

Executive Summary:

This assignment made me take a deeper look at the systems that go into the building and the time it takes to construct them. It also gave insight into the cost of the building compared to others like it and the factors that affect the building that are outside the control of the designer.

During the scheduling section I found the building to have very repeatable units. This is due to the repeating apartment throughout the building. Because of the very critical schedule on the project this looks like a good opportunity to look at using a SIPS schedule to cut the duration of both the structure and the interior trades as they make their way through the building.

From the building systems summary I noted that most of the systems are typical of the region and style of building with the exception of the mechanical system which uses geothermal heat pumps rather than typical air source heat pumps. This should give the building vastly improved efficiency and comfort. When discussing this system with those around me the first response that they have is to ask what the LEED rating for the project is. This project is not LEED rated. It seems that using this type of mechanical system would increase the chances of a building gaining at least a rating of LEED Certified. The building also has some other features such as bike racks that would gain it points. I intend to investigate how close this building is to being LEED Certified without even trying to be, and what costs would be incurred in the process of picking up any points that it would need to become certified.

The project cost evaluation showed that the actual building cost, the Means estimated s.f. cost, and the D4 estimate all came out relatively close. There was some deviation in the total project cost, mostly due to the well field required for the mechanical system that was not accounted for in the estimates. This shows the similarity in cost of buildings of this type. They are relatively simple structures mostly built very practically, with the intent of housing as many students comfortably as they are able to. The only really surprising thing was the location factor causing a 13.6% increase in the price. I expected the cost to be slightly above normal due to the location near a large city, but the amount of the increase was not expected. I believe this may be due to the high wages of the local union labor force and the pressure they exert on the market. I don't believe material prices would change that significantly because most of the materials are brought in from outside the city anyway.

The existing site, owner, and local conditions are all things that the designer and construction manager must keep in mind. The site may limit the ability for certain systems to be used, the owner may have special requirements, and the local conditions may dictate the practicality of certain methods of construction. On this project there is a wide open site, an experienced owner, and an experienced work force that is also more expensive than in most areas.

The most important part of this assignment is that it provided the opportunity to look for parts of the building that don't quite make sense or could use improvement. It is these areas that will make a good place to start when looking for topics to research. Although I expect the project to go well due to the highly experienced staff and the level of planning the construction manager is doing ahead of time, this does not mean there are not better ways of doing some things.