BF 07154 Local Road Over Blindman River
Hydrotechnical Summary

Channel Capacity :

S = 0.0011
B = 14 m, h = 4.5 m, T_h = 26 m
Use AT equation

At Bank Height : Y = 4.5 m, V = 2.1 m/s, Q = 190 cms
At Channel Capacity : Y = 5.5 m, V = 2.5 m/s, Q = 290 cms

Historical Highwater Data :

HW was observed 1.4m below the deck in July 1986 (Y = 5.3m) and to the top of wheelguard and over the east grade in July 1990 (Y = 6.9m, appears suspect). Ice damage was noted in 1917 and a washout in 1927 may have been due to ice.

WSC gauge 05CC008 (DA = 352km^2, 1965 – Now) reports Q = 330cms in July 1990, with other large events in July of 1981, 1982, and 1986 (190 – 230cms). The rating curve shows a stage rise of just under 5m for the July 1990 event, with Q based on extrapolation (highest gauged event Q = 114cms, Y = 2.5m) and may be in the 260 – 300cms range. The largest storm in the database for this area is July 1990 with 145mm of rainfall, followed by July 1986 with 125mm and July 1982 with 115mm.

Basin Runoff Potential :

d = 70mm, T_p = 20hrs, q = 1.0 cms/km^2.
Gross DA = 355 km^2.
Q_p = 355 cms.

Conclusion :

The channel capacity estimate is consistent with historic observations and is within the basin runoff potential.

Recommended parameters : Y = 5.5 m, V = 2.5 m/s, Q = 290 cms.