

Utility Excavations (Category 2) Implement Safe (Digging) Excavating Practices

influence

This document details the **minimum** training and assessment specification, as agreed by industry employers, required for those working to safely excavate and maintain holes and trenches using both hand tools and hand held power tools. This does not preclude employers and providers from adding to the specification in their own training programmes.

collaboration

This specification has been derived from the National Occupational Standards –

- EUSEPUS043 Carry out Excavation Work on Underground Cables in the Electricity Power Environment
- EUSMUNC07 Excavate and Maintain Holes and Trenches for Utility Networks Construction
- EUS GNC007 Excavate and Maintain Holes and Trenches for Complex Operations in Gas Network Construction

competence

The specification incorporates the relevant requirements of HSE guidance documents HS(G) 47 Avoiding Danger from Underground Services and HS(G) 150 Health and Safety in Construction.

All work must be carried out to approved procedures and practices and in accordance with statutory Health, Safety and Environmental requirements.

training

Skills and knowledge, which demonstrate effective performance

You must show you are able to:

- Interpret utility drawings and line search documents to identify underground services
- Use safe digging techniques to carry out and maintain excavations
- Identify the dangers and hazards associated with excavations

Performance Criteria

You need to be able to –

Plan to excavate

1. Determine the work location using company documentation and work instructions
2. Plan the work activity to comply with health, safety and environmental legislation and company policies and procedures

Prepare resources to carry out excavation

3. Carry out a site-specific risk assessment, recording findings and making recommendations to reduce risks
4. Identify and take into account the type and proximity of overhead and underground services
5. Identify the required control measures to maintain a safe working environment. e.g. signing, lighting and guarding, segregation and edge protection
6. Confirm the position and size of the required excavation in accordance with work instruction / specification
7. Wear required personal protective equipment to complete work in accordance with safe systems of work
8. Determine the most suitable method of excavation for the surface and sub-surface materials being removed

Carry out the excavation

9. Use the appropriate tools and equipment for the method of excavation to be used
10. Excavate using hand tools and hand held power tools using safe digging practices in accordance with company procedures, Safe Systems of Work and HS(G) 47

11. Identify, select, segregate, store and remove materials in accordance with work instructions and environmental requirements
12. Maintain and comply with site safety demarcation arrangements and control measures
13. Confirm dimensions and condition of completed excavation with work instruction / specification

Maintain the safety and integrity of excavations and services

14. Confirm arrangements for the safe entry and exit to and from the excavation in line with company procedures
15. Carry out all safety checks before any entry into the excavation
16. Monitor and maintain the position and condition of services to ensure working practices within the work area avoid damage or disturbance

Knowledge and Understanding

In relation to the excavation and maintenance of holes and trenches, you need to know and understand:

General

- K1 Your responsibilities regarding health, safety and the environment whilst at work
- K2 The health and safety guidance governing work in excavations including HS(G) 47 and GS 6
- K3 The range and use of personal protective equipment for the work
- K4 The occupational health hazards and risks in relation to excavation e.g. diseases, noise, vibration, silica dust, asbestos
- K5 The requirements of a site specific risk assessment and the emergency and rescue procedures in relation to excavation activities

Identification of Services

- K6 How to interpret utility drawings to identify overhead and underground services and apparatus
- K7 The typical depths of the range of underground services
- K8 Methods of visually locating and identifying underground services including: markers, signs and features, use of existing records
- K9 The hazards associated with different services and actions to take in the case of damage
- K10 The persons or organisations to be notified in the case of damage to services or other underground structures
- K11 The importance of providing adequate support and protecting services exposed during excavation work
- K12 Methods of providing support to protect services exposed during site excavations
- K13 The roles and responsibilities of persons within the site/highways operations team
- K14 The situations where trial holes should be used to physically identify underground services
- K15 The key physical properties of underground services including: size (diameter), colour, material, fragility, methods of identification
- K16 The significant risks of the medium being carried by underground services e.g. ignition, density relative to air, electrocution and water damage etc
- K17 The risks associated with not maintaining the integrity of services
- K18 The implications of damage to services including: personal danger to operatives or others on site, damage to the environment or additional job costs in repair and delay to job progress
- K19 How the requirements of the NRSWA legislation is applicable to excavation activities
- Excavation**
- K20 The methods and types of equipment used for excavation including hand tools, hand held power tools and reduced dig technology
- K21 The range and types of mechanical equipment used and their limitations and exclusions
- K22 Types of surfaces, sub-surfaces and soil types encountered during excavation work
- K23 The actions to take in the event of services being encased in or supported by concrete
- K24 The importance of keeping gullies, water courses and surface water outlets clear
- K25 The requirements of a banksman when excavating using mechanical methods
- K26 The care and maintenance of hand and power tools
- K27 The hazards and risks that can occur with the use of incorrect excavation practices
- K28 The cost implications of incorrect excavation practices including over digging in terms of additional labour and materials for the job
- K29 How excavations could inconvenience the general public and the needs of people with visual and other mobility impairments
- K30 How failure to provide proper ground support could lead to injury or damage to services or sub-structures and the cost and operational implications
- K31 How using services as handhold and footholds can lead to major safety hazards
- K32 The hazards that could arise from working in excavations without natural or assisted ventilation and lighting
- K33 Situations where atmosphere-monitoring equipment should be used
- K34 Causes of instability in excavated areas, including soil types, moisture content, presence of surface water and ground water
- K35 The exclusion and removal of water from excavations
- K36 The importance of frequent and repeated use of locating equipment during the excavation to locate underground services
- K37 How to carry out the excavation in a manner that avoids damage to services and the natural environment in accordance with NJUG technical guidance i.e NJUG Tree Guidelines
- K38 The importance of monitoring and maintaining the condition of the excavation and removal of ground water