

**Revisions/Updates to the Alberta Transportation  
“Highway Geometric Design Guide”  
and  
CB6 Highway Standard Plates**

**Summary**

- **Highway Geometric Design Guide**

This bulletin is being issued due to a revision and/or update to the Alberta Transportation, “Highway Geometric Design Guide” (HGDG).

The revisions and/or updates are indicated in the HGDG Revisions/Updates Summary Table, below, and are found in the appropriate chapter(s) or section(s) of the “Highway Geometric Design Guide”. **The latest updates are indicated as “Mar. 2023”.**

The link to the home page of the “Highway Geometric Design Guide” is:

<https://www.alberta.ca/highway-geometric-design-guide.aspx>

- **CB6 Highway Standard Plates**

Various CB6 Highway Standard Plates have been affected by the revisions/updates to the “Highway Geometric Design Guide”. The changes to the standard drawings are indicated in the CB6 Revisions/Updates Summary Table, below. **No CB6 changes are included in this revision of the design bulletin.**

All current standard CB6 drawings are in the “CB6 Highway Standard Plates – Active” website at:

<https://www.alberta.ca/cb-6-highway-standard-plates-active.aspx>

The inactive (superseded and obsolete) standard CB6 drawings are in the “CB6 Highway Standard Plates – Inactive” website at:

<https://www.alberta.ca/cb-6-highway-standard-plates-inactive.aspx>

The link to the home page of the “CB6 Highway Standard Plates” is:

<https://www.alberta.ca/cb-6-highway-standard-plates.aspx>

**Implementation**

For all new design and planning projects, the revisions/updates to the “Highway Geometric Design Guide”, as indicated in this design bulletin, are to be implemented immediately.

Projects currently underway should follow these revised standards when reasonable based on the direction of the Alberta Transportation Project Sponsor.

Effective Date: April 2018  
Revision 1 Date: July 11, 2019

Revision 2 Date: July 30, 2020  
Revision 3 Date: September 30, 2020  
Revision 4 Date: January 25, 2021  
Revision 5 Date: February 2021  
Revision 6 Date: December 13, 2021  
Revision 7 Date: March 31, 2022  
Revision 8 Date: April 17, 2023

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## Revisions/Updates Summary Table (Alberta Transportation, “Highway Geometric Design Guide”)

The “Highway Geometric Design Guide” homepage is at <https://www.alberta.ca/highway-geometric-design-guide.aspx>

Section	Description	Date
Chapter G	<ul style="list-style-type: none"> <li>• Rewrite of 1999 Chapter G, 3R/4R Geometric Design Guidelines.</li> <li>• The 3R/4R process is clarified to better indicate the activities (general scope of work, initial review, standard review, detailed analysis) and sequence of activities involved in a typical 3R/4R assessment.</li> <li>• The minimum lane and shoulder widths on ramps and high load corridors has been included.</li> <li>• The minimum K values for vertical crest curves and sag curves are now based on design speed, not running speed.                             <ul style="list-style-type: none"> <li>○ The values reflect the changes to eye height and object height (Chapter B).</li> <li>○ The tables include values for more design speeds.</li> </ul> </li> <li>• Some of the values for minimum intersection sight distance (Table G-4a) have been revised to reflect consistent rounding of values from Chapter D.</li> <li>• The rumble strip section better reflects current Alberta Transportation practices.</li> <li>• Some of the acceptable sideslopes on an existing approach have been changed.</li> <li>• Evaluation of the existing superelevation on existing horizontal curves is now based on design speed, not the 85<sup>th</sup> percentile running speed.                             <ul style="list-style-type: none"> <li>○ Some values of minimum radius in Table G-7a have been changed.</li> <li>○ The process and rationale to determine whether superelevation adjustment is warranted have been clarified.</li> <li>○ Examples for assessing superelevation have been provided.</li> </ul> </li> </ul>	Mar. 2023

	<ul style="list-style-type: none"> <li>• Incorporated Design Bulletin 17 – Highway Geometric Design Guide Urban Supplement (Chapter G) <ul style="list-style-type: none"> <li>○ Chapter G of the HGDG (March 2023) has superseded Chapter G of the “Highway Geometric Design Guide Urban Supplement”.</li> </ul> </li> <li>• Incorporated Design Bulletin 27 – Provincial Highway Service Classification System and Provision of Additional Pavement Width to Allow for Two Future Overlays. <ul style="list-style-type: none"> <li>○ The remainder of this design bulletin is superseded due to the new content of Chapter G of the HGDG (March 2023). <b>This design bulletin is now completely superseded by the HGDG</b> and has been moved to the “Inactive Design Bulletins” page.</li> </ul> </li> </ul>	
Acknowledgements	Updated.	Mar. 2023
Chapter A	<ul style="list-style-type: none"> <li>• Minor text changes throughout Chapter A.</li> <li>• Table A-2-3-2a. <ul style="list-style-type: none"> <li>○ Some changes to vehicle volumes, design speeds, right-of-way widths and minor text changes.</li> </ul> </li> <li>• Section A.7.3, Typical Travel Lane and Shoulder Widths. <ul style="list-style-type: none"> <li>○ This section has been deleted. The information is contained in Chapter C.</li> </ul> </li> <li>• Table A-8-2a. <ul style="list-style-type: none"> <li>○ Some changes to design speed ranges.</li> </ul> </li> <li>• Table A-10-1a and Table A-10-1b. <ul style="list-style-type: none"> <li>○ Some design parameters have been corrected or updated.</li> <li>○ Most of the notes on the second page have been deleted. Detailed information is contained in other chapters of the guide.</li> </ul> </li> </ul>	Feb. 2022
Chapter C	<ul style="list-style-type: none"> <li>• Rewrite of 1999 Chapter C.</li> <li>• Incorporated Design Bulletin 16 – Drainage Guidelines for Highways Under Provincial Jurisdiction in Urban Areas. <ul style="list-style-type: none"> <li>○ This design bulletin is superseded and has been moved to the “Inactive</li> </ul> </li> </ul>	Feb. 2022

	<p>Design Bulletins” page.</p> <ul style="list-style-type: none"> <li>• Incorporated Design Bulletin 17 – Highway Geometric Design Guide Urban Supplement (Chapter C). <ul style="list-style-type: none"> <li>○ Chapter C of the HGDG (February 2022) has superseded Chapter C of the “Highway Geometric Design Guide Urban Supplement”.</li> </ul> </li> <li>• Incorporated Design Bulletin 27 – Provincial Highway Service Classification System and Provision of Additional Pavement Width to Allow for Two Future Overlays. <ul style="list-style-type: none"> <li>○ This design bulletin is revised due to the new content of Chapter C of the HGDG (February 2022).</li> </ul> </li> <li>• Incorporated Design Bulletin 67 – Median Crossovers on Rural Divided Highways <ul style="list-style-type: none"> <li>○ This design bulletin is superseded and has been moved to the “Inactive Design Bulletins” page.</li> </ul> </li> <li>• Incorporated Design Bulletin 70 – Highway Geometric Design Guide, Centreline to Centreline Spacing for New Rural Divided Highways. <ul style="list-style-type: none"> <li>○ This design bulletin is superseded and has been moved to the “Inactive Design Bulletins” page.</li> </ul> </li> </ul>	
Chapter E	<ul style="list-style-type: none"> <li>• Updated figures for exit and entrance terminals for divided highways.</li> </ul>	Feb. 2022
Chapter J	<ul style="list-style-type: none"> <li>• Updated cross sections for some low volume rural roads.</li> </ul>	Feb. 2022
Acknowledgements	Updated.	Feb. 2022
Chapter E	<ul style="list-style-type: none"> <li>• Incorporated Design Bulletin 30 - Best practices for planning and design of freeway facilities, Design Bulletin 42 - Highway Geometric Design Guide Chapter E Interchanges - Shoulder Ramp Width, Design Bulletin 54 - Divided Highway Cross Section with C-D Road or Exit Ramp/Entrance Ramp on Alberta highways, Design Bulletin 84 - Considerations for Selection of Freeway Over/Under Configuration at Service Interchanges</li> <li>• New figure for dual lane exit and entrance terminal</li> <li>• New figure for Urban Freeway (UFD) with C-D Road Typical Cross Section</li> </ul>	Dec. 2021

	<ul style="list-style-type: none"> <li>• Minor revisions for interchange figures, mainly text changes to align with Chapter B</li> </ul>	
Acknowledgements	Updated	Nov. 2021
Chapter F	<ul style="list-style-type: none"> <li>• Incorporated Design Bulletin 38 – Vehicle Inspection Stations / Rest Areas in Highway Median</li> <li>• New classifications for Safety Rest Areas</li> <li>• Most figures were updated to align with Chapters A and B, and new classifications</li> </ul>	Feb. 2021
Acknowledgements	Updated	Feb. 2021
Chapter J	<ul style="list-style-type: none"> <li>• This chapter will replace the previous Chapter H Local Roads.</li> <li>• Tables J-3-1a, J-3-4-2a (some design parameters have been updated).</li> <li>• Figures J-3-4-2a, J-3-4-2b, J-3-4-2c, Table A-8-2a (some design parameters have been updated)</li> <li>• Figures J-4-1a, J-4-1b, J-4-1c, J-4-1d (updated notes)</li> </ul>	Jan. 2021
Chapter A	<ul style="list-style-type: none"> <li>• Table A-10-1a and Table A-10-1b (some design parameters have been corrected or updated).</li> <li>• Table A-8-2a (minor text changes)</li> </ul>	Sept. 2020
Chapter B	<ul style="list-style-type: none"> <li>• Rewrite of 1999 Chapter B</li> <li>• Incorporated Design Bulletin 7 – Guidelines for Establishment of No Passing Zones <ul style="list-style-type: none"> <li>○ This design bulletin is superseded and has been moved to the “Inactive Design Bulletins” page.</li> </ul> </li> <li>• Incorporated Design Bulletin 17 – Highway Geometric Design Guide Urban Supplement (Chapter B) <ul style="list-style-type: none"> <li>○ Chapter B of the HGDG (2020) has superseded Chapter B of the “Highway Geometric Design Guide Urban Supplement”.</li> </ul> </li> <li>• Incorporated Design Bulletin 66 – Highway Geometric Design Guide – Chapter</li> </ul>	Sept. 2020

	<p>B, Climbing Lane Warrants for Two Lane Undivided and Four Lane Divided Highways – Revised</p> <ul style="list-style-type: none"> <li>○ This design bulletin is superseded and has been moved to the “Inactive Design Bulletins” page.</li> </ul>	
Foreword	Updated “Format” section. Updated links. Minor text changes.	Sept. 2020
Acknowledgements	Updated	Sept. 2020
Chapter A	<p>Roadside Management Classification Map updated to incorporate Functional Classification (future vision) including delineation of urban and rural highway segments.</p> <p>Functional Classification – Existing Conditions Map updated.</p> <p>Descriptions updated on Pages 9, 10, 11, 36</p> <p>Figure A-2-4b updated based on functional class updates.</p> <p>References updated on Pages 51, 52</p>	July 2020
Chapter A	Figure A-2-5-1a was updated to align with the recommendation of High Load Corridor Network for Over-Size and Over-Weight Loads in Alberta completed in June 2018.	July 2019
Cover Page	Updated Date	Apr 2018
Foreword	Rewrite of 1999 Foreword	Apr 2018
Acknowledgements		Apr 2018
Chapter A	<p>Rewrite of 1999 Chapter A</p> <p>Incorporated Design Bulletin 17 – Highway Geometric Design Guide Urban Supplement Chapter A</p> <p>Added Design Exceptions, Option Selection, and Benefit Cost Analysis</p> <p>Added Traffic Statistics for Planning and Design</p> <p>Added Transition Segments and Hybrid Roadways</p>	Apr 2018

## Revisions/Updates Summary Table (CB6 Highway Standard Plates)

The “CB6 Highway Standard Plates” homepage is at <https://www.alberta.ca/cb-6-highway-standard-plates.aspx>

Drawing and Revision Number	Description	Status	Effective Date
CB6-2.3M1A Rev 1	Standard Cross-section for RAU/RCU-209-110	Obsolete	March 2022
CB6-2.3M1B Rev 4	Standard Cross-Section Using Modified Subgrade for RAU/RCU-209-110	Obsolete	March 2022
CB6-2.3M6 Original	Typical Cross-Section for RCU-208P-80 (Highway within Provincial Park Boundary)	Obsolete	March 2022
CB6-2.3M14 Rev 1	Standard Cross-Section for Six-Lane Divided Highway RFD/RAD-616.6-130	Obsolete	March 2022
CB6-2.3M15 Rev 1	Standard Cross-Section for Four-Lane Divided Highway RFD-412.4-130 & RAD-412.4-120	Obsolete	March 2022
CB6-2.3M26A Rev 1	Standard Cross-Section for RAU-213-130/120	Obsolete	March 2022
CB6-2.3M26B Rev 1	Standard Cross-Section for RAU-211-110	Obsolete	March 2022
CB6-2.3M27 Rev 1	Standard Cross-Section through Muskeg or Adjacent to Open Water on 2-Lane Undivided Highways	Obsolete	March 2022
CB6-2.3M36 Rev 1	Standard Cross-Section for Recreational Access Road RLU-207P	Obsolete	March 2022
CB6-2.3M37A Rev 1	Rounded Ditch (1.0m Depth) Approximation for Design Plotting and Work Stakes	Obsolete	March 2022
CB6-2.3M37B Original	Ditch Rounding (0.6 m Depth for Semi-Urban Areas)	Obsolete	March 2022
CB6-2.3M40 Rev 1	Standard Cross-Section for RAU-210-110	Obsolete	March 2022



CB6-2.3M40B Rev 4	Standard Cross-Section using Modified Subgrade for RAU-210-110	Obsolete	March 2022
CB6-2.3M41 Rev 1	Standard Cross-Section for RCU-208-110/100	Obsolete	March 2022
CB6-2.3M44 Rev 1	Standard Cross-Section for RCU-211L-110 (Log Haul Resource Roads)	Obsolete	March 2022
CB6-2.3M45 Rev 1	Standard Cross-Section in Rock Cut on Two-Lane Undivided Highways	Obsolete	March 2022
CB6-2.3M54 Original	Standard Cross-Section for RAU-212-120/110	Obsolete	March 2022
CB6-2.3M55 Rev 1	Standard Cross-Section for RAU-208-110/100	Obsolete	March 2022
CB6-2.4M1 Rev 1	Culvert Installation (Open-Cut Method)	New	March 31, 2022
CB6-2.4M1 Original	Corrugated Metal Pipe Culvert Installation (Open-Cut Method)	Superseded	March 31, 2022
CB6-2.4M4 Original	Details of Corrugated Steel Downrain Pipe	Obsolete	March 2022
CB6-2.4M7 Original	Sloped End Installations for Round Section Corrugated Steel Pipe	Obsolete	March 2022
CB6-2.4M9 Rev 3	Details of Standard Sloped End Sections for Plastic Culverts	New	March 31, 2022
CB6-2.4M9 Rev 2	Sloped End Installations for Plastic Culverts	Superseded	March 31, 2022
CB6-2.4.M11 Original	Details of Corrugated Steel Downrain Pipe with Storm Drain Inlet	Obsolete	March 2022
CB6-2.4M12 Rev 1	Typical Section Drop Inlet Installation into Corrugated Steel Cross Culvert (from 400 mm to 1200 mm Inlet Pipe)	Obsolete	March 2022
CB6-2.4M13 Rev 2	Typical Section Corrugated Steel Pipe Drop Inlet Assemblies	Obsolete	March 2022
CB6-2.4.M17	Details of Half-Round Corrugated Steel Pipe Downslope Drain	Obsolete	March 2022

Original			
CB6-2.4M20 Rev 1	Details of Outlet Drain Pipe (Renumbered from 3.11M10)	Obsolete	March 2022
CB6-2.5M1 Rev 1	Hand-Laid Riprap (Rock or Sacked Material)	New	March 31, 2022
CB6-2.5M1 Original	Hand Laid Riprap (Rock or Sacked Material)	Superseded	March 31, 2022
CB6-2.12M10 Rev 2	Purposes and Types of Fences	Obsolete	March 2022
CB6-3.50M5 Rev 4	Pavement Sideslope at Various Stages of "New Construction" Projects for RAU/RCU 210, RAU/RCU 209 and RCU 208	Obsolete	March 2022
CB6-3.50M6 Rev 3	Pavement Sideslope at Various Stages of "New Construction" Projects for RFD/RAD 616.6, RFD/RAD 412.4, RAU 213, RAU 212 and RAU 211	Obsolete	March 2022
CB6-3.50M7 Rev 3	Pavement Sideslope at Various Stages of "Widening" Type Projects for RAU/RCU 210, RAU/RCU 209 and RCU 208	Obsolete	March 2022
CB6-3.50M8 Rev 4	Pavement Sideslope at Various Stages of "Widening" Type Projects for RFD/RAD 616.6, RFD/RAD 412.4, RAU 213, RAU 212 and RAU 211	Obsolete	March 2022
CB6-3.50M9 Original	Typical Pavement Design for Four-Lane Divided Hwy RFD-412.4-130 & RAD-412.4-120	Obsolete	March 2022
CB6-4.2.M20 Original	Concrete Curb and Gutter (480 mm Wide x 350 mm High)	Obsolete	March 2022
CB6-4.2M25 Rev 2	Concrete Curb and Gutter (460 mm Wide x 370 mm High)	Obsolete	March 2022
CB6-4.2.M85 Rev 1	Typical Layout of Crosswalks and Location and Type of Sidewalk Ramps at Urban Intersections	Obsolete	March 2022
CB6-4.2.M86 Rev 1	Concrete Sidewalk Ramp for Wheelchair or Bicycle on Tangent (Type 1)	New	March 31, 2022
CB6-4.2.M86 Original	Concrete Sidewalk Ramp for Wheelchair or Bicycle on Tangent (Type 1)	Superseded	March 31, 2022
CB6-4.2.M87 Rev 1	Concrete Sidewalk Ramp for Wheelchair or Bicycle on Corner (Type 2)	New	March 31, 2022

CB6-4.2.M87 Original	Concrete Sidewalk Ramp for Wheelchair or Bicycle on Corner (Type 2)	Superseded	March 31, 2022
CB6-4.2M91 Original	Typical Sidewalk and Crosswalk Layout of Smaller Islands and Medians Less Than 6m Wide	Obsolete	March 2022
CB6-4.2M94 Original	Example of Use of Paving Stones on Urban Intersection	Obsolete	March 2022
CB6-4.2M96 Original	Wheelchair Ramp Special Catch Basin Manhole Cover	Obsolete	March 2022
CB6-4.2M97 Rev 1	Pedestrian Path of Travel - Dimensions of Envelope - Grate Size & Orientation	Obsolete	March 2022
CB6-5.15M9 Rev 1	Arched Corrugated Steel Pipe Sloped End Installations	Obsolete	March 2022