BF 06581 Hwy 575 Over Kneehills Ck
Hydrotechnical Summary

Channel Capacity :

S = 0.0012
B = 14 m, h = 4.5 m, T_h = 25 m
Use AT equation

At Bank Height : Y = 4.5 m, V = 2.2 m/s, Q = 190 cms
At Channel Capacity : Y = 5.5 m, V = 2.6 m/s, Q = 300 cms

Historical Highwater Data :

High ice caused damage to the superstructure in 1948 (Y = 5.5m based on DD1067). HW was observed at this site in April 1952 with water about 0.6m below the bottom chord (Y = 5.5m), and some erosion at the abutments.

WSC Gauge 05CE002 (DA = 2430km^2, 1921-1930, 1957 – Now) is located d/s and reports Q = 150cms in April 1997. Gauging records show that the stream was gauged at Q = 170cms in April 1969 (stage rise = 3.2m). The largest storms for this area in the storm database are about 100mm of rainfall in June 1928 and 1970.

Basin Runoff Potential :

d = 35 mm, T_p = 40 hrs, q = 0.25 cms/km^2.
Gross DA = 1936 km^2.
Q_p = 500 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 = 2.6 m/s, Q = 300 cms.