

## Appendix A: Breadth Areas

### Deep Foundation System

#### *Structural Breadth*

The current deep foundation system, 150 caissons under the three bed towers, has multiple constructability issues. I will demonstrate breadth in the structural option by the following:

- Analyze alternate systems based on constructability directly related to the site conditions.
- Design a new foundation system under the bed towers to accommodate the complexities of the site while maintaining the specifications and designing to the building loads.

### Precast Panel Units and Glazing

#### *Mechanical Breadth*

This topic includes an analysis of a precast wall unit in lieu of the traditional masonry cavity wall unit that exists on portions of the building. I will demonstrate breadth in the mechanical option by the following:

- Analyze the wall system to achieve the best thermal properties with a slight cost restraint and a consideration of the cavity wall system.
- Determine the thermal efficiency of the wall system.
- Calculate new loads in the areas with the precast wall units and determine if the air handling units can be resized accordingly.