



Executive Summary

The Center for Health Research and Rural Advocacy serves as an interesting backdrop for analysis. Aspects of the project include LEED certification, site logistical issues, complex building envelope systems, as well as a connection to an existing facility. This 67,000 square foot facility will house researchers and hospital employees in the large open work floors, auditorium, and multi-use rooms. Geisinger Health System's newest facility will be a crowning architectural achievement on the medical campus.

Since this is the first LEED certified project under Geisinger Facilities supervision, many challenges and issues will be addressed. One of these challenges includes the management of the complex envelope system and its role in sustainable aspects. Using the LEED-NC Version 2.2 coupled with the GSA: LEED Cost Study and Green Guide for Health Care Construction it has been determined that 57% of LEED points contain aspects which pertain to the building envelope system. With such a large percentage of points, premium costs for implementing a complex system can range from \$150,000 - \$250,000. The management team can use many resources to help properly manage the building skin.

When referenced to the project schedule and budget, the aluminum curtain wall is the most expensive and schedule intensive activity. Utilizing a unitized approach with panels prefabricated off-site, the project schedule can be minimized relating to direct general conditions savings. This mindset of only using this type of construction on highly repeatable systems is not applicable, since the complex curtain wall system also had numerous advantages such as logistic alleviation, schedule reduction, and decreased labor rates.

4D CAD has been used to analyze construction sequences now more than ever. Using a 4D model on the Center for Health Research and Rural Advocacy provided valuable insight into hazardous construction activities and congested areas. All of the envelope construction began in close proximity to one another on the North elevation which will more than likely cause numerous headaches and delays. Crane position was also analyzed and determined to be operating in a hazardous manner. These and numerous other advantages clearly display the value a 4D model can be as a tool for construction managers.