BF 74236 Hwy 881 Over North Saskatchewan River
Hydrotechnical Summary

Channel Capacity :

S = 0.0003
B = 220 m, h = 8.5 m, T_h = 280 m
Use AT Equation

At Bank Height : Y = 8.5 m, V = 2.1 m/s, Q = 4500 cms
At Channel Capacity : Y =9.5 m, V = 2.3 m/s, Q = 5500 cms

Historical Highwater Data :

HW was observed in 1972 (Y ~ 7.5m) and 1986 (Y ~ 8.5m). The design HW on the 1974 drawings is Y ~ 10m.

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.

Basin Runoff Potential :

Gross DA ~ 43800 km^2, beyond range of method.

Conclusion :

Historic observations govern (1915 event). Recommended parameters :

Y = 10 m, V = 2.4 m/s, Q = 6000 cms.
HW EL 537.5m (Dwg. 4975)