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| **DESIGN MANAGEMENT PLAN** |
| ${project\_name}  Issue 4.0 – July 2017 |



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**DESIGN MANAGEMENT PLAN**

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**Reviewed By:** Robert Blazley

**Approved By:** Robert Blazley

*THE FOLLOWING TABLE IS TO BE UPDATED AS APPLICABLE –THIS NOTE IS THEN TO BE REMOVED.*

|  |  |  |  |
| --- | --- | --- | --- |
| **The personnel below confirm they have read the contents of the Design Management Plan and appendices and understand their roles /responsibilities.** | | | |
| Name | Position | Signature | Date |
| ${cip\_director1} | Director |  |  |
| ${cip\_director2} | Director |  |  |
| ${cip\_director3} | Director |  |  |
| ${cip\_director4} | Director |  |  |
| ${construction\_manager} |  |  |  |
| ${project\_manager} |  |  |  |
| ${contract\_admin} |  |  |  |
| ${site\_manager}  ${site\_engineer} |  |  |  |

# DESIGN MANAGEMENT SYSTEM

## Introduction

Commercial and Industrial Property Pty Ltd (CIP) considers the design activity as important in meeting our client and applicable statutory and regulatory requirements and CIP requirements related to our projects.

Accordingly CIP is committed to ensuring that our design practices meet the requirements of AS/NZS ISO 9001; AS/NZS 14001; AS/NZS 4801; OHSAS 18001and applicable statutory and regulatory requirements including Safe Design of Structures Code of Practice. CIP’s Integrated Management System (IMS) was implemented to meet the requirements of these International Standards, statutory and regulatory requirements with an aim to maintain legislative compliance and third party accreditation of our IMS.

This Design Management Plan details the way in which we undertake design and manage design through our internal personnel and external specialist consultants to ensure the design meets and exceeds our clients’ needs and expectations and statutory and regulatory obligations.

The Design Management Plan forms part of CIP’s Integrated Management System and has been developed to ensure that all design & technical advice related activities associated with the projects are conducted in a manner consistent with CIP’s design standards.

This Design Management Plan is also used as a training aid for new employees joining the company and is periodically reviewed to cater for changing technological, client, legislative and company requirements as part of a continual improvement process.

## Scope

The scope of this Design Management Plan covers all applicable design requirements of ISO 9001; ISO 14001; AS 4801; OHSAS 18001 and applicable statutory and regulatory requirements.

Design Process

Scope:

* Preparation of Design Budgets based on the Feasibility Budgets.
* Selection & engagement of external specialist consultants.
* Monitoring and periodic review of external specialist consultants’ performance.
* Prepare and manage Project Briefs and Return/Reverse Briefs for design discipline.
* Manage and coordinate design activities undertaken by external specialist consultants.
* Implement a design review process of documentation produced by external specialist consultants.
* Manage the status and distribution of drawings and design documentation via E-site.
* Review/coordinate shop drawings prepared by the subcontractors / suppliers.
* Approval for release of drawings for construction via E-site.
* Prepare submissions for Planning Approval.
* Facilitate and manage periodic design meetings with clients and external specialist consultants.
* Manage and coordinate statutory and regulatory certifications from the authorities following completion of construction.
* Manage the process for completion of as-built documentation for Operations & Maintenance Manuals.
* Safety and Environmental principles to be followed in design.

Architectural Process

Scope:

The Architect completes the following activities:

* In-house architectural concept designs for Feasibility Sketches, Presentation Plans & Perspectives, Development Applications, Construction Documentation and sketches for EOI/ RFP/ tender submission.
* Conduct workshops with tenants and/ or owners.
* Prepare architectural documentation for Planning Approval submission to relevant statutory authority.
* Attendance at periodic design meetings with clients and external specialist consultants.
* Advice of Statutory and Regulatory requirements.
* Preparation of Estate Master Plan for multiple site projects.
* Monitor coordination of external specialist consultants’ performance in conjunction with Project Managers.
* Production and control of drawings in line with CIP’s CADD Standards and Procedures Manual and CIP Standard Details.
* Review/coordination of shop drawings prepared by the subcontractors / suppliers.
* Review of existing design and coordinate with external consultants to achieve final design outcomes.
* Regular site inspections.
* Architectural advice to RFI from construction and design team members.
* Provide architectural input to project design brief.
* Preparation of as-built architectural documentation for Operations & Maintenance Manuals.

## Implementation

1. The Design Management Plan is prepared in consultation with the design and project team and is it is the responsibility of the Director/Construction Manager that this Plan is implemented across the Projects.
2. It is the responsibility of each individual within the design and project team to adhere to the requirements stipulated in this Plan and any other associated documents referred to in this Plan.
3. The effective implementation of this Design Management Plan will be audited as part of CIP’s internal audit procedures and third party accreditation. Some clients may also intend to audit the implementation of this Plan. CIP may also choose to audit some of the external consultants as part of the design management process.
4. Any discrepancies observed during the audits will be reported as non-conformances & it is the responsibility of the relevant process owners to promptly rectify any non-conformances in a timely manner.
5. The Design Management Plan is made available on CIP Intranet.
6. All design related documentation will be maintained in accordance with CIP’s documentation control procedure. All individuals within the design and project team are responsible to maintain adequate records including on the company E-site to demonstrate compliance with the requirements of this Plan.

# REFERENCE DOCUMENTS

## International and National Standards

1. AS/NZS ISO 9001– Quality Management System - Requirements

2. AS/NZS ISO 14001– Environmental Management System –Requirements with guidance for use.

3. AS/NZS 4801– OHS Management Systems – Specifications with guidance for use.

4. OHSAS 18001– Health & Safety Management System Requirements (British)

5. AS/NZS ISO 31000– Risk Management – Principles and guidelines

6. AS1428.1 – Design for access + mobility

7. AS2890.1 – Parking Facilities – Part 1: Off street car parking

8. AS2890.2 – Parking Facilities – Part 2: Off street commercial vehicle facilities

Copies of these standards can be obtained from Standards Australia website. The above list is indicative and not exclusive.

## Codes and Guides

1. Building Code of Australia

2. Disability (Access to premises – Buildings) Standard

3. Property Council of Australia: Method of Measurement

4. WorkCover, NSW CHAIR Safety in Design Tool 2001 (delete if not in NSW)

5. Safe Design of Structures Code of Practice

The above-mentioned codes and guides are indicative and not an exclusive list.

## CIP System/Standards

1. CIP Standard Details

2. New Business Portal (Architecture Workload)

3. CIP IMS Manual

## Implementation

Individuals in the design and project team are responsible for ensuring that the current versions of the above documents are utilised whenever required.

# BUSINESS UNIT STRUCTURE

**Chief Executive Officer**

Director/s

(New Developments, and/or Construction)

Infrastructure& Estates

Construction Manager/s

Project Managers

Internal / External Architects

Contracts Administrator

Draftsperson

External Specialist Consultants

The Job specific roles, responsibilities and competencies are stipulated in each individual’s position / job description.

# IN-HOUSE DESIGN

## Introduction

When the negotiation of a Project has progressed to the Heads of Agreement and/or DA Submission stage (“live project status”), the Business Unit will commence the design management process.

Where the project’s architectural design is to be prepared by CIP, the Director shall appoint a project architect to complete the design and documentation.

## Project Design Planning & Control

During the execution of the proposed contract documentation, the Director/Construction Manager will nominate a Project Manager to manage the overall/ongoing design delivery process for a specific project.

The nominated Project Manager is responsible for the development of a Project Design Plan in consultation with the Construction Manager. The Project Design Plan is updated as the design progresses. A copy of the Project Design Plan is maintained as part of the design records.

## Design Inputs & Outputs

Design inputs and outputs are identified and recorded in the Design Process Record Sheet. The design input (scope for each design discipline) is reviewed for adequacy prior to commencing design activity. The design outputs are also reviewed, verified and validated where required in accordance with the Project Design Plan. The supporting information on design inputs and outputs is maintained on the server and/or E-site.

Design outputs like drawings, design reports, plans, etc. are approved by the Project Manager prior to their release.

## Design Review, Verification and Validation

The design review, verification and validation are performed in accordance with the Project Design Plan. Records of design review will include mark-up on drawings or reports. Evidence of this process being followed will be recorded in the Design Process Record Sheet by signing in the respective columns. Design verification is generally performed by the person who is independent of the design activity and is not involved in the design process for that specific project, i.e. the Project Manager.

The supporting information on design review, verification and validation as appropriate is maintained on the server and/or E-site.

## Control of Design Changes

Changes to design may arise either by the client, subcontractor or during internal design reviews. Changes during internal design reviews are controlled as part of design review process as defined in section 4.4 above.

Changes initiated by the client, subcontractor or project team (due to unexpected conditions on site) after issue of “Approved for Construction” drawings are controlled through Design Change Register. The Project Manager is responsible to ensure that the design changes are communicated to all relevant parties and this is achieved by uploading an updated Design Change Register on E-site.

## OH&S and Environmental Considerations

Safety in Design Checklist and Design Risk Assessment is to be completed at the design stage for each project where CIP is responsible for design and construction. All risks that are not designed out will be managed through-out the project delivery phase including transfer of any of the risks to the occupier/owner where appropriate.

Where CIP is not responsible for the design of the project works then CIP is required to obtain the safety report for the project design from the client under WHS Regulation 2011. CIP will request the safety in design report (if not included in the tender documents) from the client at the tender stage or at least at the contract award stage. CIP Project Manager in consultation with the Construction Manager will ensure that the safety report is made available by the client prior to commencing works on site. CIP will utilize the project safety report for the development of Preliminary Risk Assessment & SWMS to include any hazards and risks identified in this report that are required to be managed during construction.

If the safety report is not received or made available by the client, then CIP project team will consider the constructability risks in the Preliminary Risk Assessment and/or SWMS.

## Project Completion and Handover

Following project completion, the design team is responsible for preparation of as-built documentation based on the works as executed information supplied by the project team and or consultants that will form part of the Operations & Maintenance Manual to be handed over to the Client/Tenant. The as-built information is reviewed, verified and approved in accordance with section 4.3 and 4.4 of this plan.

The Project Manager will be responsible for coordinating and seeking necessary certifications and authority approvals to enable issue of the Occupancy Certificate for the project.

# EXTERNAL DESIGN MANAGEMENT

## Introduction

CIP currently also outsources design activities including structural, geotechnical, mechanical, hydraulic, electrical, etc. through external specialist consultants. Depending upon the internal workload, CIP may choose to outsource Architectural design for some of the projects and for such designs; the process outlined in this section will be followed.

## Management of External Specialist Consultants

When the negotiation of a Project has progressed to the Heads of Agreement and/or DA Submission stage (“live project status”), the Business Unit will commence the design management process.

## Project Design Planning & Control

During the execution of the proposed contract documentation, the Director/Construction Manager will nominate a Project Manager to manage the overall/ongoing design delivery process for a specific project.

The nominated Project Manager is responsible for development of a Project Design Plan in consultation with the Construction Manager. The Project Design Plan is updated as the design progresses. A copy of the Project Design Plan is maintained as part of the design records.

The Project Manager is responsible for facilitating and managing periodic design meetings with the client and consultants as necessary. This will ensure that if any interface issues are identified then these are quickly resolved. Minutes of design meetings are maintained on E-site as part of design records.

## Design Inputs & Outputs

The design inputs for design undertaken by the external consultants will be provided by CIP. However, it is the external consultant’s responsibility to identify & review the required design inputs to meet the client brief and applicable legal, statutory and regulatory requirements. A description of design inputs must be included in the CIP Design Process Record Sheet and must be followed.

Design outputs to be produced by the external consultant shall be agreed by CIP. This would be generally specified in the Consultancy Deed. CIP Project Manager will monitor the quality and timely delivery of the design outputs in-line with Consultancy Deed, Design Program and Design Budget. Some of the mandatory design outputs that are required to be submitted by the external consultant is the completed Safety in Design Checklist and Design Risk Assessment. The Design Risk Assessment is updated as the design progresses.

The external consultants are required to upload the supporting information on design inputs and outputs on E-site.

Design outputs like drawings, design reports, plans, etc. shall be approved by designated personnel from external consultancy like Director, Project Manager, Technical Manager, etc. prior to their release.

## Design Review, Verification and Validation

CIP Project Manager is responsible for facilitating and managing periodic design meetings with the project team, client and consultants as necessary as part of design review process. The external consultants are responsible for their own internal review and CIP review is to ensure that any interface issues are quickly resolved.

The external consultant must nominate suitably qualified, experienced and competent personnel for undertaking design & development activities on behalf of CIP.

It is the responsibility of external consultant to ensure that the verification and where required validation activities are performed at appropriate design stages and maintain records.

## Control of Design Changes

Changes to design may arise either by the client, subcontractor or during internal design reviews. Changes during internal design reviews are recorded & controlled on the Design Process Record Sheet.

Changes initiated by the client, subcontractor or project team (due to unexpected conditions on site) after issue of “Approved for Construction” drawings are controlled through Design Change Register. The external consultants are responsible to ensure that the design changes are recorded in the Design Change Register and CIP Project Manager will communicate design changes to all relevant parties and this is achieved by uploading an updated Design Change Register on E-site.

## OH&S and Environmental Considerations

A Safety in Design Checklist and Design Risk Assessment is to be completed for every project to capture OH&S and environmental risks. The aim of the assessment is to design out any construction, operational, maintenance risks etc; at the design stage. All risks that could not designed out, will be highlighted and managed via the Preliminary Risk Assessment and or SWMS process. Any residual risks

## Project Completion and Handover

Following project completion and depending upon scope of services, the external consultants will be responsible for preparation of as-built documentation that will form part of the Operations & Maintenance Manual to be handed over to the Client/Tenant. The as-built information is reviewed, verified and approved in accordance with section 5.4 and 5.5 of this plan.

The Project Manager will be responsible for seeking necessary certifications and authority approvals to enable the issuance of the Occupancy Certificate for the project.

# TECHNICAL ADVICE

Occasionally, CIP engages external specialist consultants to provide technical advice on matters related to property development. The prospective Business Unit is responsible for engagement and management of external specialist consultants as per the process described in section 5.2 of this plan and procurement procedures.

The technical advice received from the consultants is reviewed by the respective Project Manager or Development Manager before consideration of implementation into decision making process.

# RESOURCES

CIP’s senior management ensures that appropriate resources are available for undertaking design related activities efficiently and effectively.

Design related resources include but not limited to the following:

* Human resources – Architects, Project Managers & Draftsperson
* IT infrastructure – computers, software, printers and plotters
* Training and professional development

# KEY DELIVERABLES

* Design Management Plan
* Design Inputs: Consultant/Scope
* Design Outputs: Design Documentation
* Design Process Record Sheet: Design Review, Verification and Validation
* Design Change Register
* Safety in Design Checklist
* Design Risk Assessment
* Consultant Design Reports (Monthly)
* Design Meeting Minutes

Document Revision History

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Issue No.** | **Date** | **Sec. No.** | **Brief Description of Change** | **Reason** | **Prpd By** | **Appd By** |
| 1.0 | 05/09/11 | All | N/A | Initial setup | VN | AM |
| 1.2 | 23/10/12 | All | Annual Review & update | Annual Review | AM | AM |
| 1.3 | 29/10/12 | All | Annual update | Review by GMs Construction | PL | AM |
| 1.4 | Oct 2014 | All | CIP Department updates | Internal restructure | KA | RB |
| 2.0 | Sep 2015 | All | Annual update | Construction review | KA | RB |
| 3.0 | Jul 16 | All | Reformatting | CIP Rebranding | KA | RB |
| 4.0 | Jul 17 | All |  |  |  |  |