JUSTIN HODGES, M.S., P.E., S.E.

MANAGING MEMBER | PRINCIPAL ENGINEER

PROFILE

A Managing Member and Principal Engineer with more than 15 years of engineering experience including forensic investigations – assessing damage and providing repair recommendations for structures subjected to storm-induced forces (e.g., tornados, high winds), vehicle/vessel impacts, fires, explosions, water/moisture intrusion, construction deficiencies, and excessive gravity loading. As part of his forensic experience, Mr. Hodges has provided litigation support services in multiple legal matters. He has also completed the analysis and design of commercial and industrial structures comprised of steel, concrete, masonry, and wood. While attending graduate school, he was directly involved in the evaluation of reinforced elastomers employed to mitigate blast loading-induced shrapnel in masonry walls. In addition, he had a lead role in research focusing on biological material characterization and replication (biomimicry) using composite materials. As a result of this experience and education, he gained extensive knowledge on the behavior of common construction materials and their failure mechanisms, as well as an in-depth understanding of structural analysis and design principles – which is evidenced by his designation as a Model Law Structural Engineer (MLSE) by the National Council of Examiners for Engineering and Surveying (NCEES). Key strengths include the following:

- Gravity Load Analysis
- Wind Load Analysis
- Seismic Load Analysis
- Structural Steel Construction
- Concrete Construction
- Concrete Masonry Construction
- Wood Construction
- Building Code Evaluation
- Construction Deficiencies
- Retaining Wall Assessment
- Vehicle-Impact Damage Assessment
- Fire Damage Assessment
- Wind Damage Assessment
- Hail Damage Assessment
- Structural Collapse Evaluation
- Building Enclosure Evaluation
- Water/Moisture Infiltration Assessment
- Commercial/Industrial Buildings

EDUCATION

Master of Science, Civil Engineering, 2008 (Emphasis on Structural Engineering)
Georgia Institute of Technology

Bachelor of Science, Civil Engineering, 2007 (Emphasis on Structural Engineering)
Georgia Institute of Technology (GTREP)

PROFESSIONAL BACKGROUND

Scout Forensics (Houston, Texas)
Managing Member and Principal Engineer – February 2022 to Present

Envista Forensics (Houston, Texas)
Principal Consultant – April 2019 to February 2022
Senior Structural Engineer – February 2017 to April 2019
Project Engineer – February 2013 to February 2017

W. Hunter Saussy III, P.C. (Savannah, Georgia)
Structural Engineer – December 2008 to February 2013

Georgia Institute of Technology (Savannah, Georgia)
Graduate Research Assistant – May 2007 to December 2008

Stevenson and Palmer Engineering (Savannah, Georgia)
Engineering Intern – May 2006 to October 2006

Foundation Contractors (Atlanta, Georgia)
Construction Worker – June 2002 to June 2003

LICENSURE

Professional Engineer (PE) – Texas, Colorado, Louisiana, Florida, Georgia, and North Carolina

Professional Structural Engineer (SE) – Hawaii and Georgia

Remote Pilot in Command, Commercial Operator (Part 107)

DESIGNATIONS/HONORS

President's Fellowship Recipient – Georgia Institute of Technology

President's Undergraduate Research Award Recipient – Georgia Institute of Technology

Tau Beta Pi Engineering Honor Society Member

Model Law Structural Engineer (MLSE) – National Council of Examiners for Engineering and Surveying

Model Law Engineer (MLE) – National Council of Examiners for Engineering and Surveying

REPRESENTATIVE FORENSIC EXPERIENCE

Fire Damage Evaluation
Houston, Texas

Mr. Hodges inspected five, two-story apartment buildings that sustained fire damage – evaluating the extent of damage, reparability, and life safety concerns. Additionally, Mr. Hodges completed a structural analysis of one building and provided a conceptual design to retrofit the structure in accordance with currently adopted building codes. The conceptual design outlined the necessary requirements for approximately half of the building to stand independently following demolition of the more severely fire-damaged regions. The project required a destructive investigation to identify critical components of the retrofit building's structural system.

Storm Damage Evaluation
Floresville, Texas

The project involved a high school that was struck by a tornado. Mr. Hodges led a team of engineers that was onsite the day following the tornado strike – identifying buildings that could be immediately occupied by faculty, staff, and students for classes, and those that would require structural repair/remediation to eliminate any potential life-safety risks.

Subsequently, the team completed detailed inspections of buildings, identifying damage, outlining a rough-order scope of repairs, and in some instances, providing temporary retrofit designs to contractors that permitted damaged buildings to be quickly occupied.

Structural Collapse Assessment
Houston, Texas

During the construction of a multi-level industrial concrete structure, shoring and formwork (comprised of metal braces/posts, wood girders/joists, and wood structural panel sheathing) partially collapsed during a wind event – resulting in injuries to personnel. Mr. Hodges, in conjunction with two other engineers, inspected the structure and retained evidence – including portions of the shoring structure that were extracted via crane. Through information collected during the inspection and engineering calculations, construction deficiencies present within the formwork/shoring system were identified that contributed to its failure during the wind event.

Construction Deficiency
Pharr, Texas

Following construction of an assisted living facility comprised of three wings and a central core supported on concrete foundations, the structure experienced differential foundation movement and movement-related distress. Mr. Hodges, working in conjunction with a geotechnical engineer, inspected the property, evaluated the design documents, and reviewed construction monitoring/testing records in order to assess factors contributing to the differential foundation movement.

Vessel-Induced Damage Evaluation
Mississippi River, Louisiana

A bulk carrier allided with three industrial docks resulting in damage to their structures, which included steel and/or concrete-framed access walkways, loading platforms, breasting dolphins, tripod dolphins, and monopile fender systems. The platforms supported additional steel-framed structures and equipment that facilitated operations. Following onsite inspections of the docks, review of construction documents and inspection reports, Mr. Hodges, working in conjunction with other engineers, determined the extent of damage caused by the allision and developed scopes for repair of the structures. The repair scopes were used for estimating the cost to restore the docks to their pre-allision conditions.

Vehicle-Induced Damage Evaluation
Houston, Texas

Mr. Hodges, with engineers from an alternate firm, completed an inspection of a commercial parking garage comprised of steel framing and concrete that sustained damage following a commercial truck accessing the structure. Through onsite measurements and engineering calculations, Mr. Hodges identified the extent of the structure that was damaged by the vehicle – the weight of which exceeded the design loads for the garage. Mr. Hodges also reviewed construction documents regarding repairs to the structure and identified the limited extent of the overall proposed repairs that were attributable to loads imposed by the commercial vehicle.

REPRESENTATIVE DESIGN EXPERIENCE

New and Retrofit Church Buildings
Savannah, Georgia

Responsible for the project management and detailed design of a new two-story children's church facility and retrofit of the entries for the existing educational buildings. The structure was comprised of composite slabs, bar joists, structural steel columns, braced steel frames, moment frames, concrete spread footings, and concrete slabs on grade. Mr. Hodges was responsible for the coordination and design of unique architectural features including cantilevered composite slabs, cantilevered walls, and "saw-tooth" windows all projecting out from the primary structure. Modifications to the existing buildings included removal of two-story exterior load bearing walls that were replaced with structural steel and glass glazing. The building's proximity to the coast and a fault line required it to be designed for high wind velocity and seismic ground motion.

New County Middle / High School
Alma, Georgia

Mr. Hodges was the project manager for a new educational facility including two gymnasiums, an auditorium, cafeteria, classroom wings, office space, and athletic facilities. The structural systems were comprised of structural steel, concrete masonry shear walls, steel bar joists, metal building frames, concrete spread footings, and concrete slabs on grade. The athletic facilities included wood-framed football and baseball concessions with press box.

Church Building Addition
Swainsboro, Georgia

Mr. Hodges was responsible for the detailed engineering of the classroom wing, gymnasium, and fitness center addition to the existing church. The structural design included wood stud framed shear walls, concrete masonry shear walls, timber trusses, structural steel, plywood diaphragms, shallow concrete foundations, and concrete slabs on grade. This design also included modifications to the existing facility with the addition of covered walkways and segments of new roof structure.

Engineering and Technology Center
Savannah, Georgia

Mr. Hodges was responsible for the detailed engineering of three distinct buildings including a two-story office building composed of structural steel and concrete tilt wall panels, a metal building with specialized dynamic test apparatus, and the retrofit of an existing structure to accommodate a new research and development facility. The project was located along the Georgia coast – requiring the structures to be designed for high wind velocity and earthquake ground motion. The design included composite slabs, precast hollow core planks, bar joists, structural steel framing, concrete masonry, tilt wall panels, shallow spread footings, timber pile foundations, and concrete slabs on grade.