BF 76001 Hwy 63 Over Prairie Ck
Hydrotechnical Summary

Channel Capacity :

S = 0.02
B = 2.5 m, h = 1.2 m, T_h = 5 m
Use n = 0.06

At Bank Height : Y = 1.2 m, V = 2.1 m/s, Q = 9 cms
At Channel Capacity : Y = 1.8 m, V = 2.9 m/s, Q = 20 cms

Historical Highwater Data :

HW was noted in August 1970 to 1.2m above u/s crown of 1.2m pipe (Q < 5cms). There have been frequent observations of icing (up to 2m) and blockage due to trapped boulders (change in grade from steep to almost flat ~ 2/3 along pipe).

There are no WSC gauges on this stream. Gauges in the area suggest HW events in July 1970, August 1976, May 1985, and July 1988. The largest storm in the database for this area is 110mm in August 1976.

Basin Runoff Potential :

d = 40mm, T_p = 20hrs, q = 0.55 cms/km^2.
Gross DA = 45 km^2.
Q_p = 25 cms.

Conclusion :

Channel capacity estimate (checked with u/s section – private crossing 800m u/s - B – 3.5m, h = 1.3m, T = 6m, S = 0.004) is consistent with historic observations and within the basin runoff potential.

Recommended parameters : Y = 1.8 m, V = 2.9 m/s, Q = 20 cms.