

Hydraulic and Hydrologic Analyses

Merced River Utility Crossing, Yosemite National Park

Balance Hydrologics, together with Kennedy Jenks, assisted the National Park Service in planning, designing and observing construction of a challenging utility crossing under the Merced River in the heart of the Yosemite Valley. With an earlier attempt at constructing the crossing aborted and spring snowmelt quickly approaching, the project team prepared a design and installation strategy that could be implemented prior to the onset of the rising flows while also minimizing impacts to the fragile and highly valued natural surroundings. Geomorphic assessments in conjunction with a detailed hydraulic analysis were utilized to prepare a staged design scheme that limited both bed scour and bank erosion within the main channel of the river. A pumping system and settling areas were also designed and constructed to meet stringent turbidity criteria. During the construction process, Balance also maintained a strong on-site presence to help provide for an adaptive and efficient installation as well as monitor and address impacts to the surrounding environment from this complex and highly-accelerated project.

