



Erie on the Park

Chicago, IL

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Structural Emphasis

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Thesis Proposal

Building Description

Erie on the Park is a 25 story condominium complex on W. Erie St. in the River North District of Chicago, IL. This building utilizes primarily steel systems. The floor systems are open-web steel trusses and the lateral system consists of braced frames.

Proposal

Since residential high-rise buildings are typically constructed with concrete systems, this building is unique in using a steel structural system. I propose to redesign this building using a flat-plate system and shear walls to resist the lateral forces, while still maintaining the grace of the floor to ceiling windows and the dynamic floor plans that the architect had originally designed for.

Solution

To accomplish this I intend to investigate both a reinforced concrete and a post tensioned flat plate system with a shear wall core around the stair wells and elevators so that the tenants views are not obstructed by exterior shear walls. If this shear wall core does not perform adequately I will investigate integrating it with a slab-frame system.

Breadth Topics

In conjunction with the redesign of the building's structural system I plan to investigate the impact to the overall project cost, the construction schedule, and general constructability concerns with changing the system to concrete. I also plan to explore a couple of the criteria that would gain this building certification as a LEED Design. In doing this I will determine the effect to project cost and material and system selection.