

**High Park Fire Area Flood Mitigation Support – Mill Creek
Larimer County, Colorado**

Client: Mr. Mark Peterson, P.E.
Larimer County
Engineering Department
P.O. Box 1190
Fort Collins, CO 80521
(970) 498-5714



The High Park Fire in the mountains west of Fort Collins, Colorado was caused by a lightning strike and was first detected on the morning of June 9, 2012. The fire was declared 100 percent contained on June 30, after burning 87,284 acres. Beginning in November 2012, Anderson Consulting Engineers (ACE) participated in rapid response efforts as part of the High Park Fire Area Flood Mitigation Project. ACE consulted with Larimer County and CWCB staff to identify post-wildfire needs in areas affected by the fire, and developed a scope of work to **determine post-wildfire flood hazards and evaluate flood mitigation alternatives for protecting public infrastructure and homes** from loss or damage. Additionally, ACE participated in High Park Fire **coordination meetings** organized by Larimer County, which **included stakeholders such as the NRCS, USFS, CDOT, Colorado State Forest Service, Larimer County, City of Fort Collins, and the City of Greeley.**

ACE, AVI Consulting, and Larimer County Staff conducted **field reconnaissance and field surveying** of existing stream channels, road crossings, and conveyance structures. Utilizing pre- and post-High Park Fire hydrology developed by the NRCS, flood events were identified for the design of upgrades to existing infrastructure.

Mill Creek flows northeasterly through the Town of Bellvue, Colorado before converging with the Cache la Poudre River northwest of Fort Collins. Residents along the creek through town are situated in low-elevation properties that flood frequently for small events. In addition, Mill Creek was served underneath one of the main arterials of Bellvue, LCR 23, by a severely damaged and undersized culvert.

ACE **analyzed the hydraulics and sediment transport** of the Mill Creek system through Bellvue, and **developed design for: a new culvert crossing** for LCR 23, **channel restoration and stabilization** for Mill Creek between 2nd Avenue and 1500-feet downstream of LCR 23, **grade control** to prevent downcutting for the highly erodible reach between 2nd Avenue and LCR 23, a **sediment forebay** to collect the high sediment load associated with the post-fire Mill Creek watershed, **erosion countermeasure design** at the new culvert and other critical areas, and **revegetation** of the project.



Mill Creek – Pre- and Post-Construction