BF 78031 Hwy 63 Over Athabasca River
Hydrotechnical Summary

Channel Capacity :

S = 0.00011
B = 400 m, h = 6.5 m, T_h = 500 m
Use AT equation

At Bank Height : Y = 6.5 m, V = 1.2 m/s, Q = 3500 cms
At Channel Capacity : Y = 7.5 m, V = 1.3 m/s, Q = 4500 cms

Historical Highwater Data :

An ice run was observed in 1974 with Y ~ 9m, and ice scars were noticed to Y ~ 10m. A smaller ice jam was observed at the site during construction in 1980. The 1979 design was based on Y ~ 8.5m (high ice Y ~ 10.5m), and Q ~ 5500cms.

WSC gauge 07DA001 (DA = 133,000km^2, 1957 – Now) shows Q ~ 4800cms in 1971 and 1986, and Q ~ 4300cms in 1960 and 1980. The rating curve shows a stage rise of ~ 6.5m at Q ~ 5000cms.

Basin Runoff Potential :

Gross DA = 137,000km^2, exceeds range of application of runoff depth method.

Conclusion :

Historic observations govern. Recommended parameters :

Y = 8m, V = 1.4 m/s, Q = 5000 cms
EL 236.0m (8001-C)