

ROLES & RESPONSIBILITIES OF THE DEVELOPMENT TEAM USING THE PROCSA MATRIX

STAGE 0 PROJECT INITIATION & BRIEFING	STAGE 1 INCEPTION	STAGE 2 CONCEPT & VIABILITY	STAGE 3 DESIGN DEVELOPMENT	STAGE 4 DOCUMENTATION & PROCUREMENT	STAGE 5 CONSTRUCTION	STAGE 6 CLOSE-OUT
Establishing the need, desirability and viability of undertaking a property development together with securing the appropriate land and rights to undertake such a development	Establish the client requirements and preferences, assess user needs and options, appointment of necessary consultants, establish the project brief including project objectives, priorities, constraints, assumptions, aspirations and strategies.	Prepare and finalise the project concept in accordance with the brief including the scope, scale, character, form, function and preliminary programme and viability of the project	Develop the approved concept to finalise the design, outline specifications, cost plan, financial viability and programme for the project	Prepare the construction and procurement documentation, confirm and implement the procurement strategies and procedures for effective and timeous procurement of necessary resources for the execution of the project	Management, administer and monitor the contracts and processes, including the preparation and co-ordination of the procedures and documentation to facilitate practical completion of the works	Fulfill and complete the project close-out including the preparation of the necessary documentation to facilitate effective completion, handover and operation of the project
<div>DEVELOPMENT MANAGER</div> <div>0.1.Establish project need and desirability 0.2.Prepare a First Business Case 0.3.Formalise Client's Vision 0.4.Source Appropriate Land 0.5.Manage procurement of land rights including necessary zoning, environmental, infrastructural / external services, legal requirements etc. in relation to such land rights 0.6.Procure market research to assist in confirming the appropriate product and income stream 0.7.Appoint necessary Consultants 0.8.Process Payments to all project creditors</div>	<div>DEVELOPMENT MANAGER</div> <div>1.1.Formalise project brief 1.2.Facilitate preliminary site assessment 1.3.Prepare a preliminary desk top project viability 1.4.Appoint necessary appropriate consultants 1.5.Establish project procurement policy</div>	<div>DEVELOPMENT MANAGER</div> <div>2.1.Provide consultants with all supplementary information and constraints necessary to execute their respective obligations 2.2.Define format and procedures for reports, presentations and communications by all members of the project team 2.3.Review and comment on proposals and reports prepared and presented by consultants including design concepts, costings and the like 2.4.Prepare "bankable business plan" including but not limited to a viability study, market research, end user commitments, operating agreements, marketing strategy and the like, for purposes of procuring finance for the project 2.5.Manage procurement of project finance</div>	<div>DEVELOPMENT MANAGER</div> <div>3.1.Appoint balance of the consultants including the clear definition of their roles, responsibilities and liabilities 3.2.Review and approve formal and informal communication structure, processes and procedures for the design development of the project 3.3.Review and approve detailed design and documentation Programme, based on an updated indicative construction programme, with all consultants 3.4.Obtain and timeously provide all operating end user requirements to the design team 3.5.Procure appropriate health and safety representative and advice 3.6.Facilitate the timeous submission by the design team of all plans and documentation to obtain the necessary statutory approvals 3.7.Provide design and cost decisions timeously in relation to the design development process 3.8.Receive, review and agree estimates, budgets and cost reports in relation to the final capital cost of the project 3.9.Establish, monitor and manage cash flow requirements of the project 3.10.Review and approve designs by consultants 3.11.Review facilities management requirements and establish facilities management policy 3.12.Monitor implementation of the marketing strategy 3.13.Procure and approve the marketing documentation 3.14.Manage achievement of the business plan income stream requirements 3.15.Procure achievement of all project finance preconditions</div>	<div>DEVELOPMENT MANAGER</div> <div>4.1.Review and approve procurement strategy for contractors, subcontractors and suppliers 4.2.Review and approve project procurement programme and proposed tenderers 4.3.Receive and review environmental management plan 4.4.Provide all necessary, project specific tender conditions including but not limited to, amendments and additions to the preliminaries, empowerment policies, insurance and payment conditions and the like to incorporation in the tender documentation 4.5.Review health and safety specification for the project 4.6.Review adjudication of tenders and instructions to the principal agent to appoint the appropriate contractors 4.7.Sign all principal and direct contract appointment on project 4.8.Place the necessary insurance for project including contractor insurance and appropriate development risk insurance 4.9.Review reconciliation by quantity surveyor of the tender prices with project budget 4.10.Agree format and procedures for monitoring and control by quantity surveyor of cost of the scope of works 4.11.Monitor leasing / sales performance relative to project feasibility 4.12.Procure and manage legal advice in relation to project leasing, sales,etc 4.13.Formalise all service agreements with the appropriate authorities including the payment of all necessary deposits</div>	<div>DEVELOPMENT MANAGER</div> <div>5.1.Manage ongoing projects insurance requirements (including resolution of all insurance claims) 5.2.Formalise and facilitate occupation of site by contractor, including but not limited to termination of existing leases and the like 5.3.Review formal and informal communication structure and procedures for construction process 5.4.Regularly attend site meetings and inspections 5.5.Receive and review contractors' health and safety plan 5.6.Review and approve "end user" specific construction details, documentation, and materials timeously 5.7.Review and approve all scope and cost variations 5.8.Arbitrate acceptable standards of quality when required to do so 5.9.Review and process monthly progress payments 5.10.Receive, review and approve recommendations for settlement of contractual claims as prepared by the principal agent 5.11.Receive and review monthly cost reports 5.12.Formalise management of all direct contractors and suppliers 5.13.Receive and review all project reports and present same at client review meetings 5.14.Provide operator input for any necessary early testing and commissioning by consultants and contractors</div>	<div>DEVELOPMENT MANAGER</div> <div>6.1.Accept works completion certificate 6.2.Receive and distribute all as-built drawings and design documentation, to appropriate parties 6.3.Receive and distribute, all operating and maintenance manuals as well as all warranties and guarantees, to appropriate parties 6.4.Receive and distribute, all statutory compliance certificates and documentation, to appropriate parties 6.5.Receive and handover health and safety files to client 6.6.Monitor rectification of defects during defects liability period 6.7.Monitor preparation and agreement of the final accounts 6.8.Procure and distribute end users latent final completion defects list for inclusion in project final completion latent defects list 6.9.Receive and review and present project closeout report to client 6.10.Assist the client in procuring appropriate facilities management resources</div>
	<div>PROJECT MANAGER</div> <div>1.1.Facilitate development of a clear project brief 1.2.Establish procurement policy for the project 1.3.Assist the client in the procurement of necessary and appropriate other consultants including the clear definition of their roles and responsibilities 1.4.Establish in conjunction with the client, other consultants and all relevant authorities, the site characteristics, rights and constraints for the proper design of the intended project 1.5.Define the consultant's scope of work and services 1.6.Conclude the terms of the agreement with the client 1.7.Facilitate a schedule of the required consents and approvals 1.8.Prepare, co-ordinate and monitor a project initiation programme 1.9.Facilitate client approval of all stage 1 documentation</div>	<div>PROJECT MANAGER</div> <div>2.1.Assist the client in procurement of the other consultants 2.2 Advise the client on the requirement to appoint a health and safety consultant 2.3.Communicate the project brief to the other consultants and monitor the development of the concept and viability 2.4.Agree format and procedures for cost control and reporting by the other consultants 2.5.Prepare a documentation programme and indicative construction programme 2.6.Co-ordinate concept and viability documentation for presentation to the client for approval 2.7.Facilitate approval of the concept and viability by the client 2.8.Facilitate approval of the concept and viability by statutory authorities</div>	<div>PROJECT MANAGER</div> <div>3.1.Agree and implement communication processes and procedures for the design development of the project 3.2.Assist the client in the procurement of the necessary other consultants including the clear definition of their roles and responsibilities 3.3.Prepare, co-ordinate, agree and monitor a detailed design and documentation program 3.4.Conduct and record consultants' and management meetings 3.5.Facilitate input required by health and safety consultant 3.6.Facilitate design reviews for compliance and cost control 3.7.Facilitate timeous technical co-ordination 3.8.Facilitate client approval of all stage 3 documentation</div>	<div>PROJECT MANAGER</div> <div>4.1.Recommend and agree procurement strategy for contractors, subcontractors and suppliers with the client and the other consultants 4.2.Prepare and agree the procurement programme 4.3.Advise the client, in conjunction with the other consultants on the appropriate insurances 4.4.Co-ordinate and monitor preparation of procurement documentation by consultants in accordance with the project procurement programme 4.5.Manage procurement process and recommended contractors for approval by the client 4.6.Agree the format and procedures for monitoring and control by the quantity surveyor of the cost of the works 4.7.Co-ordinate and assemble the contract documentation for signature</div>	<div>PROJECT MANAGER</div> <div>5.1.Arrange site handover to the cntractor 5.2.Establish construction documentation issue process 5.3.Agree and monitor issue and distribution of construction docs 5.4.Instruct the contractor on behalf of the client to appoint subcontractors 5.5.Conduct and record site meetings 5.6.Monitor, review and approve the preparation of the construction programme by the contractor 5.7.Regularly monitor performance of the contractor against the programme 5.8.Adjudicate entitlements that arise from changes required to the construction programme 5.9.Receive, co-ordinate and monitor approval of all contract documentation provided by contractor(s) 5.10.Agree quality assurance procedures and monitor implementation thereof by the other consultants and the contractors 5.11.Monitor preparation and auditing of the contractor's health and safety plan and approval thereof by the H&amp;S consultant 5.12.Monitor preparation of the environmental management plan by the environmental consultant 5.13.Establish procedures for monitoring scope and cost variations 5.14.Monitor, review, approve and issue certificates 5.15.Receive, review and adjudicate any contractual claims 5.16.Monitor preparation of financial control reports by the other consultants 5.17.Prepare and submit progress reports 5.18.Coordinate, monitor and issue practical completion lists and the certificate of practical completion</div>	<div>PROJECT MANAGER</div> <div>6.1.Co-ordinate and monitor rectification of defects 6.2.Manage procurement of operations and maintenance manuals, guarantees and warranties 6.3.Manage preparation of as-built drawings and documentation 6.4.Manage procurement of outstanding statutory certificates 6.5.Monitor, review and issue payment certificates 6.6.Issue completion certificates 6.7.Manage agreement of final account(s) 6.8.Prepare and present the project close-out report</div>

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STAGE 0 PROJECT INITIATION & BRIEFING	STAGE 1 INCEPTION	STAGE 2 CONCEPT & VIABILITY	STAGE 3 DESIGN DEVELOPMENT	STAGE 4 DOCUMENTATION & PROCUREMENT	STAGE 5 CONSTRUCTION	STAGE 6 CLOSE-OUT
	<b>ARCHITECT</b> <ul style="list-style-type: none"> <li>1.1.Assist in developing a clear project brief</li> <li>1.2.Attend project initiation meetings</li> <li>1.3.Advise on the procurement policy for the project</li> <li>1.4.Advise on rights, constraints, consents and approvals</li> <li>1.5.Advise on the other consultants and services required</li> <li>1.6.Define the consultant's scope of work and services</li> <li>1.7.Determine availability of data, drawings and plans relating to the project</li> <li>1.8.Provide necessary information within the agreed scope of the project to the other consultants</li> </ul>	<b>ARCHITECT</b> <ul style="list-style-type: none"> <li>2.1.Agree the documentation programme with the principal consultant and the other consultants</li> <li>2.2.Attend design and consultants' meetings</li> <li>2.3.Prepare concept design based on the client's brief</li> <li>2.4.Consult with the other consultants and incorporate their input</li> <li>2.5.Discuss design concept with local authorities to optimise functional and operational efficiency in terms of scale and relationships of areas</li> <li>2.6.Clarity and confirm the project space norms</li> <li>2.7.Co-ordinate design interfaces with the other consultants</li> <li>2.8.Select general construction materials and intended finishes</li> <li>2.9.Provide information to the quantity surveyor for suitable estimates of construction costs</li> <li>2.10.Prepare and submit presentation of the design concept to the client for approval</li> <li>2.11.Prepare and submit the site development plan to the local authority for approval where applicable</li> <li>2.12.Liaise, co-operate and provide necessary information to the client, principal consultant and other consultants</li> </ul>	<b>ARCHITECT</b> <ul style="list-style-type: none"> <li>3.1. Review the documentation programme with the principal consultant and the other consultants</li> <li>3.2.Attend design and consultants' meetings</li> <li>3.3.Incorporate the client's detailed requirements into building design</li> <li>3.4.Incorporate and co-ordinate the other consultants' designs into building design</li> <li>3.5.Prepare design development drawings including draft technical details and outline specifications</li> <li>3.6.Review budget in conjunction with the quantity surveyor</li> <li>3.7.Liaise, co-operate and provide necessary information to the client, principal consultant and other consultants</li> <li>3.8.Submit drawings to local authorities for approval</li> </ul>	<b>ARCHITECT</b> <ul style="list-style-type: none"> <li>4.1.Attend design and consultants meetings</li> <li>4.2.Prepare specifications for the works and agree preambles with the quantity surveyor</li> <li>4.3.Co-ordinate services and prepare necessary services co-ordination drawings</li> <li>4.4.Check cost estimate with the quantity surveyor and adjust documents if necessary to remain within budget</li> <li>4.5.Provide working drawings to the quantity surveyor for preparation of procurement documentation</li> <li>4.6.Liaise, co-operate and provide necessary information to the principal consultant and the other consultants</li> <li>4.7.Assist with evaluation of tenders</li> <li>4.8.Assist with the preparation of contract documentation for signature</li> <li>4.9.Assess samples and products for compliance and design intent</li> </ul>	<b>ARCHITECT</b> <ul style="list-style-type: none"> <li>5.1.Attend the site handover</li> <li>5.2.Issue construction documentation in accordance with the documentation programme</li> <li>5.3.Carry out contract administration procedures delegated by the principal agent in terms of the contract</li> <li>5.4.Attend regular site, technical and progress meetings</li> <li>5.5.Inspect the works for conformity to contract documentation</li> <li>5.6.Clarity details and descriptions during construction as required</li> <li>5.7.Receive, comment and approve interim payment valuations</li> <li>5.8.Witness and review all tests and mock-ups carried out both on and off site</li> <li>5.9.Check and approve subcontract shop drawings for design intent</li> <li>5.10.Update and issue the drawings register</li> <li>5.11.Issue contract instructions as and when required</li> <li>5.12.Review and comment on operations and maintenance manuals, guarantees, certificates and warranties</li> <li>5.13.Inspect the works and issue practical completion and defects lists</li> <li>5.14.Assist in obtaining statutory certificates</li> </ul>	<b>ARCHITECT</b> <ul style="list-style-type: none"> <li>6.1.Inspect and verify rectification of defects</li> <li>6.2.Receive, comment and approve relevant payment valuations and completion certificates</li> <li>6.3.Prepare and/or procure operations and maintenance manuals, guarantees and warranties</li> <li>6.4.Prepare and/or procure as-built drawings and documentation</li> </ul>
	<b>QUANTITY SURVEYOR</b> <ul style="list-style-type: none"> <li>1.1.Assist in developing a clear project brief</li> <li>1.2.Attend project initiation meetings</li> <li>1.3.Advise on procurement policy for the project</li> <li>1.4.Advise on other consultants and services required</li> <li>1.5.Define the consultant's scope of work and services</li> <li>1.6.Conclude the terms of the agreement with the client</li> <li>1.7.Advise on economic factors affecting the project</li> <li>1.8.Advise on appropriate financial design criteria</li> <li>1.9.Provide necessary information within the agreed scope of the project to the other consultants</li> </ul>	<b>QUANTITY SURVEYOR</b> <ul style="list-style-type: none"> <li>2.1.Agree the documentation programme with the principal consultant and other consultants</li> <li>2.2.Attend design and consultants' meetings</li> <li>2.3.Review and evaluate design concepts and advise on viability in conjunction with the other consultants</li> <li>2.4.Receive relevant data and cost estimates from the other consultants</li> <li>2.5.Prepare preliminary and elemental or equivalent estimates of construction cost</li> <li>2.6.Assist the client in preparing a financial viability report</li> <li>2.7.Audit space allocation against the initial brief</li> <li>2.8.Liaise, co-operate and provide necessary information to the client, principal consultant and other consultants</li> </ul>	<b>QUANTITY SURVEYOR</b> <ul style="list-style-type: none"> <li>3.1.Review the documentation programme with the principal consultant and other consultants</li> <li>3.2.Attend design and consultants' meetings</li> <li>3.3.Review and evaluate design and outline specifications and exercise cost control in conjunction with the other consultants</li> <li>3.4.Receive relevant data and cost estimates from the other consultants</li> <li>3.5.Prepare detailed estimates of construction cost</li> <li>3.6.Assist the client in reviewing the financial viability report</li> <li>3.7.Comment on space and accommodation allowances and prepare an area schedule</li> <li>3.8.Liaise, co-operate and provide necessary information to the client, principal consultant and other consultants</li> </ul>	<b>QUANTITY SURVEYOR</b> <ul style="list-style-type: none"> <li>4.1.Attend design and consultants' meetings</li> <li>4.2.Assist the principal consultant in the formulation of the procurement strategy for contractors, subcontractors and suppliers</li> <li>4.3.Review working drawings for compliance with the approved budget of construction cost and/or financial liability</li> <li>4.4.Prepare documentation for both principal and subcontract procurement</li> <li>4.5.Assist the principal consultant with calling of tenders and / or negotiation of prices</li> <li>4.6.Assist with financial evaluation of tenders</li> <li>4.7.Assist with the preparation of contract documentation for signature</li> </ul>	<b>QUANTITY SURVEYOR</b> <ul style="list-style-type: none"> <li>5.1.Attend the site handover</li> <li>5.2.Prepare schedules of predicted cash flow</li> <li>5.3.Prepare pro-active estimates for proposed variations for client decision-making</li> <li>5.4.Attend regular site, technical and progress meetings</li> <li>5.5.Adjudicate and resolve financial claims by the contractor(s)</li> <li>5.6.Assist in the resolution of contractual claims by the contractor(s)</li> <li>5.7.Establish and maintain a financial control system</li> <li>5.8.Prepare valuations for payment certificates to be issued by the principal agent</li> <li>5.9.Prepare final account(s) for the works on a progressive basis</li> </ul>	<b>QUANTITY SURVEYOR</b> <ul style="list-style-type: none"> <li>6.1.Prepare valuations for payment certificates to be issued by the principal agent</li> <li>6.2.Conclude final account(s)</li> </ul>
	<b>STRUCTURAL ENGINEER</b> <ul style="list-style-type: none"> <li>1.1.Assist in developing a clear project brief</li> <li>1.2.Attend project initiation meetings</li> <li>1.3.Advise on procurement policy for the project</li> <li>1.4.Advise on rights, constraints, consents and approvals</li> <li>1.5.Define the consultant's scope of work and services</li> <li>1.6.Conclude the terms of the agreement with the client</li> <li>1.7.Advise on the necessary surveys, analyses, tests and site or other investigations where such information will be required for stage 2 including the availability and location of infrastructure and services</li> <li>1.8.Determine availability of data, drawings and plans relating to the project</li> <li>1.9.Advise on appropriate financial design criteria</li> <li>1.10.Provide necessary information within agreed scope of the project to the other consultants</li> </ul>	<b>STRUCTURAL ENGINEER</b> <ul style="list-style-type: none"> <li>2.1.Agree the documentation programme with the principal consultant and the other consultants</li> <li>2.2.Attend design and consultants' meetings</li> <li>2.3.Establish concept design criteria</li> <li>2.4.Prepare initial concept design and related documentation</li> <li>2.5.Advise the client regarding further surveys, analyses, tests and investigations which may be required</li> <li>2.6.Refine and assess concept design to ensure conformance with all regulatory requirements and consents</li> <li>2.7.Establish regulatory authorities' requirements and incorporate into the design</li> <li>2.8.Establish access, utilities, services and connections required for the design</li> <li>2.9.Co-ordinate design interfaces with other consultants</li> <li>2.10.Prepare preliminary designs and related documentation for approval by authorities and the client and suitable for estimates of construction cost</li> <li>2.11.Liaise, co-operate and provide necessary information to the client, principal consultant and other consultants</li> </ul>	<b>STRUCTURAL ENGINEER</b> <ul style="list-style-type: none"> <li>3.1.Review the documentation programme with the principal consultant and the other consultants</li> <li>3.2.Attend design and consultants' meetings</li> <li>3.3.Incorporate the client's and authorities' detailed requirements into the design</li> <li>3.4.Incorporate the other consultants' designs and requirements into the design</li> <li>3.5.Prepare design development drawings including draft technical details and specifications</li> <li>3.6.Liaise, co-operate and provide necessary information to the client, principal consultant and other consultants</li> <li>3.7.Submit necessary design documentation to local authorities for approval</li> </ul>	<b>STRUCTURAL ENGINEER</b> <ul style="list-style-type: none"> <li>4.1.Attend design and consultants' meetings.</li> <li>4.2.Prepare specifications for the works and agree preambles with the quantity surveyor</li> <li>4.3.Accommodate services design</li> <li>4.4.Check cost estimate with the quantity surveyor and adjust documents if necessary to remain within budget</li> <li>4.5.Provide working drawings to the quantity surveyor for preparation of procurement documentation</li> <li>4.6.Liaise, co-operate and provide necessary information to the principal consultant and the other consultants</li> <li>4.7.Assist with evaluation of tenders</li> <li>4.8.Assist with preparation of contract documentation for signature</li> <li>4.9.Assess samples and products for compliance and design intent</li> </ul>	<b>STRUCTURAL ENGINEER</b> <ul style="list-style-type: none"> <li>5.1.Attend the site handover</li> <li>5.2.Issue construction documentation in accordance with the documentation programme</li> <li>5.3.Carry out contract administration procedures delegated by the principal agent in terms of the contract</li> <li>5.4.Attend regular site, technical and progress meetings</li> <li>5.5.Inspect the works for conformity to contract documentation</li> <li>5.6.Assist in the resolution of contractual claims by the contractor</li> <li>5.7.Clarity details and descriptions during construction as required</li> <li>5.8.Receive, comment and approve interim payment valuations</li> <li>5.9.Witness and review of all tests and mock-ups carried out both on and off the site</li> <li>5.10.Check and approve subcontract shop drawings for design intent</li> <li>5.11.Update and issue drawings register</li> <li>5.12.Issue contract instructions as and when required</li> <li>5.13.Review and comment on operation and maintenance manuals, guarantees, certificates and warranties</li> <li>5.14.Inspect the works and issue practical completion and defects lists</li> <li>5.15.Assist in obtaining statutory certificates</li> </ul>	<b>STRUCTURAL ENGINEER</b> <ul style="list-style-type: none"> <li>6.1.Inspect and verify rectification of defects</li> <li>6.2.Receive, comment and approve relevant payment valuations and completion certificates</li> <li>6.3.Prepare and/or procure operations and maintenance manuals, guarantees and warranties</li> <li>6.4.Prepare and/or procure as-built drawings and documentation</li> </ul>

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STAGE 0 PROJECT INITIATION & BRIEFING		STAGE 1 INCEPTION	STAGE 2 CONCEPT & VIABILITY	STAGE 3 DESIGN DEVELOPMENT	STAGE 4 DOCUMENTATION & PROCUREMENT	STAGE 5 CONSTRUCTION	STAGE 6 CLOSE-OUT
		<div>CIVIL ENGINEER</div> <div>1.1.Assist in developing a clear project brief 1.2.Attend project initiation meetings 1.3.Advise on procurement policy for the project 1.4.Advise on rights, constraints, consents and approvals 1.5.Define consultant's scope of work and services 1.6.Conclude the terms of the agreement with the client 1.7.Advise on the necessary surveys, analyses, tests and site or other investigations where such information will be required for stage 2 including the availability and location of infrastructure and services 1.8.Determine availability of data, drawings and plans relating to the project 1.9.Advise on appropriate financial design criteria 1.10.Provide necessary information within agreed scope of the project to the other consultants</div>	<div>CIVIL ENGINEER</div> <div>2.1.Agree documentation programme with principal consultant and other consultants 2.2.Attend design and consultants' meetings 2.3.Establish concept design criteria 2.4.Prepare initial concept design and related documentation 2.5.Advise client regarding further surveys, analyses, tests and investigations which may be required 2.6.Refine and assess concept design to ensure conformance with all regulatory requirements and consents 2.7.Establish regulatory authorities' reqs and incorporate into the design 2.8.Establish access, utilities, services and connections required for the design 2.9.Coordinate design interfaces with other consultants 2.10.Prepare preliminary designs and related documentation for approval by authorities and client and suitable for costing 2.11.Liaise, co-operate and provide necessary information to the client, principal consultant and other consultants</div>	<div>CIVIL ENGINEER</div> <div>3.1.Review documentation programme with principal consultant and other consultants 3.2.Attend design and consultants' meetings 3.3.Incorporate client's and authorities' detailed requirements into design 3.4.Incorporate other consultants' designs and requirements into design 3.5.Prepare design development drawings including draft technical details and specifications 3.6.Liaise, co-operate and provide necessary information to principal consultant and other consultants 3.7.Submit necessary design documentation to local authorities for approval</div>	<div>CIVIL ENGINEER</div> <div>4.1.Attend design and consultants' meetings 4.2.Prepare specifications for scope of works and agree preambles with quantity surveyor 4.3.Accommodate services design 4.4.Check cost estimate with quantity surveyor and adjust documents if necessary to remain within budget 4.5.Provide working drawings to quantity surveyor for preparation of procurement documentation 4.6.Liaise, co-operate and provide necessary information to principal consultant and other consultants 4.7.Assist with evaluation of tenders 4.8.Assist with preparation of contract documentation for signature 4.9.Assess samples and products for compliance and design intent</div>	<div>CIVIL ENGINEER</div> <div>5.1.Attend site handover 5.2.Issue construction documentation in accordance with the doc schedule 5.3.Carry out contract administration 5.4.Attend regular site, technical and progress meetings 5.5.Inspect works for conformity to contract documentation 5.6.Assist in the resolution of contractual claims by the contractor 5.7.Clarity details and descriptions during construction as required 5.8.Receive, comment and approve interim payment valuations 5.9.Witnessing and review of all tests and mock ups carried out both on and off site 5.10.Check and approve subcontract shop drawings for design intent 5.11.Update and issue drawings register 5.12.Issue contract instructions as and when required 5.13.Prepare final account(s) for the works on a progressive basis 5.14.Review and comment on operation and maintenance manuals, guarantee certificates and warranties 5.15.Inspect the works and issue practical completion and defects lists 5.16.Assist in obtaining statutory certificates</div>	<div>CIVIL ENGINEER</div> <div>6.1.Inspect and verify rectification of defects 6.2.Receive, comment and approve relevant payment valuations and completion certificates 6.3.Prepare and/or procure operations and maintenance manuals, guarantees and warranties 6.4.Prepare and/or procure as-built drawings and documentation 6.5.Conclude final account(s)</div>
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