BF 74083 Hwy 727 Over Ksituan River Tributary
Hydrotechnical Summary

Channel Capacity :

S = 0.004
B = 2 m, h = 1.5 m, T = 5 m
Use n = 0.05

At Bank Height : Y = 1.5 m, V = 1.1 m/s, Q = 6 cms
At Channel Capacity : Y = 2.3 m, V = 1.7 m/s, Q = 15 cms

Historical Highwater Data :

HW was noted in 1963 with Y = 1.8m d/s and 3m of ponding u/s (estimated Q = 11cms). A 1952 report notes a HWM with Y = 1.5m and estimates Q = 6cms. The 1963 design was based on Q = 17 – 20cms. A 1970 note states that drainage improvements u/s were designed by Alberta Environment for Q = 11cms.

There are no gauges on this stream. Gauges in the area suggest HW events in June 1968, April 1974, May 1984, June 1990, April 1997. The largest storms in the storm database are about 110mm in July 1935 and June 1990, and 100mm in August 1982.

Basin Runoff Potential :

d = 60 mm, T_p = 20 hrs, q = 0.83 cms/km^2.
Gross DA = 74 km^2.
Q_p = 61 cms.

Conclusion :

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

Recommended parameters : Y = 2.3 m, V = 1.7 m/s, Q = 15 cms.