BF 74440 Hwy 49 Over Little Smoky River
Hydrotechnical Summary

Channel Capacity :

S = 0.0016
B = 80 m, h = 5.5 m, T_h = 130 m
Use AT equation

At Bank Height : Y = 5.5 m, V = 2.9 m/s, Q = 1700 cms
At Channel Capacity : Y = 6.5 m, V = 3.3 m/s, Q = 2300 cms

Historical Highwater Data :

HW was observed in 1983 (Y ~ 4m), 1996 (drift, left bank slumping), and 1997. The 1955 design was based on Y ~ 5m.

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 = 11100km^2, beyond range of basin runoff potential technique.

Conclusion :

Historic observations govern. Recommended parameters :

Y = 6.0 m , V = 3.1 m/s, Q = 2000 cms.
EL 484.0m (1577-P)