

Ray Ghorbani, PhD, PE | Structural Forensic Engineer

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Professional Summary:

Mr. Ghorbani holds a PhD degree in the field of Structural Engineering from University of South Carolina. During his PhD studies he worked on seismic retrofitting and strengthening of masonry structures using simple techniques and affordable materials. He is also specialized in implementing a non-contact full-field optical measuring technique called Digital Image Correlation on full-scale specimens such as masonry walls under lateral loads and roof shingles under high wind loads. After graduation in 2014, Dr. Ghorbani started his career as a structural/forensic engineer in South Carolina. His projects included design of residential, industrial and commercial buildings and structures with different materials as well as roof, framing, foundation and building envelope inspections. In 2016, Dr. Ghorbani became a Certified Bridge Inspector with the National Highway Institute. He is also experienced in design and inspection of roadway structures such as bridges, retaining walls and culverts.

The following are areas of expertise for Mr. Ghorbani:

- Structural Design
- Seismic Design
- Structural Inspections
- Roofing Inspections

Licenses and Certifications:

Professional Engineer, Arizona, 68762

Professional Engineer, New Mexico, 25755

Professional Engineer, Colorado, 56864

Professional Engineer, Utah, 11703539-2202

Professional Engineer, South Carolina, 35626

Professional Engineer, Texas, 138372

Certified in Safety Inspection of In-Service Bridges; FHWA-NHI 130055

Advanced Roofing Certification; Vale Training

Project Experience:

Chao and Associates, Columbia, SC:

Parking Garage Inspection

Lead Project Engineer for inspection and providing repair recommendation of a 4-level steel-framed parking garage in Columbia, SC.

Columbia Metropolitan Airport Parking Garage Inspection

Lead Project Engineer for inspection and providing repair recommendation of the Columbia Metropolitan Airport Parking Garage. The parking garage is a 3-level concrete structure with a footprint of approximately 300,000 sf.

Structural Evaluation and Load Rating for SC 41 Bridge over Wando River, Berkeley, SC

Lead Bridge Engineer for structural evaluation and permit load rating for bridge demolitions. The existing bridge was built in 1939 with a total length of 1690 ft and 22 ft roadway width. Due to the unusual weight of the excavator requested to work on bridge 40 ft spans, a bridge load rating was desired. Load rating was performed based on AASHTO Manual for Bridge Evaluation and AASHTO LRFD Bridge Design Specifications.

Design Services for Water Treatment Plant in Columbia, SC

Lead Project Engineer to provide engineering services and design for two 1 M cubic feet concrete tanks and multiple industrial buildings in Columbia, SC Water Treatment Plant

EFI Global, Phoenix, AZ:

- Hail & Wind Inspections
- Building Envelope Analysis
- Differential Movement of Foundation Systems
- Moisture Intrusion Analysis

Professional Experience:

EFI Global, Structural Forensic Engineer, 2019-Present

Civil Engineering Consulting Services, Inc., Senior Bridge Engineer, 2018-2019

Chao and Associates, Inc., Lead Structural Engineer, 2015-2018

Tehran Jonoob – Bina Joint Venture, Tehran, Iran, Structural Engineer, 2009-2010

ITCEN, Tehran, Iran, 2007-2009

Specialized Education:

Fundamentals of Engineering Examination, NCEES, 2013

Safety Inspection of In-Service Bridge, NHI, 2016

Professional Engineering Examination, NCEES, 2018

Education:

Doctor of Philosophy, Structural Engineering, University of South Carolina, Columbia, SC, 2014

Master of Science, Structural Engineering, Sharif U. of Technology, Tehran, Iran, 2007

Bachelor of Science, Civil Engineering, Amirkabir U. of Technology, Tehran, Iran, 2005

Affiliations:

American Society of Civil Engineers (ASCE)

Courses Instructed/ Guest Lecturer:

Civil Engineering Materials and Laboratory