BF 07976 Local Road Over Baptiste Ck
Hydrotechnical Summary

Channel Capacity :

S = 0.0005
B = 7 m, h = 2.0 m, T_h = 15 m
Use n = 0.04

Channel flows will be governed by Baptiste Lake u/s and design parameters are governed by requirements to match improved channel capacity for operation of the lake.

Historical Highwater Data :

HW was noted in July 1971 with Y = 2.0m. A 2002 BIM report notes a HWM with Y = 2.5m. High lake levels have been reported in 1913, 1935, 1954, 1956, 1962, and 1971 (Q = 15cms). After the 1971 event, AE decided to improve outlet channel to accommodate 25cms with water level at El. 577.9m (Y = 1.8 – 2.1m depending on design channel bed width and elevation). Design lake elevation = 578.8m, Weir elevation = 578.0m.

WSC Gauge 07BE003 (DA = 303km^2, 1972 – Now) is located u/s. Peak elevations in the 579.1 to 579.2m range have been recorded in 1974, 1978, 1983, 1986, 1988, and 1997. The largest storm in this area in the storm database is July 1953 with about 115mm of rainfall.

Basin Runoff Potential :

d = 40 mm, T_p = 20 hrs, q = 0.55 cms/km^2.
Gross DA = 327 km^2.
Q_p = 180 cms.

Conclusion :

Design parameters are governed by outflow channel requirements for lake stability. Any crossing option should not adversely affect the operation of Baptiste Lake.

Recommended parameters : Y = 2.5 m, V = 0.9 m/s, Q = 25 cms.