

# New Roads and Street Works – Operative Course Overview



## DURATION

The duration of this course is 5 days

## AIM

To impart the necessary knowledge and skills to enable operatives to comply with New Roads and Street Works Act

## OBJECTIVES

Operatives will be able to pass the awarding body assessments for Units LA, O1, O2, O3, O4, O5 and O8 of the New Roads and Street Works Act

## PRE-REQUISITES

Delegates would be experienced in this field of work

## METHOD

During the course you will attend lectures, presentations, assessment and participate in practical exercises

## BREAKDOWN OF UNITS

### UNIT LA - Location and Avoidance of Underground Apparatus

This unit covers the requirements that you must meet when locating and avoiding underground utilities' apparatus. You must ensure that you act in accordance with all current specifications and procedures and that you follow safe working practices at all times when carrying out the activities covered in this unit. The Code of Practice specified in this unit is *Specification for the Reinstatement of Openings in Highway*. The unit contains the following four elements, which you must cover:

#### **a) Interpret plans showing location of underground apparatus**

In this element the delegate will carry out a survey of the work site to establish that the plans correspond with the site details. They will need to check that the symbols on the plans have been interpreted accurately, and that the information recorded on plans can be identified easily. They will need to ensure that the site has been marked clearly to avoid possible misinterpretation of the plans, and that the information provided on the plans is applied correctly to the current site.

#### **b) Identify types of underground apparatus encountered during excavation**

In this element the delegates will need to ensure that the possible types of underground apparatus are identified and that the appropriate safety procedures are observed at all times during their identification

#### **c) Identify risks of, and implications of, damage to underground apparatus**

In this element delegates will need to carry out a risk assessment exercise to identify the risks and implications of damage to the different types of underground apparatus

#### **d) Use pipe and cable location equipment**

In this element delegates will need to select appropriate pipe and cable location equipment. They must check the equipment selected and prepare it correctly for use. They will need to complete the necessary search procedures, following the safety standards stated in the current specifications, and they must review and interpret the results of their search correctly.

### UNIT O01 - Signing, Lighting and Guarding

This unit covers the requirements that you must meet when signing, lighting and guarding a work site. **You must ensure that you act in accordance with all current specifications and procedures and that you identify and follow safe working practices at all times when carrying out the activities covered in the unit. The Code of Practice specified in this unit is *Safety at Street Works and Road Works – A Code of Practice*, effective from**

**2014 edition [the 'Red Book']**. All traffic signs must comply with the Traffic Signs Regulations and General Directions [TSRGD] currently in force. The unit contains the following three elements, which you must cover:

**a) Survey the work site**

In this element delegates will need to carry out a survey of the work site to establish signing, lighting and guarding requirements. They will need to take into account the requirements of the site location, and identify ways to ensure the safety of pedestrians and road users, including those with special needs. They will also need to identify ways of minimising disruption and ensuring the safety of vehicular traffic, and they must plan to make satisfactory provision for vehicles and plant within the confines of the working area. They must carry out an on-site risk assessment to ensure that a safe system of working in respect of signing, lighting and guarding is in place at all times.

**b) Protect pedestrians, vehicular traffic and site personnel**

In this element delegates will need to ensure that pedestrians, vehicular traffic and site personnel are protected. They must ensure that you use the correct equipment [including personal protective equipment], and that all equipment used is appropriate to the requirements of the site and is safe to use. They will also need to position and remove all equipment accurately and according to the required sequence. When creating footways, traffic lanes and safety zones, they must ensure that appropriate provision is made for the safety of all personnel, pedestrians and vehicles, with the minimum disruption.

**c) Provide portable traffic signals**

In this element delegates will need to provide portable traffic signals, using both proprietary electrical or engine powered portable traffic signals and Stop/Go boards. They must ensure that signals are positioned accurately and adjusted, dismantled and removed in the correct sequence, according to the requirements of the location and the traffic conditions.

UNIT 002 - Excavation in the Highway

This unit covers the requirements that you must meet when carrying out excavation activities in the highway. **You must ensure that you act in accordance with all current specifications and procedures and that you identify and follow safe working practices at all times when carrying out the activities covered in the unit. The Code of Practice specified in this unit is *Specification for the Reinstatement of Openings in Highways*.** The unit contains the following four elements, which you must cover:

**a) Identify different types of footway and carriageway**

In this element delegates will need to identify the main types of footway and carriageway correctly. You will also need to identify the construction layers within the main types of footway and carriageway

**b) Excavate in the highway**

In this element delegates will need to select suitable equipment to carry out excavation activities. They must ensure that materials are excavated according to specifications and that areas of high risk are excavated with caution. The working methods that you select must minimise subsequent reinstatement. They must ensure that trenches are excavated to the correct dimensions.

**c) Support underground apparatus during excavation**

In this element delegates will need to take appropriate action to report any damaged utilities' apparatus that they identify. They must also ensure that they support exposed utilities' apparatus safely and that they have sufficient quantities of materials available to provide adequate trench support.

**d) Identify, select and store excavated materials for re-use as backfill**

In this element delegates will need to identify and select different types of materials that are suitable for re-use as backfill. They must ensure that re-usable materials are safely stored and protected from contamination and excessive drying or wetting, and that they store materials that are unsuitable for re-use safely on the site and ensure that procedures are in place for their safe disposal.

UNIT 003 Reinstatement and Compaction of Backfill Material

This unit covers the requirements that you must meet when reinstating opening in highways. **You must ensure that you act in accordance with all current specifications and procedures and that you identify and follow safe working practices at all times when carrying out the activities covered in the unit. The Code of Practice specified in this unit is *Specification for the Reinstatement of Openings in Highways*.** The unit contains the following four elements, which you must cover:

**a) Identify different types of footway and carriageway**

In this element delegates will need to identify the main types of footway and carriageway correctly. They will also need to identify the construction layers within the main types of footway and carriageway

**b) Select materials for backfill**

In this element delegates will need to identify and select excavated materials for re-use as backfill and ensure that they are appropriately and safely stored on site. They must identify, unload and store imported materials that are suitable for use as backfill safely and correctly. They will need to store all materials on site without obstructing or damaging facilities and street furniture, and they will need to identify the correct backfill materials to use as surround to utilities' apparatus and in sensitive areas.

**c) Backfill excavation**

In this element delegates must backfill the excavation, selecting the appropriate equipment to use for the specific operation. They will need to reinstate the backfill layer to the correct level and complete the operation without damaging underground utilities' apparatus. They must also compact the backfill materials to provide a firm base for advancement

**d) Dispose of surplus material**

In this element delegates will dispose of surplus material. They will need to identify materials that are unsuitable for re-use or are surplus to requirements, and ensure that safe temporary storage is provided for them on site. They must load all materials for disposal safely for transportation, using the appropriate equipment, and they must leave the site in a clean and safe condition.

UNIT 004 – Reinstatement of Sub-base and Base in Non Bituminous Materials

This unit covers the requirements that you must meet when reinstating sub-base and base [road base] in non-bituminous materials. **You must ensure that you act in accordance with all current specifications and procedures and that you identify and follow safe working practices at all times when carrying out the activities covered in the unit. The Code of Practice specified in this unit is *Specification for the Reinstatement of Openings in Highways*.** The unit contains the following four elements, which you must cover:

**a) Selection of non-bituminous materials for use in carriageway and footway reinstatement**

In this element delegates will ensure the selection and storage of non-bituminous materials for use in reinstatement. They must ensure that appropriate materials are selected for use and that the on-site storage arrangements for materials are appropriate and safe. They will also need to check that sufficient quantities of materials are obtained for the prescribed operation, and to demonstrate that they know the remedial action to take where they identify any deficiencies in the selection and storage of the materials.

**b) Selection of plant used for the compaction of sub-base and base [road base] material**

In this element delegates will need to identify and select compaction plant for the sub-base and base [road-base] materials, ensuring that the appropriate considerations are taken into account, including its efficiency, its suitability to the location, materials and site dimensions and access provisions and that it is the most suitable plant to use when compared with other permitted options. They must also ensure that the necessary safety checks have been carried out to ensure that the equipment is fit for purpose. Where they identify any problems with the selection of the plant, they must show that they know the appropriate remedial action to take.

**c) Construction of sub-base and base [road-base] materials**

In this element delegates will construct the sub-base and base [Road-base] materials, checking that the layer is constructed according to the specification, and that appropriate equipment and materials are used for the operation. They must also check that the layers are constructed with the appropriate compaction level, and that they are of the required thickness and degree of compaction. They will need to show that you know the remedial action to take where any problems are identified with the construction of the layers

**d) Site safety**

In this element delegates will understand site safety throughout the reinstatement operation, ensuring that health and safety requirements are met in respect of site operations and site conditions. They will need to ensure that the appropriate equipment is available on site, in sound working condition, and that safe working practices are followed throughout the operation. They must show that they know what action must be taken to remedy any risks to site safety.

## UNIT 005 - Reinstatement of Cold-Lay Bituminous Materials

This unit covers the requirements that you must meet when reinstating cold-lay bituminous materials in highways. **You must ensure that you act in accordance with all current specifications and procedures and that you identify and follow safe working practices at all times when carrying out the activities covered in the unit. The Code of Practice specified in this unit is *Specification for the Reinstatement of Openings in Highways*.**

The unit contains the following three elements, which you must cover:

**a) Identify different types of footway and carriageway**

In this element delegates will prepare the layer of pavement structure to receive cold-lay surfacing materials, by removing all loose matter, making good any defects in the Road base, re-position displaced ironwork, kerbs and edge restraints and checking that the pavement layer construction is correct

**b) Select materials for backfill**

In this element delegates will construct the cold-lay bituminous surfacing layer, selecting the appropriate equipment to use for the prescribed operation. They will need to ensure that the cold-lay bituminous material is correctly handled and stored, check that it meets the requirements of the specification, compact it correctly using suitable equipment and seal the edges correctly.

**c) Backfill excavation**

In this element delegates will dispose of surplus material. They will need to identify materials that are unsuitable for re-use or are surplus to requirements, and ensure that safe temporary storage is provided for them on site. They must load all materials for disposal safely for transportation, using the appropriate equipment, and they must leave the site in a clean and safe condition.

## UNIT 008 – Reinstatement of Modular Surfaces and Concrete Footways

This unit covers the requirements that you must meet when reinstating modular surfaces and concrete footways. **You must ensure that you act in accordance with all current specifications and procedures and that you identify and follow safe working practices at all times when carrying out the activities covered in the unit. The Code of Practice specified in this unit is *Specification for the Reinstatement of Openings in Highways*.** The unit contains the following five elements, which you must cover:

**a) Remove existing modular or concrete surfacing**

In this element delegates will remove existing modular or concrete surfacing, using the correct equipment. They must identify modules that are suitable for re-use, clean them and stack them safely on site. They need to identify materials that are unsuitable for re-use, and set them aside for disposal.

**b) Prepare sub-base**

In this element delegates will prepare the sub-base, removing loose and deleterious matter and identifying any defects in the sub-base. Where defects are identified, they must make them good using appropriate sub-base material and compact the material correctly. They must also ensure that you re-position displaced ironwork, kerbs and edge restraints in accordance with established levels.

**c) Lay bedding materials**

In this element delegates will lay bedding materials, ensuring that the layer is uniform and compact it using the appropriate hand tools.

**d) Lay modular or concrete surfacing**

In this element delegates will lay the modular or concrete surfacing. They must position modules to match the existing bond or pattern, and cut them using the appropriate equipment. They must bed or compact the modules to the existing line and level, and apply and finish jointing material correctly. Where they are using concrete surfacing, they must lay and compact the concrete correctly, using the appropriate equipment, texture the surface and cure the concrete.

**e) Dispose of surplus materials**

In this element delegates will dispose of surplus material. They will need to identify materials that are unsuitable for re-use or are surplus to requirements, and ensure that safe temporary storage is provided for them on site. They must load all materials for disposal safely for transportation, using the appropriate equipment, and they must leave the site in a clean and safe condition.