BF 81802 Hwy 2 Over Bow River
Hydrotechnical Summary

Channel Capacity :

S = 0.0018
B = 90 m, h = 4 m, T_h = 140 m
Use AT equation

At Bank Height : Y = 4.0 m, V = 2.5 m/s, Q = 1150 cms
At Channel Capacity : Y = 5.0 m, V = 3.0 m/s, Q = 1800 cms

Historical Highwater Data :

There are no historic HW observations on the bridge file. The 2000 design was based on Y ~ 6m and Q = 3100cms.

WSC Gauge 05BH004 (DA ~ 7870km^2, 1911 – Now) reports Q ~ 1500cms (1932), 1300cms (1929) and 1100cms (1915). A 1929 gauging at Q ~ 1300cms shows a stage rise ~ 3.5m and a mean depth ~ 4m. Historic photos from Calgary show higher events in 1879, 1897, and 1902, with estimates of Q > 2000cms. Gauge 05BJ001 on the Elbow River (DA = 1240km^2, 1908 – Now) reports Q ~ 450cms in 1923 and 1929. Dam inflow estimates include 1932 (Q > 600cms) and 2005 (Q ~ 450cms).

Basin Runoff Potential :

Gross DA = 10450 km^2, runoff potential is not applicable

Conclusion :

Historic observations govern. Recommended parameters :

Y = 6 m, V = 3.4 m/s, Q = 2500 cms
EL 988.0m (18558-P)