

## G. Erick Powell, Ph.D., P.E.

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### Education

<u>Degree</u>	<u>University</u>	<u>Field</u>	<u>Year</u>
Ph.D.	The Ohio State University Advisor: Dr. Andrew D. Ward Title: <i>Evaluating geomorphology and water quality of channel-forming discharges in Ohio headwater streams</i>	Agricultural Engineering	2006
MS	Brigham Young University Advisor: Dr. E. James Nelson Title: <i>Bathymetry delineation and data collection preparing a CE-QUAL-W2 model on Scofield Reservoir, Utah</i>	Civil and Environmental Engineering	2002
BS	Brigham Young University	Major: Civil and Environmental Engineering Minor: Agronomy	2001

### Professional Experience

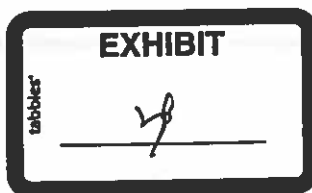
Project Manager and Engineer 2006 – Present  
Brockway Engineering, PLLC  
Twin Falls, Idaho

Project Manager and Engineer on hydrologic and hydraulic engineering design tasks, including: groundwater modeling, watershed modeling, hydraulic modeling, hydrologic modeling, well design, well construction, well testing, water rights, water right transfers, pipeline design, water distribution systems, stream channel evaluation, floodplain assessment, irrigation water demand, and potable water demand.

Graduate Research Assistant 2002 – 2006  
Department of Food, Agricultural, and Biological Engineering  
The Ohio State University, Columbus, Ohio

Research consisting of: 1) evaluation of channel forming discharges, 2) two-stage channel design procedures, 3) nutrient performance within two-stage agricultural channels, and 4) theoretical nutrient spiraling under restored riparian projects.

Civilian Contractor Summer 2001  
Coastal and Hydraulics Laboratory  
Waterways Experiment Station  
United States Army Corps of Engineers, Vicksburg, Mississippi  
Developed numerical groundwater flow simulations using FEMWATER and Groundwater Modeling System (GMS).



Surveyor and Draftsman 1998 – 1999  
Western Land Surveying, Provo, UT  
Chief draftsman and assistant surveyor for Western Land Surveying.

Laboratory Research Assistant 1993 – 1995  
KSU Soil Testing Laboratory  
Kansas State University, Manhattan, KS  
Soil laboratory and research assistant.

### Teaching Experience

Adjunct Professor 2008 – Present  
Department of Physical Science  
College of Southern Idaho

<u>Course</u>	<u>Title</u>
GEOG 100	Physical Geography

Adjunct professor for the College of Southern Idaho for physical geography, general education science course focusing on atmosphere, lithosphere, hydrosphere, and biosphere and the human interaction with these environmental spheres.

On-line Adjunct Professor 2009 – Present  
Department of Continuing Education  
Brigham Young University – Idaho

<u>Course</u>	<u>Title</u>
FDSCI 203	Environmental Stewardship

On-line adjunct professor for BYUI for new online fundamental science course exploring the human impact on the environment at local, regional, national, and international scales. All course work instruction, assignments, grading, and feedback done remotely through internet.

Graduate Teaching Associate 2002 – 2006  
Department of Food, Agricultural, and Biological Engineering  
The Ohio State University, Columbus, Ohio

<u>Course</u>	<u>Title</u>
ACSM 370	Principles of Hydrology
FABE 373	Principles of Soil and Water Engineering
FABE 673	Design of Agricultural Water Management Systems
FABE 773	Engineering Soil-Water Management
FABE 850	Departmental/Graduate Seminar

Departmental teaching appointment. Recipient of the Stanely W. Joehlin graduate teaching award 2002-2005. Provided instruction for multiple University sponsored workshops.

Instructor  
Civil and Environmental Engineering Department  
Brigham Young University, Provo, Utah

1999 – 2002

<u>Course</u>	<u>Title</u>
CE En 113	Engineering Measurements

Responsible for course instruction, material evaluations, laboratory curriculum development and laboratory instruction.

### **Professional Licenses**

State of Idaho, Professional Engineer No. P-13592  
State of Utah, Professional Engineer No. 4859937-2202

### **Professional Associations**

American Society of Civil Engineers (ASCE)  
American Ecological Engineering Society (AEES)  
American Society of Agricultural and Biological Engineers (ASABE)  
American Society for Engineering Education (ASEE)  
Alpha Epsilon (ASABE Honor Society)

### **Current Research Interests**

Reconciling water shortage with available water resources involving surface and subsurface storage  
Development and application of natural stream concepts to engineering designs Evaluating hydrologic and sediment response from land and channel improvements Determining geomorphic influence on water quality and development of management practices for fluvial systems  
Investigating sediment sources and deposition within fluvial channels, lakes, and reservoirs  
Characterizing geomorphic development of riverine floodplain  
Designing engineering systems using channel-forming discharges, sediment transport, and floodplain criteria

### **Professional Service**

ASABE reviewer for soil and water publications  
NRI grant reviewer  
Assisted associate ASABE editor on peer-reviewed publications  
ASABE Soil and Water Committee member  
Ohio Agricultural Research Development Center (OARDC) grant reviewer  
Reviewed Environmental Hydrology Textbook

## **Relevant Leadership Experience**

The Ohio State University's College of Engineering Academic Affairs Committee member representing graduate students  
Department of Food, Agricultural, and Biological Engineering Graduate Student President.  
Department of Food, Agricultural, and Biological Engineering Graduate Student Treasurer.

## **Publications**

- Powell, G.E., A.D. Ward, D.E. Mecklenburg, and A.D. Jayakaran. 2007. Two-stage channel systems: Part 1, a practical approach for sizing agricultural ditches. *J. of Soil and Water Conservation*. 62(4):pp.
- Powell, G.E., A.D. Ward, D.E. Micklengburg, J. Draper, and W. Word. 2007. Two-stage channel systems: Part 2, case studies. *J. of Soil and Water Conservation*. 62(4):pp.
- Powell, G.E. 2006. Examination, application, and evaluation of geomorphic principles and resulting water quality in Midwest agricultural streams and rivers. The Ohio State University. Doctoral dissertation.
- Powell, G.E., D. Mecklenburg, and A.D. Ward. 2006. Evaluation of Channel-Forming Discharges: A Study of Large Rivers in Ohio. *Trans. of ASABE*. 49(1):35-46.
- Martin, J.F., S.A. Diemont, G.E. Powell, M. Stanton, and S. Levy-Tacher. 2006. Emergy evaluation of the performance and sustainability of three agricultural systems with different scales and management. *Agriculture, Ecosystems, and Environment*. 115(2006):128-140.

## **Books and Book Chapters**

- Powell, G.E. 2004. *Solutions Manual for Environmental Hydrology: Second Edition*. CRC Press. Boca Raton, Florida.
- Jayakaran, A., A. Ward, D. Mecklenburg, G.E. Powell, and J. Witter. 2009. Chapter: The Fluvial Functioning of Agricultural Ditches and the Implication for their Management. *Agricultural Drainage Ditches: Mitigation Wetlands of the 21<sup>st</sup> Century*. Revisions made, Pending Publication.

## **Presentations, Papers and Posters**

- Powell, G.E., J. Draper, and A. Ward. 2006. Crommer Ditch: A Collaborative Evaluation of an Alternative Drainage Channel Design in the Midwest. 2006 Soil and Water Conservation Society international conference. Keystone, Colorado.

- Powell, G.E., D. Mecklenburg, and A. Ward. 2006. Spreadsheet Tools for River Evaluation, Assessment, and Monitoring: The STREAM Diagnostic Modules. 2006 EWRI Congress. ASCE Specialty Conference. Omaha, Nebraska.
- Powell, G.E., A. Ward, and A. Jayakaran. 2006. Nutrient loads in Ohio Headwater Streams. 2006 National Water Quality Conference. USDA-CSREES. San Antonio, Texas.
- Powell, G.E., J.R. Christensen, and W.J. Mitsch. 2005. Riparian Forest Soil Examination for Hydric Soil Conditions following partial dike removal. In: Mitsch, W.J., (Ed.), ORW at OSU, Annual Report 2004.
- Powell, G.E., J.F. Martin, and G.M. Powell. 2004. Comparing the Sustainability of Corn Production by Furrow and Center Pivot Irrigation. 2004 ASAE Annual meeting. Paper Number 042282.
- Powell, G.E., and J. Witter. 2003. Hope Clay Mine Reclamation Project Poster. 2003 STREAMS Conference. Columbus, Ohio.
- Ward., A.D, D. Mecklenburg, G.E. Powell, A.D. Jayakaran, and L.C. Brown. 2004. Two-Stage Channel Design Procedures. 2004 ASAE Specialty Conference. STREAMS Conference. St. Paul, MN
- Ward., A.D., J. Witter, and G.E. Powell. 2004. Water Quality Benefits of Grassed Fluvial Features in Drainage Ditches. 2004 ASAE Specialty Conference. STREAMS Conference. St. Paul, MN
- Ward., A.D., V. Bouchard, B. Songen, G.E. Powell, and A.D. Jayakaran. 2004. Two-Stage Ditch Poster. 2004 ASAE Specialty Conference. STREAMS Conference. St. Paul, MN
- Ward, A.D, D. Mecklenburg, G.E. Powell, L.C. Brown, and A.D. Jayakaran. 2003. Designing Two-stage Agricultural Drainage Ditches. 2003 ASAE Annual Meeting. Paper Number 701P0304.