BF 71246 Hwy 731 Over Saddle River
Hydrotechnical Summary

Channel Capacity :

S = 0.002
B = 14 m, h = 4.5 m, T_h = 28 m
Use AT equation

At Bank Height : Y = 4.5 m, V = 2.6 m/s, Q = 250 cms
At Channel Capacity : Y = 5.5 m, V = 3.1 m/s, Q = 380 cms

Historical Highwater Data :

HW was observed at this site in June 1960 (Y = 4.6m), June 1968 (Y = 5.5m, over deck), north abutment scoured out), and June 1990 (Y = 4.9m, scour at both abutments). The north approach also washed out in 1935.

WSC gauge (DA = 538km^2, 1968 – Now) located d/s reports Q = 440cms in June 1968 and June 1990 (largest gauged measurement Q = 365cms in June 1990 with stage rise = 4.5m). The largest storms for this area in the storm database are about 110 - 120mm of rainfall in June 1964, 1965, and 1990.

Basin Runoff Potential :

d = 70 - 80 mm, T_p = 20 hrs, q = 1 – 1.1 cms/km^2.
Gross DA = 385 km^2.
Q_p = 420 cms.

Conclusion :

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

Recommended parameters : Y = 5.5 m, V = 3.1 m/s, Q = 380 cms.