BF 78104 Hwy 32 Over McLeod River
Hydrotechnical Summary

Channel Capacity:

S = 0.0012
B = 90 m, h = 5.0 m, T_h = 140 m
Use AT Equation

At Bank Height: Y = 5.0 m, V = 2.4 m/s, Q = 1400 cms
At Channel Capacity: Y = 6.0m, V = 2.8 m/s, Q = 2000 cms

Historical Highwater Data:

HW was noted in 1944 (Y ~ 5.0m), 1954 (Y ~ 6.5m, Q ~ 2300cms), 1965 (Ice, Y ~ 5.0m), 1969 (Y ~ 6.0m), 1980 (Y ~ 5.0m), 1982 (Y ~ 4.5m), and 1986 (Y ~ 6.0m).

Gauge 07AG001 (DA = 6310 km^2, 1914 – 1930, 1958 – 1983) noted the 2 largest events with Q ~ 2000 cms in August 1969 and June 1980. Q > 1000cms was also noted in June 1972 and July 1982.

Gauge 07AG007 (DA = 7150km^2, 1984 – Now) noted the largest event with Q ~ 2300 cms in July 1986.

Gauge 07AG004 (DA = 9100 km^2, 1968 – Now) noted the 2 largest events with Q ~ 2000 cms in June 1980 and July 1986. Q > 1000cms was also noted in June 1972 and July 1982.

Basin Runoff Potential:

Gross DA ~ 7830 km^2, beyond range of method.

Conclusion:

Historic observations govern. Recommended parameters:

Y = 6.5 m, V = 3.0 m/s, Q = 2300 cms

July 7, 1982 HWL = 800.5 m
July 22, 1986 HWL = 801.4 m
Estimated design HWL = 801.6 m
(drawing reference: DD-771, 6905-P, M-78104-98-A)