

End-point assessment plan for Water network operative apprenticeship standard

Apprenticeship standard reference number	Apprenticeship standard level	Integrated end-point assessment
ST0898	2	No

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Introduction and overview

This document sets out the requirements for end-point assessment (EPA) for the Water network operative apprenticeship standard. It explains how EPA for this apprenticeship must operate.

It provides the EPA design requirements for end-point assessment organisations (EPAOs) for this apprenticeship standard. It will also be useful for apprentices undertaking this apprenticeship, their employers and training providers.

EPA must be conducted by an EPAO approved to deliver EPA for this apprenticeship standard. Each employer should select an approved EPAO from the register of end-point assessment organisations (RoEPAO).

This is a core and options apprenticeship standard. Apprentices must be trained and assessed against the core and one option:

1. Clean water network operative
2. Waste water network operative

Full-time apprentices will typically spend 18 months on-programme (before the gateway) working towards this occupational standard. All apprentices must spend a minimum of 12 months on-programme. All apprentices must spend at least 12 months on-programme. All apprentices must complete the required amount of off-the-job training specified by the apprenticeship funding rules.

Before starting EPA, an apprentice must meet the gateway requirements. For this apprenticeship they are:

- the employer must be content that the apprentice is working at or above the occupational standard
- The apprentice must complete training towards English and maths qualifications in line with the apprenticeship funding rules
- apprentices must have compiled and submitted a portfolio of evidence, which will underpin the interview

The EPAO must confirm that all required gateway evidence has been provided and accepted as meeting the gateway requirements. The EPAO is responsible for confirming gateway eligibility. Once this has been confirmed, the EPA period starts.

This EPA should then be completed within an EPA period lasting typically for three months.

This EPA consists of three discrete assessment methods.

It will be possible to achieve the following grades in each end-point assessment method:

Assessment method 1: Observation with questions

- fail
- pass

- distinction

Assessment method 2: Interview underpinned by a portfolio of evidence

- fail
- pass

Assessment method 3: Multiple-choice test

- fail
- pass

Performance in the end-point assessment methods will determine the overall apprenticeship standard grade of:

- fail
- pass
- distinction

EPA summary table

<p>On-programme (typically 18 months)</p>	<p>Training to develop the knowledge, skills and behaviours (KSBs) of the occupational standard and the option relevant to their workplace.</p> <p>The apprentice must complete training towards English and maths qualifications in line with the apprenticeship funding rules. This includes those with an education, health and care plan or a legacy statement. British sign language (BSL) qualifications are an alternative to English qualifications for those who have BSL as their primary language.</p> <p>The apprentice must compile a portfolio of evidence.</p>
<p>End-point assessment gateway</p>	<p>The employer must be content that the apprentice is working at or above the level of the occupational standard and the option relevant to their workplace.</p> <p>The apprentice must complete training towards English and maths qualifications in line with the apprenticeship funding rules. This includes those with an education, health and care plan or a legacy statement. British sign language (BSL) qualifications are an alternative to English qualifications for those who have BSL as their primary language.</p> <p>Apprentices must submit:</p> <ul style="list-style-type: none"> • a portfolio of evidence, which will underpin the interview
<p>End-point assessment (typically three months)</p>	<p>Assessment method 1: Observation with questions, graded:</p> <ul style="list-style-type: none"> • fail • pass • distinction <p>Assessment method 2: Interview underpinned by a portfolio of evidence, graded:</p> <ul style="list-style-type: none"> • fail • pass <p>Assessment method 3: Multiple-choice test, graded:</p> <ul style="list-style-type: none"> • fail • pass

	<p>Overall EPA/apprenticeship graded</p> <ul style="list-style-type: none">• fail• pass• distinction
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Length of EPA period

The EPA will be completed within an EPA period lasting typically for three months, starting when the EPAO has confirmed that all Gateway requirements have been met.

Order of assessment methods

The assessment methods can be delivered in any order.

The result of one assessment method does not need to be known before starting the next.

EPA Gateway

The apprentice should only enter the gateway once the employer is content that the apprentice is working at or above the occupational standard. In making this decision, the employer may take advice from the apprentice's training provider(s), but the decision must ultimately be made solely by the employer.

The EPAO determines when all gateway requirements have been met, and the EPA period will only start once the EPAO has confirmed this.

In addition to the employer's confirmation that the apprentice is working at or above the level of the occupational standard, the apprentice must have completed the following gateway requirements prior to starting EPA:

- The apprentice must complete training towards English and maths qualifications in line with the apprenticeship funding rules
For those with an education, health and care plan or a legacy statement, the apprenticeship's English and mathematics minimum requirement is Entry Level 3.
British Sign Language (BSL) qualifications are an alternative to English qualifications for those who have BSL as their primary language.

For observation with questions

- no specific requirements

For the interview the apprentice will be required to submit:

- a portfolio of evidence

For multiple-choice test

- no specific requirements

Portfolio of evidence requirements:

- apprentices must compile a portfolio of evidence during the on-programme period of the apprenticeship
- it must contain evidence related to the KSBs that will be assessed by the interview
- the portfolio of evidence will typically contain ten discrete pieces of evidence
- evidence should be mapped by the apprentice against the KSBs assessed by the interview
- evidence may be used to demonstrate more than one KSB; a qualitative as opposed to quantitative approach is suggested
- evidence sources may include:
 - workplace documentation/records, for example workplace policies/procedures, records
 - witness statements
 - annotated photographs
 - video clips (maximum total duration 10 minutes); the apprentice must be in view and identifiable

This is not a definitive list; other evidence sources are possible.
- it should not include reflective accounts or any methods of self-assessment
- any employer contributions should focus on direct observation of performance (for example witness statements) rather than opinions
- the evidence provided must be valid and attributable to the apprentice; the portfolio of evidence must contain a statement from the employer and apprentice confirming this
- the portfolio of evidence must be submitted to the EPAO at the gateway

The portfolio of evidence is not directly assessed. It underpins the interview and therefore should not be marked by the EPAO. EPAOs should review the portfolio of evidence in preparation for the interview but are not required to provide feedback after this review of the portfolio of evidence.

End-point assessment methods

End-point assessment method 1: Observation with questions

Overview

This assessment method has one component.

An observation with questions involves an independent assessor observing an apprentice undertaking work as part of their normal duties in the workplace and asking questions. This allows for a demonstration of the KSBs through naturally occurring evidence. The observation must be of an apprentice completing their usual work and simulation is not permitted. Apprentices must be observed by the independent assessor completing work under normal working conditions.

The independent assessor will ask questions in relation to KSBs that have not been observed although these should be kept to a minimum.

The rationale for this assessment method is:

- this is a practical role, best demonstrated through completing tasks in a real work setting
- observation makes use of employer resources and equipment, which will be familiar to the apprentice and thus allow them to perform at their best
- questioning allows for the testing of related underpinning knowledge
- tasks completed during the observation should contribute to workplace productivity and be valid
- it is a holistic assessment method

Delivery

The observation with questions must take five hours (assessment time). The time for questioning is included in the overall assessment time.

The observation with questions may be split into discrete sections held over a maximum of two working days. A working day is typically considered to be 7.5 hours long. The reason for this split is the observation may need to take place in different locations.

Where breaks occur, they will not count towards the total assessment time.

EPAOs must manage invigilation of apprentices during breaks in order to maintain security of the assessment in line with their malpractice policy.

The independent assessor has the discretion to increase the time of the observation with questions by up to 10% to allow the apprentice to complete a task or respond to a question.

The independent assessor may observe only one apprentice at any one time, to ensure quality and rigour.

Apprentices must be provided with information on the format of the observation with questions, including the timescales they will be working to, before the start of the observation with questions. The time taken to give this information is exclusive of the assessment time.

The following activities should be observed during the observation:

- Work preparation: complete risk assessment, select tools and equipment, check signing, lighting and guarding
- Excavation – in full or part
- Construct and connect a service; use tools and equipment
- Construct and connect a mains; use tools and equipment

Apprentices will be assessed in relation to application in clean water or waste water operations, as per the apprenticeship standard option they are completing.

The observation should be conducted in the following way, to take account of the occupational context.

The EPAO must make arrangements for the observation with questions, in consultation with the apprentice's employer.

Apprentices will be assessed against the KSBs assigned to this assessment method – as shown in the mapping of KSBs – core plus one option reflecting the apprentice's workplace.

Apprentices may be assessed completing the activities over one or more sites.

Apprentices must have access to work instructions/manuals relating to the equipment/service for reference purposes. These can be electronic and/or hard copy.

The independent assessor must be unobtrusive whilst conducting the observation.

Questions must be asked to assess breadth and depth of competence against the KSBs.

The independent assessor must ask a minimum of five open questions, across the tasks.

As only naturally occurring work is observed, those KSBs that the apprentice did not have the opportunity to demonstrate can be assessed via questioning, although these should be kept to a minimum.

Independent assessors must use the question bank as a source for questioning and are expected to use their professional judgment to tailor those questions appropriately.

Independent assessors are responsible for generating suitable follow-up questions in line with the EPAOs training and standardisation process.

They may ask follow-up questions where clarification is required.

The questions can be asked by the independent assessor both during and after work completion. In order to remain as unobtrusive as possible, independent assessors should ask questions during natural stops between tasks and/or after completion of work rather than disrupting the apprentice's flow.

KSBs observed and responses to questions must be assessed holistically using the grading criteria for this assessment method.

KSBs observed, and answers to questions, must be recorded by the independent assessor.

The independent assessor will make all grading decisions.

Assessment location

The observation with questions should take place in a location where water utility work is the responsibility of the apprentice's employer.

The employer is responsible for ensuring that all necessary tools and equipment required for the observation are available and are in good working order.

Question and resource development

EPAOs will create and set open questions to assess related underpinning KSBs. They must develop 'question banks' of sufficient size to prevent predictability and review them regularly (and at least once a year) to ensure the questions they contain are fit for purpose. The questions relating to underpinning KSBs must be varied, yet allow assessment of the relevant KSBs.

EPAOs must ensure that apprentices have a different set of questions in the case of re-sits/re-takes.

EPAOs will produce the following material to support this assessment method:

- independent assessor training materials
- grading guidance
- question banks
- outline of the assessment method's requirements
- marking materials
- guidance document for employers and apprentices on the process / timescales for the observation with questions as well as a description of the purpose
- guidance document for independent assessors on how to carry out the assessment

Assessment method 2: Interview underpinned by a portfolio of evidence

Overview

This assessment method has one component.

An interview consists of an independent assessor asking an apprentice a series of questions to assess their competence against the KSBs. The independent assessor leads this process to obtain information from the apprentice to enable a structured assessment decision-making process.

The rationale for this assessment method is:

- it allows for assessment of KSBs that may not naturally occur during the observation with questions
- it allows for testing of responses where there are a range of potential answers that can't be tested through the multiple-choice test
- it is a cost effective, as whilst seeking assurance of competence across a range of KSBs, it does not require the independent assessor to directly observe all of them thus reducing their time cost

This assessment method has one component.

Delivery

The independent assessors will conduct and assess the interview underpinned by a portfolio of evidence.

The interview must last for 60 minutes. The independent assessor has the discretion to increase the time of the interview by up to 10% to allow the apprentice to complete their last answer.

The interview will have a minimum of eight questions. During this method, the independent assessor must combine questions from the EPAO's question bank and those generated by themselves.

The purpose of the questions will be to assess the following topics:

- tools and equipment – maintenance and storage
- breathing apparatus
- gas detection
- trench installation
- repairs
- specialist techniques
- emergencies
- continued professional development

Apprentices will be assessed in relation to application in clean water or waste water operations, as per the apprenticeship standard option they are completing.

The interview underpinned by a portfolio of evidence will be conducted as follows.

EPAOs must make arrangements for the interview with the apprentice's employer.

Apprentices must be given at least two-weeks' notice of the date and time of the interview.

Independent assessors must use the question bank as a source for questioning and are expected to use their professional judgment to tailor those questions appropriately, following a review of the portfolio of evidence. Independent assessors are responsible for generating suitable questions in line with the EPAO's training and standardisation process. Additional follow up questions are allowed, to seek clarification and to make a judgement against the grading descriptors

The independent assessor should have a minimum of five working days to review the portfolio of evidence.

Apprentices must have access to their portfolio of evidence during the interview.

Apprentices can refer to and illustrate their answers with evidence from their portfolio, however the portfolio of evidence is not directly assessed.

Apprentices are expected to understand and use relevant occupational language that would be typical of a competent person in this occupation.

Evidence from the interview must be assessed using the grading criteria for this assessment method.

KSBs met and answers to questions, must be recorded by the independent assessor.

The independent assessor will make all grading decisions.

Assessment location

The interview underpinned by a portfolio of evidence should take place in a quiet room, free from distractions and influence.

The interview can take place in any of the following:

- employer's premises
- a suitable venue selected by the EPAO (for example a training provider's premises)

Video conferencing can be used to conduct the interview but the EPAO must have processes in place to verify the identity of the apprentice and ensure the apprentice is not being aided.

Question and resource development

A 'question bank' must be developed by EPAOs. The 'question bank' must be of sufficient size to prevent predictability and the EPAO must review it regularly (at least once a year) to ensure that it, and its content, are fit for purpose. The questions relating to the underpinning KSBs, must be varied yet allow assessment of the relevant KSBs.

EPAOs must ensure that apprentices have a different set of questions in the case of re-sits/re-takes.

EPAOs will produce the following material to support this assessment method:

- question bank
- structured specification
- independent assessor training materials
- grading guidance
- marking materials
- outline of the assessment method's requirements
- guidance document for employers and apprentices on the process / timescales for the interview underpinned by a portfolio of evidence as well as a description of the purpose
- guidance document for independent assessors on how to carry out the assessment

Assessment method 3: multiple-choice test

Overview

This assessment method has one component.

A multiple-choice test is a controlled assessment which consists of a series of questions in which apprentices are asked to provide a response.

The rationale for this assessment method is:

- it allows for the efficient testing of knowledge where there is a right or wrong answer
- it allows for flexibility in terms of when, where and how it is taken
- it allows larger volumes of apprentices to be assessed at one time

Delivery

Test format

The multiple-choice test can be:

- computer based
- paper based

It will consist of 40 questions. 80% of the questions should cover the core knowledge and 20% should cover the option knowledge, relevant to the apprentice's option.

These questions will consist of multiple-choice questions. The multiple-choice questions will have four options of which one will be correct. The questions must be varied, to avoid the multiple-choice test becoming too predictable, yet allow assessment of the relevant KSBs.

Multiple-choice test administration

Apprentices must have 60 minutes to complete the multiple-choice test.

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

Assessment

Tests must be marked by independent assessors or markers employed by the EPAO following a marking guide produced by the EPAO. Alternatively, marking by computer is permissible where questions types allow this.

A correct response will be assigned one mark.

Any incorrect or missing answers must be assigned zero marks.

Grading boundaries

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

Grade	Minimum mark	Maximum mark
Fail	0	27
Pass	28	40

Assessment location

Apprentices must take the multiple-choice test in a suitably controlled environment that is a quiet space, free from distractions and influence, in the presence of an invigilator. The invigilator may be any independent person appointed by the EPAO. The EPAO is required to have an invigilation policy that will set out how the multiple-choice test is to be carried out. This will include specifying the most appropriate ratio of apprentices to invigilators to best take into account the setting and security required in administering the multiple-choice test.

The EPAO is responsible for ensuring the security of any multiple-choice tests they administer to ensure the multiple-choice test remains valid and reliable (this includes any arrangements made using online tools). The EPAO is responsible for verifying the identity of the person taking the multiple-choice test. The EPAO must also verify the suitability of the venue for multiple-choice test-taking.

Question and resource development

Questions must be written by EPAOs and must be relevant to the occupation and assess knowledge and skills mapped to this assessment method. It is recommended that this be done in consultation with employers of this occupation. EPAOs should maintain the security and confidentiality of their questions when consulting employers. EPAOs must develop 'multiple-choice test specifications' and 'question banks' of sufficient size to prevent predictability and review them regularly (and at least once a year) to ensure they, and the questions they contain, are fit for purpose. The specifications, including questions relating to underpinning KSBs must be varied, yet allow assessment of the relevant KSBs.

EPAOs must ensure that apprentices have a different set of questions in the case of re-sits/re-takes.

EPAOs will produce the following material to support this assessment method:

- a multiple-choice test specification
- sample multiple-choice test and mark scheme
- live multiple-choice tests and mark schemes
- analysis reports which show areas of weakness for completed multiple-choice tests and an invigilation policy

Reasonable adjustments

The EPAO must have in place clear and fair arrangements for making reasonable adjustments to the assessment methods for the EPA for this apprenticeship standard. This should include how an apprentice qualifies for reasonable adjustment and what reasonable adjustments will be made. The adjustments must maintain the validity, reliability and integrity of the assessment methods outlined in this EPA plan.

Overall EPA grading

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

Performance in the EPA will determine the apprenticeship grade of fail, pass or distinction.

Independent assessors must individually grade the observation with questions and interview underpinned by a portfolio of evidence assessment methods, according to the requirements set out in this plan. A person appointed by the EPAO must grade the multiple-choice test. Alternatively, marking by computer is permissible where question type allows this.

EPAOs must combine the individual assessment method grades to determine the overall EPA grade.

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.

In order to achieve an overall EPA distinction, apprentices must achieve a distinction in the observation with questions, a pass in the interview underpinned by a portfolio of evidence and a pass in the multiple-choice test.

Grades from individual assessment methods should be combined in the following way to determine the grade of the overall EPA as a whole:

Assessment method 1 – Observation with questions	Assessment method 2 – Interview underpinned by a portfolio of evidence	Assessment method 3 – Multiple-choice test	Overall grading
Fail	Any grade	Any grade	Fail
Any grade	Fail	Any grade	Fail
Any grade	Any grade	Fail	Fail
Pass	Pass	Pass	Pass
Distinction	Pass	Pass	Distinction

Any grade = fail, pass or distinction

Re-sits and re-takes

Apprentices who fail one or more assessment methods will be offered the opportunity to take a re-sit or a re-take at the employer's discretion. The apprentice's employer will need to agree that either a re-sit or re-take is an appropriate course of action.

A re-sit does not require further learning, whereas a re-take does.

Apprentices should have a supportive action plan to prepare for a re-sit or a re-take.

The timescales for a re-sit/re-take is agreed between the employer and EPAO. A re-sit is typically taken within two months of the EPA outcome notification. The timescale for a re-take is dependent on how much re-training is required and is typically taken within four months of the EPA outcome notification.

All assessment methods must be taken within a six month period, otherwise the entire EPA will need to be re-sat/re-taken.

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

There are no restrictions on overall EPA grading where apprentices need to re-sit/re-take the multiple-choice test or interview underpinned by a portfolio of evidence and do not need to re-sit/re-take the observation with questions. That means, apprentices can still get a overall distinction if they achieved a distinction in their observation with questions on the first attempt, even if they need to re-sit or re-take one of the other assessment methods. Apprentices who need to re-sit/re-take the observation with questions will only be able to achieve a pass for this assessment method and thus will only be able to achieve an overall EPA pass, subject to gaining a pass in the other two assessment methods, unless the EPAO determines there are exceptional circumstances requiring a re-sit or re-take.

Roles and responsibilities

Role	Responsibility
Apprentice	<p>As a minimum, apprentices should:</p> <ul style="list-style-type: none"> • participate in and complete on-programme training to meet the KSBs as outlined in the occupational standard for a minimum of 12 months • complete the required amount of off-the-job training specified by the apprenticeship funding rules and as arranged by the employer and training provider • understand the purpose and importance of EPA • undertake the EPA including meeting all gateway requirements
Employer	<p>As a minimum, employers should:</p> <ul style="list-style-type: none"> • select the EPAO and training provider • work with the training provider (where applicable) to support the apprentice in the workplace and to provide the opportunities for the apprentice to develop the KSBs • arrange and support off-the-job training to be undertaken by the apprentice • decide when the apprentice is working at or above the occupational standard and so is ready for EPA • ensure that all supporting evidence required at the gateway is submitted in accordance with this EPA plan • remain independent from the delivery of the EPA • confirm arrangements with the EPAO for the EPA (who, when, where) in a timely manner (including providing access to any employer-specific documentation as required, for example company policies) • ensure that the EPA is scheduled with the EPAO for a date and time which allow appropriate opportunity for the KSBs to be met • ensure the apprentice is well prepared for the EPA • ensure the apprentice is given sufficient time away from regular duties to prepare for and complete all post-gateway elements of the EPA, and that any

	<p>required supervision during this time (as stated within this EPA plan) is in place</p> <ul style="list-style-type: none"> • where the apprentice is assessed in the workplace, ensure that the apprentice has access to the resources used on a daily basis • pass the certificate to the apprentice
<p>EPAO</p>	<p>As a minimum, EPAOs should:</p> <ul style="list-style-type: none"> • conform to the requirements of this EPA plan and deliver its requirements in a timely manner • conform to the requirements of the Register of End-Point Assessment Organisations (RoEPAO) • conform to the requirements of the external quality assurance provider (EQAP) for this apprenticeship standard • understand the occupational standard • make all necessary contractual arrangements, including agreeing the price of the EPA • develop and produce assessment materials including specifications and marking materials (for example mark schemes, practice materials, training material) • appoint suitably qualified and competent independent assessors • appoint administrators (and invigilators where required) to administer the EPA as appropriate • provide training for independent assessors in terms of good assessment practice, operating the assessment tools and grading • provide adequate information, advice and guidance documentation to enable apprentices, employers and training providers to prepare for the EPA • arrange for the EPA to take place, in consultation with the employer • where the apprentice is not assessed in the workplace, ensure that the apprentice has access to the required resources and liaise with the employer to agree this if necessary • develop and provide appropriate assessment recording documentation to ensure a clear and auditable process is in place for providing

	<p>assessment decisions and feedback to all relevant stakeholders</p> <ul style="list-style-type: none"> • have no direct connection with the apprentice, their employer or training provider. In all instances, including when the EPAO is the training provider (i.e. HEI), there must be no conflict of interest • have policies and procedures for internal quality assurance (IQA), and maintain records of regular and robust IQA activity and moderation for external quality assurance (EQA) purposes • deliver induction training for independent assessors, and for invigilators and/or markers (where used) • undertake standardisation activity on this apprenticeship standard for all independent assessors before they conduct an EPA for the first time, if the EPA is updated and periodically as appropriate (a minimum of annually) • manage invigilation of apprentices in order to maintain security of the assessment in line with the EPAO's malpractice policy • verify the identity of the apprentice being assessed • use language in the development and delivery of the EPA that is appropriate to the level of the occupational standard • provide details of the independent assessor's name and contact details to the employer • have and apply appropriately an EPA appeals process • request certification via the Apprenticeship Service upon successful achievement of the EPA
Independent assessor	<p>As a minimum, independent assessors should:</p> <ul style="list-style-type: none"> • have the competence to assess the apprentice at this level and hold any required qualifications and experience in line with the requirements of the independent assessor as detailed in the IQA section of this EPA plan • understand the occupational standard and the requirements of this EPA

	<ul style="list-style-type: none"> • have, maintain and be able to evidence up-to-date knowledge and expertise of the subject matter • deliver the end-point assessment in-line with the EPA plan • comply with the IQA requirements of the EPAO • have no direct connection or conflict of interest with the apprentice, their employer or training provider; in all instances, including when the EPAO is the training provider (i.e. HEI) • attend induction training • attend standardisation events when they begin working for the EPAO, before they conduct an EPA for the first time and a minimum of annually on this apprenticeship standard • assess each assessment method, as determined by the EPA plan, and without extending the EPA unnecessarily • assess against the KSBs assigned to each assessment method, as shown in the mapping of assessment methods and as determined by the EPAO, and without extending the EPA unnecessarily • make all grading decisions • record and report all assessment outcome decisions, for each apprentice, following instructions and using assessment recording documentation provided by the EPAO, in a timely manner • use language in the development and delivery of the EPA that is appropriate to the level of the occupational standard • mark open (constructed) test answers accurately according to the EPAO's mark scheme and procedures
<p>Training provider</p>	<p>As a minimum, training providers should:</p> <ul style="list-style-type: none"> • work with the employer and support the apprentice during the off-the-job training to provide the opportunities to develop the knowledge, skills and behaviours as listed in the occupational standard • conduct training covering any knowledge, skill or behaviour requirement agreed as part of the

	<p>Commitment Statement (often known as the Individual Learning Plan).</p> <ul style="list-style-type: none"> • monitor the apprentice's progress during any training provider led on-programme learning • advise the employer, upon request, on the apprentice's readiness for EPA • remain independent from delivery of the EPA. Where the training provider is the EPA (i.e. a HEI) there must be procedures in place to mitigate against any conflict of interest
Marker	<p>As a minimum, markers should:</p> <ul style="list-style-type: none"> • attend induction training • have no direct connection or conflict of interest with the apprentice, their employer or training provider in all instances including when the EPAO is the training provider (i.e. HEI) • mark multiple-choice test answers accurately according to the EPAO's mark scheme and procedures
Invigilator	<p>As a minimum, invigilators should:</p> <ul style="list-style-type: none"> • attend induction training as directed by the EPAO • have no direct connection or conflict of interest with the apprentice, their employer or training provider; in all instances, including when the EPAO is the training provider (i.e. HEI) • invigilate and supervise apprentices during tests and in breaks during assessment methods to prevent malpractice in accordance with the EPAO's invigilation procedures

Internal Quality Assurance (IQA)

Internal quality assurance refers to the strategies, policies and procedures that EPA organisations must have in place to ensure valid, consistent and reliable end-point assessment decisions. EPAOs for this EPA must adhere to all requirements within the Roles and Responsibilities section and:

- have effective and rigorous quality assurance systems and procedures that ensure fair, reliable and consistent assessment across employers, places, times and independent assessors
- appoint independent assessors who are competent to deliver the end-point assessment and who meet the following minimum requirements:
 - recent relevant experience of the occupation/sector gained in the last three years or significant experience of the occupation/sector and evidence of continued professional development
 - experience of the occupation in the option specialism they are assessing: clean water or waste water
 - a level of competence at the same level as the apprenticeship standard as a minimum
 - hold or be working towards an independent assessor qualification, for example TAQA (Training and Quality Assessment)
- operate induction training for independent assessors, markers and invigilators
- provide training for independent assessors in terms of good assessment practice, operating the assessment tools and grading
- where appropriate:
 - provide on-going training for markers
 - provide on-going training for invigilators
- undertake standardisation activity on this apprenticeship standard for all independent assessors:
 - before they conduct an EPA for the first time
 - if the EPA is updated
 - periodically as appropriate (a minimum of annually)
- conduct effective moderation of assessment decisions and grades
- conduct appeals where required, according to the EPAO's appeals procedure, reviewing and making final decisions on assessment decisions and grades

Value for money

Affordability of the EPA will be aided by using at least some of the following practices:

- use of technology – for example video conferencing the interview underpinned by a portfolio of evidence
- location – for example use of employer premises for the interview underpinned by a portfolio of evidence and multiple-choice test
- making maximum use of each typical 7.5 hour working day
- observation of naturally occurring evidence in the workplace, the work conducted by the apprentice during the observation will contribute to workplace operations
- using an employer's equipment and resources for the observation with questions
- the possibility of scheduling assessment methods on the same day
- having multiple apprentices take the multiple-choice test at the same time with the same invigilator

Mapping of knowledge, skills and behaviours (KSBs)

Assessment method 1: Observation with questions

Knowledge
K1: Core. Health and safety practice: risk assessments and safe systems of work, permits to work, working in confined spaces, personal protective equipment (PPE), manual handling.
K4: Core. Principles and processes that underpin the location of utility network assets; health and safety guidance on avoiding damage to underground utility services.
K5: Core. Checks and operation requirements for commonly used utility network operations equipment and tools: utility location equipment/tools, pneumatic gun, hand/power tools – power disc cutter, chain saw, drills.
K8: Core. Excavation techniques: open cut, moling, vacuum extraction; and trench support techniques: proprietary systems, sheeting and mechanical.
K12: Core. Communication techniques – written, verbal; customer service techniques.
K14: Option 1: Clean water network operative. Procedures for the construction and connection of clean water network assets (mains and services).
K19: Option 2: Waste water network operative. Procedures for the construction and connection of waste water network assets (mains and services).

Skills
S1: Core. Identify hazards and implement controls to reduce risks; comply with method statements.
S2: Core. Interpret work instructions/engineering instructions and determine actions.
S3: Core. Identify and organise resources to undertake activities.
S4: Core. Comply with workplace health, safety & environmental policy and practice; use of Personal Protective Equipment (PPE) and safety equipment.
S5: Core. Check signing, lighting and guarding; address issues if required.
S6: Core. Excavate holes for utility network services.
S7: Core. Monitor and maintain site conditions; good housekeeping.
S8: Core: Identify, locate and avoid utility supply apparatus and sub-structures.
S9: Core. Select, check and operate equipment and tools; report faults if required.
S11: Core. Communicate with colleagues and/or stakeholders, for example, statutory agencies and members of the public, customers.
S15: Core. Record information, for example job reports, time sheets.

S20: Option 1: Clean water network operative. Join materials by mechanical means on clean water services, for example encapsulation, straight, ferrule, flange connections.
S21: Option 1: Clean water network operative. Drill and tap clean water services.
S22: Option 1: Clean water network operative. Install water supply services.
S23: Option 1: Clean water network operative. Conduct disinfection procedures for clean water mains and services.
S28: Option 1: Clean water network operative. Use pumps and dewatering equipment.
S30: Option 2: Waste water network operative. Join materials by flexible seals on waste water services.
S31: Option 2: Waste water network operative. Install waste water supply services.
S37: Option 2: Waste water network operative. Use pumps and dewatering equipment to mitigate and maintain flow in the network.
S40: Option 2: Waste water network operative. Decontaminate equipment, tooling and PPE.

Behaviours

B1: Core. Prioritises health, safety and environment when undertaking work.
B4: Core. Professional, for example wears work attire according to company requirements, polite and courteous, maintains security of business specific and personal data.
B5: Core. Self-motivated, for example manages own time effectively, takes responsibility to complete the job.
B6: Core. Pride in work, for example works to agreed quality targets and standards.

Assessment method 2: Interview underpinned by a portfolio of evidence

Knowledge
K6: Core. Before/after use checks, maintenance and storage requirements for commonly used utility network operations equipment and tools: utility location equipment/tools, pneumatic gun, hand/power tools – power disc cutter, chain saw, drills.
K11: Core. Reporting channels; limits of authority.
K15: Option 1: Clean water network operative. Procedures for the repair of mains clean water network assets.
K16: Option 1: Clean water network operative. Procedures for clean water network emergencies.
K20: Option 2: Waste water network operative. Procedures for repairs in waste water: mechanical and patches (hot, cold and ultraviolet).
K21: Option 2: Waste water network operative. Procedures for dealing with emergencies, internal contamination flooding (DG5), pollution (Category 1-4).

Skills
S10: Core. Maintain and store equipment and tools, for example charge batteries, clean equipment, grease machines, re-fuel.
S12: Core. Use breathing apparatus.
S13: Core. Use gas detection equipment.
S14: Core. Carry out trench installation for example, sheeting, lightweight and proprietary systems.
S17: Option 1: Clean water network operative. Carry out squeeze off activities to clean water services (Clean water).
S18: Option 1: Clean water network operative. Join materials by electro-fusion.
S19: Option 1: Clean water network operative. Join materials by butt fusion processes.
S24: Option 1: Clean water network operative. Conduct repairs to clean water asbestos mains.
S25: Option 1: Clean water network operative. Conduct pressure and soundness (integrity of pipework) testing to clean water services.
S26: Option 1: Clean water network operative. Use flow and line stopping procedures.
S27: Option 1: Clean water network operative. Repair water network equipment, for example hydrants, valves, boundary boxes.

S29: Option 1: Clean water network operative. Apply clean water network emergency procedures.
S32: Option 2: Waste water network operative. Prepare pipework for lining.
S33: Option 2: Waste water network operative. Prepare for rodding activities for example, break out concrete or manhole point.
S34: Option 2: Waste water network operative. Conduct repairs on waste water asbestos pipes.
S35: Option 2: Waste water network operative. Repair and maintain pressurised pipes on rising mains.
S36: Option 2: Waste water network operative. Use mitigation methods to maintain flow on waste water networks flow, for example stopping or diverting.
S38: Option 2: Waste water network operative. Apply waste water network emergency procedures.
S39: Option 2: Waste water network operative. Apply cure in place patches.

Behaviours

B2: Core. Adaptable, for example willing to accept changing priorities and working requirements.
B3: Core. Team player, for example keeps others informed, recognises personal and professional limitations and seeks advice when necessary, takes account of equality and diversity in interactions.
B7: Core. Committed to continued professional development.

Assessment method 3: Multiple-choice test

Knowledge

K2: Core. Health and safety regulations and procedures: Health and Safety at Work Act 1974, New Roads and Street Works Act 1991, Working at Heights, Provision and Use of Work Equipment Regulations (PUWER), Control of Substances Hazardous to Health (COSHH), Lifting Operations Lifting Equipment Regulations (LOLER), first aid, fire safety. Types and uses of asbestos and where they may come into contact; safe work practices, control measures, and protective equipment needed to undertake asbestos mains work.
K3: Core. Environmental requirements; Environment Protection Act 1990.
K7: Core. Principles of traffic management and control.
K9: Core. Emergency services, Highways authorities, Environment Agency; who they are, what they do; escalation procedures.

K10: Core. Industry structure and regulatory requirements; Drinking Water Inspectorate, The Water Services Regulation Authority (OFWAT), regulatory surveys.
K13: Core. Equality & diversity considerations in the workplace.
K17: Option 1: Clean water network operative. Consequences of flooding and pollution, on people and the environment.
K18: Option 1: Clean water network operative. Principles of taking water samples.
K22: Option 2: Waste water network operative. Consequences of waste water flooding and pollution, on people and the environment.
K23: Option 2: Waste water network operative. Decontamination risks and mitigations; biological hazards.

Please note that S16 has been removed from the standard and EPA plan.

Grading descriptors

Assessment method 1: Observation with questions

KSBs	Pass, apprentices must meet all of the following	Distinction, in addition to the pass descriptors apprentices must demonstrate all of the following distinction descriptors statements
<p>Health and safety/ Housekeeping</p> <p>K1</p> <p>S1 S4 S5 S7</p> <p>B1</p>	<p>Conducts risk assessment; identifies hazards and implements control measures</p> <p>Conducts work in line with health, safety & environmental procedures, policy and practice; uses Personal Protective Equipment and safety equipment as specified by employer; conducts work in line with method statement and ensures health, safety and the environment is prioritised</p> <p>Checks signing, lighting and guarding; identifies any non-compliance where it occurs and takes action to rectify</p> <p>Monitors and maintains site conditions, keeps work environment tidy and organised, for example storage of tools when not in use, no litter, no hazards</p>	<p>Explains compliance with health and safety procedures with reference to the positive and negative impact on individuals, business and the environment</p>
<p>Determine action/organise</p> <p>S2 S3</p>	<p>Identifies the task requirements using information provided and determines actions; seeks clarification where required</p> <p>Identifies and organises required resources</p>	

Tools and equipment K5 S9	Conducts equipment/tool checks; raises any issues if appropriate Uses equipment and tools safely and in line with manufacturers' instructions/method statement	Gives reasons for undertaking equipment/tool checks in compliance with manufacturers and company policies and procedures
Locate utility network assets K4 S8	Identifies, locates and avoids utility supply apparatus and sub-structures, following health and safety guidance on avoiding damage to underground utility services; causes no damage	
Excavate K8 S6	Excavates holes for utility network services in line with work instructions	
Communication Documentation K12 S11 S15	Provides verbal information and records accurate and full information required for the task; information is suitable for the audience, uses technical terminology accurately and appropriately	Explains how and why they would adapt communication to different audiences
Professional B4	Acts professionally, for example, wears work attire according to company requirements, polite and courteous, maintains security of business specific and personal data	
Self-motivated B5	Assumes the responsibility to complete tasks within the limits of their authority without direction, managing own time	
Pride in work B6	Completes the tasks to set quality targets and standards, demonstrating pride in work	

<p>Clean water network operative option</p> <p>Construct and connect clean water network assets</p> <p>K14</p> <p>S20 S21 S22 S23 S28</p>	<p>Constructs and connects clean water network assets – clean water service and main, in line with specification/work instructions; carries out required techniques correctly in line with task requirement: join materials by mechanical means, drill and tap, install water supply, conduct disinfection procedures, use pump and dewatering equipment</p>	<p>Identifies and explains the potential issues that could arise during the work and how they mitigate against them</p>
<p>Waste water network operative option</p> <p>Construct and connect waste water network assets</p> <p>K19</p> <p>S30 S31 S37 S40</p>	<p>Constructs and connects waste water network assets – waste water service and main, in line with specification/work instructions; carries out required techniques correctly in line with task requirement: join materials by flexible seals, install waste water supply services, use pumps and dewatering equipment to mitigate and maintain flow in the network, decontaminate equipment, tooling and PPE</p>	<p>Identifies and explains the potential issues that could arise during the work and how they mitigate against them</p>
<p>Fail – apprentice does not meet all the pass criteria</p>		

Assessment method 2: Interview underpinned by a portfolio of evidence

KSBs	Pass, apprentices must meet all of the following
Tools and equipment – maintenance and storage K6 S10	Describes how they correctly maintain and store given equipment/tools, to meet company requirements
Reporting channels K11	Describes their reporting channels and limits of authority, identifying an issue they would report and to whom
Breathing apparatus S12	Describes when and how they have used breathing apparatus, outlining correct application
Gas detection S13	Describes when and how they have used gas detection equipment, outlining correct application
Trench installation S14	Describes when and how they have carried out trench installation using different methods for example, sheeting, lightweight and proprietary systems, outlining correct application
Adaptable B2	Describes a situation where they were willing to accept changing priorities and working requirements, the action they took, and what impact it had on the business
Team player B3	Describes how their contribution to team activities led to successful outcomes and how they achieved that, and how they take account of equality and diversity in interactions
Continued Professional Development (CPD) B7	Outlines different types of CPD they have undertaken, their plans for future CPD and the potential benefits it will bring to them and their organisation
Clean water network operative option Repairs K15 S24 S27	Describes how they have conducted repairs to clean water asbestos mains and water network equipment, identifying procedures they correctly applied

Clean water network operative option Specialist techniques S17 S18 S19 S25 S26	Describes how they have applied specialist techniques: squeeze off activities, joining materials by electro-fusion, joining materials by butt fusion, pressure and soundness testing, flow and line stopping, outlining correct application
Clean water network operative option - Emergencies K16 S29	Describes a clean network emergency situation where they have applied clean water network emergency procedures, outlining the procedures followed and why they are important
Waste water network operative option - Repairs K20 S34 S35 S39	Describes how they have conducted repairs to waste water asbestos pipes and maintained pressurised pipes on rising mains, identifying repair procedures they have correctly applied, both mechanical and patches.
Waste water network operative option – Specialist techniques S32 S33 S36	Describes how they have applied specialist techniques: prepared pipework for lining, prepared for rodding activities, used mitigation methods; outlining correct application
Waste water network operative option - emergencies K21 S38	Describes a waste water network emergency situation where they have applied waste water network emergency procedures, outlining the procedures followed and why they were important
Fail – apprentice does not meet all the pass criteria	

End-point assessment method 3: Multiple-choice test

KSBs	
K2 K3 K7 K9 K10 K13	Test mark will determine whether apprentice achieved fail or pass
Clean water network operative option K17 K18	
Waste water network operative option K22 K23	