BF 78224 Local Road Over Waiparous Ck
Hydrotechnical Summary

Channel Capacity:

S = 0.009
B = 12 m, h = 1.5 m, T_h = 22 m
Use AT equation

At Bank Height: Y = 1.5 m, V = 2.3 m/s, Q = 60 cms
At Channel Capacity: Y = 2.3 m, V = 3.3 m/s, Q = 140 cms

Historical Highwater Data:

1975 report notes a HWM with Y = 1.2m. 1993 BIM report notes a HWM with Y = 1.5m. 1994 BIM report notes a HWM with Y = 2.5m (no description).

WSC Gauge 05BG006 (DA = 333 km^2, 1966 – Now)
1967, reported Q ~ 110 cms
1983, reported Q ~ 64 cms
1990, reported Q ~ 150 cms
1995, reported Q ~ 93 cms
2005, reported Q ~ 240 cms
2013, reported Q ~ 270 cms

WSC Gauge 05BG009 (DA = 230km^2, 1977 – 1984)
1983, reported Q ~ 48 cms

The largest storms in the database for this area are June 1928 with 115mm of rainfall, and June 1970 with 105mm.

Basin Runoff Potential:

d = 75 mm, T_p = 20 hrs, q = 1.05 cms/km^2
Gross DA = 161 km^2.
Q_p = 170 cms.

Conclusion:

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

Recommended parameters: Y = 2.3 m, V = 3.3 m/s, Q = 140 cms.