

EDUCATION

- 2007 **Bachelor of Science, Civil Engineering**
Pennsylvania State University, University Park, PA
- 2007 **Honors Thesis, Structural Evaluation**
Schreyer Honors College, University Park, PA

EXPERIENCE

- July 2022
to Present **Engineering Design & Testing Corp.**
Remote - Asheville, NC
- Consulting Engineer*
Investigation of cause and extent of structural damage, experience with structural collapse, snow loads, sinkholes, foundation settlement, vehicle impacts, hail/wind damage, fire damage, long-term deterioration, and construction defects. Investigation of cause and extent of building envelope damage, with experience in water infiltration, moisture intrusion, hail/wind damage, and long-term deterioration.
- March 2008
to May 2022 **Barry Isett & Associates**
Allentown, PA
- Senior Forensic Engineer*
Investigation of cause and extent of structural damage, including snow load roof collapse, parking garage collapse, sinkholes, foundation settlement, vehicle impacts, hail/wind damage, fire damage, long-term deterioration, and construction defects. Investigation of cause and extent of architectural damage, including water infiltration, moisture intrusion, hail/wind damage, and long-term deterioration. Repair design of structural systems, including wood, concrete, steel, light-gauge, and masonry elements. Repair design of building envelope systems, including membrane roofing, insulation systems, and various façade and flashing systems. Historic structure assessment and repairs conforming with original building construction methods. Managed drafting staff during design for generating structural and architectural drawings. Managed multi-discipline staff during comprehensive assessment of building systems. Performed property condition assessments for due diligence investigations according to ASTM E2018. Performing demolition special inspections, registered with the City of Philadelphia. Structural analysis and strengthening design for wood, steel, and concrete structures. Aerial lift operation and remote access using rope and belay/rappel systems.
- June 2007
to February 2008 **Taggart Global**
Pittsburgh, PA
- Structural Engineer*
Designed and drafted steel framing for coal processing facility structures. Assessed existing structures for retrofits. Created analysis model templates in design software for replication in new structural projects.

EXPERIENCE

Engineering Investigations (partial list)

Flood and Wind Damage Commercial Structures — Asheville, NC

Causation and extent of damage to multiple structures in response to Hurricane Helene winds and flooding

Concrete Heat of Hydration Investigation — Augusta, GA

Causation of surface cracking and extent of damage to large concrete foundations for future smelting plant equipment as it related to higher monitored heat during concrete curing

Bowling Alley Collapse — Northampton, PA

Causation investigation of a bowstring roof truss collapse, including document review and invasive sampling of building materials.

Bakery Roof Collapse — Easton, PA

Emergency assessment of a partially collapsed freezer roof and design of repairs.

Millwork Building Assessment — Barclay, MD

Assessment of missing or inadequately attached lateral braces in a pre-manufactured building and observation of repairs.

Parking Deck Collapse — Allentown, PA

Assessment of steel-framed, parking deck collapse, immediate recommendations for safety, and report of causation and extent of damage.

Sinkhole Investigation — Bethlehem, PA

Assessment of multi-residential structure for structural damage after water main break and related sinkhole activity, causation report, design and oversight of pressure grouting and pile repairs.

Roofing Investigation — Jamison, PA

Assessment of re-roofing with multiple points of water infiltration, involving core sampling, and assessment of code compliance violations by the contractor, with causation report and recommendations.

Repair Design and Construction Management (partial list)

Beachfront Condominium Rehabilitation — Rehoboth Beach, DE

Prime Professional and Owner's Representative during a 6-year phased project, consisting of structural, façade, and envelope assessments, design of repairs, and project management of a 105-unit steel/concrete building.

Historic Barn Repairs — Landisville, PA

Assessment of historical barn that was moved to a new location. Design of period-correct bracing that was not installed during the original move and observations of repairs.

Parking Garage Collapse — Easton, PA

Assessment of steel-framed parking garage collapse, provide temporary shoring and safety recommendations, and provide design construction oversight of repairs.

Steel Recycling Facility Truck Impact — Alburtis, PA

Emergency assessment of long-span steel roof framing impacted by truck, provided shoring and demolition recommendations, and design and oversight of repairs.

Structural/Architectural Consulting (partial list)**Aluminum Products Manufacturing Plant Fire — Lebanon, PA**

Fire damage assessment to determine extents of damage and safety.

Airport Hanger Roof Structure Analysis — Allentown, PA

Finite element analysis of a cantilevered steel truss for deflection and strength, for a proposed added load from over-roofing.

Demolition Special Inspections — Philadelphia, PA

Full-time demolition special inspections for a 4-story concrete, steel, and masonry structure with a 90-foot-tall masonry chimney.

Battery Manufacturing Plant Roof Reinforcing — Lyons, PA

Analysis of existing steel roof structure and quantifying existing mechanical loads. Design steel reinforcing to support existing loads.

Community College Property Condition Assessment — Schnecksville, PA

Conducted condition assessment of multiple college campus buildings according to ASTM E2018, including site, envelope, and structural as well as managing MEP assessments.

Roofing Investigations — Various Locations

Hundreds of investigations into roofing damage and leaks of all surface types (built-up, modified bitumen, thermoplastic, thermoset, SPF, metal, vegetated, shingle, tile, slate, and wood).

Facade Investigations — Various Locations

Hundreds of investigations into facade damage and leaks of all types (wood, fiber cement, vinyl, aluminum, screenwall, curtainwall, stone, brick masonry facade, mass masonry wall, slate, metal, EIFS, and stucco).

Legal Consultation (partial list)**Roof Water Infiltration Investigation — Allentown, PA**

Thermal imaging and invasive investigation to determine cause and origin of water infiltration and appropriate repairs.

Condominium Association Failing Sidewalks and Driveways — Macungie, PA

Investigation into cracking/heaving sidewalks and driveways in a newly constructed complex of single-family home condominiums.

Concrete Deck Topping Slab Replacement Investigation — Charlotte, NC

Investigation into cracking/debonding of a newly installed concrete topping slab to differentiate between installation and design issues.

Storefront Door Installation Investigation — Banner Elk, NC

Investigation into door installations that after installation, required adjustment, to determine causation of movement, and differentiate between sources of water infiltration.

Grading and Soil Improvement Investigation — Weaverville, NC

Investigation into soil improvement and grading prior to construction, to determine the standard of care for construction parties based on contract documents.

REGISTRATIONS and CERTIFICATIONS

Registered Professional Engineer in Pennsylvania (081852)
Registered Professional Engineer in Maryland (0045602)
Registered Professional Engineer in New Jersey (24GE05190200)
Registered Professional Engineer in Delaware (19410)
Registered Professional Engineer in West Virginia (20854)
Registered Professional Engineer in Tennessee (126633)
Registered Professional Engineer in North Carolina (054198)
Registered Professional Engineer in South Carolina (40429)
Registered Professional Engineer in Georgia (PE049071)
Registered Professional Engineer in Virginia (0402054156)
Registered Professional Engineer in Florida (95110)
Registered Professional Engineer in Kentucky (38741)
Registered Professional Engineer in Illinois (062.075264)
Registered Professional Engineer in Ohio (91854)
AWCI – Certified EIFS Professional (1243419)
National Council of Examiners for Engineers and Surveying Record (14-512-98)

PUBLICATIONS

“Structural Evaluation of a 1937 Truss Bridge in Mifflintown, PA” Honors Thesis, Schreyer Honors College, Penn State University, May 2007

PRESENTATIONS

“Design as a Part of the Forensic Investigation,” presented at the Engineering Design & Testing Conference in February 2025

“Sinkholes and Structural Damage: An Insurance Industry Perspective,” presented at the Pennsylvania Association of Mutual Insurance Companies (PAMIC) Claims Summit, April 2019 in Gettysburg, PA, online in November 2019, and at the Engineering Design & Testing Conference in February 2023

“Codes, Quality, & Caution: When You Need a Structural Engineer,” presented online to the Pennsylvania State Association of Township Supervisors, December 2019

PROFESSIONAL ORGANIZATIONS

American Society of Civil Engineers (ASCE)

CONTINUING EDUCATION

- 2025 *ASCE: Ethics in Sustainable Development for Civil and Structural Engineers*, Online Seminar
ASCE: Wood Deterioration Investigations and Repairs, Online Seminar
EDT: Issues Encountered During Roofing Evaluation, San Antonio, TX
EDT: Use of Data & Analytical Tools in RCA, San Antonio, TX
EDT: Evaluation of Commercial Flat Roofs – Hail/Wind Break, San Antonio, TX
EDT: Moisture Intrusion into Residential and Commercial Buildings, San Antonio, TX
SGH – Microstructures and Fracture Surfaces: How to Read Metals, Online Seminar
- 2024 *EDT: Large Loss, Root Cause, and Scope*, Greenville, SC
EDT: Hail Testing on Metal Roofs, Greenville, SC
EDT: The Technical Challenges of Oceanic Wind Turbines, Greenville, SC
EDT: Large Concrete Sewer Condition Assessment, Greenville, SC
EDT: Heat, Air, and Moisture Control in Building Envelopes, Greenville, SC
SGH - Metallurgical Failure Analysis, Online Seminar
SGH - Preserving Modernism: Assessing and Rehabilitating Historic Twentieth-Century Curtain Walls and Window Walls, Online Seminar
ASCE's Code of Ethics (AWI112922), Online Seminar
PDH-Engineer L-2039: Advanced Florida Building Code 8th Edition (2023): Covering the Most Significant Changes, Online Seminar
ASCE The Pricing of Delay Costs for Construction Projects (AWI011513), Online Seminar
SGH - Understanding IECC Building Enclosure Requirements, Online Seminar
ASCE Avoiding Problems in Specifying Metal Roofing (AWI111210), Online Seminar
ASCE How to Price and Document Your Delay Claims (AWIW121421), Online Seminar
L-1040: Laws and Rules for Florida Engineers, Online Seminar
- 2023 *Exposure Category Determination and Impact on Residential Structures*, Engineering Design and Testing Conference
Civil/Structural Medley, Engineering Design and Testing Conference

Commercial Roof Information, Evaluation, Repairs, and Reporting, Engineering Design and Testing Conference

SGH- *Fenestration Water Infiltration: Improving Resistance During Hurricanes*, Online Seminar

ASCE - *Architectural Concrete: Design and Construction Strategies to Maintain Appearance & Limit Water Intrusion*, Online Seminar

ASCE - *Hydrologic Trespass and Nuisance Considerations in Stormwater Management Design (Water Law)*, Online Seminar

ASCE - *Case Study: A Fresh Look at the Citicorp Engineering Ethics Dilemma*, Online Seminar

ASCE - *Avoiding Ethical Pitfalls in Failure Investigations*, Online Seminar

ASCE 59-11 *Blast Protection of Buildings*, Online Seminar

ASCE - *Bridge Demolition with Explosives*, Online Seminar

ASCE - *Geo-Structural Investigation of Existing Structures*, Online Seminar

SGH- *Investigating Extensive Fire Damage to the New Zealand International Convention Centre*, Online Seminar

SGH- *Break from the Mold: Hygrothermal Analysis of Building Enclosures*, Online Seminar

SGH- *Mass Masonry Buildings Part 1 and 2*, Online Seminar