

<p>STAGE OVERVIEW - RIBA Plan of Work</p>	
<p>Stage 3- Spatial Coordination</p>	
<p>Stage Outcome</p>	
<p>Architectural and engineering information Spatially Coordinated to Elemental Cost Plan</p>	
<p>Stage 3 results in a Spatially Coordinated design. It is crucial that the client team and design team understand the stage outcomes and the tasks required to achieve them, as well as the impact that preparing Employer’s Requirements or a Planning Application might have on the Information Requirements and tasks to be undertaken. Elemental costs and budgets should be aligned.</p>	
<p>Early technical contractor design/ specialist design should be defined.</p>	
<p>Stage Overview</p>	
<p>The RIBA Plan of Work Overview says:</p> <p>Stage 3 is fundamentally about testing and validating the Architectural Concept, to make sure that the architectural and engineering information prepared at Stage 2 is Spatially Coordinated before the detailed information required to manufacture and construct the building is produced at Stage 4.</p>	

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During Stage 3, the Concept Design is further developed and, crucially, the design work of the core designers is progressed until the spatial coordination exercises have been completed between the main design disciplines. This process may require a number of iterations of the design and different tools may be used, including design workshops.

Detailed Design Studies and Engineering Analysis are undertaken to ratify the assumptions made during Stage 2 and to layer more detail onto the design. **Stage 3 is not about adjusting the Architectural Concept**, which should remain substantially unaltered, although detailed design or engineering tasks may require adjustments to make sure that the building is Spatially Coordinated. Changes to the Architectural Concept, for whatever reason, should be agreed via a Change Control Procedure.

Design Studies should be aligned to Cost Exercises and the development of the Outline Specification – **iterations of the design may be required to ensure the Cost Plan aligns with the Project Budget**. Product suppliers and specialist subcontractors might be consulted to test or conclude specific aspects of the design. A Spatially Coordinated design allows each designer, including specialist subcontractors, to finalise their information at Stage 4 (except for minor tweaks at interfaces) without further major iterations of the design.

The Project Strategies need to be updated and additional detail added, and a Building Regulations review undertaken. A Stage 3 Design Programme is created to make sure that the right tasks are undertaken at the right time. At the end of Stage 3, once the client has signed off a Stage Report that captures all the design development work undertaken during the stage, a Planning Application can be submitted.

NOTE: When a Planning Application before the end of Stage 3 is being considered, it is important to set a mid-stage gateway and focus on the tasks necessary to ensure that the threshold of information required for an application is achieved, and that the design is robust enough for development once planning consent has been obtained.

NOTE: On some projects, Employer's Requirements might be issued at the end of Stage 3 rather than in Stage 4. This documentation may require some elements of the design to be drawn to a higher level of detail, or require schedules or detailed specifications to be produced, to help remove risk from the procurement process and set the Quality Aspirations. This is a drawdown from Stage 4 activity and might be undertaken at the end of Stage 3, after the Stage Report has been

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signed off.

TVC Stage Overlay Guidance:

- **End-users** or their representatives are actively involved in the design process- depending on the Soft Landings or other strategy adopted.
- **Elemental Cost Plan** will be further developed during Stage 3, broken down into products and systems. Having monitored the costs through design development there should be limited need for value engineering.
- **Cost Information/ end of stage elemental cost plan** aligned to the **Project Budget**.
- **Cost Information** verified and incorporated adequate allowances for project strategies.
- **Building services design** will be developed in accordance with BSRIA BG 6 Proforma 3 – Developed design. By the end of this proforma, the design team has arrived at a design where each discipline has its allocated volumes within the building. From a building services perspective, there is sufficient evidence to show that the services volume is sufficient to contain the building services, and it is consistent with all project strategies. Services treatments in rooms and spaces are scheduled in performance terms.
- **Architectural, building services and structural engineering designs** will all have been developed, and will have been checked by the lead designer, with the stage design coordinated between disciplines.
- **Planning Application** will be prepared based on Stage 3 information and submitted to the local authority- depending on the Consenting Strategy
- **Project Strategies** that were prepared during Stage 2 should be developed further and in sufficient detail to allow the client to sign them off once the lead designer has checked each strategy.
- **Change Control Procedures** should be implemented to ensure that any changes to the Concept Design are properly considered and signed off, regardless of how they are instigated.
- Specialist subcontractors will undertake their design work at Stage 4; they may provide information and guidance at Stage 3 in order to facilitate a more robust developed design.
- **Building Warrant** review undertaken.

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- **Stage 3 Design Programme** created to make sure that the right tasks are undertaken at the right time. At the end of Stage 3, once the client has signed off a Stage Report that captures all the design development work undertaken during the stage, a Planning Application can be submitted. Ideally 60% of the design should be complete (especially important where the client is handing over design responsibility to the contractor).
- **Validation** should be undertaken at each stage to ensure achievement of project outcomes and objectives: the client should regularly check and gain assurance that emerging design is addressing all Project Outcomes & Objectives. In response to this, the design team should regularly check and demonstrate to client, alignment of emerging design with Project Outcomes & Objectives. The **SFT Briefing & Evaluation Framework** should continue to be adopted to support this exercise.

Stage Details- Skills and Expertise

- The lead designer and design team are key to this stage.
- The client team are involved where Stage 3 coordination requires client decisions & validation.
- The cost consultant is critical for defining the end of stage elemental cost plan and budget alignment.
- The construction team may also be involved if the selected procurement route requires early contractor or specialist subcontractor inputs/ technical design input is required.

All Parties

- This is a critical stage of project development and delivery that require collaboration across the client and specialist consultant team, utilising a range of skills to realise the best outcomes.
 - Gateway review- **Gateway 3**- will ensure key information is validated
 - **Management/ Risk Management** is critical, with project programme- prepare, monitor and updates- and meeting schedules to drive collaboration and validation- risk/ quality and values.
 - Developing and contributing to **the Health and Safety Strategy**.

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<p>Client</p>
<ul style="list-style-type: none"> • This stage is focussed on maintaining Governance and Approvals, validating stage 3 to ensure details are in place for the Gateway 3 review. • Specifically responsible for and continuing to lead on the following: <ul style="list-style-type: none"> ○ Approving design reports ○ Design responsibilities include approval of the ICT strategy. ○ Information Management and providing, maintaining and managing Common Data Environment. ○ Quality across the project is led by the client, whose responsibility includes develop, maintain and implement Client Construction Quality Plan ○ Environmental Impact Assessment is where the client supports the achievement of the client's sustainability objectives and the Scottish Government's commitment for Scotland to become a net-zero society
<p>Project Management</p>
<ul style="list-style-type: none"> • Project management skills and expertise are required to support the client to move through Gateway 3 validation, and will be specifically responsible for, collaborating with design team members and the client: <ul style="list-style-type: none"> ○ Authorising/ managing change control process ○ Management tasks including the PEP and Project Programme, monthly project reports ○ Supporting the team across Risk Management, specifically the risk register. ○ Design responsibility- including the design responsibility matrix, participating in design review ○ Oversight across statutory consents- especially the Pre-Application consultation. ○ Oversight and validation of cost- working with the cost consultation on the elemental cost plan and cashflow and supporting the client to manage consultant fee expenditure.
<p>Design Team/ Specialists</p>

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<ul style="list-style-type: none"> • Design, cost and building specialists are critical to this stage- supporting the client/ PM in finalising the design and maintaining governance: <ul style="list-style-type: none"> ○ Governance and approvals will require a compliance specialist. ○ Management stages will be informed by cost/ all consultants covering the design programme, project reporting end of stage cost plans and change control oversight. ○ Risk Management- all specialists to contribute to workshops and the cost consultant in particular to provide qualitative information. ○ Design tasks- design, cost and building specialists across quality management calculation against outcomes, developing design proposals in sufficient detail, building services, space planning and other core strategies. ○ Information Management- BIM information management experts alongside the design team to provide information co-ordination ○ Statutory Consents- design team specialists, supported by the client will be responsible for pre and submission of the planning applications (and may be required to oversea conditions and wider section 75 agreements etc) and will undertake strategies that will inform/ integrate with the design (adaptation and SUDs etc). ○ Building Performance- MEP systems, strategies and tools will be delivered by MEP specialists and the design specialists and inform/ integrate with the design. ○ Cost- Cost consultant expertise will help the design team and client to define a detailed Elemental Cost Plan. ○ Quality- all specialists should be appointed to retain 'ownership' of design quality throughout the project stages, maintain the 'Golden Thread'. ○ Environmental Impact Assessment- planning and design specialists, Net Zero Carbon, Whole Life etc expertise are necessary to complete EIA requirements.
<p>Construction</p>
<ul style="list-style-type: none"> • The construction team are not engaged across this stage. • Specialist input to the design brief/ client requirements may be required from construction/ technical specialists to ensure the Elemental Cost Plan is robust and can be validated through Gateway 3.
<p>Asset Management</p>

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- Asset Management skills and Facilities Management expertise are essential in the development of the design.
 - **Building in Use** tasks - involve the whole life consultant and operations/ FM team to contribute to the design process.
 - **Commissioning, Testing and Handover**- MEP, Whole life, Ops/ FM expertise to develop and validate the **commissioning strategy**.

Stage Outputs and Validation

All Parties

- **Gateway 3 Validation**
- Risk Management Plan
- Meeting Schedules

Client

- Governance
- Cost Reports and end of Stage cost plans
- Design Reports
- ICT report
- Common Data/ SIMP
- Health and Safety
- Consultant fees
- Quality Plan

Project Management

- Management- Programmes/ change control procedure.
- Risk Register
- DRM
- Fee expenditure

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Design Team/ Specialists
<ul style="list-style-type: none"> • Elemental Cost Plan- Stage 3 • Design reports • Quality management plan • Stage design proposals • Design strategies • Room Data sheets • Building services framework • Utilities, flood, SUDs, energy, thermal, sustainability, acoustic, Passivhaus etc strategies- standards to inform design • EIR- SIMP/ BIM models • Statutory consent application (packages) • EIA
Construction
N/A
Asset Management
<ul style="list-style-type: none"> • Project Commissioning Strategy

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STAGE 3 DETAILS	SKILLS & EXPERTISE	SUPPORT AND CONTRIBUTION SKILLS	ACTIVITY AND OUTPUT (* UNICLASS)
Pre-Project, Strategic Capital Investment & Governance Approach			
N/A			
Defining Project Requirements			
N/A			
Brief			
N/A			
Governance and Approvals			
Confirm and Authorise changes to Project Brief	Client		Brief (version controlled) Ensure no changes beyond end of Stage 3
Ongoing validation to ensure achievement of project outcomes and objectives: regularly check and gain assurance that emerging design is addressing all Project Outcomes & Objectives	Client/ Design Team	Vision Champion	Sign off
Project Business Case - prepare, maintain and obtain required approvals	Client		Business Case (version controlled)
Approve Stage Reports & Stage completion	Client		reports
Authorise Project to commence next Stage	Client		Validation
Risk Management			

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Authorise risk/ contingency expenditure, within authorised delegation limits.	Client		Policy
Authorise project changes via formal Change Control process	Client	Project Manager	Report
Building Design Compliance Reviews	Compliance specialist		Report
Arrange and Participate in Gateway Reviews	Client	All Parties	Summary report
Project Management			
Project Execution Plan (PEP) - prepare & maintain	Project Manager		Plan
Project Programme - prepare, monitor and update	Project Manager	All Parties	Validate Programme across the team
Design Programme- prepare, monitor and update	Architect/ Design Specialist	All Designers	Link to Project Programme and include any specialist design Validate Programme across the team
Project Report - prepare (monthly) project reports, providing status update, identifying risks and issues to inform Client decision making	Project Manager	All consultants	Report
Project Cost Reports/End of Stage Cost Plans	Cost Consultant	All consultants	Report/ Client Validation
Design Reports- prepare (monthly) design progress report for incorporation into Project Report	All Designers		Report
Approval Design Reports and authorise project to move to next Stage.	Client		Report/ Client Validation
Manage formal Change Control procedure	Project Manager	Cost Consultant/ all designers	procedure
Attend meetings as detailed on Meeting Schedule	All Parties		Schedule
Building In Use/ Plan for Use			

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Contribute to design process & approve designs with respect to operational requirements	Whole Life consultant	Operations/ FM	Cross validation with design and project reports above
Risk Management			
Prepare & Maintain Project Risk Register, review and update at monthly intervals-including Optimism Bias assessment		Project Manager	register
Attend Risk Workshops & reviews, contribute to Project Risk Register	All Parties		register
Provide quantitative Risk Register information		Cost Consultant	Qualitative information
Design			
Prepare Design Responsibility Matrix	Project Manager	All Designers	Matrix developed in collaboration with the client
Prepare design team quality plan	All designers		Plan review and update
Ongoing validation to ensure achievement of project outcome and objectives regularly check and demonstrate alignment of emerging design with Project Outcome and Objectives	All designers		
Participate in design reviews and technical workshops as required	All Designers	Client, project manager, cost consultant	Design review against objectives
Develop stage design proposals (appropriate to role/ discipline)	All designers		Design
Stakeholder, client engagement	All Parties		Meetings etc
Coordination of design	Architect	All designers	Architect/ lead designer role-validation points
Coordinate building services designs	MEP consultant		
Space Planning (including adjacencies, flow, etc)	Design specialist/ architect	MEP, Principal Designer	design including utilisation strategy

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Develop access and maintenance strategies	Design Specialist/ architect	MEP, Principal Designer, Operations/FM	Building in use strategy
Prepare room Data Sheets	Design Specialist/ architect	MEP consultant	Data sheets
Calculate gross and net internal floor areas	Design Specialist/ architect		Floor Areas
Develop Fire Strategy & contribute to design solutions	Design Specialist/ architect	All designers	Linked to design review (above)
Develop Acoustic Strategy and contribute top design solutions	Design Specialist/ architect	All designers	Strategy/ Linked to design review (above)
Develop design solutions/ concepts to achieve sustainability/ net zero carbon requirements	MEP consultants	All designers	Linked to design review (above)
Develop the building services proposals that meet the client brief, in accordance with the contents of BSRIA BG6/2018 'A Design Framework for Building Services	MEP Consultants		Design framework
Develop and confirm ICT strategy	Client	MEP Consultant	strategy
Liaise with utility providers and develop site utilities requirements and strategies. Obtain quotations on client's behalf.	MEP Consultant		Strategy/ Client validation
Information Management			
Coordinate & Federate BIM model	Architect		model
Provide, maintain and manage Common Data Environment	Client	BIM information manager	data linked to SIMP
Validate BIM model at each design stage	BIM information manager		Model- Validate at each design stage
Statutory Consents			
Pre- Application Consultation	Architect	All designers/ client	Presentation material- Client/ PM overview

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Prepare planning submission	Architect	All designers	Submission material
Submit Planning Submission and liaise with Planners	Architect		Feed into programme/ design risk
Flood Risk Assessment/ Adaptation approach?	CES Engineer		Assessment/ strategy
Prepare Site Drainage & SUDS design			Design
Health & Safety			
Contribute to Health & Safety Strategy as required and to delivering the project in a safe manner. Provide all necessary information to the Principal Designer and comply with the CDM Regulations 2015.	All Parties		strategy - Inform the Procurement Strategy
Building Performance			
Regulation Compliance Analysis	Compliance Manager		assessments
Thermal Simulation	MEP Consultant		model
Building energy analysis	MEP Consultant		Modelling and testing
Undertake whole life carbon assessment	MEP Consultant	Lead designer/ architect	Measurement and verification plan
Complete Whole Life Appraisal Tool	MEP Consultant	Lead designer/ architect	Model/ comparison dashboard
Sustainability Analysis	MEP Consultant	Lead designer/ architect	report
Daylight strategy and analysis	MEP Consultant	Lead designer/ architect	strategy
Solar Gain and shading strategy and analysis	MEP Consultant	Lead designer/ architect	strategy
Permeability and air tightness strategy and analysis	Architect	MEP Consultant	strategy
Acoustic strategy and analysis	Architect	MEP Consultant	strategy
Passivhaus reviews at each design stage	Architect		design
Surveys and Investigations			
N/A			

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Cost			
Prepare and update detailed Elemental Cost Plan	Cost Consultant	Project Management	Cost plan
Prepare and update Cash Flow	Cost Consultant	Project Management	Data
Advise on costs of different design options	Cost Consultant		Design options
Value engineering studies	Cost Consultant	All designers	Study
Manage consultant fee expenditure	Project Manager	Client	Summary report
Valuations/Assessments	Cost Consultant		Summary report-First Stage services
Monthly Cost Report including statement of final cost	Cost Consultant		statement
Procurement and Award			
N/A			
Quality			
Develop, maintain and implement Client Construction Quality Plan	Client		Plan
Retain 'ownership' of design quality throughout the project stages, maintain the 'Golden Thread'.	All designers		Compliance
Environmental Impact Assessment			
Support the achievement of the client's sustainability objectives and the Scottish Government's commitment for Scotland to become a net-zero society	Client	NZC Champion, Whole Life Consultant, All Parties	
Environmental Screening and obtaining ELC Screening Opinion	Planning & environmental	All Designers/ client and contractor	Opinion/ report
Environmental Scoping	Planning & environmental	All Designers/ client and contractor	Scoping report

Transforming the Value of Consultancy (TVC) Initiative

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Environmental Impact Assessment/ HRA (if required)	Planning & environmental	All designers/ client and contractor	EIA/HRA
Commissioning Testing & Handover			
Develop Project Commissioning Strategy	MEP Consultant	Whole Life Consultant, Client Ops/FM	strategy

Ends