

BRIAN SHEN, P.E., S.E., LEED AP

Principal



Summary

Brian Shen joined Thornton Tomasetti in 2000 and has over 25 years of experience in structural design and forensics of new and existing buildings. His experience in the full life-cycle of buildings includes: the design of new buildings on greenfield sites; building additions constrained by surrounding structures; investigations and renovations of existing buildings both undamaged and damaged; and the stabilization and demolition of structures. Brian's work includes extensive projects in healthcare, as well as broad experience in the education, justice, life sciences, residential, commercial, and industrial market sectors, and includes design-build, design-assist, as well as traditional design-bid-build project deliveries.

Areas of Technical Expertise

- Forensic Structural Engineering
- Healthcare Structural Engineering Design
- Demolition Engineering

Education

- M.S., Civil Engineering, 2000, University of California, Berkeley
- B.S., Civil Engineering, 1999, University of Arizona

Registrations

- Licensed Structural Engineer in AZ, CA, GA, HI, ID, NE, NV, OR, UT, and WA
- Licensed Professional Engineer in CA, GA, ID, MT, NM, OR, TX and WA
- LEED-Accredited Professional
- Safety Assessment Program (SAP) Evaluator, Post Earthquake Evaluation of Buildings, California Governor's Office of Emergency Services (CAL OES)

Select Project Experience

Forensic Structural Engineering

Hollywood Presbyterian Medical Center Acute Care Services Replacement Hospital Building, Los Angeles, CA. Investigation for a hospital construction dispute.

Mixed-Use Skyscraper, Seattle, WA. Investigation of a structural steel construction claim for a 58-story mixed-use tower, which utilized a composite steel plate and concrete core wall system.

Retail Store Roof Collapse, Confidential Location, ID.

Investigation for the partial collapse of a retail store roof due to snow. Scope included emergency stabilization, evaluation of gravity and lateral elements, conceptual repair plans, and the applicability of code-upgrades.

Mixed-Use Highrise, Confidential Location, GA. Investigation for multiple construction claim issues for a condominium and office highrise, including post-tensioned tendon failures, balcony cracking, and tile delamination.

Hotel Façade Earthquake Damage, Napa, CA. Façade damage assessment following an earthquake for a 5-story hotel.

Hotel Balconies Assessment, Monterey, CA. Structural damage assessment of concrete balconies requiring reconstruction.

Skilled Nursing Facility Electrical Fire Loss, Confidential Location, CA. HCAI (California's Department of Health Care Access and Information, formerly OSHPD) code consulting to determine code upgrade and code repair recommendations for an electrical fire loss.

Healthcare Structural Engineering Design

California State University San Bernardino, Health Care Center Expansion and Renovation, San Bernardino, CA.

Structural engineering for the renovation of a 13,000-square-foot single-story building, and a 13,000-square-foot addition.

CONTACT

Brian Shen, P.E., S.E., LEED AP
235 Montgomery St, Suite 1050
San Francisco, CA 94104
415.365.6900
BShen@ThorntonTomasetti.com
www.ThorntonTomasetti.com

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El Camino Health, Taube Pavilion and Scrivner Center for Mental Health & Addiction Services, Mountain View, CA. Structural engineering for a 2-story, 50,000-square-foot behavioral health services building with 36 beds. Scope involved the phased demolition of the existing behavioral health services building.

El Camino Health, Sobrato Pavilion, Mountain View, CA. Structural engineering for a 7-story, 250,000-square-foot structure housing outpatient services, and medical office space. The project scope included demolishing an existing 120,000-square-foot building that was adjacent to two active acute care buildings and a new 200-car parking garage.

El Camino Health, Replacement Hospital, Mountain View, CA. Structural engineering for a 469,304-square-foot, 5-story, 248-bed replacement hospital. The project included an 8,600-square-foot expansion of an existing 9,000-square-foot central plant, with interconnecting utility tunnels.

Demolition Engineering

Camp Pendleton Water Tank, Camp Pendleton South, CA. Structural engineering services for the demolition of a 135-foot tall, 40-foot diameter water tank. The demolition design consisted of precise cuts to selectively weaken the legs in order to fell the tank into a designated ground zone of an environmentally-sensitive habitat.

State Route 47 Schuyler Heim Bridge, Long Beach, CA. Structural engineering services for the demolition of the Schuyler Heim Bridge for the California Department of Transportation. The existing bridge spanned the Cerritos Channel, an active waterway, with an adjacent rail bridge and the overhead replacement bridge. The scope of work included evaluation of the existing construction trestle, and on-site monitoring for the demolition of the existing piers above and below the water surface.

City of Long Beach Old Courthouse, Long Beach, CA. Structural engineering services for the demolition of the 141-foot-tall Long Beach Courthouse. The scope included determining the deconstruction sequence, including stabilization and subsequent removal of the basement walls, and on-site monitoring.

San Francisco International Airport Terminal 3 Low Roof, San Francisco, CA. Structural engineering for the demolition of a low roof at SFO Terminal 3. The scope included determining the maximum safe working load on the roof deck while maintaining operations below.

761 Post Street, San Francisco, CA. Structural engineering of selective demolition scope for a hotel renovation. The building was a 17-story, concrete structure, circa 1929, and the scope included temporary seismic strengthening for the interim conditions.

Sworn Testimony

Deposition, The Herrick Corporation v. Skanska USA Building Inc., et al., regarding a hospital construction dispute. American Arbitration Association. Case No. 01-22-0001-1030. March 2026.

Alternative Dispute Resolution

Hollywood Presbyterian Medical Center, Acute Care Services Replacement Hospital Building, Los Angeles, CA. Deposition testimony regarding a hospital construction dispute. March 2026.

Shopping Mall Parking Garage, Bay Area, CA. Mediation regarding water infiltration damage in a subgrade parking structure. May 2023, October 2024, and March and July 2025.

Senior Housing Balconies, San Leandro, CA. Mediation regarding design of balconies. May 2022.

Community College Laboratory Building Slabs, Hayward, CA. Mediation regarding design and construction defect of concrete topping slabs. December 2020.

Single Family Home Addition, Walnut Creek, CA. Mediation regarding design and construction defect. June 2019.

Mixed-Use Highrise, Confidential Location, GA. Mediation regarding multiple construction claim issues. April, September, and December 2019.

Select Papers, Lectures and Publications

"Building Code Triggers and 2020 Building Code Changes," FM Global Annual (2019) Combined Claims Meeting, Bellevue, WA, August 8, 2019 (presenter).

"Substance and Subjectivity: Building Codes and Property Loss Claims," FM Global Annual (2014) Combined Claims Meeting, Walnut Creek, CA, August 7, 2014 (presenter).