BF 09099 Hwy 671 Over Beaverlodge River
Hydrotechnical Summary

Channel Capacity :

S = 0.0015
B = 13 m, h = 3.0 m, T_h = 20 m
Use AT equation

At Bank Height : Y = 3.0 m, V = 1.9 m/s, Q = 95 cms
At Channel Capacity : Y = 4.0 m, V = 2.4 m/s, Q = 170 cms

Historical Highwater Data :

HW was observed in April 1933 (substructure damaged by ice, closed until May), April 1940 (Y = 4.5m, bridge washed out), June 1960 (scour at NE corner, channel realignment not yet complete), April 1963 (Y = 4.0m, ice jams in reach), and June 1990 (Y = 3.5m).

WSC Gauge 07GD002 (DA = 662km^2, 1983 – Now) located on Beavertail Ck u/s reports Q = 123cms in June 1990 (highest gauging at Q = 35cms). Gauge 07GD001 (DA = 1610km^2, 1968 – Now) located d/s reports Q = 123cms in June 1990 (gauged at Q = 117cms, V = 1.3m/s, T = 29m, Y = 4.8m > zero stage), with the next highest flows being Q = 104cms (April 1974), and Q = 85cms (April 1997). The largest storms for this area in the storm database are about 110mm of rainfall in June 1964 and 1990.

Basin Runoff Potential :

d = 65 mm, T_p = 20 hrs, q = 0.9 cms/km^2.
Gross DA = 1362 km^2 .
Q_p = 1225 cms.

Conclusion :

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

Recommended parameters : Y = 4.0 m, V = 2.4 m/s, Q = 170 cms.