

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

MAH-680/11-7.05/VAR
BEAVER, BOARDMAN, CANFIELD TOWNSHIPS
CITY OF STRUTHERS
CITY OF YOUNGSTOWN
MAHONING COUNTY

PROJECT DESCRIPTION

SPOT PAVING REPAIRS ON
MAH-680 FROM SLM 7.05 TO SLM 12.00.
INCLUDES MINOR BRIDGE WORK TO 30 STRUCTURES
ON MAH-680 & MAH-II.

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

2016 SPECIFICATIONS

THE STANDARD SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, INCLUDING 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 5, AND THAT PROVISIONS FOR THE MAINTENANCE AND SAFETY OF TRAFFIC WILL BE AS SET FORTH ON THE PLANS AND ESTIMATES.

FEDERAL PROJECT NO.
E130(854)

PID NO.
87273

CONSTRUCTION PROJECT NO.

RAILROAD INVOLVEMENT
NONE

MAH-680/11-
7.05/VAR

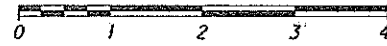
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(SEE PAGE 2 FOR LOCATIONS)

LOCATION MAP

LATITUDE: 40 °03'04" LONGITUDE: 80 °38'39"

SCALE IN MILES



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

DESIGN DESIGNATION

CURRENT ADT (2014)..... 44,020 (I-680)
TRUCKS (24 HOUR B&C)..... 3,320 (I-680)
DESIGN FUNCTIONAL CLASSIFICATION:
URBAN INTERSTATE.....
NHS PROJECT..... NO/YES

DESIGN EXCEPTIONS

NO

INDEX OF SHEETS:

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UNDERGROUND UTILITIES

CONTACT BOTH SERVICES TWO WORKING DAYS BEFORE YOU DIG.



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

PLAN PREPARED BY:
ODOT -- DISTRICT 4
2088 S, ARLINGTON RD.
AKRON, OH 44306

ENGINEERS SEAL:



SIGNED: *M. Andrasik*
DATE: 2/27/17

STANDARD CONSTRUCTION DRAWINGS

MT-95.30	7/15/16	MT-105.10	7/19/13
MT-95.31	1/20/17		
MT-95.32	1/20/17	TC-41.20	10/18/13
MT-95.50	10/16/15	TC-52.10	10/18/13
MT-97.10	7/18/14	TC-52.20	7/15/16
MT-98.10	1/20/17	TC-65.10	1/17/14
MT-98.11	1/20/17	TC-65.11	7/15/16
MT-98.20	7/18/14	TC-71.10	1/20/17
MT-98.22	1/20/17	TC-72.20	7/15/16
MT-98.28	1/20/17		
MT-98.29	1/20/17	DM-4.3	1/15/16
MT-99.20	7/19/13	DM-4.4	1/15/16
MT-99.60	7/15/16		
MT-101.60	1/20/17		
MT-101.90	7/17/15		
MT-110.10	7/19/13		

SUPPLEMENTAL SPECIFICATIONS

SPECIAL PROVISIONS

800-2016	7/21/17
821	4/20/12
843	4/18/03
849	1/18/13
921	4/20/12

APPROVED: *[Signature]*
DATE: 2-27-17 DISTRICT DEPUTY DIRECTOR

APPROVED: *[Signature]*
DATE: 2-14-17 DIRECTOR, DEPARTMENT OF TRANSPORTATION

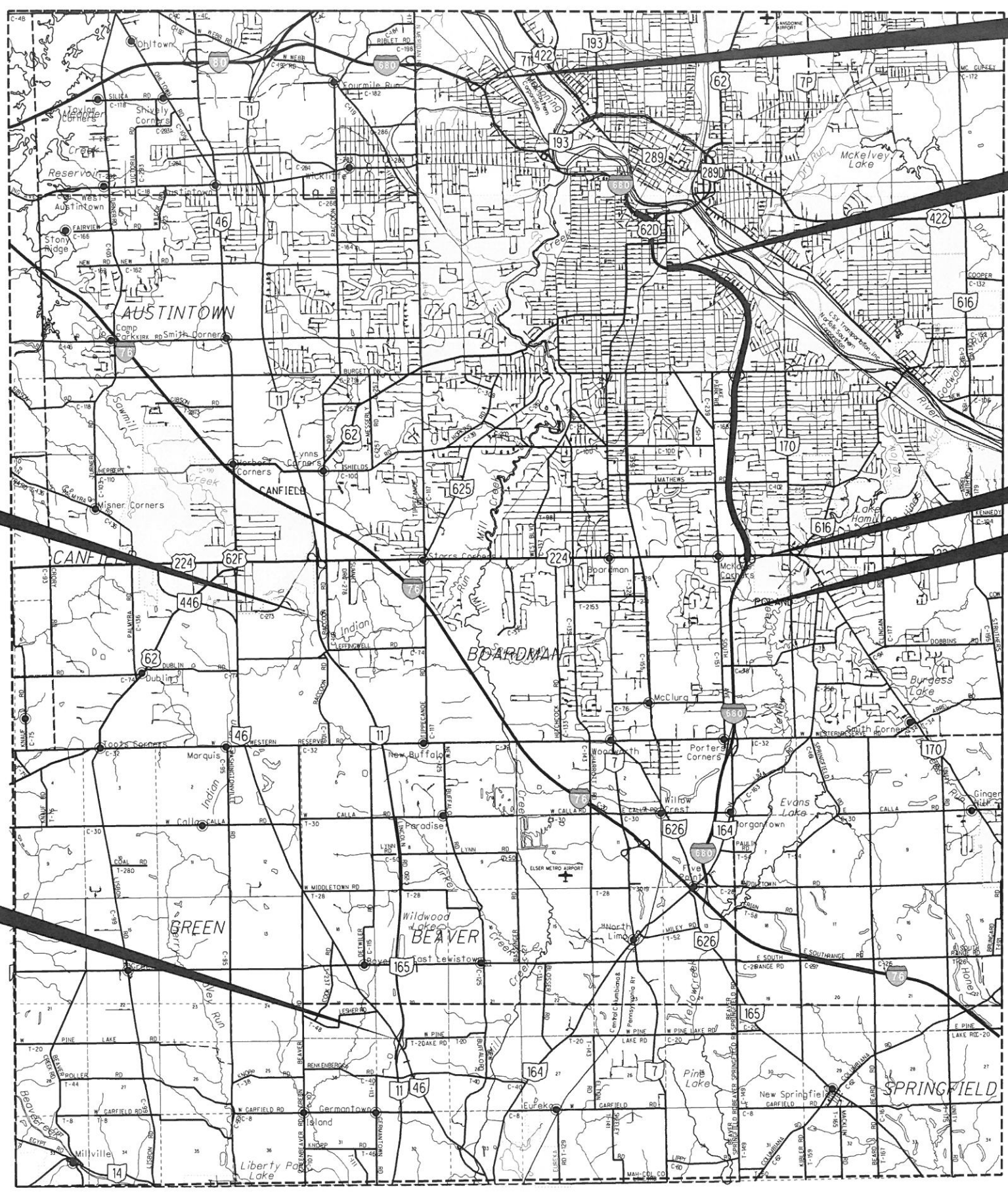
MAH - SR-IR 680/SR 11-07.05/VAR Conformed Set
170543 PID - 87273 Contract Proposal Available @
Dist 4 10/5/2017 www.contracts.dot.state.oh.us/home

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END STRUCTURE REPAIRS
MAH-11-0802R

BEGIN STRUCTURE REPAIRS
MAH-11-0191R



BEGIN STRUCTURE REPAIRS
MAH-680-0283

BEGIN PAVEMENT REPAIRS
MAH-680
SLM 7.05

END PAVEMENT REPAIRS
MAH-680
SLM 12.00

END STRUCTURE REPAIRS
MAH-680-1322

PROJECT LOCATIONS

MAH-680/11-
7.05 / 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, THE OHIO UTILITIES PROTECTION SERVICE (OUPS), THE OHIO & GAS PROCEDURES UNDERGROUND PROTECTION SERVICE (OGPUPS), THE OHIO DEPARTMENT OF TRANSPORTATION DISTRICT 4 HEAD-QUARTERS AND ALL NON REGISTERED UTILITY OWNERS AT LEAST TWO (2) WORKING DAYS PRIOR TO COMMENCING CONSTRUCTION IN ALL AREAS.

- OUPS 1-800-362-2764 (CONTACT LIMITED BASIS PARTICIPANTS DIRECTLY)
- OGPUPS 1-800-925-0988
- ODOT 330-786-3145 KEN GREENE

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.

ITEM 621 - RAISED PAVEMENT MARKERS

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN PROVIDED AND SHALL BE USED AS DIRECTED BY THE ENGINEER FOR THE REMOVAL AND DISPOSAL OF EXISTING RAISED PAVEMENT MARKERS THAT ARE WITHIN THE LIMITS OF THE PAVEMENT REPAIRS AS NEEDED.

ALL EQUIPMENT, MATERIALS AND LABOR REQUIRED TO PERFORM THIS WORK SHALL BE INCLUDED UNDER THE CONTRACT BID PRICE. QUANTITY THAT WILL BE CARRIED TO THE GENERAL SUMMARY:

ITEM 621, RAISED PAVEMENT MARKER REMOVED	20 EA.
ITEM 621, RPM	20 EA.

PAVEMENT MARKINGS (STRUCTURES AND PARTIAL DEPTH PAVEMENT REPAIRS)

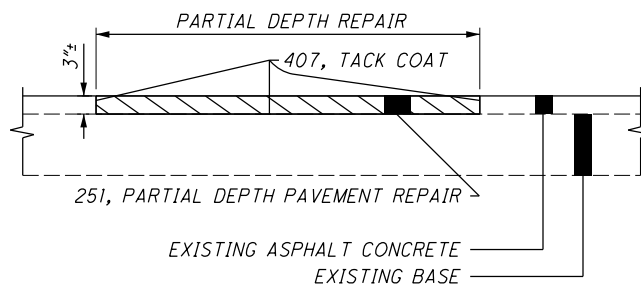
THE FOLLOWING QUANTITIES HAVE BEEN PROVIDED TO BE USED AS DIRECTED BY THE ENGINEER.

- ITEM 614 - WORK ZONE LANE LINE, CLASS 1, 0.54 MILES
- ITEM 614 - WORK ZONE LANE CENTER, CLASS 1, 0.52 MILES
- ITEM 642 - EDGE LINE, 4", 3 MILES
- ITEM 642 - EDGE LINE, 6", 3 MILE
- ITEM 642 - LANE LINE, 4", 3 MILE
- ITEM 642 - LANE LINE, 6", 3 MILE
- ITEM 642 - CENTER LINE, TYPE 1, 1 MILE
- ITEM 642 - CHANNELIZING LINE, 8", 1,500 FEET
- ITEM 642 - CHANNELIZING LINE, 12", 1,500 FEET

ITEM 251 - PARTIAL DEPTH PAVEMENT REPAIR (441) (MAH-680 SLM 7.05 TO SLM 12.00)

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, SURFACE COURSE, TYPE 1, (448), AS PER PLAN. THE ASPHALT CONCRETE SHALL BE COMPACTED WITH A TYPE 1 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. 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:

251, PARTIAL DEPTH PAVEMENT REPAIR (441), 5,000 SQ. YD.



STREAM AVOIDANCE

NO EXCAVATION, GRADING, OR FILLING OPERATIONS SHALL BE PERFORMED IN THE STREAMS LOCATED AT MAH-11-0802L&R. UNDER NO CIRCUMSTANCES SHALL THE CONTRACTOR STORE CONSTRUCTION EQUIPMENT AND/OR MATERIALS IN THIS STREAM. ODOT CONSTRUCTION AND MATERIALS SPECIFICATIONS SECTION 107.10 (PROTECTION AND RESTORATION OF PROPERTY) PROHIBIT THE CONTRACTOR FROM CREATING STAGING AREAS NEAR STREAMS AND/OR WETLANDS.

ENDANGERED SPECIES HABITAT - INDIANA BAT/NORTHERN LONG-EARED BAT

THE PROJECT IS LOCATED WITHIN THE KNOWN HABITAT RANGES OF THE FEDERALLY LISTED AND PROTECTED INDIANA BAT AND NORTHERN LONG-EARED BAT. UNDER NO CIRCUMSTANCES SHALL THE CONTRACTOR CUT/REMOVE ANY TREES PRIOR TO OR DURING PROJECT CONSTRUCTION. THIS REQUIREMENT IS NECESSARY TO AVOID AND MINIMIZE IMPACTS TO THESE SPECIES AS REQUIRED BY THE ENDANGERED SPECIES ACT. FOR THE PURPOSES OF THIS NOTE, A TREE IS DEFINED AS A LIVE, DYING, OR DEAD WOODY PLANT, WITH A TRUNK THREE (3) INCHES OR GREATER IN DIAMETER AT A HEIGHT OF 4.5 FEET ABOVE THE GROUND SURFACE, AND WITH A MINIMUM HEIGHT OF 13 FEET.

BEST MANAGEMENT PRACTICES / SOIL EROSION AND SEDIMENTATION CONTROL

WATER COLUMN AND SEDIMENTATION IMPACTS SHALL BE KEPT TO A MINIMUM THROUGH THE USE OF BEST MANAGEMENT PRACTICES FOR SOIL EROSION AND SEDIMENTATION CONTROL. ALL SOIL EROSION CONTROL MEASURES SHALL BE IN PLACE PRIOR TO ANY EXCAVATION, GRADING OR FILLING OPERATIONS AND INSTALLATION OF PROPOSED STRUCTURES OR UTILITIES. THEY SHALL REMAIN IN PLACE UNTIL CONSTRUCTION IS COMPLETED AND THE AREA IS STABILIZED AS ACCEPTED BY THE ENGINEER. THESE SHALL COMPLY WITH ODOT'S HANDBOOK FOR SEDIMENT AND EROSION CONTROL, WHICH MAY BE FOUND AT [HTTP://WWW.DOT.STATE.OH.US/DRRC/](http://www.dot.state.oh.us/drrc/)

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GENERAL NOTES

MAH-680/11-
7.05 / VAR

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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. MAH-680 MAINLINE, MAH-11 MAINLINE, MAH-680-0604, MAH-680-0705, MAH-680-0724, MAH-680-0837, & MAH-680-0921: A MINIMUM OF ONE ELEVEN FOOT LANE IN EACH DIRECTION SHALL BE MAINTAINED ON THE EXISTING PAVEMENT OR COMPLETED PAVEMENT DURING CONSTRUCTION OF THE WORK.

MAH-680-0386, MAH-680-0432, MAH-680-0628, & MAH-680-0791E: A MINIMUM OF ONE TEN FOOT LANE IN EACH DIRECTION SHALL BE MAINTAINED ON THE EXISTING PAVEMENT OR COMPLETED PAVEMENT DURING CONSTRUCTION OF THE WORK.

MAH-11-0609, MAH-680-0283, MAH-680-0415, MAH-680-0489, MAH-680-0594, MAH-680-0637, MAH-680-0817, & MAH-680-0990: A MINIMUM OF ONE TEN FOOT BIDIRECTIONAL LANE SHALL BE MAINTAINED ON THE EXISTING PAVEMENT OR COMPLETED PAVEMENT DURING CONSTRUCTION OF THE WORK.

2. THE CONTRACTOR SHALL INFORM THE DISTRICT OFFICE (330) 786-2208, EIGHTEEN (18) DAYS PRIOR TO THE BEGINNING OF WORK.

3. 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.

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 ONE (1) MILE URBAN.

6. 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. 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.

8. 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.

9. THE CONTRACTOR SHALL PLACE THE SIGNS: W8-1 [BUMP] PER OMUTCD 2C.28; W8-11 [UNEVEN LANES] PER OMUTCD 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:
614, WORK ZONE MARKING SIGN,(ALL PHASES) 50 EACH

LANE CLOSURES

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 \$2500 PER HOUR OR PORTION THEREOF THAT THE LANE REDUCTION REMAINS BEYOND THE SPECIFIED LIMIT.

COOPERATION BETWEEN CONTRACTORS

THE CONTRACTOR SHALL BE ADVISED THAT PROJECT:

- MAH-680-2.06 (PID 96637)

MAY BE ONGOING IN AN AREA IMMEDIATELY ADJACENT TO AND WITHIN THE PROJECT LIMITS OF THIS PROJECT. THE CONTRACTOR SHALL SCHEDULE HIS WORK SO AS TO CAUSE A MINIMUM OF DELAY OR CONFLICT WITH THE OTHER PROJECTS. IN ACCORDANCE WITH 105.08, THE CONTRACTOR SHALL ARRANGE WITH THE OTHER CONTRACTORS APPROVAL OF THE ENGINEER. THE CONTRACTOR SHALL RECIEVE DAILY APPROVALS FROM THE ENGINEER PRIOR TO COMMENCING ANY OPERATIONS. ANY CONFLICT BETWEEN CONTRACTORS INVOLVING WORK SCHEDULES, WORK AREA, OR COOPERATION SHALL BE RESOLVED BY THE ENGINEER. COMPENSATION FOR THE ABOVE COOPERATION SHALL BE INCIDENTAL TO THE VARIOUS PAY ITEMS INCLUDED WITHIN THIS PROJECT.

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.

SIDEWALKS

UNDER NO CIRCUMSTANCES SHALL ANY WORK INVOLVING SEALING, REPAIRS AND/OR REPLACEMENT OF SIDEWALK INVOLVE THE CLOSURE OF ALL SIDEWALKS (PER STRUCTURE) SIMULTANEOUSLY. AT A MAXIMUM, ONLY ONE SIDEWALK IS TO BE CLOSED AT A TIME AT EACH STRUCTURE.

ITEM 614, MAINTAINING TRAFFIC (LANES OPEN DURING HOLIDAYS OR SPECIAL EVENTS)

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

CHRISTMAS	FOURTH OF JULY
NEW YEARS	LABOR DAY
MEMORIAL DAY	THANKSGIVING

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

DAY OF HOLIDAY OR EVENT	TIME ALL LANES MUST BE OPEN TO TRAFFIC
SUNDAY	12:00N FRIDAY THROUGH 6:00 AM MONDAY
MONDAY	12:00N FRIDAY THROUGH 6:00 AM TUESDAY
TUESDAY	12:00N MONDAY THROUGH 6:00 AM WEDNESDAY
WEDNESDAY	12:00N TUESDAY THROUGH 6:00 AM THURSDAY
THURSDAY	12:00N WEDNESDAY THROUGH 6:00 AM FRIDAY
THURSDAY (THANKSGIVING ONLY)	6:00 AM WEDNESDAY THROUGH 6:00 AM MONDAY
FRIDAY	12:00N THURSDAY THROUGH 6:00 AM MONDAY
SATURDAY	12:00N FRIDAY THROUGH 6:00 AM MONDAY

SHOULD THE CONTRACTOR FAIL TO MEET ANY OF THESE REQUIREMENTS, THE CONTRACTOR SHALL BE ASSESSED A DISINCENTIVE IN THE AMOUNT OF \$1,500 FOR EACH HOUR THE ABOVE DESCRIBED LANE CLOSURE RESTRICTIONS ARE VIOLATED.

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 OMUTCD INTENDS THAT FLAGGERS BE USED.

IN ADDITION TO THE REQUIREMENTS OF CMS 614 AND THE OMUTCD, 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.

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). IN GENERAL, LEOS SHOULD BE POSITIONED AT THE POINT OF LANE RESTRICTION OR ROAD CLOSURE AND TO MANUALLY CONTROL TRAFFIC MOVEMENTS THROUGH INTERSECTIONS IN WORK ZONES.

WHEN CONSTRUCTION VEHICLES ARE ENTERING/EXITING THE ZONE DIRECTLY FROM/INTO AN OPEN LANE OF TRAFFIC. IF A LANE HAS BEEN CLOSED TO PROVIDE AN ACCELERATION/ DECELERATION LANE FOR THE VEHICLE, THE LEO WILL NOT BE REQUIRED.

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.

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 500 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.

WINTER TRAFFIC LIMITATIONS

ALL EXISTING LANES SHALL BE OPEN TO TRAFFIC BETWEEN NOVEMBER 15 AND APRIL 1. NOVEMBER 14 SHALL BE CONSIDERED TO CONSTITUTE AN INTERIM COMPLETION DATE AND DISINCENTIVES OF \$1,000 SHALL BE ASSESSED FOR EACH CALENDAR DAY THAT THE ROADWAY REMAINS CLOSED TO TRAFFIC BEYOND THE SPECIFIED LIMIT. THE CONTRACTOR MAY CLOSE LANES PRIOR TO APRIL 1 WITH WRITTEN APPROVAL FROM THE DISTRICT CONSTRUCTION ENGINEER.

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MAINTENANCE OF TRAFFIC GENERAL NOTES

MAH-680/11-
7.05 / VAR

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 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, 8 SIGN MONTH

ASSUMING 8 PCMS FOR 1 MONTH

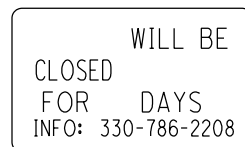
ITEM 614, MAINTAINING TRAFFIC (NOTICE OF CLOSURE SIGN)

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.

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 TO OFFICE OF COMMUNICATIONS TIME TABLE		
ITEM	DURATION OF CLOSURE	NOTICE DUE TO OFFICE OF COMMUNICATIONS
RAMP & RAMP	>= 2 WEEKS	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.



W20-H13-60

DETOUR NOTIFICATION (MAHONING COUNTY ENGINEER)

THE CONTRACTOR SHALL ADVISE THE ODOT DISTRICT OFFICE (330-786-3148) AND THE MAHONING COUNTY ENGINEER (330-799-1581) 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) (RAMPS A, L, & O)

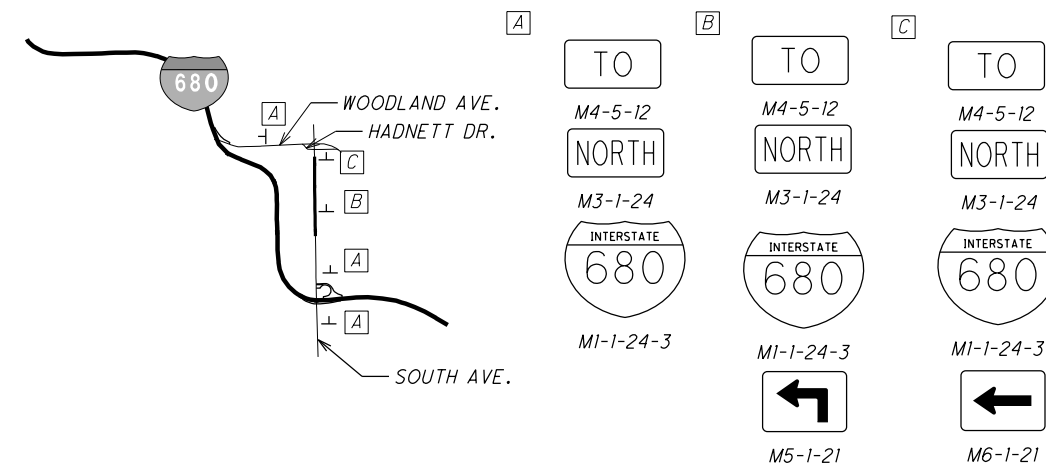
ALL RAMPS SHALL BE MAINTAINED AT ALL TIMES EXCEPT FOR A PERIOD NOT TO EXCEED THE DURATIONS SHOWN IN THE TABLE TITLED "RAMP CLOSURES FOR GRAVITY-FED RESIN," WHEN TRAFFIC MAY BE DETOURED AS STATED IN THE TABLE "RAMP CLOSURES FOR GRAVITY-FED RESIN." A DISINCENTIVE SHALL BE ASSESSED IN THE AMOUNT OF \$2,000 FOR EACH DAY OR PORTION THEREOF THE RAMP REMAINS CLOSED TO TRAFFIC BEYOND THE SPECIFIED LIMIT.

RAMP CLOSURES FOR GRAVITY-FED RESIN				
RAMP DESIGNATION	DURATION	DETOUR ROUTE	APPROX. NUMBER OF PCMS	ADDITIONAL RESTRICTIONS
RAMP A (I-680 SB TO SOUTH AVE.)	1 NIGHT (8PM-6AM)	I-680 SB/COOPER/INDIANOLA	3	CANNOT BE CLOSED SIMULTANEOUSLY WITH RAMP O
RAMP L (I-680 SB TO SR-170 (MIDLOTHIAN))	1 NIGHT (8PM-6AM)	I-680 SB/US-224/I-680 NB	3	
RAMP O (SR-170 (MIDLOTHIAN) TO I-680 NB)	1 NIGHT (8PM-6AM)	SR-170 (MIDLOTHIAN)/SR-170 (YOUNGSTOWN POLAND RD.)/US-224 EB)	2	CANNOT BE CLOSED SIMULTANEOUSLY WITH RAMP A

ITEM 614, MAINTAINING TRAFFIC (TIME LIMITATION ON A DETOUR) (RAMP B - SOUTH AVE. TO I-680 NB)

RAMP B SHALL BE MAINTAINED AT ALL TIMES EXCEPT FOR A PERIOD NOT TO EXCEED 1 NIGHT (8PM - 6AM), WHEN THROUGH TRAFFIC MAY BE DETOURED AS SHOWN BELOW. THE GRAVITY-FED RESIN TREATMENT OF MAH-680-0693 IN THE RAMP LANE, AND RESETTING OF THE BEARINGS ON THE NORTHERN ABUTMENT OF MAH-680-0705 SHALL BE COMPLETED DURING THE CLOSURE. A DISINCENTIVE SHALL BE ASSESSED IN THE AMOUNT OF \$2,000 FOR EACH DAY OR PORTION THEREOF THE RAMP REMAINS CLOSED TO TRAFFIC BEYOND THIS SPECIFIED LIMIT.

DETOUR: SOUTH AVE./HADNET DR./WOODLAND AVE.



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 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 OFFICE OF COMMUNICATIONS. 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 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, DETOUR ROUTES, IF APPLICABLE, AND ANY OTHER INFORMATION REQUESTED BY THE PROJECT ENGINEER.

NOTICE TO OFFICE OF COMMUNICATIONS TIME TABLE

ITEM	DURATION OF CLOSURE	NOTICE DUE TO OFFICE OF COMMUNICATIONS
RAMP & ROAD	>= 2 WEEKS > 12 HOURS & < 2 WEEKS	21 CALENDAR DAYS PRIOR TO CLOSURE 14 CALENDAR DAYS PRIOR TO CLOSURE
CLOSURES	< 12 HOURS	4 BUSINESS DAYS PRIOR TO CLOSURE

LANE CLOSURES & RESTRICTIONS

LANE	DURATION	NOTICE DUE TO OFFICE OF COMMUNICATIONS
>= 2 WEEKS & < 2 WEEKS		14 CALENDAR DAYS PRIOR TO CLOSURE 2 BUSINESS DAYS PRIOR TO CLOSURE

START OF CONSTRUCTION & TRAFFIC PATTERN CHANGES

ITEM	NOTICE DUE TO OFFICE OF COMMUNICATIONS
START OF CONSTRUCTION & TRAFFIC PATTERN CHANGES	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 NOTICE TO OFFICE OF COMMUNICATIONS TIME TABLE.

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SHEET NUM.												PART.	ITEM	ITEM	GRAND	UNIT	DESCRIPTION	SEE SHEET NO.	
				3	4	5		01/MS/PV		EXT	TOTAL								
												1,000	832	30000	1,000	EACH	EROSION CONTROL		
												EROSION CONTROL							
												5,000	251	01000	5,000	SY	PARTIAL DEPTH PAVEMENT REPAIR (441)		
												PAVEMENT							
												20	621	00100	20	EACH	RPM		
												20	621	54000	20	EACH	RAISED PAVEMENT MARKER REMOVED		
												3	642	00090	3	MILE	EDGE LINE, 4"		
												3	642	00094	3	MILE	EDGE LINE, 6"		
												3	642	00190	3	MILE	LANE LINE, 4"		
												3	642	00194	3	MILE	LANE LINE, 6"		
												1	642	00290	1	MILE	CENTER LINE		
												1,500	642	00390	1,500	FT	CHANNELIZING LINE, 8"		
												1,500	642	00394	1,500	FT	CHANNELIZING LINE, 12"		
												STRUCTURE REPAIRS							
																	FOR MAH-11-0191R ESTIMATED QUANTITIES	10	
																	FOR MAH-11-0194L ESTIMATED QUANTITIES	10	
																	FOR MAH-11-0507L ESTIMATED QUANTITIES	10	
																	FOR MAH-11-0507R ESTIMATED QUANTITIES	10	
																	FOR MAH-11-0609 ESTIMATED QUANTITIES	10	
																	FOR MAH-11-0802L ESTIMATED QUANTITIES	10	
																	FOR MAH-11-0802R ESTIMATED QUANTITIES	10	
																	FOR MAH-680-0283 ESTIMATED QUANTITIES	11	
																	FOR MAH-680-0386 ESTIMATED QUANTITIES	11	
																	FOR MAH-680-0415 ESTIMATED QUANTITIES	11	
																	FOR MAH-680-0432 ESTIMATED QUANTITIES	11	
																	FOR MAH-680-0489 ESTIMATED QUANTITIES	11	
																	FOR MAH-680-0594 ESTIMATED QUANTITIES	11	
																	FOR MAH-680-0604 ESTIMATED QUANTITIES	11	
																	FOR MAH-680-0628 ESTIMATED QUANTITIES	11	
																	FOR MAH-680-0631 ESTIMATED QUANTITIES	12	
																	FOR MAH-680-0637 ESTIMATED QUANTITIES	12	
																	FOR MAH-680-0687 ESTIMATED QUANTITIES	12	
																	FOR MAH-680-0693 ESTIMATED QUANTITIES	12	
																	FOR MAH-680-0705 ESTIMATED QUANTITIES	12	
																	FOR MAH-680-0724 ESTIMATED QUANTITIES	12	
																	FOR MAH-680-0791E ESTIMATED QUANTITIES	12	
																	FOR MAH-680-0794 ESTIMATED QUANTITIES	12	
																	FOR MAH-680-0817 ESTIMATED QUANTITIES	13	
																	FOR MAH-680-0837 ESTIMATED QUANTITIES	13	
																	FOR MAH-680-0921 ESTIMATED QUANTITIES	13	
																	FOR MAH-680-0990 ESTIMATED QUANTITIES	13	
																	FOR MAH-680-1073L ESTIMATED QUANTITIES	13	
																	FOR MAH-680-1073R ESTIMATED QUANTITIES	13	
																	FOR MAH-680-1322 ESTIMATED QUANTITIES	13	
												MAINTENANCE OF TRAFFIC							
												500	614	11110	500	hour	LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE		
													LS	614	12420	LS	DETOUR SIGNING		
												50	614	12460	50	EACH	WORK ZONE MARKING SIGN		
												10	614	13000	10	CY	ASPHALT CONCRETE FOR MAINTAINING TRAFFIC		
													8	614	18601	8	SNMT	PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN	5
												0.54	614	20000	0.54	MILE	WORK ZONE LANE LINE, CLASS I		
												0.52	614	21000	0.52	MILE	WORK ZONE CENTER LINE, CLASS I		
												INCIDENTALS							
													LS	614	11000	LS	MAINTAINING TRAFFIC		
													LS	623	10000	LS	CONSTRUCTION LAYOUT STAKES AND SURVEYING		
													LS	624	10000	LS	MOBILIZATION		

GENERAL SUMMARY

MAH-680/11-7.05/VAR

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DESIGN SPECIFICATIONS

THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 17TH, INCLUDING THE 2002 INTERIM SPECIFICATIONS AND THE ODOT BRIDGE DESIGN MANUAL, EXCEPT AS NOTED ELSEWHERE IN THE PLANS.

EXISTING STRUCTURE VERIFICATION

DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURE HAVE BEEN OBTAINED FROM EXISTING STRUCTURE PLANS AND FIELD MEASUREMENTS. ALL PROPOSED WORK AND QUANTITIES SHALL BE CONSIDERED APPROXIMATE. THE CONTRACTOR IS ADVISED TO REFER TO CMS 102.05. ALL WORK WILL BE PAID AS PER CMS 109.01.

STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS

REFER TO THE FOLLOWING SUPPLEMENTAL SPECIFICATIONS:

SS 843 DATED 1/15/16

PROPOSED WORK

MAH-11-0194L (OVER MAH-46)
- SEAL EXISTING WEARING SURFACE WITH GRAVITY-FED RESIN
- CLEARING AND GRUBBING 15' AROUND STRUCTURE TO REMOVE ALL VEGETATION
- PROVIDE NEW, CORRECT STRUCTURE IDENTIFICATION SIGNS

MAH-11-0191R (OVER MAH-46)
- SEAL EXISTING WEARING SURFACE WITH GRAVITY-FED RESIN
- CLEARING AND GRUBBING 15' AROUND STRUCTURE TO REMOVE ALL VEGETATION
- PROVIDE NEW, CORRECT STRUCTURE IDENTIFICATION SIGNS

MAH-11-0507L (OVER CALLA RD)
- SEAL EXISTING WEARING SURFACE WITH GRAVITY-FED RESIN
- CLEARING AND GRUBBING 15' AROUND STRUCTURE TO REMOVE ALL VEGETATION
- PROVIDE NEW, CORRECT STRUCTURE IDENTIFICATION SIGNS

MAH-11-0507R (OVER CALLA RD)
- SEAL EXISTING WEARING SURFACE WITH GRAVITY-FED RESIN
- CLEARING AND GRUBBING 15' AROUND STRUCTURE TO REMOVE ALL VEGETATION
- PROVIDE NEW, CORRECT STRUCTURE IDENTIFICATION SIGNS

MAH-11-0609 (OVER WESTERN RESERVE RD.)
- SEAL EXISTING WEARING SURFACE WITH GRAVITY-FED RESIN
- REMOVE AND REPLACE APPROACH ASPHALT
- CLEARING AND GRUBBING 15' AROUND STRUCTURE TO REMOVE ALL VEGETATION
- PROVIDE NEW, CORRECT STRUCTURE IDENTIFICATION SIGNS

MAH-11-0802L (OVER RELOCATED INDIAN RUN)
- SEAL EXISTING WEARING SURFACE WITH GRAVITY-FED RESIN
- REMOVE AND REPLACE APPROACH ASPHALT
- CLEARING AND GRUBBING 15' AROUND STRUCTURE TO REMOVE ALL VEGETATION
- PROVIDE NEW, CORRECT STRUCTURE IDENTIFICATION SIGNS

MAH-11-0802R (OVER RELOCATED INDIAN RUN)
- SEAL EXISTING WEARING SURFACE WITH GRAVITY-FED RESIN
- REMOVE AND REPLACE APPROACH ASPHALT
- CLEARING AND GRUBBING 15' AROUND STRUCTURE TO REMOVE ALL VEGETATION
- PROVIDE NEW, CORRECT STRUCTURE IDENTIFICATION SIGNS

MAH-680-0283 (UNDER VESTAL RD.)
- SEAL EXISTING WEARING SURFACE WITH GRAVITY-FED RESIN

MAH-680-0386 (UNDER WELLINGTON ST.)
- SEAL EXISTING WEARING SURFACE WITH GRAVITY-FED RESIN
- SOUND AND PATCH ALL UNSOUND CONCRETE ON SUBSTRUCTURE
- SEAL ALL EXPOSED CONCRETE SURFACES, PARAPETS, AND SUBSTRUCTURE WITH EPOXY-URETHANE
- CLEARING AND GRUBBING 15' AROUND STRUCTURE TO REMOVE ALL VEGETATION
- PROVIDE NEW, CORRECT STRUCTURE IDENTIFICATION SIGNS

MAH-680-0415 (UNDER STEEL ST.)
- SEAL EXISTING WEARING SURFACE WITH GRAVITY-FED RESIN
- SOUND AND PATCH ALL UNSOUND CONCRETE ON SUBSTRUCTURE AND PARAPETS
- SEAL ALL PATCHED AREAS WITH EPOXY-URETHANE SEALER
- CLEARING AND GRUBBING 15' AROUND STRUCTURE TO REMOVE ALL VEGETATION
- PROVIDE NEW, CORRECT STRUCTURE IDENTIFICATION SIGNS

MAH-680-0432 (RAMP FROM SILLIMAN ST. TO I-680EB)
- SEAL EXISTING WEARING SURFACE WITH GRAVITY-FED RESIN
- REMOVE AND REPLACE APPROACH ASPHALT
- SOUND AND PATCH ALL UNSOUND CONCRETE ON SUBSTRUCTURE AND PARAPETS
- REPAIR BENT CROSSFRAMES AT REAR ABUTMENT
- CLEARING AND GRUBBING 15' AROUND STRUCTURE TO REMOVE ALL VEGETATION
- PROVIDE NEW, CORRECT STRUCTURE IDENTIFICATION SIGNS

MAH-680-0489 (UNDER GLENWOOD AVE.)
- SEAL EXISTING WEARING SURFACE WITH GRAVITY-FED RESIN
- REMOVE AND REPLACE APPROACH ASPHALT
- SOUND AND PATCH ALL UNSOUND CONCRETE ON SUBSTRUCTURE
- SEAL ALL EXPOSED CONCRETE SURFACES, PARAPETS, AND SUBSTRUCTURE WITH EPOXY-URETHANE
- REHABILITATE AND RESET ALL EXISTING ABUTMENT BEARINGS
- CLEARING AND GRUBBING 15' AROUND STRUCTURE TO REMOVE ALL VEGETATION
- PROVIDE NEW, CORRECT STRUCTURE IDENTIFICATION SIGNS

MAH-680-0594 (UNDER WOODLAND AVE.)
- SEAL EXISTING WEARING SURFACE WITH GRAVITY-FED RESIN
- CLEARING AND GRUBBING 15' AROUND STRUCTURE TO REMOVE ALL VEGETATION
- PROVIDE NEW, CORRECT STRUCTURE IDENTIFICATION SIGNS

MAH-680-0604 (UNDER MARKET ST.)
- SEAL EXISTING WEARING SURFACE WITH GRAVITY-FED RESIN
- REMOVE AND REPLACE APPROACH ASPHALT
- SOUND AND PATCH ALL UNSOUND CONCRETE ON SUBSTRUCTURE
- SEAL ALL PATCHED AREAS WITH EPOXY-URETHANE SEALER
- CLEARING AND GRUBBING 15' AROUND STRUCTURE TO REMOVE ALL VEGETATION
- PROVIDE NEW, CORRECT STRUCTURE IDENTIFICATION SIGNS

MAH-680-0628 (RAMP I-680EB TO US-62 NB)
- SEAL EXISTING WEARING SURFACE WITH GRAVITY-FED RESIN
- SEAL ALL EXPOSED CONCRETE SURFACES, PARAPETS, AND SUBSTRUCTURE WITH EPOXY-URETHANE
- CLEARING AND GRUBBING 15' AROUND STRUCTURE TO REMOVE ALL VEGETATION
- PROVIDE NEW, CORRECT STRUCTURE IDENTIFICATION SIGNS

MAH-680-0631 (OVER US-62/SR-7)
- SEAL EXISTING WEARING SURFACE WITH GRAVITY-FED RESIN
- SEAL ALL EXPOSED CONCRETE SURFACES, PARAPETS, AND SUBSTRUCTURE WITH EPOXY-URETHANE
- CLEARING AND GRUBBING 15' AROUND STRUCTURE TO REMOVE ALL VEGETATION
- PROVIDE NEW, CORRECT STRUCTURE IDENTIFICATION SIGNS

MAH-680-0637 (UNDER WAYNE PYATT ST.)
- SEAL EXISTING WEARING SURFACE WITH GRAVITY-FED RESIN
- SOUND AND PATCH ALL UNSOUND CONCRETE ON SUBSTRUCTURE
- SEAL VERTICAL CRACKS ON PARAPETS WITH EPOXY-INJECTION
- SEAL ALL EXPOSED CONCRETE SURFACES, PARAPETS, AND SUBSTRUCTURE WITH EPOXY-URETHANE
- CLEARING AND GRUBBING 15' AROUND STRUCTURE TO REMOVE ALL VEGETATION
- PROVIDE NEW, CORRECT STRUCTURE IDENTIFICATION SIGNS

MAH-680-0687 (OVER DELASON AVE.)
- SEAL EXISTING WEARING SURFACE WITH GRAVITY-FED RESIN
- SOUND AND PATCH ALL UNSOUND CONCRETE ON SUBSTRUCTURE
- SEAL ALL EXPOSED CONCRETE SURFACES, PARAPETS, AND SUBSTRUCTURE WITH EPOXY-URETHANE
- REMOVE AND REPLACE DAMAGED SLABS OF THE CONCRETE SLOPE PROTECTION AT REAR AND FORWARD ABUTMENTS
- CLEARING AND GRUBBING 15' AROUND STRUCTURE TO REMOVE ALL VEGETATION
- PROVIDE NEW, CORRECT STRUCTURE IDENTIFICATION SIGNS

MAH-680-0693 (OVER YOUNGSTOWN & SE RR)
- SEAL EXISTING WEARING SURFACE WITH GRAVITY-FED RESIN
- REPAIR EROSION AT THE REAR LEFT ABUTMENT
- CLEARING AND GRUBBING 15' AROUND STRUCTURE TO REMOVE ALL VEGETATION
- PROVIDE NEW, CORRECT STRUCTURE IDENTIFICATION SIGNS

MAH-680-0705 (UNDER SOUTH AVE.)
- SEAL EXISTING WEARING SURFACE WITH GRAVITY-FED RESIN
- REMOVE AND REPLACE APPROACH ASPHALT
- SOUND, PATCH, AND SEAL ALL UNSOUND CONCRETE ON SUBSTRUCTURE
- REMOVE AND REPLACE DAMAGED SIDEWALK AND CURB ON APPROACH SLAB
- REMOVE ALL SPALLED AREAS FROM BOTTOM OF DECK AND SEAL WITH EPOXY-URETHANE
- CLEAN OUT SCUPPERS
- REHABILITATE AND RESET ALL EXISTING ABUTMENT BEARINGS
- CLEARING AND GRUBBING 15' AROUND STRUCTURE TO REMOVE ALL VEGETATION
- PROVIDE NEW, CORRECT STRUCTURE IDENTIFICATION SIGNS

MAH-680-0724 (UNDER GIBSON AVE.)
- SEAL EXISTING WEARING SURFACE WITH GRAVITY-FED RESIN
- REMOVE AND REPLACE APPROACH ASPHALT
- SOUND AND PATCH ALL UNSOUND CONCRETE ON SUBSTRUCTURE
- SEAL ALL EXPOSED CONCRETE SURFACES, PARAPETS, CURBS, AND SIDEWALKS WITH EPOXY-URETHANE
- REMOVE AND REPLACE DAMAGED SIDEWALK AND CURB ON APPROACH SLAB
- REMOVE AND REPLACE DAMAGED SLABS OF THE CONCRETE SLOPE PROTECTION
- CLEARING AND GRUBBING 15' AROUND STRUCTURE (INCLUDING THE SLOPE PROTECTION) TO REMOVE ALL VEGETATION
- PROVIDE NEW, CORRECT STRUCTURE IDENTIFICATION SIGNS

MAH-680-0791E (RAMP E OVER DEWEY AVE.)
- SEAL EXISTING WEARING SURFACE WITH GRAVITY-FED RESIN
- CLEAN OUT SCUPPERS AND REPLACE DRAINAGE SYSTEM
- REMOVE AND REPLACE DAMAGED SIDEWALK AND CURB ON APPROACH SLAB
- SEAL ALL EXPOSED CONCRETE SURFACES, PARAPETS, CURBS, AND SIDEWALKS WITH EPOXY-URETHANE
- CLEARING AND GRUBBING 15' AROUND STRUCTURE TO REMOVE ALL VEGETATION
- PROVIDE NEW, CORRECT STRUCTURE IDENTIFICATION SIGNS

MAH-680-0794 (OVER DEWEY AVE.)
- SEAL EXISTING WEARING SURFACE WITH GRAVITY-FED RESIN
- CLEAN OUT SCUPPERS
- SOUND, PATCH, AND SEAL ALL UNSOUND CONCRETE ON SUBSTRUCTURE
- REHABILITATE AND RESET ALL EXISTING ABUTMENT BEARINGS
- REMOVE AND REPLACE DAMAGED SLABS OF THE CONCRETE SLOPE PROTECTION
- CLEARING AND GRUBBING 15' AROUND STRUCTURE TO REMOVE ALL VEGETATION
- PROVIDE NEW, CORRECT STRUCTURE IDENTIFICATION SIGNS

MAH-680-0817 (UNDER INDIANOLA AVE.)
- SEAL EXISTING WEARING SURFACE WITH GRAVITY-FED RESIN
- REMOVE AND REPLACE APPROACH ASPHALT
- SOUND AND PATCH ALL UNSOUND CONCRETE ON SUBSTRUCTURE
- SEAL ALL EXPOSED CONCRETE SURFACES, PARAPETS, CURBS, AND SIDEWALKS WITH EPOXY-URETHANE
- CLEARING AND GRUBBING 15' AROUND STRUCTURE (INCLUDING THE SLOPE PROTECTION) TO REMOVE ALL VEGETATION
- PROVIDE NEW, CORRECT STRUCTURE IDENTIFICATION SIGNS

MAH-680-0837 (UNDER SHIRLEY RD.)
- SEAL EXISTING WEARING SURFACE WITH GRAVITY-FED RESIN
- REMOVE AND REPLACE APPROACH ASPHALT
- SEAL ALL EXPOSED CONCRETE SURFACES, PARAPETS, CURBS, AND SIDEWALKS WITH EPOXY-URETHANE
- SOUND AND PATCH ALL UNSOUND CONCRETE ON SUBSTRUCTURE
- CLEARING AND GRUBBING 15' AROUND STRUCTURE (INCLUDING THE SLOPE PROTECTION) TO REMOVE ALL VEGETATION
- PROVIDE NEW, CORRECT STRUCTURE IDENTIFICATION SIGNS

MAH-680-0921 (UNDER MIDLOTHIAN BLVD.)
- SEAL EXISTING WEARING SURFACE WITH GRAVITY-FED RESIN
- CLEAN OUT SCUPPERS
- CLEARING AND GRUBBING 15' AROUND STRUCTURE TO REMOVE ALL VEGETATION
- PROVIDE NEW, CORRECT STRUCTURE IDENTIFICATION SIGNS

MAH-680-0990 (UNDER THALIA AVE.)
- SEAL EXISTING WEARING SURFACE WITH GRAVITY-FED RESIN
- REMOVE AND REPLACE APPROACH ASPHALT
- SOUND AND PATCH ALL UNSOUND CONCRETE ON SUBSTRUCTURE
- SEAL ALL EXPOSED CONCRETE SURFACES, PARAPETS, CURBS, AND SIDEWALKS WITH EPOXY-URETHANE
- CLEARING AND GRUBBING 15' AROUND STRUCTURE TO REMOVE ALL VEGETATION
- PROVIDE NEW, CORRECT STRUCTURE IDENTIFICATION SIGNS

MAH-680-1073L (OVER MATHEWS RD.)
- SEAL EXISTING WEARING SURFACE WITH GRAVITY-FED RESIN
- REMOVE AND REPLACE DAMAGED SLABS OF THE CONCRETE SLOPE PROTECTION
- CLEARING AND GRUBBING 15' AROUND STRUCTURE TO REMOVE ALL VEGETATION
- PROVIDE NEW, CORRECT STRUCTURE IDENTIFICATION SIGNS

MAH-680/11-7.05/VAR PID No. 87273	STRUCTURE GENERAL NOTES MAH-11-0194L, MAH-11-0191R, MAH-11-0507L&R, MAH-11-0609, MAH-11-0802L&R, MAH-680-0283, MAH-680-0386, MAH-680-0415, MAH-680-0432, MAH-680-0489, MAH-680-0594, MAH-680-0604, MAH-680-0628, MAH-680-0631, MAH-680-0637, MAH-680-0687, MAH-680-0693, MAH-680-0705, MAH-680-0724, MAH-680-0791E	DESIGNED	MJA	CHECKED	XXX
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		REVIEWED	NRC	DATE	2/23/17
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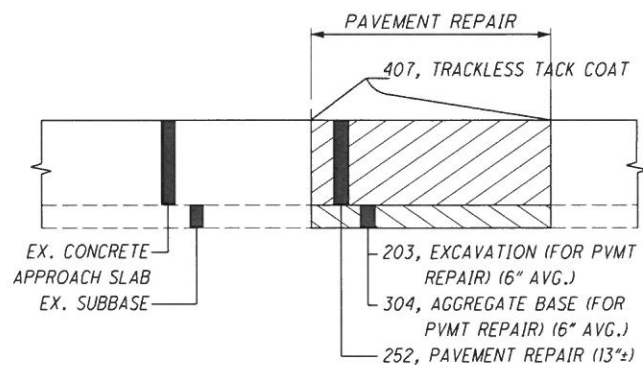
- MAH-680-1073R (OVER MATHEWS RD.)
- SEAL EXISTING WEARING SURFACE WITH GRAVITY-FED RESIN
- REMOVE AND REPLACE DAMAGED SLABS OF THE CONCRETE SLOPE PROTECTION
- REHABILITATE AND RESET ALL EXISTING ABUTMENT BEARINGS
- REPAIR BROKEN WELDS CONNECTING THE TOP BEARING PLATE TO THE BOTTOM FLANGE AT THE REAR ABUTMENT UNDER BEAMS 3, 4, AND 6
- REPAIR BROKEN WELDS AT END CROSSFRAME AT REAR ABUTMENT BETWEEN BEAMS 4 & 5
- REPLACE DAMAGED SECTION OF FORWARD APPROACH SLAB WITH A FULL DEPTH ASPHALT REPAIR
- CLEARING AND GRUBBING 15' AROUND STRUCTURE TO REMOVE ALL VEGETATION
- PROVIDE NEW, CORRECT STRUCTURE IDENTIFICATION SIGNS

- MAH-680-1322 (UNDER EAST OHIO GAS LINE)
- CLEARING AND GRUBBING 15' AROUND STRUCTURE TO REMOVE ALL VEGETATION
- PROVIDE NEW, CORRECT STRUCTURE IDENTIFICATION SIGNS

ITEM 252 - FULL DEPTH PAVEMENT REMOVAL AND FLEXIBLE REPLACEMENT, AS PER PLAN (MAH-680-1073R FORWARD APPROACH SLAB)

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 10"± 301 ASPHALT CONCRETE BASE, PG64-22 AND 3"± OF ITEM 441 ASPHALT CONCRETE SURFACE COURSE, TYPE I (448). THE MAXIMUM COMPACTED DEPTH OF ANY ONE LAYER SHALL BE 6 INCHES. 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 QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY:

- 252, FULL DEPTH PAVEMENT REMOVAL AND FLEXIBLE REPLACEMENT, AS PER PLAN, 9 SQ YD
- 252, FULL DEPTH PAVEMENT SAWING, 56 FT



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: 203, EXCAVATION (FOR PAVEMENT REPAIR) 1.5 CU YD

ITEM 516 - REFURBISHING BEARING DEVICES, AS PER PLAN

THIS ITEM SHALL INCLUDE ALL WORK NECESSARY TO PROPERLY ALIGN BRIDGE BEARINGS AS WELL AS THEIR CLEANING AND PAINTING. INCLUDED SHALL BE THE DISASSEMBLY OF THE BEARINGS, HAND TOOL CLEANING (GRINDING IF NECESSARY), PAINTING ACCORDING TO ITEM 514, REPLACEMENT OF ANY DAMAGED SHEET LEAD WITH PREFORMED BEARING PADS (711.21), INSTALLATION OF ANY NECESSARY STEEL SHIMS OF THE SAME SIZE AS THE BEARINGS TO PROVIDE A SNUG FIT, REALIGNMENT OF THE UPPER BEARING PLATE BY REMOVING EXISTING WELDS AND REWELDING SO THAT THE BEARINGS ARE VERTICALLY ALIGNED AT 60 DEGREES F, LUBRICATING SLIDING SURFACES, AND REASSEMBLY OF THE BEARINGS. ASSURE ALL BEARINGS ARE SHIMMED ADEQUATELY AND THAT NO BEAMS AND/OR BEARING DEVICES ARE "FLOATING". AT NO ADDITIONAL COST TO THE STATE, THE CONTRACTOR MAY INSTALL NEW BEARINGS OF THE SAME TYPE AS THE EXISTING IN PLACE OF REFURBISHING THE BEARINGS. ALL WORK SHALL BE TO THE SATISFACTION OF THE ENGINEER. PAYMENT FOR ALL OF THE ABOVE DESCRIBED LABOR AND MATERIALS WILL BE MADE AT THE CONTRACT PRICE BID FOR ITEM 516 - REFURBISH BEARING DEVICES, AS PER PLAN.

ITEM 516, JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN

THIS WORK CONSISTS OF RAISING OR RE-POSITIONING EXISTING STRUCTURES TO THE DIMENSIONS AND REQUIREMENTS DEFINED IN THE PROJECT PLANS.

SUBMIT CONSTRUCTION PLANS IN ACCORDANCE WITH CMS 501.05.

IF, DURING THE JACKING OPERATIONS, CRACKING OF THE CONCRETE SUPERSTRUCTURE, SEPARATION OF THE CONCRETE DECK FROM THE STEEL STRINGERS, OR OTHER DAMAGE TO THE STRUCTURE IS VISUALLY OBSERVED, IMMEDIATELY CEASE THE JACKING OPERATION AND INSTALL SUPPORTS TO THE SATISFACTION OF THE ENGINEER. ANALYZE THE DAMAGE AND SUBMIT A METHOD OF CORRECTION TO THE ENGINEER FOR APPROVAL. EPOXY INJECT ALL BEAMS THAT SEPARATE FROM THE DECK FOR THE DISTANCE OF THE SEPARATION IN ACCORDANCE WITH CMS 512.07. THE DEPARTMENT WILL NOT PAY FOR THE COST OF THIS EPOXY INJECTION OR OTHER REQUIRED REPAIRS. THE BRIDGE BEARINGS SHALL BE FULLY SEATED AT ALL CONTACT AREAS. IF FULL SEATING IS NOT ATTAINED, SUBMIT A REPAIR PLAN TO THE ENGINEER. THE DEPARTMENT WILL NOT PAY FOR THE REPAIR COSTS TO ENSURE FULL SEATING ON BEARINGS.

THE DEPARTMENT WILL MEASURE THIS WORK ON A LUMP SUM BASIS.

THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITIES AT THE CONTRACT PRICE FOR ITEM 516, JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN.

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: 304, AGGREGATE BASE (FOR PAVEMENT REPAIR) 1.5 CU YD

STRUCTURE/CULVERT IDENTIFICATION SIGNS

STRUCTURE IDENTIFICATION SIGNS (I-H25b) WILL BE PLACED ON EACH APPROACH OFF THE RIGHT SHOULDER, FACING TRAFFIC, AND BEHIND THE GUARDRAIL IF APPLICABLE. A QUANTITY OF ONE SIGN PER APPROACH WILL BE INSTALLED. THE SIGNS WILL HAVE A NON-REFLECTIVE WHITE SHEETING BACKGROUND.

THE SIGNS WILL BE MOUNTED ON NEW NO. 2 POSTS AND WILL BE INSTALLED AS PER STANDARD CONSTRUCTION DRAWING TC-41.20, MOST CURRENT REVISION. EACH POST WILL BE 7.5' IN LENGTH.

THE FOLLOWING QUANTITIES HAVE BEEN INCLUDED FOR EACH APPROACH:

- ITEM 630 - SIGN, FLAT SHEET, 730.20, 1 SQ FT
- ITEM 630 - GROUND MOUNTED SUPPORT, NO. 2 POST, 7.5 FT
- ITEM 630 - REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL, 1 EACH
- ITEM 630 - REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL, 1 EACH

SPECIAL - STRUCTURES: CONCRETE SPALL REMOVAL

THIS WORK WILL CONSIST OF REMOVING ALL VISIBLY SPALLED AREAS OF THE BOTTOM DECK FLOOR OF STRUCTURE MAH-680-0705 WITHOUT SOUNDING. AFTER SPALLED CONCRETE AREAS HAVE BEEN REMOVED, REMOVAL AREAS WILL BE SEALED WITH ITEM 512, SEALING OF CONCRETE SURFACES (EPOXY-URETHANE).

CONCRETE SPALL REMOVAL WILL BE PAID FOR AT THE UNIT BID PRICE FOR SPECIAL STRUCTURE MISC.: CONCRETE SPALL REMOVAL. THIS PRICE WILL INCLUDE THE COST OF LABOR, EQUIPMENT, AND ALL INCIDENTALS REQUIRED TO COMPLETE THIS WORK.

SPEC, STRUCTURES: CONCRETE SPALL REMOVAL, 10 SQ YD 512, SEALING OF CONCRETE SURFACES (EPOXY-URETHANE), 10 SQ YD

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 IDENTIFICATIONS SIGNS.

STRUCTURE MAH-11-0194L (SFN: 5000270) THE EXISTING SIGN SHOWS 0194. THE CORRECT BRIDGE IDENTIFICATION NUMBER IS 0194L.

STRUCTURE MAH-11-0194R (SFN: 5000300) THE EXISTING SIGN SHOWS 0194. THE CORRECT BRIDGE IDENTIFICATION NUMBER IS 0194R.

STRUCTURE MAH-11-0507L (SFN: 5000394) THE EXISTING SIGN SHOWS 0508. THE CORRECT BRIDGE IDENTIFICATION NUMBER IS 0507L.

STRUCTURE MAH-11-0507R (SFN: 5000424) THE EXISTING SIGN SHOWS 0508. THE CORRECT BRIDGE IDENTIFICATION NUMBER IS 0507R.

STRUCTURE MAH-11-0609 (SFN: 5000459) THE EXISTING SIGN SHOWS 0610. THE CORRECT BRIDGE IDENTIFICATION NUMBER IS 0609.

STRUCTURE MAH-680-0283 (SFN: 5006511) THE EXISTING SIGN SHOWS 0282. THE CORRECT BRIDGE IDENTIFICATION NUMBER IS 0283.

STRUCTURE MAH-680-0386 (SFN: 5006783) THE EXISTING SIGN SHOWS 0385. THE CORRECT BRIDGE IDENTIFICATION NUMBER IS 0386.

STRUCTURE MAH-680-0415 (SFN: 5006813) THE EXISTING SIGN SHOWS 0414. THE CORRECT BRIDGE IDENTIFICATION NUMBER IS 0415.

STRUCTURE MAH-680-0432 (SFN: 5006848) THE EXISTING SIGN SHOWS 0429. THE CORRECT BRIDGE IDENTIFICATION NUMBER IS 0432.

STRUCTURE MAH-680-0489 (SFN: 5006902) THE EXISTING SIGN SHOWS 0488. THE CORRECT BRIDGE IDENTIFICATION NUMBER IS 0489.

STRUCTURE MAH-680-0604 (SFN: 5001986) THE EXISTING SIGN SHOWS 0603. THE CORRECT BRIDGE IDENTIFICATION NUMBER IS 0604.

STRUCTURE MAH-680-0631 (SFN: 5007143) THE EXISTING SIGNS ARE MISSING. THE CORRECT BRIDGE IDENTIFICATION NUMBER IS 0631.

STRUCTURE MAH-680-0687 (SFN: 5007232) ONE EXISTING SIGN IS MISSING. THE CORRECT BRIDGE IDENTIFICATION NUMBER IS 0687.

STRUCTURE MAH-680-0791E (SFN: 5007348) THE EXISTING SIGN SHOWS 0792E. THE CORRECT BRIDGE IDENTIFICATION NUMBER IS 0791E.

STRUCTURE MAH-680-0817 (SFN: 5007429) THE EXISTING SIGN SHOWS 0818. THE CORRECT BRIDGE IDENTIFICATION NUMBER IS 0817.

STRUCTURE MAH-680-0837 (SFN: 5007534) THE EXISTING SIGN SHOWS 0834. THE CORRECT BRIDGE IDENTIFICATION NUMBER IS 0837.

STRUCTURE MAH-680-0921 (SFN: 5007577) THE EXISTING SIGN SHOWS 0923. THE CORRECT BRIDGE IDENTIFICATION NUMBER IS 0921.

STRUCTURE MAH-680-0990 (SFN: 5007615) THE EXISTING SIGN SHOWS 0992. THE CORRECT BRIDGE IDENTIFICATION NUMBER IS 0990.

STRUCTURE MAH-680-1073L (SFN: 5007712) THE EXISTING SIGN SHOWS 1073R. THE CORRECT BRIDGE IDENTIFICATION NUMBER IS 1073L.

STRUCTURE MAH-680-1073R (SFN: 5007720) THE EXISTING SIGN SHOWS 1073L. THE CORRECT BRIDGE IDENTIFICATION NUMBER IS 1073R.

STRUCTURE MAH-680-1322 (SFN: 5007763) THE EXISTING SIGN SHOWS 1325. THE CORRECT BRIDGE IDENTIFICATION NUMBER IS 1322.

STRUCTURE GENERAL NOTES
MAH-680-0173R, MAH-680-1322

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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.

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.

CONCRETE SLOPE PROTECTION REPAIR

THIS WORK WILL CONSIST OF REMOVING AND REPLACING SLABS OF THE CONCRETE SLOPE PROTECTION UNDER STRUCTURES WITH ITEM 613, LOW STRENGTH MORTAR BACKFILL AND ITEM 601, CONCRETE SLOPE PROTECTION.

PLACE THE LOW STRENGTH MORTAR BACKFILL TO FILL ALL EROSION UNDER THE OLD CONCRETE SLOPE PROTECTION AND THEN PLACE NEW CONCRETE SLOPE PROTECTION SLABS PER CMS 601.07 AS DIRECTED BY THE PROJECT ENGINEER.

CONCRETE SLOPE PROTECTION REPLACEMENT WILL BE PAID FOR AT THE UNIT PRICE BID FOR ITEM 601, CONCRETE SLOPE PROTECTION AND ITEM 613, LOW STRENGTH MORTAR BACKFILL. REMOVAL OF EXISTING CONCRETE SLOPE PROTECTION WILL BE PAID FOR AT THE UNIT PRICE BID FOR ITEM 202, CONCRETE SLOPE PROTECTION REMOVED. THE PRICE FOR EACH ITEM WILL INCLUDE THE COST OF LABOR, EQUIPMENT, AND ALL INCIDENTALS REQUIRED TO COMPLETE THIS WORK.

ITEM 518, STRUCTURE DRAINAGE, MISC.: 8" COLLECTOR PIPE

THIS WORK SHALL CONSIST OF THE REMOVAL AND REPLACEMENT OF THE 8" COLLECTOR PIPE (WROUGHT IRON OR GALVANIZED STEEL) LOCATED AT THE FORWARD ABUTMENT ON STRUCTURE MAH-680-0791E.

1. AFTER THE 8" COLLECTOR PIPE REMOVAL AND REPLACEMENT IS COMPLETE PAINT NEW SECTION PER ITEM 514, FIELD PAINTING, MISC.; REPAIR PAINTING.

2. THIS WORK WILL BE PAID FOR AT THE UNIT BID PRICE FOR ITEM 518 - STRUCTURE DRAINAGE MISC.: 8" COLLECTOR PIPE. THIS PRICE WILL INCLUDE THE COST OF LABOR, MATERIALS, EQUIPMENT, PAINTING AND ALL INCIDENTALS ITEMS REQUIRED TO COMPLETE THIS WORK.

ITEM 518 - SCUPPER MISC.: CLEANOUT

THIS WORK WILL CONSIST OF REMOVING ALL DEBRIS FROM ON TOP AND INSIDE OF THE SCUPPERS. SCUPPER CLEANOUT WILL BE PAID FOR AT THE UNIT PRICE BID FOR ITEM 518, SCUPPER MISC.: CLEANOUT. THIS PRICE WILL INCLUDE THE COST FOR LABOR, EQUIPMENT, AND ALL INCIDENTALS REQUIRED TO COMPLETE THIS WORK.

ITEM 441, ASPHALT CONCRETE SURFACE COURSE, TYPE 1 (448), AS PER PLAN (PG64-22)

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 513 - STRUCTURAL STEEL, MISC.: REPLACEMENT OF DAMAGED CROSSFRAMES

THIS WORK CONSISTS OF REPLACING DAMAGED CROSSFRAMES THAT ARE BENT OR HAVE SECTION LOSS. THIS ITEM WILL INCLUDE SUPPLYING NEW CROSSFRAMES AND WELDING THEM BACK TO THE ORIGINAL POSITIONS OF THE CROSSFRAMES THAT ARE BEING REPLACED. AFTER REMOVAL, ALL WELDS WILL BE GROUND SMOOTH IN PREPARATION OF WELDING THE NEW CROSSFRAMES IN PLACE. ALL CROSSFRAMES TO BE REPLACED WILL BE FIELD MEASURED TO VERIFY SIZE AND LENGTHS PRIOR TO ORDERING MATERIAL. THE NEW CROSSFRAMES WILL BE WELDED TO THE GIRDERS OR BEAMS ON BOTH SIDES OF THE VERTICAL LEG AND ON THE TOP SIDE OF THE HORIZONTAL LEG. THE ANGLE WILL BE WELDED USING A 1/4" CONTINUOUS FILLET WELD. STEEL MEMBERS TO BE FABRICATED UNDER THIS ITEM WILL NOT REQUIRE SHOP DRAWINGS PRIOR TO FABRICATION. AISC CERTIFICATION IS NOT REQUIRED. THE CONTRACTOR WILL TAKE THE NECESSARY FIELD MEASUREMENTS TO VERIFY MEASUREMENTS BEFORE ORDERING MATERIALS. THE ENGINEER WILL HAVE THE AUTHORITY AND THE RESPONSIBILITY FOR ENSURING THAT THE STEEL IS ACCEPTABLE. AFTER FABRICATION THE PAY WEIGHTS SHALL BE COMPUTED IN COMPLIANCE WITH ITEM 513 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS AND SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL.

ALL LABOR, MATERIALS, EQUIPMENT, AND INCIDENTALS NECESSARY TO COMPLETE THIS ITEM EXCEPT FOR PAINT WILL BE INCLUDED FOR PAYMENT UNDER ITEM 513 - STRUCTURAL STEEL MISC.: REPLACEMENT OF DAMAGED CROSSFRAMES.

EROSION REPAIR

THIS WORK WILL CONSIST OF REPAIRING THE EROSION AT REAR LEFT OF STRUCTURE MAH-680-0693. REPAIR WORK WILL BE PAID FOR BY THE FOLLOWING ITEMS:

- ITEM 203, BORROW 5 CU. YDS.
- ITEM 601, DUMPED ROCK FILL 5 CU. YDS.

- ITEM 202 - WALK REMOVED
- ITEM 202 - CURB REMOVED
- ITEM 608 - 4" CONCRETE WALK
- ITEM 609 - CURB, TYPE 2-A

THESE ITEMS OF WORK WILL BE USED AT LOCATIONS AS DIRECTED BY THE ENGINEER TO REPLACE THE EXISTING APPROACH CONCRETE WALK THAT HAS BEEN DAMAGED ON STRUCTURE MAH-680-0705, MAH-680-0724, & MAH-680-0791E

ITEM 513 - STRUCTURAL STEEL MISC., REPAIR OF DAMAGED MAIN OR SECONDARY MEMBERS, FILLET WELDING

AFTER DAMAGED AREAS HAVE BEEN INSPECTED ACCORDING TO ITEM 849 DAMAGE ASSESSMENT, PREPARE THE DAMAGED MATERIAL FOR WELDING, PERFORMING 3/16 INCH FILLET WELDS ACCORDING TO ITEM 513 USING APPROVED ELECTRODES, PROCEDURES, AND WELDERS. MAGNETIC PARTICLE INSPECT ALL FILLET WELDS ACCORDING TO C&MS 513.25B. THE ENGINEER MAY OBTAIN TECHNICAL ASSISTANCE FROM THE OFFICE OF MATERIALS MANAGEMENT. THE DEPARTMENT WILL INCLUDE ALL MATERIALS, TOOLS, LABOR, EQUIPMENT, AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE WORK FOR PAYMENT WITH ITEM 513 - STRUCTURAL STEEL MISC., REPAIR OF DAMAGED MAIN OR SECONDARY MEMBERS: FILLET WELDING. FOOT.

STRUCTURE GENERAL NOTES

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NRC 2/23/17
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DESIGNED MJA
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ESTIMATED QUANTITIES													
BRIDGE NO. / STRUCTURE FILE NO.								ITEM	EXTENSION	UNIT	DESCRIPTION	SEE SHEET	
MAH-11-0194L 5000270 03/NHS/BR	MAH-11-0191R 5000300 03/NHS/BR	MAH-11-0507L 5000394 03/NHS/BR	MAH-11-0507R 5000424 03/NHS/BR	MAH-11-0609 5000459 03/NHS/BR	MAH-11-0802L 5000513 03/NHS/BR	MAH-11-0802R 5000548 03/NHS/BR							
LS	LS	LS	LS	LS	LS	LS	201	11000	LS	CLEARING AND GRUBBING			
				378	367	367	202	23500	SY	WEARING COURSE REMOVED			
				34	33	33	407	20000	GAL	NON-TRACKING TACK COAT			
				15	16	16	441	50001	CY	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG64-22, AS PER PLAN	3/13		
1107	1053	796	796	1281	887	895	512	73500	SY	TREATING CONCRETE BRIDGE DECKS WITH GRAVITY FED RESIN			
15	15	15	15	15	15	15	630	02100	FT	GROUND MOUNTED SUPPORT, NO. 2 POST			
2	2	2	2	2	2	2	630	80100	SF	SIGN, FLAT SHEET			
2	2	2	2	2	2	2	630	84900	EACH	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL			
2	2	2	2	2	2	2	630	86002	EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL			

MAH-680/11- 7.05 / VAR PID No. 87273	STRUCTURE ESTIMATED QUANTITIES <small>MAH-11-0194L, MAH-11-0191R, MAH-11-0507L&R, MAH-11-0609, MAH-11-0802L&R,</small>		<small>DESIGNED</small> MJA <small>CHECKED</small> XXX	<small>DRAWN</small> MJA <small>REVISED</small> XXX	<small>REVIEWED</small> NRC <small>STRUCTURE FILE NUMBER</small> XXX	<small>DATE</small> 2/23/17	<small>DESIGN AGENCY</small> ODOT -- DISTRICT 4 PLANNING & ENGINEERING
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BRIDGE NO. / STRUCTURE FILE NO.								ITEM	EXTENSION	UNIT	DESCRIPTION	SEE SHEET
MAH-680-0283 5006511 02/IMS/BR	MAH-680-0386 5006783 02/IMS/BR	MAH-680-0415 5006813 02/IMS/BR	MAH-680-0432 5006848 02/IMS/BR	MAH-680-0489 5006902 02/IMS/BR	MAH-680-0594 5007089 02/IMS/BR	MAH-680-0604 5001986 02/IMS/BR	MAH-680-0628 5007119 02/IMS/BR					
	LS	LS	LS	LS	LS	LS	LS	201	11000	LS	CLEARING AND GRUBBING	
			367	533			756	202	23500	SY	WEARING COURSE REMOVED	
			33	48			68	407	20000	GAL	NON-TRACKING TACK COAT	
			16	22			32	441	50001	CY	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG64-22, AS PER PLAN	3/13
	1522	36	33	1266		33	2318	512	10100	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	
1164	927	1397	939	1211	1154	1428	1561	512	73500	SY	TREATING CONCRETE BRIDGE DECKS WITH GRAVITY FED RESIN	
	1522			1266			2318	512	74000	SY	REMOVAL OF EXISTING COATINGS FROM CONCRETE SURFACES	
			246					513	90000	LB	STRUCTURAL STEEL, MISC.:REPLACEMENT OF DAMAGED CROSSFRAMES	
			4					513	95000	FT	STRUCTURAL STEEL, MISC.:REPAIR OF DAMAGED MAIN OR SECONDARY MEMBERS, FILLET WELDING	
				16				516	45305	EACH	REFURBISH BEARING DEVICE, AS PER PLAN	2/13
				LS				516	47001	LS	JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN	2/13
	200	225	200	150		200		519	11101	SF	PATCHING CONCRETE STRUCTURE, AS PER PLAN	3/13
	15	15	15	15	15	15	15	630	02100	FT	GROUND MOUNTED SUPPORT, NO. 2 POST	
	2	2	2	2	2	2	2	630	80100	SF	SIGN, FLAT SHEET	
	2	2	2	2	2	2	2	630	84900	EACH	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	
	2	2	2	2	2	2	2	630	86002	EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	
	100	100	100	75		100		843	50000	SF	PATCHING CONCRETE STRUCTURES WITH TROWELABLE MORTAR	

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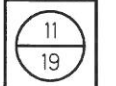
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STRUCTURE ESTIMATED QUANTITIES
 MAH-680-0283, MAH-680-0386, MAH-680-0415, MAH-680-0432, MAH-680-0489,
 MAH-680-0594, MAH-680-0604, MAH-680-0628

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 CHECKED: NRC DATE: 2/23/2017

BRIDGE NO. / STRUCTURE FILE NO.								ITEM	EXTENSION	UNIT	DESCRIPTION	SEE SHEET
MAH-680-0631 5007143 02/IMS/IBR	MAH-680-0637 5007178 02/IMS/IBR	MAH-680-0687 5007232 02/IMS/IBR	MAH-680-0693 5007267 02/IMS/IBR	MAH-680-0705 5003350 02/IMS/IBR	MAH-680-0724 5007291 02/IMS/IBR	MAH-680-0791E 5007348 02/IMS/IBR	MAH-680-0794 5007380 02/IMS/IBR					
LS	LS	LS	LS	LS	LS	LS	LS	201	11000	LS	CLEARING AND GRUBBING	
				734	444			202	23500	SY	WEARING COURSE REMOVED	
				50	70	50		202	30000	SF	WALK REMOVED	
				10	10	10		202	32000	FT	CURB REMOVED	
		44			22		42	202	32800	SY	CONCRETE SLOPE PROTECTION REMOVED	
			5					203	40000	CY	BORROW	
				66	40			407	20000	GAL	NON-TRACKING TACK COAT	
				31	19			441	50001	CY	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG64-22, AS PER PLAN	3/13
1531	1960	1314		43	1237	605	42	512	10100	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	
	80							512	10600	FT	CONCRETE REPAIR BY EPOXY INJECTION OF PARAPETS	
2641	1537	2493	2578	1408	1302	941	2987	512	73500	SY	TREATING CONCRETE BRIDGE DECKS WITH GRAVITY FED RESIN	
1531	1960	1314			1237	605		512	74000	SY	REMOVAL OF EXISTING COATINGS FROM CONCRETE SURFACES	
				24			14	516	45305	EACH	REFURBISH BEARING DEVICE, AS PER PLAN	2/13
				LS			LS	516	47001	LS	JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN	2/13
				6		6	16	518	12500	EACH	SCUPPER, MISC.:SCUPPER CLEANOUT	
						56		518	62100	FT	STRUCTURE DRAINAGE, MISC.: 8" COLLECTOR PIPE	
	300	200		200	300		250	519	11101	SF	PATCHING CONCRETE STRUCTURE, AS PER PLAN	3/13
				50				SPECIAL	53000800	SY	STRUCTURES: CONCRETE SPALL REMOVAL	3/13
		44			22		42	601	21000	SY	CONCRETE SLOPE PROTECTION	
			5					601	27000	CY	DUMPED ROCK FILL, TYPE C	
				50	70	50		608	10000	SF	4" CONCRETE WALK	
				10	10	10		609	14000	FT	CURB, TYPE 2-A	
		1			1		1	613	41200	CY	LOW STRENGTH MORTAR BACKFILL	
15	15	15	15	15	15	15	15	630	02100	FT	GROUND MOUNTED SUPPORT, NO. 2 POST	
2	2	2	2	2	2	2	2	630	80100	SF	SIGN, FLAT SHEET	
2	2	2	2	2	2	2	2	630	84900	EACH	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	
2	2	2	2	2	2	2	2	630	86002	EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	
	150	100		100	150		125	843	50000	SF	PATCHING CONCRETE STRUCTURES WITH TROWELABLE MORTAR	

DESIGN AGENCY
 ODOT -- DISTRICT 4
 PLANNING & ENGINEERING

REVIEWED DATE
 NRC 2/23/17
 STRUCTURE FILE NUMBER

DRAWN MJA
 REVISION XXX

DESIGNED MJA
 CHECKED XXX

STRUCTURE ESTIMATED QUANTITIES

MAH-680/11-
 7-05/VAR
 PID No. 87273

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CALC: MJA DATE: 1/18/2017
 CHECKED: NRC DATE: 2/23/2017

ESTIMATED QUANTITIES											
BRIDGE NO. / STRUCTURE FILE NO.							ITEM	EXTENSION	UNIT	DESCRIPTION	SEE SHEET
MAH-680-0817 5007429 02/IMS/BR	MAH-680-0837 5007534 02/IMS/BR	MAH-680-0921 5007577 02/IMS/BR	MAH-680-0980 5007615 02/IMS/BR	MAH-680-1073L 5007712 02/IMS/BR	MAH-680-1073R 5007720 02/IMS/BR	MAH-680-1322 5007763 02/IMS/BR					
LS	LS	LS	LS	LS	LS	LS	201	11000	LS	CLEARING AND GRUBBING	
334	489	1500	311				202	23500	SY	WEARING COURSE REMOVED	
				22	42		202	32800	SY	CONCRETE SLOPE PROTECTION REMOVED	
							252	01001	SY	FULL DEPTH RIGID PAVEMENT REMOVAL AND FLEXIBLE REPLACEMENT, AS PER PLAN (FOR PAVEMENT RE	
							252	01500	FT	FULL DEPTH PAVEMENT SAWING (FOR PAVEMENT REPAIR)	
							203	10000	CY	EXCAVATION (FOR PAVEMENT REPAIR)	
							304	20000	CY	AGGREGATE BASE (FOR PAVEMENT REPAIR)	
30	44	135	28				407	20000	GAL	NON-TRACKING TACK COAT	
14	20	63	13				441	50001	CY	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG64-22, AS PER PLAN	3/13
1381	2475		1365				512	10100	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	
793	2004	3457	974	826	826		512	73500	SY	TREATING CONCRETE BRIDGE DECKS WITH GRAVITY FED RESIN	
1381	2475		1365				512	74000	SY	REMOVAL OF EXISTING COATINGS FROM CONCRETE SURFACES	
							513	90000	LB	STRUCTURAL STEEL, MISC.:REPLACEMENT OF DAMAGED CROSSFRAMES	
							513	95000	FT	STRUCTURAL STEEL, MISC.:REPAIR OF DAMAGED MAIN OR SECONDARY MEMBERS, FILLET WELDING	
							516	45304	EACH	REFURBISH BEARING DEVICE	
							516	47001	LS	JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN	2/13
		21					518	12500	EACH	SCUPPER, MISC.: SCUPPER CLEANOUT	
200	300						519	11101	SF	PATCHING CONCRETE STRUCTURE, AS PER PLAN	3/13
				22	42		601	21000	SY	CONCRETE SLOPE PROTECTION	
				1	1		613	41200	CY	LOW STRENGTH MORTAR BACKFILL	
15	15	15	15	15	15	15	630	02100	FT	GROUND MOUNTED SUPPORT, NO. 2 POST	
2	2	2	2	2	2	2	630	80100	SF	SIGN, FLAT SHEET	
2	2	2	2	2	2	2	630	84900	EACH	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	
2	2	2	2	2	2	2	630	86002	EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	
100	150						843	50000	SF	PATCHING CONCRETE STRUCTURES WITH TROWELABLE MORTAR	

DESIGN AGENCY
 ODOT -- DISTRICT 4
 PLANNING & ENGINEERING

DATE
 2/23/17
 REVIEWED
 NRC
 STRUCTURE FILE NUMBER
 XXX

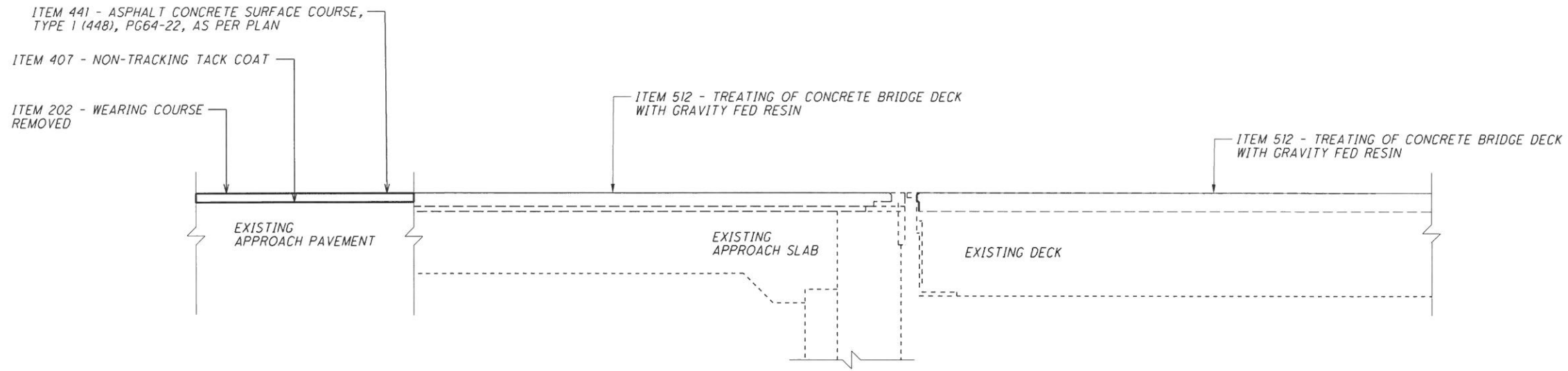
STRUCTURE ESTIMATED QUANTITIES

MAH-680/11-
 7.05/VAR
 PID No. 87273

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MAH-II-0194L, MAH-II-0191R, MAH-II-0507L&R, MAH-II-0609, MAH-0802L&R

APPROACH SHOWN,
TRAILING SIMILAR

BRIDGE NUMBER	BRIDGE DECK										APPROACH SLABS											
	LENGTH (BRIDGE LIMITS)	BRIDGE WIDTH	DECK AREA	512							LENGTH (APPROACH SLABS)	APPROACH SLAB WIDTH	APPROACH SLAB AREA	APPROACH (FORWARD / REAR)	202				SPECIAL	441	512	
				TREATING CONCRETE BRIDGE DECKS WITH GRAVITY FED RESIN													WEARING COURSE REMOVED (T = 1.5")	NON-TRACKING TACK COAT @ 0.08 GAL/SY	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG64-22, AS PER PLAN (T = 1.5")	TREATING CONCRETE BRIDGE DECKS WITH GRAVITY FED RESIN	SY	GAL
FT	FT	SQ YD	SY																			
MAH-11-0194L	199.00	40.00	884.44	884.44								25.00	40.00	111.11	FWD							111.11
													25.00	40.00	111.11	REAR						
MAH-11-0191R	187.00	40.00	831.11	831.11								25.00	40.00	111.11	FWD							111.11
													25.00	40.00	111.11	REAR						
MAH-11-0507L	129.00	40.00	573.33	573.33								25.00	40.00	111.11	FWD							111.11
													25.00	40.00	111.11	REAR						
MAH-11-0507R	129.00	40.00	573.33	573.33								25.00	40.00	111.11	FWD							111.11
													25.00	40.00	111.11	REAR						
MAH-11-0609	289.00	34.00	1091.78	1091.78								25.00	34.00	94.44	FWD	188.89	17.00	7.87	94.44			
													25.00	34.00	94.44	REAR	188.89	17.00	7.87	94.44		
MAH-11-0802L	212.00	33.00	777.33	777.33								15.00	33.00	55.00	FWD	183.33	16.50	7.64	55.00			
													15.00	33.00	55.00	REAR	183.33	16.50	7.64	55.00		
MAH-11-0802R	214.00	33.00	784.67	784.67								15.00	33.00	55.00	FWD	183.33	16.50	7.64	55.00			
													15.00	33.00	55.00	REAR	183.33	16.50	7.64	55.00		
TOTALS				5516								TOTALS				1112	100	47	1298			

DESIGN AGENCY: ODOT -- DISTRICT 4 PLANNING & ENGINEERING
 DATE: 2/23/17
 REVIEWED: NRC
 DRAWN: MJA
 DESIGNED: MJA
 CHECKED: XXX
 STRUCTURE FILE NUMBER: XXX
 REVISOR: XXX
 STRUCTURE DETAILS
 MAH-II-0194L, MAH-II-0191R, MAH-II-0507L&R, MAH-II-0609, MAH-0802L&R,
 MAH-680 / 11-7.05 / VAR
 PID No. 87273
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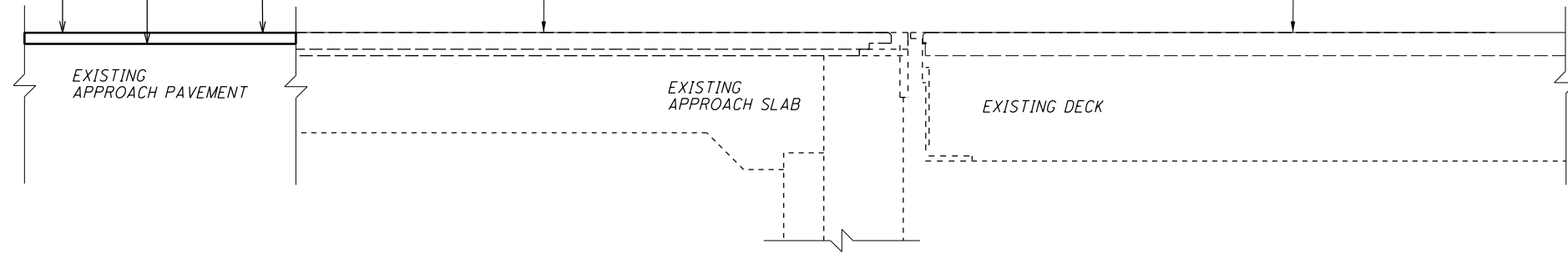
ITEM 441 - ASPHALT CONCRETE SURFACE COURSE, TYPE 1 (448), PG64-22, AS PER PLAN

ITEM 407 - NON-TRACKING TACK COAT

ITEM 202 - WEARING COURSE REMOVED

ITEM 512 - TREATING OF CONCRETE BRIDGE DECK WITH GRAVITY FED RESIN

ITEM 512 - TREATING OF CONCRETE BRIDGE DECK WITH GRAVITY FED RESIN



MAH-680-0283, MAH-680-0386, MAH-680-0415, MAH-680-0432, MAH-680-0489, MAH-680-0594, MAH-680-0604

APPROACH SHOWN,
TRAILING SIMILAR

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BRIDGE NUMBER	BRIDGE DECK										APPROACH SLABS											
	LENGTH (BRIDGE LIMITS) FT	BRIDGE WIDTH FT	DECK AREA SQ YD	512							LENGTH (APPROACH SLABS) FT	APPROACH SLAB WIDTH FT	APPROACH SLAB AREA SQ YD	APPROACH (FORWARD / REAR)	202				SPECIAL			
				TREATING CONCRETE BRIDGE DECKS WITH GRAVITY FED RESIN											WEARING COURSE REMOVED (T = 1.5")	NON-TRACKING TACK COAT @ 0.09 GAL/SY	441	441	512	512	512	512
			SY										SY	GAL	CY	CY	SY	SY	SY	SY		
MAH-680-0283	324.00	28.00	1008.00	1008.00								FWD										
												REAR										
MAH-680-0386	269.00	27.00	807.00	807.00								FWD										
												REAR										
MAH-680-0415	212.00	48.00	1130.67	1130.67								FWD										
												REAR										
MAH-680-0432	264.00	27.00	792.00	792.00								FWD		183.33	16.50	7.64	73.33					
												REAR		183.33	16.50	7.64	73.33					
MAH-680-0489	187.00	48.00	997.33	997.33								FWD		266.67	24.00	11.11	106.67					
												REAR		266.67	24.00	11.11	106.67					
MAH-680-0594	153.00	48.00	816.00	816.00								FWD					106.67					
												REAR					231.11					
MAH-680-0604	139.00	68.00	1050.22	1050.22								FWD		377.78	34.00	15.74	188.89					
												REAR		377.78	34.00	15.74	188.89					
TOTALS				6602								TOTALS		1656	149	69	1618					

DESIGN AGENCY
ODOT -- DISTRICT 4
PLANNING & ENGINEERING

DATE
2/23/17
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NRC
STRUCTURE FILE NUMBER

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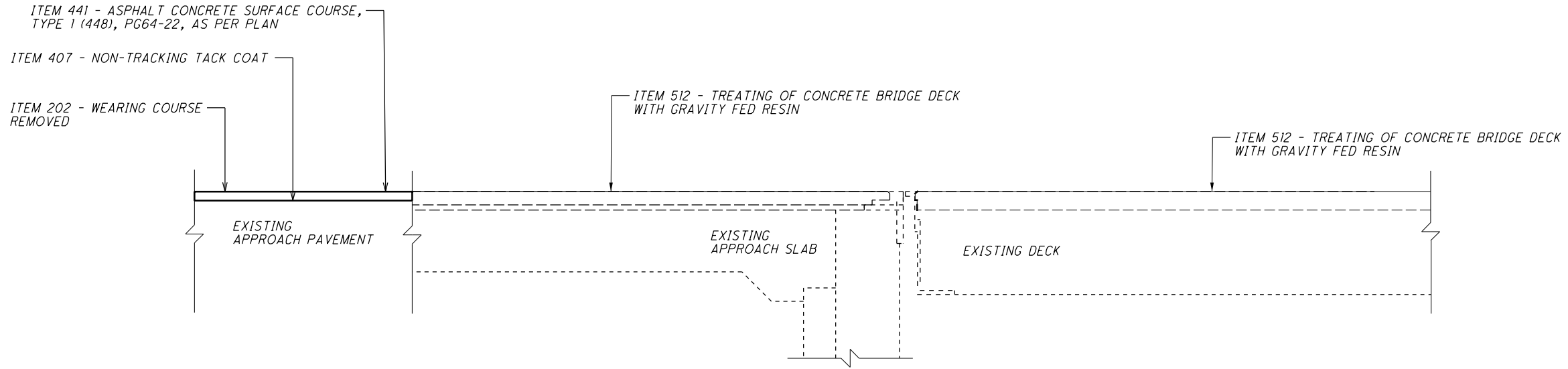
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MJA
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STRUCTURE DETAILS
MAH-680-0283, MAH-680-0386, MAH-680-0415, MAH-680-0432, MAH-680-0489, MAH-680-0594, MAH-680-0604

MAH-680/11-7.05/VAR
PID No. 87273

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MAH-680-0628, MAH-680-0631, MAH-680-0637, MAH-680-0687, MAH-680-0693, MAH-680-0705, MAH-680-0724

APPROACH SHOWN,
TRAILING SIMILAR

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BRIDGE NUMBER	BRIDGE DECK										APPROACH SLABS											
	LENGTH (BRIDGE LIMITS) FT	BRIDGE WIDTH FT	DECK AREA SQ YD	TREATING CONCRETE BRIDGE DECKS WITH GRAVITY FED RESIN 512 SY							LENGTH (APPROACH SLABS) FT	APPROACH SLAB WIDTH FT	APPROACH SLAB AREA SQ YD	APPROACH (FORWARD / REAR)	WEARING COURSE REMOVED ($T = 1.5"$) SY	NON-TRACKING TACK COAT @ 0.09 GAL/SY SPECIAL GAL	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG64-22, AS PER PLAN ($T = 1.5"$) CY	TREATING CONCRETE BRIDGE DECKS WITH GRAVITY FED RESIN 512 SY				
MAH-680-0628	450.00	27.00	1350.00	1350.00							25.00	42.00	116.67	FWD				116.67				
											25.00	34.00	94.44	REAR				94.44				
MAH-680-0631	211.00	84.00	1969.33	1969.33							25.00	138.00	383.33	FWD				383.33				
											25.00	104.00	288.89	REAR				288.89				
MAH-680-0637	411.00	30.00	1370.00	1370.00							25.00	30.00	83.33	FWD				83.33				
											25.00	30.00	83.33	REAR				83.33				
MAH-680-0687	137.00	120.00	1826.67	1826.67							25.00	120.00	333.33	FWD				333.33				
											25.00	120.00	333.33	REAR				333.33				
MAH-680-0693	142.00	122.00	1924.89	1924.89							25.00	123.00	341.67	FWD				341.67				
											25.00	112.00	311.11	REAR				311.11				
MAH-680-0705	132.00	66.00	968.00	968.00							30.00	66.00	220.00	FWD	366.67	33.00	15.28	220.00				
											30.00	66.00	220.00	REAR	366.67	33.00	15.28	220.00				
MAH-680-0724	253.00	40.00	1124.44	1124.44							20.00	40.00	88.89	FWD	222.22	20.00	9.26	88.89				
											20.00	40.00	88.89	REAR	222.22	20.00	9.26	88.89				
TOTALS				10534							TOTALS				1178	106	50	2988				

DESIGN AGENCY
ODOT -- DISTRICT 4
PLANNING & ENGINEERING

DATE
2/23/17

REVIEWED
NRC
STRUCTURE FILE NUMBER

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REVISER
XXX

DESIGNED
MJA
CHECKED
XXX

STRUCTURE DETAILS

MAH-680-0628, MAH-680-0631, MAH-680-0637, MAH-680-0687, MAH-680-0693
MAH-680-0705, MAH-680-0724

MAH-680/11-7.05/VAR

PID No. 87273

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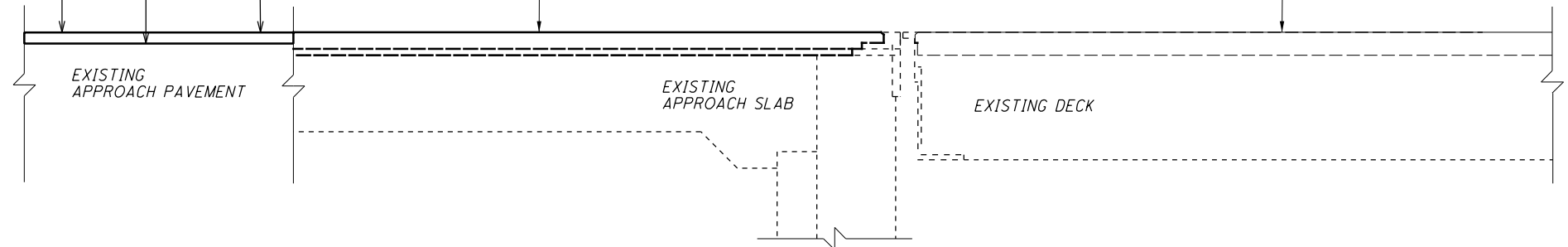
ITEM 441 - ASPHALT CONCRETE SURFACE COURSE, TYPE 1 (448), PG64-22, AS PER PLAN

ITEM 407 - NON-TRACKING TACK COAT

ITEM 202 - WEARING COURSE REMOVED

ITEM 512 - TREATING OF CONCRETE BRIDGE DECK WITH GRAVITY FED RESIN

ITEM 512 - TREATING OF CONCRETE BRIDGE DECK WITH GRAVITY FED RESIN



MAH-680-0791E, MAH-680-0794, MAH-680-0817, MAH-680-0837, MAH-680-0921, MAH-680-0990, MAH-680-1073L

APPROACH SHOWN, TRAILING SIMILAR

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BRIDGE NUMBER	BRIDGE DECK										APPROACH SLABS																	
	LENGTH (BRIDGE LIMITS) FT	BRIDGE WIDTH FT	DECK AREA SQ YD	512							LENGTH (APPROACH SLABS) FT	APPROACH SLAB WIDTH FT	APPROACH SLAB AREA SQ YD	APPROACH (FORWARD / REAR)	202				441									
				TREATING CONCRETE BRIDGE DECKS WITH GRAVITY FED RESIN SY												WEARING COURSE REMOVED (T = 1.5") SY	SPECIAL NON-TRACKING TACK COAT @ 0.09 GAL/SY GAL	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG64-22, AS PER PLAN (T = 1.5") CY	512 TREATING CONCRETE BRIDGE DECKS WITH GRAVITY FED RESIN SY									
MAH-680-0791E	252.00	29.00	812.00	812.00							20.00	29.00	64.44	FWD					64.44									
											20.00	29.00	64.44	REAR					64.44									
MAH-680-0794	184.00	120.00	2453.33	2453.33							20.00	120.00	266.67	FWD					266.67									
											20.00	120.00	266.67	REAR					266.67									
MAH-680-0817	188.00	30.00	626.67	626.67							30.00	30.00	100.00	FWD	166.67	15.00	6.94	100.00										
											20.00	30.00	66.67	REAR	166.67	15.00	6.94	66.67										
MAH-680-0837	350.00	44.00	1711.11	1711.11							30.00	44.00	146.67	FWD	244.44	22.00	10.19	146.67										
											30.00	44.00	146.67	REAR	244.44	22.00	10.19	146.67										
MAH-680-0921	186.00	131.00	2707.33	2707.33							25.00	140.00	388.89	FWD	777.78	70.00	32.41	388.89										
											25.00	130.00	361.11	REAR	722.22	65.00	30.09	361.11										
MAH-680-0990	283.00	28.00	880.44	880.44							15.00	28.00	46.67	FWD	155.56	14.00	6.48	46.67										
											15.00	28.00	46.67	REAR	155.56	14.00	6.48	46.67										
MAH-680-1073L	108.00	51.00	612.00	612.00							25.00	39.00	108.33	FWD				108.33										
											25.00	38.00	105.56	REAR				105.56										
	TOTALS			9803							TOTALS				2634	237	110	2180										

DESIGN AGENCY: ODOT -- DISTRICT 4 PLANNING & ENGINEERING

DATE: 2/23/17

REVIEWED: NRC

STRUCTURE FILE NUMBER: XXX

DRAWN: MJA

DESIGNED: MJA

CHECKED: XXX

REVISER: XXX

MAH-680-0791E, MAH-680-0794, MAH-680-0817, MAH-680-0837, MAH-680-0921, MAH-680-0990, MAH-680-1073L

STRUCTURE DETAILS

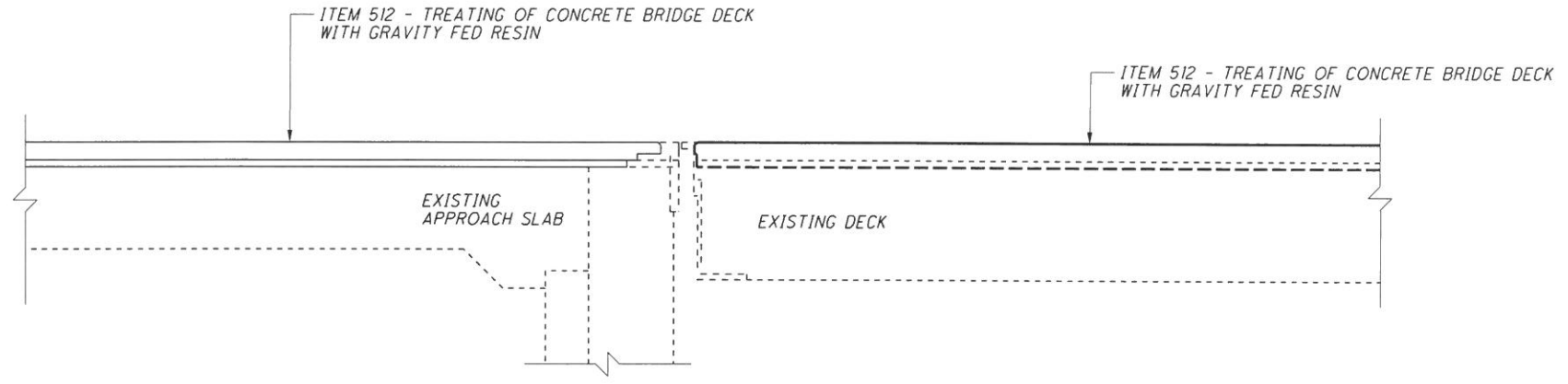
MAH-680/11-7.05/VAR

PID No. 87273

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MAH-680-1073R
APPROACH SHOWN,
TRAILING SIMILAR

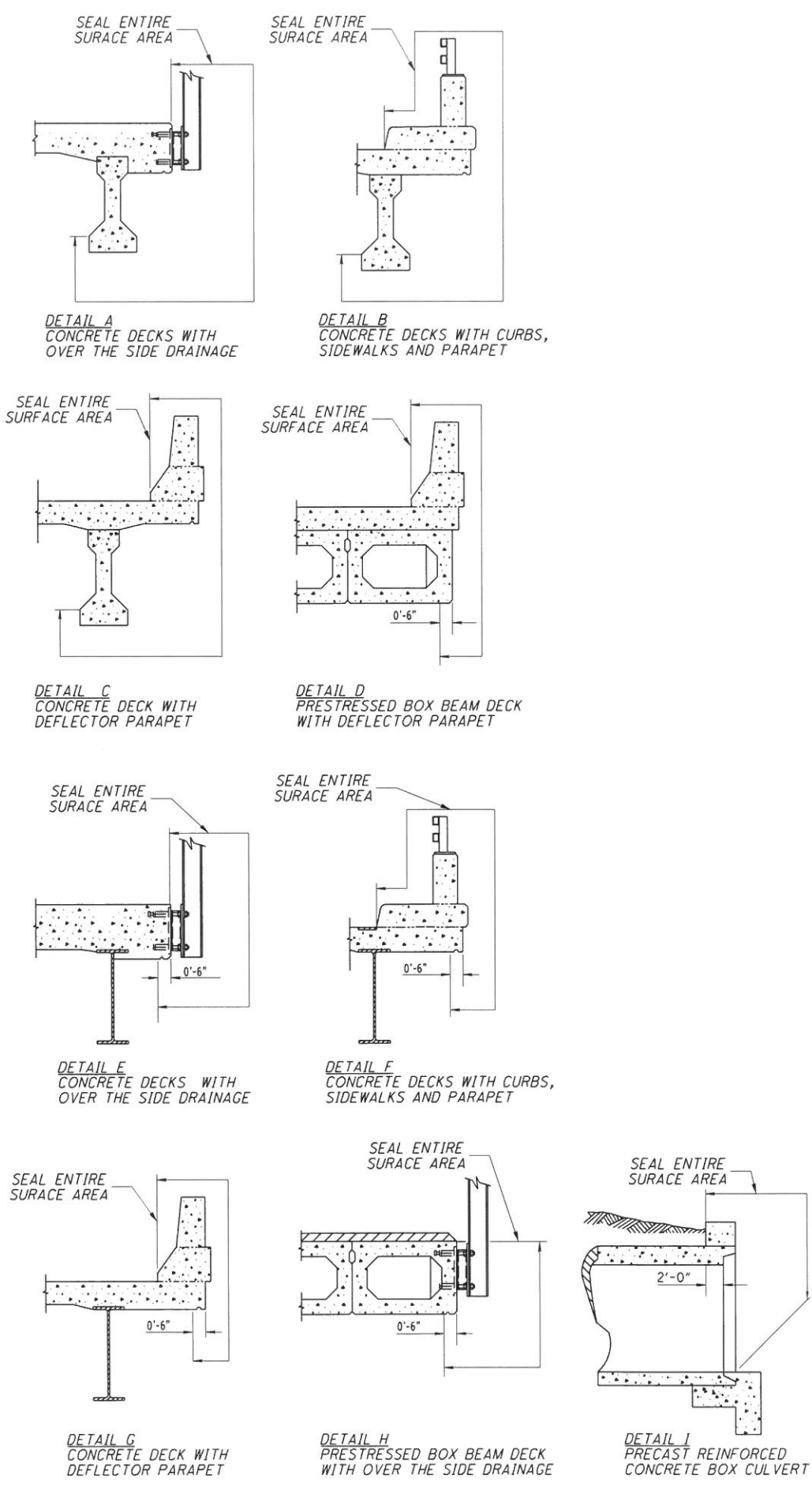
BRIDGE NUMBER	BRIDGE DECK								APPROACH SLABS											
	LENGTH (BRIDGE LIMITS)	BRIDGE WIDTH	DECK AREA	512					LENGTH (APPROACH SLABS)	APPROACH SLAB WIDTH	APPROACH SLAB AREA	APPROACH (FORWARD / REAR)	512							
	FT	FT	SQ YD	TREATING CONCRETE BRIDGE DECKS WITH GRAVITY FED RESIN											TREATING CONCRETE BRIDGE DECKS WITH GRAVITY FED RESIN					
MAH-680-1073R	108.00	51.00	612.00	612.00					25.00	39.00	108.33	FWD	108.33							
									25.00	38.00	105.56	REAR	105.56							
TOTALS				612					TOTALS				214							

STRUCTURE DETAILS
MAH-680-1073R

MAH-680/11-7.05/VAR
PID No. 87273

DESIGNED MJA	CHECKED XXX	DRAWN MJA	REVISOR XXX	REVIEWED NRC	DATE 2/23/17	STRUCTURE FILE NUMBER	DESIGN AGENCY ODOT -- DISTRICT 4 PLANNING & ENGINEERING
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BRIDGE NO.	STRUCTURE TYPE	PROPOSED SEALING	FEDERAL COLOR NUMBER	ESTIMATED QUANTITIES				
				ABUT SO YD	PIER SO YD	SUPER SO YD	GEN SO YD	TOTAL SO YD
MAH-680-0386	4 SPAN CONTINUOUS STEEL BEAM	SEAL PARAPETS PER DETAIL F SEAL ALL EXPOSED CONCRETE AT ABUTMENTS SEAL ALL EXPOSED CONCRETE AT PIERS	PER CMS	132	326	1,064		1,522
MAH-680-0415	4 SPAN CONTINUOUS STEEL BEAM	SEAL SPALL REMOVAL AREAS	PER CMS				36	36
MAH-680-0432	4 SPAN CONTINUOUS STEEL BEAM	SEAL SPALL REMOVAL AREAS	PER CMS				33	33
MAH-680-0489	3 SPAN CONTINUOUS STEEL BEAM	SEAL PARAPETS PER DETAIL F SEAL ALL EXPOSED CONCRETE AT ABUTMENTS SEAL ALL EXPOSED CONCRETE AT PIERS	PER CMS	253	287	726		1,266
MAH-680-0604	2 SPAN CONTINUOUS STEEL BEAM	SEAL SPALL REMOVAL AREAS	PER CMS				33	33
MAH-680-0628	6 SPAN CONTINUOUS STEEL BEAM	SEAL PARAPETS PER DETAIL G SEAL ALL EXPOSED CONCRETE AT ABUTMENTS SEAL ALL EXPOSED CONCRETE AT PIERS	PER CMS	742	547	1,029		2,318
MAH-680-0631	3 SPAN CONTINUOUS STEEL BEAM	SEAL PARAPETS PER DETAIL G SEAL ALL EXPOSED CONCRETE AT ABUTMENTS SEAL ALL EXPOSED CONCRETE AT PIERS	PER CMS	277	501	753		1,531
MAH-680-0637	7 SPAN CONTINUOUS STEEL BEAM	SEAL PARAPETS PER DETAIL F & G SEAL ALL EXPOSED CONCRETE AT ABUTMENTS SEAL ALL EXPOSED CONCRETE AT PIERS	PER CMS	93	709	1,158		1,960
MAH-680-0687	3 SPAN CONTINUOUS STEEL BEAM	SEAL PARAPETS PER DETAIL G SEAL ALL EXPOSED CONCRETE AT ABUTMENTS SEAL ALL EXPOSED CONCRETE AT PIERS	PER CMS	202	522	590		1,314
MAH-680-0705	4 SPAN CONTINUOUS STEEL BEAM	SEAL SPALL REMOVAL AREAS OF DECK FLOOR	PER CMS				43	43
MAH-680-0724	4 SPAN CONTINUOUS STEEL BEAM	SEAL PARAPETS PER DETAIL F & G SEAL ALL EXPOSED CONCRETE AT ABUTMENTS SEAL ALL EXPOSED CONCRETE AT PIERS	PER CMS	96	349	792		1,237
MAH-680-0791E	3 SPAN CONTINUOUS STEEL BEAM	SEAL PARAPETS PER DETAIL F & G SEAL ALL EXPOSED CONCRETE AT ABUTMENTS SEAL ALL EXPOSED CONCRETE AT PIERS	PER CMS			605		605
MAH-680-0794	3 SPAN CONTINUOUS STEEL BEAM	SEAL SPALL REMOVAL AREAS	PER CMS				42	42
MAH-680-0817	4 SPAN CONTINUOUS STEEL BEAM	SEAL PARAPETS PER DETAIL F SEAL ALL EXPOSED CONCRETE AT ABUTMENTS SEAL ALL EXPOSED CONCRETE AT PIERS	PER CMS	198	327	856		1,381
MAH-680-0837	4 SPAN CONTINUOUS STEEL BEAM	SEAL PARAPETS PER DETAIL F SEAL ALL EXPOSED CONCRETE AT ABUTMENTS SEAL ALL EXPOSED CONCRETE AT PIERS	PER CMS	331	832	1,312		2,475
MAH-680-0990	4 SPAN CONTINUOUS STEEL BEAM	SEAL PARAPETS PER DETAIL F SEAL ALL EXPOSED CONCRETE AT ABUTMENTS SEAL ALL EXPOSED CONCRETE AT PIERS	PER CMS	110	281	974		1,365

NOTES:
 - EPOXY-URETHANE SEALER SHALL BE USED UNLESS SHOWN OTHERWISE
 - DETAILS E, F, G AND H ALSO APPLY TO CONCRETE SLAB BRIDGES

DESIGN AGENCY: ODOT -- DISTRICT 4
 PLANNING & ENGINEERING
 DATE: 2/23/17
 REVIEWED: NRC
 DRAWN: MJA
 DESIGNED: MJA
 CHECKED: XXX
 REVISIONS: XXX
 CONCRETE SEALING DETAILS
 MAH-680-0386, MAH-680-0415, MAH-680-0432, MAH-680-0489, MAH-680-0604, MAH-680-0628, MAH-680-0631, MAH-680-0637, MAH-680-0687, MAH-680-0705, MAH-680-0724, MAH-680-0791E, MAH-680-0794, MAH-680-0817, MAH-680-0837, MAH-680-0990
MAH-680/11-7.05/VAR
 PID No. 87273
 13 / 13
 19 / 19