# BF 07574 Local Road Over Paddle River
# Hydrotechnical Summary

**Channel Capacity** :

S = 0.0012
B = 9 m, h = 5.0 m, $T_h$ = 22 m
Use n = 0.04

At Bank Height : Y = 5.0 m, V = 1.8 m/s, Q = 140 cms
At Channel Capacity : Y = 6.0 m, V = 2.2 m/s, Q = 220 cms

**Historical Highwater Data :**

HW was observed in August 1989 (over grade and deck, superstructure washed off, Y ~ 6.5m), and in 1924 (superstructure washed off, Y ~ 5m). A 1954 report notes a HWM over the deck (Y ~ 6m).

Gauge 07BB011 (DA = 260km$^2$, 1973 – Now) was damaged during the 1989 event, but the published peak Q (225cms) suggests Y ~ 6m at peak. Q ~ 70cms is reported in July 1986 and July 1990. Gauge 07BB004 (DA = 625km$^2$, 1963 – Now) suggests HW in June 1965 with Q ~ 150cms. Dam routing calculations suggest that the peak inflow to the dam in August 1989 (DA ~ 620km$^2$, just u/s, built in 1984) was about Q = 250cms and the outflow was Q = 45cms. The largest storms in the storm database are about 155mm June 1944, 135mm in June 1965 and August 1989, and 100mm in July 1990.

**Basin Runoff Potential :**

d = 60 mm, $T_p$ = 20 hrs, q = 0.85 cms/km$^2$.
Gross DA = 415 km$^2$.
$Q_p$ = 350 cms.

**Conclusion :**

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

Recommended parameters : Y = 6.0 m, V = 2.2 m/s, Q = 220 cms.