



MATC Summer Internship Program

Final Report

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Working at Schemmer has made this a summer of firsts for me. I've been able to experience my first internship, my first full-time job, my first time travelling for work, and my first real insight into what my future career may look like. Three months ago, I had little idea of what civil engineers did on a day-to-day basis and have since learned much about the variety of responsibilities that these professionals must balance in order to be successful. Through my weekly tasks, accompanying my boss and coworkers to meetings, and company intern events, I feel that I have a better understanding of both the positive and negative aspects of this profession.

The majority of my time at Schemmer has consisted of completing miscellaneous tasks on a road and sidewalk project in Okoboji, Iowa. I spent my first week at the company becoming familiar with MicroStation, the CAD program that is used in the transportation division, and have then used this knowledge to examine and edit different project files. I have worked with the placement and tabulation of road signs, pavement markings, storm sewer inlets, erosion control devices, pavement jointing lines, and driveways along the project route. Accomplishing these tasks has required a working understanding of MicroStation and Microsoft Excel, research into Iowa Department of Transportation regulations, and a willingness to ask questions.

I have gone into the beginning of each assignment with an optimism that the experience I had developed from the past assignments would make my work quicker and smoother, but I have begun to learn that complications will always arise. Standard plans can help to give you an idea of how to start, but it is never a simple task to apply this information to the actual project. Highway 71 through Okoboji is a constantly curving roadway and it has very few street intersections that are perpendicular, which

just makes design that much more difficult. I am someone who naturally likes to have clear-cut answers and this project has been frustrating for me at times because these types of answers can be hard to come by, but working on it has provided me with important lessons in adaptation and problem solving that I think will be valuable as I move forward both academically and professionally.

An aspect of my internship that I did not initially expect but have been pleasantly surprised by is my inclusion in meetings both in and out of the Schemmer office. Every Tuesday morning, the transportation division gets together to have a weekly progress report. In these short meetings, I am able to hear about all the different projects and assignments my coworkers are putting their efforts into. My boss also will take time to explain new concepts to me when they come up and makes sure to have me share what I have been working on. This inclusion has helped me to feel more connected to my group and has allowed me to better understand the lengthy process that goes into starting and completing every project; it has become increasingly clear that there is a lot more to think about than just design.

In my trips outside of the office, I have been able to see some of these other civil engineering job responsibilities firsthand. A few weeks ago, I accompanied one of my coworkers to a job site in Seward, Nebraska. There I got to listen to a conversation between my coworker, two contractors, and a Seward city employee where they discussed timetables for completion of the road and a required change to the design and construction of the project that had not been previously acknowledged. I think that being present at this meeting taught me several things that I hadn't been made aware of yet in my college experience. For one, delays are not desired, but they have to be

expected and planned for, because when collaborating with multiple parties and dozens of individuals, as well as working around unforeseen weather conditions, it is uncommon that projects move forward exactly as scheduled. Another lesson that I gleaned from this experience is that engineers must be willing and able to devise solutions outside of their initial designs. At the Seward project, multiple issues had arisen because of improper measurements or unmarked utility lines underground, but the people assembled at the meeting were able to talk through possible options and eventually arrived at fixes that would be fairly cheap and not take too much time or effort to put into place.

Another meeting that I was taken to was with a man from Lincoln Wastewater. This meeting was unique in my mind because there was no current project or proposed project that was being discussed by the two parties; the intention was purely to strengthen relationships between the groups and hopefully pave the way for future partnerships. This business side of engineering was something that I had never considered when choosing my major, so being shown the role that social relations can play was enlightening. This experience motivates me, a generally quiet person, to be more cognizant of my interactions with people and to work on my conversation skills.

The rest of my time this summer has consisted of events specifically planned for the company's interns. These events have included a full job site tour, a meet and greet lunch to get to know the other interns, and a breakfast with the company president where we learned about Schemmer's history and structure. Because of physical distance and schedules, there has not been a lot of time for the interns to talk to each other or bond, so the times that we have been brought together have been greatly

appreciated. It is relieving to be able to hear and share stories with people who are around the same age as you and are having similar experiences and struggles. Our president, Steve Kathol, added to this theme by detailing his own beginnings with the company, and then was able to explain how he progressed to his current position and give a big picture perspective of how the company goes about business and adapts to changing environments. I don't personally plan on being an executive at any point but keeping the overarching workings and goals of the company in mind will be beneficial to both me and my employer as I progress through my career.

My everyday tasks, as well as supplementary meetings and events, have given me a strong sense for what working as a civil engineer is like and what my personal feelings about the profession are. Being able to gain a large amount of technical knowledge, a better understanding of the complex scope of transportation projects, and an appreciation of the role of relationships in the engineering and business worlds has made this internship quite valuable in my eyes. Adding to this value is the fact that working at Schemmer has made me more aware of my own strengths and weaknesses and having this awareness will help me set goals for myself and be more successful moving forward. I did not have high hopes that I would be able to land an internship this summer, but I am very glad that I was able to accomplish this and get my first professional experience under my belt. Whatever my next step looks like, whether that be returning to Schemmer, working for another company, or doing research, I know that I will be able to flourish by applying the skills and lessons that I have gotten from this experience.