

Thesis Proposal



Breathe Topic 1

Two large factors which are included when deciding on a structural system are the impact the system will have on the cost and duration of a project. Therefore, a construction schedule is going to be completed for current building design along with the redesign. The construction schedule will be created with the assistance of the current contractor to ensure accuracy and feasibility. Since cost is usually the ultimate factor in decision making, a cost analysis will be performed. This analysis will not be limited to only the structural members but will include all walls which have been changed. The cost analysis will be performed using any or all of the following; RS Means, Primavera, and MC².

Breathe Topic 2

The proposed change to the structural system will result in a new exterior wall construction.

The American Society of Heating, Refrigeration, and Air Conditioning Engineers (ASHRAE) provides a guideline for the minimum allowed resistance value, or R-value for wall construction. These minimum values are dependant upon the type of building construction, building usage, and location. The new exterior wall construction's overall R-value will be determined and compared to the minimum value set forth by ASHRAE.

After the exact construction is determined and compliance to ASHRAE is achieved, a check of the wall's resistance to condensation will be determined. A wall section will be drawn and will include the thermal gradient of the construction. This illustration will ensure that portions of the wall from the interior surface to the insulation are above the dew point temperature, therefore avoiding potential mold problems.