

# MICHELE J. STEIN, P.E.

Associate Principal



## Summary

Michele Stein is the leader of Thornton Tomasetti's Orlando office. She is a licensed professional engineer in fifteen states with over 23 years of experience in geotechnical analysis and design, municipal engineering and construction services, and higher education. She has taught engineering courses for over 15 years. Her geotechnical expertise is in subsurface exploration programs, deep and shallow foundations, slurry walls, ground improvements, settlement analysis, slope stability, landfills and retaining walls. Her expertise expands into municipal design and construction projects, including utilities, pump stations, inflow/infiltration, stormwater, paving operations, transportation improvements, bridge replacements, and creating documents for bid, contracts and litigations involving utility and roadway easements. Michele was formerly an adjunct professor at the University of Central Florida and is currently an adjunct professor at Middlesex Community College.

## Areas of Technical Expertise

- Geotechnical Engineering
- Civil Engineering

## Education

- M.S., Civil Engineering, 2002, University of Massachusetts at Lowell
- B.S., Civil Engineering, 1999, Merrimack College
- OSHA 40-hour, 10-hour, and Confined Space Training

## Registrations

- Licensed Professional Engineer in AL, CO, FL, GA, IL, KS, MA, MO, NC, NV, SC, TN, TX, UT and WA

## Professional Activities

- Adjunct Professor, University of Central Florida, 2021-2022. Lecturer, "Introduction to Construction Management." Performed "Fundamentals of Engineering" review sessions for "Ethics and Engineering Economics."
- Department Chair of Computer, Engineering and Technology, Middlesex Community College, 2016-2021.
- Chair, Engineering Advisory Board, Middlesex Community College, 2016-2021.
- Adjunct Professor, Middlesex Community College, present.
- Tenured Professor, Middlesex Community College, 2014-2021. Courses taught include "Introduction to Engineering, Statics and Strength of Materials."
- Adjunct Professor, Merrimack College, 2006-2015. Courses taught include "Soil Mechanics, Geotechnical Engineering, Geology, Environmental Engineering, Engineering Economics, Ethics and Senior Capstone."
- Committee Member of Women in Deep Foundations (WIDF)

## Select Project Experience

### Geotechnical Engineering

#### Overlook Ridge/Rowe Quarry, Revere/Malden, MA.\*

Performed preconstruction/preblast surveys, geotechnical field services and QA/QC for site work of 100-acre parcel with 2,400 apartments and 150,000 square ft. of retail/office space.

#### East Side Water Treatment Plan, Sunnyvale, TX.\*

Responsible for QA/QC of lime/fly-ash (L/FA) pressure injections for slope stabilization of multiple water levees.

#### Cambridge Research Park, Cambridge, MA.\*

QA/QC of soil remediation of the site, construction oversight of slurry wall installation of the 5-level underground garage, monitored and analyzed instrumentation to ensure minimal movement to the walls and the surrounding structures.

#### Bennington Bypass North, Bennington, VT.\*

Performed engineering evaluations and prepared design reports for new roadways and bridges. Activities were associated with reinforcement of steep slopes, design of deep foundations, recommendations for design of mechanically stabilized earth (MSE) walls and cut and fill slope recommendations.

#### Eight Seven Adjacent Coast, Surfside, FL.

Observed multichannel analysis of seismic waves (MASW) analysis and resistivity mapping on Champlain Tower Foundation slab.

#### Pool Deck Distress, Bonita Springs, FL.

Reviewed documentation to investigate premature distress experienced at pool deck to formulate opinion for client and prepare written report.

#### Construction Defect for Home Owners Association,

Davenport, FL. Performed site visit and reviewed documentation to investigate drainage and stormwater systems for residential community.

\*Denotes work performed with previous employer.

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### Geotechnical Engineering Continued

**City Place II Parking Garage**, Creve Coeur, MO. Reviewed documentation to investigate if soil erosion from infiltration of a sewer line caused the structural distress on foundation slab and column at the parking garage. Formulated opinion for client and prepared written report.

**Duck River Dam**, Culliman County, AL. Reviewed documentation for leaks in the RCC dam to formulate and write an opinion for the client on the cause.

**Green Mount Crossing Mine Mitigation**, O'Fallon, IL. Investigated available mine grouting documentation including design, specifications, and as-built documentations. Evaluated the scope, design and methods for mine grouting operations performed for mine subsidence claim.

**1595 Pipe Jacking Alignment Issue and Settlement**, Davie, FL. Provided expert opinion related to the SR-84 Settlement due to microtunneling operations involving 72-inch and 48-inch nominal diameter pipes below a highway during construction.

**Wyndham Grand**, Clearwater, FL. Reviewed existing plans and design for hotel foundation. Analyzed vibroreplacement stone column ground improvements for design and parameters of shallow foundation portions of building.

**Houston Water Works Team v. Barnard**, Houston, TX. Reviewed documentation to formulate expert opinion on various construction delay claims such as the denial for factory cutting a 108-inch RW line and using a Butt-strap for a challenging installation, the design of the exit shaft cofferdam and the crossing of the 108-inch water transmission line over the existing 66-inch water pipe.

**Terminal Internacional de Fluidos de Tuxpan—TIFT**, Tuxpan, Veracruz, MEX. Reviewed documentation and final report for the settlement litigation of the fuel storage tanks located at the Terminal Internacional de Fluidos de Tuxpan.

**DEPCOM Power**, Inc., Elkin, NC. Investigate causation of erosion at a 294 acre solar panel farm with available documentation and evaluate erosion control methods utilized by contractor.

**MTA Flatbush Avenue**, Brooklyn, NY. Produced a written report based on the opinions from the investigated cause and origin of movement experienced at and in the vicinity of the Flatbush Avenue Entrance which is part of the Metropolitan Transportation Authority's Dekalb Avenue Subway Station in Brooklyn.

**Veterans Memorial Bridge**, Daytona, FL. Reviewed documentation, correspondences, contract plans and specifications to investigate Jet Pile driving claim as part of the construction for a new bridge crossing the Halifax River.

### Civil Engineering

**Somerset Slope Stability**, Bellview, WA. Reviewed the city's documentation to determine if negligibility was a possibility for causation of the asbestos concrete water main as part of a slope stability study. Provided support of city's opposition to the plaintiffs motion of summary judgement.

**Brooklands Subdivision Pavement Distress**, Hutto, TX. Reviewed documentation provided, in conjunction with recommended additional subsurface investigations, laboratory testing and pavement analysis to determine the cause of the premature pavement failure in Sections 1 and 2 of the Subdivision. Drafted a written report with formulated professional opinions related to the causations of the premature pavement failure.

**Asbestos Concrete Water Main Replacement**, Tewksbury, MA.\* Created, managed and updated the 5-year capital improvement plan for a 21.1 square mile municipal town with over 31,000 residents. Duties included planning for the removal and replacement of AC pipe, reviewing design proposals, approvals for permitting and construction as well as onsite inspection during installation.

**Colonial Drive Water Tank**, Tewksbury, MA.\* Owner's project manager for 5 MG water tank. Water tank required ground improvements prior to construction involving vibrocompaction. Mediation for ground improvements was required.

**Stormwater Management**, Dunstable, MA.\* Executed stormwater management program for the town to maintain compliance with EPA's MS4 NPDES permit requirements.

**\$99 Million Sewer Expansion Project**, Tewksbury, MA.\* Responsible for development planning phase to completion and execution of sewer utility system. Involved field inspections, project management planning meetings, public meetings and easement litigations.

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### Sworn Testimony

Deposition, Wedgewood Bus. Park Ansin Condo. Ass'n, Inc. v. MDS 2019, Inc. d/b/a Nsquare Inc. & Ramos Eng'g & Assoc., LLC, regarding the continuation of the foundation and slab settlement after remediation work. September 23, 2024.

Deposition, Royal Oak Landing Homeowners Ass'n v. James P. & Linli Clarke, regarding alleged soil erosion damage to the pool and house on the property. August 15, 2024.

Arbitration, Parc Traditions, LP v. Rogers-O-Brien Constr. Co., LTD, regarding underground plumbing piping distress at the Parc at Traditions senior living facility. June 2024.

Deposition, Michael D. Johnson & Cynthia A. Johnson, as trustees of The Michael & Cynthia Johnson Fam. Revocable Living Trust v. Oakbridge Owners' Ass'n No. Two Inc., regarding the surface water management system located at Lot 69 within the Glasslands Community in Lakeland, FL. 2024.

Deposition and Mediation, The Dow Co. v. Town of Tewksbury, MA, regarding cost overrun for vibrocompaction ground improvement prior to installation of 5 MG Water Tank. 2011.

### Select Papers, Lectures and Publications

"Adjacent Construction Vibrations: Perception vs. Reality," ASCE Forensics Conference, November 3, 2024 (co-author, co-presenter)

"Evaluation of Risks from Adjacent Construction," ASCE Forensics Conference, November 3, 2024 (co-author, co-presenter)

"You've Been Served," Annual ASCE Conference, July 2024 (presenter)

"Burnout Noticed: A Modern Workforce Problem," Women in Deep Foundations Committee Column, May/June 2024 (co-author)

"Evaluation of Risks from Adjacent Construction," Florida Bar CLE presentation. 2022, 2023 (co-presenter)

"The Importance of Instrumentation and Monitoring Towards Forensics," Annual ASCE Conference. July 2022 (co-presenter)

"Slurry wall installation," lunch and learn for consulting firm Cambridge Research Park, Cambridge, MA. 2003 (presenter)

"Axial Capacity of H-Piles," National Academies NCHRP 24-17, Paikowsky and Jodar. Summer 2002 (author)

"Lime/fly-ash (L/FA) Pressure injections for slope stabilization," lunch and learn for consulting firm East Side Water Treatment Plant, Sunnyvale, TX. 2002 (presenter)

### CONTACT

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