

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.

OUPS 1-800-362-2764 (CONTACT LIMITED BASIS PARTICIPANTS DIRECTLY)
 OGPUPS 1-800-925-0988
 ODOT 330-786-2267 MICHELLE CHANEY

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

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 MARKER REMOVAL

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN PROVIDED AND SHALL BE USED AS DIRECTED BY THE ENGINEER FOR THE REMOVAL, DISPOSAL AND REPLACEMENT 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, 10 EACH
 ITEM 621 - RPM, 10 EACH

ITEM 258 - RETROFIT DOWEL BAR

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN PROVIDED AND SHALL BE USED AS DIRECTED BY THE ENGINEER TO REPAIR TRANSVERSE CRACKS WITHOUT ANY SETTLEMENT. THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY:

ITEM 258 - RETROFIT DOWEL BAR, 1,000 EACH

EXISTING UNDERDRAINS

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN PROVIDED AND SHALL BE USED AS DIRECTED BY THE ENGINEER TO REPAIR ANY EXISTING DAMAGED UNDERDRAINS AND CONFIRM THEY ARE UNOBSTRUCTED

ITEM 605 - 6" UNCLASSIFIED PIPE UNDERDRAINS WITH GEOTEXTILE FABRIC, 1,000 FEET
 ITEM 616, WATER, 20 M GAL

ALL EXISTING UNDERDRAINS THAT WERE DAMAGED BY THE CONTRACTOR SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.

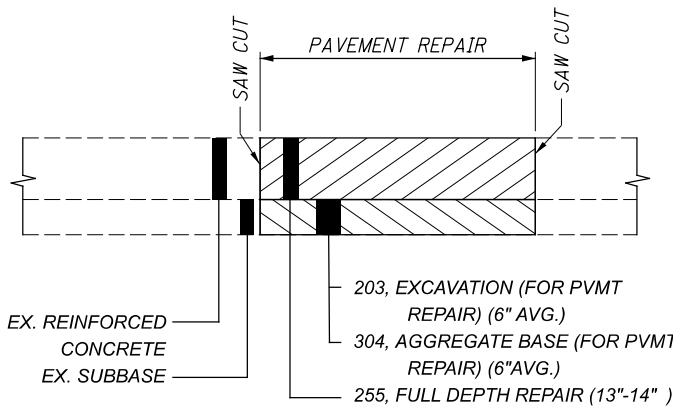
ITEM 255 - FULL DEPTH REMOVAL AND RIGID REPLACEMENT; CLASS QC1 AND CLASS RRCM OR QC3, AS PER PLAN

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 13" - 14" CLASS QC1 CONCRETE OR CLASS RRCM CONCRETE, AS PER PLAN. 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 REPAIR LOCATIONS MUST BE DOCUMENTED FOR FUTURE REFERENCE. EXISTING ASPHALT PATCHES SHALL ALSO BE CONSIDERED AREAS THAT NEED REPAIRED. PLAN PAGES 7-41 HAVE SUGGESTED LOCATIONS FOR REPAIRS.

CONCRETE, CLASS RRCM, AS PER PLAN, SHALL BE USED ON MAH-76 AND MAH-80 ON THE MIDDLE LANES, NEAR RAMPS, AT SLM 5.00, AND OTHER AREAS AS DIRECTED BY THE PROJECT ENGINEER OR WHERE RESTRICTED BY THE PERMITTED LANE CLOSURE CHART.

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

ITEM 255 - FULL DEPTH REMOVAL AND RIGID REPLACEMENT, MISC.: CLASS RRCM OR QC3, AS PER PLAN, 4,500 SY
 ITEM 255 - FULL DEPTH REMOVAL AND RIGID REPLACEMENT, CLASS QC1, 1,500 SY
 ITEM 255 - FULL DEPTH PAVEMENT SAWING, 27,000 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:

ITEM 203 - EXCAVATION (FOR PAVEMENT REPAIR), 1,000 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:

304, AGGREGATE BASE (FOR PAVEMENT REPAIR), 1,000 CU YD

CONCRETE, CLASS RRCM OR QC3, AS PER PLAN (FOR FULL DEPTH REPAIRS)

THE MATERIAL REQUIREMENTS OF CMS 255.02 MAY BE MODIFIED AS FOLLOWS:

PROVIDE A RRCM MIXTURE MEETING THE REQUIREMENTS OF CMS 255.02 OR AN ALTERNATE RRCM MIXTURE CONFORMING THE FOLLOWING REQUIREMENTS:

PORTLAND CEMENT CONCRETE 499.03, CLASS QC3, W/MACRO-FIBERS

PROVIDE A MIXTURE MEETING THE REQUIREMENTS OF WELL GRADED IN ITEM 499.

AIR CONTENT: 4 TO 8 PERCENT

FLEXURAL STRENGTH: DEVELOP A RRCM CONCRETE MIX THAT WILL ACHIEVE A FLEXURAL STRENGTH OF 300 PSI (2.8 MPA) IN NOT LESS THAN 4 HOURS AND NOT MORE THAN 6 HOURS USING 6" X 6" (150 MM X 150 MM) BEAM SAMPLES CONFORMING TO ASTM C293.

PERMEABILITY: 2,000 COULOMBS

COARSE AGGREGATE (NO. 57 & NO. 8)	703.02 & 703.13
FINE AGGREGATE (NATURAL SAND)	703.02
PORTLAND CEMENT, TYPE 1*	701.04
FLY ASH OR NATURAL POZZOLAN	701.13
SLAG CEMENT	701.11
WATER	499.02
CHEMICAL ADMIXTURE**	705.12
AIR-ENTRAINING ADMIXTURE	705.10
MACRO-FIBERS FOR CONCRETE***	705.29
LIQUID MEMBRANE-FORMING COMPOUNDS FOR CONCRETE CURING	705.07

* PROVIDE A MIXTURE WITH A PORTLAND CEMENT CONTENT OF 660 LB OR LESS AND A TOTAL CEMENTITIOUS CONTENT OF 850 LB OR LESS.

** MAXIMUM OF 0.5% CALCIUM CHLORIDE BY MASS OF CEMENTITIOUS CONTENT OR A LIQUID NON-CHLORIDE ACCELERATING ADMIXTURE MAY BE USED TO GENERATE EARLY STRENGTH DEVELOPMENT. SPECIALTY TYPE 'S' ADMIXTURE ALSO PERMITTED (SUBMITTAL OF MANUFACTURER'S DATA SHEET REQUIRED).

*** USE A MINIMUM DOSAGE RATE OF FIBERS OF 4.0 LB/CY OF CONCRETE. ENSURE THE FINAL PROPOSED MIX IS WORKABLE AND ABLE TO BE PRODUCED SUCH THAT BALLING OR CLUMPING OF THE FIBERS IS NOT A PROBLEM AS DETERMINED BY THE ENGINEER. A DEMONSTRATION OF THE MIX PRODUCTION, OR TRIAL MIX, MAY BE REQUIRED BY THE ENGINEER PRIOR TO PLACING ANY OF THE MIX ON THE PROJECT.

SUBMIT LAB TESTING RESULTS OF THE ALTERNATE RRCM MIXTURE USING THE ACTUAL MATERIALS THAT WILL BE USED ON THE PROJECT. MAKE AT LEAST FIVE BEAM SPECIMENS AND TEST THEM AT 3, 4, 5, 6, & 8 HOURS AGE. ALTERNATELY, THE CONTRACTOR MAY DEVELOP THE MIX'S MATURITY CURVE ACCORDING TO SUPPLEMENT 1098.

DO NOT OPEN THE RIGID REPLACEMENT TO TRAFFIC UNTIL THE RRCM ATTAINS A MODULUS OF RUPTURE OF 300 POUNDS PER SQUARE INCH (2.8 MPA) BASED ON MATURITY TESTING OR BEAM TESTING ON THE PROJECT.

THE JMF WILL NOT BE APPROVED FOR USE ON THE ENTIRE PROJECT UNTIL A SUCCESSFUL FIELD PLACEMENT IS PERFORMED ON THE PROJECT WITH THE MIX DESIGN. THIS PLACEMENT MUST DEMONSTRATE THE MIXTURE IS CAPABLE OF MEETING THE PRESCRIBED FLEXURAL STRENGTH AND TIME REQUIREMENTS.

EXISTING SUBSURFACE DRAINAGE

PROVIDE UNOBSTRUCTED OUTLETS FOR ALL EXISTING UNDERDRAINS OR AGGREGATE DRAINS ENCOUNTERED DURING CONSTRUCTION AS DIRECTED BY THE PROJECT ENGINEER.

PROVIDE AN OUTLET PER STANDARD CONSTRUCTION DRAWING DM-1.1 FOR ALL UNDERDRAINS THAT OUTLET TO A SLOPE. UNDERDRAINS THAT CAN BE CONNECTED TO THE NEW OR EXISTING UNDERDRAINS AT THE END OF THE PROJECT LIMITS AS WELL AS ALL NECESSARY BENDS OR BRANCHES REQUIRED FOR CONNECTION ARE INCLUDED IN THE BASIS OF PAYMENT FOR UNCLASSIFIED PIPE UNDERDRAINS.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR THE WORK NOTED ABOVE:

ITEM 601 - TIED CONCRETE BLOCK MAT, TYPE 1, 10 SQ. YD.
 ITEM 605 - AGGREGATE DRAINS, 100 FT.
 ITEM 611 - 6" CONDUIT, TYPE F, 50 FT.
 ITEM 611 - PRECAST REINFORCED CONCRETE OUTLET, 10 EACH
 ITEM 605 - 6" UNCLASSIFIED PIPE UNDERDRAINS, 100 FT.

ITEM 257 - DIAMOND GRINDING PORTLAND CEMENT CONCRETE PAVEMENT

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY FOR DIAMOND GRINDING EXISTING MAINLINE CONCRETE PAVEMENT AND NEW FULL DEPTH CONCRETE REPAIRS ON IR 76 FROM SLM 3.53 TO SLM 8.65 AND IR 80 FROM SLM 0.00 TO SLM 5.02

ITEM 257 - DIAMOND GRINDING PORTLAND CEMENT CONCRETE PAVEMENT, 326,800 SY

THE DRINKING WATER SOURCE PROTECTION AREA

INLAND SURFACE WATER CORRIDOR MANAGEMENT ZONE OF THE MAHONING VALLEY SANITARY DISTRICT IS LOCATED WITHIN THE PROJECT LIMITS. USE PROPER CONTAINMENT AND DIKING IN REFUELING AREAS ESTABLISHED FOR THE PROJECT. DO NOT STORE FUELS, TOXIC/HAZARDOUS MATERIALS AND CHEMICALS NEAR DRAINAGE WAYS, DITCHES, OR STREAMS. MAINTAIN A SPILL KIT ON-SITE THROUGHOUT CONSTRUCTION ACTIVITIES. IMMEDIATELY MITIGATE ANY EVENT, SUCH AS A SPILL OF FUELS, OILS, OR CHEMICALS, THAT COULD THREATEN TO CONTAMINATE THE DRINKING WATER SUPPLY. REPORT ALL SPILLS OR EVENTS TO THE MAHONING VALLEY SANITARY DISTRICT AT (330) 652-3614. IF THE SPILL IS A REPORTABLE AMOUNT (PER OHIO EPA RELEASE REPORTING REQUIREMENTS), CONTACT THE MAHONING COUNTY EMERGENCY MANAGEMENT AT (330) 726-4155 OR THE OHIO EPA SPILLS HOTLINE AT (800) 282-9378 FOR CLEAN-UP OF THE SPILL.

PRESSURE RELIEF JOINTS

THE CONTRACTOR SHALL REPLACE ALL ASPHALT IN THE EXISTING PRESSURE RELIEF JOINTS AS DIRECTED BY THE PROJECT ENGINEER. THE FOLLOWING QUANTITY HAS BEEN CARRIED OVER TO THE GENERAL SUMMARY

ITEM 451 - SPECIAL - PRESSURE RELIEF JOINT, TYPE C, 1,420 FT

INTERIM COMPLETION DATE

ALL WORK ASSOCIATED WITH ITEM 255 - FULL DEPTH REMOVAL AND RIGID REPLACEMENT; CLASS QC1 AND CLASS RRCM OR QC3, AS PER PLAN SHALL BE COMPLETED BY OCTOBER 31, 2021. A DISINCENTIVE SHALL BE ASSESSED IN THE AMOUNT OF \$7,500 FOR EACH CALENDAR DAY BEYOND THIS DATE THIS WORK IS NOT COMPLETED.

DESIGN AGENCY



DESIGNER	MJA
REVIEWER	TJP 06-08-21
PROJECT ID	115092
SHEET	TOTAL
P.2	41