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Dennis A. Vodicka

Objective

To show Dennis' Engineering Experience as a Bridge Designer

Education

Aug 1969 – July 1971 Nebraska Tech Milford, NE
Associate Degree in Architecture with High Honors

Oct 1971 – Apr 1972 U.S. Army Corp Engineers Fort Leonard Wood
Construction Foreman/Inspector/Engineer School (Went into the Army as a
E-5 right out of Milford)

Certificate of Training (Graduated 5th of a Class of 32)

This School was a classroom with hands-on training. Here, I learned Concrete and Asphalt design, mixes, and batching plant operations. Then went to Rock Quarrying operations, Road and Airfield design to include Surveying. Then learned how to design Buildings and Hangers to include Construction of these buildings. Finally, we studied Bridge design, where we had to design a Timber Bridge and then, had to build it. After the bridge was built, we tested the bridge by driving vehicles on it.

Professional experience

Apr 1972 – July 1974 293rd Engineer Battalion Germany
Chief Design Draftsman

Here, I oversaw the Design and Detail Section. I had worked with two West Point Engineers Cpt. Charles Robb and Cpt. Roy Noggle who started me off in the direction of Engineering Apprenticeship. I had six detailers under my leadership. Plus, worked with, and supervised the Survey Section and the Material & Testing Section.

Feb 1979 – Feb 2011 (32 years) Retired NDOR – Bridge Division Lincoln, NE
Bridge Designer II (equals to licensed Engineer III)

At the NDOR, my responsibility is to design and check bridge plans. In the meantime, I detail my own bridge design. Was on the **Rebar Duit Team** as well on the NDOR Bridge Division LFD **Bridge designing Manual Team**.

Here I started working for NDOR Bridge Design Apprenticeship program, but by the time I became eligible to take the EIT in 2001. The Board of Engineer & Architecture changed the rules requiring that one must have a 4-year degree to take the EIT and then in 2001 the Board did away with Apprenticeship program. Therefore, I do not have a SE License.

My final 4 years at the NDOR was in the Inspection of and repair existing

bridges and bringing these bridges back to code. Example L street at 32nd in Omaha, 275 bridge near Winslow, hwy 30 near Lodgepole.

Developed a Pipe Pile Splice for Timber Pile repair which brings back the full load capacity to the timber Pile.

Patents and publications

I have two Patents, one for a Compression Splice with combination Roll Beam design for bridges under Patent No. 5966764 and the other is for a Prefabricated all Steel Pier, which will only take 4 days to build under Patent No. 6449791 B1. These patents allow a contractor to build a one span Bridge in just 25 days. These patents were created with worker's safety and to be very environmental safe for the environment.

Additional professional activities

Mr. Claude Oie, PE, and I, on a part-time basis, do septic system and percolation testing and design business. Most of our designs have been in Cass and Lancaster Counties.

In 1996 developed Compression Theory for Steel Bridge Girders using my Compression Splice. It wasn't until 2009 when I could afford to test my Theory with the help of my good friend Dr. Maher Tadros, at the UNO Engineering Lab. I proved that my Theory worked.

Bridge Inspector as a Bridge Team Leader to include Fracture Critical Bridge Inspection.

Extracurricular activities

I have attended several refresher courses through the State in Concrete and Steel design using LFD and LRFD taught by UNL/UNO Professors, Dr. Azizinamini and Dr. Tadros. Plus, taken several courses provided by the Federal Highway Administration.

Awards received

Certificate of Achievement from the United State Army Corp of Engineers, 24th Engineer Group (Construction)

2 - Extra Mile Award from NDOR for the emergency design replacement for Military Road Bridge over I-680 and for the Big Spring Bridge over I-80.

Summary of qualifications

1951 - 1979 Vodicka & Sons Constr. Dunbar, NE

Partner

Ran a Construction Company doing Farm buildings and Residual construction until the housing market went out in 1979.

1979 – 1998 (Retired) Nebraska Army & Air National Guard Lincoln, NE

Heavy Equipment/Pavement Section Supervisor

In the Air National Guard, I oversaw 25 to 50 people in training and running construction projects mostly on Air Bases here in the U.S. and overseas (Israel, Panama, Germany, Canada and Alaska).

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In the Army, National Guard I was the Company Clerk for the Nebraska City Unit and then in 1981 to 1982 was the Temporary Unit Administer for the Nebraska Unit until a full time person was located.

Career Highlights

While in Germany, I designed the first dirt quarter mile vehicle racetrack, in which it had to have a 55-mile/hr. speed limit for the German and American Force to race in. Basically, we took a steep hill and cut it in half. In 2010 this Racetrack is still in place at Baumholder, Germany, even though it is no longer in use.

Designed the tallest and longest span steel bridge in the State of NE, just south of Valentine over the Niobrara River.

Remodeling of I-480 in downtown Omaha from 20th street to and include the Missouri River bridge.

One of the key Designers of the simple Span made continuous Box Girder Bridge, on N2 over I-80 (Developed by Dr. Azizinamini).

One of the lead Designers for the Columbus Tied Pipe Arch Post Tensioned Bridge (Developed by Dr. Tadros).