

Progression Qualification in Construction and BSE  
Project Assessment  
Specialism: Electrical Installation

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## Contents

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## Learner Guidance

### Assessment Purpose and Overview

This assessment will be internally assessed and externally quality assured.

The purpose of this project assessment is for you to (within the specified time):

- Plan out the works required of your chosen trade in a larger construction project
- Carry out an element of the works in the form of a practical project, demonstrating skills of your chosen trade
- Evaluate your work based on your key deliverables and plan.

The project is also designed to ensure you have the opportunity to demonstrate your wider employability skills including:

- Calculation of cost and resourcing
- Use of effective and appropriate communication
- Time management
- Effective planning
- Setting personal targets and success criteria
- Problem-solving.

The project briefs have been designed to align to the most up to date standards of the chosen trade area.

This is a formal assessment for your qualification. You will be marked on the quality and accuracy of your practical performance and any written work you produce. It is therefore important that you carry your work out to the highest standard you can. You should show how well you know and understand the subject, and how you are able to use your knowledge and skills together to complete the tasks.

### Plagiarism

Your tutor/assessor is allowed to give you some help understanding the assignment instructions if necessary, but they will record any other guidance you need, and this will be taken into account during marking.

This is an assessment of your abilities, so the work must be all your own work and carried out under the conditions stated. You will be asked to sign a declaration that you have not had any outside help with the assessment.

Where research is allowed, your tutor/assessor must be able to identify which work you have done yourself, and what you have found from other sources. It is therefore important to make sure you acknowledge all sources and clearly reference any information taken from them.

## Timings and Planning

You should take care when planning to make sure you have used the time available to you appropriately across the tasks you are required to complete.

If you have a good reason for needing more time, you will need to explain the reasons to your tutor/assessor and agree a new deadline date. Changes to dates will be at the discretion of the tutor/assessor, and they may not mark work that is handed in after the agreed deadlines.

## Health and Safety

You must always work safely. You must always follow any relevant health and safety regulations and codes of practice.

If your tutor/assessor sees you working in a way that is unsafe for yourself or others, they will ask you to stop immediately, and tell you why. If it is classed as a minor infraction you will be told what you did and allowed to then continue with your assessment. If you work in a manner that is classed as a major infraction of health and safety, or you have more than three minor infractions then the assessment will be stopped for you and you will fail the assessment.

## Presentation of Work

Presentation of work must be neat and appropriate to the task. You should make sure that each piece of work is clearly labelled with your name and the assignment reference.

All electronic files must be given a clear file name that allows your tutor/assessor to identify it as your work.

Written work e.g. reports may be word processed, but this is not a requirement.

## Assignment Brief

A single-storey extension is to be built on the rear of a detached residential two-storey dwelling. In addition to this work, the client is repurposing two existing garden buildings into a garden office and a workshop.

You have been contracted to carry out the three new electrical installations.

You will be required to devise a plan showing the approach you'll take to the work required, underpinned by an overall schedule of works. You may not take the time you have been given for this and put some in the 'doing' or 'evaluating'.

Once you have given a copy of the plan to the assessor you will then execute your plan and proceed to the installation work (including inspection and testing). Once the installation has been completed you will be required to evaluate your work.

You will have 40 hours to complete all three tasks within the scenario and project.

## Task Instructions

### 1. Planning:

You are required to devise a plan to approaching this project. You will need to consider the following:

- a. standard circuit arrangements as outlined in the IET On-Site guide
- b. estimate costings in terms of materials, labour
- c. selection of resource
- d. appropriate installation and inspection and testing methods as outlined in the IET On-Site guide
- e. health and safety
- f. schedule of works (with timelines)
- g. diagrams.

You will be required to write this plan out and prior to construction, make two copies, keeping one for yourself and give the other to the assessor.

You will have 14 hours to complete this part. If you complete in less time you cannot use the extra time in the other elements of this project or take time from other areas to add time here.

### 2. Installation and testing:

Carry out the installation work comprising of three tasks:

- new electrical installation in the extension (including carrying out safe isolation)
- new electrical installation in the garden office building
- new electrical installation in the garden workshop building.

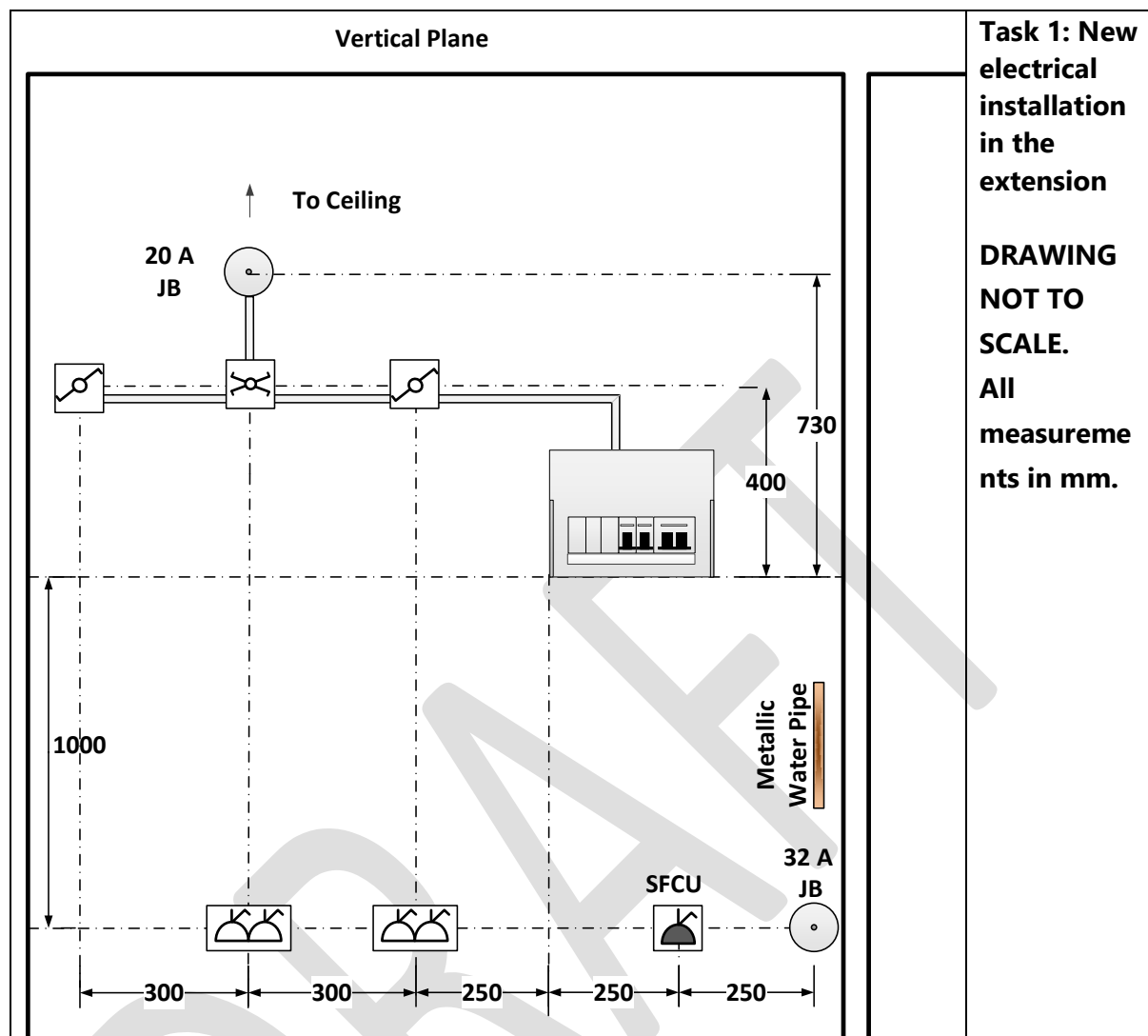
You will have 40 hours to complete this part. If you complete in less time you cannot use the extra time in the other elements of this project or take time from other areas to add time here.

### **3. Evaluation.**

Upon completion of the project you will need to evaluate your work in relation to the plan that you created prior to the project and write a document explaining how your work went in relation to it and any lessons learned and any problems overcome.

You will have 6 hours to complete this part. If you complete in less time you cannot use the extra time in the other elements of this project or take time from other areas to add time here.

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### Task 1: New electrical installation in the extension specification.

Installation comprises of 2 circuits:

- A **two-way and intermediate lighting circuit** wired in PVC/PVC flat profile cable in mini trunking (MT2) to the light switches and the 20 A joint box. Cable is clipped direct from the 20 A joint box to the ceiling lighting pendant. Utilise push-fit (Wago) connectors as required.
- A **ring final circuit wired** in PVC/PVC flat profile cable clipped direct. The 32 A joint box from the switched fused connection unit is to simulate a 1.8 kW load, select and install the nearest suitable rating (A) fuse for this load.

Select and install suitably sized cables and overcurrent protective devices with appropriate ratings (A) including the fuse in the SFCU.



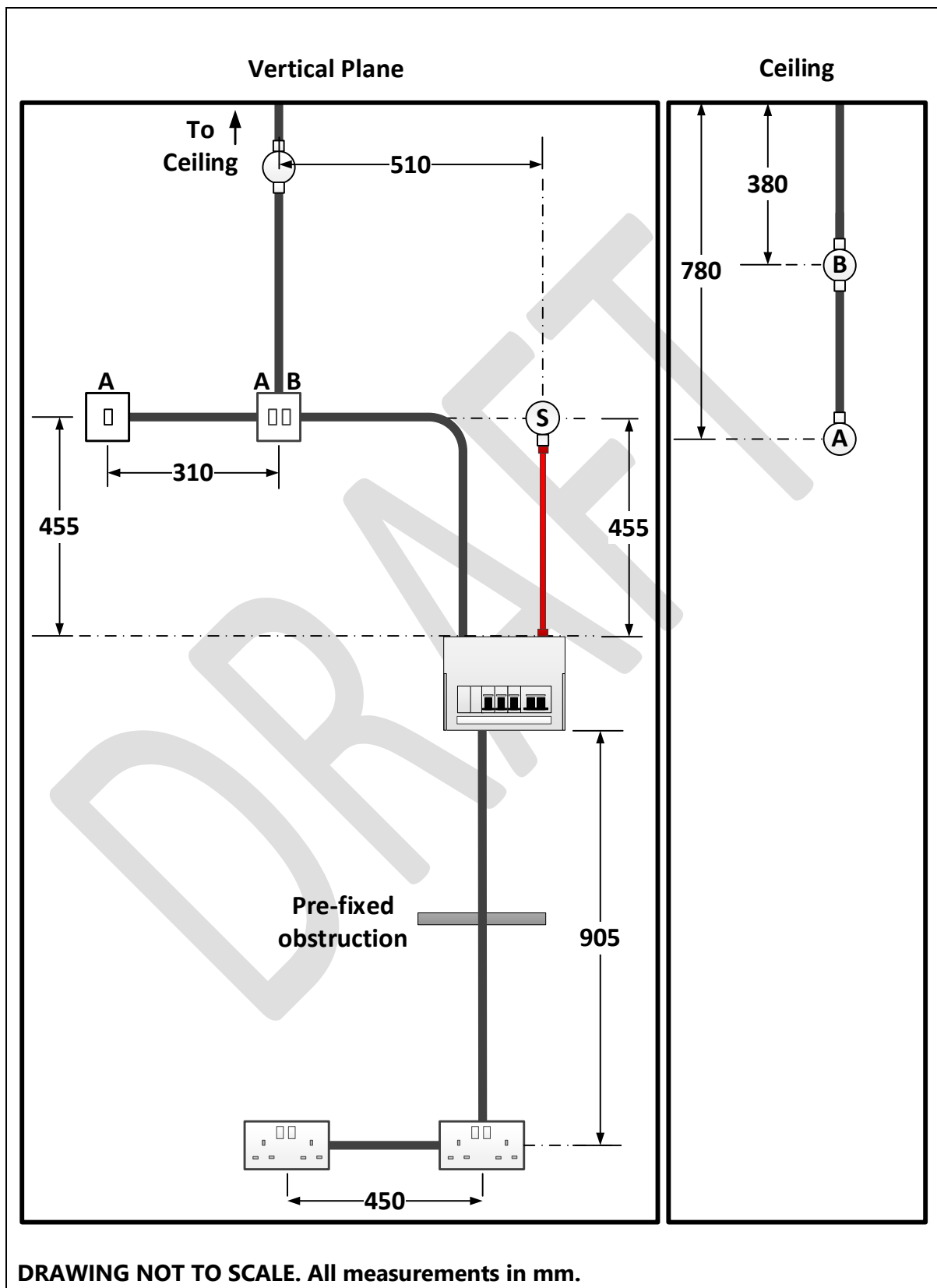
The CCU and metallic water pipe are pre-fixed. Carry out main protective bonding to the water pipe. Measurements may be altered by your assessor to suit local facilities.

Install in accordance with industry practices, BS 7671 and the IET OSG. Carry out de-energised tests (continuity of protective conductor, continuity of ring final circuits, insulation resistance and polarity) **record your test results.**

You should inspect your work as you carry out the installation.

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## Task 2: Garden office



## Task 2: Garden office specification.

Installation comprises of 3 circuits:

- A **ring final socket outlet circuit** wired in PVC singles in PVC conduit.
- A **lighting circuit** to 2 lighting batten holders wired in PVC singles in PVC conduit:  
Lamp **A** is controlled from two positions by switches **A**.  
Lamp **B** is controlled by switch **B**.
- A **radial final circuit** to a smoke alarm wired in FP200.

Select and install suitably sized cables and overcurrent protective devices with appropriate ratings (A).

The obstruction (20 mm piece of conduit) is pre-fixed mid-way between the CCU and SSO. The set over the obstruction should give **20 mm clearance**.

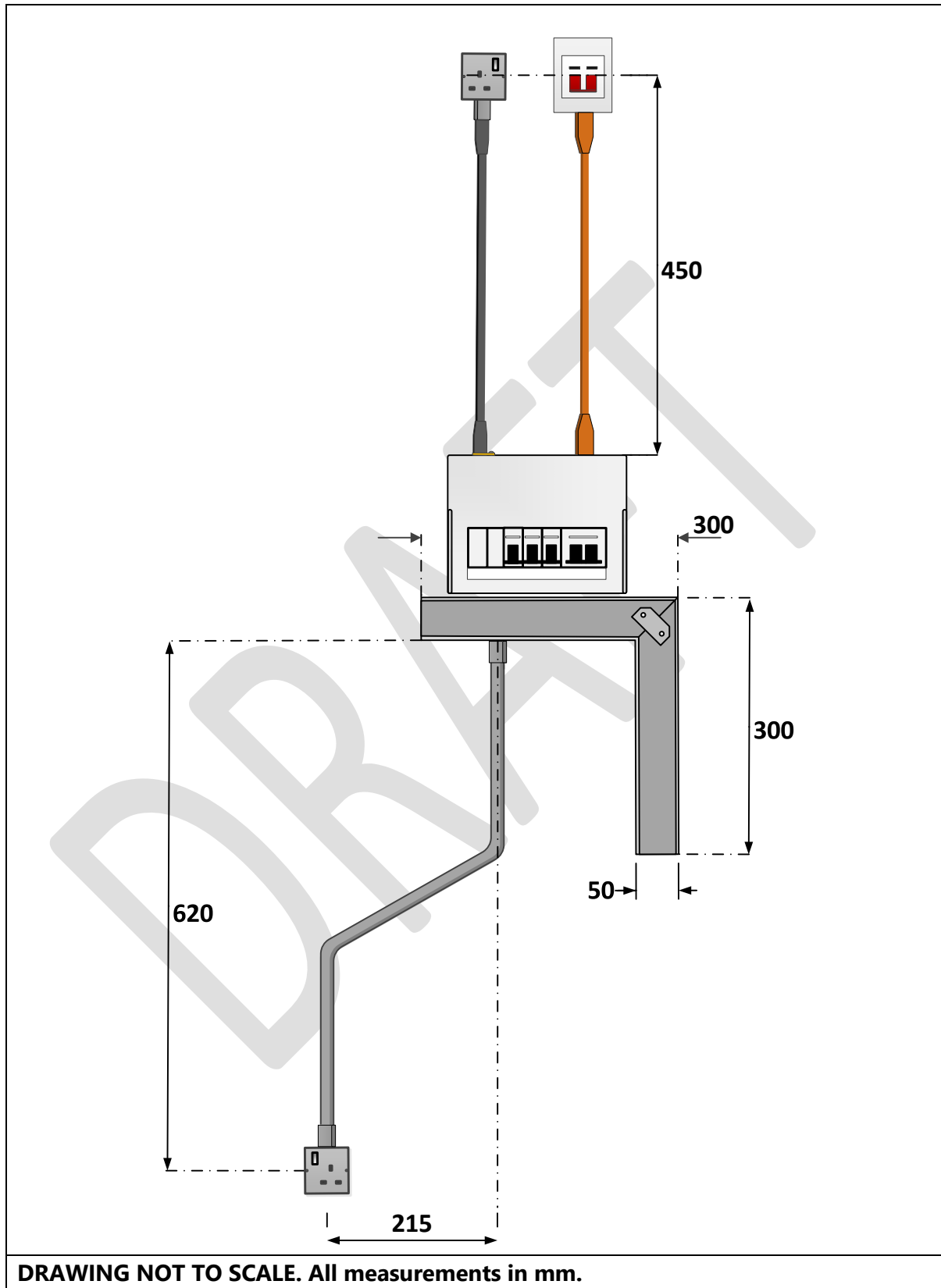


Measurements may be altered by your assessor to suit local facilities.

Install in accordance with industry practices, BS 7671 and the IET OSG.

You should inspect your work as you carry out the installation. Carry out de-energised tests (continuity of protective conductor, continuity of ring final circuit, insulation resistance and polarity) **record your test results**.

### Task 3: Garden workshop



### Task 3: Garden workshop specification.

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Installation comprises of 3 circuits:

- A **radial final circuit** to a 13 A socket outlet wired in PVC/SWA.
- A 16 A **radial final circuit** to a single-phase isolator wired in MICC.
- A **radial final circuit** to a 13 A socket outlet wired in singles in steel conduit and steel trunking.

Select and install suitably sized cables and overcurrent protective devices with appropriate ratings (A).

CCU is pre-fixed. Manufacture the 90° trunking bend (including pop-riveting) fitting end caps and lid.

Measurements may be altered by your assessor to suit local facilities.

Install in accordance with industry practices, BS 7671 and the IET OSG.

You should inspect your work as you carry out the installation. Carry out de-energised tests (continuity of protective conductor, insulation resistance and polarity) **record your test results.**

## Assessor Guidance

### Timings

Expectation that this project will be taken over a maximum of three weeks.

The **practical** element of this assessment has a maximum time of 40 hours allocated.

### Assessment Environment

The planning phase of this assessment will take place within a classroom environment, ensuring learners have access to IT equipment and appropriate resource materials for learners to carry out comprehensive research to support their planning. These may include guidance notes, regulations, manufacturers' instructions/literature. The Learner should be supervised for the bulk of this period; however, they are permitted to carry out additional research in their own time should they wish.

The practical element of this assessment is expected to be carried out in the centre's workshop. Learners must always be supervised by centre staff.

### Task specific guidance

#### Planning Task

Learners will then need to present their own plan prior to commencing the practical project, the learner will need to have two copies of the plan and submit one to the assessor and use one for the task.

The learner's plan should show that they have considered the following:

- a. Estimated costings in terms of materials, labour
- b. Selection of resources
- c. Appropriate installation methods
- d. Health and safety
- e. Schedule of works (with timelines)
- f. Diagrams
- g. Specifications
- h. Risk and method statements

Learners should predominantly carry out the preparation for their presentation within a classroom environment monitored by centre staff. Learners will need access to IT facilities with access to the internet, manufacturers' information, wholesalers' catalogues, HSE guidance notes and any other material that would be available to them if this project was to be carried out in the workplace.

Learners are permitted time outside of the classroom to carry out research to inform their plans, for example gathering catalogues or conducting research into costs and materials to

inform their selection, this time must be recorded and deducted from the overall time for these tasks and must **not** exceed 10% of the allocated time.

No set recording forms have been provided within this pack for written documentation such as risk assessments or method statements. This is intentional; as part of the assessment, learners will need to source appropriate proformas to display their work.

### Practical Task

This element of the assessment will comprise up to three tasks in one scenario, with the learner showcasing the skills that they have learned and acquired. The learner will use the plan that they have created and complete the task(s). Learners will also carry testing of the de-energised installations.

### Self-evaluation

This element of the assessment is intended to be carried out as a self-evaluation task, referring back to the performance criteria set before the task was started. The purpose of this element is for the learner to formally inspect the installation, the work area, and relevant information from the submitted brief and check that they met all their pre-set criteria. The evaluation process should ensure that the learner is confident the practical projects are safe and fit for purpose. The learner should, where appropriate, give details of where they did not meet the criteria and any outstanding actions required to meet the criteria.

It is expected the learner will give a statement on lessons learnt and what they would do different next time they completed the task(s).

The learner can evaluate the inspection and testing outcomes during the self-evaluation.

## Marking and Grading

### Using grading grid

For each element of the project, assessors must categorise learners into Fail, Pass, Merit or Distinction using the qualitative statements given. Each element has points associated to it, which should be calculated to determine an overall grade for this assessment

For the practical element, assessors should use the support practical observation form to determine if learners sit in Fail, Pass, Merit or Distinction.

### Determining overall grade

Grade	Points
Fail	0
Pass	1 - 9
Merit	10 - 18
Distinction	19 - 27



## Grading Grid

Element	Pass	Merit The learner demonstrates....	Distinction The learner demonstrates....
<b>Planning</b>	<b>12</b>	<b>24</b>	<b>36</b>
<p>a) Reading and interpreting common plans and documentation required in performing the project in their trade area, including relevant legislative documents, risk assessments, method statements, specifications, drawings and instructions provided by manufacturers</p> <p>b) Planning the completion of their project in their trade area, using the required literacy and numeracy skills, and drawing skills, to do so</p> <p>c) Setting performance criteria for their completion of the project in their trade area</p> <p>d) Selection of resources</p> <p>e) Health and safety</p> <p>f) Basic profit and loss</p> <p>g) Consequences of loss of profits on businesses</p> <p>h) The importance of quality on reputation and business</p>	<p>The Learner demonstrates they can produce a <b>coherent plan</b> that evidences knowledge of the criteria labelled a – k, such as:</p> <ul style="list-style-type: none"> <li>sourcing and referencing correct information and documentation in relation to the project</li> <li>identifying suitable materials and appropriate methods for the context given</li> <li>identifying appropriate PPE, producing a risk assessment and method statement rationale</li> <li>Carried out basic profit and loss and identified some consequences of loss of profit on businesses</li> <li>identifying suitable quality marks and had a basic understand of the impact on reputation</li> <li>Identifying suitable dangers, hazards and risks and appropriate actions for the context given</li> <li>Identifying the methods of disposing of waste through the appropriate channels, sourcing</li> </ul>	<p>They have met all pass criteria and produced a <b>coherent and complete plan</b> that evidences knowledge of the criteria labelled a – k, such as:</p> <ul style="list-style-type: none"> <li>gathering varied sources of information and documentation to inform the task/s</li> <li>gathered various sources of materials and used a good array of methods to demonstrate the latest applications</li> <li>carried out profit and loss, considering wider effects on the business</li> <li>identifying suitable quality marks and appropriate understanding for the context on reputation</li> <li>Identifying suitable dangers, hazards and risks and put appropriate actions in the method statement</li> <li>Identifying the methods of disposing of waste through the appropriate channels, gathering varied sources of information and</li> </ul>	<p>They have met all pass and merit criteria and can produce an <b>extensive considered plan</b> that evidences knowledge of the criteria labelled a – k, such as:</p> <ul style="list-style-type: none"> <li>gathered and evaluated various sources of information/documentation that inform tasks, applying their own knowledge to determine how this information impacts their work.</li> <li>gathered and evaluated various sources of materials and used informed methods to demonstrate the latest applications</li> <li>carried out profit and loss analysis, evaluating the impact on the business</li> <li>identifying suitable quality marks and evaluating the impact on the reputation</li> <li>Identifying suitable dangers, hazards and risks and analysed the impact on the task and put in</li> </ul>

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<p>i) The main dangers, hazards and risks (when using harmful materials, etc.).</p> <p>j) The main techniques for waste disposal and recycling, and the potential consequences of breaching regulations that protect the natural environment</p> <p>k) Identifying potential issues and possible solutions</p>	<p>and referencing correct information and documentation for disposal and recycling in relation to the project</p>	<p>documentation for disposal and recycling to inform the task/s</p>	<p>precautionary actions on the method statement</p> <ul style="list-style-type: none"> <li>Identifying the methods of disposing of waste through the appropriate channels, gathered and evaluated various sources of information/documentation for disposal and recycling that inform tasks, applying their own knowledge to determine how this information impacts their work</li> </ul>
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### Task 1: New electrical installation in the extension (PVC/PVC flat profile cable)

#### Section A: Positioning and fixing

		Points		
The learner has		1	2	3
<b>Socket outlets and SFCU</b> Positioned and fixed each point securely +/- 5 mm from given dimension (1 point each (3 max))		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Light switch pattress box</b> Positioned and fixed each point securely +/- 5 mm from given dimension (1 point each (3 max))		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Installed switches level (1 point) Installed sockets and SFCU level (1 point) Installed cables (clipped) horizontally/vertically correct where relevant (1 point)		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Joint boxes and pendant set</b> Positioned and fixed each point securely +/- 5 mm from given dimension (1 point each (3 max))		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Cable clipping</b> Clipped PVC/PVC cables equidistantly/neatly for the: ring final circuit (1 point), lighting circuit (JB to pendant) (1 point), protective bonding (1 point)		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

#### Section B: Connection and termination

		Points		
The learner has		1	2	3
<b>Socket outlets and SFCU</b> Installed cable sheath into accessory, sufficient slack, no damage, sleeved CPC, terminated conductors electrically and mechanically sound with no undue removal of cable insulation (1 for each point on the ring (3 max))		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Light switches</b> Given sufficient slack, no damage, terminated conductors electrically and mechanically sound with no undue removal of cable insulation sleeved CPC and switch wire (1 point for each switch (3 max))		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>2 x Joint boxes and 1 x pendant set</b> Installed cable sheath into accessory, sufficient slack, no damage, sleeved CPC, terminated conductors electrically and mechanically sound with no undue removal of cable insulation 2 x joint boxes (1 for each (2 max)) 1 x pendant set (1 point)		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

<b>CCU</b> Installed and terminated all cables/conductors correctly at the CCU using where appropriate corresponding N and E bar sequence to CCU ways. Lighting circuit (1 point), ring final circuit (1 point), protective bonding (including correct size cable) (1 point)		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Protective bonding (at clamp)</b> Fitted clamp correctly (1 point), terminated cable securely and correctly at clamp (1 point), fitted label correctly (1 point).		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Section C: Health and safety</b>				
<b>Key points</b> <ul style="list-style-type: none"> <li>PPE must be worn as appropriate i.e. safety glasses and safety boots</li> <li>Tidy work area</li> <li>Tools fit for purpose and used correctly.</li> </ul>				
For each minor infringement up to three, deduct points as listed, a fourth would equate to unsafe working practices which would require the assessment to be stopped and the learner to be referred.				
i.e. No minor infringement (3 points), 1-2 minor infringements (2 points), 3 minor infringements (1 point), 4+ minor infringements and assessment is stopped, and the learner is referred.				
<b>The assessment must be stopped immediately if there is a major infringement of health and safety which would also be classed as a fail.</b>				
		<b>Points</b>		
<b>The learner has</b>		<b>1</b>	<b>2</b>	<b>3</b>
Kept a clean and tidy work area		<input type="checkbox"/> ≤3	<input type="checkbox"/> ≥2	<input type="checkbox"/> None
Worn PPE as required		<input type="checkbox"/> ≤3	<input type="checkbox"/> ≥2	<input type="checkbox"/> None
<b>Section D: Mini trunking</b>				
		<b>Points</b>		
<b>The learner has</b>		<b>1</b>	<b>2</b>	<b>3</b>
Fixed all mini trunking securely (1 point) Fitted mini trunking and lid with gaps ≤ 2 mm between switches and joint box (straight sections) (2 points)		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mitred mini trunking and lid at 90° bend within gap tolerance of:		<input type="checkbox"/> 2 mm	<input type="checkbox"/> 1 mm	<input type="checkbox"/> No Gap
<b>Section E: Circuits</b>				
		<b>Points</b>		
<b>The learner has</b>		<b>1</b>	<b>2</b>	<b>3</b>
<b>Lighting circuit</b> Wired the lighting circuit correctly (two-way and intermediate) (push wire connectors required) (3 points)				<input type="checkbox"/>

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Wired ring final circuit sockets correctly (2 points)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Wired SFCU correctly (1 point)			
<b>Cables and protective devices</b>			
Used appropriate rating of CB and conductor size for the lighting circuit (1 point)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Used appropriate rating of CB and conductor size for the ring final circuit (1 point)			
Suitable minimal rating of fuse in SFCU (1 point)			
<b>Section F: Material usage</b>			
		<b>Points</b>	
<b>The learner has</b>		<b>1</b>	<b>2</b>
Requested no additional materials due to wastage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	2 requests	1 request	No extra requested
<b>Section G: Testing</b>			
		<b>Points</b>	
<b>The learner has</b>		<b>1</b>	<b>2</b>
Carried out continuity of CPC testing	<input type="checkbox"/>		
Carried out test for continuity of ring final circuit	<input type="checkbox"/>		
Carried out IR testing	<input type="checkbox"/>		
Carried out polarity testing	<input type="checkbox"/>		
Recorded results	<input type="checkbox"/>		
Results acceptable	<input type="checkbox"/>		
<b>Sub-totals</b>		<b>/24</b>	<b>/36</b>
<b>Overall Total</b>			<b>/ 60</b>

**Task 2: Garden office electrical installation**
**Section A: Positioning and fixing**

		Points		
The learner has		1	2	3
<b>Socket outlets and smoke alarm</b> Positioned and fixed each point securely +/- 5 mm from given dimension 2 x socket outlets (1 point each (2 max)) 1 x smoke alarm (1 point)		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Light switch back boxes and luminaires</b> Positioned and fixed each securely +/- 5 mm from given dimension 2 x light switches (1 point each (2 max)) luminaires specified distance from wall (1 point for both)		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Installed switches level (1 point) Installed sockets level (1 point) Installed FP cable (clipped) vertically correct (1 point)		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Cable clipping and conduit saddles</b> Installed clips/saddles equidistantly/neatly and appropriately for the: ring final circuit (1 point), lighting circuit (1 point), smoke circuit (1 point)		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Section B: Connection and termination**

		Points		
The learner has		1	2	3
<b>FP 200 Cable</b> Glanded cable correctly (2 x glands) (1 point each (2 max)) Clipped appropriately with no damage (1 point)		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Socket outlets and smoke alarm</b> Given sufficient cable slack and terminated conductors electrically and mechanically sound with no undue removal of cable insulation no damage. 2 x socket outlets (1 point each (2 max)) 1 x smoke alarm (1 point)		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Light switches and luminaires</b> Given sufficient cable slack and terminated conductors electrically and mechanically sound with no undue removal of cable insulation, no damage. light outlet A and B (1 point) 2 x switches (1 point each (2 max))		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>CCU</b> Installed and terminated all cables/conductors correctly at the CCU using where appropriate corresponding N and E bar sequence to CCU ways. Lighting circuit (1 point), ring final circuit (1 point), smoke alarm circuit (1 point)		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### Section C: Health and safety

#### Key points

- PPE must be worn as appropriate i.e. safety glasses and safety boots
- Tidy work area
- Tools fit for purpose and used correctly.

For each minor infringement up to three, deduct points as listed, a fourth would equate to unsafe working practices which would require the assessment to be stopped and the learner to be referred.

i.e. No minor infringement (3 points), 1-2 minor infringements (2 points), 3 minor infringements (1 point), 4+ minor infringements and assessment is stopped, and the learner is referred.

**The assessment must be stopped immediately if there is a major infringement of health and safety which would also be classed as a fail.**

		Points		
The learner has		1	2	3
Kept a clean and tidy work area		<input type="checkbox"/> ≤3	<input type="checkbox"/> ≥2	<input type="checkbox"/> None
Worn PPE as required		<input type="checkbox"/> ≤3	<input type="checkbox"/> ≥2	<input type="checkbox"/> None

### Section D: PVC Conduit

		Points		
The learner has		1	2	3
<b>PVC Conduit lighting circuit</b> Produced 2 x ripple free 90° bends with suitable radius (1 point for each bend (2 max)) Conduit connected into all accessories securely (push fit) (1 Mark)		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>PVC Conduit lighting circuit</b> Installed conduit between switch AB to through box vertically correct (1 point) (1 point) Installed conduit between through box and outlet B vertical/straight (1 point) (1 point) Luminaire outlets A and B in line/straight (1 point)		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>PVC Conduit ring final circuit</b> Produced ripple free set over obstruction (1 point) Produced a straight set over obstruction (1 point), Conduit connected into all accessories securely (push fit) (1 point)		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>PVC Conduit ring final circuit</b> Achieved a clearance over obstruction with tolerance of:		<input type="checkbox"/> +/-10mm	<input type="checkbox"/> +/-7m	<input type="checkbox"/> +/-5mm

Section E: Circuits				
		Points		
The learner has		1	2	3
<b>Lighting circuit</b> Wired the lighting circuit correctly so that: switches A provide 2-way control for luminaire A correctly (2 points) switch B controls luminaire B correctly (1 point)		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Wired ring final circuit correctly (1 point) Wired smoke alarm circuit correctly (1 point) CPCs installed on all circuits (1 point)		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Cables and protective devices</b> Used appropriate rating of CB and conductor size for the lighting circuit (1 point) Used appropriate rating of CB and conductor size for the ring final circuit (1 point) Used appropriate rating of CB and conductor size for the smoke alarm circuit (1 point)		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Section F: Material usage				
		Points		
The learner has		1	2	3
Requested no additional materials due to wastage		<input type="checkbox"/> 2 requests	<input type="checkbox"/> 1 request	<input type="checkbox"/> No extra requested
Section G: Testing				
		Points		
The learner has		1	2	3
Carried out continuity of CPC testing		<input type="checkbox"/>		
Carried out test for continuity of ring final circuit		<input type="checkbox"/>		
Carried out IR testing		<input type="checkbox"/>		
Carried out polarity testing		<input type="checkbox"/>		
Recorded results		<input type="checkbox"/>		
Results acceptable		<input type="checkbox"/>		
<b>Sub-totals</b>		<b>/24</b>	<b>/36</b>	<b>/54</b>
<b>Overall Total</b>		<b>/ 60</b>		



**Task 3: Garden workshop**
**Section A: Positioning and fixing**

		Points		
The learner has		1	2	3
<b>Socket outlets and isolator</b> Positioned and fixed each point securely $\pm 5$ mm from given dimension 2 x socket outlets (1 point each (2 max)) <i>(Note that a running coupler can be used as a back-up if required for the conduit to achieve this dimension)</i> 1 x isolator (1 point)		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Installed sockets level (1 point) Installed SWA cable vertically correct (1 point) Installed MICC cable vertically correct (1 point)		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Cable fixing and conduit saddles</b> Installed clips/saddles equidistantly/neatly and appropriately for the: steel conduit (1 point), SWA (1 point), MICC (1 point)		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Section B: Connection and termination**

		Points		
The learner has		1	2	3
<b>MICC Cable</b> Glanded cable securely using correct components (no IR fault/s) conductors sleeved (3 points) (Award 1 point if only one end made of correctly)		<input type="checkbox"/>		<input type="checkbox"/>
<b>SWA Cable</b> Glanded cable securely using correct components (2 x glands) (1 point each (2 max)) used banjo and CPC tail (1 point)		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Socket outlets and isolator</b> Given sufficient cable slack and terminated conductors electrically and mechanically sound with no undue removal of cable insulation no damage. 2 x socket outlets (1 point each (2 max)) 1 x isolator (1 point)		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>CCU</b> Installed and terminated all cables/conductors correctly at the CCU Connected the outgoing circuits in the correct sequence (CB, N and E bars). 2 x SSO circuit (1 point each (2 max)), circuit to isolator (1 point)		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### Section C: Health and safety

#### Key points

- PPE must be worn as appropriate i.e. safety glasses and safety boots
- Tidy work area
- Tools fit for purpose and used correctly.

For each minor infringement up to three, deduct points as listed, a fourth would equate to unsafe working practices which would require the assessment to be stopped and the learner to be referred.

i.e. No minor infringement (3 points), 1-2 minor infringements (2 points), 3 minor infringements (1 point), 4+ minor infringements and assessment is stopped, and the learner is referred.

**The assessment must be stopped immediately if there is a major infringement of health and safety which would also be classed as a fail.**

		Points		
The learner has		1	2	3
Kept a clean and tidy work area		<input type="checkbox"/> ≤3	<input type="checkbox"/> ≥2	<input type="checkbox"/> None
Worn PPE as required		<input type="checkbox"/> ≤3	<input type="checkbox"/> ≥2	<input type="checkbox"/> None

### Section D: Trunking and conduit

		Points		
The learner has		1	2	3
<b>Steel conduit</b> Installed vertically where relevant (1 point) <i>(Note that if the learner is unable to produce the trunking, the conduit may come out of the bottom of the CCU instead)</i> Conduit connected securely (1 point) Deburred conduit (1 point)		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Steel Conduit</b> Produced set in with tolerance of: (1 point only awarded if running coupler is used to achieve accuracy)		<input type="checkbox"/> +/-15 mm (or if running coupler used)	<input type="checkbox"/> +/- 10 mm	<input type="checkbox"/> +/-5 mm
<b>Steel trunking</b> Fabricates 90° bend and pop riveted (1 point) Files all edges smooth/no sharp edges (1 point) Fixed securely to CCU (1 point)		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Steel trunking</b> Fitted end caps (1 point each end cap (2 points max)) End caps secure (1 point)		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Steel trunking</b> Gaps in trunking bend		<input type="checkbox"/> ≥5 mm	<input type="checkbox"/> ≥4 mm	<input type="checkbox"/> ≥2 mm

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<b>Steel trunking</b> Gaps in trunking lid at bend	<input type="checkbox"/> ≥5 mm	<input type="checkbox"/> ≥4 mm	<input type="checkbox"/> ≥2 mm
<b>Section E: Circuits</b>			
		<b>Points</b>	
<b>The learner has</b>	<b>1</b>	<b>2</b>	<b>3</b>
Wired 2 x radial socket circuits correctly (2 point)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Wired circuit to isolator correctly (1 point)			
CPCs installed (1 point)			
<b>Cables and protective devices</b>			
Used appropriate rating of CB and conductor size for the lighting circuit (1 point)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Used appropriate rating of CB and conductor size for the SSO circuit (1 point)			
Used appropriate rating of CB and conductor size the circuit to the isolator (1 point)			
<b>Section F: Material usage</b>			
		<b>Points</b>	
<b>The learner has</b>	<b>1</b>	<b>2</b>	<b>3</b>
Requested no additional materials due to wastage	<input type="checkbox"/> 2 requests	<input type="checkbox"/> 1 request	<input type="checkbox"/> No extra requested
<b>Section G: Testing</b>			
		<b>Points</b>	
<b>The learner has</b>	<b>1</b>	<b>2</b>	<b>3</b>
Carried out continuity of CPC testing	<input type="checkbox"/>		
Carried out test for continuity of ring final circuit	<input type="checkbox"/>		
Carried out IR testing (all circuits)	<input type="checkbox"/>		
Carried out polarity testing	<input type="checkbox"/>		
Recorded results	<input type="checkbox"/>		
Results acceptable	<input type="checkbox"/>		
<b>Sub-totals</b>	<b>/24</b>	<b>/36</b>	<b>/54</b>
<b>Overall Total</b>			<b>/ 60</b>

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	4	8	12
<p>Reviewing practical tasks specific (this is to be completed for each task within the project)</p> <p>a) The need to ensure that completed installations are safe for end users</p> <p>b) Evaluating the performance of their work in carrying out the tasks in this project, both in relation to the set requirements and their own success criteria</p>	<p>They can clearly communicate the works they have carried out and give clear guidance around maintenance.</p> <p>Assurance is provided that the installation is safe and meets specification.</p> <p>Any defects in the structure are identified and rectification work is explained.</p>	<p>They can give a comprehensive explanation of the works carried out with detailed guidance on maintenance considerations.</p> <p>Relevant standards and regulations are referenced to provide assurance that the structure is safe.</p> <p>Defects are minimal but are identified and clear guidance is explained as to how other finishing trades could make good these defects.</p>	<p>They can give an extensive, detailed narrative of the works they carried out and approach they have taken.</p> <p>They take into consideration additional information that will be useful for other trades in carrying out the next stage of the project.</p>

## Recording Forms

### **Practical Observation Record**

This form provides the objective marking criteria in relation to the practical element. This form is then used to inform the grading grid.

### **Assessment Record**

Overarching assessment record for the entire project capturing how the assessor formed their holistic assessment decisions against the grading grid using qualitative statements.

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## Points calculation

Element	Planning	Doing	Reviewing
Task 1	(12 min*)	(36 min*)	(4 min*)
Task 2		(36 min*)	
Task 3		(36 min*)	
Sub-totals 1	/36	/180	/12
Sub-total 2	/36	/60**	/12
Overall Total	/108		

\*Learners must achieve the minimum mark in each element plus an additional 13 marks in sub-total 2 to pass, if the learner fails to achieve the minimum mark in any element, they will be referred in that element and will need to be reassessed after further training.

\*\* After sub-total 1 has been calculated, the assessor must divide the sub-total for the Doing section by 3, to create a score out of 60, for example, if the learner receives 150 in Sub-total 1 for the doing they will receive in Sub-total 2- 50 marks. If when splitting the number is a partial, the number should be rounded up or down to the nearest whole number, for instance if the learner received 146 marks, dividing it becomes 48.6, thus it should round up to 49 marks. For 0-5 round down, for 6-9 round up.

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Marks	Points	Grade
0-64	0	Fail
65	1	Pass
66	2	
67	3	
68	4	
69	5	
70	6	
71	7	
72-73	8	
74-75	9	
76	10	Merit
77	11	
78	12	
79	13	
80	14	
81	15	
82	16	
83	17	
84-85	18	
86-88	19	Distinction
89-91	20	
92-94	21	
95-97	22	
98-100	23	
101-102	24	
103-104	25	
105-106	26	
107-108	27	

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Assessors observation of ways of working:

Assessor feedback of overall practical skill:

IQA name:

Date