BF 70789 Hwy 17 Over North Saskatchewan River
Hydrotechnical Summary

Channel Capacity :

S = 0.00025
B = 220 m, h = 9 m, T_h = 280 m
Use AT Equation

At Bank Height : Y = 9 m, V = 2.0 m/s, Q = 4600 cms
At Channel Capacity : Y =10 m, V = 2.2 m/s, Q = 5600 cms

Historical Highwater Data :

HW was observed in 1986 (Y ~ 8.5m). The design HW on the 1985 drawings is for Y ~ 9m.

WSC Gauge 05DF001 (DA = 28000km^2, 1911 – Now) reports Q ~ 5800cms in 1915, Q ~ 4500cms in 1986, Q ~ 3700cms in 1952, and Q ~ 3000 – 3500cms in 1944, 1954, and 1972. The highest gauging is at Q ~ 4600cms with a stage rise of 10m. WSC Gauge 05EF001 (DA = 57100km^2, 1917 – 1922, 1944 – 1958, 1969 – Now) reports Q ~ 4000cms in 1986 and Q ~ 3200 – 3500cms in 1944, 1952, 1954, and 1972.

Basin Runoff Potential :

Gross DA ~ 55400 km^2, beyond range of method.

Conclusion :

Historic observations govern (1915 event). Recommended parameters :

Y = 10 m, V = 2.2 m/s, Q = 5600 cms.
HW EL 506.0m (Dwg. 15314)