



HALLIWELL

JAREN TOLMAN, P.E., M.B.A.

REGIONAL DIRECTOR, ENGINEERING SERVICES
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SPECIALTIES

- Residential and Commercial Roofing and Cladding
- Building Envelope Evaluation and Research
- Foundation Assessments
- Commercial and Low-Slope Roof System Failures
- Fire Damage Assessments
- Repair Scopes
- Wildfire Structure Evaluation
- Storm Damage Evaluation – hail, wind, snow.
- Vehicle/Treefall impacts
- Construction Defect/Expert Witness Testimony
- Slip/Trip/Fall Evaluation
- Construction Site Safety/Accidents
- Appraisal/Umpire Resolutions
- Historic Building Materials and Methods
- Flood Evaluations

BIOGRAPHY

Jaren is a licensed Professional Engineer in multiple states with over 16 years of experience in forensic engineering, damage assessment, litigation support, engineering management, and leadership. His professional services include damage assessments, root cause analysis, scope of repairs determination, code requirement reviews, litigation support, manufacturing defect analysis, and construction defect analysis for insurance companies, attorneys, and private parties. He specializes in roofing and building envelope assessments and provides assessments for building envelope failure analysis, moisture intrusion determination, damage assessments, scope of repairs, collapse analysis, etc. across multiple building types including residential, multi-family, commercial, and industrial structures.

Jaren has prior experience in the engineered wood industry as the engineer responsible for a structural analysis tool for design of wood elements of a structure. He also developed an inspection program that included foundation, frame, roof, and other inspections for local jurisdictions and clients. The program included negotiating contracts and working with local jurisdiction officials for changes, repairs, or other assistance during the construction of residential homes in Colorado. Parallel to this work, he also provided warranty assistance evaluations for regional and national home builders.

Jaren's experience includes mentoring younger engineers and providing training across the industry for colleagues and clients nationwide.

QUALIFICATIONS

M.B.A., emphasis in Construction Management, University of Denver, Honors Graduate
B.S. in Civil Engineering, Structural Concentration, Idaho State University

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INDUSTRY CERTIFICATIONS, LICENSES AND MEMBERSHIPS

- Licensed Professional Engineer in 47 states plus District of Columbia
- Listed on NCEES International Registry and Model Law
- American Wood Council, Member
- American Society of Civil Engineers, Member

PROFESSIONAL EXPERIENCE

- Halliwell, Assistant Director, Civil/Structural Engineering Services
- Keystone Experts & Engineers, Director of Engineering
- Felten Group, Inc., Vice President of Forensics
- ProNet Group, Inc., Regional Director of Engineering
- Western Engineering & Research Corporation, Vice President
- Weyerhaeuser Corporation/OptiFrame, LLC, Staff Engineer
- Boise Cascade, Staff Engineer/Product Manager

REPRESENTATIVE ASSIGNMENTS

Storm Damage Assessment

Wind Damage | Arlington Baptist College, Arlington, TX

Inspected and determined root cause of roof displacement of the girl's dormitory structure during a wind event and evaluated alleged wind damage to the gymnasium building. Included coordination with building officials and college administration for temporary repairs and development of enhanced construction methods to prevent future failures of a similar nature.

Tornado Damage | Several Residences, Moore and El Reno, OK

Inspected and evaluated several homes for tornado damage from two of the most severe tornadoes on record. Range of damage included minor envelope damage to complete displacement of the residence. Worked with local building officials on repair scopes and feasibility of re-use of foundation or remnants of severely damaged structures.

Wind Damage | Church Building, Clovis, NM

Evaluated a church building for damage from wind. Roofing surfaces included historical shingles (asbestos-style) on steep slopes and EPDM roof coverings on flat roof areas.

Frozen Water Line Study | Commerce City, CO

Evaluated cause of a frozen pipe burst for a builder. Analysis included review of plans and specifications and recommendations for re-routing of plumbing lines for a recurring failure.

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Snow Load Collapse | Waste Treatment Plant, Newcastle, CO

Evaluation of a proprietary dome structure over a treatment pond at wastewater treatment plant. Analysis included thrust-force evaluation and review of plans and Change Orders.

Avalanche Evaluation | Taos Ski Area, NM

Evaluated a residence that was damaged by an avalanche and worked with building officials and avalanche experts. Post-avalanche, the local hazard zone was remapped to include the subject residence and worked with local officials, homeowner, and insurance professionals to determine a plan forward for the residence.

Hurricane Sandy | New Jersey and New York

Evaluated multiple commercial buildings for failures related to wind and flood and provided determination of cause of failures within the buildings. Provided determination of beach-front stair failure regarding wave v. wind action. Analyzed failure of multiple residential basements for failures relative to the flooding during this event.

Hurricane Isaac | New Orleans, LA

Evaluated several residences that had experienced both wind and flood damage resulting from the storm. Evaluations included determination of wind force damage, flood damage, and other damage – and provided repair recommendations for structures including those required to be lifted to meet new flood criteria.

Explosions and Construction Vibration

Fertilizer Plant Explosion | West, TX

Evaluated several buildings, both commercial and residential, resulting from an explosion at a fertilizer plant. Structures evaluated included a mechanic shop, dilapidated barn structure, residence, and bakery for various levels of reported damage.

Residential Vibration Study | Los Alamos, NM

Evaluated two residences for alleged damage from construction in the Right-of-Way and on an adjacent lot. Analysis included crack propagation and origination evaluation, proximity to source study, and age of damage evaluation.

Construction Defect Evaluation

Prairie Meadows | Centennial, CO

Responded to alleged defects related to roof installation, decks over garages, and interior floor performance issues for a site that included approximately 30 multi-family buildings.

Scrape and Rebuild of Rowhome | Philadelphia, PA

Evaluation of a residence that was a row-style home (shared common wall) that had been scraped and rebuilt. Defects included water intrusion through multiple sources including the roof and wall surfaces.

LEED-certified structure | Avon, CO

Evaluation of alleged defects in construction related to a curved-roof building with vegetative roofing

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and LEED-certified structural elements. Evaluation included concrete parking garage, waterproofing elements of large deck areas, and roof elements.

Construction Failure Analysis

Frozen Foundation Concrete | Lafayette, CO

Concrete had been placed during inclement weather and the water in the mix had frozen during the first few hours of curing, compromising the structural integrity of the concrete. Scope of work included recommendations to lift the existing structure, replace the concrete underneath, and lower the residence back onto the foundation.

Structural Failure Analysis

Foundation Wall Collapse | Butte, MT

Historical home experienced collapse of a historical foundation system. Evaluation included cause of failure and proposed repair methods for stacked stone foundation system.

Toppled Construction Equipment | Copper, CO

Earth-moving equipment slid off of a road and impacted a foundation that was under construction adjacent to the Copper Basin ski resort. Worked with the Engineer-of-Record, builder, and local building authorities to provide analysis and repair recommendations for the damage.

Research and Testing

Homebuilder – Conditioned Attic Spaces | Colorado and Arizona

Researched and ran years-long study regarding a phenomenon in certain climates that resulted in trusses lifting off interior walls in winter months only. Designed temporary repairs and researched the root cause of the condition and provided recommendations to the builder and subcontractors.

Larimer County Fairgrounds Building | Loveland, CO

Developed and implemented a protocol to load-test a building to failure while observers were located inside the building. Coordinated work with mechanical, structural, and electrical engineers as well as overseeing the testing and data collection during the failure test.

Design and Design Support

Studio Shed | New York

Engineer-of-Record for design of detached, permanent structures for 'she-shed' type structures in New York.

Engineered Wood Design | Nationwide and International

Served as the Subject Matter Expert (SME) for engineered wood design software, including design of trusses, I-joists, Parallam, Glulam, Laminated Veneer Lumber (LVL). Worked to incorporate design standards from the US, Japan, UK, and Australia into the software and tested the output for accuracy.

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RECENT SPEAKING ENGAGEMENTS

- *Residential Roofing: Hail and Wind Evaluations*; National Adjusters Open Training, various dates 2020-present
- *Evaluation of Flood-Related Damage to Buildings*; Administrative Strategies National Flood Conference, 2021
- *Determining Wind v. Storm Surge Damage to Buildings*; National Adjusters Open Training (Keystone), various dates 2020-present
- *How to Ethically Select an Engineer*; Multiple conferences, various dates 2020-present
- *Forensic Engineering, Inspection Failures, Building Code Updates, Engineering Design, etc.*; Arizona Board of Building Officials (AZBO), various Spring and Fall Sessions 2017-2019