

Breadth Topics

Building Envelope

The building exterior, aside from the brick façade, contains an aluminum panel curtain wall system on the north facing elevation of the new tower addition. A building's envelope is an area that may pose considerable amounts of concern with subjects such as water penetration and heat loss. The processes used to install the system, as well as testing methods performed, and alternative solutions, will be investigated to determine if the current façade system was the best choice, if it could have been constructed in a more efficient manner, and if it is still suitable to work with a concrete framing structure.

Construction Management

In conjunction with redesigning the building using a concrete structure as apposed to the current steel framing method, the project's construction schedule will be evaluated and revised as needed to allow for the amount of time required to construct and finish a cast in place concrete structure. Aside from the project's scheduling demands, the cost differential between the structural steel and concrete systems will also be analyzed and assessed. In these ways it can be determined which procedure allows for the most efficient way to complete the project based on cost and time constraints.

Sustainability

Once all of the final components of the hospital are considered, and it has been determined which system will be declared the more functional structural design method for the hospital, the building can be evaluated for the effects it places upon the environment and its application of sustainable practices throughout the building's construction phases and life cycle. From there, it can be determined what steps will need to take place in order for the hospital to become recognized as a LEED certified "green" building, or if there are any steps that can help it to achieve a higher ranking. By evaluating the amount of LEED points the building would earn in its current condition and the amount of points that are easily within reach, it can be determined what the costs of upgrading the building's environmental status may amount to.