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Grandview Reserve
CLOMR REPORT

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Modeling needs to show that these criteria are met

currently in process for the drainages through GVR and completed for GVR drainages were used for initial design parameter and flow rates. Parameters used and minimum bank full geometry is summarized in Table 2.

Table 2 - DESIGN PARAMETERS

Design Parameter	Design Value
Roughness values	EPC Table 10-2
Maximum 5-year velocity, main channel (within bank full channel width) (ft/s)	EPC: 2.5 ft/s MHFD: 5 ft/s*
Maximum 100-year velocity, main channel (within bank full channel width) (ft/s)	EPC: 2.5 ft/s MHFD: 7 ft/s*
Froude No., 5-year, main channel (within bank full channel width)	0.7
Froude No., 100-year, main channel (within bank full channel width)	0.85
Maximum shear stress, 100-year, main channel (within bank full channel width)	1.2 lb./sf
Minimum bank full capacity of bank full channel (based on future development conditions)	2-year, 19 - 33.5 cfs
Minimum bank full channel geometry[1]	
Design Channel Type	C4
Entrenchment Ratio	2.7-31.65 (x=5.26)
Width to depth ratio	13.5-75.0 (x=29.28)
Sinuosity	1.43-2.80 (x=1.92)
Slope	0.0001-0.0184 (x=0.0045)
D_{50}	12-14mm (~0.5 in)
d_{84}	32-48mm (~1.6in)
Meander Length[2]	34-92 (x=56)
Belt Width[2]	18-55 (x=32)
Radius of Curvature[2]	7-28 (x=11)
Minimum Floodplain Terrace	6 ft
Maximum overbank side slope	4(H):1(V)
Maximum bank full side slope	2.5(H):1(V)
Maximum bank full side slope	2.5(H):1(V)
Minimum bottom width[3]	4.8 ft
Freeboard	1.5 ft

[1] These values were derived from empirical data and will be used as guidelines for design and will be used in conjunction with hydraulic regime equations as outlined in "Spreadsheet Tools for River Evaluation, Assessment, and Monitoring: The STREAM Diagnostic Modules"
[2] These values are derived from "Spreadsheet Tools for River Evaluation, Assessment, and Monitoring: The STREAM Diagnostic Modules"
[3] Minimum bottom width shown is for the low flow channel only. The main channel will be ~41 ft wide

The 2-year frequency was selected for the design of the bank full channel to approximate the flow most likely to govern a stable geometry. Prior reports estimated future 2-year flow as ~15-cfs and assume no culvert effects, i.e., open channel flow un-affected by a culvert. The future 2-year flow (19-33.5 cfs) was used to size the low flow channel. This resulted in a channel with a minimum bottom width varying from 4.8 feet - 9.8 feet, 0.8 feet deep with 2.5:1 side slopes for a bank full width varying from 8.8 feet to 13.8 feet, assuming a mean channel longitudinal slope of 0.9%. Equations as shown in the spreadsheet should produce low shear values within the channel section. However, further analysis using HEC-RAS was completed to determine the final geometry of said channel. The effective discharge channel is highly correlated to the “bank full” channel (Leopold 1994) as