

Wesley A. Gerbick, 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, replacement designs are provided upon request. Examples of past work includes failure analysis of collapsed structures, and various building components as well as damage assessment of building structures after a fire.

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 and groundwater entry, including expert witness testimony related to the aforementioned items.

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 storefront window exams, residential window installations, exterior cladding specification and installation 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. Past work includes design and specification of repairs as an owner's representative and expert witness testimony related to the aforementioned items.

Inspection and Evaluation of Roofing Systems

This includes steep and low slope 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.

Qualifications & Training

- Exterior Wall Quality Assurance, IIBEC, August 2024
- Durable Construction with Preservative-Treated Wood, American Wood Council, December 2023
- Climbing the Ascent, Approval for Tall Mass Timber, American Wood Council, December 2023
- UNT Walkway Safety Certification Course, University of North Texas, December 2023
- Professionalism and Ethics in the Practice of Engineering, Indiana Society of Professional Engineers, July 2022
- Repair of Concrete, University of Wisconsin, April 2022
- 2018 IEBC: An Introduction, SK Ghosh Online, December 2021

- Ever-Changing Structural Provisions of Our Building Codes: Wind, SK Ghosh Online, December 2021
- 2021 IEBC – Structural Provisions, SK Ghosh Online, December 2021
- What Can Structural Engineers Do to Address the Problem to Floor Vibrations? SK Ghosh Online, December 2021
- A Structural Overview of Mass Timber Products and Code Provisions, SK Ghosh Online, December 2021
- Challenges Facing the Expert Consultant/Witness, SK Ghosh Online, December 2021
- An Overview of the Significant Changes in the 2018 IBC, SK Ghosh Online, December 2021
- Complying with the IEBC, University of Wisconsin Online, December 2020
- Roofing Basics, RCI Online, January 2019
- Roofing Technology and Science, Parts 1 & 2, RCI Online, January 2019
- 2018 IRC Essentials, ICC-ES Online, January 2019
- Legal Aspects of Code Administration, ICC-ES Online, January 2019
- Roof Technology, Maintenance, and Inspection Training
- Water Entry Prevention and Moisture Control in Buildings-Roofing Systems, Exterior Walls, Plaza Decks, Below-Grade Waterproofing, Seminar by University of Wisconsin at Madison, Madison, WI, August 2017
- 2015 IRC Essentials – Building Finishes, Protection, Utilities, Energy Conservation and Hazards International Code Council, Inc, October 2016
- Structural Design Topics in Wood Construction, Virginia Tech, May 2016
 - Permanent Truss Bracing Design Basics and Design of Floor Joists and Girders to Mitigate Floor Vibration Problems
 - Lateral Loading of Decks Due to Occupants and Design Considerations
 - Cross-Laminated Timber (CLT) - Applications, Availability, and Design
 - Wood Truss Repair Design Techniques
 - Post-Frame Building Design and Diaphragm/Shear Wall Test
 - Diaphragm and Shear Wall Design
 - Design Considerations for Preventing Flat Roof Failures from Gravity of Sustained Live Loads
 - Multiple-Bolt Wood Construction Design
 - Glulam Beam Design
 - Design of Multi-Ply Residential Girders & Headers
 - Fire - Design Tools for Code-Conforming Wood Construction
 - Reliability Considerations for Wood-Frame Multi-Family Balconies
 - Wood Shrinkage Issues in Design & Construction
- Engineering Investigations of Hurricane Damage: Wind versus Water (7089W2016), ASCE, February 2016
- Building Sciences 1-4, Indoor Air Quality Association, November 2015
- IAQU 108, Indoor Air Quality Association, November 2015
- IAQU 107-Handling IAQ Complaints, Indoor Air Quality Association, November 2015
- C204Da - Grouting Concrete Masonry Assemblies, National Concrete Masonry Association, September 2015
- C205Da - Crack Control, National Concrete Masonry Association, September 2015
- C104Da - Concrete Masonry Overview, National Concrete Masonry Association, September 2015
- C103Da - Introduction to Concrete Masonry Production, National Concrete Masonry Association, September 2015
- Structural Engineers of Ohio Annual Conference, September 2015
- Roof System Thermal & Moisture Design for Non-members, RCI, Inc, August 2015
- Specialty Treatments for Wood, PDH Engineer, March 2015
- Structural Engineers of Ohio Annual Conference, September 2014

- Tips for Improving the Constructability of Cast in Place Concrete Structures
- Structural Modifications to Existing Masonry Structures
- What We Learned from the Indiana State Fair Collapse Incident
- Lessons from Failures for Structural Engineers
- Engineered Wood Beams - Spanning the Distance
- Rehabilitation of the Historic Anthony Wayne Bridge in Toledo, OH
- S254 - The Structural Evaluation of Existing Buildings, PDH Online, June 2014
- Structural Engineers of Ohio Annual Conference, September 2013
 - Tips for Optimizing Structural Masonry
 - I-Codes Structural Provisions for Existing Buildings: IBC Chapter 34 and IEBC
 - Use of High-Performance Fiber Reinforced Concrete in Shear Wall Couple Beams
 - Overview and Format of the ACI Code 318-14
 - Evaluation of Fire-Exposed Structural Members
- Structural Engineers of Ohio Annual Conference, September 2012
 - Ethics: A Practical Guide for the Practicing Engineer
 - Truss Responsibilities when Registered Design Professional Mandated per ANSI/TPI 1-2007 and the 2009 IBC
 - Permanent Truss Bracing Design Basics and Design of Floor Joists and Girders to Mitigate Floor Vibration Problems
 - Erection Engineering: The Science Behind the Art
 - Micro-Origins of Macro-Properties: Curing, Cracking, Shrinkage, and Creep of Concrete
 - Specifying Concreting for Cold and Hot Weather, Freeze-Thaw and Scaling Resistance
 - Forensic Engineering on Silverdome Stage Collapse
- Structural Engineers of Ohio Annual Conference, September 2011
 - Code-Required Masonry Observation and Inspection
 - Masonry Specification of Engineers
 - ASCE 7-10 Snow Provisions: What's New & Different
 - Blast Design
 - Progressive Collapse
 - The 10 Commandments of Communicating Connection Design
 - High Wind Design
- Introduction to Structural Insulated Panels (SIPs), PDHonline, September 2011
- Green Roof Design and Construction, HalfMoon LLC, October 2010
- Lumber Stress Grades and Design Properties, Professionals Publishing Group, March 2010
- Wood Design: Design Loads 3 - Seismic Forces, Red Vector, June 2009
- A Comparison of Seismic Design Methods, Red Vector, December 2008
- 2009 IBC Simplified Wind Design Provisions, SKG, December 2008
- Transitioning from the 2003 to 2006 IBC, Structural Provisions, SCI, April 2007
- 2006 IBC Structural Highlights, SCI, June 2006
- Wood Design Seminar, AWC165, AF&PA, February 2006
- ASCE 7-05 Snow Load, ASCE, November 2005
- Wind Design Using the IBC and ASCE7, SEAI, April 2005

Education

Bachelor of Science in Civil Engineering
 Ohio University, Athens, OH
 June 2000

Licenses & Certifications

PE - Professional Engineer

Licensed by the State of Arizona - Number 49766
Licensed by the State of Arkansas - Number 15536
Licensed by the State of California - Number 73474
Licensed by the State of Colorado - Number PE-43089
Licensed by the State of Florida - Number 69626
Licensed by the State of Georgia - Number PE036716
Licensed by the State of Illinois - Number 062-061585
Licensed by the State of Indiana - Number PE10910526
Licensed by the State of Kansas - Number 22915
Licensed by the State of Kentucky - Number 29275
Licensed by the State of Maryland - Number 41267
Licensed by the State of Michigan - Number 6201058873
Licensed by the State of Missouri - Number PE-2009015438
Licensed by the State of Nevada - Number 017598
Licensed by the State of New Jersey - Number GE048171
Licensed by the State of New York - Number 092169-1
Licensed by the State of North Carolina - Number 035474
Licensed by the State of Ohio - Number PE.69902
Licensed by the State of Oklahoma - Number 23873
Licensed by the State of Pennsylvania - Number PE076757
Licensed by the State of Tennessee - Number 00116420
Licensed by the State of Texas - Number 103009
Licensed by the State of Utah - Number 7344035-2202
Licensed by the State of Virginia - Number 046196
Licensed by the State of Washington - Number 45662
Licensed by the State of West Virginia - Number 20159

HAAG – Certified Residential Roof Inspector (2015) – not renewed

REWO – Registered Exterior Wall Observer

Certified by IIBEC, Inc. – Registration Number 0136

Employment History

Forensic Engineer

Nederveld, Inc.

2015 - Present

Duties include forensic analysis relating to building pathology issues, fire loss damage, storm damage (wind, snow, hail, seismic), and water loss events.

Design Center Leader

RedBuilt, Delaware, OH

2009 - 2015

Duties included supervision of design center team, oversight of designs and materials lists, leading initiatives to increase productivity, coordinating work to meet deadlines, field support for structural performance issues.

Design Center Leader, Professional Engineer, Prototype Engineer, Engineer Intern

Weyerhaeuser, Columbus, OH/Boise, ID

2000 - 2009

Duties included supervision of design center team, oversight of designs and materials lists, leading initiatives to increase productivity, coordinating work to meet deadlines,

field support for structural performance issues, managing development of new products, creating detailed technical reports, developing internal and external training for proprietary design software, coordinating updates and revisions to internal design software, writing and managing material test plans, providing value engineered roof systems for light commercial structures.

Expert Witness Experience

Courtroom Testimony

September 2018

Nick Fankhauser, et al v. Merlen W. Rude, et al

Expert Witness for Merlen W. Rude on behalf of Bruns, Connell, Vollmar & Armstrong, LLC

Butler County Ohio Court of Common Pleas Case No. CV 2017-05-1141

Depositions

March 2024

Nantucket Landing South Condominium Association vs State Farm Fire and Casualty

Expert Witness for Gallagher, Gams, Tallan, Barnes & Littrell LLP

United States District Court, Southern District of Ohio, Western Division, Case No. 3:23-cv-00161

March 2022

Royal Ridge Lane Condominium Association vs State Farm Fire and Casualty

Expert Witness for State Farm

United States District Court, Northern District of Ohio, Eastern Division, Case No. 1:20-cv-01439

July 2021

Jennifer Andrea vs Central Mutual Insurance Company

Expert Witness for Central Mutual

Green County Common Pleas Court Case No. 2021 CV 0008