PERSONNEL QUALIFICATIONS

Jonathan C. McGormley | Senior Principal

EDUCATION

- University of Cincinnati
  - Bachelor of Science, Civil Engineering, 1992
- Purdue University
  - Master of Science, Civil Engineering, 1994

PRACTICE AREAS

- Bridge Engineering
- Instrumentation and Field Testing
- Failure Investigation
- Fatigue and Fracture Analysis
- Nondestructive Testing
- Steel Structures
- Structural Investigation

REGISTRATIONS

- Professional Engineer in IA, IL, IN, LA, MO, MS, OH, and OK
- Structural Engineer in IL

PROFESSIONAL AFFILIATIONS

- American Society of Civil Engineers
- International Association of Bridge and Structural Engineering
- Research Council on Structural Connections
- Transportation Research Board

CONTACT

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EXPERIENCE

Jonathan McGormley joined WJE in 1994 and has been involved with the structural evaluation and repair of commercial and residential properties, bridges, parking structures, and other deteriorated or distressed structures. He is routinely called to assess the condition of structures after fire, storm, and impact damage. Mr. McGormley is experienced in the inspection and evaluation of steel bridge structures with an emphasis on fatigue and fracture problems. He is experienced in visual, magnetic particle, and ultrasonic testing techniques, and has overseen bridge retrofit projects in which WJE personnel were responsible for self performing the work.

Mr. McGormley has conducted numerous instrumentation and field testing projects to better characterize the behavior of structures. He has also performed construction engineering services, design reviews, and building code compliance checks, and is experienced in the finite element modeling of steel, concrete, and aluminum structural members. Mr. McGormley's analysis experience includes the structural evaluation of tensioned fabric structures for several production companies.

REPRESENTATIVE PROJECTS

Bridge Engineering

- NB Route 291 Missouri River Bridge - Liberty Bend, MO: Load rating, gusset plate repair design, and installation of truss bridge
- National Highway Instutute Instructor: Bridge construction inspection and bridge rehabilitation design courses
- Poplar Street Bridge - East St. Louis, IL: Fatigue and fracture assessment, redundancy modifications, and seismic upgrades of two-girder bridge
- Gusset Plate Evaluation Procedures - U.S. Nationwide: Development of analytical approach for load rating that also considers effects of deterioration
- Indiana Toll Road: Bridge deck joint elimination using accelerated bridge construction practices

Instrumentation and Field Testing

- I-20/55 - Jackson, MS: Live load stress measurements, trial retrofit installation, and fatigue life study of plate girder bridge
- Metropolitan Water Reclamation District Deep Tunnel - Chicago, IL: Nondestructive testing of steel piping

Failure Investigations

- I-35W Bridge - Minneapolis, MN: Failure investigation and debris removal oversight of deck truss
- I-280 Maumee River Crossing - Toledo, OH: Investigation of gantry crane collapse
- State Route 69 Bridge Over the Tennessee River - Clifton, TN: Investigation into cause of plate girder bridge collapse during erection
- Rayse Creek Bridge - Jefferson County, IL: Precast deck beam bridge collapse due to steel pile bent corrosion
- Rail Rapid Transit: Investigation of electric flash butt weld failures in recently fabricated continuous welded rail strings; investigation, including field and laboratory testing, of composite rail tie failures

Fatigue and Fracture Analysis

- Cal-Sag Channel Trusses - Cook County, IL: Fracture critical inspections and load rating
- Cedar Street Bridge Over the Illinois River - Peoria, IL: Condition evaluation and repair of deck truss bridge
- U.S. 77 Over the Missouri River - Sioux City, IA: Fracture critical inspection of tied-arch bridge
- Fremont Bridge - Portland, OR: Fatigue assessment of 2,200-foot, three-span, tied-arch bridge
- I-435 Bridge Over the Missouri River - Kansas City, MO: Fatigue and fracture retrofit development/installation and redundancy modifications for two-girder bridge
- I-80 Bridge Over the Missouri River - Council Bluffs, IA: Fracture critical inspection, fatigue assessment, instrumentation, and retrofit development/installation of plate girder bridge
- Light Poles - Chicago, IL: Fatigue investigation
- Matthew Welsh Bridge Over the Ohio River - Mauckport, IN: Installation of fatigue retrofits to address cracking in two-girder approach spans