BF 08250 Local Road Over Atimoswe Creek
Hydrotechnical Summary

Channel Capacity :

S = 0.001
B = 4 m, h = 1.8 m, T_h = 8 m
Use n = 0.045

At Bank Height : Y = 1.8 m, V = 0.8 m/s, Q = 8 cms
At Channel Capacity : Y = 2.7 m, V = 1.1 m/s, Q = 20 cms

Historical Highwater Data :

A 1956 report notes a HWM over the deck (Y = 3.3m u/s) and estimates Q = 32cms. A 1997 BIM report notes a HWM with Y = 2.3m. A 1966 design was based on Q = 42 – 55cms and Y = 3.3m. A 2001 design was based on Y = 2.9m and Q = 21cms.

WSC gauge 05ED002 (DA = 364km^2, 1977 – Now) reports Q = 17cms in April 1997 (gauged at Q = 11cms with 1.5m stage rise). Other gauges in the area suggest HW events in April 1963 and 1974. The largest storms in the database for this area are in June of 1944, 1962, and 1970 with about 100 mm.

Basin Runoff Potential :

d = 40mm, T_p = 20 hours, q = 0.55 cms/km^2.
Gross DA = 417 km^2.
Q_p = 230 cms.

Conclusion :

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

Recommended parameters : Y = 2.7m, V = 1.1 m/s, Q = 20 cms.