BF 71019 Hwy 616 Over Poplar Ck
Hydrotechnical Summary

Channel Capacity :

S = 0.001
B = 11 m, h = 6.5m, T = 22 m
Use AT equation

At Bank Height : Y = 6.5 m, V = 2.6 m/s, Q = 270 cms
At Channel Capacity : Y = 7.5 m, V = 2.9 m/s, Q = 370 cms

Historical Highwater Data :

HW has been recorded at this site in June 1944 (Y = 6.1m), 1953 (Y = 5.5m), July 1982, July 1986 (Y = 7.3m), and July 1990 (Y = 7.2 – 7.5m). In 1986, V = 1.6m/s with Y = 3 – 3.5m, and in 1990, V = 0.6m/s with Y = 1.6m.

WSC gauge 05DE008 (DA = 374km^2) is located close to this site but has no flow records. Gauge 05DE911 (DA = 1170km^2, 1996 – Now) is located d/s with the highest flow recorded 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 = 365 km^2.
Q_p = 365 cms.

Conclusion :

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

Recommended parameters : Y = 7.5 m, V = 2.9 m/s, Q = 370 cms.