BF 74381 Hwy 22 Over North Saskatchewan River
Hydrotechnical Summary

Channel Capacity :

S = 0.0014
B = 180 m, h = 6.0 m, T_h = 250 m, (variable, based on survey and airphotos)
Use AT Equation

At Bank Height : Y = 6.0 m, V = 3.0 m/s, Q = 3900 cms
At Channel Capacity : Y = 7.0 m, V = 3.4 m/s, Q = 5300 cms

Historical Highwater Data :

HW was noted in July 1986 (EL. 743.0m, Y ~ 6.0m, Q = 4500cms at Gauge 05DF001 (DA = 28000 km^2, 1911 - Now). Highest peak for reach is July 1915 (Q = 5800cms at 05DF001, Q ~ 6500cms at 05DE001 (DA = 21800km^2, 1915 – 1922, rating curve unknown). Other HW events include June of 1944, 1952, 1954, and 1972 with Q ~ 3500cms at 05DF001. The 1956 design was based on ~ EL. 745.0m.

Scour was observed at the east headslope in 1958, and a spur constructed in 1960. The spur was damaged in 1963 and more erosion at the east headslope was noted in 1977. The spur was re-built in 1992.

Basin Runoff Potential :

Gross DA ~ 21000 km^2, beyond range of method.

Conclusion :

Historic observations govern (1915 event). Recommended parameters :

Y = 7.5 m, V = 3.6 m/s, Q = 6000 cms.
HW EL 744.5m (Dwg. 29566)