
Jennifer B. Davis, M.S.C.E., P.E.

Engineer: Civil/Structural

Roofs – Industrial, Commercial, and Residential

Parking Decks

Building Codes and Standards

Building Envelope/Water Intrusion Analysis

Construction Defects and Claims

Failure Analysis

Building Damage Assessment and Estimating

Structural Engineering Analysis

Training

EDUCATION

- 2003** **Master of Science in Civil and Environmental Engineering**
University of South Carolina, Columbia, South Carolina
- 2001** **Bachelor of Science in Civil and Environmental Engineering**
University of South Carolina, Columbia, South Carolina
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EXPERIENCE

- August 2007 to Present** Consulting Engineer, The Warren Group, Inc. Columbia, South Carolina
- Conduct technical investigations of construction defects, incidents or losses related to residential, commercial, industrial and historic structures
 - Perform assessments of damage resulting from weather events including hurricanes, hail, high winds, tornados, flooding and excessive ice build-up
 - Evaluate commercial, industrial, and residential roofs
 - Investigate concrete and steel-framed parking structures
 - Inspect various types of construction and materials including, but not limited to, wood framing, load-bearing masonry walls, steel framing, footings and foundations, elevated concrete slabs, concrete slabs-on-grade, retaining walls and miscellaneous proprietary systems
 - Additional case related assessments include, but are not limited to, fire damage, moisture intrusion, codes and standards research and site drainage
 - Provide construction cost opinions, maintenance funding plans and betterment analyses
 - Provide technical reports with analysis, conclusions and/or opinions at the completion of most investigations

EXPERIENCE, (Continued)

**December 2003
to June 2007**

Professional Engineer, Kimley-Horn and Associates, Inc.
Charlotte, North Carolina

- Investigated various construction defects and insured losses
- Performed condition assessments for parking decks and various commercial and industrial properties, including historic buildings
- Inspected various types of construction including, but not limited to, wood framing, load bearing masonry walls, steel framing, roofing footings and foundations, elevated concrete slabs, concrete slabs-on-grade, and miscellaneous proprietary systems
- Investigated hurricane damage, moisture intrusion and assessed fire damage
- Performed structural analyses of existing structures
- Designed new concrete, steel and masonry structures
- Designed repairs and retrofits for existing masonry, wood, concrete and steel structures
- Conducted codes and standards research
- Reviewed specifications for existing construction
- Wrote specifications for new construction and repairs
- Provided cost opinions, including betterment analyses and funding plans
- Provided technical reports with observations, analysis, research, conclusions and/or opinions

**June 2003 to
December 2003**

Engineering Designer (part-time), The LPA Group, Inc.
Columbia, South Carolina

- Designed drainage for a major design-build roadway project in Myrtle Beach, South Carolina
- Participated in value engineering and public hearings throughout design and construction

**June 2002 to
December 2003**

Research Assistant, University of South Carolina
Columbia, South Carolina

- Developed a prescriptive design guide and code commentary for the 2000 International Residential Code
- Researched topics including, but not limited to, multiple hazard vulnerability in South Carolina, structural mitigation measures and current state of practice

EXPERIENCE, (Continued)

**April 2001 to
June 2002**

Engineering Designer, Wilbur Smith Associates
Columbia, South Carolina

- Designed drainage for various roadway and site development projects
- Participated in value engineering and public hearings

**May 2000 to
September 2000**

Engineering Intern, Davis & Brown Engineering
Quinby, South Carolina

- Assisted engineers in design for a broad range of projects, including site development, structural design and failure analysis
- Experience included design, construction management, field investigations, surveying and review/revision of specifications
- Trained staff engineers in the newly published 2000 International Building Code

PROFESSIONAL ORGANIZATIONS

American Society of Civil Engineers (ASCE)

- Midlands Branch – Secretary, 2003; Treasurer, 2002-2003; Community Outreach Committee Chair, 2001-2003; ASCE 150th Anniversary Committee, 2001-2003

ASCE Structural Engineering Institute (SEI)

- Standards Committee *Structural Assessment and Rehabilitation of Buildings*

RCI, Inc., (The Institute for Roofing, Waterproofing, & Building Envelope Professionals)

REGISTRATIONS

Professional Engineer in North Carolina, #031538

Professional Engineer in South Carolina, #26512

The National Council of Examiners for Engineering and Surveying (NCEES) (#32442)

CONTINUING EDUCATION

August 27, 2009

“Large Loss & Complex Claims Investigations,” The Warren Group, Irmo, South Carolina

- Electrical Fire Causes
- Chinese Drywall
- Heat Exchangers and the Consequences of Breakdown
- Water Damage
- Fire and Explosion Demonstrations
- Losses Involving Corrugated Stainless Steel Tube (CSST)
- Low Temperature Ignition of Wood

May 9, 2008

“Siding Damage Assessment,” Haag Engineering, Charlotte, North Carolina

May 9, 2008

“Wood Roof Damage Assessment,” Haag Engineering, Charlotte, North Carolina

May 16-19, 2007

2007 ASCE/SEI Structures Congress, Long Beach, California

- FEMA Existing Buildings Program
- Uncertainty and Blast Hazard
- Workshop on Forensic Engineering Practice
- Remote Sensing for Rapid Disaster Damage Assessment

2002

Multi-hazard Building Design Summer Institute, Federal Emergency Management Agency (FEMA) Emergency Management Institute (EMI), Emmittsburg, Maryland

2001

Geopak Drainage Design Software Training, Geopak, Miami, Florida

2000

Confined Space Training Quinby, South Carolina

COURSES, SEMINARS AND LECTURES PRESENTED

2003

Presentation on South Carolina Hazard Vulnerability and Adoption of the 2000 International Residential Code presented at the Homebuilders Association of South Carolina State Convention, Charleston, SC (with Kent A. Harries, Ph.D.)

Presentation on South Carolina Hazard Vulnerability and Adoption of the 2000 International Residential Code presented at the American Society of Civil Engineers Midlands Branch Monthly Meeting, Columbia, SC

COURSES, SEMINARS AND LECTURES PRESENTED, (Continued)

2004

Presentation on “Forensic Engineering” presented at the University of North Carolina – Charlotte American Society of Civil Engineers Student Chapter Monthly Meeting, Charlotte, North Carolina

Three-hour course approved by the North Carolina Department of Insurance, Continuing Education Agency Services Division, entitled “Structures: What They Are & What Can Happen”

September 26, 2007: Companion Property & Casualty Group, Columbia, South Carolina

October 2, 2007: Travelers Insurance, Columbia, South Carolina

January 24, 2008: Travelers Insurance, Charlotte, North Carolina

August 27, 2009

“Thermal Imaging Camera as a Tool in Investigating Hidden Defects” presented at the Large Loss and Complex Claims Investigations Seminar, The Warren Group, Irmo, South Carolina.

August 31, 2009

Presentation on “Building Failure Case Studies” presented at the Society of Professional Engineers (SPE), Columbia Chapter Branch Meeting, Columbia, South Carolina.

PUBLICATIONS

Eckstrom, R.L, Harries, K.A., Davis, J.B. , “Adoption of the International Residential Code in a High Hazards Region – An Overview,” American Society of Civil Engineers (ASCE) Journal of Architectural Engineering. March 2006. Volume 12, Number 1.

Davis, J.B. and Harries, K.A., “2004 Residential Construction in South Carolina – A Commentary on the Multi-Hazard Provisions of the International Residential Code,” American Society of Civil Engineers, 26 pp. 2003

Harries, K.A., and Davis, J.B., “Seismic Design and the International Codes – the South Carolina Experience,” Proceedings of the 13th World Conference on Earthquake Engineering, August 2004.