

Charles E. Brockway, P.E., Ph.D.

Brockway Engineering
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Present title:

Senior Member – Brockway Engineering P.L.L.C

Formerly-Research Professor – Civil and Agricultural Engineering: Supervision of research conducted by the University Water Resources Research Institute and the College of Engineering at Kimberly, Idaho. Graduate student supervision and directed studies instruction in Water Management and Water Resources related subjects.

Associate Director – Idaho Water Resources Research Institute

Summary of education beyond high school:

Institution, Degree, Year

University of Idaho 1955-1959, B.S.-Civil Engineering, 1959

California Institute of Technology 1959-1960, M.S. – Civil Engineering, 1960

University of Colorado, Denver, Colorado, Management, 1963

University of Denver; Denver, Colorado, Civil Engineering, 1964

Utah State University, Ph.D.-Water Resources Engineering, 1977

Number of years service on U of I faculty: 32

Date of original appointment: 1965

Dates of advancement in rank:

Associate Research Professor: 1974

Professor – 50% Agricultural Engineering, 50% Civil Engineering: 1978

Subjects and courses taught:

CE 500, CE 600, CE 502

Summary of academic experience:

University of Idaho – Research Professor–Civil and Agricultural Engineering, 1978

University of Idaho – Associate Research Professor, Civil Engineering, 1974-1978

University of Idaho – Assistant Research Professor, Civil Engineering, 1965-1974

Boise College – Instructor in Engineering, 1961-1963

Summary of other experience:

Senior Member, Brockway Engineering P.L.L.C. Water Resources Engineering

University of Idaho – USAID Pakistan Project on Irrigation Systems Management Research, 1984

U.S. Bureau of Reclamation – Hydraulic Research Laboratory, Denver, Colorado – Hydraulic Research Engineer, 1963-1965

U.S. Bureau of Reclamation – Boise, Idaho – Hydraulic Engineer, 1961-1963

Converse Foundation Engineering, Inc. – Pasadena, California – Foundation Engineer, 1960-1961



California Institute of Technology – Pasadena, California – Assistant Project Engineer,
U.S. Public Health Services Research Project, 1959-1960

Partial Client List:

Twin Falls Canal Company – Twin Falls, Idaho – Hydrology and water use
North Side Canal Company – Jerome, Idaho – Hydrology and water use
Micron Technology – Ground water and water supply
J.R. Simplot Company – Land disposal of processing waste, water supply, water rights
City of Twin Falls – Water supply and hydrology
Idaho Trout Processors – Hydraulics and water supply
Cedar Mesa Reservoir and Canal Co– Water Management Consultant
Clear Springs Trout Company, Buhl, Idaho – Water supply and distribution systems
Idaho Power Company, Boise, Idaho – Relationships of groundwater and surface water
– Upper Snake River Basin – water right adjudication
Idaho Department of Fish and Game – Evaluation of groundwater stream relationship for
litigation – Parma vicinity
Blaine County, Idaho – Waste disposal systems for high-density rural subdivisions
City of Mountain Home, ID. Water Rights, hydrologic analysis
Rinker Company, Long Beach, CA Hydrology, water rights
U.S. Bureau of Reclamation (was Maricopa County Water District) – Arizona Flood
Study
Office of Technology Assessment – U.S. Congress – Irrigation Distribution Systems
U.S. Department of Justice – Indian Water Rights
Montgomery Engineers – Ground water quality evaluations
J.U.B. Engineers, Twin Falls, Idaho – Groundwater and hydraulics
Amalgamated Sugar Company, Idaho – Hydrology and waste disposal
Pioneer Irrigation District, Idaho Water rights and hydrology
Aries Development Co. Subdivision water rights
Eagle View Farms, Castleford ID-Water rights and irrigation system
Rim View Trout Company, Wendell ID- Hydraulics

Registered Professional Engineer:

Idaho, Colorado and Washington

Special Awards or Honors:

Honorary Membership ASTM, 1959
U.S. Army National Defense Transportation Award, 1958
Distinguished Military Graduate – University of Idaho
Top Ten Graduating Senior – University of Idaho, 1959
No. 2 in graduating class of 889, University of Idaho, 1959
Representative of USBR Division of Research at 1963 Intergovernmental Training
Program, Denver, 1964
Scholarship – University of Denver, Graduate School of Management, 1964
National Science Foundation Fellowship – Utah State University, 1967-1968
Outstanding Young Engineer Award for Idaho, National Society of Professional
Engineers, 1968
Engineer of the Year, 1997 American Society of Agricultural Engineers
Idaho Water Users Hall of Fame - 1998

Membership in professional and scholarly organizations:

National Society of Professional Engineers, 1967- present

Idaho Society of Professional Engineers, 1967- present: President 1978

American Society of Civil Engineers – Irrigation & Drainage Division Committee

Chairman:

- 1.) Operation and Maintenance of Irrigation and Drainage Systems, 1975-1981
- 2.) Water Quality Committee, 1980-1984, Chairman
- 3.) Task Committee on Guidelines for Erosion and Sediment Control in Irrigated Agriculture, 1980-1983, Chairman
- 4.) Publications Committee, 1985-1992

Research Society of America

National Council of Examiners for Engineering and Surveying, 1981-1991

Idaho Board of Professional Engineers and Professional Land Surveyors, 1981-1991, Chairman

American Water Resources Association

Offices held in such organizations:

National Society of Professional Engineers

Member – Young Engineers Committee, 1973-1974

Chairman – Young Engineers Committee, 1975-1977

Member – President's Committee on Board of Directors Organization, 1977

Member – Registration and Qualification for Practice Committee, 1979-1981

Chairman – Registration and Qualification for Practice Committee, 1982-1984

Member – Participating Organizations Liaison Committee to NCEE, 1982-1984

Idaho Society of Professional Engineers, President 1978

President - Magic Valley Chapter, 1970-1971

Member – State Ethical Practices Committee, 1966-1977

Member – State Intersociety Relations Committee, 1968

Member – State Nominating Committee, 1975-1976

Member – Board of Directors, 1972-1973

Member – Board of Directors, Past President Chairman – Nominating Committee 1979

State Director – Representative for Idaho NSPE, 1982-1983

Nominating Committee for Idaho Board of Professional Engineers & Land Surveyors Member

American Society of Civil Engineers

Member – Operation and Maintenance of Distribution Systems Committee Irrigation and Drainage Division, 1975-1981

Chairman – Irrigation and Drainage Division, Operations and Maintenance Committee, 1977-1979

Member – Water Quality Committee, Irrigation and Drainage Division, 1980-1984

Chairman – Water Quality Committee, Irrigation and Drainage Division, 1982-1984

Member – Task Committee on Water Measurement, 1980-1983

Chairman – Task Committee on Guidelines for Erosion and Sediment Control in Irrigated Agriculture, 1984 – Present

Member – Publications Committee, 1985 – Present

Corresponding Member – ASCE Irrigation and Drainage Division Committee on Operation and Maintenance of Irrigation Systems

Reviewer – ASCE Irrigation and Drainage Division Committee on Publications
 Idaho Board of Professional Engineers and Land Surveyors Member, 1981
 Vice Chairman, 1983-1984
 Chairman, 1984-1986, 11990-1992
 National Council of Engineering Examiners
 Assistant Vice President, Western Zone
 Member, Professional Examinations Advisory Committee
 Member, Committee on Uniform Procedure and Legislative Guidelines, 1984
 Member, Communications and Publications Committee, 1983
 Member, Uniform Examinations and Qualifications Committee, 1984 – 1986
 Member, Committee on Examination Policies and Procedures, 1987 – 1989
 Member, Advisory Committee on Council Activities, 1986-1987
 Assistant Vice President – Western Zone, 1986-1987
 Member, Fundamentals Examination Review Committee, 1986 1988

Scholarly and creative activity:

Research:

Development of systems analysis procedures for optimization of irrigation system designs with environmental, physical, and social constraints.
 Evaluation of crop consumptive use, irrigation requirements, and methods of determining basin depletion from agricultural development
 Systems analysis of water use to develop mathematical methods for studying complex ground water-surface water systems – mathematical modeling of aquifers,
 Ground water quality and river system water quality evaluations for nutrient load determination and river system modeling.
 Development of guidelines for design of sediment removal facilities for on-farm and irrigation distribution system waste ways
 Evaluation of attainable impacts on water quality of irrigation return flows due to implementation of best management practices for sediment and nutrient control.
 Evaluation of alternate energy sources for irrigation and municipal needs in Idaho.
 Analysis of operation and maintenance cost of water distribution systems and determination of the relationship of costs to known physical and organizational parameters and water use efficiency.
 Evaluation of the economic potential for use of geothermal hot water and steam in Idaho,
 Study of the movement of water from canals to local water tables under saturated and partially saturated conditions.
 Studies of the mechanisms of microbial action, sedimentation and soil-water-chemical interactions involved in natural sealing phenomenon in canals and reservoirs,
 Evaluation of irrigation management practices for sustained land disposal of geothermal fluids.
 Evaluation of practices and systems for controlling sediment and other pollutant losses from irrigated lands.
 Investigation of the response of aquifer systems to changes in recharge or withdrawal due to change in land use.
 Evaluation of procedures for estimating crop water requirements,

Development of cost effective procedures and equipment for measurement of irrigation diversions and power use in open and closed systems

Community services and other relevant activities:

Member – Intermountain District Church of the Nazarene; Camps Board – 1976-1984,
Board of Church Properties – 1976-1979
Member and Vice President, Twin Falls Reformed Church Consistory 2000-Present
Member – Twin Falls City Planning and Zoning Commission 12/1978-9/1979
Member – College of Southern Idaho Geothermal Energy Commission
Member – Governor's Committee on Energy Use – 1980-1981
Member – Idaho Technical Advisory Committee for Sediment in Surface Water
Chairman – Snake River Technical Advisory Committee – Idaho Legislative Council,
1983-1985
Advisor – Governor's Snake River Advisory Committee – 1985
Member – Water Resources Foundation Board of Directors – 1985
Chairman – Idaho Technical Committee of Hydrology
Member – Idaho Department of Health & Welfare Sediment Criteria Committee
Member – Snake Plain Advisory Committee of Idaho Department of Health & Welfare
Member – Idaho Water Users Water Quality Committee – 1980
Member – INEL Dose Evaluation and Risk Assessment Committee
Member – Columbia River System Operations Review
Member – Mid Snake River Nutrient Management Advisory Committee
Member – Mid Snake River Irrigation Water Quality Coordination Committee
Technical Advisor – Middle Snake River Committee
Member – Liaison Committee, U.S. Geological Survey National Water Quality
Assessment Program, Snake River Basin
Member – Snake River Studies Committee, Idaho Department of Water Resources
Member – City of Twin Falls Wellhead Protection Committee
Member-Eastern Snake River Plain Groundwater Modeling Committee

Publications:

Dr. Brockway is the author of over 100 technical publications in the water resources engineering field. A full list of publications can be provided at request.