

## **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. Both laboratories and offices occupy Arnold Building. The building height is five stories (60') above grade. The structure also extends three stories below ground. There is an entrance plaza, service road, and turnaround at the building entrance. These public spaces are supported by a portion of the submerged structure.

This report is an investigation into the main lateral force resisting system of Robert M. Arnold Building on the Fred Hutchinson Cancer Research Center's campus in Seattle, Washington. The site of the building exposes it to high lateral loads of both wind and seismic nature. The report discusses methods of both computer modeling and manual calculation of the applied forces, their distribution through the building, and the effect this causes on the main lateral force resisting system. It was noted on the structural drawings that the owner wanted the building's structural design to be above the minimum standards dictated by the building code. The investigation found forces comparable to those listed on the structural drawings. The findings also noted that the drift ratio of the building was well below serviceability limitations of the American Society of Civil Engineers minimum design loads for buildings.