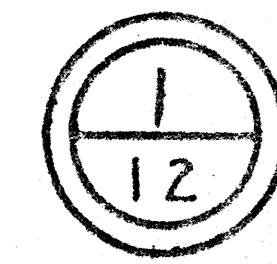


OHIO DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

640-85



PLAN NO. 275

Crack Sealing Project

PART	COUNTY	ROUTE	SECTIONS	PROJECT TERMINII		NET LENGTH MILES	TOWNSHIP	CITY	VILLAGE
				BEGIN	END				
1	FRA	IR270	19.03	19.03	19.83	0.80			Dublin
2	FRA	IR270	(19.83)(48.47)(49.90) → 52.78(53.60)	19.83	54.76	5.51			
3	FRA	IR270	(20.70)(52.96)	20.70	53.60	2.50		Columbus	
4	FRA	IR270	48.89	48.89	49.90	1.01			Obetz

The Standard 1985 Specifications of the State of Ohio, Department of Transportation, including changes and Supplemental Specifications listed in the plans and proposal shall govern these improvements.

I hereby approve these plans and declare that the making of these improvements will require the closing of the highways to traffic on Parts No. 1, 2, 3 and 4 and that detours will be provided by State forces. The closing to traffic of the highways will not be required on Parts No. 1, 2, 3 and 4 and provisions for the maintenance and safety of traffic will be as indicated in the proposal.

Approved Date 4-10-85 District Deputy Director of Transportation

Approved Date Engineer of Bridges

Approved Date Engineer of Maintenance

Approved Date 4-29-85 Chief Engineer, Operations

Approved Date Assistant Deputy Director, Program Development

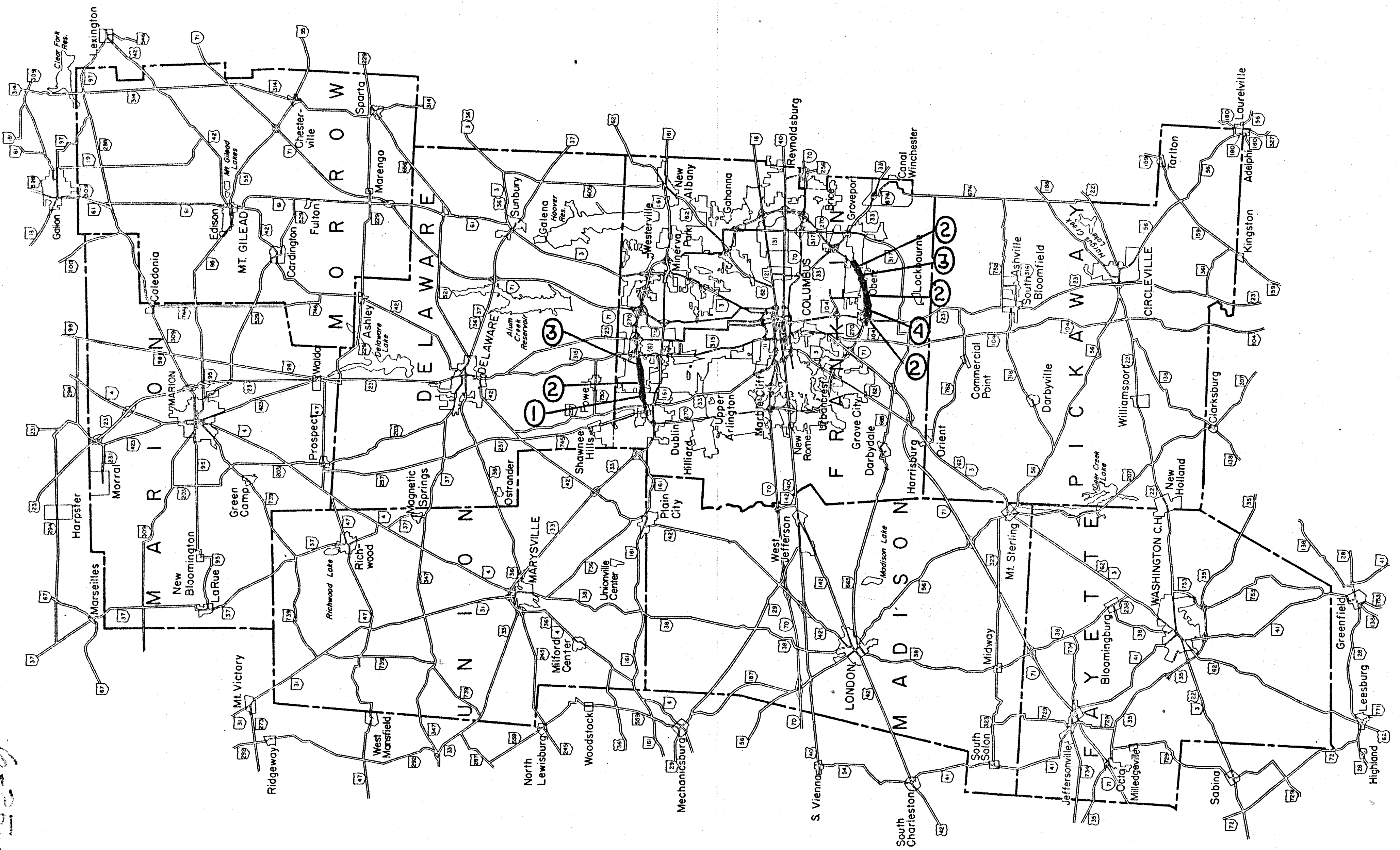
Approved Date Chief Engineer, Construction

Approved Date Chief Engineer, Design

Approved Date Assistant Director, Department of Transportation

Approved Date 4-29-85 Director, Department of Transportation

LOCATION MAP

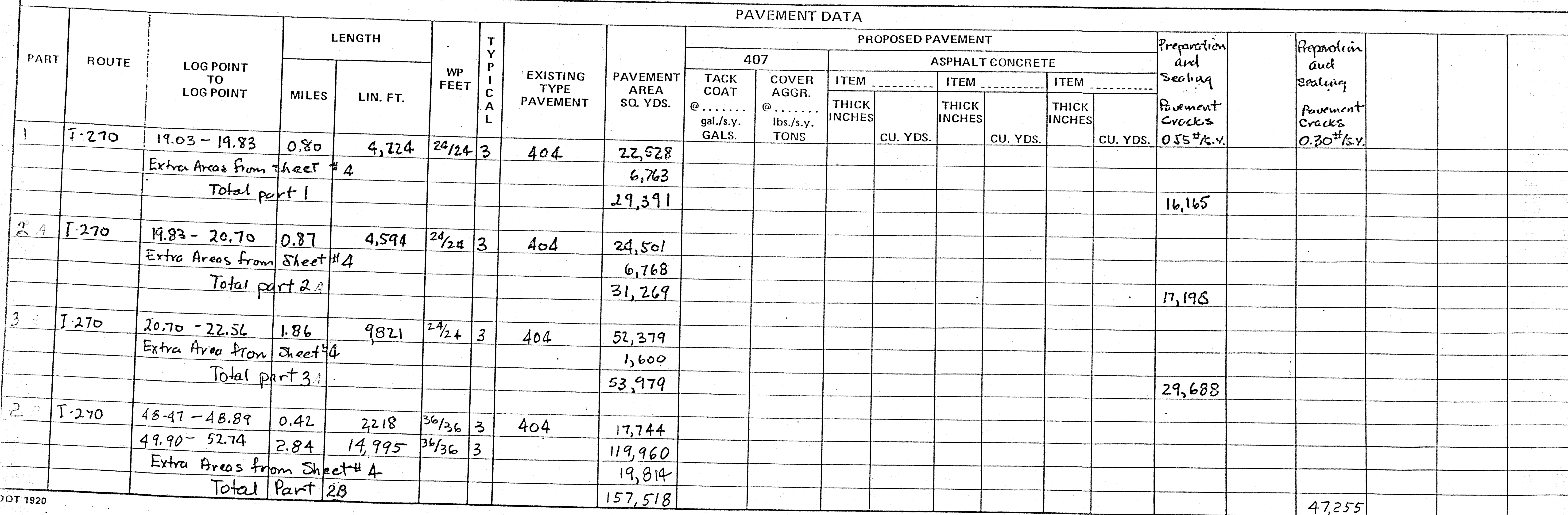


— PORTION TO BE IMPROVED

STANDARD DRAWINGS		SUPPLEMENTAL SPECIFICATIONS	
TC-3 5.1.0	8-29-84		



TYPICAL 3



[illegible]







GENERAL SUMMARY

ITEM	Total Part 1		Total Part 2		Total Part 3		Total Part 4						GRAND TOTAL 1, 2, 3 + 4	UNIT	DESCRIPTION
407														Gals.	Tack Coat
407														Tons	Cover Aggregate
403														Cu. Yds.	Asphalt Concrete AC-20
404														Cu. Yds.	Asphalt Concrete AC-20
Special	16165		113434		39600		18552						187751	Pound	Preparation And Sealing Pavement Cracks
614														Miles	Temporary Center Lines
624	Lump		Lump		Lump		Lump						Lump	Lump	Mobilization
617														Sq. Yds.	Shoulder Preparation
617														Cu. Yds.	Compacted Aggregate
614	Lump		Lump		Lump		Lump						Lump	Lump	Maintaining Traffic

GENERAL NOTES

**TRAFFIC:**  
Traffic shall be maintained at all times. The length of restricted traffic zones shall be kept to a minimum consistent with the specification requirements for protection of completed courses.

**RAILROAD CROSSINGS:**  
The new surface course shall be feathered or butt jointed to meet the rail grades as specified.

**ALIGNMENT AND PROFILE:**  
The work proposed by this project is for the resurfacing of the existing pavement. The alignment of the existing pavement will not be changed, and the profile of the proposed surface will be similar to that of the existing pavement except that it will be raised an amount equal to the thickness of the resurfacing course or courses specified in these plans.

**INTERMEDIATE COURSE, SPOT LEVELING AND PATCHING:**  
This material shall be placed in a separate operation where and as directed by the engineer.

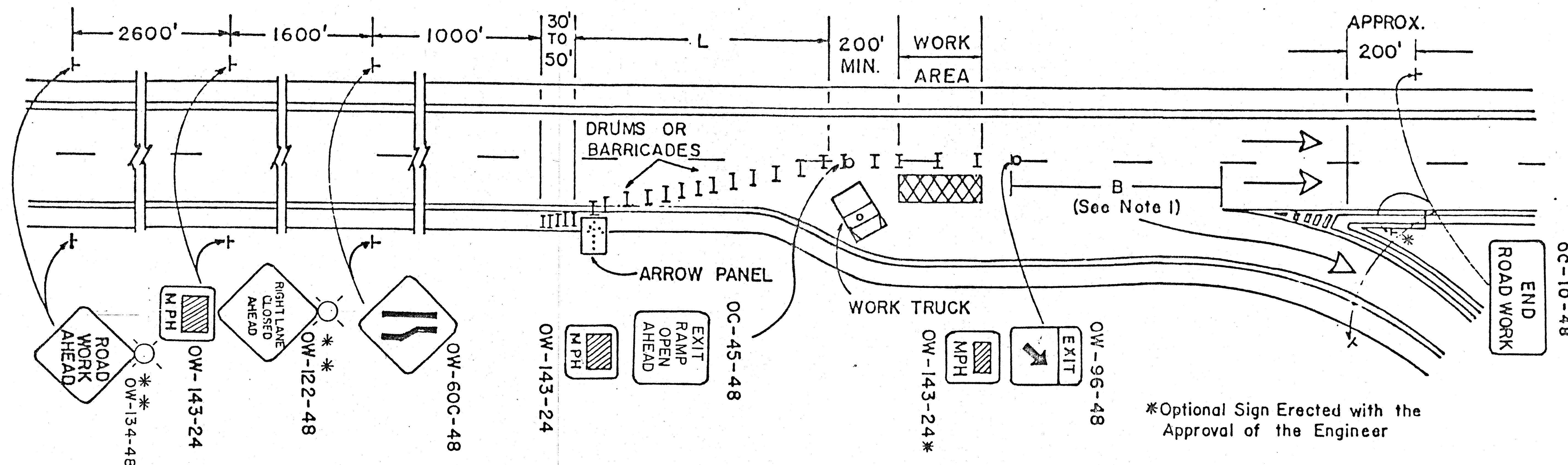
**TACK COAT:**  
The tack coat operation shall be as determined at a pre-construction conference as per 407.05, and application rates shall not exceed 0.10 gal. per sq. yd.

**COVER AGGREGATE:**  
Cover aggregate shall conform to 703.06.









## GENERAL NOTES

1. THIS WORK AREA TRAFFIC CONTROL APPLICATION SHALL ONLY BE USED WHEN THE DISTANCE "B" IS 100 FEET OR GREATER. WHEN "B" IS LESS THAN 100 FEET, THE TRAFFIC CONTROL SHOWN ON THE "LANE CLOSURE AT EXIT GORE" DETAIL SHOULD BE USED, OR THE EXIT SHOULD BE CLOSED, OR THE TRAFFIC CONTROL ON THIS DRAWING MAY BE USED WITH APPROVAL OF THE ENGINEER. WHEN THE EXIT IS CLOSED, APPROPRIATE DETOUR SIGNS SHALL BE PROVIDED.
2. WHEN WORK IS BEING PERFORMED IN THE LANE ADJACENT TO THE MEDIAN ON A DIVIDED HIGHWAY, REFER TO THE TYPICAL WORK AREA TRAFFIC CONTROL SHOWN IN FIGURE C-21 OF THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
3. 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 THE WORK TRUCK SHOWN WHEN APPROVED BY THE ENGINEER.
4. THE FLASHING ARROW PANEL SHALL BE IN ACCORDANCE WITH TC-35.10.
5. THIRTEEN (13) DRUMS OR BARRICADES SHALL BE USED TO FORM THE LANE TRANSITION TAPER IN ADVANCE OF THE WORK AREA. FIVE (5) CHANNELIZING DEVICES SHALL BE USED TO FORM THE TAPER ON THE SHOULDER. CONES, DRUMS, OR BARRICADES SHALL BE SPACED AT 50 FOOT CENTERS. CONES MAY BE SUBSTITUTED FOR BARRICADES OR DRUMS FOR THE LANE CLOSURES DURING DAYLIGHT HOURS ONLY.
6. TYPE C STEADY BURNING BARRICADE WARNING LIGHTS SHALL BE ERECTED ON DRUMS OR BARRICADES FOR NIGHT LANE CLOSURES. MAXIMUM SPACING SHALL BE 50' CENTER TO CENTER IN ADVANCE OF THE WORK AREA AND 200' CENTER TO CENTER WITHIN THE LIMITS OF THE WORK AREA.
7. TAPER FORMULAE:  

$$L = S \times W \text{ FOR SPEEDS OF 45 OR MORE.}$$

$$L = WS^2/60 \text{ FOR SPEEDS OF 40 OR LESS.}$$

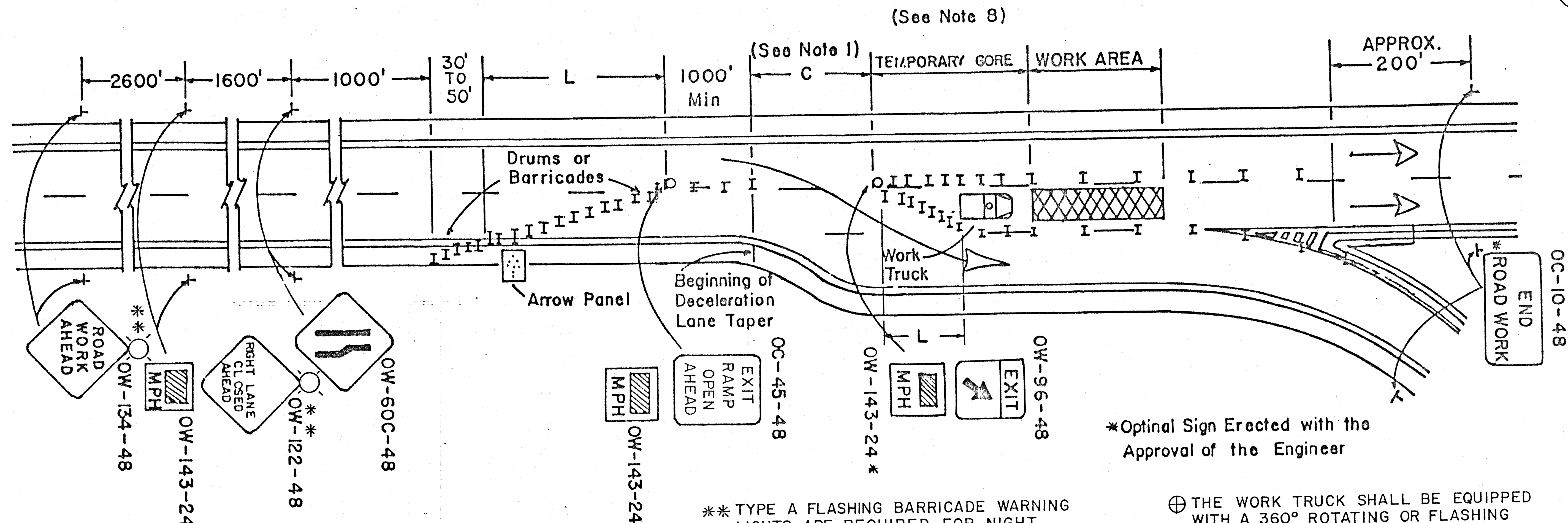
WHERE:  
 L = MINIMUM LENGTH OF TAPER.  
 S = NUMERICAL VALUE OF POSTED SPEED LIMIT PRIOR TO WORK OR 85 PERCENTILE SPEED.  
 W = WIDTH OF OFFSET.
8. THE SPACINGS BETWEEN CONSTRUCTION AND MAINTENANCE SIGNS SHOWN ON THIS DETAIL MAY REQUIRE ADJUSTMENTS (INCREASES OR DECREASES) TO ASSURE THAT THEY ARE POSITIONED NO CLOSER THAN 200 FEET TO EXISTING SIGNS AS DETERMINED BY THE ENGINEER.
9. THE WORK TRUCK SHALL BE EQUIPPED WITH A 360° ROTATING OR FLASHING AMBER BEACON CLEARLY VISIBLE A MINIMUM OF A 1/4 MILE.

OHIO DEPARTMENT OF TRANSPORTATION

LANE CLOSURE  
BEFORE EXIT GORE

U.T.  
3-3-79





### GENERAL NOTES

1. THIS WORK AREA TRAFFIC CONTROL APPLICATION SHALL ONLY BE USED WHEN THE DISTANCE "C" IS 100 FEET OR GREATER. WHEN "C" IS LESS THAN 100 FEET, THE TRAFFIC CONTROL SHOWN ON THE "LANE CLOSURE BEFORE EXIT GORE" DETAIL SHOULD BE USED, OR THE EXIT SHOULD BE CLOSED, OR THE TRAFFIC CONTROL ON THIS DRAWING MAY BE USED WITH APPROVAL OF THE ENGINEER. WHEN THE EXIT IS CLOSED, APPROPRIATE DETOUR SIGNS SHALL BE PROVIDED.
2. WHEN WORK IS BEING PERFORMED IN ONLY THE LANE ADJACENT TO THE MEDIAN ON A DIVIDED HIGHWAY, REFER TO THE TYPICAL WORK AREA TRAFFIC CONTROL SHOWN IN FIGURE C-21 OF THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
3. 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 THE WORK TRUCK SHOWN WHEN APPROVED BY THE ENGINEER. A TRUCK MOUNTED IMPACT ATTENUATOR MAY BE EMPLOYED. ⊕

4. THE FLASHING ARROW PANEL SHALL BE IN ACCORDANCE WITH TC-35.10.
5. THIRTEEN (13) DRUMS OR BARRICADES SHALL BE USED TO FORM THE LANE TRANSITION TAPER IN ADVANCE OF THE WORK AREA. FIVE (5) CHANNELIZING DEVICES SHALL BE USED TO FORM THE TAPER ON THE SHOULDER. CONES, DRUMS, OR BARRICADES SHALL BE SPACED AT 50 FOOT CENTERS. CONES MAY BE SUBSTITUTED FOR BARRICADES OR DRUMS FOR THE LANE CLOSURES DURING DAYLIGHT HOURS ONLY.
6. TYPE C STEADY BURNING BARRICADE WARNING LIGHTS SHALL BE ERECTED ON DRUMS OR BARRICADES FOR NIGHT LANE CLOSURES. MAXIMUM SPACING SHALL BE 50' CENTER TO CENTER IN ADVANCE OF THE WORK AREA AND 200' CENTER TO CENTER WITHIN THE LIMITS OF THE WORK AREA.

9. 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.

\*Optimal Sign Erected with the Approval of the Engineer

⊕ THE WORK TRUCK SHALL BE EQUIPPED WITH A 360° ROTATING OR FLASHING AMBER BEACON CLEARLY VISIBLE A MINIMUM OF A 1/4 MILE.

### 7. TAPER FORMULAE:

$$L = S \times W \text{ FOR SPEEDS OF 45 OR MORE.}$$

$$L = WS^2/60 \text{ FOR SPEEDS OF 40 OR LESS.}$$

WHERE:

L = MINIMUM LENGTH OF TAPER.  
S = NUMERICAL VALUE OF POSTED SPEED LIMIT PRIOR TO WORK OR 85 PERCENTILE SPEED.  
W = WIDTH OF OFFSET.

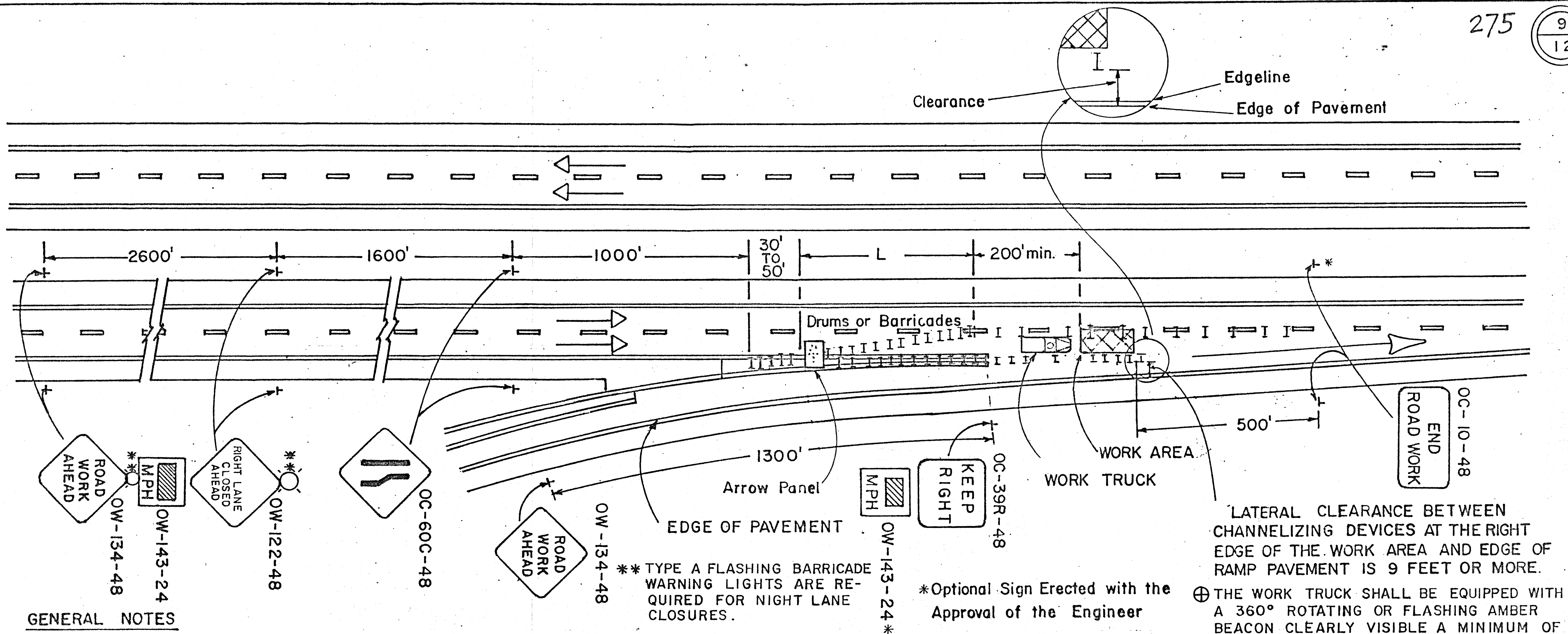
8. WHEN CREATING A TEMPORARY GORE, CHANNELIZING DEVICES SHOULD BE SPACED 25' CENTER TO CENTER SO AS TO CREATE A "SOLID GORE" EFFECT.

OHIO DEPARTMENT OF TRANSPORTATION

LANE CLOSURE  
AT EXIT GORE

DATE  
3-3-79





## GENERAL NOTES

1. THIS WORK AREA TRAFFIC CONTROL APPLICATION SHALL BE EMPLOYED WHEN THE LATERAL CLEARANCE BETWEEN THE CHANNELIZING DEVICES AT THE RIGHT EDGE OF THE WORK AREA AND THE EDGE OF THE RAMP PAVEMENT IS 9 FEET OR MORE. WHEN THE CLEARANCE IS LESS THAN 9 FEET, THE TRAFFIC CONTROL ON "LANE CLOSURE AT ENTRANCE RAMP: PLAN B" SHOULD BE USED, OR THE RAMP SHOULD BE CLOSED, OR ALLOWING RAMP TRAFFIC TO USE THE BERM SHOULD BE CONSIDERED PROVIDED THE OPERATION IS "SHORT" IN DURATION. WHEN THE RAMP IS CLOSED, APPROPRIATE DETOUR SIGNS SHALL BE PROVIDED.
2. THIRTEEN (13) DRUMS OR BARRICADES SHALL BE USED TO FORM THE LANE TRANSITION TAPER IN ADVANCE OF THE WORK AREA. FIVE (5) CHANNELIZING DEVICES SHALL BE USED TO FORM THE TAPER ON THE SHOULDER. CONES, DRUMS, OR BARRICADES SHALL BE SPACED AT 50 FOOT CENTERS. CONES MAY BE SUBSTITUTED FOR BARRICADES OR **DRUMS FOR THE LANE CLOSURES DURING DAYLIGHT HOURS ONLY.**
3. RAMP SIGNS SHALL BE DUAL MOUNTED ON MULTILANE RAMPS.

4. THE FLASHING ARROW PANEL SHALL BE IN ACCORDANCE WITH TC-35.10.
5. 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 WORKMAN 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. ⊕
6. TYPE C STEADY BURNING BARRICADE WARNING LIGHTS SHALL BE ERECTED ON DRUMS OR BARRICADES FOR NIGHT LANE CLOSURES. MAXIMUM SPACING SHALL BE 50' CENTER TO CENTER IN ADVANCE OF THE WORK AREA AND 200' CENTER TO CENTER WITHIN THE LIMITS OF THE WORK AREA.

## 7. TAPER FORMULAE:

$$L = S \times W \text{ FOR SPEEDS OF 45 OR MORE.}$$

$$L = WS^2/60 \text{ FOR SPEEDS OF 40 OR LESS.}$$

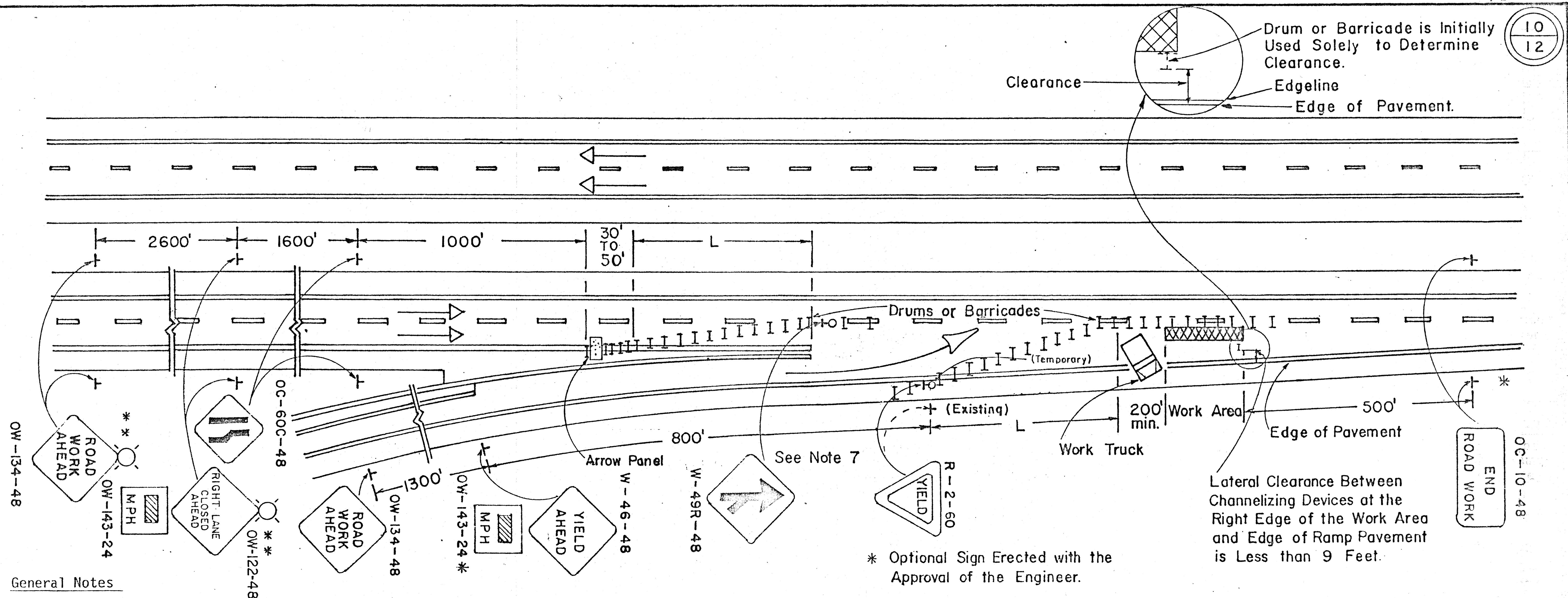
WHERE:

L = MINIMUM LENGTH OF TAPER.  
 S = NUMERICAL VALUE OF POSTED SPEED LIMIT PRIOR TO WORK OR 85 PERCENTILE SPEED.  
 W = WIDTH OF OFFSET.

8. 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	
LANE CLOSURE	DATE
AT ENTRANCE	8-3-79
RAMP: PLAN A	





## General Notes

1. This work area traffic control application shall be employed when the lateral clearance between channelizing devices at the right edge of the work area and the edge of the ramp pavement is less than 9 feet. When the clearance is more than 9 feet, the traffic control on "Lane Closure at Entrance Ramp: Plan A" should be used, or the ramp should be closed. When the ramp is closed, appropriate detour signs shall be provided.
2. Thirteen (13) drums or barricades shall be used to form the lane transition taper in advance of the work area. Five (5) channelizing devices shall be used to form the taper on the shoulder. Cones, drums, or barricades shall be spaced at 50 foot centers. Cones may be substituted for barricades or drums for the lane closures during daylight hours only.
3. Ramp signs shall be dual mounted on multi-lane ramps. When the ramp is not long enough to allow placement as specified above, the signs may be spaced proportionately within the space available as determined by the Engineer (a 200' minimum spacing must be maintained).
4. The flashing arrow panel shall be in accordance with TC-35.10.
5. 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. ⊕
6. Type C steady burning barricade warning lights shall be erected on drums or barricades for night lane closures. Maximum spacing shall be 50' center to center in advance of the work area and 200' center to center within the limits of the work area.
7. It may be necessary to move the location of an existing Yield condition. In these cases, the permanent R-2 sign installation shall be covered and the temporary installation shall be mounted upon a drive post which shall be banded to a drum with stainless steel strapping material or other techniques subject to the approval of the Engineer.
8. Taper Formulae:  

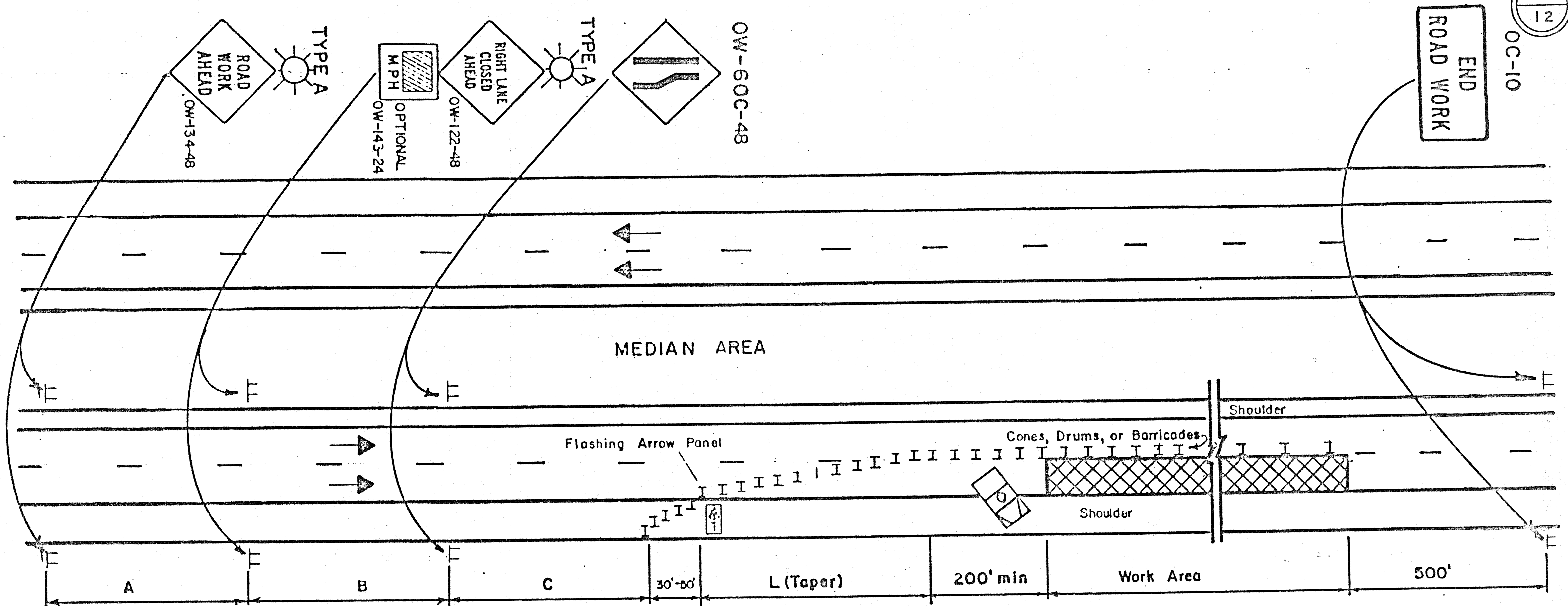
$$L = S \times W \text{ for Speeds of 45 or more.}$$

$$L = WS^2/60 \text{ for Speeds 40 or less.}$$

Where:  
 L = Minimum length of taper.  
 S = Numerical value of posted speed limit prior to work or 85 percentile speed.  
 W = Width of offset.
9. 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	
LANE CLOSURE AT ENTRANCE RAMP PLAN B	DATE 8-3-79





GENERAL NOTES:

1. The taper length (L) shall be in accordance with Section 7F-17 of the OMUTCD. The location of the transition taper and location of the advance warning signs should be adjusted to provide for adequate sight distance for the existing vertical and horizontal roadway alignment. In order to determine the minimum number of channelizing devices for the transition taper see Table 7-5 OMUTCD. For a 55 MPH prevailing speed and a 12 ft. lane, not less than thirteen (13) cones, drums or barricades shall be used to form the lane transition taper in advance of the work area. Not less than five (5) cones, drums or barricades shall be used to form the taper on the shoulder. Cones, drums or barricades shall be spaced approximately 50' to 60' center to center for the first 1000 feet of the work area and at a maximum of 100 to 120 feet for the balance of the work area. Cones may be substituted for barricades or drums during daylight closures only.

2. The major standard level warning sign sizes may be used on divided streets or highways that are not classified as freeways or expressways.

3. When work is being performed in the lane adjacent to the median on a divided highway an OW-123-48 sign(s) shall be substituted for the OW-122-48 sign(s) and an OW-60D-48 sign(s) shall be substituted for the OW-60C sign(s).

4. The work vehicle shown at the beginning of the work area shall be in place and unoccupied whenever workers are in the work area. This work vehicle shall be removed from the pavement whenever workers are not in the work area. Other protective devices may be used in lieu of the work vehicle shown when approved by the Engineer. The vehicle shall be equipped with a 360° rotating or flashing amber beacon clearly visible a minimum of a 1/4 mile.

5. The flashing arrow panel shall meet requirements of TC-35.10.

6. Type C steady burning barricade warning lights shall be erected on drums or barricades for night lane closures. The maximum spacing shall be identical to the channelizing device spacing requirements described in Note 1.

7. Type A flashing barricade warning lights shown on the "Road Work Ahead" and the "Right Lane Closed Ahead" signs are required whenever a night lane closure is necessary.

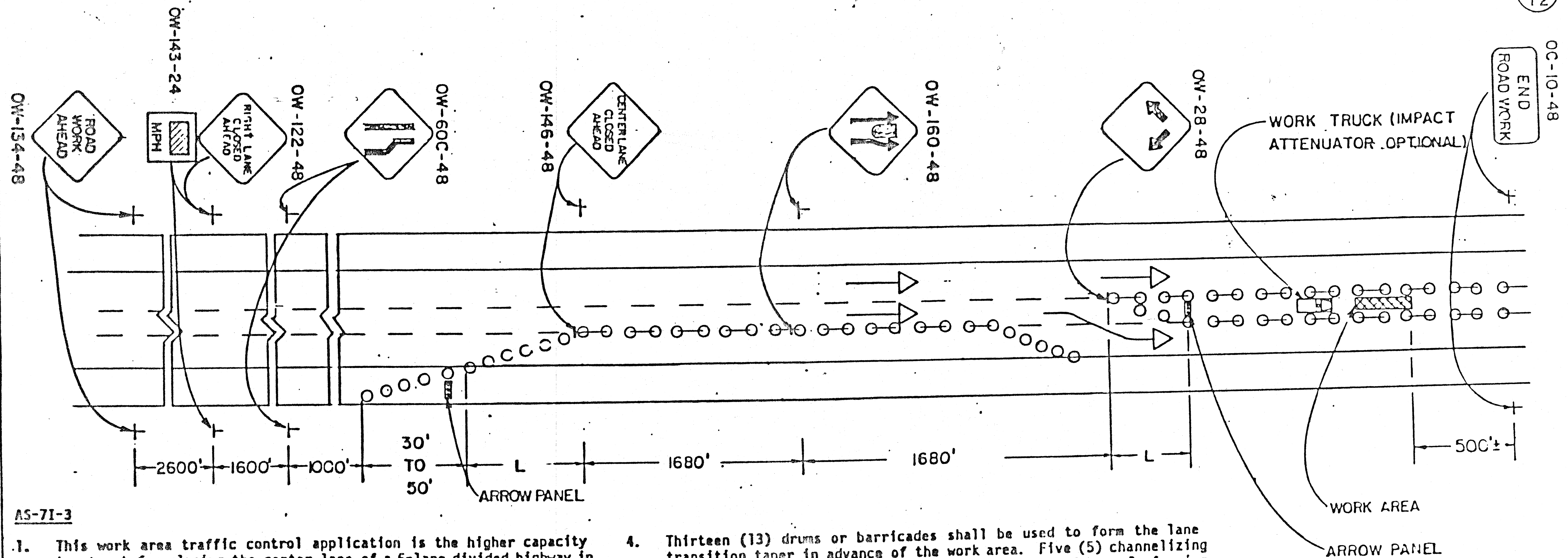
8. Some work area locations may require more than just static or conventional signs to enhance communication with the driver. At these locations Portable Changeable Message Signs (PCMS) units are recommended. These devices should be located 2000 to 4000 feet in advance of a lane closure or other point of required action. See Section 7G-8.1, OMUTCD for further guidance on use of PCMS units.

MINIMUM DISTANCE	A	B	C
MAJOR STANDARD	500'	500'	500'
URBAN FREEWAY & EXPRESSWAY	500' TO 1000'	500' TO 1000'	500' TO 1000'
RURAL FREEWAY & EXPRESSWAY	2600'	1600'	1000'

OHIO DEPARTMENT OF TRANSPORTATION  
CLOSING ONE LANE  
OF A FOUR LANE  
DIVIDED HIGHWAY

DATE  
2/82





## AS-7I-3

1. This work area traffic control application is the higher capacity treatment for closing the center lane of a 6-lane divided highway in rural areas. An alternate treatment for this type of closing is shown on AS-7I-4, "Closing Center Lane of a 6-Lane Divided Highway: Plan B (Rural)".
2. 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.
3. Taper Formulae:

$L = S \times W$  for posted speeds of 45 MPH or more.

$L = WS^2/60$  for posted speeds of 40 MPH or less.

Where:

$L$  = Minimum Length of taper

$S$  = Numerical value of the off-peak 85th percentile speed.

$W$  = Width of offset.

4. Thirteen (13) drums or barricades shall be used to form the lane transition taper in advance of the work area. Five (5) channelizing devices shall be used to form the taper on the shoulder. In forming transition tapers, cones, drums or barricades shall be spaced at 50 foot centers. Cones may be substituted for barricades or drums for the lane closures in place during daylight hours only.
5. Type C steady burning barricade warning lights shall be erected on drums or barricades for night lane closures. Maximum spacing shall 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.
9. 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.

BUREAU OF TRAFFIC OHIO DEPARTMENT OF TRANSPORTATION	
CLOSING CENTER LANE OF A 6-LANE DIVIDED HIGHWAY: PLAN A (RURAL)	DATE 4/81
OR	CK