

STATE OF OHIO  
DEPARTMENT OF TRANSPORTATION

# WIL-6 / 49-3.54 / 2.62

## ST. JOSEPH / FLORENCE TOWNSHIPS

## WILLIAMS COUNTY

**PROJECT DESCRIPTION**

A 2-LANE DISTRICT ALLOCATION FUNDED PROJECT TO RESURFACE SR-49 IN WILLIAMS COUNTY, THE SEALING OF THE CONCRETE BRIDGE DECK OF STRUCTURE WIL-49-2.62, THE REPLACEMENT OF THE CULVERT STRUCTURE WIL-49-4.08, AND PRESSURE RELIEF JOINT INSTALLATION AT STRUCTURE WIL-6-3.54 ; PERFORM NECESSARY RELATED WORK.

**EARTH DISTURBED AREAS**

PROJECT EARTH DISTURBED AREA: 0.50 ACRES  
ESTIMATED CONTRACTOR EARTH DISTURBED AREA: N/A  
NOTICE OF INTENT EARTH DISTURBED AREA: N/A



PLAN PREPARED BY:  
ODOT DISTRICT 2  
317 E POE RD  
BOWLING GREEN, OHIO

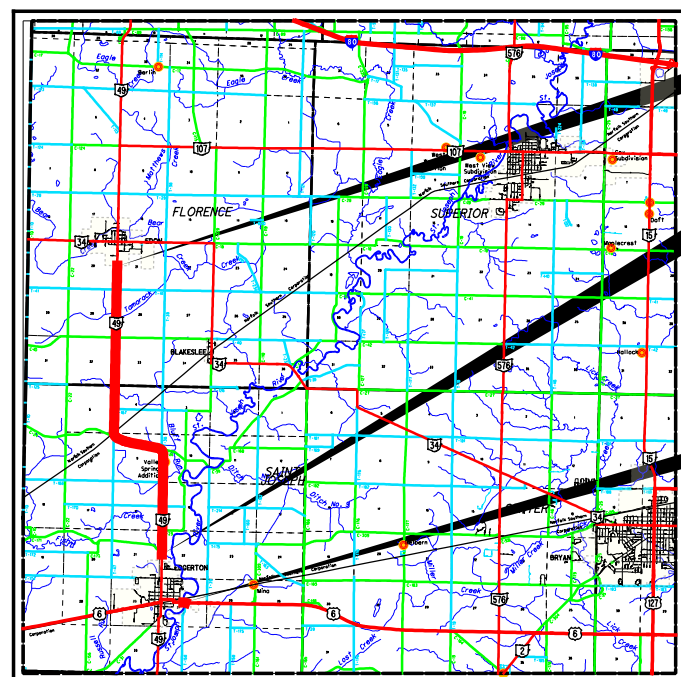
**2019 SPECIFICATIONS**

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

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 PROVIDED AS INDICATED ON SHEET 6.

APPROVED \_\_\_\_\_  
DATE \_\_\_\_\_ DISTRICT DEPUTY DIRECTOR

APPROVED \_\_\_\_\_  
DATE \_\_\_\_\_ DIRECTOR, DEPARTMENT OF TRANSPORTATION



LOCATION MAP

LATITUDE: 41° 29' 5.5" N LONGITUDE: 84° 44' 54.6" W



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

DESIGN DESIGNATION	WIL-49-2.62	WIL-6-3.54
CURRENT ADT (2020)	2400	5600
DESIGN YEAR ADT (2032)	2700	6100
DESIGN HOURLY VOLUME (2032)	300	610
DIRECTIONAL DISTRIBUTION	51%	52%
TRUCKS (24 HOUR B&C)	19%	21%
DESIGN SPEED	60 MPH	60 MPH
LEGAL SPEED	55 MPH	55 MPH
DESIGN FUNCTIONAL CLASSIFICATION:	RURAL MAJOR COLLECTOR	RURAL MAJOR ARTERIAL
NHS PROJECT	NO	YES

**DESIGN EXCEPTIONS**

NONE

**INDEX OF SHEETS:**

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WIL-49-2.62	
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STANDARD CONSTRUCTION DRAWINGS				SUPPLEMENTAL SPECIFICATIONS	SPECIAL PROVISIONS
DR-2.1	7/19/17	MT-105.10	1/17/20	800 1/17/20	WPC
BP-3.1	1/17/20			832 10/19/18	5/10/2019
RP-3.2	1/18/19	TC-65.10	1/17/14	872 7/19/19	
BP-4.1	7/19/13	TC-65.11	7/21/17	874 10/18/19	
HW-1.1	7/20/18	TC-71.10	1/19/18	875 1/18/19	
DM-1.1	7/21/17				
DM-1.2	1/18/13	RM-1.1	7/18/14		
DM-4.3	1/15/16				
DM-4.4	1/15/16				
MGS-1.1	1/19/18				
MGS-2.1	1/19/18				
MT-97.10	4/19/19				
MT-97.12	1/20/17				
MT-99.20	4/19/19				
MT-101.60	1/20/17				

ENGINEERS SEAL: 	ENGINEERS SEAL: 
SIGNED: _____ DATE: _____	SIGNED: _____ DATE: _____

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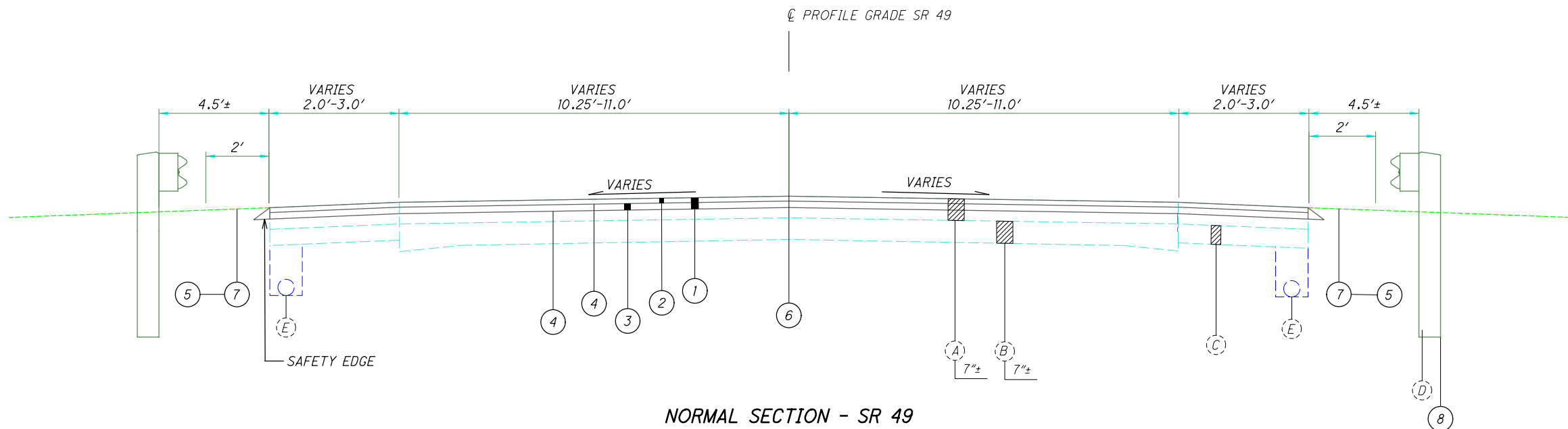
FEDERAL PROJECT NO.  
E130779

CONSTRUCTION PROJECT NO.  
94334

RAILROAD INVOLVEMENT  
NORFOLK SOUTHERN

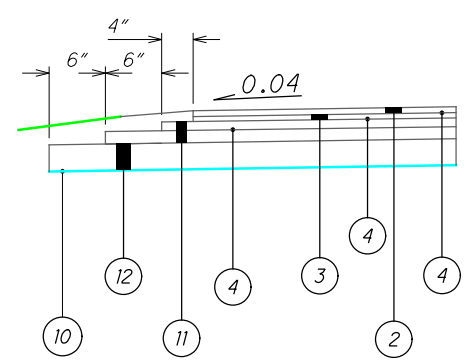
WIL-6 / 49-3.54 / 2.62

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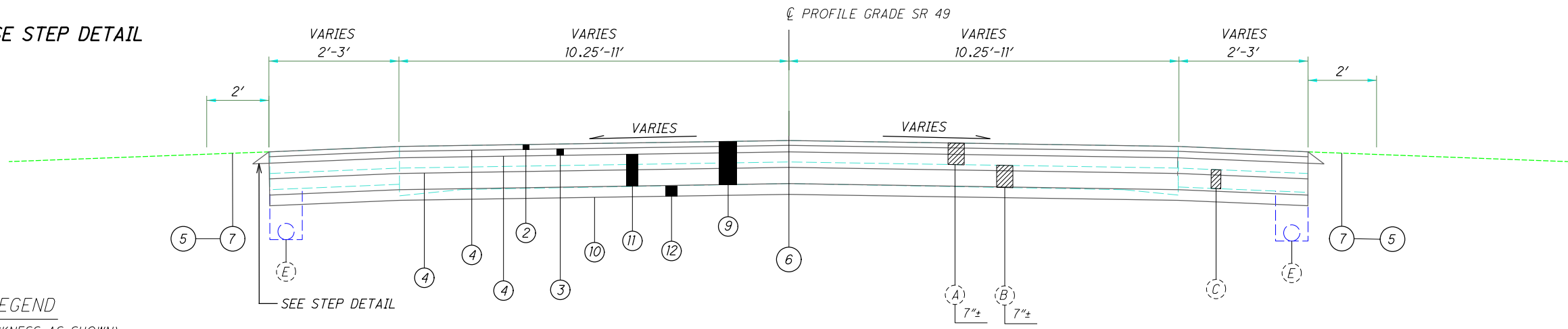


**NORMAL SECTION - SR 49**

TYPICAL SECTION APPLIES TO:  
 STA. 140+87.75 TO STA. 214+60.17 = 7372.42 FT  
 STA. 215+60.17 TO STA. 490+28.79 = 27468.62 FT  
 34841.04 FT



**BASE AND SUBBASE STEP DETAIL**



**NORMAL SECTION - SR 49**

TYPICAL SECTION APPLIES TO:  
 STA. 214+60.17 TO STA. 215+60.17 = 100 FT

EXISTING LEGEND

- (A) EXISTING ASPHALT (THICKNESS AS SHOWN)
- (B) 9-7-7-9 REINFORCED CONCRETE BASE
- (C) SUBBASE
- (D) GUARDRAIL (TO BE REMOVED)
- (E) EXISTING UNDERDRAIN

PROPOSED LEGEND

- (1) ITEM 254 - 3.25" PAVEMENT PLANING, ASPHALT CONCRETE
- (2) ITEM 441 - 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (446), PG 64-22
- (3) ITEM 441 - 1.75" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (448)
- (4) ITEM 407 - NON-TRACKING TACK COAT
- (5) ITEM 617 - COMPACTED AGGREGATE
- (6) ITEM 874 - LONGITUDINAL JOINT PREPARATION
- (7) ITEM 209 - LINEAR GRADING
- (8) ITEM 606 - GUARDRAIL TYPE MGS
- (9) ITEM 202 - PAVEMENT REMOVED
- (10) ITEM 204 - SUBGRADE COMPACTION
- (11) ITEM 301 - 10.75" ASPHALT CONCRETE BASE
- (12) ITEM 304 - 6" AGGREGATE BASE

NOTE: ITEM 301-10.75" BITUMINOUS AGGREGATE BASE SHALL BE PLACED IN TWO (2) LIFTS.

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**UTILITIES**

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

WILLIAMS COUNTY ENGINEERS  
12953 COUNTY RD G  
BRYAN, OH 43506  
419-636-2454

OHIO GAS CO.-BRYAN  
P.O. BOX 528  
BRYAN, OH 43506  
800-331-7396

FRONTIER COM  
3126 N. McCORD RD  
TOLEDO, OH 43617  
419-210-8231

TOLEDO EDISON  
P.O BOX 507  
DEFIANCE, OH 43512  
419-782-2015

ANR PIPELINE  
6357 SR 66 NORTH  
DEFIANCE, OH 43512  
419-783-3135

VILLAGE OF EDGERTON  
P.O BOX 609  
EDGERTON, OH 43517  
419-298-2912

KINDER MORGAN COCHIN PIPELINE  
7559 SECOR RD  
LAMBERTVILLE, MI 48144  
734-856-2161

**CONTINGENCY QUANTITIES**

THE CONTRACTOR SHALL NOT ORDER MATERIALS OR PERFORM WORK FOR ITEMS DESIGNATED BY PLAN NOTE TO BE USED "AS DIRECTED BY THE ENGINEER" UNLESS AUTHORIZED BY THE ENGINEER. THE ACTUAL WORK LOCATIONS AND QUANTITIES USED FOR SUCH ITEMS SHALL BE INCORPORATED INTO THE FINAL CHANGE ORDER GOVERNING COMPLETION OF THIS PROJECT.

**PROFILE AND ALIGNMENT**

PLACE THE PROPOSED PAVEMENT TO FOLLOW THE ALIGNMENT AND PROFILE OF THE EXISTING PAVEMENT. THE PROPOSED ASPHALT CONCRETE OVERLAY SHALL BE AS SHOWN ON THE TYPICAL SECTIONS.

**WORK LIMITS**

THE WORK LIMITS SHOWN ON THESE PLANS ARE FOR PHYSICAL CONSTRUCTION ONLY. THE INSTALLATION AND OPERATION OF ALL TEMPORARY TRAFFIC CONTROL AND TEMPORARY TRAFFIC CONTROL DEVICES REQUIRED BY THESE PLANS SHALL BE PROVIDED BY THE CONTRACTOR WHETHER INSIDE OR OUTSIDE THESE WORK LIMITS.

**PAVEMENT MARKINGS**

THE CONTRACTOR SHALL MAKE NOTE OF ALL EXISTING PAVEMENT MARKINGS AND RAISED PAVEMENT MARKERS BEFORE PERFORMING ANY WORK. ESTIMATED QUANTITIES HAVE BEEN INCLUDED TO BE USED AS DIRECTED BY THE ENGINEER.

**PLANED SURFACES**

NO PLANED SURFACES SHALL BE OPEN TO THE PUBLIC FOR MORE THAN 5 DAYS. IF THE PLANED SURFACE IS OPEN FOR MORE THAN 5 DAYS, THEN IT IS THE CONTRACTOR'S RESPONSIBILITY TO REPAIR THE PAVEMENT FAILURES THAT OCCURRED AFTER THE 5 DAYS.

**SURVEYING PARAMETERS**

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

**PROJECT CONTROL**

POSITIONING METHOD: ODOT VRS  
MONUMENT TYPE: TYPE B

**VERTICAL POSITIONING**

ORTHOMETRIC HEIGHT DATUM: NAVD88 (ODOT VRS DERIVED)  
GEOID: 2012A

**HORIZONTAL POSITIONING**

REFERENCE FRAME: NAD 83 (2011)  
ELLIPSOID: GRS80  
MAP PROJECTION: LAMBERT CONFORMAL COINC  
COORDINATE SYSTEM: OHIO STATE PLANE NORTH  
COMBINED SCALE FACTOR: GRID=1.0000000  
ORIGIN OF COORDINATE SYSTEM: 0,0

USE THE POSITIONING METHODS AND MONUMENT TYPE USED IN THE ORIGINAL SURVEY TO RESTORE ALL MONUMENTS RELATED TO PRIMARY PROJECT CONTROL THAT ARE DAMAGED OR DESTROYED BY CONSTRUCTION ACTIVITIES. RESTORE THE DAMAGED OR DESTROYED MONUMENTS IN ACCORDANCE WITH CMS 623.

UNITS ARE IN U.S. SURVEY FEET.

**ITEM 606 GUARDRAIL, TYPE MGS, AS PER PLAN**

THIS ITEM SHALL INCLUDE ALL LABOR, MATERIALS, AND EQUIPMENT NECESSARY TO PLACE NEW TYPE MGS GUARDRAIL AS DIRECTED BY THE ENGINEER AND IN ACCORDANCE WITH STANDARD CONSTRUCTION DRAWING MGS-1.1 AND MGS-2.1.

STEEL POSTS SHALL BE USED IN CONSTRUCTION OF THE GUARDRAIL, TYPE MGS. LENGTH AND SPACING SHALL CONFORM TO ITEM 606 AND NO. 6 OF THE CMS.

**ITEM 202 ANCHOR ASSEMBLY REMOVED, TYPE A, AS PER PLAN**

THIS ITEM 202 SHALL INCLUDE THE REMOVAL AND DISPOSAL OF ALL W BEAM, POSTS AND CONCRETE ANCHORS OF THE ANCHOR ASSEMBLY. BACKFILL RESULTING VOID. ALL WORK TO BE DONE ACCORDING TO CMS 202.02 AND 202.09.

**ITEM 202. ANCHOR ASSEMBLY REMOVED, TYPE B, AS PER PLAN**

THIS ITEM 202 SHALL INCLUDE THE REMOVAL AND DISPOSAL OF ALL W BEAM, POSTS AND CONCRETE ANCHORS OF THE ANCHOR ASSEMBLY. BACKFILL RESULTING VOID. ALL WORK TO BE DONE ACCORDING TO CMS 202.02 AND 202.09.

**ITEM 202. BRIDGE TERMINAL ASSEMBLY REMOVED, AS PER PLAN**

THIS ITEM 202 SHALL INCLUDE THE REMOVAL AND DISPOSAL OF ALL W BEAM, POSTS AND CONCRETE ANCHORS OF THE BRIDGE TERMINAL ASSEMBLY. BACKFILL RESULTING VOID. ALL WORK TO BE DONE ACCORDING TO CMS 202.02 AND 202.09.

**MONUMENT BOX ADJUST TO GRADE**

IF THE CONTRACTOR REMOVES OR DISTURBS ANY MONUMENT BOX ASSEMBLIES DURING CONSTRUCTION, THEN THEY WILL NEED TO HAVE A REGISTERED SURVEYOR CERTIFY THAT THE MONUMENTS HAVE BEEN RESET AT THE PRE-DISTURBED LOCATION AND PER THE OHIO ADMINISTRATIVE CODE CHAPTER 4733-37, "STANDARDS FOR BOUNDARY SURVEYS". THE CONTRACTOR IS TO FORWARD A COPY OF SAID CERTIFICATION TO THE PROJECT ENGINEER, AND THE DISTRICT SURVEY OPERATIONS MANAGER FOR REVIEW. (SEE EXAMPLE)

I, JOHN D. DOE, P.S. HEREBY CERTIFY THAT THE CENTERLINE MONUMENTATION HAS BEEN RESET AT THE PRECONSTRUCTION LOCATIONS DURING PROJECT CTY-RT-SEC, PID 00000. ALL OF MY WORK CONTAINED HEREIN WAS CONDUCTED IN ACCORDANCE WITH OHIO ADMINISTRATIVE CODE 4733-37 COMMONLY KNOWN AS "A MINIMUM STANDARDS FOR BOUNDARY SURVEYS IN THE STATE OF OHIO" UNLESS OTHERWISE NOTED. THE WORDS I AND MY AS USED HEREIN ARE TO MEAN MYSELF OR SOMEONE UNDER MY DIRECT SUPERVISION.

ALL SURVEY MONUMENTS SET AND/OR RESET BY THE CONSTRUCTION CONTRACTOR'S SURVEYOR SHALL BE CONSTRUCTED ACCORDING TO STANDARD CONSTRUCTION DRAWING RM-1.1.

**CONTINGENCY QUANTITIES**

THE FOLLOWING ITEM HAS BEEN INCLUDED AS A CONTINGENCY QUANTITY TO BE APPROVED BY THE PROJECT ENGINEER AND CARRIED TO THE GENERAL SUMMARY

ITEM 623 - MONUMENT BOX ADJUSTED TO GRADE 1 EACH

**ITEM 253, PAVEMENT REPAIR:**

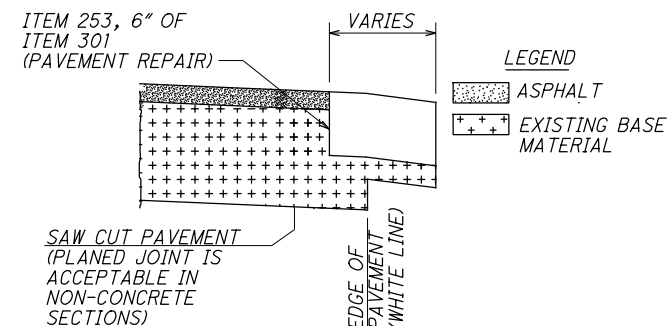
THE FOLLOWING ESTIMATED QUANTITY ARE TO BE USED FOR 6" PAVEMENT REPAIR FOR SR 49 AS DIRECTED BY THE ENGINEER AND BASED ON VARYING WIDTHS ON BOTH SIDES OF THE ROAD.

10% OF TOTAL AREA = (98075 SQ FT \* 0.5 FT)/27  
SR 49 = 1816 CU YD

TOTAL - 1816 CU YD

THE REPAIR QUANTITY MAY BE USED FOR THE ASPHALT OVER THE CONCRETE JOINTS

DETAIL FOR CALCULATION PURPOSES ONLY. PLACEMENT IS AT THE CONSTRUCTION ENGINEERS DESCRETION. QUANTITY CARRIED TO THE GENERAL SUMMARY.



NOTE: THE ENGINEER SHALL FIELD VERIFY ALL LOCATIONS PRIOR TO THE BEGINNING OF WORK. ANY ADJUSTMENTS NECESSARY SHALL BE AS DIRECTED BY THE ENGINEER.

**ASPHALT CONCRETE SAFETY EDGE**

THE FOLLOWING ESTIMATED QUANTITIES ARE TO BE USED FOR THE CONSTRUCTION OF THE SAFETY EDGE. SEE SCD BP-3.2.

ITEM 441, ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (446), PG 64-22

$$\frac{35030.4 \text{ FT} * 0.045}{27} \times 2 = 116.8 \text{ CU YD}$$

ITEM 441, ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (448)

$$\frac{35030.4 \text{ FT} * 0.018}{27} \times 2 = 46.7 \text{ CU YD}$$

**SAFETY EDGE QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY.**

**ITEM 209 - PREPARING SUBGRADE FOR SHOULDER PAVING**

PREPARE THE SHOULDER FOR PAVING A CONSISTENT SAFETY EDGE IN BOTH THICKNESS AND WIDTH.

THE FOLLOWING QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY:

WIL-49-(2.62-9.29) 13.6 MILE

**ITEM 659 - SEEDING AND MULCHING, AS PER PLAN**

ANY DISTURBED AREA LOCATED WITHIN A TEMPORARY RIGHT-OF-WAY TAKE THAT IS INVOLVED IN THE CONSERVATION RESERVE PROGRAM (CRP) SHALL BE REPLACED IN ACCORDANCE WITH THE USDA FSA REQUIREMENTS TO ENSURE THE LAND OWNER IS IN COMPLIANCE WITH THE CRP. THE CONTRACTOR SHALL COORDINATE WITH THE LAND OWNER AND THE USDA FSA BEFORE DISTURBING ANY OF THE LAND BELONGING IN THE CRP TO OBTAIN ALL SPECIFICATIONS AND NECESSARY PROCESSES REQUIRED TO HAVE THE LAND OWNER REMAINS IN THE CRP.

THE FOLLOWING QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY:

ITEM 659 - SEEDING AND MULCHING, AS PER PLAN 970 SY

**ASPHALT CONCRETE FOR DRIVEWAYS**

THE FOLLOWING ESTIMATED QUANTITIES ARE TO BE USED FOR THE ADJUSTING DRIVEWAYS AS DIRECTED BY THE ENGINEER:

ITEM 441 - ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG 64-22 50 CU YD

THE JOB WILL NOT BE CONSIDERED COMPLETE UNTIL ALL DRIVEWAYS HAVE BEEN TREATED AS DIRECTED BY THE ENGINEER.

**ITEM 254, PAVEMENT PLANING ASPHALT CONCRETE, AS PER PLAN**

APPROXIMATELY 500 TONS OF PAVEMENT PLANING GRINDINGS SHALL BE HAULED TO THE VILLAGE OF EDGERTON AT THE FOLLOWING ADDRESS:

383 WEST RAILROAD STREET  
EDGERTON, OHIO 43517

THE REMAINDER OF THE PAVEMENT PLANING GRINDING SHALL BE DISPOSED OF ACCORDING TO ITEM 254 OF THE CMS.

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CALCULATED JLE CHECKED JMF  
**GENERAL NOTES**  
**WIL-6 / 49-3.54 / 2.62**  
3/36

SHEET NUM.									PART.				ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.	
3	4	5	8	9	26	30	31		01/STR/PV	02/STR/CV	03/BRO/B R	04/NHS/PV							
		950		312 1,450 5 1 2					1,262 1,450 5 1 2					202 202 202 202 202	23000 38000 42001 42051 47001	1,262 1,450 5 1 2	SY FT EACH EACH EACH	ROADWAY PAVEMENT REMOVED GUARDRAIL REMOVED ANCHOR ASSEMBLY REMOVED, TYPE A, AS PER PLAN ANCHOR ASSEMBLY REMOVED, TYPE B, AS PER PLAN BRIDGE TERMINAL ASSEMBLY REMOVED, AS PER PLAN	3 3 3
			159 798						159 798					203 203	10000 20000	159 798	CY CY	EXCAVATION EMBANKMENT	
				356 17 14					356 17 14					204 209 209	10000 15000 60500	356 17 14	SY STA MILE	SUBGRADE COMPACTION RESHAPING UNDER GUARDRAIL LINEAR GRADING	
13.6									13.6					209	72051	13.6	MILE	PREPARING SUBGRADE FOR SHOULDER PAVING, AS PER PLAN	3
				437.5 825 1 5					437.5 825 1 5					606 606 606 606	15050 15100 26050 26150	437.5 825 1 5	FT FT EACH EACH	GUARDRAIL, TYPE MGS GUARDRAIL, TYPE MGS WITH LONG POSTS ANCHOR ASSEMBLY, MGS TYPE B ANCHOR ASSEMBLY, MGS TYPE E, MASH 2016	
				2					2					606	35002	2	EACH	MGS BRIDGE TERMINAL ASSEMBLY, TYPE I	
1									1					623	39500	1	EACH	MONUMENT BOX ADJUSTED TO GRADE	
																		EROSION CONTROL	
			209 1,880						209 1,880					659 659	00300 10000	209 1,880	CY SY	TOPSOIL SEEDING AND MULCHING	
970				47 0.26					47 0.26					659 659	10001 14000	970 47	SY SY	SEEDING AND MULCHING, AS PER PLAN REPAIR SEEDING AND MULCHING	3
				5.08					5.08					659	35000	5.08	MGAL	WATER	
									1,000					832	30000	1,000	EACH	EROSION CONTROL	
																		DRAINAGE	
			100 4						100 4					611 611	00510 99710	100 4	FT EACH	6" CONDUIT, TYPE F FOR UNDERDRAIN OUTLETS PRECAST REINFORCED CONCRETE OUTLET	
																		PAVEMENT	
1,816		1,900 158		109,477 93 52					1,816 111,377 251 52					253 254 301 304	02000 01001 46000 20000	1,816 111,377 251 52	CY SY CY CY	PAVEMENT REPAIR PAVEMENT PLANING, ASPHALT CONCRETE, AS PER PLAN, 3.25" ASPHALT CONCRETE BASE, PG64-22 AGGREGATE BASE	3
			162	15,318					15,480					407	20000	15,480	GAL	NON-TRACKING TACK COAT	
116.8 50		80		4,575 50					4,771.8 50					441 441	10000 50000	4,771.8 50	CY CY	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (446), PG64-22 ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG64-22	
46.7				5,291			100		5,337.7			100	SPECIAL	45132000	100	FT	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (448) PRESSURE RELIEF JOINT, TYPE C	31	
				1,404					1,404					617	10100	1,404	CY	COMPACTED AGGREGATE	
				34,982					34,982					874	20000	34,982	FT	LONGITUDINAL JOINT PREPARATION	
			438 204						438 204					621 621	00100 54000	438 204	EACH EACH	TRAFFIC CONTROL RPM RAISED PAVEMENT MARKER REMOVED	
				12 4 1					12 4 1					626 630 630	00116 84900 85100	12 4 1	EACH EACH EACH	BARRIER REFLECTOR, TYPE 5, BI-DIRECTIONAL REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL REMOVAL OF GROUND MOUNTED SIGN AND REERECTION	
				4					4					630	86002	4	EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	
				13.3 6.7 2					13.3 6.7 2					642 642 644	00104 00300 01000	13.3 6.7 2	MILE MILE EACH	EDGE LINE, 6", TYPE 1 CENTER LINE, TYPE 1 RAILROAD SYMBOL MARKING	
						700 72					700 72			512 516	73501 31000	700 72	SY FT	STRUCTURE REPAIR (WIL-049-0262) TREATING CONCRETE BRIDGE DECKS WITH GRAVITY FED RESIN, AS PER PLAN JOINT SEALER, 705.04	30
						LS 200					LS 200			202 202	11000 34900	LS 200	FT	STRUCTURE REPAIR (WIL-49-0408) STRUCTURE REMOVED PIPE REMOVED	

GENERAL SUMMARY

WIL-6/49-3.54/2.62

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SHEET NUM.										PART.				ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
3	4	5	8	9	26	30	31			01/STR/PV	02/STR/CV	03/BRO/B R	04/NHS/PV						
					120						120			203	20000	120	CY	EMBANKMENT	
					780						780			204	13000	780	CY	EXCAVATION OF SUBGRADE	
					73						73			204	30010	73	CY	GRANULAR MATERIAL, TYPE B	
					293						293			204	30020	293	CY	GRANULAR MATERIAL, TYPE C	
					293						293			204	30030	293	CY	GRANULAR MATERIAL, TYPE D	
					440						440			204	50000	440	SY	GEOTEXTILE FABRIC	
					440						440			204	51001	440	SY	GEOGRID, AS PER PLAN	26
					LS						LS			503	11100	LS		COFFERDAMS AND EXCAVATION BRACING	
					3,920						3,920			503	21100	3,920	CY	UNCLASSIFIED EXCAVATION	
					2,544						2,544			509	10000	2,544	LB	EPOXY COATED REINFORCING STEEL	
					21						21			511	46010	21	CY	CLASS QCI CONCRETE, RETAINING/WINGWALL NOT INCLUDING FOOTING	
					41						41			511	46510	41	CY	CLASS QCI CONCRETE, FOOTING	
					1						1			511	46610	1	CY	CLASS QCI CONCRETE, HEADWALL	
					61						61			512	10050	61	SY	SEALING OF CONCRETE SURFACES (NON-EPOXY)	
					275						275			512	33000	275	SY	TYPE 2 WATERPROOFING	
					53						53			516	13600	53	SF	1" PREFORMED EXPANSION JOINT FILLER	
					LS						LS			518	21230	LS		POROUS BACKFILL WITH GEOTEXTILE FABRIC	
					46						46			601	32200	46	CY	ROCK CHANNEL PROTECTION, TYPE C WITH FILTER	
					80						80			611	97400	80	FT	CONDUIT, MISC.:8'-0" SPAN X 8'-0" RISE, TYPE A	26
																		MAINTENANCE OF TRAFFIC	
			28								28			614	12460	28	EACH	WORK ZONE MARKING SIGN	
	5										5			614	12500	5	EACH	REPLACEMENT SIGN	
	5										5			614	12600	5	EACH	REPLACEMENT DRUM	
		19.9									19.9			614	21400	19.9	MILE	WORK ZONE CENTER LINE, CLASS II	
		39.8									39.8			614	22000	39.8	MILE	WORK ZONE EDGE LINE, CLASS I, 4"	
		6									6			614	32000	6	EACH	WORK ZONE RAILROAD SYMBOL MARKING, CLASS I	
																		INCIDENTALS	
											LS			614	11000	LS		MAINTAINING TRAFFIC	
											LS			623	10000	LS		CONSTRUCTION LAYOUT STAKES AND SURVEYING	
											LS			624	10000	LS		MOBILIZATION	

**GENERAL SUMMARY**

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		ROADWAY SUBSUMMARY													
REF NO.	SIDE	630	630	630	202	202	202	202	209	606	606	606	606	606	626
		REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	REMOVAL OF GROUND MOUNTED SIGN AND REERECTION	GUARDRAIL REMOVED	ANCHOR ASSEMBLY REMOVED, TYPE A, AS PER PLAN	ANCHOR ASSEMBLY REMOVED, TYPE B, AS PER PLAN	BRIDGE TERMINAL ASSEMBLY REMOVED, AS PER PLAN	RESHAPING UNDER GUARDRAIL	GUARDRAIL, TYPE MGS	GUARDRAIL, TYPE MGS WITH LONG POSTS	ANCHOR ASSEMBLY, MGS TYPE E, MASH 2016	ANCHOR ASSEMBLY, MGS TYPE B	MGS BRIDGE TERMINAL ASSEMBLY, TYPE 1	BARRIER REFLECTOR, TYPE 5, BI-DIRECTIONAL
		EACH	EACH	EACH	FT	EACH	EACH	EACH	STA	FT	FT	EACH	EACH	EACH	EACH
G-1	RT&LT							2						2	
G-2	LT				87.5				2	87.5					3
G-3	LT						1					1			
G-4	RT				862.5				9		825				3
G-5	RT					1						1			
G-6	RT					1						1			
G-7	RT				250				3	175					3
G-8	RT					1						1			
G-9	LT					1						1			
G-10	LT				250				3	175					3
G-11	LT					1						1			
R-1	RT	1	1												
R-2	RT	1	1												
R-3	LT	1	1												
R-4	LT	1	1												
S-1	RT			1											
TOTALS CARRIED TO GENERAL SUMMARY		4	4	1	1450.00	5	1	2	17	437.50	825	5	1	2	12

			PAVEMENT SUBSUMMARY														
STATION TO STATION	DISTANCE		AVERAGE WIDTH	209	202	204	254	301	304	407	407	441	441	617	874		
	TO	FROM		FT	FT	MILE	SY	SY	SY	CY	CY	GAL	GAL	CY	CY	CY	FT
139+96.21	TO	187+00.00	4703.8	28	1.8												4703.8
187+00.00	TO	240+50.00	5350.0	28	2.0	311.1	356.0	4634.0	92.9	51.9	1243.9	804.9	609.8	711.4	188.7	4703.8	5350.0
240+50.00	TO	251+50.00	1100.0	28	0.4			16333.3			1414.8	915.4	693.5	809.1	214.7	5350.0	1100.0
251+50.00	TO	289+00.00	3750.0	28	1.4			3422.2			290.9	188.2	142.6	166.4	44.1	1100.0	3750.0
289+00.00	TO	298+00.00	900.0	28	0.3			11666.7			991.7	641.7	486.1	567.1	150.5	3750.0	900.0
298+00.00	TO	309+00.00	1050.9	28	0.4			2800.0			238.0	154.0	116.7	136.1	36.1	900.0	1050.9
309+00.00	TO	413+00.00	10400.0	28	3.9			3269.3			277.9	179.8	136.2	158.9	42.2	1050.9	10400.0
413+00.00	TO	490+26.60	7726.6	28	2.9			2355.6			2750.2	1779.6	1348.1	1572.8	417.3	10400.0	7726.6
INTERSECTIONS								24038.3			2043.3	1322.1	1001.6	1168.5	310.0	7726.6	
CO RD D								24.5			2.1		1.0				
TWP RD D50								27.1			2.3		1.1				
CO RD E								45.5			3.9		1.9				
PRIVATE DR								18.2			1.5		0.8				
CONNECTOR RD								208.5			17.7		8.7				
CO RD 24								145.5			12.4		6.1				
CO RD F								154.3			13.1		6.4				
CO RD 3								106.9			9.1		4.5				
CO RD F50								36.0			3.1		1.5				
CO RD H								115.8			9.8		4.8				
CO RD I								74.4			6.3		3.1				
TOTALS CARRIED TO GENERAL SUMMARY						14	312	356	109477	93	52	15318	4575	5291	1404	34982	

GENERAL NOTES

DESIGN SPECIFICATIONS: THIS STANDARD DRAWING CONFORMS TO THE "LRFD BRIDGE DESIGN SPECIFICATIONS" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2014, INCLUDING THE 2015 & 2016 INTERIM SPECIFICATIONS AND THE ODOT BRIDGE DESIGN MANUAL, 2007.

DESIGN DATA: THE FOLLOWING DESIGN DATA IS ASSUMED:

INTERNAL ANGLE OF FRICTION OF BACKFILL SOIL,  $\phi_{br} = 30^\circ$   
 TOTAL UNIT WEIGHT OF BACKFILL SOIL = 120 PCF  
 INTERNAL ANGLE OF FRICTION (DRAINED), FOUNDATION SOIL,  $\phi_f = 28^\circ$   
 UNDRAINED SHEAR STRENGTH (COHESIVE), FOUNDATION SOIL,  $S_{ur} = 1500$  PSF  
 UNIT WEIGHT OF CONCRETE = 150 PCF  
 SLOPE OF BACKFILL = 2:1 (TYPE A & B HEADWALLS)  
 HEIGHT OF LIVE LOAD SURCHARGE = 2 FT (TYPE C HEADWALLS)

CONCRETE CLASS QC1 - COMPRESSIVE STRENGTH 4000 PSI  
 (FOOTING, WINGWALL AND FORESLOPE WALL)

REINFORCING STEEL - ASTM A615, A616, OR A617  
 GRADE 60 MINIMUM YIELD STRENGTH  
 60,000 PSI (ALL REINFORCING SHALL BE  
 EPOXY COATED)

FORESLOPE WALL ANCHOR DOWELS: ANCHOR PER CMS 510 WITH NONSHRINK, NONMETALLIC GROUT CONFORMING TO CMS 705.20 AND TO A DEPTH SPECIFIED ON SHEET 6/6. PAYMENT FOR DOWEL HOLES, GROUT AND INSTALLATION SHALL BE INCLUDED WITH ITEM 511.

THREADED INSERTS OR NON-PROTRUDING MECHANICAL CONNECTORS CAPABLE OF DEVELOPING AT LEAST 125 PERCENT OF THE SPECIFIED YIELD STRENGTH OF THE REINFORCEMENT SHOWN ARE AN ACCEPTABLE ALTERNATIVE TO RESIN BONDING. MAINTAIN A MINIMUM COVER OF 3 INCHES AT THE BOTTOM OF THE CULVERT SLAB. MECHANICAL CONNECTORS SHALL HAVE AN "L-SHAPED" BAR INSIDE THE CULVERT WITH A MINIMUM HORIZONTAL LENGTH OF 12 INCHES. THE DEPARTMENT WILL CONSIDER PAYMENT FOR INSERTS OR MECHANICAL CONNECTORS AS INCIDENTAL TO ITEM 611.

ITEM 204 GEOGRID, AS PER PLAN: SHALL FOLLOW THE SPECIFICATIONS FOR THE 204 ITEM AND THE REQUIREMENTS FOR CMS 712.15 EXCEPT THE MINIMUM AND MAXIMUM OPENING SIZES SHALL BE 1.0 INCHES AND 1.5 INCHES RESPECTFULLY.

POROUS BACKFILL WITH FILTER FABRIC 1'-6" THICK SHALL BE PLACED BEHIND THE WINGWALLS ONLY AND SHALL EXTEND TO 12" BELOW THE EMBANKMENT SURFACE. GEOTEXTILE FABRIC TYPE A SHALL BE PLACED BETWEEN THE POROUS BACKFILL AND REPLACED EXCAVATION ADJACENT TO THE STRUCTURE. IT SHALL TURN UNDER THE BOTTOM OF THE POROUS BACKFILL AND RETURN 6" ABOVE THE TOP ELEVATION OF THE WEEPHOLE.

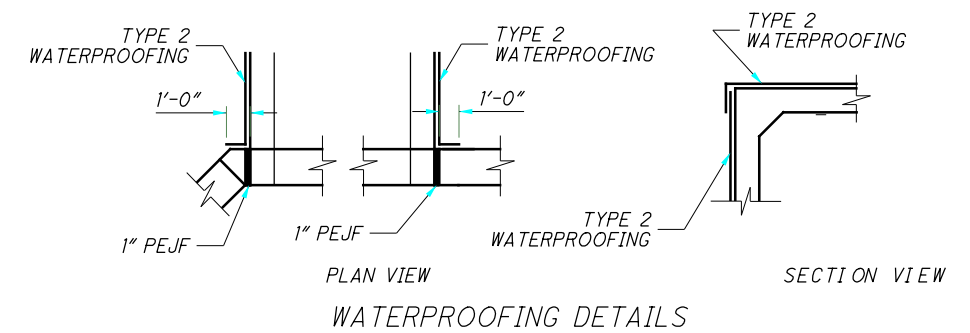
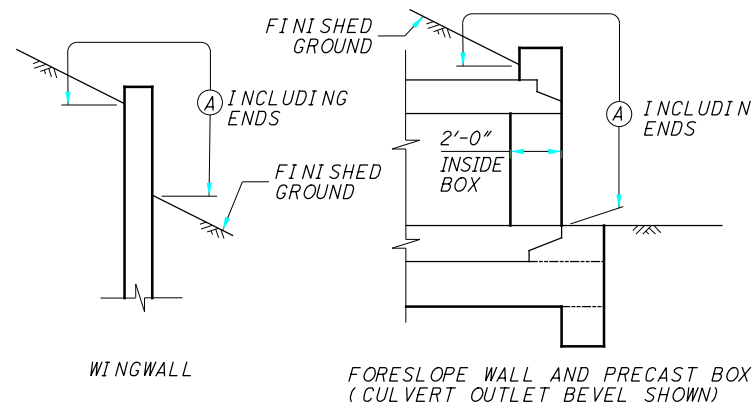
WEEPHOLES SHALL BE PLACED 6" TO 12" ABOVE THE NORMAL WATER ELEVATION OR GROUND LINE AND SHALL HAVE A MAXIMUM SPACING OF 10'-0". A MINIMUM OF ONE WEEPHOLE SHALL BE PROVIDED PER WINGWALL.

PREFORMED EXPANSION JOINT FILLER: PREFORMED EXPANSION JOINT FILLER (PEJF) CONFORMING TO CMS 705.03, 1 INCH THICK, SHALL BE PLACED ABOVE THE FOOTING BETWEEN THE SIDES OF THE BOX CULVERT AND THE ENDS OF THE WINGWALLS. PAYMENT FOR MATERIALS AND INSTALLATION SHALL BE INCLUDED WITH ITEM 516 - 1" PREFORMED EXPANSION JOINT FILLER.

SEALING OF FORESLOPE WALL AND WINGWALLS: ALL EXPOSED FORESLOPE WALL AND WINGWALL CONCRETE SHALL BE SEALED WITH NON-EPOXY SEALER. THE LIMITS SHALL BE AS SHOWN IN THE DIAGRAMS BELOW. PAYMENT FOR THE NON-EPOXY SEALER SHALL BE PER ITEM 512 - SEALING OF CONCRETE SURFACES.

WATERPROOFING: TYPE 2 WATERPROOFING, PER CMS 512 AND 711.25, SHALL EXTEND VERTICALLY DOWN THE ENTIRE SIDES OF THE PRECAST CULVERT SECTIONS FOR ALL PORTIONS OF THE CULVERT WHICH SHALL BE IN CONTACT WITH THE BACKFILL. PAYMENT FOR THE MEMBRANE WATERPROOFING SHALL BE AT THE CONTRACT PRICE BID PER SQUARE YARD FOR ITEM 512 - TYPE 2 WATERPROOFING.

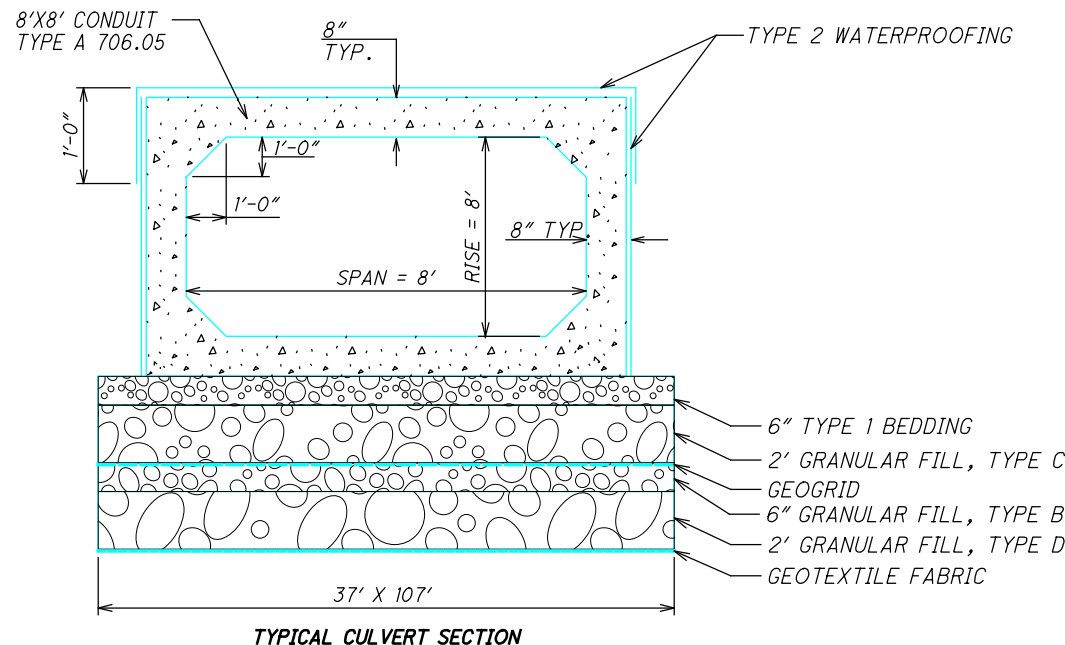
IF PAVEMENT IS NOT PLACED DIRECTLY ON TOP OF THE CULVERT, TYPE 2 WATERPROOFING, PER CMS 512 AND 711.25 SHALL BE APPLIED TO THE ENTIRE TOP SURFACE OF THE PRECAST CULVERT SECTIONS AND SHALL EXTEND ONE FOOT VERTICALLY DOWN THE SIDES FOR ALL PORTIONS OF THE CULVERT WHICH SHALL BE IN CONTACT WITH THE BACKFILL. PAYMENT FOR THE MEMBRANE WATERPROOFING SHALL BE AT THE CONTRACT PRICE BID PER SQUARE YARD FOR ITEM 512 - TYPE 2 WATERPROOFING.



BASIS OF PAYMENT: ALL LABOR, EQUIPMENT AND INCIDENTALS REQUIRED TO CONSTRUCT THE FOOTING, CUTOFF WALL, WINGWALLS AND FORESLOPE WALL SHALL BE INCLUDED WITH ITEM 511 - CLASS QC1 CONCRETE, RETAINING/WINGWALL INCLUDING FOOTING. PAYMENT FOR REINFORCING STEEL SHALL BE INCLUDED WITH ITEM 509 - EPOXY COATED REINFORCING STEEL.

LIMITS OF ITEM 512-SEALING CONCRETE SURFACES

(A) - SEAL ENTIRE CONCRETE SURFACE AREA



ESTIMATED QUANTITIES (02/STR/CV)				
ITEM	ITEM EXT	TOTAL	UNIT	DESCRIPTION
202	11000	LUMP		STRUCTURE REMOVED
202	34900	200	LIN. FT.	PIPE REMOVED
203	20000	120	CU. YD.	EMBANKMENT
204	13000	780	CU. YD.	EXCAVATION OF SUBGRADE
204	30010	73	CU. YD.	GRANULAR MATERIAL, TYPE B
204	30020	293	CU. YD.	GRANULAR MATERIAL, TYPE C
204	30030	293	CU. YD.	GRANULAR MATERIAL, TYPE D
204	50000	440	SQ. YD.	GEOTEXTILE FABRIC
204	51001	440	SQ. YD.	GEOGRID, AS PER PLAN
503	11100	LUMP		COFFERDAMS AND EXCAVATION BRACING
503	21100	3920	CU. YD.	UNCLASSIFIED EXCAVATION
509	10000	2544	LB.	EPOXY COATED REINFORCING STEEL
511	46010	21	CU. YD.	CLASS QC1 CONCRETE, RETAINING/WINGWALL NOT INCLUDING
511	46510	41	CU. YD.	CLASS QC1 CONCRETE, FOOTING
511	46610	1	CU. YD.	CLASS QC1 CONCRETE, HEADWALL
512	10000	61	SQ. YD.	SEALING OF CONCRETE SURFACES (NON-EPOXY)
512	33000	275	SQ. YD.	TYPE 2 MEMBRANE WATERPROOFING
516	13600	53	SQ. FT.	1" PREFORMED EXPANSION JOINT FILLER
518	21230	LUMP		POROUS BACKFILL WITH GEOTEXTILE FABRIC
601	32200	46	CU. YD.	ROCK CHANNEL PROTECTION, TYPE C WITH FILTER
611	97400	80	LIN. FT.	CONDUIT, MISC.: 8'-0" SPAN X 8'-0" RISE, TYPE A

NOTE: TOTALS CARRIED TO GENERAL SUMMARY SHEET

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DESIGN AGENCY

DATE

REVIEWED XXX MM/DD/YY

DRAWN MAS

DESIGNED MAS

WILLIAMS COUNTY STA. 213+10

GENERAL NOTES CULVERT WIL-49-4.08

WIL-6/49 -3.54/2.62

3/6

26/36