



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

## EDUCATION

**PhD, Civil Engineering**, structural emphasis, University of Utah, in progress  
**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 26 U.S. States, Districts, and Territories

State	License Type	License #	Year(s) Issued
Alabama	PE	PE53859	2024
Arizona	PE, SE	54152, 61487	2012, 2016
Arkansas	PE	21202	2022
California	PE, SE	82381, 6955	2013, 2021
Colorado	PE	52284	2017
Florida	PE	92067	2021
Georgia	PE	PE054437	2025
Hawaii	SE	17252	2016
Idaho	PE	P-17297	2017
Illinois	SE	081. 008670	2021
Kentucky	PE	35682	2020
Louisiana	PE	45881	2021
Nebraska	SE	E-19375	2022
Nevada	SE	24268	2016
New Mexico	PE	23741	2016
North Carolina	PE	052387	2021
Ohio	PE	PE.91198	2024
Oregon	PE, SE	97108SE	2022
South Carolina	PE	39684	2021
Tennessee	PE	124759	2021
Texas	PE	124000	2016
Utah	SE	9846086	2016
US Virgin Islands	PE	1916-E	2023
Washington	PE, SE	21016915	2021
Washington DC	PE, SE	PES 40000226	2024
Wyoming	PE	PE 21156	2025

**PROFESSIONAL  
AFFILIATIONS**

- Structural Engineers Association of Utah (SEAU)
- Structural Engineers Association of Arizona (SEAOA)

**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)
- Federal Highway Administration (FHWA) National Highway Institute (NHI)
  - Certified Federal Highway Bridge Inspector

**EXPERIENCE  
SUMMARY**

Sixteen years of engineering, building code, and project management experience in residential, commercial, transportation (bridge), and industrial structural design and retrofit, hydrologic and hydraulic studies, and forensic engineering and expert witness. Experience summarized as follows:

- **Approximately 1,000 Forensic investigations of roof failures, wall failures, foundation damage, moisture intrusion, and other miscellaneous damage resulting from hail, wind, snow, rain, fire, flood, tornado, hurricane, lightning, volcano, tropical storm, earthquake, vehicle impact, corrosion, heat, electrical conductors, vibrations, moisture intrusion, or other natural or man-made forces.**
- Residential and commercial building structural design and retrofit experience includes landscape structures, historical structures, studio apartments, houses, restaurants, theaters, pharmacies, solar arrays, bridges, and other miscellaneous structures utilizing all major construction materials and some specialty materials.
- Industrial structural design experience includes steel, concrete, and wood structures to support machinery, platforms, fall protection, piping, HVAC units, water towers, high-voltage and low-voltage electrical power lines, and other structures.
- Hydrologic and hydraulic experience includes modeling precipitation runoff routed through rivers, reservoirs, dams, spillways and storm drains to determine peak flows, freeboard, abutment scour, and flooding potential.
- Expert witness experience includes providing testimony in the fields of engineering, building code compliance, and project management.

**FORENSIC  
ENGINEERING  
AND EXPERT  
WITNESS**

2021 – Present

Sole Proprietor and Senior Forensic Engineer

**Marcor Forensic and Expert Consulting**, South Jordan, UT

<https://marcorforensicexpert.com>

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

- *Expert Witness regarding runoff in Rock Springs, WY.* Investigated runoff and groundwater surcharge onto a residential property resulting in basement and foundation flooding. Performed a survey, developed a hydrologic and hydraulic model, conducted two site studies, and outlined findings in an expert report.
- *Expert Witness regarding electrical shock in St. Croix, U.S. Virgin Islands.* Investigated an electrical shock on St. Croix following 2017 Hurricane Maria. 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 a private bridge in Duchesne County, UT.* Performed structural, hydrologic, and hydraulic analyses on an existing private bridge to determine whether the bridge was adequate or required retrofit. Provided retrofit details and remedial recommendations for all deficiencies. Outlined findings in an expert report totaling nearly 100 pages.
- *Expert Witness regarding a custom home in Alpine, UT.* Performed structural, civil, and environmental engineering and project management analyses on a partially built, 7500-square-foot custom home. Identified over a dozen environmental noncompliance issues, including a hazardous spill. Discovered severely inadequately designed and built foundations and designed a carbon fiber and footing extension retrofit. Published findings in seven reports totaling over 400 written pages and over 1200 pages including appendices.
- *Expert witness regarding concrete roof tile damage at a residence in Henderson, NV.* Researched weather data, performed destructive testing of roof tiles, calculated aerodynamic uplift due to venturi and other local effects, and prepared two reports. Testified at a deposition and Federal District Trial.
- *Expert Witness regarding 27 city-issued violations at a historic apartment building in Phoenix, AZ.* Performed three site studies and prepared three reports of an apartment building in the Phoenix Historic Thunderbird district. Researched historical imagery and materials; reviewed existing and historical building codes, including the IBC, IEBC, NEC, IFC, IFGC, IPC, and IMC; and analyzed building structural properties. Testified at the trial in Phoenix Municipal Court.

**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. Projects included single and multi-discipline studies involving myself and other experts in structural engineering, civil engineering, mechanical engineering, electrical engineering, geotechnical engineering, surveying, and equine expertise. Examples include:

- *Expert witness regarding contractor work at a property near Clayton, CA.* Led 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 Engineer regarding Hurricane Ida in Louisiana.* Performed six forensic investigations over four days in Louisiana following Category 4 Hurricane Ida. Studied Hurricane Ida's impact on 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 an LED video wall that 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.* Led a team of structural and civil engineers to evaluate the flood risk at the Hexcel facility in Kent, Washington, from the nearby Springbrook Creek. Built hydrologic and hydraulic models considering flood water from both the nearby Springbrook Creek and from direct runoff. The floodwater risk was found to be less than an inch, and extensive findings were published in two reports.
- *Forensic expert regarding apartment analysis in Rangely, CO.* Investigated two apartment buildings over two days to determine the cause of severe cracking and deflection throughout the buildings. Found that the severe damage was due to soft foundation soils exacerbated by a sewer leak and inadequate original structural design of walls and floors.

**FORENSIC  
ENGINEERING  
AND EXPERT  
WITNESS**

2015 – 2016; 2019 – 2021

Forensic Engineer and Expert Witness

**Wright Engineers**, Irvine, CA, and 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/>) Researched and reviewed extensive weather data, existing deposition transcripts, cost estimates, and reports. Performed diaphragm and shear wall deflection calculations to determine the 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, material procurement, 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.* Led a team of structural engineers to evaluate a collapsed roof and fractured wooden joists following a record rainstorm at the former Sears building in Medford, Oregon. Performed hydrologic and hydraulic calculations of the accumulated rainfall depth. Rebutted two other expert reports who attributed fractured joists to pre-existing conditions and/or hanging loads in the building. Rebutted another expert report that 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 a deposition.
- *Expert Witness regarding electrical clearances in Bakersfield, CA* - Investigated an electrical shock to a construction worker who, while holding a pole, climbed onto a roof and contacted a high-voltage powerline with the pole. Studied required GO 95 clearances and provided verbal findings to client.

**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 to wind, and the wall was 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 historical 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's living quarters due to the return air intake being 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 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 the 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, based in Utah and Arizona. Examples include:

- *Cabin Retrofit, Logan Canyon, UT*: Provided a structural engineering retrofit for a cabin in a flood zone adjacent to the Logan River. The cabin had been partially retrofitted to raise it out of the flood zone. MarcorSEN first designed a structural retrofit to stabilize the elevated cabin. Secondly, MarcorSEN calculated the 100-year flood elevation and designed permanent foundations consisting of drilled shafts to river rock to elevate the cabin 6 feet above the flood water.
- *HSR America, Los Angeles, CA*: Providing conceptual structural engineering for an elevated high-speed shuttle rail (400 mph). Designed rail were to be supported by cable stays and longitudinal cables anchored to towers ranging from 150 feet to 350 feet tall, spaced up to ¼ mile apart. Designed tower foundations consisting of deep drilled shafts.
- *Cummins Diesel Services, HI, NV, CA*: Provided evaluation and retrofit of structural members supporting fall protection equipment in metal buildings. Perform catenary cable analysis to support dynamic fall loads and designed building retrofits 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, an undersized compression ring, and inadequate connections.
- *Helical Free-Standing stairs, South Jordan, and Wanship UT*: Analyzed and designed/retrofitted multiple existing or new helical free-standing wood and steel staircases at various properties in Utah. Performed detailed three-dimensional analyses of connections, foundations, and supporting structure.

**DESIGN  
ENGINEERING  
AND PROJECT  
MANAGEMENT**

2025 - Present

Owner and Senior Design Engineer

**Arizona Structural Experts**, Phoenix, AZ

- *Desert Truss, Phoenix, AZ*: Provide truss new design and repair of damaged trusses for residential structures throughout Arizona, mainly in the Phoenix valley.
- *Custom Homes*: Provide engineering direction and design for custom homes throughout Arizona.
- *Miscellaneous steel structures*: Provide engineering direction and design for steel structures.

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 dynamic analysis including 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, 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 and design for multiple steel tornado shelters of various sizes and configurations 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. 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. Performed steel retrofits of a historical bakery building over 100 years old in Phoenix, AZ. Designed steel support structures for cooling towers, modules, overhead fall protection, and large HVAC units.
- *Phoenix, AZ* - Designed tapered masonry monument structures up to 24 feet tall at various locations.
- *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. Assumed project management midway through when it was over budget and behind schedule. Revised project budget and schedule and completed the project within the new budget and schedule.

**PUBLICATIONS  
AND  
PRESENTATIONS**

- "Transitioning from Cowboy Project Management to Formal Certification," Presentation at the annual Structural Engineers Association of Utah (SEAU) Conference (2025)
- "Enhancing our Expertise by Studying Structural Failure," Presentation at the annual SEAU Conference (2023)
- "Should I hire an engineer? The danger of excluding the design professional," Donan Engineering Online Journal (2018)
- "Visualizing and Modeling Mining-Induced Surface Subsidence," Thesis presented to the faculty of Brigham Young University (2009)