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Structural Technical Report 1
Structural Concepts / Structural Existing Conditions Report

Executive Summary

This report is a description of the existing conditions of the College of Business Administration building that is being built on the Northern Arizona University campus, as well as a preliminary analysis of the structural system. This four story classroom building with mechanical mezzanine is located in Flagstaff Arizona. It is to become the new home for the College of Business Administration (CBA) as well as become the focal point of a growing campus. The CBA has been designed to attract students and faculty with its eye catching architectural features as well as its state of the art technology systems.

This report is intended to be an introduction to the structural system of the CBA building. The report includes a description of the foundation, floor framing, roof framing, and lateral force resisting systems, as well as loading criteria and design assumptions. Analysis of the structural system with spot checks of a 10" hollow core plank, an inverted t-beam, and a column are provided within this report. Also included in the Appendix of the report are, copies of the hand calculations and typical framing plans in order to provide for better understanding of the procedures followed in analysis.

Included in this report are conclusions made from the data analyzed. It was found that the main structural system is precast concrete and is not fully known from the drawings of the buildings obtained. Due to this, the spot checks cannot be checked against the existing elements since they are not known. The hollow core plank, column and shear wall checks came up with what seem to be very realistic possibilities for what is actually in the building. The beam check, on the other hand, could not come up with a reasonable beam to carry the loads.