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MATC Internship Report
Summer 2016
Iteris

This summer I was lucky enough to be selected for the MATC Internship program and to work for Iteris. I did not expect to get an internship because of plans to travel with Engineers Without Borders to Madagascar for most of July and the beginning of August. Nevertheless, the people at Iteris have been kind enough to offer me a position as an intern, and I took it, happy to have a job where I could learn about the field of traffic engineering. I worked on several projects, but focused most of my time on three general tasks: updating cabinet designs for the Omaha traffic system manager, creating the as-built intersections plans for a traffic signal upgrade in Abilene, Texas, and setting a CAD standard for the Omaha system.

One of my first tasks walking into Iteris was also one of the longest continuous projects of which I was a part. I was to copy PDF files into a Microstation file, or more accurately, to redraw PDF files in Microstation. This was a good introduction to Microstation as well. Over the next several weeks I would update the details inside the files: add a breaker to the Power Distribution Assembly, change the dimensions on the Service Panel Assembly to be consistent, and draw new details for parts that did not have PDFs. When there was a new cabinet detail we needed, I would have to do some research to learn more about the object we wanted to include.

This was alongside other work done for the Omaha System Manager; such as at the Phase A intersections where we intended to install, and labeling them for whether fiber optics were there or not. Following that, I redrew the details for the scenarios of fiber optics in a Visio file. Many hours were spent reviewing and re-reviewing the same intersections to ensure that the physical location of nearby fiber optics and other potential fiber optic locations were reflected properly in the scenario selected for them. A large part of all the work on the Omaha System Manager is to get it precise, but the rest of the work is directed at

making it appear professional. This taught me a lot about what people expect from engineers, what engineers expect from each other, and finally, what clients expect from engineers.

Around the beginning of June I began to work on another project – in Abilene, Texas. This particular project was in the design phase, but in the designing and drawing of as-built plans for all the intersections we had agreements to upgrade. My task was to add ITS (Intelligent Transportation Systems) system components to several intersections in a scaled view. The details of what the people in Texas wanted would expand and change, driving numerous revisions of each intersection to give the most helpful as-built plans to the contractor and to the city of Abilene. Drawing up as-built plans, I suspect, helped everyone who worked on the project visualize the design. This may have led to the many revisions from the people in Texas as they debated how to present this system with better visuals and designs. But my work on this project and the Omaha project was cut short by July 11th, when I headed Madagascar with Engineers Without Borders.

When I got back from Madagascar, I was relieved to know that the dates for many parts of the internship had been extended. And I also found a new project that would consume most of my time: setting CAD standards for the Omaha System Manager. I was aware of CAD standards from working on the Abilene project, and I was not surprised that we would be setting new standards for Omaha because our goal was to standardize the system. This project relied more heavily on reviewing past standards than previous work on the Omaha system. For instance, earlier in the summer we completed part of the design for a project on highway 77 in South Sioux City, and we constantly referred to that design for reference in designing a title page, quantities page, and other general info for the Omaha system. I was primarily organizing information, both information we had by making a list of CAD levels we intended to use, and information we did not have by identifying the location other contractors would put maps, detail views, and other info for each intersection. The last

project carried the lesson of the previous ones – be as consistent with previous work as possible, and have it make as much sense as possible.

My internship experience has profoundly added to what I know in the field of engineering. Working on each project, with various tasks in-between, has helped me learn in practice what is expected out of an engineering design firm. The Omaha System Manager taught me about how the digitization from papers to computers and from files to different files all works in reality. The Abilene System did the same thing and more, teaching me about the importance of clearly understood visuals. And the final leg of my internship has cemented the importance of knowing what information is needed and how to design and organize what is known and what isn't known – something that is best learned through experience. So I send a big thank you to everyone at MATC and to Iteris for making this internship available for me, because I am certain to have benefitted and learned from this no matter what job or field I pursue next.