



## PERSONNEL QUALIFICATIONS

### Richard J. Kristie | Principal



#### EDUCATION

- University of Illinois at Urbana-Champaign
  - Bachelor of Science, Civil Engineering, 1978

#### PRACTICE AREAS

- Fire Damage Investigation
- Steel Plate Shell Structures
- Steel Pole Structures
- Steel Structures
- Wind Damage Investigation
- Wood Structure Investigation and Repair

#### REGISTRATIONS

- Professional Engineer in IL

#### PROFESSIONAL AFFILIATIONS

- American Forest & Paper Association (AF&PA)
- American Society of Civil Engineers (ASCE)
- Forest Products Society (FPS)

#### CONTACT

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#### EXPERIENCE

Since joining WJE in 1985, Richard Kristie has conducted investigations of damaged structures, evaluated existing structures, performed laboratory testing, and prepared repair plans and specifications. He specializes in investigations involving wood structures, wood truss roof systems, steel plate shell structures, steel frame structures with corrosion and welding problems, steel pole structures, and fire-damaged structures.

Mr. Kristie previously worked at the Chicago Bridge and Iron Company, where he performed assignments involving structural design and analysis of storage tanks, pressure vessels, vacuum vessels, offshore structures, and development of structural analysis software.

Mr. Kristie coauthored a paper, titled "Inspection and Repair of Plate-Connected Wood Trusses," which was presented at an International Conference on Timber Engineering. He was lead author of a paper titled "Investigating and Repairing Wood Bowstring Trusses," published in the ASCE's *Practice Periodical on Structural Design and Construction* and coauthored a paper titled "Failure Investigation of 100-Year-Old Timber Roof Truss," presented at the Third Forensic Engineering Congress.

#### REPRESENTATIVE PROJECTS

##### Fire Damage Investigation

- Mid-America Plaza - Oakbrook Terrace, IL: Investigation and repair of post-tensioned concrete parking structure
- Parking Structure - Lake Forest, IL: Investigation of prestressed double-tee beam
- Holy Name Cathedral - Chicago, IL: Wood roof fire damage investigation and repair

##### Steel Plate Shell Structures

- Medusa/CEMEX Cement Plant - Charlevoix, MI: Investigation and repair of collapsed raw mill bypass duct conditioning tower and of weld failures for Stage I outlet duct
- Bay City, MI: Investigation of collapsed molasses tank

##### Steel Pole Structures

- Illinois Department of Transportation: Assessment of 1,200 mast arm traffic signal support assemblies
- Brickyard Mall, Comiskey Park (now Guaranteed Rate Field), and Oak Brook Center - IL: Investigation of failed light poles

##### Steel Structures

- Inland Steel: Investigation and repair of crane structure
- Chicago and Northwestern Line - Chicago, IL: Investigation of riveted steel railroad bridges
- St. Sabina Church - Chicago, IL: Investigation and repair of partially collapsed steel frame and precast concrete panel roof

##### Wind Damage Investigation

- Chicago Park District Davis Square Park - IL: Investigation of wind-damaged timber roof
- South Dade County - FL: Investigation of more than sixty residential structures damaged by Hurricane Andrew

##### Wood Structure Investigation and Repair

- Church of the Holy Communion - St. Peter, MN: Repair design for 130-year-old historic, tornado-damaged church; WJE's timber roof repair received the Best Special Project Award from the Structural Engineers Association of Illinois
- University of Pennsylvania, College Hall - Philadelphia: Design of repairs for one-hundred-year-old timber trusses
- More Than 1,000 Small Retail Buildings: Management of the investigation and repair of plate-connected wood roof trusses
- Holy Name Cathedral - Chicago, IL: Roof and ceiling structure investigation and repair; WJE's wood roof structure repair received the Best Medium Structural Project Award from the Structure Engineers Association of Illinois
- St. James Church - Chicago, IL: Investigation of wood roof structure and masonry supporting walls