

Thesis Proposal

Executive Summary

Fraser Centre is a mixed-use, high-rise development located in State College, Pa. The 11 story structure has been designed using a concrete slab with concrete shear walls.

In Technical Report 3, lateral loads were found to be resisted by two shear walls on the east end of the building. In an effort to reduce the torsion created by this configuration, shear walls on the theater level will be extended throughout the structure. The new shear walls will then be redesigned for the new load distribution. With the new layout of shear walls an alternate floor system, composite deck, will also be studied.

Two non-structural breadths will also be undertaken. An analysis and possible redesign of the architectural layout of the residential floors will be conducted. This analysis will determine to what extent the architectural floor plan needs to be altered to accommodate the new shear wall locations. In addition to the architectural redesign a cost and schedule analysis will be completed for the existing design and the new design. This analysis will help determine if the proposed changes are economical.