



Ben O. Kerwick, Jr.

BEN C. GERWICK, JR.

1919–2006

Elected in 1973

“For contributions and leadership in the application of engineering technology to underground, harbor, and ocean construction.”

BY ROBERT B. BITTNER
SUBMITTED BY THE NAE HOME SECRETARY

WITH THE DEATH OF BEN GERWICK, JR., the nation lost one of its foremost construction engineers. He died in his home in Oakland, California, on December 25, 2006, at the age of 87. He was known worldwide for his pioneering work in prestressed concrete and his creative innovations in marine construction and deep foundations.

Ben was born in 1919 in Berkeley, California, the son of a renowned construction engineer and contractor. He developed an interest in engineering over the dinner table, listening to his father tell of his adventures on marine construction projects in the San Francisco Bay area. Ben received his B.S.C.E. *summa cum laude* with the class of 1940 from the University of California, Berkeley. Upon graduation, his Naval Reserve Training Corps unit was called into service, more than a year before the Japanese attack on Pearl Harbor. Ben took part in landings in North Africa and Sicily. Later, as a line officer, he was commander (the youngest in the U.S. Navy) of the attack cargo ship *Scania*. When the war ended, he returned to San Francisco and joined Ben C. Gerwick, Inc., the heavy marine construction firm founded by his father in 1926.

In the early 1950s, Ben became interested in the potential of prestressed concrete and converted the company's precast concrete manufacturing plant to the new technology of pretensioning. He pioneered the development of long prestressed concrete piles, which were installed by his firm for deep foundations, bridge piers, and other marine structures. Later the firm developed the deflected-strand process for pretensioned bridge girders, the precast match-casting process for bridge girders, and pretensioned railroad ties. Ben's innovations yielded him six patents and made possible the successful manufacturing, transport, and installation of prestressed piles up to 150 feet in length.

In 1952, Ben became president of the firm, which participated in the establishment of prestressed concrete fabrication plants in Kuwait and Singapore. Domestically, the company's projects included the overwater extension of La Guardia Airport in New York. The firm also became heavily involved in the design and construction of deep foundations with prestressed piles and later the design of shoring systems for deep excavations and the development and patenting of a special slurry-wall construction system incorporating soldier beams, known by the acronym "SPTC walls." This system was used to build the deep foundations for the underground BART stations in downtown San Francisco and for many high-rise buildings.

Ben was president of the Prestressed Concrete Institute in 1957 and the International Federation of Prestressing from 1974 to 1978. His firm merged with J. H. Pomeroy and then, in 1967, became part of Santa Fe International. In 1971, he joined the faculty of the University of California, Berkeley, as a professor of civil engineering. Concurrently, he set up a specialized consulting engineering practice named Ben C. Gerwick, Inc., the name of his former construction company. In 1988, this firm became affiliated with COWI A/S, Consulting Engineers and Planners, Lyngby, Denmark.

As a contractor, Ben participated in the construction of precast concrete bridge piers for several major bridges, such as the Richmond-San Rafael Bridge, and the construction of the concrete North Sea platform, the Ninian Central. As a consultant,

he participated in the development of several major offshore concrete oil platforms in the North Sea. This work led the use of prestressed concrete in offshore structures that could resist sea ice and icebergs in the Arctic and Subarctic. He subsequently worked on the floating concrete structure Ardjuna Sakti for the storage of cryogenic gas and the first long-span cantilever segmental bridge in the United States.

Ben was a consultant on major prestressed concrete bridges in Europe, the Middle East, and Asia, as well as in the United States. He also advanced the concept of large-diameter steel tubular piles for major overwater bridges and was construction consultant on the design and construction of deep cofferdams for bridge piers. He provided construction engineering for the marine foundations of more than 26 major bridges worldwide.

Among Ben's honors and awards were membership in the National Academy of Engineering and the National Academy of Construction. He was an Honorary Member of the Concrete Societies of Great Britain, Germany, Sweden, Norway, and France, as well as the American Society of Civil Engineers, American Concrete Institute, and Prestressed Concrete Institute. He was the recipient of the Freyssinet Medal from the International Federation of Prestressing (FIP) and the Medal of Honor from the Prestressed Concrete Institute, as well as the Golden Beaver Award for Engineering from the heavy construction industry, the Distinguished Service Award from the Deep Foundation Institute, and the Outstanding Projects and Lifetime (OPAL) Award from American Society of Civil Engineers. He was a member of Phi Beta Kappa and Kappa Sigma Fraternity.

Ben also made major contributions to the construction industry through his work at UC Berkeley, where he initiated and led the highly successful graduate program in Construction Engineering and Management from 1971 to 1989. As professor of civil engineering for 30 years at the UC Berkeley, and in his many lectures to students and professional groups, he stressed the importance of a creative and innovative attitude in addressing engineering and construction challenges.

Ben was a highly skilled communicator, and his writings include more than 200 technical papers, book chapters, and three technical books that are widely used in the construction industry, *Construction of Prestressed Concrete* (John Wiley and Sons, Inc., 1997), *Construction Marketing for Major Project Services* (John Wiley and Sons, Inc., 1983), and *Construction of Marine and Offshore Structures*, currently in its 3rd edition (Taylor & Francis, Inc., 2007). In 2005, he completed his fourth book, *The Bridge Beyond* (Vantage Press, Inc.), a novelistic autobiography of a career in engineering.

In 1999, the editors of *Engineering News Record* (ENR) identified Ben as one of the "125 TOP PEOPLE" whose efforts in the construction industry singularly and collectively helped shape this nation and the world. That same year, Ben reflected on what he considered the most rewarding aspect of his 54-year career. Rather than the awards and recognition he had received, or even the major projects in which he had been involved, the most valuable to him were his many close friendships with dedicated people who were enthusiastic about getting things done, people who faced challenges creatively and had the courage to use their training and technical skills to accomplish great things. These people, both contractors and engineers, could be found during the design and construction of major bridges around the world, working in the North Sea installing massive floating concrete structures, in the Netherlands constructing innovative surge barriers to protect their country, and along the inland waterways of the United States building locks, dams, and marine terminals. As an added reward, many of these engineers and contractors had been his students.

"He was an engineer's engineer," said his son Bill Gerwick. "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." Ben was a brilliant engineer, but he was able to lead and inspire people because of his human qualities and his sincere interest in them. Ben was the ethical and professional compass for many engineers in design and construction. We are fortunate to have known and worked with him, and we will miss him dearly.

Ben is survived by his wife, Ellen Chaney Gerwick; his children, Bill Gerwick, Beverly Brian of St. Joseph, Missouri, Virginia Wallace of Bainbridge Island, Washington, and Clifford Gerwick of Indianapolis; seven grandchildren; and four stepchildren. His first wife, Martelle Beverly Gerwick, died in 1995. Ben and Martelle were married for 54 years.