During my first term at National Grid, I learned how to design foundations and steel structures to support electrical equipment in a Substation. Together with the electrical engineers, the civil engineers in the Power Engineering department help design a working substation which allows electricity to be distributed throughout Grid’s service area.

On my first day, my supervisor Joe Schier, took me on a tour of the office, introduced me to numerous people from various departments, and set me up in my office. For the first few weeks, I was given manuals about Substations, Power Plants, Transmission & Distribution, AutoCAD and much more. This helped me understand more about the company and what my work would entail. I was also in charge of updating and logging in all the historical records. This process allowed me to learn more about AutoCAD, office procedures, become comfortable with office terminology, and how the drawings related to the substation. This initial work was simple to grasp and although I was not familiar with AutoCAD, I was able to pick it up quickly on the job. Some days, I went on field visits with Joe. During these, I saw how construction occurred and how a substation functioned. I even talked to the construction and site survey crews. Once all the historical revisions were completed, I was given more challenging projects. The three most challenging projects were the substation projects, each of which had a Concrete and Steel Package where different drawings needed to be drawn, designed, checked, and distributed to certain individuals. These assignments included designing new foundations or foundation extensions for the steel structures, developing drawings for steel additions, new bus supports, heat shrink structures, and switch structures. These assignments required me to understand concepts like gauge distance and edge distance and use the Steel Manual. Since I was already exposed to certain parts of the manual in Statics and Mechanics of Solids at Cornell, I was ready to apply my knowledge and learn more for the aforementioned assignments. By the end of the term, I even worked on updating, revising, and creating concrete and steel standard drawings.

A highlight of my term however, occurred midway through it. When Hurricane Sandy swept across the east coast on Oct 29th, National Grid sprung to action. So, not only did I see normal office procedures, but I also saw how the company and its individuals responded quickly and efficiently to the calamity. Furthermore, I saw how they supported their customers throughout
the power shortage. Everyone worked sixteen hour days out in the field trying their hardest to restore power as quickly as the conditions permitted. It was a once in a lifetime experience. Since I stayed in the office, I figured out how to work independently, without supervision, and still complete my assignments to the best of my abilities.

Throughout the term, I could always ask Joe questions about my assignments. However, when he was busy or not available I could also ask my other coworkers like Holly Reilly and Nick Cusumano. Although Nick was a new hire when I began, both of them were very helpful and had a great deal of insight about the company and about life.

As an environmental engineer, I was initially not well versed with my job description, but I learned quickly on the job and came to enjoy my work and learning more about my future projects. Through National Grid, I also learned how to adapt in the professional setting. This experience has played an enormous role in planning my future, because now I realize what it takes to be a professional engineer. It’s more than just what you learn in school, you need to have logic and effective communication skills as well. Hopefully, I’ll be able to show my future employer that through this experience, I really do have what it takes to be a professional engineer.

I actually initially interviewed for this Co-op position due to its location, and I was very fortunate to be selected. I live about 20 minutes away from the Hicksville office so I drive to and from it every day. For individuals who live further away, there is an LIRR Station & numerous Bus stops about 10 minutes away from the Hicksville office. Living at home had its advantages, but it did get lonely during the week because there was not much to do or people to hang out with. I ended up joining a local gym and helping out with numerous of chores at home.

This position has made me grow personally and professionally. I learned a great deal about how to act in a corporate setting and how to get my assignments done quickly and efficiently. I am also slowly learning how important it is to be proactive and to ask questions, especially in a large company like this one. These ideas can also be applied to life as well; asking questions, becoming proactive, and staying efficient can get you a lot of answers which will help you in the future. All in all, I had a great experience this term and I cannot wait to return in the summer.
During my second term at National Grid, I expanded upon my knowledge from the first term, learned more about environmental construction and codes, and so much more. I worked with not only electric engineers but with environmental engineers as well to adhere to numerous codes and to drawing specifications.

Throughout the summer term, I continued completing projects in AutoCAD for numerous substations such as Terryville and Orchard. Suffice to say; by the end of my time here at National Grid I’ve become a pro at AutoCAD. For Terryville, I was in charge of creating a new plot plan along with numerous new structure drawings for the substation expansion. These structures hold electric equipment and facilitate electric transmission and distribution. For Orchard, I created a curb for spill protection and curbing control. I needed to an enclosure that would hold oil from the transformer if the transformer burst or had a leak. I had numerous other projects over the summer but these two were the most important and will be built soon.

My co-op mentor and supervisor Joe Schier gave me ample work, and was able to give me more work related to environmental engineering, such as the orchard-curbing project. He also assigned a demolition project where I learned about the numerous rules and regulations required to destroy a building. All of the procedures were very meticulous and very interesting to be exposed to. I learned more from fellow coworkers John Markgraf and Nick Cusumano regarding the demolition project and various power plant projects respectively.

From these individuals, along with numerous others in the office, I learned a great deal more about engineering profession and how to tackle huge obstacles and how to keep up the office moral amongst numerous company wide changes. It was very educational to see how the office functions; I was even able to talk to the environmental engineers at National Grid and I was able to learn about the projects they are working on and their scope of work. It was eye opening. Learning from my coworkers was extremely rewarding; hearing about their tales of challenges and successes are a great model to look up to. At the end of the day though, an engineer solves a problem to the best of their ability amid numerous forces such as finances, city and town politicians, environmental
regulations and even understaffed departments. This was a great lesson to learn and be a part of. This experience will fuel my perseverance and inquisitive nature in any future job. It awoke an inner passion that I will carry with me. There is so much more to my experience at National Grid from a demerger, to meeting the chief CEO of the company, to lunchtime activities, to field visits, to a new payment system, and to a new printer system. This co-op experience never stopped teaching me and pushing my boundaries.

I would definitely go through this experience again, it was a great learning opportunity. I learned numerous things towards the end of my co-op that I could have used to my advantage at the beginning of my time at National Grid. Small things like being assertive and proactive with asking questions and staying on top of new developments in certain projects. I admit I was shy when I first starting working at National Grid in the fall semester, but by the time the summer session began, I felt right at home and much more comfortable in asking questions to all of the right people. If I had started asking questions and been more inquisitive earlier, I could have seen more environmental projects and had more field visits, which was something I really wanted to experience. Asking questions and talking to people really is the key at National Grid and in life.

Life outside of the co-op was great. I was able to hang out with family and friends. I was even able to go to the gym and learn how to cook and help out with chores in the house. It was a well-spent summer. I got a really good taste of how the working life feels like. The city is just a train ride away, and I was able to visit a few friends in the city a few times over the course of the summer. It was a great way to learn time management and set up a schedule.

This co-op experience has made me grow personally and professionally. I learned a great deal about how to act in a corporate setting and numerous other life skills. In addition, I was able to become proactive and to ask questions, especially in a large company like this one. All of the coworkers I met and became friends with are great inspirations and I learned a lot from them, about work and about life. All of these individuals, my supervisory especially, really pushed me to learn new things about myself and make me more proactive and efficient. I had a great time and I learned a great deal about the profession and about myself.