Daniel Moriarty

PE

Sr. Staff Consultant, Civil/Structural Engineering

Mr. Moriarty is a Senior Staff Consultant with the Civil/Structural Engineering team at ESi. He has more than 10 years of experience in building design and investigation including forensic structural analysis, structural design, structural drawing and detail production, risk analysis, feasibility studies, and forensic investigations for litigation and insurance claims. This includes new and existing buildings in sectors such as single and multi-family residential, commercial, industrial, power generation, and hospitality.

He specializes in the design and evaluation of residential and commercial structures, but his experience extends beyond buildings to include roads, bridges, oil refineries, and natural gas facilities. His core expertise lies in structural analysis and design, and encompasses foundations and building envelopes. In addition, he has extensive experience in forensic investigation and analysis of storm, fire, and water damage across a wide range of building materials. He also provides expert evaluation in legal matters involving irrigation systems, site grading, residential plumbing, construction site safety, and premises liability.

Prior to joining ESi, Mr. Moriarty was a Reliability Engineer in oil refineries and natural gas facilities. In Chicagoland as well as the Arctic Circle in Alaska, he assessed the risk and impact of degrading structures and maintained quality control on large scale renovations during turnarounds.

Education

M.S., Civil Engineering. University of Illinois at Urbana-Champaign, 2017

Business Management for Engineers Certificate, University of Illinois at Urbana-Champaign. 2017

B.S., Civil Engineering. University of Illinois at Urbana-Champaign, 2014

Licenses & Certifications

- State of Colorado P.E. License No. 0062097
- State of Texas P.E. License No. 151078
- State of Wyoming P.E. License No. 20059

Contact Information

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ESi Denver

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Areas of Specialization

- Construction Defects
- Storm Damage Investigations
- Structural Risk Assessment
- Finite Element Analysis
- Structural Analysis & Design
- Fire Damage Investigations
- Building Envelope Analysis
- Building Code Analysis
- Construction Site Safety
- Site Grading
- Infrastructure
- Refineries
- Retrofit Strengthening & Design
- Construction Administration
- Residential Structures
- Commercial Structures
- Construction Site Safety
- Residential Plumbing

- State of Kansas P.E. License No. 31707
- State of Nebraska P.E. License No. E-21802
- Guardian – Competent Person Training, Certificate No. 12631429

Positions Held

Engineering Systems Inc., Aurora, Illinois

- Senior Staff Consultant, January 2022 – Present

Evolve Structural Design, Carbondale, Colorado

- Project Engineer, April 2021 – November 2021

TGRWA, LLC, Chicago, Illinois

- Engineer II, March 2018 – April 2021

NLP Concepts, LLC, Chicago, Illinois

- Engineer I, January 2016 – August 2017

Amwins Specialty Casualty Solutions, Chicago, Illinois

- Data Engineer, September 2015 – December 2015

Brindley Engineering Corporation, Lisle, Illinois

- Reliability Engineer I, January 2015 – August 2015

Continuing Education

- **OSHA 30-Hour and 10-Hour**
- **Transportation Worker Identification Credential (TWIC)**
- **Adult First Aid/CPR/AED Online**
- **Aerial Boom Lift & Scissor Lift Operator Certification**

Professional Affiliations/Honors

American Institute of Steel Construction (AISC)

American Concrete Institute (ACI)

Project Experience

Confidential Matter

- A new development contained an asphalt driveway down the middle of six properties. One of the three properties on the downhill side experienced water intrusion into the basement and sump pump that was constantly running. Mr. Moriarty conducted a visual survey of the development and determined there was drainage parallel to the road to divert water towards the swales between the residences. He further determined the sump pump eject was uphill of the residence resulting in circulating water back through the pump. Mr. Moriarty also found that a drain tile at the window well was broken and resulted in the basement water intrusion.

Apartment Complex, Evanston, IL

- Mr. Moriarty conducted a structural evaluation of a parking garage column that was noticeably settling and resulting in interior damages up a three-story building. The assessment included documenting the settled column, designing temporary shoring, and designing the final condition with helical piers bolted to the column. The shoring and final condition were installed during building occupancy and successfully stopped the column from settling further.

Ranch, Carbondale, CO

- A single-family residence was located downhill of a large ranch owned by the adjacent property. The residence was impacted by water runoff from the ranch that resulted in washout of a narrow gravel driveway located on a cliff. Mr. Moriarty determined the cause of the excess runoff was a farming trailer parked in a drainage swale aligned with the residence. The trailer caused ice build-up that diverted water out of the swale and downhill. The analysis also included recommendations for the driveway repair.

Single-Family Residence, Evanston, CO

- A single-family residence undergoing a roof replacement was left without gutters during multiple rain events. The homeowner was concerned that the rainwater had impacted the foundation. Mr. Moriarty conducted a site inspection and determined that visible cracks in the foundation had pre-existed the recent rain events and were not a concern of structural stability. The findings were included in a report along with recommendations to modify landscaping for code compliance.

Design and Operational Experience

Mixed-Use Building, Chicago, IL

- Mr. Moriarty designed a 10-story concrete structure consisting of residential units, rehabilitation facilities, and commercial units. The structure consisted of post-tensioned concrete slabs and beams supported by conventional concrete columns, shear walls, and foundations. Mr. Moriarty designed and detailed the columns, shear walls, and foundations, as well as a rooftop structural steel canopy structure.

Confidential Matter

- A tornado resulted in substantial structural damage to a warehouse facility and claimed the lives of multiple employees. Mr. Moriarty inspected the structure that remained standing to determine if retrofits or supplemental framing would be required to maintain structural integrity and performed the design and detailing of the structural steel lateral system. The lateral system consisted of a steel moment frames and braced frames, which required reinforcement themselves as well as reinforcements at the base connections to the concrete foundations