

**TABLE III**

SPEED LIMIT (MPH)	"L" GORE LENGTH (FT)		"N" NOSE WIDTH (FT)		
	High-Speed		High-Speed		
	Rural	Urban	Rural	Urban	Low-Speed
45					24
50	320	260	32	24	
55	350	280	32	24	
60	370	300	32	24	
65	400	340	32	24	
70	450	370	32	24	

**TABLE I (SIGN SPACING)**

ROAD TYPE	DISTANCE BETWEEN SIGNS (FT)		
	A	B	C
FREEWAY & EXPRESSWAY	1000	1500	2640

**TABLE II**

SPEED LIMIT (MPH)	TAPER RATE MINIMUM	PB FLARE RATE MINIMUM	MAXIMUM DRUM SPACING (FT)		CLEAR ZONE WIDTH (E) (FT)
			Taper sec.	Tangent sec.	
25	11:1	8:1	25	40	15
30	15:1	8:1	30	40	15
35	21:1	9:1	35	40	15
40	27:1	10:1	40	80	15
45	45:1	12:1	45	80	19
50	50:1	14:1	50	80	19
55	55:1	16:1	55	80	23
60	60:1	18:1	60	120	30
65	65:1	19:1	65	120	30
70	70:1	20:1	70	120	30

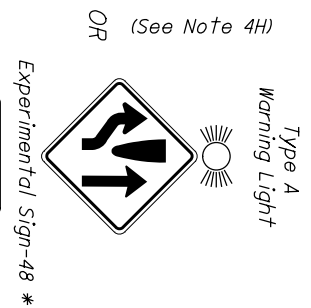
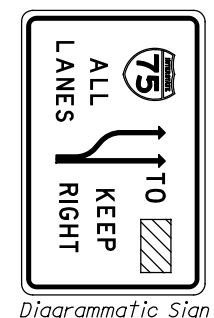
**LEGEND**

DIRECTION OF TRAVEL

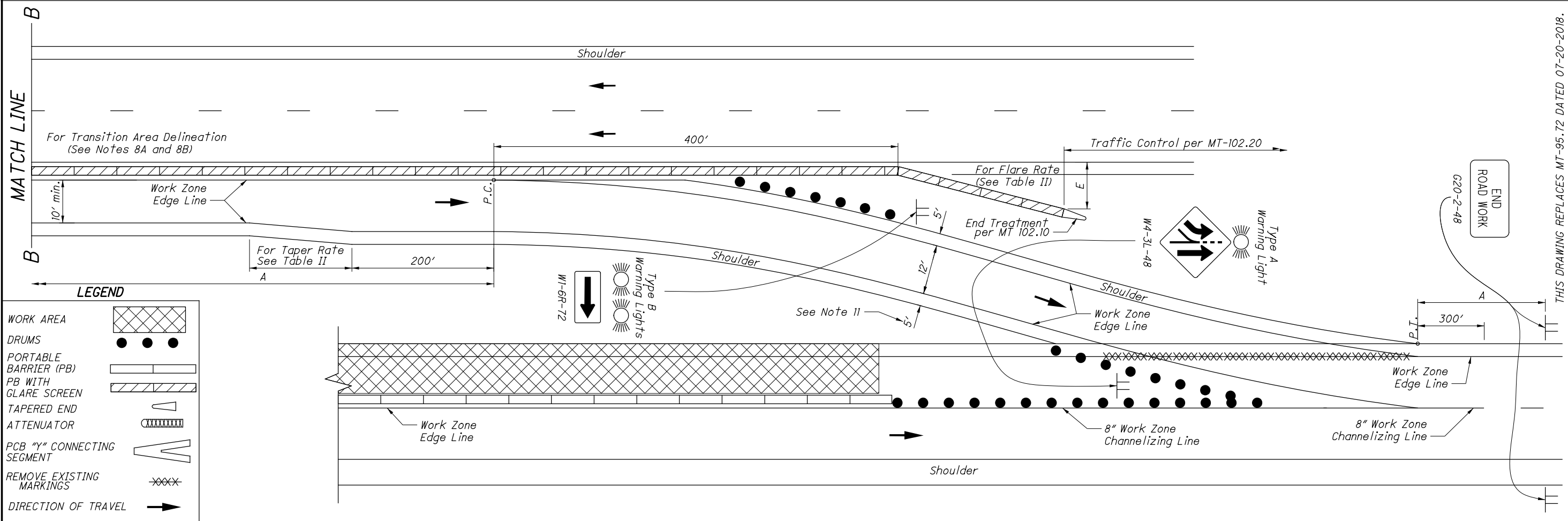
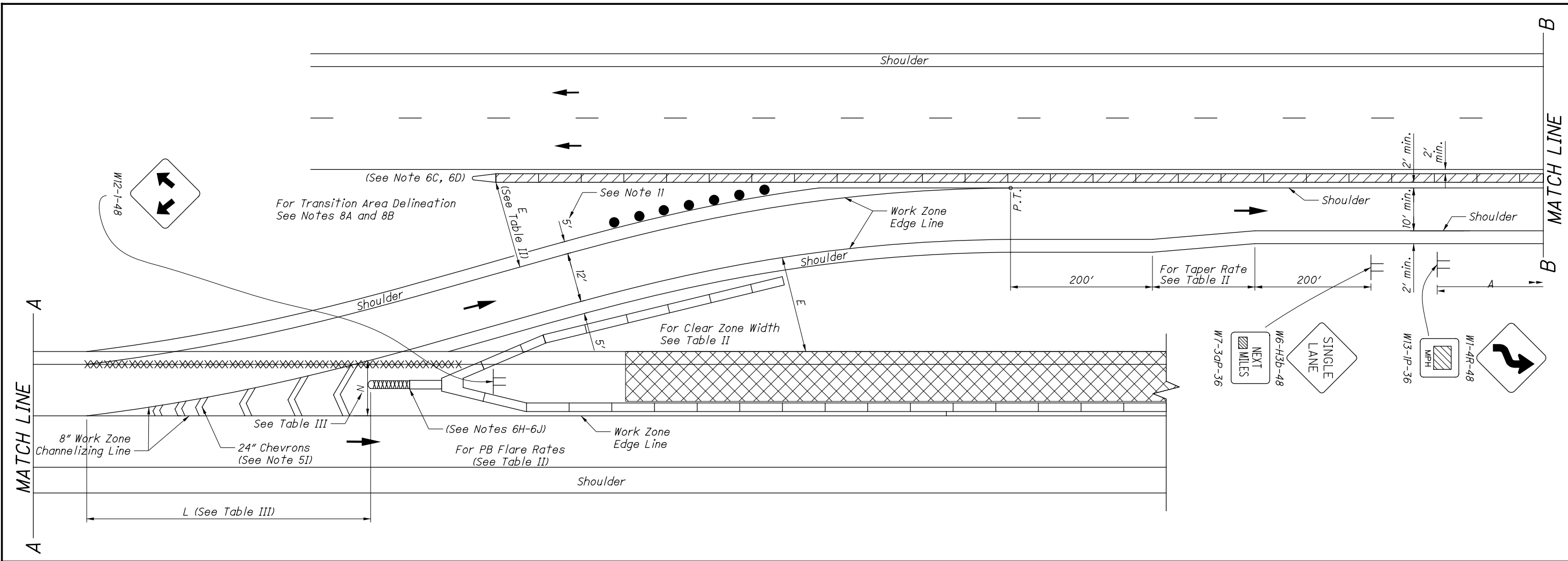
DIGITAL SPEED LIMIT (DSL) SIGN ASSEMBLIES

TEMPORARY FLATSHEET SPEED LIMIT SIGNS

R2-1



\* This experimental sign shall only be used with approval from the Office of Roadway Engineering Administrator. The number of arrows shown on the experimental sign shall be representative of the number of travel lanes.



**LEGEND**

WORK AREA	
DRUMS	
PORTABLE BARRIER (PB)	
PB WITH GLARE SCREEN	
TAPERED END ATTENUATOR	
PCB "Y" CONNECTING SEGMENT	
REMOVE EXISTING MARKINGS	
DIRECTION OF TRAVEL	

STATE OF OHIO DEPARTMENT OF TRANSPORTATION ADMINISTRATOR  
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 ENGINEER  
 OFFICE OF ROADWAY ENGINEERING  
 STANDARD ROADWAY CONSTRUCTION DRAWING  
 THIS DRAWING REPLACES MT-95.72 DATED 07-20-2018.  
**MEDIAN CROSSOVER OF PASSING LANE SHORT DISTANCE (WITHOUT EXIT RAMP)**  
 MT-95.72  
 REVISION DATE  
 01-17-2020  
 2 / 3

NOTES:

GENERAL

- 1A. This Standard Construction Drawing (SCD) presents information which is applicable to crossover design. Additional information, applicable to Maintenance of Traffic on multi-lane highways can be found on the MT-95.30 and MT-95.40 series drawings, on MT-95.50, and on the MT-102 series drawings.
- 1B. SCD MT-101.70 shall be used with this drawing.

DESIGN SPEED

- 2. The design speed used for taper rates should typically be the permanent legal speed. However, on construction projects for which the speed limit is reduced, the reduced speed may be used in determining the taper rate when the taper is not the first active construction area within the project.

TAPERS

- 3. The minimum acceptable length of taper shall be determined by multiplying the width of offset by the taper rate. The taper rate is provided in Table II.

SIGNING

- 4A. The Advisory Speed (W13-1P) plaque shall be used when specified in the plans.
- 4B. The spacing between work zone signs, as shown in Table I, are minimums. Maximum spacing should not be greater than 1.5 times the distances shown in Table I.
- 4C. Sign spacing should be adjusted to avoid conflict with existing signs. Minimum spacing to existing signs shall be 200' for speeds of 45 mph or less and a minimum of 400' for speeds 50 mph or greater.
- 4D. Sign locations should be adjusted to provide adequate sight distance for the existing vertical and horizontal roadway alignment.
- 4E. If the tangent distance along the temporary diversion is less than 2000', place the second Reverse Curve (W1-4) sign at the midpoint of the tangent.
- 4F. If the tangent distance along the temporary diversion is 600' or less, then the double Reverse Curve (W24-1) sign may be used in place of the first Reverse Curve sign, eliminating the need for the second Reverse Curve sign.
- 4G. The SINGLE LANE (W6-H3b) sign shall be provided along directional single-lane roadways over 3 miles. Spacing of the W6-H3b shall be at approximately 1 mile.
- 4H. A diagrammatic sign shall be provided when detailed in the plan. Otherwise, the experimental sign assembly shall be provided subsequent to approval by the Office of Roadway Engineering Administrator.
- 4I. The ALL LANES signs and the diagrammatic sign shall have black legends on an orange background. These signs shall be flat sheet signs on sign posts. The size of the signs (based on Level I sign design) shall be as specified in the plans.
- 4J. Signing for exit ramps located within the limits of the crossover lane should be as shown on the plan. Signing shall specify which exits are not accessible from the crossover lane.
- 4K. Additional information shall be provided in the form of fixed signs and/or changeable message boards as called for in the plans.
- 4L. Sign spacing on major conventional highways shall be as called for in Table I for freeway and expressway spacing unless otherwise determined by the Engineer.

PAVEMENT MARKINGS

- 5A. The existing conflicting pavement markings and reflectors from the raised pavement markers shall be removed and the appropriate color work zone edge lines shall be applied.
- 5B. Work zone edge lines shall be provided along the tangent section when called for in the plans.
- 5C. Work zone pavement markings which would conflict with the final traffic lanes shall be removable (CMS 740.06, Type I) tape unless the area will be resurfaced prior to project completion.
- 5D. After completion of the work, pavement markings other than CMS 740.06, Type I shall be removed in accordance with CMS 614.11I. The original markings and raised pavement marker reflectors shall be restored at no additional cost unless separately itemized in the plans.
- 5E. Edge lines shall be of the appropriate color for the direction of travel. If the temporary edge lines are located on the same alignment as existing lines, the temporary lines may be painted over top of the existing lines (with subsequent over-painting if necessary during the life of the work stage to maintain day and night color) if other than on the final surface. If on the final surface, all marking shall be removable tape as per Note 5C above.
- 5F. A 12" channelizing line shall be provided in between the crossover lane and the through lane in advance of the "exit" gore, as shown on sheet 1 of 3. All other channelizing lines shown on this drawing shall be of standard 8" width.
- 5G. If the intended location of the beginning of the channelizing line, as called for in the detail, is on a curve, then the beginning of the channelizing line should be relocated upstream a distance of 500'.
- 5H. If the beginning of the channelizing line would be located near an exit ramp, then the beginning of the channelizing line shall be relocated upstream a distance of 1000' in advance of the beginning of the exit ramp deceleration lane.
- 5I. Chevron markings in neutral areas of exit ramps are 24" wide lines and are placed at the spacing shown in SCD TC-72.20.

PORTABLE BARRIER (PB)

- 6A. The PB near the exiting crossover shall extend straight on the permanent roadway to 400' beyond the PC of the crossover. The PB shall then be flared at the rate specified in Table II.
- 6B. The PB shall be 32", fitted with glare screen, or may be 50" high if NCHRP 350 compliant.
- 6C. PB end treatment shall be by impact attenuator if located within the clear zone of approaching traffic.
- 6D. NCHRP 350 PB end treatment may be by tapered ends if located beyond the clear zone of approaching traffic.
- 6E. When used, impact attenuators shall be installed parallel to traffic. The last full section of PB adjacent to the impact attenuator shall be located parallel to traffic. For installation procedures, refer to manufacturer's installation instructions.
- 6F. No reflectors or other channelizing devices shall be permitted on the face of the PB facing the exiting crossover, from PC to end of barrier.

PB (cont.)

- 6G. Where PB is provided at the gore, the impact attenuators shall be installed parallel to mainline traffic.
- 6H. Where the impact attenuator is intended to apply to two NCHRP 350 portable concrete barriers within the gore, one from the through lane and one from the crossover, the two NCHRP 350 portable concrete barriers shall be joined to form one unit using a PCB "Y" connecting segment. For the "Y" details, see Roadway Plan Insert Sheet "Portable Concrete Barrier 'Y' Connector Segment".  
  
Contractors may choose to install a wide impact attenuator in lieu of utilizing the concrete "Y" segment to join two NCHRP 350 portable concrete barriers into one. For example, a wide impact attenuator at a minimum of 48" wide and rated for the design speed of the roadway could be installed in place of the aforementioned (1) work zone impact attenuator, (2) PCB "Y" connector segment and (3) one standard NCHRP 350 PCB section. However, if Contractors use this connection method, the wider impact attenuator must be crashworthy in accordance with MASH-16 and installed as per manufacturer's instructions.  
  
If using steel barrier or MASH portable concrete barrier, the Contractor shall install the wide impact attenuator option as detailed above, ensuring that all connections are maintained per the manufacturer's specifications.  
  
The Contractor shall repair or replace a damaged unit within 24 hours of a damaging impact.
- 6I. Where a PCB "Y" connecting segment is provided, one standard section of NCHRP 350 PCB shall be provided between the "Y" connecting segment and the impact attenuator.
- 6J. Connection of the impact attenuator to the PB shall be by positive connection. Appropriate crashworthy transitions between the impact attenuator and the first PB shall be installed.
- 6K. Where a PB is located beyond the edge of the paved shoulder, the cross slope within the clear zone, including the surface on which the PB is placed, shall be graded at 10:1 or flatter. If the cross slope is steeper than 10:1, the PB shall be terminated on the paved shoulder as necessary to satisfy the length of need, and then terminated using an impact attenuator.
- 6L. For installation procedures for the PB and the impact attenuator, refer to the manufacturer's installation instructions.
- 6M. For details on delineation of PB, see SCD MT-101.70.
- 6N. PB shall also be provided along the crossover where the work is within the clear zone of the crossover. The PB within the gore, along the right side of the crossover lane should be flared as per Table II, with the upstream end of the PB placed adjacent to the mainline PB.

DRUMS

- 7A. Drums along the crossover curves shall be spaced at 20' center-to-center.
- 7B. Drums used to close off a crossover shall be spaced at 10' center-to-center.
- 7C. All other drum spacing shall be as per Table II.
- 7D. Drums located along the crossover ramps should be placed on the aggregate shoulder as much as possible in order to maximize the width of pavement open to traffic.

TRANSITION AREA DELINEATION

- 8A. Transition area delineation shall be provided as called for in SCD MT-99.30, or as otherwise called for in the plans.
- 8B. Additionally, RPMs at 20' spacing shall be provided beside the channelizing line located between the crossover lane and the through lanes.

LIGHTING

- 9. Work zone lighting shall be provided as per SCD MT-100.00.

GEOMETRICS

- 10. Geometrics of the crossover shall be as called for in the plans.
- 11. Shoulders in the crossover shall be 5' consisting of 3' of paved shoulder and 2' of Item 411 stabilized crushed aggregate shoulder. The depth of Item 411 shall be a minimum of 6".

EXISTING LONGITUDINAL RUMBLE STRIPS

- 12. Existing longitudinal rumble strips, located within the alignment of the crossover, shall be eliminated by pavement planing and resurfacing.

WORK ZONE SPEED ZONES

- 13. The DSL Sign Assemblies and temporary flatsheet speed limit signs (R2-1) are shown in the advance warning area on this SCD for informational purposes to depict sign locations when used with the SCD.

These speed limit signs shall be used only when specified in the plans and placed per MT-104.10 and in accordance with SS 908 and SS 808, including, but not limited to, the requirements for dual vs. single posting and spacing of repeated signage throughout the work zone speed zone.

THIS DRAWING REPLACES MT-95.72 DATED 07-20-2018.

STANDARD ROADWAY CONSTRUCTION DRAWING

**MEDIAN CROSSOVER OF PASSING LANE SHORT DISTANCE (WITHOUT EXIT RAMP)**

**MT - 95.72**

STATE ENGINEER

Soisson

STATE OF OHIO DEPARTMENT OF TRANSPORTATION ADMINISTRATOR

David L. Holstein

REVISION DATE

01-17-2020