

Title: Glenmore Trail & Deerfoot Trail Interchange, Crest K-value of 60 and Design Speed of 110km/h for Deerfoot Trail Overpass

Memorandum Date: June 16, 2011

Design Exception Request Date: May 17, 2011

Region: Southern

Approval Status: Approved

Project Location					
Highway	Control Section	At km	From km	To km	Existing AADT
2	15		24.104	26.678	121,440

Project Type (Mark all that apply with an X)			
Functional Planning:	New Construction: X	Reconstruction:	Paving/Surfacing:
Bridge:	Operations:	Geotechnical:	Environmental:
Other:			

Summary
A request to use a crest K-value of 60 for a design speed of 110km/h for the Deerfoot Trail overpass.
Rationale for Approval/Rejection
<ul style="list-style-type: none"> Alberta Transportations 3R/4R guideline accepts a minimum K-value of 50 for a design speed of 110km/h According to AASHTO's Geometric Design Policy, when using an object height of 0.6m, the calculated running speed for K60 is 98km/hr which is very close to the posted speed on Deerfoot Trail. By applying a K-value of 60, the eastbound-northbound ramp would stay at a 5% grade; if a K-value of 100 was used, those grades would have to be raised to exceed 5%.

Additional Mitigation Required
Mitigation: the reduced K-value will impact the decision sight distance (DSD). The proposed mitigation measure is to move the gore of the ultimate stage northbound exit CD road further north at least 160m. By doing this the DSD can be achieved.

Key Words
K-value, Decision sight distance

