

STEM SPOTLIGHT

Andrea Williams

Chief, Plant Section (Supervisory Civil Engineer)
US Army Corps of Engineers, Memphis District

Master of Science in Civil Engineering

Virginia Tech

Bachelor of Science in Civil Engineering

Tennessee State University



Q How did you select your college major?

A I really enjoyed math and science in high school and I looked for majors that would allow me to continue to use my critical thinking skills.

Q What was the biggest influence in your selection of major/ career?

A I liked competing against the guys who seemed to dominate in the math and science classes. I chose civil engineering because it is a male dominated field that allows me to continue to use my critical thinking and to compete with the guys. I had to show them that girls were just as capable as the guys. Girls Rock!

Q If you could go back to high school and select any elective course to take that would have better prepared you for college, what would it be?

A I think I would have selected a shop class or a construction type class of some sort. Again, these were mostly male dominated classes but any hands-on experience would have been good for helping to understand the theory and applicability of textbook problems.

Q What is your favorite aspect of your job?

A My favorite aspect is the critical thinking. Having a problem and having to devise the most effective and cost efficient solution. I love multitasking. I like to have a lot of things going on at one time. Makes the day go by really fast!

Q How do you/ your company make a positive impact on society/ our community?

A We are the US Army Corps of Engineers. We have approximately 37,000 civilians and soldiers delivering engineering services to customers in more than 130 countries worldwide. The Memphis District delivers flood risk management, navigation, environmental stewardship, emergency operations and other civil works that benefit the region and the Nation. We also participate in programs like STEM and have adopted a local school. I speak at local career days at a variety of Memphis City and Shelby County schools and even serve as judge in science fairs and on projects when called upon.

Q What is the most interesting thing you have been able to do in your career?

A The most interesting thing I have been able to do in my professional career is to serve in my current position as Chief of Plant Section at Ensley Engineer Yard. My job is extremely challenging but it is also rewarding. I would have never dreamed that I would work on the waterfront and be in charge of drydocks, welders, machinists, carpenters, pipefitters, heavy mobile equipment operators and mechanics. I look out my window and see a variety of motor vessels in the harbor on a daily basis. Learning all that they do and how projects come together because of the engineering and the actual hands on work is very exciting.

Q How does your career incorporate STEM (Science, Technology, Engineering, and Math)?

A My entire career is STEM! I am an engineer and by definition I use Science (physics and chemistry), Technology (my trusty laptop, our plasma cutting table, computer aided drafting software, etc.), and Math to solve engineering problems daily, whether it be using the computer to determine the position of blocks for dry docking a vessel, determining the best way to make a critical lift of an object with our crane, or calculating the section's budget for the year.

Q What advice would you like to share with K-12 students who are considering your profession?

A Absorb it all! Read, learn to write and speak well and try your best to understand all your school subjects. Be well rounded. Participate in extra-curricular activities. I know we often think when we are young "I'll never use this!" Trust me....you will and likely in a most unusual way!



Q What makes you get up each morning excited about your profession?

A The thought of meeting new challenges, solving problems old and new, and interacting with so many different people.