Virtual Merri-bek
3D Digital Model Submission Guide

Merri-bek City Council

What is the 3D digital model submission guide?

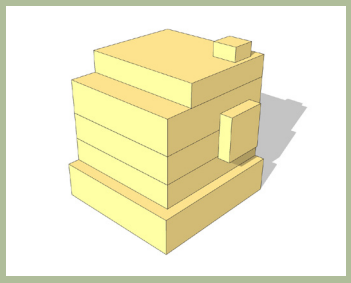
Merri-bek City Council's Virtual Merri-bek project utalises 3D GIS and 3D data in combination with emerging technologies such as virtual and augmented reality for urban planning and community engagement purposes. This guide provides technical guidance for submitting 3D digital models for planning related purposes to Merri-bek City Council.

When is a 3D digital model required?

3D digital models are a requirement for all development applications which are 4 storeys or higher within Merri-bek City Councils Brunswick activity centre zone, Coburg activity centre zone & Neighbourhood centres. The LOD (level of detail) requirement depends on the stage of the application:

- An **LOD1** 3D digital model (or better) must be submitted when lodging a develpment pre-application.
- An **LOD3** 3D digital model must be submitted when lodging a development application.*
- A final "As-built" **LOD3** 3D digital model will form part of the planning permit conditions and must be submitted to Council prior to an OC certificate being issued.

LOD1: Pre-application



This model should represent the basic massing and built form for basic shadow analysis purposes.

LOD3: Application & as-built

This model should include the external building envelope and any significant projecting structures for detailed shadow analysis purposes. This can include basic colours & material detailing, but it is not required.

Please prepare and submit you 3D digital model as per the 3D digital model specifications on the next page.

*A new 3D digital model must be re-submitted if changes are made to the external building design, envelope or any significant projecting structures which may affect the structures shadow analysis outcome.

It is the consultant's responsibility to ensure that the digital model is complete and accurately represents the proposal. Merri-bek Council reserves the right to request for a re-submission of the 3D digital model if these specifications are not met.

In the event a 3D digital model is not provided, Council may reject the application.

For technical queries please contact:
3D Digital Twin & Visualisation Lead
virtual@merri-bek.vic.gov.au
+61 3 9240 2310

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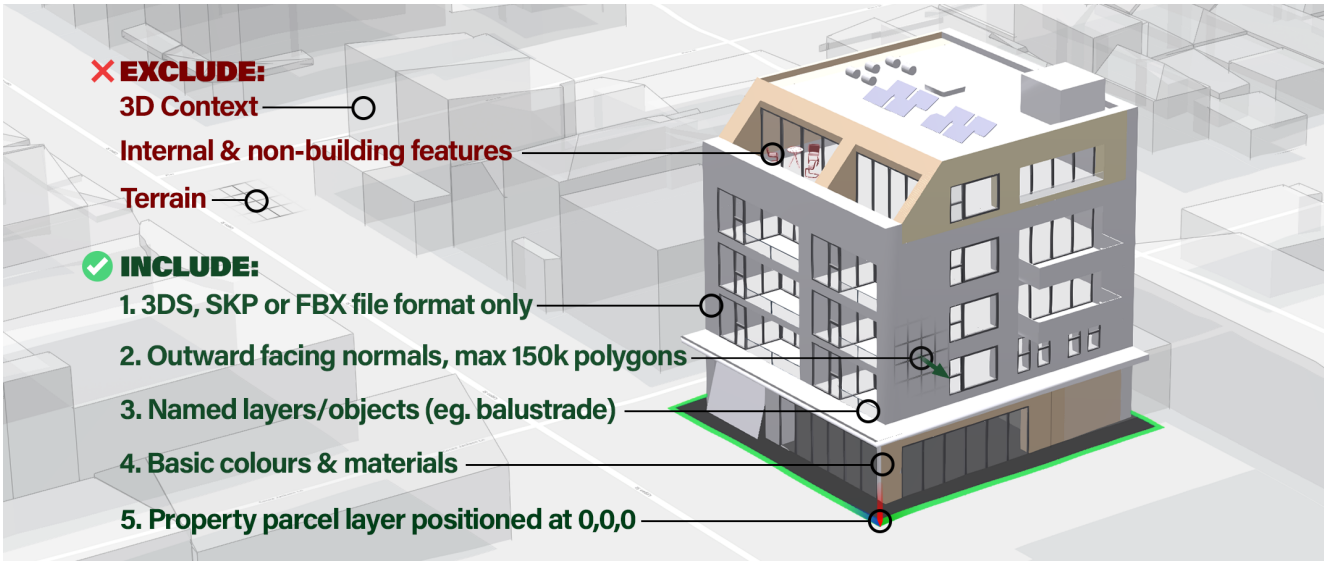
3D digital model specifications:



❌ Exclusions

The supplied 3D digital model file **must not include:**

- Internal & non-building features.*
- Gaps or missing elements.
- Overly complex highly polygonised features, redundant or duplicate polygons.
- 3D context models (surrounding buildings).
- 3D digital terrain layer (ground plane).

**Internal and non-building features such as internal stairs, walls, doors, furniture, fixtures, people, vehicles, vegetation etc.*

✅ Inclusions

The supplied 3D digital model file **must include:**

- 3D building envelope & significant projecting structures.*
- Property parcel/title boundary polygon or vector layer.

**Significant projecting structures includes external elements that may affect shadowing such as, balconies, roof services, awnings etc.*

1. File naming & Formats

3D digital models must be supplied in **.3DS, .SKP or .FBX.** format & named using the following convention:
AppNumber_Address_Date_3D Model

Eg: MPS-2022-123_1 Nicholson St_01012022_3D Model

2. Polygons

All polygons must be directed outwards, i.e. Outward facing normals and must not exceed 150,000 polygons.

Note: Final Polygon count in Sketchup should be calculated using number of **Edges**, **not Faces.**

3. Layer naming

3D layers/groups/objects/entities must be named coherantly and accurately so they are searchable as required. i.e. doors must include the word “door”, ballustrades must include the word “ballustrade” etc.

4. Textures, colours & materials

Basic colours & materials are permitted, however bitmap textures (.jpg, .png etc) are not supported.

Note: Colours, materials and textures may be ommited during the advertisement period due to limitations of 3D GIS technology.

5. Scale, orientation & positioning

3D digital models must be supplied in metres, at 1:1 scale with one corner of the property parcel boundry polygon or vector layer located at 0, 0, 0.

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How are 3D digital models used?

3D digital models submitted to Council will be insterted into Council's built form 3D context model for detailed assessment which may include, but not limited to:

- Built form and massing compliance and impacts.
- Overshadowing impacts.
- Urban context response.
- Advertisement & consultation with the community and stakeholders.
- Other planning and urban design related assessment.

These assessments may be performed using one or many of Councils Virtual Merri-bek tools including, but not limited to:

- Virtual Merri-bek 3D GIS platform (VM3D).
- Virtual Merri-bek virtual reality platform (VMVR).
- Other tools Council uses to assess 3D digital models.

3D digital model usage rights

3D digital models submitted to Council may be made available to external stakeholders including other government agencies and the general public. For approved developments, LOD3 3D digital models will be integrated with Council's built form 3D context model of the municipality.

By submitting a 3D digital model to Council the applicant agrees to these terms and grants Council permission to:

1. Edit, copy and redistribute the 3D digital model as required for internal assessment, external assessment and consultation purposes.
2. Edit, copy and redistribute the 3D digital model to external stakeholders including other government agencies and the general public.

How to submit 3D digital models

1. Ensure all specifications are met (page 2 of this document).
2. Complete the checklist (page 4 of this document).
3. Upload this document and your 3D digital model as per development plans and other application documents via Merri-bek's eServices planning website.*

Request an area of interest 3D context model

Council offers areas of interest clippings from their internal base 3D context model to developers and architects for planning purposes. You can request an area of interest from Council by contacting the 3D Digital Twin & Visualisation Lead using the details at the bottom of this page.

*If unable to upload to Councils eServices planning website, please contact Merri-bek Councils 3D Digital Twin & Visualisation lead and CC the assigned planner for assitance.

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3D digital model submission checklist

Please ensure you have read the specifications and that the 3D digital model adheres/includes the following:

- [ ] Correct LOD (level of detail) 3D digital model is being submitted.
- [ ] .3DS, .SKP or .FBX file format.
- [ ] Units are in meters.
- [ ] 1:1 scale, orientated to true north, with the origin (0, 0, 0).
- [ ] Polygons are facing outwards.
- [ ] Polygon count does not exceed 150,000.
- [ ] No bitmap textures included.
- [ ] Includes property boundary layer.
- [ ] Complies with inclusions and exclusions detailed on Page 2
- [ ] File has been named correctly.

Please list which software packages were used to create the submitted 3D model (including 3D conversion software if used):

If a submitted 3D model does not comply with the specifications outlined in this guide, Council may request the model to be re-submitted to specification, or may edit the supplied 3D digital model as required. This may cause delays in processing your application.

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