



Road & Bridge Design Publications

Monthly Update – July 2026

Revisions for the month of **July** are listed and displayed below and will be included in projects submitted for the **November** letting.

Email road related questions to MDOT-Road-Design-Standards@Michigan.gov.

Email bridge related questions to MDOT-Bridge-Design-Standards@Michigan.gov.

Special Details

R-107-I: Superelevation and Pavement Crowns:

Revised notes to active voice. Shaded alternate rows in the super table for better readability. Added a note on sheet one regarding maintaining a minimum thickness of the lowest sublayer (base or subbase) at the outer edge of the low side of superelevated curves. Eliminated the term “plan grade” from several details. Clarified the high side shoulder transition note on sheet one. In the definition for “W” in the middle of sheet one, added text to remind designers not to include auxiliary lane widths or the extra 2’ in a 14’ wide concrete freeway lane in the value for “W”.

Road Design Manual

Chapter 10:

Reformatted the full chapter to comply with ADA accessibility which includes changing from a two column format to a single column. No other content changes except for what’s noted in this update.

10.02.02 Documents / Definitions:

Updated section to remove references to MDOT form 1775 and replace with the Environmental Classification/Certification which will be supplied by the Environmental Clearance Coordinator.

Chapter 11:

Reformatted the full chapter to comply with ADA accessibility which includes changing from a two column format to a single column and eliminating fully justified text. Other major content changes are listed below.



Road & Bridge Design Publications

11.01: General Information and 11.02: Special Provisions:

Updated sections to comply with Phase II of the Build America/Buy America Act which requires certain construction materials to be made in the U.S and the completion of form 5638 (AASHTOWare Project Construction Materials (APCM)). These updates include revisions to the special provision development processes to ensure advertised projects can meet the new requirements. Also, incorporated changes to the special provision formatting guidelines for compliance with the Americans with Disabilities Act (ADA).

11.01.08: De-Minimis Under Buy America:

New subsection covering the amount (and value) of non-compliant material allowed.

Bridge Design Guides

Please Note:

The Bridge Design Guides are currently being updated to use Arial font for compatibility with Bentley (GEOPAK) and Microsoft Office applications. In addition, sheet borders are being revised to align with current formatting standards. Titles that include symbols are also being revised to replace the symbols with words for increased accessibility. Reformatted guides are being issued as completed; however, they are not included in the Monthly Update publication unless substantive content changes are required. The original "Issued" and "Supersedes" dates are being retained for all reformatted guides in which the content has not changed.

6.29.06: Bridge Railing, Bridge Railing, 2 Tube, 6.29.17: Bridge Railing, 4 Tube Bicycle Railing Option, 6.29.17E: Bridge Railing, 4 Tube – Sidewalk Section Pedestrian Railing Option:

Revised note for water stop to be consistent with other details.

6.29.10A: Bridge Railing, Aesthetic Parapet End Wall Detail:

Redesigned end wall reinforcement to ensure adequate concrete cover.

6.29.10B: Bridge Railing, Aesthetic Parapet End Wall Sections:

Revised end wall cross section details based on new reinforcement layout.

6.29.10C: Bridge Railing, Aesthetic Parapet Tube Sidewalk Section:

Revised note for water stop to be consistent with other details. Updated note symbols and formatting.



Road & Bridge Design Publications

Section 9 Utility Data:

Please note that all Bridge Design Guides are being updated to use Arial font for compatibility with Bentley (GEOPAK) and Microsoft Office applications. In addition, sheet borders are being revised to align with current formatting standards. Titles that include symbols are also being revised to replace the symbols with words for increased accessibility. Reformatted guides are being issued as completed; however, they are not included in the Monthly Update publication unless substantive content changes are required. The original “Issued” and “Supersedes” dates are being retained for all reformatted guides in which the content has not changed.

Updates to the MDOT Cell Library, Sample Plans, and other automated tools may be required in tandem with some of this month’s updates. Until such updates can be made, it is the designer’s/detailer’s responsibility to manually incorporate any necessary revisions to notes and plan details to reflect these revisions.

This document contains complex files, plans, and/or information. If you require assistance accessing this information or require it in an alternative format, contact the Michigan Department of Transportation’s (MDOT) Americans with Disabilities Act (ADA) coordinator at www.Michigan.gov/MDOT-ADA.

Index to Road Special Details

⑥

7-27-2026

SPECIAL DETAIL NUMBER	NUMBER OF SHEETS	TITLE	PLAN DATE
21	2	GUARDRAIL AT INTERSECTIONS	3-17-26
24	8	GUARDRAIL ANCHORED IN BACKSLOPE TYPES 4B, 4T, 7 4MGS-8	3-17-26
99	2	CHAIN LINK FENCE WITH WIRE ROPE	3-17-26
R-22-G	4	COVER V	4-14-25
R-23-F	3	COVER W	4-14-25
R-24-G	3	COVER VG (FOR USE WITH CONCRETE VALLEY GUTTER)	4-14-25
R-32-F	8	APPROACH CURB & GUTTER DOWNSPOUTS	12-5-25
R-32-SD	6	APPROACH CURB & GUTTER DOWNSPOUTS (FOR SAFETY SHAPES)	12-5-25
R-43-J	2	LOCATION OF TRANSVERSE JOINTS IN PLAIN CONCRETE PAVEMENT	2-23-26
R-44-G	7	CONCRETE PAVEMENT REPAIR	3-30-26
R-45-K	2	PAVEMENT REINFORCEMENT FOR BRIDGE APPROACH	1-4-22
R-50-H	6	LIGHT STANDARD FOUNDATION (CONCRETE BARRIER, DOUBLE FACE)	10-30-25
R-53-A	22	TEMPORARY CONCRETE BARRIER LIMITED DEFLECTION	3-30-26
R-54-J	5	CONCRETE BARRIER, SINGLE FACE	12-15-25
R-55-H	5	FILLER WALLS AT BRIDGE PIER COLUMNS	2-23-26
R-56-F	6	GUARDRAIL MEDIAN OBJECT PROTECTION	10-10-23
R-60-J	16	GUARDRAIL TYPES A, B, BD, T, TD, MGS-8, & MGS-8D	1-29-24
R-62-H	5	GUARDRAIL APPROACH TERMINAL TYPE 2M	2-23-26
R-63-C	3	GUARDRAIL APPROACH TERMINAL TYPE 3M	1-6-26
R-66-E	4	GUARDRAIL DEPARTING TERMINAL TYPES B, T, & MGS	2-23-26
R-67-G	16	GUARDRAIL ANCHORAGE, BRIDGE, DETAILS	1-6-26
R-67-SD	6	GUARDRAIL ANCHORAGE, BRIDGE, DETAILS (FOR SAFETY SHAPES)	1-6-26
R-72-D	6	GUARDRAIL LONG SPAN INSTALLATIONS	4-25-25
R-73-F	3	GUARDRAIL OVER BOX OR SLAB CULVERTS	3-30-26
R-76-F	4	CONCRETE GLARE SCREEN	11-4-25
R-80-F	9	GRANULAR BLANKETS, UNDERDRAINS, OUTLET ENDINGS, & BULKHEADS	2-5-26
R-97-D	4	HIGH TENSIL EIGHT WIRE FENCE	1-7-25
R-100-I	4	SEEDING AND TREE PLANTING	11-1-24
*R-107-I	7	SUPERELEVATION AND PAVEMENT CROWNS	7-20-26
R-126-I	5	PLACEMENT OF TEMPORARY CONCRETE & STEEL BARRIER	8-21-25
R-127-I	8	DELINEATOR AND DRAINAGE MARKER INSTALLATIONS	10-24-25
R-130-A	6	LIGHT STANDARD DETAILS	1-6-26
R-135-A	4	TOWER LIGHTING UNIT FOUNDATION	2-21-25

*Denotes New or Revised Special Detail to be included in projects for (beginning with) the November letting

Notes:

Former Standard Plans IV-87, IV-89, IV-90, and IV-91 Series, used for building cast in place concrete head walls for elliptical and circular pipe culverts, are now being replaced with plans that detail each specific size. The Bureau of Bridges & Structures, Structure Design Section, Special Structures Unit will provide special details for inclusion in construction plans for MDOT jobs. To ensure prompt delivery, requests **must be made in advance**. Contact: MDOT-TriezenbergSquad@Michigan.gov

Former Standard Plans IV-93 and IV-94 series have been replaced with precast concrete box & three-sided culverts as per the 2020 Standard Specifications for Construction.

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SPECIAL DETAIL NUMBER	NUMBER OF SHEETS	TITLE	PLAN DATE
B-21-K	4	BRIDGE RAILING, 2 TUBE	9-10-24
B-25-L	8	BRIDGE RAILING, AESTHETIC PARAPET TUBE	9-9-24
B-26-G	8	BRIDGE RAILING, 4 TUBE	9-6-24
B-27-B	7	BRIDGE RAILING, 3 TUBE WITH PICKETS	9-11-24
B-28-A	7	BRIDGE BARRIER RAILING, TYPE 7	5-7-26
B-29-A	8	BRIDGE BARRIER RAILING, TYPE 6	5-7-26
B-41-D	3	FENCING FOR BRIDGE RAILING, AESTHETIC PARAPET TUBE	12-10-25
B-42-A	3	FENCING FOR BRIDGE RAILING, 3 TUBE WITH PICKETS	1-5-26
B-102-D	4	STANDARD SLOPE PAVING DETAILS	9-18-23
B-103-F	2	MOLDING, BEVEL, LIGHT STD. ANCHOR BOLT ASSEMBLY AND NAME PLATE DETAILS	12-8-23
EJ3AG	1 to 5	EXPANSION JOINT DETAILS (See Notes)	4-28-25
EJ4T	1 to 5	EXPANSION JOINT DETAILS (See Notes)	4-28-25
PC-1Q	2	PRESTRESSED CONCRETE I-BEAM DETAILS (See Notes)	12-22-25
PC-2L	2	70" PRESTRESSED CONCRETE I-BEAM DETAILS (See Notes)	12-22-25
PC-4J	2	PRESTRESSED CONCRETE 1800 BEAM DETAILS (See Notes)	12-22-25
PC-5D	2	PRESTRESSED CONCRETE BULB-TEE BEAM DETAILS (See Notes)	12-22-25

*Denotes New or Revised Special Detail to be included in projects for (beginning with) the November letting

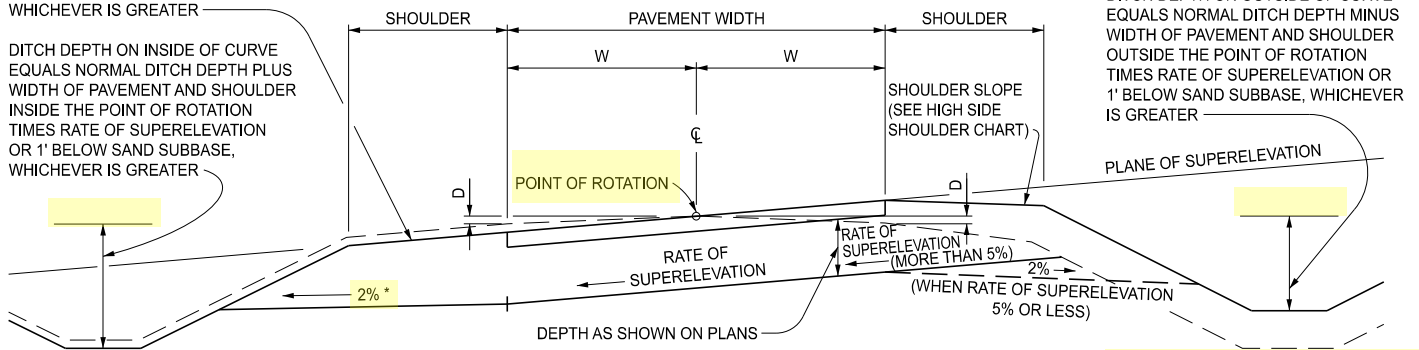
Notes:

Details EJ3AG & EJ4T are interactive, i.e., designers and detailers choose details based upon railing type and angle of crossing and fill in the project specific dimensions for the end plate. Place all details appropriate for the project (including the end plate), structure specific information, and the Expansion Joint Device quantity on the sheet(s). Add the sheet(s) to the plans as normal plan sheets. Call out and designate the location of the expansion joint device and the end plate on the Superstructure Sheet in the plan set. Include Rail Splice Detail sheet with all plans including an Expansion Joint Device.

Details PC-1Q, PC-2L, PC-4J, and PC-5D shall have structure specific information and quantities added to the sheet. The sheet shall then be added to the plans as a normal plan sheet.

SHOULDER SLOPE EQUALS THE RATE OF SUPERELEVATION OR THE NORMAL SHOULDER SLOPE WHICHEVER IS GREATER

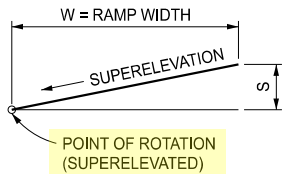
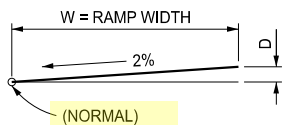
DITCH DEPTH ON INSIDE OF CURVE EQUALS NORMAL DITCH DEPTH PLUS WIDTH OF PAVEMENT AND SHOULDER INSIDE THE POINT OF ROTATION TIMES RATE OF SUPERELEVATION OR 1' BELOW SAND SUBBASE, WHICHEVER IS GREATER



* ON THE LOW SIDE OF SUPERELEVATED CURVES WHERE $e > 2\%$, MAINTAIN A MINIMUM 3" OUTER EDGE THICKNESS FOR THE LOWEST SUBLAYER (BASE OR SUBBASE). WHERE THE LOWEST SUBLAYER THICKNESS DROPS BELOW 3 INCHES, ADJUST THE SUBGRADE SLOPE OR LAYER CONFIGURATION TO MAINTAIN A 3" EDGE THICKNESS.

NOTE: ENSURE SUBGRADE DRAINAGE IS AS SHOWN ON TYPICAL CROSS SECTIONS.

SUPERELEVATED FINISHED SECTION (TWO-WAY SHOWN)



RAMPS

LEGEND

- NC = NORMAL CROWN RATE
- W = DISTANCE IN FEET FROM POINT OF ROTATION TO FARTHEST OUTSIDE EDGE (DOES NOT INCLUDE AUXILIARY LANE WIDTHS OR THE EXTRA 2' IN A 14' WIDE CONCRETE FREEWAY LANE)
- e = RATE OF SUPERELEVATION
- $S = W \times e$
- C = CROWN RUNOUT / TANGENT RUNOUT (ADVERSE CROWN REMOVED)
- L = TRANSITION LENGTH OR SUPERELEVATION RUNOFF OF INSIDE OR OUTSIDE EDGE OF PAVEMENT
- $\Delta\%$ = SUPERELEVATION TRANSITION SLOPE OF PAVEMENT EDGES

HIGH SIDE SHOULDER CHART

WHEN RATE OF FULL SUPERELEVATION IS	SHOULDER SLOPE AT FULL SUPERELEVATION EQUALS
FROM 2% TO 3%	RATE OF SUPERELEVATION MINUS NORMAL SHOULDER SLOPE
3% TO AND INCLUDING 5%	
OVER 5%	

NOTES:

THE CROWN POINT AND POINT OF ROTATION WILL NORMALLY BE AT THE CENTER OF TWO-LANE AND FOUR-LANE UNDIVIDED PAVEMENTS AND AT THE EDGE OF AN INSIDE LANE OF FIVE-LANE UNDIVIDED PAVEMENTS. THE POINT OF ROTATION WILL NORMALLY BE AT THE INSIDE EDGES OF DIVIDED PAVEMENTS.

REMOVE THE CROWN IN SUPERELEVATED SECTIONS.

ON URBAN SERVICE ROADS AND URBAN FREE ACCESS TRUNKLINE CURVES WHERE DRIVEWAYS ARE PREVALENT, AND WHERE NORMAL SUPERELEVATION CANNOT BE OBTAINED, A MINIMUM OF 1.5% TO 2% SUPERELEVATION IN THE DIRECTION OF THE CURVE MAY BE USED TO REMOVE THE ADVERSE CROWN.

DESIGN MODIFICATION OF TRANSITIONS, POINT OF ROTATION, AND CROWNS MAY BE NECESSARY TO IMPROVE RIDE QUALITY AND APPEARANCE.

THE LOCATION, LENGTH OF SUPERELEVATION TRANSITIONS, CROWN RUNOFF LENGTHS, SUPERELEVATION RATES, AND POINT OF ROTATION WILL BE AS SPECIFIED ON THE PLANS.

SPIRAL LENGTHS WILL BE EQUAL TO OR LONGER THAN TRANSITION SLOPE LENGTHS.

USE SPIRAL TRANSITIONS ON NEW ALIGNMENTS, BASED ON THE DESIGN SPEED OF THE CURVE AND THE RADIUS AS SHOWN IN THE TABLE. THE TABLE GIVES THE MAXIMUM RADIUS IN WHICH A SPIRAL SHOULD BE USED.

BEGIN THE HIGH SIDE SHOULDER TRANSITION AT THE PAVEMENT CROWN RUN OUT POINT (CROWN REMOVED). TRANSITION THE SHOULDER OVER THE DISTANCE "L" (AS CALCULATED FOR THE SUPERELEVATION TRANSITION) TO THE SHOULDER SLOPE RATE REQUIRED AT FULL PAVEMENT SUPERELEVATION. FOR RAMPS WITH SAME DIRECTION CROWN, USE THE ACTUAL "L" DISTANCE FOR THE SHOULDER CROSS SLOPE TRANSITION.

IF THE RATE OF FULL PAVEMENT SUPERELEVATION IS GREATER THAN THE NORMAL SHOULDER SLOPE, BEGIN THE LOW SIDE SHOULDER TRANSITION WHEN THE PAVEMENT REACHES THE SAME PLANE AND SLOPE RATE AS THE NORMAL SHOULDER.

WHEN TRANSITIONING THE SHOULDER SLOPE TO/FROM A BRIDGE SECTION, CALCULATE THE TRANSITION DISTANCE USING THE SUPERELEVATION TRANSITION SLOPE ($\Delta\%$) REQUIRED FOR THE CURVE, OR IN TANGENT SECTIONS, USE THE MINIMUM VALUE FOR SUPERELEVATION TRANSITION SLOPE ($\Delta\%$) GIVEN IN THE TABLE, IN THE COLUMN FOR THE SPEED OF THE ROADWAY. (TRANSITION DISTANCE = SHOULDER WIDTH $\times$ (RATE OF BRIDGE SHOULDER SUPERELEVATION MINUS RATE OF ROAD SHOULDER SUPERELEVATION) $\times 100 / \Delta\%$)

APPROVED BY: _____
DIRECTOR, BUREAU OF FIELD SERVICES

APPROVED BY: _____
DIRECTOR, BUREAU OF DEVELOPMENT



DEPARTMENT DIRECTOR
BRADLEY C. WIEFERICH, PE

STANDARD PLAN FOR SUPERELEVATION AND PAVEMENT CROWNS

(SPECIAL DETAIL)
FHWA APPROVAL

07/20/2026
PLAN DATE

R-107-I

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RATE OF SUPERELEVATION AND SUPERELEVATION TRANSITION SLOPE

RADIUS (FEET)	30 MPH		35 MPH		40 MPH		45 MPH		50 MPH		55 MPH		60 MPH		65 MPH		FREEWAYS				URBAN FREEWAYS AND URBAN RAMPS	
																	70 MPH		75 MPH		60 MPH	
	e%	Δ%	e%	Δ%	e%	Δ%	e%	Δ%	e%	Δ%	e%	Δ%	e%	Δ%	e%	Δ%	e%	Δ%	e%	Δ%	e%	Δ%
23000	NC	---	NC	----	NC	---	NC	----	NC	----	NC	---	NC	----	NC	---	NC	----	NC	----	NC	---
20000	NC	---	NC	----	NC	---	NC	----	NC	----	NC	---	NC	----	NC	---	NC	----	NC	----	NC	---
17000	NC	---	NC	----	NC	---	NC	----	NC	----	NC	---	NC	----	NC	---	NC	----	NC	----	NC	---
14000	NC	---	NC	----	NC	---	NC	----	NC	----	NC	---	NC	----	NC	---	2.0	0.31	2.0	0.30	NC	---
12000	NC	---	NC	----	NC	---	NC	----	NC	----	NC	---	NC	----	2.0	0.32	2.0	0.31	2.0	0.30	NC	---
10000	NC	---	NC	----	NC	---	NC	----	NC	----	NC	---	2.0	0.36	2.0	0.32	2.1	0.31	2.3	0.31	2.0	0.34
8000	NC	---	NC	----	NC	---	NC	----	2.0	0.40	2.0	0.38	2.1	0.36	2.3	0.33	2.6	0.32	2.9	0.31	2.0	0.34
6000	NC	---	NC	----	NC	---	2.0	0.40	2.0	0.40	2.3	0.39	2.7	0.37	3.0	0.34	3.3	0.33	3.7	0.33	2.4	0.36
5000	NC	---	NC	----	2.0	0.40	2.0	0.40	2.3	0.41	2.7	0.39	3.1	0.38	3.5	0.35	3.9	0.34	4.4	0.34	2.8	0.37
4000	NC	---	2.0	0.45	2.0	0.40	2.4	0.41	2.8	0.42	3.3	0.40	3.8	0.39	4.2	0.37	4.7	0.36	5.3	0.35	3.3	0.39
3500	NC	---	2.0	0.45	2.2	0.41	2.6	0.42	3.1	0.42	3.6	0.41	4.2	0.40	4.7	0.38	5.2	0.37	5.9	0.36	3.5	0.40
3000	2.0	0.50	2.0	0.45	2.5	0.42	3.0	0.43	3.5	0.43	4.1	0.42	4.7	0.41	5.2	0.39	5.9	0.38	6.5	0.37	3.8	0.41
2500	2.0	0.50	2.4	0.46	2.9	0.43	3.5	0.44	4.1	0.44	4.7	0.43	5.3	0.42	5.9	0.41	6.5	0.39	7.0	0.38	4.2	0.42
2000	2.3	0.51	2.9	0.48	3.5	0.45	4.1	0.46	4.7	0.45	5.4	0.44	6.1	0.43	6.6	0.42	7.0	0.40	R MIN = 2344'		4.6	0.44
1800	2.5	0.52	3.1	0.49	3.8	0.46	4.4	0.47	5.1	0.46	5.7	0.45	6.4	0.44	6.9	0.43	R MIN = 1922'				4.8	0.44
1600	2.7	0.52	3.4	0.50	4.1	0.48	4.8	0.48	5.4	0.47	6.1	0.45	6.7	0.44	7.0	0.43					4.9	0.45
1400	3.0	0.53	3.7	0.51	4.5	0.49	5.1	0.49	5.8	0.48	6.5	0.46	6.9	0.45	R MIN = 1565'						R MIN = 1412'	
1200	3.4	0.54	4.1	0.52	4.9	0.50	5.6	0.50	6.3	0.49	6.8	0.47	R MIN = 1263'									
1150	3.5	0.55	4.3	0.53	5.0	0.51	5.7	0.50	6.4	0.49	6.9	0.47										
1000	3.8	0.56	4.6	0.54	5.4	0.52	6.1	0.52	6.7	0.49	R MIN = 1008'											
900	4.1	0.57	4.8	0.55	5.7	0.53	6.4	0.52	6.9	0.50												
820	4.3	0.57	5.1	0.55	5.9	0.54	6.6	0.53	7.0	0.50												
800	4.4	0.58	5.1	0.56	6.0	0.54	6.7	0.53	7.0	0.50												
720	4.6	0.58	5.4	0.57	6.3	0.55	6.9	0.54	R MIN = 794'													
700	4.7	0.59	5.5	0.57	6.3	0.56	6.9	0.54														
600	5.0	0.60	5.9	0.58	6.7	0.57	R MIN = 614'															
500	5.4	0.61	6.4	0.60	7.0	0.58																
450	5.7	0.62	6.6	0.61	R MIN = 464'																	
400	6.0	0.63	6.8	0.61																		
350	6.3	0.64	7.0	0.62																		
300	6.7	0.65	R MIN = 327'																			
265	6.9	0.66																				
225	7.0	0.66																				
	R MIN = 222'																					

NOTES:

USE A 7% RATE OF SUPERELEVATION FOR LOOP RAMPS

LIMIT THE RATE OF SUPERELEVATION FOR CURVES APPROACHING RAMP TERMINALS (STOPPING CONDITION) TO 5% MAX.

IF DELTA VALUES FROM THE CHART CANNOT BE OBTAINED FOR THE DESIGN RADIUS, USE THE MAXIMUM DELTA VALUE FOR THE CORRESPONDING SPEED.

FOR RADII LESS THAN THOSE TABULATED, (BUT NOT LESS THAN R MIN.), USE e_{max} . MAXIMUM SUPERELEVATION FOR URBAN FREEWAYS AND URBAN RAMPS (WITH A 60 MPH DESIGN SPEED) IS 5%, OTHERWISE e_{max} = 7% .



DEPARTMENT DIRECTOR
BRADLEY C. WIEFERICH, PE

STANDARD PLAN FOR SUPERELEVATION AND PAVEMENT CROWNS

(SPECIAL DETAIL)
FHWA APPROVAL

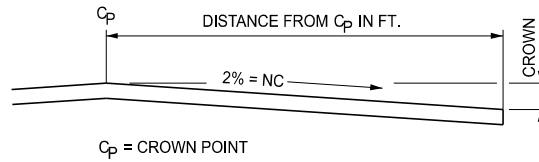
07/20/2026
PLAN DATE

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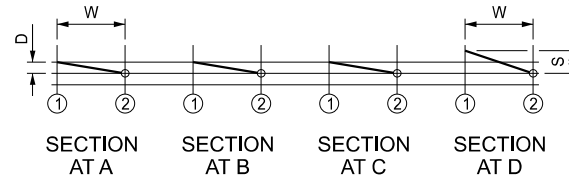
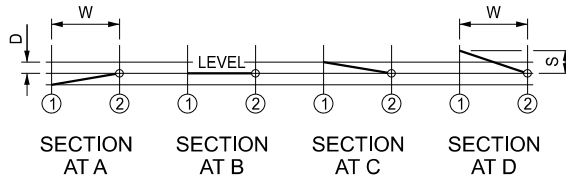
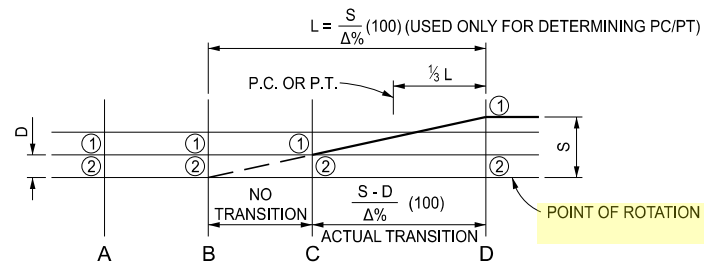
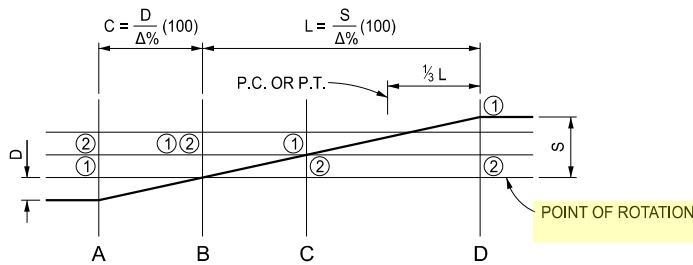
SHEET
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ABBREVIATIONS FOR
SPIRALED RAMP AND ROADWAYS:

T.S. = TANGENT TO SPIRAL
S.T. = SPIRAL TO TANGENT
C.S. = CURVE TO SPIRAL
S.C. = SPIRAL TO CURVE

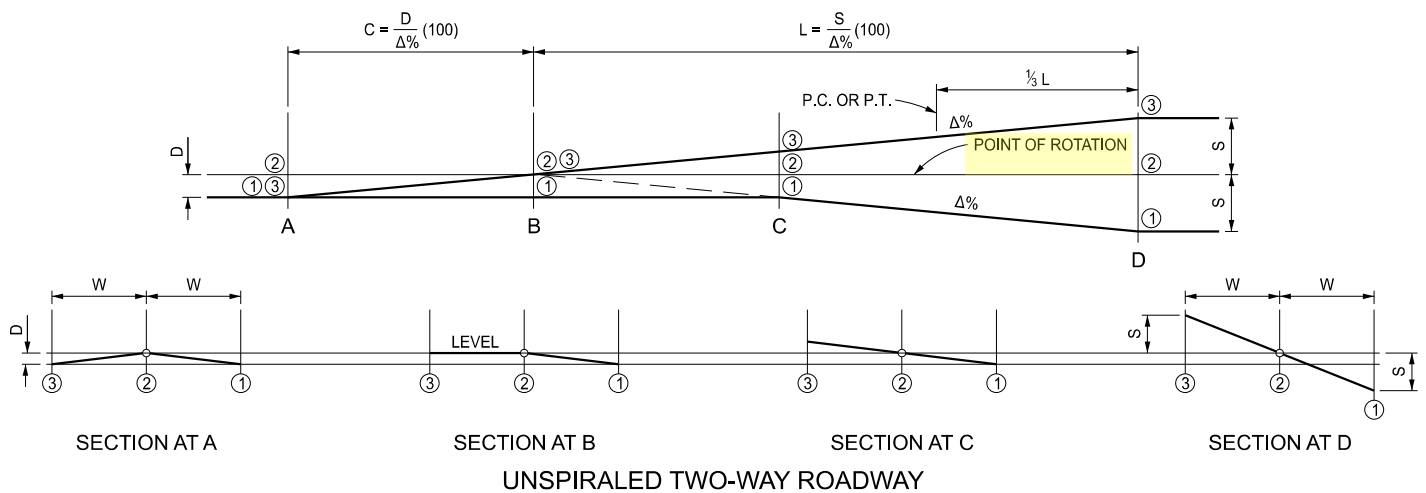


SPIRAL CURVE TRANSITIONS			
DESIGN SPEED (MPH)	MAXIMUM RADIUS (FEET)	DESIGN SPEED (MPH)	MAXIMUM RADIUS (FEET)
30	456	60	1822
35	620	65	2138
40	810	70	2479
45	1025	75	2846
50	1265	80	3238
55	1531		



UNSPIRALED RAMP (CROWN ADVERSE TO SUPER)

UNSPIRALED RAMP (CROWN SAME DIRECTION AS SUPER)



DEPARTMENT DIRECTOR
BRADLEY C. WIEFERICH, PE

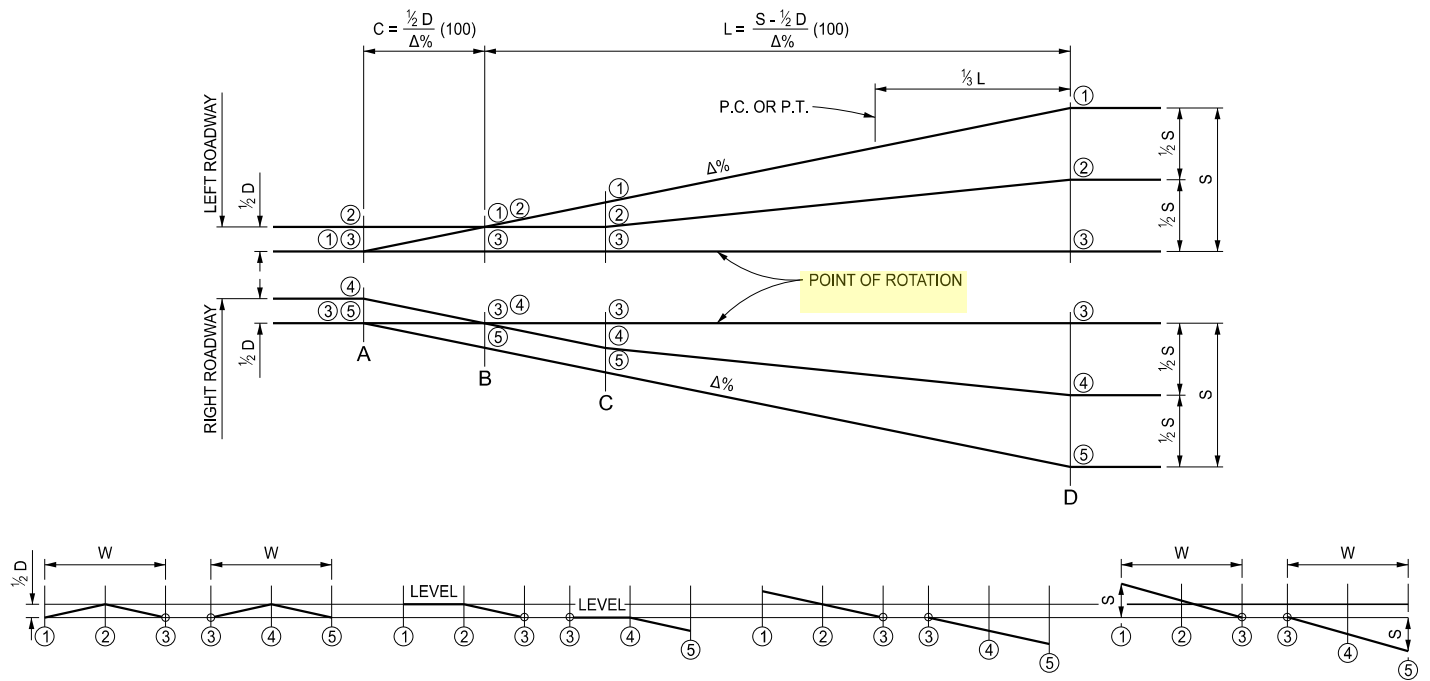
STANDARD PLAN FOR
SUPERELEVATION AND PAVEMENT CROWNS

(SPECIAL DETAIL)
FHWA APPROVAL

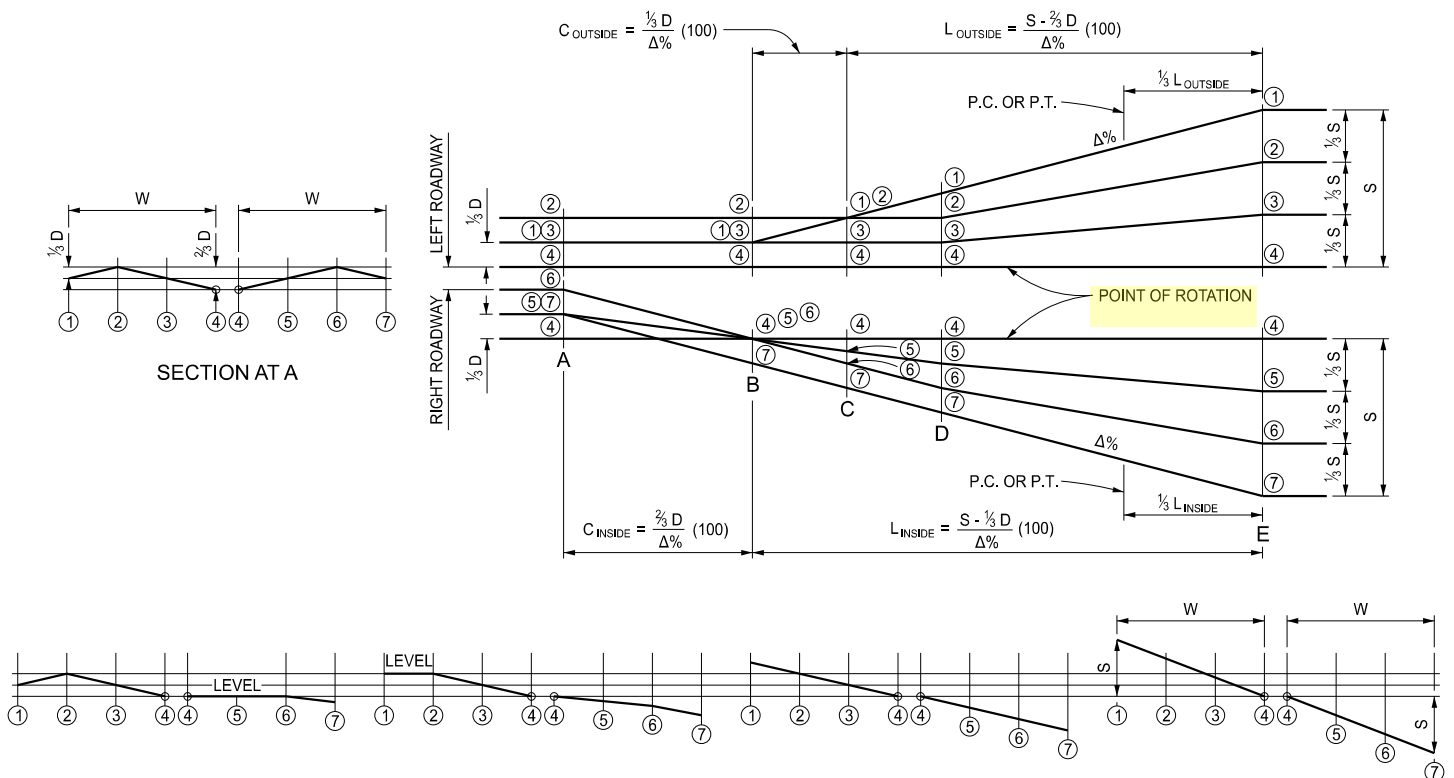
07/20/2026
PLAN DATE

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UNSPIRALED FOUR LANE DIVIDED ROADWAY



UNSPIRALED SIX LANE DIVIDED ROADWAY



DEPARTMENT DIRECTOR
BRADLEY C. WIEFERICH, PE

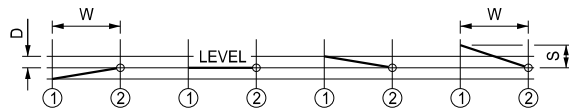
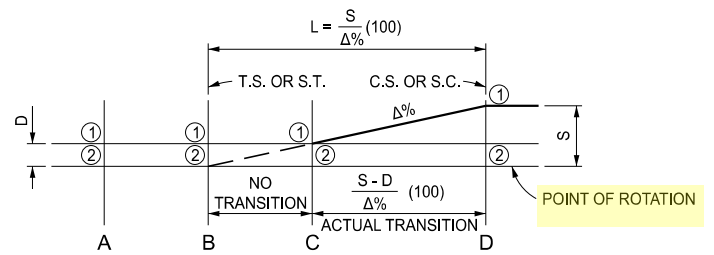
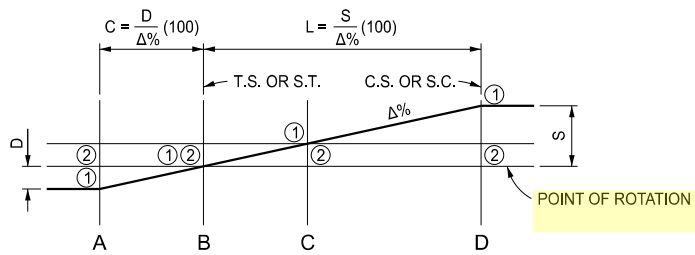
STANDARD PLAN FOR
SUPERELEVATION AND PAVEMENT CROWNS

(SPECIAL DETAIL)
FHWA APPROVAL

07/20/2026
PLAN DATE

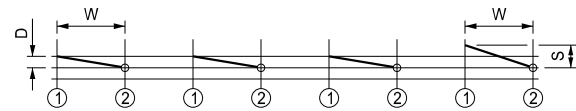
R-107-I

SHEET
4 OF 7



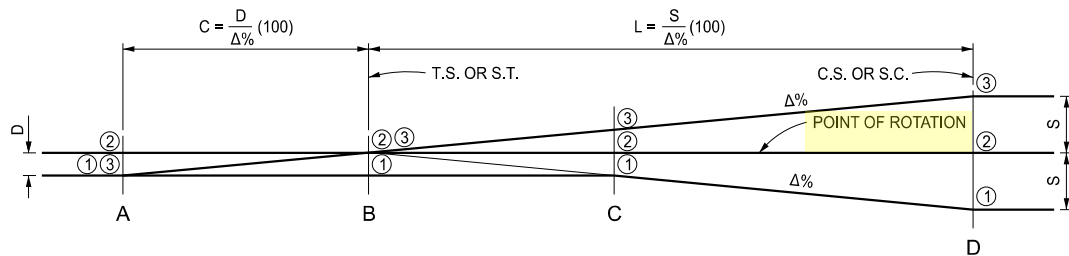
SECTION AT A SECTION AT B SECTION AT C SECTION AT D

SPIRALED RAMP (CROWN ADVERSE TO SUPER)



SECTION AT A SECTION AT B SECTION AT C SECTION AT D

SPIRALED RAMP (CROWN SAME DIRECTION AS SUPER)



SECTION AT A

SECTION AT B

SECTION AT C

SECTION AT D

SPIRALED TWO-WAY ROADWAY



DEPARTMENT DIRECTOR
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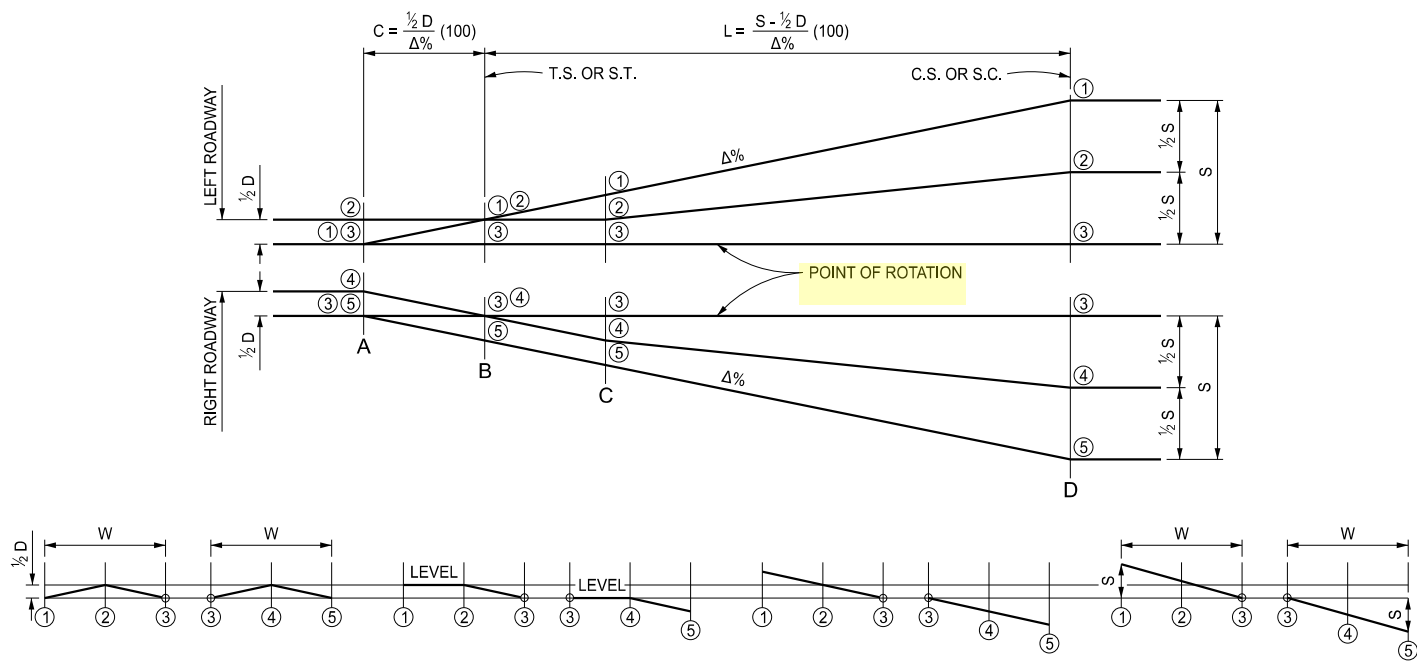
STANDARD PLAN FOR
SUPERELEVATION AND PAVEMENT CROWNS

(SPECIAL DETAIL)
FHWA APPROVAL

07/20/2026
PLAN DATE

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5 OF 7



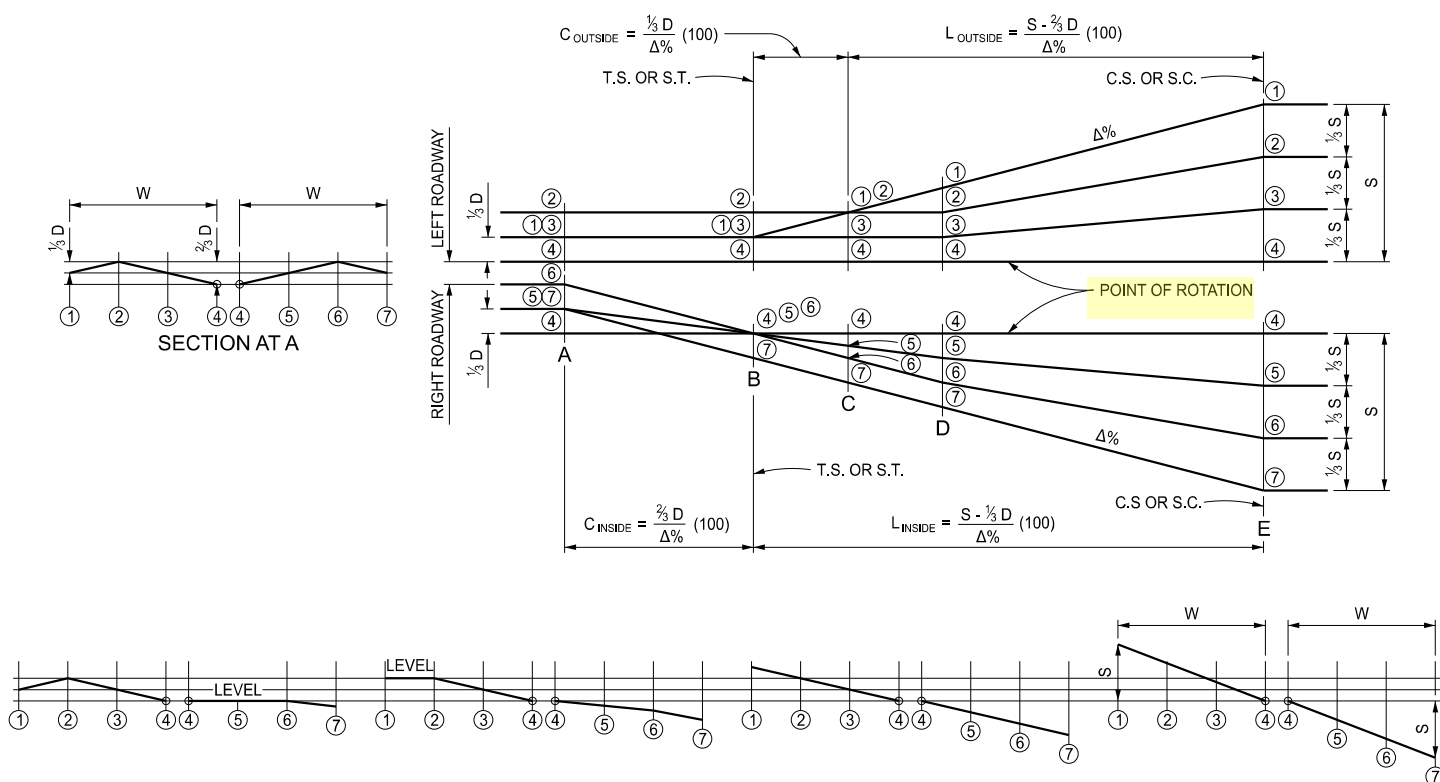
SECTION AT A

SECTION AT B

SECTION AT C

SECTION AT D

SPIRALED FOUR LANE DIVIDED ROADWAY



SECTION AT B

SECTION AT C

SECTION AT D

SECTION AT E

SPIRALED SIX LANE DIVIDED ROADWAY



DEPARTMENT DIRECTOR
BRADLEY C. WIEFERICH, PE

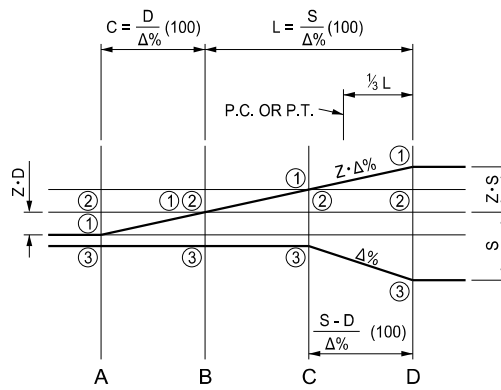
STANDARD PLAN FOR SUPERELEVATION AND PAVEMENT CROWNS

(SPECIAL DETAIL)
FHWA APPROVAL

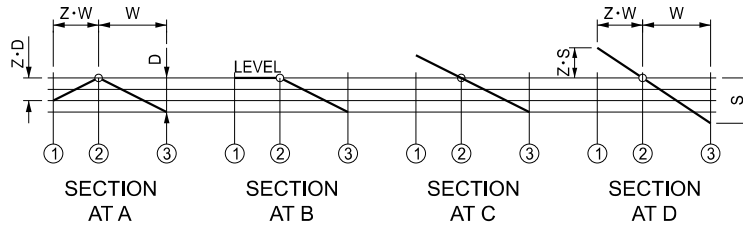
07/20/2026
PLAN DATE

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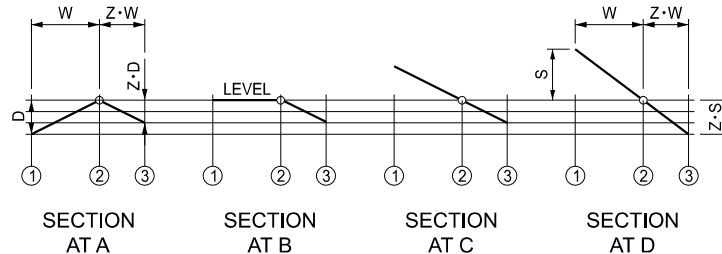
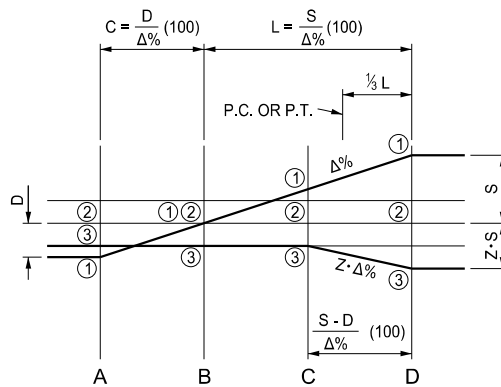
SHEET
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Z VALUES FOR UNSPIRALED TWO WAY ROADWAYS WITH AN ODD NUMBER OF LANES	
NUMBER OF LANES	Z
3	$\frac{1}{2}$
5	$\frac{2}{3}$
7	$\frac{3}{4}$



UNSPIRALED TWO WAY ROADWAY WITH ODD NUMBER OF LANES
(FARTHEST EDGE ON LOW SIDE)



UNSPIRALED TWO WAY ROADWAY WITH ODD NUMBER OF LANES
(FARTHEST EDGE ON HIGH SIDE)



DEPARTMENT DIRECTOR
BRADLEY C. WIEFERICH, PE

STANDARD PLAN FOR
SUPERELEVATION AND PAVEMENT CROWNS

(SPECIAL DETAIL)
FHWA APPROVAL

07/20/2026
PLAN DATE

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10.02.02 Documents / Definitions

(revised 7-27-2026)

There are three levels of analysis: categorical exclusion, environmental assessment, and environmental impact statement.

10.02.02A Categorical Exclusion

Most projects are cleared through the Categorical Exclusion (CE) process. This process consists of a cursory examination of the proposed scope of work by specialists in the Environmental Services Section. If there are no apparent “significant” long term negative environmental impacts, “substantial” controversy on environmental grounds, or significant impacts upon public parks, recreation areas, or refuges, the project receives an environmental clearance to proceed. **Environmental Classification/Certification (Supplied by Environmental Clearance Coordinator)**, with any necessary attachments, serves as the documentation of compliance with the NEPA process. **Environmental Classification/Certification (Supplied by Environmental Clearance Coordinator)** will often include mitigation measures such as limitations on areas where work can occur, or compensation such as replacement trees in order to avoid or minimize environmental impacts. These mitigation measures must be incorporated into the design of the project.

10.02.02B Environmental Assessment

When it is uncertain whether or not a project may have a “significant” impact upon the environment, an Environmental Assessment (EA) is prepared. The purpose of the EA is to conduct a more in-depth analysis of the project and to determine either that there is a “Finding of No Significant Impact” (FONSI) or that there is significant impact. If it is determined that there is significant impact, an Environmental Impact Statement will be required.

10.02.02C Environmental Impact Statement

When it is obvious that a significant impact upon the environment will result from a project, or when an Environmental Assessment determines that a significant impact will result, an Environmental Impact Statement (EIS) must be prepared. The main purpose of the EIS is to ensure that all considerations and deliberations required by NEPA are carried out and that the decision making process is documented.

10.02.03 Permits / Laws / Ordinances

(revised 4-28-2025)

There are a number of federal, state, and local laws which govern many of the activities or tasks which make up a project. In some cases, permits are required before certain actions can be taken. In others, certain actions must be taken to avoid incurring liability, fines or worse.

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CHAPTER 11 • SPECIFICATIONS AND SPECIAL PROVISIONS

11.01 GENERAL INFORMATION

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- 11.01.02 Overview**
- 11.01.03 Definitions**
- 11.01.04 Order of Precedence**
- 11.01.05 Roles and Responsibilities**
- 11.01.06 Location of Additional Information**
- 11.01.07 Buy America Requirements**
- 11.01.08 De-Minimis Under Buy America**

11.02 SPECIAL PROVISIONS

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 - 11.02.01A Frequently Used Special Provisions (FUSP)**
 - 11.02.01B Unique Special Provisions**
 - 11.02.01C Template Special Provisions**
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 - 11.02.01E Previously Approved Special Provisions**
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 - 11.02.01G Real Estate Demolition Special Provisions**
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- 11.02.02 Special Provision Development**
 - 11.02.02A Exempt Special Provisions**
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 - 11.02.03A Document Format**
 - 11.02.03B Title Block, Headers, and Footers**
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- 11.04.03 The Material Section**
- 11.04.04 The Construction Section**
- 11.04.05 The Measurement and Payment Section**
- 11.04.06 Appendices**
- 11.04.07 Sample Special Provision**

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 - 11.05.02A Modified Pay Items**
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- 11.06.05 Document Rejection**
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- 11.08.04 Public Interest Finding (PIF)**
- 11.08.05 MDOT Supplied Products**
- 11.08.06 Blanket Approval**
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11.09 GUIDELINES FOR FHWA APPROVAL OF SPECIFICATIONS

- 11.09.01 Standard Specifications**

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CHAPTER 11 • SPECIFICATIONS AND SPECIAL PROVISIONS

11.01 GENERAL INFORMATION

11.01.01 References

(revised 11-26-2018)

- A. Michigan Manual of Uniform Traffic Control Devices, Current Edition
- B. [Standard Specifications for Construction](#), Current Edition
- C. 23 CFR 635
- D. FHWA Technical Advisory HAIM-20 March 20, 2010
- E. US Government Printing Office Style Manual

11.01.02 Overview

(revised 7-27-2026)

Specifications are documents that detail directions, provisions, and requirements for the work to be performed. Specifications provide a description of the work, construction methods, materials, and the method used to measure and pay for work items. If the special provision references the plans for details, add a comment in the special provision providing a link to the plan set and the sheet number where the detail is on the plans, or place a PDF of the detail in the Special Provision-Unique folder in ProjectWise to aid in the review and approval process.

Under federal law, permanently incorporated materials must meet specific domestic preference requirements: iron and steel products, as well as manufactured products (those not consisting predominantly of iron or steel), must comply with 23 CFR 635.410. Construction materials must comply with 2 CFR 184. See section [11.01.07](#) Buy America Requirements.

A designer's first choice should be to utilize the Standard Specifications and pay items already established.

If a standard specification and pay item does not exist to cover the necessary item of work, the designer should look for a special provision of the types listed herein that fit the situation or require only slight modification.

If none of these sources covers the specific work, one could possibly be a starting point in developing a new special provision. As a last resort, the designer may need to write a new special provision to cover the necessary item of work.

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The Quality Assurance Section maintains the Errata version of the Standard Specifications for Construction, Supplemental Specifications, and Frequently Used, Recommended, Template, Previously Approved, and Real Estate Special Provisions on the Previously Approved Special Provision list. The Innovative Contracting Section maintains the Innovative Contracting Special Provisions on the Previously Approved Special Provision list. The ITS Programming Area maintains the ITS Special Provisions on the Previously Approved Special Provision list. These documents can be found at the MDOT web site links:

- [Standard Specifications for Construction](#)
- [Supplemental Specifications](#)
- [Frequently Used Special Provisions](#)
- [Previously Approved Special Provisions](#) - A drop down box allows you to select the following groupings:
 - Recommended.
 - Recommended Requiring the Use of De-Minimis.
 - Templates Requiring Approval.
 - Templates Requiring Approval but Require Use of De-Minimis.
 - Previously Approved.
 - Previously Approved Requiring Use of De-Minimis.
 - Real Estate Demolition.
 - Real Estate Demolition Requiring Use of De-Minimis.
 - Innovative Contracting.
 - Innovating Contracting Requiring Use of De-Minimis.
 - ITS.
 - ITS Requiring the Use of De-Minimis.

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11.01.03 Definitions

The following definitions are provided:

- A. Standard Specifications for Construction - The book of specifications approved for general application and repetitive use.
- B. Supplemental Specifications - Detailed specifications that add to or supersede the Standard Specifications for Construction.
- C. Special Provisions - Revisions and additions to the Standard and Supplemental Specifications which are applicable to an individual project and are shown on the web in the groupings listed herein.
- D. Pay Item - Term used to describe an item of work in the contract.
- E. Method of Measurement - The method used to measure material used or work done on a project. Measurement can be by the unit or lump sum, or included in the measurement for other items.
- F. Buy America Preferences - This term refers collectively to the federal domestic sourcing laws governing this project: FHWA Buy America (23 U.S.C. 313) and the Build America, Buy America Act (BABA).

11.01.04 Order of Precedence

See subsection 104.06 of the [Standard Specifications for Construction](#) for the order of precedence if plan/proposal information differs or conflicts.

11.01.05 Roles and Responsibilities

(revised 7-27-2026)

The following definitions are provided to clarify the roles and responsibilities in relation to Special Provisions:

- A. Project Manager - MDOT employee responsible for the design phase of the project, including the development and review of special provisions for compliance with the special provision guidelines Buy America Preferences, and MDOT Form 5638 prior to submitting to Quality Assurance Section for review. Documentation showing the items in the special provision meet the Buy America Preferences must be placed in the Special Provision – Unique folder in ProjectWise. The completed Form 5638 should be placed in the Special Provision – Unique folder in ProjectWise. The instructions to fill out the form are included as the second page of the form. This form is required for Construction to be able to pay the contractors when the material is incorporated into the project.
- B. Special Provision Author - Designer (MDOT or consultant) as determined by the Project Manager who drafts a special provision for a project. The Project Manager is the “author” of record for special provisions drafted by consultants.
- C. Special Provision Reviewer - A person(s) assigned by the Quality Assurance Section to review and provide feedback on special provisions. Assignments are based on their technical knowledge.

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- D. Quality Assurance Section - Oversees the special provision review and approval process. Often performs the second review with an emphasis on conflicts with the Standard Specifications for Construction; use of appropriate pay items and general organization of the information; if the special provision is ADA compliant; whether [Form 5638](#) is included with the special provision submittal; and whether the special provision has Buy America Preference documentation. Also oversees determination of which special provisions will be placed on the various maintained lists.

11.01.06 Location of Additional Information

(revised 7-27-2026)

Additional information regarding supplemental specifications and special provisions is available on the Design Division Plan Development web site including:

- Frequently Asked Questions
- ProjectWise Unique SP Search
- Special Provision Technical Reviewers Listing
- Special Provision Training
- Special Provision Formatting Instructions
- Special Provisions using “Modified” or “Special”
- Tracking Changes Using ProjectWise and Microsoft Word for Special Provisions

11.01.07 Buy America Requirements

(revised 7-27-2026)

Federal law requires compliance with Buy America requirements for any project that uses federal dollars in any phase of the project. There are three key elements to Buy America compliance.

- A. All steel or iron products and manufacturing processes must meet [23 CFR 635.410 requirements](#). This includes all processes such as cutting, bending, coating, etc. Items falling into this category included but are not limited to, guardrail, reinforcing steel, mast arms, steel beams, etc. MDOT is applying a risk-based approach to steel and iron products during the design phase. Therefore, designers are not required to submit documentation verifying that a product can meet Buy America Preferences prior to advertisement, provided the product is a standard pay item in the Standard Specifications for Construction or a standard structural shape.
- B. Manufactured products (those not consisting predominantly of iron or steel), must comply with [23 CFR 635.410](#).
- C. Construction materials permanently incorporated into a project must have all manufacturing processes and [final assembly done](#) within the United States. Construction materials are defined as follows.
1. Non-ferrous metals.
 2. Plastic and polymer-based products (including polyvinylchloride, composite building materials, and polymers used in fiber optic cables).
 3. Glass (including optic glass).
 4. Lumber.

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5. Drywall.
6. Fiber Optic Cable (including drop cable).
7. Optical Fiber.
8. Engineered Wood.

Therefore, items defined as manufactured products or construction materials that are in a special provision, need a document stating that the manufactured products and/or construction materials can meet these requirements must be placed in the Special Provision - Unique folder in ProjectWise when submitting the special provision for review in MDOT-SpecialProvision mailbox.

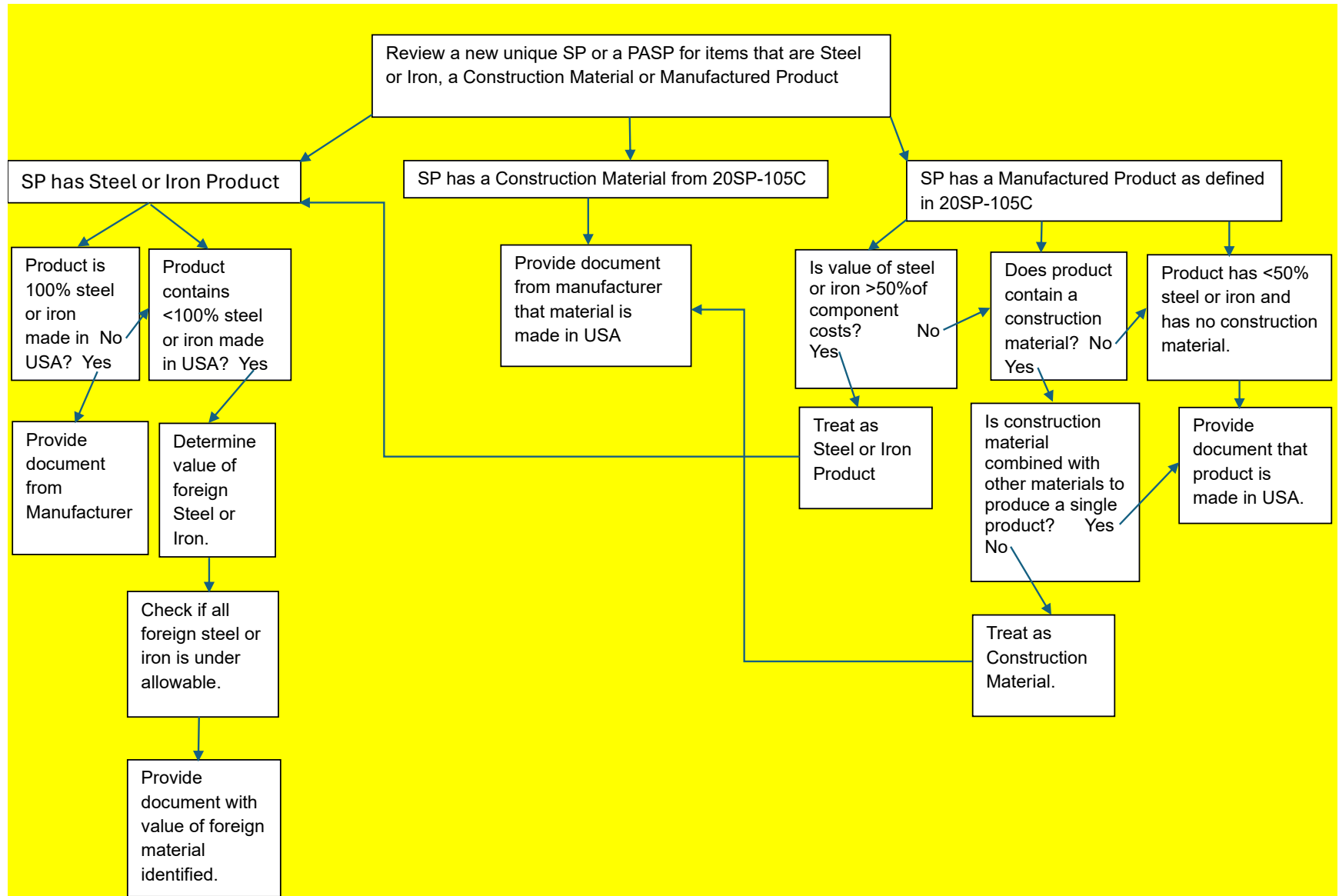
The Signals and ITS areas have identified some products that are non-compliant. They are sharing this information with designers, and the non-compliant materials/products must be included in the de-minimis for federal aid projects.

If specific manufactured products or construction materials are listed in a special provision by manufacturer name, a document stating that the manufactured products and/or construction materials can meet these requirements must be placed in the Special Provision – Unique folder in ProjectWise when submitting the special provision for review in MDOT–SpecialProvision mailbox.

If a project has no federal funds in any phase of the project, and will not use any federal dollars in construction, the owner (MDOT or local agency) must not add the FUSPs 105C or 105D in the proposal.

If a special provision or items in a special provision cannot meet the Buy America Preferences the cost of non-compliant products and material must be considered as part of the allowable non-compliant materials (de-minimis) covered in the 23 CFR 435.410.

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11.01.08 De-Minimis Under Buy America

(added 7-27-2026)

Federal law allows a certain amount of non-compliant materials for steel and iron products, construction materials and manufactured products. The amounts vary depending on how the project has been evaluated under the National Environmental Policy Act (NEPA).

A. If there is only one contract under the NEPA decision.

1. For steel or iron products or manufactured products with more than 50 percent of the cost is from steel or iron components, the de-minimis allowances are 0.1 percent of the total contract amount or \$2,500.
2. For construction materials and/or manufactured products (those not consisting predominantly of iron or steel), , and the cost of the components of the manufactured product that are mined, produced, or manufactured in the United States is greater than 55 percent of the total cost of all components of the manufactured product the de-minimis allowances are the lessor of \$1,000,000 or 5 percent of the total applicable contract costs.

B. If there are more than one contract under the NEPA decision.

1. For steel or iron products or manufactured products with more than 50 percent of the cost is from steel or iron components, the de-minimis allowances are 0.1 percent of the total contract amount or \$2,500. This allowance would be the total amount for each contract under the NEPA decision.
2. For the construction materials and the manufactured products, the de-minimis allowance will need to be prorated and separate amounts applied for each contract under the NEPA decision.

The contract scopes will need to be reviewed for each contract to make an evaluation on how much the total de-minimis allowance will need to be used on each contract.

The evaluation will need to factor in the length of each contract, the work type of each contract, the number of items that may need non-compliant materials or products, and the Engineers judgement.

Once completed the evaluation will set the maximum amount for the de-minimis allowance for the construction materials and manufactured products for each contract.

These values will need to be entered into the Special Provision for De-Minimis Calculation for Domestic Materials, Multiple Contracts Under National Environmental Policy Act Decision. Each contract will need a separate special provision unless all the allowances are equal in value.

C. To calculate the de-minimis value take the material costs of non-compliant items and divide it by the total applicable cost of all iron, steel, construction materials and manufactured products used in the contract. This value must be under the allowance values listed above. This calculation can be documented in a memorandum or excel spread sheet and placed in the project files.

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- D. If the article, material or supply cannot meet the Buy America Preferences including the use of de-minimis then a waiver would be required to move the project to advertisement. The waiver should be requested as early as possible during the development phase of the project as it may take a long time for it to be approved. A waiver may not be requested during the construction phase of the project.

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11.02 SPECIAL PROVISIONS

11.02.01 Types of Special Provisions

(revised 7-27-2026)

Special provisions provide revisions and additions to the Standard and Supplemental Specifications which are applicable to individual projects. Use a special provision when work is required that is not covered by the Standard or Supplemental Specifications and a new pay item is needed and/or the construction method, the materials, and/or the basis of payment is revised.

The following sections describe the various Special Provision categories.

11.02.01A Frequently Used Special Provisions (FUSP)

Special provision used on a regular basis with stable requirements applicable to numerous projects. All FUSP's are reviewed and approved by MDOT and the FHWA. Approved FUSP's with multiple pay items can be used without deleting unused pay items similar to the way we use the Standard Specifications for Construction manual. FUSP's that can not meet Buy America Preferences will require a statement in the Use Statement that the FUSP work will need to be included in the allowable non-compliant material cap (de-minimis).

11.02.01B Unique Special Provisions

Special provision written specifically to cover work not covered in the Standard or Supplemental Specifications for a specific project.

11.02.01C Template Special Provisions

An approved special provision with stable requirements but with project specific information left out to be added later by the Project Manager.

These special provisions have been standardized to cover an item of work but must be modified to fit a specific project. Some of these may be used without further review and some require review using the regular special provision review and approval process. To create a template special provision, an electronic copy must be sent to the Quality Assurance Section. Designers should follow the instructions listed at the top of the template document and proceed accordingly.

11.02.01D Recommended Special Provisions

An approved special provision containing requirements thought to provide the best results for a specific type of work or construction practice.

The majority of these have been developed by reviewing duplicate special provisions approved for use over several years and selecting the best practices and incorporating them into a single special provision which is posted to the website as a portable document format (pdf) file. In order to provide continuity in the specifications for similar work and to make more efficient use of the review and approval process, designers are asked to use the recommended special provisions whenever possible. Recommended special provisions are intended to be used without revision and no further review and approval is required.

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11.02.03 Page Layout

(revised 7-27-2026)

11.02.03A Document Format

The following guidelines must be followed when developing a special provision to give a uniform appearance to proposals. Special provisions submitted for review and approval that do not follow the approved document format will be returned to the submitter for reformatting before the approval process begins.

1. Margins – Use 1 inch margins.
2. Fonts - All headers use Arial 12 point, special provision text uses Arial 11 point including tables and figures.
3. Tabs and Indents - Use 0.25 inch intervals. Automated numbering or labeling of subsections must **not** be used.
4. Bold Face - The use of bold face font is limited to the special provision title, section labels and names, table and figure titles and pay items in the measurement and payment section only.
5. For formatting guidelines see the [Special Provision Formatting Instructions](#).

11.02.03B Title Block, Headers, and Footers

1. Document (Word) Headers/Footers - On the first page the document header must contain the Identification Code (see below). Right justify the Identification Code.

On any remaining pages the document header contains the secondary header.

All headers and footers should begin 0.5 inches from the edge of the page.

2. Identification Code - The Identification Code naming convention shown below must be applied to all special provisions, with the exception of Special Provisions for Maintaining Traffic.

When using a special provision that has been approved and assigned an Identification Code, the file must **not** be revised unless the special provision is resubmitted for re-approval.

The Identification Code must be defined by the Project Manager prior to submittal for approval, to the extent possible. However, the last four digits within the parentheses are assigned by the Specification Engineer upon approval. A sample Identification code is as follows:

20RD501(A055)

Digits 1 and 2 designate the year of the Standard Specifications for Construction book that the special provision has been written against.

Letters 3 and 4 designate the code for the type or origin for the special provision. Type codes are presented on the next page.

Digits 5, 6 and 7 designate the section of the Standard Specifications for Construction book in which the work in the special provision is covered. If it can be attributed to more than one section use the one that is most closely related to the work in the special provision.

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Within the parentheses is a four digit alpha-numeric code assigned by the Specification Engineer to identify the special provision as a unique document for tracking purposes.

The first digit is an Arabic letter followed by the number 005 for the first special provision by that area and increasing by 5 for each successive special provision approved for that area. These will be assigned as the Quality Assurance Section approves the special provision.

3. Title Block - The Department name and the special provision title are included in the Title Block at the top of the first page of document, but not actually in the document header as defined by Microsoft Word. Center this information on the page.

Make the special provision title short enough to fit on one line if possible and provide a clear idea of the content and the subsection of the standard specifications being altered. If possible, make the title match the pay item affected or established by the special provision in the title. Do not use any abbreviations in the title.

For formatting guidelines see the [Special Provision Formatting Instructions](#)

4. Approval Header - Locate below the Title Block only on the first page. Includes the source code, page number, and approval code.
5. Page Numbers - The page number must appear at the center of the page in the approval header on the first page. The total number of pages in the special provision includes any graphics, appendices or forms which are part of the document. The word "Page" should not be included when setting up page numbers.
6. Approval Code - The approval code indicates that the special provision has been reviewed and approved for use. It consists of the abbreviation APPR, the **technical** reviewer's initials, and the date of approval.

Type Codes for 3rd and 4th letters of Identification Code

- BR - used on special provisions from Bridge Design
- CB - used on special provisions from Crash Barrier/Geometrics
- CF - used on special provisions from Construction Field Services
- CO - used on special provisions from Construction Operations
- DS - used on special provisions from Design units not included in other SP ID Codes
- EN - used on special provisions from Environmental
- FN - used on special provisions from Contract Services Division
- GT - used on special provisions from Geotechnical
- IC - used on special provisions from Innovative Contracting
- IT - used on special provisions from ITS
- MU - used on special provisions from Municipal Utilities
- OF - used on special provisions from Operation Field Services
- OR - used on special provisions from Office of Rail
- PL - used on special provisions from Planning

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11. Examples - The following are examples of what the first page of a special provision should look like and what the second page should like when the proper information has been placed in the correct location as they are submitted for review.

First page example:

20RD404()
Identification Code

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR

UNDERDRAIN AND UNDERDRAIN OUTLET VIDEO

(Location: Author) <i>Source Code</i>	1 of # <i>Page</i>	APPR:XXX:YYY:00-00-00 <i>Approval Code</i>
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Second page example:

20RD404()
Identification Code

(Location: Author) <i>Source Code</i>	2 of # <i>Page</i>	00-00-00 <i>Approval Date</i>
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11.02.04 Tables and Figures

(revised 7-27-2026)

Minimize the use of tables and especially figures (graphics) in a special provision. Include figures only if they are absolutely necessary to present information not conveyed in the text. All figures must be in Microsoft Word compatible format, preferably jpeg. Examples are shown below.

Reference all tables or figures in the text. Follow the table format in the standard specifications. All tables must have a table number and a title which clearly describes the content, placed above the table. All graphics must have a figure number placed below the graphic. Figures may be enclosed by a single line border. With both tables and figures alternate text must be added for the visually impaired.

Center tables and figures horizontally on the page and separate them from the text by several lines. (See the examples below) In the case of large tables or multiple tables it is advisable to place the table(s) at the end of the document. Figures are generally placed at the end of the document.

Number and Title all Tables (Example: Table 1: Sample Table)

Use a Header Row that Will Continue on Subsequent Page(s) for Multiple Page Tables	Use Initial Caps in Column Headers	Indicate Units for Table Values, °F
Use Initial Caps in Row Labels		
Use only single line borders		
Use lower case letters for all footnotes. (a) Use parentheses around each footnote letter in the body of the table. (b)(c)		Do not separate with comma. (d)(e)
Do not use tables if the information can be presented in text format.		

- Include all footnotes in the last row of the table not outside the table. Do not use parentheses around footnote letters here. Use hard left indent to wrap text to indent point.
- Refer to standard specifications for examples of table footnote format.

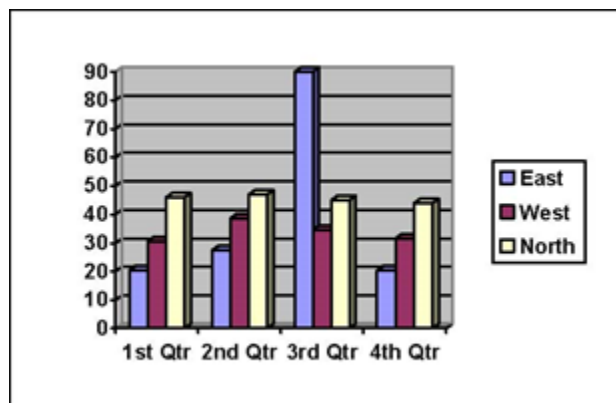


Figure 1: Traffic Count by Direction

MICHIGAN DESIGN MANUAL ROAD DESIGN

11.02.05 Special Provision Naming Convention

(revised 7-27-2026)

The following file naming convention must be used for all unique special provisions submitted for review. Special provisions not using the file naming convention will be returned to the Project Manager for correction and resubmittal.

The only exception to this naming convention will be for template and recommended special provisions since they use a separate naming convention that is similar but includes additional information.

Each file name must begin with the exact title of the special provision in Title Case (Initial capitalization and lower case for prepositions, articles, and conjunctions) followed by a dash, and then the Identification Code (less the four digits after the hyphen).

The Specification Engineer will enter the remaining four digits within the parentheses, but the Project Manager should enter the first seven digits.

For example: if the special provision is titled “Water Main, Ductile Iron, [Insert Size] Inch, Trench Detail [Insert Type], Special” and is being turned in by the municipal utilities design unit, the special provision file name would be “Water Main, Ductile Iron, [Insert Size] Inch, Trench Detail [Insert Type], Special-12DS823().docx”.

Note that abbreviations are not to be used in special provision titles, even the standard abbreviations that we use in the pay items cannot be used when developing the special provision title.

If a special provision is returned unapproved for use after being submitted for review, the filename must be revised to include “rev1” or as appropriate “rev2”, etc. The following is an example of a special provision filename for a document that was resubmitted. The revised file name would be “Water Main, Ductile Iron, [Insert Size] Inch, Trench Detail [Insert Type], Special-12DS823()rev1.docx”.

MICHIGAN DESIGN MANUAL ROAD DESIGN

11.07 SPECIAL PROVISION REVIEW CHECKLIST

(revised 7-27-2026)

Prior to submitting a special provision to the Quality Assurance Section for review and approval, the MDOT Project Manager must review it. The following checklist has been developed to assist the MDOT Project Manager in their review. It is also recommended for use by the document's authors and reviewers. Emphasis is placed on using the correct format and the appropriateness of the special provision for the specific project.

OVERALL CHECKLIST

YES	NO	N/A	Question/Item (Road Design Manual section)
			Do sections/subsections in the Standard Specifications for Construction exist that cover the work fully, or approximately needing minor modifications?
			Is there an existing special provision that covers this work or one that would need minor editing? Use an existing document when available.
			Are the margins correct? Use 1 inch margins. (Section 11.02.03 A 1)
			Are the fonts and text sizes correct? All headers use Arial 12 point, special provision text uses Arial 11 point, and table and figures use Arial 10 point? (Section 11.02.03 A 2)
			Are the tabs and indents correct? Use 0.25 inch intervals. Automated number or labeling should not be used. (Section 11.02.03 A 3)
			Is use of bold face correct? Limit to the special provision title, section labels & names, table & figure titles and pay items. (Section 11.02.03 A 4)
			Are the headers and the title block correct? (Section 11.02.03 B)
			Are digits 1 thru 7 of the Identification code entered correctly? Quality Assurance Section will enter the 4 digits in parenthesis. (Section 11.02.03 B 2)
			Is page numbering correct? (Section 11.02.03 B 5)
			Are tables and figures, if needed, formatted correctly? (Section 11.02.04)
			Is active voice used? (Section 11.03.02 and 11.03.04)
			Are words such as: may, could, and should used properly in the special provision? "Weak" words should be eliminated.
			Are proper abbreviations, acronyms and capitalization used? (Section 11.03.03)
			Are publications other than the Standard Specifications for Construction cited correctly and italicized? (Section 11.03.05)
			Is the basic 4 part outline used, with more complex special provisions including subheadings such as Design, Fabrication, Submittals, or Equipment? (Section 11.04)
			Does the text go from general to specific in a logical manner? (Section 11.04.01)
			Is verbiage directly from the Standard Specifications for Construction repeated in the special provision? If yes, it needs to be eliminated.
			Are the details and text in the special provision enforceable and reasonable for the contractor to satisfy?

MICHIGAN DESIGN MANUAL ROAD DESIGN

CONSTRUCTION SECTION CHECKLIST

YES	NO	N/A	Question/Item (Road Design Manual section)
			Is this section written with a focus on the end product versus being written as a method specification? (Section 11.04.04)
			Does the text follow the actual sequence of events? (Section 11.04.04)
			Is this section of the special provision the most detailed part? Are there subheadings such as General Requirements, Equipment, etc. used as necessary? (Section 11.04.04)
			If components need to be fabricated, is there discussion of tolerances?
			Are any unique issues (cure times, limitations, etc.) discussed?
			If the cost for repairing, removing, replacing or otherwise making whole an item will be borne by the Contractor, is it stated? (Section 11.04.04)
			If the Contractor is responsible for performing a design, is there adequate discussion of:
			A. what needs to be accounted for in the design?
			B. the design codes that are required to be satisfied?
			C. design criteria, such as allowable stresses and deflections?
			D. when and to whom the design must be submitted? "...to the Engineer for review and approval [Insert days] calendar days/work days prior to construction. And if "days" are used, are they "work days" or calendar days"?
			E. Are working drawings also required? If so, are the requirements for the working drawings fully described?
			F. Does the design need to be sealed by a Professional Engineer, licensed in the State of Michigan, and is this stated?

MEASUREMENT AND PAYMENT SECTION

YES	NO	N/A	Question/Item (Road Design Manual section)
			Is the statement: "The completed work, as described, will be measured and paid for at the contract unit price using the following pay item(s)" included? (Section 11.04.05)
			Do not state that "Payment for [item] includes all labor, equipment and materials required to complete the work as described." (Section 11.04.05)
			Does the text define how the work will be measured "... along the centerline shown on the plans, from the top of the wall to the top of the footing..."? (Section 11.04.05)
			Does the text define what is and is not included in the pay items? (Section 11.04.05)
			Are pay items listed using exact Preconstruction wording? Or do new pay items use MDOT nomenclature and abbreviations? (Section 11.04.05)
			Are "Modified" and "Special" on pay items used properly? (Section 11.05)

MICHIGAN DESIGN MANUAL

ROAD DESIGN

11.08 PROPRIETARY ITEMS

(revised 6-29-2020)

Materials and processes included in the Standard Specifications for Construction are selected to provide both quality and competitive bidding for construction projects. Designers are cautioned against writing special provisions that are tailored to fit products or processes that are exclusive to single source suppliers or manufacturers, whether the exclusive product or source is specifically named in the special provision or not, except as permitted herein. The restraint of free competition is prohibited by both federal and state regulations.

Use of patented or proprietary material, specifications, or processes in plans and specifications for projects is permitted only under the conditions described in this section. Otherwise, materials and processes identified in the Standard Specifications for Constructions must be used.

11.08.01 Competitive Bidding

Proprietary items may be purchased through competitive bidding with at least one equally suitable unpatented item or when two or more proprietary products are bid against each other and the specification or special provision includes the phrase “or approved equal”. The phrase would not be required when three or more proprietary items are competitively bid.

11.08.02 Proprietary Item Certification (PIC)

Proprietary items can also be permitted by certification ([Form 0304](#)) that the patented or proprietary product is essential for synchronization with the existing highway facility or that no equally suitable alternate exists.

Synchronization is based on;

- Function – The product is necessary for satisfactory operation of the existing facility, or
- Aesthetics – The product is necessary to match the visual appearance of the existing facility, or
- Logistics – The product is interchangeable with maintenance inventory, or
- Any combination of the above.

MICHIGAN DESIGN MANUAL ROAD DESIGN

11.08.03 Experimental Application

Patented or proprietary items may be approved for research purposes or for a distinctive type of construction for experimental purposes. In addition to [Form 0304](#), requests for experimental use require a work plan outlining objectives, measurements and evaluations. Experimental status justifications should be subsequent to a recommendation for pilot implementation via the Evaluation of New Materials and Products process (MDOT Guidance Document 10031). All submittals from manufacturers seeking evaluations will be processed through the New Products Evaluation webpage to allow a single source submittal process. The Project Manager should consult with the appropriate subject matter experts for guidance on the suitability of the product or process for pilot use. Resource contacts can be found either in the Special Provision Technical Reviewers Listing in the Plan Development SharePoint site or the Employee Contact – Area of Responsibilities list on the Construction Field Services site.

11.08.04 Public Interest Finding (PIF)

A specific material or product may be specified even when other acceptable materials or products are available if the specific choice is approved as being in the public interest. [Form 0304](#) is required to document that use of the proprietary product would be in the public's best interest despite the availability of equally suitable products. Public interest findings include limited situations other than those previously listed. Examples include; timeliness of product availability, engineering or economic analysis findings, project logistical concerns, unique safety performance as well as other justifiable situations.

11.08.05 MDOT Supplied Products

When the Department purchases proprietary products under separate contract and subsequently supplies them to a contractor for project use, competitive bidding or a proprietary item request is required. Examples include items obtained by blanket purchase order, purchase of steel beams or other specialized materials requiring separate advanced purchase. Although uncommon, these purchases may be required for synchronization, project timeliness, logistics, etc.

11.08.06 Blanket Approval

Certification and Public Interest Findings for use in multiple projects (Corridor, region-wide, statewide) must include a sunset date at which time it may be resubmitted for extension.

MICHIGAN DESIGN MANUAL ROAD DESIGN

11.08.07 Procedure

Proprietary Item Certification (PIC) and Public Interest Finding (PIF) are both requested by using MDOT [Form 0304](#).

- Examples of supporting justification include;
- Description of how the product will benefit the public.
- Unique needs that result in the absence of equally suitable alternatives.
- Safety locations that would justify higher standards.
- Evaluation of potential products and reasons why alternatives do not meet the project needs.
- Estimate of additional costs incurred as a result of the proprietary product.

The approval authority for requests to specify proprietary items is listed below.

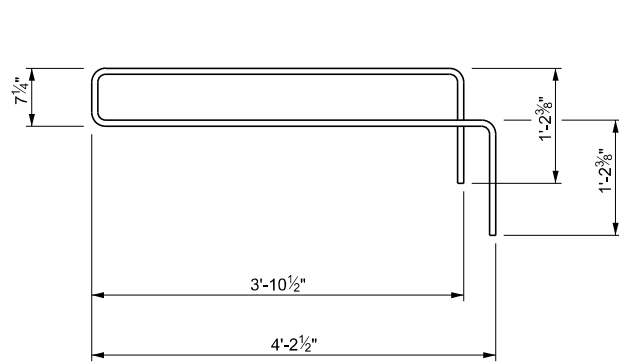
Proprietary Product Approval Authority

Basis for Request	Project Application	Approval
Synchronization or No Equally Suitable Alternative	Proprietary Item Certification (PIC) MDOT and Local Agency	Retain Certification for Project File Only with Project Manager signature.
Experimental <i>Justification must include an experimental work plan.</i>	MDOT	MDOT Engineer of Design
Experimental <i>Justification must include an experimental work plan.</i>	Local Agency	MDOT LAP Engineer
Public Interest Finding (PIF)	MDOT	MDOT Engineer of Design
Public Interest Finding (PIF)	Local Agency	MDOT LAP Engineer

DRAWN BY: BLT
CHECKED BY: CWC
APPROVED BY: BMW

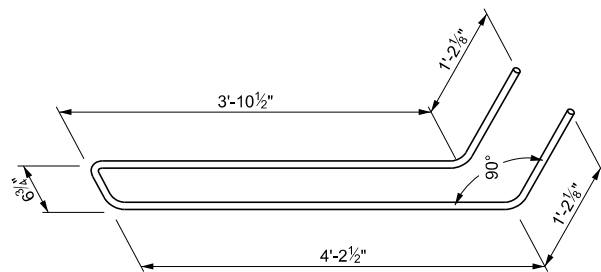
MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT
BRIDGE RAILING, AESTHETIC PARAPET TUBE
END WALL DETAIL

ISSUED: 07/27/26
SUPERSEDES: 06/22/26



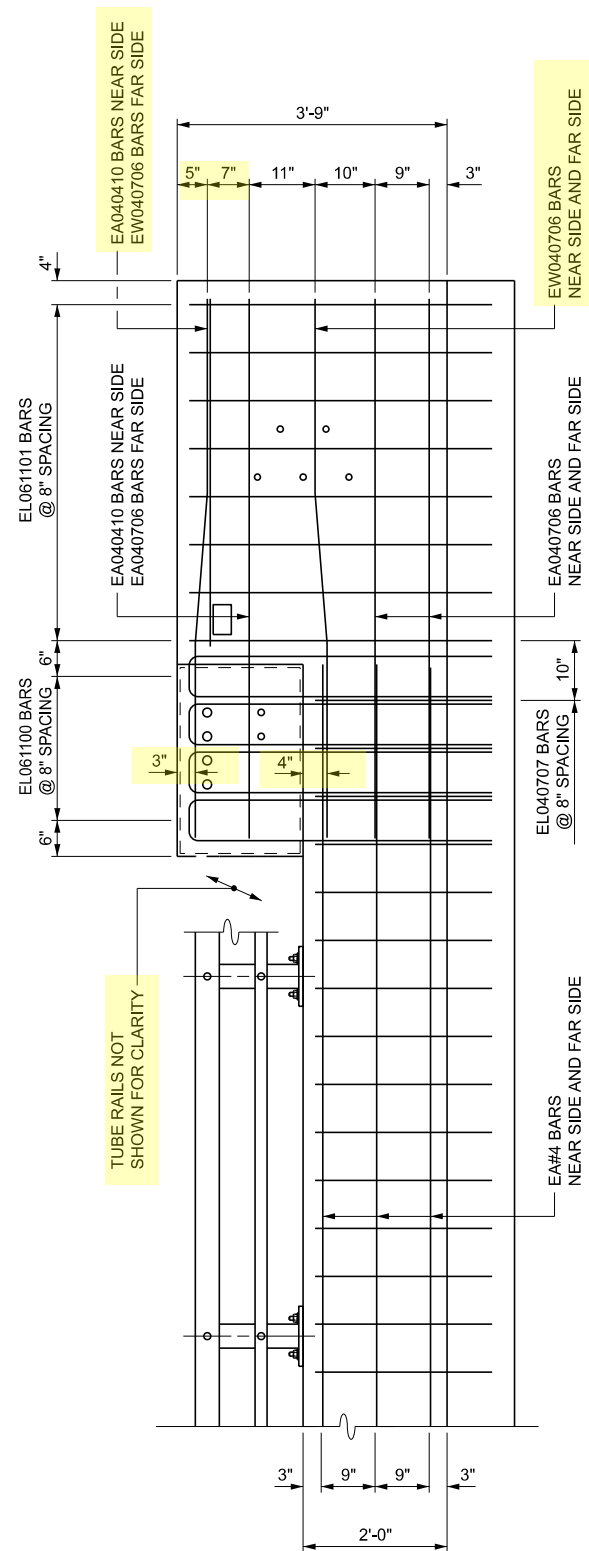
EL061101

$$L = a + b + c + d + e = 11'-1''$$
$$a = 4'-2 \frac{1}{2}'' \quad b = 7 \frac{1}{4}'' \quad c = 3'-10 \frac{1}{2}''$$
$$d = 1'-2 \frac{3}{8}'' \quad e = 1'-2 \frac{3}{8}'' \quad f = 7 \frac{1}{4}''$$
$$g = 0$$



EL061100

$$L = a + b + c + d + e = 11'-0''$$
$$a = 3'-10 \frac{1}{2}'' \quad b = 6 \frac{3}{4}'' \quad c = 4'-2 \frac{1}{2}''$$
$$d = 1'-2 \frac{1}{8}'' \quad e = 1'-2 \frac{1}{8}'' \quad f = 0$$
$$g = 6 \frac{3}{4}''$$



END WALL DETAIL

NOTE:

FOR ADDITIONAL DETAILS OF RAILING, SEE STANDARD PLAN
B-25-SERIES AND GUIDES 6.29.10 & 6.29.10B.

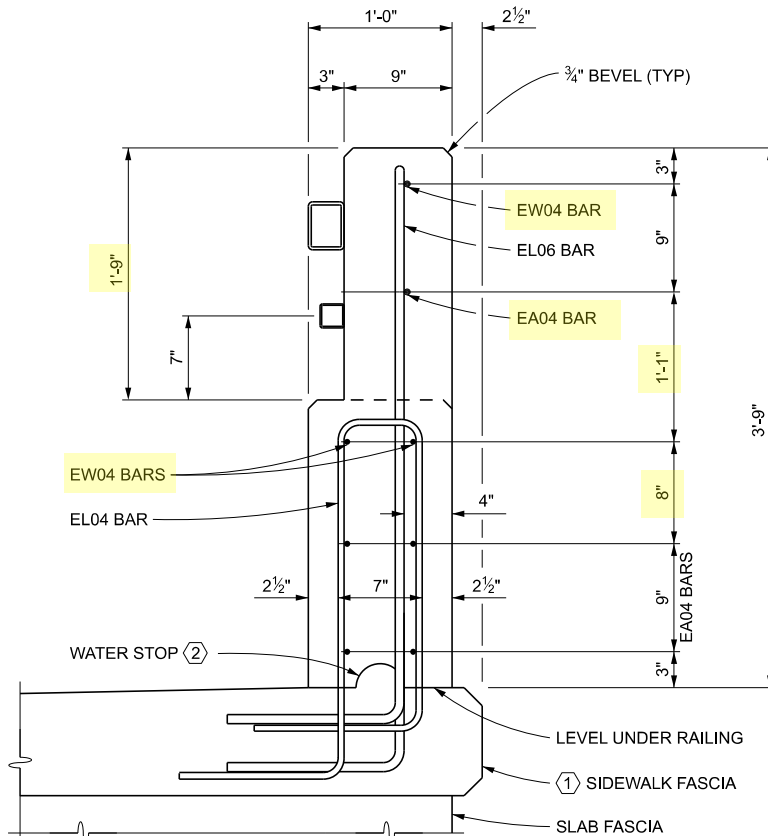
PREPARED BY
DESIGN DIVISION

6.29.10A

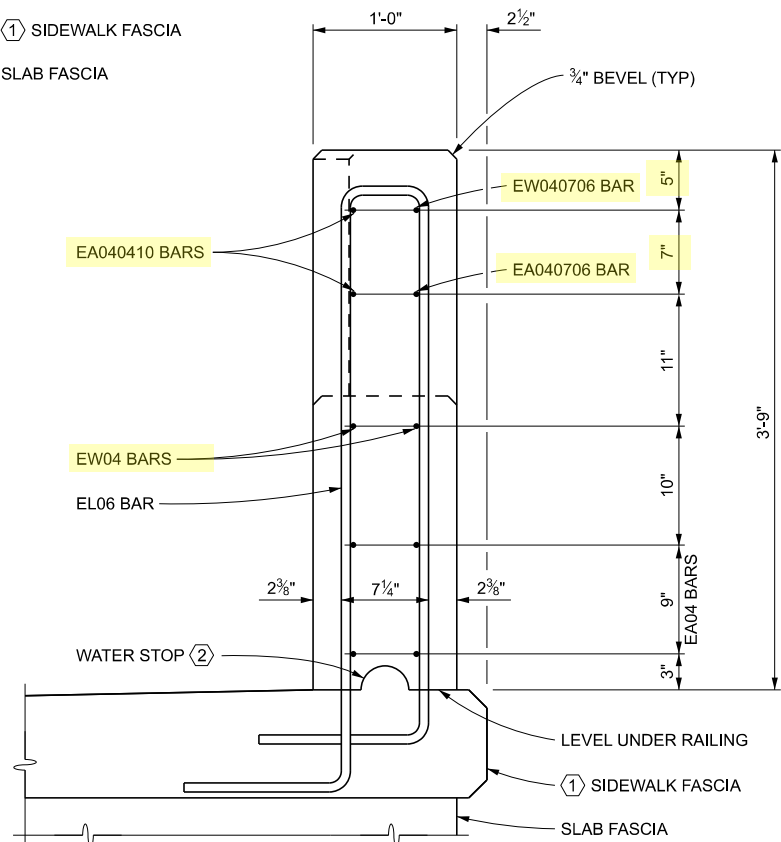
DRAWN BY: BLT
CHECKED BY: CWC
APPROVED BY: BMW

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT
BRIDGE RAILING, AESTHETIC PARAPET TUBE
END WALL SECTIONS

ISSUED: 07/27/26
SUPERSEDES: 06/22/26



SECTION AT END WALL
(TUBE CONNECTION AREA)



SECTION AT END WALL
(FULL CONCRETE AREA)

NOTE:

- ① IF BRIDGE RAILING IS MOUNTED FLUSH TO THE SLAB, THE "EL" BARS SHALL BE CAST IN THE SLAB.
- ② 2" HIGH x 4" WIDE (±). FORMING NOT REQUIRED. USE WHEN RAILING IS MOUNTED FLUSH TO THE SLAB.

PREPARED BY
DESIGN DIVISION

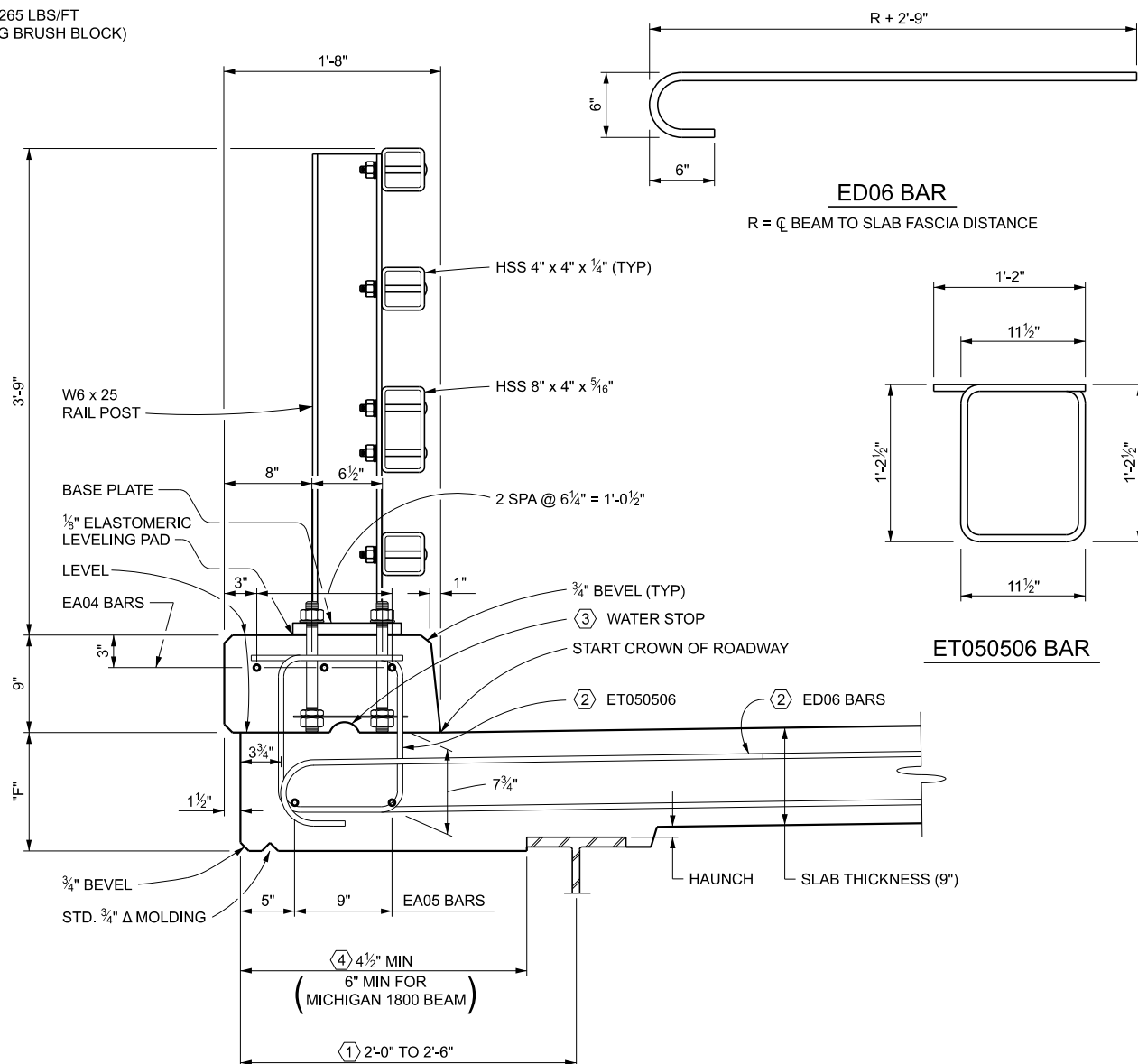
6.29.10B

DRAWN BY: BLT
 CHECKED BY: CWC
 APPROVED BY: BMW

MICHIGAN DEPARTMENT OF TRANSPORTATION
 BUREAU OF DEVELOPMENT
 BRIDGE RAILING, 4 TUBE
 BICYCLE RAILING OPTION

ISSUED: 07/27/26
 SUPERSEDES: 01/26/26

WEIGHT = 265 LBS/FT
 (INCLUDING BRUSH BLOCK)



NOTES:

"F" CONSTANT EQUALS SLAB THICKNESS PLUS THICKEST FASCIA BEAM FLANGE PLUS 1/2" PLUS AMOUNT OF FASCIA BEAM DROP REQUIRED TO MAINTAIN MINIMUM SLAB THICKNESS AT CURB PLUS HAUNCH (1").

IF "F" BECOMES GREATER THAN 12" USE A HAUNCH DETAIL ON THE FASCIA SIDE OF THE BEAM SIMILAR TO THE HAUNCH DETAIL ON THE INTERIOR SIDE. ADDITIONAL REINFORCEMENT MAY BE REQUIRED IN THE AREA OVER THE BEAM FLANGE IF THE HAUNCH BECOMES EXCESSIVE.

THE DETAILED REINFORCEMENT IN THE SLAB (EA05 & ED06 BARS) IS THE MINIMUM FOR THE RAILING. THE DESIGN OF THE SLAB OVERHANG MAY REQUIRE ADDITIONAL REINFORCEMENT (OR INCREASING THE REINFORCEMENT AREA (DIAMETER) SHOWN). BARS WITH PREFIX "E" ARE TO BE EPOXY COATED.

FOR ADDITIONAL DETAILS OF RAILING, SEE STANDARD PLAN B-26-SERIES.

- ① IT IS PREFERRED TO PROVIDE A MINIMUM OF 1'-0" OF CLEARANCE FROM THE ET BARS TO THE FASCIA BEAM CENTERLINE TO PERMIT SUPPORT OF THE SCREED RAIL ALONG THE TOP OF THE FASCIA BEAM. IF SUPERSTRUCTURE GEOMETRY DOES NOT ALLOW FOR THIS 1'-0" MINIMUM DISTANCE, ALTERNATE SCREED RAIL SUPPORT METHODS MAY BE REQUIRED. IF THIS SCENARIO APPLIES, CONTACT BOBS BRIDGE CONSTRUCTION TO DISCUSS ALTERNATE SCREED RAIL OPTIONS, BRIDGE DECK FINISHING OPTIONS, AND PROPOSED SUPERSTRUCTURE CONSTRUCTABILITY.
- ② AT EACH POST PLACE 7 - ET050506 BARS SPACED AT 6" AND ED06 BARS WITH ALTERNATE ET05 BARS. PLACE ET05 AND ED06 BARS AT 12" MAX IN REMAINING AREAS.
- ③ 2" HIGH x 4" WIDE (±). FORMING NOT REQUIRED.
- ④ 4 1/2" MINIMUM APPLIES TO CURVED GIRDERS ONLY.

PREPARED BY
 DESIGN DIVISION

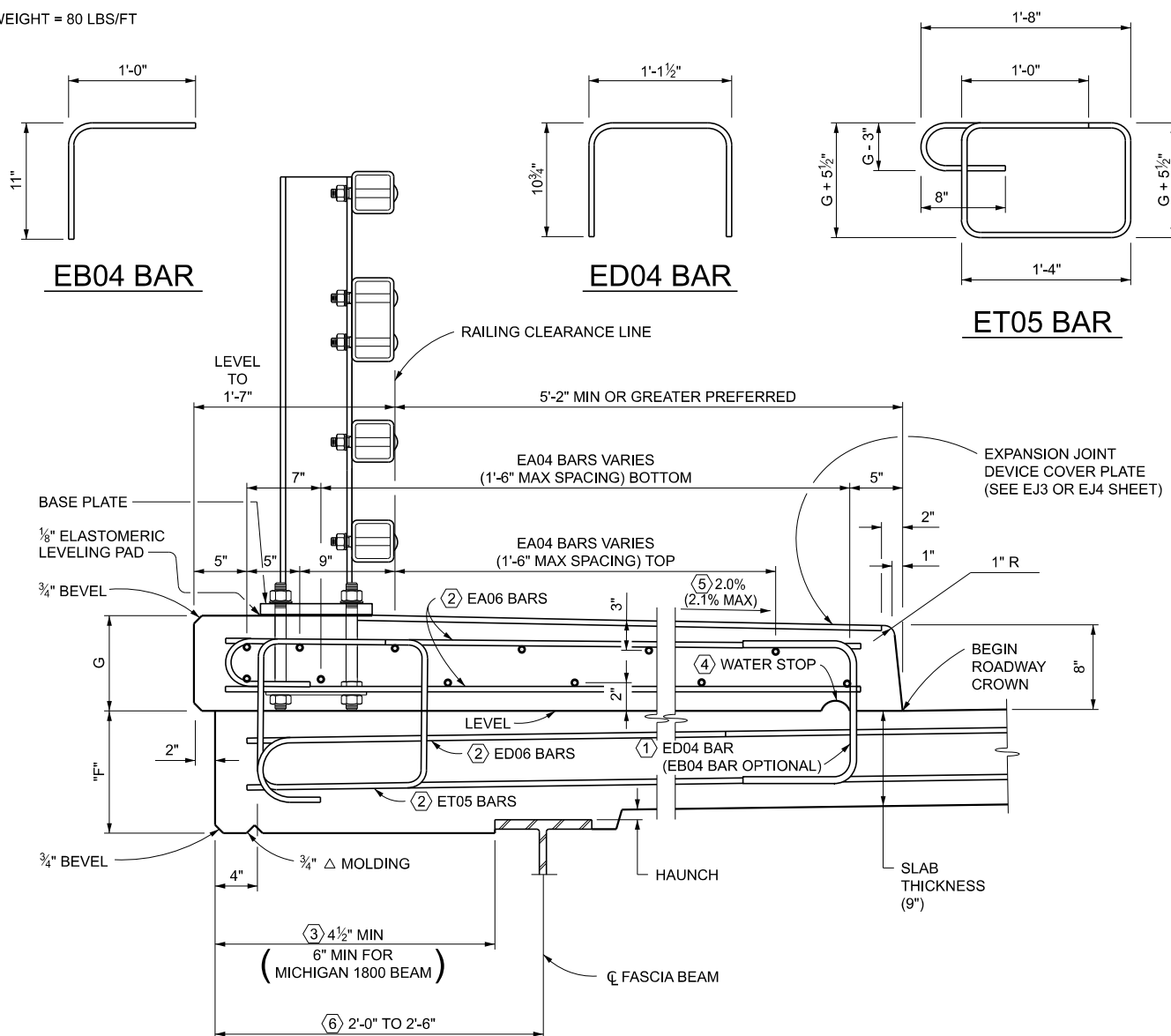
6.29.17

DRAWN BY: BLT
CHECKED BY: CWC
APPROVED BY: BMW

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT
BRIDGE RAILING, 4 TUBE - SIDEWALK SECTION
PEDESTRIAN RAILING OPTION

ISSUED: 07/27/26
SUPERSEDES: 01/26/26

WEIGHT = 80 LBS/FT



NOTES:

"F" CONSTANT EQUALS SLAB THICKNESS PLUS HAUNCH PLUS THICKEST FASCIA BEAM FLANGE PLUS 1/2" PLUS AMOUNT OF FASCIA BEAM DROP REQUIRED TO MAINTAIN SLAB THICKNESS AT CURB LINE.

IF "F" BECOMES GREATER THAN 12" USE A HAUNCH DETAIL ON THE FASCIA SIDE OF THE BEAM SIMILAR TO THE HAUNCH DETAIL ON THE INTERIOR SIDE. ADDITIONAL REINFORCEMENT MAY BE REQUIRED IN THE AREA OVER THE BEAM FLANGE IF THE HAUNCH BECOMES EXCESSIVE.

THE DETAILED REINFORCEMENT IN THE SLAB (ED06 BARS) IS THE MINIMUM FOR THE RAILING. THE DESIGN OF THE SLAB OVERHANG MAY REQUIRE ADDITIONAL REINFORCEMENT (OR INCREASING THE REINFORCEMENT AREA (DIAMETER) SHOWN). BARS WITH PREFIX "E" ARE TO BE EPOXY COATED.

- ① EB04 BAR MAY BE ADHESIVE ANCHORED INTO 6" DEEP HOLE INSTEAD OF ED04 BAR. SPACE WITH ALTERNATE TRANSVERSE SLAB BARS (1'-6" MAX).
- ② AT EACH POST PLACE 7 - ET05 BARS SPACED AT 6", ED06 BARS (SEE GUIDE 6.29.17) AND EA06 BARS WITH ALTERNATE ET05 BARS. PLACE ET05 BARS, ED06 BARS AND EA06 BARS AT 12" MAXIMUM IN REMAINING AREAS.
- ③ APPLIES TO CURVED BRIDGES ONLY.
- ④ 2" HIGH x 4" WIDE (±). FORMING NOT REQUIRED.
- ⑤ USE A TARGET CROSS SLOPE (2.0%) LESS THAN THE MAXIMUM TO ACCOUNT FOR INCONSISTENCIES IN CONCRETE FINISHING.
- ⑥ IT IS PREFERRED TO PROVIDE A MINIMUM OF 1'-0" OF CLEARANCE FROM THE ET BARS TO THE FASCIA BEAM CENTERLINE TO PERMIT SUPPORT OF THE SCREED RAIL ALONG THE TOP OF THE FASCIA BEAM. IF SUPERSTRUCTURE GEOMETRY DOES NOT ALLOW FOR THIS 1'-0" MINIMUM DISTANCE, ALTERNATE SCREED RAIL SUPPORT METHODS MAY BE REQUIRED. IF THIS SCENARIO APPLIES, CONTACT BOBS BRIDGE CONSTRUCTION TO DISCUSS ALTERNATE SCREED RAIL OPTIONS, BRIDGE DECK FINISHING OPTIONS, AND PROPOSED SUPERSTRUCTURE CONSTRUCTABILITY.

PREPARED BY
DESIGN DIVISION

6.29.17E