

***Company Description***

Dan Brown and Associates, LLC is a consulting engineering firm specializing in geotechnical and foundation engineering, with emphasis on problem solving relating to foundation engineering and slope stability problems.

***Key Personnel***

The firm includes associates with special expertise in construction, design, testing, and research. A brief summary of key members is provided below.



**Dr. Dan Brown, P.E.** has a distinguished career of practice, research, and instruction in the field of deep foundations. Dr. Brown is a graduate of Georgia Tech (1977) and the University of Texas (PhD, 1985). He is particularly known for his expertise in design of deep foundations for lateral loading, load testing of deep foundations, and construction of drilled shafts. He is an instructor and co-developer of the National Highway Institute courses in drilled shaft design and construction and driven pile inspection. He was co-author of the recently published revision to the FHWA drilled shaft manual, *Drilled Shafts: Construction Procedures and LRF Design Methods (2010)*. He was also co-author of FHWA Geotechnical Circular No. 8 *Design and Construction of Continuous Flight Auger Piles (2007)*. Dr. Brown served the National Academy of Science panel for *NCHRP Synthesis 360 Rock-Socketed Shafts for Highway Structure Foundations* and is serving as principal investigator for a NCHRP synthesis on developing pile driving criteria. He is a member and past chairman of the ASCE Deep Foundations Committee, a trustee of the Deep Foundations Institute, an honorary member of ADSC: The International Association of Foundation Drilling and of the Pile Driving Contractors Association. Dr. Brown has received numerous awards, including the 2009 ASCE Martin S. Kapp Foundation Engineering Award, the ASCE Huber Prize for Research for his work with pile groups and bridge foundations, the ADSC Outstanding Service Award, and the Auburn University Gottlieb Professorship. Dr. Brown retired from the Civil Engineering faculty at Auburn University in 2009 after 22 years of teaching and research to focus on foundation engineering consulting. He is a licensed professional engineer in numerous states.



**Dr. Steve Dapp, P.E.** has extensive experience in the design, construction, and testing of deep foundations. His engineering education includes degrees from Utah State (BS 1991; MS 1996) and the Univ. of South Florida (PhD, 2001), where his dissertation research work was focused on the construction and behavior of post-grouted drilled shafts. He has experience in construction, having worked for Coastal Caisson Corp. (Bauer of America). His expertise in testing of deep foundations has been developed through his work experience with Loadtest, Inc., and with Applied Foundation Testing. Projects with Dan Brown and Associates include evaluation of the drilled shaft capacities associated with the Le Roy Selmon Cross-Town Expressway in Tampa, design and testing of the base-grouted drilled shaft foundations for the James J. Audubon Bridge in Louisiana, design of deep foundations for several bridge and industrial projects including a pile-raft foundation, stability evaluations of MSE walls for a freeway interchange, and several ongoing projects utilizing field load testing for lateral load evaluation of deep foundations. Work also includes research into lateral loading of drilled foundations and development of p-y curves for cemented soils (ongoing). Dr. Dapp is a licensed professional engineer in several states.



**Mr. Robert Thompson, P.E.** is a senior project geotechnical engineer with a broad base of practical experience in geotechnical and foundation engineering. His engineering education includes degrees from Auburn University (BS 1988; MS, 1994). His experience includes over 16 years in consulting practice with Law Engineering, TTL, Inc., and Dan Brown and Associates, with responsible charge of geotechnical investigations for projects

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such as the Hyundai manufacturing facility in Alabama, dam renovations, industrial facilities, slope failures, and the award-winning Riverwalk Stadium in Montgomery, Alabama. Significant project work with Dan Brown and Associates includes foundation design and load testing for the US 98 Bridge over Biloxi Bay (driven piles), the Christopher S. Bond Bridge over the Missouri River in Kansas City (drilled shafts), and two storm protection projects in New Orleans, Louisiana. Recent work also includes research projects on drilled shaft axial capacity in calcareous materials, response of laterally loaded drilled shafts adjacent to MSE walls, and drilled shaft rock socket design in the southeast US. He has also taught soil mechanics as an adjunct instructor at the University of Alabama at Birmingham. He served with distinction as a combat engineer platoon leader in the U.S. Army during the 1991 Persian Gulf War (Operation Desert Storm). He is a member of the American Society of Civil Engineers, the Geo-Institute of ASCE, ADSC: the International Association of Foundation Drilling, and the Deep Foundations Institute. He is active on the Deep Foundation Committee of the Geo-Institute. Mr. Thompson is a licensed professional engineer in several states.



**Mr. Paul Axtell, P.E.** is a senior project geotechnical engineer accomplished in geotechnical engineering and design. His engineering education includes degrees from the University of Missouri (BS, 1999) and the University of Texas (MS, 2001). His experience includes a year of consulting practice with Fugro Consultants in Houston, Texas and 6 years as a geotechnical engineer for the U.S. Army Corps of Engineers. He is experienced in site investigation techniques using Standard Penetration Test, Cone Penetration Test, and Shelby tube sampling. His design and analysis experience includes earth dams, seismic loading, deep foundations, shallow foundations, earth retaining structures, and earth slopes. His experience also includes ground improvement techniques such as jet grouting and deep mix methods, geosynthetics for soft soil construction, settlement analysis for large structures, and slope failure investigations. His recent work with DBA includes field engineer for the foundations on the Christopher S. Bond Bridge over the Missouri River in Kansas City, design and load testing of large diameter drilled shafts for the I-70 Mississippi River Bridge in St. Louis, and design and testing of foundations for the Hastings Mississippi River Bridge in Hastings, Minnesota. Mr. Axtell is a licensed professional engineer in several states.



**Mr. Jon Gould, P.E.** is a senior project engineer with extensive experience in geotechnical engineering and construction for a wide range of projects throughout the U.S. During his career he has worked with many of the major geotechnical engineering firms, geotechnical specialty contractors, and deep foundation contractors in the U.S. He was employed over 18 years with a national engineering and construction company as senior geotechnical engineer responsible for the geotechnical design criteria used to design earthworks and foundations. Prior to that, he worked for Law Engineering for 13 years as project engineer, senior geotechnical engineer, and chief engineer. He has worked on several hundred geotechnical explorations, including the evaluation and analysis of shallow and deep foundations, as well as field observation and evaluation during construction of these foundations. He has also been responsible for reviewing geotechnical and field inspection projects, including major industrial plants and earth and concrete dams. Prior experience includes earthwork and highway construction as an officer with the U.S. Army Corps of Engineers and as a construction engineer at Cape Canaveral and the Kennedy Space Center. He has authored several technical papers and presented talks on geotechnical subjects at professional and technical conferences, seminars, and meetings. He has also provided expert witness services on major structure failures. Mr Gould served with distinction as an earthmoving platoon leader in U.S. Army during the Vietnam War. He is a Fellow and Life Member of the American Society of Civil Engineers, and a member of the Geo-Institute of ASCE and the Deep Foundations Institute. Mr. Gould is a licensed professional engineer in several states.

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**Mr. Tim Siegel, P.E., D.G.E.** is a senior project geotechnical engineer experienced in geotechnical site characterization with SPT, CPT, DMT and seismic methods, foundation design and construction, slope stability and earth retention, geotechnical earthquake engineering, design and construction over karst terrain, numerical modeling of geotechnical structures using finite element and finite difference (*FLAC*) methods, and ground improvement. His engineering education includes degrees from Georgia Tech (BS, 1990; MS 1992). He has been technical principal and chief engineer with a large geotechnical firm (S&ME, Inc.), a design engineer with a large foundation contractor (Berkel and Company, Inc.), as well as performed as expert witness for litigation and trials. His project work has included structures such as hospitals, power plants, manufacturing plants, and general commercial. His work experience also includes transportation structures such as the Cooper River Bridge in Charleston, South Carolina (with S&ME) and the Foothills Parkway Bridge No. 2 in the Smokey Mountains of Tennessee (with DBA). His recent work with DBA includes several ground improvement and CFA pile design projects. Mr. Siegel is a licensed professional engineer in several states.



**Dr. Erik Loehr (Affiliate)** specializes in evaluating the stability and performance of earth slopes and earth retention systems, large-scale laboratory modeling and full-scale field evaluation of geotechnical engineering problems, performance of geotechnical composite systems, and computer applications in geotechnical engineering. Dr. Loehr received his doctorate at the University of Texas (1998). His work includes research for agencies such as the National Science Foundation, the Missouri Department of Transportation, and the Federal Highway Administration as well as for a number of private contractors and companies. Recent projects include evaluation of reticulated micropile systems for slope stabilization, development of techniques for using recycled plastic reinforcement for stabilization of surficial slope failures, behavior of fiber-reinforced soils, application of asset management principles to geotechnical engineering systems, reliability-based design of earth slopes and retaining structures, and application of Load and Resistance Factor Design (LRFD) to earth slopes. He is an active member of ASCE/Geo-Institute, ADSC: the International Association of Foundation Drilling, the Deep Foundations Institute, the International Society for Micropiles, and the Transportation Research Board. He is a recipient of an NSF CAREER Award and is a Distinguished Faculty Fellow in the MU College of Engineering

### *Company Services*

Our services for deep foundations include design and construction issues for:

- Drilled Shafts (Conventional and Post-grouted)
- Auger Cast-in-Situ Piles (Conventional CFA and Drilled Displacement Piles)
- Micropiles
- Driven Piles

While specializing in deep foundation systems and slope stability problems, we also provide our services for a wide range of geotechnical applications and problems. Our list of services includes:

- Foundation analysis and design
- Dynamic foundation analysis and design
- Slope stability analysis and design
- Earth retaining structure analysis and design
- Consulting for general geotechnical practitioners
- Peer review for general geotechnical practitioners
- Owner review of geotechnical services
- Value engineering of foundation systems
- Design-Build project team support
- Load testing program design, execution, interpretation, and application
- Integrity testing evaluation
- Construction problem resolution
- Foundation failure investigations and remediation design
- Expert witness
- Short Courses, Seminars, Technical Presentations

### *Significant Projects*

Hastings Mississippi River Bridge, Hastings, Minnesota  
I-70 Mississippi River Bridge, St. Louis, Missouri  
OMHS Replacement Hospital Facility, Owensboro, Kentucky  
Foothills Parkway Bridge No. 2, Townsend, Tennessee  
LPV-145 Project, Chalmette, Louisiana  
GIWW West Closure Project, Belle Chasse, Louisiana  
US 52 Lafayette Bridge, Minneapolis, Minnesota  
Ben Lomand Transmission Line, Utah and Idaho  
I-15 Beck Street Bridge, Salt Lake City, Utah  
Bollinger Shipyard, Lake Charles, Louisiana  
Huey P. Long Bridge, New Orleans, Louisiana  
Christopher S. Bond Bridge, Kansas City, Missouri

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I-35 Bridge Replacement, Minneapolis, Minnesota  
Cumberland River Pedestrian Bridge, Nashville, Tennessee  
Slope Stabilization on the Missouri River for UPRR, Gasconade, Missouri  
Kansas DOT research: Lateral Loading of Drilled Shafts Near MSE Walls, Kansas  
Sugarcane Bay Casino Resort, Lake Charles, Louisiana  
John James Audubon Bridge, New Roads, Louisiana  
Biloxi Bay Bridge Replacement, Biloxi, Mississippi  
AEC Charles R. Lowman Power Plant, Leroy, Alabama  
Escambia Bay Bridge Replacement, Pensacola, Florida  
Cervantes Street Bridge, Pensacola, Florida  
New River Bridge, Ft. Lauderdale, Florida  
Lee Roy Selman Cross-Town Elevated Freeway, Tampa, Florida  
St. Croix River Bridge, Minnesota  
Lumber River Bridge, South Carolina  
Drilled Shaft Secant Retaining Wall, Corridor X, Alabama  
SR 73 Slope Failure Investigation, Alabama  
Debarking Drum Foundation Analysis and Remediation, International Paper, Courtland, Alabama  
Sulphur Waste Water Treatment Facility, Sulphur, Louisiana  
Kansas DOT research: Lateral Loading in Loess Soils, Kansas  
I-10 Ryan Street Exchange, Lake Charles, Louisiana  
Traveling Lift Crane Wharf, Calcasieu, Louisiana

***Recent Publications of DBA Members***

*Drilled Shafts: Construction Procedures and LRFD Design Methods* (FHWA-NHI-10-016, Geotechnical Engineering Circular No. 10, NHI Course NO. 132014). Brown, D.A., Turner, J.P., and Castelli, R. J. (2010).

*Design and Construction of Continuous Flight Auger Piles* (FHWA-HIF-07-03, Geotechnical Engineering Circular No. 8). Brown, D.A., Dapp, S.D., Thompson, W.R., and Lazarte, C.A. (2007).

Brown, D.A., Turner, J.P., and Castelli, R. J. (2010). *Drilled Shafts: Construction Procedures and LRFD Design Methods* (Geotechnical Engineering Circular No. 10), FHWA-NHI-10-016, Federal Highway Administration, Washington, DC.

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Brown, D.A. (2009). "Load Testing of Drilled Shaft Foundations in Limestone, Nashville, Tennessee", Report for ADSC Southeast Chapter, Feb. 2009.

Brown, D.A. (2009). "Management of Risk in Deep Foundations with Design-Build", 2009 International Foundation Congress and Equipment Expo, Contemporary Topics in Deep Foundations, Geotechnical Special Publication No. 185, ASCE, pp. 1-11.

Brown, D.A. and Thompson, W.R. (2009). "Drilled Shaft Performance in Cemented Calcareous Formations in the Southeast United States", 2009 International Foundation Congress and Equipment Expo, Contemporary Topics in Deep Foundations, Geotechnical Special Publication No. 185, ASCE, pp. 119-126.

Loehr, J.E and Huaco, D.R. (2009). "Probabilistic Calibration of Resistance Factors for Slope Stability", 2009 International Foundation Congress and Equipment Expo, Contemporary Topics in In-Situ Testing, Analysis, and Reliability of Foundations, Geotechnical Special Publication No. 186, ASCE, pp. 297-304.

Parsons, R.L., Pierson, M., Han, J., Brennan, J.J., and Brown, D.A.. (2009). "Lateral Load Capacity of Cast-in-Place Shafts Behind an MSE Wall", 2009 International Foundation Congress and Equipment Expo, Contemporary Topics in In-Situ Testing, Analysis, and Reliability of Foundations, Geotechnical Special Publication No. 186, ASCE, pp. 560-567.

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