

Chris Dick

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.

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.

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.

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-slope roofs as well as various types of roofing materials, including both common and unique roofing applications.

Qualifications & Training

- Renovation of Wood Trusses, ASCE, March 2025
- Roof Technology and Science I – IIBEC, 2024
- Rooftop Quality Assurance – IIBEC, 2024
- Metal Roofing Systems, University of Wisconsin-Madison, 2022
- Low Slope Roofing Systems, University of Wisconsin-Madison, December 2021
- Evaluation and Repair of Concrete Buildings, Dr. Randall Postem, Indiana Structural Engineers Association, 2020
- GeoConstruction Difficulties – What Went Wrong, Dr. Gennaro G. Marino, Indiana Structural Engineers Association, 2020
- Serviceability Considerations for the Practicing Engineer, Emily Guglielmo, AISC, 2020
- Building Envelope Design, Taylor Gingerich, Carlisle Syntec Systems, 2020
- All About the Edge: An Introduction to the Design, Testing, and Performance of Edge Metal Systems for Low-Slope Roofs, Taylor Gingerich, Carlisle Syntec Systems, 2020
- Fleece Membranes and Urethane Adhesives, Austin Kulp, Carlisle Syntec Systems, 2020
- PVC Roofing Materials: Performance, Construction, and Functionality, Taylor Gingerich, Carlisle Syntec Systems, 2020
- Shear Exhilaration, APA, 2019
- Masonry Wall Design, Indiana Structural Engineers Association, 2019
- Masonry Wall Infill Design, Indiana Structural Engineers Association, 2019
- Lintel Design and Detailing, Indiana Structural Engineers Association, 2019

- Composite Plate Shear Walls: From Research to Practice, Indiana Structural Engineers Association, 2019
- State Statutes Applicable to the Practice of Engineering, Indiana Structural Engineers Association, 2019
- Seismic and Wind Design Considerations for Wood Framed Structures, Karyn Beebe, Indiana Structural Engineers Association, 2019
- The Engineering Behind Fabric Structures, Zweig Group & Legacy Buildings, 2019
- A Closer Look – Advanced Engineering of Fabric Buildings, Zweig Group & Legacy Buildings, 2019
- Code Requirements for Architects, Owners, and Contractors, Scott Walkowicz, PE, International Masonry Institute, 2019
- Lessons Learned in Masonry, Joseph Alberts, International Masonry Institute, 2019
- Hurricane Mitigation: Summary Report on Building Performance, Raymond Bosek, Ezekiel Enterprises LLC, 2018
- Deterioration of Concrete, Raymond Bosek, Ezekiel Enterprises LLC, 2018
- Classical Design Methods, David Odeh, SE University, 2018
- Introduction to the Design and Cost of Steel Seismic Connections (Braced Frames), Patrick Fortney, SE University, 2018
- Understanding Load Paths, Carol Drucker, SE University, 2017
- The Indiana State Fair Collapse Incident, Scott Nacheman, SE University, 2017
- Wind Design Considerations for Joists and Joist Girders, Tim Holtermann & Keith Jeudemann, AISC, 2017
- Design of Underhung Hoist and Crane Girders, Luke Pachal, AISC, 2017
- Retrofitting Design and Analysis of Existing Steel Joist Framed Buildings, Bruce Brothersen & Walter Worthley, AISC, 2017
- Everything You Wanted to Know About Diaphragms (but were afraid to ask), Thomas Spoto & Michael Antici, AISC, 2017
- The AISC 15th Edition Steel Construction Manual, Cynthia Duncan & Louis Gerschwinder, AISC, 2017
- Welding Myths that Structural Engineers Need to Know About, Duane Miller, SE University, 2017
- Design Aids and Design Examples for Cold Formed Steel, Roger LaBoube, SE University, 2016
- Implementation of the ISC Physical Security Design Requirements for Federal Buildings, Aldo McKay, SE University, 2016
- Vibrations on Reinforced Concrete Floor Systems, Mike Mota, SE University, 2016
- Open-Web Composite Steel Joist Floor Systems, Paul Johnson, Nucor-Vulcraft, 2015
- Mat Foundations and Soil Structure Interaction, Ian McFarlane, SE University 2015
- Design and Stability of Connection Elements, Bo Dowswell, AISC, 2015
- Typical Practice of Atypical (Non-Uniform) Loads on Steel Joists, Tim Holtermann, AISC, 2015
- Concrete Slabs on Grade: Analysis, Design, & Detailing, Otto Schwartz, SE University, 2015
- Designing for ASCE 7 Wind Loads (MWFRS and C&C), Don Scott, SE University, 2014
- Seismic Design of Reinforced Concrete Special Moment Frames, Jack Moehle, SE University, 2014
- Bracing and Truss Connections for HSS Members; HSS Series 2, Kim Olson, SE University, 2014
- Structural Inspections After an Earthquake: Case Studies from Mineral, VA Event, Matthew Daw, SE University, 2014

- Fundamentals of Blast Design, Ed Conrath, SE University, 2014
- Moment Connections to HSS Columns, Kim Olson, SE University, 2014
- Design of Maintenance Access and Fall Protection Systems for New and Existing Buildings, Kelly Streeter, SE University, 2013
- Seismic Design of Buildings Including Industrial Structures, Tom Heausler, SE University, 2013
- Cold Form Steel Design, Design Standards Parts 1 and 2, Roger LaBoube, SE University, 2013-2014
- Bracing Masonry Walls Under Construction, Scott Walkowicz, SE University, 2013
- Structural Fire Protection, Kevin LaMalva, SE University, 2013
- Designing Lateral Load Resisting Frames Using Open Web Steel Joists and Girders; An Engineer's Guide, Perry Green, SE University, 2013
- Force Transfer Around Openings for Wood Shear Walls, Karyn Beebe, SE University, 2013
- IBC Special Inspections – Managing the Process, Otto Schwartz, SE University, 2013
- Differential Shortening of Tall Steel Building Columns, ZweigWhite, 2013
- IBC 2012, Metal Building Software, 2012
- MBMA Design Guide 25 / AISC 10, Metal Building Software, 2012
- The Design of Fiber Reinforced Composite Materials for Strengthening of Existing Structures, ZweigWhite, 2012
- Design Considerations for Pedestrian Truss Bridge Structures, ZweigWhite, 2012
- Practical Design of Bolted & Welded Steel Connections, ASCE, 2012
- Designing Buildings with Overhead Cranes, ASCE, 2012
- Significant Changes to the Wind Load Provisions of ASCE 7-10 and Coordination with the 2012 IBC and 2012 IRC, ASCE, 2012
- Strengthening Structural Steel Beams, ASCE, 2012
- Corrective Work in Steel Structures, ASCE, 2012
- Snow Loading for Nonstandard Roof Shapes, ASCE, 2012
- Lateral Bracing of Flexural Members, ASCE, 2012
- Crane Runways, John Rolfes, Nucor Corporation, 2011
- Concrete Load Distributing Members, Rick Anderson, Nucor Corporation, 2011
- Galvanize it!, American Galvanizers Association, 2011
- Floor Vibrations, Tom Murray, Nucor Corporation, 2011
- ASCE 7-10, Eric Stafford, Nucor Corporation, 2011
- Joist Design, Doug Hoffman & Myron Kottwitz, Nucor Corporation, 2010
- IBC 2009 & ASCE 7-05, Eric Stafford, Nucor Corporation, 2010
- Energy Codes, Barney Ruble, Nucor Corporation, 2010
- Purlin Anchorage, Michael Seek, Nucor Corporation, 2010
- Cold Form Steel Design, Walter Schultz, Nucor Corporation, 2009
- Welding Design, Duane Miller, Nucor Corporation, 2009
- Seismic Design for Metal Buildings, John Rolfes, Nucor Corporation, 2009
- Designing Deck Diaphragms for Ductile Systems, AISC, 2008
- Designing Low-Cost Steel Structures, AISC, 2008
- Non-Destructive Testing Examination and Special Inspection, AISC, 2008
- Cold-Formed Steel Design, Nucor Research and Development Seminar, 2002

Education

Master of Business Administration
Taylor University, Upland, IN
2012

Bachelor of Science in Civil Engineering
Trine University, Angola University
2001
ABET Accredited with Honors

Licenses & Certifications

PE - Professional Engineer
Licensed by the State of Indiana - Number PE10606535
Licensed by the State of Ohio - Number PE.92012
Licensed by the State of Michigan - Number PE6201315008

Employment History

Forensic Engineer
Nederveld, Inc.
2018 - Present
Duties include evaluation of damages/failures of building structures and components, including structural and cause and origin investigations related to building pathology, structural analyses, calculations, and plan of repair design.

Design Engineer
Nucor-Vulcraft, St. Joe, IN
2014 - 2018
Duties included designing steel roof and floor joists used in a wide variety of commercial, industrial, and institutional projects to meet project specifications and code requirements from architectural and structural drawings, industry standards, and project budgets. Designing reinforcements to existing joists due to damage or increased loads and detail the repairs using AutoCAD. Provide customers with engineering expertise on site, by email and over the phone. Collaborate with production before, during, and after design as necessary to ensure product design can be manufactured as efficiently as possible.

Group Leader
Nucor Building Systems, Waterloo, IN
2009 - 2014
Duties included creating and supervising a team of up to 12 teammates of various technical disciplines, including engineers, steel detailers, customer service representatives, and estimators to serve a niche market sector totaling over \$10 million in annual nationwide sales. Project manage over 500 buildings per year. Drive quality, teamwork, and software improvements to meet outside-the-box customer requests and aggressive estimating, design, detailing, and manufacturing schedules.

Design Engineer
Nucor Building Systems, Waterloo, IN
2001 - 2009
Duties included designing hundreds of custom low-rise steel industrial, commercial, and agricultural buildings that often include crane runways, air-craft hangar doors, mezzanines, and architectural fascia. Responsible for review of designs by peers.

Professional Affiliations

Member: International Institute of Building Enclosure Consultants (IIBEC)
Member: Metal Building Manufacturers Association (MBMA) Fire & Insurance Committee

Expert Witness Experience

Depositions

June 2024

Hastings Mutual Insurance Company v. Elgin Service Center, Inc.

Expert Witness for Hastings Mutual Insurance Company on behalf of Keis Geroge LLP, Van Wert County Court of Common Pleas Case No. CV 22-06-056

March 2022

Patricia Emigh v. Erie Insurance Exchange, et al.

Expert Witness for Erie Insurance Company on behalf of Paganelli Law Group Allen County (Indiana) Superior Court Case No. 02D09-2202-PL-000046

January 2020

Car Wash (Palos) LLC – DBA The Car Spa at Park Hills v. Allied Property & Casualty Insurance company

Expert Witness for Allied Property and Casualty Insurance on behalf of Sanchez Daniels & Hoffman LLP, United States District Court for the Northern District of Illinois Eastern Division Case No. 19-cv-2147

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