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**STRUCTURAL OPTION
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AE 481W
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**555 12TH STREET
OAKLAND, CALIFORNIA**



REVISED THESIS PROPOSAL

Executive Summary

BUILDING DESCRIPTION

555 12TH Street is a 21 Story, 300 foot, 487,000 square foot complex that features class-A office space, retail space, and dining in one location. The majority of framing is structural steel W-shapes with a composite metal deck. The lateral system is a combination of eccentric braced frames at the core, and special moment resisting frames on the perimeter. This is a dual system acting in both major axes directions.

PROPOSAL

The gravity systems and lateral systems were looked at previously and determined to be excellent choices given the buildings location, size, and required floor plan. However, I propose to use a core only concrete shear wall design for the lateral system. This will allow the open floor plan to be kept, and may allow for a reduction in foundation size.

SOLUTION

Removal of moment frames and eccentric braced frames to allow for the core-only system. The adequacy of this design to resist the high seismic base shear in Oakland, CA will be evaluated. ETABS will be used to model and analyze the building, along with the guidelines from ASCE7-05.

BREADTH TOPICS

An investigation to the impact on overall cost, schedule, and constructability of each alternative will accompany the depth worth. Also, a lighting design of a typical office floor layout, or exterior LED's will be performed. An architecture breadth will also be considered if the alternate structural system has a large impact.