

---

## Overview

This unit covers the first phase of the design process. It is about taking all the necessary project factors into account, and agreeing the effect that they will have on the design. It is about selecting and refining design options and choosing the best ones.

You must be able to develop design options which are appropriate to the project stage. This process will impact on the design brief; it will involve an iterative approach to finalising both the brief and the design options. You must bring your team with you, and satisfy the decision makers.

It is about presenting your design choices to interested parties, and getting their response and buy-in. You must be able to demonstrate your powers of presentation, influence and persuasion, backed up by sound technical and professional judgement.

It is about reporting back to the stakeholders, and making the necessary modifications to the design. You must be able to justify your decision following the presentation of your design choices, and demonstrate your technical and professional mettle in negotiating agreements with the stakeholders.

# COSBEDMC02 - SQA Unit Code FM6K 04

## Develop and advise on design recommendations in built environment design management

---

### Performance criteria

#### Identify and assess significant factors which affect project design solutions

*You must be able to:*

- P1 obtain agreed briefing information and identify design parameters which are relevant to the project stage
- P2 analyse the design parameters and identify and analyse significant factors which may influence existing and anticipated development
- P3 format and collate data and conclusions from the analysis and circulate the documents to project team members
- P4 select design options for further development with the project team which appear to meet the requirements of the project stage and take into consideration the significant factors
- P5 agree recommendations with the project team
- P6 advise the client on the most appropriate courses of action

#### Create design options

*You must be able to:*

- P7 identify existing design approaches which are potentially consistent with the project stage and likely to lead to appropriate solutions, and select those which are most likely to contribute to design ideas
- P8 obtain new sources of information and ideas, where existing design approaches do not meet the design parameters of the brief, which have the potential to suggest new and innovative design options
- P9 discuss the selected design options with project team members, assess their observations and note them for future reference
- P10 develop the design options which appear to have the greatest potential for success so that they are capable of being tested
- P11 select and commission appropriate tests which will give valid and relevant information about the design option
- P12 implement, monitor and record tests so that the validity of the design options is maintained, and match the results to significant parameters of the brief
- P13 refine design options which meet the design parameters of the brief and testing them repetitively until their ability to meet them is clearly established

## COSBEDMC02 - SQA Unit Code FM6K 04

### Develop and advise on design recommendations in built environment design management

---

- P14 reject design options which fail to meet the design parameters and identify more suitable design approaches
- P15 recommend modifications to the brief in order to consider selected options and approaches which may meet the design parameters, but fail to meet all the design brief requirements
- P16 assess the implications of modifying the design brief so that the overall integrity is retained
- P17 record feasible design options accurately and present them in sufficient detail so that decision makers can select design options

#### **Prepare and present project design recommendations**

*You must be able to:*

- P18 choose presentation methods and techniques which make the best use of resources and have the potential to communicate design ideas clearly appropriate to the project stage
- P19 agree with the client and the project team the purpose of the presentation and the audience
- P20 choose and agree effective presentation media and techniques which will communicate design ideas clearly
- P21 prepare clear and accurate presentational materials which support the design options and use them to facilitate discussions
- P22 present and explain the project design recommendations clearly and objectively and show how they are justified by the requirements of the brief
- P23 present the project design recommendations in a way which promotes the goodwill and trust of the audience
- P24 encourage the audience to ask questions, ask for clarification and to make comments at appropriate stages in the presentation and provide additional information to ensure their understanding
- P25 provide valid evidence to support design recommendations which do not meet all the requirements of the brief
- P26 define, agree and record amendments and variations to the brief and/or design, which are required by the client and can be demonstrated

## COSBEDMC02 - SQA Unit Code FM6K 04

### Develop and advise on design recommendations in built environment design management

---

#### **Advise on the selection and modification of design recommendations**

- You must be able to:*
- P27 identify those elements of designs which meet the requirements of the original design brief and those that do not
  - P28 agree and record the variations to the design brief and to the design proposals which resulted from the presentations and which the client requires
  - P29 advise stakeholders on the implications of accepting, modifying or rejecting design proposals appropriate to the project stage and ensure that they understand their consequences
  - P30 advise stakeholders on how much more advice, research and consultancy is needed to produce a project design which is acceptable
  - P31 confirm with the stakeholders whether the design recommendation is accepted, modified or rejected

# COSBEDMC02 - SQA Unit Code FM6K 04

## Develop and advise on design recommendations in built environment design management

---

### Knowledge and understanding

*You need to know and understand:*

#### Identify and assess significant factors which affect project design solutions

- K1 how to obtain agreed briefing information which is relevant to the project stage (application)
- K2 what to identify as design parameters which are relevant to the project stage (understanding)
- K3 how and why to analyse the design parameters and significant factors which may influence existing and anticipated development (analysis)
- K4 what to identify as significant factors which may influence existing and anticipated development (understanding)
- K5 how to format and collate data and conclusions from the analysis and circulate the documents to project team members (application)
- K6 how and why to select design options for further development with the project team which appear to meet the requirements of the project stage and take into consideration the significant factors (evaluation)
- K7 how and why to agree recommendations with the project team (evaluation)
- K8 how and why to advise the client on the most appropriate courses of action (synthesis)

#### Create design options

*You need to know and understand:*

- K9 what to identify as existing design approaches that are potentially consistent with the project stage and likely to lead to appropriate solutions, and select those which are most likely to contribute to design ideas (understanding)
- K10 how to obtain new sources of information and ideas, where existing design approaches do not meet the design parameters of the brief, which have the potential to suggest new and innovative design options (application)
- K11 how and why to discuss the selected design options with project team members (synthesis)
- K12 how and why to assess their observations and note them for future reference (analysis)

## COSBEDMC02 - SQA Unit Code FM6K 04

### Develop and advise on design recommendations in built environment design management

---

- K13 how and why to develop the design options which appear to have the greatest potential for success so that they are capable of being tested (synthesis)
- K14 how and why to select and commission appropriate tests which will give valid and relevant information about the design option (evaluation)
- K15 how to implement tests so that the validity of the design options is maintained, and match the results to significant parameters of the brief (application)
- K16 how and why to monitor tests so that the validity of the design options is maintained, and match the results to significant parameters of the brief (analysis)
- K17 how to record tests so that the validity of the design options is maintained, and match the results to significant parameters of the brief (application)
- K18 how to refine design options which meet the design parameters of the brief and testing them repetitively until their ability to meet them is clearly established (application)
- K19 how and why to reject design options which fail to meet the design parameters and identify more suitable design approaches (evaluation)
- K20 how and why to recommend modifications to the brief in order to consider selected options and approaches which may meet the design parameters, but fail to meet all the design brief requirements (synthesis)
- K21 how and why to assess the implications of modifying the design brief so that the overall integrity is retained (analysis)
- K22 how to record feasible design options accurately and present them in sufficient detail so that decision makers can select design options (application)

### Prepare and present project design recommendations

*You need to know and understand:*

- K23 how and why to choose **presentation methods** and techniques which make the best use of resources and have the potential to communicate design ideas clearly appropriate to the **project stage** (evaluation)
- K24 how and why to agree with the client and the project team the purpose of the presentation and the **audience** (evaluation)
- K25 how and why to choose and agree effective **presentation media** and techniques which will communicate design ideas clearly (evaluation)
- K26 how to prepare clear and accurate presentational materials which support the design options and use them to facilitate discussions (application)
- K27 how to present and explain the project design recommendations clearly and objectively and show how they are justified by the requirements of the brief (application)
- K28 how to present the project design recommendations in a way which promotes the goodwill and trust of the **audience**(application)
- K29 how to encourage the **audience** to ask questions, ask for clarification and to make comments at appropriate stages in the **presentation** and how do you provide additional information to ensure their understanding (application)
- K30 how to provide valid evidence to support design recommendations which do not meet all the requirements of the brief (application)
- K31 how and why to define and agree amendments and variations to the brief and/or design, which are required by the client and can be demonstrated (evaluation)
- K32 how to record amendments and variations to the brief and/or design, which are required by the client and can be demonstrated (application)

#### **Advise on the selection and modification of design recommendations**

*You need to know and understand:*

- K33 what to identify as those elements of designs which meet the requirements of the original design brief and those that do not (understanding)
- K34 how and why to agree the variations to the design brief and to the design proposals which resulted from the presentations and which the client requires (evaluation)
- K35 how to record the variations to the design brief and to the design proposals which resulted from the presentations and which the client requires (application)
- K36 how and why to advise stakeholders on the implications of accepting, modifying or rejecting design proposals appropriate to the project stage and ensure that they understand their consequences (synthesis)
- K37 how and why to advise stakeholders on how much more advice, research and consultancy is needed to produce a project design which is acceptable (synthesis)
- K38 how and why to confirm with the stakeholders whether the design recommendation is accepted, modified or rejected (application)



### Additional Information

#### Scope/range

**Identify and assess significant factors which affect project design solutions**

**1. Design parameters:**

- 1.1. client, user and community requirements, expectations, options and preferences
- 1.2. project type/purpose/use
- 1.3. site, location and surrounding environment
- 1.4. geology (seismology, ground movements and soil type)
- 1.5. transport and infrastructure
- 1.6. planning, urban & social integration
- 1.7. design form (architectural, structural, civil, services)
- 1.8. design quality (character/scale/aesthetics)
- 1.9. function/spatial planning (occupancy/room information/access and egress incl. DDA, security)
- 1.10. programme budget
- 1.11. cost (including whole life)
- 1.12. development timetable
- 1.13. risk assessment and mitigation
- 1.14. cost planning (including life cycle cost) and value management
- 1.15. procurement
- 1.16. in-use performance
- 1.17. environmental quality and sustainability
- 1.18. environmental assessment/certification schemes
- 1.19. energy and carbon
- 1.20. protection of archaeological, architectural, cultural and historically valuable resources (significance/status)
- 1.21. statutory, regulatory and legal constraints
- 1.22. standards and codes of practice
- 1.23. health and safety
- 1.24. form, function, materials, components and systems
- 1.25. loose fit design – for flexibility/adaptability/deconstruction/disassembly
- 1.26. buildability
- 1.27. operation and maintenance

## COSBEDMC02 - SQA Unit Code FM6K 04

### Develop and advise on design recommendations in built environment design management

---

#### **2. Project stage:**

- 2.1. Stage 0 (Strategy)
- 2.2. Stage 1 (Brief)
- 2.3. Stage 2 (Concept)
- 2.4. Stage 3 (Definition)

#### **Create design options**

#### **3. Design approaches, new sources of information and ideas:**

- 3.1. those which are suggested by the brief
- 3.2. previous knowledge and experience of similar work
- 3.3. solutions by others to similar problems
- 3.4. innovative thinking
- 3.5. review alternatives through interactive simulation and analysis
- 3.6. experts including experienced craftspeople
- 3.7. passive design principles
- 3.8. environmental assessment/certification schemes

#### **4. Project stage:**

- 4.1. Stage 0 (Strategy)
- 4.2. Stage 1 (Brief)
- 4.3. Stage 2 (Concept)
- 4.4. Stage 3 (Definition)

#### **5. Design parameters:**

- 5.1. client, user and community requirements, expectations, options and preferences
- 5.2. project type/purpose/use
- 5.3. site, location and surrounding environment
- 5.4. geology (seismology, ground movements and soil type)
- 5.5. transport and infrastructure
- 5.6. planning, urban, social integration
- 5.7. design form (architectural, structural, civil, services)
- 5.8. design quality (character/scale/aesthetics)
- 5.9. function/spatial planning (occupancy/room information/access and egress incl. DDA, security)
- 5.10. programme budget
- 5.11. cost (including whole life)

## COSBEDMC02 - SQA Unit Code FM6K 04

### Develop and advise on design recommendations in built environment design management

---

- 5.12. development timetable
- 5.13. risk assessment and mitigation
- 5.14. cost planning (including life cycle cost) and value management
- 5.15. procurement
- 5.16. in-use performance
- 5.17. environmental quality and sustainability
- 5.18. environmental assessment/certification schemes
- 5.19. protection of archaeological, architectural, cultural and historically valuable resources (significance/status)
- 5.20. statutory, regulatory and legal constraints
- 5.21. standards and codes of practice
- 5.22. health and safety
- 5.23. form, function, materials, components and systems
- 5.24. loose fit design - for flexibility/adaptability/deconstruction/disassembly
- 5.25. buildability
- 5.26. operation and maintenance

#### **6. Tests:**

- 6.1. comparative
- 6.2. consultative
- 6.3. mathematical modelling
- 6.4. physical modelling
- 6.5. simulation
- 6.6. physical testing
- 6.7. value engineering
- 6.8. interaction of buildings & people
- 6.9. decision tools for passive/active systems
- 6.10. model costs of variant designs

#### **7. Present:**

- 7.1. orally
- 7.2. in writing
- 7.3. graphically
- 7.4. electronically

#### **8. Decision makers:**

- 8.1. the client
- 8.2. financial advisers
- 8.3. consultants;
- 8.4. potential contractors and suppliers
- 8.5. potential investors
- 8.6. partners in the development programme
- 8.7. facilities/asset managers
- 8.8. potential occupiers/users
- 8.9. regulatory authorities
- 8.10. public interest organisations

#### **Prepare and present project design recommendations**

#### **9. Presentation methods:**

- 9.1. documentary
- 9.2. design quality benchmarking analysis
- 9.3. comparative studies with similar projects
- 9.4. illustrated oral presentations
- 9.5. computer modelled simulations
- 9.6. public exhibition

#### **10. Project stage:**

- 10.1. Stage 0 (Strategy)
- 10.2. Stage 1 (Brief)
- 10.3. Stage 2 (Concept)
- 10.4. Stage 3 (Definition)

#### **11. Audience:**

- 11.1. the client
- 11.2. the client's financial advisers
- 11.3. design consultants
- 11.4. potential contractors
- 11.5. potential subcontractors and suppliers
- 11.6. facilities/asset managers
- 11.7. potential investors
- 11.8. funding agencies
- 11.9. independent client advisers

## COSBEDMC02 - SQA Unit Code FM6K 04

### Develop and advise on design recommendations in built environment design management

---

- 11.10. partners in development programme
- 11.11. user groups
- 11.12. prospective occupiers and users
- 11.13. community groups
- 11.14. regulatory authorities
- 11.15. public interest organisations
- 11.16. media

#### **12. Presentation media:**

- 12.1. sketches
- 12.2. drawings and projections
- 12.3. physical models
- 12.4. computer generated data
- 12.5. diagrams
- 12.6. mathematical modelling
- 12.7. photo-montage
- 12.8. mock-ups
- 12.9. written reports
- 12.10. simulation computer models

#### **Advise on changes to the design brief and design recommendations**

#### **13. Advise:**

- 13.1. in writing
- 13.2. orally
- 13.3. using graphics
- 13.4. electronically

#### **14. Stakeholders:**

- 14.1. the client
- 14.2. the clients financial advisers
- 14.3. design consultants
- 14.4. potential contractors
- 14.5. potential subcontractors and suppliers
- 14.6. facilities/asset managers
- 14.7. potential investors
- 14.8. funding agencies
- 14.9. independent client advisers

## COSBEDMC02 - SQA Unit Code FM6K 04

### Develop and advise on design recommendations in built environment design management

---

- 14.10. partners in development programme
- 14.11. user groups
- 14.12. prospective occupiers and users
- 14.13. community groups
- 14.14. regulatory authorities
- 14.15. public interest organisations
- 14.16. media

#### **15. Implications:**

- 15.1. cost
- 15.2. the programme
- 15.3. performance
- 15.4. design quality
- 15.5. best value
- 15.6. buildability
- 15.7. health and safety
- 15.8. environment
- 15.9. sustainability
- 15.10. facilities/ asset management

#### **16. Project stage:**

- 16.1. Stage 0 (Strategy)
- 16.2. Stage 1 (Brief)
- 16.3. Stage 2 (Concept)

## COSBEDMC02 - SQA Unit Code FM6K 04

### Develop and advise on design recommendations in built environment design management

---

**Developed by** ConstructionSkills

---

**Version number** 2

---

**Date approved** December 2012

---

**Indicative review date** January 2018

---

**Validity** Current

---

**Status** Original

---

**Originating organisation** ConstructionSkills (CIC)

---

**Original URN** COSBEDMCO2

---

**Relevant occupations** Architects; Civil Engineers; Graphic Designers; Architectural Technologists, Town Planning Technicians; Building Surveyors

---

**Suite** Built Environment Design Management

---

**Key words** design; brief; project

---