



NRSWA Operative Units

Courses can be offered on our Public open courses or if you have a sufficient number of attendees private or in house courses.

Courses fees include city and guild certification and issue of Scotvec card (registration onto the Streetworks register).

The main purpose of the Register is to maintain the national database of supervisors and operatives currently practicing street works, and issue a valid identity card that may be requested by authorised persons or organisations, such as highway and street works inspectors

Courses offer combinations of the units listed below for both Operative and Supervisor and are provided for information by the streets works info and may be subject to change. See course details for units at time of booking.

Unit 001- Location and Avoidance of Underground Services

Resources:

- A suitable location where the candidate can demonstrate competence locating a range of services, either on or off site.
- Cable locator (signal generator optional) and Utility plans to include BT, Gas, Water and Electric cables.
- A minimum of three services to locate and trace, i.e. BT, Gas, Water and Electric cables.
- A range of services for the candidate to identify, both damaged and undamaged. This range should include all mentioned in the standards as well as the more modern ones. Assessment Candidates may be assessed two per assessor providing that there is no cross contamination of evidence and the location is large enough to cater for them. All the performance criteria must be assessed to make a judgement of the candidate's competence.

The candidate must be able to:

- Interpret the utility plans and point out on the ground where the services are and interpret the symbols on the plans.
- Recognise a range of services commonly found when carrying out excavations.
- Identify the risks of damage to services and the implications of such damage to Gas, Water and Electricity.
- Use cable location equipment to find and trace underground services. (At least three to include BT and Electric cables).
- Describe the services that cannot be found with conventional cable location equipment.
- Conduct the activities safely.
- Provide sufficient knowledge evidence by way of oral or written questions.

Where competence is not demonstrated the assessor will action plan the candidate in respect of any further training or experience required prior to reassessment.



Unit 002 - Signing, lighting and guarding

Resources

- A suitable location, that is either a real road with unpredictable traffic and pedestrians or a realistic simulation. Where assessments are carried out on a simulated site the candidate will need to produce evidence from the workplace showing that the activities assessed have been carried out on a real road. Work place evidence is expected to be provided after the initial assessment.
- A full set of temporary signing and guarding for works on a footway.
- Temporary traffic signals
- A selection of inappropriate signs, i.e. damaged or of the wrong type.

Assessment

Candidates may be assessed two per assessor providing that there is no cross contamination of evidence and the location is large enough to cater for them. The assessor must control the site to ensure that where two candidates are being assessed, they both demonstrate competence. Care should be taken to ensure that where candidates are assessed in two's that they are not being lead.

The candidate must be able to:

- Produce a plan of an intended site showing the position of signs, guarding and traffic signals. The plan must include all relevant distances, sizes, and dimensions required.
- Produce a list of equipment for the intended site.
- Demonstrate the sequence of setting out the advance signing, safety zones and pedestrian walkways.
- Demonstrate the positioning, testing, adjusting, commissioning and decommissioning of temporary traffic signals.
- Answer a range of questions to demonstrate knowledge of the subject.
- Conduct the activities safely wearing the appropriate safety wear.
- Provide sufficient knowledge evidence by way of oral or written questions.

Evidence from the workplace must be signed by a suitably qualified person and returned to the assessment centre for validation before registering the candidate. This evidence must contain at least: site plans, site job number/ description of job, witness testimony and include the use of traffic signals. The evidence from the work place is verified prior to registering candidates for this unit.

Where competence is not demonstrated the assessor will action plan the candidate in respect of any further training or experience required prior to reassessment.



Unit 003 - Excavation in the highway

Resources

- The activities are undertaken either on-site or a realistic simulated site. Where the site is simulated, there should be a sufficient amount of signing and guarding in place to ascertain work areas.
- Assessments are not to be undertaken on excavations where trench support is needed.
- The area to be excavated must contain at least one utility service and be a minimum of 0.7m² and 600mm deep in a modular or flexible carriageway. The area should be marked out to show where the services are and the extent of the excavation. Where the candidate is going to be assessed for units 004 and 005, the excavated depth should be at least 650mm to allow for a reasonable backfill layer.
- At least 8 material samples to include class A, B, C, D and E.

Assessment

A suitable exercise/simulation to demonstrate knowledge of carriageway type and their construction. Assessment Candidates are to be assessed individually, i.e. one to a hole. Where this is not practicable due to space constraints, then it is acceptable for two to excavate one hole provided the excavation is enlarged to cater for this and the candidates are both given the opportunity to demonstrate competence for all performance criteria.

The candidate must be able to:

- Use a disc cutter or roadsaw safely to cut the full depth of the surfacing layers, straight and with no over cutting. The appropriate personal protective equipment must also be selected and worn.
- Remove, clean and stack for reuse or disposal modular paving.
- Use a breaker to break-up the surfacing layers safely. The appropriate personal protective equipment must also be selected and worn.
- Excavate the trench with appropriate tools and select material for reuse or disposal. v Excavate with care to expose services.
- Identify the types of carriageways and construction layers for flexible, composite, rigid and modular carriageways and flexible, rigid and modular footways.
- Support and protect underground services.
- Identify a range of backfill materials classes A, B, C, D and E. v Field test the materials for suitability, and state why they could not be used.
- Follow safe working practices in accordance with current legislation.
- Provide sufficient knowledge evidence by way of oral or written questions. Where competence is not demonstrated the assessor will action plan the candidate in respect of any further training or experience required prior to reassessment.



Unit 004 - Reinstatement and compaction of backfill materials

Resources

- The activities are undertaken either on-site or a realistic simulated site. Where the site is simulated, there should be a sufficient amount of signing and guarding in place to ascertain work areas.
- Assessments are not to be undertaken on excavations where trench support is needed. A trench with sufficient depth to reinstate should be provided (at least 650mm).
- It is common for the candidate to use the excavation for unit 003 and the reinstatement to be in a Type 4 Flexible or Modular Carriageway.
- The trench should contain at least one service to reinstate around. A range of hand tools and compaction equipment should be available to the candidate as stated in the Standards.

Assessment

Candidates are to be assessed individually, i.e. one to a hole. Where this is not practicable due to space constraints, then it is acceptable for two to excavate one hole provided the excavation is enlarged to cater for this and the candidates are both given the opportunity to demonstrate competence for all performance criteria.

The candidate must be able to:

- Identify the main types of footway and carriageway and their construction layers.
- Follow safe working practices, including the selection and use of personal protective equipment and use of plant equipment.
- Identify a range of backfill materials classes A, B, C, D and E. v Field-test the materials for suitability and state reasons why they could not be used.
- Unload and store imported materials safely.
- Construct the backfill layer to the correct level.
- Protect underground services with finefill material and methods of compacting the material.
- Dispose of any unsuitable materials safely.
- Keep the site clean and safe.
- Provide sufficient knowledge evidence by way of oral or written questions.

Where competence is not demonstrated the assessor will action plan the candidate in respect of any further training or experience required prior to reassessment.



Unit 005 - Reinstatement and compaction of sub-base and roadbase in non-bituminous materials.

Resources

- The activities are undertaken either on-site or a realistic simulated site. Where the site is simulated, there should be a sufficient amount of signing and guarding in place to ascertain work areas.
- Assessments are not to be undertaken on excavations where trench support is needed.
- A trench with sufficient depth to reinstate should be provided (at least 430mm for a type 4 flexible carriageway with a granular roadbase). It is common for the candidate to use the trench for unit 004 and the reinstatement to be in a Type 4 Flexible Carriageway.
- The trench should contain at least one service to reinstate around, this may have been covered in Unit 003.
- A range of hand tools and compaction equipment should be available to the candidate as stated in the Standards and a quantity of GSB Type 1.

Assessment

Candidates are to be assessed individually, i.e. one to a hole. Where this is not practicable due to space constraints, then it is acceptable for two to excavate one hole provided the excavation is enlarged to cater for this and the candidates are both given the opportunity to demonstrate competence for all performance criteria.

The candidate must be able to:

- Make good any defects in the pavement structure to receive subsequent layers
- Confirm the backfill layer to be correct.
- Follow safe working practices, including the selection and use of personal protective equipment and use of plant equipment. v Identify that imported and excavated materials are suitable for use or disposal.
- Unload and store materials safely.
- Select suitable compaction equipment for the reinstatement.
- Construct the pavement layers correctly.
- Dispose of surplus materials safely.
- Keep the site clean and safe.
- Provide sufficient knowledge evidence by way of oral or written questions.

Where competence is not demonstrated the assessor will action plan the candidate in respect of any further training or experience required prior to reassessment.



Unit 006 - Reinstatement in cold-lay bituminous materials

Resources

- The activities are undertaken either on-site or a realistic simulated site. Where the site is simulated, there should be a sufficient amount of signing and guarding in place to ascertain work areas.
- A cavity with sufficient depth to reinstate the base course and wearing course should be provided (at least 100mm for a type 4 flexible carriageway with a granular roadbase). It is common for the candidate to use the trench for unit 005 and the reinstatement to be in a Type 4 Flexible Carriageway.
- A range of hand tools and compaction equipment should be available to the candidate as stated in the Standards.
- The reinstatement of the wearing course should be carried out with the specified compaction equipment, i.e. single drum roller 650Kg/m minimum weight or plate compactor 1400kg/sq.m.
- Highway ironwork and kerbs or edge restraints.
- Candidates are to be assessed individually, i.e. one to a hole. The minimum area for the reinstatement should be at least 1.2 sq.m

The candidate must be able to:

- Make good any defects in the pavement structure to receive subsequent layers.
- Re-position highway ironwork to line and level and any adjacent pavement edge restraint or kerbs.
- Follow safe working practices, including the selection and use of personal protective equipment and use of plant equipment.
- Apply edge joint sealant.
- Spread cold bituminous material evenly with sufficient surcharge to allow for compaction.
- Construct the pavement layers correctly with the correct amount of compaction.
- Dispose of surplus materials safely.
- Keep the site clean and safe.
- Provide sufficient knowledge evidence by way of oral or written questions.

Where competence is not demonstrated the assessor will action plan the candidate in respect of any further training or experience required prior to reassessment.



Unit 007 - Reinstatement in hot-lay bituminous materials

Resources

- The activities are undertaken either on-site or a realistic simulated site. Where the site is simulated, there should be a sufficient amount of signing and guarding in place to ascertain work areas.
- A cavity with sufficient depth to reinstate the base course and wearing course using a method 'A' repair should be provided (at least 250mm for a type 3 flexible carriageway with a granular road base). The area should be at least 1.2 sq.m.
- Base course = 20mm nominal size dense base course material or 50/20 hot rolled asphalt (HRA) base course.
- Wearing course = 30/14 HRA and pre-coated chippings.
- A range of hand tools and compaction equipment should be available to the candidate as stated in the Standards.
- The reinstatement of the wearing course should be carried out with the specified compaction equipment, i.e. single drum roller 650Kg/m minimum weight or plate compactor 1400kg/sq.m.
- A tool heater, thermometer, tack coat and edge joint sealant should also be provided.

Assessment

Candidates are to be assessed individually, i.e. one to a hole. The minimum area for the reinstatement should be 1.2 sq.m for the both the base course and wearing course surfacing materials, the area should be enlarged to accommodate ironwork.

The candidate must be able to:

- Use the appropriate equipment to remove the temporary reinstatement to the correct depth to receive the subsequent layers. Trim back where necessary.
- Make good any defects in the pavement structure to receive subsequent layers.
- Re-position highway ironwork to line and level and any adjacent pavement edge restraint or kerbs.
- Follow safe working practices, including the selection and use of personal protective equipment and use of plant equipment.
- Control material and hand tool temperature for optimum workability.
- Apply edge joint sealant.
- Spread, level and compact the base course material to the correct layer thickness.
- Apply tack coat.
- Spread, level and compact the wearing course material and lay pre-coated chippings correctly.
- Dispose of surplus material safely.
- Keep the site clean and tidy.
- Provide sufficient knowledge evidence by way of oral or written questions in relation to temperature control and rates of spread for materials used and skid resistance.

Where competence is not demonstrated the assessor will action plan the candidate in respect of any further training or experience required prior to reassessment.

Note:

Wearing course material can be used in place of dense base course were the trench cavity is less than 300mm wide and not more than 2 sq.m. Where HRA is not readily available to the centre an alternative material may be used with the permission of the External Verifier. Evidence of competence laying HRA must be sought from the work place where other hot-lay materials are used.



Unit 008 - Reinstatement of concrete slabs

Resources

- The activities are undertaken either on-site or a realistic simulated site. Where the site is simulated, there should be a sufficient amount of signing & guarding in place to ascertain work areas.
- A cavity with a depth of at least 200mm in a rigid road should be provided & a quantity of GSB Type 1 to make good the sub-base.

Assessment

One candidate to each reinstatement.

A range of hand tools & compaction equipment should be available to candidates as stated in the standards. This to include a vibrating poker to compact the concrete, dowel bars (25mm), reinforcement mesh, tie wires and suitable drilling & cutting equipment, polythene sheeting & mixer if not using ready mixed concrete.

Delegates must be able to:

- Select & use the appropriate personal protective equipment correctly
- Prepare cavity to receive reinstatement
- Make good the sub-base layer, mark out & drill for dowel bars to the correct depth & positioning
- Cut dowel bars & mesh reinforcing to correct length & size
- Use a pavement saw to ensure correct edge us achieved. Rough cut remaining depth to expose reinforcing in accordance with specifications
- Position dowel bars & tie reinforcing securely
- Place slip membrane correctly
- Replace any missing or damaged joints in the slab to match existing
- Place & compact concrete to required level
- Ensure that skid resistance is achieved
- Use approved curing procedures
- Dispose of any surplus materials safely
- Follow safe working practices, including the selection & use of personal protective equipment & use of plant equipment
- Keep the site clean & safe
- Provide sufficient evidence of knowledge by way of oral or written questions in relation to temperature control & rates of spread for materials used & skid resistance.



Unit 009 - Reinstatement of modular surfaces and concrete footways

Resources

- The activities are undertaken either on-site or a realistic simulated site. Where the site is simulated, there should be a sufficient amount of signing and guarding in place to ascertain work areas.
- Three areas to reinstate that include:
 - 1.5 sq.m for concrete slab repair
 - 1.5 sq.m for block paving repair
 - 1 sq.m for concrete footway repair.
- A range of hand tools and compaction equipment should be available to the candidate as stated in the Standards. Bedding material, concrete, kiln dried sand and GSB Type 1.
- Sufficient quantities of paving slabs, concrete and block paving for each candidate.

Assessment

The candidate must be able to:

- Select and use the appropriate personal protective equipment correctly.
- Prepare the cavity to receive the reinstatement.
- Make good the sub-base layer to receive the reinstatement.
- Remove, clean, store for reuse or dispose of slabs, blocks and concrete.
- Lay and compact bedding materials to correct levels for slabs and modular reinstatement.
- Position and compact block paving correctly to match bond pattern the existing surface using the specified technique and equipment.
- Position concrete slabs to match the correct bond pattern.
- Place and compact concrete to correct levels and ensure textured finish is achieved.
- Apply jointing materials.
- Dispose of unsuitable and surplus materials safely.
- Keep the site clean and tidy.
- Provide sufficient knowledge evidence by way of oral or written questions.

Where competence is not demonstrated the assessor will action plan the candidate in respect of any further training or experience required prior to reassessment.