

BARC0162: Professional Practice and Management
PROJECT MANAGEMENT ROAD MAP

MEng Engineering and Architectural Design
2022-23

Candidate Code : WRGD1
Student Number : 20074993

Project Roadmap

		2022												2023 - 2024												2025...											
		January	February	March	April	May	June	July	August	September	October	November	December	January	February	March	April	May	June	July	August	September	October	November	December	January	February	March	April								
Area / Discipline		0 & 1 Strategic Defn + Brief				2 & 3 Concept + Spatial Coordination				4 Technical Design				Procurement & Contracts				Construction / Handover												Use + Operation				References			
Client	The client is a key player in both Stage 0 and Stage 1. In Stage 0, they are responsible for setting out their requirements and determining whether a construction project is the best means of achieving those requirements. In Stage 1, they are responsible for appointing a design team and developing the project brief.	The client is a key player in both Stage 2 and Stage 3. In Stage 2, they are responsible for reviewing and approving the developed design, as well as any changes to the project brief. In Stage 3, they are responsible for reviewing and approving detailed design proposals.				The client is a key player in Stage 4. They are responsible for reviewing and approving the technical design, as well as any changes to the project brief.				The client is a key player in the Procurement and Contracts stage. They are responsible for selecting a procurement strategy that best meets their needs and for managing the procurement process.				The client is a key player in the Construction and Handover stage. They are responsible for managing the construction process, ensuring that it aligns with project requirements and design goals, and overseeing the handover process.												They are responsible for managing the building's ongoing use and operation, ensuring that it continues to meet their needs and remains in good condition.				1. 2020. RIBA - Plan of Work 2020 Overview. [ebook] London: RIBA. Available at: <https://www.architecture.com/knowledge-and-resources/resources-landing-page/riba-plan-of-work> 2. 2020. RIBA - Plan of Work 2020 Template. [ebook] London: RIBA. Available at: <https://www.architecture.com/knowledge-and-resources/resources-landing-page/riba-plan-of-work>							
Stakeholders	Stakeholders may be involved in both Stage 0 and Stage 1 to provide input on the project's feasibility or to express concerns about potential impacts on their interests.	Stakeholders may be involved in both Stage 2 and Stage 3 to provide input on the developed design or detailed design proposals, as well as to express concerns about potential impacts on their interests.				Stakeholders may be involved in Stage 4 to provide input on the technical design or to express concerns about potential impacts on their interests.				Stakeholders may be involved in the Procurement and Contracts stage to provide input on the procurement strategy or to express concerns about potential impacts on their interests.				Stakeholders may be involved in the Construction and Handover stage to provide input on construction-related issues or to express concerns about potential impacts on their interests.												Stakeholders may be involved in the Use+Operation stage to provide input on ongoing use and operation-related issues or to express concerns about potential impacts on their interests.											
Design Management	Design management may be involved in both Stage 0 and Stage 1 to help determine whether a construction project is feasible, to provide input on how best to achieve the client's requirements, and to manage the design process.	Design management is typically involved in both Stage 2 and Stage 3 to manage the design process, ensure that designs meet client requirements and regulatory standards, and oversee design-related budgets and schedules.				Design management may be involved in Stage 4 to manage the technical design process, ensure that designs meet client requirements and regulatory standards, and oversee design-related budgets and schedules.				Design management may be involved in the Procurement and Contracts stage to ensure that the procurement strategy aligns with project requirements and design goals.				Design management may be involved in the Construction and Handover stage to ensure that construction aligns with project requirements and design goals.												Design management may be involved in the Use+Operation stage to ensure that ongoing use and operation aligns with project requirements and design goals.											
Net Zero Roadmapper	A Net Zero Roadmapper may be involved in both Stage 0 and Stage 1 if there is a requirement for the project to achieve net-zero carbon emissions. They would provide input on how best to achieve this goal.	A Net Zero Roadmapper may be involved in both Stage 2 and Stage 3 if there is a requirement for the project to achieve net-zero carbon emissions. They would provide input on how best to achieve this goal within the context of the developed or detailed design.				A Net Zero Roadmapper may be involved in Stage 4 if there is a requirement for the project to achieve net-zero carbon emissions. They would provide input on how best to achieve this goal within the context of the technical design.				A Net Zero Roadmapper may be involved in the Procurement and Contracts stage if there is a requirement for the project to achieve net-zero carbon emissions. They would provide input on how best to achieve this goal within the context of the selected procurement strategy.				A Net Zero Roadmapper may be involved in the Construction and Handover stage if there is a requirement for the project to achieve net-zero carbon emissions. They would provide input on how best to achieve this goal within the context of construction activities.												A Net Zero Roadmapper may be involved in the Use+Operation stage if there is a requirement for the building to continue achieving net-zero carbon emissions. They would provide input on how best to achieve this goal within the context of ongoing use and operation activities.											
Architect	The architect is typically involved in both Stage 0 and Stage 1. In Stage 0, they may be involved in providing input on the feasibility of a construction project and how best to achieve the client's requirements from a design perspective. In Stage 1, they are responsible for developing initial design concepts based on the project brief.	The architect is typically heavily involved in both Stage 2 and Stage 3. In Stage 2, they are responsible for developing initial design concepts based on the project brief, which are then reviewed by the client and stakeholders before being developed into a more detailed proposal. In Stage 3, they are responsible for developing detailed design proposals based on feedback from the client and stakeholders.				The architect may be heavily involved in Stage 4 to develop detailed technical drawings and specifications based on feedback from the client and stakeholders.				The architect may be involved in the Procurement and Contracts stage to provide input on how best to structure contracts to ensure that design goals are met.				The architect may be involved in the Construction and Handover stage to provide input on how best to manage construction activities to ensure that design goals are met.												The architect may be involved in the Use+Operation stage to provide input on how best to manage ongoing maintenance and repair activities to ensure that design goals are maintained.											
SMEP + E	The building services engineer may be involved in both Stage 0 and Stage 1 to provide input on whether a construction project is feasible from a building services perspective, as well as how best to achieve the client's requirements using building services systems.	The building services engineer may be heavily involved in both Stages 2 and 3 to develop building services systems that meet client requirements while also adhering to regulatory standards.				The building services engineer may be heavily involved in Stage 4 to develop detailed technical drawings and specifications for building services systems that meet client requirements while also adhering to regulatory standards.				The building services engineer may be involved in the Procurement and Contracts stage to provide input on how best to structure contracts related to building services systems.				The building services engineer may be heavily involved in the Construction and Handover stage to oversee installation, testing, commissioning, and handover of building services systems.												The building services engineer may be heavily involved in the Use+Operation stage to oversee ongoing maintenance, repair, and replacement of building services systems.											
Structural Engineer	The structural engineer may be involved in both Stages 0 and 1 to provide input on whether a construction project is feasible from a structural perspective, as well as how best to achieve the client's requirements using structural systems.	The structural engineer may be heavily involved in both Stages 2 and 3 to develop structural systems that meet client requirements while also adhering to regulatory standards.				The structural engineer may be heavily involved in Stage 4 to develop detailed technical drawings and specifications for structural systems that meet client requirements while also adhering to regulatory standards.				The structural engineer may be involved in the Procurement and Contracts stage to provide input on how best to structure contracts related to structural systems.				The structural engineer may be heavily involved in the Construction and Handover stage to oversee installation, testing, commissioning, and handover of structural systems.												The structural engineer may be heavily involved in the Use+Operation stage to oversee ongoing maintenance, repair, and replacement of structural systems.											
Planning & Permits	The planning consultant may be involved in both Stage 0 and Stage 1 if there are any planning considerations that need to be taken into account when determining whether a construction project is feasible, as well as how best to achieve the client's requirements within the context of local planning regulations.	The planning consultant may be involved in both Stage 2 and Stage 3 if there are any planning considerations that need to be taken into account when developing the design proposals.				The planning consultant may be involved in Stage 4 if there are any planning considerations that need to be taken into account when developing the technical design.				The planning consultant may be involved in the Procurement and Contracts stage if there are any planning considerations that need to be taken into account when selecting a procurement strategy or structuring contracts.				The planning consultant may be involved in the Construction and Handover stage if there are any planning considerations that need to be taken into account during construction or handover activities.												The planning consultant may be involved in the Use+Operation stage if there are any planning considerations that need to be taken into account during ongoing use and operation activities.											
BIM Modelling & Management	The BIM manager may be involved in both Stage 0 and Stage 1 to provide input on whether a construction project is feasible from a BIM perspective, as well as how best	The BIM manager may be heavily involved in both Stages 2 and 3 to ensure that the design proposals are developed using BIM effectively. Creation of BIM model at level of detail 100				The BIM manager may be heavily involved in Stage 4 to ensure that the technical design is developed using BIM effectively. Creation of BIM model at level of detail 200				The BIM manager may be involved in the Procurement and Contracts stage to ensure that BIM-related requirements are included in contracts where appropriate. Creation of BIM model at level of detail 400				The BIM manager may be heavily involved in the Construction and Handover stage to ensure that BIM-related requirements are met during construction activities. Creation of BIM model at level of detail 500 and Digital Twin created.												The BIM manager may be heavily involved in the Use+Operation stage to ensure that BIM-related requirements are met during ongoing maintenance, repair, and replacement activities.				3. United-bim.com. 2020. BIM Level of Development. [online] Available at: <https://www.united-bim.com/bim-level-of-development-100-200-300-350-400-500/>							
Cost Manager	The cost manager may be involved in Stage 0 to provide input on whether a construction project is financially feasible and how much it might cost.	The cost manager may be heavily involved in both Stages 2 and 3 to provide input on the cost implications of the design proposals and to ensure that they remain within budget.				The cost manager/quantity surveyor may be heavily involved in Stage 4 to provide input on the cost implications of the technical design and to ensure that it remains within budget.				The cost manager/quantity surveyor is heavily involved in the Procurement and Contracts stage to provide input on the cost implications of different procurement strategies and to ensure that contracts are structured in a way that aligns with project budgets.				The cost manager/quantity surveyor is heavily involved in the Construction and Handover stage to provide input on the cost implications of construction activities and to ensure that they remain within budget.												The cost manager/quantity surveyor is heavily involved in the Use+Operation stage to provide input on the cost implications of ongoing maintenance, repair, and replacement activities and to ensure that they remain within budget.											
Peer Reviewer	A peer reviewer may be involved in Stage 0 to provide an independent assessment of the feasibility of a construction project and how best to achieve the client's requirements					A peer reviewer may be involved in Stage 4 to provide an independent assessment of the technical design and to ensure that it meets regulatory standards and best practices.				A peer reviewer may be involved in the Procurement and Contracts stage to provide an independent assessment of the selected procurement strategy and contract structures.				A peer reviewer may be involved in the Construction and Handover stage to provide an independent assessment of construction activities and to ensure that they meet regulatory standards and best practices.												A peer reviewer may be involved in the Use+Operation stage to provide an independent assessment of ongoing maintenance, repair, and replacement activities and to ensure that they meet regulatory standards and best practices.											

PROCESS RESEARCH + NOTES

Stage 0: Strategic Definition

- Establish project objectives and requirements
- Identify key stakeholders and their roles
- Conduct feasibility studies to assess viability of project

Stakeholders:

- Client: responsible for setting project objectives and requirements
- End-users: provide input on functional requirements of the building
- Planning authorities: ensure that the project complies with local planning regulations
- Net Zero Roadmapper: provides input on how to achieve net-zero carbon emissions within the context of the project.

Notes:

- Feasibility studies should include an assessment of energy/sustainability/environmental considerations to ensure that they are integrated into the project from the outset.

Stage 1: Preparation and Brief

- Develop initial brief based on strategic definition stage
- Identify procurement strategy and select design team.

Stakeholders:

- Client: responsible for developing initial brief and selecting procurement strategy and design team
- Design team: responsible for developing detailed brief based on initial brief.

Notes:

- The procurement strategy should take into account energy/sustainability/environmental considerations to ensure that they are integrated into the selection process.

Stage 2: Concept Design

- Develop concept design based on detailed brief
- Conduct environmental analysis to assess potential impacts of design decisions.

Stakeholders:

- Client: responsible for approving concept design and ensuring that it meets project objectives and requirements
- Design team: responsible for developing concept design based on detailed brief and conducting environmental analysis.

Notes:

- The environmental analysis should include an assessment of energy/sustainability/environmental considerations to ensure that they are integrated into the concept design.

Stage 3: Developed Design

- Develop detailed technical drawings, specifications, and schedules based on approved concept design
- Conduct sustainability appraisal to assess potential impacts of materials, systems, etc.

Stakeholders:

- Client: responsible for approving detailed technical drawings, specifications, and schedules

- Design team: responsible for developing detailed technical drawings, specifications, and schedules based on approved concept design and conducting sustainability appraisal.

Notes:

- The sustainability appraisal should include an assessment of energy/sustainability/environmental considerations to ensure that they are integrated into the developed design.

Stage 4: Technical Design

- Develop technical design based on approved developed design
- Conduct site appraisal to assess potential impacts of site conditions on construction and operation.

Stakeholders:

- Client: responsible for approving technical design
- Design team: responsible for developing technical design based on approved developed design and conducting site appraisal.

Notes:

- The site appraisal should include an assessment of energy/sustainability/environmental considerations to ensure that they are integrated into the technical design.
- The technical design should also take into account energy/sustainability/environmental considerations to ensure that they are integrated into the construction and operation of the building.

Stage 5: Manufacturing and Construction

- Procure contractors and oversee construction process
- Conduct commissioning and testing of building systems

Stakeholders:

- Client: responsible for overseeing construction process and ensuring that it aligns with project objectives and requirements
- Contractors: responsible for carrying out construction activities in accordance with technical design
- Design team: responsible for overseeing commissioning and testing of building systems

Notes:

- The procurement process should take into account energy/sustainability/environmental considerations to ensure that contractors are selected based on their ability to deliver a sustainable building.
- Commissioning and testing should include an assessment of energy/sustainability/environmental considerations to ensure that building systems are operating efficiently.

Stage 6: Handover and Close Out

- Obtain Practical Completion certificate
- Conduct post occupancy evaluation to assess performance of building

Stakeholders:

- Client: responsible for obtaining Practical Completion certificate and conducting post occupancy evaluation

- Contractors: responsible for ensuring that all works have been completed in accordance with contract documents

Notes:

- The post occupancy evaluation should include an assessment of energy/sustainability/environmental considerations to identify areas where improvements can be made.
- The Practical Completion certificate should only be issued once all works have been completed in accordance with contract documents, including any sustainability-related requirements.

Stage 7: Use and Operation

- Manage ongoing use and operation of the building
- Conduct ongoing maintenance, repair, and replacement activities
- Monitor building performance to identify areas for improvement

Stakeholders:

- Client: responsible for managing ongoing use and operation of the building, conducting maintenance, repair, and replacement activities, and monitoring building performance
- End-users: responsible for using the building in accordance with its intended purpose
- Building services engineer: responsible for overseeing ongoing maintenance, repair, and replacement of building services systems
- Structural engineer: responsible for overseeing ongoing maintenance, repair, and replacement of structural systems

Notes:

- Ongoing use and operation should take into account energy/sustainability/environmental considerations to ensure that the building continues to operate efficiently.
- Maintenance, repair, and replacement activities should also take into account energy/sustainability/environmental considerations to ensure that they are carried out in a sustainable manner.
- Monitoring building performance should include an assessment of energy/sustainability/environmental considerations to identify areas where improvements can be made.

Overall Notes:

- Throughout all stages of the project planning roadmap, it is important to consider energy/sustainability/environmental considerations to ensure that they are integrated into all aspects of the project.
- Relevant stakeholders should be identified at each stage of the project planning roadmap to ensure that their input is taken into account.

REFERENCES

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2. Daga, L. (2021). *A Practical Approach to Level of Detail (LOD) - United-BIM*. [online] United BIM. Available at: <https://www.united-bim.com/practical-approach-to-level-of-detail/#:~:text=In%20short%2C%20Level%20of%20Detail> [Accessed 20 Apr. 2023].
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5. Marshall, L. (2018). *The RIBA Plan of Work: Eight Key Project Stages Explained*. [online] NOVO. Available at: <https://www.novo.eu.com/post/the-riba-plan-of-work-eight-key-project-stages-explained>.
6. RIBA (2020). *RIBA Plan of Work 2020 Overview RIBA Plan of Work*. [online] Available at: <https://www.architecture.com/-/media/GatherContent/Test-resources-page/Additional-Documents/2020RIBAPlanofWorkoverviewpdf.pdf>.
7. RIBA (2021). *RIBA Plan of Work*. [online] Architecture.com. Available at: <https://www.architecture.com/knowledge-and-resources/resources-landing-page/riba-plan-of-work>.