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Senior, Graduation: May 2022
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Throughout my time here at CEC, during the summer of 2021, I was able to greatly expand my knowledge, professional network, and experience from my previous brief time interning at CEC during the summer of 2020. The intern rotation I went through this summer gave me a chance to further my knowledge from last year in the Facilities and Transportation groups as well as go through the CEI and Survey groups for the first time.

During my time with the Facilities group I was able to work on multiple projects whether it was in the field or behind the computer. I was able to further my AutoCAD Civil 3D and Excel skills during my time during these few weeks. With this group I was also able to go to a project that I helped work on last summer in AutoCAD Civil 3D and take updated pictures. This wasn't the only project I got to check up on from my previous internship, I was also able to see the ODOT maintenance facilities in Anadarko that was nearly done. Being part of these projects in the beginning and then getting to see them towards the end showed me how gratifying it is to see some of your work get put together.

The second group that I was able to join was the CEI group. With this group I spent one week in the materials lab getting to learn a lot of different soils and concrete testing. After the materials lab, I was able to spend my next two weeks on the Gilcrease project in Tulsa. On this project I was able to learn so many different terms, processes, and behaviors of road construction. I knew going into this internship that I wanted to take my career towards the construction field, but now I see a clear path on how to not only work towards a career in construction, but also working towards my PE license.

After CEI I was able to go work with the Surveying group for two weeks. The first week I was able to learn about LiDAR and how LiDAR is collected and put into MicroStation (which I got to learn for the last time) to use for the design process. I also got to go out and help with some drone work on two different projects including the Overholser Dam and Chesapeake Energy. For the second week with the survey group, I went out to the field with the survey field techs. I was able to learn how to do some basic types of surveys all over the state, from Poteau to Pauls Valley to New Castle. Learning how to survey or even just knowing how surveying works will greatly help me in the construction field by just giving me some general knowledge on the topic.

The last group that I was able to be a part of is the Transportation group. With this group I had already finished the intern packet, that they usually give intern, last year, so I was able to work on some calculations/quantity checks on a state highway bridge on Harrah Rd. over I-40. This not only helped give this group a check on their work, but it helped me a lot by allowing me to learn how to read highway/bridge plans. I was also able to attend a Transportation Symposium put on by Oklahoma State University with ODOT and the University of Oklahoma attending as well. At this symposium I was able to hear different research projects happening in the transportation world, some of which is being done by my current and past professors at OSU. Lastly, I worked on some AutoCAD Civil 3D training for road design.

Overall, I was able to learn so much over the short two and a half months that I spent here at CEC, and I plan on using that knowledge and the connections I made to excel my career.



Nick Loeffelholz

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Senior, Class of May 2022

Oklahoma State University

I could not have chosen a better way to spend my summer than with CEC. Considering that my internship from the previous summer was canceled due to global circumstances, this internship was both my first and last chance to experience the engineering workforce before graduation. During the course of my internship, I learned many skills and gained many experiences which have prepared me for my final year of school as well as the career that begins after.

Leading into this internship, my understanding of the field I wanted to go into was largely theoretical - ideal concepts with ideal equations run on ideal circuits that served no purpose. This summer I developed new skills in industry standard software such as Civil 3d and ArcGis and got to apply these skills and my previous knowledge to design Underground Residential Distribution projects. I got to assist in the design of a reconductor project. I learned about power transmission, distribution, substations, and more from career men who have spent most of their lives climbing the very poles I got to design, and I learned about the standards in place by nationwide, as well as statewide, Power Grid authorities.

I assisted on multiple projects while I was just figuring things out. I also helped stake a project which taught me how hands-on an engineer must be to do a job correctly. Finally, I was given my own project, where I was behind every aspect of the design. I feel more than confident going back to school that this is the career field I am meant to be in!



Sydney Potts

Bachelor's in civil engineering

Junior, Civil Engineering, May 2023

The University of Oklahoma

My internship at CEC this summer provided an opportunity to rotate through CEI, Facilities, Transportation, and Survey. Each group was diverse in what they do, and I enjoyed seeing all the different aspects of civil engineering. This experience allowed me to determine what I would and would not want in a career. For example, while I enjoyed the survey and CEI rotations which afforded me with new knowledge, I do not believe I would like to focus my career in these areas. While it was very exciting to be in the field getting firsthand project experiences, for my career I believe an office job would best suit my strengths.

I am so grateful for the hands-on experience spent in the field as I am a visual learner. This opportunity helped me to see plans come alive and connect to my university coursework. The rotations allowed me to meet a majority of the CEC employees and to hear their stories of how they navigated their career paths.

The best takeaway from my internship was obtaining knowledge of the civil engineering project lifecycle including each project phase. This is valuable experience that cannot be taught in school which is why I so enjoyed it. I also liked the exposure I had to the different software programs civil engineers use. This internship allowed me to use Civil3D, MicroStation, Tedds, and Bar7. I have taken a course in college that taught me AutoCAD and an introduction to Civil3D, but I liked how I was able to use the software to learn more about them. Knowing different computer programs is something that is valuable.

I thoroughly enjoyed my time at CEC. Getting to know the employees and their stories was one of my favorite parts. I enjoyed that everyone at CEC treated me as an equal. No one doubted my skills and abilities or viewed me only as an "intern". Everyone was so willing to teach me new ideas every day and put trust in me to complete projects.

Thank you for the opportunity to intern this summer at CEC!



Kal Smith

Major in Civil Engineering, Minor General Business Administration

Civil Engineering, May 2023

Oklahoma State University

This internship was extremely beneficial for me. Before the internship I didn't have a great understanding of the opportunities in the engineering field. However, the rotational aspect of the internship substantially increased my knowledge of what I want to do after college and helped put me in the right direction. I was able to see possible career paths and how my degree is used in the real-world.

One of the most interesting things I learned about was all the things that go on behind the scenes with a project. I was extremely interested in how the Bid and Pre-Bid process occurs, what are contractors/sub-contractors, and what both types of contractors do. I was extremely fortunate to be able to attend multiple field visits and even pre-bid meetings during my time with Facilities and found it very interesting to see how other companies interact with each other and how a Pre-Bid meeting is conducted.

I did a wide variety of jobs this summer, but a couple resonated the most with me due to their similarity of classes I have taken. In each rotation I participated in, I did some type of job within various types of CAD programs. My freshmen year of college I took an AutoCAD class, so I was familiar with these types of programs, but I also really enjoyed working on these projects. The frequency of this type of work makes me wish that OSU would require more CAD classes in the engineering curriculum but makes me also want to be on the lookout for any CAD elective classes I could take.

