



Other Design Considerations

There are many other design factors that need to be taken into consideration in the design of the building components which were suggested in this report. The first of these is a vibration analysis which should be conducted to determine if the new floor system will be sufficient enough to keep vibrations down to a minimum and be tolerable by tenants as well as any kind of mechanical and electrical equipment housed within the building. Acoustics should also be a topic of discussion. With a new floor system being installed, it should be checked whether or not the thickness and composition of the pre-cast concrete floor planks will be sufficient to meet acoustic sound criteria. If this is not the case, a ceiling assembly may be required with acoustic ceiling tiles to further prohibit the sound from traveling through the floor planks. Another consideration to take into account is the connections which will be required to connect the planks to the beams and the beams to the columns. The intricacy of the connections would need to be considered to see if they would take too much time to create or if they would be so expensive as to not be a possibility. For the building envelope, the overall building height increase must be taken into consideration to account for the extra cladding which will be required. Also, the high performance glass might require an analysis if it is deemed a change to its design and sizing is found to be necessary. With the re-locating of the columns, the positions of the footings for the foundation must also change. After the footings are moved they must be re-designed for the new loads which will be transferred from the newly designed columns. There is not expected to be much of an impact created from the re-design of the footings because they are still going to bear on 40 ton per square foot, undisturbed rock.