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APPENDIX Gi

BIM EVALUATION AND RESPONSE – EXAMPLE

THE NEW ZEALAND BIM HANDBOOK
2019 THIRD EDITION

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BIM evaluation and response – example

Suppliers should use the BIM evaluation and response document to respond to a project BIM brief in the Request For Proposal (RFP) phase.

The BIM evaluation response is prepared by supplier(s) to demonstrate their proposed approach, along with their capability, capacity, and competence to meet the client's goals in the project BIM brief.

The intent of the BIM evaluation and response document is to provide a consistent framework for the BIM component in an RFP.

Following the engagement of the supplier(s) the project BIM brief and BIM evaluation and response document form the basis of the project BIM execution plan.

This BIM evaluation and response document has been developed with reference to [the New Zealand BIM handbook](#).

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BIM uses – proposed

Review BIM goals and BIM uses in the attached project BIM brief. Respond to each by outlining your company's past experience for each BIM use, including how you intend to execute, collaborate, and deliver.

Goal 1:

Optimisation of design, with respect to overall project value and budget control (Design Authoring, Design Review & Cost Estimation)

Our teams are well versed in the authoring and development of BIMs, with respect to the above BIM uses. We collaborate regularly with our cost consultants, ensuring the information they require is readily able to be extracted. This includes ensuring consistent naming conventions, classifications and units of measures are in place from the project outset.

Our primary BIM authoring tool is Autodesk Revit, we utilise this platform and associated extensions allowing us to not only design and document, but also develop high quality stakeholder engagement outputs allowing design decisions to be made within appropriate timeframes to allow for better cost management.

Goal 2:

Have a digital asset (3D models) that can be used for future use in facility management (Record Modelling)

We will supply our model at the end of our commission to be used as a Design phase Record Modelling. The format and Facility Management content will be need to be addressed with your FM team through various workshops to ensure our delivery meets your specification.

Goal 3:

Better coordinated documentation for the contractor (Design Authoring, 3D Coordination)

We work in a collaborative manner with our consultant team from the project outset. Through the development of a BIM Execution Plan, including a detailed MEA Schedule, ownership and responsibility for the progression of model elements is agreed early on. This includes the transfer of ownership from one party to another of particular elements such as Structural Columns, Floors and Electrical elements.

Regular coordination sessions are run within a live model environment, allowing coordination issues to be raised and responsibility allocated for resolution.

Goal 4:

Effective communication of the design with key stakeholders in the design phase (Design Authoring, Design Review, Phase Planning (4D Modelling))

We understand that your stakeholders may not be well versed in reading a set of construction drawings. To communicate better with the wider stakeholders, our teams can deliver various visualisation outputs of the project (static images, animations, multimedia and/ or interactive). We are happy to discuss with the Client to establish the best communication method to their stakeholders.

BIM uses – additional

The project team or individual companies may agree additional BIM uses that will benefit them or the client. Use the table in this document to record this information for each additional BIM use. Identify responsible parties, including technology requirements, software, and versions.

N/A

Client-specific requirements

Review client-specific requirements in the project BIM brief, and explain how you will address or comply with them.

It is noted that the client-specific requirements include the following:

Client-specific modelling standards: we are able to accommodate client specific naming conventions within our workflow. We utilise a range of tools that allow for automation of these tasks allowing us to continue developing the BIM to our internal standards and conventions, whilst ensuring the client's requirements are met.

Key people – project related

List the proposed key people working on the project, including roles and responsibilities, and how they will be involved with BIM on this project.

Discipline BIM lead: Lee Brown

Discipline Lead: Lilly Lindsey

The responsibilities of our discipline BIM lead are listed below, but are not limited to:

- Participate in the BIM execution planning process
- Participating in design review and model coordination meetings
- Facilitate the use of the BIM Execution Plan within their organisation/ team
- Ensure model files are developed in accordance with the project BIM Execution Plan
- Validate Levels of Model Development at each project stage
- Perform detailed model audits before issue to the wider team
- Communicate issues to model element authors
- Implement internal coordination and clash detection procedures
- Model transfer and version control.

Key people – company wide

List all of the key BIM people within your company, including roles and responsibilities.

Practice BIM Manager: Lucy Green

Providing strategic direction for the practice with regards to BIM implementation.

The Practice BIM Manager will provide an additional level of BIM expertise to the BIM Coordinator, providing guidance/ advice on industry best practice for the development of the BIM to achieve the agreed BIM Uses for the Project and assisting in the workflow development with other collaborating disciplines.

The Practice BIM Manager is responsible for ensuring their BIM Authoring team has the skills, knowledge and technology prior to and during the project life cycle.

The Practice BIM Manager is also able to provide independent discipline-specific model audits.

BIM Application Specialist: Jeff Wright

As our BIM application Specialist, Jeff provides all training elements within the practice in terms of their applications and their use.

BIM experience – company wide

List three recent BIM projects your company was engaged to deliver within the past 18 months. Provide project names, value, and the key client contact for each one. Specify BIM uses each project involved and outline how you coordinated and collaborated with other parties for each use. State your role and responsibilities.

South East Tower: 20 Storey Residential tower

Value: \$85M

Client Contact: Sarah Lee 9876543

Role on Project: Architect and Lead Consultant

A BEP was developed in collaboration with the wider consultant group to identify and document the agreed BIM Uses for the project, which were:

- Stakeholder engagement / visualisation
- Cost Estimation
- Design Authoring
- Design Review
- Engineering Analysis
- 3D Coordination.

Our team modelled to industry best practice aligning to both the NZ BIM Handbook Appendix B, and the BIM Forum's LOD Specification – where the model elements achieved LOD 350. We were able to provide a Common Data Environment (CDE) for the exchange of our BIMs.

The Quantity Surveyor was involved throughout the design phase for cost estimation. The Contractor utilised the models for fabrication of the timber work within this project. Stereoscopic Renders were used to assist with user understanding of the spaces.

There was an agreement for the development of a shared library resource for the project allowing for smoother coordination to occur between the Architectural and Services disciplines.

Eastern Bay Complex: 15 Storey Residential tower plus mixed use commercial

Value: \$35M

Client Contact: Asher Blue 67899876

Role on Project: Architect and Lead Consultant

A BIM Execution Plan (BEP) was developed collaboratively at the project outset. The BEP was followed by the consultants involved. The BEP was based on the NZ BIM Handbook. Our team's modelling techniques are industry best practice and align to both the NZ BIM Handbook Appendix B, and modelled elements achieved LOD300-400

as per the BIM Forum's LOD specification.

Using BIM to this Level of Development has benefited the following areas:

- Renders were used to assist with user understanding of the spaces
- The model was used as the basis for 3D visualisation during design stages to assist the stakeholders in their understanding of the spaces of the building
- We completed 3D coordination and clash detection.

The model assisted the contractor with early procurement of structural steel and primary LVL frames.

The BIM's were shared through a common data environment to allow for a single source of information to flow between the consulting parties.

Information management

Identify responsible parties and design authoring software/BIM technologies (including version) to be used for each associated BIM use. Specify collaboration file format the team intends to use to exchange models.

The table below outlines the authoring software to be used for each BIM use and the responsible parties.

BIM USE:	RESPONSIBLE PARTIES:	SOFTWARE:	VERSION:	INTENDED COLLABORATION FILE FORMAT:
Design Authoring	ARCHITECTURE STRUCTURE SERVICES	Revit	2019	.rvt
Design Review	ARCHITECTURE STRUCTURE SERVICES	Revit	2019	.rvt
3D Coordination	ARCHITECTURE STRUCTURE SERVICES	Revit Navisworks	2019 2019	.rvt/ .ifc/ .nwc
Cost Estimation	ARCHITECTURE STRUCTURE SERVICES QUANTITY SURVEYOR	Revit CostX	2019	.rvt/ .ifc/ .dwfx

Information Sharing

Models shall be shared on a regular basis to allow the consultant teams to progress their respective models. The table below identifies the purpose, responsible party and frequency for the model exchanges. Please note, if required, models can be shared between times, however the reason must be communicated.

INFORMATION EXCHANGE (BIM USE)	DISCIPLINE	METHOD	FREQUENCY	DATE/DAY
Design Authoring	All design disciplines	CDE	Weekly or as agreed for each design stage	Thursday C.O.B
3D Coordination	All design disciplines	CDE	Fortnightly or as agreed for each design stage	Thursday C.O.B

Model Description Document (MDD)

Each modelling team should include a Model Description Document (MDD) or similar agreed document that includes crucial information for each model it publishes. The document should describe the contents of the model, any major revisions/ changes and explain its purpose and limitations.

Collaboration strategy

Outline your proposed strategy for BIM coordination, including meetings and other communication methods, as well as document management and transfer processes, and the record storage system you will use.

Coordination Strategy:

Coordination and clash detection of elements across disciplines will occur within the federated model, this is supplementary to ongoing coordination that is expected of each discipline throughout the project.

Each discipline's BIM will develop at different rates during design development. Regular coordination and clash detection meetings will provide an opportunity to confirm the level of coordination within the BIM at defined intervals during the project.

Below is an outline of the strategy proposed, including meetings, for the coordination and clash detection for the <PROJECT NAME> Project.

Communication & Meetings:

Efficient and regular communication is essential to the running of a BIM based project.

To facilitate this, regular BIM project meetings are to be encouraged. The frequency of these meetings may vary as the project progresses, however, they are an essential part of a successful BIM project.

MEETING TYPE	FACILITATOR	REQUIRED ATTENDEES	FREQUENCY
BIM Execution Plan	BIM Manager	Discipline BIM leads	Review at beginning of each stage
Inter-discipline Model Management	Discipline BIM leads	Discipline BIM leads / Model element author	As required
Coordination / Clash Detection – Design Models	Discipline BIM leads	BIM Manager / Discipline BIM leads	Project Milestone and/or at agreed intervals
Construction over-the-shoulder progress reviews	Discipline BIM leads	Discipline BIM leads/Model element author	As required using technology such as Skype for Business

Common data environment

Provide details of how you plan to interact with the wider project team using a project Common Data Environment (CDE), if prescribed in the project BIM brief. State if you intend to use a company CDE for work in progress data management.

We work with an internal CDE environment for all work in progress data management. We are able to integrate our existing workflow with a client-specific CDE.

General questions

GENERAL QUESTIONS:	RESPONSE
Are you prepared to issue your native CAD/BIM format files?	Yes, we find this the best method for sharing and collaborating with our consultant team and contractors.
If you are not prepared to issue native CAD/BIM format files, why/why not?	N/A

Do you use any BIM guidelines? If yes, which ones?

Our practice follows the New Zealand BIM Handbook, along with the BIM Forum's LOD Specification to communicate to our internal team LOD expectations. We have also developed our own internal BIM guidelines focused on best practice project setup.

Do you understand and agree to the model element authoring (MEA) schedule responsibilities and the Level Of Development required at each of the project delivery stages?

Yes. We have made a few additional comments on the MEA Schedule to align with how our practice prefers to work with both the Structural and MEP Engineers, particularly around ownership and transferring of models.

Please list any exclusions with regard to BIM on this project

None

The New Zealand BIM handbook

This document is one of a suite of documents forming the New Zealand BIM handbook. You can download or view the remaining documents here:

<http://www.biminnz.co.nz/nz-bim-handbook>