Level 2 NVQ Diploma in Plant Operations – Highways Maintenance and Utilities (Construction)

Qualification Specification

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Introduction

The aim of this qualification is to equip learners with the knowledge and understanding required for employment, or for progression to further academic and/or professional qualifications.

The awarding organisation for this qualification is ProQual Awarding Body and the regulatory body is the Office of Qualifications and Examinations Regulation (Ofqual). The specification for these qualifications has been approved by the Welsh Government for use by centres in Wales and by the Council for the Curriculum Examinations and Assessment (CCEA) for use by centres in Northern Ireland.

This qualification has been accredited onto the Regulated Qualifications Framework (RQF).

Qualification Profile

Qualification title	**ProQual Level 2 NVQ Diploma in Plant Operations – Highways Maintenance and Utilities (Construction)**
Ofqual qualification number	601/1866/0
Level	Level 2
Total qualification time	550 hours
Guided learning hours	420
Assessment	Pass or fail Internally assessed and verified by centre staff External quality assurance by ProQual verifiers
Qualification start date	1/11/13
Qualification end date	

Entry Requirements

There are no formal entry requirements for this qualification.

Centres should carry out an **initial assessment** of candidate skills and knowledge to identify any gaps and help plan the assessment.

Qualification Structure

Candidates must complete all of the Mandatory units.

Mandatory Units			
Unit Reference Number	**Unit Title**	**Unit Level**	**GLH**
L/503/4252	Workplace health, safety and welfare	2	40
L/503/4381	Prepare and operate a forward tipping dumper to receive and transport loads – wheeled or tracked	2	60
R/503/4253	Conform to productive working practices	2	40
R/503/4382	Prepare and operate a telescopic handler to lift and transfer loads – Industrial Telescopic, up to 9 metres or all sizes	2	60
Y/503/4304	Prepare and operate a ride on roller to compact materials	2	60
Y/503/4321	Sling and signal the movement of loads	2	60
J/503/4380	Prepare and operate a 360 excavator to excavate or extract materials – below 10 tonne tracked or wheeled or above 10 tonne tracked or wheeled	2	100

Centre Requirements

Centres must be approved to offer this qualification. If your centre is not approved please complete and submit form **ProQual Additional Qualification Approval Application**.

Staff
Staff delivering this qualification must be appropriately qualified and occupationally competent.

Assessors/Internal Quality Assurance
For each competence-based unit centres must be able to provide at least one assessor and one internal quality assurance verifier who are suitably qualified for the specific occupational area. Assessors and internal quality assurance verifiers for competence-based units or qualifications will normally need to hold appropriate assessor or verifier qualifications, such as:

- Award in Assessing Competence in the Work Environment
- Award in Assessing Vocationally Related Achievement
- Certificate in Assessing Vocational Achievement
- Award in the Internal Quality Assurance of Assessment Processes and Practices
- Certificate in Leading the Internal Quality Assurance of Assessment Processes and Practices

Support for Candidates

Materials produced by centres to support candidates should:

- enable them to track their achievements as they progress through the learning outcomes and assessment criteria;
- provide information on where ProQual's policies and procedures can be viewed;
- provide a means of enabling Internal and External Quality Assurance staff to authenticate evidence

Assessment

Candidates must demonstrate the level of knowledge described in the unit. Assessment is the process of measuring a candidate's knowledge and understanding against the standards set in the qualification.

Assessment guidance is included to assure consistency.

Each candidate is required to produce evidence which demonstrates their achievement of all of the learning outcomes and assessment criteria for each unit.

Evidence can include:
- assignments/projects/reports
- worksheets
- portfolio of evidence
- record of oral and/or written questioning
- candidate test papers

Learning outcomes set out what a candidate is expected to know, understand or be able to do.

Assessment criteria specify the standard a candidate must meet to show the learning outcome has been achieved.

Learning outcomes and assessment criteria for this qualification can be found from page 8.

Internal Quality Assurance

An internal quality assurance verifier confirms that assessment decisions made in centres are made by competent and qualified assessors, that they are the result of sound and fair assessment practice and that they are recorded accurately and appropriately.

Adjustments to Assessment

Adjustments to standard assessment arrangements are made on the individual needs of candidates. ProQual's Reasonable Adjustments Policy and Special Consideration Policy sets out the steps to follow when implementing reasonable adjustments and special considerations and the service that ProQual provides for some of these arrangements.

Centres should contact ProQual for further information or queries about the contents of the policy.

Results Enquiries and Appeals

All enquiries relating to assessment or other decisions should be dealt with by centres, with reference to ProQual's Enquiries and Appeals Procedures.

Certification

Candidates who achieve the requirements for qualifications will be awarded:

- A certificate listing the units achieved, and
- A certificate giving the full qualification title -

  ProQual Level 2 NVQ Diploma in Plant Operations – Highways Maintenance and Utilities (Construction)

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Claiming certificates

Centres may claim certificates for candidates who have been registered with ProQual and who have successfully achieved the requirements for a qualification. All certificates will be issued to the centre for successful candidates.

Replacement certificates

If a replacement certificate is required a request must be made to ProQual in writing. Replacement certificates are labelled as such and are only provided when the claim has been authenticated. Refer to the Fee Schedule for details of charges for replacement certificates.

Learning Outcomes and Assessment Criteria
Unit L/503/4252
Workplace health, safety and welfare

Learning Outcome - The learner will:		Assessment Criterion - The learner can:	
1	Understand health, safety and welfare requirements	1.1	State the role of the Health and Safety Executive
		1.2	Give examples of how induction, briefings and application of prior training can avoid risks in the workplace
		1.3	Explain why it is important to take individual responsibility for health, safety and welfare
		1.4	Explain the impact that behaviour can have on own and others' health and safety
		1.5	State the importance of health, safety and control equipment
		1.6	Explain why changing circumstances can create hazards
2	Understand the organisation's approach to health, safety and welfare	2.1	Outline the health, safety and welfare legislation that applies to the work area
		2.2	Outline the organisational policies and procedures for health, safety and welfare
		2.3	List the hazards associated with the work area
		2.4	Outline the organisation's requirements for dealing with accidents and emergencies in the work environment
		2.5	State procedures for evacuation, including safe exit procedures
		2.6	State methods of reporting hazards in the work area
		2.7	State procedures for complying with control measures identified by risk assessments

Learning Outcome - The learner will:		Assessment Criterion - The learner can:	
		2.8	Outline the security arrangements in the work area
3	Understand risk control in the workplace	3.1	List the notices and warning signs associated with the work environment
		3.2	List the health and safety control equipment in the work area
		3.3	State when control equipment should be used
		3.4	State the purpose of Personal Protective Equipment (PPE)
		3.5	State work situations where Respiratory Protective Equipment (RPE) is used
		3.6	State work situations where Local Exhaust Ventilation (LEV) is used
		3.7	List the different types of fire extinguisher in the workplace
		3.8	Give examples of situations when different types of fire extinguisher should be used
4	Confirm health and safety requirements in the workplace	4.1	Interpret work instructions to maintain safe systems of work
		4.2	Take part in discussions with others to identify safe systems of work
		4.3	Provide feedback on health, safety and welfare policies
		4.4	Report hazards as they are identified
5	Work in accordance with health and safety requirements	5.1	Store equipment in designated areas
		5.2	Ensure equipment is secured appropriately when stored
		5.3	Dispose of waste in required receptacles, including those for reuse or recycling

Learning Outcome - The learner will:	Assessment Criterion - The learner can:	
	5.4	Use safety control equipment according to instructions, induction and prior training
	5.5	Follow the requirements of safety notices and warning signs, as directed
	5.6	Comply with control measures as identified by risk assessments and safe symbols of work

Unit L/503/4381
Prepare and operate a forward tipping dumper to receive and transport loads - wheeled or tracked

Learning Outcome - The learner will:		Assessment Criterion - The learner can:	
1	Know the forward tipping dumper required for receiving and transporting loads	1.1	Identify the type of forward tipping dumper for the task
		1.2	Identify materials and resources required including consumables, lubricants, fuels, attachments and load coverings
		1.3	Identify hand tools, ancillary equipment and machinery for the task
2	Know how to prepare and conduct pre-operational checks of the forward tipping dumper and work area	2.1	Interpret the drawings and specification for the task
		2.2	Identify any potential hazards, including underground and overhead utilities apparatus, to avoid in the work area
		2.3	State how to check for obstructions, stability, safety and security of the work and surrounding area
		2.4	State procedures for preparing the forward tipping dumper to meet the requirements of the specification
		2.5	State how to check the forward tipping dumper is safe for operational use in line with manufacturers' recommendations and guidance
		2.6	Identify the person/s responsible for approving safety checks
		2.7	State procedures for workplace safety and dealing with accidents, emergencies and problems
		2.8	State legislative requirements for disposing of waste
3		3.1	Prepare a forward tipping dumper to meet operational requirements in line with

Learning Outcome - The learner will:		Assessment Criterion - The learner can:	
	Conduct pre-operational checks of a forward tipping dumper		manufacturer's recommendations and guidance
		3.2	Check safety of components and controls in line with manufacturer's recommendations and guidance
		3.3	Confirm the forward tipping dumper is safe for operational use
		3.4	Confirm with line management all checks have taken place before use
		3.5	Complete appropriate documentation to confirm operational checks have taken place
4	Operate a forward tipping dumper to receive, transport and discharge the specified load	4.1	Identify the key characteristics of the load to be transported including type and volume
		4.2	Select personal protective equipment (PPE) for the task in accordance with the specification
		4.3	Operate the forward tipping dumper in accordance with manufacturer's guidelines and the operator's handbook
		4.4	Receive, secure and balance loads for transport
		4.5	Transport and deposit loads in the designated area
		4.6	Park, shut down and secure the forward tipping dumper on completion
		4.7	Operate hand tools and ancillary equipment as required
		4.8	Comply with all current workplace safety and legislative requirements
		4.9	Dispose of waste in accordance with legislative requirements

Unit R/503/4253
Conform to productive work practices

Learning Outcome - The learner will:		Assessment Criterion - The learner can:	
1	Know how to work productively in the workplace	1.1	Explain why it is important to be productive in the workplace
		1.2	State the procedures that must be followed in the workplace
		1.3	List the documentation that must be maintained by the organisation including job cards, worksheets, material/resources lists and timesheets
		1.4	State the importance of maintaining accurate, up to date records
2	Understand low/zero carbon outcomes	2.1	Explain why zero/low carbon production is desirable
		2.2	Describe the contribution that the built environment makes to carbon production
		2.3	Explain how zero/low carbon production can be achieved in the built environment
3	Understand equality and diversity in the workplace	3.1	State the legislation that protects equality and diversity in the workplace
		3.2	Explain why equality and diversity in the workplace is important
4	Know how to communicate with others	4.1	Describe ways of communicating with others that encourages cooperation
		4.2	Outline the methods of communication used in the workplace
		4.3	State the information needs of the customer, line manager, own occupation and allied trades
5	Work productively in the workplace	5.1	Interpret procedures to plan a productive sequence of work
		5.2	Plan a sequence of work which is productive and sets out the use of time and resources

Learning Outcome - The learner will:	Assessment Criterion - The learner can:	
	5.3	Communicate with others in the work environment to ensure that work is carried out productively
	5.4	Maintain records as required in the workplace and by the organisation

Unit R/503/4382
Prepare and operate a telescopic handler to lift and transfer loads - Industrial Telescopic, up to 9 metres or all sizes

Learning Outcome - The learner will:		Assessment Criterion - The learner can:	
1	Know the specifications and capability of a telescopic handler for lifting and moving a specified load	1.1	Identify the type of telescopic handler for the task
		1.2	Identify the basic components and controls of the telescopic handler
		1.3	Interpret a lifting duties chart for the telescopic handler
		1.4	Identify the type and weight of the load to be moved
2	Know how to prepare and conduct pre-operational checks of a telescopic handler and the work area	2.1	Interpret drawings, specifications, schedules, method statements and manufacturer's information for the task
		2.2	Identify any potential hazards within the work area
		2.3	State procedures for preparing the telescopic handler to meet the requirements of the specification
		2.4	State how to check the telescopic handler is safe for operational use in line with manufacturers' recommendations and guidance
		2.5	Identify the person/s responsible for approving safety checks
		2.6	State procedures for workplace safety and dealing with accidents, emergencies and problems
		2.7	State legislative requirements for disposing of waste
3		3.1	Prepare a telescopic handler to meet operational requirements in line with

Learning Outcome - The learner will:		Assessment Criterion - The learner can:	
	Conduct pre-operational checks of a telescopic handler		manufacturer's recommendations and guidance
		3.2	Check safety of components and controls in line with manufacturer's recommendations and guidance
		3.3	Confirm the telescopic handler is safe for operational use
		3.4	Confirm with line management all checks have taken place before use
		3.5	Complete appropriate documentation to confirm operational checks have taken place
4	Operate a telescopic handler to lift and transfer a specified load	4.1	Select personal protective equipment (PPE) for the task in accordance with the specification
		4.2	Secure the load and check it is balanced
		4.3	Undertake a trial lift
		4.4	Operate the telescopic handler to lift and transfer the specified load in accordance with the handbook and/or manufacturer's guidelines
		4.5	Position, place and set down the load in a new location
		4.6	Confirm the stability and security of the load
		4.7	Shut down and secure the telescopic handler
		4.8	Comply with all current workplace safety and legislative requirements
		4.9	Dispose of waste in accordance with legislative requirements

Unit Y/503/4304
Prepare and operate a ride on roller to compact materials

Learning Outcome - The learner will:		Assessment Criterion - The learner can:	
1	Know the requirements for compacting materials with a ride on roller	1.1	Identify the ride on roller required
		1.2	Identify the materials and resources required including consumables, lubricants, fuels, attachments and compaction aids
		1.3	Identify the hand tools and ancillary equipment required
2	Know how to prepare and conduct pre-operational checks of the ride on roller and work area	2.1	Interpret drawings and the specification for the task
		2.2	Identify any potential hazards, including underground and overhead utilities apparatus, to avoid in the work area
		2.3	State how to check for obstructions, stability, safety and security of the work and surrounding area
		2.4	State procedures for preparing the ride on roller to meet the requirements of the specification
		2.5	State how to check the ride on roller is safe for operational use in line with manufacturers' recommendations and guidance
		2.6	Identify the person/s responsible for approving safety checks
		2.7	State procedures for workplace safety and dealing with accidents, emergencies and problems
		2.8	State legislative requirements for disposing of waste
3	Conduct pre-operational checks of a ride on roller	3.1	Prepare a ride on roller to meet operational requirements in line with manufacturer's recommendations and guidance

Learning Outcome - The learner will:		Assessment Criterion - The learner can:	
		3.2	Check safety of components and controls in line with manufacturer's recommendations and guidance
		3.3	Confirm the ride on roller is safe for operational use
		3.4	Confirm with line management all checks have taken place before use
		3.5	Complete appropriate documentation to confirm operational checks have taken place
4	Compact materials and restore the work area	4.1	Select personal protective equipment (PPE) in accordance with organisational requirements
		4.2	Operate the ride on roller in accordance with manufacturer's guidelines and the operator's handbook
		4.3	Operate hand tools and ancillary equipment as required
		4.4	Operate the ride on roller to compact loose materials to specification
		4.5	Avoid damage to structures and utilities service apparatus
		4.6	Park, shut down and secure the ride on roller
		4.7	Comply with workplace safety and legislative requirements
		4.8	Dispose of waste in accordance with legislative requirements

Unit Y/503/4321
Sling and signal the movement of loads

Learning Outcome - The learner will:		Assessment Criterion - The learner can:	
1	Know the procedures for slinging and signalling loads	1.1	Interpret drawings and work specifications for the task
		1.2	Identify the slinging equipment, lifting accessories and resources to be used for the task
		1.3	Identify the hand tools and ancillary equipment required
		1.4	Give examples of the methods of work to be used to sling the load
		1.5	State security procedures for the workplace
2	Know how to sling and signal loads safely and securely	2.1	Identify potential hazards within the work area
		2.2	Describe own role and responsibilities for the task
		2.3	Confirm the method of slinging
		2.4	Identify personal protective equipment (PPE) for the task in accordance with the specification
		2.5	State legislative requirements for disposing of waste
3	Sling and signal loads safely and securely	3.1	Select personal protective equipment (PPE) for the task in accordance with the specification
		3.2	Secure the load according to the specification
		3.3	Communicate signals to colleagues during the task
		3.4	Sling loads securely using slinging equipment, lifting accessories and hand tools and ancillary equipment
		3.5	Distribute the weight of the load
		3.6	Securely position the load in the specified location

Learning Outcome - The learner will:	Assessment Criterion - The learner can:	
	3.7	Remove slinging equipment and lifting accessories after use
	3.8	Comply with workplace safety and legislative requirements
	3.9	Dispose of waste in accordance with legislative requirements

Unit J/503/4380
Prepare and operate a 360 excavator to excavate or extract materials - below 10 tonne tracked or wheeled or above 10 tonne tracked or wheeled

Learning Outcome - The learner will:		Assessment Criterion - The learner can:	
1	Know the 360° excavator required for excavating or extracting materials according to the specification	1.1	Identify the type of 360° excavator for the task
		1.2	Interpret a lifting duties chart for the 360° excavator
		1.3	Select the machinery to be used for the task
2	Know how to prepare and conduct pre-operational checks of a 360° excavator and the work area	2.1	Interpret the drawings and specification for the task
		2.2	Identify any potential hazards within the work area, including underground and overhead utilities apparatus
		2.3	State procedures for preparing the 360° excavator to meet the requirements of the specification
		2.4	State how to check the 360° excavator is safe for operational use in line with manufacturers' recommendations and guidance
		2.5	Identify the person/s responsible for approving safety checks
		2.6	State procedures for workplace safety and dealing with accidents, emergencies and problems
		2.7	State legislative requirements for disposing of waste
3	Conduct pre-operational checks of a 360° excavator	3.1	Prepare a 360° excavator to meet operational requirements in line with manufacturer's recommendations and guidance

Learning Outcome - The learner will:		Assessment Criterion - The learner can:	
		3.2	Check safety of components and controls in line with manufacturer's recommendations and guidance
		3.3	Confirm the 360° excavator is safe for operational use
		3.4	Confirm with line management all checks have taken place before use
		3.5	Complete appropriate documentation to confirm operational checks have taken place
4	Operate a 360° excavator to excavate or extract materials safely	4.1	Select personal protective equipment (PPE) for the task in accordance with the specification
		4.2	Measure and mark out the area to be excavated or extracted according to the specification
		4.3	Operate the 360° excavator in accordance with manufacturer's guidelines and the operator's handbook
		4.4	Excavate or extract materials, meeting the work specification
		4.5	Place excavated or extracted materials into designated location
		4.6	Load materials into a suitable vehicle for transportation
		4.7	Park, shut down and secure the 360° excavator in accordance with manufacturers guidelines and operators handbook
		4.8	Comply with all current workplace safety and legislative requirements
		4.9	Dispose of waste in accordance with legislative requirements

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