FACE Washington Fatality Assessment & Control Evaluation

INJURY NARRATIVE

Pipe Layer Severely Injured in Trench Collapse

Industry: Water and Sewer Line Construction

Task: Measuring Trench Depth

Occupation: Pipe Layer

Type of Incident: Trench Collapse

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In September 2014, a 29-year-old pipelayer suffered multiple serious injuries when the wall of the trench he was working in collapsed.

He had worked for the employer, a small underground utility construction contractor, for approximately one-and-a-half years. On the day of the incident, the company was laying drainage pipe on a downhill gradient. The task had been started the previous day. The excavator operator, who was also one of the company's owners, would lower a section of pipe into the trench and the pipelayer would attach it to the previous section. He would also measure the depth and grade of each section of pipe by aligning a measuring stick with the beam of a laser level situated above the trench. Because of the required slope, the trench depth increased with each section.

At the time of the incident, the crew had completed laying approximately 200 feet of pipe, and the trench depth was over 6 feet. Both a trench box and a manhole box were available on site, but no shielding or shoring was being used in the trench, and the walls were not sloped. The pipelayer had just entered the trench to take a grade measurement when the west wall collapsed, pinning him to the opposite wall. The owner heard a scream, and saw him buried to his waist in dirt and rock. The owner and other employees were able to dig the worker free before first responders arrived. The force of the cave-in fractured both of his hip sockets, pelvis, and two ribs. He was finally released to light duty work after six months off the job.

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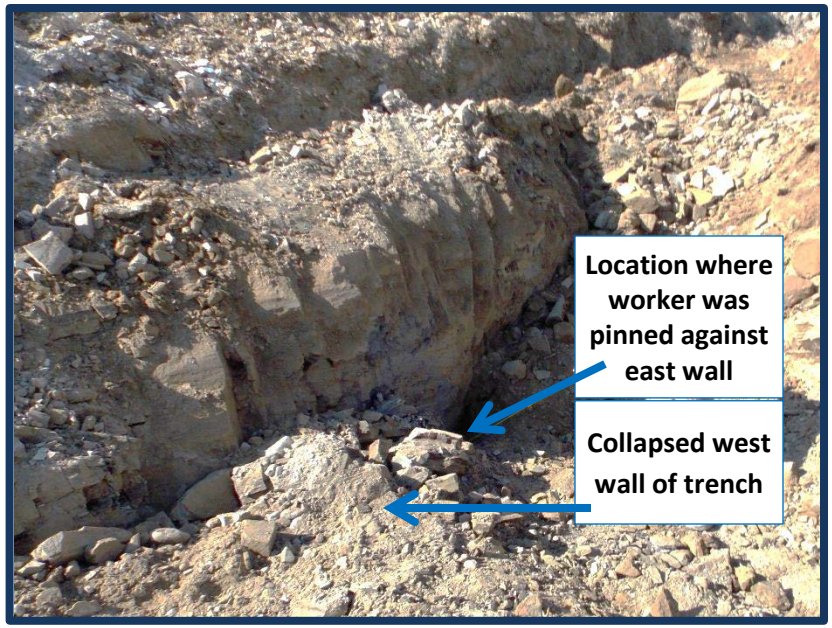

Photo 1: Incident scene

Photo 2: East wall of trench

Photo 1: Incident scene showing the area where the injured worker was pinned against the east wall of the trench when the west wall collapsed.

Photo 2: Closer view of vertical east wall of trench and rocky soil.

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Photo 3: Trench Box

Workers can be protected from cave-ins through the use of:

- Shielding – such as a trench box
- Shoring systems
- Sloping or benching the excavation

Photo 4: Trench Shoring

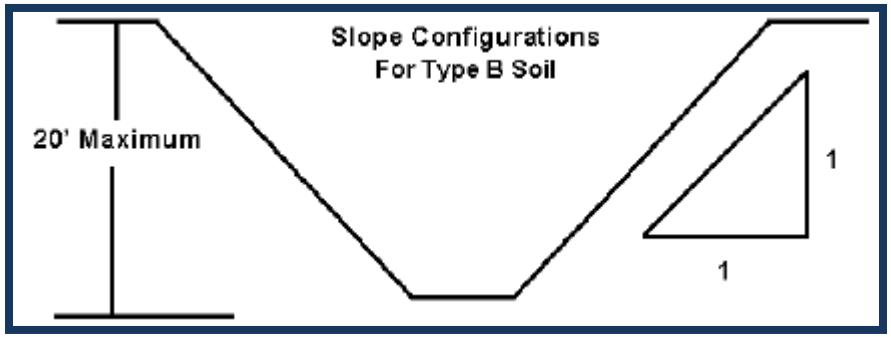

Figure 1: Trench sloping example

Requirements

- Employers must ensure that workers in excavations that are 4 feet or more in depth are protected from cave-ins through sloping, benching, shoring, or shielding.
  See WAC 296-155-657(1)(a)

- A competent person must inspect excavations for evidence of a situation that could result in a possible cave-in daily; before work starts and as needed throughout the shift.
  See WAC 296-155-655(11)(a)

Recommendations

Employers

Pre-plan your excavation before work begins:

- Plan the length, width, and depth of the excavation
- Know what machinery, equipment, and materials will be involved
- Know what hazards are associated with each task
- Decide which protective system(s) will be used based on width, depth, and soil type
- Communicate plans and expectations to all employees

Workers

Never enter an unprotected excavation 4 feet or more in depth, even for a short time.

Resources

L&I has online trenching safety resources.

Go to:

lni.wa.gov/safety/topics/atoz

and click on Trenching & Excavation

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This bulletin was developed to alert employers and employees of a serious traumatic injury to a worker in Washington State and is based on preliminary data ONLY and does not represent final determinations regarding the nature of the incident or conclusions regarding the cause of the injury.

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