



Pathway guide

Land and Resources

August 2018



Pathway guide

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Land and Resources

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Introduction

About the competencies

This guide supports the Land and Resources 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 [rics.org/apcguides](https://www.rics.org/apcguides)

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 – [rics.org/contactus](https://www.rics.org/contactus)

About the pathway

The Land and Resources pathway is designed to be applicable across a wide-ranging group of land and resource related sectors. It combines the best from the Environment, Geomatics, Minerals and Waste Management, Planning and Development, and Rural Professional Groups to produce a well-rounded 'land' professional Chartered Surveyor.

Candidates taking this pathway will be from land management, environmental, infrastructure, planning & development (including rights of light and neighbourly matters), land administration, geography, real estate and extractive industry backgrounds and will need to have a broad understanding of their role in the entire property/real estate lifecycle from land registration/mapping to management to development to remediation and re use.

The United Nations concept of Fit for Purpose (FFP) is mentioned in several competencies and FFP principles are at the heart of capacity building in this critical area of practice. This pathway combines the skillsets needed in the land sector with those needed in property/real estate management and development along with an emphasis on technology combined with dispute resolution, mediation and business skills.

RICS qualification

Although there is a wide choice of competencies available in the pathway there are 12 competencies which we view as the primary skillset for a land professional. Candidates are encouraged to consider these in the first instance.

- Access and rights over land
- Cadastre and land administration
- Compulsory purchase and compensation
- GIS
- Inspection
- Landlord and tenant
- Legal / regulatory compliance
- Planning and development management
- Property management
- Surveying and mapping
- Sustainability
- Valuation

Chartered alternative designations

Alternative designations are attached to specific competencies which must be taken to Level 3 to gain that alternative designation. Candidates not wishing to gain any of these designations will be awarded the designation 'Chartered Surveyor'.

Competency	Chartered Alternative Designation
Engineering surveying	Chartered Engineering Surveyor
Environmental management	Chartered Environmental Surveyor
Hydrographic surveying	Chartered Hydrographic Surveyor
Minerals management or Waste management	Chartered Minerals Surveyor
Planning and development management or spatial planning policy and infrastructure	Chartered Planning and Development Surveyor
Surveying and mapping	Chartered Land Surveyor

Pathway requirements

Mandatory competencies

Level 3

- Ethics, Rules of Conduct and professionalism

Level 2

- Client care
- Communication and negotiation
- Health and safety

Level 1

- Accounting principles and procedures
- Business planning
- Conflict avoidance, management and dispute resolution procedures
- Data management
- Diversity, inclusion and teamworking
- Inclusive environments
- Sustainability

Optional competencies

Five to Level 3 and one to Level 2

- Access and rights over land
- Agriculture
- Big data
- Cadastre and land administration
- Client care (must be taken to Level 3)
- Compulsory purchase and compensation
- Consultancy services
- Contaminated land
- Development appraisals
- Economic development
- Energy and renewable resources
- Engineering surveying
- Environmental management
- Geodesy
- GIS
- Hydrographic surveying
- Inspection
- Land use and diversification
- Landlord and tenant
- Legal/regulatory compliance
- Management of the natural environment and landscape
- Masterplanning and urban design
- Measurement
- Minerals management
- Planning and development management
- Property management
- Risk management

- Smart cities and intelligent buildings
- Spatial planning policy and infrastructure
- Strategic real estate consultancy
- Surveying and mapping
- Sustainability
- Valuation
- Waste management

Plus, **two to Level 2** from the full list of technical competencies, including any not already chosen from the optional list

Technical competencies

Access and rights over land

This competency is about access and easements for power, water and communications infrastructure including wayleaves, and the differing methods of acquisition and compensation negotiations, including fees. An understanding of land law, land registration methodologies and the content of land registration documentation is essential. This competency is also relevant to boundary and neighbour disputes.

Examples of likely knowledge, skills and experience at each level

Level 1	Level 2	Level 3
<p>Demonstrate knowledge and understanding of the legislation and/or framework for acquiring sites or access for the provision of power, water, pipelines, other third party or communications infrastructure. This should include the methodology and techniques used in valuation for these purposes.</p>	<p>Provide evidence of identifying and understanding the appropriate routing for lines, cables and other third party infrastructure. This should include associated environmental assessment; undertaking inspections, and evaluating and negotiating payments for their use or acquisition.</p>	<p>Provide evidence of reasoned advice, undertake valuations on and write reports in relation to all matters relating to provision of power, water, pipelines, other third party or communications infrastructure</p>
<p>Examples of knowledge comprised within this level are:</p> <ul style="list-style-type: none"> • The processes involved in the acquisition of land for the purposes of establishing access agreements, wayleaves and easements for the provision of power, water, pipelines or communications infrastructure • The rights over land within the context of national/local land law and registration • Compensation procedures associated with such acquisitions, including any temporary accommodation and other works required for the construction and maintenance of infrastructure on the land acquired • The processes of first registration [UK]. 	<p>Examples of activities and knowledge comprised within this level are:</p> <ul style="list-style-type: none"> • Understanding of relevant RICS guidance [i.e. Expert Witness] • Understanding of adverse possession and effects on rights • Negotiating with occupiers and companies regarding the routes, accommodation works, temporary works, and reinstatement and compensation • Agreeing heads of terms and final documentation • Advising and surveying access rights to appropriate scale, accuracy, including all agreed/specified related datasets [i.e. national mapping, aerial imagery etc.] • Advising clients of relevant 'rights' issues and possibly act in an expert capacity. 	<p>Examples of activities and knowledge comprised within this level are:</p> <ul style="list-style-type: none"> • Providing strategic advice on complex elements of the subject including dispute resolution such as access, boundaries, title & ownership and rights of way • Preparing and providing strategic advice on unusual or challenging cases.

Agriculture

This competency is about farming systems and the management of agricultural land.

Examples of likely knowledge, skills and experience at each level

Level 1

Demonstrate knowledge and understanding of the principles, characteristics and organisation of agriculture according to different geographical, soil and climate conditions.

Examples of knowledge comprised within this level are:

- Basic crop and animal husbandry
- Timings of relevant operations
- Legislation that affects agriculture and the bodies that are responsible for delivery and enforcement
- Current economic state of agriculture
- Farm support systems.

Level 2

Demonstrate application of the principles and systems of practical farming methods. This includes the requirements and characteristics of yields; current market prices of agricultural produce and livestock; costs of production; and the utilisation and cost of farm buildings.

Examples of activities and knowledge comprised within this level are:

- Arable – advising on crop rotations, cultivations, crop husbandry and marketing of product
- Livestock – advising on livestock enterprises, animal husbandry and welfare including record keeping and marketing
- Generic – dealing with relevant regulations that affect all aspects of agriculture
- Preparing detailed farm finance plans and budgets.

Level 3

Provide evidence of reasoned advice given to stakeholders on the management and practical application of appropriate methods and requirements of farming.

Examples of activities and knowledge comprised within this level are:

- Providing professional farm management advice in both written and oral form.

Big data

This competency involves the identification of complex problems as applied to the built and natural environment and the leveraging of data value.

Candidates will be part of multidisciplinary project teams, including planners, city engineers, surveyors, data architects, data engineers, and analysts, working with big data. The work is likely to include liaison with policy and operations teams to understand how big data can be leveraged and combined to add value.

It requires a knowledge of the technical challenges posed by big data, and the specialised IT architectures and techniques employed for the storage, retrieval and manipulation of big data structures.

Examples of likely knowledge, skills and experience at each level

Level 1

Demonstrate knowledge and understanding of the principles of big data processing, the range of available sources of big data, data dynamics and a critical appreciation of the latest big data research issues.

Examples of knowledge comprised within this level are:

- The different phases of software lifecycle
- The value of analysis and which data sources, analytical techniques and tools can be used
- How algorithms are designed, optimised and applied at scale
- What data is important to ensure business performance
- The importance of presentation and applicability of any data that is captured through dashboards or client portals
- Have an appreciation of the possible benefits of Machine learning and Artificial Intelligence and how this can be supported through data
- The various Computer Aided packages that are available in the marketplace
- The principles of a technical security architecture and how these can be used to reduce information risk
- The principles of Information Security Governance and the purpose of Information Security strategies
- Legislative and regulatory instruments relevant to Information Security relevant to own area of practice and location

Level 2

Demonstrate an understanding of the techniques and the tools required for the maintenance of data quality, data hygiene and the statistical modelling, analysis and visual data interrogation of big data sets.

Examples of activities and knowledge comprised within this level are:

- Ability to source, access, manipulate and engineer data processes with data that typically have characteristics of volume, velocity and variety
- Can select and use appropriate statistical methods for sampling, distribution assessment, bias and error
- Different data engineering tools for repeatable data processing and can compare between different data models
- Build credible statistical models from the data and use best coding practices to generate reproducible work
- Problem structuring methods and evaluating when each method is appropriate
- Draw on relevant technical and analytical standards from across government and industry
- Expose data from systems (for example, through APIs), link data from multiple systems and deliver streaming services
- Works with other technologists and analysts to integrate and separate data feeds to map, produce, transform and test scalable data products that meet client needs

Level 3

Provide evidence of design and implementation of big data analysis using algorithms to handle data sets in a scientific computing environment for the analysis of big data.

Examples of activities and knowledge comprised within this level are:

- Be able to explore and visualise the data to present the 'story' of the data in a meaningful way to a range of technical and non-technical audiences
- Advise on how big data can be used to support strategic and operational decision making to create impact and add value from its use
- Advise on the selection, design, justification, implementation and operation of controls and management strategies to maintain the security, confidentiality, integrity, availability, accountability and relevant compliance of information systems with legislation, regulation and relevant standards
- Driving business change through the application of big data analytics
- Advise on the future of big data.

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Big data (continued)

Examples of likely knowledge, skills and experience at each level

Level 1

- Beyond RICS' ethical standards, candidates should understand and adhere to the applicable data science ethics framework.

Level 2

- Applies scientific methods through experimental design, exploratory data analysis and hypothesis testing to reach robust conclusions
- The ability to data mine and discover trends or sequences that can inform and direct business direction.

Level 3

Cadastre and land administration

This competency deals with assessing documents relating to the demarcation, registration and transfer of land to define, on the ground, the extent of legal and/or registered title. It involves the preparation of expert reports for the legal profession and provision of opinions to the legal profession and property owners. It should also involve the integration of Fit for Purpose principles within the design of land administration, mapping, demarcation, land valuation and taxation system and the understanding of how Fit for Purpose can be used in middle/low income countries. Issues around formalisation processes, different forms of tenure and unregistered land should also be understood (global).

Examples of likely knowledge, skills and experience at each level

Level 1

Demonstrate knowledge and understanding of field and office procedures for boundary and/or cadastral surveys appropriate to your national and/or international location. Understand legal and physical boundaries and provide examples of these. Understand the principles of land management, administration, differing types of cadastre; systems, tenure types and Fit for Purpose principles [global].

Examples of knowledge comprised within this level are:

- The property registers in use
- All all plans relating to the registration process
- Limitations of national mapping
- Definition of ‘extent of registered title’
- Paper-title [the deeds]
- The status of a deed plan when referred to in the text of a deed
- Legal presumptions regarding property boundaries and the differences between general boundary and fixed boundary systems
- The different types of cadastral system and their relationship to registration and mapping
- The law relating to ‘moving boundaries’ accretion, erosion, and foreshore.

Level 2

Apply your knowledge of the principles of land registration, land management, administration and legislation related to rights in real estate internationally and nationally. Understand the relationship between the surveyor, client and legal profession and preparation of evidence for the legal process.

Examples of activities and knowledge comprised within this level are:

- Adopting appropriate scales for measured surveys to be used in cadastre
- Choosing which documentation to rely upon
- Practising with complete independence from the client
- Requesting documents from the legal profession
- Obtaining documents from the Land Registries
- Using and interpreting of aerial photography and digital imagery
- Reporting relevant matters back to the legal profession
- Understanding of the national requirements for determining boundaries.

Level 3

Provide evidence of reasoned advice, and fully understand the role and responsibility of an expert witness, on the resolution of disputes by litigation and alternative procedures.

Examples of activities and knowledge comprised within this level are:

- Advising on the duty of an expert to the court
- Preparing expert reports for use in litigation
- Advising on the requirements of an expert witness within the civil procedure rules
- Advising on the requirements and role of an expert at a ‘meeting of experts’
- Advising on the role of an expert at a ‘conference with counsel’
- Preparing for trial
- Advising on the role of an expert during and after the trial
- Alternative dispute resolution options, particularly the differences and advantages/disadvantages when comparing mediation with arbitration.

Client care

This competency covers how a surveyor meets a client’s brief in respect of a specific appointment and how they deal with a client from a business and professional perspective.

The term ‘client’ as it is used in this competency means not only the contractual party who has appointed the surveyor, but also all of the stakeholders in a project with whom the surveyor has to engage.

This competency is closely linked to Ethics, Rules of Conduct and professionalism, which defines professional behaviour and sets out some mechanisms for protecting clients.

Examples of likely knowledge, skills and experience at each level

Level 1

Demonstrate knowledge and understanding of the principles and practice of client care including:

- The concept of identifying all clients/colleagues/third parties who are your clients and the behaviour that is appropriate to establish good client relationships
- The systems and procedures that are appropriate for managing the process of client care, including complaints
- The requirement to collect data, analyse and define the needs of clients.

Examples of knowledge comprised within this level are:

- The information contained within a client’s brief
- Defining your scope of services within the limits of your competence and PI insurance
- How fees are established
- The use of standard forms of appointment
- Mechanisms contained within an appointment document
- Insurance requirements [legal and RICS]
- How stakeholders are identified and how their status within the project is established
- Formal communication systems with clients and stakeholders
- Key Performance Indicators [KPIs]

Level 2

Provide evidence of practical application of the principles and practice of client care in your area of practice.

Examples of activities and knowledge comprised within this level are:

- Establishing a client’s objectives
- Confirming a client’s brief
- Establishing a scope of services
- Calculating fees for professional services
- Compiling an appointment document
- Establishing project stakeholders and their status
- Setting up communication systems with a client and stakeholders
- Issuing reports to a client, e.g. cost reports
- Dealing with a complaint
- Measurement of KPIs

Level 3

Provide evidence of reasoned advice given to clients and others.

Examples of activities and knowledge comprised within this level are:

- Developing tailored proposals linked to business strategies
- Presenting a prioritised and informed brief to enable decision-making
- Value management with stakeholders to ensure delivery against client expectations
- Presenting alternative proposals including option appraisals
- Presenting outline schedules of work
- Agreeing the level of fees with a client

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Client care (continued)

Level 1

- The methods of data gathering during the inception stage of a project including client briefings and site based information
- The law applicable to your area of practice, in particular those relating to employment law, statutory compliance, consents and approvals
- The principles of the preparation of alternative outline proposals including the methodology of preparing an option appraisals
- The principles of preparing outline schedules of work.

Level 2

- Analysing the data gathered through the client briefing process and formulating a detailed client brief
- Consulting with the statutory authorities on the consents and other approvals required
- Preparing alternative outline design proposals, including option appraisals
- Preparing option appraisals
- Preparing outline schedules of work
- Assessing client relationships, team performance and stakeholder interfaces on international projects.

Level 3

- Issuing an appointment document
- Ensuring insurances are in place
- Setting performance levels and KPIs
- Monitoring compliance with the scope of services
- Monitoring performance internally and externally against client/ stakeholder performance levels
- Reporting to clients and stakeholders
- Using KPIs to improve performance.

Compulsory purchase and compensation

The understanding and practical application, within the appropriate legal framework, of compulsory purchase powers, including the assessment of and claim for compensation. The candidate is expected to have an understanding from both the acquiring authority and claimant’s position.

Compulsory Purchase may be known by other terms such as Eminent Domain or State Land Acquisition in jurisdictions outside of the UK. Candidates should also understand the overarching Compulsory Acquisition framework outlined within the UN FAO Voluntary Guidelines of Responsible Governance of Land VGGTs and its interaction with national legislation (if necessary).

Examples of likely knowledge, skills and experience at each level

Level 1

Demonstrate knowledge and understanding of the powers and procedures of government and other bodies in relation to the compulsory purchase and compensation. This covers legal interests in real estate and of the rights of owners, occupiers and the impacts on third-party affected by works or developments associated with compulsory purchase.

Examples of knowledge comprised within this level are:

- The historical background, requirement for, and justification of, the use of compulsory purchase powers
- An overview of the various Acts of Parliament or any relevant statutory requirements covering acquisition of land and rights, planning and compensation or local equivalent
- The basic principles of compensation (the before and after principle), accommodation works, betterment, equivalence and the legal right to claim.

Level 2

Assist in the preparation of the various stages involved in the process and negotiations in relation to compulsory purchase including the estimation and settlement of compensation claims.

Examples of activities and knowledge comprised within this level are:

- Outlining the stages and timing involved in making, confirming and implementing a compulsory purchase order
- An understanding of statutory abilities to acquire rights other than outright purchase, such as those exercised by utilities companies
- Setting out heads of claim under a compensation claim
- Relevant statutory and case law in the assessment of a claim for compensation.

Level 3

Provide evidence of reasoned advice in relation to the validity and level of a claim for compensation, using a variety of valuation methodologies appropriate for the circumstances of the claim. Take an active role in the negotiation and settlement of claims, using a variety of bases of statutory and other valuation methodologies. Provide reasoned advice on the role of compulsory purchase in facilitating planning and regeneration initiatives.

Examples of activities and knowledge comprised within this level are:

- Supplying and justifying evidence for a statement of claim using both valuation and logical techniques to back up the quantum of the claim
- Dealing with best practice in the implementation of a compulsory purchase order on, for example, a road scheme
- Developing a rationale for the use of compulsory purchase powers in order to enable development, taking into account human rights legislation
- The fee basis for chartered surveyors and the role of the Lands Tribunal as well as mediation/arbitration
- Assisting in the preparation for and attendance at a Public Inquiry into a Compulsory Purchase Order including understanding of procedure and process.

Consultancy services

This competency is about the provision of consultancy services to a range of different clients from inception to completion. Consultancy can occur in all areas of geomatics but particularly within the areas of GIS, land management and cadastre, remote sensing/imagery, geodesy and marine survey. The 'land' emphasis is on a 'holistic' approach to projects and problem solving. This approach calls for a clear, defined and sometimes in-depth understanding of client needs. Within the context of the actual competency wording, for real estate, read 'land, resources and real estate'.

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 services in the context of the real estate and construction sectors.

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
- Importance of confidentiality when dealing with sensitive information.

Level 2

Apply your knowledge of the provision of consultancy services in the context of the real estate sectors.

Examples of activities and knowledge comprised within this level are:

- Preparing consultancy service plans
- Preparing client briefs
- Update 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 the real estate sectors.

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 guidance and practice notes
- 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 desk top 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 guidance and practice appertaining to contaminated land.

Development appraisals

This competency is about the commercial assessment of a property or infrastructure based development scheme and its appraisal from inception through to completion. Development appraisals also have a role in residual valuations of development sites but it should be remembered that the two may serve different purposes.

Examples of likely knowledge, skills and experience at each level

Level 1

Demonstrate knowledge and understanding of the principles and practices underlying a proposed and on-going appraisal of a property and/or infrastructure development scheme.

Examples of knowledge comprised within this level are:

- The role and nature of project business case and related development aims and objectives in terms of feasibility, viability and desirability.
- The character of and distinctions between cost, price, value and worth.
- The context and components of appraisals and residual valuations and how different project specific and contextual issues e.g. planning requirements and site constraints and opportunities are reflected
- Property market surveys and evaluations
- The sensitivities of appraisal inputs and variables and what factors affect outcomes
- Development finance: sources and types.

Level 2

Identify, select, assemble and analyse data relevant to undertaking appraisals. Undertake appraisals using appropriate methodologies and relevant techniques. Identify and evaluate possible sources and methods of development funding.

Examples of knowledge comprised within this level are:

- Selecting and analysing appropriate quantitative and qualitative sources of information and data that affect cost, values and viability.
- Preparing appraisals for the possible acquisition, disposal or valuation of sites and buildings for a range of possible uses and/or infrastructure development.
- Using spreadsheets and associated software packages available for appraisals
- Undertaking risk evaluation and sensitivity analysis
- Assisting in the selection of appropriate sources, methods and packages of finance
- Evaluating the impact of different procurement routes on project risk and appraisal.

Level 3

Interpret and provide reasoned advice on development appraisals and the implications for related decision making and implementation.

Examples of advice, activities and knowledge comprised within this level are:

- Detailed appraisals for the acquisition, disposal, financing, implementation, valuation of property or infrastructure development and its possible phasing
- Viability appraisals in regards to planning applications and S106/CIL contributions
- The sustainability implications of appraisals including e.g. whole life cycle and/or carbon costing
- Cost planning, value engineering and BIM in appraisals
- How non-market/qualitative factors affect appraisals [e.g. environmental/natural and social capital]
- The evaluation of risk, uncertainty, profit erosion and the interpretation of sensitivity analyses
- Options appraisals, weightings and ranking
- Examples of sources, methods and structuring of finance and/or grant funding and their impact on appraisal.

Economic development

This competency is about understanding international, national, regional and local economic development policies and the provision of appropriate strategic property advice to clients that accord with or complement such policies.

Examples of likely knowledge, skills and experience at each level

Level 1

Demonstrate knowledge and understanding of the principles and practices underlying sound economic development policies in the context of international, national, regional and local economic issues. This should include inward investment strategies and urban regeneration strategies.

Examples of knowledge comprised within this level are:

- International, national, regional and local economic development policies
- Macroeconomics (international and national)
- Micro economics
- Development appraisal
- Funding regimes e.g. PFI, European funding, partnering
- Inward investment strategies
- Urban regeneration strategies.

Level 2

Identify and fully understand the organisational processes and mechanisms involved in implementing economic development policies, and their impact on urban regeneration, property development and infrastructure provision.

Examples of knowledge comprised within this level are:

- Making appropriate use of relevant statistical sources
- Selecting funding and grant sources, qualifications and restrictions
- Understanding organisational responsibilities –
- EU, DCLG, DTI, RDAs, EP, LAs and local development partnerships/companies (e.g. URCs)
- Explaining place marketing and inward investment.

Level 3

Undertake initial feasibility studies and analysis as a preliminary to advising clients on appropriate economic development strategies.

Examples of activities and knowledge comprised within this level are:

- Examining an employment analysis
- Examining census data
- Exploring a floor space analysis
- Analysing business surveys
- Performing grant calculations.

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.
- 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 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 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.

Engineering surveying

Engineering surveying is the art of determining, and/or setting-out the position of features on, above, or below the earth’s surface to facilitate the design and construction of engineering projects, and buildings.

Examples of likely knowledge, skills and experience at each level

Level 1

Demonstrate knowledge and understanding of the principles of construction setting out, deformation and as-built surveys. Be fully conversant with all forms of construction drawings, plans and surveys.

Examples of knowledge comprised within this level are:

- Types of ground markers, installation techniques and suitability for use
- Requirements for survey data capture and presentation for design purposes in your field of operation
- Setting-out techniques
- The importance of comparison of designed and as-built spatial locations
- Be conversant with construction drawings, plans and surveys
- Site health and safety issues
- Basic principles of civil engineering, terminology and construction techniques.

Level 2

Apply your knowledge and understanding of safety, site management procedures and civil engineering/structural principles.

Examples of knowledge comprised within this level are:

- Recognising options, choosing and justifying instrument suitability for use in engineering projects
- Understanding accuracies and errors and how they apply
- Checking the work of others
- Leading the work of teams and individuals
- Identifying hazards and undertaking risk assessments
- Producing method statements for site survey activities
- Communicating and presenting results of surveys to others.

Level 3

Plan, specify and give reasoned advice on engineering surveys; define and assess accuracies and tolerances; manage the engineering surveying element in large projects; and understand the principles of good engineering practice.

Examples of activities and knowledge comprised within this level are:

- Designing and supervising provision, observation, computation and checking of plan and height control
- Advising other construction/design professionals on all aspects of site measurement; contributing to project management team decision making
- Producing project resource plans and budgets for programmes of work
- Defining survey processes and assessing accuracy and tolerances of survey systems
- Managing the engineering survey element within a large project
- Understanding and analysing the impact of your decisions on all aspects of the project
- Implementing project health and safety strategy for site surveying elements of a project.

Environmental management

This competency deals with both the broad knowledge and application of environmental management practice, as well as the more specific knowledge and application of formal environmental management standards for land, property and the natural environment.

Examples of likely knowledge, skills and experience at each level

Level 1	Level 2	Level 3
<p>Demonstrate knowledge and understanding of appropriate environmental management concepts, processes and systems.</p>	<p>Apply your understanding of appropriate environmental management and environmental land management concepts, processes and systems.</p>	<p>Give reasoned advice on appropriate environmental management and environmental land management concepts, processes and systems.</p>
<p>Examples of knowledge comprised within this level are:</p> <ul style="list-style-type: none"> Where environmental management applies in chartered surveyor practice The standards used in environmental management including EMS and ISO 14001 or National equivalent. Application of sustainability principles in environmental management. The regulatory and practical aspects of the restoration, remediation and reinstatement of land. 	<p>Examples of knowledge comprised within this level are:</p> <ul style="list-style-type: none"> Carrying out environmental management and reporting, including data management systems The scope and methods to be used for environmental management The specialisms and specialists required to conduct environmental management. Carrying out monitoring and compliance with planning, legal or environment control of an environmental site. Interpreting legislation and regulations to achieve compliance Ecosystem and carbon balance evaluation and biodiversity off setting and mitigation. Application of renewable and energy recovery to environmental management. Application of restoration, remediation and reinstatement of land. 	<p>Examples of activities and knowledge comprised within this level are:</p> <ul style="list-style-type: none"> Advising clients on the needs of environmental Management Presenting and proposing actions following the findings of environmental management Negotiating and liaising with clients and regulators on the findings and actions arising from environmental management. How environmental projects comply with principles of sustainability Authoring reports on habitat management schemes Integrating land management plans or National Equivalent Developing monitoring systems.

Geodesy

Geodesy is primarily concerned with positioning and the gravity field and geometrical aspects of their temporal variations, although it can also include the study of the earth’s magnetic field. Geodesy can be divided in geomensuration, which is concerned with measuring the earth on a global scale, and surveying, which is concerned with measuring parts of the surface. Geodesy is a primary skill set of all chartered land and hydrographic surveyors.

Examples of likely knowledge, skills and experience at each level

Level 1

Demonstrate knowledge and understanding of the principles of geodesy, Global Navigation Satellite Systems (GNSS), global/regional/national geodetic reference systems, geoids, datums and projections.

Examples of knowledge comprised within this level are:

- The difference between geoid and ellipsoid
- The differences between types of projections, with their advantages and disadvantages
- The applications and limitations of GNSS, with emphasis on GPS
- The definition of a datum, and the existence of datums relevant to the location of the candidate.
- The importance of national and regional Continually Operating Reference CORS frameworks.

Level 2

Apply your knowledge in practice, specify and plan surveys and instrumentation needs, including error sources and ‘fitness for purpose’ of data. Use industry standard software and apply network adjustments and/or transformations.

Examples of knowledge comprised within this level are:

- Understanding the various modes of GNSS (GPS) positioning (static, rapid static, kinematic, real-time kinematic)
- Understanding the levels of accuracy achievable, equipment, data collection and processing strategies required for a variety of surveying/engineering tasks including: topographic survey, setting out, control establishment
- Planning and executing relevant GNSS (GPS) surveys to appropriate levels of accuracy, including data processing
- Use CoRs frameworks and advise on capabilities and appropriate use
- Using standard commercial GNSS (GPS) processing packages and appropriate transformation routines to transform GPS based coordinates to National datums.

Level 3

Provide evidence of reasoned advice on advanced practice and planning. Use advanced software and carry out adjustments and analysis. Advise on client specifications and final product needs.

Examples of activities and knowledge comprised within this level are:

- Understanding differences between various orbit products, where to obtain and when to apply
- Being able to select and apply appropriate models/estimation strategies within commercial GNSS (GPS) processing software e.g. tropospheric estimation
- Being able to advise clients on detailed design, observation and processing requirements for high precision or large scale projects
- Producing and commenting final processing reports and comment from a strong knowledge base on levels of achieved accuracies
- Supervising and training junior colleagues in the field use of GPS equipment and data processing techniques.

GIS

A GIS uses computer technology to integrate, manipulate and display a wide range of information to create a picture of an area's geography, environment and socio-economic characteristics. Beginning with a computerised topographic map as its base, a GIS overlays and integrates graphic and textual information from separate databases. The end result is a tool that can support decision making and problem solving and provide almost instantaneous answers to complex questions.

Examples of likely knowledge, skills and experience at each level

Level 1

Demonstrate knowledge and understanding of the principles of geographic information science and systems. This includes industry standard GIS, data structures, types and their applications, and of appropriate capture and output systems.

Examples of knowledge comprised within this level are:

- The generic concepts in GIS appropriate to different audiences
- Compare and contrast different commercial GIS software packages and explain their relative merits
- Proficiently operate at least one commercially available off-the-shelf GIS software package e.g. create, store, access, view, analyse and plot spatial data
- The data types and data structures used for spatial data and explain their relative merits
- The different open source and proprietary data formats and explain their relative merits
- The different methods of primary, and especially secondary, data capture and their underpinning technologies
- The different output options and their underpinning technologies.

Level 2

Apply your knowledge and assess data quality; define and use appropriate input and data transfer methods; analyse data and prepare databases; identify digital data sources and assess 'fitness for use' as well as national and international data standards.

Examples of knowledge comprised within this level are:

- Specifying capture methods appropriate to the data source and the application, explaining and justifying the rationale used
- Managing data capture projects and providing quality control over the acquisition of spatial data for use in GIS
- Understanding the principles underlying the analysis of spatial data and implement these with typical GIS algorithms using standard functionality and/or a high-level programming language
- Applying query languages in relation to database management systems e.g. data modelling, data loading, data maintenance, query, translate data formats, data export
- Identifying, assessing and sourcing datasets appropriate to user requirements and assessing their quality and fitness for purpose in the context of quantitative and qualitative measures such as: spatial resolution, accuracy/precision, temporal resolution, purpose of original capture etc.
- Understanding international industry standards and how these apply in local jurisdictions and to local customs and practices

Level 3

Assess clients' needs and advise them accordingly. Define specifications including data and process modelling, customise systems, carry out advanced spatial analyses, and manage data and observe data standards.

Examples of activities and knowledge comprised within this level are:

- Designing and conducting user requirements analysis at consultancy level
- Analysing and synthesising user requirements into a coherent and convincing strategy
- Presenting, explaining and justifying findings and advice in a language appropriate to the customer
- Defining data standards to meet specific user requirements
- Analysing customer processes and presenting options to model these as appropriate with respect to availability of resources, criticality and customer expectations
- Customising GIS software using a high-level programming language in order to implement data specifications, data models, process models etc.
- Analysing, defining and implementing appropriate analytical methods
- Defining appropriate data management standards with respect to; currency requirements, conflict resolution, archiving, availability, backup and recovery, system resilience etc.

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GIS (continued)

A GIS uses computer technology to integrate, manipulate and display a wide range of information to create a picture of an area's geography, environment and socio-economic characteristics. Beginning with a computerised topographic map as its base, a GIS overlays and integrates graphic and textual information from separate databases. The end result is a tool that can support decision making and problem solving and provide almost instantaneous answers to complex questions.

Examples of likely knowledge, skills and experience at each level

Level 1



Level 2

- Understanding metadata for third party datasets and be able to prepare, creating and maintaining appropriate metadata for new datasets.

Level 3

- Explaining all the above in the context of the customer's wider information systems
- Identifying and explaining the implications and limitations of advice with respect to any of the above
- Preparing project proposals and draft tender documentation for system procurement, conducting benchmark tests, and overseeing implementation programmes.

Hydrographic surveying

Hydrographic surveying involves precise positioning and data acquisition in marine environments ranging from inland waters and rivers, to ports and the deep oceans. This competency involves the ability to provide precise three-dimensional position and measurement of various physical features within the marine environment such as bottom depth and structure, currents, tides and waves.

Examples of likely knowledge, skills and experience at each level

Level 1

Demonstrate a working knowledge and understanding of the principles and limitations of hydrographic survey. Conduct measurements in the marine environment.

Examples of knowledge comprised within this level are:

- Providing navigation and data collection for oil, gas and mineral resource exploration and extraction
- Conducting data collection for environmental monitoring, aquaculture and oceanographic research
- Providing surveying support for dredging, coastal works, near-shore and/or off-shore construction projects
- Quality control and processing of hydrographic data
- Presenting hydrographic data using a range of paper (chart) and electronic formats.

Level 2

Plan the conduct of marine surveys, including any safety issues. Specify appropriate instrumentation and ensure correct calibration. Understand the principles of geodesy on a local and international basis, and its application in a marine environment. Fully understand the principles, application and limitations of navigation, geophysical and marine survey instrumentation and software.

Examples of knowledge comprised within this level are:

- Being actively involved in project initiation and execution as senior surveyor/navigator, including assessment of survey requirements, equipment specifications and suitability
- Conducting safety risk assessments and reviewing project safety plans for various activities
- Being responsible for, and ensuring that, equipment is fully calibrated and understanding the importance of calibration methods and the relationship to data quality
- Ensuring geodetic parameters specified for the project are correctly defined and implemented within acquisition software.

Level 3

Assess the client's needs and define specifications, tenders and/or contracts. Manage marine surveys. Analyse the data collected and use it to prepare reports and briefings. Be conversant with the International Law of the Sea and/or maritime boundaries.

Examples of activities and knowledge comprised within this level are:

- Assuming full responsibility for the initiation of the works in accordance with the approved project specific and standard survey procedures, customer requirements and technical specifications
- Preparing tender documents and being responsible for financial control of projects
- Liaising and advising clients regarding contract execution and having overall responsibility for the successful performance of the technical team
- Evaluating and presenting survey results and advising clients with respect to survey findings
- Assisting clients with their further requirements and helping develop future potential
- Advising clients on national/ international policy and legislation and its influence on survey activities.

Inspection

Property inspection is fundamental to providing accurate property advice. It is important that candidates can demonstrate knowledge and understanding of the core requirements of property inspection. Assessors will be seeking confirmation that all candidates have a good knowledge of building construction, location analysis and defects. Inspections should all investigate Lease/Licence conditions and appropriate legislation, obtain factual evidence and provide reasoned advice and recommendations.

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:

- The requirements and reasons for a property inspection
- Safety issues when undertaking an inspection
- Implications of location and situation
- Identify access arrangements
- Basic knowledge of building construction and specification
- Appropriate planning, environmental and waste legislation
- Emerging legislation that might impact on current/future operations
- Working methods, processes etc.
- Site health and safety requirements
- Red Book requirements on inspections for valuation purposes
- The legal requirements that impact upon the occupation/ownership of buildings.

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 knowledge comprised within this level are:

- Accurate recording of building and site characteristics
- Preparing, or assisting in the preparation of, reports for clients
- Understanding potential defects of buildings and implications
- Assessing quality of location, design and specification
- 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:

- Preparing reports for clients containing detailed information particularly regarding valuation reports and the marketing of buildings
- Providing detailed reasoned advice to clients
- Making clients aware (where appropriate) of their statutory responsibilities.
- Advising client/owner/tenant of breaches and noncompliance 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.

Land use and diversification

This competency is about understanding land use and the diversification options available.

Examples of likely knowledge, skills and experience at each level

Level 1

Demonstrate knowledge and understanding of how a variety of land uses, policies and options for diversification have an impact on real estate and business.

Examples of knowledge comprised within this level are:

- The principles and rationale for diversification projects
- Relevant planning issues
- Agencies likely to be involved when diversifying into new enterprises
- Basic taxation issues.

Level 2

Apply your knowledge to recognise and evaluate the economic, social and environmental needs of different land uses and options for diversification in relation to location and markets.

Examples of knowledge comprised within this level are:

- Preparing and analysing a full feasibility study and financial appraisal
- Preparing a planning appraisal for a potential scheme
- Preparing and analysing both development and management options
- Interpreting findings.

Level 3

Provide evidence of reasoned advice, write reports and undertake the management of land use and, where appropriate, diversification and related projects.

Examples of activities and knowledge comprised within this level are:

- Providing advice on more complex aspects of diversification
- Providing advice on valuation, progress and management of a diversification project.

Landlord and tenant

This competency is about landlord and tenant relationships within the context of land law relating.

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 as related to your location
- The relevant statutory and legal framework applying to the Landlord and Tenant relationship
- The content, form, and structure of leases
- Relevant market conditions and land/property values.

Level 2

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

Examples of knowledge comprised within this level are:

- Reading and interpreting leases
- Carrying out market research, collating and analysing comparable evidence
- Preparing, serving and responding to legal notices
- Entering negotiations and preparing leases and tenancies under the national legislation for example; AHA 1986, ATA 1995, Housing Acts and L&T Act 1954 or equivalent local legislation
- Instructing legal advisers and seeing matter to conclusion.

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 client's position
- Demonstrating involvement with third party determination and associated submissions
- Providing appropriate valuation advice
- Reaching an agreed solution and reporting recommendations to client
- Preparing reports containing recommendations prior to the commencement of negotiations.

Legal/regulatory compliance

Legal issues are at the heart of many areas of land professional survey practice. All land professionals should have a good working knowledge of any legislation which may impact on their work whether it be health and safety legislation in engineering surveying, land law and/or cadastral regulations or the law of the sea. Although chartered surveyors are not asked to be expert in legal matters, some are and many add expert witness training to their skillsets. For many international members and prospective members, this competency will be especially applicable in a cadastral context.

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 legislative needs of land and resources related work • The basics of land law as applicable in your geographic location • The legislative strictures such as health and safety legislation, environmental, extractive industries, development and/or traffic management • Tort/contract law and its basic principles as applicable in your geographical area • National land registration issues/legislation and cadastral laws. 	<p>Apply your knowledge to comply with legal/regulatory requirements in specific situations within your area of practice.</p> <p>Examples of knowledge comprised within this level are:</p> <ul style="list-style-type: none"> • Apply your knowledge of land law in an international/national and/or regional scenario • Apply your legal knowledge in a professional scenario such as a boundary dispute • Using current case law, planning policy issues, appeals and representations • All relevant and applicable RICS guidance and practice notes in this area [such as Expert Witness] • Expert witness training • Apply your knowledge in a cadastral context. • Undertaking risk assessment • Advising on the obligations of environmental impact assessments • Advising clients on the roles of the relevant sector stakeholders in terms of buying, selling or developing land • Preparing reports for sale and/or purchase. 	<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"> • Apply your legal knowledge in a court scenario • Prepare legal reports • Advise on legislative obligations [health and safety etc.] to clients • Giving written, reasoned advice on legal and regulatory compliance for a particular development project • Giving clients reasoned advice on planning appeals and representations on consultation matters, in written reports, in liaison with solicitors • Advise clients of survey and mapping issues in combination with legal advice in boundary disputes • Advise on other types of dispute such as party walls, right to light and subsidence • Negotiating planning conditions following the submission of a planning application • Assistive compliance with the requirements of statutory bodies in terms of environmental performance required by any legal agreement • Advise courts of mapping issues, explain complex surveying problems [map accuracy, for example] to legal professionals • Carry out cadastral surveys in compliance with national/regional legislation.

Management of the natural environment and landscape

This competency is about the management of landscape and natural resources and habitat.

Examples of likely knowledge, skills and experience at each level

Level 1

Demonstrate knowledge and understanding of the importance and role of nature conservation and the landscape in real estate, business management and development.

Examples of knowledge comprised within this level are:

- Landscape and designations and agri-environmental schemes
- Relevant legislation governing designation schemes
- Bodies charged with bringing in and delivering such legislation
- Legislative drivers behind Sites of Special Scientific Interest (SSSIs) and other designated areas
- The impact of spatial data and land law on conservation and the natural environment.

Level 2

Apply your knowledge of nature conservation and landscape in the management of real estate and development.

Examples of knowledge comprised within this level are:

- Advising on grants available for protection of landscape and natural habitat and natural resources
- Advising on planning relating to the natural environment
- Advising on mapping and survey specifications relating to nature conservation and landscape
- Advising on spatial issues which may impact on nature conservation (i.e. rights of access).

Level 3

Provide evidence of reasoned advice, write reports and negotiate on all matters relating to nature conservation and landscape.

Examples of activities and knowledge comprised within this level are:

- Providing strategic advice on land use, management practice, and management of specific habitats and species
- Interpreting and filtering advice
- Providing balanced report writing to provide overarching view of management of a landscape. Demonstrating the application of additional methods beyond standard/routine identification processes to include the context of historical and provenance issues, in line with client requirements.

Masterplanning and urban design

Masterplanning and urban design is a multidisciplinary activity. Its purpose is to set out a vision and framework for the planning and development of large or otherwise complex area of land. This might be both for green field development and for regeneration areas. Masterplanning typically involves the planning of land uses, grey and green infrastructure, scale and density terms, along with its phasing over time. Masterplanning should be linked to political and social processes as well funding and financial planning.

Urban design is concerned with the three and four dimensional designed characteristics of spaces and places and groups of buildings, rather than individual buildings or sites. Urban design is said to be primarily an art but the science of placemaking is also important in terms of human behaviour and psychology and aspects related to green and grey infrastructure.

Examples of likely knowledge, skills and experience at each level

Level 1

Demonstrate knowledge and understanding of the information required to prepare masterplans and urban design strategies and schemes.

Examples of knowledge comprised within this level are:

- The objectives of masterplans and urban design
- Essential area wide and component site/building details including location, history, design character, legibility, vitality, distinctiveness, permeability, serviceability, transportation, accessibility, services and utilities
- Environmental features and issues
- Stakeholder identification and the consultation process
- The property market and planning policy context and related documentation.
- Land ownership, acquisition and disposal arrangements
- Funding and budgetary considerations.

Level 2

Apply your knowledge to identify, select, assemble and analyse information relevant to the preparation of masterplans and urban design strategies and schemes.

Examples of knowledge comprised within this level are:

- Contributing to a masterplan, urban design strategy or scheme
- Collecting and evaluating information and data in support of a masterplan and/or urban design exercise.
- Contributing to the programming or phasing of the stages of development
- Presenting and explaining a masterplan and urban design strategy/scheme to clients/stakeholders/the public
- Undertaking a detailed critique of an urban design strategy or proposal.

Level 3

Apply information and skills in the preparation and presentation of masterplans and urban design strategies and schemes and/or detailed parts of thereof.

Examples of activities and knowledge comprised within this level are:

- Taking a major role in preparing a masterplan and/or its implementation and/or related funding and financial arrangements. This could include neighbourhood planning
- Producing an opportunities/ risk evaluation and associated options report
- Preparing and/or responding to an urban design brief and associated matters of detail e.g. density, scale, materials, green and grey landscaping, highways etc.
- Negotiating agreements with stakeholder interests in relation to masterplanning and urban design
- Linking a masterplan and urban design strategy to individual site opportunities and constraints.

Measurement

This competency is about the management of landscape and natural resources and habitat.

Examples of likely knowledge, skills and experience at each level

Level 1

Demonstrate knowledge and understanding of the principles and limitations of measurement relevant to your area of practice.

Examples of knowledge comprised within this level are:

- All checking procedures and be able to ascertain the suitability of different instrumentation and measurement techniques
- The principles of error sources
- Data capture techniques and limitations of use
- Different basic survey instrumentation (EDMs, automatic levels, lasers etc.)
- The principles of data representation and the use of appropriate data capture techniques to achieve agreed survey output
- The degree of accuracy that is required for different types of property and the use to which the measurements will be put
- The use and limitations of plans and drawings
- The relevant international and RICS standards on measurement such as IPMS, RICS Measured surveys GN, Code of Measuring practice.

Level 2

Apply your knowledge to undertake measurement. Use basic and/or advanced instrumentation to collect data. Present appropriate information gained from measurement.

Examples of knowledge comprised within this level are:

- Using advanced data capture instrumentation such as reflector less EDM, GPS, handheld GIS data capture tools etc.
- Understanding the principles of measured building surveying and its outputs
- Understanding the differences between different data capture techniques and their fitness for purpose
- Applying the appropriate guidance correctly in practice to undertake measurement of a variety of properties, understanding the basis on which measurements should be undertaken
- Producing final output and utilising post processing techniques
- Understanding specifications and guidance.
- Undertaking necessary calculations
- Preparing and presenting measurements in a manner appropriate for the purpose they are to be used, understanding the level of accuracy that is required for different types of property.

Level 3

Evaluate, present, manage, analyse data and/or apply spatial data and information. Show an advanced understanding of accuracy, precision and error sources. Level 3 is only recommended for candidates with specialist knowledge and experience of sophisticated measurement and data capture practice. Most property candidates will only attain Level 2 whilst Level 3 candidates will usually be from the geomatics/geospatial sectors.

Examples of activities and knowledge comprised within this level are:

- Being fully conversant with all RICS geomatics specification and guidance and other official RICS guidance as appropriate to your area of practice
- Appreciating all legislative issues such as health and safety
- Advising on appropriate data capture techniques
- Explaining complex survey data capture techniques and terminology to clients
- Describing the principles of metadata and property data information and compatibility.

Minerals management

This competency deals with the practical aspects of waste 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, and Groundwater Protection Act or similar
- 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 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 development and management

Planning appraisal is one of the crucial starting points in the development or refurbishment process. Such appraisals draw together all of the relevant policies, site history and local context pertaining to a site and the potential to secure planning consent.

Development management covers the process of managing or obtaining the grant of planning consents working for either the local authority or client-side perspective. The competency also covers the appeals process and the criteria by which cases will be considered by inspectors.

Examples of likely knowledge, skills and experience at each level

Level 1

Demonstrate knowledge and understanding of the key principles and processes used to determine both the need for planning consent and the procedures involved in obtaining appropriate planning permission.

Examples of knowledge comprised within this level are:

- The purpose of the development management system and process
- The stages of the development application and appeals process
- The consultation process and stakeholder management
- The decision making process and role of key stakeholders
- The need for supporting information and basis for determining what is required
- Familiarity with appropriate planning policy and procedures relevant to the locality/region of working
- Site/building surveys and details e.g. site planning history, flood risk, biodiversity, archaeology, architectural character, conservation, accessibility, highways, services and utilities
- Analysis of environmental features and issues
- Urban design principles and characteristics and their implications for development appraisals
- The role of supplementary planning documents, design guides and codes in guiding planning applications and their consideration.

Level 2

Apply your knowledge to identify, select, assemble and analyse information relevant to the preparation or determination of appropriate planning applications.

Examples of knowledge comprised within this level are:

- Support the making of planning applications and/or appeal documentation
- Selecting, researching and analysing information and data and writing reports in support of or in response to planning applications
- Identify and implement appropriate consultation procedures and respond to issues identified
- Identify and help ensure compliance with planning policies and guidance.

Level 3

Apply information and reasoned advice in the preparation, presentation and/or negotiation of planning applications and/or appeals documentation

Examples of activities and knowledge comprised within this level are:

- Liaising with and negotiating with planning officers, clients, fellow professionals and third-party stakeholders in relation to a development project
- Preparing planning appraisals of land, buildings and concepts and area wide planning parameter studies
- Making a planning application and/or submitting an appeal and appearing at an informal or public inquiry
- Formulating and negotiating a planning or highways agreements.
- Creativity, problem solving and dispute mediation in scheme development.

Property management

This competency covers all aspects of day to day functions associated with property management. It includes issues relating to works, health and safety, landlord and tenant relationships, and service charges. In general, any matter associated with the smooth running of a property.

Examples of likely knowledge, skills and experience at each level

Level 1

Demonstrate knowledge and understanding of property management and the relationship between owner and occupier.

Examples of knowledge comprised within this level are:

- The key factors determining the landlord and tenant relationship in relation to the running of a property
- Key lease terms and their implications to property management
- How disputes and problematical issues can be resolved, and being able to prioritise key tasks.

Level 2

Apply the principles of property management to provide solutions to issues affecting both owners and occupiers of real estate.

Examples of knowledge comprised within this level are:

- Managing property from both a landlord and tenant perspective, and understanding the key factors from each viewpoint
- Understanding legal requirements associated with multi let property and/or managed property
- Understanding property management accounting principles from the landlord and tenant perspective, and the requirements of law and RICS
- Understanding courses of action in relation to breaches of lease by landlord and tenant.

Level 3

Provide evidence of reasoned advice including the preparation and presentation of reports in relation to property management.

Examples of activities and knowledge comprised within this level are:

- Participating in all aspects of property management including works, emergency reactive maintenance, planned programmes, budgets etc.
- Applying your negotiation, communication, and business skills in relation to contentious issues with both landlord and tenant
- Participating in issues such as applications for licence to assign or for works, together with the associated legal frameworks.

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, how insurance is used to deal with risk in developments, and the contractual requirements and implications of risk under various standard forms of contract or under associated ‘rights of light’ legislation.

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 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 lifecycle.

Smart cities and intelligent buildings

This competency involves the integrated and disparate IT systems and spatial data science and the role will include the solution of complex problems through the leveraging of data and technology as applied to the individual building level or the wider neighbourhood or city level.

Candidates will be part of multidisciplinary project teams, including planners, city engineers, surveyors, data architects, data engineers, and analysts, working with smart city and building technology. The work is likely to include liaison with policy and operations teams to develop and understand how smart city and intelligent buildings might benefit the stakeholders involved.

It requires knowledge and understanding of component elements of an IT service, including hardware, software, applications, sensors and networks and their integration into complete services to satisfy an operational requirement.

Examples of likely knowledge, skills and experience at each level

Level 1

Demonstrate knowledge of the types of data that can be collected through building, personal and infrastructure sensors and how sensor data can be processed to support the management and visualisation in the built environment.

Examples of knowledge comprised within this level are:

- The different phases of software development lifecycle
- The role that technology can play in the operation and monitoring of buildings in use
- How technology can enhance the experience for end users
- How complimentary technologies can be combined to produce rich management information that can drive decision making
- Understand the risks and opportunities associated with the gathering, storing and utilisation of building data
- IT infrastructure and services and the impact of legacy services to protect the integrity of the operational environment
- The principles of the Internet of Things [IoT] and the impact and relevance to smart cities
- The principles of a technical security architecture and how these can be used to reduce information risk
 - Beyond RICS' ethical standards, candidates should understand and adhere to the applicable data science ethics framework.

Level 2

Apply your knowledge to the collection, storage and management of spatial sensor data, demonstrating the achievement of data quality, data hygiene and data security.

Examples of knowledge comprised within this level are:

- Develops, codes, tests, corrects and documents simple programmes or scripts under the direction of others as part of a multi-disciplinary team
- Able to build and test simple interfaces between systems, or can work on more complex integration as part of a wider team
- Collaborates with others to review specifications where appropriate
- Assists with the design, development and implementation of Business Continuity, Crisis Management and/or Disaster Recovery Plans under supervision
- Able to recognise and articulate the impact to city efficiency based on effective use of open data sources
- Apply the knowledge gained from the data collected to increase utilisation, improve efficiency and drive productivity within the buildings and end users.

Level 3

Provide evidence of the ability to use and generate application scenarios that capture and store sensor data in structures that allows the analysis of the data by conventional and visual representation.

Examples of activities and knowledge comprised within this level are:

- Able to recognise risks and non-compliance and makes recommendations for change or investigation by information security specialists
- Advise clients on the design, development and implementation of Business Continuity, Crisis Management and/or Disaster Recovery Plans
- Develop and/or document application scenarios combining multiple API sources to allow for the analysis of spatial, building and the city data to solve inefficiencies or creating value-add services.
- Develop business cases supported by the data to drive organisational change and improve business outcomes.

Spatial planning policy and infrastructure

National, regional and local spatial planning policies seek to influence the strategic direction, scale and location of development and associated infrastructure delivery. Planning and development surveyors need to understand the key drivers that shape decisions and, where appropriate, influence spatial policy and infrastructure planning taking account of commercial market trends.

Examples of likely knowledge, skills and experience at each level

Level 1	Level 2	Level 3
<p>Demonstrate knowledge of national (as appropriate to a candidate’s location) spatial planning and infrastructure systems, their legislative basis and key national policies and programmes.</p>	<p>Apply your knowledge to identify, select, assemble and analyse information relevant to the preparation and review of land use planning policies and plans as well as infrastructure planning and provision including transportation, energy, waste, IT and local community infrastructure related provision.</p>	<p>Use information and skills in the preparation and presentation of reports that interpret land use and/or infrastructure planning, in order to give reasoned advice, as regards investment, valuation and/or development decision making and implementation.</p>
<p>Examples of knowledge comprised within this level are:</p> <ul style="list-style-type: none"> • The aims and objectives of national planning laws and policies and its underlying political basis • The preparation and adoption process for Local Plans, core strategies and supporting planning documents; neighbourhood plans and community infrastructure needs • Conservation and listed buildings policies, ecology, habitat management and planning policies to support and enhance biodiversity • Environmental assessment policies and processes • Understanding the geographic and demographic characteristics of areas (at e.g. regional and local scale) and the impacts of spatial planning proposals and infrastructure development • Consultation processes and stakeholder perspectives • Infrastructure provision and delivery at the local and national level • Community Infrastructure Levy (CIL) and other local taxation initiatives and their rationale and efficacy. 	<p>Examples of knowledge comprised within this level are:</p> <ul style="list-style-type: none"> • Contributing to a consultation process on a local plan, supplementary planning documents and their review • Identify appropriate planning strategy to help promote and/or manage proposed development allocations and/or strategic and community infrastructure requirements • Critiquing, reporting and explaining to clients, stakeholders and the public: land use allocations, housing need assessments, regeneration strategies, infrastructure or economic development plans • Contributing to the settlement or review of local CIL policies and implementation or review in the context of wider spatial planning policy. 	<p>Examples of activities and knowledge comprised within this level are:</p> <ul style="list-style-type: none"> • Taking a key role in contributing to a spatial planning policy and/or its related implementation or monitoring. This could include e.g. Local Plans, Strategic Development Plans, Neighbourhood Plans, regeneration masterplans, conservation areas • Producing an opportunities/ risk evaluation and associated options report based on plans and policy based documentation • Take a key role in the preparation, implementation or monitoring of related infrastructure planning policy instruments. • Acting on behalf of stakeholder interests in relation to spatial planning or infrastructure matters • Evaluating spatial planning and infrastructure policies, programmes and delivery in relation to individual sites, buildings and wider development or restraint areas.

Strategic real estate consultancy

This competency is about the provision of strategic consultancy advice to clients on real estate issues influencing the business.

Examples of likely knowledge, skills and experience at each level

Level 1

Demonstrate knowledge and understanding of the business context of real estate, the role of the real estate professional as a strategic adviser.

Examples of knowledge comprised within this level are:

- Organisational structures, values and objectives
- Business performance
- The role and importance of real estate in organisational/ business performance
- The role of real estate in business strategies
- Strategic uses of real estate
- Methods for appraising options for real estate strategies
- The role of the real estate professional as a strategic business adviser
- Styles of consultancy intervention.

Level 2

Apply your knowledge and understanding of the business context of real estate in a corporate or another context.

Examples of knowledge comprised within this level are:

- Researching organisational background
- Preparing relevant data
- Analysing data
- Undertaking option appraisals for real estate strategies
- Using different styles of consultancy intervention for different clients' needs
- Using your knowledge of real estate to find strategic solutions to meet clients' requirements.

Level 3

Provide evidence of reasoned oral and written advice on the principles and application of real estate knowledge.

Examples of activities and knowledge comprised within this level are:

- Strategic advice and recommendations to clients
- Presentations to clients
- Presenting data to support recommendations.

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. Candidates should also understand the principles of Fit for purpose mapping and its use in low/middle income nations.

Examples of likely knowledge, skills and experience at each level

Level 1

Demonstrate knowledge and understanding of the principles of mapping and geographic information sciences appropriate to your area of practice, including 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 per 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 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 should demonstrate a broad-based understanding of the theory of sustainability 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 evaluates options for action. In terms of the land pathway this competency is very wide ranging and can encompass sustainability issues in land management, extractive industries, planning, development and business cases.

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 principles of sustainability within the planning and development process
- The relationship between property and the environment
- How national and international legislation, regulations and taxation relating to sustainability affect planning and development
- Criteria by which sustainability is measured in relation to finished developments
- The principles of how the technology and construction processes can contribute to sustainable design.

Level 2

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

Examples of knowledge comprised within this level are:

- Carrying out sustainability appraisal or strategic environmental assessment exercises to determine the impact of sustainability issues on design and construction processes
- Understanding the principles of life cycle cost exercises which take account of sustainability issues
- Understanding the measures undertaken by governments and international bodies to encourage the reduction of the environmental impact of development.

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:

- Giving reasoned advice to your client and members of the project team on the financial impact of sustainability on a project
- Giving reasoned advice on the application of environmental law and policy
- Interpreting environmental reports and giving reasoned advice on the financial impact and programme implications on a project
- Giving advice on sustainable design solutions for projects
- Advising clients on planning policy relating to sustainable development.

Valuation

This competency is about the preparation and provision of properly researched valuation advice, made in accordance with the appropriate valuation standards, to enable clients to make informed decisions.

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 in your area of practice.

Examples of knowledge comprised within this level are:

- The main drivers that have an impact on value
- The principles and application of the latest relevant valuation standards
- The relevant RICS best practice guidance notes and Professional Statements
- The principles of professional practice, liability and indemnity insurance
- The underlying principles of property law, planning and other relevant regulations or controls and their impact on property/asset values
- The different purposes for which valuations may be required (including, bank lending, taxation, performance management etc.)
- The principles of the various methodologies needed to provide both capital and rental valuation advice
- The importance of independence and objectivity

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 knowledge comprised within this level are:

- Understanding client requirements and the preparation of Terms of Engagement
- Inspection and information gathering relevant to the valuation work being undertaken
- Analysis and interpretation of comparable evidence
- Application of a range of valuation methods or techniques
- Valuing either a range of property types or for a range of purposes
- Preparing valuation reports and advice to meet stakeholder needs and comply with the latest relevant valuation standards
- Be able to demonstrate competence to conduct a valuation task from beginning to end with appropriate supervision
- To achieve Level 2 candidates will not necessarily be carrying out valuations as part of their full time day to day activities.
- In relation to residential valuation the following skills will also be necessary for Level 2

Level 3

Be responsible for the preparation of formal valuation reports under proper supervision and provide reasoned advice.

Produce reasoned valuation advice in a range of forms on a range of property types, valuation purposes and valuation methods.

Demonstrate a thorough knowledge of the appropriate valuation standards and guidance and how they are applied providing advice to clients.

Examples of activities and knowledge comprised within this level are:

- The properties/assets considered may relate to a particular area of practice but the candidate's experience should cover a range of purposes (in a properly supervised manner), such as loan security, financial statements, internal management, purchase or sale reports, tax, stock exchange and litigation, but not necessarily all of these
- The types of property/assets should ideally be varied both in terms of physical attributes, usage and also interest (i.e. freehold and leasehold). In respect of machinery and business assets they should also be varied according to industry sector
- Valuation advice should demonstrate knowledge of standards in other areas of business, e.g. accounting standards
- The candidate's advice to client should include knowledge of the main drivers which impact on property/asset values and include an understanding of the wider influences such as government policy, the economic climate, technological change and other investment medium

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Valuation (continued)

Examples of likely knowledge, skills and experience at each level

Level 1

- The underlying principles of machinery and business assets law, planning and other relevant regulations or controls and their impact on property/asset values in relation to residential valuation the following skills will also be necessary for Level 1
- The role and function of Automated Valuation Models (AVMs).

Level 2

- Undertaking residential valuations (primarily for loan security purposes)
- Experience of using or commenting upon the results of an AVM.

Level 3

- The candidate should demonstrate knowledge as to how their valuation advice inter-relates with their client's other professional advisers
- Candidates are not required to have carried out a valuation following the latest relevant RICS valuation standards but must be able to demonstrate equivalent level of professionalism in their area of practice with reference to the Red Book requirements
- Advising on the different levels of service that may be required, e.g. desk top advice versus a full inspection lead valuation and the benefits/limitations of each level.

Waste management

This competency deals with the practical aspects of waste management including the regulatory framework, compliance issues, 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

Demonstrate a broad appreciation of practical aspects of waste management and regulatory regime. Undertake inspections of waste management facilities.

Examples of knowledge comprised within this level are:

- Current and emerging legislation including Landfill Directive, Waste Strategy, Groundwater Protection Act, Landfill Tax and similar 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.

Level 2

Demonstrate an appreciation of the economic and technical viability and/or management application of the practical requirements and monitoring of waste facilities.

Examples of 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 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.

Level 3

Design, advise on, and/or manage waste management 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 and/or PPC 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.

Additional guidance for candidates working in rights of light

The chartered surveyor has an established role as an expert dealing with the enjoyment of natural light in the built environment. Issues can arise as a result of a development that may interfere with the amount of light received through an opening benefiting from a right of light. The physical extent of the proposed development can be strongly influenced by the constraints imposed by the impact of such rights, as determined by expert practitioners.

For candidates working in rights of light to be successful through this pathway, they should have a thorough knowledge and understanding of the following aspects as well as the ability to be able to clearly and effectively advise and present to clients on the subject.

- **3D modelling** – surveying properties, limitations of and accuracy of information, different modelling techniques, light formulas and error sources in computer models the software
- **Daylight, sunlight, overshadowing, solar glare** – identifying and advising on risks in relation to the lifecycle of a project, ways in which to remove these risks, report writing, Environmental Statements, planning policy issues, appeals and representations

- **Rights of light** – identifying and advising on risks in relation to the lifecycle of a project, methods of how to remove or reduce these risks, acquisition of rights, knowledge of rights of light legislation and case law, legal ownership, legal documents (deeds, agreements etc.), valuation, strategy, compulsory purchase, negotiations.

To demonstrate knowledge and understanding of these three aspects, rights of light candidates are encouraged to consider choosing the following optional competencies:

- Access and rights over land (Level 3)
- Client care (Level 3)
- Legal/regulatory compliance (Level 3)
- Measurement (Level 3)
- Risk management (Level 3)
- Compulsory purchase and compensation (Level 2)
- Consultancy services (Level 2)
- Development appraisals (Level 2)
- Landlord and tenant (Level 2)
- Planning and development management (Level 2)
- Sustainability (Level 2)

Confidentiality

You must ensure you have your employer's and client's consent to disclose any sensitive details in your final assessment submission. If you cannot get this consent you should disguise facts that might otherwise make the project identifiable.

In the summary of experience, many of the commissions undertaken by a candidate may have been litigious and highly confidential in nature. In such cases, candidates should ensure that this fact is noted. The commission should then only be described in discreet terms which could not be used to identify it.

Where the case study may be similarly litigious and confidential, the candidate should explain this at the outset and change the name, location and function of the building so that it would be unrecognisable.

The information contained in your submission will be treated as confidential by your panel of assessors and RICS.

The following outlines (but is not limited to) the knowledge and understanding that candidates are expected to cover in each competency. Candidates are also expected to have a wider knowledge of basic principles of surveying, buildings and general aspects of development.

Access and rights over land (Level 3)

Candidates will need to demonstrate their knowledge and understanding of rights of light legislation and case law, identify neighbours who are affected, value light and undertake challenging negotiations with adjoining owners. It is expected that candidates can produce complex rights of light reports which include detailed strategies, from initial advice through to final sign off reports for projects with limited help from senior professionals. Candidates are also to cover how rights of light is involved in compulsory purchase along with the role of an expert witness.

Client care (Level 3)

Candidates will need to demonstrate the principle and practice of client care, understanding the needs of clients, establishing a project brief and tailoring proposals to ensure clients' needs are met. Important factors for this competency is recording information (specifically in relation to negotiations), methods of gathering data, relationship management, conflict checks, consultation, systems and procedures personalised for clients and also complaint handling. This also covers the different methods and techniques of reporting and presenting to clients.

Legal/regulatory compliance (Level 3)

This competency covers the knowledge and application of understanding of rights of light legislation and case law as well as daylight, sunlight, overshadowing, light pollution and solar glare principles. It also relates to any court representations involving acting as an expert witness for rights of light disputes. Candidates should also have the knowledge and experience with acting as an expert at planning committee meetings and planning appeals. Complex and detailed reports providing reasoned advice on legal and regulatory compliance for developments is expected.

Measurement (Level 3)

Candidates should demonstrate knowledge and understanding of the principles, tolerances and limitations of 3D CAD models, including (but not limited to) internal surveys, photogrammetry, measured surveys and all sources of information obtained to produce a CAD model. Understanding and application of different modelling techniques is required such as: mirror massing studies, envelopes, cumulative assessments, cutbacks, legal document assessment etc. Level three of this competency can cover the thorough understanding of all the light formulas along with error sources in the software and how these present themselves in results.

Risk management (Level 3)

This competency covers understanding the risk involved with daylight, sunlight and rights of light throughout the lifecycle of a project from acquisition through to completion. Candidates should be able to quantify and qualify risk, present this clearly and effectively to the client and provide solutions of ways to reduce or remove any risk associated with a project. It also covers reporting on tailored strategies to deal with risk associated with a project.

Compulsory purchase and compensation (Level 2)

Compulsory purchase can play a key role because an Acquiring Authority can acquire land and third-party rights (including rights of light) that may be in existence over land. Candidates should have knowledge of the various Acts of Parliament as well as experience in valuing and making offers of compensation associated with a CPO.

Consultancy services (Level 2)

Candidates will demonstrate an awareness of strategic and tactical issues relating to rights of light when advising clients on their options and obligations. They will similarly demonstrate their capability of delivering the final solution through the project team, working with the appropriate regulatory agencies.

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Development appraisals (Level 2)

Candidates should have experience in dealing with development appraisals specifically in relation to rights of light negotiations.

Landlord and tenant (Level 2)

Often when undertaking rights of light negotiations, releases can be required with both the freeholder and any leaseholders within a property that have the benefit of a right to light. Candidates should understand the legal structure of properties, be able to read and interpret leases, understand where rights lie and apportion compensation payments between parties accordingly.

Planning and development management (Level 2)

Candidates should understand the role daylight, sunlight and overshadowing plays with a planning application and the appeal process. They should have knowledge of the appropriate planning policy and procedures associated with a region as well as have experience in drafting reports and the consultation process with the planning authority, clients and stakeholders.

Sustainability (Level 2)

Candidates should understand the importance of natural light in terms of an amenity aspect and its role in legislation at national, regional and local levels within the built environment. Examples of where candidates have advised on design changes to improve upon natural light levels within adjoining properties and the proposed scheme itself should be demonstrated. This also covers the role of daylight and sunlight in environmental impact assessments.



Confidence through professional standards

RICS promotes and enforces the highest professional qualifications and standards in the valuation, development and management of land, real estate, construction and infrastructure. Our name promises the consistent delivery of standards – bringing confidence to markets and effecting positive change in the built and natural environments.

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