BF 00887 Hwy 3A Over Oldman River
Hydrotechnical Summary

Channel Capacity :

S = 0.0012
B = 110 m, h = 5.5 m, T_h = 160 m
Use AT equation

At Bank Height : Y = 5.5 m, V = 2.7 m/s, Q = 2000 cms
At Channel Capacity : Y = 6.5 m, V = 3.0 m/s, Q = 2700 cms

Historical Highwater Data :

HW has been observed in 1908 (Y ~ 5.5m), 1953 (Y ~ 5.5m), 1975 (Y ~ 5m), 1986 (Ice Jam, Y ~ 6m), 1995 (Y ~ 7m), and 2005 (Y ~ 5.5m). The 1956 design was based on Y ~ 6.5m.

Gauge 05AD019 (DA = 8880km^2, 1948 – 1969) reports Q ~ 1800cms in 1953. Gauge 05AA024 (DA = 4400km^2, 1966 – Now, 1995 peak missing – est. dam outflow Q ~ 2700cms by AENV) reports Q ~ 1600cms in 1975 and Q ~ 1100cms in 2005. Gauge 05AB007 (DA = 5760km^2, 1910 – 1948) reports Q ~ 2500cms in 1923 and Q ~ 1150cms in 1942 and 1948. Major inflow between 05AB007 and 05AD019 is Willow Ck with Q ~ 600cms, resulting in little change in peak flow due to attenuation and timing.

Basin Runoff Potential :

Gross DA = 9150 km^2, runoff potential is not applicable

Conclusion :

Historic observations govern. Recommended parameters :

Y = 7.0 m, V = 3.2 m/s, Q = 3000 cms.
HW EL 891.5m (Dwg. 1633)