Specification at what stage?

RIBA Plan of Work Stages 0 to 7 (or 8)
Specification at what stage?

RIBA Plan of Work 2007

Stages A to M? Here?
The RIBA Publication: RIBA Plan of Work 2013 Overview
Services specific to Building Projects Stages & Tasks
CIC/BIM Task group

- Coordinated work groups
- Overlay against RIBA Plan Of Work
<table>
<thead>
<tr>
<th>Year</th>
<th>Original RIBA Plan</th>
<th>Year</th>
<th>Updated RIBA Plan</th>
<th>CIC/BIM Task Group</th>
<th>Coordinated Work Stage</th>
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<tr>
<td>2007</td>
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<td><strong>Strategic Definition</strong></td>
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Softlandings

• **Government initiative:**
  – to close the performance gap between:
    • designed performance and
    • in use actual performance
  • get designers involved before, during and after the handover stage to ensure:
    – Kit is working as intended
    – FM staff or occupants understand how to operate the building and its controls

26/12/2013
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<thead>
<tr>
<th>2007</th>
<th>RIBA Plan of Work</th>
<th>2013</th>
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Differences
PofW 2007>2013

• Stages EFGH > Stage 4 & no longer detailed
• Its as if EFGH have been abdicated to other parties: D&BC, CM, MC, PB, QS, etc.
• But in reality this is anything but the case
• Starchitects may not need PofW
• Since 86% of RIBA members surveyed in 2012 Follow Traditional Procurement Methods
• SME architects need to keep the detail granularity of Stages EFGH
<table>
<thead>
<tr>
<th>Stages</th>
<th>Tasks</th>
<th>0 Strategic Definition</th>
<th>1 Preparation &amp; Brief</th>
<th>2 Concept Design</th>
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<th>5 Construction</th>
<th>6 Hand over &amp; Close out</th>
<th>7 In Use Maintenance Refurbishment Adaptation</th>
<th>8 End of Life Decommission Reclaim Prepare for Reuse</th>
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Information required at all stages of projects

A. Inception
B. Feasibility
C. Outline Proposal
D. Scheme Design
E. Detail Design
F. Production Information
G. Bills of Quantities
H. Tender Action
J. Project Planning
K. Operations on site
L. Completion
M. Feedback

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© 1994-2013 NGS Specification Stage Development
SPECIFICATION DEVELOPED AT ALL STAGES OF PROJECT(S)
Sustainability Aspirations

• Choices can be made during briefing:
  – Energy Saving: is not the only issue:
  – Healthy
  – Environmental
  – Local: sourcing of materials and labour
  – Resourceful: Efficient/Effective
    • Reclaimed and reused or recycled
    • Zero waste
  – Water saving
  – Biodiversity
  – Competent/Compatible/Durable
  – Social
  – Etc.
Specification decisions are made as soon as 9B pencil touches paper
Strategic definition
Appraisal Inception
Preparation & Brief

Design brief / Feasibility
0 Strategic Definition A Inception
1 Preparation B Brief / Feasibility

- 05 Advise on the need for specialist subcontractors, subcontractors and suppliers to design and execute parts of the works; and obtain express permission
- Initial Specification setting performance requirements and environmental objectives
- Contractor’s Design: likely scope of work and any splits of responsibility
- Suppliers, Applicators, Installers, approved lists as clauses or Appendix
B Design Brief
Softlandings Stage 1 Briefing

- B1 Define roles and responsibilities
- B2 Review past experience
- B3 Plan evaluations and reality checks
- B4 Set performance targets
- B5 Sign-off gateways
- B6 Incentives for performance-outcomes
C to H Design & PreConstruction
Softlandings 2 Design & Construct

- D1 Review past experience
- D2 Design Reviews
- D3 Tender Documentation & Evaluation
2 Concept Design
C Concept C Outline Proposals

• 02 Provide Information to discuss proposals with and incorporate input of other consultants

• Outline Specifications help to co-ordinate consultants inputs and record decisions made

• Interdisciplinary co-ordination possible
2 Concept Design
C Concept C Outline Proposals

• 03 Provide information to other consultants for their preparation of an approximation of construction costs

• Outline Cost Plan Specification collates all information about methods, materials and services and levels of performance
2 Concept Design

C Concept C Outline Proposals

• Prepare special presentations, drawings, brochures, models, or technical information for use of the client or others.

• Outline specifications can be developed and literature on products can be collected and presented to all.
Developed Design

Design Development

Scheme Design
3 Developed design
D Design Development D Scheme Design

• 02 Provide Information to discuss proposals with and incorporate input of other consultants into scheme design
• Basic Specifications help to co-ordinate consultants inputs and record decisions made
• Interdisciplinary co-ordination possible
3 Developed design
D Design Development D Scheme Design

- 03 Provide information to other consultants for their preparation of cost estimate
- More detail, more accurate cost estimating
3 Developed design

D Design Development D Scheme Design

- 12 Submit scheme design showing spatial arrangements, materials and appearance, together with cost estimate, for the clients approval.
- Elemental descriptions with all materials and finishes in the form of specifications
Technical Design
Detail Design
26/12/2013
4 Technical Design

E Technical Design

• Calculations to justify design
• Design to respond to calculations
• Decisions about thicknesses to meet design and available product sizes
• Co-ordination and adjustment of details
• Transfer to outline specification
4 Technical Design

E Detail design

• 02 Provide Information to, discuss proposals with and incorporate input of other consultants into detail design

• Interface co-ordination diagrams supported by Detailed specifications describing the details of the interfaces materials, services and actions
4 Technical Design

E Detail design

- 03 Provide information to other consultants for their revision of cost estimate
- Detail Spec should not spring any surprises that will affect rates and eventual costs
- Earlier versions of the specification should have raised the issues earlier
4 Technical Design

E Detail design

• 04 Prepare applications for approvals under Building Acts and/or Regulations and other statutory requirements.

• In order to verify compliance the Controlling body needs detailed information that is normally found in a Contract specifications.

• Early specification development can serve this purpose.
4 Technical Design
E Detail design

• 06 Obtain client's approval of the type of construction, quality of materials and standards of workmanship.

• This level of detail can be communicated easily in the form of a Detailed Specification.
4 Technical Design
F Production Information

• Multiple package Procurement
  – Co-ordination with Package Tender Documents

• CAD/BIM Drawings & Details
  – CPI, package subdivision, correct annotation

• Design Responsibility:
  – Performance or prescriptive Drawings
  – Greater reliance on CPI with Specifications

• Specification & Bill of Quantities/Sch’o Rate
  – Building or Package specification(s)
  – Definition of scope and responsibility

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4 Technical Design
F Production Information

- 01 Prepare production drawings,
- 02 Prepare specification,
- Performance Specification/Employer’s Requirements or Prescriptive Specification
- Fully detailed and everything included
- CPI Co-ordinated Production information possible between spec, drawings and bill
Technical Design
Tender Documentation
Bills of Quantities

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4 Technical Design
G Tender Documentation

- Preliminaries: check for gaps in CAWS A sections & Plug them
- Design Responsibility and its communication
  - Brief > Employers Requirements > Spec
  - Prescriptive v Performance
- Multi Package Procurement
- Subdivision of scope
  - Location/Zone,
  - Tranche/Phase/Stage
  - Trade
- Subdivision of interface:
  - Responsibility
  - Trades
  - Sequence
- Maintenance of Integrity: Assignment of responsibility
4 Technical Design
G Bills of Quantities:

• 03 Provide information for the preparation of bills of quantities and/or schedules of works

• The Specification should be ready for tender and construction or the Bill of Quantities will be deficient, changes may still occur later.

• Cross referencing of specifications with BofQ necessary for consistent message
4 Technical Design

G Bills of Quantities:

• Modify and embellish production information in the light of Q&A’s from other consultants
4 Technical Design

H Tender Action

- Multi Package Procurement
- Multiple Out to Tender Action
- Multiple Tender Submissions
- Multiple Package Contractor’s Proposals
- Multiple Tender Evaluations
- Co-ordination of Proposal
  - Package Interfaces
  - Building > < Services interfaces
  - Departures, Options & Alternatives
- Package co-ordination
  - with Design interest parties present, always
- Re-Design & Re-Specification
- Adjustments: Renegotiations & Reissue
4 Technical Design

H Tender action

- 03 Appraise and report on tenders with other consultants (including specifications, method statements, test evidence, samples etc.)
- Tender Specification and later Contract Specification developed by Tenderer from Performance Specification/Employer’s Requirements
- Tender Specification by Design team from Prescriptive Specification
4 Technical Design
H Tender action

• 04 Assist other consultants in negotiating with a Tenderer
• 04A Negotiate with a Tenderer
• Verification of Tender against Specification
4 Technical Design

H Tender action

• 07 Revise production information to adjust tender sum
Construction
Mobilisation
Project Planning
5 Construction
J Mobilisation J Project Planning

- 03 Provide production information as required by the building contract.
- Contract Specification developed by Tenderer from Performance Specification/Employer’s Requirements
- Contract Specification by Design team from Prescriptive Specification
J to K Mobilisation & Construct Softlandings 3 Pre-handover

- P1 Environmental/Energy logging review
- P2 Building readiness programme
- P3 Commissioning Records Check
- P4 Maintenance contract
- P5 Training
- P6 BMS Interface completion and demo
- P7 Migration Planning
- P8 Aftercare team ‘home’
- P9 Compile BUG Building User’s Guide
- P10 Compile Technical Guide
- P11 O&MMR Operation & Maintenance Manual review
Construction 5K

Construction to Practical Completion

Operations on site
5 Construction
K Const > Practical Completion
K Operations on site

• 04 Generally inspect materials delivered to site, Mock-ups and final work
• Check materials delivered against Construction specification
5 Construction

K Const > Practical Completion

K Operations on site

• 05 As appropriate instruct sample taking and carrying out tests of materials, components, techniques and workmanship and examine the conduct and results of such tests whether on or off site.

• Test or examine construction against performance requirements or assembly clauses in Contract specification
Handover & Close Out

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L1 Post Practical Completion
Softlandings 4 Initial Aftercare

• A1 Resident On Site Attendance
• A2 Provide Datacomms Link
• A3 Building usage guidance
• A4 Technical Guidance
• A5 Communications
• A6 Walkabout
L2 & L3 Aftercare
Softlandings 5 Years 1-3 Aftercare

• Y1 Aftercare review meetings
• Y2 Log and evaluate energy performance
• Y3 Systems & Energy review
• Y4 Fine Tune Systems
• Y5 Record fine-tuning and change
• Y6 Communications
• Y7 Walkabouts
• Y8 Measure & evaluate energy performance
• Y9 End of year Review (and feedback loops)

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7 In Use

L Post Practical Completion
L Completion

- No obvious requirements
L Completion

• Update production information in the light of changes on site to create an “As-built” set to include in O&M documents for Client’s FM activities
M Feed-back

- No obvious requirements
- Post Occupancy Evaluation POE
- RIBA have discouraged feedback because you get both good or bad and potentially invite litigation
- But if we never learn we never correct or progress
M Feed-back

- Any problems encountered at any stage of project should be collected and fed back, whilst fresh in the mind
- Update Word and Excel templates
- Include in “Corporate Knowledge” and use in NBS Building’s User guidance notes and office specification templates
M Feed-back

• Establish a “Wish-list”
• Every time something goes a little worse than the ideal way you had envisaged, write it down.
• Fix it for next time!
Quality Assurance

“QA won’t stop you making mistakes but it’s there to help you prevent it happening twice.”
Build & Design (D&B)

• All of the above but in reverse order
  – No, none of the above
  – Build first, design afterwards

• Surruptitious Specification Substitution:
  – Without a care in the world
  – Without any understanding
  – Other than: ‘cheap is everything’
  – Profit margins: to be maximised
Feedback

• These files are created by generalists with a big dollop of green flavour
• These files are updated from time to time
• We are not experts so from time to time these file may get out of date or may be wrong.
• If you feel that we have got it wrong please let us know so we can put it right
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- Brian Murphy BSc Dip Arch (Hons+Dist)
  - Architect by Training
  - Specification Writer by Choice
  - Greening up my act since 1999
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