BF 01604 Local Road Over Waskatenau Ck
Hydrotechnical Summary

Channel Capacity :

S = 0.0018
B = 6 m, h = 1.8 m, T_h = 12 m
Use n = 0.045

At Bank Height : Y = 1.8 m, V = 1.1 m/s, Q = 20 cms
At Channel Capacity : Y = 2.7 m, V = 1.6 m/s, Q = 45 cms

Historical Highwater Data :

HW was noted in April 1971 (Y ~ 2.9m, drift jam, scour), 1915 (bridge washout), April 1935 (pile damage), and 1956 (culvert washout, over grade). A 1951 report notes a HWM with Y = 1.8m, and estimates Q = 6cms. The 1991 design was based on Y = 2.9m and Q = 45cms.

Gauge 05EC002 (DA = 312km^2, 1966 – Now) is located near this site. The highest reported flow is in April 1971 with Q = 45cms. Other high flows reported include Q = 34cms in April 1974, and Q ~ 25cms in April of 1972, 1979, and 1997. No storms in the storm database exceed 100mm.

Basin Runoff Potential :

d = 40 mm, T_p = 20 hrs, q = 0.55 cms/km^2.
Gross DA = 345 km^2.
Q_p = 190 cms.

Conclusion :

The channel capacity estimate is consistent with historic observations and is within the basin runoff potential.

Recommended parameters : Y = 2.7 m, V = 1.6 m/s, Q = 45 cms.