BF 08177 Local Road Over Bear River
Hydrotechnical Summary

Channel Capacity :

S = 0.0003
B = 9 m, h = 3.0 m, T_h = 20 m
Use n = 0.04

At Bank Height : Y = 3.0 m, V = 0.7 m/s, Q = 30 cms
At Channel Capacity : Y = 4.0 m, V = 0.9 m/s, Q = 60 cms

Historical Highwater Data :

The bridge report for 1957 at this site reports a HWM with Y = 2.7 – 3.0m. BIM inspections from 1987 and 1997 note HWM with Y = 3.0m. The 1959 report for BF71063 d/s notes HWM to the bottom of stringers (Y = 3.3 – 3.6m, wider XS entering lake). At BF 8233 u/s, HW was noted in 1958, spring, June 1964, and April 1997.

Gauge 07GE007 (1985 - 1999, DA = 180 km^2) reports the highest recorded flow of 36cms on April 18, 1997. The highest gauging was at Q = 33cms, with a stage rise of just over 2m. The largest storms in the storm database are June 1964 with about 130mm, and June 1965, June 1971, and June 1990 with about 100mm.

Basin Runoff Potential :

d = 60 mm, T_p = 20 hrs, q = 0.83 cms/km^2.
Gross DA = 345 km^2.
Q_p = 280 cms.

Conclusion :

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

Recommended parameters : Y = 4.0 m, V = 0.9 m/s, Q = 60 cms.