



Minerals and waste management

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1 Introduction

This guide supports the minerals and waste management pathway. It is designed to help you understand more about qualifying in this area.

You must use this guide in conjunction with the core assessment documentation, which is available on the RICS website and comprises of:

- Requirements and competencies guide
- Candidate guide for your RICS assessment e.g. APC, Academic, Senior Professional, Specialist
- Counsellor guide.

You can download all the supporting guidance from the [Sector pathways](#) webpage.

All RICS pathways are global, though it is appreciated that markets may vary from country to country. If you have any queries please contact your local office.

About the competencies

The RICS competency framework ensures those applying for the RICS qualification are competent to practise and meet the highest standards of professionalism required by RICS. There is a wide range of pathways available to qualify as an RICS professional covering many different areas of practice.

The RICS assessment aims to assess that you are competent to carry out the work of a qualified chartered surveyor. To be competent is to have the skill or ability to perform a task or function. The RICS competencies are also based upon attitudes and behaviours. The competencies are presented in a generic way so they can be applied to different areas of practice and geographical locations.

It is important that you interpret them within the context of your own area of practice or specialism and location.

Each competency is defined at three levels of attainment. You must reach the required level in a logical progression and in successive stages.

Level 1 – knowledge and understanding

Level 2 – application of knowledge

Level 3 – reasoned advice, depth and synthesis of technical knowledge and its implementation.

The competencies are in three distinct categories:

Mandatory – the personal, interpersonal, professional practice and business skills common to all pathways and mandatory for all candidates.

Technical core – the primary skills of your chosen pathway.

Technical optional – Selected as additional skill requirements for your pathway from a list of competencies relevant to the area of practice.

The mandatory competency requirements are set out in detail in the Requirements and competencies guide.

Choosing your competencies

It is important that you give careful thought to your choice and combination of competencies. Your choice will inevitably reflect the work you do in your day-to-day environment (driven by the needs of your clients/employer). Your choice and combination of competencies will be a reflection of your judgement.

At the final assessment interview, the assessors will take these choices into account. They will expect you to present a sensible and realistic choice that reflects the skills needed to fulfil the role of a surveyor in your field of practice.

This guide should help candidates and employers with a degree of assistance in choosing the competencies that are most appropriate to their area of practice.

Where to find help

RICS has fully trained teams across the globe who will be able to help you with any queries. For details of your local office visit the [Contact us](#) webpage.

2 About the pathway

Minerals are the raw materials needed to supply the construction and manufacturing industry and provide fuel for the world's energy requirements. Society needs careful waste disposal and management. Extracting minerals and managing waste requires sensitive planning from the initial prospecting stage to the ultimate restoration and after-use of each site.

Together with practical management during the operational phase, it also requires negotiation and consultation with landowners, the general public and other professionals, including planners, environmental specialists, lawyers and accountants.

Minerals and waste management surveyors must have technical skills and a broad and practical knowledge of mining and quarrying, surveying, geology, minerals economics and valuation, mining law, planning law and environmental legislation.

Recently, the industry has seen an increase in legislation, relating to professional due diligence, insurance, investment and in all sectors of risk management from subsidence to gas emission.

Many professionals in this specialist field are becoming involved in the planning processes and the promotional activities for major environmentally sensitive development schemes.

RICS qualification

The minerals and waste management pathway is ideal for anyone pursuing a career in property with a particular interest in the mining, minerals and waste management industry.

Although minerals and waste management is a skill applied by chartered surveyors across a wide variety of assets, this pathway is aimed at individuals who work in mining and quarrying, minerals economics and valuation, mining law, minerals planning, environmental assessment and auditing and waste disposal and their management.

The pathway places emphasis on competency in minerals and waste management. However, as with other pathways, a broad base of experience in the areas mentioned in the previous paragraph would be required.

Chartered alternative designations

All candidates qualifying through this pathway will be entitled to use the designation 'Chartered Minerals Surveyor'.

3 Pathway requirements

Mandatory	Core	Optional
<p>Level 3</p> <ul style="list-style-type: none"> • Ethics, Rules of Conduct and professionalism <p>Level 2</p> <ul style="list-style-type: none"> • Client care • Communication and negotiation • Health and safety <p>Level 1</p> <ul style="list-style-type: none"> • Accounting principles and procedures • Business planning • Conflict avoidance, management and dispute resolution procedures • Data management • Diversity, inclusion and teamworking • Inclusive environments • Sustainability 	<p>Level 3</p> <ul style="list-style-type: none"> • Minerals management or Waste management <p>Level 2</p> <ul style="list-style-type: none"> • Legal/regulatory compliance <p>Plus three to Level 3</p> <ul style="list-style-type: none"> • Environmental assessments • Environmental audit (and monitoring) • Ground engineering and subsidence • Inspection • Landlord and tenant • Local taxation/assessment • Planning and development management • Surveying and mapping • Valuation 	<p>Two to Level 2 from the list below, including any not already chosen from the core list</p> <ul style="list-style-type: none"> • Consultancy services • Contaminated land • Contract administration • Development appraisals • Development project briefs • Energy and renewable resources • Risk management • Sustainability • Works progress and quality management <p>Plus, one to Level 2 from the full list of technical competencies, including any not already chosen from the core and optional lists.</p>

4 Technical competencies guidance

Consultancy services

This competency is about the provision of environment consultancy services to a range of different clients from inception to completion.

Examples of likely knowledge, skills and experience at each level

Level 1

Demonstrate knowledge and understanding of the procurement and execution of advisory and strategic consultancy in the context of environmental consultancy services.

Examples of knowledge comprised within this level are:

- different forms of procurement for consultancy services
- the range of different consultancy interventions and approaches
- the consultancy cycle
- the types of problems, risks and issues that may arise during each phase of the consultancy cycle
- the importance of agreeing a clear contract with clients
- the need for the planning, timing and managing of consultancy interventions
- managing the use of resources
- managing client expectations
- forms of reporting
- how to manage ethical dilemmas
- the principal tools and techniques relevant to consultancy services
- importance of confidentiality when dealing with sensitive information.

Level 2

Apply your knowledge of the provision of consultancy in the context of environmental consultancy services

Examples of activities and knowledge comprised within this level are:

- preparing consultancy service plans
- preparing client briefs
- updating reports to clients
- negotiating client contracts
- dealing with ethical dilemmas
- selecting appropriate tools and techniques for a given consultancy service
- using selected tools and techniques to achieve agreed outcomes
- keeping appropriate records.

Level 3

Give reasoned advice, prepare and present consultancy reports, together with relevant analysis to clients, in the context of environmental consultancy services.

Examples of activities and knowledge comprised within this level are:

- providing reports containing strategic advice and recommendations to a range of clients
- presenting to clients
- implementing consultancy intervention.

Contaminated land

This competency is about an understanding of contaminated land in the context of urban and rural land and property asset management, transaction and development, law and planning.

Examples of likely knowledge, skills and experience at each level

Level 1

Demonstrate knowledge and understanding of how land becomes contaminated through human activities and natural occurrences. Clearly illustrate the implications of contamination for real estate valuation, development and management.

Examples of knowledge comprised within this level are:

- the definition of contaminated land under the *Contaminated Land Regulations 2000*, and associated legislation
- areas of professional practice where contaminated land is relevant, e.g. valuations, development, asset management, transactions, environmental assessment
- the relevance under Part 11A of the *Environmental Protection Act*, planning policy guidance and RICS published professional standards and guidance
- demonstrate an understanding of the limitations upon chartered surveyors in this area, e.g. professional indemnity insurance, public liability insurance.

Level 2

Prepare a brief and/or specification for the appointment of a specialist(s) to undertake a site investigation.

Examples of activities and knowledge comprised within this level are:

- assembling specialist team members to advise on contaminated land assessment and remediation
- undertaking Review Stage 1 and desktop environmental reports and advise clients accordingly
- assisting in project management of and undertaking phased contaminated land assessments and remediation options appraisals
- negotiating and liaising with clients and regulators on contaminated land issues
- working with specialist project teams dealing with contaminated land and assessment and remediation.

Level 3

Supervise a site investigation, interpret the results of laboratory analyses and make recommendations as to remedial treatments.

Examples of activities and knowledge comprised within this level are:

- advising clients on the application of contaminated land to their asset management, planning and development projects
- advising clients on the law and regulation and procedures and RICS professional standards and guidance appertaining to contaminated land.

Contract administration

This competency covers the role of a surveyor administering a construction contract, including the roles and responsibilities of the administrator under the main forms of contract. They should have a detailed understanding of the contractual provisions relating to the forms of contract that they have administered.

Examples of likely knowledge, skills and experience at each level

Level 1

Demonstrate knowledge and understanding of the contractual, legislative and statutory terminology/ requirements, of a construction contract.

Examples of knowledge comprised within this level are:

- the various standard forms of contract and subcontract used in the industry
- basic contractual mechanisms and procedures applied at various stages of the contract
- the roles and responsibilities of the administrator.

Level 2

Implement administrative procedures necessary for the smooth running of a construction contract.

Examples of activities and knowledge comprised within this level are:

- issuing instructions
- dealing with payment provisions
- managing change procedures
- being involved with dispute avoidance
- dealing with completion and possession issues
- issuing certificates.

Level 3

Advise on the administrative procedures necessary for the smooth running of a construction contract including document control techniques and systems, meetings and reporting procedures.

Examples of activities and knowledge comprised within this level are:

- resolving disputes
- assessing entitlement for extension of time
- assessing entitlement for loss and expense
- advising all parties of their contractual rights and obligations.

Development appraisals

This competency is about the role of development appraisals in residential and commercial development. Development appraisals also have a role in residual valuations of development sites but it should be remembered that the two are different activities.

Examples of likely knowledge, skills and experience at each level

Level 1

Demonstrate knowledge and understanding of the principles and practices underlying a valid development appraisal.

Examples of knowledge comprised within this level are:

- the role of development appraisals in the marketplace and the situations where their use is appropriate
- the content of appraisals and how different issues such as planning requirements can be reflected
- the sensitivities of appraisals and what factors affect the appraisal
- external factors that have an influence upon the appraisal process.

Level 2

Identify, select, assemble and analyse data relevant to carrying out development appraisals. Undertake appraisals using relevant techniques and methodology and identify possible sources of development funding.

Examples of activities and knowledge comprised within this level are:

- analysing appropriate sources of information and data
- preparing appraisals for possible acquisition, disposal or valuation of development sites including residential, commercial and/or mixed use
- using different techniques and software available for appraisals (while having an understanding of the basic principles of development appraisal)
- undertaking a sensitivity analysis
- assisting in the selection of appropriate sources of development finance.

Level 3

Interpret and provide evidence of reasoned advice on development appraisals and further opportunities.

Examples of activities and knowledge comprised within this level are:

- using development appraisals to advise on the acquisition, disposal or valuation of development sites
- producing reasoned analysis of risk using appropriate sensitivity analysis
- advising on the appropriate sources of development finance.

Development/project briefs

The purpose of development briefs is to stimulate interest in development sites whilst project briefs influence the form that a desired development will take. Both provide a framework for developers in the conception of major types of development schemes.

Examples of likely knowledge, skills and experience at each level

Level 1

Demonstrate knowledge and understanding of the information required to prepare a development brief or project brief.

Examples of knowledge comprised within this level are:

- the objectives of development/project briefs
- essential site details including history, location, accessibility, services and utilities
- environmental features and issues
- the consultation process
- the planning policy background
- relevant planning documentation
- land ownership and disposal arrangements
- market conditions
- development budgets.

Level 2

Apply your knowledge to identify, select, assemble and analyse information relevant to the preparation of development briefs or outline project briefs.

Examples of activities and knowledge comprised within this level are:

- producing a development/project brief
- analysing gathered information and data for a development/project brief
- programming or phasing of the stages of development
- producing a risk analysis.

Level 3

Apply information in the preparation and presentation of development briefs or detailed design briefs, or parts thereof.

Examples of activities and knowledge comprised within this level are:

- using a development/project brief to design a development scheme
- negotiating agreements with stakeholder interests
- planning the implementation of a development scheme
- formulating financial arrangements for development scheme.

Energy and renewable resources

This competency deals with the understanding and application of the energy and renewable resources sector including regulatory framework, technologies, relationship with property, an appreciation of economic viability and cash flows, together with estates and project management.

Examples of likely knowledge, skills and experience at each level

Level 1

Demonstrate a broad appreciation of energy and renewable resources of energy. Undertake inspections of energy and renewable energy facilities.

Examples of knowledge comprised within this level are:

- the various energy and renewable energy technologies including but not limited to solar, wind, hydro, biomass, anaerobic digestion, landfill gas to energy, incineration and waste to energy
- the current and emerging legislation including the *Energy Act* together with national targets for renewable energy generation
- estates and planning management functions
- inspection of facilities to assess property issues including ownership boundaries, rights of way, easements, discharge consents, regulatory compliance
- industry trends.

Level 2

Demonstrate experience of the economic and technical viability and monitoring of energy and renewable energy facilities.

Examples of activities and knowledge comprised within this level are:

- advising on legal agreements, royalties, rents, and rating and compliance issues
- understanding the practical application of government subsidies to energy projects and the impacts on their cash flows
- researching and collating data from energy and renewable energy schemes for analysis
- interpret evidence and cash flow analysis to prepare advice to clients in respect of valuations, landlord and tenant issues, legal agreements, local taxation or any other consultancy service required

Level 3

Demonstrate practical competence in providing reasoned advice to clients in a wide range of services relating to the energy and renewable resources sector. Be responsible for the preparation of formal reports and advice under proper supervision. Demonstrate a thorough knowledge of the sector.

Examples of activities and knowledge comprised within this level are:

- carrying out detailed valuations/ financial appraisals and preparing reports to clients
- development of a discounted cash flow to reflect all incomes and outgoings through an energy related assets including all subsidies and royalty arrangements
- managing property interests including purchase and sale of energy and renewable energy facilities
- identifying and evaluating related business opportunities including new technologies
- negotiating and reviewing rents, royalty agreements, and wayleaves.

Environmental assessments

This competency is about an understanding and application of the principles of environmental assessment, such as an Environmental Impact Assessment, within the planning and regulatory framework.

Examples of likely knowledge, skills and experience at each level

Level 1

Demonstrate knowledge and understanding of appropriate environmental assessment concepts, processes and systems. This should include responsibilities imposed by law, codes of practice and other regulations relating to environmental assessment.

Examples of knowledge comprised within this level are:

- the aims, objectives and principles of an Environmental Impact Assessment (EIA) (or equivalent)
- the data gathering processes for environmental assessment such as BREEAM, EIA or similar
- the types of development which may require an environmental assessment.

Level 2

Apply in practice your understanding of environmental assessment and the requirements for compliance, including undertaking an environmental assessment.

Examples of activities and knowledge comprised within this level are:

- managing the preparation of an environmental assessment
- conducting an environmental assessment, including EIA, BREEAM or similar for development and/or infrastructure projects
- experience of when a formal or informal environmental assessment is applicable
- the processes, procedures and requirements of a formal EIA and Social Impact Assessment (SIA), including screening and scoping.

Level 3

Provide evidence of reasoned advice including the preparation and production of reports based on appropriate environmental assessments.

Examples of activities and knowledge comprised within this level are:

- advising on the need and application of an environmental assessment
- providing specialist advice on environmental assessments, including negotiations with clients and regulators
- advising on requirements and scope of an environmental assessment and the regulators' roles
- preparing and compiling environmental statements and non-technical summaries for submission to clients, regulators, and other stakeholders.

Environmental audit (and monitoring)

This competency is about knowledge and understanding of the processes and standards used in environmental audit, in the context of land and property, and the application of these principles in practice.

Examples of likely knowledge, skills and experience at each level

Level 1

Demonstrate knowledge and understanding of appropriate environmental auditing concepts, processes, systems and the role of the environmental audit in environmental monitoring.

Examples of knowledge comprised within this level are:

- where environmental audit applies in chartered surveyor practice
- the standards used in environmental audit including Eco-Management and Audit Scheme (EMAS) or national equivalent
- auditing regulatory and operational compliance e.g. with planning conditions and legislation/regulation.

Level 2

Apply in practice your understanding of environmental auditing and monitoring, as appropriate.

Examples of activities and knowledge comprised within this level are:

- carrying out environmental audit and reporting
- the scope and methods to be used for environmental audit
- the specialisms and specialists required to conduct environmental audit.

Level 3

Provide evidence of reasoned advice including the preparation and production of reports of appropriate environmental audits.

Examples of activities and knowledge comprised within this level are:

- advising clients on the needs of environmental audit
- presenting and proposing actions following the findings of environmental audit
- negotiating and liaising with clients and regulators on the findings and actions arising from environmental audit.

Ground engineering and subsidence

Detailed understanding of rock and soil mechanics and how these are applied to ground and slope stability problems. Detailed understanding of natural and mining induced subsidence in terms of causation, effect, mitigation and remedies.

Examples of likely knowledge, skills and experience at each level

Level 1	Level 2	Level 3
<p>Undertake appropriate investigations including site inspection to research site history and geology.</p>	<p>Collate, analyse and interpret information gathered after initial research.</p>	<p>Provide evidence of reasoned advice, prepare and present reports.</p>
<p>Examples of knowledge comprised within this level are:</p> <ul style="list-style-type: none"> • soil and rock properties as required under Eurocode 7, Part 2 or national equivalent • an understanding of causation of natural and mining induced subsidence • monitoring ground movement in a subsidence area • monitoring the effect of ground movement on a building/structure • the various categories of land slip and their causation • the principles of slope design and failure. 	<p>Examples of activities and knowledge comprised within this level are:</p> <ul style="list-style-type: none"> • investigating geological and mining records to produce a report on causation of ground movement • examining the options for minimising the risk of ground movement • examining the amount of ground movement expected and the strains induced • considering the options for the treatment of subterranean voids and mine outlets • identifying sites suitable for opencast/landfill having regard to ground stability • considering the options for a mine/site layout having regard to likely ground movement. 	<p>Examples of activities and knowledge comprised within this level are:</p> <ul style="list-style-type: none"> • calculating slope stability and point of failure • calculating a mining subsidence profile including strains • calculating crown hole collapse associated with natural and mining sources • producing reports with recommendations for the minimisation, mitigation and remedy of subsidence damage • producing a report on slope instability recommending means of minimising risk • analysing the results of rock and soil tests and considering the effect on slope behaviour • assisting with the preparation of an expert witness report on ground engineering/subsidence • analysing the results of ground movement monitoring and producing a report with conclusions • evaluating the options for treating subterranean voids and mine outlets and recommending a course of action.

Inspection

Undertaking physical site inspections of minerals and/or waste facilities to ensure compliance with or breach of agreements, planning permissions, permits or licence conditions, Lease/Licence conditions and appropriate legislation. Obtaining factual evidence and providing reasoned advice and recommendations on the same.

Examples of likely knowledge, skills and experience at each level

Level 1

Demonstrate knowledge and understanding of the different requirements for inspection, together with the required information and factors affecting the approach to an inspection.

Examples of knowledge comprised within this level are:

- appropriate planning, environmental and waste legislation
- emerging legislation that might impact on current/future operations and national equivalent
- working methods processes, etc.
- site health and safety requirements
- *RICS Valuation – Global Standards* requirements on inspections for valuation purposes.

Level 2

Undertake inspections and apply the information gained to prepare reports, schedules and/or registers of equipment, presenting appropriate information gained from the inspection.

Examples of activities and knowledge comprised within this level are:

- reporting on progress of operations i.e. workings, restoration
- reporting on adherence to approved schemes i.e. working, environmental monitoring, restoration etc.
- reporting on operational methods, difficulties being encountered, etc.
- reporting on any proposed future requirements/development potential.

Level 3

Provide evidence of reasoned advice and recommendations arising from inspections.

Examples of activities and knowledge comprised within this level are:

- advising client/owner/tenant of breaches and non-compliance of agreements, implications of same and recommendations on courses of action
- advising client/owner/tenant of current working practices and emerging legislation that might impact on existing, current or future operations
- advising/recommending to client/owner/tenant of potential working agreements, e.g. lease/licence terms.

Landlord and tenant

This competency is about the management of the landlord and tenant relationship in the context of minerals and waste management facilities as commercial property, covering lease negotiations and all lease related matters arising between landlord and tenant, representing either party.

Examples of likely knowledge, skills and experience at each level

Level 1

Demonstrate knowledge and understanding of the law and practice relating to landlord and tenant.

Examples of knowledge comprised within this level are:

- the principles of property law, including minerals ownership and ownership of landfill void
- the statutory and common law framework applying to the landlord and tenant relationship
- the content, form and structure of minerals extraction and/or waste management facility leases.

Level 2

Apply the principles of the law and practice relating to landlord and tenant. Carry out relevant negotiations to provide solutions to is-sues affecting both owners and occupiers of real estate.

Examples of activities and knowledge comprised within this level are:

- reading and interpreting minerals and/or waste management facility leases
- preparing reports containing recommendations prior to the commencement of negotiations
- preparing, serving and responding to notices
- entering into negotiations
- reaching an agreed solution and reporting recommendations to client
- instructing legal advisers.

Level 3

Provide evidence of reasoned advice, prepare and present reports on the law and practice relating to landlord and tenant. Apply your knowledge to assist in undertaking relevant dispute resolution procedures.

Examples of activities and knowledge comprised within this level are:

- providing strategic advice upon landlord and tenant matters
- providing advice as to alternative dispute resolution options in the event of breakdown of negotiations and taking any necessary action to protect the clients' position.

Legal/regulatory compliance

Detailed understanding of minerals and waste law and the terminology used in formulating arrangements relating to the ownership of minerals and voids, minerals extraction, working rights and abandonment/restoration together with the regulatory framework associated with minerals and waste.

Examples of likely knowledge, skills and experience at each level

Level 1	Level 2	Level 3
<p>Demonstrate knowledge and understanding of any legal/regulatory compliance requirements in relation to your area of practice.</p> <p>Examples of knowledge comprised within this level are:</p> <ul style="list-style-type: none"> • the ownership of land, minerals and voids • rights of support and withdrawal of support • subsidence damage, cause and remedies • compulsory purchase in relation to minerals and voids • copyhold interests • content of minerals and waste leases • mining codes • rights of working and restrictions to working • law of trespass • minerals and waste planning law • water abstraction and discharge • abandonment and restoration • health and safety. 	<p>Apply your knowledge to comply with legal/regulatory requirements in specific situations within your area of practice.</p> <p>Examples of activities and knowledge comprised within this level are:</p> <ul style="list-style-type: none"> • preparing Heads of Terms for a minerals or waste lease • securing an exploration or other form of simple licence • inspecting and preparing a report on a minerals and/or waste site • preparing a planning application relating to minerals/waste • securing rights to abstract and/or discharge water • securing rights to withdraw support • preparing and serving notices in relation to copyhold and/or mining codes • preparing a report on the statutory and regulatory requirements relating to abandonment/restoration of a minerals/waste site • undertaking a risk assessment for a minerals/waste operation. 	<p>Provide evidence of reasoned advice, prepare and present reports on legal/ regulatory compliance requirements in relation to your area of practice.</p> <p>Examples of activities and knowledge comprised within this level are:</p> <ul style="list-style-type: none"> • negotiating terms for a minerals/waste lease, licence, agreement and understanding the differences • negotiating minerals and working rights • negotiating compensation for loss of working rights • preparing a report recommending the avenue to be pursued for mining subsidence • assessing compensation under the mining codes, Mines Working Facilities and Support legislation and Compulsory Purchase Orders • assessing compensation payments to copyholders • negotiating planning conditions following the submission of a planning application • compiling information for an expert witness report • providing advice on the preparation of a Planning Appeal for minerals/waste • providing advice on the remedies available for subsidence damage.

Local taxation/assessment

Valuation and negotiation of rating appeals which may include attendance at Valuation Tribunal. Inspection, measurement and analysis of comparables. Application of evidence when dealing with appeals to include an understanding of the use of comparable rental evidence. Application of statute and casework.

Examples of likely knowledge, skills and experience at each level

Level 1	Level 2	Level 3
<p>Demonstrate knowledge and understanding of the provisions for taxation of real estate, plant and machinery and/or other property/asset types at a local/municipal level.</p> <p>Examples of knowledge comprised within this level are:</p> <ul style="list-style-type: none"> • <i>Code of measuring practice</i> • application of statute and case law and planning • analysis of evidence and relevance of the law of landlord and tenant • various methods of valuation applicable to different types of property/assets. <p>In relation to minerals and waste management assets valuation the following skills will also be necessary for Level 1:</p> <ul style="list-style-type: none"> • the minerals and waste management regulations or local equivalent • analysis of cost evidence and decapitalisation rates applicable • spreadsheets including use allowances, contract size and location factors. 	<p>Undertake valuations and negotiations for a variety of different property types using different valuation methods for the purposes of local/municipal taxation.</p> <p>Examples of activities and knowledge comprised within this level are:</p> <ul style="list-style-type: none"> • measuring and inspecting minerals and waste management properties/assets • valuing different minerals and waste management property/asset types • using different methods of valuation: rental and comparative approaches, profits, receipts and expenditure and costs • participating in negotiation, valuations and settlement of appeals. <p>In relation to minerals and waste management assets valuation the following skills will also be necessary for Level 2:</p> <ul style="list-style-type: none"> • knowledge of cost adjustment, location factors and contract size • undertaking cost based valuation of minerals and waste management issues in different property/asset types • understanding the latest RICS professional standards and guidance. 	<p>Provide evidence of reasoned advice to stakeholders (including senior management within your organisation, clients and courts/tribunal members) in respect of specific cases and/or other local taxation issues.</p> <p>Examples of activities and knowledge comprised within this level are:</p> <ul style="list-style-type: none"> • advising on settlement or litigation of cases • advising on the costs of options and actions including the use of specialist expert witnesses • advising on the impact of various actions with an appreciation of the wider context. <p>In relation to minerals and waste assets valuation the following skills will also be necessary for Level 3:</p> <ul style="list-style-type: none"> • demonstrating a knowledge of where minerals and waste management facilities are reflected in an assessment, and where it is excluded from rating (including, where appropriate, the use of specialist expert witnesses) • presenting cases at Valuation Tribunal as an expert witness.

Minerals management

This competency deals with the practical aspects of minerals management including the regulatory framework, compliance issues, an appreciation of economic viability, technical design, planning and permitting, estates and project management.

Examples of likely knowledge, skills and experience at each level

Level 1

Demonstrate a broad appreciation of geology, exploration techniques (including site investigation), and surface and/or underground mining methods.

Examples of knowledge comprised within this level are:

- current and emerging legislation including relevant minerals planning and aggregates levy, *Groundwater Protection Act* or similar, or national equivalent
- the various minerals management technologies dealing with minerals types, extraction methods and how they are utilised
- estates and planning management functions
- how to inspect facilities to assess property issues including ownership boundaries, rights of way, easements, discharge consents, regulatory compliance.

Level 2

Analyse site investigations and interpret results. Demonstrate an appreciation of the economic and technical viability and/or management of minerals extraction and restoration.

Examples of activities and knowledge comprised within this level are:

- advising on legal agreements, royalties, rents, rating and compliance issues
- carrying out evaluation of facilities to assess economic and technical viability
- knowledge of quarry or mine development engineering and design, environmental control systems, and aftercare and restoration measures
- carrying out monitoring and compliance with planning, legal or environmental controls of a minerals site.

Level 3

Design, give advice on, and/or manage minerals exploitation schemes, their implementation and/or property interests therein.

Examples of activities and knowledge comprised within this level are:

- carrying out detailed valuations/ financial appraisals and preparing reports to clients in support of development opportunities
- designing and/or project managing planning applications or determinations
- managing property interests including acquisition or disposal/sale of minerals assets
- identifying and evaluating related business opportunities including new technologies.

Planning and development management

The planning system plays a vital role in the opportunities available for any potential development scheme. This means it is important for developers to have good working knowledge and experience of the processes involved in environmental planning to ensure successful development outcomes.

Examples of likely knowledge, skills and experience at each level

Level 1

Demonstrate knowledge and understanding of the principles of planning.

Examples of knowledge comprised within this level are:

- the purpose and structure of the planning system as utilised by national governments
- the decision-making process on planning applications and permitting
- the special planning powers for national and international designated areas and features
- the requirements for community involvement in the planning system
- environmental assessment and strategic environmental assessment and the planning system
- environmental permitting regimes and other environmental legislation
- the infrastructure systems.

Level 2

Apply your knowledge to matters relevant to the planning process

Examples of activities and knowledge comprised within this level are:

- completing the submission of planning and permitting applications
- applying pre-consultation and negotiation processes to the planning application process
- participating in the formulation of planning strategies, development plans and programmes
- interpreting strategic planning policies.

Level 3

Give reasoned advice, including the preparation and presentation of reports on planning matters, brief other professional consultants and understand the application of specialist knowledge to the resolution of planning problems.

Examples of activities and knowledge comprised within this level are:

- producing viability/feasibility reports
- providing reasoned client advice on planning applications including advice on appeals
- advising clients on reasonableness of planning conditions and involvement in related negotiations
- justifying environmental and other impact assessments
- overseeing the work of external consultants.

Risk management

This competency is about the effective use of risk management relating to projects. It includes a knowledge, understanding and use of the tools and techniques available.

Examples of likely knowledge, skills and experience at each level

Level 1

Demonstrate your knowledge and understanding of the nature of risk and, in particular, of the risks associated with your area of business/practice.

Examples of knowledge comprised within this level are:

- the concepts of risk
- the tools and techniques commonly used to evaluate and manage risk
- the use of risk registers and the models used to quantify risk.

Level 2

Apply your knowledge to carry out risk assessments considering all relevant factors. Understand the application of the various methods and techniques used to measure risk.

Examples of activities and knowledge comprised within this level are:

- applying the various methods and techniques to measure risk
- participating in risk workshops
- preparing reports resulting from risk workshops.

Level 3

Provide evidence of reasoned advice and implement systems to manage risk by competent management in relation to specific projects.

Examples of activities and knowledge comprised within this level are:

- facilitating risk workshops including preparation prior to the workshop
- evaluating the qualitative and quantitative output from risk workshops
- ongoing monitoring of risk issues through the project life cycle.

Surveying and mapping

Mapping, in this context, is an exceptionally broad potential area of practice. Encompassing everything from LIDAR, IFSAR, aerial photography and other primary data capture techniques to ground control using GPS and/or traditional techniques and the production of digital elevation models, DTMs or any form of geographical output including GIS data capture and output.

Examples of likely knowledge, skills and experience at each level

Level 1

Demonstrate knowledge and understanding of the principles of mapping and geographic information systems appropriate to your area of practice. This includes the accuracy, scale, currency and fitness for purpose of hardcopy and/or digital maps, drawings, imagery and plans.

Examples of knowledge comprised within this level are:

- data capture techniques and the knock-on effects regarding accuracy and precision
- instrument checking techniques
- the basic principles of geodesy and its application to mapping according to your area of practice
- basic survey software.

Level 2

Apply your knowledge of mapping and geographical sciences in relation to your area of practice.

Examples of activities and knowledge comprised within this level are:

- using post processing survey/mapping software competently
- using digital terrain modelling/digital elevation models
- understanding the principles of data integration and compatibility, integrating different data sets to achieve client needs
- understanding scalability in the context of both mapping and user requirements
- using imagery software and GIS data capture tools
- using modern survey instrumentation and understanding checking/calibration techniques.

Level 3

Provide evidence of reasoned advice on the design and specification of mapping and/or geo-information projects in a national and/or international context.

Examples of activities and knowledge comprised within this level are:

- using all forms of survey/mapping/imagery contracts competently and describing the nuances of each (i.e. accuracy/fitness for purpose issues)
- being fully conversant with all RICS Geomatics specifications and guidance in relation to mapping
- explaining complex mapping issues to clients and discerning their 'actual' needs.

Sustainability

Achievement of this competency demonstrates a broad-based understanding of the theory of sustainability as set in its political and legal framework, together with an appreciation of its economic, social and environmental context and the tools and techniques used to measure cost and return, and evaluate options for action.

Examples of likely knowledge, skills and experience at each level

Level 1

Demonstrate knowledge and understanding of why and how sustainability seeks to balance economic, environmental and social objectives at global, national and local levels in the context of land, property and the built environment.

Examples of knowledge comprised within this level are:

- the aims, objectives and principles of BREEAM or similar assessments
- historical background – Brundtland, Green Party, climate change
- legal and policy background
- design considerations – site, location, building form, materials, lighting, ventilation, heating, water and drainage
- sources of renewable energy and energy recovery
- national design and evaluation codes.

Level 2

Provide evidence of the practical application of sustainability appropriate to your area of practice, including the circumstances in which specialist advice is necessary.

Examples of activities and knowledge comprised within this level are:

- planning guidance, sustainability checklists
- focus on energy – EU Directive on Energy Performance of Buildings or National equivalent
- renewable energy options – photovoltaics, wind turbines, biomass, central heating and power (CHP), ground source heating, thermal mass
- post-occupancy evaluation, life cycle costing.
- national infrastructure projects and energy conservation.

Level 3

Provide evidence of reasoned advice given to clients and others on the policy, law and best practice of sustainability, in your area of practice.

Examples of activities and knowledge comprised within this level are:

- sustainable valuation, triple bottom line, economic, social and environmental considerations, short- medium-long term impacts
- hard and soft valuation issues, health, well-being and productivity
- examples and case studies of advice given and impact made upon client practice
- transfer of knowledge and practice
- sustainability assessments
- corporate sustainability advice.

Valuation

Understanding the processes involved in the preparation of valuations for a range of disciplines including capital purposes, rating, compulsory purchase and compensation.

Examples of likely knowledge, skills and experience at each level

Level 1

Demonstrate knowledge and understanding of the purposes for which valuations are undertaken; the relevant valuation methods and techniques; the appropriate standards and guidance; and any relevant statutory or mandatory requirements for valuation work.

Examples of knowledge comprised within this level are:

- the physical and economic factors which affect valuations including reserves, rates of output/input and implications for valuation
- appropriate, tenure, planning, environmental and waste legislation constraints and implications for valuation
- emerging legislation that might impact on valuation law
- sources of comparable information and analysis of such information
- the use of yields
- *RICS Valuation – Global Standards* requirements for valuation purposes
- consequences of client/third-party reliance upon valuations.

Level 2

Demonstrate practical competence in undertaking both capital and rental valuations and detailed involvement with the preparation and presentation of client reports. Demonstrate your ability to use valuation methods and techniques appropriate to your area of practice. Show how the relevant valuation standards and guidance have been applied to your valuation experience.

Examples of activities and knowledge comprised within this level are:

- inspecting and referencing of sites
- collating data relating to tenure planning, licensing, environmental matters, reserves and resources and other matters impacting on valuation
- collating and analysing comparable information
- applying collated data and undertaking valuations
- drafting of valuation reports including, where appropriate, compliance with *RICS Valuation – Global Standards* and other regulatory requirements.

Level 3

Demonstrate practical competence in undertaking valuations, either of a range of property types or for a range of purposes. Demonstrate the application of a wide range of valuation methods and techniques. Be responsible for the preparation of formal valuation reports under proper supervision and provide reasoned advice. Demonstrate a thorough knowledge of the appropriate valuation standards and guidance and how they are applied in practice.

Examples of activities and knowledge comprised within this level are:

- preparing final valuation reports
- discussing the following issues with parties who will rely on the valuations: how the valuations have been calculated; limitations of the valuations; consequences of variation in factors affecting valuations
- negotiating and agreeing valuations
- reacting to responses from those who will rely on valuations – i.e. what actions taken and impact on valuations.

Waste management

This competency deals with the practical aspects of waste management including the regulatory framework, compliance issues, and an appreciation of economic viability, technical design, planning and Pollution Prevention & Control (PPC) permitting, estates and project management.

Examples of likely knowledge, skills and experience at each level

Level 1	Level 2	Level 3
<p>Demonstrate a broad appreciation of practical aspects of waste management and regulatory regime. Undertake inspections of waste management facilities.</p> <p>Examples of knowledge comprised within this level are:</p> <ul style="list-style-type: none"> • current and emerging legislation including Landfill Directive, Waste Strategy, Mines Waste Directive, Groundwater Protection Act, Landfill Tax and similar national legislation • the various waste management technologies dealing with collection, recycling, treatment and disposal together with trends in the industry • estates and planning management functions • inspection of facilities to assess property issues including ownership boundaries, rights of way, easements, discharge consents, regulatory compliance. 	<p>Demonstrate an appreciation of the economic and technical viability and/or management application of the practical requirements and monitoring of waste facilities.</p> <p>Examples of activities and knowledge comprised within this level are:</p> <ul style="list-style-type: none"> • advising on legal agreements, royalties, rents, rating and compliance issues • carrying out evaluation of facilities to assess economic and technical viability • knowledge of landfill engineering and design, gas utilisation, environmental control systems and aftercare measures or similar aspects relating to another waste treatment technology • carrying out environmental monitoring of a waste management facility. 	<p>Design, advise on, and/or manage waste management schemes, their implementation and/or property interests therein.</p> <p>Examples of activities and knowledge comprised within this level are:</p> <ul style="list-style-type: none"> • carrying out detailed valuations/ financial appraisals and preparing reports to clients in support of development opportunities • designing and/or project managing planning and/or permit application or waste treatment/disposal tenders • managing property interests including purchase and sale of waste assets • identifying and evaluating related business opportunities including new technologies.

Works progress and quality management

Chartered surveyors are frequently involved in the supervision of works on site. It is essential that candidates selecting this competency demonstrate a detailed knowledge of construction technology techniques, and the relevance of the techniques on site. Quality of workmanship is vital to ensure the long term functional ability of the element of the building design, and candidates will be expected to demonstrate detailed knowledge site quality requirements.

Examples of likely knowledge, skills and experience at each level

Level 1	Level 2	Level 3
<p>Inspect and record progress and quality of building works.</p>	<p>Report and advise upon the adequacy of progress and quality of building works.</p>	<p>Manage and coordinate progress and quality of building works as a contract administrator/supervising officer or equivalent.</p>
<p>Examples of knowledge comprised within this level are:</p> <ul style="list-style-type: none"> the ability to carry out a site inspection, and the importance of recording progress of works the requirements of recording progress, and comparing to programmed works progress the requirements for quality descriptors as set out in the contract documentation. 	<p>Examples of activities and knowledge comprised within this level are:</p> <ul style="list-style-type: none"> carrying out inspections of works being completed on site, and preparing the necessary reports showing progress and quality issues that have arisen preparing reports and advice for clients detailing the effects of additional instructions, amendments to specifications, and the likely effect on progress recording for in house and external purposes reports on quality of works on site, including any works rejected, and the reasons for doing so. 	<p>Examples of activities and knowledge comprised within this level are:</p> <ul style="list-style-type: none"> preparing cost reports for clients, on works progress, showing any deviation from expected progress implementing systems for recording progress and quality issues as part of CA/SO duties, and preparing reports for external circulation showing an understanding of the differences between the duties of a CA/SO, and those of a person appointed solely to report on progress and quality issues acting as a CA/SO, and incorporating into your duties the requirements for progress and quality reporting.



Delivering confidence

We are RICS. As a member-led chartered professional body working in the public interest, we uphold the highest technical and ethical standards.

We inspire professionalism, advance knowledge and support our members across global markets to make an effective contribution for the benefit of society. We independently regulate our members in the management of land, real estate, construction and infrastructure. Our work with others supports their professional practice and pioneers a natural and built environment that is sustainable, resilient and inclusive for all.

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