BF 13542 Local Road Over West Arrowwood Creek
Hydrotechnical Summary

Channel Capacity :

S = 0.002
B = 8 m, h = 3.0 m, T_h = 16 m
Use n = 0.04

At Bank Height : Y = 3.0 m, V = 1.8 m/s, Q = 65 cms
At Channel Capacity : Y = 4.0 m, V = 2.3 m/s, Q = 120 cms

Historical Highwater Data :

A 1953 report notes a HWM 2' over the deck (Y = 3.3m), and a 1955 report notes a HWM with Y = 4.0m and over the grade. A 2003 BIM report notes a HWM with y = 1.4m. HW was noted at BF09267 u/s in April 1948, May 1951, June 1952, and March 1985 with Y in the 4m range.

WSC gauge 05BM014 (DA = 775km^2, 1967 – Now) reports Q = 90cms in March 1997 (gauged at Q = 74cms, stage increase = 2.6m), with Q = 82cms in April 1971 and Q = 72cms in March 1967. No storms have been recorded over this basin with rainfall exceeding 100mm.

Basin Runoff Potential :

d = 35mm, T_p = 40hrs, q = 0.25 cms/km^2.
Gross DA = 720 km^2.
Q_p = 180 cms.

Conclusion :

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

Recommended parameters : Y = 4.0 m, V = 2.3 m/s, Q = 120 cms.