

Michael Sandretto

Structural Option

Technical Assignment #3

Faculty Advisor: Dr. Memari



American Eagle Outfitters Quantum II Corporate Headquarters

Executive Summary

The American Eagle Outfitters Quantum II Corporate Headquarters is a 6 story 186,000 square foot office building located just outside the city of Pittsburgh Pennsylvania in the new multi million dollar Southside Works commercial development. The building is currently in the tenant fit-out phase of construction.

The following report defines the lateral loads experienced by the structure, the controlling load combination, and load distribution. Finally it investigates the design of the structure's lateral resisting system. The existing lateral resisting system is a moment connection frame. The computer analysis program RAM Steel, as well as various hand calculated checks were utilized and performed to evaluate the existing design.

The analysis verifies that the existing design is adequate, except in the RAM calculation of total building drift, which yielded values greater than the conservative industry standard of limiting drift to $L/400$. This could be credited to an insufficient user proficiency of the RAM Steel program.