

What Happened?

On October 23, 2023, the campus contracted a third-party contractor to repair a ruptured 6" fire/domestic water line near the Physical Sciences Lecture Hall. The contractor excavated a 22'(l) x 5'(w) x 6'(h) trench adjacent to the building to make the repairs. The default soil classification on campus is "Type C." When excavating a trench in Type C soil five feet or deeper, [Cal/OSHA](#) requires either sloping (when there is room) or shoring to protect workers from potential cave-ins. EHS staff inspected the construction site and observed contractor employees working inside a partially benched trench without appropriate shoring equipment installed. EHS notified the assigned project manager and instructed the contractor to stop operations and vacate the trench until the required/appropriate documentation was generated and the shoring equipment could be installed.



After the trenching operation was stopped and the contractor staff vacated the trench, a review of the required trenching and shoring records was requested to ensure the contractor adhered to UCI trenching and shoring requirements. The contractor could not provide a copy of their annual CALOSHA trenching permit or other necessary documents required for excavation work on campus (e.g., trenching and shoring plan/Standard Operating Procedures (SOPs), competent person daily trench inspection log, etc.). In addition, a sign was not posted at the construction site entrance warning pedestrians of the potential dangers inside.

Work resumed on Tuesday, October 24th, after the contractor provided EHS with the required documentation and had their "competent" trenching representative on-site to develop the required trenching safety plan, shoring plan, job-specific SOPs for the scoped trenching, install the necessary shoring and post a warning sign at the entrance to their construction site.

Incident causes

The direct cause of this incident is that the contractor allowed their employees to work inside a trench that was not properly protected from potential cave-ins and did not adhere to applicable UCI trenching and shoring requirements.

The incident's root cause was that the project manager relied on the contractor to ensure that the proper protective systems were in place, did not review/require the contractor to provide required documentation, did not notify EHS of the dig and receive proper authorization before the contractor employees were allowed to access the trench. As a result, Campus employees did not recognize that the trench entry was unsafe.

What can be done to prevent this from occurring again?

- All trenching and shoring operations must follow applicable UCI Trenching and Shoring requirements.
- Contractor employees should not be allowed to work inside of an excavation 5' or deeper without a verified trench permit from [Cal/OSHA](#) .
- All required documentation should be submitted and reviewed by a UCI "Competent" person with oversight responsibility for the project.
- EHS should be notified prior to authorizing access to an excavation 5' or deeper.
- Contractors performing excavations should conduct the required soil classification review and be informed that the default soil classification on campus is Type C unless their competent person deems otherwise. Benching is not permitted as a protective measure in Type C soil.
- Regardless of soil classification, contractor employees should not be allowed to work inside an excavation that is 5' or deeper unless all applicable Cal/OSHA guidelines are followed to prevent potential trench cave-ins.
- Upon request, contractors should be able to provide designated campus officials with documentation confirming they have a compliant trenching and shoring program.
- All campus employees who oversee/manage contractor excavation projects should be trained as competent persons so they are able to recognize hazards that could cause injury. Refresher training should be conducted as needed.