Floodway Workshop

Introduction

This workshop will help students learn how to use HEC-RAS to: perform a floodway analysis; and review and understand floodway output.

Background

The study is a single reach composed of 9 cross sections and a bridge. The upstream river station is 40800 and the downstream river station is 29900. The bridge is located at river station 36975. The floodway will be based on a 1% Chance Flood of 8,000 cfs.

Problem Description

A project file (**wrk6.prj**) with the title "**Floodway Workshop - Buffalo Ck.**" has been loaded on your workshop computers. This file contains all of the data for this workshop, except the floodway information. A preliminary determination of the designated floodway for North Buffalo Creek is to be made for this reach of the creek. The objective is to establish the maximum limits of encroachment using the following guidelines:

1. Water surface elevations should not increase over one-foot above the base profile.

2. The channel velocity should not increase to the point where damage might be inflicted beyond base conditions.

3. The top width of the floodway should not vary to the extent that it would be difficult to establish the floodway limits in the field.

4. Encroachments are to be determined on all bridges.

Problem

Using the provided Buffalo Creek data set, make a preliminary floodway determination with several levels of Method 4 and/or 5. Start the base profile with an elevation of 698.3, and begin encroachment profiles with an elevation of 699.3.

1. Do any of the initial floodway runs meet the criteria? If not, use multiple targets in a combined floodway run. Methods and targets can be changed at any section.

2. Can you obtain a floodway within the one-foot rise? What is the minimum rise? What seems to control the minimum increase?