HARDMAN CONSTRUCTION

PROJECT SUMMARY

University of Michigan Law School

Michigan Technological University

Location: Ann Arbor, MI **Contract Value:** $2.7 million

The new University of Michigan Law School required the installation of augercast tangential walls, chemical grouting, and underpinning for the construction of the new buildings. The ERS was a tangential pile wall with earth anchors.

Our contract was held by Walbridge and our scope of services was a prime contract. Our work included the tangential walls, grouting and permanent underpinning of adjacent structures.

The North Addition was in the existing courtyard and presented some very difficult challenges for the project team. The existing foundation required grouting and underpinning as the proposed footing were to be 8'-10' below the existing foundations. In addition a tangential earth retention wall was required for access into the work area. This work had to be performed during the university's summer break and an extensive amount of overtime and coordination was required to complete this work on time. The inside work demanded limited access equipment and significant scheduling.

The South Addition was an augercast tangential pile wall with earth anchors. The wall was over 1,000 LF long and enclosed the perimeter of the site. The South Addition was started in the fall and completed throughout the winter. There were areas of the tangential wall where a permanent shotcrete facing was required. This area of shotcrete was performed in the winter and required heating and housing to protect the work.

The interesting part of this project is that the south addition ERS walls connected to the previously installed tangential walls that U of M first used on the Gerald Ford Public Policy Building. The previous project was a trial ERS wall that U of M, selected after having difficulty achieving successful ERS walls on campus. The installation, construction, pricing and settlement results of the Gerald Ford project, have continued to be used on future work at U of M. The two building areas were extremely limited and delivery of materials had to coordinated daily.

The settlement of the existing structures was monitored by settlement points. These points were checked throughout the project's duration and no settlement was recorded in the adjacent structures or utilities. The settlement of the existing building was a concern for all parties and it was successfully completed by using good construction techniques and engineering. The anchors were installed and tested per the specifications. The permanent shotcrete facing was placed using wet mix methods.