BF 72699 Hwy 41 Over Buffalo Creek
Hydrotechnical Summary

Channel Capacity :

S = 0.001
B = 6 m, h = 2.0 m, T_h = 12 m
Use n = 0.045

At Bank Height : Y = 2.0 m, V = 0.9 m/s, Q = 15 cms
At Channel Capacity : Y = 3.0 m, V = 1.2 m/s, Q = 35 cms

Historical Highwater Data :

HW was noted in 1948 with water over the grade. A 1961 report notes that the bridge runs full (Y ~ 2.7 – 3.0m) and estimates Q = 34cms. A 1974 sketch notes that HW has been to the cap (Y ~ 3.0m). A 1986 report notes a HWM 1.3m below the deck (Y ~ 2.3m).

WSC Gauge 05FE002 (DA = 714km^2, 1972 – Now) reports Q = 27cms in April 1974 with a rise in stage of about 2m at Q = 20cms. The largest storms in the database for this area are about 120mm of rainfall in June 1973, and about 110mm in August 1931, July 1962, and June 1965.

Basin Runoff Potential :

d = 35mm, T_p = 40 hrs, q = 0.25 cms/km^2.
Gross DA = 630 km^2.
Q_p = 160 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 = 1.2 m/s, Q = 35 cms.