



Sawmill Canyon Wash, Arizona

Two methods were considered for protection of existing high-pressure natural gas pipelines crossing Sawmill Canyon Wash near Kingman, Arizona.

The first method studied considered reburial of the pipelines at greater depths. Computed water surface elevations, flow depths and velocities were used to evaluate the scour potential and lateral limits of scour at the site. Recommended pipeline burial depths were then based on the results of the analyses.

As an alternative to pipe burial, a grade control structure was proposed. Two forms of grade control structures were designed (straight drop and sloping drop) that would stabilize the stream channel at the pipelines while not altering existing flow patterns. The estimated 100-year floodplain was delineated with the aid of HEC-2 for both existing conditions and for a grade control structure in place to show that floodplain boundaries would not significantly change.

The sloping grade control structure was chosen for construction. A berm was constructed across part of the wash with the overflow section located to one side. The overflow section and spillway was constructed of grout-filled nylon mattresses. The sections of the berm adjacent to the grouted mattresses were protected with riprap.



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Completion Date:

8/2004