



Sara E. Knight, P.E.

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PROFESSIONAL PROFILE

Ms. Knight is a Professional Engineer and is the Owner and President of Strata Earth Services, LLC dba Strata.

Strata is a full service subsurface exploration company specializing in the field of geotechnical and environmental exploration. Strata employs highly experienced drillers and has skid, all-terrain, hi-rail and barge mounted drill rigs. Prior to starting Strata, Ms. Knight worked as a geotechnical engineer in the Chicagoland area for over 10 years and was responsible for project management and technical support of geotechnical engineering and projects including foundation studies, soil testing, slope stability, tunneling and retaining wall analyses. Ms. Knight also managed quality assurance/quality control construction services projects for various projects throughout Chicagoland.

EXPERIENCE

AECOM, Vernon Hills, IL - 2000 to 2010

Technical Resource Manager – 2008 to 2010

- Directed 17 office staff
- Responsible for creating and maintaining annual budget of \$5 Million
- Managed staff utilization and project assignments
- Developed and maintained key client accounts

Geotechnical Engineer – 2000 to 2010

- Project Manager of subsurface exploration and engineering services for projects in Chicago and suburban areas. Project management includes drilling arrangements, soil stratifications, reducing in-situ vane shear data, foundation recommendations, fill material placement and compaction, groundwater considerations and general construction considerations.
- Project Manager for various high rise developments in Downtown Chicago. Various aspects of projects included up to four-level below-grade spaces, slurry walls, top of rock and rock socketed caissons, caisson re-use, dewatering deep silt deposits, existing caisson conflicts and freight tunnel conflicts and backfilling.
- Project Manager for the Block 37 redevelopment which included the 108 N. State Building which had a 50-foot deep basement and the CBS Media Tower. Project foundation systems included new belled and top of rock caissons, re-use of existing top of rock caissons, and micropiles. Earth retention systems included steel sheet pile, slurry and secant pile walls. Served as the Project Manager in charge of the City of Chicago freight tunnel system monitoring including extensometers, crack gauges and a laser alignment system.
- Project Engineer for the geotechnical study of the McCormick Place tunnel. The tunnel consisted of a 3,300 foot long, 12.5 foot diameter tunnel to convey stormwater from the 70 acre McCormick Place roof to Lake Michigan. The tunnel was constructed 160 feet below ground using a tunnel boring machine in dolomitic bedrock. Monitoring wells, field permeability (packer testing), advanced rock laboratory testing, RMR ratings and rock logging was completed.
- Project Manager for various projects contract for the Metropolitan Water Reclamation District of Greater Chicago. Projects included oxidation pond remediation, deepening and lining of oxidation ponds and lagoons, a pump station, skip hoist, utility and pedestrian tunnels, grit dewatering tanks, water tower, communications tower, central boiler facility and various buildings. Responsibilities included subcontractor management, field and laboratory coordination and project management and execution. Areas of engineering included braced and open-cut excavations, shallow and deep foundations, slope stability, fill and backfill, pavements and earth retention.
- Project Manager for multiple bridge replacements for Canadian Pacific and Canadian National Railway. Geotechnical aspects included slope stability of embankments, culvert analysis, driven H-pile recommendations and settlement analysis for deep organic deposits
- Project Manager for dynamic compaction projects for Perspectives Charter School and a paper storage warehouse facility. Dynamic compaction observation, vibration monitoring and compaction verification activities were managed for both projects.



- Project Manager for the earthwork, utility and pavement construction monitoring services for McMaster Carr Supply Company Warehouse expansion. Project consisted of demolition of several existing structures, removing existing site utilities, installation of new site utilities, construction of new bituminous concrete roadways and parking lots, construction of a concrete dock and staging area and construction of a 200,000-gallon fire protection draft pit.
- Project Manager for various big box retail stores including Home Depot and Target. Responsibilities included directing subsurface exploration and laboratory testing, providing overall site development and building recommendations and continued geotechnical support through construction.
- Project Manager for various projects at Northern Illinois University in DeKalb, Illinois. Projects included the Convocation Center, the Center for Family Violence and the floor replacement for the Chick Evans Field House. Responsibilities included boring layout, coordinating field activities and providing geotechnical engineering recommendations for the various facilities.
- Monitored installation of large diameter dewatering wells for caisson installation in downtown Chicago. Responsibilities included communication between the design engineer, contractor and owner, quality tests for loss of fines and documentation of the as-built wells.
- Project Engineer for various contracts for the Illinois Department of Transportation. Projects included geotechnical services for various road widenings and reconstruction, bridges and other structures. Areas of engineering included subgrade removal and replacement, preparation and deep and shallow foundations.
- Task manager and field engineer for proposed Terminal 6 project at O'Hare International Airport including consultation for the design of the terminal building and associated structures. Aspects of the project included coordination with the Airport Owners Authority, a multi-level terminal and parking structure, elevated highways and retaining walls.

Law Engineering, Milwaukee, WI - 1999 to 2000

- Field engineer for numerous roof inspections for automotive plants. Roof inspection included built-up, single-ply and metal roof systems. As-built and defect inspection included measurements and quantification for financial repair and replacement projections.
- Performed facility asset evaluations including roofing, exterior wall components, heating ventilation and air conditioning and electrical systems for various projects for financial projections and repair analyses.

Education

BS, Civil Engineering, University of Illinois, Urbana-Champaign

MS, Civil Engineering, Northwestern University

Registrations

Professional Engineer, Illinois

Professional Affiliations

American Society of Civil Engineers

ADSC: International Association of Foundation Drilling

ASFE

Rotary Club of Long Grove

Training and Certifications

FRA Railroad Workplace Safety (49 CFR 214 Subpart C)

MSHA 24-Hour (30 CFR Part 46)

Honors and Awards

Women Builders Council Championship Award

Publications and Presentations

- "Unexpected Caisson Problems, Soil Structure Interaction Predictions and Required Ground Modification", 6th International Conference, Case Histories in Geotechnical Engineering, Arlington, VA, August, 2008, co-authored with Clyde N. Baker, Jr., Ryan C. Rusk and Donald W. Hamlin.
- "A Walk Around the Block", *Structure Magazine*, December 2007, co-authored with Suzanne Provanzana, SE, PE