BF 02077 Hwy 877 Over Seven Persons Ck
Hydrotechnical Summary

Channel Capacity :

S = 0.0009
B = 8 m, h = 2.5 m, T = 15 m
Use n = 0.04

At Bank Height : Y = 2.5 m, V = 1.1 m/s, Q = 30 cms
At Channel Capacity : Y = 3.5 m, V = 1.5 m/s, Q = 65 cms

Historical Highwater Data :

HW was observed in April 1918 (approaches required repair), and March 1994 (1.8m freeboard, Y = 2.0m). It was noted that there was no significant response to the heavy rainfall of June 2002. The 1958 report refers to a HW mark with Y = 2.7m.

WSC gauge 05AH033 (DA = 2550km^2, 1920 – 1930 + 1936) reports Q = 35cms in March 1928. Gauge 05AH005 (DA = 3270km^2, 1913 – 1956, 1973 – Now) reports Q = 136cms in March 1956 (gauged at Q = 72cms with stage rise = 2.8m). Gauge 05AH041 (DA = 440km^2, 1960 – Now) is located on Peigan Ck u/s, reporting Q = 32cms in 1965. The largest storms for this area in the database are June 2002 with about 150mm of rainfall, and September 1986 and June 1998 with about 100mm.

Basin Runoff Potential :

d = 35 mm, T_p = 40 hrs, q = 0.25 cms/km^2.
DA = 2750 km^2
Q_p = 690 cms

Conclusion :

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

Recommended parameters : Y = 3.5 m, V = 1.5 m/s, Q = 65 cms.