BF 74382 Hwy 875 Over Bow River
Hydrotechnical Summary

Channel Capacity :

S = 0.0004
B = 170 m, h = 8 m, T_h = 230 m
Use AT equation

At Bank Height : Y = 8 m, V = 2.1 m/s, Q = 3500 cms
At Channel Capacity : Y = 9 m, V = 2.3 m/s, Q = 4500 cms

Historical Highwater Data :

HW was observed in 1923, 1948 (Ice), and 1995. The 1972 design was based on Y ~ 7m for open water (Q ~ 2800cms) and ice jams. Historic photos from Calgary (DA ~ 8000km^2) show highest events in 1879, 1897, and 1902, with estimates of Q > 2000cms at that location.

WSC Gauge 05BM004 (DA ~ 20250km^2, 1910 – 1933, 1964 – Now) reports Q ~ 2500cms (1915, 1929), Q = 2300cms (1932), and Q = 2200cms (1923, gauged near peak, Y ~ 5.5m). WSC Gauge 05BN012 (DA ~ 25300km^2, 1964 – Now) reports Q ~ 1600cms (1995, 2005 with Y ~ 5.5m), and Q ~ 1300cms in 1967.

Basin Runoff Potential :

Gross DA = 23300 km^2, runoff potential is not applicable

Conclusion :

Historic observations govern. Recommended parameters :

Y = 7.0 m, V = 2.0 m/s, Q = 2500 cms
EL 718.5m (5948-P)