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THE VICTORIAN
GOVERNMENT
ARCHITECT

Government as Smart Client

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3.0 The Design Process



'Good Design is not just about the aesthetic improvement of our environment, it is as much about the improved quality of life, equality of opportunity and economic growth'.

The Value of Good Design, Commission for Architecture and the Built Environment (CABE).



Cover

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Foreword

An important legacy for any government can be seen in the quality and design of the public projects they deliver. Well-designed buildings, infrastructure and public places work well and feel good, promoting community pride, identity and adding a valuable long-term asset to their locale. Over the life of a building, evidence shows us that bad design will cost money; whether in maintenance, running costs, poor user experience, lost opportunity, refit or even replacement. In contrast, good design, purposefully and carefully undertaken by skilled practitioners, ends up costing less. Good design continues to grow in value and worth for its client and community of users.

Good design does not just happen; it needs processes that support a quality outcome and it needs to be protected throughout all stages of delivery of a project. The process of procurement of a well-designed building includes starting with a good brief, a design vision that defines performance/outcomes-based principles and the appointment of a skilled, capable, design team.

From there, management of the construction of a building through to completion involves not just progressing a selected contractual method, but realising the project vision from idea, through delivery, to operation. The method by which a building project is procured can have significant impact on the quality of the final building. While it is possible to achieve a good design outcome with all procurement methods, some make it seriously challenging unless their potential threats to design quality are understood and well managed.

This document describes the various methods used in Victoria for the procurement of buildings. Each procurement method is overlaid with recommended strategies to assist in getting to a good design outcome. These strategies can assist Government to be a smart, informed client and deliver projects that leave a design legacy.



Jill Garner AM
Victorian Government Architect



Executive summary

The Victorian State Government is the largest procurer of design services in the state, having an enormous impact on the construction industry and on Victoria's standing as a state with which to do business.¹ The government's legacy from this role is the quality of buildings and public realm it delivers together with Victoria's reputation for innovation and liveability. It is important, therefore, that government and its agencies are informed appropriately to enable them to deliver and support well-designed outcomes for all Victorian projects.

The Office of Victorian Government Architect (OVGA) considers that there is substantial opportunity to improve design outcomes by improving design procurement practices that impact on design quality. The procurement of a quality project relies upon the engagement of a quality design team. It involves not just the contractual method used, but also the implementation of a built project from idea to delivery and on to operation. It is important to distinguish between the procurement of buildings and infrastructure and the procurement of design services.

Key Steps for Improving Procurement of Design Services that impact on Design Quality

1. Develop the Vision Statement for the project at its inception, including the high level design outcomes to be achieved;
2. Appoint a Design Champion to help guide the project and procurement of design services;
3. Appoint a Client Team and Project Managers who understand that good design is fundamental to achieving high-quality buildings and infrastructure;
4. Create a quality design team brief that clearly articulates the design ambitions;
5. Ensure a realistic project budget based on initial design testing and benchmarking as part of any business case;
6. Encourage the use of Expressions of Interest (EOI) and Requests for Proposal (RFP) to procure design teams;
7. When using Competitions to procure design teams, ensure a two-stage submission is used for larger projects, a reasonable budget that reflects the brief and pay bidders for work in stage two;
8. In assessing bids for architectural services, separate the design fees from the assessment criteria and utilise Quality Based Selection. When the preferred design team is identified, evaluate their design fees to determine the value for money each bid represents;
9. Engage the design team early;
10. When using Reference Designs ensure that they are developed to set a qualitative benchmark, integrate the design ambition and establish a commitment to design excellence; and
11. Ensure design teams value the whole-of-life impact and the social, cultural, economic and environmental performance of a development.

Key Steps for Improving the Procurement of Buildings and Infrastructure that impact on Design Quality

1. Design quality needs to be prioritised and embedded early in a project – regardless of the procurement method. If the risks to design quality are understood all procurement methods can be effective;
2. When selecting the preferred procurement methodology for a project, ensure design quality is considered as part of the procurement analysis and included as part of the selection criteria;
3. Ensure there is a clear, well-articulated vision for the project that includes expectations in relation to design and architectural quality;
4. Allow adequate time and resources in earlier stages of the project to develop a clear design intent and project design brief. This should explain the design outcome to be achieved and form an important part of the tender documents to help protect the design quality;
5. Seek design advice from a Design Champion, Design Quality Team (DQT) or the OVGA to assist with quality management in the Expression of Interest (EOI), contract and project brief;
6. Involve stakeholders, facility managers and users in the design process;
7. Consult the design team for advice in the appointment and selection of the head contractor;
8. Provide a realistic contingency for design and construction to ensure design quality can be delivered;
9. Ensure provision for independent design advice (DQT) or design review at key project milestones; and
10. Undertake Post Occupancy Evaluation to capture key lessons and to inform future projects.



All current procurement methods have the capacity to enable good design outcomes. However, with improvements to both the client culture and the procurement processes, higher standards can be achieved to the benefit of all those who use public buildings, infrastructure and places.

Victoria's future reputation for good design and the quality of its built environment relies upon recognising the value that design adds over the lifetime of the building. Well-designed buildings have a direct impact on the standard of public services provided and the quality of life of those who use them.² If we accept that the quality of architecture affects the quality of lives – and considerable evidence now demonstrates that this is the case – then it makes sense and is responsible to put in place steps that enable such quality to be achieved.³

Through discussions with government agencies and industry participants, it was identified that to support good design in public projects further initiatives should be pursued. The following list highlights the key recommendations that will support effective procurement and strategies to enable good design.

Key Recommendations from 'Government as Smart Client'

1. Ensure that the importance of design quality as a project selection criterion is established from the outset of the selection process through the documentation, in the weighting given to design and design capability in the bid evaluation criteria, and finally in the development of contractual documentation and sign-off procedures;
2. Allow enough design time for projects of real quality and innovation to emerge with realistic budgets that consider whole-of-life costs;
3. Develop flexible but consistent procurement processes for engaging architects and other designers to protect design quality;
4. The OVGA will help identify and support the role of Design Champions within Departments and Agencies;
5. The OVGA, in association with the Department of Treasury and Finance (DTF), support best practice in the establishment of consistent and fair Government contracts to protect design quality;
6. When appropriate utilise the OVGA's expertise to assist the Gateway process of a project to ensure design quality. Eg. Review of Briefs and EOIs, Selection Panels, Design Review, Internal Peer Review, Design Quality Teams; and
7. Establish a mechanism for OVGA design advice at a project's inception.

These guidelines provide practical steps to ensure that government, as a 'smart client', delivers excellence in the procurement of design, buildings and infrastructure. The guidelines are not mandatory and do not represent a new layer of process; rather they integrate essential design quality measures within the existing planning and delivery framework of government. They aim to influence design quality for public buildings to ensure an enduring legacy for future generations of Victorians.

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Project: Melbourne Convention and Exhibition Centre

Architect: NH Architecture

Landscape Architects: Aspect Studios

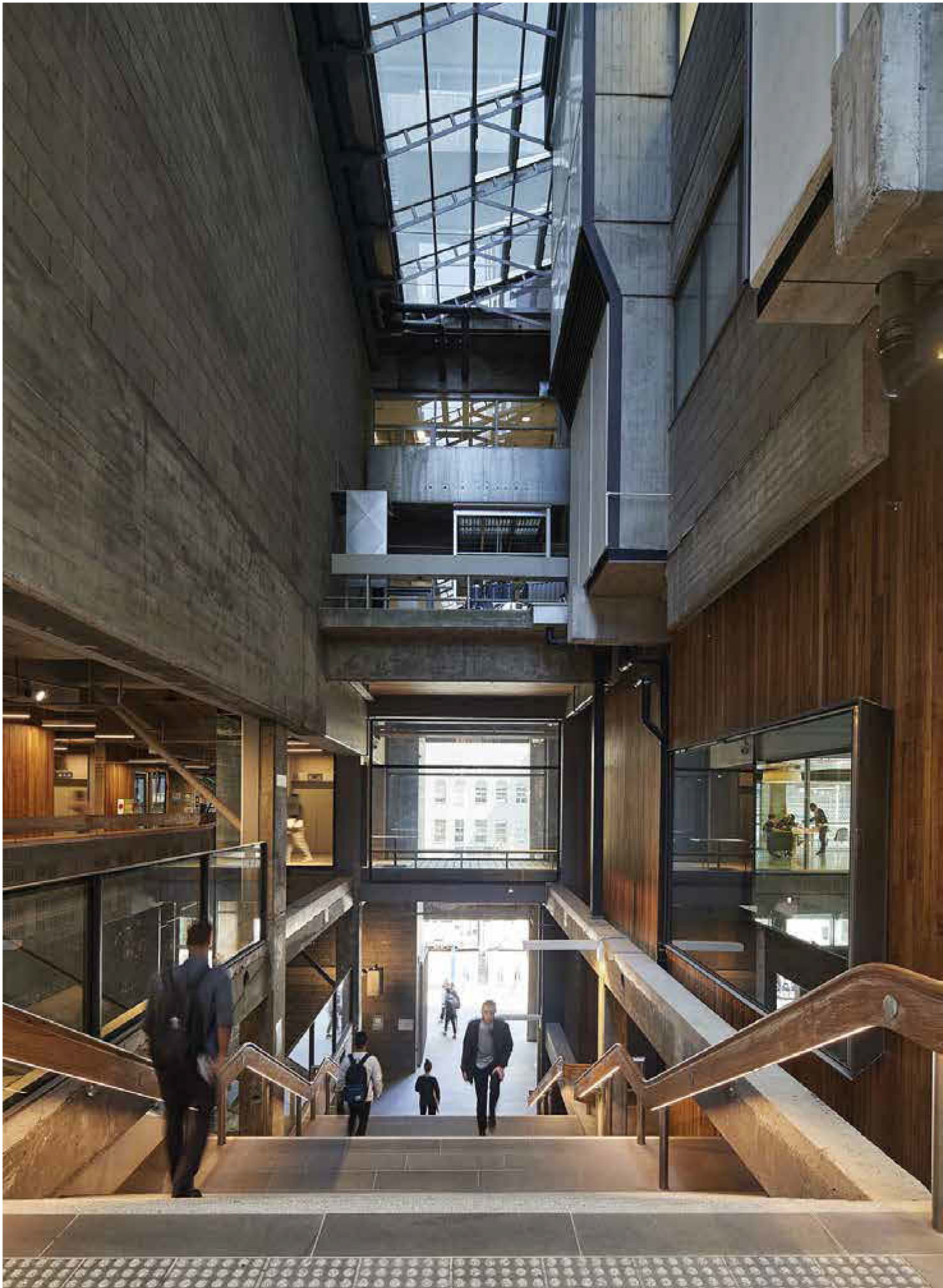
Photographer: Peter Bennetts

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Project: South Melbourne Life Saving Club

Architect: JCB

Photographer: John Gollings



3.0 The Design Process

To ensure that terms referred to throughout the guidelines are clearly defined, it is worth describing the architectural design process and offering recommendations to protect design quality at each stage.

The architectural design process has traditionally been divided into four key stages, which are: Schematic or Sketch Design, Design Development, Documentation and Construction Stage. These stages can also be understood as percentages of the design developed and completed. There are also other key stages that are integral to the design process which are critical to government procuring the best outcomes, inclusive of feasibility and the masterplan.

3.1 Masterplan

A first step to inform a project's vision involves the development of a masterplan. A masterplan is a document that outlines the spatial ambition for the long-term development of a project, particular site, area or even city. Master planning is a service that a design team may provide, usually at the start of a project, to provide a coherent planning framework for the proposed project.

Ideally, a masterplan is a written document describing ambitious development goals for a site accompanied by a diagram or drawings which, in detail, defines matters such as development location, footprint, access and use.

Masterplans may:

- » be a strategic planning tool;
- » address development staging;
- » meet legislative requirements;
- » demonstrate development capacity;
- » be used for marketing purposes;
- » provide a development vision; and
- » facilitate infrastructure and transport planning.

The purpose of a masterplan is to allow development to be undertaken progressively as needs or opportunities arise, to avoid compromising future development options, to minimise abortive work and therefore cost, and to accommodate future needs.

In most cases, while masterplans are flexible documents, they should be reviewed on a regular basis to ensure that they remain relevant and that they continue to have the capacity to respond to demands without compromising the overall vision.

3.2 Feasibility Study

The feasibility study is the initial process where the client's vision, objectives and outline brief can be developed and tested, and options explored against these to suggest how the project may best be delivered. The feasibility study will test the client vision and aspirations against the reality of delivering a built outcome. It is important that the feasibility stage is measured within a policy context and nominates design quality as a key component of the objectives.

The feasibility study should consider all aspects including technical, organisational and financial. Typically it will determine the present value or dollar worth of a project. However, it is most effective when allowed to explore a range of options for the same project. The options can then be evaluated against the project objectives, and assist in the determination of the most appropriate value for money outcome. A feasibility study may recommend that there is no need for the infrastructure and building; and an alternate solution may be uncovered.

RECOMMENDATIONS

- » **Ensure the Vision and objectives of the project are understood and clear at the beginning.**
- » **Reference good design and architecture policy as key criteria.**
- » **Include architectural consultants in the development of the business case and feasibility stages to develop the vision into a spatial and conceptual ambition for the project, addressing immediate and future issues.**
- » **Ensure good holistic research and analysis.**
- » **Collaborate with stakeholders to support holistic approach.**
- » **Ensure the feasibility has been rigorous and addressed wider issues outside the project boundaries.**
- » **Establish an understanding of the greater urban context and undertake detailed site analysis of physical, social and cultural context.**
- » **Provide a value engineering/'optioneering' process to develop the feasibility**
- » **Use realistic market benchmarks for quality and budget.**
- » **Allow time to fully develop the feasibility.**

3.3 Concept Design

The concept design phase, also known as the schematic design phase, is when the architect explores design ideas based on the project brief and related costs in consultation with the client. The architect produces a number of sketches and design possibilities that consider both the plan – the functional arrangement of spaces; and the form – height, width, and shape relative to constraints and opportunities that apply to the site – providing the client opportunity to comment. The option ultimately agreed upon forms the basis of the final design.

Depending on the scale of the project, generally plans, sections and elevations at 1:100 are produced. Component sheets that seek to set the standards for the building by reference to other buildings may also be produced at this stage.

RECOMMENDATIONS

- » **Establish an understanding of the greater urban context and undertake detailed site analysis of physical, social and cultural context.**
- » **Establish a peer review process and undertake this early and regularly.**
- » **Allow further 'optioneering' and exploration of ideas in addition to those undertaken in feasibility.**
- » **Encourage and welcome innovative and creative thinking.**
- » **Establish reporting processes for stakeholder and end-user input and client sign-off to next stage.**
- » **Establish processes which identify issues to be addressed at the next design stage.**

3.4 Design Development

The design development stage is where the Concept Design is refined and fully detailed to meet project requirements. At this point, the 'look' of the building is finalised and the materials, fixtures and finishes to be used on both the inside and outside of the building are decided. During this phase, the architect will develop the approved design and provide documentation to explain it to the client, coordinate the work of specialist consultants, review the developed design against the budget and coordinate and assist in the preparation of an updated Opinion of Probable Cost.

The need for a design development phase is critical in order to refine the design and take it to a higher level of qualitative resolution. It provides time to rationalise and coordinate the interfaces between disciplines such as architectural, structural and services engineering. It allows the opportunity to fully develop and evaluate the sustainability and universal access outcomes and options in the detailed building fabric. It provides an opportunity to fully evaluate the life cycle costing of the building, exploring options in the building development that will meet current budget cost, but also reduce the on-going cost to client. In undertaking this development and evaluation process, it provides a critical stage to establish value for money benefit.

RECOMMENDATIONS

- » Refine the design and develop it to a higher level of qualitative resolution.
- » Establish a peer review process and undertake this early and regularly.
- » Establish reporting processes for stakeholder and end-user input, and client sign-off to next stage.
- » Allow further exploration of ideas for development in construction phase.
- » Allow rigorous life cycle analysis and costing of options.
- » Encourage collaborative and strategic thinking with entire consultant and design team.
- » Allow adequate time for design development to ensure all systems are well-considered and rationalized against budget allowances.
- » Evaluate the proposal against the vision and objectives of the project.

'During the design-development phase the architect will develop the approved concept design and provide documentation to explain it to the client, coordinate the work of specialist consultants, provide a schedule of proposed finishes, review the developed design against the budget and coordinate, and prepare an updated estimate of the cost of the works.'

Acumen AIA Practice Services

'Paying the designer enough to get an excellent set of documents and giving them enough time to do so will return both cost and time savings.'

Cutting design fees raises construction costs, Charles Nelson AIA, LFRAIA

3.5 Contract Documentation

After approval of the design by all relevant authorities, stakeholders and end users, working drawings and specifications are prepared. Known collectively as the tender documentation, the information provided is used to call tenders, to negotiate prices with the builder and ultimately to build the project. Consequently they are detailed and complex, and comprise both large and small scale-dimensioned drawings.

Comprehensive, consistent and clearly legible working drawings, coordinated with a well-drafted specification, will:

- » limit the potential for errors from misinterpretation or ambiguity;
- » minimise duplication of information by prudent cross-referencing;
- » mitigate claims by subcontractors for additional costs associated with contradictory information between drawings and the specification; and
- » clearly define the work that is the responsibility of the head contractor, and that which will be carried out by others.

The specification is a written description of the work to be carried out. It supports the drawings and incorporates standards to be met and directions to be followed, including schedules of materials, fixtures and fittings. These documents are also used to obtain requisite building construction approval and form the basis of the building contract.

RECOMMENDATIONS

- » **Allow adequate time to ensure comprehensive, consistent and clearly legible documentation.**
- » **Establish processes for inter-disciplinary coordination.**
- » **Ensure that the final brief is complete and signed off at 100% design development.**



3.6 Contract Administration and Construction

At this stage of the design process, where the architect is engaged in the administration of the contract, the architect is responsible for providing the client with professional advice, evaluating work, assisting the cost planner with certifying payments and the Project Manager with time extensions/contractions.

The role of the architect varies in some of the more complex building procurement methods. However, having been responsible for project design and documentation, the architect has an intimate knowledge of the client needs and intentions and what is required of the contract, and will therefore be in the best position to manage the delivery of design quality.

RECOMMENDATIONS

- » **Retain the architect as design champion for the project, both as manager of design quality and as client agent.**
- » **Collaborate with the architect in strategic decisions during construction.**
- » **Establish processes for inter-disciplinary coordination.**

The following provides a summary of the design process and how it relates to authority approval and may contribute to the government delivery processes.

Architectural Stages of Services	Authority Approvals Process	Government Project
		Investment Logic Map Benefit Management Plan Response Options Analysis Report Investment Concept Brief
Brief		
Research & Analysis		Business Case Concept Design
Feasibility		
Sketch Design	Development Plan (where applicable) Planning Permit	Design
Design Development	Service Providers, other Regulatory Approvals	Detailed Design
Construction Documentation	Building Permit	Final Design Approved for Construction
Contract Administration	Certificate of Occupancy	Issued for Construction Occupation
Post Occupancy Evaluation		Benefit Reports

3.7 Procurement participants

Most building projects are implemented by a series of contracts, which commit the various participants in the process. The following table defines the categories of participants in the design and construction industry:

Owner / Principal (client / developer)	in the case of Government, the client agency funding the project; or the developer/consortia financing the project
Project Manager	the person responsible for the management of the building delivery process. Traditionally, this role was performed by the architect, however, more recently consultant project management firms have been appointed to the role
Design team/ Architect	professional consultants who are engaged to produce building design and documentation. Depending on type of project this includes an architectural firm - generally lead consultant; quantity surveyor or cost consultants; engineering consultants (civil, structural, mechanical, electrical, hydraulic); planners; landscape architects; interior designers; heritage consultants; ESD consultants; building surveyor; fire services engineering; and graphic designer
Construction Contractor/Builder	the person responsible for the management of the construction component of the building delivery process
Subcontractor or Supplier	appointed by the construction manager, this term refers to trade contractors and material manufacturer and resellers
Operator / Facility Manager	An organisation that runs and maintains the facility - will sometimes be the same agency as the owner/principal
Investment Owner	An entity that is providing funds for the project

These participants are connected in a project by a series of agreements, which specify the roles and obligations between the parties and allocate risk.

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