BF 07888 Local Road Over Pembina River Tributary
Hydrotechnical Summary

Channel Capacity :

S = 0.005
B = 3 m, h = 1.5 m, T_h = 7 m
Use n = 0.05

At Bank Height : Y = 1.5 m, V = 1.4 m/s, Q = 10 cms
At Channel Capacity : Y = 2.3 m, V = 2.0 m/s, Q = 25 cms

Historical Highwater Data :

HW was noted in 1954 with Y ~ 4m, likely due to backwater from the Pembina River. A 1960 report estimates Q = 41cms. The 2004 design was based on Y = 2.3m and Q = 16cms.

There are no WSC gauges on this stream. Gauges in the area indicate HW events in June 1965, April 1974, April 1982, and July 1986. The storm database indicates that the largest rainfall events for this area are 130mm in June 1965 and about 120mm in June 1944 and August 1969.

Basin Runoff Potential :

d = 50 mm, T_p = 20 hrs, q = 0.7 cms/km^2.
Gross DA = 171 km^2.
Q_p = 120cms.

Conclusion :

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

Recommended parameters : Y = 2.3 m, V = 2.0 m/s, Q = 25 cms.