

DESIGN BULLETIN #22/2004 (Revised December 2006)

Clearance Boxes for Railway Overpass / Underpass and Typical Details for Highway Grade Separation.

Superseded January 2008 by Roadside Design Guide, November 2007
<http://www.infratrans.gov.ab.ca/3451.htm>

December 2006 Update to Design Bulletin #22/2004:

FIGURE C-9.3.1/C-9.3.1.2 Rev. 3 Supersedes Figure C-9.3.1/C-9.3.1.2 Rev. 2

FIGURE C-9.3.3 Rev. 1 Supersedes Figure C-9.3.3

Summary

The department has recently approved the following drawings (which are attached):

1. Figure C-9.3.1 Clearance Box for Railway Overpass
2. Figure C-9.3.2 Minimum Clearance Box for Railway Underpass and Grade Separation
3. Figure C-9.3.3 Typical Details of Highway Grade Separation for RAU – 412.4.

The first two drawings are revisions to current drawings in the department's Design Guide. The third drawing is new. The new drawing was required to show the department's typical practice for design of grade separations as the typical cross section built generally exceeds the "minimum clearance box" by a considerable amount. It is necessary to retain the "minimum clearance box" drawing for instances where this is relevant (e.g. for retrofitting or due to constraints). Some minor revisions (for clarification and enhancement) of the existing drawings were made.

Figure C-9.3.3 shows that the pier or wall offset on the right hand side is usually outside of the clear zone. Also, the beginning of the 2:1 headslope is typically offset from the travel lane by about 5.5m. As a 2:1 headslope is considered to be a minor hazard and possibly less severe than a roadside barrier system, the department's practice is to leave the 2:1 slope unprotected provided that the offset is approximately one half of the clear zone distance. This is a good trade-off between hazard mitigation and protection. Additional benefits of this system are the improved "openness" of the grade-separation and additional flexibility for future grade-widening of the highway.

Scope

These drawings are applicable to any roadway under provincial jurisdiction in Alberta.

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