BF 73899 Hwy 40 Over Waiparous Ck
Hydrotechnical Summary

Channel Capacity:

S = 0.0075
B = 14 m, h = 2 m, T_h = 26 m
Use AT equation

At Bank Height: Y = 2 m, V = 2.6 m/s, Q = 110 cms
At Channel Capacity: Y = 3 m, V = 3.7 m/s, Q = 250 cms

Historical Highwater Data:

HW was observed in June 1990 with Y = 1.7m. HWM have been reported in 1951 (Y = 1.8m), 1953 (Y = 2.3m), 1973 (Y = 1.5m).

WSC Gauge 05BG006 (DA = 333 km^2, 1966 – Now)
1967, reported Q ~ 110 cms
1983, reported Q ~ 64 cms
1990, reported Q ~ 150 cms, Y ~ 1.7 m
1995, reported Q ~ 93 cms, Y ~ 1.0 m
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 = 314 km^2.
Q_p = 330 cms.

Conclusion:

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

Recommended parameters: Y = 3 m, V = 3.7 m/s, Q = 250 cms.