CONN-OSHA QUARTERLY

Connecticut Department of Labor - Division of Occupational Safety and Health

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CONNECTICUT DEPARTMENT OF LABOR

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Top Stories

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Trenching and Excavation Safety

By Robert Hunt, Occupational Safety Training Specialist

Undoubtedly the construction season is well underway here in Connecticut. It's important to stop and take a few moments to remember the hazards that trenching and excavation present. Disaster can strike in a matter of moments. Don't get 'in over your head.' You've heard it time and time before, but when it comes to trenching it could not be more accurate. A collapse can happen at any time. If you get caught 'in over your head' without the proper precautions in place, it can prove to be fatal. The fatality discussed in the Hazard Corner (page 5) highlights the gravity of this topic.

Anytime an excavation takes place, OSHA's 1926 Subpart P- Excavations Standards 650 - 652 and Appendices A-F apply. During many excavation projects a trench can quickly form, and certain precautions must be followed. Frequently a dig starts shallow, and no precautions are in place. Then, that dig becomes deeper and deeper until you now have what is considered a trench. The standard defines a trench as an excavation into the earth where "the depth is greater than the width, but the width of a trench (measured at the bottom) is not greater than 15 feet (4.6 m)."

Among other necessary steps that must be taken when you're dealing with a trenching operation, the three S's can help prevent cave-ins. First, SLOPE or bench trench walls. Next, SHORE trench walls with supports. Lastly, SHIELD trench walls with trench boxes. OSHA's QuickCard #3243 summarizes these protective steps. It is also available in Spanish as information presented to workers must be in a manner that they are capable of understanding. The option of slope, shore, or shield are protective measures required by 1926.652(a)(1). The standard does, however, offer two exceptions. One, when the excavation is made entirely in stable rock or two, when the excavation is less than 5 feet (1.52m) in depth and examination of the ground by a competent person provides no indication of a potential cave-in.

In addition to these preventive measures there are a few other standards that are required so that, once again, you don't find yourself in trouble, 'in over your head'. When a trench excavation is 4 feet deep or more, the employee shall have a means of egress such as a ladder, stairway, or ramp within 25 lateral feet. Additionally, when the operation is 4 feet deep or more and is in a hazardous environment or near a hazardous environment such as a landfill,

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the atmosphere must be tested before entry. Two other items that we need to pay attention to and require us to take out the tape measure are 1) material and supplies placed near the edges of the trench and 2) passage over trenches. Nothing can be placed within 2 feet of the edge of the trench. This includes whatever is being excavated or in other words the spoil pile, any material being put into the trench, any tools, supplies or other equipment being used on the job. This is to help prevent unnecessary pressure on the trench wall that could lead to a cave-in, as well as preventing a falling object hazard. Lastly, if it is necessary to cross over a trench that is more than 6 feet deep, then the walk way across must have guardrails. This falls in line with the duty to have fall protection in construction when exposed to a potential fall of 6 feet or more. The specifics for all of these, access/egress, hazardous atmospheres, spoil piles, and falls are derived from 1926.651.

Two other items to remember are that a trench must have a daily inspection and special attention should be paid to water accumulation. You should never enter a trench unless it has been properly inspected. A competent person must inspect the trench and surrounding area on a daily basis. Standing water or accumulating water can be hazardous. Therefore, the water should be controlled or a method to prevent water from accumulating should be employed. A sample daily checklist like this one includes many of the items that should be inspected.

Excavation Site Checklist and Daily Field Report

Competent Person: ____________ Date: ____________
Project Name: ____________ Time: ____________
Project Location: ____________ Job No: ____________
Weather Conditions: ____________ Rainfall (Inches): ____________

Instructions: Complete the items in the checklist by circling the appropriate response and noting descriptive conditions in the comments column. Sign the form to attest that the indicated items were reviewed during the inspection.

Description of Inspection Item:	Yes	No	Comments
1. Have all utilities marked their locations?	☐	☐	
2. Have all affected parties been notified?	☐	☐	
3. Is proper traffic control in place?	☐	☐	
4. Has the soil been classified?	☒	☐	All soils are classified as type C soils unless otherwise determined by the competent person
5. Has a protective system been selected by the competent person?	☐	☐	
6. Has the competent person inspected the excavation/trench prior to start of each work period?	☐	☐	
7. Has the work plan been discussed with all employees?	☐	☐	
8. Are all employees protected from cave-ins when entering and exiting the excavation?	☐	☐	
9. Have hazardous objects around the excavation been removed or supported?	☐	☐	
10. Is all spoil maintained at least 2 feet back from the edge of the excavation?	☐	☐	
11. Are ladders used for access and egress? If so, are they installed correctly?	☐	☐	
12. Are employees protected from loose materials or tools which could fall into the trench?	☐	☐	
13. Are employees wearing the proper safety equipment?	☐	☐	
14. Is the excavation/trench free of standing or seeping water?	☐	☐	
15. Are there evidences of shrinkage cracks in the face of the trench wall?	☐	☐	
16. Were there evidences of sloughing of soil from the trench face since the last inspection?	☐	☐	
17. If a support system has been installed, was it installed in accordance with recommendations?	☐	☐	
18. Is heavy equipment kept away from the edge of the excavation?	☐	☐	
19. Are any changed conditions properly noted?	☐	☐	
20. Additional comments on safety.	☐	☐	

Competent Person Signature: ____________ **Date:** ____________

Source: www.purdue.edu


Source: OSHA

With these points in mind, it's important to remember both a Federal OSHA Compliance Safety and Health Officer (CSHO) and a CONN-OSHA CSHO can initiate an inspection if they observe that an excavation is happening. This is from the directive CPL 02-00-161 National Emphasis Program (NEP) on Trenching and Excavation. CSHOs "shall initiate inspections under this NEP whenever they observe an open trench or an open excavation, regardless of whether or not a violation is readily observed. These observations may occur during the course of their normal work-day travel or while engaged in programmed or un-programmed inspections. Trenching and excavation operations will also be assigned for inspection as the result of incidents, referrals, and complaints." This directive continues to be in effect due to the fact that a trench collapse can be deadly and this can be easily avoided when the standard is followed.

For more information there are several resources that can be used:

- Your concern can be discussed with a CONN-OSHA duty officer by contacting us at (860) 263-6900
- Visit OSHA's webpage dedicated to Trenching and Excavation
- Attend our June 22 virtual webinar on trenching and excavation safety, be sure to check out the training calendar on page 3.
- Request a Consultation. You can ask CONN-OSHA consultants to conduct an on-site visit to ensure your excavation and trenching practices and procedures comply with the standards.

Requesting a Consultation

To learn more or request your free consultation from CONN-OSHA:

Call us at 860-263-6900, or visit our webpage

Save the DATE

Training Schedule

***Virtual* OSHA 300 Recordkeeping - What Does and Does Not Need to be Recorded** *5/12/23*	The purpose of this workshop is to introduce the requirements and procedures related to OSHA Injury & Illness Recordkeeping, including the electronic reporting of injuries and illnesses requirements. The class will help develop skills to accurately report occupational injuries and illnesses. Resources and reference materials will be provided. If you are responsible for completing the documents required by this rule (OSHA 300, OSHA 300A and OSHA 301), or if you supervise the person that completes the forms, or if you are a safety committee member, this class is a must!
OSHA 10-Hour Construction *5/25/23 - 5/26/23*	The Minority Construction Council and the OSHA Training Alliance is hosting an OSHA-10 Hour Construction training for contractors, their employees and local residents who are interested in obtaining and renewing their certification. This class will be from 10:00 am to 3:30 pm each day at the American Job Center, 601 Norwich New London Turnpike, Uncasville, CT 06382. Participants are required to attend BOTH sessions to receive their OSHA card and the class is limited to 30 participants. The cost is $20. Visit mccforct.org to register.
***Virtual* Powered Industrial Trucks** *6/4/23*	The OSHA 1910.178 Powered Industrial Truck Standard requires formal instruction, practical training, and evaluation of operator performance for both General Industry and Construction Industry material handling operations. Does your training program meet the standard's requirements? This one-hour virtual class will provide an overview of the standard and its requirements.
OSHA 10-Hour Construction *6/21/23 - 6/22/23*	The Minority Construction Council and the OSHA Training Alliance is hosting an OSHA-10 Hour Construction training for contractors, their employees and local residents who are interested in obtaining and renewing their certification. This class will be held from 8:30 am to 2:30 pm each day at New Park Office & Conference Center, 151 New Park Avenue, Hartford, CT 06106. Participants are required to attend BOTH sessions to receive their OSHA card and the class is limited to 30 participants. The cost is $20. Visit mccforct.org to register.
***Virtual* Trenching and Excavation** *6/22/23*	Studies show that excavation work is one of the most hazardous types of work done in the construction industry. Injuries from excavation work tend to be of a very serious nature and often result in fatalities. The primary concern in excavation-related work is a cave-in. Cave-ins are much more likely to be fatal to the employees involved than other construction-related accidents. This workshop will provide an overview of 29 CFR 1926.650 - 652, Excavations, including the role of the competent person.
New England Roundtable *Every Wednesday of the Month*	Bringing business together to network and share ideas in the occupational safety and health community. The roundtable meetings are held from 9:00 am to 10:15 am every Wednesday. For more information on the New England Roundtable visit: oshaedne.com/roundtables

Visit this link for more info and to sign up.

The Importance of Work Zone Safety

By Steven Sartirana, Safety Compliance Officer

A National Work Zone Awareness Week campaign is held every spring to coincide with the start of the construction season. The campaign encourages safe driving through highway work zones. In 2020, 857 people were killed nationally in 774 fatal work zone crashes. Although most of the people killed in work zone crashes were motorists and their passengers, 117 workers died the same year in work zones. In 2021, there were 748 crashes within Connecticut work zones resulting in three fatalities.

Work zones or Temporary Traffic Control Zones are essential to building and maintaining quality highways and moving motorists safely through emergency scenes. Drivers need to slow down and stay focused while approaching and passing through a roadway work zone. Work zone awareness is critical for preventing needless tragedies. The State of Connecticut takes Work Zone Safety seriously and has established legislation and programs to protect motorists, pedestrians, workers, and first responders operating on Connecticut roadways.

Temporary Traffic Control (TTC) Systems

Employers should consult Chapter 6 of the Manual on Uniform Traffic Control Devices (MUTCD) to ensure that they have implemented a Temporary Traffic Control (TTC) system. The primary function of TTC is to provide for the reasonably safe and effective movement of road users through or around TTC zones while reasonably protecting road users, workers, responders to traffic incidents, and equipment.

Protecting Emergency Responders

In recent months, a Connecticut State Trooper and a municipal Firefighter were struck by a motor vehicle while responding to a traffic incident on a Connecticut highway. This type of tragedy can be prevented. When approaching an emergency vehicle drivers should comply with the 2009, State of Connecticut Public Act (09-121), ***AN ACT ESTABLISHING A "MOVE OVER" LAW IN CONNECTICUT***. This act requires any operator of a motor vehicle on a highway, when approaching one or more stationary emergency vehicles located on the shoulder, lane, or breakdown lane of such highway, to immediately reduce speed to a reasonable level below the posted speed limit. It also requires drivers traveling in the lane adjacent to the lane containing an emergency vehicle, to move over one lane, unless such movement would be unreasonable or unsafe. As defined in the act, emergency vehicles are any vehicle with flashing lights operated by emergency medical services personnel, fire department personnel, police officers, maintenance vehicles, and wreckers.

Preventing Work Zone Crashes

Serious work zone crashes are on the rise; in Connecticut, the majority are caused by speeding. In June 2021, Connecticut Gov. Ned Lamont signed legislation authorizing the Connecticut Department of Transportation (CTDOT) to establish a pilot program to operate speed safety cameras in select highway work zones. In March of 2023, CTDOT announced the implementation of the one-year pilot program to strengthen the ongoing efforts to improve the safety of CTDOT work zones. ***Know the Zone: Speed Safety Camera Program*** will aim to reduce speeding, crashes, injuries, and fatalities in work zones. The program will use speed safety cameras to capture information about vehicles that speed through select highway work zones. Signage that clearly indicates the active use of speed safety cameras will be posted prior to entering work zones with the cameras. The cameras will capture a series of images of vehicles traveling 15 mph or greater than the posted work zone speed limit. Should an occupant of a vehicle be visible in an image, the occupant will be obscured. The Connecticut State Police will review the collected information and certify that it is correct. Upon certification of the data, the registered owners of vehicles captured speeding by the speed safety system will be issued a citation called a "Notice of Liability" by mail.

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How to Subscribe

Contact robert.hunt@ct.gov and in the subject line type "Subscribe" and then provide your e-mail address in the body of the message.

Work zones or Temporary Traffic Control can present unfamiliar situations to all roadway users. Hazards presented to our traveling public include changes in traffic patterns, closed or narrowed travel lanes, and the presence of construction or emergency equipment and personnel. As drivers, passengers, cyclists, motorcyclists, and pedestrians, we are all responsible for keeping work zones safe. Here are ten tips that can be used when traveling through a Temporary Traffic Control Zone:

1. **Expect the unexpected** – Things may change on the routes you travel every day.
2. **Stay Alert** – Dedicate your full attention to the roadway and avoid distraction.
3. **Keep a safe distance** – Drive defensively, keep a safe distance from the car ahead of you.
4. **Obey the speed limit** – Speeding is one of the major causes of work zone crashes.
5. **Keep Up with the Traffic Flow** – Don't slow down to look at road work or accident scene.
6. **Obey flaggers** – The flagger knows best when moving road-users safely through the work zone.
7. **Know before you go** – Gather traffic information, schedule enough time, and expect delays.
8. **Be patient stay calm** – Temporary Traffic Control Zones are not there to inconvenience you. The workers and emergency responders are there to improve the roadways and assist the public.
9. **Wear your seatbelt** – It's the best defense in a crash and it's the Law.
10. **Obey the signs** – The signs are designed to regulate, warn, and guide road users.

References:

- American Association of State Highway and Transportation Officials (AASHTO)
- Connecticut Crash Data Repository (CTCDR)
- Connecticut Department of Transportation (CT DOT)
- House Bill No. 5894 Public Act 09-121
- National Highway Traffic Safety Administration (NHTSA)
- National Safety Council
- National Work Zone Safety Information Clearing House

Hazard Corner: Worker Dies After Trench Collapses

In 2022 a contractor was fined over $400,000 after a worker was killed in a trench collapse at a job site. The employee was working inside a roughly 18-20 foot deep trench at a housing construction site when its walls collapsed and buried him in soil.

The CSHO that inspected the job site determined that no one had evaluated the trench for safety before the worker entered. The shields installed were inadequate for the soil type and depth. In addition, employees inside the trench did not have a safe way of getting out.

"One cubic yard of soil can weigh more than a car," a State Occupational Health and Safety Official stated, in a news article. "Dirt walls can collapse suddenly and without any warning. That's why there are safety rules in place. The requirements are well known by employers in the industry, and effective when followed." The worker should still be alive today.

In a news release that cited a "troubling rise" in trenching fatalities, the federal Occupational Safety and Health Administration said 22 people had died doing trenching and excavation work in the first six months of 2022, compared with 15 in all of 2021. By years end, that number had risen to 35, according to a trade publication.

Fatality & Casualty Reporting

State & Town:

- **Report to CONN-OSHA**
- **(860) 263-6946**

Private Employers:

- **Report to Federal OSHA**
- **(800) 321-OSHA (6742)**

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