BF 71086 Local Road Over Beaverlodge River
Hydrotechnical Summary

Channel Capacity :

S = 0.0016
B = 13 m, h = 2.7 m, T_h = 22 m
Use AT equation

At Bank Height : Y = 2.7 m, V = 1.8 m/s, Q = 85 cms
At Channel Capacity : Y = 3.7 m, V = 2.3 m/s, Q = 160 cms

Historical Highwater Data :

HW was observed in April 1963 (Y = 3.7m, over grade to south), and June 1990 (HW appears lower than 1963 from photos). A 1954 report refers to a HWM 1.5m below the deck (Y = 2.5m based on reported deck height), and a 1958 report notes a HWM 1.0m below the floor beam (Y = 3.0 – 3.5m). The u/s timber protection wall was repaired frequently in the 1960's. A 1994 BIM report notes Y = 3.0m.

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 = 1450 km^2 .
Q_p = 1305 cms.

Conclusion :

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

Recommended parameters : Y = 3.7 m, V = 2.3 m/s, Q = 160 cms.