RJ Engineering & Consulting, Inc.

Ben P. Arndt, P.E., P.G.

Education

Colorado School of Mines,
M.E. Geological Engineering, 1999

University of Colorado at Denver,
B.S. Civil Engineering, 1995

Colorado State University,
B.S. Geology, 1987

Professional Engineer Registration
Arizona, Colorado, Montana, Utah, and Wyoming

Professional Geologist Registration
Utah

Committees
Transportation Research Board

AFP10 Engineering Geology

AFP 10 (1) Rockfall Subcommittee (Chair)

AFS30 Foundations of Bridges and Other Structures

Selected Publications

Proper Restraint – An Innovative Method of Stopping a Landslide Using Pairs of Drilled Shafts, Civil Engineering Magazine, ASCE, June 2014.

A Cut Above – Roadway Construction through a Landslide, Civil Engineering Magazine, ASCE, April 2009, Vol. 9, No. 4.

Colorado's Full-Scale Field Testing of Rockfall Attenuator Systems, Transportation Research Board, Transportation Research Circular E-C141.

Ben has over 25 years of experience in the geological and geotechnical engineering field. This includes 18 years of working on transportation projects throughout the western U.S., 2 year of forensic engineering, and 5 years of underground mining experience. His areas of expertise include: evaluation, analysis and mitigation of: landslides, unstable rock slopes, rockfall prone areas, and specialty foundation and retaining wall systems. He has over a dozen national publications from the FHWA, TRB, and ASCE on topics that include: rockfall protection, polyurethane resins for rockslope stabilization, retaining wall systems, lightweight geofoam fills, and multiple types of landslide mitigation/foundation systems including coupled drilled shafts to mitigate deep seated landslides. He has presented many of the topics at national and international conferences.

Professional Experience

2017 to Present Principal Engineer. RJ Engineering and Consulting, Inc. Currently working to provide clients with thoughtful and creative senior level geotechnical evaluation and design for foundations, retaining walls, rockslopes, rockfall, and landslides. Ben is committed to applying his experiences and background in geological and civil engineering to all phases of a geotechnical project to provide a higher level of service.

2000 to 2017 Principal Engineer. Yeh and Associates, Inc.
Ben was responsible for analysis and design of geotechnical foundation systems, retaining walls, rockfall and rockslopes, and landslides. Foundation and retaining walls included MSE walls, soil nail walls, micropile walls, and ground anchor systems (tiebacks). He was also responsible for rockfall and rockslope analysis and mitigation and review of blast designs. He also designed coupled deep foundation drilled shaft systems for large scale landslide mitigation, as well as lightweight geofoam stabilization systems.

1999 to 2000 Geological Engineer. Colorado Geological Survey.
The position was responsible for gathering information for the baseline geological and geotechnical investigation for the roadway expansion of State Highway 82 (Snowmass Canyon). Duties included: geologic mapping, slope stability analysis, geological hazard evaluation, foundation investigations, and directing of helicopter-drilling operations.

1997 to 1998 Geological Engineer. United States Geological Survey.
Position created to fund Master's Thesis work at the Colorado School of Mines. The thesis project consisted of collecting and analyzing geotechnical, geologic, and hydrogeologic data of a large scale, deep seated, rotational landslide north of Seattle, Washington.

Other Selected Publications

Guidelines for Certification and Management of Flexible Rockfall Protection Systems, NCHRP Report 823, 2016.

Instrumentation and Monitoring Technology, Rockfall – Characterization and Control, Transportation Research Board, Washington, D.C. 2012.

Polyurethane Resin (PUR) Injection for Rock Mass Stabilization, FHWA Publication No. FHWA-CFL/TD-08-004, September 2008.

Stabilizing Colorado's Rock Slopes by Gluing, Scanning, and Bolting, ASCE -Geo-Strata, January/February 2013.

Closure of Interstate 70 Near Idaho Springs, Colorado Due to Multiple Rockslope Failures, and Subsequent Rockslope Evaluation, Analysis, Mitigation, and Instrumentation, June 2006, American Rock Mechanics Association ARMA/USRMS 06-1076.

1995 Geotechnical Engineer. Knight Piesold, Fairbanks, AK.
This position was responsible for design oversight in the construction of a water and tailings dam at the Fort Knox Gold Mine near Fairbanks, Alaska. Duties included supervision of earth compaction, shotcrete operations, and pressure grouting in the cutoff trench to reduce seepage under the dam.

1994 to 1997 Forensic Engineer. Thomas Alcorn & Associates.
This position was responsible for utilizing the principles of dynamic theory (kinetic energy and momentum) for accident reconstruction to analyze and determine the impact velocities and change of velocities for vehicular accidents. Responsibilities included writing technical reports, which provided the engineering analysis to insurance companies and attorneys for possible use in litigation.

1988 to 1992 Mining Geologist. ASARCO Inc., Black Cloud Mine.
Mine was located outside of Leadville, CO. Responsibilities included: measuring the mined volumes of blasted rock, underground mapping, selection of diamond drill targets, and overall analysis of the geomechanical and metallurgical properties of the underground rock. Additional duties included calculation of ore reserves, expected smelter returns, stope mining contracts, and royalty payments on patented and unpatented mining claims. Member of underground mine rescue team.