

PROFILE

John L. Schlitter, PE, SE is a Principal Consultant with over 20 years of progressive experience in the design and investigation of buildings and properties. With a background in civil/structural/materials engineering, Mr. Schlitter has designed a wide variety of structures across the United States, including stadiums, dormitories, multi-story commercial buildings, industrial plant buildings, and residences. Mr. Schlitter has conducted over a thousand investigations and has comprehensive knowledge of building construction, design standards and building codes, and extensive experience in providing technical reporting of findings and litigation support. Mr. Schlitter also has a research background in concrete; specifically, concrete shrinkage cracking, thermal cracking, permeability, and reinforcement corrosion. Key strengths include the following:

- ▶ Structural Failures and Collapses
 - ▶ Storm-Related Damage
 - ▶ Construction Defect and Standard of Care Analysis
 - ▶ Building Envelope Failures, Water Infiltration, and Fungal Growth
 - ▶ Concrete Service Life and Maintenance Failures
 - ▶ Foundation Movement and Rehabilitation
 - ▶ Septic System Failures
 - ▶ Swimming Pool Problems
 - ▶ Building Code Requirements for Damage Rehabilitation
 - ▶ Explosion and Ground Vibration Related Damage
 - ▶ Site Grading and Drainage Problems
 - ▶ Inland Marina Damage
 - ▶ Sinkhole Investigations and Rehabilitation
 - ▶ Slip/Trip and Fall Assessments
- ▶ *Industries:* Forensics, Commercial, Industrial, Healthcare, Educational and Residential
- ▶ *CAD/Design Packages:* STAAD, RISA, RAM Structural System, Eneccalc, MathCad, AutoCAD, and Revit

EDUCATION

Master of Science, Civil Engineering, 2010 (Emphasis in Structural and Materials Engineering)

Purdue University – West Lafayette, Indiana

Bachelor of Science, Civil Engineering, 2002 (Emphasis in Structural Engineering)

Purdue University – West Lafayette, Indiana

Chi Epsilon – Civil Engineering Honor Society

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LICENSES

Professional Engineer (P.E.):

- ▶ Connecticut
- ▶ Delaware
- ▶ District of Columbia
- ▶ Florida
- ▶ Indiana
- ▶ Kentucky
- ▶ Maryland
- ▶ New Jersey
- ▶ New York
- ▶ North Carolina
- ▶ Ohio
- ▶ Pennsylvania
- ▶ South Carolina
- ▶ Texas
- ▶ Virginia
- ▶ West Virginia

Structural Engineer (S.E.):

- ▶ Illinois

PROFESSIONAL AFFILIATIONS

- ▶ American Concrete Institute (ACI)
- ▶ American Institute of Steel Construction (AISC)
- ▶ International Code Council (ICC)
- ▶ Pennsylvania Association of Sewage Enforcement Officers
- ▶ International Concrete Repair Institute

PROFESSIONAL BACKGROUND

January 2022 – Present: Envista Forensics – Atlanta, GA

Principal Consultant

November 2015 – January 2022: Envista Forensics – Atlanta, GA

Senior Project Engineer

January 2012 – October 2015: Envista Forensics – Atlanta, GA

Project Engineer

2008 – 2012: KJG Engineering – West Lafayette, IN

Structural Engineer

2007 – 2008: Lockett & Farley Architects, Engineers, and Project Managers – Louisville, KY

Structural Engineer

2002 – 2007: Lockett & Farley Architects, Engineers, and Project Managers – Louisville, KY

Graduate Structural Engineer

REPRESENTATIVE PROJECT EXPERIENCE

Multi-Story Office Building Column Failure

Rockville, Maryland

- ▶ Determined the cause and origin of the sudden failure of multiple structural steel columns that resulted in excessive vertical displacement of the building. Examined and opined on the standard of care of the design, construction, and maintenance of the building for determining allocation of fault.

Multi-family Residential Explosion

Trenton, New Jersey

- ▶ Determined the extent of structural damage to a 135-unit townhome community that was exposed to a natural gas explosion. Defined the reasonable scope of code compliant structural repairs.

Hi-Rise Residential Exterior Concrete Deterioration

Jersey City, New Jersey

- ▶ Litigation support by investigating an allegation of widespread exterior concrete deterioration from improper installation on a 50-story hi-rise condominium building. Determined the cause of reported deterioration and if it was the result of work by the concrete installation contractor. Examined and opined on the standard of care of the design, construction, and maintenance of the building for determining allocation of fault.

Mid-Rise Hotel Widespread Water Infiltration

Baltimore, Maryland

- ▶ Determined the cause and origin of water infiltration through the exterior cladding system of a mid-rise hotel that resulted in damage to over 50 units. Investigated recent work to the cladding and if such work met the standard of care.

Church Roof Collapse

Philadelphia, Pennsylvania

- ▶ Determined cause and origin of the sudden failure of a large church roof (circa 1920 construction). Investigated underlying causes of the failure, including recent roof work to the roof and structure and its compliance with the building code.

Commercial Building Wind Damage

Philadelphia, Pennsylvania

- ▶ Determined if modified bitumen roofing materials at a 300,000 square-foot industrial warehouse were damaged by wind-forces associated with Hurricane Sandy in October 2012. Investigated the roles of design, installation, and maintenance on the failure.

Commercial Building Fire Damage

Hammonton, New Jersey

- ▶ Determined the extent of structural damage to a steel-framed and concrete slab structure that was exposed to an automobile fire within a repair facility. Defined the scope of code compliant building repairs.

Residential Vibration Damage from Marine Bulkhead Installation

Belmar, New Jersey

- ▶ Litigation support by investigating an allegation of structural damage to a luxury single family residence from the installation of a nearby shoreline bulkhead. Determined the cause of reported structural damage to the residence and if was the result of work by the bulkhead installation contractor.

Residential Hurricane Damage

Seaside Heights, New Jersey

- ▶ Determined the cause of damage to interior and exterior building components (asphalt composition shingles, vinyl siding, wooden framing) at a single-family residence that was exposed to wind-forces and storm-tide associated with Hurricane Sandy.

Residential Tree Impact Damage

Rockville, Maryland

- ▶ Determined the extent of structural damage to a single-family residence that was impacted by a large tree. Defined the extent of structural damage and scope of code compliant repairs.

Residential Foundation Failure

Millville, New Jersey

- ▶ Determined the of a failure of a basement wall within a single-family residence, and established the scope of code compliant repairs.

Residential Hail/Wind Damage

Mechanicsburg, Pennsylvania

- ▶ Determined the cause of roofing and siding damage at a single-family residence in response to storm-activity, and established the scope of code compliant repairs.

Aluminum Processing Plant Design and Construction Management

Nanshan America – Lafayette, Indiana

- ▶ New fast track 600,000 square-foot heavy industrial plant. Performed detailed structural analysis of numerous systems including foundations, columns, the roof structure, and the lateral system. The project implemented 50-ton runway cranes with up to 100-foot rail-beam spans. Responsible for structural construction administrative duties including site observations, shop drawing processing, issuing field bulletins, and answering RFI's.

Horse Racing Stadium Renovation Design and Construction Management

Churchill Downs – Louisville, Kentucky

- ▶ \$130 million, 485,000 square-foot renovation/replacement of a large portion of grandstands and suites for the historic horse racetrack facility, Churchill Downs. Performed structural design of the new structure that consisted of auger cast pile foundations supporting composite steel structure and a lateral system of concentric braced frames to meet requirements of a moderate seismic zone. Performed numerous structural observations throughout the duration of the project and was responsible for structural construction

administrative duties including site observations, shop drawing processing, issuing field bulletins, and answering RFI's.

University Dormitory Design and Construction Management

Murray State University - Murray, Kentucky

- ▶ Engineer of Record for the design of a multi-story, 300-bed residential hall with high seismic design requirements of the New Madrid Zone. Responsible for the design of the entire structure including foundations, and the gravity and lateral systems. Responsible for coordination with design-build contractor, in-house architects, mechanical, electrical, & civil disciplines. Responsible for the production of construction drawings with AutoCAD. Responsible for structural construction administrative duties including site observations, shop drawing processing, issuing field bulletins, and answering RFI's.

Industrial Plant Modifications Design and Construction Management

Ford Truck Assembly Plant – Louisville, Kentucky

- ▶ Lead design engineer for the design of fast-track modifications to approximately 100 existing steel roof trusses at a truck assembly plant to support altered roof loadings for the retooling of the assembly line. Responsible for documenting existing conditions and coordinating new loadings. Worked closely with the general contractor to implement work within time constraints of the plant shutdown.

Automotive Training Facility Design and Construction Management

Kia – West Point, Georgia

- ▶ Lead design engineer for a new 70,000 square-foot design-build, fast-track automotive training center, PLC Labs, Hi-bay workshop and administrative space. Highly visible project for KIA and the state of Georgia and included significant architectural flair. Structure was structural steel and utilized several different systems such as exposed long-span steel roof trusses with long-span deck, cantilever structural steel, joists, hanging walkways, curtainwall, and light gage. Responsible for the design of the entire structure including foundations, and the gravity and lateral systems. Selected all structural systems and produced drawings with AutoCAD.

Single- and Multi-Family Residential Development Design and Construction Management

Fort Knox Housing Developments – Fort Knox, Kentucky

- ▶ Design-build project consisting of several neighborhoods on the Fort Knox army base with a mix of new construction and renovation. New construction involved two neighborhoods of approximately 400 three/four bedroom homes. Responsible for the structural design and construction administration of the residences which included conventional wood framing and prefabricated wood joints/trusses. Foundation design involved a combination of post tensioned slab-on-grade systems or spread footings based on variable soil conditions. Also included structural design and construction administration for the renovation and repair of several historic residences.

PUBLICATIONS

- ▶ Schlitter, J.L., Senter, A.H., Bentz, D.P., Nantung, T., and Weiss, W.J., Development of a Dual Ring Test for Evaluating Residual Stress Development of Restrained Volume Change, *Journal of ASTM International*, 7 (9), 13 pp., 2010.
- ▶ Schlitter, J.L., Bentz, D.P., and Weiss, W.J., Quantifying Stress Development and Remaining Stress Capacity in Restrained, Internally Cured Mortars, *ACI Materials Journal*, 110 (1), 3-12, 2013.
- ▶ Shin, K., Castro, J., Schlitter, J., Golias, M., Pour-Ghaz, M., Henkensiefken, R., Peled, A., and Weiss, W. J., (2010) "The Role of Internal Curing and A Method to Improve Durability," *Handbook of Concrete Durability* Ed A. H., Kim and K. Y. Ann 379-428.
- ▶ Barrett, T.J., De la Varga, I., Schlitter, J., Weiss W.J., (2011) "Reducing the Risk of Cracking in High Volume Fly Ash Concrete by Using Internal Curing", *World of Coal Ash Conference (WOCA)*, Denver, CO, 2011.
- ▶ Raoufi, K. Schlitter, J., Bentz, D., and Weiss, W. J., (2011) "Parametric Assessment of Stress Development and Cracking in Internally Cured Restrained Mortars Experiencing Autogenous Deformations and Thermal Loading," *Advances in Civil engineering*, Vol. 2011, Article ID 870128, 16 pp.
- ▶ Schlitter, J., Raoufi, K, Alexander, J., Weiss, J., (2010) "Design of a Large Scale Restrained Shrinkage Testing System." *Structures Congress 2010*: pp 1927-1937.
- ▶ Schlitter, J., Barrett, T., Weiss, W. "Restrained Shrinkage Behavior Due to Combined Autogenous and Thermal Effects in Mortars Containing Super Absorbent Polymer (SAP). *International RILEM Conference on the use of Superabsorbent Polymers and other New Additives in Concrete*, August 2010, Technical University of Denmark, Lyngby, Denmark.
- ▶ Schlitter, J. A Thesis Submitted to the Faculty of Purdue University: New Methods to Quantify the Cracking Performance of Cementitious Systems Made with Internal Curing. December 2010.
- ▶ DiBella, C., Schlitter, J., Carboneau, N., Weiss, J. (2012) "Documenting the Construction of a Plain Concrete Bridge Deck and an Internally Cured Bridge Deck," *Indiana Local Technical Assistance Program*, TR-2-2012.
- ▶ Schlitter, J., Henkensiefken, R., Castro, J., Raoufi, K., Weiss, J., & Nantung, T. (2010). Development of Internally Cured Concrete for Increased Service Life. *Joint Transportation Research Program*.