



# PROJECT DESCRIPTION SHEET



## GEOTECHNICAL AND WATER RESOURCES ENGINEERING



### KEY ENGINEERING ELEMENTS:

- Hydrologic analyses
- Hydraulic analyses
- Flood Routing
- Stability analysis
- Seepage analysis

### CLIENT BENEFITS:

- Preserved water rights
- Significantly improved irrigation system
- Created recreation area
- Improved flood control on property

RJH Consultants, Inc.  
9800 Mt. Pyramid Court, Suite 330  
Englewood, CO 80112  
Phone: 303-225-4611  
Fax: 303-225-4615  
Toll Free: 866-900-1930  
[www.rjh-consultants.com](http://www.rjh-consultants.com)

## ELDRED RANCH DAM, MONTROSE COUNTY, CO ELDRED COLORADO FAMILY LIMITED PARTNERSHIP

RJH consultants Inc. (RJH) was retained by the Eldred Colorado Family Limited Partnership (owner) to assist with dam and reservoir siting and to perform design engineering services for a new embankment dam and reservoir. The new dam and reservoir will be located on the South Fork of Horsefly Creek, a tributary to the San Miguel River, in Montrose County, Colorado. The dam site is located on the Eldred Family Ranch, and will be used primarily for irrigation. The dam and reservoir will also serve for recreational purposes such as fishing, boating, and wildlife viewing.

RJH continued the siting evaluation started by a previous consultant. Based on geotechnical, hydrologic, irrigation system efficiency, and cost, the dam and reservoir location was selected. Following the siting, RJH performed preliminary design services to assist the client in maximizing cost efficiency per water storage volume. Based on preliminary design, the dam will be approximately 65 feet high, have a 1,140-foot-long crest, and will store approximately 690 acre-feet of water at normal water surface level. RJH is currently performing final design services and is on schedule to deliver construction plans to the Colorado State Engineer for review in the fall of 2008.

RJH has completed the following for the project:

- Evaluated two potential reservoir sites and assisted the owner in selecting the preferred site.
- Performed stream yield analysis to estimate base streamflow conditions and water availability.
- Performed hydrologic analysis to evaluate inflow during various storm events.
- Evaluated hazard classifications according to Colorado State Rules.
- Developed the inflow design flood.
- Planned and executed a geotechnical exploration of the dam and reservoir site.
- Performed geotechnical analyses to design embankment geometry.
- Performed hydraulic analyses to size the emergency spillway, outlet works, and irrigation control system.
- Prepared preliminary estimates of construction material quantities.
- Developed an estimate of probable construction costs.
- Prepared and submitted USACE 404 permit application.

RJH is under contract to complete the following:

- Finalize the design for the dam and appurtenances.
- Prepare construction plans and specifications.
- Assist the owner through the regulatory review process.
- Assist the owner through the bidding and contractor selection process.
- Provide oversight and engineering services through construction and final permitting of the dam.