BF 07878 Hwy 766 Over Medicine River Tributary
Hydrotechnical Summary

Channel Capacity :

S = 0.002
B = 2 m, h = 1.6 m, T_h = 6 m
Use n = 0.045

At Bank Height : Y = 1.6 m, V = 0.9 m/s, Q = 6 cms
At Channel Capacity : Y = 2.4 m, V = 1.4 m/s, Q = 16 cms

Historical Highwater Data :

A 1959 report notes that the bridge has run full (Y = 2.1m) and estimates Q = 14cms. A 1987 design was based on Q = 28cms and Y = 2.2m.

There are no gauges on this stream. Gauges in the area suggest large runoff events in June 1972, July 1986, June 1990, July 1990, and July 1999. The largest storms in the storm database are 190mm in June 1970, and 105mm in June 1928.

Basin Runoff Potential :

d = 50mm, T_p = 20hrs, q = 0.7 cms/km^2.
Gross DA = 80 km^2.
Q_p = 56 cms.

Conclusion :

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

Recommended parameters : Y = 2.4 m, V = 1.4 m/s, Q = 16 cms.