

Executive Tower

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Structural

Technical Assignment 1 Structural Concepts/ Existing Conditions



Executive Summary

This document is an analysis of the current conditions and structural concepts used in the designing of the structural system for the Executive Tower. In this report, a thorough description of the Dead Loads calculated and Live Loads used from the District of Columbia Building Code Supplement 2003 and ASCE7-02 and their uses in determining reactions due wind and seismic forces.

The Initial design of the Executive Tower was to utilize the most available space by using a flat plate concrete system minimizing the floor to ceiling thicknesses. The typical slab is 8" cast in place concrete with additional 10'x8'x8" drop panels at column locations. Through the use of this system the designers were able to construct a 12 story Class A office building with 9 foot ceilings under the buildings restricted height of 160 feet.

Spot checks of the analysis have been performed and can be found in Appendix A, B, C, D of the following systems, respectively: Slab thickness and reinforcement, exterior beam including weight from curtain wall, exterior column including worse case scenario from wind and seismic forces, and a minimal shear wall analysis.