Channel Analysis - Updated Roughness Coeff - 23 Oct 2012

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.040	
Channel Slope	0.02100	ft/ft
Left Side Slope	3.00	ft/ft (H:V)
Right Side Slope	3.00	ft/ft (H:V)
Bottom Width	15.00	ft
Discharge	178.00	ft³/s

Results

Normal Depth	1.50	ft
Flow Area	29.34	ft²
Wetted Perimeter	24.51	ft
Hydraulic Radius	1.20	ft
Top Width	24.02	ft
Critical Depth	1.47	ft
Critical Slope	0.02252	ft/ft
Velocity	6.07	ft/s
Velocity Head	0.57	ft
Specific Energy	2.08	ft
Froude Number	0.97	
Flow Type	Subcritical	

This analysis is considering the 100 year storm and maximum flow, including the maximum possible flow (120 cfs) from the AMAFCA culvert upstream, and is therefore a conservative analysis for channel velocity.

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	1.50	ft
Critical Depth	1.47	ft
Channel Slope	0.02100	ft/ft

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GVF Output Data

Critical Slope	0.02252	ft/ft