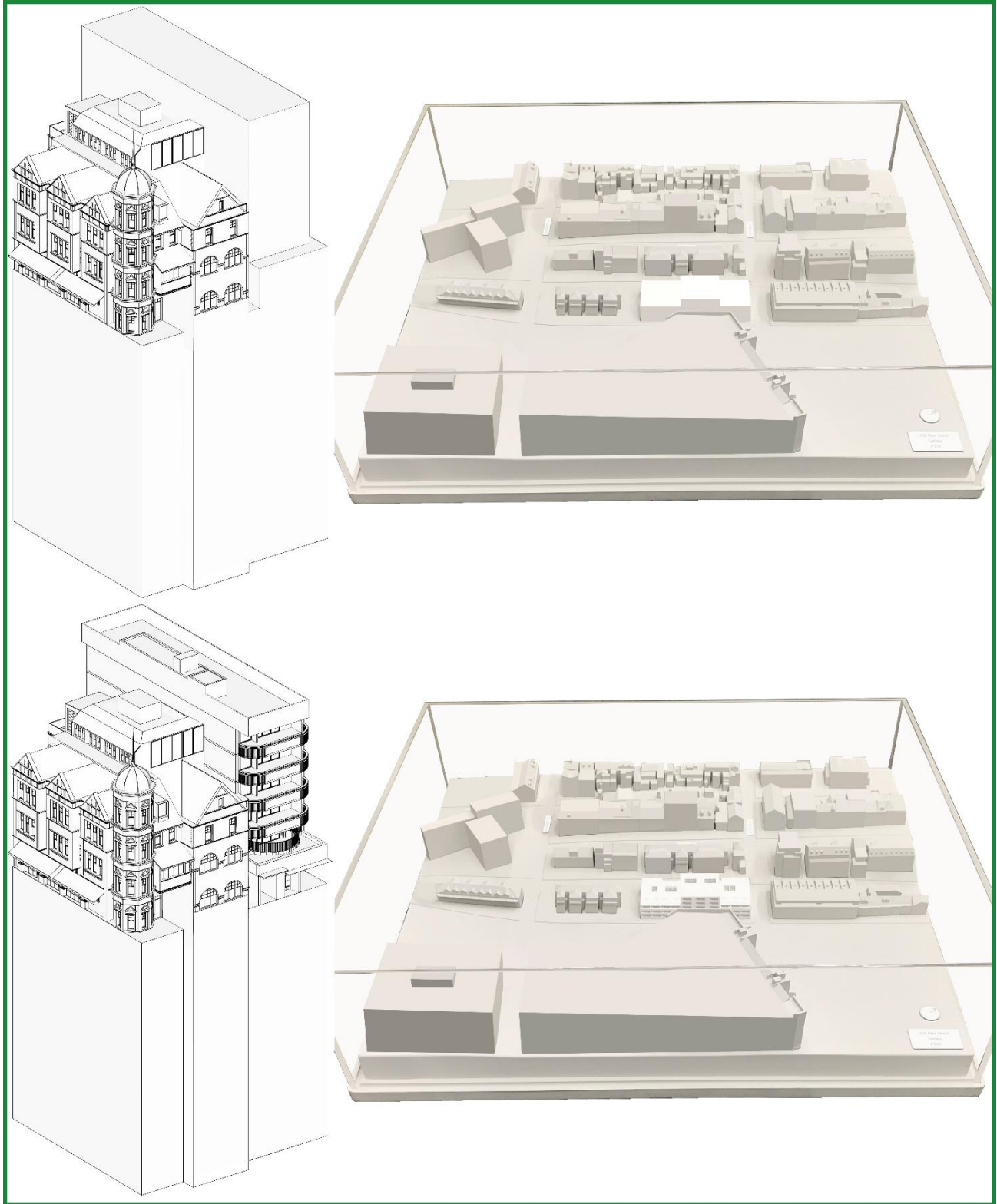


Model Requirements



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1. Overview

Accurate models are significant in assessing proposed development. They are essential to evaluate the view and solar impact. Like other requirements, such as architectural drawings, models must be accurate to ensure proper assessment. This document provides technical specifications for developments requiring models (Section 2).

2. Developments Required to Provide Models

3D electronic and physical models are required for developments in the city centre that propose any change to the building exterior. Developments outside the city centre require models when proposing any change to the building exterior if the total estimated cost is more than \$5 million, or if the overall height of retained and proposed building is over 3 storeys. Models may be required if they are significant to the assessment, even when none of the conditions above apply.

Models are required for each stage of the development cycle, including:

- 3D electronic and physical envelope models for Concept and Reference Design, Planning Proposal and Design Competition (Section 4.1).
- Detailed 3D electronic and physical models for Development Applications, Amendments, Occupation Certificates and retained buildings (Section 4.2).

3. Models Review Process

If the development requires models (Section 2), email The City of Sydney Model Team at model@cityofsydney.nsw.gov.au to request an Initial Data Extraction (IDE). The model team reply will contain the IDE and survey requirements, with specifications and the next steps.

After receiving a compliant CAD survey, the model team will create an IDE file and ask you to pay the 3D model fee online. The City of Sydney's Fees & Charges are available at <https://www.cityofsydney.nsw.gov.au/policies/revenue-policy-fees-charges>.

The IDE file contains your survey, indicative context surrounding your site (100m from your site boundaries) and sun access planes affecting your site.

After receiving the IDE, create a test version by positioning a specification-compliant 3D CAD model of all proposed and retained buildings within the site boundaries in the IDE file using the survey as a reference.

Email the CAD file of the test version to model@cityofsydney.nsw.gov.au for a model team officer to review.

For an Occupation Certificate (OC) application or existing building that is proposed to remain on-site, provide as-built digital photos of the buildings, and ensure that hoardings and scaffolding do not obstruct the building detail. Blur people's faces and any identifying information in the images to a beyond-recognition degree.

The model team will conduct a technical review and provide feedback. After receiving the model team's feedback, address the issues in the CAD model, if any, and email the amended test version back to the model team for a follow-up review.

The model team will also review the 3D electronic model against drawings submitted as part of the application.

The model team will continue to provide follow-up reviews until all outstanding technical issues are addressed and the model matches the submitted drawings and retained building details. After that, the model team will email an acknowledgement that the provided 3D electronic model is technically compliant.

Model Requirements

Deliver a technically compliant 3D physical model to the Town Hall House for a model team review. The model team will review the physical model against the technically compliant 3D digital model and lodged drawings and provide feedback and acknowledgement when the physical model is technically compliant.

A reasonable amount of time is required for the model review process before lodgement to allow time for model corrections by the applicant and subsequent reviews by the model team. The time required for review will vary depending on the model's complexity, the time the applicant takes to address issues identified in the model team's feedback and workload.

4. Electronic Model Requirements

4.1. Envelope 3D Electronic Model Requirements

3D electronic envelope model (Figure 1) requirements for Concept and Reference Design, Planning Proposal and Design Competition are:

- Proposed envelopes and retained buildings within the survey site boundaries must be modelled in 3D details (Scale 1:1).
- The proposed envelope model must be within the survey site boundaries.
- The envelope model must match the submitted drawings and shows intended 3D characters, including heights, setbacks, massing forms, articulations, geometries, and other details.
- The detailed model of retained buildings within the site boundaries must follow the requirements in (Section 4.2).
- The terrain within the survey site boundaries must be modelled and extruded down to the Reduced Level (RL) of 0.00 Australian Height Datum (AHD).

Model Requirements

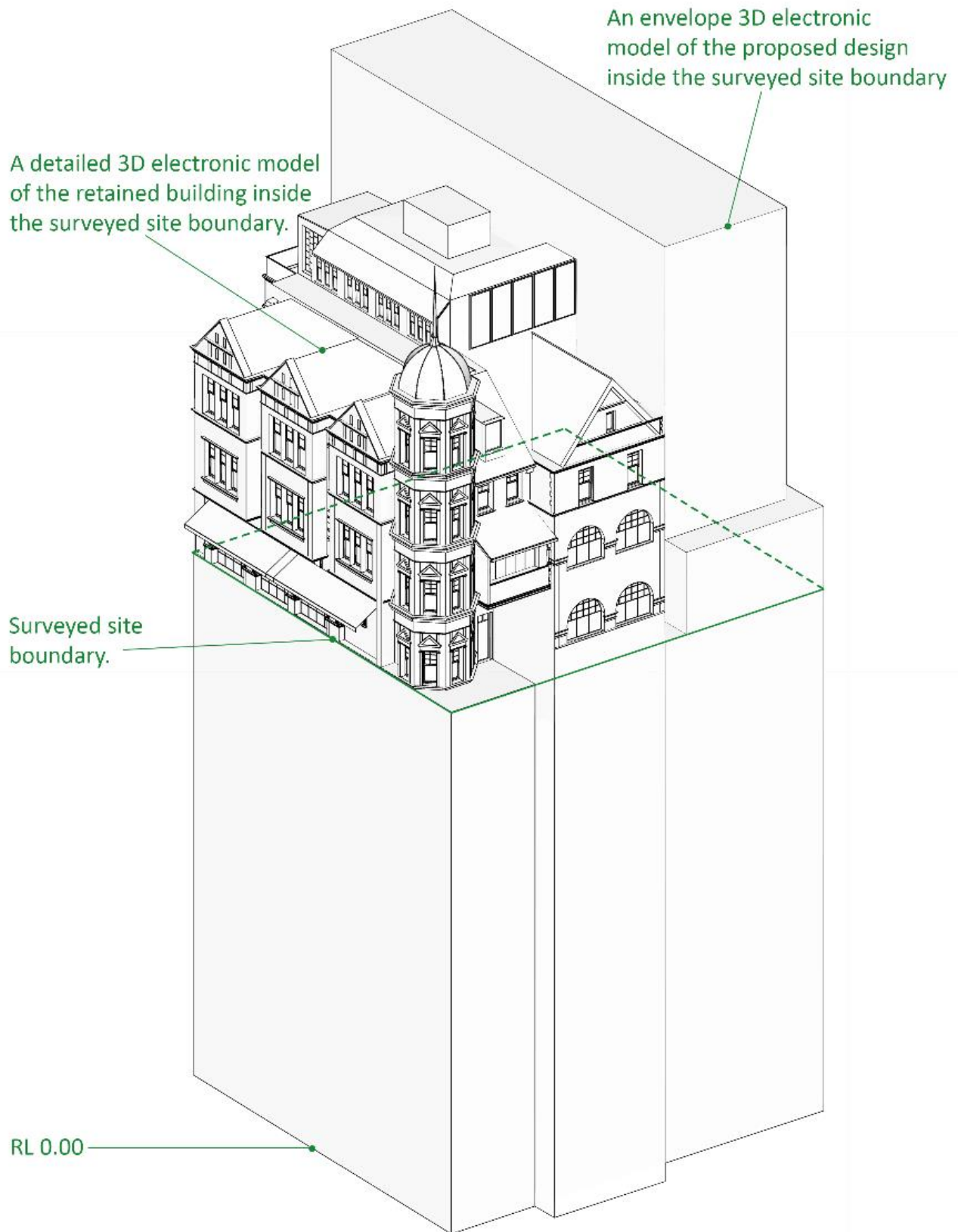


Figure 1. Level of details for an envelope 3D electronic model.

4.2.Detailed 3D Electronic Model Requirements

Detailed 3D electronic models (Figure 2) requirements for Development Applications, Amendments, Occupation Certificates, and retained buildings inside the site boundaries are:

- All proposed and retained buildings within the survey site boundaries must be modelled in 3D details (Scale 1:1).
- Detailed models of the proposed building should be within the survey site boundaries.
- The detailed model of retained buildings must match the CAD survey and site photography.
- The detailed models of both proposed and retained buildings should match the submitted architectural drawing and accurately show all exterior details of elements visible from the outside in 3D, including:
 - Walls: including fences, screens, parapets, etc.
 - Floors: including slabs, cantilevers, etc.
 - Roofs: including ridges, hips, valleys, eaves, rakes, saddles, awnings, shades, pergolas, etc.
 - Opening: including doors, windows, fixed and operable fenestrations, skylights, vents, chimneys, plumbing, etc.
 - Protruding items: including columns, posts, frames, louvres, stairs, cornices, balustrades, handrails, etc.
 - Signs: including advertisement signs, boards, etc.
 - Other outdoor elements, including hardscape, planter boxes, fixed seating, etc.
 - Mechanical services and plant equipment, including building maintenance units, heating, ventilation and air conditioning boxes, Lift Motor Rooms, etc.
- The terrain within the site boundaries must be modelled and extruded down to the Reduced Level (RL) of 0.00 Australian Height Datum (AHD).

Model Requirements

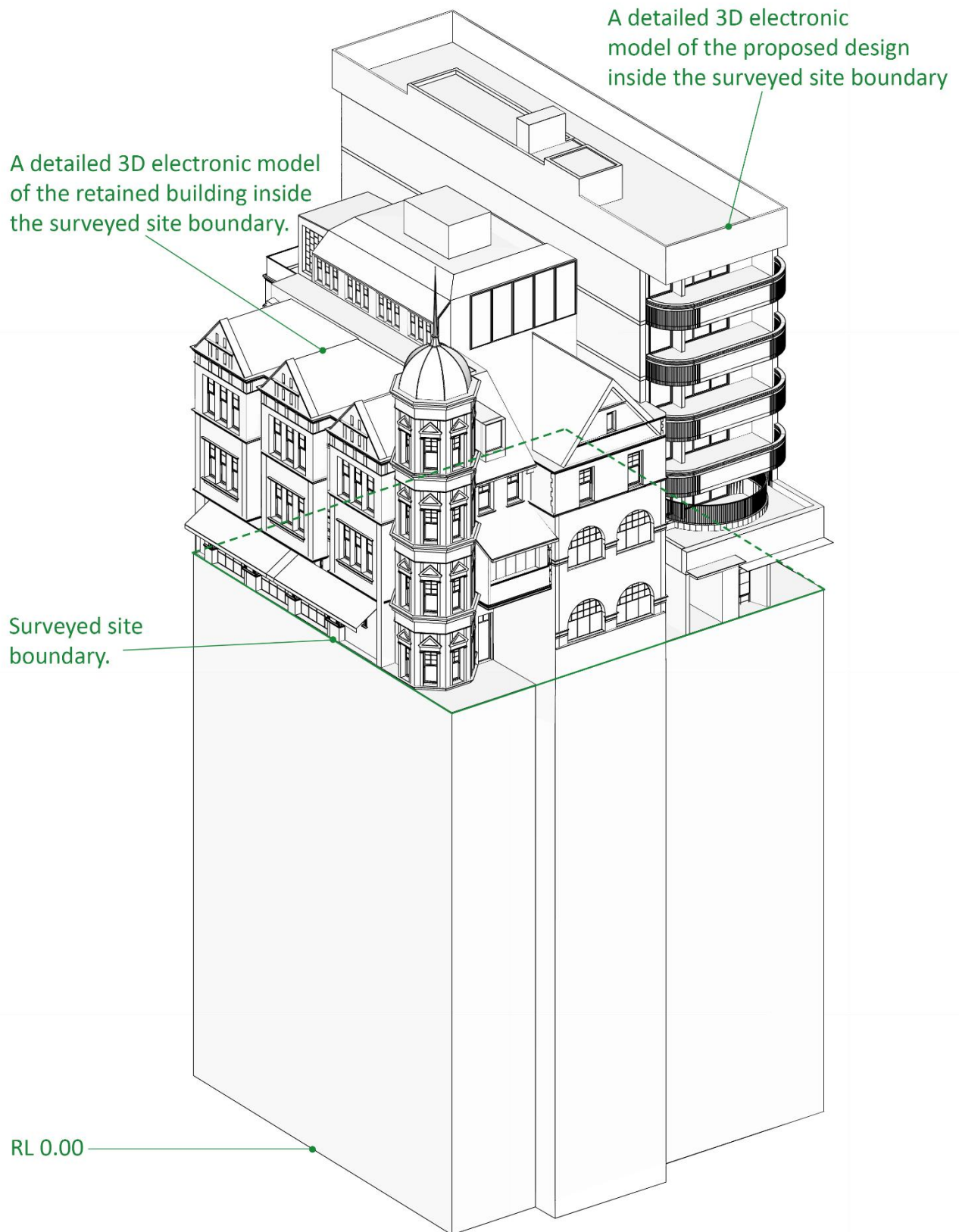


Figure 2. Level of details for a detailed 3D electronic model.

4.3. Electronic File Format and Contents

The file format and contents requirements for 3D digital models are:

- Acceptable 3D CAD file formats are DWG and DGN.
- Each CAD file unit must equal 1 metre in the real world. The file master unit must be metre, the subunit must be millimetre, and the positional units per subunit must be 1000.
- Aside from the electronic elements provided by the model team as part of the Initial Data Extraction (IDE), which contains survey data, the applicant's model must not include the items below:
 - 2D elements, including lines, line strings, text, text nodes, dimensions, hatch, fill, etc.
 - Fine details, including door handles, hinges, nuts, bolts, sprinkler systems, wall rendering, gaps between stones and bricks, etc.
 - Ununified surface normals.
 - Cells, shared cells, and blocks.
 - References and raster data.
 - Lighting.
 - Cameras.
 - Texture and material.
 - Duplicate and overlapping geometries.
 - Geometries of internal elements that are not visible from outside the building.

5. Physical model Requirements

- 3D physical envelope models (Figure 3) are required for Concept and Reference Design, Planning Proposal and Design Competition.
- 3D physical Detailed models (Figure 4) are required for Development Applications, amendments, Occupation Certificates and retained buildings inside the site boundaries.
- Envelope and detailed 3D physical models must match the technically compliant 3D envelope and detailed electronic models, and the submitted drawings.
- The physical model must follow the specifications below:
 - Scale 1:500
 - Materials must be solid, durable, stable, high-intensity and fade-resistant. Other materials, including starch-based rapid prototype medium, polystyrene foam, balsa wood and cardboard, are unacceptable.
 - The applicant must provide a physical model context if the site context is unavailable in the City of Sydney physical model in Town Hall House. Contact the model team via model@cityofsydney.nsw.gov.au to verify if the context is required for the development site. If the model context is required, the applicant must provide 100 metres of surrounding context from the site boundary for the development of a total (proposed and retained) of up to 10 storeys and 200 metres of context for sites with buildings over 10 storeys. The physical context must include the surrounding buildings, roads, and terrain. The Initial Data Extraction (IDE) provided by the model team contains 100 metres of context. Applicants must provide context buildings not included in the IDE file when the context is required.

Model Requirements

- The model base must contain roads and terrain with pits that match the shapes of the building blocks and go down to the Reduced Level (RL) of 0.00 of the Australian Height Datum (AHD) to enable sliding of the building blocks in and out of the base.
- All building blocks in the model must be built from the Reduced Level (RL) 0.00 of the Australian Height Datum (AHD) and re-attachable in and out of the base. Buildings must not be fixed and must be easy to slide in and out of the base pits without needing tools. This applies to buildings inside the site boundary and the context.
- The proposed model inside the development site must be spray-painted flat white, and the retained buildings within the site boundaries, surrounding roads and context buildings must be light grey.
- The model must contain labels of the development site address, the roads names and the north direction. Labels must be in block letters.
- The model must not contain wet paint or resin by the time of delivery.
- The model base must be enclosed with a clear acrylic lid when providing a model with the surrounding context. The cover must not be fixed and must be removable without using tools.
- The model must not be larger than 800mm × 800 mm and must not weigh more than 25kg.

Model Requirements

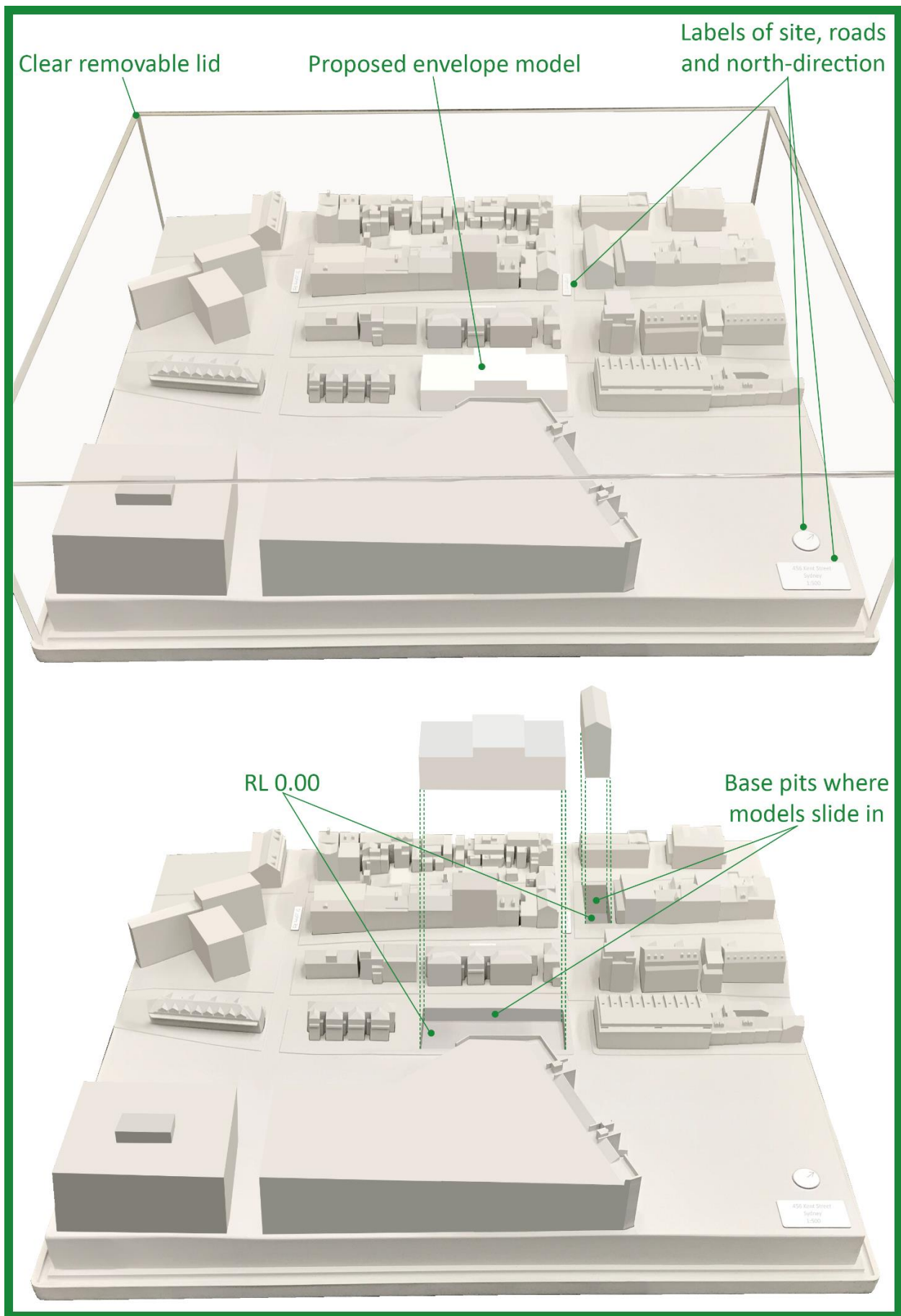


Figure 3. Level of details for an envelope 3D physical model.

Model Requirements

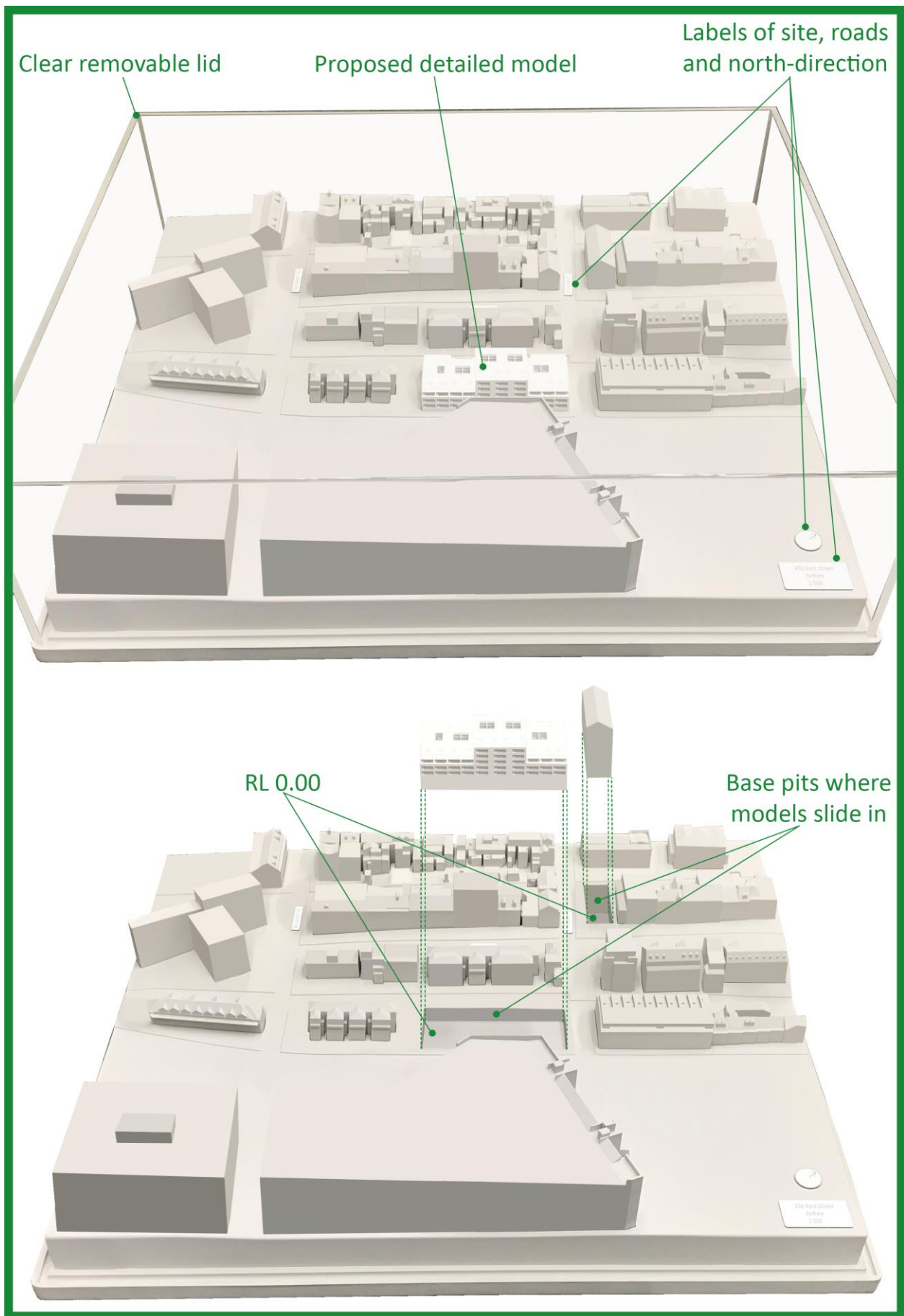


Figure 4. Level of details for a detailed 3D physical model.

