BF 01114 Local Road Over South Saskatchewan River
Hydrotechnical Summary

Channel Capacity :

S = 0.00045
B = 180 m, h = 9 m, T_h = 250 m
Use AT equation

At Bank Height : Y = 9 m, V = 2.5 m/s, Q = 4900 cms
At Channel Capacity : Y = 10 m, V = 2.7 m/s, Q = 6000 cms

Historical Highwater Data :

HW has been observed/estimated at BF73802 U/S in 1902 (Y ~ 10m, Q ~ 5700cms), 1908 (Y ~ 9.5m, Q ~ 5300cms), 1953 (Y ~ 8.5m), 1975 (Y ~ 7.5m), and 1995 (Y ~ 10m). HW elevations in 1975 and 1995 are 1 – 1.4m lower at BF01114 than at BF73802.

WSC Gauge 05AJ001 (DA ~ 56400km^2, 1911 – Now) reports Q ~ 5100cms (1995, stage rise ~ 8m, gauged at Q = 4100cms), Q ~ 4300cms (1953), Q ~ 4100cms (1995), and Q > 3000cms in 1929, 1975, and 2005. WSC Gauge 05AK001 (DA ~ 66000km^2, 1966 – 1993) reports Q ~ 3000cms in 1975. Major tributaries are Oldman River (Q ~ 5000cms) and Bow River (Q ~ 2500cms) but coincident peaks unlikely due to storm location and timing. The ungauged flood in 1902 is known to be significant in both basins.

Basin Runoff Potential :

Gross DA = 56400 km^2, runoff potential is not applicable

Conclusion :

Historic observations govern. Recommended parameters :

Y = 10.0 m, V = 2.7 m/s, Q = 6000 cms.
HW EL 662.2m (Dwg. 749 – BF73802 U/S)