01/12/05

BF 74458 Hwy 2 Over Highwood River
Hydrotechnical Summary

Channel Capacity :

S = 0.0012
B = 40 m, h = 4 m, T_h = 65 m
Use AT equation

At Bank Height : Y = 4 m, V = 2.1 m/s, Q = 450 cms
At Channel Capacity : Y = 5 m, V = 2.5 m/s, Q = 700 cms

Historical Highwater Data :

HW was observed in June 1963 (Y ~ 3.7m), May 1967 (Y ~ 3.2m), May 1990 (Y ~ 3.1m), and June 1995 (Y ~ 5.0m, bridge struck by grain bin).

Gauge 05BL004 (DA = 1980km^2, 1909 – 1915, 1986 – Now) reports Q ~ 800cms (June 1995, max gauging at Q ~ 70cms, 3.5m stage increase), and Q ~ 290 - 320cms (1990, 1998). Gauge 05BL009 (DA = 2340km^2, 1912 – 1993 (missing 1932)) reports Q = 710cms (June 1942) and Q = 640cms (June 1923).

Basin Runoff Potential :

Gross DA = 2140 km^2 (beyond range of technique)

Conclusion :

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

Y = 5.0 m, V = 2.5 m/s, Q = 700 cms.
EL 1028.0 m (16084-P)