

MAINTENANCE OF TRAFFIC

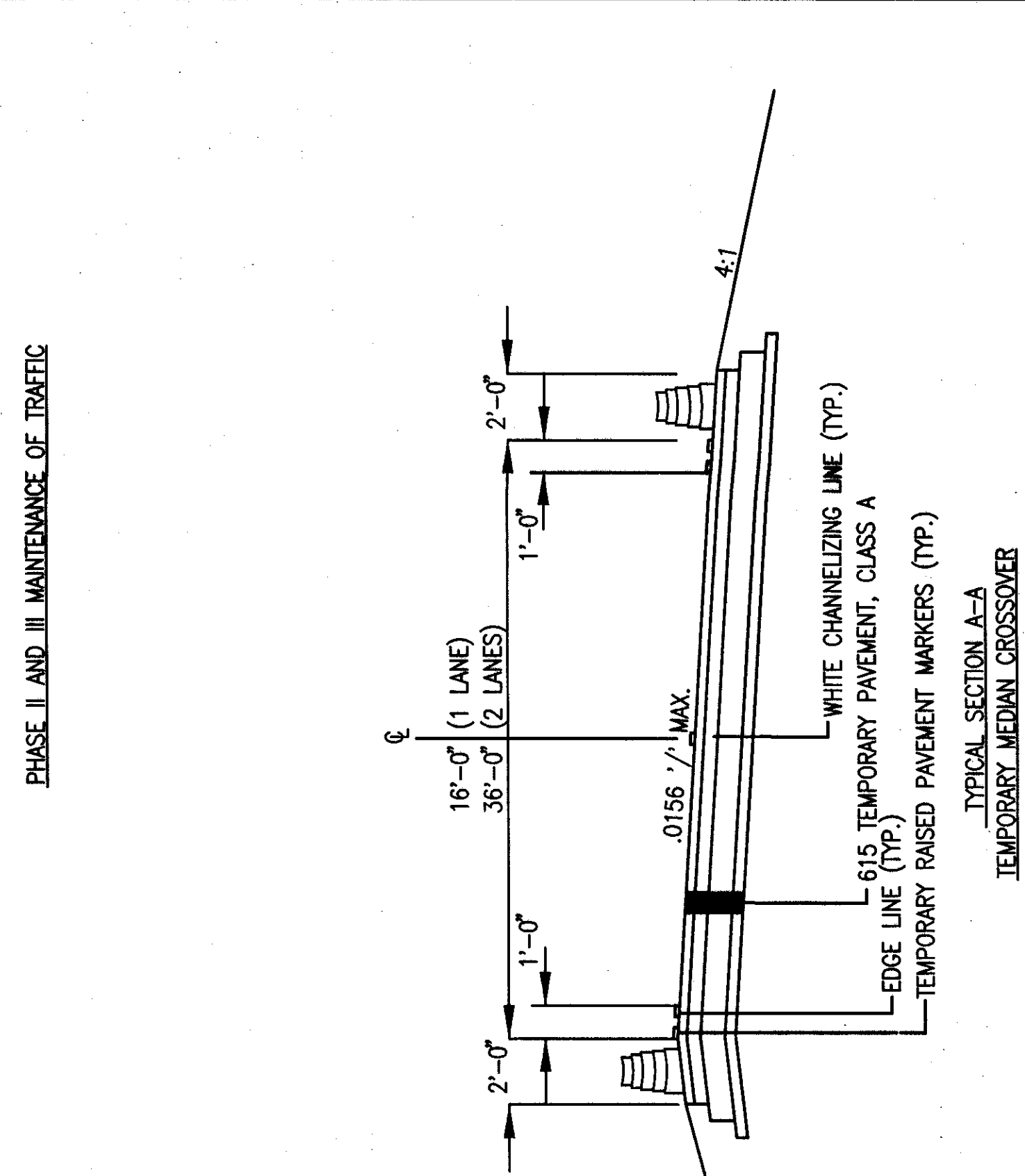
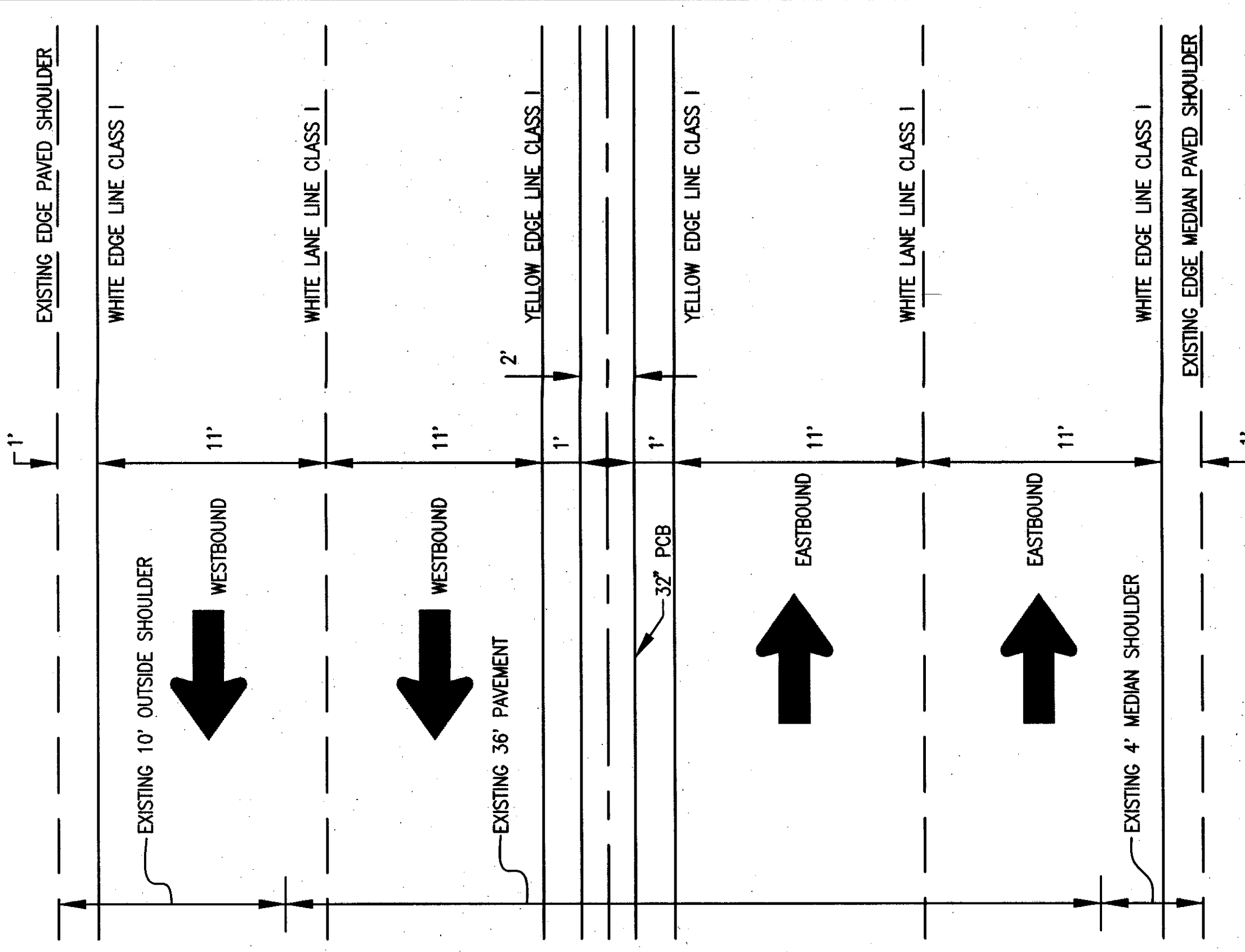
OHIO
FHWA
REGION 5

MAD-70-8.68

10
142

CALC. DATE: 4/98
BY: ATH

CHD. DATE: 5/98
BY: VDK



PHASE II AND III MAINTENANCE OF TRAFFIC

CROSS ROADS
SR-142
SR-29

CONSTRUCTION PHASING
PHASE I
DURING THIS PHASE THE MEDIAN CROSSOVER SHALL BE CONSTRUCTED AND THE WESTBOUND OUTSIDE SHOULDER RECONSTRUCTED TO THE LEVEL OF THE EXISTING PAVEMENT.
DURING WORKING HOURS MAINLINE TRAFFIC MAY BE REDUCED TO TWO LANES IN EACH DIRECTION. THE WESTBOUND LANE CLOSURE IS LIMITED TO THE AREA AT THE MEDIAN CROSSOVERS AND ONLY ONE WESTBOUND LANE CLOSURE IS PERMITTED AT A TIME AND IS LIMITED TO 1 1/2 MILES OF CLOSURE. AT THE COMPLETION OF EACH WORK DAY ALL EXISTING LANES ARE TO BE OPEN TO TRAFFIC.
AFTER COMPLETION OF THE MEDIAN CROSSOVERS WESTBOUND TRAFFIC WILL BE REDUCED TO ONE LANE AND THE PCB PLACED IN THE MIDDLE LANE.
THIS SHALL BE A CONTINUOUS EFFORT WITH ALL PCB PLACED WITHOUT INTERRUPTION. THIS WORK SHALL BE PERFORMED FROM 8:00 PM FRIDAY TO 6:00 AM MONDAY ON NON-HOLIDAY WEEKENDS. AT THE COMPLETION OF THE PCB PLACEMENT THE EASTBOUND TRAFFIC SHALL BE DIRECTED TO THE EXISTING WESTBOUND PAVEMENT. SEE DETAILS AND STANDARD DRAWINGS MT-95.32M AND MT-99.10M.

PHASE II
COMPLETE ALL WORK ON THE EASTBOUND SIDE OF I-70 EXCEPT THE PLACEMENT OF THE PERMANENT PAVEMENT MARKING.
AT THE COMPLETION OF THIS PHASE PLACE THE PCB AND TEMPORARY PAVEMENT MARKING ON THE EASTBOUND LANES.
MAINTAIN TWO LANES OF TRAFFIC IN EACH DIRECTION ON THE EXISTING WESTBOUND PAVEMENT AT ALL TIMES.

PHASE III
SWITCH TRAFFIC TO THE EASTBOUND PAVEMENT MAINTAINING TWO LANES IN EACH DIRECTION AT ALL TIMES.
COMPLETE ALL WORK ON THE WESTBOUND SIDE OF I-70.
PHASE IV
REMOVE THE MEDIAN CROSSOVERS, PCB, TEMPORARY PAVEMENT MARKING AND INSTALL THE PERMANENT PAVEMENT MARKING AND RPWS ON THE EASTBOUND PAVEMENT.
TRAFFIC TO BE MAINTAINED ON THE PROPOSED PAVEMENT DURING WORKING HOURS WITH ALL LANES OPEN AT ALL OTHER TIMES. SEE STANDARD DRAWINGS MT-95.32M AND MT-99.20M.

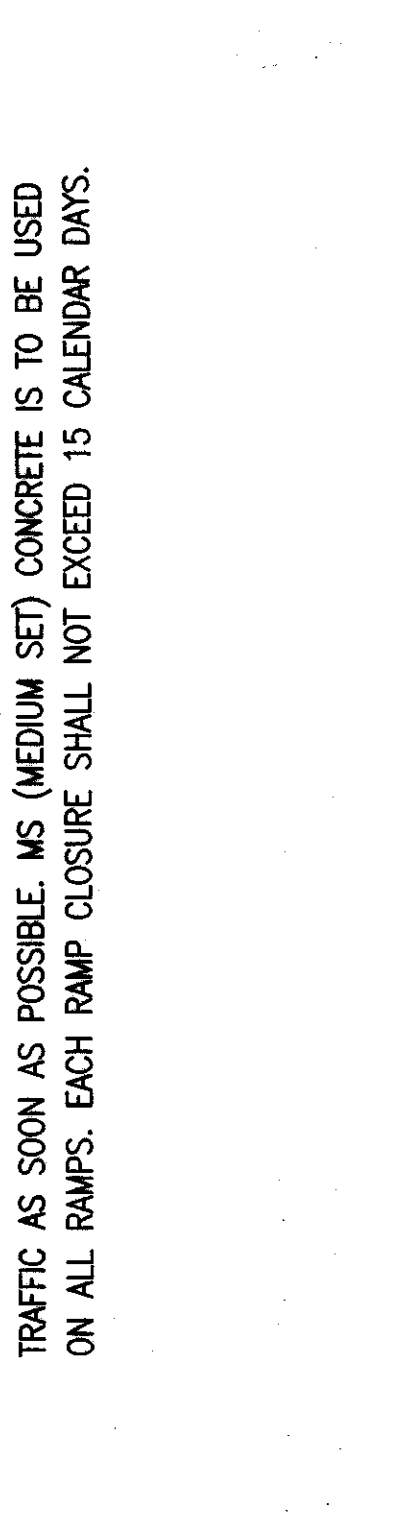
GENERAL
IN ADDITION TO THE REQUIREMENTS FOR MAINTAINING TRAFFIC AS INDICATED IN THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS, CURRENT EDITION, AND ITEM 614, THE FOLLOWING REQUIREMENTS SHALL APPLY:
BEFORE WORK IS STARTED ON THIS PROJECT THE CONTRACTOR SHALL SUBMIT A SCHEDULE OF OPERATIONS, IN WRITING, TO THE DIRECTOR OF TRANSPORTATION FOR HIS APPROVAL.
INCLUDED IN EACH SUBMISSION SHALL BE PROVISIONS FOR SMOOTH HANDLING OF ALL RAMP TRAFFIC.
A WATCHMAN SHALL BE ON DUTY TWENTY-FOUR (24) HOURS PER DAY DURING THE TIME RESTRICTED TRAFFIC IS BEING MAINTAINED TO INSURE PROPER FUNCTIONING OF THE VARIOUS TRAFFIC CONTROL DEVICES, EXCEPT WHEN THE CONTRACTOR IS PERFORMING WORK IN THESE AREAS.
BEFORE WORK BEGINS, THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER THE NAMES AND TELEPHONE NUMBERS OF A PERSON OR PERSONS WHO CAN BE CONTACTED 24 HOURS A DAY BY THE OHIO DEPARTMENT OF TRANSPORTATION AND ALL INTERESTED POLICE AGENCIES. THIS PERSON OR PERSONS SHALL BE RESPONSIBLE FOR REPLACING NECESSARY TRAFFIC CONTROL DEVICES.
DURING THE PROJECT ALL PHASES OF WORK SHALL BE CONDUCTED IN A MANNER THAT WILL ASSURE MINIMUM DANGER AND INCONVENIENCE TO THE MOTORIST.
THE CONTRACTOR SHALL ARRANGE HIS OPERATIONS SO AS TO PREVENT ANY INTERFERENCE TO THE CONTINUOUS FLOW OF TRAFFIC.
EXISTING SPEED LIMIT SIGN LEGENDS IN AREAS WHERE TRAFFIC IS RESTRICTED SHALL BE COVERED AND REVISED SPEED LIMITS PLACED.
THE ENGINEER SHALL RECORD COVERED AND UNCOVERED SIGNS IN THE PROJECT DIARY.
THE CONTRACTOR WILL BE REQUIRED TO PROVIDE, ERECT, MAINTAIN (IN PROPER POSITION, CLEAN, LEGIBLE AND GOOD WORKING CONDITION) AND REMOVE ALL DETOUR SIGNING, LIGHTS, SIGNS, BARRICADES, PORTABLE CONCRETE BARRIERS, DRUMS, AND ALL OTHER TRAFFIC CONTROL DEVICES NECESSARY FOR THE MAINTENANCE OF TRAFFIC, INCLUDING REGULATORY SIGNS AND PAVEMENT MARKINGS.
THERE SHALL BE AVAILABLE ON THE JOB AT ALL TIMES SIX (6) SPECIAL BLACK AND ORANGE "WATCH FOR STOPPED TRAFFIC" SIGNS (48" X 48"). THERE SHALL BE TWO FOR EACH DIRECTION OF TRAFFIC AND TWO SPARES. THESE SIGNS SHALL BE MOUNTED ON A PORTABLE BARRICADE AND ARE TO BE USED IN THE EVENT THAT TRAFFIC BACKS UP. THEY WILL BE LOCATED APPROXIMATELY 1/4 MILE IN ADVANCE OF THE BACK UP AND WILL BE MOVED BACK AS THE BACK UP INCREASES.
DRUMS SHALL BE USED ON ALL TAPERS AND CHANNELIZING LANES. SIGNS NOT IN USE SHALL BE ADEQUATELY COVERED OR REMOVED. THE LEAD SIGN IN ANY SEQUENCE SHALL BE EQUIPPED WITH TYPE "A" HIGH INTENSITY FLASHERS AT NIGHT.
THE CONTRACTOR SHALL FURNISH ALL TRAFFIC CONTROL DEVICES, INCLUDING REGULATORY SIGNS.
IN ADDITION TO LOCATIONS ON THE MAINLINE OH-128-48 "ROAD CONSTRUCTION AHEAD" SIGNS ARE TO BE PLACED ON ALL ENTRANCE RAMPS AT THE INTERSECTING ROAD. THE EXACT LOCATION TO BE DETERMINED BY THE ENGINEER.
PROPOSED GUARDRAIL IS TO BE INSTALLED PRIOR TO OPENING A SEGMENT TO TRAFFIC. THE RAIL IS TO BE INSTALLED AT THE HEIGHT SHOWN ON STANDARD DRAWING GR-2.1M FOR THE FINAL SURFACE ELEVATION.
PERMANENT OR TEMPORARY PAVEMENT MARKING SHALL BE IN PLACE PRIOR TO PLACING TRAFFIC ON ANY PAVEMENT.
UNLESS OTHERWISE INDICATED IN THESE PLANS, ALL WORK REQUIRED FOR TRAFFIC MAINTENANCE SHALL BE INCLUDED WITH PAYMENT FOR ITEM 614 MAINTAINING TRAFFIC.
ANY WORK THAT REQUIRES REDUCING TRAFFIC TO ONE LANE SHALL BE BETWEEN THE HOURS OF 8:00 PM FRIDAY TO 6:00 AM MONDAY ON A NON-HOLIDAY WEEKEND OR AS APPROVED BY THE PROJECT ENGINEER.

CONSTRUCTION PHASING
PHASE I
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PHASE II
COMPLETE ALL WORK ON THE EASTBOUND SIDE OF I-70 EXCEPT THE PLACEMENT OF THE PERMANENT PAVEMENT MARKING.
AT THE COMPLETION OF THIS PHASE PLACE THE PCB AND TEMPORARY PAVEMENT MARKING ON THE EASTBOUND LANES.
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DRUMS SHALL BE USED ON ALL TAPERS AND CHANNELIZING LANES. SIGNS NOT IN USE SHALL BE ADEQUATELY COVERED OR REMOVED. THE LEAD SIGN IN ANY SEQUENCE SHALL BE EQUIPPED WITH TYPE "A" HIGH INTENSITY FLASHERS AT NIGHT.
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ANY WORK THAT REQUIRES REDUCING TRAFFIC TO ONE LANE SHALL BE BETWEEN THE HOURS OF 8:00 PM FRIDAY TO 6:00 AM MONDAY ON A NON-HOLIDAY WEEKEND OR AS APPROVED BY THE PROJECT ENGINEER.



PHASE II AND III MAINTENANCE OF TRAFFIC

MAINTENANCE OF TRAFFIC - NOTES

MAINTENANCE OF TRAFFIC

FLOODLIGHTING

THE CONTRACTOR SHALL PROVIDE ADEQUATE LIGHTING OF THE WORK AREA TO INSURE THAT PROPER WORKMANSHIP CAN BE OBTAINED. FLOODLIGHTING OF THE WORK SITE FOR OPERATIONS CONDUCTED DURING NIGHT TIME PERIODS SHALL BE ACCOMPLISHED, SO THAT THE LIGHTS DO NOT CAUSE GLARE TO THE DRIVERS ON THE HIGHWAY. TO INSURE THE ADEQUACY OF THE FLOODLIGHT PLACEMENT, THE CONTRACTOR AND THE ENGINEER SHALL DRIVE THROUGH THE WORK SITE EACH NIGHT WHEN THE LIGHTING IS IN PLACE AND OPERATIVE AND PRIOR TO COMMENCING ANY WORK. IF GLARE IS DETECTED, THE LIGHT PLACEMENT AND SHIELDING SHALL BE ADJUSTED TO THE SATISFACTION OF THE ENGINEER BEFORE WORK PROCEEDS. THE COST OF FLOODLIGHTING WILL BE INCLUDED IN THE LUMP SUM COST OF ITEM 614 MAINTAINING TRAFFIC.

ITEM 614 WORK ZONE SPEED LIMIT SIGN

THE CONTRACTOR SHALL FURNISH, INSTALL, MAINTAIN, COVER DURING SUSPENSION OF WORK, AND REMOVE WORK ZONE SPEED LIMIT SIGNS AND SUPPORTS (R-10-48) (55 MPH) WITHIN THE WORK LIMITS IN ACCORDANCE WITH THE FOLLOWING REQUIREMENTS.

THE CONTRACTOR SHALL COVER OR REMOVE ANY EXISTING SPEED LIMIT OR MINIMUM SPEED SIGNS WITHIN THE REDUCED SPEED ZONE. THESE SIGNS SHALL BE RESTORED DURING SUSPENSION OR TERMINATION OF THE REDUCED SPEED LIMITS. THE EXPENSE OF COVERING OR REMOVAL AND RESTORATION OF EXISTING SPEED LIMIT OR MINIMUM SPEED SIGNS IS INCIDENTAL TO THE PAY ITEM FOR THE WORK ZONE SPEED LIMIT SIGNS.

THE WORK ZONE SPEED LIMIT SIGNS MAY BE ERRECTED AND COVERED PRIOR TO STARTING WORK OR MAY BE ERRECTED UNCOVERED NO MORE THAN 4 HOURS BEFORE THE ACTUAL START OF WORK. THE SIGNS SHALL BE REMOVED OR COVERED NO LATER THAN 4 HOURS FOLLOWING RESTORATION OF ALL LANES OF TRAFFIC WITH NO RESTRICTIONS OR SOONER AS DIRECTED BY THE ENGINEER.

THE CONTRACTOR SHALL ERRECT A WORK ZONE SPEED LIMIT SIGN IN ADVANCE OF ANY LANE RESTRICTION EXPECTED TO LAST AT LEAST 30 DAYS OR AS DIRECTED BY THE ENGINEER. THE SIGN SHALL BE MOUNTED ON BOTH SIDES OF DIVIDED HIGHWAYS, 500 FEET IN ADVANCE OF THE LANE REDUCTION TAPER. THE SIGN SHALL BE MOUNTED ON THE RIGHT SIDE, 250 FEET IN ADVANCE OF THE LANE REDUCTION TAPER ON UNDIVIDED HIGHWAYS. THE SIGN SHALL BE REPEATED, ON THE SIDE NEAREST TRAFFIC, EVERY 1 MILE FOR 55 MPH ZONES AND EVERY 1/2 MILE FOR 45 MPH ZONES. THESE SIGNS SHALL ALSO BE ERRECTED IMMEDIATELY AFTER EACH ENTRANCE RAMP WITHIN THE ZONE. A SIGN TO INDICATE THE RESUMPTION OF THE STATUTORY SPEED LIMIT SHALL BE ERRECTED AT THE END OF ANY REDUCED SPEED ZONE. THIS SIGN SHALL BE A R-8A.

THE CONTRACTOR MAY USE SIGNS AND SUPPORTS IN USED BUT GOOD CONDITION PROVIDED THE SIGNS MEET CURRENT ODOT SPECIFICATIONS. SIGN FACES SHALL BE REFLECTORIZED WITH TYPE G SHEETING COMPLYING WITH THE REQUIREMENTS OF 730.19 AND U.S. DEPARTMENT OF TRANSPORTATION SUPPLEMENTAL SPECIFICATION FOR TYPE III-C SHEETING, FP-85. WORK ZONE SPEED LIMIT SIGNS SHALL BE MOUNTED ON TWO (2) ITEM 630 GROUND MOUNTED SUPPORTS, NO. 4 POSTS.

WORK ZONE SPEED LIMIT SIGN AND SUPPORTS WILL BE MEASURED AS THE NUMBER OF SIGN INSTALLATIONS, INCLUDING THE SIGN AND NECESSARY SUPPORTS. IF A SIGN AND SUPPORT COMBINATION IS REMOVED AND REERRECTED AT ANOTHER LOCATION WITHIN THE PROJECT DUE TO CHANGES IN THE SPEED ZONE DIRECTED BY THE ENGINEER, IT SHALL BE CONSIDERED ANOTHER UNIT.

PAYMENT FOR ACCEPTED QUANTITIES, COMPLETE, IN PLACE WILL BE MADE AT THE CONTRACT UNIT PRICE. PAYMENT SHALL BE FULL COMPENSATION FOR ALL MATERIALS, LABOR, INCIDENTALS AND EQUIPMENT FOR FURNISHING, ERECTION, MAINTENANCE, COVERING DURING SUSPENSION OF WORK, AND REMOVAL OF THE SIGNS AND SUPPORTS.

ITEM 614 WORK ZONE SPEED LIMIT SIGN 40 EACH
QUANTITY CARRIED TO THE MAINTENANCE OF TRAFFIC SUB-SUMMARY.

OVERHEAD SIGN BRIDGES

ALL EXISTING OVERHEAD SIGN BRIDGES ARE TO BE REMOVED AND PROPOSED OVERHEAD SIGN BRIDGES INSTALLED DURING PHASE I.

DURING REMOVAL AND INSTALLATION OF OVERHEAD SIGN BRIDGES, TRAFFIC SHALL BE MAINTAINED AS PER THE SHORT DURATION CLOSING OF THE INTERSTATE NOTE, SEE SHEET NO. 12.

GUIDE SIGNS

DURING PHASE II, TEMPORARY GUIDE SIGNS SHALL BE ERRECTED IN THE MEDIAN. THESE SIGNS ARE TO BE GROUND MOUNTED ON BREWAWAY SUPPORTS. THE LEGEND WILL BE THE SAME AS EXISTING. THE TEMPORARY SIGNS MAY BE LEVEL IV SIZE. THE COST OF PROVIDING, ERRECTING, MAINTAINING, AND REMOVING THESE SIGNS SHALL BE INCLUDED IN ITEM 614 MAINTAINING TRAFFIC.

COVERING OF SIGNS

WHERE THE PLANS CALL FOR A PERMANENT SIGN TO BE COVERED, THE CONTRACTOR SHALL DO SO IN SUCH A MANNER AS TO AVOID DAMAGING THE PERMANENT SIGN WHEN THE COVER IS REMOVED. THE COVER SHALL BE TOTALLY OPAQUE. THE USE OF ADHESIVE TAPE APPLIED DIRECTLY TO A SIGN FACE IS STRICTLY PROHIBITED.

USR 42 RAMP TRAFFIC SIGNAL

DURING THE PERIOD WHEN WORK IS PERFORMED ON THE USR 42 BRIDGES OVER I-70 AND THE RAMP FOR USR 42, THE EXISTING TRAFFIC SIGNAL HEADS AT RAMP A AND B MAY CONFLICT WITH TRAFFIC. THE CONTRACTOR IS TO ADJUST THE SIGNAL HEAD LOCATIONS TO FIT THE TRAFFIC LANE ASSIGNMENTS FOR TRAFFIC MAINTENANCE. PRIOR TO MAKING ANY ADJUSTMENTS TO THE TRAFFIC SIGNAL THE CONTRACTOR IS TO CONTACT THE DISTRICT TRAFFIC ENGINEER (614-363-1251) AND COORDINATE THE ADJUSTMENTS WITH HIS OFFICE.

THE DISTRICT TRAFFIC ENGINEER'S OFFICE WILL MAKE ANY NECESSARY SIGNAL TIMING CHANGES.

THE COST OF SIGNAL ADJUSTMENTS WILL BE INCLUDED IN THE LUMP SUM COST OF ITEM 614 MAINTAINING TRAFFIC.

SIGNING

ALL SIGNING REQUIRED FOR MAINTAINING TRAFFIC SHALL BE AS PER STANDARD DRAWINGS MT-95.30M, MT-95.40M, MT-96.11M, MT-97.10M, MT-98.13M, MT-98.14M, MT-98.15M, AND MT-102.10M UNLESS OTHERWISE SHOWN.

ITEM 614 BARRIER REFLECTORS, TYPE A & B

THE BARRIER REFLECTORS SHALL CONFORM SUPPLEMENTAL SPECIFICATION 802, EXCEPT THAT THE SPACING FOR BARRIER REFLECTORS SHALL BE AS SHOWN IN THE PROPOSAL.

THESE REFLECTORS ARE FOR MAINTENANCE OF TRAFFIC AND ARE TO BE PLACED TO MATCH THE EDGELINE COLOR.

ITEM 615 TEMPORARY PAVEMENT, CLASS A

TEMPORARY PAVEMENT SHALL BE PLACED IN THE FOLLOWING LOCATIONS FOR USE DURING PHASE II OF THE MAINTENANCE OF TRAFFIC:

AT THE MADISON/FRANKLIN COUNTY LINE (SEE DETAILS E & F, SHEET NO. 18.)

THIS PAVEMENT IS NECESSARY TO SHIFT TRAFFIC FROM THE TEMPORARY LANES BACK TO THE EXISTING LANES OUTSIDE OF THE PROJECT LIMITS.

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN PROVIDED FOR ITEM 615 TEMPORARY PAVEMENT, CLASS A:

AUTOCAD AREA (34948.36)/9 @ STA. 438+00 (MADISON COUNTY) + (18513.66)/9 @ STA. 6+00 (FRANKLIN COUNTY) = 5840 SQ. YD.
(PAVEMENT TO BE REMOVED AFTER USE)

LT. STA. 442+21.09 TO STA. 458+45.00 = 1623.91
RT. STA. 442+21.09 TO STA. 456+50.00 = 1428.91
3052.82 LIN. FT.

2-1200' TAPERS
LT. STA. 458+45.00 TO STA. 470+45.00 = 1200.00
RT. STA. 456+50.00 TO STA. 468+50.00 = 1200.00
2400.00 LIN. FT.

$[3052.82' \times (12' + \frac{12' \pm 0'}{2}) \times 2400'] / 9 = 5670.43$ SQ. YD.
5940.00 SQ. YD.
11610.43 SQ. YD.
USE 11610 SQ. YD.

QUANTITIES CARRIED TO THE MAINTENANCE OF TRAFFIC SUB-SUMMARY.

UNEVEN LANES

"UNEVEN LANES" SIGNS (OW-171) ARE REQUIRED ON BOTH SIDES OF THE PAVEMENT WHEN THERE IS A VERTICAL DROPOFF ALONG A LONGITUDINAL JOINT. THEY SHALL BE PLACED 750' IN ADVANCE OF THE CONDITION, ON ALL ENTRANCE RAMP WITHIN THE LIMITS OF THE CONDITION, AND AT ONE(1) MILE INCREMENTS WHEN THE CONDITION EXTENDS MORE THAN 1/2 MILE. SEE DETAILS C & D, SHEET NO. 17.

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN INCLUDED TO PROVIDE AN ASPHALT WEDGE BETWEEN DIFFERING PAVEMENT ELEVATIONS.

SHOULDER REBUILD FOR MAINTENANCE OF TRAFFIC

THE SHOULDERS SHALL BE REBUILT DURING PHASE I ON THE WESTBOUND SIDE FOR THE PURPOSE OF MAINTAINING TRAFFIC DURING PHASE II. THE FOLLOWING QUANTITIES HAVE BEEN CARRIED TO THE MAINTENANCE OF TRAFFIC SUB-SUMMARY (SHEET NO. 15).

ITEM 304 6" AGGREGATE BASE
STA. 438+00 TO STA. 6+00 = 39043.32 LIN. FT.
DEDUCT (BRIDGE 1216 & 1555) = 535 LIN. FT.
TOTAL = 38508.32 LIN. FT.
[38508.32' x 14' x 6"/12]/27 = 9983.64 CY USE 9984 CY

ITEM 302 8" BITUMINOUS AGGREGATE BASE
[38508.32' x 14' x 8"/12]/27 = 13311.52 CY USE 13312 CY

ITEM 301 6" BITUMINOUS AGGREGATE BASE
[38508.32' x 14' x 6"/12]/27 = 9983.64 CY USE 9984 CY

ITEM 301 3" BITUMINOUS AGGREGATE BASE
STA. 433+78.91 TO STA. 5+35.00 = 39399.41 LIN. FT.
DEDUCT (BRIDGE 1216 & 1555) = 535.00 LIN. FT.
TOTAL = 38864.41 LIN. FT.
[38864.41' x 4' x 3"/12]/27 = 1439.42 CY
[38508.32' x 14' x 3"/12]/27 = 1426.23 CY
TOTAL = 2865.65 CY USE 2866 CY

16' CLEARANCE UNDER BRIDGES

THE PLAN SHEETS SHOW CROSS HATCHING AT OVERHEAD BRIDGES TO SHOW THE AREA WHERE PAVEMENT IS TO BE REMOVED AND REBUILT. THE PAVEMENT DETAILS ON SHEET NOS. 73-78, SHOW ELEVATIONS AROUND THE OVERHEAD BRIDGES. IT IS THE INTENT TO LOWER (REBUILD) THE PAVEMENT TO ACHIEVE 16 FOOT MINIMUM CLEARANCE UNDER THESE BRIDGES. THE PAVEMENT ELEVATIONS REFLECT THE PAVEMENT BEING REBUILT TO THE ORIGINAL ELEVATIONS BEFORE THE PRESENT EXISTING OVERLAYS WERE PLACED.

DROP-OFFS AT CROSSEDERS

DURING PHASE II & III THERE WILL BE A SHORT PERIOD OF TIME WHEN THE EAST BOUND OR WESTBOUND LANES, DEPENDING ON PHASE, WILL BE COMPLETE BUT NOT OPEN TO TRAFFIC. THE CROSSEDERS WILL HAVE A DROP OFF AT THE EDGE OF PAVEMENT OF 4.75" IN THE JOINTED PAVEMENT AREA. IN THESE AREAS, A WEDGE OF ITEM 446 ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, P684-28 SHALL BE PLACED ON A 25:1 FEATHER TO MAKE A SMOOTH TRANSITION BETWEEN THE CROSSEDER AND PROPOSED PAVEMENT.

THE FOLLOWING QUANTITY HAS BEEN CARRIED TO THE MAINTENANCE OF TRAFFIC

SUB-SUMMARY:

PHASE II
STA. 477+30 18'(4.75'x25')(4.75'/12)/2x1/27 = 15.67 CU YD
STA. 768+00 18'(4.75'x25')(4.75'/12)/2x1/27 = 15.67 CU YD
STA. 810+00 18'(4.75'x25')(4.75'/12)/2x1/27 = 15.67 CU YD
PHASE III
STA. 477+30 18'(4.75'x25')(4.75'/12)/2x1/27 = 15.67 CU YD
STA. 564+00 18'(4.75'x25')(4.75'/12)/2x1/27 = 15.67 CU YD
STA. 810+00 18'(4.75'x25')(4.75'/12)/2x1/27 = 15.67 CU YD
TOTAL = 94.02 CU YD
USE 94 CU YD

ITEM 446, ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, P684-28 94 CU YD

TEMPORARY PAVEMENT MARKING

THE FOLLOWING TYPICAL GUIDELINES FOR TEMPORARY PAVEMENT MARKING SHALL BE USED TO DETERMINE THE LIMITS OF PAINT/TAPE UNLESS OTHERWISE SHOWN.

TAPE SHALL BE USED:

- ON ALL PAVEMENT PRECEDING STA. 465+00;
- ON ALL PROPOSED APPROACH SLABS & BRIDGE DECKS;
- ON ALL PAVEMENT IN FRANKLIN COUNTY.

PAINT SHALL BE USED:

- ON ALL PAVEMENT IN MADISON COUNTY;
- ON ALL EXISTING APPROACH SLABS AND BRIDGE DECKS.

FOR QUANTITIES, SEE TABLES ON SHEET NO. 14.

FOR ADDITIONAL DETAILS, SEE SHEET NOS. 17-19.

ALTERNATE METHODS

IF THE CONTRACTOR SO ELECTS, HE MAY SUBMIT ALTERNATE METHODS FOR THE MAINTENANCE OF TRAFFIC, PROVIDED THE INTENT OF THIS PLAN IS FOLLOWED AND NO ADDITIONAL INCONVENIENCE TO THE TRAVELING PUBLIC RESULTS THEREFROM. NO ALTERNATE PLAN SHALL BE PLACED INTO EFFECT UNTIL APPROVAL HAS BEEN GRANTED, IN WRITING, BY THE DIRECTOR.

LIQUIDATED DAMAGES

THE CONSTRUCTION AND MATERIAL SPECIFICATIONS SECTION 108.07, SCHEDULE OF LIQUIDATED DAMAGES, IN ADDITION TO THE REQUIREMENTS OF THAT SECTION, IS TO APPLY TO ANY AND ALL CLOSURE AND/OR DETOUR LIMITATIONS AND COMPLETION DATES INDICATED IN THIS PLAN.

MAINTENANCE OF TRAFFIC

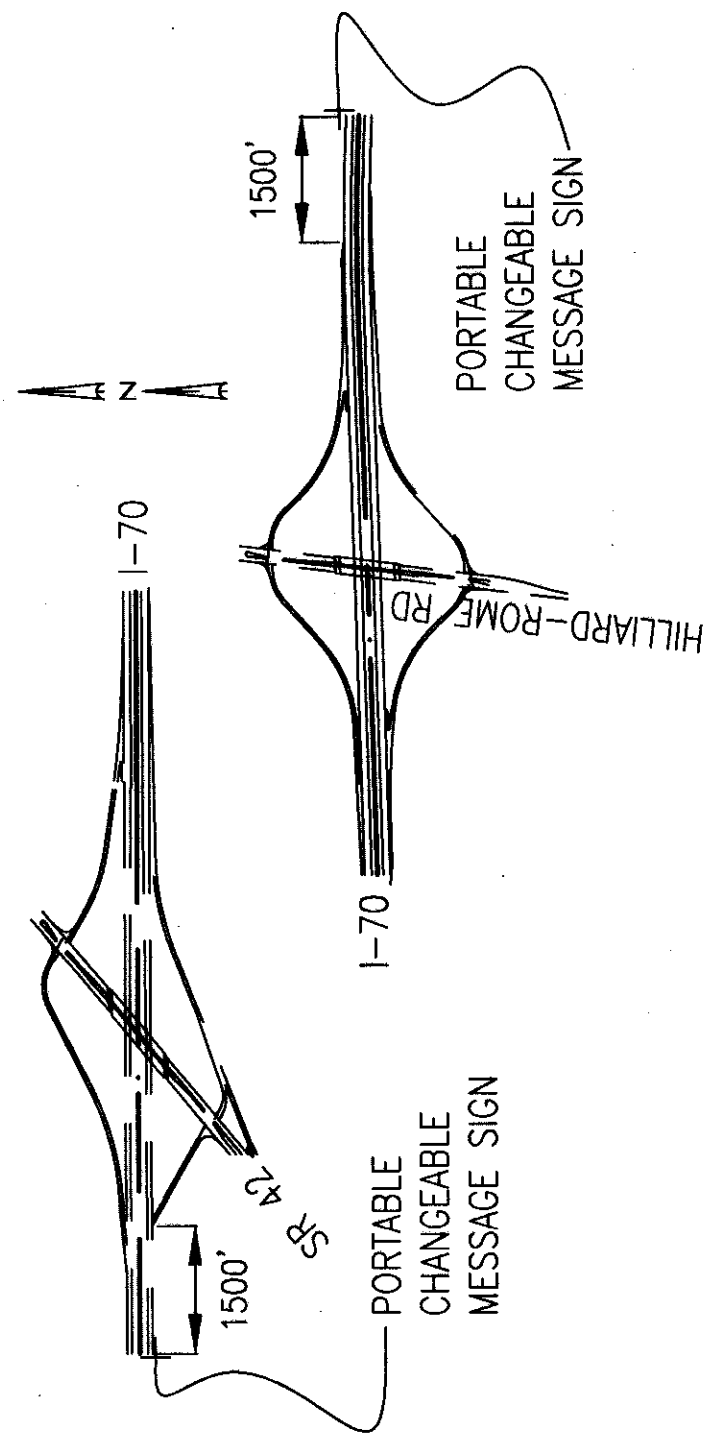
ITEM 614 - PORTABLE CHANGEABLE MESSAGE SIGN, CLASS III, AS PER PLAN (CONT.)

THE REQUIREMENT TO FURNISH, INSTALL, MAINTAIN AND REMOVE A POMS UNIT ON THIS PROJECT SHALL NOT IN ANY WAY RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITIES AS OUTLINED IN 104.04.

PAYMENT FOR THE ABOVE DESCRIBED ITEM SHALL BE AT THE CONTRACT UNIT PRICE BID PER SIGN-MONTH FOR EACH 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.

ITEM 614 PORTABLE CHANGEABLE MESSAGE SIGN, CLASS III, AS PER PLAN
72 SIGN-MONTHS

QUANTITY CARRIED TO THE MAINTENANCE OF TRAFFIC SUB-SUMMARY.



ITEM SPECIAL-LAW ENFORCEMENT OFFICER (WITH PATROL CAR)

IN ADDITION TO THE REQUIREMENTS OF 614 AND THE LATEST EDITION OF THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (OMUTCD), A UNIFORMED LAW ENFORCEMENT OFFICER (AND OFFICIAL PATROL CAR WITH WORKING TOP MOUNTED EMERGENCY FLASHING LIGHTS) SHALL BE PROVIDED FOR CONTROLLING TRAFFIC FOR THE FOLLOWING TASKS:

FOR LANE CLOSURES: DURING INITIAL SET-UP PERIODS, TEAR DOWN PERIODS, SUBSTANTIAL SHIFTS OF A CLOSURE POINT OR WHEN NEW LANE CLOSURE ARRANGEMENTS ARE INITIATED.

LAW ENFORCEMENT OFFICERS (L.E.O.'S) SHOULD NOT BE USED WHERE THE OMUTCD INTENDS THAT FLAGGERS BE USED. THE LEO'S ARE CONSIDERED TO BE EMPLOYED BY THE CONTRACTOR AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR THEIR ACTIONS. ALTHOUGH THEY ARE EMPLOYED BY THE CONTRACTOR, THE PROJECT ENGINEER SHALL HAVE CONTROL OVER THEIR PLACEMENT. THE OFFICIAL PATROL CAR SHALL BE A PUBLIC SAFETY VEHICLE AS REQUIRED BY THE OHIO REVISED CODE.

THE CONTRACTOR SHALL MAKE ARRANGEMENTS FOR THESE SERVICES WITH THE APPROPRIATE LAW ENFORCEMENT AGENCY THAT HAS JURISDICTION: THE OHIO HIGHWAY PATROL, XENIA POST: (513)372-7671 THE CITY OF XENIA: (513)376-7222 THE CITY OF BEAVERCREEK: (513)426-1225

LAW ENFORCEMENT OFFICERS (WITH PATROL CAR) REQUIRED BY THE TRAFFIC MAINTENANCE TASKS ABOVE SHALL BE PAID FOR ON A UNIT PRICE (HOURLY) BASIS UNDER ITEM SPECIAL-LAW ENFORCEMENT OFFICER (WITH PATROL CAR).

ITEM SPECIAL, LAW ENFORCEMENT OFFICER WITH PATROL CAR 500 HOURS. QUANTITY CARRIED TO THE MAINTENANCE OF TRAFFIC SUB-SUMMARY.

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

IF THE CONTRACTOR WISHES TO UTILIZE LEO'S FOR FLAGGING AND TRAFFIC CONTROL OTHER THAN FOR THAT REQUIRED IN THESE PLANS, HE MAY DO SO AT HIS OWN EXPENSE. PAYMENT FOR THE EXCESS ABOVE THE CONTRACT REQUIREMENTS WILL BE INCLUDED UNDER ITEM 614 MAINTAINING TRAFFIC.

SHORT DURATION CLOSING OF THE INTERSTATE

THE FOLLOWING NOTES SHALL APPLY FOR THE REMOVAL OF THE EXISTING SIGN BRIDGES AND THE ERECTION OF THE PROPOSED SIGN BRIDGES.

- 1) CLOSURES FOR THE REMOVAL AND ERECTION OF SIGN BRIDGES WILL ONLY BE PERMITTED BETWEEN THE HOURS OF 12:00 AM (MIDNIGHT) AND 4:00 AM.
- 2) THE MAXIMUM DURATION OF EACH CLOSURE SHALL NOT EXCEED 15 MINUTES. ALL LANES SHALL BE REOPENED TO TRAFFIC FOR A MINIMUM OF 30 MINUTES BEFORE BEGINNING THE NEXT 15 MINUTE CLOSURE.
- 3) AT LEAST TWO PATROLMEN AND TWO PATROL CARS SHALL BE PROVIDED ON EACH APPROACH TO THE CLOSURE. EACH PATROL CAR SHALL HAVE A ROOF MOUNTED ROTATING RED LIGHT OR A LIGHT BAR.
- 4) A MINIMUM OF FOUR FLARES SHALL BE BURNING CONTINUOUSLY ON EACH SIDE OF THE ROADWAY IN ADVANCE OF THE "OW-128-48" SIGN DURING THE TIME THAT TRAFFIC IS STOPPED ON THE RURAL DIVIDED HIGHWAY.
- 5) THE ADVANCE PATROL CAR AND THE "OW-128-48", "OW-143-24", AND "OW-152-48" SIGNS SHALL BE MOVED BACK AS REQUIRED BY THE QUEUING OF STOPPED VEHICLES. NEW FLARES SHALL BE PLACED WHENEVER THE ADVANCE PATROL CAR IS REQUIRED TO RELOCATE.

SEE DETAIL, THIS SHEET, FOR ADDITIONAL CLOSURE NOTES AND DETAILS. INFORMATION REGARDING THE FEES, ARRANGEMENTS, AND PAYMENT FOR SPECIAL DUTY PATROL SERVICES SHALL BE AS SPECIFIED IN THE NOTE COVERING LAW ENFORCEMENT OFFICER WITH PATROL CAR.

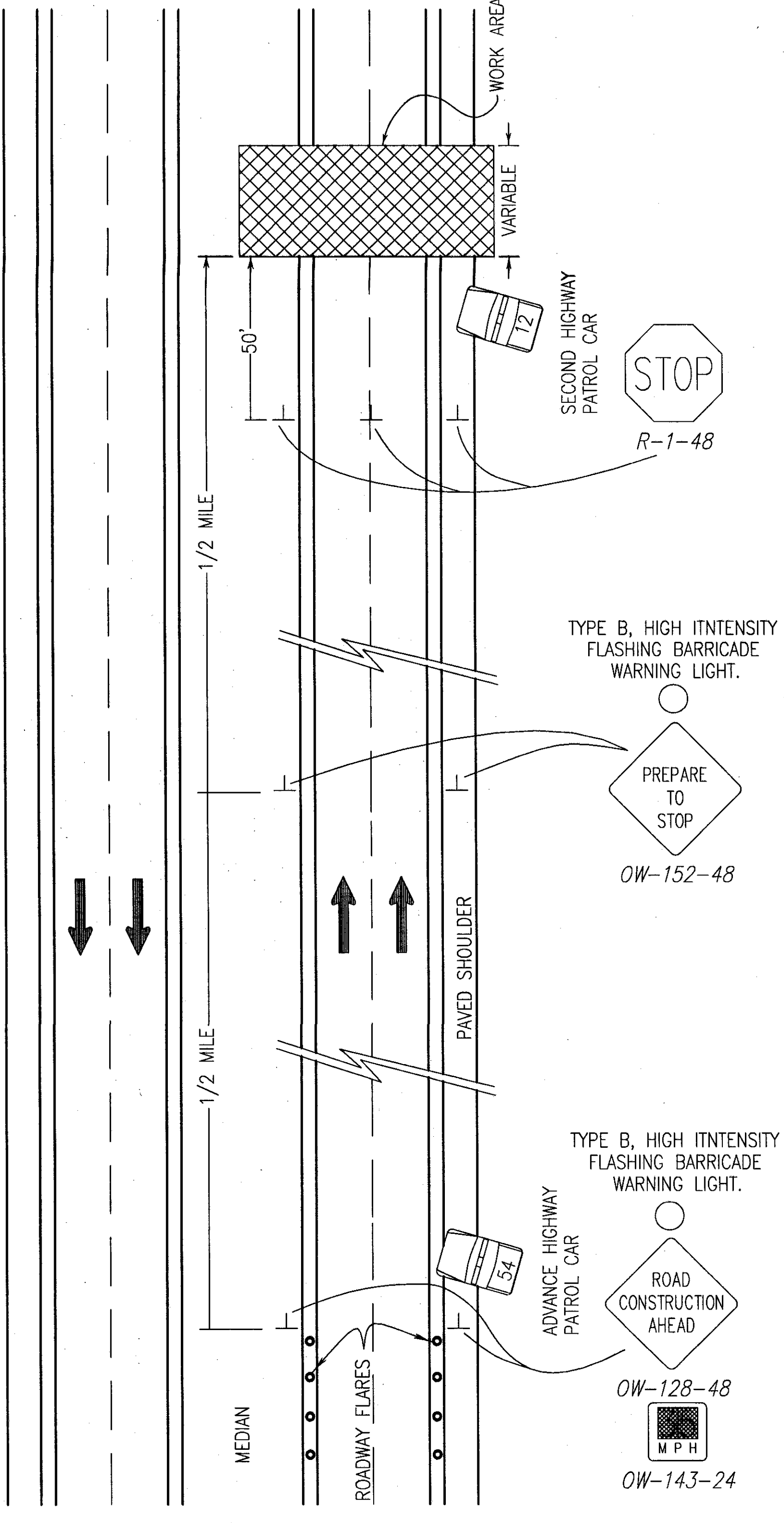
PAYMENT FOR THE ABOVE IS INCLUDED IN ITEM SPECIAL - LAW ENFORCEMENT OFFICER WITH PATROL CAR.

TRAFFIC CONTROL FOR THE CLOSURE SHALL BE ACCOMPLISHED IN THE FOLLOWING ORDER:

- A. ADVANCE PATROL CAR, LIGHTS AND FLASHER ON; AT LEAST FOUR FLARES BURNING ON EACH SIDE OF ROADWAY
- B. "OW-128-48" AND "OW-143-24" SIGNS ERECTED.
- C. "OW-152-48" SIGNS ERECTED.
- D. SECOND PATROL CAR, LIGHTS AND FLASHERS ON.
- E. "R-1-48" SIGNS ERECTED BY FLAGMEN WITH FLARE OR FLAG USED TO STOP TRAFFIC. THE ORDER OF ERECTION SHALL BE TOWARD THE MEDIAN SHOULDER IN THE FOLLOWING ORDER: RIGHT SHOULDER, THEN CENTER, THEN MEDIAN SHOULDER.

TRAFFIC CONTROL SHALL BE REMOVED IN THE FOLLOWING ORDER:

- A. WITH TRAFFIC STOPPED ONE MAN WITH A FLARE OR FLAG SHOULD HOLD TRAFFIC AND OTHER FLAGMAN SHALL REMOVE THE "R-1-48" SIGNS TOWARD THE RIGHT SHOULDER IN THE FOLLOWING ORDER: MEDIAN, THEN CENTER, THEN SIGN ON RIGHT SHOULDER.
- B. AFTER ALL STOPPED VEHICLES HAVE STARTED MOVING, THE "OW-152-48" SIGNS SHALL BE REMOVED. THESE SIGNS MAY BE COVERED IF RE-USE IS IMMINENT.
- C. AFTER ALL CARS HAVE RESUMED APPROXIMATELY NORMAL SPEED, THE "OW-128-48" AND "OW-143-24" SIGNS SHALL BE REMOVED. THESE SIGNS MAY BE COVERED IF RE-USE IS IMMINENT.
- D. LIGHTS AND FLASHERS SHALL BE TURNED OFF ON BOTH PATROL CARS.
- E. REMOVE ALL ROADWAY FLARES IF THEY ARE STILL BURNING.



INTERSTATE CLOSURE DETAIL

ITEM 614 - PORTABLE CHANGEABLE MESSAGE SIGN, CLASS III, AS PER PLAN
THE CONTRACTOR SHALL FURNISH, INSTALL, MAINTAIN AND REMOVE, WHEN NO LONGER NEEDED, A CHANGEABLE MESSAGE SIGN, ON SITE, FOR THE DURATION OF THE PROJECT. THE SIGN SHALL BE OF A TYPE SHOWN ON A LIST OF APPROVED POMS UNITS MAINTAINED BY THE DIRECTOR.

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.

THE PROBABLE LOCATIONS FOR THE SIGNS ARE LISTED BELOW. PLACEMENT, OPERATION, MAINTENANCE, AND ALL ACTIVATION OF THE SIGNS BY THE CONTRACTOR SHALL BE "AS DIRECTED BY THE ENGINEER".

- (SEE RIGHT)
EASTBOUND - WEST OF SR 42 IN MADISON COUNTY
WESTBOUND - EAST OF HILLIARD-ROME ROAD IN FRANKLIN COUNTY.

THE POMS SHALL BE LOCATED IN A HIGHLY VISIBLE LOCATION, YET PROTECTED FROM TRAFFIC. THE CONTRACTOR SHALL AT THE DIRECTION OF THE ENGINEER, RELOCATE THE POMS TO IMPROVE VISIBILITY OR ACCOMMODATE CHANGED CONDITIONS, WHEN NOT IN USE. THE POMS WILL BE OFF-FACING AWAY FROM ALL TRAFFIC AND SHALL DISPLAY ONE OR MORE HIGH INTENSITY YELLOW REFLECTIVE SHEETING SURFACES OF 9-INCH BY 15-INCH MINIMUM SIZE FACING TRAFFIC.

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

THE CONTRACTOR SHALL IMPLEMENT A SYSTEM WHEREBY CHANGED MESSAGES WILL BE IMPLEMENTED WITHIN 2 HOURS FOLLOWING TELEPHONE NOTIFICATION FROM THE PROJECT ENGINEER TO A DESIGNATED PHONE.

ALL MESSAGES TO BE DISPLAYED ON THE SIGN WILL BE PROVIDED BY THE ENGINEER. A LIST OF ALL REQUIRED PREPROGRAMMED MESSAGES WILL BE GIVEN TO THE CONTRACTOR AT THE PROJECT PRECONSTRUCTION CONFERENCE. THE SIGN SHALL HAVE THE CAPABILITY TO STORE UP TO 99 MESSAGES. MESSAGE MEMORY OR PRE-PROGRAMMED DISPLAYS SHALL NOT BE LOST AS A RESULT OF POWER FAILURES TO THE ON BOARD COMPUTER. THE SIGN LEGEND SHALL BE CAPABLE OF BEING CHANGED IN THE FIELD. THREE-LINE PRESENTATION FORMATS WITH UP TO SIX MESSAGE PHASES SHALL BE SUPPORTED, BUT NORMALLY, NOT MORE THAN TWO MESSAGE PHASES SHOULD BE EMPLOYED, ALTHOUGH THREE PHASES MAY BE USED IN UNUSUAL CONDITIONS. POMS FORMAT SHALL PERMIT THE COMPLETE MESSAGE FOR EACH PHASE TO BE READ AT LEAST ONCE.

THE POMS SHALL CONTAIN AN ACCURATE CLOCK AND PROGRAMMING LOGIC WHICH WILL ALLOW THE SIGN TO BE ACTIVATED, DEACTIVATED OR MESSAGES CHANGED AUTOMATICALLY AT DIFFERENT TIMES OF THE DAY FOR DIFFERENT DAYS OF THE WEEK.

THE POMS UNIT SHALL BE MAINTAINED IN GOOD WORKING ORDER BY THE CONTRACTOR IN ACCORDANCE WITH THE PROVISIONS OF 614.03 (C). THE CONTRACTOR SHALL, PRIOR TO ACTIVATING THE UNIT, MAKE ARRANGEMENTS WITH AN AUTHORIZED SERVICE AGENT FOR THE POMS 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 WHEN THE PLAN REQUIRES THEIR USE.

MAINTENANCE OF TRAFFIC

MAD-70-8.68

OHIO
FHWA
REGION 5

13
142

CALC. DATE: 4/2/98
BY: ATJ
CHK. DATE: 5/7/98
BY: VDK

CONSTRUCTION INITIATION
THE CONTRACTOR SHALL ADVISE THE DISTRICT OFFICE OF COMMUNICATIONS AT (614) 363-1251, EXTENSION 469 OR BY FAX AT (614) 369-7437 14 DAYS PRIOR TO THE START OF CONSTRUCTION ACTIVITIES. THE CONTRACTOR WILL IMMEDIATELY INFORM THE DISTRICT OFFICE OF COMMUNICATIONS AND THE DISTRICT MAINTENANCE OF TRAFFIC ENGINEER (EXTENSION 323) OF ANY AND ALL DELAYS AND/OR CHANGES REGARDING THE CONSTRUCTION PROJECT. THE PROJECT ENGINEER WILL PROVIDE CLARIFICATION FOR ANY QUESTIONS ABOUT THIS NOTIFICATION REQUIREMENT.

COORDINATION WITH THE COLUMBUS PAVING THE WAY...PROGRAM (PTWP)
THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER IN WRITING OF ALL TRAFFIC RESTRICTIONS AND UPCOMING MAINTENANCE OF TRAFFIC CHANGES ON A WEEKLY BASIS. WHEN DETOURS ARE PLANNED THIS NOTIFICATION SHALL BE AT THE PRECONSTRUCTION MEETING OR 30 DAYS IN ADVANCE ONCE CONSTRUCTION HAS BEGUN. LANE AND RAMP CLOSURES FOR TWO OR MORE WEEKS SHALL BE REPORTED TWO WEEKS IN ADVANCE OF CLOSURE. LANE AND RAMP CLOSURES OF LESS THAN TWO WEEKS DURATION AND MORE THAN TWO DAYS SHALL BE REPORTED AT LEAST 3 WORKING DAYS IN ADVANCE. FOR SHORT-TERM LANE OR RAMP CLOSURES (TWO DAYS OR LESS) NOTIFICATION SHALL BE MADE AT LEAST ONE WORKING DAY IN ADVANCE.

INFORMATION SHALL INCLUDE, BUT NOT LIMITED TO, ALL CONSTRUCTION ACTIVITIES THAT IMPACT TRAFFIC AT PRESENT AND IN THE NEXT 30 DAYS. THE REPORT SHALL BE OF A FORMAT APPROVED BY THE PROJECT ENGINEER OR ONE SUPPLIED BY THE PTWP. THE CONTRACTOR SHALL DESIGNATE AN INDIVIDUAL WHO WILL BE RESPONSIBLE TO PREPARE THIS REPORT AT THE PRECONSTRUCTION MEETING.

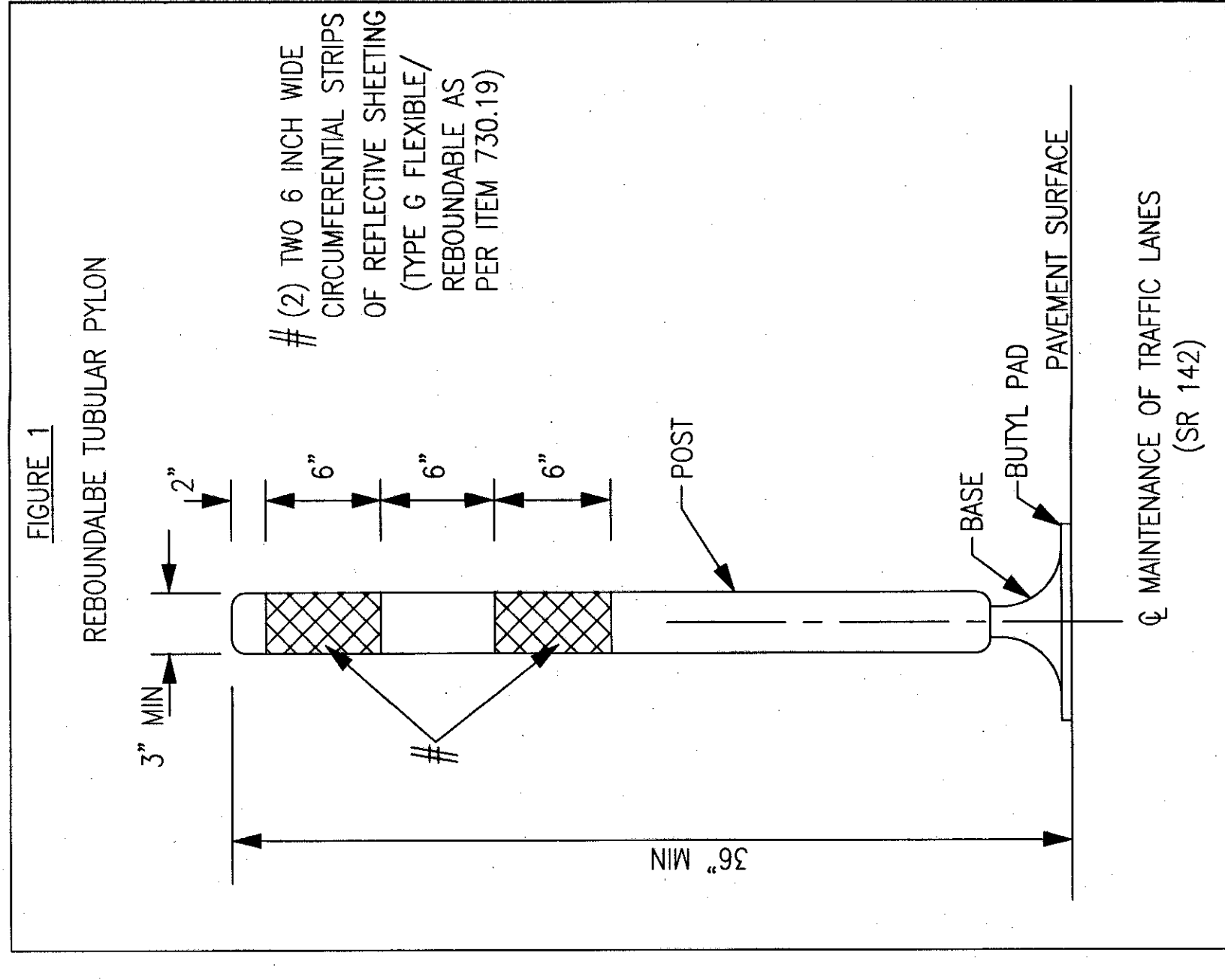
ANY UNFORSEEN IMPACTS TO TRAFFIC SHALL BE REPORTED TO THE PROJECT ENGINEER AS SOON AS POSSIBLE. THE PROJECT ENGINEER SHALL PROVIDE THIS INFORMATION TO THE PTWP PROGRAM. ALL CONSTRUCTION ACTIVITIES THAT INTERFERE WITH TRAFFIC SHALL BE REPORTED TO THE PTWP. THIS INFORMATION SHALL BE PROVIDED TO THE PROGRAM INFORMATION ASSISTANT AT 645-6016 OR THE PROGRAM COORDINATOR AT 645-3970, OR BY FAX 645-5844.

ITEM SPECIAL --- REBOUND TUBULAR PYLON

SCOPE
THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING SURFACE MOUNTED TUBULAR MARKERS TO ASPHALT OR CONCRETE SURFACES.

SPECIFICATIONS

- 1.) THE TOTAL LENGTH OF THE REBOUNDABLE TUBULAR PYLON INCLUDING BASE SHALL BE A MINIMUM OF 36 INCHES.
- 2.) THE REBOUNDABLE TUBULAR PYLON POST SHALL HAVE A MINIMUM OUTSIDE DIAMETER OF 3 INCHES.
- 3.) THE REBOUNDABLE TUBULAR PYLON POST SHALL BE YELLOW.
- 4.) TYPE G FLEXIBLE/REBOUNDABLE, HIGH INTENSITY REFLECTORIZED BOND MATERIAL SHALL BE AS PER SEC. 730.19 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS. THE LOCATION OF THE TYPE G SHEETING SHALL BE AS SHOWN IN FIGURE 1. THE TYPE G SHEETING SHALL BE YELLOW.
- 5.) THE ADHESIVE FOR THE BASE SHALL BE A BUTYL PAD, DESIGNED BY THE MANUFACTURER FOR INSTALLATION ON ASPHALT OR CONCRETE SURFACES.
- 6.) THE POST SHALL BE FLEXIBLE, REMOVABLE, AND REPLACEABLE.
- 7.) THE REBOUNDABLE TUBULAR PYLON SHALL BE ABLE TO WITHSTAND 10 IMPACTS AT 55 MPH AND 10 IMPACTS AT 35 MPH WHEN TESTED BY A DEVICE CONFORMING TO THE DESCRIPTION IN REPORT NO. FHWA-TS-84.225. AFTER EACH IMPACT, THE MARKER SHALL:
 - a.) REMAIN INTACT AND BE SECURELY ANCHORED TO THE BASE.
 - b.) RETURN TO ITS ORIGINAL VERTICAL ORIENTATION WITHIN AN ANGLE OF 10 DEGREES FROM VERTICAL.
 - c.) SHOW NO SIGNS OF CRACKING OR LOSS OF RIGIDITY.
- 8.) THE REBOUNDABLE TUBULAR PYLON SHALL OFFER 360 DEGREES OF VISIBILITY, DAY OR NIGHT.



CERTIFICATION

THE CONTRACTOR SHALL SUBMIT A MANUFACTURER'S CERTIFICATE OF COMPLIANCE STATING THAT THE SUPPLIED REBOUNDABLE TUBULAR PYLON MEET SPECIFICATIONS 1 THRU 8 ON THIS SHEET.

LAYOUT

THE CONTRACTOR SHALL LAYOUT ALL REBOUNDABLE TUBULAR PYLON LOCATIONS TO ASSURE THEIR PROPER PLACEMENT. THE LAYOUT SHALL BE APPROVED BY THE ENGINEER BEFORE INSTALLATION OPERATIONS BEGIN.

METHOD OF MEASUREMENT

THE NUMBER OF REBOUNDABLE TUBULAR PYLON SHALL BE THE NUMBER, IN PLACE, COMPLETED, AND ACCEPTED.

BASIS OF PAYMENT

PAYMENT FOR ACCEPTED QUANTITIES WILL BE MADE AT THE CONTRACT BID PRICE FOR:

ITEM	UNIT	DESCRIPTION
SPECIAL	EACH	REBOUND TUBULAR PYLON

FOR QUANTITIES AND LOCATIONS, SEE SHEET NOS. 22&23. (SR 142)

NOTE

THE REBOUNDABLE TUBULAR PYLON SHOWN IN THE PLAN ARE TO BE USED FOR MAINTENANCE OF TRAFFIC PURPOSES ONLY AND SHALL BE CAREFULLY REMOVED FROM THE PAVEMENT AFTER USE.

MAINTENANCE OF TRAFFIC

LOCATION	STATION TO STATION	DIRECTION	614		614		614		622	614	614	614
			TEMPORARY EDGE LINE, CLASS I		TEMPORARY LANE LINE, CLASS I		TEMPORARY EDGE LINE, CLASS I 740.06, TYPE 1		PORTABLE CONCRETE BARRIER 32"	BARRIER REFLECTOR TYPE A	BARRIER REFLECTOR TYPE B	OBJECT MARKER
			(W) LIN. FT.	(Y) LIN. FT.	(W) LIN. FT.	(W) LIN. FT.	(Y) LIN. FT.	LIN. FT.	EACH	EACH	EACH	
PHASE II (SEE DETAILS C, E, G, & H)												
	429+88.91 TO 436+95.00	EB					705	2730				
	435+75.08 TO 444+82	EB						907				
	433+78.91 TO 20+35*	EB	39500	40900	40900	2280	1040					
	430+98 TO 27+95*	WB	41940	39945	39945	460	230					
	438+13.00 TO 9+80*	WB							39410	9	1577	1577
	RAMP CROSSOVERS (564+00 & 768+00)	EB	1236	1236								
PHASE III (SEE DETAILS D, F, G & H)												
	433+78.91 TO 9+69.07	WB		39834								
	435+80 TO 437+00	WB				120						
	2+30.93 TO 9+69.07	WB		738								
	435+61.09 TO 5+35*	EB							38248	9	1530	1530
	436+33.70 TO 7+30*	WB	39340									
	435+80 TO 444+50	WB		870								
	429+06.09 TO 438+21.09	EB					915					
	429+06.09 TO 5+35*	EB	39872		39872							
	8+39 TO 60+19	WB				2340	5180					
	RAMP CROSSOVERS (118+00 & 438+00)	WB	1236	1236	1236							
MAINLINE (I-70) SUBTOTAL			163124 LF	124759 LF	121953 LF	5905 LF	11002 LF	77658 LF	18 EA	3107 EA	3107 EA	
MAINLINE (I-70) TOTAL			54.52 MILE	24.22 MILE	3.20 MILE			77658 LF	18 EA	3107 EA	3107 EA	

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 THE APPROPRIATE PROPOSAL NOTE AND ITEM 626 EXCEPT THAT THE SPACING SHALL BE 25 FEET.

CROSS REFERENCES

DETAIL	SHEET NO.
C	16
D	16
E	17
F	17
G	18

NOTES:

* STATION EQUATIONS
822+43.32(MADISON) = 0+00(FRANKLIN)

ALL QUANTITIES CARRIED TO THE MAINTENANCE OF TRAFFIC SUB-SUMMARY.

MAINTENANCE OF TRAFFIC

ROADWAY MAINTENANCE

BECAUSE OF THE COMPLICATED NATURE OF THE IMPROVEMENT, THE PURPOSE OF THIS SPECIAL NOTE IS TO DEFINE THE CONTRACTOR'S MAINTENANCE RESPONSIBILITIES DURING THE LIFE OF THE CONTRACT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF ALL PORTIONS OF THE ROADWAY WITHIN HIS "WORK AREA" FROM THE TIME HE MOVES INTO THIS AREA AND UNTIL THE TIME OF FINAL INSPECTION AND ACCEPTANCE BY THE OHIO DEPARTMENT OF TRANSPORTATION, EXCEPT AS INDICATED BELOW. THIS SHALL INCLUDE WEEKENDS AND ANY TIME BEYOND NORMAL WORKING HOURS. THE ROADWAY AREA SHALL BE KEPT IN A ACCEPTABLE LEVEL OF MAINTENANCE AS DETERMINED BY THE ENGINEER. ANY EXISTING LIGHT POLES OR GUARDRAIL DAMAGED DURING THE LIFE OF THIS CONTRACT BY THE MOTORING PUBLIC SHALL NOT BE THE RESPONSIBILITY OF THE CONTRACTOR.

A "WORK AREA" IS DEFINED AS ANY AREA THAT THE CONTRACTOR HAS OCCUPIED OR IS OCCUPYING TO PERFORM ANY ITEM OF WORK. ONCE THE CONTRACTOR HAS OCCUPIED A "WORK AREA" TO PERFORM ANY ITEM OF WORK, HE SHALL BE RESPONSIBLE FOR MAINTAINING THE ROADWAY IN A SATISFACTORY CONDITION AND TO A STANDARD ACCEPTABLE TO THE ENGINEER. NECESSARY REPAIRS IN A TRAVELED LANE SHALL BE REPAIRED IMMEDIATELY, OTHERWISE IT SHALL BE REPAIRED PRIOR TO OPENING THE LANE TO TRAFFIC.

DURING THE WINTER PERIOD FROM NOVEMBER 15TH THRU EASTER WEEKEND THE CONTRACTOR SHALL ONLY BE RESPONSIBLE FOR THE NEW MATERIAL PLACED AS A PART OF THIS PROJECT, AREAS IN WHICH HE IS WORKING AND ALL DEVICES IN PLACE FOR MAINTENANCE OF TRAFFIC. SNOW REMOVAL AND OTHER REQUIRED MAINTENANCE WILL BE PERFORMED BY THE STATE.

SHOULDER MAINTENANCE

THE FOLLOWING QUANTITY HAS BEEN ESTABLISHED FOR USE "AS DIRECTED BY THE ENGINEER" TO MAINTAIN THE MAINLINE PAVEMENT AND SHOULDER DURING MAINTENANCE OF TRAFFIC.

ITEM 614 BITUMINOUS CONCRETE FOR MAINTAINING TRAFFIC = 1000 CU YD.
QUANTITY CARRIED TO THE GENERAL SUMMARY.

WINTER CONSTRUCTION

BY NOVEMBER 15TH OF THE FIRST CONSTRUCTION SEASON, WORK SHALL BE COMPLETED SUCH THAT THE EXISTING MAINLINE PAVEMENT MAY BE KEPT OPEN TO TRAFFIC THROUGH THE WINTER. TRAFFIC WILL BE MAINTAINED ON THE EXISTING PAVEMENT WITHOUT ANY REDUCTION IN NUMBER OF LANES FROM THAT WHICH EXISTED PRIOR TO THIS CONTRACT BEGINNING. THIS CONDITION WILL CONTINUE UNTIL THE FIRST MONDAY AFTER EASTER AT WHICH TIME THE CONTRACTOR MAY RESUME WORK WHICH REDUCES THE NUMBER OF TRAFFIC LANES FOR AN EXTENDED PERIOD.

ALL MAINTENANCE OF TRAFFIC CONTROL DEVICES SHALL BE REMOVED DURING THE PERIOD FROM NOVEMBER 15TH THRU EASTER WITH THE FOLLOWING EXCEPTIONS:

1. DURING THIS PERIOD, LANE CLOSURES OF SHORT LENGTH AND DURATION COULD BE PERMITTED BY THE ENGINEER BETWEEN THE HOURS OF 9 AM AND 3 PM, WEEKDAYS, WEATHER PERMITTING. WORK STARTED ANY DAY, REQUIRING A LANE CLOSURE, MUST BE COMPLETED THAT DAY DURING THE ABOVE SPECIFIED TIME PERIOD AND ALL LANES OPEN TO TRAFFIC BY 3 PM. LANE CLOSURES ON WEEKENDS MAY EXCEED THE 9AM TO 3 PM TIME FRAME, AS DIRECTED BY THE ENGINEER. TRAFFIC CONTROL DURING THESE PERIODS WILL BE AS PER STANDARD DRAWING MT-95.30.
2. IF BIG DARBY CREEK AND LITTLE DARBY CREEK STRUCTURE WIDENING IS NOT COMPLETE, THEN WORK MAY CONTINUE DURING THE PERIOD FROM NOVEMBER 15TH THRU EASTER. HOWEVER, THREE 11' WIDE LANES OF TRAFFIC IN EACH DIRECTION MUST BE MAINTAINED AT ALL TIMES.

THE FOLLOWING TEMPORARY PAVEMENT MARKING QUANTITIES HAVE BEEN INCLUDED TO SUPPLEMENT OR REPLACE EXISTING PAVEMENT MARKINGS DURING WINTER SHUT DOWN AND ARE ONLY TO BE USED "AS DIRECTED BY THE ENGINEER".

ITEM 614 TEMPORARY LANE LINE, CLASS I 13.8 MILE
ITEM 614 TEMPORARY EDGE LINE, CLASS I 13.8 MILE
ITEM 614 TEMPORARY CHANNELIZING LINE, CLASS I 5000 LIN FT
ITEM 614 TEMPORARY TRANSVERSE LINE, CLASS I 1500 LIN FT

QUANTITIES CARRIED TO THE GENERAL SUMMARY.

REPLACEMENT DRUMS & SIGNS

DRUMS AND FLATSHEET SIGNS FURNISHED BY THE CONTRACTOR IN ACCORDANCE WITH THE REQUIREMENTS OF THE PLANS, SPECIFICATIONS AND PROPOSAL WHICH BECOME DAMAGED BY TRAFFIC, FOR REASONS BEYOND THE CONTROL OF THE CONTRACTOR, SHALL BE REPLACED IN KIND WHEN ORDERED BY THE ENGINEER, AND SHALL BE PAID FOR UNDER ITEM 614 REPLACEMENT DRUMS, OR SIGNS. THE REPLACEMENT ITEM SHALL BE NEW. PAYMENT FOR EACH DRUM, OR SIGN SHALL INCLUDE (1) THE COST OF REMOVING AND DISPOSING OF THE DAMAGED DRUM, OR SIGN AND (2) PROVIDING; MAINTAINING AND REMOVING THE REPLACEMENT DRUM, SIGN IN ACCORDANCE WITH THE CONTRACT REQUIREMENTS OF THE ORIGINAL DRUM, OR SIGN. THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN PROVIDED FOR USE "AS DIRECTED BY THE ENGINEER".

ITEM 614 REPLACEMENT DRUM 100 EACH
ITEM 614 REPLACEMENT SIGN 400 SQ. FT.

QUANTITIES CARRIED TO THE GENERAL SUMMARY.

DUST CONTROL

THE CONTRACTOR SHALL FURNISH AND APPLY WATER AND CALCIUM CHLORIDE FOR DUST CONTROL "AS DIRECTED BY THE ENGINEER". THE FOLLOWING CONTINGENCY QUANTITIES HAVE BEEN INCLUDED FOR DUST CONTROL PURPOSES.

ITEM 616 WATER 1000 M GAL
ITEM 616 CALCIUM CHLORIDE 100 TONS

QUANTITIES CARRIED TO THE GENERAL SUMMARY.

ITEM 614 TEMPORARY LANE LINE, CLASS II

THE FOLLOWING QUANTITY HAS BEEN PROVIDED FOR USE "AS DIRECTED BY THE ENGINEER" IN CASE PERMANENT MARKINGS ARE NOT IN PLACE WHEN THE MAINLINE PAVEMENT IS OPENED TO TRAFFIC.

PHASE III

WB
458+45 TO 820+95.74 X 2 = 13.73 MILE
EB
456+50 TO 820+94.75 X 2 = 13.80 MILE
TOTAL = 27.53 MILE

QUANTITY CARRIED TO THE GENERAL SUMMARY.

ITEM 614 TEMPORARY CENTER LINE, CLASS II

THE FOLLOWING QUANTITY HAS BEEN PROVIDED FOR USE "AS DIRECTED BY THE ENGINEER" IN CASE PERMANENT MARKINGS ARE NOT IN PLACE WHEN THE FOLLOWING CROSSROADS ARE OPENED TO TRAFFIC.

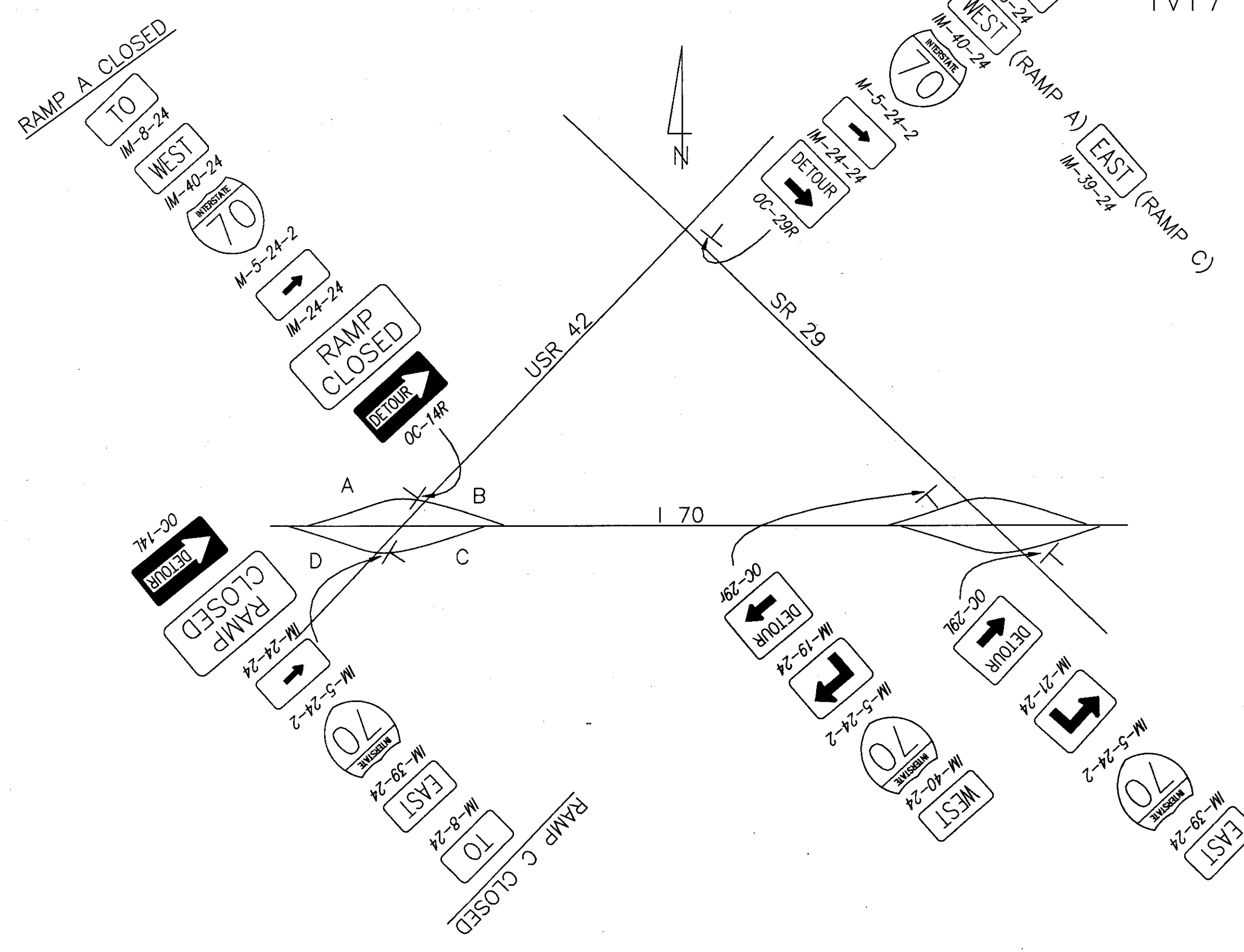
TAYLOR-BLAIR ROAD 0.08 MILE
MIDDLE PIKE ROAD 0.08 MILE
SR 29 (SEE SHEET NO. 21.) 0.17 MILE
TOTAL = 0.33 MILE

QUANTITY CARRIED TO THE GENERAL SUMMARY.

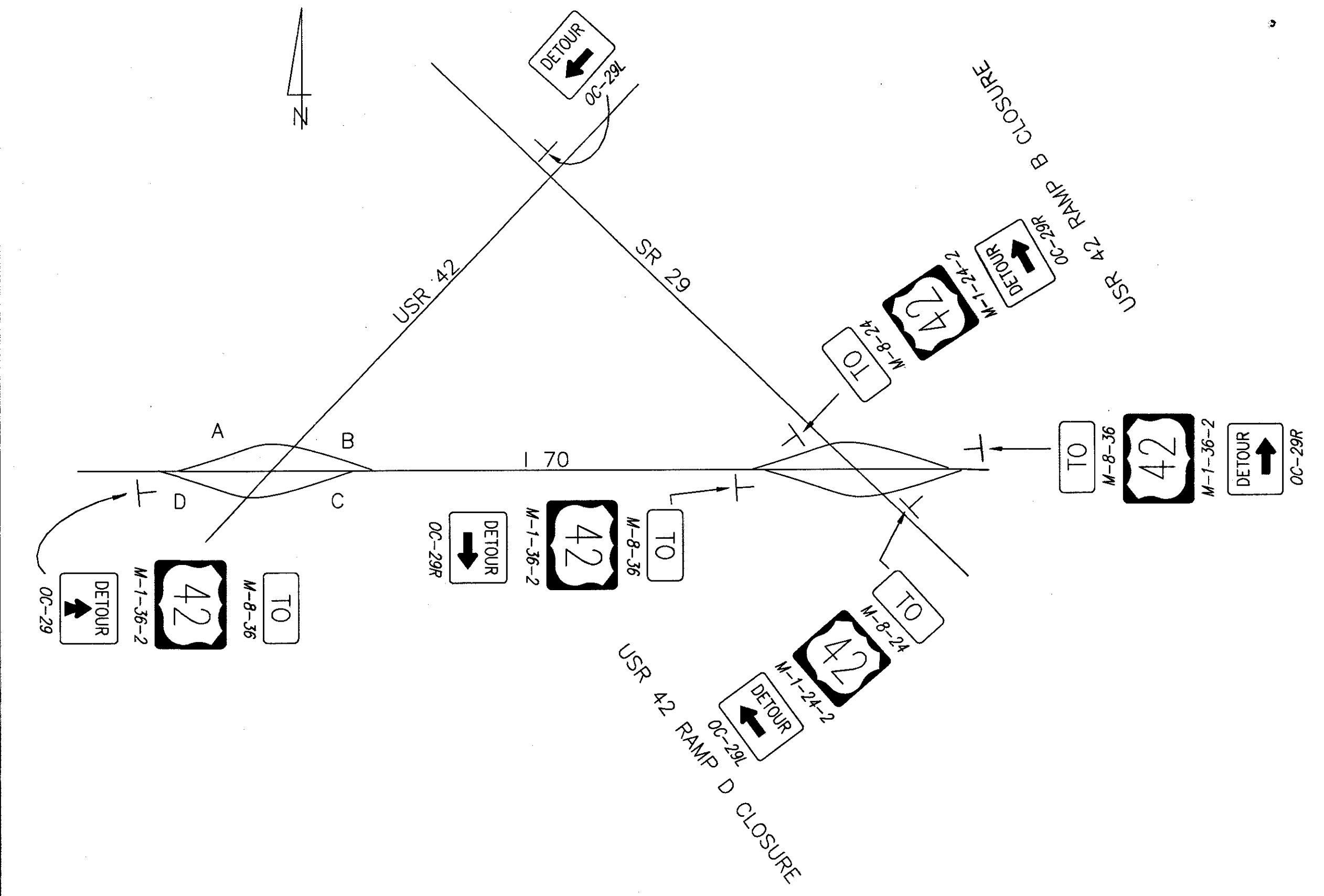
MAINTENANCE OF TRAFFIC SUB-SUMMARY (ALL QUANTITIES CARRIED TO THE GENERAL SUMMARY)

ITEM	DESCRIPTION	FROM SHEET NUMBER								GRAND TOTAL	UNIT
		11	12	13	14	21	22	23			
301	BITUMINOUS AGGREGATE BASE	12850								12850	CU YD
302	BITUMINOUS AGGREGATE BASE	13312								13312	CU YD
304	AGGREGATE BASE	9984								9984	CU YD
446	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG64-28	94								94	CU YD
614	MAINTAINING TRAFFIC										LUMP
SPECIAL	LAW ENFORCEMENT OFFICER WITH PATROL CAR		500							500	HOURLY
614	WORK ZONE SPEED LIMIT SIGN	40								40	EACH
614	TEMPORARY RAISED PAVEMENT MARKER, TYPE A					1172				1172	EACH
614	BARRIER REFLECTOR, TYPE A				18					18	EACH
614	BARRIER REFLECTOR, TYPE B				3107					3107	EACH
614	BARRIER REFLECTOR, TYPE B2					108				108	EACH
614	OBJECT MARKER				3107	60				3167	EACH
614	PORTABLE CHANGEABLE MESSAGE SIGN, CLASS III, AS PER PLAN		72							72	SIGN-MOS.
614	TEMPORARY CENTER LINE, CLASS I, 740.06, TYPE C					0.03	0.40	0.40		0.83	MILE
614	TEMPORARY EDGE LINE, CLASS I				54.52					54.52	MILE
614	TEMPORARY EDGE LINE, CLASS I, 740.06, TYPE C				3.20	0.04				3.24	MILE
614	TEMPORARY LANE LINE, CLASS I				24.22					24.22	MILE
614	TEMPORARY DOTTED LINE, CLASS I, 740.06, TYPE C						90	100		190	LIN FT
614	TEMPORARY STOP LINE, CLASS I, 740.06, TYPE C					24	25	25		74	LIN FT
615	TEMPORARY PAVEMENT, CLASS A	11610								11610	SQ YD
615	TEMPORARY PAVEMENT, AS PER PLAN					152				152	SQ YD
622	PORTABLE CONCRETE BARRIER, 32"				77658	420				78078	LIN FT
622	PORTABLE CONCRETE BARRIER, 32", BRIDGE MOUNTED					1080				1080	LIN FT
SPECIAL	REBOUNDABLE TUBULAR PYLON						95	90		185	EACH

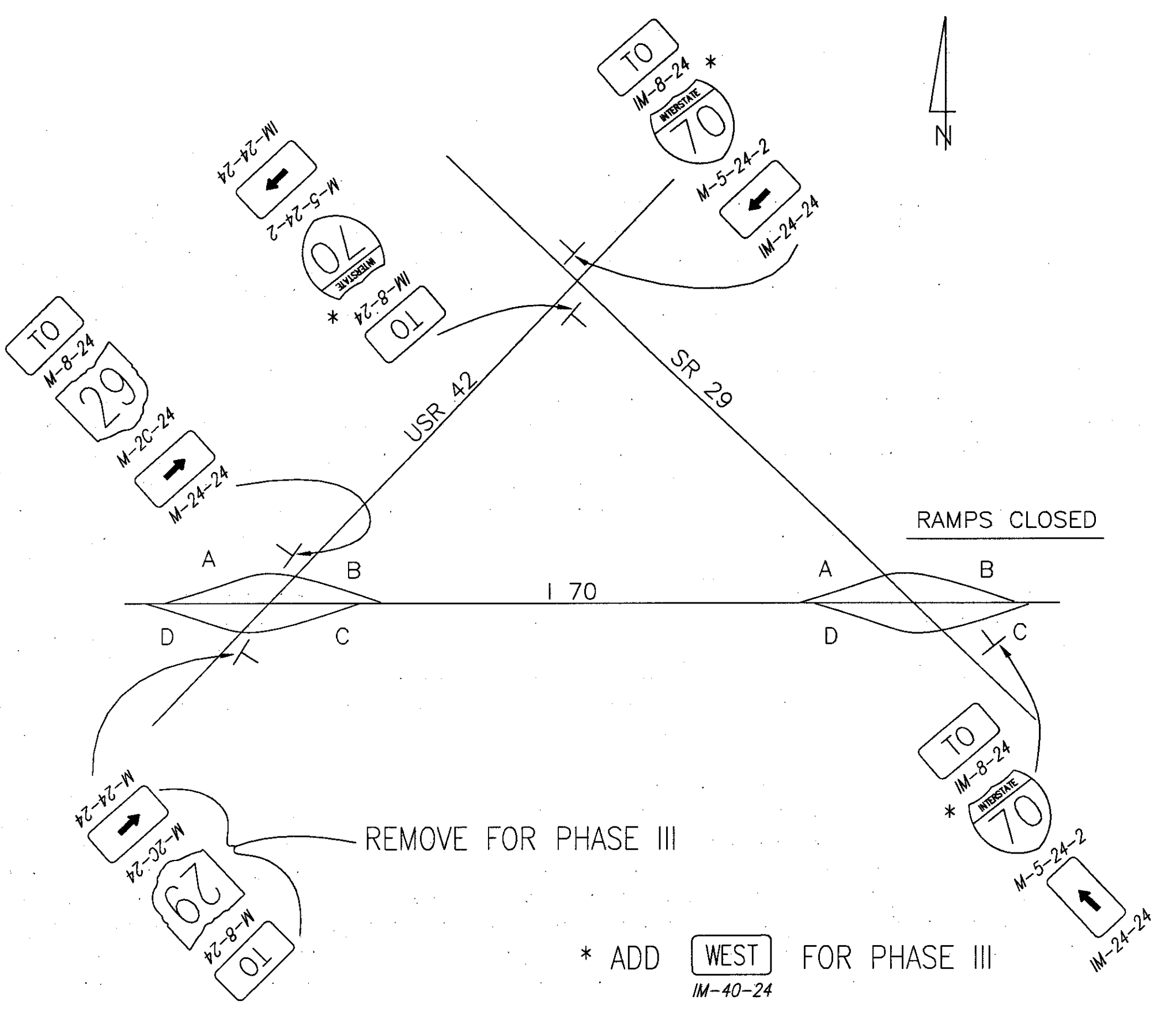
MAINTENANCE OF TRAFFIC



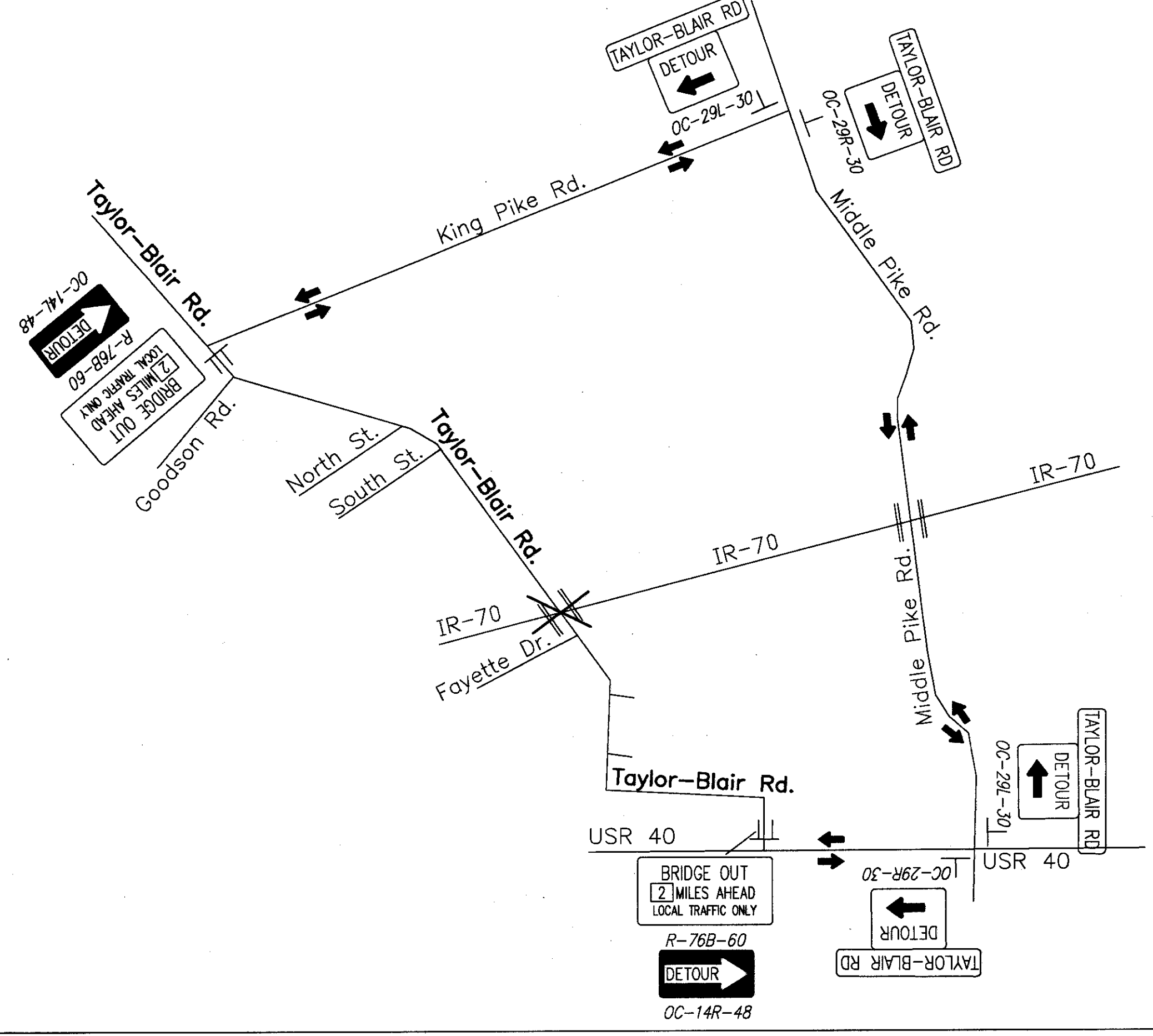
USR 42 RAMP (B OR D) CLOSURE DETOUR SIGNING



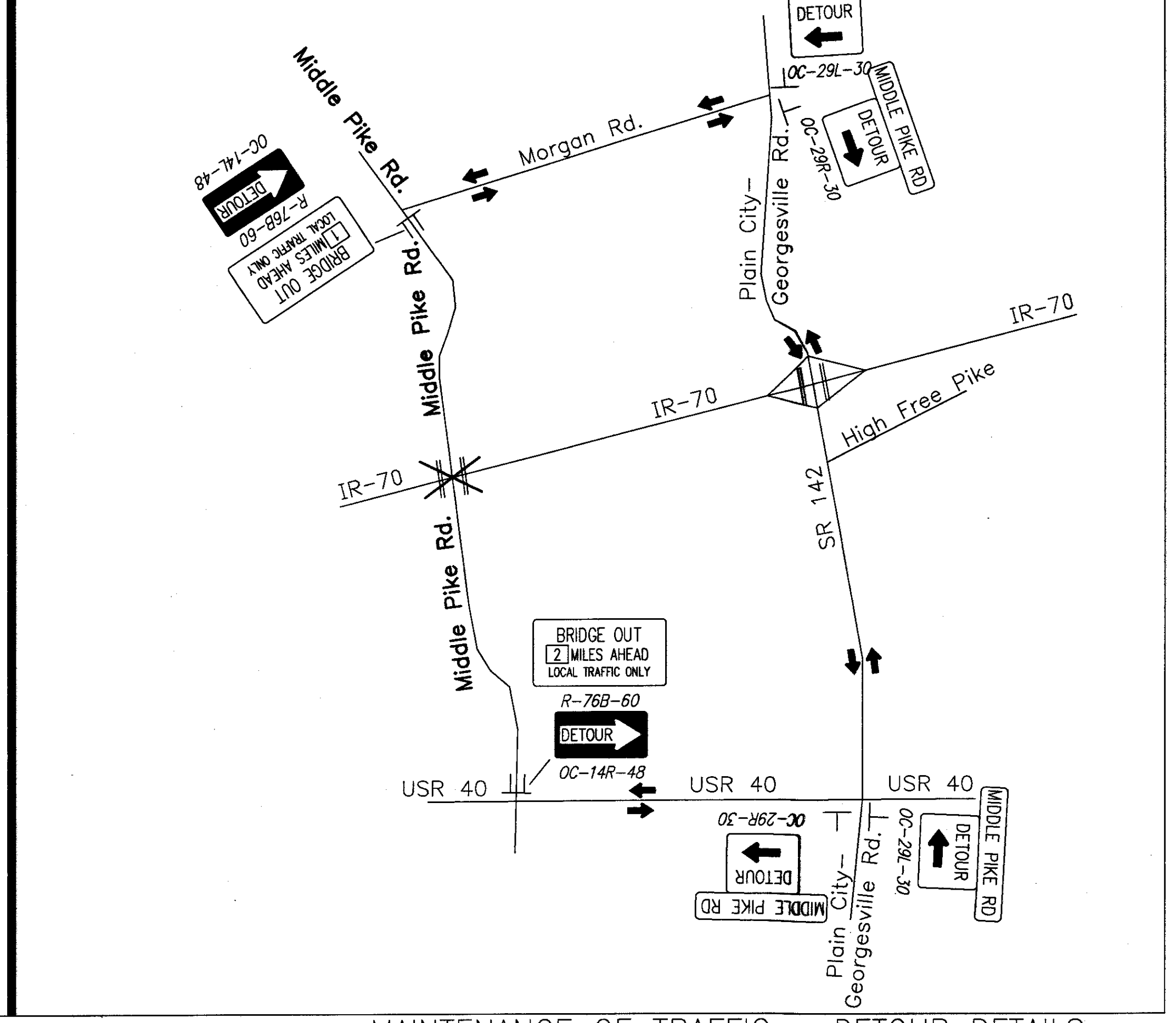
DETOUR SIGNING WHILE SR 29 RAMPS ARE CLOSED - PHASE II



TAYLOR-BLAIR ROAD DETOUR SIGNING

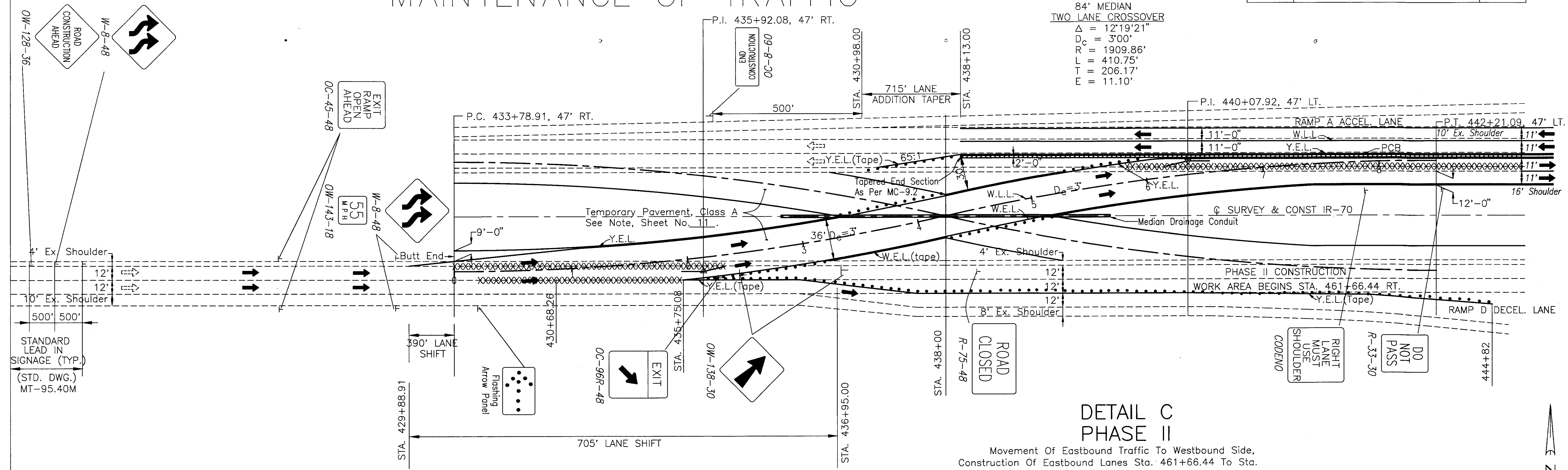


MIDDLE PIKE ROAD DETOUR SIGNING



MAINTENANCE OF TRAFFIC

CURVE DATA
 84' MEDIAN
 TWO LANE CROSSOVER
 $\Delta = 12'19'21"$
 $D_c = 3'00"$
 $R = 1909.86'$
 $L = 410.75'$
 $T = 206.17'$
 $E = 11.10'$

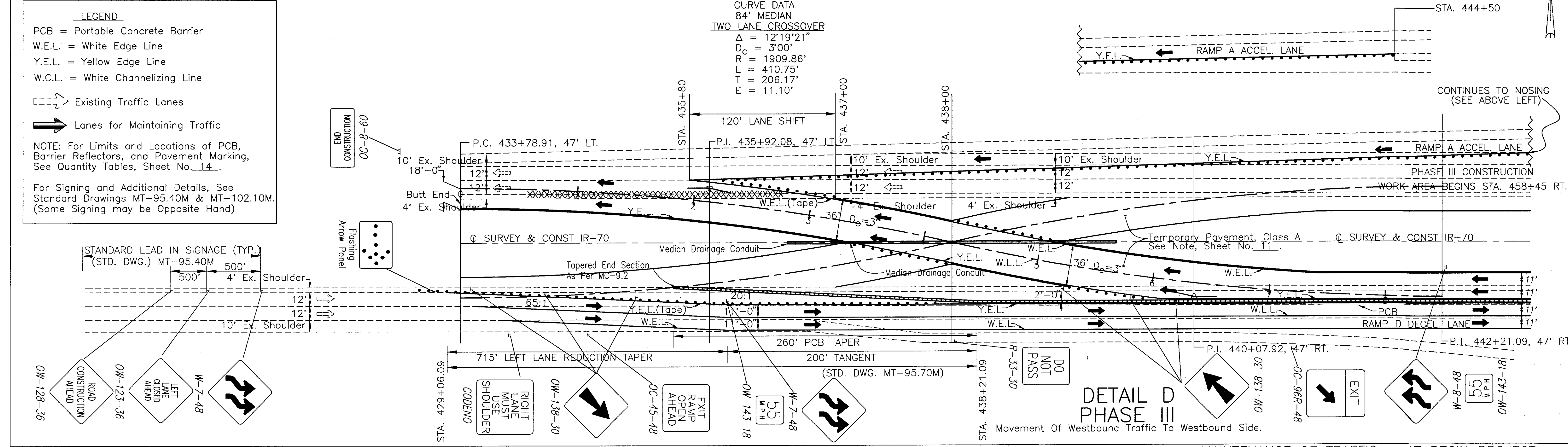


LEGEND
 PCB = Portable Concrete Barrier
 W.E.L. = White Edge Line
 Y.E.L. = Yellow Edge Line
 W.C.L. = White Channelizing Line
 Existing Traffic Lanes
 Lanes for Maintaining Traffic

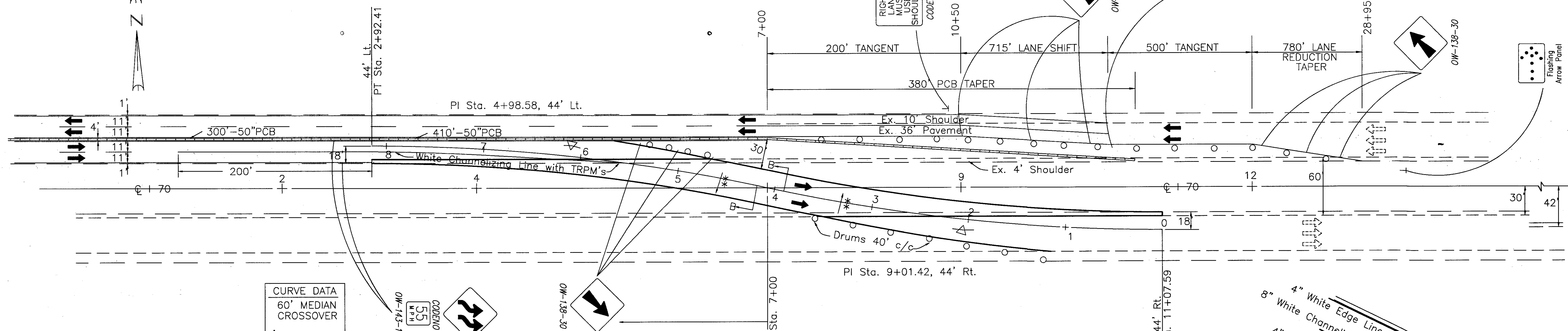
NOTE: For Limits and Locations of PCB, Barrier Reflectors, and Pavement Marking, See Quantity Tables, Sheet No. 14.

For Signing and Additional Details, See Standard Drawings MT-95.40M & MT-102.10M. (Some Signing may be Opposite Hand)

CURVE DATA
 84' MEDIAN
 TWO LANE CROSSOVER
 $\Delta = 12'19'21"$
 $D_c = 3'00"$
 $R = 1909.86'$
 $L = 410.75'$
 $T = 206.17'$
 $E = 11.10'$

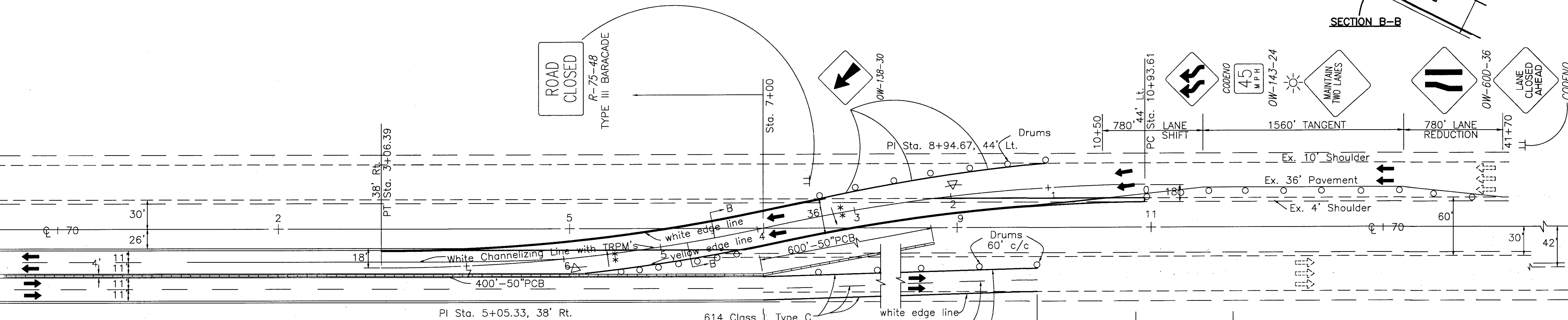
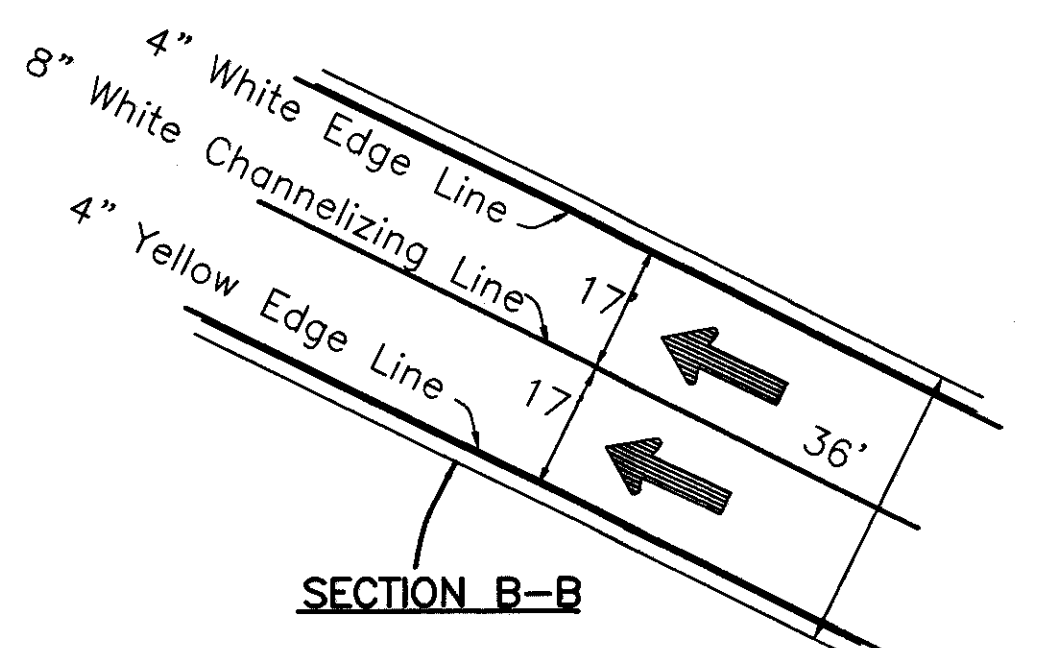


MAINTENANCE OF TRAFFIC



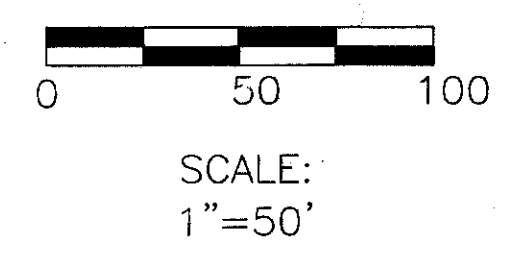
CURVE DATA
 60' MEDIAN CROSSOVER
 $\Delta = 12^{\circ}19'21''$
 $D_c = 3'$
 $R = 1909.86'$
 $L = 410.75'$
 $E = 11.10'$
 $T = 206.17'$

DETAIL E PHASE II
 Movement Of Eastbound Traffic to Eastbound Side.



CURVE DATA
 60' MEDIAN CROSSOVER
 $\Delta = 11^{\circ}53'37''$
 $D_c = 3'$
 $R = 1909.86'$
 $L = 396.45'$
 $E = 10.33'$
 $T = 198.94'$

DETAIL E PHASE II
 Movement Of Westbound Traffic to Eastbound Side.
 Construction Of Westbound Lanes STA 458+45 to STA 822+43.32.

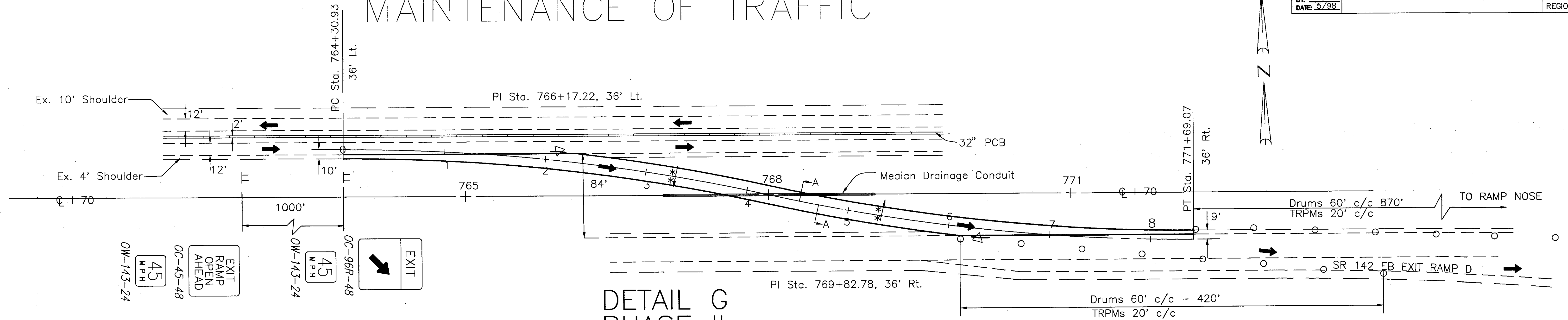


LEGEND
 PCB = Portable Concrete Barrier
 W.E.L. = White Edge Line
 Y.E.L. = Yellow Edge Line
 W.C.L. = White Channelizing Line
 Existing Traffic Lanes
 Lanes for Maintaining Traffic
 NOTE: For Limits and Locations of PCB, Barrier Reflectors, and Pavement Marking, See Quantity Tables, Sheet No. 14.
 For Signing and Additional Details, See Standard Drawings MT-95.40M & MT-102.10M. (Some Signing may be Opposite Hand)

FOR DETAILS NOT SHOWN SEE STANDARD DRAWINGS MT-95.30M, MT-95.70M AND MT-100.00M

** Indicates pavement slope of 0.0156 ft./ft.

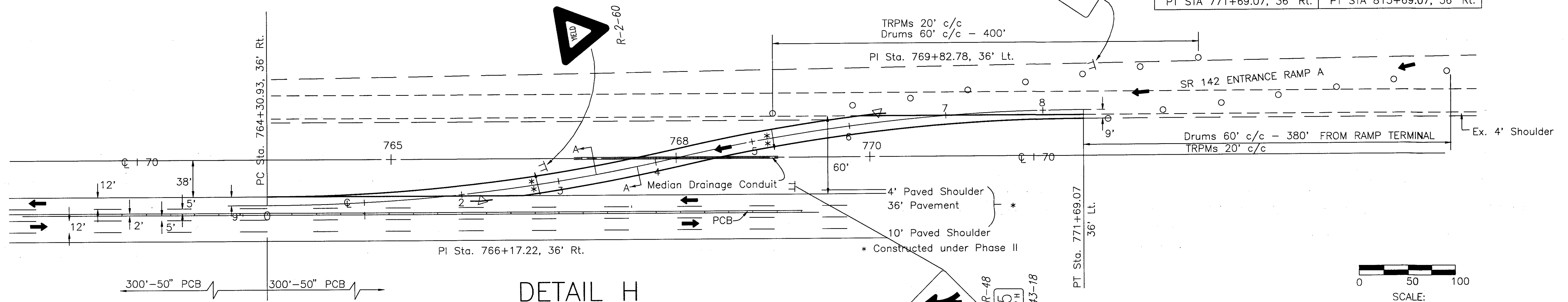
MAINTENANCE OF TRAFFIC



**DETAIL G
PHASE II
EXITING CROSSOVER SR 142 RAMP D - 60'-MEDIAN**

CURVE DATA	
60' MEDIAN CROSSOVER	
$\Delta = 11^\circ 8' 32''$	
$D_c = 3' 00''$	
$R = 1909.86'$	
$L = 371.41'$	
$E = 9.06'$	
$T = 186.29'$	

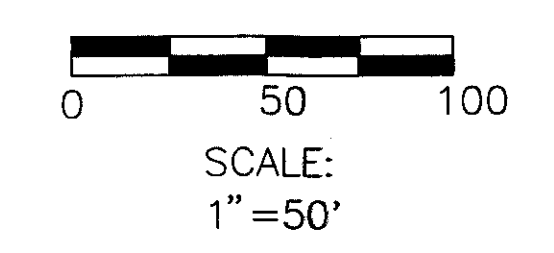
USR 142 CROSSOVERS	
RAMP A	RAMP C
PC STA 764+30.93, 36' Rt.	PC STA 806+30.93, 36' Rt.
PI STA 766+17.22, 36' Rt.	PI STA 808+17.22, 36' Rt.
PRC STA 768+00, C	PRC STA 810+00, C
PI STA 769+82.78, 36' Lt.	PI STA 811+82.78, 36' Lt.
PT STA 771+69.07, 36' Lt.	PT STA 813+69.07, 36' Lt.
RAMP D	RAMP B
PC STA 764+30.93, 36' Lt.	PC STA 806+30.93, 36' Lt.
PI STA 766+17.22, 36' Lt.	PI STA 808+17.22, 36' Lt.
PRC STA 768+00, C	PRC STA 810+00, C
PI STA 769+82.78, 36' Rt.	PI STA 811+82.78, 36' Rt.
PT STA 771+69.07, 36' Rt.	PT STA 813+69.07, 36' Rt.



**DETAIL H
PHASE III
ENTERING CROSSOVER SR 142 RAMP A - 60'-MEDIAN**

THE SR 142 EXIT RAMP B, AND ENTRANCE RAMP C, CROSSOVERS ARE THE REVERSE OF THE CROSSOVERS DETAILED ABOVE FOR SR 142 EXIT RAMP D AND ENTRANCE RAMP A. THE ENTERING CROSSOVER FOR RAMP C IS CENTERED AT STATION 810+00 DURING PHASE II AND THE EXITING CROSSOVER FOR RAMP B IS CENTERED AT STATION 768+00 DURING PHASE III.

FOR STATIONING SEE TABLE THIS SHEET.



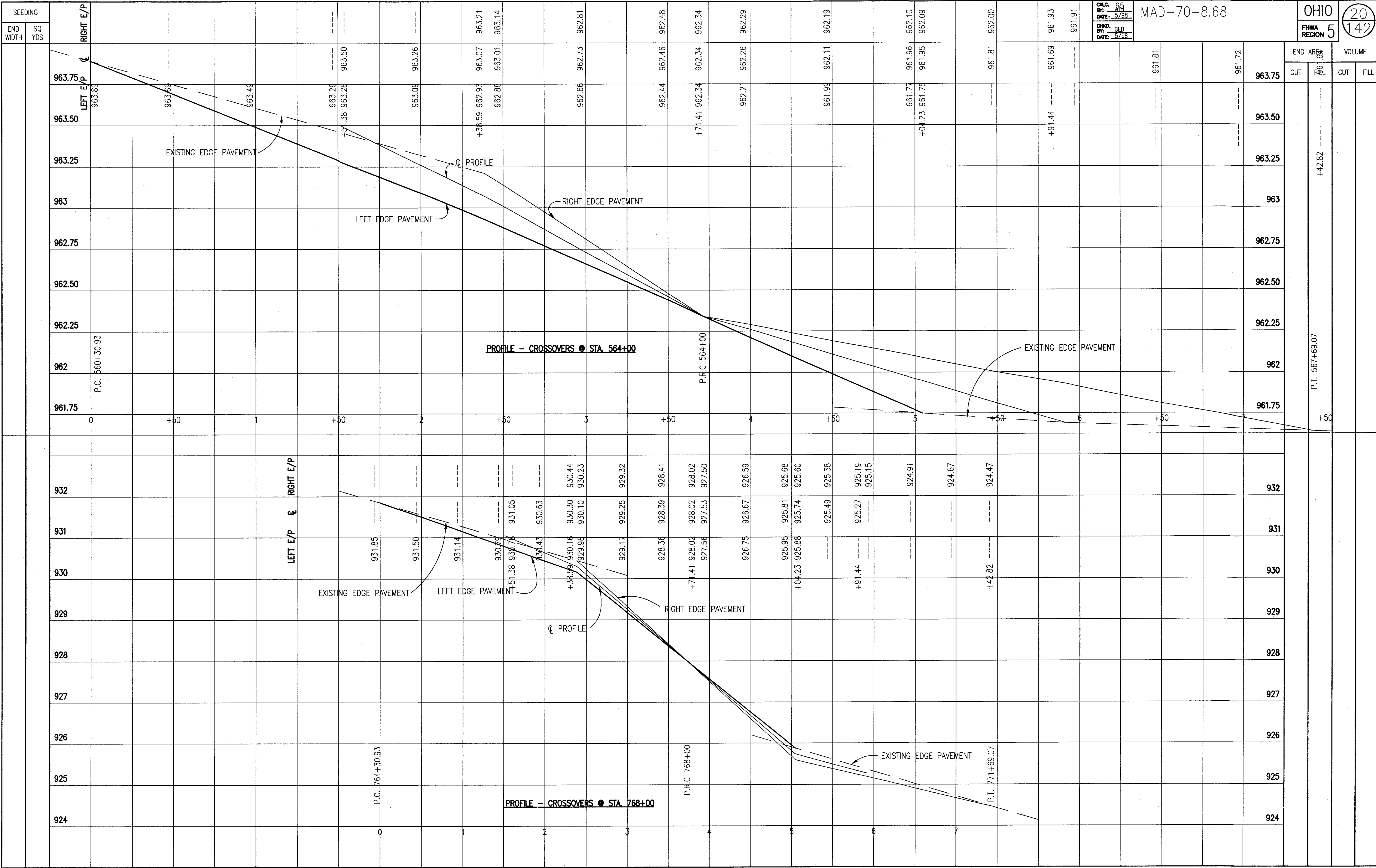
** Indicates pavement slope of 0.0156 ft./ft.

➔ Lanes for Maintaining Traffic

FOR DETAILS NOT SHOWN SEE STANDARD DRAWINGS MT-95.30M, MT-95.70M, AND MT-100.00M.

FOR CROSSOVER PROFILE SEE SHEET NO. 20.

FOR SECTION A-A SEE SHEET NO. 10.



END AREA		VOLUME	
CUT	FILL	CUT	FILL
961.68	961.68	961.68	961.68
961.81	961.81	961.81	961.81
961.72	961.72	961.72	961.72
963.75	963.75	963.75	963.75
+42.82		+42.82	
P.T. 567+69.07		P.T. 567+69.07	
+50		+50	

1/15/99
 FW
 CROSS3.DWG
 FINAL

TEMPORARY RAISED PAVEMENT MARKERS

GENERAL

THIS ITEM OF WORK SHALL CONSIST OF FURNISHING, INSTALLING, MAINTAINING, AND SUBSEQUENTLY REMOVING TEMPORARY RAISED PAVEMENT MARKERS (TRPM'S). THE MARKERS SHALL BE YELLOW OR WHITE, AS DESCRIBED IN THE PLAN.

MATERIAL

ALL MARKERS SHALL BE OF SUFFICIENT STRENGTH AND PROPERLY SHAPED SO AS NOT TO BE DISLODGED OR BROKEN, OR THE REFLECTOR DISLODGED OR BROKEN, OR THE REFLECTOR DISLODGED OR DAMAGED BY IMPACTS FROM VEHICLES TIRES, INCLUDING THOSE OF HIGH PRESSURE TRUCK TIRES LOADED TO 4500 POUNDS.

RETROREFLECTORS SHALL BE PROVIDED IN ONE OR TWO DIRECTIONS ON EACH MARKER AS REQUIRED BY THE USAGE AND SHALL RETURN WHITE OR YELLOW LIGHT AS IS APPROPRIATE FOR THE APPLICATION.

THE REFLECTOR SHALL HAVE AN EFFECTIVE AREA OF 0.35 SQUARE INCHES FOR TYPE A OR 3.0 SQUARE INCHES FOR TYPE B. ITS BRIGHTNESS OR SPECIFIC INTENSITY (WHEN TESTED AT 0.2 DEGREE ANGLE OF OBSERVATION AND THE FOLLOWING ANGLES OF INCIDENCE; SHALL MEET OR EXCEED THE FOLLOWING:

INCIDENCE ANGLE (DEGREES)	SPECIFIC INTENSITY	
	TYPE A	
	WHITE	YELLOW
0	1.0	0.6
20	0.4	0.24
45	—	—
	TYPE B	
	WHITE	YELLOW
	0	3.0
20	1.2	0.72
45	0.3	0.2

ANGLE OF INCIDENCE FORMED BY A RAY FROM LIGHT SOURCE TO THE MARKER AND THE NORMAL TO THE LEADING EDGE OF THE MARKER FACE (ALSO HORIZONTAL ENTRANCE ANGLE).

ANGLE OF OBSERVATION FORMED BY A RAY FROM LIGHT SOURCE TO THE MARKER AND THE RETURNED RAY FROM THE MARKER TO THE MEASURING RECEPTOR.

SPECIFIC INTENSITY IS THE MEAN CANDLEPOWER OF THE REFLECTED LIGHT (AT GIVEN INCIDENCE AND DIVERGENCE ANGLES) FOR EACH FOOT-CANDLE AT THE REFLECTOR (ON A PLANE PERPENDICULAR TO THE INCIDENT LIGHT).

TYPE A MARKERS ARE INTENDED TO PROVIDE HIGH VISIBILITY BOTH DAY AND NIGHT. THEIR DAY TIME VISIBILITY SHALL BE ASSURED BY SIZE, SHAPE AND COLOR AS FOLLOWS:

1) THE MARKERS SHALL BE A HIGH VISIBILITY YELLOW OR WHITE COLOR WHICH WILL NOT DEGRADE SUBSTANTIALLY DUE TO TRAFFIC WEAR AND WHICH WILL MATCH THE COLOR OF THE REFLECTOR.

2) WHEN VIEWED FROM ABOVE, THE MARKERS SHALL HAVE A VISIBLE AREA OF NOT LESS THAN 14 SQUARE INCHES.

3) WHEN VIEWED FROM THE FRONT, PARALLEL TO THE PAVEMENT, AS FROM APPROACHING TRAFFIC, THE MARKER SHALL HAVE A WIDTH OF APPROXIMATELY 4 INCHES AND A VISIBLE AREA OF NOT LESS THAN 1.5 SQUARE INCHES.

TYPE B MARKERS ARE INTENDED TO PROVIDE HIGH VISIBILITY AT NIGHT BY RETROREFLECTING AUTOMOTIVE HEADLIGHT BACK TO DRIVER.

INSTALLATION

TEMPORARY RAISED PAVEMENT MARKERS SHALL BE ATTACHED TO CLEAN, DRY PAVEMENT BY A BUTYL ADHESIVE PAD, A BITUMINOUS ADHESIVE OR OTHER CONSTRUCTION GRADE ADHESIVES (SUCH AS FRANKLIN PANEL AND METAL ADHESIVE) SUITABLE TO ANCHOR THE MARKER UNDER THE ABOVE CONDITIONS. WHEN IT IS NECESSARY TO ATTACH MARKERS TO NEW CONCRETE PAVEMENT WITH CURING COMPOUND REMAINING, THE CURING COMPOUND MEMBRANE SHALL BE REMOVED BY SANDBLASTING OR OTHER MECHANICAL CLEANING METHOD. MARKERS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

THE CONTRACTOR SHALL IMMEDIATELY REPLACE, AT HIS EXPENSE, ANY MARKERS WHICH FAIL (BROKEN HOUSING, HOUSING WORN TO THE EXTENT THAT DAYTIME VISIBILITY IS SIGNIFICANTLY DIMINISHED OR OF AN UNACCEPTABLE COLOR, DETACHED OR BROKEN REFLECTOR, HOUSING DETACHED FROM ADHESIVE).

MARKERS ARE LIKELY TO BE REMOVED BY SNOW PLOWING OPERATIONS, THUS THEY ARE NOT CONSIDERED SUITABLE FOR USE DURING THE PERIOD FROM OCTOBER 15 UNTIL APRIL 30. THE CONTRACTOR IS ADVISED TO SCHEDULE HIS WORK AND/OR THE USE OF THESE DEVICES TO AVOID THIS PERIOD. SHOULD THE CONTRACTOR CHOOSE TO USE TRPM'S DURING THIS PERIOD AND THEY ARE SUBSEQUENTLY REMOVED OR DESTROYED BY SNOW AND ICE CONTROL ACTIVITIES. THE CONTRACTOR SHALL IMMEDIATELY, AT HIS EXPENSE, PROVIDE A SUBSTITUTE TRAFFIC GUIDANCE SYSTEM EFFECTIVE DURING DAY AND NIGHT AND WHICH IS ACCEPTABLE TO THE ENGINEER.

THE MARKERS SHALL BE PLACED ACCURATELY TO DEPICT STRAIGHT OR UNIFORMLY CURVING LINES. WHEN USED TO SUPPLEMENT TEMPORARY PAVEMENT MARKINGS, THEY SHALL BE PLACED ON OR IMMEDIATELY ADJACENT TO THE PAVEMENT MARKING. LOCATIONS SHALL BE ADJUSTED UP TO ONE FOOT LONGITUDINALLY OR SIX INCHES LATERALLY TO AVOID PLACEMENT ON JOINTS, OR ON CRACKED OR DETERIORATED PAVEMENT. MARKERS SHALL NOT BE PLACED DIRECTLY ON PAVEMENT MARKINGS IF THIS DISTRACTS FROM THEIR ABILITY TO REMAIN ATTACHED TO THE PAVEMENT.

APPLICATION

1) WHEN REQUIRED TO SUPPLEMENT PAVEMENT MARKING, TEMPORARY RAISED PAVEMENT MARKERS SHALL BE PLACED AS FOLLOWS:

LINE	TYPE	SPACING
EDGE LINE	A OR B	20'C/C
LANE LINE	A OR B	40'C/C*
CENTER LINE (SINGLE/BROKEN)	A OR B	40'C/C*
CENTER LINE (DOUBLE/SOLID)	A OR B	2 UNITS SIDE BY SIDE 4 INCHES APART 20'C/C
CHANNELIZING LINE (INCLUDES EXIT GORE NOSE)	A OR B	10'C/C

* CENTERED IN GAP

2) WHEN USED TO SIMULATE (REPLACE) PAVEMENT MARKING, TEMPORARY RAISED PAVEMENT MARKERS SHALL BE PLACED AS FOLLOWS:

LINE	TYPE	SPACING
EDGE LINE	A	5'C/C
LANE LINE	A	4@3.33'C/C 30' GAP (40' CYCLE)
CENTER LINE (DOUBLE/SOLID)	A	2 UNITS SIDE BY SIDE 5'C/C
CENTER LINE (SINGLE/BROKEN)	A	4@3.33'C/C 30' GAP (40' CYCLE)
CHANNELIZING LINE (INCLUDES EXIT GORE NOSE)	A	5'C/C
EDGE LINE (TWO COLOR) (WHITE/YELLOW)	A	BACK TO BACK 5'C/C

YELLOW MARKERS USED TO SEPARATE OPPOSITE FLOWS OF TRAFFIC (CENTER LINES) SHALL INCLUDE REFLECTIONS FOR BOTH DIRECTIONS. ALL OTHER YELLOW AND WHITE MARKERS SHALL PROVIDE RETROREFLECTIVITY FOR ONE DIRECTION ONLY.

REMOVAL

REMOVAL SHALL BE ACCOMPLISHED IN A MANNER THAT LITTLE OR NONE OF THE ADHESIVE REMAINS ON THE PAVEMENT. PERMANENT PAVEMENT SURFACES SHALL NOT BE SCARRED, BROKEN OR ROUGHENED SIGNIFICANTLY.

PAYMENT

BASIS OF PAYMENT SHALL BE AT THE CONTRACT UNIT PRICE PER EACH MARKER AND SHALL INCLUDE ALL LABOR, EQUIPMENT, HARDWARE AND INCIDENTALS REQUIRED TO PERFORM THE WORK. IT SHALL ALSO INCLUDE REPLACEMENT AT NO ADDITIONAL COST OF ALL TEMPORARY RAISED PAVEMENT MARKERS WHICH, IN THE JUDGEMENT OF THE ENGINEER, FAIL FOR ANY REASON, EXCEPT DUE TO FAILURE OF THE PAVEMENT TO WHICH THEY ARE ATTACHED.

QUANTITIES

STATION TO STATION	SIDE	SPACING (FT)	TYPE A			TYPE A OR B			REMARKS
			W	Y	Y/Y	W	Y	Y/Y	
SR 29 (PHASE I)									
556+50 TO 558+00	℄	20' C/C			16				CENTER LINE (DOUBLE/SOLID)
567+00 TO 568+50	℄	20' C/C			16				CENTER LINE (DOUBLE/SOLID)
558+00 TO 565+50	LT	5' C/C	150	150					EDGE LINE
559+50 TO 565+50	LT	5' C/C	120	120					EDGE LINE
565+50 TO 567+00	LT	5' C/C	30						EDGE LINE
SUBTOTAL(SR 29 PHASE I)			300	270	32				
TOTAL(SR 29 PHASE I)			602			QUANTITY CARRIED TO SHEET NO. 21			
SR 29 (PHASE II)									
558+00 TO 559+50	RT	5' C/C	30						EDGE LINE
559+50 TO 565+50	RT	5' C/C	120	120					EDGE LINE
559+50 TO 567+00	RT	5' C/C	150	150					EDGE LINE
SUBTOTAL(SR 29 PHASE II)			300	270					
TOTAL(SR 29 PHASE II)			570			QUANTITY CARRIED TO SHEET NO. 21			

SEE STANDARD DRAWING MT-96.11M.

REVISED BY:	DATE:
210120	DATE
614 TEMPORARY RAISED PAVEMENT MARKERS	03/30/88 03/23/90 03/28/90 07/03/90