

## National Occupational Standards

**Sector:** Building and Construction

**Occupation:** Assistant Excavation Operative

**MQF Level:** 2



**National Occupational Standards do not replace any licenses or permissions required to operate certain machinery or to work in certain positions.**

### Units:

- **EXC21** Contribute to health and safety requirements in the workplace
- **EXC22** Assist in protecting services and substructures in the workplace
- **EXC23** Operate portable powered plant and equipment in the workplace
- **EXC24** Assist in manually excavating ground and surfaces to form holes and trenches
- **EXC25** Assist in manually re-instating excavated surfaces, holes and trenches

### **EXC21 - Contribute to health and safety requirements in the workplace**

This unit lists the knowledge and skills required by a person holding this position to carry out safe work activities in compliance with health and safety activities.

Upon completion of this unit the persons carrying out this work will possess the necessary knowledge and skills to follow health and safety procedures which ensure that their actions do not create health and safety risks to self or to others.

#### **Performance Criteria**

The candidate must have the necessary knowledge and skills to:

1. Follow safe working practices in accordance with the workplace health and safety regulations
2. Identify potential hazards associated with own work practices and the workplace, and report them in accordance with organisational procedures
3. Follow the correct procedures in the event of hazards, injury or ill health
4. Carry out work practices to comply with supplied information to contribute to a healthy, safe and secure working environment

#### **Required Knowledge**

The Level 2 Assistant Excavation Operative must know and state:

1. Their roles and responsibilities under the Health and Safety Act as amended by Act XXXII of 2007 or as per most current legislation
2. Health concerns associated with the workplace and safe practices when carrying out work activities
3. The organisational policies and procedures, instruction and information which need to be complied with
4. The importance of co-operating with their employer on matters related to health and safety to safeguard their own wellbeing and of those others affected by their work activities
5. The Potential hazards in the workplace such as; electricity and other utility services, hazardous and non-hazardous substances, waste materials, working at height, access equipment, fire risks, other occupational work activities, manual handling, proximity hazards, changing weather conditions, and third party hazards
6. The importance of being aware and alert to the presence of hazards on site and other work areas
7. The effect of any toxic or hazardous materials detected on site to be used and what precautions need to be taken
8. The risks to health within a construction environment- substances hazardous to health, drugs,

solvents and alcohol.

9. The importance of correct storage of combustibles and chemicals on site
10. The importance of working around mobile plant and equipment on site- keeping safe distances away from working equipment (exclusion zones)
11. The procedures for dealing with accidents and emergencies associated with the workplace and environment
12. The importance of reporting accidents and near misses
13. Personal responsibility for behaviour of health safety and welfare on site and the consideration of others
14. The arrangements for maintaining security on site and in the workplace e.g. storage of materials, components, tools, plant and equipment
15. The different arrangements used for checking security and operational arrangements in the workplace for workers, visitors, unauthorized personnel, public.

#### **Required Skills**

The Level 2 Assistant Excavation Operative must be able to follow instructions to:

1. Comply with their individual duties and legal obligations under the Health and Safety Act XXXVII of 2007 or as per most current legislation
2. Work under supervision according to health and safety regulations and other relevant regulations that apply to the work requirements
3. Comply with safe working practices in accordance with organisational procedures
4. Recognise any hazards and hazardous materials associated with workplace activities and how changing circumstances could increase those hazards
5. Report any hazards and risks and changing circumstances in accordance with organisational procedures
6. Report near misses and accidents
7. Recognise emergency situations and report them in accordance with organisational requirements.
8. Make full use of Personal Protective Equipment (PPE) or RPE ( when necessary) to carry out work duties
9. Comply with organisational procedures for safely working around mobile plant and equipment
10. Carry out work activities to protect work areas from damage
11. Demonstrate good personal behaviour for workplace health safety and welfare
12. Assist in carrying out security arrangements and procedures that should be observed and followed when working on site

### **EXC22 Assist in protecting services and substructures in the workplace**

This unit lists the knowledge and skills needed by a person holding this position to carry out activities in identifying, locating and protecting sub- structures and utility services prior to and during excavation operations.

On completion of this unit persons carrying out this work will possess the necessary skills and knowledge to select and use tools and ancillary equipment, as well as protection and electronic detection equipment to mark out and locate services, sub-structures and apparatus.

#### **Performance Criteria**

The candidate must have the necessary knowledge and skills to:

1. Understand given information relating to work area protection
2. Follow health and safety work practices
3. Use the required resources for the methods of work
4. Follow instructions to assist in maintaining the safety and security of services and sub-structures in the workplace

#### **Required Knowledge**

The Level 2 Assistant Excavation Operative must acknowledge:

1. The different types of organisational information – , method statements, risk assessments instructions, procedures, specifications
2. The organisational information extracted from method statements, risk assessments, instructions and any work permits, for the control of and the support of excavations
3. The organisational procedures for rectifying and reporting any inaccuracies with given information
4. Own responsibilities under current legislation and organisational requirements whilst working on site: above and below ground level and working with materials, substances, tools and equipment
5. The purpose of Health and Safety Equipment- Personal Protective Equipment (PPE) Respiratory Protective Equipment (RPE) - and the reasons for why and when it needs to be used
6. How to respond to emergencies in accordance with organisational procedures such as -fire, spillages, injuries, third party hazards, and other work- related hazards
7. The different types of services, plants, and accessories that may be encountered during excavation activities
8. The different types of hazards associated with services and equipment and the actions that need to be taken

9. The risks associated with maintaining the safety of services and sub- structures
10. The organisational procedures to be followed if any damage occurs to supply services or sub – structures
11. The need to protect exposed services during excavation work
12. Different methods used for marking out for excavation work to ensure correct identification and location for the excavation activities
13. The consequences of incorrect marking out – time, labour, wastage of materials
14. The reasons why it may be necessary to dig trial holes to locate underground services
15. The different types of tools and, equipment required to carry out the work – hand tools, portable power tools, and ancillary equipment, marking equipment, electronic detection equipment
16. The importance of checking and maintaining tools and equipment for serviceability to carry out protection and excavation activities
17. The importance of providing temporary and permanent support for services and sub structures during excavation work activities
18. The consequences of leaving supply services and sub-structures unsupported
19. The importance of ensuring excavations, service apparatus and sub- structures are maintained and left in a safe and secure state during and on completion of work activities

#### **Required Skills**

The Level 2 Assistant Excavation Operative must be able to follow instructions to:

20. Conform with information acquired from method statements, risk assessments, procedures, specifications, and instructions
21. Report any inaccuracies with given information to the appropriate person(s)
22. Assist in the use health and safety control equipment, tools and equipment and access equipment in accordance with organisational procedures to carry out protection and excavation activities
23. Comply with the use of PPE and RPE equipment to carry out protection and excavation activities and report any damaged equipment
24. Follow organisational procedures in case of emergencies, accidents, spillages and equipment failure
25. Carry out hazard identification and taking appropriate action within the limits of one’s own

responsibility

26. Assist in the checking, using and maintaining of hand tools, portable power tools, pedestrian plant, ancillary equipment and electronic detection equipment, marking equipment
27. Assist in identifying position of and location of services and supply services from given information – plans, maps, surface evidence
28. Assist in the use of electronic detection equipment for the location of services
29. Assist in marking out areas and positions for location of excavation work to be carried out in accordance with organisational procedures
30. Assist in reporting any deviations or problems with the position and location of services and structures in accordance with organisational procedures and instructions
31. Assist in digging trial holes for the location of services for excavation work
32. Assist in protecting work areas and surroundings and install/erect barriers and equipment to protect exposed services, and sub – structures
33. Assist with the positioning, installation and removal of excavation support and shoring equipment
34. Maintain the condition and security of services, supply services and sub-structures to avoid tampering
35. Communicate with colleagues and line management to carry out safe and productive working practices

### **EXC23- Operate portable powered plant and equipment in the workplace**

This unit lists the knowledge and skills required by a person holding this position to carry out activities in operating powered plant and equipment in the workplace.

Upon completion of this unit the persons carrying out this work will possess the necessary knowledge and skills to assist in preparing, positioning and setting up the portable powered plant, tools and equipment for work, carry out pre and post use functional checks and operate, use and control the tools and equipment in accordance with work requirements and organisational procedures

#### **Performance Criteria**

The candidate must have the necessary knowledge and skills to:

1. Understand given information relating to the requirements for setting up and using powered plant and equipment and portable power tools
2. Carry out safe working practices
3. Select and maintain portable powered plant and equipment, power source, fuels lubricants and consumables

#### **Required Knowledge**

The Level 2 Assistant Excavation Operative must know and state:

1. The types of information applicable to the operation and use of portable powered plant and equipment - operating instruction manuals, safety literature, risk assessments and organisational instructions
2. The health and safety requirements associated with using powered plant and equipment and portable power tools, - e.g. different power sources, attachments
3. The protective clothing and equipment to be worn (PPE and RPE)) when using powered plant and portable power tools
4. The safety checks that need to be carried out on portable power tools prior to connecting to supply source
5. The actions to be taken if powered plant equipment and power tools are found to be faulty or defective
6. The different types of powered plant, portable plant and attachments and how they are prepared and set up for use
7. The requirements for power supply cables, routing of cables, water hoses, their lengths and position
8. Methods and requirements for fitting drill bits, tooling, and attachments
9. Methods and safety requirements for the fitting of abrasive wheels
10. Operating procedures for starting and stopping different power sources - engines; pneumatic, hydraulic, electrical and cordless powered tools
11. The necessary precautions to be taken to prevent injury when using hand held portable

power tools

12. The basic machine operator maintenance requirements for powered plant and power tools and equipment
13. Different types of fuels, lubricants and coolants used on powered plant and equipment
14. The reasons for identifying, selecting and using the correct item of powered plant and equipment/portable power tool to carry out the work requirements

#### Required Skills

The Level 2 Assistant Excavation Operative must be able to follow instructions to:

1. Conform to organisational instructions and procedures and risk assessments related to the work to be undertaken.
2. Use the correct PPE and RPE when operating plant, equipment and portable power tools
3. Assist in carrying out functional and safety checks of plant equipment and portable power tools and equipment prior to use
4. Reporting faults and defects with plant and equipment in accordance with organisational procedures
5. Assist in selecting, preparing and setting up powered plant and portable power tools, equipment and their associated cables/hoses, tooling for work activities
6. Assist in removing and fitting abrasive wheels and discs, securing accessories and tool attachments
7. Assist in carrying out pre and post start checks on powered plant equipment and portable power tools
8. Assist in operating powered plant and equipment and portable power tools safely to carry out work activities
9. Assist in replenishing fuels, lubricants and fluids in accordance with operating and maintenance requirements
10. Assist in carrying out basic operator maintenance to plant equipment, portable power tools and attachments

**EXC24 Assist in manually excavating ground and surfaces to form holes and trenches**

This unit lists the knowledge and skills required by a person holding this position to assist in carrying out activities in excavating ground and materials by manually forming holes and trenches.

Upon completion of this unit the persons carrying out this work will possess the necessary skills and knowledge to assist in selecting tools and equipment to excavate holes and trenches (manual digging) safely including assisting in digging around utility services in accordance with work requirements and organisational procedures

**Performance Criteria**

The candidate must have the necessary knowledge and skills to:

1. Understand given information relating to the excavation work
2. Adopt safe working practices
3. Select resources, tools and equipment for the manual excavation of holes and trenches
4. Store and handle materials and equipment in a safe manner
5. Assist in forming and finishing excavations by manual methods
6. Conform to organisational instructions to carry out work efficiently and to specification

**Required Knowledge**

The Level 2 Assistant Excavation Operative must know and state:

1. The organisational information extracted from: method statements, risk assessments, instructions and procedures, permits, for the control and the support of excavations
2. Own responsibilities under current legislation and organisational requirements whilst working: on site, above and below ground level, with materials, substances, tools and equipment.
3. The purpose and reason for health and safety equipment and the reasons why and when it needs to be used –personal protective equipment (PPE) respiratory protective equipment (RPE)
4. The potential hazards and risks associated with carrying out manual excavation work, - working at ground and below ground level, temporary works areas, confined and restricted spaces and the appropriate action to be taken
5. Organisational procedures for responding to emergencies -fire, spillages, injuries and other work- related hazards and emergencies
6. The different types of tools and, equipment required to carry out the excavation work – hand tools, portable power tools and ancillary equipment
7. The reasons for and how to protect the work area from damage e.g. – erecting barriers, sheeting, netting and warning notices for workplace occupational activities, proximity hazards and varying weather conditions
8. Procedures for using resources efficiently and for reporting problems associated with them
9. How to calculate basic measurement – quantity, length, depth, area, marking out, and wastage associated with the methods to excavate manually
10. How to Identify and locate utility services and protect them

11. How to excavate ground structures manually and avoid damage to service apparatus and sub-structures
12. The different types and uses of hand tools, portable power tools and equipment for the excavation work to be carried out
13. Methods for positioning securing and removing excavation supports
14. Reasons for disposing of and storing excavated materials for re-use
15. The needs of other occupations and the importance of communications with colleagues and other occupations when carrying out manual excavating activities
16. How the methods of work are applied to enable the work to be carried out efficiently and productively to specification
17. Procedures for dealing with problems which could affect the work programme

#### **Required Skills**

The Level 2 Assistant Excavation Operative must be able to follow instructions to:

1. Conform with information from method statements, risk assessments, organisational procedures, specifications, instructions, permits and good industry practice
2. Follow organisational requirements for current legislation and official guidance
3. Assist in the use of health and safety control equipment, tools and equipment and access equipment in accordance with organisational procedures
4. Identify, and use PPE, RPE equipment to carry out manual excavation activities
5. Protect the work area and surroundings and install/erect physical barriers to assist and carry out safe excavation activities
6. Assist with the installation and removal of excavation safety and support equipment
7. Check, use and maintain hand tools, portable power tools, pedestrian plant and ancillary equipment
18. Select and use the correct hand tools, portable power tools and equipment for the excavation work to be carried out
8. Assist in preparing, measuring and marking out areas of ground for excavation activities
9. Work safely in confined and restricted spaces
10. Abide by organisational emergency response procedures -fire, spillages, injuries and other work- related hazards and emergencies
11. Excavate holes and trenches and finish to specification using hand tools portable power tools, pedestrian plant and ancillary equipment
12. Work with, and in the vicinity of plant machinery and equipment and vehicles
13. Handle and remove materials and components safely and storing and disposing of them for waste and re-use
14. Maintain a clean and tidy work area
15. Report any problems or hazards associated with the excavation activities
16. Communicate with colleagues and superiors to carry out efficient and productive working practices
17. Assist in securing the excavation work area during and on completion of work activities

### **EXC25 Assist in manually re-instating excavated surfaces, holes and trenches**

This unit lists the knowledge and skills needed by a person holding this position to carry out activities in excavating ground and materials by re- instating holes and trenches under supervision.

Upon completion of this unit the persons carrying out this work will possess the necessary skills and knowledge to select tools and equipment to re- instate holes and trenches manually safely including digging, placing and backfilling materials and finishing surfaces in accordance with work requirements and organisational procedures.

#### **Performance Criteria**

The candidate must have the necessary knowledge and skills to:

1. Understand given information relating to the re – instatement of excavations
2. Understand, follow and adopt safe working practices
3. Follow instructions to select resources for the manual re- instatement of holes and trenches
4. Safely store and handle materials and equipment
5. Re-instate and finish excavations by manual methods under supervision
6. Conform to organisational instructions to carry out work efficiently and to specification

#### **Required Knowledge**

The Level 2 Assistant Excavation Operative must know and state:

1. The different types of organisational information –, method statements, risk assessments, oral and written instructions, procedures, specifications, good industry practice
2. The organisation’s rectifying and reporting procedures of inappropriate/inaccurate information
3. The explained organisational information extracted from: method statements, risk assessments, instructions and procedures, permits, for the control of excavations, re- instatement and temporary support of excavations
4. Their own responsibilities under current legislation and organisational requirements whilst working: on site, above and below ground level, with materials, substances, tools and equipment, storing of materials and equipment by manual handling and use of lifting and handling equipment. and access equipment
5. The purpose of health and safety equipment and the reasons for why and when it needs to be used –Personal Protective Equipment (PPE) and Respiratory Protective Equipment (RPE)
6. The potential hazards and risks associated with carrying out re- instatement work manually - working at ground level and below ground level, temporary works areas, confined and restricted spaces
7. Procedures and methods for working safely in confined and restricted spaces
8. Organisational procedures for responding to emergencies -fire, spillages, injuries and other work- related hazards and emergencies
9. The different types of tools and, equipment required to carry out the re- instatement work – hand tools, portable power tools and ancillary equipment

10. How to check and maintain tools and equipment to carry out re- instatement activities
11. The explained reasons for and how to protect the work area from damage – erecting barriers, sheeting, netting and warning notices for workplace occupational activities, proximity hazards, third party hazards and varying weather conditions
12. The different types of materials required for carrying out re- instatement work – new and re-usable materials
13. The types of materials used in excavations and re- instatement and defects associated with them – backfill, sub- base, road base and paved surfaces
14. The workplace procedures to use the resources efficiently and to report problems associated with them
15. Methods for positioning securing and removing excavation supports
16. Reasons for storing and disposing of surplus materials
17. The needs of other occupations and the importance of communications with colleagues and other occupations when carrying out re - instatement activities
18. The principles and methods that need to be complied with for the re- instatement work to be carried out according to instructions
19. The organisational procedures for dealing with problems which could affect the work programme

#### **Required Skills**

The Level 2 Assistant Excavation Operative must be able to follow instructions to:

1. Conform with information from method statements, risk assessments, organisational procedures, specifications, instructions
2. Follow organisational requirements, official guidance, and good industry practice
3. Use health and safety control equipment, tools, equipment and access equipment in accordance with organisational procedures
4. Assist in Identifying, selecting and using PPE, RPE equipment to carry out re- instatement activities
5. Assist in protecting the work area and surroundings and install/erect physical barriers to assist and carry out safe excavation and re- instatement activities
6. Assist with and/or position, install and remove excavation safety support equipment
7. Check, use and maintain hand tools, portable power tools, pedestrian plant and ancillary equipment
8. Prepare, measure and mark out areas of ground for re-instatement activities
9. Assist in carrying out preparation procedures for re-instatement of excavations in accordance with organisational and statutory procedures
10. Use hand tools portable power tools, pedestrian plant and ancillary equipment to carry out re- instatement activities
11. Carry out the laying and compaction procedures of the materials for re- instatement following instructions and under supervision
12. Work with, and in the vicinity of, plant machinery and equipment and vehicles
13. Handle and remove materials and components safely and store and dispose of them for waste and re-use
14. Maintain a clean and tidy work area

15. Report any problems or hazards associated with the re- instatement activities
16. Communicate with colleagues/supervisor, line manager to carry out instructions efficiently
17. Assist in maintaining the security of the excavation and area during and on completion of re- instatement activities.
18. Use resources efficiently and report problems associated with them
19. Assist in calculating basic measurement – quantity, length, depth, area, marking out, and wastage associated with the methods to re- instate excavations manually
20. Assist in identifying, locating and protecting utility services during re – instatement activities
21. Follow instructions to select and use the correct hand tools, portable power tools and equipment for the re- instatement work to be carried out
22. Follow instructions to assist in positioning, securing and removing excavation support