BF 00288 Hwy 800 Over Belly River
Hydrotechnical Summary

Channel Capacity :

S = 0.005
B = 30 m, h = 2.5 m, T_h = 50 m
Use AT equation

At Bank Height : Y = 2.5 m, V = 2.7 m/s, Q = 250 cms
At Channel Capacity : Y = 3.5 m, V = 3.5 m/s, Q = 500 cms

Historical Highwater Data :

HW has been recorded in June 1908 (to bottom chord, approach washout, considered similar to 1964 flood), June 1953 (bridge washed out), June 1964 (Y ~ 3.5m), June 1975 (extensive erosion of right bank, Y ~ 3.5m), April 1986 (high ice to Y = 3.5m), and June 1995 (Y = 2.5m).

WSC gauge 05AD005 (DA = 319km^2, 1912 – Now) is located u/s and gauge 05AD041 (DA = 657km^2, 1985 – Now) is located d/s. Gauge 05AD005 reports the highest events in June 1964 (Q = 465cms, gauged at Q = 317cms, Y ~ 3m), June 1975 (Q = 415cms), and June 1995 (Q = 330cms). Gauge 05AD041 reports the largest flows in June 1995 (Q = 570cms, gauged at Q = 175cms, very sharp hydrograph) and June 2002 (Q = 220cms). The largest storms in the database for this area are June 1964 with about 190mm of rainfall, June 1995 with 140mm, May 1964 with 130mm, and June 1975 with 125mm.

Basin Runoff Potential :

Area covers 150, 100 and 40mm ranges.
Gross DA = 420 km^2.
Q_p = 650 cms (based on d = 70mm over area d/s of BF01427).

Conclusion :

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

Y = 3.5 m, V = 3.5 m/s, Q = 500 cms
EL 496.0 m (11009-P)