

LANCU25 - SQA Unit Code D9HL 04

Fabricate and install permanent structures for the water environment



Overview

This standard is about construction of permanent structures within the water environment. Structures may include bridges, culverts, weirs, revetments, concrete fencing and coastal defences. This standard covers preparing for construction. You must obtain and prepare the required plant, equipment and materials. Equipment may include hand tools, hand-held power tools, mobile plant and water-borne plant.

This standard covers the following materials:

1. concrete
2. geotextiles
3. steel
4. timber
5. stone
6. ballast
7. top soil
8. brick
9. blocks.

You must work in a safe and effective way at all times. In addition, you must recognise any unforeseen circumstances that occur and take the appropriate action(s).

You must carry out your work in a way which minimises any impact on the natural environment, and enhances the nature, conservation and recreational value of the natural environment. The use of plant and equipment must take into account the impact of such machinery on the environment. For example, noise may have a detrimental effect on nearby habitats, or on those who are using the water environment for recreation. Environmental impact must be balanced with the objectives of the work. The reinstatement of the site will also involve a number of environmental considerations. The site must be left in a condition which is consistent with the surrounding environment. Waste must be removed from the site and disposed of correctly.

Where you are required to use machinery (including the use of a chainsaw), you must hold a relevant certificate of competence.

Performance criteria

You must be able to:

Prepare the site for the fabrication and installation of permanent structures

- P1 prepare the site in accordance with organisational procedures and the work to be carried out
- P2 identify any unforeseen circumstances which affect the planned procedures, and take the appropriate action
- P3 access the site in accordance with instructions and relevant legal requirements
- P4 ensure the necessary plant and equipment for the work are safe, and ready for use
- P5 ensure the appropriate quantity and type of materials are available and ready for use
- P6 carry out pre-start checks and adjustments to equipment in accordance with manufacturers' specifications (routine maintenance and safety checks)
- P7 place warning signs and barriers in the appropriate locations
- P8 ensure temporary works comply with design specifications and statutory requirements, and are safe, secure and ready for use
- P9 take the appropriate action to prevent accidental damage to the environment
- P10 ensure your records are accurate, legible and complete
- P11 maintain health, safety and environmental good practice during your work according to relevant legislation and organisational requirements
- P12 recognise opportunities to enhance wildlife habitats through modifications to working procedures, and report this to your line manager

You must be able to:

Carry out the fabrication and installation of permanent structures

- P13 ensure your work on the structure is finished to specification within the appropriate timescales
- P14 take into account the relevant statutory requirements in relation to the structure and the site
- P15 use plant and equipment safely and correctly
- P16 ensure your use of methods, materials and equipment cause minimal disturbance to the site's environment
- P17 recognise any unforeseen circumstances which affect operations and take the appropriate action without delay

You must be able to:

Reinstate the site following the fabrication and installation of permanent structures

- P18 dismantle and remove temporary works safely and without damage to property and equipment

LANCU25 - SQA Unit Code D9HL 04

Fabricate and install permanent structures for the water environment

- P19 restore the site to safe and appropriate conditions which fit in with the specification
- P20 leave plant and equipment in a safe, secure and fit state for subsequent use
- P21 dispose of waste safely and in accordance with relevant legislation and organisational requirements
- P22 remove any portable facilities from the site in accordance with organisational requirements
- P23 communicate the completion of the work clearly and accurately to the appropriate person
- P24 take the appropriate action if accidental damage occurs to the environment

Knowledge and understanding

You need to know and understand:

Prepare the site for the fabrication and installation of permanent structures

- K1 the correct ways to prepare the site for fabrication and installation work
- K2 types of unforeseen circumstances which may occur involving:
 - K2.1 site hazards
 - K2.2 services
 - K2.3 working conditions
 - K2.4 plant break downs
 - K2.5 wildlife habitats
 - K2.6 recreational use of the water environment
 - K2.7 water levels and precipitation
- K3 the correct action to take in response to unforeseen circumstances
- K4 health and safety requirements when preparing the site
- K5 the requirements of method statements
- K6 how to use and understand risk assessments
- K7 the safe and correct methods for preparing and using plant and equipment
- K8 the types and quantity of materials which are needed, and the methods for preparing such materials
- K9 the correct use of warning signs and barriers
- K10 the methods and statutory requirements for setting up and using temporary works
- K11 the implications of relevant legislation and organisational requirements for your work
- K12 the procedures for recording and reporting information
- K13 how to maintain environmental good practice during work activities
- K14 the correct ways to access the site
- K15 how to prevent environmental damage
- K16 the recreational and economic use of the water environment and how such use relates to work activities
- K17 the opportunities which may arise to enhance wildlife habitats and to whom these should be reported

You need to know and understand:

Carry out the fabrication and installation of permanent structures

- K18 instructions and specifications for fabrication and installation
- K19 methods and techniques for fabricating and installing structures
- K20 relevant statutory requirements in relation to fabrication and installation work and the site
- K21 the health and safety requirements when fabricating and installing structures
- K22 the correct actions to take in response to unforeseen circumstances

LANCU25 - SQA Unit Code D9HL 04

Fabricate and install permanent structures for the water environment

- K23 the safe and correct methods for using plant and equipment
- K24 the types of materials used for fabrication and installation work
- K25 how to prepare and use materials for fabrication and installation
- K26 how to protect and conserve habitats during work activities

You need to know and understand:

Reinstate the site following the fabrication and installation of permanent structures

- K27 the ways in which temporary works must be safely and correctly dismantled
- K28 the necessary condition of the site and equipment on completion of work activities
- K29 the safe handling and disposal of organic and inorganic waste
- K30 the health and safety requirements when reinstating the site
- K31 the procedures for communicating and recording the completion of work activities
- K32 the appropriate action to take in response to accidental damage to the environment

LANCU25 - SQA Unit Code D9HL 04

Fabricate and install permanent structures for the water environment

Developed by LANTRA

Version number 1

Date approved April 2010

Indicative review date April 2012

Validity Current

Status Original

Originating organisation LANTRA

Original URN NCU25

Relevant occupations Agriculture, Horticulture and Animal Car; Skilled Agricultural Trades

Suite Fisheries Management

Key words permanent, structures, water, bridges, culverts, weirs, revetments