1. Executive Summary

A young, growing biomedical company is expanding its warehouse space to keep up with the increasing production. This project's goals were to recommend a layout and improve a process that would minimize the distance traveled by the material handlers, increase the safety of the warehouse by implementing visual controls, implement ergonomics to reduce chance of injury, and save money for the company. To achieve this first I familiarized myself with their current processes and department and the space required for their current and future production levels. Next I created two alternative layouts, the first (Layout A) to minimize distance and the second (Layout B) to minimize distance while also minimizing cost. Both layouts removed an area that exposed the material handlers to an increased risk of back injury and reduced time moving items by keeping lots together until final shipping. In this stage I also created a proposal to implement visual controls in order to clearly designate quarantine areas and improve the visibility of the operation to auditors and people from corporate. Then I evaluated both layouts on time savings versus the cost of implementing the new layout, Layout A saved $50 more per year but cost an additional $3,000 to implement. The economic evaluations showed that both layouts paid off in 4 years but Layout B had a higher net present value and internal rate of return and a lower payback period so I decided to recommend Layout B.