

## **Ben Gerwick Jr. -- helped engineer super-strong concrete supports**

- Rick DeVecchio, Chronicle Staff Writer  
Saturday, December 30, 2006



Ben C. Gerwick Jr., a civil engineer and university professor famous in his field for his role in developing the high-strength concrete underpinnings needed to support the world's deepest offshore oil platforms and longest suspension bridges, died Monday at his home in Oakland of complications from a lung infection. He was 87.

Professor Gerwick's engineering career spanned 60 years and continued to the last month of his life. In his final professional role, he was a specialist consultant on marine structures for Ben C. Gerwick Inc., the San Francisco-based civil engineering concern founded by his father, Ben C. Gerwick Sr., as a heavy-construction company in 1926.

"He was an engineer's engineer," said his son Bill Gerwick of La Jolla. "Right until the day of his death, he was sharp in his mind and ... incredibly thoughtful and wise. He had an exceptional kind of wisdom that was sought after by many people."

Professor Gerwick, who taught at UC Berkeley from 1971 to 1989, was best known for pioneering the use of prestressed concrete in structures subjected to powerful and complex forces, including weight, wind and earthquake shaking.

Instrumental in solving the technical problems posed by what was then a new technology, he proved the suitability of prestressed concrete in marine structures, bridge piers and long driven piles in deep foundations. The products that resulted from his work included concrete railroad ties, large-diameter cylinder piles and concrete piles hundreds of feet long.

Professor Gerwick advanced the design and construction of some of the world's most ambitious concrete-foundation structures, including oil platforms in the North Sea and bridges in Bangladesh, Canada, Hong Kong, Japan and Denmark.

In addition to his work with prestressed concrete, Professor Gerwick developed new techniques for digging deep foundations. His ideas were used in the underground construction of the BART system in San Francisco, in the seismic retrofit of the Bay Bridge and in many high-rise structures.

Through teaching, writing and consulting, Professor Gerwick's influence extended beyond his work as a hands-on engineer.

In 1971, he joined the UC Berkeley civil engineering department and developed the university's program in construction engineering and management. At the same time, he established Ben C. Gerwick Inc. as an engineering consultancy.

He wrote two popular books still widely used by working engineers and students: "Construction

of Marine and Offshore Structures" and "Construction of Prestressed Concrete Structures."

"The thing that impressed me the most about Ben was his sense of business ethics and his sincerity in what he was trying to do," said Bob Bittner, the president of Ben C. Gerwick Inc., "and what he was trying to do was encourage creative thinking and innovation in our industry."

"For him, engineering was a creative process requiring kind of a questioning attitude and the courage to be innovative."

Professor Gerwick's last book, "The Bridge Beyond," written in 2005, is a novelistic autobiography of a career in engineering. As a boy, the narrator dreams of building great bridges and shapes arches in the sand at Lake Tahoe. As a professional at the peak of his career, he travels to Hong Kong to realize his dream in the form of the world's longest cable-stayed bridge, a structure requiring one of the deepest and most demanding foundations.

"All my life I've dreamed about building bridges at the outer limits of practicality," he says, "beyond the conventional, something that demanded all my skill and experience."

"I guess I'm addicted to the challenge and stimulus of each new structure."

Born in 1919 in Berkeley, Ben Clifford Gerwick Jr. graduated from Cal with an engineering degree in 1940 and served in the Navy for six years during World War II. He ended his wartime service as commander of the attack cargo ship Scania.

He earned a number of professional citations, including the Outstanding Projects and Lifetime Award from the American Society of Civil Engineers and the Prestigious Berkeley Citation -- the equivalent of an honorary doctorate.

Professor Gerwick is survived by his wife, Ellen Chaney Gerwick; children Bill Gerwick, Beverly Brian of St. Joseph, Mo., Virginia Wallace of Bainbridge Island, Wash., and Cliff Gerwick of Indianapolis; seven grandchildren; and four stepchildren.

His first wife, Martelle Beverly Gerwick, died in 1995. The couple were married for 54 years.

Contributions may be sent to the Ben C. Gerwick Fellowship Award Fund, Department of Civil and Environmental Engineering, University of California at Berkeley, CA 94720.

Friends are invited to attend a memorial service at the First Congregational Church of Berkeley, 2345 Channing Way, at 2 p.m. on Feb. 3.

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