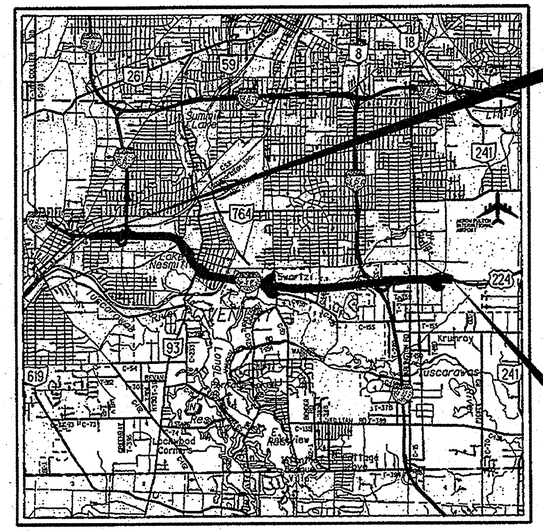

LOCATION MAP

LATITUDE: N41°01'32" LONGITUDE: W81°31'48"

SCALE IN MILES

0 1 2 3 4

N

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

DESIGN DESIGNATION

DESIGN FUNCTIONAL CLASSIFICATION:
URBAN FREEWAYS AND EXPRESSWAYS
NHS PROJECT ..... YES

DESIGN EXCEPTIONS

NONE

STATE OF OHIO

DEPARTMENT OF TRANSPORTATION

SUM-76/77/277/224-VAR.

PART 1

CITY OF AKRON
COVENTRY TOWNSHIP
SUMMIT COUNTY

FOR PART 2, SEE SUM-277-1.61
FOR PART 3, SEE SUM-76-6.72

INDEX OF SHEETS:

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STRUCTURES	**46A-46J, 47-55**

PROJECT DESCRIPTION

MINOR REHABILITATION RESURFACING WITH GUARDRAIL REPLACEMENT, MISCELLANEOUS BRIDGE WORK AND DRAINAGE IMPROVEMENTS.

DSR	FEDERAL PROJECT NO.	LOCATION
	E050259	SUM-76/77/277/224-VAR.
SUM-002	E050259	SUM-277-3.31
SUM-003	E111021	SUM-277-3.18/3.28

PROJECT EARTH DISTURBED AREA: 3.72 ACRES
ESTIMATED CONTRACTOR EARTH DISTURBED AREA: 1.00 ACRES
NOTICE OF INTENT EDA: N/A (MAINTENANCE PROJECT)

LIMITED ACCESS

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

2010 SPECIFICATIONS

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

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY AND THAT DETOURS WILL BE PROVIDED AS INDICATED ON SHEETS 7-36.

UNDERGROUND UTILITIES
CONTACT BOTH SERVICES
CALL TWO WORKING DAYS
BEFORE YOU DIG
CALL
1-800-362-2764
(TOLL FREE)
OHIO UTILITIES PROTECTION SERVICE
NON-MEMBERS
MUST BE CALLED DIRECTLY
OIL & GAS PRODUCERS PROTECTIVE SERVICE CALL: 1-800-925-0988

PLAN PREPARED BY:
ODOT - DISTRICT 4 PLANNING & ENGINEERING
2088 SOUTH ARLINGTON RD.
AKRON, OHIO 44306

ENGINEERS SEAL:

STATE OF OHIO
THOMAS
POWELL
E-61151
REGISTERED
PROFESSIONAL ENGINEER

SIGNED: Thomas Powell
DATE: 09-01-11

STANDARD CONSTRUCTION DRAWINGS								SUPPLEMENTAL SPECIFICATIONS		SPECIAL PROVISIONS
BP-3.1	10/19/07	GR-5.1	4/16/10	MT-101.70	4/15/11			800-2010	10/21/11	
BP-9.1	4/15/05	GR-5.2	4/16/10	MT-105.10	1/16/09			802	4/15/11	
		GR-5.3	4/16/10					832	5/5/09	
HW-2.1	7/30/07	GR-6.1	4/16/10	TC-41.20	1/19/01			843	4/18/03	
I-1.2	7/15/05			TC-42.20	1/21/11			847	4/15/11	
DM-1.1	1/21/11	EXJ-2-81	7/19/02	TC-52.10	1/19/07			848	4/15/11	
DM-1.2	10/21/05	EXJ-4-87	7/19/02	TC-52.20	1/19/07			902	7/16/10	
DM-1.4	7/15/11	GSD-1-96	7/19/02	TC-65.10	1/21/05					
DM-4.3	4/17/09	VPF-1-90	4/15/11	TC-65.11	1/21/05					
DM-4.4	4/17/09									
		MT-35.10	4/20/01							
GR-1.1	7/16/04	MT-95.30	7/17/09							
GR-2.1	1/16/04	MT-98.29	7/17/09							
GR-3.1	10/16/09	MT-99.20	1/16/09							
GR-3.2	10/16/09	MT-99.50	1/16/06							
GR-4.2	1/19/07	MT-101.60	4/17/09							

APPROVED [signature]
DATE 9-1-11 DISTRICT DEPUTY DIRECTOR

APPROVED [signature]
DATE 9-10-11 DIRECTOR, DEPARTMENT OF TRANSPORTATION

FEDERAL PROJECT NO. SEE TABLE

PID NO. 76351

CONSTRUCTION PROJECT NO.

RAILROAD INVOLVEMENT A.B.C.

SUM-76/77/277/224-VAR.

SUM - IR-76/76/277/224-VAR
120025
PID 76351
DIST 04
1/26/2012
Contract Proposal Available
@www.contracts.dot.state.oh.us
I:\Projects\SUM\76351_76_0599var\76351\roadway\sheets\76351GT01

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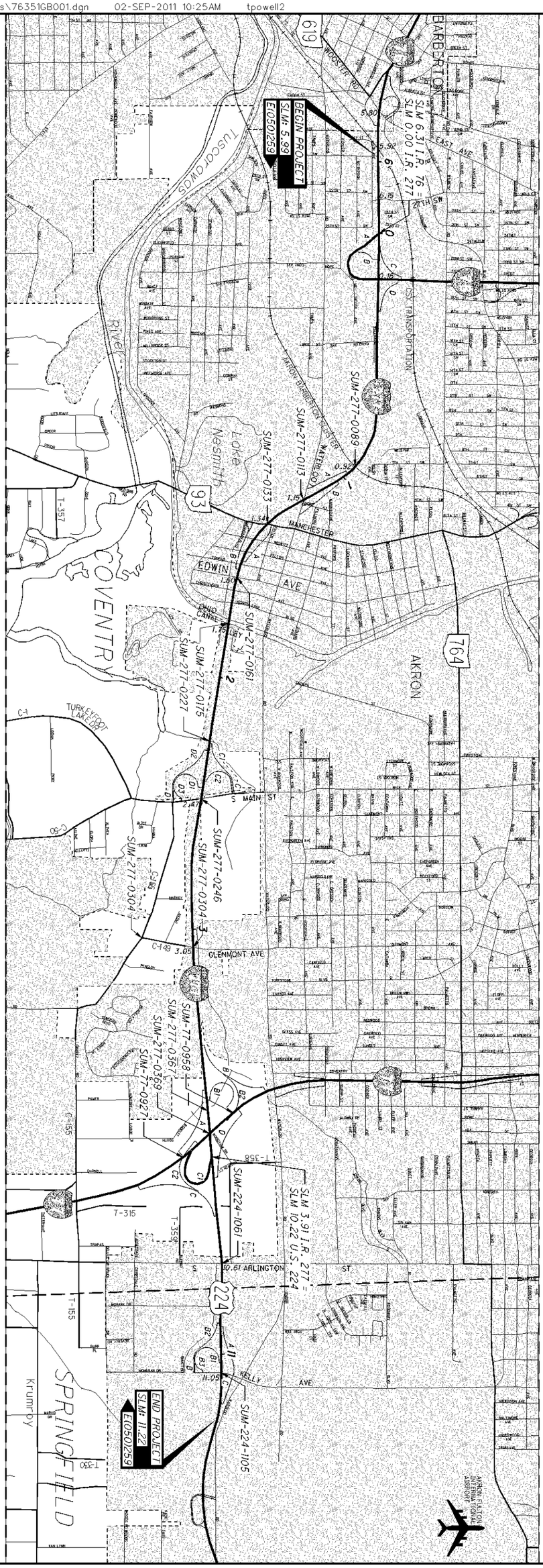
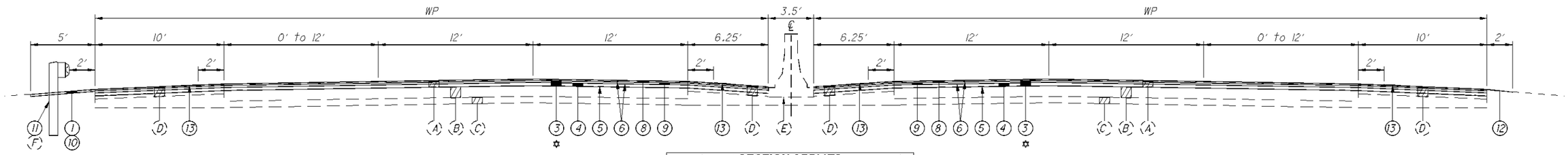
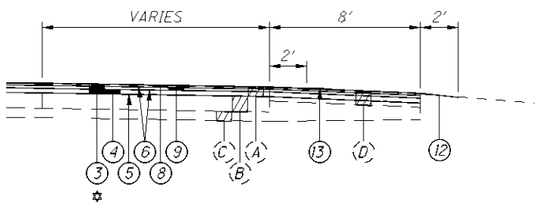


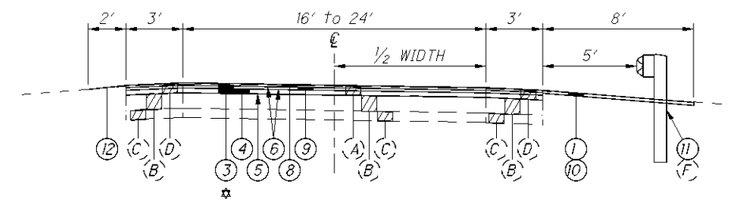
2 / 55	SUM-76/77/277/224-VAR.	SCHEMATIC PLAN IR 76, IR 77, IR 277 & US 224	CALCULATED RCB CHECKED TJP	0 .2 .1 .4 HORIZONTAL SCALE IN MILES



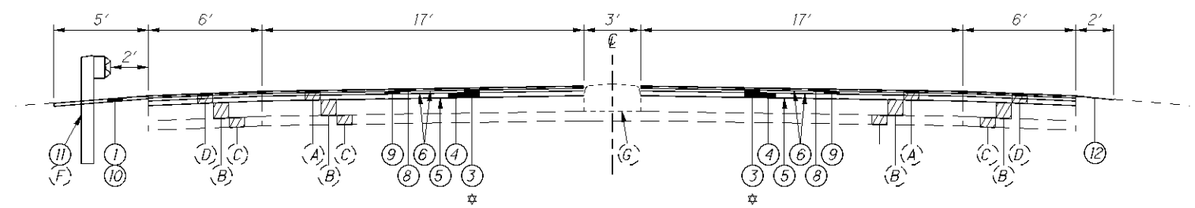
SECTION APPLIES					
	ROUTE	SLM FROM	SLM TO	WP (FEET)	LENGTH (MILES)
✡	I.R. 76 EB	5.99	6.16	40.00	0.17
	I.R. 76 EB	6.16	6.31	40.00	0.15
	I.R. 277 SB	0.00	0.12	40.00	0.12
	I.R. 277 SB	0.12	0.89	52.25	0.77
	I.R. 277 SB	0.92	1.13	52.25	0.21
	I.R. 277 SB	1.18	1.33	52.25	0.15
	I.R. 277 SB	1.38	1.75	52.25	0.37
	I.R. 277 SB	1.79	3.04	52.25	1.25
	I.R. 277 SB	3.07	3.41	52.25	0.34
	I.R. 277 SB	3.41	3.62	40.25	0.21
	I.R. 277 SB	3.62	3.69	52.25	0.07
✡	I.R. 277 SB	3.80	3.91	52.25	0.11
✡	U.S. 224 EB	10.22	10.61	40.25	0.39
✡	U.S. 224 EB	10.64	11.24	40.25	0.60
✡	I.R. 76 WB	5.99	6.16	40.00	0.17
	I.R. 76 WB	6.16	6.31	40.00	0.15
	I.R. 277 NB	0.00	0.31	40.00	0.31
	I.R. 277 NB	0.31	0.89	52.25	0.58
	I.R. 277 NB	0.92	1.13	52.25	0.21
	I.R. 277 NB	1.18	1.33	52.25	0.15
	I.R. 277 NB	1.38	1.75	52.25	0.37
	I.R. 277 NB	1.79	3.04	52.25	1.25
	I.R. 277 NB	3.07	3.69	52.25	0.62
✡	I.R. 277 NB	3.80	3.91	52.25	0.11
✡	U.S. 224 WB	10.22	10.61	52.25	0.39
✡	U.S. 224 WB	10.64	10.91	52.25	0.27
✡	U.S. 224 WB	10.91	11.24	40.25	0.33
				TOTAL	9.82



ACCEL/DECEL LANE



NORMAL RAMP



BI-DIRECTIONAL RAMP

LEGEND

1. 209, LINEAR GRADING, AS PER PLAN
2. 254, PAVEMENT PLANING ASPHALT CONCRETE, AS PER PLAN (T=3¾"±)
3. 254, PAVEMENT PLANING ASPHALT CONCRETE, AS PER PLAN (T=5½"±) ✡
4. 301, ASPHALT CONCRETE BASE, PG64-22 (T=3") ✡
5. 407, TACK COAT, 702.13
6. 407, TACK COAT FOR INTERMEDIATE COURSE
7. not used
8. 442, ASPHALT CONCRETE SURFACE COURSE, 12.5MM, TYPE B (446) (T=1½")
9. 442, ASPHALT CONCRETE INTERMEDIATE COURSE, 19MM, TYPE B (446) (T=1¾")
10. 448, ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, UNDER GUARDRAIL, PG64-22, AS PER PLAN
11. 606, GUARDRAIL, TYPE 5
12. 617, COMPACTED AGGREGATE, AS PER PLAN (2" AVG.)
13. 618, RUMBLE STRIPS, (ASPHALT CONCRETE)

(A) EXISTING ASPHALT PAVEMENT
(B) EXISTING REINFORCED CONCRETE PAVEMENT
(C) EXISTING SUBBASE
(D) EXISTING ASPHALT SHOULDER
(E) EXISTING CONCRETE BARRIER
(F) EXISTING GUARDRAIL
(G) EXISTING CONCRETE MEDIAN

✡ IR 76 SLM 5.99 TO 6.16,
IR 277 SLM 3.80 TO 3.91,
US 224 SLM 10.22 TO 10.61,
US 224 SLM 10.64 TO 11.24
AND KELLY AVE. RAMPS:
USE (2), OMIT (3) AND (4).

TYPICAL SECTIONS

SUM-76/77/277/224-VAR.

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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.

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

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

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

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

ROUTE	LANE WIDTH
IR 76	12'
IR 277	12'
US 224	12'

TRAFFIC COUNTERS
THE CONTRACTOR WILL CONTACT THE TRAFFIC MONITORING SECTION, FIELD MANAGER AT 614 -275-1382, FOURTEEN (14) CALENDAR DAYS PRIOR TO WORK INVOLVING THE TRAFFIC DATA COLLECTION SITE AT SUM-277-1.70.

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.

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

MODIFIED GRADATION SHALL APPLY:

SIEVE	TOTAL PERCENT PASSING
1-½"	100
¾"	50-100
NO. 4	35-70
NO. 30	9-33
NO. 200	0-13

ITEM 254 - PAVEMENT PLANING, ASPHALT CONCRETE, AS PER PLAN
THIS ITEM OF WORK SHALL BE PERFORMED IN CONFORMANCE WITH ITEM 254 IN THE CMS EXCEPT THE DEPTH SHALL VARY FROM 3¾" OR 5½" (AS SHOWN ON TYPICAL SECTIONS) TO THE TOP OF THE CONCRETE WHICHEVER IS FIRST.
THIS WORK SHALL BE PERFORMED SO THAT THE CONCRETE BASE IS NOT DISTURBED. ALL EQUIPMENT, LABOR, TOOLS, AND OTHER INCIDENTALS REQUIRED TO PERFORM THIS WORK SHALL BE INCLUDED IN THE UNIT BID PRICE FOR ITEM 254 PAVEMENT PLANING, ASPHALT CONCRETE, AS PER PLAN.

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PAVING UNDER GUARDRAIL

THIS OPERATION SHALL INCLUDE PREPARATION OF THE GRADED SHOULDER USING 209, LINEAR GRADING AS PER PLAN, AND PAVING UNDER THE GUARDRAIL USING 448 ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, PG 64-22, UNDER GUARDRAIL, AS PER PLAN.

ITEM 209, LINEAR GRADING AS PER PLAN, SHALL CONSIST OF EXCAVATING TOPSOIL, AND PLACING GRANULAR MATERIAL.

ALL COLLECTED DEBRIS AND TOPSOIL, INCLUDING RHIZOMES, ROOTS AND OTHER VEGETATIVE PLANT MATERIAL SHALL BE REMOVED AND DISPOSED OF AS SPECIFIED IN 105.17.

THE REMOVED MATERIAL SHALL BE REPLACED WITH COMPACTABLE GRANULAR MATERIAL CONFORMING TO 703.16 PLACED TO GRADE AS DETAILED ON THE TYPICAL SECTION OR AS APPROVED BY THE ENGINEER.

ALL EQUIPMENT, MATERIALS AND LABOR REQUIRED TO PERFORM THE WORK OUTLINED ABOVE SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 209, LINEAR GRADING, AS PER PLAN.

PAVING UNDER GUARDRAIL SHALL CONSIST OF PLACING ITEM 448 TO THE DEPTH SPECIFIED USING ONE OF THE FOLLOWING METHODS:

METHOD A:
1. SET GUARDRAIL POSTS
2. PLACE ITEM 448

METHOD B:
1. PLACE ITEM 448
2. BORE ASPHALT AT POST LOCATIONS (MAY BE OMITTED IF STEEL POSTS ARE USED)
3. SET GUARDRAIL POSTS
4. PATCH AROUND POSTS. THE MATERIALS USED FOR PATCHING SHALL BE AN ASPHALT CONCRETE APPROVED BY THE ENGINEER. PATCHED AREAS SHALL BE COMPACTED USING EITHER HAND OR MECHANICAL METHODS. FINISHED SURFACES SHALL BE SMOOTH AND SLOPED TO DRAIN AWAY FROM THE POSTS.

ALL EQUIPMENT, MATERIALS AND LABOR REQUIRED TO PERFORM THE WORK OUTLINED ABOVE, WITH THE EXCEPTION OF SETTING GUARDRAIL POSTS, SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 448, ASPHALT CONCRETE, INTERMEDIATE COURSE, TYPE 1, PG 64-22, UNDER GUARDRAIL, AS PER PLAN.

ITEM 448 SHALL NOT BE PLACED WHERE PROPOSED GUARDRAIL IS LOCATED AT A CURB SECTION.

THE FOLLOWING QUANTITIES ARE PROVIDED TO PROMOTE GROWTH AND CARE OF PERMANENT SEEDED AREAS AT GRADED CURB SECTIONS:

659, SEEDING AND MULCHING	1364 SQ. YD.
659, REPAIR SEEDING AND MULCHING	68 SQ. YD.
659, COMMERCIAL FERTILIZER	0.18 TON
659, LIME	0.28 ACRES
659, WATER	7 M. GAL.

ITEM SPECIAL - MISC.: 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 LECENSED SURVEYOR WHO HAS TAKEN THE MEASUREMENTS. THIS WORK SHALL BE PERFORMED AT THE FOLLOWING STRUCTURES:

SUM-76-0615
SUM-76-0657
SUM-277-0246
SUM-224-1105
SUM-76-1075

THE FOLLOWING QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY:

SPECIAL - MISC.: VERTICAL CLEARANCE 5 EACH

INLET RECONSTRUCTION (I.R. 76 AKRON WEST LEG)

THIS ITEM OF WORK SHALL CONSIST OF REMOVAL AND DISPOSAL OF EXISTING CONCRETE TOP AND METAL CASTINGS OF THE PAVEMENT INLET AND PLACEMENT OF NEW CONCRETE TOP AND CASTINGS.

THE INLET WINDOW OPENING SHALL BE RE-ESTABLISHED. THE TOP ELEVATION OF THE INLET SHALL BE RAISED 3"± (REQUIRING 10±' OF CURB REMOVAL AND REPLACEMENT ON EACH SIDE OF THE INLET AND VARIABLE DEPTH MILLING AND PAVING OF THE SHOULDER AT EACH LOCATION).

ALL INLET AND OUTLET PIPES SHALL BE RE-GROUTED INTO PLACE AND THE BOTTOM OF THE INLET IS TO BE SHAPED TO DRAIN USING GROUT.

#	LOCATION	TOP LENGTH
	WEST BOUND (I.R. 76)	
1	EAST OF GRANT DECEL	155"
2	G-RAIL END EAST OF PED BRIDGE	159"
3	G-RAIL END WEST OF PED BRIDGE	162"
4	G-RAIL END @ GRANT BRIDGE	137"
5	EAST OF GRANT ENTRANCE 25'±	105"
6	EAST OF WOLF LEDGES ENTRANCE 25'±	113"
7	WEST OF WOLF LEDGES M.P. 22.5±	152"
8	ACCEL RAMP BROADWAY	112"
9	EAST OF M.P. 22.0 BEFORE MERGE SIGN	152"
10	WEST OF M.P. 22.0 AFTER MERGE SIGN	188"
11	EAST OF M.P. 21.8 BEFORE ZOO SIGN	162"
12	EAST OF SUM-76-9.94 50'±	139"
12B	EAST OF CANTILEVER 25'±	188"
13	G-RAIL END @ EXIT 21C	182"
	EAST BOUND (I.R. 76)	
14	EAST AVE. ENTRANCE RAMP	114"
15	WEST OF PRINCETON M.P. 21.7±	183"
16	EAST OF SUM-76-9.94 WEST OF M.P. 21.8	163"
17	WEST OF EXIT 22A M.P. 21.9±	198"
18	EAST OF GRANT MIDDLE OF RAMP	141"
19	GRANT ACCEL WEST OF YIELD SIGN	132"
20	WEST OF PED BRIDGE 50'±	172"

ALL WORK REQUIRED TO COMPLETE THESE ITEMS SHALL BE CONSIDERED INCIDENTAL TO THE PERTINENT BID ITEM.
THE FOLLOWING QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY:

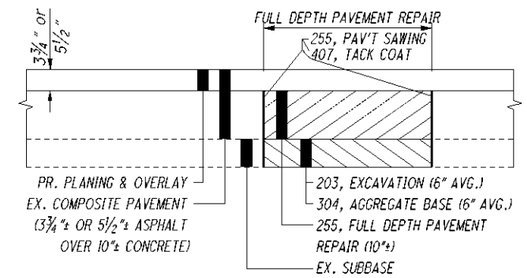
202, CURB REMOVED	420 FT
254, PAVEMENT PLANING, ASPHALT CONCRETE	382 SQ YD
448, ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG64-22	32 CU YD
604, INLET RECONSTRUCTED TO GRADE, AS PER PLAN	21 EACH
609, CURB, TYPE 6	420 FT

ITEM 255 - FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS MS

A QUANTITY OF THIS ITEM SHALL BE PROVIDED FOR USE AS DIRECTED BY THE ENGINEER. THIS ITEM SHALL CONSIST OF CUTTING AND REMOVING DETERIORATED PAVEMENT FULL DEPTH AND PLACING 12"± CONCRETE, CLASS MS. UNLESS OTHERWISE DIRECTED BY THE ENGINEER, THIS ITEM SHALL BE PERFORMED AFTER THE COMPLETION OF MAINLINE PAVEMENT PLANING. ALSO, THIS ITEM SHALL COMMENCE WITHIN 7 DAYS OF THE COMPLETION OF MAINLINE PAVEMENT PLANING. IT IS NOT THE INTENT TO REPAIR EVERY DETERIORATED AREA WITHIN THE PROJECT. THE ENGINEER SHALL DETERMINE WHICH AREAS ARE TO BE REPAIRED.

PAYMENT SHALL BE BASED ON THE ACTUAL NUMBER OF SQUARE YARDS OF PAVEMENT REMOVED AND REPLACED TO THE LIMITS DESIGNATED BY THE ENGINEER. THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY:

255, FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS MS	13860 SQ YD
255, FULL DEPTH PAVEMENT SAWING	41580 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) 2310 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:

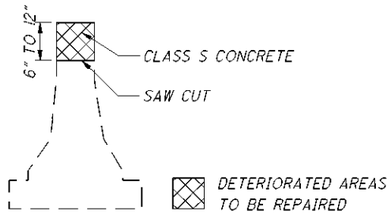
304, AGGREGATE BASE (FOR PAVEMENT REPAIR) 2310 CU YD

ITEM 511 - CONCRETE MISC.: BARRIER WALL REPAIR

THIS ITEM WILL BE USED TO REPAIR DAMAGED BARRIER WALL WITHIN THE LIMITS OF THIS PROJECT.

SAWCUT AND REMOVE DAMAGED/SPALLED AREAS OF THE EXISTING BARRIER WALL TO A MINIMUM DEPTH OF 6" AND A MAXIMUM DEPTH OF 12" OR AS DIRECTED BY THE ENGINEER. CLASS S CONCRETE WILL BE USED TO REPAIR THE DAMAGED BARRIER WALL. THE REMOVAL OF CONCRETE, PREPARATION OF THE SURFACES, FORMS, AND CLASS S CONCRETE WILL BE INCIDENTAL TO THIS ITEM. PAYMENT WILL BE MADE AT THE CONTRACT PRICE PER FOOT FOR ITEM 511, CONCRETE MISC.: BARRIER WALL REPAIR.

511, CONCRETE MISC.: BARRIER WALL REPAIR 50 FT



RESET UNDERDRAIN OUTLET (SLM 1.13 RT)

THIS ITEM WILL BE USED TO RESET THE UNDERDRAIN OUTLET AT I.R. 277 SLM 1.13 RIGHT AND PROVIDE EROSION PROTECTION DOWN THE EMBANKMENT COMPRISED OF ROCK CHANNEL PROTECTION IN A 100'x5'x24" STRIP ALONG THE EXISTING SCOUR.

601, ROCK CHANNEL PROTECTION, TYPE C WITH FABRIC FILTER, AS PER PLAN 37 CU YD

ITEM 630 - SIGN, FLAT SHEET

THE CONTRACTOR WILL INSTALL THE FOLLOWING PERMANENT OVERLAYS:

48" X 18" BLANK OVERLAY-RIVET OVERLAY OVER WORD "ONLY" ON EB IR-76 OVERHEAD SIGN AT SLM 5.99.
36" X 36" IR-76 SHIELD-RIVET OVERLAY OVER EXISTING IR-76 DECAL ON EB IR-76 OVERHEAD SIGN AT SLM 8.18.

THE FOLLOWING QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY:

630, SIGN, FLAT SHEET 15 SQ FT

CALCULATED RCB CHECKED TJP

GENERAL NOTES

SUM-76/77/277/224-VAR.

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CONNECTION BETWEEN EXISTING AND PROPOSED GUARDRAIL
WHEN IT IS NECESSARY TO SPLICE PROPOSED GUARDRAIL TO EXISTING GUARDRAIL, ONLY THE EXISTING GUARDRAIL SHALL BE CUT, DRILLED, OR PUNCHED. THE CONNECTION SHALL BE MADE USING A "W-BEAM RAIL SPLICE" AS SHOWN IN AASHTO M 180. PAYMENT SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE RESPECTIVE GUARDRAIL ITEMS.

ITEM 606 - ANCHOR ASSEMBLY, TYPE B
THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING ANY OF THE GUARDRAIL END TERMINALS AS LISTED ON ROADWAY ENGINEERING'S WEB PAGE UNDER ROADSIDE SAFETY DEVICES FOR APPROVED GUARDRAIL END TREATMENTS. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.

REFER TO THE MANUFACTURER'S INSTRUCTIONS REGARDING THE INSTALLATION OF, AND THE GRADING AROUND, THE FOUNDATION TUBES AND GROUND STRUT. THE TOP OF ANY FOUNDATION TUBE SHOULD BE LESS THAN 4 INCHES ABOVE THE GROUND. THE PLACEMENT OF THE FOUNDATION TUBES SHOULD BE AN APPROPRIATE DEPTH BELOW THE LEVEL LINE IN ORDER TO MAINTAIN THE FINISHED GUARDRAIL HEIGHT OF 27.75 INCHES FROM THE EDGE OF THE SHOULDER.

ON-SITE GRADING IS REQUIRED IF THE TOP OF THE FOUNDATION TUBES OR TOP OF THE GROUND STRUT DOES PROJECT MORE THAN 4 INCHES ABOVE THE GROUND LINE.

THE FACE OF THE TYPE B IMPACT HEAD SHALL BE COVERED WITH TYPE G REFLECTIVE SHEETING, PER CMS 730.19.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 606, ANCHOR ASSEMBLY, TYPE B, EACH, AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT A COMPLETE AND FUNCTIONAL ANCHOR ASSEMBLY SYSTEM, INCLUDING REFLECTIVE SHEETING AND ALL RELATED HARDWARE, GRADING, EMBANKMENT AND EXCAVATION NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER.

ITEM 606 - ANCHOR ASSEMBLY, TYPE E
THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING ANY OF THE GUARDRAIL END TERMINALS AS LISTED ON ROADWAY ENGINEERING'S WEB PAGE UNDER ROADSIDE SAFETY DEVICES FOR APPROVED GUARDRAIL END TREATMENTS. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.

THE FACE OF THE TYPE E IMPACT HEAD SHALL BE COVERED WITH A SHEET OF TYPE G REFLECTIVE SHEETING, PER CMS 730.19.

REFER TO THE MANUFACTURER'S INSTRUCTIONS REGARDING THE INSTALLATION OF, AND THE GRADING AROUND THE FOUNDATION TUBES AND GROUND STRUT. THE TOP OF ANY FOUNDATION TUBE SHOULD BE LESS THAN 4 INCHES ABOVE THE GROUND. THE PLACEMENT OF THE FOUNDATION TUBES SHOULD BE AN APPROPRIATE DEPTH BELOW THE LEVEL LINE IN ORDER TO MAINTAIN THE FINISHED GUARDRAIL HEIGHT OF 27.75 INCHES FROM THE EDGE OF THE SHOULDER.

ON-SITE GRADING IS REQUIRED IF THE TOP OF THE FOUNDATION TUBES OR TOP OF THE GROUND STRUT DOES PROJECT MORE THAN 4 INCHES ABOVE THE GROUND LINE.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 606, ANCHOR ASSEMBLY, TYPE E, EACH, AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT A COMPLETE AND FUNCTIONAL ANCHOR ASSEMBLY SYSTEM, INCLUDING ALL RELATED TRANSITIONS, REFLECTIVE SHEETING, HARDWARE, GRADING, EMBANKMENT AND EXCAVATION NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER.

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. THE CONTRACTOR SHALL INFORM THE DISTRICT OFFICE (330) 786-2211, EIGHTEEN (18) DAYS PRIOR TO THE BEGINNING OF WORK.

2. CONES SHALL NOT BE ACCEPTABLE TRAFFIC CONTROL DEVICES FOR LANE RESTRICTIONS OR LANE REDUCTIONS THAT ARE IN OPERATION ONE-HALF HOUR AFTER SUNSET OR ONE HALF-HOUR BEFORE SUNRISE. ALL NIGHTTIME LANE RESTRICTIONS SHALL REQUIRE DRUMS OR BARRICADES AT A MAXIMUM SPACING OF FIFTY (50) FEET. WEIGHTED CHANNELIZERS MAY BE USED IN ACCORDANCE WITH THE STANDARD CONSTRUCTION DRAWINGS.

3. THE CONTRACTOR SHALL FURNISH, ERECT, MAINTAIN AND SUBSEQUENTLY REMOVE ALL FLAGS, BARRICADES, SIGNS, SIGN SUPPORTS AND FURNISH AND MAINTAIN ALL FLAGGERS, WATCHERS AND INCIDENTALS RELATED THERETO.

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

5. A QUANTITY OF 100 CU. YDS. OF 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. 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.

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 $5,000.00 PER HOUR OR PORTION THEREOF THAT THE LANE REDUCTION REMAINS BEYOND THE SPECIFIED LIMIT.

DETOUR DURATION

IR-277 EASTBOUND CLOSURE:

ALL LANES AND ASSOCIATED RAMPS [INCLUDING RAMPS B, D, E, T, F, L, W-2, AND THE ON-RAMPS TO THE IR-277 EASTBOUND MAINLINE (RAMPS B AND D-1/D-3)] OF THE IR-277 EASTBOUND MAINLINE SHALL BE CLOSED CONCURRENTLY FOR A MAXIMUM OF TWENTY-EIGHT (28) CONSECUTIVE CALENDAR DAYS. SEE THE NEXT SHEET FOR A SUMMARY CHART OF RAMP CLOSINGS. ALL WORK FOR THE IR-277 EASTBOUND MAINLINE AND RAMPS WILL BE COMPLETED DURING THE CLOSURE INCLUDING ALL PAVEMENT PLANING, ALL JOINT REPAIRS, ALL PAVING AND FINAL STRIPING. ADDITIONALLY, ALL BRIDGE WORK EFFECTING IR-277 EASTBOUND MAINLINE TRAFFIC WILL BE COMPLETED DURING THE CLOSURE. THE BRIDGE WORK ON THE RIGHT HALF OF SUM-224-1061 WILL ALSO BE COMPLETED DURING THE IR-277 EASTBOUND CLOSURE BUT THE DURATION WILL BE A MAXIMUM OF TEN DAYS.

RAMP L SHALL BE CLOSED A MAXIMUM OF THIRTY-TWO (32) CONSECUTIVE CALENDAR DAYS [TWO (2) DAYS PRIOR TO THE CLOSING OF THE IR-277 EASTBOUND MAINLINE TO RE-STRIPE RAMP U FROM ONE LANE TO TWO LANES AND TWO (2) DAYS AFTER THE OPENING OF THE IR-277 EASTBOUND MAINLINE TO RESTORE THE ORIGINAL ONE LANE PAVEMENT MARKINGS ON RAMP U].

THE INTERIM COMPLETION DATE FOR ALL IR-277 EASTBOUND MAINLINE PAVEMENT, BRIDGE AND RAMP WORK IS JULY 15, 2012.

SHOULD THE CONTRACTOR FAIL TO MEET ANY OF THE ABOVE REQUIREMENTS, THE CONTRACTOR SHALL BE ASSESSED DISINCENTIVES IN THE AMOUNT OF $5,000.00 PER DAY OR PORTION THEREOF THAT THE ROAD OR RAMPS REMAIN CLOSED BEYOND THE SPECIFIED LIMIT.

IR-277 WESTBOUND CLOSURE:

ALL LANES AND ASSOCIATED RAMPS [INCLUDING RAMPS B, B-2, P, T, AND THE ON-RAMPS TO THE IR-277 WESTBOUND MAINLINE (RAMPS B AND C-1)] OF THE IR-277 WESTBOUND MAINLINE SHALL BE CLOSED CONCURRENTLY FOR A MAXIMUM OF TWENTY-EIGHT (28) CONSECUTIVE CALENDAR DAYS. SEE THE NEXT SHEET FOR A SUMMARY CHART OF RAMP CLOSINGS. ALL WORK FOR THE IR-277 WESTBOUND MAINLINE AND RAMPS WILL BE COMPLETED DURING THE CLOSURE INCLUDING ALL PAVEMENT PLANING, ALL JOINT REPAIRS, ALL PAVING AND FINAL STRIPING. ADDITIONALLY, ALL BRIDGE WORK EFFECTING IR-277 WESTBOUND MAINLINE TRAFFIC WILL BE COMPLETED DURING THE CLOSURE. THE BRIDGE WORK ON THE LEFT HALF OF SUM-224-1061 WILL ALSO BE COMPLETED DURING THE IR-277 WESTBOUND CLOSURE BUT THE DURATION WILL BE TWO WEEKENDS (SEE SHEETS 10A & 10B).

RAMPS P AND T SHALL BE CLOSED A MAXIMUM OF THIRTY-TWO (32) CONSECUTIVE CALENDAR DAYS [TWO (2) DAYS PRIOR TO THE CLOSING OF THE IR-277 WESTBOUND MAINLINE TO RE-STRIPE RAMPS O AND V RESPECTIVELY FROM ONE LANE TO TWO LANES AND TWO (2) DAYS AFTER THE OPENING OF THE IR-277 WESTBOUND MAINLINE TO RESTORE THE ORIGINAL ONE LANE PAVEMENT MARKINGS ON RAMPS O AND V].

THE INTERIM COMPLETION DATE FOR ALL IR-277 WESTBOUND MAINLINE PAVEMENT, BRIDGE AND RAMP WORK IS JUNE 30, 2013.

SHOULD THE CONTRACTOR FAIL TO MEET ANY OF THE ABOVE REQUIREMENTS, THE CONTRACTOR SHALL BE ASSESSED DISINCENTIVES IN THE AMOUNT OF $5,000.00 PER DAY OR PORTION THEREOF THAT THE ROAD OR RAMPS REMAIN CLOSED BEYOND THE SPECIFIED LIMIT.

DETOUR NOTIFICATION

THE CONTRACTOR SHALL ADVISE THE ODOT DISTRICT OFFICE (330-786-3148) AND THE CITY OF AKRON (330-375-2355) 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 (NOTICE OF CLOSURE SIGN)

NOTICE OF CLOSURE SIGNS, AS DETAILED IN THESE PLANS, SHALL BE ERECTED BY THE CONTRACTOR AT LEAST ONE WEEK IN ADVANCE OF THE SCHEDULED ROAD OR RAMP CLOSURE. 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 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.

W20-H14-60

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 $5,000.00 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.

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
ALL AMERICAN SOAP BOX DERBY, JULY 21, 2012
WORLD GOLF CHAMPIONSHIPS - BRIDGESTONE INVITATIONAL, AUGUST 4-5, 2012
AKRON MARATHON, SEPTEMBER 29, 2012

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)	12:00N WEDNESDAY THROUGH 6:00 AM MONDAY
FRIDAY	12:00N THURSDAY THROUGH 6:00 AM MONDAY
SATURDAY	12:00N FRIDAY THROUGH 6:00 AM MONDAY

NO EXTENSIONS OF TIME SHALL BE GRANTED FOR DELAYS IN MATERIAL DELIVERIES, UNLESS SUCH DELAYS ARE INDUSTRY-WIDE, OR FOR LABOR STRIKES, UNLESS SUCH STRIKES ARE AREA-WIDE.

SHOULD THE CONTRACTOR FAIL TO MEET ANY OF THESE REQUIREMENTS, THE CONTRACTOR SHALL BE ASSESSED A DISINCENTIVE IN THE AMOUNT OF $4,500.00 FOR EACH HOUR THE ABOVE DESCRIBED LANE CLOSURE RESTRICTIONS ARE VIOLATED.

EXCEPTIONS TO THE ITEM 614, MAINTAINING TRAFFIC (LANES OPEN DURING HOLIDAYS OR SPECIAL EVENTS) NOTE

WORK MAY BE PERFORMED AND LANES MAY BE CLOSED TO TRAFFIC DURING THE FOLLOWING HOLIDAYS:

FOURTH OF JULY, 2012
MEMORIAL DAY, 2013

INCENTIVE/DISINCENTIVE CONTRACT TABLE TO BE USED IN COORDINATION WITH PROPOSAL NOTE 121

DESCRIPTION OF CRITICAL WORK	COMPLETION DATE	TIME PERIOD	DISINCENTIVE $ PER TIME PERIOD	INCENTIVE $ PER TIME PERIOD	MAXIMUM INCENTIVE
ALL LANES AND RAMPS OF IR-277 EASTBOUND AND ALL LANES AND RAMPS OF IR-76 (PART 3)	SEPTEMBER 20, 2012	DAY	$5,000.00	$3,000.00	$90,000.00
ALL LANES AND RAMPS OF IR-277 WESTBOUND	JUNE 30, 2013	DAY	$5,000.00	$2,000.00	$60,000.00

CALCULATED MJH CHECKED LAB

MAINTENANCE OF TRAFFIC GENERAL NOTES

SUM-76/77/277/224-VAR.

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RAMP SUMMARY FOR THE IR-277 EASTBOUND CLOSURE

RAMP DESIGNATION	RAMP DESCRIPTION	DISPOSITION	MAXIMUM DURATION	DETOUR ROUTE	SHEET NO. REFERENCE	ADDITIONAL INFORMATION
RAMP B	IR-76 WEST TO IR-277 EAST	CLOSED	28 DAYS	IR-76 WEST TO SR-21 NORTH	11	
RAMP D	IR-277 WEST TO IR-76 EAST	CLOSED	28 DAYS	IR-76 WEST TO SR-21 NORTH	11	
RAMP E	ON-RAMP FROM 22ND STREET TO IR-76 WEST	CLOSED	28 DAYS	NONE	11	
RAMP T	IR-77 SOUTH TO IR-76 WEST	CLOSED	28 DAYS	IR-76 EAST TO IR-77 SOUTH	11	
RAMP A	IR-76 EAST (BOTTOM OF KENMORE LEG)	OPEN AT ALL TIMES	28 DAYS IN 2 LANE CONFIGURATION	N/A	9, 11	RE-STRIPE RAMP FROM ONE LANE TO TWO LANES; INSTALL RUMBLE STRIPS AND TWO R4-5-48 SIGNS
RAMP U	IR-76 EAST (TOP OF KENMORE LEG)	OPEN AT ALL TIMES	28 DAYS IN 2 LANE CONFIGURATION	N/A	9, 11	RE-STRIPE RAMP FROM ONE LANE TO TWO LANES
RAMP F	ON-RAMP FROM SR-619 TO IR-76 EAST	CLOSED	28 DAYS	KENMORE BLVD. EAST	19	
RAMP L	ON-RAMP FROM EAST AVE. TO IR-76 EAST	CLOSED	32 DAYS	MORSE RD. WEST TO HAWKINS AVE. NORTH TO SR-261 WEST	23	
RAMP W-2	ON-RAMP FROM GRANT STREET TO IR-76 EAST	CLOSED	28 DAYS	GRANT ST. NORTH TO THORNTON ST. WEST TO MAIN ST. SOUTH	19	
RAMP B	ON-RAMP FROM SR-93 TO IR-277 EAST	CLOSED	28 DAYS	WATERLOO ROAD EAST	20	
RAMPS D-1 & D-3	ON-RAMP FROM SOUTH MAIN STREET TO IR-277 EAST	CLOSED	28 DAYS	WATERLOO ROAD EAST	20	

ALL OTHER RAMPS WILL REMAIN OPEN AT ALL TIMES.

RAMP SUMMARY FOR THE IR-277 WESTBOUND CLOSURE

RAMP DESIGNATION	RAMP DESCRIPTION	DISPOSITION	MAXIMUM DURATION	DETOUR ROUTE	SHEET NO. REFERENCE	ADDITIONAL INFORMATION
RAMP B	IR-77 SOUTH TO IR-277 WEST	CLOSED	28 DAYS	IR-76 WEST	24	ALT. ROUTE: IR-77 SOUTH TO ARLINGTON ST. NORTH TO WATERLOO RD. WEST TO SR-619 NORTH
RAMP B-2	IR-77 NORTH TO IR-277 WEST	CLOSED	28 DAYS	IR-77 NORTH TO IR-76 WEST	2, 24, 47	COMPLETE ALL WORK TO STRUCTURE SUM-77-0958L DURING THE CLOSURE
RAMP P	SR-8 SOUTH TO IR-76 WEST	CLOSED	32 DAYS	SR-8 SOUTH TO SR-59 WEST	24	ALT. ROUTE: IR-77 SOUTH TO WATERLOO RD. WEST TO SR-619 NORTH
RAMP T	IR-77 SOUTH TO IR-76 WEST	CLOSED	32 DAYS	IR-76 EAST TO IR-77 SOUTH TO WATERLOO ROAD WEST TO SR-619 NORTH	24	
RAMP C	IR-76 WEST (BOTTOM OF KENMORE LEG)	OPEN AT ALL TIMES	28 DAYS IN 2 LANE CONFIGURATION	N/A	9, 24	RE-STRIPE RAMP FROM ONE LANE TO TWO LANES
RAMP O	IR-77 NORTH (AT CENTRAL INTERCHANGE)	OPEN AT ALL TIMES	28 DAYS IN 2 LANE CONFIGURATION	N/A	9, 24	RE-STRIPE RAMP FROM ONE LANE TO TWO LANES
RAMP V	IR-76 WEST (TOP OF KENMORE LEG)	OPEN AT ALL TIMES	28 DAYS IN 2 LANE CONFIGURATION	N/A	9, 24	RE-STRIPE RAMP FROM ONE LANE TO TWO LANES
RAMP B	ON-RAMP FROM WATERLOO ROAD TO IR-277 WEST	CLOSED	28 DAYS	WATERLOO ROAD WEST TO SR-619 NORTH	34	
RAMP C-1	ON-RAMP FROM SOUTH MAIN STREET TO IR-277 WEST	CLOSED	28 DAYS	WATERLOO ROAD WEST TO SR-619 NORTH	34	

ALL OTHER RAMPS WILL REMAIN OPEN AT ALL TIMES.

FOR ADDITIONAL RAMP DETOURS, SEE SHEET 10A.

ITEM 614, WORK ZONE IMPACT ATTENUATOR FOR 24" WIDE HAZARDS (UNIDIRECTIONAL OR BIDIRECTIONAL)

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING A NON-GATING IMPACT ATTENUATOR. FURNISH AN IMPACT ATTENUATOR FROM THE OFFICE OF ROADWAY ENGINEERING APPROVED LIST FOR WORK ZONE IMPACT ATTENUATORS. THE APPROVED LIST IS AVAILABLE AT THE "ROADWAY STANDARDS: PROPRIETARY ROADSIDE SAFETY DEVICES" WEB PAGE ON THE OFFICE OF ROADWAY ENGINEERING WEBSITE.

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

THE CONTRACTOR SHALL REPAIR OR REPLACE A DAMAGED UNIT WITHIN 24 HOURS OF A DAMAGING IMPACT.

WHEN BIDIRECTIONAL DESIGNS ARE SPECIFIED, THE CONTRACTOR SHALL SUPPLY APPROPRIATE TRANSITIONS.

WHEN GATING IMPACT ATTENUATORS ARE DESIRED, THE CONTRACTOR SHALL SUBMIT DOCUMENTATION TO THE ENGINEER FOR ACCEPTANCE.

THE COST FOR THE ADDITIONAL BARRIER REQUIRED FOR A GATING IMPACT ATTENUATOR SHALL BE INCLUDED IN THE COST OF THE GATING IMPACT ATTENUATOR.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT AND MAINTAIN A COMPLETE AND FUNCTIONAL IMPACT ATTENUATOR SYSTEM, INCLUDING ALL RELATED BACKUPS, TRANSITIONS, LEVELING PADS, HARDWARE AND GRADING, NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER.

RAMP RE-STRIPING FOR IR-277 DETOURS

THE BELOW FIVE RAMPS WILL BE RESTRIPED FROM ONE LANE TO TWO LANES PRIOR TO CLOSING IR-277 TO TRAFFIC.

					614	614	614	614
EB277 Closure					Work Zone Channelizing Line, Class 1	Work Zone Lane Line, Class 1	Work Zone Edge Line, Class 1	
	EB76						Yellow	White
	From SLM	To SLM	line type	comment	FT	MILE	MILE	MILE
Ramp A								
bottom of Kenmore	6.25	6.34	WZ Channelizing Line	Match existing lane line on both ends while maintaining a 12' outside lane width	475.2			
	6.29	6.34	WZ Channelizing Line	Start at I-277 channelizing line and end matching to yellow edge line while maintaining a 12' inside lane width	264			
Ramp U								
top of Kenmore	7.98	8.15	WZ Lane Line	Match existing lane line to start, maintain 12' outside lane width. Remove existing channel/transverse lines to increase inside lane width.		0.17		
	8.15	8.53	WZ Channelizing Line	<between 2 EB76 lanes> maintain 12' outside lane width	2005.4			
	8.53	8.95	WZ Lane Line	<between 2 EB76 lanes> maintain 12' outside lane width		0.42		
	8.18	8.23	WZ Channelizing Line	Maintain 12' inside lane	264			
	8.23	8.4	WZ Yellow Edge Line	Maintain 12' inside lane			0.17	
	8.4	8.53	WZ Channelizing Line	Maintain 12' inside lane, match existing Lane Line	686.4			
	8.37	8.95	WZ White Edge Line	Maintain 1' outside shoulder				0.58
							0.17	0.58
				EB totals	**3696**	**0.59**	**0.75**	
WB277 Closure								
	NB77							
Ramp O	From SLM	To SLM	line type	comment				
Central Interchange	11.7	11.81	WZ Lane Line	Match existing lane line to start. Match existing Channelizing line to end		0.11		
	11.81	11.88		Remove existing Channelizing line along EB76 ramp. Remove existing transverse lines				
	11.88	11.91	WZ Channelizing Line	Match to Channelizing line along EB76 ramp. Maintain 12' lane outside lane width	158.4			
	11.91	12.17	WZ White Edge Line	Maintain 12' outside lane width. Match at end with existing white edge line				0.26
	11.88	12.17	WZ Channelizing Line	Match at start with existing channelizing line, maintain 12' inside lane width, match at end with existing channelizing line	1531.2			
	11.88	12.17	WZ Yellow Edge Line	Match at start with existing edge line, maintain 3' inside shoulder width, match at end with existing edge line			0.29	
	WB76							
Ramp V	From SLM	To SLM	line type	comment				
top of Kenmore	8.71	8.73	WZ Channelizing Line	Maintain 11' outside lane	105.6			
	8.53	8.71	WZ White Edge Line	Maintain 11' outside lane, match existing white edge line at west end				0.18
	8.04	8.53	WZ White Edge Line	Maintain 12' outside lane, match existing white edge line at south end				0.49
	8.73	8.74	WZ Channelizing Line	Reduce from existing 12' lane to 11' lane, match at east end to existing channelizing line	52.8			
	8.1	8.73	WZ Channelizing Line	Maintain 11' inside lane	3326.4			
	7.91	8.1	WZ Lane Line	Maintain 12' inside lane, match at south end with existing lane line		0.19		
	8.53	8.57	WZ Channelizing Line	Meet west end at channelizing line along NB77, maintain 12' inside lane	211.2			
	8.16	8.53	WZ Yellow Edge Line	Maintain 12' inside lane			0.37	
Ramp C								
bottom of Kenmore	6.51	6.55	WZ Channelizing Line	Match existing channelizing line along exit to EB277 on north end and match with yellow edge line on south end	211.2			
	6.6	6.67	WZ Lane Line	Match existing lane line at north end		0.07		
	6.26	6.6	WZ Channelizing Line	Match existing channelizing line to north, maintain 12' inside lane	1795.2			
	6.26	6.58	WZ White Edge Line	Match existing channelizing line to north, maintain 12' outside lane				0.32
	6.15	6.26	WZ Channelizing Line	Shift traffic to existing lanes	580.8			
	6.15	6.26	WZ White Edge Line	Shift traffic to existing lanes				0.11
							0.66	1.25
				WB totals	**7973**	**0.37**	**1.91**	
				TOTALS CARRIED TO THE GENERAL SUMMARY	**11669**	**0.96**	**2.66**	

CONTRACTOR'S EQUIPMENT - OPERATION AND STORAGE

A QUALIFIED FLAGGER SHALL BE EMPLOYED WHERE THE CONTRACTOR'S EQUIPMENT MUST MERGE WITH THE TRAFFIC STREAM. THE CONTRACTOR'S EQUIPMENT SHALL BE EQUIPPED WITH AT LEAST ONE AMBER FLASHING LIGHT. PAVERS, ROLLERS AND OTHER EQUIPMENT MAY BE PARKED IN AREAS ALONG THE HIGHWAY WHEN PAVING OPERATIONS ARE SCHEDULED TO CONTINUE WITHIN THE NEXT WORKDAY. OTHERWISE THE EQUIPMENT SHALL BE STORED AT A STORAGE AREA OUTSIDE THE R/W, THE LOCATION OF WHICH SHALL HAVE PRIOR APPROVAL OF THE ENGINEER. WHEN PARKING ALONG THE HIGHWAY THE EQUIPMENT SHALL BE PLACED AND DELINEATED AS PER 614.03. NO EQUIPMENT SHALL BE PARKED IN THE MEDIAN OF THE HIGHWAY. ADEQUATE BARRICADES AND LIGHTS SHALL BE PLACED ON THE PAVEMENT SIDE OF THE EQUIPMENT TO IDENTIFY THE LIMITS OF THE EQUIPMENT. ALL OTHER EQUIPMENT, INCLUDING PRIVATE VEHICLES, SHALL BE STORED AT THE APPROVED CONTRACTOR'S STORAGE AREA. NO EQUIPMENT SHALL BE PARKED ON PRIVATE PROPERTY UNLESS PRIOR APPROVAL OF THE OWNER AND THE PROJECT ENGINEER/ SUPERVISOR HAS BEEN GRANTED.

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.

OVERLAYING OF SIGNS

WHERE THE PLANS CALL FOR A PERMANENT SIGN TO BE OVERLAYED, THE CONTRACTOR SHALL DO SO IN SUCH A MANNER AS TO AVOID DAMAGING THE PERMANENT SIGN WHEN THE OVERLAY IS REMOVED. THE OVERLAY SHALL BE TOTALLY OPAQUE. THE USE OF ADHESIVE TAPE APPLIED DIRECTLY TO A SIGN FACE IS STRICTLY PROHIBITED. THE OVERLAYS MAY BE RIVETED TO THE PERMANENT SIGN. THE CONTRACTOR SHALL PROVIDE ALL OF THE PLAQUES, SIGNS AND SIGN PANELS NECESSARY.

CALCULATED MJH CHECKED LAB

MAINTENANCE OF TRAFFIC GENERAL NOTES

SUM-76/77/277/224-VAR.

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ITEM 614 - PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN

THE CONTRACTOR SHALL FURNISH, INSTALL, MAINTAIN AND REMOVE, WHEN NO LONGER NEEDED, PORTABLE CHANGEABLE MESSAGE SIGNS [PCMS], ON SITE, FOR THE DURATION OF TIME SPECIFIED IN THIS NOTE, EACH SIGN SHALL BE OF A TYPE SHOWN ON A LIST OF APPROVED PCMS UNITS MAINTAINED BY THE DIRECTOR. THIS LIST IS AVAILABLE ON THE ODOT WEBSITE AT http://www.dot.state.oh.us/divisions/constructionmgt/materials/pages/portable-changeable.aspx THE CLASS A UNITS SHALL HAVE A MINIMUM LEGIBILITY DISTANCE OF 650 FEET.

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 ON A PERMANENT BASIS BY AFFIXING RETRO-REFLECTIVE MATERIAL, IN A CONTINUOUS LINE ON THE FACE OF THE TRAILER AS SEEN BY ONCOMING ROAD USERS.

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 SHOULD BE LOCATED BEHIND GUARDRAIL WHEREVER POSSIBLE. 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, FACING AWAY FROM ALL TRAFFIC AND SHALL DISPLAY ONE OR MORE HIGH INTENSITY YELLOW REFLEC- TIVE 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 PRE-PROGRAMMED MESSAGES WILL BE GIVEN TO THE ENGINEER PRIOR TO CONSTRUCTION. THE SIGN SHALL HAVE TWO DIFFERENT MEMORIES [PROM AND RAM] AND CAPABILITY TO STORE UP TO 99 MESSAGES IN EACH MEMORY. 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. IN ORDER TO CONVEY A MAXIMUM OF INFORMATION AT A SINGLE GLANCE, ONLY THREE LINE PRESENTATION FORMATS WITH A MAXIMUM OF SIX MESSAGE PHASES WILL BE PERMITTED. NORMALLY, ONLY A MAXIMUM OF THREE MESSAGE PHASES SHOULD BE EMPLOYED. 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. 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 AND 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 THE PHASES. 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 BID FOR EACH DAY OF ITEM 614 PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN AND 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, 320 DAY

IR-277 CLOSURES AS PER MT-99.50

THE FOLLOWING QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY IN ORDER TO CLOSE IR-277 AS PER MT-99.50:

IR-277 EASTBOUND CLOSURE:
ITEM 614 WORK ZONE EDGE LINE, CLASS I, 0.24 MILE
ITEM 614 WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL), 1 EACH
ITEM 622 PORTABLE CONCRETE BARRIER, 32", 900 FT

IR-277 WESTBOUND CLOSURE:
ITEM 614 WORK ZONE EDGE LINE, CLASS I, 0.52 MILE
ITEM 614 WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL), 1 EACH
ITEM 622 PORTABLE CONCRETE BARRIER, 32", 800 FT

ITEM 614, BARRIER REFLECTORS AND/OR OBJECT MARKERS

BARRIER REFLECTORS AND/OR OBJECT MARKERS SHALL BE INSTALLED ON ALL PORTABLE CONCRETE BARRIER USED FOR TRAFFIC CONTROL. BARRIER REFLECTORS, OBJECT MARKERS AND THEIR INSTALLATION SHALL CONFORM TO CMS 626, EX- CEPT THAT THE SPACING SHALL BE 50 FEET. AN ESTIMATED QUANTITY OF 34 EACH OF ITEM 614 BARRIER REFLECTOR, TYPE B AND 34 EACH OF ITEM 614 OBJECT MARKER, 1-WAY HAVE BEEN PROVIDED AND CARRIED TO THE GENERAL SUMMARY.

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.

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 300 HOURS

THE HOURS PAID SHALL INCLUDE ANY MINIMUM SHOW-UP TIME REQUIRED BY THE LAW ENFORCEMENT AGENCY INVOLVED.

ANY ADDITIONAL COSTS (ADMINISTRATIVE OR OTHERWISE) INCURRED BY THE CONTRACTOR TO OBTAIN THE SERVICES OF AN LEO ARE INCLUDED WITH THE BID UNIT PRICE FOR ITEM 614, LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE.

ITEM SPECIAL - RUMBLE STRIPS

THE RUMBLE STRIPS WILL BE PLACED AS SHOWN IN THE PLAN OR AS DIRECTED BY THE ENGINEER. RUMBLE STRIPS WILL BE INSTALLED EITHER ON TOP OF THE PAVEMENT USING HEAT-FUSED PREFORMED PLASTIC MATERIAL OR MILLED INTO THE PAVEMENT.

HEAT-FUSED PREFORMED PLASTIC RUMBLE STRIPS WILL BE FOUR [4] INCHES WIDE AND ONE HALF [0.5] INCH THICK IN PLACE. MILLED RUMBLE STRIPS WILL BE FOUR [4] INCHES WIDE AND ONE HALF [0.5] INCH INTO THE PAVEMENT. THE RUMBLE STRIPS WILL TRAVERSE THE TOTAL LANE WIDTH. THERE WILL BE TWO SECTIONS OF RUMBLE STRIPS. THE RUMBLE STRIPS MAY HAVE TO GO ACROSS TWO OR THREE LANES OF TRAFFIC.

THE FIRST RUMBLE STRIP SECTION SHOULD BE PLACED BEFORE THE ADVANCE WARNING DEVICES, THERE WILL BE TEN [10] TRANSVERSE STRIPS SIX [6] FEET APART. THE SECOND SECTION SHOULD BE PLACED A MINIMUM OF 250 FEET IN ADVANCE OF THE TRAFFIC CONDITION, THERE WILL BE TEN [10] TRANSVERSE STRIPS FIVE [5] FEET APART.

MATERIAL USED FOR THE RUMBLE STRIPS WILL BE 740.08 HEAT-FUSED PREFORMED PLASTIC MATERIAL, 125 MILS MINIMUM THICKNESS, ON THE ODOT APPROVED LIST. THE MANUFACTURERS RECOMMENDATIONS MUST BE FOLLOWED FOR INSTALLATION.

MILLED RUMBLE STRIPS, ALTHOUGH SELF-CLEANING TO A LIMITED EXTENT, SHOULD BE INSPECTED PERIODICALLY TO DETERMINE IF DEBRIS NEEDS TO BE REMOVED OR IF THEY NEED TO BE RE-MILLED.

RUMBLE STRIPS WILL BE REMOVED WHEN THEY ARE NO LONGER NEEDED AS DETERMINED BY THE ENGINEER.

A W8-H16-48 SIGN [RUMBLE STRIPS] WILL BE DUAL MOUNTED APPROXIMATELY 500 FEET IN ADVANCE OF THE RUMBLE STRIP INSTALLATION. THE PROVISION, ERECTION, MAINTENANCE AND REMOVAL OF THE SIGNS AND SUPPORTS WILL BE INCLUDED IN THE COST OF THE RUMBLE STRIPS.

THIS ITEM WILL BE PAID FOR BY THE FOOT AT ONE HALF [0.5] INCH THICKNESS FOR 740.08 HEAT-FUSED PREFORMED PLASTIC OR ONE HALF [0.5] INCHES OF MILLED THICKNESS. THIS WILL INCLUDE ALL LABOR MATERIALS AND EQUIPMENT FOR THE INSTALLATION, MAINTENANCE AND REMOVAL OF THE RUMBLE STRIPS.

RUMBLE STRIPS WILL BE INSTALLED FOR THE IR-277 EASTBOUND CLOSURE ON IR-76 EASTBOUND AT SLM'S 6.00 AND 6.20, PRIOR TO RAMP A. A QUANTITY OF 680 FEET OF ITEM SPECIAL, RUMBLE STRIPS HAS BEEN CARRIED TO THE GENERAL SUMMARY.

ADDITIONAL RAMP DETOURS

RAMP DESIGNATION	RAMP DESCRIPTION	PERMITTED CLOSURE TIMES	DURATION	DETOUR ROUTE	MINIMUM NUMBER OF PCMS	SHEET NO. REFERENCE	ADDITIONAL RESTRICTIONS
RAMP W-6/6A	SOUTH ST/BROADWAY TO IR-76 EAST	ANYTIME	7 DAYS	BROADWAY NORTH TO THORNTON EAST TO GRANT ST SOUTH TO RAMP W-2	3	19 (DETAIL A FOR RAMP LOCATIONS)	COMPLETE ALL WORK TO STRUCTURE SUM-76-1043S EXCEPT FOR PAINTING
RAMP A	KELLY AVE TO US-224 WEST	7:00PM FRIDAY TO 6:00AM MONDAY	2 WEEKENDS	WATERLOO RD WEST TO MAIN ST SOUTH	3	2, 10B	COMPLETE ALL WORK TO LEFT HALF OF STRUCTURE SUM-224-1061
RAMP C-2	IR-77 SOUTH TO US-224 EAST	7:00PM FRIDAY TO 6:00AM MONDAY	1 WEEKEND	IR-77 SOUTH TO ARLINGTON RD EXIT TO IR-77 NORTH	4	2, 10B	COMPLETE ALL WORK TO STRUCTURE SUM-77-0927R

USE PORTABLE CHANGEABLE MESSAGE SIGNS (PCMS) TO POST DETOUR ROUTES.

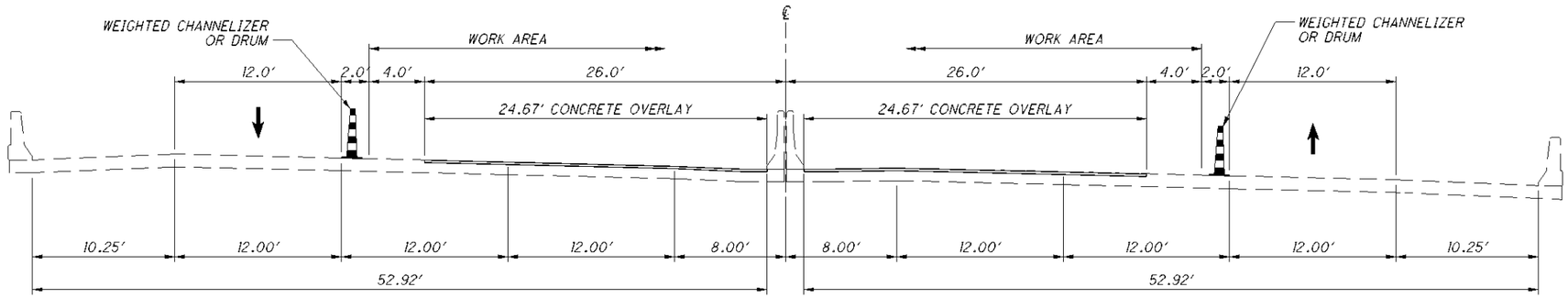
SEE "DETOUR NOTIFICATION" NOTE ON SHEET 7.

INTERIM COMPLETION DATE FOR STRUCTURE SUM-76-1043S

ALL WORK (EXCEPT PAINTING) FOR STRUCTURE SUM-76-1043S WILL BE COMPLETED BY MARCH 30, 2012. THE "WINTER TRAFFIC LIMITATIONS" NOTE ON SHEET 7 WILL NOT APPLY. MARCH 30, 2012 SHALL BE CONSIDERED TO CONSTITUTE AN INTERIM COMPLETION DATE AND DISINCENTIVES OF $1000.00 SHALL BE ASSESSED FOR EACH CALENDAR DAY THAT THE RAMP REMAINS CLOSED TO TRAFFIC BEYOND THE SPECIFIED LIMIT. UNDER NO CIRCUMSTANCES SHALL THIS WORK BE PERFORMED CONCURRENTLY WITH THE IR-277 EASTBOUND CLOSURE.

ITEM 614, MAINTAINING TRAFFIC (TIME LIMITATION ON A DETOUR) FOR THE RAMP DETOURS LISTED IN THE ABOVE CHART

A MINIMUM OF ONE LANE OF TRAFFIC SHALL BE MAINTAINED AT ALL TIMES ON THE RAMP, EXCEPT FOR A PERIOD NOT TO EXCEED THE DURATION LISTED IN THE RAMP DETOUR CHART ABOVE, WHEN THROUGH TRAFFIC MAY BE DETOURED. A DISINCENTIVE SHALL BE ASSESSED IN THE AMOUNT OF $1000.00 FOR EACH CALENDAR DAY THE RAMP REMAINS CLOSED TO TRAFFIC BEYOND THE SPECIFIED LIMIT.



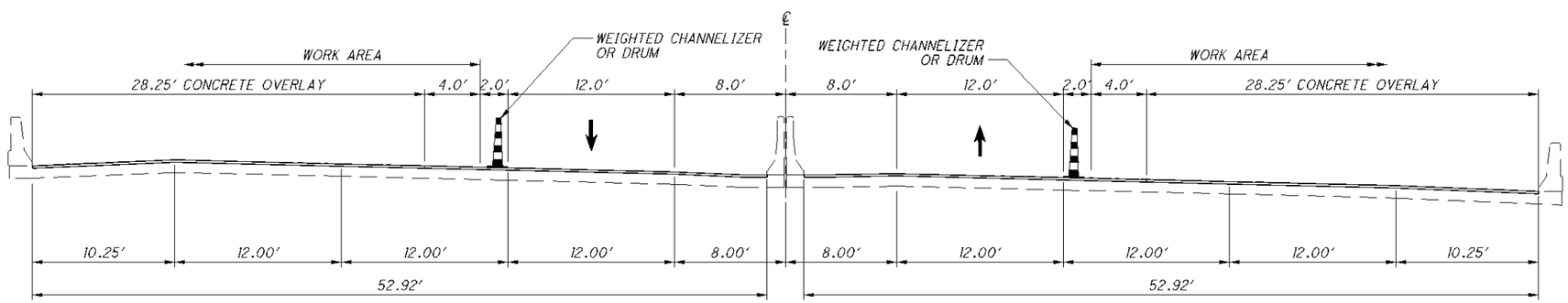
PHASE 1

CLOSE LEFT TWO LANES ACCORDING TO OMUTCD FIGURE 6H-37; USE A 60MPH DESIGN SPEED.

CLOSE RAMP A FROM KELLY AVE.

CONSTRUCT DURING IR-277 EASTBOUND CLOSURE.

MAINTAIN RAMP C TRAFFIC FROM IR-77 NORTHBOUND AND RAMP C-2 TRAFFIC FROM IR-77 SOUTHBOUND; POST ROAD WORK AHEAD SIGNS (W20-1-48) ON RAMPS.



PHASE 2

CLOSE RIGHT LANE EAST OF RAMP A ACCORDING TO MT-95.30; USE A 50MPH DESIGN SPEED.

CLOSE RAMP A FROM KELLY AVE AND RAMP LANE.

CONSTRUCT DURING IR-277 EASTBOUND CLOSURE.

MAINTAIN RAMP C TRAFFIC FROM IR-77 NORTHBOUND; POST 25MPH ADVISORY SPEED SIGNS (W13-1-24) WITH ROAD WORK AHEAD SIGNS (W20-1-48) ON RAMP.

CLOSE RAMP C-2 TRAFFIC FROM IR-77 SOUTHBOUND ACCORDING TO MT-98.29 [ADD "EXIT 122A" (E1-H5-48) SIGNS TO ADVANCED WARNING SIGNS] AND CONSTRUCT BRIDGE NO. SUM-77-0927R.

SEE SHEET 2 FOR RAMP LOCATIONS.
SEE SHEET 10A FOR ADDITIONAL RAMP INFORMATION.

CALCULATED MJH
CHECKED LAB

PHASE CONSTRUCTION DETAILS FOR SUM-224-1061

SUM-76/77/277/224-VAR.

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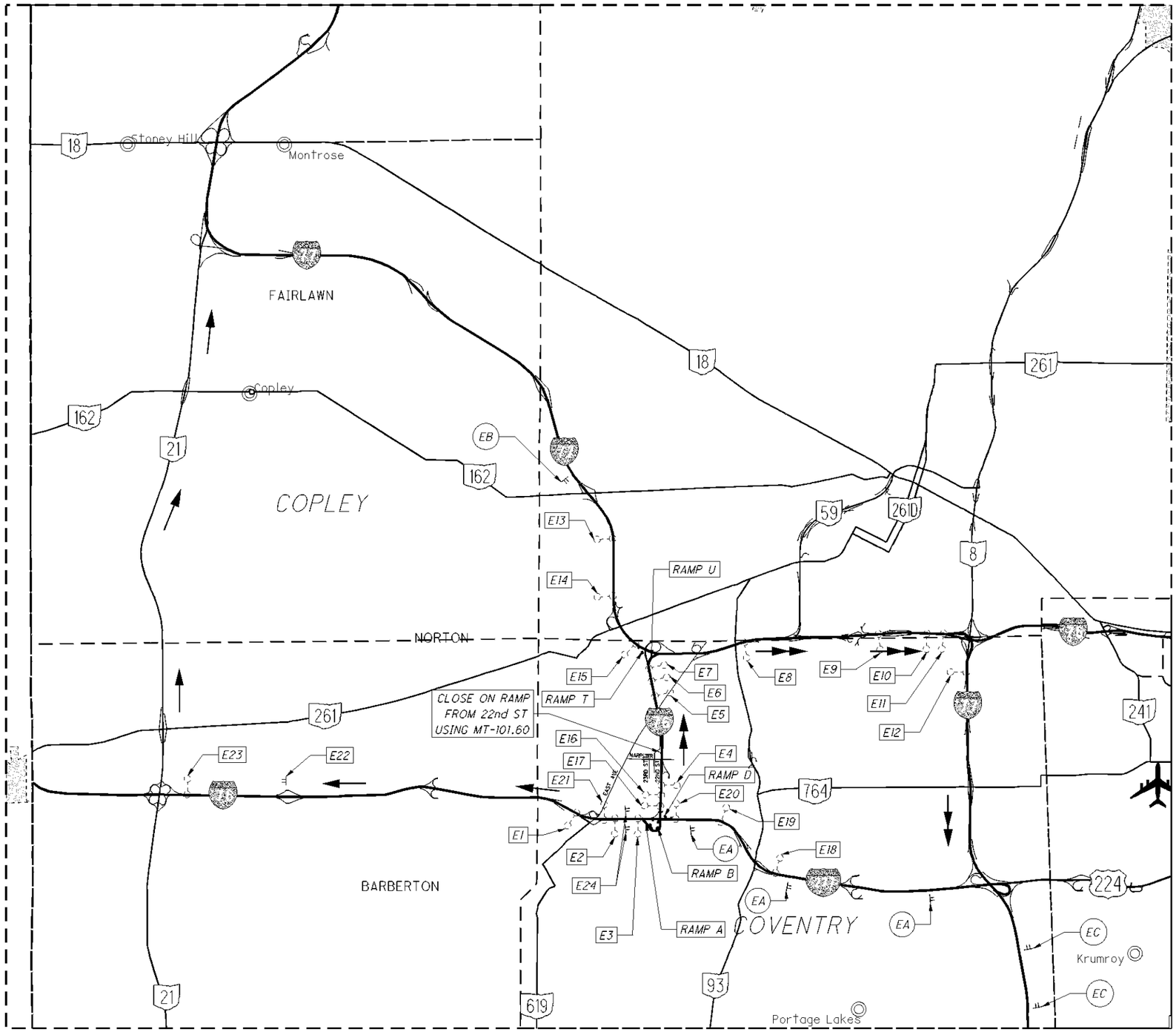

CLOSE RAMP AS PER STD. DWG. MT-98.29 (FOR LANE CLOSURES PRIOR TO RAMP, USE MT-95.30)

IR-277 EASTBOUND AND RAMP T DETOUR ROUTE: IR-76 EAST TO IR-77 SOUTH

RAMP D DETOUR ROUTE: IR-76 WEST TO SR-21 NORTH

EA

PORTABLE CHANGEABLE MESSAGE SIGN
-PLACE FOR 10 DAYS PRIOR TO CLOSURE AT 3 LOCATIONS

MESSAGE:
1) 277 EAST
224 EAST
CLOSED

2) (DATES)

EB

PORTABLE CHANGEABLE MESSAGE SIGN

MESSAGE:
1) TO I-277
FOLLOW
77 SOUTH

EC

PORTABLE CHANGEABLE MESSAGE SIGN

MESSAGE:
1) 77 NORTH
THRU
TRAFFIC

2) REMAIN
ON
77 NORTH

DETOUR PLAN FOR IR-277 EASTBOUND

CLOSE IR-277 EASTBOUND ACCORDING TO STD. DWG. MT-99.50 USING PORTABLE CONCRETE BARRIER, SEE SHEET 10

N

NOT TO SCALE

CALCULATED MJH
CHECKED LAB

DETOUR PLAN FOR CLOSURE OF IR-277 EASTBOUND

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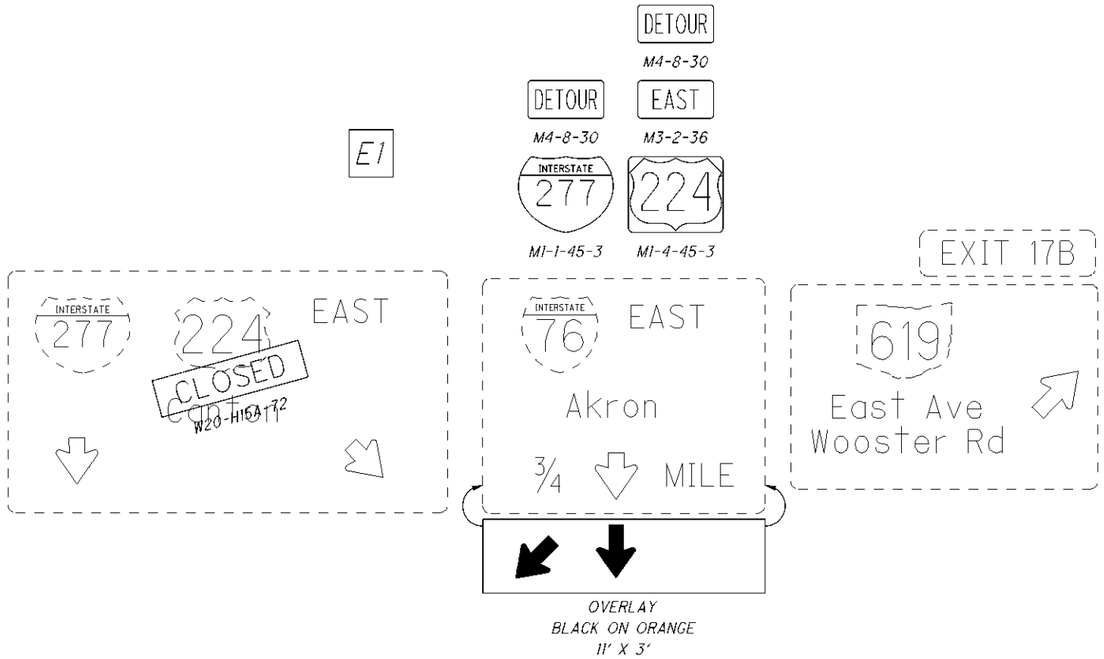

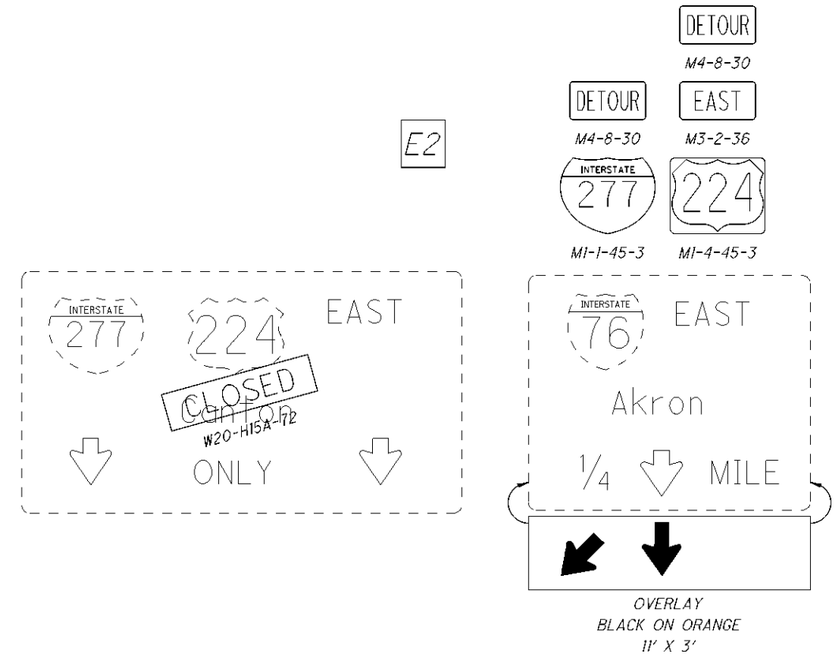

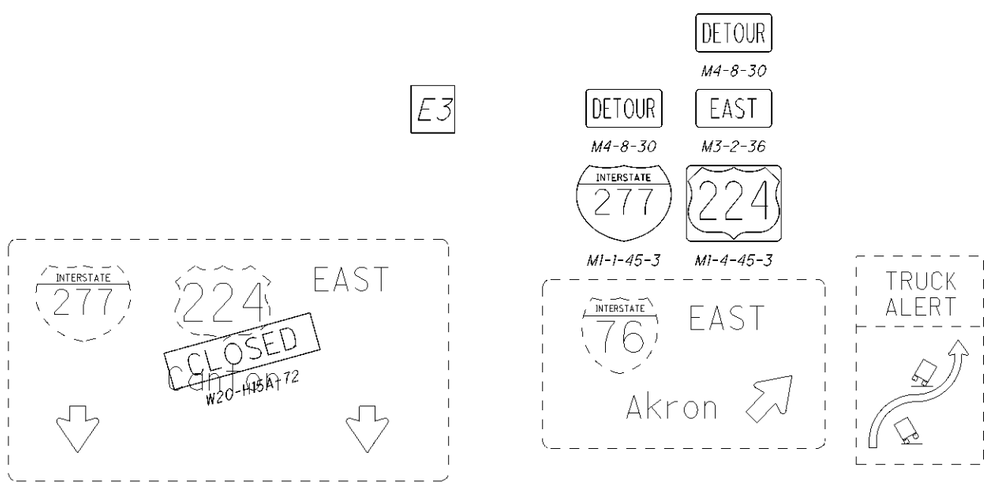

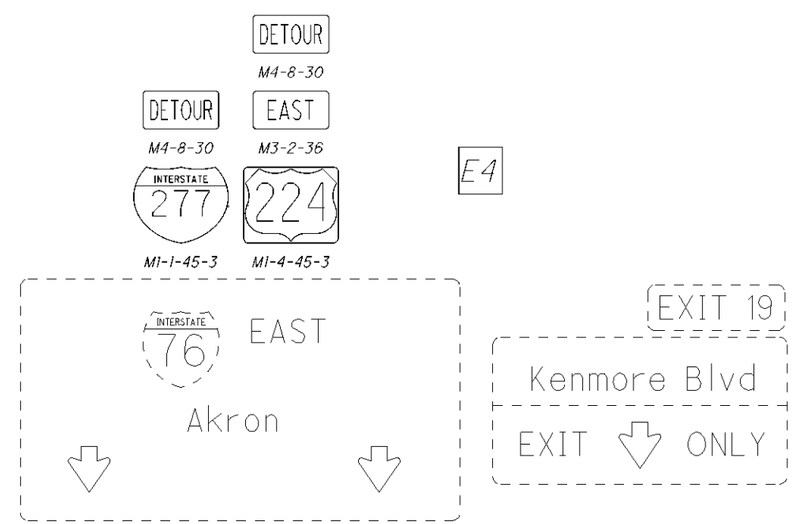

CALCULATED MJH
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DETOUR PLAN FOR CLOSURE OF IR-277 EASTBOUND

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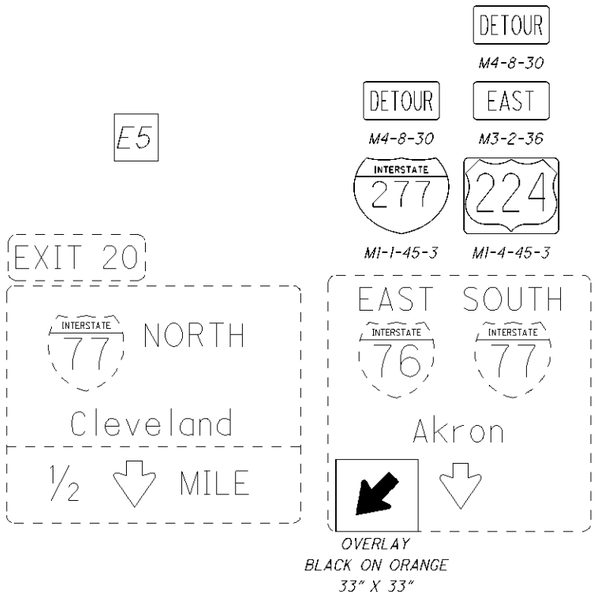

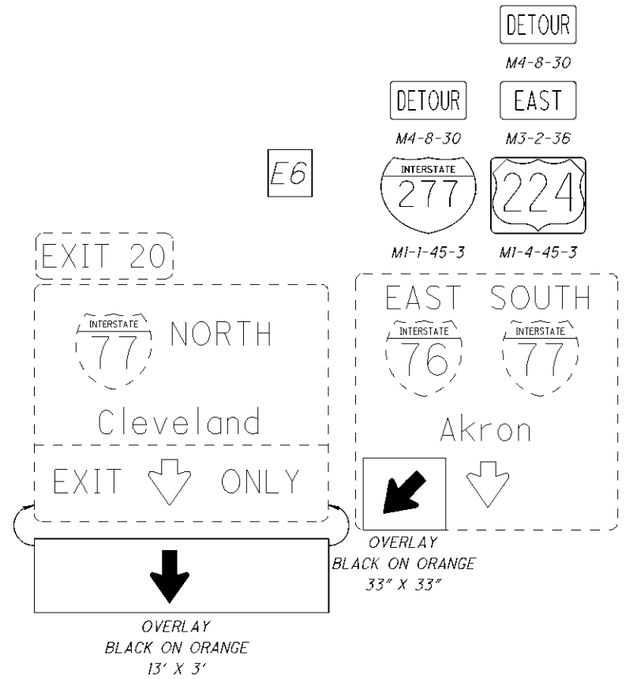

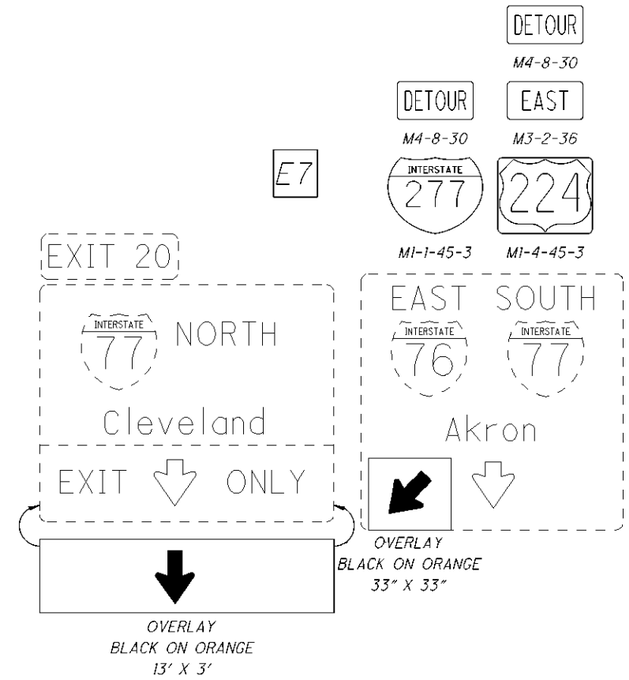

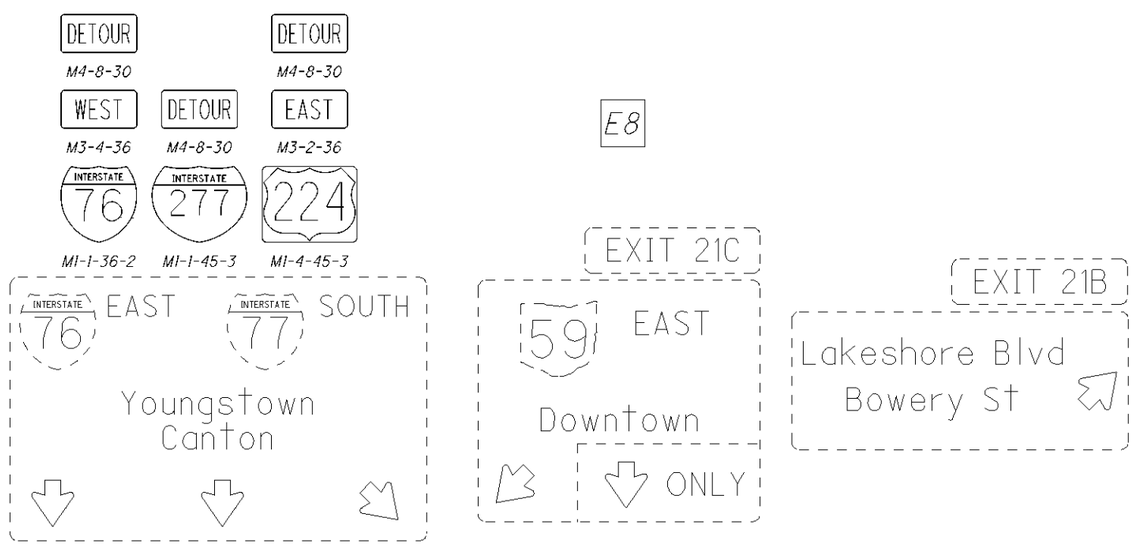

CALCULATED MJH
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DETOUR PLAN FOR CLOSURE OF IR-277 EASTBOUND

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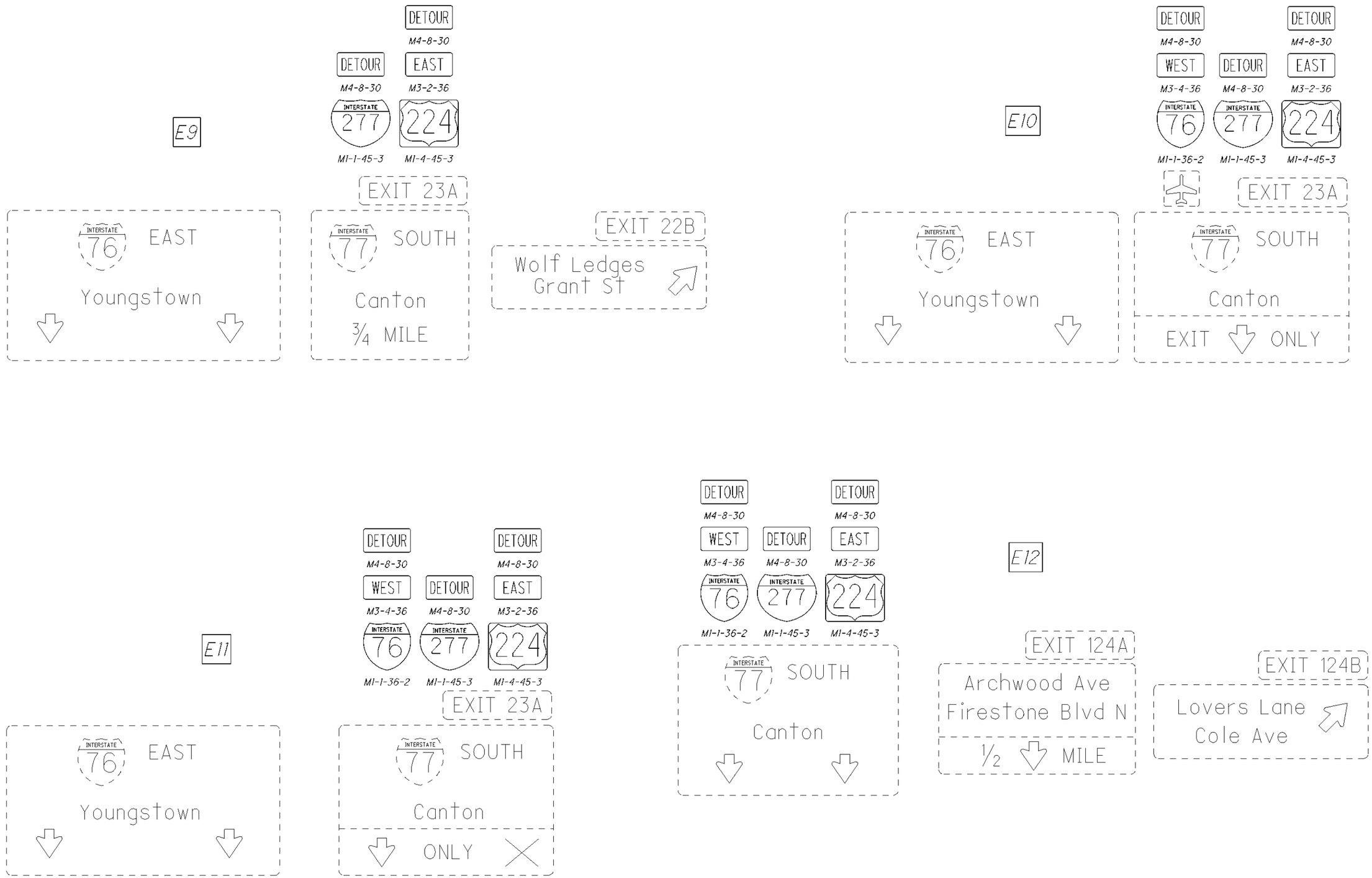

CALCULATED MJH
CHECKED LAB

DETOUR PLAN FOR CLOSURE OF IR-277 EASTBOUND

SUM-76/77/277/224-VAR.

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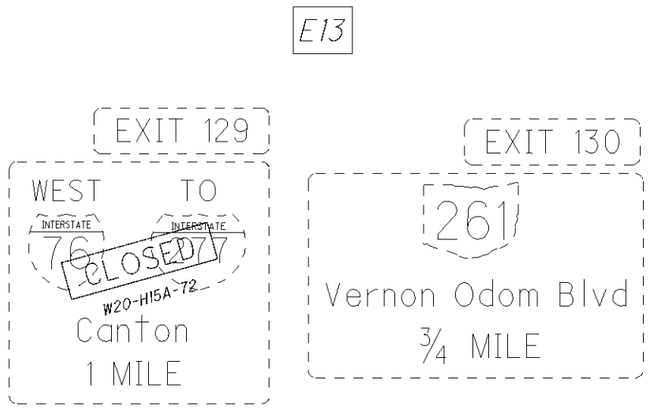

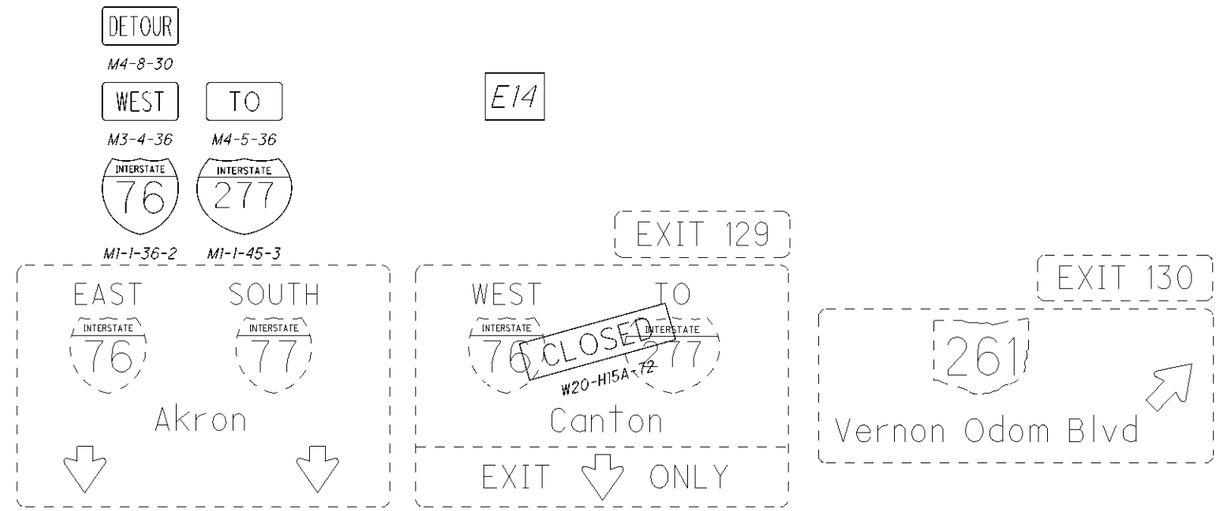

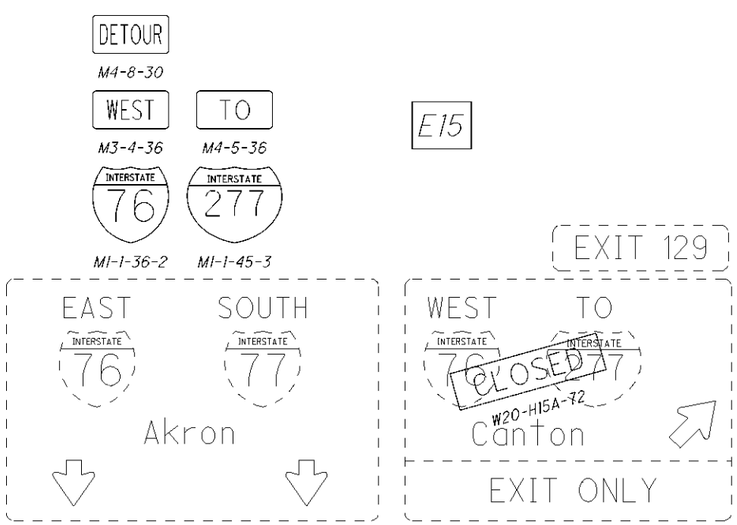

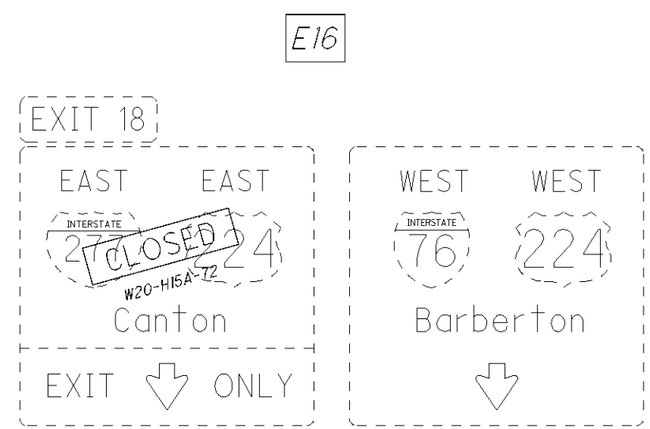

CALCULATED MJH
CHECKED LAB

DETOUR PLAN FOR CLOSURE OF IR-277 EASTBOUND

SUM-76/77/277/224-VAR.

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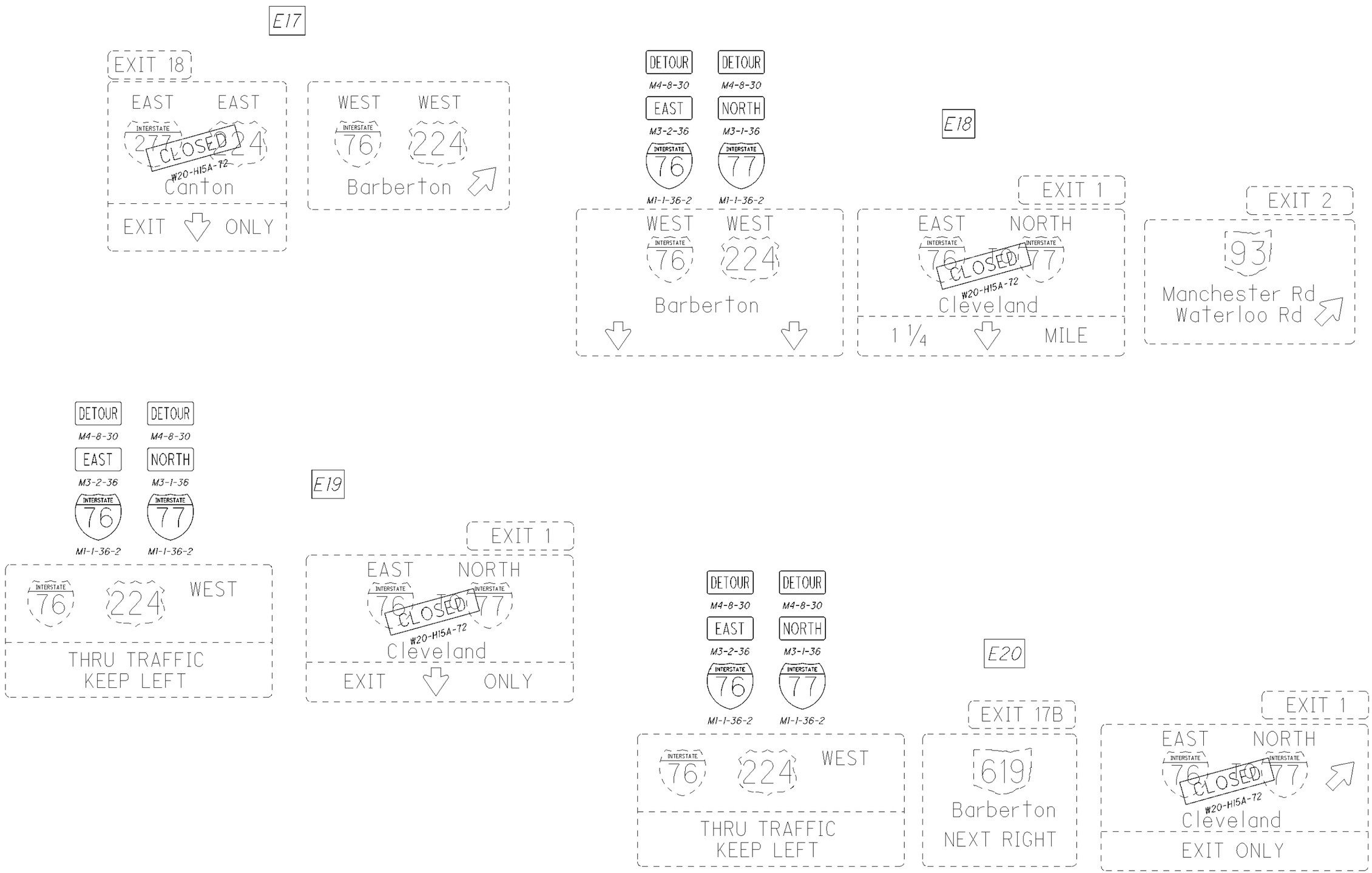

CALCULATED MJH
CHECKED LAB

DETOUR PLAN FOR CLOSURE OF IR-277 EASTBOUND

SUM-76/77/277/224-VAR.

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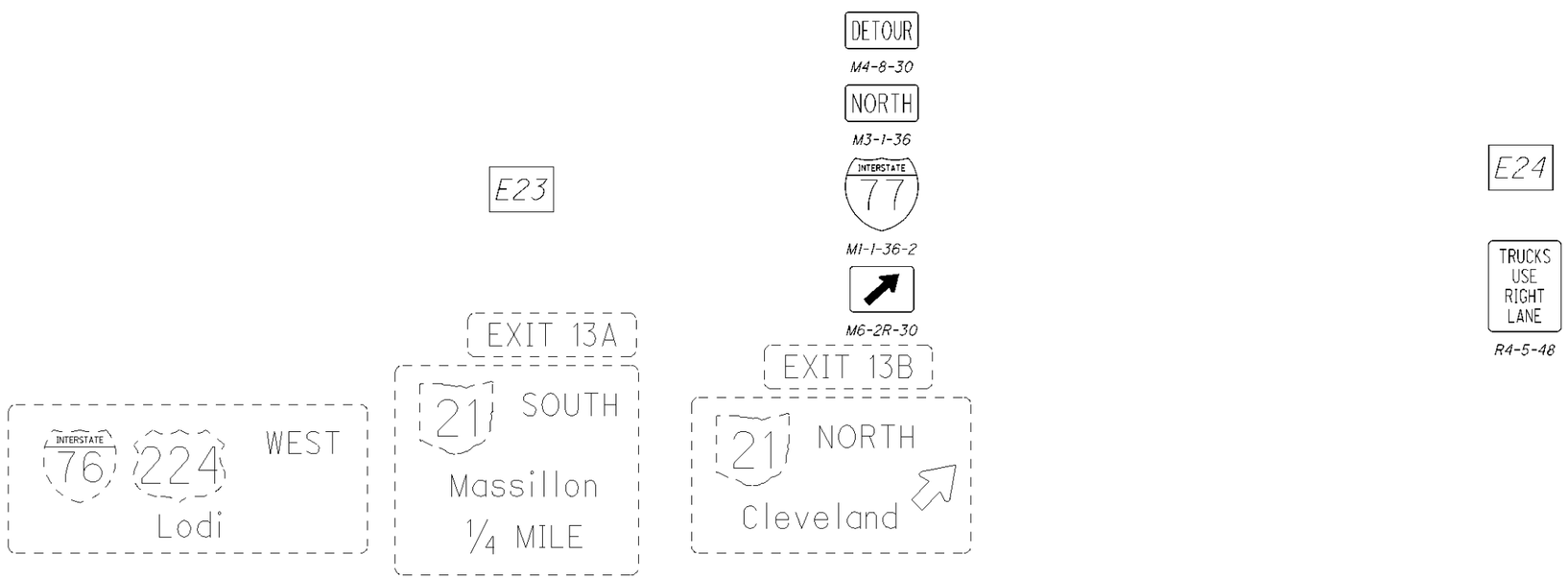

CALCULATED MJH
CHECKED LAB

DETOUR PLAN FOR CLOSURE OF IR-277 EASTBOUND

SUM-76/77/277/224-VAR.

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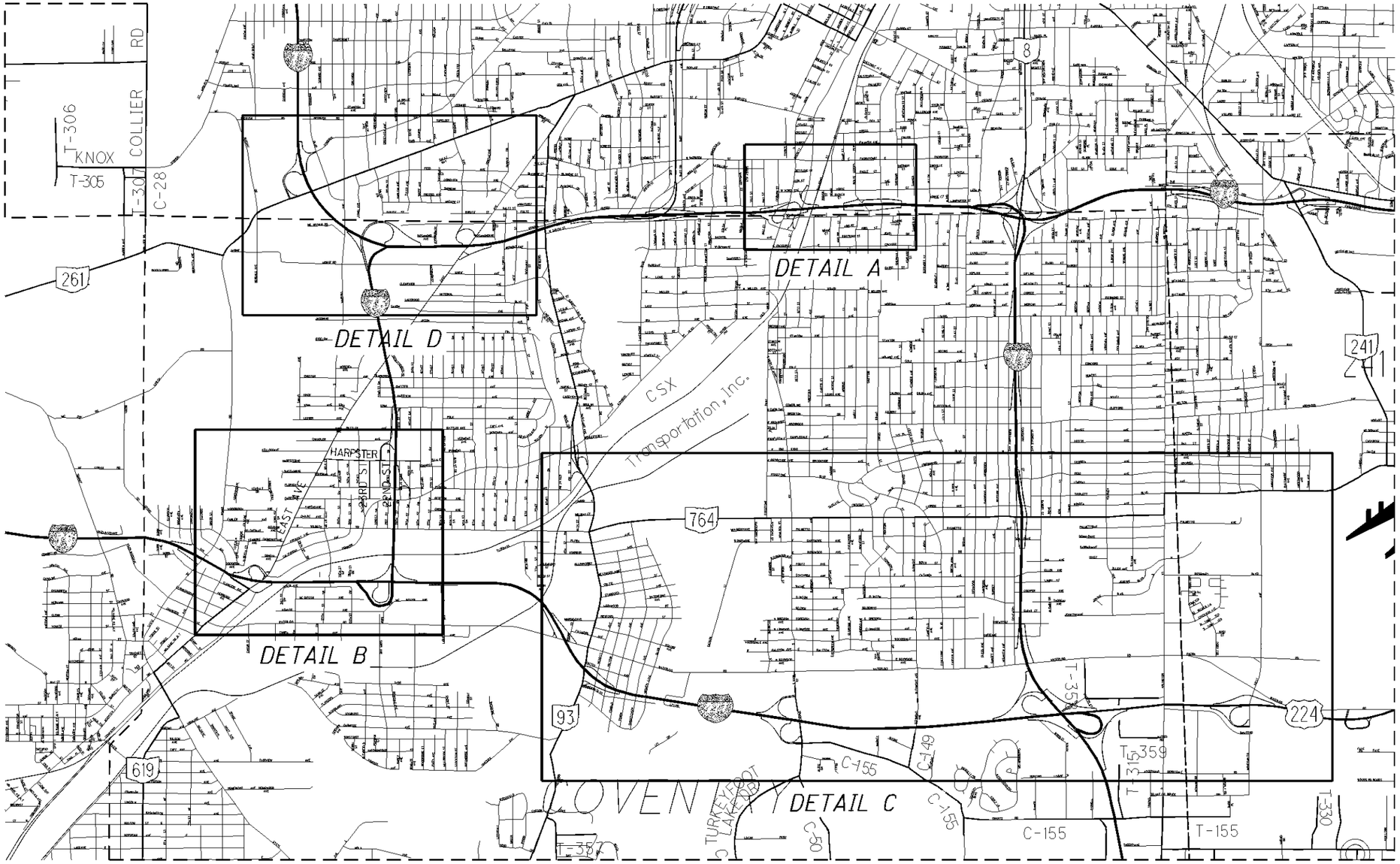

ON-RAMP DETOURS FOR CLOSURE OF IR-277 EASTBOUND

NOT TO SCALE

CALCULATED MJH
CHECKED LAB

IR-277 EASTBOUND ON-RAMP DETOUR PLANS

SUM-76/77/277/224-VAR.

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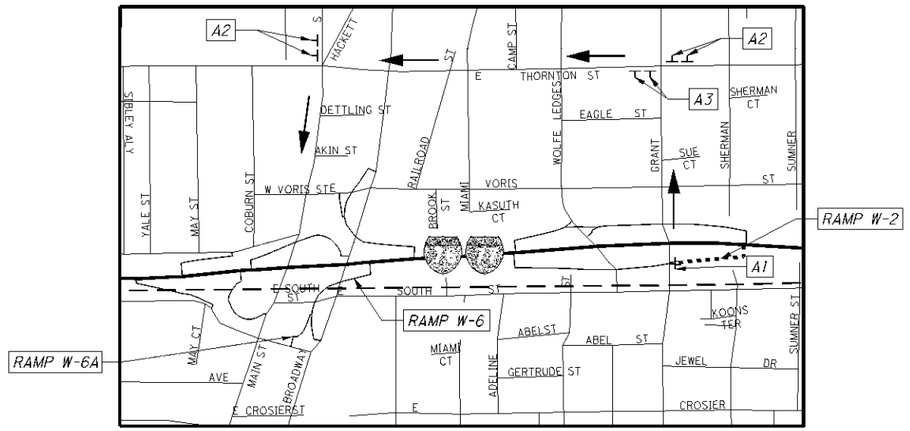
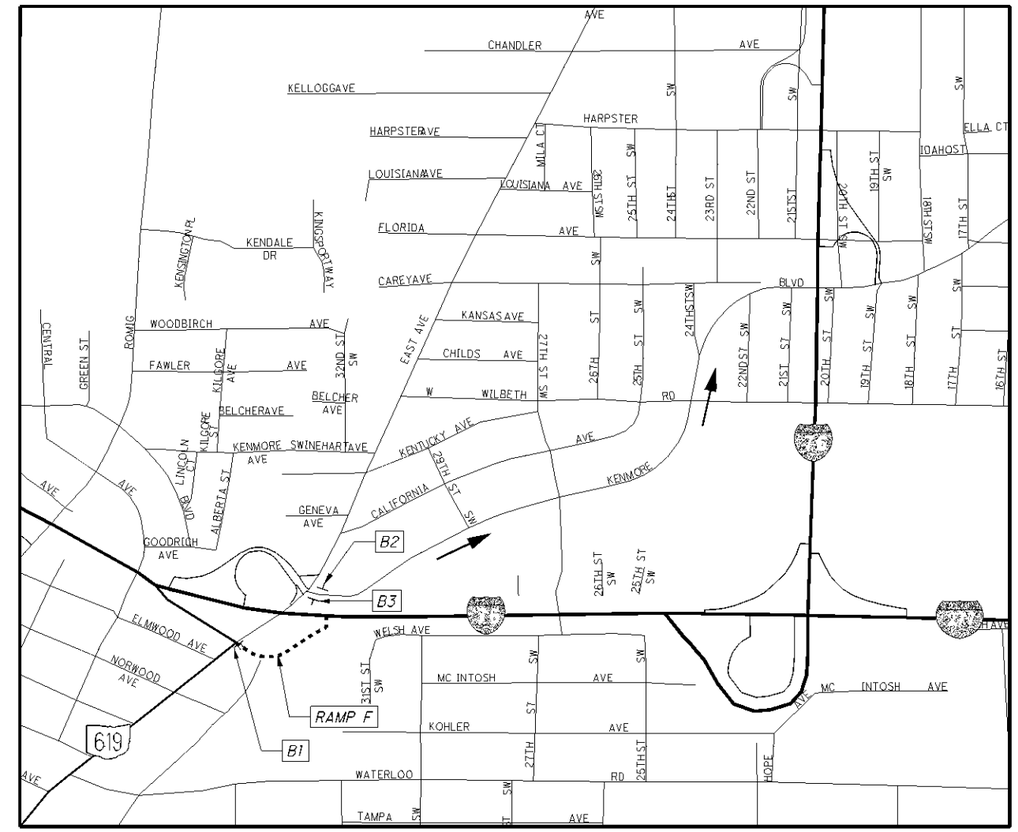


DETAIL A

CLOSED RAMP

DETOUR ROUTE: GRANT / THORNTON / MAIN



DETAIL B

CLOSED RAMP

DETOUR ROUTE: KENMORE BLVD

A1 #

ROAD CLOSED
R11-2-48

DETOUR
M4-10L-48

ON TYPE III BARRICADE

A2

TO M4-5-24 | TO M4-5-24
EAST M3-2-24 | SOUTH M3-3-24
INTERSTATE 76 M1-1-24-2 | INTERSTATE 77 M1-1-24-2
M6-1L-21 | M6-1L-21

A3

TO M4-5-24 | TO M4-5-24
EAST M3-2-24 | SOUTH M3-3-24
INTERSTATE 76 M1-1-24-2 | INTERSTATE 77 M1-1-24-2
M6-1R-21 | M6-1R-21

B1 #

ROAD CLOSED
R11-2-48

DETOUR
M4-10L-48

ON TYPE III BARRICADE

B2

TO M4-5-24
EAST M3-2-24
INTERSTATE 76 M1-1-24-2
M6-1R-21

B3

TO M4-5-24
EAST M3-2-24
INTERSTATE 76 M1-1-24-2
M6-1L-21

CALCULATED MJH
CHECKED LAB

IR-277 EASTBOUND ON-RAMP DETOUR PLANS

SUM-76/77/277/224-VAR.

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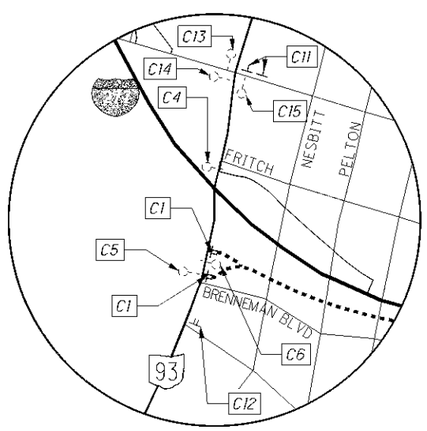
DETAIL C

CLOSED RAMPS

DETOUR ROUTE: WATERLOO RD

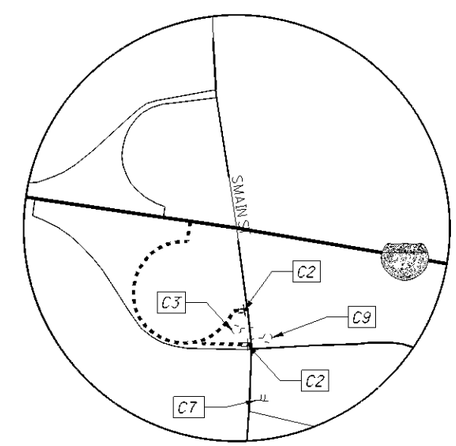


DETAIL CA

C1 # ROAD CLOSED R11-2-48 DETOUR M4-10L-48

C2 # ROAD CLOSED R11-2-48 DETOUR M4-10R-48

ON TYPE III BARRICADE



DETAIL CB

CALCULATED MJH
CHECKED LAB

IR-277 EASTBOUND ON-RAMP DETOUR PLANS

SUM-76/77/277/224-VAR.

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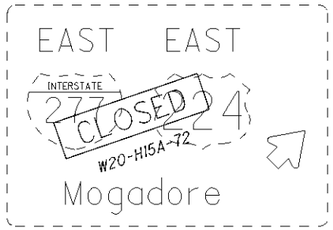


C3

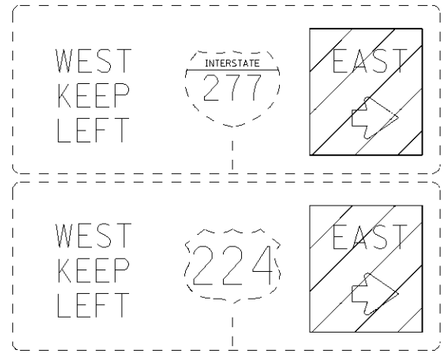
(FACES NORTH)

C4

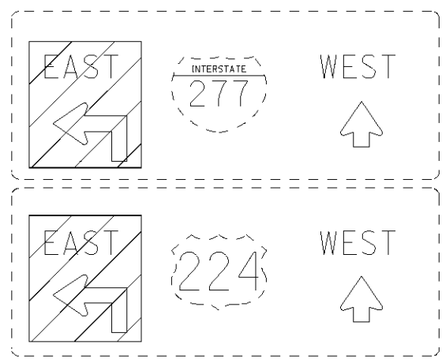
(FACES NORTH)

C5

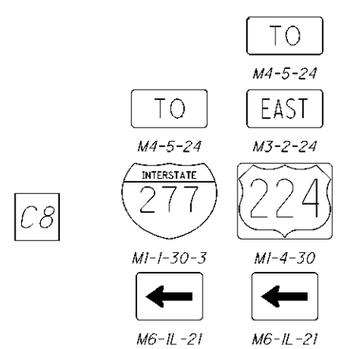
(FACES NORTH)



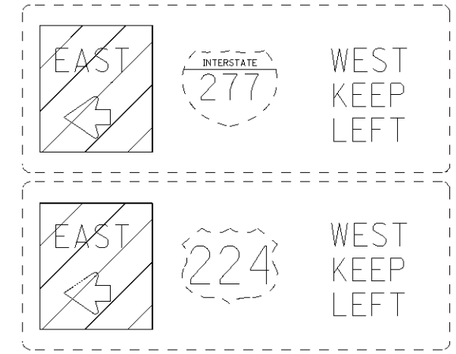
C6



C7



C8



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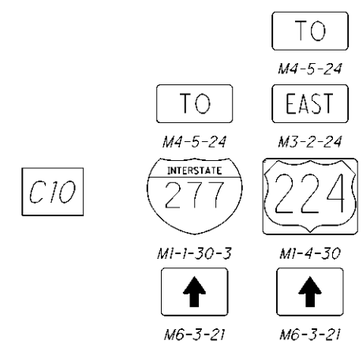

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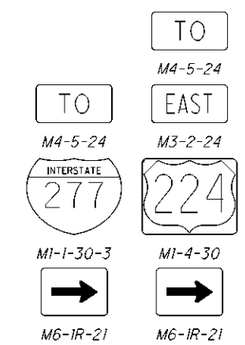

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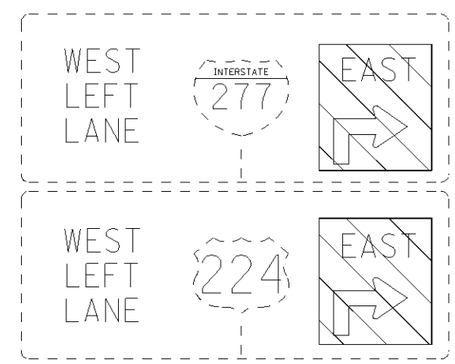

C12

CALCULATED MJH
CHECKED LAB

IR-277 EASTBOUND ON-RAMP DETOUR PLANS

SUM-76/77/277/224-VAR.

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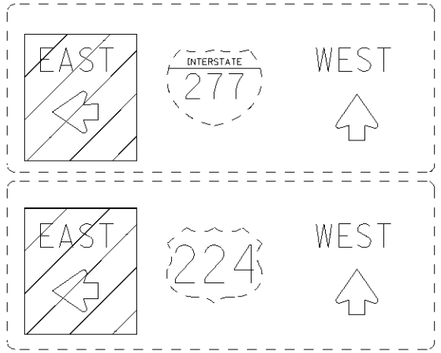

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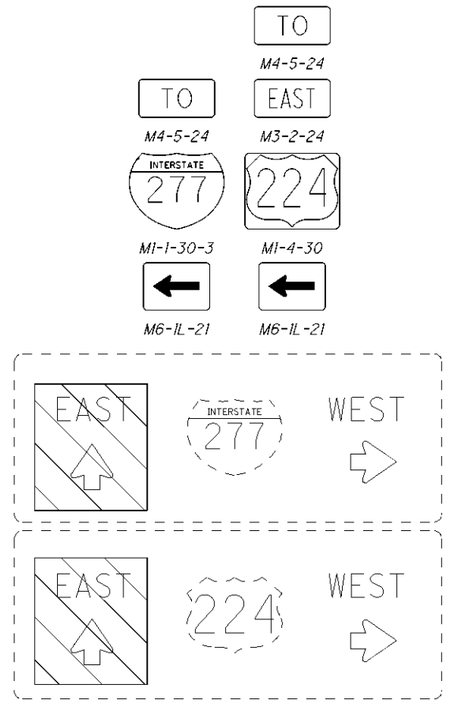

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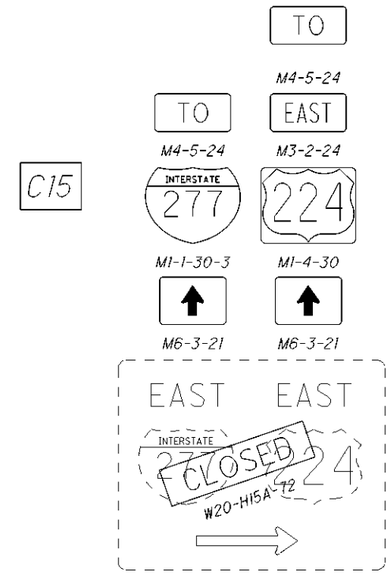

C15

CALCULATED MJH
CHECKED LAB

IR-277 EASTBOUND ON-RAMP DETOUR PLANS

SUM-76/77/277/224-VAR.

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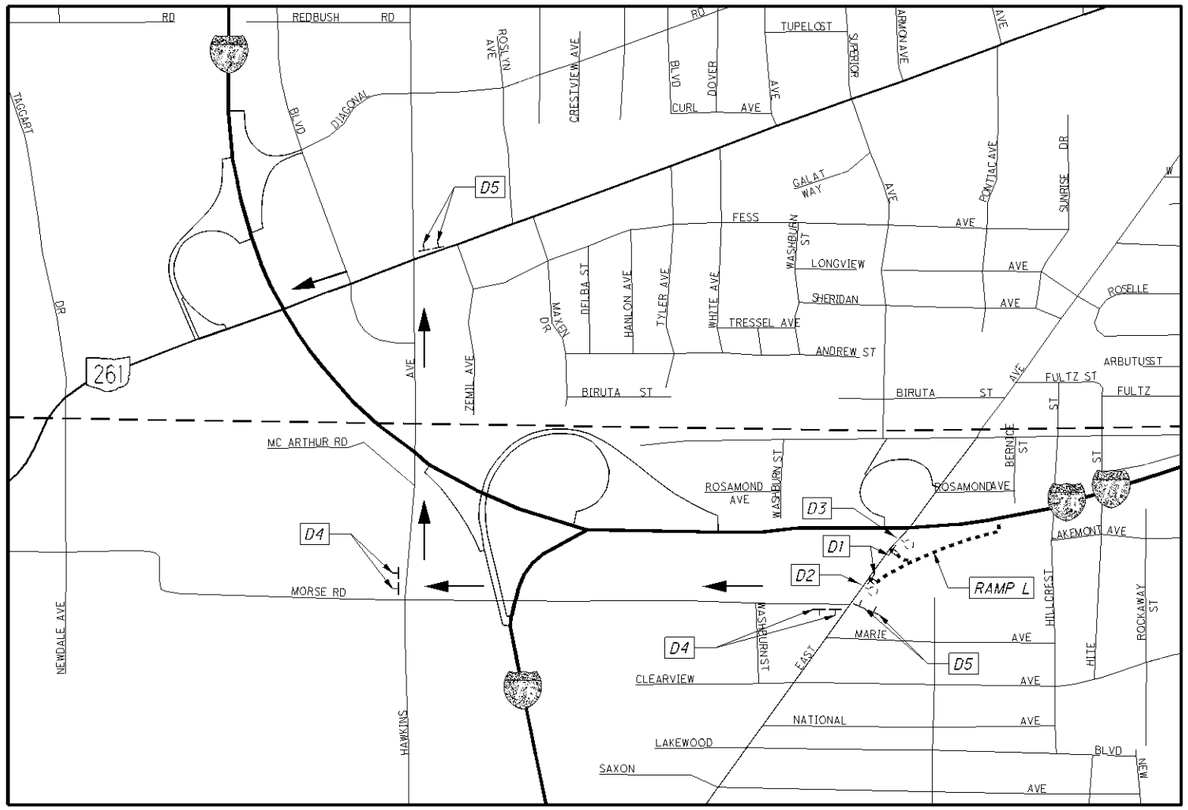


DETAIL D

CLOSED RAMP

DETOUR ROUTE: MORSE / HAWKINS / SR-261

D1 #

ROAD CLOSED

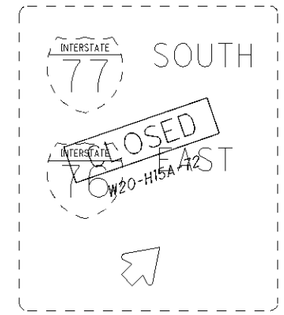
R11-2-48

DETOUR

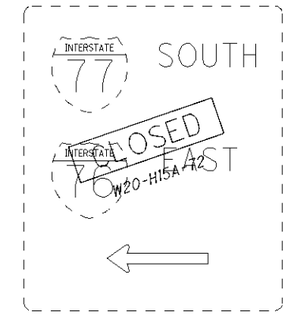
M4-10R-48

ON TYPE III BARRICADE

D2



D3



D4

TO	TO
M4-5-24	M4-5-24
EAST	SOUTH
M3-2-24	M3-3-24
INTERSTATE 76	INTERSTATE 77
M1-1-24-2	M1-1-24-2
→	→
M6-1R-21	M6-1R-21

D5

TO	TO
M4-5-24	M4-5-24
EAST	SOUTH
M3-2-24	M3-3-24
INTERSTATE 76	INTERSTATE 77
M1-1-24-2	M1-1-24-2
←	←
M6-1L-21	M6-1L-21

CALCULATED MJH
CHECKED LAB

IR-277 EASTBOUND ON-RAMP DETOUR PLANS

SUM-76/77/277/224-VAR.

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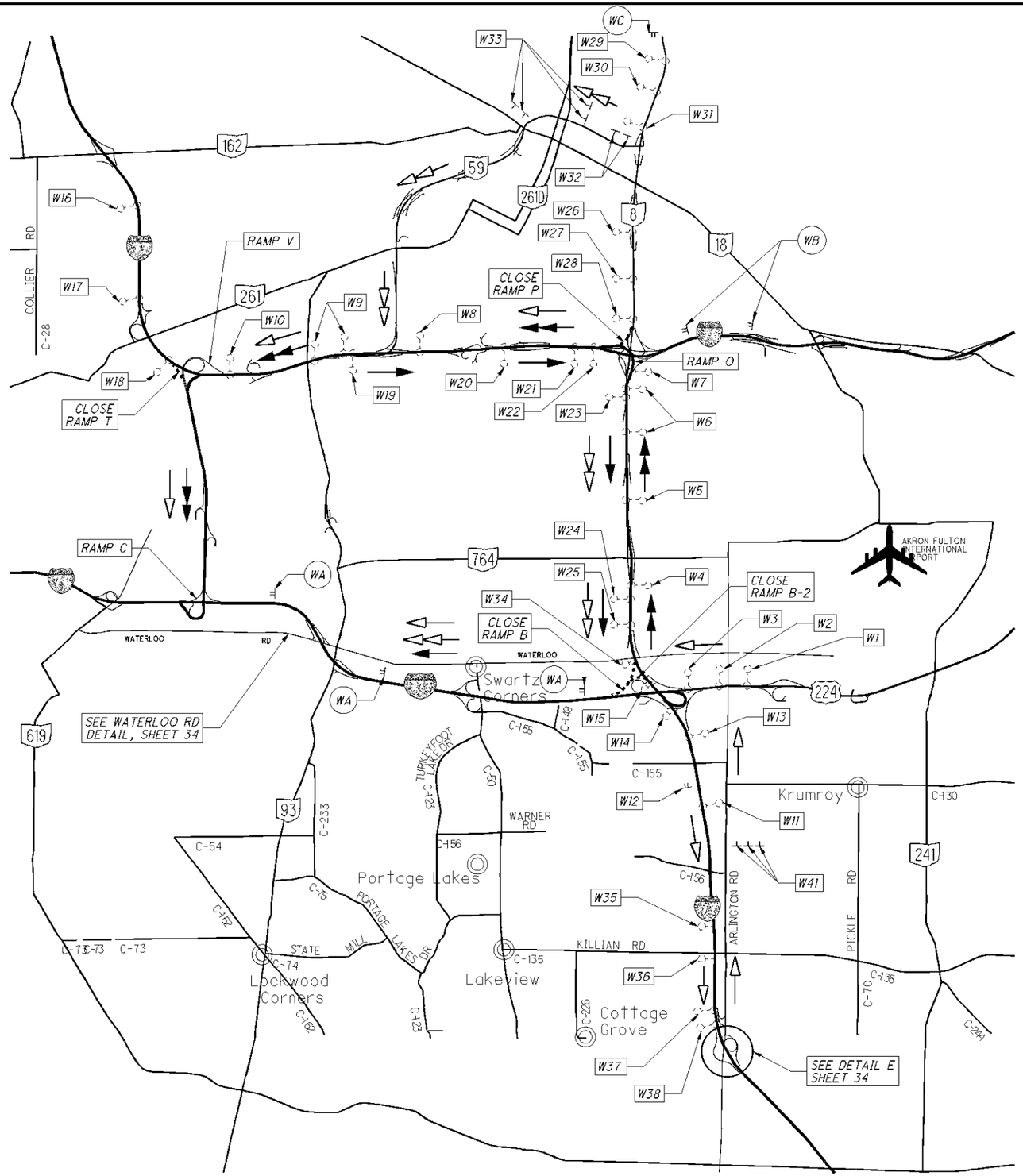

DETOUR PLAN FOR IR-277 WESTBOUND

CLOSE IR-277 WESTBOUND ACCORDING TO STD. DWG. MT-99.50 USING PORTABLE CONCRETE BARRIER, SEE SHEET 10

NOT TO SCALE

CLOSE RAMPS B, B-2, P, AND T AS PER STD. DWG. MT-98.29 (FOR LANE CLOSURES PRIOR TO RAMP, USE MT-95.30)

IR-277 WESTBOUND AND RAMP B-2 DETOUR ROUTE: IR-77 NORTH TO IR-76 WEST

RAMP T DETOUR ROUTE: IR-76 EAST TO IR-77 SOUTH TO WATERLOO RD WEST TO SR-619 NORTH

RAMP P DETOUR ROUTE: SR-8 SOUTH TO SR-59 WEST
ALTERNATE ROUTE: IR-77 SOUTH TO WATERLOO RD WEST TO SR-619 NORTH

RAMP B DETOUR ROUTE: IR-76 WEST
ALTERNATE ROUTE: IR-77 SOUTH TO ARLINGTON ST NORTH TO WATERLOO RD WEST TO SR-619 NORTH

WA

PORTABLE CHANGEABLE MESSAGE SIGN
-PLACE FOR 10 DAYS PRIOR TO CLOSURE AT 3 LOCATIONS

MESSAGE: 1) 277 WEST
224 WEST
CLOSED

2) (DATES)

WB

PORTABLE CHANGEABLE MESSAGE SIGN

MESSAGE: 1) 277
WEST
CLOSED

2) REMAIN
ON
76 WEST

WC

PORTABLE CHANGEABLE MESSAGE SIGN

MESSAGE: 1) 76 WEST
77 NORTH
CLOSED

2) USE
59 WEST

CALCULATED MJH
CHECKED LAB

DETOUR PLAN FOR CLOSURE OF IR-277 WESTBOUND

SUM-76/77/277/224-VAR.

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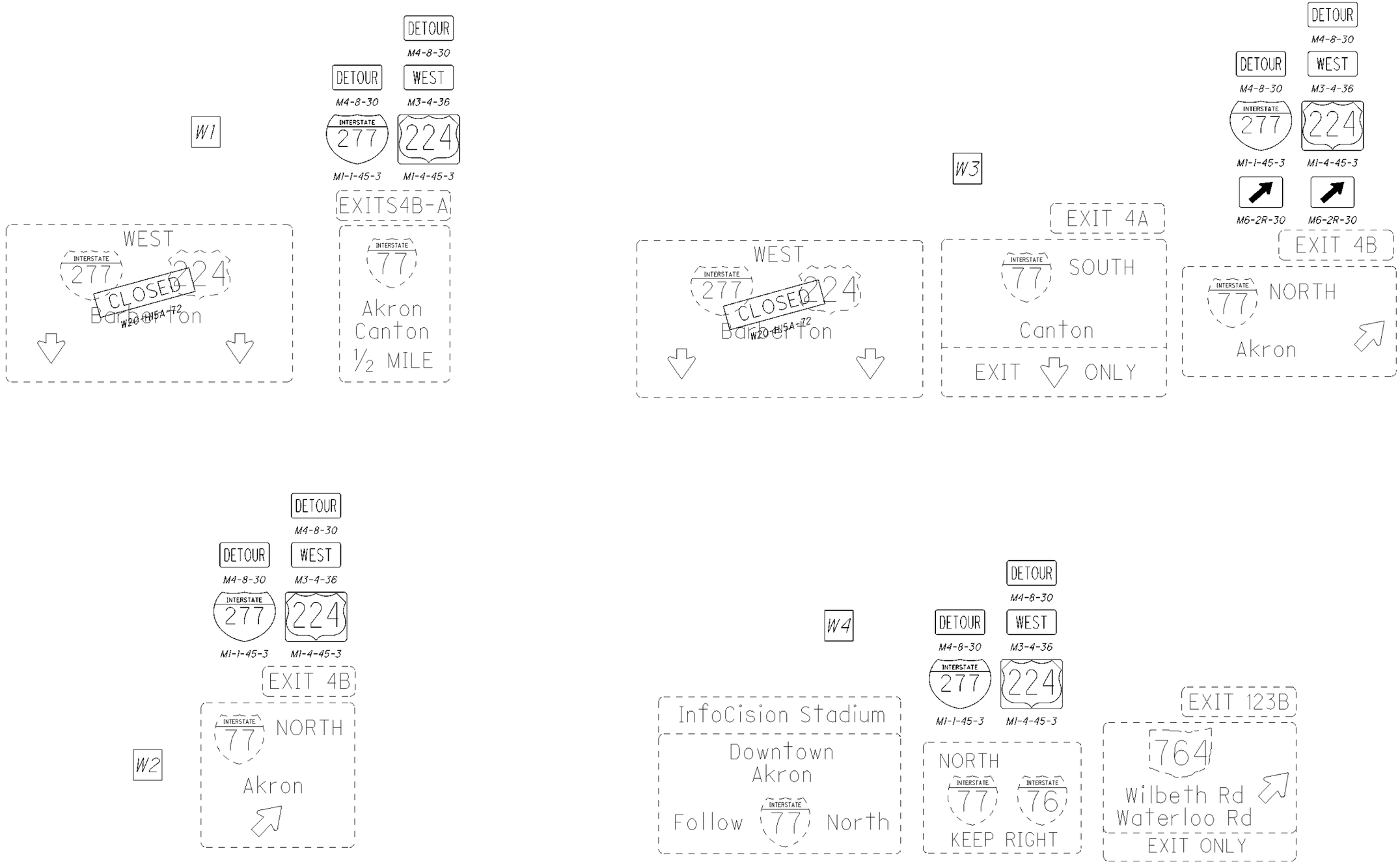

CALCULATED MJH
CHECKED LAB

DETOUR PLAN FOR CLOSURE OF IR-277 WESTBOUND

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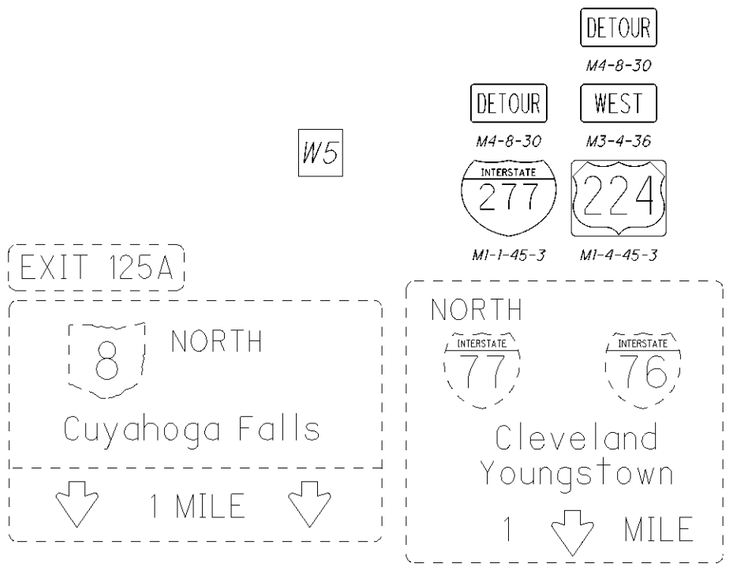

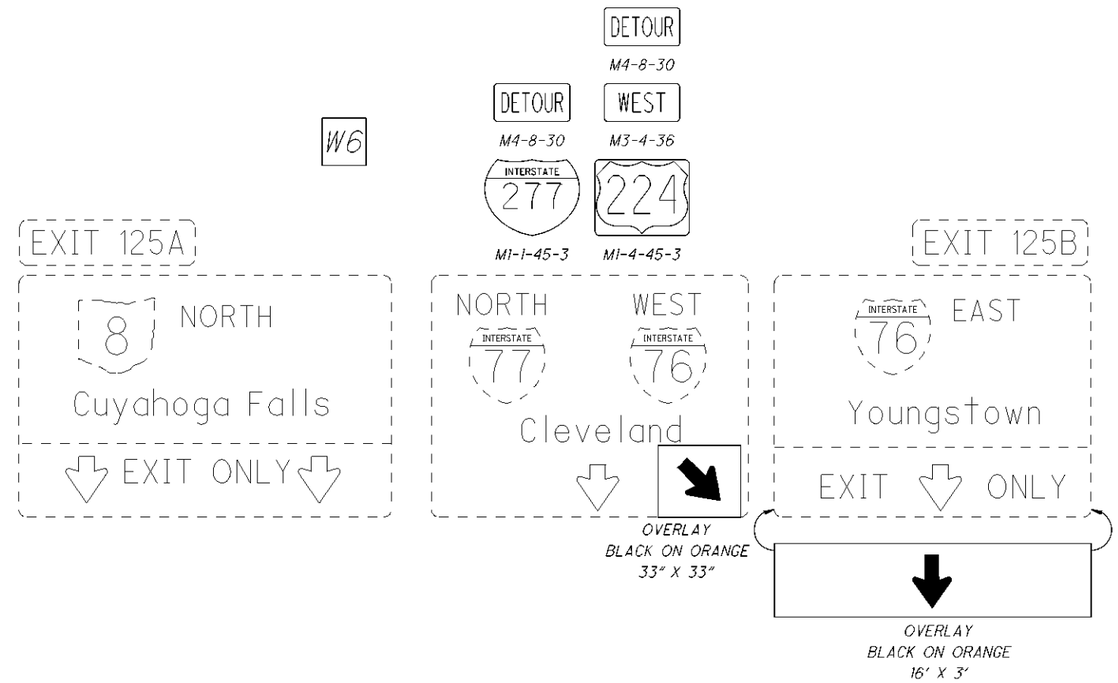

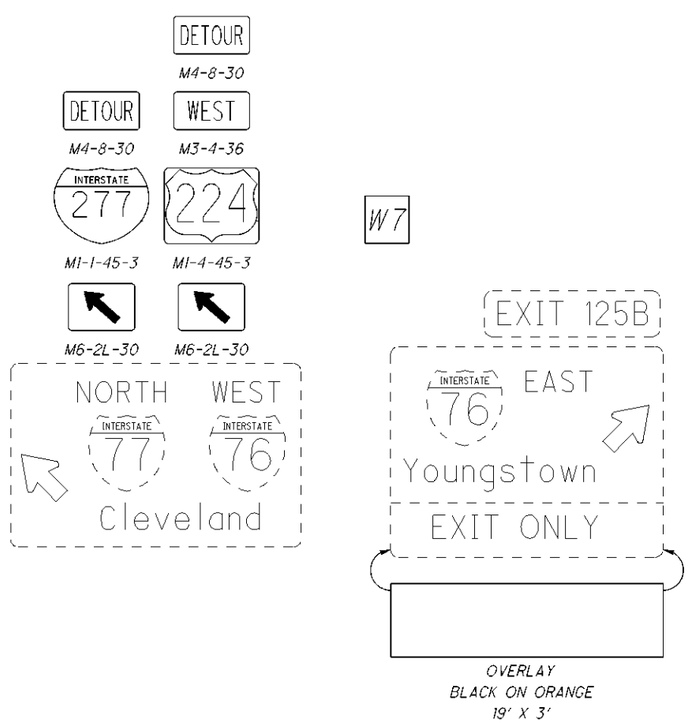

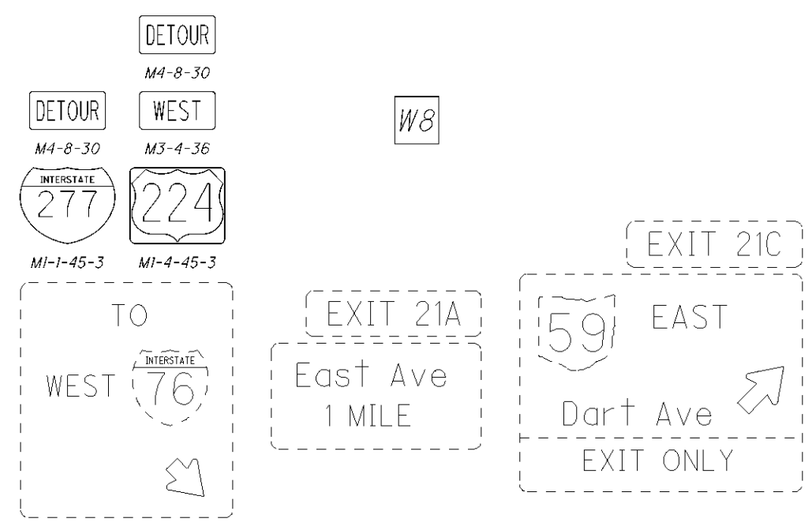

CALCULATED MJH
CHECKED LAB

DETOUR PLAN FOR CLOSURE OF IR-277 WESTBOUND

SUM-76/77/277/224-VAR.

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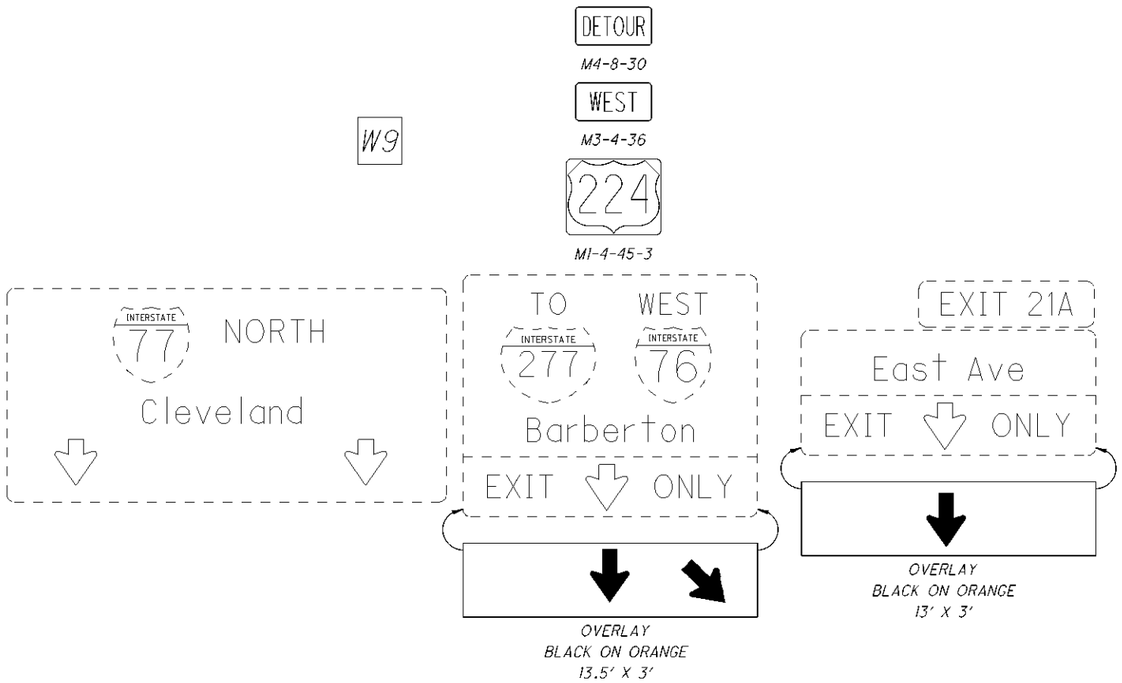

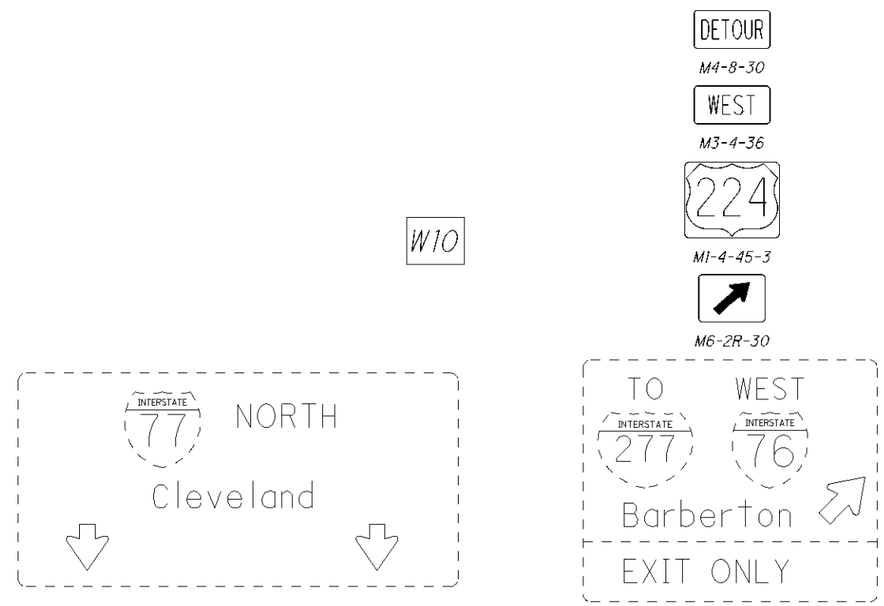

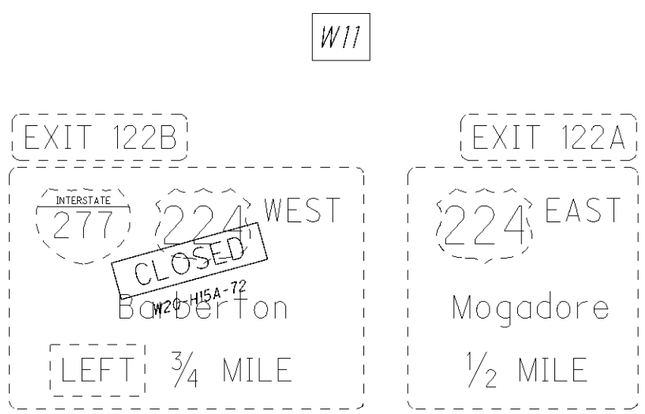

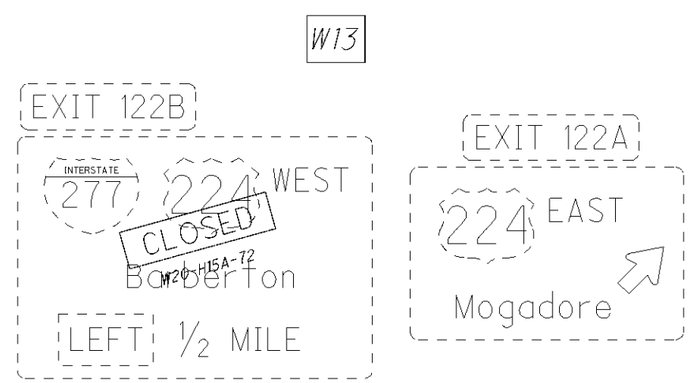

CALCULATED MJH
CHECKED LAB

DETOUR PLAN FOR CLOSURE OF IR-277 WESTBOUND

SUM-76/77/277/224-VAR.

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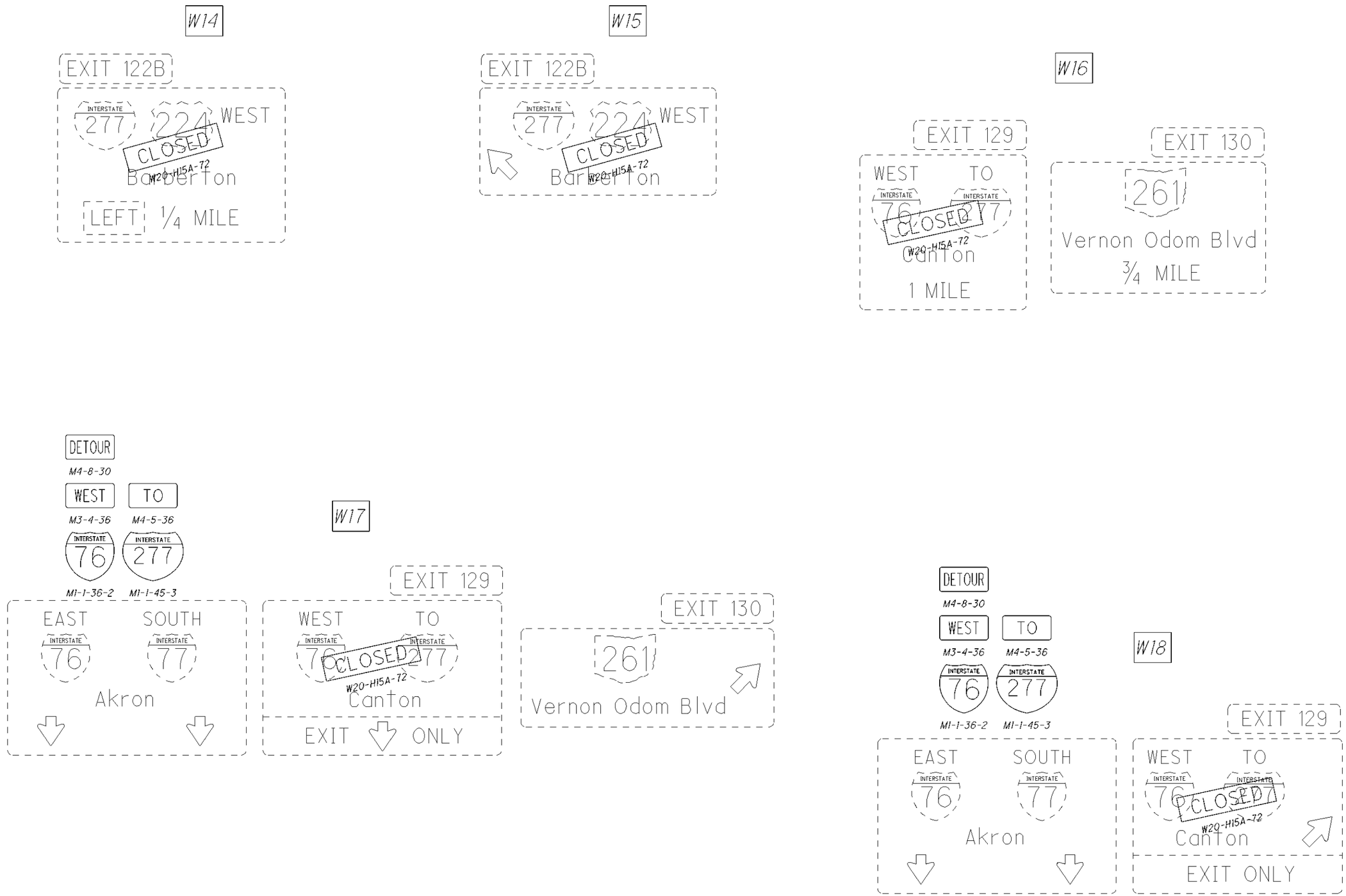

CALCULATED MJH
CHECKED LAB

DETOUR PLAN FOR CLOSURE OF IR-277 WESTBOUND

SUM-76/77/277/224-VAR.

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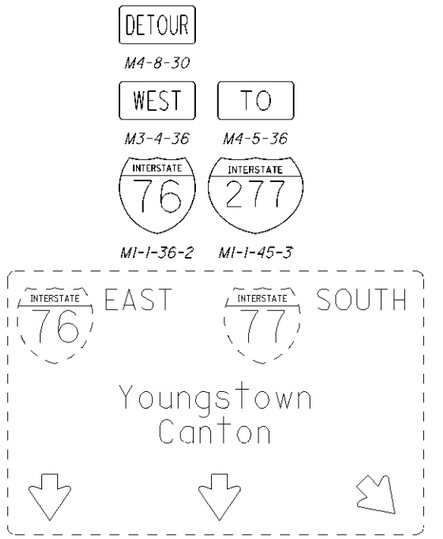

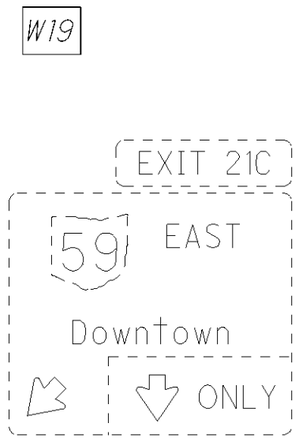

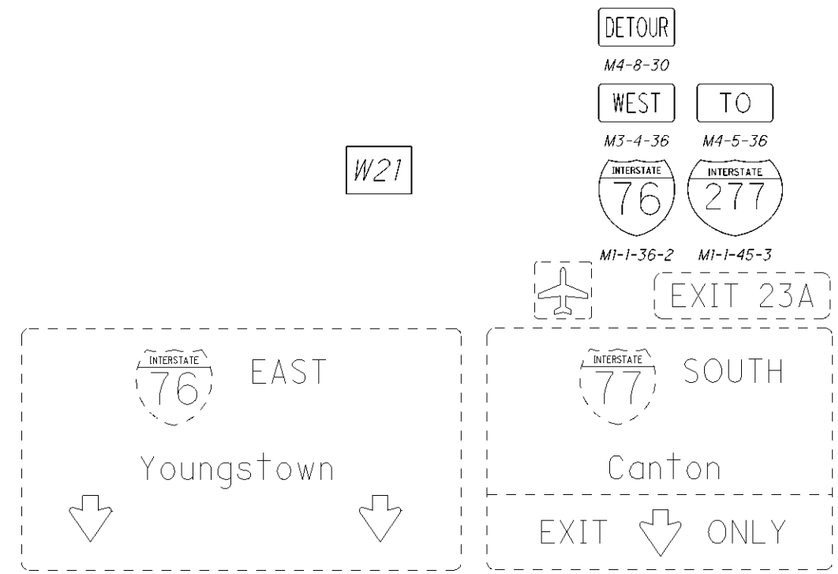

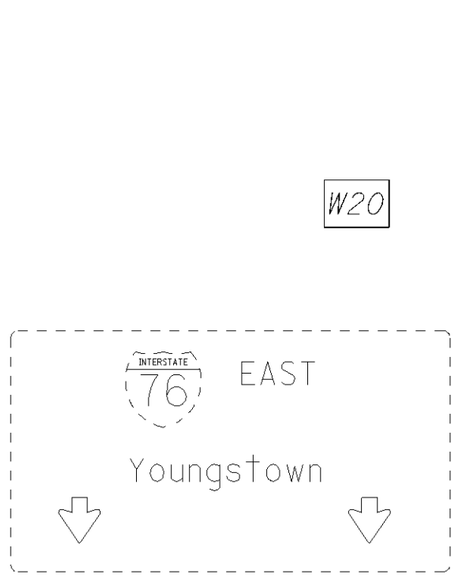

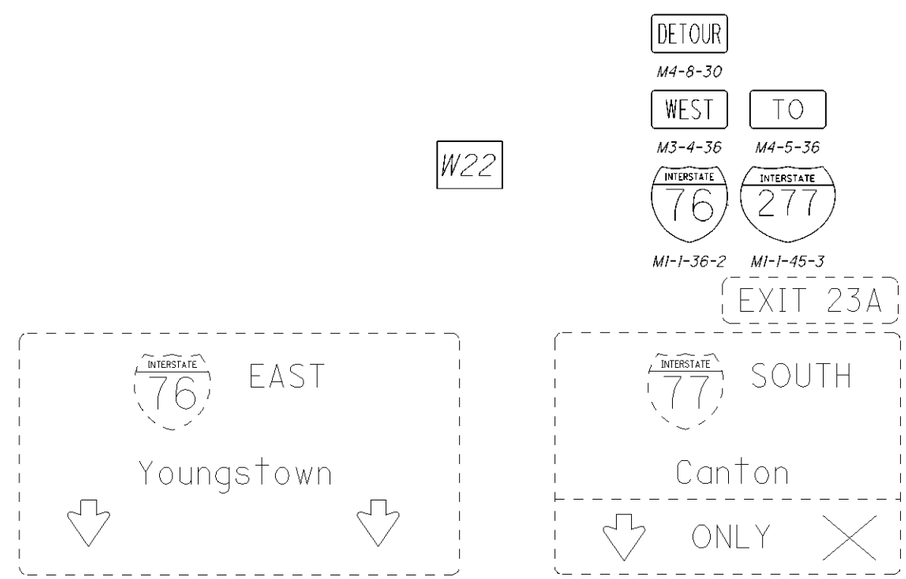

CALCULATED MJH
CHECKED LAB

DETOUR PLAN FOR CLOSURE OF IR-277 WESTBOUND

SUM-76/77/277/224-VAR.

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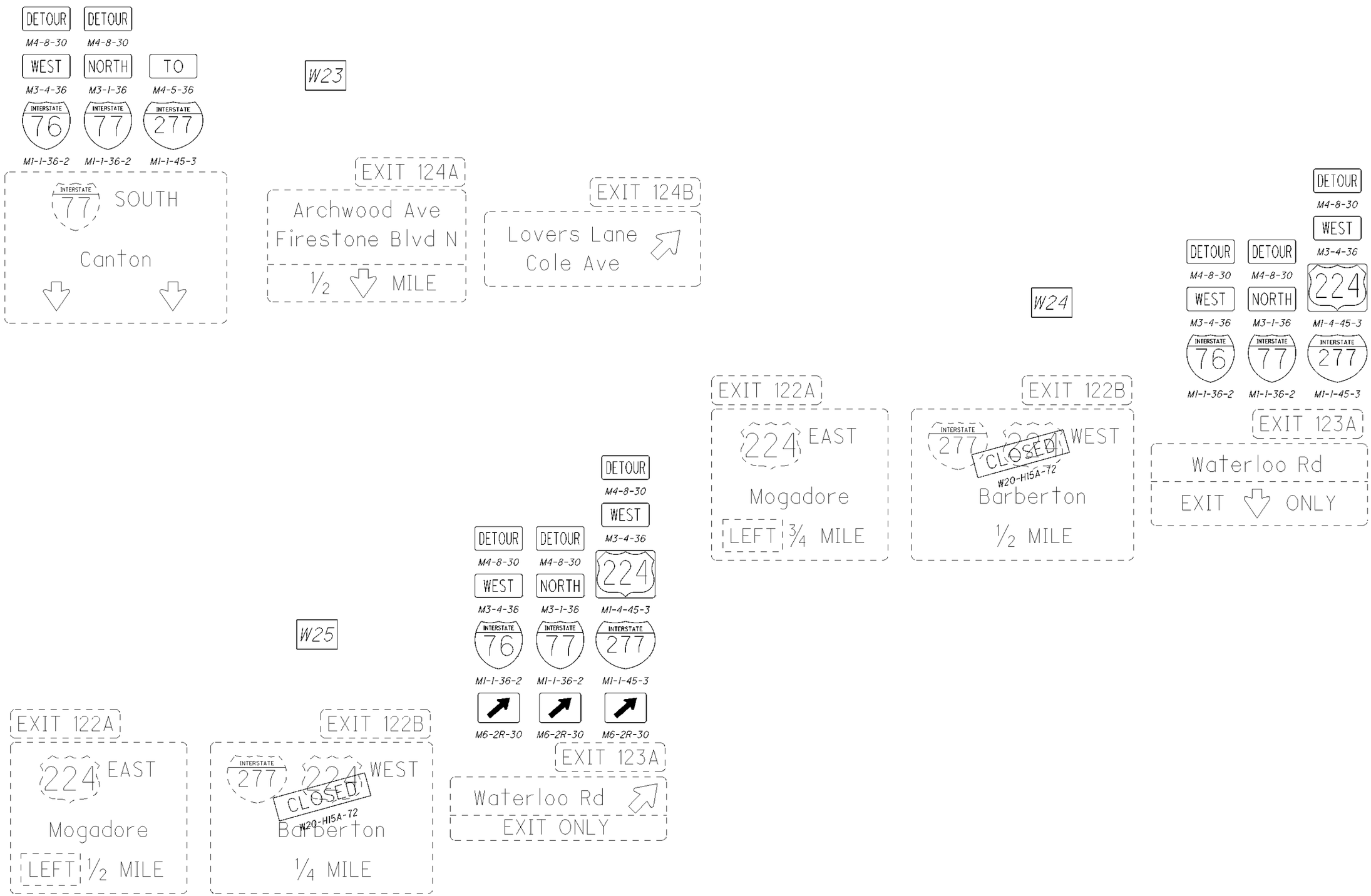

CALCULATED MJH
CHECKED LAB

DETOUR PLAN FOR CLOSURE OF IR-277 WESTBOUND

SUM-76/77/277/224-VAR.

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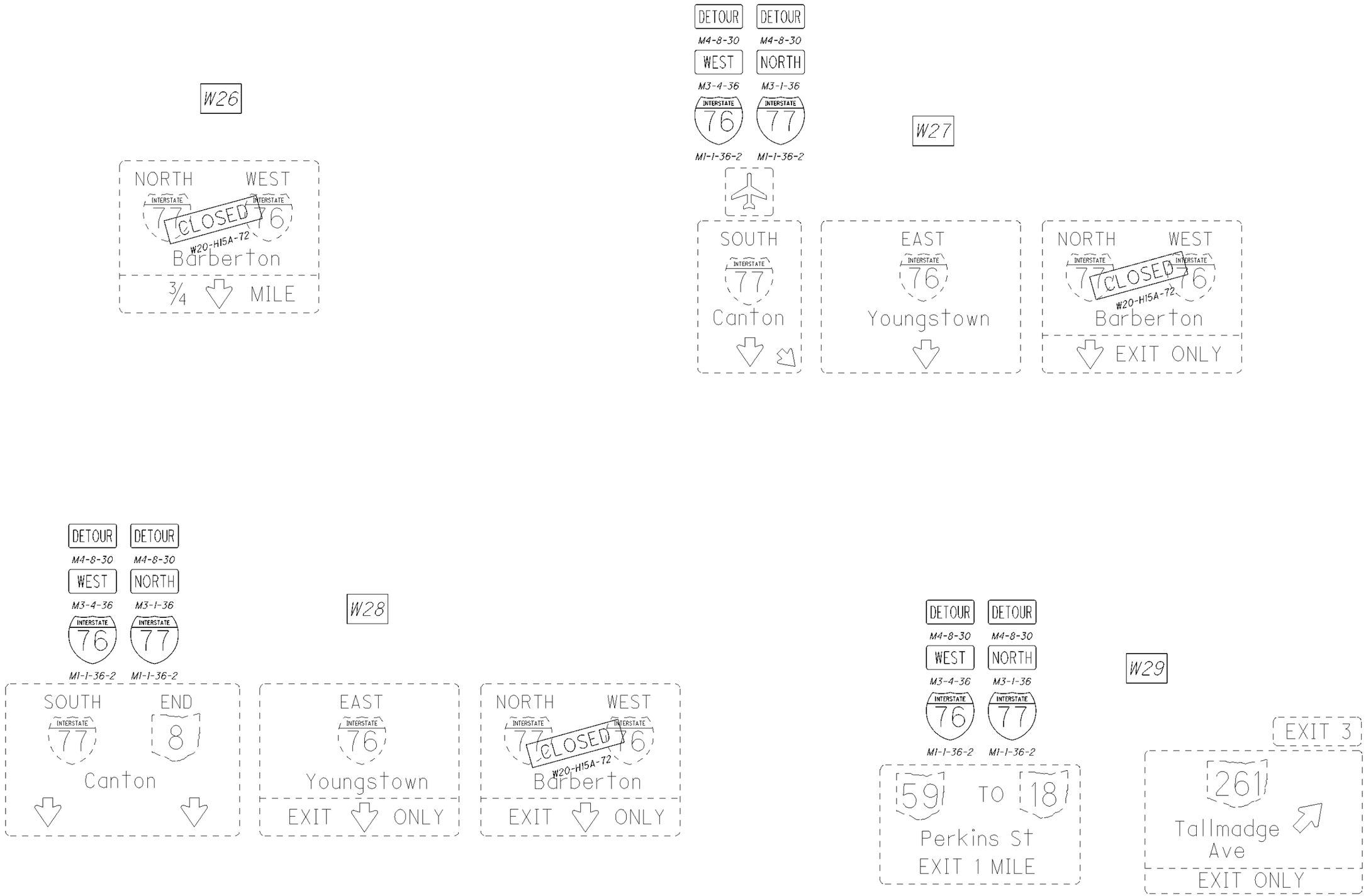

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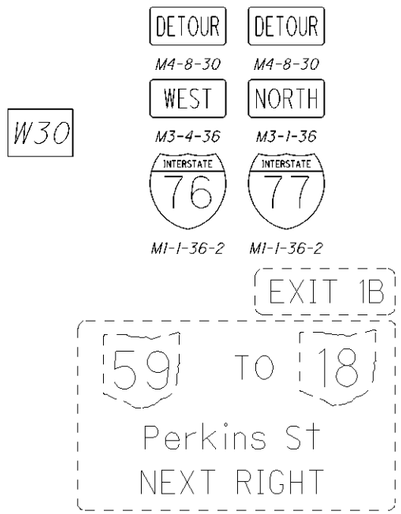
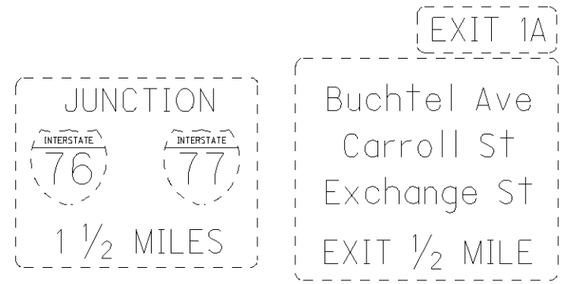
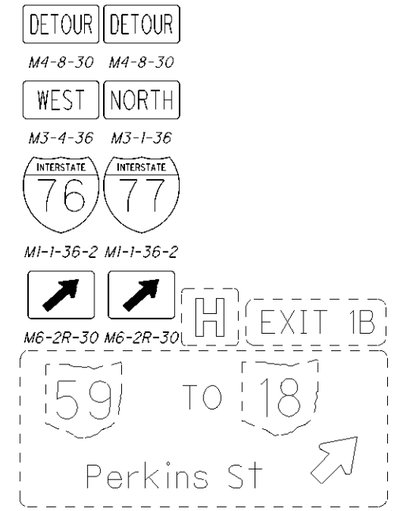
CALCULATED MJH
CHECKED LAB

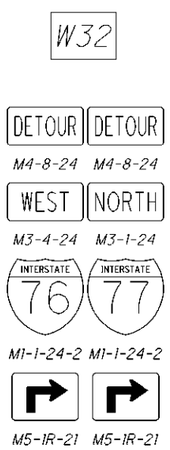
DETOUR PLAN FOR CLOSURE OF IR-277 WESTBOUND

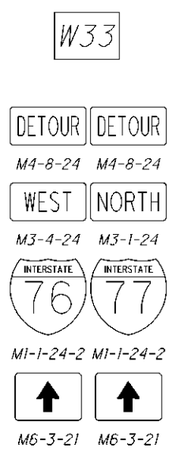
SUM-76/77/277/224-VAR.

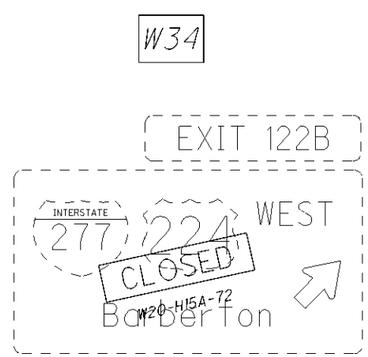


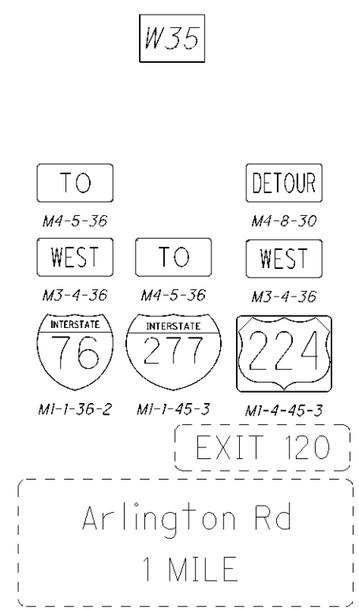












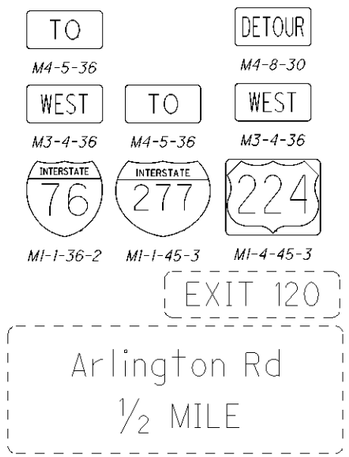
CALCULATED MJH
CHECKED LAB

DETOUR PLAN FOR CLOSURE OF IR-277 WESTBOUND

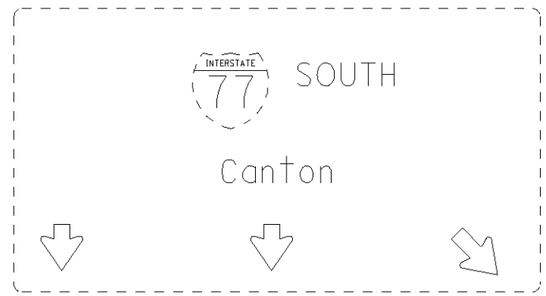
SUM-76/77/277/224-VAR.

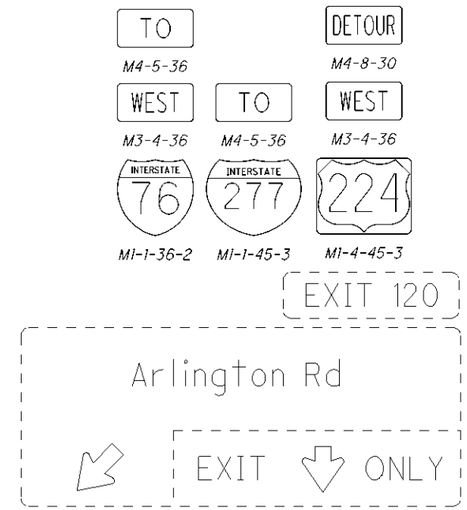
I:\Projects\SUM\76351_76_0599var\76351roadway\sheets\76351MD201.dgn 02-SEP-2011 10:26AM tpowell2

W36

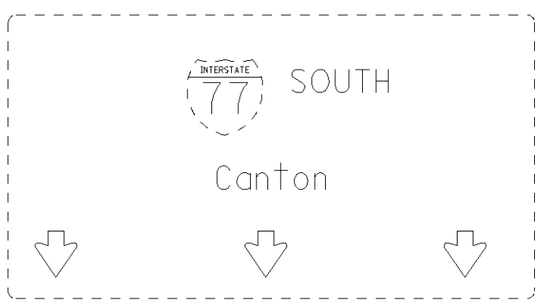


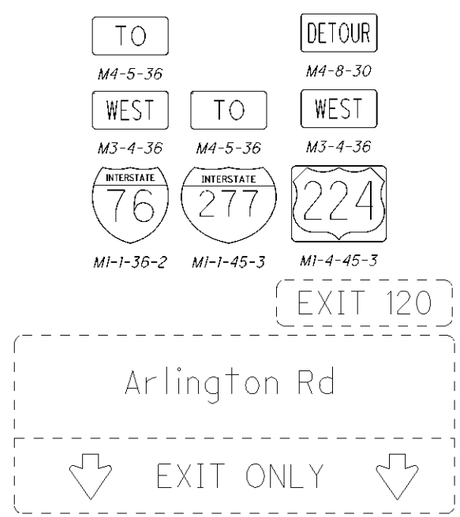
W37





W38





CALCULATED MJH
CHECKED LAB

DETOUR PLAN FOR CLOSURE OF IR-277 WESTBOUND

SUM-76/77/277/224-VAR.

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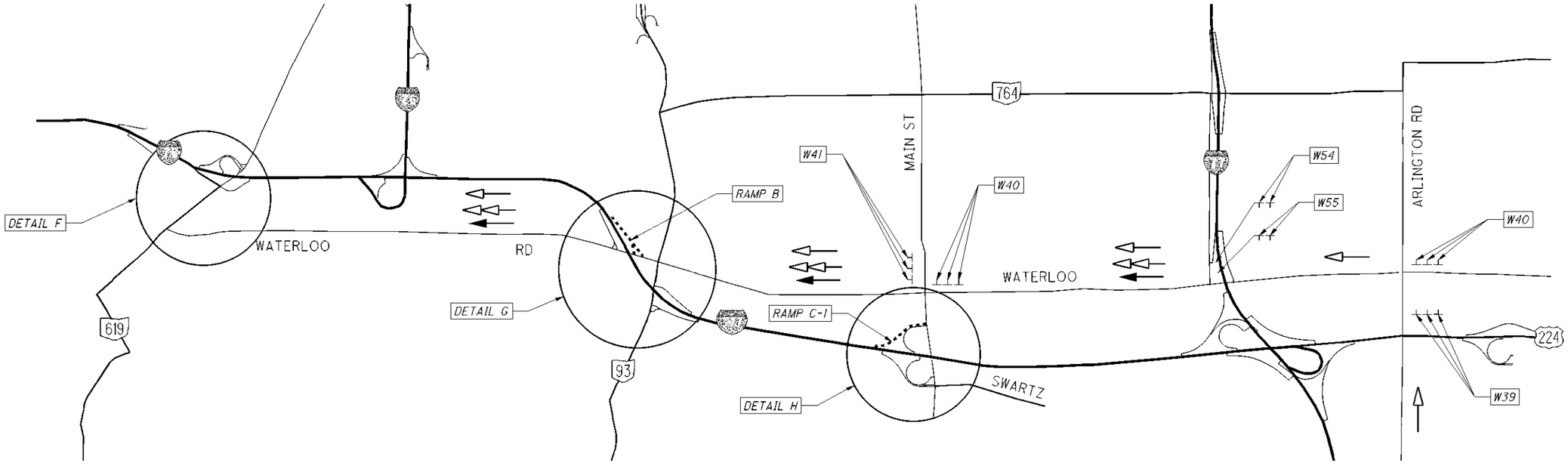
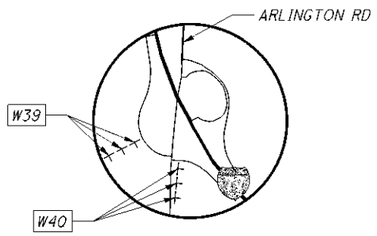


WATERLOO RD DETAIL

SEE SHEET 24

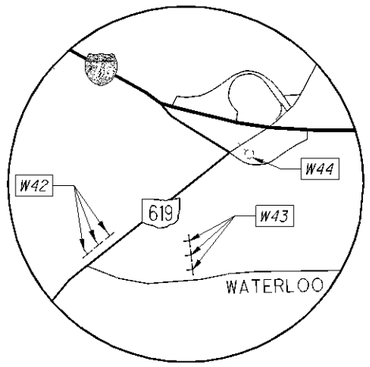
CLOSE RAMPS

NOT TO SCALE



DETAIL E

SEE SHEET 24



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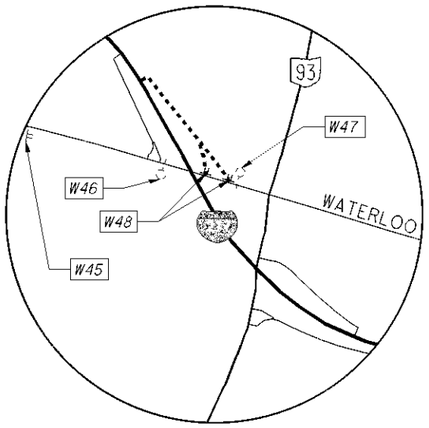
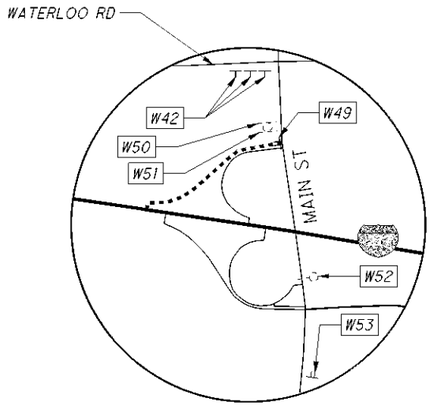


DETAIL G



DETAIL H

CALCULATED MJH
CHECKED LAB

DETOUR PLAN FOR CLOSURE OF IR-277 WESTBOUND

SUM-76/77/277/224-VAR.

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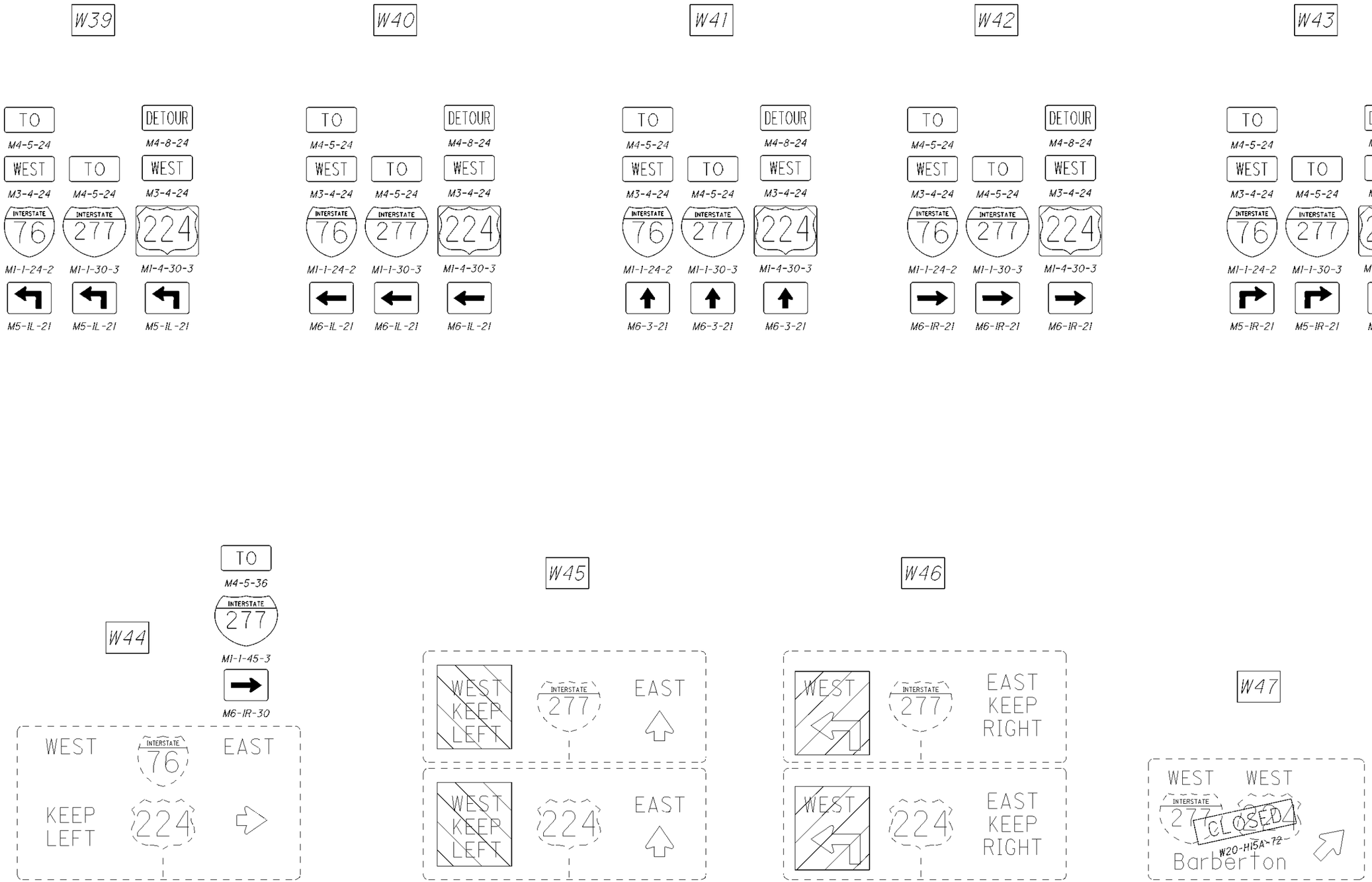

CALCULATED MJH
CHECKED LAB

DETOUR PLAN FOR CLOSURE OF IR-277 WESTBOUND

SUM-76/77/277/224-VAR.

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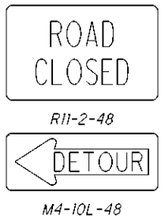
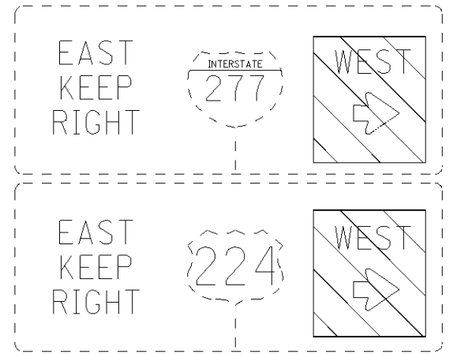
W48 #



W49 #

ON TYPE III BARRICADE

W50



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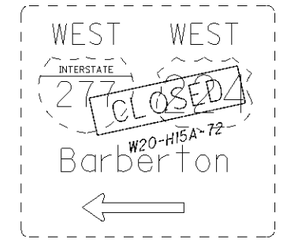

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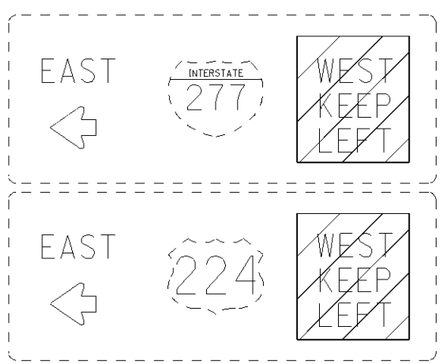

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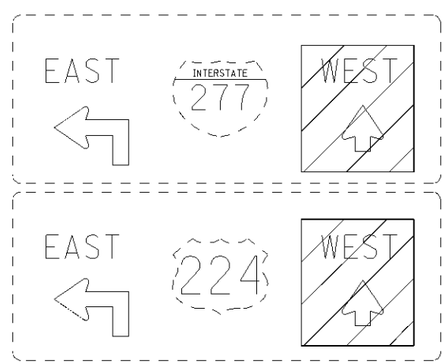

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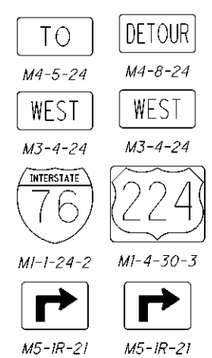

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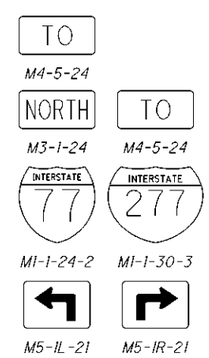

CALCULATED MJH
CHECKED LAB

DETOUR PLAN FOR CLOSURE OF IR-277 WESTBOUND

SUM-76/77/277/224-VAR.

I:\Projects\SUM\76351_76_0599var\76351roadway\sheets\76351MD201.dgn 02-SEP-2011 10:26AM tpowell2

SHEET NUMBER							PARTICIPATION				ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
5	39	40	41	42	43				SUM-002	SUM-003	IM	NHS				
															ROADWAY	
											LUMP		201	11000	LUMP	CLEARING AND GRUBBING (SUM-76/77/277/224-VAR.)	
									LUMP				201	11000	LUMP	CLEARING AND GRUBBING (SUM-277-(3.18)(3.28)	
										LUMP			201	11000	LUMP	CLEARING AND GRUBBING (SUM-277-3.31)	
	937	1505									904	1538	202	23500	2442	SQ YD	WEARING COURSE REMOVED	
				56						56			202	23900	56	SQ YD	CONCRETE BASE REMOVED	
420											420		202	32000	420	FT	CURB REMOVED	
				220	37				37	220			202	35100	257	FT	PIPE REMOVED, 24" AND UNDER	
			32300								29850	2450	202	38000	32300	FT	GUARDRAIL REMOVED	
				90	20				20	90			203	10000	110	CU YD	EXCAVATION	
2310											1848	462	203	10000	2310	CU YD	EXCAVATION (FOR PAVEMENT REPAIR)	
				90	20				20	90			203	20000	110	CU YD	EMBANKMENT	
			324								300	24	209	60201	324	STATION	LINEAR GRADING, AS PER PLAN	5
			30112.5								28087.5	2025	606	13000	30112.5	FT	GUARDRAIL, TYPE 5	
			4								1	3	606	26000	4	EACH	ANCHOR ASSEMBLY, TYPE B	
			36								31	5	606	26100	36	EACH	ANCHOR ASSEMBLY, TYPE E	
			23								19	4	606	26500	23	EACH	ANCHOR ASSEMBLY, TYPE T	
			33								26	7	606	35000	33	EACH	BRIDGE TERMINAL ASSEMBLY, TYPE 1	
			16								14	2	606	35100	16	EACH	BRIDGE TERMINAL ASSEMBLY, TYPE 2	
5											4	1	SPEC	69098000	5	EACH	MISC.: VERTICAL CLEARANCE	5
															EROSION CONTROL	
					7				7				601	21050	7	SQ YD	TIED CONCRETE BLOCK MAT, TYPE 1	
37											37		601	32201	37	CU YD	ROCK CHANNEL PROTECTION, TYPE C WITH FILTER, AS PER PLAN	5
				3						3			601	32204	3	CU YD	ROCK CHANNEL PROTECTION, TYPE C WITH FABRIC FILTER	
1364											1091.2	272.8	659	10000	1364	SQ YD	SEEDING AND MULCHING	
68											54.4	13.6	659	14000	68	SQ YD	REPAIR SEEDING AND MULCHING	
0.18											0.144	0.036	659	20000	0.18	TON	COMMERCIAL FERTILIZER	
0.28											0.224	0.056	659	31000	0.28	ACRE	LIME	
7											5.6	1.4	659	35000	7	M GAL	WATER	
											12000	3000	832	30000	15000	EACH	EROSION CONTROL	
															DRAINAGE	
				0.6						0.6			602	20000	0.6	CU YD	CONCRETE MASONRY	
					25				25				603	00510	25	FT	6" CONDUIT, TYPE F FOR UNDERDRAIN OUTLETS	
				128						128			603	05900	128	FT	15" CONDUIT, TYPE B	
				92						92			603	06700	92	FT	15" CONDUIT, TYPE F	
21											21		604	20801	21	EACH	INLET RECONSTRUCTED TO GRADE, AS PER PLAN	5
					1				1				604	36600	1	EACH	PRECAST REINFORCED CONCRETE OUTLET	
					12				12				605	11100	12	FT	6" SHALLOW PIPE UNDERDRAINS	
															PAVEMENT	
382											382		254	01000	382	SQ YD	PAVEMENT PLANING, ASPHALT CONCRETE	
	66124	16936									18333	64727	254	01001	83060	SQ YD	PAVEMENT PLANING, ASPHALT CONCRETE, AS PER PLAN (T=3 3/4")	4
	216432	44345									260777		254	01001	260777	SQ YD	PAVEMENT PLANING, ASPHALT CONCRETE, AS PER PLAN (T=5 1/2")	4
13860											11088	2772	255	10150	13860	SQ YD	FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS MS	
41580											33264	8316	255	20000	41580	FT	FULL DEPTH PAVEMENT SAWING	
	18036	3696		5	3				3	5	21732		301	46000	21740	CU YD	ASPHALT CONCRETE BASE, PG64-22	
2310											1848	462	304	20000	2310	CU YD	AGGREGATE BASE	
				15	3				3	15			304	20001	18	CU YD	AGGREGATE BASE, AS PER PLAN	42,43
	42384	9193									41868	9709	407	13900	51577	GALLON	TACK COAT, 702.13	
	19960	4795									21695	3060	407	14000	24755	GALLON	TACK COAT FOR INTERMEDIATE COURSE	
	11774	3147									11734	3187	442	10050	14921	CU YD	ASPHALT CONCRETE SURFACE COURSE, 12.5MM, TYPE B (446)	
	13736	3671									13688	3719	442	10150	17407	CU YD	ASPHALT CONCRETE INTERMEDIATE COURSE, 19MM, TYPE B (446)	
			923								882	41	448	46061	923	CU YD	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, UNDER GUARDRAIL, PG64-22, AS PER PLAN	5
32											32		448	47020	32	CU YD	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG64-22	
				56						56			451	15000	56	SQ YD	10" REINFORCED CONCRETE PAVEMENT	
420											420		609	26000	420	FT	CURB, TYPE 6	
	260	185									315	130	617	10101	445	CU YD	COMPACTED AGGREGATE, AS PER PLAN	4
	10										8	2	618	40600	10	MILE	RUMBLE STRIPS, (ASPHALT CONCRETE)	

CALCULATED RCB
CHECKED TJP

GENERAL SUMMARY

SUM-76/77/277/224-VAR.

\\D04FS002\idrive\Projects\SUM\76351_76_0599var\76351\roadway\sheets\76351GG001.dgn 07-NOV-2011 14:07PM tpowell2

SHEET NUMBER									PART.				ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
	5	7	9	10	41		44	45	46	SUM-002	SUM-003	IM	NHS					
																	TRAFFIC CONTROL	
							66					50	16	621	10010	66	EACH	RPM, LOW PROFILE, WHITE
							1000					820	180	621	10020	1000	EACH	RPM, LOW PROFILE WHITE/RED
							178					120	58	621	10030	178	EACH	RPM, LOW PROFILE YELLOW/RED
							1208					961	247	621	54000	1208	EACH	RAISED PAVEMENT MARKER REMOVED
					396							360	36	626	00100	396	EACH	BARRIER REFLECTOR
								44.1				38.53	5.57	646	10000	44.1	MILE	EDGE LINE
								22.04				19.03	3.01	646	10100	22.04	MILE	LANE LINE
								11060	13953			21443	3570	646	10300	25013	FT	CHANNELIZING LINE
								76	76			76	76	646	10400	152	FT	STOP LINE
								385	3283			3528	140	646	10600	3668	FT	TRANSVERSE/DIAGONAL LINE
								2					2	646	20300	2	EACH	LANE ARROW
																	STRUCTURES	
	50											40	10	511	81100	50	FT	CONCRETE, MISC.: BARRIER WALL REPAIR
																		FOR STRUCTURE ESTIMATED QUANTITIES
																	MAINTENANCE OF TRAFFIC	
				300								240	60	614	11110	300	HOUR	LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE
				2								2		614	12336	2	EACH	WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL)
												LUMP		614	12420	LUMP		DETOUR SIGNING
		100										80	20	614	13000	100	CU YD	ASPHALT CONCRETE FOR MAINTAINING TRAFFIC
				34								34		614	13300	34	EACH	BARRIER REFLECTOR, TYPE B
				34								34		614	13350	34	EACH	OBJECT MARKER, ONE WAY
				320								256	64	614	18401	320	DAY	PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN
			0.96									0.768	0.192	614	20000	0.96	MILE	WORK ZONE LANE LINE, CLASS I
			2.66	0.76								2.736	0.684	614	22000	3.42	MILE	WORK ZONE EDGE LINE, CLASS I
			11669									9335.2	2333.8	614	23000	11669	FT	WORK ZONE CHANNELIZING LINE, CLASS I
				1700								1700		622	40020	1700	FT	PORTABLE CONCRETE BARRIER, 32"
				680								680		SPEC	69013000	680	FT	RUMBLE STRIPS
														614	11000	LUMP		MAINTAINING TRAFFIC
												18		619	16020	18	MONTH	FIELD OFFICE, TYPE C
														623	10000	LUMP		CONSTRUCTION LAYOUT STAKES
														624	10000	LUMP		MOBILIZATION

CALCULATED RCB
CHECKED TJP

GENERAL SUMMARY

SUM-76/77/277/224-VAR.

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SLM RANGE			TYPICAL SECTION	SIDE	DISTANCE (D)	AVERAGE WIDTH (W)	SURFACE AREA (A) A=DxW/9	CADD GENERATED AREA (A)	202 WEARING COURSE REMOVED W(35x1.5)/9	254 PAVEMENT PLANING, ASPHALT CONCRETE, AS PER PLAN (T=3 3/4") A	254 PAVEMENT PLANING, ASPHALT CONCRETE, AS PER PLAN (T=5 1/2") A	301 ASPHALT CONCRETE BASE, PG64-22 (T=3") (3xA)/36	407 TACK COAT, 702.13 0.15xA	407 TACK COAT FOR INTERMEDIATE COURSE 0.04xAx #layers		442 ASPHALT CONCRETE SURFACE COURSE, 12.5MM, TYPE B (446) (T=1 1/2") (1.5xA)/36	442 ASPHALT CONCRETE INTERMEDIATE COURSE, 19MM, TYPE B (446) (T=1 3/4") (1.75xA)/36	617 COMPACTED AGGREGATE, AS PER PLAN (#sides x2x2xD)/(12x27)	618 RUMBLE STRIPS, (ASPHALT CONCRETE) (#sides xD)/5280
					FT	FT	SQ YD	SQ YD	SQ YD	SQ YD	SQ YD	CU YD	GALLON	GALLON		CU YD	CU YD	CU YD	MILE
I.R. 76																			
5.99	TO	6.16	76	EB	897.60	40.00	3989.33		233.33	3989.33			598.40	159.57		166.22	193.93	11.08	0.17
6.16		6.31	76	EB	792.00	40.00	3520.00				3520.00	293.33	528.00	281.60		146.67	171.11	9.78	0.15
I.R. 277																			
0.00		0.12	277	SB	633.60	40.00	2816.00				2816.00	234.67	422.40	225.28		117.33	136.89	7.82	0.12
0.12		0.89	277	SB	4065.60	52.25	23603.07				23603.07	1966.92	3540.46	1888.25		983.46	1147.37	50.19	0.77
0.92		1.13	277	SB	1108.80	52.25	6437.20				6437.20	536.43	965.58	514.98		268.22	312.92	13.69	0.21
1.18		1.33	277	SB	792.00	52.25	4598.00				4598.00	383.17	689.70	367.84		191.58	223.51	9.78	0.15
1.38		1.75	277	SB	1953.60	52.25	11341.73				11341.73	945.14	1701.26	907.34		472.57	551.33	24.12	0.37
1.79		3.04	277	SB	6600.00	52.25	38316.67				38316.67	3193.06	5747.50	3065.33		1596.53	1862.62	81.48	1.25
3.07		3.41	277	SB	1795.20	52.25	10422.13				10422.13	868.51	1563.32	833.77		434.26	506.63	22.16	0.34
3.41		3.62	277	SB	1108.80	40.25	4958.80				4958.80	413.23	743.82	396.70		206.62	241.05	13.69	0.21
3.62		3.69	277	SB	369.60	52.25	2145.73				2145.73	178.81	321.86	171.66		89.41	104.31	4.56	0.07
3.80		3.91	277	SB	580.80	52.25	3371.87			3371.87			505.78	134.87		140.49	163.91	7.17	0.11
U.S. 224																			
10.22		10.61	224	EB	2059.20	40.25	9209.20			9209.20			1381.38	368.37		383.72	447.67	25.42	0.39
10.64		11.24	224	EB	3168.00	40.25	14168.00		234.79	14168.00			2125.20	566.72		590.33	688.72	39.11	0.60
I.R. 76																			
5.99		6.16	76	WB	897.60	40.00	3989.33		233.33	3989.33			598.40	159.57		166.22	193.93	11.08	0.17
6.16		6.31	76	WB	792.00	40.00	3520.00				3520.00	293.33	528.00	281.60		146.67	171.11	9.78	0.15
I.R. 277																			
0.00		0.31	277	NB	1636.80	40.00	7274.67				7274.67	606.22	1091.20	581.97		303.11	353.63	20.21	0.31
0.31		0.89	277	NB	3062.40	52.25	17778.93				17778.93	1481.58	2666.84	1422.31		740.79	864.25	37.81	0.58
0.92		1.13	277	NB	1108.80	52.25	6437.20				6437.20	536.43	965.58	514.98		268.22	312.92	13.69	0.21
1.18		1.33	277	NB	792.00	52.25	4598.00				4598.00	383.17	689.70	367.84		191.58	223.51	9.78	0.15
1.38		1.75	277	NB	1953.60	52.25	11341.73				11341.73	945.14	1701.26	907.34		472.57	551.33	24.12	0.37
1.79		3.04	277	NB	6600.00	52.25	38316.67				38316.67	3193.06	5747.50	3065.33		1596.53	1862.62	81.48	1.25
3.07		3.69	277	NB	3273.60	52.25	19005.07				19005.07	1583.76	2850.76	1520.41		791.88	923.86	40.41	0.62
3.80		3.91	277	NB	580.80	52.25	3371.87			3371.87			505.78	134.87		140.49	163.91	7.17	0.11
U.S. 224																			
10.22		10.61	224	WB	2059.20	52.25	11954.80			11954.80			1793.22	478.19		498.12	581.14	25.42	0.39
10.64		10.91	224	WB	1425.60	52.25	8276.40			8276.40			1241.46	331.06		344.85	402.32	17.60	0.27
10.91		11.24	224	WB	1742.40	40.25	7792.40		234.79	7792.40			1168.86	311.70		324.68	378.80	21.51	0.33
DEDUCT FOR GUARDRAIL SECTIONS					30837.00													-380.70	
								SUBTOTALS	936.25	66123.20	216431.60	18035.97	42383.22	19959.46	0.00	11773.12	13735.30	259.41	9.82
								TOTALS CARRIED TO GENERAL SUMMARY	937	66124	216432	18036	42384	19960	0	11774	13736	260	10

CALCULATED RCB
CHECKED TJP

ASPHALT CONCRETE

IR 76, IR 77, IR 277 & US 224

SUM-76/77/277/224-VAR.

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LOCATION	TYPICAL SECTION	SIDE	DISTANCE (D)	AVERAGE WIDTH (W)	SURFACE AREA (A) A=DxW/9	CADD GENERATED AREA (A)	202 WEARING COURSE REMOVED	254 PAVEMENT PLANING, ASPHALT CONCRETE, AS PER PLAN (T=3 3/4") A	254 PAVEMENT PLANING, ASPHALT CONCRETE, AS PER PLAN (T=5 1/2") A	301 ASPHALT CONCRETE BASE, PG64-22 (T=3") (3xA)/36	407 TACK COAT, 702.13 0.15xA	407 TACK COAT FOR INTERMEDIATE COURSE 0.04xAx #layers	408 PRIME COAT, AS PER PLAN (0.4x #sides x2xD)/9	442 ASPHALT CONCRETE SURFACE COURSE, 12.5MM, TYPE B (446) (T=1 1/2") (1.5xA)/36	442 ASPHALT CONCRETE INTERMEDIATE COURSE, 19MM, TYPE B (446) (T=1 3/4") (1.75xA)/36	617 COMPACTED AGGREGATE, AS PER PLAN (#sides x2x2xD)/(12x27)
			FT	FT	SQ YD	SQ YD	SQ YD	SQ YD	SQ YD	CU YD	GALLON	GALLON	GALLON	CU YD	CU YD	CU YD
76 DECEL "A" (& CADD GORE)		EB	1691.00	12.00	2254.67	379.17			2633.83	219.49	395.08	210.71		109.74	128.03	
76 "B" (GORE)		EB				866.67			866.67	72.22	130.00	69.33		36.11	42.13	
76 ACCEL "C" (& CADD GORE)		WB	1712.00	12.00	2282.67	666.67			2949.33	245.78	442.40	235.95		122.89	143.37	
76 "D" (GORE)		WB				400.00			400.00	33.33	60.00	32.00		16.67	19.44	
WATERLOO "A"(RAMP)		SB	967.00	22.00	2363.78	326.67			2690.44	224.20	403.57	215.24	0.00	112.10	130.79	11.94
WATERLOO DECEL "A"(&CADD GORE)		SB	578.00	12.00	770.67	141.56			912.22	76.02	136.83	72.98		38.01	44.34	
WATERLOO "B"(RAMP)		NB	1185.00	22.00	2896.67				2896.67	241.39	434.50	231.73	0.00	120.69	140.81	14.63
WATERLOO ACCEL "B"(&CADD GORE)		NB	550.00	8.00	488.89	390.00			878.89	73.24	131.83	70.31		36.62	42.72	
		NB	518.00	12.00	690.67				690.67	57.56	103.60	55.25		28.78	33.57	
93 "A"(RAMP & returns)		NB	846.00	22.00	2068.00	447.11			2515.11	209.59	377.27	201.21	0.00	104.80	122.26	10.44
93 DECEL "A"(& CADD GORE)		NB	720.00	12.00	960.00	237.50			1197.50	99.79	179.63	95.80		49.90	58.21	
93 "B"(RAMP & returns)		NB	1125.00	22.00	2750.00				2750.00	229.17	412.50	220.00	0.00	114.58	133.68	13.89
93 ACCEL "B"(& CADD GORE)		SB	421.00	6.00	280.67	408.89			689.56	57.46	103.43	55.16		28.73	33.52	
		SB	600.00	12.00	800.00				800.00	66.67	120.00	64.00		33.33	38.89	
MAIN "C"(RAMP)		NB	405.00	46.00	2070.00	390.00			2460.00	205.00	369.00	196.80	0.00	102.50	119.58	5.00
MAIN "C1"(RAMP)		NB	616.00	22.00	1505.78				1505.78	125.48	225.87	120.46	0.00	62.74	73.20	7.60
MAIN ACCEL "C1"(& GORE)		NB	1000.00	19.50	2166.67				2166.67	180.56	325.00	173.33		90.28	105.32	
MAIN "C2"(RAMP)		NB	518.00	22.00	1266.22				1266.22	105.52	189.93	101.30	0.00	52.76	61.55	6.40
MAIN DECEL "C2"(& CADD GORE)		NB	795.00	12.00	1060.00	236.39			1296.39	108.03	194.46	103.71		54.02	63.02	
MAIN "D"(RAMP)		SB	591.00	46.00	3020.67	346.67			3367.33	280.61	505.10	269.39	0.00	140.31	163.69	7.30
MAIN "D1"(RAMP)		SB	495.00	22.00	1210.00				1210.00	100.83	181.50	96.80	0.00	50.42	58.82	6.11
MAIN ACCEL "D1"(& GORE)		SB	900.00	20.50	2050.00				2050.00	170.83	307.50	164.00		85.42	99.65	
MAIN "D2"(RAMP)		SB	691.00	22.00	1689.11				1689.11	140.76	253.37	135.13	0.00	70.38	82.11	8.53
MAIN DECEL "D2"(& CADD GORE)		SB	775.00	12.00	1033.33	125.00			1158.33	96.53	173.75	92.67		48.26	56.31	
MAIN "D3"(RAMP)		SB	303.00	22.00	740.67				740.67	61.72	111.10	59.25	0.00	30.86	36.00	3.74
77 DECEL "A" (& CADD GORE)		EB	800.00	14.00	1244.44	383.33			1627.78	135.65	244.17	130.22		67.82	79.13	
77 "B" (GORE)		WB				646.67			646.67	53.89	97.00	51.73		26.94	31.44	
77 "B1" (GORE)		WB				288.89			288.89	24.07	43.33	23.11		12.04	14.04	
77 ACCEL "C" (& CADD GORE)		EB	913.00	12.00	1217.33	383.33	134.17	1600.67			240.10	112.72		117.42	136.99	
77 "C1" (GORE)		EB				404.44	163.33	404.44			60.67	16.18		16.85	19.66	
77 DECEL "D" (& CADD GORE)		WB	800.00	14.00	1244.44	360.00	140.00	1604.44			240.67	113.96		118.70	138.49	
KELLY "A"(RAMP & returns)		WB	907.00	22.00	2217.11	172.22	326.67	2389.33			358.40	184.26	161.24	191.94	223.92	22.40
KELLY "A"(GORE)		WB				611.11		611.11			91.67	24.44		25.46	29.71	
KELLY "B"(RAMP & returns)		EB	547.00	46.00	2795.78	111.11	262.50	2906.89			436.03	228.11	97.24	237.61	277.21	13.51
KELLY "B1"(RAMP)		EB	563.00	22.00	1376.22			1376.22			206.43	110.10	100.09	114.69	133.80	13.90
KELLY ACCEL "B1"(& CADD GORE)		EB	700.00	11.00	855.56			855.56			128.33	68.44		71.30	83.18	
KELLY "B2"(RAMP & GORE)		EB	621.00	22.00	1518.00	194.44		1712.44			256.87	129.22	110.40	134.60	157.04	15.33
KELLY "B3"(RAMP & GORE)		EB	350.00	22.00	855.56		128.33	855.56			128.33	68.44	62.22	71.30	83.18	8.64
KELLY "C"(RAMP & returns)		WB	620.00	22-30	1746.67	194.44	350.00	1941.11			291.17	147.51	110.22	153.66	179.27	15.31
KELLY ACCEL "C"(& CADD GORE)		WB	300.00	12.00	400.00	277.78		677.78			101.67	43.11		44.91	52.39	
SUBTOTALS							1505.00	16935.56	44344.72	3695.39	9192.04	4794.07	641.42	3146.12	3670.48	184.67
TOTALS CARRIED TO GENERAL SUMMARY							1505	16936	44345	3696	9193	4795	642	3147	3671	185

CALCULATED RCB
CHECKED TJP

ASPHALT CONCRETE

IR 76, IR 77, IR 277 & US 224 (RAMPS)

SUM-76/77/277/224-VAR.

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SLM		SIDE	202		203	209	301	448	606										622					626		COMMENTS
												ANCHOR ASSEMBLY,			BRIDGE TERMINAL ASSEMBLY,				CONCRETE BARRIER,					BARRIER REFLECTOR,		
			CONCRETE BARRIER REMOVED	GUARDRAIL REMOVED	EXCAVATION	LINEAR GRADING, AS PER PLAN	ASPHALT CONCRETE BASE, PG64-22	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, UNDER GUARDRAIL, PG64-22, AS PER PLAN #	GUARDRAIL, TYPE 5	GUARDRAIL, TYPE 5A	GUARDRAIL, BARRIER DESIGN, TYPE 5	TYPE B	TYPE E	TYPE T	TYPE 1	TYPE 2	BR-1	IMPACT ATTENUATOR, TYPE 1 (UNIDIRECTIONAL)	SINGLE SLOPE, TYPE D	TYPE A	END SECTION, TYPE D	END SECTION, TYPE D, REINFORCED	END ANCHOR, REINFORCED, TYPE D	TYPE A	TYPE B	
FROM	TO		FT	FT	CU YD	STATION	CU YD	CU YD	FT	FT	FT	EA	EA	EA	EA	EA	EA	EACH	FT	FT	EA	EA	EA	EA	EA	# 448 NOT USED IN CURB SECTIONS
5.98	6.07	RT		475		4.75		14.66	462.5					1		1								6		
6.00	6.08	LT		400		4		12.35	350				1		1									5		
6.11	6.14	RT		150		1.5		4.63	100				1		1									3		
6.16	6.19	LT		150		1.5		4.63	100				1		1									3		
6.26	6.30	RT		175		1.75		5.4	112.5				1	1										3		
0.15	0.17	RT		100		1		3.09	50				1		1									2		
0.20	0.23	LT		150		1.5		4.63	100				1		1									3		
0.35	0.39	LT		162.5		1.63		5.02	100				1	1										3		
0.44	0.48	RT		200		2		6.17	137.5				1	1										3		
0.74	0.89	RT		775		7.75		23.92	725				1		1									9		
0.79	0.90	LT		562.5		5.63		17.36	550					1		1								7		
0.92	RAMP A	RT		525		5.25		16.2	512.5					1		1								7		WATERLOO
0.92	RAMP B	LT		1012.5		10.13		31.25	962.5				1		1									12		WATERLOO
0.97	1.12	RT		775		7.75		23.92	725				1		1									9		
1.05	1.14	LT		462.5		4.63		14.27	450					1		1								6		
1.17	1.34	RT		850		8.5		26.23	850						1	1								10		
1.19	1.31	LT		625		6.25		19.29	625						1	1								8		
1.39	1.54	RT		762.5		7.63		23.53	750					1		1								9		
1.37	1.41	LT		175		1.75		5.4	125				1		1									3		
1.58	1.60	RT		100		1		#	50				1		1									2		
1.56	1.62	LT		300		3		#	287.5					1		1								4		
1.63	1.65	LT		87.5		0.88		#	37.5				1		1									2		
1.67	1.75	RT		375		3.75		11.57	325				1		1									5		
1.67	1.75	LT		400		4		12.35	387.5					1		1								5		
1.80	RAMP D	RT		3712.5		37.13		114.58	3700					1		1								39		MAIN
1.80	RAMPC	LT		3462.5		34.63		106.87	3412.5				1		1									36		MAIN
RAMP D2		LT		562.5		5.63		17.36	500				1	1										6		MAIN
RAMP D3	RAMP D1	RT		1525		15.25		42.81	1525						2									17		# MAIN (STR. SUM-277-0246[SW])
RAMP D1		LT		375		3.75		11.57	312.5				1	1										4		MAIN
RAMP C		RT		162.5		7.13		16.98	662.5				1		1									8		# COMBINE
MAIN		NW		487.5																						MAIN (STR. SUM-277-0246[NW])
MAIN		NE		487.5		4.88		#	437.5				1		1									5		MAIN (STR. SUM-277-0246[NE])
MAIN		SE		75		0.75		#	37.5			1			1									1		MAIN (STR. SUM-277-0246[SE])
2.34	2.38	LT		200		2		6.17	137.5				1	1										3		
2.49	2.51	LT		100		1		3.09	50				1		1									2		
2.68	2.71	LT		150		1.5		4.63	87.5				1	1										3		
2.88	3.05	LT		850		8.5		26.23	837.5					1		1								10		
2.91	3.04	RT		662.5		6.63		20.45	612.5				1		1									8		
3.07	3.34	RT		1400		14		43.21	1387.5					1		1								15		
3.07	3.43	LT		1850		18.5		57.1	1800				1		1									20		
3.45	3.49	RT		200		2		6.17	137.5				1	1										3		
3.58	RAMP A	RT		362.5		3.63		11.19	312.5				1											5		IR 77
3.66	3.74	RT		412.5		4.13		12.73	362.5				1		1									6		
RAMP B1	3.73	LT		337.5		3.38		10.42	337.5							1								5		IR 77
3.83	3.94	LT		550		5.5		16.98	500				1		1									7		
3.85	RAMP C1	RT		325		3.25		10.03	325							1								5		IR 77
10.25	10.35	RT		487.5		4.88		15.05	425				1	1										6		
RAMP D	10.38	LT		450		4.5		13.89	400				1											6		IR 77
RAMP C	10.61	RT		912.5		9.13		28.16	912.5						1									11		IR 77
10.46	10.49	LT		137.5		1.38		4.24	75				1	1										3		
10.58	10.61	LT		112.5		1.13		3.47	100					1		1								3		
10.65	10.86	RT		1087.5		10.88		33.56	1075					1		1								12		
10.65	10.69	LT		175		1.75		#	125				1		1									3		
11.01	11.07	RT		287.5		2.88		#	237.5				1		1									4		
11.08	11.11	LT		112.5		1.13		#	62.5				1		1									3		
KELLY		NW		100		1		#	62.5			1			1									1		KELLY (STR. SUM-224-1105[NW])
KELLY		SW		125		1.25		#	87.5			1			1									2		KELLY (STR. SUM-224-1105[SW])
KELLY		NE		87.5		0.75		#	37.5			1			1									1		KELLY (STR. SUM-224-1105[NE]) SHORTEN BY 1 PANEL
KELLY		SE		62.5		0.63		#	62.5						1									1		KELLY (STR. SUM-224-1105[SE])
11.21	11.25	LT		162.5		1.63		#	100				1	1										3		
TO GENERAL SUMMARY			0	32300.0	0	324	0	923	30112.5	0	0	4	36	23	33	16	0	0	0	0	0	0	0	396	0	

CALCULATED RCB
CHECKED TJP

GUARDRAIL SUBSUMMARY
IR 76, IR 77, IR 277 & US 224

SUM-76/77/277/224-VAR.

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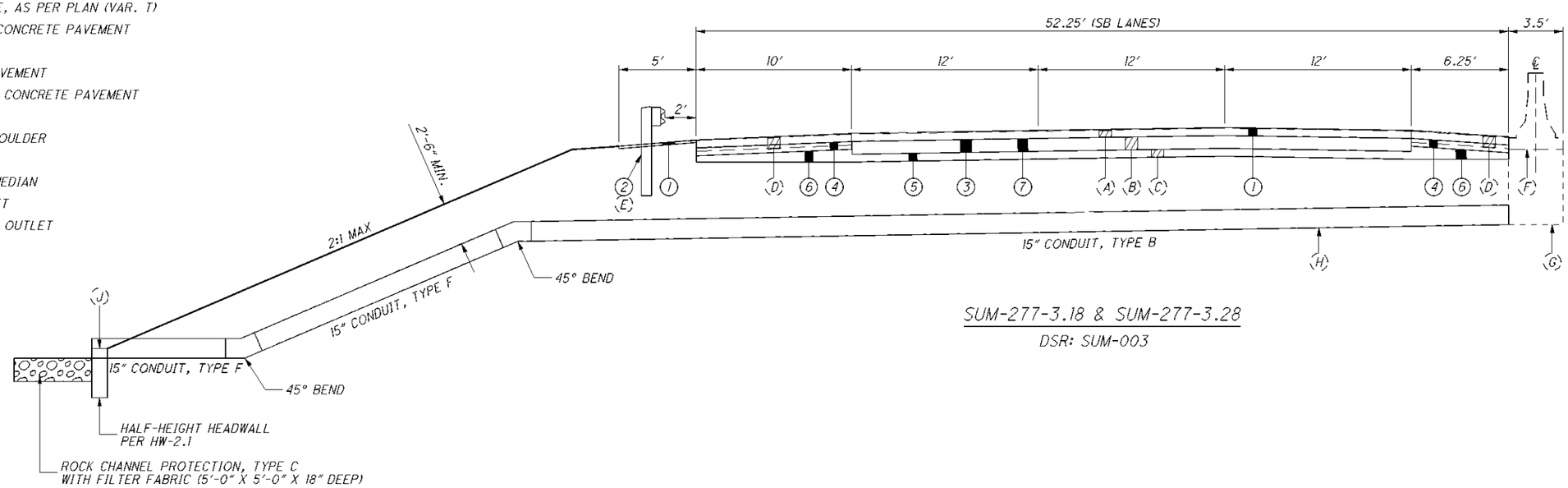
LEGEND

1. SEE RESURFACING TYPICAL SECTION
2. SEE GUARDRAIL SUBSUMMARY
3. 202, CONCRETE BASE REMOVED
4. 301, ASPHALT CONCRETE BASE, PG64-22 (T=6")
5. 304, AGGREGATE BASE, AS PER PLAN (T =6")
6. 304, AGGREGATE BASE, AS PER PLAN (VAR. T)
7. 451, 10" REINFORCED CONCRETE PAVEMENT

(A) EXISTING ASPHALT PAVEMENT
(B) EXISTING REINFORCED CONCRETE PAVEMENT
(C) EXISTING SUBBASE
(D) EXISTING ASPHALT SHOULDER
(E) EXISTING GUARDRAIL
(F) EXISTING CONCRETE MEDIAN
(G) EXISTING MEDIAN INLET
(H) EXISTING 15" CONDUIT OUTLET
(J) EXISTING HEADWALL



SUM-277-3.18 & SUM-277-3.28

DSR: SUM-003

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.

CONDUIT BENDS AND BRANCHES

ALL NECESSARY BENDS OR BRANCHES REQUIRED FOR CONNECTION ARE INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 603 CONDUIT ITEM.

ITEM 304 - AGGREGATE BASE, AS PER PLAN

GRANULATED SLAG (GS) SHALL NOT BE PERMITTED FOR THIS ITEM. ALL OTHER REQUIREMENTS OF SECTIONS 304 AND 703.17 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS SHALL STILL BE APPLICABLE.

PAVEMENT RESTORATION FOR PIPE INSTALLATIONS AND REMOVALS

THE FOLLOWING QUANTITIES BELOW HAVE BEEN PROVIDED FOR PAVEMENT RESTORATION FOLLOWING INSTALLATION AND REMOVAL OF PIPES.

A PAVEMENT RESTORATION WIDTH OF 7 FT IS TO BE USED WHICH INCLUDES THE TRENCH WIDTH PLUS TWO FEET ON EACH SIDE OF THE TRENCH. SEE STANDARD CONSTRUCTION DRAWING DM-1.4 FOR TRENCH WIDTH FORMULA AND CALCULATION.

PROVIDE ANY MATERIALS USED OUTSIDE THE LIMITS STATED ABOVE AT NO ADDITIONAL COST.

LOCATION	201 CLEARING AND GRUBBING (SLM: 3.18)	201 CLEARING AND GRUBBING (SLM: 3.28)	202 CONCRETE BASE REMOVED	202 PIPE REMOVED, 24" AND UNDER	203 EXCAVATION	203 EMBANKMENT	301 ASPHALT CONCRETE BASE, PG64-22 (T=6")	304 AGGREGATE BASE, AS PER PLAN (T=6")	304 AGGREGATE BASE, AS PER PLAN (T=VAR)	451 10" REINFORCED CONCRETE PAVEMENT	601 ROCK CHANNEL PROTECTION, TYPE C WITH FABRIC FILTER	602 CONCRETE MASONRY	603 15" CONDUIT, TYPE B	603 15" CONDUIT, TYPE F									
	LUMP	LUMP	SQ YD	FT	CU YD	CU YD	CU YD	CU YD	CU YD	SQ YD	CU YD	CU YD	FT	FT									
SR277 (SOUTHBOUND) - SLM: 3.18	LUMP		28	104	40	40	2.11	4.67	2.11	28	1.39	0.27	64	40									
SR277 (SOUTHBOUND) - SLM: 3.28		LUMP	28	116	50	50	2.11	4.67	2.11	28	1.39	0.27	64	52									
TOTALS CARRIED TO GENERAL SUMMARY	LUMP	LUMP	56	220	90	90	5	10	5	56	3	0.6	128	92	0	0	0	0	0	0	0	0	0

DRAINAGE REPAIRS

SUM-76/77/277/224-VAR.

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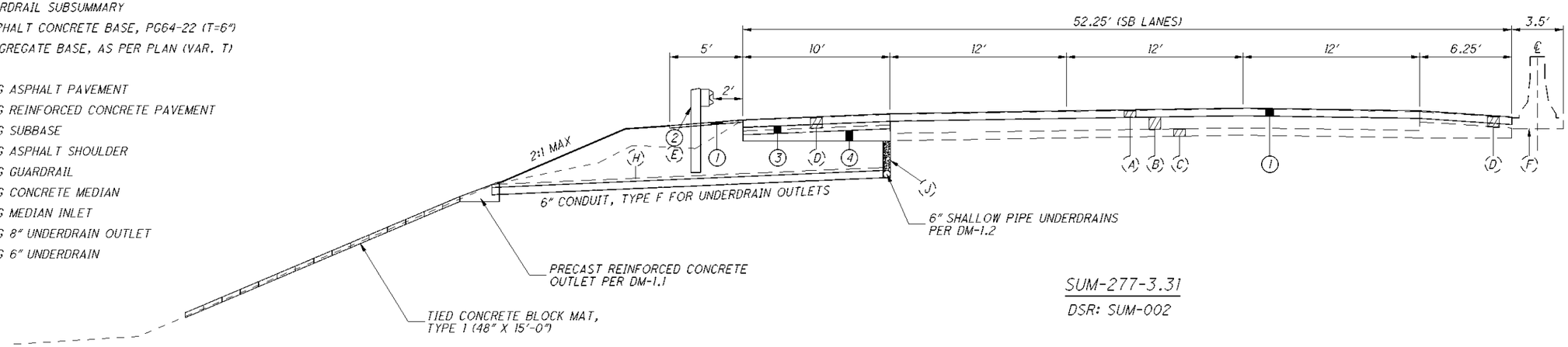
LEGEND

1. SEE RESURFACING TYPICAL SECTION
2. SEE GUARDRAIL SUBSUMMARY
3. 301, ASPHALT CONCRETE BASE, PG64-22 (T=6")
4. 304, AGGREGATE BASE, AS PER PLAN (VAR. T)

- (A) EXISTING ASPHALT PAVEMENT
- (B) EXISTING REINFORCED CONCRETE PAVEMENT
- (C) EXISTING SUBBASE
- (D) EXISTING ASPHALT SHOULDER
- (E) EXISTING GUARDRAIL
- (F) EXISTING CONCRETE MEDIAN
- (G) EXISTING MEDIAN INLET
- (H) EXISTING 8" UNDERDRAIN OUTLET
- (J) EXISTING 6" UNDERDRAIN



SUM-277-3.31

DSR: SUM-002

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.

ITEM 304 - AGGREGATE BASE, AS PER PLAN

GRANULATED SLAG (GS) SHALL NOT BE PERMITTED FOR THIS ITEM. ALL OTHER REQUIREMENTS OF SECTIONS 304 AND 703.17 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS SHALL STILL BE APPLICABLE.

UNDERDRAINS

PROVIDE AN OUTLET PER STANDARD CONSTRUCTION DRAWING DM-1.1 AT SLM: 3.31 THAT OUTLETS TO THE SLOPE.

EXISTING UNDERDRAINS WILL BE CONNECTED TO THE NEW UNDERDRAINS PLACED UNDER THE SHOULDER RE-CONSTRUCTION. ALL NECESSARY BENDS OR BRANCHES REQUIRED FOR CONNECTION ARE INCLUDED IN THE BASIS OF PAYMENT FOR SHALLOW PIPE UNDERDRAINS.

THE EROSION CONTROL PAD AND ANIMAL GUARD WILL BE INCLUDED IN THE UNIT BID PRICE FOR ITEM 603, 6" CONDUIT, TYPE F FOR UNDERDRAIN OUTLETS.

SHOULDER RESTORATION FOR UNDERDRAIN INSTALLATIONS AND REMOVALS

THE FOLLOWING QUANTITIES BELOW HAVE BEEN PROVIDED FOR SHOULDER RESTORATION FOLLOWING INSTALLATION AND REMOVAL OF UNDERDRAINS AND UNDERDRAIN OUTLET.

A SHOULDER RESTORATION WIDTH OF 12 FT IS TO BE USED WHICH INCLUDES THE TRENCH WIDTH PLUS FIVE FEET ON EACH SIDE OF THE TRENCH. SEE STANDARD CONSTRUCTION DRAWING DM-1.4 FOR TRENCH WIDTH FORMULA AND CALCULATION.

PROVIDE ANY MATERIALS USED OUTSIDE THE LIMITS STATED ABOVE AT NO ADDITIONAL COST.

LOCATION	201 CLEARING AND GRUBBING (SLM: 3.31)	202 PIPE REMOVED, 24" AND UNDER	203 EXCAVATION	203 EMBANKMENT	301 ASPHALT CONCRETE BASE, PG64-22 (T=6")	304 AGGREGATE BASE, AS PER PLAN (T=VAR)	601 TIED CONCRETE BLOCK MAT, TYPE 1	603 6" CONDUIT, TYPE F FOR UNDERDRAIN OUTLETS	604 PRECAST REINFORCED CONCRETE OUTLET	605 6" SHALLOW PIPE UNDERDRAINS													
	LUMP	FT	CU YD	CU YD	CU YD	CU YD	SQ YD	FT	EACH	FT													
SR277 (SOUTHBOUND) - SLM: 3.31	LUMP	37	20	20	2.22	2.22	6.67	25	1	12													
TOTALS CARRIED TO GENERAL SUMMARY	LUMP	37	20	20	3	3	7	25	1	12	0	0	0	0	0	0	0	0	0	0	0	0	0

DRAINAGE REPAIRS

SUM-76/77/277/224-VAR.

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LOCATION								621	621	621	621		621	
COUNTY	ROUTE	SECTION (S.L.M.)						RPM, LOW PROFILE, YELLOW/YELLOW	RPM, LOW PROFILE WHITE/RED	RPM, LOW PROFILE, WHITE	RPM, LOW PROFILE YELLOW/RED		RAISED PAVEMENT MARKER REMOVED	REMARKS
		FROM	TO					EACH	EACH	EACH	EACH		EACH	
SUM	76	5.99	6.31						40				35	IR 76 EB/WB (LANES LINES, GORE MARKINGS)
SUM	277	0.00	3.91						780	50	120		926	IR 277 EB/WB (LANE LINES, GORE MARKINGS, RAMPS, CHANNELIZING LINES, STOP APPROACHES)
SUM	224	10.22	11.22						180	16	58		247	US 224 EB/WB (LANE LINES, GORE MARKINGS, RAMPS, CHANNELIZING LINES, STOP APPROACHES)
TOTALS CARRIED TO GENERAL SUMMARY				0	0	0	0	0	1000	66	178	0	1208	

CALCULATED ALP
CHECKED

RAISED PAVEMENT MARKER SUB-SUMMARY

SUM-76/77/277/224-VAR.

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GENERAL SPEC:	640
MATERIAL TYPE:	646

CALCULATED TJD CHECKED

CENTER LINE

CTY	ROUTE	TRUE LOG	FROM	TRUE LOG	TO	TOTAL MILES	EQUIVALENT SOLID LINE	COMMENTS
TOTAL								

LANE LINE

CTY	ROUTE	TRUE LOG	FROM	TRUE LOG	TO	TOTAL MILES	4" LANE LINE DASHED	4" LANE LINE SOLID	COMMENTS
SUM	76	5.90	BARBERTON CORP.	6.31	BEGIN I-277	1.64			
SUM	277	0.00	JCT. I-76/US 224	4.14	JCT. US 224	17.04			
SUM	224	10.22	END I-277	11.24	PVT. JOINT EAST SIDE KELLY AVE.	3.01			
SUM	76	8.53	RAMP L	8.88	RAMP L	0.35			
TOTAL						22.04			

EDGE LINE

CTY	ROUTE	TRUE LOG	FROM	TRUE LOG	TO	WHITE EDGE LINE TOTAL	WHITE EDGE LINE HIGHWAY	WHITE EDGE LINE RAMP	YELLOW EDGE LINE TOTAL	YELLOW EDGE LINE HIGHWAY	YELLOW EDGE LINE RAMP	COMMENTS
SUM	76	5.90	BARBERTON CORP.	6.31	BEGIN I-277	0.90	0.82	0.08	0.90	0.82	0.08	RAMP "A" @ 6.31
SUM	277	0.00	JCT. I-76/US 224	4.14	JCT. US 224	16.64	16.64		16.64	16.64		
SUM	224	10.22	END I-277	11.24	PVT. JOINT EAST SIDE KELLY AVE.	2.79	2.04	0.75	2.78	2.04	0.74	
SUM	77	11.90	RAMP "O"	12.15	RAMP "O"	0.28		0.28	0.25		0.25	
SUM	76	8.42	MAINLINE I-76	8.71	EAST AVE. RAMP "J" GORE	0.29		0.29				
SUM	76	8.42	MAINLINE I-76	8.88	EAST AVE. RAMP "L" GORE	0.46		0.46	0.35		0.35	
SUM	76	8.58	RAMP "V"	8.22	RAMP "V"	0.54		0.54	0.54		0.54	
SUM	76	8.22	RAMP "U"	8.42	RAMP "U"	0.20		0.20	0.20		0.20	
SUM	76	6.56	RAMP "C" (EXIT I-76 SB TO I-76/224 WB)	6.33	RAMP "C"	0.17		0.17	0.17		0.17	
TOTAL						22.27	19.50	2.77	21.83	19.50	2.33	

AUXILIARY

CTY	ROUTE LOCATION	TRUE LOG	CHANNEL LINE	STOP LINE	TRANSVERSE DIAGONAL LINES WHITE	TRANSVERSE DIAGONAL LINES YELLOW	CROSS WALK LINES	WORD ON PVMT ONLY 72"	WORD ON PVMT ONLY 96"	LANE ARROWS TURN LEFT	LANE ARROWS TURN RIGHT	LANE ARROWS THRU	LANE ARROWS COMB.	SYMBOL MARKINGS RxR	SYMBOL MARKINGS SCHOOL 72"	SYMBOL MARKINGS SCHOOL 96"	ISLAND MARKING	DOTTED LINES	COMMENTS
			FT	FT	FT	FT	FT	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	SQ FT	FT	
SUM	I-76 EB OFF RAMP A	6.310	260		255														
SUM	I-76 WB ON RAMP C	6.310	750																
SUM	I-277 WB TO I-76 NB R-D	0.300	600																
SUM	I-277 EB FROM I-76 WB R-B	0.110	840																
SUM	US 224 EB OFF TO KELLY	10.860	360	40															
SUM	US 224 WB ON FROM KELLY	10.900	980																
SUM	US 224 EB ON FROM KELLY	11.010	500																
SUM	US 224 WB OFF TO KELLY	11.170	600	36						2									
SUM	I-277 EB @ RAMP A	0.960	400																I-277 @ WATERLOO RAMPS
SUM	I-277 WB @ RAMP B	1.050	520																
SUM	I-277 EB @ RAMP A	1.550	690																I-277 @ SR 93 RAMPS
SUM	I-277 WB @ RAMP B	1.520	540																
SUM	I-277 EB @ RAMP C-2	2.280	300																I-277 @ MAIN ST. RAMPS
SUM	I-277 WB @ RAMP C-1	2.270	730																
SUM	I-277 EB @ RAMP D-1	2.410	730																
SUM	I-277 WB @ RAMP C-2	2.400	360																
SUM	I-277 WB @ RAMP B	3.460	1010																I-277 @ SR 77 RAMPS
SUM	I-277 EB @ RAMP A	3.650	510		130														
SUM	I-277 WB @ RAMP B-1	3.630	380																
TOTAL			11060	76	385					2									

TRAFFIC CONTROL QUANTITIES

SUM-76/77/277/224-VAR.

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GENERAL SPEC:	640
MATERIAL TYPE:	646

CALCULATED TJD CHECKED

TRAFFIC CONTROL QUANTITIES

CENTER LINE

CTY	ROUTE	TRUE LOG	FROM	TRUE LOG	TO	TOTAL MILES	EQUIVALENT SOLID LINE	COMMENTS
TOTAL								

LANE LINE

CTY	ROUTE	TRUE LOG	FROM	TRUE LOG	TO	TOTAL MILES	4" LANE LINE		COMMENTS
							DASHED	SOLID	
TOTAL									

EDGE LINE

CTY	ROUTE	TRUE LOG	FROM	TRUE LOG	TO	WHITE EDGE LINE			YELLOW EDGE LINE			COMMENTS
						TOTAL	HIGHWAY	RAMP	TOTAL	HIGHWAY	RAMP	
TOTAL												

AUXILIARY

CTY	ROUTE LOCATION	TRUE LOG	CHANNEL LINE	STOP LINE	TRANSVERSE DIAGONAL LINES		CROSS WALK LINES	WORD ON PVMT ONLY		LANE ARROWS				SYMBOL MARKINGS			ISLAND MARKING	DOTTED LINES	COMMENTS
					WHITE	YELLOW		72"	96"	TURN LEFT	TURN RIGHT	THRU	COMB.	RxR	SCHOOL 72"	SCHOOL 96"			
			FT	FT	FT	FT	FT	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	SQ FT	FT	
			11060	76	385														
SUM	I-277 EB @ RAMP C-1	3.910	520		130														
SUM	US 224 @ RAMP D	10.330	550		140														
SUM	US 224 @ RAMP C	10.490	580																
SUM	I-76 @ EAST AVE. (RAMP L)	8.880	217																
SUM	I-76 @ EAST AVE. (RAMP J)	8.710	566																
SUM	I-76 @ RAMP "V"	8.580			1368														
SUM	I-77 @ RAMP "O"	11.900			1080														
SUM	I-76SB TO 1-76/224 WB RAMP C	6.560	460		180														
TOTAL			13953	76	3283														

SUM-76/77/277/224-VAR.

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STRUCTURE GENERAL NOTES (SUM-76-1043S)

DESIGN DATA

STRUCTURAL STEEL: ASTM A709 GRADE 50 - YIELD STRENGTH 50,000 PSI
BOLTS: ASTM A325 TYPE ONE GALVANIZED HIGH STRENGTH BOLTS

EXISTING STRUCTURE VERIFICATION

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

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

PROPOSED WORK - SUM-76-1043S (ON RAMP OVER BROADWAY TO 76)

- REFURBISH AND/OR RESET EXISTING INTERMEDIATE EXPANSION JOINT BEARINGS
- REPAIR STEEL BEAM DEFICIENCIES AND LOSS OF SECTION AT THE INTERMEDIATE EXPANSION JOINT
- PAINT AREAS OF STEEL BEAM REPAIRS AT THE INTERMEDIATE EXPANSION JOINT

ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN

THIS ITEM SHALL INCLUDE THE ELEMENTS INDICATED IN THE PLANS AND GENERAL NOTES TO BE REMOVED TAKING CARE NOT TO DAMAGE THE GIRDER WEBS.

EXISTING GIRDER COMPONENT REMOVAL:
FLAME CUT GIRDER STIFFENERS AND FLANGES ACCORDING TO REMOVAL LIMITS PER PLANS. GRIND WELDS AND REMAINING EDGES SMOOTH.

CROSSFRAME REMOVAL:
REMOVE THE TRANSVERSE LINE OF CROSSFRAMES AS INDICATED ON THE PLANS, GRIND REMAINING CONNECTION WELDS, AND REPLACE AS SHOWN IN PLANS. FLAME CUTTING OF THE CROSS FRAMES IS PERMITTED.

PAYMENT FOR THIS WORK SHALL INCLUDE ALL EQUIPMENT, TOOLS, MATERIAL, AND LABOR NECESSARY TO PERFORM THIS TASK AND SHALL BE PAID FOR USING THE FOLLOWING CONTRACT ITEM (PAY ITEM):

ITEM	UNIT	DESCRIPTION
202	LUMP	PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN.

ITEM 513 - STRUCTURAL STEEL MEMBERS, LEVEL 3

THE WORK INCLUDES FURNISHING ALL LABOR, MATERIALS, AND EQUIPMENT NECESSARY TO ERECT STRUCTURAL STEEL AS SHOWN IN THE PLANS COMPLETE AND IN PLACE AND SHALL CONFORM TO THE REQUIREMENTS OF CMS 513. THIS ITEM ALSO INCLUDES FIELD DRILLING BOLT HOLES INTO THE EXISTING STEEL AS SHOWN IN THE PLANS AND AS DESCRIBED UNDER 513.01.

STEEL MEMBERS DESIGNATED AS "CVN" IN THE PLANS SHALL FOLLOW THE TOUGHNESS REQUIREMENTS IN CMS SECTION 711.01.

MEASUREMENT AND PAYMENT

THE ACCEPTED QUANTITIES FOR THE COMPLETED WORK AS DESCRIBED WILL BE MEASURED AND PAID FOR USING THE FOLLOWING CONTRACT ITEM (PAY ITEM):

ITEM	UNIT	DESCRIPTION
513	POUND	STRUCTURAL STEEL MEMBERS, LEVEL 3

ITEM 514 - SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL, AS PER PLAN

ITEM 514 - FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT, AS PER PLAN

ITEM 514 - FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT, AS PER PLAN

ITEM 514 - FIELD PAINTING STRUCTURAL STEEL, FINISH COAT, AS PER PLAN

A THREE COAT PAINT SYSTEM CONSISTING OF A PRIME COAT (INORGANIC ZINC FOR NEW STEEL AND ORGANIC ZINC FOR EXISTING STEEL), AN EPOXY INTERMEDIATE COAT, AND A URETHANE FINISH COAT SHALL BE APPLIED TO THE STEEL IN THE FIELD AS PER THE CMS SPECIFICATIONS SECTIONS 513 AND 514. THE FINAL COAT COLOR SHALL BE DETERMINED TO MATCH THE EXISTING PAINT COLOR.

THE LIMITS OF ITEM 514 SHALL EXTEND TEN (10) FEET ON EITHER SIDE OF THE INTERMEDIATE EXPANSION ROLLER CENTERLINE FOR A TOTAL OF TWENTY (20) LONGITUDINAL FEET, THAT INCLUDES THE GIRDER STEEL, HINGE SYSTEM, NEW CROSS FRAME STEEL AND NEW LATERAL BRACE STEEL AND THEIR CONNECTIONS. EXISTING CROSS FRAMES, LATERAL BRACES AND OTHER EXISTING SECONDARY MEMBERS TO REMAIN SHALL NOT BE PAINTED. IF THE EXISTING PAINT SYSTEM ON THESE MEMBERS IS DAMAGED BY THE CONTRACTOR DURING THIS PROJECT, THEN THE CONTRACTOR SHALL REPAIR THE DAMAGED COATING AT THE CONTRACTOR'S EXPENSE.

THE REQUIREMENTS OF CMS 514 SHALL APPLY WITH THE FOLLOWING ADDITIONS/MODIFICATIONS:

514.19 CAULKING (QCP #9)

AFTER THE INTERMEDIATE COAT HAS BEEN APPLIED, THE CONTRACTOR SHALL CAULK ALL GAPS OR CREVICES GREATER THAN 1/8". THE INTERMEDIATE COAT SHALL BE FREE OF CONTAMINANTS WHEN THE CAULKING IS APPLIED.

THE CAULK SHALL BE APPLIED EVENLY TO THE JOINTS AND GAPS. VOIDS SHALL BE COMPLETELY FILLED WITH CAULKING GUN AND SHALL BE SPREAD SMOOTHLY USING HEAVY PRESSURE TO DISPLACE AIR BUBBLES. EXCESS MATERIAL SHALL BE REMOVED IMMEDIATELY. ALL PROCEDURES SHALL CONFORM TO THE REQUIREMENTS OF THE MANUFACTURER'S WRITTEN SPECIFICATIONS AND TO THE SATISFACTION OF THE ENGINEER.

514.24 MEASUREMENT AND PAYMENT

THE ACCEPTED QUANTITIES FOR THE COMPLETED WORK AS DESCRIBED WILL BE MEASURED AND PAID FOR USING THE FOLLOWING CONTACT ITEM (PAY ITEM):

ITEM	UNIT	DESCRIPTION
514	SQ FT	SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL, AS PER PLAN
514	SQ FT	FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT, AS PER PLAN
514	SQ FT	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT, AS PER PLAN
514	SQ FT	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT, 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 AND CALCULATIONS TO THE ENGINEER FOR APPROVAL 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 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, 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.

CONSTRUCTION SEQUENCE

1. CLOSE RAMP TO VEHICULAR TRAFFIC.
2. FIELD VERIFY ALL EXISTING DIMENSIONS PRIOR TO FIELD FABRICATION OF PLATES AND ANGLES.
3. REMOVE LOWER BEARING STIFFENERS AND LOWER CROSS FRAME CONNECTIONS THAT CONFLICT WITH WEB PLATES.
4. CUT/BEND PROPOSED STEEL PLATES AND FLANGE ANGLES TO VERIFIED DIMENSIONS. MARK SIMILAR PROPOSED WEB PLATES TO FIELD DRILL BOLT HOLE PATTERN. AFTER HOLES HAVE BEEN DRILLED IN PROPOSED WEB PLATES, USE NEW PLATES AS TEMPLATE TO CENTER PUNCH HOLE LOCATIONS ON EXISTING STEEL. SNUG TIGHT BOLTS IN PROPOSED PLATES INTO PLACE.
5. FIELD DRILL BOTTOM FLANGE HOLES ON BENT PLATE AND BOTTOM FLANGE COVER PLATE AS PER PLAN. CENTER PUNCH HOLE LOCATIONS IN EXISTING BOTTOM FLANGE, SNUG TIGHT BOLTS IN PROPOSED PLATES INTO PLACE.
6. SNUG TIGHT BOLTED LOWER BEARING STIFFENER ANGLE INTO PLACE.
7. REPEAT PROCESS FOR UPPER GIRDER WHERE APPLICABLE. NOTE THAT THE UPPER CHANNEL SECTION WILL REMAIN. THE CURRENT CONNECTION MUST BE GRINDED OFF AND BE BOLTED TO PROPOSED WEB PLATES.
8. INSTALL PROPOSED CROSS FRAME CONNECTIONS.
9. PERFORM FINAL BOLT UP AS PER CMS.
10. INSTALL CROSS FRAMES AND LATERAL BRACE.
11. JACK GIRDERS AS PER PLAN (SEE SHEET 2/10) FOR THE REFURBISHMENT OF THE BEARINGS WITH THE APPROVAL OF THE ENGINEER AND IN ACCORDANCE WITH CMS 501.05.
12. REFURBISH BEARING DEVICES AS PER CMS. REMOVE TEMPORARY SUPPORT SYSTEM.
13. OPEN RAMP TO TRAFFIC.
14. PROVIDE CAULKING BETWEEN BOTTOM FLANGE, BENT PLATE AND BOTTOM FLANGE COVER PLATE.
15. PAINT PROPOSED STEEL AND BOLTS IN ACCORDANCE WITH EXISTING CONTRACT SPECIFICATIONS.

ENGINEERS SEAL:

STATE OF OHIO
WESLEY REED WEIR
69991
REGISTERED PROFESSIONAL ENGINEER

SIGNED: RE
DATE: NOVEMBER 2, 2011

DESIGN AGENCY
TranSystems
55 PUBLIC SQUARE, SUITE 1900
CLEVELAND, OHIO 44113

DESIGNED	DRAWN	REVIEWED	DATE
DMP	DMP	WRW	6/20/11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
ADK		7703155	

STRUCTURAL GENERAL NOTES
SUM-76-1043S
ON RAMP OVER BROADWAY TO I.R. 76

SUM-76-8.42
PID No. 83044

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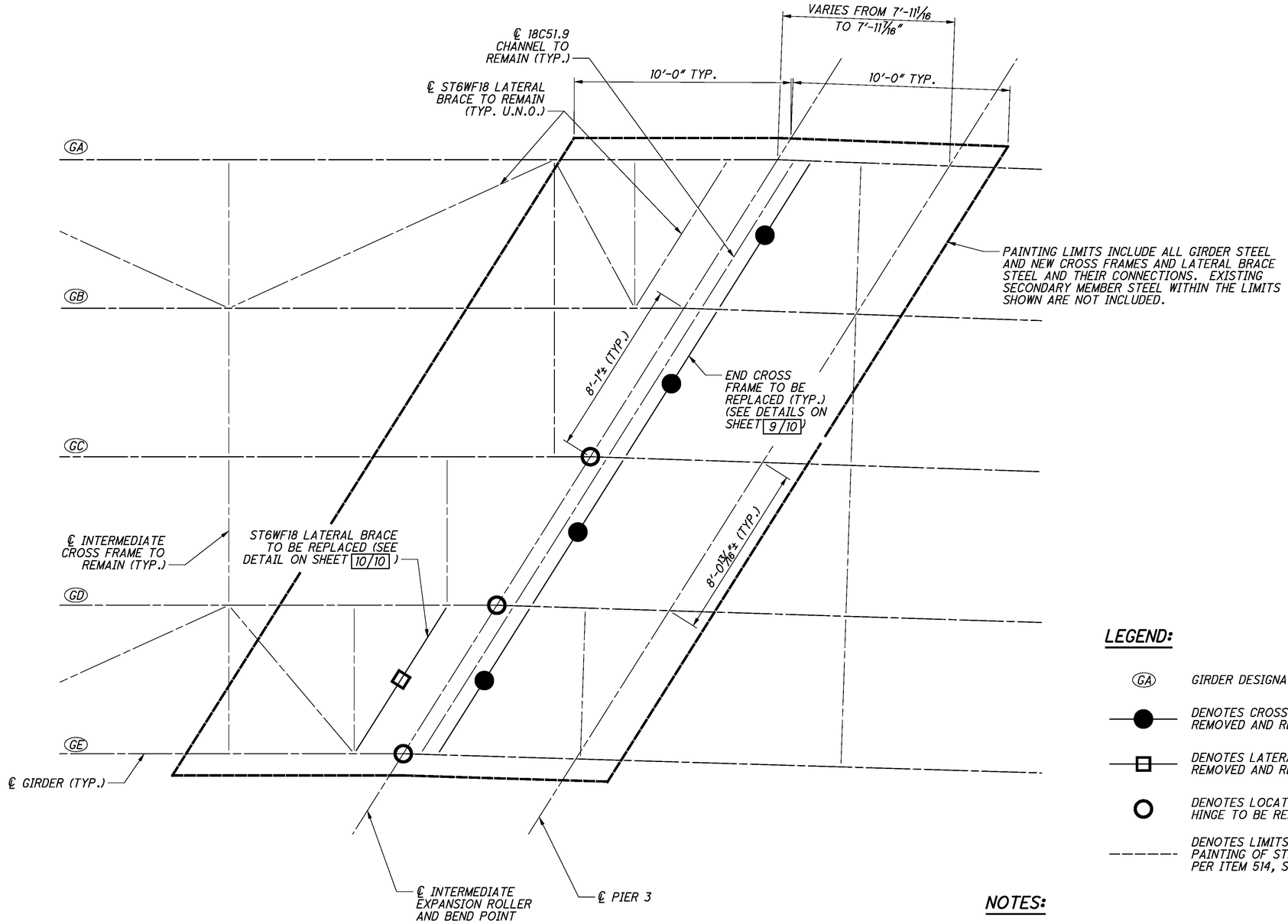

PARTIAL FRAMING PLAN

LEGEND:

- (GA) GIRDER DESIGNATION
- ● DENOTES CROSS FRAME TO BE REMOVED AND REPLACED IN KIND
- □ DENOTES LATERAL BRACE TO BE REMOVED AND REPLACED IN KIND
- ○ DENOTES LOCATION OF ROLLER HINGE TO BE REFURBISHED
- - - - - DENOTES LIMITS OF CLEANING AND PAINTING OF STRUCTURAL STEEL AS PER ITEM 514, SEE GENERAL NOTES

NOTES:

1. THIS PLAN DOES NOT INCLUDE THE GIRDER WEB RETROFIT DETAILS. SEE SHEETS 4/10 THRU 9/10 FOR THESE DETAILS.
2. REMOVAL OF STEEL CROSS FRAMES AND LATERAL BRACES ARE INCLUDED FOR PAYMENT UNDER ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN. NEW STEEL MEMBERS FOR REPLACEMENT IS INCLUDED FOR PAYMENT UNDER ITEM 513 - STRUCTURAL STEEL MEMBERS, LEVEL 3.
3. REFURBISHING OF THE HINGE ROLLERS IS INCLUDED FOR PAYMENT UNDER ITEM 516 - REFURBISHING BEARING DEVICES, AS PER PLAN.
4. FOR THE GENERAL NOTES, SEE SHEET 1/10.

DESIGN AGENCY
TranSystems
55 PUBLIC SQUARE, SUITE 1900
CLEVELAND, OHIO 44113

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PARTIAL FRAMING PLAN AT INTERMEDIATE EXPANSION ROLLER
SUM-76-1043S
ON RAMP OVER BROADWAY TO I.R. 76

SUM-76-8.42
PID No. 83044

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ESTIMATED QUANTITIES

ITEM	EXTENSION	TOTAL	UNIT	DESCRIPTION	ABUT.	PIERS	SUPER.	GEN.	SHEET #
202	11201	LUMP		PORTIONS OF STRUCTURE REMOVED, AS PER PLAN			LUMP		
513	**10260**	6,297	LB	STRUCTURAL STEEL MEMBERS, LEVEL 3			6,297		
514	00051	893	SF	SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL, AS PER PLAN			893		
514	00056	893	SF	FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT			893		
514	00061	893	SF	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT, AS PER PLAN			893		
514	00067	893	SF	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT, AS PER PLAN			893		
516	47001	LUMP		JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN			LUMP		
516	45305	3	EA	REFURBISH BEARING DEVICE, AS PER PLAN			3		

DESIGN AGENCY
TranSystems
55 PUBLIC SQUARE, SUITE 1900
CLEVELAND, OHIO 44113

DESIGNED DMP | CHECKED ADK | DRAWN DMP | REVISED | REVIEWED WRW | DATE 6/20/11 | STRUCTURE FILE NUMBER 7703155

ESTIMATED QUANTITIES
SUM-76-1043S
ON RAMP OVER BROADWAY TO I.R. 76

SUM-76-8.42
PID No. 83044

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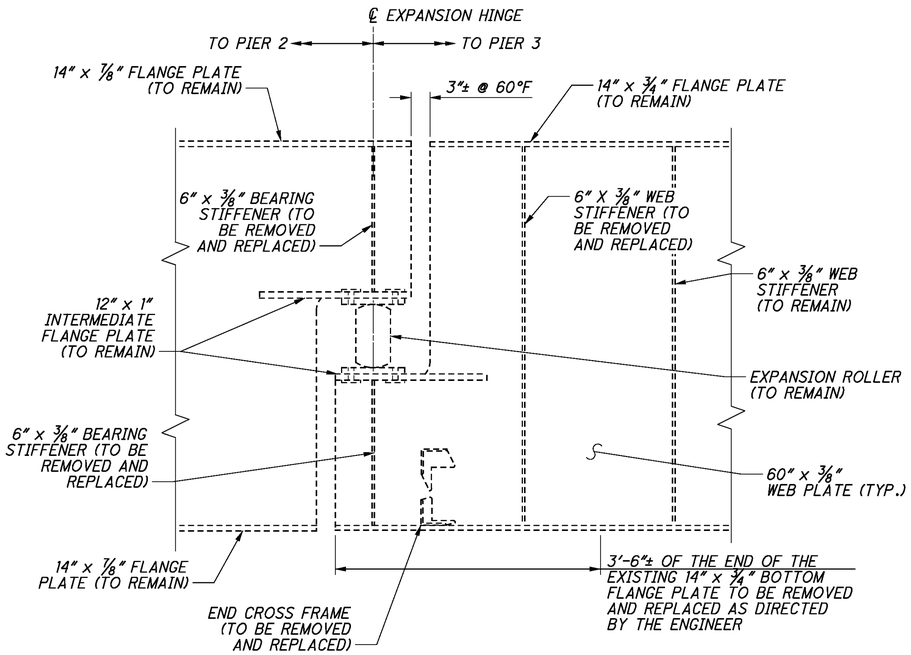
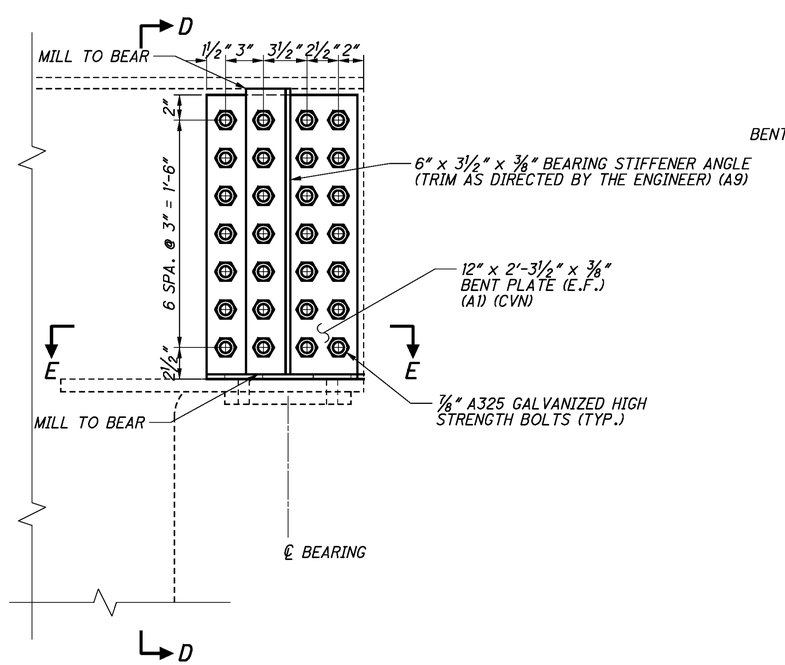


EXISTING GIRDER A
SOUTH ELEVATION



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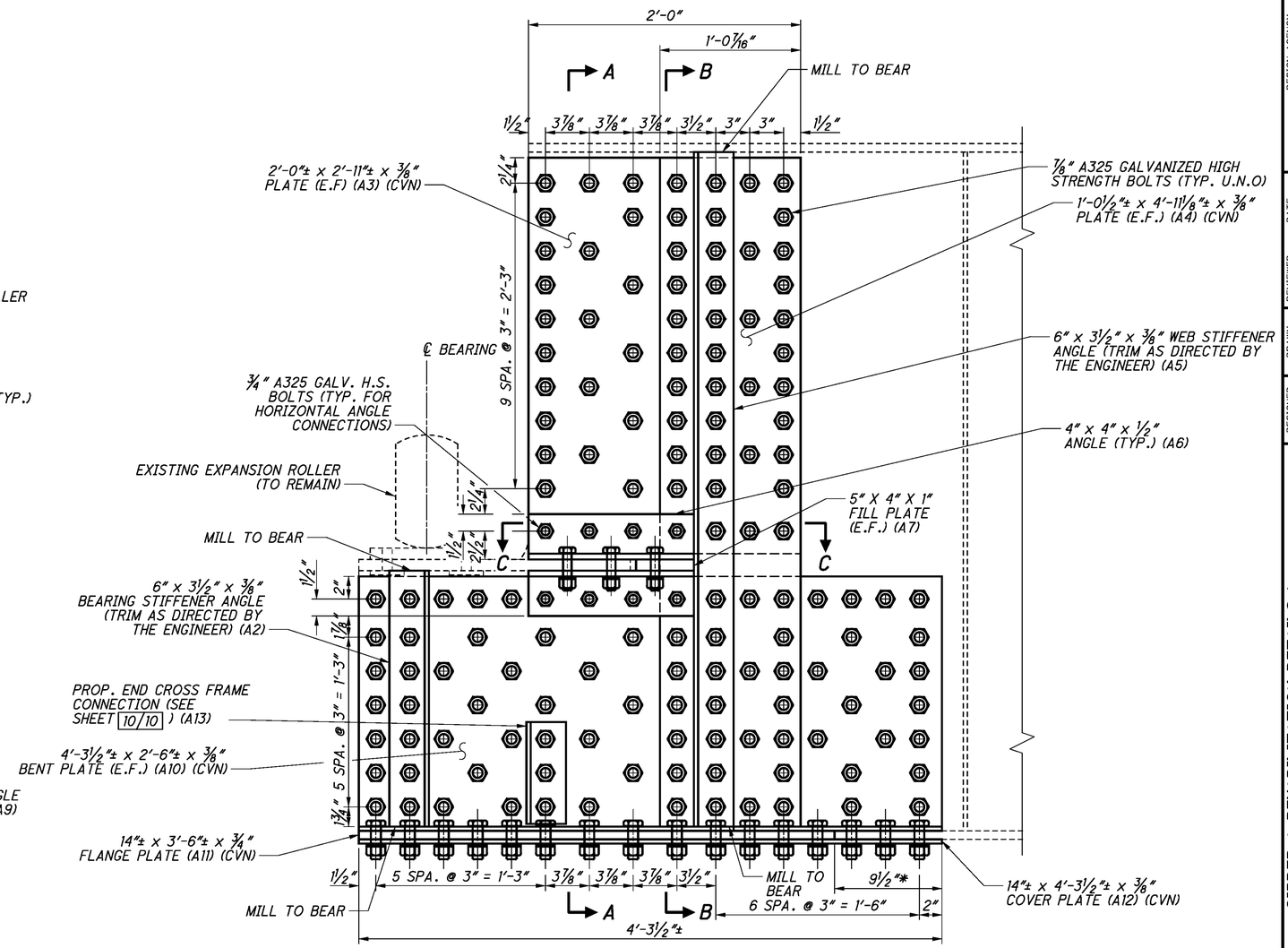
WEST OF EXPANSION ROLLER



* 12 BOLTS REQUIRED FOR SPLICE BETWEEN NEW AND EXISTING FLANGE

PART ELEVATION OF MODIFIED GIRDER A
EAST OF EXPANSION ROLLER

NOTES:

1. FOR SECTIONS, SEE SHEET 5/10 .
2. FOR CONSTRUCTION SEQUENCE, GENERAL NOTES AND DESIGN DATA SEE SHEET 1/10.
3. REMOVAL OF EXISTING STEEL IS INCLUDED FOR PAYMENT UNDER ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN.
4. NEW STEEL PLATES, ANGLES, BENT PLATES AND FASTENERS ARE INCLUDED FOR PAYMENT UNDER ITEM 513 - STRUCTURAL STEEL MEMBERS, LEVEL 3.
5. SHAPES AND PLATES DESIGNATED CVN SHALL FOLLOW THE TOUGHNESS REQUIREMENTS IN CMS SECTION 711.01.

DESIGN AGENCY
TranSystems
55 PUBLIC SQUARE, SUITE 1900
CLEVELAND, OHIO 44113

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ADK		7703155	

GIRDER A REHABILITATION DETAILS 1
SUM-76-1043S
ON RAMP OVER BROADWAY TO I.R. 76

SUM-76-8.42
PID No. 83044

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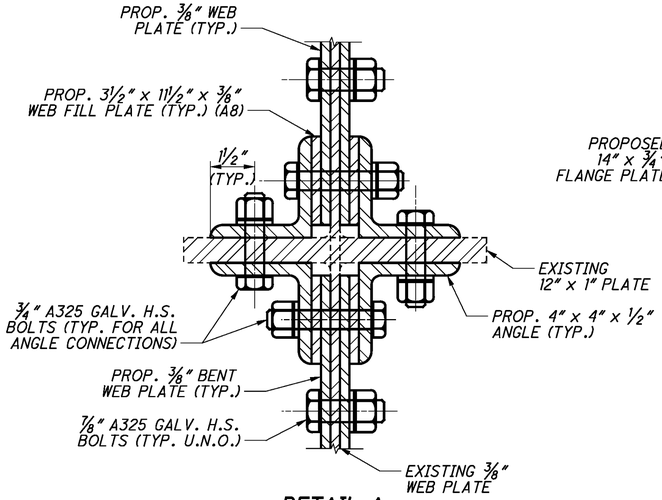

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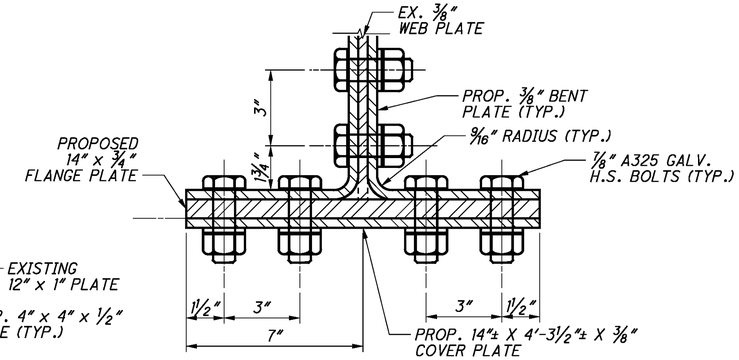

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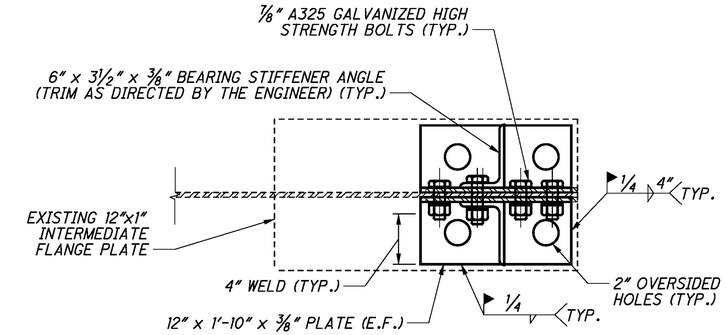
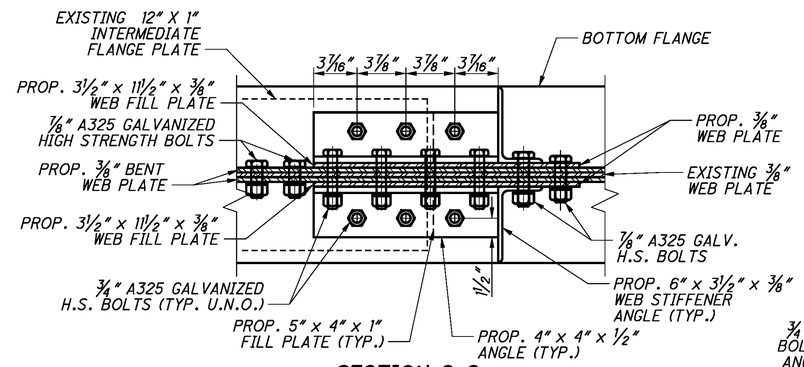
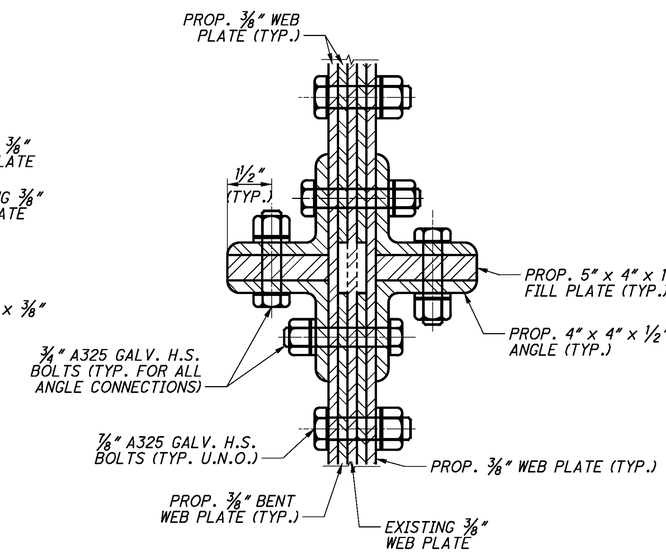


SECTION E-E



SECTION C-C



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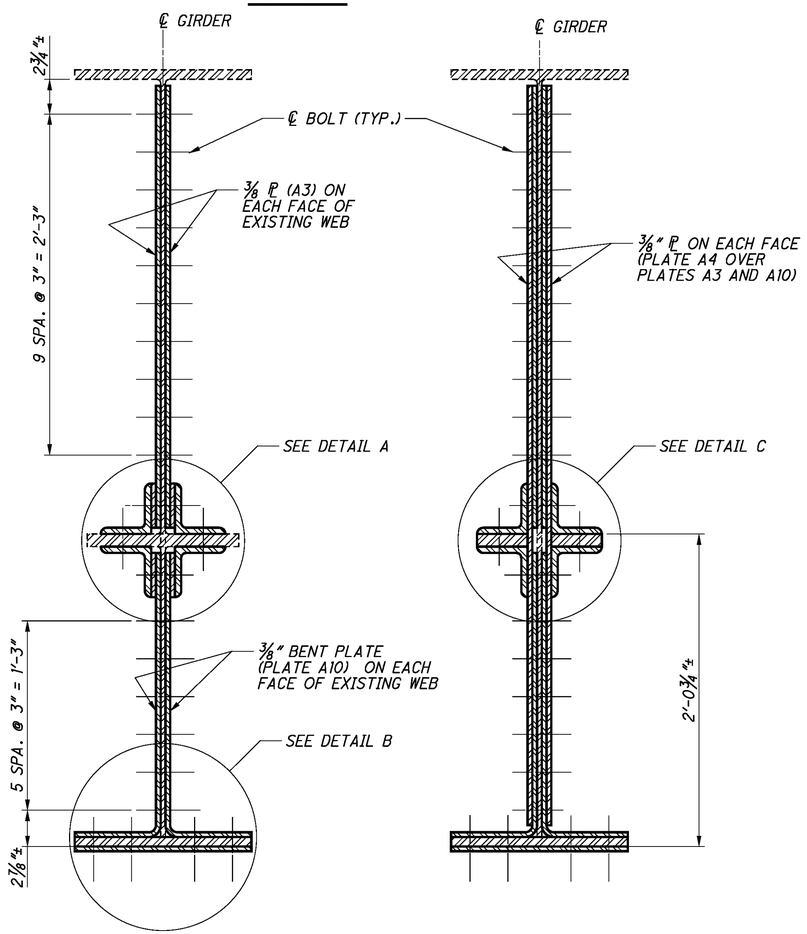
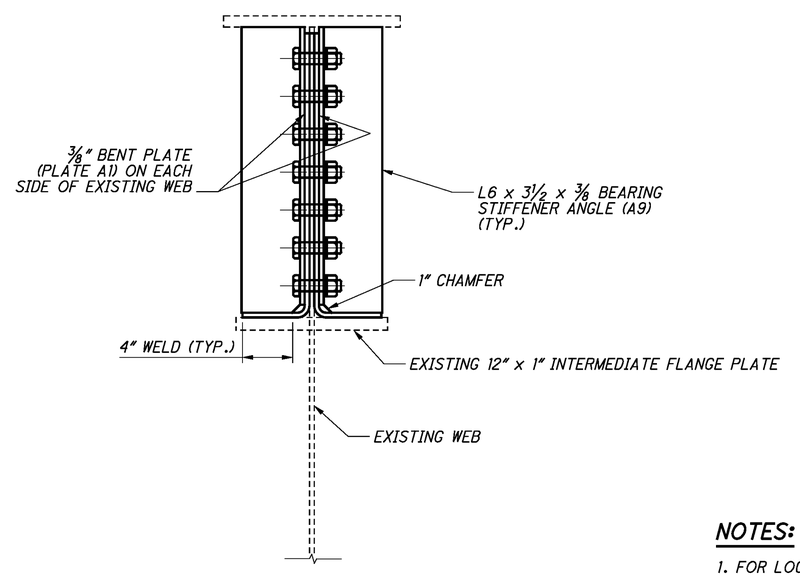


SECTION A-A

SECTION B-B

(FOR DIMENSIONS AND CALLOUTS NOT SHOWN, SEE SECTION A-A)



SECTION D-D

NOTES:

1. FOR LOCATIONS OF SECTIONS AND ADDITIONAL NOTES, SEE SHEET 4/10.

DESIGN AGENCY: TranSystems, 55 PUBLIC SQUARE, SUITE 1900, CLEVELAND, OHIO 44113

DESIGNED	DRAWN	REVIEWED	DATE
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ADK		7703155	

GIRDER A REHABILITATION DETAILS 2

SUM-76-1043S
ON RAMP OVER BROADWAY TO I.R. 76

SUM-76-8.42
PID No. 83044

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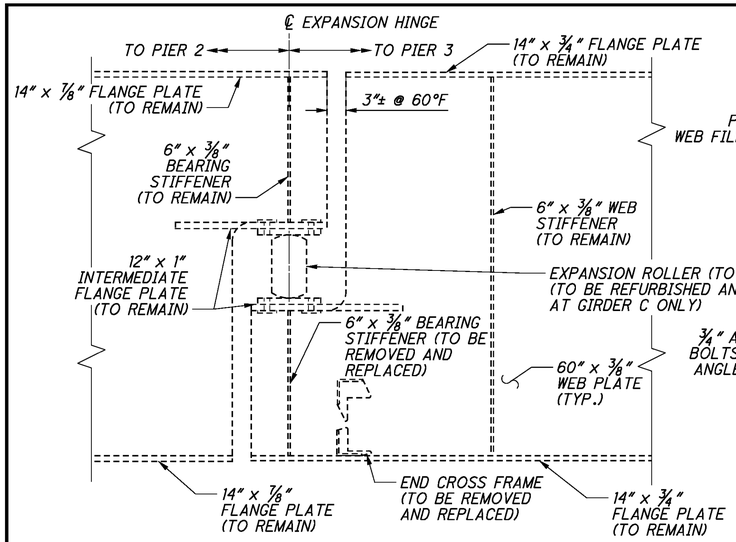
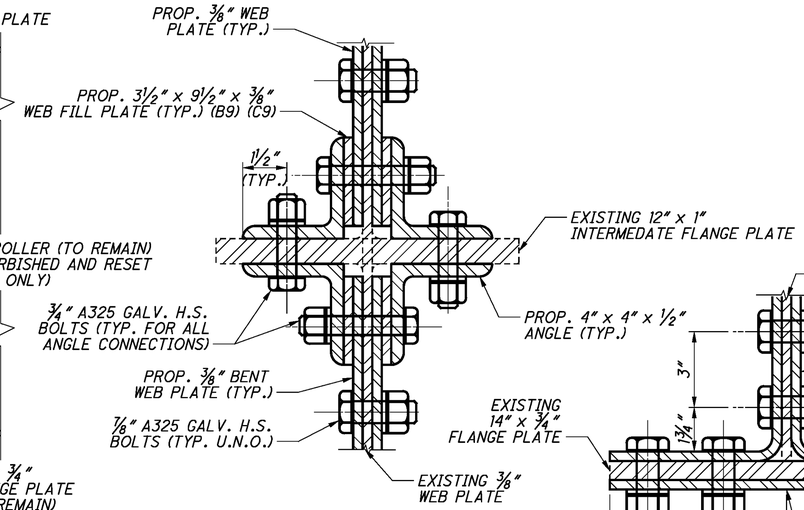


EXISTING GIRDER B AND C
SOUTH ELEVATION



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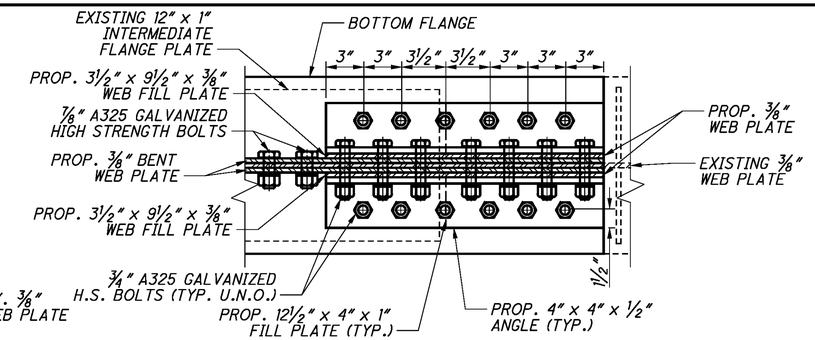
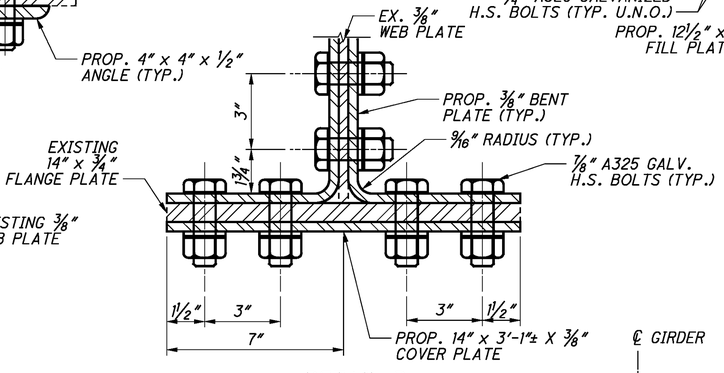


SECTION C-C



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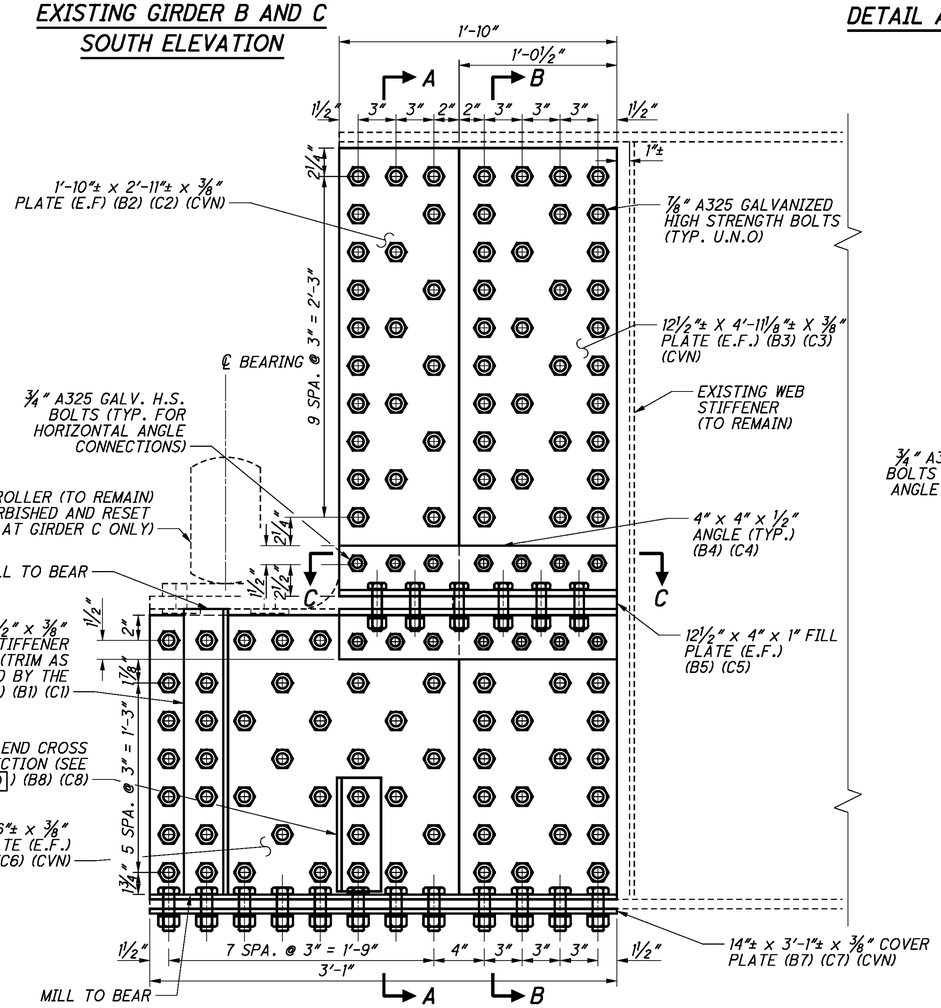
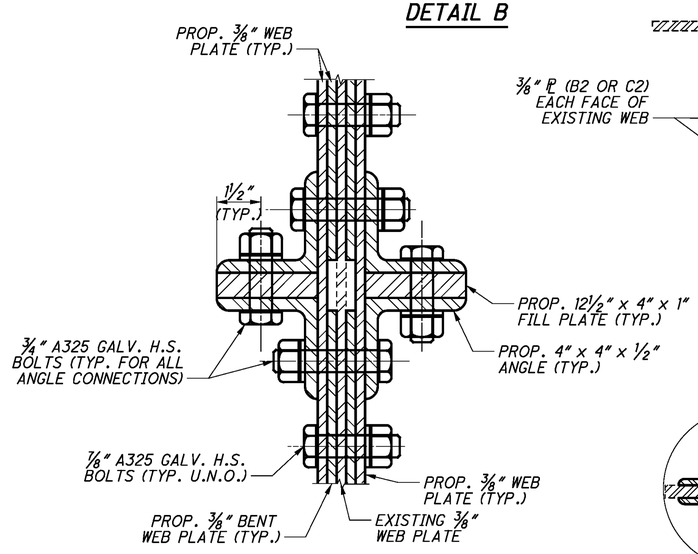


PART ELEVATION OF MODIFIED GIRDER B AND C ELEVATION EAST OF EXPANSION ROLLER



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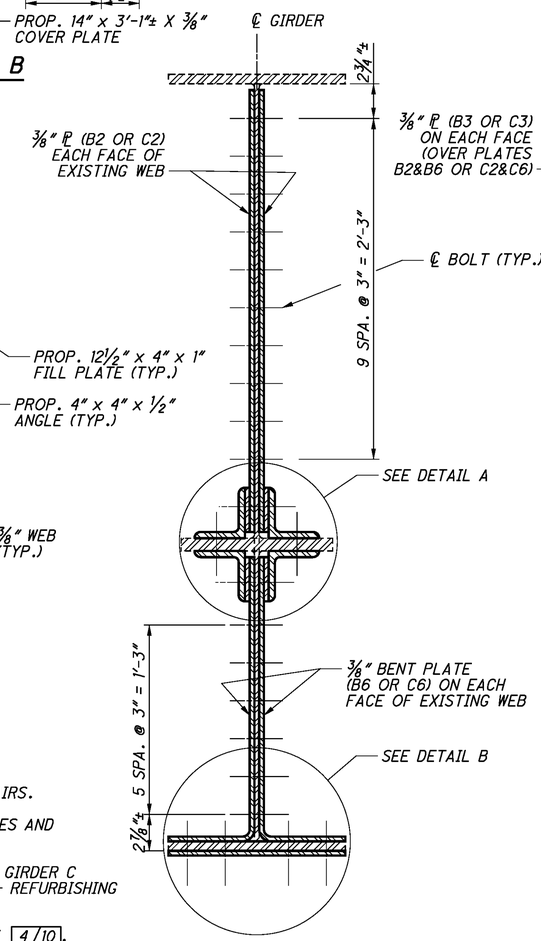
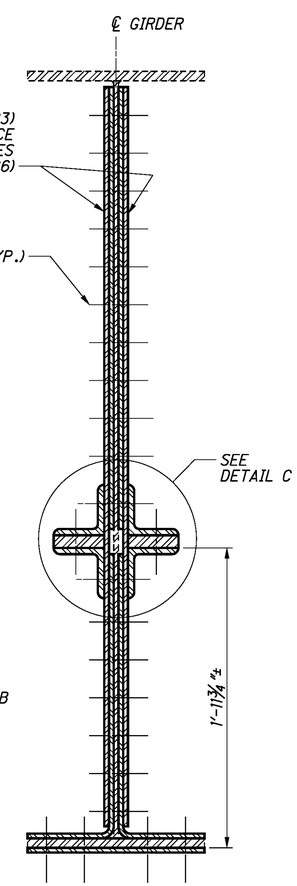


SECTION A-A



SECTION B-B
(FOR DIMENSIONS AND CALLOUTS NOT SHOWN, SEE SECTION A-A)

NOTES:

1. GIRDER B AND GIRDER C HAVE IDENTICAL REPAIRS.
2. FOR CONSTRUCTION SEQUENCE, GENERAL NOTES AND DESIGN DATA SEE SHEET 1/10.
3. REFURBISHING OF THE EXPANSION ROLLER AT GIRDER C IS INCLUDED FOR PAYMENT UNDER ITEM 516 - REFURBISHING BEARING DEVICES, AS PER PLAN.
4. FOR ADDITIONAL PAYMENT NOTES, SEE SHEET 4/10.
5. SHAPES AND PLATES DESIGNATED CVN SHALL FOLLOW THE TOUGHNESS REQUIREMENTS IN CMS SECTION 711.01.

DESIGN AGENCY
TranSystems
55 PUBLIC SQUARE, SUITE 1900
CLEVELAND, OHIO 44113

DESIGNED	DRAWN	REVIEWED	DATE
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CHECKED	REVISED	STRUCTURE FILE NUMBER	
ADK		7703155	

GIRDERS B AND C REHABILITATION DETAILS
SUM-76-1043S
ON RAMP OVER BROADWAY TO I.R. 76

SUM-76-8.42
PID No. 83044

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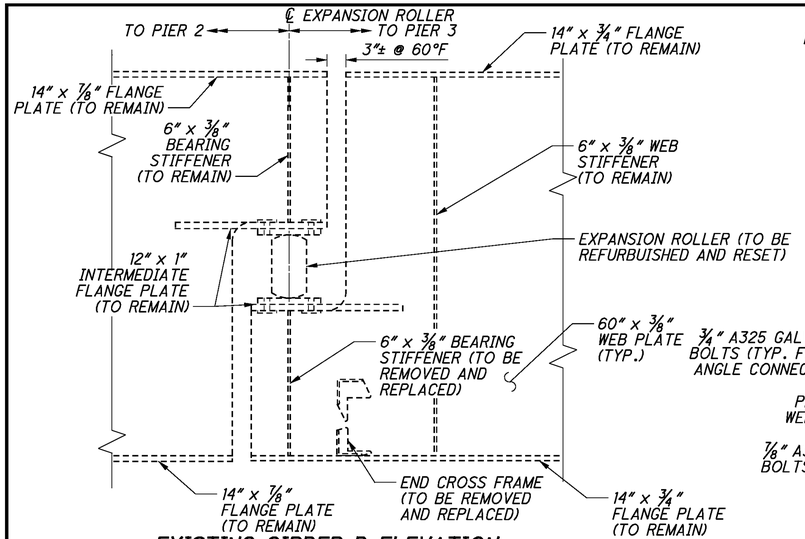

EXISTING GIRDER D ELEVATION
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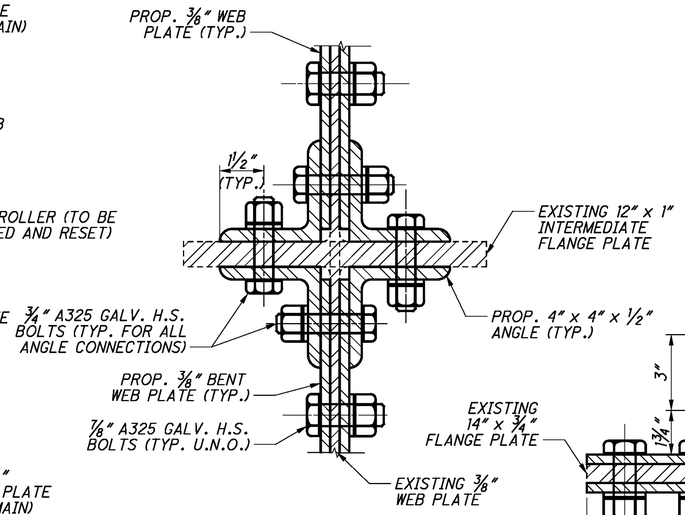

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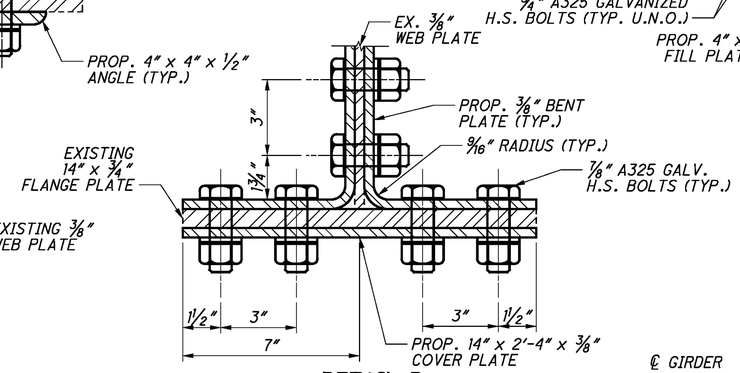

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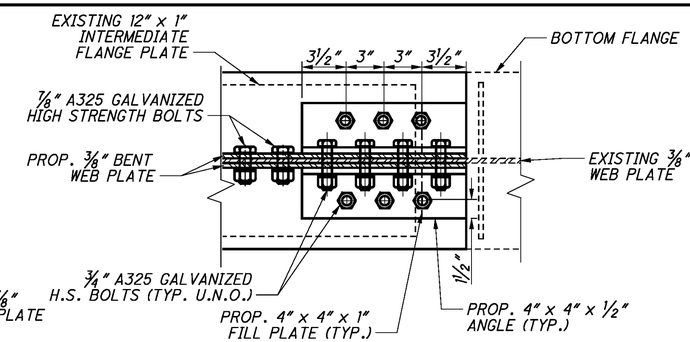
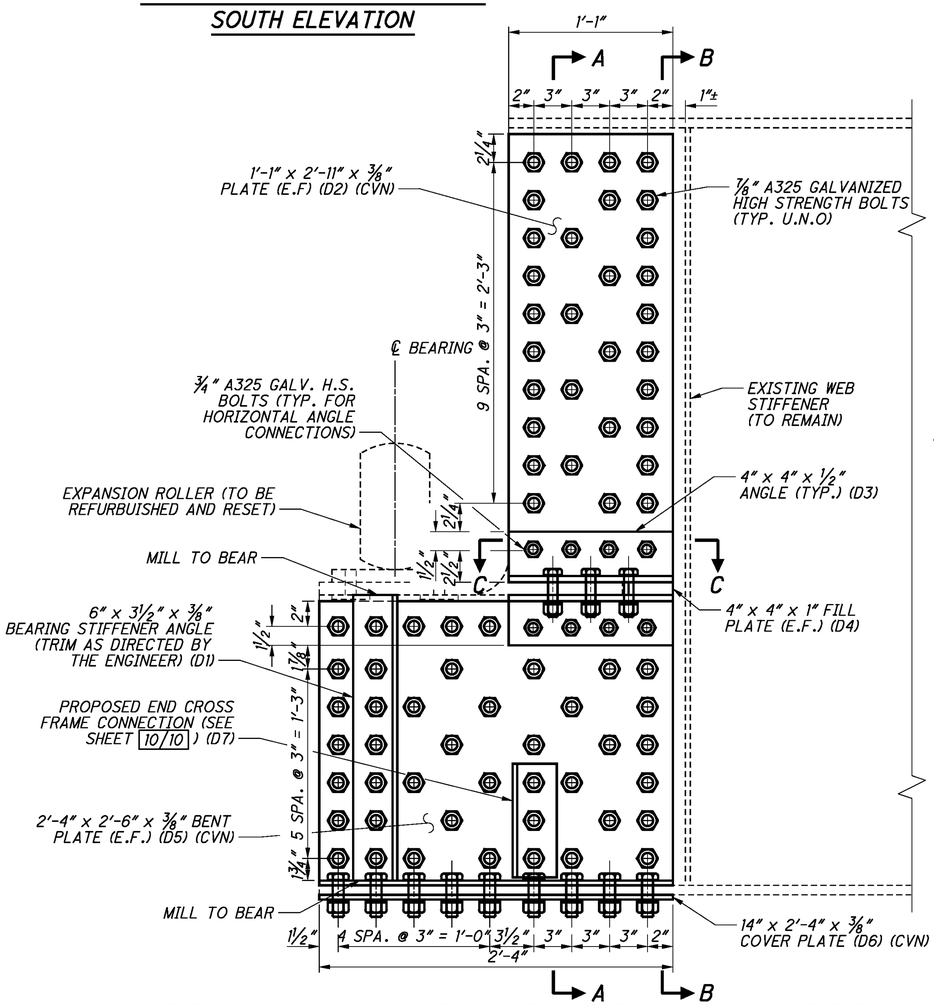
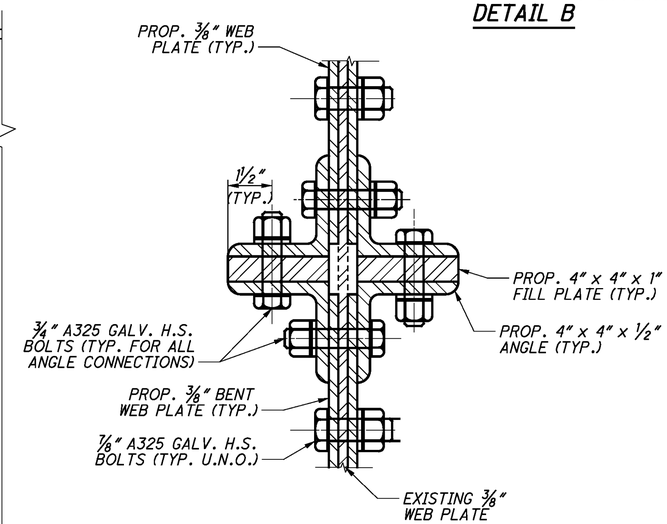


SECTION C-C



PART ELEVATION OF MODIFIED GIRDER D ELEVATION WEST OF EXPANSION ROLLER



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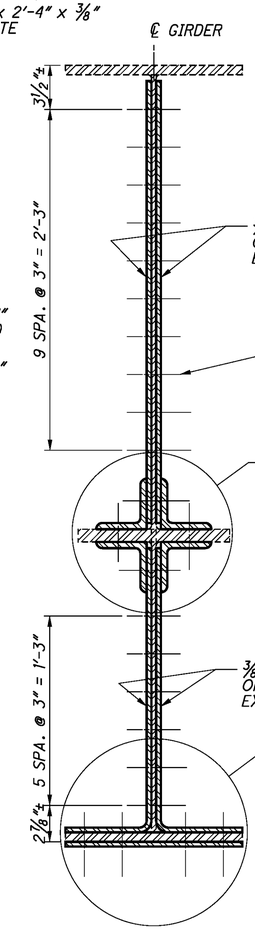
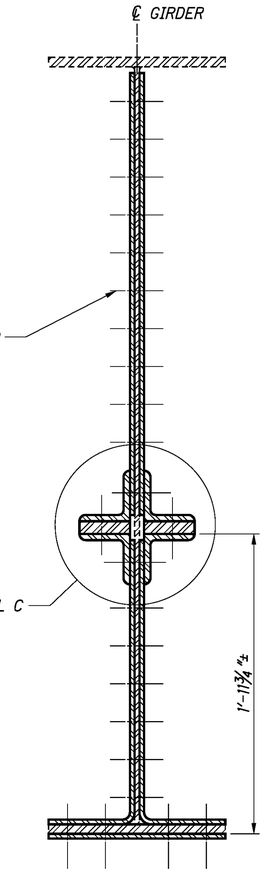


SECTION A-A



SECTION B-B

(FOR DIMESIONS AND CALLOUTS NOT SHOWN, SEE SECTION A-A)

NOTES:

1. FOR CONSTRUCTION SEQUENCE, GENERAL NOTES AND DESIGN DATA SEE SHEET 1/10.
2. REFURBISHING OF THE EXPANSION ROLLER IS INCLUDED FOR PAYMENT UNDER ITEM 516 - REFURBISHING BEARING DEVICES, AS PER PLAN.
3. FOR ADDITIONAL PAYMENT NOTES, SEE SHEET 5/10.
4. SHAPES AND PLATES DESIGNATED CVN SHALL FOLLOW THE TOUGHNESS REQUIREMENTS IN CMS SECTION 711.01.

DESIGN AGENCY
TranSystems
55 PUBLIC SQUARE, SUITE 1900
CLEVELAND, OHIO 44113

DESIGNED	DRAWN	REVIEWED	DATE
DMP	DMP	WRW	10/19/11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
ADK		7703155	

GIRDER D REHABILITATION DETAILS

SUM-76-1043S
ON RAMP OVER BROADWAY TO I.R. 76

SUM-76-8.42
PID No. 83044

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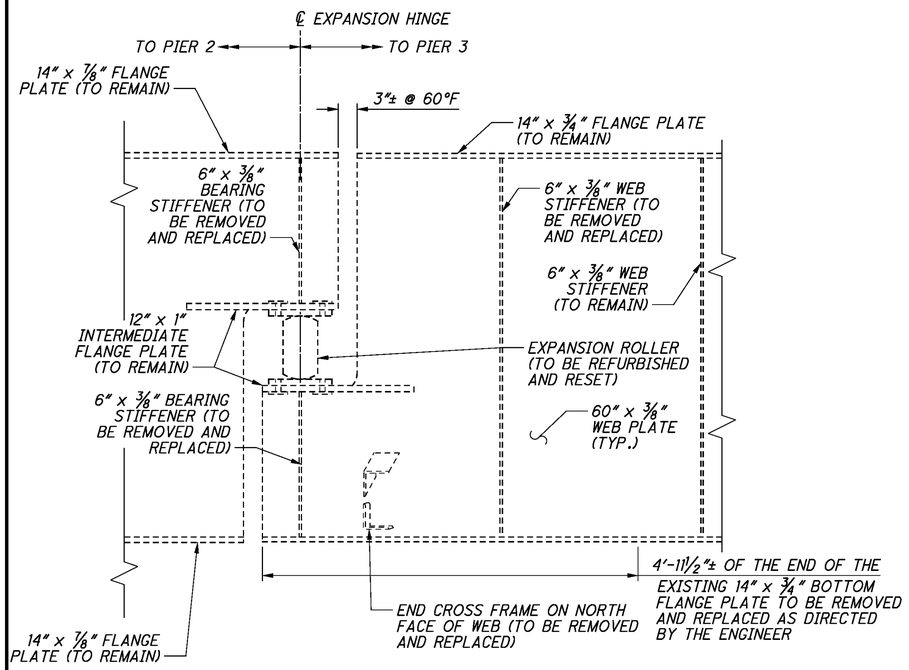
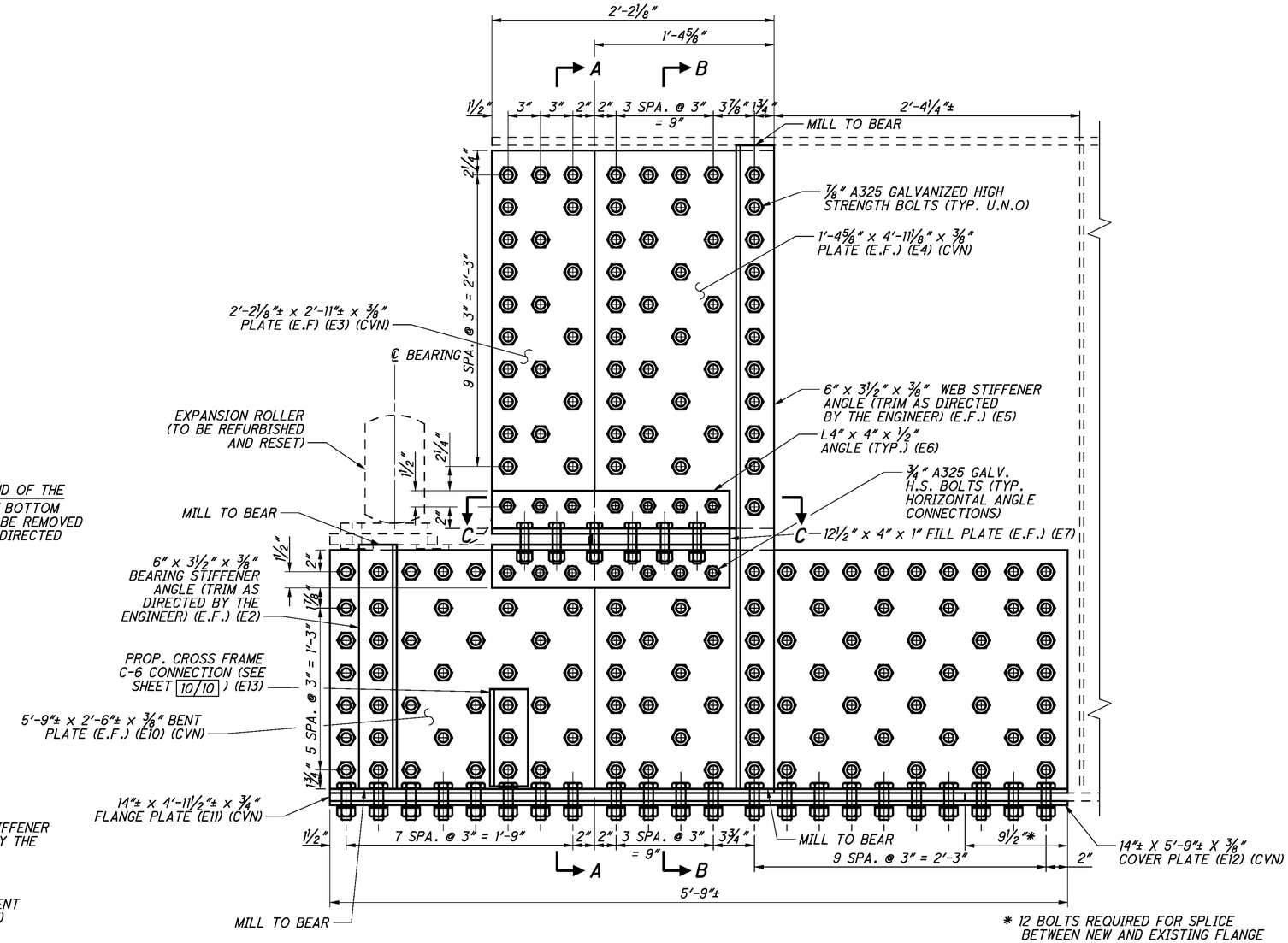
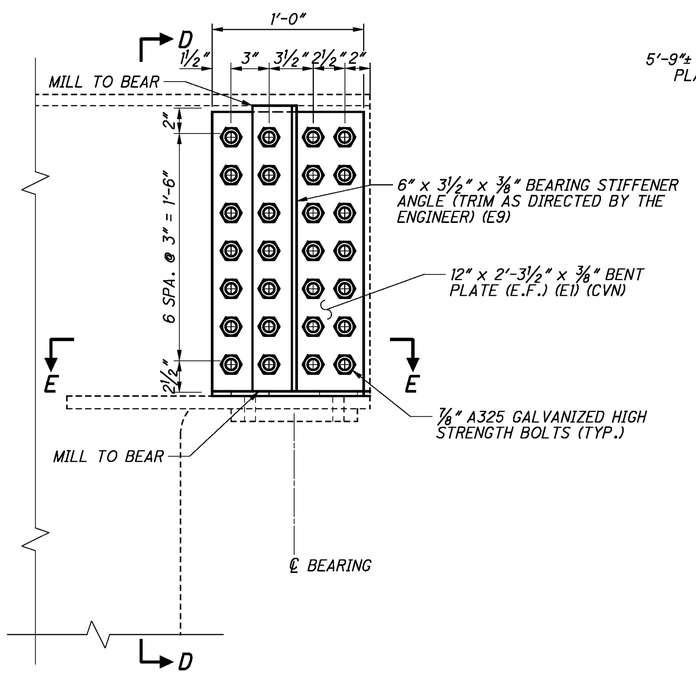


EXISTING GIRDER E ELEVATION
SOUTH ELEVATION



PART ELEVATION OF MODIFIED GIRDER E
EAST OF EXPANSION ROLLER



PART ELEVATION OF MODIFIED GIRDER E
WEST OF THE EXPANSION ROLLER

NOTES:

1. FOR SECTIONS, SEE SHEET 9/10 .
2. FOR CONSTRUCTION SEQUENCE, GENERAL NOTES AND DESIGN DATA SEE SHEET 1/10.
3. REFURBISHING OF THE EXPANSION ROLLER IS INCLUDED FOR PAYMENT UNDER ITEM 516 - REFURBISHING BEARING DEVICES, AS PER PLAN.
4. FOR ADDITIONAL PAYMENT NOTES, SEE SHEET 4/10.
5. SHAPES AND PLATES DESIGNATED CVN SHALL FOLLOW THE TOUGHNESS REQUIREMENTS IN CMS SECTION 711.01.

DESIGN AGENCY
TranSystems
55 PUBLIC SQUARE, SUITE 1900
CLEVELAND, OHIO 44113

DESIGNED	DRAWN	REVIEWED	DATE
DMP	DMP	WRW	10/19/11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
ADK		7703155	

GIRDER E REHABILITATION DETAILS 1

SUM-76-1043S

ON RAMP OVER BROADWAY TO I.R. 76

SUM-76-8.42

PID No. 83044

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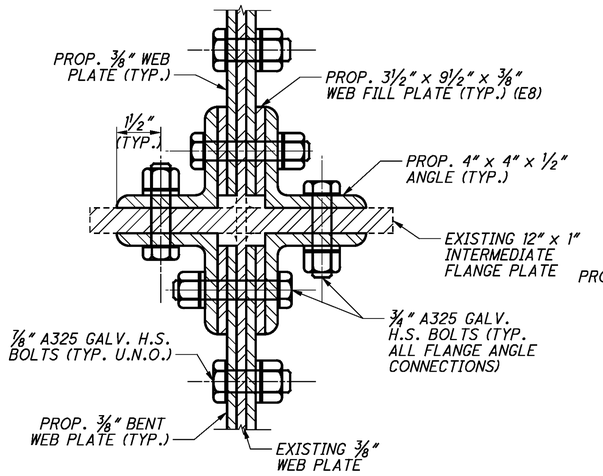
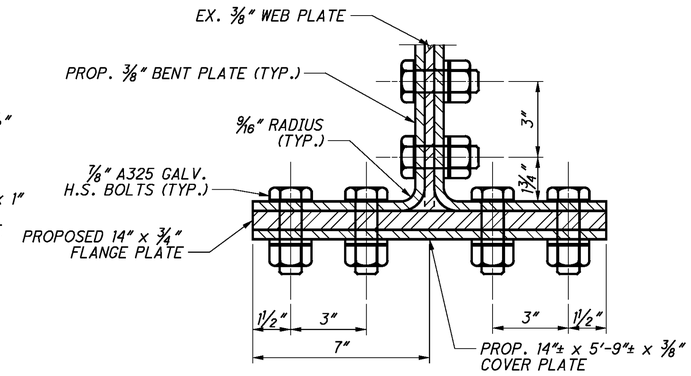
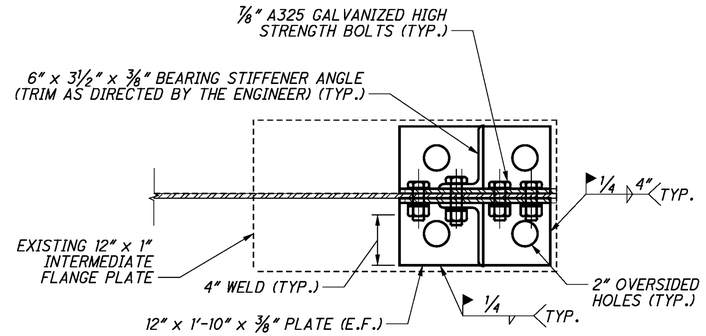


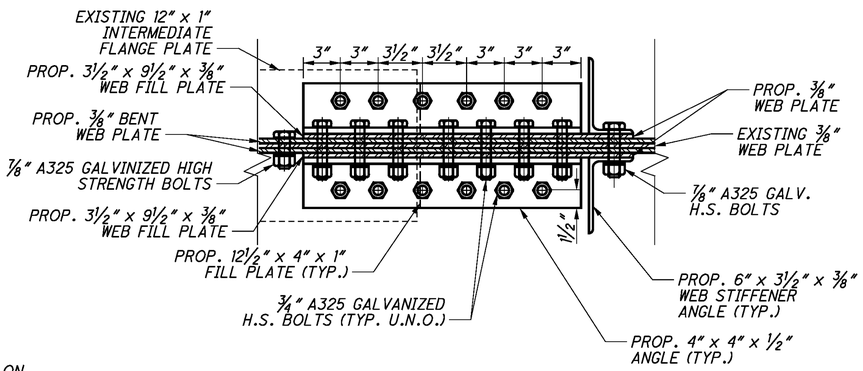
DETAIL A



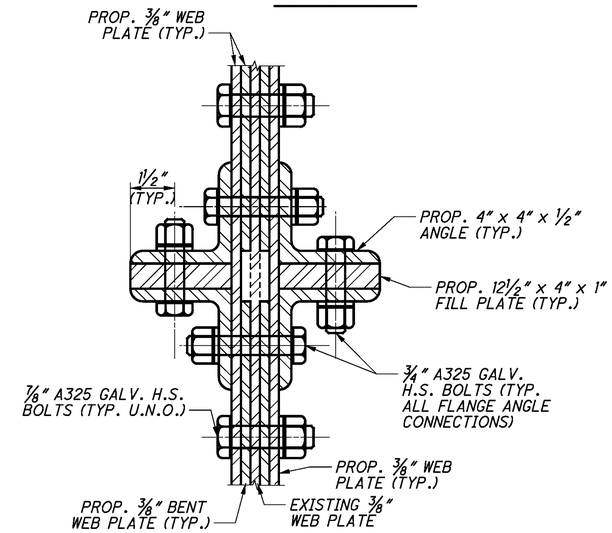
DETAIL B



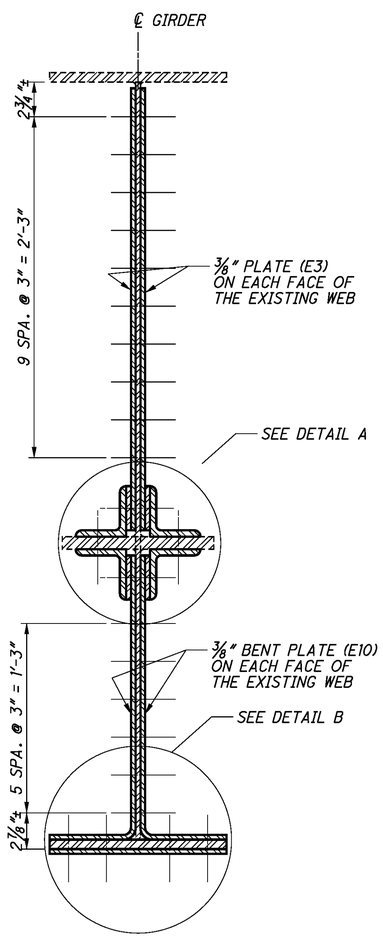
SECTION E-E



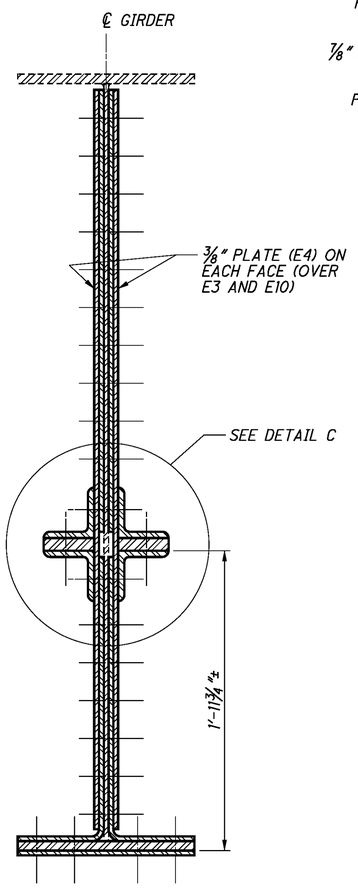
SECTION C-C



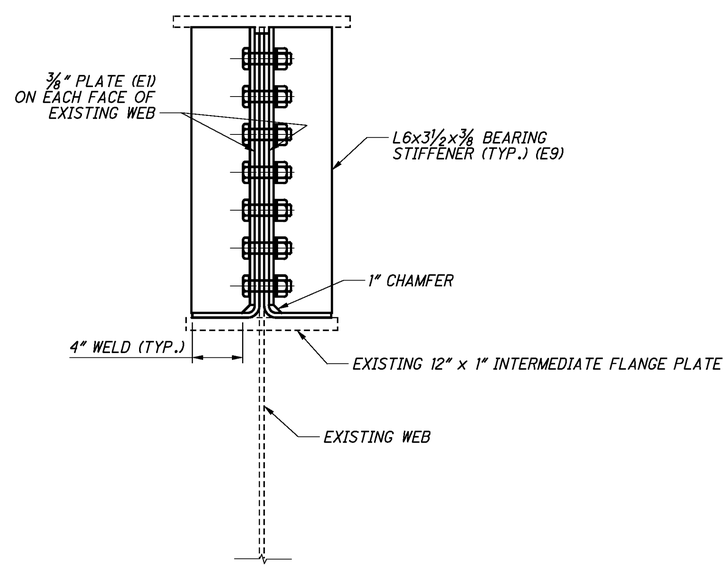
DETAIL C



SECTION A-A



SECTION B-B



SECTION D-D

NOTES:

1. FOR LOCATION OF SECTIONS AND ADDITIONAL NOTES, SEE SHEET 8/10.

DESIGN AGENCY: TranSystems, 55 PUBLIC SQUARE, SUITE 1900, CLEVELAND, OHIO 44113

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CHECKED	REVISED	STRUCTURE FILE NUMBER	
ADK		7703155	

GIRDER E REHABILITATION DETAILS 2

SUM-76-1043S

ON RAMP OVER BROADWAY TO I.R. 76

SUM-76-8.42

PID No. 83044

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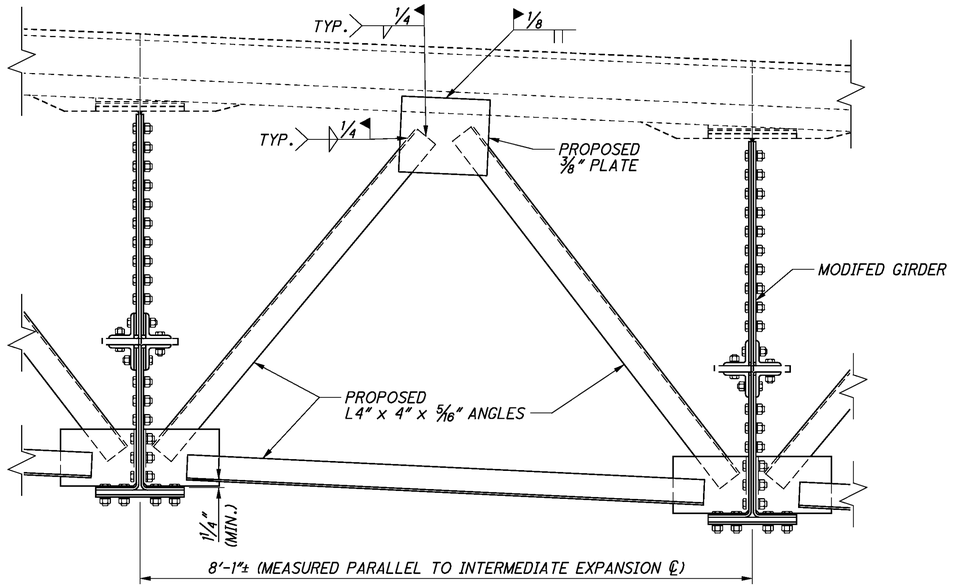
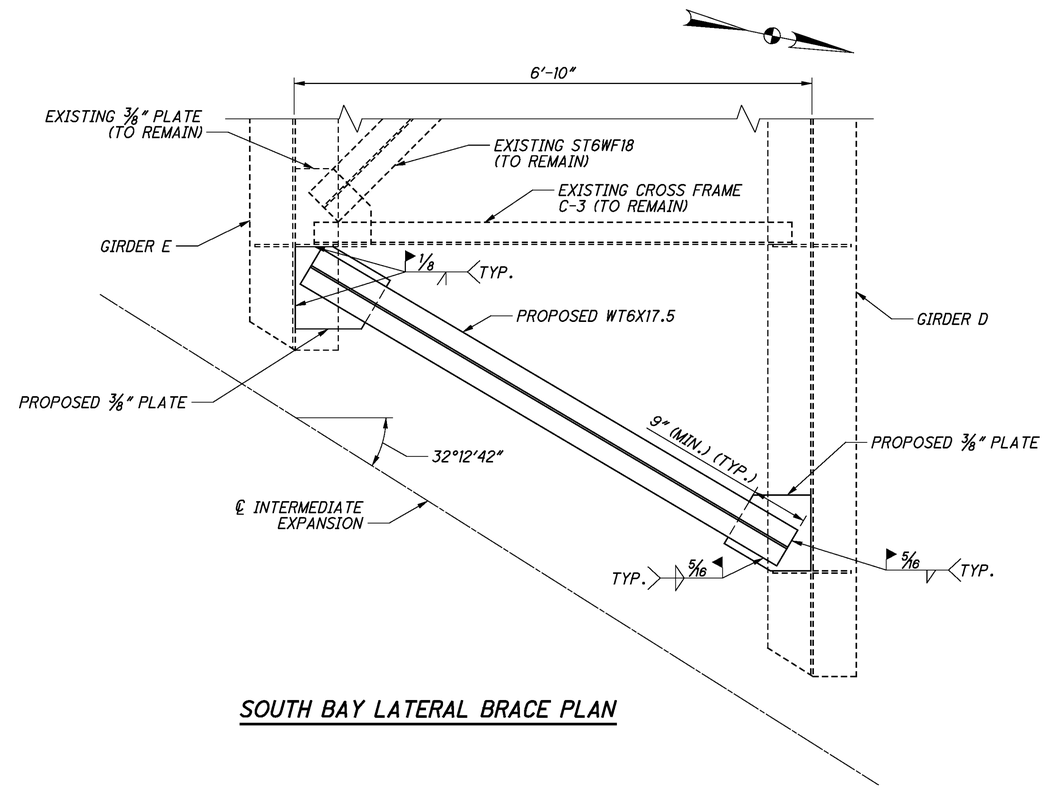
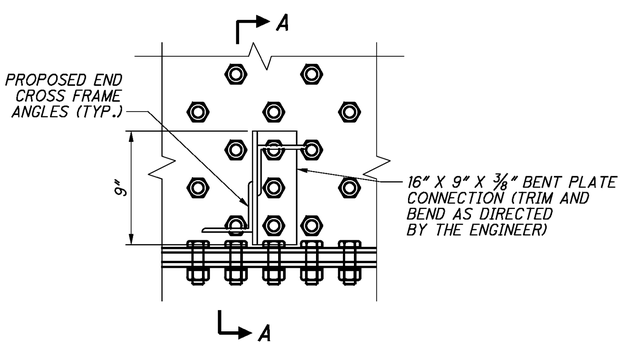


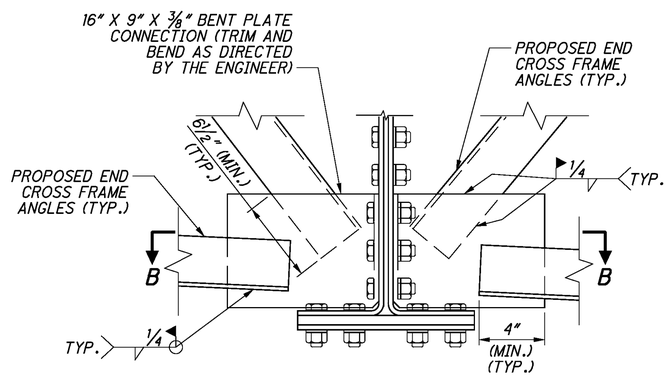
TYPICAL END CROSS FRAME DETAILS



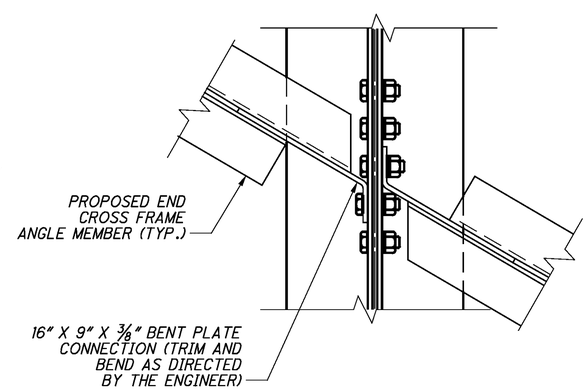
SOUTH BAY LATERAL BRACE PLAN



PROPOSED END CROSS FRAME CONNECTION DETAIL



SECTION A-A



SECTION B-B

NOTES:

1. FOR LOCATIONS OF CROSS FRAME AND LATERAL BRACE REPLACEMENT, SEE SHEET 2/10 .
2. FOR PAYMENT NOTES, SEE SHEET 4/10 .

DESIGN AGENCY
TranSystems
55 PUBLIC SQUARE, SUITE 1900
CLEVELAND, OHIO 44113

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END CROSS FRAME AND LATERAL BRACE DETAILS
SUM-76-1043S
ON RAMP OVER BROADWAY TO I.R. 76

SUM-76-8.42
PID No. 83044

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STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWING(S):

EXJ-4-87 DATED/REVISED 7-19-02

AND TO THE FOLLOWING SUPPLEMENTAL SPECIFICATION(S):

843 DATED 4-18-03

847 DATED 4-15-11

DESIGN SPECIFICATIONS

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

EXISTING STRUCTURE VERIFICATION

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

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

PROPOSED WORK

SUM-277-0089 (IR277 OVER ABANDONED RAILROAD)
- -PATCH ALL UNSOUND AREAS OF THE CONCRETE DECK AND APPROACH SLABS
- -SEAL PATCHED CONCRETE DECK AND APPROACH SLABS WITH SRS CONCRETE TREATMENT
- -PATCH ALL UNSOUND AREAS OF THE SUBSTRUCTURE AND MEDIAN
- -REPAIR OUTSIDE PARAPETS
- -REPAIR THE SLOPE PROTECTION AT THE FORWARD AND REAR ABUTMENTS WHERE THE FOOTER IS EXPOSED
- -REPAIR EROSION AT THE FORWARD RIGHT CORNER ALONG THE APPROACH SLAB
- -SEAL ALL EXPOSED CONCRETE SURFACES OF THE PARAPETS, MEDIAN, ABUTMENTS, AND PIERS WITH EPOXY-URETHANE
- -CLEARING AND GRUBBING 10' AROUND THE STRUCTURE FOR SEALING OPERATIONS
- -NEW STRUCTURE IDENDIFICATION SIGNS

SUM-277-0113 (IR277 OVER WATERLOO RD)
- -REMOVE ALL ASPHALT ON APPROACH SLABS
- -PATCH ALL UNSOUND AREAS OF THE CONCRETE DECK AND APPROACH SLABS
- -PLACE AN ASPHALT CONCRETE OVERLAY WITH WATERPROOFING ON THE PATCHED CONCRETE DECK AND APPROACH SLABS
- -PLACE A POLYMER MODIFIED ASPHLALT JOINT
- -RAISE EXISTING SCUPPERS TO PROPOSED OVERLAY ELEVATION
- -PATCH ALL UNSOUND AREAS OF THE SUBSTRUCTURE AND MEDIAN
- -REPAIR OUTSIDE PARAPETS
- -REMOVE ALL SPALLED AREAS OF THE BOTTOM DECK FLOOR AND SEAL WITH EPOXY-URETHANE
- -REPAIR THE CONCRETE SLOPE PROTECTION AT THE FORWARD LEFT AND REAR MIDDLE ABUTMENTS
- -SEAL ALL EXPOSED CONCRETE SURFACES OF THE PARAPETS, MEDIAN, ABUTMENTS, AND PIERS WITH EPOXY-URETHANE
- -CLEARING AND GRUBBING 10' AROUND THE STRUCTURE FOR SEALING OPERATIONS
- -NEW STRUCTURE IDENDIFICATION SIGNS

SUM-277-0133 (IR277 OVER SR93 MANCHESTER RD)
- -REMOVE ALL ASPHALT ON APPROACH SLABS
- -PATCH ALL UNSOUND AREAS OF THE CONCRETE DECK AND APPROACH SLABS
- -PLACE AN ASPHALT CONCRETE OVERLAY WITH WATERPROOFING ON THE PATCHED CONCRETE DECK AND APPROACH SLABS
- -PLACE A POLYMER MODIFIED ASPHLALT JOINT
- -RAISE EXISTING SCUPPERS TO PROPOSED OVERLAY ELEVATION
- -PATCH ALL UNSOUND AREAS OF THE SUBSTRUCTURE AND MEDIAN
- -REPAIR OUTSIDE PARAPETS
- -REPAIR TOP OF BACKWALL AT THE FORWARD RIGHT ABUTMENT NEAR THE MEDIAN WALL
- -REMOVE ALL SPALLED AREAS OF THE BOTTOM DECK FLOOR AND SEAL WITH EPOXY-URETHANE
- -TRIM END OF BEAMS AT THE FORWARD ABUTMENT
- -REFURBISH EXISTING FORWARD ABUTMENT BEARINGS
- -REPAIR CONCRETE SLOPE PROTECTION AT THE FORWARD LEFT
- -SEAL ALL EXPOSED CONCRETE SURFACES OF THE PARAPETS, MEDIAN, ABUTMENTS, AND PIERS WITH EPOXY-URETHANE
- -CLEARING AND GRUBBING 10' AROUND THE STRUCTURE FOR SEALING OPERATIONS
- -NEW STRUCTURE IDENDIFICATION SIGNS

SUM-277-0175 (IR277 OVER OHIO CANAL & LEY DR)
- -SEAL CONCRETE DECK AND APPROACH SLABS WITH SRS CONCRETE TREATMENT
- -PATCH ALL UNSOUND AREAS OF THE SUBSTRUCTURE AND MEDIAN
- -REPAIR OUTSIDE PARAPETS
- -REFURBISH EXISTING ABUTMENT BEARINGS
- -REPAIR SLOPE PROTECTION AT THE REAR MIDDLE ABUTMENT
- -SEAL ALL EXPOSED CONCRETE SURFACES OF THE PARAPETS, MEDIAN, ABUTMENTS, AND PIERS WITH EPOXY-URETHANE
- -CLEARING AND GRUBBING 10' AROUND THE STRUCTURE FOR SEALING OPERATIONS
- -NEW STRUCTURE IDENDIFICATION SIGNS

SUM-277-0227 (IR277 OVER BREWSTER RUN)
- -PATCH ALL UNSOUND AREAS ON THE INSIDE OF THE CULVERTS
- -REPAIR THE SCOUR AT THE INLET END
- -PIPE CLEANOUT
- -CHANNEL CLEANOUT 20' OUT FROM THE INLET AND OUTLET
- -REPAIR EROSION BEHIND THE INLET HEADWALL
- -CLEARING AND GRUBBING 20' AROUND THE INLET AND OUTLET
- -NEW STRUCTURE IDENDIFICATION SIGNS

SUM-277-0246 (SOUTH MAIN ST OVER IR277)
- -SEAL CONCRETE DECK AND APPROACH SLABS WITH SRS CONCRETE TREATMENT
- -SEAL ALL EXPOSED CONCRETE SURFACES OF THE PARAPETS, ABUTMENTS, AND PIERS WITH EPOXY-URETHANE
- -CLEARING AND GRUBBING 10' AROUND THE STRUCTURE FOR SEALING OPERATIONS
- -NEW STRUCTURE IDENDIFICATION SIGNS

SUM-277-0304 (IR277 OVER GLENMOUNT AVE)
- -PATCH ALL UNSOUND AREAS OF THE CONCRETE DECK AND APPROACH SLABS
- -PLACE AN ASPHALT CONCRETE OVERLAY WITH WATERPROOFING ON THE PATCHED CONCRETE DECK AND APPROACH SLABS
- -PLACE A POLYMER MODIFIED ASPHLALT JOINT
- -RAISE EXISTING SCUPPERS TO PROPOSED OVERLAY ELEVATION
- -PATCH ALL UNSOUND AREAS OF THE SUBSTRUCTURE AND MEDIAN
- -REPAIR OUTSIDE PARAPETS
- -REMOVE ALL SPALLED AREAS OF THE BOTTOM DECK FLOOR AND SEAL WITH EPOXY-URETHANE
- -SEAL ALL EXPOSED CONCRETE SURFACES OF THE PARAPETS, MEDIAN, ABUTMENTS, AND PIERS WITH EPOXY-URETHANE
- -CLEARING AND GRUBBING 10' AROUND THE STRUCTURE FOR SEALING OPERATIONS
- -NEW STRUCTURE IDENDIFICATION SIGNS

SUM-277-0367 (IR277 OVER BRANCH BREWSTER RUN)
- -CHANNEL CLEANOUT 15' OUT FROM THE INLET AND OUTLET END
- -REPAIR EROSION ALONG THE OUTSIDE OF THE CONCRETE GUTTER AT THE REAR RIGHT CORNER OF CULVERT
- -CLEARING AND GRUBBING 15' AROUND THE INLET AND OUTLET
- -NEW STRUCTURE IDENDIFICATION SIGNS

SUM-277-0369 (IR277 OVER IR77)
- -PATCH ALL UNSOUND AREAS OF THE CONCRETE DECK AND APPROACH SLABS
- -PLACE AN ASPHALT CONCRETE OVERLAY WITH WATERPROOFING ON THE PATCHED CONCRETE DECK AND APPROACH SLABS
- -PLACE A POLYMER MODIFIED ASPHLALT JOINT
- -RAISE EXISTING SCUPPERS TO PROPOSED OVERLAY ELEVATION
- -PATCH ALL UNSOUND AREAS OF THE SUBSTRUCTURE AND MEDIAN
- -REPAIR OUTSIDE PARAPETS
- -REMOVE ALL SPALLED AREAS OF THE BOTTOM DECK FLOOR AND SEAL WITH EPOXY-URETHANE
- -TRIM END OF BEAMS AT THE REAR ABUTMENT
- -REPAIR PAINT EXISTING OZEU PAINT SYSTEM
- -REFURBISH EXISTING ABUTMENT BEARINGS
- -SEAL ALL EXPOSED CONCRETE SURFACES OF THE PARAPETS, MEDIAN, ABUTMENTS, AND PIERS WITH EPOXY-URETHANE
- -CLEARING AND GRUBBING 10' AROUND THE STRUCTURE FOR SEALING OPERATIONS
- -NEW STRUCTURE IDENDIFICATION SIGNS

SUM-224-1061 (US224 OVER SOUTH ARLINGTON ST)
- -REMOVE AND REPLACE THE EXISTING CONCRETE OVERLAY ON THE DECK
- -REMOVE EXISTING ASPHALT CONCRETE OVERLAY AND PLACE A CONCRETE OVERLAY ON THE APPROACH SLABS
- -PATCH ALL UNSOUND AREAS OF THE SUBSTRUCTURE AND MEDIAN
- -REPAIR OUTSIDE PARAPETS
- -REMOVE ALL SPALLED AREAS OF THE BOTTOM DECK FLOOR AND SEAL WITH EPOXY-URETHANE
- -REPAIR CONCRETE SLOPE PROTECTION AT THE FORWARD MIDDLE AND REAR MIDDLE
- -REPAIR EROSION AT THE FORWARD AND REAR RIGHT WINGWALLS WHERE THE FOOTER IS EXPOSED
- -SEAL ALL EXPOSED CONCRETE SURFACES OF THE PARAPETS, MEDIAN, ABUTMENTS, AND PIERS WITH EPOXY-URETHANE
- -CLEARING AND GRUBBING 10' AROUND THE STRUCTURE FOR SEALING OPERATIONS
- -NEW STRUCTURE IDENDIFICATION SIGNS

SUM-224-1105 (KELLY AVE OVER US224)
- -SEAL CONCRETE DECK AND APPROACH SLABS WITH SRS CONCRETE TREATMENT
- -PATCH ALL UNSOUND AREAS OF THE SUBSTRUCTURE AND PARAPETS
- -REPLACE EXISTING EXPANSION JOINT SEALS
- -REFURBISH EXISTING FORWARD ABUTMENT BEARINGS
- -SEAL ALL EXPOSED CONCRETE SURFACES OF THE PARAPETS, ABUTMENTS, AND PIERS WITH EPOXY-URETHANE
- -CLEARING AND GRUBBING 10' AROUND THE STRUCTURE FOR SEALING OPERATIONS
- -NEW STRUCTURE IDENDIFICATION SIGNS

SUM-77-0927R (IR77 SB OFF RAMP TO US224 EB)
- -PATCH ALL UNSOUND AREAS OF THE CONCRETE DECK, TOP OF BACKWALLS, AND APPROACH SLABS
- -PATCH ALL UNSOUND AREAS OF THE SUBSTRUCTURE
- -REPAIR OUTSIDE PARAPETS
- -SEAL ALL EXPOSED CONCRETE SURFACES OF THE PARAPETS, ABUTMENTS, AND PIERS WITH EPOXY-URETHANE
- -CLEARING AND GRUBBING 10' AROUND THE STRUCTURE FOR SEALING OPERATIONS
- -NEW STRUCTURE IDENDIFICATION SIGNS

SUM-77-0958L (IR77 NB OFF RAMP TO IR277 WB)
- -PATCH ALL UNSOUND AREAS OF THE CONCRETE DECK
- -REPAIR DAMAGED EXPANSION JOINT AT REAR ABUTMENT
- -PATCH ALL UNSOUND AREAS OF THE SUBSTRUCTURE
- -REPAIR OUTSIDE PARAPETS
- -REMOVE ALL SPALLED AREAS OF THE BOTTOM DECK FLOOR AND SEAL WITH EPOXY-URETHANE
- -SEAL ALL EXPOSED CONCRETE SURFACES OF THE PARAPETS, ABUTMENTS, AND PIERS WITH EPOXY-URETHANE
- -CLEARING AND GRUBBING 10' AROUND THE STRUCTURE FOR SEALING OPERATIONS
- -NEW STRUCTURE IDENDIFICATION SIGNS

CLEARING AND GRUBBING

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

ITEM SPECIAL - PIPE CLEANOUT

THIS WORK SHALL CONSIST OF REMOVING SEDIMENT AND DEBRIS FROM STRUCTURE SUM-277-0227. ALL MATERIAL REMOVED SHALL BE DISPOSED OF AS PER 105.16 AND 105.17. THE STRUCTURE SHALL BE CLEANED OUT TO THE SATISFACTION OF THE ENGINEER.

CLEANOUT OF THE PIPE SHALL BE PAID FOR AT THE UNIT PRICE BID FOR ITEM SPECIAL - PIPE CLEANOUT. THIS PRICE SHALL INCLUDE THE COST FOR MATERIAL, EQUIPMENT, LABOR, AND ALL INCIDENTALS REQUIRED TO COMPLETE THE CLEANOUT.

ITEM 202, REMOVAL MISC.: CHANNEL CLEANOUT

THIS WORK SHALL CONSIST OF RE-ESTABLISHING THE ORIGINAL CHANNEL PROFILE BY REMOVING SEDIMENT BUILDUP, VEGETATION, AND DEBRIS FROM THE EXISTING CHANNEL WITHIN STATE RIGHT-OF-WAY LIMITS AS SPECIFIED IN THE PLANS FOR STRUCTURES SUM-277-0227 AND SUM-277-0367. ANY TREES LOCATED WITHIN CHANNEL OR BANK LIMITS SHALL BE INCLUDED UNDER ITEM 201, CLEARING AND GRUBBING. ALL MATERIALS REMOVED SHALL BE DISPOSED OF IN ACCORDANCE WITH 105.16 AND 105.17 OF THE CMS WITH THE APPROVAL OF THE ENGINEER. NO AREAS OF EXISTING CHANNEL PROTECTION SHALL BE REMOVED IN ORDER TO RESTORE THE ORIGINAL CHANNEL PROFILE. AFFECTED CHANNEL AREAS SHALL BE CLEANED OUT TO THE SATISFACTION OF THE ENGINEER.

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

ITEM 203, BORROW

THIS WORK WILL CONSIST OF REPAIRING THE EROSION ALONG THE FORWARD RIGHT APPROACH SLAB OF STRUCTURE SUM-277-0089. EROSION REPAIR WILL BE PAID FOR AT THE CU YD BID FOR ITEM 203, BORROW. THIS PRICE WILL INCLUDE THE COST FOR LABOR, EQUIPMENT, AND ALL INCIDENTIALS REQUIRED TO COMPLETE THIS WORK.

ITEM 509 REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN

REPLACE ALL EXISTING REINFORCING BARS DEEMED BY THE ENGINEER TO BE UNUSABLE BECAUSE OF CORROSION. THE DEPARTMENT WILL MEASURE THE REPLACEMENT REINFORCING STEEL BY THE NUMBER OF POUNDS ACCEPTED IN PLACE.

REPLACE ALL EXISTING REINFORCING STEEL BARS WHICH ARE TO BE INCORPORATED INTO THE NEW WORK AND ARE DEEMED BY THE ENGINEER TO BE MADE UNUSABLE BY CONCRETE REMOVAL OPERATIONS WITH NEW EPOXY COATED REINFORCING STEEL OF THE SAME SIZE AT NO COST TO THE DEPARTMENT.

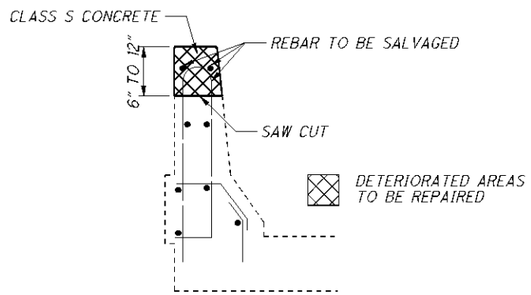
ITEM 512, TYPE 3 WATERPROOFING, AS PER PLAN

APPLY THE PRIMER COAT AT A RATE OF 0.10 TO 0.20 GALLONS (0.50 TO 0.70 LITERS) OF ASPHALT MATERIAL PER SQUARE YARDS (SQUARE METERS), OR AS PER THE MANUFACTURER'S WRITTEN SPECIFICATIONS.

ITEM 511 - CONCRETE MISC.: PARAPET REPAIR

THIS ITEM WILL BE USED TO REPAIR DAMAGED PARAPETS OF STRUCTURES SUM-277-0089, SUM-277-0113, SUM-277-0133, SUM-277-0175, SUM-277-0304, SUM-277-0369, SUM-224-1061, SUM-77-0927R, AND SUM-77-0958L.

SAWCUT AND REMOVE DAMAGED/SPALLED AREAS OF THE EXISTING PARAPETS TO A MINIMUM DEPTH OF 6" AND A MAXIMUM DEPTH OF 12" OR AS DIRECTED BY THE ENGINEER. CARE SHALL BE TAKEN WHEN REMOVING SPALLED CONCRETE TO SALVAGE EXISTING REBAR. CLASS S CONCRETE WILL BE USED TO REPAIR THE DAMAGED PARAPETS. THE REMOVAL OF CONCRETE, PREPARATION OF THE SURFACES, FORMS, AND CLASS S CONCRETE WILL BE INCIDENTAL TO THIS ITEM. PAYMENT WILL BE MADE AT THE CONTRACT PRICE PER FOOT FOR ITEM 511, CONCRETE MISC.: PARAPET REPAIR.

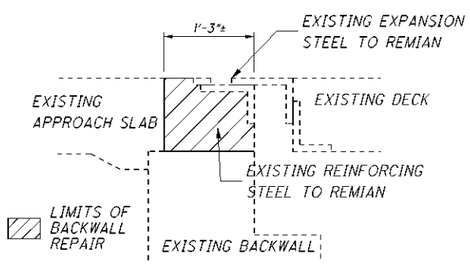


ITEM 511, CONCRETE MISC.: BACKWALL REPAIR

THIS ITEM CONSISTS OF THE REMOVAL OF ALL UNSOUND CONCRETE AT OF THE BACKWALLS OF STRUCTURE SUM-277-0133 TO THE LIMITS SHOWN BELOW OR AS DIRECTED BY THE ENGINEER, THE PREPARATION OF THE SURFACE, FORMS, TEMPORARY SUPPORTS OF THE EXPANSION JOINT, AND PROVIDING AND PLACING OF CLASS S CONCRETE.

TEMPORARY SUPPORT OF THE EXPANSION JOINT WILL BE USED TO MAINTAIN THE PROPER ALIGNMENT AND GRADE OF THE JOINT DURING REMOVAL AND REPLACEMENT OF THE BACKWALL CONCRETE. THE COST OF THIS TEMPORARY SUPPORT WILL BE INCIDENTAL TO THIS ITEM.

PAYMENT WILL BE MADE AT THE CONTRACT PRICE PER CU.YD. FOR ITEM 511, CONCRETE MISC.: BACKWALL REPAIR WHICH WILL INCLUDE ALL MATERIALS AND LABOR INCLUDING REMOVAL AND DISPOSAL OF THE EXISTING CONCRETE REQUIRED TO MAKE THIS ITEM COMPLETE.



ITEM 513, STRUCTURAL STEEL MISC.: REPLACEMENT OF PORTION OF DAMAGED RISER BAR

AFTER EXISTING AREA OF CONCRETE DECK PATCH AREA HAS BEEN REMOVED AND PRIOR TO CONCRETE PATCH MATERIAL PLACEMENT OF STRUCTURE SUM-77-0958L, INSPECT THE RISER BAR AT THE REAR ABUTMENT FOR DAMAGED AREAS. REMOVE DAMAGED RISER BAR AND PREPARE THE EXISTING STEEL FOR WELDING A NEW STEEL RISER BAR. PERFORM A 5/16 INCH FILLET WELDS ACCORDING TO .THE ITEM 513 USING APPROVED ELECTRODES, PROCEDURES, AND WELDERS TO ATTACH THE NEW STEEL BAR. THE NEW RISER BAR WILL BE FIELD VERIFIED FOR SIZE PRIOR TO ORDERING ANY MATERIAL. THE DEPARTMENT WILL INCLUDE ALL MATERIALS, LABOR, AND ALL INCIDENTALS EXCEPT PATCHING OPERATIONS NECESSARY TO COMPLETE THE ABOVE WORK FOR PAYMENT WITH ITEM 513 - STRUCTURAL STEEL MISC.: REPLACEMENT OF PORTION OF DAMAGED RISER BAR.

ITEM 514 - FIELD PAINTING, MISC.; REPAIR PAINTING

PAINTED AREAS THAT ARE DAMAGED OR RUSTED WILL BE DESIGNATED BY THE PROJECT ENGINEER. THE CMS 514.22 PROCESS WILL BE USED TO REPAIR THESE AREAS.

THE CONTRACTOR SHALL PROVIDE THE ENGINEER WITH ALL NECESSARY EQUIPMENT TO INSPECT THIS WORK.

THE MAJORITY OF THE AREAS TO BE REPAIR PAINTED ARE: SUM-277-0369: OVER TRAFFIC ON IR77

AREAS TO BE REPAIR PAINTED ARE NOT LIMITED TO THESE AREAS. THE AREAS DESIGNATED BY THE PROJECT ENGINEER WILL BE PAINTED.

ITEM 516 - ELASTOMERIC STRIP SEAL WITHOUT STEEL EXTRUSIONS, AS PER PLAN

THIS ITEM WILL INCLUDE THE REMOVAL AND REPLACEMENT OF THE EXISTING STRIP SEAL GLANDS FROM EDGE TO EDGE OF STRUCTURE SUM-224-1105 DECK. UPON REMOVAL OF THE SEAL, THE CONTRACTOR WILL ATTEMPT TO MATCH THE REPLACEMENT SEAL AS CLOSELY AS POSSIBLE WITH THE EXISTING SEAL SO AS TO PROVIDE A SNUG, WATERTIGHT SEAL. THE EXISTING STRIP SEAL WILL BE FIELD MEASURE PRIOR TO ORDERING MATERIAL. THE STRIP SEAL AND INSTALLATION WILL MEET THE REQUIREMENTS OF STANDARD DRAWING EXJ-4-87.

THIS WORK WILL BE PAID FOR AT THE UNIT PRICE BID FOR ITEM 516, ELASTOMERIC STRIP SEAL WITH STEEL EXTRUSION, AS PER PLAN. THIS PRICE WILL INCLUDE THE REMOVAL OF THE EXISTING STRIP SEAL, LABOR, EQUIPMENT, MATERIAL, AND INCIDENTALS REQUIRED TO REPLACE THE STRIP SEAL.

REQUIRED JOINT OPENING (DIM. "A") - 3" STRIP SEAL

TEMPERATURE (°F)	REAR ABUTMENT (DIM. "A")	FORWARD ABUTMENT (DIM. "A")
30°	1.82"	1.77"
40°	1.75"	1.72"
50°	1.68"	1.67"
60°	1.61"	1.62"
70°	1.54"	1.57"
80°	1.47"	1.52"
90°	1.40"	1.47"

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 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.

SPECIAL - STRUCTURE MISC.: CONCRETE SPALL REMOVAL

THIS WORK WILL CONSIST OF REMOVING ALL VISIBLY SPALLED AREAS OF THE BOTTOM DECK FLOOR OF STRUCTURES SUM-271-0113, SUM-271-0133, SUM-277-0304, SUM-277-0369, SUM-224-1061, AND SUM-77-0958L WITHOUT SOUNDING. AFTER SPALLED CONCRETE AREAS HAVE BEEN REMOVED SEAL WITH ITEM 512, SEALING OF CONCRETE SURFACES (EPOXY-URETHANE).

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

CONCRETE SLOPE PROTECTION REPAIR

THIS WORK WILL CONSIST OF REMOVING AND REPLACING SLABS OF THE CONCRETE SLOPE PROTECTION UNDER STRUCTURES SUM-277-0113, SUM-277-0133, AND SUM-224-1061 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. REMOVAL OF EXISTING CONCRETE SLOPE PROTECTION SLABS AND MATERIAL WILL BE INCIDENTIAL TO ITEM 601, CONCRETE SLOPE PROTECTION.

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 601, DUMP ROCK FILL, TYPE D

THIS WORK WILL CONSIST OF REPAIRING THE SLOPE PROTECTION AT THE FORWARD AND REAR ABUTMENT WHERE THE FOOTER IS EXPOSED OF STRUCTURE SUM-277-0089.

THIS WORK WILL CONSIST OF REPAIRING THE SLOPE PROTECTION IN THE MIDDLE OF THE REAR ABUTMENT SLOPE OF STRUCTURE SUM-277-0175.

THIS WORK WILL CONSIST OF REPAIRING THE EROSION BEHIND THE INLET HEADWALL OF STRUCTURE SUM-277-0227.

THIS WORK WILL CONSIST OF REPAIRING THE EROSION BEHIND THE CONCRETE GUTTER AT THE REAR RIGHT CORNER OF STRUCTURE SUM-277-0367.

ALL REPAIRS WILL BE PAID FOR AT THE UNIT BID PRICE FOR ITEM 601, DUMP ROCK FILL, TYPE D. THIS PRICE WILL INCLUDE THE COST FOR LABOR, EQUIPMENT, AND ALL INCIDENTIALS REQUIRED TO COMPLETE THIS WORK.

ITEM 601, ROCK CHANNEL PROTECTION, TYPE B WITH AGGREGATE FILTER

THIS WORK WILL CONSIST OF REPAIRING THE SCOUR THAT HAS FORMED AT THE INLET OF STRUCTURE SUM-277-0227. SCOUR REPAIR WILL BE PAID FOR AT THE UNIT PRICE BID FOR ITEM 601, ROCK CHANNEL PROTECTION, TYPE B WITH AGGREGATE FILTER. THIS PRICE WILL INCLUDE THE COST FOR LABOR, EQUIPMENT, AND ALL INCIDENTIALS REQUIRED TO COMPLETE THIS WORK.

ITEM 601, DUMP ROCK FILL, TYPE C

THIS WORK WILL CONSIST OF REPAIRING THE EROSION BEHIND THE FORWARD RIGHT AND REAR RIGHT WINGWALLS WHERE THE FOOTERS ARE EXPOSED OF STRUCTURE SUM-224-1061.

REPAIRS WILL BE PAID FOR AT THE UNIT BID PRICE FOR ITEM 601, DUMP ROCK FILL, TYPE C. THIS PRICE WILL INCLUDE THE COST FOR LABOR, EQUIPMENT, AND ALL INCIDENTIALS REQUIRED TO COMPLETE THIS WORK.

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 SUM-277-0089 (SFN:7709579) THE EXISTING SIGN SHOWS 0.92. THE CORRECT BRIDGE IDENTIFICATION NUMBER IS 0089.

STRUCTURE SUM-277-0113 (SFN:7709609) THE EXISTING SIGN SHOWS 1.15. THE CORRECT BRIDGE IDENTIFICATION NUMBER IS 0113.

STRUCTURE SUM-277-0133 (SFN:7709633) THE EXISTING SIGN SHOWS 1.34. THE CORRECT BRIDGE IDENTIFICATION NUMBER IS 0133.

STRUCTURE SUM-277-0227 (SFN:7709714) THE EXISTING SIGN SHOWS 2.32. THE CORRECT BRIDGE IDENTIFICATION NUMBER IS 0227.

STRUCTURE SUM-277-0246 (SFN:7709730) THE EXISTING SIGN SHOWS 2.47. THE CORRECT BRIDGE IDENTIFICATION NUMBER IS 0246.

STRUCTURE SUM-277-0304 (SFN:7709757) THE EXISTING SIGN SHOWS 3.05. THE CORRECT BRIDGE IDENTIFICATION NUMBER IS 0304.

STRUCTURE SUM-277-0369 (SFN:7709811) THE EXISTING SIGN SHOWS SUM-277-3.74 ABOVE ALONG IR277. THE CORRECT BRIDGE IDENTIFICATION NUMBER IS SUM-277-0369. THE EXISTING SIGN SHOWS SUM-77-9.43 BELOW ALONG IR77. THE CORRECT BRIDGE IDENTIFICATION NUMBER IS SUM-77-0942.

STRUCTURE IDENTIFICATION SIGNS

STRUCTURE IDENTIFICATION SIGNS (I-H25a) 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.

INSTALL SIGNS FOR THE FOLLOWING STRUCTURES:
SUM-277-0089 (2 APPROACHES), SUM-277-0113 (2 APPROACHES), SUM-277-0133 (2 APPROACHES), SUM-277-0175 (2 APPROACHES), SUM-277-0227 (2 APPROACHES), SUM-277-0246 (2 APPROACHES), SUM-277-0304 (2 APPROACHES), SUM-277-0367 (2 APPROACHES), SUM-224-1061 (2 APPROACHES), & SUM-224-1105 (2 APPROACHES)

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

OBJECT MARKERS AND STRUCTURE IDENTIFICATION SIGNS

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

STRUCTURE IDENTIFICATION SIGNS (I-H25a) WILL BE INSTALLED ON THE SAME POST AND DIRECTLY BELOW THE OBJECT MARKER OFF THE RIGHT SHOULDER ON EACH APPROACH. A QUANTITY OF ONE SIGN WILL BE INSTALLED AT EACH APPROACH. THE SIGNS WILL HAVE A NON-REFLECTIVE WHITE SHEETING BACKGROUND.

INSTALL SIGNS FOR THE FOLLOWING STRUCTURES:
SUM-277-0369 (2 APPROACHES ABOVE ALONG IR277)
SUM-77-0942 (2 APPROACHES BELOW ALONG IR77: ID SIGNS ONLY)
SUM-77-0927R (1 APPROACH ABOVE ON IR77 RAMP)
SUM-77-0927 (1 APPROACH BELOW ALONG IR77 NB: ID SIGN ONLY)
SUM-77-0958L (1 APPROACH ABOVE ON IR77 RAMP)
SUM-77-0958 (1 APPROACH BELOW ALONG IR77 SB: ID SIGN ONLY)

THE FOLLOWING QUANTITIES HAVE BEEN INCLUDED FOR EACH APPROACH:
- ITEM 630 - SIGN, FLAT SHEET, 730.20, 1 SQ FT
- ITEM 630 - SIGN, FLAT SHEET, 6 SQ FT
- ITEM 630 - GROUND MOUNTED SUPPORT, NO. 2 POST, 21 FT
- ITEM 630 - REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL, 3 EACH
- ITEM 630 - REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL, 2 EACH

ITEM 847 - MICRO-SILICA MODIFIED CONCRETE OVERLAY, AS PER PLAN
ITEM 847 - MICRO-SILICA MODIFIED CONCRETE OVERLAY (VARIABLE THICKNESS), MATERIAL ONLY, AS PER PLAN
ITEM 847 - FULL DEPTH REPAIR, AS PER PLAN
ITEM 847 - WEARING COURSE REMOVED, ASPHALT, AS PER PLAN
ITEM 847 - EXISTING CONCRETE OVERLAY REMOVED, AS PER PLAN

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

THE THICKNESS OF THE CONCRETE OVERLAY REMOVED, ASPHALT WEARING COURSE REMOVED, AND PROPOSED OVERLAY SHALL BE AS SPECIFIED IN THE PLANS.
CONSTRUCTION JOINTS WILL NOT BE PERMITTED IN THE WHEEL LINE.

(SEE 847.11) THE COMPONENTS OF THE MICRO-SILICA MODIFIED CONCRETE SHALL BE PROPORTIONED AS FOLLOWS.

CONCRETE TABLE
QUANTITIES PER CUBIC YARD
AGGREGATES (SSD)

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

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

** FIBER MESH SHALL BE 100% VIRGIN POLYPROPYLENE IN A FIBRILLATED NETWORK FORM AND SHALL BE 1 1/4" IN LENGTH.

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

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

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

(SEE 847.18) THE FINAL DECK SOUNDING MAY TAKE PLACE WITHIN 24 HOURS OF A RAIN, AND THE DECK DOES NOT HAVE TO BE COMPLETELY DRY.

(SEE 847.19) FULL DEPTH REPAIR IS NOT REQUIRED IF LESS THAN ONE HALF OF THE DECK ORIGINAL CONCRETE THICKNESS IS SOUND.

(SEE 847.25) THE WET CURE TIME IS REDUCED FROM 72 HOURS TO 24 HOURS OR UNTIL A BEAM BREAK OF 600 PSI IS ACHIEVED, WHICHEVER IS GREATER. AFTER THE 24 HOUR WET CURE, THE FINISHED OVERLAY SURFACE SHALL BE CURED BY SPRAYING A UNIFORM APPLICATION OF CURING MATERIAL OF 705.07, TYPE I OR ID, AS PER CMS 511.17 METHOD (B) MEMBRANE CURING. IF THE CURING COMPOUND CAN NOT BE PLACED WITHIN THE SAME SHORT TERM CLOSURE PERIOD AS THE OVERLAY, THE CONTRACTOR MAY ALLOW TRAFFIC ONTO THE OVERLAY, AND SHALL, AT THE NEXT AVAILABLE SHORT TERM CLOSURE PERIOD, APPLY THE MEMBRANE CURING COMPOUND.

(SEE 847.25) TRAFFIC WILL NOT BE PERMITTED ON THE FINISHED OVERLAY SURFACE UNTIL AFTER THE COMPLETION OF THE 24 HOUR WET CURE, AND AFTER TWO TEST BEAMS HAVE ATTAINED AN AVERAGE MODULUS OF RUPTURE OF 600 PST (4.2 Mpa).

(SEE 847.26) THE OVERLAY SURFACE EVAPORATION RATE REQUIREMENTS ARE IN EFFECT FROM 9:30 AM TO 11:00 PM. THEY ARE NOT IN EFFECT FROM 11:00 PM TO 11:00 AM.

(SEE 847.27) FOR EACH PHASE, THE CONTRACTOR SHALL PROVIDE ENOUGH MATERIAL FOR TWO BEAM BREAKS EACH AT 12 HOURS, 24 HOURS, 36 HOURS, AND 48 HOURS. THE DEPARTMENT WILL PERFORM THE BEAM BREAK TESTS AND DOCUMENT THE TIME OF THE POUR, THE TIME OF THE BEAM BREAK TESTS, AND THE MODULUS OF RUPTURE FOR EACH BEAM UNTIL THE MODULUS OF RUPTURE OF THE TWO TESTS IS NOT LESS THAN 650 PSI (4.5 MPa). TRAFFIC IS ALLOWED ON THE OVERLAY AT 600 PSI (4.5 Mpa).

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

CALC:	LMP	DATE:	5/9/2011
CHECKED:	TJP	DATE:	7/13/2011

ESTIMATED QUANTITIES

BRIDGE NO. / STRUCTURE FILE NO.

SUM-277-0089 SFN 7709679	SUM-277-0113 SFN 7709609	SUM-277-0133 SFN 7709633	SUM-277-0175 SFN 7709692	SUM-277-0227 SFN 7709714	SUM-277-0246 SFN 7709730	SUM-277-0304 SFN 7709757	SUM-277-0367 SFN 7709781	SUM-277-0369 SFN 7709811	SUM-224-1061 SFN 7707789	SUM-224-1105 SFN 7707797	SUM-77-0927R SFN 7702647	SUM-77-0958L SFN 7702671	ITEM	EXTENSION	UNIT	DESCRIPTION	SEE SHEET
LUMP	LUMP	LUMP	LUMP	LUMP	LUMP	LUMP	LUMP	LUMP	LUMP	LUMP	LUMP	LUMP	201	11000		CLEARING AND GRUBBING	
	579	577				573		558	188				202	23500	SQ YD	WEARING COURSE REMOVED	
	40	30							30				202	32800	SQ YD	CONCRETE SLOPE PROTECTION REMOVED	
				428									SPEC	20270100	FT	PIPE CLEANOUT	2/9
				40			30						202	98200	FT	REMOVAL MISC.: CHANNEL CLEANOUT	2/9
8													203	40000	CU YD	BORROW	
	470	463				290		1022	29				407	20000	GALLON	TACK COAT, TRACKLESS TACK, INTERMEDIATE COURSE	
	126	125				78		273	8				407	20100	GALLON	TACK COAT, TRACKLESS TACK, SURFACE COURSE	
	131	129				81		284	8				442	10050	CU YD	ASPHALT CONCRETE SURFACE COURSE, 12.5MM, TYPE B (446)	
	169	166				110		347	10				442	10150	CU YD	ASPHALT CONCRETE INTERMEDIATE COURSE, 19MM, TYPE B (446)	
50	50	50	100			50		50	50		100	100	509	20001	POUND	REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN	2/9
		1											511	71100	CU YD	CONCRETE, MISC.: BACKWALL REPAIR	2/9
80	50	50	400			45		50	40		300	300	511	81100	FT	CONCRETE, MISC.: PARAPET REPAIR	2/9
2084	1940	1865	1777		1435	942		4625	1573	1169	895	885	512	10100	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	
2557			2891		2320					1103			512	10400	SQ YD	TREATING OF CONCRETE BRIDGE DECK WITH SRS	
	2551	2507				1358		6257					512	33011	SQ YD	TYPE 3 WATERPROOFING, AS PER PLAN	2/9
844	1840	1765	1121		1435	892		4525	1523	1169	895	835	512	74000	SQ YD	REMOVAL OF EXISTING COATINGS FROM CONCRETE SURFACES	
		14						14					513	21000	EACH	TRIMMING OF BEAM END	
												5	513	95000	FT	STRUCTURAL STEEL, MISC.: REPLACEMENT OF PORTION OF DAMAGED RISER BAR	2/9
								200					514	27700	SQ FT	FIELD PAINTING, MISC.: REPAIR PAINTING	2/9
										90			516	01301	FT	ELASTOMERIC STRIP SEAL WITHOUT STEEL EXTRUSIONS, AS PER PLAN	2/9
	294	254				212		254					SPEC	51631300	FT	POLYMER MODIFIED ASPHALT EXPANSION JOINT SYSTEM	7/9
		14	29					28		7			516	45305	EACH	REFURBISH BEARING DEVICE, AS PER PLAN	2/9
		LUMP	LUMP					LUMP		LUMP			516	47001		JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN	2/9
	20	20				32		50					518	12701	EACH	SCUPPER, VERTICAL EXTENSION, AS PER PLAN	8/9
52	63	62				39		137			10	10	SPEC	51910000	SQ YD	PATCHING CONCRETE BRIDGE DECK OVERLAY WITH MICRO- SILICA MODIFIED CONCRETE	
225	200	200	150	200		300		250	175	150	250	150	519	11101	SQ FT	PATCHING CONCRETE STRUCTURE, AS PER PLAN	2/9
								35					SPEC	51912304	SQ YD	PATCHING CONCRETE BRIDGE DECK - TYPE C	
	LUMP	LUMP				LUMP		LUMP	LUMP			LUMP	SPEC	53000200		STRUCTURE, MISC.: CONCRETE SPALL REMOVAL	3/9
	40	30							30				601	21000	SQ YD	CONCRETE SLOPE PROTECTION	
									20				601	27000	CU YD	DUMPED ROCK FILL, TYPE C	
50			10	10			5						601	28000	CU YD	DUMPED ROCK FILL, TYPE D	
				25									601	32110	CU YD	ROCK CHANNEL PROTECTION, TYPE B WITH AGGREGATE FILTER	
	1	1							1				613	41200	CU YD	LOW STRENGTH MORTAR BACKFILL	
15	15	15	15	15	15	15	15	57	15	15	28.5	28.5	630	02100	FT	GROUND MOUNTED SUPPORT, NO. 2 POST	
2	2	2	2	2	2	2	2	4	2	2	2	2	630	80100	SQ FT	SIGN, FLAT SHEET, 730.20	
								12			6	6	630	80100	SQ FT	SIGN, FLAT SHEET	
2	2	2	2	1	1	2	2	7	2		3	3	630	84900	EACH	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	
2	2	2	2	1	1	2	2	5	2		3	2	630	86002	EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	
150	150	150	100	125		150		175	125	100	150	100	843	50000	SQ FT	PATCHING CONCRETE STRUCTURES WITH TROWELABLE MORTAR	
									2123				847	10001	SQ YD	MICRO SILICA MODIFIED CONCRETE OVERLAY, AS PER PLAN (T = 3")	3/9
									14				847	20001	CU YD	MICRO SILICA MODIFIED CONCRETE OVERLAY (VARIABLE THICKNESS), MATERIAL ONLY, AS PER PLAN	3/9
									LUMP				847	30000		TEST SLAB	
									1				847	30201	CU YD	FULL DEPTH REPAIR, AS PER PLAN	3/9
									400				847	30301	SQ YD	WEARING COURSE REMOVED, ASPHALT, AS PER PLAN	3/9
									1723				847	30401	SQ YD	EXISTING CONCRETE OVERLAY REMOVED, AS PER PLAN (T = 3")	3/9
									400				847	30401	SQ YD	EXISTING CONCRETE OVERLAY REMOVED, AS PER PLAN (T = 1 1/2")	3/9
									64				847	50000	SQ YD	HAND CHIPPING	

DESIGN AGENCY
ODOT --- DISTRICT 4
PLANNING AND ENGINEERING

DESIGNED	DRAWN	REVIEWED	DATE
LMP	LMP	TJP	07-13-11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
AAM			

STRUCTURE ESTIMATED QUANTITIES

SUM-277-0089, SUM-277-0113, SUM-277-0133, SUM-277-0175, SUM-271-0227, SUM-271-0246, SUM-277-0304, SUM-277-0367, SUM-277-0369, SUM-224-1061, SUM-224-1105, SUM-77-0927R, AND SUM-77-0958L

SUM-76/77/277/224-VAR
PID No. 76351

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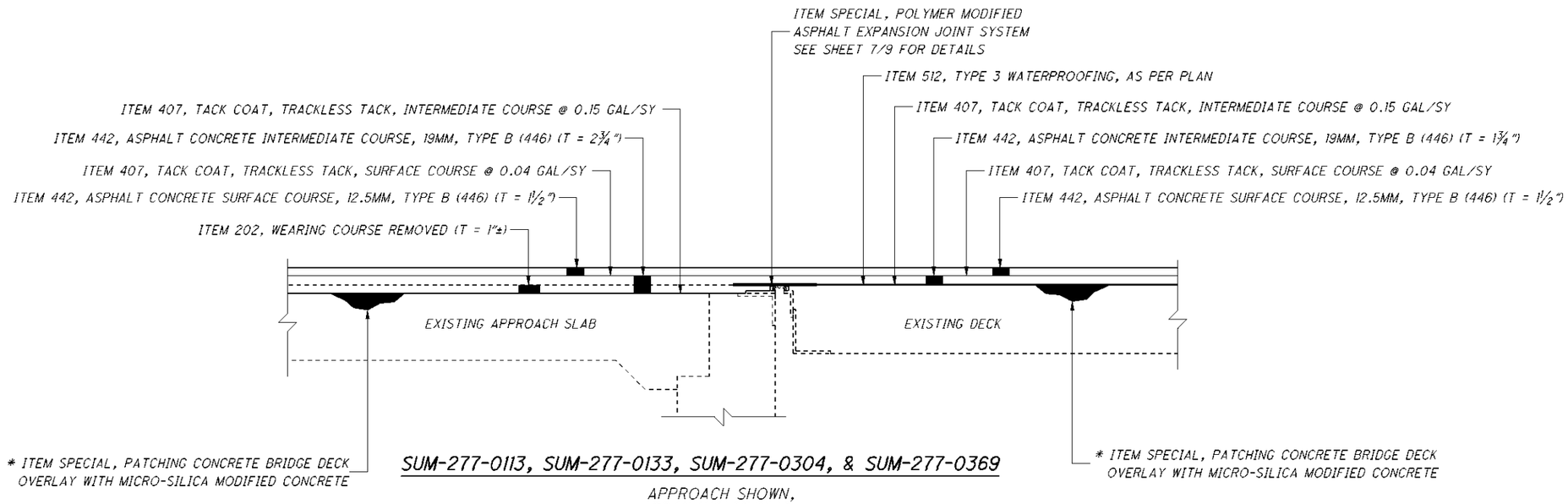

SUM-277-0113, SUM-277-0133, SUM-277-0304, & SUM-277-0369

APPROACH SHOWN,
TRAILING SIMILAR

* ITEM SPECIAL, PATCHING CONCRETE BRIDGE DECK - TYPE C WILL BE USED ON STRUCTURE SUM-277-0369 WESTBOUND OUTSIDE LANE (EXIT LANE) ONLY.

	BRIDGE DECK												APPROACH SLABS												
				407	407	442	442	512	512	SPEC	SPEC	SPEC					202	407	407	442	442	512		SPEC	SPEC
BRIDGE NUMBER	LENGTH (BRIDGE LIMITS)	BRIDGE WIDTH	DECK AREA	TACK COAT, TRACKLESS TACK, INTERMEDIATE COURSE @ 0.15 GAL/SY	TACK COAT, TRACKLESS TACK, SURFACE COURSE @ 0.04 GAL/SY	ASPHALT CONCRETE SURFACE COURSE, 12.5MM, TYPE B (446) (T = 1 1/2")	ASPHALT CONCRETE INTERMEDIATE COURSE, 19MM, TYPE B (446) (T = 1 3/4")	TREATING OF CONCRETE BRIDGE DECK WITH SRS	TYPE 3 WATERPROOFING, AS PER PLAN	POLYMER MODIFIED ASPHALT EXPANSION JOINT SYSTEM	PATCHING CONCRETE BRIDGE DECK OVERLAY WITH MICRO-SILICA MODIFIED CONCRETE	PATCHING CONCRETE BRIDGE DECK - TYPE C	LENGTH (APPROACH SLABS)	APPROACH SLAB WIDTH	APPROACH SLAB AREA	APPROACH (FORWARD / REAR)	WEARING COURSE REMOVED (T = 1"±)	TACK COAT, TRACKLESS TACK, INTERMEDIATE COURSE @ 0.15 GAL/SY	TACK COAT, TRACKLESS TACK, SURFACE COURSE @ 0.04 GAL/SY	ASPHALT CONCRETE SURFACE COURSE, 12.5MM, TYPE B (446) (T = 1 1/2")	ASPHALT CONCRETE INTERMEDIATE COURSE, 19MM, TYPE B (446) (T = 2 3/4")	TREATING OF CONCRETE BRIDGE DECK WITH SRS		PATCHING CONCRETE BRIDGE DECK OVERLAY WITH MICRO-SILICA MODIFIED CONCRETE	PATCHING CONCRETE BRIDGE DECK - TYPE C
	FT	FT	SQ YD	GALLON	GALLON	CU YD	CU YD	SQ YD	SQ YD	FT	SQ YD	SQ YD	FT	FT	SQ YD		SQ YD	GALLON	GALLON	CU YD	CU YD	SQ YD		SQ YD	SQ YD
SUM-277-0089	131.54	126.75	1852.52					1852.52			37.05		25.00	130.58	362.72	FWD						362.72		7.25	
													25.00	122.92	341.44	REAR						341.44		6.83	
SUM-277-0113	220.34	104.17	2550.31	382.55	102.01	106.26	123.97		2550.31	294.00	51.01		25.00	104.17	289.36	FWD	289.36	43.40	11.57	12.06	22.10			5.79	
													25.00	104.17	289.36	REAR	289.36	43.40	11.57	12.06	22.10			5.79	
SUM-277-0133	217.26	103.83	2506.46	375.97	100.26	104.44	121.84		2506.46	254.00	50.13		25.00	103.83	288.42	FWD	288.42	43.26	11.54	12.02	22.03			5.77	
													25.00	103.83	288.42	REAR	288.42	43.26	11.54	12.02	22.03			5.77	
SUM-277-0175	198.10	104.87	2308.31					2308.31					25.00	102.69	285.25	FWD						285.25			
													25.00	107.05	297.36	REAR						297.36			
SUM-277-0246	261.51	67.00	1946.80					1946.80					25.00	67.00	186.11	FWD						186.11			
													25.00	67.00	186.11	REAR						186.11			
SUM-277-0304	118.54	103.08	1357.68	203.65	54.31	56.57	66.00		1357.68	212.00	27.15		25.00	103.08	286.33	FWD	286.33	42.95	11.45	11.93	21.87			5.73	
													25.00	103.08	286.33	REAR	286.33	42.95	11.45	11.93	21.87			5.73	
SUM-277-0369	561.20	100.33	6256.13	938.42	250.25	260.67	304.12		6256.13	254.00	125.12	31.28	25.00	100.33	278.69	FWD	278.69	41.80	11.15	11.61	21.29			5.57	1.39
													25.00	100.33	278.69	REAR	278.69	41.80	11.15	11.61	21.29			5.57	1.39

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ODOT --- DISTRICT 4
PLANNING AND ENGINEERING

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SUPERSTRUCTURE DETAILS

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SUM-76/77/277/224-VAR
PID No. 76351

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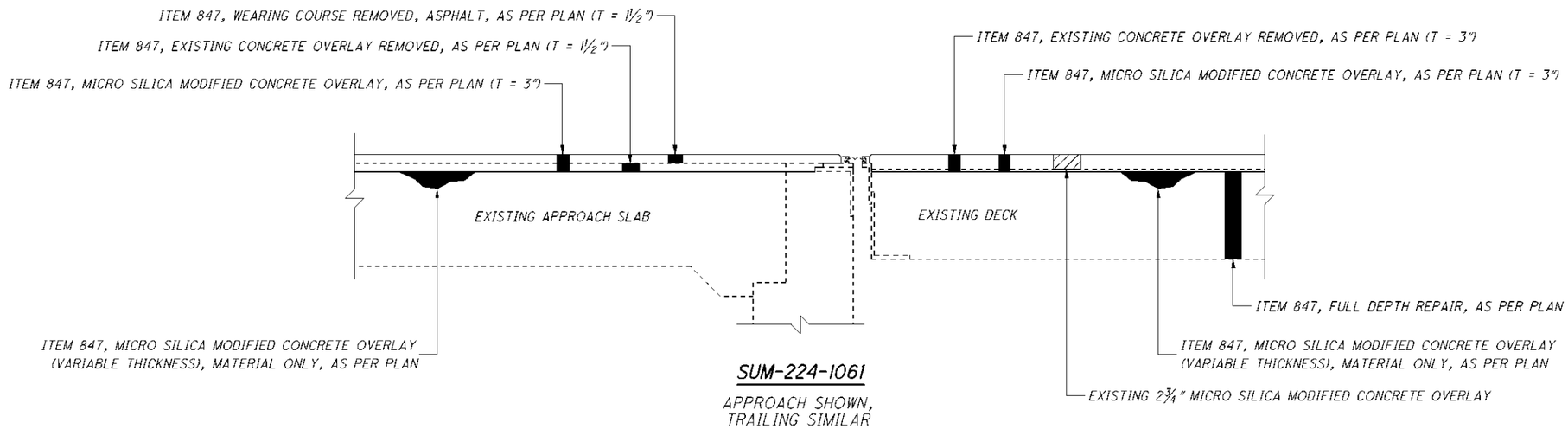

BRIDGE NUMBER	BRIDGE DECK										APPROACH SLABS														
				512	847	847	847	847	847	847					202	407	407	442	442	512	847	847	847	847	847
	LENGTH (BRIDGE LIMITS)	BRIDGE WIDTH	DECK AREA	TREATING OF CONCRETE BRIDGE DECK WITH SRS	MICRO SILICA MODIFIED CONCRETE OVERLAY, AS PER PLAN (T = 3")	MICRO SILICA MODIFIED CONCRETE OVERLAY (VARIABLE THICKNESS), MATERIAL ONLY, AS PER PLAN	TEST SLAB	FULL DEPTH REPAIR, AS PER PLAN	EXISTING CONCRETE OVERLAY REMOVED, AS PER PLAN (T = 3")	HAND CHIPPING	LENGTH (APPROACH SLABS)	APPROACH SLAB WIDTH	APPROACH SLAB AREA	APPROACH (FORWARD / REAR)	WEARING COURSE REMOVED (T = 3 1/4")	TACK COAT, TRACKLESS TACK, INTERMEDIATE COURSE @ 0.15 GAL/SY	TACK COAT, TRACKLESS TACK, SURFACE COURSE @ 0.04 GAL/SY	ASPHALT CONCRETE SURFACE COURSE, 12.5MM, TYPE B (448) (T = 1 1/2")	ASPHALT CONCRETE INTERMEDIATE COURSE, 19MM, TYPE B (448) (T = 1 3/4")	TREATING OF CONCRETE BRIDGE DECK WITH SRS	MICRO SILICA MODIFIED CONCRETE OVERLAY, AS PER PLAN (T = 3")	MICRO SILICA MODIFIED CONCRETE OVERLAY (VARIABLE THICKNESS), MATERIAL ONLY, AS PER PLAN	WEARING COURSE REMOVED, ASPHALT, AS PER PLAN (T = 1 1/2")	EXISTING CONCRETE OVERLAY REMOVED, AS PER PLAN (T = 1 1/2")	HAND CHIPPING
	FT	FT	SQ YD	SQ YD	SQ YD	CU YD	LUMP	CU YD	SQ YD	SQ YD	FT	FT	SQ YD		SQ YD	GALLON	GALLON	CU YD	CU YD	SQ YD	SQ YD	CU YD	SQ YD	SQ YD	SQ YD
SUM-224-1061	146.50	105.83	1722.68		1722.68	10.77	LUMP	1.00	1722.68	51.68	25.00	72.00	200.00	FWD							200.00	1.25	200.00	200.00	6.00
											25.00	72.00	200.00	REAR							200.00	1.25	200.00	200.00	6.00
											ASPHALT SHOULDERS														
											25.00	33.83	93.97	FWD	93.97	14.10	3.76	3.92	4.57						
											25.00	33.83	93.97	REAR	93.97	14.10	3.76	3.92	4.57						
SUM-224-1105	185.54	44.00	907.08	907.08							20.00	44.00	97.78	FWD						97.78					
											20.00	44.00	97.78	REAR						97.78					

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SUM-76/77/277/224-VAR
PID No. 76351

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GENERAL NOTES AND DETAILS FOR POLYMER MODIFIED ASPHALT EXPANSION JOINT SYSTEM

ITEM SPECIAL - POLYMER-MODIFIED ASPHALT EXPANSION JOINT SYSTEM

THIS ITEM WILL BE USED TO SEAL THE EXPANSION/CONTRACTION JOINTS AS PER THESE DETAILS AND THE MANUFACTURER'S REQUIREMENTS USING A POLYMER-MODIFIED ASPHALT SYSTEM. THE PRIME CONTRACTOR WILL OBTAIN THE SERVICES OF ONE OF THE FOLLOWING APPROVED APPLICATORS WHO WILL FURNISH AND INSTALL THE NEW BRIDGE EXPANSION JOINT SYSTEM AFTER ALL PAVING ON THE AFFECTED BRIDGE(S) HAS BEEN COMPLETED.

PRODUCT NAME	SUPPLIER	ADDRESS	PHONE NO.
THORMA-JOINT	DYNAMIC SURFACE APPLICATIONS, LTD	373 VILLAGE RD. PENNSDALE, PA 17756	(570)546-6041
MATRIX 502	CRAFCO INC.	420 N. ROOSEVELT AVE. CHANDLER, AZ 85226	(800)528-8242
EXPANDEX JOINT SYSTEM	WATSON-BOWMAN ACME	95 PINEVIEW DR. AMHERST, NY 14228	(716)691-7566
APJ ASPHALTIC PLUG EXPANSION JOINT	WYOMING EQUIPMENT SALES	281 SIXTH STREET P.O. BOX 287 WEST WYOMING, PA 18644	(570)693-2810

MATERIALS:

BRIDGING PLATE:

MILD STEEL 1/8" OR 1/4" THICK PLATE, 8" WIDE OR 18 GAUGE ALUMINUM, 8" WIDE.

BINDER:

TYPE:	POLYMER MODIFIED ASPHALT
SOFTENING POINT:	180 DEGREES F. MIN.
FLOW:	3 mm. MAX. AT 140 DEGREES F.
PENETRATION:	9 mm. MAX. AT 77 DEGREES F. 1 mm. MIN AT 0 DEGREES F. ASTM D 3407
DUCTILITY:	40 cm. MIN. ASTM D 113
RESILIENCE:	60% MIN. AT 77 DEGREES F.
TENSILE ADHESION:	700% MIN.
SPECIFIC GRAVITY:	1.10 * 0.05
POURING TEMP:	350 - 390 DEGREES F.

AGGREGATE:

TYPE:	CRUSHED, DOUBLE WASHED, AND DRIED GRANITE OR BASALT
GRADATION:	THE GRADATION OF THE AGGREGATE VARIES BY MANUFACTURER AND WILL BE AS PER THE MANUFACTURER'S RECOMMENDATIONS FOR THE SYSTEM BEING USED ON THIS PROJECT.

BACKER ROD:

THE BACKER SHALL BE A CLOSED CELL FOAM EXPANSION JOINT FILLER CAPABLE OF WITHSTANDING THE PLACEMENT TEMPERATURE OF THE POLYMER MODIFIED ASPHALT.

NOTE: PRIOR TO PLACEMENT OF ANY PORTION OF THE JOINT SYSTEM, THE PROJECT ENGINEER MUST HAVE CERTIFIED TEST DATA MEETING ALL THE MINIMUM REQUIREMENTS OF ALL THE MATERIALS OF THE JOINT SYSTEM.

INSTALLATION PROCEDURES:

SAWING AND SURFACE PREPARATION:

AFTER ALL PAVING OPERATIONS ARE COMPLETE, THE OVERLAY IS TO BE TRANSVERSELY SAW CUT FULL DEPTH NO LESS THAN TWO INCHES DEEP (20" CENTERED OVER JOINT OPENING, UNLESS OTHERWISE NOTED). REMOVE ALL MATERIAL, INCLUDING WATER-PROOFING MATERIAL, BETWEEN SAW CUTS. THOROUGHLY CLEAN AND DRY EXPOSED CONCRETE, STEEL, AND CUT SURFACES USING COMPRESSED AIR AND A HOT COMPRESSED AIR (HCA) LANCE. THE LANCE MUST PRODUCE A FLAME RETARDED AIR STREAM TEMPERATURE OF 3000 DEGREES F. AT A VELOCITY OF 3,000 FEET PER SECOND WITH 15 PSIG CHAMBER PRESSURE. IF THERE IS AN INTERRUPTION DUE TO WEATHER OR OTHER CAUSES, THE OPERATION WILL BE REPEATED WITH THE HCA LANCE IMMEDIATELY BEFORE THE BINDER COAT OPERATION. ALSO, 6 INCHES OF THE ROAD SURFACE ON EITHER SIDE OF THE JOINT WILL BE DRIED SO THAT A SUITABLE SURFACE FOR BITUMEN ADHESION IS OBTAINED.

SEALING OF EXPANSION JOINT: (PRE-STRESSED BOX OR CONCRETE SLAB)

THE EXPANSION JOINT GAP IS TO BE SEALED AND A BRIDGING PLATE CENTERED ALONG IT. A VERY NARROW GAP WILL BE SEALED BY POURING HOT BINDER INTO THE GAP. GAPS OF 1/8" OR MORE WILL FIRST BE FILLED WITH AN APPROPRIATELY SIZED BACKER ROD. THE BACKER ROD WILL BE INSTALLED SO THAT IT IS BETWEEN 1/8" AND 1 1/8" BELOW THE TOP OF THE EXISTING GAP. THE GAP WILL THEN BE FILLED WITH BINDER.

BOND BREAKER:

SPREAD BINDER OVER SURFACE AREA WHERE THE METAL BRIDGING PLATE WILL BE PLACED. CENTER THE BRIDGING PLATE OVER THE EXISTING JOINT AND BED INTO THE HOT BINDER. BUTT JOINT THE BRIDGING PLATES TO ACCOMODATE THE ENTIRE JOINT LENGTH. SPIKE HOLES WILL BE DRILLED AT 1 FOOT INTERVALS ALONG THE LONGITUDINAL CENTERLINE OF THE PLATES. SECURE BRIDGING PLATE WITH NAILS OR SPIKES. SEAL BUTT JOINTS WITH HOT BINDER AND ALLOW BINDER TO SETUP BEFORE NEXT OPERATION. WHEN ALUMINUM BRIDGING PLATES ARE USED, ONLY THE BINDER IS REQUIRED TO SECURE THE INDIVIDUAL PLATES.

BINDER COAT:

SEAL ALL PREPARED, EXPOSED SURFACES OF THE JOINT WITH BINDER. POUR THE HOT BINDER OVER THE FLOOR AREA OF THE JOINT AND SPREAD TO COAT ALL EXPOSED SURFACES. THE BINDER WILL BE A MINIMUM OF 1/32" THICK ON THE BOTTOM OF THE JOINT CAVITY, WITH POOLS OF GREATER THICKNESS WHERE SURFACE IRREGULARITIES EXIST. THE BINDER APPLICATION TEMPERATURE WILL BE BETWEEN 350 AND 390 DEGREES F. THE BINDER WILL NOT BE ALLOWED TO BE HEATED ABOVE 410 DEGREES F. NOR ALLOWED TO EXCEED 390 DEGREES F. FOR MORE THAN 1 HOUR. A DOUBLE JACKETED OIL MELTER WILL BE USED TO HEAT THE BINDER. THE MELTER WILL BE EQUIPPED WITH A CONTINUOUS AGITATION SYSTEM, TEMPERATURE CONTROLS, AND A CALIBRATED THERMOMETER. ALSO A SYSTEM FOR ACCURATELY MEASURING THE WEIGHTS OF THE BINDER AND THE AGGREGATE WILL BE REQUIRED.

BUILD-UP OF JOINT LAYERS:

AGGREGATE PREPARATION:

HEAT THE AGGREGATE TO A TEMPERATURE OF 275 TO 325 DEGREES F., WITH A SUITABLE ROTATING DRUM WITH ATTACHED HEAT SOURCE OR A HOT COMPRESSED AIR LANCE, TO REMOVE DUST AND MOISTURE.

AGGREGATE PROPORTION AND LAYER THICKNESS:

MIX THE AGGREGATE WITH THE BINDER SUCH THAT THE MINIMUM AGGREGATE CONTENT BY WEIGHT WILL BE 68%. THE HEATED AGGREGATE AND BINDER WILL BE COMBINED IN LAYERS, UNLESS PATENTED INSTALLATION REQUIRES DIFFERENTLY, NOT LESS THAN 3/4 OF AN INCH NOR EXCEEDING 2-1/2 INCHES. THE THICKNESS OF EACH LAYER CAN BE VARIED WITHIN THESE LIMITS, TO ACHIEVE THE REQUIRED JOINT THICKNESS (MIN. 2 INCHES). THE OBJECTIVE IS TO COAT EACH STONE AND FILL THE VOIDS WHILE AVOIDING AN EXCESS OF BINDER. THIS WILL ACHIEVE THE MAXIMUM CONTENT OF STONE CONSISTENT WITH ALL STONES BEING COATED WITH BINDER. RAKE THE MIXTURE TO MIX AND LEVEL.

THE TOP LAYER THICKNESS WILL VARY BETWEEN 1/2 INCH AND ONE (1) INCH. IN PREPARING THE TOP LAYER, THE RATIO OF AGGREGATE TO BINDER WILL BE APPROXIMATELY 6:1 BY WEIGHT. OVERFILL THE TOP LAYER AND COMPACT TO THE LEVEL OF THE ADJACENT SURFACES USING A ROLLER OR VIBRATORY PLATE COMPACTOR. IMMEDIATELY AFTER COMPLETION OF THE COMPACTION, POUR SUFFICIENT BINDER OVER THE JOINT TO FILL THE SURFACE VOIDS AND COAT THE SURFACE STONE. DUST THE FINISHED JOINT WITH A FINE, DRY AGGREGATE TO PREVENT TACKINESS.

MAINTENANCE OF TRAFFIC:

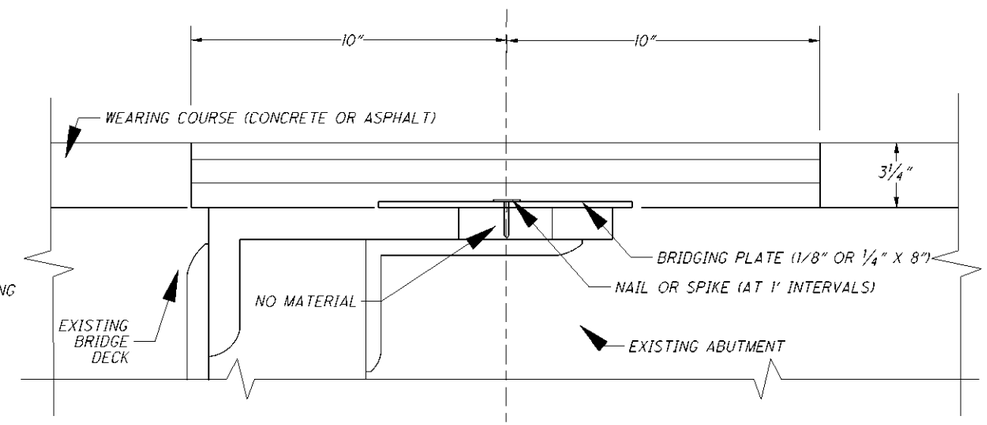
IF NECESSARY TO FACILITATE TRAFFIC MAINTENANCE, THE JOINT WILL BE INSTALLED IN TWO (2) HALF-WIDTH PHASES. DURING PHASE 1 APPROXIMATELY HALF OF THE TOTAL JOINT WILL BE INSTALLED. DURING PHASE 2, A MINIMUM OF TWO (2) INCHES OF THE PHASE 1 JOINT WILL BE REMOVED, AT OR NEAR THE CENTERLINE, WITH THE REMAINDER OF THE JOINT INSTALLED. IN ALL CASES, OPERATIONS WILL BE SCHEDULED SO THAT ALL LANES CAN BE OPEN TO TRAFFIC DURING ALL NON-WORKING HOURS.

TESTING:

CERTIFICATION WILL BE SUPPLIED FOR EACH PROJECT SHOWING BINDER COMPLIANCE WITH REQUIRED PROPERTIES. A ONE QUART SAMPLE OF BINDER WILL BE RETRIEVED FROM EACH BRIDGE FOR FURTHER TESTING BY THE O.D.O.T OFFICE OF MATERIALS MANAGEMENT.

METHOD OF MEASUREMENT AND BASIS OF PAYMENT:

THE DEPARTMENT WILL MEASURE THE JOINT BY THE NUMBER OF FEET AND WILL PAY FOR ACCEPTED QUANTITIES AT THE CONTRACT PRICE AS: ITEM SPECIAL, FEET, POLYMER MODIFIED ASPHALT EXPANSION JONT SYSTEM.



TYPICAL STEEL BEAM EXPANSION JOINT

DESIGN AGENCY
OFFICE OF STRUCTURAL ENGINEERING

DESIGNED	DRAWN	REVIEWED	DATE
CHECKED	REVISED	STRUCTURE FILE NUMBER	

POLYMER MODIFIED ASPHALT EXPANSION JOINT SYSTEM

SUM-277-0089, SUM-277-0113, SUM-277-0133, SUM-271-0175, SUM-271-0227, SUM-271-0246, SUM-224-1105, SUM-77-0927R, AND SUM-77-0958L
SUM-277-0367, SUM-277-0369, SUM-224-1061,

SUM-76/77/277/224-VAR
PID No. 76351

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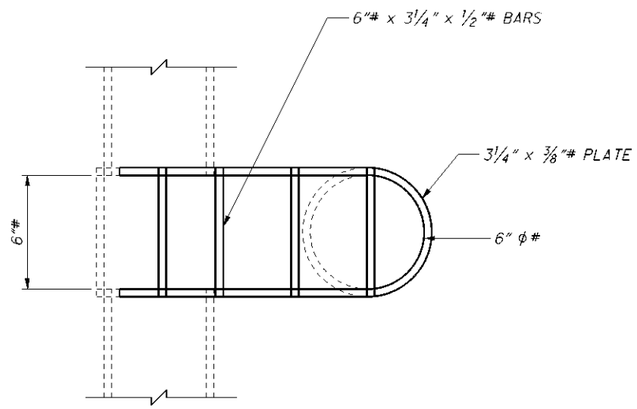
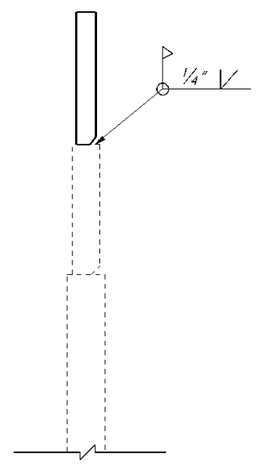
SCUPPER VERTICAL EXTENSION DETAIL

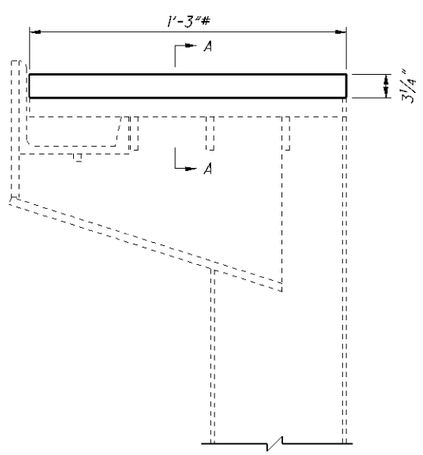


SCUPPER EXTENSION PLAN

FIELD VERIFY DIMENSION



SECTION A-A



SCUPPER EXTENSION ELEVATION

FIELD VERIFY DIMENSION

NOTES:

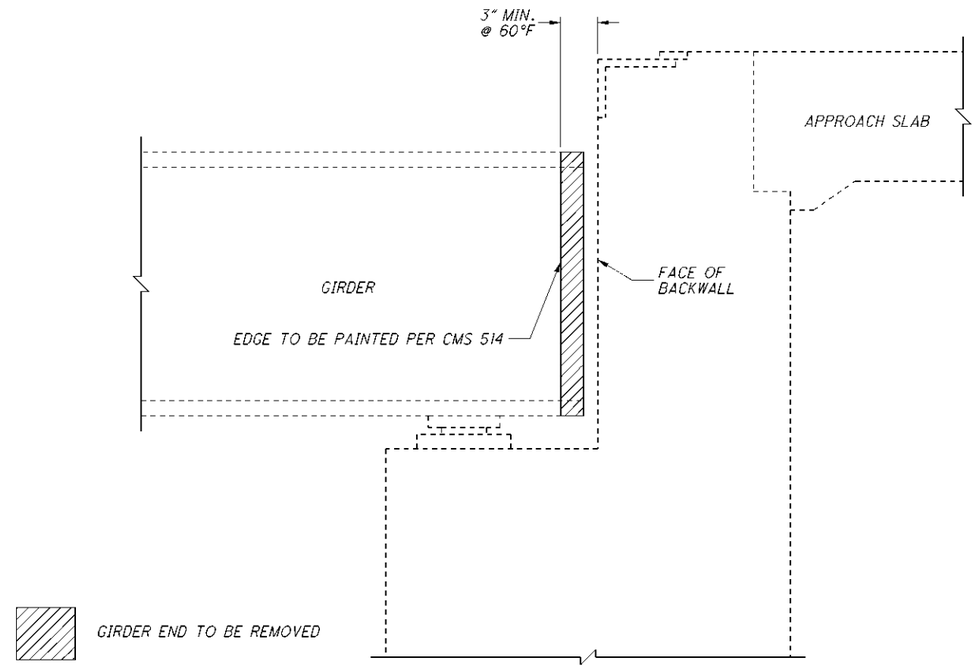
1. EXISTING SCUPPERS FOR STRUCTURES SUM-277-0113, SUM-277-0133, SUM-277-0304, AND SUM-277-0369 WILL BE RAISED TO MEET THE PROPOSED ASPHALT CONCRETE OVERLAY ELEVATION.

2. FOR ADDITIONAL INFORMATION SEE STANDARD CONSTRUCTION DRAWING GSD-1-96.

3. ALL MATERIAL, LABOR, EQUIPMENT, AND ANY INCIDENTIAL REQUIRED TO COMPLETE THIS WORK WILL BE INCLUDED IN THE UNIT BID PRICE FOR ITEM 518, SCUPPER, VERTICAL EXTENSION, AS PER PLAN.

TRIMMING OF BEAM END DETAIL

(SUM-277-0133 & SUM-277-0369)



NOTES:

1. THE ENDS OF THE EXISTING GIRDERS AT THE FORWARD ABUTMENT OF STRUCTURE SUM-277-0133 AND THE EXISTING GIRDERS AT THE REAR ABUTMENT OF STRUCTURE SUM-277-0369 WILL BE TRIMMED ON A VERTICAL LINE AS REQUIRED TO OBTAIN A 3" MINIMUM CLEARANCE AT 60°F BETWEEN THE END OF THE GIRDER AND THE FACE OF THE BACKWALL.

2. ALL TRIMMING OF BEAM ENDS AND REFURBISHING OF BEARINGS OF STRUCTURE SUM-277-0133 SHALL BE PREFORMED AFTER BACKWALL REPAIRS AT THE FORWARD ABUTMENT.

3. ALL WORK LISTED AND SHOWN ABOVE INCLUDING THE PAINTING OF THE BEAM END TRIM AREA ACCORDING TO ITEM 514 WILL BE PAID FOR AT THE UNIT BID PRICE FOR ITEM 513, TRIMMING OF BEAM END. THIS PRICE WILL INCLUDE THE COST OF LABOR, MATERIALS, EQUIPMENT, AND ALL INCIDENTALS REQUIRED TO COMPLETE WITH WORK.

DESIGN AGENCY
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PLANNING AND ENGINEERING

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AAM			

SCUPPER DETAILS AND TRIMMING OF BEAM END DETAILS

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SUM-76/77/277/224-VAR
PID No. 76351

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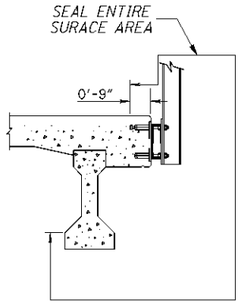
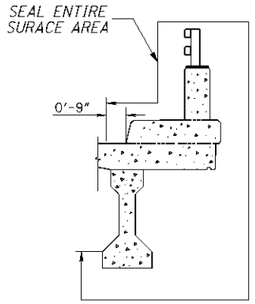
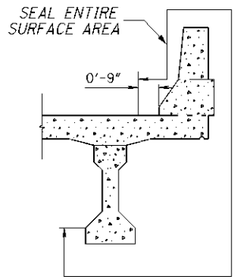


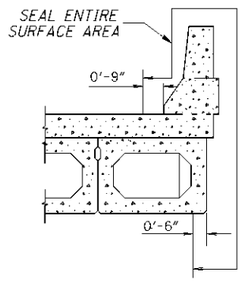
DETAIL A
CONCRETE DECKS WITH
OVER THE SIDE DRAINAGE



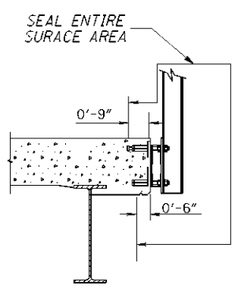
DETAIL B
CONCRETE DECKS WITH CURBS,
SIDEWALKS AND PARAPET



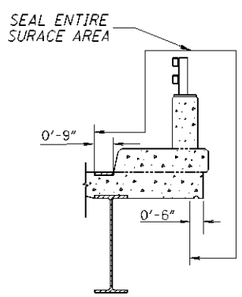
DETAIL C
CONCRETE DECK WITH
DEFLECTOR PARAPET



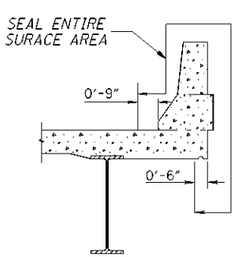
DETAIL D
PRESTRESSED BOX BEAM DECK
WITH DEFLECTOR PARAPET



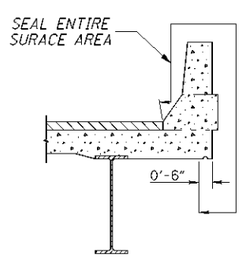
DETAIL E
CONCRETE DECKS WITH
OVER THE SIDE DRAINAGE



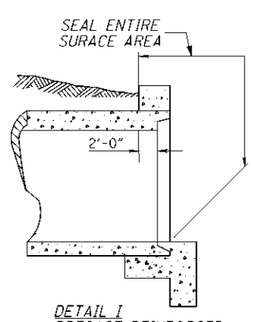
DETAIL F
CONCRETE DECKS WITH CURBS,
SIDEWALKS AND PARAPET



DETAIL G
CONCRETE DECK WITH
DEFLECTOR PARAPET



DETAIL H
ASPHALT DECK WITH
DEFLECTOR PARAPET



DETAIL I
PRECAST REINFORCED
CONCRETE BOX CULVERT

BRIDGE NO.	STRUCTURE TYPE	PROPOSED SEALING	FEDERAL COLOR NUMBER	ESTIMATED QUANTITIES ABUT SQ YD	PIER SQ YD	SUPER SQ YD	GEN SQ YD	TOTAL SQ YD
SUM-277-0089	3 SPAN CONTINUOUS REINFORCED CONCRETE SLAB	SEAL PARAPETS PER DETAIL G SEAL ALL EXPOSED CONCRETE AT ABUTMENTS SEAL ALL EXPOSED CONCRETE AT PIERS	13522 (BUFF)	247	1240	597		2084
SUM-277-0113	3 SPAN CONTINUOUS STEEL BEAM	SEAL PARAPETS PER DETAIL H SEAL ALL EXPOSED CONCRETE AT ABUTMENTS AND PIERS SEAL SPALL REMOVAL AREAS OF BOTTOM DECK FLOOR	13522 (BUFF)	359	781	700	100	1940
SUM-277-0133	3 SPAN CONTINUOUS STEEL GIRDERS	SEAL PARAPETS PER DETIAL H SEAL ALL EXPOSED CONCRETE AT ABUTMENTS AND PIERS SEAL SPALL REMOVAL AREAS OF BOTTOM DECK FLOOR	13522 (BUFF)	339	736	690	100	1865
SUM-277-0175	3 SPAN CONTINUOUS STEEL BEAM	SEAL PARAPETS PER DETAIL G SEAL ALL EXPOSED CONCRETE AT ABUTMENTS SEAL ALL EXPOSED CONCRETE AT PIERS	13522 (BUFF)	222	656	899		1777
SUM-277-0246	4 SPAN CONTINUOUS STEEL BEAM	SEAL PARAPETS PER DETAIL G SEAL ALL EXPOSED CONCRETE AT ABUTMENTS SEAL ALL EXPOSED CONCRETE AT PIERS	13522 (BUFF)	221	609	605		1435
SUM-277-0304	3 SPAN CONTINUOUS REINFORCED CONCRETE SLAB	SEAL PARAPETS PER DETAIL H SEAL ALL EXPOSED CONCRETE AT ABTUEMTS AND PIERS SEAL SPALL REMOVAL AREAS OF BOTTOM DECK FLOOR	13522 (BUFF)	92	423	377	50	942
SUM-277-0369	6 SPAN CONTINUOUS STEEL GIRDERS	SEAL PARAPETS PER DETAIL H SEAL ALL EXPOSED CONCRETE AT ABUTMENTS AND PIERS SEAL SPALL REMOVAL AREAS OF BOTTOM DECK FLOOR	13522 (BUFF)	384	2358	1783	100	4625
SUM-224-1061	3 SPAN PRESTRESSED PRECAST CONCRETE I-BEAMS	SEAL PARAPETS PER DETAIL G SEAL ALL EXPOSED CONCRETE AT ABUTMENTS AND PIERS SEAL SPALL REMOVAL AREAS OF BOTTOM DECK FLOOR	13522 (BUFF)	332	526	665	50	1573
SUM-224-1105	4 SPAN CONTINUOUS STEEL BEAM	SEAL PARAPET PER DETAIL F SEAL ALL EXPOSED CONCRETE AT ABUTMENTS SEAL ALL EXPOSED CONCRETE AT PIERS	13522 (BUFF)	223	357	589		1169
SUM-77-0927R	3 SPAN CONTINUOUS STEEL GIRDERS	SEAL PARAPETS PER DETAIL G SEAL ALL EXPOSED CONCRETE AT ABUTMENTS SEAL ALL EXPOSED CONCRETE AT PIERS	17778 (LIGHT NEUTRAL)	204	150	541		895
SUM-77-0958L	3 SPAN CONTINUOUS STEEL BEAM	SEAL PARAPETS PER DETAIL G SEAL ALL EXPOSED CONCRETE AT ABUTMENTS AND PIERS SEAL SPALL REMOVAL AREAS OF BOTTOM DECK FLOOR	17778 (LIGHT NEUTRAL)	173	217	445	50	885

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

SEALING OF BEAM SEATS

SEALING OF BEAM SEATS: IF THE BEAMS SEATS ARE SEALED WITH AN EPOXY OR NON-EPOXY SEALER PRIOR TO SETTING THE BEARINGS, DO NOT APPLY SEALER TO THE CONCRETE SURFACES UNDER THE PROPOSED BEARING LOCATIONS. IF THESE LOCATIONS ARE SEALED, REMOVE THE SEALER TO THE SATISFACTION OF THE ENGINEER PRIOR TO SETTING THE BEARINGS. THE DEPARTMENT WILL NOT PAY FOR THIS REMOVAL.

DESIGN AGENCY
ODOT --- DISTRICT 4
PLANNING AND ENGINEERING

DESIGNED LMP | CHECKED AAM | DRAWN LMP | REVISED | REVIEWED TJP | DATE 07-13-11 | STRUCTURE FILE NUMBER

CONCRETE SEALING DETAILS

SUM-277-0089, SUM-277-0113, SUM-277-0133, SUM-271-0175, SUM-271-0227, SUM-271-0246, SUM-277-0304, SUM-277-0367, SUM-277-0369, SUM-224-1061, SUM-224-1105, SUM-77-0927R, AND SUM-77-0958L

SUM-76/77/277/224-VAR
PID No. 76351

9/9

55/55

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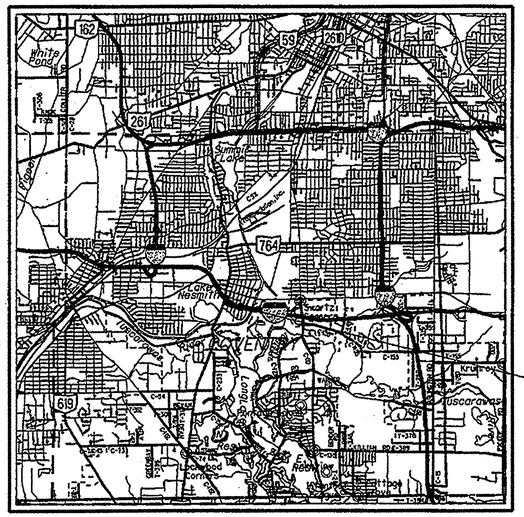
STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

SUM-277-1.61 PART 2

CITY OF AKRON
SUMMIT COUNTY

FOR PART 1, SEE SUM-76/77/277/224-VAR.
FOR PART 3, SEE SUM-76-6.72



LOCATION MAP

LATITUDE: N41°04'55" LONGITUDE: W81°34'36"

SCALE IN MILES
0 1 2 3 4

N

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

INDEX OF SHEETS:

TITLE SHEET	1
GENERAL NOTES	2
MAINTENANCE OF TRAFFIC	3
GENERAL SUMMARY	4
PLAN	5
STRUCTURE (OVER 20')	6-18

PROJECT DESCRIPTION

REHABILITATION OF THE EXISTING EDWIN AVENUE PEDESTRIAN BRIDGE OVER I.R. 277 INCLUDING NEW CONCRETE DECK, STRUCTURE PAINTING, STRUCTURE REPAIRS, AND APPROACH IMPROVEMENTS.

PROJECT EARTH DISTURBED AREA: 0 ACRES
ESTIMATED CONTRACTOR EARTH DISTRUBED AREA: 0 ACRES
NOTICE OF INTENT EDA: N/A (MAINTENANCE PROJECT)

LIMITED ACCESS

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

2010 SPECIFICATIONS

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

I HEREBY APPROVED THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL NOT REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY AND THAT PROVISIONS FOR THE MAINTENANCE AND SAFETY OF TRAFFIC WILL BE AS SET FORTH ON THE PLANS AND ESTIMATES.

DESIGN EXCEPTIONS

VERTICAL CLEARANCE (SEPTEMBER 9, 2010)

UNDERGROUND UTILITIES
CONTACT BOTH SERVICES
CALL TWO WORKING DAYS
BEFORE YOU DIG
CALL
1-800-362-2764
(TOLL FREE)
OHIO UTILITIES PROTECTION SERVICE
NON-MEMBERS
MUST BE CALLED DIRECTLY
OIL & GAS PRODUCERS PROTECTIVE
SERVICE CALL: **1-800-925-0988**

PLAN PREPARED BY:
ODOT --- DISTRICT 4
PLANNING AND ENGINEERING
2088 SOUTH ARLINGTON ROAD
AKRON, OHIO 44306

ENGINEERS SEAL:

STATE OF OHIO
THOMAS J. POWELL
E-61151
REGISTERED
PROFESSIONAL ENGINEER

SIGNED: Thomas J. Powell
DATE: 09-01-11

STANDARD CONSTRUCTION DRAWINGS	SUPPLEMENTAL SPECIFICATIONS
SEE PART 1	SEE PART 1
	SPECIAL PROVISIONS
	SEE PART 1

APPROVED: [signature]
DATE 9-1-11 DISTRICT DEPUTY DIRECTOR

APPROVED: Jerry Wray
DATE 9-14-11 DIRECTOR, DEPARTMENT OF TRANSPORTATION

FEDERAL PROJECT NO. E050(259)
PID NO. 76351
CONSTRUCTION PROJECT NO.
RAILROAD INVOLVEMENT NONE
SUM-277-1.61

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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.

CALCULATED LMP
CHECKED TJP

GENERAL NOTES

SUM-271-1.61

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PEDESTRIAN BRIDGE CLOSURE NOTIFICATION

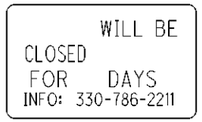
THE CONTRACTOR SHALL ADVISE THE ODOT DISTRICT OFFICE (330-786-2211) AND THE CITY OF AKRON (330-375-2355) EIGHTEEN (18) DAYS IN ADVANCE OF WHEN THE CLOSURE SHOULD BE IN EFFECT. ALL WORK ZONE DEVICES REQUIRED SHALL BE FURNISHED, ERECTED, MAINTAINED, AND SUBSEQUENTLY REMOVED BY THE CONTRACTOR.

ITEM 614, MAINTAINING TRAFFIC (TIME LIMITATION ON A CLOSURE)

THE PEDESTRIAN BRIDGE (STRUCTURE SUM-277-0161) OVER IR-277 MAY BE CLOSED FOR A MAXIMUM OF 60 CONSECUTIVE CALENDAR DAYS BETWEEN THE DATES OF JUNE 15 TO AUGUST 15, 2012. A DISINCENTIVE SHALL BE ASSESSED IN THE AMOUNT OF $2000.00 FOR EACH CALENDAR DAY THAT THE BRIDGE REMAINS CLOSED TO PEDESTRIANS BEYOND THE SPECIFIED LIMITS.

ITEM 614, MAINTAINING TRAFFIC (NOTICE OF CLOSURE SIGN)

NOTICE OF CLOSURE SIGNS, AS DETAILED IN THESE PLANS, SHALL BE ERECTED BY THE CONTRACTOR AT LEAST ONE WEEK IN ADVANCE OF THE SCHEDULED BRIDGE CLOSURE. THE SIGNS SHALL BE ERECTED ON THE RIGHT-HAND SIDE OF THE BRIDGE FACING PEDESTRIANS. THEY SHALL BE PLACED SO AS NOT TO INTERFERE WITH THE VISIBILITY OF ANY OTHER TRAFFIC CONTROL SIGNS. THEY SHOULD BE ERECTED AT THE POINTS OF CLOSURE.



W20-H13-60

ITEM 614, MAINTAINING TRAFFIC (SIGNS AND BARRICADES)

IN ORDER TO CLOSE THE BRIDGE, THE CONTRACTOR SHALL PROVIDE, ERECT AND MAINTAIN SIGNS AND SIGN SUPPORTS, AS DETAILED IN THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, AND THIS WILL INCLUDE TYPE III BARRICADES WITH R9-9-30 "SIDEWALK CLOSED" SIGNS AT EACH END OF THE BRIDGE.

ITEM 614, MAINTAINING TRAFFIC

ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH CMS 614 AND OTHER APPLICABLE PORTIONS OF THE SPECIFICATIONS, AS WELL AS THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614, MAINTAINING TRAFFIC, UNLESS SEPARATELY ITEMIZED IN THE PLAN.

LANE CLOSURES ON IR-277

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 $5000.00 PER HOUR OR PORTION THEREOF THAT THE LANE REDUCTION REMAINS BEYOND THE SPECIFIED LIMIT.

COMPLETION DATE

THE PEDESTRIAN BRIDGE PAINTING WORK AND ALL OTHER REMAINING BRIDGE WORK SHALL BE COMPLETED BY SEPTEMBER 30, 2012. SHOULD THE CONTRACTOR FAIL TO MEET THIS REQUIREMENT THE CONTRACTOR WILL BE ASSESSED DISINCENTIVES IN THE AMOUNT OF $2000.00 PER DAY THAT THE WORK REMAINS UNCOMPLETED.

TRAFFIC CONTROL INSPECTOR FOR IR-277

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.

BRIDGE PAINTING EQUIPMENT ON SHOULDERS

IF BRIDGE PAINTING EQUIPMENT IS TO REMAIN ON THE SHOULDERS WHEN THE CONTRACTOR IS NOT WORKING, IT SHALL BE PLACED BEHIND PORTABLE CONCRETE BARRIER (PCB) AND A WORK ZONE IMPACT ATTENUATOR (WZIA) SHALL PROTECT THE LEADING BLUNT END OF THE PCB (SEE OMUTCD, FIGURE 6H-5 "SHOULDER CLOSURE ON FREEWAY" (TYPICAL APPLICATION 5)). IF THE CONTRACTOR CHOOSES TO PROTECT PAINTING EQUIPMENT WITH PCB AND A WZIA, THE COST SHALL BE CONSIDERED INCIDENTAL TO THE LUMP SUM BID FOR MAINTAINING TRAFFIC.

CALCULATED MJH CHECKED LAB

MAINTENANCE OF TRAFFIC GENERAL NOTES

SUM-277-1.61

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SHEET NUMBER	ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
					STRUCTURES	
					FOR STRUCTURE SUM-277-0161 ESTIMATED EQUANTITIES	9
	614	11000	LUMP		MAINTAINING TRAFFIC	
	623	10000	LUMP		CONSTRUCTION LAYOUT STAKES	
	624	10000	LUMP		MOBILIZATION	

CALCULATED LMP
CHECKED TJP

GENERAL SUMMARY

SUM-271-1.61

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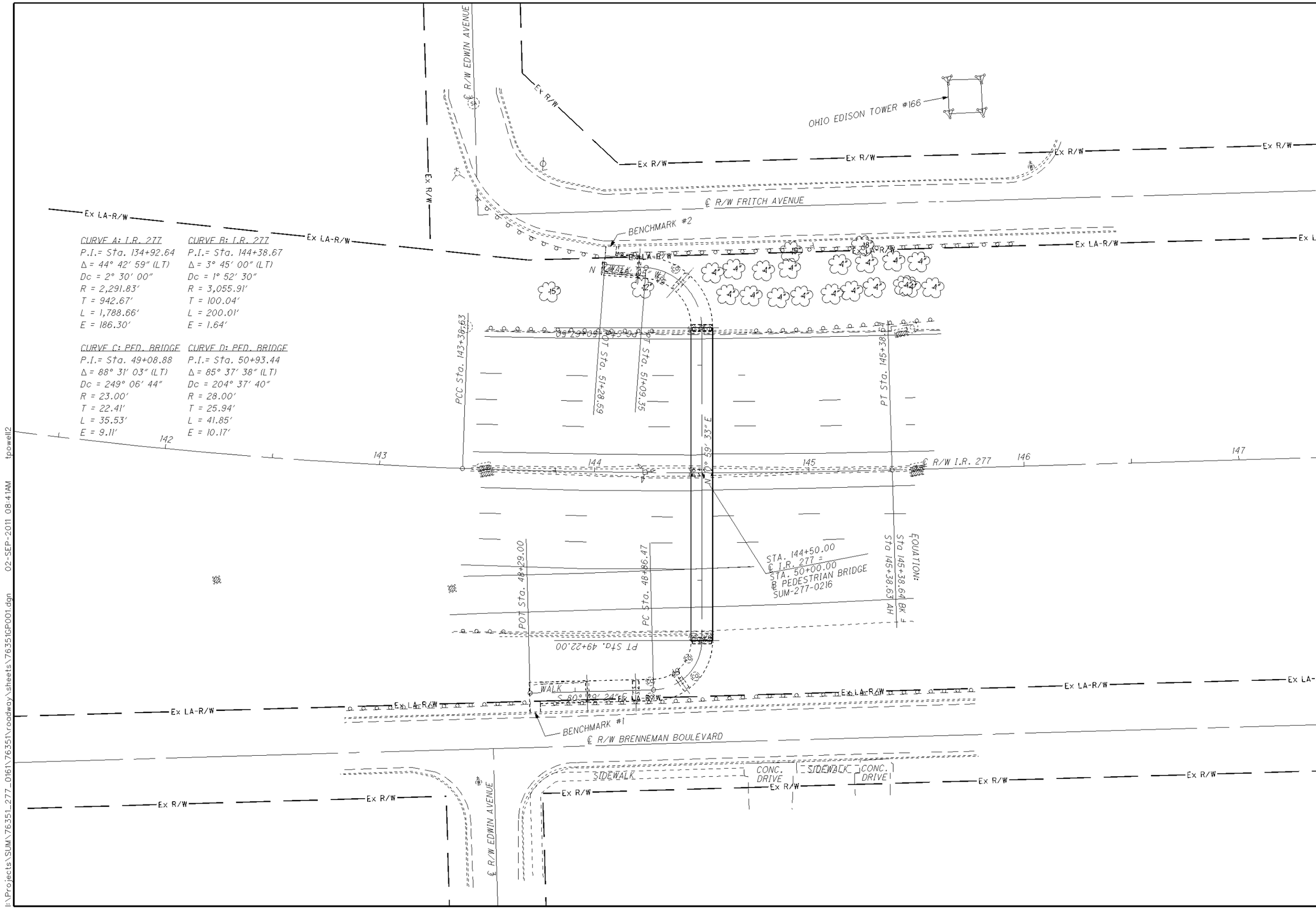

CURVE A: I.R. 277
P.I.= Sta. 134+92.64
Δ = 44° 42′ 59″ (LT)
Dc = 2° 30′ 00″
R = 2,291.83′
T = 942.67′
L = 1,788.66′
E = 186.30′

CURVE B: I.R. 277
P.I.= Sta. 144+38.67
Δ = 3° 45′ 00″ (LT)
Dc = 1° 52′ 30″
R = 3,055.91′
T = 100.04′
L = 200.01′
E = 1.64′

CURVE C: PED. BRIDGE
P.I.= Sta. 49+08.88
Δ = 88° 31′ 03″ (LT)
Dc = 249° 06′ 44″
R = 23.00′
T = 22.41′
L = 35.53′
E = 9.11′

CURVE D: PED. BRIDGE
P.I.= Sta. 50+93.44
Δ = 85° 37′ 38″ (LT)
Dc = 204° 37′ 40″
R = 28.00′
T = 25.94′
L = 41.85′
E = 10.17′

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED LMP
CHECKED TJP

PLAN
PEDESTRIAN BRIDGE OVER I.R. 277

SUM-277-1.61

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EXISTING STRUCTURE

TYPE: CONTINUOUS STEEL BEAM WITH REINFORCED CONCRETE SLAB AND SUBSTRUCTURE. CONTINUOUS REINFORCED CONCRETE SLAB RAMP APPROACHES.

SPANS: 3 @ 22'-0"±; 78'-0"±; 67'-6"±; 2 @ 22'-0"±

WALK: 8'-0"± F/F CURB

LOADING: 85 P.S.F. LIVE LOAD

SKEW: 00°00'00"±

ALIGNMENT: TANGENT; TAIL SPANS CURVED

STRUCTURAL FILE NUMBER: 7709668

DATE BUILT: 1966

DISPOSITION: REPLACE MAIN SPAN DECK

PROPOSED STRUCTURE

PROPOSED WORK: NEW COMPOSITE CONCRETE DECK FOR SPANS 4 & 5. PATCHING OF PIERS AND APPROACH SPAN DECK. PAINT EXISTING STEEL BEAMS AND SEAL EXPOSED CONCRETE.

SPANS: 3 @ 22'-0"±; 78'-0"±; 67'-6"±; 2 @ 22'-0"±

WALK: 8'-0" F/F CURB

LOADING: 85 P.S.F. LIVE LOAD (NO FWS)

SKEW: 00°00'00"±

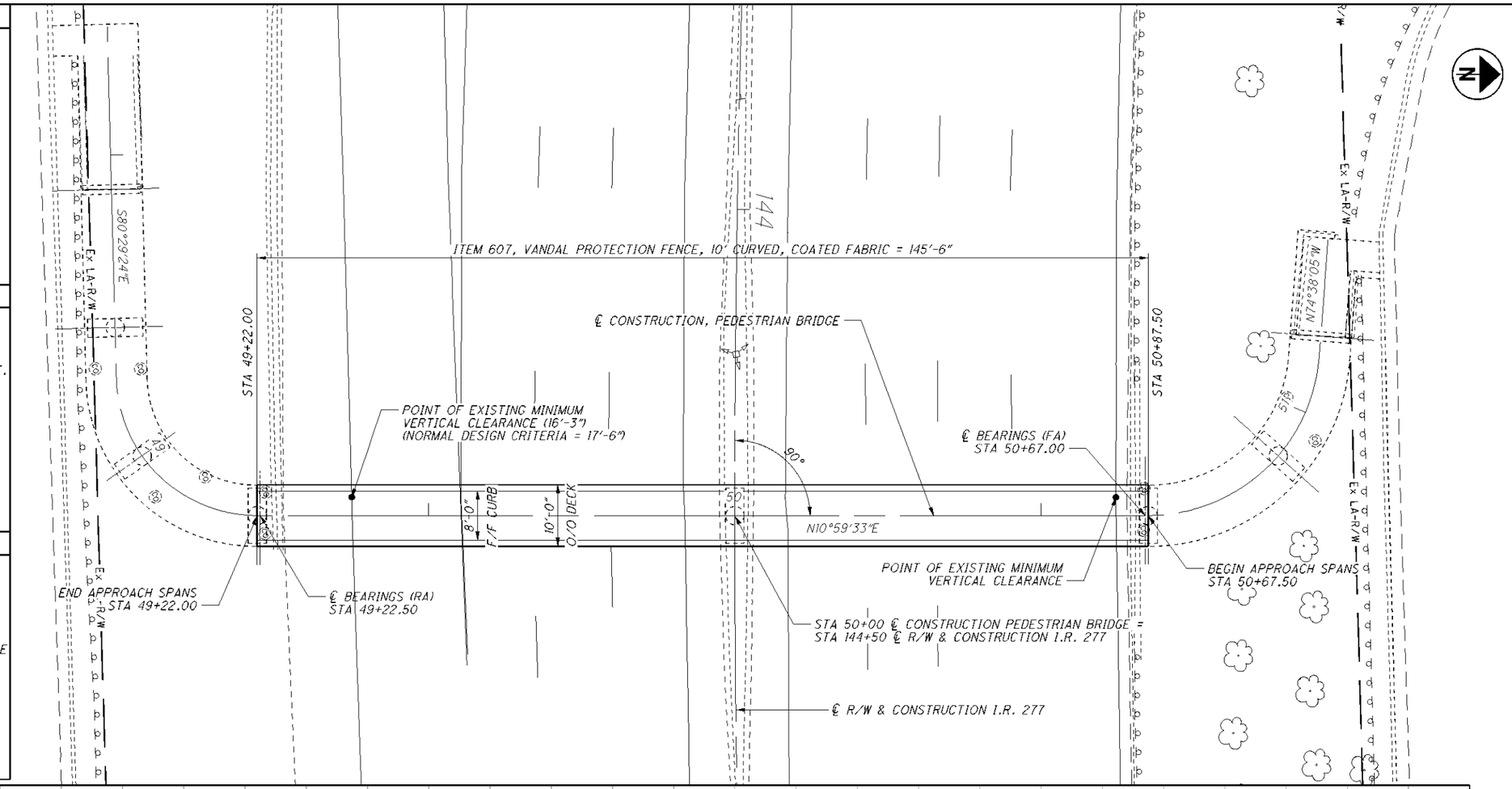
WEARING SURFACE: MONOLITHIC CONCRETE

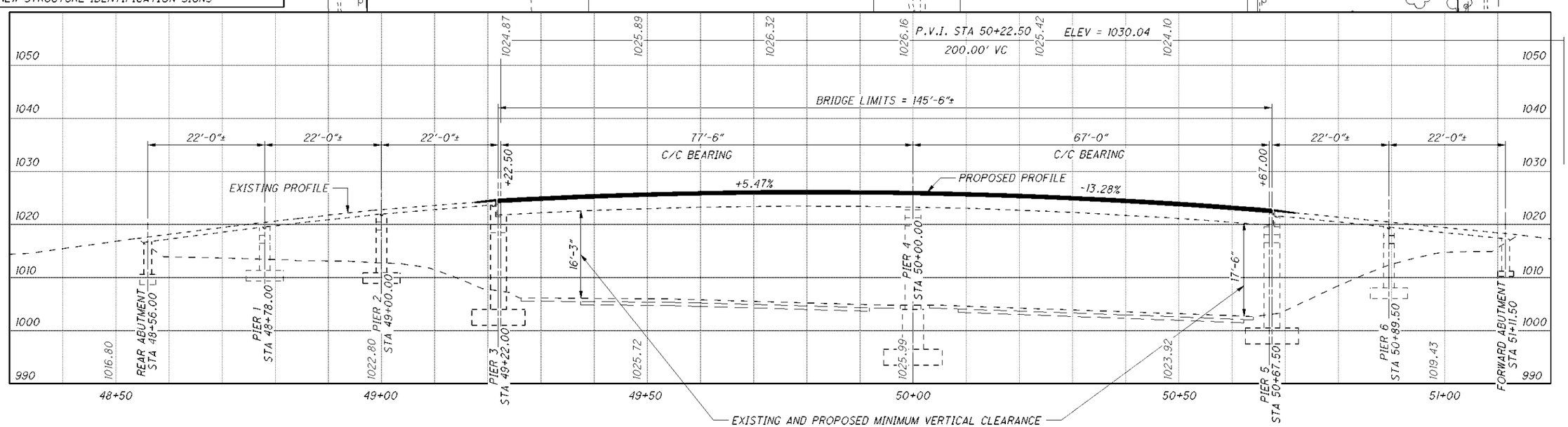
ALIGNMENT: TANGENT (SPANS 4 & 5)

CROWN: 0.016 FT/FT

PROPOSED WORK

- -REDECK THE MAIN SPANS 4 & 5
- -NEW VANDAL PROTECTION FENCE
- -NEW COMPRESSION SEAL JOINTS AT PIERS 3 & 5
- -PAINT THE STRUCTURAL STEEL
- -REFURBISH ALL BEARINGS AT PIERS 3, 4, AND 5
- -PATCH ALL UNSOUND AREAS OF THE SUBSTRUCTURE AND EXISTING PARAPETS
- -ENCASE ALL PIER COLUMNS
- -SEAL ALL EXPOSED CONCRETE SURFACES OF THE DECK EDGES, ABUTMENTS, PIERS, AND BACKWALLS
- -CLEARING AND GRUBBING 10' AROUND EXISTING SUBSTRUCTURE FOR SEALING OPERATIONS
- -NEW STRUCTURE IDENTIFICATION SIGNS





DESIGN AGENCY
ODOT --- DISTRICT 4
PLANNING AND ENGINEERING

DESIGNED	DRAWN	REVIEWED	DATE
LMP	LMP	TJP	05-17-11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
		7709668	

SUMMIT COUNTY
STA. 49+22.00
STA. 50+67.50

SITE PLAN
PEDESTRIAN BRIDGE NO.: SUM-277-0161
OVER I.R. 277

SUM-277-1.61
PID No. 76351

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STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWING(S):

EXJ-2-81 DATED/REVISED 7-19-02

VPF-1-90 DATED/REVISED 4-15-11

AND TO THE FOLLOWING SUPPLEMENTAL SPECIFICATION(S):

843 DATED 4-18-03

DESIGN SPECIFICATIONS

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

DESIGN LOADING

85 LB/SF LIVE LOAD

DESIGN DATA

CONCRETE HP - COMPRESSIVE STRENGTH 4500 PSI (SUPERSTRUCTURE)

CONCRETE S - COMPRESSIVE STRENGTH 4500 PSI (SUBSTRUCTURE)

REINFORCING STEEL - ASTM A615 OR A996, GRADE 60, MINIMUM YIELD STRENGTH 60,000 PSI
SPIRAL REINFORCEMENT MAY BE PLAIN BARS, ASTM A82 OR A615

MONOLITHIC WEARING SURFACE

MONOLITHIC WEARING SURFACE IS ASSUMED, FOR DESIGN PURPOSES, TO BE 1 INCH THICK.

EXISTING STRUCTURE VERIFICATION

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

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

ITEM 201, 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.

ITEM 202, PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN

DESCRIPTION: THIS WORK CONSISTS OF THE REMOVAL OF CONCRETE DECKS INCLUDING SIDEWALKS, PARAPETS, RAILINGS, DECK JOINTS AND OTHER APPURTENANCES FROM STEEL SUPPORTING SYSTEMS (BEAMS, GIRDERS, CROSS FRAMES, ETC.). THE PROVISIONS OF ITEM 202 APPLY EXCEPT AS SPECIFIED BY THE FOLLOWING NOTES. PERFORM WORK CAREFULLY DURING DECK REMOVALS TO PROTECT PORTIONS OF SUCH SYSTEMS THAT ARE TO BE SALVAGED AND INCORPORATED INTO THE PROPOSED STRUCTURE. THE USE OF EXPLOSIVES, HEADACHE BALLS AND/OR HOE RAM TYPE OF EQUIPMENT IS PROHIBITED. SUBMIT CONSTRUCTION PLANS ACCORDING TO CMS 501.05.

PROTECTION OF STEEL SUPPORT SYSTEMS: BEFORE DECK SLAB CUTTING IS PERMITTED, DRAW THE OUTLINE OF PRIMARY STEEL MEMBERS IN CONTACT WITH THE BOTTOM OF THE DECK ON THE SURFACE OF DECK. DRILL SMALL DIAMETER PILOT HOLES 2 INCHES OUTSIDE THESE LINES TO CONFIRM THE LOCATION OF FLANGE EDGES. DECK CUTS OVER OR WITHIN 2-INCHES OF FLANGE EDGES SHALL NOT EXTEND LOWER THAN THE BOTTOM LAYER OF DECK SLAB REINFORCING STEEL. CUTS MADE OUTSIDE 2 INCHES OF FLANGE EDGES MAY EXTEND THE FULL DEPTH OF THE DECK. PERFORM WORK CAREFULLY DURING CUTTING OF THE DECK SLAB TO AVOID DAMAGING STEEL MEMBERS THAT ARE TO BE INCORPORATED INTO THE PROPOSED STRUCTURE. REPLACE OR REPAIR STEEL MEMBERS DAMAGED BY THE DECK SLAB CUTTING OPERATIONS AT NO COST TO THE PROJECT. AT LEAST 7 DAYS BEFORE PERFORMING REPAIR WORK, SUBMIT A PROPOSED REPAIR PLAN, DEVELOPED BY AN OHIO REGISTERED PROFESSIONAL ENGINEER TO THE DIRECTOR. OBTAIN THE DIRECTOR'S APPROVAL BEFORE PERFORMING REPAIR.

REMOVAL METHODS: THE CONTRACTOR MAY REMOVE CONCRETE BY CUTTING AND BY MEANS OF HAND OPERATED PNEUMATIC HAMMERS EMPLOYING POINTED OR BLUNTED CHISEL TYPE TOOLS. FOR REMOVALS OVER STRUCTURAL MEMBERS (PRESTRESSED BOX BEAM, I-BEAM, STEEL BEAM STEEL GIRDER, ETC), THE CONTRACTOR MAY USE A HAMMER HEAVIER THAN 35 POUNDS BUT NOT TO EXCEED 90 POUNDS UNLESS APPROVED BY THE ENGINEER. REMOVAL METHODS OVER STRUCTURAL MEMBERS SHALL ENSURE ADEQUATE DEPTH CONTROL AND PREVENT NICKING OR GOUGING THE PRIMARY STRUCTURAL MEMBERS.

DUE TO THE POSSIBLE PRESENCE OF ATTACHMENTS (E.G., FINISHING MACHINE, SCUPPER AND FORM SUPPORTS, ETC.) TO EXISTING STRUCTURAL MEMBERS, PERFORM WORK CAREFULLY DURING DECK REMOVAL TO AVOID DAMAGING STRUCTURAL MEMBERS THAT ARE TO REMAIN. REPLACE OR REPAIR STRUCTURAL MEMBERS DAMAGED BY THE REMOVAL OPERATIONS AT NO COST TO THE PROJECT. AT LEAST 7 DAYS BEFORE PERFORMING REPAIR WORK, SUBMIT A PROPOSED REPAIR PLAN, DEVELOPED BY AN OHIO REGISTERED PROFESSIONAL ENGINEER TO THE DIRECTOR. OBTAIN THE DIRECTOR'S APPROVAL BEFORE PERFORMING REPAIR.

DECK REMOVALS - COMPOSITE DECK DESIGNS - STEEL SUPERSTRUCTURES: DUE TO THE PRESENCE OF WELDED STUDS TO THE EXISTING STRUCTURAL STEEL, SUBMIT A DETAILED PROCEDURE OF THE DECK REMOVAL TO THE ENGINEER AT LEAST 7 DAYS BEFORE CONSTRUCTION BEGINS. THE PROCEDURE SHALL INCLUDE ALL DETAILS, EQUIPMENT AND METHODS TO BE USED FOR REMOVAL OF THE CONCRETE OVER THE FLANGES AND AROUND THE STUDS. REPLACE OR REPAIR MAIN STEEL AND STUDS DAMAGED BY THE REMOVAL OPERATIONS AT NO COST TO THE PROJECT. AT LEAST 7 DAYS BEFORE PERFORMING REPAIR WORK, SUBMIT A PROPOSED REPAIR PLAN, DEVELOPED BY AN OHIO REGISTERED PROFESSIONAL ENGINEER TO THE DIRECTOR. OBTAIN THE DIRECTOR'S APPROVAL BEFORE PERFORMING REPAIR.

EXISTING WELDED ATTACHMENTS: REMOVE EXISTING WELDED ATTACHMENTS (E.G., FINISHING MACHINE AND FORM SUPPORTS; AND SUPPORTS FOR SCUPPERS AND BULB ANGLES WHICH ARE TO BE REMOVED) LOCATED IN THE DESIGNATED TENSION PORTIONS OF THE TOP FLANGES OF EXISTING STEEL MEMBERS AND GRIND THE FLANGE SURFACES SMOOTH. CAREFULLY GRIND PARALLEL TO THE FLANGES.

MEASUREMENT & PAYMENT: THE DEPARTMENT WILL MEASURE THE QUANTITY OF REMOVALS ON A LUMP SUM BASIS. THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITIES OF REMOVALS AT THE CONTRACT PRICE FOR ITEM 202, PORTIONS OF STRUCTURE REMOVED, AS PER PLAN.

ITEM 509 REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN

REPLACE ALL EXISTING REINFORCING BARS DEEMED BY THE ENGINEER TO BE UNUSABLE BECAUSE OF CORROSION. THE DEPARTMENT WILL MEASURE THE REPLACEMENT REINFORCING STEEL BY THE NUMBER OF POUNDS ACCEPTED IN PLACE.

REPLACE ALL EXISTING REINFORCING STEEL BARS WHICH ARE TO BE INCORPORATED INTO THE NEW WORK AND ARE DEEMED BY THE ENGINEER TO BE MADE UNUSABLE BY CONCRETE REMOVAL OPERATIONS WITH NEW EPOXY COATED REINFORCING STEEL OF THE SAME SIZE AT NO COST TO THE DEPARTMENT.

ITEM 511 - CLASS HP CONCRETE, AS PER PLAN

THE PROVISIONS OF ITEM 511 SHALL APPLY EXCEPT AS NOTED BELOW.

MIX OPTIONS:
ALL SUPERSTRUCTURE, BRIDGE DECK, SIDEWALK, APPROACH SLABS AND PARAPET CONCRETE SHALL BE THIS MIX (HP4, AS PER PLAN). THE FOLLOWING PROPORTIONS WILL BE USED AS A STARTING MIX DESIGN.

CONCRETE TABLE
QUANTITIES PER CUBIC YARD
AGGREGATES (SSD)
MIX 4, AS PER PLAN (GGBF SLAG + MICROSILICA)

AGG TYPE	FINE AGG (LB)	#8 COARSE AGG (LB) *	#67 COARSE AGG (LB) *	TOTAL (LB)	CEMENT CONTENT (LB)	GGBF SLAG (LB)	MICRO SILICA (LB)	MAX WATER TO CEMENTITIOUS RATIO	AIR CONTENT +/- 2%
GRAVEL	1370	650	790	2810	440	190	30	0.42	6
LIME-STONE	1370	655	800	2820	440	190	30	0.42	6
SLAG	1370	570	695	2635	440	190	30	0.42	6

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

BASIS OF PAYMENT:
PAYMENT FOR THE ABOVE COMPLETED AND ACCEPTED QUANTITIES WILL BE MADE AT THE CONTRACT BID PRICE FOR:
ITEM 511 - CLASS HP CONCRETE, BRIDGE DECK, AS PER PLAN, 39 CU YD

DESIGN AGENCY
ODOT --- DISTRICT 4
PLANNING AND ENGINEERING

DESIGNED	DRAWN	REVIEWED	DATE
LMP	LMP	TJP	05-17-11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
		7709668	

STRUCTURE GENERAL NOTES
PEDESTRIAN BRIDGE NO.: SUM-277-0161
OVER I.R. 277

SUM-277-1.61
PID No. 76351

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ITEM 514 - PAINTING OF STRUCTURAL STEEL

THE COLOR FOR THE FINISHED COAT OF STRUCTURE(S) SUM-277-0161 WILL CONFORM TO FEDERAL COLOR NUMBER 10080 (BROWN).

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 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.

ITEM 607 - VANDAL PROTECTION FENCE, 10' CURVED, COATED FABRIC

THE VANDAL PROTECTION FENCE TO BE PLACED ON STRUCTURE SUM-277-0161 WILL BE 10' CURVED SECTION FENCE, POST SECTION PS-2, WITH BASE PLATE BP-2 AS DETAILED IN STANDARD CONSTRUCTION DRAWING VPF-1-90.

PRIOR TO ORDERING MATERIALS THE CONTRACTOR WILL LAYOUT THE POST LOCATIONS AND THE PROJECT ENGINEER WILL APPROVE THE POST SPACING TO BE USED. THE POST SPACING WILL BE AS PER STANDARD DRAWING VPF-1-90.

STRUCTURE IDENTIFICATION SIGNS

STRUCTURE IDENTIFICATION SIGNS (I-H25a) 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.

INSTALL SIGNS FOR THE FOLLOWING STRUCTURES:
SUM-277-0161 (2 APPROACHES BELOW ALONG IR277)

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

ITEM SPECIAL - MISC.: 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 LECENSED SURVEYOR WHO HAS TAKEN THE MEASUREMENTS. THIS WORK SHALL BE PERFORMED AT THE FOLLOWING STRUCTURES: SUM-277-0161

THE FOLLOWING QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY:

SPECIAL - MISC.: VERTICAL CLEARANCE, 1 EACH

CALC:	LMP	DATE:	5/17/2011
CHECKED:		DATE:	

ESTIMATED QUANTITIES

ITEM	EXTENSION	TOTAL	UNIT	DESCRIPTION	ABUT.	PIERS	SUPER.	GEN.	SEE SHEET
201	11000	LUMP		CLEARING AND GRUBBING					
202	11203	LUMP		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN					2/13
202	38500	291	FT	BRIDGE RAILING REMOVED			291		
503	21300	LUMP		UNCLASSIFIED EXCAVATION					
509	10000	10308	POUND	EPOXY COATED REINFORCING STEEL		1498	8810		
509	20001	100	POUND	REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN				100	2/13
511	34450	21	CU YD	CLASS S CONCRETE, MISC.: PIER ENCASEMENT		21			6/13
511	50001	39	CU YD	CLASS HP CONCRETE, BRIDGE DECK, AS PER PLAN			39		2/13
512	10100	430	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	49	154	227		
513	20000	384	EACH	WELDED STUD SHEAR CONNECTORS			384		
514	00100	LUMP		SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL					
514	00200	LUMP		FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT					
514	00300	LUMP		FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT					
514	00400	LUMP		FIELD PAINTING STRUCTURAL STEEL, FINISH COAT					
514	00504	5	MAN HOUR	GRINDING FINS, TEARS, SLIVERS ON EXISTING STRUCTURAL STEEL			5		
514	10000	2	EACH	FINAL INSPECTION REPAIR			2		
516	10501	20	FT	STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC COMPRESSION SEAL, AS PER PLAN			20		10/13
516	45305	4	EACH	REFURBISH BEARING DEVICE, AS PER PLAN			4		3/13
516	47001	LUMP		JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN					3/13
518	12200	4	EACH	SCUPPERS, INCLUDING SUPPORTS			4		
518	43301	60	FT	6" PIPE DOWNSPOUT, INCLUDING SPECIALS, AS PER PLAN			60		11/13
SPEC	51910000	20	SQ YD	PATCHING CONCRETE BRIDGE DECK OVERLAY WITH MICRO- SILICA MODIFIED CONCRETE				20	
519	11101	200	SQ FT	PATCHING CONCRETE STRUCTURE, AS PER PLAN				200	2/13
SPEC	53000400	1	EACH	STRUCTURE, MISC.: VERTICAL CLEARANCE				1	2/13
607	39920	291	FT	VANDAL PROTECTION FENCE, 10' CURVED, COATED FABRIC			291		
630	02100	15	FT	GROUND MOUNTED SUPPORT, NO. 2 POST				15	
630	80100	2	SQ FT	SIGN, FLAT SHEET, 730.20				2	
630	84900	2	EACH	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL				2	
630	86002	2	EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL				2	
843	50000	100	SQ FT	PATCHING CONCRETE STRUCTURES WITH TROWELABLE MORTAR				100	

DESIGN AGENCY
ODOT --- DISTRICT 4
PLANNING AND ENGINEERING

DESIGNED	DRAWN	REVIEWED	DATE
LMP	LMP	TJP	05-17-11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
		7709668	

STRUCTURE ESTIMATED QUANTITIES
PEDESTRIAN BRIDGE NO.: SUM-277-0161
OVER I.R. 277

SUM-277-1.61
PID No. 76351

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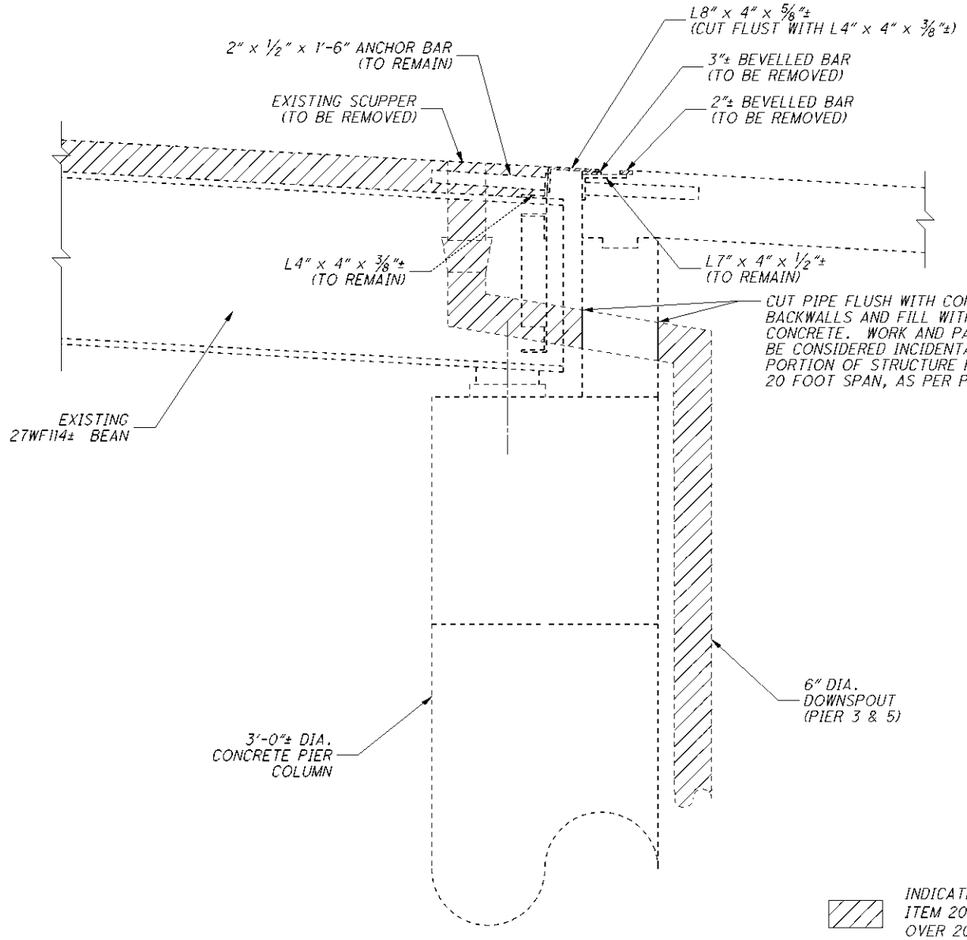
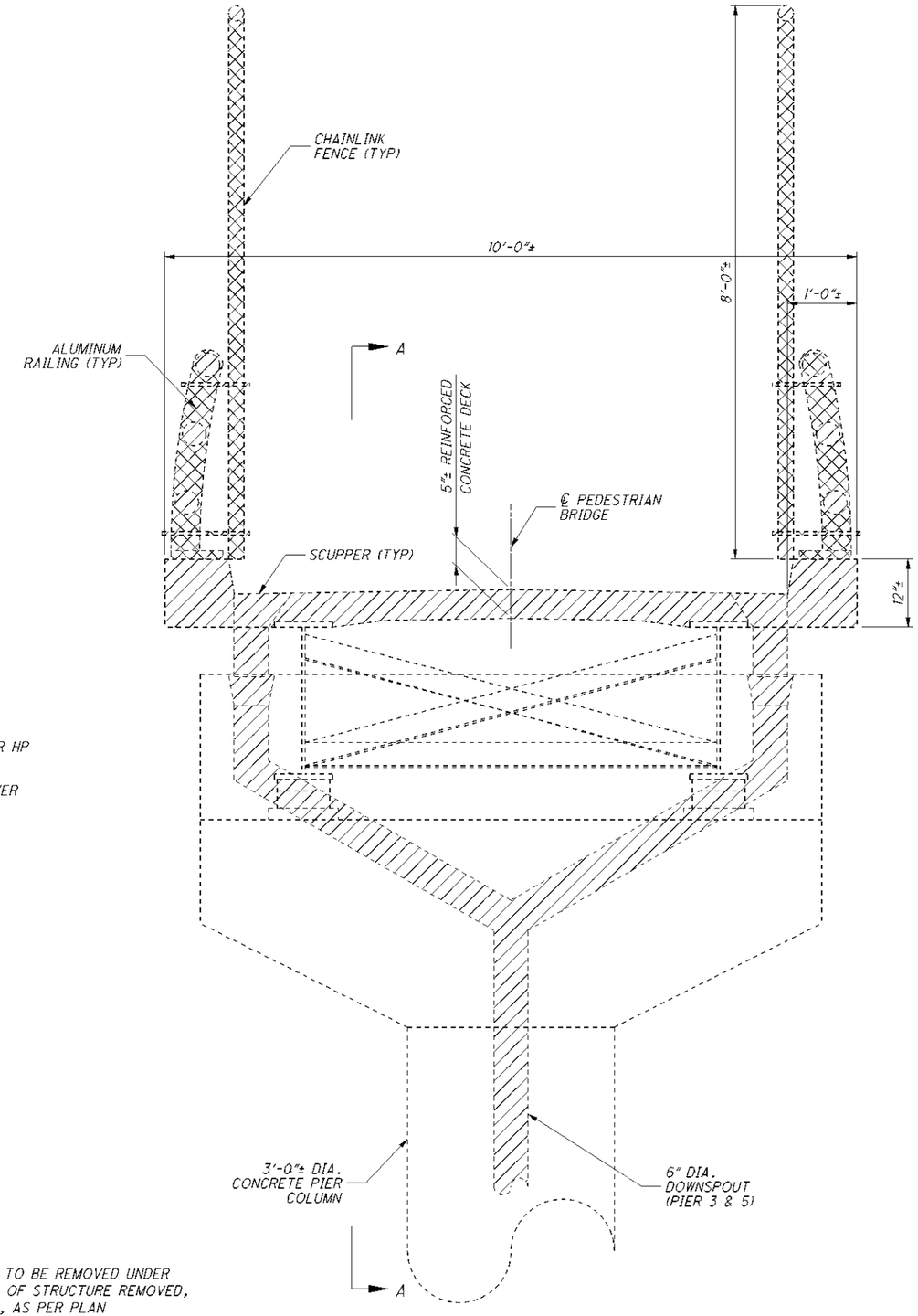


SECTION A-A



MAIN SPAN (SPANS 4 & 5) ELEVATION VIEW

LEGEND

INDICATES MATERIAL TO BE REMOVED UNDER ITEM 202, PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN

INDICATES MATERIAL TO BE REMOVED UNDER ITEM 202, BRIDGE RAILING REMOVED

DESIGN AGENCY
ODOT --- DISTRICT 4
PLANNING AND ENGINEERING

DESIGNED	DRAWN	REVIEWED	DATE
LMP	LMP	TJP	05-17-11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
		7709668	

REMOVAL DETAILS
PEDESTRIAN BRIDGE NO.: SUM-277-0161
OVER I.R. 277

SUM-277-1.61
PID No. 76351

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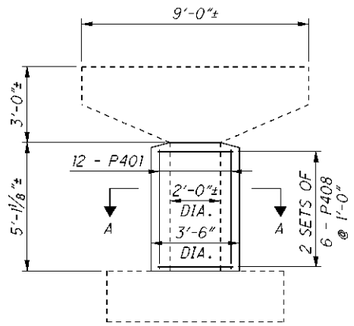
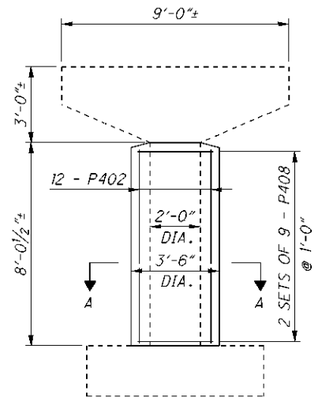


PIER 1 ELEVATION



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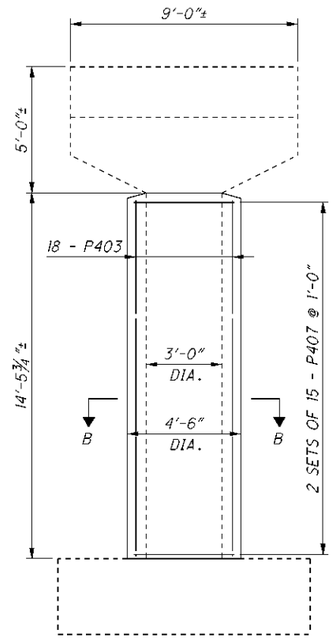

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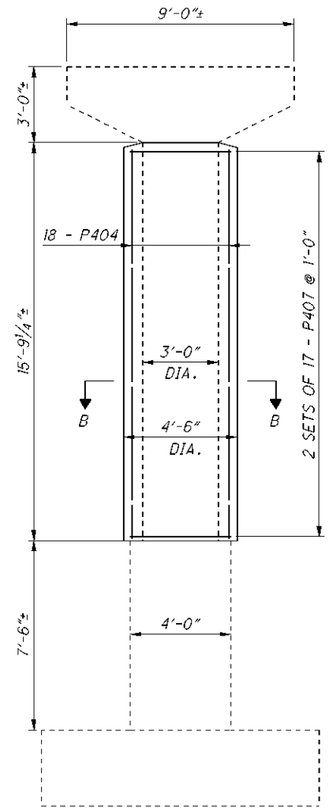

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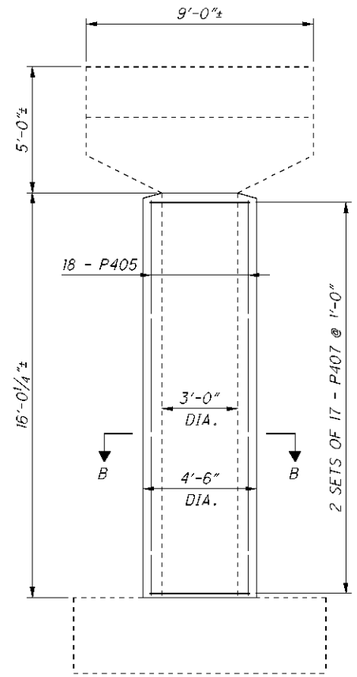

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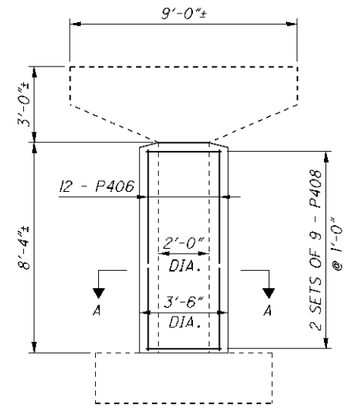

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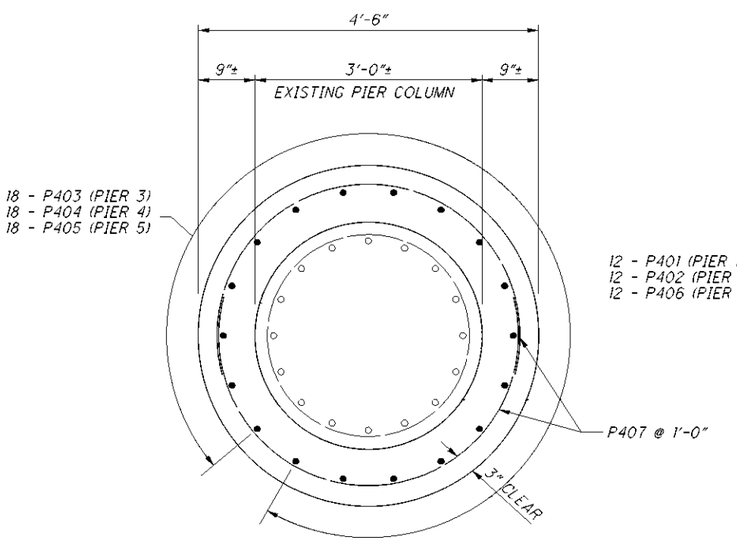
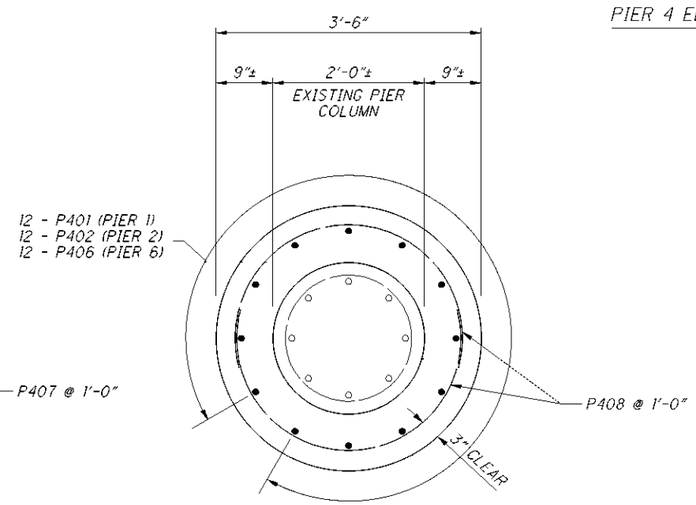


SECTION B-B



SECTION A-A

NOTES:

1. ALL DELAMINATED CONCRETE OF THE EXISTING CONCRETE PIER COLUMNS AND SURFACE PREPARATION WILL BE PER CMS 519.04.

2. PRIOR TO THE SURFACE CLEANING SPECIFIED IN 519.04 AND WITHIN 24 HOURS PIER ENCASEMENT OPERATIONS, BLAST CLEAN ALL SURFACES TO BE ENCASED INCLUDING THE EXPOSED REINFORCING STEEL. ACCEPTABLE METHODS INCLUSED HIGH-PRESSURE WATER BLASTING WITH OR WITHOUT ABRASIVES IN THE WATER, ABRASIVE BLASTING WITH CONTAINMENT, OR VACUUM ABRASIVE BLASTING.

3. ALL WORK TO COMPLETE THIS ITEM, INCLUDING THE REMOVAL OF DELAMINATION CONCRETE, SURFACE PREPARATION, FORMS, CONCRETE PLACEMENT, AND ALL OTHER INCIDENTIALS WILL BE INCLUDED IN ITEM 511, CLASS S CONCRETE, MISC.: PIER ENCASEMENT.

DESIGN AGENCY
ODOT --- DISTRICT 4
PLANNING AND ENGINEERING

DESIGNED	DRAWN	REVIEWED	DATE
LMP	LMP	TJP	05-17-11
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PIER REPAIRS
PEDESTRIAN BRIDGE NO.: SUM-271-0161
OVER I.R. 277

SUM-277-1.61
PID No. 76351

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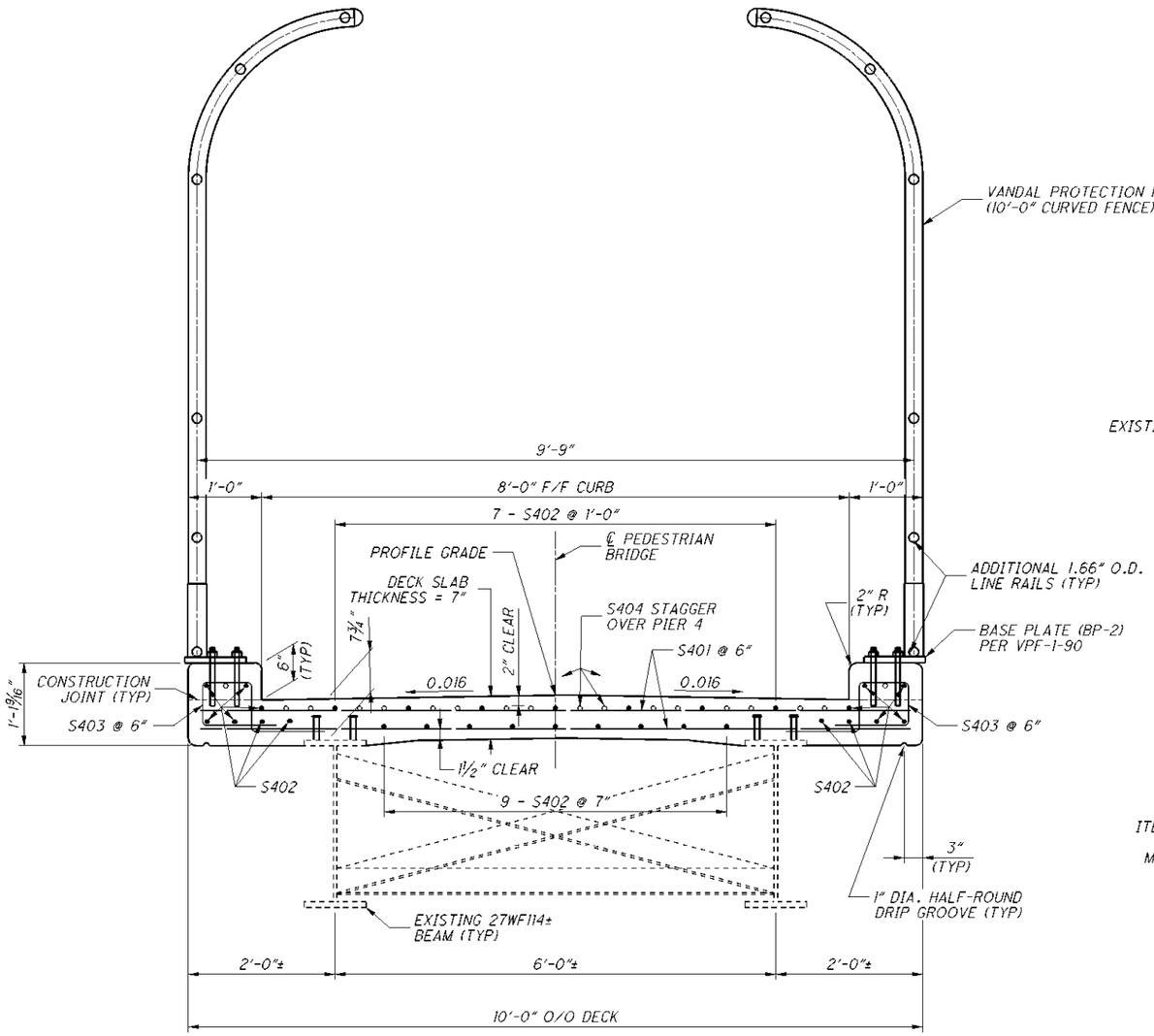
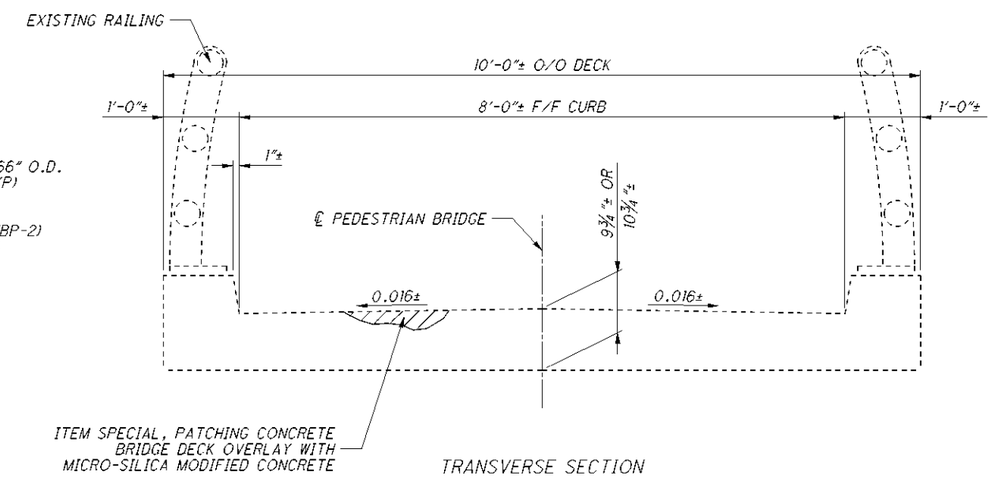


TRANSVERSE SECTION AT PIERS 3 THRU 5
MAIN SPANS (4 & 5)



TRANSVERSE SECTION
APPROACH SPANS

DECK SLAB CONCRETE QUANTITY

THE ESTIMATED QUANTITY OF DECK SLAB CONCRETE IS BASED ON THE CONSTANT DECK SLAB THICKNESS, AS SHOWN, PLUS THE QUANTITY OF CONCRETE THAT FORMS EACH BEAM/GIRDER HAUNCH. THE ESTIMATE ASSUMES A CONSTANT HAUNCH THICKNESS OF 3/4 INCHES AND A CONSTANT HAUNCH WIDTH OUTSIDE THE EDGE OF EACH BEAM/GIRDER FLANGE OF 9 INCHES. DEVIATE FROM THIS HAUNCH THICKNESS AS NECESSARY TO PLACE THE DECK SURFACE AT THE FINISHED GRADE. THE ALLOWABLE TOLERANCE FOR THE HAUNCH WIDTH OUTSIDE THE EDGE OF EACH BEAM/GIRDER FLANGE IS +/- 3 INCHES.

THE HAUNCH THICKNESS WAS MEASURED AT THE CENTERLINE OF THE BEAM/GIRDER, FROM THE SURFACE OF THE DECK TO THE BOTTOM OF THE TOP FLANGE MINUS THE DECK SLAB THICKNESS. THE AREA OF ALL EMBEDDED STEEL PLATES HAS BEEN DEDUCTED FROM THE HAUNCH QUANTITY IN ACCORDANCE WITH 511.24.

DESIGN AGENCY
ODOT --- DISTRICT 4
PLANNING AND ENGINEERING

DESIGNED	DRAWN	REVIEWED	DATE
LMP	LMP	TJP	05-17-11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
		7709668	

TRANSVERSE SECTIONS
PEDESTRIAN BRIDGE NO.: SUM-277-0161
OVER I.R. 277

SUM-277-1.61
PID No. 76351

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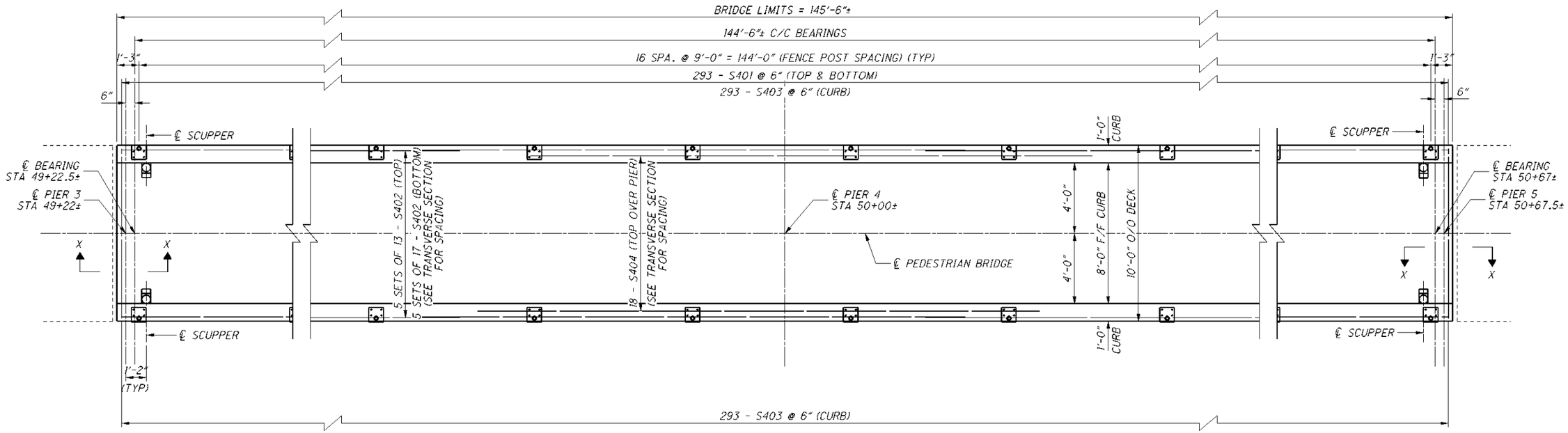
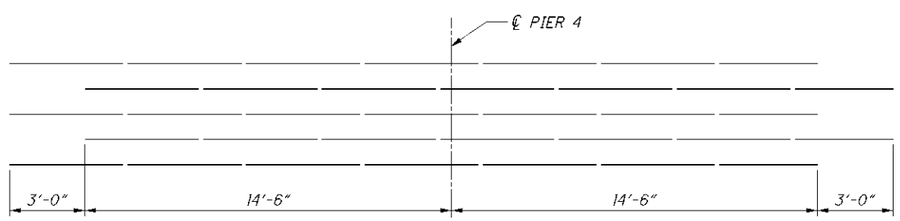
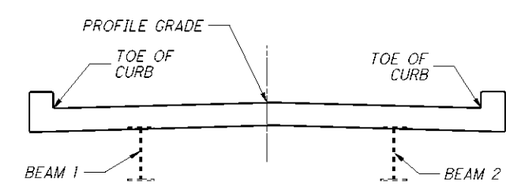


SLAB PLAN



STAGGER OF S404 OVER PIER 4



NOTES

1. SECTION X-X: SEE SHEET 10
2. THESE ELEVATIONS ARE BASED ON THE EXISTING TOP OF DECK ELEVATIONS PLUS 2" TO ACCOUNT FOR THE CHANGE IN PROPOSED DECK THICKNESS FROM 5" TO 7"±.
3. DUE TO UNCERTAINTIES WITH THE REBOUND OF EXISTING BEAMS, ALL SCREED ELEVATIONS ARE FINAL ELEVATIONS.
4. DEFLECTIONS ARE GIVEN FOR REFERENCE ONLY.

		PIER 3 A	SPAN No. 4 1/4 POINT B	SPAN No. 4 1/2 POINT C	SPAN No. 4 3/4 POINT D	SPAN No. 4 SPLICE POINT E	PIER 4 F	SPAN No. 5 1/4 POINT G	SPAN No. 5 1/2 POINT H	SPAN No. 5 3/4 POINT J	PIER 5 K
EXISTING DECK ELEVATION	PROFILE GRADE	1024.57	1025.45	1025.99	1026.17	1026.15	1025.99	1025.56	1024.87	1023.91	1022.69
	BEAM 1 & 2	1024.02	1025.40	1025.94	1026.12	1026.10	1025.94	1025.51	1024.82	1023.86	1022.64
	TOE OF CURBS	1024.01	1025.39	1025.93	1026.11	1026.09	1025.93	1025.50	1024.81	1023.85	1022.63
DEFLECTION DUE TO EXISTING (5") DEAD LOAD		0	1.125"	1.438"	0.688"	0.500"	0	0.125"	0.500"	0.438"	0
DEFLECTION DUE TO PROPOSED (7") DEAD LOAD		0	1.358"	1.678"	0.851"	0.503"	0	0.139"	0.540"	0.511"	0
DIFFERENCE IN DEFLECTIONS		0	0.233"	0.240"	0.163"	.003"	0	0.014"	0.040"	0.073"	0
PROPOSED DECK ELEVATION	PROFILE GRADE	1024.74	1025.62	1026.16	1026.34	1026.32	1026.16	1025.73	1025.04	1024.08	1022.86
	BEAM 1 & 2	1024.69	1025.57	1026.11	1026.29	1026.27	1026.11	1025.68	1024.99	1024.03	1022.81
	TOE OF CURBS	1024.68	1025.56	1026.10	1026.28	1026.26	1026.10	1025.67	1024.98	1024.02	1022.80

DESIGN AGENCY
ODOT --- DISTRICT 4
PLANNING AND ENGINEERING

DESIGNED LMP | DRAWN LMP | REVIEWED TJP | DATE 05-17-11
CHECKED | REVISED | STRUCTURE FILE NUMBER 7709668

DECK PLAN
PEDESTRIAN BRIDGE NO.: SUM-277-0161
OVER I.R. 277

SUM-277-1.61
PID No. 76351

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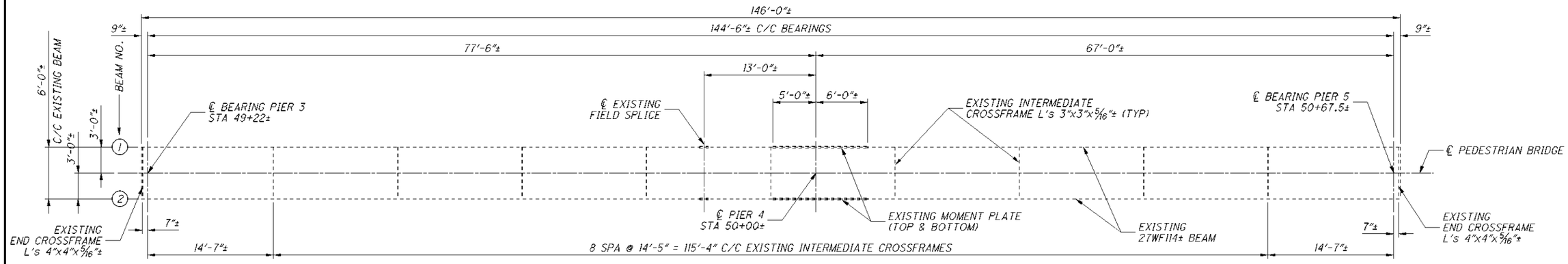
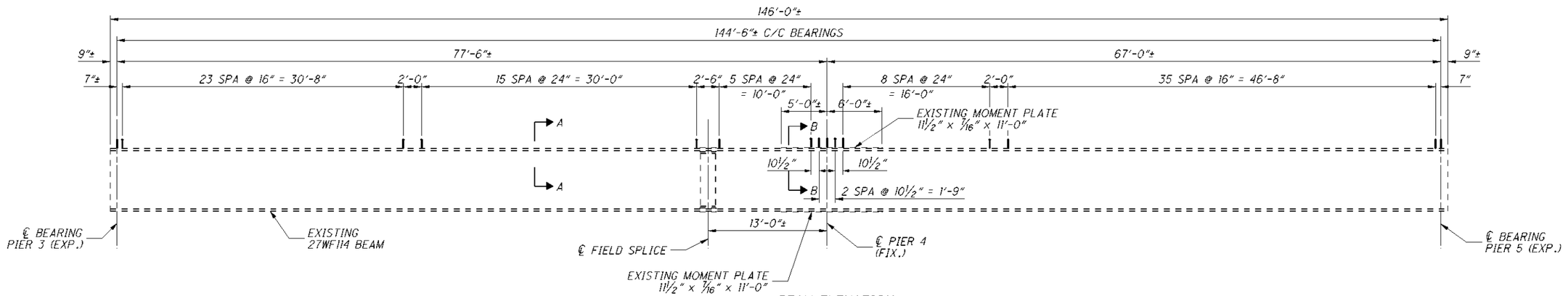
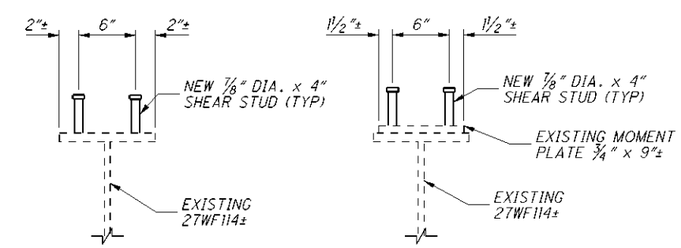


FRAMING PLAN



BEAM ELEVATION



SECTION A-A

SECTION B-B

NOTES:

1. SHEAR STUDS: SHALL NOT BE PLACED ON THE EXISTING FIELD SPLICES OR WITHIN 2" OF THE END OF THE EXISTING MOMENT PLATE.

DESIGN AGENCY
ODOT --- DISTRICT 4
PLANNING AND ENGINEERING

DESIGNED	DRAWN	REVIEWED	DATE
LMP	LMP	TJP	05-17-11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
		7709668	

FRAMING PLAN
PEDESTRIAN BRIDGE NO.: SUM-277-0161
OVER I.R. 277

SUM-277-1.61
PID No. 76351

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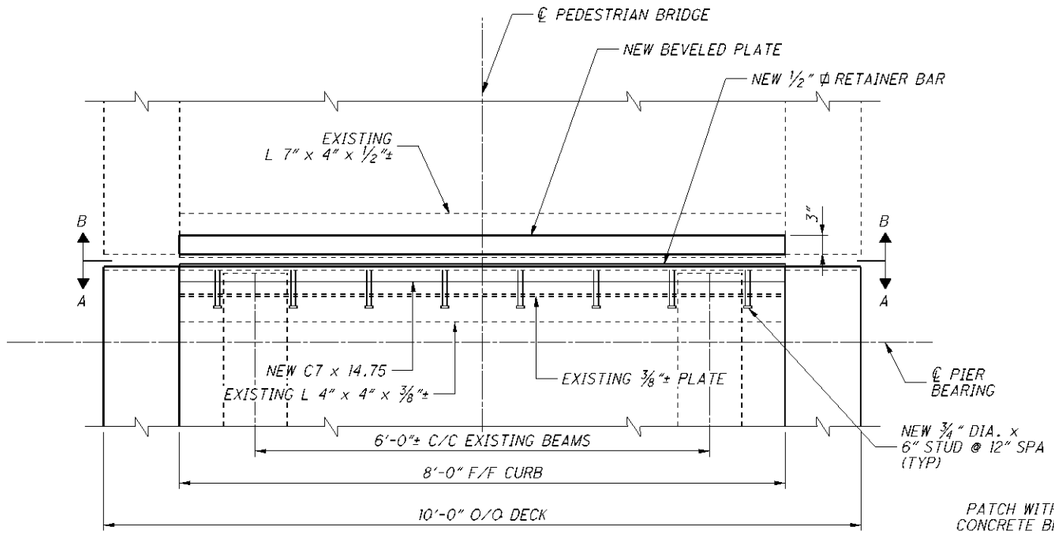
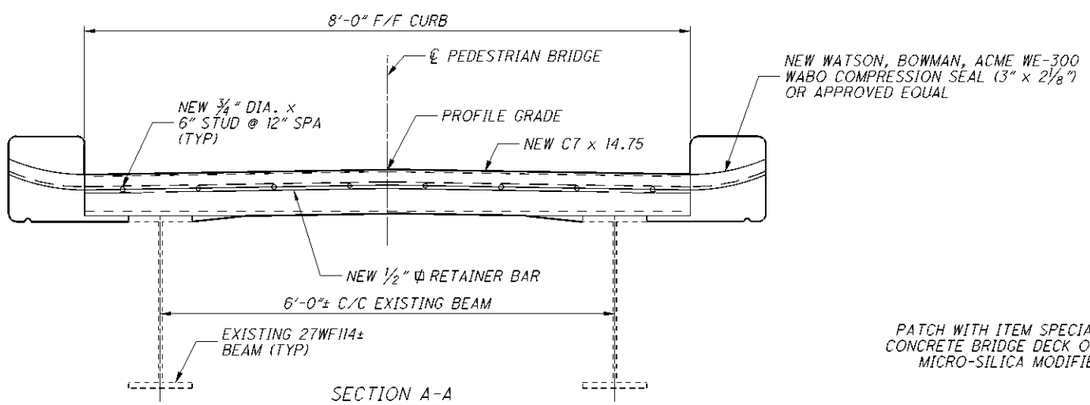
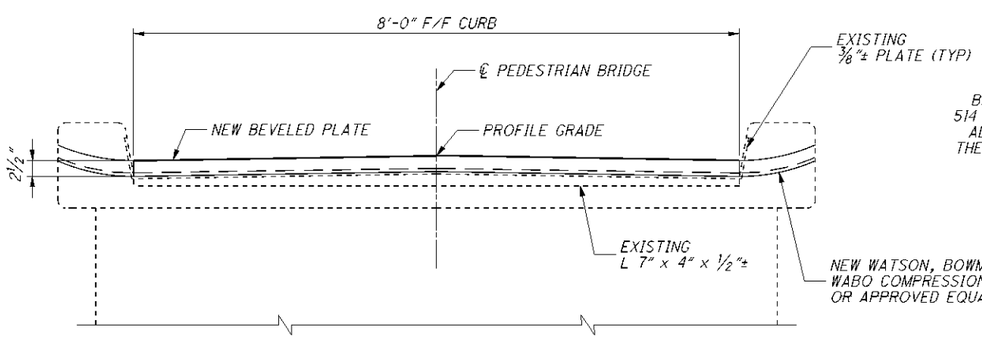


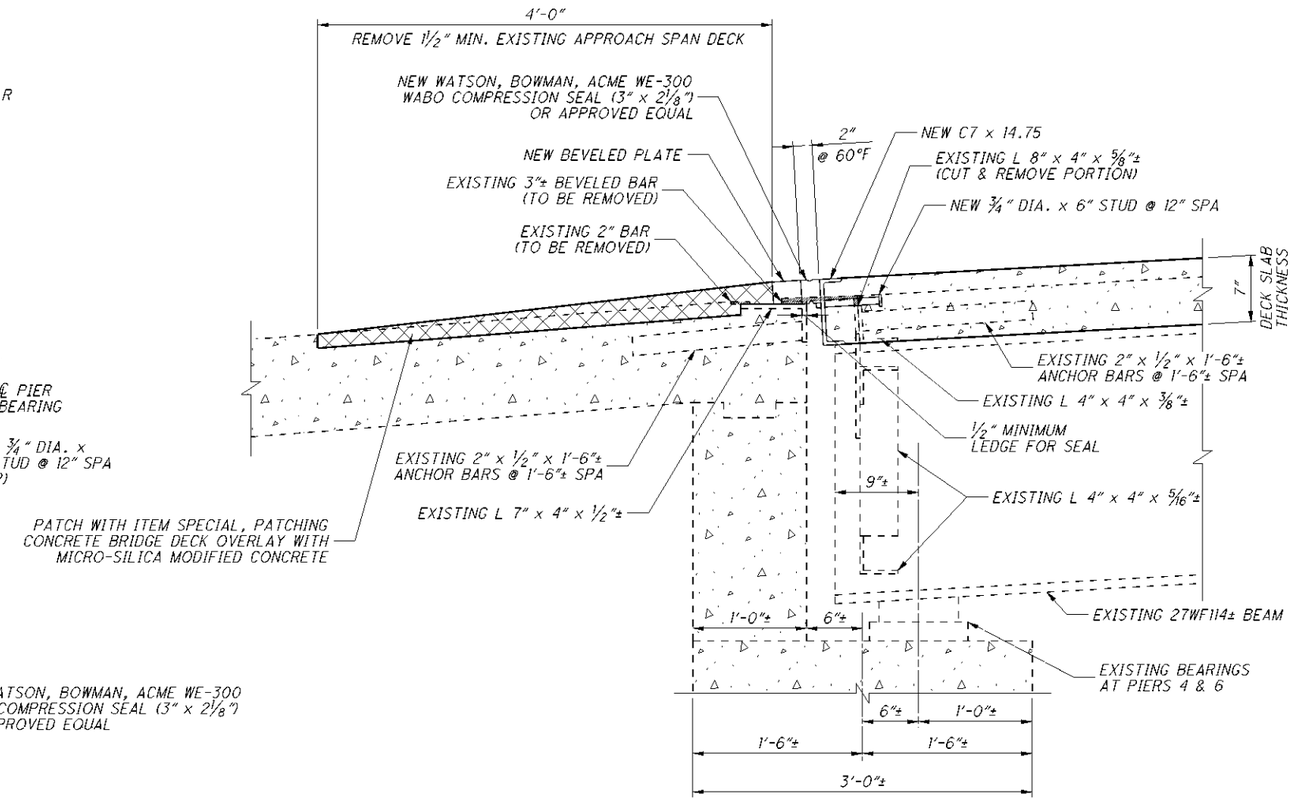
PLAN



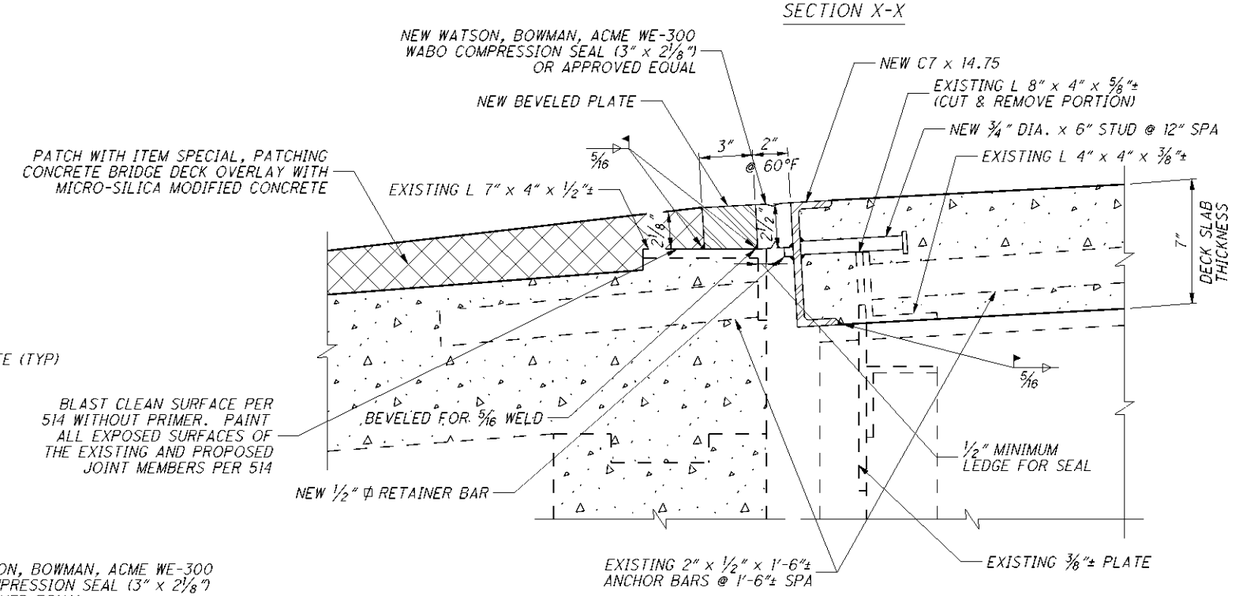
SECTION A-A



SECTION B-B



SECTION X-X



JOINT DETAILS

NOTES:

FOR ADDITIONAL DETAILS SEE
STANDARD DRAWING EXJ-2-81

DESIGN AGENCY
ODOT --- DISTRICT 4
PRODUCTION

DESIGNED	DRAWN	REVIEWED	DATE
LMP	LMP	TJP	05-17-11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
		7709668	

EXPANSION JOINT DETAILS
PEDESTRIAN BRIDGE NO.: SUM-277-0161
OVER I.R. 277

SUM-277-1.61
PID No. 76351

10/13

15/18

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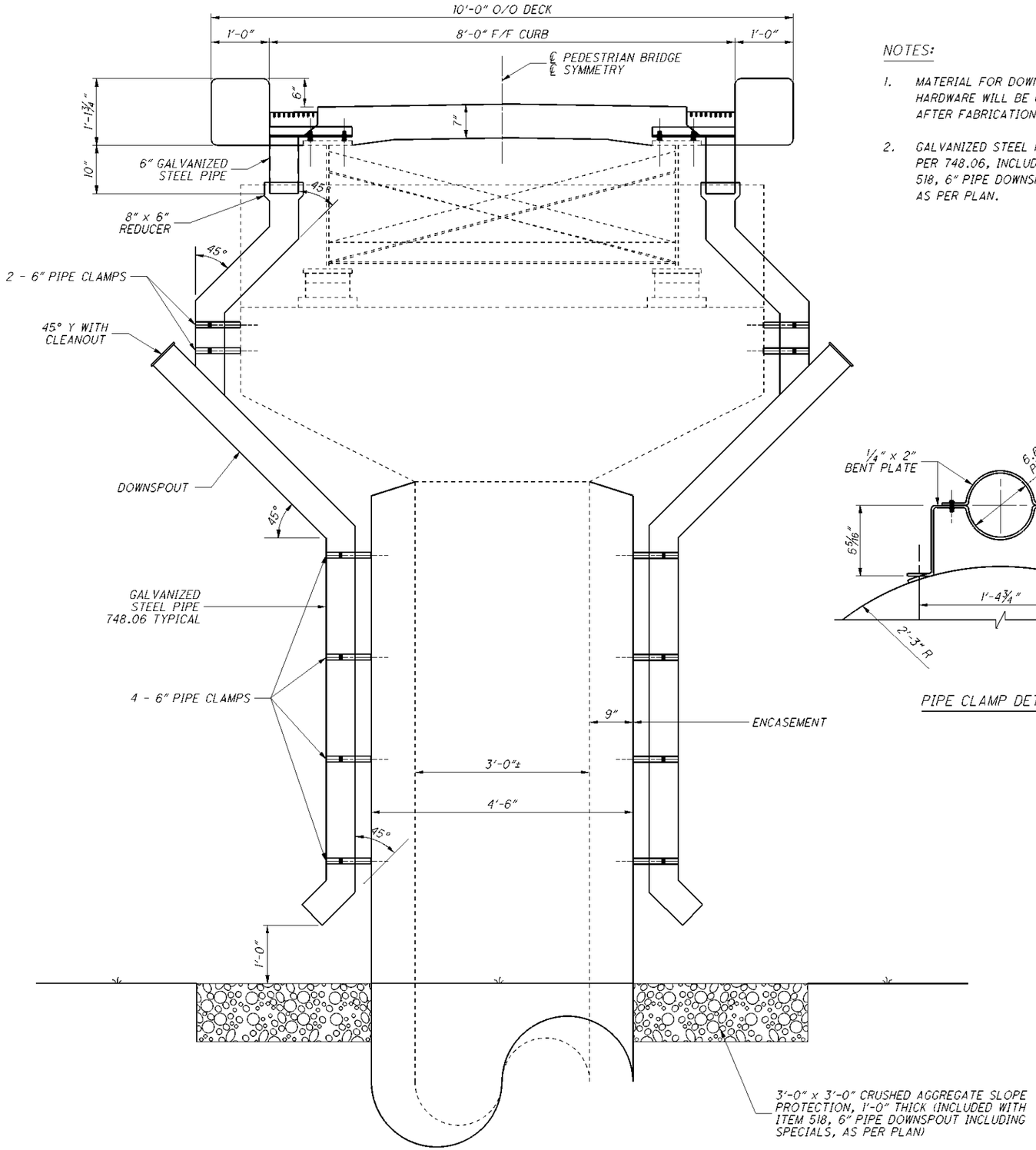
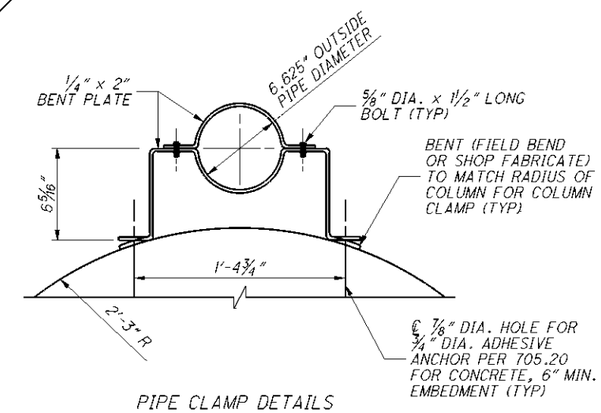


TRANSVERSE SECTION
AT PIERS 3 & 5

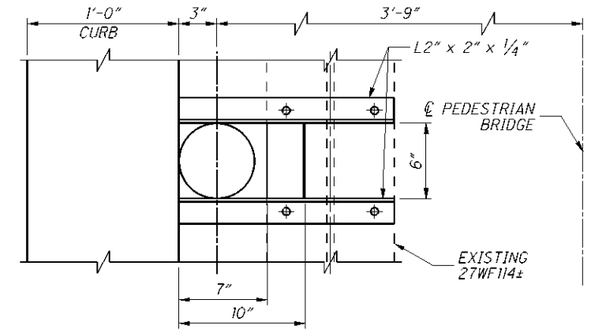
NOTES:

1. MATERIAL FOR DOWNSPOUT BRACKETS AND ALL HARDWARE WILL BE GALVANIZED PER 711.02, AFTER FABRICATION, UNLESS OTHERWISE NOTED.

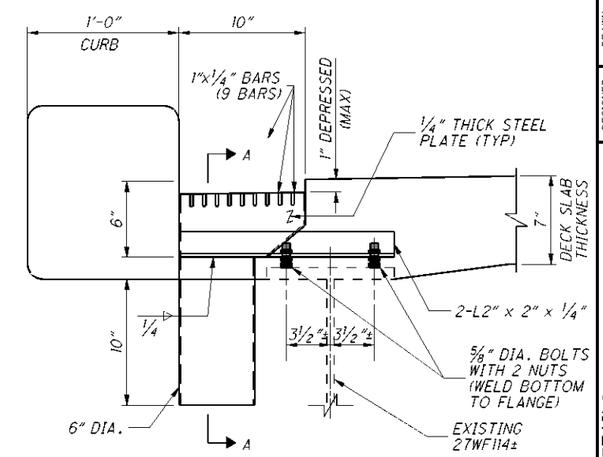
2. GALVANIZED STEEL PIPE AND FITTINGS WILL BE PER 748.06, INCLUDE FOR PAYMENT UNDER ITEM 518, 6" PIPE DOWNSPOUT, INCLUDING SPECIALS, AS PER PLAN.



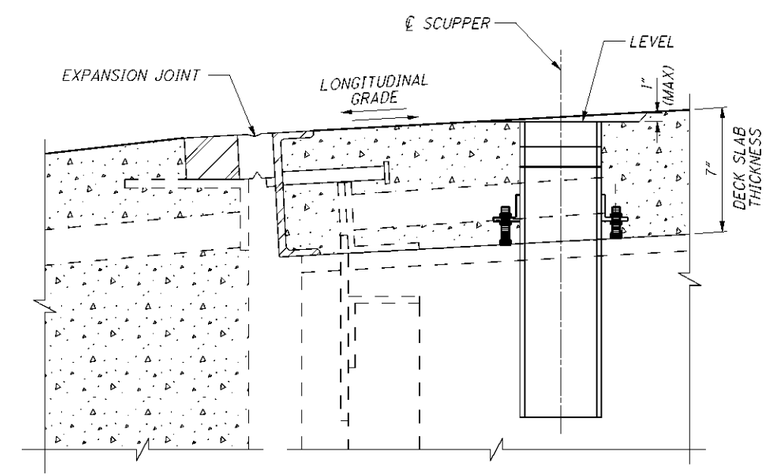
PIPE CLAMP DETAILS



PARTIAL PLAN



ELEVATION



SECTION A-A
DEPRESSED SCUPPER DETAILS

DESIGN AGENCY
ODOT --- DISTRICT 4
PLANNING AND ENGINEERING

DESIGNED	DRAWN	REVIEWED	DATE
LMP	LMP	TJP	05-17-11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
		7709668	

DRAINAGE DETAILS
PEDESTRIAN BRIDGE NO.: SUM-277-0161
OVER I.R. 277

SUM-277-1.61
PID No. 76351

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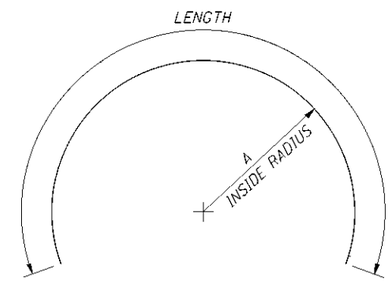
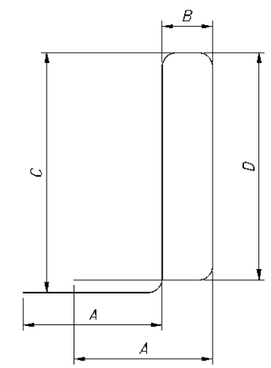
MARK	NUMBER				LENGTH	WEIGHT	TYPE	DIMENSIONS				
	REAR ABUT	FWD ABUT	SUPER	TOTAL		(LBS)		A	B	C	D	E
S401			586	586	9'-8"	3784	STR					
S402			150	150	31'-0"	3107	STR					
S403			586	586	3'-11"	1534	30	1'-0"	8"	8"	7"	
S404			18	18	32'-0"	385	STR					
	SUPERSTRUCTURE SUB-TOTAL					8810						
P401			12	12	4'-9"	39	STR					
P402			12	12	7'-8"	62	STR					
P403			18	18	14'-1"	170	STR					
P404			18	18	15'-5"	186	STR					
P405			18	18	15'-8"	189	STR					
P406			12	12	8'-0"	65	STR					
P407			98	98	8'-7"	562	1	1'-11 1/2"				
P408			48	48	7'-0"	225	1	1'-5 1/2"				
	PIER SUB-TOTAL					1498						
	GRAND TOTAL					10308						

THE BAR SIZE NUMBER IS SPECIFIED ON THE PLANS IN THE BAR MARK COLUMN. THE FIRST DIGIT WHERE THREE DIGITS ARE USED, THE FIRST TWO DIGITS WHERE FOUR ARE USED, INDICATES THE BAR SIZE NUMBER. FOR EXAMPLE, P601 IS A NO. 6 BAR. BAR DIMENSIONS SHOWN ARE OUT TOOUT UNLESS OTHERWISE INDICATED. R INDICATES INSIDE RADIUS, UNLESS OTHERWISE NOTED. "STD." WRITTEN IN PLACE OF A DIMENSION INDICATES A STANDARD BEND AT THE END OF THE BAR.

ALL REINFORNCING STEEL TO BE EPOXY COATED



TYPE-1



TYPE-30

DESIGN AGENCY
ODOT --- DISTRICT 4
PLANNING AND ENGINEERING

DESIGNED	DRAWN	REVIEWED	DATE
LMP	LMP	TJP	05-17-11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
		7709668	

REINFORCING STEEL LIST
PEDESTRIAN BRIDGE NO.: SUM-277-0161
OVER I.R. 277

SUM-277-1.61
PID No. 76351

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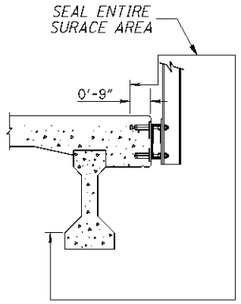
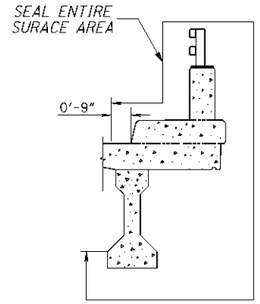
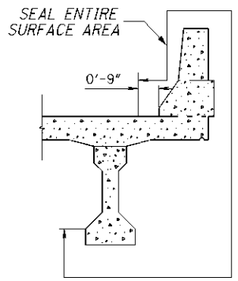


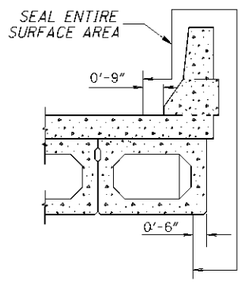
DETAIL A
CONCRETE DECKS WITH
OVER THE SIDE DRAINAGE



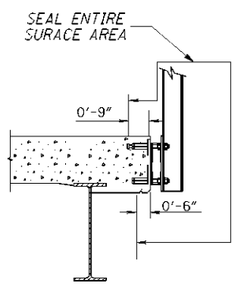
DETAIL B
CONCRETE DECKS WITH CURBS,
SIDEWALKS AND PARAPET



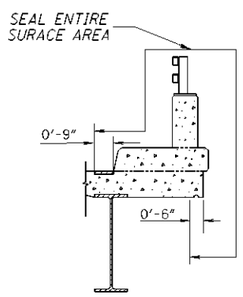
DETAIL C
CONCRETE DECK WITH
DEFLECTOR PARAPET



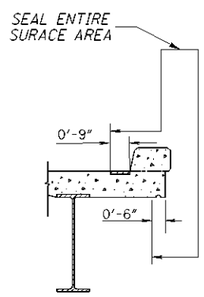
DETAIL D
PRESTRESSED BOX BEAM DECK
WITH DEFLECTOR PARAPET



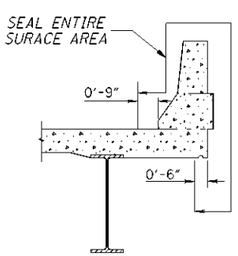
DETAIL E
CONCRETE DECKS WITH
OVER THE SIDE DRAINAGE



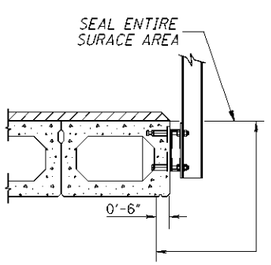
DETAIL F
CONCRETE DECKS WITH CURBS,
SIDEWALKS AND PARAPET



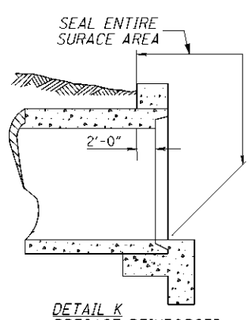
DETAIL G
CONCRETE DECKS WITH CURBS



DETAIL H
CONCRETE DECK WITH
DEFLECTOR PARAPET



DETAIL J
PRESTRESSED BOX BEAM DECK
WITH OVER THE SIDE DRAINAGE



DETAIL K
PRECAST REINFORCED
CONCRETE BOX CULVERT

BRIDGE NO.	STRUCTURE TYPE	PROPOSED SEALING	FEDERAL COLOR NUMBER	ESTIMATED QUANTITIES ABUT SQ YD	PIER SQ YD	SUPER SQ YD	GEN SQ YD	TOTAL SQ YD
SUM-277-0161	7 SPAN CONTINUOUS STEEL BEAM & CONCRETE SLAB RAMPS	SEAL CURBS AND DECK EDGES PER DETAIL G SEAL ALL EXPOSED CONCRETE AT ABUTMENTS SEAL ALL EXPOSED CONCRETE AT PIERS 1 THRU 6	13522 (BUFF)	49	154	227		430

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

SEALING OF BEAM SEATS

SEALING OF BEAM SEATS: IF THE BEAMS SEATS ARE SEALED WITH AN EPOXY OR NON-EPOXY SEALER PRIOR TO SETTING THE BEARINGS, DO NOT APPLY SEALER TO THE CONCRETE SURFACES UNDER THE PROPOSED BEARING LOCATIONS. IF THESE LOCATIONS ARE SEALED, REMOVE THE SEALER TO THE SATISFACTION OF THE ENGINEER PRIOR TO SETTING THE BEARINGS. THE DEPARTMENT WILL NOT PAY FOR THIS REMOVAL.

DESIGN AGENCY
ODOT --- DISTRICT 4
PLANNING AND ENGINEERING

DESIGNED LMP | DRAWN LMP | REVIEWED TJP | DATE 05-17-11
CHECKED | REVISED | STRUCTURE FILE NUMBER 7709668

SEALING CONCRETE SURFACE DETAILS
PEDESTRIAN BRIDGE NO.: SUM-277-0161
OVER I.R. 277

SUM-277-1.61
PID No. 76351

13/13
18/18

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STATE OF OHIO

DEPARTMENT OF TRANSPORTATION

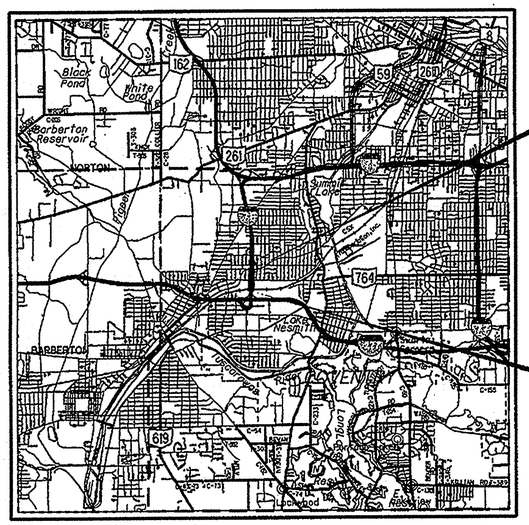
SUM-76-6.72 PART 3

CITY OF AKRON

SUMMIT COUNTY

FOR PART 1, SEE SUM-76/77/277/224-VAR.

FOR PART 2, SEE SUM-277-1.61



LOCATION MAP

LATITUDE: N41°02'22" LONGITUDE: W81°33'56"

SCALE IN MILES

0 1 2 3 4

N

PORTION TO BE IMPROVED

INTERSTATE HIGHWAY

FEDERAL ROUTES

STATE ROUTES

COUNTY & TOWNSHIP ROADS

OTHER ROADS

DESIGN DESIGNATION

DESIGN FUNCTIONAL CLASSIFICATION:
URBAN INTERSTATE

NHS PROJECT ..... YES

DESIGN EXCEPTIONS

NONE

INDEX OF SHEETS:

TITLE SHEET	1
GENERAL NOTES	2
MAINTENANCE OF TRAFFIC	3-14
GENERAL SUMMARY	15
STRUCTURES	16-22

PROJECT DESCRIPTION

MINOR STRUCTURE WORK TO THREE STRUCTURES ON IR76 INCLUDING CONCRETE OVERLAYS, STRUCTURAL STEEL REPAIRS, PATCHING OF SUBSTRUCTURE; AND OF CONCRETE SURFACES.

PROJECT EARTH DISTURBED AREA: 0 ACRES
ESTIMATED CONTRACTOR EARTH DISTURBED AREA: 0 ACRES
NOTICE OF INTENT EDA: N/A (MAINTENANCE PROJECT)

LIMITED ACCESS

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

2010 SPECIFICATIONS

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

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY AND THAT DETOURS WILL BE PROVIDED AS INDICATED ON SHEET 5-14.

UNDERGROUND UTILITIES

CONTACT BOTH SERVICES
CALL TWO WORKING DAYS
BEFORE YOU DIG

CALL
1-800-362-2764
(TOLL FREE)
OHIO UTILITIES PROTECTION SERVICE
NON-MEMBERS
MUST BE CALLED DIRECTLY

OIL & GAS PRODUCERS PROTECTIVE SERVICE CALL: **1-800-925-0988**

PLAN PREPARED BY:
ODOT --- DISTRICT 4
PLANNING AND ENGINEERING
2088 SOUTH ARLINGTON ROAD
AKRON, OHIO 44306

ENGINEERS SEAL:

STATE OF OHIO
THOMAS J. POWELL
E-61151
REGISTERED
PROFESSIONAL ENGINEER

SIGNED: [signature]
DATE: 09-01-11

STANDARD CONSTRUCTION DRAWINGS	SUPPLEMENTAL SPECIFICATIONS	SPECIAL PROVISIONS
SEE PART 1	SEE PART 1	SEE PART 1

APPROVED [signature]
DATE 9.1.11 DISTRICT DEPUTY DIRECTOR

APPROVED [signature]
DATE 9-14-11 DIRECTOR, DEPARTMENT OF TRANSPORTATION

FEDERAL PROJECT NO. E091(116)

PID NO. 76351

CONSTRUCTION PROJECT NO.

RAILROAD INVOLVEMENT CSXT

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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.

PAVEMENT MARKINGS

REPLACE ALL PAVEMENT MARKINGS TO MATCH EXISTING PAVEMENT MARKINGS AFTER COMPLETION OF ALL STRUCTURE OVERLAYS AND APPROACH ROADWAY WORK.

STRUCTURES: SUM-76-0672 (EB ONLY), SUM-76-0684, SUM-76-0700
ITEM 646, EDGE LINE 0.88 MI
ITEM 646, LANE LINE 0.55 MI
ITEM 646, CHANNELIZING LINE 940 FT
ITEM 646, TRANSVERSE/DIAGONAL LINE 135 FT

STRUCTURE: SUM-76-0672 (WB ONLY)
ITEM 642, EDGE LINE 0.18 MI
ITEM 642, CHANNELIZING LINE 615 FT
ITEM 642, TRANSVERSE/DIAGONAL LINE 265 FT

CALCULATED LMP
CHECKED LAB

GENERAL NOTES

SUM-76-6.72

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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. THE CONTRACTOR SHALL INFORM THE DISTRICT OFFICE (330) 786-2211, EIGHTEEN (18) DAYS PRIOR TO THE BEGINNING OF WORK.

2. CONES SHALL NOT BE ACCEPTABLE TRAFFIC CONTROL DEVICES FOR LANE RESTRICTIONS OR LANE REDUCTIONS THAT ARE IN OPERATION ONE-HALF HOUR AFTER SUNSET OR ONE HALF-HOUR BEFORE SUNRISE. ALL NIGHTTIME LANE RESTRICTIONS SHALL REQUIRE DRUMS OR BARRICADES AT A MAXIMUM SPACING OF FIFTY (50) FEET. WEIGHTED CHANNELIZERS MAY BE USED IN ACCORDANCE WITH THE STANDARD CONSTRUCTION DRAWINGS.

3. THE CONTRACTOR SHALL FURNISH, ERECT, MAINTAIN AND SUBSEQUENTLY REMOVE ALL FLAGS, BARRICADES, SIGNS, SIGN SUPPORTS AND FURNISH AND MAINTAIN ALL FLAGGERS, WATCHERS AND INCIDENTALS RELATED THERETO.

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

5. A QUANTITY OF 20 CU. YDS. OF 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. 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.

OVERLAYING OF SIGNS

WHERE THE PLANS CALL FOR A PERMANENT SIGN TO BE OVERLAYED, THE CONTRACTOR SHALL DO SO IN SUCH A MANNER AS TO AVOID DAMAGING THE PERMANENT SIGN WHEN THE OVERLAY IS REMOVED. THE OVERLAY SHALL BE TOTALLY OPAQUE. THE USE OF ADHESIVE TAPE APPLIED DIRECTLY TO A SIGN FACE IS STRICTLY PROHIBITED. THE OVERLAYS MAY BE RIVETED TO THE PERMANENT SIGN. THE CONTRACTOR SHALL PROVIDE ALL OF THE PLAQUES, SIGNS AND SIGN PANELS NECESSARY.

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 $5,000.00 PER HOUR OR PORTION THEREOF THAT THE LANE REDUCTION REMAINS BEYOND THE SPECIFIED LIMIT.

DETOUR DURATION

IR-76 EASTBOUND:
ALL LANES OF TRAFFIC MAY BE CLOSED ONCE TO COMPLETE ALL PROPOSED WORK TO THE BRIDGE DECKS, BACKWALLS AND APPROACH SLABS FOR STRUCTURES SUM-76-0672, SUM-76-0684 AND SUM-76-0700 AS OUTLINED ON SHEET 16 AS WELL AS ALL ASSOCIATED APPROACH ROADWAY WORK. THE CLOSURE WILL BEGIN ON A FRIDAY AT 9:00PM AND CONTINUE FOR A MAXIMUM OF SEVEN (7) CONSECUTIVE CALENDAR DAYS.

SHOULD THE CONTRACTOR FAIL TO MEET THE ABOVE REQUIREMENTS THE CONTRACTOR SHALL BE ASSESSED DISINCENTIVES IN THE AMOUNT OF $5000.00 PER HOUR OR PORTION THEREOF THAT IR-76 REMAINS CLOSED BEYOND THE SPECIFIED LIMITS.

IR-76 WESTBOUND:
ALL LANES OF TRAFFIC MAY BE CLOSED ONCE TO COMPLETE ALL PROPOSED WORK TO THE BRIDGE DECKS, BACKWALLS AND APPROACH SLABS FOR STRUCTURES SUM-76-0672, SUM-76-0684 AND SUM-76-0700 AS OUTLINED ON SHEET 16 AS WELL AS ALL ASSOCIATED APPROACH ROADWAY WORK. THE CLOSURE WILL BEGIN ON A FRIDAY AT 9:00PM AND CONTINUE FOR A MAXIMUM OF SEVEN (7) CONSECUTIVE CALENDAR DAYS.

SHOULD THE CONTRACTOR FAIL TO MEET THE ABOVE REQUIREMENTS THE CONTRACTOR SHALL BE ASSESSED DISINCENTIVES IN THE AMOUNT OF $5000.00 PER HOUR OR PORTION THEREOF THAT IR-76 REMAINS CLOSED BEYOND THE SPECIFIED LIMITS.

NONE OF THE ABOVE WORK WILL BE PERMITTED TO OCCUR CONCURRENTLY WITH THE CLOSURES OF THE IR-277 MAINLINE. ALL OF THE ABOVE WORK AND ALL REMAINING WORK TO THE STRUCTURES SHALL BE COMPLETED BY THE DATE GIVEN IN PROPOSAL NOTE 121 AND THE ACCOMPANYING TABLE IN THE SUM-76/77/277/224-VAR, PART I PLAN, SHEET 7.

DETOUR NOTIFICATION

THE CONTRACTOR SHALL ADVISE THE ODOT DISTRICT OFFICE (330-786-3148) AND THE CITY OF AKRON (330-375-2355) 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 (NOTICE OF CLOSURE SIGN)

NOTICE OF CLOSURE SIGNS, AS DETAILED IN THESE PLANS, SHALL BE ERECTED BY THE CONTRACTOR AT LEAST ONE WEEK IN ADVANCE OF THE SCHEDULED ROAD OR RAMP CLOSURE. 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 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.

W20-H14-60

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

ALL AMERICAN SOAP BOX DERBY, JULY 21, 2012
WORLD GOLF CHAMPIONSHIPS - BRIDGESTONE INVITATIONAL, AUGUST 4-5, 2012
AKRON MARATHON, SEPTEMBER 29, 2012

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)	12:00N WEDNESDAY THROUGH 6:00 AM MONDAY
FRIDAY	12:00N THURSDAY THROUGH 6:00 AM MONDAY
SATURDAY	12:00N FRIDAY THROUGH 6:00 AM MONDAY

NO EXTENSIONS OF TIME SHALL BE GRANTED FOR DELAYS IN MATERIAL DELIVERIES, UNLESS SUCH DELAYS ARE INDUSTRY-WIDE, OR FOR LABOR STRIKES, UNLESS SUCH STRIKES ARE AREA-WIDE.

SHOULD THE CONTRACTOR FAIL TO MEET ANY OF THESE REQUIREMENTS, THE CONTRACTOR SHALL BE ASSESSED A DISINCENTIVE IN THE AMOUNT OF $4,500.00 FOR EACH HOUR THE ABOVE DESCRIBED LANE CLOSURE RESTRICTIONS ARE VIOLATED.

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ITEM 614 - PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN

THE CONTRACTOR SHALL FURNISH, INSTALL, MAINTAIN AND REMOVE, WHEN NO LONGER NEEDED, PORTABLE CHANGEABLE MESSAGE SIGNS [PCMS], ON SITE, FOR THE DURATION OF TIME SPECIFIED IN THIS NOTE, EACH SIGN SHALL BE OF A TYPE SHOWN ON A LIST OF APPROVED PCMS UNITS MAINTAINED BY THE DIRECTOR. THIS LIST IS AVAILABLE ON THE ODOT WEBSITE AT http://www.dot.state.oh.us/divisions/constructionmgt/materials/pages/portable-changeable.aspx THE CLASS A UNITS SHALL HAVE A MINIMUM LEGIBILITY DISTANCE OF 650 FEET.

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 ON A PERMANENT BASIS BY AFFIXING RETRO-REFLECTIVE MATERIAL, IN A CONTINUOUS LINE ON THE FACE OF THE TRAILER AS SEEN BY ONCOMING ROAD USERS.

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 SHOULD BE LOCATED BEHIND GUARDRAIL WHEREVER POSSIBLE. 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, FACING AWAY FROM ALL TRAFFIC AND SHALL DISPLAY ONE OR MORE HIGH INTENSITY YELLOW REFLEC- TIVE 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 PRO-VIDED BY THE CONTRACTOR. A LIST OF ALL PROPOSED PRE-PROGRAMMED MESSAGES WILL BE GIVEN TO THE ENGINEER PRIOR TO CONSTRUCTION. THE SIGN SHALL HAVE TWO DIFFERENT MEMORIES [PROM AND RAM] AND CAPABILITY TO STORE UP TO 99 MESSAGES IN EACH MEMORY. 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. IN ORDER TO CONVEY A MAXIMUM OF INFORMATION AT A SINGLE GLANCE, ONLY THREE LINE PRESENTATION FORMATS WITH A MAXIMUM OF SIX MESSAGE PHASES WILL BE PERMITTED. NORMALLY, ONLY A MAXIMUM OF THREE MESSAGE PHASES SHOULD BE EMPLOYED. PCMS FORMAT SHALL PERMIT THE COMPLETE MESSAGE FOR EACH PHASE TO BE READ AT LEAST TWICE.

THE PCMS SHALL CONTAIN AN ACCURATE CLOCK AND PROGRAM-MING 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. 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 AND 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 THE PHASES. 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 BID FOR EACH DAY OF ITEM 614 PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN AND 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, 50 DAY

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 PER-MITTED 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 ENFORCE-MENT 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.

LEOS SHOULD NOT FORGO THEIR TRAFFIC CONTROL RESPONSI-BILITIES TO APPREHEND MOTORISTS FOR ROUTINE TRAFFIC VIOLATIONS. HOWEVER, IF A MOTORIST'S ACTIONS ARE CON-SIDERED 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 COM-MUNICATING 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 RE-TURNED TO THE CONTRACTOR AT THE END OF HIS/HER SHIFT.

LEOS (WITH PATROL CAR) REQUIRED BY THE TRAFFIC MAINT-ENANCE 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 100 HOURS

THE HOURS PAID SHALL INCLUDE ANY MINIMUM SHOW-UP TIME REQUIRED BY THE LAW ENFORCEMENT AGENCY INVOLVED.

ANY ADDITIONAL COSTS (ADMINISTRATIVE OR OTHERWISE) IN-CURRED 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.

CONTRACTOR'S EQUIPMENT - OPERATION AND STORAGE

A QUALIFIED FLAGGER SHALL BE EMPLOYED WHERE THE CONTRACTOR'S EQUIPMENT MUST MERGE WITH THE TRAFFIC STREAM. THE CONTRACTOR'S EQUIPMENT SHALL BE EQUIPPED WITH AT LEAST ONE AMBER FLASHING LIGHT. PAVERS, ROLLERS AND OTHER EQUIPMENT MAY BE PARKED IN AREAS ALONG THE HIGHWAY WHEN PAVING OPERATIONS ARE SCHEDULED TO CONTINUE WITHIN THE NEXT WORKDAY. OTHERWISE THE EQUIPMENT SHALL BE STORED AT A STORAGE AREA OUTSIDE THE R/W, THE LOCATION OF WHICH SHALL HAVE PRIOR APPROVAL OF THE ENGINEER. WHEN PARKING ALONG THE HIGHWAY THE EQUIPMENT SHALL BE PLACED AND DELINEATED AS PER 614.03. NO EQUIPMENT SHALL BE PARKED IN THE MEDIAN OF THE HIGHWAY. ADEQUATE BARRICADES AND LIGHTS SHALL BE PLACED ON THE PAVEMENT SIDE OF THE EQUIPMENT TO IDENTIFY THE LIMITS OF THE EQUIPMENT. ALL OTHER EQUIPMENT, INCLUDING PRIVATE VEHICLES, SHALL BE STORED AT THE APPROVED CONTRACTOR'S STORAGE AREA. NO EQUIPMENT SHALL BE PARKED ON PRIVATE PROPERTY UNLESS PRIOR APPROVAL OF THE OWNER AND THE PROJECT ENGINEER/ SUPERVISOR HAS BEEN GRANTED.

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 REP-RESENTATIVE SHALL ALSO BE AVAILABLE ON AN AROUND THE CLOCK BASIS TO REPAIR AND/OR REPLACE DAMAGED OR MISS-ING 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.

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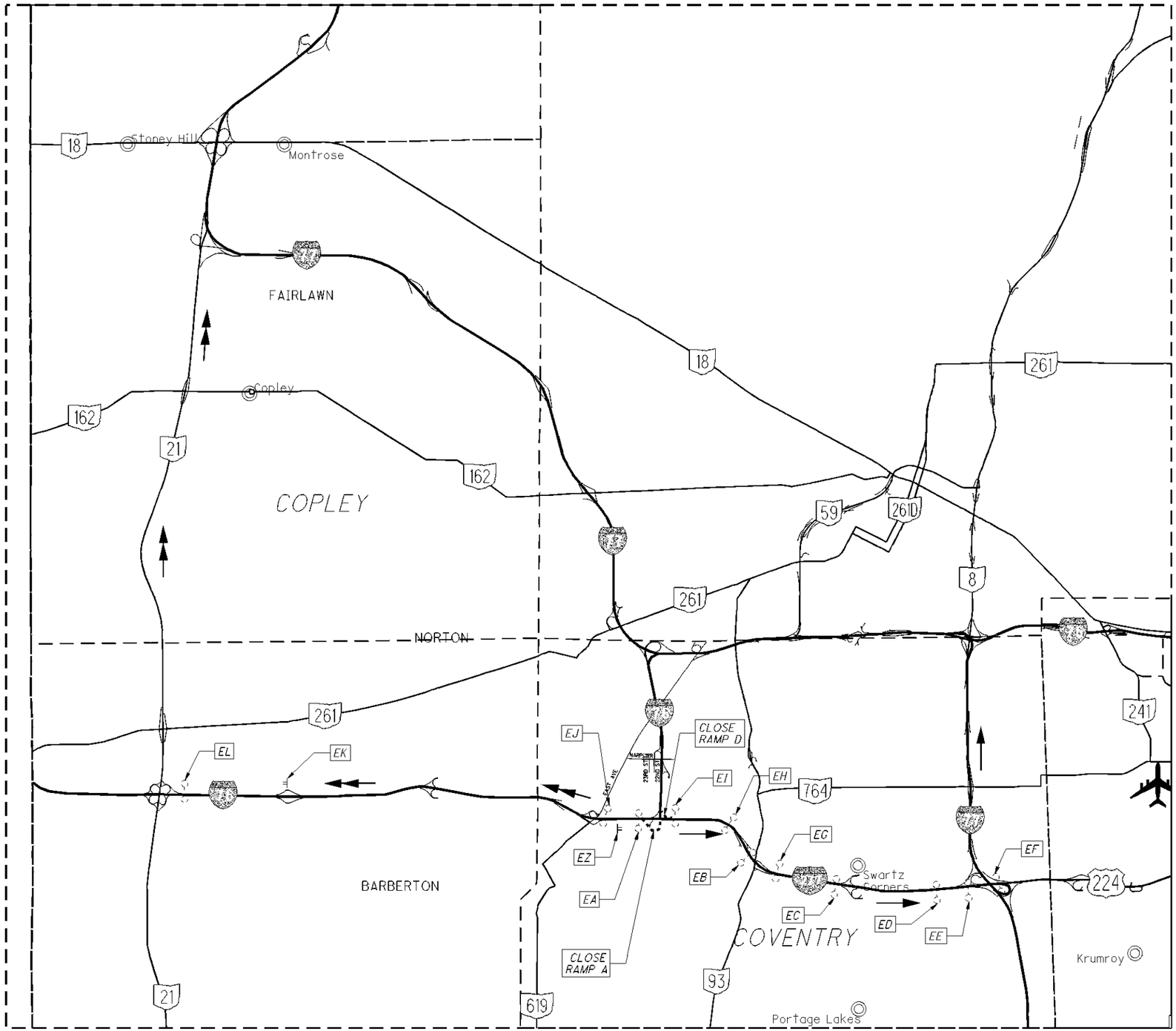

CLOSE RAMP AS PER STD. DWG. MT-98.29 (FOR LANE CLOSURES PRIOR TO RAMP, USE MT-95.30)

RAMP A DETOUR ROUTE: IR-277 EAST TO IR-77 NORTH

RAMP D DETOUR ROUTE:
FOR IR-76 EAST: IR-76 WEST TO SR-619
FOR IR-277 NORTH: IR-76 WEST TO SR-21 NORTH

EZ

PORTABLE CHANGEABLE MESSAGE SIGN
-PLACE FOR 10 DAYS PRIOR TO CLOSURE

MESSAGE: 1) 76 EAST CLOSED

2) (DATES)

DETOUR PLAN FOR IR-76 EASTBOUND

NOT TO SCALE

CALCULATED MJH
CHECKED LAB

DETOUR PLAN FOR CLOSURE OF IR-76 EASTBOUND

SUM-76-6.72

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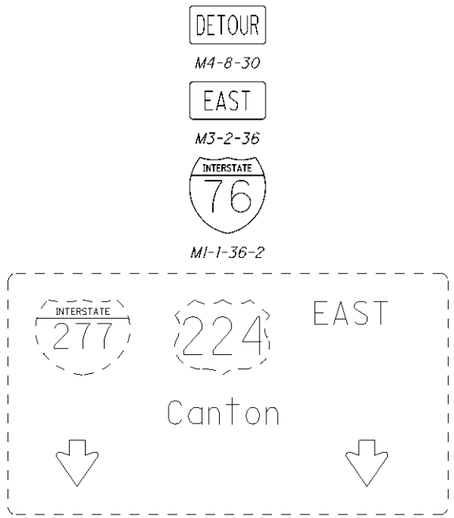

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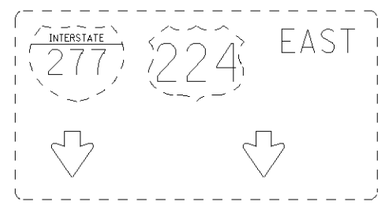

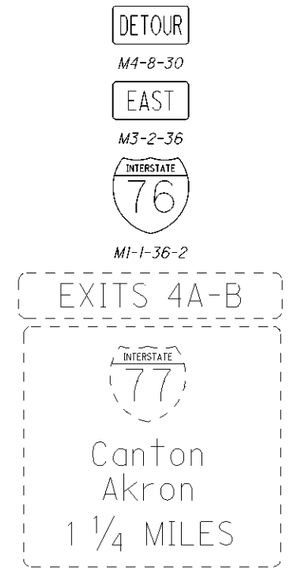

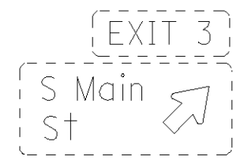

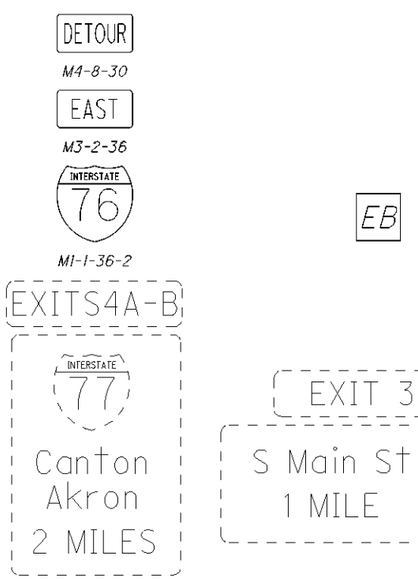

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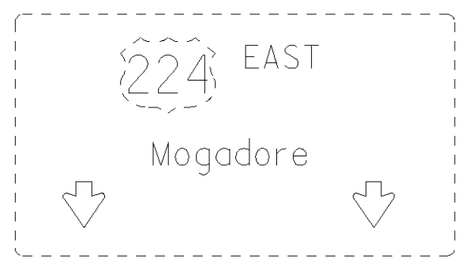

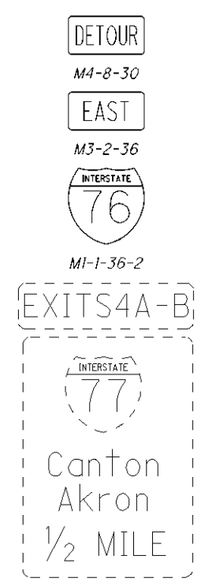

CALCULATED MJH
CHECKED LAB

DETOUR PLAN FOR CLOSURE OF IR-76 EASTBOUND

SUM-76-6.72

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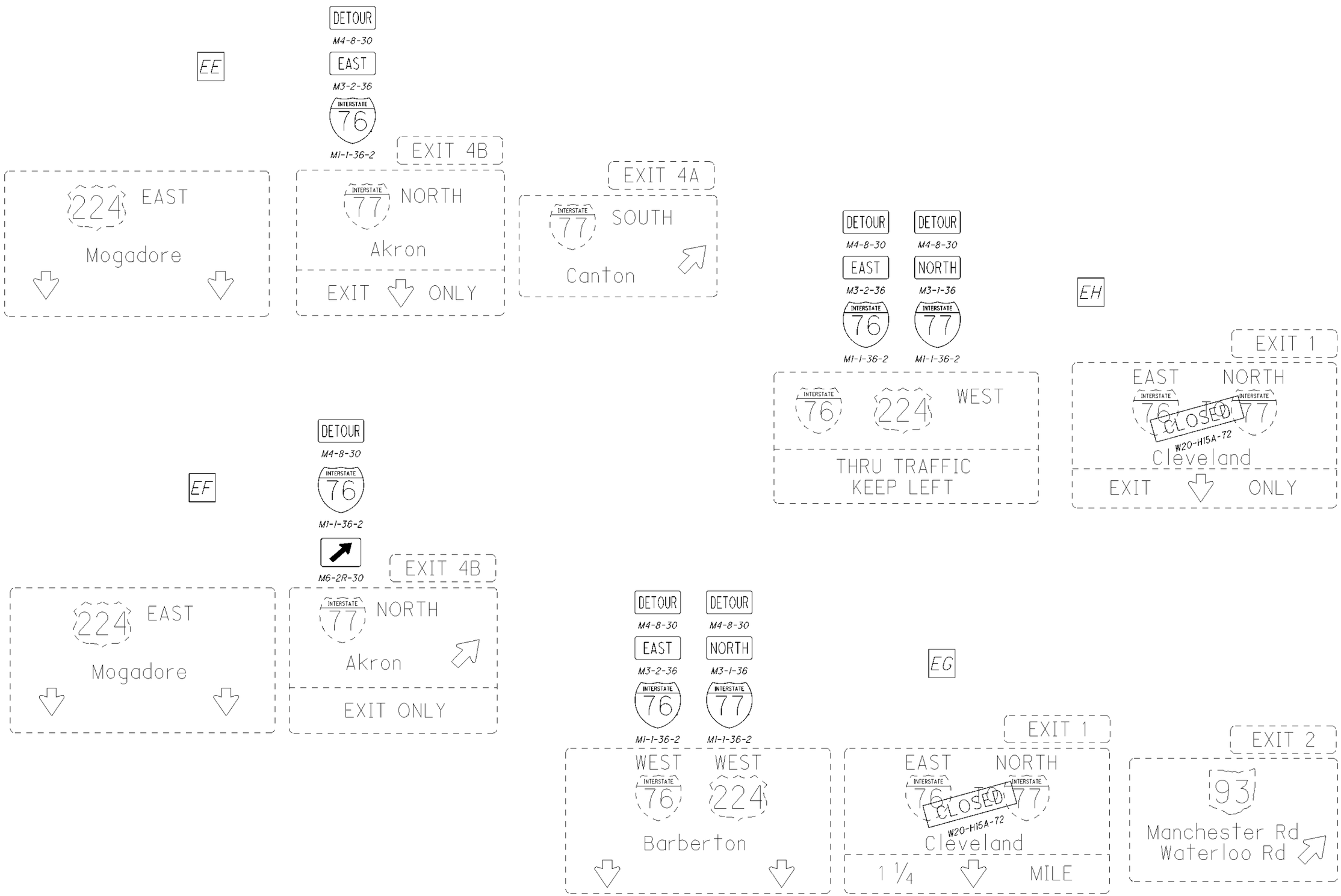

CALCULATED MJH
CHECKED LAB

DETOUR PLAN FOR CLOSURE OF IR-76 EASTBOUND

SUM-76-6.72

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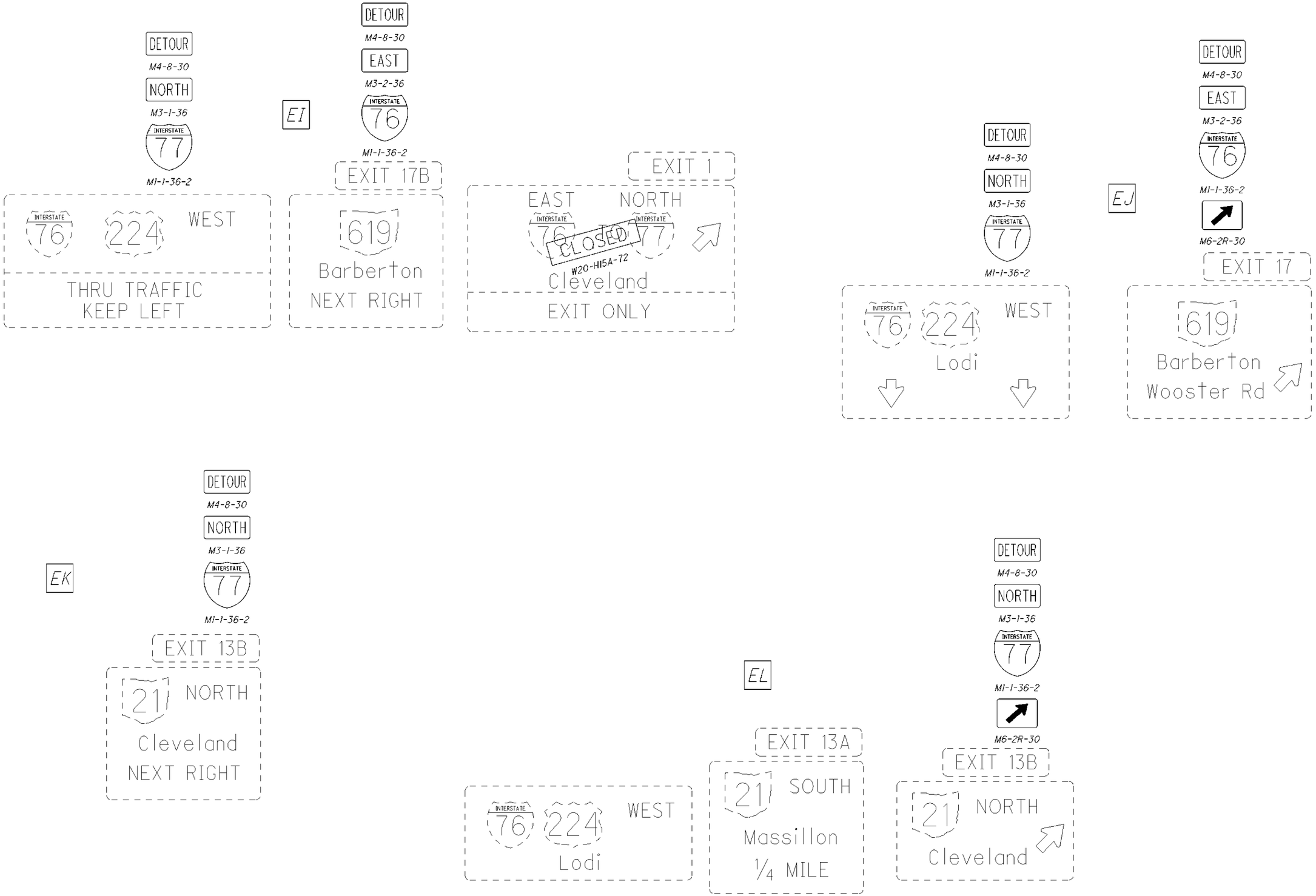

CALCULATED MJH
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DETOUR PLAN FOR CLOSURE OF IR-76 EASTBOUND

SUM-76-6.72

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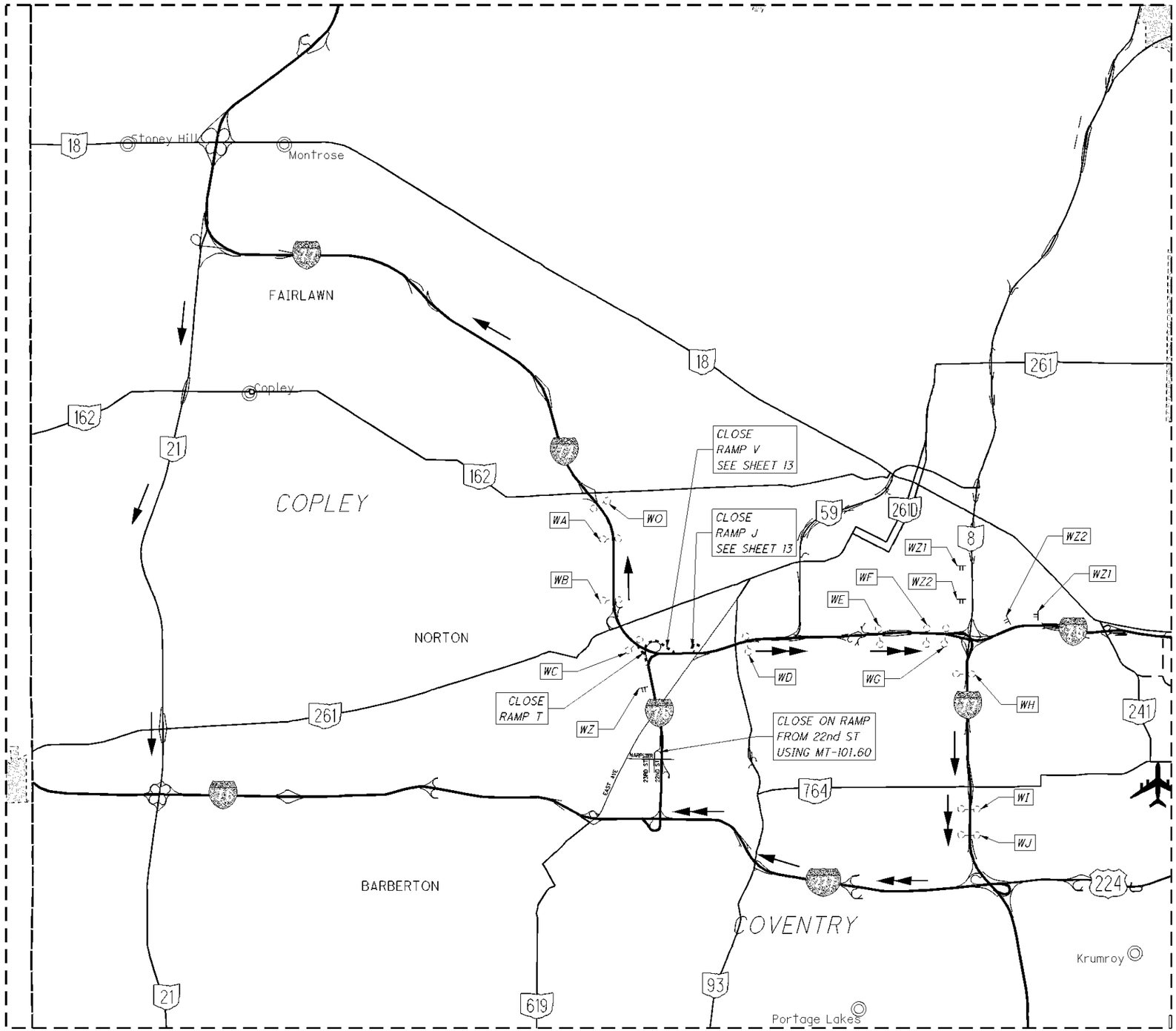

DETOUR PLAN FOR IR-76 WESTBOUND

NOT TO SCALE

CLOSE RAMP AS PER STD. DWG. MT-98.29 (FOR LANE CLOSURES PRIOR TO RAMP, USE MT-95.30)

RAMP T DETOUR ROUTE: IR-77 SOUTH TO IR-277 WEST

RAMP V DETOUR ROUTE: IR-77 SOUTH TO IR-277 WEST; ALTERNATE: IR-77 NORTH TO SR-21 SOUTH

WZ

PORTABLE CHANGEABLE MESSAGE SIGN
-PLACE FOR 10 DAYS PRIOR TO CLOSURE

MESSAGE: 1) 76 WEST CLOSED
2) (DATES)

WZ1

PORTABLE CHANGEABLE MESSAGE SIGN

MESSAGES: 1) 76 WEST CLOSED
2) 2 MILES AHEAD

WZ2

PORTABLE CHANGEABLE MESSAGE SIGN

MESSAGES: 1) 76 WEST DETOUR
2) FOLLOW 77 SOUTH

CALCULATED MJH
CHECKED LAB

DETOUR PLAN FOR CLOSURE OF IR-76 WESTBOUND

SUM-76-6.72

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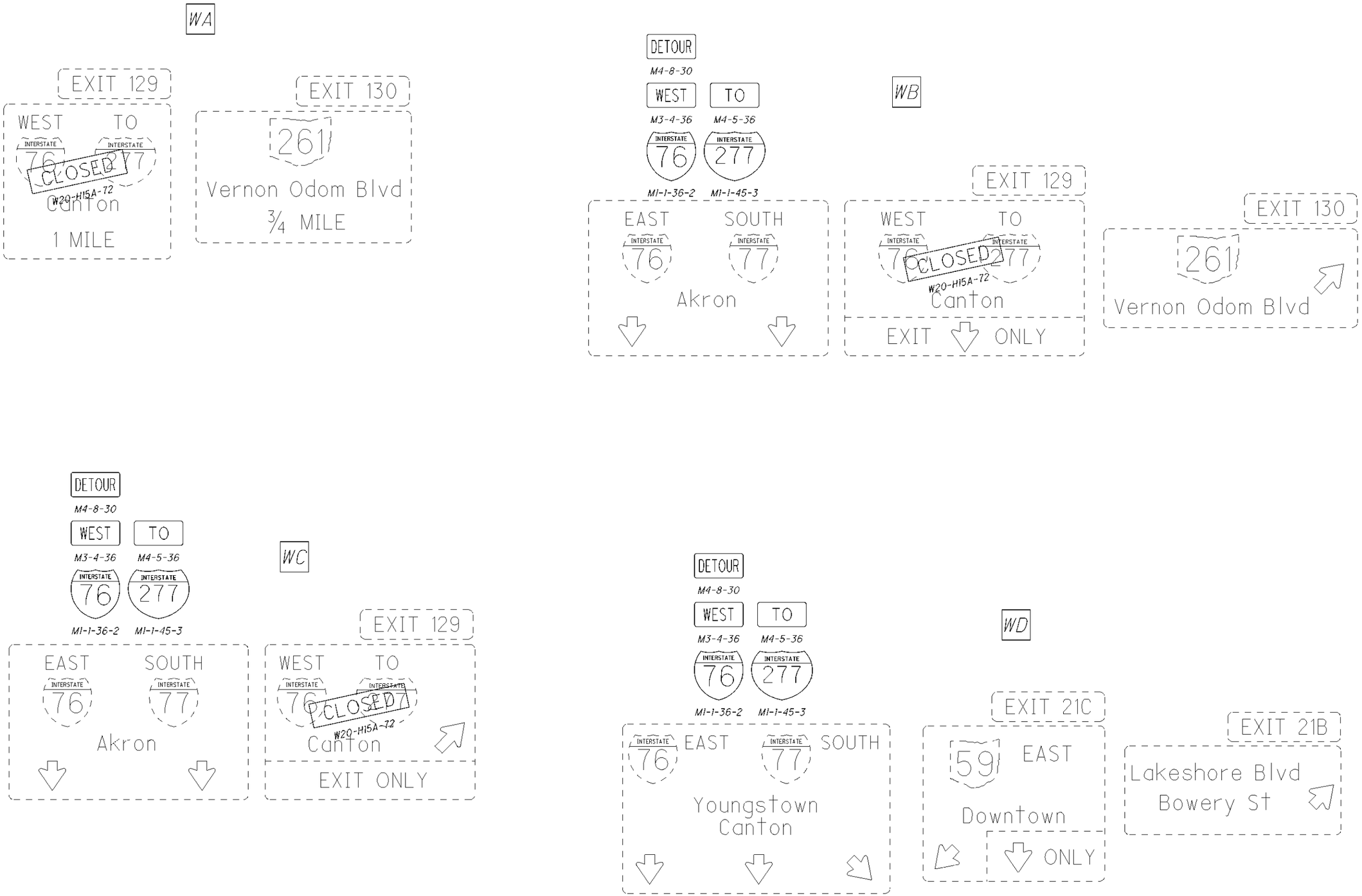

CALCULATED MJH
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DETOUR PLAN FOR CLOSURE OF IR-76 WESTBOUND

SUM-76-6.72

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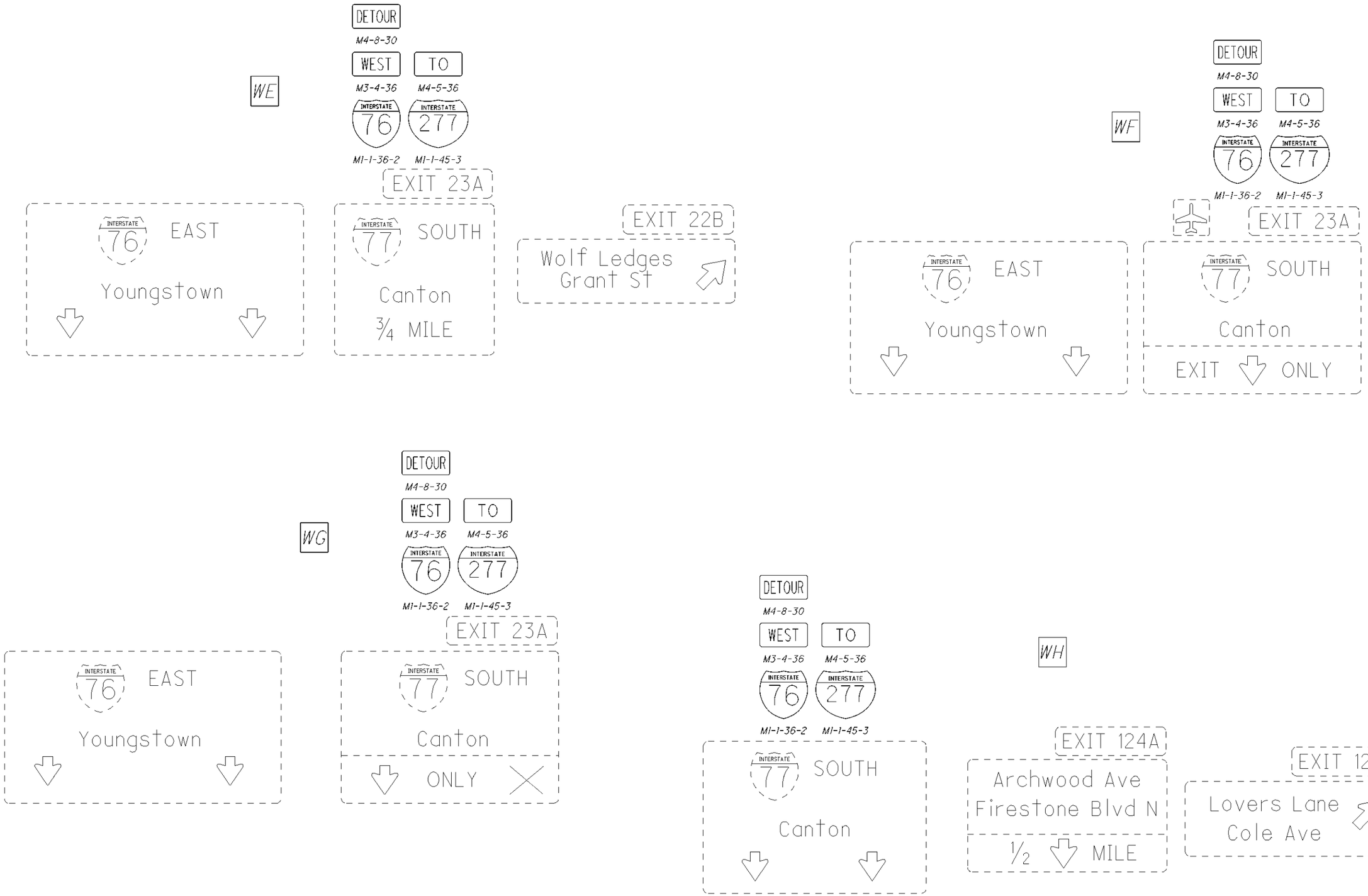

CALCULATED MJH
CHECKED LAB

DETOUR PLAN FOR CLOSURE OF IR-76 WESTBOUND

SUM-76-6.72

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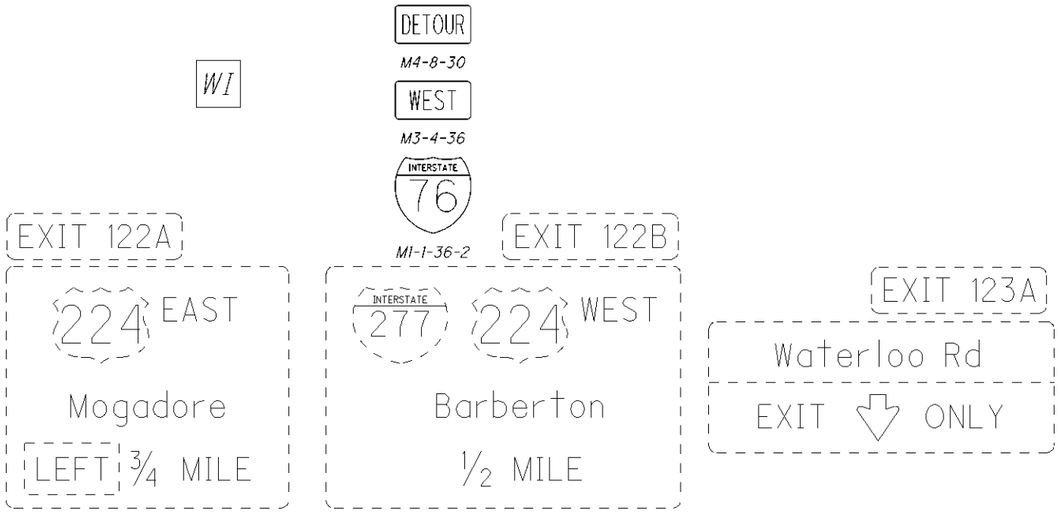

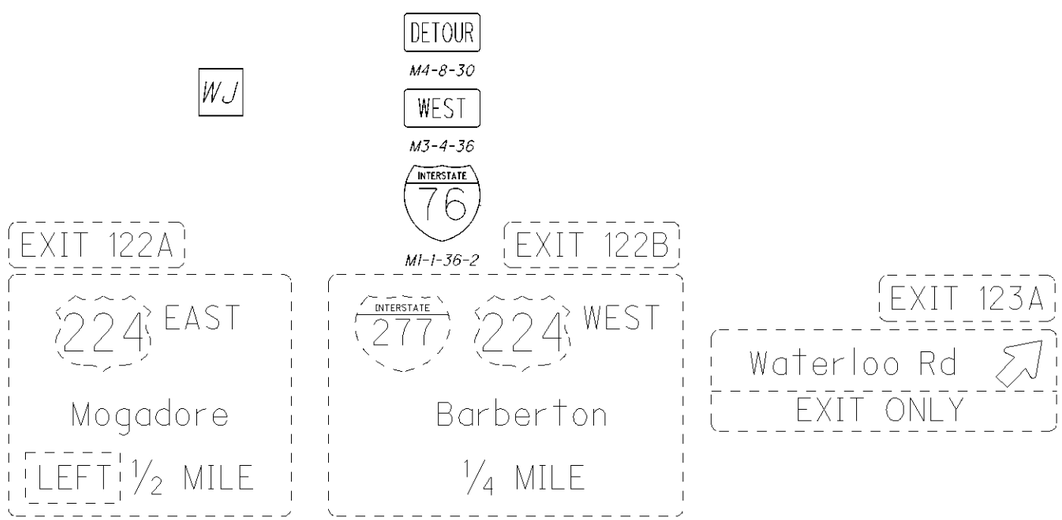

CALCULATED MJH
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DETOUR PLAN FOR CLOSURE OF IR-76 WESTBOUND

SUM-76-6.72

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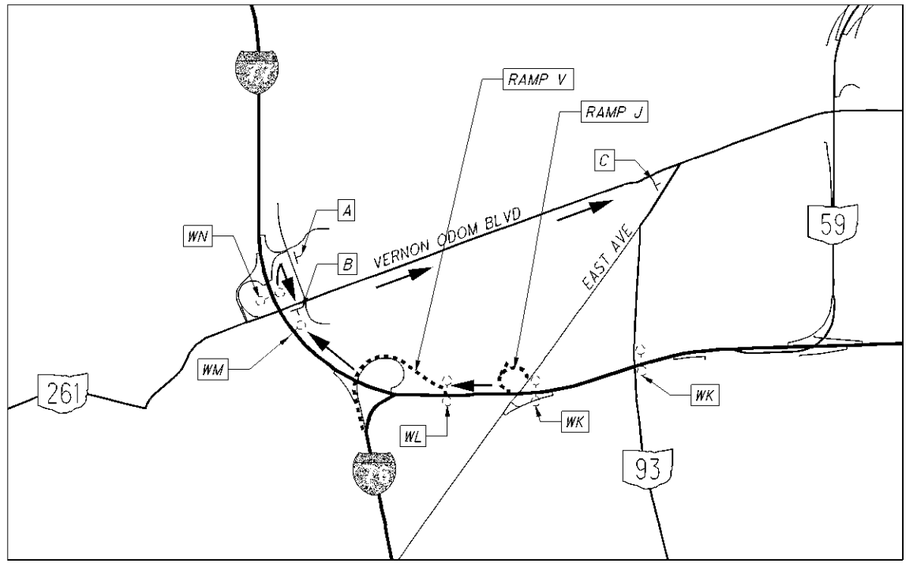
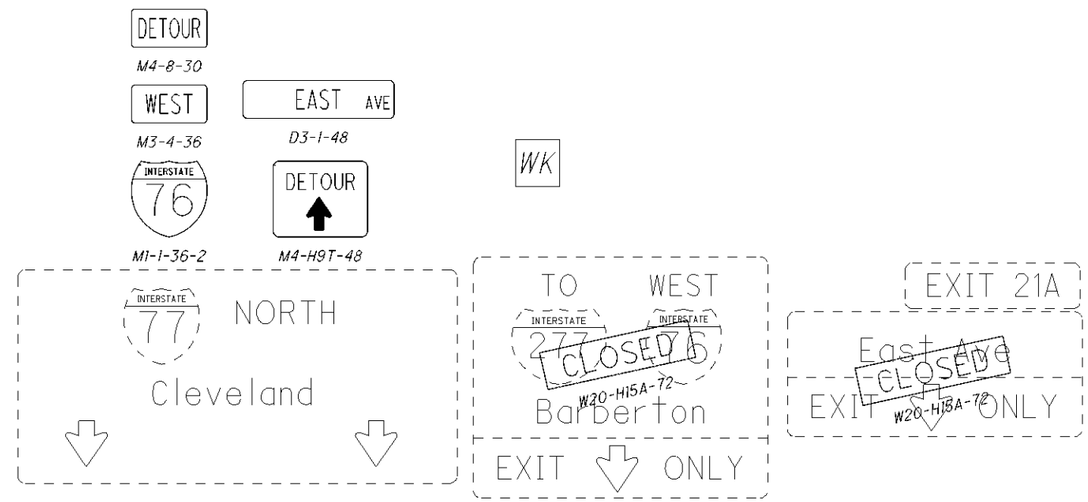


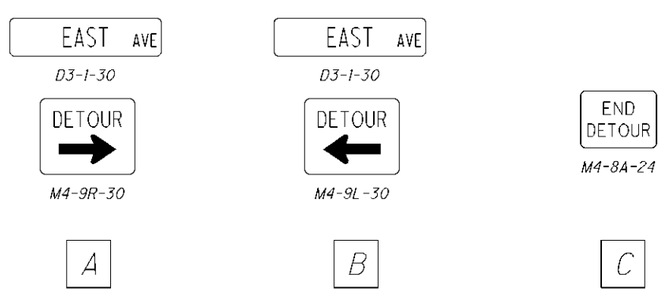
DETAIL FOR RAMPS V AND J

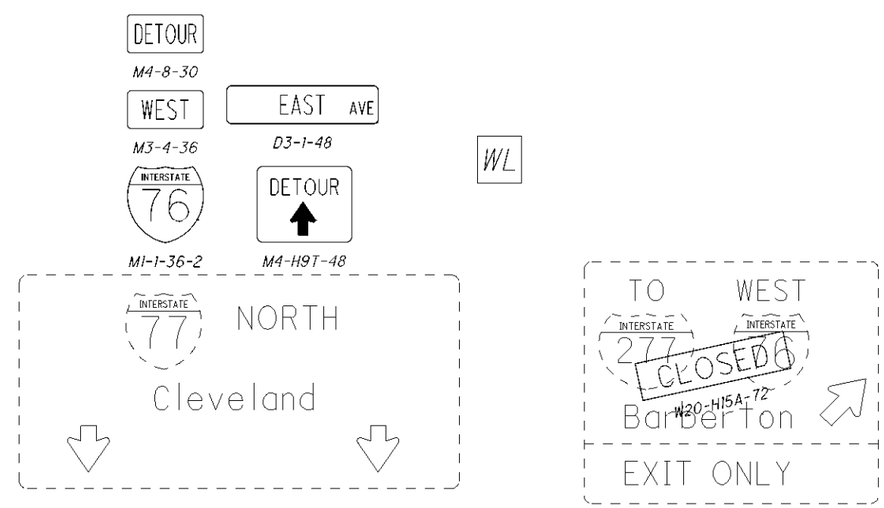
NOT TO SCALE

CLOSE RAMP AS PER STD. DWG. MT-98.29 (FOR LANE CLOSURES PRIOR TO RAMP, USE MT-95.30)

RAMP J DETOUR ROUTE: IR-77 NORTH / EXIT 130 / FREDERICK / SR-261 (V ODOM)







CALCULATED MJH
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DETOUR PLAN FOR CLOSURE OF IR-76 WESTBOUND

SUM-76-6.72

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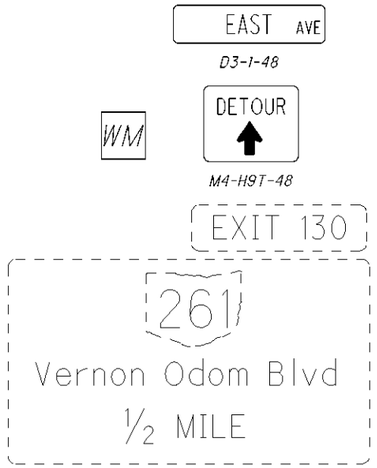

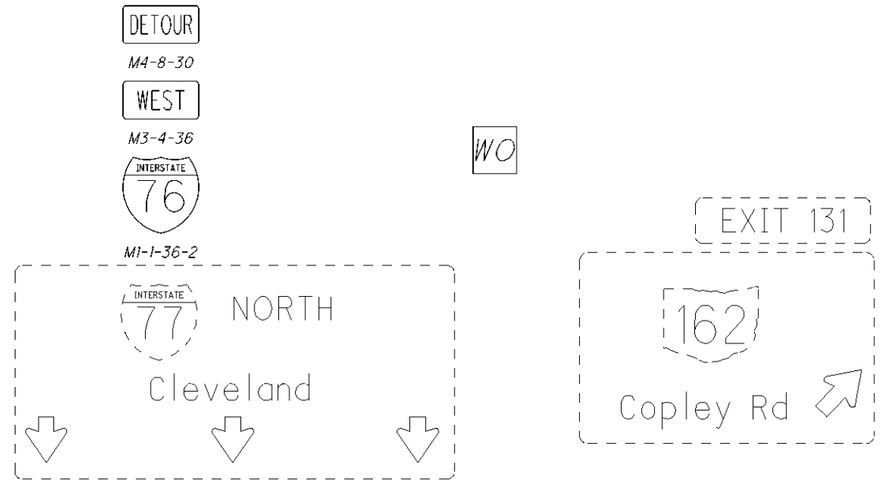

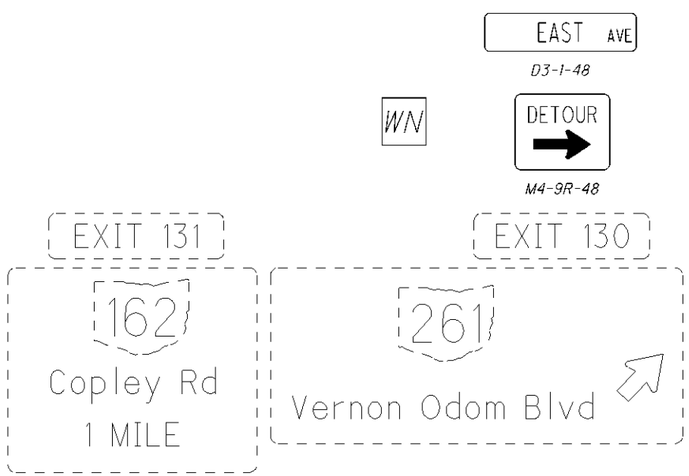

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CALCULATED MJH
CHECKED LAB

DETOUR PLAN FOR CLOSURE OF IR-76 WESTBOUND

SUM-76-6.72

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SHEET NUMBER 2	3	4	ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
							TRAFFIC CONTROL	
0.18			642	00090	0.18	MILE	EDGE LINE	
615			642	00390	615	FT	CHANNELIZING LINE	
265			642	00690	265	FT	TRANSVERSE/DIAGONAL LINE	
0.88			646	10000	0.88	MILE	EDGE LINE	
0.55			646	10100	0.55	MILE	LANE LINE	
940			646	10300	940	FT	CHANNELIZING LINE	
135			646	10600	135	FT	TRANSVERSE/DIAGONAL LINE	
							STRUCTURES	
							FOR STRUCTURE SUM-76-0572 ESTIMATED QUANTITIES	19
							FOR STRUCTURE SUM-76-0694 ESTIMATED QUANTITIES	19
							FOR STRUCTURE SUM-76-0700 ESTIMATED QUANTITIES	19
							MAINTENANCE OF TRAFFIC	
		100	614	11110	100	HOUR	LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE	
	20		614	13000	20	CU YD	ASPHALT CONCRETE FOR MAINTAINING TRAFFIC	
		50	614	18401	50	DAY	PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN	4
			614	11000		LUMP	MAINTAINING TRAFFIC	
			623	10000		LUMP	CONSTRUCTION LAYOUT STAKES	
			624	10000		LUMP	MOBILIZATION	

CALCULATED LMP
CHECKED LAB

GENERAL SUMMARY

SUM-76-6.72

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STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWING(S):

EXJ-4-87 DATED/REVISED 7-19-02

GSD-1-96 DATED/REVISED 7-19-02

AND TO THE FOLLOWING SUPPLEMENTAL SPECIFICATION(S):

843 DATED 4-18-03

848 DATED 4-15-11

DESIGN SPECIFICATIONS

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

EXISTING STRUCTURE VERIFICATION

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

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

PROPOSED WORK

SUM-76-0672 (IR76 OVER RAILROADS)
- -REMOVE EXISTING ASPHALT CONCRETE OVERLAY ON THE BRIDGE DECK AND APPROACH SLABS
- -REMOVE AND REPLACE THE EXISTING CONCRETE OVERLAY ON THE BRIDGE DECK AND TOP OF BACKWALLS
- -REMOVE AND REPLACE 3" OF ASPHALT CONCRETE ON THE APPROACH SLABS
- -REPAIR TOP OF BACKWALLS
- -REPLACE THE ELASTOMERIC STRIP SEALS AT EXPANSION JOINTS
- -STEEL BEAM END REPAIRS
- -PAINT 10' OF BEAM ENDS AT EACH ABUTMENT
- -PATCH ALL UNSOUND AREAS OF THE SUBSTRUCTURE AND PARAPETS
- -REMOVE ALL SPALLED AREAS OF THE BOTTOM BRIDGE DECK FLOOR
- -REPAIR EROSION BEHIND THE REAR LEFT WINGWALL
- -CLEAN OUT SCUPPERS AND SCUPPER DRAINAGE SYSTEM
- -SEAL ALL EXPOSED CONCRETE OF THE PARAPETS, MEDIAN, ABUTMENTS, PIERS, AND WINGWALLS WITH EPOXY-URETHANE
- -CLEARING AND GRUBBING 10' AROUND THE STRUCTURE FOR SEALING OPERATIONS
- -NEW STRUCTURE IDENTIFICATION SIGNS

SUM-76-0684 (IR76 OVER WILBETH RD)
- -REMOVE EXISTING ASPHALT CONCRETE OVERLAY ON THE BRIDGE DECK AND APPROACH SLABS
- -REMOVE AND REPLACE THE EXISTING CONCRETE OVERLAY ON THE BRIDGE DECK AND TOP OF BACKWALLS
- -REMOVE AND REPLACE 3" OF ASPHALT CONCRETE ON THE APPROACH SLABS
- -REPLACE THE ELASTOMERIC STRIP SEALS AT EXPANSION JOINTS
- -STEEL BEAM END REPAIRS
- -TRIM STEEL BEAM ENDS AT THE FORWARD ABUTMENT
- -RE-WELD ALL BROKEN WELDS OF THE END CROSSFRAMES
- -PAINT 10' OF BEAM ENDS AT EACH ABUTMENT
- -REFURBISH ALL REAR ABUTMENT BEARINGS
- -PATCH ALL UNSOUND AREAS OF THE SUBSTRUCTURE AND PARAPETS
- -REMOVE ALL SPALLED AREAS OF THE BOTTOM BRIDGE DECK FLOOR
- -REPAIR CONCRETE SLOPE PROTECTION
- -CLEAN OUT SCUPPERS
- -SEAL ALL EXPOSED CONCRETE OF THE PARAPETS, MEDIAN, ABUTMENTS, PIERS, AND WINGWALLS WITH EPOXY-URETHANE
- -CLEARING AND GRUBBING 10' AROUND THE STRUCTURE FOR SEALING OPERATIONS
- -NEW STRUCTURE IDENTIFICATION SIGNS

SUM-76-0700 (IR76 OVER KENMORE BLVD)
- -REMOVE EXISTING ASPHALT CONCRETE OVERLAY ON THE BRIDGE DECK AND APPROACH SLABS
- -REMOVE AND REPLACE THE EXISTING CONCRETE OVERLAY ON THE BRIDGE DECK AND TOP OF BACKWALLS
- -REMOVE AND REPLACE 3" OF ASPHALT CONCRETE ON THE APPROACH SLABS
- -REPLACE THE ELASTOMERIC STRIP SEALS AT EXPANSION JOINTS
- -STEEL BEAM END REPAIRS
- -RE-WELD ALL BROKEN WELDS OF THE END CROSSFRAMES
- -PAINT 10' OF BEAM ENDS AT EACH ABUTMENT
- -REFURBISH ALL REAR ABUTMENT BEARINGS
- -PATCH ALL UNSOUND AREAS OF THE SUBSTRUCTURE AND PARAPETS
- -REMOVE ALL SPALLED AREAS OF THE BOTTOM BRIDGE DECK FLOOR
- -CLEAN OUT SCUPPERS
- -SEAL ALL EXPOSED CONCRETE OF THE PARAPETS, MEDIAN, ABUTMENTS, PIERS, AND WINGWALLS WITH EPOXY-URETHANE
- -CLEARING AND GRUBBING 10' AROUND THE STRUCTURE FOR SEALING OPERATIONS
- -NEW STRUCTURE IDENTIFICATION SIGNS

ITEM 201, 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.

ITEM 509 REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN

REPLACE ALL EXISTING REINFORCING BARS DEEMED BY THE ENGINEER TO BE UNUSABLE BECAUSE OF CORROSION. THE DEPARTMENT WILL MEASURE THE REPLACEMENT REINFORCING STEEL BY THE NUMBER OF POUNDS ACCEPTED IN PLACE.

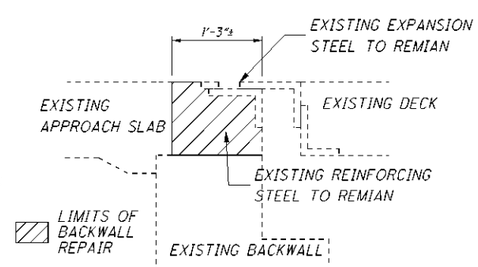
REPLACE ALL EXISTING REINFORCING STEEL BARS WHICH ARE TO BE INCORPORATED INTO THE NEW WORK AND ARE DEEMED BY THE ENGINEER TO BE MADE UNUSABLE BY CONCRETE REMOVAL OPERATIONS WITH NEW EPOXY COATED REINFORCING STEEL OF THE SAME SIZE AT NO COST TO THE DEPARTMENT.

ITEM 511, CONCRETE MISC.: BACKWALL REPAIR

THIS ITEM CONSISTS OF THE REMOVAL OF ALL UNSOUND CONCRETE AT OF THE BACKWALLS OF STRUCTURE SUM-76-0672 TO THE LIMITS SHOWN BELOW OR AS DIRECTED BY THE ENGINEER. THE PREPARATION OF THE SURFACE, FORMS, TEMPORARY SUPPORTS OF THE EXPANSION JOINT, AND PROVIDING AND PLACING OF CLASS S CONCRETE.

TEMPORARY SUPPORT OF THE EXPANSION JOINT WILL BE USED TO MAINTAIN THE PROPER ALIGNMENT AND GRADE OF THE JOINT DURING REMOVAL AND REPLACEMENT OF THE BACKWALL CONCRETE. THE COST OF THIS TEMPORARY SUPPORT WILL BE INCIDENTAL TO THIS ITEM.

PAYMENT WILL BE MADE AT THE CONTRACT PRICE PER CU.YD. FOR ITEM 511, CONCRETE MISC.: BACKWALL REPAIR WHICH WILL INCLUDE ALL MATERIALS AND LABOR INCLUDING REMOVAL AND DISPOSAL OF THE EXISTING CONCRETE REQUIRED TO MAKE THIS ITEM COMPLETE.



ITEM 513 - STRUCTURAL STEEL MISC., REPAIR OF BROKEN SECONDARY MEMBER WELDS, FILLET WELDING:

INSPECT ALL END CROSSFRAMES FOR BROKEN WELDS AND REPAIR AREAS AS DIRECTED BY THE ENGINEER. PREPARE THE DAMAGED MATERIAL FOR WELDING AND PERFORM 5/16 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 BROKEN SECONDARY MEMBER WELDS: FILLET WELDING. FOOT.

ITEM 513 - STRUCTURAL STEEL, MISC.: STEEL BEAM REPAIRS

AFTER ABRASIVE BLASTING OF THE STRUCTURAL STEEL HAS BEEN COMPLETED IN PREPARATION FOR PAINTING AND THE PRIME COAT OF PAINT APPLIED (WORK WILL CONFORM TO CMS 514) THE CONTRACTOR WILL EXAMINE THE CONDITION OF THE EXISTING BEAMS AT THE ABUTMENTS AND INTERMEDIATE JOINTS (IF THEY EXIST) AND MAKE THE NECESSARY REPAIR RECOMMENDATIONS.

THE STRUCTURAL STEEL REPAIR WORK WILL CONSIST OF REPAIRING THE DETERIORATED BEAMS BY THE ADDITION OF WELDED STEEL PLATES, STIFFENERS, ANGLES, ETC. ALL WORK WILL CONFORM TO CMS 513.

THESE TASKS, AS DIRECTED BY THE ENGINEER, WILL BE COMPLETED BEFORE THE INTERMEDIATE COAT OF PAINT IS APPLIED. THE CONTRACTOR WILL PROVIDE THE ENGINEER WITH THE REPAIR PROCEDURE AND FIELD MEASUREMENT CALCULATIONS IN DETERMINING THE ACTUAL QUANTITY OF WORK REQUIRED PER THE REQUIREMENTS NOTED BELOW.

1. THE POTENTIAL REPAIR AREAS WILL BE LIMITED TO 10 FEET FROM THE ABUTMENT BEARINGS AND 10 FEET IN EACH DIRECTION FROM INTERMEDIATE JOINTS (IF THEY EXIST).
2. FLANGE AREA PERFORATIONS WILL BE REPAIRED.
3. USING A UT THICKNESS GAUGE, THE CONTRACTOR WILL QUANTIFY THE AREA OF SECTION LOSS FOR EACH BRIDGE. THE REPAIR AREA WILL BE IDENTIFIED USING A 4" x 4" WEB GRID. THE THINNEST STEEL WITHIN EACH GRID AREA WILL BE NOTED. MEASUREMENTS WILL BE RECORDED AND A COPY SUBMITTED TO THE ENGINEER.
4. ANY AREA 8" HIGH x 4" WIDE WITH 30% AVERAGE SECTION LOSS ON THE WEB WILL BE REPAIRED.
5. SECTION LOSS MORE THAN 50% FOR AN AREA GREATER THAN 8" HIGH x 4" WIDE WILL BE REPAIRED FOR THE FULL HEIGHT OF THE WEB.
6. USE THE MOST READILY AVAILABLE STEEL MATERIAL THICKNESS THAT IS AT MINIMUM EQUAL TO THE ORIGINAL THICKNESS OF THE BEAM/GIRDER SECTION TO BE REPAIRED.
7. NEW STEEL MATERIAL WILL BE SHOP PRIMED.
8. AREAS OF SECTION LOSS LOCATED BEHIND THE BACK SIDE OF THE BEARING, BETWEEN THE BEARING LOAD PLATE AND BACKWALL WILL NOT BE REPAIRED.
9. AFTER THE REPAIRS HAVE BEEN COMPLETED, REPAIR ALL DAMAGED AREAS OF THE PRIME COAT IN ACCORDANCE WITH CMS 514.22.

THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITIES BASED UPON ACTUAL DETAILS AND DIMENSIONS AT UNIT PRICE (POUND) BID FOR ITEM 513 - STRUCTURAL STEEL, MISC.: STEEL BEAM REPAIRS.

DESIGN AGENCY
ODOT --- DISTRICT 4
PLANNING AND ENGINEERING

DESIGNED	DRAWN	REVIEWED	DATE
LMP	LMP	TJP	07-14-11
CHECKED	REVISED	STRUCTURE FILE NUMBER	

STRUCTURE GENERAL NOTES
BRIDGE NO.: SUM-76-0672, SUM-76-0684, AND SUM-76-0700
IR76 OVER RAILROADS, IR76 OVER WILBETH RD, AND IR76 OVER KENMORE BLVD

SUM-76-6.72
PID No. 76351

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ITEM 514 - PAINTING OF BEAM ENDS

THE COLOR FOR THE FINISHED COAT OF STRUCTURE(S) SUM-76-0672, SUM-76-0684, AND SUM-76-0700 WILL CONFORM TO FEDERAL COLOR NUMBER 15526 (LIGHT BLUE).

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 516 - ELASTOMERIC STRIP SEAL WITHOUT STEEL EXTRUSIONS, AS PER PLAN

THIS ITEM WILL INCLUDE THE REMOVAL AND REPLACEMENT OF THE EXISTING STRIP SEAL GLANDS FROM EDGE TO EDGE OF DECK. UPON REMOVAL OF THE SEAL, THE CONTRACTOR WILL ATTEMPT TO MATCH THE REPLACEMENT SEAL AS CLOSELY AS POSSIBLE WITH THE EXISTING SEAL SO AS TO PROVIDE A SNUG, WATERTIGHT SEAL. THE EXISTING STRIP SEAL WILL BE FIELD MEASURE PRIOR TO ORDERING MATERIAL. THE STRIP SEAL AND INSTALLATION WILL MEET THE REQUIREMENTS OF STANDARD DRAWING EXJ-4-87.

THIS WORK WILL BE PAID FOR AT THE UNIT PRICE BID FOR ITEM 516, ELASTOMERIC STRIP SEAL WITH STEEL EXTRUSION, AS PER PLAN. THIS PRICE WILL INCLUDE THE REMOVAL OF THE EXISTING STRIP SEAL, LABOR, EQUIPMENT, MATERIAL, AND INCIDENTALS REQUIRED TO REPLACE THE STRIP SEAL.

REQUIRED JOINT OPENING (DIM. "A") - 3" STRIP SEAL

TEMPERATURE (°F)	SUM-76-0672 (DIM. "A")	SUM-76-0684 (DIM. "A")	SUM-76-0700 (DIM. A)
30°	2.00"	2.00"	1.94"
40°	1.83"	1.83"	1.80"
50°	1.66"	1.66"	1.66"
60°	1.49"	1.49"	1.52"
70°	1.33"	1.33"	1.38"
80°	1.17"	1.17"	1.24"
90°	1.00"	1.00"	1.10"

ITEM 518 - SCUPPER MISC.: CLEANOUT

THIS WORK WILL CONSIST OF REMOVING ALL DEBRIS FROM ON TOP AND INSIDE OF ALL SCUPPERS AND SCUPPER DRAINAGE SYSTEMS. METHODS FOR SCUPPER AND DRAINAGE SYSTEM CLEANOUT WILL BE APPROVED BY THE PROJECT ENGINEER. 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 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.

SPECIAL - STRUCTURE MISC.: CONCRETE SPALL REMOVAL

THIS WORK WILL CONSIST OF REMOVING ALL VISIBLY SPALLED AREAS OF THE DECK FLOOR OF STRUCTURE(S) SUM-76-0672, SUM-76-0684, AND SUM-76-0700 WITHOUT SOUNDING. AFTER SPALLED CONCRETE AREAS HAVE BEEN REMOVED SEAL WITH ITEM 512, SEALING OF CONCRETE SURFACES (EPOXY-URETHANE).

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

CONCRETE SLOPE PROTECTION REPAIR

THIS WORK WILL CONSIST OF REPAIRING THE CONCRETE SLOPE PROTECTION UNDER STRUCTURE SUM-76-0684 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 REPAIR 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 601, DUMP ROCK FILL, TYPE C

THIS WORK WILL CONSIST OF REPAIRING THE EROSION BEHIND THE REAR LEFT WINGWALL DOWN THE ROADWAY EMBANKMENT OF STRUCTURE SUM-76-0672.

REPAIRS WILL BE PAID FOR AT THE UNIT BID PRICE FOR ITEM 601, DUMP ROCK FILL, TYPE C. THIS PRICE WILL INCLUDE THE COST FOR LABOR, EQUIPMENT, AND ALL INCIDENTIALS REQUIRED TO COMPLETE THIS WORK.

OBJECT MARKERS AND STRUCTURE IDENTIFICATION SIGNS

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

STRUCTURE IDENTIFICATION SIGNS (I-H25a) WILL BE INSTALLED ON THE SAME POST AND DIRECTLY BELOW THE OBJECT MARKER OFF THE RIGHT SHOULDER ON EACH APPROACH. A QUANTITY OF ONE SIGN WILL BE INSTALLED AT EACH APPROACH. THE SIGNS WILL HAVE A NON-REFLECTIVE WHITE SHEETING BACKGROUND.

INSTALL SIGNS FOR THE FOLLOWING STRUCTURES:
SUM-76-0672 (2 APPROACHES), SUM-76-0684 (2 APPROACHES), AND SUM-76-0700 (2 APPROACHES)

THE FOLLOWING QUANTITIES HAVE BEEN INCLUDED FOR EACH APPROACH:

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

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

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

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

CONSTRUCTION JOINTS WILL NOT BE PERMITTED IN THE WHEEL LINE.

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

CONCRETE TABLE
QUANTITIES PER CUBIC YARD
AGGREGATES (SSD)

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

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

** FIBER MESH SHALL BE 100% VIRGIN POLYPROPYLENE IN A FIBRILLATED-NETWORK FORM AND SHALL BE 1 1/4" IN LENGTH.

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

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

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

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

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

(SEE 848.29) THE WET CURE TIME IS REDUCED FROM 72 HOURS TO 24 HOURS OR UNTIL A BEAM BREAK OF 600 PSI IS ACHIEVED, WHICHEVER IS GREATER. AFTER THE 24 HOUR WET CURE, THE FINISHED OVERLAY SURFACE SHALL BE CURED BY SPRAYING A UNIFORM APPLICATION OF CURING MATERIAL OF 705.07, TYPE I OR 1D, AS PER CMS 511.17 METHOD (B) MEMBRANE CURING. IF THE CURING COMPOUND CAN NOT BE PLACED WITHIN THE SAME SHORT TERM CLOSURE PERIOD AS THE OVERLAY, THE CONTRACTOR MAY ALLOW TRAFFIC ONTO THE OVERLAY, AND SHALL, AT THE NEXT AVAILABLE SHORT TERM CLOSURE PERIOD, APPLY THE MEMBRANE CURING COMPOUND.

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

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

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

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

DESIGN AGENCY
ODOT --- DISTRICT 4
PLANNING AND ENGINEERING

DESIGNED	DRAWN	REVIEWED	DATE
LMP	LMP	TJP	07-14-11
CHECKED	REVISED	STRUCTURE FILE NUMBER	

STRUCTURE GENERAL NOTES
BRIDGE NO.: SUM-76-0672, SUM-76-0684, AND SUM-76-0700
IR76 OVER RAILROADS, IR76 OVER WILBETH RD, AND IR76 OVER KENMORE BLVD

SUM-76-6.72
PID No. 76351

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CALC:	LMP	DATE:	5/5/2011
CHECKED:	TJP	DATE:	7/14/2011

ESTIMATED QUANTITIES

BRIDGE NO. / STRUCTURE FILE NO.								ITEM	EXTENSION	UNIT	DESCRIPTION	SEE SHEET
	SUM-76-0672 SFN 7705646		SUM-76-0684 SFN 7705670		SUM-76-0700 SFN 7705700							
	LUMP		LUMP		LUMP			201	11000		CLEARING AND GRUBBING	
	3070		2731		2864			202	23500	SQ YD	WEARING COURSE REMOVED	
			30					202	32800	SQ YD	CONCRETE SLOPE PROTECTION REMOVED	
	461		410		430			407	10000	GALLON	TACK COAT	
	123		110		115			407	14000	GALLON	TACK COAT FOR INTERMEDIATE COURSE	
	107		95		100			442	20050	CU YD	ASPHALT CONCRETE SURFACE COURSE, 12.5MM, TYPE B (448)	
	150		133		140			442	20250	CU YD	ASPHALT CONCRETE INTERMEDIATE COURSE, 19MM, TYPE B (448)	
	50							509	20001	POUND	REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN	1/7
	3							511	71100	CU YD	CONCRETE, MISC.: BACKWALL REPAIR	1/7
	2537		1833		1552			512	10100	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	
			14					513	21000	EACH	TRIMMING OF BEAM END	6/7
	695		510		320			513	90000	POUND	STRUCTURAL STEEL, MISC.: STEEL BEAM REPAIRS	1/7
			18		18			513	95000	FT	STRUCTURAL STEEL, MISC.: REPAIR OF BROKEN SECONDARY MEMBER WELDS, FILLET WELDING	1/7
	4905		3050		2709			514	00050	SQ FT	SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL	
	4905		3050		2709			514	00056	SQ FT	FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT	
	4905		3050		2709			514	00060	SQ FT	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT	
	4905		3050		2709			514	00066	SQ FT	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT	
	5		5		5			514	00504	MAN HOUR	GRINDING FINS, TEARS, SLIVERS ON EXISTING STRUCTURAL STEEL	
	2		2		2			514	10000	EACH	FINAL INSPECTION REPAIR	
	203		186		192			516	01301	FT	ELASTOMERIC STRIP SEAL WITHOUT STEEL EXTRUSIONS, AS PER PLAN	2/7
			14		13			516	45305	EACH	REFURBISH BEARING DEVICE, AS PER PLAN	2/7
			LUMP		LUMP			516	47001		JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN	2/7
	15		15		11			518	12500	EACH	SCUPPER, MISC.:CLEANOUT	2/7
	200		200		250			519	11101	SQ FT	PATCHING CONCRETE STRUCTURE, AS PER PLAN	2/7
	LUMP		LUMP		LUMP			SPEC	53000200		STRUCTURE, MISC.: CONCRETE SPALL REMOVAL	2/7
			30					601	21000	SQ YD	CONCRETE SLOPE PROTECTION	
	40							601	27000	CU YD	DUMPED ROCK FILL, TYPE C	
			3					613	41200	CU YD	LOW STRENGTH MORTAR BACKFILL	
	42		42		42			630	02100	FT	GROUND MOUNTED SUPPORT, NO. 2 POST	
	2		2		2			630	80100	SQ FT	SIGN, FLAT SHEET, 730.20	
	12		12		12			630	80100	SQ FT	SIGN, FLAT SHEET	
	4		6		2			630	84900	EACH	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	
	3		4		2			630	86002	EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	
	150		150		150			843	50000	SQ FT	PATCHING CONCRETE STRUCTURES WITH TROWELABLE MORTAR	
	2481		2234		1943			848	10001	SQ YD	MICRO SILICA MODIFIED CONCRETE OVERLAY USING HYDRODEMOLITION, AS PER PLAN (T = 1 3/4")	3/7
	29		26		27			848	10001	SQ YD	MICRO SILICA MODIFIED CONCRETE OVERLAY USING HYDRODEMOLITION, AS PER PLAN (T = 2 1/4")	3/7
	2510		2260		1970			848	20001	SQ YD	SURFACE PREPARATION USING HYDRO DEMOLITION, AS PER PLAN	3/7
	63		57		50			848	30001	CU YD	MICRO SILICA MODIFIED CONCRETE OVERLAY (VARIABLE THICKNESS), MATERIAL ONLY, AS PER PLAN	3/7
	76		68		59			848	50000	SQ YD	HAND CHIPPING	
	LUMP		LUMP		LUMP			848	50100		TEST SLAB	
	1		1		1			848	50201	CU YD	FULL DEPTH REPAIR, AS PER PLAN	3/7
	2510		2260		1970			848	50301	SQ YD	WEARING COURSE REMOVED, ASPHALT, AS PER PLAN	3/7
	2481		2234		1943			848	50321	SQ YD	EXISTING CONCRETE OVERLAY REMOVED, AS PER PLAN (T = 1 1/4")	3/7
	29		26		27			848	50321	SQ YD	EXISTING CONCRETE OVERLAY REMOVED, AS PER PLAN (T = 1 3/4")	3/7
	25		23		20			848	50340	SQ YD	REMOVAL OF DEBONDED OR DETERIORATED EXISTING VARIABLE THICKNESS CONCRETE OVERLAY	

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PLANNING AND ENGINEERING

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STRUCTURE ESTIMATED QUANTITIES
BRIDGE NO.: SUM-76-0672, SUM-76-0684, AND SUM-76-0700
IR76 OVER RAILROADS, IR76 OVER WILBETH RD, AND IR76 OVER KENMORE BLVD

SUM-76-6.72
PID No. 76351

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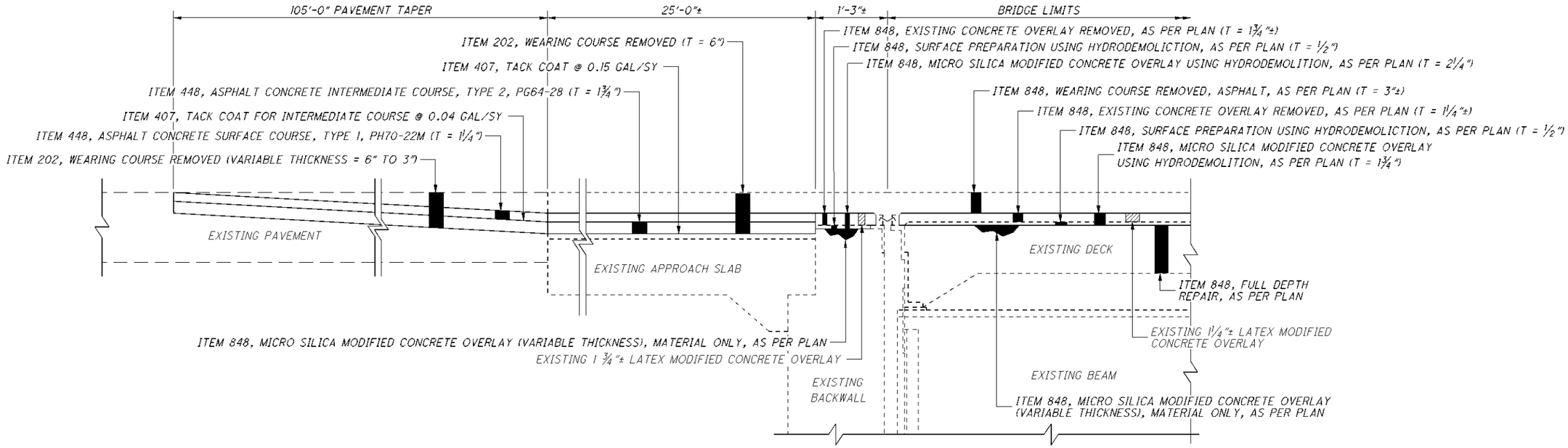

SUM-76-0672, SUM-76-0684, AND SUM-76-0700

APPROACH SHOWN, TRAILING SIMILAR

BRIDGE DECK

BRIDGE NUMBER	LENGTH (BRIDGE LIMITS)	BRIDGE WIDTH	DECK AREA	848 MICRO SILICA MODIFIED CONCRETE OVERLAY USING HYDRODEMOLITION, AS PER PLAN (T = 1 3/4")	848 SURFACE PREPARATION USING HYDRO DEMOLITION, AS PER PLAN (T = 1/2")	848 MICRO SILICA MODIFIED CONCRETE OVERLAY (VARIABLE THICKNESS), MATERIAL ONLY, AS PER PLAN	848 HAND CHIPPING	848 TEST SLAB	848 FULL DEPTH REPAIR, AS PER PLAN	848 WEARING COURSE REMOVED, ASPHALT, AS PER PLAN (T = 3"±)	848 EXISTING CONCRETE OVERLAY REMOVED, AS PER PLAN (T = 1 1/4"±)	848 REMOVAL OF DEBONDED OR DETERIORATED EXISTING VARIABLE THICKNESS CONCRETE OVERLAY
	FT	FT	SQ YD	SQ YD	SQ YD	CU YD	SQ YD	LUMP	CU YD	SQ YD	SQ YD	SQ YD
SUM-76-0672	221.00	101.00	2480.11	2480.11	2480.11	62.00	74.40	LUMP	1.00	2480.11	2480.11	24.80
SUM-76-0684	217.50	92.42	2233.48	2233.48	2233.48	55.84	67.00	LUMP	1.00	2233.48	2233.48	22.33
SUM-76-0700	183.00	95.51	1942.04	1942.04	1942.04	48.55	58.26	LUMP	1.00	1942.04	1942.04	19.42

BACKWALL

BRIDGE NUMBER	BACKWALL (APPROACH SLABS)	BACKWALL WIDTH	BACKWALL AREA	(FORWARD / REAR)	848 MICRO SILICA MODIFIED CONCRETE OVERLAY USING HYDRODEMOLITION, AS PER PLAN (T = 2 1/4")	848 SURFACE PREPARATION USING HYDRO DEMOLITION, AS PER PLAN (T = 1/2")	848 MICRO SILICA MODIFIED CONCRETE OVERLAY (VARIABLE THICKNESS), MATERIAL ONLY, AS PER PLAN	848 HAND CHIPPING	848 WEARING COURSE REMOVED, ASPHALT, AS PER PLAN (T = 3"±)	848 EXISTING CONCRETE OVERLAY REMOVED, AS PER PLAN (T = 1 3/4"±)
	FT	FT	SQ YD		SQ YD	SQ YD	CU YD	SQ YD	SQ YD	SQ YD
SUM-76-0672	1.25	106.71	14.82	REAR	14.82	14.82	0.37	0.44	14.82	14.82
	1.25	95.29	13.23	FWD	13.23	13.23	0.33	0.40	13.23	13.23
SUM-76-0684	1.25	92.42	12.84	REAR	12.84	12.84	0.32	0.39	12.84	12.84
	1.25	92.42	12.84	FWD	12.84	12.84	0.32	0.39	12.84	12.84
SUM-76-0700	1.25	90.42	12.56	REAR	12.56	12.56	0.31	0.38	12.56	12.56
	1.25	100.59	13.97	FWD	13.97	13.97	0.35	0.42	13.97	13.97

APPROACH SLABS

BRIDGE NUMBER	LENGTH (APPROACH SLABS)	APPROACH SLAB WIDTH	APPROACH SLAB AREA	(FORWARD / REAR)	202 WEARING COURSE REMOVED (T = 6"±)	407 TACK COAT @ 0.15 GAL/SY	407 TACK COAT FOR INTERMEDIATE COURSE @ 0.04 GAL/SY	448 ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG64-28 (T = 1 3/4")	448 ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG70-22M (T = 1 1/4")
	FT	FT	SQ YD		SQ YD	GALLON	GALLON	CU YD	CU YD
SUM-76-0672	25.00	106.71	296.42	REAR	296.42	44.46	11.86	14.41	10.29
	25.00	95.29	264.69	FWD	264.69	39.70	10.59	12.87	9.19
SUM-76-0684	25.00	92.42	256.72	REAR	256.72	38.51	10.27	12.48	8.91
	25.00	92.42	256.72	FWD	256.72	38.51	10.27	12.48	8.91
SUM-76-0700	25.00	90.42	251.17	REAR	251.17	37.68	10.05	12.21	8.72
	25.00	100.59	279.42	FWD	279.42	41.91	11.18	13.58	9.70

PAVEMENT TAPER

BRIDGE NUMBER	LENGTH (PAVEMENT TAPER)	PAVEMENT TAPER WIDTH	PAVEMENT TAPER AREA	(FORWARD / REAR)	202 WEARING COURSE REMOVED (VAR. T = 6"± TO 3"±)	407 TACK COAT @ 0.15 GAL/SY	407 TACK COAT FOR INTERMEDIATE COURSE @ 0.04 GAL/SY	448 ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG64-28 (T = 1 3/4")	448 ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG70-22M (T = 1 1/4")
	FT	FT	SQ YD		SQ YD	GALLON	GALLON	CU YD	CU YD
SUM-76-0672	105.00	115.00	1341.67	REAR	1341.67	201.25	53.67	65.22	46.59
	105.00	100.00	1166.67	FWD	1166.67	175.00	46.67	56.71	40.51
SUM-76-0684	105.00	95.00	1108.33	REAR	1108.33	166.25	44.33	53.88	38.48
	105.00	95.00	1108.33	FWD	1108.33	166.25	44.33	53.88	38.48
SUM-76-0700	105.00	95.00	1108.33	REAR	1108.33	166.25	44.33	53.88	38.48
	105.00	105.00	1225.00	FWD	1225.00	183.75	49.00	59.55	42.53

DESIGN AGENCY
ODOT --- DISTRICT 4
PLANNING AND ENGINEERING

DESIGNED	DRAWN	REVIEWED	DATE
LMP	LMP	TJP	07-14-11
CHECKED	REVISED	STRUCTURE FILE NUMBER	

SUPERSTRUCTURE DETAILS

BRIDGE NO.: SUM-76-0672, SUM-76-0684, AND SUM-76-0700
IR76 OVER RAILROADS, IR76 OVER WILBETH RD, AND IR76 OVER KENMORE BLVD

SUM-76-6.72
PID No. 76351

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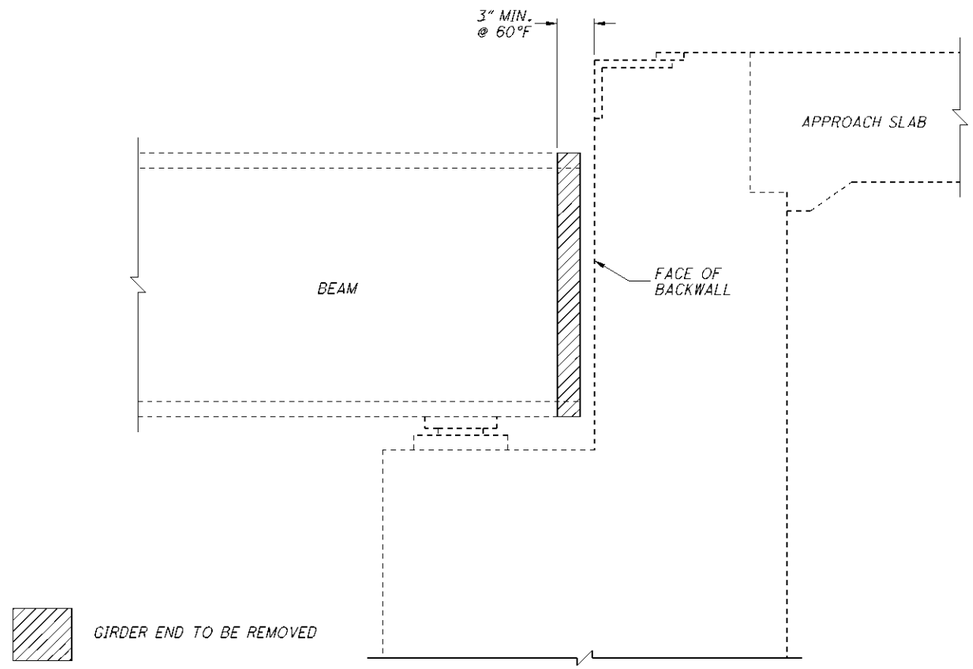
TRIMMING OF BEAM END DETAIL

(SUM-76-0684)



NOTES:

1. THE ENDS OF THE EXISTING BEAMS AT THE FORWARD ABUTMENT OF STRUCTURE SUM-76-0684 WILL BE TRIMMED ON A VERTICAL LINE AS REQUIRED TO OBTAIN A 3" MINIMUM CLEARANCE AT 60°F BETWEEN THE END OF THE GIRDER AND THE FACE OF THE BACKWALL.

2. ALL TRIMMING OF BEAM ENDS, REFURBISHING OF BEARINGS, BEAM REPAIRS, AND RE-WELDING OF END CROSS FRAMES MUST BE COMPLETE AND IN PLACE BEFORE COMMENCING WITH PAINT OPERATIONS.

3. ALL WORK LISTED AND SHOWN ABOVE WILL BE PAID FOR AT THE UNIT BID PRICE FOR ITEM 513, TRIMMING OF BEAM END. THIS PRICE WILL INCLUDE THE COST OF LABOR, MATERIALS, EQUIPMENT, AND ALL INCIDENTALS REQUIRED TO COMPLETE WITH WORK.

DESIGN AGENCY
ODOT --- DISTRICT 4
PLANNING AND ENGINEERING

DESIGNED	DRAWN	REVIEWED	DATE
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TRIMMING OF BEAM END DETAILS
BRIDGE NO.: SUM-76-0672, SUM-76-0684, AND SUM-76-0700
IR76 OVER RAILROADS, IR76 OVER WILBETH RD, AND IR76 OVER KENMORE BLVD

SUM-76-6.72
PID No. 76351

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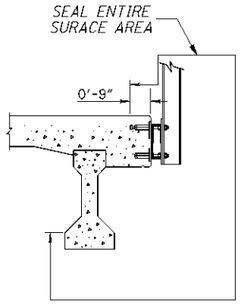
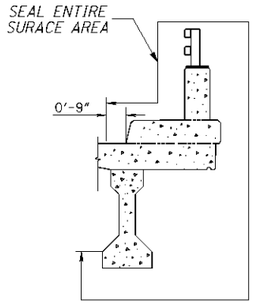
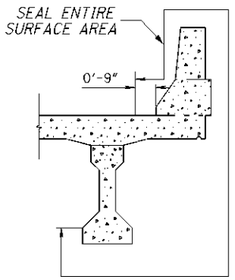


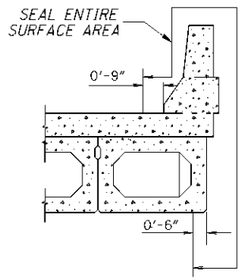
DETAIL A
CONCRETE DECKS WITH
OVER THE SIDE DRAINAGE



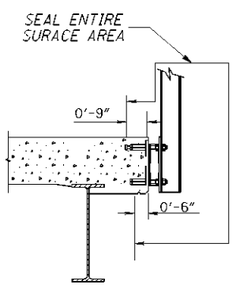
DETAIL B
CONCRETE DECKS WITH CURBS,
SIDEWALKS AND PARAPET



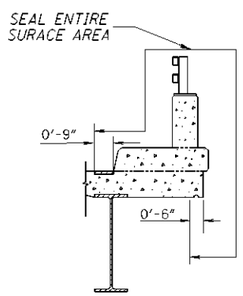
DETAIL C
CONCRETE DECK WITH
DEFLECTOR PARAPET



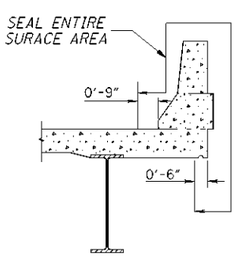
DETAIL D
PRESTRESSED BOX BEAM DECK
WITH DEFLECTOR PARAPET



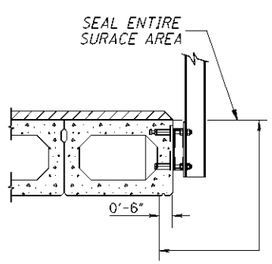
DETAIL E
CONCRETE DECKS WITH
OVER THE SIDE DRAINAGE



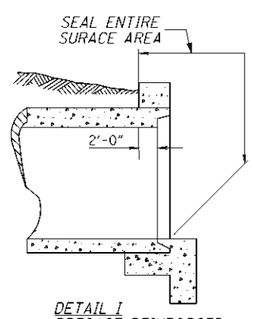
DETAIL F
CONCRETE DECKS WITH CURBS,
SIDEWALKS AND PARAPET



DETAIL G
CONCRETE DECK WITH
DEFLECTOR PARAPET



DETAIL H
PRESTRESSED BOX BEAM DECK
WITH OVER THE SIDE DRAINAGE



DETAIL I
PRECAST REINFORCED
CONCRETE BOX CULVERT

BRIDGE NO.	STRUCTURE TYPE	PROPOSED SEALING	FEDERAL COLOR NUMBER	ESTIMATED QUANTITIES ABUT SQ YD	PIER SQ YD	SUPER SQ YD	GEN SQ YD	TOTAL SQ YD
SUM-76-0672	2 SPAN CONTINUOUS WELDED GIRDER	SEAL PARAPETS PER DETAIL G SEAL ALL EXPOSED CONCRETE AT ABUTMENTS AND PIERS SEAL SPALL REMOVAL AREAS OF BOTTOM DECK FLOOR	13522 (BUFF)	1195	540	752	50	2537
SUM-76-0684	3 SPAN CONTINUOUS STEEL BEAM	SEAL PARAPETS PER DETAIL G SEAL ALL EXPOSED CONCRETE AT ABUTMENTS AND PIERS SEAL SPALL REMOVAL AREAS OF BOTTOM DECK FLOOR	13522 (BUFF)	228	815	740	50	1833
SUM-76-0700	4 SPAN CONTINUOUS STEEL BEAM	SEAL PARAPETS PER DETAIL G SEAL ALL EXPOSED CONCRETE AT ABUTMENTS AND PIERS SEAL SPALL REMOVAL AREAS OF BOTTOM DECK FLOOR	13522 (BUFF)	215	664	623	50	1552

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

SEALING OF BEAM SEATS

SEALING OF BEAM SEATS: IF THE BEAMS SEATS ARE SEALED WITH AN EPOXY OR NON-EPOXY SEALER PRIOR TO SETTING THE BEARINGS, DO NOT APPLY SEALER TO THE CONCRETE SURFACES UNDER THE PROPOSED BEARING LOCATIONS. IF THESE LOCATIONS ARE SEALED, REMOVE THE SEALER TO THE SATISFACTION OF THE ENGINEER PRIOR TO SETTING THE BEARINGS. THE DEPARTMENT WILL NOT PAY FOR THIS REMOVAL.

DESIGN AGENCY
ODOT --- DISTRICT 4
PLANNING AND ENGINEERING

DESIGNED LMP | CHECKED | DRAWN LMP | REVISED | REVIEWED TJP | DATE 07-14-11 | STRUCTURE FILE NUMBER

CONCRETE SEALING DETAILS
BRIDGE NO.: SUM-76-0672, SUM-76-0684, AND SUM-76-0700
IR76 OVER RAILROADS, IR76 OVER WILBETH RD, AND IR76 OVER KENMORE BLVD

SUM-76-6.72
PID No. 76351

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