BF 07932 Hwy 2 Over Athabasca River Tributary
Hydrotechnical Summary

Channel Capacity :

S = 0.02
B = 1.5 m, h = 1.0 m, T_h = 3 m
Use n = 0.055

At Bank Height : Y = 1.0 m, V = 1.8 m/s, Q = 4 cms
At Channel Capacity : Y = 1.5 m, V = 2.7 m/s, Q = 10 cms

Historical Highwater Data :

HW was noted in August 1920 (washout), and August 1954 (estimated Q = 4 – 6cms). The u/s end had an uplift failure in 1971, but this was influenced by exposure of the u/s end due to ditch flow erosion. A 1951 report notes a HWM with Y = 2m and estimates Q = 11cms. A 1964 report notes a HWM with Y = 1.2 – 1.5m. A 1997 BIM report notes a HWM with Y = 2.4m (no description), and a 2003 design is based on Y = 1.1m and Q = 8cms.

There are no WSC gauges on this stream. Gauges in the area suggest HW in June 1920, July 1986, July 1988, and April 1997. The largest storms in the database for this area are in July 1931 with 130mm of rainfall and June 1970 with about 105mm.

Basin Runoff Potential :

d = 40mm, T_p = 20hrs, q = 0.55 cms/km^2.
Gross DA = 34 km^2.
Q_p = 19 cms.

Conclusion :

The channel capacity estimate is consistent with historic observations and within the basin runoff potential. Higher water levels may result from backwater from the Athabasca River.

Recommended parameters : Y = 1.5 m, V = 2.7 m/s, Q = 10 cms.