

City of Lincoln
Engineering Services

Final Internship Report

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My MATC internship was with the City of Lincoln Engineering Services Department. I worked as a Construction Inspector in the Design and Construction Division. The majority of my time was spent working with this summer's priority sidewalk repair list. Multiple locations around Lincoln are listed to be replaced each year. I worked as the go-between for the project manager and contractor for this year's project. Through this, I was given the opportunity to see what is required to get a project from design to completion and the challenges which may arise.

My work consisted of marking sidewalk for removal, ensuring code compliance during construction, and measuring completed quantities. A computer program, Aurigo, is used by the city to record quantities for every project. Once sidewalk sections were replaced, I measured the quantities and each item was input into Aurigo. The program keeps a running total of the requirements of the contract.

From the beginning of the summer, it was obvious how important communication is in engineering, particularly in the private sector. I spent much of my day speaking with the contractors and checking their progress and any problems they found. Speaking with the contractors throughout construction made it much easier to reach agreements about any additions to the contract. The contractor is paid on a monthly basis and I was charged with clearing up any discrepancies of totals between the city and contractor.

My work was mainly in residential neighborhoods and I came across several citizens with concerns. This is something which is very common in the public sector, and was a new experience for me. Citizens had comments which ranged from thanks to questions about funding to complaints about snow removal. I was often asked why some sidewalks were being replaced but a location across the street was not. I was able to see how hard the city must work to ensure the public feels informed and like their concerns are heard. One of my occasional side jobs

included hanging flyers at households where construction would soon take place. These flyers listed contact information for those involved with the project and the basic time frame and goals of the project.

This internship gave me an interesting insight into the wide variety of projects which are necessary to keep the city running. At the beginning of the summer, the other construction inspectors I would have shadowed were getting certified to inspect bridges. During my first few weeks, I was given the opportunity to see asphalt paving, lane striping records, the concrete plant, a traffic survey, erosion control designs, and corrosion prevention for a water main. I think in my future career it will be beneficial for me to have seen such a variety of projects.

Technology plays a huge role in all of the work at the city. I was sent to verify the old records of lane widths and line lengths so the lines could be repainted. The records are kept in MicroStation, a program with which I had no previous experience. Aerial photos have been scanned into the computers to use as another resource when discrepancies are found.

During less busy days at work, I would speak with a staff member in the traffic division. He is in charge of the timing for all the traffic signals around Lincoln. Computer programs showed visuals of when cars will hit green or red lights at each intersection based on the signal timing. Cameras or electric fields are used to locate cars to see when a left-turn arrow is necessary or change a light to red when no cars are heading that direction. Emergency vehicles have a device, a "pre-emp", which allows them to change major intersection signals to clear traffic ahead. I had no idea how much was involved in keeping traffic moving smoothly and was given an opportunity to see some of these interesting, rarely advertised city jobs.