

Travis Benedict, P.E. | Forensic Engineer

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Professional Summary:

Mr. Benedict is a licensed Professional Engineer with over 16 years of experience in the design, evaluation, construction defect investigation and failure analysis of various types of structures. Design experience in steel, concrete, and masonry construction utilizing current codes. He has completed engineering design on high-profile and architecturally intensive projects including museums, schools, hospitals, commercial, industrial, and residential structures. He has managed projects constructing large shotcrete structures for bulk storage. He has performed structural inspections including failures associated with long-term deterioration, settlement, wind, snow, avalanche, hurricanes, lightning, earthquakes, tree impacts, and vehicular impacts. Areas of Expertise:

- Residential and commercial structural inspection and construction defect, failure analysis and damage assessment.
- Roof inspection and failure analysis.
- Foundations, concrete and shotcrete structure assessment
- Determination of required repair and rehabilitation procedures.
- Residential and commercial code and standard review.

Licenses and Certifications:

Registered Professional Engineer, Alaska # 169423

Registered Professional Engineer, Alabama # 39799

Registered Professional Engineer, California #C71865

Registered Professional Engineer, Colorado #PE.0052761

Registered Professional Engineer, Florida # 90514

Registered Professional Engineer, Idaho #P-17155

Registered Professional Engineer, Louisiana #45365

Registered Professional Engineer, Minnesota #58572

Registered Professional Engineer, Mississippi #31500

Registered Professional Engineer, Montana #PEL-PE-LIC-60696

Registered Professional Engineer, North Carolina #51421

Registered Professional Engineer, Oregon #92076PE

Registered Professional Engineer, Texas #125600

Registered Professional Engineer, Utah #5337797-2202

Registered Professional Engineer, Washington #54474

Registered Professional Engineer, Wyoming #16980

Project Experience:

Belgrade, Montana

Investigation of gas line explosion

Inspection of an addition to a residential structure reported to have been damaged by a gas line explosion, which shifted the structure off the foundation. The extent of damage and repair requirements were determined.

Yakima, Washington

Investigation of differential foundation movement

Inspection of a newly constructed residential structure reported to have been damaged by differential movement of the foundation. The cause and extent of movement were determined, and construction defects were identified.

Pocatello, Idaho

Construction defect investigation

Investigated the cause of failure of precast concrete panel shear walls anchored to concrete floor diaphragms during construction of a new government facility. Included the review of structural calculations, contract documents, daily logs, requests for information and construction drawings.

Denver and Surrounding Counties, Colorado

Hail and wind damage assessment of roof systems

Inspection of various residential and commercial structures for hail and wind damage to roof systems. Inspections included various types of roof systems, including built-up roofing, modified bitumen, TPO, EPDM, asphalt shingle, and concrete tile. Historical weather data was reviewed, the causes of damage were determined, and the required repairs were specified.

Ketchum, Idaho**Investigation of avalanche damage**

Inspection of a residential structure reported to have been damaged by an avalanche impact. The extent of damage and repair requirements were determined.

South Carolina, Texas, Puerto Rico and Florida**Catastrophe scene investigation, Hurricanes Matthew, Harvey, Maria and Michael**

Inspection of various residential, marine and commercial structures for wind and flood damage associated with Hurricanes Matthew, Harvey, Maria and Michael. Inspections included damage to various types of roof, fenestration and structural systems. Differentiated between wind and storm surge damage.

Ada and Surrounding Counties, Idaho**Investigation of roof structures collapsed by snow loading**

Inspection of residential and commercial structures reported to have been damaged by significant snow loads. The cause and extent of the damage and necessary repairs were determined.

Montgomery, Illinois**Construction Management for United Sugars Corporation**

Managed the construction of a 164' tall x 192' diameter dome silos for refined sugar storage. The dome was built using an inflatable airform (per ACI 334.3) polyurethane foam and reinforced shotcrete. Design was in accordance with ACI 318 and included the ACI 506.2 specifications for shotcrete. Daily testing was performed and documented in accordance with ASTM C1140. The structure included the construction and installation of a reclaim tunnel under the dome and a steel head house, a steel bulkhead door, deflagration venting panels, heat tracing cables, dehumidifier and specialized stainless steel reclaim spouts and hoppers.

Port Allen, Louisiana**Construction Management for DRAX**

Managed the construction of a two 120' tall x 340' diameter dome hemispheres for wood pellet storage on the Mississippi River. The dome was built using an inflatable airform polyurethane foam and reinforced shotcrete. The structure included aeration venting with a dust collector, reclaim tunnels under the dome and a reinforced concrete ring beam foundation on an over excavated and lean fill soil improvement.

Los Angeles, California**Structural Design for Hotel Bel Air**

Responsible for the detailed engineering of multi-tiered cast in place concrete pile foundation system for hotel suites on a steep upslope with grade beams, retaining walls, shear wall and concrete slab on grade with diaphragm transfer elements. Foundation design included seismic loading of soil and three-story light framed structures

La Jolla, California**Structural Design for Zaha Hadid**

Responsible for the detailed engineering of architecturally complex concrete shell residence including concrete boundary elements, shear walls and columns. Implemented response spectrum analysis seismic design in accordance with ASCE 7.

Murrietta, California**Structural Design for AGK Group**

Responsible for the design development of a 5-story steel structure with extreme torsional irregularity per ASCE 7 including special concentrically braced frames (SCBF) design per AISC 341.

Los Angeles, California**Structural design for Department of Veteran Affairs**

Responsible for the design development of a concrete and masonry seismic retrofit of a series of 1920-1930 historic masonry buildings originally with little to no lateral system; retrofit design was in accordance with ASCE 41

Cleveland, Ohio**Structural Design for The Cleveland Museum of Art**

Responsible for the detailed engineering of concrete beams, slabs, retaining walls and girders in new art museum structure that connected two historic buildings.

Court Qualifications/ Depositions:

Litigation CV available upon request.

Professional Experience:

EFI Global, Forensics Engineer, April 2019- present
Envista Forensics, LLC, Project Engineer, 2016 – 2019
Dome Technology, Regional Engineer, 2013– 2016
Nabih Youssef Associates, Senior Engineer, 2008– 2013
Pool Engineering, Associate Engineer, 2005 – 2008
URS, Engineer in Training, 2003 – 2004

Education:

Bachelor of Science, Civil and Environmental Engineering, University of Utah, 2004

Masters of Science, Civil and Environmental Engineering, University of California Irvine, 2009

Affiliations:

American Concrete Institute (ACI) member; Structural Engineers Association of Idaho (SEAI) member