Silver - Unit 2 - Roles in Construction Teams

Relevant LINKS

BACK TO BIM UNITS **[1]**

Overview

This is the ability to understand and define a construction project with particular emphasis on what is required to make it sustainable over a reasonable period of time. Some understanding and appreciation of the impact on the wider community will also need to be in evidence. The main issues will need to be presented clearly to all stake-holders, and where appropriate, solutions to issues will need to be found before progressing.
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the software tools and functions will be predetermined or commonly used; and
the techniques needed for text entry, manipulation and outputting will be straightforward or routine

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Main areas covered will include, but not be limited by:

- the ability to research materials and functions
- the understanding and application of local and national guidelines
- ability to present information and attend relevant meetings to support the process

Example of context: Proposing a local construction project, such as an eco friendly classroom for a primary school.

Activities supporting the assessment of this award

Assessor's guide to interpreting the criteria

General Information

QCF general description for Level 1 qualifications

- Achievement at QCF level 1 (EQF Level 2) reflects the ability to use relevant knowledge, skills and procedures to complete routine tasks. It includes responsibility for completing tasks and procedures subject to direction or guidance.
- Use knowledge of facts, procedures and ideas to complete well-defined, routine tasks. Be aware of information relevant to the area of study or work
- Complete well-defined routine tasks. Use relevant skills and procedures. Select and use

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relevant information. Identify whether actions have been effective.
- Take responsibility for completing tasks and procedures subject to direction or guidance as needed

Requirements

- Standards must be confirmed by a trained Level 1 Assessor or higher
- Assessors must at a minimum record assessment judgements as entries in the online mark book on the INGOTs.org certification site.
- Routine evidence of work used for judging assessment outcomes in the candidates' records of their day to day work will be available from their e-portfolios and online work. Assessors should ensure that relevant web pages are available to their Account Manager on request by supply of the URL.
- When the candidate provides evidence of matching all the criteria to the specification, subject to the guidance below, the assessor can request the award using the link on the certification site. The Account Manager will request a random sample of evidence from candidates' work that verifies the assessor's judgement.
- When the Account Manager is satisfied that the evidence is sufficient to safely make an award, the candidate's success will be confirmed and the unit certificate will be printable from the web site.
- Each unit at Level 1 has recommended guided learning hours based on time required to complete by an average learner.

Assessment Method

Assessors can score each of the criteria N, L, S or H. N indicates no evidence and it is the default setting. L indicates some capability but some help still required to meet the standard. S indicates that the candidate can match the criterion to its required specification in keeping with the overall level descriptor. H indicates performance that goes beyond the expected in at least some aspects. Candidates are required to achieve at least S on all the criteria to achieve the full unit award. Once the candidate has satisfied all the criteria by demonstrating practical competence in realistic contexts they achieve the unit certificate.

Expansion of the assessment criteria

1. The candidate will understand the importance of teams in construction projects.

1.1 I can relate successful construction projects to team effort

Candidates should be able to identify the key benefits of teamwork and and relate these to construction projects.
Evidence: from assessor observations, video/recorded discussion.

Additional information and guidance
Candidates will discuss the merits of working as a team and the skills and benefits of integration, communication and sharing ideas. Successful project development and delivery stems from a range of professionals working closely together with the client to achieve a greater outcome than working independently.
A successful team collaborates from start to finish. Examples of good teamwork can come from anywhere - sport, expedition, the running of a successful school. Roles will include generic skills such as leadership, researcher, evaluator as well as specific professional skills to make the team work.

1.2 I can identify the roles and responsibilities of the key members in a construction team

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Candidates will investigate a range of professional roles in the built environment and their contribution to the eco classroom project.
Evidence: portfolios and local testing.

Additional information and guidance
Candidates will investigate a range of professional roles in the built environment and their contribution to the eco classroom project. At Level 1 candidates should be able to link roles to responsibilities if given a list and work out what might happen if a particular role is missing or weak. Who will be project leader? What special responsibilities do they have?

1.3 I can identify how each team member contributes to the sustainability of the project

Candidates should appreciate the function of each team member with a focus on sustainability.
Evidence: portfolios of evidence and internal testing.

Additional information and guidance
Candidates will investigate the function of each team member and how each might contribute to the ongoing sustainability of the project. They will promote positive behaviour and excellent governance practices throughout the lifecycle of the project. For example, as an easy target, the team may agree to limit the use of paper, car share to site visits, hold meetings by Skype or similar, and commit to a range of energy efficiency and waste reduction measures. Candidates will encourage the team to lead by example, influencing suppliers and opting for sustainable products and services wherever possible.

1.4 I can communicate ideas between the team

Candidates should be able to demonstrate techniques and understanding of how to be efficient and effective in sharing their ideas with their team.
Evidence: from assessor observations, video/recorded discussion.

Additional information and guidance
Candidates will need to show they have a way of managing and evaluating ideas. This can be how and when they share their own ideas, or how they respond to the ideas of others in the team. They might be able to briefly evaluate the best ways to do this. Is it best always to be face to face for certain ideas? Is formal or informal more effective for certain ideas and the way they are communicated?

1.5 I can identify and communicate ways of improving sustainability in the local community

Candidates should be able to demonstrate they understand the best ways to get their message across.
Evidence: from assessor observations, video/recorded discussion and portfolios.

Additional information and guidance
Candidates will be working on a range of ideas and with various groups and need to make sure they maximise this time and information towards making the project better. If they can see a better way to make a project more sustainable, then they need to show how they identified this and how they conveyed this to the local community through different communication channels.

2. The candidate will understand the role of the architect

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2.1 I can outline the role of an architect

Candidates will be able to write down the key responsibilities of the architect and his/her contribution to the project and to the team.
Evidence: from assessor observations, portfolios and internal testing.

Additional information and guidance
Candidates will be able to describe the key responsibilities of the architect and his her contribution to the project and to the team. At Level 1 structured support can be given with appropriate clues or prompts.

2.2 I can explain how the architect works with a client on a building project

Candidates will be able to articulate the architect/client relationship in simple terms.
Evidence: recordings or written explanation in portfolios, internal testing.

Additional information and guidance
Candidates will be able to describe the architect/client relationship including the need for the client to specify what is required and the need of the architect to point out implications such as cost, legal issues, aesthetics, environment and other professional issues.

2.3 I can identify the key elements and structure of a design brief

Candidates should be familiar with the key elements and structure of a design brief.
Evidence: preparation of an outline document.

Additional information and guidance
Candidates will be able to describe the requirements and functions of the eco classroom from previous research and communications with the client (their local community). The brief may include simple sketches and a checklist to reinforce principles and ideas. Level 1 candidates will require structured support in the form of organising their work to add detail to the brief.

2.4 I can use precedents to inform research

Candidates will be able to explain the term precedent.
Evidence: Sketches, photographic examples and preparation of a brief overview of selected precedents.

Additional information and guidance
Candidates will research local, national and global examples of existing eco structures to help them understand the works of other architects and aid them to create their own eco classroom design.

2.5 I can explain that a design brief requires clear and effective communication with the client

Candidates should recognise the characteristics of a design brief in terms of simple and clear communication.
Evidence: from assessor observations, video.

Additional information and guidance
Candidates will outline the need for an effective, jargon-free design brief which conveys a client's vision, their goals and their priorities and provides an accurate account of the project's deliverables. They should understand that the brief is the most important piece of information between an architect and a client and effectively form a contract between the two. Time, effort and accuracy is required to create a good brief, which, in the long run, can save time and money, and be the starting

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point to an effective architect/client relationship. The brief should refer to a budget estimate realistic timeline and should confirm the main point of contact and decision maker(s), referenced to the community steering group.

2.6 I can respond to identified community needs with specific solutions

The candidate will show the capacity to respond positively to community needs based on objective research.
Evidence: from assessor observations, presentation to client representative(s), role play and content of portfolios.

Additional information and guidance
Candidates will demonstrate they have acknowledged community needs by produce an ideas board which represents and summarises their recommendations identified through previous and ongoing research. They should reflect a sense of community and ownership using graphical solutions. Level 1 candidates will need structured guidance.

2.7 I can provide a simple concept model and sketch scheme

Candidates demonstrate an ability to communicate broad concepts using a model or models.
Evidence: Sketch scheme, model in portfolios.

Additional information and guidance
Candidates can produce a simple scale model (e.g. cardboard) to give their community a sense of size, space and form. It is recommended that candidates include scale ‘people’. Models can be small and not very detailed, but would generally show the entrance, circulation, basic structure and envelope.
A sketch scheme will help communicate ideas visually to the community, and should include mood boards and sketches outlining the proposed project.

2.8 I can present a case for a specified construction project

The candidate will present a credible case for a construction project backed by evidence.
Evidence: recorded verbal presentation, examples of scheme in portfolios.

Additional information and guidance
Candidates should summarise their research and use their evidence as the basis for their sustainable recommendations and proposed design. At this point, it is recommended that professionals are invited to take part in the preparation and delivery of these presentations, offering constructive criticism to the candidates as they develop their presentation skills.
Candidates should be conscious of the language they use, that they do not use over complicated terminology, and so convey their design ideas to every possible member of the community. Presentations should be simple, but relevant - candidates might adopt an ‘elevator pitch’ style, thereby getting the client excited about their eco classroom in a maximum of 30 seconds and in 130 words or fewer! Most of all, the presentation should be delivered assertively, confident in the knowledge that the project has immense benefits for the local community. At level 1 structured coaching and support is expected.

3. The candidate will understand the role of the building services engineer

3.1 I can outline the role of the building services engineer

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Candidates should be familiar with the main tasks undertaken by the building services engineer.
Evidence: research, reporting recorded in portfolios.

Additional information and guidance
Candidates will be able to list the key responsibilities of the building services engineer and his/her contribution to the project and to the team.

3.2 I can identify services associated with a familiar building

Candidates should be able to identify the services provided in their own homes.
Evidence: 2D plan, digital floor plan in portfolio.

Additional information and guidance
Candidates will prepare a floor plan sketch of their homes to identify existing services.

3.3 I can relate the behaviour of end users to impact on the efficiency of a building

Candidates should be able to relate the behaviour of users of the building to its energy efficiency.
Evidence: research, reporting in portfolios.

Additional information and guidance
Candidates will keep a diary for one week which represents service related activity each day of that week. They are encouraged to record each event in a concise format from the moment they get up to the time they go to bed. This diary is used to highlight the impact of human behaviour on energy efficiency in a domestic dwelling. Through simple analysis in the classroom, candidates should devise ways of adapting their everyday habits to support sustainable living, and indeed be able to reflect on the way they operate in other buildings, e.g. school. They are encouraged to consider methods to promote sustainability.

3.4 I can recognise the symbols that represent building services on a plan

Candidates can identify industry standard symbols and relate the to what they represent.
Evidence: 2D plan, digital floor plan in portfolio.

Additional information and guidance
Candidates will be able to recognise and annotate their drawings with industry standard symbols.

3.5 I can apply learning to own sustainable building design

Candidates should be able to identify features in their own designs that are a result of their learning on the course.
Evidence: verbal/written presentation in portfolio.

Additional information and guidance
Candidates will be able to describe their own experiences and demonstrate how their discoveries have been implemented in their project. They should recognise that post occupancy behaviour has a critical impact on the success or failure of a building, no matter how energy efficient its design and construction.

4. The candidate will understand the role of the landscape designer

4.1 I can outline the role of the landscape designer

Candidates should be familiar with the main tasks undertaken by the building services engineer.

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Evidence: from research, reporting in portfolios.

Additional information and guidance
Candidates will be able to identify the key responsibilities of the landscape designer and his/her contribution to the project and to the team.

4.2 I can indicate how natural and man-made features impact the layout of a landscape design

Candidates should use a plan to indicate how natural and man-made features impact the layout of a landscape design.
Evidence: from sketch plan in portfolios.

Additional information and guidance
Candidates will identify an area of the school grounds or local community area as a basis for their design. They will sketch and label man-made and natural features and their impact on the overall existing environment in terms of aesthetics and how the landscape makes them feel. They should consider how a landscape can be designed to promote sustainable living in the local community, and whether the existing space supports this ethos.

4.3 I can relate the path of the sun to the positioning of natural and man-made garden design features

Candidates should be able to consider the position of the sun and its light when planning a garden.
Evidence: from sketch plans in portfolios.

Additional information and guidance
Candidates will mark the position of the sun at various times of the day on their plan, and determine its path from East to West, thereby determining areas of sun and shade and the impact on the installation of natural and manmade features.

4.4 I can make a water level to determine changes in height

Candidates should be able to make a water level.
Evidence: from assessor observations, recorded results in portfolios.

Additional information and guidance
Candidates will make a simple water level and record changes in height across an existing landscape.

4.5 I can relate the outdoor learning environment to the sustainable building project

Candidates should be able to identify the links between their building project and the wider opportunities to extend the learning space.
Evidence: from report documentation in portfolios.

Additional information and guidance
Candidates will demonstrate that the landscape designed for the community eco classroom acts as an extension to the building in terms of learning opportunities. For example, a growing area should determine that preparation and cooking areas should be included in the classroom design, and that it may provide storage space for gardening equipment. Further examples include specific areas which may require exhibition space, e.g. beehives in the garden supported by an exhibition inside the classroom to raise awareness of the decline in bees.

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4.6 I can use characteristics of the school landscape as a basis for a detailed landscape plan

Candidates will prepare a final sketch plan or digital drawing of their eco garden based on observations, existing features and research.
Evidence: sketch plan, digital drawing in portfolios.

Additional information and guidance
Candidates at Level 1 will need structured guidance in organising their evidence into a landscape plan. Any candidates that can do this autonomously are likely to be operating above level 1 and should be considered for Level 2 work.

5. The candidate will understand the role of the site engineer

5.1 I can outline the role of a site engineer

The candidate should be able to identify the key characteristics of the role of a site engineer.
Evidence: research, reporting documented in portfolios.

Additional information and guidance
Candidates will be able to identify the key responsibilities of the site engineer and his/her contribution to the project and to the team.

5.2 I can use specific mathematical solutions to inform site engineering problems

Candidates should be able to use simple geometry to support building calculations.
Evidence: calculations in portfolios, internal testing.

Additional information and guidance
Candidates will use Pythagoras Theorem to calculate the hypotenuse of a triangle of specified dimensions adjacent to the right angle i.e the xy dimensions of the eco classroom.

5.3 I can follow practical procedures to correctly position and orientate a building

Candidates should be able to follow a set of instructions including simple calculations to position a building.
Evidence: from assessor observations, plans and drawings in portfolios.

Additional information and guidance
Candidates will use their Pythagoras calculations to accurately position and mark the four corners of the eco classroom building footprint and orientate the longest baseline along an East-West direction.

6. The candidate will understand the role of the facilities manager

6.1 I can outline the role of a facilities manager in the context of a school building

Candidates will be able to describe the key responsibilities of the facilities manager and his/her

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contribution to the project and to the team.
Evidence: research, reporting, documentation in portfolios.

Additional information and guidance
Facilities managers are responsible for the management of services and processes that support the core business of an organisation. They ensure that an organisation has the most suitable working environment for its employees and their activities. Duties vary with the nature of the organisation, but facilities managers generally focus on using best business practice to improve efficiency, by reducing operating costs while increasing productivity.
This is a wide field with a diverse range of responsibilities, which are dependent on the structure and size of the organisation. Facilities managers are involved in both strategic planning and day-to-day operations, particularly in relation to buildings and premises. Likely areas of responsibility include:

- procurement and contract management;
- building and grounds maintenance;
- cleaning;
- catering and vending;
- health and safety;
- security;
- utilities and communications infrastructure;
- space management.

6.2 I can relate the behaviour of people within a building to the success of adoption and subsequent sustainability

Candidates should make an effective presentation in the required context.
Evidence: verbal/written report/presentation files in portfolios.

Additional information and guidance
Candidates should prepare a summary presentation with text and photographs, and present their findings to the whole group. Their research is put into context of the school, student experiences and ambitions. Evidence should be presented to the school's senior management team wherever possible.
At level 1 support with structure will be needed.

6.3 I can use empirical evidence to inform the sustainability of a school

Candidates should know that first hand evidence is available in their own school, how to obtain it and how to use it.
Evidence: records and photographic evidence in portfolios.

Additional information and guidance
Candidates will investigate a number of factors which contribute to the sustainability of their own school. They will research where and why specific issues are found and who is responsible for its management, how they propose to resolve the issue and in what time scale.

6.4 I can gather information by interviewing school staff

Candidates should demonstrate the ability to gather information through interviews.
Evidence: interviews recorded and/or documented in portfolios.

Additional information and guidance
Using a notepad, camera and recorder, candidates will interview key school staff and identify key areas to establish a range and impact of factors that contribute to the school's sustainability. At this

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stage, it is anticipated that identified staff will support the initiative as part of a sustainable development plan for the school.

6.5 I can relate evidence to the development of a building project

The candidate will identify strengths and weaknesses in their eco classroom based on research evidence.
Evidence: written report. documentation in portfolios.

Additional information and guidance
Candidates will evaluate their project in relation to best practice opportunities in the context of their own eco classroom. Conversely they will identify issues which may be improved or avoided.

6.6 I can establish resource efficiency guidelines to support the facilities management role

Candidates should be provided the structure to produce a useful community guide in the principles of sustainability.
Evidence: from written report in portfolios.

Additional information and guidance
Candidates, ideally with senior management support, should include their evidence in a guidebook to help parents, staff and students adopt their sustainability principles in the home and the school. This guide in effect becomes an instruction manual for facilities management within the school from the students' perspective. As an extension possibility, candidates are encouraged to interrogate any existing publications and offer a comparison of their findings.
Level 1 candidates will need support in structuring their documentation.

Moderation/verification
The assessor should keep a record of assessment judgements made for each candidate guided by the above guidance. Criteria should be interpreted in the context of the general descriptors of QCF Level 1 qualifications. They should make notes of any significant issues for any candidate and be in a position to advise candidates on suitable routes for progression. They must be prepared to enter into dialogue with their Account Manager and provide their assessment records to the Account Manager through the on-line mark book. They should be prepared to provide evidence as a basis for their judgements through reference to candidate e-portfolios. Before authorising certification, the Account Manager must be satisfied that the assessor's judgements are sound. In the event of missing evidence, the assessor will be requested to gather appropriate information before the award can be made.

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Source URL: https://theingots.org/community/decl1u2x

Links
[1] https://theingots.org/community/BIM_qualification_info_units

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