BF 71105 Local Road over Wandering River
Hydrotechnical Summary

Channel Capacity :

S = 0.0004
B = 20 m, h = 3.0 m, T_h = 30 m
Use AT Equation

At Bank Height : Y = 3.0 m, V = 1.1 m/s, Q = 85 cms
At Channel Capacity : Y = 4.0 m, V = 1.4 m/s, Q = 150 cms

Historical Highwater Data :

HW was noted in 1950 (washout), 1970 (2.7m below deck, Y ~ 4.5m). A 1961 report notes a HWM with Y ~ 4.5m, and a 1994 BIM report notes a HWM with Y = 2.5m. The 1988 design was based on Y = 4m and Q = 130cms.

Gauge 07CA006 (DA = 1110km^2, 1971 – Now) reports Q = 75cms in August 1996, with Q = 60 – 70cms recorded in April 1974, June 1973, and July 1983. The rating curve notes a stage increase of ~ 1.2m for Q = 60cms. The largest storms in the storm database are 140mm of rainfall in June 1970, about 105mm in August 1980 and August 1996, and about 90mm in June 1973 and July 1983.

Basin Runoff Potential :

d = 40 mm, T_p = 20 hrs, q = 0.55 cms/km^2.
Gross DA = 1475 km^2
Q_p = 810cms.

Conclusion :

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

Recommended parameters : Y = 4.0 m, V = 1.4 m/s, Q = 150 cms.