

What Goes Down Comes Up — Sometimes

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A few years ago, newspapers all over the world showed photos from a Russian submarine parked on a shoal outside a Swedish naval base. Also the Swedes have strange parking ways, as illustrated in the photo presented in Fig. 1. The photo shows an automobile with its front resting on a column and the front wheels suspended in the air. Indeed, it would take some snap driving techniques and a willing car to park this way. The fact that the car is a Honda and not a Volvo or a Saab has nothing to do with it, though. The explanation is indicated in the second photo (Fig. 2) showing the car from the side view and a pile driving rig in the background.

The piling rig is driving 34 metre (112 ft) long steel piles to support an extension of a loading dock for the Port Authority of the City of Uddevalla in South-Western Sweden. The soils consist of soft marine clay, typical for the region, deposited on dense competent soils. Fig. 3 shows the piling plan and the location of the car. Unfortunately, the pile toe was rather out of location, otherwise, the contractor could perhaps have claimed payment for two piles.

At the time the photos were taken, some 15 piles had been driven out of a total of 66 piles. Just when the 16th pile was seemingly approaching the specified termination criterion, an alarmed and concerned bystander came running pointing toward the Honda, which was being hit from below by the pile toe!

The piling industry abounds with stories about the pile toe rising up through the ground. Such stories are usually considered yarns. When told by an engineer, they are invariable anecdotes — only second-hand accounts. Now, finally, here it is folks: there is a soil mound around the pile indicating that it did indeed “rise from the deep”, there is a dent in the car, the story was published in a serious corporation newsletter (NPL-Rapport, 1980), and has been confirmed by independent sources (Sällfors, G, 1982, personal communication).

The 16th pile was rejected. However, what happened to the previously driven piles, the replacement pile, and the piles remaining to be driven? Was the entire piling reassessed considering that what is in the ground probably more resembles giant fish hooks than piles? No, Pile 16 was replaced and the job completed without any other change or extra precaution. Also, no other car was “piled upon”.



Fig. 1 The car with its front suspended by the pile hitting it from below

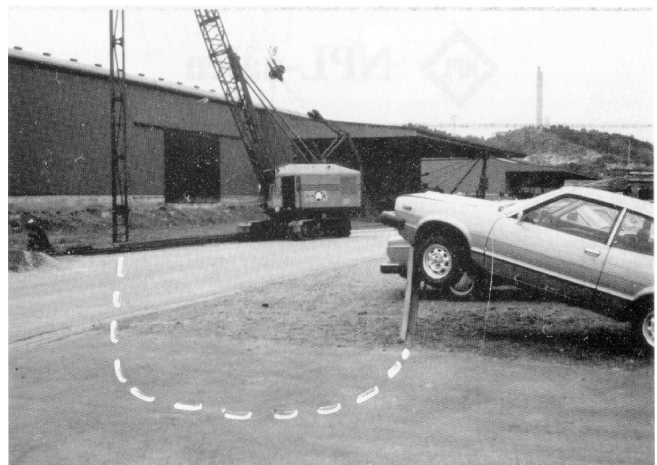


Fig. 2 Side view of car with piling rig in background

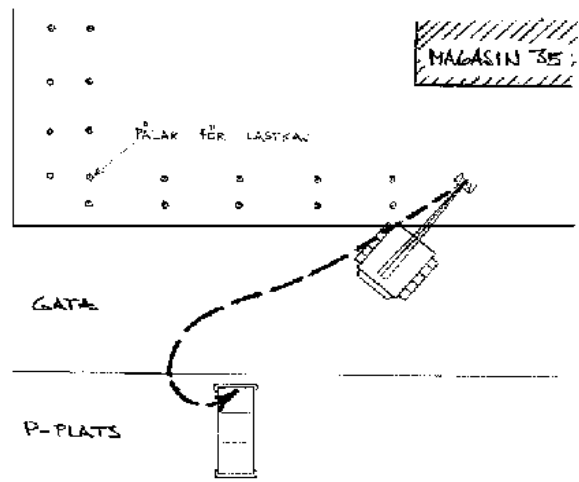


Fig. 3 Plan view of site: Piling plan, rig, and car