

State of Iowa Department of Corrections

Policy and Procedures

Policy Number: IO-SE-10

Applicability: DOC

Policy Code: Public Access

Iowa Code Reference: 88

Chapter 3: INSTITUTIONAL OPERATIONS

Sub Chapter: SAFETY & EMERGENCY PROCEDURES

Related DOC Policies: IO-SE-03

Administrative Code Reference: 875-10

Subject: TRENCHING AND EXCAVATIONS

PREA Standards: N/A

Responsibility: Samantha Tucker, Randy Gibbs

Effective Date: September 2022

Authority:

1. PURPOSE

To describe the procedures that the Iowa Department of Corrections (IDOC) institutions shall use to ensure the protection of employees, incarcerated individuals and contractors from hazards associated with trenching and excavations.

2. POLICY

The provisions of this program shall apply to all staff, incarcerated individuals and contractors working at an IDOC facility whose duties involve excavation and trenching.

3. DEFINITIONS

- A. Benching - excavating the sides of an excavation to form one or a series of horizontal levels or steps, usually with vertical or near-vertical surfaces between levels. The maximum allowable level or step height is 4 feet.
- B. Cave In - detachment or sudden displacement of soil inside an excavation that presents a hazard to the person inside

- C. Competent Person - is an individual, designated by the employer, who is capable of identifying existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous or dangerous to workers, and who is authorized to take prompt corrective measures to eliminate them.
- D. Excavation - any man-made cut, cavity, trench, or depression in the Earth's surface formed by the removal of earth.
- E. Trenching Permit - Form that will be filled out and posted, by the competent person, prior to any IDOC trenching project.
- F. Hazardous Atmosphere - An atmosphere that may be, or is injurious to occupants by reason of oxygen deficiency, enrichment, flammability, explosiveness or toxicity.
- G. Protective Systems - methods of protecting employees from hazards associated with Excavations. These include but are not limited to benching, sloping, shielding and atmospheric testing.
- H. Shielding - pre-manufactured trench box that can be lowered into an excavation by heavy equipment and gives workers a safe work area by protecting them from collapsing material.
- I. Sloping - cutting back the trench wall at an angle inclined away from the excavation. The angle of the slope should be a 45 degree angle or a 1:1 ratio.
- J. Trench - a narrow excavation made below the surface of the ground. The depth of a trench is greater than its width, but the width of a trench (at the bottom) is not greater than 15 feet.

4. PROCEDURES

A. Excavations

1. When excavation operations approach the estimated location of underground installations, the exact location of the installations shall be determined by safe and acceptable means.
2. This includes excavations under 4 feet.

B. Procedures

1. Any excavation greater than 4 feet deep, that would require a person to enter, will require the use of one of the following protective systems.
 - a. Benching
 - b. Sloping
 - c. Shielding
2. The IDOC will classify all soil as Class C soil unless outside professionals deem otherwise.

C. Trenching Permit

1. Excavations and Trenches greater than 4 feet deep will require an IDOC *Trenching and Excavation Permit* **(IO-SE-10 F-1)** to be completed.
2. The trenching and excavation permit shall be completed prior to the start of work and posted at the dig site and remain posted throughout the workday.
3. A new permit must be completed and posted by a competent person daily. This person will be the sole person in charge of the excavation and will have complete authority to stop the project or remove anyone from the area.
4. Completed permits will be submitted to the Plant Operations Manager and retained for 5 years.

D. Pre-planning

1. Excavation planning meeting shall take place prior to the start of any excavation.
2. Planning should include:

- a. All persons involved with the project, both staff and incarcerated individuals.
 - b. Designating job duties.
 - c. Emergencies, potential situations and rescue planning.
3. A safety inspection of the excavation site shall be completed prior to beginning the project. This will include overhead obstructions.
4. Underground utilities must be located and marked by calling the 811/One call number and/or the IDOC locating the state owned utilities.
5. Blueprints will be reviewed and verified to ensure there are no additional utilities or unmarked utilities in the vicinity of the dig site.
6. All excavations must be clearly marked with barricade tape or snow fence to draw attention to a work zone and keep people out of the area.
7. High visibility clothing is required when working in a street area.
8. All equipment should be properly inspected and in good repair before use.
9. Excavation material and other objects must be kept at least two feet from a trench opening.
10. Excavations over four feet deep must have a safe exit such as a ramp or ladder within 25 feet of every worker.
11. Any excavating under the base or footing of a foundation or wall requires a support system designed by a registered professional engineer.
12. Sloping or benching for excavations greater than 20-feet deep shall be designed by a registered professional engineer.

E. Training

See **IO-SE-03**, *Safety and Health Program Management* for training requirements.