



The Finishing Touch

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Feature Project - Mariners Cove

Last April, Bill Hohlmeyer of Soils and Structure in Muskegon told us, "I'm looking at a project that could use your piers and it might be a big one". That was first notice and the beginning of what became the largest project the underpinning division has ever attempted. Bill had been called to Mariners Cove in South Haven, a new condominium project on the Black River just at the upriver edge of town. The project consisted of five buildings, each made up of eight units. Each condo includes a boat slip. Condo pricing starts at \$229,000, making it a pricey summer get away.

Knowing the poor soil strata on site, the design engineer (not Soils and Structures) designed woodpiles driven 35 to 40 feet deep.

One of the buildings was completed, but buildings three and four were only framed in, roofed, with the two end units nearing completion. The contractor began to notice significant settlement, especially in building four. About 75% of the building had settled evenly four inches. The rest had settled very little.

The engineer and contractor, Bouwens Construction of Holland, determined that it would be best to stabilize the 75% where it was, and to remove the remaining 25% including the grade beam and install new construction helicals to support a new grade beam. Kent Concrete Raising and Atlas Piers were selected for the project.

Soils and Structures performed 31 soil borings, numerous elevation readings, as well as other research into what was originally designed and how it had performed. Their study revealed that the driven wooden piles went 35-40 feet down, but still had ten feet of peat below them.

The repair designed by the engineer in consultation with the Atlas engineers was in four segments. The first was new construction helicals to support the new grade beam for the 25% portion. Second, the remaining 75% required resistance piers at all grade beams with reaction loads enough to install them. Third, slab piers were installed through 12" holes drilled through the floors six feet on center to give deep support to the floors. Finally, helical piers were used for interior wall and column support areas, using special brackets. This design amounted to 220 total piers, a very attractive job for us. Since 50' to 60' depths were anticipated, the product ordered took three semi-trailers to deliver.

Before building four repairs were significantly under way, the engineer discovered building three was also settling. He quickly designed a plan similar to building four, except it was much smaller. The new design added 109 more piers or about 1½ semi loads more.

Time was of the essence. Several units were sold and the owner wanted to sell all of them as soon as possible. Every decision was made to facilitate quick completion.

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Tim and Rex installing floor helicals



Cliff installing resistance piers on foundation



Backhoe installation of helical piers