# BF 72345 Local Road 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 1974 design was based on the 1935 flood event (Y~5.1m). The upstream Highway 88 bridge (BF7460) design was based on the historical high lake elevation (HWM 577.8m; Y~5.8m).

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) govern.

Recommended parameters :

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