BF 00895 Local Road Over Kneehills Ck
Hydrotechnical Summary

Channel Capacity :

S = 0.0005
B = 6 m, h = 2 m, T_h = 11 m
Use n = 0.045

At Bank Height : Y = 2.0 m, V = 0.6 m/s, Q = 10 cms
At Channel Capacity : Y = 3.0 m, V = 0.9 m/s, Q = 25 cms

Historical Highwater Data :

A 1957 report notes a HWM over the grade with Y = 2.4m and estimates Q = 28cms. Rock was added to the NE backwall in 1980.

WSC gauges 05CE016 (DA = 640km^2, 1967 – 1969) reports Q = 40cms in April 1969. WSC gauge 05CE002 (DA = 2430km^2, 1921 – 1936, 1956 – 1999) reports high flows in April of 1969, 1971, and 1997. The largest storm in the storm database is June 1970 with about 105mm of rainfall.

Basin Runoff Potential :

d = 35mm, T_p = 40hrs, q = 0.25 cms/km^2.
Gross DA = 142 km^2
Q_p = 35 cms.

Conclusion :

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

Recommended parameters : Y = 3.0 m, V = 0.9 m/s, Q = 25 cms.