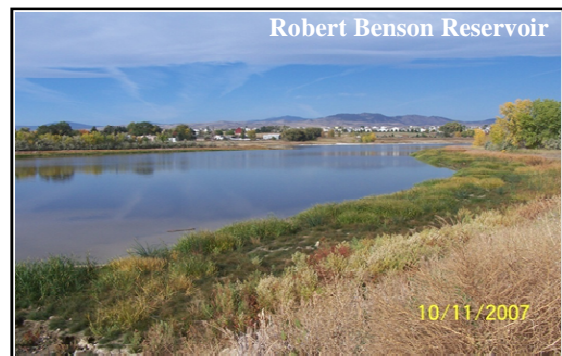


Hydrologic-Hydraulic Analyses and Final Design of Robert Benson Reservoir Dam Fort Collins, Colorado

Client/ Matt Day
Reference: City of Fort Collins Park Planning
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Anderson Consulting Engineers, Inc. was contracted by the City of Fort Collins Natural Resources Department to design, develop, and provide final construction drawings for the rehabilitation of the Robert Benson Reservoir Dam in southeast Fort Collins. The dam was purchased as part of the Pelican Marsh Natural Area, and was placed under a drain order by the State of Colorado Dam Safety Office due to the condition of the principal outlet and the undersized spillway. The project included the geotechnical analysis of the existing dam, hydrologic analyses to route flows through the dam, the design of the principal outlet and a new emergency spillway, and the incorporation of a new irrigation intake structure. The staff of Anderson Consulting Engineers completed the following specific tasks for this project:



- hydrologic analyses to determine the Probable Maximum Flood for the basin upstream of the reservoir;
- hydraulic analysis and design of the ponds principal outlet structure and pipe;
- hydraulic analysis and design of the ponds new emergency spillway to meet State of Colorado dam safety requirements;
- hydraulic analysis and design of a pond outlet structure to limit the 100-year event release from the pond to 2-year existing condition releases, and the hydraulic design of the ponds emergency spillway; and
- final design and development of a set of construction drawings and specifications , including plans and profiles of the new dam, the emergency spillway, and the principal outlet.

