BF 78527 Hwy 22 Over Pekisko Ck
Hydrotechnical Summary

Channel Capacity :

S = 0.0055
B = 15 m, h = 1.6 m, T_h = 25 m
Use AT Equation

At Bank Height : Y = 1.6 m, V = 2.1 m/s, Q = 65 cms
At Channel Capacity : Y = 2.4 m, V = 2.9 m/s, Q = 150 cms

Historical Highwater Data :

The 1984 design was based on Y = 2.4m. HW was noted at BF01970 u/s in July 1923 (approach washout, gravel bar deposit), May 1942 (washout to 1 mile d/s, over grade to west), June 1963 (approach washout, Y ~ 2.5m), July 1969 (Y ~ 2.0 – 2.5m), and June 2005 (Y ~ 2.0 – 2.5m).

Gauge 05BL006 (DA = 203 km^2, 1912 – 1930) reports Q = 130cms (June 1923) and Q = 100cms (June 1929). Gauge 05BL023 (DA = 223 km^2, 1967 – Now) reports Q = 130cms (June 2005, stage rise = 1.5m), Q = 100cms (June 1995) and Q = 85cms (June 1998). The largest storms in the storm database are 160mm of rainfall in June 1963, 140mm in June 1923, June 1932, and May 1942, and 130mm in June 1929 and June 2002.

Basin Runoff Potential :

d = 70 mm, T_p = 20 hrs, q = 1.0 cms/km^2.
Gross DA = 205 km^2.
Q_p = 200 cms.

Conclusion :

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

Recommended parameters : Y = 2.4 m, V = 2.9 m/s, Q = 150 cms.