BF 09881 Local Road Over Heart River
Hydrotechnical Summary

Channel Capacity :

S = 0.0014
B = 8 m, h = 3.0 m, T_h = 15 m
Use n = 0.04

At Bank Height : Y = 3.0 m, V = 1.5 m/s, Q = 50 cms
At Channel Capacity : Y = 4.0 m, V = 1.9 m/s, Q = 100 cms

Historical Highwater Data :

HW was noted in May 1965 with Y = 4m. A 1955 report notes a HWM just below the deck (Y = 4.3m u/s). A 1992 BIM report notes a HWM with Y = 4m, and a 1993 assessment was based on Q = 100cms.

WSC gauge 07HA003 (DA = 1960km^2, 1963 – Now), reports Q = 168cms in April 1997, with other high runoff events in August 1964, April 1965, and April 1974. The largest gauging was for Q = 139cms with a stage rise of 2.6m. There are no storms in the database that exceed 100mm of rainfall for this area.

Basin Runoff Potential :

d = 50 mm, T_p = 20 hrs, q = 0.7 cms/km^2.
Gross DA = 715 km^2.
Q_p = 500 cms.

Conclusion :

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

Recommended parameters : Y = 4.0 m, V = 1.9 m/s, Q = 100 cms.