PERSONNEL QUALIFICATIONS

Matthew B. Gries | Associate Principal, Janney Technical Center Regional Director, and Unit Manager

EDUCATION

- University of Notre Dame
  - Bachelor of Science, Civil Engineering, 2007
- University of Illinois at Urbana-Champaign
  - Master of Science, Structural Engineering, 2010

PRACTICE AREAS

- Structural Analysis/Computer Modeling
- Concrete Structures
- Failure/Damage Investigations
- Bridges and Civil Infrastructure
- Nondestructive Evaluation
- Structural Design

REGISTRATIONS

- Professional Engineer in IL and MD
- Structural Engineer in IL

TECHNICAL COMMITTEES

- ACI Subcommittee 334-0A - Cooling Tower Evaluation

CONTACT

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EXPERIENCE

Matthew Gries has broad-based experience in condition assessments, structural evaluation, and repair design for buildings, bridges, towers, and utility structures. He has performed nonlinear finite element analysis of concrete structures and has experience with nondestructive testing techniques.

Prior to joining WJE, Mr. Gries evaluated the feasibility of new techniques for improved real-time evaluation of reinforced concrete bridges while a graduate assistant at the University of Illinois at Urbana-Champaign.

REPRESENTATIVE PROJECTS

Structural Analysis/Computer Modeling

- Locks and Dam - PA: Nonlinear finite element analysis of tremie-placed concrete drilled shafts in as-built condition
- Post-Tensioned Steel Truss - New York, NY: Finite element analysis accounting for deterioration and in support of retrofit design
- Pedestrian Bridge - Chicago, IL: Nonlinear finite element analysis of reinforced concrete structural elements
- Mixed-Use Commercial/Residential Tower - NV: Three-dimensional nonlinear finite element analysis of reinforced concrete structural elements
- Solar Array Installation - United States: Analysis of dynamic response and structural reliability of large array of solar panel support structures subject to time-varying wind loads
- Shipping Channel Wharf - TX: Finite element analysis of wharf including vessel loading and soil-structure interaction

Concrete Structures

- Electric Generating Station Hyperbolic Shell Natural Draft Cooling Towers - U.S. Mid-Atlantic Region: Structural evaluation and repair program development
- Kennedy Space Center, Vehicle Assembly Building - FL: Corrosion evaluation of elevated concrete slabs, service life modeling, and repair development
- Parking Garage - Chicago, IL: Condition assessment and repair construction observation of post-tensioned concrete parking garages
- High-Rise Residential Building - Chicago, IL: Repair design and construction observation of exposed concrete frame
- Warehouse - Bolingbrook, IL: Repair design and construction observation of slab-on-grade replacement

Failure/Damage Investigations

- Natural Gas Explosions - United States: Evaluation of buildings damaged by nearby natural gas explosions
- University Club Tower - Richmond Heights, MO: Assessment of wind-related damages to curtain wall and penthouse structures
- Water Storage Tank - Mount Prospect, IL: Investigation of steel water tank roof collapse

Bridges and Civil Infrastructure

- Illinois Department of Transportation: Load rating of various gusset plate connections of nonredundant steel truss bridges, including rolling lift and fixed trunnion bascule bridges
- Chicago Transit Authority - IL: Load rating of circa 1919-reinforced concrete rail structures with advanced deterioration
- Indiana Toll Road: Condition survey, corrosion assessment, and repair development for multiple concrete bridge decks and substructure elements
- IH-345 - Dallas, TX: Peer review of analysis and retrofit development for 1.6-mile stretch of fracture critical elevated highway bridges
- Village of Northfield - IL: Load rating of existing steel bridge and peer review of retrofit design

Nondestructive Evaluation

- La Grange Fire Department - La Grange, IL: Load testing of fire station apparatus floor
- Parking Garage - Starkville, MS: Load testing of parking garage deck with construction defects
- Metropolitan Water Reclamation District - Hodgkins, IL: Ultrasonic thickness testing and evaluation of steel pipe walls
- Amelia Earhart Bridge Fabrication - KS and MO: Ultrasonic thickness testing of welded steel tab plate connections in steel tied-arch bridge