BF 77470 Brady Creek Culvert on Hwy 88 near Slave Lake
Hydrotechnical Summary

Channel Capacity:

S = 0.012 (based on LiDAR)
B = 3.0 m, h = 2.0 m, T_h = 14 m (Based on LiDAR)
Use n = 0.055

At Bank Height: Y = 2.0 m, V = 2.2 m/s, Q = 37 cms
At Channel Capacity: Y = 3.0 m, V = 3.3 m/s, Q = 103 cms

Historical Highwater Data:

No hydrometric gauging station records available.

BIMS reported 4 m highwater mark above stream bed in 2004, drift presented.
BIMS reported 4 m highwater mark above stream bed in 2000, beaver dam or obstruction presented downstream.
BIMS reported 4 m highwater mark above stream bed in 1997, 1.2 m high beaver dam presented downstream and drift presented in channel.
BIMS reported 4.3 m highwater mark above stream bed in 1995, beaver dam presented upstream and drift presented in channel.
BIMS reported 3 m highwater mark above stream bed in 1988, beaver dam and drift presented in channel.

The recent rainfall event in July 23-26, 2019 resulted in total of 170 to 180 mm of rain in the Slave Lake region.

Basin Runoff Potential:

d = 90 mm, T_p = 20 hrs, q = 1.25 cms/km^2 (considering the basin slope and location in proximity to a hydrologic region where higher runoff value could occur, a higher value was used for this site.)
Gross DA = 33 km^2 (delineate using LiDAR)
Q_p = 42 cms

Conclusion:

No historical flow records available for this site. Channel capacity at bank height in line with the basin runoff potential estimates. Basin runoff potential governs for design.

Recommended parameters: Y = 2.2 m, V = 2.3 m/s, Q = 42 cms.