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:

2/4/18

Accident Type:

Trench Collapse

Relevant laws, rules and codes may include:

29CFR 1926.20(a)(1); 1926.21(b)(2); 29 CFR 1926.651(i)(1); 29 CFR 1926.651(k)(1)

Case:

Workers Killed In Collapsing Trench

Accident Detail:

Two workers were killed when a concrete median barrier wall collapsed into a trench.

During a highway reconstruction project, a need to repair a buried drainage pipe arose. The contractor opened a trench that was approx. 3.5 feet deep, approx. 2' 10' inches wide and more than 130 feet long which ran along a concrete center median barrier wall.

When the workers opened the trench to repair the drainage pipe, the wall became unstable and collapsed into the trench, killing the two workers.

- The concrete median barrier wall sat directly on the utility trench, which was backfilled with flowable fill.
- Other than the subgrade soil underneath, the concrete median barrier wall
 was not supported by or secured to any other structures, such as an inlet or
 pavement shoulder.

Reconstructive Safety Evaluation:

- What are some of the possible causes of the accident being discussed?
- What actions could have been taken that might have prevented this accident from occurring?

Accident Scene Conclusion:

The investigation revealed the following:

- Investigation confirmed that the subgrade soil at the incident site was not able to sustain the concrete median barrier wall when the collapse occurred:
 - The excavated soil was classified as OSHA Type C and large clumps of excavated spoil broke into small pieces without difficulty.
 - Approx. 0.1 inches of rain fell within 24 hours of the incident
- Support systems such as shoring, bracing, or underpinning were not provided to ensure the safety of employees and the stability of the concrete median barrier wall, prior to, during and after the trench was opened.
- No inspection of the excavation and the adjacent areas by a competent person occurred prior to the start of the work or as needed throughout the shift, on or prior to the incident.

Preventive Safety Measures Include:

- Complete a Job Safety Task Analysis that includes scope of work, anticipated exposures and safety equipment and/or procedures needed to ensure the task is completed successfully and safely.
- Conduct a pre-work meeting to review the JSTA and ensure workers understand the task to be completed, any safe working procedures and have the necessary safety equipment.
- Employees should have adequate training on job-specific tasks. Proper training must extend to all workers, including day laborers. Language barriers and communication should also be considered during training.
- Support systems are provided to ensure stability of any trench or excavation as well as any adjacent structures that may be affected by the excavation activities.
- Inspection of all excavations and adjacent areas by a competent person should occur prior to the start of the work or as needed throughout the shift.

tendance Roster:

Reference: This case investigation was reported by the U.S. Department of Labor, Occupational Safety and Health Administration – Incident 2/4/18, Miami, FL

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