

## **Breadth Studies Summary**

### Construction Management:

For my first breadth study I will investigate the differences in cost between the existing and proposed structural systems. I plan to compute the total volume of concrete and reinforcing saved by the new systems. I will then research the current market price for these materials and find the cost savings. While it is my belief that the new systems will save significant material cost I am uncertain what affect they will have on labor cost, and the project schedule. In order to determine labor cost I will use Means Building Construction Cost Data. I plan to look at the balance between material cost, labor cost, and schedule for each of my structural redesigns. After weighing the advantages and disadvantages of each system I will suggest whether or not the redesign is worth while for cost savings.

### Acoustics Study:

The acoustic properties of walls and floors are very important in residential high rises. In order for the design to be successful and tenants to be happy, engineers have to take into consideration that 2 people of very different lifestyles might be sharing a wall. For this study I will concentrate to two different areas where the effects of sound damping would be most significant. First I will investigate a wall shared between two apartment units where loud music could disturb one of the tenants. Second I will analyze the floor slab between the gym and the apartment above where the noise of music, banging weights, and people might disturb tenants.