BF 09850 Local Road Over Bucklake Ck
Hydrotechnical Summary

Channel Capacity :

S = 0.0017
B = 25 m, h = 5.5 m, T = 40 m
Use AT equation

At Bank Height : Y = 5.5 m, V = 3.0 m/s, Q = 530 cms
At Channel Capacity : Y = 6.5 m, V = 3.4 m/s, Q = 750 cms

Historical Highwater Data :

The bridge washed out in June 1944, with HWM with Y = 6.4m (based on 1959 report) – 7.3m (based on 1984 survey at community hall). HW was observed in July 1986 (EL. 306.6m, Y = 6.6m), and July 1990 (EL. 306.4m, Y = 6.4m). HW was also observed in May 1977 with Y 3.6m.

WSC gauge 05DE008 (DA = 374km^2) on Poplar Ck has no flow records. Gauge 05DE911 (DA = 1170km^2, 1996 – Now) reports the highest flow at Q = 300cms in July 2001. Other gauges in the area have noted HW in June 1965, April 1974, and July of 1982, 1986, and 1990. The largest storms in the storm database are July 1982, 1986 and 1990 with about 130 – 140mm of rainfall.

Basin Runoff Potential :

d = 70mm, T_p = 20hrs, q = 1.0 cms/km^2.
Gross DA = 1170 km^2.
Q_p = 1170 cms.

Conclusion :

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

Recommended parameters : Y = 6.5 m, V = 3.4 m/s, Q = 750 cms.