



Dona Mann, co-founder and Principal Engineer of A3GEO, Inc., is a California-registered Geotechnical Engineer and Civil Engineer with 15 years of experience in building, infrastructure, flood protection, river restoration and slope stabilization projects. She has conducted conceptual- and design-level geotechnical investigations, consulted during the development of plans, specifications and estimates, and provided a full range of geotechnical observation and testing services relating to construction.

Her project portfolio includes buildings, tunnels, bridges, dams, retaining structures, creeks, landslides and roadways. She has served as project manager and analytical lead responsible for resolving technical issues involving foundations, retaining walls, slope stabilization and temporary excavation support.

She has specialized expertise quantifying site-specific geologic hazards and effects. In this capacity, she has conducted and peer reviewed probabilistic seismic hazard analyses, slope stability analyses, seismic slope displacement analyses, liquefaction triggering and settlement analyses and lateral spreading displacement analyses. She is known for her ability to provide focused reviews of geotechnical work products that maximize owner value and minimize owner risk.

CURRICULUM VITAE

Education

Bachelor of Science
Civil Engineering
Virginia Tech

Master of Science
Geotechnical Engineering
University of California, Berkeley

Registrations

Geotechnical Engineer, California
Civil Engineer, California

Professional Memberships

American Society of Civil Engineers
(ASCE)

American Society of Foundation
Engineers (ASFE)

California Geotechnical Engineering
Association (CalGeo)

RELEVANT PROJECTS

SCVWD Water Infrastructure Seismic Reliability Assessments

Geotechnical Project Manager and Principal-in-Charge for seismic retrofits at the Santa Clara Valley Water District's (SCVWD's) Vasona Pump Station and Meter Shop and Penitencia and Rinconada Water Treatment Plants. Responsible for conducting geotechnical investigations at the three retrofit sites and preparing design-level reports with conclusions regarding geologic seismic hazards and mitigation recommendations. In addition to strong earthquake groundshaking, the geologic hazard issues addressed included earthquake-induced liquefaction (Vasona), landslide displacements/deformations (Penitencia) and fault displacements (Rinconada). Vasona Meter Shop seismic upgrade included structurally bracing the building by adding three exterior concrete buttresses supported on spread footings with tie-down anchors to resist seismic uplift loads; the design criteria developed for Penitencia included quantitative estimates of landslide-related differential settlement and extensional displacements, which formed the basis for the foundation retrofit design. [Santa Clara County, California](#)

UCB Jacobs Hall

Project Manager for geotechnical investigation and construction of a 24,000 square foot, 3-story advanced engineering research and academic facility with a 15-foot deep basement at the University of California. Project site is 800 feet from Hayward fault and is underlain by fill over alluvium over Franciscan sandstone and shale bedrock. Temporary shoring consists of soldier pile walls with tie-backs, soil nail walls and secant pile walls. Building foundation system consists of 20 to 50-foot-deep drilled piers and grade beams. Project challenges consist of designing and constructing next to and cantilevering an existing 30-foot-deep basement. [Berkeley, California](#)

College of Marin LRC Seismic Upgrade

Principal Engineer and Project Manager responsible for the geotechnical investigation for the seismic upgrade project for the College of Marin library building; overall footprint is approximately 160 feet by 200 feet; grade slopes towards Corte Madera Creek. Existing foundation system consists of a combination of spread footings founded on shallow rock and 20 to 50-foot-deep drilled piers which extend through fill and bay deposits into deeper rock. The fill and bay deposits were found to be susceptible to liquefaction and lateral spreading toward Corte Madera Creek. The project utilizes a ground improvement program which involves constructing a below-grade structural buttress created by cement deep soil mixing (CDSM) to contain the soil beneath the building and prevent it from displacing laterally as a consequence of earthquake shaking. The structural retrofit involves adding new exterior columns supported on micropiles along the east, south and west sides of the building. [Kentfield, California](#)

SCWA Dry Creek Restoration

Project Manager and Principal in Charge of geotechnical engineering services in support of the Dry Creek Habitat Enhancement Project for the Sonoma County Water Agency (SCWA). The projects involve restoring 3 miles of river. The geotechnical scope includes: detailed site reconnaissance visits and geological mapping; geotechnical investigations, seismic refraction surveys and laboratory testing; characterizing the geotechnical conditions at the selected sites; developing design criteria for bank stabilization, logs and wood structure anchorage, USACE grouted riprap sill modification and infiltration gallery construction; preparing a Geotechnical Report summarizing the geotechnical conclusions and recommendations. [Sonoma County, California](#)

Lauterwasser Creek Bank Stabilization and Pipeline Crossing

Project Manager responsible for the evaluation and design of creekbank restoration/stabilization measures for Lauterwasser Creek in Orinda, California. The project involves repairing slope failures and managing bank retreat related to an old EBMUD pipeline crossing that extends below and intersects the creek thalweg. Geotechnical services focused upon: 1) consulting with EBMUD on project approach, objectives and constraints; 2) performing detailed field mapping of unstable creek bank areas; 3) developing maps and interpretive cross sections characterizing existing geotechnical and geologic conditions; 4) developing conceptual cross sections and grading plans for two conceptual mitigation design approaches; 5) consulting on geotechnical materials and appropriate cut/fill slope inclinations; and 6) reviewing and refining 30% design concept drawings and specifications. [Orinda, California](#)

La Conchita Slope Stabilization

Geotechnical Analyst and Assistant Project Manager for the La Conchita Slope Stabilization project, a major study funded by the California Emergency Management Agency (CalEMA). Responsible for geotechnical analyses which included evaluating residual shear strengths, conducting static and seismic slope stability analyses, and calculating seismic deformations for two large bedrock landslides (70 to 130 feet thick, 900 to 1100 feet wide, 1150 to 1350 feet long). Conducted a site specific probabilistic seismic hazard assessment which included developing hazard curves of Annual Probability of Exceedance versus Peak Ground Acceleration (PGA) using NGA Ground Motion Prediction Equations (GMPEs), performing a hazard disaggregation, and developing the design Uniform Hazard Spectra (UHS). Analyses methodology conformed with California Geologic Society's Special Publication 117 (SP117) guidelines for evaluating and mitigating seismically-induced landslide hazards in California.

[Ventura County, California](#)

Tully Landslide

Performed slope stability analyses on an existing 300-foot by 120-foot landslide. Slope stability analyses included back-calculating existing strength parameters, analyzing the stability of the current slide, and calculating forces required to stabilize the landslide. [Pittsburg, California](#)

East Canyon Landslide Stabilization, Lawrence Berkeley National Laboratory

Conducted geotechnical engineering analyses to mitigate seismically induced landsliding at a critical LBNL facility regulated by the State of California Department of Toxic Substances Control (DTSC). Analyses performed included evaluating: (1) slope stability; (2) seismic slope displacements; and (3) landslide-related forces on a below-grade structural restraint system. The objective of the project was to protect two buildings and an emergency generator pad (underlain by several landslides) from unacceptable ground deformations during an earthquake. The landslides underlying the buildings were sliding down toward the East into a much larger landslide mass which was sliding down toward the South. The margin of the larger landslide was outside the building footprints; however, the shear forces associated with the slide sliding past the underground structural restraint system were taken into account in the analyses as was the lateral resistance provided by existing piers supporting one of the existing buildings. [Berkeley, California](#)

Underground Pipeline Seismic Reliability Assessments

Principal Geotechnical Engineer responsible for peer reviewing and assessing the reliability of underground utility infrastructure extending from Potero Point to Rincon Hill. Multiple alignments were assessed including two existing and two proposed routes that crossed areas known to have experienced widespread soil liquefaction during the 1906 San Francisco Earthquake. Responsible for reviewing existing geotechnical reports and data, conducting extensive geotechnical engineering analyses for liquefaction and lateral spreading and developing location specific estimates of liquefaction settlement, lateral spread displacements, and non-linear soil springs for the concurrent structural vulnerability assessment.

[San Francisco, California](#)

New Academic Center, College of Marin

Principal Engineer and Project Manager responsible for the geotechnical investigation of a new 31,000 square-foot building (in plan). A basement retaining wall at the back of the eastern wing forms a 14-foot-high "step" between the two different floor levels. Geotechnical recommendations were developed for a deep foundation system consisting of drill displacement piles and grade beams. Light weight fill was used behind the basement retaining wall to reduce lateral loads. Managed the construction phase services, supervised all special inspections and testing related to soils, foundations, retaining walls, shoring, drainage and earthwork. [Kentfield, California](#)

Napa River Restoration

Project Manager and Principal in Charge of geotechnical engineering services in support of the Napa River Restoration projects for the Napa County Flood Control and Water Conservation District. The projects involve restoring 14 miles of river into a more natural, sustainable condition. The geotechnical scope includes providing the geotechnical data, evaluations, and recommendations needed for the design and construction of the planned restoration schemes including active widening, secondary channel restoration, floodplain excavation and grading, berm removal and reconstruction, and managed bank retreat. A major component of the project involves geologic mapping of a highly consolidated alluvial deposit which dominates the bed and lower banks of the river channel and appears to be inhibiting vegetation growth and fish habitat enhancement. Dozens of borings were drilled along both banks of the river and piezometers were installed to monitor fluctuations in groundwater levels. Geotechnical evaluations and analyses included slope stability, liquefaction and lateral spreading potential, and seepage causation. A3GEO provided the design criteria for slope inclinations, floodplain construction, berm construction and grading. [Napa County, California](#)

Richmond – San Rafael Bridge Seismic Retrofit

Served as an integral part of the contractor's engineering team responsible for geotechnical consultation throughout the project. Geotechnical issues involved rock drilling, dewatering, cofferdam installation, and shoring. Ground conditions were complex and included young Bay Mud overlying intensely fractured Franciscan bedrock. The feasibility of viable construction techniques were analyzed involving the installation of micropiles and large-diameter (up to 12.5 feet) rock socketed cast-in-drilled-hole reinforced concrete piles. Managed the engineering and construction of a \$3 million barge designed and built specifically to install hundreds of 30 to 130 ton pre-cast concrete jackets 60 feet underwater around existing bridge pier foundations. Oversaw design and construction of precast lifting assembly utilizing four 300-ton hydraulic jacks used to support and incrementally lower units into position underwater. Monitored pre-cast jacket installation including high-strength rod tensioning and grouting underwater. [Richmond, California](#)

Junipero Serra Boulevard

Performed slope stability analyses for three unique sites along Junipero Serra Boulevard. Assisted with developing design criteria consisting of slope reconstruction and tied-back retaining walls with pier foundations. Monitored construction of drilled piers, tie-backs, retaining walls, grading, and drainage. [South San Francisco, California](#)

Lawrence Berkeley National Laboratory General Purpose Laboratory (GPL)

Lead Geotechnical Consultant and Project Manager during the contract document review and construction phases for the GPL, LBNL's new state-of-the-art laboratory facility. Provided comprehensive and detailed review comments to the project team to ensure conformance with geotechnical design intent and LBNL performance objectives. [Berkeley, California](#)

Riverside Elementary School Seismic Evaluation

Senior Engineer in charge of the geotechnical investigation performed to evaluate the seismic stability of the creek banks located 20 feet from the existing school buildings. Banks are up to 25-feet-high and susceptible to seismically-induced landsliding, liquefaction, and lateral spreading. Performed seismic slope stability and deformation analyses, evaluated liquefaction and lateral spreading hazards, calculated liquefaction-induced settlements, and developed site-specific uniform hazard response spectra for the site. Seismic slope deformations were evaluated using Bray and Travararou (2007) which utilizes a Newmark-type analysis. Liquefaction susceptibility of fine-grained soils was performed. Managed the field investigations and laboratory testing programs which included multiple phases of borings and CPTs and extensive laboratory testing on thin-walled "undisturbed" samples. [San Pablo, California](#)

Berkeley Animal Shelter

Senior Engineer and Project Manager for the new City of Berkeley Animal Shelter in West Berkeley, California. The proposed animal shelter site is located adjacent to the northern tip of Aquatic Park Lake in an area that was reclaimed from San Francisco Bay. Site characterization borings revealed an underlying soil profile of poorly compacted fill overlying loose and compressible Bay Deposits. Settlement of the fill and Bay Deposits under new site loads, liquefaction, and lateral spreading were the primary geotechnical site design issues. Recommendations included ground improvement in the upper 25 feet of soil using Impact Rammed Aggregate Piers and support of the building on a mat slab foundation. [Berkeley, California](#)

University of California Berkeley Helios Energy Research Facility West
Geotechnical Analyst and Assistant Project Manager during the investigation for Helios West, a 90,000 square foot, 6-story, laboratory/research facility with a 25-foot deep basement level below groundwater. Developed geotechnical recommendations for the mat foundation and tiedown anchors including subgrade modulus beneath the center and edge of the mat, bearing pressures, lateral resistance, subgrade preparation, and bedrock overexcavation. Developed recommendations for the basement retaining walls and temporary shoring walls included lateral earth pressures, lateral loads caused by earthquake shaking, hydrostatic pressures, and surcharge effects. Geotechnical lead and project manager during the construction phase, which included onsite observation, consultation and value engineering. Conducted 3D settlement analyses that resulted in the elimination of a \$250K cost item and participated in the fair resolution of contractor claims regarding difficult drilling conditions. [Berkeley, California](#)

Geotechnical/Geohazard Studies at Twelve Measure M Campuses
Senior Engineer for geologic and geotechnical studies at twelve West Contra Costa County public school campuses (Bayview, Ellerhorst, Harding, Kensington, Lincoln, Madera, Mira Vista, Peres, Riverside, Sheldon, Verde, and Washington). Managed field investigations and characterized geologic hazards including faults, landsliding and liquefaction. Ms. Mann also participated extensively in subsequent geologic hazard characterization activities pertaining to specific school campuses where potential hazards were found. [West Contra Costa County, California](#)

Lexington Elementary School Seismic Evaluation

Principal Engineer responsible for peer-reviewing the technical aspects of the seismic slope stability and deformation analyses performed for the redevelopment of Lexington Elementary School. The site is located within a State of California Seismic Hazard Zone for Landsliding and is about 1400 feet from the San Andreas fault. Extensive geologic field exploration involving trenching and large diameter borings was performed to evaluate existing landslide hazards. Consulted on the shear strength evaluation of the Santa Clara formation bedrock and overlying alluvial deposits, the methodologies used in the subsequent stability and deformation analyses, and the procedures specified in CGS Note 48. [Los Gatos, California](#)

Lawrence Berkeley National Laboratory Berkeley Lab Laser Accelerator (BELLA)
Geotechnical Analyst and Assistant Project Manager during the investigation phase of the BELLA project. Geotechnical Project Manager during the construction phase which included the installation of drilled pier foundations inside of Building 71 to support the new radiation shielding walls and beam dump. [Berkeley, California](#)

Lawrence Berkeley National Laboratory Solar Energy Research Center (SERC)
Lead Geotechnical Consultant and Project Manager during the contract document review and construction phases for SERC, a new 40,000 square foot LEED Silver energy research building. Provided comprehensive and detailed review comments to the SERC project team to ensure conformance with geotechnical design intent and LBNL performance objectives. [Berkeley, California](#)

ODC Theater Seismic Upgrade
Geotechnical Project Manager for the seismic upgrade and renovation of the ODC Theatre facility at 17th and Shotwell Streets in San Francisco, California. Conducted site-specific subsurface exploration to evaluate liquefaction and provide geotechnical recommendations for the design of the project. Because the site is within an official State Hazard Zone for liquefaction, the investigation conformed to the State Guidelines for Evaluating and Mitigating Seismic Hazards in California, Special Publication (SP) 117. The upper 28 feet of soils encountered generally consisted of loose to medium-dense, potentially liquefiable, clean sands. Calculations indicated that about 12.5 inches of total dynamic, compressional settlement could occur within the potentially liquefiable soil layers as a result of a large seismic event. Recommendations included improving the upper 35 feet of soil by compaction grouting and supporting the buildings on a concrete mat foundation. [San Francisco, California](#)

Lawrence Berkeley National Laboratory, Next Generation Light Source (NGLS)
Geotechnical Analyst and Assistant Project Manager for the NGLS, which at Berkeley Lab would include a 2,500-foot long mined tunnel, an array of mined and cut-and-cover branch tunnels, several deep vertical mined shafts, a laser cavern, and an experimental hall. Responsibilities in initial work orders have included QA/QC reviews of investigative work products, QA/QC review during laboratory test selection and interpretation, characterization of geologic materials in onsite excavations and borehole samples, and 3D analyses of consolidation settlement. [Berkeley, California](#)