

Jeffrey Perrin, PE

Forensic Engineering Expertise

Structural Analysis/Design

Review appropriate documents including project plans and specifications as it relates to the building structure for purposes of failure analysis and extent of resulting damages. In addition, being a licensed professional engineer, replacement designs are provided upon request. Examples of past work includes various building components (windows, doors, glass, roofing, and exterior/interior cladding) as well as damage assessment of building structures after a fire, high wind speed event, snow overload, vehicle impact, and tree impact.

Origin & Cause

Determine the source and responsible party or element related to the failure of a structural or architectural element, or water damage in a building. Examples of past work include failure of roofing and wall cladding causing moisture entry, humidity, and condensation related losses.

Building Fenestration/Building Envelope

The building envelope is a building's first line of defense to moisture entry. Identifying the type of system (single versus multiple barrier) and how the various adjoining materials' water and air barriers connect is key to effective moisture management. Examples of past work include residential window installations, and roofing materials and installation.

Building Pathology/Construction Defects

The building pathologist relies on an in-depth knowledge of building design, construction, use, and changes as well as assessing the environment of use and the materials and how these interrelate to systematically identify, investigate and diagnose defects in a building.

Inspection and Evaluation of Roofing Systems

This includes steep and low slopes roofs as well as various types of roofing materials including both common and unique roofing applications. Past work involved offering opinions and repairs related to installation deficiencies and storm-related damages including for hail and wind.

Construction Accidents

Determination of circumstances resulting in an accident. In-depth knowledge of the construction contracting process and the building codes is often the deciding factor in determination of cause and responsibility. Examples of past work include collapse of structures while under construction.

Qualifications & Training

- Western Red Cedar: Grading and Inspections, IIBEC Spring Conference, March 2024
- Tour: Department of Agriculture Forest Products Laboratory, IIBEC Spring Conference, March 2024
- Water & Wood in Mass Timber, IIBEC Spring Conference, March 2024
- Mass Timber for the Masses, IIBEC Spring Conference, March 2024
- Introduction to Timber Curtainwalls, IIBEC Spring Conference, March 2024

- Wood Roofing and Wood Framing: Wood in Today's Building Enclosure Industry Discussion Panel, IIBEC Spring Conference, March 2024
- Complying with the IEBC, UW Madison, November 2023
- Ethics Workshop – Do Designers Have a Responsibility to Future Proof our Designs? UW, July 2023
- Metal Era Plant Tour, IIBEC, March 2023
- Metal Roofing Systems, UW, April 2022
- Water Entry Prevention and Moisture Control in Buildings, UW, April 2022
- Roof System Thermal and Moisture Design, IIBEC, February 2022
- Roof Drainage Design, IIBEC, February 2022
- Plaza Deck Waterproofing Design Approaches – From Traditional to Modern, IIBEC, December 2021
- Structural Engineering for Walt Disney Imagineering, SEA WI Fall Conference, December 2021
- Nail Laminated Timber Design, SEA WI Fall Conference, December 2021
- Checklist for Structural Masonry Design, SEA WI Spring Conference, May 2021
- Post Tensioned Concrete Structures, SEA WI Spring Conference, May 2021
- American Family Amphitheater – 300 Ton Steel Roof raising, SEA WI Spring Conference, May 2021
- Ethics – Workplace Strategies for Ethical Challenges, SEA WI Spring Conference, May 2021
- Erection Engineering, SEA WI Spring Conference, May 2021
- 2012 Wood Frame Construction Manual – Wind Load Distribution on Buildings – Load Paths, February 2021
- 2012 Wood Frame Construction Manual – Connections, February 2021
- 2012 Wood Frame Construction Manual – Foundation Design to Resist Flood Loads and Wind Loads, February 2021
- 2012 Wood Frame Construction Manual – Wind Speed and Design Pressure Determination, February 2021
- Credibility and Persuasion, NAFE Virtual Summer Conference, September 2020
- Daubert Hearing, NAFE Virtual Summer Conference, September 2020
- Video Depositions, NAFE Virtual Summer Conference, September 2020
- Introduction to Forensic Engineering, NAFE Virtual Summer Conference, August 2020
- Depositions and Court Testimony, NAFE Virtual Summer Conference, August 2020
- Structure Building Condition Surveys: Looking for Trouble, Webinar, March 2020
- Moline North Slope Treatment Plant Structural Design technical presentation, Spring 2019
- Ethics: Doing What's Right and Knowing Why presentation, Spring 2019
- AISC Steel Solutions Center FAQs presentation, Spring 2018
- The Milwaukee City Hall Foundation Renovations presentation, Spring 2019
- Woodworks Mass Timber Products and Applications presentation, Spring 2018
- AISC Steel Solutions Center Specifying Camber presentation, Spring 2018
- The Couture Structural Design presentation, Spring 2018
- OSHA 30 Hour Certification, 2009

Education

Bachelor of Science – Civil Engineering
University of Wisconsin Platteville
May 2015

Bachelor of Science – Building Construction Management
University of Wisconsin Platteville
May 2009

Licenses & Certifications

PE - Professional Engineer

Licensed by the State of Wisconsin - Number 47236

Licensed by the State of Iowa – Number P26624

Licensed by the State of Michigan – Number 6201309715

Licensed by the State of Minnesota – Number 59154

Employment History

Forensic Engineer

Nederveld, Inc.

2019 - Present

Duties include forensic engineering analysis relating to building pathology, structural damage due to fire, structural damage from vehicle impacts, storm damage (wind, snow, hail), seismic, and water loss events, calculations, and plan of repair design.

Structural Engineer II

raSmith, Madison, WI

2016 - 2019

Design engineer on various new buildings, additions, and alterations. Design steel, masonry, wood, and concrete components on a regular basis. Prepare calculation packages for agency review and approval.

Structural Engineer I

Iconica, Madison, WI

2015 – 2016

Prepared structural calculation packages for agency review and approval. Created Structural construction documents using Autocad and Revit. Reviewed shop drawings from steel, wood, and precast concrete fabricators.

Structural Draftsman

Delta 3 Engineering, Platteville, WI

2014 – 2015

Created architectural, structural, electrical, and mechanical drawings using Autocad. Modeled proposed facilities for clients using Revit. Inspected a variety of buildings to obtain structural data before and during construction.

Foreman

Newcomb Construction, Madison, WI

2010 – 2014

Superintendent during construction of a \$2 million manufacturing facility in Brookshire, TX. Superintendent during construction of a \$1.5 million manufacturing facility in Wooster, OH. Managed a small crew on tilt-up construction projects in the Madison area.

Professional Affiliations

Member: SEA Wisconsin, former SW Regional Director

Member: Chi Epsilon Civil Engineering Society

Member: Tau Beta Pi Engineering Honor Society