ENERGY & ENVIRONMENT AWARDS

Skills for a greener world

EEA Level 3 End-point Assessment for Water Process Technician
(Water treatment technician; Waste water treatment technician; Waste water (sewerage) network technician; Water leakage technician; Water network technician)

Specification

QAN 610/6102/5
ST0160 V1.0

Specification for

EEA Level 3 End-point Assessment for Water Process Technician

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Updates to this specification

Since the first publication of Energy & Environment Awards Water process Technician Specification –, the following updates have been made.

Version	Date first published	Section updated	Page(s)
v4.0	August 2025	Rebranded	All
v3.0	May 2023	Rebranded	All
v2.0	February 2023	Revised using new Energy & Environment Awards specification template	All
v1.0	February 2022	First published	All
		Previously published as WPT Handbook	

Section 1: At a Glance EPA Summary

This apprenticeship standard has been retired. Apprentices can no longer start an apprenticeship programme for WPT. Energy & Environment Awards will continue to support WPT EPAs for apprentices currently on the programme. The last date for certification is 31 Oct 2027.

WPT has been superseded by the Water Industry Network Technician and Water Industry Treatment Process Technician standards.

Qualification name	EEA Level 3 End-point Assessment for Water Process Technician
Ofqual qualification number	610/6102/5
Standard reference	ST0160
Assessment plan	AP02
Standard title	Water Process Technician
Pathways	Option 1. Water treatment technician Option 2. Waste water treatment technician Option 3. Waste water (sewerage) network technician Option 4. Water leakage technician Option 5. Water network technician
Level	3
Gateway pre-requisites submitted to Energy & Environment Awards	Apprentice has achieved English and mathematics at level 2
On-programme duration	Typically 48 months

Gateway readiness	Apprentice has met all Gateway pre-requisites. Employer completes, signs and submits Gateway Eligibility Review (GER) form to Energy & Environment Awards
End-point assessment duration	Typically 3 months after the gateway
Order of end-point assessment methods	There is no prescribed order in which the assessments must take place. Energy & Environment Awards recommend that the Multiple-choice test is completed first
End-point assessment methods, weighting and component grading	Multiple-choice test: Fail, Pass or Distinction Has a weighting of 30% Portfolio which incorporates a trade test and work log: Fail, Pass or Distinction Has a weighting of 70%
Overall Grading	Fail, Pass, Distinction
Certification	Energy & Environment Awards request Apprenticeship completion certificates from the ESFA
Glossary of Terms	Appendix A, WPT Supporting Documents

Objective

The purpose of the Water Process Technician (WPT) end-point assessment (EPA) is to confirm that an apprentice is fully capable of doing their job before they receive their apprenticeship certificate. It also helps to demonstrate that what an apprentice has learned can be applied in the real world.

Water Process Technicians develop a range of engineering and scientific skills to enable them to control, plan and carry out operations on complex water utility infrastructure in Water or Waste Water Treatment works, Water Networks or

Sewerage Networks. This infrastructure includes items such as: valves, pipes, actuators, pumping stations, storage reservoirs, pressure vessels, filters, scrapers, stirrers and presses. Water Process Technicians ensure the complex water utility infrastructure work together seamlessly to deliver services required 24 hours per day, 365 days of the year.

Professional recognition

In achieving the Pass in this apprenticeship, the successful apprentice will be eligible for Engineering Technician (Eng.Tech) (or equivalent) professional registration.

Gateway Readiness

The employer must be satisfied that the apprentice is consistently working at, or above, the level of the occupational standard. Gateway pre-requisites are listed in the summary table above.

Recognition of prior learning (RPL)

Energy & Environment Awards does not recognise any apprentice prior learning (RPL) or prior achievement (RPA) for the purpose of amending the assessment requirements of any end-point assessments.

Please refer to Energy & Environment Awards RPL and RPA policy at Please refer to Energy & Environment Awards RPL and RPA policy at https://energyenvironmentawards.co.uk/policies-and-fees/

In order for Energy & Environment Awards to award an end-point assessment qualification, the apprentice must successfully complete all required assessment components with Energy & Environment Awards. This means that:

- each of the EPA components must be completed in full with Energy & Environment Awards
- where an apprentice transfers to Energy & Environment Awards from another EPAO they have to undertake the entire EPA with Energy & Environment Awards
- components of the EPA cannot be certificated in isolation

- evidence produced for the portfolio must be related to the time the apprentice is on their apprenticeship programme to demonstrate current practice
- examples used by the apprentice, during the interview, must relate to the time they were on their apprenticeship programme

This does not affect the Gateway requirements which must be met in order for an apprentice to be eligible for end-point assessment.

This does not affect any reasonable adjustments that may be granted.

Section 2: End-point Assessment Components

Component 1: Multiple-choice Test

Overview

The multiple-choice test is paper based. Apprentices have 90 minutes to complete the test. It consists of 50 multiple-choice questions. It has a 30% weighting of the final grading.

The multiple-choice questions will have four possible answers of which one will be correct.

The Pass mark is 35 correct answers.

The Distinction mark is 45 correct answers.

For this paper a (scientific) calculator is required.

The test is closed which means that the apprentice cannot refer to reference books or materials

Apprentices must take the test in a quiet space, free from distractions and influence, in the presence of an invigilator.

Multiple-choice Test Coverage

The table below lists each of the knowledge elements, assessed in the multiple-choice test, with additional amplification and guidance, where appropriate, from Energy & Environment Awards on the range and depth expected. Energy & Environment Awards has worked with employers and subject matter experts to develop the amplification and guidance.

Number of Questions	Knowledge	Amplification and Guidance (where required)	
2-3	**K1** Relevant industry health and safety standards, regulations, environmental and regulatory requirements	To include • COSHH • Asbestos awareness • Working at height • First aid • Risk assessment • PPE	• H&S signage • Isolation procedures • Working time directive • Reporting accidents/incidents • Manual handling • RIDDOR • Confined space
2-4	**K2** Maintenance practices, processes and procedures covering a range of waste and water systems, plant and equipment	To include • Types of maintenance • Isolation procedures • Specifications • Signs and symbols	• Alarms and trips • Relevant mathematical calculations • Calibration/certification • Testing

Number of Questions	Knowledge	Amplification and Guidance (where required)	
		• Process control	• Legislation
1-4	**K3** Company policies and procedures including HR, Operations and Health & Safety	To include • COSHH • Asbestos awareness • Working at height • First aid • Risk assessment • PPE • H&S signage	• Isolation procedures • Working time directive • Reporting accidents/incidents • Manual handling • RIDDOR • Confined space • Asset security
37-43	**K4** Water industry operations in water and waste water treatment, water and sewerage network operations	Based on specific pathway. To include Water Treatment Technician: • Raw Water Operations • Water Quality requirements • Works design, flows, hydraulic theories, principles & calculations • Disinfection	

Number of Questions	Knowledge	Amplification and Guidance (where required)
		• Treated water Storage • Screening • Coagulation • Clarification • Filtration • Taste and odour removal • Reporting accidents/incidents • Waste streams and treatment • Distribution system protection • Regulatory performance measures Water Distribution Network Technician: • Regulatory performance measures • Water Quality requirements • Valve and hydrant operations • Network assets and design • Network performance monitoring • Water Quality sampling

Number of Questions	Knowledge	Amplification and Guidance (where required)
		• Location and avoidance of underground apparatus • Pressure management • NRSWA • Leakage detection operations • Water fittings regulations • Data logging operations • Materials used in clean water networks • Customer side leakage • Access to private land • Rehabilitation and renewal • Flow and hydraulics theories, principles and calculations Water Distribution Leakage Technician: • Regulatory performance measures • Water Quality requirements • Network assets and design • Valve and hydrant operations • Location and avoidance of underground apparatus

Number of Questions	Knowledge	Amplification and Guidance (where required)
		• NRSWA • Leakage detection operations • Water fittings regulations • Data logging operations • Materials used in clean water networks • Customer side leakage • Access to private land • Rehabilitation and renewal • Flow and hydraulics theories, principles and calculations Wastewater (Sewerage) Network Technician: • Regulatory reporting and performance measures • Sewerage networks assets and design • Pollution reporting • Incident response including flooding and blockages • Regulations relating to network installation and alteration • Access to private land • Jetting operations and best practice

Number of Questions	Knowledge	Amplification and Guidance (where required)
		• CCTV operations including industry standard coding • Location and avoidance of underground apparatus • NRSWA • Flow and hydraulics theories, data and calculations Wastewater Treatment Technician: • Wastewater compliance and performance monitoring • Works design, flow separation, hydraulic theories, principles & calculations • Sewage pumping station operations • Screenings and grit removal • Primary settlement operations • Biological treatment (all including fixed film and ASP) • Sludge storage, treatment and transportation • Odour management • Incident support and pollution reporting • Phosphate removal

Number of Questions	Knowledge	Amplification and Guidance (where required)
1-2	**K5** Relevant level of theory and principles that underpin the use of specific equipment,	To include • Sampling and testing methods, procedures and equipment • Theories and principals of fault finding and problem solving • Relevant calculations • Process measurement equipment • Legislation and reporting requirements • Process control equipment
1-3	**K6** Testing procedures of equipment and instruments as well as a range of fault finding procedures.	To include • Testing procedures of equipment and instruments as well as a range of fault-finding procedures • Sampling and testing methods, procedures, and equipment • Theories and principles of fault finding and problem solving • Types of maintenance • Maintenance procedures • Inspection • Signs and symbols • Tools and equipment

Multiple-choice Test Roles and Responsibilities

Role	Responsibility
Invigilator	Is typically provided by the employer or training provider Attends induction training as directed by Energy & Environment Awards Has no direct connection or conflict of interest with the apprentice Invigilates and supervises apprentices during tests and in breaks to prevent malpractice
Employer/Training Provider	Ensures that the test is scheduled with Energy & Environment Awards for a date and time which allow the apprentice to be well prepared
Energy & Environment Awards	Arranges for the test to take place, in consultation with the employer/lead provider Marks multiple-choice test answers accurately according to the mark scheme and procedures

Component 2: Portfolio Assessment:

Overview

Apprentices will submit a portfolio consisting of a work log typically developed during the on-programme period together with documentation from a trade test completed in the final three months.

The portfolio may be paper based and / or electronic format. The work log and trade test carry a weighting of 70% of the total EPA

Step-by-Step Guide

The table below provides a step-by-step guide on how the trade test and work log assessment will be carried out:

Portfolio structure	The apprentice will submit a portfolio consisting of: • a work log developed on-programme, typically during the last two years of the apprenticeship • documentation from a trade test completed in the final three months. The trade test is made up of three parts, two of which are mandatory and a third part which will be randomly allocated
What should the portfolio include?	• Copy of the work log mapping document which the apprentice has completed mapping their key pieces of evidence to the standard • Copy of driving licence and vehicle safety checks completed • On site assessments/observations • Work place evidence generated by the apprentice • Performance reviews including the apprentice's most recent company performance management paperwork • Witness testimonies • Reflective learning pieces focussing on work that the apprentice has completed and problems they encountered • Trade test documentation

What work-based activities should the work log include?	These may include, but are not limited to: • Following and applying current Health, Safety and Environmental legislation, regulations, practices and procedures • Personal responsibility to comply with current and relevant industry standards and regulations • Following company policies and procedures including HR, Operations and Health and Safety • Conducting day to day operations to maintain clean tap water and/or effective removal and treatment of waste water • Working on customer/company premises demonstrating care and respect to customers and colleagues • Undertaking testing procedures of equipment, instruments and IT systems • Analysing and interpreting faults on systems, equipment, instruments and IT systems and implement effective solutions • Carrying out risk assessments, including lone worker procedures • Driving vehicles equipped with tools and materials to other sites as required • Using a variety of appropriate communication methods to interact with others to give/receive information accurately, in a timely, positive and professional manner • Completing reports and ensuring records are maintained for audit and reporting purposes • Working with focus and clear purpose in all weather conditions, covering 24/7 operations, sometimes working alone and safely adapting working methods to reflect changes in working environments. Additionally in the work log there are more specific requirements, for each pathway, which will need to be demonstrated and they are as follows:

	Water Treatment Technician: • Monitor and maintain water treatment processes e.g., chemical dosing, filtration and disinfection • Operate, control and maintain process control equipment and instrumentation • Find the root cause of faults and ensure they are communicated and resolved • Carry out risk assessments and check method statements applicable to site operations • Control operations on their treatment works including work in confined spaces • Use water treatment theories and principles to ensure processes are maintained at optimum performance. • Use treatment works design specifications to control treatment works and monitor the performance of their works • Ensure vital safety equipment is maintained and available for use • Carry out process stream and full treatment works shutdown as required by routine planned maintenance and emergencies • Implement emergency procedures on your treatment works. Water Distribution Network Technician: • Analyse and assess network performance measures e.g., water pressure, flows and leakage • Investigate and identify resolutions to network performance issues • Apply procedures and their control measures to the network to minimise the risk of supply interruptions to customers • Maintain network, equipment and systems including pumps and control valves • Where required act as supervisor of street works, ensuring the safety of pedestrians, vehicles and site staff

	• Use technical knowledge to operate electronic location equipment to identify and locate underground cables • Use hydraulic theories and principles to carry out fault diagnosis on water networks • Plan network operations ensuring water mains and water service pipe couplings and method are suitable for use • Authorise valve operations on water networks in accordance with operations and maintenance strategies and procedures • Carry out valve operations giving due consideration to impact on customers, ensuring continuity of supply and minimising water quality problems • Implement emergency procedures on your treatment works. Water Distribution Leakage Technician: • Work safely in a variety of work locations that may include urban and rural areas on and off the public highway and may include remote locations • Using technical knowledge identify areas that require further investigation due to leakage deciding on the most appropriate methods to identify and locate sources of leakage • Using technical knowledge operate electronic location equipment, identify and locate underground water mains and services • Use hydraulic theories, principles and carry out valve operations to set-up, test, maintain or alter district meter areas • Use industry principles and measurement to estimate volumes of water lost through leakage • Programme, deploy, retrieve and interpret data from data logging equipment.

	Wastewater (Sewerage) Network Technician: • Use hydraulic theories, data and calculations from flow surveys to assess sewer capacity and performance • Operate electronic location equipment to locate drains and sewers • Where required act as supervisor of street works, ensuring the safety of pedestrians, vehicles and site staff • Carry out sewer network inspections, including new sewer connections • Respond to customer reported incidents, clear blockages • Work safely in a variety of work locations that may include urban and rural areas on and off the public highway and may include remote locations • Conduct Confined Spaces Operations and ensure equipment is maintained to the required standard • Where required, supervise and inspect excavations and backfilling including trench support systems • Organise and carry out maintenance operations including high pressure water jetting, flushing and de- silting • Organise and carry-out investigations utilising CCTV equipment and report using industry standard coding system • Plan work to take account of risks to the environment. Wastewater Treatment Technician: • Use waste water treatment theories and principles to ensure processes are maintained at optimum performance • Operate and maintain process control equipment and instrumentation • Maintain sewerage systems, including associated control systems • Maintain sewer pumping stations and associated equipment • Control the operations on your sites to ensure environmental quality standards for effluent discharge and air quality are met

	• Control operations on your treatment works including work in confined spaces • Monitor and maintain waste water treatment processes including screening, grit removal, settlement, biological treatment and sludge treatment • Identify the root cause of faults and ensure they are communicated and resolved • Use treatment works design specifications to control treatment works and monitor the performance of your works • Ensure safety equipment is maintained and available for use • Carry out process stream and full treatment works shutdown as required by routine planned maintenance and emergencies • Implement emergency procedures on treatment works • Organise and control maintenance operations on treatment works equipment.
Where will the trade test take place?	The trade test must be conducted in a controlled assessment location which may be either on-site or in an environment that reflects the hazards and risks of a real time working environment.
What are the tasks that will be covered in the trade test?	Water Treatment Technicians can expect to be assessed on the following: Two mandatory tests covering: • Correct monitoring and operation of the disinfection process • On site testing to ensure water quality compliance. A random element from the tests listed below. The element will be dependent on the specific site processes operated: • Raw water services operations • Correct monitoring and operation of chemical dosing • Correct monitoring and operation of clarification and settlement • Correct monitoring and operation of filtration • Correct monitoring and operation of treated water storage

	• Correct monitoring and operation of waste streams • Correct monitoring and operation of advanced water treatment. Water Distribution Network Technicians can expect to be assessed on the following: Two mandatory tests covering: • Setting out and removing signing, lighting and guarding • Customer visit. A random element from the tests listed below. The element will be dependent on the role of the individual) • Location and avoidance of underground apparatus • Operating a valve or hydrant safely and with due diligence • Sampling and testing for chlorine and turbidity • Sampling and testing for bacteriological analysis • Identify and prove customer side leakage • Set up temporary loggers (flow and/or pressure). Water Distribution Leakage Technicians can expect to be assessed on the following: Two mandatory tests covering: • Setting out and removing signing, lighting and guarding • Customer visit. • A random element from the tests listed below. The element will be dependent on the role of the individual • Location and avoidance of underground apparatus • Operating a valve or hydrant safely and with due diligence • Sampling and testing for chlorine and turbidity • Sampling and testing for bacteriological analysis • Identify and prove customer side leakage • Set up temporary loggers (flow and / or pressure) • Leakage detection operations • Step test • Access, download and interpret data from permanent loggers.

Wastewater (Sewerage) Network Technicians can expect to be assessed on the following:
Two mandatory tests covering:

- Setting out and removing signing, lighting and guarding
- Customer visit.
-

A random element from the tests listed below. The element will be dependent on the role of the individual

- Carry out CCTV inspection
- Carry out jetting of a sewer
- Inspection and maintenance of CSO's
- Trace and locate drain / sewer
- Trace and locate sewer defect / blockage
- FOG survey
- Misconnection / pollution tracing.

Wastewater Treatment Technicians can expect to be assessed on the following:
Two mandatory tests covering:

- Effluent compliance
- Biological treatment – based on the treatment processes most commonly operated by the by the apprentice either:
    - Check and ensure the correct operation of ASP or
    - Check and ensure the correct operation of fixed film biological treatment

A random element from the tests listed below. The element will be dependent on the specific site

- processes operated
- Check and ensure correct operation of screens
- Check, inspect and confirm flow separation
- Correct monitoring and operation of settlement processes
- Process performance monitoring
- Lift, inspect and unblock submersible pump
- Check and ensure correct operation of chemical dosing

	• Check and ensure correct operation of sludge settlement and storage • Check and ensure the correct operation of mechanical sludge thickening or dewatering • Check and ensure correct operation of sludge digestion.
Who sets the task(s)?	The tasks for the trade tests are drawn from a bank of trade tests held by Energy & Environment Awards. The third part of the trade test is randomly allocated. An approved test will be released to the apprentice's employer on application, to be completed in the specified end-point period. The standardised documentation will outline the test requirements, assessment criteria and will be used to record decisions.
What resources can the apprentice use?	Apprentices will be expected to select and use the appropriate equipment and tools, protect themselves and others from potential harm that can arise from their work, while ensuring other processes on site continue to function; effectively and efficiently maintaining production.
How many questions will the apprentice be asked?	The employer assessor will ask knowledge questions where competence is not confirmed through observation of performance and will record the answers given.
What will the questions focus on?	Underpinning knowledge and/or skills and behaviours where an opportunity to observe them has not occurred
Who will assess the apprentice?	An independent assessor, appointed by Energy & Environment Awards will assess the trade test The portfolio's summative assessment must be carried out by a employer assessor who has not directly worked with the apprentice or participated in their learning and training

	Employer assessors must be approved by Energy & Environment Awards The employer assessor will use the standardised assessment criteria and documentation provided by Energy & Environment Awards
Grading	The trade test will be awarded a pass or fail The portfolio, incorporating the trade test, will be awarded fail, pass or distinction

Trade Test and Work Log Assessment Knowledge, Skills and Behaviours (KSBs) coverage

The trade test and work log cover:

Trade Test and Work Log Elements: Knowledge and Skills	Amplification and Guidance	
K1 Relevant industry health and safety standards, regulations, environmental and regulatory requirements **S7** Follow and apply current Health, Safety and Environmental legislation, regulations, practices and procedures **S8** Personal responsibility to comply with current and relevant industry standards and regulations	To include • COSHH • Asbestos awareness • Working at height • First aid • Risk assessment • PPE	• H&S signage • Isolation procedures • Working time directive • Reporting accidents/incidents • Manual handling • RIDDOR • Confined space
K2 Maintenance practices, processes and procedures covering a range of waste and water systems, plant and equipment	To include • Types of maintenance • Isolation procedures • Specifications • Signs and symbols • Process control	• Alarms and trips • Relevant mathematical calculations • Calibration/certification • Testing • Legislation

Trade Test and Work Log Elements: Knowledge and Skills	Amplification and Guidance	
K3 Company policies and procedures including HR, Operations and Health and Safety **S9** Follow company policies and procedures including HR, Operations and Health and Safety	To include • COSHH • Asbestos awareness • Working at height • First aid • Risk assessment • PPE • H&S signage	• Isolation procedures • Working time directive • Reporting accidents/incidents • Manual handling • RIDDOR • Confined space • Asset security
K4 Water Industry operations in water and waste water treatment, water and sewerage network operations **S10** Conduct day to day operations to maintain clean tap water and /or effective removal and treatment of waste water	Based on specific pathway. To include **Water Treatment Technician:** • Raw Water Operations • Water Quality requirements • Works design, flows, hydraulic theories, principles and calculations • Disinfection • Treated water Storage • Screening • Coagulation • Clarification	

Trade Test and Work Log Elements: Knowledge and Skills	Amplification and Guidance
	• Filtration • Taste and odour removal • Reporting accidents/incidents • Waste streams and treatment • Distribution system protection • Regulatory performance measures **Water Distribution Network Technician:** • Regulatory performance measures • Water Quality requirements • Valve and hydrant operations • Network assets and design • Network performance monitoring • Water Quality sampling • Location and avoidance of underground apparatus • Pressure management • NRSWA • Leakage detection operations • Water fittings regulations

Trade Test and Work Log Elements: Knowledge and Skills	Amplification and Guidance
	• Data logging operations • Materials used in clean water networks • Customer side leakage • Access to private land • Rehabilitation and renewal • Flow and hydraulics theories, principles and calculations **Water Distribution Leakage Technician** • Regulatory performance measures • Water Quality requirements • Network assets and design • Valve and hydrant operations • Location and avoidance of underground apparatus • NRSWA • Leakage detection operations • Water fittings regulations • Data logging operations • Materials used in clean water networks • Customer side leakage

Trade Test and Work Log Elements: Knowledge and Skills	Amplification and Guidance
	• Access to private land • Rehabilitation and renewal • Flow and hydraulics theories, principles and calculations **Wastewater (Sewerage) Network Technician:** • Regulatory reporting and performance measures • Sewerage networks assets and design • Pollution reporting • Incident response including flooding and blockages • Regulations relating to network installation and alteration • Access to private land • Jetting operations and best practice • CCTV operations including industry standard coding • Location and avoidance of underground apparatus • NRSWA • Flow and hydraulics theories, data and calculations **Wastewater Treatment Technician** • Wastewater compliance and performance monitoring

Trade Test and Work Log Elements: Knowledge and Skills	Amplification and Guidance
	• Works design, flow separation, hydraulic theories, principles and calculations • Sewage pumping station operations • Screenings and grit removal • Primary settlement operations • Biological treatment (all including fixed film and ASP) • Sludge storage, treatment and transportation • Odour management • Incident support and pollution reporting • Phosphate removal
K5 Relevant level of theory and principles that underpin the use of specific equipment, instruments and IT systems **S13** Analyse and interpret faults on systems, equipment, instruments and IT systems and implement effective solutions	To include: • Sampling and testing methods, procedures and equipment • Theories and principals of fault finding and problem solving • Relevant calculations • Process measurement equipment • Legislation and reporting requirements • Process control equipment

Trade Test and Work Log Elements: Knowledge and Skills	Amplification and Guidance
K6 Testing procedures of equipment and instruments as well as a range of fault finding procedures **S12** Undertake testing procedures of equipment, instruments and IT systems	To include: • Testing procedures of equipment and instruments as well as a range of fault-finding procedures • Sampling and testing methods, procedures, and equipment • Theories and principles of fault finding and problem solving • Types of maintenance • Maintenance procedures • Inspection • Signs and symbols • Tools and equipment
S11 Work on customer/company premises demonstrating care and respect to customers and colleagues **S14** Carry out risk assessments, including lone worker procedures **S15** Drive vehicles equipped with tools and materials to other sites as required	

Trade Test and Work Log Elements: Knowledge and Skills	Amplification and Guidance
S16 Use a variety of appropriate communication methods to interact with others to give/receive information accurately, in a timely, positive and professional manner **S17** Complete reports and ensure records are maintained for audit and reporting purposes **S18** Work with focus and clear purpose in all weather conditions, covering 24/7 operations, sometimes working alone and safely adapt working methods to reflect changes in working environments	

Trade Test and Work Log Elements: Water Treatment Technician	Amplification and Guidance
WTT1 Control the operations on your sites to ensure Drinking Water Quality Standards are met	Operations such as raw water services; screening; rapid gravity filtration; slow sand filtration
WTT2 Monitor and maintain water treatment processes e.g. chemical dosing, filtration and disinfection	Processes such as disinfection; pressure filtration; membrane filtration; taste and odour removal; chemical dosing (coagulation and clarification control)
WTT3 Operate, control and maintain process control equipment and instrumentation	The different types of equipment may include if applicable: • Instrumentation-Dissolved Oxygen Probes • Ammonia monitors • Flow meters • Level meters • Temperature meters • Analytical Instrument Controllers such as pH, turbidity, chlorine, etc. • Proportional Integral and Derivative P.I.D. Controllers
WTT4 Find the root cause of faults and ensure they are communicated and resolved	

Trade Test and Work Log Elements: Water Treatment Technician	Amplification and Guidance
WTT5 Carry out risk assessments and check method statements applicable to site operations	
WTT6 Control operations on your treatment works including in confined spaces	
WTT7 Use water treatment theories and principles to ensure processes are maintained at optimum performance	Theories and principles may include: • basic flow calculations • basic hydraulic principles • simple calculations related to changing chemical requirements • simple calculations to calculate residence times and velocities within filters • calculation of chlorine contact time and CT
WTT8 Use treatment works design specifications to control treatment works and monitor the performance of your works	
WTT9 Ensure vital safety equipment is maintained and available for use	Safety equipment such as but not limited to lifting equipment, gas detection equipment

Trade Test and Work Log Elements: Water Treatment Technician	Amplification and Guidance
WTT10 Carry out process stream and full treatment works shutdown as required by routine planned maintenance and emergencies	
WTT11 Implement emergency procedures on your treatment works	
WTT12 Organise and control maintenance operations on treatment works equipment	To include isolation procedures:

Trade Test and Work Log Elements: Water Network Technician	Amplification and Guidance
WNT1 Analyses and assess network performance measures e g. water pressure, flows and leakage	Water network measures include, but not limited to chemical and microbiological parameter limits; turbidity and discolouration limits; taste and odour limits
WNT2 Investigate and identify resolutions to network performance issues	
WNT3 Apply procedures and their control measures to the network to minimise the risk of supply interruptions to customers	
WNT4 Maintain network, equipment and systems including pumps and control valves	
WNT5 Where required act as Supervisor of Street Works, ensuring the safety of pedestrians, vehicles and staff	
WNT6 Use technical knowledge to operate electronic location equipment to identify and locate underground cables	Underground services include gas; electric; fibre optic; oil / petroleum; wastewater
WNT7 Use hydraulic theories and principles to carry out fault diagnosis on water networks	

Trade Test and Work Log Elements: Water Network Technician	Amplification and Guidance
WNT8 Plan network operations ensuring water mains and water service pipe couplings and method are suitable for use	
WNT9 Authorise valve operations on water networks in accordance with operations and maintenance strategies and procedures	
WNT10 Carry out valve operations giving due consideration to impact on customers, ensuring continuity of supply and minimising water quality problems	

Trade Test and Work Log Elements: Water Leakage Technician	Amplification and Guidance
WLT1 Work safely in a variety of work locations that may include urban and rural areas on and off the public highway and may include remote locations	
WLT2 Using technical knowledge identify areas that require further investigation due to leakage deciding on the most appropriate methods to identify and locate sources of leakage	
WLT3 Using technical knowledge operate electronic location equipment, identify and locate underground water mains and services	
WLT4 Use hydraulic theories, principles and carry out valve operations to set-up, test, maintain or alter district meter areas	Hydraulic theories, data and calculations may include: • basic calculations for flow, velocity, attenuation, pipe runs • hydraulic design with consideration of e.g., flow rates, gradients • determining gradients, depths
WLT5 Use industry principles and measurement to estimate volumes of water lost through leakage	

Trade Test and Work Log Elements: Water Leakage Technician	Amplification and Guidance
WLT6 Programme, deploy, retrieve and interpret data from data logging equipment	
WLT7 Apply procedures and their control measures to the network to minimise the risk of interruption of supplies to customers	

Trade Test and Work Log Elements: Waste Water Network Technician	Amplification and Guidance
WWNT1 Use hydraulic theories, data and calculations from flow surveys to assess sewer capacity and performance	Hydraulic theories, data and calculations may include • basic calculations for flow, velocity, attenuation, pipe runs • hydraulic design with consideration of e.g., flow rates, gradients • determining gradients, depths
WWNT2 Operate electronic location equipment to locate drains and sewers	
WWNT3 Where required act as Supervisor of Street Works, ensuring safety of pedestrians, vehicles and site staff	
WWNT4 Carry out sewer network inspections, including new sewer connections	
WWNT5 Respond to customer reported incidents, clear blockages	
WWNT6 Work safely in a variety of work locations that may include urban and rural areas on and off the public highway and may include remote locations	

Trade Test and Work Log Elements: Waste Water Network Technician	Amplification and Guidance
WWNT7 Conduct Confined Spaces Operations and ensure equipment is maintained to the required standard	
WWNT8 Where required, supervise and inspect excavations and backfilling including trench support systems	
WWNT9 Organise and carry out maintenance operations including High Pressure Water jetting, flushing and de-silting	
WWNT10 Organise and carry out investigations utilising CCTV equipment and report using industry standard coding system	CCTV equipment to include push rod axial camera, push rod pan and tilt camera, crawler camera
WWNT11 Plan work to take account of risks to the environment	Risks to include different types of trade effluent, FOGs

Trade Test and Work Log Elements: Waste Water Treatment Technician	Amplification and Guidance
WWTT1 Use waste water treatment theories and principles to ensure processes are maintained at optimum performance	Theories and principles may include: • Appropriate calculations for distance, area, volume and flow • pH scale, acids, bases and alkalinity • Differences and importance of elements, molecules, compounds (organic and inorganic), atoms and ions • Composition of air and its relationship to the water industry
WWTT2 Operate and maintain process control equipment and instrumentation	Equipment and instrumentation such as dissolved oxygen probes; ammonia monitors; flow meters; level meters; temperature meters; analytical instrument controllers such as pH, turbidity and chlorine; P.I.D. controllers
WWTT3 Maintain sewerage systems, including associated control systems	Control systems include SCADA/HMI
WWTT4 Maintain Sewer pumping stations and associated equipment	Associated equipment includes different types of pumps and associated ancillary equipment

Trade Test and Work Log Elements: Waste Water Treatment Technician	Amplification and Guidance
WWTT5 Control the operations on your site to ensure Environmental Quality Standards for effluent discharge and air quality are met	
WWTT6 Control operations on your treatment works including work in confined spaces	
WWTT7 Monitor and maintain waste water treatment processes including screening, grit removal, settlement, biological treatment and sludge treatment	
WWTT8 Identify the root cause of faults and ensure they are communicated and resolved	
WWTT9 Use treatment works design specifications to control treatment works and monitor the performance of your works	
WWTT10 Ensure safety equipment is maintained and available for use	

Trade Test and Work Log Elements: Waste Water Treatment Technician	Amplification and Guidance
WWTT11 Carry out process stream and full treatment works shutdown as required by routine planned maintenance and emergencies	
WWTT12 Implement emergency procedures on treatment works	
WWTT13 Organise and control maintenance operations on treatment works equipment	

Trade Test and Work Log Elements: Behaviours	Amplification and Guidance
SB1 Accept ownership and responsibility for your work whilst maintaining self-discipline, motivation and working in a professional manner at all times **SB2** Work well with people from different trades/disciplines, backgrounds and expertise to accomplish an activity safely and on time and meet customer requirements **SB3** Deliver a polite, courteous, professional service to customers, colleagues and members of the public	Examples of typical behaviours include: • Willingly accepts ownership and responsibility for own work • Maintains personal accountability and ownership to resolve issues • Maintains self-discipline and motivation to achieve required outputs • Timekeeping, attendance, behaviours all meet expectations required • Demonstrates understanding of internal customer concept and treats all customers with high levels of sensitivity and respect • Interacts with the public in a courteous and cooperative manner • Always provides satisfactory and sometimes excellent customer service • Handles sensitive situations • Completes other required tasks within competence levels without hesitation, including additional assignments after expected/delegated work is completed

Trade Test and Work Log Elements: Behaviours	Amplification and Guidance
	• Works well with a range of people Examples of outstanding performance include: • Provides excellent service to all customers, frequently going beyond what is required • Anticipates customers' needs • Examines and recommends changes to processes to improve customer service • Never allows personal issues to intrude on work or working relationships • Anticipates problems and develops alternatives in advance, to reduce possible impact • Reflects on and evaluates personal working methods and behaviours to identify possible improvements • Effectively adapts communication style and method to suit the situation • Develops positive relationships with individuals to support specific issues • Upholds 'right first time' objectives and reduces the negative impact that could be caused by getting it wrong

Trade Test and Work Log Elements: Behaviours	Amplification and Guidance
	• Work deadlines are always achieved/exceeded and information about progress or problems is appropriately communicated
SB4 Be risk aware showing the desire to reduce risks through monitoring and checking information and strict compliance with appropriate rules, demonstrating: a) Situational Awareness – the impact of changing circumstances on an activity b) Concentration on task – identify and deal appropriately with distractions to enable tasks to be achieved	Examples of typical behaviours include: • No preventable injuries • No preventable accident • Consistently follows policies, procedures and standard operating practices as directed • Consistently applies health and safety knowledge to work activities and has an awareness of the impact of changing circumstance • Takes personal responsibility for their own and others health, safety and security, and assesses risks • Seeks guidance on health and safety issues when not confident • Identifies distractions and deals with them accordingly to enable tasks to be achieved safely Examples of outstanding performance include:

Trade Test and Work Log Elements: Behaviours	Amplification and Guidance
	• Identifies health and safety deficiencies and provide solutions for implementation • Excels in acquiring additional safety knowledge • Identifies and analyses risks • Demonstrates forward thinking regarding health and safety in all work activities • Adapts and functions effectively under unusually high levels of change in the work environment and activities, with a positive attitude • Ensures records are maintained with relevant information • Reviews current plans to identify if changes are required on an activity, e.g., weather, new members on site Pre-empts distractions prior to task commencement and puts actions in place to prevent them occurring
SB5 Undertake work in a way that contributes to personal development **SB8** Accept, allocate and supervise technical and other tasks	Examples of typical behaviours include: • Ensures tasks are understood and outlined plans are clear • Allocates materials and equipment effectively to accommodate workflow

Trade Test and Work Log Elements: Behaviours	Amplification and Guidance
	• Ensures work tasks are allocated to someone competent to do them, ensuring output is optimised • Manages their own time effectively and delivers as promised to agreed timescales • Reassigns tasks when necessary • Applies knowledge gained to work-related tasks with little or no support • Willingly participates in training to maintain or enhance current knowledge of principles, procedures, methods, and/or technology • Understands the importance of maintaining competence and records progress • Attempts to improve performance following constructive feedback • Follows policies set by supervisor without reminder Examples of outstanding performance include: • Demonstrates effective prioritisation for optimal performance and output

Trade Test and Work Log Elements: Behaviours	Amplification and Guidance
	• Achieves deadlines in emergencies and unfamiliar situations • Voluntarily takes on additional responsibilities • Always competently applies knowledge gained to work-related tasks • Frequently utilises knowledge to support peers • Demonstrates exceptional knowledge and skills in job-related areas • Proactively remains up to date with all principles, procedures, methods and technology, and keeps records of progress • Takes ownership of learning and development by actively seeking out opportunities • Demonstrates exceptional ability to independently complete assigned responsibilities • Actively seeks constructive feedback to aid continuous improvement

Trade Test and Work Log Elements: Behaviours	Amplification and Guidance
SB7 Identify, organise and use resources effectively to complete tasks, with consideration for cost, quality, safety, security and environmental impact	Examples of typical behaviours include: • Understands importance of achieving results to meet requirements • Makes all effort necessary to achieving goals/objectives • Understands how to balance all appropriate components to meet required results • Takes personal responsibility for doing their own job well and ensuring any issues are resolved • Understands how they contribute to team and company results and how their decisions and the way they work impact on costs and other teams • Appreciates what good performance looks like and the ongoing requirement that everyone finds ways to improve efficiency. • Takes action to deliver on time, recognising the impact they have on other people if they don't. Where potential delays or issues are unavoidable informs others promptly. • Listens to and acts on feedback to build on what has gone well to learn and improve

Trade Test and Work Log Elements: Behaviours	Amplification and Guidance
	• Ensures other people have the information they need to make the right decision quickly and to do their job well • Uses initiative to find ways to overcome obstacles effectively Examples of outstanding performance include: • Takes appropriate decisive action to achieve goals/objectives • Consistently surpasses requested results or agreed objectives • Demonstrates high sense of urgency in achieving results • Looks at issues and problems from different perspectives to arrive at the best solution and supports others to do so • Understands the impact of job costing, actions and decisions on income and other teams • Adopts the best communication approach for the situation, remembering others may have a different level of knowledge or perspective, whilst supporting others to do so

Trade Test and Work Log Elements: Behaviours	Amplification and Guidance
	• Displays exceptional initiative finding ways to overcome obstacles • Motivated to get it right first time, every time
SB9 Be aware of the needs and concerns of others, especially where related to diversity and equality **SB10** Undertake work in a way that contributes to sustainable development **SB11** Exercise responsibilities in an ethical manner	Examples of typical behaviours include: • Appreciates how the role can have an impact the environment • Describes why policies and procedures are required and consistently applies them • Causes no preventable environmental incidents • Acts in a fair and honest manner when dealing with colleagues and customers and tries to do the right thing • Appreciates the social responsibility that working for a water company brings to individual employees • Recognises regulatory standards and legal requirements and applies them in principle as well as in practice. Acts in the spirit of what is intended to meet customers' needs • Is polite, treating everyone with respect and consideration

Trade Test and Work Log Elements: Behaviours	Amplification and Guidance
	Examples of outstanding performance include: • Can describe the company and personal responsibilities regarding environmental policies and procedures • Understands the typical impact that the role can have on the environment and the mitigation actions taken • Identifies areas for improvement, as appropriate • Acts in a fair and honest manner when dealing with colleagues and customers and understands the impact of ethical behaviours • Comprehends and recognises the social responsibility that working for a water company brings to individual employees • Matches actions with their words and accepts responsibility for their own behaviour • Consistently considers others' views and feelings • Respects diversity and values difference, treating everyone fairly

Trade Test and Work Log Elements: Behaviours	Amplification and Guidance
SB6 As required, undertake standby duties to provide 24 hour cover to the network, or carry out operations that can only take place outside normal working hours	Examples of typical behaviours include: • Works to achieve the work plan in an orderly and calm manner • Takes appropriate action when working to rectify faults • Maintains composure in unfamiliar situations and adverse conditions, acting in a calm and confident manner • Is rarely intimidated by others • Knows the limitation of one's own experience and when/where to refer for support Examples of outstanding performance include: • Assesses surroundings and understands the impact of out-of-hours/standby/emergency situations • Applies skills and knowledge accurately in unfamiliar surroundings/situations • Acts professionally in all situations • Communicates with others to ensure accurate information is available and relayed • Is not intimidated by any person/situation

Trade Test and Work Log Elements: Behaviours	Amplification and Guidance
	• Responds quickly and efficiently in emergency situations • Remains confident, calm and composed in serious/dangerous circumstances

Portfolio of Evidence Requirements

The requirements are as follows:

The portfolio has two parts:

- Evidence of successful completion of the trade test, worth 41-44 points (depending on pathway). These points are 'banked' when the apprentice passes the trade test
- The work log, scored out of a maximum 56-59 marks (depending on pathway).

The maximum points available for each part are dependent upon the pathway chosen.

Pass evidence can come from work log or trade test, unless stated otherwise.

Distinction evidence can only come from work log.

The work log may be in a paper and / or electronic format. It provides evidence of the range of work carried out by the apprentice in the workplace, mapped to the requirements of the standard.

Work Log Mapping Document

The apprentice must map their evidence for the work log to the KSBs. The work log mapping document must be clearly referenced and included at the front of the portfolio.

A work log mapping template is available from Energy & Environment Awards at www.energyenvironmentawards.co.uk/end-point-assessment/epa-resources .Providers should support apprentices to select evidence for their work log and to reference it so the assessor can find relevant sections easily.

Each section is numbered, and each criterion is referenced with a letter. The combination of number and letter should be used to reference the evidence in the work log. For example, reference 3b should be used in the work log to indicate evidence of testing and maintaining H&S equipment.

Evidence for behaviours can come from company behavioural reviews typically completed during the last three months of training.

How will the training provider submit the apprentice's portfolio to Energy & Environment Awards?
The employer/training provider must submit the portfolio of evidence to Energy & Environment Awards, either in an electronic or paper format.

Portfolio: Trade Test and Work Log Roles and Responsibilities

Role	Responsibility
Independent Assessor	Record and report assessment outcome decisions, for each apprentice, following instructions and using assessment recording documentation provided by Energy & Environment Awards
Employer/Training provider	Provide the venue for the trade tests which must be suitably equipped to allow the apprentice to attempt all aspects of the test. Provide all necessary tools and equipment for the apprentice Ensure the apprentice has access to the resources used on a daily basis
Energy & Environment Awards	Arrange for the trade tests to take place, in consultation with the employer/training provider and assessor

Section 3: Grading and Grading Criteria

Component 1: Multiple-choice test

The following grade boundaries apply to the multiple-choice test:

Grade	Minimum mark	Maximum mark
Fail	0	34
Pass	35	44
Distinction	45	50

Component 2: Portfolio Assessment

Pass evidence can come from work log or trade test, unless stated otherwise.

Distinction evidence can only come from work log.

- If the trade test has been passed, then there are 41-44 points which can be awarded towards the portfolio score. The number of points differs, dependent upon the pathway being assessed.
- Each portfolio evidence requirement should be awarded a points score in line with the portfolio grading guidance
- Evidence for Section 4, 'Drive vehicles equipped with tools and materials to other sites as required' must be presented in the work log. For some pathways there are additional sections where evidence can only be provided in the work log. If this is the case, the information is stated on the marking sheet.

To award a mark for each section:
The work log evidence will be assessed against the Pass statements:

- If there is no evidence for any of the Pass statements, then 0 points should be awarded
- If there is a sufficient range of evidence to assess competence, 1 point will be awarded. Suggested minimum requirements are stated in each section
- If there is evidence for all Pass criteria, maximum points will be awarded for that section
- Where there is a range of 3 points available, then 2 points can be awarded for evidence which doesn't completely cover all the Pass criteria

- To achieve an overall pass, all sections must be awarded at least 1 point.

The work log evidence will be assessed against the Distinction statements

- If there is no evidence for any of the Distinction statements, then 0 points should be awarded
- If there is evidence for at least one of the Distinction statements, 1 point should be awarded
- If there is evidence for all Distinction statements, maximum points should be awarded for that section
- Where there is a range of 3 points available, then 2 points can be awarded for evidence which doesn't completely cover all the Distinction statements.

Portfolio and Grading Guidance documentation, for each pathway, is included in the included in the **Supporting Documents Appendix D**.

The criteria listed in each section are indicative of the evidence that should be presented. Owing to variation in employer practises and operational conditions, the list of criteria is not exhaustive and other evidence may be presented that matches the section description.

Max Points	Minimum Points Required to Achieve a Pass	Minimum Points Required to Achieve Distinction
100	70	85

All pathways - Core Requirements – Knowledge and Skills

Core Requirements – Knowledge and Skills	Max Points	Grade	Portfolio Evidence Requirement from **Work Log**
1. Knowledge and application of relevant health and safety, environmental and industry standards and regulations, policies and procedures **K1, K3, S7, S8, S9** **WWTT10** **WTT9**	2	**Pass**	**Minimum requirement to evidence at least 2 'Pass' examples, such as:** a) Training / certificates / attendance at training courses relating to H&S, environmental, regulatory and 08 requirements (e.g., Toolbox talks, induction) b) Knowledge of where to access H&S, environmental and industry information c) Reporting any faults, loss or issues with equipment d) Suggesting and implementing appropriate control measures e) Identifying changing situations in the workplace and taking the appropriate action

Core Requirements – Knowledge and Skills	Max Points	Grade	Portfolio Evidence Requirement from **Work Log**
	3	**Distinction**	f) Voluntarily engaging with employer to make contributions to health and safety improvements and initiatives g) Understanding of the wider ranging consequences of not following standards, regulations, policies and procedures h) Continuously updating knowledge regarding health, safety, environmental and industry standards and procedures i) Understanding of wider ranging consequences of not working safely and carrying out risk assessments j) Explaining the need to maintain and store PPE and other safety equipment k) Explaining the wider ranging consequences of not working appropriately with (including storage and disposal of) chemicals l) Monitoring safety equipment use and compliance in others m) Voluntarily taking an active role in completing safety compliance checks for others

Core Requirements – Knowledge and Skills	Max Points	Grade	Portfolio Evidence Requirement from **Work Log**
2. Knowledge and application of water industry operations and maintenance practices, processes and procedures in wastewater treatment **K2, K4, S10**	1	**Pass**	**Minimum requirement to evidence at least 2 'Pass' examples, such as:** a) Knowledge of company operations and maintenance policies and procedures and where to find them e.g., sampling procedures, flow monitoring b) Training / certificates / attendance at training courses relating to operations and maintenance practices, processes and procedures
3.Use theory and principles to undertake fault finding, testing and analysis on specific equipment, instruments and IT systems and interpret the results to implement effective solutions **K5, K6, S12, S13**	2	**Pass**	**Minimum requirement to evidence at least 2 'Pass' examples, such as:** a) Training / certificates / attendance at courses relating to specific equipment, instruments and IT systems b) Testing and maintaining equipment c) Knowledge and use of the operation of flow monitoring equipment d) Identifying faults and alarms e) Understanding alarms, priorities, consequences and responses f) Consulting and working with others to investigate, identify and resolve the root cause of problems g) Verifying IT systems are working correctly h) Testing, calibrating and maintaining monitoring instruments and equipment

Core Requirements – Knowledge and Skills	Max Points	Grade	Portfolio Evidence Requirement from **Work Log**
	3	**Distinction**	i) Independently conducting fault or route cause analysis to successful conclusion without guidance j) Presenting and sharing findings in a logical and consistent manner k) Technical understanding of process equipment options and practical assessment and application of their suitability for use l) Suggesting improvements in alarm management
4. Drive vehicles equipped with tools and materials to other sites as required **S15**	1	**Pass**	**Minimum requirement to evidence at least 1 'Pass' example, such as** a) Full driving licence b) Additional driving category training as required c) Complying with company driving policies and procedures on a regular basis e.g., vehicle checks completed d) Safe loading of vehicles e) Keeping company vehicles maintained and cleaned to a high standard
5. Complete reports and ensure records are maintained for audit and reporting purposes **S17**	1	**Pass**	a) Completion of 4 different types of company records, specific to pathway, as required

Core Requirements – Knowledge and Skills	Max Points	Grade	Portfolio Evidence Requirement from **Work Log**
6. Work with focus and clear purpose in all weather conditions, covering 24/7 operations, sometimes working alone and safely adapt working methods to reflect changes in working environments **S14, S18, SB6** **WTT5**	1	**Pass**	**Minimum requirement to evidence at least 2 'Pass' examples, such as:** a) Completing planned work activities accurately and on time in all weather conditions b) Completion of tasks when on their own c) Completion of tasks out of hours d) Compliance with company working time directives
	2	**Dist.**	e) Consistent dynamic risk assessments on a variety of jobs f) Willingly assisting in emergency situations outside of normal working hours

All pathways - Core Requirements – Behaviours

Core Requirements – Behaviours	Max Points	Grade	Portfolio Evidence Requirement from **Work Log**
Ownership, responsibility and customer focus. Accepts ownership and responsibility for own work to accomplish, an activity safely and on time, whilst maintaining self-discipline working well with others delivering a polite, courteous, professional service **B1, B2, B3**	3	**Pass**	**Minimum requirement to evidence at least 1 'Pass' example, such as** a) Accomplishes an activity safely, correctly and on time b) Interacts well with customers, colleagues and members of the public c) Maintains self-discipline, motivation and always works in a professional manner
	1	**Dist.**	d) Consistently takes responsibility for own performance and strives to go beyond expectations
Health and safety/risk awareness. Takes responsibility for own and others health and safety, following procedures and policy to think things through whilst being	3	**Pass**	**Minimum requirement to evidence at least 1 'Pass' example, such as** a) Demonstrates strict compliance with operational procedures and processes b) Shows an awareness of the impact of changing circumstances on an activity

Core Requirements – Behaviours	Max Points	Grade	Portfolio Evidence Requirement from **Work Log**
aware of potential consequences, hazards, distractions and changing circumstances for an activity. **B4**			c) Able to identify and deal appropriately with distractions to enable tasks to be achieved
	1	**Dist.**	d) Consistently monitors and checks information to see if changes to plans are required for an activity
Task management. Possesses and enhances appropriate knowledge, skills and experience to perform the duties of the job. Accomplishes goals by accepting and following instructions given by supervisor responding to training allocating and supervising technical and other required tasks **B5, B8**	2	**Pass**	**Minimum requirement to evidence at least 1 'Pass' example, such as** a) Enhances competency through seeking guidance to help accomplish a task. e.g. Guidance may be provided via operational handbook, digital resources or asking someone. b) Allocates and supervises technical and other required tasks to efficiently accomplish goals

Core Requirements – Behaviours	Max Points	Grade	Portfolio Evidence Requirement from **Work Log**
Results driven. Identifies, organises and effectively uses resources to complete tasks in a timely fashion, considering cost, quality, safety, security and environmental impact. **B7**	3	**Pass**	**Minimum requirement to evidence at least 1 'Pass' example, such as** a) Identifies, organises and uses resources effectively to complete tasks, b) Considers cost, quality, safety, security c) Considers environmental impact
Sustainability and ethical behaviour. Thinks and behaves ethically and undertakes work in a way that contributes to a positive corporate social responsibility. **B9, B10, B11**	3	**Pass**	**Minimum requirement to evidence at least 1 'Pass' example, such as** a) Attitude is respectful and positive, concerning the needs or concerns of others. b) Awareness of the needs and concerns of others especially where related to diversity and equality c) Maintains a positive approach to ethical requirements and undertakes work in a way that contributes to sustainable development.

Specialism Requirements: Wastewater Treatment Technician

Wastewater Treatment Technician Requirements – Knowledge and Skills	Max Points	Grade	Portfolio Evidence Requirement from **Work Log**
Use wastewater treatment theories and principles to ensure processes are maintained at optimum performance **WWTT1**	2	**Pass**	**Minimum requirement to evidence at least 2 'Pass' examples, such as:** a) Knowledge of wastewater theories and principles for different processes b) Work with others to identify the root cause of problems and resolve issues
	1	**Dist.**	c) Detailed knowledge of wastewater treatment theories and principles d) Demonstrating good understanding by sharing knowledge with others e.g., carries out site tours, coaching etc. e) Suggesting and implementing improvements to processes which contribute to opex or process improvements / efficiencies
Operate and maintain process control equipment and instrumentation **WWTT2**	2	**Pass**	**Minimum requirement to evidence at least 2 'Pass' examples, such as:** a) Identifying trends from data b) Maintaining and altering set points and interpreting alarms c) Identifying problems with monitoring equipment

Wastewater Treatment Technician Requirements – Knowledge and Skills	Max Points	Grade	Portfolio Evidence Requirement from **Work Log**
	1	**Dist.**	d) Suggesting and implementing improvements to process control systems which contribute to opex or process efficiencies e) Long term trend analysis to consider future effluent quality issues e.g., Phosphate, Ammonia, DO
Operate and maintain Sewage Treatment and pumping station (Sewerage) systems and associated equipment, including control systems **WWTT3, WWTT4**	1	**Pass**	**Minimum requirement to evidence at least 2 'Pass' examples, such as:** a) Monitoring, maintaining and controlling systems to maintain optimum performance of sewage treatment (sewerage) operations and pumping stations including analysing data to identify trends b) Taking appropriate action to maintain sewage treatment and pumping station operations and systems
	2	**Dist.**	c) Independent optimisation of processes showing opex savings or process efficiencies d) Demonstration of the ability to contingency plan and handle emergency situations e.g., arranging resources in a safe and efficient manner

Wastewater Treatment Technician Requirements – Knowledge and Skills	Max Points	Grade	Portfolio Evidence Requirement from **Work Log**
Control the operations on your sites: a) using knowledge of design specifications b) to ensure Environmental Quality Standards for effluent discharge and air quality are met c) to ensure compliance with H&S policies including work in confined spaces **WWTT5, WWTT6, WWTT8, WWTT9**	3	**Pass**	**Minimum requirement to evidence at least 3 'Pass' examples, such as:** a) Knowledge of odour management and how operations are controlled on site to minimise odours b) Identifying trends and potential faults and treatment problems based on monitoring c) Implementing process changes and monitoring these for effectiveness d) Work with others to identify the root cause of problems and resolve issues e) Training in high risk environments including as a minimum confined spaces but may also include where required, permit to work, use of safety equipment, working at height, managing contractors

Wastewater Treatment Technician Requirements – Knowledge and Skills	Max Points	Grade	Portfolio Evidence Requirement from **Work Log**
	2	**Distinction**	f) Linking design specifications to practical tasks, e.g., upward flow velocities, filter capacity, storm tank capacity g) Independent optimisation of processes showing opex savings or process efficiencies h) Independently solving problems via root cause analysis and resolving issues i) Checking and controlling the compliance of others on site e.g., contactors, colleagues and visitors to sites j) Willingness to upskill and take additional responsibility for the safety of others k) Suggestion of long term solutions to prevent the need for working in high risk environments

Wastewater Treatment Technician Requirements – Knowledge and Skills	Max Points	Grade	Portfolio Evidence Requirement from **Work Log**
Monitor and maintain wastewater treatment processes including screening, grit removal, settlement, *fixed film* biological treatment and *activated* sludge treatment **WWTT7**	2	**Pass**	**Minimum requirement to evidence at least 3 'Pass' examples, such as:** a) Knowledge of target operating regimes for different processes b) Identifying trends and potential faults and treatment problems based on monitoring c) Implementing process changes and monitoring these for effectiveness d) Work with others to identify the root cause of problems and resolve issues e) Demonstrating a clear understanding of the effects of their actions on other treatment processes upstream and downstream
	2	**Distinction**	f) Independent optimisation of processes showing opex savings or process efficiencies g) Independently solving problems via root cause analysis and resolving issues h) Long term trend analysis to consider future effluent quality issues e.g., Phosphate, Ammonia, DO i) Instigating collaboration with other departments regarding process changes

Wastewater Treatment Technician Requirements – Knowledge and Skills	Max Points	Grade	Portfolio Evidence Requirement from **Work Log**
Implements emergency procedures and carries out process stream and full treatment works shutdown as required by routine planned maintenance, other situations and emergencies **WWTT11, WWTT12**	2	**Pass**	**Minimum requirement to evidence at least 2 'Pass' examples, such as:** a) Compliance with pollution incident procedures b) Isolation of process units and streams (and full treatment works e.g., RBCs etc. if viable) following company procedures c) Isolation of process streams due to: Emergencies; Maintenance; Refurbishment / long term shutdown d) Checking, observing, recording and reporting of isolations and shut downs
	2	**Distinction**	e) Involvement in decommissioning and / or recommissioning plant f) Active involvement with contractors regarding shut downs / upgrades g) Advising others of emergency procedures for the treatment works h) Taking on additional responsibility regarding emergency procedures and situations e.g., fire marshal, first aider etc.
Organise and control maintenance operations on treatment works equipment	1	**Pass**	**Minimum requirement to evidence at least 2 'Pass' examples, such as:** a) Communicates actions to colleagues as required b) Isolation and preparation of equipment for maintenance activities

Wastewater Treatment Technician Requirements – Knowledge and Skills	Max Points	Grade	Portfolio Evidence Requirement from **Work Log**
WWTT13	2	**Dist.**	c) Identifying and communicating additional and relevant information pertaining to faults identified e.g., part numbers, accessibility issues d) Implementing a contingency to ensure water quality compliance e) Identifying alternative solutions or improvements

Specialism Requirements: Water Treatment Technician

Water Treatment Technician Requirements – Knowledge and Skills	Max Points	Grade	Portfolio Evidence Requirement from **Work Log**
Control and monitor the operations on your sites: a) using knowledge of design specifications b) to ensure Drinking Water Quality Standards are met c) to ensure compliance with H&S policies including work in confined spaces, risk assessments and checking method statements	2	**Pass**	**Minimum requirement to evidence at least 2 'Pass' examples, such as:** a) Identifying trends and potential faults and treatment problems based on monitoring b) Implementing process changes and monitoring these for effectiveness c) Training in high risk environments including if applicable, confined spaces, permit to work, use of safety equipment, working at height, managing contractors d) Work with others to identify the root cause of problems and resolve issues

Water Treatment Technician Requirements – Knowledge and Skills	Max Points	Grade	Portfolio Evidence Requirement from **Work Log**
WTT1, WTT6, WTT8	2	**Distinction**	e) Linking design specifications to practical tasks and suggesting improvements f) Independent optimisation of processes showing opex savings or process efficiencies g) Independently solving problems via root cause analysis and resolving issues h) Checking and controlling the compliance of others on site e.g., contactors, colleagues and visitors to sites i) Willingness to upskill and take additional responsibility for the safety of others

Water Treatment Technician Requirements – Knowledge and Skills	Max Points	Grade	Portfolio Evidence Requirement from **Work Log**
Monitor and maintain water treatment processes e.g., chemical dosing, filtration and disinfection **WTT2**	3	**Pass**	**Minimum requirement to evidence at least 3 'Pass' examples, such as:** a) Knowledge of target operating regimes for different processes b) Understanding of site flow sheets and the interdependencies of the processes c) Identifying trends and faults and solving potential treatment problems based on monitoring d) Implementing and monitoring solutions for effectiveness e) Monitoring and maintaining treatment processes to company standards f) Demonstrating a clear understanding of the effects of their actions on other treatment processes upstream and downstream g) Work with others to identify the root cause of problems and resolve issues h) Making adjustments where necessary

Water Treatment Technician Requirements – Knowledge and Skills	Max Points	Grade	Portfolio Evidence Requirement from **Work Log**
	2	**Distinction**	i) Independent optimisation of processes showing opex or process efficiencies j) Independently solving problems via root cause analysis and resolving issues k) Long term trend analysis to consider future water quality issues e.g., plate counts on reservoir, raw water quality deterioration l) Instigating collaboration with other departments regarding process changes
Operate, control and maintain process control equipment and instrumentation **WTT3**	2	**Pass**	**Minimum requirement to evidence at least 2 'Pass' examples, such as:** a) Identifying trends from data b) Maintaining and altering set points and interpreting alarms c) Identifying problems with monitoring equipment
	2	**Dist.**	d) Suggesting and implementing improvements to process control systems which contribute to opex or process improvements / efficiencies e) Long term trend analysis to consider future water quality issues e.g., plate counts on reservoir, raw water quality deterioration

Water Treatment Technician Requirements – Knowledge and Skills	Max Points	Grade	Portfolio Evidence Requirement from **Work Log**
Use water treatment theories and principles to ensure processes are maintained at optimum performance **WTT4, WTT7**	2	**Pass**	**Minimum requirement to evidence at least 2 'Pass' examples, such as:** a) Knowledge of water treatment theories and principles for different processes b) Identifying trends and potential faults and treatment problems based on monitoring c) Application of knowledge to optimise treatment performance d) Work with others to identify the root cause of problems and resolve issues
	2	**Distinction**	e) Detailed knowledge of water treatment theories and principles e.g., hypochlorous acid production, chemistry of flocculation, influence of contaminants in raw water etc. f) Demonstrating good understanding by sharing knowledge with others e.g., carries out site tours, coaching etc. g) Suggesting and implementing improvements to processes which contribute to opex or process improvements / efficiencies

Water Treatment Technician Requirements – Knowledge and Skills	Max Points	Grade	Portfolio Evidence Requirement from **Work Log**
Implements emergency procedures and carries out process stream and full treatment works shutdown as required by routine planned maintenance, other situations and emergencies **WTT10, WTT11**	2	**Pass**	**Minimum requirement to evidence at least 2 'Pass' examples, such as:** a) Isolation of process units and streams (and full treatment works if viable) following company procedures b) Isolation of process streams due to: • Emergencies • Maintenance • Refurbishment / long term shutdown c) Checking, observing, recording and reporting of isolations and shut downs d) Compliance with company reporting procedures relating to: e) Water Quality f) Environmental compliance g) Health and Safety

Water Treatment Technician Requirements – Knowledge and Skills	Max Points	Grade	Portfolio Evidence Requirement from **Work Log**
	2	**Distinction**	h) Involvement in decommissioning and / or recommissioning plant / process stream i) Active involvement with contractors regarding shut downs / upgrades j) Advising others of emergency procedures for the treatment works k) Taking on additional responsibility regarding emergency procedures and situations e.g., fire marshal, first aider etc.
Organise and control maintenance operations on treatment works equipment **WTT12**	1	**Pass**	**Minimum requirement to evidence at least 2 'Pass' examples, such as:** a) Identifying maintenance tasks b) Raise and prioritise work requests correctly based on known information c) Isolation and preparation of equipment for maintenance activities
	2	**Dist.**	d) Identifying and communicating additional and relevant information pertaining to faults identified e.g., part numbers, accessibility issues e) Implementing a contingency to ensure water quality compliance f) Identifying alternative solutions or improvements

Specialism Requirements: Water Network Technician

Water Network Technician Requirements – Knowledge and Skills	Max Points	Grade	Portfolio Evidence Requirement from **Work Log**
Analyse and assess network performance measures e.g., water pressure, flows and leakage **WNT1**	2	**Pass**	**Minimum requirement to evidence at least 2 'Pass' examples, such as:** a) Knowledge and application of target operating regimes for different networks b) Identifying trends and faults and solving potential network problems based on monitoring c) Implementing process changes and monitoring these for effectiveness d) Work with others to identify the root cause of problems and resolve issues
	2	**Dist.**	e) Independent optimisation of processes showing opex savings or process efficiencies f) Independently solving problems via root cause analysis and resolving issues g) Use of innovative solutions to solve problems

Water Network Technician Requirements – Knowledge and Skills	Max Points	Grade	Portfolio Evidence Requirement from **Work Log**
Use hydraulic theories and principles to investigate, carry out fault diagnosis and identify resolutions to network performance issues **WNT2, WNT7**	2	**Pass**	**Minimum requirement to evidence at least 2 'Pass' examples, such as:** a) Knowledge of hydraulic theories and principles used in the water distribution network b) Identifying trends and potential faults and network issues based on monitoring c) Completion of risk assessments and method statements relating to networks tasks d) Work with others to identify the root cause of problems and resolve issues
	3	**Dist.**	e) Independently solving problems via root cause analysis and resolving issues f) Identifying and communicating additional and relevant information pertaining to faults identified e.g., part numbers, accessibility issues g) Independent optimisation of processes showing opex savings or process efficiencies

Water Network Technician Requirements – Knowledge and Skills	Max Points	Grade	Portfolio Evidence Requirement from **Work Log**
Apply procedures and their control measures to the network to minimise the risk of supply interruptions to customers **WNT3**	2	**Pass**	**Minimum requirement to evidence at least 2 'Pass' examples, such as:** a) Knowledge of company operations and maintenance policies and procedures relating to the water distribution network b) Knowledge of where to access company policies and procedures c) Completion of risk assessments and method statements relating to networks tasks
	2	**Distinction**	d) Sharing techniques and imparting knowledge to others outside of direct team e.g., presentations e) Developing techniques further to provide useful solutions to supply problems f) Positive customer feedback and exceeding customer expectations g) The use of innovative techniques to manage and mitigate interruption to supply

Water Network Technician Requirements – Knowledge and Skills	Max Points	Grade	Portfolio Evidence Requirement from **Work Log**
Maintain network, equipment and systems including pumps and control valves **WNT4**	2	**Pass**	**Minimum requirement to evidence at least 2 'Pass' examples, such as:** a) Understanding of network schematics and the interdependencies of the system b) Identifying, raising and prioritising work requests correctly based on known information c) Monitoring, maintaining and controlling systems to maintain optimum performance distribution networks including analysing data to identify trends d) Taking appropriate action to maintain network equipment, pumps and control valves e) Isolation and preparation of equipment for maintenance activities
	2	**Dist.**	f) Identifying and communicating additional and relevant information pertaining to work priorities and faults identified e.g., GIS, part numbers, accessibility issues g) Independent optimisation of processes showing opex savings or process efficiencies

Water Network Technician Requirements – Knowledge and Skills	Max Points	Grade	Portfolio Evidence Requirement from **Work Log**
Ensure the safety of pedestrians, vehicles and site staff and where required act as supervisor of Street Works **WNT5**	1	**Pass**	**Minimum requirement to evidence at least 2 'Pass' examples, such as:** a) Training / certificates / attendance and successful completion of training courses relating to Street Works or Street Works Supervision where required b) Arranging permits as required c) Planning, setting out and removing signing lighting and guarding correctly in various situations and scenarios

Water Network Technician Requirements – Knowledge and Skills	Max Points	Grade	Portfolio Evidence Requirement from **Work Log**
Use technical knowledge to operate electronic location equipment to identify and locate underground cables and services **WNT6**	2	**Pass**	**Minimum requirement to evidence at least 3 'Pass' examples, such as:** a) Training / certificates / attendance at courses relating to electronic location equipment b) Checking, maintaining and storing the locating equipment in line with company and manufacturer's instructions c) Demonstrating the understanding of the abilities and limitations of available equipment d) Using locating equipment in the different modes available[2] e) Identifying mains and services correctly f) Recording mains and services in line with company procedures g) Communicating the types and positions of mains and services to other personnel as required

Water Network Technician Requirements – Knowledge and Skills	Max Points	Grade	Portfolio Evidence Requirement from **Work Log**
Plan network operations ensuring water mains and water service pipe couplings and methods are suitable for use **WNT8**	1	**Pass**	**Minimum requirement to evidence at least 2 'Pass' examples, such as:** a) Demonstration of knowledge of how to find out if fittings are approved for use under Regulation 31 b) Demonstration of knowledge of high pressure and low pressure fittings c) Trench inspections d) Company recording and reporting procedures being followed

Water Network Technician Requirements – Knowledge and Skills	Max Points	Grade	Portfolio Evidence Requirement from **Work Log**
Authorise and carry out valve operations on water networks in accordance with operations and maintenance strategies and procedures and giving due consideration to the impact on customers, ensuring continuity of supply and minimising water quality problems **WNT9, WNT10**	2	**Pass**	**Minimum requirement to evidence at least 3 'Pass' examples, such as:** a) Knowledge of where to access company policies and procedures b) Knowledge and application of company operations and maintenance policies and procedures relating to valving operations in the water distribution network c) Knowledge and application of DG3 reporting d) Applying company policies and procedures in the water distribution network to minimise the risks to water supply e) Completion of risk assessments and method statements relating to networks tasks f) Authorisation of valving operations g) Following mains recharging processes and procedures h) Use of innovative techniques to manage and mitigate interruption to supply

Water Network Technician Requirements – Knowledge and Skills	Max Points	Grade	Portfolio Evidence Requirement from **Work Log**
	3	**Distinction**	i) Use of innovative techniques to manage and/or mitigate interruption to supply Sharing techniques and imparting knowledge to others outside of direct team e.g., presentations j) Developing techniques further to provide useful solutions to supply problems k) Positive customer feedback and exceeding customer expectations l) The identification of network improvements to reduce the risk of future interruptions to supplies

Water Leakage Technician Requirements – Knowledge and Skills	Max Points	Grade	Portfolio Evidence Requirement from **Work Log**
Work safely in a variety of locations that may include urban and rural areas, on and off the public highway and may include remote locations **WLT1**	1	**Pass**	Minimum requirement to evidence at least 2 'Pass' examples, such as: a) Training / certificates / attendance and successful completion of training courses relating to Street Works or Street Works Supervision where required b) Arranging permits as per company requirements
Using technical knowledge identify areas that require further investigation due to leakage deciding on the most appropriate methods to identify and locate sources of leakage **WLT2**	1	**Pass**	**Minimum requirement to evidence at least 2 'Pass' examples, such as:** a) Knowledge of regulatory and company leakage targets and KPIs / ODIs b) Identifying trends and potential faults and network leakage issues based on monitoring c) Work with others to identify the root cause of problems and resolve issues

Water Leakage Technician Requirements – Knowledge and Skills	Max Points	Grade	Portfolio Evidence Requirement from **Work Log**
	4	**Distinction**	d) Independently solving problems via root cause analysis and resolving issues e) Independent optimisation of processes showing opex savings or process efficiencies f) Identifying and communicating additional and relevant information pertaining to faults identified e.g., GIS, part numbers, accessibility issues g) Identifying network improvements to reduce the risk of future leakage issues h) Developing techniques further to provide useful solutions to supply problems

Water Leakage Technician Requirements – Knowledge and Skills	Max Points	Grade	Portfolio Evidence Requirement from **Work Log**
Use technical knowledge to operate electronic location equipment to identify and locate underground cables and services **WLT3**	2	**Pass**	**Minimum requirement to evidence at least 2 'Pass' examples, such as:** a) Training / certificates / attendance at courses relating to electronic location equipment b) Understanding the abilities and limitations of available equipment c) Checking, maintaining and storing the locating equipment in line with company and manufacturer's instructions d) Using locating equipment in the different modes available e) Identifying mains and services correctly f) Recording mains and services in line with company procedures g) Communicating the types and positions of mains and services to other personnel as required

Water Leakage Technician Requirements – Knowledge and Skills	Max Points	Grade	Portfolio Evidence Requirement from **Work Log**
	4	Distinction	**Minimum requirement to evidence at least 2 'Pass' examples, such as:** h) Sharing techniques and imparting knowledge to others outside of direct team e.g., presentations i) Developing techniques further to provide useful solutions to supply problems j) Positive customer feedback and exceeding customer expectations k) The use of innovative techniques to manage and mitigate interruption to supply

Water Leakage Technician Requirements – Knowledge and Skills	Max Points	Grade	Portfolio Evidence Requirement from **Work Log**
Using hydraulic theories and principles carry out valve operations to set up, test, maintain or alter district meter areas **WLT4**	2	**Pass**	**Minimum requirement to evidence at least 3 'Pass' examples, such as:** a) Understanding of network schematics and the interdependencies of the system b) Knowledge and application of hydraulic theories and principles in the water distribution network c) Monitoring, testing, maintaining and altering systems to maintain optimum performance of distribution networks including analysing data to identify trends d) Completion of risk assessments and method statements relating to networks tasks e) Communicates actions to colleagues as required
	1	**Dist.**	f) Submitting proposals to improve the structure and / or operation of a DMA

Water Leakage Technician Requirements – Knowledge and Skills	Max Points	Grade	Portfolio Evidence Requirement from **Work Log**
Use industry principles and measurement to estimate volumes of water lost through leakage **WLT5**	2	**Pass**	**Minimum requirement to evidence at least 2 'Pass' examples, such as:** a) Knowledge of regulatory and company leakage targets and KPIs / ODIs b) Leakage campaigns completed and the results obtained c) Calculations of flow and estimated volumes of water lost through leakage
	1	**Distinction**	d) Over exceeding company targets relating to leakage on a regular and consistent basis

Water Leakage Technician Requirements – Knowledge and Skills	Max Points	Grade	Portfolio Evidence Requirement from **Work Log**
Programme, deploy, retrieve and interpret data from data logging equipment **WLT6**	3	**Pass**	**Minimum requirement to evidence at least 3 'Pass' examples, such as:** a) Producing data trends from information gathered b) Training / certificates / attendance at courses relating to data logging equipment c) Using company data to detect different logging points including permanent and temporary points d) Logging data relating to: • Flow • Pressure e) Using different types of logging devices f) Programming the devices to record all required data g) Installing and deploying logging devices in the network without causing impact to customers h) Retrieving logging devices from the network i) Retrieving and correctly interpreting data from loggers j) Maintaining and storing logging equipment correctly

Water Leakage Technician Requirements – Knowledge and Skills	Max Points	Grade	Portfolio Evidence Requirement from **Work Log**
Apply procedures and their control measures to the network to minimise the risk of interruption of supplies to customers **WLT7**	2	**Pass**	**Minimum requirement to evidence at least 2 'Pass' examples, such as:** a) Knowledge of company operations and maintenance policies and procedures relating to the water distribution network b) Knowledge of where to access company policies and procedures c) Use of all available techniques to manage and mitigate interruption to supply d) Applying company policies and procedures in the water distribution network to minimise the risk of interruption of supplies e) Identification of different types of valves and equipment in the network f) Completion of risk assessments and method statements relating to networks tasks
	2	**Dist.**	g) Sharing techniques and imparting knowledge to others outside of direct team e.g., presentations h) The use of innovative techniques to provide useful solutions to supply problems

Specialism Requirements: Wastewater Network (Sewerage) Treatment Technician

Wastewater Network (Sewerage) Treatment Technician Requirements – Knowledge and Skills	Max Points	Grade	Portfolio Evidence Requirement from **Work Log**
Use hydraulic theories, data and calculations from flow surveys to assess sewer capacity and performance **WWNT1**	2	**Pass**	**Minimum requirement to evidence at least 2 'Pass' examples, such as:** a) Knowledge of hydraulic theories and principles used in the wastewater network b) Work with others to identify the root cause of problems and resolve issues c) Application of knowledge to assess network performance and capacity issues d) Identifying trends and potential faults and network issues based on monitoring
	3	**Distinction**	e) Independently solving problems via root cause analysis and resolving issues f) Identifying and communicating additional and relevant information pertaining to faults identified e.g., site specific information, accessibility issues, traffic sensitivity, out of hours issues g) Independent optimisation of processes showing opex savings or process efficiencies

Wastewater Network (Sewerage) Treatment Technician Requirements – Knowledge and Skills	Max Points	Grade	Portfolio Evidence Requirement from **Work Log**
Operate electronic location equipment to locate drains and sewers **WWNT2**	1	**Pass**	**Minimum requirement to evidence at least 2 'Pass' examples, such as:** a) Training / certificates / attendance at courses relating to electronic location equipment b) Checking, maintaining and storing the locating equipment in line with company and manufacturer's instructions c) Understanding the abilities and limitations of available equipment d) Using locating equipment in the different modes available e) Identifying mains and services correctly f) Recording mains and services in line with company procedures g) Communicating the types and positions of mains and services to other personnel as required

Wastewater Network (Sewerage) Treatment Technician Requirements – Knowledge and Skills	Max Points	Grade	Portfolio Evidence Requirement from **Work Log**
Work safely in a variety of locations that may include urban and rural areas, on and off the public highway and may include remote locations and where required act as supervisor of Street Works ensuring the safety of pedestrians, vehicles and site staff **WWNT3, WWNT6**	1	**Pass**	**Minimum requirement to evidence at least 2 'Pass' examples, such as:** a) Training / certificates / attendance and successful completion of training courses relating to Street Works or Street works supervision where required b) Arranging permits as required c) Planning, setting out and removing signing lighting and guarding correctly in various situations and scenarios d) Use of lone worker systems and compliance with out of hours procedures e) Company recording and reporting procedures being followed

Wastewater Network (Sewerage) Treatment Technician Requirements – Knowledge and Skills	Max Points	Grade	Portfolio Evidence Requirement from **Work Log**
Carry out sewer network inspections, including new sewer connections **WWNT4**	2	**Pass**	**Minimum requirement to evidence at least 3 'Pass' examples, such as:** a) Communicating actions to colleagues as required b) Knowledge of company procedures and standards relating to sewer connections c) Knowledge of regulatory and company wastewater network targets and KPIs / ODIs d) Knowledge of hydraulic theories and principles used in the wastewater network e) Application of knowledge to assess wastewater network performance and capacity issues f) Understanding of the responsibilities of each party involved with the sewer connection process g) Identifying trends and potential faults and network issues based on monitoring

Wastewater Network (Sewerage) Treatment Technician Requirements – Knowledge and Skills	Max Points	Grade	Portfolio Evidence Requirement from **Work Log**
	2	**Dist.**	h) Independently solving problems via root cause analysis and resolving issues i) Identifying and communicating additional and relevant information pertaining to site details and method of connection
Respond to customer reported incidents, clear blockages WWNT5	2	**Pass**	**Minimum requirement to evidence at least 2 'Pass' examples, such as:** a) Independently solving problems via root cause analysis and resolving issues b) Identifying and communicating additional and relevant information pertaining to site details and method of connection
	2	**Dist.**	c) Independently solving problems via root cause analysis and resolving issues d) Identifying and communicating additional and relevant information pertaining to site details and method of connection

Wastewater Network (Sewerage) Treatment Technician Requirements – Knowledge and Skills	Max Points	Grade	Portfolio Evidence Requirement from **Work Log**
Conduct confined spaces operations and ensure equipment is maintained to the required standard **WWNT7**	2	**Pass**	**Minimum requirement to evidence at least 2 'Pass' examples, such as:** a) Training / certificates / attendance at courses relating to confined spaces operations b) Considering alternative methods of job completion to avoid confined space entry c) Planning and completion of investigations and operations in confined spaces on the wastewater network d) Testing, calibrating, maintaining and storing instruments and equipment according to company and manufacturer's instructions e) Company recording and reporting procedures being followed
	1	**Dist.**	f) Showing willingness to upskill and take additional responsibility for the safety of others g) Suggestion of long term solutions to prevent the need for confined space entry

Wastewater Network (Sewerage) Treatment Technician Requirements – Knowledge and Skills	Max Points	Grade	Portfolio Evidence Requirement from **Work Log**
Where required, supervise and inspect excavations and backfilling including trench support systems **WWNT8**	1	**Pass**	**Minimum requirement to evidence at least 2 'Pass' examples, such as:** a) Training / certificates / attendance at courses relating to excavations and support systems b) Knowledge of company operations policies, standards and procedures relating to excavations and materials used c) Inspecting excavations, backfilling and support systems d) Company recording and reporting procedures being followed e) Liaison with all involved parties regarding inspection findings

Plan, organise and carry out work and maintenance operations to take account of risks to the environment including high pressure water jetting, flushing and de-silting. **WWNT9, WWNT11**	2	**Pass**	**Minimum requirement to evidence at least 3 'Pass' examples, such as:** a) Training / certificates / attendance at courses relating to high pressure water jetting b) Communicates actions to colleagues as required c) Knowledge of environmental regulations associated with wastewater networks d) Raising and prioritising work requests correctly based on known information e) Application of knowledge of company operations policies and procedures relating to high pressure water jetting f) Planning, organising and carrying out work and maintenance on the wastewater network including • High pressure water jetting • Flushing • De-silting g) Identifying maintenance tasks h) Consideration of isolation and preparation of assets for maintenance activities
	2	**Distinction**	i) Showing willingness to upskill and take additional responsibility for managing jobs

Wastewater Network (Sewerage) Treatment Technician Requirements – Knowledge and Skills	Max Points	Grade	Portfolio Evidence Requirement from **Work Log**
			j) Identifying and communicating additional and relevant information pertaining to faults identified e.g., site specific information, accessibility issues, traffic sensitivity, out of hours issues k) Identifying trends and suggesting proactive ways of working i.e., proactive cleansing visits

Wastewater Network (Sewerage) Treatment Technician Requirements – Knowledge and Skills	Max Points	Grade	Portfolio Evidence Requirement from **Work Log**
Organise and carry out investigations utilising CCTV equipment and report using industry standard coding system **WWNT10**	2	**Pass**	**Minimum requirement to evidence at least 2 'Pass' examples, such as:** a) Training / certificate / attendance at courses relating to CCTV investigations b) Application of knowledge of company operations policies and procedures relating to CCTV investigations c) Planning, organising and carrying out investigations on the wastewater network using CCTV equipment d) Selection, inspection and use of the correct tools and ancillary equipment for the task e) Recognising root causes of problems on the network and implementing solutions f) Raising and prioritising work requests correctly based on known information g) Records, stores and communicates results of CCTV in accordance with company procedures

Wastewater Network (Sewerage) Treatment Technician Requirements – Knowledge and Skills	Max Points	Grade	Portfolio Evidence Requirement from **Work Log**
	2	**Dist.**	h) Showing willingness to upskill and take additional responsibility for managing jobs i) Identifying and communicating additional and relevant information pertaining to faults identified e.g., site specific information, accessibility issues, traffic sensitivity, out of hours issues j) Identifying trends and suggesting proactive ways of working

Overall grading

The apprenticeship will be graded fail, pass, or distinction. The final grade will be determined by collective performance in the two assessment components.

The assessment methods are weighted in their contribution to the overall EPA grade.

- Multiple-choice test has a weighting of 30%
- Trade test and portfolio assessment has a weighting of 70%.

Apprentices who fail one or more assessment method will be awarded an overall EPA 'fail'. In order to gain an overall EPA 'pass', apprentices must achieve a pass in all the assessment methods.
A points system will determine if the apprentice has achieved a pass or distinction and is described below.

- Pass - minimum 2 points (1 point portfolio + 1 point multiple-choice test)
- Distinction - minimum 8 points and maximum 10 points

Minimum combinations:

- Portfolio 5 points + 3 points multiple-choice test = 8 points
- Portfolio 6 points + 2 points multiple-choice test = 8 points
- Portfolio 7 points + 1 point multiple-choice test = 8 points

The overall grade for the WPT Standard is based on the grades in individual components as follows:

Portfolio %	Points	Grade	Multiple-choice test %	Points	Grade
<69	0	Fail	<69	0	Fail
70	1	Pass	70-79	1	Pass
71-74	2	Pass	80-89	2	Pass
75-79	3	Pass	90-100	3	Distinction
80-84	4	Pass	-	-	-
85-89	5	Distinction	-	-	-
90-94	6	Distinction	-	-	-
95-100	7	Distinction	-	-	-

Final Decision Panel

Decision panels will consist of three people:

- Employer assessor from apprentice's employer
- Employer assessor independent of the apprentice and their employer i.e., not from their employer or training provider
- Another employer assessor independent of the apprentice and their employer or from a relevant professional body.

One of the independent panel members will act as chair of the panel. The decision panel will check all available evidence from the assessments and members will discuss it. The independent chair will make the final decision of whether to award a fail, pass or distinction. Therefore, someone independent of the apprentice and their employer will always determine the grade awarded. Energy & Environment Awards will co-ordinate the final decision panels ensuring comparable decisions consistently and comparably across panels and over-time.

Section 4: Resits and retakes

Apprentices who fail one or more EPA components can re-sit or re-take the failed component at the employer's discretion. The apprentice's employer needs to agree that a re-sit or re-take is appropriate. A re-sit does not need further learning, but a re-take does. Apprentices should have a supportive action plan to prepare for a re-sit or a re-take.

The employer and Energy & Environment Awards agree the timescale for a re-sit or re-take. Failed EPA components must be re-sat or re-taken within the 6 month end-point assessment period, otherwise the EPA will need to be re-sat or re-taken in full.

Re-sits and re-takes are not offered to apprentices wishing to move from pass to a higher grade.

There is no capping of grades if an apprentice resits/re-takes a component of pass for a re-sit or re-take.

Energy & Environment Awards resit and re-take policy can be found at: https://energyenvironmentawards.co.uk/policies-and-fees/

Section 5: Practice Guidance

Preparing for the Multiple-choice test

While on-programme, the employer and or training provider should brief the apprentice on the areas to be assessed by the multiple-choice test, as detailed in Section 2. It is good practice to identify the areas within the learning programme where the relevant knowledge is delivered and ensuring that apprentices are aware that elements from each of these criteria might come up in the test.

The multiple-choice test is aligned to the standard rather than a specific job role that the apprentice may be doing. The questions have been written to reflect the relevant Water Process Technician core and pathway as a whole and are not focussed on specific plant, machinery, or employer-specific processes.

In readiness for end-point assessment, the apprentice should complete a practice multiple-choice test, which is included in the Supporting Documents Appendix C. This should be undertaken in advance of the live multiple-choice test, with enough time to mark the test, and provide feedback to the apprentices.

For maximum effect, ensure the test is taken in exam conditions similar to those that will be experienced in a live test.

Work Log Guidance

As the apprentice progresses through their training, they should build up evidence on the full range of knowledge, skills and behaviours required by the standard and be assessed on particular tasks or procedures or items of equipment.

A work log mapping document for each pathway, for the apprentice, is included in the Supporting Documents Appendix E. Providers should support apprentices in selecting evidence that matches the section description, and where necessary, cross-check with the relevant knowledge, skill or behaviour.

The mapping document is critical. If no mapping document is submitted, then the portfolio will not be marked. Sufficient time should be allocated to ensure that the mapping can be completed in a timely fashion and to a good standard.

A guideline would be that a maximum number of 20 different pieces of good, holistic evidence are mapped in preparation for portfolio marking (and minimum number of 10).

Map the best evidence!

Good practice is to issue the mapping document to the apprentice early in the programme and encourage them to use it as a live document by mapping the evidence as it is completed. Evidence can be superseded if better evidence is produced later in the programme.

Holistic pieces of evidence can cover multiple criteria and can be mapped against more than 1 section of the mapping document. Ensure that the apprentice focuses on including holistic process evidence for the pathway specific criteria (number 7 onwards).

Try to ensure that mapped evidence covers the whole range of work that is completed by the role e.g.

- Water Network e.g., customer issues, mains burst, leakage investigation,
- Water Supply e.g., coagulation failure, optimisation of filter monitoring, raw water event, plant/process stream shutdowns,
- Wastewater Network e.g., CCTV survey, jetting, CSO inspection, customer issues
- Wastewater Treatment e.g., pollution event, action limit / consent breaches, process optimisation, plant/process stream shutdowns

Professional discussions and witness statements should not be used as the sole pieces of evidence against the criteria on a line of the mapping document. Other evidence must also be included. The discussion or witness testimony is then supplementary validation of that work.

Please be aware that the assessors are allocated a specific period of time to assess a portfolio. Try not to map excessive items of evidence because there is a then a risk that some of the items will be missed. The work log may be in a paper and / or electronic format. Only evidence required for the relevant pathway should be included.

Quality vs quantity

The apprentice should be supported in selecting and mapping evidence for the portfolio.

In theory one comprehensive job-write up could cover all the required KSBs. In practice, this is more likely to be several job write-ups plus a few smaller pieces of evidence targeting specific elements of the standard.

An assessor will look for one suitable piece of evidence for each KSB. To be confident of meeting the standard, apprentices should aim to have two pieces of evidence mapped to each KSB.

Items always expected in a portfolio:

- the latest company appraisal document.
- a copy of the apprentices driving licence.
- a copy of the apprentices up to date company training record just prior to entering EPA.
- A minimum number of 3 documented risk assessments from real work activities over a period of time. These must include reference to the hazard, risk and control measure.

Examples of additional acceptable evidence include:

- workplace documentation and records
- workplace policies and procedures, annotated by the apprentice to say how they use them in practice and when they have had to use them
- witness statements signed and dated by coaches/trainers
- annotated photographs/diagrams
- video clips (maximum total duration 20 minutes); the apprentice must be in view and identifiable
- job write-ups by the apprentice.

Consider GDPR and take out personal details from evidence prior to EPA.

Preparing for the Trade Test

The trade test should be designed to assess a broad range of the skills, knowledge and behaviours developed over the period of the apprenticeship.
A trade test options form for each pathway is included in the **Supporting Documents Appendix F.**

While it is not permitted to brief the apprentice on the work they will be doing for the live trade tests, it is permitted to set up tasks of similar complexity and duration and ask the apprentice to carry them out under live assessment conditions. To make the practice more realistic, a tutor or supervisor should adopt the role of assessor and use the appropriate grading criteria from Section 5 to 'assess' the apprentice.
The assessor conducting the assessment must remain in visual contact with the candidate throughout the trade test.

The assessor shall ask knowledge questions where competence is not confirmed through observation of performance and record the answers given with a preference towards audio / video recording. The candidate's response should also be recorded on the sheet. We recommend developing some open-ended questions which focus on the eliciting each apprentice's understanding of the KSBs. The relevant questions can be used where competence is not confirmed through the trade test. Follow-up questions can also be asked where clarification is required.

The tutor or supervisor carrying out the practice trade tests should record their assessment of how the apprentice performed.

The table below provides a step by step guide on to help prepare and deliver a practice trade test:

Structure	The practice trade test should allow the apprentice to be able: • identify and locate the work location using available plans and information • select, inspect and wear the correct PPE required to carry out the activity • carry out a risk assessment of the work area and identify the hazards

	• implement any necessary control measures identified in the risk assessment • plan, select and inspect correct tools and equipment for the task • carry out preventative or reactive maintenance based on the apprentice's specialism • communicate with stakeholders/colleagues appropriately • complete task documentation. Location: the assessment should be conducted in an on-site environment that reflects the hazards and risks of a real time working environment.
Resources	The assessment must incorporate the use of tools and techniques to demonstrate the more complex higher order level of skills required by the role. Equipment and resources needed for the observation must be in good and safe working condition Work instructions/manuals relating to the equipment/service for reference purposes. These can be electronic and/or hard copy Bank of open-ended questions
Questions	Develop open-ended questions which focus on • the KSBs assessed in the trade test • the Pass / Distinction grading criteria Ask knowledge questions where competence is not confirmed through observation of performance Ask follow-up questions if clarification is required Record the answers given with a preference towards audio / video recording.
Delivery of the trade test	A tutor or supervisor should adopt the role of assessor

	Assess apprentices in relation to the pathway they are completing (Water (distribution) network, Water leakage, Wastewater (sewerage) network, Water treatment, Wastewater treatment)

Starting the trade test	At the start of the practice observation the person in the role of the assessor should:
	• introduce themselves as an assessor
	• confirm their role
	• provide information on the format of the day, including the timescales
	• ask the apprentice to
	  ○ give their full name
	  ○ their date of birth
	  ○ their employer name
	  ○ confirm they are prepared and can continue with the observation
	  ○ show their identification
	• state that an unsafe act/task which contravenes Health and Safety, will mean the observation is halted
	• confirm that
	  ○ notes will be taken
	  ○ feedback will not be given during the observation

After the practice trade test	Provide feedback to the apprentice with guidance on what to do to improve their performance, taking note of the grading descriptors for pass and distinction in Section 5.

Section 6: Authenticity and security of apprentice work

The apprentices must be advised by their training provider and employer that copying of any work (whether it is from another apprentice or from internal, external documents or source) and presenting it as their own will be deemed as malpractice and will lead to their work being disqualified. Apprentices must not share their work or allow any person to copy their work as this is not allowed and would also be deemed as malpractice.

In signing off the portfolio, training providers and employers must be satisfied that the evidence in the portfolio is:

- **adequate**: evidence must cover all relevant KSBs within the assessment plan. Adequate does not mean a large quantity of evidence. The evidence should focus on quality rather than quantity
- **authentic**: apprentices must be able to confirm and talk about the evidence that they submit with the independent assessor, appointed by Energy & Environment Awards. It is vitally important apprentices only submit evidence relating to them
- **appropriate**: all evidence must be relevant to the KSBs assessed during the technical interview
- **recent and up to date**: all evidence must be linked to KSBs must be recent and current which demonstrate the apprentice's competence. The independent assessors, appointed by Energy & Environment Awards will assess current competencies, and the apprentice must map the evidence to demonstrate the relevant work to the KSB. Apprentices must gather the evidence during their on-programme training