

David A. Walenga, 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 and structural engineer, replacement designs are provided upon request. Examples of past work includes failure analysis of collapsed structures (concrete, steel, wood, masonry), and various building components (windows, doors, glass, piping, roofing, exterior and interior cladding) as well as damage assessment of building structures after a fire, tornado, or vehicle impact.

Origin & Cause

Determine the source and responsible party or element related to water entry into a building whether it be through the building envelope or caused within the building interior. 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

- Residential Builder - Licensed by the State of Michigan
- LEED Accredited Professional
- Addressing the Air Barrier When Renovating Commercial Buildings, Air Barrier Association of America Conference, May 2022
- Finding the Building Maker, Air Barrier Association of America Conference, May 2022
- Finding Closure: Detailing Air/Water Barriers at Fenestration Rough Openings, Air Barrier Association of America Conference, May 2022
- This Won't Go Away – Mold in Office Buildings, Air Barrier Association of America Conference, May 2022

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This CV is not a solicitation for services and is provided as information only. Retention of this expert can only be obtained through a mutually agreed upon Letter of Engagement.

- The Big Disconnect – The Importance of Wall to Roof Connections for the Air Barrier, Air Barrier Association of America Conference, May 2022
- The Interface, Air Barrier Association of America Conference, May 2022
- To Scan or Not to Scan? Thermography is the Answer, Air Barrier Association of America Conference, May 2022
- Understanding Air Barrier Assembly Testing, Air Barrier Association of America Conference, May 2022
- Roofing Technology, Maintenance, and Inspections, February 2016
- Engineering Investigations of Hurricane Damage: Wind versus Water, American Society of Civil Engineers, February 2016
- Water Entry Prevention and Moisture Control in Buildings, University of Wisconsin, July 2015
- Masonry Wall Bracing While Under Construction, Michigan Occupational Safety and Health Administration, February 2015
- Haag Certified Inspector Commercial Roofs Course, November 2014
- Haag Certified Inspector Residential Roofs Course, November 2014
- Roofing 101, National Roofing Contractors Association, June 2014
- Rules of Thumb for Industrial Building Design, SE University, May 2014
- Adhesive Anchors and Field Conditions, Hilti North America and Structural Engineers Association of Michigan, April 2014
- Prying Action in the AISC Manual, National Council of Structural Engineers Associations, February 2014
- Constructability Meets Technology – “It Worked in the Model” Building Information Modeling (BIM) Communication, Structural Engineers Association of Michigan, January 2014
- ASME B30.3: Below the Hook Lifting Devices 2012 Changes, American Society of Mechanical Engineers, January 2014
- The Life of the “K” Factor, American Institute of Steel Construction, October 2013
- Erection Engineering, National Council of Structural Engineers Associations, October 2013
- Effective Connection Design Communication, American Institute of Steel Construction, July 2013
- Design of Diaphragms, Chords and Collectors, American Institute of Steel Construction, June 2013
- ASCE 7-10 Wind Loading: Main Wind Force Resistance System and Components and Cladding, National Council of Structural Engineers Associations, January and February 2013
- Steel Connection Design, American Institute of Steel Construction, January 2013
- Structural General Notes and Specifications, National Council of Structural Engineers Associations, January 2013

Education

Master of Architectural Engineering, Structural Option, ABET Accredited
The Pennsylvania State University, University Park, PA
December 2004

Bachelor of Architectural Engineering, Structural Option, ABET Accredited
The Pennsylvania State University, University Park, PA
December 2004

Licenses & Certifications

PE - Professional Engineer
Licensed by the State of Michigan - Number 6201055590, September 2, 2008

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Residential Builder

Licensed by the State of Michigan - Number 2101217349, March 5, 2018

Employment History

Senior Forensic Engineer

Nederveld, Inc.

January 2022 – Present

Perform forensic analysis related to building pathology issues, fire loss damage, storm damage (wind, snow, hail), and water loss.

Forensic Engineer

Nederveld, Inc.

2014 – Present

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

Project Engineer

Ruby + Associates Inc., Bingham Farms, MI

2012 – 2014

Duties included preparing proposals for new business acquisition, managing staff, overseeing engineering activities, developing seminars.

Assistant Project Engineer

Ruby + Associates Inc., Farmington Hills, MI

2011 – 2012

Duties included providing scope and cost estimates for acquisition process, managing direct staff engineers, and performing engineering tasks.

Staff Engineer III

Ruby + Associates Inc., Farmington Hills, MI

2007 – 2011

Duties included completing structural design activities (code review, primary structural gravity and lateral system member design, design of structural details, preparation of design documents and drawings, drafting project RFI's responses, and authoring reports), traveling for inspections and condition reviews, and providing hour estimates during bidding phase.

Staff Engineer II

Ruby + Associates Inc., Farmington Hills, MI

2005 – 2007

Duties included performing design tasks (code review, primary structural gravity and lateral system member design, design of structural details, preparation of design documents and drawings, and shop detail and submittal reviews.

Professional Affiliations

Member: Structural Engineers Association of Michigan

Past Member: American Institute of Steel Construction

Past Member: Engineering Society of Detroit

Past Member: Association for Iron and Steel Technology

Expert Witness Experience

Deposition

February 2019

Keith Hamilton and Cari Hamilton vs Member Select Insurance Company
Expert Witness for Member Select Insurance Company on behalf of Secrest Wardle
Oakland County Circuit Court Case # 18-166438-CK

December 2018

OL Matthews MD, PC vs Harleysville Insurance Company
Expert Witness for Harleysville Insurance Company on behalf of Harvey Kruse, PC
United States District Court for the Eastern District of Michigan Southern Division
Case # 18-11659-GAD-RSW

September 2015

Harold Theibert vs Allstate Property & Casualty Insurance Company
Expert Witness for Allstate Property & Casualty Insurance Company on behalf of
Patrick, Johnson & Mott, PC
Washtenaw County Circuit Court # 15-491-CK

Trial

June 2024

Michael Kitto vs Pure Water Service Co., A.K.A. Pure Water Pools
Expert Witness for Farm Bureau Insurance on behalf of Collins Einhorn Farrell, PC
Macomb County Circuit Court # 2022-02971-CZ

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