

## Michael Hennessy, PE | Forensic Engineer

407 South 107<sup>th</sup> Avenue, Suite A22, Tolleson, AZ 85353

480-350-9911

Michael.Hennessy@efiglobal.com

### Professional Summary:

Michael Hennessy has experience in structural design of wood, masonry, and steel structures. This includes items such as single and multi-family residences, light commercial structures, non-building structures (i.e. site walls, light poles, solar canopies, etc.), and alterations/additions to existing residential and light commercial structures. In the field of forensic engineering, his expertise covers the areas of construction defects, foundation and soil movement, and repair and reconstruction. Mr. Hennessy also provides expertise in building envelope issues and hail/wind/storm damage to residential and commercial structures, and addresses building code compliance issues. Other areas of expertise include Structural Special Inspections during various stages of building construction and drafting structural building plans for repair/reconstruction projects. As a licensed Small Unmanned Aircraft Systems Remote Pilot, Mr. Hennessy has also conducted numerous drone surveys for various residential and commercial roof surfaces.

### Licenses and Certifications:

Professional Engineer, CA, #C 94279

Professional Engineer, AZ, #70770

Professional Engineer, NM, #26334

Professional Engineer, CO, #PE.0057357

Professional Engineer, TX, #138141

Professional Engineer, UT, #11715416-2202

Professional Engineer, WY, #18054

Small Unmanned Aircraft Systems Remote Pilot, Federal Aviation Administration (FAA), #4180444

### Project Experience:

#### **EFI Global, Inc., Tolleson, AZ Structural Fire/Vehicle Impact Repair and Reconstruction**

Performed field inspections of fire-damaged and vehicle-impacted commercial and residential structures to assess the structural integrity of the buildings. Engineering reports were issued listing the extent of structural damage and the scope of repair work based on field observations. In the event that changes were made to the original structure, structural repair drawings and calculations were provided in order for the contractor to obtain a building permit for reconstruction.

**EFI Global, Inc., Tolleson, AZ**  
**Foundation and Soil Movement**

Performed field inspections to assess the Origin and Cause as well as extent of differential foundation movement in residential structures. Floor elevation surveys were conducted via a ZipLevel Pro 2000 to generate a topographic map of the foundation systems, and a report containing findings, soils research obtained via the USDA Web Soil Survey online database, and a scope of repair recommendations was presented to clients.

**EFI Global, Inc., Tolleson, AZ**  
**Building Envelope/Moisture Intrusion**

Conducted Origin and Cause investigations of moisture intrusion into commercial and residential buildings. Interior moisture assessment of the buildings took place via penetrating and non-penetrating moisture meters. Observations, results, and a scope of repair recommendations were presented in a report format to clients.

**EFI Global, Inc., Tolleson, AZ**  
**Wind/Hail/Storm Damage**

Conducted inspections for multiple types of roofing systems on commercial and residential structures including (but not limited to) asphalt shingle, built-up roofing systems, clay and concrete tile, EPDM, TPO, and SPF with elastomeric coating to determine the Origin and Cause as well as the extent of wind, hail, and storm-related damages. Observations, results, and a scope of repair recommendations were presented in a report format to clients.

**EFI Global, Inc., Tolleson, AZ**  
**Roof Drone Survey**

Conducted drone surveys for documentation of inaccessible and/or unwalkable single-family residential clay tile roof surfaces and multi-story apartment complex roof surfaces of varying types. The drone photographs were utilized for Mr. Hennessy's own investigations as well as the investigations of other EFI engineers.

**United Structural Design LLC, Mesa, AZ**  
**AJ Apartments, Apache Junction, AZ**

Provided structural design services for a two-story multi-family apartment building. Construction included wood framing and concrete stem/footings and slab-on-ground foundation systems.

**United Structural Design LLC, Mesa, AZ**  
**Solar Canopy Design, Apache Junction, AZ**

Provided structural design services for multiple solar canopies serving as parking shade structures on various commercial and residential properties. The canopies included hot-rolled and cold-formed steel construction bearing on concrete drilled pier foundations.

**Getty Engineering Inc., Scottsdale, AZ**  
**Roof Collapse**

Assisted in the Origin and Cause investigation of a fire station roof collapse that occurred in Northern Arizona. A field evaluation of the site conditions took place, and a structural design check of the existing roof structure and supporting walls was provided. The original structural engineering calculations and drawings for the building were checked for compliance with the International Building Code (IBC) and ASCE-7 Minimum Design Loads for Buildings and Other Structures.

### Professional Experience:

EFI Global, Inc., Forensic Engineer, Mesa, AZ 2017 – Current  
United Structural Design, LLC, Project Engineer, Mesa, AZ 2018 – 2019  
Augspurger Komm Engineering, Inc., Engineering Consultant, Phoenix, AZ 2016 – 2017  
Engineering Forensics Experts LLC, Forensic Engineering Consultant, Mesa, AZ 2014 – 2016  
Getty Engineering Services Inc., Forensic Engineering Consultant, Scottsdale, AZ 2010 – 2014  
Honsi & Associates, Structural Designer/Drafter, Tempe, AZ 2009 – 2010  
Terrane Engineering Corp., Staff Engineer/Lab and Field Technician, Chandler, AZ 2009

### Specialized Education:

Drone Pilot Ground School (for FAA Part 107 Aeronautical Knowledge Test), 2019  
Principles and Practices of Engineering Civil Exam Review Course, School of PE, 2016  
ADA Regulations and their Impact on Design Professionals, 2016  
AHERA Initial Building Inspector Course, The Asbestos Institute, 2015  
Nuclear Gauge Soils and Asphalt Compaction Testing, ATI, 2008

### Education:

Bachelors of Science, Civil Engineering (Structural Emphasis), Arizona State University, Tempe, AZ  
2008