

Ross School of Business

Owner: University of Michigan

Contractor: Walbridge Aldinger

Location: Ann Arbor, MI

Hardman Construction is currently working on the University of Michigan Ross School of Business demolition and expansion project. The old School of Business was demolished to make room for the new one, which will feature a new façade as well as additional rooms below grade.

In order to complete the extensive renovations, the site required an earth retention system. The excavation depth for the new building was 20' to 27' below grade, with the overall wall length just under 1,000 lineal feet. Hardman Construction installed a tangential augercast wall. Every third augercast pile was reinforced with an H-pile. The reinforced piles are installed in front of the non-reinforced or filler piles. Filler piles are installed behind the beam piles and do not have steel reinforcement. By doing this, the soil load is transferred into the beams. To resist lateral loads, earth anchors were used. The earth anchors were installed through anchor pockets which are fabricated in the H-pile reinforcement. Depending on the depth of excavation, up to two rows of ties were used.

Another interesting aspect of the project was that approximately 150 lineal feet of the earth retention system had to be installed with limited headroom of 15', which was required to protect a 250-year old oak tree. We utilized a low headroom drill rig and had to splice the H-piles while in place.

An ongoing challenge we faced was where the new Ross building tied into the two existing buildings. The new foundations were 15' deeper than the two existing buildings. If the foundations for the new building were excavated, it would undermine the foundations of the existing buildings. Conventional earth retention systems could not be used due to space constraints. The only option we had was to stabilize the soil using micro fine cement and conventionally underpin the existing foundations. We installed 40,000 gallons of micro fine cement to help stabilize the soils while the foundations were then segmentally underpinned.

Ross School of Business is scheduled to be open by the 2017 school year

