44 Struck by concrete truck boom—Insp # 1506283 HC Concrete Construction

A **25 year old male** employee was struck by boom/delivery pipe of a concrete pumper truck when the ground under the out-riggers on the passenger's side of truck collapsed causing the truck to shift.

This contractor was contracted to build a 5-story, 100,000 sq. ft. storage facility in which they would do the majority of the concrete work such as the foundation, footings, walls etc. At the time of the incident the company was in the process of pouring concrete for the basement level. This contractor provided all the labor, equipment, and materials for the job. However, they contracted another company (Concrete Pump Partners) to provide concrete boom pump trucks and operators to dispense fresh concrete.

On the day of the incident one concrete pour (approximately 6100 sq. ft.) for the basement on the South side of the building had been completed early that morning. At approximately 5:30am the concrete pump truck operator then moved the truck to the northwest side of the building, Once the operator found a suitable spot to set up the truck, he placed two outriggers on the road and two on the soil near the west side of the basement wall on 3'x3' outrigger pads. Wood dunnage was also placed under the pads on the passenger's (soil) side. Interviews indicated that there were some indications that the soil may not have been suitable to support the weight of the outriggers so the operator added extra dunnage.

There were four concrete mixer trucks parked behind the concrete pump truck to dispense concrete into the hopper once the process started. The truck operator had fully extended the boom to the far southeast section of the basement level, approximately 140 feet. At approximately 6:45am the operator began pumping concrete. The victim was at the end of the boom manipulating the end hose. There were 6 other employees doing various concrete jobs within 25 feet of the boom. Within 1 to 2 minutes of startup, the truck began to slide and both outriggers on the passenger's side began to sink into the soil. These outriggers eventually slipped off their outrigger pads and sank 2 to 4 feet into the ground. This caused the boom of the truck to fall. As soon as the operator realized what was happening, he yelled down at the employees to get out of the way. All employees but the victim ran to the right. The victim went left and was struck by the boom.

As previously stated, one pour had been completed early the morning of the incident. The truck operator then moved the truck to the northwest side of the job site. The area around the basement wall had been backfilled a couple of weeks prior by another contractor with approximately 11.5 feet of 57 stone gravel with the remaining 16-18 inches on top with soil.

The front passenger outrigger was placed approximately 3-5 feet from the wall and the rear outrigger approximately 2-3 feet from the wall. All four outriggers were placed on 3'x3' rubber outrigger pads. The operator tested the stability of each outrigger by lowering each one

individually until the truck raised off the ground. He also extended the boom over each outrigger to test stability. He determined that the support for the front passenger side and rear outriggers was not adequate. He had an employee add 8 bucket loads of extra rock under where he intended to place the front outrigger pad. He also added 30-2x4s in a criss-cross pattern and a 3'x4'x 5/8" thick piece of plywood under the front outrigger pad. At the rear outrigger he added a mixture of 10-2x4s and 4x4s in a criss-cross pattern under the outrigger pad. The length of all the boards was approximately 48 inches. The operator stated it normally took about 45 minutes to set up the truck, but this time took about 1.5 hours due the extra efforts needed to add support and the lack of light being so early in the morning.

Interviews with the truck operator indicated that the ground was level enough so he could level the truck within 3 degrees and the area was free of materials or scrap that could prevent the outriggers from contacting the ground directly. Interviews also indicated that the operator's employer had been informed that the area was backfilled and with what type of materials also that an existing waterline was in the area and clearly marked.

Based on interviews it appears there were indications that the ground conditions were not suitable to support the load placed on the outriggers, but the operator made the decision to proceed. Additionally, it was apparent that the methods used by the operator to set up the concrete boom pump truck did not follow the guidelines in the operator's manual.

Citation(s) as Originally Issued

A complete inspection was conducted at the accident scene. Some of the items cited may not directly relate to the fatality.

No citations are recommended for HC Concrete Construction Group LLC. However, a citation was issued to Concrete Pump Partners LLC as it was determined that contractor had provided the concrete pump truck and was responsible for ensuring it was set up and used safely.

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