BF 01426 Hwy 4 Over Milk River
Hydrotechnical Summary

Channel Capacity :

S = 0.0012
B = 30 m, h = 3 m, T_h = 55 m
Use AT equation

At Bank Height : Y = 3 m, V = 1.7 m/s, Q = 210 cms
At Channel Capacity : Y = 4 m, V = 2.1 m/s, Q = 350 cms

Historical Highwater Data :

HW was observed in 1908 (Y ~ 4m above low water), March 1911 (washout, high ice), 1947 (ice jam), June 1948 (Y ~ 2.5m above low water), 1953 (partial washout), and June 1964 (Y ~ 3.5m). The 2006 design was based on Y ~ 4m (Q ~ 360cms).

WSC Gauge 11AA005 (DA ~ 2720 km^2, 1909 – Now) reports Q ~ 250 cms (1927, 1964, 1975, 2002, gauged close to peak, stage rise ~ 3 – 3.5m).

Basin Runoff Potential :

Gross DA = 2,765 km^2 (beyond range of technique)

Conclusion :

The channel capacity estimate is consistent with historic observations. Recommended parameters :

Y = 4.0 m, V = 2.1 m/s, Q = 350 cms.
EL 1041.5 m (20540-P)