QUALIFICATION HANDBOOK

SVQ in Construction Contracting Operations at SCQF Level 6

Qualification reference number: **GN29 46**

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Document control and history

Document status:	External
Owner:	RM
Version and date:	Version 1 – October 2017
Summary of revisions:	Revisions to V1: N/A

1. Introduction

1.1 This qualification has been developed to seek to ensure that those responsible for contracting within a construction setting meet minimum requirements of technical competence and health and safety.

1.2 These requirements have been specified in the National Occupational Standards (NOS) developed by the Sector Skills Council (SSC) Construction Skills in liaison with employers and industry/ sector representatives. This qualification is based upon those NOS and incorporates the Qualification Structure approved by SQA Accreditation.

1.3 Successful completion of this qualification will allow candidates to show they have sufficient knowledge, understanding and skills to demonstrate competence in undertaking construction contracting operations.

1.4 This Handbook provides the information required to assist approved centres in delivering the qualification and preparing candidates for assessment. This includes some template forms that may be used / adapted by centres. Note that you are able to create your own, or use existing forms for this purpose. Alternatively, QFI makes its E-Portfolio system available to its approved centres. This document should be read in conjunction with QFI's policies and the Centre Handbook.

2. Qualification objective(s)

2.1 The qualification is suitable for apprentices / those already in employment that wish to develop their knowledge and skills in construction contracting operations.

2.2 In order to do this, the qualification covers technical and health and safety standards, and supports roles relating to construction contracting at this level.

3. Progression

3.1 This qualification enables candidates to progress to related/ higher level qualifications such as the SVQ on Construction Contracting Operations Management at SCQF level 9, and to roles relating to construction contracting. These roles may be in addition to other construction related roles. Successful completion of this qualification may therefore lead to additional employment opportunities relating to construction contracting.

3.2 Candidates may also choose to undertake qualifications in more generic subjects such as a health and safety in the workplace, e.g.

- Award in Health and Safety in a Construction Environment at SCQF level 4

4. Entry requirements

4.1 Candidates must be at least 16 years of age to be able to undertake this qualification.

4.2 There are no other specific entry requirements, though the National Careers Service does recommend physical fitness.

4.3 Candidates taking this qualification must be made fully aware of what this entails. Centres must be satisfied that candidates have the experience and skills and will have sufficient assessment opportunities within their job role to provide evidence of competence for this qualification. Where this may not be the immediate case, candidates should check with their employer whether they are able to go out with departmental or immediate job role boundaries to gain the necessary assessment opportunities.

4.4 A sample induction checklist is included at Appendix 1.

5. Qualification structure

5.1 The structure for this qualification is set by the Sector Skills Council Construction Skills and approved by SQA Accreditation.

5.2 To achieve this qualification candidates must achieve the following:

SSC code	Mandatory / Optional	Title of mandatory unit (must complete all four units)	SCQF level	SCQF credits
Mandatory units (all option routes)				
COSCCOC01	Mandatory	Operate health, safety and welfare systems in construction	6	12
COSCCOC02	Mandatory	Prepare programmes and schedules of work in construction	6	16
COSCCOC03	Mandatory	Develop and maintain working relationships and personal development in construction	6	12
COSCCOO23	Mandatory	Operate project information systems in construction	6	10
PLUS ONE OF THE FOLLOWING OPTIONAL ROUTES				
Estimating Option Route (Total of 7 units required)				
COSCCOO07	Mandatory	Prepare and process invitations to tender in construction	6	16
COSCCOO08	Mandatory	Prepare estimates, bids and tenders in construction	6	16
Plus Optional Units (one unit from the following required)				
COSCCOO04	Optional	Prepare for, collect, analyse and present survey data in construction	6	17
COSCCOO05	Optional	Record the condition of property in construction	6	15

COSCCOO06	Optional	Prepare drawings and schedules in construction	6	16
COSCCOO09	Optional	Prepare for work operations in construction	7	17
COSCCOO10	Optional	Implement contract work in construction	7	16
COSCCOO11	Optional	Establish and maintain the dimensional control of construction works	6	15
COSCCOO12	Optional	Prepare for and carry out physical testing in construction	6	12
COSCCOO13	Optional	Assess, plan and monitor project methods and progress in construction	7	15
COSCCOO14	Optional	Monitor, maintain and improve supplies of materials in construction	6	15
COSCCOO15	Optional	Recommend and monitor supplies of plant and equipment in construction	6	15
COSCCOO16	Optional	Prepare and monitor costs and accounts in construction	7	15
COSCCOO21	Optional	Prepare proposals and obtain feedback for the provision of products and services in construction	7	16
COSCCOO24	Optional	Integrate and control project design information in construction	7	13

Buying Option Route (Total of 7 units required)

COSCCOO14	Mandatory	Monitor, maintain and improve supplies of materials in construction	6	15
COSCCOO15	Mandatory	Recommend and monitor supplies of plant and equipment in construction	6	15

Plus Optional Units (one unit from the following required)

COSCCOO04	Optional	Prepare for, collect, analyse and present survey data in construction	6	17
COSCCOO05	Optional	Record the condition of property in construction	6	15
COSCCOO24	Optional	Integrate and control project design information in construction	7	13
COSCCOO06	Optional	Prepare drawings and schedules in construction	6	16
COSCCOO07	Optional	Prepare and process invitations to tender in construction	6	16
COSCCOO08	Optional	Prepare estimates, bids and tenders in construction	6	16
COSCCOO09	Optional	Prepare for work operations in construction	7	17
COSCCOO10	Optional	Implement contract work in construction	7	16
COSCCOO11	Optional	Establish and maintain the dimensional control of construction works	6	15

COSCCOO12	Optional	Prepare for and carry out physical testing in construction	6	12
COSCCOO13	Optional	Assess, plan and monitor project methods and progress in construction	7	15
COSCCOO16	Optional	Prepare and monitor costs and accounts in construction	7	15
COSCCOO21	Optional	Prepare proposals and obtain feedback for the provision of products and services in construction	7	16

Planning Option Route (Total of 7 units required)

COSCCOO06	Mandatory	Prepare drawings and schedules in construction	6	16
COSCCOO13	Mandatory	Assess, plan and monitor project methods and progress in construction	7	15

Plus Optional Units (one unit from the following required)

COSCCOO04	Optional	Prepare for, collect, analyse and present survey data in construction	6	17
COSCCOO05	Optional	Record the condition of property in construction	6	15
COSCCOO07	Optional	Prepare and process invitations to tender in construction	6	16
COSCCOO08	Optional	Prepare estimates, bids and tenders in construction	6	16
COSCCOO09	Optional	Prepare for work operations in construction	7	17
COSCCOO10	Optional	Implement contract work in construction	7	16
COSCCOO11	Optional	Establish and maintain the dimensional control of construction works	6	15
COSCCOO12	Optional	Prepare for and carry out physical testing in construction	6	12
COSCCOO14	Optional	Monitor, maintain and improve supplies of materials in construction	6	15
COSCCOO15	Optional	Recommend and monitor supplies of plant and equipment in construction	6	15
COSCCOO16	Optional	Prepare and monitor costs and accounts in construction	7	15
COSCCOO21	Optional	Prepare proposals and obtain feedback for the provision of products and services in construction	7	16
COSCCOO24	Optional	Integrate and control project design information	7	13

Surveying Option Route (Total of 7 units required)

COSCCOO16	Mandatory	Prepare and monitor costs and accounts in construction	7	15

Plus Optional Units (two units from the following required)

COSCCOO04	Optional	Prepare for, collect, analyse and present survey data in construction	6	17
COSCCOO05	Optional	Record the condition of property in construction	6	15
COSCCOO06	Optional	Prepare drawings and schedules in construction	6	16
COSCCOO07	Optional	Prepare and process invitations to tender in construction	6	16
COSCCOO08	Optional	Prepare estimates, bids and tenders in construction	6	16
COSCCOO09	Optional	Prepare for work operations in construction	7	17
COSCCOO10	Optional	Implement contract work in construction	7	16
COSCCOO11	Optional	Establish and maintain the dimensional control of construction works	6	15
COSCCOO12	Optional	Prepare for and carry out physical testing in construction	6	12
COSCCOO13	Optional	Assess, plan and monitor project methods and progress in construction	7	15
COSCCOO14	Optional	Monitor, maintain and improve supplies of materials in construction	6	15
COSCCOO15	Optional	Recommend and monitor supplies of plant and equipment in construction	6	15
COSCCOO21	Optional	Prepare proposals and obtain feedback for the provision of products and services in construction	7	16
COSCCOO24	Optional	Integrate and control project design information in construction	7	13

Site Technical Support Option Route (Total of 7 units required)

COSCCOO10	Mandatory	Implement contract work in construction	7	16
COSCCOO11	Mandatory	Establish and maintain the dimensional control of construction works	6	15

Plus Optional Units (one unit from the following required)

COSCCOO04	Optional	Prepare for, collect, analyse and present survey data in construction	6	17
COSCCOO05	Optional	Record the condition of property in construction	6	15
COSCCOO06	Optional	Prepare drawings and schedules in construction	6	16
COSCCOO07	Optional	Prepare and process invitations to tender in construction	6	16
COSCCOO08	Optional	Prepare estimates, bids and tenders in construction	6	16

COSCCOO09	Optional	Prepare for work operations in construction	7	17
COSCCOO12	Optional	Prepare for and carry out physical testing in construction	6	12
COSCCOO13	Optional	Assess, plan and monitor project methods and progress in construction	7	15
COSCCOO14	Optional	Monitor, maintain and improve supplies of materials in construction	6	15
COSCCOO15	Optional	Recommend and monitor supplies of plant and equipment in construction	6	15
COSCCOO16	Optional	Prepare and monitor costs and accounts in construction	7	15
COSCCOO21	Optional	Prepare proposals and obtain feedback for the provision of products and services in construction	7	16
COSCCOO24	Optional	Integrate and control project design information in construction	7	13
Design Co-ordinator Option Route (Total of 7 units required)				
COSCCOO24	Mandatory	Integrate and control project design information in construction	7	13
Plus Optional Units (two units from the following required)				
COSCCOO04	Optional	Prepare for, collect, analyse and present survey data in construction	6	17
COSCCOO05	Optional	Record the condition of property in construction	6	15
COSCCOO06	Optional	Prepare drawings and schedules in construction	6	16
COSCCOO07	Optional	Prepare and process invitations to tender in construction	6	16
COSCCOO08	Optional	Prepare estimates, bids and tenders in construction	6	16
COSCCOO09	Optional	Prepare for work operations in construction	7	17
COSCCOO10	Optional	Implement contract work in construction	7	16
COSCCOO11	Optional	Establish and maintain the dimensional control of construction works	6	15
COSCCOO12	Optional	Prepare for and carry out physical testing in construction	6	12
COSCCOO13	Optional	Assess, plan and monitor project methods and progress in construction	7	15
COSCCOO14	Optional	Monitor, maintain and improve supplies of materials in construction	6	15
COSCCOO15	Optional	Recommend and monitor supplies of plant and equipment in construction	6	15
COSCCOO16	Optional	Prepare and monitor costs and accounts in construction	7	15

COSCCOO21	Optional	Prepare proposals and obtain feedback for the provision of products and services in construction	7	16
General Option Route (Total of 7 units required)				
Optional Units (three units from the following required)				
COSCCOO04	Optional	Prepare for, collect, analyse and present survey data in construction	6	17
COSCCOO05	Optional	Record the condition of property in construction	6	15
COSCCOO06	Optional	Prepare drawings and schedules in construction	6	16
COSCCOO07	Optional	Prepare and process invitations to tender in construction	6	16
COSCCOO08	Optional	Prepare estimates, bids and tenders in construction	6	16
COSCCOO09	Optional	Prepare for work operations in construction	7	17
COSCCOO10	Optional	Implement contract work in construction	7	16
COSCCOO11	Optional	Establish and maintain the dimensional control of construction works	6	15
COSCCOO12	Optional	Prepare for and carry out physical testing in construction	6	12
COSCCOO13	Optional	Assess, plan and monitor project methods and progress in construction	7	15
COSCCOO14	Optional	Monitor, maintain and improve supplies of materials in construction	6	15
COSCCOO15	Optional	Recommend and monitor supplies of plant and equipment in construction	6	15
COSCCOO16	Optional	Prepare and monitor costs and accounts in construction	7	15
COSCCOO21	Optional	Prepare proposals and obtain feedback for the provision of products and services in construction	7	16
COSCCOO24	Optional	Integrate and control project design information in construction	7	13

All units are included in Appendix 2 of to this document.

6. Assessment

6.1 Roles and responsibilities

There are a number of people involved in the assessment process and the role of each needs to be clearly understood by each.

- Candidates – must familiarise themselves with the content of the units that they are taking and how these are to be assessed. They should co-operate with the assessment process, looking for opportunities to evidence the elements and gathering evidence where this arises. Candidates must take on board feedback from their assessor and work with their assessor to develop realistic plans for assessment. An Assessment Plan and Review template is included at Appendix 3.

- Assessors - must familiarise themselves with the content of the units that they are assessing and how these are to be assessed. They must assist candidates in identifying assessment opportunities, gathering, and presenting evidence. Assessors must assess all elements and record these assessments. Templates for recording elements, and for unit achievement, are at Appendix 4. Assessors must feedback and work with candidates to identify any gaps and develop realistic plans for assessment. They must also work with the Internal Verifier and External Verifier to ensure a common standard of assessment.

- Internal Verifiers – sometimes known as Internal Quality Assurers (IQAs), their role is to ensure that the assessment process is appropriate, consistent, fair and transparent; that assessors receive on-going support and that they are assessing to a common standard; and that awards are valid, reliable and consistent. IVs must develop a strategy that includes standardisation activities such as reviewing samples of evidence from each assessor, and countersigning the decisions of unqualified assessors.

- External Verifiers - sometimes known as External Quality Assurers (EQAs), are appointed by QFI and are independent of the centre. Their role is to check that internal processes are in place to ensure robust, consistent assessment. This includes sampling assessment evidence.

6.2 SCQF level 6 descriptors

This qualification is pitched at SVQ level 3/ SCQF level 6. The following are descriptions of what a candidate should be able to do or demonstrate at SCQF level 6. These are for guidance only – it is not expected that every point will be covered.

Knowledge and understanding

Demonstrateand/or work with: An appreciation of the body of knowledge that constitutes a subject/discipline/sector; A range of knowledge, facts, theories, ideas, properties, materials, terminology, practices and techniques about, and associated with, a subject/discipline/sector; Relating the subject/discipline/sectorto a range of practical and/or commonplace applications.

Practice: Applied knowledge, skills and understanding

Apply knowledge, skills and understanding: In known, practical contexts; In using some of the basic, routine practices, techniques and/or materials associated with the subject/discipline/sector; In exercising these in routine contexts that may have non-routine elements; In planning how skills will be used to address set situations and/or problems and adapt these as necessary.

Generic cognitive skills

Obtain, organise and use factual, theoretical and/or hypothetical information in problem solving; Make generalisations and predictions; Draw conclusions and suggest solutions

Communication, IT and numeracy skills

Use a wide range of skills, for example: Produce and respond to detailed and relatively complex written and oral communication in both familiar and unfamiliar contexts; Select and use standard ICT applications to process, obtain and combine information; Use a wide range of numerical and graphical data in routine contexts which may have non-routine elements.

Autonomy, accountability and working with others

Take responsibility for carrying out a range of activities where the overall goal is clear, under non-directive supervision; Exercise some supervisory responsibility for the work of others and lead established teams in the implementation of routine work within a defined and supervised structure; Manage limited resources within defined and supervised areas of work; Take account of roles and responsibilities related to the tasks being carried out and take a significant role in the evaluation of work and the improvement of practices and processes.

6.3 The assessment process

Assessment for this qualification, and for individual units that comprise the qualification, must take place in accordance with '*Construction Skills Consolidated Assessment Strategy for Construction and the Built Environment: Craft, Supervisory, Technical, Managerial and Professional National Vocational Qualifications (NVQs) and Scottish Vocational Qualifications (SVQs)*' (published December 2016, approved by ACG February 2017).

This document translates the requirements of the assessment strategy and gives guidance to ensure that centres meet these.

Centres delivering the qualification must ensure that assessors and Internal Verifiers are aware of the assessment strategy and how to access this. External Verifiers may check this requirement during monitoring visits to centres.

Assessment involves the following key stages: planning; producing evidence; assessing evidence; recording. Each of these is considered in more detail below.

6.3.1. Planning

The assessor must create an Assessment Plan with each candidate that he/ she will be assessing. The Assessment Plan will need to be reviewed as the candidate progresses through the units. A template for assessment planning and review is at Appendix 3 of this document.

A wide range of assessment methods exist that can be used to assess knowledge and skills. Methods of assessment that are commonly used for assessing competence based qualifications such as SVQs include the following:

- Product evidence – this relates to the outcome of the candidate's work, and the actual product that is generated as a result of their work.
- Direct observation – where an assessor (or credible witness) will directly observe the candidate undertaking certain tasks/ creating products that occur as part of their role. Observations must be referenced to the elements covered
- Question/ answer – these will often supplement the methods above, for example the assessor may ask the candidate a number of questions whilst they are undertaking a task. Questioning is a useful way to establish knowledge and to generate evidence of this
- Witness testimony – credible witnesses may be identified who can for example testify that the candidate can successfully undertake certain tasks
- Personal statement – declaration made by the candidate that should be referenced to elements

Centres should ensure that their Assessors use the methods above to assess candidates for this qualification.

Template assessment documents including an Assessor Report can be found at Appendix 3.

6.3.2 Producing evidence

The methods of assessment must generate evidence to demonstrate the candidates' competence. Evidence produced in the workplace is central to Construction Skills Consolidated Assessment Strategy. Workplace evidence is vital to ensuring that the candidate is competent to industry standards and a suitable way of recording this must be used.

The following indicates the type of evidence generated by the methods on the section above:

- Product evidence –Photographic or video evidence is often used to record this, or it may also be recorded via the method below. Labelled photographs and/or videos that clearly show the candidate are sources of evidence for this purpose.
- Direct observation –observations must be recorded via an Assessor or other report (e.g. witness statement)
- Question/ answer –both the questions and the candidate's responses to these must be recorded either in writing or via some audio or visual device (e.g. part of a video recording).
- Witness testimony – this may be written, audio or visual recordings
- Personal statement – the declaration made by the candidate must be recorded

All of the above must be referenced to the evidence that they cover. Templates that may be used for recording evidence are at Appendix 3.

Feedback should be given to the candidate on an on-going basis and where there are any gaps or shortfalls in evidence then these should be incorporated into the Assessment Plan.

Assessment must meet the requirements of the performance criteria, knowledge and understanding documented for each unit of assessment. Methods of assessment must ensure coverage of all elements, scope and range, and generate sufficient evidence to demonstrate competence. A holistic approach towards the collection of evidence is encouraged. The focus should be on assessing activities generated by the whole work experience rather than focusing on specific tasks. This would show how evidence requirements could be met across the qualification to make the most efficient use of evidence.

Direct evidence produced through normal performance in the workplace is the primary source for meeting these requirements. This includes naturally occurring evidence, direct observation of activities and witness testimony as relevant, all of which must be recorded.

Workplace evidence must be supported by the required evidence of knowledge and understanding. This evidence may be identified by:
- questioning the candidate
- recognised industry education and training programme assessment or professional interview assessment that has been matched to NOS requirements
- performance evidence/ completed work

All of which must be recorded and made available for verification purposes.
Workplace evidence of skills cannot be simulated for this qualification.

6.3.3 Assessing evidence

Evidence must be assessed against the units/ elements to establish whether the candidate is competent with regards to their performance and knowledge. In order to achieve the qualification candidates must achieve a 'pass'. The evidence must show that the candidate consistently (i.e. on more than one occasion) meets all of the elements across the scope/range of each unit.

If there is insufficient evidence to make this judgement then plans must be made as to how the candidate can produce further evidence in order to demonstrate competence.

Assessors must check that the evidence produced is sufficient in volume, relevant and current. They must also be confident that the evidence has been generated by the candidate. Assessors and candidates normally sign documentation to declare that the evidence produced is that of the candidate and no other.

6.3.4 Recording evidence

Evidence (or reference to where certain evidence is located) is normally kept in a portfolio. This may be paper-based or electronic. All evidence contained within the portfolio must be clearly referenced to the units and elements. Candidates' progress can therefore be tracked. Note that certain pieces of evidence can be recorded across more than a single element. Tracking is important to show where this is that case.

It is helpful to give each piece of evidence a number so that this can be mapped across elements. See the template forms at Appendix 4. Assessment decisions made against the evidence must also be recorded so that an IV or an EV can see these. All evidence must be kept for internal and external verification.

7. Assessors

7.1 The occupational competence of assessors is defined in '*Construction Skills Consolidated Assessment Strategy for Construction and the Built Environment: Craft, Supervisory, Technical, Managerial and Professional National Vocational Qualifications (NVQs) and Scottish Vocational Qualifications (SVQs)'* (published December 2016, approved by ACG February 2017).

7.2 The roles and responsibilities of assessors is outlined in the section above. Assessors must competent to perform their role and either hold the qualifications needed to carry out assessment – or achieve within 18 months of commencing their role:

- D32 or D33
- A1
- Level 3 Award in Assessing Competence in the Work Environment (QCF)
- Level 3 Award in Assessing Vocationally Related Achievement (QCF)
- Level 3 Certificate in Assessing Vocational Achievement (QCF)
- an appropriate Assessor qualification as identified by SQA Accreditation

Assessors must also:

- have a sound, in-depth knowledge of, and uphold the integrity of, the relevant NOS and Assessment Strategy to enable them to carry out assessment to the standards specified
- have the occupational expertise (craft/ trade specific) before commencing their role so they have up to date experience, knowledge and understanding of the particular aspects of work they are assessing
- only assess in their acknowledged area of occupational competence
- maintain the currency of this for the duration of their role
- know QFI's requirements for recording assessment decisions and maintaining assessment records

7.3 Holders of A1 and D32/33 must assess to the current National Occupational Standards (NOS) for Learning and Development.

7.4 Assessors must be registered with QFI. The Centre Handbook provides details.

7.5 The assessment decisions of unqualified assessors must be countersigned by the IV.

8. Internal verification

8.1 Centres' internal assessment processes and practices must be effective and support the integrity and consistency of the qualification. This is achieved through the internal quality assurance that is undertaken by the approved centre, and the external quality assurance that is undertaken by QFI. Centres must operate explicit, written internal quality assurance procedures to ensure:

- the accuracy and consistency of assessment decisions between assessors operating at the centre
- that assessors are consistent in their interpretation and application of the qualifications or unit(s) learning outcomes

8.2 Centres must appoint IVs who will be responsible for:

- regular sampling evidence of assessment decisions made by all assessors across all aspects of assessment for the qualification. Sampling must include direct observation of assessment practice
- maintaining up-to-date records of IV and sampling activity (what was evidence was sampled or assessors / IV observed where there is more than one) and ensuring that these are available for external quality assurance
- establishing procedures to ensure that all assessors interpret the learning outcomes in the same way
- monitoring and supporting the work of assessors
- facilitating appropriate staff development and training for assessors
- providing feedback to the EV on the effectiveness of assessment

- ensuring that any corrective action required by QFI is carried out within agreed timescales.

8.3 Centres must ensure that the decisions of unqualified IVs are checked, authenticated and countersigned by an IV who is appropriately qualified and occupationally expert. QFI will monitor a centre's compliance with these requirements through monitoring visits and certification claims.

8.4 The IV is also responsible and accountable for arranging the checking and countersigning process. IVs may verify only evidence that they did not assess themselves. Further guidance on internal quality assurance/verification is provided in the Centre Handbook. Appendix 5 of this document indicates suggested content for an IV strategy, and a template for sampling assessment evidence.

9. Internal verifiers

9.1 The occupational competence of IVs is defined in '*Construction Skills Consolidated Assessment Strategy for Construction and the Built Environment: Craft, Supervisory, Technical, Managerial and Professional National Vocational Qualifications (NVQs) and Scottish Vocational Qualifications (SVQs)'* (published December 2016, approved by ACG February 2017).

9.2 The roles and responsibilities of IVs is outlined above. IVs must competent to perform their role and either hold the qualifications needed to carry out internal verification – or achieve within 18 months of commencing their role:

- D34
- V1
- Level 4 Award in the Internal Quality Assurance of the Assessment Process and Practice (QCF)
- Level 4 Certificate in Leading the Internal Quality Assurance of Assessment Process and Practice (QCF)
- an appropriate Internal Verifier qualification as identified by SQA Accreditation

9.3 It is strongly recommended that IVs also hold assessor qualifications (see section above).

9.4 Holders of V1/D34 must quality assure to the current National Occupational Standards (NOS) for Learning and Development.

9.5 IVs must be registered with QFI. The Centre Handbook provides details.

10. External verification

10.1 External verification of this qualification ensures that the requirements are met for the '*Construction Skills Consolidated Assessment Strategy for Construction and the Built Environment: Craft, Supervisory, Technical, Managerial and Professional National Vocational Qualifications (NVQs) and Scottish Vocational Qualifications (SVQs)*' (published December 2016, approved by ACG February 2017).

10.2 Centre visits will normally take place on an annual basis, though these could be more frequent if deemed necessary as a result of QFI's risk assessments. The Centre Handbook provides further details on external verification including to prepare for centre visits.

QFI's appointed External Verifiers meet the requirements of the assessment strategy.

11. Certification

11.1 Note that there is a lapsing period of two years for this qualification. This means that when the qualification expires, is withdrawn or replaced by a revised version, candidates registered have two years from the expiry date in which to complete the qualification. This will allow sufficient time for candidates to compete and allow for currency of evidence.

12. Equality and diversity

12.1 This qualification must be assessed in English.

12.2 Assessment must be inclusive and where appropriate reasonable adjustments made to ensure equality of access in line with QFI's Equality and Diversity Policy. Full details are included in the QFI Centre Handbook**.**

12.3 Special consideration is not normally given for competence based qualifications as it is necessary for candidates to demonstrate that they have the necessary skills and knowledge to achieve the qualification and operate safely in the workplace.

12.4 Equality data will be collected at the point of registration. This is for monitoring purposes only and will include age, gender, ethnicity, and disability.

13. Fees

13.1 The current fees for this qualification, and for individual units, are included in the QFI Fees and Invoicing document. This document also details what is/ is not included in fees.

13.2 Fees may be broken down to a reasonable level upon request to QFI.

APPENDIX 1 - CANDIDATE TEMPLATE DOCUMENTS

Sample Form
Induction checklist

This document indicates what may be covered as part of a candidate's induction. This list is not exhaustive.

	Tick
Qualification information: • Units • Structure • Summary of assessment • Awarding body	
Roles and responsibilities: • Candidate • Assessor • Internal Verifier • External Verifier	
Training and assessment process: • Planning • Collection of evidence (including methods) • Review of evidence • Feedback on evidence • Verification of evidence • Certification	
Policies: • Complaints • Appeals • Malpractice • Data protection • Health and safety • Equality (including reasonable adjustments/ additional support)	
Forms: • Enrolment • Other	
I confirmation that I have received this induction and the associated documents: Candidate name: ………………………………………………………………….. Candidate signature: ………………………………………………………………… Date: …………………………………………………………………………	

APPENDIX 2

UNITS

MANDATORY UNITS

COSCCOC01
Operate health, safety and welfare systems in construction

Overview

This unit is about health, safety and welfare policy and its implementation within an organisation. It applies to the workplace whether a site, workshop, office or elsewhere. You will need to encourage a culture of health, safety and welfare and carry out inductions. You will need to check systems regularly, report/record information, identify possible improvements and make recommendations for improvement. You will need to identify hazards, obtain and review information relating to them and assess risks. You will need to apply the protection and prevention principles, identify any residual risks and pass on information relating to them.

Performance criteria

You must be able to:

Operate health, safety and welfare systems in the workplace

P1 take responsibility for personal health and safety in the workplace

P2 encourage a culture of health, safety and welfare whilst in the workplace and identify and recommend opportunities for improving the health and safety of the work environment

P2 induct people and check that they have appropriate competence certification and are monitored whilst in the workplace

P4 ensure that health, safety and welfare equipment and resources are maintained to meet statutory requirements

P5 comply with systems which meet statutory requirements for identifying and reducing hazards and reporting accidents and emergencies and prevent recurrences

P6 check and ensure compliance with health, safety and welfare systems regularly, in accordance with statutory and project requirements

P7 make recommendations for improving the work environment clearly and promptly to stakeholders and report workplace conditions and situations which do not comply with statutory and project regulations

Identify hazards and assess risks in the workplace

P8 identify the hazards in the workplace arising from work products, processes and equipment

P9 obtain and receive accurate information on any factors relating to the hazards

P10 assess the significance of the hazards

P11 apply the principles of prevention and protection

P12 identify the residual risks

P13 check that resulting information on significant residual risks is provided to the appropriate people

Knowledge and understanding

You need to know and understand:

Operate health, safety and welfare systems in the workplace

K1 how to take responsibility for personal health and safety in the workplace (application)
K2 how to encourage a culture of health, safety and welfare whilst in the workplace (application) K3 how to induct people and check that people are certified and monitored whilst in the workplace (application)
K4 how to ensure that health, safety and welfare equipment and resources are maintained to meet statutory requirements (application)
K5 how to comply with systems which meet statutory requirements for identifying and reducing hazards and reporting accidents and emergencies and preventing recurrences (application)
K6 how to check and ensure compliance with health, safety and welfare systems regularly, in accordance with statutory and project requirements (application)
K7 what to identify as special workplace conditions which do not comply with regulations (understanding)
K8 how and why to make recommendations for improving the work environment clearly and promptly to stakeholders (analysis)
K9 how and why to recommend opportunities for improving the health and safety of the workplace environment (synthesis)
K10 how to report workplace conditions and situations which do not comply with statutory and project regulations (application)

Identify hazards and assess risks in the workplace
K11 what to identify as the hazards in the workplace arising from work products, processes and equipment (understanding)
K12 how to obtain accurate information on any factors relating to the hazards (application)
K13 how and why to assess the significance of the hazards (analysis)
K14 how to apply the principles of prevention and protection (application)
K15 how to identify the residual risks (understanding)
K16 how to check that information on significant residual risks is provided to the appropriate people (application)

Scope/ range

Operate health, safety and welfare systems in the workplace
1 Workplace 1.1 office 1.2 workshop 1.3 factory 1.4 warehouse construction sites including public areas (e.g. buildings, roads, motorways, railways and all infrastructure projects) 1.5
2 Induct: 2.1 health and safety responsibilities 2.2 health, safety and welfare equipment and resources 2.3 risk control procedures/method statements 2.4 first aid arrangements 2.5 site, construction and installation operations 2.6 health and safety plans
3 People: 3.1 workforce 3.2 visitors 3.3 public 3.4 non English speaking workforce
4 Health, safety and welfare equipment and resources: 4.1 protective clothing 4.2 protective equipment 4.3 first aid facilities and arrangements 4.4 welfare facilities 4.5 storage and security of materials and equipment 4.6 accident and incident reporting 4.7 fire fighting equipment 4.8 provision of health, safety and welfare training

Identify hazards and assess risks in the workplace
5 Hazards 5.1 falls from height 5.2 slips, trips and falls (same level) 5.3 hit by falling or moving objects 5.4 manual handling 5.5 health issues 5.6 power sources 5.7 hazardous substances 5.8 trapped by something collapsing or overturning 5.9 confined spaces 5.10 fire
6 Workplace: 6.1 office 6.2 workshop 6.3 factory 6.4 warehouse 6.5 construction sites including public areas (e.g. buildings, roads, motorways, railways and all infrastructure projects)

7 Factors: 7.1 injure people 7.2 cause ill health 7.3 long term health condition 7.4 damage property 7.5 adversely affect the man-made and built environment 7.6 cost
8 Assess: 8.1 likelihood of occurrence 8.2 severity of harm or damage incurred
9 Risks: 9.1 high 9.2 medium 9.3 low
10 Principles of prevention and protection: 10.1 eliminate risk 10.2 control at source 10.3 cumulative/collective protection 10.4 manage risk 10.5 personal protection equipment

Developed by: ConstructionSkills	Version number:
Date Approved: December 2012	Indicative review date: December 2018
Validity: Current	Status: Original
Originating organisation: ConstructionSkills	Original URN: COSCCOC01
Relevant occupations: Building and civil engineering technicians; estimators; valuers and assessors managers; quantity surveyors	
Suite: Construction Contracting Operations	Keywords: Health and safety; hazards

COSCCOC02
Prepare programmes and schedules of work in construction

Overview
This Unit is about obtaining, confirming, recording, storing, using and presenting information. You will need to identify the information you require and ensure that it is accurate, reliable and effective and that it also meets organisational and legal requirements. You will need to ensure that systems and procedures are suitable, comply with organisational and legal requirements and allow authorised access. You will need to identify possible improvements, either personally or with team members, and make recommendations for improvement. You will need to identify and agree project requirements. You will need to identify unrealistic project requirements, decide on alternatives, and summarise and present the project requirements. You will need to produce detailed accurate schedules, allowing for anticipated contingencies in an appropriate agreed format.

Performance criteria
You must be able to:

Obtain the information needed to take critical decisions
P1 identify the types of information you need to make the required decisions
P2 ensure that your sources of information are reliable and sufficiently wide-ranging to meet your information needs
P3 ensure that your methods of obtaining information are reliable, effective and make efficient use of resources
P4 ensure that your methods of obtaining information are consistent with organisational values, policies and legal requirements
P5 ensure that the information you obtain is accurate, relevant and sufficient to allow you to take decisions
P6 ensure that where information is inadequate, contradictory or ambiguous, you take prompt and effective action to deal with this

Confirm project requirements
P7 confirm with decision makers their immediate goals and objectives of project stakeholders
P8 identify the function and performance requirements for the project
P9 clarify the project stakeholders' requirements, the options available and the constraints and risks which might apply to the project

P10 identify project requirements and stakeholders' requirements which do not appear to be realistic and identify valid options
P11 summarise the project requirements in order to prepare a work schedule

Prepare a work schedule
P12 produce detailed schedules of work which are accurate, and contain a statement of the scope of work and the services needed
P13 estimate and obtain the work content and time duration accurately in consultation with others
P14 plan the schedules of work so that they are achievable with the resources available
P15 calculate appropriate and realistic allowances to meet anticipated contingencies
P16 draft the schedules of work in a format which is appropriate to the type and scope of the work
P17 present information clearly and accurately and reaching agreement using a style and approach which maintains goodwill and trust

Knowledge and understanding
You need to know and understand:

Obtain the information needed to take critical decisions
K1 how to identify the information you need to make the required decisions (understanding)
K2 how to ensure that your sources of information are reliable and sufficiently wide-ranging to meet your information needs (application)
K3 how to ensure that your methods of obtaining information are reliable, effective and make efficient use of resources (application)
K4 how to ensure that your methods of obtaining information are consistent with organisational values, policies and legal and ethical requirements (application)
K4 how to ensure that the information you obtain is accurate, relevant and sufficient to allow you to take decisions (application)
K5 how to ensure that where information is inadequate, contradictory or ambiguous that you take prompt and effective action to deal with this (application)

Confirm project requirements
K7 how to confirm with decision makers their immediate goals and objectives of project stakeholders (application)
K8 what to identify as the function and performance requirements for the project (understanding) K9 how to clarify the project stakeholders' requirements, the options available and the constraints and risks which might apply to the project (application)
K10 what to identify as project requirements and stakeholders' requirements which do not appear to be realistic and valid options (understanding)
K11 how to summarise the project requirements in order to prepare a work schedule (application)

Prepare a work schedule
K12 how to produce schedules of work containing the scope of the work and the services (application)
K13 how and why to estimate and obtain the work content and time duration (analysis)
K14 how and why to plan the schedules of work (analysis)
K15 how to calculate allowances to meet anticipated contingencies (application)
K16 how and why to draft the schedules of work (synthesis)
K17 how to present information (application)
K18 how and why to reach agreement (evaluation

Scope/ range

Obtain the information needed to take critical decisions
1 Sources of information: 1.1 people within your organisation 1.2 people outside your organisation 1.3 internal information systems 1.4 published media 1.5 specially commissioned research 1.6 valid personal experience
2 Types of information: 2.1 quantitative 2.2 qualitative
3 Methods of obtaining information: 3.1 listening and watching 3.2 reading 3.3 spoken questioning 3.4 written questioning 3.5 formal research conducted personally 3.6 formal research conducted by third parties
4 Decisions: 4.1 affecting operational performance 4.2 affecting organisational policy

Confirm project requirements
5 Project Stakeholders: 5.1 the client 5.2 design consultants 5.3 line management 5.4 potential contractors 5.5 potential subcontractors and suppliers 5.6 independent client advisers 5.7 user groups 5.8 funding agencies 5.9 special interest groups 5.10 local community
6 Goals and Objectives 6.1 quantity 6.2 design quality 6.3 build quality 6.4 cost 6.5 time 6.6 development 6.7 improvement 6.8 fitness for purpose 6.9 whole life costs 6.10 use/adaptability 6.11 whole life costs 6.12 health, safety and welfare 6.13 economic impacts 6.14 community impacts 6.15 environmental impact 6.16 security 6.17 conservation impact
7 Clarify the project stakeholders' requirements by: 7.1 reference to standard documentation 7.2 checklists 7.3 client consultation 7.4 questionnaires 7.5 comparative field research 7.6 market research 7.7 technical requirements 7.8 client requirements 7.9 insurance risk impact 7.10 project management plan
8 Constraints and risks 8.1 cost 8.2 time 8.3 resources 8.4 health and safety 8.5 the environment 8.6 technical

Prepare a work schedule
9 Scope of work: 9.1 time 9.2 cost 9.3 quality objectives 10 Services: 10.1 design (including management services) 10.2 materials construction (e.g. buildings, roads, motorways, railways and all infrastructure projects) 10.3 10.4 plant and equipment 10.5 people 10.6 manufacture 11 Present: 11.1 orally 11.2 in writing 11.3 graphically 11.4 electronically

COSCCOC03
Develop and maintain working relationships and personal development in construction

Overview
This Unit is about developing and maintaining working relationships with colleagues, team members, your manager and others. It is also about you optimising your own performance and undertaking personal development. You will need to develop and maintain effective relationships, offering timely relevant information and helpful sensitive advice. You will need to present clear, timely proposals appropriately detailed. You will need to set and prioritise your own objectives and realistically plan

your work activities allowing for unforeseen circumstances and delegating where appropriate. You will need to make decisions, minimise disruptions, obtain further information as needed and regularly review progress, rescheduling as necessary. You will need to review your own performance, both by yourself and with your line manager, and identify personal development needs, forming these into a development plan. You will need to undertake development activities, record progress and re-review your performance.

Performance criteria
You must be able to:

Develop and maintain relationships with people
P1 develop and maintain working relationships with people which promote goodwill and trust
P2 inform people about work activities in an appropriate level of detail and with an appropriate degree of urgency
P3 offer advice and help to people about work activities with sensitivity
P4 present proposals for action clearly to people at an appropriate time and with the right level of detail for the degree of change, expenditure and risk involved

Optimise your own resources to meet objectives
P5 set objectives for your work which are specific, measurable and achievable within organisational constraints
P6 prioritise your objectives in line with organisational objectives and policies
P7 plan your work activities so that they are consistent with your objectives and your personal resources
P8 estimate the time you need for activities realistically and allow for unforeseen circumstances P9 delegate work to others in a way which makes the most efficient use of available time and resources
P10 take decisions as soon as you have sufficient information
P11 take prompt and efficient messages to obtain further information needed when taking decisions
P12 minimise unhelpful interruptions to, and digressions from, planned work
P13 regularly review progress and reschedule activities to help you in achieving your planned objectives

Undertake personal development in the occupational practice area
P14 review the personal aims and objectives for undertaking personal development
P15 identify sources of support and guidance for undertaking personal development
P16 identify and agree relevant standards of competence against which personal development can be measured
P17 review in conjunction with line manger the current personal level of performance against the identified standards of competence and record a profile of present competence and personal development needs
P18 confirm a development plan for achieving identified development needs
P19 undertake development activities aimed at achieving identified development needs, review and record progress and the effectiveness of the activities
P20 record evidence of competence gained against the identified standards of competence
P21 review the cycle of personal development aims and objectives and revise and update aims and objectives to suit changing circumstances

Knowledge and understanding
You need to know and understand:

Develop and maintain relationships with people

K1 how and why to develop working relationships with people which promote goodwill and trust (synthesis)

K2 how to maintain working relationships with people which promote goodwill and trust (application)

K3 how to inform people about work activities in an appropriate level of detail and with an appropriate degree of urgency (application)

K4 how and why to offer advice and help to people about work activities (synthesis)

K5 how to present proposals for action to people (application)

Optimise your own resources to meet objectives

K6 how and why to set objectives for your work which are specific, measurable and achievable within organisational constraints (synthesis)

K7 how and why to prioritise your objectives in line with organisational objectives and policies (analysis)

K8 how and why to plan your work activities so that they are consistent with your objectives and your personal resources (synthesis)

K9 how to estimate the time you need for activities realistically and allow for unforeseen circumstances (application)

K10 how to delegate work to others in a way which makes the most efficient use of available time and resources (application)

K11 how and why to take decisions as soon as you have sufficient information (evaluation)

K12 how to take prompt and efficient messages to obtain further information needed when taking decisions (application)

K13 how to minimise unhelpful interruptions to, and digressions from, planned work (application)

K14 how and why to regularly review progress and reschedule activities to help you in achieving your planned objectives (analysis)

Undertake personal development in the occupational practice area

K15 how to revise and update personal development aims and objectives to suit changing circumstances (application)

K16 how and why to review the personal aims and objectives for undertaking personal development (evaluation)

K17 what to identify as sources of support and guidance for undertaking personal development (understanding)

K18 how and why to review in conjunction with line manager the current personal level of performance against the identified standards of competence (analysis) what to identify as relevant standards of competence against which personal development can be measured (understanding)

K19 how to record a profile of present competence and personal development needs (application)

K20 how to record evidence of competence gained against the identified standards of competence (application)

K21 how and why to agree relevant standards of competence against which personal development can be measured (evaluation)

K22 how and why to confirm a development plan (synthesis)

K23 how and why to undertake development activities (evaluation)

K24 how and why to review progress and the effectiveness of the development activities (analysis)

K25 how to record progress and the effectiveness of the development activities (application)

Scope/ range

Develop and maintain relationships with people
1 Working relationships: 1.1 formal (project and regulatory) 1.2 informal

2 People: 2.1 technical 2.2 non-technical 2.3 authority 2.4 local community
3 Promote goodwill and trust: 3.1 demonstrating a duty of care 3.2 ethical relationships 3.3 professional independence 3.4 honouring promises and undertakings 3.5 honest relationships 3.6 constructive relationships 3.7 equal opportunities 3.8 encouraging diversity
4 Inform, offer advice and present: 4.1 orally 4.2 in writing 4.3 using graphics 4.4 electronically
5 Work activities: 5.1 progress 5.2 results 5.3 achievements 5.4 risks 5.5 opportunities 5.6 proposals and their impact 5.7 potential problems 5.8 resolving problems

Optimise your own resources to meet objectives
6 Organisational constraints: 6.1 organisational objectives 6.2 organisational policies 6.3 resources
7 Delegate to: 7.1 team members 7.2 colleagues working at the same level as yourself 7.3 people outside your organisation

Undertake personal development in the occupational practice area
8 Aims and objectives: 8.1 intellectual challenge 8.2 need for updating 8.3 need to provide evidence of maintenance of vocational competence 8.4 preparation for career development 8.5 compliance with employer and professional requirements 8.6 organisational credibility
9 Personal development: 9.1 maintenance of existing competence 9.2 improvements to existing competence 9.3 development of new competence
10 Sources of support and guidance: 10.1 national/industry bodies 10.2 professional institutions 10.3 education and training providers 10.4 in house
11 Standards of competence: 11.1 job descriptions & personal specification 11.2 professional institution requirements 11.3 national occupational standards 11.4 industry standards (e.g. card schemes & best practice)
12 Development activities 12.1 formal courses 12.2 work experience 12.3 personal study 12.4 work shadowing/secondments 12.5 mentoring 12.6 developing personal networks
13 Development plan includes: 13.1 priorities 13.2 target dates 13.3 development activities

Developed by: ConstructionSkills   Version number:
Date Approved: December 2012   Indicative review date: December 2018
Validity: Current   Status: Original
Originating organisation: ConstructionSkills   Original URN: COSCCOC03
Relevant occupations: Building and civil engineering technicians; estimators; valuers and assessors managers; quantity surveyors
Suite: Construction Contracting Operations
Keywords: Working relationships; colleagues; personal development; teams

COSCCOO23
Operate project information systems in construction

Overview
This unit is about the operating of a project information system in accordance with agreed procedures. You will need to record, collate and store the information and offer guidance to users of the system. You will also need to keep records up to date by archiving any redundant information.

Performance criteria
You must be able to:

P1 confirm the requirements for project information storage systems
P2 confirm and agree valid procedures for obtaining, selecting, classifying and recording information
P3 assess the relevance of information and classify the relevant information using the agreed system
P4 record information accurately and store it using the agreed procedures
P5 collate information and organise it into a suitable form for display and use advise and offer guidance to people who are unable to find the information they need and suggest alternative sources
P6 operate the project information system by following procedures which have been agreed so that the project information system remains reliable and secure
P7 set up and operate appropriate and valid procedures for maintaining up to date information, remove information which is not needed and archive redundant information
P8 identify and retrieve, summarise and disseminate information which might be of use to others

Knowledge and understanding
You need to know and understand:

K1 how to confirm the requirements for project information storage systems (application)
K2 how to confirm valid procedures for obtaining, selecting, classifying and recording information (application)
K3 how and why to agree valid procedures for obtaining, selecting, classifying and recording information (evaluation)
K4 how and why to assess the relevance of information and classify the relevant information using the agreed system (analysis)
K5 how to record information accurately and store it using the agreed procedures (application)
K6 how to collate information and organise it into a suitable form for display and use (application)
K7 how and why to advise and offer guidance to people who are unable to find the information they need and suggest alternative sources (synthesis)
K8 how to operate the project information system by following procedures which have been agreed so that the project information system remains reliable and secure (application)
K9 how and why to set up and operate appropriate and valid procedures for maintaining up to date information (evaluation)
K10 how to operate appropriate and valid procedures for maintaining up to date information and remove information which is not needed and archive redundant information (application)
K11 what to identify as information which might be of use to others (understanding)
K12 how to retrieve, summarise and disseminate information which might be of use to others (synthesis**)**

Scope/ range

1 Requirements: 1.1 scope 1.2 contents 1.3 users 1.4 operation 1.5 maintenance 1.6 classification system legal controls (e.g. Data Protection Act, patents, regulations, copyright law) 1.7
2 Project information storage systems: 2.1 paper based (e.g. manual files, technical library) 2.2 photo reduced (e.g. microfiche) 2.3 electronic (e.g. computer database, CD ROM, on-line)
3 Types of information: 3.1 providers 3.2 product documentation 3.3 standard drawings 3.4 specifications 3.5 technical books 3.6 product information 3.7

government and statutory publications 3.8 research and advisory data 3.9 reports
3.10 periodicals 3.11 abstracts 3.12 samples 3.13 project documentation 3.14
organisational documentation (e.g. pro forma) 3.15 published information
4 Commission the technical information system: 4.1 company devised 4.2 commercial
information service
5 Classify by: 5.1 project file 5.2 alphanumeric 5.3 organisational system
6 Use of the technical information storage system: 6.1 technical reference 6.2 current
record 6.3 archive record 6.4 knowledge management 6.5 personal development
(including Continuing Professional Development) 6.6 access controls

Developed by: ConstructionSkills	Version number:
Date Approved: December 2012	Indicative review date: December 2018
Validity: Current	Status: Original
Originating organisation: ConstructionSkills	Original URN: COSCCOO23
Relevant occupations: Building and civil engineering technicians; estimators; valuers and assessors managers; quantity surveyors	
Suite: Construction Contracting Operations	
Keywords: Information systems; project	

OPTIONAL UNITS

COSCCOO07
Prepare and process invitations to tender in construction

Overview
This unit is about identifying and pre-qualifying tenderers such as sub-contractors and
suppliers, and producing and issuing tender documents. You will need to identify and
list potential tenderers, send out pre-qualification enquiries, evaluate responses and
confirm the tender list. You will need to draw up, review for accuracy and issue tender
documents. You will need to deal with errors and enquiries and keep accurate records.
You will need to check tenders received against agreed criteria and recommend the
tender which best meets the criteria.

Performance criteria
You must be able to:

Identify potential tenderers
P1 identify a list of potential tenderers able to meet the contract criteria and suitable
for pre-qualification
P2 offer advice and information to decision makers about potential tenderers and the
selection criteria
P3 obtain pre-qualification information about potential tenderers to confirm evidence
about their experience and capability and availability to carry out the work
P4 evaluate potential tenderers who respond to the pre-qualification enquiry against
the selection criteria in order to short-list
P5 confirm that the selected tenderers are willing to bid and, if necessary, refer to the
original long list

Prepare and issue tender documents
P6 draft and review appropriate tender documents in relevant formats to ensure that
they cover the scope of the works, contract and client requirements
P7 ensure that all tender documents are issued in accordance with agreed procedures
P8 record any changes required by the client
P9 identify any changes which are reported and amend the tender documents and
ensure that addendums are re-issued

P10 keep accurate records of tender documents issued, feedback and identified changes
P11 implement action when tenderers withdraw from the process

Check tenders
P12 acknowledge and check the tenders received against the agreed criteria
P13 modify and repeat the tendering processes if too few tenders are received to show that there has been adequate competition
P14 check with tenderers if any discrepancies, omissions and errors are found in the tenders, and record any amendments which tenderers authorise.
P15 identify tenders which meet the criteria

Knowledge and understanding
You need to know and understand:

Identify potential tenderers
K1 how to identity a list of potential tenderers (application)
K2 how and why to offer advice and information to decision makers about potential tenderers and the selection criteria (synthesis)
K3 how to obtain pre-qualification information about potential tenderers to confirm evidence about their experience and capability and availability to carry out the work (application)
K4 how and why to evaluate potential tenderers against the selection criteria in order to short list (evaluation)
K5 how to confirm that the selected tenderers are willing to tender (application)

Prepare and issue tender documents
K6 how to draft appropriate tender documents (application)
K7 how and why to review tender documents (analysis)
K8 how to ensure that tender documents are issued in accordance with agreed procedures (application)
K9 how to record any changes required by the client (application)
K10 what to identify as any reported changes (understanding)
K11 how to amend the tender documents (application)
K12 how to ensure that addendums are re-issued (application)
K13 how to keep accurate records of tender documents issued, feedback and identified changes (application)
K14 how to implement action when tenderers withdraw from the process (application)

Check tenders
K15 how to acknowledge the tenderers received (application)
K16 how to check the tenderers received against the agreed criteria (application)
K17 how to modify and repeat the tendering processes if too few tenders are received to show that there has been adequate competition (application)
K18 how to check with tenderers if any discrepancies, omissions and errors are found in the tenders and record any amendments which tenderers authorise (application)
K19 what to identify as the tenders which meet the criteria (understanding)

Scope/ range

Identify potential tenderers
1 Tenderers: 1.1 contractors 1.2 sub/works/trade contractors 1.3 suppliers 1.4 consultants
2 Evidence: 2.1 documentary 2.2 references 2.3 interview
3 Selection criteria: 3.1 quality and delivery record 3.2 competitiveness 3.3 perceived added value (including reputation of potential contractors) 3.4 acceptability of known sub-contracting arrangements 3.5 acceptability to client 3.6 financial resources 3.7

references from previous clients and bankers 3.8 health and safety 3.9 competence of people 3.10 resources (human, materials, facilities) 3.11 insurance 3.12 environmental policy and management 3.13 innovation 3.14 local economic benefit

Prepare and issue tender documents
4 Tender: 4.1 open competitive 4.2 two stage 4.3 selected list 4.4 negotiated
5 Documents: 5.1 invitation to tender 5.2 form of tender 5.3 returns procedure 5.4 surveys 5.5 specifications 5.6 drawings 5.7 schedules 5.8 bills of quantities 5.9 health, safety and welfare requirements 5.10 scope of services 5.11 terms and conditions 5.12 schedules of rates 5.13 evaluation criteria and procedures 5.14 environmental requirements 5.15 procedures for submitting tenders
6 Formats: 6.1 paper 6.2 electronic
7 Client requirements: 7.1 preferred suppliers 7.2 confidentiality 7.3 publicity restrictions 7.4 local and economic benefits 7.5 industry accreditation 7.6 workforce accreditation 7.7 agreed conservation value
8 Changes: 8.1 price 8.2 quantity 8.3 quality 8.4 standards 8.5 carriage and delivery 8.6 completion 8.7 maintenance 8.8 after sales service 8.9 method of payment 8.10 terms of payment 8.11 contract conditions 8.12 survey information 8.13 timescales 8.14 client amendment
9 Tenderers: 9.1 contractors 9.2 sub/works/trade contractors 9.3 suppliers 9.4 consultants

Check tenders
10 Tenderers: 10.1 contractors 10.2 sub/works/trade contractors 10.3 suppliers 10.4 consultants
11 Criteria: 11.1 tender compliance 11.2 quality 11.3 technical viability 11.4 timescale 11.5 cost (budgets, rates) 11.6 loading and cash flow 11.7 policies which offer added value 11.8 any variations, adjustments and corrections

Developed by: ConstructionSkills	Version number:
Date Approved: December 2012	Indicative review date: December 2018
Validity: Current	Status: Original
Originating organisation: ConstructionSkills	Original URN: COSCCOO07

Relevant occupations: Building and civil engineering technicians; estimators; valuers and assessors managers; quantity surveyors
Suite: Construction Contracting Operations
Keywords: tenderers; tender documents; selection criteria

COSCCOO08
Prepare estimates, bids and tenders in construction

Overview
This unit is about the evaluation of tender enquiries, identifying and making necessary measurements and producing estimates by costing resources. You will need to check and summarise tender details and identify points of concerns. You will need to make recommendations about tenders and maintain records. You will need to assemble, collate and review information and measure quantities and prepare descriptions. You will need to identify inaccurate information and deal with it appropriately. You will need to develop working documents, calculate resource requirements, estimate costs, allowing for external factors, and produce an overall estimate. You will need to explain the costings and produce payment schedules.

Performance criteria
You must be able to:

Evaluate estimate, bid and tender enquiry documentation
P1 review and summarise the tender details and tender requirements
P2 identify any points of concern in the tender and refer them to decision makers for them to clarify and resolve
P3 evaluate the tender documents against the organisational capability and make recommendations to line managers
P4 make recommendations about tender requirements and potential alternatives, within the limits of the tender information which is available, and which provide an objective basis for making a decision on whether to make a bid
P5 maintain records about tender enquiries in confidence and only pass them on to people who have the authority to receive them

Calculate, quantities, resources and costs within a tender
P6 assemble and collate information and identify which categories of work require measurement
P7 review information to decide how to measure dimensions and calculate quantities methodically and in a way which conforms to relevant conventions, standard methods and standard phraseology
P8 calculate the quantities and prepare descriptions accurately, collate and sequence them correctly and present them in a way which meets their intended purpose
P9 calculate accurately, from available sources, what resources will be needed and investigate whether the resources will be available
P10 estimate resource costs by calculating an accurate cost for each item which is required
P11 develop a proposed method statement and draft programme which meet the tender enquiry requirements
P12 modify the cost to take into account any external factors which may affect the cost projections

Collate and present tender information
P13 refer quantity, resource and cost information to decision makers
P14 collate and produce the overall estimate of costs and checking that it is complete, accurate and in a form which is suitable for a judgment to be made
P15 explain and clarify the projected costs to support the calculations
P16 contribute to payment schedules which will meet known cash flow requirements collate, arrange and present tender offer information in accordance with procurement requirements to line manager

Knowledge and understanding
You need to know and understand:

Evaluate estimate, bid and tender enquiry documentation
K1 how and why to review the tender details and tender requirements (analysis)
K2 how to summarise the tender details and tender requirements (application)
K3 what to identify as any points of concern in the tender and refer them to decision makers for them to clarify and resolve (understanding)
K4 how and why to evaluate the tender documents against the organisational capability and make recommendations to line managers (evaluation)
K5 how and why to make recommendations about tender requirements and potential alternatives, within the limits of the tender information which is available, and which provide an objective basis for making a decision on whether to make a bid (synthesis)
K6 how to maintain records about tender enquiries in confidence and only pass them on to people who have the authority to receive them (application)

Calculate, quantities, resources and costs within a tender
K7 how to assemble and collate information (application)

K8 what to identify as categories of work requiring measurement (understanding)
K9 how and why to review information to decide how to measure dimensions and quantities (analysis)
K10 how to calculate the quantities and prepare descriptions accurately, collate and sequence them correctly and present them in a way which meets their intended purpose (application)
K11 how to calculate accurately, from available sources, what resources will be needed (application)
K12 how and why to investigate whether the resources will be available (analysis)
K13 how to estimate resource costs by calculating an accurate cost for each item which is required (analysis)
K14 how and why to develop a proposed method statement and draft programme which meet the tender enquiry requirements (synthesis)
K15 how to modify the cost to take into account any external factors which may affect the cost projections (application)

Collate and present tender information
K16 how to refer quantity, resource and cost information to decision makers (application)
K17 how to collate and produce the overall estimate of costs and checking that it is complete, accurate and in a form which is suitable for a judgment to be made (application)
K18 how to explain and clarify the projected costs to support the calculations (application)
K19 how to contribute to payment schedules which will meet known cash flow requirements (application)
K20 how to collate, arrange and present tender offer information in accordance with procurement requirements to line manager (application)

Scope/ range

Evaluate estimate, bid and tender enquiry documentation
1 Tender - type: 1.1 contractor 1.2 sub/works/trade contractor 1.3 supply 1.4 consultancy
2 Tender requirements: 2.1 construction 2.2 installation and maintenance work 2.3 supply of goods and materials 2.4 consultancy services
3 Decision makers: 3.1 clients and their agents 3.2 colleagues 3.3 line managers 3.4 specialists - internal or external to organisation
4 Points of concern: 4.1 inconsistent with the policy of the organisation 4.2 discrepancies within enquiry information 4.3 tender procedure requirements 4.4 quantitative requirements 4.5 qualitative requirements 4.6 contractual requirements
5 Tender documents - type: 5.1 invitation to tender 5.2 form of tender 5.3 returns procedure 5.4 survey reports 5.5 specifications 5.6 drawings 5.7 schedules 5.8 bills of quantities 5.9 health and safety & welfare policies 5.10 environmental policies 5.11 scope of services 5.12 terms and conditions 5.13 schedule of rates 5.14 procedures for submitting tenders 5.15 evaluation criteria and procedures
6 Organisational capability: 6.1 financial 6.2 viability of tendering information 6.3 current workload 6.4 type of work 6.5 competence of people 6.6 timescale (tender & contract) 6.7 social policies 6.8 environmental impact 6.9 location 6.10 social and political policies

Calculate, quantities, resources and costs within a tender
7 Information: 7.1 drawings 7.2 schedules 7.3 specifications 7.4 information about the contract and allocation of risks and responsibilities 7.5 quotations 7.6 records of queries raised and answers 7.7 standard methods of measurement 7.8 technical literature
8 Measurement - relates to: 8.1 trade 8.2 elemental 8.3 operational 8.4 approximate

8.5 schedules of rates

9 Measure dimensions and calculate quantities: 9.1 manual 9.2 electronic

10 Calculate cost: 10.1 manual 10.2 electronic

11 Estimate: 11.1 cost based on a quotation 11.2 unit cost built up from basic data 11.3 internal and historical cost data 11.4 published cost data

12 Intended purpose: 12.1 procurement 12.2 contract 12.3 production

13 Resources - type: 13.1 people (in-house, external) 13.2 plant and equipment 13.3 materials 13.4 finance 13.5 time 13.6 supply options

14 Tender requirements: 14.1 invitation to tender 14.2 form of tender 14.3 returns procedure 14.4 surveys 14.5 specifications 14.6 drawings 14.7 schedules 14.8 bills of quantities 14.9 health, safety and welfare requirements 14.10 scope of services 14.11 terms and conditions 14.12 schedules of rates 14.13 evaluation criteria and procedures 14.14 environmental requirements 14.15 procedures for submitting tenders

15 External factors: 15.1 variations over time 15.2 geographic location 15.3 statutory and contractual requirements 15.4 special working conditions and methods 15.5 special resourcing conditions and availability

Assess the resource requirements and costs within a tender

16 Explain and clarify: 16.1 orally 16.2 written 16.3 electronic

17 Tender offer 17.1 contractor 17.2 sub/works/trade contractor 17.3 supply 17.4 consultancy 17.5 purchase

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Developed by: ConstructionSkills   Version number:
Date Approved: December 2012   Indicative review date: December 2018
Validity: Current   Status: Original
Originating organisation: ConstructionSkills   Original URN: COSCCOO08
Relevant occupations: Building and civil engineering technicians; estimators; valuers and assessors managers; quantity surveyors
Suite: Construction Contracting Operations
Keywords: tender enquiries; bid; tender requirements; measurement; resource requirements

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COSCCOO04
Prepare for, collect, analyse and present survey data in construction

Overview
This unit is about making preparations to carry out a survey, carrying out the survey in the most appropriate way, and collecting, checking and verifying the data and presenting it in a suitable format. You will need to confirm the specification and methods ensuring that all permissions have been obtained and suitable equipment is available. You will also need to check the equipment, brief the people involved and ensure that all arrangements are in place and conform to specified requirements. You will need to carry out the survey in accordance with agreed procedures, consulting others where relevant and implement changes to allow for changing circumstances that may arise. You will also need to record the data and ensure that any restoration needed is carried out. You will need to collect, check and verify the data, present it including the provision of any commentary in a suitable format and also advise people how to interpret the data.

Performance criteria
You must be able to:

Prepare to carry out surveys

P1 confirm that the survey specification and the survey method statement is accurate before starting the work
P2 check and confirm, before starting work, that people who will be affected have given their permission
P3 arrange for suitable equipment to be brought to the site and kept safely and securely
P4 check equipment so that it is accurate before it is used for taking measurements P5 brief the people who will be involved in the survey about survey and safety arrangements
P6 check and confirm that signs, arrangements for personal safety, equipment and site access conform to good practice, legislation and regulation

Carry out surveys
P7 conduct the survey in a way which maintains the level of accuracy required, balances content and cost and keeps disruption to a minimum
P8 conform to safe working practices when on the site
P9 consult with experts when specialist information is needed which is relevant to the survey
P10 set appropriate horizontal and vertical controls and record them
P11 take accurate observations and measurements using valid methods
P12 change work procedures and practices to allow for different circumstances and conditions
P13 record survey data clearly and accurately and store it securely for later analysis
P14 restore areas which have been opened up for access so that subsequent processes can take place

Present survey data
P15 collect together recorded survey data to allow an accurate analysis to be made
P16 check and verify the survey data to maintain accuracy and integrity
P17 present the data, commentary and any support information accurately, clearly and in a format which is suitable for those who need to use it
P18 advise people who will be using the survey data on how to interpret it and highlight the scope and limitations on its use

Knowledge and understanding
You need to know and understand:

Prepare to carry out surveys
K1 how to confirm that the survey method statement is accurate before starting the work (application)
K2 how to check and confirm, before starting work, that people who will be affected have given their permission (application)
K3 how to arrange for suitable equipment to be brought to the site and kept safely and securely (application)
K4 how to check equipment (application)
K5 how to brief the people who will be involved in the survey about survey and safety arrangements (application)
K6 how to check and confirm that signs, arrangements for personal safety, equipment and site access conform to good practice, legislation and regulations (application)

Carry out surveys
K7 how to conduct the survey (application)
K8 how to conform to safe working practices when on the site (application)
K9 how to consult with experts when specialist information is needed which is relevant to the survey (application)
K10 how to set appropriate horizontal and vertical controls and record them (application)

K11 how to take accurate observations (application)
K12 how to change work procedures and practices to allow for different circumstances and conditions (application)
K13 how to record and store survey data (application)
K14 how to restore areas which have been opened up for access so that subsequent processes can take place (application)

Present survey data
K15 how to collect together recorded survey data to allow an accurate analysis to be made (application)
K16 how to check and verify the survey data to maintain accuracy and integrity (application)
K17 how to present the data, the commentary and any support information accurately, clearly and in a format which is suitable for those who need to use it (application)
K18 how and why to advise people who will be using the survey data on how to interpret it and highlight the scope and limitations on its use (synthesis)

Scope/ range

Prepare to carry out surveys
1 Survey - type: 1.1 land 1.2 building 1.3 engineering 1.4 environmental
2 Survey - method: 2.1 visual 2.2 approximate measured 2.3 detailed measurement of all specified features 2.4 graphic 2.5 instrumental 2.6 method statement
3 Permission from: 3.1 client 3.2 site owner and occupiers 3.3 adjoining owners and occupiers 3.4 notifiable authorities
4 Equipment: 4.1 mechanical 4.2 optical 4.3 electronic
5 Safety: 5.1 personal safety 5.2 equipment and clothing 5.3 safe use of access equipment 5.4 health and safety practice and regulations 5.5 industry codes of practice 5.6 regulations applying to the survey site 5.7 signage

Carry out surveys
6 Survey - type: 6.1 land 6.2 building 6.3 engineering 6.4 environmental
7 Survey - method: 7.1 visual 7.2 approximate measured 7.3 detailed measurement of all specified features 7.4 graphic 7.5 instrumental 7.6 method statement
8 Safe working practices: 8.1 personal safety 8.2 equipment and clothing 8.3 safe use of access equipment 8.4 health and safety practice and regulations 8.5 industry codes of practice 8.6 regulations applying to the survey site 8.7 signage 8.8 site access & working areas
9 Circumstances and conditions: 9.1 topography 9.2 water 9.3 obstacles 9.4 climatic variation 9.5 live conditions (e.g. buildings and sites in use, roads, railways, runways) 9.6 planned circumstances 9.7 emergency circumstances

Present survey data
10 Survey - method: 10.1 visual 10.2 approximate measured 10.3 detailed measurement of all specified features 10.4 graphic 10.5 instrumental 10.6 method statement
11 Present: 11.1 orally 11.2 in writing 11.3 graphically 11.4 electronically

COSCCOO05
Record the condition of property in construction

Overview

This unit is about recording the condition of property and preparing and presenting condition survey reports and records You will need to select and evaluate relevant information, methods and techniques for the condition survey process. You will also need to confirm agreements for the condition survey before work starts. You will need to evaluate data to identify the purpose of the inspection. You will need to check and confirm that people affected have given their permission. You will need to take observations and measurements for the inspection and recording them. You will need to assemble and collate information on the condition survey. You will then need to prepare a condition survey report. You will also need to answer clients' questions about the condition survey.

Performance criteria

You must be able to:

Confirm a condition survey process

P1 collate available information and documents and verify the objectives and purpose of the condition survey

P2 select valid, accurate and relevant information for the condition survey process P3 identify the levels and types of professional support which will be needed and brief advisers with clear and accurate summaries of the information available

P4 select methods and techniques for the condition survey process which meet the requirements of relevant professional codes of practice

P5 evaluate relevant information and advice and identify significant factors which may influence the condition survey

P6 confirm the instructions and agreements for the condition survey before work starts

Inspect condition of property

P7 evaluate available data, identify the purpose of the inspection and obtain the equipment and resources that will be needed

P8 check and confirm, before starting the condition inspection, that people who will be affected have given their permission

P9 take accurate observations and measurements which are necessary for the inspection and record them clearly, accurately and completely using agreed formats and conventions

P10 identify gaps in information and obtain and evaluate additional data needed about the property and its use

P11 record observations which are inconsistent with existing data and expected findings, and instances of failure and deterioration, and report them to people who have an interest

P12 identify and record parts of the property which do not conform to statutory requirements and report them to people who have an interest

Prepare and present condition survey reports and records

P13 assemble and collate information on the condition survey prepare a condition survey report which is accurate, complete, meets relevant codes of practice and standards, clearly specifies the level of condition

P14 explain clearly where and why accurate inspection and measurement may not be possible

P15 answer the client's questions about the condition survey and give appropriate clarification

P16 maintain records which are clear, accurate and complete and conform to accepted professional and statutory requirements

Knowledge and understanding
You need to know and understand:

Confirm a condition survey process
K1 how to collate available information and documents (application)
K2 how to verify the objectives and purpose of the condition survey (application)
K3 how and why to select valid, accurate and relevant information for the condition survey process (evaluation)
K4 what to identify as the levels and types of professional support which will be needed (understanding)
K5 how to brief advisers with clear and accurate summaries of the information available (application)
K6 how and why to select methods and techniques for the condition survey (evaluation)
K7 how and why to evaluate relevant information and advice (evaluation)
K8 what to identify as significant factors which may influence the condition survey (understanding)
K9 how to confirm the instructions and agreements for the condition survey before work starts (application)

Inspect condition of property
K10 how and why to evaluate available data (evaluation)
K11 what to identify as the purpose of the inspection (understanding)
K12 how to obtain the equipment and resources that will be needed (application)
K13 how to check and confirm, before starting the inspection, that people who will be affected have given their permission (application)
K14 how to take and record accurate observations and measurements which are necessary for the inspection, using agreed formats and conventions (application)
K15 what to identify as gaps in information (understanding)
K16 how to obtain additional data needed about the property and its use (application)
K17 how and why to evaluate additional data needed about the property and its use (evaluation)
K18 how and why to record observations which are inconsistent with existing data and expected findings (analysis)
K19 how to identify parts of the property that do not conform to statutory requirements (understanding)
K20 how to record and report those parts of the property that do not conform to people who have an interest (application)

Prepare and present condition survey reports and records
K21 how to assemble and collate information on the condition survey (application)
K22 how to prepare a condition survey report (application)
K23 how to explain clearly where and why accurate inspection and measurement may not be possible (application)
K24 how to answer the client's questions about the condition survey and give appropriate clarification (application)
K25 how to maintain records (application)

Scope/ range

Confirm a condition survey process
1 Information and documents - sources: 1.1 land registry 1.2 local search 1.3 statutory notice 1.4 acts of parliament 1.5 local authority

2 Condition survey: 2.1 letting 2.2 compensation 2.3 insurance 2.4 dilapidation 2.5 tenant rights 2.6 condition 2.7 estimating
3 Relevant information: 3.1 legal 3.2 physical 3.3 previous surveys 3.4 technical 3.5 historical 3.6 access & permissions
4 Significant factors: 4.1 degree of urgency 4.2 gaps in information 4.3 susceptibility to damage 4.4 safety requirements

Inspect condition of property
5 Sources: 5.1 the client 5.2 land registry 5.3 local search 5.4 tenants 5.5 occupiers 5.6 local authorities
6 Inspection - type: 6.1 letting 6.2 compensation 6.3 insurance 6.4 dilapidation 6.5 tenant right 6.6 condition 6.7 estimating 7
 Record: 7.1 in writing 7.2 electronically 7.3 graphically
8 Conventions: 8.1 relevant professional bodies' guidance 8.2 in house 8.3 health and safety legislation 8.4 building standards and legislation

Prepare and present condition survey reports and records
9 Information - sources: 9.1 the client 9.2 land registry 9.3 local search 9.4 tenants 9.5 occupiers 9.6 survey data 9.7 local authorities 9.8 industry standards and legislation 9.9 published technical data
10 Condition survey: 10.1 letting 10.2 compensation 10.3 insurance 10.4 dilapidation 10.5 tenant right 10.6 condition 10.7 estimating

Developed by: ConstructionSkills	Version number:
Date Approved: December 2012	Indicative review date: December 2018
Validity: Current	Status: Original
Originating organisation: ConstructionSkills	Original URN: COSCCOO05

Relevant occupations: Building and civil engineering technicians; estimators; valuers and assessors managers; quantity surveyors
Suite: Construction Contracting Operations
Keywords: Condition survey; inspection; measurement; property assets

COSCCOO06
Prepare drawings and schedules in construction

Overview
This unit is about the preparation, checking, approval and control of drawings, schedules and associated information. You will need to produce accurate drawings in an appropriate form using standard conventions. You will need to have drawings checked and approved as necessary and keep relevant records. You will need to produce accurate schedules in an appropriate form using standard conventions. You will need to have schedules checked and approved as necessary and keep relevant records.

Performance criteria
You must be able to:

Prepare drawings and associated information
P1 produce drawings fit for purpose and which are complete, accurate, and comply with the design information
P2 select methods and media which are suitable for the drawings required, and which can be produced with the resources and time available
P3 use standard drawing conventions and identify and justify any deviations from them

P4 clarify any information to be included which is incomplete and inconsistent and make accurate amendments
P5 keep registers and records of drawings which are complete, accurate and up-todate
P6 obtain necessary checks and approvals for the content and presentation of drawings
P7 use methods for production and record keeping which are consistent with quality assurance procedures

Prepare schedules
P8 select a format for the schedules which meets the requirements of the production process, the method of measurement used and the way in which the schedules will be used
P9 obtain information accurately from the source documents and the site according to standard requirements
P10 check and confirm that the data is complete and reference the data, correctly, to the specification, drawings, manufacturers' references and other appropriate standards
P11 clarify any information to be included which is incomplete and inconsistent and make accurate amendments
P12 calculate quantities and preparing descriptions which are an accurate reflection of changes, clarifications and corrections to the source documents and the brief
P13 select methods and media which are suitable for the schedules required, and which can be produced with the resources and time available
P14 keep registers and records which are complete, accurate and up- to-date
P15 obtain necessary checks and approvals for the content and presentation of schedules
P16 use methods for production and record keeping which are consistent with quality assurance procedures

Knowledge and understanding
You need to know and understand:

Prepare drawings and associated information
K1 how to produce drawings which are fit for purpose (application)
K2 how and why to select methods and media (evaluation)
K3 how to use standard drawing conventions (application)
K4 what to identify as deviations from drawing conventions (understanding)
K5 how and why to justify deviations from drawing conventions (evaluation)
K6 how to clarify any information to be included which is incomplete and inconsistent, and make accurate amendments (application)
K7 how and why to keep registers and records of drawings (synthesis)
K8 how to obtain necessary checks and approvals for the content and presentation of drawings (application)
K9 how to use methods for production and record keeping which are consistent with quality assurance procedures (application)

Prepare schedules
K10 how and why to select a format for the schedules which meets the requirements of the production process, the method of measurement used and the way in which the schedules will be used (evaluation)
K11 how to obtain information accuately from the source documents and the site according to standard requirements (application)
K12 how to check and confirm that the data is complete (application)
K13 how to clarify and make accurate amendments to any information to be included which is incomplete and inconsistent (application)
K14 how to calculate quantities and prepare descriptions (application)
K15 how and why to select methods and media (evaluation)

K16 how to reference the data to the specification, drawings, manufacturer's references and other appropriate standards (application)
K17 how to keep complete, accurate and up-to-date registers and records (application)
K18 how to obtain checks and approvals (application)
K19 how to use methods for production and record keeping (application)

Scope/ range

Prepare drawings and associated information
1 Drawings: 1.1 location, assembly, component 1.2 sketches 1.3 scale and full size working drawings 1.4 schedules 1.5 presentation drawings 1.6 co-ordination drawings
2 Purpose: 2.1 obtain consents 2.2 estimating 2.3 procurement 2.4 contract 2.5 production 2.6 presentation 2.7 as built record 2.8 health and safety file 2.9 factory manufacture 2.10 site installation 2.11 sub-contract and specialist details 2.12 record payments
3 Methods and media: 3.1 manual 3.2 electronic
4 Drawing conventions: 4.1 detailing standards 4.2 codes of practice 4.3 current industry practice 4.4 methods of coordination (e.g. Common Arrangement)
5 Registers and records: 5.1 incoming and outgoing drawing and document registers 5.2 records of document approval and revision 5.3 quality assurance documentation
6 Checks and approvals cover: 6.1 format 6.2 presentation 6.3 accuracy 6.4 technical content 6.5 completeness 6.6 referencing 6.7 cross-referencing and correlation with associated documents 6.8 status 6.9 positioning 6.10 shape 6.11 dimensions 6.12 tolerances 6.13 composition 6.14 fixing 6.15 annotation 6.16 symbols and conventions

Prepare schedules
7 Schedules: 7.1 schedules of rates 7.2 schedules of works materials, building elements and components, finishes 7.3 health and safety plans 7.4 archiving 7.5 cutting sheets and requisitions
8 Schedules will be used for: 8.1 obtaining consents 8.2 estimating 8.3 procurement 8.4 contract 8.5 production 8.6 as built records 8.7 health and safety file 8.8 factory manufacture 8.9 site installation 8.10 sub-contract and specialist details 8.11 record payments 8.12 presentation
9 Methods and media: 9.1 manual 9.2 electronic
10 Register and records: 10.1 incoming and outgoing drawing and document registers 10.2 records of document approval and revision 10.3 quality assurance documentation
11 Checks and approvals cover: 11.1 format 11.2 presentation 11.3 accuracy 11.4 technical content 11.5 completeness 11.6 referencing 11.7 cross-referencing and correlation with associated documents 11.8 status 11.9 positioning 11.10 shape 11.11 dimensions 11.12 tolerances 11.13 composition 11.14 fixing 11.15 annotation 11.16 symbols and conventions

COSCCOO09
Prepare for work operations in construction

Overview

This unit is about implementing the work and ensuring it complies with quality standards and legal and statutory requirements. It is about preparing a site for the work to be carried out and obtaining all the necessary resources. You will need to identify all the factors such as safety, access, public utilities, layout and security that will affect the work on site and make the necessary arrangements to satisfy them. You will need to assemble and clarify information regarding carrying out the work and obtain resources to meet project requirements.

Performance criteria

You must be able to:

Review construction phase information

P1 assemble and review relevant information which was used in the preparation of the project plan, clarify any information which is not clear and update it for production planning purposes

P2 review the construction phase plan to see that it adequately meets the requirements of the Regulations and addresses the key project risks identified in the pre-construction information

P3 review the welfare proposals to ensure that they adequately met the requirements of schedule two in the Regulations

P4 provide suitable and sufficient advice to the client about the adequacy of the construction phase plan and the implications of that advice for the start of the construction phase

P5 give adequate notice, as required in the contract, to all the people who will be affected about when the work will start, how long it will take and when it will finish, and confirm all the dates in writing

P6 identify, record and obtain information requirements before work starts

P7 plan and obtain sufficient resources of the appropriate type which will meet the project requirements and timescales

Prepare for site operations

P8 identify with site personnel any special considerations, record them and pass them on to people who may be affected

P9 give accurate details about the proposed works to the regulatory authorities, utility and emergency services, including obtaining necessary approvals

P10 make arrangements for adequate site safety and security before work starts

P11 prepare the site layout for operational purposes and pass on information about the plans to the people who will be working on the site

Implement and control work operations

P12 organise the resources necessary to complete the project programme, including explaining the detailed programme and method statements to the workforce

P13 control the works and resources so that conditions are safe, the site is tidy and creates a favourable image of the organisation, its products and its services and of the project

P14 monitor progress against the programme and identify actions which can be taken to minimise disruption to the programme and communicate them to line manager

Knowledge and understanding

You need to know and understand:

Review construction phase information

K1 how to assemble relevant information which was used in the preparation of the project plan (application)

K2 how and why to review relevant information which was used in the preparation of the project plan (analysis)

K3 how to clarify any information which is not clear and update it for production planning purposes (application)
K4 how and why to review the construction phase plan to see that it adequately meets the requirements of the Regulations and addresses the key project risks identified in the pre-construction information (analysis)
K5 how and why to review the welfare proposals to ensure that they adequately met the requirements of schedule two in the Regulations (analysis)
K6 how to provide suitable and sufficient advice to the client about the adequacy of the construction phase plan and the implications of that advice for the start of the construction phase (application)
K7 how to give adequate notice, as required in the contract, to all the people who will be affected about when the work will start, how long it will take and when it will finish, and confirm all the dates in writing (application)
K8 what to identify as information requirements before work starts (understanding)
K9 how to record and obtain information requirements before work starts (application)
K10 how and why to plan and obtain sufficient resources of the appropriate type which will meet the project requirements and timescales (synthesis)
K11 how to obtain sufficient resources of the appropriate type which will meet the project requirements and timescales (application)

Prepare for site operations
K12 what to identify with site personnel as any special considerations (understanding)
K13 how to record special considerations and pass them on to people who will be affected (application)
K14 how to give accurate details about the proposed works to the regulatory authorities, utility and emergency services, including obtaining necessary approvals (application)
K15 how to make arrangements for adequate site safety and security before work starts (application)
K16 how and why to prepare the site layout for operational purposes and pass on information about the plans to the people who will be working on the site (synthesis)

Implement and control work operations
K17 how to organise the resources necessary to complete the project programme, including explaining the detailed programme and method statements to the workforce (application)
K18 how and why to control the works and resources so that conditions are safe, the site is tidy and creates a favourable image of the organisation, its products and its services and of the project (evaluation)
K19 how and why to monitor progress against the programme (analysis)
K20 what to identify as actions which can be taken to minimise disruption to the programme (understanding)
K21 how to communicate actions to line manager actions which can be taken to minimise disruption to the programme (application)

Scope/ range

Review construction phase information
1 Information: 1.1 survey reports 1.2 design 1.3 contractual 1.4 statutory consents 1.5 contractor's pre-planning information 1.6 Construction Phase Plan 1.7 sub-contract
2 Construction Phase Plan: 2.1 project specific 2.2 provision for recording revisions 2.3 in a form suitable for the users topics as approved in code of practice Managing Health and Safety in Construction Appendix 3 2.4
3 Requirements of schedule two in the Regulations: 3.1 sanitary conveniences 3.2 washing facilities 3.3 drinking water 3.4 changing rooms and lockers 3.5 facilities for rest

4 Requirements - relating to: 4.1 occupiers 4.2 environmental considerations 4.3 vehicular access/egress 4.4 health and safety 4.5 hazards 4.6 trespass 4.7 near neighbours 4.8 public access 4.9 site conditions 4.10 statutory regulations and limitations 4.11 codes of practice

Prepare for site operations
5 Special considerations: 5.1 occupiers 5.2 near neighbours 5.3 public access 5.4 site conditions 5.5 site conditions 5.6 statutory regulations and limitations 5.7 codes of practice 5.8 health, safety and welfare 5.9 environment 5.10 hazards 5.11 third parties
6 Site layout for operational purposes: 6.1 storage and materials handling 6.2 temporary accommodation 6.3 work areas 6.4 plant 6.5 temporary services 6.6 access/egress 6.7 traffic movement 6.8 security 6.9 continuing use by occupiers 6.10 waste management 6.11 pollution control

Implement and control work operations
7 Programme: 7.1 bar charts 7.2 network analysis 7.3 critical paths 7.4 line of balance 7.5 action lists 7.6 method statements
8 Resources: 8.1 people 8.2 plant and equipment 8.3 materials and components 8.4 sub-contactors 8.5 information

COSCCOO10
Implement contract work in construction

Overview
This unit is about organising and controlling resources, developing effective plans to meet contingencies, and informing those responsible for making necessary changes. You will need to identify quality standards, implement systems and check for conformity. You will need to implement corrective action where there is non-conformity. You will need to identify statutory and contractual requirements, implement systems and identify non-compliance. You will need to implement corrective action where there is non-compliance.

Performance criteria
You must be able to:

Control work against agreed contract quality standards
P1 identify contract quality standards and guidance and the people responsible for meeting them
P2 identify sources of guidance on implementing work to the specified standard and pass that information on to those people responsible for doing the work
P3 set up systems for inspecting and controlling the quality of work and record the outcomes
P4 specify clearly the responsibilities which individuals have for maintaining quality standards and guidance

P5 check that work is carried out in accordance with the guidance obtained and to the quality standards
P6 identify work which has not met the quality standards and suggest corrective action to line manager and if agreed, monitor progress
P7 identify improvements from feedback received and recommend them to decision makers

Maintain contract compliance with statutory and contractual requirements
P8 identify statutory and contractual requirements
P9 brief people about their statutory and contractual Responsibilities before they start work on the contract
P10 develop and implement monitoring systems, collect information regularly and summarise it accurately
P11 identify situations which do not comply with statutory and contractual requirements, investigate the circumstances thoroughly and take appropriate corrective action
P12 identify any new statutory and contractual requirements which may have an impact on the project, summarise the important details and pass this on to people who have an interest
P13 complete statutory and contractual returns accurately and on time

Knowledge and understanding
You need to know and understand:

Control work against agreed contract quality standards
K1 what to identify as contract quality standards and guidance and the people responsible for meeting them (understanding)
K2 what to identify as sources of guidance on implementing work to the specified standard (understanding)
K3 how to pass information on to those people responsible for doing the work (application)
K4 how and why to set up systems for inspecting and controlling the quality of work (synthesis)
K5 how to record the outcomes of systems for inspecting and controlling the quality of work (application)
K6 specify clearly the responsibilities which individuals have for maintaining quality standards and guidance (evaluation)
K7 how to check that work is carried out in accordance with the guidance obtained and to the quality standards (application)
K8 what to identify as work which has not met the quality standards (understanding
K9 how and why to suggest corrective action to line manager (synthesis)
K10 how and why to monitor progress of agreed corrective action taken (analysis)
K11 what to identify as any improvements from feedback received (understanding)
K12 how and why to recommend them to decision makers (synthesis)

Maintain contract compliance with statutory and contactual requirements
K13 what to identify as statutory and contractual requirements (understanding)
K14 how to brief people on statutory and contractual responsibilities before they start work on the contract (application)
K15 how and why to develop monitoring systems (synthesis)
K16 how to implement monitoring systems and collect and summarise information (application)
K17 what to identify as situations which do not comply with statutory and contractual requirements (understanding)
K18 how and why to investigate the circumstances of situations which do not comply with statutory and contractual requirements (analysis)

K19 how to take appropriate corrective action in situations which do not comply with legal and statutory requirements (application)
K20 what to identify as any new statutory and contractual requirements which may have an impact on the project (understanding)
K21 how to summarise the important details of any new statutory and contractual requirements which may have an impact on the project (application)
K22 how to complete statutory and contractual returns (application)

Scope/ range

Control work against agreed contract quality standards
1 Quality standards and guidance: 1.1 statutory requirements 1.2 contract requirements 1.3 project specifications 1.4 British Standards 1.5 International Standards 1.6 Codes of Practice 1.7 organisation standards 1.8 trade advisory guidance and best practice 1.9 benchmarks 1.10 dimensional control criteria
2 People responsible: 2.1 operatives and tradespersons 2.2 consultants 2.3 contractors 2.4 sub-contractors 2.5 suppliers 2.6 workforce
3 Systems: 3.1 inspection 3.2 comparison with design requirements 3.3 comparison with standard documentation 3.4 checking manufacturers documentation 3.5 checking delivery notes 3.6 sampling and mock-ups 3.7 testing 3.8 inspection reports 3.9 contractors' reports 3.10 site meetings 3.11 dimension checks
4 Work: 4.1 materials and components and their use 4.2 construction

Maintain contract compliance with statutory and contractual requirements
5 Statutory and contractual requirements and responsibilities for: 5.1 Building Control 5.2 environmental health 5.3 health, safety and welfare 5.4 environment (e.g. noise, dust, transport, emissions, waste management) 5.5 fire 5.6 utilities regulations 5.7 highways 5.8 heritage and ecology 5.9 development licences and building permits 5.10 employment practice 5.11 byelaws 5.12 non-statutory guidelines 5.13 community benefits 5.14 energy use 5.15 insurance 5.16 project activities 5.17 security
6 Monitoring systems: 6.1 inspection 6.2 comparison with design requirements 6.3 comparison with standard documentation 6.4 checking manufacturers' documentation 6.5 checking delivery notes 6.6 sampling 6.7 testing 6.8 site inspection reports 6.9 contractors' reports 6.10 meetings 6.11 dimension checks
7 Corrective action: 7.1 instigate contingency action and restore compliance 7.2 agree waiver
8 People who have an interest: 8.1 operatives and tradespersons 8.2 consultants 8.3 contractors 8.4 sub-contractors 8.5 suppliers 8.6 workforce

Developed by: ConstructionSkills   Version number:
Date Approved: December 2012   Indicative review date: December 2018
Validity: Current   Status: Original
Originating organisation: ConstructionSkills   Original URN: COSCCOO10
Relevant occupations: Building and civil engineering technicians; estimators; valuers and assessors managers; quantity surveyors
Suite: Construction Contracting Operations
Keywords: Contracts; quality standards; legal and statutory requirements; non compliance; resources

COSCCOO11
Establish and maintain the dimensional control of construction works
Overview

This unit is about obtaining and verifying dimensional control information, selecting techniques and equipment, setting out activities and ensuring accuracy of the work. You will need to obtain, collate and verify relevant information and using appropriate techniques and equipment, set out as required, recording information needed for later use. You will need to supply the workforce with dimensional control information, ensure that the results of setting out activities are accurate and also identify and deal with deviations. You will need to check and maintain equipment as specified by manufacturers.

Performance criteria
You must be able to:

Apply dimensional control criteria
P1 obtain available survey information, check that it is up to date and resolve any problems
P2 correlate information on construction and installation which is relevant to the setting out of the project
P3 identify variations between the specified and the actual site dimensions, record them and circulate them to line manager
P4 provide the workforce with sufficient clear and accurate information to enable them to accurately position, align and level the work using relevant setting out techniques
P5 identify, develop and agree a method statement for setting out which will achieve the required degree of accuracy
P6 select, check and maintain measuring and recording equipment which meets the specified accuracy criteria
P7 apply relevant setting out techniques which meet the specified accuracy criteria
P8 set out reference markers which are suitably placed, accurately placed, identified clearly and protected from movement or removal
P9 record any setting out information which may be of later use and store it securely so that it is available when needed

Maintain the dimensional accuracy of works
P10 check measuring and recording equipment, and apply the manufacturer's tolerances to adjust them to maintain the specified accuracy
P11 observe and measure dimensional controls, setting out points, lines and profiles accurately and record the results to meet quality standards
P12 identify any deviations in position, alignment and level and take the necessary corrective action
P13 revise work procedures and practices to minimise deviations and to allow for different circumstances and conditions

Knowledge and understanding
You need to know and understand:

Apply dimensional control criteria
K1 how to obtain available survey information and check that survey information is up to date (application)
K2 how and why to resolve any problems with survey information (synthesis)
K3 how to correlate information on construction and installation which is relevant to the setting out of the project (application)
K4 what to identify as variations between the specified and the actual site dimensions, record them and circulate them to line manager (understanding)
K5 how to provide the workforce with sufficient clear and accurate information to enable them to accurately position, align and level the work using relevant setting out techniques (application)
K6 what to identify as a method statement for setting out which will achieve the required degree of accuracy (understanding)

K7 how and why to develop a method statement for setting out which will achieve the required degree of accuracy (synthesis)

K8 how and why to agree a method statement for setting out which will achieve the required degree of accuracy (evaluation)

K9 how to select, check and maintain measuring and recording equipment which meets the specified accuracy criteria (application)

K10 how to apply relevant setting out techniques which meet the specified accuracy criteria (application)

K11 how to set out reference markers which are suitably placed, accurately placed, identified clearly and protected from movement or removal (application)

K12 how to record any setting out information which may be of later use and store it securely so that it is available when needed (application)

Maintain the dimensional accuracy of works

K13 how to check measuring and recording equipment, and apply the manufacturer's tolerances to adjust them to maintain the specified accuracy (application)

K14 how to observe and measure dimensional controls, setting out points, lines and profiles accurately and record the results to meet quality standards (application)

K15 what to identify as any deviations in position, alignment and level and take the necessary corrective action (understanding)

K16 how to revise work procedures and practices to minimise deviations and to allow for different circumstances and conditions (application)

Scope/ range

Apply dimensional control criteria

1 Problems: 1.1 unclear and missing information 1.2 inconsistencies between documents

2 Information: 2.1 dimensions 2.2 locations 2.3 levels (including inaccuracies and deviations) 2.4 grid systems 2.5 templates 2.6 schedules

3 Variations: 3.1 boundaries 3.2 levels 3.3 locations

4 Reference markers: 4.1 ground stations 4.2 base lines 4.3 benchmarks 4.4 elevated target positions

5 Measuring and recording equipment: 5.1 mechanical 5.2 optical 5.3 electronic

Maintain the dimensional accuracy of works

6 Dimensional controls: 6.1 lines 6.2 levels 6.3 angles 6.4 distances 6.5 curves

7 Measuring and recording equipment: 7.1 mechanical 7.2 optical 7.3 electronic

8 Deviations - arising from: 8.1 transfer of lines and levels 8.2 use of wrong lines and levels 8.3 calculations

9 Circumstances and conditions: 9.1 land 9.2 water 9.3 obstacles 9.4 climatic variation 9.5 "live" conditions (e.g. buildings and sites in use, roads, railways, runways) 9.6 planned circumstances 9.7 emergency circumstances 9.8 vandalism

COSCCOO12

Prepare for and carry out physical testing in construction

Overview

This unit is about making preparations to carry out physical testing, carrying out the tests in the most appropriate way, and collecting, checking and verifying the results and presenting them in a suitable format. You will need to confirm the specification and methods ensuring that all agreements have been obtained and that suitable equipment is available. You will need to check the equipment, brief the people involved and ensure that all arrangements are in place and conform to specified requirements. You will need to carry out the tests in accordance with agreed procedures, consulting others where relevant and also implement changes to allow for changing circumstances that may arise. You will also need to record the data and ensure any restoration needed is carried out. You will need to collect, check and verify the data, and present it, including any commentary in a suitable format and also advise people how to interpret the data.

Performance criteria

You must be able to:

Prepare for physical testing
P1 review the physical test specification, plan and schedule to understand and confirm their purpose and viability
P2 check and confirm, before starting the test, that people who will be affected have given their agreement
P3 arrange for suitable test equipment to be brought to the site and kept safely and securely
P4 check test equipment so that it is accurate before it is used for taking measurements
P5 prepare a testing method statement and brief the people who will be involved in the test about what they are expected to do, the details of the test, the site and the equipment
P6 check and confirm that signs, arrangements for personal safety, equipment and site access conform to good practice, legislation and regulations

Carry out physical testing
P7 conduct physical tests in a way which balances accuracy and cost and keeps disruption to a minimum
P8 conform to safe working practices during testing
P9 consult with experts when specialist information is needed which is relevant to the test
P10 test, using processes and methods which meet the specification
P11 set reference controls and maintain them
P12 modify test processes and methods to suit the conditions and to allow for contingencies after consultation with line manager
P13 record test results clearly and accurately and store it securely for later analysis
P14 restore areas which have been opened up for access so that subsequent processes can take place

Present test results
P15 collect together the recorded test results to allow an accurate analysis to be made
P16 check and verify the test results to maintain accuracy and integrity
P17 present the results clearly and in a format which is suitable for the people who need to use the findings
P18 advise users on how to interpret the test results

Knowledge and understanding

You need to know and understand:

Prepare for physical testing
K1 how and why to review the physical test specification, plan and schedule to understand and confirm their purpose and viability (analysis)
K2 how to check and confirm, before starting the test, that people who will be affected have given their agreement (application)
K3 arrange for suitable test equipment to be brought to the site and kept safely and securely
K4 how to check test equipment so that it is accurate before it is used for taking measurements (application)
K5 how to prepare a testing method statement and brief the people who will be involved in the test about what they are expected to do, the details of the test, the site and the equipment (application)
K6 how to check and confirm that signs, arrangements for personal safety, equipment and site access conform to good practice, legislation and regulations (application)

Carry out physical testing
K7 how to conduct physical tests in a way which balances accuracy and cost and keeps disruption to a minimum (application)
K8 how to conform to safe working practices during testing (application)
K9 how to consult with experts when specialist information is needed which is relevant to the test (application)
K10 how and why to test, using processes and methods which meet the specification (analysis)
K11 how to set reference controls and maintain them (application)
K12 how to modify test processes and methods to suit the conditions and to allow for contingencies after consultation with line manager (application)
K13 how to record test results clearly and accurately and store it securely for later analysis (application)
K14 how to restore areas which have been opened up for access so that subsequent processes can take place (application)

Present test results
K15 how to collect together recorded test results (application)
K16 how to check and verify the test results to maintain accuracy and integrity (application)
K17 how to present the results (application)
K18 how and why to advise users on how to interpret the test data (synthesis)

Scope/ range

Prepare for physical testing
1 Test: 1.1 materials 1.2 components and systems 1.3 natural environment
2 Test equipment: 2.1 as defined by relevant legislat
ion 2.2 code of practice as accepted by recognised authorities in the field 3 Arrangements for personal safety: 3.1 personal safety equipment and clothing safe use of access equipment (including ladders, tower scaffolds, hydraulic hoists - as required under health and safety legislation) 3.2 industry codes of practice and regulations applying to test location and/or tests being conducted 3.3 3.4 as identified by risk assessments

Carry out physical testing
4 Tests: 4.1 materials 4.2 component and systems 4.3 natural environment
5 Safe working practices: 5.1 personal safety equipment and clothing safe use of access equipment (including ladders, tower scaffolds, hydraulic hoists - as required under health and safety legislation) 5.2 industry codes of practice and regulations

applying to test location and/or tests being conducted 5.3 5.4 as identified by risk assessments
6 Processes: 6.1 as defined by relevant legislation 6.2 code of practice as accepted by recognised authorities in the field
7 Methods: 7.1 visual 7.2 approximate estimated 7.3 detailed assessment of specified features
8 Results: 8.1 written 8.2 graphical 8.3 electronic 8.4 samples e.g. cores

Present test results
9 Tests: 9.1 materials 9.2 components and systems 9.3 natural environment
10 Results: 10.1 written 10.2 graphical 10.3 electronic 10.4 samples e.g. cores
11 Present: 11.1 orally 11.2 in writing 11.3 graphically 11.4 electronically 11.5 samples e.g. cores

COSCCO013
Assess, plan and monitor project methods and progress in construction

Overview
This unit is about preparing method statements, programmes and schedules and calculating resource requirements and monitoring progress and dealing with deviations from plans. You will need to assess data, obtaining more if necessary and analyse and assess work methods and produce a method statement. You will need to identify activities, calculate the resources and time requirements, analyse the activities and produce activity programmes and schedules. You will need to implement monitoring systems, identify deviations from plans and, following investigation, implement appropriate corrective action. You will need to regularly inform decision makers regarding progress and identify, and recommend possible improvements

Performance criteria
You must be able to:

Assess and identify work methods
P1 assess the available project data accurately and summarise it to enable decisions on construction, installation and work methods to be made
P2 obtain more information from alternative sources in cases where the available project data is insufficient
P3 identify with site personnel any special considerations, record them and pass them onto people who may be affected
P4 assess the selected work methods against relevant technical and project criteria and identify the one which best meets the criteria
P5 analyse the method which has been selected for its activity content and quantify it accurately
P6 prepare a method statement which is accurate, clear, concise and acceptable to all the people involved

Develop project programming and resourcing
P7 identify major activities, calculating the resources needed from the information available and prepare a draft work programme
P8 develop schedules to procure resources
P9 obtain clarification and advice where the resources needed are not available
P10 calculate how long each activity will take, identify activities which influence each other and sequence them logically and realistically so that they make the best use of the resources available
P11 analyse the sequential programming of activities against technical and project requirements and the necessary resources
P12 produce detailed programmes and schedules of planned activities which are consistent with the complexity of the project
P13 identify alterations to the works programme which will meet changed circumstances or offer cost and time benefits, calculate the savings accurately and justify them to decision makers
P14 implement a system for monitoring the works programme and use the results to improve future production and planning

Monitor project progress against agreed programmes
P15 implement systems to monitor and record the progress of the contract against the agreed programmes, and collect information regularly and summarise it accurately
P16 identify and quantify any variations and deviations from planned progress which have occurred, or which may occur, and which could disrupt the programme
P17 investigate the circumstances of any variations thoroughly and report to line manager
P18 suggest options which are most likely to minimise increases in cost and time and help the contract progress, and pass these on to line manager
P19 revise programme to accommodate new circumstances

Knowledge and understanding
You need to know and understand:

Assess and identify work methods
K1 how to summarise project data (application)
K2 how and why to assess the available project data (analysis)
K3 how and why to recommend the selected work methods (synthesis)
K4 how and why to prepare a method statement (synthesis)
K5 how to obtain more information from alternative sources in cases where the available project data is insufficient (application)
K6 how and why to assess the selected methods against relevant technical and project criteria and identify the method which best meets the criteria (evaluation)
K7 how and why to analyse and quantify the method which has been selected for its activity content (analysis)

Develop project programming and resourcing
K8 what to identify as major activities (understanding)
K9 how to calculate the resources needed from the information available (application)
K10 how to prepare a draft work programme (application)
K11 how to obtain clarification and advice where the resources needed are not available (application)
K12 how to calculate how long each activity will take and sequence activities (application)
K13 which activities to you identify as influencing each other (understanding)
K14 how and why to analyse the sequential programming of activities against technical and project requirements (analysis)
K15 how to produce detailed programmes and schedules of planned activities (application)

K16 what alterations to the work programme do you identify which will meet changed circumstances or offer cost and time benefits (understanding)
K17 how to calculate the savings resulting from alterations to the work programme (application)
K18 how and why to justify to decision makers the savings resulting from alterations to the work programme (evaluation)
K19 how to implement a system for monitoring the works programme (application)
K20 how to use the results of monitoring to improve future production and planning (application)

Monitor project progress against agreed programmes
K21 how to implement systems to monitor and record the progress of the contract against the agreed programmes, and collect and summarise information (application)
K22 what to identify as any variations and deviations from planned progress which have occurred, or which may occur, and which could disrupt the programme (understanding)
K23 how and why to quantify any variations and deviations from planned progress which could disrupt the programme (analysis)
K24 how and why to investigate the circumstances of any variations (analysis)
K25 how to report variations and circumstances to line manager (application)
K26 how to suggest options which are most likely to minimise increases in cost and time and help the contract progress and pass them to line manager (application)
K27 how to revise programme to accommodate new circumstances (application)

Scope/ range

Assess and identify work methods
1 Project data: 1.1 conditions of contract 1.2 bills of quantities 1.3 specifications 1.4 detailed drawings 1.5 health and safety plans 1.6 time-scales 1.7 contractual risks, obligations and scope of works
2 Construction, installation and work methods: 2.1 sequencing of work and integration of work operations 2.2 organisation of resources (people, plant, materials, finance) 2.3 construction and installation techniques 2.4 temporary works 2.5 prefabrication and standardisation (volumetric pods, panelised hybrid) 2.6 health, safety and welfare 2.7 new materials and technologies
3 Alternative sources: 3.1 the client 3.2 consultants 3.3 contractors 3.4 sub-contractors 3.5 suppliers 3.6 regulatory authorities 3.7 technical literature 3.8 trade literature 3.9 organisational expertise
4 Identify work methods: 4.1 standard lists and procedures 4.2 investigative research
5 Technical and project criteria: 5.1 materials & component performance and availability 5.2 structural forms 5.3 phased occupancy 5.4 fire protection 5.5 access 5.6 plant, equipment & people capability 5.7 traffic generation and management 5.8 environmental factors 5.9 transportation 5.10 waste and sustainability 5.11 seasonal weather conditions 5.12 buildability 5.13 value engineering 5.14 protection of archaeological and historically valuable resources 5.15 third party obligations 5.16 other related programmes 5.17 community benefits, including skills and training
6 Analyse: 6.1 method study 6.2 work study 6.3 production analysis 6.4 benchmarking

Develop project programming and resourcing
7 Resources: 7.1 people 7.2 plant and equipment 7.3 materials and components 7.4 sub-contractors 7.5 information
8 Programmes and schedules: 8.1 bar charts 8.2 network analysis 8.3 critical path 8.4 time change 8.5 action lists 8.6 method statements
9 Clarification and advice - from: 9.1 the client/client's representative 9.2 consultants 9.3 project team partners 9.4 practice research 9.5 technical publications 9.6 trade literature 9.7 management

10 Analyse - using: 10.1 method study 10.2 work study 10.3 production analysis
11 Technical and project requirements: 11.1 materials & component performance and availability 11.2 structural forms 11.3 phased occupancy 11.4 fire protection 11.5 access 11.6 plant, equipment & people capability 11.7 traffic generation and management 11.8 environmental factors 11.9 transportation 11.10 waste and sustainability 11.11 seasonal weather conditions 11.12 buildability 11.13 value engineering 11.14 protection of archaeological and historically valuable resources 11.15 third party obligations 11.16 other related programmes 11.17 community benefits, including skills and training
12 Produce: 12.1 manually 12.2 electronically

Monitor project progress against agreed programmes
13 Systems to monitor and record: 13.1 visual inspection 13.2 resource records 13.3 site inspection reports 13.4 contractors' reports 13.5 certified payments 13.6 written and graphical records of actual work against programmed work 13.7 site meetings 13.8 key performance indicators 13.9 organisational procedures 13.10 management reports 13.11 benchmarks
14 Programmes: 14.1 bar charts 14.2 network analysis 14.3 critical path 14.4 time change 14.5 action lists 14.6 method statements 14.7 project expenditure forecasts
15 Resources: 15.1 people 15.2 plant and equipment 15.3 materials and components 15.4 finance 15.5 time 15.6 specialist services 15.7 public utility services 15.8 information
16 Quantify: 16.1 method study 16.2 work study 16.3 production analysis 16.4 cost implication
17 Circumstances: 17.1 resource shortages 17.2 design problems and constraints 17.3 industrial disputes 17.4 lack of essential construction information 17.5 construction errors 17.6 inclement weather 17.7 physical constraints 17.8 legal 17.9 environmental 17.10 contract variations 17.11 force majeure
18 Revise: 18.1 revise programme 18.2 agree new completion dates 18.3 initiate contract claim

COSCCO014
Monitor, maintain and improve supplies of materials in construction

Overview
This unit is about the identification of material requirements and changes thereto, monitoring and recording the supply of materials, identifying and rectifying problems and liaising with suppliers. You will need to analyse project information and develop a purchasing plan, identifying opportunities for improvement. You will need to prepare orders, develop monitoring systems, and evaluate and identify changes. You will need to keep records, checking for variations and identify and deal with problems. You will need to monitor suppliers' performance, identify problems and identify changes which will improve performance. You will need to liaise with suppliers regarding improvement of supply.

Performance criteria
You must be able to:

Identify and monitor requirements for suppliers
P1 analyse operational plans, user feedback and quantities, and assess what materials supplies will be required and develop systems for monitoring and progress
P2 develop an accurate purchasing plan by analysing design information, project information and projected supply requirements
P3 identify what opportunities there are for standardising or identify equivalent alternative materials supplies to economise on usage, cost and environmental impact
P4 check from the purchasing plan and users, what materials supplies are needed and prepare orders which meet the supply requirements
P5 develop and introduce systems for monitoring and evaluating the purchasing plan which will identify significant circumstances in supply requirements
P6 identify any circumstances which are likely to result in over or under supply and modify the purchasing plan to minimise disruption to the project programme after consultation with line manager

Maintain and record supplies of materials
P7 review records of deliveries, calculating the current delivery and stock position and pass the information on to line managers
P8 check suppliers' progress for any variations from the agreed delivery position, investigate any variations found and discuss them with suppliers
P9 provide line managers with an accurate assessment of any problems with suppliers and suggest possible action to restore the required delivery position
P10 identify opportunities for improving the use of stock and stock turnover and recommend improvements to line managers
P11 provide suppliers with prompt and accurate information on project changes which may affect supply requirements
P12 obtain authorisation from line managers and arrange for alternative sources of supply, which meet supply requirements and minimise disruption to the operational plan, in instances where supplies are not available from contracted suppliers

Contribute to improvements in supplier performance
P13 monitor regularly the performance of suppliers against the supply requirements which have been agreed
P14 record any problems with supply requirements, and pass the information on to interested parties and discuss it with them
P15 identify changes which will improve supplier performance, discuss and agree changes with the interested parties and implement agreed actions to improve performance
P16 liaise with suppliers and provide them with information which will help them to meet supply requirements
P17 conduct meetings with suppliers in a manner which maintains their goodwill and trust

Knowledge and understanding
You need to know and understand:

Identify and monitor requirements for materials supply
K1 how and why to analyse operational plans, user feedback and quantities (analysis)
K2 how and why to assess what materials supplies will be required (analysis)
K3 how and why to develop systems for monitoring their progress (synthesis)
K4 how and why to develop an accurate purchasing plan by analysing design information, project information and projected supply requirements (analysis)

K5 how and why to identify what opportunities there are for standardising or identify equivalent alternative materials supplies to economise on usage, cost and environmental impact (evaluation)

K6 how to check from the purchasing plan and users, what materials supplies are needed (application)

K7 how to prepare orders which meet the supply requirements (application)

K8 how and why to develop and introduce systems for monitoring and evaluating the purchasing plan which will identify significant circumstances in supply requirements (synthesis)

K9 what to identify as any circumstances which are likely to result in over or under supply (understanding)

K10 how to modify the purchasing plan to minimise disruption to the project programme after consultation with line manager (application)

Maintain and record supplies of materials to meet project requirements

K11 how and why to review records of deliveries and calculate the current delivery and stock position (analysis)

K12 how to pass the information on to line managers about delivery records, calculations of the current delivery and stock position (application)

K13 how to check suppliers' progress for any variations from the agreed delivery position (application)

K14 how and why to investigate any variations found (analysis)

K15 how and why to discuss any variation in delivery position with suppliers (synthesis)

K16 how to provide line managers with an accurate assessment of any problems with suppliers (application)

K17 how and why to suggest possible action to restore the required delivery position (analysis)

K18 what to identify as opportunities for improving the use of stock and stock turnover and recommend improvements to line managers (understanding)

K19 how to provide suppliers with prompt and accurate information on project changes which may affect supply requirements (application)

K20 how to obtain authorisation from line managers and arrange for alternative sources of supply, which meet supply requirements and minimise disruption to the operational plan, in instances where supplies are not available from contracted suppliers (application)

Contribute to improvements in supplier performance

K21 how and why to monitor regularly the performance of suppliers against the supply requirements which have been agreed (analysis)

K22 how to record any problems with supply requirements and pass the information on to interested parties (application)

K23 discuss with interested parties any problems with supply requirements (synthesis)

K24 what to identify as changes which will improve supplier performance (understanding)

K25 how and why to discuss changes with the interested parties (synthesis)

K26 how and why to agree changes with the interested parties and implement agreed actions to improve performance (evaluation)

K27 how to liaise with suppliers and provide them with information which will help them to meet supply requirements (application)

K28 how to conduct meetings with suppliers in a manner which maintains their goodwill and trust (application)

Scope/ range

Identify and monitor requirements for suppliers

1 Users: 1.1 principal contractors 1.2 sub/works/trade contractors 1.3 direct labour organisations 1.4 clients 1.5 own colleagues 1.6 facilities/asset manager
2 Materials supplies: 2.1 raw materials 2.2 manufactured materials 2.3 components 2.4 systems 2.5 prefabricated components
3 Project information: information (including models, documents, drawings, electronic, graphical and non-graphical data files) 3.1 3.2 labour, plant and equipment, materials 3.3 employer's information requirements 3.4 services 3.5 finance including cash flow
4 Supply requirements: 4.1 specification 4.2 price 4.3 quantity 4.4 availability and lead time 4.5 delivery 4.6 maintenance & servicing 4.7 storage and handling facilities 4.8 environmental issues (including sustainability) 4.9 health and safety issues 4.10 transportation 4.11 deterioration and damage 4.12 loss and theft 4.13 after sales-service 4.14 payment terms 4.15 cash flow 4.16 waste management 4.17 off-site manufacture and assembly
Maintain and record supplies of materials
5 Delivery position: 5.1 time 5.2 quantity 5.3 quality 5.4 location 5.5 communications
6 Problems with supply: 6.1 specification 6.2 price 6.3 quantity 6.4 availability and lead time 6.5 delivery 6.6 maintenance & servicing 6.7 storage and handling facilities 6.8 environmental issues (including sustainability) 6.9 health and safety issues 6.10 transportation 6.11 deterioration and damage 6.12 loss and theft 6.13 after sales-service 6.14 payment terms 6.15 cash flow 6.16 waste management 6.17 off-site manufacture and assembly
7 Suppliers of: 7.1 raw materials 7.2 manufactured materials 7.3 components 7.4 systems 7.5 prefabricated components

Contribute to improvements in supplier performance
8 Suppliers of: 8.1 raw materials 8.2 manufactured materials 8.3 components 8.4 systems 8.5 prefabricated components
9 Supply requirements: 9.1 specification 9.2 price 9.3 quantity 9.4 availability and lead time 9.5 delivery 9.6 maintenance & servicing 9.7 storage and handling facilities 9.8 environmental issues (including sustainability) 9.9 health and safety issues 9.10 transportation 9.11 deterioration and damage 9.12 loss and theft 9.13 after sales-service 9.14 payment terms 9.15 cash flow 9.16 waste management 9.17 off-site manufacture and assembly
10 Interested Parties: 10.1 line managers 10.2 contract/site management 10.3 suppliers

COSCCO015
Recommend and monitor supplies of plant and equipment in construction

Overview
This unit is about identifying plant and equipment requirements, potential suppliers, estimating costs, implementing orders, identifying and rectifying problems and liaising with suppliers. You will need to identify plant selection criteria, evaluate information and identify and recommend options for acquiring plant. You will need to identify potential suppliers, estimate costs, summarise benefits and constraints, make

recommendations and implement orders. You will need to monitor plant, identify problems and pass them on as necessary, identify changes to improve performance and agree changes with suppliers. You will need to liaise and conduct meetings with suppliers.

Performance criteria
You must be able to:

Identify and recommend plant and equipment
P1 obtain information about project requirements for plant and equipment
P2 confirm the selection criteria for plant and equipment
P3 identify and recommend options for acquiring plant and equipment which meet user requirements
P4 identify potential suppliers of plant and equipment that meet the selection criteria
p5 estimate the costs of plant and equipment and present the information so that comparisons can be made
P6 implement orders for plant and equipment which meets project requirements

Monitor the performance of plant and equipment supplied
P7 monitor regularly the performance and costs of plant and equipment supplied against the selection criteria
P8 record any problems with plant and equipment supplied, pass the information on to interested parties and discuss it with them
P9 identify changes which will improve the interested parties' use of plant and equipment supplied, discuss and agree changes with the supplier and maintain agreed actions to improve performance
P10 liaise with suppliers of plant and equipment and provide them with information which will help them to better meet the selection criteria
P11 conduct meetings with suppliers of plant and equipment in a manner which maintains their goodwill and trust

Knowledge and understanding
You need to know and understand:

Identify and recommend plant and equipment
K1 how to obtain information about project requirements for plant and equipment (application)
K2 how to confirm the selection criteria for plant and equipment (application)
K3 what to identify as options for acquiring plant and equipment which meet user requirements (understanding)
K4 how and why to recommend options for acquiring plant and equipment which meet user requirements (synthesis)
K5 what to identify as potential suppliers of plant and equipment that meet the selection criteria (understanding)
K6 how and why to estimate the costs of plant and equipment and present the information so that comparisons can be made (analysis)
K7 how to implement orders for plant and equipment which meets project requirements (application)

Monitor economic performance of plant and equipment supplied
K8 how and why to monitor regularly the performance and costs of plant and equipment supplied against the selection criteria (analysis)
K9 how to record any problems with plant and equipment supplied (application)
K10 how to pass the information on to interested parties and discuss it with them (application)
K11 what to identify as changes which will improve the interested parties' use of plant and equipment supplied (understanding)

K12 how to discuss changes with the supplier and maintain agreed actions to improve performance (application)

K13 how and why to agree changes with the supplier and maintain agreed actions to improve performance (evaluation)

K14 liaise with suppliers of plant and equipment and provide them with information which will help them to better meet the selection criteria (synthesis)

K15 how to conduct meetings with suppliers of plant and equipment in a manner which maintains their goodwill and trust (application)

Scope/ range

Identify and recommend plant and equipment
1 Selection criteria: 1.1 user requirements including performance 1.2 environmental suitability 1.3 project duration 1.4 location 1.5 user policies and preferences on plant ownership, leasing and hire 1.6 availability 1.7 repairs and maintenance 1.8 health and safety features 1.9 energy efficiency 1.10 security features
2 Plant and equipment: 2.1 static 2.2 mobile 2.3 hand tools 2.4 consumables 2.5 health and safety equipment 2.6 standard 2.7 non-standard 2.8 electro-mechanical 2.9 electronic
3 Options for acquiring: 3.1 purchase 3.2 modify 3.3 lease 3.4 hire
4 Costs: 4.1 running costs 4.2 acquisition costs (purchase, hire, lease) 4.3 repair and maintenance 4.4 depreciation 4.5 insurance
5 Project requirements: 5.1 needs of users 5.2 agreed targets 5.3 budgets and timescales 5.4 condition of plant and equipment 5.5 maintenance requirements 5.6 competency of operators

Monitor the performance of plant and equipment supplied
6 Costs: 6.1 running costs 6.2 acquisition costs (purchase, hire, lease) 6.3 repair and maintenance 6.4 depreciation 6.5 insurance
7 Plant and equipment: 7.1 static 7.2 mobile 7.3 hand tools 7.4 consumables 7.5 health and safety equipment
8 Selection criteria 8.1 user requirements including performance 8.2 environmental suitability 8.3 project duration 8.4 location 8.5 user policies and preferences on plant ownership, leasing and hire 8.6 availability 8.7 repairs and maintenance 8.8 health and safety features 8.9 energy efficiency 8.10 security features
9 Interested parties: 9.1 line managers 9.2 contract/site management

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Developed by: ConstructionSkills   Version number:
Date Approved: December 2012   Indicative review date: December 2018
Validity: Current   Status: Original
Originating organisation: ConstructionSkills   Original URN: COSCCO015
Relevant occupations: Building and civil engineering technicians; estimators; valuers and assessors managers; quantity surveyors
Suite: Construction Contracting Operations
Keywords: plant; equipment; materials; suppliers

COSCCO016
Prepare and monitor costs and accounts in construction

Overview

This Unit is about implementing cost systems, collecting information, analysing information and using information to prepare accounts. You will need to implement control systems to monitor performance and collect, use and present information. You will need to identify and investigate variations and recommend corrective action. You will also need to identify cost savings and make recommendations regarding them.

You will need to value work in progress based on contract requirements, value variations and prepare and submit accounts, keeping records of information and calculations. You will need to obtain, collate and calculate information regarding claims and present them, keeping records of information and calculations. You will also need to analyse opposing grounds.

Performance criteria
You must be able to:

Monitor contract quantities and costs
implement appropriate contract quantities and cost monitoring systems which are able to provide early warning of problems
P2 collect quantities and cost data regularly, recording it correctly and present it to decision makers in a format which will help people to make decisions
P3 calculate the correct work values and quantities and cost data from estimates of work quantity and payment rates
P4 investigate any variations thoroughly and identify to decision makers appropriate commercial corrective action which could restore costs and expenditure to budget
P5 costing commercial opportunities for cost savings identified by decision makers
P6 ensure your records are complete, accurate and available to authorised people only

Prepare interim valuations and final accounts
P7 value work in progress, and confirm the calculations with valuers who are acting for the people involved in the contract
P8 price and reference the quantities used in valuations and accounts so that they meet contract provisions
P9 value variations and items which do not have an agreed contract rate by identifying and recommend fair rates
P10 prepare and submit accurate interim valuations and final accounts which contain relevant background information and identify areas of potential disagreement
P11 record documents, back-up information and calculations accurately, reference them clearly and store them so that they can be easily referred to for audit and reference

Identify and record income and expenditure
P12 confirm how payments for contracts will be made
P13 implement project costing methods and accounts for recording and verifying income and expenditure
P14 calculate and record information about income and expenditure due under the contract
P15 collate and store records and receipts which support income and expenditure

Prepare information for additional costs for reimbursement for loss and expense
P16 obtain and collate information relating to identified additional costs involving all contractual parties
P17 calculate additional costs accurately from relevant and verified information sources
P18 analyse the opposing grounds for the additional costs, structuring them clearly and present them to managers
P19 record documents, back-up information and calculations accurately, reference them clearly and store them so that they can be easily referred to for audit and reference

Knowledge and understanding
You need to know and understand:

Monitor contract quantities and costs

K1 how to implement appropriate contract quantities and cost monitoring systems which are able to provide early warning of problems (application)
K2 how to collect and record quantities and cost data regularly (application)
K3 how to present quantities and cost data to decision makers in a format which will help people to make decisions (application)
K4 how to calculate the correct work values and quantities and cost data from estimates of work quantity and payment rates (application)
K5 how and why to investigate any variations thoroughly and identify to decision makers appropriate commercial corrective action which could restore costs and expenditure to budget (analysis)
K6 how and why to cost commercial opportunities for cost savings identified by decision makers (analysis)
K7 how to ensure your records against budgets are complete, accurate and available to authorised people only (application)

Prepare interim valuations and final accounts
K8 how and why to value work in progress (analysis)
K9 how to price reference the quantities used in valuations and accounts so that they meet contract provisions (application)
K10 how and why to value variations and items which do not have an agreed contract rate by identifying and recommending fair rates (analysis)
K11 how to prepare and submit interim valuations and final accounts and identify areas of potential disagreement (application)
K12 how to record, reference and store documents, back-up information and calculations accurately, referencing them clearly and storing them (application)

Identify and record income and expenditure
K13 how to confirm how payments for contracts will be maden (application)
K14 how to implement project costing methods and accounts for recording and verifying income and expenditure (application)
K15 how to calculate information about income and expenditure due under the contract (application)
K16 how to record information about income and expenditure due under the contract (application)
K17 how to collate and store records and receipts which support income and expenditure (application)

Prepare information for claims for reimbursement for loss and expense
K18 how to obtain and collate information relation to identified additional costs involving all contractual parties (application)
K19 how to calculate additional costs accurately from relevant and verified information sources (application)
K20 how and why to analyse the opposing grounds for the claims (analysis)
K21 how to record, reference and store documents, back-up information and calculations accurately, referencing them clearly and store them (application)

Scope/ range

Monitor contract quantities and costs
1 Contract quantities and cost monitoring systems: 1.1 contractual procedures and meetings 1.2 organisational procedures and meetings 1.3 open book accounting 1.4 electronic recording
2 Quantities and cost data: 2.1 materials 2.2 plant 2.3 people 2.4 sub-contractors 2.5 dayworks 2.6 periodic valuations 2.7 retention sums 2.8 forecasts of expenditure 2.9 performance information 2.10 contract programme and progress
3 Decision makers: 3.1 the client 3.2 contractors 3.3 consultants 3.4 sub-contractors 3.5 suppliers 3.6 internal management

4 Commercial corrective action: 4.1 re-negotiating prices and fees 4.2 re-negotiating payment conditions 4.3 agreeing additional costs 4.4 changing suppliers 4.5 carrying out a value engineering exercise 4.6 considering off-site construction 4.7 considering standardisation 4.8 regulating expenditure to conform with budgets 4.9 agreeing additional costs 4.10 making a contract claim

5 Opportunities for cost saving: 5.1 modify project management structure 5.2 reduce waste 5.3 use new technology 5.4 manage energy consumption 5.5 use recycled materials 5.6 seek permission to use alternative materials and/or source of materials 5.7 reduce plant/labour resources 5.8 apply lean construction processes

Prepare interim valuations and final accounts

6 Valuing work in progress: 6.1 measure quantities 6.2 suppliers' accounts and valuations 6.3 project records 6.4 inspection of works 6.5 agreed variations 6.6 by invoice

7 Contract - type: 7.1 main contract 7.2 sub-contract 7.3 partnering 7.4 lump sum 7.5 design and construct 7.6 schedule based 7.7 prime cost based 7.8 hybrid 7.9 firm price 7.10 fluctuating price 7.11 labour and materials 7.12 labour only 7.13 material supply only 7.14 service contracts 7.15 design warranties

8 Variations: 8.1 costs 8.2 quantity 8.3 quality 8.4 progress

Identify and record income and expenditure

9 How payments for contracts will be made with: 9.1 clients 9.2 within the organisation 9.3 external auditing 9.4 legal requirements

10 Income: 10.1 agreed fees 10.2 quantification of work completed 10.3 agreed recoverable expenses 10.4 VAT 1

1 Expenditure: 11.1 employment costs 11.2 capital plant and equipment 11.3 materials 11.4 liabilities 11.5 subcontract costs 11.6 consumables

12 Records may be: 12.1 documents 12.2 electronic

Prepare information for claims for reimbursement for loss and expense

13 Contractual parties: 13.1 client 13.2 sub contractors 13.3 suppliers 13.4 statutory authorities and utilities

14 Contract - type: 14.1 main contract 14.2 sub-contract 14.3 partnering 14.4 lump sum 14.5 design and construct 14.6 schedule based 14.7 prime cost based 14.8 hybrid 14.9 firm price 14.10 fluctuating price 14.11 labour and materials 14.12 labour only 14.13 material supply only 14.14 service contracts 14.15 design warranties

15 Additional costs - resulting from: 15.1 re-measurement 15.2 valuation of variations 15.3 loss and expense arising from breaches of contract 15.4 agreed extensions of time damages arising from extra-contractual consideration including legal judgements 15.5 15.6 additional resources

16 Information sources: 16.1 contract documents e.g. specifications, quantities, drawings 16.2 revised contract documents 16.3 variations issued 16.4 site records including photographs 16.5 agreed rates of payment 16.6 agreed method of calculation 16.7 legislation e.g. tax and NI payments, minimum wage 16.8 company accounts

17 Analyse: 17.1 claimants analysis 17.2 respondents analysis

COSCCOO21
Prepare proposals and obtain feedback for the provision of products and services in construction

Overview

This unit is about agreeing proposals for the provision of the products and services. You will need to produce a report summarising the design parameters covering design, planning, timetable, scheduling, costs, delivery and any specifics relative to the provision of the products and services. You will need to liaise on the presentation of the design aspects with a specialist design team and others associated with the detailed development and construction of products and services You will need to identify changes to customer requirements. You will need to present initial proposals to the customer, negotiate and discuss agreed changes and record decisions.

Performance criteria

You must be able to:

Prepare and present proposal for the provision of products and services
P1 take into account and assess all information gained in establishing the design parameters for the provision of products and services
P2 select and analyse relevant and valid data and confirming its status using appropriate methods and selection criteria
P3 identify and develop design options to meet agreed design parameters
P4 evaluate and select the most appropriate methods and techniques of presentation for communicating the design proposals
P5 present the recommendations, proposals and design options using the selected methods and techniques
P6 identify valid alternative options where the design options do not meet al customer require
P7 estimate and confirm projected product and service costs and related financial data
P8 obtain clear statements of agreement and position from interested parties
P9 produce a clear and unambiguous document summarising the parameters within an agreed timescale, and present it to interested parties

Review and finalise proposals for the provision of products and services
P10 present initial proposals to and discuss them with the customer, and raise and record significant points
P11 discuss and clarify significant constraints, opportunities and areas of uncertainty within the proposals with interested parties
P12 make appropriate modifications to the initial proposals to reflect the outcome of discussions with interested parties
P13 negotiate a clear and mutually acceptable agreement with interested parties with sufficient detail to allow work to proceed to the next stage
P14 discuss provisions for subsequent changes fully with interested parties, explain their implications, and record agreed discussions
Obtain and evaluate feedback information
P15 identify and agree valid and reliable methods and sources for obtaining feedback on completed projects
P16 promote the value of obtaining and using feedback data and encourage and enlist the cooperation of interested parties in obtaining feedback
P17 identify areas of interest and agree them with interested parties
P18 identify, obtain and investigate available feedback data from relevant sources and assess it for its implications and potential future use
P19 review the feedback data matching it against the original requirements and objectives and summarise any shortcomings

P20 identify and recommend to interested parties potential improvements arising from feedback P21 record and classify improvements, incorporate them into procedures and data bases, and promote them for future use

Knowledge and understanding
You need to know and understand:

Prepare and present proposal for the provision of products and services
K1 how and why to take into account and assess all the information gained in establishing the design parameters (synthesis)
K2 how and why to select data which is relevant and valid (evaluation)
K3 how and why to analyse data and confirm its status using appropriate methods and selection criteria (analysis)
K4 what to identify as design options to meet agreed design parameters (understanding)
K5 how and why to develop design options to meet agreed design parameters (synthesis)
K6 how and why to evaluate and select the most appropriate methods and techniques of presentation for communicating the design proposals (evaluation)
K7 how to present the recommendations, proposals and design options using the selected methods and techniques (application)
K8 what to identify as valid alternative options where the design options do not meet al customer require (understanding)
K9 how and why to estimate and confirm projected product and service costs and related financial data (synthesis)
K10 how to obtain clear statements of agreement and position for interested parties (application)
K11 how and why to produce a document summarising the design parameters within an agreed timescale (synthesis)
K12 how to present the document to interested parties (application)

Review and finalise proposals for the provision of products and services
K13 how to present initial proposals to the customer (application)
K14 how to discuss proposals with the customer (synthesis)
K15 how to raise and record significant points with the customer (application)
K16 how to discuss significant constraints, opportunities and areas of uncertainty within the proposals with interested parties (synthesis)
K17 how and why to clarify significant constraints, opportunities and areas of uncertainty within the proposals with interested parties (synthesis)
K18 how and why to make appropriate modifications to the initial proposals to reflect the outcome of discussions with interested parties (synthesis)
K19 how and why to negotiate a clear and mutually acceptable agreement with interested parties with sufficient detail to allow work to proceed to the next stage (synthesis)
K20 how and why to discuss provisions for subsequent changes fully with interested parties (synthesis)
K21 how to explain the implications for subsequent changes fully with interested parties (application)
K22 how to record agreed discussions (application)

Obtain and evaluate feedback information
K23 what to identify valid and reliable methods and sources for obtaining feedback on completed projects (understanding)
K24 how and why to agree valid and reliable methods and sources for obtaining feedback on completed projects (synthesis)
K25 how to promote the value of obtaining and using feedback data and encouraging and enlisting the cooperation of interested parties in obtaining feedback (application)

K26 how to identify areas of interest and agree them with interested parties (application)
K27 how and why to agree areas of interest with interested parties (evaluation)
K28 how and why to identify, obtain and investigate available feedback data from relevant sources (synthesis)
K29 how to review the feedback data matching it against the original requirements and objectives and summarising any shortcomings (analysis)
K30 how to match feedback data against the original requirements and objectives and summarise any shortcomings (application)
K31 how to record and classify improvements incorporating them into procedures and data bases and promoting them for future use (application)

Scope/ range

Prepare and present proposal for the provision of products and services
1 Parameters 1.1 customer requirements 1.2 procurement factors 1.3 physical factors 1.4 resource factors
2 Appropriate methods 2.1 comparison with similar projects 2.2 standard checklists 2.3 reference to comparative research
3 Selection Criteria: 3.1 critical design parameters 3.2 project scope 3.3 validity of data
4 Modes of design presentation: 4.1 sketches 4.2 drawings 4.3 models 4.4 computer generated data 4.5 photomontage 4.6 written reports
5 Methods and techniques of presentation: 5.1 documentary 5.2 comparative studies with similar projects 5.3 presentations 5.4 computer modelled simulations
6 Interested parties: 6.1 customers 6.2 design consultants and advisors 6.3 potential contractors 6.4 potential subcontractors and suppliers 6.5 regulatory authorities
7 Present: 7.1 oral 7.2 written 7.3 graphical 7.4 photographs 7.5 models 7.6 exhibitions

Review and finalise proposals for the provision of products and services
8 Present: 8.1 orally 8.2 in writing 8.3 graphically 8.4 photographs 8.5 models 8.6 exhibitions
9 Interested parties: 9.1 customers 9.2 design consultants and advisors 9.3 potential contractors 9.4 potential subcontractors and suppliers 9.5 regulatory authorities

Obtain and evaluate feedback information
10 Methods and sources: 10.1 project records and documentation 10.2 site inspections and meetings 10.3 research and performance data
11 Feedback: 11.1 management procedures and records 11.2 customer communications 11.3 working arrangements 11.4 formal and informal arrangements
12 Interested parties: 12.1 customer 12.2 design team 12.3 specialist consultants 12.4 contractors 12.5 sub-contractors and suppliers
13 Feedback data: 13.1 approved providers 13.2 contract documentation 13.3 product information 13.4 government and statutory publications 13.5 reports 13.6 organisational documentation
14 Databases: 14.1 files and records 14.2 library 14.3 standard drawings 14.4 specifications

COSCCOO24
Integrate and control project design information in construction

Overview

This unit is about integrating and controlling project information and documentation from the design team on behalf of the contractor.

Performance criteria

You must be able to:

Implement project documentation systems

P1 confirm that the control requirements for the project document programme are suitable for the project and the resources available

P2 implement the production programme in order to meet agreed design requirements, to ensure production of all the required documents in a feasible sequence

P3 identify and report on design and resource issues that affect production programme targets

P4 implement registers, records and systems for monitoring and controlling document production which achieve programme compliance

P5 check that individual production instructions are accurate, clear and complete P6 implement procedures, which are appropriate to the requirements of the project and the contract conditions, for dealing with discrepancies and inconsistencies in information, and delays and revisions to project information

P7 implement arrangements and contingency plans for reporting progress in meeting the programme requirements and to manage document production problems

Integrate and evaluate project design information

P8 source information about project requirements which may contribute to the preparation of documents

P9 assess the information to see whether it is fit for purpose, meets the requirements of the stakeholders and requirements for controlling document production

P10 maintain accurate and complete registers and records which can be used for quality auditing

P11 collate documents when they have been produced and review them against the agreed criteria

P12 ensure that necessary checks and approvals are obtained when they needed

P13 issue approved documents to relevant stakeholders in a timely manner

P14 collate late revisions, requirements and additions to the design information, distribute the information promptly

P15 brief the stakeholders and the people responsible for producing documents

P16 produce up-to-date and accurate information on progress and circulate it to the people who need the information

Knowledge and understanding

You need to know and understand:

Implement project documentation systems

K1 how to confirm that the control requirements for the project document programme are suitable for the project and the resources available (application)

K2 how to implement the production programme in order to meet agreed design requirements, to ensure production of all the required documents in a feasible sequence (application)

K3 what to identify as design and resource issues that affect production programme targets (understanding)
K4 how to report on design and resource issues that affect production programme targets (application)
K5 how to implement registers, records and systems for monitoring and controlling document production which achieve programme compliance (application)
K6 how to check that individual production instructions are accurate, clear and complete (application)
K7 how to implement procedures, which are appropriate to the requirements of the project and the contract conditions, for dealing with discrepancies and inconsistencies in information, and delays and revisions to project information (application)
K8 how to implement arrangements and contingency plans for reporting progress in meeting the programme requirements and to manage document production problems (application)

Integrate and evaluate project design information
K9 how to source information about project requirements which may contribute to the preparation of documents (application)
K10 how and why to assess the information to see whether it is fit for purpose, meets the requirements of the stakeholders and requirements for controlling document production (analysis)
K11 how to maintain accurate and complete registers and records which can be used for quality auditing (application)
K12 how to collate documents when they have been produced and review them against the agreed criteria (application)
K13 how to ensure that the necessary checks and approvals are obtained when needed (application)
K14 how to issue approved documents to relevant stakeholders in a timely manner (application)
K15 how to collate revisions, requirements and additions to the design information, distribute the information promptly (application)
K16 how to brief the stakeholders and the people responsible for producing documents (application)
K17 how to produce up-to-date and accurate information on progress (application)
K18 how to circulate up-to-date and accurate information on progress to the people who need the information (application)

Scope/ range

Implement project document systems
1 Control requirements: 1.1 type of measurement 1.2 cost 1.3 time 1.4 quality 1.5 methods of production 1.6 methods of coordination (e.g. Common Arrangements) 1.7 liaison requirements 1.8 model documents and standards 1.9 integration of data 1.10 Building Information Modelling 1.11 electronic data transfer 1.12 revision management 1.13 scheduling of work 1.14 methods of interdisciplinary working
2 Documents: 2.1 forms of contract 2.2 specifications 2.3 drawings 2.4 bills of quantities 2.5 schedules 2.6 health and safety plans 2.7 accounts 2.8 claims
3 Registers and records: 3.1 incoming and outgoing drawing and document registers 3.2 records of document approval and revision
4 Systems: 4.1 checking documents 4.2 approving documents 4.3 integrating documents
5 Production instructions 5.1 format 5.2 presentation 5.3 accuracy 5.4 technical content 5.5 completeness 5.6 referencing 5.7 cross referencing and correlation with associated documents 5.8 status 5.9 spelling, grammar and punctuation
6 Stakeholders: 6.1 the client 6.2 financial advisers 6.3 consultants 6.4 potential contractors 6.5 potential sub-contractors and suppliers 6.6 line manager

Integrate and evaluate project design information

7 Information about project requirements: 7.1 design brief 7.2 design information from earlier stages 7.3 surveys 7.4 reports 7.5 statutory approvals and requirements 7.6 cost estimates 7.7 standards and codes of practice 7.8 technical literature

8 Documents: 8.1 forms of contract 8.2 specifications 8.3 drawings 8.4 bills of quantities 8.5 schedules 8.6 health and safety plans 8.7 accounts 8.8 claims 8.9 obtain consents

9 Requirements of the stakeholders: 9.1 to obtain consents 9.2 procurement 9.3 contract 9.4 production

10 Requirements for controlling document production: 10.1 type of measurement 10.2 cost 10.3 time 10.4 quality 10.5 methods of production 10.6 methods of coordination (e.g. Common Arrangement) 10.7 liaison arrangements 10.8 model documents standards 10.9 integration of data 10.10 Building Information Modelling 10.11 electronic data transfers 10.12 scheduling of work 10.13 revision management 10.14 methods of interdisciplinary working

11 Registers and records: 11.1 incoming and outgoing drawing and document registers 11.2 records of document approval and revision

12 Criteria: 12.1 format 12.2 presentation 12.3 accuracy 12.4 technical content 12.5 completeness 12.6 referencing 12.7 cross referencing and correlation with associated documents 12.8 status

APPENDIX 3 - ASSESSMENT TEMPLATE DOCUMENTS

3A: Sample Form
Assessment plan and review

Candidate name:	
Employer/location:	Date:
Qualification: Unit(s): Elements:	
Assessor:	
Period of Review: (should not normally exceed 12 weeks)	Proposed Date for next review:

Part 1 – **Activities / Tasks / Learning / Training** undertaken since last review:

Part 2a – '**Progress to date'** specifying units/elements/modules achieved to date (the progress recorded **must** tie in with the associated '**Summary of Achievement Record'**):

Part 2b – Identified **barriers** to progress (please detail here any issues relating to the programme delivery, which have impacted negatively on progress e.g. attendance times, learning difficulties, suitability of training/learning materials, physical barriers to participation, health issues, attitude etc):

*

Part 2c – Solutions proposed to address the above barriers:

-

Part 3 – Agreed '**assessment planning'** & action required for the next review (proposed methods of evidence collection must be recorded & proposed assessment methods must be selected): **N.B.** Methods of evidence collection may include: either hard copy records or electronic records such as audio recordings, scanned documents, photographs etc.	Element: Proposed Assessment Methods/Sources of Evidence:							
	CrossRef	RPL	OBS	Questioning	PS	WR	D	WT

Key: Assessment Methods/Sources of Evidence

CrossRef = Cross Referencing   **RPL**= Recognition of Prior Learning

OBS = Observation   **PS** = Personal Statement

WR = Work Record   **D** = Discussion

WT= Witness Testimony

Part 4 – Additional comments / issues (e.g. health & safety issues):
Part 5 – Candidate comments/feedback/evaluation:
Part 6 – Employer comments on progression and achievement noted in **Part 2a**:

Part 7 – Assessor Feedback/Assessment Judgements/Decisions/Outcome

Candidate Signature: .... Date: ....

Assessor Signature: .... Date: ....

Employer Signature (where present): .... Date: ....

Employer Name and position: ....

3B: Sample Form	
Assessor report	

Qualification:	
Candidate:	
Assessor:	
Date:	
Unit/ element:	
Location/ circumstance:	

Details of observation/ question/ answers/ discussion	Ref
Details of observation/ question/ answers/ discussion	**Ref**
Details of observation/ question/ answers/ discussion	**Ref**
Assessors comments (state whether candidate is competent)	
Assessor signature	
Candidate signature	

3C: Sample Form
Witness testimony

Qualification: ……………………………………………………………………………………….

Unit: …………………………………………………………………………………………………..

Element(s): ……………………………………………………………………………………………

Candidate Name: ………………………………………………………………………………..

Witness Name: ………………………………………………………………………………………

Witness Contact Details: ……………………………………………………………………………

……..

Describe your construction and any assessment qualifications/ experience:

………

………

………

Describe your relationship with the candidate:

………

………

Date of evidence: ………………………………………………………………………………

Testimony and comment on candidate's performance

………

………

………

………

………

………

………

Witness Signature & Date: ……………………………………………………………………

Candidate Signature & Date: ……………………………………………………………………

Assessor Signature & Date: ……………………………………………………………………

3D: Sample Form
Candidate personal statement

Qualification:		
Candidate name:		
Element(s)	**Date**	**Statement / evidence**

Candidate's signature:

Assessor's signature:
Date:

APPENDIX 4 - ASSESSOR TEMPLATE DOCUMENTS

4A: Sample Form
Element achievement record

Candidate name:										
Qualification:										
Unit title:										
Element(s):										
Assessor:										
Evidence ref:	Evidence description *	Location **	Performance criteria				Knowledge and understanding			

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*Key: Assessment Methods/Sources of Evidence

CrossRef = Cross Referencing   **RPL**= Recognition of Prior Learning   **OBS**= Observation
Q&A= Questioning **PS**= Personal Statement   **WR** = Work Record   **D**= Discussion
WT= Witness Testimony

**Should refer to whether the evidence can be found in the portfolio ('PF') or elsewhere, if so state location of evidence

4B: Sample Form
Unit progress record

Qualification:

Unit title:

I confirm that the candidate has been assessed as competent for this unit

Assessor name	Assessor signature	Date

I confirm that I have been assessed as competent and that the evidence produced is from work that is all mine

Candidate name	Candidate signature	Date

I confirm that I have internally verified this unit and confirm that the candidate is competent (this section must be completed where the assessor is unqualified)

IV name	IV signature	Date

APPENDIX 5 - INTERNAL VERIFIER TEMPLATE DOCUMENTS

5A: Sample Internal verification Strategy

This document indicates what may be covered as part of an internal verifier's strategy. An effective internal verification strategy ensures:

- A forum for discussion of borderline cases
- Assessor networking and sharing of good practice
- Valid, reliable and consistent training and/or assessment
- Recorded assessment decisions which are appropriate, consistent, fair, transparent and equitable
- Clarity for candidates about assessment requirements
- Effective preparation and presentation for external verification
- Reduction in level of direct external verification scrutiny

To underpin the IV/ verification process a plan of internal activity should be developed indicating
- what will happen
- when it will happen
- who will be involved

New instructors/assessors must:
a) be supplied with assessment and materials
b) clearly understand assessment requirements and procedures

All assessors must:
a) know the name of the person who will manage the IV process and the name of the IV
b) know how IV/ verification will happen, when it will happen and who will be involved
c) be informed about issues raised through previous internal and external quality assurance

On Course Monitoring
The IV should:
a) Sample assessments to ensure that:
   - feedback to candidates is clear and constructive
   - teaching and assessment activities are standard and appropriate
   - assessment decisions are fair and consistent
   - teaching and assessment records are clear
b) Undertake standardisation activities
c) Ensure candidates understand assessment requirements

d) Provide advice and support for Assessors and share good practice
e) Identify good assessment practice
f) Record internal verification activities and findings, list action points and report to instructors/assessors and the EV
g) Liaise with the EV as necessary

End of Course Checking

The IV should:
a) monitor progress against previous action points
b) ensure assessment records are complete and accurate
c) ensure evidence of achievement is appropriate and standardised
d) record internal verification activities and findings, list action points, and report these to assessors and the EV

Guidance on Sampling and Record Keeping

What do IVs/IVs sample and why?

IVs are responsible for monitoring the quality of assessment, hence the need for them to sample assessment practices and decisions. It is not usually possible or necessary to verify every aspect of assessment at each internal verification. A properly selected representative sample should identify any issues with assessment practices and decisions.

Selecting a sample

To select a representative sample, IVs must take account of factors which may impact on the quality of assessment. These factors are used to define a sampling strategy that determines the size of the sample and enables judgements to be made.

Key factors to consider are:

- Sites of delivery
- Number and experience of Assessors
- Number of courses/assessments
- Previous IV actions/recommendations
- Assessment methods
- Special arrangements
- EV recommendations
- Borderline cases
- Anything else that you think might impact on assessment decisions

The sample should include an element of random selection by the IV. It is not necessary to sample across every aspect of the programme at each event but the plan should seek to cover everything over a period of time, e.g. 3 years.

Which records should be kept?

Records of internal quality assurance/ verification must be kept and made available to the EV during monitoring visits. These should demonstrate that the internal verification procedures have been carried out. IVs should record two sets of information:

1. The sample taken by the IV
2. The comments and feedback to the Assessor following the sampling exercise, showing any recommendations or action required and how this was resolved.

There is a sample form shown below that you may use or adapt to suit your own requirement.

5B: Sample Form
Internal verification - sampling assessment decisions

Unit/qualification:

Location:
Assessor name:

Candidate Name	Sampling element[1]	Was the assessment method appropriate?	Is there sufficient evidence that outcomes have been met?	Is the evidence appropriate for the level?	Comments
Comments					

Signed: **(IV)**   **Date:**

Signed: **(Assessor)**   **Date:**

---

[1] *Was this a learning outcome across candidates, or a whole unit or one method of assessment?*

5C: Sample Form
Internal verification − observation of assessors

Internal Verifier's Name: …………………………………………………….…...

Assessor's Name: ……………………………………………………………...

Candidate's Name: ……………………….…………………………………...

Qualification Title: …………………………….…….…………………………

Unit Assessed: …………………………….……………………………………

Element Assessed: ……………………………………………..…………………

Date of Observation: …………………………………………………….......

Location of Assessment: ………………………….…………..……………………

Prior to the assessment had the Assessor:	Yes	No	Comments:
Developed a written Assessment Plan for the candidate			
Checked that the facilities, resources and information required for the assessment were available and ready for use			
Briefed the candidate on how the assessment would take place and what would be assessed			

During the assessment did the Assessor:	Yes	No	Comments:
Conduct the assessment unobtrusively without interfering with the candidate's performance			
Encourage the candidate to satisfy the specified Assessment Criteria			
Ask questions clearly in an encouraging tone and manner without leading the candidate			
Ensure that sufficient questions were asked and that they were justifiable and relevant to the Unit assessed			

During the assessment did the Assessor (continued):	Yes	No	Comments:
Ensure that the atmosphere created during the assessment was pleasant and conducive			
Clarify and resolve any concerns that the candidate had during the assessment			
Clearly inform the candidate of the assessment decision i.e. 'achieved' or 'requires further practice'			
After the assessment did the Assessor:	**Yes**	**No**	**Comments:**

Provide feedback that was clear, constructive, met the candidate's needs and was appropriate to his/her level of confidence			
Encourage the candidate to comment on the assessment decision and how he/she was assessed			
Complete the Unit assessment documentation and ensure it was fully signed and dated			

Overall feedback to Assessor:

Assessor's comments on the IV's feedback:

Assessor's Signature: …………………………………………………...……..……..……….......

Date:……………………………………………………..………………………………………………

Internal Verifier's Signature: …………………………………...……………..….………......

Date:……………………………………………………………………………..……………………