BF 07064 Hwy 667 Over Beaverlodge River
Hydrotechnical Summary

Channel Capacity :

S = 0.0005
B = 13 m, h = 4.5 m, T_h = 22 m
Use AT equation

At Bank Height : Y = 4.5 m, V = 1.6 m/s, Q = 125 cms
At Channel Capacity : Y = 5.5 m, V = 1.9 m/s, Q = 185 cms

Historical Highwater Data :

HW was observed in 1914 (Y = 5.5m), 1920 (HW to deck, Y = 5.7 – 6.0m u/s), 1963 (ice jam, 2.5' below deck d/s (Y = 5.7m), 0.5' below deck u/s), 1982 (no scour at unprotected headslope), and 1990 (photo prior to peak shows WL ~2m below top of bank). A 1955 report notes a HWM 1.5m below the deck (Y = 5.1m), and a 1962 report notes a HWM to the bottom chord (Y ~ 5.5m).

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 at this site 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 = 1540 km^2 .
Q_p = 1390 cms.

Conclusion :

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

Recommended parameters : Y = 5.5 m, V = 1.9 m/s, Q = 185 cms.