New Zealand
Institute of Architects
Incorporated

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New Zealand BIM Handbook Consultation

The New Zealand Institute of Architects (NZIA) has been in existence since 1905, and is the professional body which represents the interests of over 90% of architects in their role as principals and as employers and employees. It liaises with kindred professions and industry participants.
This response has been prepared in consultation with a wide range of our membership, from sole practitioners to large practices, and from specialised consultants to multi-disciplinary practices.

Comment on the Proposed New Zealand BIM Handbook NZI-8710064

It is NZIA'sunderstanding that the New Zealand BIM Handbook is intended to clarify the implementation of BIM to all project stakeholders and pave the way for a NZ standardized process. Unfortunately, whilst the content of the document is reasonably comprehensive, we find the structure very confusing and we find that there is a too much emphasis on processes that are beyond NZ industry's current capabilities. The document, therefore, gives the impression that BIM is an over-complicated and cumbersome process, which is incorrect.

The current level of adoption and BIM maturity in NZ is very low, as evidenced by various publications such as Masterspec's "National BIM Surveys" and the AECOM Blue Book 2013 section "State of Play". Many of the respondents state that they are aware of BIM but are unable to provide a definition. The New Zealand Construction Industry currently struggles to deliver useful and accurate 3D models so the process of meeting the aspirations of the BIM handbook will be progressive over time. No Building Industry can go from CAD to BIM overnight. There is a logical progression to BIM adoption which needs to be clearly laid out.

Pivotal to the success of BIM adoption are clients who, aware of the potentials and benefits of BIM, will demand knowledgeable practitioners who can assist them in meeting their objectives.

The value proposition of BIM is very simple - efficiencies in production of relevant information and effective communication of such information.

Feedback on/critique of the BIM Handbook

The NZIA consider the BIM Handbook, in its current form, to be a poorly structured document that does not recognize the New Zealand Construction Industry context. The document contains too much complexity and lacks practical application to assist the implementation of BIM within the industry.

The document mainly consists of text with a lack of diagrams or "roadmaps" describing objectives, pathways or processes. The document gives little guidance in terms of practical implementation which, we understand, is the primary focus of the publication. The document also contains repetitive or disconnected information and the terminology is not very

consistent in places. Much of the content of the document has been acquired from international sources, some of which has not been acknowledged. While providing useful background, most of this information has not been localized to the New Zealand context in terms of BIM awareness and scale.

Although it offers a considerable amount of information regarding the potential uses and advantages of BIM, it is lacking as to which of those uses are appropriate to initially implement. We note this is typically addressed in international sources as guidelines for BIM adoption.

The future of BIM Adoption

The current level of BIM adoption within New Zealand should be defined at the same time as defining the levels of adoption that is wished to be achieved. This would provide a foundation to structure the BIM handbook into categories or tiers to appropriately differentiate the awareness and BIM application levels found in the New Zealand Building Industry.

Simple and incremental changes can provide significant benefits to the sector, whilst more complex large-step change designed to meet demanding or unrealistic objectives can be detrimental for the industry when those objectives are not fulfilled. This is not to say that large-step change cannot be implemented successfully, but this requires a higher level of (BIM) awareness and robust planning. Small-step change is a more organic process that can be encouraged by environment and mentoring, either within or across practices.

The actual BIM execution on a project is very simple; define what uses of BIM add value, plan how to carry out those uses, carry out those uses, check the BIM uses have carried out in accordance with the plan, so delivering value (productivity increase).

Recommendations

In the context of the New Zealand building industry, the BIM Handbook should contain guidelines and templates to enable the creation of up to three documents for a BIM-enabled project:

1) The Preliminary Project BIM Brief
2) The Design BIM Management Plan
3) The Construction BIM Management Plan

The Handbook would explain the purpose of each document, the information required within each document, the party responsible for its preparation and when, in the process, the document is prepared. This would be further expanded with step-by-step explanations and additional templates for Document and Model transmittals.

The appendices to this document outline an indicative structure for such an approach.

The BIM Schedule

While this is an interesting document, it is one of a number of inputs into this area. The issues raised are in the areas of contractual relationships and liability and, in the context of BIM, they require deep consideration by a range of parties involved across the building industry. We recommend that specific focus be given to this area in the context of the various forms of contract currently being utilized by the industry. This separate project should involve all interested groups. The contractual environment in which BIM operates provides an important determinant to the success or otherwise of a BIM project.

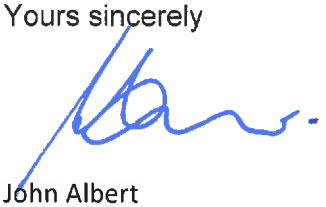
Given that the construction industry is struggling to grasp the definition and implications of BIM adoption (as evidenced by the results of the "NZ National BIM Survey 2013" by Masterspec), the handbook would benefit from having better defined and progressive goals for the industry, especially around how the adoption of BIM practices, protocols and planning can add value.

NZIA Contribution

The NZIA strongly believe that wider adoption of BIM can be beneficial to all in the New Zealand Construction Industry, and we have considerable expertise and experience that we are more than happy to contribute. We look forward to an opportnity to work with MBIE and/or the Productivity Partnership to further the objectives of the BIM Handbook, and of subsequent editions.

Please feel free to contact me on jalbert@nzia.co.nz to discuss any of these matters any further.

Yours sincerely



John Albert
Professional Services Manager

Appendix 1

BIM Handbook Contents

An indicative outline of a proposed BIM handbook is set out below. This document is designed to focus initially on three areas from project inception to handover: the Client, the Designer and the Constructor. The structure proposed is as follows, and also represented diagramatically on the following page:

Section A: Introduction

- Preface
  - Why it was written
  - Who wrote it (Credibility / professional suitability)
- Executive Summary
  - Management summary
  - NZ context/state of the nation
- How to use this document
  - What is BIM, what is not BIM
  - Who is BIM for?
    - Building construction / owner occupier / infrastructure / transport
  - Should I use BIM, what are the criteria?
    - When you should use it
    - When you should not use it
    - Perhaps include a form for assessment criteria, whether to use it or not?
  - How this document can be used for BIM (Client, Design, Contractor)

Section B: Implications for BIM users (expandable)

Client Guidelines

- Clients BIM Implications
  - What can BIM do in an ideal world?
    - Better product, Reduce unforeseen costs
  - What can BIM do now in NZ?
  - Same product, better coordination, same cost
  - Technology
  - Procurement (DBB, IPD etc.)
  - People
  - Costs
- The Project BIM Brief
  - Introduction (overview of why the document exists)
    - What do you want from BIM? (What you should do, what you could do, what you might do.)
    - Contractual document, requires sign off

Design Consultant Guidelines

- Design consultant implications
  - What can BIM do in an ideal world?
    - Coordination, Efficient, reduce costs, increase fees
  - What can BIM do now in NZ?
    - Same product, better coordination,
    - May increased time
    - May increase costs or change cost model

- Technology
- Procurement
- People
- Costs

The Design BIM Execution Plan (dBEP)

- Introduction (overview of why the document exists)
  - Living document
  - Response to the PBB

Contractor Guidelines

Contractor's implications

- What can BIM do in an ideal world?
  - Planning
  - Coordination
  - Tracking / monitoring
- What can BIM do now in NZ?
  - Coordination

Technology

Procurement

People

Costs

The Construction BIM Execution Plan (cBEP)

- Introduction (overview of why the document exists)
  - Living document
  - Response to the PBB

Section C. Appendices/References

Client focussed Appendix

- PBB Template
- Client LOD Matrix (high level)
- How to complete the PBB

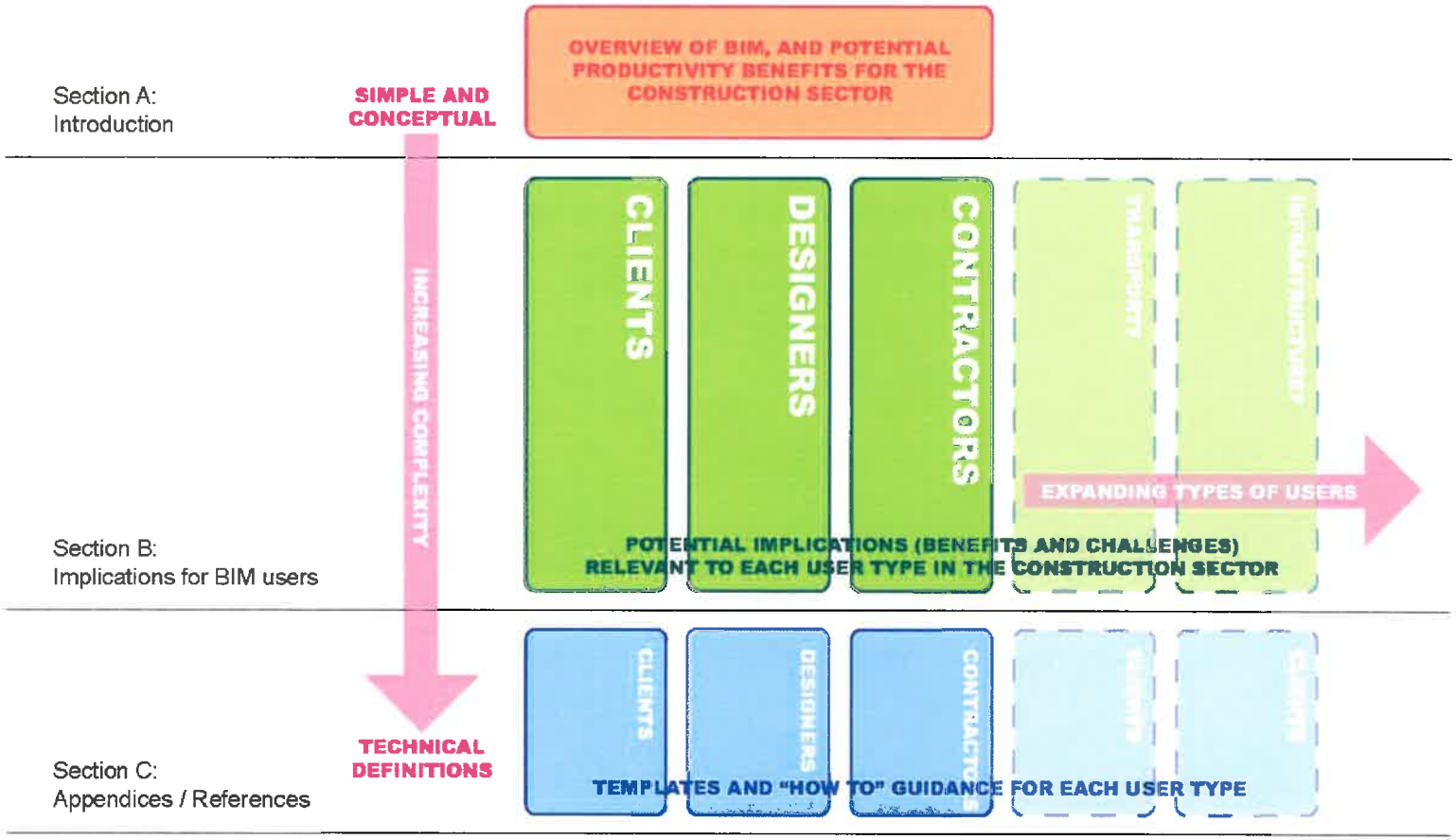
Design Consultants focussed Appendix

- dBEP Template
- Design LOD Matrix
- How to complete the dBEP

Contractor focussed Appendix

- cBEP Template
- Construction LOD Matrix
- How to complete the cBEP

Proposed Document Structure Diagram



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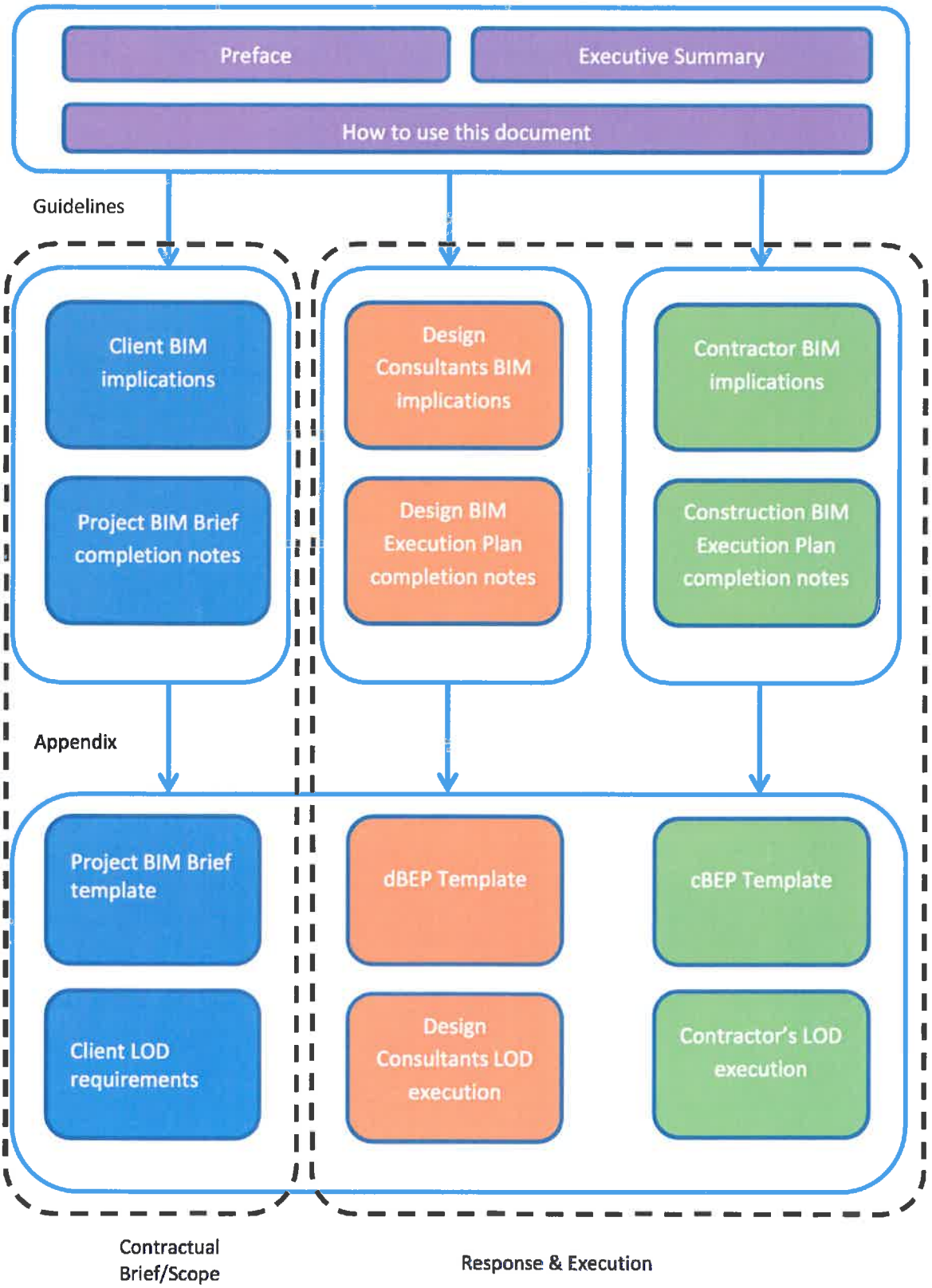
Preface
Executive Summary
How to use this document
Guidelines
Client BIM implications
Project BIM Brief completion notes
Design Consultants BIM implications
Design BIM Execution Plan completion notes
Contractor BIM implications
Construction BIM Execution Plan completion notes
Appendix
Project BIM Brief template
Client LOD requirements
dBEP Template
Design Consultants LOD execution
cBEP Template
Contractor's LOD execution
Contractual Brief/Scope
Response & Execution