Trenching and Excavation

(Safety Brief)

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PACIF has developed Safety Briefs to help municipal highway supervisors maintain a high level of safety and hazard awareness among employees. We recommend using these short "tailgate trainings" on a regular basis – and **at least once a month**. If you need a particular safety topic, please contact us at losscontrol@vlct.org.

Information for Supervisors

Whether completing repairs to a water or sewer line, or replacing an aging culvert, most municipalities will have a need to dig a hole in the ground for one reason or another. This brief provides an overview of some of the key safety requirements that apply when working in or around them. You should review this information with employees who will be engaged in these operations and make sure they understand all safety measures. You should also review how and when to use equipment (such as a trench box or shielding). When performing excavation work, consider who will serve as the VOSHA required "competent person". This person will determine the safety of the excavation and site, and has the authority to cease work if hazards arise.

Talking Points for Training

Working in excavations is hazardous, primarily due to the hazard of collapse - though other hazards exist. Some of the key VOSHA requirements for these operations are listed below. The list is not comprehensive, so if you do a lot of excavation work, please refer to the OSHA.gov website, other excavation guidance, or ask your loss control consultant for assistance.

- **Know where underground utilities are located. Before you dig, call 811.**
- Excavations that are 4' or more in depth (at any point), must have means of egress that are within 25' from employees. Ladders, stairs or ramps may be used. Make sure ladders are rated for the weight of employees using them!

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- Test for atmospheric hazards such as low oxygen, hazardous fumes, and toxic gases when excavating 4' deep or greater.
- If the excavation has exposure to vehicular traffic, employees must wear appropriate Class 2 retroreflective garments and be protected by a properly designed and operated workzone, including traffic control if needed.
- Employees must be protected from excavated or other material (spoils pile), or equipment that could pose a hazard by falling or rolling onto the excavation. The best practice is to keep material at least 2' away from the edge of the excavation. Heavy equipment, road traffic, etc. should be kept further away from the excavation to prevent accidental collapse.
- Any excavation that is 5' in or more in depth (at any point) must be sloped and benched according to the soil type, or it must be properly shielded or shored. When using shielding systems, additional considerations include:
    - The system used must be used in accordance with its engineered design.
    - It is permitted to excavate material up to 2' below the depth of the support system if the system is designed to resist the forces calculated for the full depth of the trench. The top of the trench box should be 18" above grade.
    - Employees should not be in an excavation when shields or boxes are being installed, moved, or removed.
    - When using gas powered equipment or products that contain chemicals within the excavation, consider the potential for hazardous atmospheres to develop.
- If shoring or shielding is not used, it is best to assume that soil type "C" exists. Apply a slope or bench of 34° or a run/rise of 1.5:1. This will require significant enlargement of the excavation (e.g. a 34' opening for a 10' deep, 4' wide trench).

Safety Training Attendance Roster

Trainer: Training Date:

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