BF 71434 Hwy 35 Over Buchanan Ck
Hydrotechnical Summary

Channel Capacity :

S = 0.008
B = 4 m, h = 1.5 m, T_h = 8 m
Use n = 0.05

At Bank Height : Y = 1.5 m, V = 1.5 m/s, Q = 15 cms
At Channel Capacity : Y = 2.3 m, V = 2.6 m/s, Q = 40 cms

Historical Highwater Data :

HW was noted in 1964 (Y = 1.8m d/s), 1965 (to u/s crown), summer 1977 (over grade), and 1978 (over grade, estimated Q = 42cms). A 1962 report estimates Q = 21cms. A 1991 BIM report notes a HWM with Y = 6m (likely reference to ponding, drift accumulation, and beaver activity), and a 1997 BIM report notes a HWM with Y = 3m.

Gauge 07HC002 is located downstream about 3km at BF73095 (DA = 232km^2, 1985 – Now) reports largest discharges of Q = 35cms in June 1990 and Q = 20cms in April 2003. The largest storm in the storm database occurred in August 1982 with about 120mm of rainfall.

Basin Runoff Potential :

d = 40 mm, T_p = 20 hrs, q = 0.55 cms/km^2.
Gross DA = 105 km^2.
Q_p = 60 cms.

Conclusion :

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

Recommended parameters : Y = 2.3 m, V = 2.6 m/s, Q = 40 cms.