

AMENITY HORTICULTURE – LEVEL 2 – CCA007-02

The candidate must achieve the three (3) mandatory units plus five elective (5) units selected from the same group of elective units.

The certificate will display the occupational route chosen (e.g. ‘Amenity Horticulture Nursery’ if the elective units are selected from groups).

Code	Unit Title	Mandatory/Elective
U15702	Monitor and maintain health and safety	Mandatory
U15802	Develop personal performance and maintain working relationships	Mandatory
U09602	Give customers a positive impression of yourself and your organisation	Mandatory
Group A - Nursery		
U15902	Maintain the condition of plants and other resources during transportation	Elective
U16002	Propagate plants by vegetative methods	Elective
U16102	Propagate plants from seed	Elective
U16202	Prepare growing media	Elective
U16302	Monitor environmental conditions for plants	Elective
U16402	Identify, collect and prepare plants for dispatch	Elective
Group B - Landscaping		
U16502	Prepare sites for landscaping	Elective
U16602	Establish plants outdoors	Elective
U16702	Maintain general amenity turf	Elective
U16802	Establish and develop decorative amenity areas	Elective
U15902	Maintain the condition of plants and other resources during transportation	Elective
U16902	Install and maintain drainage systems	Elective
U17002	Use and maintain equipment and machines	Elective
U17102	Construct and maintain water features	Elective
U17202	Prepare and operate a tractor with attachments	Elective
U17302	Construct and maintain boundaries and paths	Elective
U17402	Maintain and repair structures and surfaces	Elective
U17502	Construct new structures and surfaces	Elective
U17602	Maintain plants outdoors	Elective
U17702	Operate specialised plant and machinery to performance requirements	Elective
Group C – Sports Turf		
U16602	Establish plants outdoors	Elective
U17802	Maintain the health of sports turf	Elective
U17902	Present, maintain and repair sports turf surfaces for play	Elective
U18002	Present, maintain and repair artificial playing surfaces for play	Elective
U17002	Use and maintain equipment and machines	Elective
U17202	Prepare and operate a tractor with attachments	Elective

U15702**Monitor and Maintain health and safety**

Unit Descriptor:

To maintain a healthy and safe working environment, you are required to take reasonable care for the health and safety of yourself and others who may be affected by your work. You are also required to co-operate with your employer to help them comply with their duties under health and safety legislation, and not interfere with or misuse anything provided for your health, safety and welfare. This unit applies to employees and volunteers working in the land-based sector.

Your employer (or voluntary organisation) is under a legal duty to have a Health and Safety policy. Where they employ 5 or more people, this policy must be in writing. The policy should:

- be specific to your place of work;
- state the general aims for employees health and safety;
- describe the systems and procedures for ensuring health and safety of the workforce;
- and, outline the various responsibilities of particular people.

Whether or not the policy is in writing, it is vital that you understand and acknowledge your responsibilities under the policy. This may include observing particular instructions and procedures, checking items of equipment, reporting accidents etc.

Despite following the correct health and safety procedures, accidents and emergencies may still happen because of circumstances beyond your control or that of your organisation. You must be able to deal with such situations and follow the appropriate procedures. It is important that in all your activities you recognise the limit of your own competence and ask for help and advice when it is needed.

ELEMENT**PERFORMANCE CRITERIA**

1. Monitor and maintain health, safety and security in the workplace

To be competent you must achieve the following:

- 1.1 Identify health and safety **risks** in relation to the work place.
- 1.2 Carry out specified measures to control **risks** and keep the appropriate people fully informed if such measures are inadequate.
- 1.3 Seek guidance on measures to control unfamiliar **risks** arising from non-routine work situations.

- 1.4 Give health and safety information to others in a manner likely to be understood.
 - 1.5 Use equipment and materials in accordance with manufacturers instructions and any organisational training.
 - 1.6 Take the appropriate action without delay as soon as an emergency is suspected.
 - 1.7 Dispose of **waste** safely and correctly.
 - 1.8 Transport any equipment and materials safely and store them correctly at an approved location when not in use.
 - 1.9 Maintain the security of the workplace in accordance with organisational requirements.
 - 1.10 Keep any necessary records accurate, legible and complete.
2. Maintain good standards of health and safety for self and others
- 2.1 Supply the necessary personal medical information in accordance with organisational requirements.
 - 2.2 Use and care for the correct personal protective equipment and clothing assessed as being necessary for your work.
 - 2.3 Use approved methods and handling equipment when moving and lifting items.
 - 2.4 Maintain the necessary personal and workplace hygiene at all times.
 - 2.5 Give accurate information about your whereabouts so that contact can be made if necessary.
 - 2.6 Give health and safety information to others in a manner likely to be understood.

- 2.7 Behave in a way which minimises risks to yourself and others.
- 2.8 Perform your work in a manner which minimises environmental damage.
- 2.9 Take appropriate action where **incidents** affect the health and safety of yourself and others.
- 2.10 Report **incidents** without delay and fill out records accurately, legibly and completely

RANGE STATEMENT

You must cover the items below:

Element 1: Monitor and maintain health, safety and security in the workplace

A. Identify health and safety **risks** in relation to:

- (i) people
- (ii) equipment and materials
- (iii) the work area

B. Dispose of the following types of **waste**:

- (i) hazardous
- (ii) non-hazardous

Element 2: Maintain good standards of health and safety for self and others

A. Deal with the following **incidents**:

- (i) accidents which cause personal injury
- (ii) adverse changes in an individual's health which put them at risk

UNDERPINNING KNOWLEDGE AND SKILLS

1. Organisational requirements with regards to ensuring the security of the workplace.
2. Your role and responsibilities for health and safety in the workplace under organisational policy and legislation.
3. Why inadequate measures to control risks should be reported and that corrective action needs to be taken.
4. The importance of following manufacturers and organisational instructions and the potential consequences and risks of not doing so.
5. Procedures for different types of emergencies relevant to the industry in which you are working.
6. How the procedures to take for specific emergencies may be affected by your location.
7. Different types of fire extinguishers and their use, relevant to the area you work in.
8. The different forms of waste and correct methods of disposal.
9. How to transport and store equipment and materials safely.
10. The relationship between security and safety within the workplace.
11. Any specific risks relevant to child safety from your work.
12. How and why accidents should be reported.
13. Your role in maintaining your own health and safety.
14. The types of personal protective equipment and clothing needed for your work and how they must be used, cleaned, stored, inspected and replaced.
15. Safe methods for moving and lifting items.
16. The reasons for maintaining good personal and workplace hygiene relevant to your industry.
17. The reasons for leaving information about your whereabouts when working in isolation or in remote locations.
18. Your ability to deal with health and safety emergencies (e.g. not carrying out actions beyond your own capabilities) and the reasons for this.
19. Basic emergency first aid procedures.
20. Methods of minimising environmental damage during work.
21. Why accidents should be reported without delay and recorded in the appropriate document.

EVIDENCE GUIDE**(1) Critical Aspects of Evidence**

Assessment should involve observation of you:

A. Monitoring and maintaining health, safety and security in the workplace by:

- (i) Identifying health and safety risks in relation to the workplace
- (ii) Carrying out specified measures to control risk and keep the appropriate people fully informed if such measures are inadequate
- (iii) Using equipment and materials in accordance with manufacturers instructions and any organisational training
- (iv) Disposing of hazardous and non-hazardous waste safely and correctly.

B. Maintaining good standards of health and safety for self and others by:

- (i) Supplying the necessary personal medical information in accordance with organisational requirements
- (ii) Using approved methods and handling equipment when moving and lifting items
- (iii) Taking appropriate action where incidents affect the health and safety of yourself and others
- (iv) Reporting incidents without delay and filling out records accurately, legibly and completely

Use of equipment, chemical and all other activities must meet the requirements of the law and relevant codes of practice.

(2) Methods of Assessment

Observation by your assessor of you:

- Identifying various health and safety risk
- Disposing of hazardous and non-hazardous waste
- Dealing with accidents which cause personal injury as well as adverse changes in an individual's health which put them at risk

Answers to written or oral questions from your assessor.

(3) Context of Assessment

Simulation **is** acceptable for the disposal of hazardous waste if performance evidence is unavailable.

Where it is not possible to gain evidence of dealing with all the incidents, questioning and/or simulations may be used to gather evidence of your competence in this area. Simulations must reflect the requirements of the real working environment.

U15802

Develop personal performance and maintain working relationships

Unit Descriptor:

This unit sets the standard for maintaining working relationships. The first element is about your personal performance within the workplace. This relates to achieving certain targets and finishing specific tasks. It also relates to the quality of your work. You will need to discuss your work with an appropriate person.

The second element is about working effectively with other people. This includes communicating clearly, co-operating with others, and helping to improve working practices. You may work closely within a team, or spend a significant amount of time working alone.

ELEMENT**PERFORMANCE CRITERIA**

To be competent you must achieve the following:

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|--|---|
| 1. Maintain and develop personal performance | 1.1 Carry out your work in accordance with your responsibilities and organisational requirements |
| | 1.2 Seek advice from the appropriate person if clarification is required concerning specific tasks. |
| | 1.3 Agree personal performance targets with the appropriate person. |
| | 1.4 Agree your development needs and methods of meeting these needs with the appropriate person. |
| | 1.5 Develop your personal performance according to your agreed targets, development needs and organisational requirements. |
| | 1.6 Review personal performance with the appropriate person at suitable intervals. |

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|---|--|
| 2. Establish and maintain working relationships with others | 2.1 Establish and maintain effective working relationships with others . |
| | 2.2 Discuss opportunities to improve working practices with the appropriate person. |
| | 2.3 Carry out activities requiring co-operation with others in accordance with required procedures. |
| | 2.4 Deal with any disagreements effectively in an appropriate way. |
| | 2.5 Communicate with others in a way which promotes effective working relationships. |

RANGE STATEMENT

You must cover the items below:

Element 1: Maintain and develop personal performance

A. Maintain and **develop personal performance** with regard to:

- (i) working to targets and completing specific tasks
- (ii) quality of work

Element 2: Establish and maintain working relationships with others

A. Establish and maintain effective working relationships with the following **others**:

- (i) colleagues
- (ii) supervisors and managers
- (iii) persons external to the team, department or organisation

UNDERPINNING KNOWLEDGE AND SKILLS

1. The tasks and activities for which you are responsible.
2. The limits of your responsibility in relations to specific tasks and activities.
3. From whom you should obtain advice in relation to specific tasks and activities.
4. The correct procedures for obtaining advice.
5. The risks involved in not obtaining advice where you are unclear about specific tasks and activities.
6. How to determine and agree development needs and personal targets.
7. The reasons why personal performance should be reviewed.
8. The reasons why good working relationships are important.
9. The ways in which good working relationships can be maintained.
10. Changes in working practices and why these should be supported.
11. Methods of working effectively with others.
12. Methods of dealing with disagreements within the workplace.
13. Your levels of responsibility in relations to dealing with disagreements.
14. Methods of communicating effectively.
15. The reasons why effective communication is important.

EVIDENCE GUIDE

For assessment purposes:

(1) Critical Aspects of Evidence

Assessment should involve observation of how you maintain working relationships. You must be observed achieving certain targets and finishing specific tasks. The quality of your work will be assessed and you must be able to work effectively with other people. You must show that you can communicate clearly, while co-operating with others and helping to improve working practices. You will be observed working within a team or working alone.

In demonstrating competence in developing personal performance and maintain working relationships you are required to:

- A. Maintain and **develop personal performance** with regards to:
 - (i) working to targets and completing specific tasks
 - (ii) quality of work

B. Establish and maintain effective working relationships with the following **others**:

- (i) colleagues
- (ii) supervisors and managers
- (iii) persons external to the team, department or organization

(2) Methods of Assessment

Observation by your assessor of you:

- carrying out your work in accordance with your responsibilities and organisational requirements
- seeking advice from the appropriate person if clarification is required concerning specific tasks
- agreeing **personal performance** targets with the appropriate person
- reviewing **personal performance** with the appropriate person at suitable intervals
- establishing and maintaining effective working relationships with **others**
- carrying out activities requiring co-operation with **others** in accordance with required procedures
- dealing with any disagreements effectively in an appropriate way
- communicating with **others** in a way which promotes effective working relationships.

Witness testimony from Supervisors and Managers.

Answers to written or oral questions from your assessor.

(3) Context of Assessment

Where simulations are used to generate performance evidence, these should properly reflect the requirements of real working methods.

U09602: Give customers a positive impression of yourself and your organisation

Unit Descriptor:

Excellent customer service is provided by people who are good with people.

Your behaviour affects the impression that customers form of the service they are receiving.

This unit is all about communicating with customers and giving a positive impression of yourself whenever you deal with a customer. By doing this you will also be giving a positive impression of your organisation and the customer service it provides.

All of us enjoy the experience of good customer service if we feel that the person serving us really wants to create the right impression, respond to us and give us good information. Every detail of your behaviour when dealing with a customer counts and this unit gives you the opportunity to prove that you can create that positive impression.

ELEMENT

PERFORMANCE CRITERIA

To be competent you must achieve the following:

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| 1. Establish effective relationships with customers | 1.1 Meet your organisation's standards for appearance and behaviour. |
| | 1.2 Greet your customers in a way that will make them feel welcome and shows that you are interested in serving them. |
| | 1.3 Communicate with your customers in a manner that makes them feel valued and respected. |
| | 1.4 Identify and confirm the needs and expectations of your customers. |
| | 1.5 Treat your customers courteously and helpfully even when you are working under pressure. |
| | 1.6 Maintain communication with customers to ensure that they are kept informed and reassured. |

- 1.7 Adapt your behaviour to respond effectively to different customer behaviour.
2. Respond appropriately to customers
 - 2.1 Respond appropriately to **customers** who indicate that they need or want your attention.
 - 2.2 Select an appropriate way of **communicating** with your customers to suit their individual needs.
 - 2.3 Respond promptly and positively to your customers' questions and comments.
 - 2.4 Allow your customers time to consider your response and give further explanation when appropriate.
 - 2.5 Check with your customers that you have fully understood their needs and expectations.
3. Communicate information to customers
 - 3.1 Locate information that will help your **customers** quickly.
 - 3.2 **Communicate** to your customers the information they need about the products or services offered by your organisation.
 - 3.3 Recognise information that your customers might find complicated and check whether they fully understand.
 - 3.4 Explain clearly to your customers any reasons why their needs and expectations cannot be met

RANGE STATEMENT

You must cover the items below:

Element 1: Establish effective relationships with customers**A. Types of customers: *(Also applies to Elements 2 and 3)***

- (i) have different needs and expectations
- (ii) appear angry
- (iii) appear confused
- (iv) behave unconventionally

B. Communicate by: *(Also applies to Elements 2 and 3)*

- (i) face-to-face methods (including verbal and non-verbal communication)
- (ii) using the telephone
- (iii) using written (including electronic) methods

C. Give customers a positive impression: *(Also applies to Elements 2 and 3)*

- (i) during routine delivery of customer service
- (ii) during a busy period for your organisation
- (iii) during a quiet period for your organisation
- (iv) when people, systems or resources have let you down
- (v) when dealing with unusual variations to normal customer enquiries
- (vi) when dealing with customer complaints
- (vii) when dealing with customer enquiries that contain aspects outside your immediate job responsibilities

UNDERPINNING KNOWLEDGE AND SKILLS**Legislation and regulations**

1. What are your customers' rights.
2. What are the specific aspects of :
 - a. health and safety
 - b. data protection
 - c. equal opportunities
 - d. disability discrimination, legislation and regulations that affect the way the products and services you deal with can be delivered to your customers.
3. What are the industry, organisational and professional codes of practice and ethical standards that affect the way the products or services you deal with can be delivered to your customers.
4. What are the contractual agreements, if any; customers have with your organisation.

Products and services

5. What are the products or services of your organisation relevant to your customer service role.

Organisational procedures/guidelines

6. What are the guidelines laid down by your organisation that limits what you can do within your job.
7. What are the limits of your own authority and when do you need to seek agreement with or permission from others.
8. What are the organisational targets relevant to your job, your role in meeting them and the implications for your organisation if those targets are not met.
9. What are your organisation's standards for appearance and behaviour.
10. What are your organisation's guidelines for recognizing customers' needs and expectations and responding positively to them.

Communication

11. How would you communicate in a clear, polite, confident way and why this is important.
12. What are the rules and procedures regarding the methods of communication you use.
13. How would you recognize when a customer is angry and confused.

EVIDENCE GUIDE**(1) Critical Aspects of Evidence**

You must provide evidence that shows you have performed over a sufficient period of time with different customers on different occasions for your assessor to be confident that you are competent in meeting all the performance criteria across all aspects of the range.

You must provide evidence of creating a positive impression with customers:

- a. during routine delivery of customer service
- b. during a busy period for your organisation
- c. during a quiet period for your organisation
- d. when people, systems or resources have let you down
- e. when dealing with unusual variations to normal customer enquiries
- f. when dealing with customer complaints
- g. when dealing with customer enquiries that contain aspects outside your immediate job responsibilities.

You also need to show that you have dealt with customers who:

- h. have different needs and expectations
- i. appear angry
- j. appear confused
- k. behave unconventionally

You will need to show in your evidence that you have worked within the rules, regulations and guidelines of your organisation and, where your knowledge of these is limited, you will need to show that you have gone to others for help or advice.

Your communication with customers may be face-to-face, in writing, by telephone, e-mail, internet or by any other method you would be expected to use within your job role.

You must prove that you communicate with customers effectively by providing evidence that you:

- l. use appropriate spoken or written language
- m. apply the rules and procedures suitable for the method of communication you have chosen.

Your evidence must show that you have applied the knowledge and understanding requirements when you are dealing with your customers.

(2) Methods of Assessment

Performance Evidence for this unit could include:

- Observation reports by your assessor recording how you create a positive impression with customers.
- Copies of your written communications with customers.

Supplementary evidence for this unit could include:

- Witness testimonies from your manager that provide evidence of how you have consistently been able to positively respond to a wide range of customers and their needs in a variety of context over a period of time.
- Witness testimony from customers on how you have created a positive impression of yourself and your organisation while serving them.
- Case histories and personal statements which show how you have created a positive impression with different customers in different circumstances.
- A professional discussion with your assessor using examples of how you have been able to effectively deal with difficult customers.

Knowledge and understanding evidence for this unit could include:

- Answers to questions given to you by your assessor.

(3) Context of Assessment

Your evidence should be collected when you are dealing with real customers, whether internal or external to the organisation:

- when carrying out a real job, whether paid or voluntary;
- in a realistic working environment;
- in a work placement
- Simulation is **not** allowed for any performance evidence within this unit.

U15902: Maintain the condition of plants and other resources during transportation

Unit Descriptor:

This unit is about transporting plants and other resources, without damage or deterioration. The resources covered by this unit include: growing media, containers, tools and equipment, supports, watering devices, nutrients and pesticides. It is for members of staff who can carry out the work described under limited supervision only.

The typical tasks you would carry out to complete this unit include:

- Selecting appropriate plants and resources
- Checking to make sure they are in a suitable condition
- Using safe lifting and handling techniques
- Loading and positioning plants and resources for transportation
- Transporting the plants and resources
- Record keeping

Use of equipment and chemicals must meet the requirements of the law and codes of practice.

ELEMENT

PERFORMANCE CRITERIA

To be competent you must achieve the following:

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| 1. Prepare plants and other resources for transportation | 1.1 | Select plants and resources that are appropriate to requirements. |
| | 1.2 | Ensure the plants and resources are in a suitable condition for installation and transportation . |
| | 1.3 | Use safe lifting and handling techniques . |
| | 1.4 | Load and position the plants and resources safely and securely for transportation . |
| | 1.5 | Maintain the condition of the plants and resources throughout. |
| | 1.6 | Complete all records correctly. |

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| 2. | Transport plants and other resources | 2.1 | Transport plants and resources safely and efficiently to the correct location. |
| | | 2.2 | Operate all equipment correctly and safely. |
| | | 2.3 | Maintain the condition of plants and resources during transportation. |
| | | 2.4 | Use safe lifting and handling techniques during unloading. |
| | | 2.5 | Complete all records correctly. |

RANGE STATEMENT

You must cover the items below:

Element 1: Prepare plants and other resources for transportation

A. Use both of the following **lifting and handling techniques**

- (i) manual
- (ii) using lifting and handling equipment

B. Prepare all of the following types of **plant: (*Also applies to element 2*)**

- (i) delicate
- (ii) robust
- (iii) safely lifted by one person
- (iv) requiring more than one person to safely lift

C. Prepare all of the following types of **resources for transportation: (*Also applies to element 2*)**

- (i) growing medium
- (ii) containers
- (iii) tools and equipment
- (iv) watering devices
- (v) chemicals

D. Use both of the following types of **transportation**: *(Also applies to element 2)*

- (i) vehicles
- (ii) manual handling

Element 2: Transport plants and other resources

A. Use **both** of the following types of **transportation**:

- (i) vehicles
- (ii) manual handling

B. Transport **all** of the following types of **plant**:

- (i) delicate
- (ii) robust
- (iii) safely lifted by one person
- (iv) requiring more than one person to safely lift

C. Use **both** of the following **lifting and handling techniques**:

- (i) manual
- (ii) using lifting and handling equipment

UNDERPINNING KNOWLEDGE AND SKILLS

1. The importance of establishing the requirements for plants and other resources.
2. How to inspect plants and make sure they are in a fit condition for transport and installation.
3. How to inspect other resources and make sure they are fit for installation and transportation.
4. Why it is important to use safe lifting and handling techniques.
5. The basic legal requirements for using lifting equipment.
6. How to use safe lifting and handling techniques when working alone and when working with others.
7. How to load and position plants for safe and secure transportation.
8. The records that need to be updated and the procedures to follow for record keeping.
9. How to handle and transport the materials safely and efficiently.
10. How to select, use and maintain the equipment safely and effectively.
11. How to maintain the condition of plants during transportation.
12. The safety procedures to follow when transporting pesticides and other chemicals.

EVIDENCE GUIDE

For assessment purposes:

(1) Critical Aspects of Evidence

Assessment should involve observation of work processes at intervals when preparing and transporting plants and other resources.

Performance evidence must be provided for all of the performance criteria in this unit. However, supplementary evidence would be accepted demonstrating knowledge of the safe lifting and handling techniques, the completion of all records correctly as well as how to correctly and safely operate all equipment.

A You must be able to use **both** of the following **lifting and handling techniques**:

- a. manual
- b. using lifting and handling equipment

B You must be able to prepare and transport **all** of the following types of **plants**:

- c. delicate
- d. robust
- e. safely lifted by one person
- f. requiring more than one person to safely lift

C Additionally, you are required to prepare **all** of the following types of resources for transportation:

- g. growing medium
- h. containers
- i. tools and equipment
- j. supports
- k. watering devices
- l. chemicals

D You must be able to use **both** of the following types of **transportation**:

- m. vehicles
- n. manual handling

Use of equipment, chemical and all other activities must meet the requirements of the law and relevant codes of practice.

(2) Methods of Assessment

Observation by your assessor of you:

- Selecting appropriate plants and resources
- Using safe lifting and handling techniques
- Loading and positioning plants and resources for transportation
- Transporting the plants and resources
- Record keeping

Witness testimony from your supervisor about how you carry out your lifting and handling techniques and about your record keeping.

Answers to written or oral questions from your assessor.

(3) Context of Assessment

Evidence from simulations is **not** acceptable for this unit.

U16002

Propagate plants by vegetative methods

Unit Descriptor:

This unit sets the standard for anyone whose role it is to propagate plants using vegetative methods. You will be required to collect, prepare and establish plants in a growing environment. You will be working in accordance with instructions from a supervisor or manager.

The first element covers the collection of propagation material. This will involve the use of a variety of equipment such as secateurs and storage containers. The collected material must meet the requirements of the propagating programme, and be correctly stored ready for use.

The second element is about preparing the propagation material. The propagation methods used may include: cuttings, division, budding and grafting. Preparation will include trimming and preparation of stocks.

The third element covers establishing the propagation material in a growing environment. Activities necessary to sustain and promote plant development may include; watering, temperature and humidity control, removal of diseased material.

ELEMENT**PERFORMANCE CRITERIA**

To be competent you must achieve the following:

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| 1. Collect propagation material | 1.1 Use and maintain equipment in a safe, clean and effective condition throughout. |
| | 1.2 Correctly identify plants from which material is to be collected. |
| | 1.3 Handle plant material in a manner which minimises damage and wastage. |
| | 1.4 Ensure the method used for collecting the propagation material is in accordance with instructions. |
| | 1.5 Ensure the collected material meets the requirements of the propagating programme. |
| | 1.6 Store collected material in accordance with instructions. |

- 1.7 Ensure working methods promote health and safety, and are consistent with relevant legislation and codes of practice.
- 1.8 Ensure records are accurate, legible and complete.
2. Prepare propagation material
 - 2.1 Prepare and maintain the necessary **equipment** in a fit state for use.
 - 2.2 Handle plant material in a manner which minimises damage and wastage, and optimises growth.
 - 2.3 Use **equipment** and materials in a safe and correct manner.
 - 2.4 Use a suitable **propagation method**.
 - 2.5 **Prepare and treat propagation material** and growing media in accordance with instructions.
 - 2.6 Ensure working methods promote health and safety, and are consistent with relevant legislation and codes of practice.
 - 2.7 Ensure records are accurate, legible and complete.
 - 2.8 Handle and dispose of waste safely and correctly in accordance with relevant legislation and organisational requirements.
3. Establish propagation material in a growing environment
 - 3.1 Prepare and maintain the necessary equipment and materials for the work in a fit state for use.
 - 3.2 The required rotting medium is prepared in accordance with instructions.
 - 3.3 Handle plant material in a manner which minimises damage and wastage, and optimises growth.

- 3.4 Position propagation material in the required rooting medium in accordance with instructions.
- 3.5 Place propagation material in the correct growth environment in accordance with instructions.
- 3.6 Complete activities to sustain and **promote plant development** after propagation in accordance with instructions.
- 3.7 Ensure working methods promote health and safety, and are consistent with relevant legislation and codes of practice.
- 3.8 Keep records accurate, legible and complete.

RANGE STATEMENT

You must cover the items below:

Element 1: Collect propagation material

A. Maintain the following equipment: (*Also applies to element 2*)

- (i) cutting equipment
- (ii) containers for storage and transport of material

Element 2: Prepare propagation material

A. Use two of the following propagation methods:

- (i) cuttings
- (ii) budding
- (iii) grafting
- (iv) micro-propagation
- (v) division

B. Prepare propagation material in at least one of the following ways:

- (i) trimming of cuttings
- (ii) trimming of divisions
- (iii) trimming of scions

C. Use at least **one** of the following forms of **treatment**:

- (i) root dipping
- (ii) dipping cuttings
- (iii) tying buds or grafts

Element 3: Establish propagation material in a growing environment

A. **Promote plant development** using **all** of the following:

- (i) watering
- (ii) temperature/ humidity modification
- (iii) light control
- (iv) control of pests and diseases
- (v) manage nutrients application

UNDERPINNING KNOWLEDGE AND SKILLS

1. The maintenance and safe use of equipment.
2. The type(s) of crop(s) which is/are produced within your enterprise.
3. Where and how to obtain information on plants and plant identification.
4. The full botanical names of relevant plants.
5. The ways in which plant material should be handled.
6. Instructions for collecting propagation material.
7. Methods(s) for collecting propagation material and the requirements of the propagating programme.
8. Methods of storing the material prior to use.
9. Length of storage which is suitable.
10. Health and safety requirements during work activities.
11. The records which must be completed.
12. The maintenance, preparation and safe use of equipment.
13. Instructions for preparing propagation material.
14. Methods used for preparing cuttings and division.
15. Methods used in budding and grafting.
16. Why vegetative methods are used.
17. Methods used in treating prepared propagation material.

18. The need for hygiene throughout the propagating process.
19. Instructions for preparing rooting medium and establishing propagation material.
20. The types of rooting media in use within the enterprise.
21. Correct positioning of propagation material in rooting medium.
22. The types of growing and rooting environments in use.
23. The safe and correct use of agro chemicals.

EVIDENCE GUIDE

For assessment purposes:

(1) Critical Aspects of Evidence

Assessment should involve observation of you collecting propagation material, preparing propagation material and establishing propagation material in a growing environment.

A representative range of crops produced in the working environment should be propagated. This **MUST** include all aspects stated in the range. Post-propagation activities include, for example, until potting of rooted cuttings or establishment of graft unions.

You are expected to:

A Maintain the following equipment:

- (i) cutting equipment
- (ii) containers for storage and transport of material

B Use **two** of the following **propagation methods**:

- (i) cuttings
- (ii) buddings
- (iii) grafting
- (iv) micro-propagation
- (v) division

C **Prepare propagation material** in at least **one** of the following ways:

- (i) trimming of cuttings
- (ii) trimming of divisions
- (iii) preparation of stocks
- (iv) trimming of scions

D Use at least **one** of the following forms of **treatment**:

- (i) root dipping
- (ii) dipping cuttings
- (iii) tying buds or graft

E **Promote plant development** using **all** of the following:

- (i) watering
- (ii) temperature/humidity modification
- (iii) light control
- (iv) control of pests and diseases
- (v) manage nutrients application

Use of equipment, chemical and all other activities must meet the requirements of the law and relevant codes of practice.

(2) Methods of Assessment

Observation by your assessor of you:

- Using and maintaining equipment in a safe, clean and effective condition throughout
- Correctly identifying plants from which material is to be collected
- Handling plant material in a manner which minimises damage and wastage
- Ensuring the method used for collecting the propagation material is in accordance with instructions
- Preparing and treating propagation material in accordance with instructions
- Preparing the required rooting medium in accordance with instructions
- Positioning propagation material in the required rooting medium in accordance with instructions
- Placing propagation material in the correct growing environment in accordance with instructions
- Completing activities to sustain and promote plant development after propagation in accordance with instructions.

Answers to written or oral questions from your assessor.

(3) Context of Assessment

Evidence from simulations is **not** acceptable for this unit.

U16102**Propagate plants from seed**

Unit Descriptor:

This unit describes the standards expected of anyone whose role it is to propagate plants from seed. You will be working in accordance with instructions from a supervisor or manager.

The first element covers the preparation of materials and the process of seed sowing. You should be aware of seed preparation methods such as: soaking, priming and stratification, but may not be directly involved in these operations. Growing media may be natural or artificial.

The second element covers the aftercare of the crop in the period from sowing to the end of the propagation phase. Aftercare may include the control of humidity, temperature and light, weed control and vermin control.

ELEMENT**PERFORMANCE CRITERIA**

To be competent you must achieve the following:

- | | | |
|-----------------------------------|-----|---|
| 1. Prepare materials and sow seed | 1.1 | Maximise the success of the propagation operation through the correct timing or work activities. |
| | 1.2 | Use and maintain equipment in a safe and effective condition throughout. |
| | 1.3 | Obtain the required seed and growing materials in accordance with instructions. |
| | 1.4 | Prepare the growing medium in accordance with instructions. |
| | 1.5 | Handle seeds in a way which minimises damage. |
| | 1.6 | Evenly and accurately sow seed in accordance with instructions. |
| | 1.7 | Ensure working methods promote health and safety, and are consistent with relevant legislation and codes of practice. |

- | | | |
|------------------------------------|-----|---|
| 2. Provide aftercare for seedlings | 2.1 | Recognise and report problems with germination. |
| | 2.2 | Remove and hygienically dispose of unwanted seedlings. |
| | 2.3 | Provide aftercare in accordance with instructions. |
| | 2.4 | Ensure working methods promote health and safety, and are consistent with relevant legislation and codes of practice. |
| | 2.5 | Keep records that are accurate, legible and complete. |

RANGE STATEMENT

You must cover the items below:

Element 1: Prepare materials and sow seed

A. Maintain at least one of the following types of **equipment:**

- (i) manual seed sowing equipment
- (ii) seed sowing machines

Element 2: Provide aftercare for seedlings

A. Provide all of the following types of **aftercare:**

- (i) watering
- (ii) temperature/humidity modification
- (iii) pricking out
- (iv) weed control
- (v) pest or rodent control

UNDERPINNING KNOWLEDGE AND SKILLS

1. The required timing of the operation.
2. The maintenance and safe use of equipment.
3. Quantities of seed and growing medium required.
4. Different methods for preparing seed (including: soaking, priming, temperature treatments and scarification).
5. Types of growing medium.
6. Methods for preparing growing medium.
7. Methods for handling seed.
8. Types of machinery that can be used for seed sowing.
9. The need for an even distribution of seed.
10. The correct depth of sowing.
11. Health and safety requirements during work activities.
12. Factors affecting the rate and percentage of germination.
13. The importance of good hygiene in propagation areas.
14. Crop health problems that can occur during propagation.
15. Types of aftercare required.
16. The purpose of the different types of aftercare.
17. Records which must be completed.

EVIDENCE GUIDE

For assessment purposes:

(1) Critical Aspects of Evidence

Assessment should involve observation of work processes at intervals when preparing materials and sowing seeds as well as providing aftercare for seedlings.

In demonstrating competence in preparing materials and sowing seeds as well as providing aftercare for seedlings you should:

A. Maintain at least **one** of the following types of **equipment**:

- (i) manual seed sowing equipment
- (ii) seed sowing machines

B. Provide **all** of the following types of **aftercare**:

- (i) watering
- (ii) temperature/ humidity control
- (iii) pricking out
- (iv) weed control
- (v) pest or rodent control

Use of equipment, chemical and all other activities must meet the requirements of the law and relevant codes of practice.

A representative range of crops produced in the work environment should be propagated. Aftercare covers activities carried out until completion of pricking out or equivalent growth stages.

(2) Methods of Assessment

Observation by your assessor of you:

- Obtaining the required seed and growing materials in accordance with instructions
- Preparing the growing medium in accordance with instructions
- Handling seeds in a way which minimises damage
- Sowing seed evenly and accurately in accordance with instructions
- Recognising and reporting problems with germination
- Removing and hygienically disposing of unwanted seedlings

Answers to written or oral questions from your assessor.

(3) Context of Assessment

Evidence from simulations is **not** acceptable for this unit.

U16202

Prepare growing media

Unit Descriptor:

This unit sets the standard for horticultural workers who prepare growth media for planting or potting. You will work in accordance with specifications from a supervisor or manager.

The first element is about gathering, and putting in place, any materials that need to be incorporated into the growing medium. In the case of soil preparation, this may include the spreading of measured quantities of organic and inorganic fertiliser and soil conditioners. This will typically be carried out in cleared ground prior to cultivation. In the case of compost preparation, this will involve the measuring out of ingredients.

The second element is about preparing the growing medium. In the case of soil preparation this may involve the incorporation of fertilisers and soil conditioners, and the preparation of suitable tilth for subsequent operations. In the case of compost preparation it will involve the mixing of the ingredients to a uniform consistency, and subsequent storage of the prepared compost prior to use.

The unit is applicable to cultivation of soil by hand or machine, and to the mixing of compost for potting or containerising, either by hand or machine.

ELEMENT**PERFORMANCE CRITERIA**

To be competent you must achieve the following:

- | | |
|----------------------------------|--|
| 1. Obtain and position materials | 1.1 Maintain equipment in a safe, clean and effective condition. |
| | 1.2 Correctly and safely use equipment and materials throughout. |
| | 1.3 Correctly identify the required materials for incorporation into the growing media in accordance with production requirements. |
| | 1.4 Make ready materials for incorporation into the growing media in accordance with production requirements. |
| | 1.5 Handle and dispose of waste safely and correctly in accordance with relevant legislation and organisational requirements. |

- 1.6 Work at an acceptable commercial speed.
 - 1.7 Ensure working methods promote health and safety, and are consistent with relevant legislation and codes of practices.
 - 1.8 Work in a manner which minimises environmental damage.
 - 1.9 Ensure the relevant records are accurate, legible and complete.
2. Prepare growing media
- 2.1 Maintain equipment in a safe, clean and effective condition.
 - 2.2 Correctly and safely use equipment and materials throughout.
 - 2.3 Incorporate materials into the growing media in accordance with **planting requirements**.
 - 2.4 Prepare the growing medium in accordance with **planting requirements**.
 - 2.5 Work at an acceptable commercial speed.
 - 2.6 Handle and dispose of **waste** safely and correctly in accordance with relevant legislation and organisational requirements.
 - 2.7 Ensure working methods promote health and safety, and are consistent with relevant legislation and codes of practice.
 - 2.8 Work in a manner which minimises environmental damage.
 - 2.9 Ensure the relevant records are accurate, legible and complete.

RANGE STATEMENT

You must cover the items below:

Element 1: Obtain and position materials**A. Make ready** in the following ways:

- (i) correctly obtaining materials
- (ii) measuring out materials
- (iii) positioning materials

B. Handle the following types of waste: *(Also applies to element 2)*

- (i) organic waste
- (ii) inorganic waste

Element 2: Prepare growing media**A. Recognise the following planting requirements:**

- (i) consistency
- (ii) moisture level

UNDERPINNING KNOWLEDGE AND SKILLS

1. The maintenance of equipment.
2. The types of equipment and materials required.
3. Correct methods for using equipment.
4. Production requirements in relation to the preparation of growing media.
5. Procedures for obtaining materials required.
6. The different growing media required within the enterprise.
7. Different ingredients used in the preparation of growing media.
8. The different properties of the various ingredients used to prepare growing media.
9. Procedures for collecting and measuring out the ingredients of the growing media.
10. Correct methods for disposing of waste.
11. The commercial speeds at which work should be performed.
12. Your responsibility under health and safety legislation.
13. Health and safety issues in relations to preparing growing media.
14. Ways in which environmental damage can be minimised during work activities.
15. The reasons for keeping records.
16. How to up date records correctly.
17. The maintenance and safe use of equipment.
18. The types of growing media used within the enterprise.
19. Factors affecting the timing of operations.
20. The preparation of growing medium in relation to planting requirements.
21. Different methods of incorporating ingredients into a growing medium.
22. Different methods of preparing the growing medium.

EVIDENCE GUIDE

For assessment purposes:

(1) Critical Aspects of Evidence

Assessment should involve observation of you obtaining and positioning materials as well as preparing growing media.

In demonstrating competence in preparing growing media you should:

A. **Make ready** in the following ways:

- (i) correctly obtaining materials
- (ii) measuring out materials
- (iii) positioning materials

In situations where growing media (compost) are entirely artificial: e.g. rock wool, making ready may include, for example, addition of water. Where no additional materials are required, for example pre-mixed bagged composts, candidates should be assessed on Range A and performance criteria 3 or 4, by questioning of the materials that have already been added to the compost and the requirements and methods of accurate measurement and mixing.

B. Recognise the following **planting requirements**:

- (i) consistency
- (ii) moisture level

C. Handle the following types of **waste**:

- (i) organic waste
- (ii) inorganic waste

Use of equipment, chemical and all other activities must meet the requirements of the law and relevant codes of practice.

(2) Methods of Assessment

Observation by your assessor of you:

- Identifying correctly the required materials for incorporation into the growing media in accordance with production requirements
- Making ready materials for incorporation into the growing media in accordance with production requirements
- Working at an acceptable commercial speed
- Incorporating materials into the growing media in accordance with planting requirements
- Preparing the growing medium in accordance with planting requirements

Answers to written or oral questions from your assessor.

(3) Context of Assessment

Evidence from simulations is **not** acceptable for this unit.

U16302

Monitor environmental conditions for plants

Unit Descriptor:

This unit describes the work expectations associated with monitoring environmental conditions for protected crops. It is relevant to anyone who is working in accordance with instructions from a supervisor or manager. You will be involved in monitoring temperature, humidity, ventilation, light and shade. You may also have to keep records of environmental conditions up to date and complete.

You will need to have knowledge of the environmental conditions required i.e. those relevant to the enterprise within which you are working. You will also need to be able to identify when environmental conditions need adjusting, but are not expected to carry out adjustments at this level. You should also be able to monitor and maintain irrigation systems.

ELEMENT**PERFORMANCE CRITERIA**

To be competent you must achieve the following:

- | | |
|---|---|
| 1. Monitor and record environmental conditions for plants | 1.1 Monitor environmental conditions in accordance with instructions.

1.2 Accurately identify the need for adjustments to environmental conditions and report promptly to the appropriate person.

1.3 Ensure records are accurate, legible and complete.

1.4 Ensure working methods promote health and safety, and are consistent with relevant legislation and codes of practice |
| 2. Monitor and maintain watering systems | 2.1 Confirm the supply of water to the crop(s) is suitable for the crop(s) in accordance with instructions.

2.2 Recognise the need for adjustments to watering systems in accordance with instructions. |

- 2.3 Accurately identify problems with the delivery of water to the crop (s) and take the **appropriate action**.
- 2.4 Efficiently and effectively use equipment in accordance with manufacturers instructions.
- 2.5 Ensure records are accurate, legible and complete.
- 2.6 Ensure working methods promote health and safety, and are consistent with relevant legislation and codes of practice.

RANGE STATEMENT

You must cover the items below:

Element 1: Monitor and record environmental conditions for plants

A. Monitor three of the following environmental conditions:

- (i) temperature
- (ii) humidity
- (iii) ventilation
- (iv) light and shade
- (v) chemical properties

Element 2: Monitor and maintain watering systems

A. Recognise the need for **adjustments** to:

- (i) irrigation equipment
- (ii) water supply

B. Take the following **appropriate action** to:

- (i) solve the problem
- (ii) report the problem to the appropriate person.

UNDERPINNING KNOWLEDGE AND SKILLS

1. Instructions for monitoring environmental conditions.
2. The specified environmental conditions for the crop(s).
3. The use of computers and other equipment for monitoring environmental conditions.
4. Indications that environmental conditions require adjustment.
5. The types of adjustments which may be required and the correct action to take.
6. The reasons for keeping records of environmental conditions.
7. The correct methods for completing records of environmental conditions.
8. Your responsibility under health, safety and environmental legislation.
9. Systems for supplying water to the crop(s).
10. How to check that the supply of water to the crop(s) is suitable.
11. The types of adjustments to the watering system which are necessary.
12. Problems which may occur in the delivery of water to the crop(s) and how these should be resolved.
13. The correct use of equipment for applying water.

EVIDENCE GUIDE

For assessment purposes:

(1) Critical Aspects of Evidence

Assessment should involve observation of you monitoring and recording environmental conditions for protected crops and monitoring and maintaining watering systems.

In demonstrating competence in monitoring environmental conditions for protected crops you should measure the ph of water and growing media:

A. Monitor **three** of the following environmental **conditions**:

- (i) temperature
- (ii) humidity
- (iii) ventilation
- (iv) light and shade
- (v) chemical properties

B. Recognise the need for **adjustments** to:

- (i) irrigation equipment
- (ii) water supply

C. Take the necessary steps to carry out one of the following **appropriate actions**:

- (i) solve the problem
- (ii) report the problem to the appropriate person

Use of equipment, chemical and all other activities must meet the requirements of the law and relevant codes of practice.

(2) Methods of Assessment

Observation by your assessor of you:

- Monitoring environmental conditions in accordance with instructions
- Identifying accurately the need for adjustments to environmental conditions and promptly reporting to the appropriate person
- Confirming the supply of water to the crop(s) is suitable for the crop in accordance with instructions
- Recognising the need for adjustments to watering systems in accordance with instructions
- Identifying accurately problems with the delivery of water to the crop and taking the appropriate action

Answers to writing or oral questions from your assessor.

(3) Context of Assessment

Evidence from simulations is **not** acceptable for this unit.

U16402

Identify, collect and prepare plants for dispatch

Unit Descriptor:

This unit describes the work expectations associated with collecting plants for orders, and is mainly relevant to anyone in ornamental nurseries producing houseplants, bedding plants, trees and shrubs, for example. The plants may be container grown or grown in the field. You will have significant personal responsibility in carrying out these activities, but will not be involved in planning or supervising the collection and preparation of plants.

The unit covers the preparation of plants for dispatch as well as the collection of plants. The term 'preparation' is used to cover activities which take place following the identification and collection of plants. Preparation includes: handling, removal of unsuitable plants, packing, containerising and labeling. The types of preparation activities will depend on the enterprise within which you are working. You will need to provide performance evidence for those preparation activities which are relevant to the enterprise.

The term 'customer requirements' is used within the unit and may be verbal instructions via supervisors or managers, or written requirements or specifications.

ELEMENTS**PERFORMANCE CRITERIA**

To be competent you must achieve the following:

- | | |
|---|---|
| 1. Identify and collect plants for dispatch | 1.1 Maintain equipment in a safe, clean and effective condition throughout.

1.2 Correctly identify the plants which are to be collected and check their condition against customer requirements.

1.3 Correctly handle and transport plants in a manner which maintains quality and minimises damage.

1.4 Identify any problems that arise during the collection of plants and take the appropriate action .

1.5 Ensure the collection of the plants takes place within the appropriate timescales and in accordance with customer requirements. |
|---|---|

- 1.6 Ensure records are accurate, legible and complete.
- 1.7 Ensure working methods promote health and safety, and are consistent with relevant legislation and codes of practice.
- 2. Prepare plants for dispatch
 - 2.1 Use and maintain equipment in a safe, clean and effective condition throughout.
 - 2.2 Correctly **prepare** and maintain the plants for dispatch.
 - 2.3 Identify and replace plants that do not meet customer requirements.
 - 2.4 Ensure the plants meet customer requirements and are ready for dispatch at the correct time.
 - 2.5 Maintain the health of plants that require intermediate storage prior to dispatch.
 - 2.6 Ensure working methods promote health and safety, and are consistent with relevant legislation and codes of practice.
 - 2.7 Ensure records are accurate, legible and complete.

RANGE STATEMENT

You must cover the items below:

Element 1: Identify and collect plants for dispatch**A. Maintain equipment through:**

- (i) preparation
- (ii) cleaning
- (iii) storage

B. Take the necessary steps to carry out one of the following **appropriate actions in response to problems:**

- (i) solve the problem
- (ii) report the problem to the appropriate person

Element 2: Prepare plants for dispatch**A. Prepare plants for dispatch using the following methods relevant to the enterprise within which you are working:**

- (i) handling
- (ii) removal of unsuitable plants
- (iii) packing, containerising and labeling

UNDERPINNING KNOWLEDGE AND SKILLS

1. The correct methods for maintaining and using equipment.
2. Relevant species or varieties of plants produced by the enterprise and how to recognize them.
3. Sources of information in relation to different species or varieties of plants.
4. Customer requirements.
5. Conditions which indicate the plant(s) is/are not suitable for customer requirements.
6. The reasons why it is important to recognize instances where the plant does not meet customer requirements.
7. Methods of maintaining the quality of the plant(s) during handling and transportation.
8. Methods of transporting the plants within the site relevant to the enterprise.

9. Problems which may arise during the collection of plants and what actions to take.
10. Limits of responsibility and competence in relation to solving problems which may occur.
11. Reasons and systems for keeping records of the collection of plants.
12. Health and safety requirements and good practice in relation to the collection of plants for dispatch.
13. Methods of preparing the plants ready for dispatch.
14. Methods of maintaining the health of the plants ready for dispatch.
15. The identification of plants which do not meet customer requirements and are not of sufficiently good quality for dispatch.
16. Any relevant storage arrangements for plants prior to dispatch.
17. The records which must be completed and the system of record keeping within the enterprise.

EVIDENC GUIDE

For assessment purposes:

(1) Critical Aspects of Evidence

- Assessment should involve observation of you identifying and collecting plants for dispatch and preparing plants dispatch.
- In demonstrating competence in identifying and collecting plants for dispatch and preparing plants for dispatch you should:
 - A. Maintain **equipment** through:
 - (i) preparation
 - (ii) cleaning
 - (iii) storage
 - B. **Prepare** plants for dispatch using the following methods relevant to the enterprise within which you are working:
 - (i) handling
 - (ii) removal of unsuitable plants
 - (iii) packing, containerising and labeling

C. Take the necessary steps to carry out one of the following **appropriate actions** in response to problems:

- (i) solve the problem
- (ii) report the problem to the appropriate person

(2) Methods of Assessment

Observation by your assessor of you:

- Maintaining equipment in a safe, clean and effective condition throughout.
- Correctly identifying the plants which are to be collected and checking their condition against customer requirements
- Identifying any problems that arise during the collection of plants and take the appropriate action
- Ensuring the collection of the plants takes place within the appropriate timescales and in accordance with customer requirements.
- Preparing correctly and maintaining the plants dispatch
- Identifying and replacing plants that do not meet customer requirements
- Maintaining the health of plants that require intermediate storage prior to dispatch

Answer to written or oral questions from your assessor.

(3) Context of Assessment

Evidence from simulations is **not** acceptable for this unit.

U16502**Prepare sites for landscaping**

Unit Descriptor:

This unit is about preparing ground for further landscaping work. It is for members of staff who can carry out the work described under limited supervision only:

The typical task you would carry out to complete this unit include:

- Locating the site correctly.
- Confirming what you have to clear.
- Making the site safe and secure.
- Choosing and using the correct tools and equipment (hand-held powered and non-powered) safely.
- Safeguarding features, services and wildlife that should not be cleared or damaged.
- Disposal of hazardous and non-hazardous waste.
- Positioning and working to reference marks.
- Contouring, leveling and excavating to agreed tolerances.
- Clearing and disposing of debris.
- Adding soil amendment and pesticides.
- Achieving correct tilth and finish.
- Securing, cleaning and maintaining tools and equipment.

Clearing the site will require the clearance of unwanted plants, features and debris.

Use of equipment, chemicals and all other activities must meet the requirements of the law and relevant codes of practice.

ELEMENT**PERFORMANCE CRITERIA**

To be competent you must achieve the following:

- | | | |
|---------------|-----|--|
| 1. Clear site | 1.1 | Locate the correct site for clearing and confirm what you have to clear. |
| | 1.2 | Instruct the client to facilitate the clearing of the site as necessary. |
| | 1.3 | Identify all of the required tools and equipment you need. |
| | 1.4 | Use the correct tools and equipment to do the job effectively and efficiently. |
| | 1.5 | Clear the site as instructed, on time, and maintaining the safety of yourself and others. |

-
- | | | |
|---|-----|---|
| | 1.6 | Keep damage to other features, services and natural environment to a minimum. |
| | 1.7 | Deal with, and dispose of, waste correctly. |
| | 1.8 | Make sure your tools and equipment are secure and in a fit condition to be used again. |
| 2. Level and clear sites for landscaping | 2.1 | Confirm the level and planting layout to be achieved. |
| | 2.2 | Excavate the site as necessary to required levels within specified tolerances. |
| | 2.3 | Clear debris effectively, safely and tidily. |
| | 2.4 | Assist with marking out planting layout. |
| | 2.5 | Reinstate the size to specified levels using the appropriate media. |
| | 2.6 | Keep working areas clean according to client requirements. |
| | 2.7 | Complete work to the agreed schedule. |
| 3. Prepare soil for planting, seeding and turfing | 3.1 | Select and use tools and equipment correctly, safely and effectively. |
| | 3.2 | Add the materials specified for the operation. |
| | 3.3 | Produce the required tilth for the specified finish. |
| | 3.4 | Clear debris from the site effectively, safely and tidily. |
| | 3.5 | Complete work to the agreed schedule. |

RANGE STATEMENT

You must cover the items below:

Element 1: Clear sites**A. Clear one of the following sites:**

- (i) green-field
- (ii) urban derelict
- (iii) reclaimed land
- (iv) existing gardens

B. Use both of the following types of tools and equipment: (Also applies to elements 2 and 3)

- (i) hand-held powered
- (ii) hand-held non-powered

C. Dispose of one of the following types of waste.

- (i) hazardous
- (ii) non-hazardous

Element 2: Level and clear sites for landscaping**A. Level and prepare one of the following sites:**

- (i) green-field
- (ii) urban derelict
- (iii) reclaimed land
- (iv) existing gardens

Element 3: Prepare soil for planting, seeding and turfing**A. Level and prepare soil on one of the following sites:**

- (i) green-field
- (ii) urban derelict
- (iii) reclaimed land
- (iv) existing gardens
- (v) construction site

B. Add all of the following types of material:

- (i) soil amendment
- (ii) fertiliser
- (iii) pesticides

UNDERPINNING KNOWLEDGE AND SKILLS

1. The main difference in working on the types of sites listed.
2. The safety and security issues you must take account of when clearing sites.
3. Why it is important to confirm what you should clear and how you should do this.
4. The different clearing methods that you can use.
5. How to select and use the tools and equipment you need safely and efficiently.
6. Why it is important to keep damage to other features, services and wildlife to a minimum.
7. What types of hazardous materials you might come across and how to deal with these safely and correctly.
8. The correct methods of disposing of hazardous and non-hazardous waste.
9. Why it is important to make sure that your tools and equipment are secure and in a fit condition to be used again.
10. Why it is important to level and prepare sites effectively for hard landscaping works.
11. Why it is important to position reference marks correctly according to specification.
12. How to ensure that contours, levels and excavations are accurate to positioned marks.
13. How to interpret and work within specified tolerances.
14. Why it is important to clear debris effectively, safely and tidily.
15. How to reinstate ground to specified levels and why this is important.
16. The type of damage which is likely to occur to services and surroundings and how to keep this to a minimum.
17. Why it is important to keep working areas clean according to clients' requirements.
18. Why it is important to complete work to agreed schedule.
19. The relevant legislation and codes of practice covering this area of work.
20. Where and when composts and fertilizers should be used and the types of composts and fertilizers that are appropriate.
21. The types of tilth that maybe required for the required use and finish.
22. The dangers of underground services and how to take account of these when working.
23. Types of finish and their use.

EVIDENCE GUIDE

For assessment purposes:

(1) Critical Aspects of Evidence

Assessment should involve observation of work processes at intervals when site is being prepared and questioning related to underpinning knowledge.

Performance evidence must be provided for all of the performance criteria in this unit.

You must provide evidence of clearing and preparing **one** of the sites below:

- a. green field – minimum size 15m²
- b. urban derelict – minimum size 50m²
- c. reclaimed land – minimum 50m²
- d. existing gardens – minimum size, any size
- e. construction – minimum size 50m²

Clearing the site will require the clearance of unwanted plants, features and debris.

In addition you must prove that you know how to operate **both**:

- f. hand-held powered tools and equipment
- g. hand-held non-powered tools and equipment

When clearing sites you must show that you can dispose of **one** of the following **types of waste** correctly:

- h hazardous
- i non-hazardous

When preparing soil you must demonstrate the ability to add soil amendment, compost and fertilizers and pesticides.

Use of equipment, chemical and all other activities must meet the requirements of the law and relevant codes of practice.

(2) Methods of Assessment

Observation by your assessor of you:

- Locating the site correctly.
- Making the site safe and secure.
- Choosing and using the correct tools and equipment (hand-held powered and hand-held non-powered) safely.
- Positioning and working to reference marks.
- Contouring, leveling and excavating to agreed tolerances.
- Clearing and disposing of debris.
- Achieving the correct tilth and finish.
- Securing, cleaning and maintaining tools and equipment.

Answers to written or oral questions from your assessor.

(3) Context of Assessment

Evidence from simulations is acceptable for demonstrating the use of powered equipment.

U16602**Establish plants outdoors**

Unit Descriptor:

This unit is about planting, using established plants and seeds. You will be working under limited supervision only.

This unit may apply to the following types of plants:

- turf
- woody plants
- herbaceous
- bedding plants

The types of activities you may carry out may include:

- Choosing, using and maintaining the equipment you need for the job
- Clearing the site of debris and unwanted plants
- Surface leveling
- Preparing the ground using hand tools and powered equipment (for example, rotavator, tractor mounted equipment etc)
- Applying fertilizers by hand and distributors
- Checking plant material to make sure it meets the planting specification
- Transporting, handling and preparing the plant material
- Planting to the correct position, depth and at the correct time by hand and with powered equipment (for example, seed drills)
- Sowing seeds manually or mechanically
- Watering and feeding by hand and using distributors
- Weeding by hand or chemically
- Providing supports and ties

Use of equipment, chemicals and all other activities must meet the requirements of the law and industry codes or practice.

ELEMENT**PERFORMANCE CRITERIA**

To be competent you must achieve the following:

- | | |
|---|--|
| 1. Prepare ground for establishing plants | 1.1 Select and use the equipment and materials you need to prepare the ground efficiently. |
| | 1.2 Ensure the equipment is correctly maintained before, during and after your work. |

- 1.3 **Prepare** the ground in a way that is appropriate to the plants being established, the soil type and ground condition.
 - 1.4 Keep damage, unnecessary waste and unwanted impact to the site to a minimum.
 - 1.5 Keep damage, unnecessary waste and unwanted impact to the site to a minimum.
 - 1.6 Maintain the health and safety of yourself and others at all times.
 - 1.7 Store your **equipment** and **materials** safely and securely following use.
2. Establish plants in soil
- 2.1 Select **plant material** as requested.
 - 2.2 Transport, handle and prepare the **plant material** in a way that maintains its health and condition according to the prevailing conditions.
 - 2.3 Select, use and maintain **equipment** efficiently and correctly.
 - 2.4 Plant at times most likely to encourage establishment and growth.
 - 2.5 Position the plant material and provide nutrients and **aftercare** to meet the planting specification.
 - 2.6 Provide accurate and clear labels or records.
 - 2.7 Maintain the health and safety of yourself and others at all times.
 - 2.8 Store your **equipment** and materials safely and securely following use.

RANGE STATEMENT

You must cover the items below:

Element 1: Prepare ground for establishing plants**A. Select, use, maintain and store one of the following types of equipment:**

- (i) non-powered hand-held tools
- (ii) powered hand-held tools

B. Select, use and store two of the following materials:

- (i) organic matter
- (ii) fertilizer
- (iii) perennial weed herbicides

C. Use four of the following methods to prepare the ground:

- (i) clearance
- (ii) minor leveling
- (iii) achieving correct tilth
- (iv) consolidation
- (v) provision of nutrients

Element 2: Establish plants in soil**A. Select and establish both of the following types of plant material:**

- (i) established plants
- (ii) seeds

B. Select, use, maintain and store one of the following types of equipment:

- (i) manual
- (ii) powered

C. Provide three of the following types of aftercare:

- (i) provision of water
- (ii) protection
- (iii) staking
- (iv) initial pruning **or** cutting

UNDERPINNING KNOWLEDGE AND SKILLS

1. The equipment and materials necessary to clear and prepare ground for planting.
2. The correct methods of using, maintaining and storing this equipment.
3. The hazards arising from services on site and how to avoid these.
4. The range of different clearance and preparation methods which may be used.
5. How to achieve correct tilth, consolidation and nutrient levels.
6. How to identify a representative sample of plants relevant to your workplace.
7. How to ensure that preparation is suitable to the plants, soil type, ground conditions and the type of site.
8. The effect of soil type and condition, climate, weather and ground conditions, previous treatment and existing services and structures on clearance and preparation methods.
9. The control of perennial weeds.
10. How to minimize damage and unnecessary waste when working.
11. What unwanted impacts to a site may occur when preparing ground and how to avoid them.
12. The correct methods to deal with accidental damage and pollution.
13. The relevant health and safety legislation and codes of practice.
14. How to transport and handle plants in a way which minimizes damage and maintains health.
15. How to prepare plant material in a way that is appropriate to the plant conditions.
16. How to select equipment correctly for different plant types and conditions
17. The safe use of such equipment.
18. The correct procedures for maintenance, cleaning and storage of tools and equipment.
19. The importance of timing and seasonality to planting.

EVIDENCE GUIDE

For assessment purposes:

(1) Critical Aspects of Evidence

Assessment should involve observation of work processes at intervals when the ground is being prepared for establishing plants and establishing plants in soil and questioning related to underpinning knowledge.

Performance evidence should be provided for all of the performance criteria in this unit. However, supplementary evidence will be accepted for Performance Criteria 5.

You must be able to select, use, maintain and store one **type in each category** of the following types of equipment:

- a. Hand-held tools
- b. Hand-held powered tools

You should also be able to select, use and **properly** store **all** of the following materials:

- c. Soil amendment
- d. Fertilizer
- e. Pesticides

You must demonstrate the ability to use all of the following methods to prepare the ground the minimum size of which should be 15m²:

- f. Clearance
- g. Minor leveling
- h. Achieving correct tilth
- i. Consolidation
- j. Application of nutrients
- k. Application of soil amendment

You must be able to select and establish **two out of three** of the following types of **plant material**:

- l. Containerised established plants
- m. Non-containerised established plants
- n. Seeds

You must also be able to provide **three** of the following types of **aftercare**:

- o. Provision of water
- p. Protection
- q. Staking
- r. Initial pruning **or** cutting

With respect to the underpinning knowledge you should be able to identify a representative sample of at least **thirty-five** plants relevant to your workplace.

Use of equipment, chemical and all other activities must meet the requirements of the law and relevant codes of practice.

(2) Methods of Assessment

Observation by your assessor of you:

- Choosing, using and maintaining the equipment you need for the job
- Preparing the ground using hand-held non-powered tools and hand-held powered tools (example, rotavator, tractor mounted equipment etc.)
- Planting to the correct position, depth by hand and with powered equipment (for example, seed drills)
- Sowing seeds manually or mechanically
- Watering and feeding by hand and using distributors
- Providing supports and ties

Answers to written or oral questions from your assessor.

(3) Context of Assessment

Evidence from simulations **is** acceptable for this unit.

U16702**Maintain general amenity turf**

Unit Descriptor:

This unit is about dealing with threats to the health of turf (for example, pests and diseases). It also covers moving and edging grass. It is for members of staff who can carry out the work described under limited supervision only.

The typical task you would carry out to complete this unit includes:

- Monitoring the health and vigour of amenity turf.
- Identifying ill health and potential causes ill health to amenity turf.
- Controlling weeds, pest and diseases by physical, cultural and chemical means using non-powered manual and powered manual equipment.
- Rectifying and soil and environmental conditions likely to include ill health to amenity turf.
- Preparing the surface for mowing and edging by clearing debris .
- Mowing to a height between 8-18mm
- Edging with hand sears and string trimmers.
- Watering by hand and simple rotary and oscillating sprinklers.
- Feeding with solid fertilizers by hand and by distributors.
- Top dressing
- Disposing of cuttings.

Use of equipment, chemicals and all other activities must meet the requirements of the law and codes of practice.

ELEMENT**PERFORMANCE CRITERIA**

To be competent you must achieve the following:

- | | |
|--|--|
| 1. Maintain the health of general amenity turf | 1.1 Inspect turf as requested. |
| | 1.2 Identity threats to turf health promptly. |
| | 1.3 Select and use tools, equipment and materials safely, efficiently and correctly. |
| | 1.4 Use methods of dealing with threats to health which are appropriate to the turf and its conditions. |

- 1.5 Keep damage, unnecessary waste, unwanted impact to turf and environmental pollution to a minimum.
- 1.6 Clean tools and equipment and store tools, equipment and materials securely.
- 2. Maintain the conditions of general amenity turf
 - 2.1 Select and use **tools and equipment** safely, efficiently and correctly.
 - 2.2 Clear any debris.
 - 2.3 Make sure the turf is in an appropriate condition for maintenance.
 - 2.4 **Maintain** the finish of the turf so that it can be used for its intended purpose and that it looks attractive.
 - 2.5 Keep damage to the surroundings to a minimum.
 - 2.6 Dispose of grass cuttings efficiently and with minimal environmental pollution.
 - 2.7 Leave the site in a clean and tidy condition.
 - 2.8 Clean and store tools and equipment promptly and securely.

RANGE STATEMENT

You must cover the items below:

Element 1: Maintain the health of general amenity turf**A. Select and use all of the following types of tools and equipment: (*Also applies to element 2*)**

- (i) hand tools
- (ii) string trimmers

B. Use all of the following methods to maintain the turf: (*Also applies to element 2*)

- (i) mowing
- (ii) edging
- (iii) feeding
- (iv) watering
- (v) top dressing
- (vi) repair

UNDERPINNING KNOWLEDGE AND SKILLS

1. The importance of checking turf regularly and what this means for a range of species.
2. The impact that the seasons have on turf maintenance.
3. The impact of soil conditions on long and short term turf health vigour.
4. The differences in watering regimes for different types of turfs.
5. The effects of different types of fertilizers on turf.
6. The effect of top dressing and liquid feeding.
7. How to identify a range of turf conditions and threats to turf health.
8. What methods are correct and effective for the threats to turf health for a range of species.
9. The equipment you should use in the maintenance of turf health.
10. How to use, maintain, clean and store such equipment correctly.
11. Culture methods for improving health and vigour of turf.
12. Materials for pest, disease and weed control.
13. The potential for environmental pollution and how to prevent it.
14. The importance of minimizing damage and unnecessary waste and how to do so.
15. The relevant health and safety legislation and codes or practice.
16. The conditions that are appropriate for cutting grass.

17. How climate and soil conditions affect turf growth and its need for maintenance.
18. How to select the correct tools and equipment for turf maintenance.
19. How to use the required tools and equipment safely and efficiently.
20. How to identify when the height of grass and finish of edges meets requirements.
21. The effects of boxing off and leaving grass cutting in situ.
22. How to dispose of grass cuttings in a way which is effective and environmentally friendly.
23. The importance of cleaning and storing the required tools and equipment promptly and securely.
24. How to identify whether the site is clean and tidy following mowing.
25. The mowing hazards and relevant legislations and codes of practice covering this area of work.
26. The legal restrictions of taking mowers onto the public highway.

EVIDENCE GUIDE

For assessment purposes:

(1) Critical Aspects of Evidence

Assessment should involve observation of work processes at intervals when mowing and edging grass and when dealing with threats to the health of turf (for example, pests and diseases). It would also involve questioning related to underpinning knowledge.

Performance evidence must be provided for all of the performance criteria in this unit.

You must be able to promptly identify and deal with **three** of the following **threats to turf health**:

- a. pests
- b. diseases
- c. environmental conditions
- d. competing growth

Additionally, you must be able to give **two** examples of threats to turf for each of the **three** examples you choose.

You must be able to use **two** of the following **methods of dealing with threats to turf health**:

- e. physical
- f. chemical
- g. cultural
- h. irrigation

When maintaining the condition of general amenity turf you are required to select and use **all** of the following types of **tools and equipment**:

- i. Non-powered hand tools
- j. Powered hand tools
- k. String trimmers

You must also show that you can use **all** of the following methods to **maintain** the turf:

- l. Mowing
- m. Edging
- n. Fertilising
- o. Watering
- p. Top dressing
- q. Repair

Use of equipment, chemical and all other activities must meet the requirements of the law and relevant codes of practice.

(2) Methods of Assessment

Observation by your assessor of you:

- Monitoring the health and vigour of amenity turf
- Identifying ill health and potential causes of ill health to amenity turf
- Controlling weeds, pests and diseases by physical, cultural and chemical means using manual non-powered and manual powered equipment
- Mowing to the required height.
- Edging with hand shears and string trimmers
- Carrying out top dressing
- Disposing of cuttings

Answers to written or oral questions from your assessor.

(3) Context of Assessment

Evidence from simulations is **not** acceptable for this unit.

U16802**Establish and develop decorative amenity areas**

Unit Descriptor:

This unit is about establishing and developing decorative amenity areas.

It is for members of staff who can carry out the work described under limited supervision only

The typical tasks you would carry out to complete this unit include:

- Selecting, using and maintaining tools and equipment
- Selecting, handling and transporting plant materials, nutrients and supports
- Establishing temporary and permanent displays made up of
 - Formal bedding
 - Hanging baskets and containers
 - Wall shrubs
 - Climbers
 - Mixed borders
- Erecting and installing supports appropriate to the type of plants and the display
- Selecting, using and maintaining manual and powered tools and equipment
- Developing displays to achieve health, vigor and overall decorative effect by:
 - Watering by hand and using rotary and oscillating sprinklers
 - Applying nutrients in a dry and liquid form by hand and using distributors
 - Controlling pests and diseases and weeds by cultural and chemical methods using manual and powered equipment.
 - Pruning, stopping, pinching out and dead heading formal bedding, hanging baskets and containers, wall shrubs, climbers and mixed borders.
 - Supporting and tying plants

Use of equipment and chemicals must meet the requirements of the law and codes of practice.

ELEMENT**PERFORMANCE CRITERIA**

To be competent you must achieve the following:

- | | |
|---------------------------------------|--|
| 1. Establish decorative amenity areas | 1.1 Select materials that harmonise well will the area . |
| | 1.2 Handle and transport materials efficiently, effectively and safely. |

- 1.3 Keep the **materials** in a condition appropriate for use.
- 1.4 Select and use tools and equipment appropriately, safely and effectively.
- 1.5 Group and position **plants and containers** to achieve an attractive effect.
- 1.6 Use supports that maintain plant growth, appearance and visual impact.
- 1.7 Keep waste to a minimum.
- 1.8 Dispose of debris correctly.
- 2. Develop the appearance of decorative amenity areas
 - 2.1 Water and feed plants in a way that is appropriate to them and their environment.
 - 2.2 **Control** weeds, pests and diseases.
 - 2.3 Replace lost, damaged and displaced plants to maintain and develop the visual impact of the area.
 - 2.4 Remove unwanted plant material to maintain and develop the visual impact.
 - 2.5 Position **plants and containers** to develop the visual impact of the area and the client's requirements.
 - 2.6 Use support methods that develop the overall effect and the health and vigour of plants.
 - 2.7 Make sure the **area** is clean and tidy.

RANGE STATEMENT

You must cover the items below:

Element 1: Establish decorative amenity areas**A. Establish one of the following types of areas:**

- (i) temporary
- (ii) permanent

B. Select and use all of the following materials:

- (i) plant material
- (ii) nutrients
- (iii) containers
- (iv) supports

C. Arrange three of the following types of plants and containers:

- (i) formal bedding
- (ii) hanging baskets
- (iii) other containers
- (iv) wall shrubs
- (v) climbers
- (vi) mixed borders

Element 2: Develop the appearance of decorative amenity areas**A. Maintain one of the following types of areas:**

- (i) temporary
- (ii) permanent

B. Select and use two of the following methods of control:

- (i) physical
- (ii) chemical
- (iii) cultural

C. Maintain three of the following plants and containers:

- (i) formal bedding
- (ii) hanging baskets
- (iii) other containers
- (iv) wall shrubs
- (v) climbers
- (vi) mixed borders

UNDERPINNING KNOWLEDGE AND SKILLS

1. How to select materials that harmonise well with an area.
2. How to transport and handle the materials efficiently, effectively and safely.
3. How to identify whether the required materials are in a first condition for use.
4. How to select, use and maintain the necessary tools and equipment.
5. How to group and position plants and containers to achieve an attractive effect.
6. The purpose of supports, how to use these in a way which maintains and enhances growth and appearance.
7. How to decide when labeling is necessary and how to label effectively.
8. Why it is important to dispose of debris correctly and the methods you should use.
9. The relevant legislation and codes of practice covering this area of work.
10. Why it is important to develop the appearance of decorative horticulture areas.
11. How to water and feed the plants to develop their condition in their environment.
12. Why it is important to control weeds, pests and diseases.
13. How to select and use appropriate control methods.
14. How to select and remove unwanted plant material in a way which develops the visual impact of the area.
15. How to ensure the positioning of plants and labels develop the visual impact.
16. How to ensure support methods continue to support the plants' vigour and visual impact.

EVIDENCE GUIDE

You need to understand:

(1) Critical Aspects of Evidence

Assessment should involve observation of work processes at intervals when establishing and developing decorative amenity areas. It would also involve questioning related to underpinning knowledge.

Performance evidence should be provided for all of the performance criteria. However, supplementary evidence will be accepted for performance criterion 2.

You must be able to establish and maintain **one** of the following types of **areas**:

- a. Temporary
- b. Permanent

You must also be able to select and use **all** of the following **materials**:

- c. Plant material
- d. Nutrients
- e. Containers
- f. Supports

You must be able to arrange and maintain **three** of the following types of **plants and containers**:

- g. Formal bedding
- h. Hanging baskets
- i. Other containers
- j. Wall shrubs
- k. Climbers
- l. Mixed borders

When developing the appearance of decorative amenity areas you are required to select and use **two** of the following **methods to control weeds, pests and diseases**:

- m. physical
- n. chemical
- o. cultural

You must know the relevant legislation and codes of practice covering this area of work.

(2) Methods of Assessment

Observation by your assessor of you:

- Selecting, handling and transporting plant materials, nutrients and supports
- Establishing various temporary and permanent displays
- Selecting, using and maintaining manual and powered tools and equipment
- Developing displays to achieve health, vigour and overall decorative effect by a variety of methods

Witness testimony as to how you handle and transport materials.

Answers to written or oral questions from your assessor.

(3) Context of Assessment

Evidence from simulations is **not** acceptable for this unit.

U15902: Maintain the condition of plants and other resources during transportation

Unit Descriptor:

This unit is about transporting plants and other resources, without damage or deterioration. The resources covered by this unit include: growing media, containers, tools and equipment, supports, watering devices, nutrients and pesticides. It is for members of staff who can carry out the work described under limited supervision only.

The typical tasks you would carry out to complete this unit include:

- Selecting appropriate plants and resources
- Checking to make sure they are in a suitable condition
- Using safe lifting and handling techniques
- Loading and positioning plants and resources for transportation
- Transporting the plants and resources
- Record keeping

Use of equipment and chemicals must meet the requirements of the law and codes of practice.

ELEMENT

PERFORMANCE CRITERIA

To be competent you must achieve the following:

- | | | |
|--|-----|--|
| 1. Prepare plants and other resources for transportation | 1.1 | Select plants and resources that are appropriate to requirements. |
| | 1.2 | Ensure the plants and resources are in a suitable condition for installation and transportation . |
| | 1.3 | Use safe lifting and handling techniques . |
| | 1.4 | Load and position the plants and resources safely and securely for transportation . |
| | 1.5 | Maintain the condition of the plants and resources throughout. |
| | 1.6 | Complete all records correctly. |

- | | | |
|---|-----|---|
| 2. Transport plants and other resources | 2.1 | Transport plants and resources safely and efficiently to the correct location. |
| | 2.2 | Operate all equipment correctly and safely. |
| | 2.3 | Maintain the condition of plants and resources during transportation. |
| | 2.4 | Use safe lifting and handling techniques during unloading. |
| | 2.5 | Complete all records correctly. |

RANGE STATEMENT

You must cover the items below:

Element 1: Prepare plants and other resources for transportation

A. Use both of the following **lifting and handling techniques**

- (i) manual
- (ii) using lifting and handling equipment

B. Prepare all of the following types of **plant: (*Also applies to element 2*)**

- (i) delicate
- (ii) robust
- (iii) safely lifted by one person
- (iv) requiring more than one person to safely lift

C. Prepare all of the following types of **resources for transportation: (*Also applies to element 2*)**

- (i) growing medium
- (ii) containers
- (iii) tools and equipment
- (iv) watering devices
- (v) chemicals

D. Use both of the following types of **transportation**: (*Also applies to element 2*)

- (i) vehicles
- (ii) manual handling

Element 2: Transport plants and other resources

A. Use **both** of the following types of **transportation**:

- (i) vehicles
- (ii) manual handling

B. Transport **all** of the following types of **plant**:

- (i) delicate
- (ii) robust
- (iii) safely lifted by one person
- (iv) requiring more than one person to safely lift

C. Use **both** of the following **lifting and handling techniques**:

- (i) manual
- (ii) using lifting and handling equipment

UNDERPINNING KNOWLEDGE AND SKILLS

1. The importance of establishing the requirements for plants and other resources.
2. How to inspect plants and make sure they are in a fit condition for transport and installation.
3. How to inspect other resources and make sure they are fit for installation and transportation.
4. Why it is important to use safe lifting and handling techniques.
5. The basic legal requirements for using lifting equipment.
6. How to use safe lifting and handling techniques when working alone and when working with others.
7. How to load and position plants for safe and secure transportation.
8. The records that need to be updated and the procedures to follow for record keeping.
9. How to handle and transport the materials safely and efficiently.
10. How to select, use and maintain the equipment safely and effectively.
11. How to maintain the condition of plants during transportation.
12. The safety procedures to follow when transporting pesticides and other chemicals.

EVIDENCE GUIDE

For assessment purposes:

(1) Critical Aspects of Evidence

Assessment should involve observation of work processes at intervals when preparing and transporting plants and other resources.

Performance evidence must be provided for all of the performance criteria in this unit. However, supplementary evidence would be accepted demonstrating knowledge of the safe lifting and handling techniques, the completion of all records correctly as well as how to correctly and safely operate all equipment.

A You must be able to use **both** of the following **lifting and handling techniques**:

- a. manual
- b. using lifting and handling equipment

B You must be able to prepare and transport **all** of the following types of **plants**:

- c. delicate
- d. robust
- e. safely lifted by one person
- f. requiring more than one person to safely lift

C Additionally, you are required to prepare **all** of the following types of resources for transportation:

- g. growing medium
- h. containers
- i. tools and equipment
- j. supports
- k. watering devices
- l. chemicals

D You must be able to use **both** of the following types of **transportation**:

- m. vehicles
- n. manual handling

Use of equipment, chemical and all other activities must meet the requirements of the law and relevant codes of practice.

(2) Methods of Assessment

Observation by your assessor of you:

- Selecting appropriate plants and resources
- Using safe lifting and handling techniques
- Loading and positioning plants and resources for transportation
- Transporting the plants and resources
- Record keeping

Witness testimony from your supervisor about how you carry out your lifting and handling techniques and about your record keeping.

Answers to written or oral questions from your assessor.

(3) Context of Assessment

Evidence from simulations is **not** acceptable for this unit.

U16902 Install and maintain drainage systems

Unit Descriptor:

This unit is about installing and maintaining drainage systems. It is for members of staff who can carry out work described under limited supervision only.

You will be required to select and handle work tools, powered equipment and materials correctly, competently and safely and to decide the appropriate timing of operations, the work methods to be used and to check the results and correct any faults.

The typical activities you would carry out to complete this unit include:

- Ensuring reference marks and setting out is accurate according to specification.
- Locating and protecting underground and over ground services.
- Using concrete, bricks, pipe materials, masonry and rubble.
- Cleaning up and disposing of debris.
- Inspecting drainage systems.
- Identifying blockages and leaks.
- Dealing with blockages and leaks.

Use of equipment and all actions must meet the requirements of the law and codes of practice.

ELEMENT

PERFORMANCE CRITERIA

To be competent you must achieve the following:

- | | |
|-----------------------------|---|
| 1. Install drainage systems | 1.1 Select and use tools and equipment and materials appropriately, safely and effectively. |
| | 1.2 Position reference marks according to specification. |
| | 1.3 Install drainage systems according to specification. |

- 1.4 Use working methods that are safe and efficient.
 - 1.5 Minimise unwanted damage to services and surroundings.
 - 1.6 Keep working areas clean according to client requirements.
 - 1.7 Complete work to an agreed schedule.
2. Maintain drainage systems
- 2.1 Inspect **drainage systems** according to agreed schedules.
 - 2.2 Correctly identify **problems** with drainage systems.
 - 2.3 Select **tools, equipment** and working methods to deal with the **problems**.
 - 2.4 Take safe and effective action to deal with these **problems**.
 - 2.5 Make sure surrounding areas are clean and tidy to completion of work.
 - 2.6 Minimise unwanted damage to services and surroundings.
 - 2.7 Complete work to an agreed schedule.

RANGE STATEMENT

You must cover the items below:

Element 1: Install drainage systems**A. Use both of the following tools and equipment:**

- (i) hand tools
- (ii) mechanical

B. Use two of the following types of materials:

- (i) concrete
- (ii) clay
- (iii) plastic
- (iv) masonry
- (v) aggregate

Element 2: Maintain drainage systems**A. Maintain three of the following types of drainage systems:**

- (i) pipe
- (ii) tile
- (iii) mole
- (iv) open
- (v) single
- (vi) multiple

B. Deal with both of the following types of problems:

- (i) blockages
- (ii) leaks

C. Use both of the following types of tools and equipment:

- (i) hand tools
- (ii) powered equipment

UNDERPINNING KNOWLEDGE AND SKILLS

1. How to select and use tools and equipment safely and efficiently.
2. Why it is important to position reference marks correctly according to specification and how to do so.
3. How to ensure that the installation of foundations, sub-bases and drainage is correct according to specification.
4. How to do work efficiently and minimise wastage of materials and time.
5. Why it is important to clean debris effectively, safely and tidily.
6. The types of damage which is likely to occur to services and surroundings and how to keep this to a minimum.
7. Why it is important to keep working areas clean according to clients' requirements.
8. Why it is important to complete work to agreed schedule.
9. The relevant legislation and codes of practice covering this area of work.
10. The importance of drainage systems working efficiently and effectively.
11. How to carry out inspections of drainage systems.
12. The importance of inspecting drainage systems according to schedule.
13. The types of problems that are likely to occur with drainage systems and how to deal correctly with these.
14. The types of damages which are likely to occur to services and surroundings and how to keep this to a minimum.

EVIDENCE GUIDE

For assessment purposes:

(1) Critical Aspects of Evidence

Assessment should involve observation of how you select and use hand tools, powered equipment and materials, and to decide the appropriate timing of operations and the work methods to be used and how you check the results and correct any faults.

Performance evidence must be provided for all of the performance criteria in this unit. However, supplementary evidence would be accepted with respect to how you inspect **drainage systems** according to agreed schedules.

In installing and maintaining drainage systems you must be able to use **two** of the following types of **tools and equipment**:

- a. Hand tools
- b. Mechanical

You must be able to use **two** of the following types of material:

- c. Concrete
- d. Clay
- e. Plastic
- f. Masonry
- g. Aggregate

You should show how to maintain **three** of the following types of **drainage systems**:

- h. Pipe
- i. Tile
- j. Mole
- k. Open
- l. Single
- m. Multiple

You should also demonstrate how to deal with **both** of the following types of **problems**:

- n. Blockages
- o. Leaks

Use of equipment, chemical and all other activities must meet the requirements of the law and relevant codes of practice.

(2) Methods of Assessment

Observation by your assessor of you:

- Locating and protecting underground and over ground services
- Using concrete, bricks, pipe materials, masonry and rubble
- Clearing up and disposing of debris
- Inspecting drainage systems
- Identifying and dealing with blockages and leaks

Answers to written or oral questions from your assessor.

(3) Context of Assessment

Evidence from simulations is **not** acceptable for this unit.

U17002**Use and Maintain Equipment and Machines**

Unit Descriptor:

This unit is about using equipment and machinery correctly and safely, with due regard to manufacturers' instructions and legal and regulatory requirements. It also covers the routine, day-to-day maintenance of this equipment, before and after use. It is for members of staff who can carry out the work described under limited supervision only.

The types of equipment and machinery included in this unit are:

- Non-powered tools and equipment (for example: hand tools, fertilizer distributors).
- Hand held powered equipment (for example: string trimmers, hedge cutters, hedge cutters, leaf blowers).
- Pedestrian controlled powered equipment (for example rotary mowers).
- Ride-on powered equipment (for example ride-on mowers).
- Chippers and/shredders.
- Identifying blockages and leaks.

Use of machinery and equipment and all actions must meet the requirements of the law and relevant codes of practice.

NB: This unit does not cover the use of tractors or tractor mounted equipment other than small lawn/compact tractors.

ELEMENT**PERFORMANCE CRITERIA**

To be competent you must achieve the following:

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| 1. Use equipment and machinery | 1.1 Select the correct item of equipment and machinery for the planned task. |
| | 1.2 Make sure that the equipment and machinery is safe and in good working order. |
| | 1.3 Select and use the correct personal protective clothing and equipment. |

- 1.4 Use the **equipment and machinery** in accordance with the manufacturers' instructions and legal regulatory requirements.
- 1.5 Identify any problems with the **equipment and machinery** and take the correct **action**.
- 1.6 Clean and store the equipment correctly after use.
- 2. Carry out routine maintenance to equipment and machinery
 - 2.1 Make sure the **equipment and machinery** is correctly prepared for safe maintenance.
 - 2.2 Maintain **equipment and machinery** in accordance with manufacturers' instructions, standard procedure and legislation.
 - 2.3 Maintain health and safety in accordance with relevant legislation and codes of practice.
 - 2.4 Minimise the escape of substances and dispose of **waste** in a safe manner and place.
 - 2.5 Identify the need for advice and assistance and refer problems to the appropriate member of staff.

RANGE STATEMENT

You must cover the items below:

Element 1: Use equipment and machinery**A. Use three of the following types of equipment and machinery:**

- (i) non-powered tools and equipment
- (ii) hand-held powered equipment
- (iii) pedestrian controlled powered equipment
- (iv) ride-on powered equipment

B. Take the following types of actions:

- (i) correct pre-use checks
- (ii) correct start-up procedures
- (iii) use the appropriate work method
- (iv) correct stopping procedure
- (v) correct post-use operate maintenance
- (vi) reporting problems to a more competent colleague

Element 2: Carry out routine maintenance to equipment and machinery**A. Carry out routine maintenance to three of the following types of equipment and machinery:**

- (i) non-powered tools and equipment
- (ii) hand-held powered tools and equipment
- (iii) pedestrian controlled powered controlled
- (iv) ride-on powered equipment

B. Handle and dispose of wastes which are

- (i) hazardous
- (ii) non-hazardous

UNDERPINNING KNOWLEDGE AND SKILLS

1. How to select the correct items of machinery equipment for the tasks that you are responsible for.
2. How to check the equipment and machinery and the types of pre-operational maintenance that you are required to carry out.
3. The health and safety requirements that govern the use of the equipment and machinery in your area of responsibility.
4. The main hazards associated with using the equipment and machinery in your area of responsibility.
5. The manufacturer's instructions for the operation of the equipment and machinery in your area of responsibility.
6. The types of problems that may occur with the equipment and machinery you work with and how to deal with each of these correctly.
7. The principles of two and four stroke engines.
8. The principles of lines of drive – clutch, v-belts, chains.
9. Types of protective clothing and the reasons why they must be worn.
10. The correct ways of wearing personal protective equipment.
11. The legal and regulatory requirements that govern the use of the equipment and machinery in your areas of responsibility.
12. Methods for maintaining equipment and machines.
13. The reasons for maintaining equipment and machinery and the possible consequences of not maintaining it correctly.
14. Legislative requirements relating to the maintenance of equipment and machinery.
15. Health and safety in relation to the maintenance of equipment and machines and the usage of the work area.
16. Hazardous chemicals and substances which may be present and ways of minimizing leakage.
17. Safe and correct methods of disposing of waste materials.
18. Levels of or responsibility in relation to the maintenance of equipment and machinery and whom to go to for advice.
19. Safe and suitable methods of storing tools, equipment and machinery.

EVIDENCE GUIDE

For assessment purposes:

(1) Critical Aspects of Evidence

Assessment should involve observation of how you select and use equipment and machinery correctly and safely in accordance with manufacturers' instructions and current Safety and Health regulations. You should also demonstrate the routine, day-to-day maintenance of this equipment, before and after use.

Performance evidence must be provided for all of the performance criteria in this unit. However, where simulations are used to generate performance evidence, these should properly reflect the requirements of real working situations.

In demonstrating competence in the use of equipment and machinery it is necessary that you show that you can:

- A. Use all hand-held non powered tools and equipment relevant to your job.
- B. Use **two** of the following types of **equipment and machinery**.
 - (i) Hand-held powered tools and equipment
 - (ii) Pedestrian controlled powered equipment
 - (iii) Ride-on powered equipment
- C. Take the following types of **action**:
 - (i) Correct pre-use checks
 - (ii) Correct start-up procedure
 - (iii) Use appropriate work method
 - (iv) Correct stopping procedure
 - (v) Correct post-use operator maintenance
 - (vi) Report problems to a more competent colleague
- D. Carry out routine maintenance to hand-held non-powered tools and equipment. Carry out maintenance to **two** of the following types of **equipment and machinery**:
 - (i) Hand-held powered tools
 - (ii) Pedestrian controlled powered equipment
 - (iii) Ride-on powered equipment
- E. Handle and dispose of **wastes** which are:
 - (i) Hazardous
 - (ii) Non-hazardous

(2) Methods of Assessment

Observation by your assessor of you using and routinely maintaining:

- Hand-held non-powered tools and equipment (for example, hand tools, spray equipment, fertiliser distributors)
- Hand-held powered equipment (for example, string trimmers, hedge cutters, leaf blowers)
- Pedestrian controlled powered equipment (for example, rotary mowers)
- Ride-on powered equipment (for example, ride-on mowers)
- Chippers and/or shredders

Answers to written or oral questions from your assessor.

(3) Context of Assessment

Evidence from simulations **is** acceptable for this unit.

U17102

Construct and maintain water features

Unit Descriptor:

This unit is about constructing and maintaining water features, for example: ponds, streams fountains and waterfalls. The typical materials and equipment you would use include: rocks and concrete, plastic ridged or flexible liners, electrically powered pumps and filters.

Because of the use of 110 mains supply, there are considerable health and safety implications in this unit.

ELEMENT**PERFORMANCE CRITERIA**

To be competent you must achieve the following:

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| 1. Construct and maintain water features | 1.1 Identify and prepare the necessary tools, equipment and materials for the work. |
| | 1.2 Select and direct the use of heavy duty equipment. |
| | 1.3 Prepare the site. |
| | 1.4 Construct the water feature according to the specification. |
| | 1.5 Use tools safely and correctly in a way which achieves their purpose. |
| | 1.6 Install equipment according to manufacturers' instruction and legal requirements. |
| | 1.7 Make sure that the work causes minimal disturbance to the site's environment. |
| | 1.8 Take the appropriate action if problems arise during the work. |
| | 1.9 Maintain health and safety during the work following relevant legislation and codes of practice. |
| | 1.10 Check the water feature on completion of work to make sure it is safe and fit for purpose. |

2. Maintain water features
- 1.11 Dispose of waste during and after construction safely and correctly.
 - 2.1 Inspect **water features** as required.
 - 2.2 Correctly identify **problems** with **water features**.
 - 2.3 Select tools, equipment and working methods to deal with the **problem**.
 - 2.4 Take safe and effective action to deal with these problems.
 - 2.5 Make sure surrounding areas are clean and tidy on completion.
 - 2.6 Minimise unwanted damage to services and surroundings.
 - 2.7 Complete work to an agreed schedule.

RANGE STATEMENT

You must cover the items below:

Element 1: Construct water features

A. Select and use or direct the use of the following **tools**:

- (i) hand-held non-powered tools
- (ii) hand-held powered equipment

B. Select and install the following **equipment and materials**:

- (i) pumps
- (ii) filters
- (iii) plants and fish

C. Select and use **three** of the following materials:

- (i) rigid liners
- (ii) flexible liners
- (iii) concrete
- (iv) rocks
- (v) timber

D. Construct one of the following types of water features:

- (i) streams
- (ii) fountains
- (iii) water falls
- (iv) ponds

Element 2: Maintain water features

A. Maintain one of the following types of water features:

- (i) streams
- (ii) fountains
- (iii) waterfalls
- (iv) ponds

B. Identify and deal with three of the following problems:

- (i) leaks
- (ii) filters and pumps in need of cleaning
- (iii) malfunctioning filters and pumps
- (iv) filters and pumps in need of replacement
- (v) unhealthy plants and fish
- (vi) dirt and unwanted vegetation

UNDERPINNING KNOWLEDGE AND SKILLS

1. How to interpret specifications and the importance of following the specification.
2. The requirements of the specification and how to finish the water feature so that it meets the specification.
3. How to select the correct tools, equipment and materials for a water feature.
4. How to use the required tools and equipment safely and correctly.
5. How to use materials correctly.
6. The problems which may arise, including those caused by: accidental damage, pollution and difficulties with specification.
7. How to minimise problems and the appropriate action to take if problems occur.
8. Health and safety risks in this construction of water features, including the use of 240v mains supply.
9. Working methods that promote the health and safety of self and others.

10. Potential causes of damage to the environment and ways to preventing or minimizing them.
11. Your organisation's health and safety policy.
12. Your specific responsibilities under relevant legislation.
13. The potential conflicts between this work and conserving the natural environment.
14. How to dispose of inorganic and organic waste safely and correctly.
15. Methods of constructing the structure and/or surface and the relationship of this to its planned use.
16. How to carry out inspections of water features.
17. The importance of inspecting water features according to schedule.
18. The types of problems that are likely to occur with water features and how to deal correctly with these.
19. The type of damage which is likely to occur to services and surroundings and how to keep this to a minimum.
20. Why it is important to keep working areas clean and tidy according to clients' requirements.
21. Why it is important to complete work to agreed schedule.
22. The relevant legislation codes of practice covering this area to work.

EVIDENCE GUIDE

For assessment purposes:

(1) Critical Aspects of Evidence

Assessment should involve observation of how you construct and maintain water features, for example: ponds, streams, fountains and waterfalls. The typical materials and equipment you would use include: rocks and concrete, plastic ridged or flexible liners, electrically powered pumps and filters.

In demonstrating competence in constructing and maintaining water features you are required to:

- A. Select and use the following **tools**:
 - (i) Hand-held non-powered tools
 - (ii) Hand-held powered tools

- B. Install the following **equipment and materials**:
 - (i) Pumps
 - (ii) Filters
 - (iii) Plants and fish

C. Select and use water. Select and use **three** of the following **materials**:

- (i) Rigid liners
- (ii) Flexible liners
- (iii) Concrete
- (iv) Rocks
- (v) Timber

D. Construct **one** of the following types of **water features**:

- (i) Streams
- (ii) Fountains
- (iii) Waterfalls
- (iv) Ponds

Maintain **one** of the following types of **water features**:

- (i) Streams
- (ii) Fountains
- (iii) Waterfalls
- (iv) Ponds

F. Identify and deal with **three** of the following **problems**:

- (i) Leaks
- (ii) Filters and pumps in need of cleaning
- (iii) Reporting malfunctioning filters and pumps in need of replacement
- (iv) Dirt and unwanted vegetation
- (v) Unhealthy plants and fish

Use of equipment, chemical and all other activities must meet the requirements of the law and relevant codes of practice.

(2) Methods of Assessment

Observation by your assessor of you:

- Constructing water features
- Maintaining water features
- Products of your work e.g. Water features which you constructed

Answers to written or oral questions from your assessor.

Witness testimony will be accepted from supervisors and colleagues on how you construct and maintain water features.

(3) Context of Assessment

Evidence from simulations **is** acceptable for this unit.

U17202 Prepare and operate a tractor with attachments

Unit Descriptor:

This unit sets the standard for the preparation and operation of a tractor with attachments. The competent use of a tractor with attachments requires considerable skill and knowledge. Attachments may include loaders, trailers and mounted implements.

It is vital that during the use of tractors you adhere to health and safety requirements at all times. You will need to use of warning signals correctly, and identify (and remove/avoid) hazards.

You will need to be able to use a tractor during a variety of weather conditions. These weather conditions will have an impact on the handling and use of the tractor. You will also need to be able to use tractors both on and off roads.

ELEMENT

PERFORMANCE CRITERIA

To be competent you must achieve the following:

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| 1. Prepare a tractor with attachments for operation | <ul style="list-style-type: none"> 1.1 Carry out pre-start checks and adjustments in accordance with standard procedures. 1.2 Check the immediate work area for hazards and obstacles and take the appropriate action. 1.3 Use attachments that are suitable for the tractor. 1.4 Make sure that attachments are secure and safe. 1.5 Check that the work area is clear of people and animals immediately prior to the start of operations. 1.6 Use the correct warning signals immediately prior to the commencement of operations. 1.7 Carry out all work activities in accordance with health and safety legislation and codes of practice. |
|---|--|

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| 2. Operate a tractor and its attachments | 2.1 Conduct all movements of the vehicle safely, and consistent with the type of vehicle and operation. |
| | 2.2 Modify operating procedures to take into account any changed in weather and ground conditions , and types of terrain . |
| | 2.3 Deal with any hazards and obstacles encountered during the operation in accordance with standard practice. |
| | 2.4 Maintain the efficiency of vehicle performance through the appropriate handling and use of the vehicle. |
| | 2.5 Use attachments to the vehicle safely at all times. |
| | 2.6 Leave the vehicle safe after use and in a condition suitable to its future use. |
| | 2.7 Carry out all work activities in accordance with health and safety legislation, and codes of practice. |

RANGE STATEMENT

You must cover the items below:

Element 1: Prepare a tractor with attachments for operation

A. Carry out the following pre-start checks and adjustments:

- (i) routine maintenance
- (ii) safety checks

B. Use two of the following attachments: (*Also applies to element 2*)

- (i) loaders
- (ii) trailers
- (iii) mounted implements

Element 2: Operate a tractor and its attachments

- A. Operate a tractor in two of the following **ground conditions**:
- (i) wet
 - (ii) dry
 - (iii) frost
- B. Maintain the **efficiency of vehicle performance** through the appropriate use of:
- (i) gears
 - (ii) speed
 - (iii) hydraulics
 - (iv) coverage of ground
- C. Use the vehicle on two of the following **terrain**:
- (i) hard surfaces
 - (ii) soft surfaces
 - (iii) slopes

UNDERPINNING KNOWLEDGE AND SKILLS

- a. The required pre-start checks and adjustments.
- b. Health and safety in relation to the preparation and use of tractors.
- c. Types of attachments and how they should be secured to the tractor.
- d. Types of attachments that are safe for use with the vehicle and those that are not.
- e. Conditions which should be taken into account when considering the use of attachments.
- f. Health and safety requirements in terms of the workplace.
- g. The correct use and duration of warning signals and indicators.
- h. The ways in which the vehicle should be manoeuvred, and how different weather and ground conditions must be taken into account.
- i. Types of hazards which may be encountered and how these should be dealt with.
- j. The capabilities of the vehicle and the expected efficiency of vehicle operations.
- k. The safe use of attachments.
- l. The reasons why the vehicle should be left in a condition suitable for future use.

EVIDENCE GUIDE

For assessment purposes:

(1) Critical Aspects of Evidence

Assessment should involve observation of your preparing and operating a tractor with such attachments as loaders, trailers and mounted implements. You will also need to be able to use tractors both on and off roads.

In demonstrating competence in preparing and operating a tractor with attachments it is required that you:

- A.** Carry out the following **pre-start checks and adjustments**:
 - (i) Routine maintenance
 - (ii) Safety checks

- B.** Use **two** of the following **attachments**:
 - (i) Routine maintenance
 - (ii) Safety checks

- C.** Operate a tractor in **all** of the following ground conditions:
 - (i) Wet
 - (ii) Dry

- D.** Maintain the **efficiency of vehicle performance** through the appropriate use of:
 - (i) Gears
 - (ii) Speed
 - (iii) Hydraulics
 - (iv) Coverage of ground

- E.** Use the vehicle on **all** of the following **terrain**:
 - (i) Hard surfaces
 - (ii) Sort surfaces
 - (iii) Slopes

Use of equipment, chemical and all other activities must meet the requirements of the law and relevant safety and health codes of practice.

(2) Methods of Assessment

Observation by your assessor of you:

- Carrying out **pre-start checks and adjustments** in accordance with standard procedures.
- Using **attachments** that are secure and safe.
- Making sure that **attachments** are secure and safe.
- Checking that the work area is clear of people and animals immediately prior to the start of operations.
- Conducting all movements of the vehicle safely, and consistent with the type of vehicle and operation.
- Leaving the vehicle safe after use and in a condition suitable to its future use.

Answers to written or oral questions from your assessor.

(3) Context of Assessment

Evidence from simulations **is** acceptable for this unit but where simulations are used to generate performance evidence, these should properly reflect the requirements of real working situations.

U17302 Construct and maintain boundaries and paths

Unit Descriptor:

This unit describes a standard of competence appropriate to someone of craft standard working under limited supervision. You will be required to select and use hand tools and powered equipment correctly, competently and safely. You will also need to decide the appropriate timing of operations, the work methods to be used and to evaluate results and correct faults.

The types of boundaries involved may include: fences, walls and access points. You are expected to construct such boundaries, as well as carry out routine maintenance and repair.

The types of paths involved may include paths consisting of fluid components or hard components. You are expected to construct such paths, as well as carry OUT maintenance operations.

All use of equipment and chemicals must meet the requirements of the law and codes of practice

ELEMENT

PERFORMANCE CRITERIA

To be competent you must achieve the following:

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| 1. Construct and maintain boundaries | <p>1.1 Make sure the selected materials meet the agreed specifications.</p> <p>1.2 Maintain boundaries within the tolerances specified for the site.</p> <p>1.3 Keep damage to other features, services and wildlife on site to a minimum.</p> <p>1.4 Take prompt and efficient action in the event of a problem.</p> <p>1.5 Carry out construction and maintenance of boundaries efficiently, effectively and securely.</p> <p>1.6 Maintain the appearance and fabric of boundaries so that they are fit for their purpose.</p> <p>1.7 Keep the site good and clear of unwanted materials.</p> |
|--------------------------------------|---|

2. Construct and maintain paths
- 1.8 Ensure working methods promote health and safety and are consistent with relevant legislation and codes of practice.
 - 2.1 Keep the route and the dimensions of the **paths** within tolerance specified for the site.
 - 2.2 Lay and support surface materials correctly and securely.
 - 2.3 Ensure drainage is effective.
 - 2.4 Lay the **path** efficiently, effectively and securely.
 - 2.5 Carry out **maintenance** of the path efficiently, effectively and securely.
 - 2.6 Ensure the appearance and condition of **path** is fit for purpose.
 - 2.7 Make good the site and keep it clear of unwanted materials.

RANGE STATEMENT

You must cover the items below:

Element 1: Construct and maintain boundaries**A. Construct and maintain at least one of the following boundaries:**

- (i) fences
- (ii) walls

B. Carry out the following maintenance:

- (i) structural repairs
- (ii) repair of fabric
- (iii) surface protection

Element 2: Construct and maintain paths**A. Construct and maintain paths with:**

- (i) fluid components
- (ii) hard components

B. Carry out the following maintenance:

- (i) clearing
- (ii) repairing

UNDERPINNING KNOWLEDGE AND SKILLS

1. The purpose of boundaries in your industry.
2. The relative advantages and disadvantages of different types of boundaries and the appropriate situations in which to use them.
3. The materials, tools and equipment, and construction techniques appropriate to the boundaries.
4. How to select materials according to agreed specifications.
5. How to measure to ensure work is within tolerances for the site.
6. The hazards presented by services and how to avoid these.
7. The action to take in the event of the type of problems likely to occur when constructing boundaries.
8. How to work effectively and efficiently.
9. What to look for in deciding whether the appearance and fabric of boundaries are fit for purpose.
10. Healthy and safe working practices.
11. The standards of tidiness in making good the site.
12. The relevant codes of practice and legislation covering this area of work.
13. The standards of construction for different types of paths.
14. The relative advantages and disadvantages of different types of paths and situations in which they are appropriate.
15. Construction methods required and how to ensure routes and dimensions are within agreed tolerances.
16. The principles of drainage for paths and how to ensure routes and dimensions are within agreed tolerances.
17. The principles of drainage for paths and how to ensure its effectiveness.
18. The hazards presented by services on site and how to avoid these.
19. The action to take in the event of problems likely to occur.
20. How to work efficiently, effectively and safely.
21. The qualities of the laid path which make it for purpose.
22. The standards of tidiness in making good the site.
23. The relevant codes of practice and legislation covering this area of work.

EVIDENCE GUIDE

For assessment purposes:

(1) Critical Aspects of Evidence

Assessment should involve observation of you selecting and using non-powered hand tools and powered hand tools and equipment correctly, competently and safely. The types of boundaries involved may include: fences, walls and access points. You are expected to construct such boundaries as well as carry out routine maintenance and repair.

The types of paths involved may include paths consisting of fluid components or hard components. You are expected to construct such paths, as well as carry out maintenance operations.

In demonstrating competence in constructing and maintaining boundaries and paths you are required to:

A. Construct and maintain at least one of the following **boundaries:**

- (i) Fences
- (ii) Walls

B. Carry out the following maintenance to boundaries:

- (i) Structural repair
- (ii) Repair to fabric
- (iii) Surface protection

C. Construct and maintain paths with:

- (i) Fluid components
- (ii) Hard components

D. Carry out the following **maintenance to paths:**

- (i) Clearing
- (ii) Repairing

Use of equipment, chemical and all other activities must meet the requirements of the law and relevant codes of practice.

(2) Methods of Assessment

Observation by your assessor of you:

- Selecting and using non-powered and powered hand tools and equipments correctly, competently and safely
- Evaluating results and correcting faults
- Construct and repair various boundaries and paths

(3) Context of Assessment

Evidence from simulations **is** acceptable for this unit. However, where simulations are used to generate performance evidence, these should properly reflect the requirements of real working situations.

U17402 Maintain and repair structures and surfaces

Unit Descriptor:

This unit covers maintaining and repairing structures and surfaces. Structures may be permanent or temporary and could include; drains, water pipes, fences, sheds, greenhouses, and workshops. Surfaces could include standing areas, container beds, roads and pathways. Such structures and surfaces will require some form of on-going maintenance and, at some point, will be in need of repair in order that they can continue to be used safely.

You are required to carry out maintenance and repair in a safe and effective way according to the specification. Maintenance will be undertaken in a routine and planned way, and when it is required due to certain circumstances (e.g. after severe weather). You are expected to identify, through regular monitoring and maintenance, when structures or surfaces require some form of repair. It is important that you recognize the limits required are beyond your ability and should be undertaken by someone else.

The unit is designed to be appropriate for the maintenance and repair of surfaces and structures using hand-held or pedestrian controlled power tools.

During both maintenance and repair, you may have to deal with unforeseen events such as accidental damage to a structure, or an environmental risk from pollution. You must be able to perform competently in such events.

ELEMENT

PERFORMANCE CRITERIA

To be competent you must achieve the following:

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| 1. Maintain structures and surfaces | 1.1 Prepare and maintain the necessary equipment and materials for the work in a fit state for use. |
| | 1.2 Prepare the structure or surface and the surrounding site in a manner appropriate for the maintenance which is to be carried out. |
| | 1.3 Maintain the structure or surface to specification at the appropriate time. |
| | 1.4 Use tools and equipment correctly and in a way which achieves their purposes. |
| | 1.5 Ensure methods, materials and equipment cause minimal disturbance to the site's environment. |

- 1.6 Take the appropriate action when problems are encountered during the week.
 - 1.7 Maintain safety and health during the work consistent with relevant legislation and codes of practice.
 - 1.8 Make sure that the structure or surface and its site meet **specifications** following operations.
 - 1.9 Provide data so that accurate, legible and complete records can be kept.
 - 1.10 Manage **waste** safely and correctly.
 - 1.11 Restore the site to a safe condition Which is consistent with the surrounding environment and is clear of unwanted materials.
2. Repair structures and surfaces
- 2.1 Prepare the necessary equipment and materials for the work in a fit state of use.
 - 2.2 Prepare the structure or surface and the surrounding site in a manner appropriate for the repair.
 - 2.3 Repair the structure or surface to **specification** at the appropriate time.
 - 2.4 Use tools and equipment correctly and in a way which achieved their purpose.
 - 2.5 Make sure that methods, materials and equipment cause minimal disturbance to the site and environment.
 - 2.6 Take the appropriate action if problems arise during the work.
 - 2.7 Maintain safety and health during the work consistent with relevant legislation and codes of practice.
 - 2.8 Make sure that the structure or surface and its site meet **specifications** following operations.

RANGE STATEMENT

You must cover the items below:

Element 1: Maintain structures and surfaces: *(Also applies to element 2)*

A. Interpret the **specification** in relation to the following categories:

- (i) security/safety
- (ii) quality
- (iii) design
- (iv) construction

B. Manage the following **waste**: *(Also applies to element 2)*

- (i) hazardous
- (ii) non-hazardous

UNDERPINNING KNOWLEDGE AND SKILLS

1. Why surfaces and structures must be maintained and potential problems if not carried out.
2. The equipment and materials which may be used and their usefulness in specific circumstances.
3. Methods of preparing, checking and adjusting, servicing, cleaning and storing the relevant equipment and materials.
4. The preparation methods required prior to maintaining structures and surfaces.
5. The requirements of the specification and how to finish the structure or surfaces so that it meets the specification.
6. The different maintenance methods which promote health and safety.
7. Working methods and systems which promote health and safety.
8. The types of problems which may occur, including; accidental damage, pollution and not meeting the specification.
9. The actions to take if any problems occur.
10. Safety and health risks in the maintenance of structures and surfaces.
11. Organisational safety and health policy.
12. Your specific responsibilities under legislation in relation to health, safety and the environment.
13. The difference between hazardous and non-hazardous waste and how to dispose of both types safely and effectively.
14. The purpose of the structure and surface and the relationship to the specification.
15. The reasons for the repair work and potential problems if not carried out.
16. The preparation methods necessary prior to the repair work.
17. Methods of repairing the structure and/or surface and any relationship to the planned use.
18. The requirements of the specification.
19. Working methods and systems which promote the health and safety of yourself and others.
20. Safety and health risks during the repair of structures and surfaces.
21. How to minimise the likelihood of problems and what to do if they occur.
22. How to dispose of organic and inorganic waste.

EVIDENCE GUIDE

For assessment purposes:

(1) Critical Aspects of Evidence

Assessment should involve observation of how you maintain and repair structures and surfaces. Structures may be permanent or temporary and could include; drains, water pipes, fences, sheds, greenhouses and workshops. Surfaces could include standing areas, container beds, roads and pathways.

It is important that you recognise the limits of your competence, therefore, you must be able to accurately identify cases when the repairs required are beyond your ability and should be undertaken by someone else.

In demonstrating competence in maintaining and repairing structures and surfaces you are required to:

A. Interpret the **specification** in relation to the following categories:

- (i) Security/safety
- (ii) Quality
- (iii) Design
- (iv) Construction

B. Manage the following **waste**:

- (i) Hazardous
- (ii) Non-hazardous

Use of equipment, chemical and all other activities must meet the requirements of the law and relevant safety and health codes of practice.

(2) Methods of Assessment

Observation by your assessor of you:

- Preparing and maintaining the necessary equipment and materials for the work in a fit state for use
- Maintaining the structure or surface to specification at the appropriate time
- Taking the appropriate action when problems are encountered during the work
- Making sure that the structure or surface and its site meet specifications following operations
- Managing waste safely and correctly

Answers to written or oral questions from your assessor.

(3) Context of Assessment

Evidence from simulations is **not** acceptable for this unit.

U17502**Construct new structures and surfaces**

Unit Descriptor:

This unit is about constructing new structures and surfaces on land-based sites. It is designed to be appropriate for construction work using hand-held or pedestrian controlled power tools. Structures may be permanent or temporary and could include, for example: rubble walls, drains, permanent drainage systems, boundaries (such as post-and-rail fences), animal holding pens and greenhouses etc. Surfaces may include: stepping stones pathways.

Although the construction of structures and surfaces is often contracted out to specialist companies, there will be occasions when the employees of an enterprise have to build structures and surfaces themselves. This unit is concerned with the competence required on these occasions.

You are required to prepare for, and build, structures and surfaces in a safe and effective way according to the specification. In preparing for the construction, you must assemble the necessary materials and resources, and locate them on site according to the specification. During construction, consideration should be given to the likely impact of the structures/surfaces on the surrounding environment, and environmental damage must be minimized.

During both preparation and construction, you may have to deal with unexpected events such as accidental damage, or difficulty in conforming to the specification. You must be able to take the correct action in such circumstances.

ELEMENT**PERFORMANCE CRITERIA**

To be competent you must achieve the following:

- | | |
|--|---|
| 1. Prepare for the construction of new structures and surfaces | 1.1 Correctly identify and prepare the necessary equipment and materials for the work. |
| | 1.2 Ensure the preparation of structures and surfaces is consistent with the specification . |
| | 1.3 Prepare the site in a manner appropriate for the structure of surface, and which minimizes the effect on the surrounding environment. |

- 1.4 Maintain safety and health during the work consistent with relevant legislation and codes of practice.
 - 1.5 Ensure working methods allow for waste to be disposed of safely and correctly.
 - 1.6 Take the appropriate action if any problems occur.
2. Construct new structures and surfaces
- 2.1 Make sure the foundations of the structure or surface are secure and appropriate to the expected use and the context in which it is set.
 - 2.2 Construct the structure or surface in accordance with the **specification**.
 - 2.3 Use tools and equipment safely and correctly in a way which achieves their purpose.
 - 2.4 Make sure that the work causes minimal disturbance to the site's environment.
 - 2.5 Make sure the structure or surface meet the **specification** and are fit for purpose on completion of the work.
 - 2.6 Make sure the site is clear of unwanted materials and fit for purpose.

RANGE STATEMENT

You must cover the items below:

Element 1: Prepare for the construction of new structures and surfaces: *(Also applies to element 2)*

A. Prepare the structure and surface according to the **specification** of:

- (i) setting out and location
- (ii) materials and resources
- (iii) timescale
- (iv) working methods
- (v) waste management
- (vi) the relationship of the structure and surface to its context

UNDERPINNING KNOWLEDGE AND SKILLS

1. The purposes the structures and surfaces are designed to meet.
2. The equipment and materials which are used to construct the structures or surfaces and how to assess their suitability.
3. Methods of preparing, checking and adjusting, servicing, cleaning and storing the equipment and materials which are being used.
4. How to interpret specifications and the importance of following the specification.
5. Correct preparation methods for different structures and surfaces and how these are related to timing and scheduling.
6. Potential causes of damage to the environment and ways of preventing or minimizing them.
7. Your basic responsibilities in relation to safety and health and the environment.
8. Your specific responsibilities under environmental and conservation legislation.
9. The potential conflicts between constructing structures and surfaces conserving and protecting the natural environment.
10. The types of problems which may occur and the actions to take, including; remedying the situation or informing others who need to act.
11. Methods of constructing the structure and/or surface and the relationship of this to its planned use.
12. The requirements of the specification and how to finish the structure or surface so that it meets the specification.
13. The correct handling and use of tools and equipment including their maintenance, transportation and storage.
14. How to use materials correctly.

15. The problems which may arise, including those caused by; accidental damage, pollution and difficulties with specification.
16. How to minimise problems and the appropriate action to take if problems occur, including;
17. Remedying the situation and/or informing those who need to act.
18. Safety and health risks in the construction of structures and surfaces.
19. Working methods/systems that promote the safety and health of self and others.

EVIDENCE GUIDE

For assessment purposes:

(1) Critical Aspects of Evidence

Assessment should involve observation of how you construct new structures and surfaces on land-based sites. You must assemble the necessary materials and resources and locate them on site according to the specification. During preparation and construction you may have to deal with unexpected events such as accidental damage or difficulty in conforming to the specification. You must be able to take the correct action in such circumstances.

In demonstrating competence in constructing new structures and surfaces you are required to:

- A. Prepare the structure and surface according to the **specification** of:
 - (i) Setting out and location
 - (ii) Materials and resources
 - (iii) Timescale
 - (iv) Working methods
 - (v) Waste management
 - (vi) The relationship of the structure and surface to its context

Use of equipment, chemical and all other activities must meet the requirements of the law and relevant safety and health codes of practice.

(2) Methods of Assessment

Observation by your assessor of you:

- Ensuring the preparation of structures and surfaces is consistent with the specification
- Preparing the site in a manner appropriate for the structure or surface and which minimises the effect on the surrounding environment
- Using tools and equipment safely and correctly in a way which achieves their purpose
- Making sure the site is clear of unwanted materials and fit for purpose

Answers to written or oral questions from your assessor.

(3) Context of Assessment

Evidence from simulations is **not** acceptable for this unit.

U17602**Maintain plants outdoors**

Unit Descriptor:

This unit is about maintaining the health and appearance of plants in an outdoor environment. It is for members of staff who can carry out the work described under limited supervision only.

You could use this unit either in the context of:

- woody plants (shrubs and trees)
- or herbaceous and bedding plants

The typical tasks you would carry out to complete this unit include:

- monitoring the health and vigour of plants as specified
- identifying ill health and potential causes of ill health
- controlling pests and diseases and weeds by physical, cultural and chemical means using manual and powered equipment
- rectifying soil and environmental conditions likely to induce ill health in plants
- removing competing growth, such as weeds and other unwanted plants
- formative and detailed pruning of trees and shrubs from the ground, using hand tools and powered equipment (for example, hydraulic secateurs or hedge trimmers, if assessed in the context of woody plants)

Use of equipment and chemicals must meet the requirements of the law and industry codes of practice.

ELEMENT**PERFORMANCE CRITERIA**

To be competent you must achieve the following:

- | | |
|---|---|
| 1. Maintain the health of plants outdoors | 1.1 Inspect plants as requested. |
| | 1.2 Identify any threats to plant health . |
| | 1.3 Use appropriate methods to promote and maintain healthy growth. |
| | 1.4 Use methods of dealing with threats to plant health which are correct and effective. |
| | 1.5 Select and use tools, equipment and materials safely and efficiently. |

- 1.6 Keep damage, unnecessary waste, unwanted impact to plants and environmental pollution to a minimum.
 - 1.7 Clean tools and equipment, and return tools, equipment and materials to secure storage following use.
 - 1.8 Maintain the health and safety of yourself and others at all times.
2. Remove unwanted plant growth
- 2.1 Select and use tools and equipment efficiently and correctly.
 - 2.2 Identify **unwanted plant growth** correctly.
 - 2.3 Use **removal methods** that are appropriate to the species, the plant's stage of development and the time of year.
 - 2.4 Keep damage, unnecessary waste and unwanted impact to plants and site to a minimum.
 - 2.5 Dispose of debris correctly.
 - 2.6 Leave the site in a clean and tidy condition.
 - 2.7 Clean tools and equipment, and return tools, equipment and materials to secure storage following use.
 - 2.8 Maintain the health and safety of yourself and others at all times.

RANGE STATEMENT

You must cover the items bellows:

Element 1: Maintain the health of plants outdoors**A. Identify all of the following threats to plant health:**

- (i) pests
- (ii) diseases
- (iii) disorders
- (iv) unfavourable conditions
- (v) competing growth

B. Use three of the following methods to promote plant health:

- (i) feeding
- (ii) watering
- (iii) surface cultivation
- (iv) mulching

C. Use three of the following methods for dealing with threats to plant health:

- (i) physical
- (ii) chemical
- (iii) cultural
- (iv) irrigation

Element 2: Remove unwanted plant growth**A. Identify and deal with all of the following types of unwanted plant growth:**

- (i) diseased
- (ii) damaged
- (iii) dead
- (iv) non-typical
- (v) badly positioned

B. Use all of the following removal methods:

- (i) formative pruning
- (ii) routine pruning

UNDERPINNING KNOWLEDGE AND SKILLS

1. Why it is important to check the condition of plants according to agreed schedules.
2. How the seasons affect the way you maintain plants.
3. Signs of damage or threats to plant health.
4. How to respond to signs of damage or threats to plant health.
5. The impact of soil conditions on plant growth.
6. The difference in watering regimes for different types of soil.
7. The effects of different types of fertilizers.
8. The chemicals you can use for pest, disease and weed control.
9. Cultural methods of improving health and vigour of plants.
10. The effects of base dressing, top dressing and liquid feeding.
11. The tools and equipment you need to maintain plant health.
12. How to use, maintain, clean and store such equipment correctly.
13. How environmental pollution may happen when you are maintaining plants and how to prevent it.
14. The relevant health and safety legislation and codes of practice.
15. The reasons for the types of removal methods in the range and when to use them.
16. How to identify unwanted growth.
17. Pruning requirements.
18. The impact of seasonality on pruning.
19. The types of tools and equipment that you can use to remove such growth.
20. How to select the correct tools and equipment.
21. How to select and apply methods which are appropriate to the species and the type of growth.
22. The importance of minimizing damage and unnecessary waste and how to do so.
23. What unwanted impact to a site is and how to avoid it.

EVIDENCE GUIDE

For assessment purposes:

(1) Critical Aspects of Evidence

Assessment should involve observation of how you maintain the health and appearance of woody plants (shrubs and trees) or herbaceous and bedding plants in an outdoor environment. You must monitor the health and vigour of plants as specified, identify ill health and potential causes of ill health as well as control pests and diseases and weeds by physical, cultural and chemical means using – manual and powered equipment.

In demonstrating competence in maintaining plants outdoors you are required to:

- A. Identify **all** of the following **threats to plant health**:
- (i) Pests
 - (ii) Diseases
 - (iii) Disorders
 - (iv) Unfavourable conditions
 - (v) Competing growth
- B. Use **three** of the following methods to **promote plant health**:
- (i) Feeding
 - (ii) Watering
 - (iii) Surface cultivation
 - (iv) Mulching
- C. Use **three** of the following methods for **dealing** with threats to plants health:
- (i) Physical
 - (ii) Chemical
 - (iii) Cultural
 - (iv) Irrigation
- D. Identify and deal with **all** of the following types of **unwanted plant growth**:
- (i) Diseased
 - (ii) Damaged
 - (iii) Dead
 - (iv) Non-typical
 - (v) Badly positioned
- E. Use **all** of the following **removal methods**:
- (i) Formative pruning
 - (ii) Routine pruning

Use of equipment, chemical and all other activities must meet the requirements of the law and relevant safety and health codes of practice.

(2) Methods of Assessment

Observation by your assessor of you:

- Selecting and using tools and equipment efficiently and correctly
- Identifying any threat to plant health
- Using the appropriate methods to promote and maintain healthy growth
- Selecting and using tools, equipment and materials safely and efficiently
- Identifying unwanted plant growth correctly
- Disposing of debris correctly

Answers to written or oral questions from your assessor.

(3) Context of Assessment

Evidence from simulations is **not** acceptable for this unit.

U17702

Operate specialised plant and machinery to performance requirements

Unit Descriptor:

This unit was produced by the (PRP) Plant Rationalisation Project) and is one of several units covering specialized plant and machinery operations.

This unit is designed to assess your competence in operation specialized plant and machinery to performance requirements, to interpret instruction and information to carry out operations. It confirms the competence to prepare the plant and machinery to meet the work activity planned and that the equipment is safe, set up and fully operational to carry out the work. It provides for operating the plant and machinery in the work activity and places emphasis on the consequences of the activity and the need to ensure safety and security in the work environment, including the need to be aware of others, whether work personnel or members of the public, who may have contact with the activity. Similarly this competence should also be in evidence in respect of property. Concluding the work activity, ensuring plant and machinery is secure and maintained in an operable condition completed the competence of the unit. Throughout the scope of activities envisaged there is the need to communicate with others and this too is recognised in the competence of operating the specialized plant and machinery to performance requirements.

ELEMENT**PERFORMANCE CRITERIA**

To be competent you must achieve the following:

- | | | |
|---|-----|--|
| 1. Prepare and set up plant and machinery | 1.1 | Ensure that work requirements are confirmed with the appropriate person(s) as to the extent, method and details of the work to be undertaken. |
| | 1.2 | Ensure that hazards and conditions that affect the work activity are identified and actions agreed with the appropriate person(s). |
| | 1.3 | Confirm that the equipment to be used is available and applicable to the work activity. |
| | 1.4 | Ensure that pre-start checks are carried out on the equipment , its energy and ancillary supplies in accordance with approved operating procedures and practices . |

- 1.5 Ensure that the **equipment** is prepared, set up and adjusted for the work activity in accordance with instructions, safety and the work requirements.
 - 1.6 Confirm that the operational performance of the **equipment** and its associated systems is correct, safe and appropriate to the work activity.
 - 1.7 Record defects and damage of the **equipment** and its associated systems is correct, safe and appropriate to the work activity.
 - 1.8 Maintain records in accordance with organisational **procedures** and requirements.
 - 1.9 Refer problems and conditions outside your responsibility of the job holder to an authorized person.
 - 1.10 Ensure that work is carried out to **approved procedures and practices** and in compliance with statutory requirements.
2. Prepare and set up plant and machiner
- 2.1 Identify and confirm the area of work in accordance with the instructions and to the specified work requirements.
 - 2.2 Communicate any changes in **hazards and conditions** that impinge on the work and safety to the appropriate person (s).
 - 2.3 Carry out operations safely in accordance with instructions and operational procedures to meet the specified work requirements.
 - 2.4 Monitor **equipment** to maintain safety of performance throughout the work activity.

- 2.5 Ensure that **methods of communication** used in accordance with the designated procedure.
- 2.6 Deal with any accidents(s) and incident(s) promptly and appropriately during operations in accordance with **approved procedures and practices.**
- 3. Shut down and secure plant and machinery
 - 3.1 Ensure that work activity is concluded to instructions and in accordance with the specified requirements.
 - 3.2 Identify and allow for **hazards and conditions** that affect the shut down or the equipment's security during and on completion of the shut down.
 - 3.3 Ensure that the **equipment** is shut down and left secure in accordance with **approved procedures and practices.**
 - 3.4 Ensure that any defects and damage of **equipment** are recorded and the appropriate action is taken for its correction.
 - 3.5 Ensure that **equipment** is maintained and ready for use in accordance with **post-stop maintenance** requirements.

RANGE STATEMENT

You must cover the items below:

Element 1: Prepare and set up plant and machinery**A. Hazards and conditions: *(Also applies to elements 2 and 3)***

- (i) adverse circumstances affecting the work activity
- (ii) operational performance and security
- (iii) services apparatus, surrounding
- (iv) obstructions
- (v) constructions and property
- (vi) neighbouring work and traffic activities
- (vii) encroaching personnel

B. Equipment: *(Also applies to elements 2 and 3)*

The selected specialized plant and machinery category and the key aspects associated with its operations.

- (i) adjustment for measurement and control,
- (ii) frequency
- (iii) rate of work
- (iv) power and transmission for forward and reverse movement
- (v) associated mechanical energies used such as hydraulics and compressed air
- (vi) system controls to include manoeuvring manipulation and safety
- (vii) construction and formation attachments.

C. Approved procedures and practices: *(Also applies to elements 2 and 3)*

- (i) organisational
- (ii) regulatory
- (iii) emergency
- (iv) operational

Element 2: Prepare and set up plant and machinery**A. Methods of communication:**

- (i) visual
- (ii) oral

Element 3: Shut down and secure plant and machinery**A. Post-stop maintenance:**

- (i) routine checks
- (ii) visual wear and tear inspection
- (iii) damage assessment
- (iv) energy supplies
- (v) safety checks

UNDERPINNING KNOWLEDGE

EVIDENCE GUIDE

For assessment purposes:

(1) Critical Aspects of Evidence

Assessment should involve observation of your competence in operating specialized plant and machinery to performance requirements, to interpret instructions and information to carry out operations. You should demonstrate competence in operating the plant and machinery in the work activity while placing emphasis on the consequences of the activity and the need to ensure safety and security in the work environment. You should conclude the work activity ensuring that the plant and machinery is secure and maintained in an operable condition.

Performance evidence must be provided for all the performance criteria in this unit.

You must provide evidence that you fully understand:

A. Hazards and conditions:

- (i) Adverse circumstances affecting the work activity
- (ii) Operational performance and security
- (iii) Services apparatus, surround
- (iv) Obstruction
- (v) Constructions and property
- (vi) Neighbouring work and traffic activities
- (vii) Encroaching personnel

B. Equipment:

- (i) Adjustment for measurement and control
- (ii) Frequency
- (iii) Rate of work
- (iv) Power and transmission for forward and reverse movement
- (v) Associated mechanical energies used such as hydraulics and compressed air
- (vi) System controls to include manoeuvring manipulation and safety
- (vii) Construction and formation attachments

C. Approved procedure and practices:

- (i) Organisational
- (ii) Regulatory
- (iii) Emergency
- (iv) Operational

Use of equipment, chemical and all other activities must meet the requirements of the law and relevant codes of practice.

(2) Methods of Assessment

Observation by your assessor of you:

- Identifying and confirming the area of work in accordance with the instructions and to the specified work requirements.
- Carrying out operations safely in accordance with instructions and operational procedures to meet the specified work requirements.
- Monitoring **equipment** to maintain safety to performance throughout the work activity.
- Ensuring that **methods of** communication used in accordance with the designated procedure.

Answers to written or oral questions from your assessor.

(3) Context of Assessment

Evidence from simulations is **not** acceptable for this unit.

U16602**Establish plants outdoors**

Unit Descriptor:

This unit is about planting, using established plants and seeds. You will be working under limited supervision only.

This unit may apply to the following types of plants:

- turf
- woody plants
- herbaceous
- bedding plants

The types of activities you may carry out may include:

- Choosing, using and maintaining the equipment you need for the job
- Clearing the site of debris and unwanted plants
- Surface leveling
- Preparing the ground using hand tools and powered equipment (for example, rotavator, tractor mounted equipment etc)
- Applying fertilizers by hand and distributors
- Checking plant material to make sure it meets the planting specification
- Transporting, handling and preparing the plant material
- Planting to the correct position, depth and at the correct time by hand and with powered equipment (for example, seed drills)
- Sowing seeds manually or mechanically
- Watering and feeding by hand and using distributors
- Weeding by hand or chemically
- Providing supports and ties

Use of equipment, chemicals and all other activities must meet the requirements of the law and industry codes or practice.

ELEMENT**PERFORMANCE CRITERIA**

To be competent you must achieve the following:

1. Prepare ground for establishing plants

- 1.1 Select and use the **equipment** and **materials** you need to prepare the ground efficiently.
- 1.2 Ensure the **equipment** is correctly maintained before, during and after your work.

- 1.3 **Prepare** the ground in a way that is appropriate to the plants being established, the soil type and ground condition.
 - 1.4 Keep damage, unnecessary waste and unwanted impact to the site to a minimum.
 - 1.5 Keep damage, unnecessary waste and unwanted impact to the site to a minimum.
 - 1.6 Maintain the health and safety of yourself and others at all times.
 - 1.7 Store your **equipment** and **materials** safely and securely following use.
2. Establish plants in soil
- 2.1 Select **plant material** as requested.
 - 2.2 Transport, handle and prepare the **plant material** in a way that maintains its health and condition according to the prevailing conditions.
 - 2.3 Select, use and maintain **equipment** efficiently and correctly.
 - 2.4 Plant at times most likely to encourage establishment and growth.
 - 2.5 Position the plant material and provide nutrients and **aftercare** to meet the planting specification.
 - 2.6 Provide accurate and clear labels or records.
 - 2.7 Maintain the health and safety of yourself and others at all times.
 - 2.8 Store your **equipment** and materials safely and securely following use.

RANGE STATEMENT

You must cover the items below:

Element 1: Prepare ground for establishing plants**A. Select, use, maintain and store one of the following types of equipment:**

- (i) non-powered hand-held tools
- (ii) powered hand-held tools

B. Select, use and store two of the following materials:

- (i) organic matter
- (ii) fertilizer
- (iii) perennial weed herbicides

C. Use four of the following methods to prepare the ground:

- (i) clearance
- (ii) minor leveling
- (iii) achieving correct tilth
- (iv) consolidation
- (v) provision of nutrients

Element 2: Establish plants in soil**A. Select and establish both of the following types of plant material:**

- (i) established plants
- (ii) seeds

B. Select, use, maintain and store one of the following types of equipment:

- (i) manual
- (ii) powered

C. Provide three of the following types of aftercare:

- (i) provision of water
- (ii) protection
- (iii) staking
- (iv) initial pruning **or** cutting

UNDERPINNING KNOWLEDGE AND SKILLS

1. The equipment and materials necessary to clear and prepare ground for planting.
2. The correct methods of using, maintaining and storing this equipment.
3. The hazards arising from services on site and how to avoid these.
4. The range of different clearance and preparation methods which may be used.
5. How to achieve correct tilth, consolidation and nutrient levels.
6. How to identify a representative sample of plants relevant to your workplace.
7. How to ensure that preparation is suitable to the plants, soil type, ground conditions and the type of site.
8. The effect of soil type and condition, climate, weather and ground conditions, previous treatment and existing services and structures on clearance and preparation methods.
9. The control of perennial weeds.
10. How to minimize damage and unnecessary waste when working.
11. What unwanted impacts to a site may occur when preparing ground and how to avoid them.
12. The correct methods to deal with accidental damage and pollution.
13. The relevant health and safety legislation and codes of practice.
14. How to transport and handle plants in a way which minimizes damage and maintains health.
15. How to prepare plant material in a way that is appropriate to the plant conditions.
16. How to select equipment correctly for different plant types and conditions
17. The safe use of such equipment.
18. The correct procedures for maintenance, cleaning and storage of tools and equipment.
19. The importance of timing and seasonality to planting.

EVIDENCE GUIDE

For assessment purposes:

(1) Critical Aspects of Evidence

Assessment should involve observation of work processes at intervals when the ground is being prepared for establishing plants and establishing plants in soil and questioning related to underpinning knowledge.

Performance evidence should be provided for all of the performance criteria in this unit. However, supplementary evidence will be accepted for Performance Criteria 5.

You must be able to select, use, maintain and store one **type in each category** of the following types of equipment:

- a. Hand-held tools
- b. Hand-held powered tools

You should also be able to select, use and **properly** store **all** of the following materials:

- c. Soil amendment
- d. Fertilizer
- e. Pesticides

You must demonstrate the ability to use all of the following methods to prepare the ground the minimum size of which should be 15m²:

- f. Clearance
- g. Minor leveling
- h. Achieving correct tilth
- i. Consolidation
- j. Application of nutrients
- k. Application of soil amendment

You must be able to select and establish **two out of three** of the following types of **plant material**:

- l. Containerised established plants
- m. Non-containerised established plants
- n. Seeds

You must also be able to provide **three** of the following types of **aftercare**:

- o. Provision of water
- p. Protection
- q. Staking
- r. Initial pruning **or** cutting

With respect to the underpinning knowledge you should be able to identify a representative sample of at least **thirty-five** plants relevant to your workplace.

Use of equipment, chemical and all other activities must meet the requirements of the law and relevant codes of practice.

(2) Methods of Assessment

Observation by your assessor of you:

- Choosing, using and maintaining the equipment you need for the job
- Preparing the ground using hand-held non-powered tools and hand-held powered tools (example, rotavator, tractor mounted equipment etc.)
- Planting to the correct position, depth by hand and with powered equipment (for example, seed drills)
- Sowing seeds manually or mechanically
- Watering and feeding by hand and using distributors
- Providing supports and ties

Answers to written or oral questions from your assessor.

(3) Context of Assessment

Evidence from simulations **is** acceptable for this unit.

U17802

Maintain the health of sports turf

Unit Descriptor:

This unit is about maintaining the health of sports turf so that it is suitable for play. It covers dealing with weeds, moss, pests, diseases and other disorders. It is for members of staff who can carry out the work described under limited supervision only.

The typical tasks you would carry out to complete this unit include:

- inspecting the turf as requested
- identifying ill health and potential causes of ill health in sports turf
- controlling pests and diseases, weeds and moss in sports turf by physical, cultural and chemical methods using manual and powered equipment
- rectifying soil and environmental conditions likely to cause ill health in turf

Use of equipment and chemicals must meet the requirements of the law and codes of practice.

ELEMENT**PERFORMANCE CRITERIA**

To be competent you must achieve the following:

- | | |
|---------------------------------------|--|
| 1. Monitor the health of sports turf | 1.1 Inspect the turf as requested. |
| | 1.2 Identify conditions that threaten the health of the sports turf. |
| | 1.3 Report these conditions to the appropriate people. |
| 2. Maintain the health of sports turf | 2.1 Apply treatments safely, effectively and without damage to surrounding areas, as instructed. |
| | 2.2 Dispose of waste material safely and with minimal environmental pollution. |
| | 2.3 Clean tools and equipment. |
| | 2.4 Store tools and equipment and materials securely. |

RANGE STATEMENT

You must cover the items below:

Element 1: Monitor the health of sports turf**A. Identify and deal with all of the following conditions:**

- (i) weeds
- (ii) pests
- (iii) disease
- (iv) disorders
- (v) moss
- (vi) mechanical damage

Element 2: Maintain the health of sports turf**A. Use all of the following treatments:**

- (i) physical
- (ii) chemical
- (iii) cultural

UNDERPINNING KNOWLEDGE AND SKILLS

1. Your role in maintaining health and safety.
2. The types of personal protective equipment and clothing needed for your work and how they must be used, cleaned, stored, inspected and replaced.
3. Safe methods for moving and lifting items.
4. The reasons for maintaining good personal and workplace hygiene relevant to your industry.
5. The reasons for leaving information about your whereabouts when working in isolation or in remote locations.
6. Your own ability to deal with health and safety emergencies (e.g. not carrying out actions beyond your own capabilities) and the reasons for this.
7. Basic emergency first aid procedures.
8. Methods for minimising environmental damage.
9. Why accidents should be reported without delay and recorded in the appropriate document.

EVIDENCE GUIDE

For assessment purposes:

(1) Critical Aspects of Evidence

Assessment should involve observation of how you maintain the health of sports turf so that it is suitable for play. You must deal with weeds, moss, pests, diseases and other disorders under limited supervision.

In demonstrating competence in maintaining the health of sports turf you are required to:

A. Identify by genus and species **all** of the following **conditions**:

- (i) Fifteen weeds (grasses, broad leaf and sedges)
- (ii) Two pests
- (iii) Two diseases

B. Identify and deal with **all** of the following **conditions**:

- (i) Two disorders
- (ii) Moss and algae
- (iii) Mechanical damage

Identification of live specimens should be used wherever possible, some identification using photographs is acceptable. The candidate can present dried samples.

C. Timely use **all** of the following **treatments**:

- (i) Physical
- (ii) Chemical
- (iii) Cultural

(2) Methods of Assessment

Observation by your assessor of you:

- Inspecting the turf as requested
- Identifying ill health and potential causes of ill health in sports turf
- Controlling pests and diseases, weeds and moss in sports turf by physical, cultural and chemical methods using manual and powered equipment
- Rectifying soil and environmental conditions likely to cause ill health in turf
- Disposing of waste material safely and with minimal environmental pollution
- Storing tools and equipment and materials securely

(3) Context of Assessment

Evidence from simulations is **not** acceptable for this unit.

U17902 Present, maintain and repair sports turf surfaces for play

Unit Descriptor:

This unit is about presenting sports turf surfaces so that they meet the requirements of a sport and a particular event. It also covers repairing and renovating the surface following play. It is for members of staff who can carry out the work described under limited supervision only.

The typical tasks you would carry out to complete this unit include:

- selecting, preparing and using equipment
- preparing the sports turf surface by:
 - mowing with powered equipment
 - irrigating using rotary, oscillating and pop up sprinklers
 - scarifying and verti-cutting using pedestrian controlled, ride-on and tractor mounted/trailed equipment
 - rolling using pedestrian or powered equipment
 - top dressing using manual and powered equipment
 - brushing using pedestrian controlled, ride on and tractor mounted/trailed brushes
 - setting out of sports equipment in accordance with the standard for the event
- producing a surface with the correct speed, surface response to ball, animal or player, moisture content, grass cover, consolidation and trueness according to the requirements of the sport and standard for the event.
- application of fertilizers by hand and distributor.
- identifying, assessing and preparing correctly the surface in need to renovation and repair
- renovating and repairing damaged areas according to the degree of damage and the type of surface by:
 - seeding by hand and use of distributors
 - lifting of turf, patching and plugging by hand
 - forking up by hand
 - top dressing by hand and the use of distributors
- returning the surface to the correct standard for the sport and event.

Use of equipment and chemicals must meet the requirements of the law and codes of practice.

ELEMENTS	PERFORMANCE CRITERIA
1. Present and maintain sports surfaces and facilities for play	<p><i>To be competent you must achieve the following:</i></p> <p>1.1 Select the correct tools and equipment to prepare the surface.</p> <p>1.2 Use tools and equipment safely and efficiently.</p> <p>1.3 Clear surfaces of unwanted debris and dispose of it correctly.</p> <p>1.4 Prepare the playing surface so that it meets the requirements of the sport and the standard for the event.</p> <p>1.5 Maintain the quality and appearance of surfaces.</p> <p>1.6 Make markings which are clear and appropriate to the event.</p> <p>1.7 Set up the sports equipment required by the rules of the sport and the standard of the event.</p> <p>1.8 Keep waste to a minimum.</p> <p>1.9 Clean tools and equipment and store them securely.</p>
2. Renovate and repair sports turf and surfaces	<p>2.1 Inspect surfaces as requested.</p> <p>2.2 Identify and assess surfaces in need of renovation and repair.</p> <p>2.3 Select renovation and repair methods that are appropriate to the damage and the type of sports surface.</p> <p>2.4 Select tools and equipment that are suitable for the repair job.</p> <p>2.5 Use tools and equipment safely and efficiently.</p> <p>2.6 Prepare the surface and use the selected renovation and repair methods safely and correctly.</p>

- 2.7 Reinststate the surface so that it meets the requirements of the sport and the **standard** of the event.
- 2.8 Clean and store equipment securely and correctly.

RANGE STATEMENT

You must cover the items below:

Element 1: Present and maintain sports surfaces and facilities for play

A. Use all of the following types of tools and equipment:

- (i) hand-held non-powered tools and equipment
- (ii) hand-held powered tools and equipment
- (iii) ride-on equipment

B. Use all of the following methods to **prepare the surface:**

- (i) mowing
- (ii) irrigation
- (iii) scarifying and verticutting
- (iv) rolling
- (v) top dressing
- (vi) brushing or switching
- (vii) aeration
- (viii) edging
- (ix) applying fertiliser
- (x) marking out sports surface
- (xi) setting up sports equipment

- C. Maintain at least **three** of the following aspects of the **standard** for the surface: *(Also applies to element 2)*
- (i) speed
 - (ii) surface response to a ball, animal or player
 - (iii) moisture content
 - (iv) grass cover
 - (v) trueness
- D. In identifying and assessing surfaces in need of **renovation and repair** you should provide the following **three** examples:
- (i) grass burnt through a lack of moisture
 - (ii) grass thinning
 - (iii) compaction

Element 2: Renovate and repair sports turf and surfaces

- A. Use **three** of the following **renovation and repair methods**:
- (i) seeding
 - (ii) hand lifting
 - (iii) sprigging, plugging or sodding
 - (iv) aeration/verticutting
 - (v) forking
 - (vi) top dressing
 - (vii) divotting
 - (viii) weed control

UNDERPINNING KNOWLEDGE AND SKILLS

1. How ground conditions affect maintenance operations.
2. How to select tools and equipment to present the surface for play.
3. How to make safe and efficient use of this equipment.
4. Why it is important to clear surfaces of unwanted debris and dispose of it properly.
5. How to ensure the surface is in a fit condition for maintenance.
6. The importance of ensuring the surface meets the required standard and how to do so.
7. The effects of climate and soil conditions on intensity, type and frequency of operations on turf, on grass growth characteristics and playing surfaces.
8. How to carry out markings appropriate to sports and events.
9. How to set out sports equipment in a way which meets the needs of the sport and the standard of the event.
10. Why it is important to set out equipment correctly and what might happen if you do not.
11. Why it is important to keep unnecessary waste to a minimum.
12. How to clean and store the equipment securely and correctly and why it is important to do so.
13. Why it is important to renovate and repair surfaces to the required standard and the consequences of not doing so.
14. How to identify surfaces in need of renovation and repair.
15. How to select the appropriate renovation and repair method according to degree of damage and the surface itself.
16. The importance of thorough and appropriate preparation prior to renovation and repair and how to do so.
17. How to ensure that the surface meets the requirements of the sport and the standard for the event.
18. How to clean and store the necessary tools and equipment securely and correctly and the importance of doing so.
19. The relevant legislation and codes of practice covering this area of work.

EVIDENCE GUIDE

For assessment purposes:

(1) Critical Aspects of Evidence

Assessment should involve observation of how you present sports turf surfaces so that they meet the requirements of a sport and a particular event. You will also be observed repairing and renovating the surface following play under limited supervision.

In demonstrating competence in presenting, maintaining and repairing sports turf surfaces for play you are required to:

A. Use **two** of the following types of **tools and equipment**:

- (i) Non-powered hand-held tools and equipment
- (ii) Powered hand-held tools and equipment
- (iii) Ride on equipment

B. Use **all** of the following methods to **prepare** the surface where appropriate:

- (i) Mowing
- (ii) Irrigation
- (iii) Scarifying and verticutting
- (iv) Rolling
- (v) Top dressing
- (vi) Brushing or switching
- (vii) Aeration
- (viii) Edging
- (ix) Applying fertiliser
- (x) Marking out sports surface
- (xi) Setting up sports equipment
- (xii) Grassing

C. Maintain at least **three** of the following aspects of the **standard** for the surface:

- (i) Speed
- (ii) Surface response to a ball, animal or player
- (iii) Moisture content
- (iv) Grass cover
- (v) Trueness

D. In identifying and assessing surfaces in need of **renovation and repair** you should provide the following **three** examples:

- (i) Grass burnt through a lack of moisture
- (ii) Grass thinning
- (iii) Compaction

E. Use **three** of the following **renovations and repair methods**:

- (i) Seeding
- (ii) Hand lifting
- (iii) Sprigging, plugging or sodding
- (iv) Aeration/verticutting
- (v) Top dressing
- (vi) Repairing divots and ball marks
- (vii) Weed control

Use of equipment and chemicals must meet the requirements of the law and industry codes of practice.

(2) Methods of Assessment

Observation by your assessor of you:

- Preparing the playing surface so that it meets the requirements of the sport and the standard for the event
- Maintaining the quality and appearance of surfaces
- Setting up the sports equipment required by the rules of the sport and the standard of the event
- Inspecting the turf as requested.
- Identifying and assessing surfaces in need of renovation and repair
- Preparing the surface and using the selected renovation and repair methods safely and correctly
- Reinstating the surface so that it meets the requirements of the sport and the standard of the event
- Cleaning and storing equipment securely and correctly

Answers to written or oral questions from your assessor.

(3) Context of Assessment

Evidence from simulations is **not** acceptable for this unit.

U18002 Present, maintain and repair artificial playing surfaces for play

Unit Descriptor:

This unit is about making sure that artificial/synthetic playing surfaces are safe and meet the required standards for the sport. It is for members of staff who can carry out the work described under limited supervision only.

The typical tasks you would carry out to complete this unit include:

- inspecting surfaces
- clearing and preparing surfaces for maintenance
- carrying out routine maintenance: brushing, luting, top-dressing, weed control, moss/algae control
- using hand tools and powered equipment
- carrying out repairs and renovation, including: irrigation, marking out and the removal of contaminants
- safe disposal of waste materials
- routine cleaning, maintenance and storage of tools and equipment

Use of equipment and chemicals must meet the requirements of the law and codes of practice.

ELEMENTS

PERFORMANCE CRITERIA

To be competent you must achieve the following:

- | | |
|--|---|
| 1. Maintain the condition of artificial playing surfaces | 1.1 Choose tools and equipment that are appropriate to the surface and the type of maintenance you will be carrying out. |
| | 1.2 Clear and prepare the surface for maintenance . |
| | 1.3 Carry out maintenance so that the quality and appearance of the surface is suitable for the sport. |
| | 1.4 Use your tools and equipment correctly and safely. |

- 1.5 Keep unnecessary waste to a minimum.
- 1.6 Clean and safely store your **tools and equipment** so that they are ready for next use.
2. Repair and renovate artificial playing surfaces
 - 2.1 Carry out inspections as requested.
 - 2.2 Identify any conditions that affect the quality of the **surface**.
 - 2.3 Report these conditions to the relevant person.
 - 2.4 Use a **method** to deal with these conditions that are appropriate to the condition and the surface.
 - 2.5 Carry out **repairs and renovation** promptly and effectively.
 - 2.6 Dispose of waste safely whilst keeping environmental pollution to a minimum.
 - 2.7 Clean and safely store your tools and equipment so that they are ready for next use.

RANGE STATEMENT

You must cover the items below:

Element 1: Maintain the condition of artificial playing surfaces**A. Maintain one of the following types of surfaces:**

- (i) hard porous water bound
- (ii) filled synthetic
- (iii) non-filled synthetic

B. Use two of the following types of tools and equipment:

- (i) hand
- (ii) powered
- (iii) mounted

C. Carry out four of the following types of maintenance:

- (i) brushing
- (ii) luting
- (iii) top dressing
- (iv) weed control
- (v) moss/algae control

Element 2: Repair and renovate artificial playing surfaces**A. Repair and renovate one of the following types of surfaces:**

- (i) hard porous water bound
- (ii) filled synthetic
- (iii) non-filled synthetic

B. Use one of the following types of methods:

- (i) cultural
- (ii) chemical

C. Carry out **four** of the following types of **maintenance**:

- (i) marking out
- (ii) brushing
- (iii) renovation
- (iv) irrigation
- (v) debris removal
- (vi) contamination removal
- (vii) weed and moss control

UNDERPINNING KNOWLEDGE AND SKILLS

1. The reasons for the different types of maintenance listed: brushing, luting, top-dressing, weed control, moss/algae control.
2. The types of tools and equipment that you need for different maintenance operations.
3. How to use these tools and equipment safely and effectively.
4. How surface conditions affect maintenance operations.
5. Why it is important to prepare the surface before carrying out maintenance.
6. The standard of appearance and quality that has to be achieved for the sport.
7. Routine cleaning, maintenance and storage procedures for the types of equipment you use.
8. Health and safety legislation and other requirements that are relevant to the maintenance operations.
9. Sources of information relating to the materials and methods used to maintain surfaces, equipment and perimeters.
10. How to identify, select and obtain the materials, tools and equipment you need.
11. The methods and techniques you should use to maintain surfaces, equipment and perimeters.
12. The standards of maintenance you should achieve.
13. The dangers of damage to the surrounding area and other features and how to protect against these.
14. Why it is important to keep waste to a minimum.
15. Why it is important to dispose of debris correctly and how to do so.
16. Relevant standards, legal and regulatory requirements.

EVIDENCE GUIDE

For assessment purposes:

(1) Critical Aspects of Evidence

Assessment should involve observation of how you make sure that artificial/synthetic playing surfaces are safe and that they meet the required standards for the sport. You will be observed presenting, maintaining and repairing artificial playing surfaces under limited supervision.

In demonstrating competence in presenting, maintaining and repairing artificial playing surfaces for play you are required to:

A. Maintain **one** of the following types of **surfaces**:

- (i) Hard porous water bound
- (ii) Filled synthetic
- (iii) Non-filled synthetic

B. Use **two** of the following types of **tools and equipment**:

- (i) Hand-held non-powered
- (ii) Hand-held powered
- (iii) Mounted

C. Carry out **three** of the following types of **maintenance**:

- (i) Brushing
- (ii) Luting
- (iii) Top dressing
- (iv) Weed control
- (v) Moss/algae control

D. Repair and renovate **one** of the following types of **surfaces**:

- (i) Hard porous water bound
- (ii) Filled synthetic
- (iii) Non-filled synthetic

E. Use **one** of the following types of **methods** to deal with the conditions that affect the surface:

- (i) Cultural
- (ii) Chemical

F. Carry out **four** of the following types of **repair and renovation**:

- (i) Marking out
- (ii) Brushing
- (iii) Renovation
- (iv) Irrigation
- (v) Debris removal
- (vi) Contamination removal
- (vii) Weed and moss control

(2) Methods of Assessment

Observation by your assessor of you:

- Clearing and preparing the surface for maintenance
- Identifying any conditions that affect the quality of the surface
- Carrying out repairs and renovations promptly and effectively
- Carrying out maintenance so that the quality and appearance of the surface is suitable for the sport
- Disposing of waste whilst keeping environmental pollution to a minimum
- Cleaning and safely storing your tools and equipment so that they are ready for next use.

Answers to written or oral questions from your assessor.

(3) Context of Assessment

Evidence from simulations is **not** acceptable for this unit.

U17002**Use and Maintain Equipment and Machines**

Unit Descriptor:

This unit is about using equipment and machinery correctly and safely, with due regard to manufacturers' instructions and legal and regulatory requirements. It also covers the routine, day-to-day maintenance of this equipment, before and after use. It is for members of staff who can carry out the work described under limited supervision only.

The types of equipment and machinery included in this unit are:

- Non-powered tools and equipment (for example: hand tools, fertilizer distributors).
- Hand held powered equipment (for example: string trimmers, hedge cutters, hedge cutters, leaf blowers).
- Pedestrian controlled powered equipment (for example rotary mowers).
- Ride-on powered equipment (for example ride-on mowers).
- Chippers and/shredders.
- Identifying blockages and leaks.

Use of machinery and equipment and all actions must meet the requirements of the law and relevant codes of practice.

NB: This unit does not cover the use of tractors or tractor mounted equipment other than small lawn/compact tractors.

ELEMENT**PERFORMANCE CRITERIA**

To be competent you must achieve the following:

- | | |
|--------------------------------|--|
| 1. Use equipment and machinery | 1.1 Select the correct item of equipment and machinery for the planned task. |
| | 1.2 Make sure that the equipment and machinery is safe and in good working order. |
| | 1.3 Select and use the correct personal protective clothing and equipment. |

- 1.4 Use the **equipment and machinery** in accordance with the manufacturers' instructions and legal regulatory requirements.
- 1.5 Identify any problems with the **equipment and machinery** and take the correct **action**.
- 1.6 Clean and store the equipment correctly after use.
- 2. Carry out routine maintenance to equipment and machinery
 - 2.1 Make sure the **equipment and machinery** is correctly prepared for safe maintenance.
 - 2.2 Maintain **equipment and machinery** in accordance with manufacturers' instructions, standard procedure and legislation.
 - 2.3 Maintain health and safety in accordance with relevant legislation and codes of practice.
 - 2.4 Minimise the escape of substances and dispose of **waste** in a safe manner and place.
 - 2.5 Identify the need for advice and assistance and refer problems to the appropriate member of staff.

RANGE STATEMENT

You must cover the items below:

Element 1: Use equipment and machinery**A. Use three of the following types of equipment and machinery:**

- (i) non-powered tools and equipment
- (ii) hand-held powered equipment
- (iii) pedestrian controlled powered equipment
- (iv) ride-on powered equipment

B. Take the following types of actions:

- (i) correct pre-use checks
- (ii) correct start-up procedures
- (iii) use the appropriate work method
- (iv) correct stopping procedure
- (v) correct post-use operate maintenance
- (vi) reporting problems to a more competent colleague

Element 2: Carry out routine maintenance to equipment and machinery**A. Carry out routine maintenance to three of the following types of equipment and machinery:**

- (i) non-powered tools and equipment
- (ii) hand-held powered tools and equipment
- (iii) pedestrian controlled powered controlled
- (iv) ride-on powered equipment

B. Handle and dispose of wastes which are

- (i) hazardous
- (ii) non-hazardous

UNDERPINNING KNOWLEDGE AND SKILLS

1. How to select the correct items of machinery equipment for the tasks that you are responsible for.
2. How to check the equipment and machinery and the types of pre-operational maintenance that you are required to carry out.
3. The health and safety requirements that govern the use of the equipment and machinery in your area of responsibility.
4. The main hazards associated with using the equipment and machinery in your area of responsibility.
5. The manufacturer's instructions for the operation of the equipment and machinery in your area of responsibility.
6. The types of problems that may occur with the equipment and machinery you work with and how to deal with each of these correctly.
7. The principles of two and four stroke engines.
8. The principles of lines of drive – clutch, v-belts, chains.
9. Types of protective clothing and the reasons why they must be worn.
10. The correct ways of wearing personal protective equipment.
11. The legal and regulatory requirements that govern the use of the equipment and machinery in your areas of responsibility.
12. Methods for maintaining equipment and machines.
13. The reasons for maintaining equipment and machinery and the possible consequences of not maintaining it correctly.
14. Legislative requirements relating to the maintenance of equipment and machinery.
15. Health and safety in relation to the maintenance of equipment and machines and the usage of the work area.
16. Hazardous chemicals and substances which may be present and ways of minimizing leakage.
17. Safe and correct methods of disposing of waste materials.
18. Levels of or responsibility in relation to the maintenance of equipment and machinery and whom to go to for advice.
19. Safe and suitable methods of storing tools, equipment and machinery.

EVIDENCE GUIDE

For assessment purposes:

(1) Critical Aspects of Evidence

Assessment should involve observation of how you select and use equipment and machinery correctly and safely in accordance with manufacturers' instructions and current Safety and Health regulations. You should also demonstrate the routine, day-to-day maintenance of this equipment, before and after use.

Performance evidence must be provided for all of the performance criteria in this unit. However, where simulations are used to generate performance evidence, these should properly reflect the requirements of real working situations.

In demonstrating competence in the use of equipment and machinery it is necessary that you show that you can:

- A. Use all hand-held non powered tools and equipment relevant to your job.
- B. Use **two** of the following types of **equipment and machinery**.
 - (i) Hand-held powered tools and equipment
 - (ii) Pedestrian controlled powered equipment
 - (iii) Ride-on powered equipment
- C. Take the following types of **action**:
 - (i) Correct pre-use checks
 - (ii) Correct start-up procedure
 - (iii) Use appropriate work method
 - (iv) Correct stopping procedure
 - (v) Correct post-use operator maintenance
 - (vi) Report problems to a more competent colleague
- D. Carry out routine maintenance to hand-held non-powered tools and equipment. Carry out maintenance to **two** of the following types of **equipment and machinery**:
 - (i) Hand-held powered tools
 - (ii) Pedestrian controlled powered equipment
 - (iii) Ride-on powered equipment
- E. Handle and dispose of **wastes** which are:
 - (i) Hazardous
 - (ii) Non-hazardous

(2) Methods of Assessment

Observation by your assessor of you using and routinely maintaining:

- Hand-held non-powered tools and equipment (for example, hand tools, spray equipment, fertiliser distributors)
- Hand-held powered equipment (for example, string trimmers, hedge cutters, leaf blowers)
- Pedestrian controlled powered equipment (for example, rotary mowers)
- Ride-on powered equipment (for example, ride-on mowers)
- Chippers and/or shredders

Answers to written or oral questions from your assessor.

(3) Context of Assessment

Evidence from simulations **is** acceptable for this unit.

U17202 Prepare and operate a tractor with attachments

Unit Descriptor:

This unit sets the standard for the preparation and operation of a tractor with attachments. The competent use of a tractor with attachments requires considerable skill and knowledge. Attachments may include loaders, trailers and mounted implements.

It is vital that during the use of tractors you adhere to health and safety requirements at all times. You will need to use of warning signals correctly, and identify (and remove/avoid) hazards.

You will need to be able to use a tractor during a variety of weather conditions. These weather conditions will have an impact on the handling and use of the tractor. You will also need to be able to use tractors both on and off roads.

ELEMENT

PERFORMANCE CRITERIA

To be competent you must achieve the following:

- | | |
|---|--|
| 1. Prepare a tractor with attachments for operation | <ul style="list-style-type: none"> 1.1 Carry out pre-start checks and adjustments in accordance with standard procedures. 1.2 Check the immediate work area for hazards and obstacles and take the appropriate action. 1.3 Use attachments that are suitable for the tractor. 1.4 Make sure that attachments are secure and safe. 1.5 Check that the work area is clear of people and animals immediately prior to the start of operations. 1.6 Use the correct warning signals immediately prior to the commencement of operations. 1.7 Carry out all work activities in accordance with health and safety legislation and codes of practice. |
|---|--|

- | | |
|--|--|
| 2. Operate a tractor and its attachments | 2.1 Conduct all movements of the vehicle safely, and consistent with the type of vehicle and operation. |
| | 2.2 Modify operating procedures to take into account any changed in weather and ground conditions , and types of terrain . |
| | 2.3 Deal with any hazards and obstacles encountered during the operation in accordance with standard practice. |
| | 2.4 Maintain the efficiency of vehicle performance through the appropriate handling and use of the vehicle. |
| | 2.5 Use attachments to the vehicle safely at all times. |
| | 2.6 Leave the vehicle safe after use and in a condition suitable to its future use. |
| | 2.7 Carry out all work activities in accordance with health and safety legislation, and codes of practice. |

RANGE STATEMENT

You must cover the items below:

Element 1: Prepare a tractor with attachments for operation

A. Carry out the following pre-start checks and adjustments:

- (i) routine maintenance
- (ii) safety checks

B. Use two of the following attachments: (*Also applies to element 2*)

- (i) loaders
- (ii) trailers
- (iii) mounted implements

Element 2: Operate a tractor and its attachments

- A. Operate a tractor in two of the following **ground conditions**:
- (i) wet
 - (ii) dry
 - (iii) frost
- B. Maintain the **efficiency of vehicle performance** through the appropriate use of:
- (i) gears
 - (ii) speed
 - (iii) hydraulics
 - (iv) coverage of ground
- C. Use the vehicle on two of the following **terrain**:
- (i) hard surfaces
 - (ii) soft surfaces
 - (iii) slopes

UNDERPINNING KNOWLEDGE AND SKILLS

- a. The required pre-start checks and adjustments.
- b. Health and safety in relation to the preparation and use of tractors.
- c. Types of attachments and how they should be secured to the tractor.
- d. Types of attachments that are safe for use with the vehicle and those that are not.
- e. Conditions which should be taken into account when considering the use of attachments.
- f. Health and safety requirements in terms of the workplace.
- g. The correct use and duration of warning signals and indicators.
- h. The ways in which the vehicle should be manoeuvred, and how different weather and ground conditions must be taken into account.
- i. Types of hazards which may be encountered and how these should be dealt with.
- j. The capabilities of the vehicle and the expected efficiency of vehicle operations.
- k. The safe use of attachments.
- l. The reasons why the vehicle should be left in a condition suitable for future use.

EVIDENCE GUIDE

For assessment purposes:

(1) Critical Aspects of Evidence

Assessment should involve observation of your preparing and operating a tractor with such attachments as loaders, trailers and mounted implements. You will also need to be able to use tractors both on and off roads.

In demonstrating competence in preparing and operating a tractor with attachments it is required that you:

- A.** Carry out the following **pre-start checks and adjustments**:
 - (i) Routine maintenance
 - (ii) Safety checks

- B.** Use **two** of the following **attachments**:
 - (i) Routine maintenance
 - (ii) Safety checks

- C.** Operate a tractor in **all** of the following ground conditions:
 - (i) Wet
 - (ii) Dry

- D.** Maintain the **efficiency of vehicle performance** through the appropriate use of:
 - (i) Gears
 - (ii) Speed
 - (iii) Hydraulics
 - (iv) Coverage of ground

- E.** Use the vehicle on **all** of the following **terrain**:
 - (i) Hard surfaces
 - (ii) Sort surfaces
 - (iii) Slopes

Use of equipment, chemical and all other activities must meet the requirements of the law and relevant safety and health codes of practice.

(2) Methods of Assessment

Observation by your assessor of you:

- Carrying out **pre-start checks and adjustments** in accordance with standard procedures.
- Using **attachments** that are secure and safe.
- Making sure that **attachments** are secure and safe.
- Checking that the work area is clear of people and animals immediately prior to the start of operations.
- Conducting all movements of the vehicle safely, and consistent with the type of vehicle and operation.
- Leaving the vehicle safe after use and in a condition suitable to its future use.

Answers to written or oral questions from your assessor.

(3) Context of Assessment

Evidence from simulations **is** acceptable for this unit but where simulations are used to generate performance evidence, these should properly reflect the requirements of real working situations.