MICROFILMED JUL 301987

County Line

Section Line-

Center Line ---

Date of Letting_

LD 0300 Rev. 1-1-81

Fence Line (existing)—×——×——(proposed)————

Trees (3), Stumps 12, (to be removed) (2)

Utility Poles: Telephone ϕ , Power ϕ , Light ϕ .

STATE OF OHIO DEPARTMENT OF TRANSPORTATION

MAH 680 0'414
Steel Street
Beam Straightening

OHIO	
FHWA REGION 5	8
FEDERAL PROJECT	

PLAN NO. BR-17-83

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DONALD STS. PETER & MAUL CEM.	CHERRY HILL	AVE. AVE. AVE. AVE. AVE. AVE. AVE. AVE.		City Street Department	FIELD ST.
BURBANK	HEIGHTS HAZELWOOD AVE.	MANHATTAN AVE. AVENUE FLORE MANHATTAN WELLWGTON		ONIO HEZLER ST. G. T. O.	COVINGTON AVE.
WE SLEY	WEST SIDE	WILLE! WATE. AVE. AVE.	ONETA STREET ST. ST. ST. ST. ST. ST. ST.	SWING PLOO SWING PLOO WORKS PARTY OF TOO MAHONING	Water Penn Central R.R ariment (2) Circyhound Bus AVE. B. & Railre Railre AVE.
BON S AR AVE. BOUQUET S AVE.	ALLIA AVE. WALDENCT. &	ARY CEMETERY TO SOLVE		MARSHALL & SOUTH AVE. SOUTH BERNARD WAS AND STANING OF	
SCHENILE PARK	CHANEY CHANEY	CIR. PRICE HIGHLAWN AVE.	HEIGHTS AVENUE CLACIERVICH PR.	PARK FAIRVIEW AVE C STOCK SCHOOL SCHO	AVE. AVE. AVE. AVE. AVE. AVE. AVE. AVE.
CREEK P	CRADDOCK AVE.	OOK AVE. OVERLOOK AV	ME COLICER WILKINSON O'SO O'SO O'SO O'SO O'SO O'SO O'SO	FALLS PARK SYAUBOUGH	T. CARROLL SY.
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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 <u>Francis V. Fischer</u>
Date 2-22-83 District Deputy Director of Transportation

SCALES SUPPLEMENTAL SPECIFICATIONS SS 956 6-26-78 SCALES , Vertical

\pproved	Cobert B	Pherse			
cte <u>3-22-83</u>	Engineer, Bu	ureau of	Bridges	and	
	Structural				

Approved James Fongeneshing

Date 3-25-83 Chief Engineer, Operations

Approved <u>Varien</u>) <u>Smill</u> Date <u>3.28.83</u> Director, Department of Transportation

DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION

APPROVED:

DIVISION ADMINISTRATOR

LINE	DATA

INDEX OF SHEETS

MAINTAINING

TITLE SHEET

GENERAL NOTES

GENERAL, SUMMARY

BEAM REPAIR DETAILS

TRAFFIC

CONVENTIONAL

Limited Access (only)

Existing Right of Way -

Limited Access & Right of Way—LA&RW—

Guardrail (existing) - - - (proposed) - -

Right of Way (only)

BEGIN WORK 5TA 929+98.87 END WORK STA 929+98.87 LENGTH OF WORK 0.00 MI. LENGTH OF PROJECT 0.00 MI. 48 HOURS
BEFORE YOU DIG
Call...800-362-2764 (Tall free)
OHIO UTILITIES PROTECTION SERVICE

NON-MEMBERS MUST BE CALLED DIRECTLY Plan_____ Nertical Vertical Ve

Portion to be improved_.

Other Roads_

State & Federal Routes_

Plan	Prepa	red	Ву
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SUPPLEMENTAL PRINTS OF STANDARD CONSTRUCTION DRAWINGS

GENERAL NOTES

TWA GION STATE PROJECT NO. FUNDS 2

8

PLAN NO. BR-17-83

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, 1933.

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 -STRUCTURAL STEEL, HEAT STRAIGHTENING: 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 INCH OF SWEEP. THE FINAL WEB SHALL BE LESS THAN 1 INCH OUT OF VERTICAL ALIGNMENT. THE REPAIRS SHALL BE

PERFORMED UNDER THE DIRECT SUPERVISION OF A NATIONALLY KNOWN HEAT STRAIGHTENING EXPERT QUALIFIED BY THE STATE

OF OHIO HAVING A MINIMUM OF FIVE (5) YEARS OF ACTUAL HEAT STRAIGHTENING EXPERIENCE WITH 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 REISDUAL STRESS AS POSSIBLE.

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 PARTICLE 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. PAYMENT SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM SPECIAL - STRUCTURAL STEEL, HEAT STRAIGHTENING.

ITEM - FIELD PAINTING OF EXISTING STEEL

PART A - THIS ITEM SHALL INCLUDE SURFACE PREPARATION AND TWO COMPLETE FINISH COATS, ACCORDING TO THE PLAN NOTES, TO ALL EXISTING STEEL WHICH HAS BEEN DAMAGED BY THE COLLISION.

PART B - THIS ITEM SHALL INCLUDE SURFACE PREPARATION AND TWO COMPLETE FINISH COATS, ACCORDING TO THE PLAN NOTES, TO ALL EXISTING STEEL WHICH HAS NOT BEEN DAMAGED BY THE COLLISION.

GENERAL PROVISIONS:

PAINTING OF BRIDGE APPURTENANCES: ALL STEEL BRIDGE RAILING (EXCEPT GALVANIZED RAILING), AND ALL STEEL SCUPPERS, DOWNSPOUTS, AND BULB ANGLES, SHALL BE CLEANED

AND PAINTED. PAYMENT FOR THIS WORK SHALL BE INCLUDED IN THE LUMP SUM PRICES BID FOR SURFACE PREPARATION AND FOR FINISH PAINTING OF THE BRIDGE.

THE CON TRACTOR'S ATTENTION IS CALLED TO ALL OF SECTION 100 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS.

OF STATE OF OHIO DEPARTMENT OF TRANSPORTATION AND SPECIFICALLY TO THE ITEMS LISTED BELOW AS PROVIDED FOR IN THIS SECTION. THE ABOVE NAMED CLEANING ITEM FOR STEEL SCUPPERS AND BULB ANGLES SHALL INCLUDE THE REMOVAL OF ALL DEBRIS SUCH AS GRAVEL AND DIRT WHICH HAVE COLLECTED IN AREAS TO BE PAINTED.

STATE 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 EXAMIN THE WORK PERFORMED.

ITEM 513 STRUCTURAL STEEL: NEW STRUCTURAL STEEL SHALL CONFORM TO ASTM A36, UNIT STRESS 20,000 P.S.I.
ONE (1) NEW SET OF INTERMEDIATE CROSS-FRAMES MEMBERS SHALL BE INSTALLED. CROSSFRAME SHALL CONSIST OF THREE
(3) PIECES OF 3"x3"x5/16" ANGLES.

PAINTING OF STRUCTURAL STEEL:

SHOP PAINTING OF NEW STRUCTURAL STEEL AND FIELD PAINTING OF EXISTING AND NEW STRUCTURAL STEEL SHALL BE IN ACCORDANCE WITH *AND SHALL BE APPLIED AS STATED UNDER PROPOSED SEQUENCE OF OPERATIONS.

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.

EXAMINATION OF SITE:

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

PROPOSED SEQUENCE OF OPERATIONS:

- 1. INSTALL TRAFFIC CONTROL DEVICES TO CLOSE THE CENTER TRAFFIC LANE.
- 2. PLACE BEAM SUPPORTS AND JACK STRUCTURE. RAISE DECK 3/16" AT CENTER OF REPAIR LENGTH BY JACKING AND 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 (3 PIECES TOTAL) AT EXISTING LOCATIONS USING 1/4 INCH FILLET WELDS.
- 7. SEAL THE TOP FLANGE ALONG ITS WEDGE AND PATCH UNDERSIDE OF DECK WITH EPOXY MORTAR.
- PREPARE AND APPLY (2) COATS OF SHERWIN WILLIAMS TILE CLAD EPOXY ENWEL, OR APPROVED EQUAL, TO BE SUPPLIED
- BY MR. DAVID HINES, 7839 SUTTON PL. N.E., WARREN, OHIO 44484, PHONE 216-856-3819,
 - TO ALL EXPOSED NEW STEEL AND AREAS OF EXISTING STEEL WHICH HAVE BEEN DAMAGED BY THE COLLISION, WELDING OR REPAIR WORK.

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.

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 INDICRECT DAMAGE 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 CONTRACOR, 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.

SPECIAL PROVISIONS - PARTS "A" & "B"

- (1) COMPLETE SAND BLAST TO SA 2 1/2 ACCORDING TO SSPC-SP10. BLAST CLEANING SHALL BE PERFORMED WITH SAE NO. 6-25 OR SMALLER GRIT OR BRY SAND PASSING A 16-MESH SCREEN, U.S. SIEVE SERIES.
- (2) FINISH COATS SHALL BE APPLIED AT THE RATE OF 2 MILS PER COAT USING THE ABOVE NAMED PAINT. APPLICATION SHALL BE BY THE AIRLESS SPRAY METHOD.
- (3) THE APPLICATIONS SHALL HAVE A TOTAL DRY FILM THICKNESS OF FOUR (4) MILS WHEN AVERAGED FROM MEASUREMENTS TAKEN AT NOT LESS THAN FIVE (5) LOCATIONS. MEASUREMENTS SHALL BE MADE WITH A TOOKE GUAGE. PAINT SHALL BE TINTED TO A BLUE COLOR TO BE 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.

DATE PAINTED

THE COMPLETION DATE OF THE FINISH COAT OF PAINT, (MONTH & YEAR) AND THE STRUCTURE FILE NUMBER SHALL BE STENCILED ON THE STRUCTURE AS DIRECTED BY THE ENGINEER, IN A CONTRASTING COLOR. PAYMENT SHALL BE INCLUDED IN PRICE BID FOR ITEM Specified Painting of Existing Steel - TWO COMPLETE COATS FINISH, AS PER PLAN.

MOBIL IZATION

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.

* ITEM SPECIAL-FIELD PAINTING OF EXISTING STEEL, PARTS
A AND B, AS PER PLAN. (TWO FINISH COATS)

MICROFILMED JUL 301987

GENERAL SUMMARY

CALC.
BY_____
DATE____
CHKD.
BY_____
DATE

OHIO
SHWA 5
REGION 5

MAH 680 0414

PLAN NO. BR-17-83

· I					PLAN NO. BR-17-83
TEM-	SHEET	NUMBER		ITEM QUANTITY UNIT	DESCRIPTION
2				202 LUMP SUM	REMOVAL OF STRUCTURE - CROSS FRAME.
EC.				SPEC. LUMP SUM	STRUCTURAL STEEL - HEAT STRAIGHTENING
3					STRUCTURAL STEEL (AISC CERTIFICATION NOT REQUIRED)
9				519 LUMP SUM	PATCHING CONCRETE STRUCTURES, AS PER PLAN
14				614 LUMP SUM	MAINTAINING TRAFFIC
24				624 LUMP SUM	MOBILIZATION
EC			,	SPEC LUMP SUM	Raising, Lowering & Supporting Existing Deck
14				514 LUMP SUM	Field Painting of Existing Steel, Surface Preparation, Part A, as per plan.
14				514 LUMP SUM	Field Painting of Existing Steel, Surface Preparation, Part B, as per plans
PEC					Field Painting of Existing Steel, Two Finish Coats, Part A, as per plan.
EC.					Field Painting of Existing Steel, Two Finish Coats, Part B, as per plan.
PEC					
					UNIFORMED POLICE OFFICER, As per plan
					•
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MICROFILMED JUL 301987 SUPERSTRUCTURE 8 SPACES @ 7'0" = 56'0" ROADWAY JACK #2 JACK #1 SUPERSTRUCTURE PIER #3

FRAMING PLAN

MAINTAINING TRAFFIC

F.H.W.A. STATE PROJECT 5


PLAN NO. BR-17-8


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 UNIFORM TRAFFIC CONTROL DEVICES, CURRENT EDITION, LATEST REVISION.

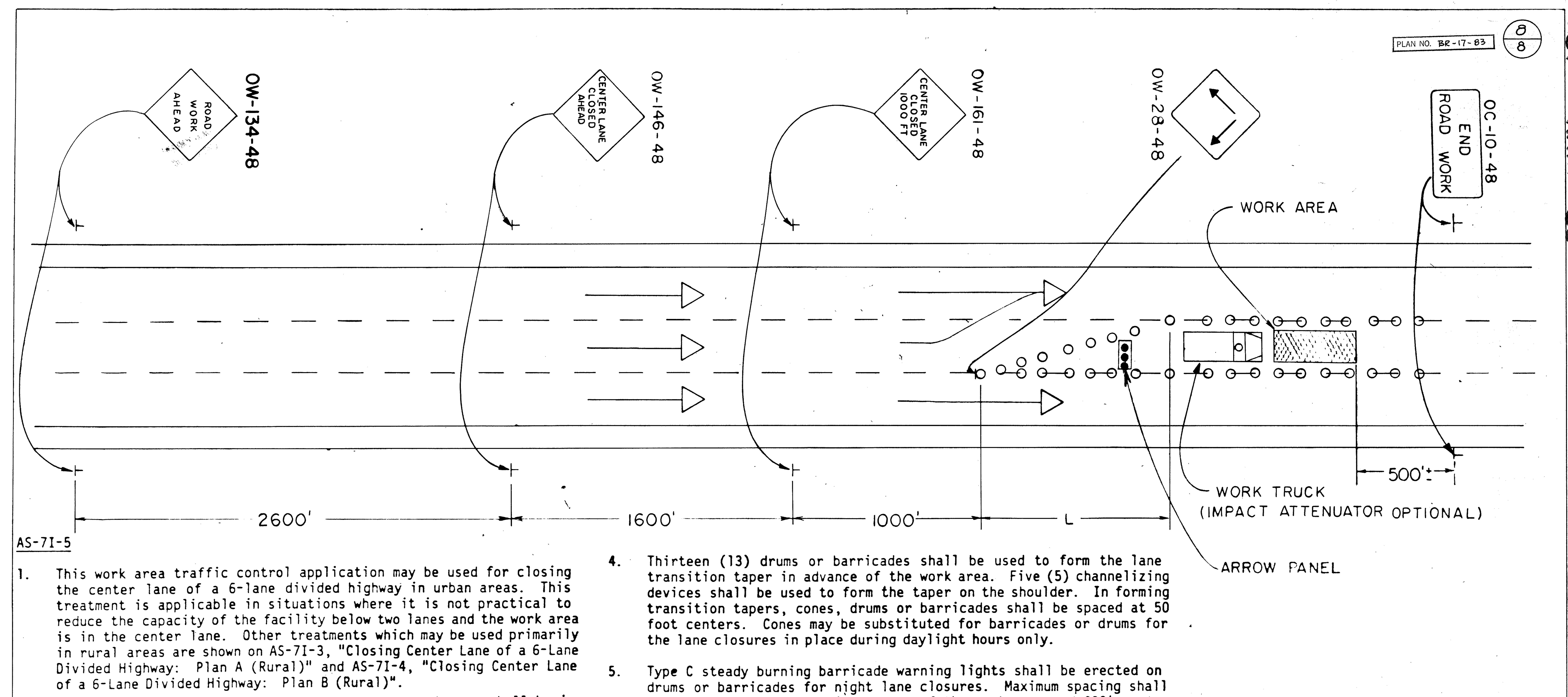
- B. THE SCHEDULE SHALL INCLUDE A TIMETABLE DETAILING THE SEQUENCE OF OPERATIONS FOR PLACING, THE TRAFFIC CONTROL DEVICES, PERFORMING THE BEAM STRAIGHTENING AND REMOVAL OF TRAFFIC CONTROL DEVICES.
- C. IF THE CONTRACTOR SO ELECTS, HE MAY SUBMIT ALTERNATE METHODS FOR MAINTENANCE OF TRAFFIC, PROVIDED THE 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. IN ADDITION TO THE REQUIREMENTS OF ITEM 614.03(C), THE CONTRACTOR SHALL FURNISH, ERECT, MAINTAIN AND REMOVE THE TWO (2) R-36R-48 (MODIFIED) SIGNS AS SHOWN ON SHEET __6___. AT THE COMPLETION OF THE PROJECT THE CONTRACTOR SHALL STORE THE TWO (2) R-36R-48 (MODIFIED) SIGNS WITH THE PROJECT. ENGINEER FOR SALVAGE BY THE DISTRICT BRIDGE ENG INEER. PAYMENT FOR THE ABOVE ITEMS OF WORK SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 614, MAINTAINING TRAFFIC.

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, UNIFORMED POLICE OFFICER WITH PATROL CAR - 120 HRS.







- The work truck shown at the beginning of the work area shall be in place and unoccupied whenever men are working within the work area. This truck shall be moved from the pavement whenever workmen are not in the work area. Other protective devices may be used in lieu of work truck shown when approved by the Engineer. A truck-mounted impact attenuator may be employed.
- Taper Formulae:
 - L = S x W for posted speeds of 45 MPH or more.
 - L = WS²/60 for posted speeds of 40 MPH or less. Where:
 - Minimum Length of taper
 - S = Numerical value of the off-peak 85th percentile speed.
 - W = Width of offset.

- be 50' center to center in advance of the work area and 200' center to center within the limits of the work area.
- 6. The Type B flashing barricade warning light shown on the "Road Work Ahead" sign, OW-134-48, is required whenever a night lane closure is necessary.
- 7. The flashing or sequencing arrow panel shall be in accordance with OMUTCD, Section 7G-8.
- 8. The "OW-28-48" sign shall be fastened to a drive post which shall be banded to a drum with stainless steel strapping or another suitable fastening system approved by the Engineer. The sign mounting height for these signs shall be in accordance with Section 2E-4, OMUTCD.
 - The spacings between construction and maintenance signs shown on this detail may require adjustments (increases or decreases) to assure that they are positioned no closer than 200 feet to existing signs as determined by the Engineer.

OHIO DEPARTMENT OF TRANSPORTATION CLOSING CENTER LANE OF PATE A 6 LANE DIVIDED HIGHWAY: 4/81 PLAN C (URBAN)