BF 00966 Local Road Over Blindman River
Hydrotechnical Summary

Channel Capacity :

S = 0.0006
B = 22 m, h = 5.0 m, T_h = 40 m
Use AT equation

At Bank Height : Y = 5.0 m, V = 1.8 m/s, Q = 275 cms
At Channel Capacity : Y = 6.0 m, V = 2.1 m/s, Q = 400 cms

Historical Highwater Data :

HW has been recorded at this site in July 1982 (1.4m below deck, Y = 5.3m) and and July 1990 (0.4m above deck, Y = 7.0m, likely backwater due to superstructure in water). A 1972 report notes a HWM with Y = 5.3m and a 1998 BIM report notes a HWM with Y = 5.5m based on drift to the bottom of the superstructure. The 1975 design was based on Y = 5.2m, and it is noted that Y = 4.5 – 5.0m above ice has occurred six times since 1929.

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. Gauge 05CC001 (DA = 1790km^2, 1916 – 1922, 1962 - Now) reports Q = 395cms in July 1990. The largest storm in the database for this area is July 1990 with 120mm of rainfall (centred over upper basin), followed by July 1982 and 1986 with about 110mm.

Basin Runoff Potential :

d = 60 mm, T_p = 20 hrs, q = 0.83 cms/km^2.
Gross DA = 985 km^2.
Q_p = 820 cms.

Conclusion :

The channel capacity estimate is consistent with historic observations (except 1990 which likely included headloss through the structure) and is within the basin runoff potential.

Recommended parameters : Y = 6.0 m, V = 2.1 m/s, Q = 400 cms.