BF 07460 Highway 88 over Lesser Slave River
Hydrotechnical Summary

Channel Capacity :

S = 0.00002
B = 30 m, h = 4.5 m, Th = 70 m
Use AT equation

At Bank Height : Y = 4.5 m, V = 0.4 m/s, Q = 90 cms
At Channel Capacity : Y = 5.5 m, V = 0.5 m/s, Q = 145 cms

Historical Highwater Data :

The existing bridge design (2003) was based on a highwater elevation of 578.6m (Y~5.8m). The 1965 bridge design was based on a HW event in 1935 (elev. 1899.0', Y~5.1m).

WSC gauge 07BK001 (DA=13,600km^2, operating 1915-present) reports high flow events in June 1935 (Q~240cms), September 1996 (Q~140cms), and July 1997 (Q~136cms). WSC gauge 07BK006 (DA=14,400km2, operating 1962-1988) reports high flow events in July 1979 (145cms), July 1977 (130cms), and June 1965 (125cms).

Basin Runoff Potential :

Gross DA = 14,350 km^2 (beyond range of technique)

Conclusion :

The weir control structure upstream of this site (installed 1983, crest elevation 575.5m) at the outlet of Lesser Slave Lake will control flows seen at this site. Historic lake elevations (highest since weir installation) will govern.

Recommended parameters :

Y = 5.8 m, V = 0.5 m/s, Q = 165 cms