# TRENCHING AND EXCAVATION SAFETY

# REFERENCES:

1. [SPPM 3.46 Trench and Excavation Safety](https://policies.wsu.edu/prf/index/manuals/safety-policies-procedures-manual/sppm-3-46/)
2. [WAC 296 – 155 Part N](https://app.leg.wa.gov/wac/default.aspx?cite=296-155)

# Appendices:

* 1. Appendix A: Trenching and Excavation Checklist

# SCOPE and Purpose:

## The following procedures apply to EHS employees working in or around excavations or trenches. Although EHS is not directly involved in excavation or trenching activities, EHS employees often collect environmental samples from soil or utilities located within these features. This policy provides guidance for working in or around trenches and excavations.

1. **RESPONSIBILITIES**

Supervisors are responsible for the following:

* Designating a competent person and/or enlisting the assistance of a qualified Professional Engineer when standard means of sloping or protection are infeasible or otherwise required;
* Ensuring underground utilities are located prior to excavating or trenching;
* Ensuring excavations and trenches are overseen by a competent person and that person has the authority to take prompt corrective measures;
* Ensuring the designated competent person and employees working in and around excavations and trenches receive training; and,
* Taking corrective action with employees not conforming to this chapter’s requirements, and when unsafe conditions are observed.

The Competent Person is responsible for:

* Evaluating excavation hazards, classifying soil type and identifying the appropriate protective system(s) and/or installing protective systems under the guidance of a licensed Professional Engineer;
* Completing the Trench and Excavation Checklist (Appendix A);
* Ensuring appropriate means of egress is maintained;
* Daily inspections of excavations, adjacent areas and protective systems;
* Taking corrective action when unsafe conditions are identified; and,
* Adhering to WAC 296-155 part N and SPPM S 3.46.

Employees are responsible for:

* Installing protective systems per the Competent Person’s instruction;
* Ensuring appropriate egress is maintained per the Competent Person’s instruction;
* Attending excavation and trenching training;
* Identifying excavation and trenching hazards including changing conditions (e.g. water infiltration) to the Competent Person and/or Supervisor; and,
* Conforming to this chapter’s requirements.

# TRAINING:

All supervisors and employees working in or around trenches and excavations must be trained in trench and excavation safety procedures. EHS Supervisors or their designee shall be trained in the duties and knowledge of at a competent person to recognize hazards and understand the safety requirements associated with excavations, trenches, and applicable engineering controls for personal safety reasons. EHS employees shall have a basic understanding of excavation and trench related hazards, protective systems and egress requirements.

EHS’ Occupational Health and Safety (OHS) unit will provide training to employees. All training must be documented by supervisors. Other APP chapters may apply to work in or around trench and excavations including fall protection (Chapter 11), ladder safety (Chapter 18) and confined spaces (Chapter 08).

# PROCEDURES:

Entering excavations or trenches should be avoided, if possible. Often environmental samples can be collected from an excavator bucket or by personnel directly involved in the excavation. Supervisors and employees must communicate with the Competent Person responsible to determine if such action is feasible without compromising safety.

A Competent Person is defined by the following: One who can identify existing or predictable hazards in the surroundings that are unsanitary, hazardous, or dangerous to employees. The competent person must be authorized to take prompt corrective measures to eliminate excavation and trenching hazards. The competent person must demonstrate knowledge of WAC 296-155 – Part N. Competent Persons are designated by a WSU entity or contractor responsible for the trench work.

When working near or when entry into an excavation or trench is necessary, the following rules and procedures apply:

* Do not enter a trench or excavation greater than 4-feet in depth unless the Competent Person is present.
* Excavations or trenches less than 4-feet deep may me entered if a Competent Person clears the area of a potential cave-in.
* Do not enter a trench or excavation without supervision.
* Communicate your scope with the Competent Person to review ingress/egress routes, known hazards, PPE requirements and specific procedures required for entry or working nearby.
* Supervisors must ensure a hazard assessment is completed prior to entry into a trench or excavation. A generic hazard assessment form for trench and excavation work is found in Appendix A and may be used for this purpose. However, this must be reviewed with the employee to evaluate additional hazards as needed to support the work.
* All employees must comply with safety and health rules and practices on contractor controlled job sites. This includes specific requirements set forth by the Competent Person of a trench or excavation. Requirements may include additional PPE, safety clothing or areas designated for restricted access. Supervisors are responsible for reviewing these requirements and ensuring employee compliance in order to perform the work safely.
* Do not enter a trench or excavation if you recognize a serious safety issue. This may include, but is not limited to; improper shoring or sloping, water accumulation, improper or unsafe ingress/egress routes, indications of soil failure or stress/undercutting, hazardous air quality or unprotected utilities.

All employees may reference Appendix A to ensure safety measures and technical information have been addressed by the Competent Person prior to entry.

# Appendix A - Trench Excavation Checklist

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| **TRENCHING AND EXCAVATION CHECKLIST** | | | |  |
| **PROJECT TITLE:**  **Number:** | | | | |
| **COMPETENT PERSON:** |  |  |  |  |
| **SITE LOCATION:** |  |  |  |  |
| **Overhead hazards (general):** | **PRE-JOB:** | **JOB START:** | **Hazard Control** |  |
| Trees |  |  |  |  |
| Arches/Bridges |  |  |  |  |
| Overhead Power Lines |  |  |  |  |
| Light Poles/Traffic Signals |  |  |  |  |
| Other (list) |  |  |  |  |
| **Soil Conditions:** | **PRE-JOB:** | **JOB START:** | **Hazard Control** |  |
| Depth of Excavation: |  |  |  |  |
| Trench Length and Width: |  |  |  |  |
| Soil Class. type (A/B/C): |  |  |  |  |
| Type Of Test |  |  |  |  |
| Spoils/Materials Set Back |  |  |  |  |
| Other (list) |  |  |  |  |
| **Protective Systems:** | **PRE-JOB:** | **JOB START:** | **Hazard Control** |  |
| Sloping/benching |  |  |  |  |
| Shoring |  |  |  |  |
| Box |  |  |  |  |
| Fall Protection Plan |  |  |  |  |
| Other |  |  |  |  |
| **Traffic Control** | **PRE-JOB:** | **JOB START:** | **Hazard Control** |  |
| Street and Road Barricades |  |  |  |  |
| Street and Road Signs |  |  |  |  |
| Walkway Barricades and Signs |  |  |  |  |
| Detour Plan |  |  |  |  |
| Transportation Services |  |  |  |  |
| Other |  |  |  |  |

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| **Storm Water Pollution Prevention** | **PRE-JOB:** | **JOB START:** | | **Hazard Control** |  |
| Storm Drain Protection |  |  | |  |
| Air Quality Control-Dust Control |  |  | |  |
| Hydrant Back Flow Prevention |  |  | |  |
| Other (list) |  |  | |  |
| **PPE/Personal Equipment:** | **PRE-JOB:** | **JOB START:** | | **Hazard Control** |
| Hard Hats |  |  | |  |
| Warning Vests |  |  | |  |
| Hearing Protection |  |  | |  |
| Eye Protection |  |  | |  |
| Personal Fall Protection |  |  | |  |
| Other |  |  | |  |
| **Equipment on Site:** | **PRE-JOB:** | **JOB START:** | | **Hazard Control** |
| Water removal equipment |  |  | |  |
| Other (list) |  |  | |  |
| Other (list) |  |  | |  |
| Other (list) |  |  | |  |
| Other (list) |  |  | |  |
| **Utility Locates & Protection:** | **PRE-JOB:** | **JOB START:** | | **Hazard Control** |
| Gas lines |  |  | |  |
| Communication lines |  |  | |  |
| Power lines |  |  | |  |
| Water/sewer/irrigation lines |  |  | |  |
| Steam/condensate lines |  |  | |  |
| Chilled water lines |  |  | |  |
| Other (list) |  |  | |  |
| **Trench Access and Exit** | **PRE-JOB:** | **JOB START:** | | **Hazard Control** |
| Ladder |  |  | |  |
| Ramp |  |  | |  |
| Other (list) |  |  | |  |

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