



Gerald R. Williams, P.E.

President

Resume of Water Engineering



Gerald has 24 years engineering experience, including water studies, hydraulic network modeling, and master plans, and design of distribution systems, pump stations, wells, and hydropneumatic and storage tanks. In recent years through 2004, Gerald has designed over 150,000 feet of waterline in areas of existing infrastructure, and approximately double that outside of existing improvements. Designs include a number of aerial pipelines, horizontal bores, open cut and pipe-bursting, 3 non-package pump stations having 5, 4, and 2 pumps per station, the most recent one with variable frequency drives. Construction administration had also been provided.

Studies & Masterplans Gerald has performed 12 water studies and master plans. Studies include distribution system modeling, including pipelines, PRV's, PSV's, and multiple pressure zones, reservoirs, tanks, and booster stations, with up to 36 pumps on a system, wells, and fire flow analyses. Gerald has also performed a tank siting study based upon hydraulic, pumping, cost, geotechnical, environmental, and other issues. Masterplans have included current and projected usage, water rights, availability, raw water supply and storage, and distribution system modeling for both Central City, CO and Norwood, CO. For Red Cliff, CO, Mr. Williams evaluated water supply, usage, and leakage, with recommendations for improvements and design.

Distribution System Design Gerald has performed the design for many capital improvement water projects. Some have been new line extensions, and others line replacement and upgrade. Replacement lines sometimes involved temporary surface lines for services. Connections, utility conflicts, grades and air entrapment and release or vacuum, water surge or hammer, expansion and contraction and protection from freezing in aerial conditions, capacity and valving, construction limitations and traffic and access issues are all factors routinely considered in designs. Gerald has also designed two 30" and several smaller raw water supply lines, one over six miles long for the mountain community of Central City in an old 15' easement that the Forest Service would not allow to be expanded for waterline reconstruction, even temporarily for construction except at only a few locations for staging and turn-around. Special design considerations were track mounted rock trenchers, fusion bonded HDPE pipeline, and other special provisions for environmental protection. Gerald's designs have included C900 and other PVC, HDPE, and ductile iron pipe, with conventional, rigid and flexible restrained, and Victaulic joints

Pumps Stations, Wells, and Tanks Gerald has designed several mountain resort water systems consisting of wells, hydropneumatic tanks, and distribution systems. In more recent years, variable frequency drives have been incorporated in Mr. Williams' pumping designs, sometimes with bladder tanks, with sophisticated controls, automatic power transfer to back-up power systems, automatic building louvers for generator intake and exhaust air, overhead service cranes or jib, and web-based SCADA and monitoring systems operated by telephone and radio signals. Booster stations have been designed to serve multiple pressure zones and domestic and fire flow conditions. Gerald had also designed four small steel water storage tanks up to 500,000 gallons in size.

Registration

Professional Civil Engineer:

Arizona # 22924

Colorado # 26481

Idaho # 11519

New Mexico #16937

Nevada # 16997

Utah # 188947-2202

Wyoming #10410

Certifications

ASFPM Certified Floodplain
Manager (CFM)

CDOT Certified Erosion Control
Supervisor (CECS)

Education

B.S. (Civil Engineering)

Northern Arizona University

Professional Societies

American Public Works Assoc.

American Water Resources Assoc.

Association of State Floodplain
Managers (ASFPM)

Colorado Association of
Stormwater and Floodplain
Managers (CASFM) [Co-
Founder, Former Vice-Chairman,
and Regional Representative]

Northwest Floodplain Managers
Association (NORFMA)