



PERSONNEL QUALIFICATIONS

Arne P. Johnson | Principal



EDUCATION

- University of Illinois at Urbana-Champaign
 - Bachelor of Science, Civil Engineering, 1987
- University of California, Berkeley
 - Master of Science, Structural Engineering, 1988

PRACTICE AREAS

- Structural Evaluation
- Repair and Rehabilitation Design
- Structural Peer Review
- Historic Structures
- Concrete Deterioration
- Vibration Testing and Monitoring
- Museums
- Stadiums and Arenas

REGISTRATIONS

- Professional Engineer in IA, IL, IN, KY, MN, MO, OH, and WI
- Structural Engineer in IL

PROFESSIONAL AFFILIATIONS

- American Concrete Institute (ACI)
- American Institute of Steel Construction (AISC)
- ASTM International (ASTM)
- Structural Engineers Association of Illinois (SEAOI)

CONTACT

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EXPERIENCE

Arne Johnson joined WJE in 1989 after working for a structural design firm in Chicago. At WJE, he has investigated several hundred concrete, steel, masonry, and wood structures. Most assignments have involved evaluation of structural capacity, deterioration, distress, or failure; many have included design of repairs, construction documents, and construction observation.

Mr. Johnson has particular expertise in evaluation and repair design for historic structures, including repair and protection systems for aging concrete. He also has extensive experience in vibration testing and monitoring to protect structures from construction-related vibrations, including protecting museums and art objects from vibrations. Mr. Johnson has performed numerous insurance-related investigations involving structural failures, fire damage, wind damage, vibration damage, and foundation settlement. He has also conducted many structural design peer reviews and load-rating studies.

REPRESENTATIVE PROJECTS

Structural Evaluation

- Art Institute of Chicago - IL: Numerous investigations and repair designs for museum buildings
- Soldier Field Stadium - Chicago, IL: Annual structural evaluations since 1990, repair designs and observation, life-cycle cost analysis, and development of repair and protection systems for historic concrete
- Wrigley Field - Chicago, IL: Structural investigation to assess stadium condition and cause of concrete deterioration
- Fenway Park - Boston, MA: Investigation of stadium structure and expansion plans
- Millennium Parking Garage - Chicago, IL: Structural analysis and repair design after construction failure

Repair and Rehabilitation Design/ Historic Structures

- 3rd Avenue Bridge - Minneapolis, MN: Condition assessment, materials evaluation, and rehabilitation design for historic concrete arch bridge

- Franklin Avenue Bridge - Minneapolis, MN: Investigation and rehabilitation design for historic concrete arch bridge over Mississippi River
- 860-880 N. Lake Shore Drive - Chicago, IL: Investigation, structural repair design, and architectural repair consulting for historic apartment towers
- Edgar County Courthouse - Paris, IL: Restoration design for bell tower of historic courthouse

Vibration Control at Museums

- Art Institute of Chicago, Modern Wing Addition and Numerous Other Gallery Renovation Projects - IL: Preconstruction vibration testing, recommendations for protection of building and artwork, vibration testing, and consulting during construction
- Saint Louis Art Museum Expansion - MO: Preconstruction vibration testing, recommendations for protection of building and artwork, consulting and monitoring of vibrations during construction
- Field Museum of Natural History - Chicago, IL: Vibration testing and mitigation design for SUE Gallery
- Birmingham Museum of Art - Birmingham, AL: Preconstruction vibration testing, recommendations for protection of building and artwork, consulting and monitoring of vibrations during adjacent highway construction
- Neue Galerie New York - NY: Vibration testing, recommendations for protection of artwork, and monitoring during interior construction

SELECT PUBLICATIONS

- "Vibration Control During Museum Construction Projects." *Journal of the American Institute for Conservation*, 2013
- "Vibration Limits for Historic Buildings and Art Collections." *APT Bulletin - Journal of Preservation Technology*, 2015
- "The Franklin Avenue Bridge: History, Investigation and Rehabilitation." *ACI's Concrete International*, June 2017
- "Soldier Field Stadium: Corrosion Mitigation for Historic Concrete." *APT Bulletin - Journal of Preservation Technology*, 2004