



PERSONNEL QUALIFICATIONS

Conrad Paulson | Principal



EDUCATION

- Illinois Institute of Technology
 - Bachelor of Science, Civil Engineering, 1979
- University of Texas, Austin
 - Master of Science, Engineering, 1982

PRACTICE AREAS

- Collapses
- Failure/Damage/Fire Investigations
- Seismic
- Steel Structures
- Historic Preservation
- Research and Testing

REGISTRATIONS

- Civil Engineer in CA
- Professional Engineer in IA, IL, KS, and VA
- Structural Engineer in IL

AWARDS AND HONORS

- American Concrete Institute (ACI), Fellow, elected 2005
- ACI Foundation, Boase Award, 2018
- Association for Preservation Technology International, Anna de Fort-Menares Award, 2014 and Martin E. Weaver Award, 2014

CONTACT

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EXPERIENCE

Conrad Paulson joined WJE in 1982 and has conducted a wide variety of engineering projects. His projects include structural failure investigation, post-earthquake reconnaissance, seismic structural evaluation, investigation and repair of distressed structures, facade investigations, field load testing of structures, and structural laboratory testing. Mr. Paulson is nationally recognized in the fields of historical structural metals and of steel bar reinforcement.

Mr. Paulson is a voting member of American Institute of Steel Construction (AISC) Committee on Specifications, chair of Specification Task Committee TC 7 - Evaluation and Repair (including seismic evaluation and retrofit) which maintains AISC 342 *Seismic Provisions for Existing Structural Steel Buildings*, and Voting Member of TC 8 - Design for Fire Conditions. With the American Concrete Institute, he is a voting member of Committee 318B - Structural Concrete Building Code Reinforcement and Development, of and Committee 318-1R. He is also an associate member of ASCE/SEI 41 - Seismic Rehabilitation. He has published articles and given lectures in the areas of earthquake engineering, structural engineering for historical structural systems, and testing and use of mechanical reinforcing bar splices.

REPRESENTATIVE PROJECTS

Collapses

- The Okonite Company - Santa Maria, CA: Investigation of partial collapse of structural steel roof framing
- Los Angeles County Metropolitan Transportation Authority (Metro) - CA: Construction formwork collapse investigation
- Fort Rucker - AL: Investigation of fatal collapse of manufactured metal building during construction
- City of Chicago, Law Department - IL: Fatal partial structural collapse of multistory masonry building under construction
- Aquascape, Inc. - St. Charles, IL: Investigation of partial collapse of manufactured metal building roof; design structural repairs and reinstatement

- Quad Graphics Printing Plant - Lomira, WI: Structural collapse of automated rack storage warehouse

Failure/Damage/Fire Investigations

- 442 West Ocean Boulevard - Long Beach, CA: Structural investigation of mat foundation slab damaged by severe hydrostatic uplift
- National Institute of Standards and Technology - Gaithersburg, MD: Assessment of structural steel recovered from World Trade Center disaster site
- E.R. Rubin - Philadelphia, PA: Structural investigation of fire damage to thirty-eight-story, steel-framed high-rise building
- Canadian Natural Resources, Ltd. - Fort McKay, AB, Canada: Structural inspection of CNRL Horizons fire-damaged industrial plant
- Cloud County Community College - Concordia, KS: Investigation and design of structural repairs to building constructed without lateral load-resisting system
- U.S. Department of State - Manila, Philippines: Investigation of deteriorated concrete pile foundation system, Chancery Building
- U.S. Department of State - Singapore: Investigation of marble cladding
- Various Insurance Companies - Investigation of fire-damaged residential and commercial structures of various construction types including wood, reinforced concrete, and structural steel

Seismic

- Hesketh-Henry - Auckland, New Zealand: Litigation support for collapse of Canterbury Television Building during 2011 Christchurch earthquake
- 12142 Ventura Boulevard - Los Angeles, CA: Structural assessment, development of retrofit design, and construction period services for nonductile concrete structure
- 4401 Wilshire Boulevard - Los Angeles, CA: Structural assessment and development of retrofit concepts for nonductile concrete structure
- Aloha Stadium - Honolulu, HI: Seismic and wind structural safety review of existing stadium and design of structural upgrades

- U.S. Department of State Facility - San Salvador, El Salvador: Post-earthquake assessments following January 2001 earthquake
- U.S. Department of State Facility - Manila, Philippines: Seismic strengthening design of porte cochère at Chancery Building
- U.S. Department of State Facilities - Seismic evaluation of housing in Bucharest, Romania; Chisinau, Moldova; San Salvador, El Salvador; and Beijing, China

Steel Structures

- Multiple Buildings, Locations, and Clients: Investigation and assessment of steel-framed beam-over-column connections for vulnerability to collapse.
- Multiple Buildings, Locations, and Clients: Assessment of historical steel framing for weldability and structural materials properties for structural design
- The Marquette Building - Chicago, IL: Structural investigation and design for vertical expansion
- Portland High School - Portland, ME: Structural assessment of over 500 conditions of structural irregularities resulting from inappropriate structural renovation construction, including cast iron, wrought iron, historical structural steel, clay tile arches, and load-bearing masonry
- The Rookery - Chicago, IL: Structural investigation of historical structural ferrous metal framing system, clay tile arch floors, and rail grillage foundations

Historic Preservation

- Heceta Head Lighthouse - Florence, OR: Review and assessment of prior repairs to structural cast iron
- Angels Gate Lighthouse - Los Angeles, CA: Restoration of structural steel and replication of architectural cast iron

- 9th Street Office Building, Virginia Capitol Complex - Richmond, VA: Design of protective measures for adjacent historical structures during demolition of multi-story building
- The Marquette Building - Chicago, IL: Structural design and materials consulting for replicated cornice; comprehensive restoration of masonry facade and wood windows
- San Jacinto Monument - Deer Park, TX: Investigation, emergency stabilization, repair program development, and design document preparation for restoration of limestone facade
- Museum of Westward Expansion at the Jefferson National Expansion Memorial - St. Louis, MO: Structural analysis and development of repairs for reinforced-concrete underground structure

Research and Testing

- Various Manufacturers: Acceptance testing of reinforcing bar mechanical splices according to various criteria; directed tests on more than 8,000 samples
- National Cooperative Highway Research Program: Project 10 35, Fatigue Behavior of Welded and Mechanical Splices in Reinforcing Steel
- Charles Pankow Foundation: Study of yield determination methods and development of proposed standard specification for ductile, high-strength reinforcing bars

BUILDING CODE TECHNICAL COMMITTEES

Mr. Paulson is a voting member of the following building code committees unless noted otherwise:

- ACI318-OR - Structural Concrete Building Code: Subcommittee - High Strength Reinforcement (disbanded)
- ACI318-1R - Structural Concrete Building Code: Resolution of Anchorage and Development Provisions
- ACI318-B - Structural Concrete Building Code: Subcommittee - Reinforcement and Development
- ACI 369 - Seismic Repair and Rehabilitation
- ACI 562 - Evaluation, Repair, and Rehabilitation of Concrete Buildings, voting subcommittee member

- AISC COS - Committee on Specifications; committee maintains AISC 360 *Specification for Structural Steel Buildings* and AISC 342 *Seismic Provisions for Structural Steel Buildings*
- AISC TC 7, chair - Structural Steel Specifications Committee: Task Committee - Evaluation and Repair (includes seismic evaluation and repair); committee maintains AISC 342 *Seismic Provisions for Evaluation and Retrofit of Existing Structural Steel Buildings*
- AISC TC 8 - Structural Steel Specifications Committee: Task Committee - Design for Fire Conditions
- ASCE/SEI 41 - Standards Committee - Seismic Rehabilitation, associate

OTHER TECHNICAL COMMITTEES

- ACI 215 - Fatigue of Concrete, former chair
- ACI 439 - Steel Reinforcement, former chair
- CRSI Reinforcement Anchorages and Splices
- CRSI Materials Properties and Bar Producers
- SEAOSC Non-Ductile Concrete Design Guide Task Group: Listed author of *SEAOSC Design Guide No. 1 - City of Los Angeles Mandatory Earthquake Hazard Reduction in Existing Non-Ductile Concrete Buildings (NDC)*

SELECTED PUBLICATIONS

- C. Paulson, "Modern Strength Assessment of Historical Structural Metals," *APT Bulletin*, Vol. 44, No. 4, 2013
- Paulson, Conrad, Raymond H.R. Tide, and Donald F. Meinheit, "Modern Techniques for Determining the Capacity of Cast Iron Columns", *Standards for Preservation and Rehabilitation*, ASTM STP 1258, S.J. Kelley, ed., American Society for Testing and Materials, Philadelphia, PA, 1996, pp. 186-200.

PROFESSIONAL AFFILIATIONS

- American Concrete Institute (ACI)
- American Institute of Steel Construction (AISC)
- American Society of Civil Engineers (ASCE)
- Concrete Reinforcing Steel Institute (CRSI)
- Structural Engineers Association of California and of Southern California (SEAOC and SEAOSC)