# Attachment 3

# BIM – Core Brief

# Project Details

|  |  |
| --- | --- |
| **Project Name** |  |
| **Lead Agency** |  |
| **Project Address** |  |

# Purpose

This Building Information Modelling (BIM) Core Brief is to define DIT and lead agency’s requirements for the use of core BIM requirements on simple non-complex building projects.

# Application

This brief must be read in conjunction with the detailed BIM requirements outlined in the Building Information Modelling Requirements provided as a supporting document, the National Specification System of Australia (NATSPEC) [National BIM Guide](https://bim.natspec.org/documents/natspec-national-bim-guide) and with the professional services contract and its associated briefing documents.

The Lead Professional Service Contractors (LPSC) shall follow the guidelines and requirements detailed in this document and DIT Building Information Modelling Requirements (G168) for BIM related services.

This Core BIM Brief forms part of the invitation to tender documentation and is to be read in conjunction with the Project Conditions of Contract and other briefing documents.

## BIM Execution Plan (BEP)

A Building Information Modelling Execution Plan (BEP) based on the NATSPEC BIM Execution Plan Template simplified summary is required to be created by the Lead Architectural PSC for the project. The BEP shall detail how the BIM project will be executed, monitored and controlled within a common data environment to satisfy the requirements of the BIM Brief and in accordance with the Australian Standard AS ISO 19650: 1 and 2 -Part 1 through the Design and Documentation Phases of the Project.

The BEP is to be updated with input by the Contractor/Managing Contractor for the Construction BEP for the Construction and Project Completion Phase of the project.

## BIM Project Team

All roles and responsibilities shall be assigned to the relevant project team members as nominated in the BEP issued by the Lead PSC to achieve the BIM deliverables noted within the BIM Core Brief. The BEP along with any variation to the requirements of the BIM Core Brief requirements is to be submitted to DIT for review prior to the commencement of the PIP Concept phase.

## Uses for BIM on the Project

The following uses of BIM are required and shall apply to the DIT Capital Works project noted as Core BIM requirements. The BIM Requirements clauses number in the following Project Core BIM Requirements table refers to clauses noted in the DIT Building Information Modelling Requirements.

The BIM requirements applies all new building works and areas of refurbished works.

## Core BIM Requirements

The following list of Core BIM requirements shall apply to this project. They correspond to those found in the DIT BIM Requirements (G168) and can be identified by the clause reference number.

Core BIM Uses Table.

|  |  |  |
| --- | --- | --- |
| Required  Yes/No | Use of BIM | BIM Requirements  Clause No. |
| Yes | Architectural (includes 3D base model)  Spatial and Material Design Models and Design Visualisation for Communication and Functional Analysis | 8.1 |
| Yes | Structural Engineering (including seismic bracing if required for NCC compliance) | 8.2 |
| Yes | Mechanical Systems (new and refurbished areas only) including all mechanical equipment and plant with required maintenance access hatches and clearances | 8.3 |
| Yes | Electrical Systems (new and refurbished areas only) including fittings, equipment and cable trays, lighting internal and external, Wireless networks A/V, and Hearing augmentation systems as required | 8.4 |
| Yes | Hydraulic and Fire Protection (new and refurbished areas only) | 8.5 |
| Yes | Acoustic Modelling utilizing 3D base Models | 8.6 |
| Yes | Civil Engineering (only for areas affected by the proposed works) | 8.7 |
| Yes | Existing Conditions including surrounding infrastructure and buildings affected by the new works | 8.8 |
| Yes | Project Brief and Space Validation (verification of project brief, accommodation area schedule from 3D Model) | 8.9 |
| Yes | Clash Detection/Conflict Coordination including existing equipment and building services affected by the proposed works) | 8.10 |
| Yes | Energy Modelling (3D Base model and data for NCC Section J compliance) | 8.11 |
| Yes | Asset Information Model Review (As required as part of the Completion Documents for Practical Completion/Handover/Commissioning Systems.) | 12.1 ,12.2 |
| Yes | FM Information Handover/Commissioning Systems including:  DIT and Agency Asset Information Requirements completion/Handover/Commissioning Systems.) | 12.3 |

*Refer to DIT BIM Requirements document (G168) clause numbers for more detailed information regarding the BIM requirements for the project.*

## BIM Project Collaboration

The BEP is to outline the collaboration and communication strategy to be adopted for each stage of the BIM project including communication methodology, protocols, design coordination and information exchange meetings.

## BIM Deliverables

The following table outlines the BIM Deliverables at the completion of each of the project stages to be submitted to DIT for review. The Lead Architectural PSC is to outline the LOD expected to be completed for all BIM elements at each stage of the project as part of the BEP.

| Project Phase | Associate use of BIM | LOD | By | For | Format | BIM Requirements clause no |
| --- | --- | --- | --- | --- | --- | --- |
| Concept Design | Conceptual and Presentation 3D Model | 100-200 | LPSC | Review | IFC &  3D BIM Viewer | 8.1 to 8.11 inclusive |
| Design & Schematic  (60% documentation stage) | Detail Design Development  3D Model | 200+ | LPSC | Review | IFC,  RVT &  3D BIM Viewer | 8.1 to 8.11 inclusive |
| Documentation | Coordinated Final Detailed 3D Model | 300 | LPSC | Review | IFC, RVT &  3D BIM Viewer | 8.1 to 8.11 inclusive |
| Construction | Project Information Model | 300- 300 | C | Review | IFC, RVT &  3D BIM Viewer | 12.1 12.2 |
| Practical Completion | Project Information Model | 300 | LPSC / C | Review | IFC, RVT &  3D BIM Viewer | 12.3 |
| Handover Asset Information Model | Asset Information Model | 300 | C | Review | IFC, RVT &  3D BIM Viewer | 12.3 |

## Level of Development (LOD) Definitions

The Level of Development (LOD) as noted in the above table is based on the BIM Forum - Level of Development Specification Version 2020. Refer to BIM Forum Specification 2020 for Building Models more detailed information of the level of Development for each building element summarised as follows.

**LOD 100**

The Model Element may be graphically represented in the Model with a symbol or other generic representation but does not satisfy the requirements for LOD 200. Information related to the Model Element (i.e., cost per square meter, tonnage of HVAC, etc.) can be derived from other Model Elements.

**LOD 200**

The Model Element is graphically represented within the Model as a generic system, object, or assembly with approximate quantities, size, shape, location, and orientation. Non-graphic information may also be attached to the Model Element.

**LOD 300**

The Model Element is graphically represented within the Model as a specific system, object or assembly in terms of quantity, size, shape, location, and orientation. Non-graphic information may also be attached to the Model Element.

## BIM Project Reviews

As part of the DIT Project Review process the following BIM Project Reviews are required to be included as part of the project review process as evidence of the completion of each project BIM deliverable as referenced by the Project BIM Deliverables table at the completion of the following PIP project phases.

The BIM Project Review reports are to be submitted as part of Project Reviews for the following PIP phases referencing the BIM clause number deliverables as noted in the Project Deliveries Table above.

By the LPSC

* Concept Design - (PIP Documentation phase – Concept Design) Written report as part of Appendix to the Concept Design Report.
* Design Development (PIP Documentation phase – at 60% completion). Written report as part of Design Documentation review submission.
* Documentation (PIP Documentation phase – at 90% completion) Written report as part of the Documentation completion review submission.

By the Contractor

* Construction (PIP Construction phase) – Included as part of the Project Control or Integrated Management Team meeting agenda and minutes during construction.
* Practical Completion (PIP Construction phase) – Included in the Project Competition Submission Documents for Practical Completion.
* Handover /Asset Information Model (PIP Construction phase)- Included as part of the record documents for the full “federated” BIM model (PIM) and all reference drawings in original authored software, IFC compliant and .rvt files as an Asset Information Model (AIM)

Refer to Building Information Modelling Requirements (G168) and Project Review (G29) DIT reference documents for more details.

## Record Documents

Prior to the date of Practical Completion (or the equivalent) of the construction contract, the LPSC shall review the construction contractor supplied Project Information Model (rvt or IFC compliant file per discipline) including all pdf and dwg files in accordance with the Completion requirements for Building Projects guide note (G182) and Electronic Documents Requirements (G65) guide note for issue as an Asset Information Model (AIM) as part of the Completion Documents requirements.

## Reference Documents

The following reference documents are available for download from the Building Project Information (BPIMS) website.

* Building Information Requirements (G168)
* Electronic Documents Requirements (G65)
* Completion Requirements for Building Projects (G182)
* Project Review (G29)

National BIM Guide Documents are available from the NATSPEC Building Information Modelling Portal at https://bim.natspec.org/.

All other reference documents required for the project, including version, shall be agreed by the BIM team members and referenced in the BEP.

## Contact

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