

Overview of Discipline Detailer

The steel detailer works closely with architects, engineers, general contractors and steel fabricators. They generally prepare two primary types of drawings: shop drawings and erection drawings.

Shop drawings are used to specify the exact requirements for fabricating each individual member of a structure, and are used by the steel fabricator to fabricate these members. Complete shop drawings show material specifications, member sizes, all required dimensions, welding, bolting, surface preparation and painting requirements, and any other information required to describe each completed member.

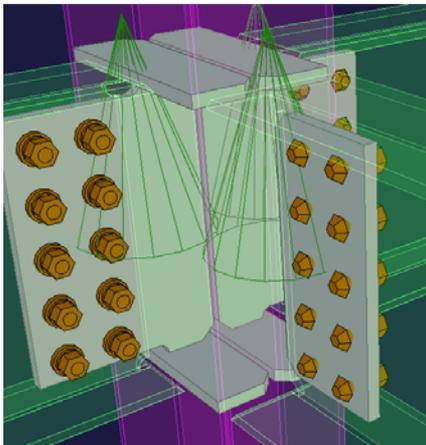
Erection drawings are used to guide the steel erector on the construction as to where and how to erect the fabricated steel members. They often also show details with specific information and requirements, including all work that must be done in the field.

A detailer is generally required to submit his drawings to the structural engineer and/or architect for review prior to the release of drawings for fabrication. In the case of non-building projects there is typically no architect, and detail drawings are reviewed exclusively by the structural engineer.

Due to the complexity of many projects, along with strict deadlines and quality standards, it is becoming increasingly difficult to produce the traditional 2D type design and architectural documentation necessary to portray the actual design.

Today, the use of 3D technology and the formation of a Building Information Model (BIM) provides the opportunity for collaboration between all members of the project team and delivers increased clarity. The use of electronic file transfers such as IFC, SDNF or CIS/2 greatly increases this accuracy and minimizes the risks associated with misinterpretation of 2D design documentation.

The 3D model becomes a visual work in progress that can be viewed through weekly workshops with the design and construction project teams to identify and resolve any design and constructability issues before they occur. This design review ideally assures engineering accuracy and compliance with the design intent.



This model can also be used to create digital construction simulation and spatial visualization, which enables the generation of planning and logistics models, construction models and manufacturing models. The process also gives clarity to site logistics, layouts, schedules, quantities, costs and constructability issues.

Ultimately a fully connected and detailed 3D production model is produced, which can deliver various detailed and specialist reports, NC files, DXF files along with the necessary steel detail drawings for the manufacture of the fabricated steelwork.

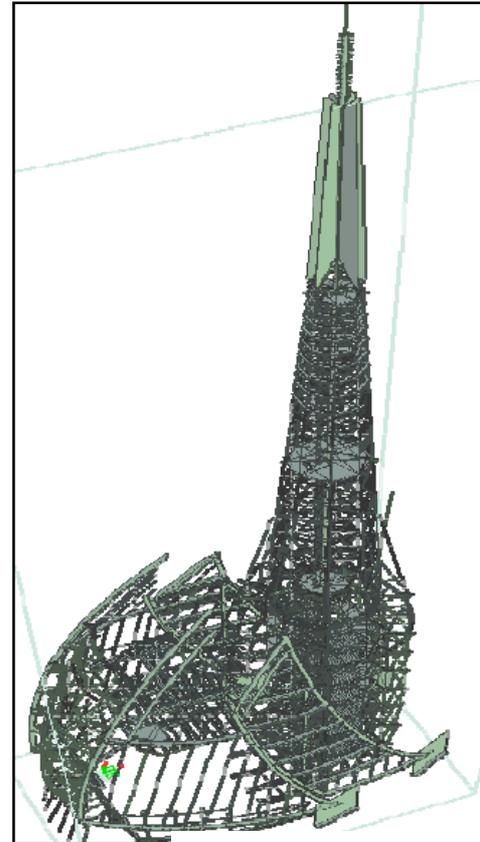


Image courtesy of: UGL Steelplan

It has also been proven on many projects that having one point of responsibility for the total steel package ensures that changes to the central 3D model allows drawings to be updated more quickly, with more integrity and accuracy. It also allows structural connections to be revised and detailed in the model.

The use of specialist drafting teams, of 3D modelers, is growing in acceptance within the Australian construction industry and real benefits are being demonstrated by the leaders in the industry.

At the end of the day, the completed 3D model generated by the detailer is the most detailed model that all disciplines look to for providing the final and most up to date information.