



**STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION**

ROADWAY DESIGN DIVISION
SUITE 1300 JAMES K. POLK BUILDING
505 DEADERICK STREET
NASHVILLE, TENNESSEE 37243-3848
(615) 741-2221

JOHN C. SCHROER
COMMISSIONER

BILL HASLAM
GOVERNOR

INSTRUCTIONAL BULLETIN NO. 17-07

Regarding Revised Standard Drawings

Effective August 18th, 2017 letting (June 7th, 2017 Turn-in), the following Standard Drawings have been revised to add item numbers and/or a General Note: "See TDOT Roadway Design Guidelines Section 4-716.11 for line width and Section 4-716.30 for material type." Copies of the revised and new standard drawings are attached.

Revised Standard Drawings:

DRAWING NUMBER	CURRENT REVISION DATE	DESCRIPTION
³ T-WZ-11	03-05-17	ONE LANE CLOSURE DETAIL ON DIVIDED HIGHWAYS
³ T-WZ-12	03-05-17	ONE LANE CLOSURE DETAIL FOR BRIDGES ON DIVIDED HIGHWAYS
³ T-WZ-13	03-05-17	TWO-OUTSIDE LANE CLOSURE ON FREEWAY OR EXPRESSWAY
³ T-WZ-14	03-05-17	TWO-OUTSIDE LANE CLOSURE ON INTERSTATES AND EXPRESSWAYS
³ T-WZ-15	03-05-17	INTERIOR LANE CLOSURE ON FREEWAYS OR EXPRESSWAYS
³ T-WZ-16	03-05-17	LANE SHIFT ON DIVIDED HIGHWAYS AND FREEWAYS
³ T-WZ-18	03-05-17	SHOULDER CLOSURE DETAIL FOR FREEWAYS AND DIVIDED HIGHWAYS
³ T-WZ-19	03-05-17	MEDIAN CROSS-OVER DETAIL ON DIVIDED HIGHWAYS
¹ T-WZ-21	03-05-17	LANE CLOSURE WITH LEFT HAND MERGE AND LANE SHIFT

³ T-WZ-32	03-05-17	TRAFFIC CONTROL PLAN SIGNAL LAYOUT FOR TRAFFIC SIGNAL AT TWO LANE BRIDGE RECONSTRUCTION SITE
³ T-WZ-36	03-05-17	LANE CLOSURE ON LOW-VOLUME 2-LANE HIGHWAY
¹ T-WZ-40	03-05-17	RIGHT LANE CLOSURES AT NEAR SIDE OF INTERSECTIONS
¹ T-WZ-41	03-05-17	LEFT LANE CLOSURES AT NEAR SIDE OF INTERSECTIONS
¹ T-WZ-42	03-05-17	CENTER LANE CLOSURES AT NEAR SIDE OF INTERSECTIONS

Voided Standard Drawings:

DRAWING NUMBER	CURRENT REVISION DATE	DESCRIPTION
W-TW-1		DETAILS OF TREE WALLS
S-GRT-4	07-05-16	TYPE 13 GUARDRAIL TERMINAL (TRAILING END)

Note 1: Minor revisions, revised notes, and/or revised references to other standard drawings

Note 2: Minor revisions, revised details

Note 3: Minor revisions, revised pay item numbers

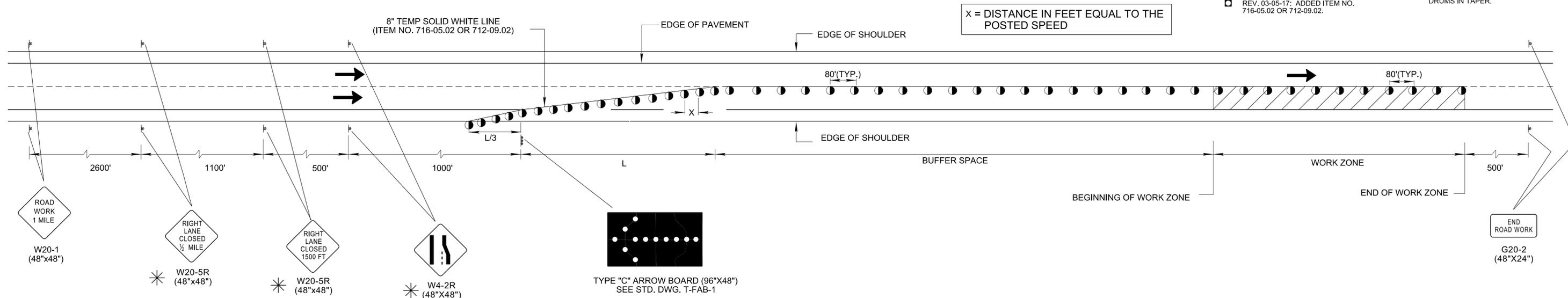
Note 4: add/remove details and/or tables, revised notes


 Jennifer Lloyd, PE
 Civil Engineering Director
 Roadway Design Division

KJL:ARH:RBB:SSH
 04/27/2017

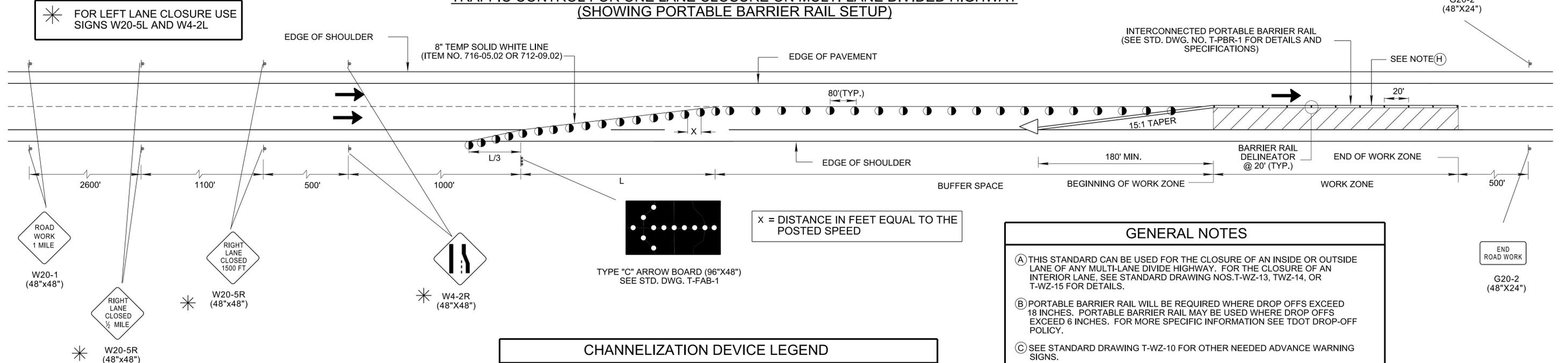
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TRAFFIC CONTROL FOR ONE LANE CLOSURE ON MULTI-LANE DIVIDED HIGHWAY (NO PORTABLE BARRIER RAIL SETUP)



- REV. 5-12-06: REPLACED VERTICAL PANEL WITH BARRIER RAIL DELINEATORS. ADDED GENERAL NOTES (G&H)
- REV. 10-06-06: CHANGED ITEM NO. FOR BARRIER RAIL DELINEATOR. ADDED GENERAL NOTE (I). CHANGED GENERAL NOTE (E)
- REV. 03-13-09: CHANGED GENERAL NOTE (E)
- REV. 03-05-17: ADDED ITEM NO. 716-05.02 OR 712-09.02.
- REV. 12-18-99: MODIFIED GENERAL NOTE (E)
- REV. 7-29-03: CHANGED GENERAL NOTE (E)
- REV. 4-15-04: CHANGED W4-2 SIGN. CHANGED GENERAL NOTE (D) TO COMPLY WITH 2003 MUTCD.
- REV. 9-1-05: REMOVED TYPE "C" WARNING LIGHTS FROM FLEXIBLE DRUMS IN TAPER.

TRAFFIC CONTROL FOR ONE LANE CLOSURE ON MULTI-LANE DIVIDED HIGHWAY (SHOWING PORTABLE BARRIER RAIL SETUP)



* FOR LEFT LANE CLOSURE USE SIGNS W20-5L AND W4-2L

* FOR LEFT LANE CLOSURE USE SIGNS W20-5L AND W4-2L

COMPUTATION FOR DISTANCE L

$L = W \times S$

L = TAPER LENGTH IN FEET
W = WIDTH OF OFFSET IN FEET
S = POSTED SPEED

CHANNELIZATION DEVICE LEGEND	
	FLEXIBLE DRUMS
	SIGN SUPPORT
	DIRECTION OF TRAFFIC
	WORK SITE
	BARRIER RAIL DELINEATOR (ITEM NO. 712-04.50, PER EACH)
	FLASHING YELLOW ARROW BOARD (SEE STD. DWG. NO. T-FAB-1, FOR DETAILS AND SPECIFICATIONS)
	ATTENUATOR

- #### GENERAL NOTES
- (A) THIS STANDARD CAN BE USED FOR THE CLOSURE OF AN INSIDE OR OUTSIDE LANE OF ANY MULTI-LANE DIVIDE HIGHWAY. FOR THE CLOSURE OF AN INTERIOR LANE, SEE STANDARD DRAWING NOS. T-WZ-13, TWZ-14, OR T-WZ-15 FOR DETAILS.
 - (B) PORTABLE BARRIER RAIL WILL BE REQUIRED WHERE DROP OFFS EXCEED 18 INCHES. PORTABLE BARRIER RAIL MAY BE USED WHERE DROP OFFS EXCEED 6 INCHES. FOR MORE SPECIFIC INFORMATION SEE TDOT DROP-OFF POLICY.
 - (C) SEE STANDARD DRAWING T-WZ-10 FOR OTHER NEEDED ADVANCE WARNING SIGNS.
 - (D) SEE TABLE 6C-2 OF PART VI OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) FOR RECOMMENDED LENGTHS OF BUFFER SPACE WHICH ARE BASED ON STOPPING SIGHT DISTANCE AS A FUNCTION OF SPEED.
 - (E) TAPER LENGTH SHOWN FOR THE PORTABLE BARRIER RAIL IS A MINIMUM. PORTABLE BARRIER RAIL SHOULD BE EXTENDED BEYOND THE CLEAR ZONE OR BE SHIELDED WITH AN ATTENUATOR WHEN IT IS NOT FEASIBLE TO EXTEND THE PORTABLE BARRIER RAIL. SEE STANDARD DRAWING S-CZ-1 FOR CLEAR ZONE DISTANCE.
 - (F) A SECOND ARROW BOARD MAY BE USED WHEN GEOMETRIC CONDITIONS LIMITS THE VISIBILITY OF A LANE CLOSURE.
 - (G) BARRIER RAIL DELINEATORS (ITEM NO. 712-04.50) SHALL BE USED ON PORTABLE BARRIER RAIL. REFER TO THE QUALIFIED PRODUCT LIST FOR APPROVED BARRIER RAIL DELINEATORS. DIFFERENT TYPES OF BARRIER RAIL DELINEATORS SHOULD NOT BE MIXED IN THE SAME LINE.
 - (H) MINIMUM TWO FEET (2') OFFSET BETWEEN TRAVEL LANE AND PORTABLE CONCRETE BARRIER IS REQUIRED. THE MAXIMUM POSSIBLE OFFSET BETWEEN TRAVEL LANE AND PORTABLE BARRIER MUST BE OBTAINED. TWO FEET (2') OFFSET MAY BE ELIMINATED WHERE PHYSICAL CONDITIONS DO NOT ALLOW.
 - (I) RAISED PAVEMENT MARKERS SHOULD NOT BE USED ON RIGHT EDGE LINE.

□ MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

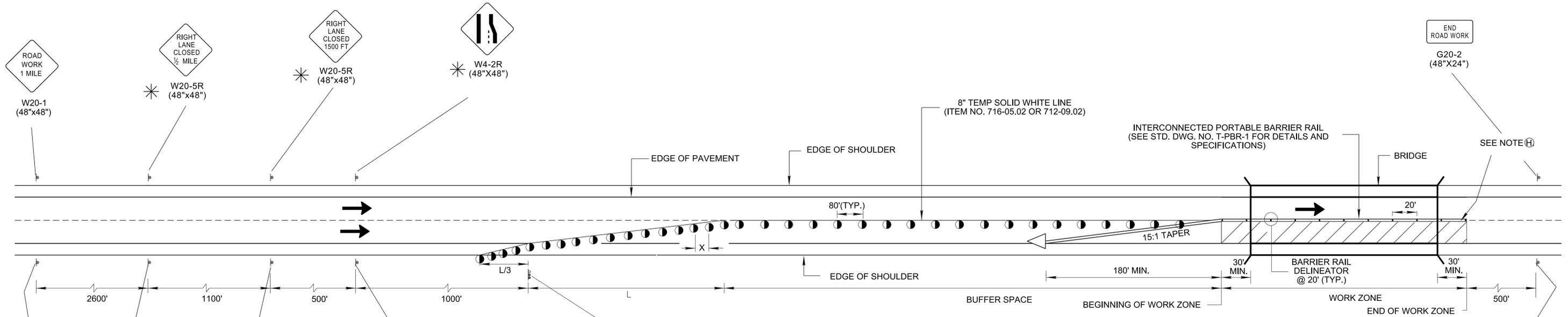
**STATE OF TENNESSEE
DEPARTMENT OF
TRANSPORTATION**

**ONE LANE
CLOSURE
DETAIL ON
DIVIDED HIGHWAYS**

5-27-98 T-WZ-11

TRAFFIC CONTROL FOR ONE LANE (RIGHT OR LEFT) CLOSURE FOR BRIDGES ON DIVIDED HIGHWAYS

- REV. 10-06-06: CHANGED ITEM NO. FOR BARRIER RAIL DELINEATOR. ADDED GENERAL NOTE (E) CHANGED GENERAL NOTE (E)
- REV. 03-13-09: CHANGED GENERAL NOTE (E) AND ATTENUATOR LEGEND DESCRIPTION.
- REV. 03-05-17: ADDED ITEM NO. 716-05.02 OR 712-09.02.
- REV. 4-15-99: ADDED GENERAL NOTE (E)
- REV. 12-18-99: MODIFIED GENERAL NOTE (E)
- REV. 7-29-03: CHANGED GENERAL NOTE (E)
- REV. 4-15-04: CHANGED W4-2 SIGN. CHANGED GENERAL NOTE (D) TO COMPLY WITH 2003 MUTCD.
- REV. 9-1-05: REMOVED TYPE "C" WARNING LIGHTS FROM FLEXIBLE DRUMS IN TAPER.
- REV. 5-12-06: REPLACED VERTICAL PANEL WITH BARRIER RAIL DELINEATORS. ADDED GENERAL NOTES (G) & (H)



X = DISTANCE IN FEET EQUAL TO THE POSTED SPEED

TYPE "C" ARROW BOARD (96"x48")
SEE STD. DWG. T-FAB-1

* FOR LEFT LANE CLOSURE USE SIGNS W20-5L AND W4-2L

COMPUTATION FOR DISTANCE L

$L = W \times S$

L = TAPER LENGTH IN FEET
W = WIDTH OF OFFSET IN FEET
S = POSTED SPEED

CHANNELIZATION DEVICE LEGEND	
	FLEXIBLE DRUMS
	SIGN SUPPORT
	DIRECTION OF TRAFFIC
	WORK SITE
	BARRIER RAIL DELINEATOR (ITEM NO. 712-04.50, PER EACH)
	FLASHING YELLOW ARROW BOARD (SEE STD. DWG. NO. T-FAB-1, FOR DETAILS AND SPECIFICATIONS)
	ATTENUATOR

- ### GENERAL NOTES
- (A) THIS STANDARD CAN BE USED FOR THE CLOSURE OF AN INSIDE OR OUTSIDE LANE OF ANY MULTI-LANE DIVIDED HIGHWAY. FOR THE CLOSURE OF AN INTERIOR LANE, SEE STANDARD DRAWING NOS. T-WZ-13, T-WZ-14, AND T-WZ-15 FOR DETAILS.
 - (B) PORTABLE BARRIER RAIL REQUIRED FOR BRIDGE DECK AND EXPANSION JOINT WORK.
 - (C) SEE STANDARD DRAWING T-WZ-10 FOR OTHER NEEDED ADVANCE WARNING SIGNS.
 - (D) SEE TABLE 6C-2 OF PART VI OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) FOR RECOMMENDED LENGTHS OF BUFFER SPACE WHICH ARE BASED ON STOPPING SIGHT DISTANCE AS A FUNCTION OF SPEED.
 - (E) TAPER LENGTH SHOWN FOR THE PORTABLE BARRIER RAIL IS A MINIMUM. PORTABLE BARRIER RAIL SHOULD BE EXTENDED BEYOND THE CLEAR ZONE OR BE SHIELDED WITH AN ATTENUATOR WHEN IT IS NOT FEASIBLE TO EXTEND THE PORTABLE BARRIER RAIL. SEE STANDARD DRAWING S-CZ-1 FOR CLEAR ZONE DISTANCE.
 - (F) A SECOND ARROW BOARD MAY BE USED WHEN GEOMETRIC CONDITIONS LIMITS THE VISIBILITY OF A LANE CLOSURE.
 - (G) BARRIER RAIL DELINEATORS (ITEM NO. 712-04.50) SHALL BE USED ON PORTABLE BARRIER RAIL. REFER TO THE QUALIFIED PRODUCT LIST FOR APPROVED BARRIER RAIL DELINEATORS. DIFFERENT TYPES OF BARRIER RAIL DELINEATORS SHOULD NOT BE MIXED IN THE SAME LINE.
 - (H) MINIMUM TWO FEET (2') OFFSET BETWEEN TRAVEL LANE AND PORTABLE CONCRETE BARRIER IS REQUIRED. THE MAXIMUM POSSIBLE OFFSET BETWEEN TRAVEL LANE AND PORTABLE BARRIER MUST BE OBTAINED. TWO FEET (2') OFFSET MAY BE ELIMINATED WHERE PHYSICAL CONDITIONS DO NOT ALLOW.
 - (I) RAISED PAVEMENT MARKERS SHOULD NOT BE USED ON RIGHT EDGE LINE.

MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

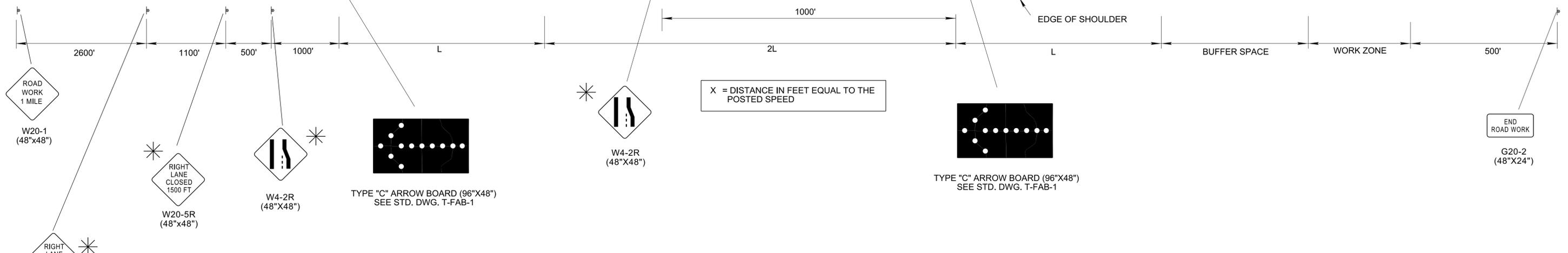
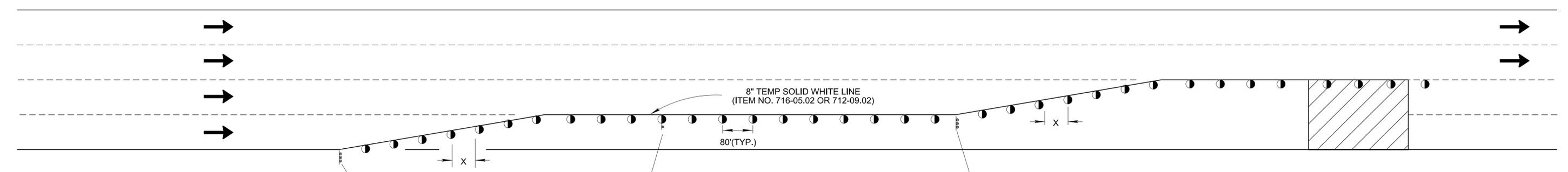
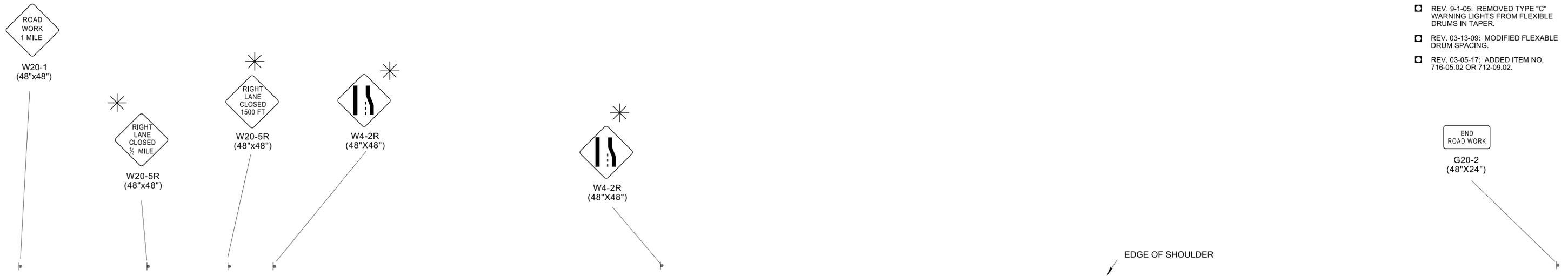
STATE OF TENNESSEE
DEPARTMENT OF
TRANSPORTATION

ONE LANE CLOSURE
DETAIL FOR BRIDGES
ON
DIVIDED HIGHWAYS

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TRAFFIC CONTROL FOR TWO RIGHT OUTSIDE (OR TWO LEFT INSIDE) LANE CLOSURE ON FREEWAY OR EXPRESSWAY

- REV. 12-18-99: MODIFIED HEADING AND ADDED BLOCKED IN NOTE FOR TWO LEFT INSIDE LANE CLOSURE.
- REV. 4-15-04: CHANGED W4-2 SIGN, CHANGED GENERAL NOTE (C) TO COMPLY WITH 2003 MUTCD.
- REV. 9-1-05: REMOVED TYPE "C" WARNING LIGHTS FROM FLEXIBLE DRUMS IN TAPER.
- REV. 03-13-09: MODIFIED FLEXIBLE DRUM SPACING.
- REV. 03-05-17: ADDED ITEM NO. 716-05.02 OR 712-09.02.



X = DISTANCE IN FEET EQUAL TO THE POSTED SPEED

* FOR LEFT LANE CLOSURE USE SIGNS W20-5L AND W4-2L

COMPUTATION FOR DISTANCE L

$L = W \times S$

L = TAPER LENGTH IN FEET
 W = WIDTH OF OFFSET IN FEET
 S = POSTED SPEED

CHANNELIZATION DEVICE LEGEND	
	FLEXIBLE DRUMS
	SIGN SUPPORT
	DIRECTION OF TRAFFIC
	WORK SITE
	FLASHING YELLOW ARROW BOARD (SEE STD. DWG. NO. T-FAB-1, FOR DETAILS AND SPECIFICATIONS)

GENERAL NOTES

(A) FOR CLOSURE OF TWO LEFT LANES THE CHANNELIZING DEVICES SHALL BE SET UP SYMMETRICALLY TO THE 2 RIGHT LANES CLOSURE SET UP AND THE SIGNING SHALL REFLECT THE 2 LEFT LANES CLOSURE. THIS STANDARD APPLIES TO FREEWAYS AND EXPRESSWAYS WITH 6 OR MORE LANES.

(B) SEE STANDARD DRAWING T-WZ-10 FOR OTHER NEEDED ADVANCE WARNING SIGNS.

(C) SEE TABLE 6C-2 OF PART VI OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) FOR RECOMMENDED LENGTHS OF BUFFER SPACE WHICH ARE BASED ON STOPPING SIGHT DISTANCE AS A FUNCTION OF SPEED.

□ MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

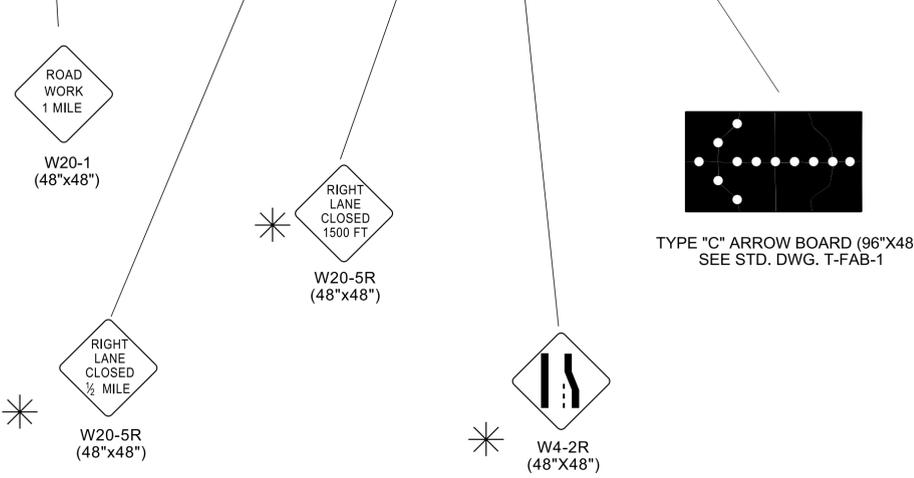
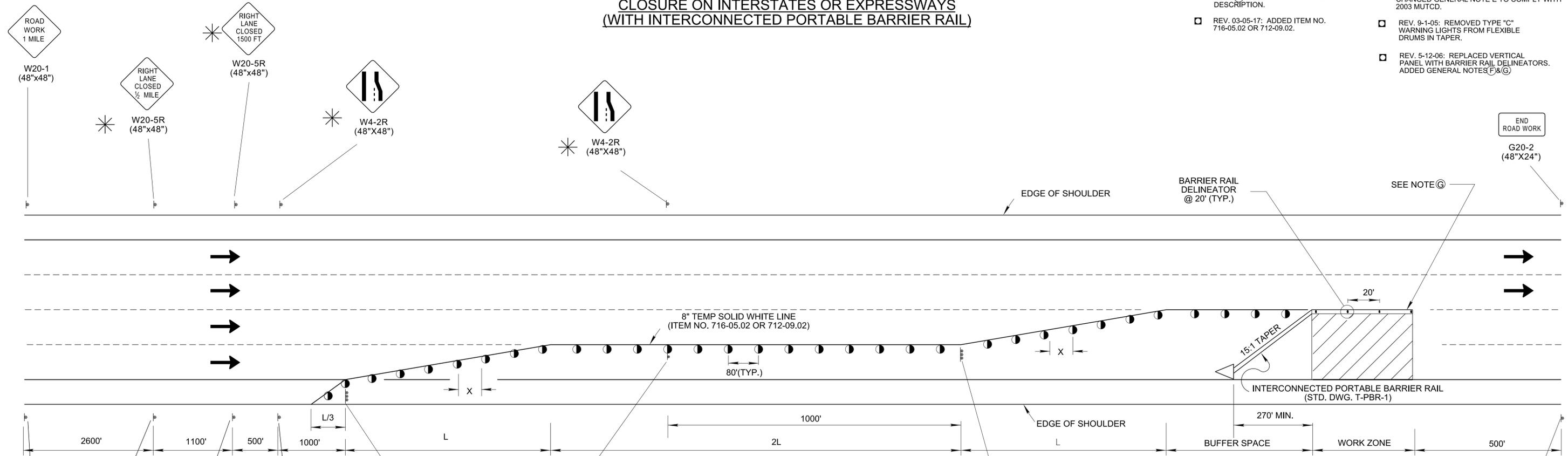
STATE OF TENNESSEE
 DEPARTMENT OF
 TRANSPORTATION

TWO-OUTSIDE LANE
 CLOSURE ON
 FREEWAY
 OR EXPRESSWAY

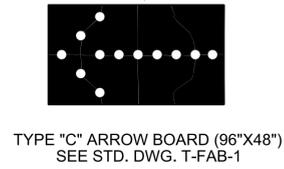
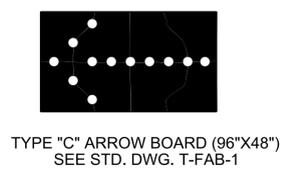
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TRAFFIC CONTROL FOR TWO RIGHT OUTSIDE (OR TWO LEFT INSIDE) LANE CLOSURE ON INTERSTATES OR EXPRESSWAYS (WITH INTERCONNECTED PORTABLE BARRIER RAIL)

- REV. 10-06-06: CHANGED ITEM NO. FOR BARRIER RAIL DELINEATOR. ADDED GENERAL NOTE(H). CHANGED GENERAL NOTE(G).
- REV. 03-13-09: CHANGED GENERAL NOTE(C) AND ATTENUATOR LEGEND DESCRIPTION.
- REV. 03-05-17: ADDED ITEM NO. 716-05.02 OR 712-09.02.
- REV. 12-18-99: ADDED BLOCKED IN NOTE FOR TWO LEFT INSIDE LANE CLOSURE.
- REV. 7-29-03: CHANGED GENERAL NOTE(C).
- REV. 4-15-04: CHANGED W4-2 SIGN. CHANGED GENERAL NOTE E TO COMPLY WITH 2003 MUTCD.
- REV. 9-1-05: REMOVED TYPE "C" WARNING LIGHTS FROM FLEXIBLE DRUMS IN TAPER.
- REV. 5-12-06: REPLACED VERTICAL PANEL WITH BARRIER RAIL DELINEATORS. ADDED GENERAL NOTES(F)&(G).



X = DISTANCE IN FEET EQUAL TO THE POSTED SPEED



✱ FOR LEFT LANE CLOSURE USE SIGNS W20-5L AND W4-2L

COMPUTATION FOR DISTANCE L

$L = W \times S$

L = TAPER LENGTH IN FEET
W = WIDTH OF OFFSET IN FEET
S = POSTED SPEED

CHANNELIZATION DEVICE LEGEND	
	FLEXIBLE DRUMS
	SIGN SUPPORT
	DIRECTION OF TRAFFIC
	WORK SITE
	BARRIER RAIL DELINEATOR (ITEM NO. 712-04.50, PER EACH)
	FLASHING YELLOW ARROW BOARD (SEE STD. DWG. NO. T-FAB-1, FOR DETAILS AND SPECIFICATIONS)
	ATTENUATOR

- ### GENERAL NOTES
- (A) FOR CLOSURE OF TWO LEFT LANES THE CHANNELIZING DEVICES SHALL BE SET UP SYMMETRICALLY TO THE 2 RIGHT LANES CLOSURE SET UP AND THE SIGNING SHALL REFLECT THE 2 LEFT LANES CLOSURE. THIS STANDARD APPLIES TO FREEWAYS AND EXPRESSWAYS WITH 6 OR MORE LANES.
 - (B) PORTABLE BARRIER RAIL WILL BE REQUIRED WHERE DROP OFFS EXCEED 18 INCHES. PORTABLE BARRIER RAIL MAY BE USED WHERE DROP OFFS EXCEED 6 INCHES. FOR MORE SPECIFIC INFORMATION SEE TDOT DROP-OFF POLICY.
 - (C) TAPER LENGTH SHOWN FOR THE PORTABLE BARRIER RAIL IS A MINIMUM. PORTABLE BARRIER RAIL SHOULD BE EXTENDED BEYOND THE CLEAR ZONE OR BE SHIELDED WITH AN ATTENUATOR WHEN IT IS NOT FEASIBLE TO EXTEND THE PORTABLE BARRIER RAIL. SEE STANDARD DRAWING S-CZ-1 FOR CLEAR ZONE DISTANCE.
 - (D) SEE STANDARD DRAWING T-WZ-10 FOR OTHER NEEDED ADVANCE WARNING SIGNS.
 - (E) SEE TABLE 6C-2 OF PART VI OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) FOR RECOMMENDED LENGTHS OF BUFFER SPACE WHICH ARE BASED ON STOPPING SIGHT DISTANCE AS A FUNCTION OF SPEED.
 - (F) BARRIER RAIL DELINEATORS (ITEM NO. 712-04.50) SHALL BE USED ON PORTABLE BARRIER RAIL. REFER TO THE QUALIFIED PRODUCT LIST FOR APPROVED BARRIER RAIL DELINEATORS. DIFFERENT TYPES OF BARRIER RAIL DELINEATORS SHOULD NOT BE MIXED IN THE SAME LINE.
 - (G) MINIMUM TWO FEET (2') OFFSET BETWEEN TRAVEL LANE AND PORTABLE CONCRETE BARRIER IS REQUIRED. THE MAXIMUM POSSIBLE OFFSET BETWEEN TRAVEL LANE AND PORTABLE BARRIER MUST BE OBTAINED. TWO FEET (2') OFFSET MAY BE ELIMINATED WHERE PHYSICAL CONDITIONS DO NOT ALLOW.
 - (H) RAISED PAVEMENT MARKERS SHOULD NOT BE USED ON RIGHT EDGE LINE.

□ MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

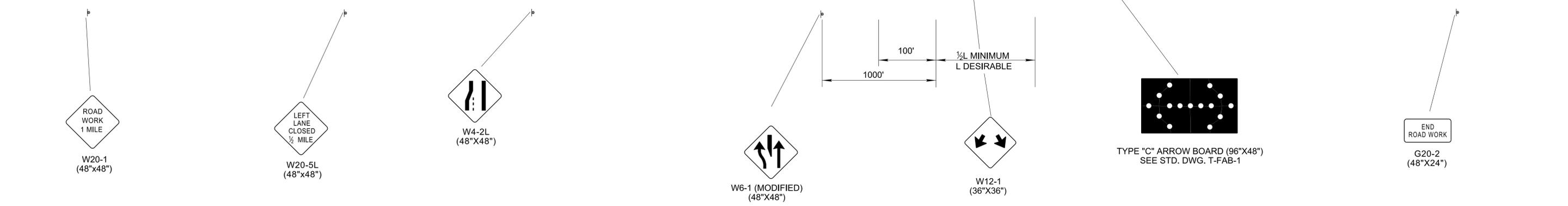
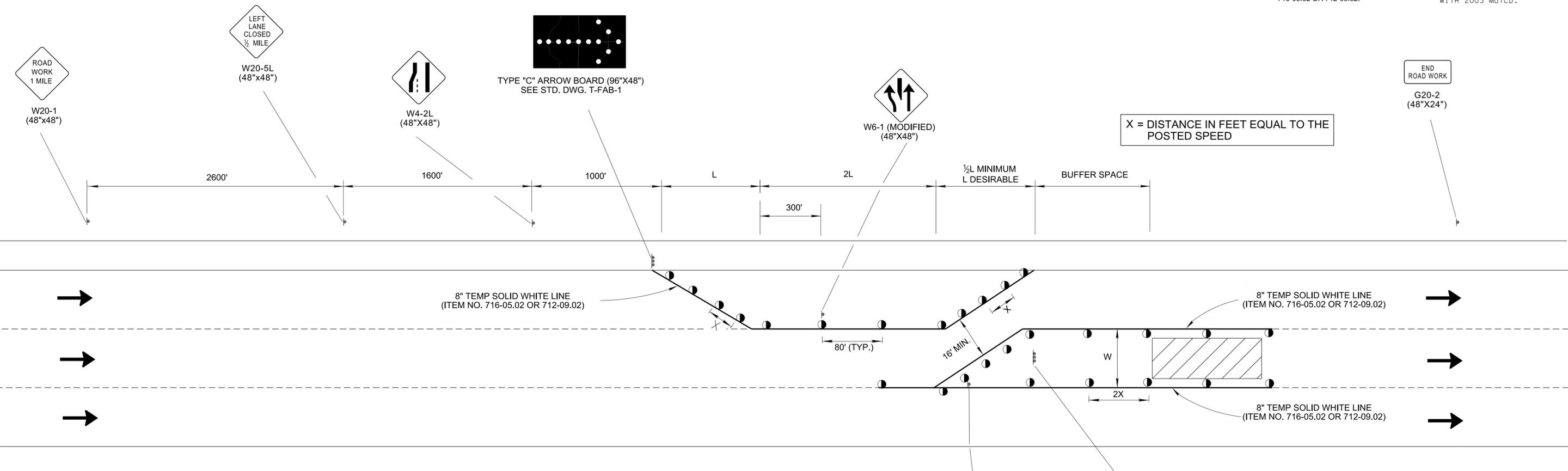
**STATE OF TENNESSEE
DEPARTMENT OF
TRANSPORTATION**

**TWO-OUTSIDE LANE
CLOSURE ON
INTERSTATES AND
EXPRESSWAYS
(PORTABLE BARRIER RAIL)**

5-27-98 T-WZ-14

TRAFFIC CONTROL FOR INTERIOR LANE CLOSURE ON FREEWAYS OR EXPRESSWAYS

- REV. 9-1-05: REMOVED TYPE "C" WARNING LIGHTS FROM FLEXIBLE DRUMS IN TAPER.
- REV. 03-13-09: MODIFIED FLEXIBLE DRUM SPACING.
- REV. 4-2-12: CHANGED SIGN G20-21 TO G20-2.
- REV. 03-05-17: ADDED ITEM NO. 716-05.02 OR 712-09.02.
- REV. 2-28-98: ADDED CHANNELIZATION DEVICE LEGEND. CHANGED LEGEND FOR FLEXIBLE DRUMS. MODIFIED HEADING AND SHEET NAME.
- REV. 5-27-98: CHANGED DRAWING NO. T-WZ-10 TO T-WZ-15. ADDED GENERAL NOTES.
- REV. 4-15-04: CHANGED W4-2 SIGN. CHANGED GENERAL NOTE (A) TO COMPLY WITH 2003 MUTCD.



COMPUTATION FOR DISTANCE L

$L = W \times S$

L = TAPER LENGTH IN FEET
 W = WIDTH OF OFFSET IN FEET
 S = POSTED SPEED

CHANNELIZATION DEVICE LEGEND	
	FLEXIBLE DRUMS
	SIGN SUPPORT
	DIRECTION OF TRAFFIC
	WORK SITE
	FLASHING YELLOW ARROW BOARD (SEE STD. DWG. NO. T-FAB-1, FOR DETAILS AND SPECIFICATIONS)

GENERAL NOTES

(A) SEE TABLE 6C-2 OF PART VI OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) FOR RECOMMENDED LENGTHS OF BUFFER SPACE WHICH ARE BASED ON STOPPING SIGHT DISTANCE AS A FUNCTION OF SPEED.

(B) SEE STANDARD DRAWING T-WZ-10 FOR OTHER NEEDED ADVANCE WARNING SIGNS.

□ MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

**STATE OF TENNESSEE
DEPARTMENT OF
TRANSPORTATION**

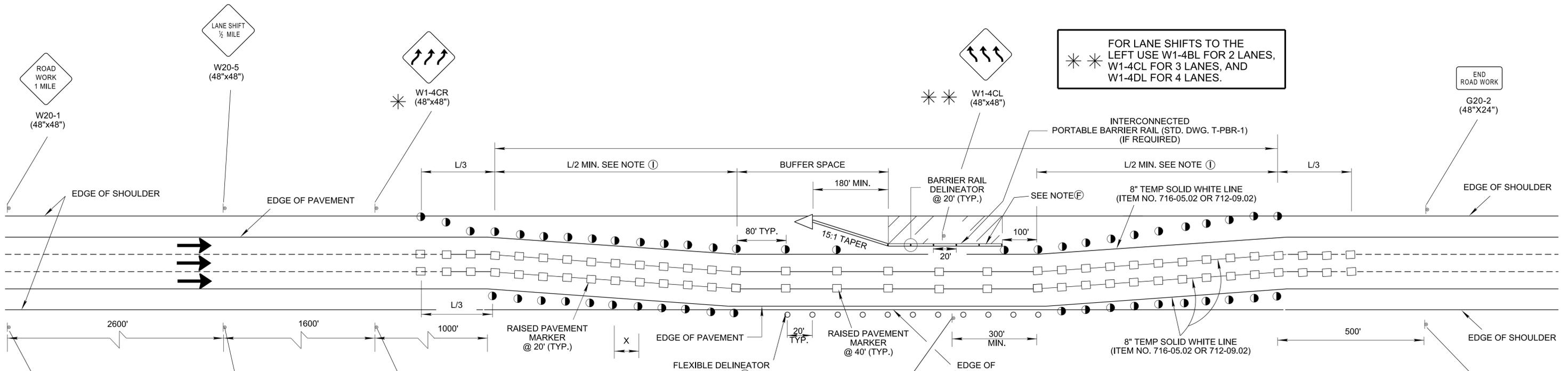
**INTERIOR LANE
CLOSURE ON
FREEWAYS
OR EXPRESSWAYS**

12-18-94 T-WZ-15

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TEMPORARY TRAFFIC CONTROL TYPICAL APPLICATION

- REV. 10-06-06: REPLACED VERTICAL PANELS WITH GROUND MOUNTED FLEXIBLE DELINEATOR. ADDED GENERAL NOTE (G) AND (H).
- REV. 12-18-99: CHANGED OUT FLEXIBLE DRUMS FOR VERTICAL PANELS ALONG OUTSIDE SHOULDER IN WORK ZONE AREA. MODIFIED GENERAL NOTE (D).
- REV. 7-29-03: CHANGED GENERAL NOTE (D).
- REV. 4-15-04: CHANGED GENERAL NOTE (B) TO COMPLY WITH 2003 MUTCD.
- REV. 9-1-05: REMOVED TYPE "C" WARNING LIGHTS FROM FLEXIBLE DRUMS IN TAPER.
- REV. 5-12-06: REPLACED VERTICAL PANEL WITH BARRIER RAIL DELINEATORS. ADDED GENERAL NOTES (E) & (F).
- REV. 03-13-09: CHANGED GENERAL NOTE (D) AND ATTENUATOR LEGEND DESCRIPTION.
- REV. 03-05-17: ADDED ITEM NO. 716-05.02 OR 712-09.02.
- REV. 4-15-99: MODIFIED CHANNELIZATION DEVICE LEGEND.
- CHANGED GENERAL NOTE (E) AND ADD GENERAL NOTE (T) DELETED "FOR LANE SHIFTS EQUAL TO OR LESS THAN 2000' IN LENGTH". ALSO STD.DWG. T-WZ-17 DELETED.



FOR LANE SHIFTS TO THE LEFT USE W1-4BL FOR 2 LANES, W1-4CL FOR 3 LANES, AND W1-4DL FOR 4 LANES.

X = DISTANCE IN FEET EQUAL TO THE POSTED SPEED

FOR LANE SHIFTS TO THE RIGHT USE W1-4BR FOR 2 LANES, W1-4CR FOR 3 LANES, AND W1-4DR FOR 4 LANES.

COMPUTATION FOR DISTANCE L

$L = W \times S$

L = TAPER LENGTH IN FEET
 W = WIDTH OF OFFSET IN FEET
 S = POSTED SPEED

CHANNELIZATION DEVICE LEGEND	
	FLEXIBLE DRUMS
	GROUND OR SURFACE MOUNTED FLEXIBLE DELINEATOR (ITEM NO. 713-02.14 PER EACH)
	SIGN SUPPORT
	DIRECTION OF TRAFFIC
	WORK SITE
	BARRIER RAIL DELINEATOR (ITEM NO. 712-04.50, PER EACH)
	ATTENUATOR
	RAISED PAVEMENT MARKER (SEE APPROVED QUALIFIED PRODUCT LIST)

- GENERAL NOTES**
- (A) PORTABLE BARRIER RAIL WILL BE REQUIRED WHERE DROP OFFS EXCEED 18 INCHES. PORTABLE BARRIER RAIL MAY BE USED WHERE DROP OFFS EXCEED 6 INCHES. FOR MORE SPECIFIC INFORMATION SEE TDOT DROP-OFF POLICY.
 - (B) SEE TABLE 6C-2 OF PART VI OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) FOR RECOMMENDED LENGTHS OF BUFFER SPACE WHICH ARE BASED ON STOPPING SIGHT DISTANCE AS A FUNCTION OF SPEED.
 - (C) SEE STANDARD DRAWING T-WZ-10 FOR OTHER NEEDED ADVANCE WARNING SIGNS.
 - (D) TAPER LENGTH SHOWN FOR THE PORTABLE BARRIER RAIL IS A MINIMUM. PORTABLE BARRIER RAIL SHOULD BE EXTENDED BEYOND THE CLEAR ZONE OR BE SHIELDED WITH AN ATTENUATOR WHEN IT IS NOT FEASIBLE TO EXTEND THE PORTABLE BARRIER RAIL. SEE STANDARD DRAWING S-CZ-1 FOR CLEAR ZONE DISTANCE.
 - (E) BARRIER RAIL DELINEATORS (ITEM NO. 712-04.50) SHALL BE USED ON PORTABLE BARRIER RAIL. REFER TO THE QUALIFIED PRODUCT LIST FOR APPROVED BARRIER RAIL DELINEATORS. DIFFERENT TYPES OF BARRIER RAIL DELINEATORS SHOULD NOT BE MIXED IN THE SAME LINE.
 - (F) MINIMUM TWO FEET (2') OFFSET BETWEEN TRAVEL LANE AND PORTABLE CONCRETE BARRIER IS REQUIRED. THE MAXIMUM POSSIBLE OFFSET BETWEEN TRAVEL LANE AND PORTABLE BARRIER MUST BE OBTAINED. TWO FEET (2') OFFSET MAY BE ELIMINATED WHERE PHYSICAL CONDITIONS DO NOT ALLOW.
 - (G) SEE STANDARD DRAWING T-PBR-2 FOR GROUND MOUNTED FLEXIBLE DELINEATORS (ITEM NO. 713-02.14). REFER TO THE QPL FOR APPROVED FLEXIBLE DELINEATORS.
 - (H) RAISED PAVEMENT MARKERS SHOULD NOT BE USED ON RIGHT EDGE LINE.
 - (I) L/2 IS A MINIMUM TAPER LENGTH, IF CONDITION ALLOW, IT MAY BE INCREASED TO L.

MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

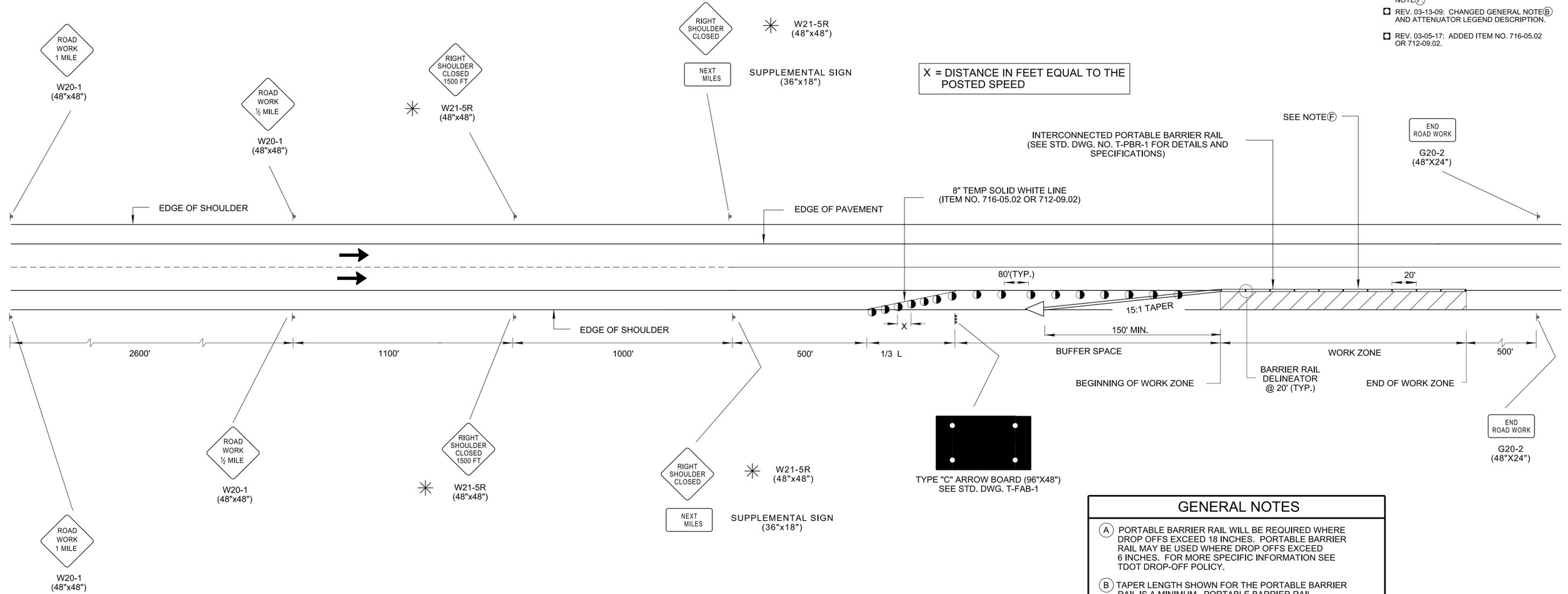
**STATE OF TENNESSEE
DEPARTMENT OF
TRANSPORTATION**

**LANE SHIFT ON
DIVIDED HIGHWAYS
AND FREEWAYS**

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TRAFFIC CONTROL FOR SHOULDER CLOSURE FOR FREEWAYS AND DIVIDED HIGHWAYS

- REV. 4-15-99: MODIFIED CHANNELIZATION DEVICE LEGEND.
- REV. 12-18-99: MODIFIED GENERAL NOTE (B)
- REV. 7-29-03: CHANGED GENERAL NOTE (B)
- REV. 4-15-04: CHANGED GENERAL NOTE (D) TO COMPLY WITH 2003 MUTCD.
- REV. 5-12-06: REPLACED VERTICAL PANEL WITH BARRIER RAIL DELINEATORS. ADDED GENERAL NOTES (E) & (F)
- REV. 10-06-06: CHANGED ITEM NO. FOR BARRIER RAIL DELINEATOR. ADDED GENERAL NOTE (G). CHANGED GENERAL NOTE (E)
- REV. 03-13-09: CHANGED GENERAL NOTE (B) AND ATTENUATOR LEGEND DESCRIPTION.
- REV. 03-05-17: ADDED ITEM NO. 716-05.02 OR 712-09.02.



✱ FOR LEFT SHOULDER CLOSURES USE SIGNS W21-5L (LEFT SHOULDER CLOSED 1500 FT AND LEFT SHOULDER CLOSED)

COMPUTATION FOR DISTANCE L

$L = W \times S$

L = TAPER LENGTH IN FEET
W = WIDTH OF OFFSET IN FEET
S = POSTED SPEED

CHANNELIZATION DEVICE LEGEND	
	FLEXIBLE DRUMS
	SIGN SUPPORT
	DIRECTION OF TRAFFIC
	WORK SITE
	BARRIER RAIL DELINEATOR (ITEM NO. 712-04.50, PER EACH)
	FLASHING YELLOW ARROW BOARD (SEE STD. DWG. NO. T-FAB-1, FOR DETAILS AND SPECIFICATIONS)
	ATTENUATOR

- GENERAL NOTES**

 - (A) PORTABLE BARRIER RAIL WILL BE REQUIRED WHERE DROP OFFS EXCEED 18 INCHES. PORTABLE BARRIER RAIL MAY BE USED WHERE DROP OFFS EXCEED 6 INCHES. FOR MORE SPECIFIC INFORMATION SEE TDOT DROP-OFF POLICY.
 - (B) TAPER LENGTH SHOWN FOR THE PORTABLE BARRIER RAIL IS A MINIMUM. PORTABLE BARRIER RAIL SHOULD BE EXTENDED BEYOND THE CLEAR ZONE OR BE SHIELDED WITH AN ATTENUATOR WHEN IT IS NOT FEASIBLE TO EXTEND THE PORTABLE BARRIER RAIL. SEE STANDARD DRAWING S-CZ-1 FOR CLEAR ZONE DISTANCE.
 - (C) SEE STANDARD DRAWING T-WZ-10 FOR OTHER NEEDED ADVANCE WARNING SIGNS.
 - (D) SEE TABLE 6C-2 OF PART VI OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) FOR RECOMMENDED LENGTHS OF BUFFER SPACE WHICH ARE BASED ON STOPPING SIGHT DISTANCE AS A FUNCTION OF SPEED.
 - (E) BARRIER RAIL DELINEATORS (ITEM NO. 712-04.50) SHALL BE USED ON PORTABLE BARRIER RAIL. REFER TO THE QUALIFIED PRODUCT LIST FOR APPROVED BARRIER RAIL DELINEATORS. DIFFERENT TYPES OF BARRIER RAIL DELINEATORS SHOULD NOT BE MIXED IN THE SAME LINE.
 - (F) MINIMUM TWO FEET (2') OFFSET BETWEEN TRAVEL LANE AND PORTABLE CONCRETE BARRIER IS REQUIRED. THE MAXIMUM POSSIBLE OFFSET BETWEEN TRAVEL LANE AND PORTABLE BARRIER MUST BE OBTAINED. TWO FEET (2') OFFSET MAY BE ELIMINATED WHERE PHYSICAL CONDITIONS DO NOT ALLOW.
 - (G) RAISED PAVEMENT MARKERS SHOULD NOT BE USED ON RIGHT EDGE LINE.

□ MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

**STATE OF TENNESSEE
DEPARTMENT OF
TRANSPORTATION**

**SHOULDER CLOSURE
DETAIL FOR
FREEWAYS AND
DIVIDED HIGHWAYS**

5-29-98 T-WZ-18

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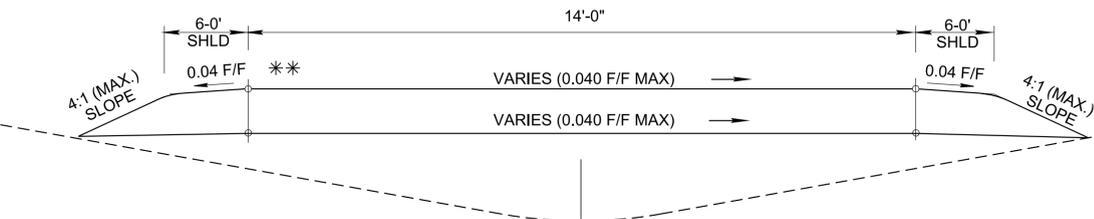
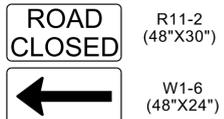
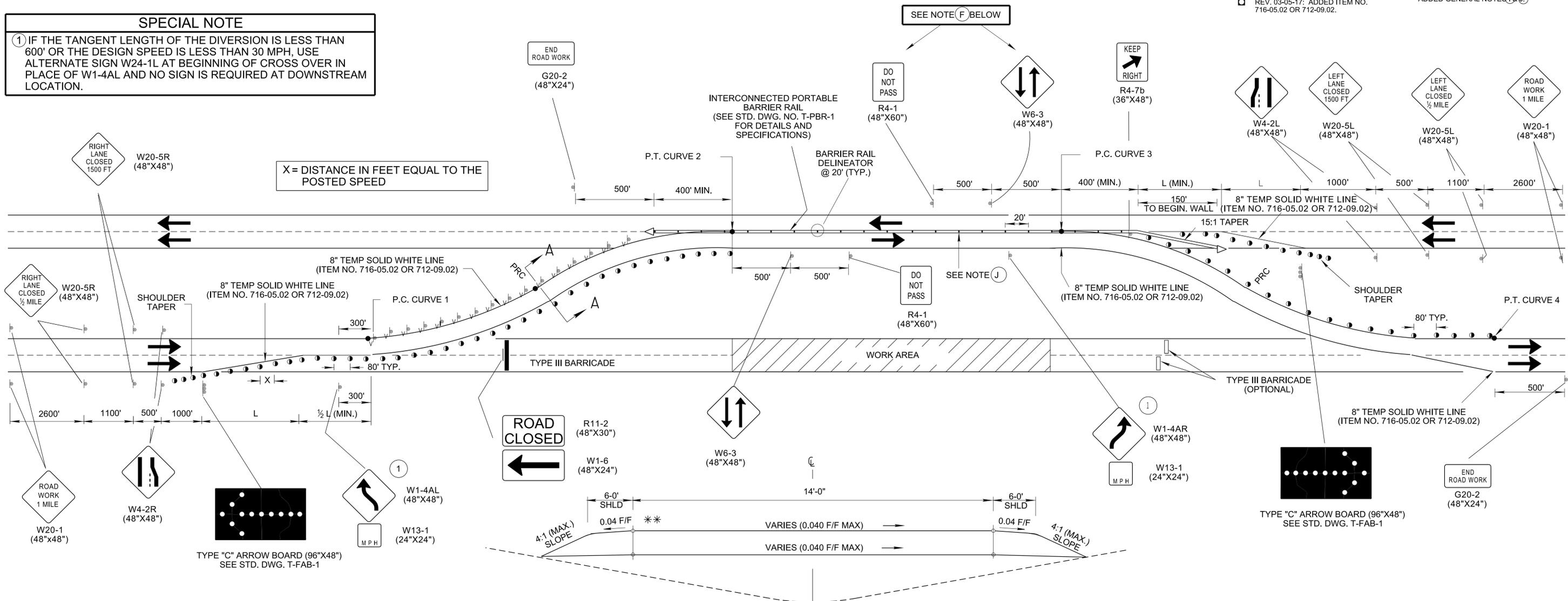
W24-1L
(48\"/>

MEDIAN CROSS-OVER DETAIL ON DIVIDED HIGHWAYS

SPECIAL NOTE

① IF THE TANGENT LENGTH OF THE DIVERSION IS LESS THAN 600' OR THE DESIGN SPEED IS LESS THAN 30 MPH, USE ALTERNATE SIGN W24-1L AT BEGINNING OF CROSS OVER IN PLACE OF W1-4AL AND NO SIGN IS REQUIRED AT DOWNSTREAM LOCATION.

X = DISTANCE IN FEET EQUAL TO THE POSTED SPEED



** THE SLOPES OF THE SHOULDER AND THE ROADWAY PAVEMENT SHALL NOT EXCEED AN ALGEBRAIC DIFFERENCE OF 0.07 FOOT PER FOOT.

GENERAL NOTES

- (A) CROSS-OVERS SHALL BE DESIGNED FOR SPEEDS NOT LESS THAN 10 MILES PER HOUR BELOW THE POSTED SPEED. THE GEOMETRY DETAIL FOR CROSS-OVER SHOWN ON STANDARD DRAWING T-WZ-20 IS FOR A TANGENT DIVIDED HIGHWAY SECTION ONLY. THE DESIGNER SHALL PROVIDE GEOMETRIC DETAILS OF CROSS-OVER(S) ON CURVED DIVIDED HIGHWAY SECTIONS.
- (B) ADVISORY SPEED PLATES ON REVERSE CURVE SIGNS (W1-4) SHALL BE 10 MILES PER HOUR LESS THAN THE DESIGN SPEED OF THE CROSS-OVER.
- (C) TEMPORARY CROSSDRAINS SHALL BE PROVIDED WHERE CROSS-OVER CROSSES THE LOW POINT OF THE DEPRESSED MEDIAN. THE DESIGNER WILL PROVIDE THE LENGTH AND SIZE OF THESE CROSSDRAINS ON THE PLANS. THESE CROSSDRAINS SHALL BE PAID FOR UNDER ITEM NOS. 621-03.02 THROUGH 621-03.10.
- (D) PAVEMENT SECTION OF TEMPORARY MEDIAN CROSS-OVER IS SHOWN ON TYPICAL SECTION SHEETS OF PLANS.
- (E) SEE STANDARD DRAWING T-WZ-10 FOR OTHER NEEDED ADVANCE WARNING SIGNS.
- (F) TWO-WAY TRAFFIC SYMBOL SIGN (W6-3) AND DO NOT PASS SIGN (R4-1) TO BE PLACED AT 1#2 MILE INTERVALS ON TWO-WAY TEMPORARY TRAFFIC SECTION.
- (G) A SECOND ARROW BOARD MAY BE USED WHEN GEOMETRIC CONDITIONS LIMITS THE VISIBILITY OF A LANE CLOSURE.
- (H) TAPER LENGTH SHOWN FOR THE PORTABLE BARRIER RAIL IS A MINIMUM. PORTABLE BARRIER RAIL SHOULD BE EXTENDED BEYOND THE CLEAR ZONE OR BE SHIELDED WITH AN ATTENUATOR WHEN IT IS NOT FEASIBLE TO EXTEND THE PORTABLE BARRIER RAIL. SEE STANDARD DRAWING S-CZ-1 FOR CLEAR ZONE DISTANCE.
- (I) BARRIER RAIL DELINEATORS (ITEM NO.712-04.50) SHALL BE USED ON PORTABLE BARRIER RAIL. REFER TO THE QUALIFIED PRODUCT LIST FOR APPROVED BARRIER RAIL DELINEATORS. DIFFERENT TYPES OF BARRIER RAIL DELINEATORS SHOULD NOT BE MIXED IN THE SAME LINE.
- (J) RAISED PAVEMENT MARKERS SHOULD NOT BE USED ON RIGHT EDGE LINE.

TYPICAL SECTION OF TEMPORARY MEDIAN CROSS-OVER

COMPUTATION FOR DISTANCE L

$$L = W \times S$$

L = TAPER LENGTH IN FEET
W = WIDTH OF OFFSET IN FEET
S = POSTED SPEED

CHANNELIZATION DEVICE LEGEND

- FLEXIBLE DRUMS
- VERTICAL PANELS
- SIGN SUPPORT
- DIRECTION OF TRAFFIC
- WORK SITE
- BARRIER RAIL DELINEATOR (ITEM NO. 712-04.50, PER EACH)
- FLASHING YELLOW ARROW BOARD (SEE STD. DWG. NO. T-FAB-1, FOR DETAILS AND SPECIFICATIONS)
- ATTENUATOR

- REV. 10-06-06: CHANGED ITEM NO. FOR BARRIER RAIL DELINEATOR. ADDED GENERAL NOTE (K). DELETED GENERAL NOTE (J).
- REV. 03-13-09: CHANGED GENERAL NOTE (H) AND ATTENUATOR LEGEND DESCRIPTION.
- REV. 4-2-12: ADDED NOTE (I) AND SIGN W24-1.
- REV. 03-05-17: ADDED ITEM NO. 716-05.02 OR 712-09.02.
- REV. 5-27-01: CHANGED PAY ITEMS GENERAL NOTE (C).
- REV. 7-29-03: CHANGED GENERAL NOTE (H).
- REV. 9-1-05: REMOVED TYPE "C" WARNING LIGHTS FROM FLEXIBLE DRUMS IN TAPER.
- REV. 5-12-06: REPLACED VERTICAL PANEL WITH BARRIER RAIL DELINEATORS. ADDED GENERAL NOTES (I) & (J).

MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

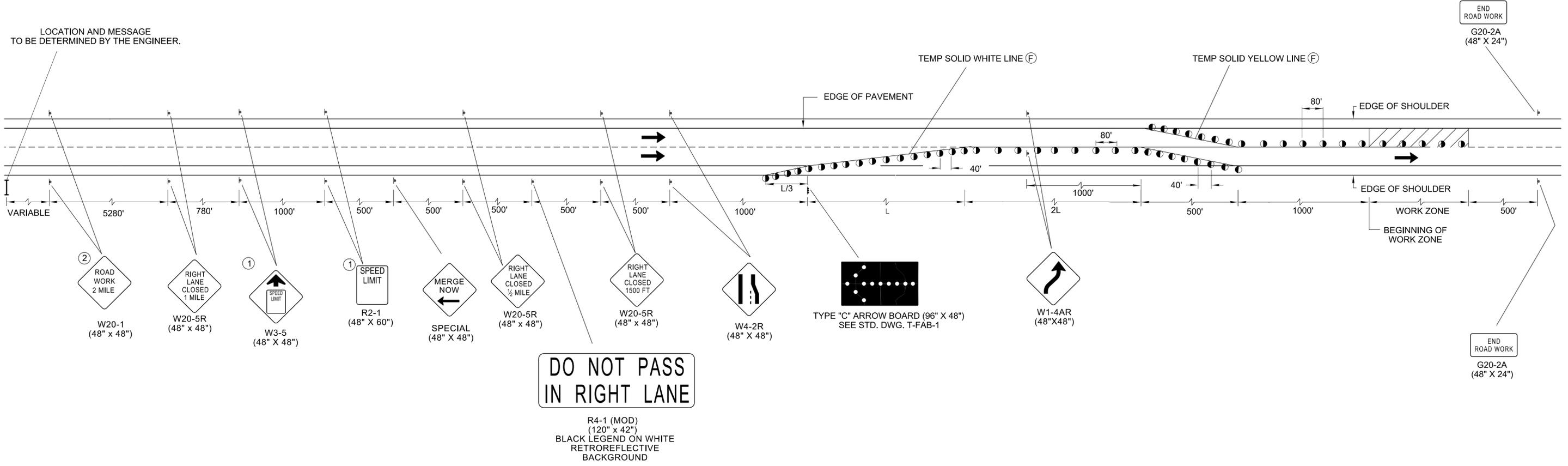
STATE OF TENNESSEE
DEPARTMENT OF
TRANSPORTATION

MEDIAN
CROSS-OVER
DETAIL ON
DIVIDED HIGHWAYS

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- REV. 9-1-05: REMOVED TYPE "C" WARNING LIGHTS FROM FLEXIBLE DRUMS IN TAPER.
- REV. 3-15-11: CHANGED SIGN (R2-5A) TO SIGN (W3-5) AND CHANGED FOOTNOTE (1) REVISED FLEXIBLE DRUM SPACING AND COMPUTATION FOR DISTANCE. REMOVED SIGN R4-1 (MOD).
- REV. 03-05-17: ADDED NOTE (F)

**TRAFFIC CONTROL FOR ONE LANE CLOSURE ON MULTI-LANE DIVIDED HIGHWAY
(WITH EARLY MERGE)**



FOOTNOTES

① APPROVAL OF THE STATE TRAFFIC ENGINEER IS REQUIRED BEFORE PLACING THE "REDUCED SPEED AHEAD" (W3-5) AND THE "SPEED LIMIT" (R2-1) SIGNS.

② ADDITIONAL "ROAD WORK" (W20-1) SIGNS MAY BE USED FOR LONG TRAFFIC QUEUES.

COMPUTATION FOR DISTANCE L

$L = W \times S$ (FOR $S \geq 45$ mph)
 $L = Ws^2 / 60$ (FOR $S \leq 40$ mph)

L = TAPER LENGTH IN FEET
W = WIDTH OF OFFSET IN FEET
S = POSTED SPEED IN MPH

CHANNELIZATION DEVICE LEGEND

	FLEXIBLE DRUMS
	SIGN SUPPORT
	DIRECTION OF TRAFFIC
	WORK SITE
	FLASHING YELLOW ARROW BOARD (SEE STD. DWG. NO. T-FAB-1, FOR DETAILS AND SPECIFICATIONS)
	PORTABLE MESSAGE BOARDS

GENERAL NOTES

(A) PORTABLE BARRIER RAIL WILL BE REQUIRED WHERE DROP OFFS EXCEED 18 INCHES. PORTABLE BARRIER RAIL MAY BE USED WHERE DROP OFFS EXCEED 6 INCHES. FOR MORE SPECIFIC INFORMATION SEE TDOT DROP-OFF POLICY OR TRAFFIC CONTROL NOTES.

(B) SEE STANDARD DRAWING T-WZ-10 FOR OTHER NEEDED ADVANCE WARNING SIGNS.

(C) PORTABLE MESSAGE BOARD SHOULD ONLY BE USED ONLY WHEN TRAFFIC CONDITIONS WARRANT.

(D) THIS DETAIL IS TO BE USED FOR WORK ZONES IN BOTH THE LEFT AND RIGHT LANES. WHEN THE WORK ZONE IS IN THE RIGHT LANE, THE "LANE SHIFT" (W1-4AR) SIGN AND THE LANE SHIFT SHALL BE DELETED.

(E) REFER TO STANDARD DRAWING NO. T-WZ-11 FOR PORTABLE BARRIER RAIL PLACEMENT, TAPERS, AND END TREATMENT.

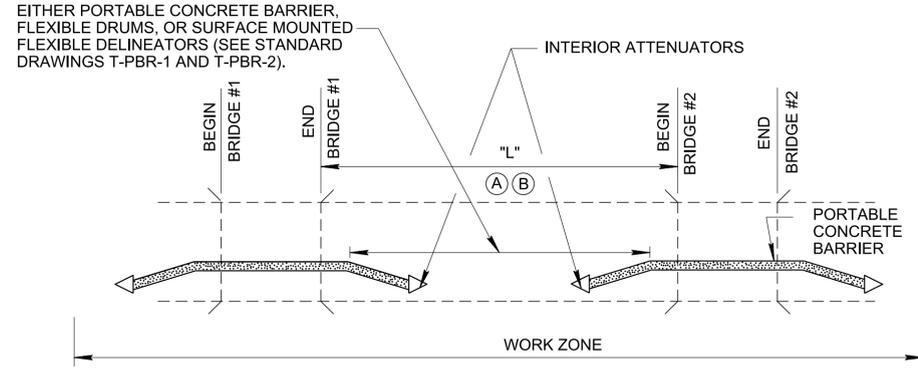
(F) SEE TDOT ROADWAY DESIGN GUIDELINES SECTION 4-716.11 FOR LINE WIDTH AND SECTION 4-716.30 FOR MATERIAL TYPE.

□ MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

**STATE OF TENNESSEE
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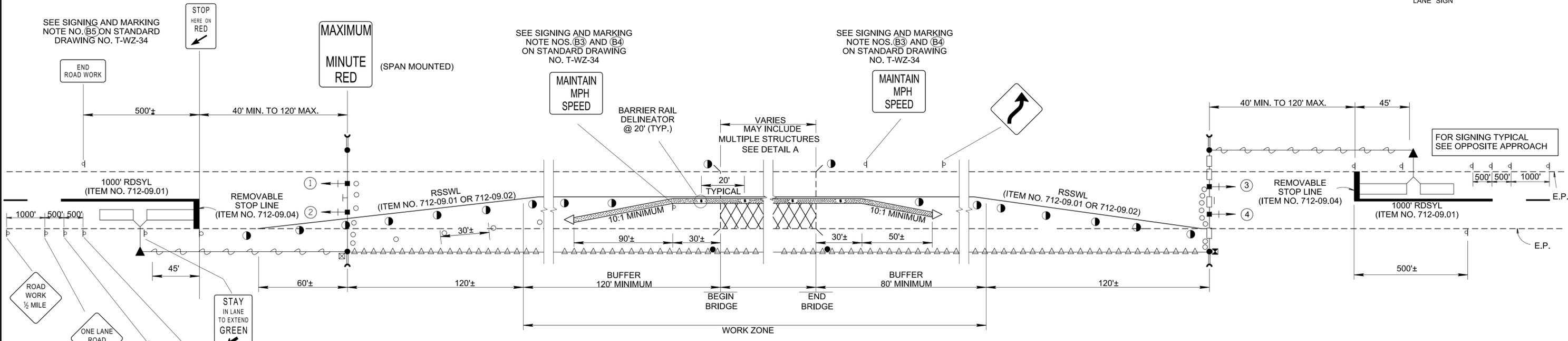
**LANE CLOSURE
WITH
LEFT HAND MERGE
AND LANE SHIFT**

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**DETAIL A
SHOWING MULTIPLE STRUCTURES**

- REV. 5-27-98: CHANGED DRAWING NO. FROM T-CP-1 TO T-WZ-32. MODIFIED LEGEND.
- REV. 4-15-99: MODIFIED LEGEND.
- REV. 12-18-99: ADDED SECOND NOTE TO PORTABLE CONCRETE BARRIER NOTES.
- REV. 9-1-05: REMOVED TYPE "C" WARNING LIGHTS FROM FLEXIBLE DRUMS IN TAPER.
- REV. 3-3-06: REPLACED VERTICAL PANEL WITH BARRIER RAIL DELINEATORS. ADDED GENERAL NOTES (F).
- REV. 10-29-13: CHANGED PAY ITEM FOR BARRIER RAIL DELINEATORS.
- REV. 03-05-17: ADDED ITEM NO. 712-09.01 OR 712-09.02 AND 712-09.04.
- REV. 9-17-82: CLARIFIED WORK ZONE. ADDED DETAIL "A". REMOVED SIGNS AT RIGHT END.
- REV. 10-7-82: ADDED 1" CONDUIT & 7/16" DIAMETER GUY.
- REV. 3-22-85: GENERAL REVISIONS.
- REV. 10-24-86: GENERAL REVISIONS.
- REV. 5-27-91: REDREW SHEET AND REORGANIZED SHEET.
- REV. 1-19-92: GENERAL REVISION.
- REV. 4-1-92: CHANGED SECOND NOTE ON DETAIL A DELETING USE OF TYPE C WARNING LIGHTS.
- REV. 5-16-94: CHANGED CONSTRUCTION SIGNS TO CONFORM TO REVISED PART VI, M.U.T.C.D., DATED 9-3-93.
- REV. 9-5-94: CHANGED G20-2 TO G20-2A CONSTRUCTION SIGN. ADDED W1-4aR CONSTRUCTION SIGN.
- REV. 12-1-95: ADDED "STAY IN LANE" SIGN



SIGNAL SEQUENCE CHART

PHASE	INTERVAL	SIGNAL HEAD NO. & DISPLAY			
		1	2	3	4
		R	Y	G	R
1	R/W	G	G	R	R
	CLEAR TO	Y	Y	R	R
	3	DIRECT CLEARANCE PROHIBITED			
	4	DIRECT CLEARANCE PROHIBITED			
2	R/W	R	R	R	R
	CLEAR TO	R	R	R	R
	3	DIRECT CLEARANCE PROHIBITED			
	4	DIRECT CLEARANCE PROHIBITED			
3	R/W	R	R	G	G
	CLEAR TO	R	R	Y	Y
	1	DIRECT CLEARANCE PROHIBITED			
	2	DIRECT CLEARANCE PROHIBITED			
4	R/W	R	R	R	R
	CLEAR TO	R	R	R	R
	1	DIRECT CLEARANCE PROHIBITED			
	2	DIRECT CLEARANCE PROHIBITED			
** FLASH		R	R	R	R

GENERAL NOTES

(A) IF DISTANCE "L" IS 250' OR LESS, PORTABLE CONCRETE BARRIER SHALL BE CONTINUOUS.

(B) IF DISTANCE "L" IS GREATER THAN 250' THE CONTRACTOR MAY USE CONTINUOUS PORTABLE CONCRETE BARRIER IN LIEU OF THE INTERIOR ATTENUATORS SHOWN IN THIS DETAIL. IF INTERIOR ATTENUATORS ARE USED, FLEXIBLE DRUMS OR SURFACE MOUNTED FLEXIBLE DELINEATORS SHALL BE USED TO MAINTAIN ONE LANE OF TRAFFIC.

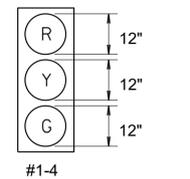
(C) SEE THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) FOR BUFFER LENGTH GUIDANCE.

(D) 7 OR 12 CONDUCTOR SIGNAL CABLE FROM DETECTOR CABINET TO CONTROLLER MAY BE RUN OVERHEAD (USING WOOD POLES AND MESSENGER WIRE), UNDERGROUND (DIRECT BURIED) OR ANY METHOD APPROVED BY THE ENGINEER.

(E) BARRIER RAIL DELINEATORS (ITEM NO. 712-04.50) SHALL BE USED ON PORTABLE BARRIER RAIL. REFER TO THE QUALIFIED PRODUCT LIST FOR APPROVED BARRIER RAIL DELINEATORS. DIFFERENT TYPES OF BARRIER RAIL DELINEATORS SHOULD NOT BE MIXED IN THE SAME LINE.

LEGEND

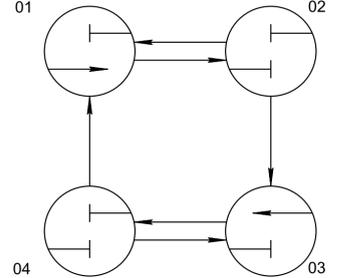
- ☒ FOUR OR EIGHT PHASE POLE MOUNTED CONTROLLER
- 6' X 45' LOOP WITH LEAD-IN
- 12 INCH SIGNAL HEAD WITH BACKPLATE ON SPANWIRE
- GUYING DEVICE VERTICAL ANCHOR (7/16" DIAMETER)
- SHIELDED DETECTOR CABLE ON SPAN WIRE
- WOOD POLE
- △△△ 7 CONDUCTOR (FOUR PHASE) OR 12 CONDUCTOR (EIGHT PHASE) FOR LOOPS & SIGNALS
- 5 CONDUCTOR SIGNAL CABLE
- FLEXIBLE DRUMS
- BARRIER RAIL DELINEATOR (ITEM NO. 712-04.50, PER EACH)
- ▬ PORTABLE CONCRETE BARRIER
- RSSWL REMOVABLE PAVEMENT MARKING (SINGLE SOLID WHITE LINE)
- RDSYL REMOVABLE PAVEMENT MARKING (DOUBLE SOLID YELLOW LINE)
- E.P. EDGE OF PAVEMENT
- ☒ DETECTOR AMPLIFIER CABINET
- ▲ WATERPROOF SPLICE
- SHIELDED DETECTOR CABLE (DIRECT BURIED)
- L DISTANCE
- ◁ ATTENUATOR



SIGNAL HEAD DETAIL

ALL SIGNAL HEADS SHALL HAVE BACKPLATES AND TETHER WIRES.

PLACEMENT OF SIGNAL HEADS SHALL BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (CURRENT EDITION).



PHASING DIAGRAM DETAIL

** SEE SIGNAL OPERATION NOTES ON STANDARD DRAWING NO. T-WZ-34 FOR TIMES WHEN YELLOW FLASH IS USED.

□ MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

CROSS REFERENCE DRAWINGS FOR THIS SHEET: T-WZ-33, T-WZ-34 AND T-WZ-35.

SHEET NOT TO SCALE

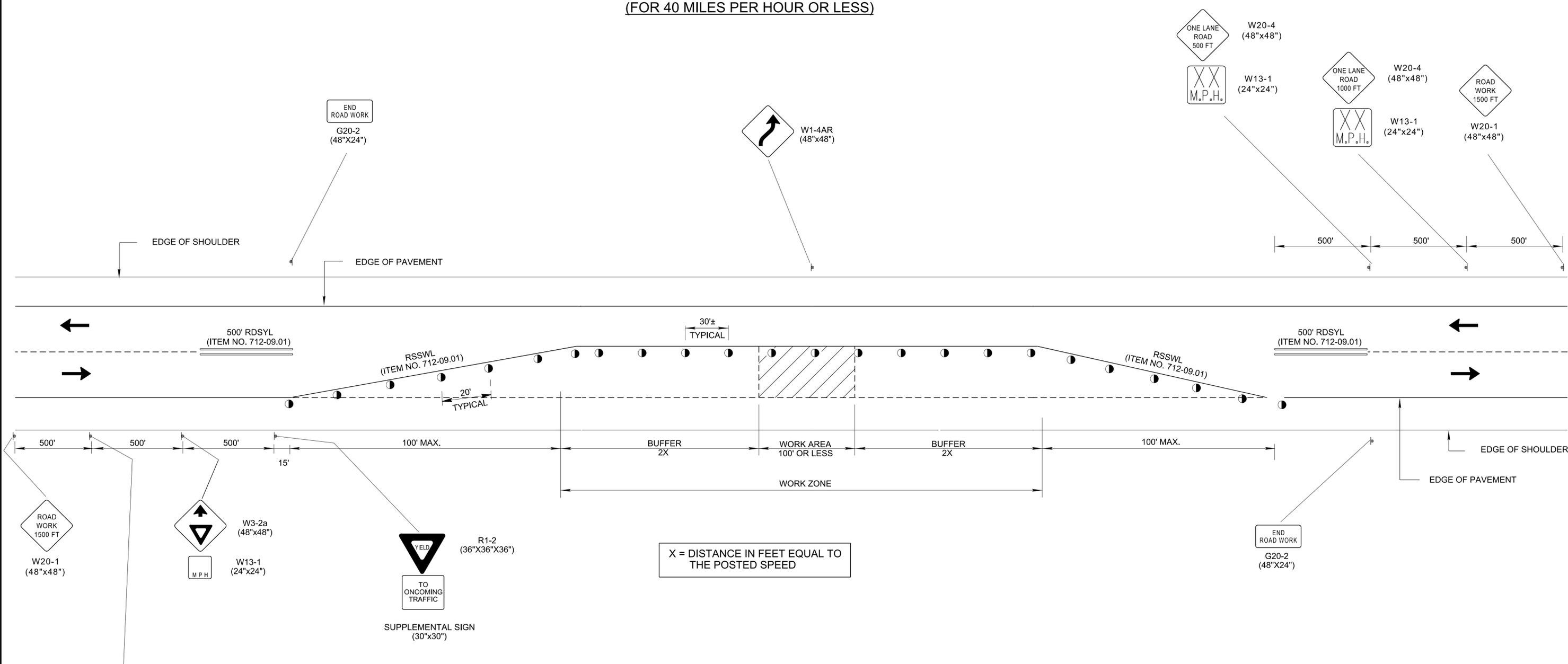
**STATE OF TENNESSEE
DEPARTMENT OF
TRANSPORTATION**

TRAFFIC CONTROL PLAN
SIGNAL LAYOUT FOR
TRAFFIC SIGNAL AT TWO
LANE BRIDGE
RECONSTRUCTION SITE

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TRAFFIC CONTROL FOR ONE LANE CLOSURE ON LOW VOLUME 2-LANE HIGHWAY (FOR 40 MILES PER HOUR OR LESS)

- REV. 9-1-05: REMOVED TYPE "C" WARNING LIGHTS FROM FLEXIBLE DRUMS IN TAPER.
- REV. 4-2-12: ADDED 15' BETWEEN YIELD SIGN AND START OF TAPER, UPDATED G20-2A TO G20-2.
- REV. 03-05-17: ADDED ITEM NO. 712-09.01.
- REV. 4-15-99: MODIFIED CHANNELIZATION DEVICE LEGEND.
- REV. 12-18-99: ELIMINATED CONCRETE PORTABLE BARRIER WALL AND MODIFIED GENERAL NOTE (A).
- REV. 1-19-00: DELETED GENERAL NOTE (B).



X = DISTANCE IN FEET EQUAL TO THE POSTED SPEED

GENERAL NOTES

(A) THIS TRAFFIC CONTROL APPLICATION MAY BE USED WHEN CURRENT ADT IS 750 OR LESS, POSTED SPEED OF 40 MPH OR LESS, WORK AREA IS 100' OR LESS, AND SIGHT DISTANCE MUST BE SUFFICIENT WHERE DRIVERS FROM BOTH DIRECTIONS CAN SEE APPROACHING TRAFFIC THROUGH AND BEYOND THE WORK SITE.

CHANNELIZATION DEVICE LEGEND	
	SIGN SUPPORT
	FLEXIBLE DRUMS
	DIRECTION OF TRAFFIC
	WORK SITE
RSSWL	REMOVABLE PAVEMENT MARKING (SINGLE SOLID WHITE LINE)
RDSYL	REMOVABLE PAVEMENT MARKING (DOUBLE SOLID YELLOW LINE)

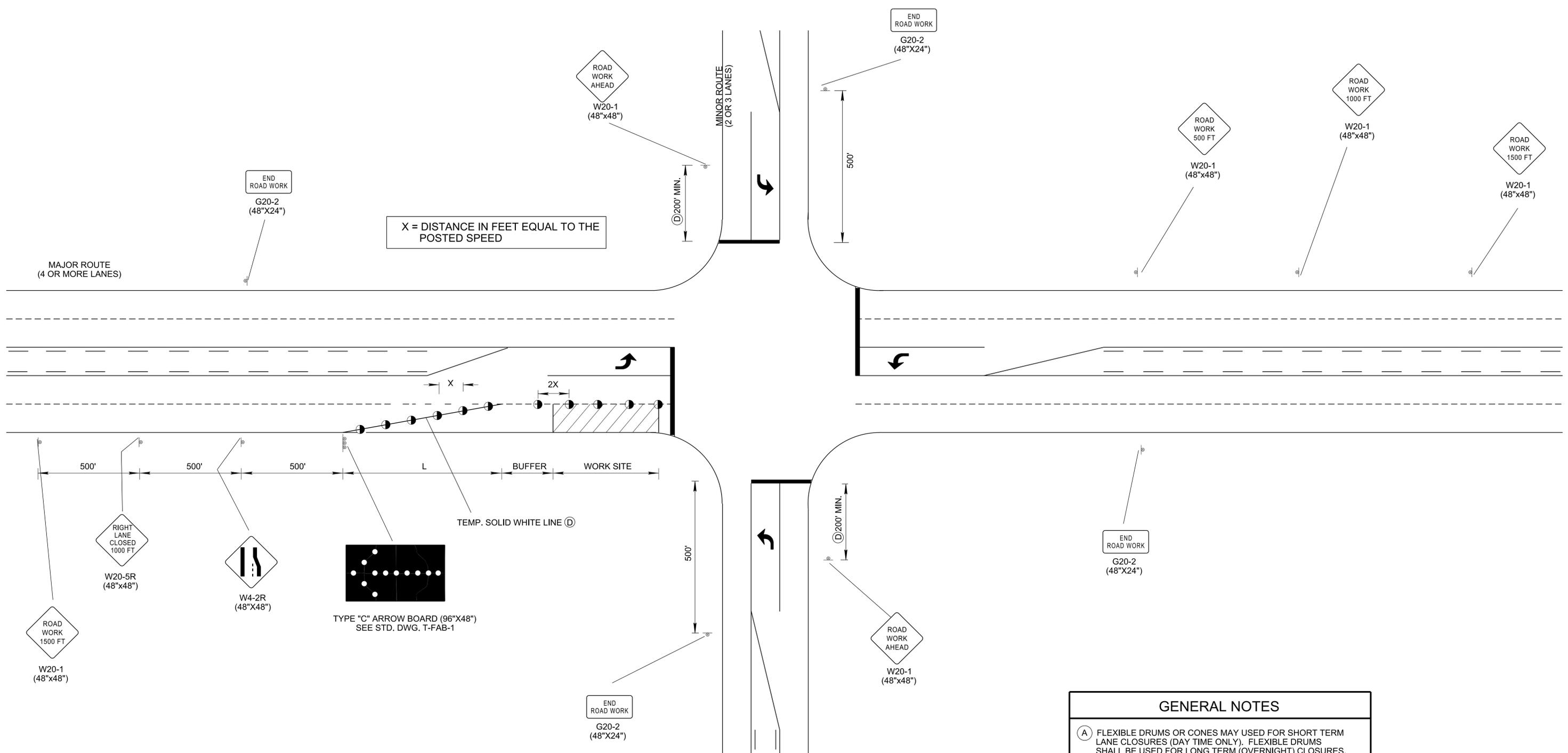
□ MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

**STATE OF TENNESSEE
DEPARTMENT OF
TRANSPORTATION**

**LANE CLOSURE
ON LOW-VOLUME
2-LANE HIGHWAY**

RIGHT LANE CLOSURES AT NEAR SIDE OF INTERSECTIONS

- REV. 9-1-05: REMOVED TYPE "C" WARNING LIGHTS FROM FLEXIBLE DRUMS IN TAPER. REMOVED TYPE "C" WARNING LIGHT NOTE FROM GENERAL NOTES.
- REV. 12-18-99: MODIFIED HEADING DESCRIPTION AND ELIMINATED OLD GENERAL NOTE(A)
- REV. 4-2-12: CHANGED SIGN G20-2A TO G20-2.
- REV. 03-05-17: ADDED GENERAL NOTE (D)
- REV. 4-15-99: ADDED GENERAL NOTE(E)
- REV. 4-15-04: CHANGED W4-2 SIGN. CHANGED GENERAL NOTES(B) AND (C) TO COMPLY WITH 2003 MUTCD.



X = DISTANCE IN FEET EQUAL TO THE POSTED SPEED

TYPE "C" ARROW BOARD (96"x48")
SEE STD. DWG. T-FAB-1

CHANNELIZATION DEVICE LEGEND	
	FLEXIBLE DRUMS
	SIGN SUPPORT
	WORK SITE
	FLASHING YELLOW ARROW BOARD (SEE STD. DWG. NO. T-FAB-1, FOR DETAILS AND SPECIFICATIONS)

COMPUTATION FOR DISTANCE L	
$L = W \times S$	(FOR POSTED SPEEDS OF 45 MPH OR GREATER)
$L = \frac{W \times S^2}{60}$	(FOR POSTED SPEEDS OF 40 MPH OR LESS)
L = TAPER LENGTH IN FEET W = WIDTH OF OFFSET IN FEET S = POSTED SPEED	

GENERAL NOTES	
(A)	FLEXIBLE DRUMS OR CONES MAY BE USED FOR SHORT TERM LANE CLOSURES (DAY TIME ONLY). FLEXIBLE DRUMS SHALL BE USED FOR LONG TERM (OVERNIGHT) CLOSURES.
(B)	SEE TABLE 6C-2 OF PART VI OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) FOR RECOMMENDED LENGTHS OF BUFFER SPACE WHICH ARE BASED ON STOPPING SIGHT DISTANCE AS A FUNCTION OF SPEED.
(C)	SEE TABLE 6C-1 OF PART VI OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) FOR GUIDELINES FOR ADVANCE WARNING SIGN SPACING TO BE USED TO DETERMINE DISTANCE FOR "ROAD WORK AHEAD" SIGN TO BE PLACED PRIOR TO INTERSECTION.
(D)	SEE TDOT ROADWAY DESIGN GUIDELINES SECTION 4-716.11 FOR LINE WIDTH AND SECTION 4-716.30 FOR MATERIAL TYPE.

□ MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

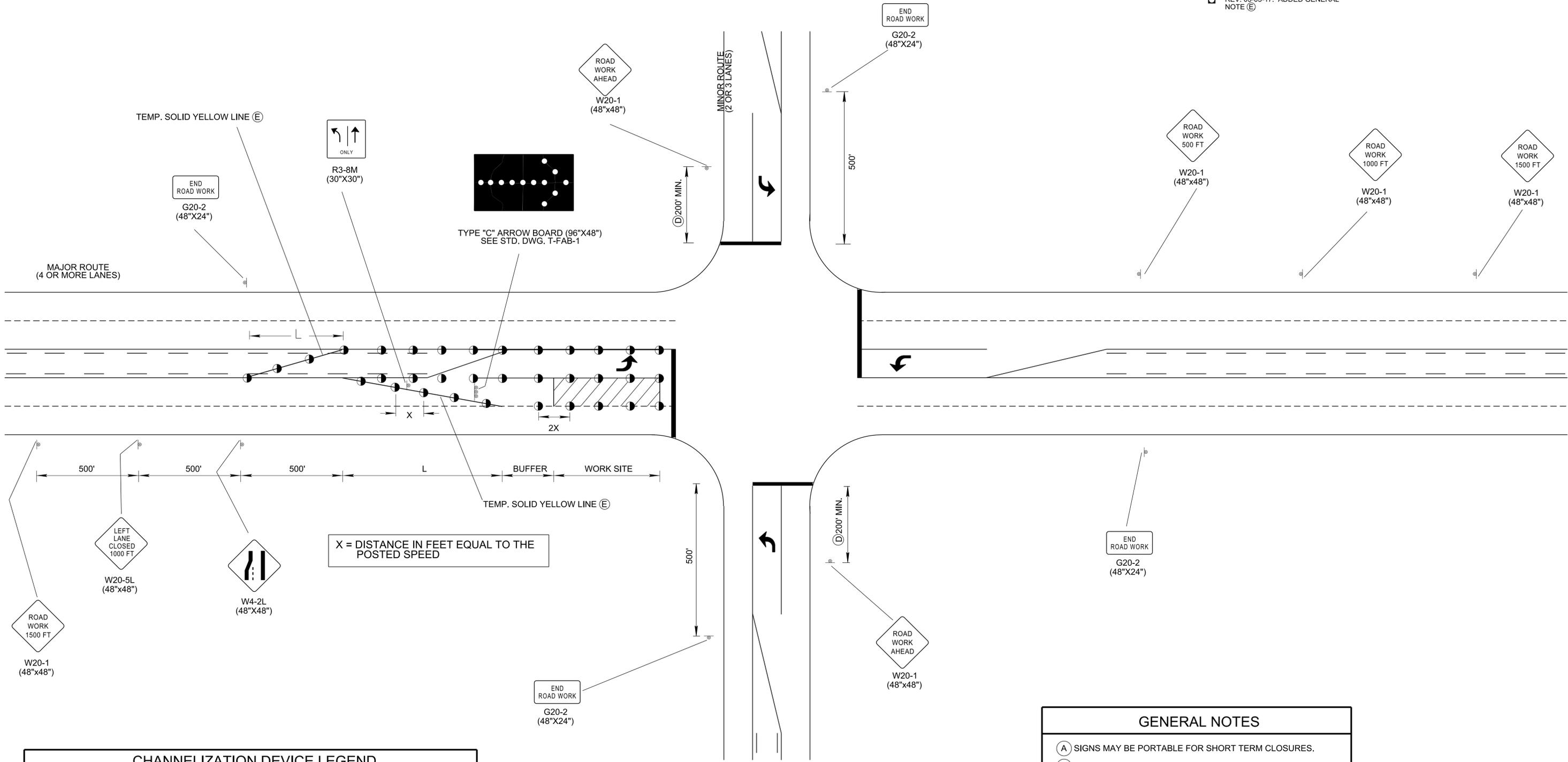
STATE OF TENNESSEE
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TRANSPORTATION

RIGHT LANE CLOSURES AT NEAR SIDE OF INTERSECTIONS

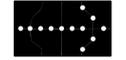
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LEFT LANE CLOSURES AT NEAR SIDE OF INTERSECTIONS (FOR 40 MILES PER HOUR AND GREATER)

- REV. 9-1-05: REMOVED TYPE "C" WARNING LIGHTS FROM FLEXIBLE DRUMS IN TAPER. REMOVED TYPE "C" WARNING LIGHT NOTE FROM GENERAL NOTES.
- REV. 4-2-12: CHANGED G20-2A TO G20-2, ADDED CHANNELIZATION TO PROTECT LEFT TURN LANE.
- REV. 03-05-17: ADDED GENERAL NOTE (E)
- REV. 4-15-99: ADDED GENERAL NOTE (E)
- REV. 4-15-04: CHANGED W4-2 SIGN, CHANGED GENERAL NOTES (B) AND (C) TO COMPLY WITH 2003 MUTCD.



X = DISTANCE IN FEET EQUAL TO THE POSTED SPEED

CHANNELIZATION DEVICE LEGEND	
	FLEXIBLE DRUMS
	SIGN SUPPORT
	WORK SITE
	FLASHING YELLOW ARROW BOARD (SEE STD. DWG. NO. T-FAB-1, FOR DETAILS AND SPECIFICATIONS)

COMPUTATION FOR DISTANCE L	
$L = W \times S$	(FOR POSTED SPEEDS OF 45 MPH OR GREATER)
$L = \frac{W \times S^2}{60}$	(FOR POSTED SPEEDS OF 40 MPH OR LESS)
L = TAPER LENGTH IN FEET W = WIDTH OF OFFSET IN FEET S = POSTED SPEED	

GENERAL NOTES	
(A)	SIGNS MAY BE PORTABLE FOR SHORT TERM CLOSURES.
(B)	FLEXIBLE DRUMS OR CONES MAY BE USED FOR SHORT TERM LANE CLOSURES (DAY TIME ONLY). FLEXIBLE DRUMS SHALL BE USED FOR LONG TERM (OVERNIGHT) CLOSURES.
(C)	SEE TABLE 6C-2 OF PART VI OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) FOR RECOMMENDED LENGTHS OF BUFFER SPACE WHICH ARE BASED ON STOPPING SIGHT DISTANCE AS A FUNCTION OF SPEED.
(D)	SEE TABLE 6C-1 OF PART VI OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) FOR GUIDELINES FOR ADVANCE WARNING SIGN SPACING TO BE USED TO DETERMINE DISTANCE FOR "ROAD WORK AHEAD" SIGN TO BE PLACED PRIOR TO INTERSECTION.
(E)	SEE TDOT ROADWAY DESIGN GUIDELINES SECTION 4-716.11 FOR LINE WIDTH AND SECTION 4-716.30 FOR MATERIAL TYPE.

□ MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

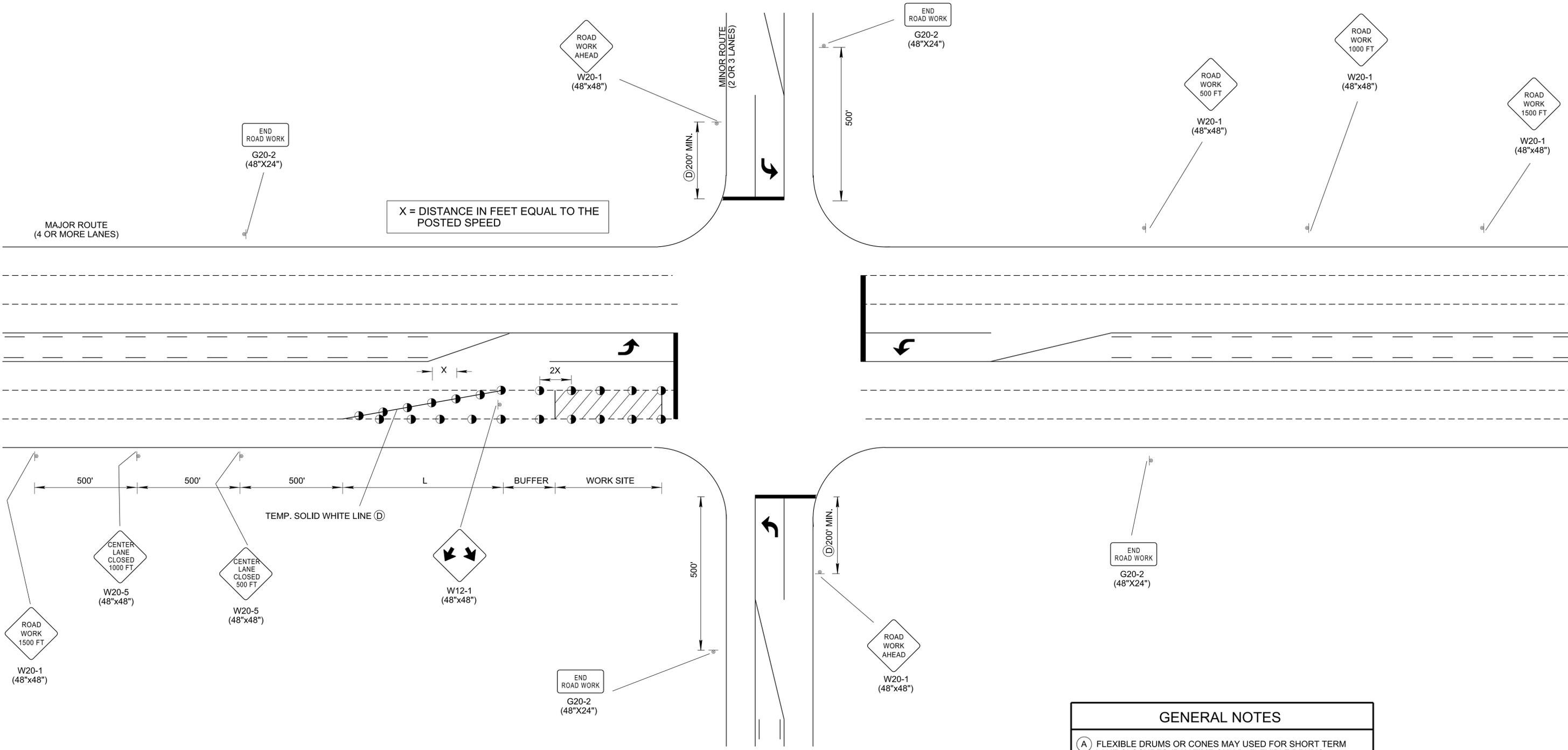
**STATE OF TENNESSEE
DEPARTMENT OF
TRANSPORTATION**

**LEFT LANE
CLOSURES
AT NEAR SIDE
OF INTERSECTIONS**

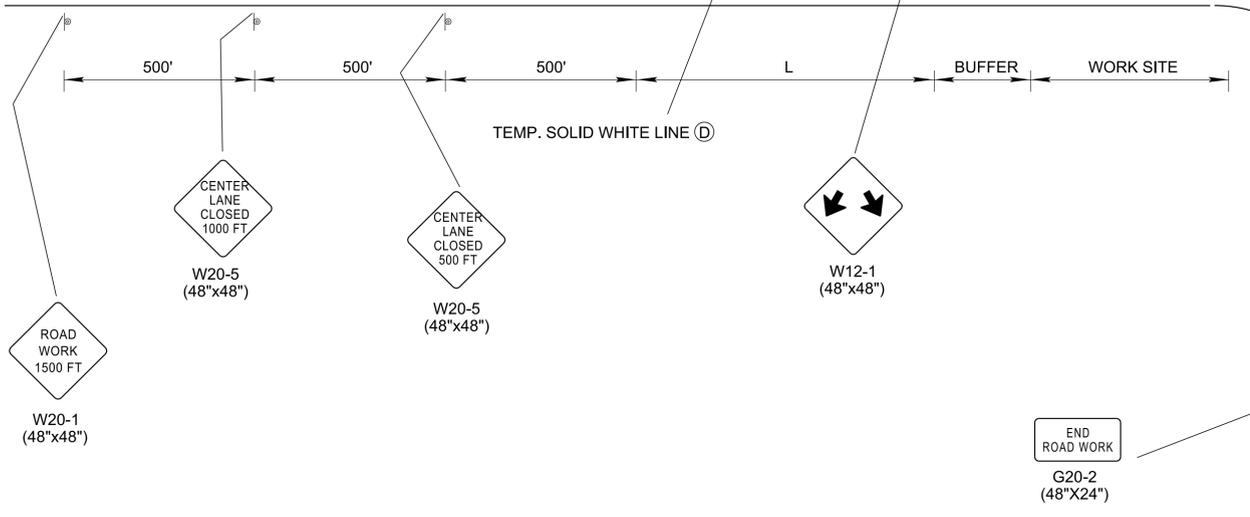
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CENTER LANE CLOSURES AT NEAR SIDE OF INTERSECTIONS

- REV. 9-1-05: REMOVED TYPE "C" WARNING LIGHTS FROM FLEXIBLE DRUMS IN TAPER. REMOVED TYPE "C" WARNING LIGHT NOTE FROM GENERAL NOTES.
- REV. 4-2-12: MOVED SIGN W21-1. CHANGED SIGN G20-2A TO G20-2.
- REV. 03-05-17: ADDED GENERAL NOTE (D)
- REV. 4-15-99: ADDED GENERAL NOTE (E)
- REV. 12-18-99: MODIFIED HEADING DESCRIPTION AND ELIMINATED OLD GENERAL NOTE (A)
- REV. 4-15-04: CHANGED W4-2 SIGN. CHANGED GENERAL NOTES (B) AND (C) TO COMPLY WITH 2003 MUTCD.



X = DISTANCE IN FEET EQUAL TO THE POSTED SPEED



CHANNELIZATION DEVICE LEGEND	
	FLEXIBLE DRUMS
	SIGN SUPPORT
	WORK SITE

COMPUTATION FOR DISTANCE L	
$L = W \times S$	(FOR POSTED SPEEDS OF 45 MPH OR GREATER)
$L = \frac{W \times S^2}{60}$	(FOR POSTED SPEEDS OF 40 MPH OR LESS)
L = TAPER LENGTH IN FEET W = WIDTH OF OFFSET IN FEET S = POSTED SPEED	

- | GENERAL NOTES | |
|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| (A) | FLEXIBLE DRUMS OR CONES MAY USED FOR SHORT TERM LANE CLOSURES (DAY TIME ONLY). FLEXIBLE DRUMS SHALL BE USED FOR LONG TERM (OVERNIGHT) CLOSURES. |
| (B) | SEE TABLE 6C-2 OF PART VI OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) FOR RECOMMENDED LENGTHS OF BUFFER SPACE WHICH ARE BASED ON STOPPING SIGHT DISTANCE AS A FUNCTION OF SPEED. |
| (C) | SEE TABLE 6C-1 OF PART VI OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) FOR GUIDELINES FOR ADVANCE WARNING SIGN SPACING TO BE USED TO DETERMINE DISTANCE FOR "ROAD WORK AHEAD" SIGN TO BE PLACED PRIOR TO INTERSECTION. |
| (D) | SEE TDOT ROADWAY DESIGN GUIDELINES SECTION 4-716.11 FOR LINE WIDTH AND SECTION 4-716.30 FOR MATERIAL TYPE. |

MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

STATE OF TENNESSEE
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TRANSPORTATION
**CENTER LANE
CLOSURES
AT NEAR SIDE
OF INTERSECTIONS**

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