

## Ryan Mikesell | District Engineering Principal, PE

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### Professional Summary:

Ryan Mikesell has been involved in forensic engineering since 2016. During this time, he has participated in hundreds of assignments in several states. These projects included roof inspections of multiple materials for weather damage, foundation inspections for settlement, building envelope inspections for water intrusion, framing inspections for damage, and flood damage inspections. A large part of Mr. Mikesell's time is spent examining the damage to structures from fires or other causes of loss and providing repair recommendations which include construction drawings.

After the 5.7 Earthquake in Magna Utah on March 18, 2020, Mr. Mikesell performed multiple site examinations for earthquake related damage. These examinations typically included a site assessment, floor elevations survey, seismic force research, and soil research. Mr. Mikesell has also worked multiple CAT assignments in Houston Texas for Hurricane Harvey and South Carolina for Hurricane Matthew.

Ryan Mikesell has had eight years of experience in the structural design field and has designed and provided drawings for multiple projects. These projects included schools, religious buildings, fire stations, and various commercial structures of all types of building materials. This experience has allowed him to become familiar with how structures are built and the various building codes.

The following are areas of expertise for Mr. Mikesell:

- Structural Design
- Drafting with AutoCAD
- Roofing Inspections
- Structural Inspections
- Fire Damage Inspections for Wood, Concrete, and Steel Construction

### Licenses and Certifications:

Professional Engineer, Utah, 9819610

Professional Engineer, Wyoming, 15891

Professional Engineer, Montana, 48822

Professional Engineer, Idaho, 17148

Professional Engineer, Arizona, 63305

Professional Engineer, New Mexico, 24534

Professional Engineer, Colorado, 51698

Professional Engineer, Nevada, 024435

Professional Engineer, Texas, 128132

Professional Engineer, Florida, 83881

### Project Experience:

Liberty Mutual Insurance, Englewood, CO  
Metal Building Roof Inspection

Owner claimed that hail or wind caused damage to the roof of the building that resulted in water intrusion and interior damage. There were no hail related dents or fractures found and the reported wind damage was the result of foot traffic.

Bear River Mutual, Murray, UT  
Stone Coated Steel Panel Roof Inspection

Large hail event dislodged granules from stone coated steel panels. No fractures were observed. Damage was cosmetic.

Shelter Insurance, Highlands Ranch, CO  
Concrete Tile Roof Inspection

Homeowner was claiming hail damage caused water intrusion into dwelling. Contractor was claiming tiles were discontinued and entire roof required replacement. The roof was inspected to find the damage was not from hail and a tile was taken and sent to a lab and found to have similar tiles available near the subject property.

Auto Owners Insurance, Draper, UT  
Composition Shingle Roof Inspection

Homeowner claimed hail damage to roof. Minor hail damage was found; however, roof was determined to be toward end of service life and more susceptible to hail.

Nationwide Insurance, Columbus, OH  
Cedar Shake Roof Inspection

Roof was determined to be damaged by hail. The shingles had multiple fractures to the edges and dents will not rebound with future wetting cycles.

Guidene Insurance, West Des Moines, IA  
EPDM Roof Inspection

Contractor was claiming wind caused damage to roof that resulted in water intrusion. After examination it was determined the damage appeared to be the result of shrinkage and deterioration.

Alpine Cleaning and Restoration, Smithfield, UT  
Fire Damage Assessment and Repair

A fire occurred in the third car garage addition of a two-story residential structure. The third car garage was destroyed and the adjacent wall and roof of the original structure. Determined extent of damage and provided repair.

Sedgwick, Boise, ID  
Car Impact Damage Assessment

A vehicle impacted the storefront of a restaurant damaging three walls. The amount of damage was assessed, and the remaining structure was inspected for additional damage.

ARS, Riverdale, UT  
Metal Self Storage Building

A fire inside a storage unit caused damage to the metal roof and walls, which also affected adjacent units. The extent of damage was determined, and repair was provided.

USAA, San Antonio, TX  
Interior Drywall Cracking

The insured was filing claim for interior drywall cracking. Settlement was noted by not consistent with cracking. Destructive examination determined wall was dragging wind forces from roof and causing drywall to crack.

Cincinnati Insurance, Cheney, WA  
Prefabricated Truss Collapse

During construction and while setting the prefabricated wood trusses, the trusses tipped and collapsed. It was observed that there was not enough bracing to secure the trusses. This was confirmed later by research the proper procedures for bracing trusses during construction.

Utah Disaster Kleenup, Draper, UT  
Seismic Retrofit

An unreinforced service station was impacted by a vehicle causing substantial structural damage to the block walls. The building required an engineering assessment and seismic retrofit per the International Existing Building Code.

Intermountain Claims, Salt Lake City, UT  
Fire Damage Assessment and Repair

A fire occurred in a prefabricated steel building which caused damaged to the steel roof purlins and metal stud walls. The site was examined to determine the extent of the damage to the metal framing and drawings were prepared for the reconstruction.

State Farm Insurance, Columbia, MO  
Earthquake Distress Assessment

The insured had multiple cracks in the brick veneer that were reportedly caused by an earthquake. The brick veneer was observed to be bearing on a concrete curb that was inadequate and was causing the brick to subside and crack.

### Professional Experience:

EFI Global, District Engineering Principal, 2018 – Present  
Unified Investigations and Sciences, Forensic Structural Engineer, 2016 – 2018  
BHB Consulting Engineers, Project Engineer, 2012 – 2016  
BHB Consulting Engineers, Project Drafter, 2008 – 2012

### Specialized Education:

Fundamentals of Engineering Examination, NCEES, 2011  
Professional Engineering Examination, NCEES, 2016  
Biodeterioration of Wood (Tested), PDHengineer, 2016  
Repair Techniques for Metal Plated Wood Trusses (Tested), SunCam, 2016  
Practical Forensic Engineering (Tested), SunCam, 2016  
Building Envelope Trained (Tested), Building Envelope Science Institute, 2017  
Certified Building Envelope Inspector (Tested), Building Envelope Science Institute, 2017  
Certified Residential Roof Inspector (Tested), HAAG Education, 2017

Certified Commercial Roof Inspector (Tested), HAAG Education, 2017  
Assessment and Evaluation Methods and Tools of Structural Forensic Investigations (Tested),  
American Society of Civil Engineers (ASCE), 2018  
2012 IRC Wood Wall Bracing Provisions, International Code Council, 2018  
Structural Loads and Load Paths, International Code Council, 2018  
2018 IBC Transition from the 2012 Structural Provisions, International Code Council, 2018  
2018 IRC Transition from the 2012 IRC, International Code Council, 2018  
2018 IBC Transition from the 2012 IBC, International Code Council, 2018  
Roofing Systems: A Primer for Engineers, American Society of Civil Engineers, 2018  
How to Use the ASCE 7-16 Wind Provisions, Structural Engineers Association of Utah, 2019  
Legal Aspects, Structural Engineers Association of Utah, 2019  
2018 IBC/IEBC Significant Structural Changes, Structural Engineers Association of Utah, 2019  
International Residential Code 1018 (Tested), HalfMoon Education Inc. 2020  
Lateral Wood Design Tips: FTAO & Perforated Shearwall Methods, Structural Engineers  
Association of Utah, 2020  
Lateral Wood Design Tips: Collectors, Chords, & Diaphragms, Structural Engineers Association of  
Utah, 2020  
Partial Voluntary Seismic Residential Upgrades, Structural Engineers Association of Utah, 2020  
Designing for Resiliency-Why Life Safety is not Enough, Structural Engineers Association of Utah,  
2020  
Taking the Complexity out of Post-Tension Design, Structural Engineers Association of Utah, 2020  
Modeling & Analysis of Semi-Rigid Diaphragms-Best Practices, Structural Engineers Association  
of Utah, 2020  
Building Design-The Intelligent Approach, Structural Engineers Association of Utah, 2020  
The Ethical Spectrum & Developing Sound Professional Practices, Structural Engineers Association  
of Utah, 2020

**Education:**

Bachelor of Science, Civil Engineering (Structural Focus), University of Utah, Salt Lake City, UT, 2012

**Affiliations:**

Structural Engineers Association of Utah (SEAU)  
American Society of Civil Engineers (ASCE)

**Courses Instructed/ Guest Lecturer:**

Effects of Earthquakes

Effects of Fire and Heat to Building Materials