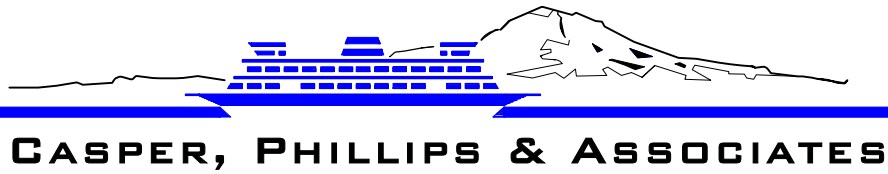


CASPER, PHILLIPS & ASSOCIATES

Curriculum Vitae

- Name: Jeffrey T. Hubbell
- Education: Master of Science, Structural Engineering
University of California, Berkeley
- Bachelor of Science, Civil Engineering
University of Idaho, Moscow
- Registration: Structural Engineer
California, Washington and Idaho
- Societies: Tau Beta Pi; Phi Eta Sigma; SEAONC
- Highlights:
- ❖ Engineer of record for seismic investigation, review, and rehabilitation of Boeing's Plant 2, 2-22 cafeteria and auditorium in Seattle, Washington. Building was damaged during the Nisqually earthquake from soil liquefaction resulting in subsidence of the foundation system. Repairs to the main structural system included replacing all braces with friction dampers to handle both future seismic and subsidence concerns.
 - ❖ Responsible for developing criteria, methods, custom software, analysis techniques, and implementing the seismic rehabilitation of Boeing's final assembly building complex in Everett, Washington. This is the world's largest building, and the engineering effort lasted about eight years. Non-linear dynamic time-history analysis was used to design the rehabilitation which included installation of friction dampers on the second story braced frames. Multiple rehabilitation schemes were investigated, with the damper scheme proving least disruptive and most economical. Custom software was developed to automate member and connection checks due to the large quantity of analysis output and the size of the analysis.
 - ❖ Designed 22,500 sq. ft. expansion to Boeing Central Plant Facilities Building. As manager for the design team, coordinated the architectural, electrical, mechanical, geo-technical, civil, and structural designs. Designed and drafted the structural steel and concrete foundation system.
 - ❖ Designed complete structural rehabilitation of newly installed, severely limited, overhead crane system used for Boeing 777 assembly factory at Everett, Washington. Assisted in field implementation and evaluation of the proposed strengthening modifications. Performed strain gage testing of cast steel components.
 - ❖ Three dimensional review of the 1100 ft x 850 ft space-frame building structure supporting the Boeing 777 crane system. Building has two clear spans of 350 ft each in the 850 ft direction. Responsible for development of automated computer software for checking stress levels in structural components per AISC specifications.
 - ❖ Designed 150 ft x 125 ft expansion to Boeing Central Plant Facilities Building. As manager for the design team, coordinated the architectural, electrical, mechanical, geotechnical, civil, and structural designs. Designed and drafted the structural steel and concrete foundation system.
 - ❖ Directed the field review effort during the fabrication and erection of two container cranes purchased by the Massachusetts Port Authority.



- ❖ Designed crane modifications of two existing container cranes for Massachusetts Port Authority which allowed the cranes to remain in service while being raised 20 ft. Designed incorporated “sleeve” approach. Provided field review services for the Port.
- ❖ Developed a series of structural analysis and design programs to automate the design and analysis of complex, moving machinery and other structures subjected to numerous possible load combinations.
- ❖ Reviewed structural designs of several quay-based gantry container handling cranes for various port authorities, manufacturers, and shippers.
- ❖ Designed several structural modifications of container cranes, including raises, boom extensions, rail gage changes, and voyage bracing.
- ❖ Preliminary design, capital cost estimate and economic feasibility study for a synthetic alumino-sodium silicate manufacturing facility for the PQ Corporation. Included preliminary site layout, building design, equipment layout, process design, and regulatory impact/concerns.
- ❖ Design and construction support of a three-story, moveable, floating truck access structure for loading sea-going Ro-Ro vessels.
- ❖ Directed the Virginia International Terminal crane robotics R&D project. Extensive field instrumentation and special cab computer hardware/ software development.
- ❖ Directed full scale tests of concrete container crane runway girders to failure.
- ❖ Developed and field verified container terminal yard operation simulation program for American President Lines at Oakland and San Pedro, California.
- ❖ Designed and managed construction of upgrade of hoist equipment used in the acoustic test chamber at Boeing’s Kent Aerospace facilities.

Detailed
Experience:

1989 to Present CASPER, PHILLIPS & ASSOCIATES

Principal. Responsible for all phases of projects. Structural review and design of buildings, cranes and other specialty steel and concrete structures. Director of several concurrent specialty projects, including robotic antisway for Virginia International Terminals, The Boeing Company Acoustic Test Cell Upgrade project, and the development of specialized structural analysis software for the Boeing 777 crane system and Boeing Everett Seismic Upgrade projects.

1984 to 1989 LIFTECH CONSULTANTS INC.

Associate, Civil Engineer. Structural design and review of numerous buildings and cranes. Specialty projects included software development for semi-automated crane analysis, simulation, programming of full container terminals, investigation and repair of structural failures, dock review and strengthening.