

PETER A. WRONA, P.E., S.E.

Associate Principal



Summary

Peter Wrona has more than 40 years of professional experience in structural analysis, design and management for major new facilities and retrofit of existing structures. He specializes in structural damage assessment, forensic investigation and litigation support, as well as hazard mitigation and repair measures. His experience covers condition assessments and damage investigations for a wide variety of building types, industrial and commercial facilities, as well as transportation infrastructure including seaports, airports and railway bridges. Peter has also undertaken numerous investigations as the lead investigator for multidisciplinary teams where expert investigation, consulting and sworn testimony have been required.

Areas of Technical Expertise

- Forensic Structural Engineering
- Seismic Assessments and Renovations
- Emergency Response

Education

- M.S., Structural Engineering, 1980, University of California, Berkeley
- B.S., Civil Engineering, 1976, University of California, Berkeley

Registrations

- Licensed Structural Engineer in CA
- Licensed Civil Engineer in CA
- Registered California Emergency Management Agency (CalEMA) Safety Assessment Program (SAP) Evaluator
- Chartered Professional Engineer (CPEng) in New Zealand
- Registered International Engineer (IntPE)

Professional Activities

- Member, Structural Engineers Association of California (SEAOC), 1978-present
- Member, Structural Engineers Association of Northern California (SEAONC), 1978-present
- Life Member, American Society of Civil Engineers (ASCE), 1977-present
- California Emergency Management Agency, Safety Assessment Program Coordinator and ATC-20 training instructor, 2012-2016

Select Project Experience

Forensic Structural Engineering

Multiple Clients, 2016 Kaikoura Earthquake Investigation Projects, Wellington, NZ. Managed a group of 8 engineers working for owners, tenants, lawyers and insurers. Damage assessments and repair solutions for commercial, industrial and residential facilities including concrete high-rise and mid-rise apartment and office buildings.

80 Terrace, Wellington, NZ. Damage assessment of a 16-story commercial building featuring precast concrete frames, floor units and cladding. Evaluation of severity and cause and origin of damage. Worked with owner, technical consultants and legal team to develop appropriate scope of repairs.

British American Tobacco, Fiji. Damage evaluation and assessment of repair alternatives for buildings and several large hi-tech greenhouse structures after 2016 Tropical Cyclone Winston.

Oil Search, PNG. Damage evaluation and assessment of repair alternatives for refineries, buildings, processing plants and bridges after earthquake.

CentrePort Limited, Wellington, NZ. Damage evaluation and assessment of repair alternatives for buildings, wharves, seawalls and pavements after 2016 Kaikoura Earthquake.

Multiple Clients, Christchurch Earthquake Investigation Projects, Christchurch, NZ. Managed a group of 20 engineers working for owners, insurers and attorneys. Damage assessments, repair solutions and litigation support for commercial, industrial, healthcare and residential facilities. Personally leading more than 100 projects from 2011 to 2016.

*Denotes work performed with previous employer.

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Lyttelton Port of Christchurch Damage Evaluation and Assessment, Christchurch, NZ. Evaluation and assessment of repair alternatives at inner harbor and container terminal. Inner harbor includes seven wharves, tug jetty, dry dock and oil wharf. Container terminal includes 850-meters-long wharf with concrete deck supported by concrete sea wall and timber, steel and concrete piles constructed at different time periods over the past 50 years.

San Pablo Dialysis Center, San Pablo, CA. Cause and origin investigation of claimed water damage and mold conditions at the DaVita San Pablo Dialysis Center.

Granite Construction Aggregate Mix Plant Fire Claim, Tracy, CA. Structural damage assessment of concrete mix plant after fire.

Summit Owners Association Condominium, San Francisco, CA. Cause and origin investigation of claimed water damage and roof deck failure.

Anadite-Lynex Recyclers Fire Claim, Santa Clara, CA. Structural damage assessment of recycling plant buildings and structures due to fire. Evaluation of repair concepts and costs.

Emergency Response

CAP – Compania Siderurgica Huachipato, Concepcion, Chile. Damage evaluation and assessment of repair alternatives for the steel mill facility including more than twenty steel and concrete structures, water treatment plant and ship-loading pier. Evaluation of proposed repairs and costs.

W.M. Keck Observatory, Mauna Kea Science Reserve, HI. Structural damage survey and design of seismic repairs for telescope structure at the Mauna Kea summit as well as administration buildings in Kamuela, HI.

Loma Prieta 1989 Earthquake Recovery, Oakland, CA. Safety assessment of more than 25 buildings and waterfront structures after earthquake.

Lake Mead Embankment Collapse, Lake Mead, NV. Cause and origin investigation of embankment and ramp failure at Lake Mead water shore.

Seismic Assessments and Renovations

Baikonur Cosmodrome Space Launch Complex, Space Launch Facility Building 92A-50, Baikonur, KAZ. Condition assessment of spacecraft processing facilities, with specific regard to blast loading, water infiltration and condensation.

Vandenberg Air Force Base, SLC-3E Space Launch Complex, Vandenberg, CA.* Structural evaluation and modifications of mobile service tower, launch and service buildings, launch mount, frame bucket and foundations to service larger space vehicles at SLC-3E launch complex. Areas of special interest include design for blast loads and launch pressures.

San Joaquin County Courthouses, Seismic Retrofit, San Joaquin, CA. Seismic retrofit of four courthouse buildings including Stockton, Tracy and Manteca Superior Courts as well as Juvenile Justice Center French Camp.

Alameda City Hall, Restoration and Seismic Retrofit, Alameda, CA. Seismic upgrade and historic renovation including addition of a 65-foot-high clock tower. Originally constructed in 1890 of unreinforced brick and heavy timbers. ABK Methodology for seismic hazard mitigation in unreinforced masonry and Division 88, LA Building Code utilized to maximize preservation of existing construction.

Applied Komatsu Technology America, Santa Clara, CA. Seismic retrofit and construction support for three buildings constructed in late 1970s. Renovations required roof strengthening plus raised platforms for new mechanical equipment, lowering of floor slabs and foundations for access floors, trenching and cutting large openings in existing concrete panels, and installation of braced steel frame and concrete shear walls.

Sworn Testimony

Brief of Evidence and Deposition, in the High Court of NZ, Auckland Registry, Courtenay Car Park Ltd. v. QBE Ins. (Australia) Ltd. regarding a construction claim. August 2021; February 2020.

Affidavit and Brief of Evidence, in the High Court of NZ, Christchurch Registry, Lyttelton Port Co. Ltd. v. AON New Zealand regarding material damage insurance claims arising out of the Canterbury earthquake sequence valued at \$435,000,000 NZD. Supplementary Brief of Evidence on April 2019; Brief of Evidence in November 2018; Affidavit on May 2017.

Affidavit, in the High Court of NZ, Wellington Registry, Precinct Properties Holdings Ltd. v. OMV New Zealand Ltd. regarding damage to 17-story concrete and steel-framed office building. August 2018; October 2017; July 2017.

Litigation

Public Trust Building, Christchurch, NZ. Litigation support for a claim related to damage and repair alternatives for earthquake damaged mid-rise concrete building.

11 Deans Avenue, Christchurch, NZ. Litigation support with regard to damage and repair alternatives for earthquake damaged mid-rise concrete building.

Courtenay Car Park Limited, Wellington, NZ. Litigation support for project works claim related to earthquake damage of an 8-story concrete carpark building

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Alternative Dispute Resolution

Lyttelton Port of Christchurch, NZ. Provided expert advice during mediation regarding repair alternatives for more than 60 buildings, wharves, seawalls and pavements damaged in 2011 Christchurch earthquakes. December 2013.

Northlands Mall, Christchurch, NZ. Provided expert advice during mediation regarding damage and repair alternatives for large earthquake damaged shopping mall. October 2014.

St. Andrews Holdings, Christchurch, NZ. Litigation and mediation support for claim related to four earthquake damaged properties including 2-story office block, two-story apartment building, warehouse and industrial building. August 2016.

PTL Property Trust, Christchurch, NZ. Litigation and mediation support for claim related to three earthquake damaged properties including 2-story office building, warehouse and community hall. June 2016.

Mercer Stainless Ltd., Christchurch, NZ. Litigation and mediation support for claim related to concrete office building and warehouse damaged during 2010 Christchurch earthquake sequence. April 2016.

Select Papers, Lectures and Publications

“Key Reinstatement Steps in the Aftermath of an Event,” Asia Capital Reinsurance Group webinar presentation, April 28, 2020 (presenter)

“Using Innovative Technology in Damage Assessments of Buildings and Other Structures,” Australasian Institute of Chartered Loss Adjusters Asian Claim Convention, Phuket, Thailand, April 2016 (presenter)

“Design and Construction of Lightweight Manufacturing Facilities in High Seismic Zones,” International Conference on Lightweight Structures in Civil Engineering, September 1995 (presenter)

CONTACT

Peter Wrona
301 Howard Street, Suite 1030
San Francisco, CA 94105
415.365.6900
PWrona@ThorntonTomasetti.com
www.ThorntonTomasetti.com