BF 00932 Local Road Over Ross Ck
Hydrotechnical Summary

Channel Capacity :

S = 0.0015
B = 8 m, h = 2.5 m, T_h = 20 m
Use n = 0.04

At Bank Height : Y = 2.5 m, V = 1.4 m/s, Q = 50 cms
At Channel Capacity : Y = 3.5 m, V = 1.9 m/s, Q = 100 cms

Historical Highwater Data :

HW was noted in April 1912 (washout), April 1952 (nearby land flooded), March 1994 (0.5m below deck, Y ~ 3.5m), and June 2002 (0.1m below deck, Y ~ 3.5 – 4m). A 1904 cross section notes a HWM with Y = 4m, and the 1974 design was based on Y = 2.5m and Q = 100cms.

WSC Gauge 05AH003 (DA = 647km^2, 1910 – 2000, some missing) reports Q ~ 90cms in April 1955, Q ~ 80cms in March 1994, and Q ~ 70cms in March 1951 and June 1953. WSC Gauge 05AH052 (DA = 808km^2, 2001 – Now) reports Q = 45cms in June 2002 with a stage rise of 2.5m. The largest storms in the storm database are 140mm of rainfall in June 1998 and about 120mm in June 2002.

Basin Runoff Potential :

d = 35 mm, T_p = 40 hrs, q = 0.25 cms/km^2.
Gross DA = 600 km^2.
Q_p = 150 cms.

Conclusion :

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

Recommended parameters : Y = 3.5 m, V = 1.9 m/s, Q = 100 cms.