

City of Sydney

Specifications for Development Applications requiring 3D CAD Models

Version 04
Updated July 2009
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1. Overview

1.1 Purpose

The purpose of this specification is to produce:-

3D CAD models capable of insertion into a photogrammetric surveyed 3D model of central Sydney and to keep the model in an up to date state.

3D CAD models that are geometrically and aesthetically accurate for city planning and development.

3D CAD models that can be shared across multiple CAD platforms.

1.2 Procedure for 3D CAD model Submission

Contact The City of Sydney modelling section as soon as possible to avoid any delay in Development Application lodgement.

Contact by either:-

E-mail model@cityofsydney.nsw.gov.au or Ph 9265 9333

1.2.1 A CAD file of the site survey which shows a minimum of two MGA grid coordinates must be forwarded to The City of Sydney council and then the preparation of an Initial Data Extraction file (IDE) can be requested. (minimum 5 working days before DA lodgement date).

1.2.2 Pick up and pay for ordered IDE at the One Stop Shop, Level 2 Town Hall House, 456 Kent Street, Sydney.

1.2.3 E-mail both Applicant's 3D CAD models (copied into IDE file) to model@cityofsydney.nsw.gov.au and wait for acknowledgement of compliance to specification **before** burning 3D CAD model files onto CD.

1.2.4 Bring 3D CAD models burnt onto labelled CD on day of DA lodgement. DAs will not be accepted without one. (If DA requires submission of 3D CAD model)

1.3 Criteria for Model Submission

3D CAD models will be required for the Local Government Area (LGA) of the City of Sydney whereby, any development that proposes to make amendments to a building's existing envelope within the CBD

or

Any new development or alterations and additions, over 5 million dollars, or that result in a building of 4 stories or more. (e.g. existing 3 storey building adding 1 new storey)

The 3D CAD models must be lodged at Development Application stage.

Any changes to the design will require resubmission of the 3D CAD model prior to the issue of the Occupation Certificate.

1.4 Level of Required Detail

It is required that both 3D CAD models be submitted at their respective level of detail.

1.4.1 Building Envelope

An accurate 3D CAD building envelope (exterior surface model) at a scale of 1:1 positioned relative to the site survey and at the correct RL will be required for various massing and shadow analysis studies.

This would include the following;

- A site survey (min. two MGA grid coordinates) 2D accepted

- A mass outline of the main building envelope and all elements needed to cast an accurate shadow

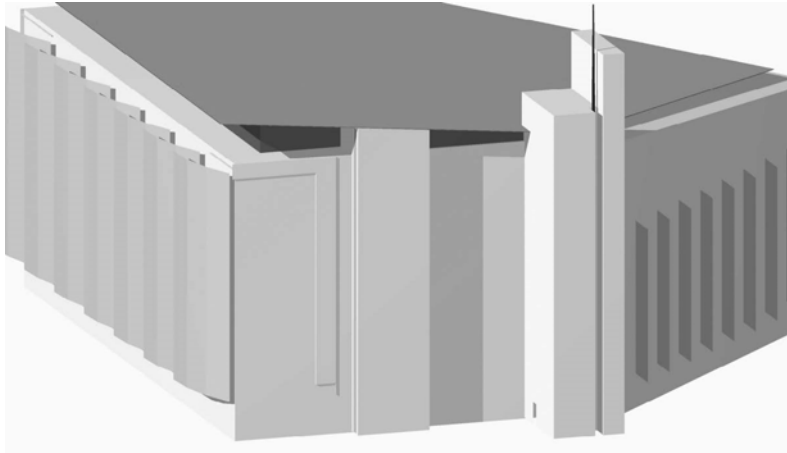
- A ground plane that extends to site boundary

This would exclude the following;

- Any internal elements or modelling

- Any duplicate line work

- Any gaps or missing elements



1.4.2 Detail Model of Building

A detailed accurate 3D CAD model at a scale of 1:1 positioned relative to the site survey and at the correct RL is required for the purpose of producing a realistic image of the proposed development.

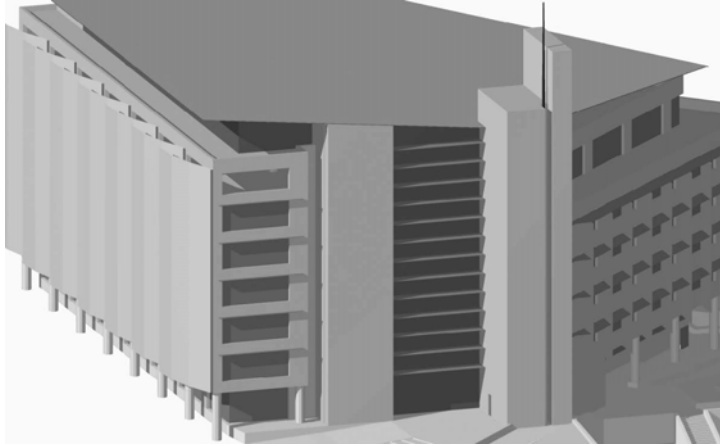
This detail model will include the following;

- Ground level detail deemed to be of major design significance such as door, access and awnings,

- General detail of shop front design i.e. areas of glazing and doors.

- Elevation detail for all elevations including sides and rear. Solid to void and opening relationships, glazing, mullion and transoms deemed of significance to the building design. Balcony elements such as balustrades, detail of any protrusions or indents to façade and any expression of structure.

- Roof detail including pitch, plant enclosures, service and fire stair protrusions, terraces, shade and signage structures.



2. CAD File Format

2.1 DGN

Microstation DGN is the preferred file format accepted by the City of Sydney council. DGN files to be in accordance with all aspects of this specification.

All versions of Microstation files will be accepted.

2.2 DWG

DWG is an accepted file format by the City of Sydney council. DWG files to be in accordance with all aspects of this specification.

All versions of AutoCAD are acceptable for files in DWG format. (saved as the latest release available)

2.3 File Size

File size greater than 2Mb per envelope and 6Mb for the detailed building file will **not** be accepted. Files are to be compressed using appropriate CAD file compression utilities prior to submission. Not Zipped

2.4 File Naming Convention

Files are named according to postal address or site name and model type. Files are to be structured into four levels / layers. The two model types are categorised as follows;

Building (detailed) 6Mb max - abbreviation "bldg"
Building envelope 2Mb max - abbreviation "envp"

The four IDE levels / layers are categorised as follows;

MGA Coordinates	-	containing labelled MGA grid
Context Buildings	-	containing supplied context buildings
Proposed Building	-	copy in 6Mb (max) detailed model
Proposed Envelope	-	copy in 2Mb (max) envelope model

The following is an example submitted file name based on Street Number Street Name Model type for an example address of 52-54 George Street.

52-54 George St bldg.dgn (or .dwg)

2.5 Reference Files

The submitted 3D CAD model is not to contain any reference/ x-reference files.

2.6 File Submission – (Model Lodgement)

3D CAD model files are to be submitted **ONLY** at the One Stop Shop, Level 2 Town Hall House, 456 Kent Street, Sydney.

UNDER NO CIRCUMSTANCES SHOULD 3D CAD FILES BE DELIVERED DIRECTLY TO TOWN PLANNERS

The IDE is to be renamed as *nn aaaaaa aa* bldg.dgn (or .dwg) which will have the applicants 3D CAD detailed model copied into the Proposed Building level / layer 6Mb max (the Proposed Envelope level / layer will remain empty)

And also

The IDE is to be renamed as *nn aaaaaa aa* envp.dgn (or .dwg) which will have the applicants 3D CAD envelope model copied into the Proposed Envelope level / layer 2Mb max (the Proposed Building level / layer will remain empty)

The 3D CAD files are to be submitted on a separate CD (separate disc to the 2D PDFs). The files are not to be submitted in a zipped format.

All submitted disks are to be clearly labelled stating the following: “3D MODEL” Project title (postal address or site name)–Individual file names–Date of model submission.

e.g. 3D CAD Models of 52-54 George Street Sydney

52-54 george st bldg.dgn (or .dwg)

52-54 george st envp.dgn (or .dwg)

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All disks are to be scanned for viruses prior to lodgement.

3. Working Units/ Initial Data Extraction (IDE) Files

3.1 Map Grid/ Co-ordinate system

All submitted CAD models are to be spatially referenced to the MGA (Mapping Grid of Australia) The origin is not to be relocated.

3.2 IDE File

City of Sydney will supply a base IDE file containing extruded envelope models of any surrounding building the reference datum (origin), required working units as per this specification and your site survey which will have been previously supplied.

IDE files are available in DWG and DGN format only.

3.3 Working Units

Working units are in accordance with the supplied IDE file. Working units are to be in metres. The working units as determined by the .dgn IDE file are as follows;

Metres

Master units:	Sub units:	m (metres)	mm
	Master units per sub unit:		(millimetres)
	Positional units per sub unit:	1000	1

4. Elements/ Objects

4.1 Acceptable Element/ Object Types

The following DGN and DWG elements/ Objects are **not** permitted in submitted 3D CAD models;

Text, text nodes, dimensions, hatch, area fill, attributes (tags) raster data.

Lighting and camera positions must be deleted.

All other known DGN and DWG elements/ objects will be permitted.