

Executive Summary

This report contains five primary areas of analysis for the PPL Plaza project. Each analysis addresses areas of relevance to the LEED rating system for the construction of green buildings. These include raised access floor, a raised building core, green roof construction considerations, a rainwater retention system, and construction manager involvement on LEED projects.

The raised access floor section includes the design of a raised access flooring system and underfloor air system for the commercial floors of the PPL Plaza. The general benefits of the system are addressed. The impact to the initial cost as well as the life-cycle costs of the system are analyzed and compared. The impact to the initial and renovation schedules are also investigated.

The raised core structural redesign addresses the elevation mismatch between the raised access floor and the building core. This includes the elevation differential of the elevator lobby, the bathrooms and the stairwells. The impact to the cost and the schedule are also addressed.

The green roof construction analysis addresses the construction methods of the green roof system. This includes an analysis of the basic design and components of a green roof, as well as potential construction difficulties and concerns which may pose a financial risk to the contractor.

The rainwater retention system is a design of a retention system for the PPL Plaza project. This system prominently placed to highlight the green nature of the project, and includes an “information station” to increase public awareness of the green design. The potential impact to the LEED rating of the building is addressed, as well as the overall impact to the cost and schedule of the project.

The construction manager involvement research portion of the analysis addresses when it is the most appropriate and beneficial for contractors to become involved on LEED building projects. This includes a poll of industry professionals to determine the impact of a contractor’s involvement on various LEED points. This data, along with additional input from the industry, is analyzed to produce recommendations for both the timing and the level of involvement which contractors should have in the design process.