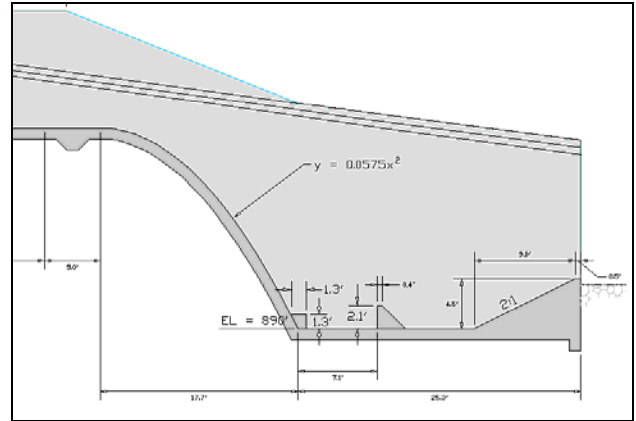
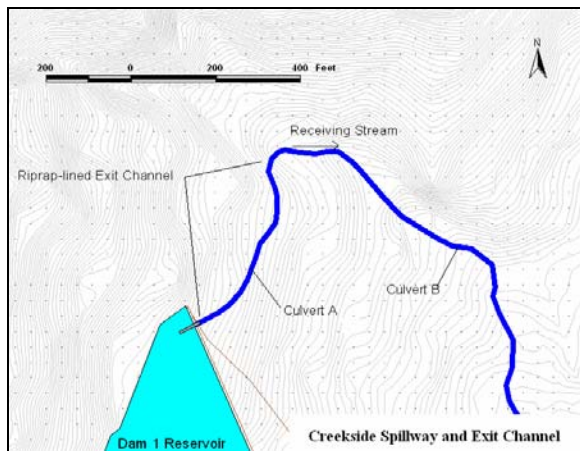


Creekside Development Reservoir No. 1 – Spillway Design

A complete hydraulic design of a spillway, stilling basin, and exit channel was conducted for the Creekside Development Reservoir No. 1. The spillway was designed based on the reservoir-attenuated probable maximum flood (PMF). The structure itself is an ungated, broad-crested weir with an ogee face. The spillway discharges into a stilling basin to dissipate energy before it enters the riprap-lined exit channel. The stilling basin was designed to force a hydraulic jump on the basin apron with the use of chute blocks, baffle blocks and an end sill.



Below the stilling basin, a riprap lined exit channel carries spillway flow to a receiving stream in an adjacent drainage basin. By delivering discharge to an adjacent basin, the flood flows could be released into a natural stream without endangering the dam embankment. This concept realized significant cost savings in the spillway by reducing both its length and size by a considerable amount.



HEC-RAS was used for:

- Modeling the reservoir attenuation of the PMF discharge.
- Aiding in the design of the spillway and stilling basin.
- Aiding in the design of the exit channel.
- Determining scour estimates and requirements for stable channel design.

Project Owner:

Cow Creek Band of the Umpqua Tribe of Indians

*Contact: Wayne Shammel
2371 NE Stephens St., Suite 100
Roseburg, OR 97470
(541) 672-9405*

Completion Date: *Final Design and Report Submitted Dec, 2004.*