



MARCOR G. PLATT, SE, PE, CBO, PMP, PMI-ACP

EDUCATION

MS, Civil Engineering, structural emphasis, Brigham Young University 2009

BS, Civil Engineering, mathematics minor, Brigham Young University 2008

PROFESSIONAL REGISTRATION

Registered Professional Engineer (PE) and/or Structural Engineer (SE) in 22 U.S. States, Districts, and Territories

Alabama	PE	PE53859	2024	Nevada	SE	24268	2016
Arizona	PE	54152	2012	Nebraska	SE	E-19375	2022
Arizona	SE	61487	2016	New Mexico	PE	23741	2016
Arkansas	PE	21202	2022	North Carolina	PE	052387	2021
California	PE	82381	2013	Oregon	PE, SE	97108SE	2022
California	SE	6955	2021	South Carolina	PE	39684	2021
Colorado	PE	52284	2017	Tennessee	PE	124759	2021
Florida	PE	92067	2021	Texas	PE	124000	2016
Hawaii	SE	17252	2016	Utah	SE	9846086	2016
Illinois	SE	081.008670	2021	US Virgin Islands	PE	1916-E	2023
Kentucky	PE	35682	2020	Washington	PE, SE	21016915	2021
Louisiana	PE	45881	2021	Washington DC	PE, SE	PES 40000226	2024

PROFESSIONAL AFFILIATIONS

- Structural Engineers Association of Utah (SEAU), Historical Buildings Committee
- American Concrete Institute (ACI) Intermountain Chapter
- American Institute of Steel Construction (AISC)

PROFESSIONAL CERTIFICATION

- International Code Council (ICC)
 - Certified Building Official (CBO)
- Project Management Institute (PMI)
 - Project Management Professional (PMP)
 - Agile Certified Practitioner (PMI-ACP)
- The Stable Institute
 - Certified Stable Associate (CSA)
 - Certified Stable Scrum Product Owner (CSSPO)

EXPERIENCE SUMMARY

Marcor Platt has approximately fifteen years engineering, building code, and project management experience in the fields of residential, commercial, and industrial building structural design and retrofit, electrical transmission line structural design, hydrologic and hydraulic studies, and forensic engineering and expert witnessing. His experience is summarized as follows:

- His residential and commercial building design and retrofit experience includes landscape structures, studio apartments, houses, restaurants, theaters, pharmacies, solar arrays, bridges, and other miscellaneous structures utilizing all major construction materials and specialty materials.
- His industrial design experience includes steel and concrete structures to support machinery, platforms, fall protection, piping, HVAC units, water towers, and other structures.
- His transmission line structural experience includes structural support design for both high-voltage and low-voltage electrical power lines.
- His hydraulic and hydrology experience includes river studies to determine peak flows, bridge deck freeboard, abutment scour, and flooding potential.
- His forensic engineering experience includes investigating roof failures, wall failures, foundation damage, and other miscellaneous damage resulting from hail, wind, snow, rain, fire, flood, tornado, hurricane, lightning, volcano, tropical storm, vehicle impact, corrosion, heat, electrical conductors, or other natural or man-made forces.
- His expert witness experience includes providing testimony regarding structural analysis, building code compliance, and project management.

EXPERTISE SUMMARY

Marcor's expertise is summarized as follows:

- He is an Engineering Expert, currently licensed as a civil and/or structural engineer in 22 U.S. States, Territories, and Districts.
- He is a Building Code Specialist, credentialed by the International Code Council as a Certified Building Official.
- He is a Project Management Professional and an Agile and Stable Practitioner, certified by the Project Management Institute and the Stable Institute.

**FORENSIC
ENGINEERING AND
EXPERT WITNESS**

2021 – 2023

Sole Proprietor and Senior Forensic Engineer

Marcor Forensic and Expert Consulting, South Jordan, UT

Forensic civil and structural expert throughout the Southwestern United States, Pacific Northwest, US Virgin Islands, and other states as required. Perform site reconnaissance, document existing conditions, conduct testing as required, perform calculations, conduct research, and publish findings and conclusions in expert reports (samples available upon request).

- *Website:* <https://marcorforensicexpert.com>
- *Expert Witness regarding electrical shock in St. Croix, U.S. Virgin Islands.* Investigated the events surrounding a shock to an electrician following 2017 Hurricane Maria devastating the power grid on St. Croix. Researched the transmission/distribution circuit and the solar panels feeding the house where the incident occurred. Outlined findings in an expert report.
- *Expert Witness regarding private bridge in Duchesne County, UT.* Performed structural, hydrology, and hydraulic studies on an existing private bridge to determine whether the bridge was adequate or required retrofit. Where retrofit was required, provided structural or hydraulic/hydrologic recommendation details.
- *Expert Witness regarding custom home in Alpine, UT.* Performed structural, civil, and environmental engineering analysis on a partially-built, 7500 square foot custom home. Identified over a dozen environmental noncompliance issues, including a hazardous spill. Identified civil issues resulting in moisture intrusion. Discovered that the foundation walls were severely inadequate, and designed a carbon fiber and footing extension retrofit. Published findings in five reports, totally over 150 pages.
- *Expert Witness regarding 27 city-issued violations at an apartment building in Phoenix, AZ.* While employed at a previous firm, performed three site studies and prepared three reports. Researched historical imagery, permit and violations history; reviewed existing and historical building codes including the IBC, IEBC, NEC, IFC, IFGC, and IMC; analyzed cable conduit and building structural properties; and researched manufacturing dates for steel sash and glass block windows and masonry units. Preparing to testify at multiple upcoming municipal and federal trials.

**FORENSIC
ENGINEERING AND
EXPERT WITNESS**

2021 – 2023

Senior Structural Engineer and Expert Witness

Precision Systems Engineering, Sandy, UT

Performed forensic engineering services throughout the southwest United States, Gulf Coast, and Pacific Northwest including Utah, California, Nevada, Colorado, Oregon, Washington, and Louisiana. Projects included both single and multi-discipline studies involving both myself and other experts in structural engineering, civil engineering, mechanical engineering, electrical engineering, geotechnical engineering, surveying, and equine expertise.

- *Forensic Engineer in Louisiana in 2021.* Performed six forensic investigations over four days in Louisiana following Category 4 Hurricane Ida. Specifically, studied Hurricane impact to residences in New Orleans, Chauvin, Norco, Westwego, Houma, and Lafayette. Observed damaged houses, utility lines, and other infrastructure. Wrote six forensic reports regarding my observations, analysis, findings, and conclusions.
- *Forensic expert regarding booth failure at the 2019 CES in Las Vegas, NV.* Studied a LED video wall which gradually leaned forward until it fell and injured two people on the second day of the 2019 CES in Las Vegas, Nevada. Reassembled, examined, and tested the video wall; performed electrical, heat transfer, and stability calculations; and ultimately found that the failure was due to lack of adequate ventilation for the LED panels.
- *Forensic expert regarding a flood analysis at Hexcel Facilities in Kent, WA.* Lead a team of structural and civil engineers to evaluate the flood risk at the Hexcel facility in Kent, Washington. Built hydrologic and hydraulic models considering flood water from both the nearby Springbrook Creek and direct runoff. Found the floodwater risk to be no more than an inch and published extensive findings in two reports.
- *Expert witness regarding contractor work at a property near Clayton, CA.* Lead a team of civil, mechanical, electrical, equine, and geotechnical experts to investigate multiple construction activities and facilities, including a bridge, at the property and determine the impacts of each activity. Prepared six reports personally and in conjunction with civil engineers and directed report preparation by an electrical engineer and equine expert.

**FORENSIC
ENGINEERING AND
EXPERT WITNESS**

2019 – 2021

Forensic Engineer and Expert Witness

Wright Engineers, Chandler, AZ

Performed forensic engineering and expert witness services for projects in Arizona and California. For each project, performed one or more site studies, organized findings into one or more reports, and testified at depositions and trials, or will testify at upcoming trials. Examples include:

- *Expert witness regarding heavy moisture penetration at a residence in Thatcher, AZ.* (<https://arizonabadfaithblawg.com/jaburg-wilk-wins-unanimous-defense-verdict-for-usaa/> “Jaburg Wilk Wins Unanimous Defense Verdict for USAA”). Researched and reviewed extensive weather data, existing deposition transcripts, cost estimates, reports, and other data. Performed diaphragm and shear wall deflection calculations to determine house’s vulnerability to wind-induced moisture intrusion. Testified at a deposition and on three occasions at the trial.
- *Expert witness at a hearing in San Francisco, California, before the California Public Utilities Commission (CPUC)* (<http://docs.cpuc.ca.gov/SearchRes.aspx?docformat=ALL&DocID=329742188>) Reviewed the feasibility of a proposed underground 220 kV electrical transmission line. Researched pricing, engineering specifications, markets, material supply and availability, project management, geotechnical conditions, and other factors. Performed a statistical analysis of commodity price fluctuations. Prepared a report, and attended and testified at the three-day hearing before the CPUC.
- *Forensic expert regarding a roof collapse due to rainwater in Medford, OR.* Lead a team of structural engineers to evaluate a collapsed roof and fractured joists following a record rainstorm at the former Sears building in Medford, Oregon. Performed hydrologic and hydraulic studies. Rebutted two other expert reports who attributed fractured joists to pre-existing conditions and/or hanging loads in the building. Rebutted another expert report who claimed the Code did not require retrofits to make the building safe for future occupancy.
- *Expert Witness regarding the structural adequacy of a builder wall between residence properties in Scottsdale, AZ.* Performed a site study and prepared two reports regarding the wall’s structural adequacy. Specified a repair solution involving carbon fiber reinforced polymer. Testified in deposition regarding findings and conclusions.

**FORENSIC
ENGINEERING AND
EXPERT WITNESS**

2016 – 2019

Forensic Engineer

Donan Engineering, Gilbert, Arizona

Performed forensic engineering for over 500 projects in Arizona, California, New Mexico, Texas, Utah, Nevada, Colorado, and Hawaii. For each project performed an investigation; photographed evidence; took measurements; performed tests; researched applicable weather data including hail, wind, snowfall, rain, tornado, lightning, earthquake, and volcano; and submitted a report outlining methods, findings, and conclusions. Examples include:

- *Masonry fence wall failure, Buckeye, AZ:* Determined the masonry fence wall failure for several hundred feet of residential fence was due wind and the wall built according to an inadequate Maricopa County detail. Published findings in a company journal.
- *Holy Cross Church in Phoenix, AZ:* Evaluated the structural integrity of the church roof's existing glulam beam supports and found the beams to have been inadequately fabricated.
- *Fire Station in Flagstaff, AZ:* Evaluated air quality issues with elevated carbon monoxide in the firemen living quarters due to the return air intake located in the fire engine garage.
- *Residential structural investigation, Rowlett, TX:* Determined the damage due to a tornado passing near but not through the property.
- *Retaining wall, Honolulu, HI:* Evaluated a retaining wall damage due to massive floods and the impacts of tree trunks and boulders from the adjacent flooded canal.
- *Lodge in Big Bear, CA:* Evaluated destruction of a deck and damage to roof trusses and a bearing wall due to heavy snow causing a spruce fir tree to crash into the structure.
- *Residential water tank investigation, Island of Hawaii, HI:* Determined that a residential water storage tank rusting and bursting was due to the tank lacking sufficient overflow piping pressure head to discharge water from large tropical storms.
- *Porte Cochere impact damage, Happy Jack, AZ:* Identified and structurally evaluated all damage to a Porte Cochere following impact from a garbage truck. Rebutted another expert's opinions regarding cause and severity of damage identified.

**DESIGN
ENGINEERING
AND PROJECT
MANAGEMENT**

2023 - Present

Owner and Senior Design Engineer

Marcor Structural Expert Network PLLC (MarcorSEN Engineering), South Jordan, UT

Perform structural engineering for both retrofits and new construction for residential, commercial, and other structures, including:

- *HSR America, Los Angeles, CA:* Providing structural engineering for an elevated high-speed shuttle rail (400 mph). Rail is supported by cable stays and longitudinal cables anchored to towers ranging from 150 feet to 350 feet tall, spaced from 1/22 mile to ¼ mile apart. Towers are supported on pile caps with deep drilled shafts. Providing multiple studies and preliminary tower, track, and deep foundation design.
- *Cummins Diesel Services, HI, NV, CA:* Provide evaluation and retrofit of structural members supporting fall protection equipment in metal buildings. Perform catenary cable analysis to support dynamic fall loads, and make recommendations to retrofit existing members to support fall protection anchorage.
- *Martin's Diesel Retrofit, Woods Cross, UT:* Provide structural plans and calculations to raise the roof over the garage and add a second story over the office at a diesel mechanics shop.
- *Big Don's Pizza LED sign, Price, UT:* Provide structural plans and calculations for a 10' tall x 30' wide LED sign 35' above the ground. Analyzed steel sign superstructure. Designed 10-foot-deep reinforced drilled shaft foundations.
- *Pentagonal Ramada, Scottsdale, AZ:* Provided structural analysis for a pentagonal ramada built 50% larger than designed. Identified all structural construction and design defects, provided a forensic report, and provided a design retrofit to address all deficiencies. Deficiencies included a cut hip beam, undersized footings, and undersized compression ring, and lack of adequate connections.
- *Helical Free-Standing stairs, South Jordan, UT:* Analyzed a site-built helical free-standing wood staircase that was not designed properly by the previous engineer. Performed a detailed 3-d analysis and designed connection and stairway retrofits.

**DESIGN
ENGINEERING
AND PROJECT
MANAGEMENT**

2021 – 2023

Senior Structural Engineer

Precision Systems Engineering, Sandy, UT

Performed structural engineering for multi-story residential/commercial structures and heavy and light concrete and steel industrial structures. Examples include:

- *Water Tower Seismic Retrofit, West Valley City, UT:* Performed a seismic analysis and retrofit of a 155-foot-tall water tower at the West Valley City Hexcel facilities. During the March 18, 2020, earthquake in Salt Lake City, Utah, the Hexcel water tower was observed to sway dangerously back and forth. Hexcel commissioned PSE to study the tower and provide a seismic upgrade. Modeled the tower in STAAD Finite Element Software, performed sloshing calculations and period determination, and designed the steel superstructure retrofit and 30-foot-deep drilled shaft foundations.
- *Cinq and Rio, Salt Lake City, UT; Renaissance Towne Center, Bountiful, UT:* Structural engineer of record for three (3) five- to seven-story wood and steel apartment structures over podium post tensioned slabs in Salt Lake City and Bountiful, Utah. Performed concrete foundation, concrete column, concrete and wood shear wall design, post-tensioned slab, concrete and wood diaphragm, steel frame, and multi-level tie-down system design and analysis. Stamped drawings and calcs and provided construction support.
- *RedGuard Survive-a-storm Shelter, NE, FL, IL, KY.* Performed structural analysis design for multiple steel tornado shelters of various size and configuration throughout the United States.

**DESIGN
ENGINEERING
AND PROJECT
MANAGEMENT**

2015 – 2016; 2019 – 2021

Structural Project Manager

Wright Engineers, Chandler, AZ and Irvine, CA

Performed engineering and project management for multiple structural projects throughout Arizona and California. Examples include:

- *Scottsdale, AZ* - Retrofitted two post-tensioned elevated slabs of a four-story concrete and steel moment-frame building in. Retrofits included fiber-reinforced polymer (FRP) sheets and concrete capitals.
- *Phoenix, AZ* - Designed a solar array over the existing Crossroads Church courtyard utilizing parabolic steel arches bearing on Teflon bearing pads on existing concrete tilt-up walls.
- *Phoenix, AZ; Buckeye, AZ; Portland, OR* - Worked with numerous large-operation bakeries for structural retrofits, evaluations, and improvements. Designed steel support structure for cooling towers, modules, overhead fall protection, and large HVAC units.
- *Phoenix, AZ* - Designed tapered masonry monument structures up to 24 feet in height at various locations.
- *Southern California* - Investigated and evaluated church buildings for seismic safety of fixtures and provided overall recommendations for retrofits.
- *San Clemente and Bakersfield, CA* - retrofitted commercial buildings which included a three-legged tower to cantilever over the existing roof of a masonry building and multiple wood additions.

2014 – 2015

Project Engineer

Patel Burica & Associates, Inc., Irvine, CA

Performed engineering and project management for multiple structural projects throughout Southern California. Examples include:

- Designed single-family residential models with multiple elevations and options.
- Designed sports/recreation structures including basketball hoop support, baseball dugouts and backstops, and poles for field lighting.

**DESIGN
ENGINEERING
AND PROJECT
MANAGEMENT**

2009 – 2014

Project Engineer (2012 – 2014)

Design Engineer (2009 – 2012)

Electrical Consultants, Inc., Salt Lake City, UT and Tucson, AZ

Performed engineering and project management for electrical transmission line projects throughout the United States. For each project, designed wood poles, tapered steel poles, lattice towers, connecting hardware and foundations. Examples include:

- *Freeport McMorran (FMI) open pit copper mine land reclamation projects in Miami, AZ and Bisbee, AZ.* Project engineer for several 22.9 kV transmission line relocations to accommodate reclamation projects. Determined line layout and designed supporting structures including wood poles, guy wires, and hardware. Managed budget and schedule, and improved management for each successive transmission line.
- *Spinning Spur Wind 2 project in Amarillo, TX.* Project Engineer for an Engineer-Procure-Construct (EPC) 40-mile, 345 kV transmission line for wind turbines. Designed 100 plus tapered steel poles ranging up to 120 feet in height. Designed deep reinforced concrete drilled shafts. Construction was completed one month ahead of schedule.
- *Tehachapi Renewable Transmission Project (TRTP) Segment 7 in Los Angeles, CA.* Project Engineer for a 16-mile, 500 kV transmission line across the Los Angeles metro area. Performed structural design including analyzing steel lattice towers supporting cables and determining electrical clearance calculations. Took over the project midway through when it was overbudget and behind schedule. Revised project budget and schedule and completed the project within the new budget and schedule.

**PUBLICATIONS
AND
PRESENTATIONS**

- “Visualizing and Modeling Mining-Induced Surface Subsidence” Thesis presented to the faculty of Brigham Young University
- “Should I hire an engineer? The danger of excluding the design professional” Donan Engineering Online Journal
- “Enhancing our Expertise by Studying Structural Failure” Presentation at the 2023 Structural Engineers Association of Utah (SEAU) Conference