Executive Summary

The Robert M. Arnold Public Health Sciences Building was constructed on the campus of the Fred Hutchinson Cancer Research Center (FHCRC). The Public Health Sciences Building houses four programs: Epidemiology, Cancer Biology, Biostatistics & Mathematics, and Cancer Prevention. This purpose of this report is to provide and introduction and initial investigation of the structural floor system used for Arnold building. Included in the report are detailed descriptions of the various elements which make up the structural system of the building.

The structure of Robert M. Arnold Building has various different elements. The floor system is compose primarily of two way slabs. These slabs transfer the load to what are typically concrete columns. At the base of the columns the loads are then transferred to spread footings. Lateral loads are resisted by a combined system of shear walls and braced frames.

The typical existing floor system is a two-way post-tensioned floor slab with drop panels. While this is a very efficient design, four alternative floor systems were examined. The preliminary designs of these proposed structural systems determined that the existing floor system is one of the best choices. Of the proposed alternatives, the composite system is the one with the most potential and should be explored further.