BF 07788 Local Road Over Poplar Ck
Hydrotechnical Summary

Channel Capacity :

S = 0.0025
B = 12 m, h = 2.7 m, T = 22 m
Use AT equation

At Bank Height : Y = 2.7 m, V = 2.1 m/s, Q = 95 cms
At Channel Capacity : Y = 3.7 m, V = 2.7 m/s, Q = 185 cms

Historical Highwater Data :

HW was observed in July 1986 and 1990 with Y = 3.7m and some damage to the headslopes. A 1984 inspection notes a HWM with Y = 3.4m, possibly from 1983. A 1977 note refers to a HWM with Y = 3.0m, and a 1957 report notes a HWM with Y = 2.7m.

WSC gauge 05DE008 (DA = 374km^2) 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 = 185 km^2.
Q_p = 185 cms.

Conclusion :

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

Recommended parameters : Y = 3.7 m, V = 2.7 m/s, Q = 185 cms.