

CSI Country Wide Case Study Safety Strategy Discussion

Construction Safety Investigator



Instructions

The objective of this tool is to provide field supervisors with information to proactively engage workers and discuss safety related concerns that they may encounter. Safety discussions should not be limited to the subject above and should pertain to the activities that workers will be involved in that may have the potential for safety related exposures.

Case Day:

January 6, 1992

Accident Type:

Steel Sheet Piling Accident - Fall

Relevant laws, rules and codes may include:

29 CFR 1926.550 (g)(2), 29 CFR 1926.21(b)(2), ANSI B30.5, Section 5-3.2.3(e)

Case:

A 31 year-old dock builder died after falling 35 feet from a section of sheet piling used to construct a wall alongside a highway.

Accident Detail:

The incident occurred at a construction site alongside a highway that was in the process of being widened. The operation first required stabilizing soil embankments alongside the highway by constructing a temporary wall of interconnected steel sheet piles. The sheet piles used were approximately 33 feet long by 4 feet wide, with a thickness of about 1 inch. The sheets are driven into the ground with an 8-ton vibratory hammer.

The work crew consisted of six men; four dock builders and two crane operators.

The crew began work by constructing a steel support frame to hold the first sheet pile. When completed, the crane set the first sheet pile vertically on the ground against the cantilever section. The sheet was not driven into the ground but sank about 18 inches into the dirt under its own weight. The sheet was adjusted for alignment (plumb) and then bolted and welded to the cantilever.

The victim, acting as the "pile monk", hitched a ride to the top of the sheet pile by standing on the ball of the crane line. Using stirrups, he sat on top of the first sheet to guide the next sheet as it was lowered by the crane. Except for the stirrups, the victim did not use any other type of fall protection.

During the operation, the victim had trouble joining the two sheets and rocked and shook the second sheet to align it with the first. While rocking the sheet pile, the bottom kicked out of the ground. As the sheet began to slowly tip over, the victim jumped from the stirrups, falling and striking his head on the supporting frame before landing on the ground.

