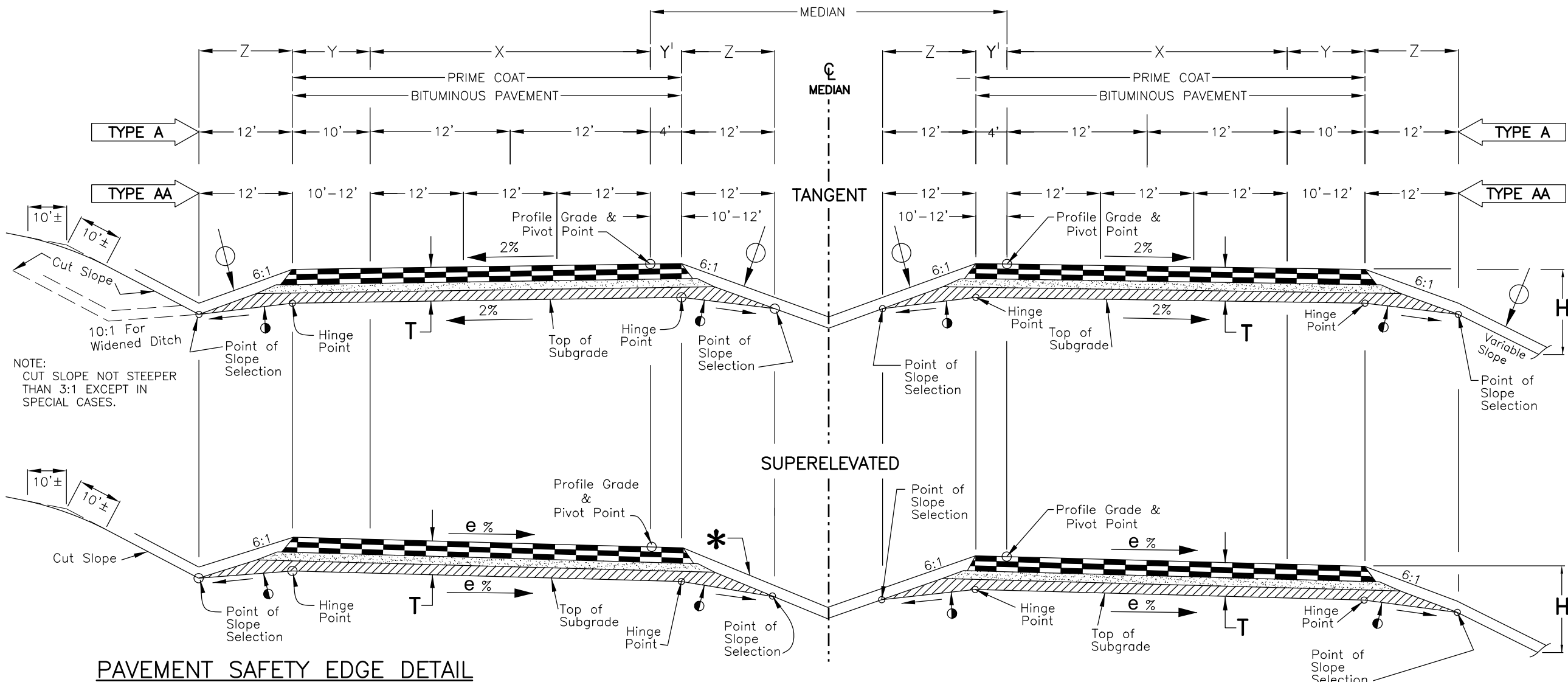


TYPICAL SECTION 6 LANE OR 4 LANE DIVIDED BITUMINOUS PAVEMENT TYPE AA AND A

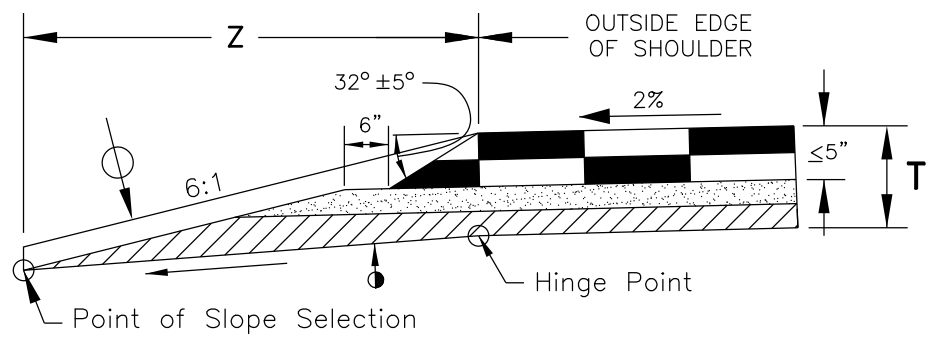
FIGURE 4-1
REVISION DATE: SEPTEMBER 23, 2011



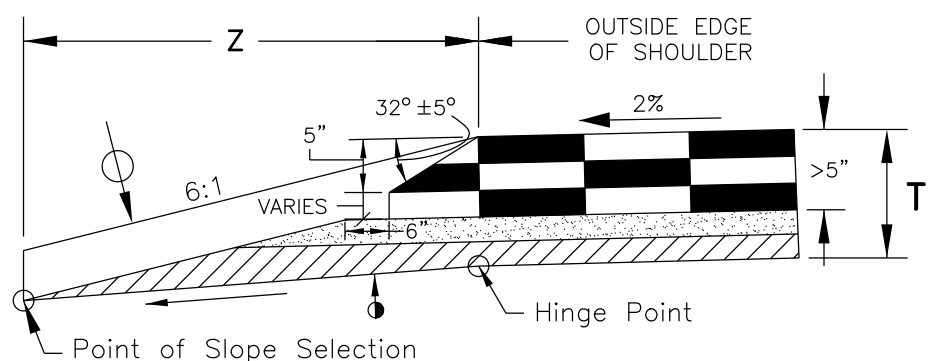
NOTES

1. PAVEMENT THICKNESS DETERMINED BY PAVEMENT DESIGN; SEE CDOT PAVEMENT DESIGN MANUAL.
2. ALL SECTIONS SHOWN ARE SUBJECT TO MODIFICATIONS DEPENDING ON REQUIREMENTS FOR EACH PROJECT.
3. ALL THICKNESSES OF SUBBASE, BASE COURSE AND SURFACE COURSE ARE TO BE SHOWN ON PLANS AS APPROXIMATE.
4. DETAILS OF SPEED CHANGE LANES WILL BE SHOWN ON PLANS.
5. IF ADDITIONAL LANES WILL BE ADDED IN THE FUTURE IN THE MEDIAN AREA, FOR INITIAL MEDIAN WIDTHS OF 54 TO 80 FEET, THE TYPICAL SECTION SHALL PIVOT ABOUT THE MEDIAN ϵ INSTEAD OF THE PROFILE GRADE.
6. SEE TABLE 4-2 FOR FILL SLOPE STANDARDS.
7. INCLUDE APPROPRIATE TYPICAL SECTION GENERAL NOTES.
8. SEE FIGURE 4-3 FOR OTHER MEDIAN TREATMENTS.
9. THE FINISHED SHAPE OF THE SAFETY EDGE SHALL EXTEND FOR THE FULL DEPTH OF THE ASPHALT PAVEMENT OR FOR THE TOP 5 INCHES, WHICHEVER IS LESS.

PAVEMENT SAFETY EDGE DETAIL



PAVEMENT THICKNESS EQUAL OR LESS THAN 5"



PAVEMENT THICKNESS GREATER THAN 5"

DIMENSION TABLE

SECTION TYPE	X	Y	Y'	Z
	FEET			
AA (TRUCK DHV > 250)	36	12	12	12
AA (TRUCK DHV ≤ 250)	36	10	10	12
A	24	10	4	12

FORMULA FOR SUBGRADE Z SLOPE

$$\text{SUBGRADE Z SLOPE (ft./ft.)} = \frac{1}{\text{Z SLOPE}} + \frac{4" - T}{\text{Z WIDTH}}$$

(NOTE: ALL DIMENSIONS FOR FORMULA ARE IN INCHES)

LEGEND

- T = TOTAL THICKNESS OF THE PAVEMENT STRUCTURE FROM TOP OF PAVEMENT TO TOP OF SUBGRADE.
- Tm = MAXIMUM THICKNESS OF T WHICH WILL ALLOW A 50:1 OR STEEPER SLOPE BETWEEN THE HINGE POINT AND THE POINT OF SLOPE SELECTION.
- Tm FOR 12' Z SLOPE @6:1 = 25.12 inches
- e = MAXIMUM SUPERELEVATION AS REQUIRED.
- = SUBGRADE Z SLOPE 50:1 OR STEEPER. (2%)
- = MINIMUM 4" TOPSOIL OR SPECIFIED ALTERNATIVE.
- * = 6:1 OR FLATTER.
- ▨ = HOT MIX ASPHALT
- ▨ = BASE COURSE
- ▨ = SUBBASE

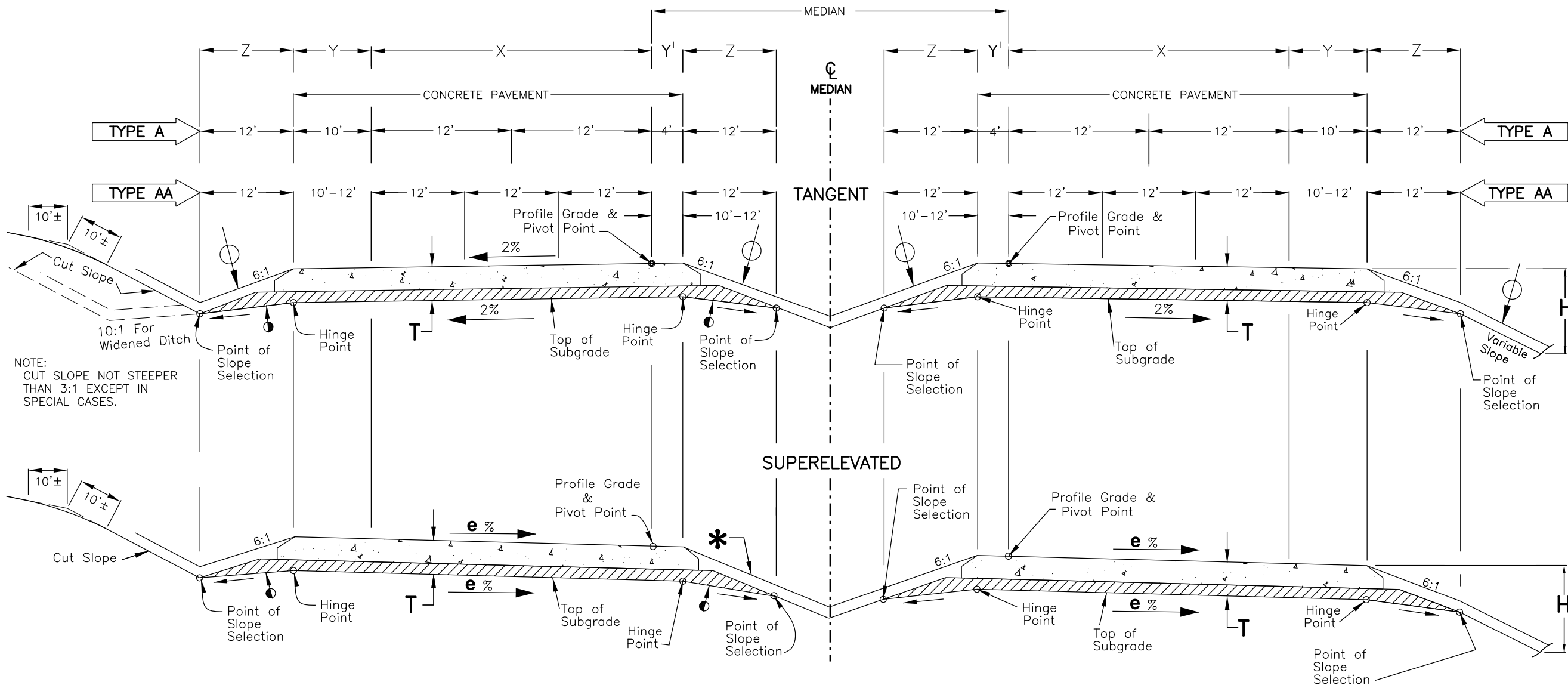
H = THE VERTICAL DISTANCE FROM THE TOP SURFACE OF THE EDGE OF OIL TO THE TOE OF SLOPE.

TYPICAL SECTION 6 LANE OR 4 LANE DIVIDED CONCRETE PAVEMENT TYPE AA AND A

FIGURE 4-2
REVISION DATE: SEPTEMBER 23, 2011

NOTES

1. PAVEMENT THICKNESS DETERMINED BY PAVEMENT DESIGN; SEE CDOT PAVEMENT DESIGN MANUAL.
2. ALL SECTIONS SHOWN ARE SUBJECT TO MODIFICATIONS DEPENDING ON REQUIREMENTS FOR EACH PROJECT.
3. ALL THICKNESSES OF SUBBASE, BASE COURSE AND SURFACE COURSE ARE TO BE SHOWN ON PLANS AS APPROXIMATE.
4. DETAILS OF SPEED CHANGE LANES WILL BE SHOWN ON PLANS.
5. IF ADDITIONAL LANES WILL BE ADDED IN THE FUTURE IN THE MEDIAN AREA, FOR INITIAL MEDIAN WIDTHS OF 54 TO 80 FEET, THE TYPICAL SECTION SHALL PIVOT ABOUT THE MEDIAN ϕ INSTEAD OF THE PROFILE GRADE.
6. SEE TABLE 4-2 FOR FILL SLOPE STANDARDS.
7. INCLUDE APPROPRIATE TYPICAL SECTION GENERAL NOTES.
8. SEE FIGURE 4-3 FOR OTHER MEDIAN TREATMENTS.
9. THE FINISHED SHAPE OF THE SAFETY EDGE SHALL EXTEND FOR THE FULL DEPTH OF THE CONCRETE PAVEMENT OR FOR THE TOP 5 INCHES, WHICHEVER IS LESS.



NOTE: CUT SLOPE NOT STEEPER THAN 3:1 EXCEPT IN SPECIAL CASES.

LEGEND

T = TOTAL THICKNESS OF THE PAVEMENT STRUCTURE FROM TOP OF PAVEMENT TO TOP OF SUBGRADE.

T_m = MAXIMUM THICKNESS OF T WHICH WILL ALLOW A 50:1 OR STEEPER SLOPE BETWEEN THE HINGE POINT AND THE POINT OF SLOPE SELECTION.

T_m FOR 12' Z SLOPE @6:1= 25.12 inches

FOR T GREATER THAN T_m, DIMENSION Z MUST BE INCREASED TO THE DISTANCE AT WHICH A 50:1 SLOPE FROM THE HINGE POINT INTERSECTS THE 6:1 SLOPE FROM THE SHOULDER.

H = THE VERTICAL DISTANCE FROM THE TOP SURFACE OF THE EDGE OF CONCRETE TO THE TOE OF SLOPE.

- e** = MAXIMUM SUPERELEVATION AS REQUIRED.
- = SUBGRADE Z SLOPE 50:1 OR STEEPER. (2%)
- = MINIMUM 4" TOPSOIL OR SPECIFIED ALTERNATIVE.
- *** = 6:1 OR FLATTER.
- = CONCRETE PAVEMENT
- = BASE COURSE
- = SUBBASE

DIMENSION TABLE

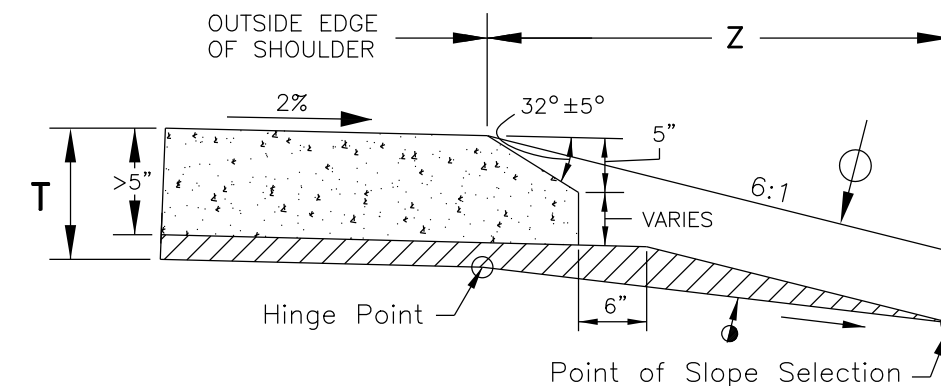
SECTION TYPE	X	Y	Y'	Z
	FEET			
AA (TRUCK DHV > 250)	36	12	12	12
AA (TRUCK DHV ≤ 250)	36	10	10	12
A	24	10	4	12

FORMULA FOR SUBGRADE Z SLOPE

$$\text{SUBGRADE Z SLOPE (ft./ft.)} = \frac{1}{\text{Z SLOPE}} + \frac{4'' - T}{\text{Z WIDTH}}$$

(NOTE: ALL DIMENSIONS FOR FORMULA ARE IN INCHES)

PAVEMENT SAFETY EDGE DETAIL



PAVEMENT THICKNESS GREATER THAN 5"

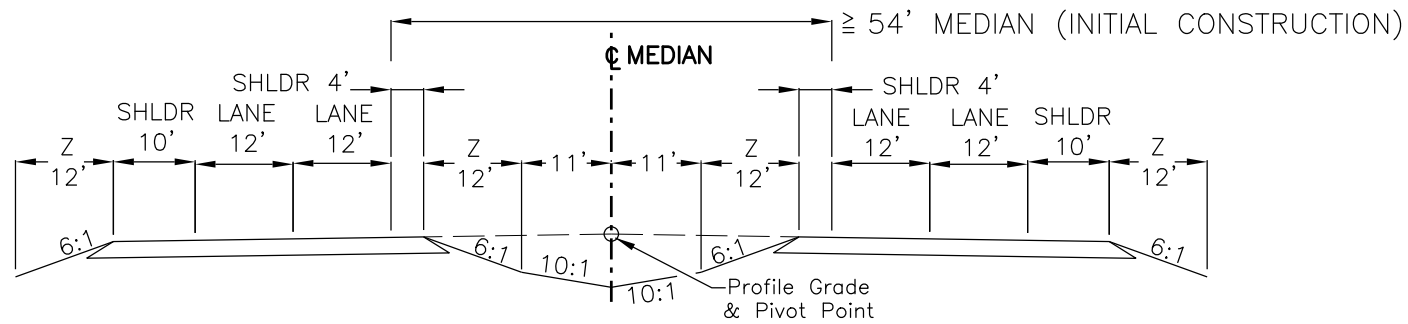
TYPICAL SECTIONS MEDIAN, RAMP, AND FRONTAGE ROAD DETAILS

FIGURE 4-3

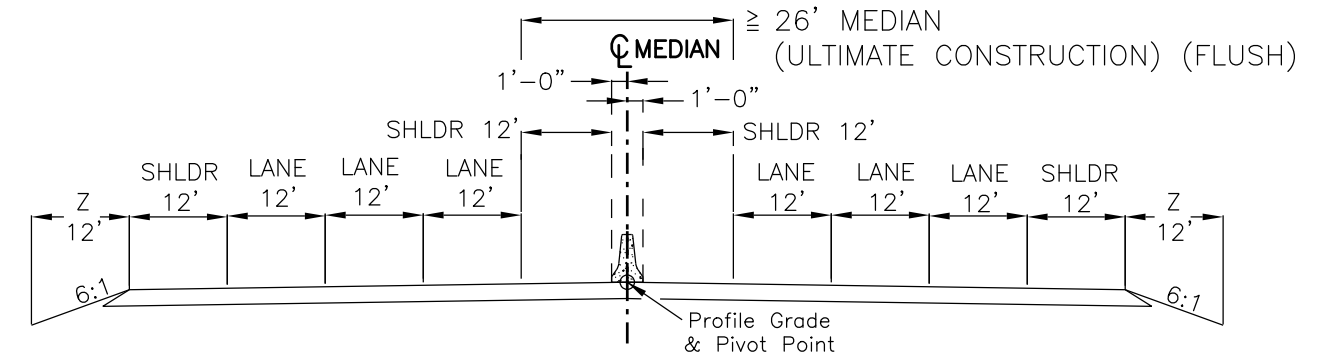
INITIAL AND ULTIMATE CONSTRUCTION LANES TO BE ADDED TO MEDIAN IN FUTURE

REVISION DATE: SEPTEMBER 23, 2011

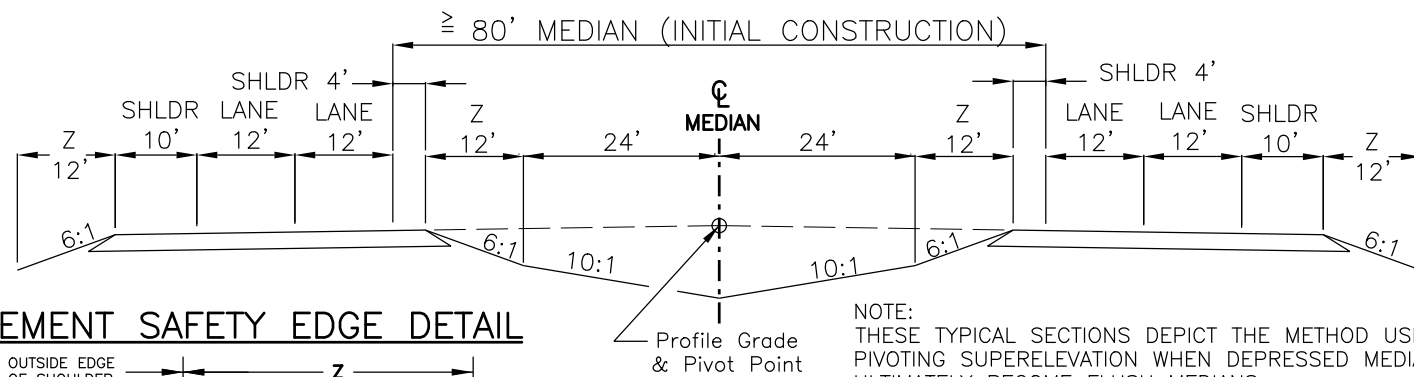
INITIAL CONSTRUCTION : FLUSH MEDIAN



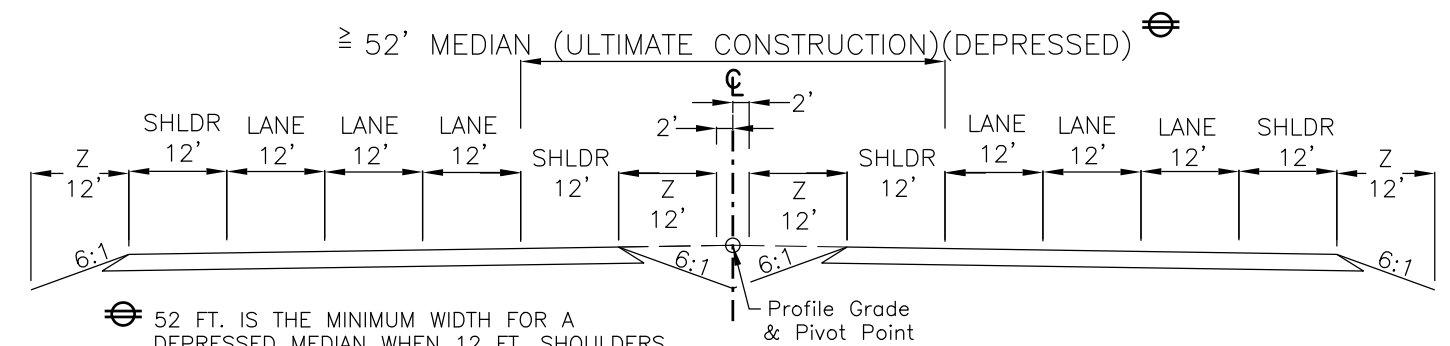
ULTIMATE SECTION : FLUSH MEDIAN



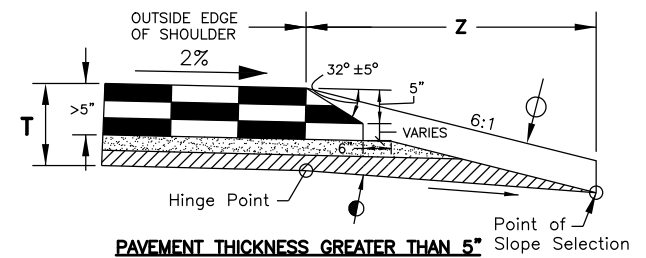
INITIAL CONSTRUCTION : DEPRESSED MEDIAN



ULTIMATE SECTION : DEPRESSED MEDIAN



PAVEMENT SAFETY EDGE DETAIL

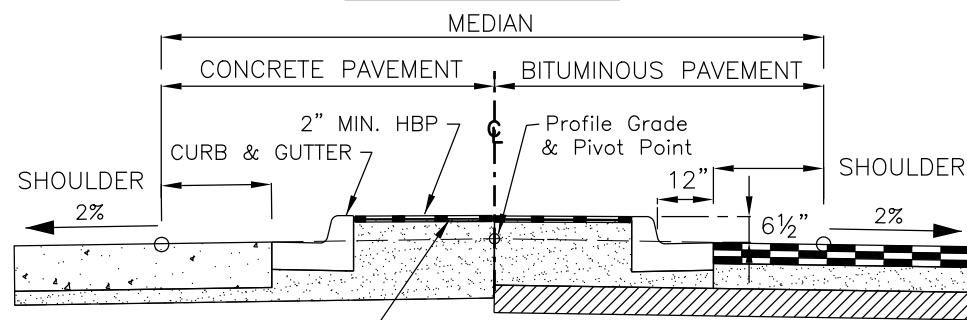


NOTE: THE FINISHED SHAPE OF THE SAFETY EDGE SHALL EXTEND FOR THE FULL DEPTH OF THE ASPHALT PAVEMENT OR FOR THE TOP 5 INCHES, WHICHEVER IS LESS.

NOTE: THESE TYPICAL SECTIONS DEPICT THE METHOD USED FOR PIVOTING SUPERELEVATION WHEN DEPRESSED MEDIANS MAY ULTIMATELY BECOME FLUSH MEDIANS. LANE AND SHOULDER DIMENSIONS SHOWN ON THE "ULTIMATE" TYPICAL SECTIONS ILLUSTRATE MAXIMUM WIDTHS WITH TRUCK TRAFFIC 250 DHV.

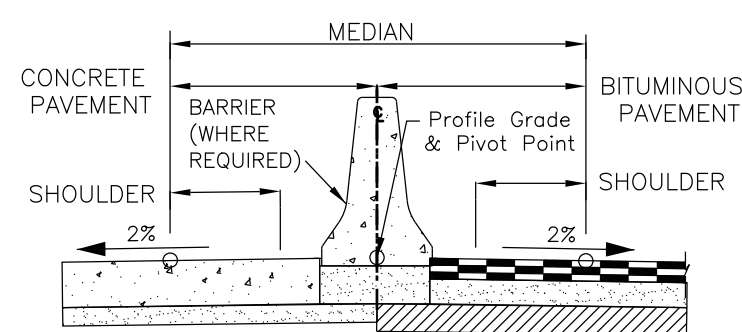
52 FT. IS THE MINIMUM WIDTH FOR A DEPRESSED MEDIAN WHEN 12 FT. SHOULDERS ARE USED. NARROWER ULTIMATE MEDIANS MUST BE PAVED FLUSH.

RAISED MEDIAN

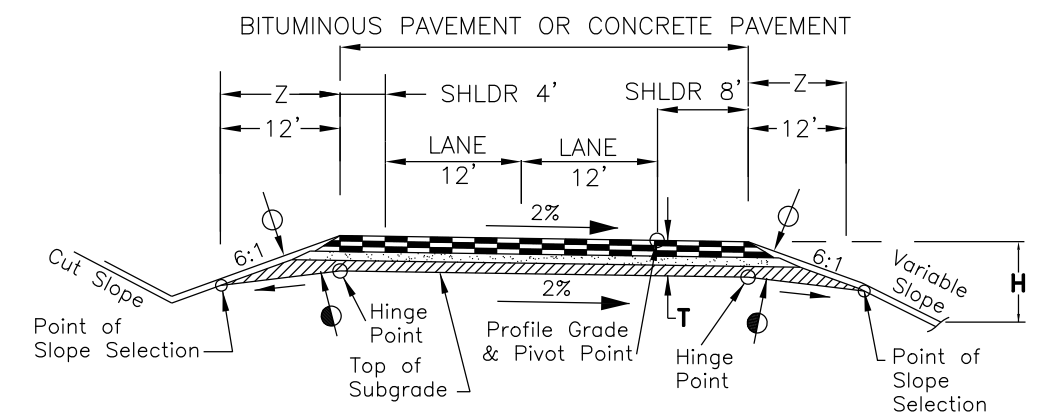


OTHER TYPES OF MEDIAN COVER MATERIAL PERMITTED IN LIEU OF HBP.

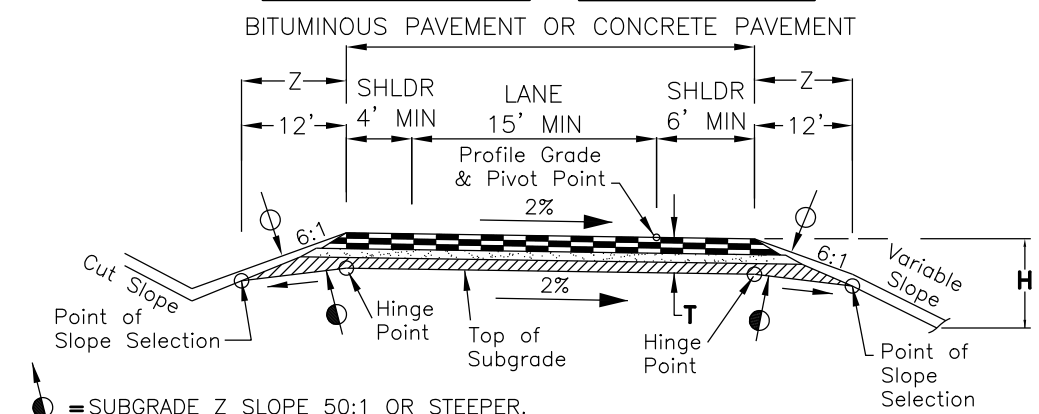
FLUSH MEDIAN



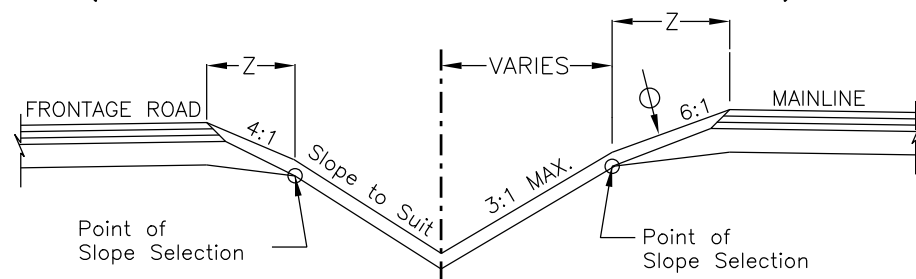
RAMP SECTION 2-LANE EXIT OR ENTRANCE



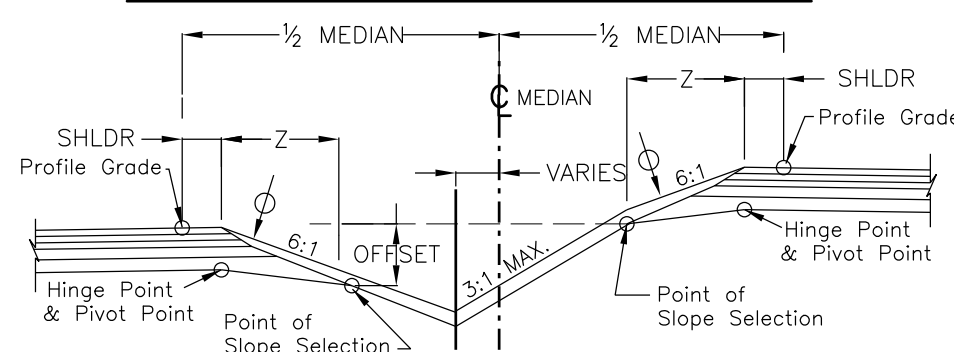
RAMP SECTION SINGLE LANE



FRONTAGE ROAD (HORIZONTAL PROXIMITY TO MAINLINE)

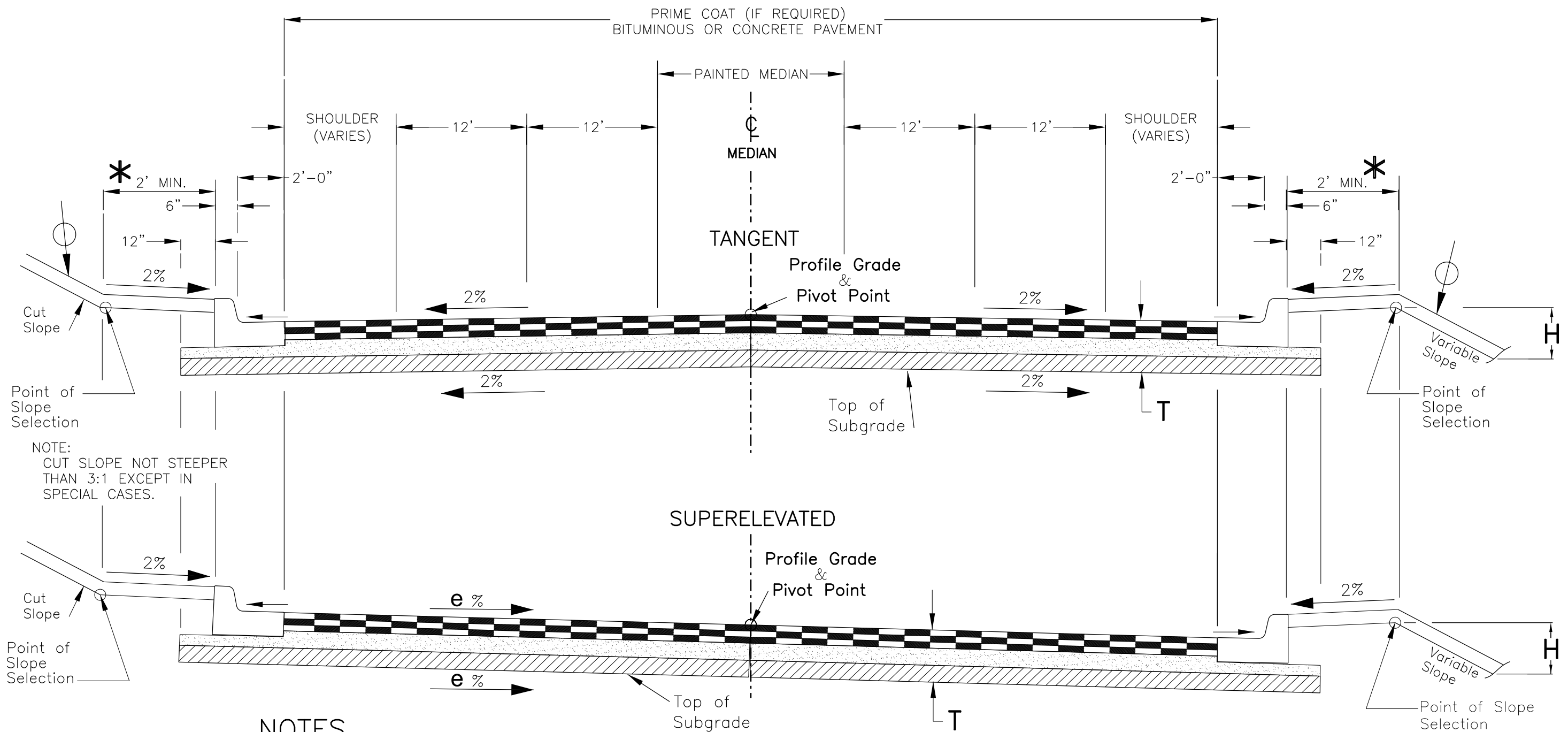


MEDIAN BETWEEN OFFSET ROADWAYS



● = SUBGRADE Z SLOPE 50:1 OR STEEPER. (2%)
○ = MINIMUM 4" TOPSOIL OR SPECIFIED ALTERNATIVE.

TANGENT SECTION



NOTE:
CUT SLOPE NOT STEEPER
THAN 3:1 EXCEPT IN
SPECIAL CASES.

NOTES

1. PAVEMENT THICKNESS DETERMINED BY PAVEMENT DESIGN; SEE CDOT PAVEMENT DESIGN MANUAL.
2. ALL SECTIONS SHOWN ARE SUBJECT TO MODIFICATIONS DEPENDING ON REQUIREMENTS FOR EACH PROJECT.
3. ALL THICKNESSES OF SUBBASE, BASE COURSE AND SURFACE COURSE ARE TO BE SHOWN ON PLANS AS APPROXIMATE.
4. SEE FIGURE 4-3 FOR OTHER MEDIAN TREATMENTS.
5. SEE TABLE 4-2 FOR FILL SLOPE STANDARDS.
6. SHOULDER WIDTH IS VARIABLE. BICYCLE TRAFFIC, SNOW STORAGE AND DRAINAGE SHOULD BE CONSIDERED.

LEGEND

- T** = TOTAL THICKNESS OF THE PAVEMENT STRUCTURE FROM TOP OF PAVEMENT TO TOP OF SUBGRADE.
- H** = THE VERTICAL DISTANCE FROM THE TOP SURFACE OF THE EDGE OF OIL TO THE TOE OF SLOPE.
- e** = MAXIMUM SUPERELEVATION AS REQUIRED.
- = MINIMUM 4" TOPSOIL OR SPECIFIED ALTERNATIVE.
- *** = 4 FOOT DESIRABLE, WIDER IF REQUIRED FOR FUTURE SIDEWALK.
- = HOT MIX ASPHALT
- = BASE COURSE
- = SUBBASE

LEGEND

T = TOTAL THICKNESS OF THE PAVEMENT STRUCTURE FROM TOP OF PAVEMENT TO TOP OF SUBGRADE.

T_m = MAXIMUM THICKNESS OF T WHICH WILL ALLOW A 50:1 OR STEEPER SLOPE BETWEEN THE HINGE POINT AND THE POINT OF SLOPE SELECTION.

T_m FOR 8' Z SLOPE @4:1 = 25.58 inches

T_m FOR 6' Z SLOPE @4:1 = 19.06 inches

T_m FOR 4' Z SLOPE @4:1 = 13.54 inches

T_m FOR 8' Z SLOPE @6:1 = 17.08 inches

T_m FOR 6' Z SLOPE @6:1 = 13.56 inches


T_m FOR 4' Z SLOPE @6:1 = 10.04 inches

FOR T GREATER THAN T_m, DIMENSION Z MUST BE INCREASED TO THE DISTANCE AT WHICH A 50:1 SLOPE FROM THE HINGE POINT INTERSECTS THE 6:1 SLOPE FROM THE SHOULDER.

H = THE VERTICAL DISTANCE FROM THE TOP SURFACE OF THE EDGE OF OIL TO THE TOE OF SLOPE.

e = MAXIMUM SUPERELEVATION AS REQUIRED.


 = SUBGRADE Z SLOPE 50:1 OR STEEPER. (2%)

 = MINIMUM 4" TOPSOIL OR SPECIFIED ALTERNATIVE.


B = MAY INCLUDE BASE, SUBBASE, OR TREATED BASE.


 = SEE TABLE 4-2 FOR FILL SLOPE STANDARDS

 = SHOULDER EXTENSIONS FOR SUPERELEVATED SECTION ARE APPROXIMATELY LEVEL.

 = APPROPRIATE SECTION DETERMINED BY FUNCTIONAL CLASSIFICATION, DESIGN TRAFFIC VOLUMES AND DESIGN SPEED. SEE SECTION 100.

 = HOT MIX ASPHALT

 = BASE COURSE

 = SUBBASE

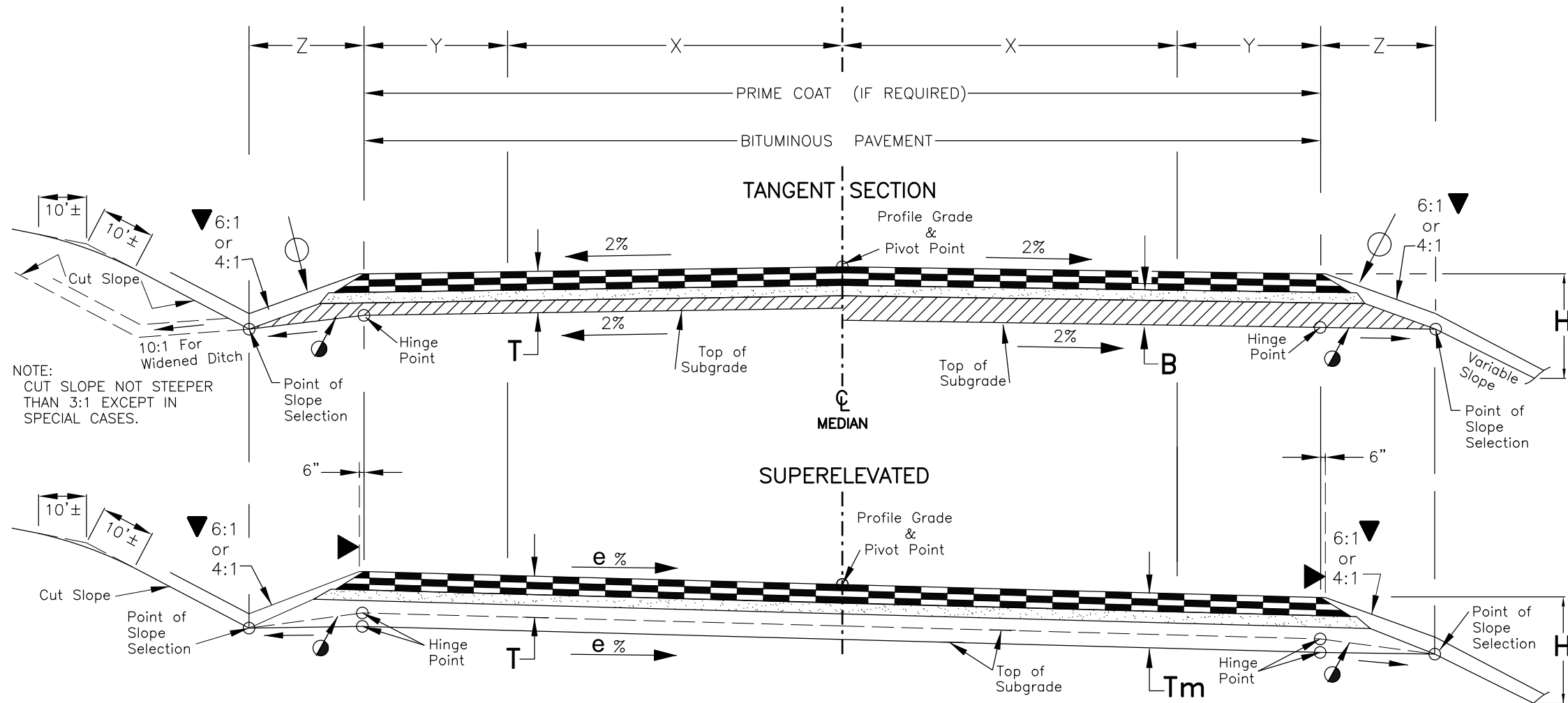
FORMULA FOR SUBGRADE Z SLOPE

SUBGRADE Z SLOPE (ft./FT.) =

$$\frac{(6'')(.020 \text{ ft./FT.}) + (Z \text{ WIDTH} - 6'')\left(\frac{1}{Z \text{ SLOPE}}\right) + 4'' - T}{Z \text{ WIDTH}}$$

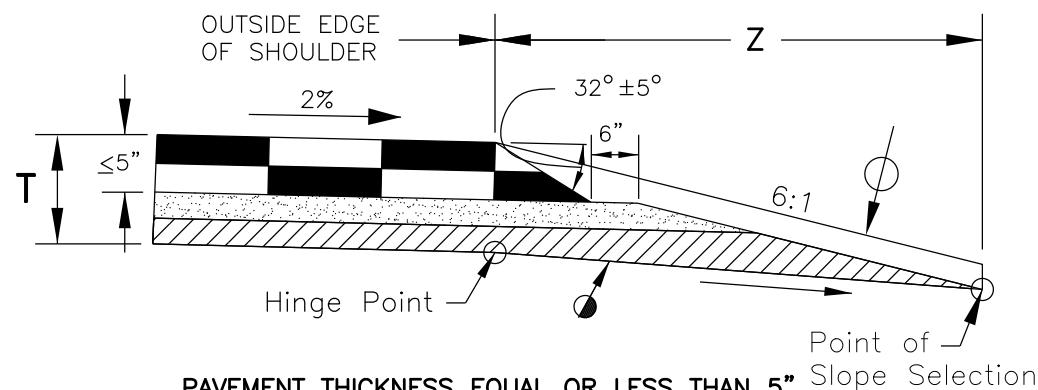
Z WIDTH

(NOTE: ALL DIMENSIONS FOR FORMULA ARE IN INCHES)

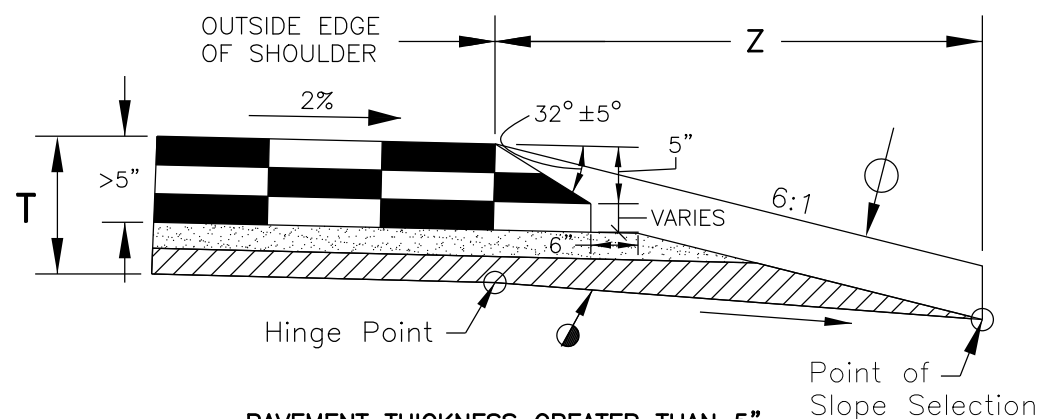


NOTE: CUT SLOPE NOT STEEPER THAN 3:1 EXCEPT IN SPECIAL CASES.

PAVEMENT SAFETY EDGE DETAIL



PAVEMENT THICKNESS EQUAL OR LESS THAN 5"



PAVEMENT THICKNESS GREATER THAN 5"

* DIMENSION TABLE

SECTION TYPE	FEET		
	X	Y	Z
B	12	10	8
B	12	8	8
C	12	6	8
C	11	6	6
D	11	4	6
D	10	4	4

NOTES

1. PAVEMENT THICKNESS DETERMINED BY PAVEMENT DESIGN; SEE CDOT PAVEMENT DESIGN MANUAL.
2. ALL SECTIONS SHOWN ARE SUBJECT TO MODIFICATIONS DEPENDING ON REQUIREMENTS FOR EACH PROJECT.
3. ALL THICKNESSES OF SUBBASE, BASE COURSE AND SURFACE COURSE ARE TO BE SHOWN ON PLANS AS APPROXIMATE.
4. DETAILS OF SPEED CHANGE LANES WILL BE SHOWN ON PLANS.
5. SEE STANDARD PLANS FOR DETAILS OF CUT SLOPE TREATMENT, FLARING AND WIDENING.
6. SEE TABLE 4-2 FOR FILL SLOPE STANDARDS.
7. INCLUDE APPROPRIATE TYPICAL SECTION GENERAL NOTES.
8. THE FINISHED SHAPE OF THE SAFETY EDGE SHALL EXTEND FOR THE FULL DEPTH OF THE ASPHALT PAVEMENT OR FOR THE TOP 5 INCHES, WHICHEVER IS LESS.