

## **SAMUEL R. HENNING, B.Sc., P.E.**

---

### **EDUCATION:**

B.Sc. Civil Engineering, University of Colorado, Boulder, CO, 2012

### **EXPERIENCE:**

Civil/Structural Forensic Engineering, Knott Laboratory, LLC, Centennial, Colorado,  
March 2017 to present

Production Enhancement Engineer, Halliburton, Colorado & Alaska,  
September 2012 through March 2017

Project Engineer, Shaw Construction, May 2012 through September 2012

Engineer Intern, City of Lafayette, Summer of 2011

Engineer Intern, City of Centennial, Summer-Winter 2010



### **FORENSIC ENGINEERING:**

Mr. Henning has seven-years of experience conducting onsite forensic investigations. The investigations typically require additional calculations and analysis summarized in a comprehensive report. Typical investigations consist of damage including differential foundation movement, collapses/failures, fires, floods, hail, and moisture intrusion. Mr. Henning will also design structural repair plans to correct these deficiencies, if requested.

Mr. Henning has also been involved in multiple lab-tests of truss capacities, parapet wall capacities, and other job-specific testing requirements. This work involved designing and building the testing apparatus as well as performing the actual tests to the materials. After the testing, Mr. Henning has analyzed the results and provided summary reports of the findings.

Mr. Henning is the manager of Knott's Foundation Pro Engineering division which specializes in the investigation, design, and implementation of repairs of failed and damaged foundations. Mr. Henning has evaluated everything from residential foundations to commercial foundations. Mr. Henning has diagnosed the soil characteristic and performance factors of both expansive and collapsible soil that have induced foundation movement and damage. Mr. Henning is also the Engineering Manager of the Insurance Division and worked on many types of commercial and residential insurance investigations.

Additionally, Mr. Henning's work in the oil and gas sector has given him a unique perspective concerning plumbing, piping, heating/cooling systems, thermodynamics, and hydromechanics. Mr. Henning has conducted multiple analysis concerning freeze-loss type cases in which the interior temperature of a particular structure is modeled to determine the internal temperature change over time – this helps determine the circumstances surrounding pipe-bursts, mechanical equipment failures, etc.

### **ENGINEERING AND DESIGN:**

Mr. Henning has experience designing foundation, framing, and roof framing plans for residential and light-commercial structures. Additionally, Mr. Henning has analyzed many structures with differential foundation movement and modeled the floor levels by using 3D equipment and software. Based on these surveys, Mr. Henning has sized remedial foundation installations such as micropiles, push piers, and helical piers. Additionally, Mr. Henning has designed micropile foundations for new construction. Mr. Henning has been involved in designing light-gauge and steel buildings for residential applications.

Mr. Henning has also designed multiple remedial repair plans with structures exhibiting fire, flood, wind, and snow damage. These types of designs require additional analysis and consideration of the most practical and economical method to fix a damaged structure. Similarly, he has been involved on several projects including damage to roofing and exterior cladding materials such as hardcoat and EIFS stucco siding.

**SAMUEL R. HENNING, B.Sc., P.E.**