BF 75371 Hwy 32 Over Freeman River
Hydrotechnical Summary

Channel Capacity :

S = 0.0025
B = 30 m, h = 3 m, T_h = 50 m
Use AT equation

At Bank Height : Y = 3 m, V = 2.3 m/s, Q = 270 cms
At Channel Capacity : Y = 4 m, V = 2.9 m/s, Q = 500 cms

Historical Highwater Data :

HW was observed in 1983 (Y ~ 1.5m), and 2004 (Y ~ 2m). The 1989 design was based on Y ~ 4.5m (Q ~ 350cms).

WSC Gauges 07AH001 (DA = 1660km^2, 1965 – Now) reports Q ~ 450cms in June 1965 (gauged at Q = 230cms, stage increase ~ 2m), and Q ~ 420cms in July 1971.

Basin Runoff Potential :

d = 100 mm, T_p = 20 hrs, q = 1.4 cms/km^2.
Gross DA = 940 km^2.
Q_p = 1300 cms.

Conclusion :

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

Recommended parameters :

Y = 4 m, V = 2.9 m/s, Q = 500 cms.
EL 861.5 m (13817-P)