



ALEXIA R. LEIB, P.E.
Project Engineer



Professional Experience

Joined DBA 2016

Total years of experience: 4

Graduate Research/Teaching Assistant, Department of Civil Engineering, University of Tennessee (2014-2015)

Internship, DBA (Summer 2014/2015)

Education

M.S., Civil Engineering, University of Tennessee, 2015

B.S., Civil Engineering, University of Tennessee, 2014

Professional Licensure and Certifications

Licensed Professional Engineer in Tennessee

Fields of Expertise

Design and construction of deep foundations

Use of deep foundation analysis programs: LPILE, GROUP, spColumn, GRLWEAP, and Settle3

Use of slope and wall analysis programs: Slide7.0, Snail, and SNAP_2

Use of CPT analysis programs: CPeT-IT and Cliq

Use of AutoCAD to produce plans

Use of gINT to create subsurface boring investigation logs

Major Projects

US 231 Emergency Slide Repair – Morgan County, AL (2020) – Observing installation of rock-socketed drilled shaft foundations for a bridge to replace almost 1000 feet of roadway that was damaged during a landslide event.

SR 520 Bridge – Seattle, WA (2019-present) – Designing driven pile foundations system for temporary work trestle used for bridge replacement. During initial construction, developing and supervising a driven pile load testing program to confirm design parameters. Additionally, developing and supervising a secondary driven pile load testing program to develop a vibratory hammer only criteria.

Shady Hills Power Plant Expansion – Tampa, FL (2019) – Designing testing program for evaluating karst conditions. Supervising collection of dilatometer data and evaluated results to generate shallow and deep foundation design recommendations. Summarized results as part of a geotechnical report to be used for bidding purposes.

Selmon Expressway West Extension – Tampa, FL (2018-2020) – Creating and organizing a pilot hole boring program at the location of 229 permanent drilled shafts and 68 temporary tower supports on continuous flight auger (CFA) piles and drilled shafts used for construction of elevated roadway in the median of an active highway in a populated area. Remotely supervised field crews collecting boring data in challenging karst conditions. Interpreted data in real time to determine the required depth of borings per Florida DOT specifications. Designed drilled shaft and CFA piles using location specific pilot hole data with consideration of public safety and geotechnical risk. Reviewed installation logs to provide final certification for the foundations.

Crenshaw Pump Station – Palos Verdes, CA (2018) – creating a Caltrans style compatible gINT log and transferring field soil and rock exploration logs into gINT for use in a geotechnical report.

24th and Harrison – San Francisco, CA (2018) – Gathering standard penetration test data in the field and transferring that data to a gINT log and overseeing pressuremeter testing.

Purple Line Light Rail – Montgomery County, MD (2018) – Generating foundation design reports, wall cross sections, and boring log fences, as well as analyzing settlement of cast-in-place walls and global stability analysis using SNAP_2 for 16 miles of light rail line to be added to the Washington DC Metro system.

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Levee Study – Corpus Christi, TX (2017) – Analyzing the influence of vibrations created during construction of the Harbor Bridge Project on the existing flood control system using SLIDE.

Oceanwide Center Development – San Francisco, CA (2017) – Logging rock cores to characterize shaft-specific rock conditions at 15 locations to support the 2nd tallest tower and deepest drilled shafts (once completed) in San Francisco, CA. Additionally, transferring field rock exploration logs to a gINT log.

Boulevard Brewery – Kansas City, MO (2017) – Designing a temporary soil nail using SNAIL to construct an expansion of the brewery canning operation.

Green River Generating Station – Muhlenberg County, KY (2017) – Analyzing slope stability before and after installation of ground improvement columns using SLIDE.

Honolulu Rail Transit Project – Honolulu, HI (2017) – Observing drilled shaft installation and assisting with crosshole sonic logging (CSL) tests for an elevated rail transit system.

Chase Center – San Francisco, CA (2017) – Observing indicator piles and a bi-directional load test shaft installation for the new Golden State Warriors arena as well as addition office space and lab facilities.

Ring to Target Beam Transfer (RTBT) Tunnel – Oak Ridge, TN (2016) – Analyzing settlement that would occur during the phases of construction of an RTBT tunnel at Oak Ridge National Laboratory.

The Exchange on Sixteenth – San Francisco, CA (2016) – Observing drilled shaft installation and completing field calculations to determine drilled shaft depths based on the soil stratigraphy encountered during the drilling of each shaft for 110,000 square feet of flexible office and retail space.

BNSF Twin Railway Track – La Crosse, WI (2015) – Observing driven timber pile installation as well as fill and geogrid installation for a load transfer platform intended for a 3-mile twin railway track expansion.

Professional Memberships

Deep Foundation Institute (DFI)
American Society of Civil Engineers (ASCE)
Geo-Institute (GI) of the ASCE

Selected Publications and Presentations

Leib, A., Sharma, A., and Penumadu, D. (2020). "Visualization of Localized Deformations of Sand in Drained Triaxial Compression Using Digital Image Correlation," *Geotechnical Testing Journal* 44. Published ahead of print, June 2020.