

## ***APPENDIX 2***

### ***MONITORING FOR THE MCNAB CREEK RESTORATION PROJECT***

## **MONITORING FOR THE MCNAB CREEK RESTORATION PROJECT**

The McNab Creek Restoration Project was implemented during the summer of 2001. The project originally envisioned doing work at 18 sites over a 1.4-mile reach of stream. Work at each site varies but may include boulder weirs, willow plantings, and log placement. Vortex weirs were placed at 10 of the 18 sites. The vortex weirs were to be placed in groups of 3 or 4. No spacing between the weirs is given. Each of the weirs is estimated to be 40 feet long.

The Section of McNab Creek addressed in the project is indicated in Figure 1. This area exhibits a channel with a floodplain formed following channel incision and slumping of the banks. In other words the channel has adjusted its form in response to the incision process. Downstream the channel continues to be incised and have 20 foot tall banks of alluvium with no floodplain.

The project proposal references a DFG report on McNab Creek. The DFG report appears to indicate that there is a high load of fine sediment in McNab Creek. The proposed bank protection is supposed to help reduce the fine sediment load to the creek. If the watershed is delivering a high load of sediment to the creek, will stabilizing the bank in a few spots significantly decrease the fine sediment load? This assumption suggests that the composition of the bed above and below the site be monitored.

The proposal also mentions that DFG recommend monitoring the 77-foot long culvert under the railroad. It is assumed that fish passage through the culvert is what needs to be monitored.

### **AERIAL PHOTOS**

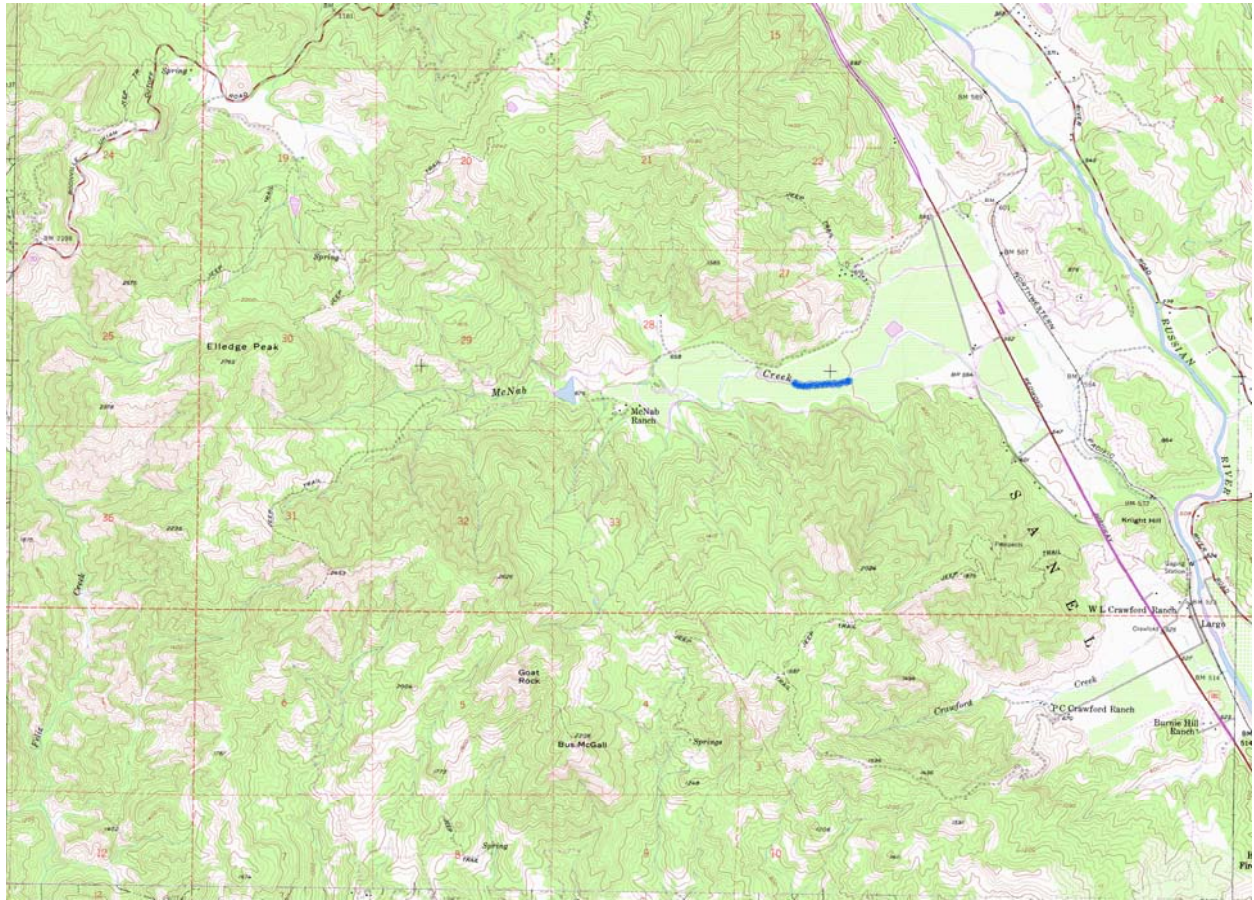
Low-altitude stereo aerial photographs were taken prior to project implementation... The four-mile reach between US 101 and the large on-stream reservoir should be flown following the project and at regular intervals. Since there is minimal riparian canopy aerial photos will give a good view of the project. The flight could be limited to a two-mile section centered on the project reach.

### **GROUND PHOTOS**

Photo monitoring stations should be established at each of the sites scheduled for treatment. It may be difficult to establish repeatable photo monitoring locations until after the work is complete since heavy equipment may destroy any marking posts. However, it is advisable to get a photographic record of the problem areas.

After the project is installed, photo stations should be established at each treatment site. A method for locating the exact same location for each photo should be established. The type of monument or landmark used may vary at each location. The location of each photo station should be documented.

Figure 1. Location of McNab Creek Restoration Project indicated in blue.



## **TOPOGRAPHIC SURVEY**

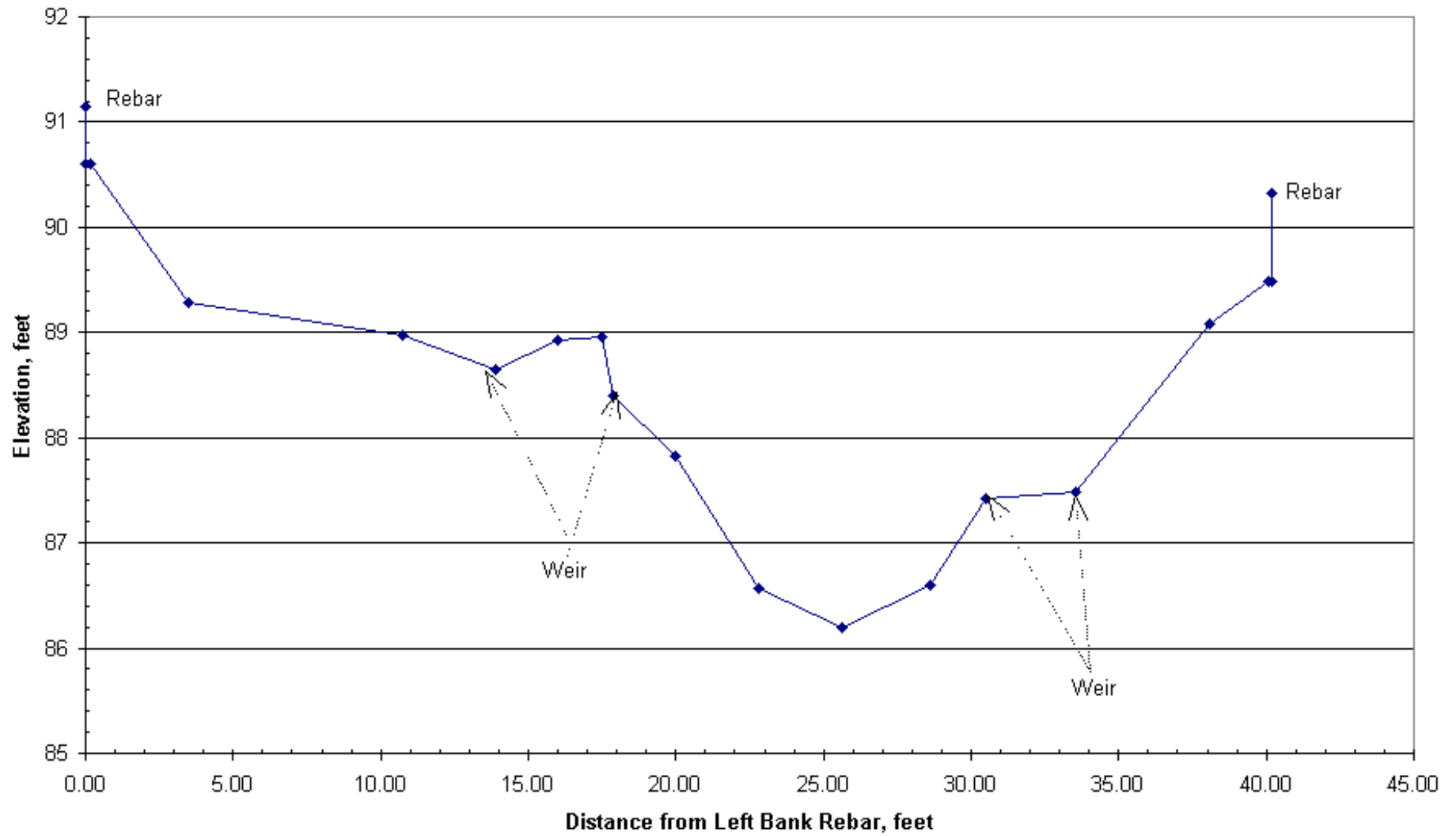
For each of the vortex weirs, it would be desirable to monitor the topography of the channel bottom and banks above and below the weirs. The survey should document the plan view size and depth of each scour hole created by the weirs. The stability of the weirs and banks should also be monitored. The composition of the bed material in the scour hole and its associated tail-out should also be monitored.

Site 3 calls for the placement of 2 boulder weirs to deflect flow away from the left bank to protect an off-stream reservoir. The purpose of these weirs is bank protection. Therefore, monitoring should concentrate on the bank but should also note the condition of the channel bed at the two weirs.

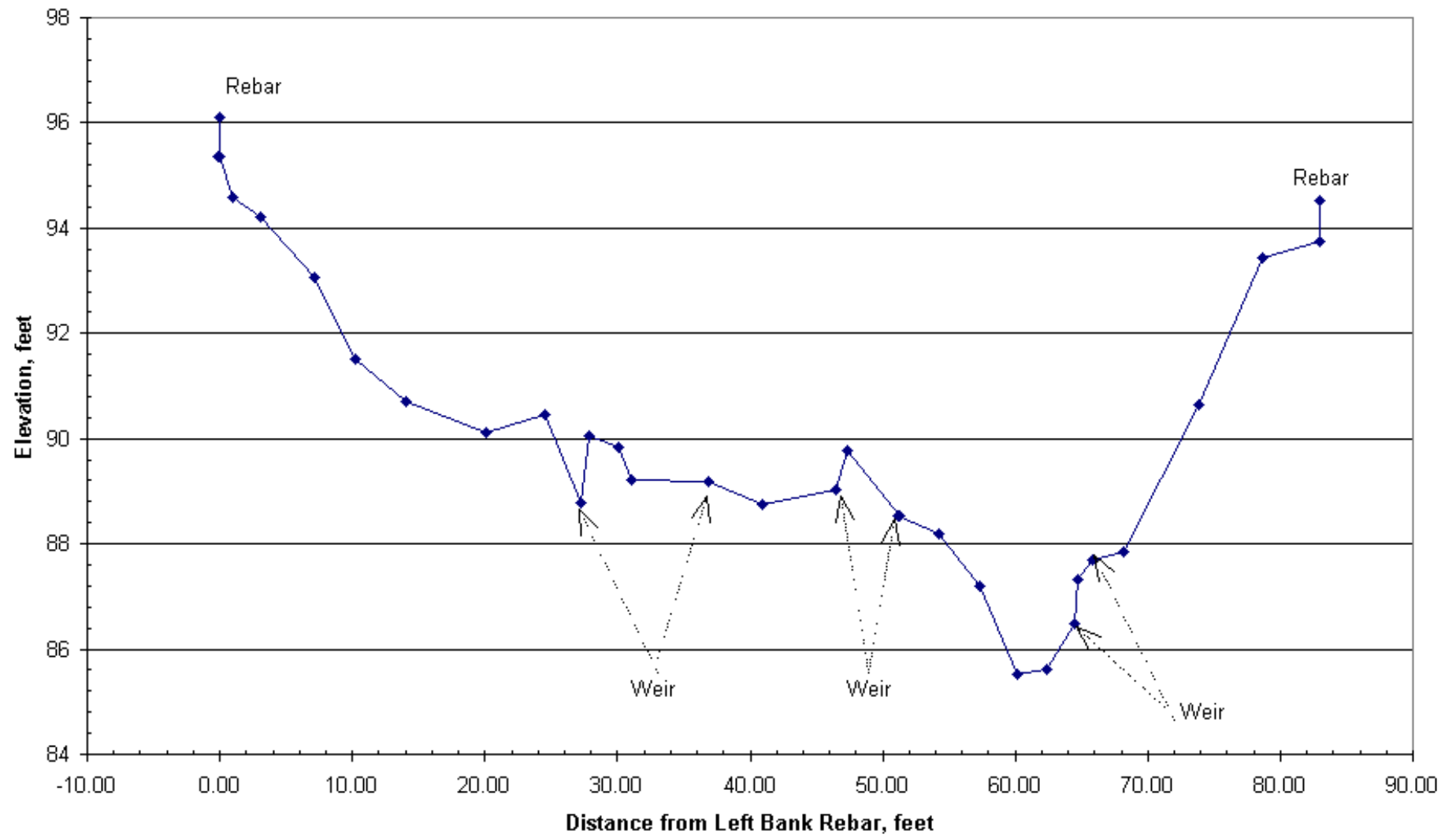
The surveying should be done with a total station. This will allow changes in the location and slope of the channel bank and scour hole to be monitored.

Attached are cross sections complete in 2001 of eight of the vortex weirs and other structures to document conditions just following construction. Structures are numbered increasing from downstream to upstream.

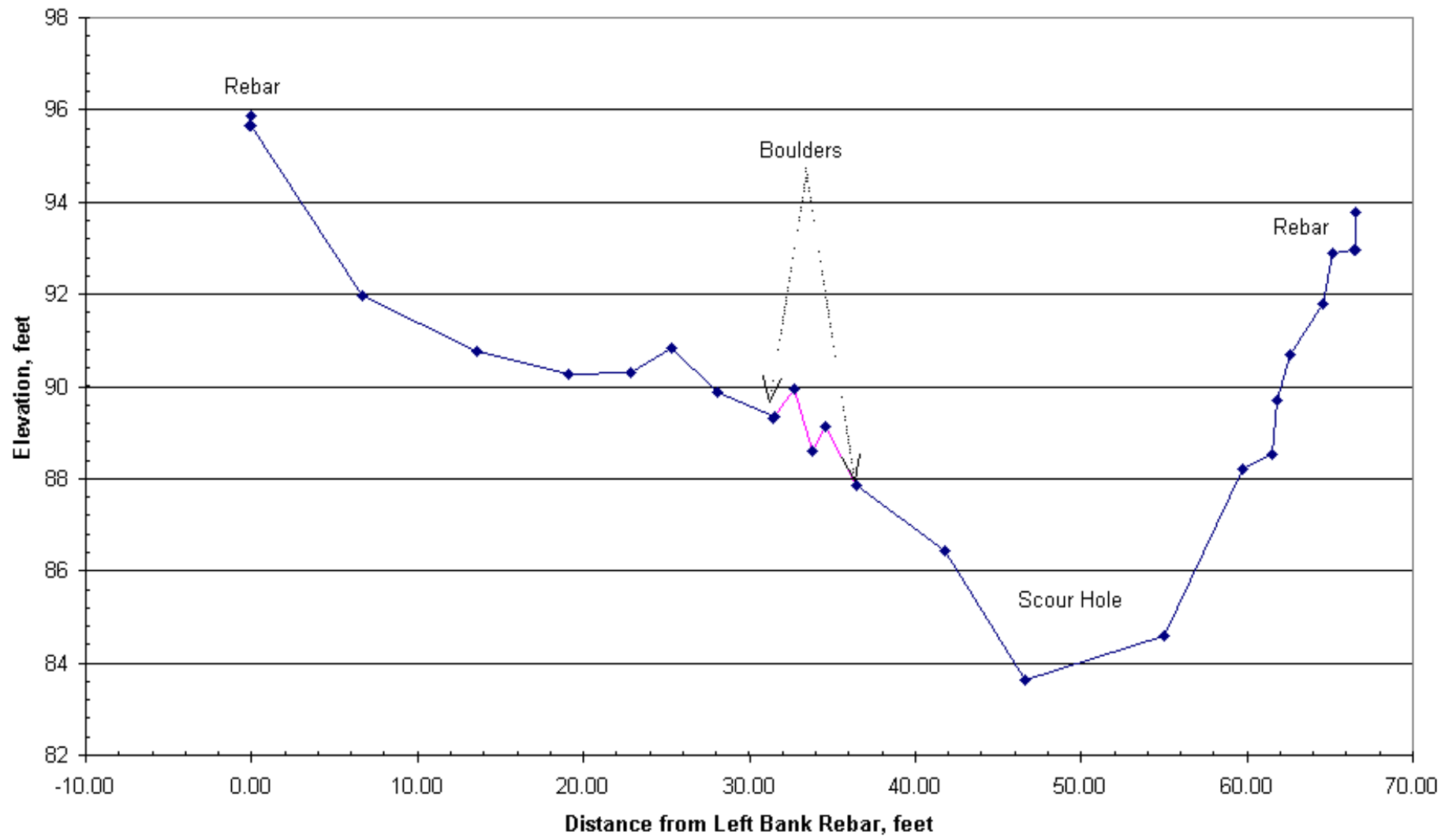
### McNab Creek Restoration Project Monitoring Cross Section at Structure 1



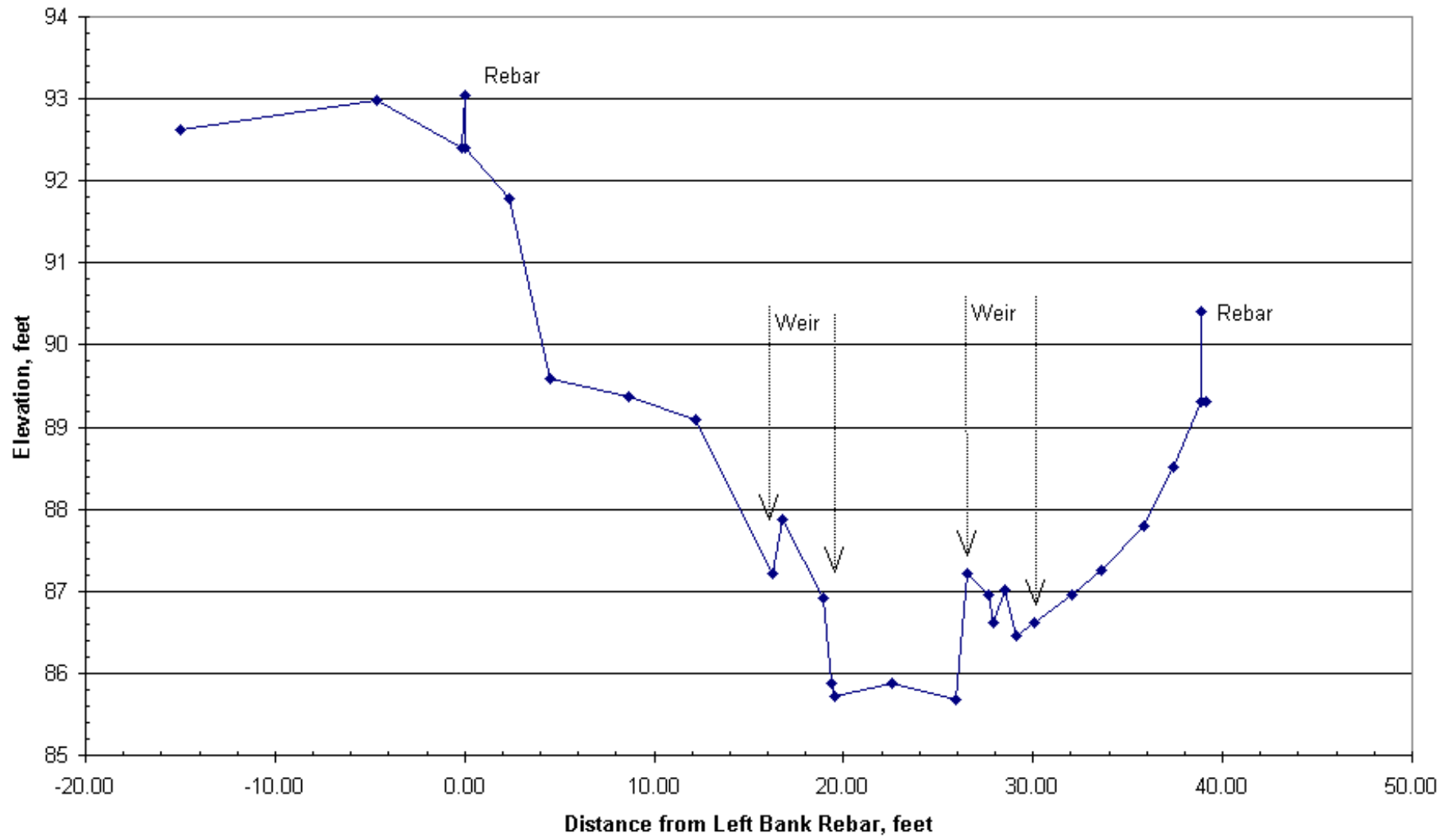
### McNab Creek Restoration Project Monitoring Cross Section at Structure 2



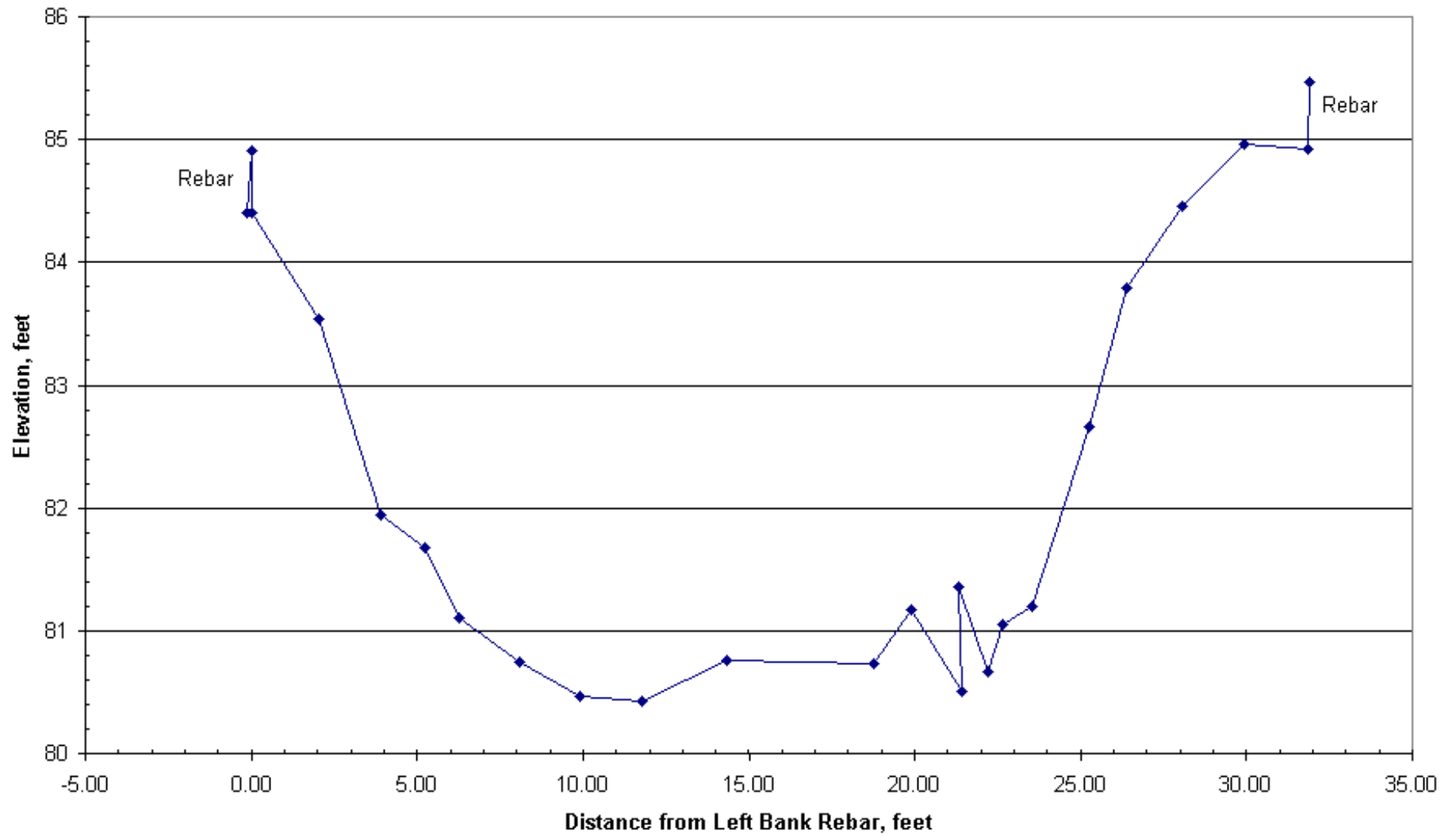
### McNab Creek Restoration Project Monitoring Cross Section at Structure 3



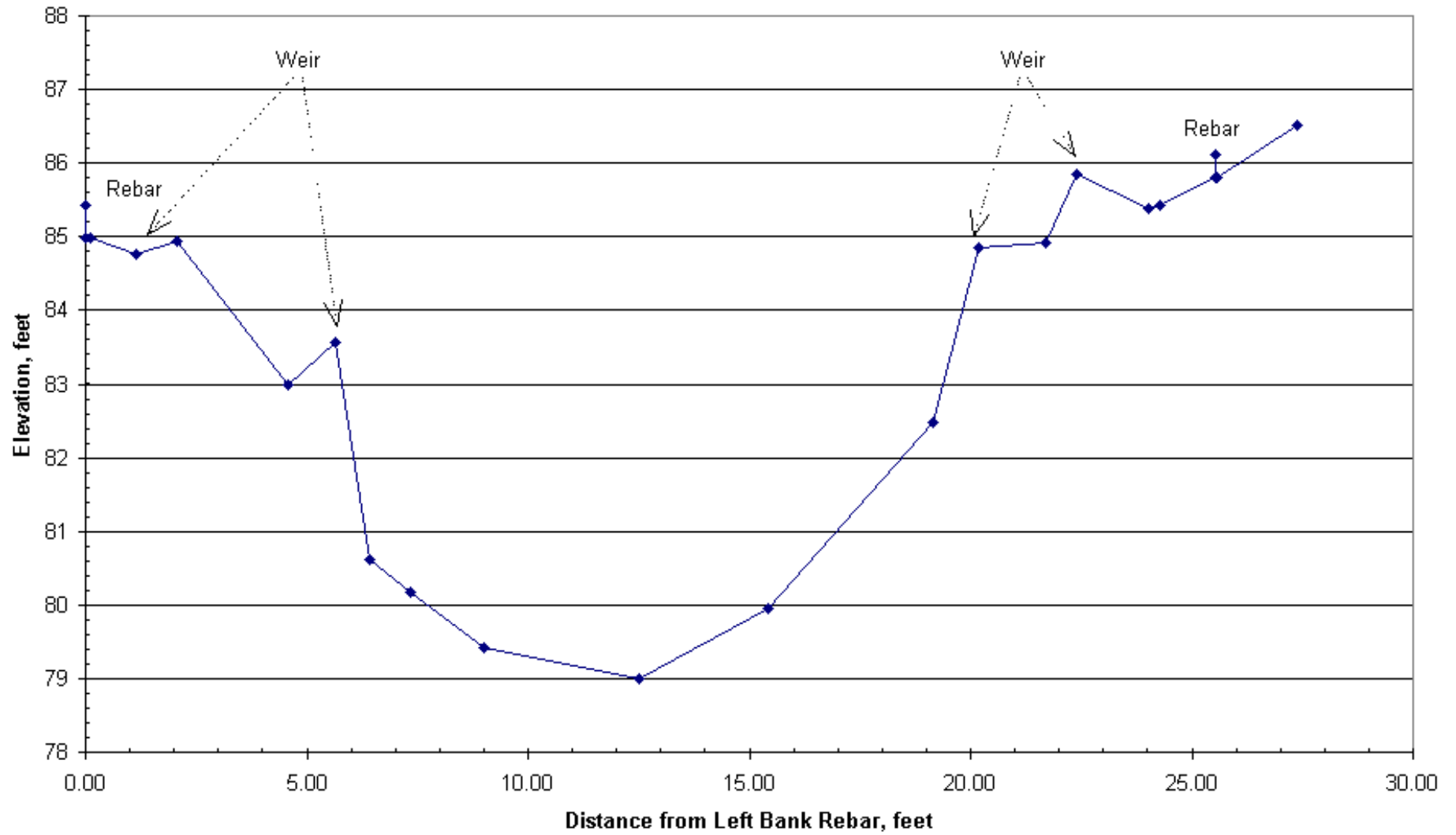
### McNab Creek Restoration Project Monitoring Cross Section at Structure 4



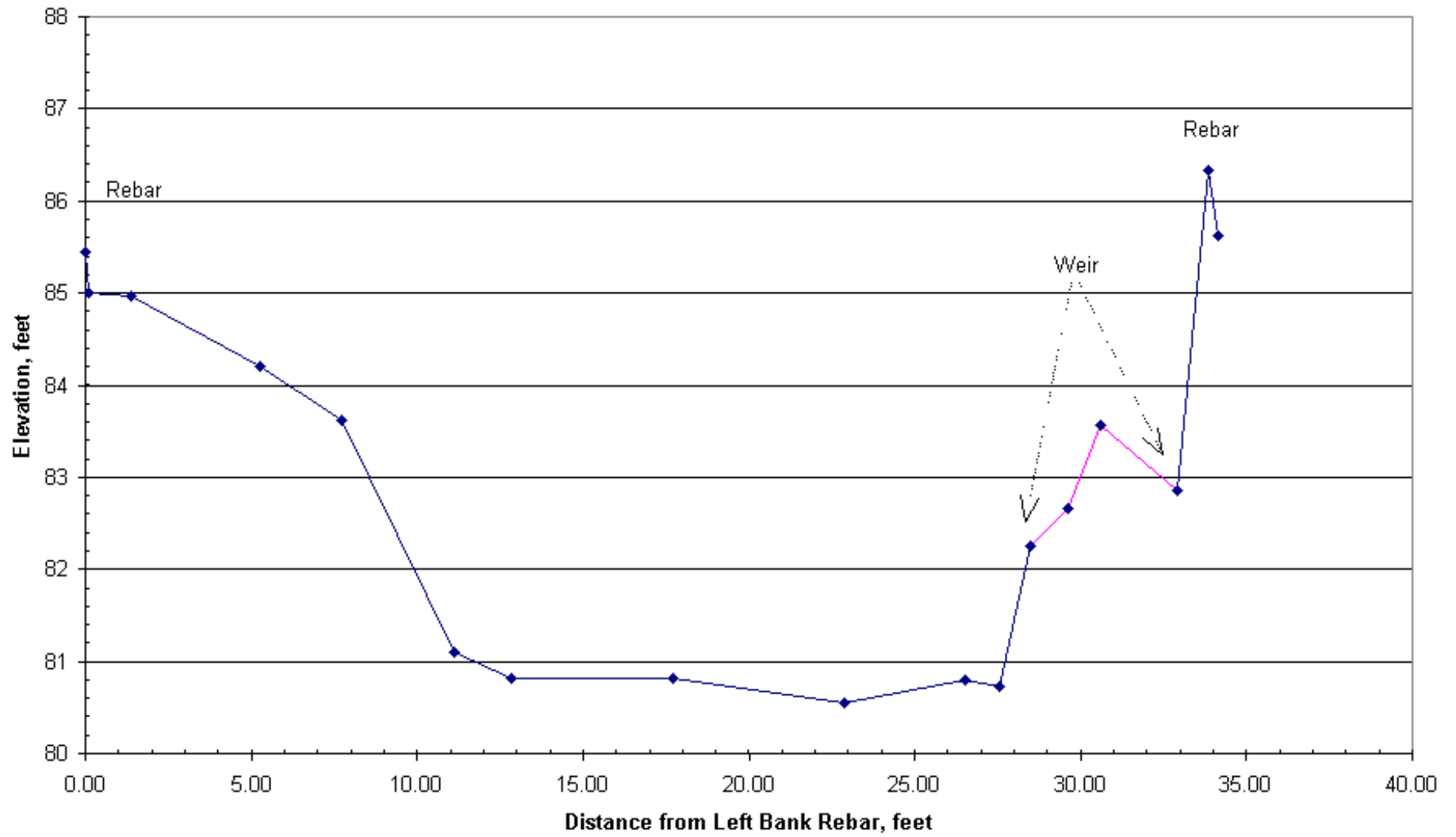
McNab Creek Restoration Project Monitoring  
Cross Section at Structure 5



### McNab Creek Restoration Project Monitoring Cross Section at Structure 6



### McNab Creek Restoration Project Monitoring Cross Section at Structure 7



### McNab Creek Restoration Project Monitoring Cross Section at Structure 10

