BF 73810 Hwy 43 Over Athabasca River
Hydrotechnical Summary

Channel Capacity :

S = 0.0013
B = 120 m, h = 4.5 m, T_h = 170 m
Use AT equation

At Bank Height : Y = 4.5 m, V = 2.4 m/s, Q = 1600 cms
At Channel Capacity : Y = 5.5 m, V = 2.8 m/s, Q = 2300 cms

Historical Highwater Data :

HW was noted in 1954 (Y ~ 5.8m), 1982 (Y ~ 4.9m), 1972 (Y ~ 4.6m), and 1965, 1986, and 1989 (Y ~ 4.3m). The 1999 design was based on Y ~ 5.1m.

WSC gauge 07AE001 (DA = 19600km^2, 1960 - Now) reports Q ~ 2250cms in June 1960 and July 1965, and Q ~ 1800 – 2000cms many times. The highest flow measurement was Q ~ 1870cms (1980) with a stage rise of about 4m.

Basin Runoff Potential :

Gross DA = 20400km^2, exceeds range of application of runoff depth method.

Conclusion :

Historic observations govern. Recommended parameters :

Y = 5.5 m, V = 2.8 m/s, Q = 2300 cms.
HW EL 694.0m (17745-C)