Jason Hirschi, P.E.| Forensic Engineer

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Professional Summary:

Mr. Jason Hirschi is a licensed professional engineer in multiple jurisdictions throughout the United States. He has 13 years of experience as both a structural design engineer and a forensic engineer. His design background includes wood, steel, and concrete framed structures such as hotels, condominium buildings, retail facilities, and large multi-story mixed-use commercial projects. With origins in design engineering, he brings a strong understanding of structural behavior to his forensic practice, allowing him to effectively evaluate existing buildings for deficiencies and failures. Mr. Hirschi frequently evaluates residential, multi-family, commercial, and industrial structures.

Mr. Hirschi regularly practices engineering in regions with varying climate zones and varying design considerations. He is knowledgeable with the latest building codes, construction techniques, non-destructive testing methods and many other aspects of forensic engineering. He is experienced in conducting investigations involving a wide range of environmental, structural, and construction-related failure mechanisms.

Mr. Hirschi's expertise includes:

- Structural collapse origin-and-cause analysis
- Evaluation of structures damaged due to vehicle impacts
- Evaluation of flood-damaged structures
- Water intrusion investigations
- Evaluation of structural members exposed to fire and heat
- Evaluation of structures damaged due to snow, wind, and impact loads
- Cold-formed steel design and evaluation
- Post-event condition assessments (hail, hurricane, derecho, tornado, wildfire, earthquake)
- Foundation distress and settlement evaluations
- Structural vibration, deflection, and serviceability assessments
- Analysis of construction defects, workmanship issues, and material failures
- Assessment of code-compliance concerns and load-path discontinuities
- Hail damage evaluation for roofs, siding, and exterior cladding
- Evaluation of structural damage due to differential movement or soil issues
- Use of non-destructive testing tools (thermal imaging, moisture meters, borescopes)

Licenses and Certifications:

Professional Engineer (Additional states available upon application):

Colorado, PE.0061856
Florida, PE 95573
Idaho, P-16944
Illinois, 062.078307
Louisiana, PE.0046580
Minnesota, 59143
Missouri, 2025040283
Nebraska, E-21885
North Dakota, PE-29465
South Dakota, 15601
Utah, 9846133-2202
Wisconsin, E-48391-6

Licenses and Certifications (Continued):

National Council of Examiners for Engineering and Surveying Registration, NCEES, 12-721-05.

FAA Part 107 Small Unmanned Aircraft Systems (sUAS) Remote Pilot Certification

Level 1 Roof Specific Rope Access Certified – Authorized Person

Project Experience:

The sample projects here outline a small sampling of the types of projects and losses Mr. Hirschi regularly investigates. For further information or additional examples, please contact EFI Global.

Structural Engineering Design
Mr. Hirschi has been the lead design engineer for many different types of structures. Sample projects include:

Evora, Las Vegas, NV – Lead a team in the structural analysis and design of a 38-acre mixed-use development with over 200,000 square feet of Class A commercial space, retail, office and 1300 residential units.

Sunset Theater, Lodi, CA – Performed structural design and analysis for the renovations of a historic local theater. The project involved the structural design of remodeling and upgrading the theater after falling into disrepair from unoccupancy for many years. The design included adding a mezzanine level, and a two-level addition.

TREAT IT Upgrade, Idaho National Laboratory, Idaho – Performed structural design and seismic analysis for an elevated IT server rack system supporting the reactivation of the TREAT nuclear reactor. Designed the rack and its support framing to integrate with the raised floor system while meeting nuclear facility requirements. Completed seismic qualification in accordance with ASCE 43 to ensure compliance with stringent performance criteria.

Forensic Structural Engineering
Mr. Hirschi has performed forensic engineering investigations for a variety of structural related failures due to weather conditions and construction errors/omissions. Sample projects include:

Parking Garage Fire, Monona, WI – Performed a structural assessment of a parking garage following a vehicle fire that caused heat-related damage to concrete slabs and a steel beam. Evaluated spalling, delamination, and beam deflection through visual inspection and sounding methods. Provided engineering findings and recommendations for replacement of damaged precast slabs and repair or replacement of the affected steel beam.

Bulging Gable End Wall, Minocqua, WI – Performed a forensic engineering assessment of a commercial building after snow-related distress caused the west gable wall to bulge outward. Conducted an attic inspection and documented widespread buckling of truss top chords, separation of the gable truss, and missing permanent bracing within the truss system, including at the piggyback truss system.

Project Experience (Continued):

X-Ray Room Collapse, Tomahawk, WI – Performed a forensic engineering investigation into the collapse of multi-wythe CMU walls during construction of a radiation-shielded x-ray room. Conducted on-site documentation of collapsed wythes, reviewed construction drawings, and evaluated reinforcement, grouting, and sand-infill sequencing relative to lateral load resistance.

Settlement of Hillside Dwelling, Eden, UT – Performed a forensic engineering assessment to determine the cause of extensive settlement, cracking, and structural movement in a 1971 hillside home after remarkable snow falls. Evaluated site conditions, foundation distress, previous underpinning, snow-load evidence, and NOAA/NOHRSC snow-water-equivalent data showing record-level snow loads exceeding design values.

Construction Defects

Mr. Hirschi has evaluated many types of buildings in the process of construction or after construction has been completed for defects that have resulted in structural failure, water infiltration and other damages. Sample projects include:

Parking Garage Double Tee Collapse, Appleton, WI – Performed a structural investigation into the collapse of two precast double-tee members during construction of a parking-garage. Conducted a detailed site assessment, reviewed erection drawings, and evaluated bearing conditions, bracing alignment, and member plumbness to determine the cause of failure.

Truss Collapse, Greenleaf, WI – Conducted an engineering investigation into the collapse of long-span wood roof trusses during construction of a dairy facility. Reviewed construction documents, truss submittals, owner-provided photos, and site conditions to evaluate bracing adequacy, anchorage, and wind effects.

Exterior Sheathing Delamination at Hospital, Cumberland, WI – Performed engineering assessment to determine the cause of widespread deterioration and delamination of exterior DensGlass sheathing on a medical facility under construction. Conducted site inspections, moisture testing, and document review to evaluate installation conditions, temporary heating practices, and environmental factors contributing to condensation within the sheathing.

Egg Harbor Lift Station, Egg Harbor, WI – Conducted an engineering assessment after groundwater intruded into freshly placed concrete for a 26-foot-deep lift station mat foundation. Reviewed site conditions, placement sequencing, mud-mat behavior, and third-party non-destructive testing to evaluate the cause and extent of water infiltration, as well as the impact to the quality of the concrete.

Concrete Sport Court with Staining, River Falls, WI – Performed a forensic engineering assessment to evaluate lacquer overspray staining on a newly constructed indoor sport-court concrete slab. Reviewed site conditions, product data, and contractor reports, confirming that catalyzed lacquer had chemically cross-linked and become solvent-resistant, necessitating mechanical surface removal rather than chemical cleaning.

Project Experience (Continued):

Building Envelope and Water Intrusion

Mr. Hirschi has evaluated many types of building construction, cladding systems and roofing systems for the cause and source of water intrusion. In addition to a visual assessment, nondestructive testing (NDT) has been used, which includes moisture meters, infrared thermography and others. Sample projects include:

Condominium Rotted Roof, Ashwaubenon, WI – Conducted a forensic engineering assessment to determine the cause of widespread biological growth, soft roof sheathing, and interior moisture complaints in a six-story apartment building. Observed and documented multiple roof cuts, reviewed construction documents, and evaluated insulation placement, ventilation, and dew-point behavior, identifying long-term condensation due to improper roof assembly construction, missing insulation, and a deviation from the specified warm-roof design.

High Rise Water Intrusion, Rochester, MN – Conducted a forensic engineering assessment of water intrusion affecting levels 20–26 of a 29-story concrete-framed hotel following a reported wind and rain event. Performed on-site inspections of penthouse units, exterior fenestration, cold-formed steel framing, and weather data, investigated whether long-term window and façade deterioration or storm-created openings and wind damage were responsible for the moisture infiltration.

School Flashing Water Intrusion, Saint Cloud, MN – Participated in a joint forensic investigation to determine the source of persistent water leaks at a school building's roof-to-wall transitions. Assisted in water-spray testing, inspected exposed EIFS and roof-termination details, and evaluated prior modifications to the flashing system, ultimately identifying leakage behind a post-installed flashing and roof-termination bar as the primary intrusion path.

Catastrophe Response

Mr. Hirschi has responded to and inspected residential and commercial buildings that have been damaged as a result of catastrophe events. Sample catastrophes include:

Wisconsin Tornados (May 2025), Mayville, WI – Evaluated over 10 structures for damages related to the tornados, including fallen concrete tilt-up panels.

Hurricane Helene & Milton (2024), Tampa Bay, FL – Evaluated more than 10 properties in Florida (residential and commercial) for wind related damage and structural damage as a result of the storm. Homes along the gulf coast were also evaluated for damage attributable to the storm surge vs. damage attributable to the high velocity wind.

Hurricane Ian (2022), Fort Meyers, FL – Performed over 20 inspections in Florida of homes and buildings affected by the Category 5 Hurricane. Structural evaluations included structures along the Florida coastline with direct exposure to the storm.

Professional Experience:

EFI Global, Forensic Engineer, 2021 – present

Engineering System Solutions, Project Engineer, 2017 – 2021

Walsh Engineering Services, Structural Designer, 2015 –2017

Ensign Engineering, E.I.T., 2013 – 2013

Formal Education:

Master of Science, Civil Engineering, Brigham Young University, Provo, Utah, 2013.

Bachelor of Science, Civil Engineering, Brigham Young University, Provo, Utah, 2011.

Affiliations:

Member, American Society of Civil Engineers

Member, National Roofing Contractors Association