BF 71600 Local Road Over Athabasca River
Hydrotechnical Summary

Channel Capacity:

S = 0.00035
B = 200 m, h = 8 m, T_h = 280 m
Use AT equation

At Bank Height: Y = 8.0 m, V = 2.1 m/s, Q = 4000 cms
At Channel Capacity: Y = 9.0 m, V = 2.3 m/s, Q = 5100 cms

Historical Highwater Data:

HW was noted in 1944 (Y ~ 9.5m), and 1986 (Y ~ 9.0m).

WSC gauge 07AE001 (DA = 19600km^2, 1960 - Now) reports Q ~ 2250cms in June 1960 and July 1965, and Q ~ 1800 – 2000cms many times. Gauge 07AG004 (McLeod R u/s, DA = 9100km^2, 1968 – Now) reports Q ~ 2000cms in 1980 and 1986. WSC gauge 07BE001 (DA ~ 74600km^2, 1913-1931, 1938 – Now) reports Q ~ 5700cms in 1954, Q ~ 5000cms in 1944, Q ~ 4500cms in 1971, 1980, and 1986.

Basin Runoff Potential:

Gross DA = 52,000 km^2, exceeds range of application of runoff depth method.

Conclusion:

Historic observations govern. Recommended parameters:

Y = 9.5 m, V = 2.4 m/s, Q = 5700 cms.
HW EL 554.18 m (M-71600-99-A), based on the elevation datum correction in 1999

Classification: Protected A