GENERAL RULES

All excavations or trenches 4 feet or greater in depth shall be appropriately benched, shored, or sloped according to the procedures and requirements set forth in OSHA's Excavation standard, 29 CFR 1926.650, .651, and .652.

Excavations or trenches 20 feet deep or greater must have a protective system designed by a registered professional engineer.

- Only the company assigned competent person shall determine whether excavations, trenches, or cuts are more than 4 feet and whether or not they require shoring or some other method of holdback protection.
- Excavations shall be inspected daily by the company assigned competent person and at shift changes for cracks, slides, and/or scaling. During wet weather conditions (such as rain or snow), and/or other hazardous weather conditions, inspections shall be done more frequently. Excavations that are near roadways, railroad tracks or areas with heavy equipment movement also warrant additional inspections.
- Excavated material and/or other materials (Spoil Pile) shall not be placed closer than 2 feet from the edge of the excavation
- Heavy equipment must be kept back from the edges of all excavations, trenches, or cuts.
- The access for excavations shall be ladders or steps or ramps and shall be located within 25 feet of lateral travel for the employees.
- Barriers and barricades shall be placed on all exposed sides of the excavation to deter the passage of persons or vehicles.
- In locations where oxygen deficiency is possible, a mechanical blower to provide fresh air may be necessary.
- Walkways or bridges with standard railings **must be provided** when employees or equipment are required to cross over excavations.
- The walls and faces of all excavations in which employees are exposed to danger from moving ground **must be guarded** by a shoring system, sloping of the ground, or some other equivalent means.
- **No person must be permitted** under loads handled by power shovels, derricks, or hoists.
- **All employees must be protected** with personal protective equipment for the protection of the head, eyes, respiratory system, hands, feet, and other parts of the body.
- The determination of the angle of repose and design of the supporting system shall be based on careful evaluation of pertinent factors, such as:
  - Depth and/or cut/soils classification
  - Possible variation in water content of the material while excavation is open
  - Anticipated changes in materials from exposure to air, sun, water, or freezing
  - Loading imposed by structures, equipment, or overlaying or stored material
  - Vibration from equipment, blasting, traffic, or other sources

NOTE: *Reasonable care has been taken in preparing this document and the information provided herein is believed to be accurate. However, this information is not intended to constitute an "authoritative resource"*

COMPETENT PERSON

A competent person shall be placed in charge of all excavations. Underground utilities must be located and marked before excavation begins. Employees are not allowed in the excavation while heavy equipment is digging.

Inspections
The competent person shall conduct inspections:

- Daily and before the start of each shift.
- As dictated by the work being done in the trench.
- After every rain storm.
- After other events that could increase hazards, such as a snowstorm, windstorm, thaw, earthquake, dramatic change in weather, etc.
- When fissures, tension cracks, sloughing, undercutting, water seepage, bulging at the bottom, or other similar conditions occur.
- When there is a change in the size, location, or placement of the spoil pile.
- When there is any indication of change or movement in adjacent structures.

Soil Types

Type A (most stable) - Clay, silty clay, and hardpan (resists penetration). No soil is Type A if it is fissured, is subject to vibration of any type, has previously been disturbed, or has seeping water.

Type B (medium stability) - Silt, sandy loam, medium clay and unstable dry rock; previously disturbed soils unless otherwise classified as Type C; soils that meet the requirements of Type A soil, but are fissured or subject to vibration.

Type C (least stable) - Gravel, loamy sand, soft clay, submerged soil or dense, heavy unstable rock, and soil from which water is freely seeping.

Layered geological strata (where soils are configured in layers) - The soil must be classified on the basis of the soil classification of the weakest soil layer. Each layer may be classified individually if a more stable layer lies below a less stable layer, i.e., where a Type C soil rests on top of stable rock.

Due to the nature of the soil in the Louisville area:

Excavations shall be made to meet the requirements for Type B or Type C soils only.

No work shall be performed in an excavation unless it has been deemed safe by the competent person.

Refer to OSHA 1926 Subpart P for detailed information on Excavation and Trenching operations.

4630 Astor Rd, Louisville, Ky 40218 Office: (502)657-4000, Fax: (502)968-0942, Web: meiners-electric.com