BF 76386 Local Road Over Pembina River Tributary
Hydrotechnical Summary

Channel Capacity :

S = 0.006
B = 2.5 m, h = 1.5 m, T_h = 5 m
Use n = 0.055

At Bank Height : Y = 1.5 m, V = 1.3 m/s, Q = 7 cms
At Channel Capacity : Y = 2.3 m, V = 1.9 m/s, Q = 18 cms

Historical Highwater Data :

HW was noted in 1965 to the deck (Y = 2.4 – 2.7m) and estimated Q = 18cms. A 1993 BIM report notes a HWM with Y = 2.2m.

There are no WSC gauges on this stream. Gauges in the area indicate HW events in June 1965, April 1974, July 1986, and July 1990. The storm database indicates that the largest rainfall events on record for this area are 150mm in June 1944 and 130mm in late June 1965.

Basin Runoff Potential :

d = 60 mm, T_p = 20 hrs, q = 0.83 cms/km^2.
DA = 75 km^2.
Q_p = 62 cms (Q_p ~ 18cms based on u/s channel capacity).

Conclusion :

The channel capacity estimate is consistent with historic observations and within the basin runoff potential.

Recommended parameters : Y = 2.3 m, V = 1.9 m/s, Q = 18 cms.