



BIM management plans
for the future leaders
of construction



Industrial Project Category Winner

Part of CSD Group Australia Pty Ltd

CSD BIM is the collaborative management arm of CSD Group Australia Pty Ltd (CSD Group), specialising in the use of advanced 3D tools to provide a visual representation of the combined infrastructure requirements of different construction units. Crucial at pre-design and planning stages, the accuracy of the models translates to the efficient and seamless completion of projects.

Established in 2013, CSD Group has worked on projects in Australia, Hong Kong and Papua New Guinea. It offers a suite of services for construction projects, from pre-construction design works to on-site solutions.

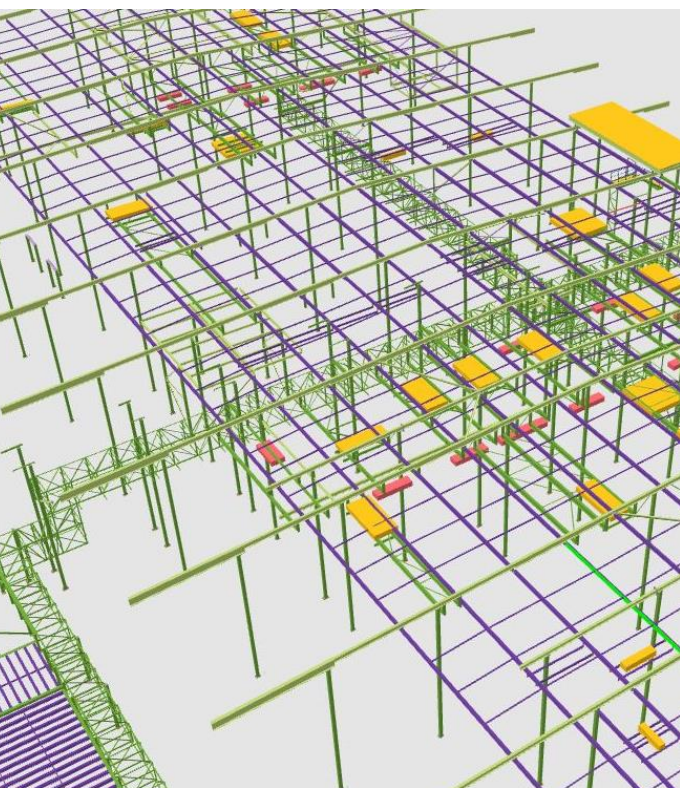
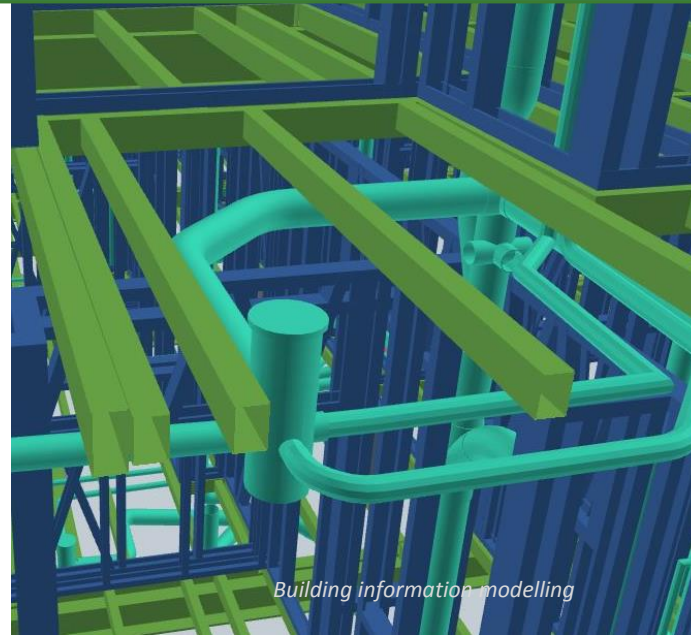
CSD Group has four units: CSD BIM, CSD Drafting, CSD Engineering and CSD Site.

SERVICES

Building Information Modelling (BIM)

With BIM, the company provides not just 3D models, but more importantly, integrates the design requirements of all aspects of construction. CSD BIM services will enable clients to conceptualise well-planned, thoughtfully designed projects and build them with precision. BIM services include:

- 2D transfer to 3D modelling for services for clash detections
- Clash detection and revision management for projects
- Cloud hosting of models for full project team access.



BIM Management Plans

BIM Management Plans serve as a single, cohesive, comprehensive reference for everyone involved in a construction project. It begins at conceptualisation, development, coordination, all the way to completion. The BIM Management Plan is shared online to all relevant parties ensuring models adhere to:

- Correct naming, numbering and document control procedures
- Global positioning to integrate models with ease
- Correct Level of Development (LOD) for each contractor
- Correct colours, codes and naming for elements per contractor
- Regular clash detection at scheduled intervals undertaken by the project team

Case study: Port Macquarie Student Accommodation

Total cost of BIM Management: \$14,000 + GST

Estimated savings over 1 of 14 Buildings: \$152,184 + GST

The CSD BIM management team spotted errors after the client had signed off the production of various items by sub-contractors. With the detection of every flag and clash, the manufacture of items was halted, multiple production for the 14 buildings was prevented and the delivery of incorrect items to the workshop for assembly was avoided.

Disciplines in the BIM process

- Structural steelwork
- Sub-framing walls
- Hydraulics
- Concrete and foundations
- Cladding
- Fire-boards
- Flooring

Cladding

Estimated cost prevention
= \$62,304 + GST (one building)

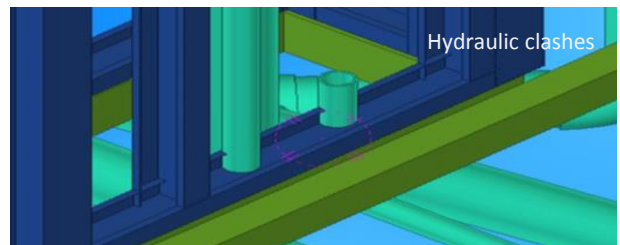
Failing to follow the architect drawings, the cladding supplier used the centre to centre dimensions as the actual cladding sizes, without the 12mm gaps required for all joints across the building.

This was missed by the client in the approval sign off. Had production continued, the mistake would have resulted in significant delays as it would have only become apparent when the first building cladding arrives in the workshop for fitting, at which point Building 2 fabrication would also be underway.

Hydraulic clashes

Estimated cost prevention = \$2,000 + GST
(one building)

Clash detection was utilised to find and prevent a clash caused by a design change. This enabled the plumbing company to return fittings and use an alternate solution to run the waste pipes around the chassis floor joists to prevent the clash.



Sub-framing

Estimated cost prevention = \$66,000 + GST
(\$3,000 x 22 modules)

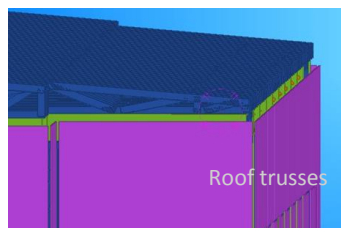
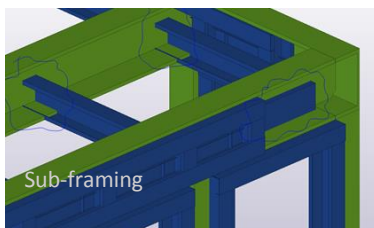
The CSD BIM team identified an incorrect dimension in the drawings which was overlooked by the client and already approved for production. The error would have been discovered only after the first 22 sub-framing modules turn up in the workshop for assembly, at which point Building 2 fabrication would also be underway. The cost estimate used is for one building only, not accounting for the second building which would also be in manufacture.

Roof trusses

Estimated cost prevention =
\$19,880 + GST (one building)

Overhangs at all edges of the buildings were missed in the signed off documents, even though these were in the architect drawings.

With the CSD BIM team's timely intervention, the manufacture of the roof trusses with incorrect specifications was prevented. If not identified early on, the mistake would have been found only when the first building roof trusses are delivered in the workshop for assembly, at which point Building 2 fabrication would likewise be underway.





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