

# COSVR370 – SQA Unit Code HL5N 04

## Install, maintain and remove temporary excavation support



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### Overview

This standard is about interpreting information, adopting safe, healthy and environmentally responsible work practices, selecting and using materials, components, tools and equipment, installing, maintaining and removing temporary excavation support

This standard is for people working in the occupational area of construction and civil engineering operations and can be used by operatives, supervisors and managers

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### Performance criteria

- You must be able to:*
- P1 interpret the given information relating to the work and resources to confirm its relevance
  - P2 comply with the given, relevant legislation and official guidance to carry out your work and maintain safe and healthy work practices
  - P3 select the required quantity and quality of resources for the methods of work
  - P4 comply with organisational procedures to minimise the risk of damage to the work and surrounding area
  - P5 comply with the given contract information to carry out the work efficiently to the required specification
  - P6 complete the work within the allocated time, in accordance with the programme of work

### Knowledge and understanding

*You need to know and understand:*

#### Performance Criteria 1

##### Interpretation of information

- K1 the organisational procedures developed to report and rectify inappropriate **information** and unsuitable **resources**, and how they are implemented
- K2 the types of **information**, their source and how they are interpreted
- K3 the organisational procedures to solve **problems** with the **information** and why it is important they are followed

#### Performance Criteria 2

##### Safe work practices

*You need to know and understand:*

- K4 the level of understanding operatives must have of **information** for relevant, current **legislation and official guidance** and how it is applied
- K5 how **emergencies** should be responded to and who should respond
- K6 the organisational **security procedures** for tools, equipment and personal belongings
- K7 what the accident reporting procedures are and who is responsible for making the report
- K8 why, when and how **health and safety control equipment** should be used
- K9 how to comply with environmentally responsible work practices to meet current **legislation and official guidance**

#### Performance Criteria 3

##### Selection of resources

*You need to know and understand:*

- K10 the characteristics, quality, uses, sustainability, limitations and defects associated with the **resources** and how defects should be rectified
- K11 how the **resources** should be used and how any **problems** associated with the **resources** are reported
- K12 the organisational procedures to select **resources**, why they have been developed and how they are used
- K13 the **hazards** associated with the **resources** and **methods of work** and how they are overcome

### Performance Criteria 4

#### Minimise the risk of damage

*You need to know and understand:*

K14 how to **protect work** from damage and the purpose of protection

K15 why **disposal of waste** should be carried out safely and how it is achieved

### Performance Criteria 5

#### Meet the contract specification

*You need to know and understand:*

K16 how **methods of work**, to meet the specification, are carried out and **problems** reported

K17 how **maintenance** of tools and equipment is carried out

### Performance Criteria 6

#### Allocated time

*You need to know and understand:*

K18 what the **programme** is for the work to be carried out in the estimated, allocated time and why deadlines should be kept

### Additional Information

#### Scope/range related to performance criteria

##### **Performance Criteria 1**

- 1 interpretation of drawings, specifications, schedules, risk assessments, method statements and manufacturers' information related to the work to be carried out

##### **Performance Criteria 2**

- 2 avoidance of risk by complying with the given information relating to the following
  - 2.1 methods of work
  - 2.2 safe use of health and safety control equipment
  - 2.3 safe use of access equipment
  - 2.4 safe use, storage and handling of materials, tools and equipment
  - 2.5 specific risks to health

##### **Performance Criteria 3**

- 3 selection of resources associated with own work
  - 3.1 materials, components and fixings
  - 3.2 tools and equipment

##### **Performance Criteria 4**

- 4 protection of the work and its surrounding area from damage
- 5 maintain a clear and tidy work space
- 6 disposal of waste in accordance with current legislation

##### **Performance Criteria 5**

- 7 demonstration of work skills to measure, mark out, prepare, position, fit, support, fix, secure, dismantle and remove
- 8 use and maintain hand tools, power tools and ancillary equipment
- 9 install, maintain and remove temporary excavation support to given working instructions relating to at least one of the following
  - 9.1 proprietary systems e.g. drag box, trench box, manhole box
  - 9.2 open and closed support systems
  - 9.3 piling systems e.g. diaphragm wall, trench sheets, sheet piles, secant support or contiguous support
  - 9.4 bespoke support systems

##### **Performance Criteria 6**

- 10 completion of own work within the estimated, allocated time to meet the needs of other occupations and/or client

### Scope/range related to knowledge and understanding

#### **Disposal of waste**

- 1 environmental responsibilities, organisational procedures, manufacturers' information, statutory regulations and official guidance

#### **Emergencies**

- 2 operative's response to situations in accordance with organisational authorisation and personal skills when involved with
  - 2.1 fires, spillages, injuries
  - 2.2 emergencies relating to occupational activities

#### **Hazards**

- 3 those identified by risk assessment, method of work, manufacturers' technical information, statutory regulations and official guidance

#### **Health and safety control equipment**

- 4 identified by the principles of prevention for occupational use, types and purpose of each type, work situations and general work environment
  - 4.1 collective protective measures
  - 4.2 local exhaust ventilation (LEV)
  - 4.3 personal protective equipment (PPE)
  - 4.4 respiratory protective equipment (RPE)

#### **Information**

- 5 drawings, specifications, schedules, risk assessments, method statements, manufacturers' information, verbal, written and graphical instructions, current regulations and official guidance governing construction works and the support of excavations

#### **Legislation and official guidance**

- 6 this relates to the operative's responsibilities regarding potential accidents, health hazards and the environment whilst working in the workplace, below ground level, in confined spaces, at height, with tools and equipment, with materials and substances, with movement and storage of materials by manual handling and mechanical lifting

#### **Maintenance**

- 7 operative care of hand tools, power tools and ancillary equipment

### **Methods of work**

- 8 application of knowledge for safe and healthy work practices, procedures and skills relating to the method and area of work and materials used to:
  - 8.1 recognise types of temporary support for excavations
  - 8.2 conform to agreed specifications
  - 8.3 plan, prepare and set out for the installation of the excavation support and edge protection
  - 8.4 remove surface courses, ironwork, modular components, street furniture and sub-surface structures
  - 8.5 recognise changes in ground conditions, ground water conditions, soil types and excavation stability
  - 8.6 recognise the dangers of loads and structures at the edge of excavations
  - 8.7 identify and locate utility services, excavate around services and protect
  - 8.8 recognise inspection and test criteria for excavation support systems
  - 8.9 provide for safe access and egress into the excavation and around the temporary excavation support
  - 8.10 protect and monitor adjacent structures
  - 8.11 excavate manually for the installation, maintenance and removal of excavation supports
  - 8.12 construct, erect and install temporary excavation support as excavations progress and on completion
  - 8.13 monitor and check accuracy at start, during progress and on completion of work
  - 8.14 work with, around and in close proximity to plant and machinery including lifting equipment
  - 8.15 inspect and maintain the integrity and safety of the temporary support structures
  - 8.16 dismantle and remove the excavation support structure
  - 8.17 recognise and determine when specialist skills and knowledge are required and report accordingly
  - 8.18 use hand tools, power tools and equipment
  - 8.19 work at height and in confined spaces
  - 8.20 use access equipment

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9 team work and communication

10 needs of other occupations associated with installing, maintaining and removing temporary excavation support

### **Problems**

11 those arising from information, resources and methods of work

11.1 own authority to rectify

11.2 organisational reporting procedures

### **Programme**

12 types of productivity targets and time scales

13 how times are estimated

14 organisational procedures for reporting circumstances which will affect the work programme

### **Protect work**

15 protect work against damage from general workplace activities, other occupations and adverse weather conditions

### **Resources**

16 materials, components and equipment relating to types, quantity, quality, sizes and the sustainability of standard and/or specialist:

16.1 proprietary systems

16.2 open and closed support systems

16.3 piling systems

16.4 bespoke equipment

16.5 fixing devices

16.6 hand tools, power tools and ancillary equipment

17 how to confirm resources and materials conform with the given specification

18 methods of calculating quantity, length, area and wastage associated with the method and procedure to provide excavation support

### **Security procedures**

19 site, workplace, company and operative



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### Behaviours

When performing to this standard you are likely to demonstrate the following behaviours:

- 1 **Work safely:** consider the safety of yourself and those around you, challenge unsafe behaviour
- 2 **Effective communication:** oral, written, electronic, listening, body language, presentation
- 3 **Respect:** apply equality, diversity and inclusion in dealing with others.
- 4 **Team work:** work effectively and safely with others with limited supervision.
- 5 **Independent working:** take responsibility for safe completion of your own work.
- 6 **Logical thinking:** use clear and valid reasoning when making decisions to safely undertake the work instructions.
- 7 **Working effectively:** undertake the work in a reliable, safe and productive manner.
- 8 **Time management:** use own time effectively to complete the work instructions to schedule, take the time to be safe.
- 9 **Adaptability:** be able to adjust to changes to the work instructions, put safety first

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| <b>Developed by</b> | ConstructionSkills |
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| <b>Version number</b> | 4 |
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|----------------------|---------------|
| <b>Date approved</b> | February 2016 |
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| <b>Indicative review date</b> | January 2021 |
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| <b>Validity</b> | Current |
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| <b>Status</b> | Original |
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| <b>Originating organisation</b> | ConstructionSkills |
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| <b>Original URN</b> | VR370 |
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| <b>Relevant occupations</b> | Road Construction Operatives; Construction Operatives |
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| <b>Suite</b> | Construction and Civil Engineering Operations |
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| <b>Key words</b> | Drag-box; Trench-box; Diaphragm wall; Secant support; Open and closed boarding; Sheet piles; Manhole box |
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