BF 77081 Hwy 216 Over North Saskatchewan River
Hydrotechnical Summary

Channel Capacity :

S = 0.0004
B = 170 m, h = 9 m, T_h = 220 m
Use AT Equation

At Bank Height : Y = 9 m, V = 2.8 m/s, Q = 4300 cms
At Channel Capacity : Y = 10 m, V = 3.0 m/s, Q = 5300 cms

Historical Highwater Data :

The 2009 design was based on Y ~ 11.5m and Q ~ 5800cms.

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 ~ 27600 m^2, beyond range of method.

Conclusion :

Historic observations govern (1915 event). Recommended parameters :

Y = 11.0 m, V = 2.8 m/s, Q = 6000 cms.
HW EL 618.0m (Dwg. DD1793)