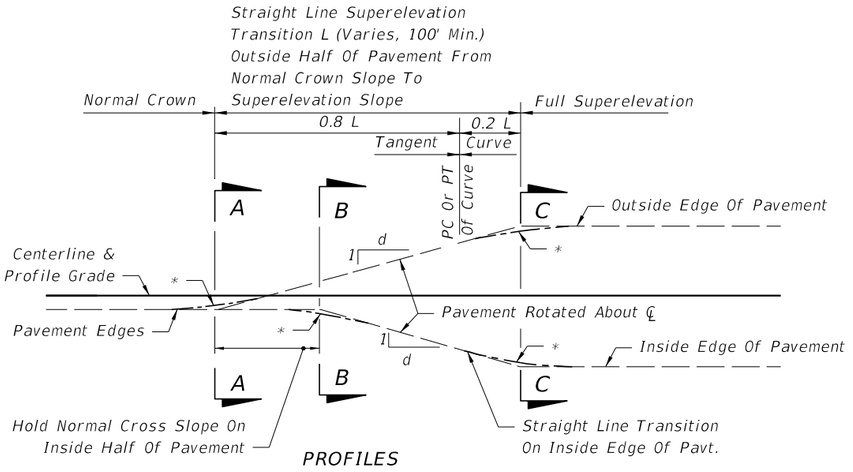
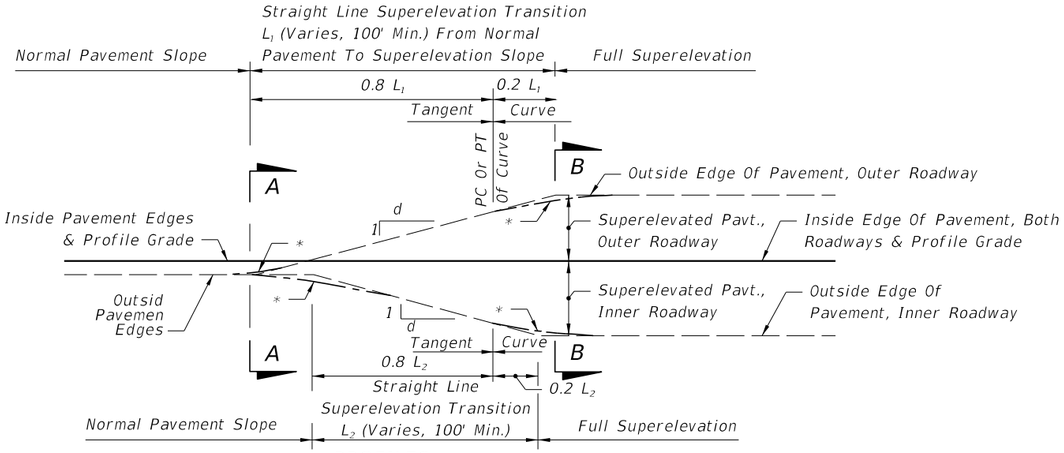


PROFILES

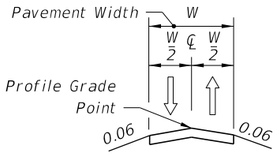
SLOPE RATIOS FOR SUPERELEVATION TRANSITIONS				
NUMBER OF LANES IN ONE DIRECTION	DESIGN SPEED, MPH			
	25-40	45-50	55-60	65-70
	1 : d			
1 Lane & 2 Lane	1:175	1:200	1:225	1:250
3 Lane	--	1:160	1:180	1:200
4 Lane or More	--	1:170	1:170	1:190

The length of superelevation transition is to be determined by the relative slope between the travel way edge of pavement and the profile grade, except that the minimum length of transition shall be 100 ft.

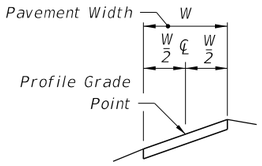
* Short Vertical Curves Are To Be Used On Construction To Avoid Angular Breaks In Edge Profiles



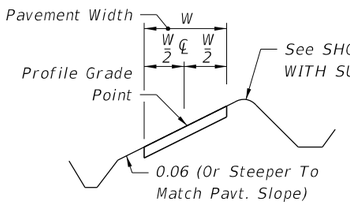
PROFILES



NORMAL CROWN SECTION AA



REVERSE CROWN SECTION BB

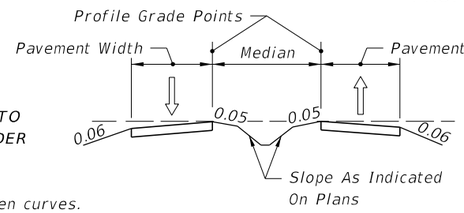


FULLY SUPERELEVATED SECTION CC

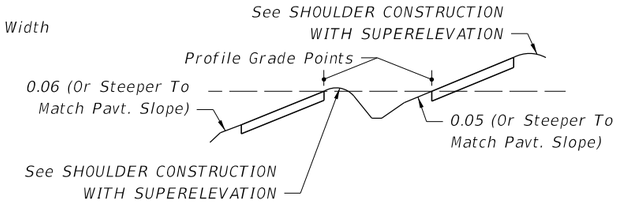
THESE TRANSITION DETAILS ARE TO APPLY IN ALL CASES, EXCEPT UNDER THE FOLLOWING CONDITIONS:

1. Curves of insufficient length.
2. Insufficient tangent length between curves.
3. Deficient transition distance between a curve and other control point(s).
4. At PCC's or PRC's (Runoff rates are applicable).

Transitions for these exceptions are to be as detailed in the plans.



NORMAL SECTION SECTION AA



FULLY SUPERELEVATED SECTION BB

2-LANE, 4-LANE OR 6-LANE PAVEMENT, NO MEDIAN

2-LANE, 4-LANE OR 6-LANE PAVEMENT WITH MEDIAN

SUPERELEVATION TRANSITIONS

SYMBOL:

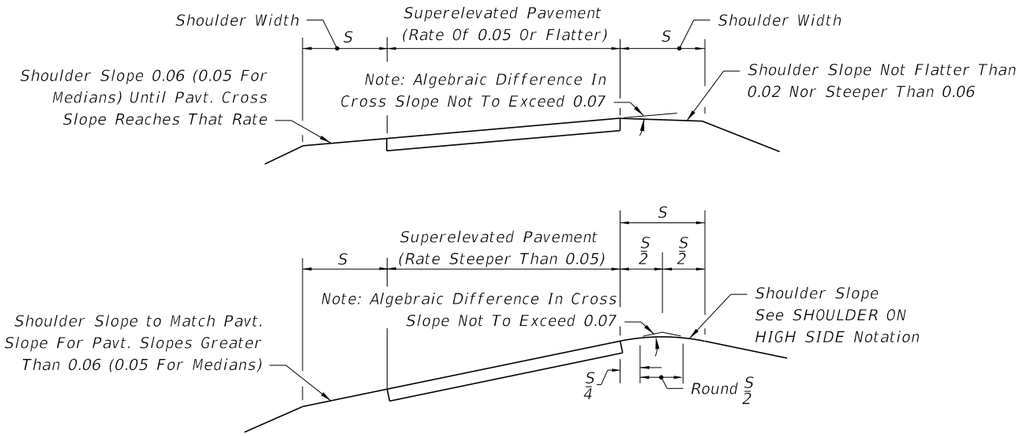
⇨ Direction of Traffic

NOTES:

1. These details apply to both paved and grassed shoulders. For median shoulders use 0.05 in lieu of 0.06.

2. SHOULDER ON HIGH SIDE: A shoulder slope of 0.06 downward from the edge of travel way will be maintained until a 0.07 break in slope at the pavement edge is reached due to superelevation of the pavement. As the pavement superelevation increases, the 0.07 break in slope will be maintained and the shoulder flattened until the shoulder slope reaches the minimum of 0.02 downward from the edge of travel way. Any further increase in pavement superelevation will necessitate sloping the inside half of the shoulder toward the travel way and the outer half outward, both at 0.02 for superelevations 0.06–0.09 and both at 0.03 for superelevation 0.10. For shoulders with paved widths 5 feet or less see Special Shoulder Break Over Details on Sheet 2 of 2.

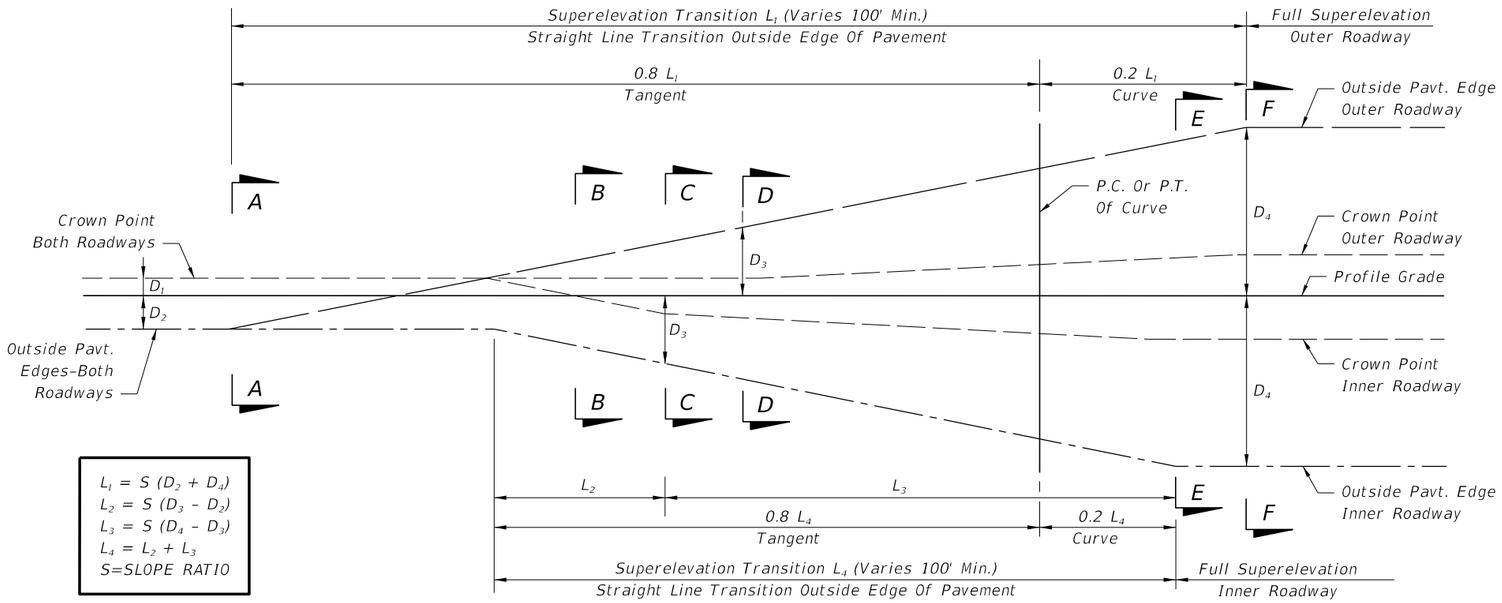
3. SHOULDER ON LOW SIDE: Maintain 0.06 cross slope across shoulder until pavement cross slope reaches 0.06. For pavement cross slopes greater than 0.06, shoulder to have same slope as pavement. See SHOULDER SLOPES ON SUPERELEVATION SECTION (Sheet 2).



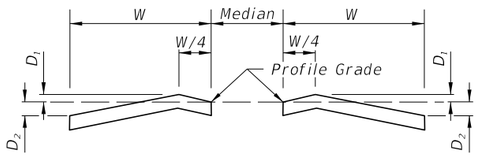
SHOULDER CONSTRUCTION WITH SUPERELEVATION

10/20/2022 8:44:54 AM

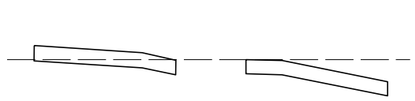
LAST REVISION	REVISION	DESCRIPTION:			INDEX	SHEET
11/01/21			FY 2023-24 STANDARD PLANS	SUPERELEVATION TRANSITIONS - HIGH SPEED ROADWAYS	000-510	1 of 2



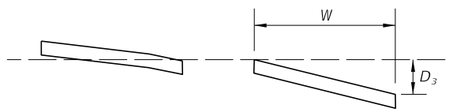
$L_1 = S\ (D_2 + D_4)$
$L_2 = S\ (D_3 - D_2)$
$L_3 = S\ (D_4 - D_3)$
$L_4 = L_2 + L_3$
S=SLOPE RATIO



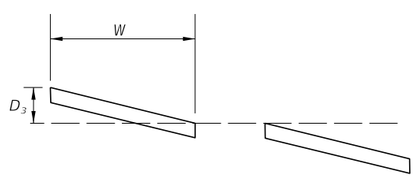
SECTION A-A
NORMAL CROWNED SECTION



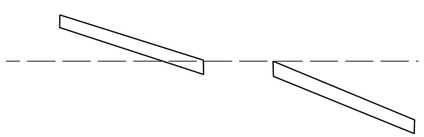
SECTION B-B
SUPERELEVATION SECTION LT. & RT.



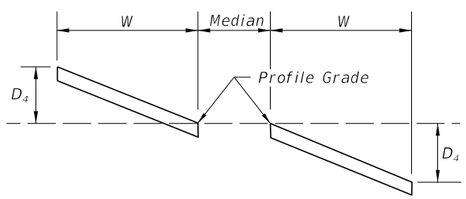
SECTION C-C
SUPERELEVATION SECTION LT.
PLANE INCLINED SECTION RT.



SECTION D-D
PLANE INCLINED SECTION LT.
SUPERELEVATION TRANSITION RT.

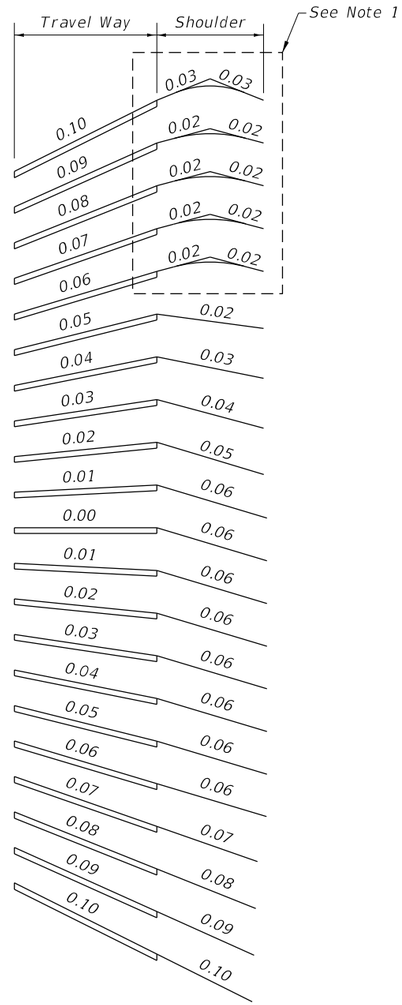


SECTION E-E
SUPERELEVATION TRANSITION LT.
FULL SUPERLEVATION RT.



SECTION F-F
FULL SUPERELEVATION LT. & RT.

8-LANE PAVEMENT WITH TWO LANES SLOPED TO MEDIAN

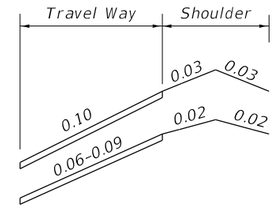


SLOPES OF TRAVELED WAY
AND ABUTTING SHOULDERS

SHOULDER SLOPES ON SUPERELEVATION SECTIONS

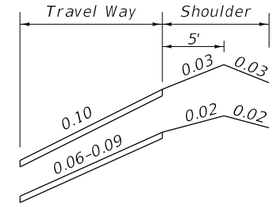
1. For shoulders with paved widths 5 feet or less see special shoulder break over details.

2. For Concrete pavement, the first 1'-0" of the outside shoulder is cast with the outside travel lane and will have the same cross slope as the outside lane. The shoulder break over will occur at the outside edge of the outside slab.

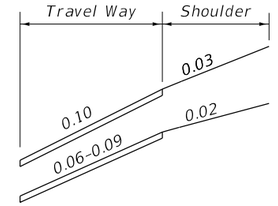


a) 12' AND 10' FULL WIDTH SHOULDERS WITH 5' OR LESS PAVED WIDTHS,

b) 8' FULL WIDTH SHOULDERS WITH 4' OR LESS PAVED WIDTHS,



8' FULL WIDTH SHOULDER
WITH 5' PAVED WIDTH

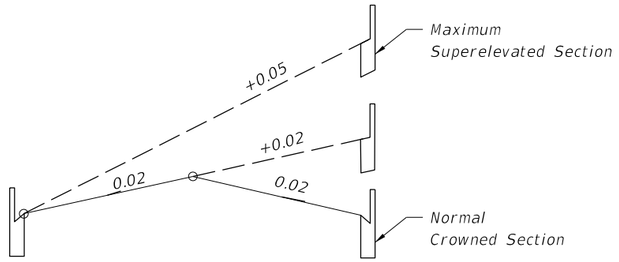


6' FULL WIDTH SHOULDER
WITH 5' OR LESS PAVED WIDTH

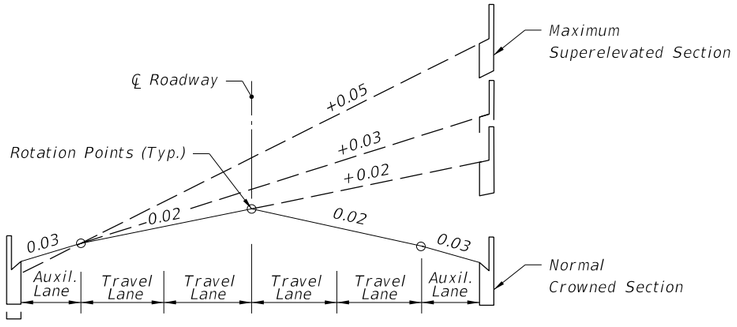
SPECIAL SHOULDER BREAK OVER DETAILS

10/20/2022 8:44:56 AM

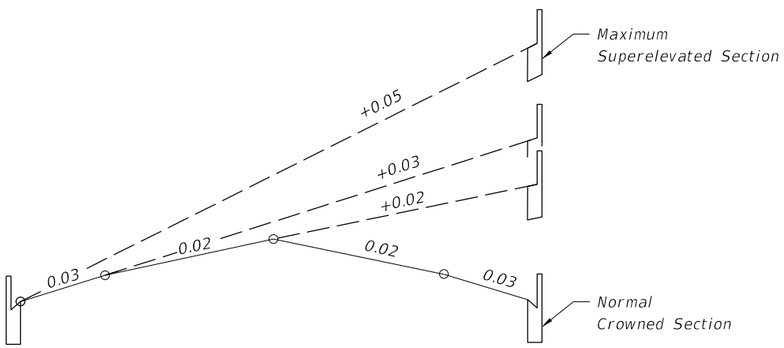
LAST REVISION	REVISION	DESCRIPTION:			INDEX	SHEET
11/01/18			FY 2023-24 STANDARD PLANS	SUPERELEVATION TRANSITIONS - HIGH SPEED ROADWAYS	000-510	2 of 2



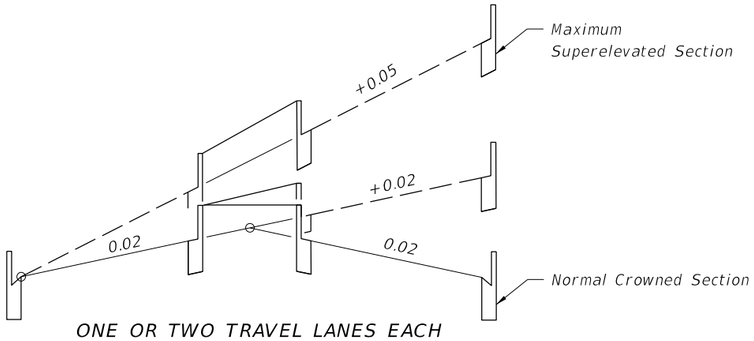
ONE OR TWO TRAVEL LANES EACH DIRECTION



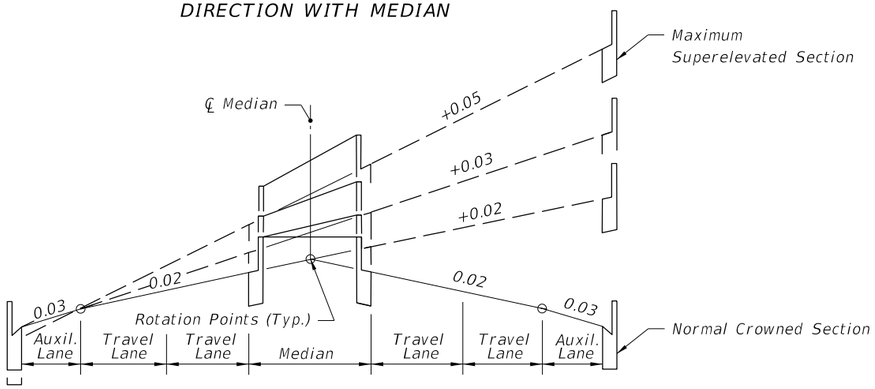
TWO TRAVEL LANES EACH DIRECTION WITH AUXILIARY LANES



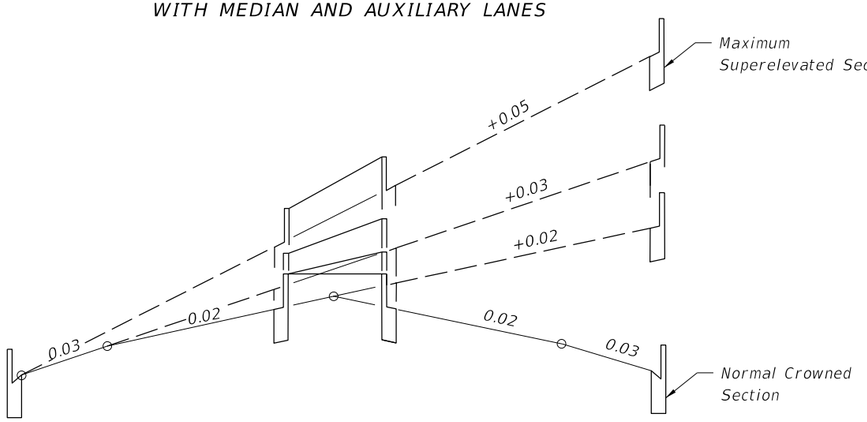
UNDIVIDED FACILITIES



ONE OR TWO TRAVEL LANES EACH DIRECTION WITH MEDIAN



TWO TRAVEL LANES EACH DIRECTION WITH MEDIAN AND AUXILIARY LANES



THREE TRAVEL LANES EACH DIRECTION WITH MEDIAN

DIVIDED FACILITIES

GENERAL NOTES:

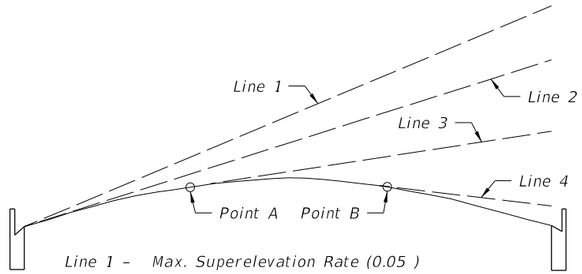
1. Obtain Superelevation by rotating the plane successively about the break points of the section until the plane has attained a slope equal to that required by the Plans. Should the rotation traverse the entire section and further superelevation be required, the remaining rotation of the plane shall be about the low edge of the inside travel lane. Crown is to be removed in the auxiliary lane to the outside of the curve only when the adjoining travel lanes require positive superelevation.

2. When positive superelevation is required, continue the slope of the pavement across the gutter on the high side.

3. Place short vertical curves at all angular profile breaks within the limits of the superelevation transition.

4. The variable superelevation transition length "L" has a minimum value of 50 feet for design speeds of 25–30 MPH and 75 feet for design speeds of 40–45 MPH.

5. Roadway sections having lane arrangements different from those shown, but composed of a series of planes, are superelevation in a similar manner.



Line 1 – Max. Superelevation Rate (0.05)
Line 2 – Slope Of Parabola At Inside Edge Of Pavt.
Line 3 – Positive Superelevation Rate Less Than Max. Slope Of Parabola.
Line 4 – Adverse Superelevation.

When this section is used, superelevation is established by rotating a tangent about the arc of the parabolic crown until the desired slope is attained (points A & B on sketch). The normal parabolic crown will be maintained outside the limits of the plane thus formed.

PARABOLIC SECTION

SUPERELEVATION TRANSITION SECTIONS FOR LOW SPEED HIGHWAYS

10/20/2022 8:44:57 AM

LAST REVISION	REVISION	DESCRIPTION:				
11/01/21			FY 2023-24 STANDARD PLANS	SUPERELEVATION TRANSITIONS - LOW SPEED HIGHWAYS	INDEX 000-511	SHEET 1 of 2

NOTE:

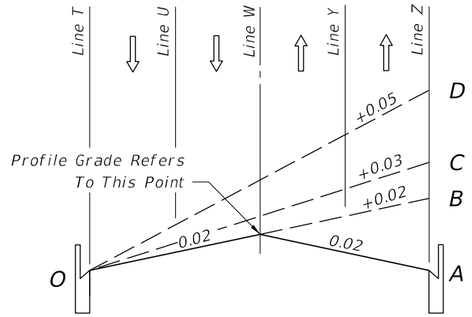
The sections and profiles shown are examples of superelevation transitions. Similar schemes should be used for roadways having other sections.

LINE	DESCRIPTION
T	Inside Travel Lane
U	Inside Lane Line
V	Inside Median Edge Pavement
W	℄ Construction
X	Outside Median Edge Pavement
Y	Outside Lane Line
Z	Outside Travel Lane

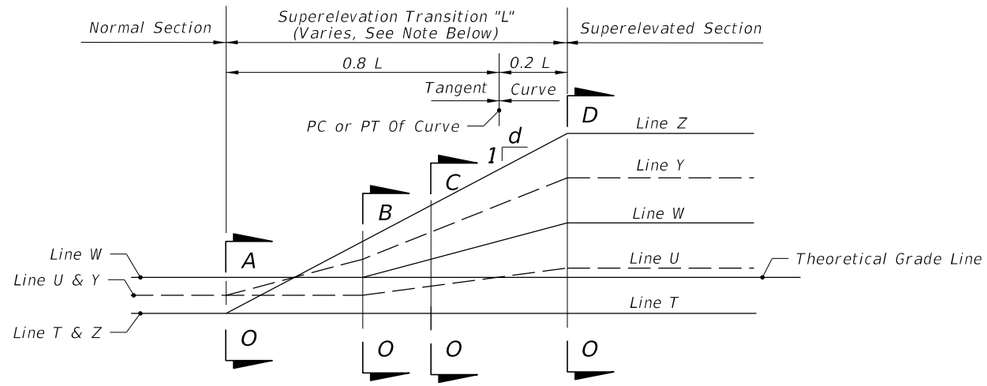
Inside And Outside Are Relative To Curve Center

SLOPE RATIOS FOR SUPERELEVATION TRANSITIONS	
DESIGN SPEED MPH	1:d
25-35	1:100
40	1:125
45	1:150

1:125 May Be Used For 45 mph Under Restricted Conditions.

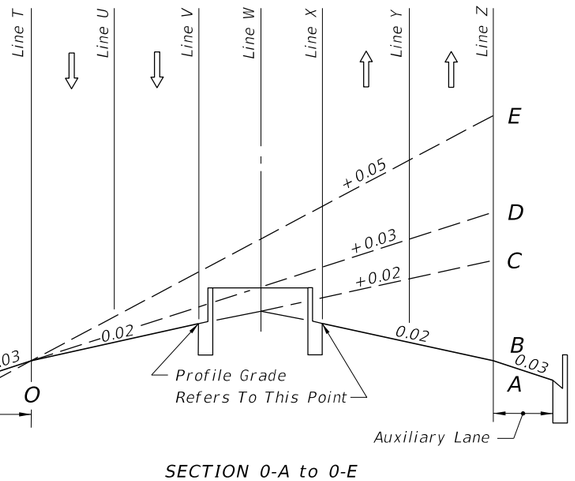


SECTION 0-A to 0-D

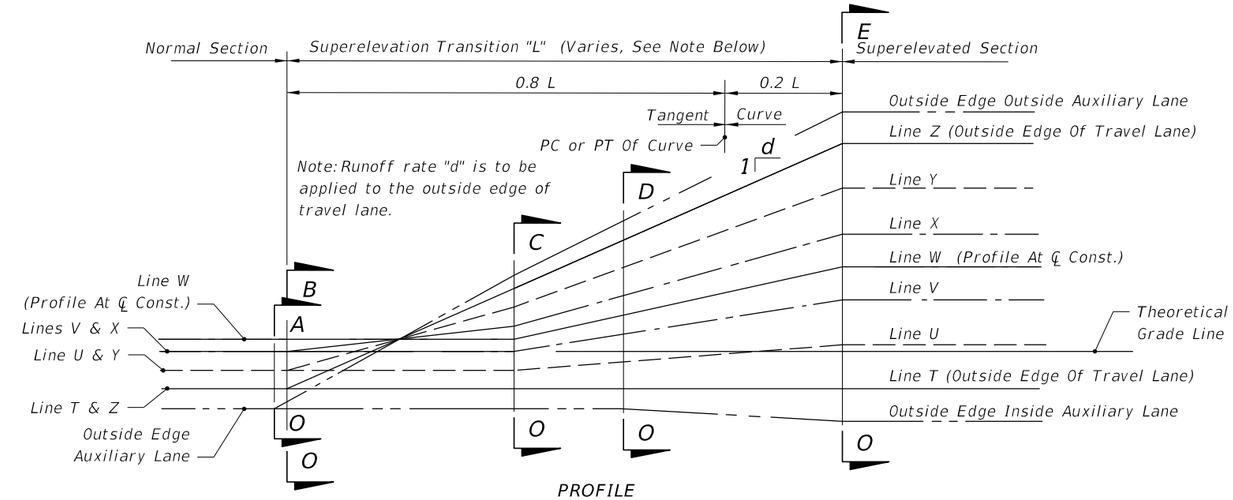


PROFILE

TWO LANES EACH DIRECTION



SECTION 0-A to 0-E



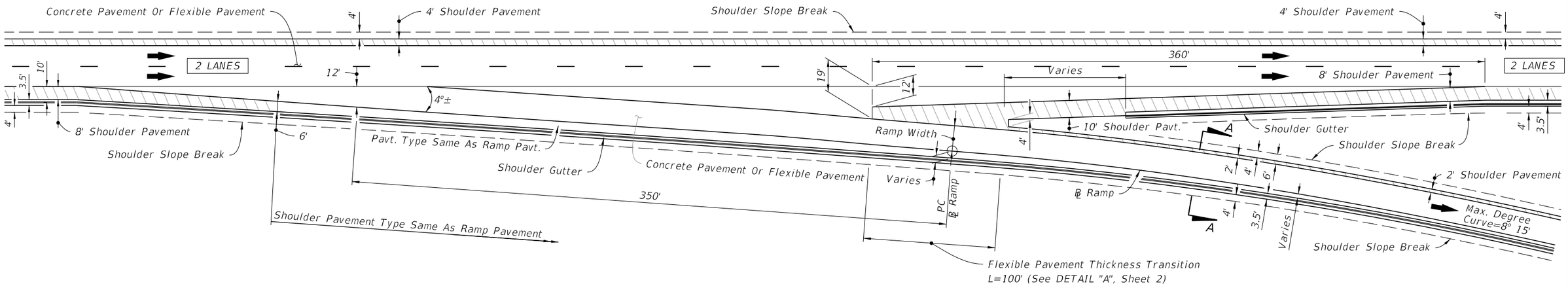
PROFILE

TWO LANES EACH DIRECTION WITH MEDIAN AND AUXILIARY LANE

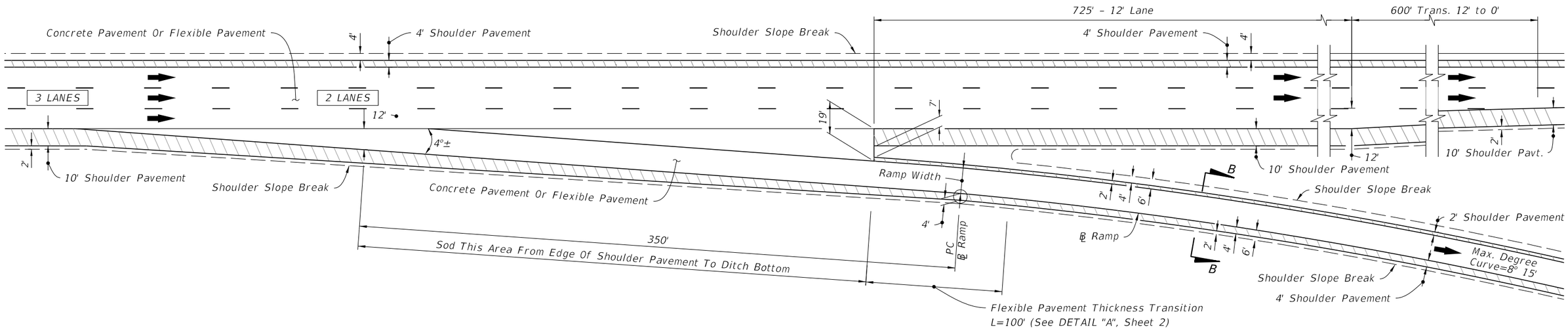
EXAMPLE SUPERELEVATION SECTIONS AND PROFILES FOR LOW SPEED HIGHWAYS

10/20/2022 8:44:58 AM

LAST REVISION	REVISION	DESCRIPTION:				
11/01/21			FDOT FY 2023-24 STANDARD PLANS	SUPERELEVATION TRANSITIONS - LOW SPEED HIGHWAYS	INDEX 000-511	SHEET 2 of 2



TWO THRU LANES
(Shown With Shoulder Gutter)



THREE APPROACH LANES - TWO THRU LANES
(Shown Without Shoulder Gutter)

GENERAL NOTES:

1. Taper-Type exit and entrance terminals as detailed shall not be used on ramps for which a speed of 50 MPH or greater cannot be maintained. For such ramps, parallel deceleration and acceleration lanes shall be used in place of tapers with lengths set according to AASHTO.

2. Shoulder Pavement:
   A. Concrete Pavement Projects: Where shoulder pavement adjacent to shoulder gutter is less than 6' wide, it shall be identical to the adjacent roadway pavement beginning with the transverse joint nearest the point of 6' width.

   B. Flexible Pavement Projects: Where shoulder pavement used in conjunction with shoulder gutter is less than 6' uniform width, it shall be identical to the adjacent roadway pavement.

3. For concrete pavement joint details and layouts at entrance and exit ramp terminals, see Index 350-001.

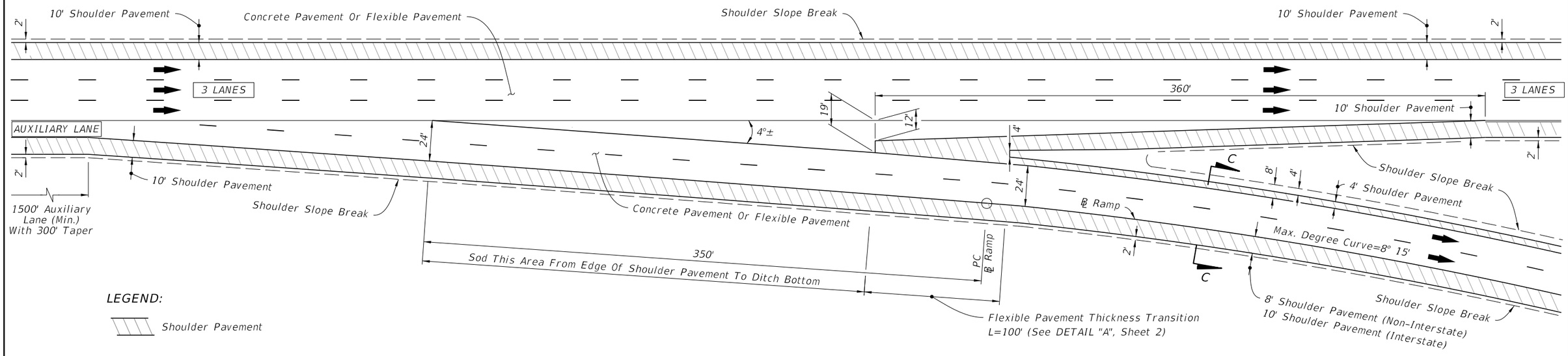
LEGEND:

Shoulder Pavement

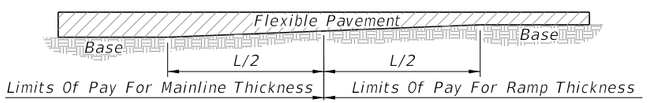
SINGLE LANE RAMPS - EXIT TERMINALS

LAST REVISION	REVISION	DESCRIPTION:			INDEX	SHEET
11/01/17			FY 2023-24 STANDARD PLANS	RAMP TERMINALS	000-525	1 of 5

10/20/2022 8:44:58 AM

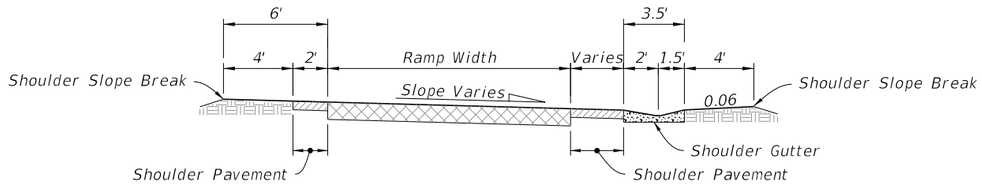


THREE THRU LANES - APPROACH AUXILIARY LANE
(Shown Without Shoulder Gutter)

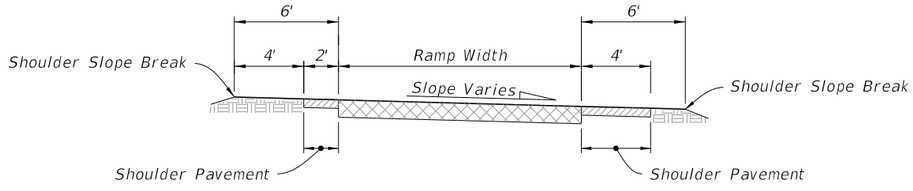


FLEXIBLE PAVEMENT THICKNESS TRANSITION

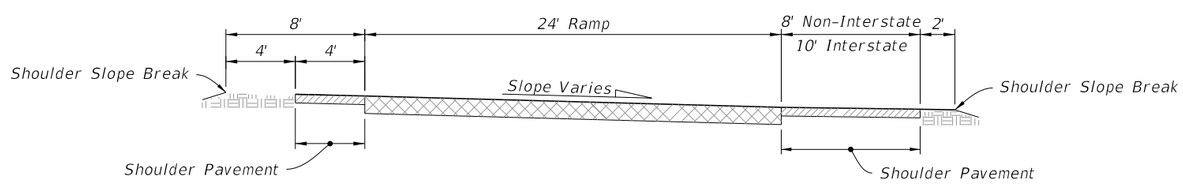
DETAIL "A"



SECTION A-A



SECTION B-B

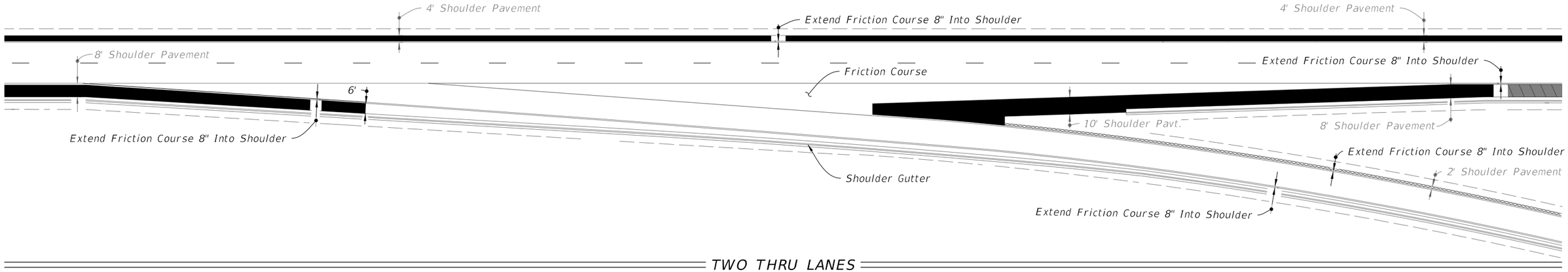


SECTION C-C

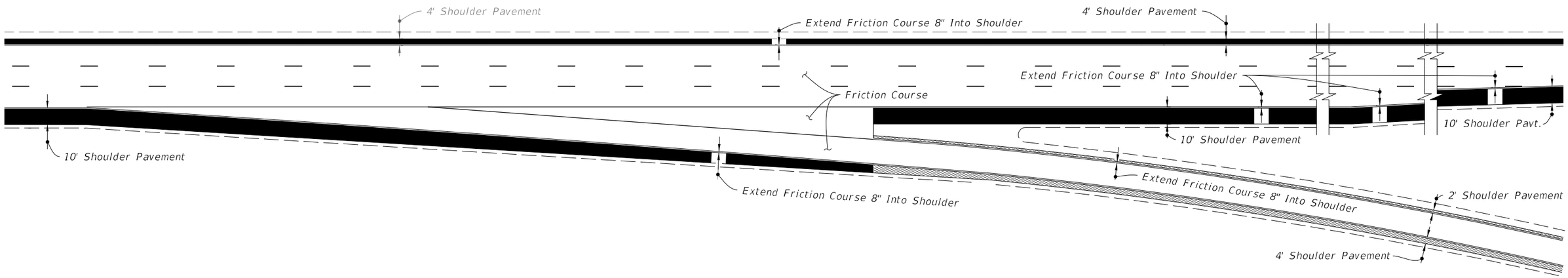
TWO LANE RAMPS - EXIT TERMINALS

LAST REVISION	REVISION	DESCRIPTION:			INDEX	SHEET
11/01/17			FY 2023-24 STANDARD PLANS	RAMP TERMINALS	000-525	2 of 5

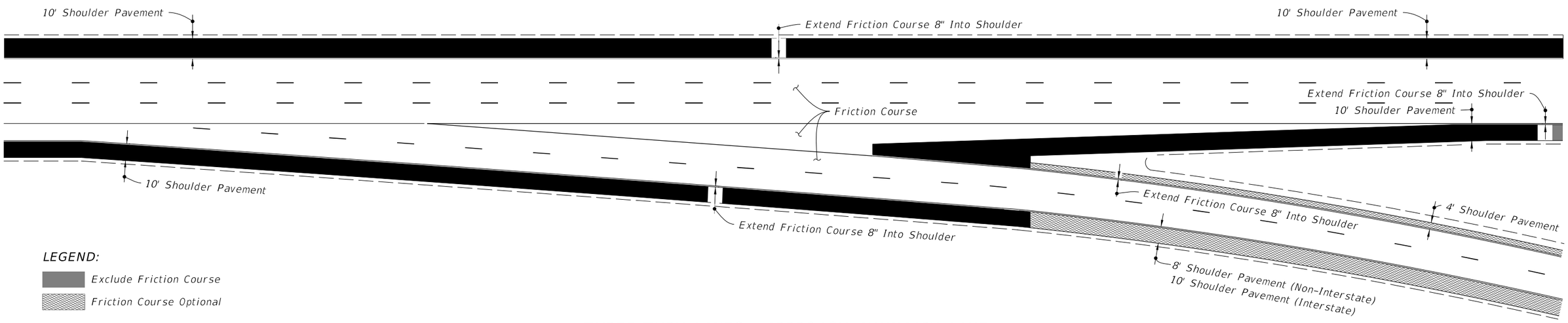
5/9/2023 9:55:48 AM



TWO THRU LANES
(Shown With Shoulder Gutter)



THREE APPROACH LANES - TWO THRU LANES
(Shown Without Shoulder Gutter)



LEGEND:

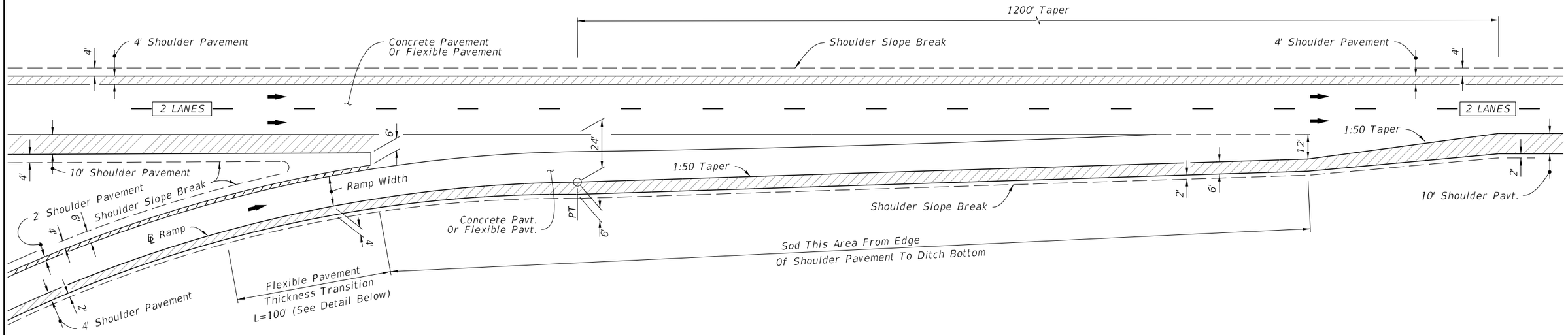
- Exclude Friction Course
- Friction Course Optional

THREE THRU LANES - APPROACH AUXILIARY LANE
(Shown Without Shoulder Gutter)

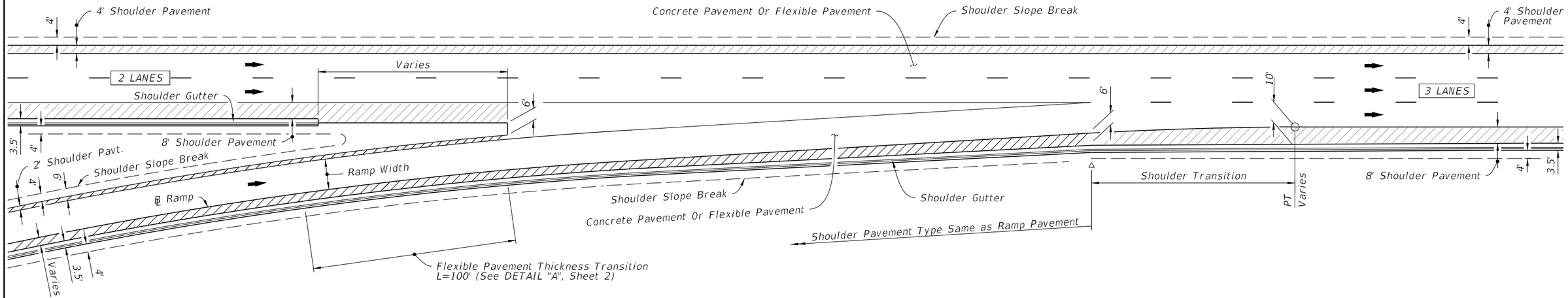
EXIT TERMINALS - FRICTION COURSE LOCATION (FOR FLEXIBLE PAVEMENT)

10/20/2022 8:45:00 AM

LAST REVISION	REVISION	DESCRIPTION:	FDOT FY 2023-24 STANDARD PLANS	RAMP TERMINALS	INDEX	SHEET
11/01/17					000-525	3 of 5



TAPER - TYPE ENTRANCE



PARALLEL - TYPE ENTRANCE

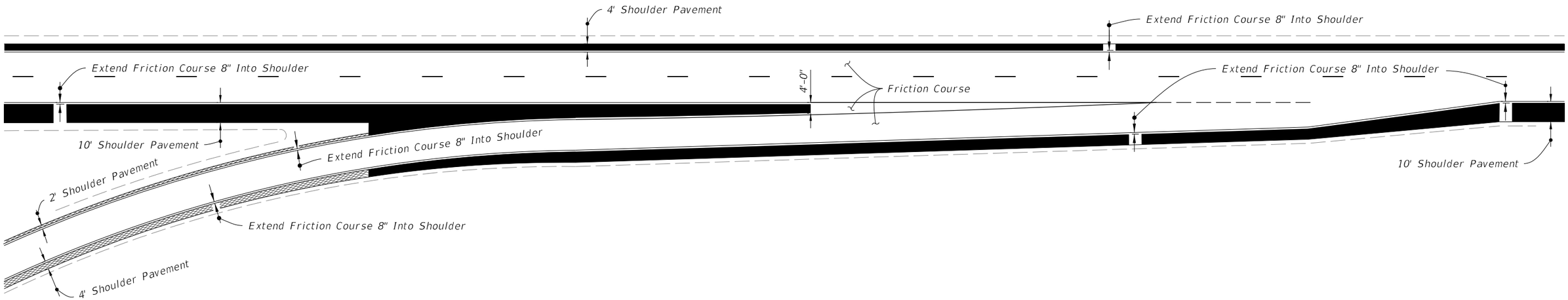
LEGEND:

Shoulder Pavement

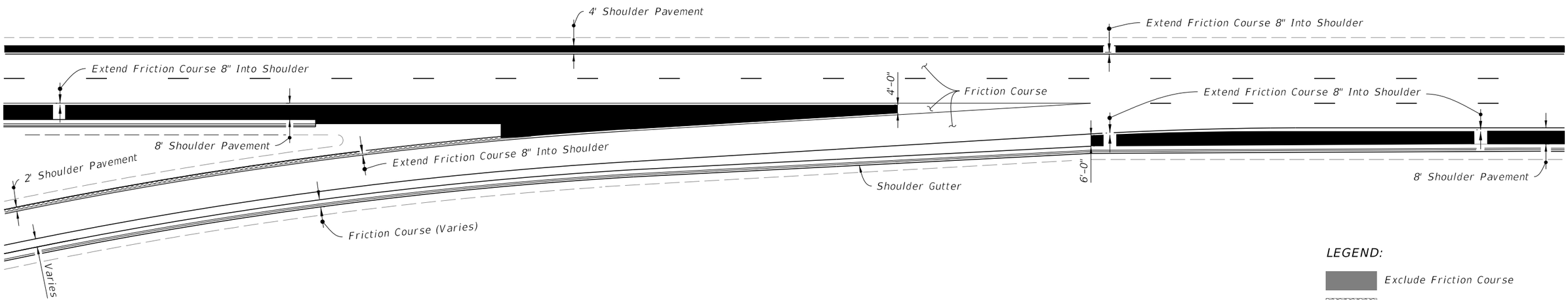
SINGLE LANE RAMPS - ENTRANCE TERMINALS

10/20/2022 8:45:00 AM

LAST REVISION	REVISION	DESCRIPTION:			INDEX	SHEET
11/01/17			FY 2023-24 STANDARD PLANS	RAMP TERMINALS	000-525	4 of 5



TAPER - TYPE ENTRANCE
(Shown Without Shoulder Gutter)



PARALLEL - TYPE ENTRANCE
(Shown With Shoulder Gutter)

10/20/2022 8:45:01 AM

ENTRANCE TERMINALS - FRICTION COURSE LOCATION (FOR FLEXIBLE PAVEMENT)

LAST REVISION	REVISION	DESCRIPTION:	FDOT	FY 2023-24 STANDARD PLANS	RAMP TERMINALS	INDEX	SHEET
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