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Fordham Place
Bronx, NY
Structural Option
Advisor - Dr. Hanagan

Executive Summary – Thesis Proposal

Fordham Place is a 15 story office / retail building that is located at 400 East Fordham Road, Bronx, NY. The 174060 sq. ft tower is going to tie into an existing 6 story SEARS building. In the new tower, structural engineers used modern design, taking advantage of composite action using steel beams with a 6 ¼ " concrete slab. The slab will be supported by 3" composite floor deck with 3" headed shear studs within the slab. Steel columns are used to transfer load to foundation, where it will be supported by a number of 150 ton piles. The main lateral resisting system is made up of steel concentrically loaded chevron braced frames.

Proposed Thesis Redesign

For the proposed redesign, there was no other structural system that clearly seemed to be a more efficient design. Therefore, the two major structural systems used in buildings of this size and occupancy type will be compared. These two systems being; the current design concrete slab on composite metal deck supported by steel beams and a two way flat slab with drop panels. This is the best concrete option considering the size and geometry of the bays at Fordham Place. The change to a two way slab requires a redesign of the current lateral system of concentric steel chevron frames. Concrete moment frames and shear walls will be researched and studied to determine the more efficient design. If shear walls are used, architectural features will have to be considered.