BF 00835 Local Road Over Kneehills Ck
Hydrotechnical Summary

Channel Capacity :

S = 0.0016
B = 15 m, h = 4.0 m, T_h = 28 m
Use AT equation

At Bank Height : Y = 4.0 m, V = 2.3 m/s, Q = 200 cms
At Channel Capacity : Y = 5.0 m, V = 2.7 m/s, Q = 310 cms

Historical Highwater Data :

HW was observed at this site in April 1952 with water to the deck (Y = 5.0m). HW was also noted in 1902 (Y = 3.5m), 1916 (both approaches washed out), 1917 (bridge destroyed by ice, 4m wide x 0.5m thick floes, close to top of bank), and 1931 (water to 3' over the deck, superstructure washed d/s).

WSC Gauge 05CE002 (DA = 2430km^2, 1921-1930, 1957 – Now) is located d/s and reports Q = 150cms in April 1997. Gauging records show that the stream was gauged at Q = 170cms in April 1969 (stage rise = 3.2m). The largest storms for this area in the storm database are about 100mm of rainfall in June 1928 and 1970.

Basin Runoff Potential :

d = 35 mm, T_p = 40 hrs, q = 0.25 cms/km^2.
Gross DA = 2141 km^2.
Q_p = 530 cms.

Conclusion :

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

Recommended parameters : Y = 5.0 m, V = 2.7 m/s, Q = 310 cms.