RALSTON CREEK AT CROKE CANAL; ARVADA, CO

Category G: Water Resources

Executive Summary

The Ralston Creek at Croke Canal Improvements Project addressed critical flood control and environmental challenges in Arvada, Colorado. Following the destructive September 2013 floods, where split flows from Ralston Creek exceeded the Croke Canal's capacity causing multiple breaches, this project was developed to prevent future infrastructure damage while enhancing the stream corridor's ecological value. The project scope included comprehensive stream restoration along a 0.3-mile reach between Farmers Highline Canal and Croke Canal, replacement of an undersized pedestrian bridge, construction of a sculpted concrete drop structure, and creation of an overflow channel to improve flood conveyance and community engagement.

The project's primary objective was to contain the 25-year storm event within the flood corridor while addressing longitudinal erosion issues downstream of the existing pedestrian bridge. By implementing a tiered channel design with increased radius of curvature, the team reduced shear stress and minimized active bank erosion. The improvements not only enhanced flood protection for surrounding residential infrastructure but also created opportunities for public recreation and environmental education along the heavily used Upper Ralston Creek Trail system.