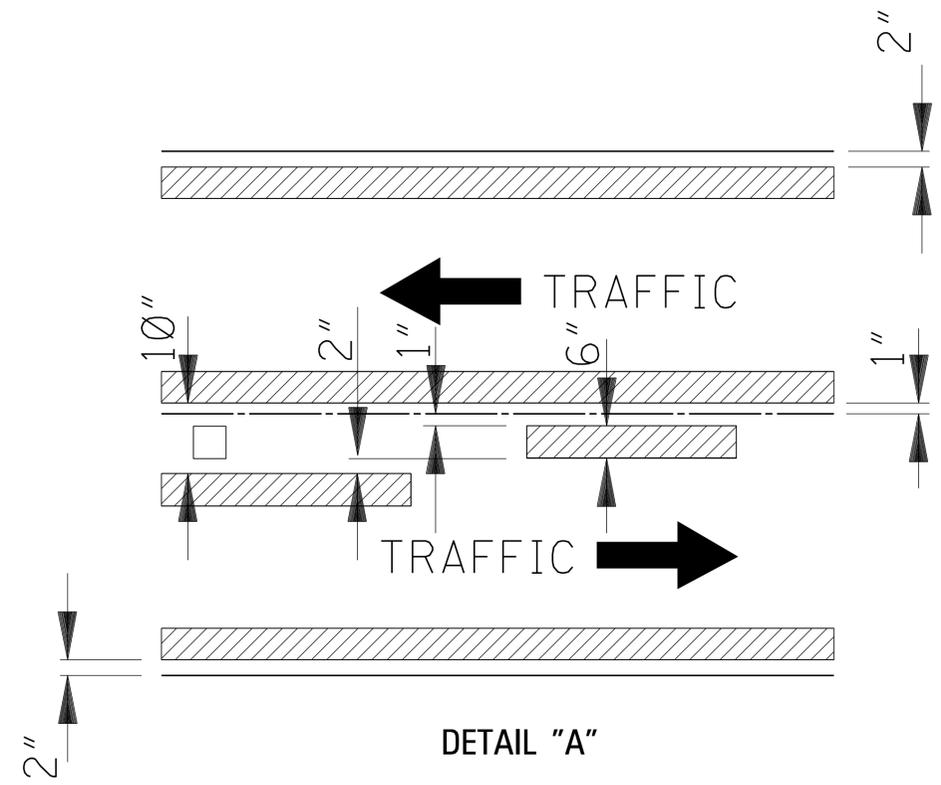


TWO-WAY TRAFFIC
(ASPHALT OR CONCRETE PAVEMENT)



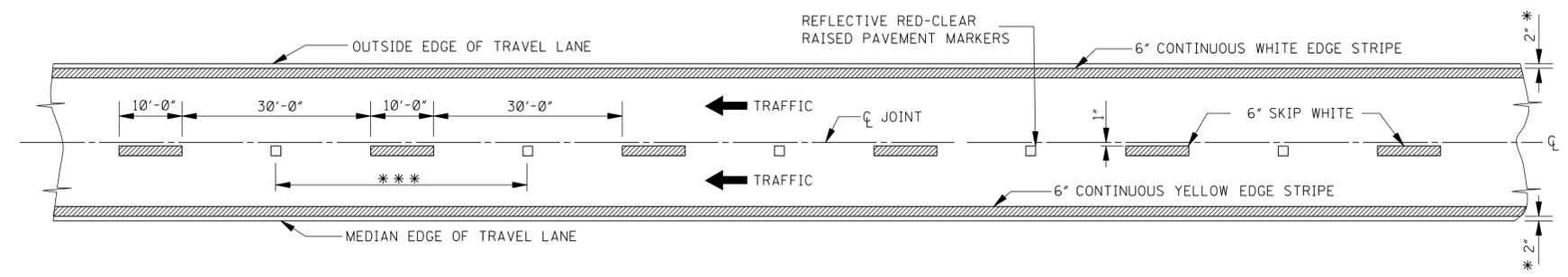
GENERAL NOTES:

- * 1. 2" UNLESS SHOWN ELSEWHERE ON THE PLANS.
- ** 2. EDGE STRIPE SHALL BE SAME MATERIAL AS LANE-LINE STRIPE (PAINT OR PLASTIC AS INDICATED IN PAY ITEMS).
- *** 3. SPACING OF REFLECTIVE RAISED PAVEMENT MARKERS IS AS FOLLOWS:

	URBAN AREA (ft-in)	RURAL AREA (ft-in)
TANGENT SECTIONS	40'-0"	80'-0"
HORIZONTAL CURVES	40'-0"	40'-0"
INTERCHANGE LIMITS	40'-0"	+ 40'-0"

† NOTE: ON THE MAIN FACILITY, REFLECTIVE RED-CLEAR RAISED PAVEMENT MARKERS ON A 40'-0" SPACING WILL BE REQUIRED ON LANE-LINE(S) THROUGH ALL INTERCHANGE AREAS BEGINNING 1000' IN ADVANCE (IN DIRECTION OF TRAFFIC) OF THE EXIT RAMP TAPER AND CONTINUING THROUGH THE INTERCHANGE TO THE END OF THE ENTRANCE RAMP TAPER.

4. PAVEMENT MARKERS SHALL BE HIGH PERFORMANCE REFLECTIVE RAISED PAVEMENT MARKERS AS LISTED IN THE MDOT "APPROVED SOURCES OF MATERIALS."



4-LANE WITH ONE-WAY TRAFFIC

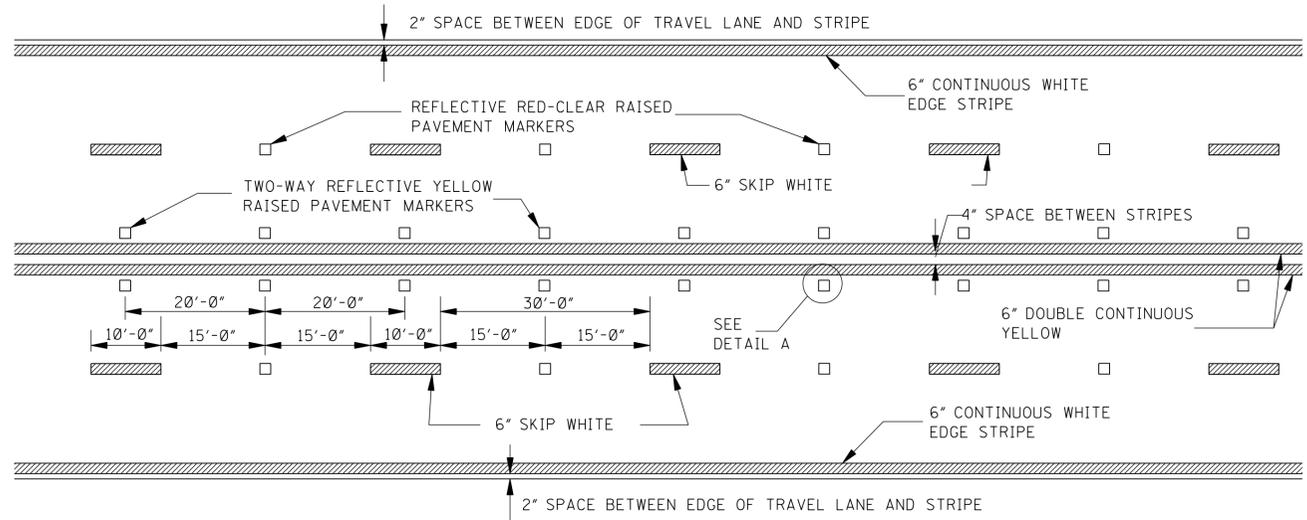
REVISION	DATE	BY	DATE	ISSUE DATE: OCTOBER 1, 1998

MISSISSIPPI DEPARTMENT OF TRANSPORTATION
ROADWAY DESIGN DIVISION
STANDARD PLAN

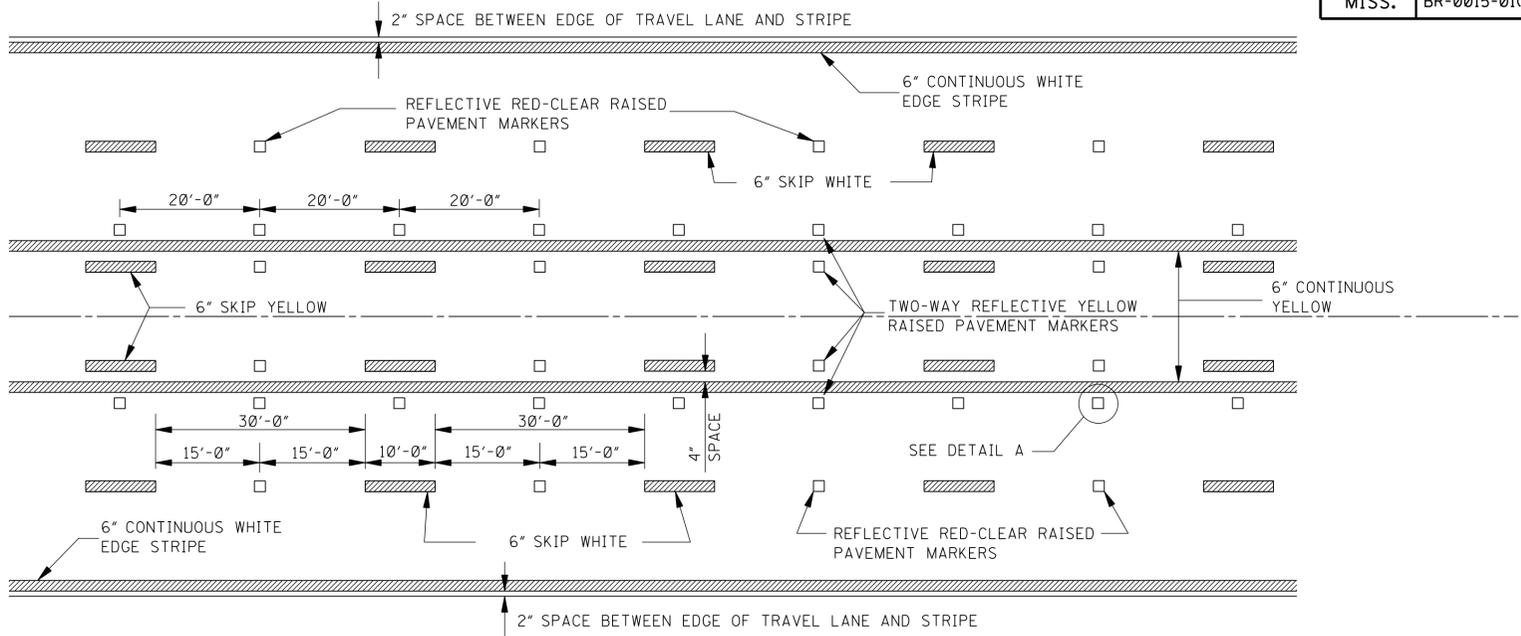
**PAVEMENT MARKING
DETAILS FOR
2-LANE AND 4-LANE
DIVIDED HIGHWAYS**

WORKING NUMBER
PM-1

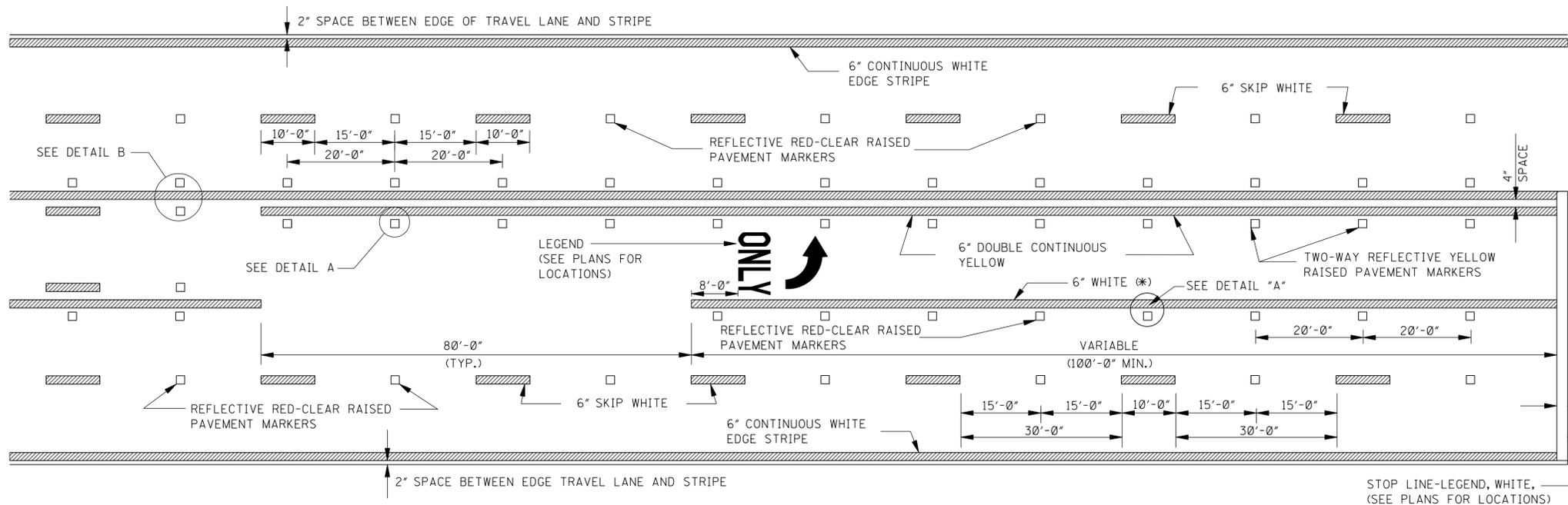
SHEET NUMBER
6120



TYPICAL STRIPING AND RAISED PAVEMENT MARKERS FOR 4-LANE SECTION

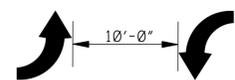


TYPICAL STRIPING AND RAISED PAVEMENT MARKERS FOR 5-LANE SECTION



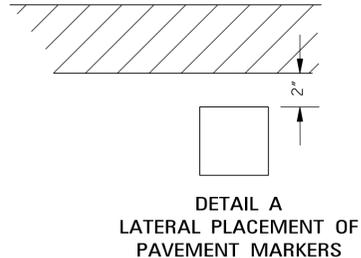
TYPICAL STRIPING AND RAISED PAVEMENT MARKERS AT LEFT TURN LANES

*NOTE: USE DETAIL STRIPING IF LENGTH ≤ 150' AT THIS LOCATION, OTHERWISE USE CONTINUOUS STRIPING.

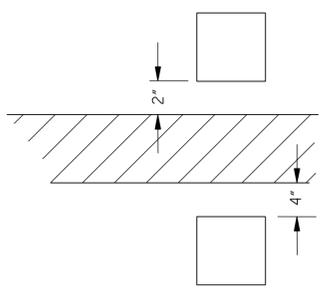


TYPICAL TWO-WAY ARROW INSTALLATION

- NOTES: 1. CONSIDER EACH SEGMENT OF CONTINUOUS TWO-WAY LEFT TURN LANE SEPARATELY.
 2. IF SEGMENT IS LESS THAN 350', PLACE ONE SET OF ARROWS IN CENTER OF SEGMENT.
 3. IF SEGMENT IS GREATER THAN 350', PLACE FIRST SET OF ARROWS 50' TO 100' FROM BEGINNING AND/OR END OF SEGMENT AND SPACE ADDITIONAL SETS OF ARROWS (250' O.C.).



**DETAIL A
LATERAL PLACEMENT OF PAVEMENT MARKERS**



**DETAIL B
LATERAL PLACEMENT OF PAVEMENT MARKERS**

GENERAL NOTE:

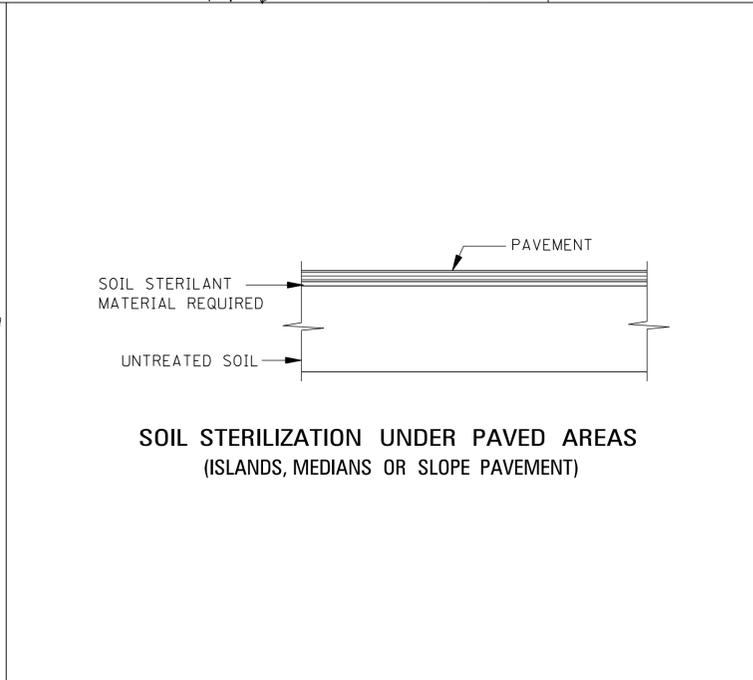
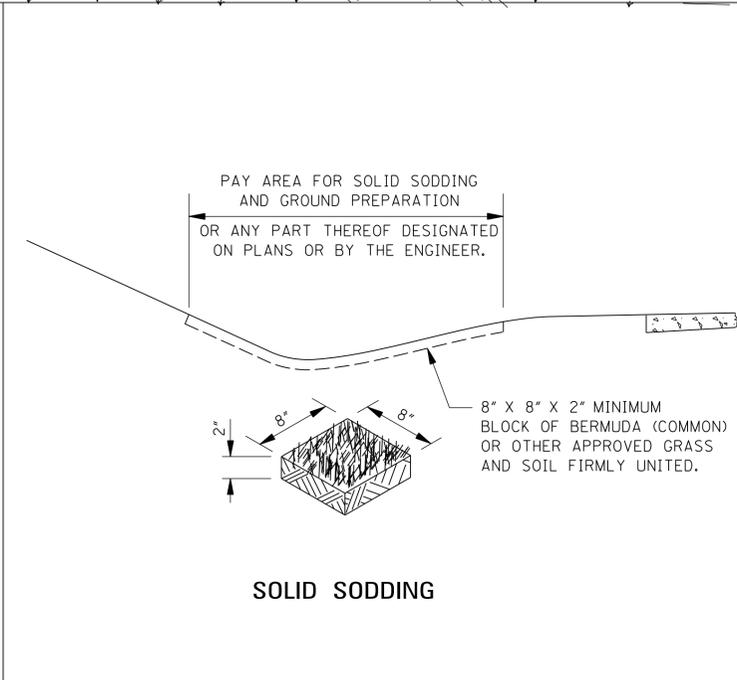
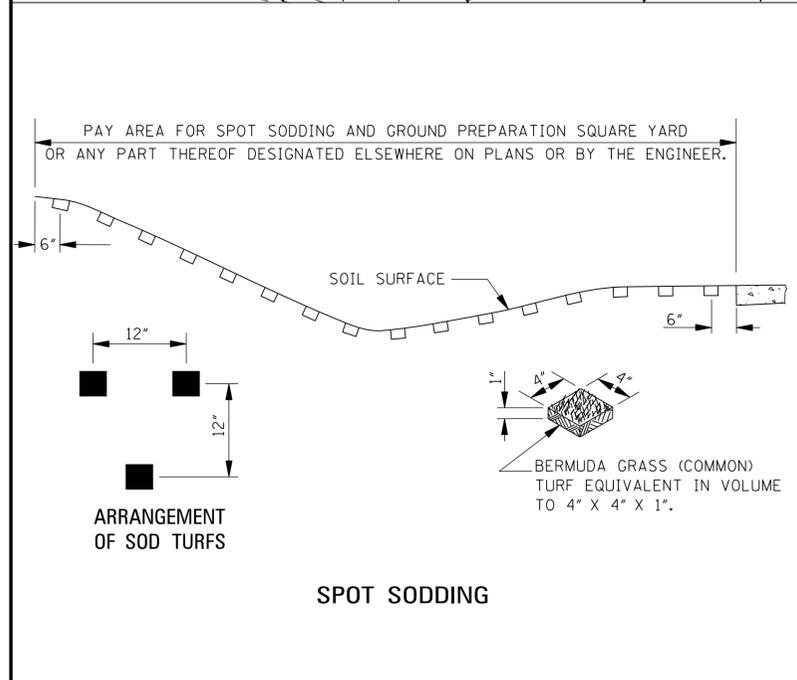
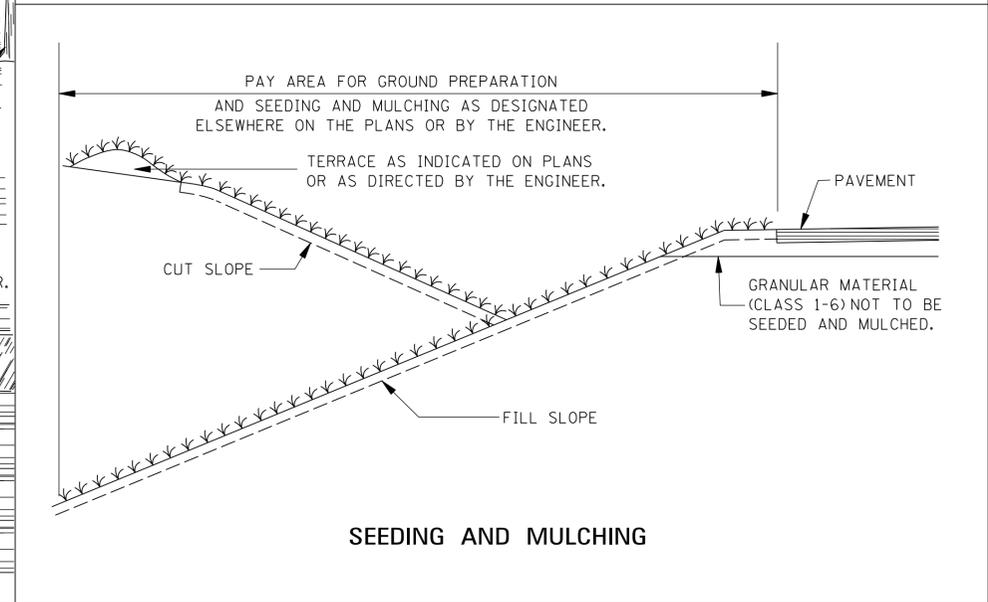
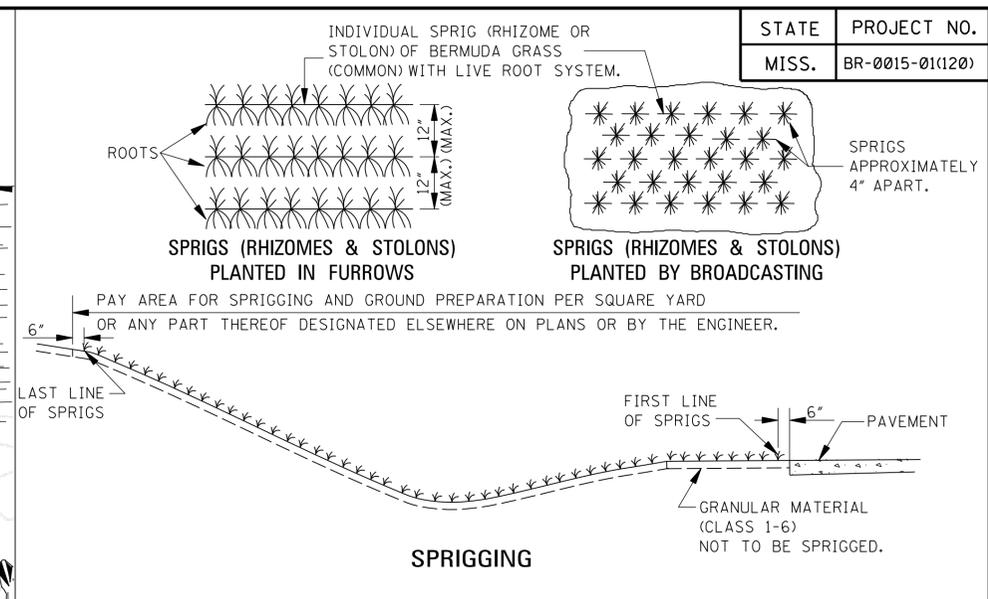
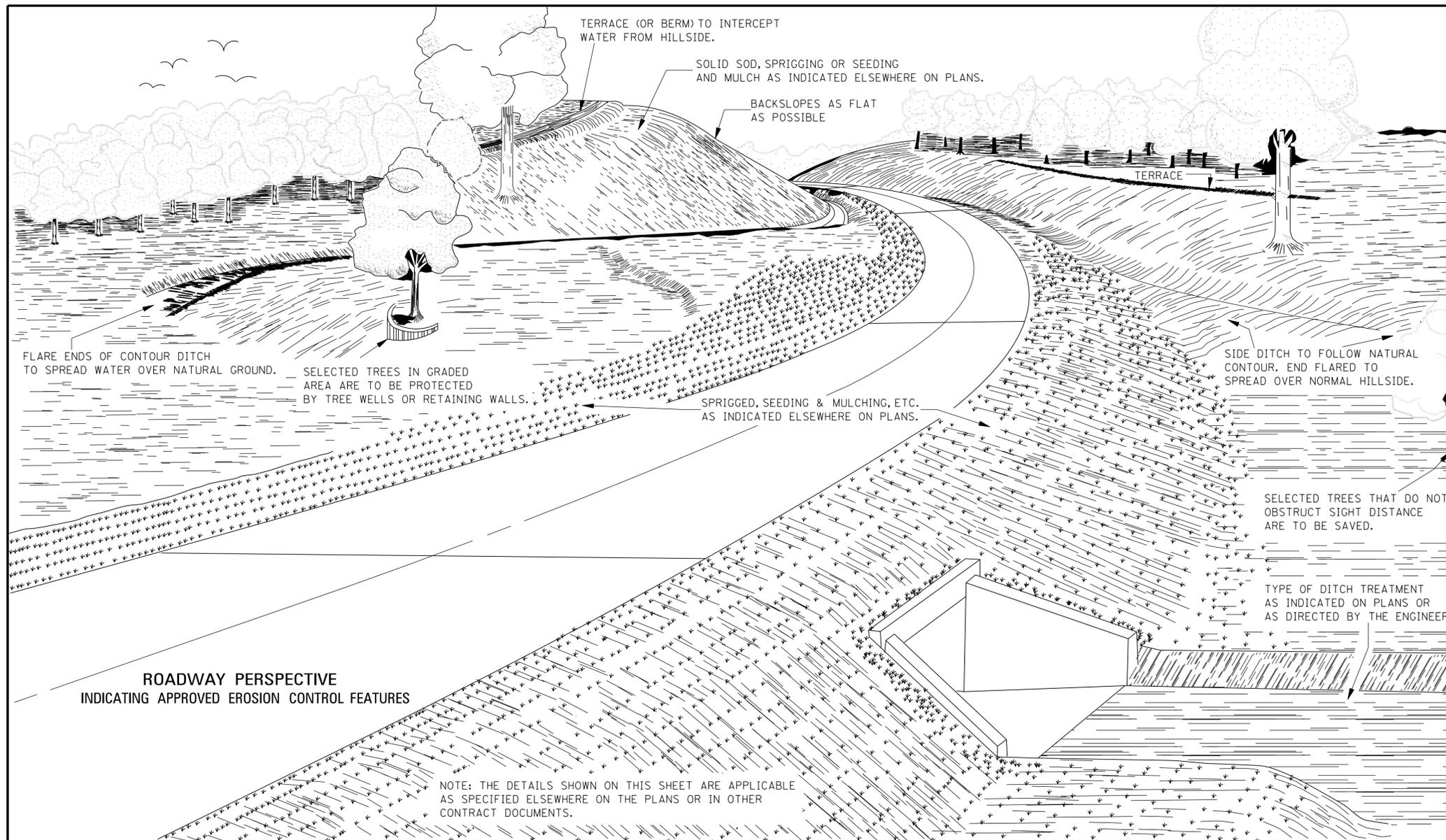
1. PAVEMENT MARKERS SHALL BE HIGH PERFORMANCE RAISED PAVEMENT MARKERS AS LISTED IN THE MDOT "APPROVED SOURCES OF MATERIALS".

MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN	
PAVEMENT MARKING DETAILS FOR 4-LANE AND 5-LANE UNDIVIDED ROADWAYS	
2-1-99 DATE	ISSUE DATE: OCTOBER 1, 1998
REVISION STRIPE WIDTH	BY
REVISION	BY

WORKING NUMBER
PM-2

SHEET NUMBER
6121

STATE	PROJECT NO.
MISS.	BR-0015-01(120)



GENERAL NOTE:

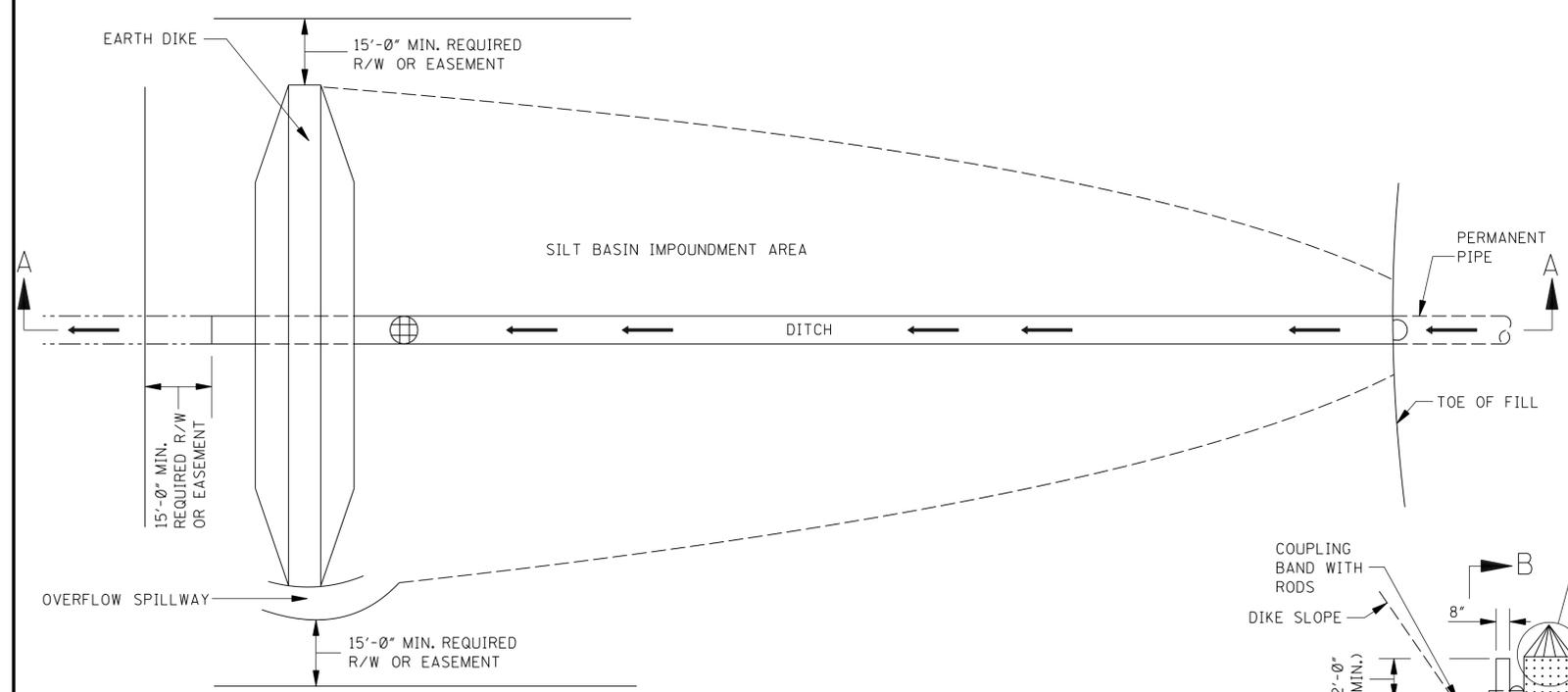
1. LONGITUDINAL AND TRANSVERSE MEASUREMENTS FOR THE PAY AREA SHALL BE TAKEN ALONG THE SLOPES.

BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN
REVISION	
DATE	ISSUE DATE: OCTOBER 1, 1998

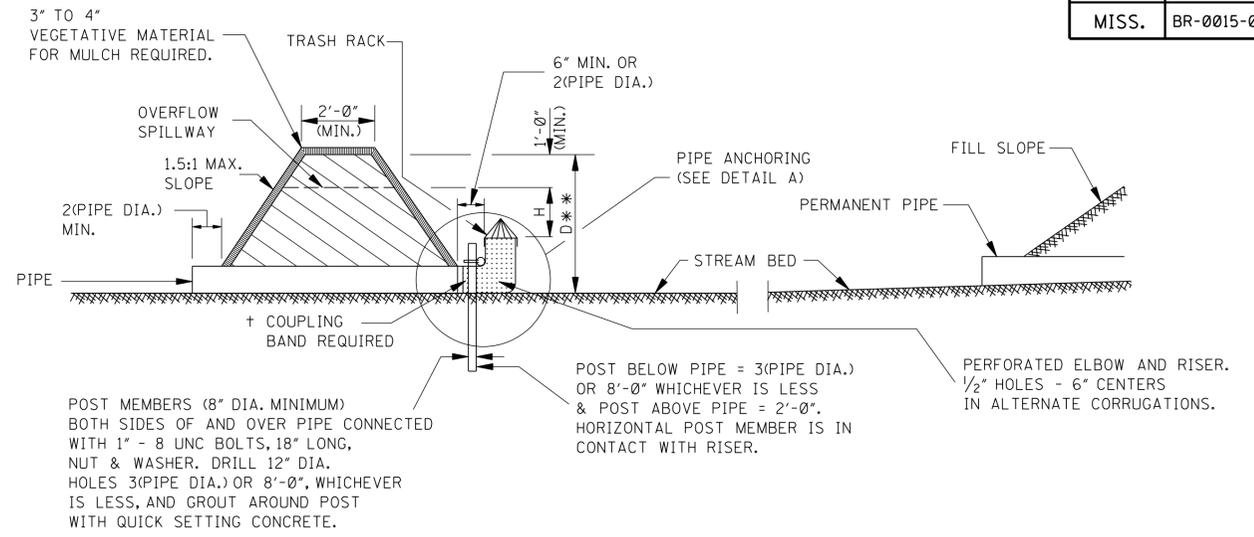
EROSION CONTROL

WORKING NUMBER EC-1

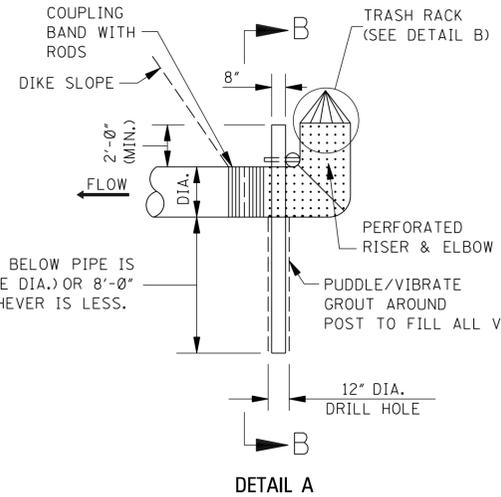
SHEET NUMBER 6140



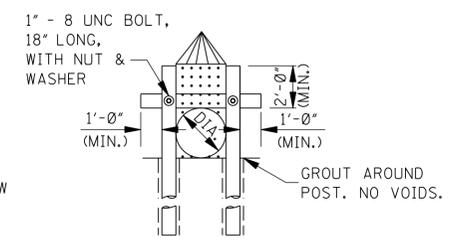
PLAN



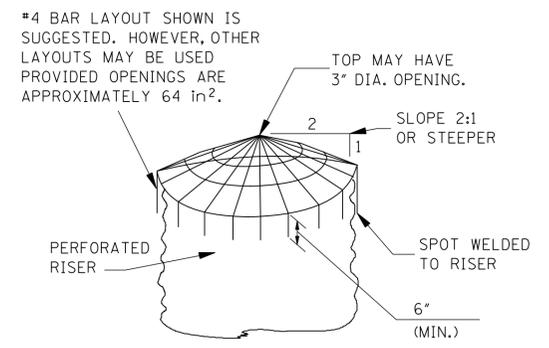
SECTION A-A



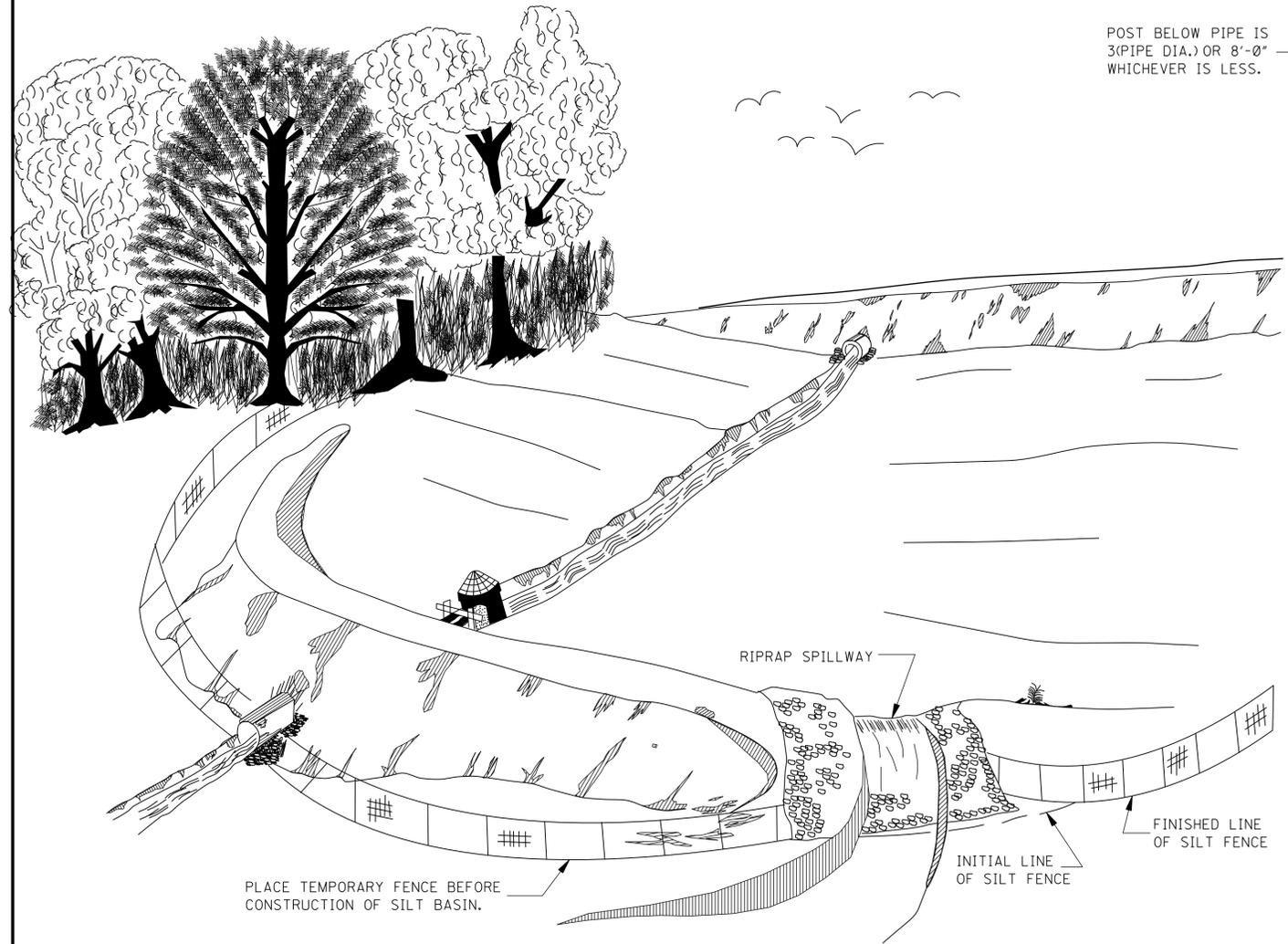
DETAIL A



SECTION B-B



DETAIL B
TRASH RACK INSTALLATION



TEMPORARY SILT BASIN (TYPE B)

PIPE ANCHORAGE

GENERAL NOTES:

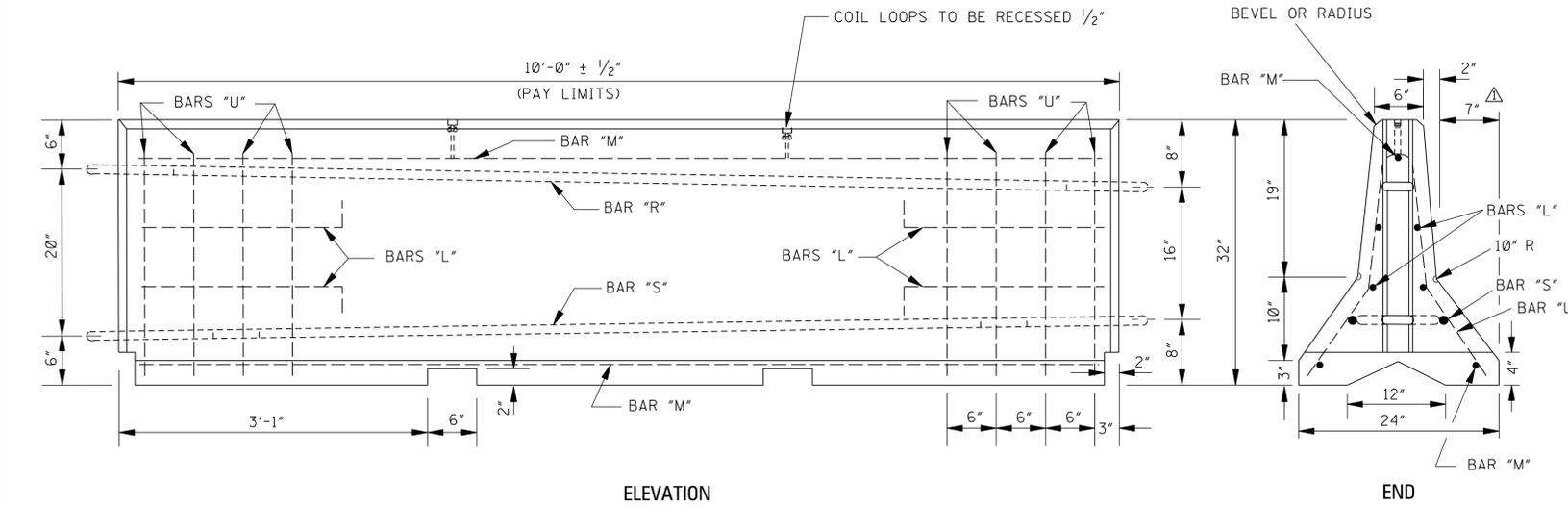
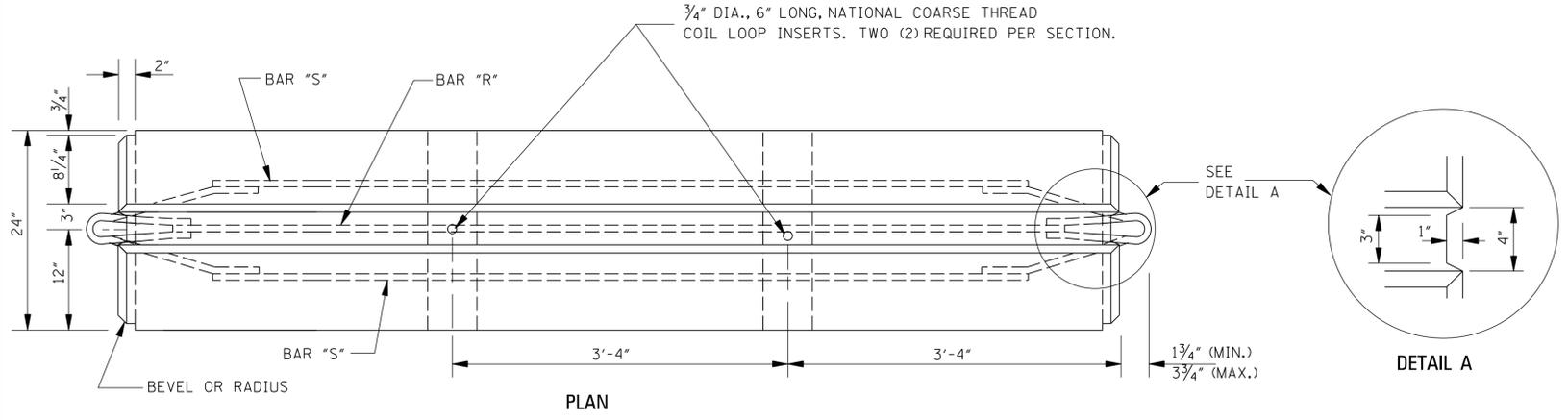
1. PROVIDE OVERFLOW SPILLWAY IN NATURAL GROUND AT A MINIMUM OF 1'-0" BELOW TOP OF DIKE. CROSS-SECTIONAL AREA OF SPILLWAY IS EQUAL TO 1.5 TIMES THE AREA OF THE OUTLET PIPE MINIMUM. RIPRAP SHALL BE REQUIRED AT THE SPILLWAY. AFTER THE PURPOSE OF THE SILT BASIN HAS BEEN SERVED, THE DIKE AND RIPRAP MAY REMAIN IN PLACE AT THE DISCRETION OF THE ENGINEER, BUT THE DRAIN PIPE WITH RISER SHALL BE REMOVED AND THE NEWLY DISTURBED AREA REVEGETATED.
2. BASIN AND DIKE DIMENSIONS DO NOT REQUIRE CONSTRUCTION TO NEAT LINES.
3. THE SILT BASIN MAY BE CONSTRUCTED IN ANY SHAPE WITH THE DIKE EXTENDING ALONG ONE OR MORE SIDES AS LONG AS THE LENGTH MEASURED IN THE DIRECTION OF FLOW IS APPROXIMATELY TWICE THE WIDTH AND THE IMPOUNDMENT AREA AND DEPTH AT LEAST AS LARGE AS INDICATED.
4. MINIMUM DIMENSIONS FOR SILT BASIN (TYPE B) ARE AS FOLLOWS:

MIN. DIMENSIONS OF SILT BASIN (TYPE B)				+ COUPLING BAND	
PIPE	* * D (ft-in)	H (ft-in)	* AREA (ft ²)	LENGTH (in)	COUPLING RODS/SIDE
15"	4'-0"	1'-0"	310	12"	2 & 2
18"	5'-0"	1'-0"	550	12"	2 & 2
24"	5'-0"	1'-0"	1100	12"	2 & 2
30"	6'-0"	1'-6"	1850	24"	3 & 3
36"	6'-0"	1'-6"	2800	24"	3 & 3
42"	7'-0"	2'-0"	4200	24"	3 & 3
48"	8'-0"	2'-0"	6200	24"	3 & 3

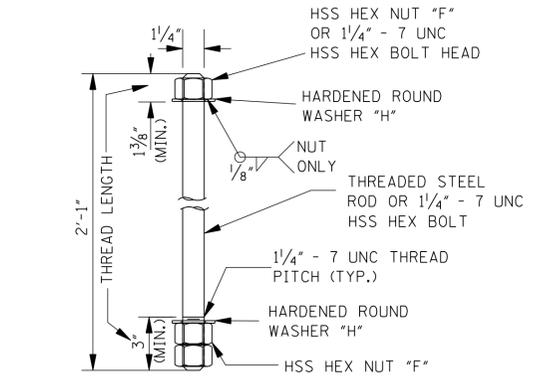
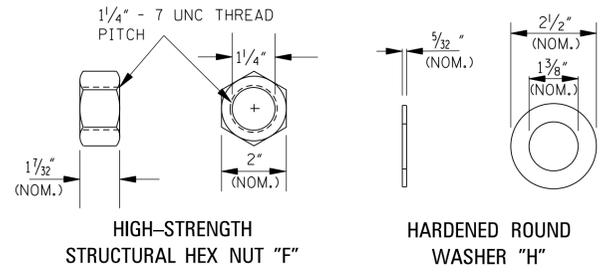
- NOTES:
- * 1. IMPOUNDMENT SURFACE AREAS ARE MEASURED AT ELEVATION OF TOP OF ELBOW RISER.
 - * * 2. RISER REQUIRED WHERE MINIMUM "D" DIMENSION IS EXCEEDED. LENGTH OF RISER IS EQUAL TO THE AMOUNT THAT MINIMUM "D" DIMENSION IS EXCEEDED.
 - + 3. COUPLING RODS TO BE 1/2" DIAMETER MINIMUM WITH LUGS.

5. IN SELECTING BASIN SIZE, CONSIDERATION MUST BE GIVEN TO THE AREA DISCHARGING INTO THE BASIN OTHER THAN THAT WHICH COMES THROUGH THE PIPE UNDER THE ROADWAY. THIS WILL AT TIMES NECESSITATE A LARGER BASIN AND OUTLET PIPE SECTION.
6. THE DIKE SHALL BE CONSTRUCTED OF A MATERIAL SUITABLE FOR ROADWAY EMBANKMENT.
7. SILT BASIN (TYPE B) REQUIRED AT LOCATION(S) INDICATED ON PLANS.
8. THE CONTRACTOR SHALL BE REQUIRED TO FURNISH ALL MATERIALS AND PERFORM ALL WORK FOR THE PROPER INSTALLATION, MAINTENANCE AND REMOVAL OF TEMPORARY EROSION CONTROL MEASURES NECESSARY TO CONTROL SILTATION.
9. THE USE OF THE TEMPORARY EROSION CONTROL MEASURE SHOWN ON THIS SHEET WILL ONLY BE REQUIRED AND MEASURED FOR SEPARATE PAYMENT WHEN AN APPROPRIATE PAY ITEM IS INCLUDED IN THE BID SCHEDULE OF THE PROPOSAL.
10. RIPRAP AND TEMPORARY SILT FENCE, USED IN CONJUNCTION WITH TYPE B SILT BASINS AS SHOWN BY THE DETAILS ON THIS SHEET, WILL NOT BE MEASURED FOR SEPARATE PAYMENT. THEIR COST SHALL BE INCLUDED IN THE PRICE BID FOR TYPE B SILT BASIN.

BY		MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN	
REVISION		<p>TYPICAL TEMPORARY EROSION CONTROL MEASURES (TYPE B SILT BASIN)</p> 	
DATE	ISSUE DATE: OCTOBER 1, 1998		
		WORKING NUMBER TEC-3	SHEET NUMBER 6144

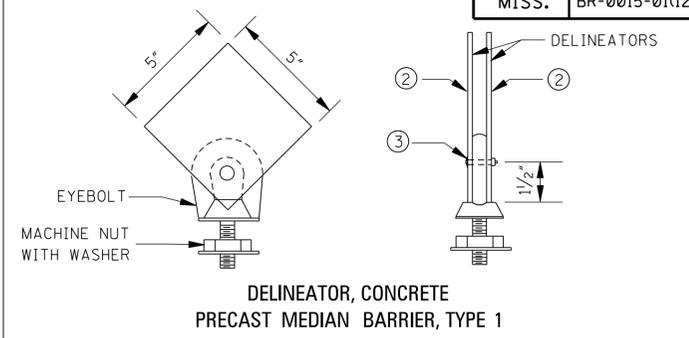


PRECAST CONCRETE MEDIAN BARRIER



ANCHOR STUD CONNECTOR DETAILS

NOTE: ALTERNATE METHODS OF CONNECTING PRECAST BARRIERS, SUCH AS J-HOOKS, MAY BE SUBSTITUTED IF APPROVED BY THE ENGINEER.

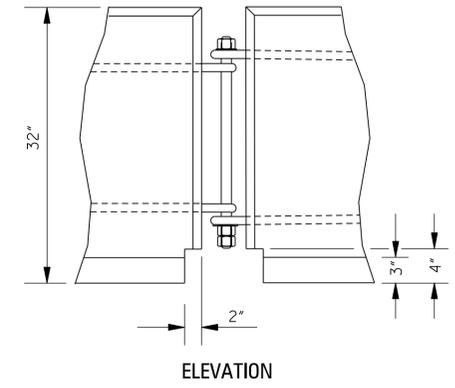
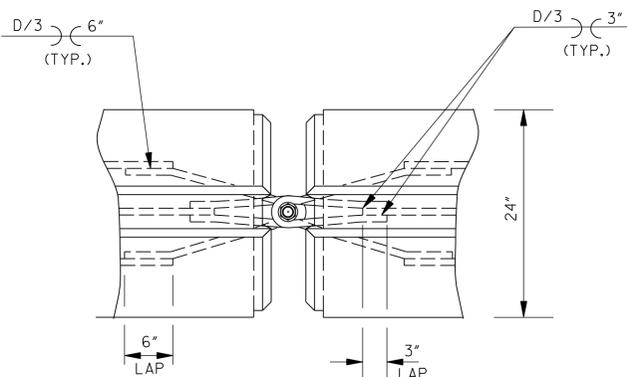
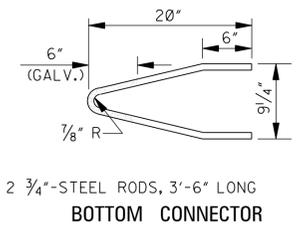
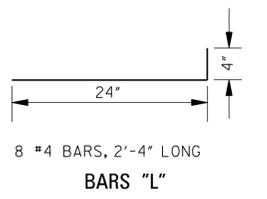
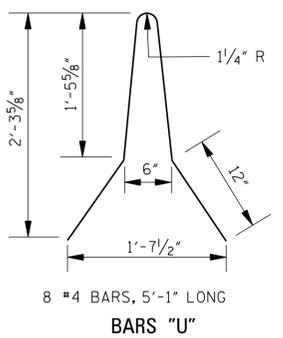
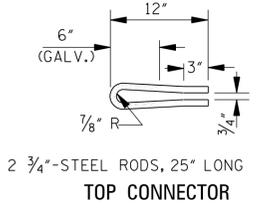


- DELINEATORS SHALL BE REQUIRED UNLESS INDICATED OTHERWISE ON THE PLANS. THIS ITEM WILL NOT BE MEASURED SEPARATELY, BUT WILL BE INCLUDED UNDER PAYMENT FOR PRECAST CONCRETE BARRIER.
- DELINEATORS SHALL BE ENCAPSULATED LENS REFLECTIVE SHEETING ON ALUMINUM SHEET, 0.080" THICK, OR SHEET STEEL, 14 GAGE, WHICH IS GALVANIZED.
- ALUMINUM OR STAINLESS STEEL SLOTTED ROUND HEAD MACHINE SCREW, NO. 10, 1 1/2" LONG, 2-WASHERS AND 1-HEX HEAD NUT (COMMERCIAL QUALITY)
- THE DELINEATORS SHALL BE INSTALLED FACING TRAFFIC WITH YELLOW ON THE LEFT AND WHITE ON THE RIGHT, UNLESS OTHERWISE SPECIFIED.
- SPACINGS OF DELINEATORS: TANGENT SECTION - 20'-0". CURVED SECTION - 10'-0".
- OPTIONAL DELINEATORS, WHICH ARE ON THE MISSISSIPPI DEPARTMENT OF TRANSPORTATION "LIST OF APPROVED MATERIALS", WILL BE ACCEPTED.

GENERAL NOTES:

- LIFTING DEVICES AND ATTACHMENTS TO BARRIER SECTIONS SHALL BE AS APPROVED BY THE ENGINEER.
- PLACE ALL STEEL REINFORCEMENT 2" MINIMUM FROM OUTSIDE FACE OF WALL, EXCEPT AS OTHERWISE SHOWN.
- THE ANCHOR STUD CONNECTOR SHALL CONFORM TO AASHTO M 314, GRADE 55. THE HSS HEX NUTS AND THE HARDENED ROUND WASHERS SHALL MEET THE REQUIREMENTS OF ASTM A 325.
- CONCRETE SHALL BE CLASS "B" (CLASS 1 FINISH). REINFORCING STEEL SHALL MEET THE REQUIREMENTS OF AASHTO M 31.
- STEEL RODS SHALL MEET THE REQUIREMENTS OF ASTM A 36.
- CONNECTOR RODS, CONNECTOR PINS, NUTS AND WASHERS SHALL BE GALVANIZED MEETING THE REQUIREMENTS OF AASHTO M 111.

APPROXIMATE QUANTITIES FOR 10' BARRIER			
WEIGHT (lbs.)	REINF. STEEL (lbs.)	STEEL RODS (lbs.)	CONCRETE (yd ³)
3875	104	18	0.931

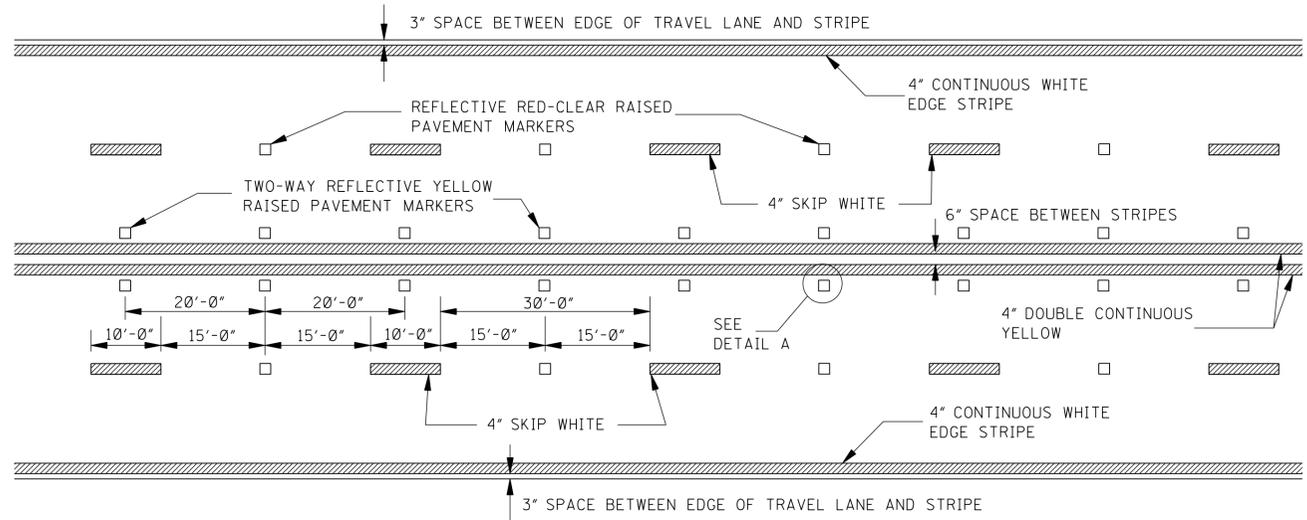


BARRIER CONNECTION DETAIL

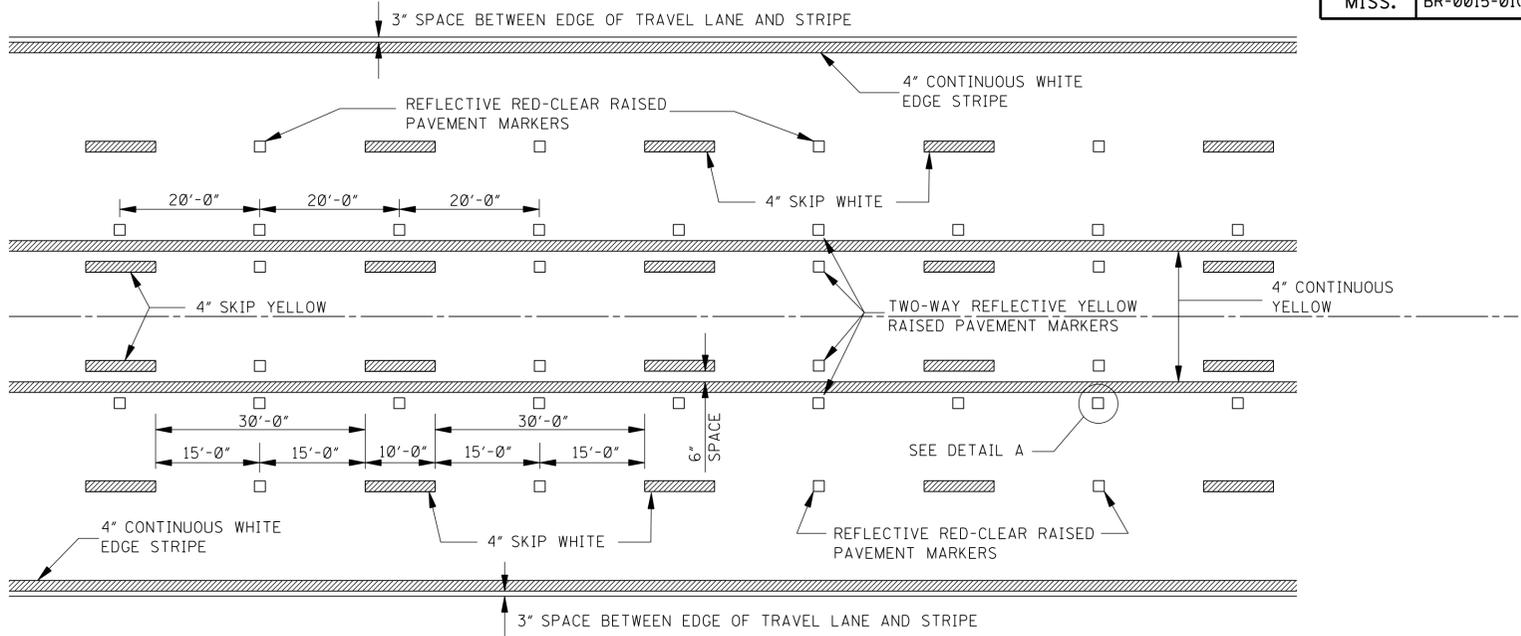
BAR AND ROD DETAILS
NOTE: WHERE STEEL ROD GALVANIZATION IS SHOWN ABOVE, GALVANIZE AFTER BENDING.

S.W.R. BY		MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN	
3-01-02	REVISION	<p align="center">MEDIAN BARRIER: CONCRETE (PRECAST)</p>	
DATE	ISSUE DATE: OCTOBER 1, 1998		
		WORKING NUMBER MB-2A	SHEET NUMBER 6205

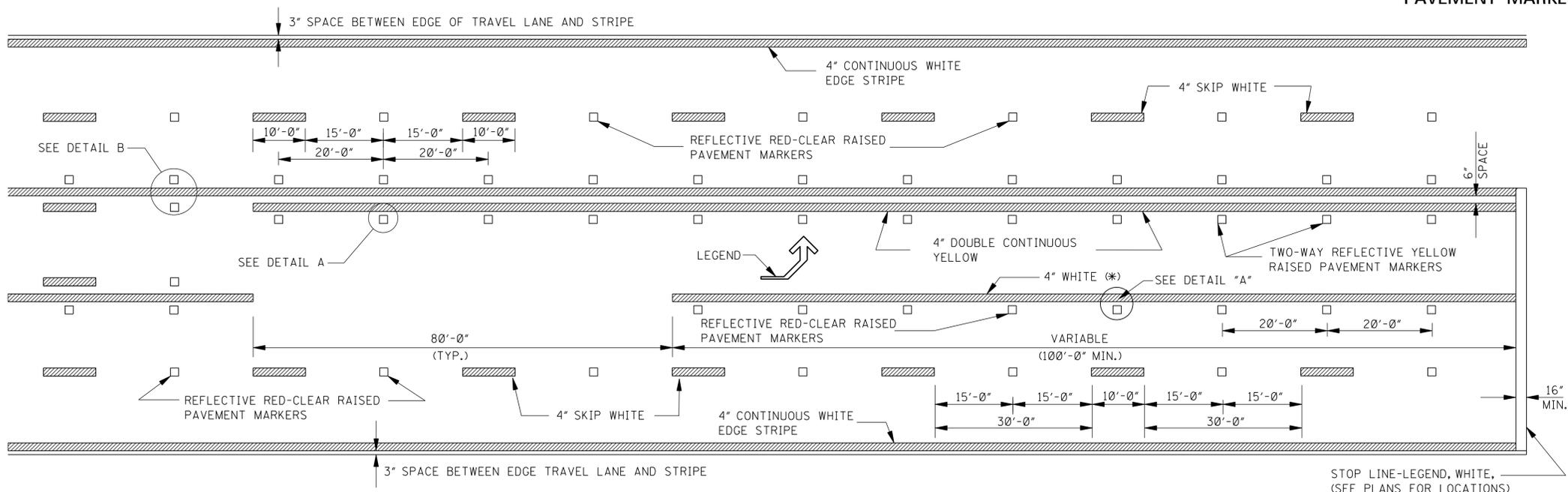




TYPICAL STRIPING AND RAISED PAVEMENT MARKERS FOR 4-LANE SECTION

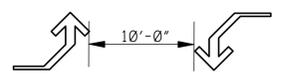


TYPICAL STRIPING AND RAISED PAVEMENT MARKERS FOR 5-LANE SECTION



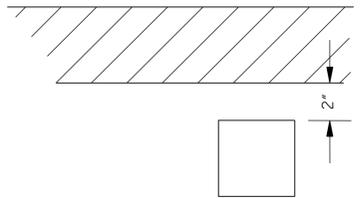
TYPICAL STRIPING AND RAISED PAVEMENT MARKERS AT LEFT TURN LANES

*NOTE: USE DETAIL STRIPING IF LENGTH ≤ 150' AT THIS LOCATION, OTHERWISE USE CONTINUOUS STRIPING.



TYPICAL TWO-WAY ARROW INSTALLATION

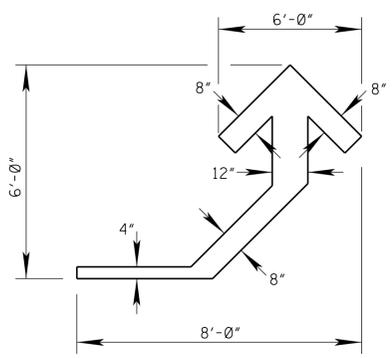
- NOTES:
1. CONSIDER EACH SEGMENT OF CONTINUOUS TWO-WAY LEFT TURN LANE SEPARATELY.
 2. IF SEGMENT IS LESS THAN 350', PLACE ONE SET OF ARROWS IN CENTER OF SEGMENT.
 3. IF SEGMENT IS GREATER THAN 350', PLACE FIRST SET OF ARROWS 50' TO 100' FROM BEGINNING AND/OR END OF SEGMENT AND SPACE ADDITIONAL SETS OF ARROWS (250' O.C.).



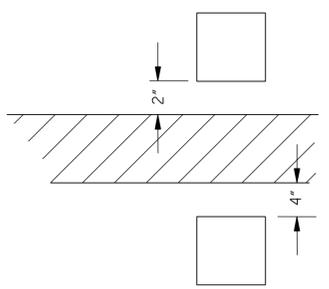
**DETAIL A
LATERAL PLACEMENT OF PAVEMENT MARKERS**

GENERAL NOTE:

1. PAVEMENT MARKERS SHALL BE HIGH PERFORMANCE RAISED PAVEMENT MARKERS AS LISTED IN THE MDT "APPROVED SOURCES OF MATERIALS".
2. REFLECTIVE RAISED PAVEMENT MARKERS TO BE USED IF TEMPORARY MARKINGS ARE TO REMAIN IN PLACE OVER 3 MONTHS
3. TEMPORARY TURN ARROW TO BE PAID FOR AS TEMPORARY TRAFFIC STRIPE (LEGEND), ESTIMATED AT 10.9 SQ. FT. PER ARROW



DETAIL OF TEMPORARY TURN ARROW

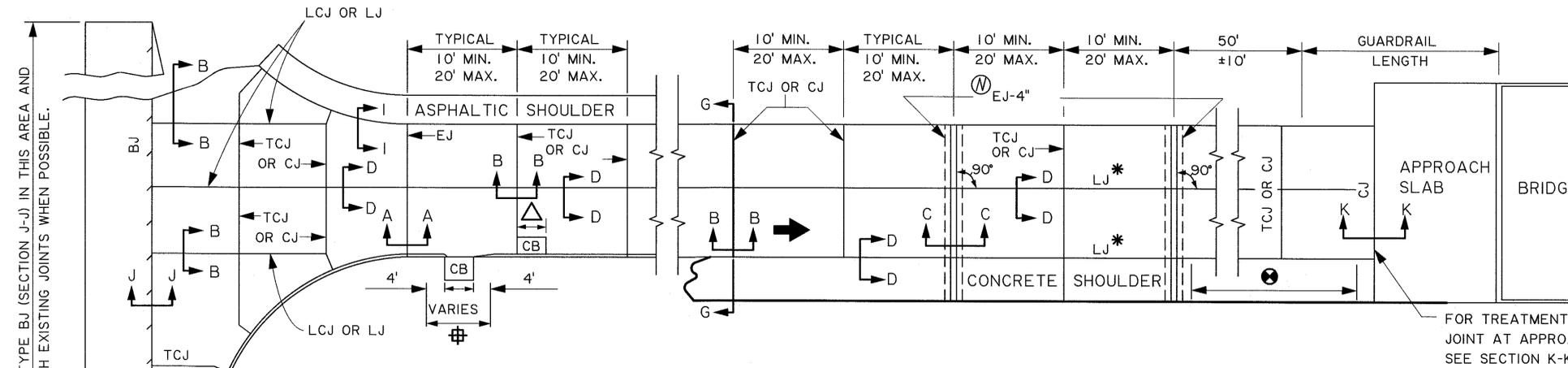


**DETAIL B
LATERAL PLACEMENT OF PAVEMENT MARKERS**

BY		MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN	
REVISION		TEMPORARY STRIPING FOR TRAFFIC CONTROL 4-LANE AND 5-LANE UNDIVIDED ROADWAYS	
DATE		ISSUE DATE: DECEMBER 1, 1999	
		WORKING NUMBER TCP-16	
		SHEET NUMBER 6265	



**PLAN VIEW
ROADWAY SHOWING JOINTS**



- JOINT LEGEND:**
- LJ: LONGITUDINAL JOINT
 - EJ: TRANSVERSE EXPANSION JOINT
 - TCJ: TRANSVERSE CONTRACTION JOINT
 - CJ: CONSTRUCTION JOINT
 - LCJ: LONGITUDINAL CONSTRUCTION JOINT
 - LBJ: LONGITUDINAL BUTT JOINT
 - BJ: TRANSVERSE BUTT JOINT

USE TYPE BJ (SECTION J-J) IN THIS AREA AND MATCH EXISTING JOINTS WHEN POSSIBLE.

USE TYPE LBJ (SECTION H-H) IN THIS AREA AND MATCH EXISTING JOINTS (JOINTS AT EQUAL SPACES NOT EXCEEDING 20' MAX.)

- * USE TYPE LCJ JOINT WITH SPLIT SLAB CONSTRUCTION
- ⊕ WHEN POSSIBLE, AT CATCH BASIN NO JOINTS SHALL BE PLACED IN THE LIMITS SHOWN.
- △ TRANSVERSE JOINTS NEAR CATCH BASIN (CB-07, 08 & 09) THAT EXTEND INTO THE PAVEMENT SHALL BE ADJUSTED TO COINCIDE WITH ONE EDGE OF THE CATCH BASIN OR THE CENTER OF THE CATCH BASIN. SEE DETAIL E, SHEET 3.
- Ⓝ SEE SECTION C-C SHEET 2 FOR TYPE EJ-4" JOINT.
- ⊗ CJ OR TCJ JOINTS AT 20' MAX. CTRS.

NOTE: MAXIMUM JOINT SPACING AT 18' WHEN PAVEMENT IS PLACED ON PERMEABLE BASE. (SEE SECTION 307)

**TABLE I
(ALL DIMENSIONS ARE IN INCHES)**

PAVEMENT THICKNESS	SMOOTH DOWEL BARS			DEF. TIE BARS			KEYWAY	
	SIZE	LENGTH	SPACING	SIZE	LENGTH	SPACING	A	B
8	1 1/4	18	12	1/2	24	24	±1/4"	±1/4"
9	1 1/4	18	12	1/2	24	24	2 1/2	1 1/4
10	1 1/2	18	12	1/2	24	24	2 1/2	1 1/4
11	1 1/2	18	12	5/8	30	24	2 1/2	1 1/4
12	1 1/2	18	12	5/8	30	24	3	1 1/2
13	1 1/2	18	12	5/8	30	24	3	1 1/2
14	1 1/2	18	12	5/8	30	24	3	1 1/2

NOTES:

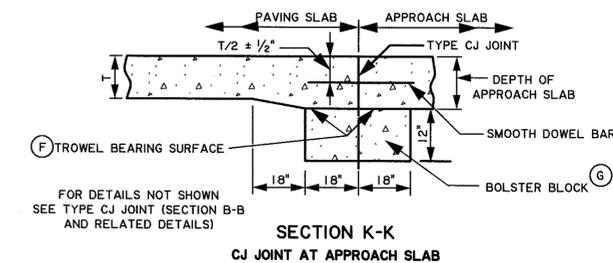
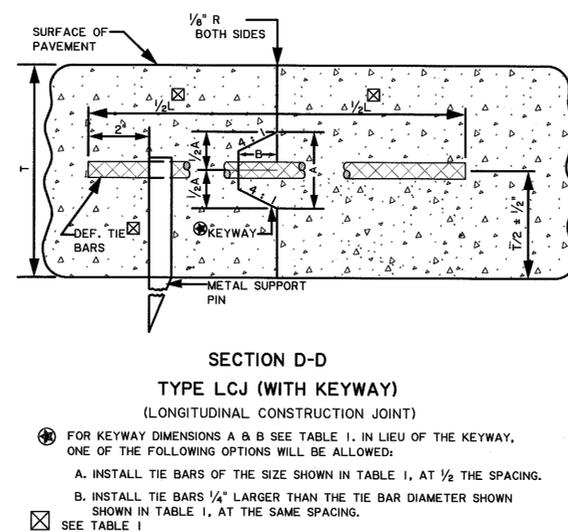
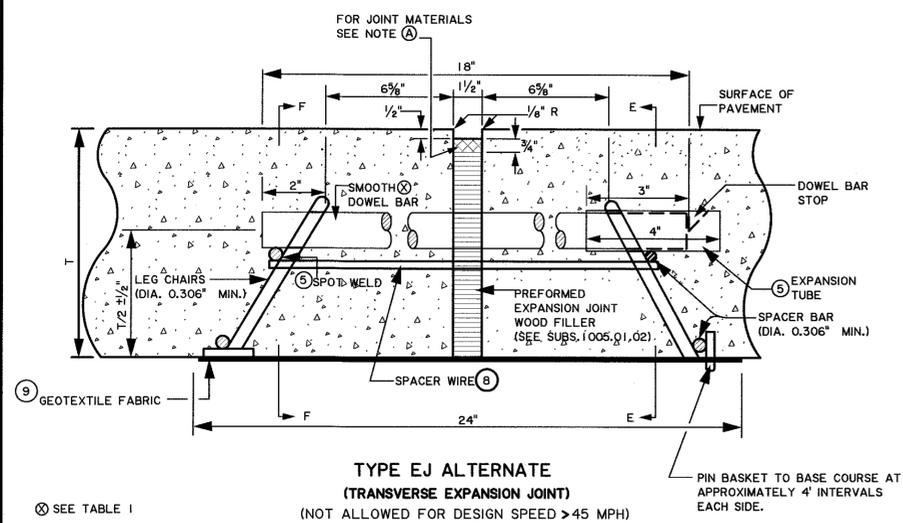
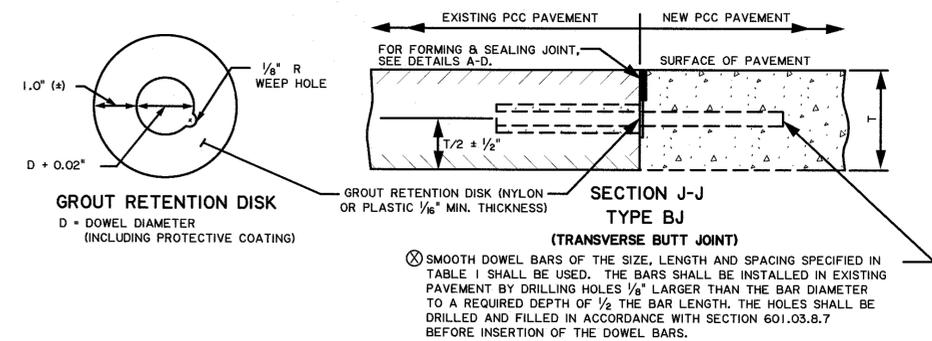
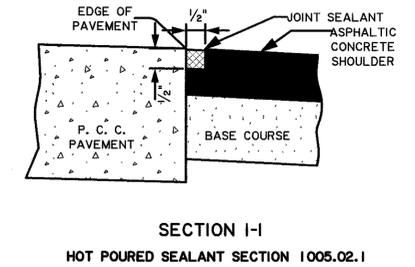
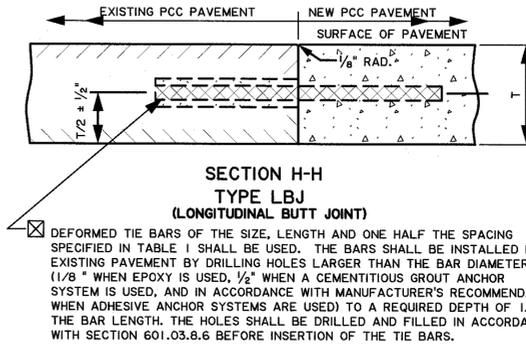
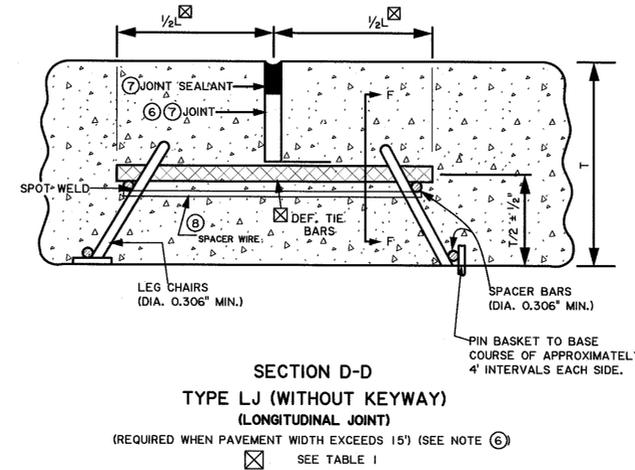
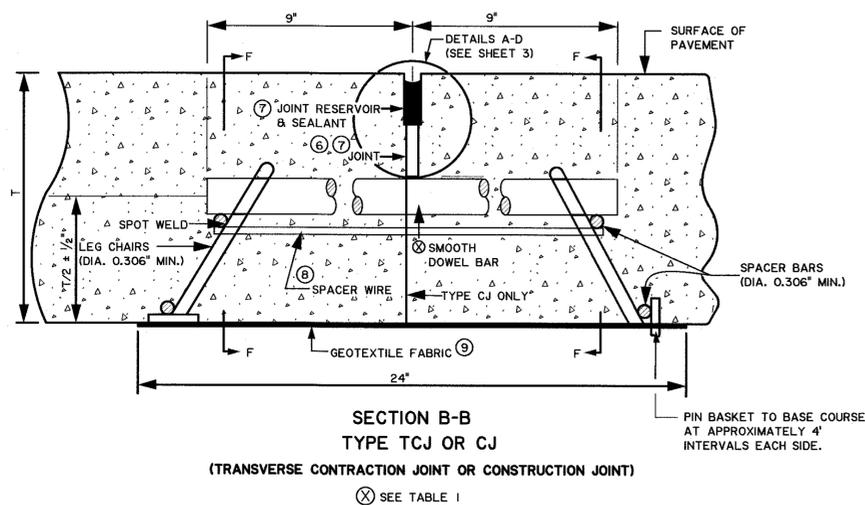
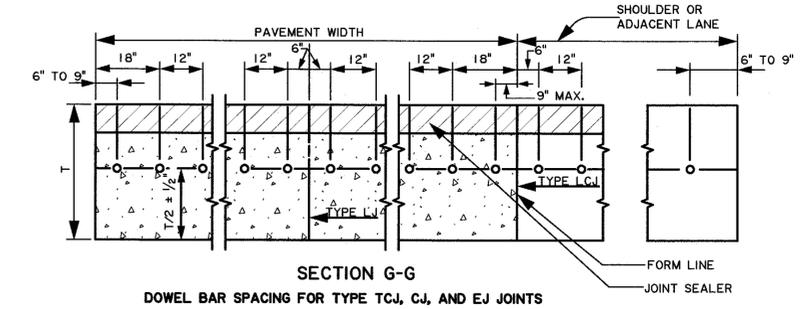
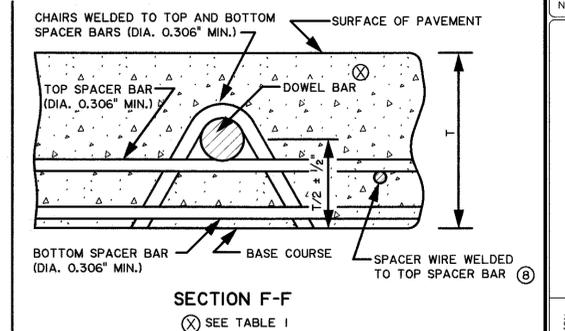
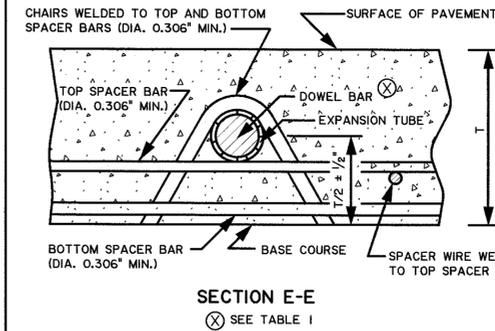
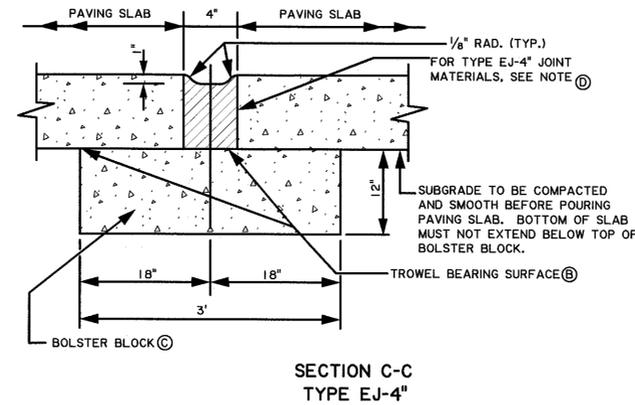
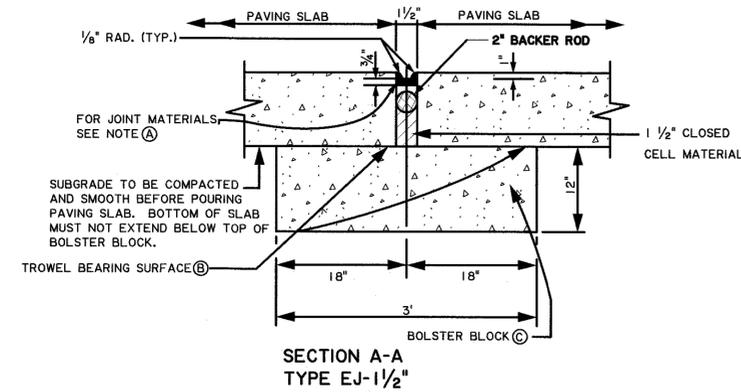
- 1) PAVEMENT EDGES SHALL BE SLIGHTLY ROUNDED (1/4" APPROX.).
- 2) ASPHALTIC CONCRETE SHOULDER: THE SHOULDER JOINTS SHALL BE SAW CUT AND CONSTRUCTED IN ACCORDANCE WITH SECTION 1-1.
- 3) FOR SECTIONS A-A THROUGH K-K, SEE SHEET 2 OF THIS STANDARD.
- 4) ALL JOINTS TO BE USED WHERE SHOWN ON THIS SHEET OR AS SHOWN ELSEWHERE IN THE PLANS OR AS OTHERWISE DIRECTED BY THE ENGINEER.
- 5) ON TYPE EJ ALTERNATE JOINTS, SPOT WELD ALTERNATE ENDS OF DOWEL BARS TO DOWEL BASKETS AND PLACE EXPANSION TUBES ON FREE ENDS OF DOWEL BARS.
- 6) FOR DESIGN SPEEDS GREATER THAN 45mph: SAW CUT AND CONSTRUCT THE TYPE LJ, TCJ, AND CJ JOINTS AS IN DETAILS "A, B OR C" TO A DEPTH OF T/3 INCHES. THOROUGHLY CLEAN THE JOINT FACES BY SANDBLASTING; FOLLOWED BY AN OIL-FREE AIR JET IMMEDIATELY PRIOR TO SEALING WITH A Poured OR EXTRUDED SEALANT CONFORMING TO SECTION 1005.02.3.
- 7) FOR DESIGN SPEEDS OF 45mph OR LESS:
 - A. SAW CUT AND SEAL TYPE LJ JOINTS AS DESCRIBED IN NOTE 6.
 - B. CONSTRUCT TYPE TCJ OR CJ JOINTS AS DESCRIBED IN NOTE 6 OR CONSTRUCT WITH A REMOVABLE FORMING DEVICE AS SPECIFIED IN DETAIL "C". THOROUGHLY CLEAN THE JOINT FACES BY SANDBLASTING; FOLLOWED BY AN OIL-FREE AIR JET IMMEDIATELY PRIOR TO SEALING WITH A Poured OR EXTRUDED SEALANT CONFORMING TO SECTION 1005.02.3. WITH A COMBINATION JOINT FORMER/SEALER AS SHOWN IN DETAIL "D". THE SEALER SHALL CONFORM TO SUBSECTION 1005.04 AND BE INSTALLED IN ACCORDANCE WITH SUBSECTION 601.03.8 AND NO ADDITIONAL SEALANT IS REQUIRED.
- 8) EXCEPT AS NOTED BELOW, DOWEL BARS & TIE BARS SHALL BE HELD IN PLACE BY SUPPORTS SIMILAR TO THE ONES SHOWN, OR APPROVED EQUALS. APPROVED MECHANICAL PLACEMENT OF DOWEL BARS AND TIE BARS WILL BE ALLOWED WITH ALL PAVING METHODS. WHEN DOWEL BAR BASKETS ARE USED, APPROXIMATELY THE CENTER 7" OF SPACER WIRES, THAT SPAN ACROSS THE JOINT, SHALL BE CLIPPED AND REMOVED AFTER STAKING BASKETS IN PLACE.
- 9) INSTALL GEOTEXTILE FABRIC (TYPE B, C, OR D) UNDER ALL TCJ, CJ, AND EJ ALTERNATE JOINTS WHEN CONCRETE PAVEMENT IS PLACED ON ANYTHING OTHER THAN ASPHALT BASE. WHEN DOWEL BARS ARE MECHANICALLY IMPLANTED, THE GEOTEXTILE FABRIC SHALL BE ANCHORED TO THE BASE COURSE WITH PINS.
- 10) WHEN CONSTRUCTING CONCRETE CURB AND GUTTER ADJACENT TO NEW P.C.C. PAVEMENT, USE TYPE LCJ JOINT. WHEN ADJACENT TO EXISTING P.C.C. PAVEMENT, USE TYPE LBJ JOINT. THE FIRST LOAD TRANSFER DEVICE SHALL BE INSTALLED 18" FROM THE PAVEMENT EDGE.
- 11) TRANSVERSE EXPANSION JOINTS ARE NOT TO BE USED FOR CONSTRUCTION JOINTS.
- 12) CONCRETE SHOULDERS:
 - A. CONSTRUCT TCJ JOINTS IN ACCORDANCE WITH SECTION B-B.
 - B. CONSTRUCT LCJ JOINTS IN ACCORDANCE WITH TYPE LCJ DETAIL AND LJ JOINTS IN ACCORDANCE WITH TYPE LJ DETAIL. SEE SECTION D-D.
 - C. USE THE MAXIMUM SHOULDER THICKNESS WHEN DETERMINING DOWEL BAR AND TIE BAR SIZES IN TABLE I.
 - D. WHEN SKEWED JOINTS ARE USED ON MAINLINE PAVING THE SHOULDER TCJ JOINTS MAY BE SKEWED OR CONSTRUCTED AT 90°.
 - E. SHOULDER JOINTS AND JOINT MATERIALS SHALL MATCH THE MAIN LINE.
 - F. HEIGHT OF DOWEL BASKET SHALL BE BASED ON THE THINNEST SHOULDER THICKNESS. VARYING HEIGHT DOWEL BASKETS WILL BE ALLOWED TO KEEP THE DOWEL BAR LOCATED WITHIN TOLERANCE.
- 13) TIEBARS SHALL NOT BE PLACED WITHIN 18" OF CONTRACTION OR EXPANSION JOINTS.

NOT TO SCALE

SHEET NUMBER	6401	PARISH	CONTROL SECTION	STATE PROJECT	BR-0015-01(120)
DESIGNED GLF	CHECKED CW	DATE	03/04/2013	SHEET	1 OF 3
DATE	03/04/2013	BY	6.3.13	DATE	6.3.13
REVISION DESCRIPTION					
CHIEF ENGINEER					
PORTLAND CEMENT CONCRETE PAVEMENT DETAILS	CP-01				
ROAD DESIGN					

NOTES:

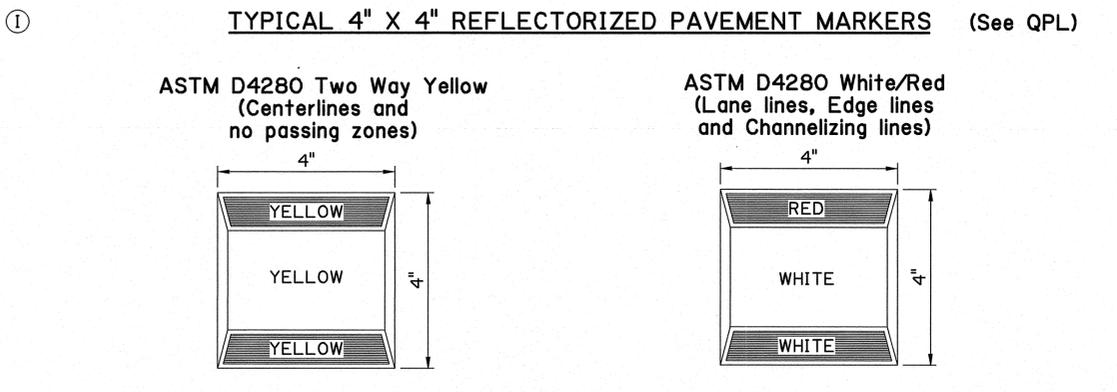
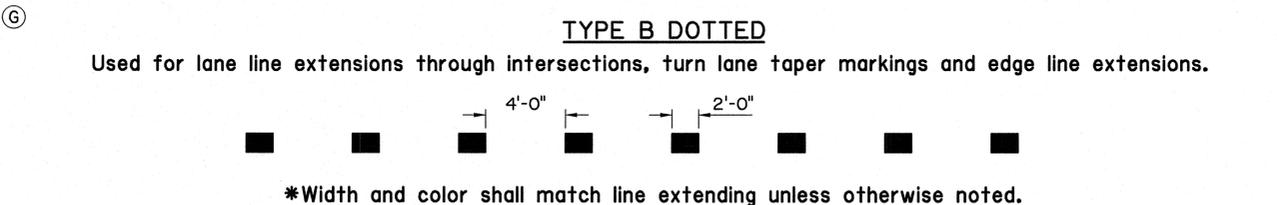
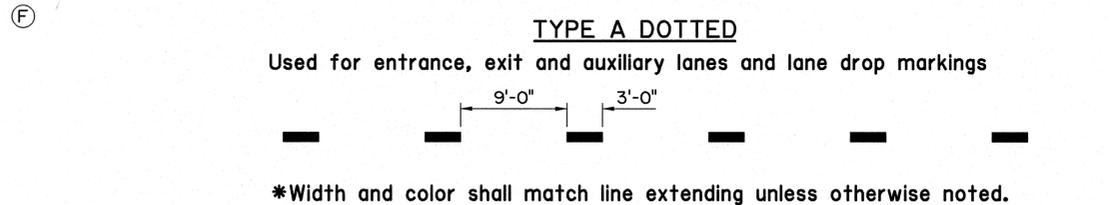
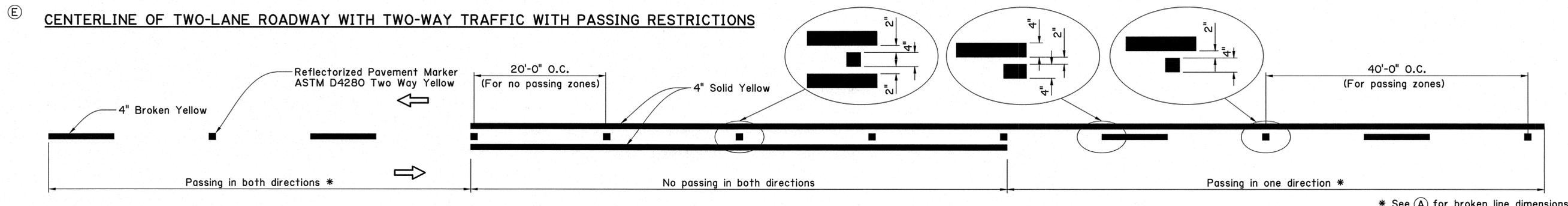
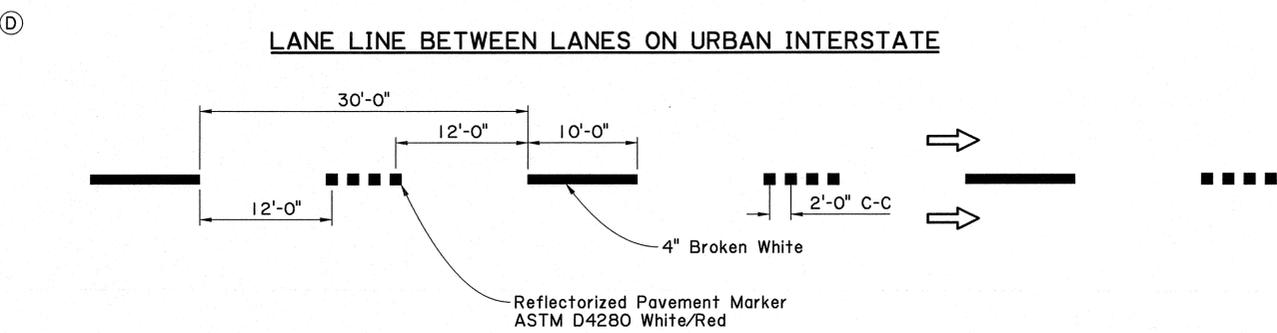
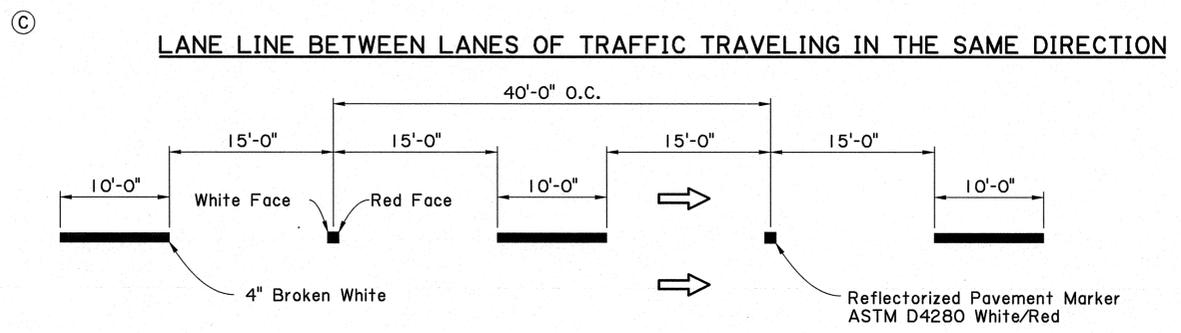
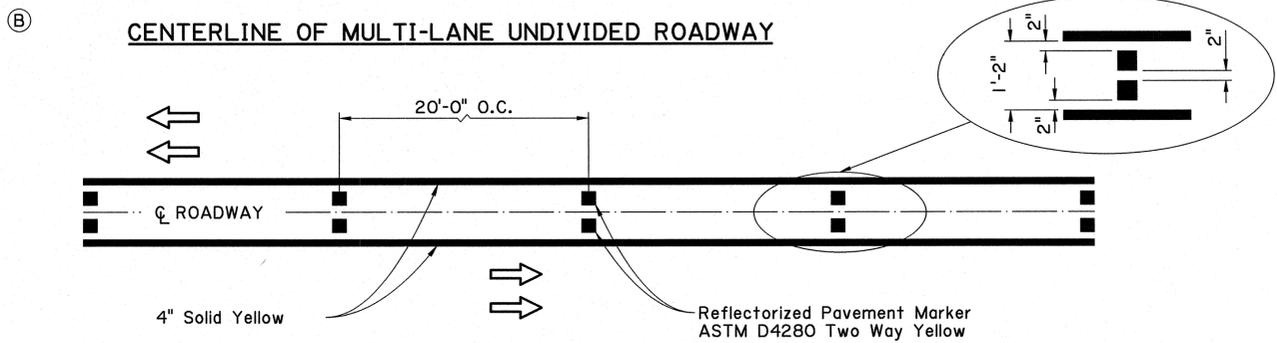
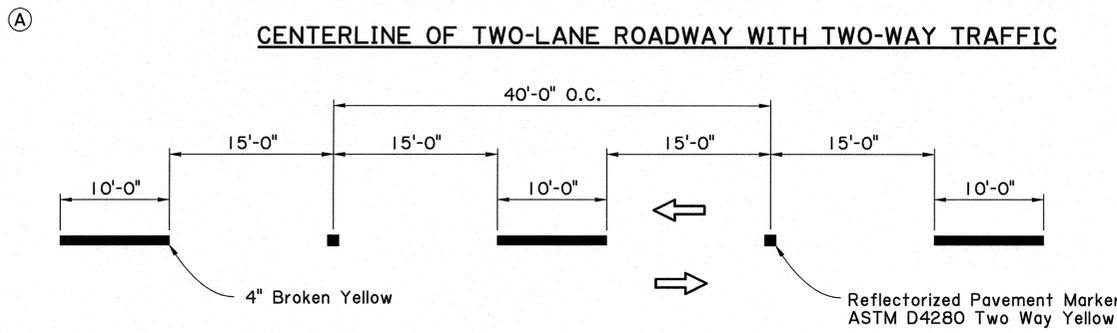
- Ⓐ ONE OR TWO COMPONENT SILICONE CONFORMING TO 1005.2.3 OR 1005.2.4
- Ⓑ TAR PAPER EQUIVALENT TO 30 LBS./100 FT² SHALL BE PLACED BETWEEN THE BOLSTER BLOCK AND THE PAVING SLAB.
- Ⓒ BOLSTER BLOCK SHALL BE CONSTRUCTED OF CLASS "A" OR PAVEMENT TYPE CONCRETE AND INCLUDED IN THE COST OF THE PAVEMENT.
- Ⓓ JOINT SHALL BE FILLED WITH A PREFORMED POLYURETHANE FOAM TYPE FILLER CONFORMING TO SUBSECTION 1005.06.
- Ⓔ SEE DETAILS FOR UNDERDRAIN FOR EJ-4" JOINT. (SHEET 3)



- NOTES: Ⓓ TAR PAPER EQUIVALENT TO 30 LBS./100 FT² BE PLACED BETWEEN THE BOLSTER BLOCK AND THE PAVING SLAB.
Ⓔ BOLSTER BLOCK SHALL BE CONSTRUCTED OF CLASS "A" OR PAVEMENT TYPE CONCRETE AND INCLUDED IN THE COST OF THE PAVEMENT.

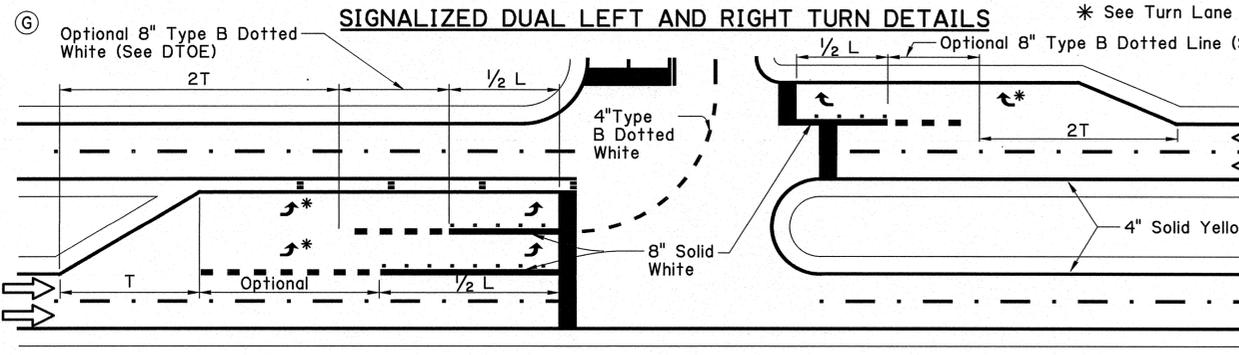
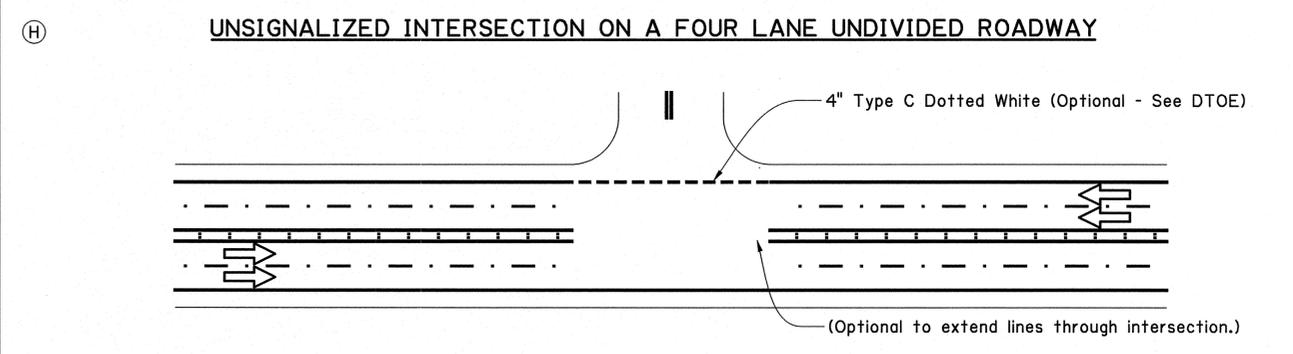
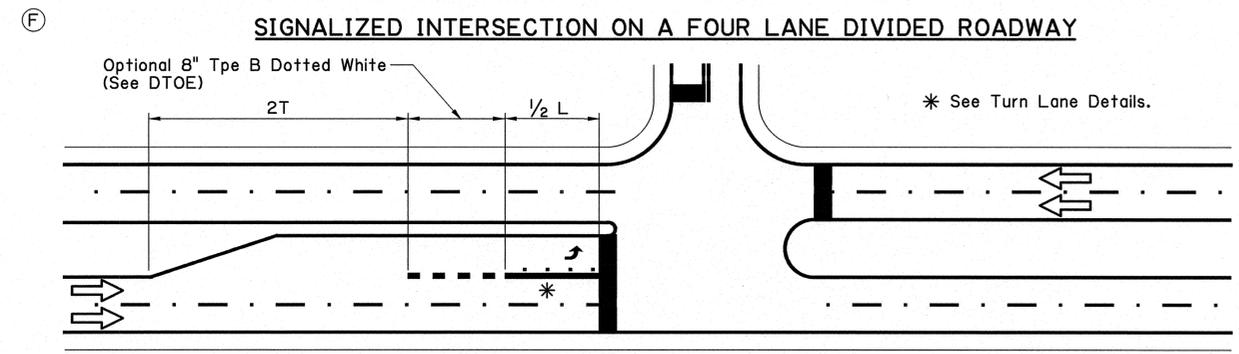
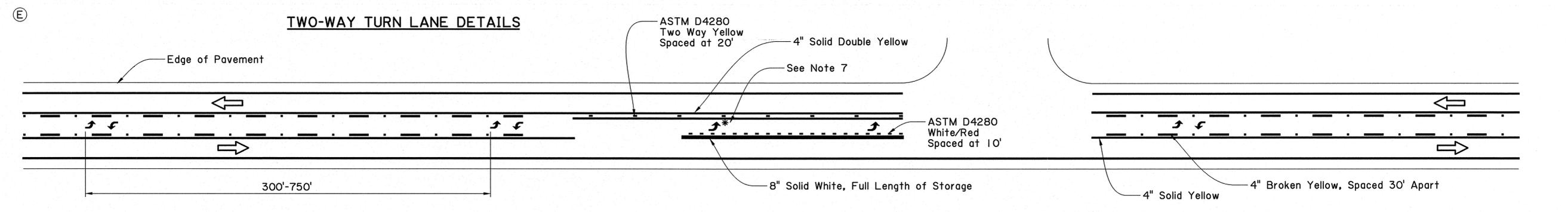
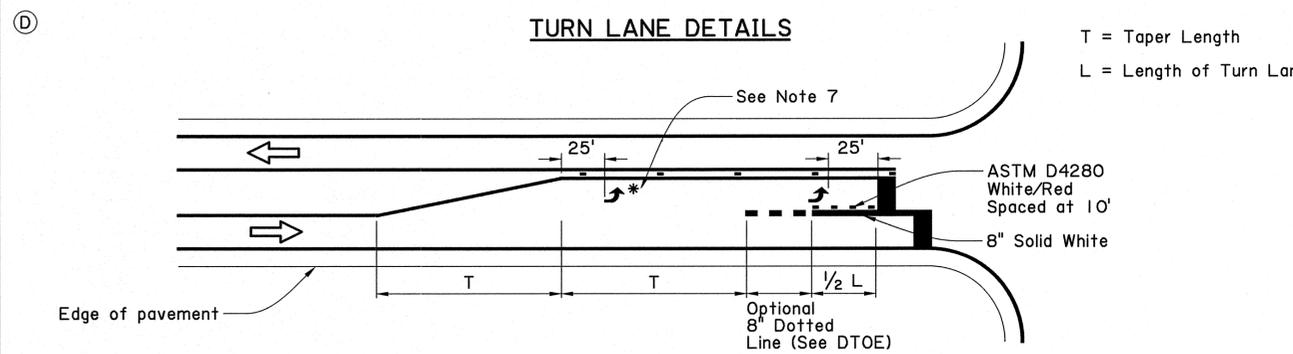
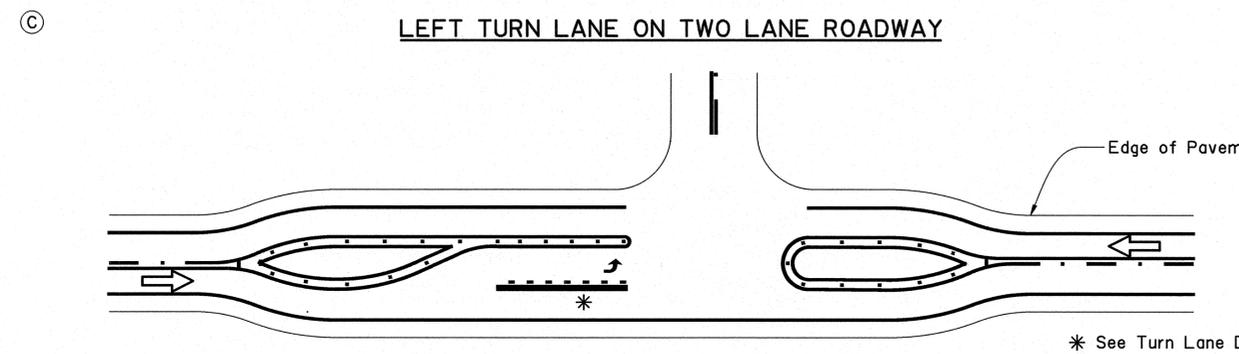
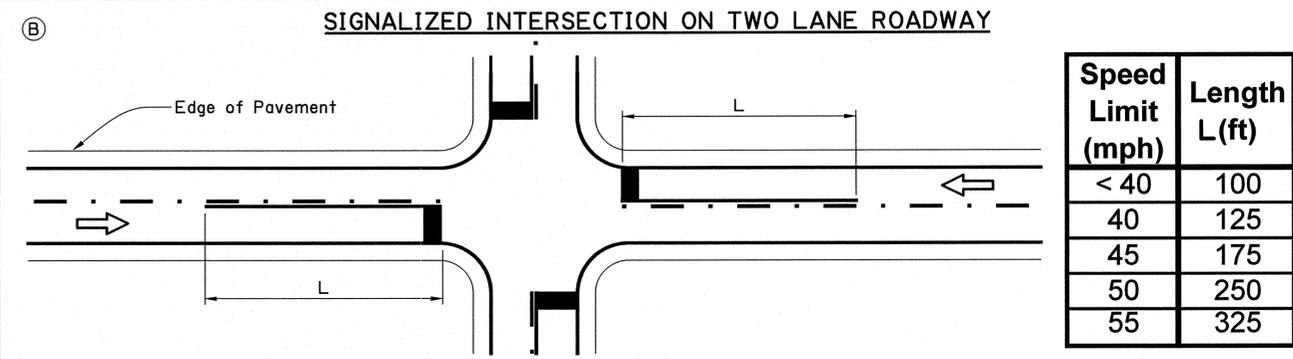
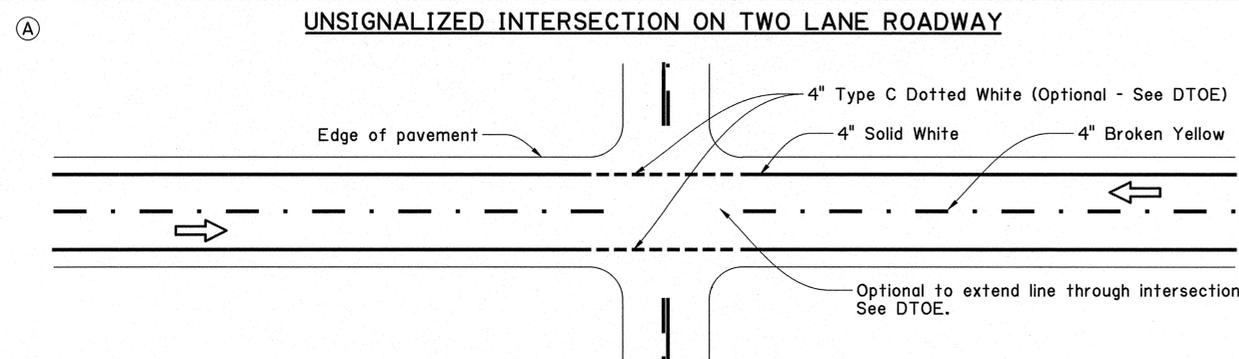
NOT TO SCALE

SHEET NUMBER	6402
PARISH	
CONTROL SECTION	
DATE	03/04/2013
BY	6.3.13
DATE	6.3.13
REVISION DESCRIPTION	
DESIGNED	GLF
CHECKED	CW
DETAILED	GLF
CHECKED	CW
DATE	03/04/2013
BY	6.3.13
DATE	6.3.13
REVISION DESCRIPTION	
DESIGNED	GLF
CHECKED	CW
DETAILED	GLF
CHECKED	CW
DATE	03/04/2013
BY	6.3.13
DATE	6.3.13
REVISION DESCRIPTION	
DESIGNED	GLF
CHECKED	CW
DETAILED	GLF
CHECKED	CW
DATE	03/04/2013
BY	6.3.13
DATE	6.3.13
REVISION DESCRIPTION	
DESIGNED	GLF
CHECKED	CW
DETAILED	GLF
CHECKED	CW
DATE	03/04/2013
BY	6.3.13
DATE	6.3.13
REVISION DESCRIPTION	
DESIGNED	GLF
CHECKED	CW
DETAILED	GLF
CHECKED	CW
DATE	03/04/2013
BY	6.3.13
DATE	6.3.13
REVISION DESCRIPTION	
DESIGNED	GLF
CHECKED	CW
DETAILED	GLF
CHECKED	CW
DATE	03/04/2013
BY	6.3.13
DATE	6.3.13
REVISION DESCRIPTION	
DESIGNED	GLF
CHECKED	CW
DETAILED	GLF
CHECKED	CW
DATE	03/04/2013
BY	6.3.13
DATE	6.3.13
REVISION DESCRIPTION	
DESIGNED	GLF
CHECKED	CW
DETAILED	GLF
CHECKED	CW
DATE	03/04/2013
BY	6.3.13
DATE	6.3.13
REVISION DESCRIPTION	
DESIGNED	GLF
CHECKED	CW
DETAILED	GLF
CHECKED	CW
DATE	03/04/2013
BY	6.3.13
DATE	6.3.13
REVISION DESCRIPTION	
DESIGNED	GLF
CHECKED	CW
DETAILED	GLF
CHECKED	CW
DATE	03/04/2013
BY	6.3.13
DATE	6.3.13
REVISION DESCRIPTION	
DESIGNED	GLF
CHECKED	CW
DETAILED	GLF
CHECKED	CW
DATE	03/04/2013
BY	6.3.13
DATE	6.3.13
REVISION DESCRIPTION	
DESIGNED	GLF
CHECKED	CW
DETAILED	GLF
CHECKED	CW
DATE	03/04/2013
BY	6.3.13
DATE	6.3.13
REVISION DESCRIPTION	
DESIGNED	GLF
CHECKED	CW
DETAILED	GLF
CHECKED	CW
DATE	03/04/2013
BY	6.3.13
DATE	6.3.13
REVISION DESCRIPTION	
DESIGNED	GLF
CHECKED	CW
DETAILED	GLF
CHECKED	CW
DATE	03/04/2013
BY	6.3.13
DATE	6.3.13
REVISION DESCRIPTION	
DESIGNED	GLF
CHECKED	CW
DETAILED	GLF
CHECKED	CW
DATE	03/04/2013
BY	6.3.13
DATE	6.3.13
REVISION DESCRIPTION	
DESIGNED	GLF
CHECKED	CW
DETAILED	GLF
CHECKED	CW
DATE	03/04/2013
BY	6.3.13
DATE	6.3.13
REVISION DESCRIPTION	
DESIGNED	GLF
CHECKED	CW
DETAILED	GLF
CHECKED	CW
DATE	03/04/2013
BY	6.3.13
DATE	6.3.13
REVISION DESCRIPTION	
DESIGNED	GLF
CHECKED	CW
DETAILED	GLF
CHECKED	CW
DATE	03/04/2013
BY	6.3.13
DATE	6.3.13
REVISION DESCRIPTION	
DESIGNED	GLF
CHECKED	CW
DETAILED	GLF
CHECKED	CW
DATE	03/04/2013
BY	6.3.13
DATE	6.3.13
REVISION DESCRIPTION	
DESIGNED	GLF
CHECKED	CW
DETAILED	GLF
CHECKED	CW
DATE	03/04/2013
BY	6.3.13
DATE	6.3.13
REVISION DESCRIPTION	
DESIGNED	GLF
CHECKED	CW
DETAILED	GLF
CHECKED	CW
DATE	03/04/2013
BY	6.3.13
DATE	6.3.13
REVISION DESCRIPTION	
DESIGNED	GLF
CHECKED	CW
DETAILED	GLF
CHECKED	CW
DATE	03/04/2013
BY	6.3.13
DATE	6.3.13
REVISION DESCRIPTION	
DESIGNED	GLF
CHECKED	CW
DETAILED	GLF
CHECKED	CW
DATE	03/04/2013
BY	6.3.13
DATE	6.3.13
REVISION DESCRIPTION	
DESIGNED	GLF
CHECKED	CW
DETAILED	GLF
CHECKED	CW
DATE	03/04/2013
BY	6.3.13
DATE	6.3.13
REVISION DESCRIPTION	
DESIGNED	GLF
CHECKED	CW
DETAILED	GLF
CHECKED	CW
DATE	03/04/2013
BY	6.3.13
DATE	6.3.13
REVISION DESCRIPTION	
DESIGNED	GLF
CHECKED	CW
DETAILED	GLF
CHECKED	CW
DATE	03/04/2013
BY	6.3.13
DATE	6.3.13
REVISION DESCRIPTION	
DESIGNED	GLF
CHECKED	CW
DETAILED	GLF
CHECKED	CW
DATE	03/04/2013
BY	6.3.13
DATE	6.3.13
REVISION DESCRIPTION	
DESIGNED	GLF
CHECKED	CW
DETAILED	GLF
CHECKED	CW
DATE	03/04/2013
BY	6.3.13
DATE	6.3.13
REVISION DESCRIPTION	
DESIGNED	GLF
CHECKED	CW
DETAILED	GLF
CHECKED	CW
DATE	03/04/2013
BY	6.3.13
DATE	6.3.13
REVISION DESCRIPTION	
DESIGNED	GLF
CHECKED	CW
DETAILED	GLF
CHECKED	CW
DATE	03/04/2013
BY	6.3.13
DATE	6.3.13
REVISION DESCRIPTION	
DESIGNED	GLF
CHECKED	CW
DETAILED	GLF
CHECKED	CW
DATE	03/04/2013
BY	6.3.13
DATE	6.3.13
REVISION DESCRIPTION	
DESIGNED	GLF
CHECKED	CW
DETAILED	GLF
CHECKED	CW
DATE	03/04/2013
BY	6.3.13
DATE	6.3.13
REVISION DESCRIPTION	
DESIGNED	GLF
CHECKED	CW
DETAILED	GLF
CHECKED	CW
DATE	03/04/2013
BY	6.3.13
DATE	6.3.13
REVISION DESCRIPTION	
DESIGNED	GLF
CHECKED	CW
DETAILED	GLF
CHECKED	CW
DATE	03/04/2013
BY	6.3.13
DATE	6.3.13
REVISION DESCRIPTION	
DESIGNED	GLF
CHECKED	CW
DETAILED	GLF
CHECKED	CW
DATE	03/04/2013
BY	6.3.13
DATE	6.3.13
REVISION DESCRIPTION	
DESIGNED	GLF
CHECKED	CW
DETAILED	GLF
CHECKED	CW
DATE	03/04/2013
BY	6.3.13
DATE	6.3.13
REVISION DESCRIPTION	
DESIGNED	GLF
CHECKED	CW
DETAILED	GLF
CHECKED	CW
DATE	03/04/2013
BY	6.3.13
DATE	6.3.13
REVISION DESCRIPTION	
DESIGNED	GLF
CHECKED	CW
DETAILED	GLF
CHECKED	CW
DATE	03/04/2013
BY	6.3.13
DATE	6.3.13
REVISION DESCRIPTION	
DESIGNED	GLF
CHECKED	CW
DETAILED	GLF
CHECKED	CW
DATE	03/04/2013
BY	6.3.13
DATE	6.3.13
REVISION DESCRIPTION	
DESIGNED	GLF
CHECKED	CW
DETAILED	GLF
CHECKED	CW
DATE	03/04/2013
BY	6.3.13
DATE	6.3.13
REVISION DESCRIPTION	
DESIGNED	GLF
CHECKED	CW
DETAILED	GLF
CHECKED	CW
DATE	03/04/2013
BY	6.3.13
DATE	6.3.13
REVISION DESCRIPTION	
DESIGNED	GLF
CHECKED	CW
DETAILED	GLF
CHECKED	CW
DATE	03/04/2013
BY	6.3.13
DATE	6.3.13
REVISION DESCRIPTION	
DESIGNED	GLF
CHECKED	CW
DETAILED	GLF
CHECKED	CW
DATE	03/04/2013
BY	6.3.13
DATE	6.3.13
REVISION DESCRIPTION	
DESIGNED	GLF
CHECKED	CW
DETAILED	GLF
CHECKED	CW
DATE	03/04/2013
BY	6.3.13
DATE	6.3.13
REVISION DESCRIPTION	
DESIGNED	GLF
CHECKED	CW
DETAILED	GLF
CHECKED	CW
DATE	03/04/2013
BY	6.3.13
DATE	6.3.13
REVISION DESCRIPTION	
DESIGNED	GLF
CHECKED	CW
DETAILED	GLF
CHECKED	CW
DATE	03



- GENERAL NOTES:**
- Edge lines shall be placed on all
 - Multi-lane roadways;
 - Two-lane roadways with a traveled way width of 20 feet or greater and with an ADT of 6,000 per day or greater.
 - Place edge lines, centerlines and lane lines to avoid longitudinal joints as directed by the project engineer.
 - Edge lines in a curb and gutter section should be kept out of the gutter and clear from debris.
 - If rumble strips are used, striping details remain unchanged.
 - Edge lines shall not be broken for minor driveways.
 - Centerlines shall be placed on roadways with a traveled way width of 16 feet or greater.
 - The lane line shall be contrast markings on concrete multi-lane roadways.
 - Where the clear width of a bridge is less than the clear width of the roadway, reflectORIZED pavement markers shall be placed on the edge line at 20' centers.
 - ➡ indicates the direction of travel (not a pavement marker).

SHEET NUMBER	6404
PARISH	
FEDERAL PROJECT	
STATE PROJECT	BR-0015-01(120)
DESIGNED BY	J. COLVIN
CHECKED BY	P. ALLAIN
DATE	09/22/10
REVISION DESCRIPTION	
BY	
DATE	11/1/9
APPROVED BY	
CHIEF ENGINEER	
PM-01 Centerline and Edgeline Markings PAVEMENT MARKING DETAILS	
TRAFFIC ENGINEERING MANAGEMENT	



- GENERAL NOTES:**
1. Pavement markings at unsignalized intersections should be dotted on the major roadway except when there is a left turn lane on the major roadway.
 2. If the minor street has edgelines, the edge lines on the major street shall wrap to meet the edge lines on the minor street.
 3. Stop bars shall be 24". Stop bars shall not be placed at a distance greater than 30 feet or less than 4 feet from the nearest edge line. Stop bars at right turn lanes should be placed to provide adequate sight distance for right turning traffic.
 4. The location of stop bars at left turn lanes should be determined by the radius needed by the side street vehicles.
 5. See PM-01 for centerline and lane line details.
 6. The ONLY word marking shall be used when a through lane terminates as a turn lane.
 7. The asterick (*) indicates that if turn lane storage is greater than 200 feet, use two turn arrows spaced at 150 feet.
 8. Optional to put RR legend in right or left turn lanes for parallel track.
 9. Edge lines should not be broken for driveways.
 10. indicates the direction of travel (not a pavement marker).

SHEET NUMBER 6405

PARISH PROJECT FEDERAL PROJECT STATE PROJECT BR-0015-01(120)

DESIGNED BY J. COLVIN
CHECKED BY P. ALLAIN
DATE 09/22/10

DATE 11/1/10

REVISION DESCRIPTION BY DATE

APPROVED BY CHIEF ENGINEER

PM-05 Typical Intersection Striping Layouts PAVEMENT MARKING DETAILS

TRAFFIC ENGINEERING MANAGEMENT

GENERAL PROVISIONS

- All temporary traffic control (TTC) devices used shall be in accordance with the Louisiana Standard Specifications for Roads and Bridges, the MUTCD, and shall meet the NCHRP Report 350 or MASH requirements for Test Level 3 devices where applicable.
- Materials used for TTC shall be in accordance with the Louisiana Standard Specifications for Roads and Bridges and, when applicable, the LADOTD QPL.
- No TTC shall be erected without the approval of the Engineer and until work is about to begin, unless they are covered.
- No lane closures, lane shifts, diversions, or detours shall occur without the approval of the Engineer.
- Responsibility is hereby placed upon the contractor for the installation, maintenance, and operation of all TTC devices called for in these plans or required by the Engineer for the protection of the traveling public as well as all LADOTD and construction personnel.
- The contractor shall also be responsible for the maintenance of all permanent signs, pavement markings, and traffic signals left in place as essential to the safe movement and guidance of traffic within the project limits unless noted in the plans.
- The DTOE shall serve as a technical advisor to the Engineer for all traffic control matters.
- The Chief Construction Engineer or his appointed designee shall approve all signs and situations not addressed in the plans based on the recommendations of the Project Engineer and the DTOE. All changes shall be noted in all project traffic control diaries.
- The Chief Construction Engineer or his appointed designee shall approve all design speeds of diversions or shifts if it differs from design plans, based on the recommendations of the Project Engineer and the DTOE.
- All temporary traffic control plans shall comply with the Transportation Management Plan.
- Any additional signs shown in the MUTCD and required by the Engineer shall be installed under Item 713-01-00100.
- Neither work activity nor storage of equipment, vehicles, TMAs, or materials shall occur within the buffer space.
- When a work area has been established on one side of the roadway only, there shall be no conflicting operations or parking on the opposite shoulder within 500 feet of the work area.
- A lighting plan shall be submitted to the Engineer 30 days prior to night work for approval. (See section 105.20 of the Louisiana Standard Specifications for Roads and Bridges.)
- Parking of vehicles or unattended equipment, or storage of materials, within the clear zone shall not be permitted unless protected by guard rail or barriers. If the clear zone is not defined on the plan sheets, the Engineer shall verify.
- Immediately upon removal of existing guard rail, the contractor shall install and maintain an NCHRP Report 350 or MASH approved device to protect the blunt end of the bridge or column until new guard rail is installed. After removal of the existing guard rail, new guard rail should be installed within seven (7) days. On non-NHS routes with shoulders less than 8 feet wide: If an NCHRP 350 Report Test Level 3 or MASH device is required but the field conditions of the roadway cannot support a Test Level 3 device, then a Test Level 2 device can be substituted in its place upon approval by the Engineer.
- All costs associated with crash devices are to be included in Item 713-01-00100.
- Sight distance should be considered when placing traffic control devices.
- On all mainline Interstate, a minimum of 1.5 feet of paved shoulder on the left and right side shall be maintained at all times.
- On Interstates, a minimum of 11 foot lanes shall be maintained. On all other roadways, a 10 foot minimum travel lane should be maintained where practical.

- TTC Standards are not drawn to scale.
- The contractor shall develop an internal traffic control plan approved by the Engineer prior to each phase.
- Truck restrictions such as (but not limited to) restricting lanes, oversize loads or times of travel, may be required for narrow lanes or other field conditions.

PAVEMENT MARKINGS (see QPL)

- All pavement markings within the limits of the project that are in conflict with the project signing or the required traffic movements shall be removed from the pavement by blast cleaning or grinding. (Existing striping shall not be painted over with black paint or covered with tape.)
- If special pavement markings are needed, they shall be reflectorized, removable, and accompanied by the proper signage.
- Temporary Raised Pavement Markers may be added to supplement temporary striping in areas of transition, in tapers, in diversions, and in other areas of need as shown in the plans or as directed by the Engineer.
- Materials and placement of temporary pavement markings shall conform to Section 713 of the Louisiana Standard Specifications for Roads and Bridges. If no pay item exists for temporary markings they shall be installed under item 713-01-00100.
- Temporary markings installed in the permanent configuration shall comply with LADOTD pavement marking standard plans, MUTCD, and/or the permanent striping plans.

PORTABLE CHANGEABLE MESSAGE SIGNS (PCMS)

- PCMS shall be used on all Interstate Highways and on all other roadways (where space is available) with an ADT greater than 20,000.
- When used in advance of a lane closure or a lane shift, the PCMS should be placed on the right hand side of the road a minimum distance of 2 miles in advance of the taper for interstates and to be determined by the Engineer on other highways.
- For interstates and multi-lane highways, if vehicles are queuing beyond the 2 mile PCMS, an additional PCMS should be placed on the right hand side of the road approximately 5 miles in advance of the taper or at the end of the queue, whichever is greater.
- PCMS messages shall conform to EDSM VI.2.1.10 or shall be approved by the DTOE. Messages shall be no more than 3 lines and 2 screens.
- PCMS should be placed as far from the traveled lane as possible. They shall be shielded by guard rail or barriers. If this is not possible they shall be delineated with one drum at each corner.
- If the PCMS has to be placed on the shoulder then the contractor shall install a shoulder closure.
- When the PCMS is not displaying a work zone appropriate message pertaining to the ongoing construction project it shall be shielded by guard rail or barriers, or removed from the clear zone.

ABBREVIATIONS

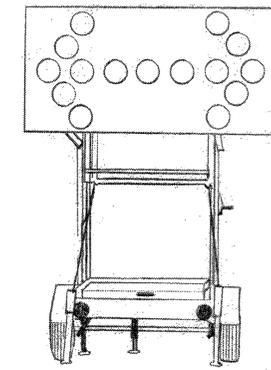
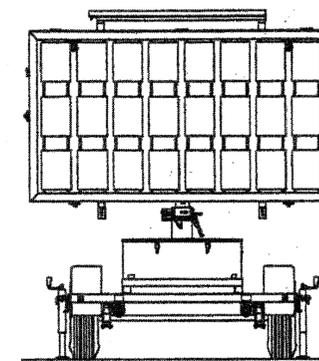
AASHTO	American Association of State Highway and Transportation Officials
ADT	Average Daily Traffic
AGCI	Associated General Contractors of America
ANSI	American National Standards Institute
ATSSA	American Traffic Safety Services Association
B.O.P.	Beginning of Project
DTOE	District Traffic Operations Engineer
E.O.P.	End of Project
LADOTD	Louisiana Department of Transportation and Development
MASH	AASHTO Manual for Assessing Safety Hardware
MUTCD	Manual on Uniform Traffic Control Devices
NCHRP	National Cooperative Highway Research Program
NHS	National Highway System
PCMS	Portable Changeable Message Sign
QPL	Qualified Products List
TMA	Truck Mounted Attenuator
TMC	Traffic Management Center
TTC	Temporary Traffic Control
TTC Standards ..	Temporary Traffic Control Standard Plans

SPEED LIMITS

- The Engineer may approve a 10 mph drop in the speed limit for posted speeds of 45 mph or greater and for any construction, maintenance, or utility operation that requires one or more of the following:
 - (A) The condition of the traveled way is degraded due to milled surfaces or uneven travel lane lines greater than 1.5 inches.
 - (B) Work is in progress in the immediate vicinity of the travel way requiring lane closures or lane width reductions less than 11 feet.
 - (C) Workers present on the shoulder within 2 feet of the edge of the traveled way without barrier protection.
- The reduced speed zone shall only apply to those portions of the project limits affected. The Engineer may allow SPEED LIMIT WHEN FLASHING signs to supplement reduced speed zones.
- If the speed limit is reduced, speed limit signs shall be placed:
 - (A) beyond major intersections;
 - (B) at one mile intervals in rural areas;
 - (C) at half mile intervals in urban areas.
- At the end of the reduced speed zone, a speed limit sign displaying the original speed limit prior to construction shall be installed.
- For all other speed limit reductions not listed above the Project Engineer and the DTOE shall recommend the speed reduction to the Chief Construction Engineer or his appointed designee for approval.
- If the speed limit is reduced more than 10 mph, placement of the signs shall be re-evaluated according to the MUTCD.

FLASHING ARROW BOARDS

- All Flashing Arrow Boards shall be 4 feet by 8 feet and Type C.
- Flashing Arrow Boards should be placed on the shoulder. When there is no shoulder or median area, the arrow board shall be placed within the closed lane behind the channelizing devices and as close to the beginning of the taper as practical.
- Flashing arrow boards shall be delineated with retroreflective TTC devices.
- At no time shall the arrow board encroach in the traveled way. When Flashing Arrow Board signs are not being used, they shall be shielded by guard rail or barriers, or removed.
- Arrow boards shall only be used for lane reduction tapers and shall not be used for lane shifts.

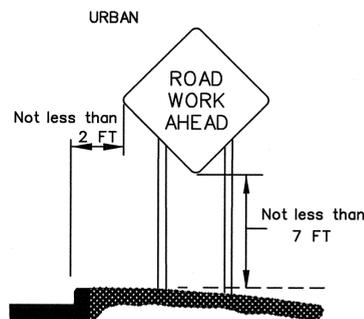


ALL TTC STANDARDS SHOW MINIMUM CONSTRUCTION SIGNING.
ALL SITUATIONS SHALL BE REVIEWED AND/OR DESIGNED BY THE ENGINEER.
CONTRACTORS ARE RESPONSIBLE FOR COMPLYING WITH ALL TTC STANDARDS.

SHEET NUMBER 6406	
DESIGNED BY J. COLVIN	PARISH
CHECKED BY P. ALLAIN	FEDERAL PROJECT
DATE 02/13/2013	STATE PROJECT BR-0015-01(120)
DATE 3-12-13	BY
REVISION DESCRIPTION	DATE
APPROVED BY	CHIEF ENGINEER
TEMPORARY TRAFFIC CONTROL GENERAL NOTES SHEET TTC-00 (A)	
TRAFFIC ENGINEERING	

SIGNS

- All signs used for temporary traffic control shall follow the plans, the LADOTD TTC Standards, and the MUTCD.
- Signs shown in the TTC illustrations are typical and may vary with each specific condition.
- One Type B High Intensity light shall be used to supplement the first sign (or pair of signs) that gives warning about a lane closure during nighttime operations (see QPL).
- Mesh rollup signs shall not be allowed on any project.
- Contractor shall use caution not to damage existing signs which remain in place. Any LADOTD signs damaged by work operations shall be replaced by the contractor under item 713-01-00100.
- All signs (permanent and temporary) shall be removed or completely covered with a strong, lightweight, opaque material when no longer applicable. (Burlap is not an acceptable material to cover signs).
- At no time shall signs warning against a particular operation be left in place once the operation has been completed or where the condition has been removed.
- Warning signs used for temporary traffic controls shall meet the following guidelines unless otherwise noted in the plans:
 - (A) size shall be 48 inches by 48 inches.
 - (B) see the Louisiana Standard Specifications for Roads and Bridges and the QPL for sheeting information.
 - (C) lateral distance of signs shall be a minimum of 6 feet from the edge of shoulder or edge of pavement if no shoulder exists, and 2 feet from the back of curb in urban areas (see diagram).
- When portable sign frames are not in use they shall be moved to an area inaccessible to traffic and not visible to the driver.
- Left side mounted signs will not be required for roadways with a center left turn lane and for undivided roadways.
- Vinyl rollup signs may be used if work zone is in place for 12 hours or less, there are no more than 2 lanes in each direction and if signs meet all size, color, retroreflectivity, and NCHRP 350 Report or MASH requirements.
- All signs shall be visible to the drivers (i.e. no obstructions such as on street parking or other traffic control devices shall block the sign).
- On divided highways, signs shall be placed on the right and the left as shown on the TTC standards.
- 1 foot portable sign stands may be used if the work zone is in place for 12 hours or less, the preconstruction posted speed is less than 45 mph and there are no more than 2 lanes in each direction.
- Sign posts:
 - Signs measuring 10 square feet or less shall be mounted on 1 rigid post
 - Signs over 10 square feet shall be mounted on 2 rigid posts
 - Signs over 20 square feet shall be mounted on at least 3 rigid posts
- Rigid sign supports shall be driven to a minimum depth of 3 feet. (If splicing is required, see Allowable Lap Splice U-channel post.)
- For sign height, see the Rural and Urban diagrams:

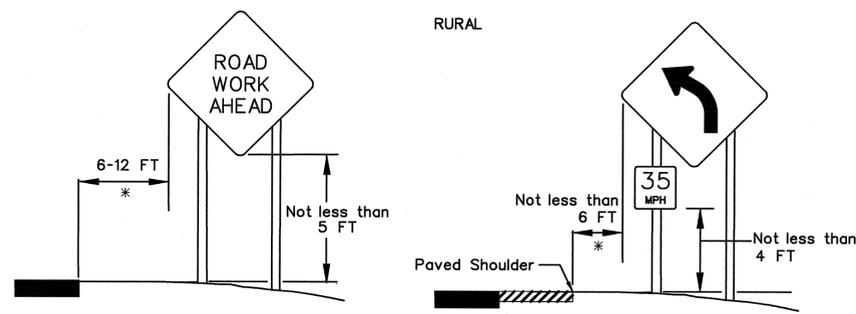


LANE CLOSURES

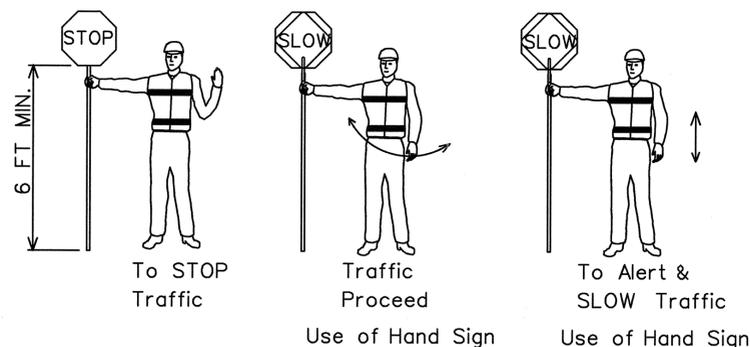
- All proposed lane, road, or shoulder closures shall be reviewed by the DTOE and approved by the Engineer.
- Two lane, two-way highways shall have a maximum work area of two miles; all other roadways shall have a four mile maximum work area.
- A queue analysis shall be performed prior to approval of lane closures on all Interstates according to EDSM VI.1.1.4.
- Closure plans and times shall be turned in to the Engineer for review according to the following:
 - (A) 5 working days minimum if traffic control plan has been approved or is contained in the plans.
 - (B) 10 working days minimum and a traffic control plan must be submitted for lane closures not addressed in the plans.
- Weekly updates to the DTOE, Project Engineer, the LADOTD TMC operator, and the regional TMC operator (if applicable) will be required for all ongoing lane closures to update the closure status.
- Daily updates to the DTOE, Project Engineer, and TMC operator (if applicable) will be required for all projects where active closures are in place.

FLAGGERS

- All flaggers shall be qualified.
- The contractor shall be responsible for training or assuring that all flaggers are qualified to perform flagging duties.
- A Qualified Flagger is one that has completed courses such as those offered by ATSSA, AGC, or other courses approved by the LADOTD Work Zone Task Force. The contractor shall be responsible for getting the flagger course approved.
- When utilized, a flagger shall use a minimum 18 inch octagonal shape sign on a minimum 6 foot stop/slow paddle and wear ANSI Class 2 Lime Green vest during day time operations and ANSI Class 3 Lime Green ensemble during night operations.
- In all flagging operations, the flagger must be visible from the flagger advance warning sign.
- Flaggers shall not be used on the Interstate.



* If lateral distance is not practical, the sign may be placed no less than 2 feet.



REFERENCES

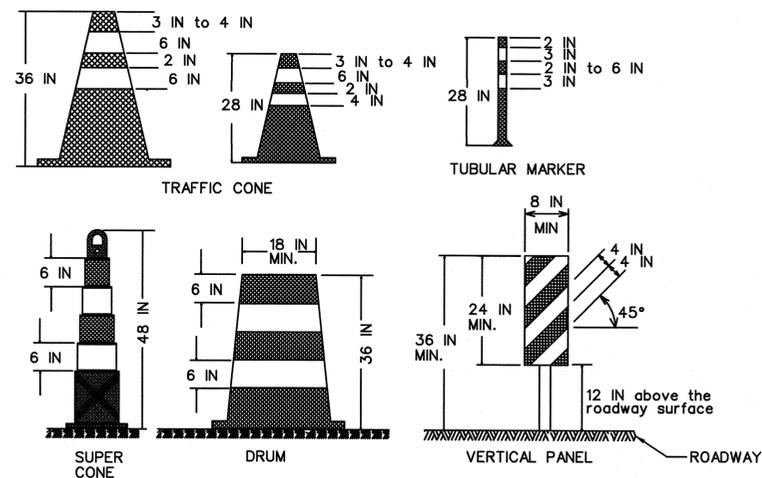
- The contractor shall be responsible for understanding all rules and requirements in the current edition of the following documents:
 - 1) Louisiana Standard Specifications for Roads and Bridges. <http://www.dotd.la.gov/highways/specifications/>
 - 2) Manual on Uniform Traffic Control Devices for Streets and Highways (MUTCD). <http://mutcd.fhwa.dot.gov/>
 - 3) LADOTD Qualified Products List (QPL) Manual. <http://www.dotd.la.gov/highways/construction/lab/qpl/tableofcontents.shtml>
 - 4) LADOTD Engineering Directives and Standards Manual (EDSM) VI.1.1.4 - Queue Analysis for Interstate Lane Closures. <http://webmail.dotd.la.gov/ppmemos.nsf>
 - 5) National Cooperative Highway Research Program (NCHRP) Report 350: "Guidelines for Work Zones Traffic Control Devices". http://onlinepubs.trb.org/Onlinepubs/nchrp/nchrp_rpt_350-a.pdf
 - 6) NCHRP Report 475: "A Procedure for Assessing and Planning Nighttime Highway Construction and Maintenance". http://onlinepubs.trb.org/Onlinepubs/nchrp/nchrp_rpt_475.pdf
 - 7) NCHRP Report 476: "Guidelines for Design and Operation of Nighttime Traffic Control for Highway Maintenance". http://onlinepubs.trb.org/Onlinepubs/nchrp/nchrp_rpt_476.pdf
 - 8) NCHRP Report 498: "Illumination Guidelines for Nighttime Highway Work". http://onlinepubs.trb.org/Onlinepubs/nchrp/nchrp_rpt_498.pdf
 - 9) American Association of State Highway and Transportation Officials (AASHTO) Roadside Design Guide.
 - 10) American Traffic Safety Services Association (ATSSA) Quality Guidelines for Work Zone Traffic Control Devices and Features.
 - 11) U.S. Department of Transportation Federal Highway Administration Traffic Control Handbook for Mobile Operations at Night. <http://www.dot.state.il.us/blr/1023.pdf>
 - 12) LADOTD Engineering Directives and Standards Manual (EDSM) VI.2.1.10 - PCMS Approved Construction Message Policy. <http://webmail.dotd.la.gov/ppmemos.nsf>

ALL TTC STANDARDS SHOW MINIMUM CONSTRUCTION SIGNING. ALL SITUATIONS SHALL BE REVIEWED AND/OR DESIGNED BY THE ENGINEER. CONTRACTORS ARE RESPONSIBLE FOR COMPLYING WITH ALL TTC STANDARDS.

SHEET NUMBER	6407
DESIGNED BY	J. COLVIN
CHECKED BY	P. ALLAIN
DATE	02/13/2013
REVISION DESCRIPTION	
BY	
DATE	3/12/13
APPROVED BY	<i>[Signature]</i>
CHIEF ENGINEER	
TEMPORARY TRAFFIC CONTROL GENERAL NOTES SHEET TTC-00 (B)	
TRAFFIC ENGINEERING	

CHANNELIZING DEVICES

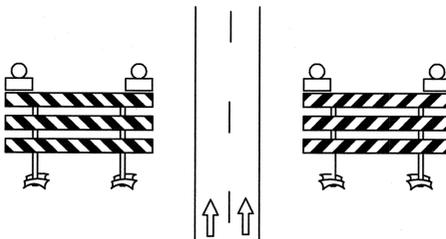
- The following devices may be used as channelizing devices: Tubular Markers, Vertical Panels, Cones, Drums, and Super Cones.
- 28 inch traffic cones are not allowed on:
 - Interstates
 - Highways with speeds greater than 40 mph.
- During nighttime operations 28 inch and 36 inch cones are not allowed.
- Retroreflective material pattern used on super cones shall match that used on drums.
- Tangent Areas:**
 - Standard Spacing:** See Standard Device Spacing and Buffer Space table.
 - Daylight Operations:** Drums and super cones are spaced at standard spacing. All other devices are at 1/2 standard spacing.
 - Nighttime Operations:** Drums and supercones at standard spacing are the only devices allowed.
- Taper Areas:**
 - Standard Spacing:** See Standard Device Spacing and Buffer Space table.
 - Daylight Operations:** Drums are spaced at standard spacing. All other devices are 1/2 standard spacing.
 - Nighttime Operations:** Drums (at standard spacing) are the only devices allowed.
- Type C steady burn lights shall be used on all channelizing devices in the taper as well as the first two devices in the tangent at night, (see the QPL).
- Typical channelizing device lateral placement (do not include when it is used as a divider for opposing directions of traffic) shall be 2 feet off the lane line in the closed lane or shoulder.
- Devices may be adjusted laterally to accommodate ongoing work in the immediate vicinity but must be returned to the closed lane after the work activity has moved.
- Channelizing devices on the lane line shall be of the same type.
- Channelizing devices in each taper shall be of the same type.



ALL TTC STANDARDS SHOW MINIMUM CONSTRUCTION SIGNING.
ALL SITUATIONS SHALL BE REVIEWED AND/OR DESIGNED BY THE ENGINEER.
CONTRACTORS ARE RESPONSIBLE FOR COMPLYING WITH ALL TTC STANDARDS.

TYPE III BARRICADES

- Only Type III barricades shall be used.
- All barricades shall use Type 3 High Intensity Sheeting on both sides of the barricade.
- All barricades shall be a minimum of 8 feet in length and must meet NCHRP Report 350 or MASH requirements.
- When used for overnight closures, two Type B High Intensity lights shall supplement all barricades that are placed in a closed lane or that extend across a highway. Two Type A Low Intensity lights may be used in urban areas if approved by the Engineer (see QPL).
- When signs and lights are to be mounted to a barricade, they must meet NCHRP Report 350 or MASH requirements.
- A truck with a TMA may be substituted for a barricade when workers are present.
- Barricades shall be placed:
 - at the beginning of a closed lane or shoulder and at 1,000 foot intervals where no active work is ongoing and the lane must remain closed. A minimum of 2 barricades shall be placed if the lane or shoulder closure is less than 2,000 feet. (One barricade shall be placed at the beginning of the lane closure after the buffer space and one shall be placed in the middle of the lane closure.)
 - before each or group of unfilled holes or holes filled with temporary material.
 - before uncured concrete.
 - in the closed lane on each side of every intersection and crossover. (Do not block sight distance.)
 - in front of piles of material (dirt, aggregate, broken concrete), culverts, and equipment which is near the work zone.



TTC for DROP-OFFS

Average Drop-off	> 45 MPH	≤ 45 MPH
≤ 3 IN	Low Shoulder Sign (Optional)	Low Shoulder Sign (Optional)
> 3 IN	Shoulder Drop Off Sign & Edge Lines or Shoulder Drop Off Sign & Channelizing Device	Shoulder Drop Off Sign
> 6 IN	No Shoulder Sign, Edge Lines & Vertical Panel	No Shoulder Sign & Channelizing Device
≤ 10 IN		
> 10 IN	Concrete Barrier & Edge Lines	No Shoulder Sign & Vertical Panel

Average Drop-off	INTERSTATE
≤ 2 IN	Low Shoulder Sign (Optional)
> 2 IN	Shoulder Drop Off Sign & Edge Lines or Shoulder Drop Off Sign & Channelizing Device
> 6 IN	Shoulder Drop Off Sign, Concrete Barrier & Edge Lines

- If a portable concrete barrier will be required then the deflection shall be considered in the design.
- For Interstate ramps, refer to non-Interstate drop offs.

STANDARD DEVICE SPACING AND BUFFER SPACE

SPEED LIMIT (prior to construction)	MERGING TAPER LENGTH (L)				STANDARD DEVICE SPACING IN FEET		BUFFER SPACE
	Lane Width (FT)				Along Taper	Along Tangent	
MPH	9	10	11	12	Along Taper	Along Tangent	FT
25	94	105	115	125	20	40	155
30	135	150	165	180	40	80	200
35	184	205	225	245	40	80	250
40	240	267	294	320	40	80	305
45	405	450	495	540	40	80	360
50	450	500	550	600	40	80	425
55	495	550	605	660	40	80	495
60	540	600	660	720	40	80	570
65	585	650	715	780	40	80	645
70	630	700	770	840	40	80	730

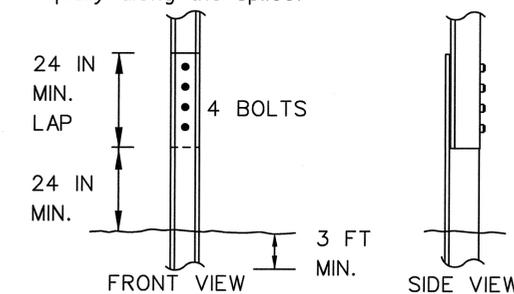
SPEED LIMIT (prior to construction)	SHIFTING TAPER LENGTH (1/2)L				STANDARD DEVICE SPACING IN FEET		BUFFER SPACE
	Lane Width (FT)				Along Taper	Along Tangent	
MPH	9	10	11	12	Along Taper	Along Tangent	FT
25	47	53	58	63	20	40	155
30	68	75	83	90	40	80	200
35	92	103	113	123	40	80	250
40	120	134	147	160	40	80	305
45	203	225	248	270	40	80	360
50	225	250	275	300	40	80	425
55	248	275	303	330	40	80	495
60	270	300	330	360	40	80	570
65	293	325	358	390	40	80	645
70	315	350	385	420	40	80	730

SPEED LIMIT (prior to construction)	SHOULDER TAPER LENGTH (1/3)L				STANDARD DEVICE SPACING IN FEET		BUFFER SPACE
	Lane Width (FT)				Along Taper	Along Tangent	
MPH	9	10	11	12	Along Taper	Along Tangent	FT
25	32	35	39	42	20	40	155
30	45	50	55	60	40	80	200
35	62	69	75	82	40	80	250
40	80	89	98	107	40	80	305
45	135	150	165	180	40	80	360
50	150	167	184	200	40	80	425
55	165	184	202	220	40	80	495
60	180	200	220	240	40	80	570
65	195	217	239	260	40	80	645
70	210	234	257	280	40	80	730

- All termination and flagger tapers are 100 feet per lane. (MIN. 6 channelizing devices per lane equally spaced 20 feet apart.)
- See TTC Standards for flagger taper.
- See MUTCD for taper formulas.

ALLOWABLE LAP SPLICE FOR U-CHANNEL POST

- U-Channel posts may be spliced where long lengths are required. The upper section shall overlap the lower section by at least 24 inches. The bottom edge of the upper section of the splice shall be a minimum of 24 inches above the ground. The spliced sections shall be secured with at least four 5/16 inch diameter hex bolts spaced equally along the splice.



SHEET NUMBER 6408

DESIGNED BY J. COLVIN
CHECKED BY P. ALLAIN
DATE 02/13/2013

PARISH PROJECT
FEDERAL PROJECT
STATE PROJECT

REVISION DESCRIPTION
DATE
APPROVED BY CHIEF ENGINEER

BY
DATE 3-17-13

BR-0015-01(120)

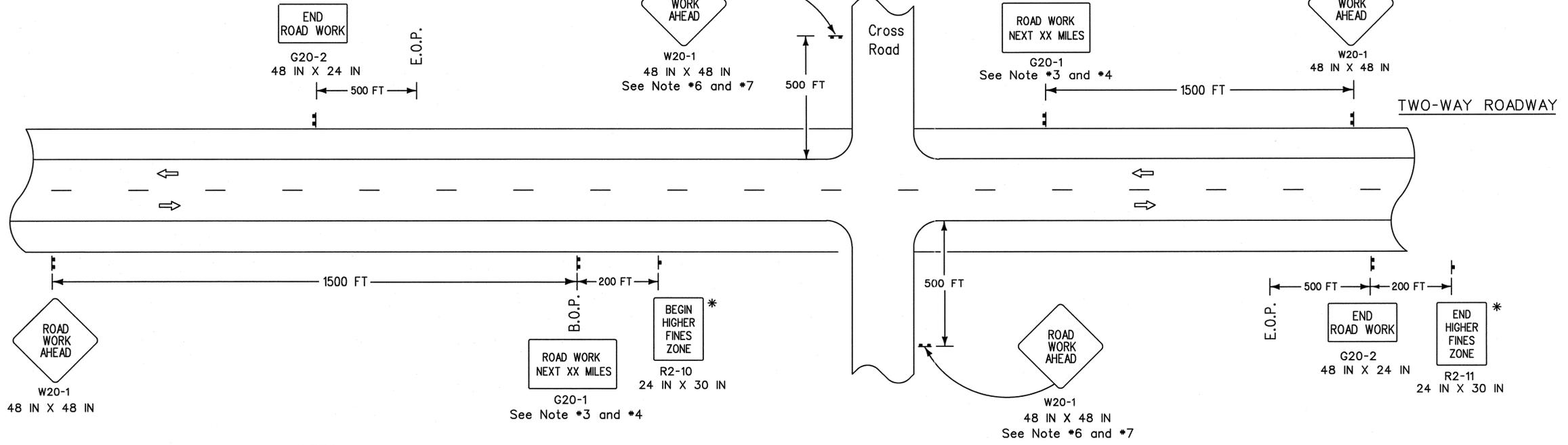
TEMPORARY TRAFFIC CONTROL GENERAL NOTES SHEET

TTC-00 (C)

TRAFFIC ENGINEERING



SEE TTC-00(A), TTC-00(B), AND TTC-00(C)



* For divided roadways with speeds \geq 50 mph use larger sign, 36 IN X 48 IN.

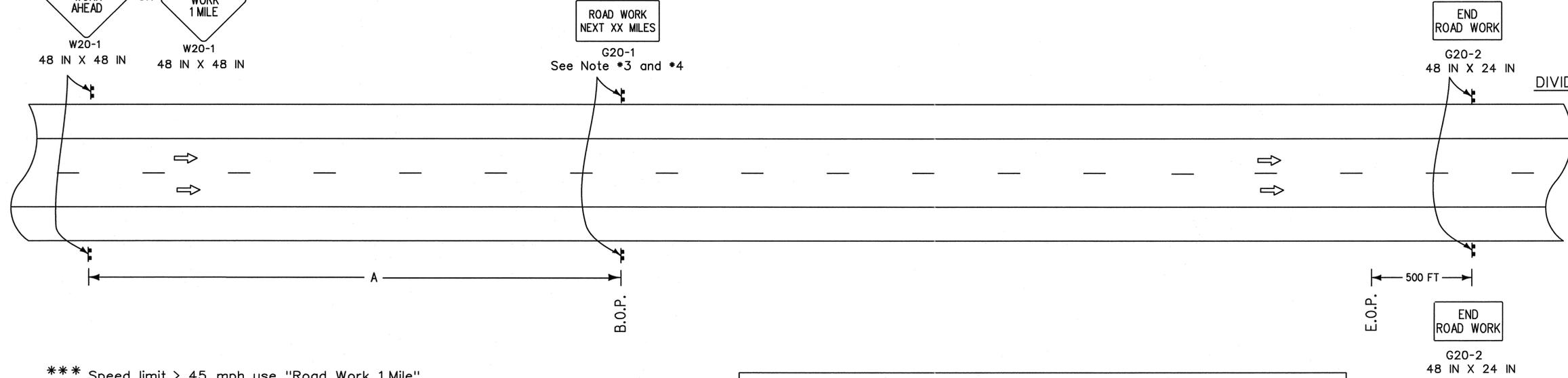
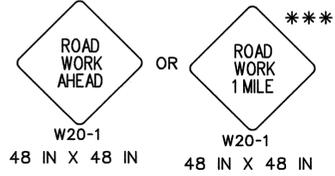
NOTES

This sheet shall be used with the Temporary Traffic Control General Notes Sheets TTC-00(A), TTC-00(B), TTC-00(C), and other Temporary Traffic Control Sheets as appropriate.

1. This layout represents the minimum traffic controls required for placement of "Road Work Next XX Miles" and "End Road Work" signs.
2. This layout does not replace other TTC Standard Sheets, but is intended as a supplement to the required signing.
3. The "Road Work Next XX Miles" sign shall be required on all projects. The distance on the "Road Work Next XX Miles" sign shall be stated to the nearest whole mile. This sign shall be placed at the Beginning of Project (B.O.P.) limits.
4. The "Road Work Next XX Miles" sign shall be a minimum of 60 inches by 36 inches for all multi-lane roadways and a minimum of 48 inches by 24 inches for two-lane roadways unless otherwise noted.
5. The "End Road Work" sign shall be placed 500 feet past the End of Project (E.O.P.) limits.
6. If "Road Work Ahead" sign is used on a cross road to warn of road work on another route, then "End Road Work" sign is not required.
7. When projects are separated by less than 1 mile, they shall be signed as one project; this may require coordination.

LEGEND

- Traffic Sign
- Direction of Travel



*** Speed limit > 45 mph use "Road Work 1 Mile"
Speed limit \leq 45 mph use "Road Work Ahead"

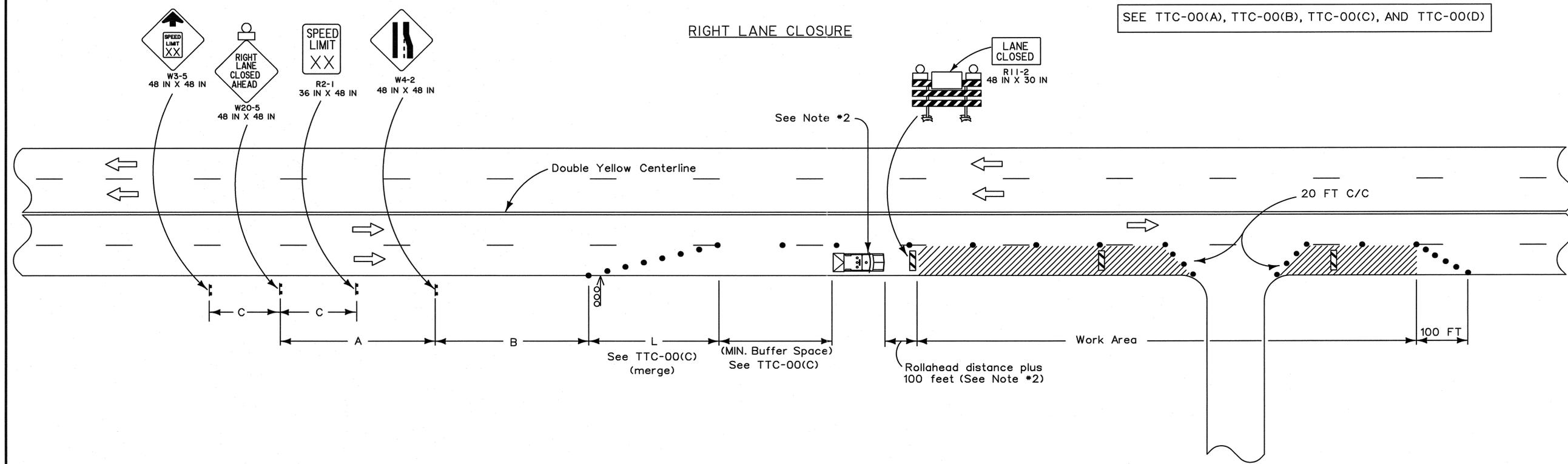
ALL TTC STANDARDS SHOW MINIMUM CONSTRUCTION SIGNING.
ALL SITUATIONS SHALL BE REVIEWED AND/OR DESIGNED BY THE ENGINEER.
CONTRACTORS ARE RESPONSIBLE FOR COMPLYING WITH ALL TTC STANDARDS.

SPEED LIMIT (prior to construction)	SPACING
\leq 40 mph	1500 FT
45 mph	2640 FT
> 45 mph	5280 FT

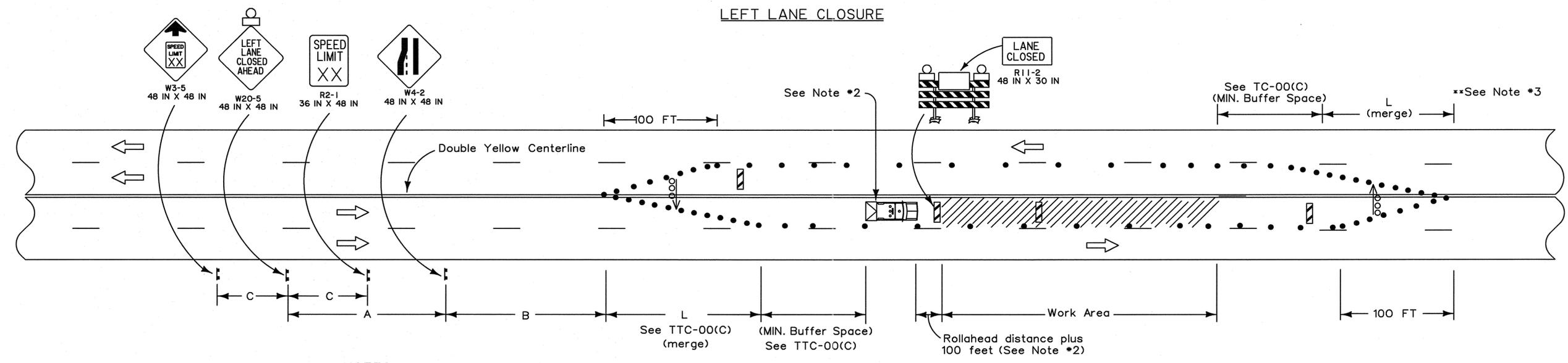
- Sign spacing to be adjusted for Horizontal and Vertical curves.
- For work outside of the traveled way, see TTC-01 and TTC-02.

SEE TTC-00(A), TTC-00(B), TTC-00(C), AND TTC-00(D)

RIGHT LANE CLOSURE



LEFT LANE CLOSURE



LEGEND

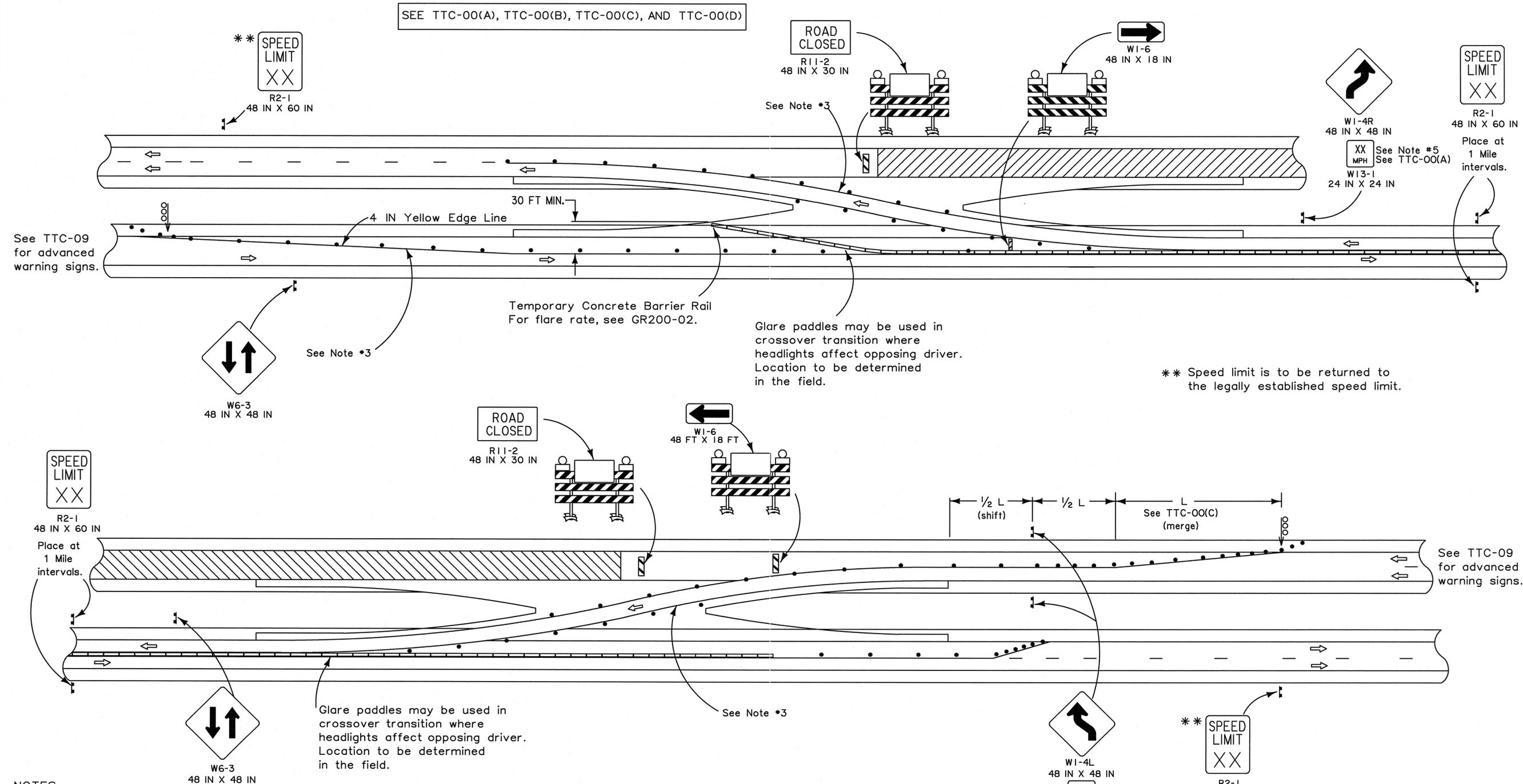
- Traffic Sign
- Channelizing Devices
- Type III Barricades
- Flashing Arrow Panel
- Work Area
- Type B Light
- Direction of Travel
- Truck with Amber Light and TMA

NOTES

- This sheet shall be used with the Temporary Traffic Control General Notes Sheets TTC-00(A), TTC-00(B), TTC-00(C), and TTC-00(D).
1. This layout represents the minimum traffic controls required for lane closures on a four-lane undivided highway or a roadway with two-way left turn lanes. This is not for roadways with a speed limit of 55 mph or greater prior to construction. For advance signing see TTC-00(D).
 2. A vehicle with a flashing amber light and a truck mounted attenuator shall be used on all roadways with an ADT greater than 20,000 and a pre-construction speed greater than or equal to 40 mph. This vehicle shall move with work operations not to exceed the rollahead distance required by the manufacturer plus 100 feet.
 3. Advance signing shall match that shown for opposite direction.

SPEED LIMIT (prior to construction)	SPACING		
	'A'	'B'	'C'
≤ 40 mph	500 FT	250 FT	N/A
45-50 mph	1000 FT	360 FT	500 FT

ALL TTC STANDARDS SHOW MINIMUM CONSTRUCTION SIGNING.
 ALL SITUATIONS SHALL BE REVIEWED AND/OR DESIGNED BY THE ENGINEER.
 CONTRACTORS ARE RESPONSIBLE FOR COMPLYING WITH ALL TTC STANDARDS.



NOTES

This sheet shall be used with Temporary Traffic Control General Notes Sheets TTC-00(A), TTC-00(B), TTC-00(C), and TTC-00(D).

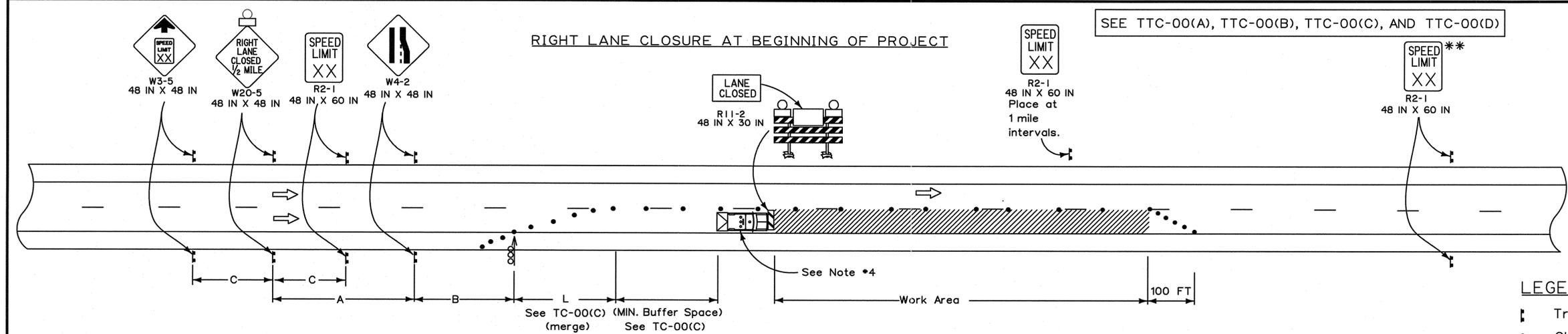
1. This layout represents the minimum traffic controls required for median crossovers on non-interstate divided highways. For advance signing see TTC-00(D) and TTC-09.
2. For posted speed limits prior to construction that are greater than 45 mph, concrete barriers shall be required to separate the lanes of travel. For posted speed limits prior to construction that are 45 mph or less, concrete barriers may be substituted by tubular markers or flexposts.
3. Temporary raised pavement markers spaced at 15 FT C/C shall be used to supplement the white and yellow temporary edge lines through the reverse curves of the crossover. All temporary edge lines between the barrier rail and the beginning of the lane reduction taper shall have temporary raised pavement markers spaced at 15 FT C/C.

4. When traffic controls are planned to be in place for more than 3 days, conflicting pavement markings shall be removed and temporary markings added.
5. Advisory speed plaques (W13-1) shall be required if the difference between the speed limit prior to construction and the advisory speed (determined by an engineering study performed by the DTOE) is 10 mph or greater.

ALL TTC STANDARDS SHOW MINIMUM CONSTRUCTION SIGNING.
 ALL SITUATIONS SHALL BE REVIEWED AND/OR DESIGNED BY THE ENGINEER.
 CONTRACTORS ARE RESPONSIBLE FOR COMPLYING WITH ALL TTC STANDARDS.

LEGEND

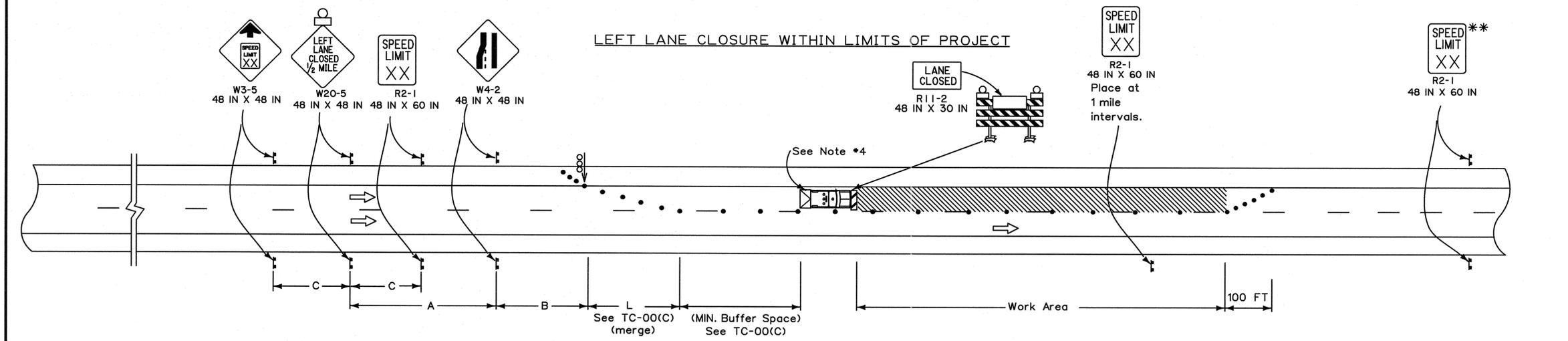
	Traffic Sign
	Channelizing Devices
	Type III Barricades
	Flashing Arrow Panel
	Work Area
	Concrete Barrier
	Type B Light
	Direction of Travel



SPEED LIMIT (prior to construction)	SPACING		
	'A'	'B'	'C'
45 mph	1000 FT	500 FT	500 FT
50 mph	1000 FT	500 FT	500 FT
≥ 55 mph	1640 FT	1000 FT	800 FT

** Speed limit is to be returned to legally established speed limit.

- LEGEND**
- ⚡ Traffic Sign
 - Channelizing Devices
 - ▨ Type III Barricades
 - ↔ Flashing Arrow Panel
 - ▨ Work Area
 - ⊕ Type B Light
 - ➡ Direction of Travel
 - 🚚 Truck with Amber Light and TMA



NOTES

This sheet shall be used with the Temporary Traffic Control General Notes Sheets TTC-00(A), TTC-00(B), TTC-00(C), and TTC-00(D).

1. This layout represents the minimum traffic controls required for lane closures on divided highways with speed limits greater than 40 mph. This layout does not cover roadwork where a ramp entrance or an exit taper falls within the work area. For advance signing see TTC-00(D).
2. This layout does not illustrate roadwork near a signal or a major intersection.
3. For interstate work, a minimum of two PCMS per direction shall be placed in advance of the lane closure. Guidance as to placement is shown on TTC-00(A); however, specific distances are to be set by the Engineer.

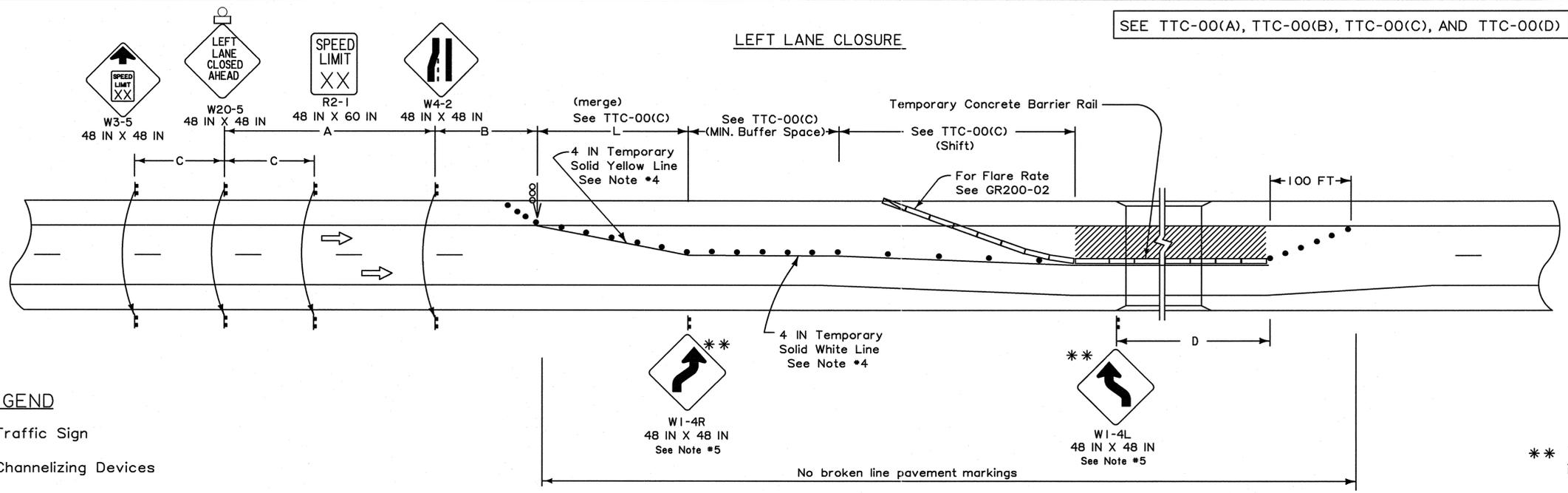
4. A vehicle with a flashing amber light and a truck mounted attenuator shall be used on all interstate projects and on all roadways with an ADT greater than 20,000 and a pre-construction speed greater than or equal to 45 mph. This vehicle shall move with work operations not to exceed the rolldistance required by the manufacturer plus 100 feet.
5. A flagger shall be used to alert motorists when equipment or workers encroach within 2 feet of an open lane. The flagger shall be posted adjacent to the open travel lane and immediately upstream of each operation. Encroachment shall be held to a minimum.

6. A "Road Work Ahead" sign shall be placed within 1000 feet ahead of the entrance ramp nose for any ramp within the area of traffic control signing.
7. Sign spacing may be adjusted due to access conditions of the corridor.
8. If speed limit is less than 45 mph, see TTC-10.

ALL TTC STANDARDS SHOW MINIMUM CONSTRUCTION SIGNING.
 ALL SITUATIONS SHALL BE REVIEWED AND/OR DESIGNED BY THE ENGINEER.
 CONTRACTORS ARE RESPONSIBLE FOR COMPLYING WITH ALL TTC STANDARDS.

SEE TTC-00(A), TTC-00(B), TTC-00(C), AND TTC-00(D)

LEFT LANE CLOSURE

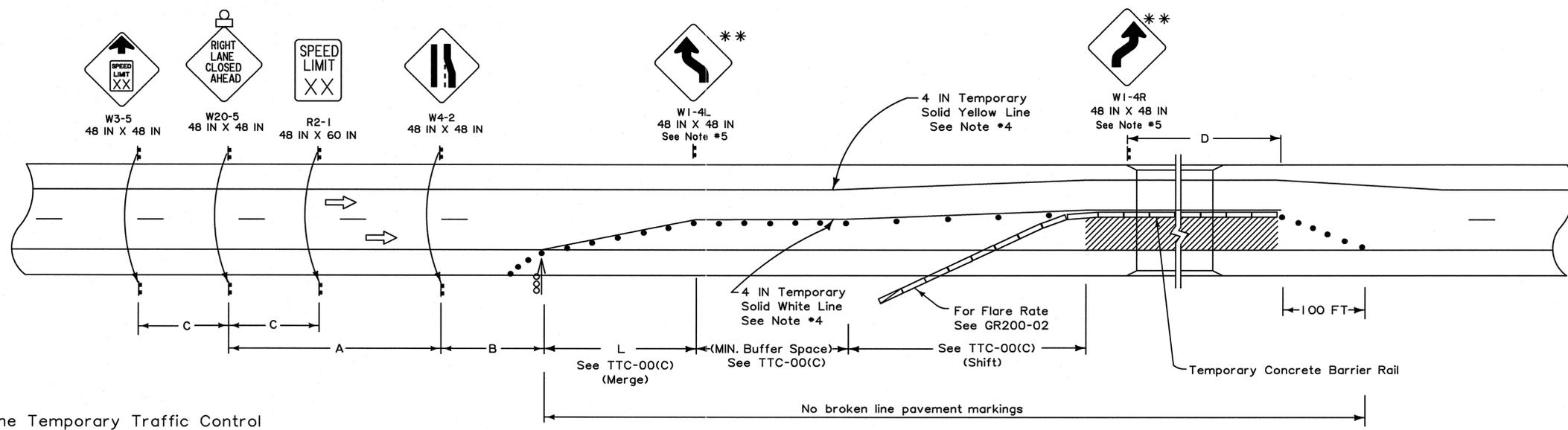


LEGEND

- ☒ Traffic Sign
- Channelizing Devices
- ⚡ Flashing Arrow Panel (Type 'C')
- ▨ Work Area
- ☒ Type B Light
- ▬ Concrete Barrier
- ➡ Direction of Travel

** To be used only when a lane shift is utilized.

RIGHT LANE CLOSURE



NOTES

This sheet shall be used with the Temporary Traffic Control General Notes Sheets TTC-00(A), TTC-00(B), TTC-00(C), and TTC-00(D).

1. This layout represents the minimum traffic controls required for lane closures using temporary barrier rail on divided highways. This includes freeways. For advance signing see TTC-00(D).
2. If a ramp entrance or exit taper falls within the work area, refer to standard road plan TTC-12 for traffic control details.
3. When traffic controls planned to be in place for more than 3 days, conflicting pavement markings shall be removed and temporary markings added. Existing broken line pavement marking shall be removed from the W4-2 sign through the work area.
4. For work lasting more than 3 days, a temporary edgeline shall be installed from the start of the merging taper to the far end of the downstream taper.
5. If the lane shift occurs on new pavement or existing shoulder, then W1-4R or W1-4L is required.

SPEED LIMIT (prior to construction)	SPACING		
	'A'	'B'	'C'
45 mph	1000 FT	500 FT	500 FT
50 mph	1000 FT	500 FT	500 FT
≥ 55 mph	1640 FT	1000 FT	800 FT

ALL TTC STANDARDS SHOW MINIMUM CONSTRUCTION SIGNING.
 ALL SITUATIONS SHALL BE REVIEWED AND/OR DESIGNED BY THE ENGINEER.
 CONTRACTORS ARE RESPONSIBLE FOR COMPLYING WITH ALL TTC STANDARDS.