Project Status Report: CEEn-2016CPST-007 Flood Control Plan Feasibility Study

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1) Summary of technical/non-technical challenges encountered

A major technical issue we encountered during this month was in deciding whether to use pipes or gutters. The first half of the month was solely leaned towards pipe design with the second half leaning on gutter design. We also found it difficult to accurately analyze the site without being at the site in person. It was also a challenge to understand the flooding in the area as this was our main objective in our design. Understanding the exact flow of water, elevations, sag points, and functionality of existing systems also became difficult on Civil 3d. A major problem that we identified during our initial site visit was sediment and leaf control which made inlet basins impractical. The underground utilities was also another design challenge.

2) Team approaches/resolutions to overcome challenges

Our team approach to these problems was to visit the site again. This time, the snow had all melted and we had a very good look at existing water conveyance systems. We also were able to find sag points, natural water channels, an sediment effects. We also talked to another resident to understanding water flow and flooding conditions. With this visit, it became clear to us that gutters were the most cost effective solution. Learned how to use Storm and Sanitary Analysis we analyzed both gutter and pipe systems in Storm and Sanitary Analysis and found gutters to ultimately solve the flooding problem, while pipes would only lessen its impact.

3) Status of challenge resolutions & potential project impacts

As of now, we have resolved major design problems. We are considering different options with regard to gutter design and sediment control. This design change would result in a reduced cost of flood management while increasing effectiveness. For this design to be viable, two major sag points must be fixed.

4) Project Status & Summary

We expect no delays and expect it to be done on time if not early.
Throughout this month, the scope of our project became less on storm water design research, and more on site specific flooding solutions.
In summary, we are almost completely finished with our design work, pending feedback from our graduate and faculty advisor. Last details and dimensions of the system are currently being designed. We are confident that this design is the most effective solution to the problem of flooding in the area. We anticipate this system will eliminate flooding complaints in the future while being affordable and easy to implement.