



Jason D. Gregorie, PE, CFM

Civil / Structural Engineer

Jason Gregorie practices engineering in the civil and structural disciplines. His work often involves existing structures, building envelopes, construction materials, pavements, and various types of civil infrastructure.

Education

- Master of Science in Civil Engineering, Clemson University, 2006
- Bachelor of Science in Civil Engineering, Clemson University, 2004

Registration

- Professional Engineer (PE) in South Carolina, North Carolina, Georgia, and Florida
- National Council of Examiners for Engineering and Surveying, Record 38728
- Certified Floodplain Manager (CFM) by the Association of State Floodplain Managers

Principal Areas of Practice

- Construction Materials
- Existing Structures
- Building Envelope
- Pavements
- Site Work

Professional Organizations

- Transportation Research Board (TRB)
- American Society of Civil Engineers (ASCE)
- Civil Engineers Club of Charleston

Technical Committees

- *Communications Coordinator, Young Member*, Low Volume Roads Committee (AFB30), Transportation Research Board of The National Academies

Awards

- 2009-2010 recipient of the Technical Merit Award from ASCE South Carolina Section

Professional Experience

- Engineer, Applied Building Sciences, Inc. – 2006 to Present

Related Experience

- Graduate and Undergraduate Research Assistant, Asphalt Rubber Technology Service –2004 to 2006
- Survey Crewman, GAZ Johnson, Inc. – Winter 2003/2004
- Laborer, Residential Construction – 1999 to 2003

Publications / Conference Presentations

- “Forensic Investigation of Highway Pavement in Chile”, presentation for the *South Carolina Engineering Conference & Trade Show*, Hilton Head Island, SC, 2011.
- “Structural Restoration of Multi-Wythe Brick Walls of 155 Year Old Historic Building”, Gregorie, J.D. and Schweickhardt, A.J., *Proceedings of the Eleventh North American Masonry Conference, The Masonry Society*, Boulder, CO, Vol. 1, pp. 549-560, 2011.
- “Structural Restoration of Multi-Wythe Brick Walls of 155 Year Old Historic Building”, presentation at the *11th North American Masonry Conference, The Masonry Society*, Minneapolis, MN, 2011.
- “Assessment and Repair of 155 Year-old Heavy Timber Trusses in Historic Building”, *ASCE South Carolina Section Fall Conference*, Columbia, SC, 2010.

Representative Projects:

Pavement:

- **Americo Vespucio Norte Highway, Santiago, Chile:** Cause and origin investigation for distresses in urban highway asphalt pavement
- **SC State Ports Authority, Wando Welch Terminal, Charleston, SC:** Investigation of

1890 Milford Street – Charleston, SC 29405 – Tel 843.724.1459 – Fax 843.724.1458
1416 Chapin Road – Chapin, SC 29036 – Tel 803.345.3833 – Fax 803.345.2823
120 Greenwich Road – Charlotte, NC 28211 – Tel 704.749.3545 – Fax 704.362.3101
398 College Avenue – Clemson, SC 29631 – Tel 843.817.7310
jgregorie@appliedbuildingsciences.com

bad concrete batch for shipping terminal pavement

- **Roadway Accident Reconstruction, Beaufort, SC:** Design and construction of re-created low-volume roadway test section for litigation exhibit
- **New Orleans Lakefront Executive Airport, New Orleans, LA:** Pavement and site-work condition assessment for Odyssey hangar, parking lot, and runway apron
- **Berwick Subdivision, Savannah, GA:** Premature asphalt pavement distress investigation
- **Wilco-Hess, St. Mathews, SC:** Parking lot geometric analysis for litigation
- **Medical Facility, Little River, SC:** Investigation of parking lot subsurface drainage issues and design of repairs
- **Pavement Condition Assessment** of asphalt and concrete pavements for numerous residential, commercial, and industrial facilities in SC and GA
- **Truck stop / gas station** evaluation of asphalt pavement and site-work, several sites, SC, GA
- **Laboratory analysis, and design of Superpave and Marshall asphalt mixes,** including testing for moisture susceptibility, density, binder content, gradation, rutting, tensile strength, and other parameters
- **Asphalt binder laboratory testing** of virgin, polymerized, and crumb-rubber modified binders, including Rotational Viscosity, Bending Beam Rheometer (BBR), and Dynamic Shear Rheometer (DSR) tests

Structural Design:

- **Zion United Methodist Church, Huger, SC:** Design of structural repairs after tornado damage to roof and reinforced masonry walls
- **Bethel United Methodist Church, circa 1853, National Register of Historic Places, Charleston, SC:** Heavy timber truss condition assessment, emergency shoring design, design of structural repairs to brick masonry and timber trusses, contract administration of repairs
- **Sportsman Island Marina, Daniel Island, SC:** Design of 70+ ft span heavy timber roof trusses
- **Cobblestone Park Amenities Center, Columbia, SC:** Design of 69+ ft span heavy timber roof trusses for gymnasium

- **Leggett & Platt Warehouse, N. Charleston, SC:** Roof and wall collapse investigation, design of repairs to masonry wall and steel roof framing
- **High Hammock Condominiums, Seabrook Island, SC:** Structural design for renovation
- **Residential design,** including floor plan and foundation design, three residences, Charleston, SC

Retaining Walls / Slope Failures:

- **Dart Container Warehouse, Atlanta, GA:** Investigation of retaining wall failure during construction.
- **Mountainside retaining wall, Traveler's Rest, SC:** Condition survey and analysis of residential retaining wall
- **Retaining Wall Failure, Florence, SC:** Investigation of residential retaining wall failure and design reinforced concrete retaining wall repair
- **Slope Failure, Hemlock Bluff, Mountain Air, NC:** Assist with investigation of slope failure

Catastrophe Assessment:

- **Fire Damage Assessment, Monterrey, Mexico:** Assessment of fire damage to cold form steel framing in manufacturing plant
- **Hard Rock Café & Casino, Biloxi, MS:** Wind vs. Flood damage analysis after Hurricane Katrina
- **Hurricane Katrina, New Orleans, LA:** Wind vs. Flood assessment after Hurricane Katrina for 10 single family residences
- **Fire Damage, SC, GA:** Structural design repairs to wood framing due to fire, numerous residences and apartment buildings, various locations
- **Hurricane Isabel, Dare County, NC:** B&D and Bayliss Boatworks, wind damage evaluation of large bay doors after Hurricane Isabel
- **Hurricane Wilma, Miami, FL:** Damage assessment to over 200 concrete tile roofs

Piping and Drainage:

- **City of Dillon Wastewater Improvements, Dillon, SC:** Investigation of buried pipe deformations
- **Winthrop Realty Apartments, Wilmington, NC:** Site drainage evaluation after flood

- **Berwick Subdivision, Savannah, GA:** Analysis of existing storm drainage system
- **Milford Park Subdivision, Irmo, SC:** Residential grading & drainage study
- **Colleton River Plantation, Bluffton, SC:** Investigation of pipe failure with embankment failure for golf course lagoon
- **Cedar Grove Apartments, N. Charleston, SC:** Piping failure and pavement repairs assessment
- **Belfair Residential and Golf Course Community, Bluffton, SC:** Drainage piping investigation
- **FEMA no-rise study using HEC-RAS, Conway, SC**

Existing Structures Analysis:

- **Redeemer Presbyterian Church (formerly St. Andrews Lutheran), circa 1840, Charleston, SC:** Structural condition assessment
- **Indian Springs Condominiums, Hilton Head Island, SC:** Assessment of wood framing damage due to termites
- **SPAWAR Atlantic, North Charleston, SC:** Structural analysis of reinforced concrete floor slab
- **Structural analysis/design** of wood framing and foundations for single-family residences, more than 20 residences, various locations, SC
- **129 Broad Street, Charleston, SC:** Structural condition assessment for pre-1890 building
- **Metalworx, Summerville, SC:** Evaluation of industrial concrete slab on-grade
- **State Farm Fire and Casualty Company, GA, NC, SC, VA, Washington, DC:** Evaluations of masonry wall, concrete slab on-grade, and foundation issues, 10 residences
- **98 King Street, Charleston, SC:** Structural assessment of cracks in multi-wythe brick walls to pre-1840 building
- **Analysis of autoclaved aerated concrete (AAC) walls** for residential townhouse, Beaufort, SC
- **Vibration Claims:** Investigation of vibration and/or sound damage claims of several single-family residences and commercial properties, SC

Materials:

- **Dart Container Warehouse, Atlanta, GA:** Mix design evaluation and assessment of cracks in composite concrete slab
- **Aggregate testing,** Numerous ASTM and AASHTO testing/evaluation of aggregates from various quarries throughout South Carolina
- **Shotcrete Pools, Savannah, GA and Bluffton, SC:** Crack distress survey of 30 shotcrete pools
- **Lower Berkeley County Waste Water Treatment Plant, SC:** Investigation of poor concrete batch

Building Envelope & Roofing:

- **Concrete Tile Roofs, Miami, FL:** Assessment of wind damage to over 200 concrete tile roofs
- **Bethel United Methodist Church, circa 1854, National Register of Historic Places, Charleston, SC:** Investigation of leaking metal roof, design of new standing seam metal roof
- **SC Wind & Hail Underwriting Association, Coastal SC:** Cladding survey, over 70 high- and mid-rise buildings
- **Pulte Sun City, Bluffton, SC:** Stucco condition survey, over 3,000 homes
- **Storm Hail Damage assessment** to asphalt shingle roofs for insurance, several single-family residences, SC, NC
- **Conventional and synthetic stucco investigations** of over 50 residences and commercial buildings
- **Window evaluations** including testing per ASTM E1105, numerous buildings in SC, GA, FL
- **Brick Veneer assessments** for numerous commercial and residential buildings
- **68 Church Street, Charleston, SC:** Window flashing installation evaluation
- **Insulated Concrete Form (ICF), Mt. Pleasant, SC:** Moisture intrusion investigation for ICF residence
- **Factor's Walk, 8 Prioleau Street, Charleston, SC:** Exterior wall assessment of cracks in masonry & stucco
- **Exterior Siding and Trim evaluations,** including cement fiber and engineered wood materials, over 15 residences in SC

Life Safety:

- **Deck collapse** with major injuries, site investigation, Port Royal, SC
- **Rail failures** from impact and bodily force, site investigations and structural analysis for residential and commercial properties, numerous properties, SC
- **Bicycle accident** resulting in injury, site investigation and analysis, Columbia and Hilton Head Island, SC
- **Trip on parking wheel stop**, geometric analysis of parking lot and wheel stop, St. Mathews, SC
- **Fall on stairs and building egress**, site investigation and analysis of three commercial properties, SC