BIM Outreach

01 *Educating clients – What to ask for when requesting BIM?*

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BIM IN PRACTICE

CONSULT AUSTRALIA

Australian Institute of Architects

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01 *Educating clients – What to ask for when requesting BIM?*

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0 BIM Outreach

01 Educating Clients on what to ask for in "BIM"

02 Architects and Building Designers: What does BIM mean to my business?

03 Engineers: What does BIM mean to my business?

04 Contractors/Builder's: Possible uses of BIM for Construction

05 Quantity Surveyors and Cost Planners: How can BIM improve my business?

06 Facilities Managers: What benefits are there for me engaging with a BIM process?

07 Manufacturers and Suppliers: What can BIM do for my products?

01 Educating clients – What to ask for when requesting BIM? [Version 1 – August 2012]

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INTRODUCTION

Globally, it is well understood that in comparison to most industry sectors – agriculture, finance, mining etc – that productivity in the construction industry is relatively low. Construction industries contribute significantly to the health of most economies and poor productivity is generally accepted as economically unsustainable.

In response, construction industries have been searching for ways and means to improve their productivity and reduce waste. The adoption of a more integrated approach to the management and delivery of construction projects is widely regarded as a key contributor to potential future productivity improvements. Accordingly many US, European, UK and even now Australian government agencies are promoting, in various forms and capacities, new approaches to project procurement which embrace more integrated approaches to the management and delivery of projects.

There is great potential for projects and clients to benefit from improvements in productivity through the adoption of a more integrated approach to the project's procurement.

THE BIM APPROACH

In this context the term 'integrated' implies the bringing together of participants in a collaborative, cooperative and proactive manner around a common source of information – a Building Information Model (BIM). In the construction industry the participants typically include clients, architects, engineers, quantity surveyors, other consultants, contractors and subcontractors and these parties typically have differing needs from the BIM. Aligning all parties' (and foremost the client's) requirements with a common goal is paramount in a BIM process. This can potentially have implications on intellectual property rights and the AIA/Consult Australia Legal and Procurement Working Group working group has addressed some of these issues.

BIM provides the foundation on which an integrated approach to project delivery can be realised. The BIM allows the project participants to efficiently collaborate through design development in a relatively low risk environment, virtually prototyping (or rehearsing) the project prior to committing to actual construction.

There are many issues to consider for the client contemplating the adoption of BIM for a particular project. It is not simply the adoption of a different software package or new technology. The most effective adoption of a BIM approach will entail reconsideration of workflow methodologies for all parties involved in the project including clients, consultants and contractors.

The planning and programming for schematic design, design development, documentation and construction should consider the BIM workflow methodology that best suits the particulars of the project (see work undertaken by the AIA/Consult Australia BIM Project Plan Working Group). At the outset the approach to the project should consider and establish an approach to, for example:

- A BIM project plan and BIM leadership
- BIM deliverables (i.e., what will the model be used for – documentation, energy analysis, code compliance, cost planning and control, coordination and clash detection, visualisation, shop drawing, manufacturing, etc?)
- Project team communication and decision making procedures
- Software selection and interoperability
- Hardware and network resources
- The roles of participants (e.g., client, consultants and contractors)
- Performance assessment
- Modelling protocols and project standards
- Level of Development (LoD) for different stages of design development and documentation
- Training and support
- Project procurement
- Legal and contractual issues
- Insurance and liability issues
- Copyright and protection of intellectual property
- Data exchange methods and standards

Any BIM project should consider how these aspects of the project will be managed in the best interests of the project. Clients contemplating a potential BIM project should consider adopting an integrated approach to the design development, documentation and/or construction of the project. Coupling the integration of the project team with a BIM process can facilitate efficient project delivery.

THE ROLE OF THE CLIENT IN MULTI-DISCIPLINARY BIM TEAMS

The decision to proceed with an integrated BIM team will require commitment from the client and all participants. Perhaps the most important decision the client can make will be the appointment of the most appropriate design and construction team. Ideally the design and construction team will have some experience in the use of BIM. However, irrespective of its experience, it is critical that the design and construction team is committed to the use of a BIM workflow methodology throughout the project delivery. As a minimum it is advisable that the party entrusted with the primary responsibility for management of the BIM have sufficient expertise and experience.

Some projects will benefit from BIM more than others. Early adoption of a BIM project plan (see work undertaken by the AIA/Consult Australia BIM Project Plan Working Group) will usually deliver the greatest productivity through the lifecycle of a project. The client's vision for the project must be clearly established. What are the project goals? How will BIM be used to most effectively address these goals?

CONCLUSION

There is great potential for clients to benefit from improvements in procurement productivity. For example potential exists for projects:

- to be realised to better meet the performance objectives of their briefs
- to be delivered more cost effectively within tighter timeframes, with less wastage
- to be tuned to perform to higher standards of environmental sustainability
- to be geared to maximise financial performance through the whole lifecycle of the asset

Additionally there are significant benefits for clients in improved efficiencies in facility management, beyond construction, and throughout the operational lifecycles of their projects.

However the best approach will depend upon the circumstances of the project. This requires careful consideration as to the manner in which workflow methodologies need to adapt to service the demands of the project. In order to maximise the potential benefit, this adaptation is logically best lead from the top down. That is, by a committed client with a clear understanding to the project objectives and how they might be best met through BIM procurement methodologies.

Summary Box

- There is great potential for clients to benefit from improvements in productivity through the adoption of a more integrated approach to project procurement.
- An integrated approach to project procurement is supported by the adoption of a BIM workflow methodology that mitigates risk and provides cost savings.
- The adoption of a BIM methodology presents a variety of important considerations in regard to the procurement strategy. This is best lead by the client in order to maximise the impact of potential advantages and savings.