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**David M. Roebuck | Senior Principal Engineer - Large/Complex Loss, P.E.**

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**Professional Summary:**

Mr. Roebuck has over 35 years of experience in structural engineering including forensic investigations, cause and origin investigations, building condition assessments, design of new facilities and structural analysis of existing buildings. He has designed numerous structures in structural steel, reinforced concrete, prestressed and post-tensioned concrete, timber and masonry. He has led multiple construction defect and structural failure investigations and provided expert opinions and testimony. Mr. Roebuck has extensive experience working overseas for governmental organizations and private sector clients including assignments in Africa, Central Asia, Europe, South America and the Caribbean. Mr. Roebuck has served as lead inspector and engineer-of-record for multiple catastrophic (CAT) event assignments.

**Areas of Expertise:**

- Structural engineering analysis and design
- Structural failure investigations
- Construction defect investigations
- Storm damage assessments
- Cause and origin evaluations
- Fire damage assessments
- Roof condition and damage assessments
- Building condition assessments
- Foundation deficiencies
- Tank and basin failures
- Non-destructive testing and analysis
- Construction and project management
- Water and wastewater treatment facilities condition assessments

**Licenses and Certifications:**

Professional Engineer, New York, License #87565

Professional Engineer, Alabama, License #16781

Professional Engineer, Florida, License #40495

Professional Engineer, Georgia, License #15717

Professional Engineer, Texas, License #102712

Professional Engineer, Colorado, License #0056445

Professional Engineer, Louisiana, License #43883

Professional Engineer, Maine, License #16210

Professional Engineer, Arkansas, License #12208

Professional Engineer, Indiana, License #11900609

Professional Engineer, Tennessee, License #123157

Professional Engineer, Kentucky, License #35140

Professional Engineer, Oklahoma, License #31490

Professional Engineer, Wisconsin, License #47368

Professional Engineer, Kansas, License #27225

Professional Engineer, Missouri, License #2019038877

Professional Engineer, Mississippi, License #30462

Professional Engineer, South Carolina, License #17523

Professional Engineer, Washington, License #19110574

Professional Engineer, New Mexico, License #26012

Certified Construction Manager, CMCI, #0064

Project Management Professional, PMI, #1673444

FAA Licensed Private Pilot, License #3808027

FAA Licensed Commercial Drone Pilot, License #4313162

### Selected Project Experience:

#### **Hurricanes Laura, Delta, Zeta and Sally CAT Events Structural Damage Assessments**

Inspected numerous structures throughout Louisiana, Mississippi and Alabama that sustained damage during the hurricanes of 2020 and served as the engineer-of-record for the associated engineering reports.

#### **Nashville Tennessee Tornado CAT Event Structural Damage Assessments**

Performed multiple inspections of tornado damage to commercial and residential structures in the Nashville Tennessee area following the March 2020 storms. Led a team of engineers providing onsite inspections and wrote structural damage assessment reports documenting the type and severity of the damage and provided recommendations for repair or replacement.

#### **EnerSys Battery Manufacturing Facility Fire Structural Damage Assessment**

Inspected industrial facility located in Richmond, Kentucky following a fire that severely damaged the battery charging area. Inspection was conducted in conditions requiring full PPE due to the presence of hazardous combustion by-products and battery components. Performed non-

destructive testing of major structural components to determine the extent of fire damage and developed recommendations for areas of the structure that required demolition and replacement.

#### **Koch Foods Poultry Facility Structural Failure**

Investigated the collapse of the second-floor structure at the facility in Gadsden Alabama. Evaluated the existing structural system and determined the cause of the collapse to be a combination of deficient construction and overloading. Provided technical guidance and site monitoring during the selective demolition and shoring of the structure as required to remove raw chicken product from below the collapse debris prior to rebuilding efforts.

#### **Aegis Ashore Missile Defense Facility – Slupsk, Poland**

Served as the Assistant Chief Engineer for the on-site engineering design and construction management team for the design/build project for the US Department of the Navy Missile Defense Agency. Provided day-to-day engineering and construction management support for the construction of complex radar tracking facilities and missile launch modules at a World War II-era air base. Worked closely with the US Army Corps of Engineers and construction personnel to interpret design drawings and develop field modification designs for various components of the multi-structure facility.

#### **Grenada Water Transmission Main Design/Build Project**

Project manager and designer of water transmission main project on the island nation of Grenada that extended from the capital city of St George's along the coast to serve other portions of the island. Obtained financing for the project through the Export-Import Bank of the US for the Government of Grenada. Designed the project and managed the construction using company forces.

#### **US Consulate Blast Damage Assessment Herat, Afghanistan**

Led a team of engineers to evaluate the structural condition of the seven-story US Consulate in Herat, Afghanistan, which was a target of a Taliban truck bomb attack that severely damaged the facility. Evaluated the existing structure and prepared a report concluding that the cast-in-place reinforced concrete frame structure had not suffered irreparable damage even though significant portions of the building façade and envelope were destroyed. Presented conclusions to the US Ambassador and the State Department's Bureau of Overseas Building Operations that were then used as the rationale for the decision to repair and not demolish the Consulate.

#### **Talladega Super Speedway Tunnel Design and Construction**

Designer and Engineer-of-Record for the design of tunnel under Turn 3 at Talladega Super Speedway. Tunnel is 204 feet long by 28 feet wide and accommodates two-way traffic with tractor-trailer sized rigs from the outside of the racetrack to the infield. Designed and detailed the tunnel structure including approach walls, roadway slab and adjacent crash walls and worked closely with the contractor to address multiple fabrication and construction issues related to the accelerated schedule. Construction began after the October 2018 race and was completed prior to the April 2019 race.

#### **Grenada Boys Secondary School Structural Assessment and Replacement**

Inspected the heavily corroded structural steel framework caused by poorly protected steel in the saltwater environment and recommended immediate evacuation. Developed a plan for financing, designing and rebuilding the school at the request of the Government. Obtained and managed US Export-Import Bank financing and designed the new school using precast concrete sections manufactured in the US for export. Infill reinforced masonry was installed around those units for

a corrosion resistant final product. The school was later used as a storm shelter during Hurricane Ivan and suffered no significant damage despite the storm's sustained 135 mph winds.

#### **Benue State Nigeria Cement Manufacturing Facility Engineering Feasibility Study**

Principal engineer and project manager for large infrastructure feasibility study for the State Government of Benue in Nigeria. Responsible for planning the infrastructure systems to support the proposed manufacturing plant and developed the overall conceptual design. Worked closely with the indigenous population at the proposed site and managed the environmental impact assessment component in accordance with World Bank standards.

#### **Inspections of Numerous Facilities in Afghanistan**

Served as Senior Engineer for the Special Inspector General for Afghanistan Reconstruction (SIGAR) inspecting and reporting on numerous facilities throughout the country including Afghan National Army and Afghan National Police compounds. Projects were in very insecure locations requiring extensive security for the inspection team. Transportation to these sites involved military helicopters, armored vehicles and military escorts. Inspections were conducted in full body armor. Discovered many instances of major construction deficiencies, failures and waste. Inspection reports were used in SIGAR's audit reports to Congress.

#### **Structural Failure Investigations**

Performed numerous investigations of failed structures for various clients including building owners, insurance firms, attorneys and property management companies. Investigated large industrial facilities, institutional buildings, office buildings, apartments and single-family residences and written hundreds of investigation reports documenting findings, conclusions and recommendations. Provided technical reports for use in legal proceedings and testified as an expert witness in court.

#### **Project Management Office (PMO)**

Senior project manager for PMO focusing on infrastructure projects for the United States Agency for International Development (USAID). Provided remote and on-site project leadership to teams of professionals involved in USAID development and capacity building projects in Central Asia and Africa. Roles included oversight of project deliverables, quality assurance, client management, financial control and reporting, new project proposal development.

### **Professional Experience:**

EFI Global Inc, Sr. Principal Engineer – Large/Complex Loss, July 2021 – Present  
J.S. Held, LLC, Senior Engineer II, May 2019 – July 2021

Krebs Engineering, Inc, Senior Associate/Principal Structural Engineer, November 2017 – May 2019

Amec Foster Wheeler (Wood PLC), Senior Engineer/Project Manager, November 2014 – November 2017

USAID, Senior Engineer/Project Manager, January 2011 – November 2014  
Special Inspector General for Afghanistan Reconstruction, Senior Engineer, September 2009 – Jan 2011

ARMCG, Principal/Lead Structural Engineer, December 1987 – September 2009



Chasman & Associates, Senior Engineer, December 1984 – December 1987

Paul B. Krebs & Associates, Staff Engineer, August 1981 – December 1984

**Education:**

Master of Science in Civil Engineering (Structural Emphasis), University of Alabama at Birmingham, Birmingham AL, 1984

Bachelor of Civil Engineering (with Honor), Auburn University, Auburn AL, 1981

**Affiliations:**

National Academy of Building Inspection Engineers (NABIE, an affinity group of NSPE)

National Society of Professional Engineers (NSPE)

**Honors and Awards:**

NABIE, Elected to Fellow of the Academy

NABIE, Past National President

NABIE, Chairman of Building Inspection Engineer Certification Committee

ASCE, Georgia Section President, 1993

ASCE, Northeast Georgia Branch, Founder and First President, 1986