

Transmittal No. 22-01
January 5, 2022

Standard Plans

Distribution: Electronic Distribution Recipients

Subject: Standard Plan 254

The following Standard Plan is revised:
5-297.254 - Sheet 3 of 4

See attached Summary of Changes for details.

Instructions:

1. Record this transmittal letter number, date and subject on the transmittal record sheet located in the front of the manual. The last Transmittal Letter was 21-09, dated December 21, 2021.
2. Remove from the manual:
 - Standard Plan Index
 - Standard Plan 5-297.254, Sheets 3 and 4 of 4
3. Insert into the manual:
 - Standard Plan Index, Sheets 1-8 of 8 (12-23-2021)
 - Standard Plan 5-297. 254, Sheets 3 (12-23-2021) and 4 (11-04-2021)
4. The Standard Plans Manual and associated Transmittal Letters are available online in PDF format at <https://standardplans.dot.state.mn.us/StdPlan.aspx>
5. Any technical questions regarding this transmittal should be directed to Khamsai Yang, State Design Standards Engineer, at (651) 366-4708, or by email to DesignStandards.DOT@state.mn.us



Khamsai Yang, P.E.

State Design Standards Engineer
Office of Project Management and Technical Support

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Summary of Changes
Standard Plan 5-297.254 – Driveway and Sidewalk Details
Transmittal Letter No. (22-01)

General

1. Standard Plan 5-297-254, Sheet 3 of 4, has been revised.

Sheet 3 of 4

1. Note 1 has been modified: The following last sentence has been removed: “MAXIMUM 2 EXPANSIONS PER DRIVEWAY.”

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<u>SERIES</u>	<u>SUBJECT</u>
5-297.000	BLANK
5-297.100	GRADING
5-297.200	SURFACING
5-297.300	VEGETATION
5-297.400	DRAINAGE, EROSION CONTROL, AND SEDIMENT CONTROL
5-297.500	BLANK
5-297.600	SAFETY FEATURES AND SPECIAL STRUCTURES
5-297.700	SIGNING
5-297.800	TEMPORARY TRAFFIC CONTROL, PAVEMENT MARKING, LIGHTING, AND SIGNALS

<u>PLAN NO.</u>	<u>SUBJECT</u>	<u>APPROVAL DATE</u>	<u>REVISION DATE</u>
	5-297.000 BLANK		
	5-297.100 GRADING		
5-297.106	Standard Acceleration and Deceleration Lanes (Rural) Bituminous Pavement	05-27-14	
5-297.108	Standard Acceleration and Deceleration Lanes (Urban) Bituminous Pavement	05-27-14	
5-297.111	Right and Left-Turn Lanes	05-27-14	
5-297.115 (1 of 2)	Staking Information Sheet	08-06-14	
5-297.115 (2 of 2)	Staking Information Sheet	08-06-14	
	5-297.200 SURFACING		
5-297.209	Acceleration and Deceleration Lane (Rural) Rigid Design Mainline Jointed Pavement 15 Ft. Panel Length	02-16-16	
5-297.210	Acceleration and Deceleration Lane (Urban) Rigid Design Mainline Jointed Pavement 15 Ft. Panel Length	02-16-16	
5-297.217 (1 of 2)	Concrete Mainline Pavement 15 Ft. Panel Length Rural	02-16-16	
5-297.217 (2 of 2)	Concrete Mainline Pavement 15 Ft. Panel Length Urban or Concrete Shoulder	02-16-16	
5-297.219	Concrete Ramp/Loop Pavement 15 Ft. Panel Length	02-16-16	
5-297.221 (1 of 4)	Pavement Joints Contraction (Design C)	08-13-20	
5-297.221 (2 of 4)	Pavement Joints Expansion (Design E)	08-13-20	
5-297.221 (3 of 4)	Pavement Joints Longitudinal (Design L)	08-13-20	
5-297.221 (4 of 4)	Pavement Joints Construction and Terminal Headers	08-13-20	
5-297.222 (1 of 2)	Bridge Approach Panel Layout (Type F Concrete Barrier on Wingwall)	02-16-16	08-22-16
5-297.222 (2 of 2)	Bridge Approach Panel Layout (Type S Concrete Barrier on Wingwall)	08-22-16	
5-297.223 (1 of 2)	Bridge Approach Panel Reinforcement Details (Type F Concrete Barrier on Wingwall)	12-20-11	08-22-16
5-297.223 (2 of 2)	Bridge Approach Panel Reinforcement Details (Type S Concrete Barrier on Wingwall)	08-22-16	
5-297.224 (1 of 2)	Bridge Approach Panel Layout (Type F Concrete Barrier on Approach Panel)	02-16-16	08-22-16
5-297.224 (2 of 2)	Bridge Approach Panel Layout (Type S Concrete Barrier on Approach Panel)	08-22-16	
5-297.225 (1 of 2)	Bridge Approach Panel Reinforcement Details (Type F Concrete Barrier on Approach Panel)	12-20-11	08-22-16
5-297.225 (2 of 2)	Bridge Approach Panel Reinforcement Details (Type S Concrete Barrier on Approach Panel)	08-22-16	

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5-297.227 (1 of 2)	Bridge Approach Panel Miscellaneous Details (Type F Concrete Barrier)	12-20-11	08-22-16
5-297.227 (2 of 2)	Bridge Approach Panel Miscellaneous Details (Type S Concrete Barrier)	08-22-16	
5-297.228 (1 of 2)	Bridge Approach Panel Joint Layout (Type F Concrete Barrier)	03-23-11	08-22-16
5-297.228 (2 of 2)	Bridge Approach Panel Joint Layout (Type S Concrete Barrier)	08-22-16	
5-297.229	Bridge Approach Panel Joint Details	12-20-11	03-22-13
5-297.231 (1 of 2)	Bridge Approach Panel Drainage Details (Type F Concrete Barrier)	03-23-11	08-22-16
5-297.231 (2 of 2)	Bridge Approach Panel Drainage Details (Type S Concrete Barrier)	08-22-16	
5-297.233 (1 of 2)	Bridge Abutment Approach Treatment for Abutment on Footing	08-22-19	
5-297.233 (2 of 2)	Bridge Abutment Approach Treatment for Abutment on Footing	08-22-19	
5-297.234 (1 of 2)	Bridge Abutment Approach Treatment for Integral Abutments	08-22-19	
5-297.234 (2 of 2)	Bridge Abutment Approach Treatment for Integral Abutments	08-22-19	
5-297.235	Pavement End Anchors Under Concrete Pavement (Grades 4% or Greater)	08-06-14	
5-297.250 (1 of 6)	Pedestrian Curb Ramp Details	11-04-21	
5-297.250 (2 of 6)	Pedestrian Curb Ramp Details	11-04-21	
5-297.250 (3 of 6)	Pedestrian Curb Ramp Details	11-04-21	
5-297.250 (4 of 6)	Pedestrian Curb Ramp Details	11-04-21	
5-297.250 (5 of 6)	Pedestrian Curb Ramp Details	11-04-21	
5-297.250 (6 of 6)	Pedestrian Curb Ramp Details	11-04-21	
5-297.254 (1 of 4)	Driveway and Sidewalk Details	11-04-21	
5-297.254 (2 of 4)	Driveway and Sidewalk Details	11-04-21	
5-297.254 (3 of 4)	Driveway and Sidewalk Details	11-04-21	12-23-21
5-297.254 (4 of 4)	Driveway and Sidewalk Details	11-04-21	
	5-297.300		
	VEGETATION		
5-297.301 (1 of 3)	Standard Planting Details	12-11-15	02-14-19
5-297.301 (2 of 3)	Standard Planting Details	12-11-15	
5-297.301 (3 of 3)	Standard Planting Details	12-11-15	
5-297.302 (1 of 1)	Protection and Restoration of Vegetation	12-11-15	
	5-297.400		
	DRAINAGE AND EROSION CONTROL, AND SEDIMENT CONTROL		
5-297.404 (1 of 3)	Permanent Erosion Control - Along Roadways, Ditches, and Flumes	02-28-17	
5-297.404 (2 of 3)	Permanent Erosion Control - Turf Establishment Detail at Culvert Ends	01-08-20	
5-297.404 (3 of 3)	Permanent Erosion Control - REPP (Blanket) Staple Pattern For Slopes	01-08-20	
5-297.405 (1 of 8)	Temporary Sediment Control - Silt Curtain or Silt Fence Type TB	02-28-17	
5-297.405 (2 of 8)	Temporary Sediment Control - Filter Berms, Sediment Control Logs, and Bale Barriers	01-08-20	
5-297.405 (3 of 8)	Temporary Sediment Control - Ditch Check	01-08-20	
5-297.405 (4 of 8)	Temporary Sediment Control - Storm Drain Inlet Protection	02-28-17	
5-297.405 (5 of 8)	Temporary Sediment Control - Stabilized Construction Exit	02-28-17	
5-297.405 (6 of 8)	Temporary Sediment Control - Silt Fence	02-28-17	
5-297.405 (7 of 8)	Temporary Sediment Control - Super Duty Silt Fence	02-28-17	
5-297.405 (8 of 8)	Temporary Sediment Control - Culvert End Controls	02-28-17	
5-297.407	Permanent Erosion Control - Bioengineering Soil Stabilization	08-06-14	
5-297.409	Temporary Erosion Control - Temporary Poly Coverings	02-28-17	
5-297.430	Subsurface Drains	08-06-14	
5-297.431	Subsurface Drains	08-06-14	

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5-297.432	Subsurface Drains	08-06-14	
5-297.433	Subsurface Drains, Outlet Pipes for Edge and Subcut Drains	08-06-14	
5-297.440	Standard Culvert Bedding for Flexible Pipe (without treatments)	01-18-19	
5-297.441	Standard Culvert Bedding for Rigid Pipe (without treatments)	01-18-19	
5-297.442	Standard Storm Sewer Bedding for Rigid and Flexible Pipe	01-18-19	
5-297.500			
BLANK			
5-297.600			
SAFETY FEATURES AND SPECIAL STRUCTURES			
5-297.601 (1 of 4)	Guardrail / End Treatments Miscellaneous Details	05-14-21	
5-297.601 (2 of 4)	Guardrail / End Treatments Miscellaneous Details	05-14-21	
5-297.601 (3 of 4)	Guardrail / End Treatments Miscellaneous Details	05-14-21	
5-297.601 (4 of 4)	Guardrail / End Treatments Miscellaneous Details	05-14-21	
5-297.603	W-Beam Transition to Concrete F-Shape Safety Rail with Approach Curb (Steel Post)	05-27-14	
5-297.605	W-Beam Transition to Concrete F-Shape Safety Rail with Approach Curb (Wood Post)	05-27-14	
5-297.607	W-Beam Transition to Concrete J-Shape Safety Rail with Approach Curb (Wood Post)	11-17-16	
5-297.608	Guardrail Transition to Glulam Timber Bridge Rail	03-26-21	
5-297.609 (1 of 2)	W-Beam Transition to Concrete End Post With or Without Approach Curb (Wood Post)	11-17-16	
5-297.609 (2 of 2)	W-Beam Transition to Concrete End Post With or Without Approach Curb (Wood Post)	11-17-16	
5-297.611 (1 of 6)	Thrie-Beam Bullnose Guardrail for Medians – System Widths 14' 2-1/2" to 24' Misc. Details	05-03-21	
5-297.611 (2 of 6)	Thrie-Beam Bullnose Guardrail for Medians – System Widths Over 24'	05-03-21	
5-297.611 (3 of 6)	Thrie-Beam Bullnose Guardrail for Medians – Bullnose Transition to W-Beam Rail	05-03-21	
5-297.611 (4 of 6)	Thrie-Beam Bullnose Guardrail for Medians – Nose Assembly and Curb Details	05-03-21	
5-297.611 (5 of 6)	Thrie-Beam Bullnose Guardrail for Medians – Post, Block, and Hardware Details	05-03-21	
5-297.611 (6 of 6)	Thrie-Beam Bullnose Guardrail for Medians – Grading and Cross Section	05-03-21	
5-297.612	Proprietary End Terminal – Tangent for Type 31 Guardrail	11-02-21	
5-297.613	Proprietary End Terminal – Flared for Type 31 Guardrail	11-02-21	
5-297.618	W-Beam Transition to Concrete J-Shape Safety Rail With Approach Curb (Steel Post)	11-17-16	
5-297.619 (1 of 2)	W-Beam Transition to Concrete End Post With or Without Approach Curb (Steel Post)	11-17-16	
5-297.619 (2 of 2)	W-Beam Transition to Concrete End Post With or Without Approach Curb (Steel Post)	11-17-16	
5-297.620	Retaining Wall General Notes and Summary of Quantities	08-27-14	09-01-16
5-297.621	Retaining Wall Reinforcement Details (Short Walls)	08-27-14	09-01-16
5-297.622	Retaining Wall Reinforcement Details (Medium Walls)	08-27-14	09-01-16
5-297.623	Retaining Wall Reinforcement Details (Tall Walls)	08-27-14	09-01-16
5-297.624 (1 of 6)	Retaining Wall Miscellaneous Details	02-16-16	09-01-16
5-297.624 (2 of 6)	Retaining Wall Miscellaneous Details	08-27-14	09-01-16
5-297.624 (3 of 6)	Retaining Wall Miscellaneous Details	08-27-14	09-01-16
5-297.624 (4 of 6)	Retaining Wall Miscellaneous Details (Geotechnical Details)	02-16-16	
5-297.624 (5 of 6)	Retaining Wall Miscellaneous Details (Geotechnical Details)	08-27-14	09-01-16
5-297.624 (6 of 6)	Retaining Wall Miscellaneous Details (Geotechnical Details)	08-27-14	09-01-16
5-297.625	Retaining Wall Shear Lug Details	08-27-14	
5-297.626 (1 of 4)	Retaining Wall Panel Tabulations (Level Fill)	08-27-14	09-01-16
5-297.626 (2 of 4)	Retaining Wall Panel Tabulations (Level Fill)	08-27-14	09-01-16

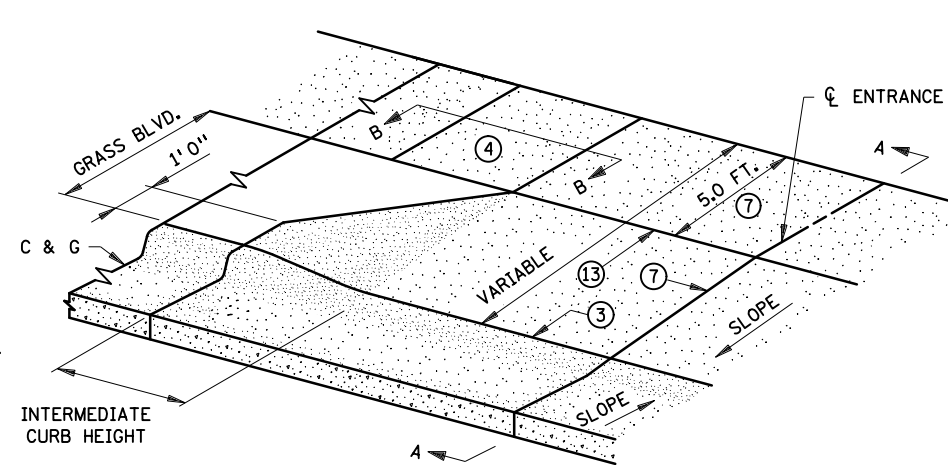
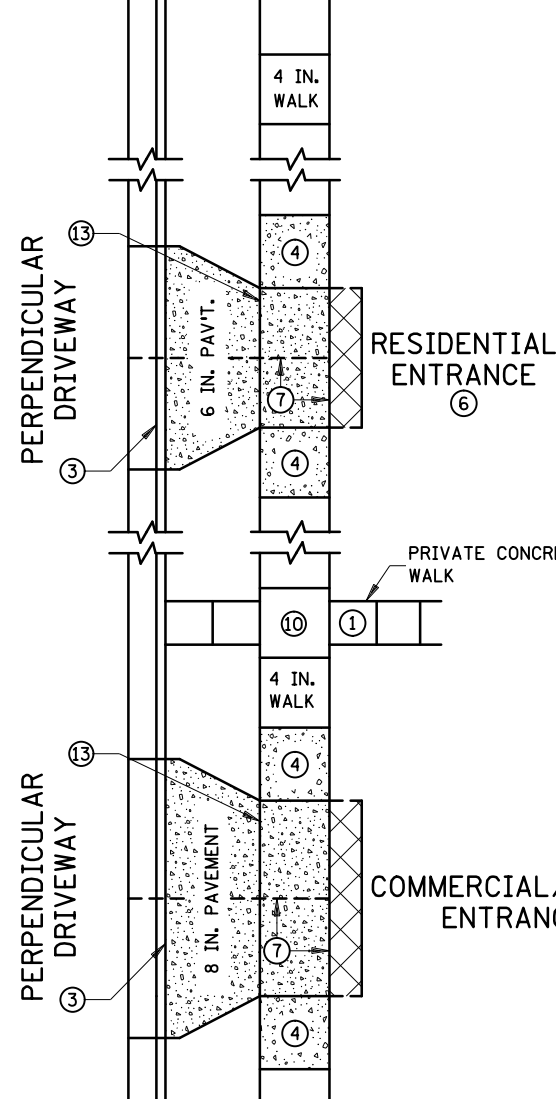
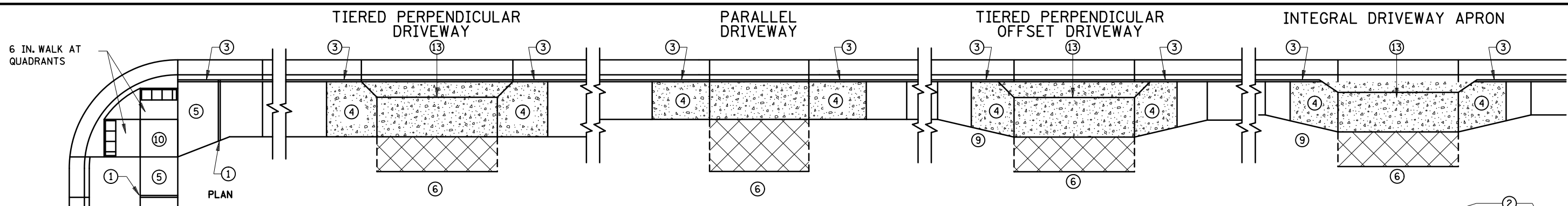
PLAN NO.	SUBJECT	APPROVAL	REVISION
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5-297.626 (3 of 4)	Retaining Wall Panel Tabulations (Level Fill)	08-27-14	09-01-16
5-297.626 (4 of 4)	Retaining Wall Panel Tabulations (Level Fill)	08-27-14	09-01-16
5-297.627 (1 of 3)	Retaining Wall Panel Tabulations (1V:2H Sloped Fill)	08-27-14	09-01-16
5-297.627 (2 of 3)	Retaining Wall Panel Tabulations (1V:2H Sloped Fill)	08-27-14	09-01-16
5-297.627 (3 of 3)	Retaining Wall Panel Tabulations (1V:2H Sloped Fill)	08-27-14	09-01-16
5-297.628 (1 of 3)	Retaining Wall Panel Tabulations (Live Load Surcharge)	09-01-16	
5-297.628 (2 of 3)	Retaining Wall Panel Tabulations (Live Load Surcharge)	09-01-16	
5-297.628 (3 of 3)	Retaining Wall Panel Tabulations (Live Load Surcharge)	09-01-16	
5-297.630 (1 of 2)	Retaining Wall (Level Fill) Spread Footing Geometry and Data	08-27-14	09-01-16
5-297.630 (2 of 2)	Retaining Wall (Level Fill) Pile Foundation Geometry and Data	08-27-14	09-01-16
5-297.631 (1 of 2)	Retaining Wall (1V:2H Sloped Fill) Spread Footing Geometry and Data	08-27-14	09-01-16
5-297.631 (2 of 2)	Retaining Wall (1V:2H Sloped Fill) Pile Foundation Geometry and Data	08-27-14	09-01-16
5-297.632 (1 of 2)	Retaining Wall (Live Load Surcharge) Spread Footing Geometry and Data	08-27-14	09-01-16
5-297.632 (2 of 2)	Retaining Wall (Live Load Surcharge) Pile Foundation Geometry and Data	08-27-14	09-01-16
5-297.633	Retaining Wall Concrete Parapet (Type P-1)	09-01-16	
5-297.634	Retaining Wall Concrete Parapet (Type P-4)	09-01-16	
5-297.635	Retaining Wall Concrete Barrier (Type F, TL-4)	09-01-16	
5-297.636	Retaining Wall Concrete Barrier (Type S, TL-4)	09-01-16	
5-297.638	Concrete Retaining Wall Rustication	08-27-14	
5-297.639	Cast In Place Concrete Retaining Wall Basis of Design	08-27-14	
5-297.640	Modular Block Retaining Wall General Notes	12-01-14	
5-297.641	Modular Block Retaining Wall Soil Reinforcement for Level Fill, Case 1	08-06-14	
5-297.643	Modular Block Retaining Wall Soil Reinforcement for 1:2 Fill Slope, Case 3	08-06-14	
5-297.644	Modular Block Retaining Wall Soil Reinforcement for 1:3 Fill Slope, Case 4	08-06-14	
5-297.645	Modular Block Retaining Wall Details	08-06-14	
5-297.646	Reinforced Soil Slope General Notes	12-01-14	
5-297.647	Reinforced Soil Slope (45° Maximum Slope)	08-06-14	
5-297.648	Reinforced Soil Slope (70° Maximum Slope)	08-06-14	
5-297.649	Reinforced Soil Slope Details	08-06-14	
5-297.661 (1 of 3)	Wood Planking Noise Wall with Concrete Posts	10-22-19	
5-297.661 (2 of 3)	Wood Planking Noise Wall with Concrete Posts	10-22-19	
5-297.661 (3 of 3)	Wood Planking Noise Wall with Concrete Posts	10-22-19	
5-297.678 (1 of 5)	Glue Laminated Rubrail (Concrete Posts) General Layout: Planking on Residential Side	10-22-19	
5-297.678 (2 of 5)	Glue Laminated Rubrail (Concrete Posts) General Layout: Planking on Highway Side	10-22-19	
5-297.678 (3 of 5)	Glue Laminated Rubrail (Concrete Posts) Concrete Post Construction Details	10-22-19	
5-297.678 (4 of 5)	Glue Laminated Rubrail (Concrete Posts) Rubrail Sections and Spacer Block	10-22-19	
5-297.678 (5 of 5)	Glue Laminated Rubrail (Concrete Posts) Anchor Cable, Anchor Plate, and Splice Plate	10-22-19	
5-297.680 (1 of 2)	Temporary Portable Precast Concrete Barrier Anchoring	07-16-19	
5-297.680 (2 of 2)	Temporary Portable Precast Concrete Barrier Anchoring - Transition Systems	07-16-19	
5-297.681 (1 of 7)	Concrete Median Barrier Single Slope - Type 36 A, Type 42 A, and Type 54 A	04-14-20	07-22-20
5-297.681 (2 of 7)	Concrete Median Barrier Single Slope -Type 36 A Step, Type 42 A Step, and Type 54 A Step	04-14-20	07-22-20
5-297.681 (3 of 7)	Concrete Median Barrier Single Slope - Type 36 A-A, Type 42 A-A, and Type 54 A-A	04-14-20	07-22-20

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5-297.681 (4 of 7)	Concrete Median Barrier Single Slope – End Anchor and Expansion/Open Joint Anchor	04-14-20	07-22-20
5-297.681 (5 of 7)	Concrete Median Barrier Single Slope – Light Foundation/Sign Base Transition - Monolithic Barrier Placement	04-14-20	07-22-20
5-297.681 (6 of 7)	Concrete Median Barrier Single Slope – Light Foundation/Sign Base Transition – Barrier on Footing	04-14-20	07-22-20
5-297.681 (7 of 7)	Concrete Median Barrier Single Slope – Type F Barrier Transitions - Single Slope Vertical Transitions	04-14-20	07-22-20
5-297.684 (1 of 2)	W-Beam Transition to Pier Columns Without Approach Curb (Steel Post)	11-17-16	
5-297.684 (2 of 2)	W-Beam Transition to Pier Columns without Approach Curb (Steel Post)	11-17-16	
5-297.686 (1 of 3)	Box Beam Transition to Concrete F-Shape Barrier	05-27-14	
5-297.686 (2 of 3)	Box Beam Transition to Concrete F-Shape Barrier (Details)	05-27-14	
5-297.686 (3 of 3)	Box Beam Transition to Concrete F-Shape Barrier (Curb Transition and Splice Details)	05-27-14	
5-297.688	High Tension Cable Barrier Median Placement and Overlap	10-27-14	
5-297.690	Traffic Barrier Type 31 Assembly Details	03-06-20	
5-297.692	Traffic Barrier Type 31 End Anchorage Assembly Details	03-02-20	
5-297.693 (1 of 3)	Approach Guardrail Transition (AGT) Type 31 at Vertical End Post - Assembly Details	02-09-21	
5-297.693 (2 of 3)	Approach Guardrail Transition (AGT) Type 31 at Vertical End Post - Curb Details	02-09-21	
5-297.693 (3 of 3)	Approach Guardrail Transition (AGT) Type 31 at Vertical End Post - Miscellaneous and Component Details	02-09-21	
5-297.694 (1 of 3)	Approach Guardrail Transition (AGT) Type 31 at Single Slope End Post - Assembly Details	02-09-21	
5-297.694 (2 of 3)	Approach Guardrail Transition (AGT) Type 31 at Single Slope End Post – Curb Details	02-09-21	
5-297.694 (3 of 3)	Approach Guardrail Transition (AGT) Type 31 at Single Slope End Post - Miscellaneous and Component Details	02-09-21	
5-297.696	Traffic Barrier Type 31 Low Fill / Long Span – Omitted Post Details	07-19-16	
	5-297.700		
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5-297.701	Standard Sign Placement Type C & D	10-16-19	
5-297.702	Delineator and Marker Placement	06-28-21	
5-297.703	Sign, Delineator, and Marker Placement near Interchange Ramp Gores	10-26-19	
5-297.710 (1 of 4)	Extruded Panel Mounting Details	12-16-21	
5-297.710 (2 of 4)	Extruded Panel Mounting Details – Panel Mounting Post Details	12-16-21	
5-297.710 (3 of 4)	Extruded Panel Mounting Details	12-16-21	
5-297.710 (4 of 4)	Extruded Panel Mounting Details	12-16-21	
5-297.711 (1 of 2)	I-Beam Supported Sign Structural Details - Footings and Base Connection	05-03-21	
5-297.711 (2 of 2)	I-Beam Supported Sign Structural Details - Post and Friction Fuse	05-03-21	
5-297.713	I-Beam Supported Sign Structural Details - Shallow Spread Foundation	05-03-21	
5-297.721	Three-Wall Base – For 1¼” Square-Tube Riser Post	05-03-21	
5-297.726 (1 of 3)	Sign Mounted on Concrete Wall	05-03-21	
5-297.726 (2 of 3)	Sign Mounted on Concrete Wall – Sign Mounting Details	05-03-21	
5-297.726 (3 of 3)	Sign Mounted on Concrete Wall – Sign Connection Details	05-03-21	
5-297.730	Sign Mounting Systems for Round Supports	10-16-19	
5-297.731	Sign Mounting Details for Signal Mast Arms	10-16-19	04-17-20
5-297.740 (1 of 4)	Concrete Rail Mounted Sign	06-04-19	
5-297.740 (2 of 4)	Concrete Rail Mounted Sign - Steel Connection Details	06-04-19	
5-297.740 (3 of 4)	Concrete Rail Mounted Sign - Sign Mounting Details	06-04-19	
5-297.740 (4 of 4)	Concrete Rail Mounted Sign - Sign Connection Details	06-04-19	

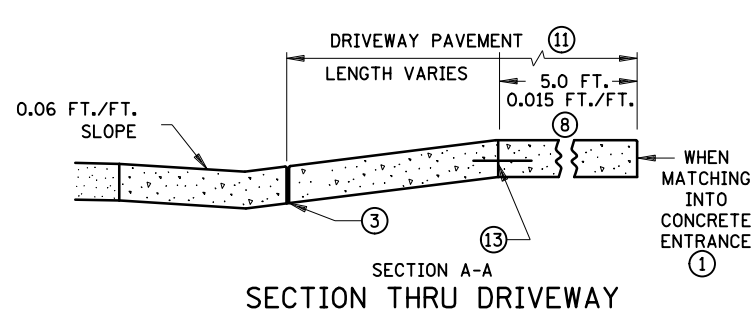
<u>PLAN NO.</u>	<u>SUBJECT</u>	<u>APPROVAL DATE</u>	<u>REVISION DATE</u>
5-297.741	Structural Details for Bridge Mounted Type D Signs	06-04-19	
5-297.742	Structural Details for Bridge Mounted Type D Signs - Minor Guide Signs	06-04-19	
5-297.745	Monotube Overhead Sign Structures - General Elevations, Sections, and Notes	01-15-21	
5-297.746 (1 of 2)	Monotube Overhead Sign Structures - Foundation Details	01-15-21	
5-297.746 (2 of 2)	Monotube Overhead Sign Structures - Foundation Details	01-15-21	
5-297.747 (1 of 2)	Monotube Overhead Sign Structures - Simple Span - Post and Baseplate Details	01-15-21	
5-297.747 (2 of 2)	Monotube Overhead Sign Structures - Simple Span - Beam Details	01-15-21	
5-297.748 (1 of 2)	Monotube Overhead Sign Structures - Cantilever - Post and Baseplate Details	01-15-21	
5-297.748 (2 of 2)	Monotube Overhead Sign Structures - Cantilever - Beam Details	01-15-21	
5-297.749 (1 of 2)	Monotube Overhead Sign Structures - Sign Panel and Exit Panel Geometry	01-15-21	
5-297.749 (2 of 2)	Monotube Overhead Sign Structures - Sign Panel and Exit Panel Details	01-15-21	
5-297.750	Panel Mounting Post Modification Details	01-15-21	
5-297.752	Type F Median Barrier Foundation - Spread Footing	05-01-19	05-28-19
5-297.753	Type F Median Barrier Foundation - Drilled Shaft Footing	05-01-19	05-28-19
5-297.754	Single Slope Median Barrier Foundation - Spread Footing	05-01-19	05-28-19
5-297.755	Single Slope Median Barrier Foundation - Drilled Shaft Footing	05-01-19	05-28-19
5-297.760 (1 of 3)	Standard Overhead Sign Structures - Design D - Implementation Instructions and Notes	05-01-19	05-28-19
5-297.760 (2 of 3)	Standard Overhead Sign Structures - Design D - Cantilever Span Post and Truss Selection Table	05-01-19	05-28-19
5-297.760 (3 of 3)	Standard Overhead Sign Structures - Design D - Cantilever Span Post and Truss Selection Table	05-01-19	05-28-19
5-297.761	Standard Overhead Sign Structures - Design D - General Elevations, Sections and Notes	03-05-20	
5-297.762	Standard Overhead Sign Structures - Design D - Camber, Post Type, and Estimated Quantities	03-05-20	
5-297.763 (1 of 2)	Standard Overhead Sign Structures - Design D - Foundation Details	03-05-20	05-26-20
5-297.763 (2 of 2)	Standard Overhead Sign Structures - Design D - Foundation Details	03-05-20	
5-297.764	Standard Overhead Sign Structures - Design D - Base Plate, Handhole, Electrical, and Cover Plate Details	03-05-20	
5-297.765	Standard Overhead Sign Structures - Design D - Truss-to-Post Connection Details	03-05-20	
5-297.766	Standard Overhead Sign Structures - Design D - Sign Truss Details Type A	05-01-19	05-28-19
5-297.767	Standard Overhead Sign Structures - Design D - Sign Truss Details Type B	05-01-19	05-28-19
5-297.768	Standard Overhead Sign Structures - Design D - Sign Truss Details Type C	05-01-19	05-28-19
5-297.769 (1 of 3)	Standard Overhead Sign Structures - Design D - Walkway Details	03-05-20	
5-297.769 (2 of 3)	Standard Overhead Sign Structures - Design D - Walkway Details: Railing	03-05-20	
5-297.769 (3 of 3)	Standard Overhead Sign Structures - Design D - Walkway Details	05-01-19	
5-297.770	Standard Overhead Sign Structures - Design D - Walkway and Railing Retrofit Details	05-01-19	
5-297.772	Standard Overhead Sign Structures - Design D - DMS Mounting Details	03-05-20	
5-297.773	Standard Overhead Sign Structures - Design D - Rock Socket Foundation Details	01-15-21	
5-297.774	Standard Overhead Sign Structures - Design D - Variable Length Drilled Shaft Details	01-15-21	

<u>PLAN NO.</u>	<u>SUBJECT</u>	<u>APPROVAL DATE</u>	<u>REVISION DATE</u>
5-297.779	Overhead Sign Structures - Foundation Extension - Design D Extension Details - Type 1-4 Posts	01-15-21	
5-297.780 (1 of 2)	Overhead Sign Structures - Foundation Extension - Design D Extension Details - Type 5-6 Posts	01-15-21	
5-297.780 (2 of 2)	Overhead Sign Structures - Foundation Extension - Design D Extension Details - Type 5-6 Posts	01-15-21	
5-297.781	Overhead Sign Structures - Foundation Extension – Interim Design B Extension Details - Type 1-4 Posts	01-15-21	
5-297.782 (1 of 2)	Overhead Sign Structures - Foundation Extension – Interim Design B Extension Details - Type 5-7 Posts	01-15-21	
5-297.782 (2 of 2)	Overhead Sign Structures - Foundation Extension – Interim Design B Extension Details - Type 5-7 Posts	01-15-21	
5-297.783	Overhead Sign Structures - Foundation Extension - Design B Extension Details - Type 1-3 Posts	01-15-21	
5-297.784 (1 of 2)	Overhead Sign Structures - Foundation Extension - Design B Extension Details - Type 4-5 Posts	01-15-21	
5-297.784 (2 of 2)	Overhead Sign Structures - Foundation Extension - Design B Extension Details - Type 4-5 Posts	01-15-21	
5-297.785 (1 of 2)	Overhead Sign Structures - Foundation Extension - Design B Extension Details - Type 6-7 Posts	01-15-21	
5-297.785 (2 of 2)	Overhead Sign Structures - Foundation Extension - Design B Extension Details - Type 6-7 Posts	01-15-21	
5-297.786 (1 of 2)	Overhead Sign Structures - Foundation Extension - Design B Extension Details - Type 8-9 Posts	01-15-21	
5-297.786 (2 of 2)	Overhead Sign Structures - Foundation Extension - Design B Extension Details - Type 8-9 Posts	01-15-21	
5-297.787 (1 of 3)	Overhead Sign Structures - Foundation Extension - Design B Extension Details - Type 10-13 Posts	01-15-21	
5-297.787 (2 of 3)	Overhead Sign Structures - Foundation Extension - Design B Extension Details - Type 10-13 Posts	01-15-21	
5-297.787 (3 of 3)	Overhead Sign Structures - Foundation Extension - Design B Extension Details - Type 10-13 Posts	01-15-21	
5-297.788	Overhead Sign Structures - Foundation Extension - Design B Extension Details - Type 14-15 Posts	01-15-21	
5-297.789 (1 of 2)	Overhead Sign Structures - Foundation Extension - Design B Extension Details - Type 16-19 Posts	01-15-21	
5-297.789 (2 of 2)	Overhead Sign Structures - Foundation Extension - Design B Extension Details - Type 16-19 Posts	01-15-21	
5-297.800			
TEMPORARY TRAFFIC CONTROL, PAVEMENT MARKING, LIGHTING, AND SIGNALS			
5-297.801	Interim Pavement Markings and Signing	10-10-19	
5-297.805 (1 of 5)	Temporary Overhead Sign Structures – General Elevation and Notes	03-06-20	
5-297.805 (2 of 5)	Temporary Overhead Sign Structures – Foundation Details	03-06-20	
5-297.805 (3 of 5)	Temporary Overhead Sign Structures – Post and Baseplate Details	03-06-20	
5-297.805 (4 of 5)	Temporary Overhead Sign Structures – Beam Details	06-28-21	
5-297.805 (5 of 5)	Temporary Overhead Sign Structures – Sign Panel and Panel Mounting Post Details	03-06-20	
5-297.811 (1 of 2)	Alternate Pedestrian Route (APR) Layouts	03-18-21	
5-297.811 (2 of 2)	Alternate Pedestrian Route (APR) Layouts	03-18-21	
5-297.813 (1 of 2)	Temporary Pedestrian Access Route (TPAR) Devices – Channelizers, Sidewalk Barricades, and Portable Stands	03-18-21	
5-297.813 (2 of 2)	Temporary Pedestrian Access Route (TPAR) Devices – Temporary Curb Ramps and Walkway Surfaces	03-18-21	
5-297.820 (1 of 3)	T-100 Light Tower Pile Foundation Design	11-05-19	
5-297.820 (2 of 3)	T-120 Light Tower Pile Foundation Design	11-05-19	
5-297.820 (3 of 3)	T-140 Light Tower Pile Foundation Design	11-05-19	

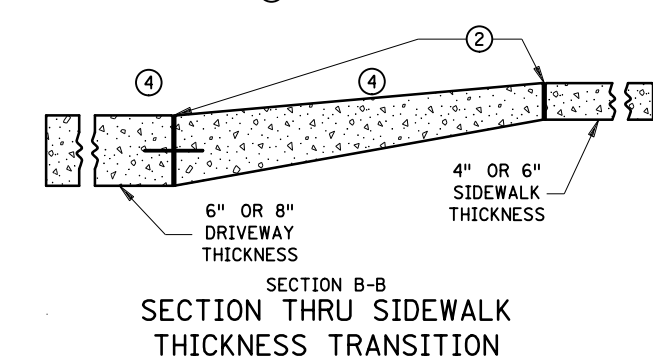
<u>PLAN NO.</u>	<u>SUBJECT</u>	<u>APPROVAL</u> <u>DATE</u>	<u>REVISION</u> <u>DATE</u>
5-297.821 (1 of 3)	T-100 Light Tower Mat Foundation Design	11-05-19	
5-297.821 (2 of 3)	T-120 Light Tower Mat Foundation Design	11-05-19	
5-297.821 (3 of 3)	T-140 Light Tower Mat Foundation Design	11-05-19	



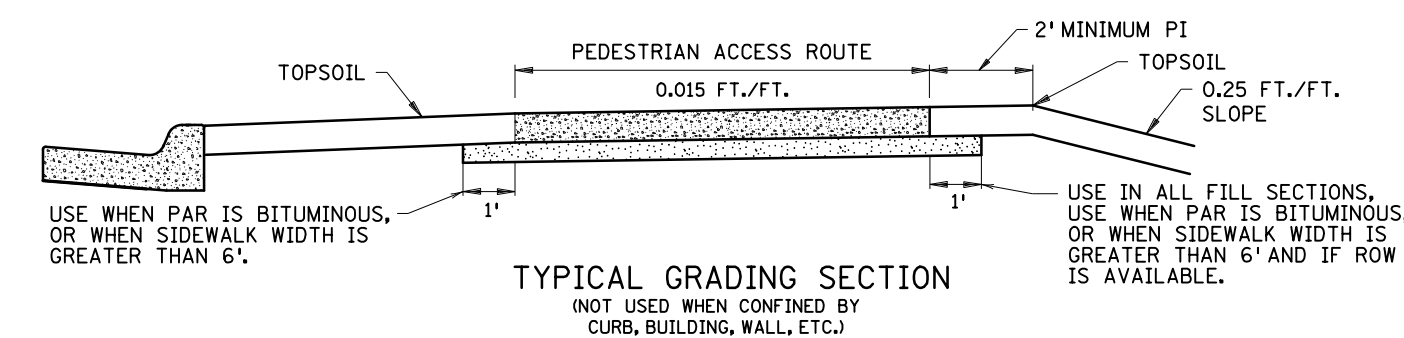
HALF PLAN PERSPECTIVE
PERPENDICULAR DRIVEWAYS WITH GRASS BOULEVARDS



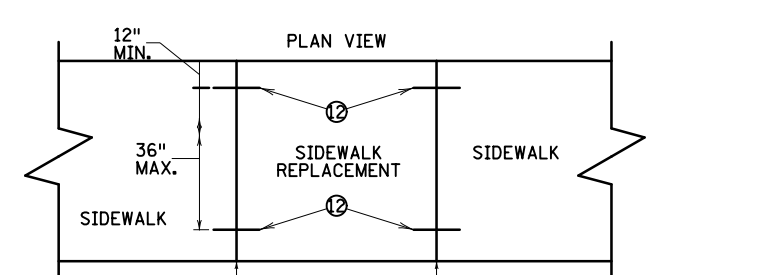
SECTION A-A
SECTION THRU DRIVEWAY



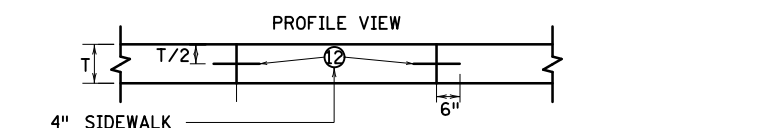
SECTION B-B
SECTION THRU SIDEWALK THICKNESS TRANSITION



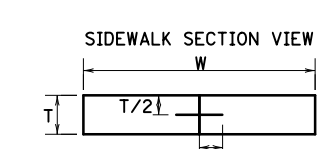
TYPICAL GRADING SECTION
(NOT USED WHEN CONFINED BY CURB, BUILDING, WALL, ETC.)



PLAN VIEW
SIDEWALK REPLACEMENT



PROFILE VIEW
TRANSVERSE SIDEWALK TIE BAR REINFORCEMENT RETROFITS ONLY



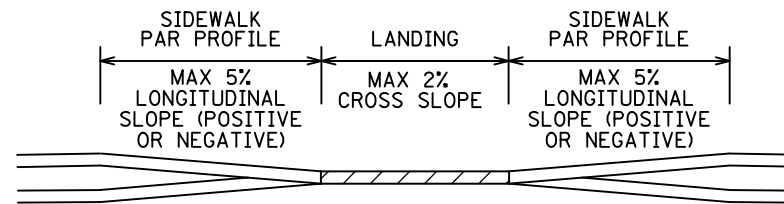
SIDEWALK SECTION VIEW
LONGITUDINAL SIDEWALK REINFORCEMENT JOINTS

SIDEWALK LONGITUDINAL JOINT TIE BAR TABLE				
SIDEWALK WIDTH, W	SIDEWALK THICKNESS, T	TIE BAR SIZE	LENGTH	SPACING
> 7'	4"	No. 4	12"	24"
>10'	6"	No. 4	12"	36"

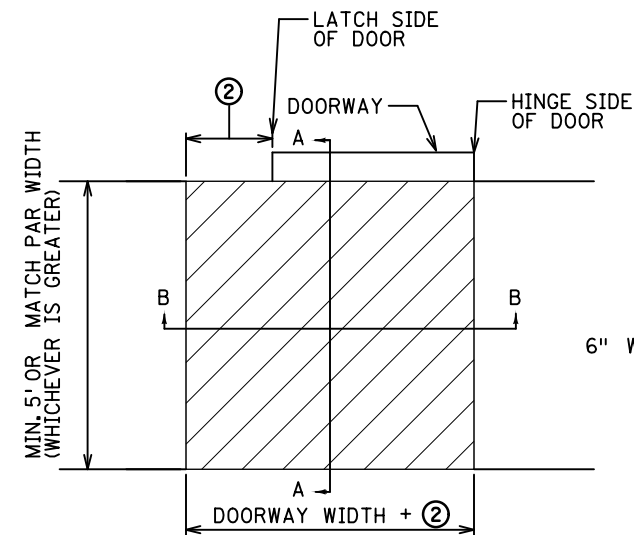
FOR 4" CONCRETE ONLY: CAST IN PLACE BARS MUST BE SUPPORTED WITH P-STAKES OR REINFORCEMENT BASKETS FOR FULL WIDTH CONCRETE PLACEMENTS.
FOR 6" CONCRETE ONLY: DRILL AND GROUT OR CAST IN PLACE THROUGH HOLES IN THE FORMS REQUIRED FOR STAGED ADJACENT CONCRETE PLACEMENTS.

- NOTES:**
- ALL SIDEWALK AND BOULEVARD WIDTHS SHALL BE MEASURED FROM BACK OF CURB.
 - TO MINIMIZE SIDEWALK "ROLLER COASTER" EFFECT IT IS DESIRABLE TO KEEP THE PAR ELEVATION CONTINUOUS OR AT LEAST IN THE UPPER HALF OF CURB HEIGHT. 4" HIGH CURB SHOULD BE USED INSTEAD OF 6" HIGH CURB TO HELP THIS PROBLEM WHEN APPLICABLE.
 - 4" HIGH ADJACENT CURB IS PREFERRED WHEN BOULEVARDS 4' OR LESS ARE PRESENT MEASURED FROM THE BACK OF CURB. WHEN THE DRIVEWAY IS SLOPING DOWN FROM THE ROADWAY (NEGATIVE) 4" HIGH ADJACENT CURB SHOULD ALSO BE USED.
 - SEE FACILITY DESIGN GUIDE, CHAPTER 6, FOR GEOMETRIC DESIGN OF DRIVEWAYS.
 - ① CONSTRUCT WITH EXPANSION MATERIAL PER MNDOT SPECIFICATION 3702 TYPES A-E. EXPANSION MATERIAL SHALL MATCH FULL HEIGHT OF ADJACENT CONCRETE. DRIVEWAY EXPANSION SHALL BE PLACED AT TOP OR BOTTOM OF TRANSITION PANEL.
 - ② CONSTRUCT WITH EXPANSION MATERIAL MNDOT PER SPEC. 3702 TYPES A-E. EXPANSION MATERIAL SHALL MATCH FULL HEIGHT OF ADJACENT CONCRETE. MAXIMUM ONE EXPANSION PER DRIVEWAY PLACED AT EITHER TOP OR BOTTOM OF CONCRETE THICKNESS TRANSITION. IF MULTIPLE DRIVEWAYS EXIST PLACE ONE EXPANSION BETWEEN EACH DRIVEWAY. IF NO DRIVEWAY EXIST PLACE A MAXIMUM OF ONE EXPANSION PER 150' OF SIDEWALK RUN.
 - ③ USE AN APPROVED TYPE F (1/4 INCH THICK) SEPARATION MATERIAL. SEPARATION MATERIAL SHALL MATCH FULL HEIGHT DIMENSION OF ADJACENT CONCRETE.
 - ④ TRANSITION DRIVEWAY THICKNESS TO WALK THICKNESS. IF THERE IS A CONSTRUCTION JOINT AND NO EXPANSION IS USED, INSTALL TIE BARS.
 - ⑤ TRANSITION CURB RAMP THICKNESS TO WALK THICKNESS.
 - ⑥ MATCH INPLACE DRIVEWAY WIDTH, MATERIAL TYPE AND THICKNESS.
 - ⑦ FORM CONTRACTION JOINT AS NEEDED TO PRODUCE APPROXIMATELY SQUARE PANELS. CONCRETE PANEL SIZE SHOULD NOT EXCEED 1 1/2 : 1 LENGTH X WIDTH. 81 SF FOR 6" CONCRETE DRIVEWAY WITH 9'X9' MAXIMUM PANEL SIZE. 144 SF FOR 8" CONCRETE DRIVEWAY WITH 12'X12' MAXIMUM PANEL SIZE. MATCH DRIVEWAY APRON AND SIDEWALK JOINTS.
 - ⑧ THE PEDESTRIAN ACCESS ROUTE CROSS-SLOPE, SHALL NOT EXCEED 0.02 FT./FT. AS CONSTRUCTED.
 - ⑨ 1:10 MIN. SIDEWALK OFFSET TAPER REQUIRED FOR SIDEWALK REPLACEMENT PROJECTS. 1:3 MIN. AND 1:5 MIN. PREFERRED SIDEWALK OFFSET TAPER FOR DRIVEWAY REPLACEMENT.
 - ⑩ LANDING REQUIRED, SEE NEXT SHEET FOR MORE INFORMATION.
 - ⑪ CONCRETE DRIVEWAY APRON AND CONCRETE DRIVEWAY SIDEWALK SECTIONS SHALL BE CONSTRUCTED SEPARATELY IN AN INDEPENDENT CONCRETE POUR. ENGINEER'S APPROVAL REQUIRED FOR MONOLITHIC PLACEMENTS.
 - ⑫ DRILL AND GROUT NO. 4 X 12" LONG TIE BARS (EPOXY COATED). 36" MAXIMUM SPACING BETWEEN BARS COVER PLACED 1' MINIMUM FROM ADJACENT CONSTRUCTION JOINTS. 1' MINIMUM FROM ADJACENT CONCRETE JOINTS. BARS TO BE ADJUSTED TO MATCH SIDEWALK GRADES. TO BE PAID BY EACH.
 - ⑬ DRILL AND GROUT OR CAST IN-PLACE THROUGH HOLES IN THE FORMS NO. 4 X 12" LONG TIE BARS (EPOXY COATED). 36" MAXIMUM SPACING BETWEEN BARS WITH 2" MINIMUM CONCRETE COVER PLACED 1' MINIMUM FROM ADJACENT CONSTRUCTION JOINTS. 1' MINIMUM FROM ADJACENT CONCRETE JOINTS.

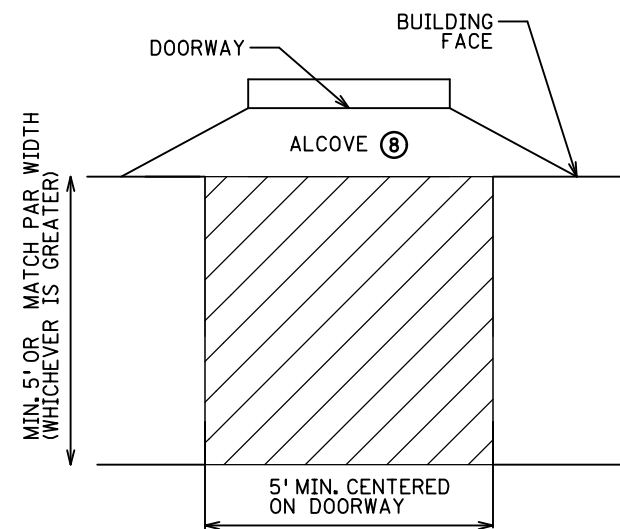
REVISION: 12-23-2021
APPROVED: 11-04-2021
Jeffrey J. Perkins
JEFFREY PERKINS
OPERATIONS DIVISION



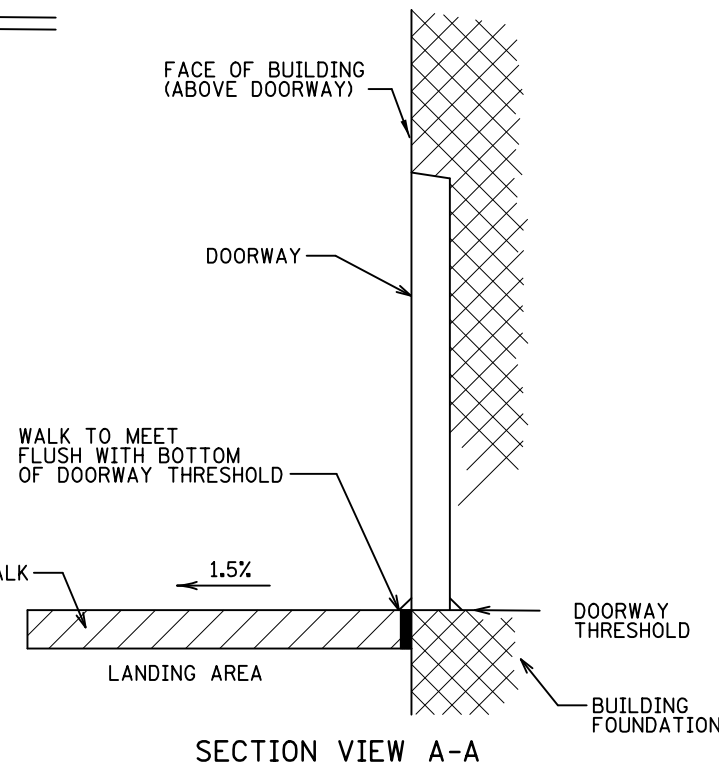
SECTION VIEW B-B



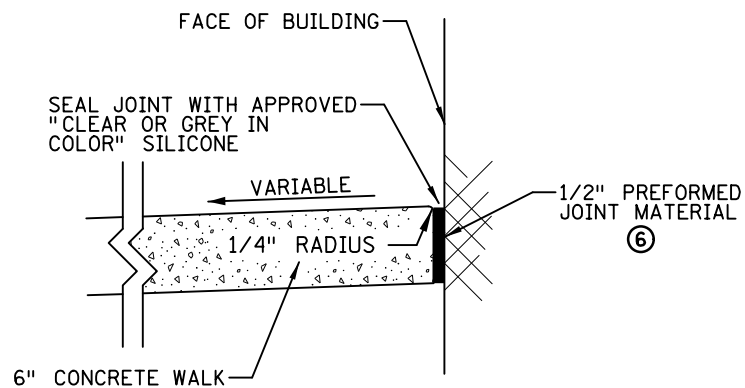
PLAN VIEW DOORWAY



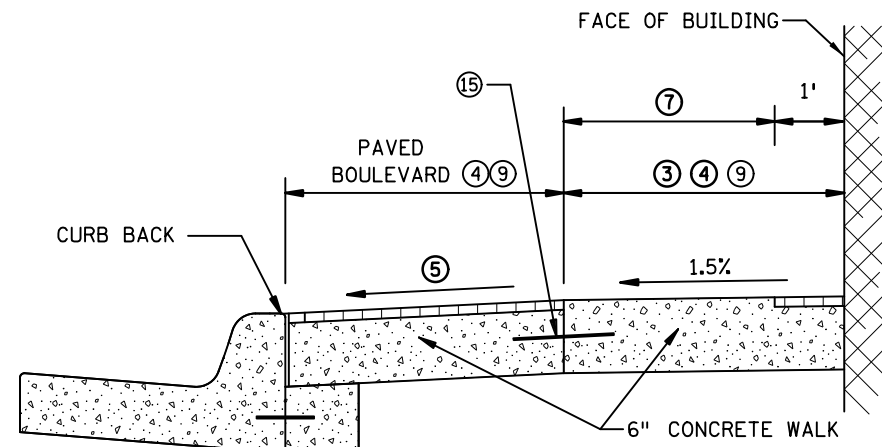
PLAN VIEW DOORWAY WITH ALCOVE
SIDEWALK LANDING REQUIREMENTS ①



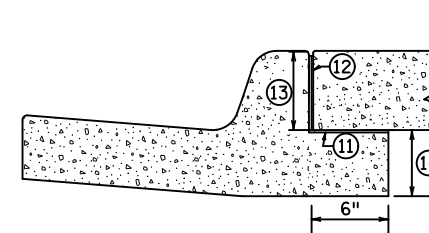
SECTION VIEW A-A



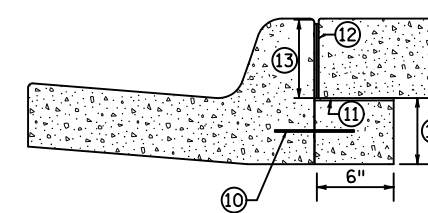
BUILDING JOINT SEAL (INCIDENTAL)



DOWNTOWN SIDEWALK TYPICAL SECTION



SLIP FORM SILL



FIXED FORM SILL

SILL CURB SHOULD BE USED AT ALL LOCATIONS WHEN CONCRETE WALK IS AT BACK OF CURB, INCLUDING PAVED BOULEVARD.
SILL CURB SHALL NOT BE USED IN CURB RAMP AND DRIVEWAY AREAS, INCLUDING CONCRETE FLARES.
SILL CURB WITH 4" WALK CAN USE FIXED OR SLIP FORM OPTIONS.

NOTES:

- ① 6" WALK IS REQUIRED:
 - ② IN ALL SIDEWALK LOCATIONS WHERE VARIABLE SLOPED CONCRETE BOULEVARDS ARE PAVED, SUCH AS COMMERCIAL (STORE FRONT, DOWNTOWN) AREAS.
 - ③ ANYTIME DRILL AND REINFORCEMENT IS USED TO TIE LONGITUDINAL JOINTS TOGETHER.
 - ④ TO ELIMINATE LONGITUDINAL JOINT WHEN INCREASING PANEL SIZE OVER 36SF.
 - ⑤ AT LOCATIONS WHERE MAINTENANCE EQUIPMENT WILL SUBJECT CONCRETE TO HEAVY LOADS.
- ALL SIDEWALK AND BOULEVARD WIDTHS SHALL BE MEASURED FROM BACK OF CURB.
FIELD ADJUST SIDEWALK PROFILES TO MEET ALL DOORWAY THRESHOLDS.
SIDEWALK MUST MAINTAIN POSITIVE DRAINAGE AWAY FROM THE BUILDING TO THE ROADWAY.
SEE SPECIAL PROVISIONS FOR SILICONE SPECIFICATIONS.
- ① LANDING CRITERIA IS REQUIRED FOR ALL DOORS, STEPS, AND PRIVATE WALKS. FEASIBILITY DECREASES WITH NARROWER BOULEVARDS AND STEEPER SIDEWALK PROFILES.
 - ② 18" MIN. WHEN DOOR SWINGS OUTWARD FROM BUILDING. 12" MIN WHEN DOOR SWINGS INWARD FROM BUILDING.
 - ③ 6' MIN. PAR REQUIRED WHEN ADJACENT TO BUILDINGS.
 - ④ 2/3 PAR TO 1/3 BOULEVARD SHOULD BE USED WHEN FEASIBLE. HOLD UNIFORM BOULEVARD WIDTH. 4' PREFERRED MINIMUM BOULEVARD.
 - ⑤ 1%-5% FOR THE MAJORITY OF THE BLOCK, WITH EXCEPTIONS UP TO 8% IN CONSTRAINED AREAS.
 - ⑥ CONSTRUCT USING APPROVED EXPANSION MATERIAL PER MNDOT TYPE A-E EXPANSION. LEAVE A MINIMUM 1/2" TOP GAP AND SEAL WITH MNDOT APPROVED SILICONE PER MNDOT SPEC 3722.
 - ⑦ TO MINIMIZE VIBRATION AND ROLLING RESISTANCE, AREA SHALL BE FREE OF PAVERS, STAMPED CONCRETE, AND/OR EXCESSIVE JOINTING.
 - ⑧ 2% MAX. PER BUILDING CODE. IF GREATER THAN 2%, FLATTEN AS FEASIBLE.
 - ⑨ FORM CONTRACTION JOINTS AS NEEDED TO PRODUCE APPROXIMATELY SQUARE PANEL SIZE. CONCRETE PANEL SIZE SHOULD NOT EXCEED 1 1/2 : 1 LENGTH X WIDTH.
 - ⑩ DRILL AND GROUT NO. 4 X 8" LONG TIE BARS (EPOXY COATED). 36" MAXIMUM SPACING BETWEEN BARS WITH 2" MINIMUM CONCRETE COVER PLACED 1' MINIMUM FROM ADJACENT CONSTRUCTION JOINTS. 1' MINIMUM FROM ADJACENT CONCRETE JOINTS. TIE BARS SHALL BE EMBEDDED 4" WITH 2" MINIMUM CONCRETE COVER AND ARE INCIDENTAL TO SILL PLACEMENT.
 - ⑪ FURNISH AND INSTALL THE FULL WIDTH OF THE TOP OF SILL A MINIMUM 2ML THICK POLYTHENE SHEETING.
 - ⑫ USE AN APPROVED TYPE F (1/4 INCH THICK) SEPARATION MATERIAL. SEPARATION MATERIAL SHALL MATCH FULL HEIGHT DIMENSION OF ADJACENT CONCRETE.
 - ⑬ DIMENSION TO BE SAME AS SIDEWALK THICKNESS, 4" MIN.
 - ⑭ 6" WALK: 5" MIN. FOR B424; 7" MIN. FOR B624
4" WALK: 7" MIN. FOR B424; 9" MIN. FOR B624
 - ⑮ DRILL AND GROUT NO. 4 X 12" LONG TIE BARS (EPOXY COATED). 36" MAXIMUM SPACING BETWEEN BARS WITH 2" MINIMUM CONCRETE COVER PLACED 1' MINIMUM FROM ADJACENT CONCRETE JOINTS.

REVISION:
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m MINNESOTA
DEPARTMENT OF TRANSPORTATION
STANDARD PLAN 5-297.254 4 OF 4
Tom Styrbicki
THOMAS STYRBICKI
STATE DESIGN ENGINEER
APPROVED: 11-04-2021
REVISED:
STATE PROJ. NO. (TH) SHEET NO. OF SHEETS

DRIVEWAY AND SIDEWALK DETAILS