Trenching and Excavation Update

On October 1, 2018 OSHA published its National Emphasis Program (NEP) in response to an increasing number of trenching and excavation fatalities. Trenching and excavation work exposes workers to extremely dangerous hazards. According to the Census of Fatal Occupational Injuries (CFOI) data, published by the Bureau of Labor Statistics (BLS), there were 130 fatalities recorded in trenching and excavation operations between 2011 and 2016. The private construction industry accounted for 80%, or 104, of those fatalities. An alarming 49% of those construction fatalities occurred between 2015 and 2016. In summary, of the 104 fatalities in this industry:

- 40 (38%) were at industrial places and premises;
- 39 (38%) were at private residences; and
- 21 (20%) occurred at streets or highways.

This NEP for trenching and excavation also required all state plans to report to OSHA what their plans were regarding this situation. In Connecticut, CONN-OSHA also adopted this emphasis program. This adopted plan requires any OSHA inspector to stop at any open excavation they may pass in their travels. As stated in the NEP:

Compliance Safety and Health Officers (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.

In an effort to ensure that the excavations and trenching is performed safely, OSHA has developed a webpage on their website to assist employers. This page can be accessed at https://www.osha.gov/SLTC/trenchingexcavation/index.html

Listed below is an excerpt from an OSHA Quick Card to help familiarize employers and employees with the dangers associated with trenching and excavations, and what can be done to protect you from these hazards.

**Dangers of Trenching and Excavation**

Cave-ins pose the greatest risk and are much more likely than other excavation related accidents to result in worker fatalities. Other potential hazards include falls, falling loads, hazardous atmospheres, and incidents involving mobile equipment. Trench collapses cause dozens of fatalities and hundreds of injuries each year.

Employees working in an unprotected excavation filling with water

**Protect Yourself**

Do not enter an unprotected trench! Trenches 5 feet (1.5 meters) deep or greater require a protective system unless the excavation is made entirely in stable rock. Trenches 20 feet (6.1 meters) deep or greater require that the protective system be designed by a registered professional engineer or be based on tabulated data prepared and/or approved by a registered professional engineer.

**Protective Systems**

There are different types of protective systems. Sloping involves cutting back the trench wall at an angle inclined away from the excavation. Shoring requires installing aluminum hydraulic or other types of supports to prevent soil movement and cave-ins. Shielding protects workers by using trench boxes or other types of supports to prevent soil cave-ins. Designing a protective system can be complex because you must consider many factors: soil classification, depth of cut, water content of soil, changes due to weather or climate, surcharge loads (e.g., spoil, other materials to be used in the trench) and other operations in the vicinity.

**Competent Person**

OSHA standards require that trenches be inspected daily and as conditions change by a competent person prior to worker entry to ensure elimination of excavation hazards. A competent person is an individual who is capable of identifying existing and predictable hazards or working conditions that are hazardous, unsanitary, or dangerous to employees and who are authorized to take prompt corrective measures to eliminate or control these hazards and conditions.

Excavation and trenching are among the most hazardous construction operations. OSHA defines an excavation as any man-made cut, cavity, trench, or depression in the earth’s surface formed by earth removal. A trench is defined as a narrow underground excavation that is deeper than it is wide, and is no wider than 15 feet (4.5 meters).
An estimated 21.7 million adults sought substance abuse treatment in 2015, according to the National Survey on Drug Use and Health. Many of those adults were workers struggling to maintain their employment status and livelihoods as a functional part of the workforce. Data from the National Safety Council reveal that, while 70% of employers report being impacted by prescription drug misuse, and just as many feel strongly about helping their employees return to work after substance abuse treatment, approximately 80% of employers lack a comprehensive drug-free workplace policy, and a similar percentage lack training on identifying substance abuse in their workplaces.

Substance use/abuse in the workplace costs Connecticut employers millions of dollars per year in lost productivity and days away from work, increased healthcare costs, human resources activities, and other resource expenditures. In addition, helping an employee or coworker maintain their work status in the face of substance abuse can increase workplace stress and severely impact morale. In March 2017, the Connecticut Department of Public Health convened a symposium designed to educate employers about the development of opioid and other substance abuse issues, the current state of the opioid crisis in Connecticut, and treatment options and strategies for workers struggling with addiction. A second symposium, intended to build on the topics discussed at the previous meeting, was held in October 2017. This discussion focused on the roles of employers, employees, insurers, and healthcare providers in the recognition, treatment, and recovery of workers suffering from addiction. More specifically, the Connecticut Department of Public Health sought to assist symposium attendees with developing a new set of best-practices for identifying workers engaged in, or at risk for substance abuse, encouraging workers who need counseling or treatment to seek it, and providing the resources and support necessary to help employees overcome their illness and return to the vital role they play in the workplace.

With the assistance of several key subject-matter experts in our state, Connecticut Department of Public Health staff consolidated the overarching themes, strategies, and lessons-learned that were discussed during the two symposia into a white paper titled *The Opioid Crisis and Connecticut’s Workforce*. This document represents the culmination of over a year’s worth of work by a group of professionals representing public and private employers, worker unions and their constituents, physical and mental healthcare providers, legal services, insurers, academic researchers, and state agencies. Though their professional credentials and scope of daily work is highly diverse, these dedicated professionals have a common interest in saving the lives and livelihoods of the workers and families in our state who are impacted by the tragedy of opioids and substance abuse. As a guidance document for employers and their workers, our hope is that this white paper will encourage employers to replace existing substance use/abuse policies and practices, and/or introduce new ones, that will better represent the current scientific understanding of substance abuse, effective treatment, and sustained recovery, and subsequently help to end the growing opioid crisis in our state and the nation.

**Website link to the white paper, brochure, and conference materials**

[https://portal.ct.gov/opioidsworkplace](https://portal.ct.gov/opioidsworkplace)

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**The Opioid Crisis and its Impact on Connecticut Employers**

*By: Thomas St. Louis, M.S.P.H.*

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**Access and Egress**

OSHA requires safe access and egress to all excavations, including ladders, steps, ramps, or other safe means of exit for employees working in trench excavations 4 feet (1.22 meters) or deeper. These devices must be located within 25 feet (7.6 meters) of all workers.

**General Trenching and Excavation Rules**

- Keep heavy equipment away from trench edges.
- Keep surcharge loads at least 2 feet (0.6 meters) from trench edges.
- Know where underground utilities are located.
- Test for low oxygen, hazardous vapors and toxic gases.
- Inspect trenches at the start of each shift.
- Inspect trenches following a rainstorm.
- Do not work under raised loads.

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To receive the *Quarterly* electronically or to make suggestions on how to improve this newsletter, contact Grayson.gregory@ct.gov In the subject line type “subscribe” and provide your e-mail address. You may also reach us by phone at (860) 263-6900 or visit us at: [www.ConnOsha.com](http://www.ConnOsha.com)
Winter is coming, we know it and we prepare as best we can for it and now that we are well into winter, hopefully we can reflect on activities in the workplace and at home as going “New England smoothly”! We check our vehicles; we ready our shovels and winter gear. We pray for lots of snow or a mild winter, but we all recognize what the potential could be... polar vortex, Nor’easter, sleet, freezing rain, black ice, wind chill, thunder snow, blizzards.

So now relax, or begin preparations for the next big season... Summer!: Landscaping crews, lifeguards, maintenance, special projects, food preparation and service staff, office workers, construction projects, camp counselors, retail sales, and more. Aside from turning your current calm off-season schedule upside down, your workplace may become inundated with new faces. Temporary workers in the summer commonly incorporate inexperienced, young people who may or may not have ever worked for you, and don’t plan to in 3-4 months. These can represent significant safety & health concerns in the workplace.

Plan you must! Who will you be bringing into your workplace this upcoming season? Will they be contractors or employees, and will the employees be temporary or permanent. The first and maybe easiest part of this planning is to map out what will be changing around the workplace. Once you identify a project or seasonal function, you develop a timeline for its duration. From here we start working into the more challenging details, however if you do a good job with this year’s preparation it could be a model for next year.

Once you start identifying the timeline of changes you can begin breaking down the positions and staffing they will require. Your next discussion should be what each of these positions will be expected to do day one through day last. Will they require specific qualifications? Will they work with the public? Will they be inside or outside? Will they work with chemicals? Will they be handling money? Will they be exposed to potentially poisonous plants, ticks, bees, sun exposure, allergens? Could this be a task/position that isn’t appropriate for young people?

Are you aware the USDOL-OSHA/CONN-OSHA regulations require the employer to assess the workplace to determine if hazards are present, or are likely to be present, which necessitate the use of personal protective equipment (PPE) in 1910.132. A PPE assessment or a job hazard analysis breaks down potential hazards and determines appropriate controls and/or PPE. When you bring in those new employees make sure they have adequate training to understand the potential hazards and the specifics of protecting themselves.

The Hazard Communication standard, 1910.1200, will apply to many temporary workers and requires all employers to provide information to their employees about the hazardous chemicals to which they are exposed. This applies to any chemical which is known to be present in the workplace in such a manner that employees may be exposed under normal conditions of use or in a foreseeable emergency. Training must be in accordance with the standard and occur at the time of or prior to initial exposure.

A third important standard to consider for all positions is the requirement for Emergency Action Plans, 1910.38. The employer must determine what workplace emergencies are reasonable to anticipate, develop a plan, and train employees effected in their duties and/or the employer’s response expectations. In some instances an employee may be expected to respond in an emergency, in others a response may endanger the employee unnecessarily. Don’t assume ‘it’s common sense’, expectations should be clearly explained.

This is by no means exhaustive and many other items may need to be considered. CONN-OSHA has a no-cost consultation program for both private and public sector employers which you may also consider. Hopefully this gets you started on a path of preparation in which everyone wins!

Resources to Consider:


The U.S. Department of Labor’s Occupational Safety and Health Administration (OSHA) is helping make young workers more aware of potential workplace hazards and is providing possible solutions to those hazards to foster a more positive and rewarding work experience.

On the USDOL-OSHA website you can find more detailed information relating things employees should be aware of as well as potential hazards in many common positions which include:

- Landscaping,
- Construction,
- Restaurants,
- Life Guarding,
- Farm Work,
- Parks and Recreation,
- Safe Driving,
- Employment Rights, and
- Additional Resources such as information in Spanish and other useful websites.

CT Youth Employment Laws - http://www.ctdol.state.ct.us/youth/employment.htm

~ A Reminder To~

Post your OSHA Form 300A, Summary of Work Related Injuries and Illness from February 1 to April 30 if required.

Submit your OSHA 300A by the submission deadline which is March 2, 2019 if required.
A 17-year-old male laborer (the victim) died and a coworker was injured after one of the unprotected walls of the trench they were working in collapsed, striking and partially burying them with soil. The day before, the excavator operator had removed the trench shield to facilitate the removal of broken sewer pipes. When work was resumed the next day, the trench shield was not replaced, and the victim and a coworker went into the unprotected trench to replace two sections of pipe and to check the grade of the sewer line with a grade pole. While they were placing the grade pole, a section of the trench wall caved in, striking and burying the victim to his mid-chest and his coworker to his knees. The foreman, called 911 and requested emergency medical services (EMS). EMS, law enforcement, and the fire department personnel arrived within 5 minutes of the call.

The Fire Marshall assumed the role as Incident Commander (IC), assigned Operations Officer (OO) duties to one of the fire fighters who realized that the trench walls remained unstable and hazardous. The OO directed coworkers, who had jumped into the trench to render assistance, to leave the trench until fire fighters could obtain the necessary protective systems to ensure safe rescue operations.

While fire fighters were waiting for the arrival of protective systems, they set ground pads (sheets of plywood) along the side opposite the collapse to provide paramedics with a more stable point from which to lower an oxygen tank and oxygen administration equipment. Coworkers placed an oxygen mask on the victim. By this time he had become ashen in color and was semiconscious, with a weak pulse and labored respirations.

Both the victim and his injured coworker were freed by their coworkers, placed on backboards, and carried to the shallow east end of the trench. With assistance from fire fighters working above at ground level, coworkers lifted the victim and his injured coworker to fire fighters. They in turn carried the injured workers to an area where paramedics were standing by. Both workers were treated by paramedics and transported by ambulance to a local hospital where the injured coworker was admitted in serious condition and subsequently released. The victim underwent emergency surgery, experienced a cardiac arrest, and died at 2:03 p.m., approximately 5 hours following the incident.

NIOSH investigators concluded that, to help prevent similar occurrences, employers should:

- Ensure that workers are protected at all times from potential cave-ins by an adequate protective system
- Know and comply with child labor laws which include prohibitions against work by youths less than 18 years of age in occupations which have been declared by the Secretary of Labor to be particularly hazardous (Hazardous Orders)
- Ensure that whenever Professional Employer Organizations (PEOs) serve as co-employers, they highlight the age of minors and note the need for compliance with child labor laws
- Identify all workers on the work site who are under 18 years old and make their presence known to all other employees on the work site
- Inform all employees of the work assignments that are appropriate for these youthful workers and the limits on what they can do
- Ensure that a competent person conducts daily inspections of excavations, adjacent areas and protective systems and takes appropriate measures necessary to protect workers
- Provide workers with training in the recognition and avoidance of unsafe conditions and the required safe work practices that apply to their work environments
- All persons on an incident site should follow the directions of qualified rescue personnel who have assumed responsibility for rescue operations and site safety.

Hazard Corner...

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CONN-OSHA~ Training Update...

Trenching & OSHA~ Training Update...

Trenching & Excavation March 7, 2019 from 10:00 a.m. to noon This workshop will provide an overview of 29 CFR 1926.650-652 excavations, including the role of the competent person. The session is designed to assist participants in identifying hazards associated with excavations and related activities.

Work Zone Safety April 4, 2019 – 10:00 A.M. till noon Basic guidelines for work zone traffic control and the requirements of Part VI of the Manual on Uniform Traffic Control Devices (MUTCD).

Powered Industrial Trucks May 1, 2019 from 10:00 a.m. to noon This 2-hour workshop will provide an overview of 29 CFR 1910.178 and cover safe work practices, methods of providing formal and practical training, and tools for operator evaluation.

OSHA Recordkeeping June 4, 2019 from 9:00 a.m. to noon This interactive session will make you knowledgeable of the rules and ensure confidence that you have properly recorded and reported occupational injuries and illnesses, including how to fill out the OSHA 300 Log of Work-Related Injuries and Illnesses accurately and correctly.

Breakfast Roundtable This discussion group meets the third Tuesday of every month from 8:15 am to 9:45 am. Pre-registration is required. Visit our web page for more information: http://www.ctdol.state.ct.us/osha/Breakfast/index.htm To be placed on the e-mail distribution list, contact John Able at John.able@ct.gov

Classes are free and are held at 200 Folly Brook Boulevard, Wethersfield, CT in Conference Room A/B (unless otherwise noted). To register, contact Catherine Zinsser at catherine.zinsser@ct.gov Pre-registration is required. A Photo I.D. is also required to allow entry into a public building. For more training information, visit the CONN-OSHA web site www.ConnOsha.com

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