BF 00101 Hwy 37 Over Toad Ck
Hydrotechnical Summary

Channel Capacity :

S = 0.0004
B = 8 m, h = 1.6 m, T_h = 12 m
Use n = 0.04

At Bank Height : Y = 1.6 m, V = 0.6 m/s, Q = 9 cms
At Channel Capacity : Y = 2.4 m, V = 0.8 m/s, Q = 20 cms

Historical Highwater Data :

There is a report of HW to the bottom of girders at the previous bridge (Y = 2.5m, 1961 bridge report). Past designs have been based on Q of 23 – 25cms. HW was noted at BF09094 u/s in April 1974, with water over the road due to failure of the inlet bevel.

There are no WSC Gauges on this stream. Gauges in the area suggest HW events in April 1971, April 1974, April and July 1982, July 1986, July 1990, and April 1997. The largest storms in the storm database are 145mm of rainfall in July 1953, and about 115mm in July 1937 and July 1982.

Basin Runoff Potential :

d = 50 mm, T_p = 20 hrs, q = 0.7 cms/km^2.
Gross DA = 180 km^2.
Q_p = 126 cms.

Conclusion :

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

Recommended parameters : Y = 2.4 m, V = 0.8 m/s, Q = 20 cms.