



Intern: Jackson Milner

Email: Jackson.C.Milner-1@ou.edu

Phone (m): 405-596-7057

Degree: Bachelor and Master of Science in Civil Engineering

Description of Work

Jackson Milner was employed by Poe & Associates, Inc. to be an intern for the Spring 2021 semester and Summer of 2021. Due to his interest in bridges and other structures, Mr. Milner was placed in the bridge department. The first few weeks of his internship consisted of basic tasks such as plan and quantity reviews for bridge and roadway projects, organizing excel sheets for both teams, and gaining familiarity with design programs such as LEAP Consys and Microstation. Additionally, Mr. Milner reviewed AASHTO LRFD Bridge Design Specifications, ODOT Bridge and Roadway Standards, and other state design criteria. However, not long into the school semester, where he continued to work part-time during his studies, Mr. Milner's responsibilities quickly shifted as an experienced bridge engineer retired and a long-time bridge CAD technician had announced his coming retirement from the Poe Team.

Both Poe Bridge Team members had been working on the design and detailing of three structures that had been added as a supplemental agreement to the already large project that Poe had been working on, the I-40/I-44 interchange project, known as the K-interchange. The of the project was to reduce congestion and wrecks that occurred from the outdated design of the interchange and prepare for the ultimate design of the interchange. These three structures consisted of two bridges over Portland Ave, I-40 East and West Bound, and a reinforced concrete box culvert extension that was considered a bridge structure due to its size. The bridges were to be designed for the ultimate layout of the K-interchange but also fit with the interim rehabilitation/reconstruction of the existing interchange.

Mr. Milner was originally assigned to compute quantities and conduct a plan review of the Portland bridges, however, due to his familiarity of AutoCAD from a previous school semester and ability to quickly become efficient with Microstation, his duties shifted to assisting with completing the detailing of both bridges and finally to having sole responsibility for designing and detailing what remained of the supplemental project. During this time, Mr. Milner gained experience working with the highly skilled Poe Team across multiple departments including Bridge and Roadway. Additionally, he became very familiar with ODOT Bridge Standards and Bridge Directives. Mr. Milner also optimized and improved the constructability of the Portland bridges by using consistent design practices, such as using consistent pier designs and column spacings.

Jackson Milner's time at Poe & Associates, Inc. greatly increased his knowledge of ODOT bridge design. He was able to witness and facilitate the collaborative environment and expertise of Poe's design team while growing his own knowledge, experience, and skills. Mr. Milner completed his Summer 2021 internship with a renewed desire to grow as design engineer, with the desire to be a project manager, and serve the community with a highly-respected knowledge of engineering concepts.