BF 08680 Local Road Over Iron Ck
Hydrotechnical Summary

Channel Capacity :

S = 0.001
B = 3 m, h = 1 m, T_h = 6 m
Use n = 0.05

At Bank Height : Y = 1 m, V = 0.5 m/s, Q = 2 cms
At Channel Capacity : Y = 1.5 m, V = 0.7 m/s, Q = 5 cms

Historical Highwater Data :

The 1957 design was based on Q = 6cms and Y = 1.2m. The culvert washed out in 1958, but this was due to a poor installation and was re-installed. Rock was added d/s in 2003.

WSC gauge 05FB003 (DA = 121 km^2, 1978 – 1995) on Iron Ck reports Q = 3.7cms in July 1983. Gauge 05FB002 (DA = 3500km^2, 1965 - Now) on Iron Ck reports Q = 68cms in April 1974, with no other flow over Q = 20cms. A gauging was taken close to the peak with an increase in stage on 3.4m. The largest storms for this area in the database are about 120mm in July 1962 and June 1973.

Basin Runoff Potential :

d = 35mm, T_p = 40hrs, q = 0.25 cms/km^2
DA = 21 km^2
Q_p = 5 cms

Conclusion :

The channel capacity estimate appears to be consistent with historic data and close to the basin runoff potential.

Recommended Parameters : Y = 1.5 m, V = 0.7 m/s, Q = 5 cms.