

Melanie S. Smith | Forensic Engineer, P.E.

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Professional Summary:

Melanie S. Smith, P.E., is a forensic engineer specializing in structural analysis, design, and forensic investigations of commercial, residential, institutional and industrial structures. She has over 35 years of experience in structural engineering and design of buildings and structures, including office buildings, museums, schools, correctional facilities, libraries, auditoriums, sport complexes, parking garages, airplane hangars, cranes and equipment supports, and other structures, in the southeastern United States and Puerto Rico. She has over 8 years specializing in forensic structural engineering. Her projects in forensic engineering include commercial, institutional and residential buildings and aquatic structures which have experienced damage from weather, age and geotechnical causes. She is knowledgeable the International Building Code and the Florida Building Code and familiar with local jurisdictional codes in the Georgia and Florida region.

Areas of Expertise:

- Structural Engineering Design and Analysis
- Forensic Structural Engineering Analysis and Structural Inspection
- Roofing Inspection of all Types of Residential and Commercial Roofing
- Geotechnical Assessment of Structural Foundation Failures

Licenses and Certifications:

Professional Engineer, State of Georgia, License # PE017750

Professional Structural Engineer, State of Georgia #SE000820

Professional Engineer, State of Florida, License #75703

Professional Engineer, State of South Carolina, License #34306

Professional Engineer, State of Alabama, License #36574

Professional Engineer, State of Louisiana, License # PE0037767

Professional Engineer, State of West Virginia, License # 020092

Professional Engineer, State of Texas, License # 135809

Professional Engineer, State of North Carolina # 049469

Project Experience:

Unnamed Insurance Company, Alma, Georgia Commercial Roof Storm Damage Assessment, 2024

Assessment of roof damage to a standing seam metal roof following Hurricane Helene of a 9000 SF commercial building.

Unnamed Insurance Company, Jesup, Georgia
Commercial Roof Storm Damage Assessment, 2024

Assessment of roof damage to a metal roof deck of a 27,000 SF commercial outlet building following Hurricane Helene.

Unnamed Insurance Company, Ludowici, Georgia
Commercial Roof Storm Damage Assessment, 2024

Assessment of failure modes to a standing seam metal roof deck and an R-Panel metal roof deck and concrete masonry walls of a 23,000-metal building and wood building (multiple wings) following Hurricane Helene.

Unnamed Insurance Company, Savannah, Georgia
Apartment Complex Roof Storm Damage Assessment, 2024

Roof and façade assessment of twelve (12)- three-story apartment buildings (averaging 15,000 SF each building). The roof was architectural composite shingles, and the façade was vinyl siding.

Unnamed Insurance Company, Saint Simons Island, Georgia
Commercial Roof Failure Analysis, 2024

Roof assessment of membrane roofing over three commercial retail units with 5000 SF (total) in the historic section of Saint Simons Island retail district following Hurricane Helene.

Unnamed Insurance Company, Conyers, Georgia
Commercial Roof Failure Analysis, 2022

Roof assessment of R-Panel metal roof deck over a circa 1958, 7000 SF (total) building in the historic section of Conyers.

Unnamed Insurance Company, St. Marys, Georgia
Commercial Roof Failure Analysis, 2018

Assessment of failure modes of a detached EPDM (membrane material) roofing on a large commercial roof. Detachment was due to the aging adhesive and deterioration of the polystyrene plates of the partially adhered roof system utilizing the plate bonding method.

Unnamed Insurance Company, Jacksonville, Florida
Large Church Post Hurricane Damage Assessment of Facade, 2017

This large church auditorium was assessed for a damaged EIFS (exterior insulation and finish system) façade following high winds occurring in Jacksonville during Hurricane Irma. The large storefront glazing system was also assessed for damage to the seals and muntins of the glazing system.

Unnamed Insurance Company, Valdosta, Georgia
Commercial Asphalt Shingle Roof Condition Assessment, 2017

This motel was comprised of four buildings of a hipped gable asphalt shingle roof that had undergone wind damage and aging over the years. The assignment was to assess the damage and determine dates for the occurrence.

Unnamed Insurance Company, Florida and Georgia Areas
Residential Roof Failure Analysis, 2018

Typical residential roof investigations involve both asphalt shingles and cement tile roofs which have undergone wind, hail and age-related damage. The assignments involve determining cause, extent and age of the observed damage.

Unnamed Insurance Company, Putnam County, Georgia**Exterior Stair Failure at an AirBnB, 2021**

Assessment of failure modes of an exterior wooden staircase which resulted in the personal injury of an occupant.

Unnamed Insurance Company, Charleston County, South Carolina**Slip and Fall Injury on an Exterior Staircase, 2020**

Assessment of building code compliance regarding the aspects of an exterior staircase at a beachfront rental dwelling which resulted in the personal injury of an occupant.

Unnamed Insurance Company, Chatham County, Georgia**Slip and Fall Injury on an Interior Staircase, 2020**

Assessment of building code compliance regarding the aspects of an interior staircase at a rental dwelling which resulted in the personal injury of an occupant.

Litigation Experience:

Litigation CV available upon request.

Professional Experience:

EFI Global, Inc. (Formerly Unified Investigations and Sciences) Forensic Structural Engineer, Atlanta, Georgia, May 2016 to present
C2O'- The Engineers, Inc., Marietta, Georgia, President, February 2008 to June 2016
Innovative Engineering, Inc., Woodstock, Georgia, Project Engineer, 2004 to 2008
Rosser International, Atlanta, Georgia, Project Engineer, 2003 to 2009
Willett Engineering, Inc., Tucker, Georgia, Project Engineer, 1999 to 2003
Leo A Daly, Atlanta, Georgia, Project Engineer, 1991 to 1995
Continental Concrete Structures, Alpharetta, Georgia, Project Engineer, 1994 – 1996
Jack Lynch & Assoc., Atlanta, Georgia, Project Engineer, 1989 – 1993
John Portman and Associates, Atlanta, Georgia, Junior Design Engineer, 1985 – 1989
Bennett & Pless, Atlanta, Georgia, Junior Design Engineer, 1983 – 1985
G. Ben Turnipseed Engineers, Atlanta, Georgia, Co-op Student worker, 1980 – 1982
Woodward Clyde Consultants, Rockville, Maryland, Co-op Student worker, 1979 – 1980

Specialized Education:

Ethical Issues in Forensic Engineering, CPE Solutions LLC, September 28, 2021, 3 hours (Tested)
Substantially Improved/Substantially Damaged Buildings, CED Engineering, September 29, 2021, 2 hours (Tested)
An Introduction to HVAC Systems, PDHDirect, September 28, 2021, 2 hours (Tested)
Engineering and Design Evaluation and Repair of Concrete Structures, PDHDirect, December 2020, 4 hours (Tested)
Types and Functions of Coastal Structures, PDHDirect, December 2020, 2 hours (Tested)
History of Coastal Engineering, PDHDirect, December 2020, 2 hours (Tested)
Wind Load Design for Components and Cladding, ASCE, September 10, 2019, 2 Hours (Tested)
Hurricane Resistant Glazing Systems, ASCE, September 10, 2019, 2 hours, (Tested)
Hurricane Design of Glazing Systems-Understanding the Intricacies, ASCE, September 9, 2019, 2 hours (Tested)
Mold Remediation in Schools and Public Buildings, February 28, 2019, 2 Hours (Tested)

Advanced Florida Building Code, 6th Edition, February 27, 2019, 2 hours (Tested)
Laws and Rules for Florida Engineers, February 27, 2019, 1 hour (Tested)
Coastal Building Construction Requirements, December 30, 2017, 4 hours (Tested)
Florida Engineers: Professional Ethics, December 30, 2017, 1 hour (Tested)
Indoor Mold and Moisture Basics, December 31, 2017, 2 hours (Tested)
OSHA/EPA Compliant P\Operations & Maintenance Class III Initial, Asbestos, March 13-14, 2017.
8 hours (Tested)
Georgia Board's Rules for Practicing Engineering, December 30, 2017, 2 hours (Tested)
HAAG Residential Roof Inspector Certification, September 12-14, 2016, 20 hours (Tested)
HAAG Commercial Roof Inspector Certification, September 15-17, 2016, 20 hours (Tested)
The Fundamentals of Residential Building Construction, July 25, 2016, 3 hours (Tested)
Deposition: Part 1, July 21, 2016, 3 hours (Tested)
Deposition: Part 2, July 21, 2016, 3 hours (Tested)
Built-Up Roof Damage Assessment, Haag, July 21, 2016, 2 hours (Tested)
Single-Ply Roofs Damage Assessment, Haag, August 14, 2016, 2 hours (Tested)
Composition Roofs Damage Assessment, Haag, August 14, 2016, 2 hours (Tested)
National Society of Professional Engineers (NSPE)- A Conversation About Engineering Expert
Witnesses and Litigation, 2016, August 15, 1 hour (Tested)
National Society of Professional Engineers (NSPE)- Engineering Ethics: Maintaining
Objectivity/Truthfulness and Addressing Conflict of Interest, July 26, 2016, 1 hour (Tested)

Education:

Master of Science, Civil Engineering, Georgia Institute of Technology, Atlanta, GA, 1994,
specializing in Structural Engineering

Bachelor of Science, Civil Engineering, Georgia Institute of Technology, Atlanta, GA, 1983,
with High Honor

Affiliations:

Member of American Society of Civil Engineers
National Council of Examiners for Engineering and Surveying (NCEES)- NCEES Record No. 51829
Member of Structural Engineers Association of Georgia, Savannah Chapter