

Executive Summary

CR 17 Corbett Creek Crossing Improvements Category G – Water Resources



County Road 17 (CR 17) is more than a rural roadway in Ouray County. It serves as a critical lifeline route connecting residents, businesses, visitors, and emergency responders to the City of Ouray when U.S. Highway 550 becomes inaccessible due to rockslides, flooding, severe weather, wildfire, or other emergency events. Now more than ever, the importance of this corridor is evident as the Gold Mountain Fire and the potential for debris flows at Dexter Creek threaten temporary closures along Highway 550. Preserving the reliability of this corridor is essential to maintaining public safety, community connectivity, and emergency access throughout the region.

At Corbett Creek, recurring debris-flow events threatened the functionality and safety of this vital transportation link. The existing crossing consisted of two 48-inch culverts that were unable to safely convey the extreme water and debris flows produced within the steep mountain watershed. Massive quantities of mud, sediment, trees, and rocks, some as large as small vehicles, routinely accumulated at the crossing, obstructing the roadway and rendering CR 17 impassable during significant storm events. These conditions created ongoing maintenance challenges and jeopardized one of the region's most important alternative access routes to the City of Ouray.

To address this challenge, Ouray County partnered with KLJ Engineering (KLJ) to transform a vulnerable crossing into a resilient infrastructure asset. The project team completed detailed hydrologic and hydraulic analyses and developed a

solution centered on replacing the undersized culverts with a single 20-foot by 10-foot reinforced concrete box culvert. The larger structure was specifically designed to convey floodwaters while accommodating the substantial debris loads characteristic of Corbett Creek, significantly improving the crossing's ability to withstand future hazard events.

The project required a comprehensive, multidisciplinary approach that included hydraulics and hydrology, roadway design, environmental permitting, surveying, and coordination with regulatory agencies. KLJ also assisted the County in securing FEMA Hazard Mitigation Grant Program funding by preparing the Benefit-Cost Analysis and supporting the NEPA Categorical Exclusion process, helping advance a solution that maximized both financial and community value.

The crossing improvement will provide a durable, long-term solution that increases roadway resilience, reduces the likelihood of closures, decreases future maintenance demands, and strengthens the reliability of a critical emergency transportation corridor. More importantly, the project safeguards access to the City of Ouray when it is needed most, ensuring that residents, visitors, and emergency personnel can continue to travel safely during and after extreme events.