BF 71313 Hwy 669 Over Little Smoky River
Hydrotechnical Summary

Channel Capacity :

S = 0.0004
B = 90 m, h = 6.5 m, T_h = 140 m
Use AT equation

At Bank Height : Y = 6.5 m, V = 1.9 m/s, Q = 1400 cms
At Channel Capacity : Y = 7.5 m, V = 2.1 m/s, Q = 1800 cms

Historical Highwater Data :

HW was observed in 1982 (Y ~ 4.5m), 1983 (Y ~ 5m), and 1997 (Y ~ 6m). The 1959 design was based on Y ~ 7.5m.

WSC Gauge 07GG002 (DA = 3,010km^2, 1967 – Now) reports Q ~ 450cms (1982, 4m stage rise) and Q ~ 330 – 360cms in 1971, 1987, 1990, 1996, and 1997. WSC Gauge 07GH002 (DA = 11,100km^2, 1959 – Now) reports Q ~ 2200cms in June 1996 (gauged at Q ~ 1000cms, stage increase ~ 4m), and Q ~ 1100cms in April 1965 and July 1983.

Basin Runoff Potential :

DA = 8,735km^2, beyond range of technique.

Conclusion :

Historic observations govern. Recommended parameters :

Y = 7.5 m, V = 2.1 m/s, Q = 1800 cms.
EL 625.5m (2661-P)