BF 75755 Local Road Over Little Smoky River Tributary
Hydrotechnical Summary

Channel Capacity :

S = 0.0045
B = 2.5 m, h = 1.3 m, T_h = 6 m
Use n = 0.05

At Bank Height : Y = 1.3 m, V = 1.1 m/s, Q = 6 cms
At Channel Capacity : Y = 2.0 m, V = 1.7 m/s, Q = 15 cms

Historical Highwater Data :

HW was observed in May 1963 with a 6m wide washout of the fill and a recommended replacement with a 6m bridge with a 1.8m deck height. A BIM report refers to HW observed in 1996 and notes Y = 2.5m. Assuming this means water to the u/s crown, modelling suggest Q = 10cms.

There are no WSC gauges on this stream. Gauges in the area suggest HW events in April 1990, 1994, and 1997. The largest storms for this area in the storm database are about 110mm of rainfall in August 1982 and June 1993.

Basin Runoff Potential :

d = 60 mm, T_p = 20 hrs, q = 0.83 cms/km^2.
Gross DA = 27 km^2.
Q_p = 22 cms.

Conclusion :

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

Recommended parameters : Y = 2.0 m, V = 1.7 m/s, Q = 15 cms.