

# DAVID R. OJALA, P.E., S.E., LEED AP, CWI

Principal



## Summary

David Ojala joined Thornton Tomasetti in 2016 and has nearly 20 years of experience in building forensics and performance. He is a structural failure first-responder, with broad expertise in structural and geotechnical design, construction and performance. In addition, David's knowledge of structural vulnerabilities and failure investigation, coupled with his background in structural design and code development, provide him with the experience needed to provide new design, retrofit, peer review and risk consulting for complex structures. He specializes in performance and recovery-based design and retrofit and assessment of structures damaged by earthquake, wind, fire and water. He is also a certified welding inspector (CWI) and provides both proactive and failure analysis consulting for structural and pipeline weldments. He is a frequent speaker on matters related to disaster resilience, structural safety assessment, and structural plan review.

## Areas of Technical Expertise

- Structural Engineering
- Earthquake Engineering
- Emergency Response

## Education

- M.S.E., Civil Eng., 2007, Case Western Reserve University
- B.S.E., Civil Eng., 2006, Case Western Reserve University

## Registrations

- Licensed Structural Engineer in AK, CA and UT
- Licensed Civil Engineer in AK and CA
- LEED Accredited Professional
- Certified Welding Inspector (CWI), American Welding Society
- California Emergency Management Agency (CalEMA) Safety Assessment Program (SAP) Trainer/Coordinator/Evaluator
- FEMA Urban Search and Rescue, California Task Force 4, Oakland – Structures Specialist
- Hazardous Waste Operations and Emergency Response (HAZWOPER) training per 29 CFR 1920.120 (40-Hour)

## Professional Activities

Structural Engineers Association of Northern California (SEAONC)

- President, Past-Director, and Past-Secretary; Past-Chair, Existing Buildings Committee; Past-Chair, Disaster Emergency Services Committee

Structural Engineers Association of California (SEAOC)

- Director; Past-Chair, Existing Buildings Committee; Member, Policy/Legislative Committee, Resilience Committee

## Select Project Experience

### Investigation and Litigation Support

Port MacKenzie, AK. Large loss investigation into cause and origin of failure of novel steel sheet pile bulkhead system due to fracture of pre-fabricated junction piles.

Panama Canal, Panama.\* Investigation into cause and origin of significant cracking and leakage of new concrete locks installed for major expansion project.

Pedestrian Bridge, WA. Investigation into Engineer of Record's performance in relation to standard of care and the impact on fabrication and erection delays over an active rail line.

Bypass Viaduct Collapse, Willits, CA.\* Investigation of cause and origin of collapse of timber and steel falsework during construction of a major federal highway viaduct.

Jackson Jet Center, Boise, ID. Investigation into cause and origin of fatal collapse of long-span pre-engineered steel hangar in a wind event during construction.

Confidential Aviation Project, Western USA. Investigation into delay claim on major airport terminal expansion project featuring a long span pedestrian bridge. Evaluated applicable codes, weld criteria, and fabrication techniques, as well as the roles and responsibilities of relevant parties under a design-build contract with a design-assist agreement.

Confidential Aviation Project, CA. Design standard of care assessment and investigation into claimed cost and quantity overruns during construction of two hangars for federal government delivered under design-build procurement method.

Confidential Landside Aviation Project, Western USA. Investigation into cause and origin of cost overruns during major design-build landside airport expansion including both building and bridge superstructures and foundations. Work included designer standard of care assessment and evaluation of appropriate seismic and serviceability design principles.

\*Denotes work performed with previous employer.

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Confidential Light Rail Expansion Project, Western USA. Investigation into cause and origin of significant material overruns and design defects in underground and above-grade structures for major design-built public transit project.

Confidential Highway Expansion Project, Eastern USA. Investigation into cause of cost overruns during major design-build marine bridge and tunnel expansion. Work included designer standard of care assessment and analysis of permanent and temporary structure design and support of excavation.

Canyon Corners, Park City, UT. Investigation into cause and origin of soil retaining structure failures surrounding design-built retail development. Work entailed evaluation of appropriate use of geofoam backfill and design of the adjacent structures.

Shopping Center, San Pablo, CA. Forensic and design consulting services related to the evaluation and remediation of ground movement resulting from ongoing slope creep and other factors and latent construction and design defects. Repair work has included design of CIDH stitch piers with tiebacks to support existing retaining walls and shoring and reconstruction of damaged CMU and concrete building components.

Confidential Hospitality/Gaming Project, CA. Builder's risk claim investigation into cause and origin of erosion and settlement damage to building components following rainstorm during construction, including evaluation of complex site storm drainage system and below grade and terraced structures.

Confidential High-Rise, San Francisco, CA.\* Peer review of performance-based design of residential 40-story concrete shear wall high-rise, as well as services during construction, including structural and geotechnical monitoring of adjacent concrete high-rise structures, surveying, review of waterproofing systems, and review of excavation support and shoring design.

San Diego County Central Courthouse, San Diego, CA.\* Investigation into cause and origin of reported excessive structural floor framing deflections and widespread weld cracking during construction of this high-rise courthouse.

Palms Place, Las Vegas, NV.\* Investigation of failure of post-tensioning strands due to interior waterproofing issues and construction defects using destructive and nondestructive methods. Presented findings for dispute resolution at mediation.

Harmon Towers/City Center, Las Vegas, NV.\* Investigation of cause and impact of design and construction defects on structural performance of a prominent high-rise building.

Data Center, Sunnyvale, CA. Root cause analysis of damaged roof structure discovered at a building previously converted from industrial to data center use, requiring costly retrofit while maintaining operational continuity.

Otay Mesa Energy Center, San Diego, CA. Structural consulting to evaluate impact of proposed quarrying operations on reliability of structures, machinery, and distribution systems at the combined cycle power plant. Work included site inspections, installation and processing of structural monitoring equipment, structural analysis and Monte Carlo simulation to evaluate reliability relative to established acceptance criteria.

Tracy Peaker Plant, Tracy, CA.\* Investigation of separate incidents of fire damage to large steel air intake structure for turbine generators and defective process piping weldments along with development of repair recommendations for each.

Arkansas Nuclear One, Russellville, AR.\* Investigation of cause of crane collapse during heavy equipment replacement operation, including damage assessment, evidence preservation during deconstruction, and failure analysis.

Na Pua Makani Wind Farm, Kahuku, HI.\* Investigation of fire cause and origin and scope of fire damage to battery storage facility, including safety assessment of partially collapsed structure to facilitate retrieval of critical evidence and direction of controlled demolition of facility.

Confidential Food Processing Facility, WA. Investigated collapse of steel industrial structure in a wind event during erection, including evaluation of root cause and contributing factors.

Vallourec Star, Youngstown, OH.\* Investigation of widespread weld defects, roofing distress and thermal movement issues discovered during construction of massive steel mill.

Otokumpu Stainless USA, Calvert, AL. Forensic investigation of a series of fatigue-related claims and other design and construction defects within a steel production facility.

33306 Pacific Coast Highway, Malibu, CA. Investigation into cause and origin of claimed water damage to large residence on sloped site overlooking Pacific Ocean resulting from adjacent fire hydrant failure, including alleged destabilization of structures, deep foundations, and seawalls, and erosion of terraced slope.

2018 Earthquake Response, Anchorage, AK. Led damage assessment efforts and developed scope of repair for dozens of commercial, residential, and religious buildings in Anchorage area following the November 2018 event.

Kaikoura Earthquake Response, Wellington, NZL. Performed reconnaissance and seismic damage assessments of numerous commercial, residential, institutional and government buildings throughout the Wellington region, as well as bridge and port infrastructure assessments.

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### Sworn Testimony

Deposition and Arbitration, Richard Lara and Lisa A. Lara. v. IA & I REI LLC, et al, regarding construction defects discovered in single family residence. March 19, 2026 (Deposition) and April 21, 2026 (Arbitration).

Deposition, Copper River Seafoods, Inc. v. Chubb Custom Ins. Co., regarding the root cause of the partial collapse of a historic, timber- and steel-framed pier supporting a 2-story industrial building. December 14, 2017.

### Select Papers, Lectures and Publications

“Coast-To-Coast Resilience: Case Studies in Multi-hazard Recovery-Based Design Practice,” Structural Engineering Summit, National Council of Structural Engineers Associations (NCSEA), New York City, October 15, 2025 (co-presenter)

“Building Resilience: Mitigating Climate Risks for High-Value Home Insurers,” 12th Annual Conference, Council for Insuring Private Clients (CIPC), Dallas, May 9, 2025 (co-presenter)

“Tell Me Wye: How Cold Weather, Extreme Tides, and a Challenging Site Contributed to a Seawall Breach,” Proceedings of the 10th Congress on Forensic Engineering, American Society of Civil Engineering (ASCE), Reston, 2024 (lead author and presenter)

“It’s Like Tagging a Building during the Earthquake: Proposed Building Safety Tagging Criteria for Winter Storm Events,” Proceedings of the 10th Congress on Forensic Engineering, ASCE, Reston, 2024 (lead author and presenter)

“Is Insurance Bad for Resilience? Reenvisioning the Role of Insurance in Shaping Pre- and Post-CAT Behavior and Decision Making,” RiskWorld 2024, The Risk Management Society (RIMS), San Diego, May 6, 2024 (presenter)

“From Post-Earthquake Forensics Investigations to Recovery-Based Design,” UNESCO Chair Webinar Series on Disaster Risk Reduction and Resilience Engineering, University College London, January 18, 2024 (co-presenter)

“FEMA P-2055-1: Guidance for Accelerated Building Reoccupancy Programs,” Applied Technology Council (ATC), Redwood City, 2023 (panelist)

“A Textbook Case: Wind Failure of an Insulated Tank on Alaska’s North Slope and Review of Recent Changes to ASCE 7,” Proceedings of the 9th Congress on Forensic Engineering, ASCE, Reston, 2022 (lead author and co-presenter)

“Learning from Design-Build Busts: Thoughts on Risk Mitigation for the Design Consultant in the Design-Build Arena,” 9th Congress on Forensic Engineering, ASCE, Denver, November 6, 2022 (co-presenter)

“Lessons Learned from Recent Design-Build Disputes & Risk Mitigation Strategies for Contractors and Designers,” Design-Build Conference & Expo, Design Build Institute of America (DBIA), Las Vegas, November 3, 2022 (panelist)

“Rethinking the Role of Technical Experts in Pre-litigation Dispute Resolution,” Forum on Construction Law, American Bar Association, 2022 (co-author)

“Earthquake Damage Assessment and Repair Guidelines for Residential Wood-Frame Buildings: Vol. 1—General Guidelines (CEA-EDA-01) and Vol. 2—Engineering Guidelines (CEA-EDA-02),” ATC, Sacramento: California Earthquake Authority, 2020 (panelist)

“Lessons Learned & Observations from In-Field Reconnaissance After the November 2018 Anchorage, AK, Earthquake,” Proceedings of the 2019 Convention of the Structural Engineers Association of California, Squaw Creek, CA, August 29, 2019 (co-author and presenter)

“Initial Lessons on Design, Response, and Recovery from the 2016 Kaikoura Earthquake,” Proceedings of the 11th National Conference in Earthquake Engineering, EERI, Los Angeles, CA, 2018 (author)

“Design Guide Volume 1: City of Los Angeles Mandatory Earthquake Hazard Reduction in Existing Non-Ductile Concrete Buildings,” Structural Engineers Association of Southern California, International Code Council, 2017 (contributor)

“Steel Moment Frame Bracing Criteria for Existing Wood Diaphragms, Part 1 of 2,” Proceedings of the 2016 Convention of the Structural Engineers Association of California, Maui, HI, October 15, 2016 (co-author and presenter)

“Engineering Issues for Earthquake Damage Assessment and Case Studies,” California Association of Independent Insurance Adjusters (CAIIA) Seminar for the Evaluation of Earthquake Damage (SEED), Sacramento, CA, July 12, 2016 (presenter)

“Structural Plan Review,” Colorado Chapter of the International Code Council, Denver, CO, March 3, 2015; March 2, 2016; March 8, 2017 (co-presenter)

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“Conducting Damage Assessments in Structural Engineering: ATC-20 Procedure and Case Study,” Earthquake Engineering Research Institute (EERI) Earthquake Reconnaissance Workshop, EERI Annual Meeting, Boston, MA, April 3, 2015 and San Francisco, CA, April 5, 2016 (presenter)

“Performance-based Engineering and the Evaluation of Existing Buildings—Potential Legal Ramifications,” Proceedings of the Second ATC & SEI Conference on Improving the Seismic Performance of Existing Buildings and Other Structures: pp. 403–415 (co-author), December 11, 2015, San Francisco, CA (presenter)

“Finite Element Modeling of Lunar Regolith Excavation,” Department of Civil Engineering, Case Western Reserve University, December 18, 2006 (author)

“Dynamic, Finite Element Analysis of an Acoustic Guitar Soundboard,” Department of Civil Engineering, Case Western Reserve University, May 9, 2006 (author)

**CONTACT**

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