STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

OHIO	1 / 3
FHWA REGION 5	
FEDERAL PROJECT	

PLAN No. BR-78-83

RECEIVED
DEC 16 1983

MAH-680-0587
Ridge Avenue
CITY OF YOUNGSTOWN
Beam Straightening

CONVENTIONAL SIGNS

County Line
Township Line
Section Line
Corporation Line or
Fence Line (existing) (proposed)
Center Line 352 353
Trees, Stumps, (to be removed)
Utility Poles: Telephone, Power, Light.

Limited Access (only) LA
Right of Way (only) RW
Limited Access & Right of Way LA & RW
Existing Right of Way
Property Line (in existing fence)
Railroad or
Guardrail (existing) (proposed)

INDEX OF SHEETS

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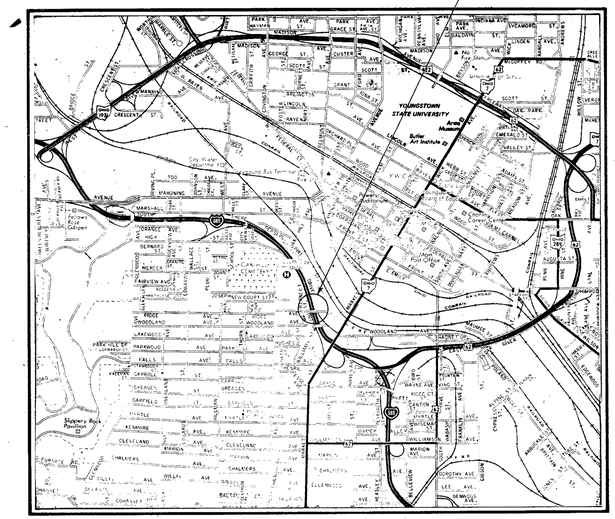
PROJECT SITE



LOCATION MAP

SCALE IN MILES
0 1/8 1/4 1/2 1

1983 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 not require the closing to traffic of the highway.

Approved Francis V. Fischer
Date 7-12-83 District Deputy Director of Transportation

LINE DATA

Begin Work ---------- 1021+51.99
End Work ---------- 1021+51.99
Length of Work ---------- 0.00 mi
Length of Project ---------- 0.00 mi

UNDERGROUND UTILITIES
48 HOURS
BEFORE YOU DIG
Call ··· 800-362-2764 (Toll free)
OHIO UTILITIES PROTECTION SERVICE

NON-MEMBERS
MUST BE CALLED DIRECTLY

Portion to be improved
State & Federal Routes
Other Roads

SCALES

Plan
Profile: Horizontal, Vertical
Cross Section: Horizontal, Vertical

SUPPLEMENTAL SPECIFICATIONS		
SS-956	6-26-78	
803	5-27-83	

Approved Robert B. Pfeifer
Date 10-4-83 Engineer, Bureau of Bridges and Structural Design

Approved James R. Longenecker
Date 10/13/83 Chief Engineer, Operations

Approved Warren J. Smith
Date 10-14-83 Director, Department of Transportation

SUPPLEMENTAL PRINTS OF STANDARD CONSTRUCTION DRAWINGS				
TC 35.10				
MC-9A				

Plan Prepared By:
ODOT D-4

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
APPROVED:
DIVISION ADMINISTRATOR DATE

Project:
Date of Letting 19, Contract No.

SEAL

LD0300 Rev. 1-1-81

GENERAL NOTES

SPECIFICATIONS:

ALL MATERIAL AND ITEMS OF WORK SHALL CONFORM TO THE CONSTRUCTION AND MATERIAL SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, DATED JANUARY 1, 1983.

DESIGN LOADING:

THESE REPAIRS RESTORE THIS STRUCTURE TO ITS ORIGINAL DESIGN LOAD CAPACITY AND TO CF 2000 HIGHWAY LOADING.

ITEM 202:

PORTIONS OF EXISTING STRUCTURAL STEEL REMOVED. DAMAGED CROSS FRAME ANGLES SHALL BE REMOVED UNDER THIS ITEM.

ITEM SPECIAL - HEAT STRAIGHTENING OF EXISTING STRUCTURAL STEEL: THIS ITEM SHALL CONSIST OF HEAT STRAIGHTENING DAMAGED PORTIONS OF THE WEB AND BOTTOM FLANGE OF FASCIA BEAM WHICH IS TO REMAIN IN PLACE, AS SHOWN ON THE PLANS. IT SHALL BE ACCOMPLISHED IN ACCORDANCE WITH 513.06 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS. FINAL STRAIGHTNESS TOLERANCES FOR THE BOTTOM FLANGE SHALL BE 1/4 INCH OF TILT ROTATION AT THE EDGES AND 1/4 INCH OF SWEEP. THE FINAL WEB SHALL BE LESS THAN 1/4 INCH OUT OF VERTICAL ALIGNMENT. THE REPAIRS SHALL BE PERFORMED UNDER THE DIRECT SUPERVISION OF A PERSON WHO SHALL PRESENT DOCUMENTATION OF HIS SUCCESSFUL HEAT STRAIGHTENING EXPERIENCES WITH COMPARABLE BRIDGE BEAMS AND GIRDERS. HE SHALL POSSESS THE KNOWLEDGE AND EXPERIENCE TO APPLY THE HEAT IN SUCH A MANNER, SEQUENCE AND AMOUNT THAT THE FINAL STRAIGHTENED BEAM RETAINS AS LITTLE RESIDUAL STRESS AS POSSIBLE.

IF THE CONTRACTOR FEELS HE CANNOT MEET THESE TOLERANCES, HE SHALL CUT OUT THE DAMAGED BEAM SECTION AND REPLACE WITH NEW STRUCTURAL STEEL BY WELDING AND SUBSEQUENT NON-DESTRUCTIVE TESTING AS PER 513.21. GENEROUS COPE HOLES WILL BE PROVIDED AT ALL WELD INTERSECTIONS.

REGARDLESS OF WHICH METHOD IS USED, PAYMENT SHALL BE ITEM SPECIAL, HEAT STRAIGHTENING OF STRUCTURAL STEEL. SHOP DRAWINGS WILL NOT BE REQUIRED.

METHOD OF REPAIR:

HEAT SHALL BE APPLIED AT OR BELOW 1,200 DEGREES F. AND MONITORED WITH CONTACT TEMPERATURE PROBES (PYROMETRIC STICKS) OR OTHER HEAT INDICATING DEVICES TO ENSURE MAXIMUM TEMPERATURES REACHED DURING STRAIGHTENING.

COMPLETED STRAIGHTENING SHALL BE FOLLOWED BY MAGNETIC PARTICAL INSPECTION FOR CRACKS AT THE EDGES OF THE FLANGE. IF CRACKS ARE PRESENT, THEY SHALL BE REPAIRED AS DIRECTED BY THE ENGINEER AT NO ADDITIONAL COST TO THE STATE OF OHIO.

SAFETY REQUIREMENTS: THE CONTRACTOR IS REQUIRED TO MEET THE APPLICABLE SAFETY REQUIREMENTS OF THE OHIO INDUSTRIAL COMMISSION.

COOPERATION OF CONTRACTOR: THE CONTRACTOR SHALL LEAVE HIS LADDERS, PLATFORMS OR SCAFFOLDS IN PLACE FOR A SUFFICIENT LENGTH OF TIME AND IN SUCH A MANNER TO PERMIT THE ENGINEER AND OR INSPECTOR TO SAFELY EXAMINE THE WORK PERFORMED.

ITEM 513 STRUCTURAL STEEL: NEW STRUCTURAL STEEL SHALL CONFORM TO ASTM A 36, UNIT STRESS 20,000 PSI THREE (3) NEW SETS OF INTERMEDIATE CROSS-FRAMES MEMBERS SHALL BE INSTALLED. EACH CROSSFRAME SHALL CONSIST OF THREE (3) PIECES OF 3" X 3" X 5/16" ANGLES.

PAINTING OF STRUCTURAL STEEL: SHOP PAINT OF NEW STRUCTURAL STEEL AND FIELD PAINTING OF EXISTING AND NEW STRUCTURAL STEEL SHALL BE IN ACCORDANCE WITH ITEM 514. (below).

ITEM 519 PATCHING CONCRETE STRUCTURES AS PER PLAN: THE UNDERSIDE OF THE DECK SHALL BE PATCHED ACCORDING TO 519 EXCEPT THE PATCHING MATERIAL SHALL BE EPOXY MORTAR WHICH MEETS THE MATERIAL SPECIFICATIONS OF SUPPLEMENTARY SPECIFICATION 956. *The patching shall be done after the jacking loads have been released, and shall be done only near the top flange of the damaged beam.*

EXAMINATION OF SITE: THE BIDDER SHALL VISIT THE SITE TO ASCERTAIN THE CONDITIONS UNDER WHICH THE WORK WILL BE DONE BEFORE SUBMITTING HIS BID.

PRIOR INSPECTION OF WORK: PROSPECTIVE BIDDERS ARE REQUIRED TO MAKE AN INSPECTION OF THE STRUCTURE IN THE FIELD AND TO REVIEW THE PLANS AND SPECIFICATIONS BEFORE SUBMITTING BIDS. SEE SECTION 102.05 OF THE "CONSTRUCTION AND MATERIALS SPECIFICATIONS", DATED JANUARY 1, 1983.

PROPOSED SEQUENCE OF OPERATIONS: NOTE 'A'

1. INSTALL TRAFFIC CONTROL DEVICES TO CLOSE THE RIGHT TRAFFIC LANE.
2. PLACE BEAM SUPPORTS AND JACK STRUCTURE. RAISE DECK 3/16" AT CENTER OF REPAIR LENGTH BY JACKING, SHORING.
3. CUT CROSSFRAMES LOOSE.
4. HEAT STRAIGHTEN THAT PORTION OF THE DAMAGED BEAM.
5. LOWER THE STRUCTURE AND REMOVE THE SHORING AND JACKS.
6. INSTALL NEW CROSSFRAME MEMBERS (9 PIECES TOTAL) AT EXISTING LOCATIONS USING 1/4" FILLET WELDS.
7. SEAL THE TOP FLANGE ALONG ITS WEDGE AND PATCH UNDERSIDE OF DECK WITH EPOXY MORTAR.
8. SURFACE PREPARATION OF NEW AND EXISTING STRUCTURAL STEEL WITHIN BEAM REPAIR LIMITS.
9. COMPLETE COAT PRIME WITHIN BEAM REPAIR LIMITS.
10. TWO (2) COMPLETE COATS FINISH WITHIN BEAM REPAIR LIMITS.

PROTECTION OF PERSONS AND PROPERTY: THE CONTRACTOR SHALL COLLECT, REMOVE AND DISPOSE OF ALL BUCKETS, RAGS, OR OTHER DISCARDED MATERIALS AND HE SHALL LEAVE THE JOB SITE IN A CLEAN CONDITION. THE CONTRACTOR SHALL PROTECT ALL PORTIONS OF THE STRUCTURE WHICH ARE NOT TO BE PAINTED AGAINST DAMAGE OR DISFIGUREMENT BY SPLASHES, SPATTERS AND SMIRCHES OF PAINT. WHEN OR WHERE ANY DIRECT OR INDIRECT DAMAGED OR INJURY IS DONE TO PUBLIC OR PRIVATE PROPERTY BY OR ON ACCOUNT OF ANY ACT, OMISSION, NEGLECT OR MISCONDUCT IN THE EXECUTION OF THE WORK, OR IN CONSEQUENCE OF THE NON-EXECUTION THEREOF BY THE CONTRACTOR, HE SHALL RESTORE AT HIS OWN EXPENSE SUCH PROPERTY TO A CONDITION SIMILAR OR EQUAL TO THAT EXISTING BEFORE SUCH DAMAGE OR INJURY WAS DONE, BY REPAIRING, REBUILDING OR OTHERWISE RESTORING AS MAY BE DIRECTED, OR HE SHALL MAKE GOOD SUCH DAMAGE OR INJURY IN AN ACCEPTABLE MANNER. CONTRACTOR SHALL MAKE AN INSURANCE ADJUSTER AND A CLEAN AND REPAIR SHOP AVAILABLE SO THAT ANY AND ALL CLAIMS SHALL BE MADE AVAILABLE TO THE OHIO DEPARTMENT OF TRANSPORTATION AT THE PRE-CONSTRUCTION MEETING.

ITEM 514: WITHIN BEAM REPAIR LIMITS

1. SURFACE PREPARATION BY COMPLETE SANDBLAST TO SA 2 1/2 ACCORDING TO SSPC-SP 10. BLAST CLEANING SHALL BE PERFORMED WITH SAE No. 6-25 OR SMALLER GRIT OR DRY SAND PASSING A 16-MESH SCREEN, U.S. SIEVE SERIES.

2. COMPLETE COAT PRIME IN ACCORDANCE WITH 708.17, AS PER PLAN.

3. TWO (2) COMPLETE COATS FINISH IN ACCORDANCE WITH 708.18, AS PER PLAN.

4. THIS PROVISION MAY ENTAIL MATCHING THE FINISH COAT COLOR TO THE EXISTING COLOR. IF THIS BE THE CASE, THE FINISH COAT PAINT SHALL BE TINTED TO A COLOR DETERMINED BY THE PROJECT ENGINEER.

POLLUTION CONTROL: THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO COMPLY WITH POLLUTION CONTROL LAWS, RULES, OR REGULATIONS OF FEDERAL, STATE OR LOCAL AGENCIES. BLAST/PAINT SHIELDS WILL BE PROVIDED AS DETERMINED BY THE PROJECT ENGINEER.

MOBILIZATION: THE CONTRACTOR SHALL ON ANY CONTRACT FOR WHICH HIS BID EXCEEDS $50,000.00 INCLUDE AN AMOUNT TO COVER ANY APPLICABLE EXPENDITURES REFERRED TO UNDER ITEM 624 OR THE 1983 CONSTRUCTION AND MATERIAL SPECIFICATIONS. PAYMENT SHALL BE THE LUMP SUM BID PRICE FOR ITEM 624, MOBILIZATION.

MAINTAINING TRAFFIC: THE CONTRACTOR SHALL CONDUCT HIS OPERATIONS AS TO MAKE THE PROPOSED REPAIR WITH A MINIMUM OF HAZARD, DELAY AND INCONVENIENCE TO THE MOTORING PUBLIC. THE FOLLOWING SPECIFIC PROVISIONS ARE INTENDED TO SUPPLEMENT THE REQUIREMENTS OF THE OHIO MANUAL OF UNIFORN TRAFFIC CONTROL DEVICES, CURRENT EDITION, LATEST REVISION.

A. THE CONTRACTOR SHALL SUBMIT TO ODOT AND THE CITY OF YOUNGSTOWN FOR APPROVAL A SCHEDULE INDICATING THE LANE CLOSURE AND OPENING AT LEAST TWO (2) WEEKS PRIOR TO ITS IMPLEMENTATION. ONE (1) LANE OF TRAFFIC SHALL BE MAINTAINED AT ALL TIMES, EXCEPT AS NEEDED TO ERECT OR REMOVE THE MAINTENANCE OF TRAFFIC DEVICES BY USE OF EXISTING PAVEMENT AND SHOULDERS. TRAFFIC CONTROL DEVICES SHALL BE AS SHOWN ON SHEETS 5 thru 8.

B. THE SCHEDULE SHALL INCLUDE A TIMETABLE DETAILING THE SEQUENCE OF OPERATIONS FOR PLACING THE TRAFFIC CONTROL DEVICES, PERFORMING THE BEAM STRAIGHTENING AND REMOVAL OF TRAFFIC CONTROL DEVICES.

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

ITEM SPECIAL: THE CONTRACTOR SHALL PROVIDE THE SERVICES OF AN OFF-DUTY, UNIFORMED, CITY OF YOUNGSTOWN POLICE OFFICER WITH PATROL CAR FOR THE PURPOSE OF CONTROLLING THROUGH TRAFFIC. THE POLICE OFFICER WITH PATROL CAR SHALL BE UTILIZED DURING INSTALLATION AND REMOVAL OF ALL TRAFFIC CONTROL DEVICES FOR LANE RESTRICTIONS AND DURING ALL WORK HOURS. THE OFFICER SHALL CONSTANTLY MOVE WITH THE BACK UP OF TRAFFIC SO THAT HE IS ALWAYS IN A POSITION NEAR THE END OF THE STOPPED TRAFFIC TO ASSIST IN CONTROLLING TRAFFIC, WARNING TRAFFIC OF THE RESTRICTION AND INFORMING DRIVERS AS TO THE NATURE OF THE SITUATION.

PAYMENT FOR THE ABOVE ITEMS OF WORK SHALL BE AT THE LUMP SUM PRICE BID FOR ITEM SPECIAL, UNIFORM POLICE OFFICER WITH PATROL CAR - 120 HOURS.

TEMPORARY SUPPORT: *The Contractor shall jack and support the structure in a manner approved by the Project Engineer. Any damage to the structure caused by the jacking or support of the structure shall be repaired by the Contractor at no extra cost to the State. Payment for the jacking and support of the structure shall be included in Item Special – Heat Straightening of Existing Structural Steel.*

GENERAL SUMMARY

F.H.W.A. REGION	STATE	PROJECT	
5	OHIO		

3/8

MAH-680-0587

ITEM	TOTAL	UNIT	DESCRIPTION	ITEM	REMARKS
202	LUMP	SUM	PORTIONS OF STRUCTURES REMOVED-CROSS FRAMES	202	
SPECIAL	LUMP	SUM	HEAT STRAIGHTENING OF STRUCTURAL STEEL	SPECIAL	
513	LUMP	SUM	STRUCTURAL STEEL (CROSS FRAMES AISC CERTIFI-	513	
			CATION NOT REQUIRED)		
514	LUMP	SUM	FIELD PAINTING OF EXISTING STEEL-SURFACE PREPARATION (100%, Sa 2 1/2)	514	
514	LUMP	SUM	FIELD PAINTING OF EXISTING STEEL-COMPLETE COAT PRIME (708.17)	514	
514	LUMP	SUM	FIELD PAINTING OF EXISTING STEEL-COMPLETE COAT FINISH (708.18) (2 COATS)	514	
519	LUMP	SUM	PATCHING CONCRETE STRUCTURES, AS PER PLAN	519	
614	LUMP	SUM	MAINTAINING TRAFFIC	614	
SPECIAL	120	HOURS	UNIFORM POLICE OFFICER WITH PATROL CAR	SPECIAL	
622	320	LIN. FT.	TEMPORARY PRECAST CONCRETE BARRIER (T.P.C.B)	622	
624	LUMP	SUM	MOBILIZATION	624	

F.H.W.A. REGION	STATE	PROJECT	
5	OHIO		

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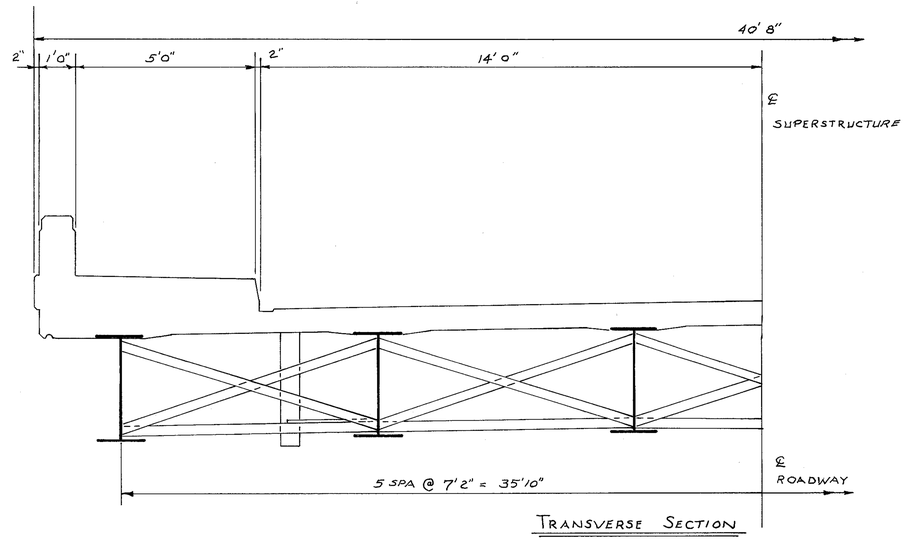
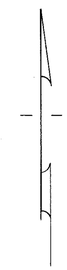
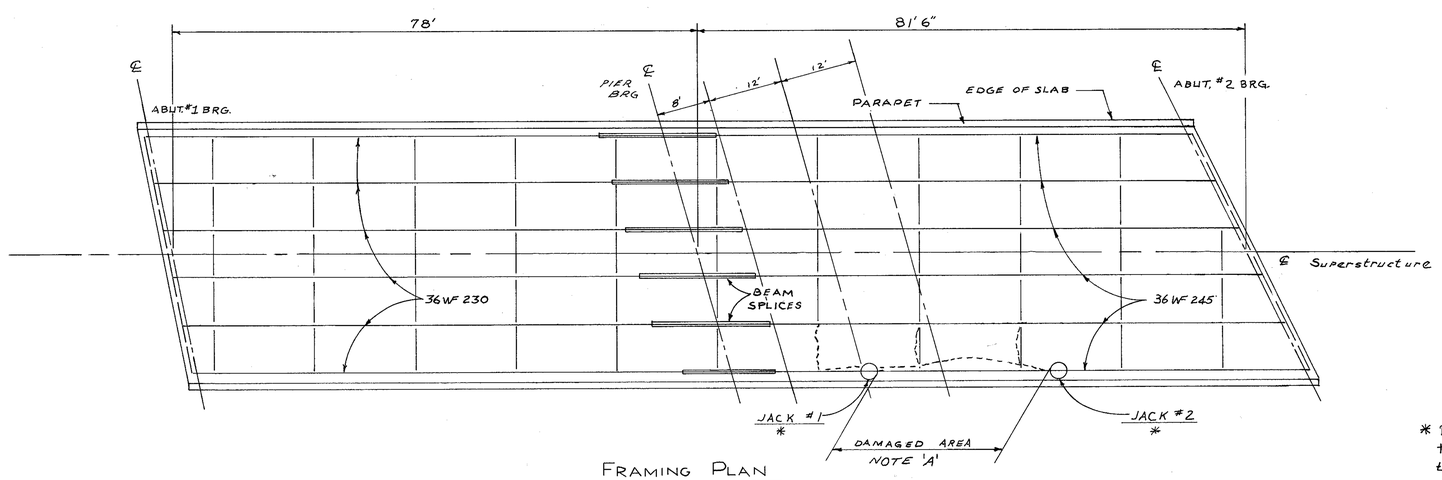


TRANSVERSE SECTION





FRAMING PLAN

* Placement of the Jacks to be determined by the Project Engineer in Accordance with the Traffic Plan and the requirements of the heat straightening Procedure.

F.H.W.A. REGION	STATE	PROJECT	
5	OHIO		

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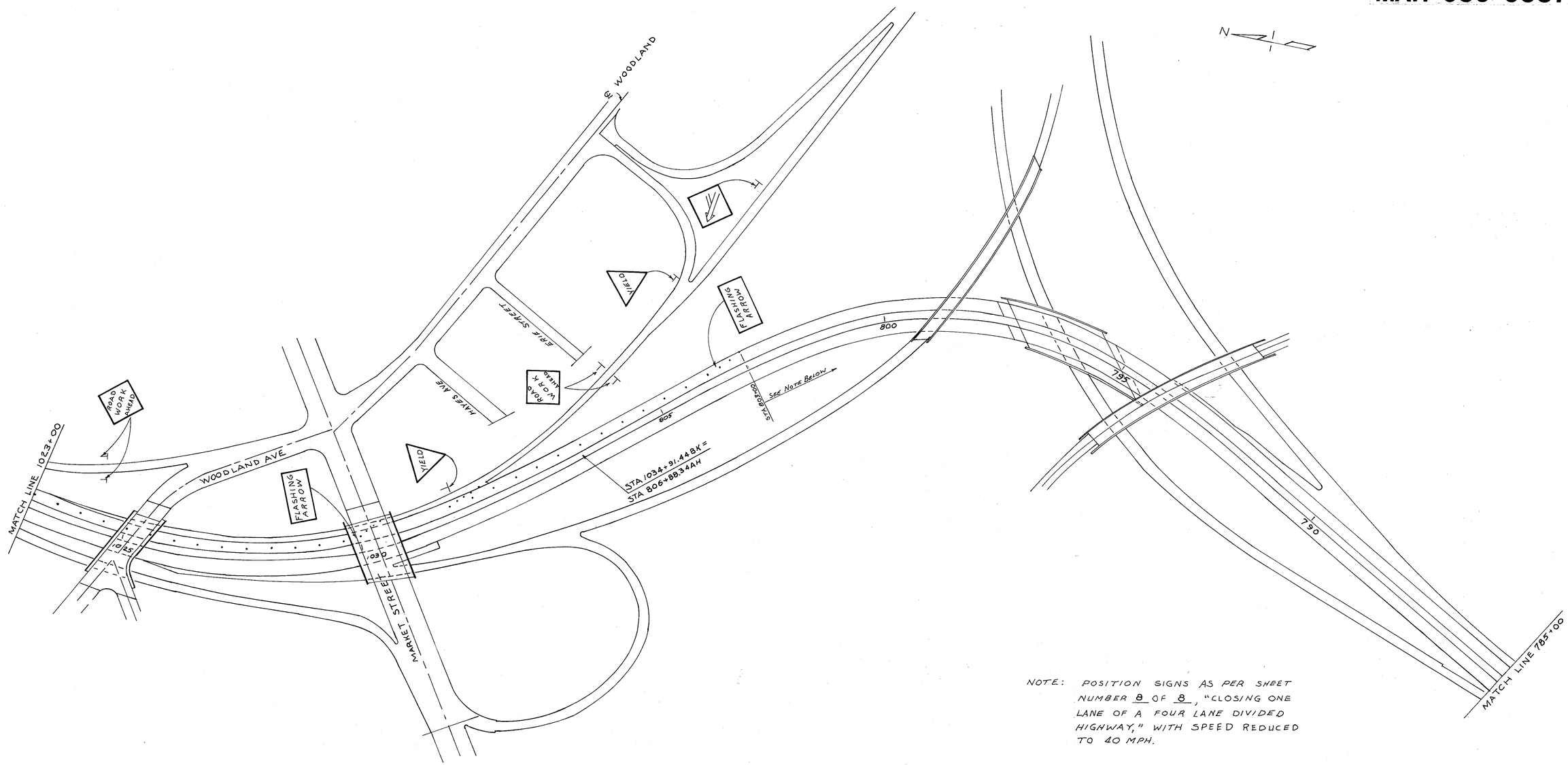

NOTE: POSITION SIGNS AS PER SHEET NUMBER 8 OF 8, "CLOSING ONE LANE OF A FOUR LANE DIVIDED HIGHWAY," WITH SPEED REDUCED TO 40 MPH.

FHWA REGION	STATE	PROJECT	
5	OHIO		

6
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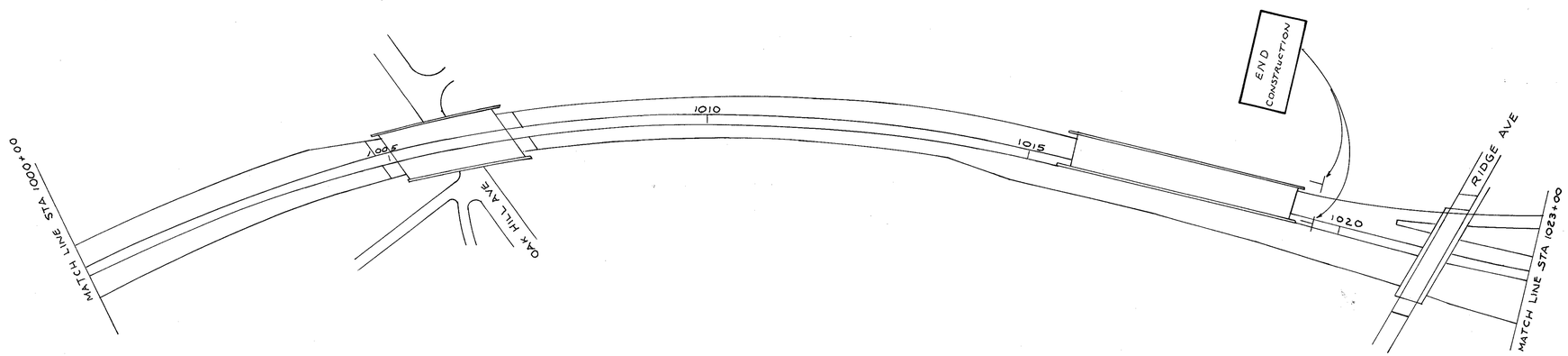

F.H.W.A. REGION	STATE	PROJECT	
5	OHIO		

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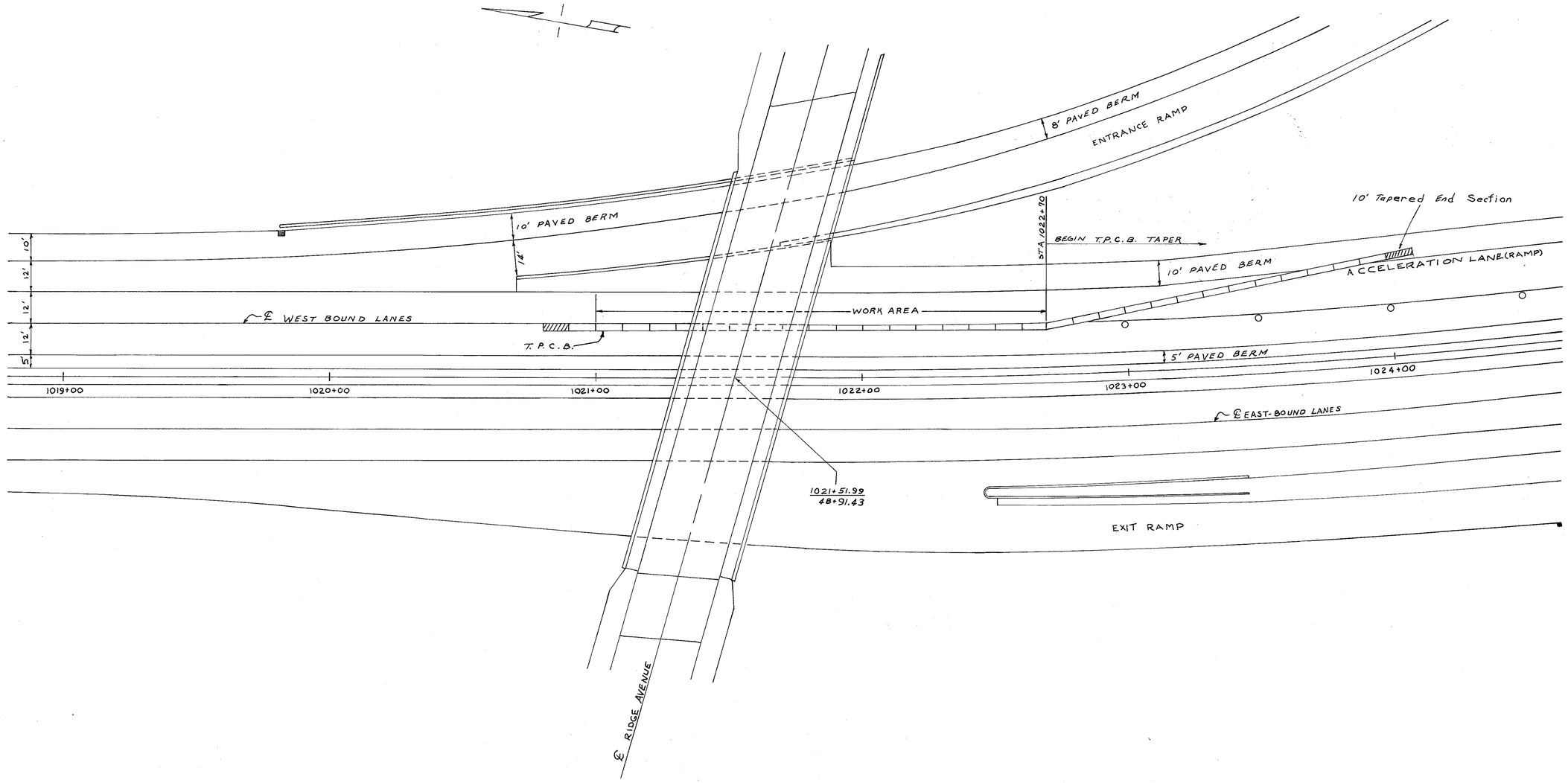

FED. RD. DIVISION	STATE	PROJECT.	
5	OHIO		

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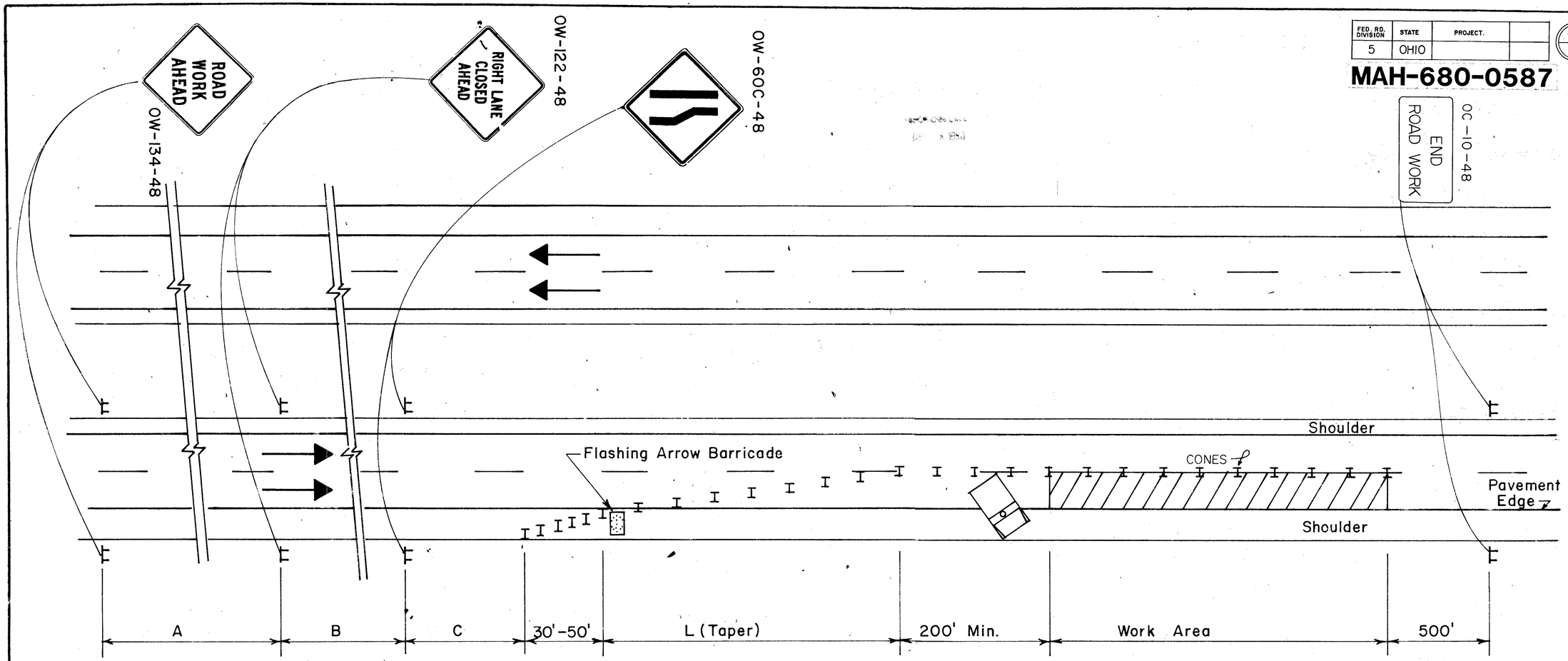

GENERAL NOTES

1. THIRTEEN (13) CONES SHALL BE USED TO FORM THE LANE TRANSITION TAPER IN ADVANCE OF THE WORK AREA. FIVE (5) CONES SHALL BE USED TO FORM THE TAPER ON THE SHOULDER. CONES SHALL BE SPACED AT 50 FOOT CENTERS FOR THE FIRST 1000 FEET OF THE WORK AREA AND AT A MAXIMUM OF 100 FEET FOR THE BALANCE OF THE WORK AREA.

2. WHEN WORK IS BEING PERFORMED IN THE LANE ADJACENT TO THE MEDIAN ON A DIVIDED HIGHWAY, "OW-123-48" SIGNS SHALL BE SUBSTITUTED FOR "OW-122-48" SIGNS AND THE OW-60D SIGNS SHALL BE SUBSTITUTED FOR THE OW-60C SIGNS.

3. THE WORK TRUCK SHOWN AT THE BEGINNING OF THE WORK AREA SHALL BE IN PLACE WHENEVER MEN ARE WORKING WITHIN THE WORK AREA.

4. THE FLASHING ARROW BARRICADE SHALL BE IN ACCORDANCE WITH THE DETAILS SHOWN ON STANDARD DRAWING TC 35.10

5. SIGNS SHALL BE MOUNTED ON PORTABLE SIGN SUPPORTS WITH APPROPRIATE WEIGHTING AND SHALL BE IN ACCORDANCE WITH OMUTCD, CURRENT EDITION, LATEST REVISION.

DISTANCE	A	B	C	L
URBAN	200	200	200	425
MAJOR STANDARD	500	500	500	600
FREEWAY AND EXPRESSWAY	2600	1600	1000	720

OHIO DEPARTMENT OF TRANSPORTATION

CLOSING ONE LANE OF A FOUR LANE DIVIDED HIGHWAY

DATE 4/77

DR. GRD CK. RLB.