

**ROADWAY (CONTINUED)**

**ITEM 606 - IMPACT ATTENUATOR, TYPE 1 (UNIDIRECTIONAL)**

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING ANY ONE OF THE TYPE 1 IMPACT ATTENUATORS AS LISTED ON THE OFFICE OF ROADWAY ENGINEERING'S WEB PAGE. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.

THE FACE OF THE TYPE 1 IMPACT HEAD SHALL BE COVERED WITH A SHEET OF TYPE G REFLECTIVE SHEETING, PER CMS 730.19. PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 606, IMPACT ATTENUATOR, TYPE 1, UNIDIRECTIONAL, EACH, AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT A COMPLETE AND FUNCTIONAL IMPACT ATTENUATOR SYSTEM, INCLUDING ALL RELATED TRANSITIONS, HARDWARE, REFLECTIVE SHEETING AND GRADING, NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER.

**ITEM 606 - IMPACT ATTENUATOR, TYPE 3 UNIDIRECTIONAL**

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING ANY OF THE TYPE 3 IMPACT ATTENUATORS AS LISTED ON THE OFFICE OF ROADWAY ENGINEERING'S WEB PAGE (REFER TO THE POSTED SHOP DRAWINGS FOR THE MOST CURRENT APPROVED PRODUCT MODELS). WHEN BI-DIRECTIONAL DESIGNS ARE SPECIFIED, THE CONTRACTOR SHALL SUPPLY APPROPRIATE TRANSITIONS. THE FACE OF THE IMPACT HEAD SHALL BE COVERED WITH TYPE G REFLECTIVE SHEETING, PER CMS 730.19.

TYPE 3 IMPACT ATTENUATORS ARE NECESSARY AT THE FOLLOWING LOCATIONS:

- 1. SB I.R. 77/RAMP C-2 GORE

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR THE ITEM 606, IMPACT ATTENUATOR, TYPE 3 [60 MPH, TEST LEVEL 3 (TL-3), 90" HAZARD WIDTH, ASPHALT FOUNDATION, ATTENUATOR MANUFACTURER'S GUARDRAIL TRANSITION AND BACKUP SUPPORT, UNIDIRECTIONAL] EACH, AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT, AND MATERIALS NECESSARY TO CONSTRUCT A COMPLETE AND FUNCTIONAL IMPACT ATTENUATOR SYSTEM, INCLUDING ALL RELATED BACKUPS/BACKSTOPS, TRANSITIONS, HARDWARE, AND GRADING, 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.

**ITEM 606 - IMPACT ATTENUATOR, TYPE 3 UNIDIRECTIONAL**

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING ANY OF THE TYPE 3 IMPACT ATTENUATORS AS LISTED ON THE OFFICE OF ROADWAY ENGINEERING'S WEB PAGE (REFER TO THE POSTED SHOP DRAWINGS FOR THE MOST CURRENT APPROVED PRODUCT MODELS). WHEN BI-DIRECTIONAL DESIGNS ARE SPECIFIED, THE CONTRACTOR SHALL SUPPLY APPROPRIATE TRANSITIONS. THE FACE OF THE IMPACT HEAD SHALL BE COVERED WITH TYPE G REFLECTIVE SHEETING, PER CMS 730.19.

TYPE 3 IMPACT ATTENUATORS ARE NECESSARY AT THE FOLLOWING LOCATIONS:

- 1. WB I.R. 277/U.S. 224/RAMP D GORE

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR THE ITEM 606, IMPACT ATTENUATOR, TYPE 3 [65 MPH, TEST LEVEL 3 (TL-3), 69" HAZARD WIDTH, ASPHALT FOUNDATION, ATTENUATOR MANUFACTURER'S GUARDRAIL TRANSITION AND BACKUP SUPPORT, UNIDIRECTIONAL] EACH, AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT, AND MATERIALS NECESSARY TO CONSTRUCT A COMPLETE AND FUNCTIONAL IMPACT ATTENUATOR SYSTEM, INCLUDING ALL RELATED BACKUPS/BACKSTOPS, TRANSITIONS, HARDWARE, AND GRADING, 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.

**ITEM 606 - IMPACT ATTENUATOR, TYPE 3 UNIDIRECTIONAL**

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING ANY OF THE TYPE 3 IMPACT ATTENUATORS AS LISTED ON THE OFFICE OF ROADWAY ENGINEERING'S WEB PAGE (REFER TO THE POSTED SHOP DRAWINGS FOR THE MOST CURRENT APPROVED PRODUCT MODELS). WHEN BI-DIRECTIONAL DESIGNS ARE SPECIFIED, THE CONTRACTOR SHALL SUPPLY APPROPRIATE TRANSITIONS. THE FACE OF THE IMPACT HEAD SHALL BE COVERED WITH TYPE G REFLECTIVE SHEETING, PER CMS 730.19.

TYPE 3 IMPACT ATTENUATORS ARE NECESSARY AT THE FOLLOWING LOCATIONS:

- 1. NB I.R. 77/RAMP B-2 GORE

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR THE ITEM 606, IMPACT ATTENUATOR, TYPE 3 [70 MPH, TEST LEVEL 3 (TL-3), 48" HAZARD WIDTH, ASPHALT FOUNDATION, ATTENUATOR MANUFACTURER'S CONCRETE BARRIER TRANSITION AND BACKUP SUPPORT, UNIDIRECTIONAL] EACH, AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT, AND MATERIALS NECESSARY TO CONSTRUCT A COMPLETE AND FUNCTIONAL IMPACT ATTENUATOR SYSTEM, INCLUDING ALL RELATED BACKUPS/BACKSTOPS, TRANSITIONS, HARDWARE, AND GRADING, 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.

**ITEM 607 - FENCE, MISC.: TEMPORARY FENCE**

THIS ITEM SHALL CONSIST OF INSTALLATION AND REMOVAL OF TEMPORARY FENCE AS PER ODOT SCD NBS-1-09. ALL FURNISHING, ERECTING, MAINTAINING, AND REMOVING OF TEMPORARY FENCE SHALL BE INCLUDED IN THE CONTRACT PRICE BID FOR ITEM 607 - FENCE, MISC.: TEMPORARY FENCE (FT).

**ITEM 622 - CONCRETE BARRIER, SINGLE SLOPE, TYPE D, AS PER PLAN**

THIS ITEMS SHALL CONSIST OF CONSTRUCTING SINGLE SLOPE TYPE D BARRIER AS PER STD. DWG. RM-4.5 EXCEPT THAT THE HEIGHT OF THE BARRIER SHALL BE 57" INSTEAD OF 42". THE 12" BARRIER TOP WIDTH AND 5.25:1 FACE SLOPE SHALL BE MAINTAINED THEREBY WIDENING THE OVERALL BASE TO 22'-7/8" INSTEAD OF 20". THIS ITEM SHALL ALSO INCLUDE ANY TRANSITION FROM 57" TO 42" CONCRETE BARRIER, SINGLE SLOPE, TYPE D.

**ITEM 622 - CONCRETE BARRIER END SECTION, TYPE D, AS PER PLAN**

THIS ITEMS SHALL CONSIST OF CONSTRUCTING SINGLE SLOPE TYPE D BARRIER AS PER STD. DWG. RM-4.6 EXCEPT THAT THE HEIGHT OF THE BARRIER SHALL BE 57" INSTEAD OF 42". THE 12" BARRIER TOP WIDTH AND 5.25:1 FACE SLOPE SHALL BE MAINTAINED THEREBY WIDENING THE OVERALL BASE TO 22'-7/8" INSTEAD OF 20".

**ITEM 622 - CONCRETE BARRIER, END ANCHORAGE, REINFORCED, TYPE D, AS PER PLAN**

THIS ITEMS SHALL CONSIST OF CONSTRUCTING SINGLE SLOPE TYPE D BARRIER AS PER STD. DWG. RM-4.5 EXCEPT THAT THE HEIGHT OF THE BARRIER SHALL BE 57" INSTEAD OF 42". THE 12" BARRIER TOP WIDTH AND 5.25:1 FACE SLOPE SHALL BE MAINTAINED THEREBY WIDENING THE OVERALL BASE TO 22'-7/8" INSTEAD OF 20".

**ITEM SPECIAL - VERTICAL CLEARANCE**

AFTER ALL CONSTRUCTION HAS BEEN COMPLETED, A REGISTERED SURVEYOR WILL TAKE VERTICAL CLEARANCE MEASUREMENTS AT LOCATIONS INDICATED ON THE APPROVED ODOT FORM (AVAILABLE IN THE DISTRICT 4 STRUCTURES AND PAVEMENT OFFICE). THE FINAL MEASUREMENTS SHALL BE RECORDED ON THE FORM AND SUBMITTED TO THE PROJECT ENGINEER AND THE DISTRICT 4 STRUCTURES AND PAVEMENT ENGINEER. THE RECORD SHALL BEAR THE SEAL OF THE LICENSED SURVEYOR WHO HAS TAKEN THE MEASUREMENTS. THIS WORK SHALL BE PERFORMED AT THE FOLLOWING STRUCTURE:

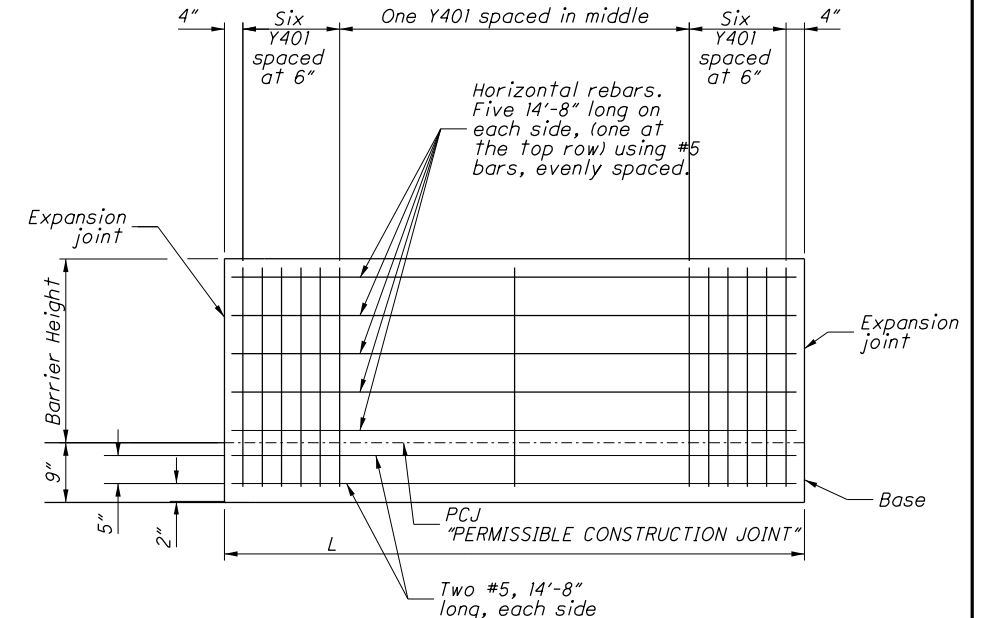
- SUM-077-0744
- SUM-077-0802L/R
- SUM-077-0887
- SUM-077-0927R
- SUM-077-0958L
- SUM-277-0369

THE FOLLOWING QUANTITY HAS BEEN PROVIDED:

SPECIAL - VERTICAL CLEARANCE 6 EACH

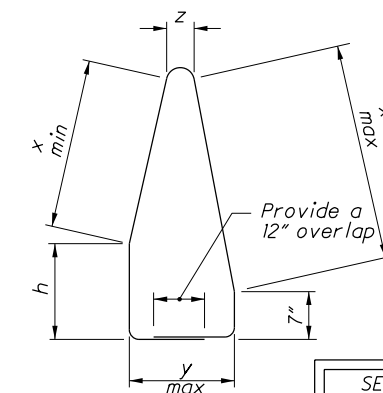
**ITEM 622 - CONCRETE BARRIER, END ANCHORAGE, REINFORCED, TYPE C1, AS PER PLAN**

THIS ITEM SHALL CONSIST OF CONSTRUCTING REINFORCED END ANCHORAGES AS PER ODOT SCD RM-4.3 AND THE BARRIER DETAIL BELOW. THE Y401 REINFORCEMENT BARS SHALL BE SPACED AS SHOWN IN THE DETAIL. ALL MATERIALS, LABOR AND OTHER INCIDENTALS NECESSARY TO CONSTRUCT THIS ANCHOR SHALL BE INCLUDED IN THE CONTRACT PRICE BID FOR ITEM 622 - CONCRETE BARRIER, END ANCHORAGE, REINFORCED, TYPE C1, AS PER PLAN (EACH).



ELEVATION

TYPE C1			
STATION	L	h	y
394+81.04 (E R/W & CONST. I.R. 77)	8.96'	8.75"	30.00"
423+28.00 (E R/W & CONST. I.R. 77)	11.14'	8.00"	30.00"
425+10.00 (E R/W & CONST. I.R. 77)	20.16'	7.81"	29.75"
431+16.15 (E R/W & CONST. I.R. 77)	23.85'	8.44"	30.00"



Y401 #4

SEE OFFICE CALCULATIONS FOR DIMENSION OF THE Y401 REINFORCEMENT BARS ON ITEM 622 - CONCRETE BARRIER, END ANCHORAGE, REINFORCED, TYPE C1.

REVISIONS		
NO.	DATE	DESCRIPTION
8	04/30/21	ADDED TEMPORARY FENCE QUANTITY

QUANTITIES CARRIED TO GENERAL NOTES SUBSUMMARY ON SHEET 73

CALCULATED  
ATR  
CHECKED  
PJF

GENERAL NOTES

SUM-77 / 277 / 224  
VARIOUS

68  
1288

o:\2017\2017258\ProjectData\SUM\106002\Design\Roadway\Sheets\106002\_GN002.dgn 106002GN002 4/30/2021 12:21:06 PM Ikir.kland

**MAINTENANCE OF TRAFFIC**

THIS ITEM SHALL CONSIST OF MAINTENANCE OF TRAFFIC ON EXISTING ROADWAYS AND RAMP 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. A MINIMUM OF ONE ELEVEN FOOT LANE IN EACH DIRECTION SHALL BE MAINTAINED ON THE EXISTING, TEMPORARY 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. 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 RURAL OR ONE (1) MILE URBAN.

4. 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.

5. A QUANTITY OF 100 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.

6. 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.

7. 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. AN ESTIMATED QUANTITY OF FIFTEEN (15) ITEM 614 WORK ZONE MARKING SIGNS HAS BEEN INCLUDED IN THE PLANS PER CMS 614.04.

8. THE CONTRACTOR SHALL SET A WORK ZONE AT THE REQUEST OF THE ENGINEER TO ALLOW THE LAYOUT OF THE PARTIAL/FULL DEPTH PAVEMENT REPAIR AREAS. THIS WORK IS INCIDENTAL TO 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.

**WINTER TIME LIMITATIONS**

ALL RAMP SHALL BE OPEN AND TRAFFIC SHALL BE MAINTAINED AS DESCRIBED IN THE SEQUENCE OF CONSTRUCTION AND AS DETAILED IN THE PLANS BETWEEN OCTOBER 15 AND APRIL 1. SHOULD THE CONTRACTOR FAIL TO MEET THESE REQUIREMENTS, A DISINCENTIVE SHALL BE ASSESSED IN THE AMOUNT OF \$325 PER MINUTE PER LANE.

**TIME LIMITATION ON A DETOUR**

A MINIMUM OF ONE LANE OF TRAFFIC IN EACH DIRECTION SHALL BE MAINTAINED AT ALL TIMES, EXCEPT AS FOLLOWS:

ROAD OR RAMP CLOSURE	DURATION OF CLOSURE (CALENDAR DAYS)	DISINCENTIVE (\$ PER CALENDAR DAY)
WARNER RD.	1x - 30 DAYS*	\$2,250
WARNER RD.	3x - 45 DAYS EACH*	\$2,250
RAMP B	45 DAYS	\$16,250
RAMP B-1	45 DAYS	\$3,250
RAMP B-2	45 DAYS	\$16,500
RAMP C-1	45 DAYS	\$7,000
RAMP C-2	270 DAYS	\$5,250
RAMP D	45 DAYS	\$8,250
PHASE 2	270 DAYS**	\$16,500
PHASE 1B	30 DAYS	\$7,000
RAMP C	45 DAYS	\$4,000

\* - WARNER ROAD IS PERMITTED TO CLOSE AS FOLLOWS:  
 -PHASE 1 - 45 DAYS FOR MEDIAN BRIDGE WORK.  
 -PHASE 1 - 30 DAYS FOR WARNER RD. LOWERING.  
 -PHASE 2 - 45 DAYS FOR NB OUTSIDE BRIDGE WORK.  
 -PHASE 3 - 45 DAYS FOR SB OUTSIDE BRIDGE WORK.

THE WARNER RD DETOUR SHALL NOT TAKE PLACE IN AUGUST OF ANY YEAR. THE CONTRACTOR SHALL COORDINATE THE WARNER RD CLOSURE WITH THE FIRESTONE COUNTRY CLUB. WARNER RD SHALL NOT BE CLOSED DURING ANY MAJOR GOLF EVENTS. EXPECTED DATES:

2021 - 6/18 THRU 6/28  
 2022 - 7/1 THRU 7/20  
 2023+ - TO BE DETERMINED

BRIDGESTONE GOLF CONTACT:  
 DON PADGETT III  
 EXECUTIVE DIRECTOR  
 BRIDGESTONE SENIOR PLAYERS  
 ADDRESS: 440. E WARNER ROAD  
 AKRON, OH 44319  
 PHONE: 330 245 2305  
 EMAIL: DPADGETT@PGATOURHQ.COM

\*\* - THIS DETOUR SHALL BE IN EFFECT FOR PHASE 2 WHEN RAMP B-2 IS INACCESSIBLE TO NON-CONTRAFLOW NB 77 TRAFFIC.

**DETOUR NOTIFICATION**

THE CONTRACTOR SHALL ADVISE THE ODOT DISTRICT OFFICE (330-786-3148) 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.

**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 \$10,000 PER HOUR OR PORTION THEREOF THAT THE LANE REDUCTION REMAINS BEYOND THE SPECIFIED LIMIT.

**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 RAMP AS LONG AS THEY ARE VISIBLE TO THE MOTORISTS USING THE RAMP. ON ENTRANCE RAMP, 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 & ROAD CLOSURES	>= 2 WEEKS	14 CALENDAR DAYS PRIOR TO CLOSURE
	> 12 HOURS & < 2 WEEKS	7 CALENDAR DAYS PRIOR TO 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.

**SEQUENCE OF CONSTRUCTION**

SEE TABLE ON SHEET 74A FOR REVISED SEQUENCE OF CONSTRUCTION.

PRE-PHASE 1 (NO SHEETS PROVIDED)

1. UTILIZE ALLOWABLE LANE CLOSURES IN ACCORDANCE WITH THE PERMITTED LANE CLOSURE CHART TO INSTALL THE FOLLOWING STORM CROSSINGS:

PIPE REFERENCE	SIZE	ALIGNMENT	STATION	SIDE
P-11	15"	CL I-77	425+00.00	LT
P-63	15"	CL I-77	427+40.00	LT
P-12	15"	CL I-77	428+50.00	LT
P-14	15"	CL I-77	432+50.00	LT
P-18	15"	CL I-77	444+10.00	LT
P-22	24"	CL I-77	458+10.00	RT
P-28	42"	BL I-77 SB	492+00.00	RT/LT
P-42	15"	BL I-77 SB	494+00.00	RT/LT

2. INSTALL ALL PROPOSED OVERHEAD SIGN STRUCTURES, FOUNDATIONS AND TEMPORARY GUIDE SIGNS. PROVIDE POSITIVE PROTECTION WHEN WORKING WITHIN THE CLEAR ZONE.

3. INSTALL TEMPORARY PAVEMENT ON I-77 NORTHBOUND BETWEEN STATIONS 504+32 AND 508+49 AND ON I-77 SOUTHBOUND BETWEEN STATIONS 505+70 AND 513+15 FOR USE IN PHASE 1.

PHASE 1 (SHEETS 128 TO 156)

1. SHIFT NB AND SB I-77 LANES ONTO THE OUTSIDE SHOULDERS.

2. CONSTRUCT THE NB I-77 CROSSOVER PAVEMENT, AND RECONSTRUCT THE MEDIAN AND INSIDE LANES OF I-77 NB AND SB INCLUDING INSIDE CONSTRUCTION OF STRUCTURES SUM-77-0802L (SB I-77 OVER WARNER RD.), SUM-77-0802R (NB I-77 OVER WARNER RD.), SUM-77-0810L (SB I-77 OVER TUSCARAWAS RIVER), AND SUM-77-810R (NB I-77 OVER TUSCARAWAS RIVER).

3. CLOSE THE OUTSIDE LANE OF RAMP A.

4. BEGIN CONSTRUCTION OF RAMP B-2 WHILE MAINTAINING ACCESS TO EXISTING RAMP B-2.

5. SHIFT RAMP C TRAFFIC ONTO THE OUTSIDE SHOULDER. CONSTRUCT THE INSIDE HALF OF THE RAMP, INCLUDING TEMPORARY PAVEMENT FOR MAINTAINING TRAFFIC IN THE NEXT PHASE.

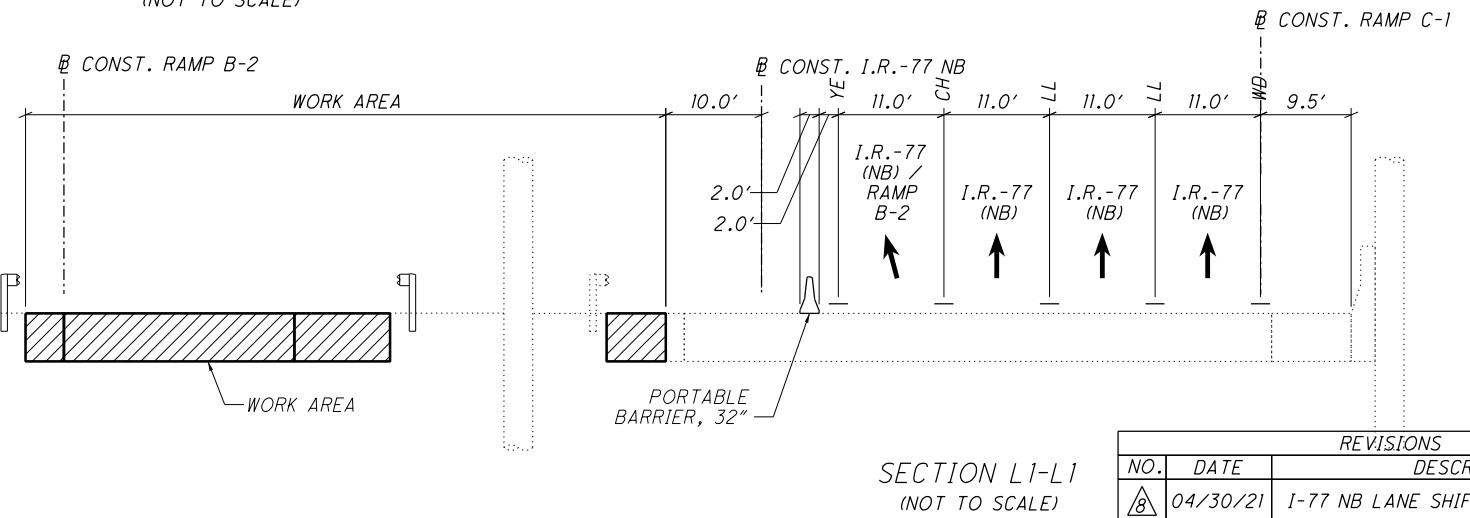
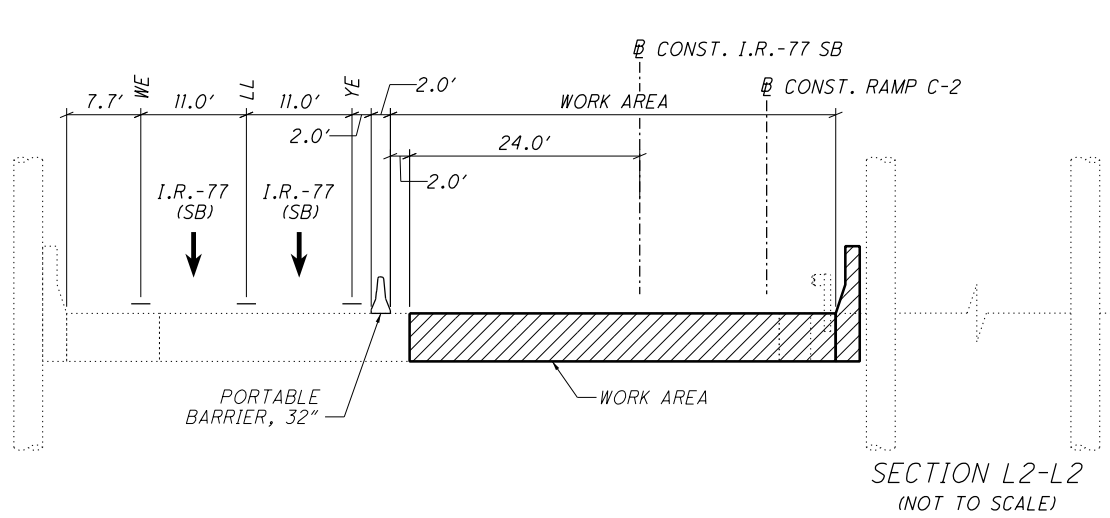
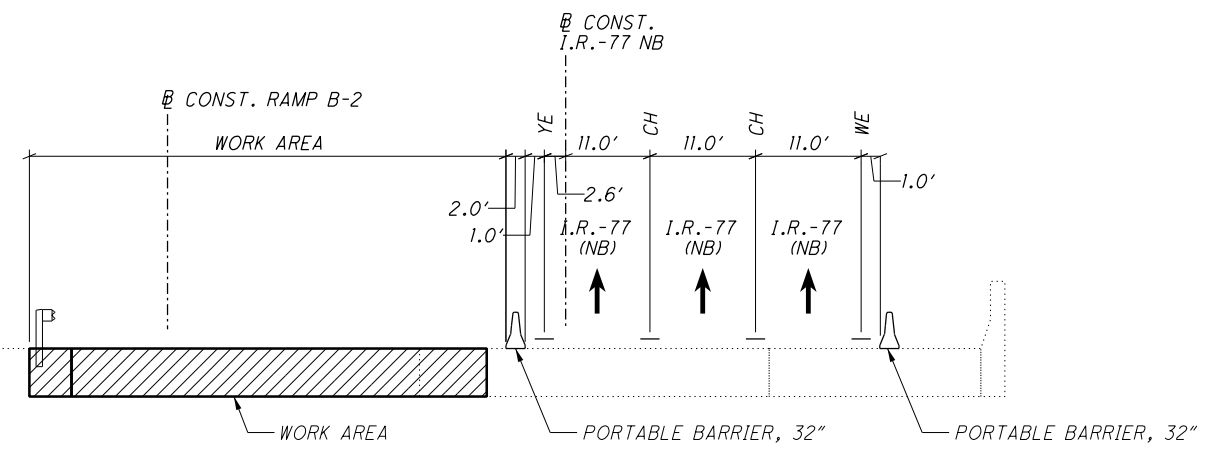
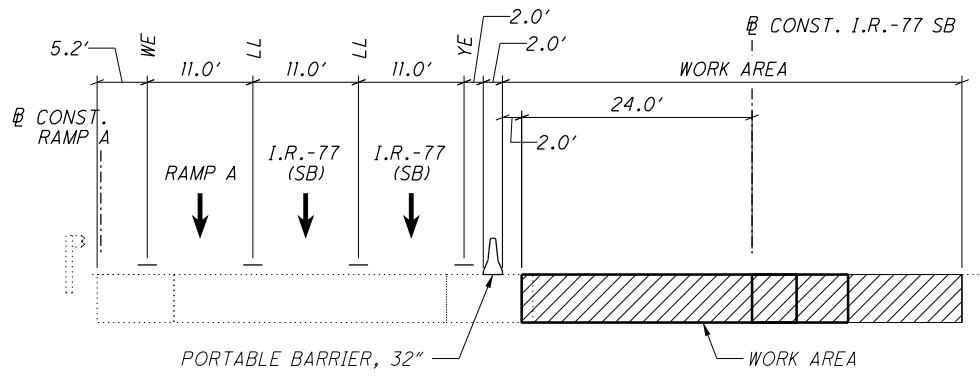
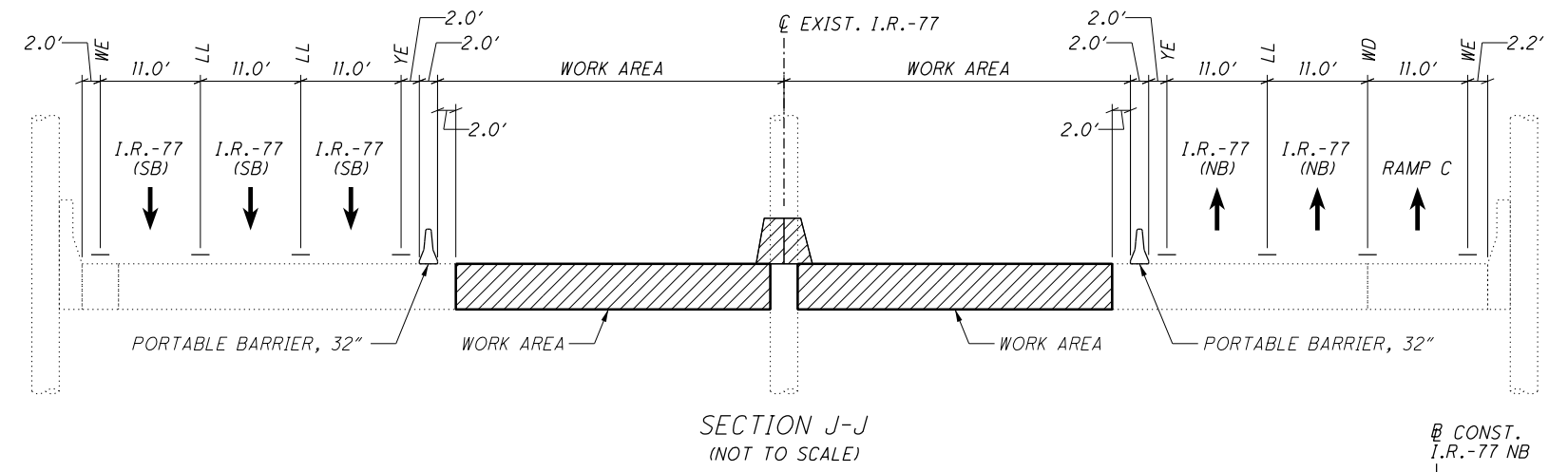
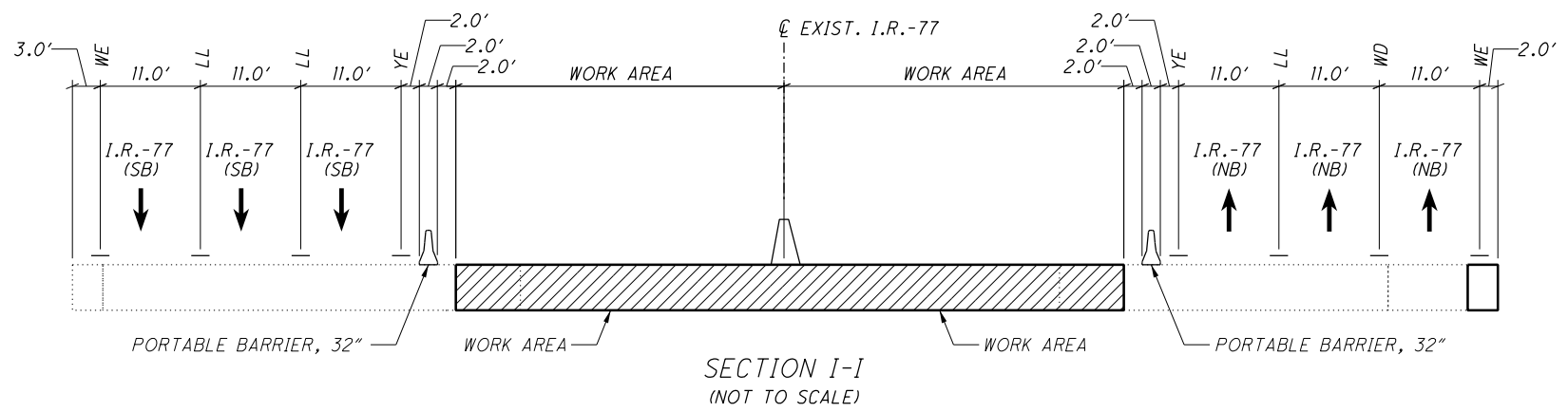
6. CLOSE AND DETOUR RAMP C-2 TRAFFIC. CONSTRUCT RAMP C-2 INCLUDING STRUCTURE SUM-77-0927R (RAMP C-2 OVER I-77 NB). WHEN REMOVING OR SETTING BEAMS THE CONTRACTOR MAY CLOSE I-77 AND DETOUR TRAFFIC UTILIZING RAMP C, US 224, KELLY AVE. AND RAMP D NIGHTLY BETWEEN 12:00 AM AND 4:00 AM. THE DETOUR WILL UTILIZE 3 PCMS. PAYMENT SHALL BE INCLUDED IN ITEM 614 - MAINTAINING TRAFFIC. NIGHTLY SINGLE LANE CLOSURES SHALL BE PERMISSIBLE ON I-77 NB, CONTRACTOR SHALL FOLLOW ODOT PLCM REGARDING CLOSURE TIMES AND DURATIONS.

7. MAINTAIN TRAFFIC ON ALL OTHER RAMP.

8. CLOSE AND DETOUR WARNER RD. TRAFFIC. CONSTRUCT WARNER RD. UNDER I-77.

N:\03\60\06744-08\106002\_SUM-76-10.95\Design\MOT\_Sheets\106002\_MN001.dgn\_Sheet 4/30/2021 11:53 AM awnlite

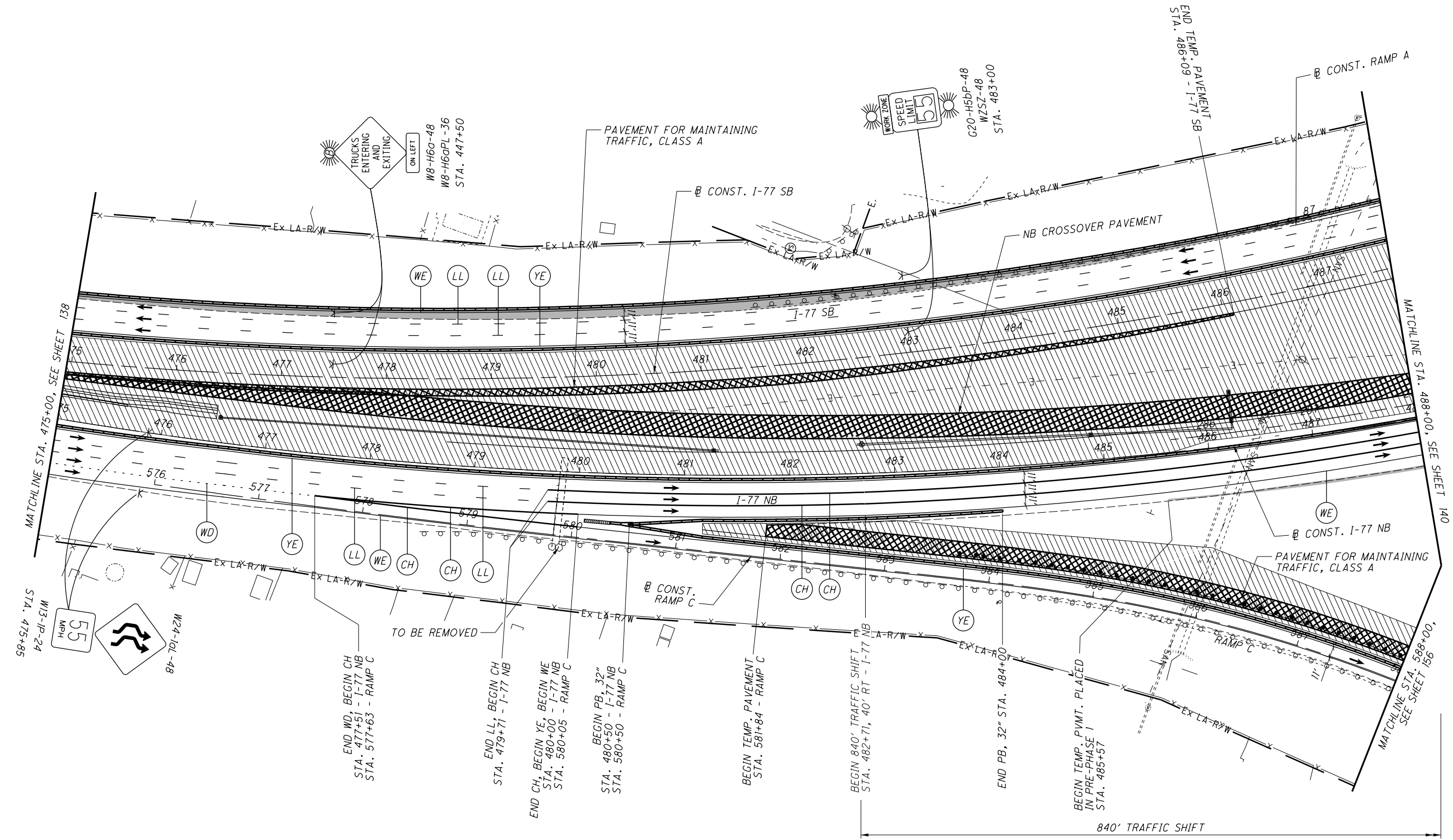
REVISIONS		
NO.	DATE	DESCRIPTION
△	04/05/21	REVISED NOTE TO ALLOW DETOUR
△	04/20/21	REVISED SEQUENCE OF CONSTRUCTION
△	04/30/21	REVISED WARNER RD CLOSURES



REVISIONS		
NO.	DATE	DESCRIPTION
1	04/30/21	I-77 NB LANE SHIFT/SIGNING CHANGES

N:\03\60\06744-08\106002\_SUM-76-10-95\Design\M0T\Sheets\106002\_MY102.dgn\_Sheet 4/30/2021 11:47:41 AM awhite

N:\03\60\06744-08\106002\_SUM-76-10.95\Design\M01\Sheets\106002\_MPl16.dgn Sheet 4/30/2021 11:42:28 AM awhite



- NOTES:
1. SEE SHEET 128 FOR MOT LEGEND AND DRUM SPACING CHART.
  2. SEE SHEETS 157-170 FOR RAMP C CROSS SECTIONS.
  3. SEE SHEETS 294-297 FOR NORTHERN CROSSOVER (NB).

REVISIONS		
NO.	DATE	DESCRIPTION
1	04/30/21	I-77 NB LANE SHIFT/SIGNING CHANGES

CALCULATED

CHECKED

**SUM-77 / 277 / 224**

**VARIOUS**

**MAINTENANCE OF TRAFFIC PLAN - PHASE 1**

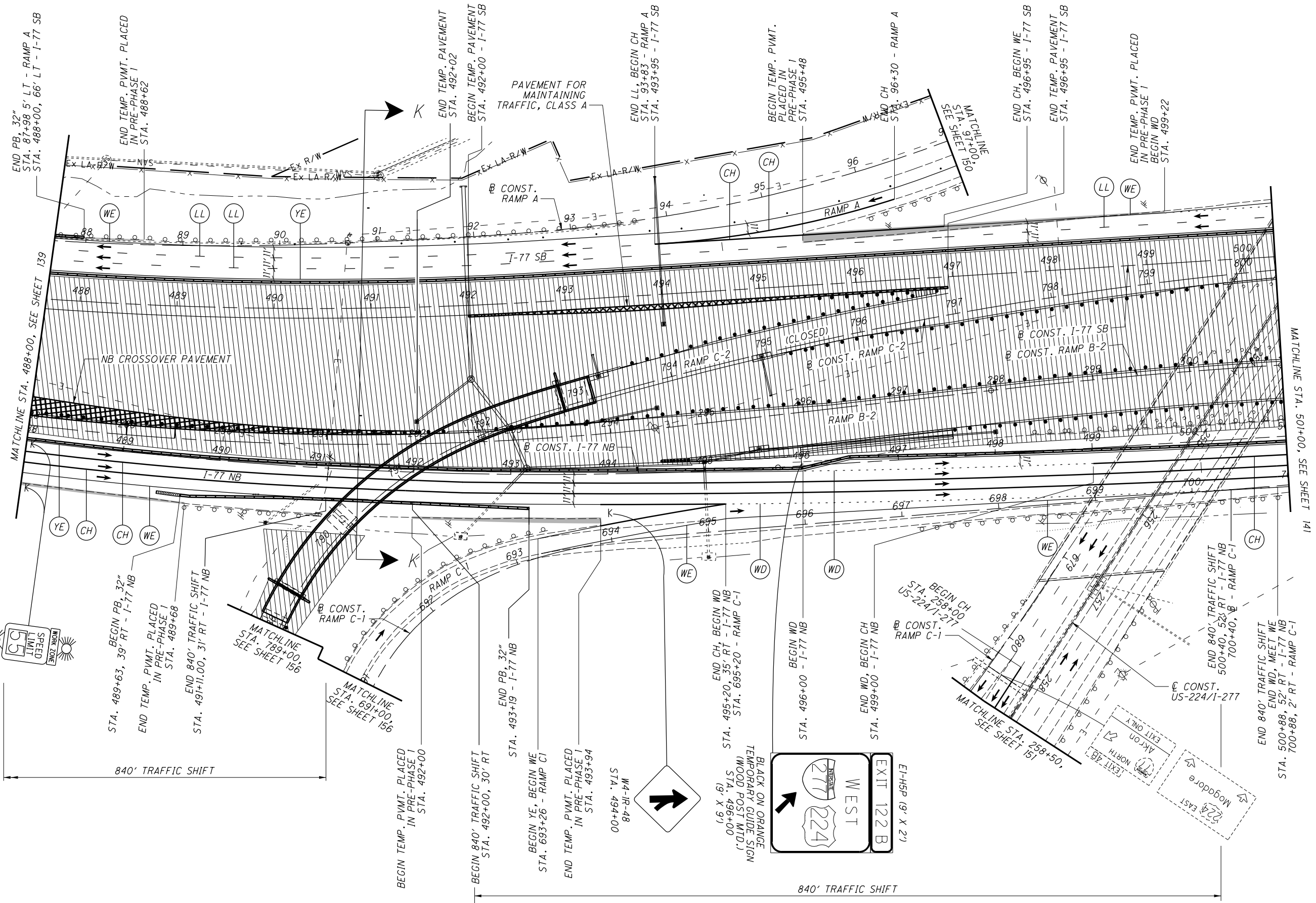
**I-77 - STA. 475+00 TO STA. 488+00**

139

1288

HORIZONTAL SCALE IN FEET

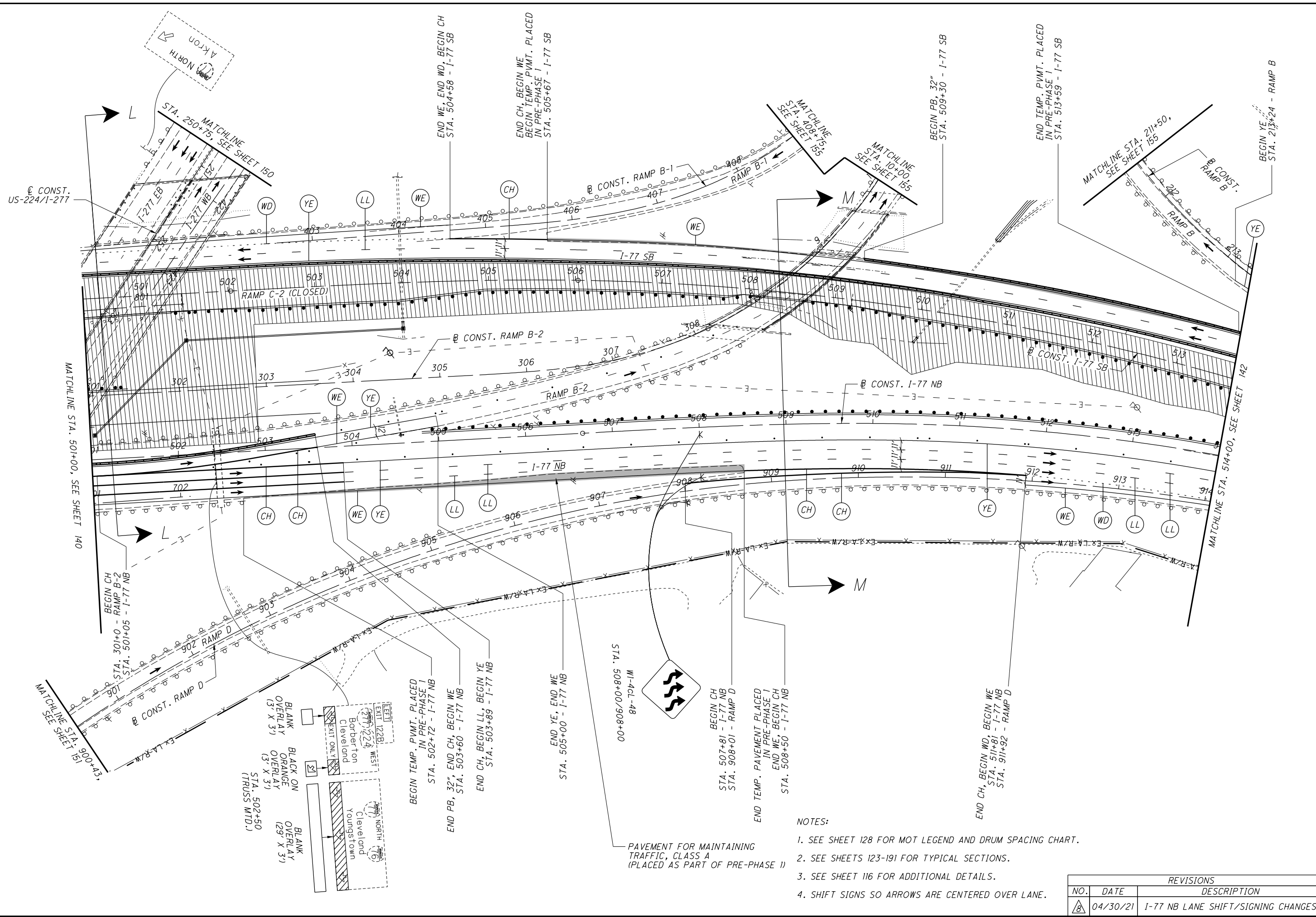
N:\03\60\06744-08\106002\_SUM-76-10.95\Design\M07\Sheets\106002\_MPl17.dgn Sheet 4/30/2021 11:44:10 AM cwhite



- NOTES:
1. SEE SHEET 128 FOR MOT LEGEND AND DRUM SPACING CHART.
  2. SEE SHEETS 123-191 FOR TYPICAL SECTIONS.
  3. SEE SHEETS 116 AND 118 FOR ADDITIONAL DETAILS.

REVISIONS		
NO.	DATE	DESCRIPTION
1	04/30/21	I-77 NB LANE SHIFT/SIGNING CHANGES

N:\03\60\06744-08\106002\_SUM-76-10-95\Design\M07\Sheets\106002\_MPI18.dgn Sheet 4/30/2021 11:45:43 AM awhite



CALCULATED  
CHECKED

0 50 100  
HORIZONTAL SCALE IN FEET

**SUM-77 / 277 / 224**  
**MAINTENANCE OF TRAFFIC PLAN - PHASE 1**  
**I-77 - STA. 501+00 TO STA. 514+00**

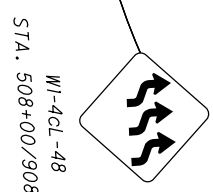
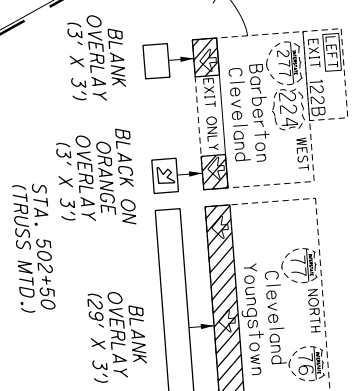
**VARIOUS**

141  
1288

**NOTES:**

1. SEE SHEET 128 FOR MOT LEGEND AND DRUM SPACING CHART.
2. SEE SHEETS 123-191 FOR TYPICAL SECTIONS.
3. SEE SHEET 116 FOR ADDITIONAL DETAILS.
4. SHIFT SIGNS SO ARROWS ARE CENTERED OVER LANE.

REVISIONS		
NO.	DATE	DESCRIPTION
1	04/30/21	I-77 NB LANE SHIFT/SIGNING CHANGES



PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A (PLACED AS PART OF PRE-PHASE I)

O:\2017\2017258\ProjectData\SUM\06002\Design\Roadway\Sheets\06002\_G600.dgn\_Sheet 4/30/2021 12:26:53 PM Kirkland

SHEET NUMBER						PARTICIPATION						ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.	CALCULATED LRK	CHECKED PJF
OFFICE CALCS	73	407	410	416		01/IMS/PV	02/IMS/PV	03/IMS/BR	04/IMS/BR	05/IMS/BR	06/IMS/BR								
	LS					LS	LS					201	11000	LS		ROADWAY	66		
		20	9			26	3					202	20010	29	EACH	HEADWALL REMOVED			
		233574				210217	23357					202	23000	233574	SY	PAVEMENT REMOVED			
		3750				3375	375					202	30700	3750	FT	CONCRETE BARRIER REMOVED			
		169				152	17					202	32000	169	FT	CURB REMOVED			
		86				77	9					202	32700	86	SY	GUTTER REMOVED			
		4526	16			4088	454					202	35100	4542	FT	PIPE REMOVED, 24" AND UNDER			
		168				151	17					202	35200	168	FT	PIPE REMOVED, OVER 24"			
		34740				31266	3474					202	38000	34740	FT	GUARDRAIL REMOVED			
		2027				1824	203					202	48000	2027	FT	CABLE BARRIER REMOVED			
		36				32	4					202	58100	36	EACH	CATCH BASIN REMOVED			
		3				3						202	58200	3	EACH	INLET REMOVED			
		1				1						202	58500	1	EACH	CATCH BASIN ABANDONED			
		586				527	59					SPECIAL	20270000	586	FT	FILL AND PLUG EXISTING CONDUIT, 15"	70		
		360				324	36					SPECIAL	20270000	360	FT	FILL AND PLUG EXISTING CONDUIT, 18"	70		
			308			277	31					SPECIAL	20270000	308	FT	FILL AND PLUG EXISTING CONDUIT, 24"	70		
		214				193	21					SPECIAL	20270000	214	FT	FILL AND PLUG EXISTING CONDUIT, 30"	70		
		10998				9898	1100					202	75000	10998	FT	FENCE REMOVED			
	16400					154679	17186					203	10000	171865	CY	EXCAVATION			
	16300					85050	10135					203	20000	101350	CY	EMBANKMENT			
2071						1864	207					204	10000	2071	SY	SUBGRADE COMPACTION			
						935	93					204	13000	935	CY	EXCAVATION OF SUBGRADE			
						935	93					204	20000	935	CY	EMBANKMENT			
	100					90	10					204	30020	100	CY	GRANULAR MATERIAL, TYPE C			
	156					140	16					204	45000	156	HOUR	PROOF ROLLING	69		
7629						6866	763					206	10500	7629	TON	CEMENT			
294563						265107	29456					206	11000	294563	SY	CURING COAT			
294563						265107	29456					206	15010	294563	SY	CEMENT STABILIZED SUBGRADE, 12 INCHES DEEP			
LS						LS	LS					206	30000	LS		MIXTURE DESIGN FOR CHEMICALLY STABILIZED SOILS			
376						338	38					209	60201	376	STA	LINEAR GRADING, AS PER PLAN	67		
		32678				29410	3268					606	15050	32678	FT	GUARDRAIL, TYPE MGS			
		2870				2583	287					606	15100	2870	FT	GUARDRAIL, TYPE MGS WITH LONG POSTS			
		250				225	25					606	15150	250	FT	GUARDRAIL, TYPE MGS HALF POST SPACING			
		50				45	5					606	15250	50	FT	GUARDRAIL, TYPE MGS QUARTER POST SPACING			
		25				23	2					606	15550	25	FT	GUARDRAIL, BARRIER DESIGN, TYPE MGS			
		1				1						606	20050	1	EACH	ROUNDED END SECTION			
		22				20	2					606	26150	22	EACH	ANCHOR ASSEMBLY, MGS TYPE E (MASH 2016)	67		
		22				20	2					606	26550	22	EACH	ANCHOR ASSEMBLY, MGS TYPE T			
		24				22	2					606	35002	24	EACH	MGS BRIDGE TERMINAL ASSEMBLY, TYPE 1			
		17				15	2					606	35102	17	EACH	MGS BRIDGE TERMINAL ASSEMBLY, TYPE 2			
		1				1						606	60002	1	EACH	IMPACT ATTENUATOR, TYPE 1 (UNIDIRECTIONAL)	68		
		1				1						606	60040	1	EACH	IMPACT ATTENUATOR, TYPE 3 UNIDIRECTIONAL (60 MPH, 90" WIDTH)	68		
		1				1						606	60040	1	EACH	IMPACT ATTENUATOR, TYPE 3 UNIDIRECTIONAL (65 MPH, 69" WIDTH)	68		
		1				1						606	60040	1	EACH	IMPACT ATTENUATOR, TYPE 3 UNIDIRECTIONAL (70 MPH, 48" WIDTH)	68		
		1518				1366	152					607	23000	1518	FT	FENCE, TYPE CLT			
		1518				1366	152					607	70000	1518	FT	FENCELINE SEEDING AND MULCHING			
		9982				8984	998					607	98000	9982	FT	FENCE, MISC.: TEMPORARY FENCE	68		
2100						1890	210					622	10100	2100	FT	CONCRETE BARRIER, SINGLE SLOPE, TYPE B1			
5708						5137	571					622	10140	5708	FT	CONCRETE BARRIER, SINGLE SLOPE, TYPE C1			
		1983				1785	198					622	10160	1983	FT	CONCRETE BARRIER, SINGLE SLOPE, TYPE D			
		71				64	7					622	10161	71	FT	CONCRETE BARRIER, SINGLE SLOPE, TYPE D, AS PER PLAN	68		
3						3						622	10200	3	EACH	BARRIER TRANSITION	907		
		23				21	2					622	25000	23	EACH	CONCRETE BARRIER END SECTION, TYPE D			
		3				3						622	25001	3	EACH	CONCRETE BARRIER END SECTION, TYPE D, AS PER PLAN	68		
14						13	1					622	25006	14	EACH	CONCRETE BARRIER, END ANCHORAGE, REINFORCED, TYPE B1			
56						50	6					622	25014	56	EACH	CONCRETE BARRIER, END ANCHORAGE, REINFORCED, TYPE C1			
4						4						622	25015	4	EACH	CONCRETE BARRIER, END ANCHORAGE, REINFORCED, TYPE C1, AS PER PLAN	68		

GENERAL SUMMARY  
SUM-77 / 277 / 224  
VARIOUS

402  
1288

REVISIONS			
NO.	DATE	DESCRIPTION	
8	04/30/21	ADDED TEMPORARY FENCE QUANTITY	

SHEET NO.	202	202	202	202	202	202	202	202	202	202	202	202	202	202	SPECIAL	SPECIAL	SPECIAL	202	202	607	606	606		
	HEADWALL REMOVED	PAVEMENT REMOVED	CONCRETE BARRIER REMOVED	CURB REMOVED		PIPE REMOVED, 24" AND UNDER	PIPE REMOVED, OVER 24"		GUARDRAIL REMOVED	CABLE BARRIER REMOVED		CATCH BASIN REMOVED	INLET REMOVED	CATCH BASIN ABANDONED		FILL AND PLUG EXISTING CONDUIT, 15"	FILL AND PLUG EXISTING CONDUIT, 18"	FILL AND PLUG EXISTING CONDUIT, 30"	FENCE REMOVED	GUTTER REMOVED	FENCE, MISC.: TEMPORARY FENCE	GUARDRAIL, TYPE MGS	GUARDRAIL, TYPE MGS WITH LONG POSTS	
	EACH	SY	FT	FT		FT	FT		FT	FT		EACH	EACH	EACH		FT	FT	FT	FT	SY	FT	FT	FT	
417			804											1										
419												36	3											
423															586	360	214		10998		9982			
424																						31504	2270	
425																						1174	600	
426									18524	2027														
427									16216															
428	20																							
431						4526	168													86				
443		233574	2946	169																				
<b>TOTALS CARRIED TO GENERAL SUMMARY</b>	20	233574	3750	169		4526	168		34740	2027		36	3	1		586	360	214		10998	86	9982	32678	2870
SHEET NO.	606	606	606	606	606	606	606	606	606	606	606	607	607	622	622	622	622	622	622	622*	626*	626*	626*	
	GUARDRAIL, TYPE MGS HALF POST SPACING	GUARDRAIL, TYPE MGS QUARTER POST SPACING	GUARDRAIL, BARRIER DESIGN, TYPE MGS	ROUNDED END SECTION	ANCHOR ASSEMBLY, MGS TYPE E (MASH 2016)	ANCHOR ASSEMBLY, MGS TYPE T	MGS BRIDGE TERMINAL ASSEMBLY, TYPE 1	MGS BRIDGE TERMINAL ASSEMBLY, TYPE 2	IMPACT ATTENUATOR, TYPE 1 (UNIDIRECTIONAL)	IMPACT ATTENUATOR, TYPE 3 UNIDIRECTIONAL 160 MPH, 90" WIDTH	IMPACT ATTENUATOR, TYPE 3 UNIDIRECTIONAL 165 MPH, 69" WIDTH	IMPACT ATTENUATOR, TYPE 3 UNIDIRECTIONAL 170 MPH, 48" WIDTH	FENCE, TYPE CLT	FENCELINE SEEDING AND MULCHING	CONCRETE BARRIER, SINGLE SLOPE, TYPE D	CONCRETE BARRIER, SINGLE SLOPE, TYPE D, AS PER PLAN	CONCRETE BARRIER END SECTION, TYPE D	CONCRETE BARRIER END SECTION, TYPE D, AS PER PLAN	CONCRETE BARRIER, END ANCHORAGE, REINFORCED, TYPE D	CONCRETE BARRIER, END ANCHORAGE, REINFORCED, TYPE D, AS PER PLAN	BARRIER REFLECTOR, TYPE 1, ONE-WAY	BARRIER REFLECTOR, TYPE 1, BI-DIRECTIONAL	BARRIER REFLECTOR, TYPE 3, ONE-WAY	BARRIER REFLECTOR, TYPE 3, BI-DIRECTIONAL
	FT	FT	FT	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	FT	FT	FT	FT	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	
417															1983	71	23	3	9	2				
423													1518	1518										
424	200	50	25	1	21	18	20	16	1	1	1													
425	50				1	4	4	1												266	4	451	6	
<b>* QUANTITY CARRIED TO TRAFFIC CONTROL GENERAL SUMMARY ON SHEET 936</b>																								
<b>TOTALS CARRIED TO GENERAL SUMMARY</b>	250	50	25	1	22	22	24	17	1	1	1	1	1518	1518	1983	71	23	3	9	2	266	4	451	6

CALCULATED LRK CHECKED PJF	<b>ROADWAY SUBSUMMARY</b>	<b>SUM-77 / 277 / 224</b> <b>VARIOUS</b>
NO.    DATE    DESCRIPTION    QUANTITY		
8    04/30/21    ADDED TEMPORARY FENCE		407 1288



O:\2017\258\ProjectData\SUM\06002\Design\Roadway\Sheets\06002\_G0030.dgn Sheet 4/30/2021 12:27:55 PM Kir-land

REF. NO.	SHEET NO.	STATION		SIDE	SPECIAL			202	607	607	607										
		FROM	TO		FILL AND PLUG EXISTING CONDUIT, 15"	FILL AND PLUG EXISTING CONDUIT, 18"	FILL AND PLUG EXISTING CONDUIT, 30"	FENCE REMOVED	FENCE, TYPE CLT	FENCE LINE SEEDING AND MULCHING	FENCE, MISC.: TEMPORARY FENCE										
		FT	FT		FT	FT	FT	FT	FT	FT	FT										
F-1	1262	394+44.76 (I.R. 77)	394+52.39 (I.R. 77)	LT																	
F-2	1263	407+19.12 (I.R. 77)	407+69.10 (I.R. 77)	LT							12	12									
F-3	1264	446+11.52 (I.R. 77)	446+61.98 (I.R. 77)	LT							50	50									
F-4	1265	460+30.84 (I.R. 77)	460+80.59 (I.R. 77)	RT							50	50									
F-5	1266	469+16.39 (I.R. 77)	469+23.99 (I.R. 77)	LT							11	11									
F-6	1266	469+62.86 (SB I.R. 77)	469+74.92 (SB I.R. 77)	LT							15	15									
F-7	1266	468+55.82 (I.R. 77)	468+68.03 (I.R. 77)	RT							15	15									
F-8	1266	469+08.95 (I.R. 77)	469+18.21 (I.R. 77)	RT							11	11									
F-9	1267	480+72.73 (SB I.R. 77)	481+24.33 (SB I.R. 77)	LT							50	50									
F-10	1267	583+59.12 (RAMP C)	584+08.84 (RAMP C)	RT							50	50									
F-11	1268	87+52.08 (RAMP A)	92+38.86 (RAMP A)	LT							477	477									
F-12	1268	93+01.79 (RAMP A)	98+46.73 (RAMP A)	LT							527	527									
F-13	1269	231+60.95 (I.R. 277/224)	232+10.61 (I.R. 277/224)	RT							50	50									
F-14	1270	105+66.09 (RAMP A)	106+17.26 (RAMP A)	RT							50	50									
F-15	1271	890+62.72 (RAMP D)	891+13.56 (RAMP D)	RT							50	50									
F-16	1272	280+23.33 (I.R. 277/224)	280+64.06 (I.R. 277/224)	LT							50	50									
FP-8	461	DR-8	PR-8	LT	82																
FP-9	461	DR-9	PR-9	LT	88																
FP-10	463	DR-10	PR-10	LT	86																
FP-11	463	PR-11	PR-11A	LT	78																
FP-15	465	DR-15	PR-15	LT	79																
FP-17	467	DR-17	PR-17	RT		76															
FP-26	473	DR-26	DR-27	LT/RT		120															
FP-27	477	PR-27A	PR-27	LT/RT			214														
FP-32	477	DR-32	PR-32	LT/RT	130																
FP-39	500	DR-39	EX-2	LT	43																
FP-41	488 , 494	DR-41	PR-41	LT/RT		164															
FR-1	1262 - 1263	394+52.16 (I.R. 77)	407+69.10 (I.R. 77)	LT				1311					1311								
FR-2	1264 - 1266	446+11.52 (I.R. 77)	469+23.44 (I.R. 77)	LT				2319					2319								
FR-3	1265 - 1266	460+30.84 (I.R. 77)	468+67.45 (I.R. 77)	RT				845					845								
FR-4	1266 - 1267	469+62.43 (SB I.R. 77)	481+24.33 (SB I.R. 77)	LT				1137					1137								
FR-5	1266 - 1267	469+17.32 (I.R. 77)	584+08.84 (RAMP C)	RT				1497					1497								
FR-6	1268	87+52.08 (RAMP A)	92+38.86 (RAMP A)	LT				480													
FR-7	1268	93+01.79 (RAMP A)	98+46.73 (RAMP A)	LT				536													
FR-8	1269 - 1270	231+60.95 (I.R. 277/224)	245+73.76 (I.R. 277/224)	RT				1420					1420								
FR-9	1271 - 1272	266+30.23 (I.R. 277/224)	280+64.06 (I.R. 277/224)	LT				1453					1453								
<b>TOTALS CARRIED TO SUBSUMMARY SHEET</b>					<b>407</b>		586	360	214		10998		1518	1518		9982					

CALCULATED	CJC	CHECKED	PJF
<b>ESTIMATED QUANTITIES</b>			
<b>SUM - 77 / 277 / 224</b>			
<b>VARIOUS</b>			

REVISIONS		
NO.	DATE	DESCRIPTION
8	04/30/21	ADDED TEMPORARY FENCE QUANTITY

423
1288

**ESTIMATED QUANTITIES**

CALCULATED BY: RFV DATE: 1-14-21  
CHECKED BY: DJC DATE: 1-15-21

ITEM	EXT.	TOTAL	PARTICIPATION		UNIT	DESCRIPTION	ABUTMENTS	PIERS	SUPER-STRUCTURE	GENERAL	AS PER PLAN REFERENCE SHEET
			03/IMS/BR	04/IMS/BR							
202	11203	LS	LS	LS	LS	PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN					3
202	22900	400	260	140	SY	APPROACH SLAB REMOVED				400	
202	23500	400	260	140	SY	WEARING COURSE REMOVED				400	
503	11100	LS	LS	LS	LS	COFFERDAMS AND EXCAVATION BRACING					
503	21100	278	181	97	CY	UNCLASSIFIED EXCAVATION	88	190			
505	11100	LS	LS	LS	LS	PILE DRIVING EQUIPMENT MOBILIZATION					
507	00500	2770	1800	970	FT	12" CAST-IN-PLACE REINFORCED CONCRETE PILES, DRIVEN	450	2320			
507	00550	2990	1944	1046	FT	12" CAST-IN-PLACE REINFORCED CONCRETE PILES, FURNISHED	510	2480			
509	10000	130236	84653	45583	LB	EPOXY COATED REINFORCING STEEL	9997	28796	91443		
509	20001	100	65	35	LB	REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN				100	3
509	30020	4171	2711	1460	FT	NO. 4 GFRP DEFORMED BARS			4171		
509	30040	3310	2152	1158	FT	NO. 6 GFRP DEFORMED BARS			3310		
510	10000	282	183	99	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT	282				
511	34446	368	239	129	CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK			368		
511	34450	115	75	40	CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK (PARAPET)			115		
511	41010	70	45	25	CY	CLASS QC1 CONCRETE, PIER ABOVE FOOTINGS		70			
511	44112	32	21	11	CY	CLASS QC1 CONCRETE WITH QC/QA, ABUTMENT NOT INCLUDING FOOTING	32				
511	46512	81	53	28	CY	CLASS QC1 CONCRETE WITH QC/QA, FOOTING	21	60			
512	10100	1217	791	426	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	61	636	520		
512	33000	10	7	3	SY	TYPE 2 WATERPROOFING	10				
512	74000	473	307	166	SY	REMOVAL OF EXISTING COATINGS FROM CONCRETE SURFACES	40	433			
516	13600	50	33	17	SF	1" PREFORMED EXPANSION JOINT FILLER	8		42		
516	13900	37	24	13	SF	2" PREFORMED EXPANSION JOINT FILLER	37				
518	21200	125	81	44	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC	125				
518	40000	360	234	126	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	360				
518	40010	60	39	21	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS	60				
519	00100	2199	1429	770	SF	SPECIAL - COMPOSITE FIBER WRAP SYSTEM		2199			3
519	11101	90	59	31	SF	PATCHING CONCRETE STRUCTURE, AS PER PLAN	65	5		20	3
523	20000	2	1	1	EACH	DYNAMIC LOAD TESTING	1	1			
526	25011	879	571	308	SY	REINFORCED CONCRETE APPROACH SLABS WITH QC/QA (T=15"), AS PER PLAN				879	22-24
526	90011	325	211	114	FT	TYPE A INSTALLATION, AS PER PLAN				325	22-23
* 601	20000	310	202	108	SY	CRUSHED AGGREGATE SLOPE PROTECTION	310				
846	00110	136	88	48	CF	POLYMER MODIFIED ASPHALT EXPANSION JOINT SYSTEM				136	
848	10000	1220	793	427	SY	MICRO SILICA MODIFIED CONCRETE OVERLAY USING HYDRODEMOLITION, 1 1/2 " THICK. AND VARIES			1220		
848	20000	1197	778	419	SY	SURFACE PREPARATION USING HYDRODEMOLITION			1197		
848	30000	60	39	21	CY	MICRO SILICA MODIFIED CONCRETE OVERLAY (VARIABLE THICKNESS), MATERIAL ONLY			60		
848	50000	12	8	4	SY	HAND CHIPPING			12		
848	50100	LS	LS	LS	LS	TEST SLAB					
848	50200	2	1	1	CY	FULL-DEPTH REPAIR			2		
848	50300	1220	793	427	SY	WEARING COURSE REMOVED, ASPHALT			1,220		

\* INCLUDED FOR PAYMENT WITH THE EROSION CONTROL QUANTITIES - SEE THE GENERAL SUMMARY.



DESIGN AGENCY  
GPD GROUP  
520 South Main Street, Akron, OH 44311  
330.572.2100

REVIEWED  
DATE: 1-18-21  
TJW  
STRUCTURE FILE NUMBER  
7702493/7702523

DRAWN  
RFV  
REVISED

DESIGNED  
RFV  
CHECKED  
RHC

ESTIMATED QUANTITIES  
BRIDGE NO. SUM-77-0802 L/R  
OVER EAST WARNER ROAD

SUM-77 / 277 / 224  
VARIOUS  
PID No. 106002

4 / 26

1158  
1288

REVISIONS		
NO.	DATE	DESCRIPTION
8	04/30/21	ADDED ITEM 512 - REMOVAL OF EXISTING COATINGS

O:\2017\258\ProjectData\SUM\06002\Design\Structures\SUM077\_0802C\_S000.dgn Sheet 4/30/2021 12:23:49 PM mjurcak

**ESTIMATED QUANTITIES**

CALCULATED BY: MOJ  
CHECKED BY: RHC  
DATE: 1-11-2021  
DATE: 1-12-2021

ITEM	EXT.	TOTAL	PARTICIPATION		UNIT	DESCRIPTION	ABUTMENTS	PIERS	SUPER-STRUCTURE	GENERAL	AS PER PLAN REFERENCE SHEET
			03/IMS/BR	04/IMS/BR							
202	11203	LS	LS	LS		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN				LS	3
202	22900	400	260	140	SY	APPROACH SLAB REMOVED				400	
202	23500	2,450	1,593	857	SY	WEARING COURSE REMOVED				2,450	
503	11101	LS	LS	LS		COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN				LS	3
503	21100	421	274	147	CY	UNCLASSIFIED EXCAVATION	192	229			
505	11100	LS	LS	LS		PILE DRIVING EQUIPMENT MOBILIZATION				LS	
507	00500	2,740	1,781	959	FT	12" CAST-IN-PLACE REINFORCED CONCRETE PILES, DRIVEN	1,200	1,540			
507	00550	3,000	1,950	1,050	FT	12" CAST-IN-PLACE REINFORCED CONCRETE PILES, FURNISHED	1,320	1,680			
509	10000	293,392	190,705	102,687	LB	EPOXY COATED REINFORCING STEEL	7,408	40,021	245,963		
509	30020	6,400	4,160	2,240	FT	NO. 4 GFRP DEFORMED BARS			6,400		
509	30040	5,020	3,263	1,757	FT	NO. 6 GFRP DEFORMED BARS			5,020		
510	10000	170	111	59	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT	170				
511	33500	4	3	1	EACH	SEMI-INTEGRAL DIAPHRAGM GUIDE	4				
511	34447	847	551	296	CY	CLASS QC2 CONCRETE WITH QC/OA, BRIDGE DECK, AS PER PLAN			847		3
511	34450	151	98	53	CY	CLASS QC2 CONCRETE WITH QC/OA, BRIDGE DECK (PARAPET)			151		39
511	40512	141	92	49	CY	CLASS QC1 CONCRETE WITH QC/OA, PIER ABOVE FOOTINGS		141			
511	44112	67	44	23	CY	CLASS QC1 CONCRETE WITH QC/OA, ABUTMENT NOT INCLUDING FOOTING	67				
511	46512	135	88	47	CY	CLASS QC1 CONCRETE WITH QC/OA, FOOTING	60	75			
512	10100	1,998	1,299	699	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	59	1,132	807		
512	10600	10	7	3	FT	CONCRETE REPAIR BY EPOXY INJECTION	6	4			
512	33000	19	12	7	SY	TYPE 2 WATERPROOFING	19				
512	74000	867	564	303	SY	REMOVAL OF EXISTING COATINGS FROM CONCRETE SURFACES	34	833			
513	10261	194,393	126,355	68,038	LB	STRUCTURAL STEEL MEMBERS, LEVEL 3, AS PER PLAN			194,393		3
513	20000	13,050	8,483	4,567	EACH	WELDED STUD SHEAR CONNECTORS			13,050		
514	00050	753	489	264	SF	SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL			753		
514	00056	753	489	264	SF	FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT			753		
514	00060	13,757	8,942	4,815	SF	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT			13,757		
514	00066	13,757	8,942	4,815	SF	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT			13,757		
514	00504	3	2	1	MNHR	GRINDING FINS, TEARS, SLIVERS ON EXISTING STRUCTURAL STEEL			3		
514	10000	13	8	5	EACH	FINAL INSPECTION REPAIR			13		
516	10010	318	207	111	FT	ARMORLESS PREFORMED JOINT SEAL				318	
516	13600	41	27	14	SF	1" PREFORMED EXPANSION JOINT FILLER			41		
516	13900	64	42	22	SF	2" PREFORMED EXPANSION JOINT FILLER	64				
516	14020	354	230	124	FT	SEMI-INTEGRAL ABUTMENT EXPANSION JOINT SEAL	354				
516	44001	40	26	14	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE) (9" X 1'-1" X 1.85" THICK), AS PER PLAN	40				17
516	44101	40	26	14	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE) (11" X 1'-5" X 2.25" THICK), AS PER PLAN		40			17
516	47001	LS	LS	LS		JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN			LS		3
518	21200	192	125	67	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC	192				
518	40000	360	234	126	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	360				
518	40010	32	21	11	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS	32				
519	11100	125	81	44	SF	PATCHING CONCRETE STRUCTURE	97	28			
523	20000	2	1	1	EACH	DYNAMIC LOAD TESTING				2	
526	25011	880	572	308	SY	REINFORCED CONCRETE APPROACH SLABS WITH QC/OA (T=15"), AS PER PLAN				880	38
526	90031	318	207	111	FT	TYPE C INSTALLATION, AS PER PLAN				318	39
* 601	32200	637	414	223	CY	ROCK CHANNEL PROTECTION, TYPE C WITH FILTER				637	

\* INCLUDED FOR PAYMENT WITH THE EROSION CONTROL QUANTITIES - SEE THE GENERAL SUMMARY.

REVISIONS		
NO.	DATE	DESCRIPTION
8	04/27/21	REVISED ITEM 511 - BRIDGE DECK CONCRETE QUANTITY
9	04/30/21	ADDED ITEM 512 - REMOVAL OF EXISTING COATINGS



DESIGN AGENCY  
GPD GROUP  
Glaus, P.K., Schorer, Burns & Behaven, Inc.  
520 South Main Street, Akron, OH 44311  
330.572.2100  
Copyright © 2021 GPD Group, Inc.

REVIEWED DATE 1-19-21  
DGN STRUCTURE FILE NUMBER 7702558/7702582

DRAWN MOJ  
MOJ REVISED

DESIGNED MOJ  
MOJ CHECKED RHC

ESTIMATED QUANTITIES  
BRIDGE NO. SUM-77-0810 L/R  
I.R. 77 OVER THE TUSCARAWAS RIVER

SUM-77 / 277 / 224  
VARIOUS  
PID No. 106002

4 / 44

1184  
1288

O:\2017\2017258\ProjectData\SUM\06002\Design\Structures\SUM077\_0810\_Sheets\077\_0810C\_S0001.dgn Sheet 4/30/2021 12:24:28 PM mjr:cdk

PROJECT: SUM-77-277/224		DRILLING FIRM / OPERATOR: NEAS / J. HODGES		DRILL RIG: CME 55X		STATION / OFFSET: 791+83.23' RT.		EXPLORATION ID			
TYPE: BRIDGE		SAMPLING FIRM / LOGGER: NEAS / J. HODGES		HAMMER: CME AUTOMATIC		ALIGNMENT: RAMP C2		B-033-3-17			
PID: 95831 SFN: 7702649		DRILLING METHOD: 3.25" HSA / NQ2		CALIBRATION DATE: 12/5/19		ELEVATION: 1031.2 (MSL) EOB: 55.0 ft.		PAGE			
START: 3/19/20 END: 3/19/20		SAMPLING METHOD: SPT / NQ2		ENERGY RATIO (%): 81.9		LAT / LONG: 41.023852, -81.499317		1 OF 1			
MATERIAL DESCRIPTION AND NOTES		ELEV.		REC SAMPLE ID		GRADATION (%)		ATTERBERG		HOLE	
		1031.2		N <sub>60</sub>		GR CS FS SI CL LL PL WC		PI		ODOT CLASS (G) SEALED	
STIFF, BROWN, SANDY SILT, LITTLE CLAY, LITTLE GRAVEL, DAMP	1										
	2										
MEDIUM DENSE TO DENSE, BROWN, STONE FRAGMENTS WITH SAND TRACE TO LITTLE SILT, TRACE CLAY, STONE FRAGMENTS ARE FRIABLE SANDSTONE, WET TO MOIST	3										
	4										
MEDIUM DENSE, BROWN AND GRAY, SANDY SILT, LITTLE CLAY, TRACE GRAVEL, DAMP	5										
	6										
HARD, BROWN MOTTLED WITH GRAY AND ORANGISH BROWN, SILT, LITTLE SAND, LITTLE CLAY, TRACE GRAVEL, CONTAINS IRON STAINING, DAMP	7										
	8										
MEDIUM DENSE TO VERY DENSE, BROWN AND GRAY, SANDY SILT, LITTLE TO SOME GRAVEL AND STONE FRAGMENTS, TRACE TO LITTLE CLAY, DAMP	9										
	10										
INTERBEDDED SANDSTONE (69%) AND SHALE (31%) THICK BEDDED FROM 47.1' - 49.7' AND 53.0' - 55.0', FRIABLE SILTY FROM 36.5' - 45.0', BEDDING DISCONTINUITIES: LOW ANGLE, JOINT	11										
	12										
VERY DENSE, GRAY, STONE FRAGMENTS WITH SAND AND SILT, LITTLE CLAY, STONE FRAGMENTS ARE SANDSTONE, MOIST	13										
	14										
@28.5'; BECOMES GRAY	15										
	16										
INTERBEDDED SANDSTONE (69%) AND SHALE (31%) THICK BEDDED FROM 47.1' - 49.7' AND 53.0' - 55.0', FRIABLE SILTY FROM 36.5' - 45.0', BEDDING DISCONTINUITIES: HIGH ANGLE FROM 36.8' - 37.4', 37.8', 39.5', 40.2' - 40.8' AND 41.3', MODERATELY FRACTURED TO SLIGHTLY FRACTURED, HIGHLY FRACTURED TO MODERATELY FRACTURED FROM 36.5' - 41.6', OPEN TO NARROW, SLIGHTLY ROUGH, DISINTIGRATED FROM 36.5' - 41.6', INTACT FROM 41.6' - 50.4', BLOCKY/DISTURBED/SEAMY FROM 50.4' - 53.0', INTACT FROM 53.0' - 55.0', FAIR TO GOOD SURFACE CONDITION, RQD 58.8%, REC. 92.8%.	17										
	18										
SANDSTONE GRAY TO LIGHT GRAY, SLIGHTLY TO MODERATELY WEATHERED, MODERATELY STRONG, VERY FINE TO MEDIUM GRAINED, VERY THIN TO THIN BEDDED;	19										
	20										
SHALE GRAY TO DARK GRAY, HIGHLY WEATHERED, VERY WEAK, LAMINATED, FISSILE. @37.4' TO 37.8'; Q <sub>u</sub> = 4548 PSI (SANDSTONE) @42.3' TO 42.7'; Q <sub>u</sub> = 77 PSI (SHALE)	21										
	22										
CORE	23										
	24										
CORE	25										
	26										
CORE	27										
	28										
CORE	29										
	30										
CORE	31										
	32										
CORE	33										
	34										
CORE	35										
	36										
CORE	37										
	38										
CORE	39										
	40										
CORE	41										
	42										
CORE	43										
	44										
CORE	45										
	46										
CORE	47										
	48										
CORE	49										
	50										
CORE	51										
	52										
CORE	53										
	54										
CORE	55										
	56										

NOTES: GROUNDWATER ENCOUNTERED AT 23.5' DURING DRILLING. HOLE DID NOT CAVE.  
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: PUMPED 150 GAL. BENTONITE GROUT

REVISIONS		
NO.	DATE	DESCRIPTION
1	04/27/21	REVISED BORING LOG

PROJECT: SUM-77-277/224		DRILLING FIRM / OPERATOR: NEAS / J. HODGES		DRILL RIG: CME 55X		STATION / OFFSET: 790+47.17' RT.		EXPLORATION ID										
TYPE: BRIDGE		SAMPLING FIRM / LOGGER: NEAS / J. HODGES		HAMMER: CME AUTOMATIC		ALIGNMENT: RAMP C2		B-033-4-17										
PID: 95831 SFN: 7702649		DRILLING METHOD: 3.25" HSA / NQ2		CALIBRATION DATE: 12/5/19		ELEVATION: 1032.5 (MSL) EOB: 55.5 ft.		PAGE										
START: 4/6/20 END: 4/6/20		SAMPLING METHOD: SPT / NQ2		ENERGY RATIO (%): 81.9		LAT / LONG: 41.023721, -81.498886		1 OF 1										
MATERIAL DESCRIPTION AND NOTES		ELEV.	DEPTHS	SPT/ RQD	N <sub>60</sub>	REC SAMPLE (%)	HP (tsf)	GR	CS	FS	SI	CL	LL	PL	PI	WC	ODOT CLASS (G)	HOLE SEALED
MEDIUM STIFF TO VERY STIFF, BROWN AND GRAY, SANDY SILT, LITTLE GRAVEL, LITTLE CLAY, CONTAINS IRON STAINING, DAMP	1032.5	1-17																
MEDIUM DENSE TO DENSE, BROWN, STONE FRAGMENTS WITH SAND, TRACE TO LITTLE SILT, TRACE CLAY, STONE FRAGMENTS ARE FRIABLE SANDSTONE, CONTAINS IRON STAINING, DAMP	1026.5	18-27																
LOOSE TO DENSE, BROWN, STONE FRAGMENTS SOME SAND, TRACE SILT, TRACE CLAY, STONE FRAGMENTS ARE FRIABLE SANDSTONE, CONTAINS IRON STAINING, MOIST TO WET	1023.0	28-37																
VERY STIFF, BROWN MOTTLED WITH GRAY AND ORANGISH BROWN, SANDY SILT, LITTLE CLAY, TRACE GRAVEL, CONTAINS IRON STAINING, MOIST	1015.5	38-47																
MEDIUM DENSE, GRAY AND BROWN, SILT, SOME SAND, LITTLE CLAY, TRACE GRAVEL, MOIST	1013.0	48-57																
VERY STIFF TO HARD, GRAY, SILT AND CLAY, SOME SAND, TRACE TO LITTLE GRAVEL AND STONE FRAGMENTS, DAMP	1010.5	58-67																
VERY DENSE, GRAY, STONE FRAGMENTS WITH SAND AND SILT, LITTLE CLAY, STONE FRAGMENTS ARE SILTY SHALE, DAMP	1000.5	68-77																
SHALE GRAY, HIGHLY WEATHERED, VERY WEAK TO WEAK, SILTY.	998.5	78-87																
SHALE GRAY, MODERATELY WEATHERED, VERY WEAK TO WEAK, THINLY LAMINATED TO VERY THIN, SILTY, FISSILE, BEDDING DISCONTINUITIES: LOW ANGLE, JOINT DISCONTINUITIES: HIGH ANGLE FROM 37.8' - 38.0' AND 38.2' - 38.6', HIGHLY FRACTURED TO MODERATELY FRACTURED, NARROW TO TIGHT, SLIGHTLY ROUGH, BLOCKY, FAIR SURFACE CONDITION; RQD 54.8%, REC 100%.	997.0	88-97																
INTERBEDDED SANDSTONE (76%) AND SHALE (24%) BEDDING DISCONTINUITIES: LOW ANGLE FROM 40.9' - 48.2', BEDDING DISCONTINUITIES: HIGH ANGLE FROM 48.2' - 55.2', JOINT DISCONTINUITIES: HIGH ANGLE FROM 42.8' - 44.3', HIGHLY FRACTURED TO MODERATELY FRACTURED FROM 40.9' - 51.5', FRACTURED TO SLIGHTLY FRACTURED FROM 51.5' - 55.5', NARROW TO TIGHT, SLIGHTLY ROUGH, BLOCKY, GOOD SURFACE CONDITION, RQD 42%, REC. 98.2%.	991.6	98-107																
SANDSTONE LIGHT GRAY AND ORANGISH BROWN, SLIGHTLY WEATHERED, STRONG, FINE TO MEDIUM GRAINED, MEDIUM TO LAMINATED BEDDING, FRIABLE; SHALE GRAY, MODERATELY WEATHERED, VERY WEAK TO WEAK, FISSILE.		108-117																
@44.9' TO 45.3'; Qu = 9236 PSI (SANDSTONE)	977.0	118-127																

NOTES: GROUNDWATER ENCOUNTERED AT 11.0' DURING DRILLING. HOLE DID NOT CAVE. NO WATER CIRCULATION DURING CORING OPERATIONS.  
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: PUMPED 85 GAL. BENTONITE GROUT

REVISIONS		
NO.	DATE	DESCRIPTION
8	04/27/21	REVISED BORING LOG

STANDARD ODOT BORING LOG (11 X 17) - OH DOT GDT - 6/8/20 16:31 - X:ACTIVE PROJECTS\ACTIVE SOIL PROJECTS\SUM-77-277-224 (FORMERLY SUM-76-10.95)\GINT FILES\PHASE 2\SUM-77-277-224 PHASE 2.GPJ