BF 70883 Local Road Over Hardisty Ck
Hydrotechnical Summary

Channel Capacity :

S = 0.022
B = 5 m, h = 1.0 m, T_h = 10 m
Use n = 0.06

At Bank Height : Y = 1.0 m, V = 1.9 m/s, Q = 15 cms
At Channel Capacity : Y = 1.5 m, V = 2.7 m/s, Q = 35 cms

Historical Highwater Data :

HW was noted in 1954 (right abutment washed out, structure collapsed), and July 1966 (Y ~ 1.2 – 1.5m at u/s picnic area and sandbags washed away at bridge site.) Scour damage to the headslope was repaired in 1967. A 1960 design was based on Q = 17cms.

There are no WSC Gauges on this stream. Gauges in the area suggest HW events in August 1969, June 1972, June 1980, and July 1999. April 1971, April 1974, April and July 1982, July 1986, July 1990, and April 1997. The largest storms in the storm database are about 130mm of rainfall in June 1965 and July 1999.

Basin Runoff Potential :

d = 90 mm, T_p = 20 hrs, q = 0.1.25 cms/km^2.
Gross DA = 55 km^2.
Q_p = 65 cms.

Conclusion :

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

Recommended parameters : Y = 1.5 m, V = 2.7 m/s, Q = 35 cms.