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Structural Option
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110 Third Avenue
110 Third Avenue
New York, NY 10003
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Structural Technical Report 1

Structural Concepts/Structural Existing Conditions Report

Executive Summary:

110 Third Avenue serves as a great addition to the New York skyline with twenty-one stories of residential condominiums. Totaling around 110,000 square feet of living and retail space, the building reaches 227'-6" above grade, with the highest occupied floor at 210'-6". The exterior façade is reminiscent of the repeating patterns found quite often in 1960's post-modern architecture. The spiraling balconies and tapered neck of the building alter the Roheian approach to box skyscrapers slightly to adjust for more modern tastes. The prime downtown location in the heart of Manhattan allows tenants to experience the very best of the city that never sleeps in their own private haven.

This report serves as an introduction to the basic systems present within 110 Third Avenue, the structural concepts behind its design, and the existing conditions of the area. The scope of this structural technical report includes a description of the physical conditions within 110 Third Avenue including information regarding design concepts and loading. It will give an overview of the general floor framing, structural slabs, lateral resisting system, foundation system, bracing elements, expansion joints, and support for the façade of the building. A preliminary analysis of the structural elements of 110 Third Avenue is also included within the report. These analyses include wind and seismic calculations accompanied by schematics, and a spot-check of typical floor framing elements in gravity load areas.

The analyses performed within this report demonstrate proper sizing of the structural system for both gravity loads and lateral loads. One concern, however, did arise regarding the reinforcement in the slab system. The actual design has slightly less reinforcement, but this may be due to different analysis methods. In all lateral load cases, wind force controlled over seismic. Please see the full report and appendix for the full overview analysis of 110 Third Avenue.