BF 75107 Local Road Over Pembina River Tributary
Hydrotechnical Summary

Channel Capacity :

S = 0.005
B = 2 m, h = 1.2 m, T_h = 4 m
Use n = 0.055

At Bank Height : Y = 1.2m, V = 1.0 m/s, Q = 4 cms
At Channel Capacity : Y = 1.8 m, V = 1.5 m/s, Q = 9 cms

Historical Highwater Data :

HW was noted in April 1969 (water just below the grade, estimated Q = 8cms), and May 1970 (washout, above u/s crown, over grade). A 1958 report notes that water has been over the grade and estimates Q = 7cms. A 1969 report notes a HWM with Y = 1.8m and estimates Q = 10cms. A 1997 BIM report notes a HWM with Y = 2.4m u/s of culvert based on drift.

There are no gauges on this stream. Gauges in the area suggest large runoff events in April 1974, April 1982, July 1986, and April 1997. The largest storms in the storm database are 140mm in July 1953 and August 1957, and 105mm in June 1965.

Basin Runoff Potential :

d = 45mm, T_p = 20hrs, q = 0.6 cms/km^2.
Gross DA = 18 km^2.
Q_p = 11 cms.

Conclusion :

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

Recommended parameters : Y = 1.8 m, V = 1.5 m/s, Q = 9 cms.