



A. EXECUTIVE SUMMARY

Medlar Field at Lubrano Park is located in State College, PA and will be the new home for The Pennsylvania State University baseball team as well as a the State College Spikes, a minor league Single A short season affiliate. This project is unique in the fact that it is the first project in the country to have joint ownership group between a university and a minor league baseball team. Construction of the new facility began in June 2005 and will be complete in time for the minor league baseball season in June 2006. The following discussion describes the three main areas that my thesis report will focus on. The two breadth areas which will be analyzed are the structural columns that support the field lighting fixtures on the first and third base line, and an electrical distribution analysis of the retail store/ticket building. Furthermore, my construction research topic will analyze streamlining the superstructure design & construction through computer modeling.

In analyzing the structural columns that support the field lighting fixtures, I hope to successfully find an alternative way to design the field lighting fixture structural supports while still achieving the same aesthetic look. This will ultimately allow for cost savings in the structural steel package, and might allow for a quicker erection time in this area due to lighter and less steel members. I will be able to use the knowledge I have learned from performing this analysis when value engineering ideas might be needed on future projects and the project team might need suggestions in how to achieve the same look with lighter steel members.

The second breadth area analysis will focus on re-designing the electrical distribution for the retail store and ticket building. Upon completion of this analysis, I will propose an alternative electrical feed to the retail store and ticket building along with upsizing the main electrical switchboard in the building. This analysis will provide me an approximate magnitude of upsizing a switchboard and understanding how to alter an electrical design.

By evaluating the efforts to streamlining the superstructure design & construction through computer modeling, I will be able to address better techniques in going from steel design to fabrication stage of a project. Because the steel phase of a project is often on the critical path, any time that might be able to be saved could result in a quicker delivery of the entire project. This research will benefit structural designers, construction managers, and steel fabricators as well as leave ideas for continued research in streamlining the design to construction of the structural sequence. Furthermore, I will be able to address better coordination techniques between steel suppliers.