COAT		
173		85	39					441	70500	297	CY	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (449), (DRIVEWAYS)		
194		112	56					441	70700	362	CY	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (449), (DRIVEWAYS)		
1,781	148	1,105	131					442	10000	3,165	CY	ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (446)		
2,074	172	1,285	153					442	20171	3,684	CY	ASPHALT CONCRETE INTERMEDIATE COURSE, 12.5 MM, TYPE A (448), AS PER PLAN	P.0067	
1			1,071	27				442	22001	1,099	CY	ASPHALT CONCRETE SURFACE COURSE, 9.5 MM, TYPE A (449), AS PER PLAN	P.0066	
2			1,784	45				442	22401	1,831	CY	ASPHALT CONCRETE INTERMEDIATE COURSE, 19 MM, TYPE A (449), AS PER PLAN	P.0067	
1,382	536							451	13011	1,918	SY	8" REINFORCED CONCRETE PAVEMENT, CLASS QC 1P, AS PER PLAN	P.0068	
160								452	10010	160	SY	6" NON-REINFORCED CONCRETE PAVEMENT, CLASS QC 1P		
2,827	460							452	10011	3,287	SY	6" NON-REINFORCED CONCRETE PAVEMENT, CLASS QC 1P, AS PER PLAN	P.0067	
499		58						452	12010	557	SY	8" NON-REINFORCED CONCRETE PAVEMENT, CLASS QC 1P		
6,636	1,873	2,021	376					609	12000	10,906	FT	COMBINATION CURB AND GUTTER, TYPE 2		
1,020	716							609	22001	1,736	FT	CURB, TYPE 3-B, AS PER PLAN	P.0067	
742	503							609	24000	1,245	FT	CURB, TYPE 4-A		
6,099	1,428	185	648					609	26000	8,360	FT	CURB, TYPE 6		
93								609	26001	93	FT	CURB, TYPE 6, AS PER PLAN	P.0792	
			303					609	28000	303	FT	CURB, TYPE 7		
1.55			3.24					618	41000	4.79	MILE	RUMBLE STRIPES, EDGE LINE (ASPHALT CONCRETE)		
					0.04			618	42000	0.04	MILE	RUMBLE STRIPES, EDGE LINE (CONCRETE)		
1.03			2.39					618	43000	3.42	MILE	RUMBLE STRIPES, CENTER LINE (ASPHALT CONCRETE)		
0.02								618	44000	0.02	MILE	RUMBLE STRIPES, CENTER LINE (CONCRETE)		
1.03								874	21000	1.03	MILE	LONGITUDINAL JOINT PREPARATION		
<b>WATER WORK</b>														
50		83	58					46	638	01130	237	FT	6" WATER MAIN POLYVINYL CHLORIDE PIPE AND FITTINGS, AWWA C900, DR18	
206		133						67	638	01720	406	FT	8" WATER MAIN POLYVINYL CHLORIDE PIPE AND FITTINGS, AWWA C900, DR18	
12		10							638	01721	22	FT	8" WATER MAIN POLYVINYL CHLORIDE PIPE AND FITTINGS, AWWA C900, DR18, AS PER PLAN A	P.0848
								47	638	03380	47	FT	16" WATER MAIN POLYVINYL CHLORIDE PIPE AND FITTINGS, AWWA CLASS C905	
15		18						5	638	08706	38	EACH	8" CUTTING-IN SLEEVE	
		60							638	01721	60	FT	8" WATER MAIN POLYVINYL CHLORIDE PIPE AND FITTINGS, AWWA C900, DR18, AS PER PLAN B	P.0848
			4					2	638	09390	6	EACH	8" X 6" TAPPING SLEEVE, VALVE AND VALVE BOX	
								4	638	09910	4	EACH	16" X 16" TAPPING SLEEVE, VALVE AND VALVE BOX	
1		1	4						638	10300	6	EACH	FIRE HYDRANT EXTENDED AND ADJUSTED TO GRADE	
6		4	1						638	10400	11	EACH	FIRE HYDRANT ADJUSTED TO GRADE, INCLUDES VALVE	
2		5	4					4	638	10480	15	EACH	FIRE HYDRANT REMOVED	
5		6	2					4	638	10800	17	EACH	VALVE BOX ADJUSTED TO GRADE	
6		11						4	638	11100	21	EACH	METER AND CHAMBER REMOVED AND RESET	
1		2						2	638	11200	5	EACH	METER, SETTING, STOP AND CHAMBER	
3		5	4					4	SPECIAL	63820538	16	EACH	6" GATE VALVE WITH VALVE BOX RESILIENT WEDGE GATE VALVE	P.0848
8		12						3	SPECIAL	63820554	23	EACH	8" GATE VALVE WITH VALVE BOX RESILIENT WEDGE GATE VALVE	P.0848
2		5						4	SPECIAL	63820750	11	EACH	6" FIRE HYDRANT AMERICAN AVK 2780 OR MUELLER SUPER CENTURION A-423-250	P.0848
36		125							SPECIAL	63820826	161	FT	RETOP, RECONNECT AND EXTEND 1" POLYETHYLENE WATER SERVICE CONNECTION, CTS PIPE AND CONSTRUCTED OF HDPE	P.0848
34		44						12	638	06500	90	FT	12" STEEL PIPE ENCASEMENT, OPEN CUT	
15		15	15					15	638	98100	15	FT	WATER WORK, MISC.: AWWA STANDARD TESTING	P.0848
								10	638	98600	10	FT	WATER WORK, MISC.: 16" WATER MAIN CONCRETE ENCASEMENT IN PLACE, SEE ERIE COUNTY STANDARDS	P.0848
<b>SANITARY SEWER</b>														
11		17	8					611	99654	36	EACH	MANHOLE ADJUSTED TO GRADE		

**GENERAL SUMMARY**

DESIGN AGENCY  
**TRANSYSTEMS**  
 400 W. NATIONWIDE BLVD., STE. 225  
 COLUMBUS, OHIO 43215

DESIGNER  
**JIW**

REVIEWER  
**GHM 10/27/25**

PROJECT ID  
**116570**

SHEET TOTAL  
**P.0292 | 1106**

ERI-US 0006-CONNECTIVITY CORRIDOR

MODEL: Sheet 7 PAPER: 34x22 (in.) DATE: 4/30/2028 TIME: 3:25:35 PM PLTDRY: OHDOT\_PDF.plt PENTEL: OHDOT\_Pen.tbl USER: kontautale@gfinc.com WORKSPACE: OHDOTCE02 WORKSET: 116570 PRODUCT: OpenRoadsDesigner 24.00.00.205  
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SHEET NUM.													PART.	ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
P.1017	P.1028	P.1041																	
<b>STRUCTURE OVER 20 FOOT SPAN (SFN 2201674)</b>																			
478														202	23501	478	SY	WEARING COURSE REMOVED, AS PER PLAN	P.1017
540														407	10000	540	GAL	TACK COAT	
14														442	10000	14	CY	ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (446)	
18														442	10081	18	CY	ASPHALT CONCRETE INTERMEDIATE COURSE, 12.5 MM, TYPE A (446), AS PER PLAN	P.1017
5														442	22001	5	CY	ASPHALT CONCRETE SURFACE COURSE, 9.5 MM, TYPE A (449), AS PER PLAN	P.1017
9														442	22401	9	CY	ASPHALT CONCRETE INTERMEDIATE COURSE, 19 MM, TYPE A (449), AS PER PLAN	P.1017
400														509	10000	400	LB	EPOXY COATED STEEL REINFORCEMENT	
1,218														509	30020	1,218	FT	NO. 4 DEFORMED GFRP REINFORCEMENT	
32														510	10000	32	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT	
84														512	10100	84	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	
135														512	33011	135	SY	TYPE 3 WATERPROOFING, AS PER PLAN	P.1017
62														516	31000	62	FT	JOINT SEALER	
19														516	13600	19	SF	1" PREFORMED EXPANSION JOINT FILLER	
68														517	75600	68	FT	DEEP BEAM BRIDGE RETROFIT RAILING	
68														517	75601	68	FT	DEEP BEAM BRIDGE RETROFIT RAILING, AS PER PLAN	P.1017
62														SPECIAL	51822300	62	FT	STEEL DRIP STRIP	P.1017
57														607	39901	57	FT	VANDAL PROTECTION FENCE, 6' STRAIGHT, COATED FABRIC, AS PER PLAN	P.1017
94														622	90000	94	FT	BARRIER, MISC.: MODIFIED CONCRETE BARRIER, SINGLE SLOPE, TYPE D	P.1023
43														846	00111	43	CF	POLYMER MODIFIED ASPHALT EXPANSION JOINT SYSTEM, AS PER PLAN	P.1017
<b>STRUCTURE OVER 20 FOOT SPAN (SFN 2201739)</b>																			
	LS													202	11203	LS		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN	P.1026
	LS													503	11101	LS		COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN	P.1031
	251													503	22200	251	CY	UNCLASSIFIED EXCAVATION, INCLUDING ROCK AND/OR SHALE	
	7,679													509	10000	7,679	LB	EPOXY COATED STEEL REINFORCEMENT	
	124													510	10000	124	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT	
	69													511	43510	69	CY	CLASS QC1 CONCRETE, ABUTMENT INCLUDING FOOTING	
	34													512	10100	34	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	
	16													512	33000	16	SY	TYPE 2 WATERPROOFING	
	LS													513	95020	LS		STRUCTURAL STEEL, MISC.: PREFABRICATED TRUSS BRIDGE	P.1027
	22													516	10501	22	FT	STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC COMPRESSION SEAL, AS PER PLAN	P.1037
	22													517	74001	22	FT	RAILING, TIMBER, AS PER PLAN	P.1038
	43													518	20000	43	SY	PREFABRICATED GEOCOMPOSITE DRAIN	
	2													518	21200	2	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC	
	37													518	40000	37	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	
	39													518	40010	39	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS	
	35													601	34200	35	CY	ROCK CHANNEL PROTECTION, TYPE C WITHOUT FILTER	
<b>STRUCTURE OVER 20 FOOT SPAN (SFN 2201836)</b>																			
		1,624												509	10000	1,624	LB	EPOXY COATED STEEL REINFORCEMENT	
		4,594												509	30020	4,594	FT	NO. 4 DEFORMED GFRP REINFORCEMENT	
		117												510	10000	117	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT	
		313												512	10100	313	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	
		10												516	13200	10	SF	1/2" PREFORMED EXPANSION JOINT FILLER	
		10												516	13600	10	SF	1" PREFORMED EXPANSION JOINT FILLER	
		591												607	39901	591	FT	VANDAL PROTECTION FENCE, 6' STRAIGHT, COATED FABRIC, AS PER PLAN	P.1041
		591												SPECIAL	60740000	591	FT	VANDAL PROTECTION FENCE REMOVED, AS PER PLAN	P.1041
		347												622	90000	347	FT	BARRIER, MISC.: MODIFIED CONCRETE BARRIER, SINGLE SLOPE, TYPE D	P.1041
		2												625	32000	2	EACH	GROUND ROD	

GENERAL SUMMARY

DESIGN AGENCY  
**TRANSYSTEMS**  
 400 W. NATIONWIDE BLVD., STE. 225  
 COLUMBUS, OHIO 43215

DESIGNER  
 JIW

REVIEWER  
 GHM 10/27/25

PROJECT ID  
 116570

SHEET TOTAL  
 P.0297 1106



**ERI-US 0006-CONNECTIVITY CORRIDOR**

MODEL: Sheet PAPER: 34x22 (in.) DATE: 5/4/2026 TIME: 10:28:25 AM PLTDRV: OHDOT\_PDF Levels.plt PENTBL: OHDOT\_Pen.tbl USER: Kayla.Hillegas@ohm-advisors.com WORKSPACE: OHDOTCeV02 WORKSET: 116570 PRODUCT: OpenRoadsDesigner 24.00.00.205  
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CULVERT QUANTITIES SHEET NO.	203		503	503		509	511	511		512	512		516	518		601	601	601		602		611	611	611	611	
	GRANULAR EMBANKMENT		COFFERDAMS AND EXCAVATION BRACING	UNCLASSIFIED EXCAVATION		EPOXY COATED STEEL REINFORCEMENT	CLASS QC1 CONCRETE, RETAINING/WINGWALL NOT INCLUDING FOOTING	CLASS QC1 CONCRETE, FOOTING		SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	TYPE 2 WATERPROOFING		1" PREFORMED EXPANSION JOINT FILLER	POROUS BACKFILL WITH GEOTEXTILE FABRIC		RIPRAP, TYPE D	ROCK CHANNEL PROTECTION, TYPE B WITH GEOTEXTILE FABRIC	ROCK CHANNEL PROTECTION, TYPE C WITH GEOTEXTILE FABRIC		CONCRETE MASONRY		60" CONDUIT, TYPE A, 707.21 OR 707.22	72" CONDUIT, TYPE A, 706.02, 707.85, OR 707.04 (0.109") WITH CONCRETE FIELD PAVING	29" X 45" CONDUIT, TYPE A, 706.04	9' X 4' CONDUIT, TYPE A, 706.05	
	CY					LB	SY	CY		SY	SY		SF		SY	CY	CY		CY		FT	FT	FT	FT		
P.0817	14.6		LS	LS		3428	16.0	27.1		69	62		33	LS	29	6										23
P.0820																	3			0.98					87	
P.0821	66.9			LS													11			20.6			108			
P.0822																	5			1.8		20				
<b>TOTALS CARRIED TO GENERAL SUMMARY</b>																										
<b>SUBTOTAL FOR PARTICIPATION 01/SAF</b>	66.9																11	3		21.6			108	87		
<b>SUBTOTAL FOR PARTICIPATION 04/ENH</b>	14.6					3428	16.0	27.1		69	62		33		29	11			1.8		20				23	
<b>GRAND TOTALS</b>	81.5		LS	LS		3428	16.0	27.1		69	62		33	LS	29	22	3		23.4		20	108	87		23	

**CULVERT QUANTITIES SUBSUMMARY**

DESIGN AGENCY

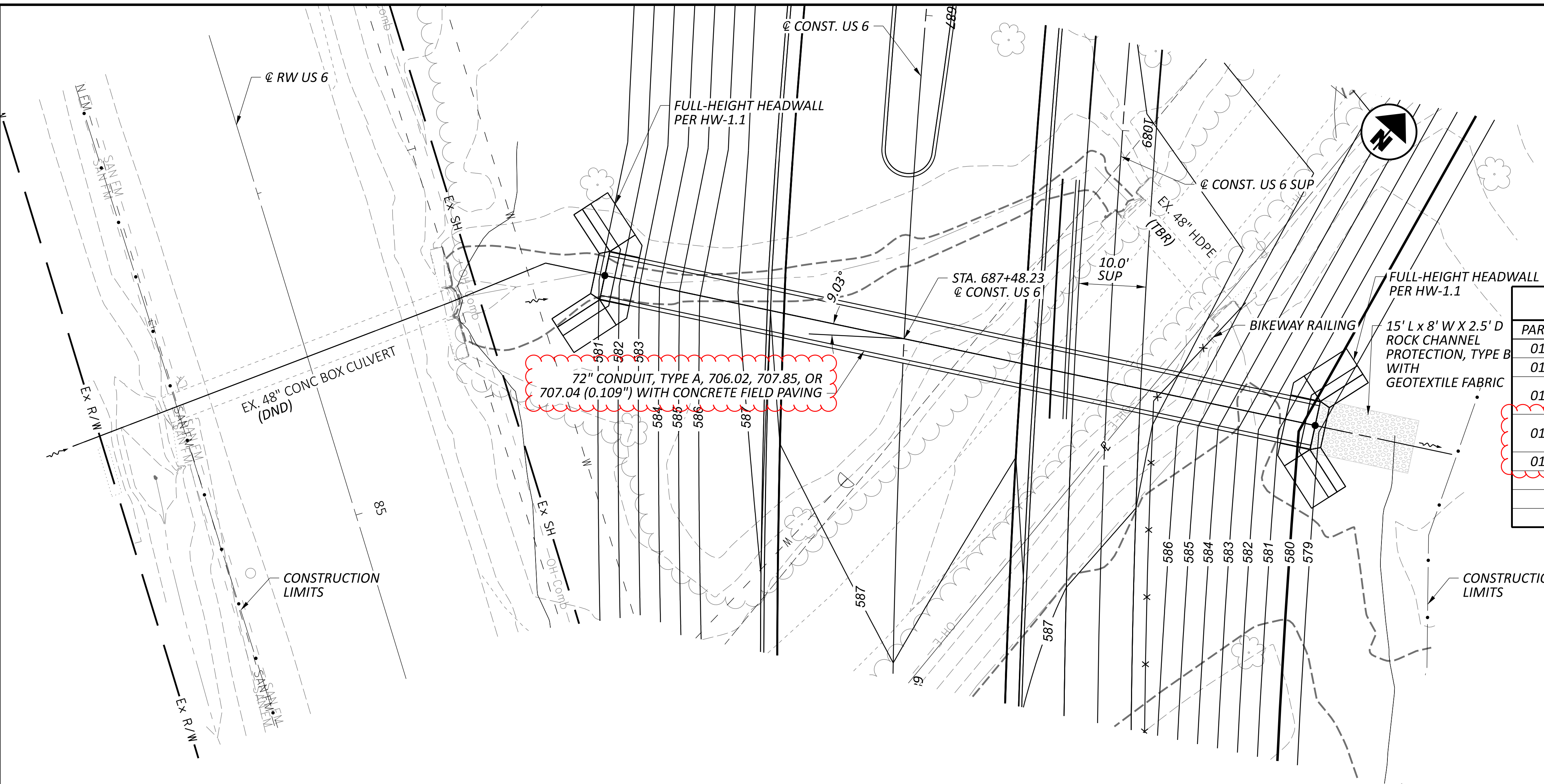


DESIGNER  
SEH

REVIEWER  
BLS 10/27/25

PROJECT ID  
116570

SHEET TOTAL  
P.0815 1106



### ESTIMATED QUANTITIES

PART.	ITEM	QUANTITY	UNIT	DESCRIPTION
01	203	66.9	CY	GRANULAR EMBANKMENT
01	503	LS		UNCLASSIFIED EXCAVATION
01	601	11	CY	ROCK CHANNEL PROTECTION, TYPE B WITH GEOTEXTILE FABRIC
01	611	108	FT	72" CONDUIT, TYPE A, 706.02, 707.85, OR 707.04 (0.109") WITH CONCRETE FIELD PAVING
01	602	20.6	CY	CONCRETE MASONRY

### HYDRAULIC DATA

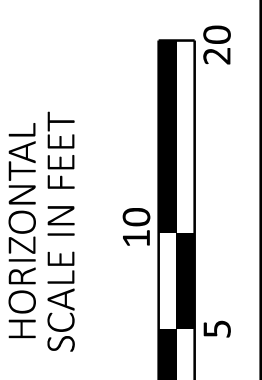
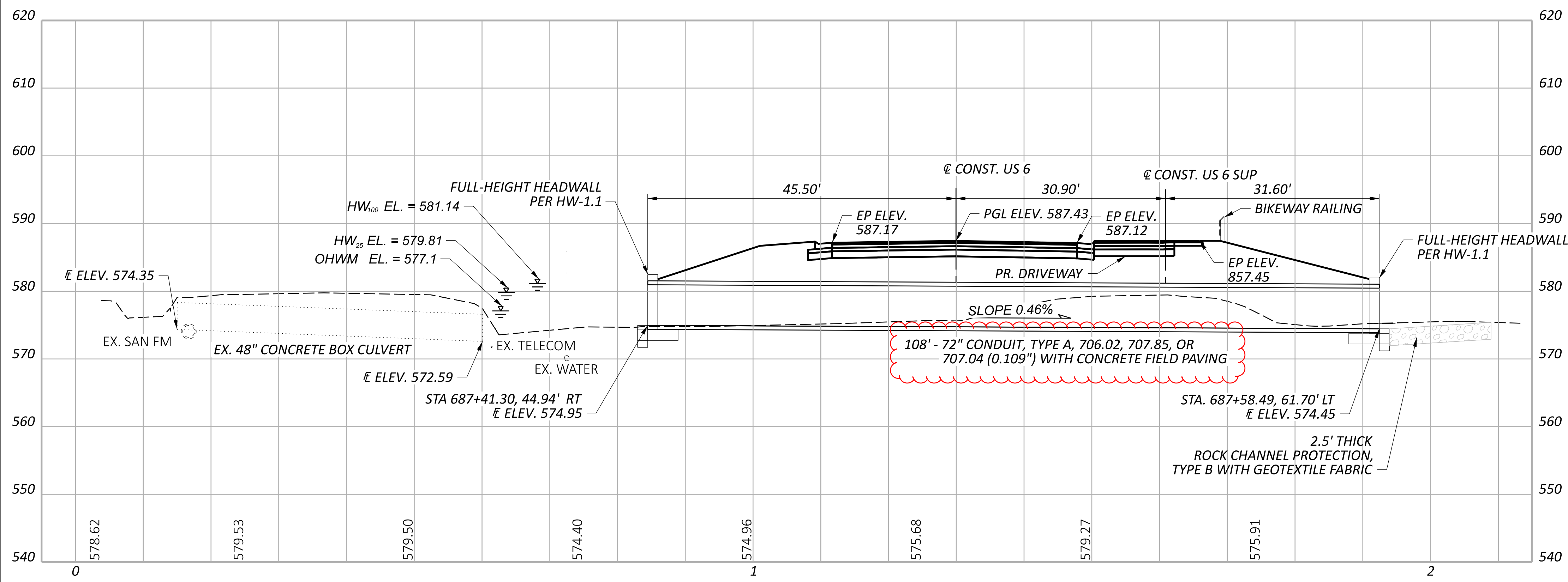
DRAINAGE AREA = 225 ACRES  
 Q (25) = 153 CFS      V (25) = 10.98 FT/S      HW (25) = 579.81 FT  
 Q (100) = 227 CFS      V (100) = 12.04 FT/S      HW (100) = 581.14 FT  
 ORDINARY HIGH WATER MARK: 577.1 FT  
 DESIGN SERVICE LIFE: 75 YEARS  
 ABRASION LEVEL: 1  
 pH: 7.0

### PROPOSED STRUCTURE

TYPE: 72" CONDUIT, TYPE A, 706.02  
 SKEW: 9.03° R.F.  
 ALIGNMENT: TANGENT  
 CFN: 1995418

**FOUNDATION PREPARATION:**

FOUNDATION PREPARATION SHALL CONSIST OF EXCAVATION TO BELOW THE WALL BASE ELEVATION, AND PLACEMENT AND COMPACTION A MINIMUM 36 IN OF GRANULAR EMBANKMENT ACCORDING TO C&MS 203.07 BELOW THE BOTTOM OF THE HEADWALL FOUNDATION. THE GRANULAR EMBANKMENT SHALL EXTEND 6 IN HORIZONTALLY BEYOND THE FOUNDATION AREA. PAYMENT FOR THE EXCAVATION OF THIS AREA SHALL BE INCLUDED IN THE LUMP SUM BID PRICE FOR ITEM 503 - UNCLASSIFIED EXCAVATION.



**CULVERT DETAILS**  
 US 6 STA. 687+48.23

DESIGN AGENCY		
DESIGNER		
EIC	REVIEWER	BLS 10/27/25
PROJECT ID	116570	
SUBSET	TOTAL	
1	1	
SHEET	TOTAL	
P.0821	1106	

**630 SIGNING MISC.: SOLAR POWERED RECTANGULAR RAPID FLASHING BEACON (RRFB) SIGN ASSEMBLY**

THIS WORK SHALL CONSIST OF FURNISHING AND INSTALLING A SOLAR POWERED RECTANGULAR RAPID FLASHING BEACON (RRFB) SIGN ASSEMBLY. THE FLASHING UNIT SHALL BE 1-SIDED LED, SOLAR POWERED AND PEDESTRIAN ACTIVATED. MULTIPLE UNITS SHALL BE WIRELESSLY CONTROLLED AND SYNCHRONIZED. THE UNIT SHALL BE COMPLIANT WITH THE MOST CURRENT OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (OMUTCD), ODOT SUPPLEMENT SPECIFICATION 997 & 999, AND SCD TC-87.10.

**GENERAL REQUIREMENTS -**

EACH RRFB SHALL CONSIST OF TWO RAPIDLY AND ALTERNATELY FLASHING RECTANGULAR YELLOW INDICATIONS HAVING LED ARRAY BASED PULSING LIGHT SOURCES.

EACH RRFB SHALL BE A COMPLETE ASSEMBLY, CONSISTING OF BUT NOT LIMITED TO, SIGNAGE, SIGN MOUNTING HARDWARE, INDICATIONS AND ELECTRICAL COMPONENTS (WIRING, SOLID-STATE CIRCUIT BOARDS, ETC.).

**FUNCTIONAL REQUIREMENTS -**

EACH RRFB SHALL UTILIZE SOLAR POWER.

EACH RRFB SHALL BE ACTIVATED BY ADA COMPLIANT PUSH-BUTTONS.

THE RRFB SHALL BE NORMALLY DARK, SHALL INITIATE OPERATION ONLY UPON PEDESTRIAN ACTUATION, AND SHALL CEASE OPERATION AFTER A PREDETERMINED TIME LIMIT (BASED ON OMUTCD PROCEDURES).

EACH REMOTE RRFB SHALL BE WIRELESSLY ACTIVATED.

WHEN ACTIVATED, THE RRFB UNIT INDICATIONS SHALL FLASH IN A RAPIDLY ALTERNATING "WIG-WAG" FLASHING SEQUENCE (LEFT LIGHT ON, THEN RIGHT LIGHT ON).

ALL RRFB LIGHT INDICATIONS SHALL BE WIRELESSLY SYNCHRONIZED (ALL LIGHTS WILL TURN ON WITHIN 120 MSEC AND REMAIN SYNCHRONIZED THROUGHOUT THE DURATION OF THE FLASHING CYCLE).

EACH OF THE RRFB'S INDICATIONS SHALL FLASH AT 70 TO 80 FLASHES PER MINUTE.

THE UNIT SHALL BE LOW CURRENT/HIGH OUTPUT INCLUDING AUTOMATIC DIMMING CAPABILITIES FOR DAY AND NIGHT VISIBILITY.

THE UNIT SHALL BE CAPABLE OF RUNNING UP TO 30 DAYS WITHOUT SUNLIGHT.

**MATERIALS -**

FURNISH A COMPLETE ASSEMBLY, CONSISTING OF BUT NOT LIMITED TO, SIGNAGE, SIGN MOUNTING HARDWARE, INDICATIONS, AND ELECTRICAL COMPONENTS (WIRING, SOLID-STATE CIRCUIT BOARDS, ETC.). THE RRFB ASSEMBLY INCLUDES THE FOLLOWING ITEMS:

**1. RRFB INDICATIONS**

- A. EACH RRFB INDICATION LENS SHALL BE A MINIMUM SIZE OF APPROXIMATELY 5" WIDE X 2" HIGH.
- B. THE RRFB INDICATIONS SHALL BE ALIGNED HORIZONTALLY, WITH THE LONGER DIMENSION OF THE INDICATION HORIZONTAL. THERE SHALL BE TWO INDICATIONS ON THE FRONT AND TWO INDICATIONS ON THE BACK.

- C. EACH RRFB SHALL BE SUPPLIED WITH ALL REQUIRED HARDWARE TO INSTALL ASSEMBLY. ALL EXPOSED HARDWARE SHALL BE ANTI-VANDAL.
- D. EACH RRFB SHALL BE LOCATED BETWEEN THE BOTTOM OF THE CROSSING WARNING SIGN AND THE TOP OF THE SUPPLEMENTAL DOWNWARD DIAGONAL ARROW PLAQUE.
- E. THE LIGHT INTENSITY OF THE YELLOW INDICATIONS SHALL MEET THE MINIMUM SPECIFICATIONS OF SOCIETY OF AUTOMOTIVE ENGINEERS (SAE) STANDARD J595 (DIRECTIONAL FLASHING OPTICAL WARNING DEVICES FOR AUTHORIZED EMERGENCY, MAINTENANCE, AND SERVICE VEHICLES) DATED JANUARY, 2005.
- F. A SMALL CONFIRMATION LIGHT DIRECTED AT AND VISIBLE TO PEDESTRIANS IN THE CROSSWALK SHALL BE INSTALLED INTEGRAL TO THE RRFB OR PUSHBUTTON TO GIVE CONFIRMATION THAT THE RRFB IS IN OPERATION.

**2. SIGNS**

- A. ALL SIGN ASSEMBLIES SHALL USE ANTI-VANDAL FASTENERS TO MOUNT COMPONENTS TO SIGN AND SIGN TO FIXTURE.
- B. PEDESTRIAN PUSHBUTTONS SIGNS SHALL BE PROVIDED AND INCLUDE THE LEGEND "PUSH BUTTON TO TURN ON WARNING LIGHTS". SIGNS SHOULD BE MOUNTED ADJACENT TO OR INTEGRAL WITH EACH PEDESTRIAN PUSHBUTTON.
- C. TWO SETS OF SIGNS SHALL BE REQUIRED PER UNIT FOR VIEW FROM EACH APPROACH.

**3. CONTROL CIRCUIT**

- A. WHEN ACTIVATED, THE TWO YELLOW INDICATIONS IN EACH RRFB SHALL FLASH IN A RAPIDLY ALTERNATING "WIG-WAG" FLASHING SEQUENCE (LEFT LIGHT ON, THEN RIGHT LIGHT ON).
- B. THE CONTROL CIRCUIT SHALL HAVE THE CAPABILITY OF INDEPENDENTLY FLASHING UP TO TWO INDEPENDENT OUTPUTS. THE LED LIGHT OUTPUTS AND FLASH PATTERN SHALL BE COMPLETELY PROGRAMMABLE.
- C. AS A SPECIFIC EXCEPTION TO THE 2003 MUTCD SECTION 4K.01 REQUIREMENTS FOR THE FLASH RATE OF BEACONS, RRFB'S SHALL USE A MUCH FASTER FLASH RATE. EACH OF THE TWO YELLOW INDICATIONS OF AN RRFB SHALL HAVE 70 TO 80 PERIODS OF FLASHING PER MINUTE AND SHALL HAVE ALTERNATING, BUT APPROXIMATELY EQUAL, PERIODS OF FLASHING LIGHT EMISSIONS AND DARK OPERATION. DURING EACH OF ITS 70 TO 80 FLASHING PERIODS PER MINUTE, THE YELLOW INDICATIONS ON THE LEFT SIDE OF THE RRFB SHALL EMIT TWO SLOW PULSES OF LIGHT AFTER WHICH AND THE YELLOW INDICATIONS ON THE RIGHT SIDE OF THE RRFB SHALL EMIT FOUR RAPID PULSES OF LIGHT FOLLOWED BY A LONG PULSE.
- D. THE FLASH RATE OF EACH INDIVIDUAL YELLOW INDICATION, AS APPLIED OVER THE FULL ON-OFF SEQUENCE OF A FLASHING PERIOD OF THE INDICATION, SHALL NOT BE BETWEEN 5 AND 30 FLASHES PER SECOND, TO AVOID FREQUENCIES THAT MIGHT CAUSE SEIZURES.
- E. THE CONTROL CIRCUIT SHALL BE SEALED WATERTIGHT TO ELIMINATE DIRT CONTAMINATION AND ALLOW FOR SAFE HANDLING IN ALL WEATHER CONDITIONS.
- F. THE LEDS SHALL BE SEALED AGAINST DUST AND MOISTURE INTRUSION AS PER THE REQUIREMENTS OF NEMA STANDARD 250-1991 FOR TYPE 4 ENCLOSURE AND TO PROTECT ALL INTERNAL LED AND ELECTRICAL COMPONENTS.

**4. BATTERY AND SOLAR PANELS**

- A. BATTERY UNIT SHALL BE A 12VDC, 40 AHR MINIMUM, SEALED GEL OR AGM LEAD ACID BATTERY. BATTERIES SHALL HAVE A WRITTEN TWO YEAR FULL REPLACEMENT WARRANTY.
- B. THE SOLAR PANEL SHALL PROVIDE A MINIMUM OF 55 WATTS PEAK TOTAL OUTPUT.
- C. THE SOLAR PANEL SHALL BE MOUNTED TO AN ALUMINUM PLATE AND BRACKET AT AN ANGLE OF 45 DEGREES -60 DEGREES TO PROVIDE MAXIMUM OUTPUT.
- D. ALL FASTENERS USED SHALL BE ANTI-VANDAL.

**5. WIRELESS RADIO**

- A. RADIO CONTROL SHALL OPERATE ON A 900 MHZ FREQUENCY HOPPING SPREAD SPECTRUM NETWORK, WI-FI OR APPROVED EQUAL.
- B. RADIO SHALL INTEGRATE COMMUNICATION OF RRFB CONTROL CIRCUIT TO ACTIVATE SIGN FROM PUSH-BUTTON INPUT.
- C. THE RADIO SHALL BE SYNCHRONIZED SO ALL OF THE REMOTE RRFB LIGHT INDICATIONS WILL TURN ON WITHIN 120 MSEC OF EACH OTHER AND REMAIN SYNCHRONIZED THROUGH-OUT THE DURATION OF THE FLASHING CYCLE.
- D. RADIO SYSTEMS SHALL OPERATE FROM: 3VDC TO 15VDC.

**6. PUSHBUTTON**

- A. THE PUSHBUTTON SHALL BE CAPABLE OF CONTINUOUS OPERATION OVER A TEMPERATURE RANGE OF -30 DEGREES F TO +165 DEGREES F.
- B. PUSHBUTTON SHALL BE ADA COMPLIANT.

- 7. PEDESTAL SHAFT AND BASE - MOUNT ON A STANDARD 4.5-INCH OD ALUMINUM PEDESTAL POLE WITH BREAKAWAY BASE. A 14 FOOT POLE SHALL BE PROVIDED AND FIELD ADJUSTED TO MAINTAIN THE PROPER SIGN MOUNTING HEIGHTS, UNLESS SPECIFIED OTHERWISE IN THE PLANS. POLE AND BASE MANUFACTURER SHALL BE LISTED ON ODOT'S QUALIFIED PRODUCTS LIST, THE PEDESTAL POLE SHALL BE PAINTED BLACK AND CONFORM TO SS 997 & 999.

**CONSTRUCTION -**

THE RRFB SHALL BE ASSEMBLED AND CONSTRUCTED BY THE CONTRACTOR AS SHOWN AND SPECIFIED ON THE PLANS.

**WARRANTY -**

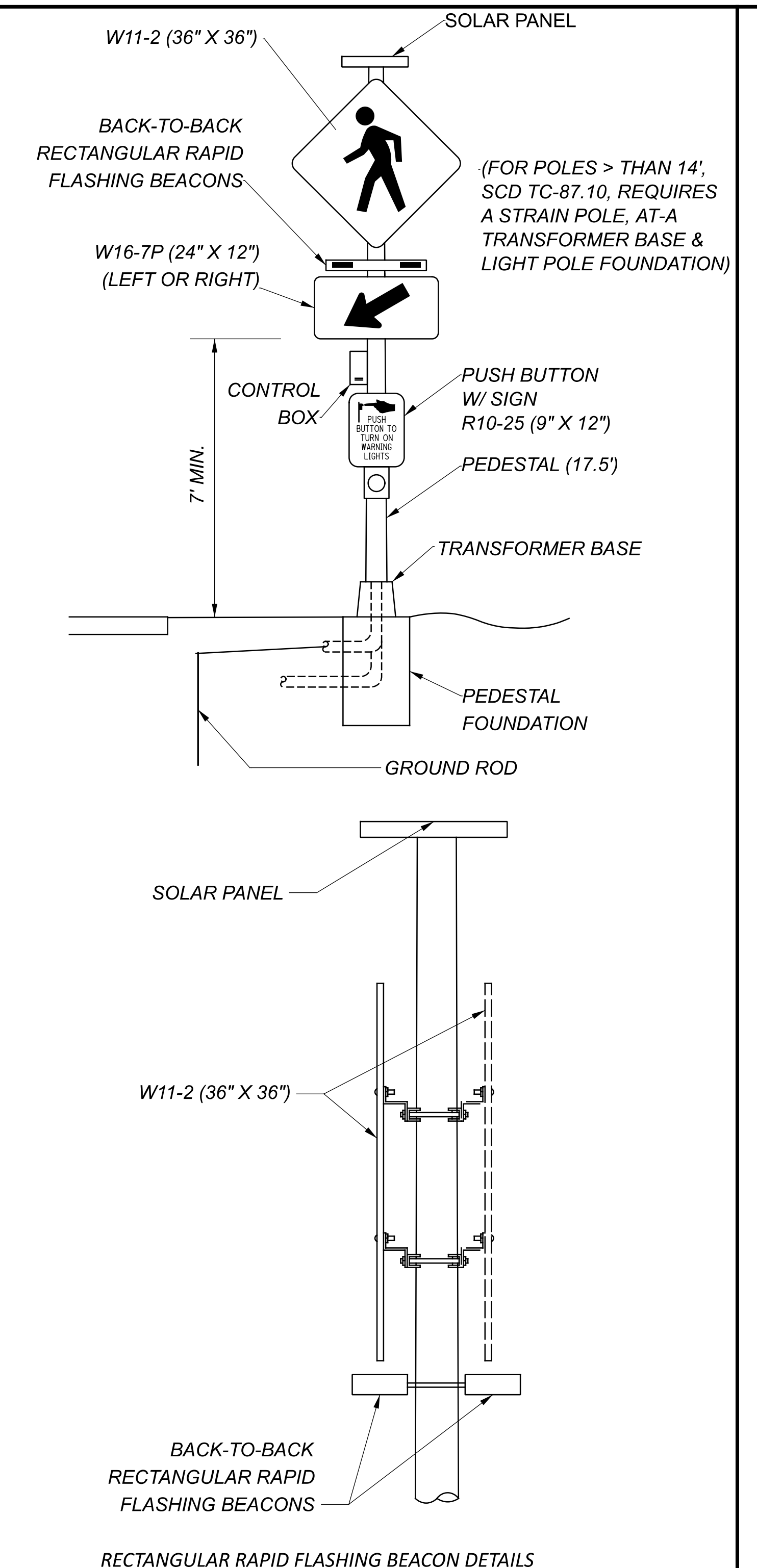
WARRANTY SHALL BE TWO YEARS FROM THE DATE OF FINAL ACCEPTANCE.

**MEASUREMENT -**

THE DEPARTMENT WILL MEASURE THE ITEM COMPLETE IN PLACE, INCLUDING ALL MATERIALS, TESTING, LABOR AND SOFTWARE FOR A FULLY FUNCTIONAL UNIT.

**PAYMENT -**

PAYMENT WILL BE AT THE CONTRACT UNIT PRICE PER EACH FOR ITEM 630 "SIGNING MISC.: SOLAR POWERED RECTANGULAR RAPID FLASHING BEACON (RRFB) SIGN ASSEMBLY".



**ITEM 620 - DELINEATOR, MISC.: HIGH INTENSITY RETRO-REFLECTIVE ISLAND SURFACE MOUNTED BULLNOSE MARKER**

THE CONTRACTOR SHALL USE A HIGH INTENSITY RETRO-REFLECTIVE ISLAND BULLNOSE MARKER, WITH A MINIMUM OF 224 SQUARE INCHES OF SOLID YELLOW REFLECTIVE SHEETING ON EACH SIDE WITH A RANGE OF 28 INCHES TO 42 INCHES IN HEIGHT. DISTRIBUTION OF SAID PRODUCT SHALL COME FROM ONE OF THE FOLLOWING DISTRIBUTORS: QWICK KURB INC (L104 AIR MARKER), NATIONAL TRAFFIC SIGNS INC (42 HIGHVIS-W-FROM SM-DS), AND FLEXSTAKE INC. (SM 700 SERIES).

PAYMENT SHALL BE AT THE UNIT PRICE BID, EACH, FOR ITEM 620 - DELINEATOR, MISC.: HIGH INTENSITY RETRO-REFLECTIVE ISLAND BULLNOSE MARKER. SHALL INCLUDE ALL LABOR, MATERIALS, EQUIPMENT AND ALL PERTINENT ITEMS NEEDED TO PERFORM THE ABOVE WORK.

DESIGN AGENCY	
TRANSYSTEMS 400 W. NATIONWIDE BLVD., STE 225 COLUMBUS, OHIO 43215	
DESIGNER	SSA
REVIEWER	SS 07/30/25
PROJECT ID	116570
SHEET	TOTAL
P.0873	1106

**ERI-US 0006-CONNECTIVITY CORRIDOR**

MODEL: Traffic control subsummary PAPER SIZE: 34x22 (in.) DATE: 5/4/2025 TIME: 4:09:56 PM PLTDRV: OHDOT\_PDF.pltcfg PENTBL:OHDOT\_Pen.tbl USER: Benjamin.Mallinak@ohm-advisors.com WORKSPACE: OHDOTCEV02 WORKSET: 116570 PRODUCT: OpenRoadsDesigner 10.12.02.4  
 pw:\ohdot-pw.bentley.com\ohdot-pw-02\Documents\01.Active Projects\District 03\Erie\116570\403-Engineering\_OHMAdvisors\Traffic\Sheets\116570\_15001.dgn

PAVEMENT MARKING ESTIMATED QUANTITIES	621	621	642	642	644	644	644	644	644	SPECIAL	644	644	644	644	644	644	646	646	SPECIAL	618	618	618	874
	RPM	RAISED PAVEMENT MARKER REMOVED	EDGE LINE, 6", TYPE 1	CENTER LINE, TYPE 1	CHANNELIZING LINE, 12"	STOP LINE	CROSSWALK LINE, 12"	PAVEMENT MARKING, MISC.: CROSSWALK LINE, 18"	TRANSVERSE/DIAGONAL LINE (YELLOW)	RAILROAD SYMBOL MARKING	LANE ARROW	TWO WAY LEFT TURN ARROW	DOTTED LINE, 12"	YIELD LINE	CHEVRON MARKING	WORD ON PAVEMENT, 96"	EDGE LINE, 6"	CENTER LINE	RUMBLE STRIPES, EDGE LINE (ASPHALT CONCRETE)	RUMBLE STRIPES, EDGE LINE (CONCRETE)	RUMBLE STRIPES, CENTER LINE (ASPHALT CONCRETE)	RUMBLE STRIPES, CENTER LINE (CONCRETE)	LONGITUDINAL JOINT PREPARATION
	EACH	EACH	MILE	MILE	FT	FT	FT	FT	FT	EACH	EACH	EACH	FT	FT	FT	EACH	MILE	MILE	MILE	MILE	MILE	MILE	MILE
P.0876	69	69	1.08	0.94	328.0	24.0	282.0	50.0	207.0	0	2	0	0.0	0.0	0.0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
P.0877	55	55	1.44	0.72	0.0	0.0	0.0	0.0	0.0	0	0	0	0.0	0.0	0.0	0	0.04	0.02	0.00	0.00	0.00	0.00	0.00
P.0878	55	27	0.76	0.35	0.0	0.0	0.0	80.0	100.0	0	0	0	114.0	36.0	0.0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
P.0879	90	0	0.82	0.62	400.0	29.0	106.0	0.0	122.0	0	2	0	432.0	0.0	0.0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
P.0880	81	0	1.23	0.76	0.0	0.0	80.0	0.0	0.0	0	0	0	0.0	0.0	0.0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
P.0881	32	0	0.05	0.03	387.0	0.0	0.0	80.0	9.0	1	14	0	386.0	16.0	0.0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
P.0882	44	0	0.42	0.30	504.0	24.0	0.0	0.0	34.0	1	8	1	0.0	76.0	110.0	2	0.00	0.00	0.00	0.00	0.00	0.00	0.00
P.0883	3	0	0.04	0.03	0.0	12.0	0.0	0.0	8.0	0	0	0	0.0	0.0	0.0	0	4.79	0.04	4.79	0.04	3.42	0.02	1.03
<b>TOTALS CARRIED TO GENERAL SUMMARY</b>																							
SUBTOTAL FOR PARTICIPATION 01/SAF	229	42	2.32	1.21	891.0	24.0	0.0	160.0	265.0	2	22	1	500.0	52.0	41.0	0	1.55	0.00	1.55	0.00	1.03	0.02	1.03
SUBTOTAL FOR PARTICIPATION 04/ENH	195	107	3.49	2.51	728.0	53.0	468.0	50.0	207.0	0	4	0	432.0	0.0	0.0	0	3.24	0.00	3.24	0.00	2.39	0.00	0.00
SUBTOTAL FOR PARTICIPATION 06/BRO	2	2	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0	0	0	0.0	0.0	0.0	0	0.04	0.05	0.00	0.04	0.00	0.00	0.00
<b>GRAND TOTALS</b>	<b>429</b>	<b>151</b>	<b>5.85</b>	<b>3.75</b>	<b>1619.0</b>	<b>89.0</b>	<b>468.0</b>	<b>210.0</b>	<b>480.0</b>	<b>2</b>	<b>26</b>	<b>1</b>	<b>932.0</b>	<b>128.0</b>	<b>110.0</b>	<b>2</b>	<b>4.82</b>	<b>0.05</b>	<b>4.79</b>	<b>0.04</b>	<b>3.42</b>	<b>0.02</b>	<b>1.03</b>

**TRAFFIC CONTROL SUBSUMMARY**

HORIZONTAL SCALE IN FEET

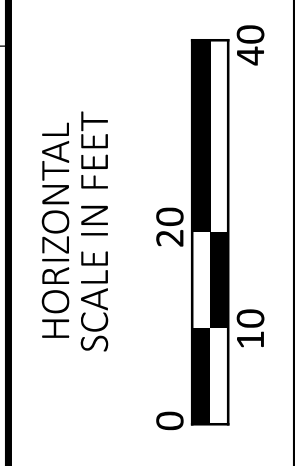
<b>DESIGN AGENCY</b>	
<b>DESIGNER</b>	BMM
<b>REVIEWER</b>	JWG 10/27/25
<b>PROJECT ID</b>	116570
<b>SHEET TOTAL</b>	P.0874   1106

**ERI-US 0006-CONNECTIVITY CORRIDOR**

MODEL: pavement marking - Sheet 8 PAPER SIZE: 34x22 (in.) DATE: 5/4/2026 TIME: 4:09:42 PM PLOTDR: OHDOT\_PDF.plt PENTBL: OHDOT\_Pen.tbl USER: Benjamin.Mallinak@ohm-advisors.com WORKSPACE: OHDOTCEV02 WORKSET: 116570 PRODUCT: OpenRoadsDesigner.10.12.02.4  
 pw:\ohdot-pw.bentley.com\ohdot-pw-02\Documents\01.Active Projects\District 03\Erie\116570\403-Engineering\_OHMAAdvisors\Traffic\Sheets\116570\_15001.dgn

REF NO.	SHEET NO.	STATION TO STATION		SIDE	PART.	621	621	642	642	644	644	644	644	644	SPECIAL	644	644	644	644	644	644	646	646	SPECIAL	618	618	618	874	
						RPM	RAISED PAVEMENT MARKER REMOVED	EDGE LINE, 6", TYPE 1	CENTER LINE, TYPE 1	CHANNELIZING LINE, 12"	STOP LINE	CROSSWALK LINE, 12"	PAVEMENT MARKING, MISC.: CROSSWALK LINE, 18"	TRANSVERSE/DIAGONAL LINE (YELLOW)	RAILROAD SYMBOL MARKING	LANE ARROW	TWO WAY LEFT TURN ARROW	DOTTED LINE, 12"	YIELD LINE	CHEVRON MARKING	WORD ON PAVEMENT, 96"	EDGE LINE, 6"	CENTER LINE	RUMBLE STRIPES, EDGE LINE (ASPHALT CONCRETE)	RUMBLE STRIPES, EDGE LINE (CONCRETE)	RUMBLE STRIPES, CENTER LINE (ASPHALT CONCRETE)	RUMBLE STRIPES, CENTER LINE (CONCRETE)	LONGITUDINAL JOINT PREPARATION	
						EACH	EACH	MILE	MILE	FT	FT	FT	FT	FT	EACH	EACH	EACH	FT	FT	FT	EACH	MILE	MILE	MILE	MILE	MILE	MILE	MILE	
ELW-478	P.0934	1600+00	1601+00	RT	01			0.019																					
ELW-479	P.0934	1600+00	1601+00	LT	01			0.019																					
DYL-350	P.0934	1600+00	1601+00	RT	01				0.019																				
RPM-484	P.0934	1600+00	1601+00	RT	01	2																							
DYL-351	P.0934	1600+35	1601+00	LT	01				0.012																				
RPM-485	P.0934	1600+35	1601+00	LT	01	1																							
SL-131	P.0934	1600+35		LT	01					12																			
TLY-181	P.0934	1600+35	1601+00	CEN	01								8																
RSE-1	P.0902-P.0914	605+14	654+50	RT	04																0.935		0.935						
RSE-2	P.0902-P.0914	605+14	654+50	LT	04																0.935		0.935						
RSE-1	P.0902-P.0914	654+50	658+88	RT	01																0.083		0.083						
RSE-2	P.0902-P.0914	654+50	658+88	LT	01																0.083		0.083						
RSE-3	P.0914-P.0919	659+82	681+87	RT	01																0.418		0.418						
RSE-4	P.0914-P.0919	659+82	681+87	LT	01																0.418		0.418						
RSE-5	P.0920-P.0928	688+69	692+50	RT	01																0.072		0.072						
RSE-6	P.0920-P.0928	688+70	692+50	LT	01																0.072		0.072						
RSE-5	P.0920-P.0928	692+50	728+62	RT	04																0.684		0.684						
RSE-6	P.0920-P.0928	692+50	728+62	LT	04																0.684		0.684						
RSE-7	P.0929-P.0931	1726+08	1733+35	RT	01																0.138		0.138						
RSE-8	P.0929-P.0931	1726+08	1732+08	LT	01																0.114		0.114						
RSE-9	P.0932-P.0933	1741+49	1745+50	LT	01																0.076		0.076						
RSE-10	P.0932-P.0933	1741+49	1745+50	RT	01																0.076		0.076						
RSEC-1	P.0914	658+88	659+82	RT	06																	0.018		0.018					
RSEC-2	P.0914	658+88	659+82	LT	06																	0.018		0.018					
RSC-1	P.0902	605+14	626+00	CEN	04																			0.395					
RSC-2	P.0902	605+14	654+50	CEN	04																			0.935					
RSC-2	P.0902	654+50	658+88	CEN	01																			0.083					
RSC-3	P.0914-P.0919	659+82	681+87	CEN/LT	01																			0.418					
RSC-4	P.0918-P.0919	678+87	681+87	RT	01																			0.418					
RSC-5	P.0920	687+23	691+00	RT	01																			0.071					
RSC-6	P.0920-P.0928	687+23	692+50	LT/CEN	01																			0.100					
RSC-6	P.0920-P.0928	692+50	728+62	LT/CEN	04																			0.684					
RSC-7	P.0923-P.0927	698+94	718+91	LT	04																			0.378					
RSC-8	P.0929-P.0931	1726+08	1733+65	CEN/LT	01																			0.143					
RSC-9	P.0930-P.0931	1731+85	1733+65	RT	01																			0.034					
RSC-10	P.0932-P.0933	1739+07	1745+50	LT	01																			0.122					
RSC-11	P.0932-P.0933	1739+07	1745+50	RT	01																			0.122					
RSCC-1	P.0914	658+88	659+82	CEN	06																				0.018				
TOTALS CARRIED TO SUBSUMMARY						3	0	0	0	0	12	0	0	8	0	0	0	0	0	0	0	0	4.79	0	4.79	0	3.42	0	1.03

**PAVEMENT MARKING ESTIMATED QUANTITIES**



DESIGN AGENCY



DESIGNER  
**BMM**

REVIEWER  
**JWG 10/27/25**

PROJECT ID  
**116570**

SHEET TOTAL  
**0.0883 1106**