



PROJECT DESCRIPTION SHEET



GEOTECHNICAL AND WATER RESOURCES ENGINEERING



KEY ENGINEERING ELEMENTS:

- Planning-level analyses through final design
- Technical review of multiple projects within a large water storage system

CLIENT BENEFITS:

- Coordination of multiple projects for master planning of City infrastructure
- Integrated planning, permitting, and design experience on similar projects



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SOUTHERN GRAVEL LAKES SYSTEM THORNTION, CO CITY OF THORNTON

RJH is providing engineering consulting services to the City of Thornton (City) to assist the City with their planning, design, monitoring, construction, and purchase of gravel pit water storage facilities. Included with this general services contract are the following services:

- Develop and implement systems to monitor groundwater levels around current and future gravel pit storage facilities.
- Develop technical criteria for inclusion in purchase agreements for gravel pits. Assist with review, evaluation, and negotiation of gravel pit purchase agreements.
- Provide expert testimony in support of condemnation of gravel pits.
- Review and evaluate design documents for soil-bentonite cutoff walls, compacted clay liners, and interconnects for gravel pits and for embankments, outlet works, and spillways for jurisdictional dams.
- Review and assist with obtaining permits for construction of dams and reservoirs in floodplains. Develop conceptual and preliminary designs and cost estimates for several proposed reservoirs. Project components include river diversions, pipelines, surface water diversions, well fields, interconnects, pump stations, clay and soil-bentonite liners, spillways, access roads, and embankment dams.
- Identify permitting requirements by the Division of Minerals and Geology (DMG), State Engineer's Office of Dam Safety (SEO), Urban Drainage and Flood Control District, U.S. Army Corps of Engineers, and local city and county governments. Assist with development of project implementation schedule/plan for purchase and development of gravel pits.
- Perform site visits to observe, document, and monitor progress of construction for gravel pits and to obtain survey data to confirm that the facilities were constructed in substantial conformance to the design documents.
- Design, develop bid documents, and provide construction engineering services for gravel pit storage facilities. Lead permitting efforts to obtain required permits from the SEO and DMG.
- Provide general technical advice to City relative to development and purchase of gravel pits and associated infrastructure.