



## Executive Summary

This senior thesis report is an in depth study of Milestone Building #4 of Milestone Business Park in Germantown, Maryland. Research about a critical industry issue affecting this building is included as well as two technical analyses. The technical analyses address opportunities which can be implemented into the project to add value. For each analysis, an argument is used in deciding whether the ideas should be executed.

The critical industry issue affecting Milestone Building #4 is the knowledge of LEED requirements for trade contractors. This issue has been researched through surveys and interviews. It has been found, that when implementing LEED design into a project for the first time, many trades are unfamiliar with the requirements associated with each credit. The research is focused on MR 2 Construction Waste Management, MR 3 Recycled Content and MR 5 Local/Regional Materials. A LEED Guide for Trade Contractors along with a LEED Information Pamphlet has been designed to aid trade contractors with the requirements of LEED design.

The first technical analysis designs an energy efficient, sustainable and environmentally friendly tenant space. The space is designed for requirements given by the client; WeatherBug<sup>®</sup>. The space is designed according to LEED Commercial Interiors. However, since this is only a small space within the entire building, it is hard to identify a certification. Many materials were specified that are energy efficient and sustainable. Even though an accurate estimate wasn't performed, it is common that energy efficient spaces have a higher initial cost. This high cost is offset by a lower life cycle cost, environmentally friendly and a healthier work atmosphere.

The second analysis compares impervious asphalt parking lot to a parking structure and a structural design has been conducted. It has been found that the schedule and cost for the parking garage is greatly increased but other benefits have found. A parking garage frees up space on site to allow for other LEED credits; Protect and Restore Habitat, Maximize Open Space and Non-Roof Heat Island Reduction. Also, since the parking lot has been eliminated, the space can be utilized for other uses.