

COSBEDMO13 - SQA Unit Code FM76 04

Manage project information and document requirements in built environment design management



Overview

This unit is about selecting the controlling requirements for the information and document programme for the project stage. It is also about setting up systems for monitoring and controlling the production of information and documents.

You will also need to develop arrangements for reporting progress and managing information and document production problems.

COSBEDMO13 - SQA Unit Code FM76 04

Manage project information and document requirements in built environment design management

Performance criteria

Specify project information and document requirements

You must be able to:

- P1 Select controlling requirements for the project information and document programme which are suitable for the project stages and the resources available
- P2 specify the purpose and scope of information and documents and the controlling requirements they need to meet and who will produce the documents
- P3 develop a production programme, which meets agreed controlling requirements, to produce all the required information and documents in a feasible sequence of production
- P4 specify enough resources and realistic individual targets to complete the information and document production programme
- P5 set up registers, records and systems for monitoring and controlling the production of information and documents which are capable of maintaining programme compliance
- P6 specify individual production instructions which are accurate, clear and complete
- P7 select criteria for the evaluation of the project information and documents, agree the criteria with decision makers and circulate the criteria to the production team
- P8 develop and agree systems for checking, approving and integrating information and documents
- P9 develop and agree procedures, which are appropriate to the requirements of the project and the contract conditions, for dealing with discrepancies and inconsistencies in information and documents, and delays and revisions to project information and documents
- P10 develop arrangements and contingency plans for reporting progress in meeting the programme requirements and to manage information and document production problems

COSBEDMO13 - SQA Unit Code FM76 04

Manage project information and document requirements in built environment design management

Evaluate, integrate and control project information and documents

You must be able to:

- P11 confirm with the client the information required for decision making throughout the project stages
- P12 identify and confirm protocols, data formats and standards for information exchange between all relevant project stakeholders
- P13 obtain information about design parameters which may contribute to the development of design and preparation of project information and documents
- P14 evaluate the information on design parameters to see whether it is adequate to meet the requirements of the stakeholders and requirements for controlling information and document production
- P15 assess the status of the information on design parameters and issue it in accordance with protocols to people who need it for project information and document production, indicate any special considerations and limitations on its use
- P16 maintain accurate and complete registers and records which can be used for quality auditing
- P17 collate information and documents when they have been produced and evaluate them against the agreed criteria
- P18 advise people who are producing information and documents when they do not understand the instructions and refer outstanding queries to the people who produced the original information
- P19 identify any discrepancies and inconsistencies in the information and documents and refer any problems back to the originators for clarification and resolution
- P20 recommend changes to the brief, design, specification and contract when discrepancies have been identified and suggest any the modifications that are needed
- P21 collate revisions, requirements and additions to the information and documents, distribute them promptly and brief the stakeholders and the people responsible for producing information and documents
- P22 choose alternative methods for producing information and documents if it is not possible to produce them in house

COSBEDMO13 - SQA Unit Code FM76 04

Manage project information and document requirements in built environment design management

- P23 obtain necessary checks and approvals when they are needed
- P24 produce up-to-date and accurate information on progress and circulate it to the people who need the information and agree any necessary changes to the programme production

COSBEDMO13 - SQA Unit Code FM76 04

Manage project information and document requirements in built environment design management

Knowledge and understanding

You need to know and understand:

Specify project information and document requirements

- K1 how and why to select controlling requirements for the production information and document (evaluation)
- K2 how and why to specify the purpose and scope of information and documents and the controlling requirements they need to meet and who will produce them (evaluation)
- K3 how and why to develop a production programme which meets agreed controlling requirements (synthesis)
- K4 how and why to specify enough resources and realistic individual targets to complete the information and document production programme (evaluation)
- K5 how and why to set up registers, records and systems for monitoring and controlling the production of information and documents (synthesis)
- K6 how and why to specify individual production instructions which are accurate, clear and complete (evaluation)
- K7 how and why to select, and agree criteria for the evaluation of the design and the information and documents (evaluation)
- K8 how to circulate the criteria for the evaluation of the design to the production team (application)
- K9 how and why to develop systems for checking, approving and integrating information and documents (synthesis)
- K10 how and why to agree systems for checking, approving and integrating information and documents (evaluation)
- K11 how and why to develop procedures for dealing with discrepancies and inconsistencies in information and documents, and delays and revisions to project information and documents (synthesis)
- K12 how and why to agree procedures for dealing with discrepancies and inconsistencies in information and documents, and delays and revisions to project information and documents (evaluation)
- K13 how and why to develop arrangements and contingency plans for reporting progress in meeting the programme requirements and to manage information and document production problems (synthesis)

COSBEDMO13 - SQA Unit Code FM76 04

Manage project information and document requirements in built environment design management

Evaluate, integrate and control project information and documents

You need to know and understand:

- K14 how to confirm with the client the information required for decision making throughout the project stages (application)
- K15 what to identify as protocols, data formats and standards for information exchange between all relevant project stakeholders (understanding)
- K16 how to confirm protocols, data formats and standards for information exchange between all relevant project stakeholders (application)
- K17 how to obtain information about design parameters which may contribute to the development of design and preparation of project information and documents (application)
- K18 how and why to evaluate the information on design parameters to see whether it is adequate to meet the requirements of the stakeholders and requirements for controlling information and document production (evaluation)
- K19 how and why to assess the status of the information on design parameters (analysis)
- K20 how to issue the information in accordance with protocols to people who need it for project information and document production, indicate any special considerations and limitations on its use (application)
- K21 how to maintain accurate and complete registers and records which can be used for quality auditing (application)
- K22 how to collate information and documents when they have been produced and evaluate them against the agreed criteria (application)
- K23 how and why to advise people who are producing information and documents when they do not understand the instructions (synthesise)
- K24 how to refer outstanding queries to the people who produced the original information (application)
- K25 what to identify as any discrepancies and inconsistencies in the information and documents (understanding)
- K26 how to refer any problems back to the originators for clarification and resolution (application)

COSBEDMO13 - SQA Unit Code FM76 04

Manage project information and document requirements in built environment design management

- K27 how and why to recommend changes to the brief, design, specification and contract when discrepancies have been identified and suggest that any modifications that are needed (synthesis)
- K28 how to collate revisions, requirements and additions to the information and documents, distribute them promptly and brief the stakeholders and the people responsible for producing information and documents (application)
- K29 how and why to choose alternative methods for producing information and documents if it is not possible to produce them in house (evaluation)
- K30 how to obtain necessary checks and approvals when they are needed (application)
- K31 how to produce up-to-date and accurate information on progress and circulate it to the people who need the information (application)
- K32 how and why to agree any necessary changes to the programme production (evaluation)

Additional Information

Scope/range

Specify project information and document requirements

1. Controlling 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
- 1.7. liaison requirements
- 1.8. model templates, documents and standards
- 1.9. integration of data
- 1.10. Building Information Modelling
- 1.11. status
- 1.12. electronic data transfer
- 1.13. revision management
- 1.14. scheduling of work
- 1.15. methods of interdisciplinary working
- 1.16. information protocols, standards, execution plan
- 1.17. impact statement

2. Information and document:

- 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. Building Information Model
- 2.8. spread sheets
- 2.9. calculations
- 2.10. images
- 2.11. graphical and non-graphical data files
- 2.12. proprietary file formats
- 2.13. accounts
- 2.14. claims
- 2.15. email

COSBEDMO13 - SQA Unit Code FM76 04

Manage project information and document requirements in built environment design management

3. Project stages:

- 3.1. Stage 0 (Strategy)
- 3.2. Stage 1 (Brief)
- 3.3. Stage 2 (Concept)
- 3.4. Stage 3 (Definition)
- 3.5. Stage 4 (Design)
- 3.6. Stage 5 (Build and Commission)
- 3.7. Stage 6 (Handover and Closeout)
- 3.8. Stage 7 (Operations and End of Life)

4. Purpose:

- 4.1. to obtain consents
- 4.2. procurement
- 4.3. contract
- 4.4. production
- 4.5. operation and use

5. Scope:

- 5.1. number
- 5.2. type
- 5.3. format
- 5.4. size

6. Registers and records:

- 6.1. incoming and outgoing drawing and document registers
- 6.2. records of document approval and revision

7. Criteria and Discrepancies:

- 7.1. format
- 7.2. presentation
- 7.3. accuracy
- 7.4. technical content
- 7.5. completeness
- 7.6. referencing
- 7.7. cross referencing and correlation with associated information and documents
- 7.8. conflict and clash detection
- 7.9. status
- 7.10. spelling, grammar and punctuation

COSBEDMO13 - SQA Unit Code FM76 04

Manage project information and document requirements in built environment design management

8. Decision makers:

- 8.1. the client
- 8.2. CDM coordinator
- 8.3. financial advisers
- 8.4. consultants
- 8.5. potential contractors
- 8.6. potential sub-contractors and suppliers
- 8.7. facilities/asset maintenance managers
- 8.8. users

Evaluate, integrate and control project information and documents

9. Information required for decision making:

- 9.1. design brief
- 9.2. design information from earlier stages and current stage
- 9.3. surveys
- 9.4. reports
- 9.5. statutory approvals and requirements
- 9.6. cost estimates
- 9.7. standards and codes of practice
- 9.8. technical literature
- 9.9. environmental assessment objectives

10. Project stages:

- 10.1. Stage 0 (Strategy)
- 10.2. Stage 1 (Brief)
- 10.3. Stage 2 (Concept)
- 10.4. Stage 3 (Definition)
- 10.5. Stage 4 (Design)
- 10.6. Stage 5 (Build and Commission)
- 10.7. Stage 6 (Handover and Closeout)

11. Protocols:

- 11.1. incoming and outgoing drawing and documents registers
- 11.2. records of document approval and revision
- 11.3. revision management
- 11.4. methods of coordination (eg common arrangement)
- 11.5. electronic data transfers
- 11.6. integration of inter disciplinary data
- 11.7. technical query resolution

COSBEDMO13 - SQA Unit Code FM76 04

Manage project information and document requirements in built environment design management

12. Design parameters:

- 12.1. client, user and community requirements, expectations, options and preferences
- 12.2. project type/purpose/use
- 12.3. site, location and surrounding environment
- 12.4. geology (seismology, ground movements and soil type)
- 12.5. transport and infrastructure
- 12.6. planning, urban & social integration
- 12.7. design form (architectural, structural, civil, services)
- 12.8. design quality (character/scale/aesthetics)
- 12.9. function/spatial planning (occupancy/room information/access and egress incl. DDA, security)
- 12.10. programme budget
- 12.11. cost (including whole life)
- 12.12. development timetable
- 12.13. risk assessment and mitigation
- 12.14. cost planning (including life cycle cost) and value management
- 12.15. procurement
- 12.16. in-use performance
- 12.17. environmental quality and sustainability
- 12.18. environmental assessment/certification schemes
- 12.19. energy and carbon
- 12.20. protection of archaeological, architectural, cultural and historically valuable resources (significance/status)
- 12.21. statutory, regulatory and legal constraints
- 12.22. standards and codes of practice
- 12.23. health and safety
- 12.24. form, function, materials, components and systems
- 12.25. loose fit design - for flexibility/adaptability/deconstruction/disassembly
- 12.26. buildability
- 12.27. operation and maintenance

COSBEDMO13 - SQA Unit Code FM76 04

Manage project information and document requirements in built environment design management

13. Information and documents:

- 13.1. forms of contract
- 13.2. specifications
- 13.3. drawings
- 13.4. bills of quantities
- 13.5. schedules including room data sheets
- 13.6. health and safety plans
- 13.7. Building Information Model
- 13.8. spread sheets
- 13.9. calculations
- 13.10.images
- 13.11.models
- 13.12.sample/mood presentation
- 13.13.graphical and non-graphical data files
- 13.14.proprietary file formats
- 13.15.accounts
- 13.16.claims
- 13.17.emails

14. Requirements of the stakeholders:

- 14.1. to obtain consents
- 14.2. procurement
- 14.3. contract
- 14.4. production

15. Requirements for controlling information and document production:

- 15.1. type of measurement
- 15.2. cost
- 15.3. time
- 15.4. quality
- 15.5. methods of production
- 15.6. methods of coordination (eg Common Arrangement)
- 15.7. liaison arrangements
- 15.8. model templates, documents and standards
- 15.9. integration of data
- 15.10. Building Information Modelling

COSBEDMO13 - SQA Unit Code FM76 04

Manage project information and document requirements in built environment design management

- 15.11. model validation
- 15.12. electronic data transfers
- 15.13. scheduling of work
- 15.14. revision management
- 15.15. methods of interdisciplinary working
- 15.16. information protocols, standards & execution plan
- 15.17. impact statement

16. Registers and records:

- 16.1. incoming and outgoing information and document registers
- 16.2. records of information and document approval and revision

17. Discrepancies:

- 17.1. format
- 17.2. presentation
- 17.3. accuracy
- 17.4. technical content
- 17.5. completeness
- 17.6. referencing
- 17.7. cross referencing and correlation with associated documents
- 17.8. conflict and clash detection

COSBEDMO13 - SQA Unit Code FM76 04

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