CONCRETE INDUSTRY MANAGEMENT (CIM) STUDENTS FROM CALIFORNIA STATE UNIVERSITY, CHICO TRAVEL TO NORMANDY

Five students from the Concrete Industry Management (CIM) program – a business intensive program that awards students with a four-year Bachelor of Science degree in Concrete Industry Management – at California State University, Chico traveled to Pointe du Hoc in Normandy, France over spring break to assist with the evaluation of concrete bunkers. Pointe du Hoc was one of the key locations for the historic World
War II D-Day landing in June 1944.

The students, Chad Golden, Robert Hostettler, Andrew Billingsley, Courtney Sheehan and Alexx McAvoy, used state-of-the-art non-destructive testing equipment to evaluate the conditions of the concrete in the Observation Post and gun casements. Field-rugged computers made it possible to enter the data and run tests on the velocity of the sound waves pulsing through the concrete to determine the soundness of the material via specially designed transducers set at carefully determined locations on opposite sides of walls. This test was capable of sending and receiving ultrasonic pulses through the approximately 80 inches of concrete in some locations at the site. For another test, a sophisticated concrete thickness gauge capable of working with one-sided access was used to determine concrete thicknesses, delaminations and voids.

California State University, Chico, Assistant Professor Tanya Wattenburg Komas, who teaches a class in concrete repair and preservation, set up the research opportunity with colleagues at Texas A&M University. The team from A&M had been working for several years with the American Battle Monuments Commission (ABMC) on a project to survey the site and evaluate the cliffs of the historic landing site on which the concrete structures rest. The Chico team was invited to participate in the project to assess the condition of the concrete structures and provide needed information about the depths of the foundations. The Chico team will produce a preliminary “existing conditions” report that will combine the previous laboratory testing results

and the recent fieldwork results. Data collected during the concrete investigations will be used during the cliff stabilization phase of the project

“The trip was an amazing experience for us all,” said Komas. “The students completed an incredible amount of work with proficiency and professionalism, several days of which were accompanied by gale-force winds and heavy rain. That they were able to participate in a work of this magnitude is exciting for them and for me.”

According to Komas, their involvement in the project was a result of previous connections with Texas A&M University, the concrete repair industry, and the commitment of the academic community and the larger concrete industry in the unique CIM partnership. Through implementation of the proven CIM academic program, together with specialized courses at California State University, Chico and industry support at the national and local levels, they were able to combine their strengths while training the students to be contributing members of future research and industry teams, she said.

"This was a wonderful opportunity, and one that most college undergrad students never get to experience. I can't tell you how invaluable it was to be able to work in the field with cutting edge technology side by side with the owner of the company. It really gives a whole new meaning to hands-on experience," said Chad Golden, a senior at Chico State. Alexx McAvoy, a junior at Chico State, added that she “was part of something that our forefathers were. I was at the same wall they climbed and the same beach where thousands of people lost their lives. I physically contributed to preserving this great site.” Robert Hostettler said, “"To have the opportunity to do hands-on testing and research at such a historic site was truly an honor and a privilege."

Pointe du Hoc is the most culturally important site of the 1944 World War II Normandy invasion. The coastal battery consists of a variety of structures such as gun emplacements, casements, and personnel and ammunition bunkers. Constructed as part of Hitler’s Atlantic Wall campaign, it was strategically placed between the Utah and Omaha invasion beaches. An American military cemetery is located several miles from the Pointe.

The CIM Program

Recognizing the need for people with enhanced technical, communication and management skills, the CIM program was developed in 1996. The individuals graduating from this program

will have the skill set necessary to meet the growing demands of the progressively changing concrete industry of the 21st century. It is a business intensive program, providing solid management skills that can be used in any industry, but has been developed specifically for the concrete industry. The program gives students many advantages including entering the concrete work force with exposure to the industry early in their careers, unlike others coming in with generic business degrees.

The goal of the program is to produce broadly educated, articulate graduates grounded in basic business management, who are knowledgeable of concrete technology and techniques and are able to manage people and systems as well as promote products or services related to the concrete industry. It entails a broad range of courses, from English and history to science and mathematics. A series of required business courses such as finance, marketing, management and business law are also taken throughout the length of the program. The concrete-specific courses teach the fundamentals of concrete, properties and testing, concrete construction and more. All of these courses provide much more than what is simply in the text – they emphasize problem solving, quality assurance and customer satisfaction. They utilize practical case studies and an internship to make sure the student obtains real-world experience essential to starting a successful career. Additional opportunities for growth include on-campus socials and other organized events providing industry networking and professional development.

Andrew Billingsley described his experiences as one of the first CIM students at Chico State and as one of the students on the Pointe du Hoc research: “Having grown up placing concrete and learning some of the labor aspects of the industry I was not sure what I would be learning in this new major. Two years later, now knowing some of the technical side that we have studied and having had the chance to be a part of the Normandy trip, I have learned how much more there is in this field. The technology is amazing and the connections and resources we have been introduced to through the major have allowed us to gain valuable experience, which I feel will help us once we have graduated and step into the real world. We are not limited to just learning about our industry from what we read in a book like a lot of other students, we get the opportunity to meet people from the industry and work with them hand in hand. The trip to France was a prime example of this because Larry Olson of Olson Engineering joined us in France and taught us in the field how to use his cutting-edge equipment. That kind of learning is invaluable.”