

MAH - IR 76/VAR-01.30/VAR
 190508 PID - 94140
 Dist 4 10/10/2019



LOCATION MAP

LATITUDE: 41° 01' 29" LONGITUDE: -80° 51' 27"



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

END PROJECT
IR 80 SLM 1.20
BEGIN PROJECT
IR 80 SLM 0.00

END PROJECT
IR 76 SLM 8.65
BEGIN PROJECT
IR 76 SLM 1.30

END PROJECT
SR 45 SLM 11.77
BEGIN PROJECT
SR 45 SLM 0.00

STATE OF OHIO
 DEPARTMENT OF TRANSPORTATION

MAH-76 / VAR-1.30 / VAR
ELLSWORTH, GOSHEN, GREEN,
JACKSON, AND MILTON TOWNSHIPS
MAHONING COUNTY

PROJECT DESCRIPTION

RESURFACING OF SR 45 FROM SLM 0.00 TO 11.77. BRIDGE MAINTENANCE ON VARIOUS STRUCTURES ON SR 45 AND IR 76. CABLE BARRIER GUARDRAIL ON IR 76 FROM SLM 1.30 TO SLM 8.64 AND IR 80 FROM SLM 0.00 TO SLM 1.20.

EARTH DISTURBED AREAS

PROJECT EDA: N/A (MAINTENANCE PROJECT)
 ESTIMATED CONTRACTOR EDA: N/A (MAINTENANCE PROJECT)
 NOTICE OF INTENT EDA: N/A (MAINTENANCE PROJECT)

LIMITED ACCESS (I-76, I-80)

THIS IMPROVEMENT IS ESPECIALLY DESIGNED FOR THROUGH TRAFFIC AND HAS BEEN DECLARED A LIMITED ACCESS HIGHWAY OR FREEWAY BY ACTION OF THE DIRECTOR IN ACCORDANCE WITH THE PROVISIONS OF SECTION 5511.02 OF THE OHIO REVISED CODE.

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 NOT REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY EXCEPT AS NOTED ON SHEET 10, AND THAT PROVISIONS FOR THE MAINTENANCE AND SAFETY OF TRAFFIC WILL BE AS SET FORTH ON THE PLANS AND ESTIMATES.

INDEX OF SHEETS:

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DESIGN DESIGNATION

DESIGN FUNCTIONAL CLASSIFICATION:
 SR 45 - URBAN (SLM 0.00 TO 0.99), RURAL (SLM 0.99 TO 11.77) MINOR ARTERIAL / NHS: NO
 IR 76 - RURAL FREEWAYS AND EXPRESSWAYS / NHS: YES
 IR 80 - RURAL FREEWAYS AND EXPRESSWAYS / NHS: YES

DESIGN EXCEPTIONS

NONE REQUIRED

CONFORMED SET

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:
 ODOT DISTRICT 4 PLANNING & ENGINEERING
 2088 SOUTH ARLINGTON RD
 AKRON, OH 44306

ENGINEERS SEAL:

 SIGNED: *Matthew Chaney*
 DATE: 7-9-19

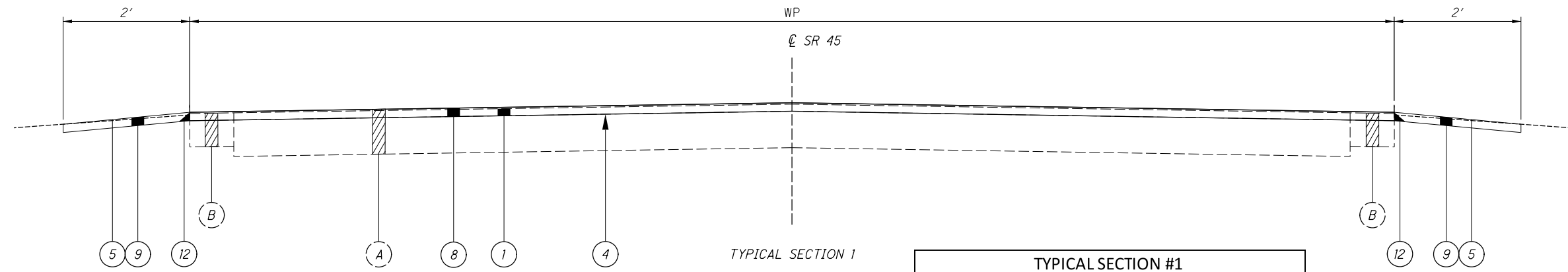
STANDARD CONSTRUCTION DRAWINGS				SUPPLEMENTAL SPECIFICATIONS	SPECIAL PROVISIONS
BP-2.1	7/17/15	MT-95.30	4/19/19	800-2019 7/19/19	WPC 7/11/19
BP-2.2	7/18/08	MT-97.10	4/19/19	809 1/18/19	
BP-3.1	7/18/14	MT-97.11	1/20/17	821 4/20/12	
BP-3.2	1/18/19	MT-101.60	1/20/17	832 10/19/18	
BP-4.1	7/19/13	MT-101.90	7/21/17	848 1/20/17	
		MT-105.10	7/19/13	856 10/20/17	
DM-4.3	1/15/16			875 1/18/19	
DM-4.4	1/15/16	TC-41.20	10/18/13	921 4/20/12	
		TC-52.10	10/18/13		
MGS-1.1	1/19/18	TC-52.20	7/20/18		
MGS-2.1	1/19/18	TC-64.10	1/20/17		
MGS-6.1	1/19/18	TC-65.10	1/17/14		
		TC-65.11	7/21/17		
AS-1-15	7/17/15	TC-71.10	1/19/18		
OBR-3-11	7/15/11				
DS-1-92	7/18/03				

APPROVED: *Adrian... District Deputy Director*
 DATE: 7/9/19
 APPROVED: *Dee... Director, Department of Transportation*
 DATE: 7/23/19

Contract Proposal Available @ www.contracts.dot.state.oh.us/home

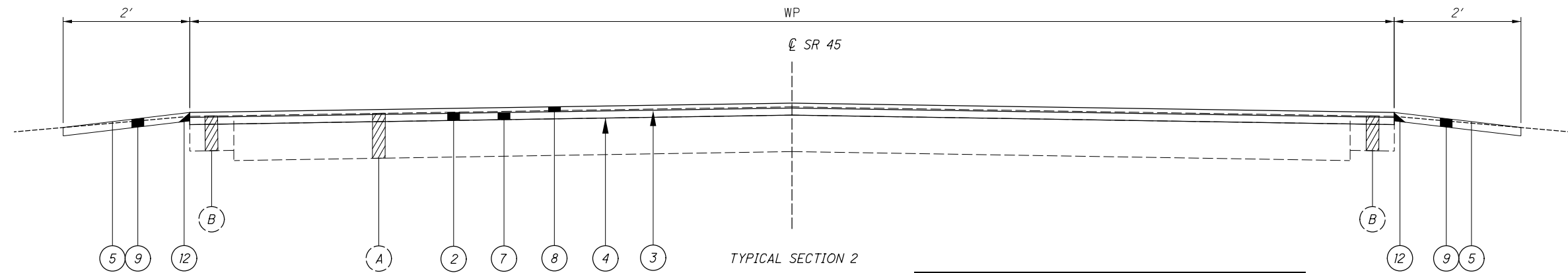
FEDERAL PROJECT NO. E140852
 CONSTRUCTION PROJECT NO. 94140
 RAILROAD INVOLVEMENT NONE
 MAH-76 / VAR-1.30 / VAR
 1/32

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TYPICAL SECTION #1

ROUTE	SLM		LENGTH (MILES)	PW (FT)
	FROM	TO		
SR-45	0.00	0.99	0.99	28
SR-45	0.99	2.62	1.63	28
SR-45	2.65	3.80	1.15	28
SR-45	3.80	3.83	0.03	32
SR-45	3.84	3.95	0.11	32
SR-45	3.95	4.80	0.85	28
SR-45	4.80	5.16	0.36	32
SR-45	5.16	5.79	0.63	28
SR-45	5.82	6.54	0.72	28



TYPICAL SECTION #2

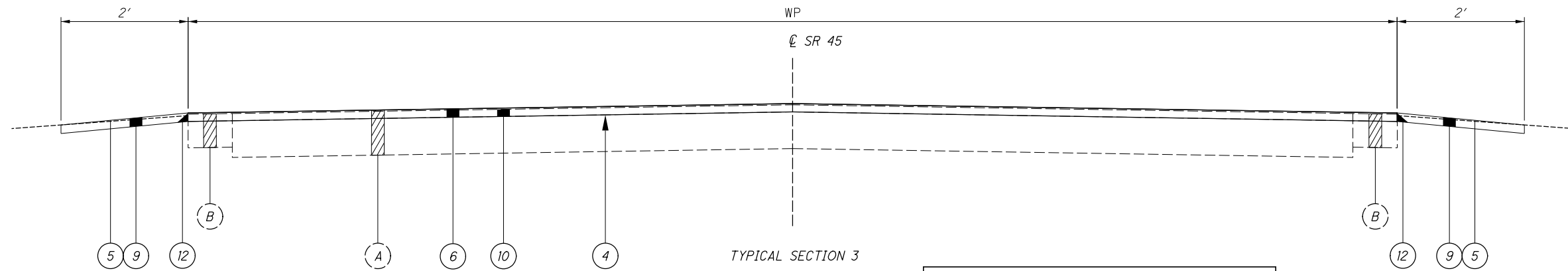
ROUTE	SLM		LENGTH (MILES)	PW (FT)
	FROM	TO		
SR-45	6.54	6.62	0.08	28
SR-45	6.62	8.32	1.70	26
SR-45	8.32	8.61	0.29	32
SR-45	8.61	9.05	0.44	26
SR-45	9.05	9.38	0.33	28
SR-45	9.38	9.65	0.27	26

LEGEND

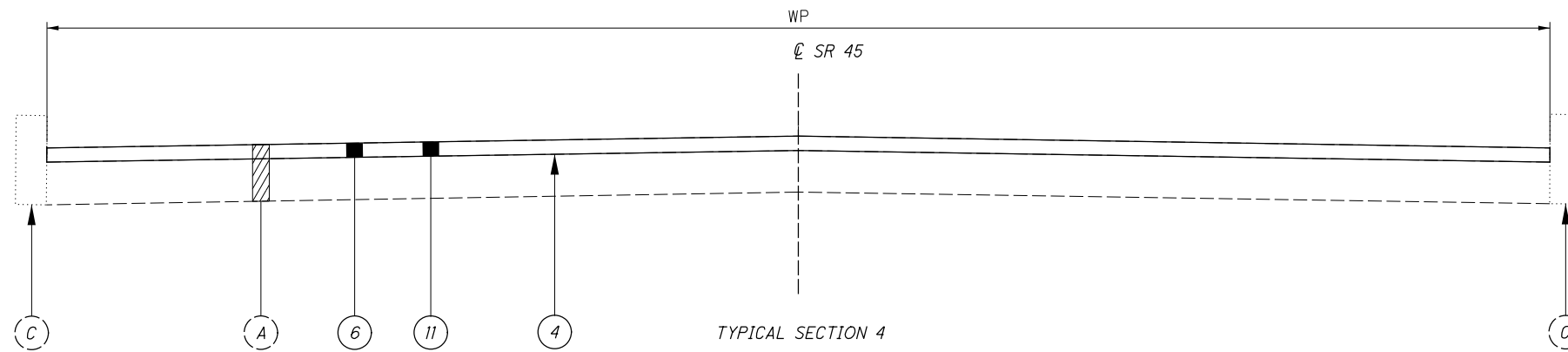
- ① ITEM 254, PAVEMENT PLANNING, ASPHALT CONCRETE (T=1")
- ② ITEM 254, PAVEMENT PLANNING, ASPHALT CONCRETE (T=2")
- ③ ITEM 407, NON-TRACKING TACK @ 0.06 GAL/SY
- ④ ITEM 407, NON-TRACKING TACK @ 0.09 GAL/SY
- ⑤ ITEM 408, PRIME COAT, AS PER PLAN @ 0.40 GAL/SY
- ⑥ ITEM 424, FINE GRADED POLYMER ASPHALT CONCRETE, TYPE B, AS PER PLAN (T=1 1/4") * TRUCK AADT < 1500
- ⑦ ITEM 441, ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (446), (T = 1 3/4")
- ⑧ ITEM 441, ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (446), AS PER PLAN (PG70-22M) (T = 1 1/4")
- ⑨ ITEM 617, COMPACTED AGGREGATE, AS PER PLAN (T = 2")
- ⑩ ITEM 897, PAVEMENT PLANNING, ASPHALT CONCRETE, CLASS A, (T=1")
- ⑪ ITEM 897, PAVEMENT PLANNING, ASPHALT CONCRETE, CLASS A, (T=1 1/4")
- ⑫ SAFETY EDGE - SEE SCD BP-3.2

- (A) EXISTING ASPHALT PAVEMENT
- (B) EXISTING ASPHALT SHOULDER
- (C) EXISTING CURB

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TYPICAL SECTION #3				
ROUTE	SLM		LENGTH (MILES)	PW (FT)
	FROM	TO		
SR-45	9.65	11.70	2.05	26



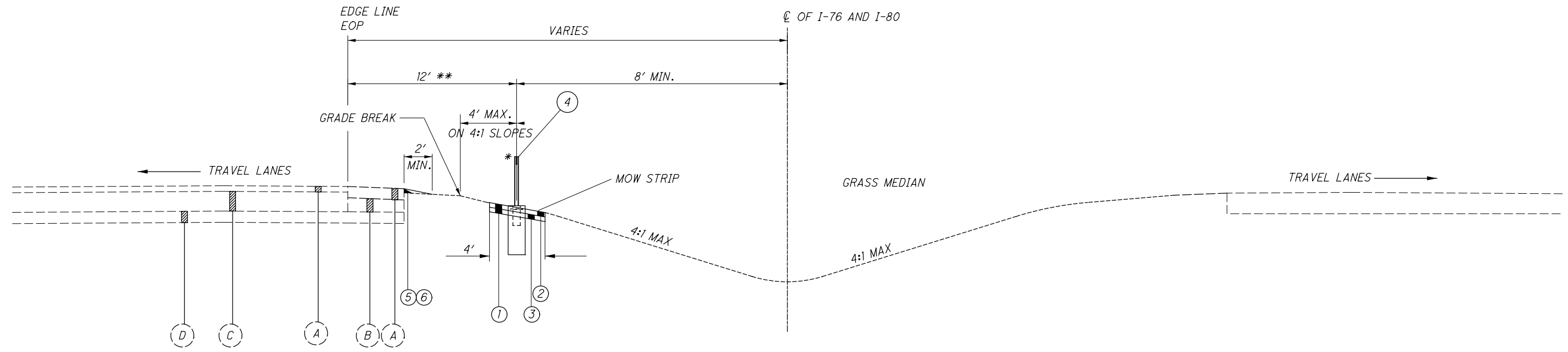
TYPICAL SECTION #4				
ROUTE	SLM		LENGTH (MILES)	PW (FT)
	FROM	TO		
SR-45	11.70	11.77	0.07	38

LEGEND

- ① ITEM 254, PAVEMENT PLANNING, ASPHALT CONCRETE (T=1")
- ② ITEM 254, PAVEMENT PLANNING, ASPHALT CONCRETE (T=2")
- ③ ITEM 407, NON-TRACKING TACK @ 0.06 GAL/SY
- ④ ITEM 407, NON-TRACKING TACK @ 0.09 GAL/SY
- ⑤ ITEM 408, PRIME COAT, AS PER PLAN @ 0.40 GAL/SY
- ⑥ ITEM 424, FINE GRADED POLYMER ASPHALT CONCRETE, TYPE B, AS PER PLAN (T=1 1/4") * TRUCK AADT < 1500
- ⑦ ITEM 441, ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (446), (T = 1 3/4")
- ⑧ ITEM 441, ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (446), AS PER PLAN (PG70-22M) (T = 1 1/4")
- ⑨ ITEM 617, COMPACTED AGGREGATE, AS PER PLAN (T = 2")
- ⑩ ITEM 897, PAVEMENT PLANNING, ASPHALT CONCRETE, CLASS A, (T=1")
- ⑪ ITEM 897, PAVEMENT PLANNING, ASPHALT CONCRETE, CLASS A, (T=1 1/4")
- ⑫ SAFETY EDGE - SEE SCD BP-3.2

- Ⓐ EXISTING ASPHALT PAVEMENT
- Ⓑ EXISTING ASPHALT SHOULDER
- Ⓒ EXISTING CURB

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TYPICAL SECTION
SECTION APPLIES: I-76 SLM 1.30 TO SLM 8.65
I-80 SLM 0.00 TO SLM 1.20

LEGEND:

- ① ITEM 203 - 6" EXCAVATION
- ② ITEM 301 - 3" ASPHALT CONCRETE BASE, PG64-22
- ③ ITEM 304 - 3" AGGREGATE BASE
- ④ ITEM 606 - CABLE BARRIER WITH CONCRETE LINE POST FOUNDATION
- ⑤ ITEM 617 - COMPACTED AGGREGATE, AS PER PLAN
- ⑥ ITEM 408, PRIME COAT AS PER PLAN @ 0.6 GAL/SY

- (A) EXISTING ASPHALT CONCRETE
- (B) EXISTING AGGREGATE BASE
- (C) EXISTING REINFORCED CONCRETE PAVEMENT
- (D) EXISTING SUBBASE

NOTES:

- *PLACE POSTS LT OR RT OF CL AT THE LOCATIONS LISTED IN THE ESTIMATED QUANTITIES SHEET 15
- ** DISTANCE FROM EDGE OF TRAVELED WAY TO CABLE RAIL SHOULD BE A MINIMUM OF 12 FEET, OR 2 FEET FROM THE EDGE OF TREATED SHOULDER IF THE TREATED SHOULDER IS MORE THAN 10 FEET WIDE. AT THE DISCRETION OF THE CONTRACTOR AND THE PROJECT ENGINEER, THE DISTANCE CAN BE ALTERED IF CONSTRUCTABILITY AND/OR MAINTENANCE OF TRAFFIC ISSUES WARRANT A CHANGE. THE ACCEPTABLE RANGE FOR PLACEMENT OF THE CABLE RAIL IS A MINIMUM OF 12 FEET FROM THE EDGE OF TRAVELED WAY (EOP) AND A MINIMUM OF 8 FEET FROM THE DITCH BOTTOM.

TYPICAL SECTIONS

MAH-76 / VAR -
1.30 / VAR

UTILITIES

THE CONTRACTOR SHALL USE THE FOLLOWING PROCEDURE AT EACH LOCATION WHERE WORK IS PERFORMED, IN ACCORDANCE WITH SECTIONS 105.07 AND 107.16 IN THE CONSTRUCTION AND MATERIALS SPECIFICATIONS.

THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER, OHIO811, THE OHIO DEPARTMENT OF TRANSPORTATION DISTRICT 4 HEADQUARTERS (MICHELLE CHANEY AT 330-786-2267) AND ALL NON REGISTERED UTILITY OWNERS AT LEAST TWO (2) WORKING DAYS PRIOR TO COMMENCING CONSTRUCTION OPERATIONS IN ALL AREAS.

THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE NOT SHOWN ON THE PLANS, BUT CAN BE OBTAINED FROM THE OWNERS OF THE UTILITIES. THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE TO UTILITIES.

WORK LIMITS

THE WORK LIMITS SHOWN ON THESE PLANS ARE FOR PHYSICAL CONSTRUCTION ONLY. PROVIDE THE INSTALLATION AND OPERATION OF ALL WORK ZONE TRAFFIC CONTROL AND WORK ZONE TRAFFIC CONTROL DEVICES REQUIRED BY THESE PLANS WHETHER INSIDE OR OUTSIDE THESE WORK LIMITS.

PAVEMENT MARKING LANE WIDTHS

THE NORMAL LANE WIDTH FOR THE PAVEMENT MARKINGS ON THIS PROJECT SHALL BE AS FOLLOWS (AT LEAST 3 DAYS PRIOR TO PERFORMING THE WORK CONTACT THE TRAFFIC OFFICE AT 330-786-3147 TO CONFIRM THE WIDTHS):

ROUTE	S.L.M. TO S.L.M.	LANE WIDTH
SR 45	0.00 TO 6.54	12'
SR 45	6.54 TO 11.70	10'
SR 45	11.70 TO 11.77	12'

PAVEMENT MARKING DETAILS

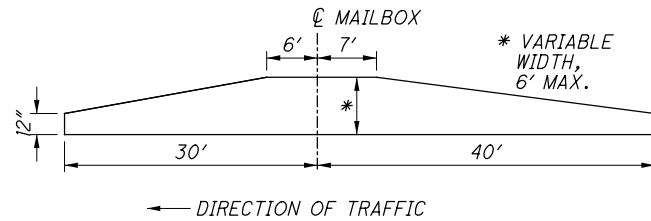
THE PAVEMENT MARKING DETAIL SHEETS WILL BE SUPPLIED TO THE CONTRACTOR AT THE PRE-CONSTRUCTION MEETING.

INTERSECTIONS

INTERSECTIONS WILL BE RESURFACED 10 FT. BEYOND THE EDGE LINE, UNLESS OTHERWISE DIRECTED BY THE ENGINEER OR INDICATED IN THE PLAN. INTERSECTIONS SHALL BE PAVED AFTER COMPLETION OF THE SURFACE COURSE OR WITH THE MAINLINE PAVEMENT IF THIS CAN BE ACCOMPLISHED WITHOUT CHANGING THE VELOCITY AND DIRECTION OF THE PAVER. USE THE SAME ASPHALT CONCRETE AS THE MAINLINE PAVEMENT. PROVIDE A SMOOTH TRANSITION TO THE EXISTING PAVEMENT. ANY GRADING OR PRIME NECESSARY TO ACCOMPLISH THIS WORK SHALL BE INCLUDED IN THE COST OF THE PERTINENT BID ITEM.

PAVED MAILBOX APPROACHES

ALL EXISTING MAIL BOX APPROACHES WILL BE PAVED WITH ASPHALT CONCRETE AS PER TYPICAL SHOWN OR AS NEAR AS PRACTICAL. AGGREGATE APPROACHES SHALL HAVE A 2 IN. MIN. THICKNESS; IMPROVED APPROACHES SHALL HAVE A 2 IN. MIN. THICKNESS. THE CONTRACTOR SHALL PAVE THE MAILBOX APPROACHES WITH THE PAVING OF THE MAINLINE AND SHOULDERS. PAYMENT SHALL BE AS FOLLOWS: GRADING, TACK, TOOLS, EQUIPMENT, MATERIAL AND INCIDENTALS REQUIRED TO LAYOUT AND CONSTRUCT THE MAILBOX APPROACHES SHALL BE INCLUDED IN THE UNIT BID FOR THE SPECIFIED MAINLINE SURFACE COURSE ASPHALT ITEM.



PROFILE AND ALIGNMENT

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

LINEAR GRADING (SR 45)

SHOULDER WIDTH BEYOND THE LIMITS OF THE COMPACTED AGGREGATE WILL BE GRADED TO PROVIDE POSITIVE DRAINAGE AND WILL BE PERFORMED ONLY IN THE AREAS NECESSARY. THIS WORK WILL NOT BE PERFORMED ON THE ENTIRE PROJECT. THE AREAS FOR THE WORK WILL BE MARKED BY THE PROJECT ENGINEER. UNDER NO CIRCUMSTANCES WILL THIS WORK BE PERFORMED CONCURRENTLY WITH ANY OTHER OPERATION.

GRADING WILL BE ACCOMPLISHED BY THE REMOVAL OF, OR ADDITION OF MATERIAL TO PROVIDE A 0.08 POSITIVE SLOPE. EXCESS MATERIAL WILL BE WINDROWED ON THE SHOULDER. THE GRADED AREAS WILL BE COMPACTED TO A SUFFICIENT DENSITY TO PREVENT EROSION UNTIL SEEDING AND MULCHING IS PERFORMED. ALL EXCESS MATERIAL WILL BE REMOVED FROM THE BERMS AND WILL BE DISPOSED OF OFF THE PROJECT BY THE CONTRACTOR.

SEEDING AND MUCHING, FERTILIZER AND LIME WILL BE PERFORMED WITHIN A PERIOD NOT TO EXCEED 10 DAYS AFTER THE LINEAR GRADING.

THE QUANTITY OF ITEM 209 IS NOT PERMITTED TO BE INCREASED. REDUCTIONS IN QUANTITIES ARE PERMITTED AS DETERMINED BY THE PROJECT ENGINEER.

ALL MATERIALS, LABOR, EQUIPMENT, TOOLS, AND INCIDENTALS NECESSARY TO COMPLETE THIS WORK WILL BE INCLUDED IN THE UNIT PRICE FOR THE PERTINENT BID ITEM. THE FOLLOWING QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY:

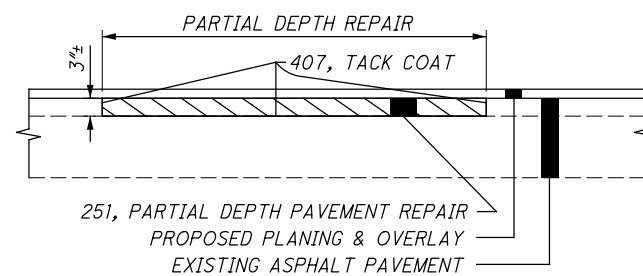
- 209, LINEAR GRADING, 404 STA.
- 659, SEEDING AND MULCHING, 22,445 SQ YD
- 659, COMMERCIAL FERTILIZER, 3.02 TON
- 659, LIME, 4.64 ACRES
- 659, WATER, 121.2 M. GAL.

ITEM 251 - PARTIAL DEPTH PAVEMENT REPAIR (441)

A QUANTITY OF THIS ITEM SHALL BE PROVIDED FOR USE AS DIRECTED BY THE ENGINEER. THE ITEM SHALL CONSIST OF REPAIRING EXISTING LOCATIONS EXHIBITING SURFACE DETERIORATION AND PLACING ITEM 441 ASPHALT CONCRETE, TYPE 2. THE ASPHALT CONCRETE SHALL BE COMPACTED WITH A TYPE I PNEUMATIC TIRE ROLLER AND A STEEL WHEEL ROLLER AS PER 401.13. IT IS NOT THE INTENT TO REPAIR EVERY DETERIORATED AREA WITHIN THE PROJECT. THE ENGINEER SHALL DETERMINE WHICH AREAS ARE TO BE REPAIRED. UNLESS OTHERWISE DIRECTED BY THE ENGINEER, THIS ITEM SHALL BE PERFORMED AFTER THE COMPLETION OF MAINLINE PAVEMENT PLANING. ALSO, THIS ITEM SHALL COMMENCE WITHIN 7 DAYS OF THE COMPLETION OF MAINLINE PAVEMENT PLANING. PAYMENT SHALL BE BASED ON THE ACTUAL NUMBER OF SQUARE YARDS OF PAVEMENT REPAIR. THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY:

SLM 0.00 TO 0.99
251, PARTIAL DEPTH PAVEMENT REPAIR (441), 820 SQ. YD.

SLM 0.99 TO 11.77
251, PARTIAL DEPTH PAVEMENT REPAIR (441), 8650 SQ. YD.



ITEM 203 - EXCAVATION (FOR PAVEMENT REPAIR)

THIS ITEM OF WORK SHALL CONSIST OF REMOVING AND DISPOSING OF ALL UNSUITABLE MATERIAL BY EXCAVATING THE EXISTING SUBGRADE AND SUBBASE TO AN AVERAGE DEPTH OF 6 INCHES OR AS DIRECTED BY THE ENGINEER. EXACT LIMITS OF REMOVAL SHALL BE DETERMINED BY THE ENGINEER. ALL EQUIPMENT, LABOR, TOOLS, AND INCIDENTALS NECESSARY TO COMPLETE THIS ITEM SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 203 EXCAVATION (FOR PAVEMENT REPAIR). THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY:

SR 45, SLM 0.00 TO 0.99
203, EXCAVATION (FOR PAVEMENT REPAIR) 4 CU YD

SR 45, SLM 0.99 TO 11.77
203, EXCAVATION (FOR PAVEMENT REPAIR) 30 CU YD

ITEM 304 - AGGREGATE BASE (FOR PAVEMENT REPAIR)

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN PROVIDED AND SHALL BE USED AS DIRECTED BY THE ENGINEER TO BACKFILL AREAS WHICH WERE EXCAVATED UNDER ITEM 203 EXCAVATION (FOR PAVEMENT REPAIR). THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY:

SR 45, SLM 0.00 TO 0.99
304, AGGREGATE BASE (FOR PAVEMENT REPAIR) 4 CU YD

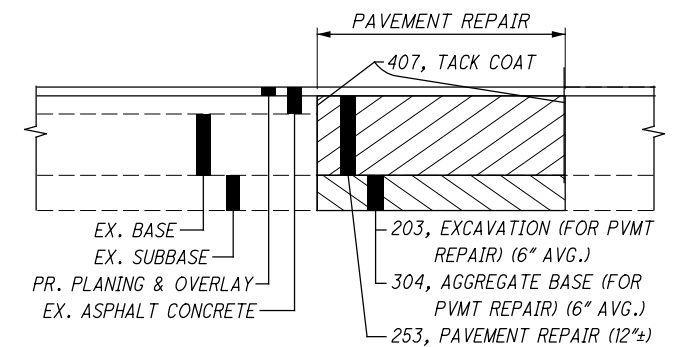
SR 45, SLM 0.99 TO 11.77
304, AGGREGATE BASE (FOR PAVEMENT REPAIR) 30 CU YD

ITEM 253 - PAVEMENT REPAIR

A QUANTITY OF THIS ITEM SHALL BE PROVIDED FOR USE AS DIRECTED BY THE ENGINEER. THIS ITEM SHALL CONSIST OF CUTTING AND REMOVING DETERIORATED PAVEMENT FULL DEPTH AND PLACING 12"± 301 ASPHALT CONCRETE BASE, PG64-22. THE MAXIMUM COMPACTED DEPTH OF ANY ONE LAYER SHALL BE 6 INCHES. UNLESS OTHERWISE DIRECTED BY THE ENGINEER, THIS ITEM SHALL BE PERFORMED AFTER THE COMPLETION OF MAINLINE PAVEMENT PLANING. ALSO, THIS ITEM SHALL COMMENCE WITHIN 7 DAYS OF THE COMPLETION OF MAINLINE PAVEMENT PLANING. IT IS NOT THE INTENT TO REPAIR EVERY DETERIORATED AREA WITHIN THE PROJECT. THE ENGINEER SHALL DETERMINE WHICH AREAS ARE TO BE REPAIRED. PAYMENT SHALL BE BASED ON THE ACTUAL NUMBER OF SQUARE YARDS OF PAVEMENT REMOVED AND REPLACED TO THE LIMITS DESIGNATED BY THE ENGINEER. THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY:

SR 45, SLM 0.00 TO 0.99
253, PAVEMENT REPAIR, 20 SQ YD
255, FULL DEPTH PAVEMENT SAWING, 100 FT

SR 45, SLM 0.99 TO 11.77
253, PAVEMENT REPAIR, 180 SQ YD
255, FULL DEPTH PAVEMENT SAWING, 1000 FT



ITEM 408 - PRIME COAT, AS PER PLAN

APPLY "MC-70" AT A RATE OF 0.4 GALLONS PER SQUARE YARD, OR AS DETERMINED BY THE ENGINEER, TO THE COMPLETED COMPACTED AGGREGATE SHOULDER.

ITEM 424 - FINE GRADED POLYMER ASPHALT CONCRETE, TYPE B, AS PER PLAN

703.05 DO NOT USE ANY AGGREGATE FROM A SOURCE DESIGNATED 'SR' OR 'SRH' ACCORDING TO THE OFFICE OF MATERIALS MANAGEMENT (OMM) IN ANY JOB MIX FORMULA (JMF) FOR THIS ITEM.

CALCULATED
BFR
CHECKED
MAC

GENERAL NOTES

MAH-76 / VAR-
1.30 / VAR

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ITEM 441 - ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (446), AS PER PLAN, (PG70-22M)

703.05 DO NOT USE COARSE AGGREGATE FROM A SOURCE DESIGNATED 'SR' OR 'SRH' ACCORDING TO THE OFFICE OF MATERIALS MANAGEMENT (OMM) IN ANY JOB MIX FORMULA (JMF) FOR THIS ITEM.

ITEM 441 - ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448) (DRIVEWAYS), AS PER PLAN

THIS ITEM OF WORK SHALL CONSIST OF PAVING ALL EXISTING DRIVEWAYS THAT DO NOT HAVE A CURB CUT OR ARE NOT PAVED AS AN INTERSECTION AS SHOWN ON THE ASPHALT CONCRETE PLAN SHEET. DRIVEWAYS ARE TO BE PAVED A DISTANCE OF 4 FT. FROM THE EDGE OF PAVED SHOULDER UNLESS OTHERWISE DIRECTED BY THE ENGINEER. DRIVEWAYS SHALL BE PAVED AFTER COMPLETION OF THE SURFACE COURSE. ASPHALT CONCRETE AVERAGE THICKNESSES SHALL BE 2 IN. FOR AGGREGATE DRIVEWAYS (UNIMPROVED) AND 1 IN. FOR IMPROVED DRIVEWAYS. AGGREGATE DRIVEWAYS SHALL BE GRADED PRIOR TO PAVING SUCH THAT SURFACE DRAINAGE DOES NOT ENCROACH UPON THE PAVED SHOULDER AND SHALL BE GRADED TO ACHIEVE THE THICKNESS OF THE SURFACE COURSE. THE MAXIMUM PAVED WIDTH SHALL NOT EXCEED THAT ALLOWED FOR THROAT AND RADIUS FOR UNCURBED DRIVEWAYS AS PER STANDARD DRIVE DESIGN MANUAL. ALL GRADING, TOOLS, EQUIPMENT, MATERIAL AND INCIDENTALS REQUIRED TO LAYOUT AND CONSTRUCT THE DRIVEWAYS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 441 ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG64-22 (448) (DRIVEWAYS), AS PER PLAN.

ITEM 617 - COMPACTED AGGREGATE, AS PER PLAN

IN LOW SHOULDER AREAS EXCEEDING 1", AND ADJACENT TO THE SAFETY EDGE, OR AS DIRECTED BY THE ENGINEER, RECYCLED ASPHALT PAVEMENT (RAP) SHALL BE USED IN AREAS ADJACENT TO THE PAVED BERM. THE RAP SHALL HAVE A MINIMUM PG CONTENT OF 4.5% AND MEET THE FOLLOWING GRADATION. ONCE THE STOCKPILE MEETS THE GRADATION, THE PG CONTENT OF THE RAP SHALL BE DETERMINED PER 441.03. THE RAP ANALYSIS MUST BE SUBMITTED TO THE ENGINEER FOR APPROVAL 2 WEEKS PRIOR TO USE. METHOD OF MEASUREMENT SHALL BE AS PER 617.06. PLACEMENT AND COMPACTION SHALL MEET THE REQUIREMENTS OF ITEM 617. ALL MATERIALS, LABOR, EQUIPMENT, TOOLS AND INCIDENTALS NECESSARY TO COMPLETE THE WORK SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 617 COMPACTED AGGREGATE, AS PER PLAN.

MODIFIED GRADATION SHALL APPLY:

SIEVE	TOTAL PERCENT PASSING
1-1/2"	100
3/4"	50-100
NO. 4	35-70
NO. 30	9-33
NO. 200	0-13

AN ESTIMATED QUANTITY OF 1526 CU. YD. HAS BEEN CARRIED TO THE GENERAL SUMMARY FOR THIS WORK.

**ITEM 611 - MANHOLE ADJUSTED TO GRADE, AS PER PLAN
ITEM 623 - MONUMENT BOX ADJUSTED TO GRADE, AS PER PLAN**

IN ADDITION TO THE REQUIREMENTS OF CMS 611.10.D FOR MANHOLES, 623.05 FOR MONUMENT BOXES, OR 638.18 FOR VALVE BOXES, THE CONTRACTOR WILL MAKE A CLEAN RECTANGULAR CUT AROUND THE PERIMETER OF THE EXISTING CONCRETE APRON (FOR MANHOLES) OR A CIRCULAR CUT 1' FROM THE MONUMENT BOX AND ADJUST THE CASTING TO GRADE (ACCORDING TO THE TOLERANCES AS SHOWN ON STANDARD CONSTRUCTION DRAWING BP-3.1) AFTER THE PAVEMENT SURFACE COURSE HAS BEEN PLACED.

CMS 499 CLASS QCMS CONCRETE (DYE THE CONCRETE SUCH THAT ITS COLOR CLOSELY MATCHES THE COLOR OF THE SURROUNDING PAVEMENT) WILL BE USED FOR BACKFILLING THE FULL PAVEMENT SECTION AND THE JOINT BETWEEN THE ASPHALT AND CONCRETE WILL BE SEALED WITH CMS 702.01 PG BINDER. EPOXY COATED REBAR SHALL BE PLACED IN THE CONCRETE AT 6" MAXIMUM ON CENTER AND A MINIMUM OF 3.5" CLEARANCE FROM THE TOP, BOTTOM AND SIDES. THE CONCRETE WILL BE VIBRATED SUFFICIENTLY TO ELIMINATE AIR POCKETS UNDER THE FRAME.

PAYMENT WILL INCLUDE REMOVAL OF THE EXISTING MATERIAL, INSTALLATION AND FURNISHING OF A NEW CASTING, AND ALL LABOR AND MATERIALS REQUIRED TO COMPLETE THIS ITEM OF WORK AS DESCRIBED.

THE FOLLOWING QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY:

ITEM 611, MANHOLE ADJUSTED TO GRADE, 2 EACH
ITEM 623, MONUMENT BOX ADJUSTED TO GRADE, 18 EACH

ITEM 618 - CENTER LINE, RUMBLE STRIPE (ASPHALT CONCRETE)

THE CONTRACTOR SHALL CONSTRUCT RUMBLE STRIPES AS PER SCD TC-64.10 WITHIN THE SLM LIMITS DETAILED BELOW:

ROUTE	SLM		LENGTH (MILES)	COMMENT
	FROM	TO		
SR-45	1.11	2.62	1.51	SUSPEND FOR STRUCTURE MAH-45-0263
SR-45	2.65	3.83	1.18	SUSPEND FOR STRUCTURE MAH-45-0383
SR-45	3.84	5.79	1.95	SUSPEND FOR STRUCTURE MAH-45-0580
SR-45	5.81	5.97	0.16	SUSPEND AT 45 MPH SPEED ZONE
SR-46	7.10	11.30	4.20	END AT 40 MPH SPEED ZONE
SR-45	TOTAL:		9.00	

ALL LABOR, TOOLS, EQUIPMENT, MATERIAL AND INCIDENTALS REQUIRED TO LAYOUT AND CONSTRUCT THE RUMBLE STRIPES SHALL BE INCLUDED IN THE UNIT PRICE BID
ITEM 618 - CENTER LINE, RUMBLE STRIPE (ASPHALT CONCRETE)

AN ESTIMATED QUANTITY OF 9.00 MILES HAS BEEN CARRIED TO THE GENERAL SUMMARY FOR THIS WORK.

ITEM 606 - CABLE GUARDRAIL (IR 76/80)

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING ANY ONE OF THE HIGH TENSION FOUR CABLE GUARDRAIL SYSTEMS AS LISTED ON THE OFFICE OF ROADWAY ENGINEERING'S WEB PAGE. PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 606, GUARDRAIL, MISC., TENSIONED CABLE WITH CONCRETE FOUNDATION LINE POSTS (SOCKETED), AND ITEM 606, GUARDRAIL, MISC. TENSIONED CABLE ANCHOR TERMINAL AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT A COMPLETE AND FUNCTIONAL HIGH TENSION CABLE GUARDRAIL SYSTEM NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER.

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

SYSTEMS SHALL HAVE A MAXIMUM DEFLECTION OF 8 FEET AND THE MAXIMUM LONGITUDINAL DISTANCE BETWEEN POSTS SHALL BE 15 FEET.

INSTALLATION WILL BE A FOUR CABLE HIGH TENSION SYSTEM INSTALLED IN SOCKETED POSTS FOUNDATION WITH A FOUR FOOT WIDE "NO MOW STRIP".

CONTRACTOR SHALL PROVIDE DELINEATORS ON THE POSTS AT A MINIMUM INTERVAL OF 100 FEET AND ON ALL ANCHOR TERMINALS.

TRANSITIONS TO W-BEAM GUARDRAIL ARE NOT ALLOWED.

REFER TO MANUFACTURER FOR MAXIMUM OFFSET FROM BREAK POINT.

TORPEDO OR BULLET SPLICES ARE NOT ALLOWED. ALL CABLE SPLICES SHALL BE A SWAGED OR OPEN BODY DESIGN THAT ALLOWS FOR ANNUAL INSPECTION BETWEEN THE WEDGE AND STRANDS OF CABLE.

POSTS ARE SET IN SOCKETED CONCRETE FOUNDATIONS AND SHALL NOT BE PERMANENTLY INSTALLED UNTIL THEIR RESPECTIVE RUNS OF TENSIONED CABLE GUARDRAIL ARE READY FOR FINAL CONNECTION TO THE END TERMINAL ASSEMBLY. THE CONTRACTOR SHALL REPLACE ANY POSTS DAMAGED DURING INSTALLATION AS DETERMINED BY THE ENGINEER AT NO ADDITIONAL COST TO THE STATE.

MIGRATORY BIRD PROTECTION

NESTS FOR NATIVE BIRDS PROTECTED UNDER THE MIGRATORY BIRD TREATY ACT (MBTA) WERE IDENTIFIED ON THE BRIDGES AT MAH-45-2.63, MAH-45-8.95 AND MAH-45-12.89 DURING THE FIELD SURVEYS FOR THE PROJECT. THE MBTA PROHIBITS THE KILLING OR CAPTURE OF NATIVE BIRDS PROTECTED UNDER THE ACT. IF CONSTRUCTION ACTIVITIES ARE TO OCCUR BETWEEN THE DATES OF MARCH 1 AND OCTOBER 1 ON THESE STRUCTURES, THEN PRIOR TO THE START OF CONSTRUCTION ACTIVITIES THE CONTRACTOR MUST INSPECT THE STRUCTURES FOR EVIDENCE OF AN ACTIVE BIRD NEST CONTAINING EGGS OR CHICKS. WRITTEN CONFIRMATION OF THE INSPECTION, INCLUDING A STATEMENT WHETHER AN ACTIVE NEST WAS FOUND, MUST BE PROVIDED TO THE ENGINEER. IF AN ACTIVE NEST IS ENCOUNTERED, IMPACTS TO THE NEST MUST BE AVOIDED UNTIL ALL DEVELOPING BIRDS ARE ABLE TO INDEPENDENTLY FLY FROM THE NEST. IF NO NESTS ARE ENCOUNTERED OR IF ONLY INACTIVE NESTS ARE ENCOUNTERED, CONSTRUCTION ACTIVITIES CAN PROCEED. INACTIVE NESTS CAN BE REMOVED.

DRINKING WATER RESOURCES

CAUTION WILL BE EXERCISED DURING REFUELING OPERATIONS AND DURING CONSTRUCTION EQUIPMENT MAINTENANCE ACTIVITIES. IN CASE OF AN INCIDENT AND/OR SPILL, THE CONTRACTOR SHALL, AS SOON AS POSSIBLE, NOTIFY THE ENGINEER/SUPERVISOR AND CONTACT THE OHIO EPA: OHIO EPA SPILL REPORTING 24 HOUR EMERGENCY SERVICE CALL: 1-800-282-9378 OR NEDO (330) 963-1200 AND PROVIDE AS MUCH OF THE FOLLOWING INFORMATION AS POSSIBLE: 1. TIME OBSERVED 2. LOCATION 3. MATERIAL RELEASED 4. PROBABLE SOURCE 5. VOLUME & DURATION 6. PRESENT & ANTICIPATED MOVEMENT OF CONTAMINANT 7. PERSONNEL ON SCENE 8. ACTIONS ALREADY INITIATED 9. PERSON(S) ON THE SCENE TO CONTACT.

WATERWAY PERMIT COMPLIANCE:

ODOT WILL OBTAIN ALL NECESSARY WATERWAY PERMITS PRIOR TO PROJECT CONSTRUCTION. THE CONTRACTOR IS NOT AUTHORIZED TO PLACE ANY FILL OR WORK WITHIN ANY WATERWAY BELOW THE ORDINARY HIGH WATER MARK ELEVATION DURING CONSTRUCTION UNTIL THE PERMIT(S) ARE OBTAINED.

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GENERAL NOTES

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MAINTENANCE OF TRAFFIC

THIS ITEM SHALL CONSIST OF MAINTENANCE OF TRAFFIC ON EXISTING ROADWAYS AND RAMPS IN ACCORDANCE WITH THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS, CURRENT EDITION, LATEST REVISION, THE SPECIFICATIONS AND THE FOLLOWING:

1. (SR 45) A MINIMUM OF ONE TEN FOOT BIDIRECTIONAL LANE SHALL BE MAINTAINED ON THE EXISTING PAVEMENT OR COMPLETED PAVEMENT DURING CONSTRUCTION OF THE WORK.

(IR 76/80) FOR LANE RESTRICTIONS SEE LANE CLOSURE NOTE

2. LANE RESTRICTIONS OR LANE REDUCTIONS SHALL NOT BE PERMITTED AFTER NORMAL WORKING HOURS. NORMAL WORKING HOURS SHALL BE THOSE HOURS DURING WHICH THE CONTRACTOR HAS A FULL COMPLEMENT OF EMPLOYEES AND EQUIPMENT ACTIVELY REMOVING AND/OR PLACING PAVEMENT MATERIALS.

3. ALL FULL DEPTH PAVEMENT REMOVAL AND REPLACEMENT OPERATIONS SHALL BE COMPLETED THE SAME DAY THE EXCAVATION IS MADE. IF THE CONTRACTOR CANNOT COMPLETE THE WORK, THE EXCAVATION SHALL BE BACKFILLED OR PROTECTED AS PER STANDARD CONSTRUCTION DRAWING MT-101.90.

4. TRUCK MOUNTED ATTENUATORS [TMA'S] SHALL BE USED AS SHOWN IN THE STANDARD CONSTRUCTION DRAWINGS.

5. UNDER NO CIRCUMSTANCES SHALL THE CONTRACTOR BE PERMITTED TO HAVE SUCCESSIVE WORK ZONES UNLESS THE DISTANCE BETWEEN THE DRUMS, BARRICADES OR CONES EXCEEDS TWO (2) MILES.

6. FOR ROUTES NOT ON THE PERMITTED LANE CLOSURE CHART, ONLY DURING OFF-PEAK PERIODS (ie ANY PERIOD OTHER THAN 6-8AM AND 3-6PM) SHALL THE CONTRACTOR INSTALL AND SUBSEQUENTLY RESET ALL TRAFFIC CONTROL NECESSARY FOR THE WORK ZONE FOR EACH CONSTRUCTION PHASE.

7. IN ADDITION TO THE REQUIREMENTS OF 614.11 WORK ZONE PAVEMENT MARKINGS, AT THE END OF EACH DAY OF WORK, THE CONTRACTOR SHALL REPLACE (WITH WORK ZONE MARKINGS) ALL LANE, CENTER, STOP OR CHANNELIZING LINES THAT WERE REMOVED OR COVERED DURING THE PAVEMENT REMOVAL OR PLACEMENT OPERATIONS. QUANTITIES FOR SUCH PLACEMENT ARE CARRIED AS PART OF THE ITEMS LISTED UNDER 614 WORK ZONE PAVEMENT MARKINGS.

8. A QUANTITY OF 10 CU. YDS. OF ITEM 614 ASPHALT CONCRETE FOR MAINTAINING TRAFFIC SHALL BE PROVIDED FOR USE IN MAINTAINING PAVEMENT, SHOULDERS AND OTHER LOCATIONS AS DIRECTED BY THE ENGINEER.

9. PRIOR TO OPENING TO TRAFFIC EACH LANE SHALL BE IN A SAFE, PASSABLE CONDITION. ALL TRANSVERSE JOINTS SHALL EXTEND ACROSS THE FULL LANE AND SHOULDER WIDTH AND EACH LANE SHALL BE FREE FROM UNEVEN LONGITUDINAL JOINTS. THE CONTRACTOR SHALL PROVIDE ASPHALT WEDGES FOR TRANSVERSE JOINTS WHEREVER THERE ARE PAVEMENT ELEVATION DIFFERENCES.

10. THE CONTRACTOR SHALL PLACE THE SIGNS: W8-1 [BUMP] PER OMUTCD 2C.28; W8-11 [UNEVEN LANES] PER OMUCTD 6F.45; AND W6-3 [TWO-WAY TRAFFIC] PER OMUTCD 6F.32. PAYMENT FOR THESE SIGNS SHALL BE INCIDENTAL TO THE LUMP SUM ITEM 614- MAINTAINING TRAFFIC. A QUANTITY OF ITEM 614 WORK ZONE MARKING SIGNS HAS BEEN INCLUDED IN THE PLANS PER CMS 614.04.

THE FOLLOWING QUANTITIES SHALL BE USED FOR THE MAINTENANCE OF TRAFFIC ON THIS PROJECT:

PHASE I - PLANED SURFACE
 614, WORK ZONE CENTER LINE, CLASS I, 11.77 MILE
 614, WORK ZONE STOP LINE, CLASS I, 129 FT
 614, WORK ZONE MARKING SIGN, 50 EACH (ALL PHASES)
 614, WORK ZONE CHANNELIZING LINE, CLASS I, 8' 85 FT

PHASE II - INTERMEDIATE COURSE (SLM 6.54 TO 9.65)
 614, WORK ZONE CENTERLINE, CLASS I, 642 PAINT 3.11 MILE
 614, WORK ZONE STOP LINE, CLASS I, 642 PAINT 27 FT

PHASE III - SURFACE COURSE
 614, WORK ZONE CENTERLINE, CLASS III, 642 PAINT 11.77 MILE
 614, WORK ZONE STOP LINE, CLASS III, 642 PAINT 129 FT
 614, WORK ZONE CHANNELIZING LINE, CLASS III, 8', 642 PAINT 85 FT

TO BE USED AS DIRECTED BY THE ENGINEER
 614, WORK ZONE EDGE LINE, CLASS III, 6', 642 PAINT, 23.54 MILE

TRAFFIC CONTROL INSPECTOR

THE CONTRACTOR SHALL DESIGNATE AN INDIVIDUAL OTHER THAN THE SUPERINTENDENT AND SUBJECT TO THE APPROVAL OF THE ENGINEER, TO CONTINUOUSLY INSPECT ALL TRAFFIC CONTROL DEVICES WHENEVER CONSTRUCTION WORK IS BEING PERFORMED WITHIN THE WORK LIMITS OF THE PROJECT. THE DESIGNATED INDIVIDUAL SHALL ALSO INSPECT ALL TRAFFIC DEVICES AT THE BEGINNING AND AT THE END OF EACH WORK DAY. THE DESIGNATED INDIVIDUAL OR A QUALIFIED REPRESENTATIVE SHALL ALSO BE AVAILABLE ON AN AROUND THE CLOCK BASIS TO REPAIR AND/OR REPLACE DAMAGED OR MISSING TRAFFIC CONTROL DEVICES. THESE INDIVIDUALS SHALL BE EQUIPPED WITH CELLULAR PHONES AND THEIR NAMES AND PHONE NUMBERS SHALL BE GIVEN TO THE PROJECT ENGINEER AT THE PRE-CONSTRUCTION MEETING. THE DESIGNATED INDIVIDUAL MAY HAVE OTHER CONSTRUCTION RELATED DUTIES AS LONG AS IMMEDIATE ATTENTION IS GIVEN TO TRAFFIC CONTROL. PAYMENT FOR THE SERVICES OF THE TRAFFIC CONTROL INSPECTOR SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 614 MAINTAINING TRAFFIC.

ADVANCED NOTICE TO PAVE

THE CONTRACTOR SHALL SUBMIT FOR APPROVAL TO THE DISTRICT CONSTRUCTION ENGINEER A DETAILED SCHEDULE 15 DAYS PRIOR TO THE PLACEMENT OF THE OVERLAY COURSES, ON HOW THEY PROPOSE TO PROSECUTE THE PAVING OPERATIONS. THE DETAILS SHALL SHOW THE ORDER OF PERFORMANCE OF EACH STAGE (START TO FINISH) OF THE WORK INCLUDING THE MAINTENANCE OF TRAFFIC THAT WILL BE USED.

TIME LIMITATION, TRAFFIC ON A MILLED SURFACE

THE MAXIMUM ALLOWABLE TIME FOR TRAFFIC TO BE PLACED ON A MILLED SURFACE SHALL BE 7 CONSECUTIVE CALENDAR DAYS. SHOULD THE CONTRACTOR FAIL TO MEET THIS REQUIREMENT, THE CONTRACTOR SHALL BE ASSESSED A DISINCENTIVE IN THE AMOUNT OF \$2000 PER DAY THAT THE TRAFFIC IS PLACED ON A MILLED SURFACE BEYOND THE SPECIFIED LIMIT.

LANE CLOSURES (IR-76/80)

DURATION OF LANE CLOSURES AND RESTRICTIONS SHALL BE AS PER THE PERMITTED LANE CLOSURE CHART. THE PERMITTED LANE CLOSURE CHART USED FOR THIS PROJECT SHALL BE THE MOST CURRENT CHART AVAILABLE ON THE DATE THIS PROJECT SELLS.

THE CHART CAN BE FOUND AT:
<http://plcm.dot.state.oh.us>

SHOULD THE CONTRACTOR FAIL TO MEET ANY OF THE REQUIREMENTS IN THE CHART, THE CONTRACTOR SHALL BE ASSESSED DISINCENTIVES IN THE AMOUNT OF \$2000 PER HOUR OR PORTION THEREOF THAT THE LANE REDUCTION REMAINS BEYOND THE SPECIFIED LIMIT.

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 TIME TABLE		
ITEM	DURATION OF CLOSURE	NOTICE DUE TO PERMITS & PIO
ROAD & RAMP CLOSURES	>= 2WEEKS	21 CALENDAR DAYS PRIOR TO CLOSURE
	> 12 HOURS & < 2 WEEKS	14 CALENDAR DAYS PRIOR TO CLOSURE
	<12 HOURS	4 BUSINESS DAYS PRIOR TO CLOSURE
LANE CLOSURES & RESTRICTIONS	>= 2 WEEKS	14 CALENDAR DAYS PRIOR TO CLOSURE
	< 2 WEEKS	2 BUSINESS DAYS PRIOR TO CLOSURE
START OF CONSTRUCTION & TRAFFIC PATTERNS 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 (NOTICE OF CLOSURE SIGN)

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. THE SIGNS MAY BE ERECTED ANYWHERE ON RAMPS AS LONG AS THEY ARE VISIBLE TO THE MOTORISTS USING THE RAMP. ON ENTRANCE RAMPS, THE SIGN SHALL BE ERECTED WELL IN ADVANCE OF THE MERGE AREA TO AVOID DISTRACTING MOTORISTS.

NOTICE OF CLOSURE SIGN TIME TABLE		
ITEM	DURATION OF CLOSURE	SIGN DISPLAYED TO PUBLIC
RAMP & RAMP	>= 2WEEKS	14 CALENDAR DAYS PRIOR TO CLOSURE
RAMP	> 12 HOURS & < 2 WEEKS	7 CALENDAR DAYS PRIOR TO CLOSURE
CLOSURE	<12 HOURS	2 BUSINESS DAYS PRIOR TO CLOSURE

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.

WILL BE
 CLOSED
 FOR _____ DAYS
 INFO: 330-786-2208
 W20-H13-60

DETOUR NOTIFICATION (MAHONING COUNTY)

THE CONTRACTOR SHALL ADVISE THE ODOT DISTRICT OFFICE (330-786-3148) AND MAHONING COUNTY ENGINEERS (330-477-6781) EIGHTEEN (18) DAYS IN ADVANCE OF WHEN THE 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.

ITEM 614, MAINTAINING TRAFFIC (TIME LIMITATION ON A DETOUR) (MAH-45-0580)

A MINIMUM OF ONE LANE OF TRAFFIC IN EACH DIRECTION SHALL BE MAINTAINED AT ALL TIMES, EXCEPT FOR A PERIOD NOT TO EXCEED 5 CONSECUTIVE CALENDAR DAYS, WHEN THROUGH TRAFFIC MAY BE DETOURED AS SHOWN ON SHEET 10. A DISINCENTIVE SHALL BE ASSESSED IN THE AMOUNT OF \$2000 FOR EACH CALENDAR DAY THE ROADWAY REMAINS CLOSED TO TRAFFIC BEYOND THE SPECIFIED LIMIT.

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 MAINTENANCE OF TRAFFIC GENERAL NOTES
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ITEM 614 - LAW ENFORCEMENT OFFICER (WITH PATROL CAR) FOR ASSISTANCE DURING CONSTRUCTION OPERATIONS

USE OF LAW ENFORCEMENT OFFICERS (LEOS) BY CONTRACTORS OTHER THAN THE USES SPECIFIED BELOW WILL NOT BE PERMITTED AT PROJECT COST. LEOS SHOULD NOT BE USED WHERE THE OMTCD INTENDS THAT FLAGGERS BE USED.

IN ADDITION TO THE REQUIREMENTS OF CMS 614 AND THE OMTCD, A UNIFORMED LEO WITH AN OFFICIAL PATROL CAR (CAR WITH TOP-MOUNTED EMERGENCY FLASHING LIGHTS AND COMPLETE MARKINGS OF THE APPROPRIATE LAW ENFORCEMENT AGENCY) SHALL BE PROVIDED FOR THE FOLLOWING TRAFFIC CONTROL TASKS:

DURING THE ENTIRE ADVANCE PREPARATION AND CLOSURE SEQUENCE WHERE COMPLETE BLOCKAGE OF TRAFFIC IS REQUIRED.

DURING A TRAFFIC SIGNAL INSTALLATION WHEN IMPACTING THE NORMAL FUNCTION OF THE SIGNAL OR THE FLOW OF TRAFFIC OR WHEN TRAFFIC NEEDS TO BE DIRECTED THROUGH AN ENERGIZED TRAFFIC SIGNAL CONTRARY TO THE SIGNAL DISPLAY (E.G., DIRECTING MOTORISTS THROUGH A RED LIGHT).

FOR LANE CLOSURES: DURING INITIAL SET-UP PERIODS, TEAR DOWN PERIODS, SUBSTANTIAL SHIFTS OF A CLOSURE POINT OR WHEN NEW LANE CLOSURE ARRANGEMENTS ARE INITIATED FOR LONG-TERM LANE CLOSURES/SHIFTS (FOR THE FIRST AND LAST DAY OF MAJOR CHANGES IN TRAFFIC CONTROL SETUP).

LEOS SHOULD NOT FORGO THEIR TRAFFIC CONTROL RESPONSIBILITIES TO APPREHEND MOTORISTS FOR ROUTINE TRAFFIC VIOLATIONS. HOWEVER, IF A MOTORIST'S ACTIONS ARE CONSIDERED TO BE RECKLESS, THEN PURSUIT OF THE MOTORIST IS APPROPRIATE.

IN GENERAL LEOS SHOULD BE POSITIONED IN ADVANCE OF AND ON THE SAME SIDE AS THE LANE RESTRICTION OR AT THE POINT OF ROAD CLOSURE, AND TO MANUALLY CONTROL TRAFFIC MOVEMENTS THROUGH SIGNALIZED INTERSECTIONS IN WORK ZONE.

THE LEOS WORK AT THE DIRECTION OF THE ENGINEER. 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.

THE LEO SHALL REPORT IN TO THE CONTRACTOR PRIOR TO THE START OF THE SHIFT, IN ORDER TO RECEIVE INSTRUCTIONS REGARDING 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. ONCE THE LEO HAS COMPLETED THE DUTIES DESCRIBED ABOVE AND STILL HAS TIME REMAINING ON HIS/HER SHIFT, THE LEO MAY BE ASKED TO PATROL THROUGH THE WORK ZONE (WITH FLASHING LIGHTS OFF) OR BE PLACED AT A LOCATION TO DETER MOTORISTS FROM SPEEDING. 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 300 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 AN LEO ARE INCLUDED WITH THE BID UNIT PRICE FOR ITEM 614, LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE.

DROPOFFS

THE CONTRACTOR WILL NOT BE PERMITTED TO LEAVE A DIFFERENCE IN ELEVATION BETWEEN THE MAINLINE ASPHALT SURFACE COURSE AND SIDE STREET APPROACHES/DRIVEWAYS GREATER THAN 1.25 INCH. THE CONTRACTOR SHALL PLACE A 12:1 ASPHALT WEDGE FOR ALL RESULTING ELEVATION DIFFERENCES GREATER THAN 1.25 INCH PRIOR TO OPENING TO TRAFFIC. THE PAVING OF INTERSECTION APPROACHES AND DRIVEWAYS, PER THE NOTES ON SHEET 5, SHALL BE PERFORMED WITHIN 7 DAYS OF MAINLINE SURFACE COURSE BEING APPLIED AND A DROPOFF BEING CREATED BETWEEN THE NEW SURFACE COURSE AND THE MILLED/EXISTING SIDE ROAD OR DRIVEWAY SURFACE. THE CONTRACTOR MAY ELECT TO PLACE A 12:1 ASPHALT WEDGE IN LIEU OF COMPLETING THE PAVING, HOWEVER THE ASPHALT CONCRETE USED FOR THE WEDGE SHALL BE CONSIDERED INCIDENTAL TO ITEM 614 - MAINTAINING TRAFFIC AND SHALL INCLUDE THE REMOVAL OF THE WEDGE BEFORE THE INTERSECTION/DRIVEWAY IS PAVED.

ITEM 614 - PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN

THE CONTRACTOR SHALL FURNISH, INSTALL, MAINTAIN AND REMOVE, WHEN NO LONGER NEEDED, A PORTABLE CHANGEABLE MESSAGE SIGN, THE SIGN SHALL BE OF A TYPE SHOWN ON A LIST OF APPROVED PCMS UNITS AVAILABLE ON THE OFFICE OF MATERIALS MANAGEMENT WEB PAGE. THE LIST CONTAINS CLASS A AND B UNITS WITH MINIMUM LEGIBILITY DISTANCE OF 800 FEET AND 650 FEET RESPECTIVELY.

EACH SIGN SHALL BE TRAILER MOUNTED AND EQUIPPED WITH A FUNCTIONAL DIMMING MECHANISM TO DIM THE SIGN DURING DARKNESS AND A TAMPER AND VANDAL PROOF ENCLOSURE. EACH SIGN SHALL BE PROVIDED WITH APPROPRIATE TRAINING AND OPERATION INSTRUCTIONS TO ENABLE ON-SITE PERSONNEL TO OPERATE AND TROUBLESHOOT THE UNIT. THE SIGN SHALL ALSO BE CAPABLE OF BEING POWERED BY AN ELECTRICAL SERVICE DROP FROM A LOCAL UTILITY COMPANY. PCMS TRAILERS SHOULD BE DELINEATED.

PLACEMENT, OPERATION, MAINTENANCE AND ALL ACTIVATION OF THE SIGNS BY THE CONTRACTOR SHALL BE AS DIRECTED BY THE ENGINEER. THE PCMS SHALL BE LOCATED IN A HIGHLY VISIBLE POSITION YET PROTECTED FROM TRAFFIC. THE PCMS SHOULD NOT BE LOCATED IN THE MEDIAN OF THE HIGHWAY UNLESS IT IS PROTECTED FROM BOTH DIRECTIONS OF TRAFFIC. THE PCMS SHALL BE LOCATED IN A HIGHLY VISIBLE POSITION YET PROTECTED FROM TRAFFIC. THE CONTRACTOR SHALL, AT THE DIRECTION OF THE ENGINEER, RELOCATE THE PCMS TO IMPROVE THE VISIBILITY OR ACCOMMODATE CHANGED CONDITIONS. WHEN NOT IN USE, THE PCMS WILL BE OFF. ADDITIONALLY WHEN NOT IN USE FOR EXTENDED PERIODS OF TIME, THE PCMS SHALL BE TURNED, FACING AWAY FROM ALL TRAFFIC AND SHALL DISPLAY ONE OR MORE TYPE G YELLOW REFLECTIVE SHEETING SURFACES OF 9-INCH BY 15-INCH MINIMUM SIZE FACING TRAFFIC.

THE ENGINEER SHALL BE PROVIDED ACCESS TO EACH SIGN UNIT AND SHALL BE PROVIDED WITH APPROPRIATE TRAINING AND OPERATION INSTRUCTIONS TO ENABLE PERSONNEL TO OPERATE AND TROUBLESHOOT THE UNIT AND TO REVISE SIGN MESSAGES, IF NECESSARY.

ALL MESSAGES TO BE DISPLAYED ON THE SIGN WILL BE PROVIDED BY THE CONTRACTOR. A LIST OF ALL PROPOSED PREPROGRAMMED MESSAGES WILL BE GIVEN TO THE ENGINEER PRIOR TO CONSTRUCTION. 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 OF 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, DE-ACTIVATED 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 AREAS] ALLOW REMOTE SIGN ACTIVATION, DEACTIVATION, MESSAGE CHANGES, MESSAGE ADDITIONS AND REVISIONS TO TIME OF DAY PROGRAMS. THE SYSTEM SHALL ALSO PERMIT VERIFICATION OF CURRENT AND PROGRAMMED MESSAGES.

THE PCMS UNIT SHALL BE MAINTAINED IN GOOD WORKING ORDER BY THE CONTRACTOR IN ACCORDANCE WITH THE PROVISIONS OF 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 WILL BE DEDUCTED FROM MONEYS DUE, OR TO BECOME DUE THE CONTRACTOR ON HIS CONTRACT.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR 24 HOURS PER DAY OPERATION AND MAINTENANCE OF THESE SIGNS ON THE PROJECT FOR THE DURATION OF THEIR USE. THE REQUIREMENT TO FURNISH, INSTALL, MAINTAIN AND REMOVE A PCMS UNIT ON THIS PROJECT SHALL NOT IN ANY WAY RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITIES AS OUTLINED IN 614.02.

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.

614 PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN, 12 SIGN MONTH ASSUMING 2 SIGNS FOR 6 MONTHS

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MAINTENANCE OF TRAFFIC GENERAL NOTES

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MAINTENANCE OF TRAFFIC SIGNAL/FLASHER INSTALLATION

THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING TRAFFIC SIGNAL/FLASHER INSTALLATIONS WITHIN THE PROJECT UNDER THE FOLLOWING CONDITIONS:

- EXISTING SIGNAL/FLASHER INSTALLATIONS WHICH THE PLANS REQUIRE THE CONTRACTOR TO ADJUST, MODIFY, ADD ONTO OR REMOVE, OR WHICH THE CONTRACTOR ACTUALLY ADJUSTS, MODIFIES OR OTHERWISE DISTURBS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE ENTIRE INSTALLATION (AT AN INTERSECTION) FROM THE TIME HIS OPERATIONS FIRST DISTURB THE INSTALLATION UNTIL THE INSTALLATION HAS BEEN SUBSEQUENTLY REMOVED OR MODIFIED AND THE WORK IS ACCEPTED.
- NEW OR REUSED SIGNAL/FLASHER INSTALLATIONS OR DEVICES, INSTALLED BY THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE OF THESE FROM THE TIME OF INSTALLATION UNTIL THE WORK IS ACCEPTED.

THE CONTRACTOR SHALL CORRECT AS QUICKLY AS POSSIBLE ALL OUTAGES OR MALFUNCTIONS. HE SHALL PROVIDE THE MAINTAINING AGENCY AND THE ENGINEER SUCH ADDRESSES AND PHONE NUMBERS WHERE HIS MAINTENANCE FORCES CAN BE CONTACTED. THE CONTRACTOR SHALL PROVIDE ONE OR MORE PERSONS TO RECEIVE ALL CALLS AND DISPATCH THE NECESSARY MAINTENANCE FORCES TO CORRECT OUTAGES. SUCH A PERSON OR PERSONS MAY BE USED TO PERFORM OTHER DUTIES AS LONG AS PROMPT ATTENTION IS GIVEN TO THESE CALLS AND A PERSON IS READILY AVAILABLE CONTINUOUSLY 24 HOURS A DAY, 7 DAYS A WEEK. ALL LAMP OUTAGES, CABLE OUTAGES, ELECTRICAL FAILURES, EQUIPMENT MALFUNCTIONS AND MISALIGNED SIGNAL HEADS SHALL BE CORRECTED TO THE SATISFACTION OF THE ENGINEER WITH THE SIGNAL BACK TO SERVICE WITHIN FOUR HOURS AFTER THE CONTRACTOR HAS BEEN NOTIFIED OF THE OUTAGE.

IN THE EVENT NEW SIGNALS ARE DAMAGED PRIOR TO ACCEPTANCE, ALL DAMAGED EQUIPMENT EXCEPT POLES AND CONTROL EQUIPMENT SHALL BE REPLACED BY THE CONTRACTOR TO THE SATISFACTION OF THE ENGINEER WITH THE SIGNAL BACK IN SERVICE WITHIN 8 HOURS AFTER THE CONTRACTOR'S NOTIFICATION OF THE OUTAGE. THE CONTRACTOR SHALL ARRANGE FOR FULL TRAFFIC CONTROL UNTIL THE SIGNAL IS BACK IN OPERATION.

IF POLES AND/OR CONTROL EQUIPMENT ARE DAMAGED AND MUST BE REPLACED, THE CONTRACTOR SHALL MAKE TEMPORARY REPAIRS AS NECESSARY TO BRING THE SIGNAL BACK INTO FULL OPERATION WITHIN THE ALLOWED 8-HOUR PERIOD, AND SHALL MAKE PERMANENT REPAIRS OR REPLACEMENT AS SOON THEREAFTER AS POSSIBLE.

NONE OF THE ABOVE SHALL BE CONSTRUED AS COLLECTIVE OR CONSECUTIVE OUTAGE TIME PERIODS AT ANY ONE LOCATION. THAT IS, WHERE MORE THAN ONE OUTAGE OCCURS AT ANY ONE LOCATION THEN THE ALLOTTED TIME LIMIT SHALL BE FOR THE WORST SINGLE OUTAGE.

WHERE OUTAGES ARE THE DIRECT RESULT OF A VEHICLE ACCIDENT THE RESPONSE OF THE CONTRACTOR SHALL BE AS OUTLINED ABOVE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COLLECTION OF ANY COMPENSATION FOR THIS WORK FROM THOSE PARTIES RESPONSIBLE FOR THE DAMAGE.

WHERE THE CONTRACTOR HAS FAILED TO, OR CANNOT RESPOND TO, AN OUTAGE OR SIGNAL EQUIPMENT MALFUNCTION, AT THESE LOCATIONS WITHIN HIS RESPONSIBILITY, WITHIN PERIODS AS SPECIFIED ABOVE, THE ENGINEER MAY INVOKE THE PROVISIONS OF SECTION 105.15 AND ANY SUBSEQUENT BILLINGS TO THE STATE FOR POLICE AND MAINTENANCE SERVICES SHALL BE DEDUCTED FROM MONIES DUE OR TO BECOME DUE THE CONTRACTOR IN ACCORDANCE WITH PROVISIONS OF SECTION 105.15.

THE CONTRACTOR SHALL PROVIDE THE MAINTENANCE SERVICE ENTIRELY WITH HIS FORCES OR HE MAY CHOOSE TO ENTER INTO A COOPERATIVE UNDERSTANDING WITH THE LOCAL MAINTAINING AGENCY TO PROVIDE THE MAINTENANCE. THE CONTRACTOR SHALL INFORM THE ENGINEER, IN WRITING, OF THE MAINTENANCE METHOD SELECTED.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO ANY TRAFFIC SIGNAL COMPONENTS REQUIRED TO BE HANDLED DURING THE RELOCATION OF POLES AND REVISIONS TO THE SIGNAL SYSTEM. WHEN A TRAFFIC SIGNAL MUST BE TAKEN OUT OF SERVICE BY THE CONTRACTOR, DUE TO CONSTRUCTION PROCEDURES, THIS OUTAGE SHALL NOT EXCEED 8 HOURS AND SHALL NOT INCLUDE THE HOURS OF 8:00AM TO 6:00PM. ANY SIGNALIZED INTERSECTION, WHERE THE SIGNAL IS OUT OF SERVICE DUE TO CONSTRUCTION PROCEDURES, OR DUE TO AN OUTAGE OR MALFUNCTION OF EQUIPMENT AS DESCRIBED ABOVE, SHALL BE PROTECTED, BY THE CONTRACTOR, BY THE INSTALLATION OF TEMPORARY "STOP" SIGNS.

ANY VEHICULAR TRAFFIC SIGNAL HEAD, EITHER NEW OR EXISTING WHICH WILL BE OUT OF OPERATION SHALL BE COVERED IN THE MANNER DESCRIBED IN 632.25.

THE CONTRACTOR SHALL MAINTAIN COMPLETE RECORDS OF MALFUNCTIONS INCLUDING:

- TIME OF NOTIFICATION OF MALFUNCTION;
- TIME OF WORK CREWS ARRIVAL TO CORRECT THE MALFUNCTION;
- ACTIONS TAKEN TO CORRECT THE MALFUNCTION, INCLUDING A LIST OF PARTS REPAIRED OR REPLACED;
- A DIAGNOSIS OF REASON FOR THE MALFUNCTION AND PROBABILITY OF REOCCURRENCE;
- TIME OF COMPLETION OF THE REPAIR AND SYSTEM RESTORED TO FULL SERVICE.

A COPY OF THESE RECORDS SHALL BE PROVIDED TO THE ENGINEER WITHIN THREE (3) WORKING DAYS FOLLOWING COMPLETION OF EACH REPAIR.

ALL COSTS RESULTING FROM THE ABOVE REQUIREMENTS SHALL BE CONSIDERED TO BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 614, MAINTAINING TRAFFIC.

**633 CONTROLLER ITEM MISC: CONTROLLER MODIFICATION
809 STOP-LINE RADAR DETECTION
809 ADVANCE RADAR DETECTION**

THIS ITEM OF WORK SHALL CONSIST OF FURNISHING & INSTALLING A WAVETRONIX SMARTSENSOR MATRIX STOP BAR DETECTION UNIT AS WELL AS WAVETRONIX SMARTSENSOR ADVANCE DETECTION UNIT (MODEL SS-200E).

THE DETECTION UNIT SHALL INCLUDE THE FOLLOWING:

- POWER SHALL BE PROVIDED FROM THE TRAFFIC CABINET.
- ALL REQUIRED INPUTS CARDS SHALL BE INCLUDED IN THE TRAFFIC CABINET AND SHALL BE COMPATIBLE WITH CALTRANS, NEMA TS1 AND NEMA TS2 DETECTOR RACKS. THE CARDS SHALL PROVIDE TRUE PRESENCE DETECTOR CALLS OR CONTACT CLOSURE TO THE TRAFFIC CONTROLLER.
- THE UNIT SHALL BE MOUNTED DIRECTLY TO A POLE OR MAST ARM, AS RECOMMENDED BY THE MANUFACTURER. CABLE(S) SHALL BE PROVIDED AS REQUIRED AND RECOMMENDED BY THE MANUFACTURER.
- SURGE PROTECTION DEVICES, AS RECOMMENDED BY THE MANUFACTURER SHALL BE INCLUDED BOTH AT THE POLE WHERE THE UNIT IS LOCATED TO PROTECT THE UNIT AND IN THE TRAFFIC CABINET TO PROTECT THE CABINET ELECTRONICS.
- THE MANUFACTURER'S REPRESENTATIVE SHALL BE ON SITE DURING INSTALLATION AND TESTING AND SHALL PROVIDE ONSITE TRAINING ON THE SETUP, OPERATION AND MAINTENANCE OF THE UNIT.
- A SERIAL TO ETHERNET COMMUNICATIONS MODULE AND ETHERNET CABLE (MINIMUM 7 FEET).
- THE POWER SUPPLY AND COMMUNICATION MODULES SHALL BE SECURED TO A SINGLE PANEL THAT CAN BE MOUNTED INTERIOR TO THE TRAFFIC CABINET. THE PANEL SHALL INCLUDE MODULAR-PLUG STYLE CONNECTIONS FOR UP TO FOUR (4) SENSOR CABLES. ADDITIONAL SENSORS MAY BE HARD-WIRED TO THE COMMUNICATION MODULES, AS NECESSARY.
- THE CONTRACTOR SHALL INSTALL THE RADAR DETECTION PRIOR TO MILLING THE EXISTING LOOPS IN ORDER TO PREVENT TRAFFIC SIGNAL DELAY

PAYMENT FOR ITEM 809 ADVANCE RADAR DETECTION AND ITEM 809 STOP-LINE RADAR DETECTION SHALL BE MADE AT THE CONTRACT UNIT PRICE FOR EACH UNIT, COMPLETE AND IN PLACE INCLUDING ALL REQUIRED CABINET HARDWARE, MOUNTING BRACKETS, CABLES, CONDUIT, CONNECTIONS TESTED AND ACCEPTED, AND ANY OTHER NECESSARY HARDWARE TO ESTABLISH A FULLY FUNCTIONAL DETECTION SYSTEM.

THE CONTRACTOR SHALL DISCONNECT AND LEAVE THE LOOP DETECTOR AMPLIFIERS IN THE CONTROLLER.

THE FOLLOWING QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY FOR THE ABOVE WORK AND FOR DISCONNECTING THE LOOP UNITS FROM THE CONTROLLER:

INTERSECTION	809- ADVANCE RADAR DETECTION	ADVANCE RADAR APPROACH	809- STOP LINE RADAR DETECTION	STOP LINE RADAR APPROACH
MAH SR 45 & US 224	4	NB, SB, EB, WB	2	NB, SB
MAH SR 45 & CR-18	2	EB, WB	2	NB, SB (SR 45)

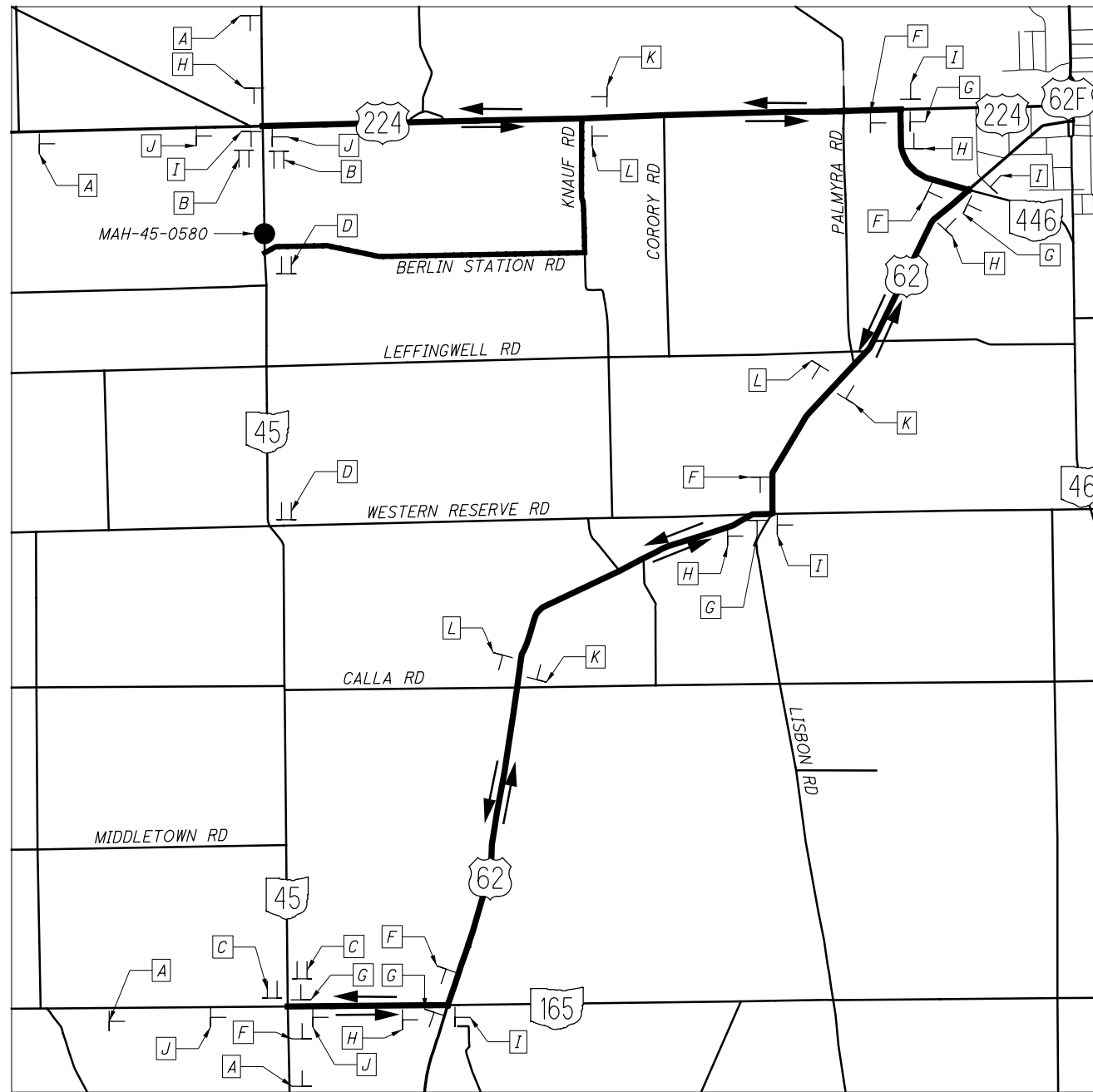
633 CONTROLLER ITEM, MISC.: CONTROLLER MODIFICATION LS

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MAINTENANCE OF TRAFFIC GENERAL NOTES

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DETOUR ROUTE FOR MAH-45-0580

- DETOUR ROUTE:** SR 165 / US 62 / SR 446 / US 224
- CLOSED AS PER SCD MT-101.60**
- LOCAL DETOUR ROUTE:** BERLIN STATION RD / KNAUF RD / US 224



REFER TO THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, FIGURE 6H-8 (TYPICAL APPLICATION 8), FOR SIGN SPACING.

ON TYPE III BARRICADE WITH TYPE B FLASHERS MOUNTED PER SCD MT-101.60

A W20-2-36

B # R11-3A-60
 M4-10L-48

C # R11-3A-60
 M4-10R-48

D # R11-3A-60

F M4-8-24
 MI-5-24-2
 M5-1-21

G M4-8-24
 MI-5-24-2
 M6-1-21

H M4-8-24
 MI-5-24-2
 M5-1-21

I M4-8-24
 MI-5-24-2
 M6-1-21

J M4-8-24
 MI-5-24-2
 M6-3-21

K M4-8-24
 M3-1-24
 MI-5-24-2

L M4-8-24
 M3-3-24
 MI-5-24-2

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MAINTENANCE OF TRAFFIC DETOUR PLAN (MAH-45-0580)

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SHEET NUM.											PART.			ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
5	6	9	13	14	15	20	21	01/STR/P V	02/S<2/P V	06/SAE/O T									
ROADWAY																			
34								30	4	3,259	203	10000	3,293	CY	EXCAVATION				
404								370	34		209	60200	404	STA	LINEAR GRADING				
			1,234					1,130	104		209	72000	1,234	STA	PREPARING SUBGRADE FOR SHOULDER PAVING				
											41,893	60655010	41,893	FT	CABLE BARRIER WITH CONCRETE LINE POST FOUNDATION	6			
											42	60655150	42	EACH	CABLE BARRIER, ANCHOR ASSEMBLY	6			
	18							17	1		623	39501	18	EACH	MONUMENT BOX ADJUSTED TO GRADE, AS PER PLAN	6			
EROSION CONTROL																			
22,445								20,556	1,889		659	10000	22,445	SY	SEEDING AND MULCHING				
3.02								2.77	0.25		659	20000	3.02	TON	COMMERCIAL FERTILIZER				
4.64								4.25	0.39		659	31000	4.64	ACRE	LIME				
122								111	11		659	35000	122	MGAL	WATER				
								3,000			832	30000	3,000	EACH	EROSION CONTROL				
DRAINAGE																			
	2							2			611	99655	2	EACH	MANHOLE ADJUSTED TO GRADE, AS PER PLAN	6			
PAVEMENT																			
9,470								8,650	820		251	01000	9,470	SY	PARTIAL DEPTH PAVEMENT REPAIR (441)				
200								180	20		253	01000	200	SY	PAVEMENT REPAIR				
			107,454	716				91,542	16,628		254	01000	108,170	SY	PAVEMENT PLANING, ASPHALT CONCRETE (T=1")				
			48,940	250				49,190			254	01000	49,190	SY	PAVEMENT PLANING, ASPHALT CONCRETE (T=2")				
1,100								1,000	100		255	20000	1,100	FT	FULL DEPTH PAVEMENT SAWING				
										1,630	301	46000	1,630	CY	ASPHALT CONCRETE BASE, PG64-22				
34								30	4		304	20000	34	CY	AGGREGATE BASE				
										1,630	304	20000	1,630	CY	AGGREGATE BASE(T= 3")				
			19,968	43				18,546	1,465		407	20000	20,011	GAL	NON-TRACKING TACK COAT				
			10,917					9,987	930	3,910	408	10001	14,827	GAL	PRIME COAT, AS PER PLAN	5			
			1,140	14				1,154			424	12001	1,154	CY	FINE GRADED POLYMER ASPHALT CONCRETE, TYPE B, AS PER PLAN	5			
			5,431	87				4,940	578		441	10101	5,518	CY	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (446), AS PER PLAN, (PG70-22M)	6			
			2,380	44				2,424			441	10200	2,424	CY	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (446)				
				77				68	9		441	50400	77	CY	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), (DRIVEWAYS)				
			1,517		544			1,387	130	544	617	10101	2,061	CY	COMPACTED AGGREGATE, AS PER PLAN	6			
	9							9			618	43000	9	MILE	CENTER LINE, RUMBLE STRIPE (ASPHALT CONCRETE)				
			10,117					9,071	1,046		875	10000	10,117	LB	LONGITUDINAL JOINT ADHESIVE				
			1,561					1,561			897	01010	1,561	SY	PAVEMENT PLANING, ASPHALT CONCRETE, CLASS A (T=1 1/4")				
			31,270	487				31,757			897	01010	31,757	SY	PAVEMENT PLANING, ASPHALT CONCRETE, CLASS A (T=1")				
TRAFFIC CONTROL																			
							905	905			621	00100	905	EACH	RPM				
							724	724			621	54000	724	EACH	RAISED PAVEMENT MARKER REMOVED				
								129	129		644	00500	129	FT	STOP LINE				
								2	2		644	01300	2	EACH	LANE ARROW				
								23.54	21.56	1.98	648	00104	23.54	MILE	EDGE LINE, 6"				
								11.77	10.78	0.99	648	00300	11.77	MILE	CENTER LINE				
								85	85		648	00400	85	FT	CHANNELIZING LINE, 8"				
TRAFFIC SIGNALS																			
		LS						LS			633	99300	LS		CONTROLLER ITEM, MISC.: CONTROLLER MODIFICATION	9			
		6						6			809	69000	6	EACH	ADVANCE RADAR DETECTION				
		4						4			809	69100	4	EACH	STOP LINE RADAR DETECTION				
STRUCTURE REPAIRS																			
															FOR MAH-45-0263 ESTIMATED QUANTITIES	24			
															FOR MAH-45-0383 ESTIMATED QUANTITIES	24			
															FOR MAH-45-0580 ESTIMATED QUANTITIES	24			
															FOR MAH-45-0847 ESTIMATED QUANTITIES	24			
															FOR MAH-45-0895 ESTIMATED QUANTITIES	24			
															FOR MAH-45-1279 ESTIMATED QUANTITIES	24			
															FOR MAH-45-1289 ESTIMATED QUANTITIES	25			
															FOR MAH-45-1317 ESTIMATED QUANTITIES	25			
															FOR MAH-76-0762L ESTIMATED QUANTITIES	24			
															FOR MAH-76-0762R ESTIMATED QUANTITIES	24			

GENERAL SUMMARY

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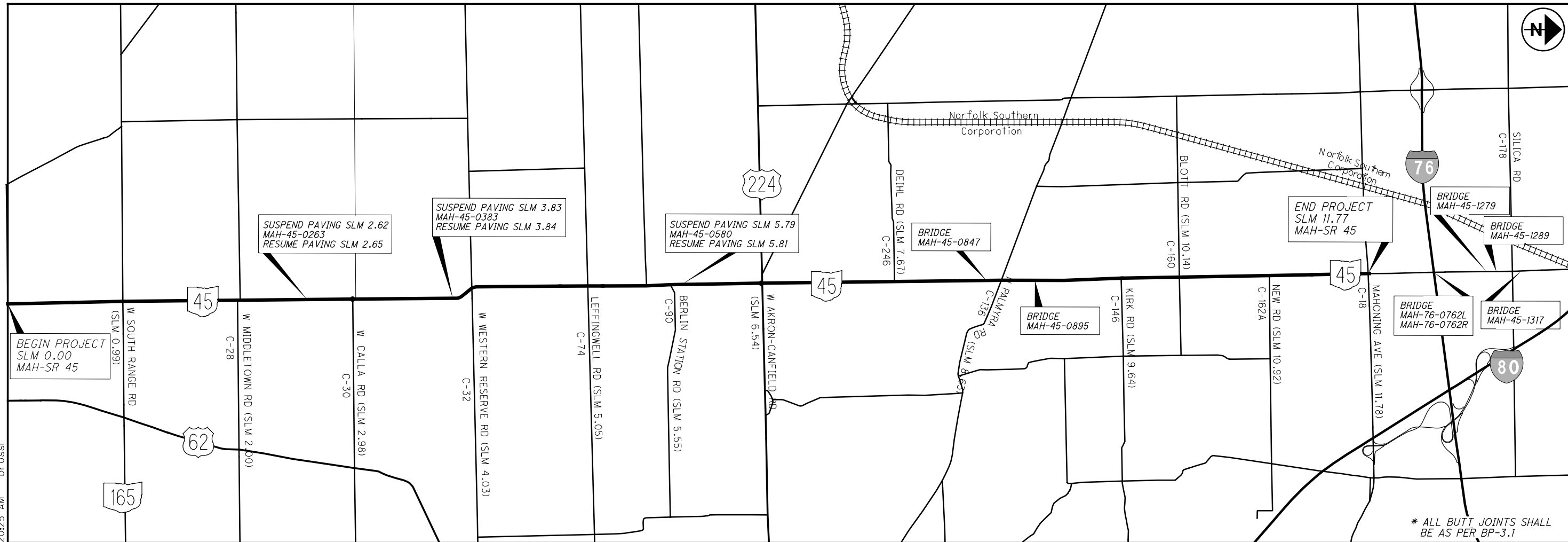
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SHEET NUM.										PART.			ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.	CALCULATED BFR	CHECKED MAC
						7	8			01/STR/P V	02/S<2/P V	06/SAE/O T								
							300					100	614	11110	300	hour	MAINTENANCE OF TRAFFIC			
						LS							614	12420	LS		LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE			
						50							614	12460	50	EACH	DETOUR SIGNING			
						10							614	13000	10	CY	WORK ZONE MARKING SIGN			
							12						614	18601	12	SNMT	ASPHALT CONCRETE FOR MAINTAINING TRAFFIC			
																	PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN			8
						11.77							614	21000	11.77	MILE	WORK ZONE CENTER LINE, CLASS I			
						3.11							614	21100	3.11	MILE	WORK ZONE CENTER LINE, CLASS I, 642 PAINT			
						11.77							614	21550	11.77	MILE	WORK ZONE CENTER LINE, CLASS III, 642 PAINT			
						23.54							614	22360	23.54	MILE	WORK ZONE EDGE LINE, CLASS III, 6", 642 PAINT			
						85							614	23000	85	FT	WORK ZONE CHANNELIZING LINE, CLASS I, 8"			
						85							614	23680	85	FT	WORK ZONE CHANNELIZING LINE, CLASS III, 8", 642 PAINT			
						129							614	26000	129	FT	WORK ZONE STOP LINE, CLASS I			
						24							614	26200	24	FT	WORK ZONE STOP LINE, CLASS I, 642 PAINT			
						129							614	26610	129	FT	WORK ZONE STOP LINE, CLASS III, 642 PAINT			
																	INCIDENTALS			
													619	16010	6	MNTH	FIELD OFFICE, TYPE B			
													624	10000	LS		MOBILIZATION			
													614	11000	LS		MAINTAINING TRAFFIC			
													623	10000	LS		CONSTRUCTION LAYOUT STAKES AND SURVEYING			

GENERAL SUMMARY

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SLM RANGE		TYPICAL SECTION	SIDE	DISTANCE (D) (FT)	AVERAGE WIDTH (W) (FT)	SURFACE AREA (A) A=DxW/9 (SY)	CADD GENERATED AREA (SY)	209 PREPARING SUBGRADE FOR SHOULDER PAVING (STA)	254 PAVEMENT PLANING, ASPHALT CONCRETE (T=1") (SY)	254 PAVEMENT PLANING, ASPHALT CONCRETE (T=2") (SY)	407 NON-TRACKING TACK COAT @ 0.09 GAL/SY (GAL)	407 NON-TRACKING TACK COAT @ 0.06 GAL/SY (GAL)	408 PRIME COAT, AS PER PLAN @ 0.40 GAL/SY (GAL)	424 FINE GRADED POLYMER ASPHALT CONCRETE, TYPE B, AS PER PLAN (T=1 1/4") (CY)	441 ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (446), AS PER PLAN, (PG70-22M), (T=1 1/4") (CY)	441 ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (446) (T=1 3/4") (CY)	617 COMPACTED AGGREGATE, AS PER PLAN (T = 2") (CY)	897 PAVEMENT PLANING, ASPHALT CONCRETE, CLASS A (T=1") (SY)	897 PAVEMENT PLANING, ASPHALT CONCRETE, CLASS A (T=1 1/4") (SY)	875 LONGITUDINAL JOINT ADHESIVE (LB)					
SR-45																									
0.00	TO	0.99	1	5227.20	28	16262.40		104.00	16262.40		1463.62		929.28		564.67		129.07				1045.44				
0.99	TO	2.62	1	8606.40	28	26775.47		172.00	26775.47		2409.79		1530.03		929.70		212.50				1721.28				
2.65	TO	3.80	1	6072.00	28	18890.67		122.00	18890.67		1700.16		1079.47		655.93		149.93				1214.40				
3.80	TO	3.83	1	158.40	32	563.20		4.00	563.20		50.69		28.16		19.56		3.91				31.68				
3.84	TO	3.95	1	580.80	32	2065.07		12.00	2065.07		185.86		103.25		71.70		14.34				116.16				
3.95	TO	4.80	1	4488.00	28	13962.67		90.00	13962.67		1256.64		797.87		484.81		110.81				897.60				
4.80	TO	5.16	1	1900.80	32	6758.40		38.00	6758.40		608.26		337.92		234.67		46.93				380.16				
5.16	TO	5.79	1	3326.40	28	10348.80		66.00	10348.80		931.39		591.36		359.33		82.13				665.28				
5.82	TO	6.54	1	3801.60	28	11827.20		76.00	11827.20		1064.45		675.84		410.67		93.87				760.32				
6.54	TO	6.62	2	422.40	28	1314.13		8.00		1314.13	118.27	78.85	75.09		45.63	63.88	10.43				84.48				
6.62	TO	8.32	2	8976.00	26	25930.67		180.00		25930.67	2333.76	1555.84	1595.73		900.37	1260.52	221.63				1795.20				
8.32	TO	8.61	2	1531.20	32	5444.27		30.00		5444.27	489.98	326.66	272.21		189.04	264.65	37.81				306.24				
8.61	TO	9.05	2	2323.20	26	6711.47		46.00		6711.47	604.03	402.69	413.01		233.04	326.25	57.36				464.64				
9.05	TO	9.38	2	1742.40	28	5420.80		34.00		5420.80	487.87	325.25	309.76		188.22	263.51	43.02				348.48				
9.38	TO	9.65	2	1425.60	26	4118.40		28.00		4118.40	370.66	247.10	253.44		143.00	200.20	35.20				285.12				
9.65	TO	11.70	3	10824.00	26	31269.33		216.00		31269.33	2814.24	247.10	1924.27		1085.74		267.26	31269.33							
11.70	TO	11.77	4	369.60	38	1560.53		8.00		1560.53	140.45		54.19						1560.53						
SUBTOTALS								0.00	1234.00	107453.87	48939.73	17030.11	2936.38	10916.69	1139.93	5430.33	2379.01	1516.21	31269.33	1560.53	10116.48	0.00	0.00	0.00	0.00
TOTALS CARRIED TO GENERAL SUMMARY								0	1234	107454	48940	17031	2937	10917	1140	5431	2380	1517	31270	1561	10117	0	0	0	0

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PAVEMENT CALCULATIONS

**MAH-76 / VAR -
1.30 / VAR**

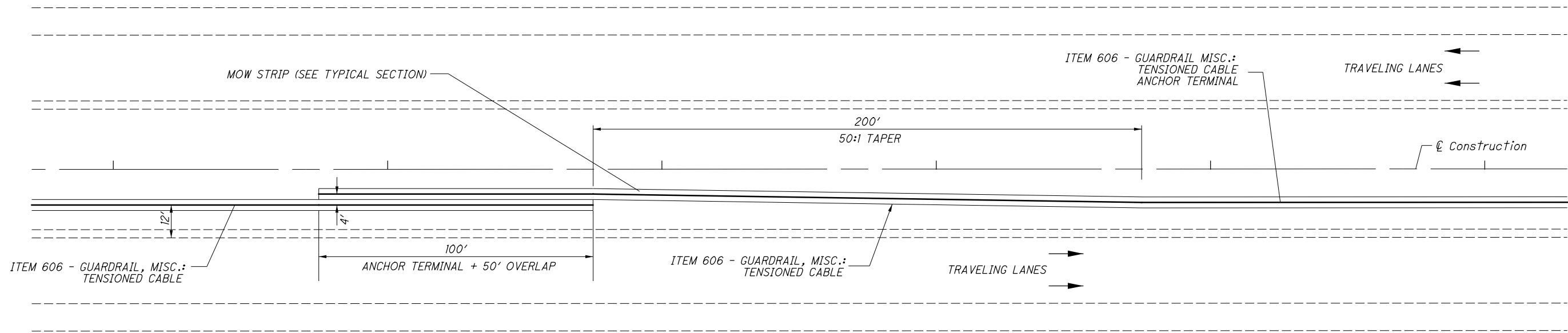
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COUNTY- ROUTE	SIDE AT MEDIAN	SLM TO SLM		203 EXCAVATION (T=6") CY	301 ASPHALT CONCRETE BASE, PG64-22(T=3") CY	304 AGGREGATE BASE(T= 3") CY	SPECIAL CABLE BARRIER WITH CONCRETE LINE POST FOUNDATION FT	SPECIAL CABLE BARRIER, ANCHOR ASSEMBLY EACH	617 COMPACTED AGGREGATE, AS PER PLAN (T= 2") CY	408 PRIME COAT, AS PER PLAN @ 0.4 GAL/SY GAL	NOTES
MAH-76	LT	1.35	TO 1.45	42.08	19.56	19.56	468	2	6.52	46.93	THE STATIONING ALONG I-76 IS FROM WEST TO EAST. THE "LEFT" AND "RIGHT" SIDE LOCATIONS ARE BASED UPON LOOKING UPSTATION
MAH-76	LT	1.47	TO 1.97	195.56	97.78	97.78	2540	2	32.6	234.67	
MAH-76	LT	1.95	TO 2.18	98.45	44.98	44.98	1229	2	15	107.95	
MAH-76	LT	2.20	TO 2.67	185.78	91.92	91.92	2408	2	30.64	220.59	
MAH-76	LT	2.65	TO 3.22	218.52	111.47	111.47	2850	2	37.16	267.52	
MAH-76	LT	3.20	TO 3.53	125.04	64.54	64.54	1588	2	21.52	154.88	
MAH-76	LT	3.54	TO 4.06	200.3	101.69	101.69	2604	2	33.9	244.05	
MAH-76	LT	4.04	TO 4.58	214	105.6	105.6	2789	2	35.2	253.44	
MAH-76	LT	4.56	TO 5.10	215.56	105.6	105.6	2810	2	35.2	253.44	
MAH-76	LT	5.08	TO 5.34	102.89	50.85	50.85	1289	2	16.95	122.02667	
MAH-76	LT	5.35	TO 5.90	214.3	107.56	107.56	2793	2	35.86	258.13333	
MAH-76	LT	5.88	TO 6.44	216	109.52	109.52	2816	2	36.51	262.82667	
MAH-76	LT	6.42	TO 6.78	138.75	70.41	70.41	1773	2	23.47	168.96	
MAH-76	LT	6.79	TO 7.02	92.38	44.98	44.98	1147	2	15	107.94667	
MAH-76	LT	7.10	TO 7.62	203.49	101.69	101.69	2647	2	33.9	244.05333	
MAH-76	LT	7.68	TO 8.18	192.89	97.78	97.78	2504	2	32.6	234.66667	
MAH-76	LT	8.19	TO 8.75	219.34	109.52	109.52	2861	2	36.51	262.82667	
MAH-80	LT	0.08	TO 0.64	219.34	109.52	109.52	2861	2	36.51	262.82667	
MAH-80	LT	0.66	TO 0.75	38	17.6	17.6	413	2	5.87	42.24	
MAH-80	LT	0.81	TO 0.87	20.38	11.74	11.74	175	2	3.92	28.16	
MAH-80	LT	0.92	TO 1.20	105.78	54.76	54.76	1328	2	18.26	131.41333	
TOTALS CARRIED TO GENERAL SUMMARY				3259	1630	1630	41893	42	544	3910	

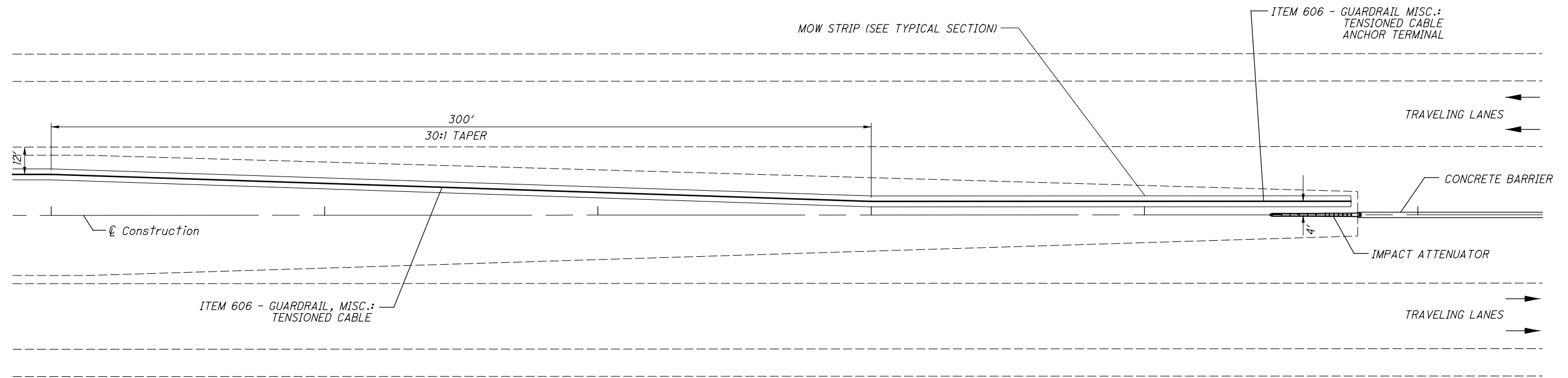
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NOTE:
NO TAPER NECESSARY IF ALTERNATING SIDES OF \varnothing .

OVERLAPPING ANCHOR ASSEMBLY DETAIL



BEGIN/END AT CONCRETE BARRIER DETAIL

NOTES:
(1) IF IMPACT ATTENUATOR PRESENT, TAPER BEHIND IF POSSIBLE.
(2) PLACE ANCHOR TERMINAL AS CLOSE TO CONCRETE BARRIER AS POSSIBLE.

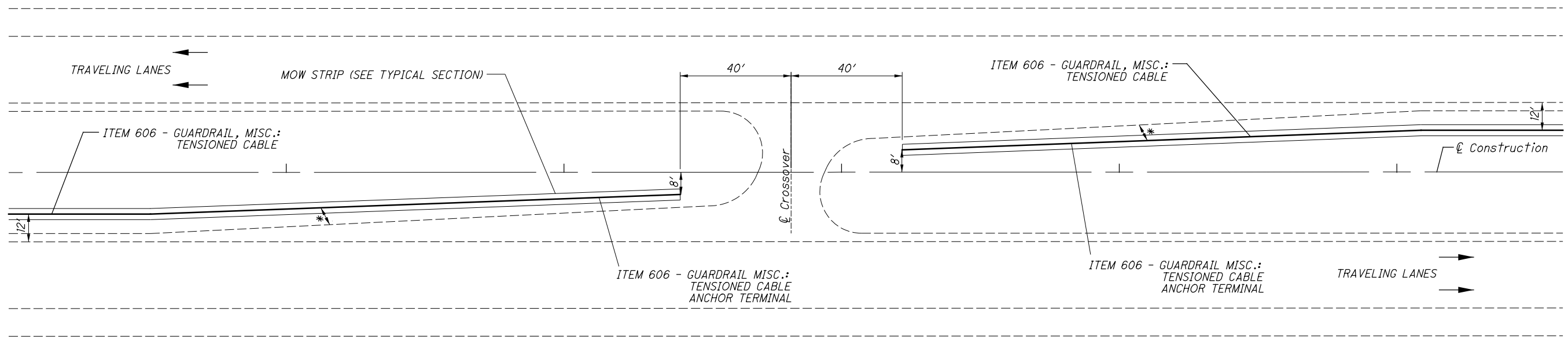
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HORIZONTAL SCALE IN FEET

TENSIONED CABLE GUARDRAIL DETAILS

MAH-76 / VAR-1.30 / VAR

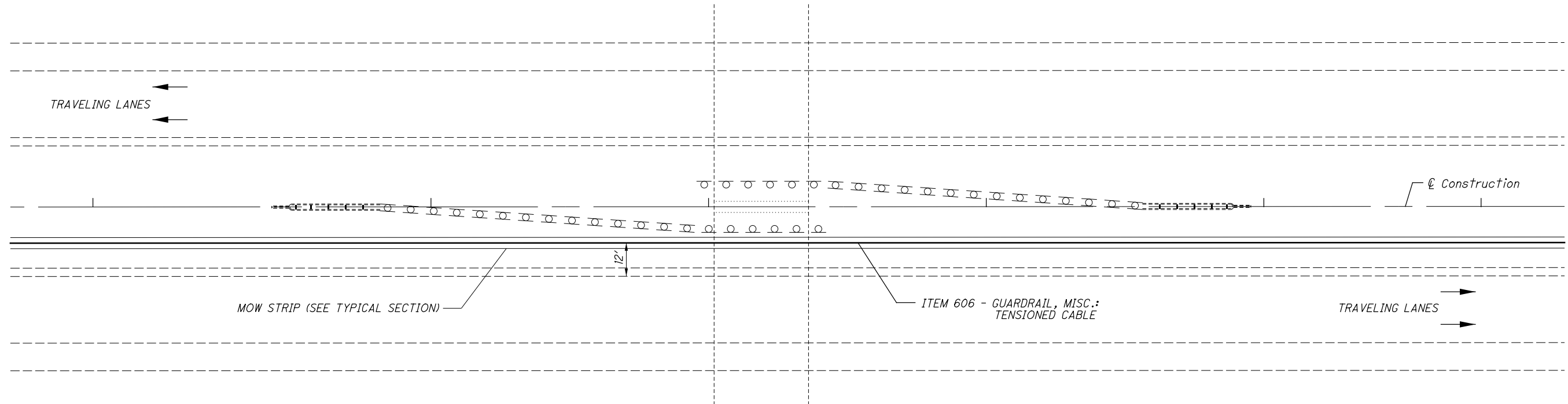
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* MAINTAIN SHOULDER OFFSET ALONG PAVEMENT TAPER AT CROSS-OVERS. SEE TYPICAL SECTIONS FOR SHOULDER OFFSET.

CROSS-OVER DETAIL

REFER TO FIGURE 602-3a IN THE ODOT L&D MANUAL, VOL. I



BY-PASS EXISTING PIER GUARDRAIL UNLESS 12' OFFSET CANNOT BE MET, THEN TREAT AS FLARED GUARDRAIL.

BRIDGE PIER DETAIL

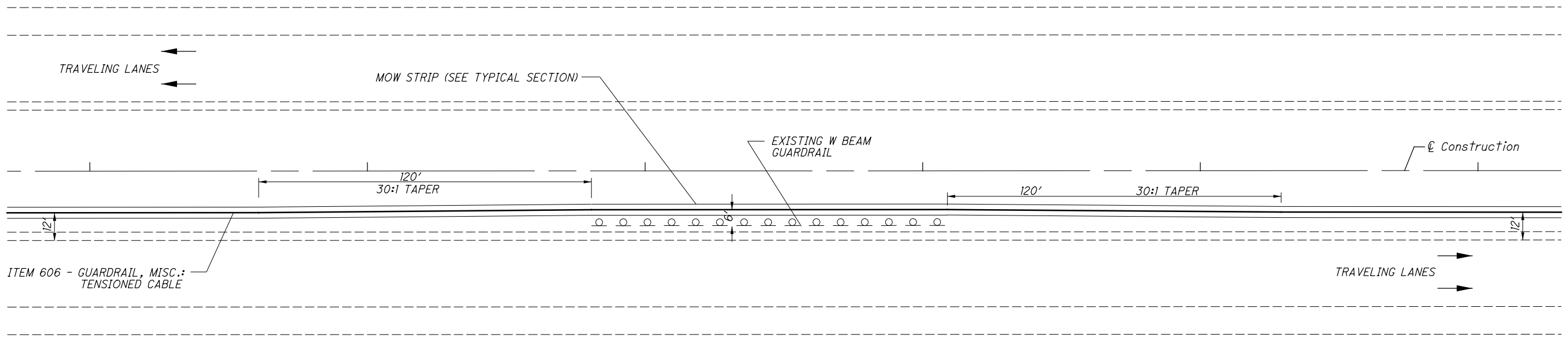
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HORIZONTAL SCALE IN FEET

TENSIONED CABLE GUARDRAIL DETAILS

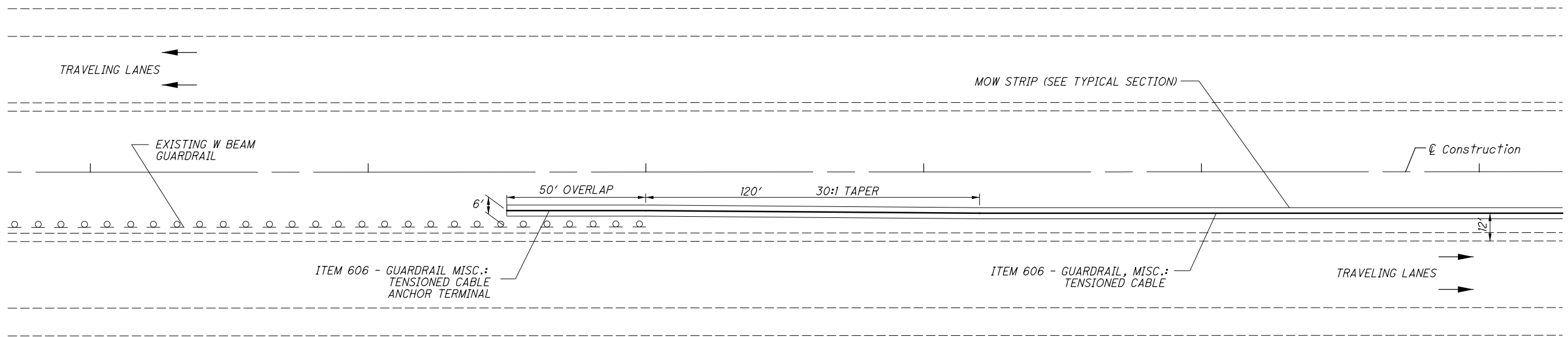
MAH-76 / VAR-1.30 / VAR

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TAPER AROUND GUARDRAIL DETAIL

NOTE:
NO TAPER NECESSARY IF 6' CLEARANCE BEHIND EXISTING GUARDRAIL IS AVAILABLE.



BEGIN/END AT GUARDRAIL DETAIL

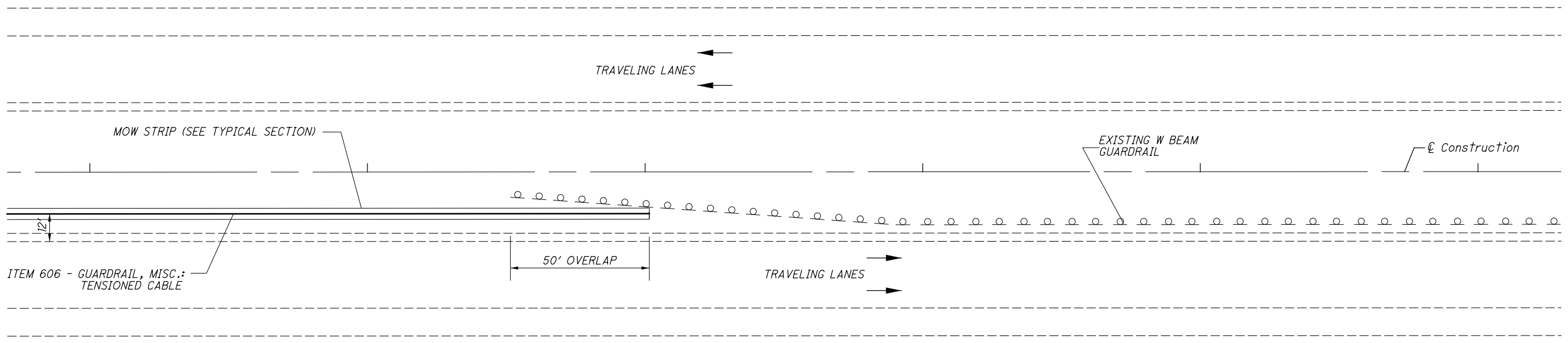
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HORIZONTAL SCALE IN FEET

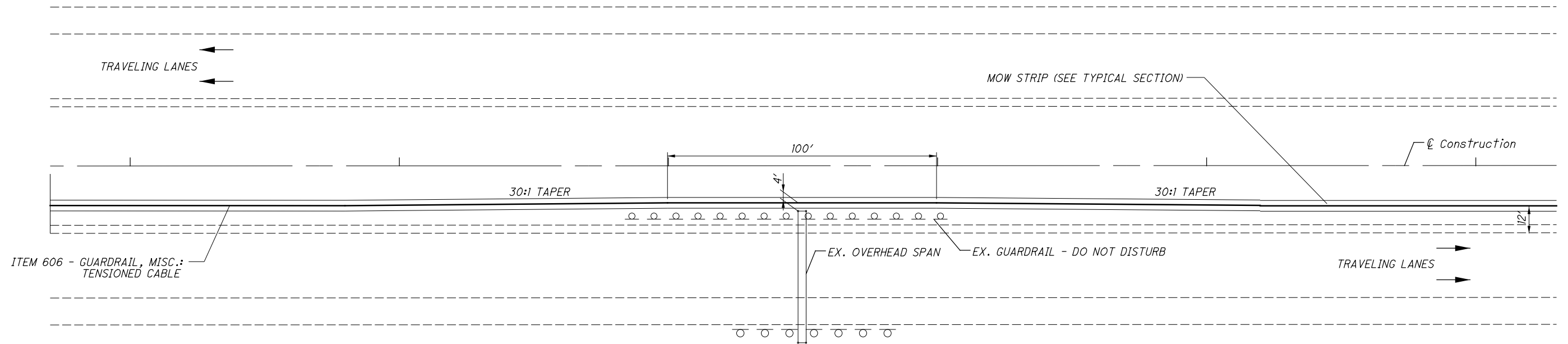
TENSIONED CABLE GUARDRAIL DETAILS

MAH-76 / VAR-1.30 / VAR

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AT FLARED END GUARDRAIL



TAPER AROUND OVERHEAD SIGN

NOTE:
NO TAPER NECESSARY IF 6' CLEARANCE BEHIND EXISTING
GUARDRAIL IS AVAILABLE.

CALCULATED	0
AJS	0
CHECKED	0
MAC	0

HORIZONTAL SCALE IN FEET

TENSIONED CABLE GUARDRAIL DETAILS

MAH-76 / VAR-1.30 / VAR

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COUNTY	ROUTE	SECTION (S.L.M.)		621	621	621	621	621	REMARKS	
		FROM	TO							RPM (YELLOW/YELLOW)
MAH	SR 45	0.00	3.77	249					200	COLUMBIANA COUNTY LINE TO BEFORE CURVE
MAH	SR 45	3.77	4.15	65					52	10° OR GREATER CURVES
MAH	SR 45	4.15	11.77	503					403	AFTER CURVE TO MAHONING AVE
MAH	SR 45					32			26	INTERSECTION WITH SR 165
MAH	SR 45					32			26	INTERSECTION WITH US 224
MAH	SR 45			5	3	16			17	INTERSECTION WITH MAHONING AVE
TOTALS CARRIED TO GENERAL SUMMARY				822	3	80			724	

CALCULATED BFR	CHECKED MAC	RAISED PAVEMENT MARKING SUBSUMMARY
		20 32

EDGE LINE												GENERAL SPEC:	640	CALCULATED			
												MATERIAL TYPE:	648	BFR			
CTY	ROUTE	TRUE LOG	FROM		TRUE LOG	TO			WHITE EDGE LINE, 6"			YELLOW EDGE LINE, 6"			COMMENTS		
						TOTAL	HIGHWAY	RAMP	TOTAL	HIGHWAY	RAMP						
MAH	SR 45	0.00	COLUMBIANA COUNTY LINE		0.99	SR 165			1.98								
MAH	SR 45	0.99	SR 165		11.77	MAHONING AVE			21.56								
TOTAL								23.54			0						

LANE LINE												
CTY	ROUTE	TRUE LOG	FROM		TRUE LOG	TO			TOTAL MILES	6" LANE LINE		COMMENTS
						DASHED	SOLID					
TOTAL												

CENTER LINE														
CTY	ROUTE	TRUE LOG	FROM		TRUE LOG	TO			TOTAL MILES	EQUIVALENT SOLID LINE		COMMENTS		
MAH	SR 45	0.00	COLUMBIANA COUNTY LINE		0.99	SR 165			0.99		1.49			
MAH	SR 45	0.99	SR 165		11.77	MAHONING AVE			10.78		10.34			
TOTAL								11.77		11.83				

AUXILIARY																						
CTY	ROUTE LOCATION	TRUE LOG	CHANNEL LINE, 8" FT	CHANNEL LINE, 12" FT	STOP LINE FT	CROSS WALK LINES FT	TRANSVERSE DIAGONAL LINES		ISLAND MARKING SF	SYMBOL MARKINGS				LANE ARROWS				REDUCT. ARROW EACH	WORD ON PVMT ONLY		DOTTED LINES, 6" FT	COMMENTS
							WHITE FT	YELLOW FT		RxR EACH	SCHOOL		TURN LEFT EACH	TURN RIGHT EACH	THRU EACH	COMB. EACH	72" EACH		96" EACH			
											72"	96"										
MAH	SR 45 @ SR 165	0.990			85																STOP LINE - ALL APPROACHES	
MAH	SR 45 @ US 224	6.540			24																	
MAH	SR 45 @ MAHONING AVE	11.770	85		20								2									
TOTAL			85		129								2									

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PAVEMENT MARKING SUBSUMMARY

**MAH-76 / VAR -
1.30 / VAR**

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STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWING(S):
AS-1-15 DATED (REVISED) 7/17/2015
DBR-3-11 DATED (REVISED) 7/15/2011
DS-1-92 DATED (REVISED) 7/18/2003

AND TO THE FOLLOWING SUPPLEMENTAL SPECIFICATION(S):
848 DATED 1/20/2017
856 DATED 10/20/2017

DESIGN SPECIFICATIONS

DESIGN SPECIFICATIONS: THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 17TH EDITION, INCLUDING THE 2002 INTERIM SPECIFICATIONS AND THE ODOT BRIDGE DESIGN MANUAL.

EXISTING STRUCTURE VERIFICATION

EXISTING STRUCTURE VERIFICATION: DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURE HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURE AND FROM FIELD OBSERVATIONS AND MEASUREMENTS. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING STRUCTURE AND THE PROPOSED WORK BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO CMS SECTIONS 102.05, 105.02 AND 513.04.

BASE CONTRACT BID PRICES UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PREBID EXAMINATION OF THE EXISTING STRUCTURE. HOWEVER, THE DEPARTMENT WILL PAY FOR ALL PROJECT WORK BASED UPON ACTUAL DETAILS AND DIMENSIONS WHICH HAVE BEEN VERIFIED IN THE FIELD.

PROPOSED WORK:

MAH-45-0263 (OVER LITTLE BEAVER CREEK)
-SEAL EXISTING WEARING SURFACE WITH GRAVITY-FED RESIN CONCRETE TREATMENT
-REPAIR EROSION THAT HAS DEVELOPED AT ALL FOUR CORNERS OF THE STRUCTURE
-CLEARING AND GRUBBING 15' AROUND STRUCTURE TO REMOVE ALL VEGETATION
-PROVIDE NEW CORRECT STRUCTURE IDENTIFICATION SIGNS

MAH-45-0383 (OVER MEANDER CREEK)
-PATCH ALL UNSOUND AREAS OF THE EXISTING DECK AND APPROACH SLABS
-SEAL EXISTING WEARING SURFACE WITH GRAVITY-FED RESIN CONCRETE TREATMENT
-REPAIR DAMAGED DRIP STRIP
-CLEARING AND GRUBBING 15' AROUND STRUCTURE TO REMOVE ALL VEGETATION
-PROVIDE NEW CORRECT STRUCTURE IDENTIFICATION SIGNS

MAH-45-0580 (OVER WEST BRANCH MEANDER CREEK)
-REMOVE AND REPLACE THE EXISTING CONCRETE WEARING SURFACE
-PATCH ALL UNSOUND AREAS OF CONCRETE SUBSTRUCTURE
-SEAL ABUTMENTS, DECK EDGES, WINGWALLS AND PATCHED CONCRETE SURFACES WITH EPOXY URETHANE SEALER
-REPAIR EROSION THAT HAS DEVELOPED AT THE REAR WING WALLS
-CLEARING AND GRUBBING 15' AROUND STRUCTURE TO REMOVE ALL VEGETATION
-PROVIDE NEW CORRECT STRUCTURE IDENTIFICATION SIGNS
-RETROFIT RAILING TO CORRECT HEIGHT

MAH-45-0847 (OVER TRIBUTARY MEANDER CREEK)
-REPAIR EROSION THAT HAS DEVELOPED AT THE REAR LEFT HEADWALL
-REPAIR SCOUR THAT HAS DEVELOPED AT OUTLET END OF STRUCTURE
-CLEARING AND GRUBBING 15' AROUND STRUCTURE TO REMOVE ALL VEGETATION
-PROVIDE NEW CORRECT STRUCTURE IDENTIFICATION SIGNS

MAH-45-0895 (OVER TRIBUTARY MEANDER CREEK)
-REPAIR EROSION THAT HAS DEVELOPED AT THE WINGWALLS
-REPAIR SCOUR AT THE INLET OF THE STRUCTURE
-CHANNEL CLEANOUT
-CLEARING AND GRUBBING 15' AROUND STRUCTURE TO REMOVE ALL VEGETATION
-PROVIDE NEW CORRECT STRUCTURE IDENTIFICATION SIGNS

MAH-76-0762L (OVER MAH-45-12.30)
-PATCH ALL UNSOUND AREAS OF THE EXISTING DECK AND APPROACH SLABS.
-SEAL EXISTING WEARING SURFACE WITH GRAVITY-FED RESIN CONCRETE TREATMENT
-PATCH ALL UNSOUND AREAS OF THE CONCRETE SUBSTRUCTURE AND PARAPETS
-SEAL PARAPETS, ABUTMENTS, WING WALLS, PIERS AND PATCHED CONCRETE SURFACES WITH EPOXY URETHANE SEALER
-CLEARING AND GRUBBING 15' AROUND STRUCTURE TO REMOVE ALL VEGETATION
-PROVIDE NEW CORRECT STRUCTURE IDENTIFICATION SIGNS

MAH-76-0762R (OVER MAH-45-12.33)
-PATCH ALL UNSOUND AREAS OF THE EXISTING DECK AND APPROACH SLABS.
-SEAL EXISTING WEARING SURFACE AND APPROACH SLABS WITH GRAVITY-FED RESIN CONCRETE TREATMENT
-PATCH ALL UNSOUND AREAS OF THE CONCRETE SUBSTRUCTURE
-SEAL PARAPETS, ABUTMENTS, WING WALLS, PIERS AND PATCHED CONCRETE SURFACES WITH EPOXY URETHANE SEALER
-REPAIR APPROACH GUARDRAIL AT THE FORWARD LEFT
-CLEARING AND GRUBBING 15' AROUND STRUCTURE TO REMOVE ALL VEGETATION
-PROVIDE NEW CORRECT STRUCTURE IDENTIFICATION SIGNS

MAH-45-1279 (OVER NORTH JACKSON DITCH)
-PATCH ALL UNSOUND AREAS OF THE CONCRETE SUBSTRUCTURE
-SEAL ABUTMENTS, DECK EDGES, WINGWALLS AND PATCHED CONCRETE SURFACES WITH EPOXY URETHANE SEALER
-REPAIR EROSION AT THE REAR RIGHT WINGWALL
-REPAIR SCOUR AT FORWARD ABUTMENT
-CHANNEL CLEANOUT
-CLEARING AND GRUBBING 15' AROUND STRUCTURE TO REMOVE ALL VEGETATION
-PROVIDE NEW CORRECT STRUCTURE IDENTIFICATION SIGNS

MAH-45-1289 (OVER MORRISON RUN)
-PATCH ALL UNSOUND AREAS OF THE CONCRETE SUBSTRUCTURE
-SEAL ABUTMENTS, DECK EDGES, WINGWALLS AND PATCHED CONCRETE SURFACES WITH EPOXY URETHANE SEALER
-REPAIR SCOUR AT REAR LEFT
-CHANNEL CLEANOUT
-REPAIR APPROACH GUARDRAIL AT THE REAR RIGHT
-CLEARING AND GRUBBING 15' AROUND STRUCTURE TO REMOVE ALL VEGETATION
-PROVIDE NEW CORRECT STRUCTURE IDENTIFICATION SIGNS

MAH-45-1317 (OVER TRIBUTARY MORRISON RUN)
-CLEARING AND GRUBBING 15' AROUND STRUCTURE TO REMOVE ALL VEGETATION
-PROVIDE NEW CORRECT STRUCTURE IDENTIFICATION SIGNS

CLEARING AND GRUBBING

ALTHOUGH THERE ARE NO TREES OR STUMPS SPECIFICALLY MARKED FOR REMOVAL WITHIN THE LIMITS OF THE PROJECT, A LUMP SUM QUANTITY IS INCLUDED IN THE GENERAL SUMMARY FOR ITEM 201, CLEARING AND GRUBBING. ALL PROVISIONS AS SET FORTH IN THE SPECIFICATIONS UNDER THIS ITEM ARE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 201, CLEARING AND GRUBBING.

EROSION AND SCOUR REPAIR

MAH-45-0263 (REPAIR EROSION AT ALL FOUR CORNERS)
ITEM 203, BORROW, 5 CU YD
ITEM 601, DUMPED ROCK FILL, TYPE C, 5 CU YD

MAH-45-0580 (REPAIR EROSION AROUND REAR WING WALLS)
ITEM 203, BORROW, 5 CU YD
ITEM 601, DUMPED ROCK FILL, TYPE C, 5 CU YD

MAH-45-0847 (REPAIR EROSION AROUND HEADWALL AT REAR LEFT AND REPAIR SCOUR AT OUTLET END OF STRUCTURE)
ITEM 203, BORROW, 2 CU YD
ITEM 601, DUMPED ROCK FILL, TYPE C, 4 CU YD
ITEM 601, ROCK CHANNEL PROTECTION, TYPE B, 5 CU YD

MAH-45-0895 (REPAIR EROSION AROUND WING WALLS AND REPAIR SCOUR AT REAR LEFT)
ITEM 203, BORROW, 5 CU YD
ITEM 601, DUMPED ROCK FILL, TYPE C, 5 CU YD
ITEM 601, ROCK CHANNEL PROTECTION, TYPE B, 10 CU YD

MAH-45-1279 (REPAIR EROSION AT REAR RIGHT WING WALL AND REPAIR THE SCOUR AT FORWARD ABUTMENT)
ITEM 203, BORROW, 4 CU YD
ITEM 601, DUMP ROCK FILL, TYPE C, 4 CU YD
ITEM 601, ROCK CHANNEL PROTECTION, TYPE B, 5 CU YD

MAH-45-1289 (REPAIR SCOUR AT REAR LEFT)
ITEM 203, BORROW, 4 CU YD
ITEM 601, ROCK CHANNEL PROTECTION, TYPE B, 4 CU YD

ITEM 202 - REMOVAL MISC.: CHANNEL CLEANOUT

THIS WORK WILL CONSIST OF RE-ESTABLISHING THE ORIGINAL CHANNEL PROFILE BY REMOVING SEDIMENT BUILDUP, VEGETATION, AND DEBRIS FROM THE EXISTING CHANNEL WITHIN STATE RIGHT-OF-WAY LIMITS AS SPECIFIED IN THE PLANS FOR STRUCTURES MAH-45-0895, MAH-45-1279, MAH-45-1289. ANY TREES LOCATED WITHIN CHANNEL OR BANK LIMITS WILL BE INCLUDED UNDER ITEM 201, CLEARING AND GRUBBING. ALL MATERIALS REMOVED SHALL BE DISPOSED OF IN ACCORDANCE WITH 105.16 AND 105.17 OF THE CMS WITH THE APPROVAL OF THE ENGINEER. NO AREAS OF EXISTING CHANNEL PROTECTION SHALL BE REMOVED IN ORDER TO RESTORE THE ORIGINAL CHANNEL PROFILE. AFFECTED CHANNEL AREAS SHALL BE CLEANED OUT TO THE SATISFACTION OF THE ENGINEER.

CHANNEL CLEANOUT WILL BE PAID FOR AT THE UNIT PRICE BID FOR ITEM 202 REMOVAL MISC.: CHANNEL CLEANOUT. THIS PRICE WILL INCLUDE THE COST FOR LABOR, EQUIPMENT, AND ALL INCIDENTALS REQUIRED TO COMPLETE THE CHANNEL CLEANOUT.

ITEM 202 - WEARING COURSE REMOVED, AS PER PLAN

REMOVE ALL OF THE ASPHALT CONCRETE ON STRUCTURE(S) MAH-45-1279 AND MAH-45-1289. THICKNESS VARIES WITH A MINIMUM THICKNESS OF 3". MILLING OR OTHER MECHANICAL METHOD OF ASPHALTDECK REMOVAL MAY BE PERFORMED TO WITHIN 1/2"± OF THE TOPOF THE ORIGINAL BRIDGE DECK SURFACE. THE LAST 1/2"± OF ASPHALT CONCRETE TO BE REMOVED AND THE WATERPROOFING WILL BE REMOVED USING A NONDESTRUCTIVE METHOD SUCH AS HAND SCRAPING. THE CONTRACTOR WILL USE CAUTION IN REMOVING THE REMAINING ASPHALT AND WATERPROOFING TO ENSURE NO DAMAGE OCCURS TO THE ORIGINAL BRIDGE DECK SURFACE. ANY DAMAGE TO THE ORIGINAL DECK SURFACE WILL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.

PAYMENT FOR THIS ITEM WILL INCLUDE ALL LABOR, MATERIALS, EQUIPMENT, AND ANY INCIDENTALS REQUIRED TO PERFORM THIS WORK. PAYMENT WILL BE MADE AT THE UNIT BID PRICE PER SQUARE YARD FOR ITEM 202, WEARING COURSE REMOVED, AS PER PLAN.

ITEM 519 - PATCHING CONCRETE STRUCTURES, AS PER PLAN

PRIOR TO THE SURFACE CLEANING SPECIFIED IN 519.04 AND WITHIN 24 HOURS OF PLACING PATCHING MATERIAL, BLAST CLEAN ALL SURFACES TO BE PATCHED INCLUDING THE EXPOSED REINFORCING STEEL. ACCEPTABLE METHODS INCLUDE HIGH-PRESSURE WATER BLASTING WITH OR WITHOUT ABRASIVES IN THE WATER, ABRASIVE BLASTING WITH CONTAINMENT, OR VACUUM ABRASIVE BLASTING.

DESIGNED AJS CHECKED MAC	DRAWN AJS REVISED BFR	REVIEWED MAC	DATE 06/28/19	DESIGN AGENCY ODOT --- DISTRICT 4
		STRUCTURE FILE NUMBER	PLANNING AND ENGINEERING	
STRUCTURE GENERAL NOTES				
MAH-45-0263, MAH-45-0383, MAH-45-0680, MAH-45-0847, MAH-45-0895, MAH-76-0762L, MAH-76-0762R, MAH-45-1279, MAH-45-1289, MAH-45-1317				
MAH-76 / VAR - 1:30 / VAR PID No. 94140				
1 / 11				
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CORRECTING BRIDGE IDENTIFICATION SIGN NUMBERS:

SOME OF THE EXISTING BRIDGE NUMBER SIGNS HAVE INCORRECT BRIDGE NUMBERS ON THEM. THE FOLLOWING BRIDGE NUMBERS ARE THE CORRECT ONES AND WILL BE USED ON THE NEW BRIDGE IDENTIFICATION SIGNS.

STRUCTURE MAH-45-0263 (SFN:5001498) THERE IS NO EXISTING SIGN. THE CORRECT BRIDGE IDENTIFICATION NUMBER IS 0263.

STRUCTURE MAH-45-0383 (SFN:5001528) THE EXISTING SIGN SHOWS 0384. THE CORRECT BRIDGE IDENTIFICATION NUMBER IS 0383.

STRUCTURE MAH-45-0847 (SFN:5001552) THE EXISTING SIGN SHOWS 0846. THE CORRECT BRIDGE IDENTIFICATION NUMBER IS 0847.

STRUCTURE MAH-45-0895 (SFN:5001595) THERE IS NO EXISTING SIGN. THE CORRECT BRIDGE IDENTIFICATION NUMBER IS 0895.

STRUCTURE MAH-76-0762L (SFN:5003067) THE EXISTING SIGN SHOWS 0761. THE CORRECT BRIDGE IDENTIFICATION NUMBER IS 0762.

STRUCTURE MAH-76-0762R (SFN:5003091) THE EXISTING SIGN SHOWS 0761. THE CORRECT BRIDGE IDENTIFICATION NUMBER IS 0762.

STRUCTURE MAH-45-1279 (SFN:5001625) THE EXISTING SIGN SHOWS 1280. THE CORRECT BRIDGE IDENTIFICATION NUMBER IS 1279.

STRUCTURE MAH-45-1289 (SFN:5001684) THE EXISTING SIGN SHOWS 1287. THE CORRECT BRIDGE IDENTIFICATION NUMBER IS 1289.

STRUCTURE MAH-45-1317 (SFN:5001714) THE EXISTING SIGN SHOWS 1316. THE CORRECT BRIDGE IDENTIFICATION NUMBER IS 1317.

OBJECT MARKERS AND STRUCTURE/CULVERT IDENTIFICATION SIGNS

OBJECT MARKERS WILL BE PLACED ON EACH APPROACH OFF THE LEFT AND RIGHT SHOULDER, FACING TRAFFIC, AND BEHIND THE GUARDRAIL IF APPLICABLE. ONE OM-3L AND ONE OM-3R WILL BE INSTALLED AT EACH APPROACH. THE SIGNS WILL BE MOUNTED ON NEW NO. 2 POSTS AND SHALL BE INSTALLED AS PER STANDARD CONSTRUCTION DRAWING TC-41.20, MOST CURRENT REVISION. EACH POST WILL BE 10.5 FT IN LENGTH.

STRUCTURE IDENTIFICATION SIGNS (I-H25b) WILL BE INSTALLED ON THE SAME POST AND DIRECTLY BELOW THE OBJECT MARKER OFF THE RIGHT SHOULDER ON EACH APPROACH. A QUANTITY OF ONE SIGN WILL BE INSTALLED AT EACH APPROACH. THE SIGNS WILL HAVE A NON-REFLECTIVE WHITE SHEETING BACKGROUND.

INSTALL SIGNS FOR THE FOLLOWING STRUCTURES:

- MAH-45-0263 (2 APPROACH)
- MAH-45-0383 (2 APPROACH)
- MAH-45-0580 (2 APPROACH)
- MAH-45-0847 (2 APPROACH)
- MAH-45-0895 (2 APPROACH)
- MAH-76-0762L (1 APPROACH)
- MAH-76-0762R (1 APPROACH)
- MAH-45-1279 (2 APPROACH)
- MAH-45-1289 (2 APPROACH)
- MAH-45-1317 (2 APPROACH)

THE FOLLOWING QUANTITIES HAVE BEEN INCLUDED FOR EACH APPROACH:

- ITEM 630 - SIGN, FLAT SHEET, 730.20, 1 SQ FT
- ITEM 630 - SIGN, FLAT SHEET, 6 SQ FT
- ITEM 630 - GROUND MOUNTED SUPPORT, NO. 2 POST, 21 FT
- ITEM 630 - REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL, 3 EACH
- ITEM 630 - REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL, 2 EACH

- ITEM 848 - MICRO-SILICA MODIFIED CONCRETE OVERLAY USING HYDRODEMOLITION, AS PER PLAN**
- ITEM 848 - SURFACE PREPARATION USING HYDRODEMOLITION, AS PER PLAN**
- ITEM 848 - MICRO-SILICA MODIFIED CONCRETE OVERLAY (VARIABLE THICKNESS), MATERIAL ONLY, AS PER PLAN**
- ITEM 848 - FULL DEPTH REPAIR, AS PER PLAN**
- ITEM 848 - WEARING COURSE REMOVED, ASPHALT, AS PER PLAN**

THESE ITEMS SHALL BE PERFORMED PER SUPPLEMENTAL SPECIFICATION "BRIDGE DECK REPAIR AND OVERLAY WITH CONCRETE USING HYDRO DEMOLITION" WITH THE FOLLOWING REVISIONS:

THE THICKNESS OF THE CONCRETE OVERLAY REMOVED, ASPHALT WEARING COURSE REMOVED, PROPOSED OVERLAY, AND THE DEPTH OF HYDRODEMOLITION SHALL BE AS SPECIFIED IN THE PLANS.

CONSTRUCTION JOINTS WILL NOT BE PERMITTED IN THE WHEEL LINE.

(SEE 848.12) THE COMPONENTS OF THE MICRO-SILICA MODIFIED CONCRETE SHALL BE PROPORTIONED AS FOLLOWS.

**CONCRETE TABLE
QUANTITIES PER CUBIC YARD
AGGREGATES (SSD)**

AGG TYPE	FINE AGG (LB)	#8 COARSE AGG (LB)	AGG TOTAL (LB)	CEMENT CONTENT (LB)	MICRO SILICA (LB)	WATER TO CEMENT-ITIOUS RATIO	AIR CONTENT +/- 2%	FIBER (1 1/4" POLYPROPYLENE) (LB)
GRAVEL	1410	1430	2840	600	50	0.4	8	1
LIME-STONE	1410	1450	2860	600	50	0.4	8	1
SLAG	1300	1350	2650	600	50	0.4	8	1

* ALL COARSE AGGREGATE SHALL HAVE AN ABSORPTION OF 1.00% OR GREATER AS DEFINED PER ASTM C127
 ** FIBER MESH SHALL BE 100% VIRGIN POLYPROPYLENE IN A FIBRILLATED-NETWORK FORM AND SHALL BE 1 1/4" IN LENGTH.

THE WEIGHTS SPECIFIED IN THE CONCRETE TABLE WERE CALCULATED FOR MATERIALS OF THE FOLLOWING BULK SPECIFIC GRAVITIES (SSD): NATURAL SAND AND GRAVEL 2.62, LIMESTONE SAND 2.68, LIMESTONE 2.65, SLAG 2.30, MICRO-SILICA SOLIDS 2.20, AND PORTLAND CEMENT 3.15. FOR AGGREGATES OF SPECIFIC GRAVITIES DIFFERING MORE THAN PLUS OR MINUS 0.02 FROM THESE, THE WEIGHTS IN THE TABLE WILL BE CORRECTED. FIBER MESH WEIGHTS NOT INCLUDED IN MIX DESIGN.

ALL COARSE AGGREGATE SHALL HAVE AN ABSORPTION OF 1.00% OR GREATER AS DEFINED BY ASTM C127

ALL OTHER REQUIREMENTS OF THE SUPPLEMENTAL SPECIFICATION SHALL REMAIN IN EFFECT.

(SEE 848.21) THE FINAL DECK SOUNDING MAY TAKE PLACE WITHIN 24 HOURS OF A RAIN, AND THE DECK DOES NOT HAVE TO BE COMPLETELY DRY.

(SEE 848.23) FULL DEPTH REPAIR IS NOT REQUIRED IF LESS THAN ONE HALF OF THE DECK ORIGINAL CONCRETE THICKNESS IS SOUND.

(SEE 848.29) THE WET CURE TIME IS REDUCED FROM 72 HOURS TO 24 HOURS OR UNTIL A BEAM BREAK OF 600 PSI IS ACHIEVED, WHICHEVER IS GREATER. AFTER THE 24 HOUR WET CURE, THE FINISHED OVERLAY SURFACE SHALL BE CURED BY SPRAYING A UNIFORM APPLICATION OF CURING MATERIAL OF 705.07, TYPE 1 OR 1D, AS PER CMS 511.14 METHOD (B) MEMBRANE CURING. IF THE CURING COMPOUND CAN NOT BE PLACED WITHIN THE SAME SHORT TERM CLOSURE PERIOD AS THE OVERLAY, THE CONTRACTOR MAY ALLOW TRAFFIC ONTO THE OVERLAY, AND SHALL, AT THE NEXT AVAILABLE SHORT TERM CLOSURE PERIOD, APPLY THE MEMBRANE CURING COMPOUND.

(SEE 848.29) TRAFFIC WILL NOT BE PERMITTED ON THE FINISHED OVERLAY SURFACE UNTIL AFTER THE COMPLETION OF THE 24 HOUR WET CURE, AND AFTER TWO TEST BEAMS HAVE ATTAINED AN AVERAGE MODULUS OF RUPTURE OF 600 PSI (4.2 Mpa).

(SEE 848.30) THE OVERLAY SURFACE EVAPORATION RATE REQUIREMENTS ARE IN EFFECT FROM 9:30 AM TO 11:00 PM. THEY ARE NOT IN EFFECT FROM 11:00 PM TO 11:00 AM.

(SEE 848.31) FOR EACH PHASE, THE CONTRACTOR SHALL PROVIDE ENOUGH MATERIAL FOR TWO BEAM BREAKS EACH AT 12 HOURS, 24 HOURS, 36 HOURS, AND 48 HOURS. THE DEPARTMENT WILL PERFORM THE BEAM BREAK TESTS AND DOCUMENT THE TIME OF THE POUR, THE TIME OF THE BEAM BREAK TESTS, AND THE MODULUS OF RUPTURE FOR EACH BEAM UNTIL THE MODULUS OF RUPTURE OF THE TWO TESTS IS NOT LESS THAN 650 PSI (4.5 Mpa). TRAFFIC IS ALLOWED ON THE OVERLAY AT 600 PSI (4.5 Mpa).

ALL OTHER REQUIREMENTS OF THE SUPPLEMENTAL SPECIFICATION SHALL REMAIN IN EFFECT.

MAH-76 / VAR- 1:30 / VAR PID No. 94140	STRUCTURE GENERAL NOTES MAH-45-0263, MAH-45-0383, MAH-45-0580, MAH-45-0847, MAH-45-0895, MAH-76-0762L, MAH-76-0762R, MAH-45-1279, MAH-45-1289, MAH-45-1317	DESIGNED AJS CHECKED	DRAWN AJS REVISED BFR	REVIEWED XXX DATE 00/00/00 STRUCTURE FILE NUMBER	DESIGN AGENCY ODOT --- DISTRICT 4 PLANNING AND ENGINEERING
2 / 11					
23 32					

CALC: BFR DATE: 5/2/2019
 CHECKED: DATE:

ESTIMATED QUANTITIES

BRIDGE NO. / STRUCTURE FILE NO.								ITEM	EXTENSION	UNIT	DESCRIPTION	SEE SHEET
MAH-45-0263 5001498 04/STR/BR	MAH-45-0383 5001528 04/STR/BR	MAH-45-0580 5001544 04/STR/BR	MAH-45-0847 5001552 05/STR/BR	MAH-45-0895 5001595 04/STR/BR	MAH-76-0762L 5003067 03/IMS/BR	MAH-76-0762R 5003091 03/IMS/BR	MAH-45-1279 5001625 04/STR/BR					
LS	LS	LS	LS	LS	LS	LS	LS	201	11000		CLEARING AND GRUBBING	
												1
				LS			LS	202	98000		REMOVAL MISC.: CHANNEL CLEANOUT	1
5		5	2	5			4	203	40000	CY	BORROW	
680	275	265			988	976	221	512	10100	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	
					990	990		512	73500	SY	TREATING CONCRETE BRIDGE DECKS WITH GRAVITY FED RESIN	
		265			988	976	221	512	74000	SY	REMOVAL OF EXISTING COATINGS FROM CONCRETE SURFACES	
		88						516	10000	FT	PREFORMED ELASTOMERIC COMPRESSION JOINT SEAL	
		113						517	75600	FT	DEEP BEAM BRIDGE RETROFIT RAILING	
	8							SPECIAL	51822300	FT	STEEL DRIP STRIP	
		150			300	300	100	519	11101	SF	PATCHING CONCRETE BRIDGE STRUCTURE, AS PER PLAN	1
	1				6	6		519	12304	SY	PATCHING CONCRETE BRIDGE DECK - TYPE C	
		210						SPECIAL	51822300	FT	STEEL DRIP STRIP	
5		5	4	5			4	601	27000	CY	DUMPED ROCK FILL, TYPE C	
			5	10			5	601	32100	CY	ROCK CHANNEL PROTECTION, TYPE B WITH FILTER	
2	2	2	2	2	1	1	2	630	80100	SF	SIGN, FLAT SHEET, 730.20	
12	12	12	12	12	6	6	12	630	80100	SF	SIGN, FLAT SHEET	
42	42	42	42	42	21	21	42	630	02100	FT	GROUND MOUNTED SUPPORT, NO. 2 POST	
6	6	6	6	6	3	3	6	630	84900	EACH	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	
4	4	4	4	4	2	2	4	630	86002	EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	
		38										
		614						848	10001	SY	MICRO SILICA MODIFIED CONCRETE OVERLAY USING HYDRODEMOLITION, AS PER PLAN (T = 1 1/4")	2
		614						848	20001	SY	SURFACE PREPARATION USING HYDRODEMOLITION, AS PER PLAN	2
		11						848	30001	CY	MICRO SILICA MODIFIED CONCRETE OVERLAY (VARIABLE THICKNESS), MATERIAL ONLY, AS PER PLAN	2
		186						848	50000	SY	HAND CHIPPING	
		LS						848	50100		TEST SLAB	
		1						848	50201	CY	FULL DEPTH REPAIR, AS PER PLAN	2
		99						848	50301	SY	WEARING COURSE REMOVED, ASPHALT, AS PER PLAN	2

STRUCTURE ESTIMATED QUANTITIES

MAH-45-0263, MAH-45-0383, MAH-45-0580, MAH-45-0847, MAH-45-0895,
 MAH-76-0762L, MAH-76-0762R, MAH-45-1279, MAH-45-1289, MAH-45-1317

MAH-76 / VAR - 1:30 / VAR
 PID No. 94140

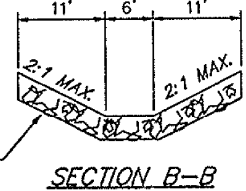
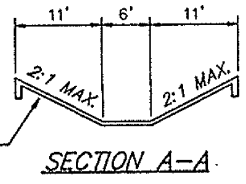
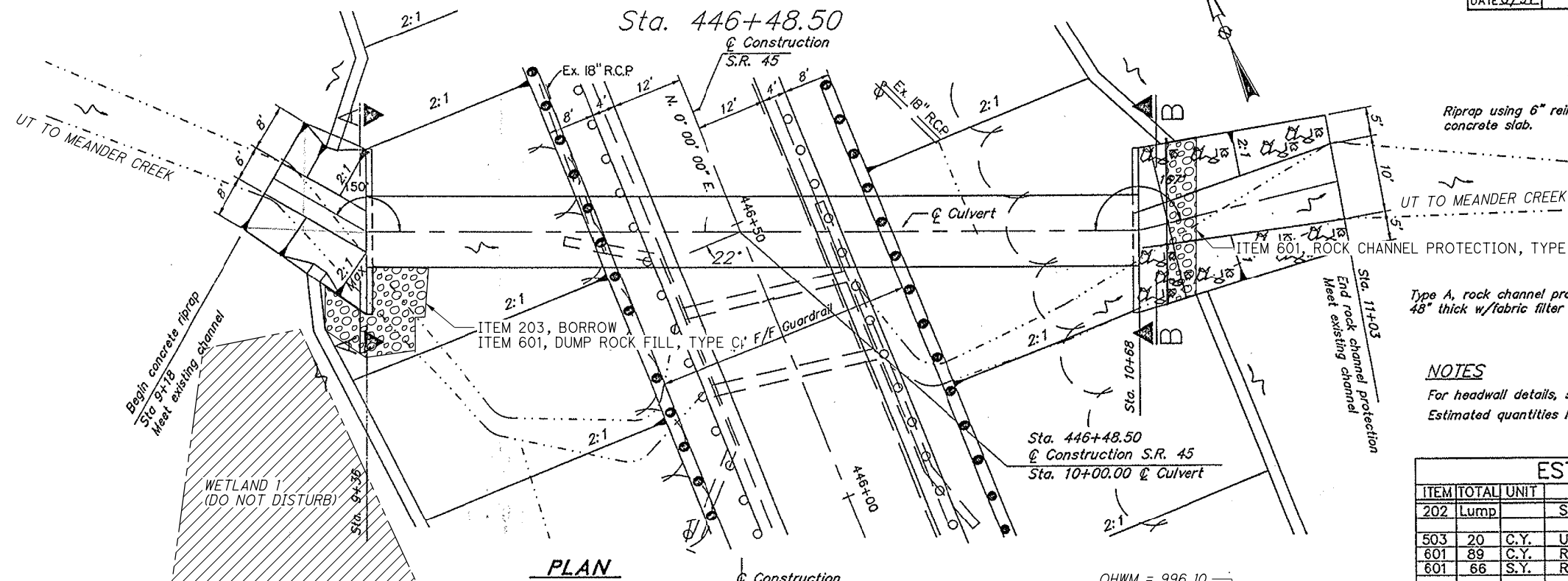
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 DRAWN: BFR REVISED: BFR
 REVIEWED: XXX DATE: 00/00/00
 STRUCTURE FILE NUMBER

DESIGN AGENCY: ODOT --- DISTRICT 4
 PLANNING AND ENGINEERING

3 / 11

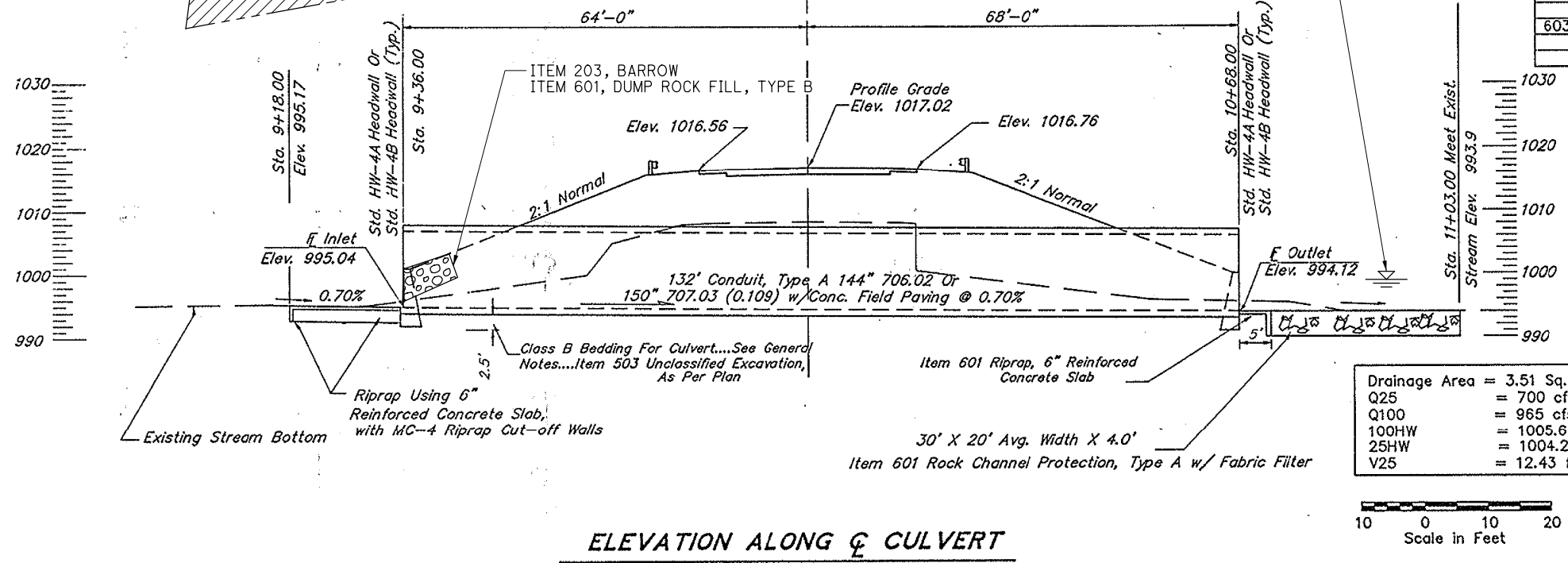
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CALC. BY: W.E.V. DATE: 6/91 CHECKED BY: J.L.G. DATE: 6/91	MAHONING COUNTY OHIO FHWA REGION 5	19 23
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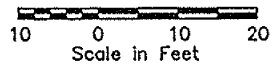
NOTES
 For headwall details, see standard drawing HW-4A or HW-4B
 Estimated quantities have been carried forward to the General Summary

ESTIMATED QUANTITIES			
ITEM	TOTAL	UNIT	DESCRIPTION
202	Lump		Structure Removed
503	20	C.Y.	Unclassified Excavation, As Per Plan, See Sht. 5
601	89	C.Y.	Rock Channel Protection, Type "A" w/Fabric Filter
601	66	S.Y.	Riprap Using 6" Reinforced Concrete Slab
602	26	C.Y.	Concrete Masonry
603	132	LF.	Conduit Type A, 144" 706.02 or 150" 707.03 (0.109) w/Conc. Field Paving



REVIEWED BY BURGESS & NIPLE, LTD.
 J.L.G. 11-11-92

EXISTING STRUCTURE TYPE: Single Span Reinforced Concrete Slab Bridge On Stone Gravity Abutments SPAN: 12'-0" Clear ROADWAY: 27'-0"+/- f/f Guardrail SKEW: 10° LF ALIGNMENT: Tangent WEARING SURFACE: Asphalt STRUCTURE FILE NO. 5001560 DISPOSITION: To Be Removed
PROPOSED STRUCTURE TYPE: 144" Dia. 603 Conduit, Type A, 706.02 Or 150" 707.03 (0.109) w/conc. field pav. LOADING: HS-20-44 and the Alternate Military Load SKEW: 22° LF ALIGNMENT: Tangent APPROACH SLABS: None ROADWAY: 44'-0" f/f Guardrail WEARING SURFACE: Asphalt Concrete



CONDUIT, TYPE A, STA.446+48.50

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DESIGN AGENCY: ODOT --- DISTRICT 4
 PLANNING AND ENGINEERING
 DATE: MM/DD/YY
 REVIEWED: XXX
 STRUCTURE FILE NUMBER: 5001552
 DRAWN: BFR
 REVISIONS: XXX
 DESIGNED: BFR
 CHECKED: XXX
 MAHONING STA. 0+00 STA. 0+00
 SITE PLAN
 BRIDGE NO. MAH-45-0847
 TRIBUTARY MEANDER CREEK
 MAH-76 / VAR-1:30 / VAR PID No. 94140
 8 / 11
 29 / 32

DRAINAGE STRUCTURE C-1

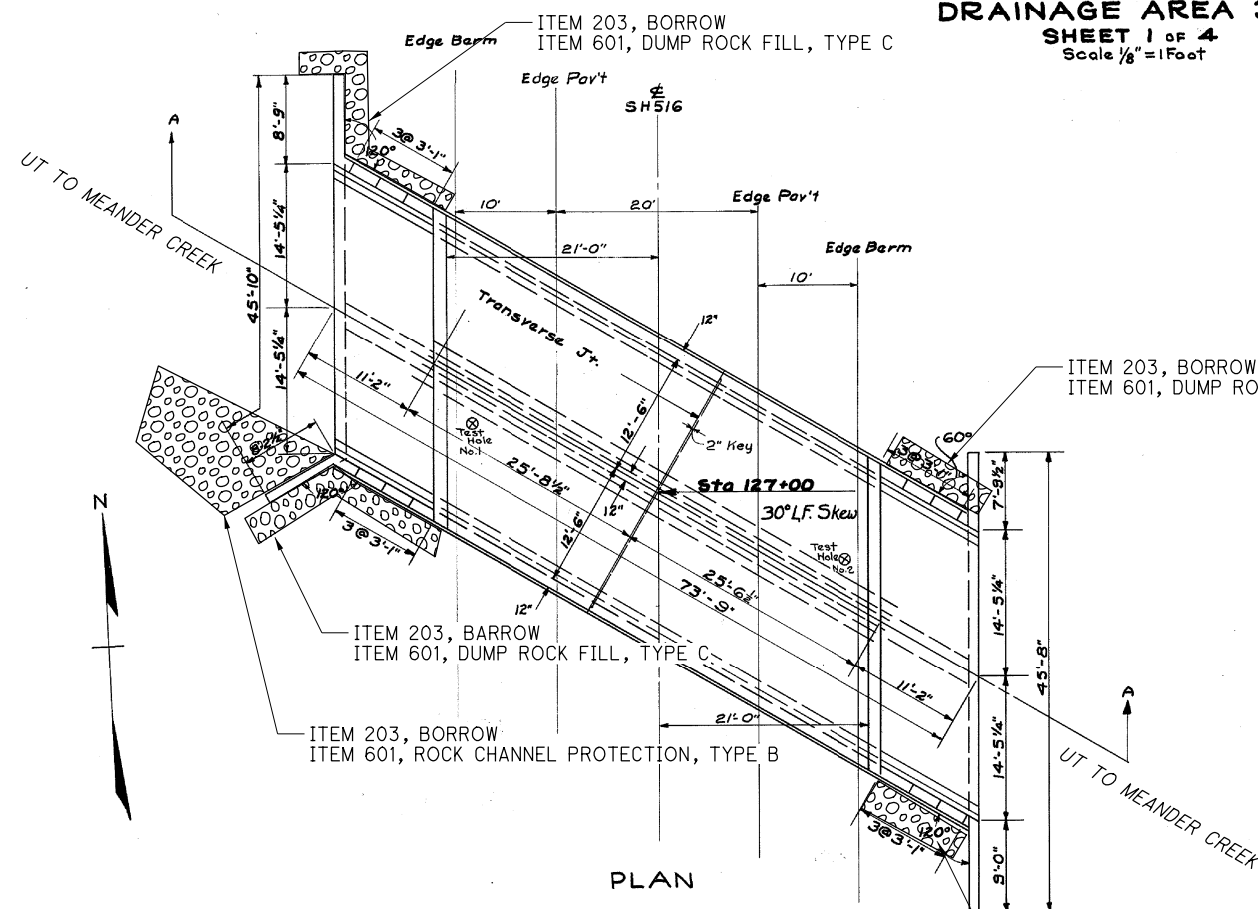
DRAINAGE AREA 3.7 SQ.MILES

SHEET 1 of 4
Scale 1/8" = 1 Foot

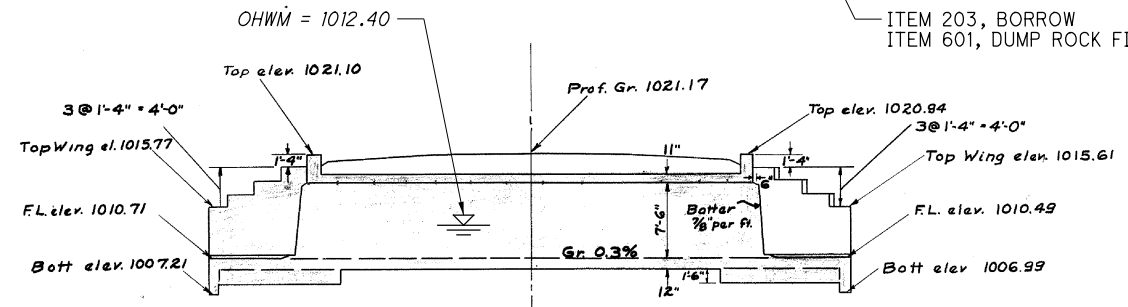
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33

Mahoning County
S.H.516 Sec.A



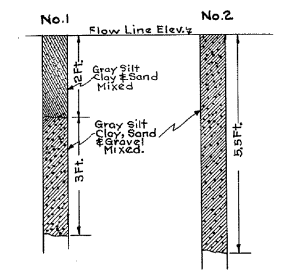
PLAN



SECTION A-A on E

TEST HOLE DATA
Sta. 127+00

20ft. Lt. to approx. 26ft. F. Skew 20ft. Rt. to



Mark	NR	Size	Spacg.	Shape	Length	Weight
A7a	6	1" Ø		Bent	19'-3"	309
A7b	6	1" Ø		"	19'-0"	420
A7c	28	1" Ø		"	19'-0"	1420
A6a	142	7/8" Ø	22 1/2"	Bent	21'-0"	6420
A6b	142	7/8" Ø	22 1/2"	"	21'-0"	6250
B6a	68	7/8" Ø	22 1/2"	Str.	26'-0"	3687
C6a	142	7/8" Ø	22 1/2"	Str.	15'-3"	4430
D4a	142	3/4" Ø	22 1/2"	Bent	8'-9"	1287
D7a	12	1" Ø		Bent	8'-7"	274
E4a	24	3/8" Ø		Str.	32'-3"	808
E4b	8				31'-3"	261
E4c	8				30'-6"	255
E4d	8				29'-6"	246
E4e	8				28'-6"	238
E4f	12				27'-6"	345
E4g	8				26'-6"	221
E4h	8				25'-6"	213
E4i	28				24'-9"	723
E4j	8				24'-0"	200
E4k	8				23'-0"	192
E4l	12				21'-6"	269
E4m	8				20'-6"	171
E4n	8				20'-0"	167
E4o	8				19'-0"	159
E4p	8				18'-0"	150
E4q	28				17'-3"	500
E4r	106				15'-0"	1660
E4s	8			Bent	8'-0"	67
H2a	60	1/2" Ø	12"	Bent	4'-3"	170
H2b	4	1/2" Ø	12"	Str.	29'-9"	79
H2c	58	1/2" Ø	12"	Bent	4'-9"	184
H2d	6	1/2" Ø	12"	Str.	23'-6"	94
H2e	6	1/2" Ø	12"	Bent	24'-0"	96
H2f	35	1/2" Ø	12"	Str.	8'-0"	107
H3a	14	3/4" Ø	8"	Bent	8'-3"	174
H3b	7	3/4" Ø	8"		10'-9"	113
H3c	7	3/4" Ø	8"		8'-9"	92
H3d	7	3/4" Ø	8"		10'-3"	108
H3e	21	3/4" Ø	8"		8'-0"	253
W6a	28	7/8" Ø		Str.	6'-9"	387
W6b	24	7/8" Ø			5'-6"	270
W6c	8	7/8" Ø			8'-3"	132
	75	3/4" Ø	12"	Str.	3'-0"	338
RE7a	2	1" Ø		Str.	10'-6"	53
RE7b	6	7/8" Ø			9'-6"	117
RE7c	2	3/4" Ø			9'-0"	27
RE7d	2	3/8" Ø			8'-6"	18
RE7e	2	1/2" Ø			8'-0"	11
Total 33,920						

CULVERT DATA

TYPE: Double-barrelled Conc. Box Culvert
SIZE: 2 @ 12'x7'-6" x 73'-9" @ 30° L.F. Skew
LOADING: S-15-40

WORK REQ'D.: Build Double-barrelled Conc. Box Culvert.
Excavate channel as shown on Channel Section Sheet. Remove extg. structure. Place riprap as shown.

ESTIMATED QUANTITIES

CHG. ORG. NO.	REV. AS-BLT.	REV. AS-BLT.
		204.0 Cu.Yd
		33,920 Lbs.
		120 Sq.Yds.
C.O.1 +15		90 Lbs.
		30 Sq.Yds.
		120 Cu.Yds.
C.O.3 -1288		1380 Cu.Yd
		1 Lump.
C.O.1 +34		34 Sq.Yd.

DRAWN CHECKED

Revised As Built E.C.M. 12-22-42.

DRAINAGE STRUCTURE C-1

DESIGN AGENCY
ODOT --- DISTRICT 4
PLANNING AND ENGINEERING

DATE
MM/DD/YY
XXX
STRUCTURE FILE NUMBER
5001595

MAHONING
STA. 0+00
STA. 0+00

SITE PLAN
BRIDGE NO. MAH-45-0895
TRIBUTARY MEANDER CREEK

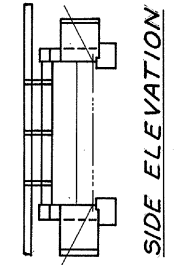
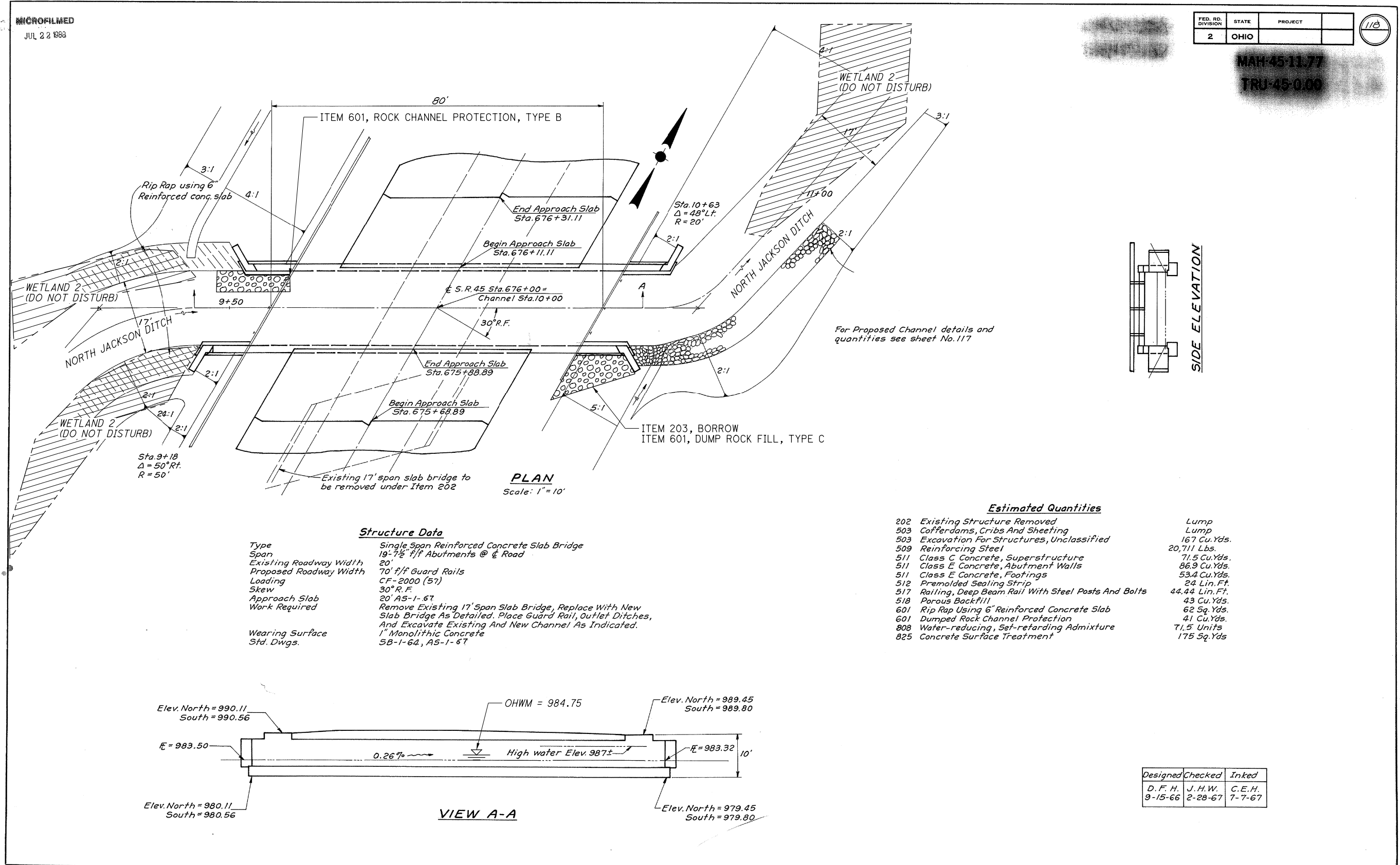
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1:30/ VAR
PID No. 94140

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FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

MAH-45-11.77
TRU-45-0.00



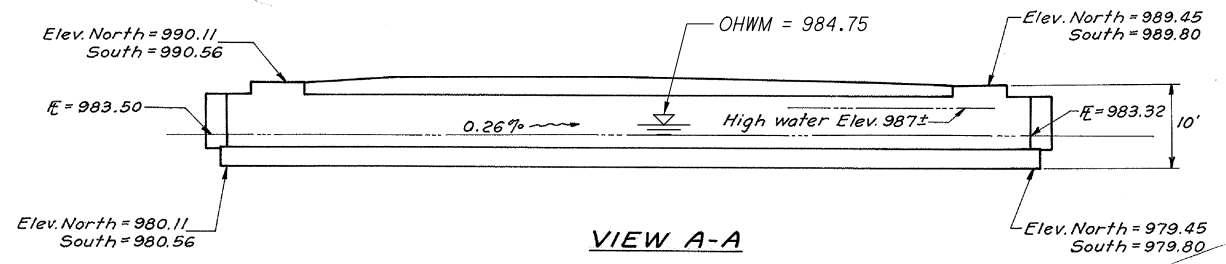
PLAN
Scale: 1" = 10'

Structure Data

Type	Single Span Reinforced Concrete Slab Bridge
Span	19'-7 1/2' f/f Abutments @ & Road
Existing Roadway Width	20'
Proposed Roadway Width	70' f/f Guard Rails
Loading	CF-2000 (57)
Skew	30° R.F.
Approach Slab	20' AS-1-67
Work Required	Remove Existing 17' Span Slab Bridge, Replace With New Slab Bridge As Detailed. Place Guard Rail, Outlet Ditches, And Excavate Existing And New Channel As Indicated.
Wearing Surface	1" Monolithic Concrete
Std. Dwgs.	58-1-64, AS-1-67

Estimated Quantities

202 Existing Structure Removed	Lump
503 Cofferdams, Cribbs And Sheeting	Lump
503 Excavation For Structures, Unclassified	167 Cu. Yds.
509 Reinforcing Steel	20,711 Lbs.
511 Class C Concrete, Superstructure	71.5 Cu. Yds.
511 Class E Concrete, Abutment Walls	86.9 Cu. Yds.
511 Class E Concrete, Footings	53.4 Cu. Yds.
512 Premolded Sealing Strip	24 Lin. Ft.
517 Railing, Deep Beam Rail With Steel Posts And Bolts	44.44 Lin. Ft.
518 Porous Backfill	43 Cu. Yds.
601 Rip Rap Using 6" Reinforced Concrete Slab	62 Sq. Yds.
808 Water-reducing, Set-retarding Admixture	71.5 Units
825 Concrete Surface Treatment	175 Sq. Yds.



VIEW A-A

Designed	Checked	Inked
D. F. H. 9-15-66	J. H. W. 2-28-67	C. E. H. 7-7-67

SLAB BRIDGE STA. 676 + 00

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DESIGN AGENCY
ODOT --- DISTRICT 4
PLANNING AND ENGINEERING

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STRUCTURE FILE NUMBER
5001625

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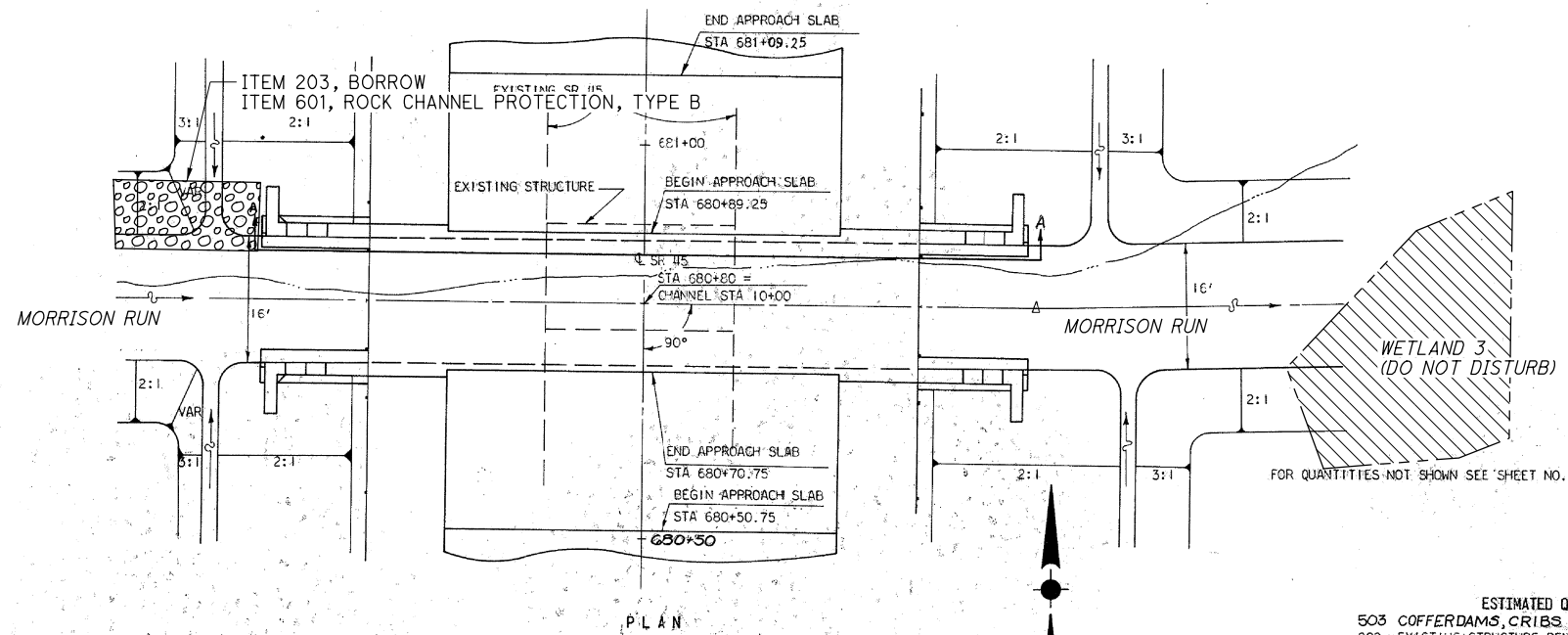
SITE PLAN
BRIDGE NO. MAH-45-1279
NORTH JACKSON DITCH

MAH-76 / VAR-
1-30 / VAR
PID No. 94140

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FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

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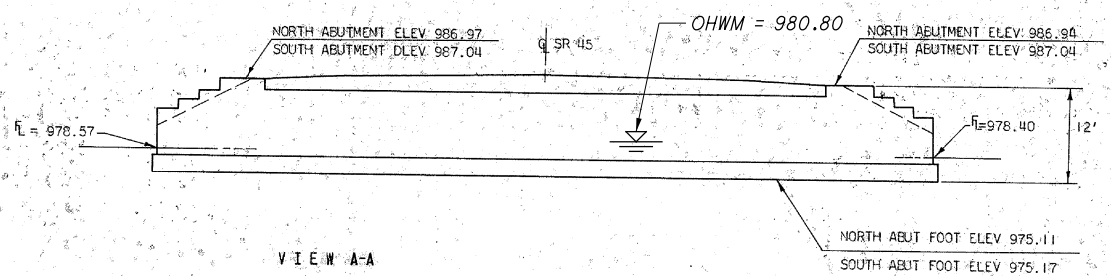


STRUCTURE DATA

TYPE: SINGLE SPAN REINFORCED CONCRETE SLAB BRIDGE
 SPAN: 15'-0" F/F ABUTMENTS
 EXISTING ROADWAY WIDTH: 24"
 PROPOSED ROADWAY WIDTH: 70" F/F GUARD RAILS
 LOADING: CF-2000(57)
 SKEW: 0°-00"
 APPROACH SLAB: 20', AS-1-67
 WORK REQUIRED: REMOVE EXISTING SLAB BRIDGE. REPLACE WITH NEW SLAB BRIDGE AS DETAILED. PLACE GUARD RAIL, OUTLET DITCHES, AND EXCAVATE CHANNEL AS INDICATED.
 WEARING SURFACE: 1" MONOLITHIC CONCRETE
 STD. DRWS: SB-1-64, AS-1-67

ESTIMATED QUANTITIES

503 COFFERDAMS, CRIBS AND SHEETING	LUMP
202 EXISTING STRUCTURE REMOVED	LUMP
503 EXCAVATION FOR STRUCTURES, UNCLASSIFIED	121 CU YDS
509 REINFORCING STEEL	13,954 LBS
511 CLASS C CONCRETE, SUPERSTRUCTURE	54.7 CU YDS
511 CLASS E CONCRETE, ABUTMENT WALLS	96.3 CU YDS
511 CLASS E CONCRETE, FOOTINGS	61.0 CU YDS
512 PREFOLDED SEALING STRIP	33 LIN FT
517 RAILING, DEEP BEAM RAIL WITH STEEL POSTS AND BOLTS	37 LIN FT
518 POROUS BACKFILL	73 CU YDS
808 WATER-REDUCING, SET-RETARDING ADMIXTURE	54.7 UNITS
825 CONCRETE SURFACE TREATMENT	14.4 SQ YDS



Designed	Checked	Inked
D.F.H.	J.H.W.	J.S.C.
9-27-66	3-8-67	5-16-67

SLAB BRIDGE STA. 680+80

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DESIGN AGENCY: ODOT --- DISTRICT 4
 PLANNING AND ENGINEERING

DATE: MM/DD/YY
 REVIEWED: XXX
 STRUCTURE FILE NUMBER: 5001684

DESIGNED: BFR
 CHECKED: XXX

DRAWN: BFR
 REVISED: XXX

MAHONING
 STA. 0+00
 STA. 0+00

SITE PLAN
 BRIDGE NO. MAH-45-1289
 MORRISON RUN

MAH-76 / VAR-
 1-30 / VAR
 PID No. 94140

11 / 11

32 / 32

SPECIAL PROVISIONS

WATERWAY PERMITS CONDITIONS

C-R-S: MAH-76-VAR

PID: 94140

Date: 07/11/19

1. Waterway Permits Time Restrictions:

A Nationwide Permit #3 (Maintenance) (NWP #3) is authorized for MAH-76-VAR, PID 94140. A copy of the NWP shall be kept at the work site at all times and made available to all contractors and subcontractors. The permit is effective starting: July 11, 2019. The permit expires: March 18, 2022.

For authorized work in aquatic resources (including streams, wetlands, jurisdictional ditches, captured streams, lakes, ponds), the Department will consider the Contractor's submission of a reauthorization to the waterway permit expiration date based on project constraints. If more than one permit is authorized for the project, then all permits become invalid once the first permit expires. In order for the request to be considered, the Contractor must submit a justification to the Engineer at least 90 days prior to the waterway permit expiration date. The Engineer will submit the request for a time extension to the Ohio Department of Transportation, Office of Environmental Services, Waterway Permits Unit (ODOT-OES-WPU) for consideration and coordination with the U.S. Army Corps of Engineers (USACE), Ohio Environmental Protection Agency (OEPA), U.S. Coast Guard (USCG), U.S. Fish and Wildlife Service (USFWS), and Ohio Department of Natural Resources (ODNR) as appropriate.

2. Deviations From Permitted Construction Activities

No deviation from the requirements for work in aquatic resources depicted in the plans, Special Provisions, and/or Working Drawings may be made unless a modification has been submitted to ODOT-OES-WPU and approved by the appropriate agencies (i.e., USACE, OEPA, USCG, ODNR, and USFWS).

For emergency situations resulting in unanticipated impacts to aquatic resources, provide notification (verbal or written) to the Engineer as soon as possible following discovery of the situation. Written notification to the Engineer and notification to the ODOT-OES-WPU (614-466-7100) must be made within 24 hours.

For non-emergency situations, notify the Engineer in writing for submission to the ODOT-OES-WPU (614-466-7100) for consideration and coordination with the appropriate agencies. Notification must be made at least 90 days prior to planned, non-permitted activities. Consideration of the requested deviation is at the discretion of the Director and must be coordinated with the appropriate regulatory agencies.

3. In-Stream Work Restrictions

Work in the following aquatic resources is further restricted as follows:

Stream Name /Description	County, Route, Section	Location	Work restriction dates (No in-stream work permitted)
UNT to Meander Creek	MAH-45-8.47	STA 9+36	None
UNT to Meander Creek	MAH-45-8.95	STA N/A	None
North Jackson Ditch	MAH-45-12.79	STA 10+63	None
Morrison Run	MAH-45-12.89	STA N/A	None

UNT = unnamed tributary stream

In-stream work has been defined as the placement and/or removal of fill materials (temporary or permanent) below ordinary high water of a stream. Examples of "fill" include, but are not limited to: bridge piers, abutments, culverts, rock channel protection, scour protection, and temporary access fills.

Fills placed within a stream identified in the above table (outside of the work restriction dates) can continue to be worked from during the work restriction dates, but cannot be expanded, removed, or otherwise modified (below ordinary high water) until once again outside of the work restriction dates.

4. Materials:

Materials utilized in or adjacent to aquatic resources for permanent fill or bank protection shall consist of suitable material free from toxic contaminants in other than trace quantities. Broken asphalt is specifically excluded. Chromated Copper Arsenate (CCA), creosote, and other pressure treated lumber shall not be used in structures that are placed in aquatic resources.

5. Cultural Resources

Per CMS 107.10, if archeological sites, historical sites, or human remains are discovered, cease all work in the immediate area and notify the Engineer who will immediately contact the ODOT-District Environmental Coordinator and ODOT-OES-Cultural Resource Section at 614-466-7100. In the event of human remains are identified by OES-Cultural Resources Section, the Engineer shall also contact the Mahoning County Sheriff's Office at (330) 480-5020.

6. Aquatic Resource Demarcation:

All aquatic resources indicated on the plans shall be demarcated in the field as per SS 832 prior to site disturbance. The remainder of the aquatic resources must be demarcated as to ensure avoidance. The fence shall remain in place and be maintained throughout the construction process. Following the completion of the project, the fence and posts shall be removed.

Resource ID	County, Route, Section	Impact Location	Permanent Impact Amount	Temporary Impact Amount
UNT to Meander Creek	MAH-45-8.47	STA 9+36	15 feet (0.003 acre)	0
UNT to Meander Creek	MAH-45-8.95	STA N/A	20 feet (0.005 acre)	0
North Jackson Ditch	MAH-45-12.79	STA 10+63	20 feet (0.002 acre)	0
Morrison Run	MAH-45-12.89	STA N/A	20 feet (0.005 acre)	0

Wetland impacts are not authorized for this project.

7. Spill containment:

Provide and Maintain an Oil Spill Kit with a minimum capacity of 65 gallons. The Spill Kit shall contain:

- 6 - 3 in. X 8 ft. Oil only socks
- 4 - 18 in. X18 in. Oil only pillows
- 2 - 5 in. X 10ft. Booms
- 50 - 16in. X 20 in. Oil only pads
- 10- Disposable Bags
- 1- 65 Gallon drum with lid
- 25 pounds of Granular Oil Absorbent

The Oil Spill Kit shall be located within 150 feet of any equipment working in a stream or wetland. The oil Spill Kit shall be maintained for the life of the contract. Any materials utilized during the project will be replaced within 48 hours. All costs associated with furnishing and maintaining the above referenced spill containment kit is incidental to work.

8. Blasting:

State law requires notification to the Ohio Department of Natural Resources should blasting be required within or near stream channels (See ORC 1533.58 & CMS 107.09). Notify the Engineer, in writing, a minimum of 30 days in advance of blasting, for submission to ODOT-OES-WPU (614-466-7100) for coordination with ODNR.

9. Bridge Inspection:

Prior to the removal of bridge structures, the underside must be carefully examined for the presence of birds and bats. Should any birds or bats be found roosting on the underside of the bridge, the Contractor is required to notify the Engineer for coordination with ODOT-OES-WPU

(614-466-7100).

10. Project Inspection:

Inspection of Work may include inspection by representatives of other government agencies or railroad corporations that pay a portion of the cost of the Work or regulate the Work through State and Federal law. Comments from the representatives of these agencies shall be directed to the Engineer. Please forward a copy to ODOT-OES-WPU (614-466-7100).

11. Temporary Fill Activities

Temporary fill in streams is not authorized for this project. Temporary fill includes, but is not limited to, causeways, work pads, cofferdams, sheet piling, temporary bridges, and construction equipment. Any unauthorized temporary impacts that occur will be in violation of Section 404 and 401 of the Clean Water Act.

12. Excavation Activities:

Excavated material will be placed at an upland site and disposed of in such a manner that sediment and runoff to streams and other aquatic resources is controlled and minimized. Additionally, no more than incidental fallback into jurisdictional waters of the U.S. is permitted during the excavation process. If any changes to the proposed work are deemed necessary, you must notify and coordinate with the ODOT-OES-WPU (614-466-7100).

13. Demolition Debris:

The intentional discharge of demolition debris from any structure (including but not limited to bridges, culverts, abutments, wing walls, piers) into aquatic resources is not authorized for this project. If any demolition debris inadvertently falls into aquatic resources, it must be removed immediately. Notify the Engineer immediately in writing of any inadvertent fill discharged into aquatic resources. Also contact ODOT-OES-WPU at 614-466-7100 if any unintentional discharge occurs.