BF 80870 Hwy 881 Over Christina River
Hydrotechnical Summary

Channel Capacity :

S = 0.0003
B = 30 m, h = 4.0 m, T_h = 40 m
Use AT equation

At Bank Height : Y = 4.0 m, V = 1.3 m/s, Q = 180 cms
At Channel Capacity : Y = 5.0 m, V = 1.5 m/s, Q = 270 cms

Historical Highwater Data :

The 1986 design was based on Y = 4.5m and Q = 450cms. A 1998 BIM report notes a HWM with Y =3.2m.

WSC gauge 07CE002 (1983 – Now, DA = 4860km^2) reports Q = 180cms (stage rise ~ 3m) in June 1984 and May 1985, and Q = 150cms in July 1986 (gauged at Q = 88cms in June 199, stage rise ~ 2.0m). The largest storms in the database are 130mm in July 1960, 120mm in August 1980, and 110mm in June 1962 and June 1970.

Basin Runoff Potential :

Gross DA = 5140 km^2, exceeds range of runoff depth method application.

Conclusion :

The channel capacity estimate is consistent with historic information.

Recommended Parameters : Y = 5.0 m, V = 1.5 m/s, Q = 270 cms.