01/12/05

BF 77498 Forestry Trunk Road Over Highwood River
Hydrotechnical Summary

Channel Capacity :

S = 0.009
B = 20 m, h = 2 m, T_h = 30 m
Use AT equation

At Bank Height : Y = 2.0 m, V = 3.0 m/s, Q = 150 cms
At Channel Capacity : Y = 3.0 m, V = 4.1 m/s, Q = 330 cms

Historical Highwater Data :

HW was observed in May 1990 (Y ~ 1.6m), June 1990 (Y ~ 1.0m), and June 1995 (Y ~ 2.1m). The design for the current bridge (DD933) was for Y ~ 3.0m.

WSC gauges 05BL021 (DA = 132km^2, 1966 - 1985) reports Q ~ 50cms (1974). Gauge 05BL019 (DA = 774km^2, 1952 – Now) reports Q ~ 650cms (June 1995, max gauging at Q ~ 310cms), and Q ~ 260 – 280cms (1953, 1967). D/s gauges note other large events in 1923, 1929, and 1942. The largest rainfalls in the storm database for this basin are about 110mm in June 1929, June 1932, and May 1942.

Basin Runoff Potential :

d = 70mm, T_p = 20hrs, q = 1.0 cms/km^2.
Gross DA = 345 km^2.
Q_p = 345 cms.

Conclusion :

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

Y = 3.0 m, V = 4.1 m/s, Q = 330 cms.
EL 1503.0 m (11711-P)