BF 09096 Hwy 501 Over North Milk River
Hydrotechnical Summary

Channel Capacity :

S = 0.0025
B = 15 m, h = 1.8 m, T_h = 30 m
Use AT equation

At Bank Height : Y = 1.8 m, V = 1.6 m/s, Q = 65 cms
At Channel Capacity : Y = 2.7 m, V = 2.2 m/s, Q = 150 cms

Historical Highwater Data :

HW was observed in June 1964 (Y ~ 1.6m). The 1962 design was based on Y ~ 3m (Q ~ 120cms).

WSC Gauge 11AA001 (DA ~ 240 km^2, 1909 – Now) reports Q ~ 105 cms (June 1995, gauged at Q ~ 20cms, stage rise ~ 2m at peak), and Q ~ 85cms (June 1948, March 1997).

Basin Runoff Potential :

d = 15/40/100 mm, T_p = 20 hrs, q ~ 0.6 cms/km^2.
Gross DA = 285 km^2.
Q_p = 170 cms.

Conclusion :

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

Y = 2.7 m, V = 2.2 m/s, Q = 150 cms.
EL 1254.5 m (3412-P)