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JOSEPH K. RIDDLE, P.E., S.E.
SENIOR MANAGING CONSULTANT & DIRECTOR

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Mr. Riddle is a Senior Managing Consultant & Director with ESI. He specializes in the assessment, investigation, and repair of damaged or distressed structures as well as building code review, structural analysis, and structural design. Mr. Riddle has worked on a wide variety of projects including residential, commercial, and industrial buildings, with a variety of material types including wood, steel, heavy timber, light gage metal, reinforced concrete, precast concrete, and masonry. In many cases, Mr. Riddle has designed retrofits or repairs for structures that he has assessed and has extensive experience in the detailing of repairs to fit unique or complex situations. Additionally, Mr. Riddle has performed numerous investigations related to building envelope, structural condition assessment and load rating, temporary shoring design, and emergency stabilization. He has also performed research involving long term structural monitoring of integral abutment bridges and detailed finite element modeling.

Mr. Riddle also volunteers his time as a judge at the annual regional and national level Student Steel Bridge Competitions sponsored by the American Institute of Steel Construction (AISC). He also actively pursues opportunities to speak to students about possible careers in the field of engineering and has been a guest lecturer at the Illinois Institute of Technology on multiple occasions. Mr. Riddle served as a member of the ASCE 11 Committee – Structural Condition Assessment of Existing Structures and currently serves as the Chapter 2 Chair of the ASCE 37 Committee – Design Loads on Structures during Construction.

Areas of Specialization

Building Code Review and Analysis
Structural Analysis and Design
Repair Design
Retrofit and Strengthening Design
Structural Condition Assessment
Damage Assessment
Failure Analysis
Building Envelope Assessment
Emergency Stabilization
Temporary Shoring Design
Structural Health Monitoring
Construction Administration

Education

M.S., Civil Engineering (Structural), University of Illinois at Urbana-Champaign, 2014
B.S., Civil Engineering (Structural/Transportation), University of Illinois at Urbana-Champaign, 2012
B.S., Computer Science, Western Governors University, 2022

Licensed Structural Engineer (S.E.)

State of Illinois License No. 081.008109



Licensed Professional Engineer (P.E.)

State of Illinois	License No. 062.069542
State of Indiana	License No. PE11800640
State of Iowa	License No. P27128
State of Wisconsin	License No. E-46836
State of Florida	License No. 87574
State of Virginia	License No. 0402068622

Professional Affiliations

American Society of Civil Engineers (ASCE)

ASCE 11 Guideline for Structural Condition Assessment of Existing Buildings Committee

Chapter 2 Chair of ASCE 37 Design Loads on Structures during Construction Committee

Structural Engineering Institute (SEI)

American Institute of Steel Construction (AISC)

Volunteer Judge for Regional and National Student Steel Bridge Competitions

American Wood Council (AWC)

Training and Certifications

OSHA 30-hour Construction Safety Training

OSHA Suspended and Supported Scaffold Training

Transportation Worker Identification Credential (TWIC) Card

Mobile Elevating Work Platform Operator Certification

City of Chicago Self Certification Professional

Positions Held

Engineering Systems Inc., Aurora, Illinois

Senior Managing Consultant – Civil/Structural Engineering, 2024 - Present

Senior Consultant – Civil/Structural Engineering, 2018 - 2024

Senior Staff Consultant – Civil/Structural Engineering, 2017 - 2018

Staff Consultant – Civil/Structural Engineering, 2014 – 2017

University of Illinois, Urbana, Illinois

Graduate Research Assistant – Dept. of Civil & Environmental Engineering, 2012 – 2014

Engineering Systems Inc., Aurora, Illinois

Engineering Intern – Civil/Structural Engineering, Summer 2012

Technical Publications

Mulholland, G., **Riddle, J.**, et. al. "Structural Condition Assessment of Existing Buildings." ASCE Manuals and Reports on Engineering Practice No. 158, 2024.

Mesyef, K., **Riddle, J.**, et al. "Evaluation and Repair of Tornado Damage to a Large Manufacturing Plant." Eighth Congress of Forensic Engineering Conference Proceedings. November 2018.

LaFave, J., Fahnestock, L., Brambila, G., **Riddle, J.**, et al. "Integral Abutment Bridges under Thermal Loading: Field Monitoring and Analysis." Illinois Center for Transportation Research Report No. FHWA-ICT-17-017, August 2017.

LaFave, J., **Riddle, J.**, Jarrett, M., Wright, B., Svatora, J., An, H., and Fahnestock, L., 2016 "Numerical Simulations of Steel Integral Abutment Bridges Under Thermal Loading." *Journal of Bridge Engineering*. Volume 21, Issue 10, October 2016.

LaFave, J., Fahnestock, L., Wright, B., **Riddle, J.**, et al. "Integral Abutment Bridges under Thermal Loading: Numerical Simulations and Parametric Study." Illinois Center for Transportation Research Report No. FHWA-ICT-16-014, June 2016.

LaFave, J., Fahnestock, L., Jarrett, M., Wright, B., **Riddle, J.**, Svatora, J., 2015. "Numerical Simulations and Field Monitoring of Integral Abutment Bridge Behavior." ASCE Structures Congress Proceedings, April 2015.

Teaching & Technical Presentations

Riddle, J. "Building Enclosure Requirements and Common Problems." Guest Lecturer – Site Operations and Construction Safety (CAE 472), Illinois Institute of Technology. April 2024.

Riddle, J. "Structural Damage and Repair Requirements." CLE Presentation. December 2023.

Riddle, J. "What Went Wrong with My New Building." RAC Adjustments Adjuster Training Seminar. March 2023.

Riddle, J. "Common Structural Failure Points of Agricultural Buildings." Mutual Loss Prevention and Adjusting (MLPA) Seminar. March 2022.

Riddle, J. "Design and Detailing of Wood Framing Connections." Guest Lecturer – Site Operations and Construction Safety (CAE 472), Illinois Institute of Technology. April 2019, February 2023.

Riddle, J. "Building Response to Wind Forces and Related Code Requirements." CLE Presentation. March 2019.

Mesyef, K. and **Riddle, J.** "Evaluation and Repair of Tornado Damage to a Large Manufacturing Plant." Presented at Eighth Congress of Forensic Engineering. November 2018.

Riddle, J. "Integral Abutment Bridges: Behavior, Design, and Ongoing Research." Presented at SEI Day 2015, Structural Engineering Institute, St. Louis Chapter, October 16, 2015.