BF 08991 Local Road Over Vermilion River Tributary
Hydrotechnical Summary

Channel Capacity :

S = 0.0007
B = 3 m, h = 1.4 m, T_h = 5 m
Use n = 0.05

At Bank Height : Y = 1.4 m, V = 0.5 m/s, Q = 3 cms
At Channel Capacity : Y = 2.1 m, V = 0.7 m/s, Q = 7 cms

Historical Highwater Data :

HW was noted in April 1956 to 0.15m below the bottom of the girders and over the grade to the west by 0.2m with Y = 1m d/s and estimated Q = 6cms. A 1965 report notes a HWM with Y = 1.8m and estimates Q = 11cms. The 1985 design was based on Q = 3cms.

There are no WSC gauges on this stream. Gauges in the area suggest HW events in April 1974 and April 1997. The largest storms in the database for this area are 100mm in July 1962, June 1965, and June 1973.

Basin Runoff Potential :

d = 35mm, T_p = 40hrs, q = 0.25 cms/km^2.
Gross DA = 40 km^2.
Q_p = 10 cms.

Conclusion :

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

Recommended parameters : Y = 2.1 m, V = 0.7 m/s, Q = 7 cms.