



Timber Construction and Building Height Planning Controls

The unintended consequences of the Planning System



Prepared on behalf of Forest & Wood Products Australia

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To whom it may concern,

Tract Consultants were engaged to review how planning controls relating to building height affect the consideration of timber as a sustainable structural solution for all buildings. This report investigates how the unique characteristics of timber buildings are disadvantaged, compared with traditional concrete construction, particularly by mandatory height controls that commonly do not accommodate the higher floor to floor requirements of timber. This study has been undertaken to assist stakeholder engagement and negotiations surrounding potential changes to the planning provisions to address the disadvantages that timber buildings currently experience. We urge you to support the suggested changes to the Victorian Planning Provisions to ensure timber as a construction material is on a level playing field with other conventional construction materials.

In addition to the abovementioned study, Planet Ark Environmental Foundation's 'Make It Wood' campaign aims to increase the use of responsibly sourced wood as a building material. When sourced responsibly, wood can play a big part in helping tackle climate change. This is because wood is a low carbon option for building; it is renewable, it sequesters carbon during the growth phase, it stores carbon for the long-term, and it has a lower embodied energy than other more carbon intensive building materials.

A key component of the campaign is the promotion of Wood Encouragement Policies (WEP) to councils and governments across Australia. A WEP generally requires responsibly sourced wood to be considered, where feasible, as the primary construction material in all new-build and refurbishment projects.

To date there are two local government authorities and sixteen local councils that have adopted a WEP in Australia, and Tasmania is the first state government to adopt a state-wide WEP. In addition, the adoption of similar policies around the world is growing steadily, including Canada, Japan, France, Finland, Netherlands and the UK, who are all encouraging the use of natural, timber-based products in construction.

As CEO of Planet Ark I am delighted to support this initiative, as it dovetails perfectly with the Make It Wood campaign's stated goal of increasing the use of responsibly sourced wood as a building material, and thereby allow us to live a low carbon lifestyle.

Kind regards,

Paul Klymenko

Chief Executive Officer



Contents

1	Introduction	3
1.1	The Problem with Timber Buildings and Victorian Planning Controls	3
2	Background	6
2.1	About Forest and Wood Products Australia	6
2.2	The Benefits of Timber Construction	6
2.2.1	Environmental credentials	6
2.2.2	Design advantages	7
2.2.3	Product Performance	7
3	Timber in the Media	8
3.1	Timber Construction	8
3.1.1	Could engineered timber be the building material of the future?	8
3.1.2	Does timber high-rise equal high risk?	9
3.1.3	The Rise of Timber	9
3.2	Timber Buildings in Australia	10
3.2.1	World's Tallest Wooden Office Building - 25 King Street (Brisbane)	10
3.2.2	Adina Apartment Hotel, Southbank	11
3.3	Forte Building – Docklands (Melbourne)	11
3.4	Verde Building – Kent Town (Adelaide)	12
3.5	The EY Centre (Sydney)	13
3.6	Daramu House – Bangaroo (Sydney)	14
3.7	The Green, Parkville (Melbourne)	15
4	Building height controls in Victoria	17
4.1	Mandatory Provisions in Planning Schemes	17
4.2	Building Height Controls	17
4.2.1	When are Mandatory Building Height Controls applied?	17
4.2.2	Building Height Controls for the Reformed Residential Zones	18
4.2.3	Building Height Expressed in Metres or Storeys	19
4.3	The State of Play – An Analysis of Current Building Height Controls	19
4.3.1	Building Height Controls in 'Urban' Zones	19
4.3.2	Building Height Controls in Design and Development Overlays	20
4.4	Summary of Building Height Controls in Victoria	21
5	Case Studies	22
5.1	The Green – Parkville Gardens (Galada Avenue)	22
5.1.1	Development Data	22
5.1.2	Project Discussion	23

5.2	93 Wattletree Road, Armadale (Proposed)	24
5.2.1	Development Data	24
5.2.2	Project Discussion	25
5.3	757-763 Toorak Road, Hawthorn East	25
5.3.1	Development Data	25
5.3.2	Project Discussion	26
5.4	\General Residential Zone – Hypothetical	26
5.4.1	Hypothetical Development Data	27
5.4.2	Hypothetical Project Discussion	27
6	Interstate Comparative Analysis	28
6.1	Building Height within Australia	28
6.2	State Planning Systems	28
6.2.1	New South Wales	28
6.2.2	Queensland	29
6.2.3	South Australia	29
6.2.4	Tasmania	30
6.2.5	Western Australia	31
6.3	Interstate Comparison Matrix	32
6.4	Increasing the Height of an Approved Development	32
6.4.1	Key Findings from Interstate Comparison	33
7	Recommendations	34
7.1	Overview	34
7.1.1	Policy Support	34
7.1.2	A New Particular Provision	34
7.1.3	Revised Notice Provisions	35

1 INTRODUCTION

Tract Consultants have been engaged by Forest and Wood Products Australia Limited (FWPA) to review how planning controls relating to building height affect the consideration of timber as a structural building material. In particular, this report investigates how the unique characteristics of timber buildings are disadvantaged, compared with traditional concrete construction, by mandatory height controls that do not accommodate the higher floor to floor requirements of timber.

This report has been prepared to assist stakeholder engagement and negotiations surrounding potential changes to the Victorian Planning Provisions (VPPs) to address the disadvantages facing timber buildings.

This report provides:

- Background information on FWPA and the benefits of timber construction.
- A preliminary review of relevant building height requirements under the VPPs and an analysis of their potential impact on buildings of timber construction.
- A summary of selected timber building case studies.
- A high-level review of planning policy and controls on building height within *NSW, QLD, SA, WA and TAS* planning legislation.
- Recommendations to address the issue.

This report is primarily concerned with low to mid rise multi level buildings, ranging from 3 storeys to approximately 10/15 storeys. Buildings below 3 storeys normally use timber as the conventional building material and buildings over 10/15 stories are not typically constructed from timber.

1.1 The Problem with Timber Buildings and Victorian Planning Controls

Multi level buildings have been traditionally constructed primarily from concrete. In recent times, there has been a surge in the popularity of mid-rise timber construction methodologies, including the use cross laminated timber or other highly engineered timber. Timber construction has a number of environmental, economic and social benefits compared to concrete construction, as detailed in Section 2.2.

Because timber has different strength and weight properties to concrete, the depth of the timber floor system will generally be deeper than those required for a concrete floor. Therefore, the overall height of timber buildings is generally higher than concrete buildings with the same number of stories.

A comparison of the floor systems for concrete and timber construction techniques indicate a variation of the floor system of approximately 250mm. This comparison is illustrated in **Figure 1**, which shows a section of a five storey building constructed with a concrete floor system and a five storey building constructed with a timber floor system. It demonstrates that for a building of equivalent stories, a timber building will be typically 8% higher than a concrete building.

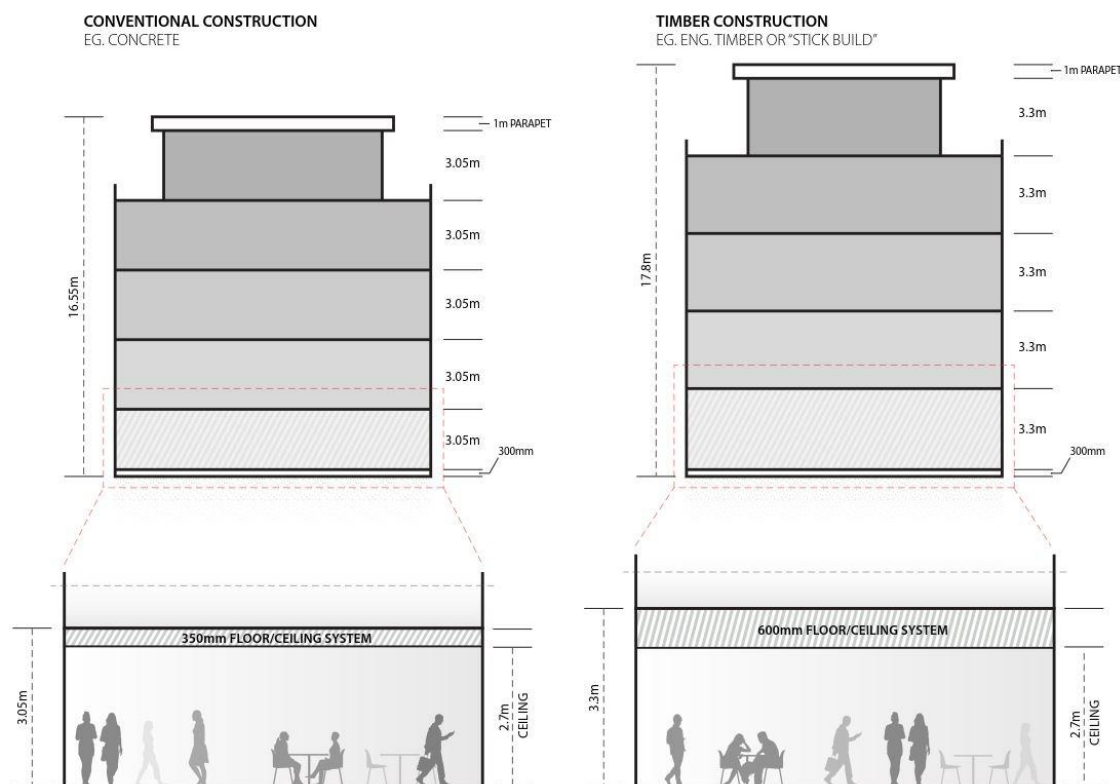


Figure 1 – Comparison of a theoretical five storey building constructed with concrete (left) and timber (right)

This difference in floor system design can create difficulties during the planning permit process where height limits are based on a standard floor-to-floor heights using conventional construction methods. For instance, when comparing the building sections included in **Figure 1**, a difference of approximately 1.25 metres is evident for a 5 level building. If a mandatory height control of 17 metres applied to this building, a concrete building could be constructed at 5 stories. However a timber building would need to be reduced in height to satisfy this requirement, resulting in a four storey building.

In most cases, the loss of a storey and the resulting decline in yield would make the timber option uneconomic, pushing developers and builders back to concrete construction. This is despite the many benefits brought about by the use of timber, such as:

- Timber is a natural material with low embodied energy.
- Timber is a store for carbon, which would otherwise be adding to the greenhouse effect.
- Timber is a material that can be easily recycled.
- Timber offers excellent insulation, thermal performance and fire performance.
- Timber is very durable and easy to maintain.
- Timber is a very versatile material with regard to design and sizing.
- Timber offers health and psychological benefits.

A detailed discussion of the benefits of timber in building construction is detailed in **Section 2.2**

Under discretionary planning controls, Councils can consider a building higher than the prescribed height. This contrasts to the use of mandatory controls, where there is no power to exceed the height limit, despite the benefits of timber and even with Council in-principle support. The increasing number of mandatory height limits used in zones and overlays contained within the VPPs therefore puts timber based buildings at a competitive disadvantage.

A further problem facing timber buildings is where a planning permit has been granted for a concrete building, and a decision is made to convert the building to timber, the consequential height increase (even for the same number of storeys), triggers a permit amendment process. Such processes are typically subject to notice (public advertising) and review (appeal) provisions, which can lead to costly and lengthy

processes. This acts as a strong disincentive to the use of timber buildings and means that a typical developer may not entertain timber as a structural solution.

FWPA are concerned that the current building height controls may unintentionally limit the uptake of timber construction. In such cases, the benefits of timber construction for the Victorian community may not be fully realised.

2 BACKGROUND

2.1 About Forest and Wood Products Australia

FWPA is a Rural Research and Development Corporation (RDC) for the Australian forest and wood products industry. A RDC is a joint Australian Government and industry partnership that invests in research and development to benefit industry and the community.

FWPA was established on 3 September 2007 as an industry-owned unlisted public company limited by guarantee under the Corporations Act. The Company administers statutory levies imposed on businesses and on certain forest products imported into Australia, along with matching Commonwealth funds for approved research and development. The funds are invested for the purposes of conducting research, development, extension and marketing services for the forest and wood products industry.

FWPA's vision is:

"To ensure that forest and wood products are the preferred, sustainable material that meets the market needs"

The Company's mission is:

"To work with stakeholders to identify and deliver collaborative programs that improve the competitiveness, market and community preference for the industry's products."

2.2 The Benefits of Timber Construction

The benefits of timber in construction have been widely documented, and range from environmental benefits, design advantages and improved product performance. A summary of these benefits is found below, sourced from the Woodsolutions (www.woodsolutions.com.au) website.

2.2.1 Environmental Benefits

Timber is a renewable, sustainable resource that provides wide-ranging benefits throughout its life cycle.

- **Wood is renewable** - Wood is the only large-scale renewable building material currently available. The tallest timber building in the world is currently a university residence building called Brock Commons in Vancouver, Canada. It is 18 storeys or 53 metres tall, and incorporates 2,233 cubic metres of mass timber in its structure. Calculations have shown that the volume of timber used would have been regrown in US and Canadian forests in six minutes.
- **Low embodied energy** - Timber can create buildings with low embodied energy. It is often locally available and it is natural, durable and recyclable. Its versatility and light weight means it can be designed to be easy to disassemble, recover, reuse and/or recycle. Indeed a timber frame and timber clad building can use 60% less embodied energy compared with alternative construction techniques.
- **Carbon Storage** - Choosing timber in design and construction can help tackle climate change in several ways. One of the most important is that wood stores carbon. Growing trees absorb carbon dioxide from the atmosphere, emit oxygen and store carbon. Carbon remains locked in the wood

for the life of the piece of timber until it rots, decays or is burnt. It is estimated that 1m³ of timber relieves the atmosphere of 1 ton of CO₂.

- **Recycling and Wood Waste** - It is increasingly common practice to recycle and reuse what would otherwise be timber residue into new products and applications. The versatility of timber is demonstrated in the variety of second life products it makes its way into.
- **Maximising Green Star Ratings** - A focus on the categories of Indoor Environmental Quality, Materials and Innovation shows the potential for green star ratings with timber based construction.
- **Life Cycle Analysis** - The life cycle analysis of timber follows the piece of wood from harvesting, manufacture, construction and product life to recycling and disposal. Life cycle assessments of common alternative construction materials (like cement and aluminium) have shown that many other materials require larger energy inputs during manufacturing. This energy is typically sourced from non-renewable fossil fuels. In contrast the manufacture of wood products typically requires far less energy.

2.2.2 Design Advantages

The Australian Timber Design Awards showcase aesthetically pleasing timber based designs, which include 9 storey timber buildings that utilise the latest wood engineering innovation. Some of the contemporary uses of timber in design include:

- **Bending Members** - Bending members are structural elements subjected to loads that are generally applied perpendicular to their long axis. Bending members are usually horizontal and are often loaded on the narrow face. This allows timber to be shaped into most conceivable shapes.
- **Durability** - Durability is one of the key performance factors used to assess the suitability of a timber species for a specific application. The durability rating of a species is based on the natural ability of the heartwood of that species to resist decay and insect pests (including termites).
- **Residential construction** - Timber can be used for many parts of a residential construction build - from the structural components and external applications through to internal finishes and joinery.
- **Efficiency** - Timber structure can be integrated into the insulating layer and wall structures are usually thinner for timber construction. This can often translate into additional net floor area.

2.2.3 Product Performance

Timber is one of the world's top performing construction materials. Used over centuries, its inherent beauty, strength and durability has seen it remain one of the most popular building materials. Its performance benefits are as follows:

- **Strength Performance** - Timber's superior strength qualities provide a versatile and reliable building material for a wide range of structural applications - from beams, walls and flooring through to formwork and large timber panels. Backed by Australian Standards for design and construction, timber framed construction is tough and reliable. When combined with good design and detailing, it can withstand extreme weather conditions.
- **Acoustic Performance** - Timber performs strongly in the acoustic arena - whether the objective is to enhance sound or reduce sound. Its network of small interlocking wood cells converts sound energy into heat energy by frictional resistance within these cells and by vibrations within their sub-structure.
- **Thermal Performance** - When considering thermal performance issues, timber, a naturally insulating material, makes for an excellent choice. Air pockets within timber's cellular structure create a natural barrier to heat and cold.
- **Fire Performance** - While timber is indeed a combustible material, in construction it has significant insulating properties and burns in a slow, predictable and measurable way. These factors see timber perform strongly against fire and give designers the ability to confidently create strong, durable, fire resistant timber constructions.

3 TIMBER IN THE MEDIA

Timber as a construction material for multi-level buildings has received considerable attention in recent years, and is increasingly acknowledged as a mainstream option for residential and commercial developments. Some of the notable articles for timber buildings have been summarised in this section.

3.1 Timber Construction

3.1.1 Could engineered timber be the building material of the future?

Article Title:	"Could engineered timber be the building material of the future?"
Source / Date:	Create Digital (Engineers Australia), 21 March 2018
URL:	http://www.createdigital.org.au/engineered-timber-building-material-future/
Key Points	<ul style="list-style-type: none"> ■ The article covers the proposed timber building at 25 King Street, Brisbane. ■ Timber is a quicker, cleaner construction material than steel or concrete. It is also renewable and can be used as biomass fuel at the end of its life. ■ The largely automated prefabrication process can accommodate relatively complex shapes and cutting patterns to integrate into the design with little additional cost. ■ Still work to be done for timber to rival concrete and steel in very tall structures and fire safety. ■ The Worlds tallest timber building is expected to be the Mjostarnet building in Norway, which will be around 81 metres when built. ■ The biggest barrier to the uptake of engineered timber construction in Australia is "overcoming the inertia of the status quo".

3.1.2 Does timber high-rise equal high risk?

Article Title:	"Does timber high-rise equal high risk?"
Source / Date:	The Fifth Estate, 30 March 2016
URL:	https://www.thefifthestate.com.au/columns/spinifex/does-timber-high-rise-equal-high-risk
Key Points	<ul style="list-style-type: none"> ■ Highlights the transformative potential of timber in the building and construction industry. ■ Prefabrication and modular construction methods mean that timber can be grown, manufactured and cut to size close to the site, saving around 15 per cent in construction costs. ■ Carbon benefits arise from reduced energy required to heat and cool the building and the sequestering power of the timber. ■ Fire safety is lesser issue than might be perceived as timber burns in a slow, predictable way and provides superior insulation to steel which can buckle and deform in a fire. ■ New Construction Code allows timber buildings up to 25m or 8 storeys as a 'deemed to satisfy' solution.

3.1.3 The Rise of Timber

Article Title:	"Wooden Wonders"
Source / Date:	Monocle - Issue 111, Volume 12, March 2018
URL:	https://monocle.com/magazine/issues/111/wooden-wonders/
Key Points	<ul style="list-style-type: none"> ■ Timber towers are on the rise – it's a cleaner, more sustainable, quicker and quieter form of construction. ■ CLT differs vastly to wood in that it is not 'live' and as such, does not carry the same perceived risks such as rotting, burning or even getting blown down. ■ Ideal for increasing density in cities due to its light weight. ■ Cities in the Pacific Northwest – Vancouver and Portland – are leading the way in mass timber construction. ■ The Moholt student district in Trondheim, Norway, features five nine-storey residential towers, a nursery and a library, forming Europe's largest CLT project.

3.2 Timber Buildings in Australia

3.2.1 World's Tallest Wooden Office Building - 25 King Street (Brisbane)

Article Title:	"Tall Timber: the World's tallest wooden office building to open in Brisbane"
Source / Date:	The Guardian, 20 June 2017
URL:	https://www.theguardian.com/sustainable-business/2017/jun/21/tall-timber-the-worlds-tallest-wooden-office-building-to-open-in-brisbane
Key Points	<ul style="list-style-type: none"> ■ World's tallest timber office building to be completed in 2018. ■ Building height of 10 storeys / 52 metres. ■ References the Planet Ark Study that indicates the benefits of timber use in buildings which includes lowering heart rate and blood pressure. ■ References a RMIT lifecycle assessment study conducted on Forte Building (Melbourne), which concluded it would generate 22% less greenhouse emissions than a traditional concrete building. ■ The use of timber will cut construction time by 6 weeks and require less construction workers.



Image: Proposed 10 storey timber office building at 25 King Street, Brisbane

3.2.2 Adina Apartment Hotel, Southbank

Article Title:	"Innovative 11 storey extension above existing building"
Source / Date:	Frame Australia, 28 May 2018
URL:	http://www.frameaustralia.com/news-media/article/119/innovative-11-storey-extension-above-existing-building.html
Key Points	<ul style="list-style-type: none"> ■ An 11 storey extension on top of an existing building made mostly (9 storeys) of CLT. ■ The CLT for Adina will come from KLH in Austria, with some 4500 cubic metres required. ■ The builder is Atelier Projects. A number of tier-2 builders were considered, but they had little interest in CLT. ■ Completion expected in August 2019.

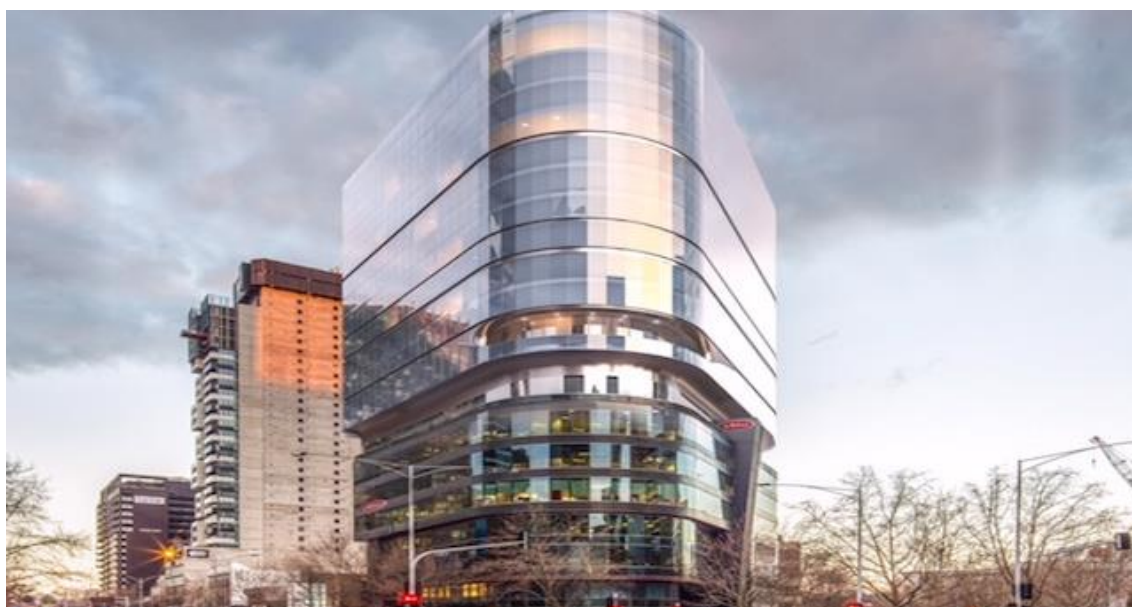


Image: Proposed 11 storey timber extension for the Adina Apartment Building, Southbank

3.3 Forte Building – Docklands (Melbourne)

Article Title:	"Forte by Lend Lease"
Source / Date:	Architecture & Design, 23 October 2014
URL:	https://www.architectureanddesign.com.au/projects/multi-residential/forte-by-lend-lease
Key Points	<ul style="list-style-type: none"> ■ At the time of its completion, Forte was the world's tallest timber apartment building and the first CLT building in Australia. ■ First residential building in Australia to receive a 5 Star Green Star as-built rating. ■ A catalyst for further CLT-constructed buildings to be built in Australia.



Image: Forte Building, Docklands

3.4 Verde Building – Kent Town (Adelaide)

Article Title:	"South Australia's First Timber Apartment Building Under Construction" (completed)
Source / Date:	The Urban Developer, 13 October 2016
URL:	https://theurbandeveloper.com/articles/south-australias-first-timber-apartment-building-construction
Key Points	<ul style="list-style-type: none"> ■ Five storey apartment development. ■ Will be the first timber apartment building in South Australia. ■ Will be the second CLT multi-level apartment building in Australia. ■ The CLT for Verde is imported from Austria. ■ The building is a joint venture between FA Mamac Pty Ltd and Morgan and Hansen.

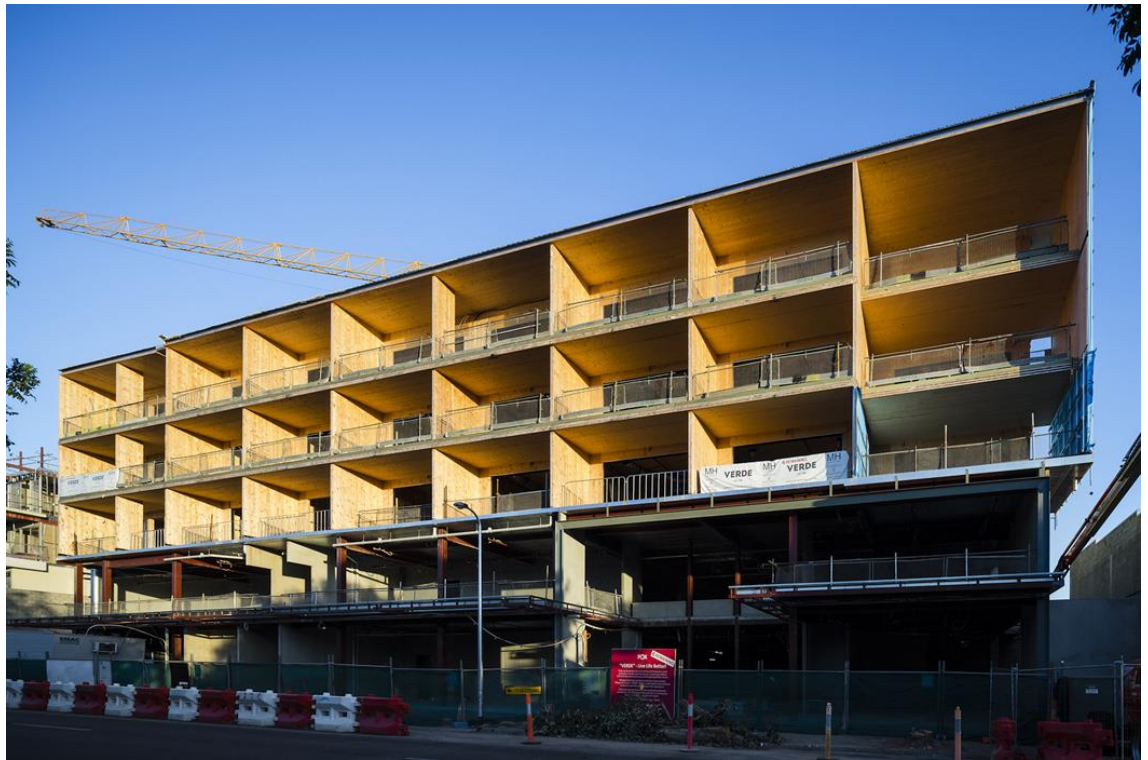


Image: Verde Building (under construction), Adelaide

3.5 The EY Centre (Sydney)

Article Title:	"Tower of Wood: The EY Centre / fjmt" (completed)
Source / Date:	ArchDaily / 2 / June, 2017
URL:	https://www.archdaily.com/8/4444/tower-of-wood-the-ey-centre-fjmt
Key Points	<ul style="list-style-type: none"> ■ Shifting the perception of city towers to 'warm, human and responsive' through the use of sandstone and timber materials. ■ Folded timber planes form a suspended awning and soft interface with the street and public foyer. ■ Timber screening filters light and adjusts automatically depending on position of the sun. ■ The architect is fjmt and the developer is Mirvac.



Image: The EY Centre, Sydney

3.6 Daramu House – Bangaroo (Sydney)

Article Title:	"Lendlease Wins Approval for Timber Tower at Barangaroo"
Source / Date:	The Urban Developer, 8 June 2018
URL:	https://theurbandeveloper.com/articles/lendlease-wins-approval-for-timber-tower-at-barangaroo-
Key Points	<ul style="list-style-type: none"> ■ Lendlease's sixth engineered timber building in Australia. ■ Will include 6 levels of office space constructed from CLT and glulam (glue laminated timber). ■ Other sustainable measures such as roof planting and solar photovoltaic cells to power the precinct.

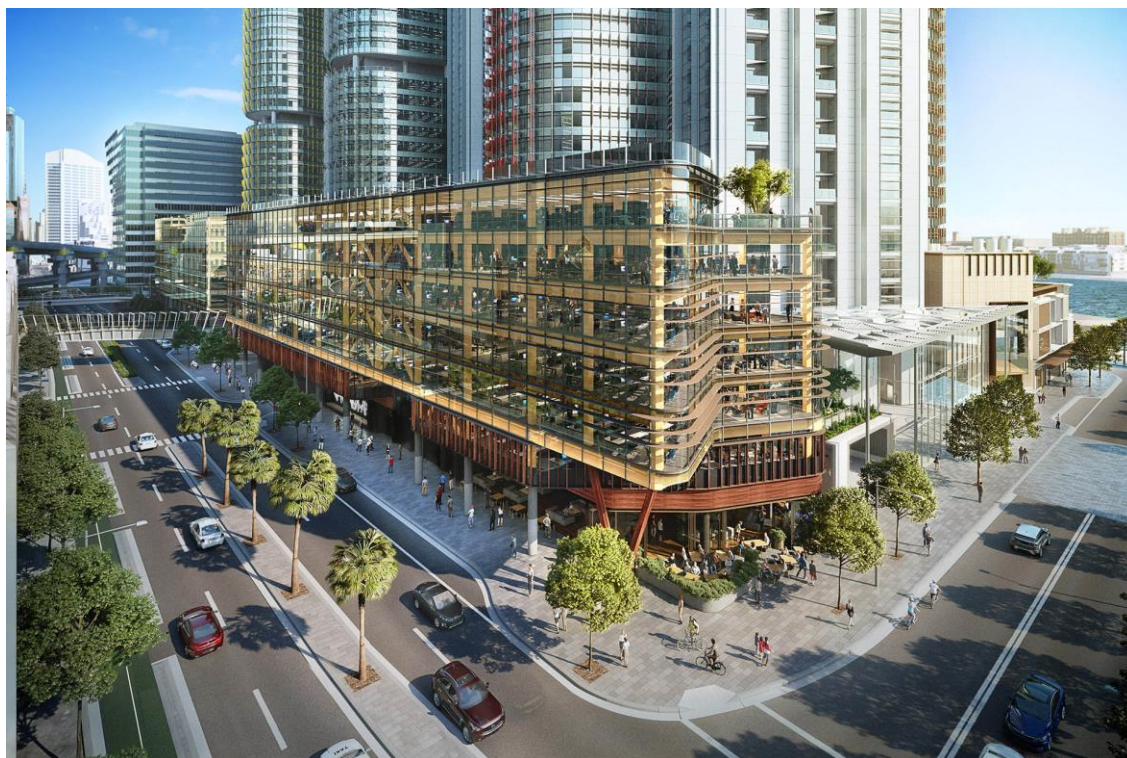


Image: Daramu House (by Lendlease), Barangaroo South

3.7 The Green, Parkville (Melbourne)

Article Title:	'Australand breaks through the affordable multi-resi barrier with timber' (completed)
Source / Date:	The Fifth Estate, 4 July 2014
URL:	https://www.thefifthestate.com.au/innovation/engineering/australand-breaks-through-the-affordable-multi-resi-barrier-with-timber/
Key Points	<ul style="list-style-type: none"> ■ Timber structure, pre-fabricated, affordable, medium density are the principles of 'The Green'. ■ 25 per cent saving on construction costs, compared to conventional concrete. ■ Stick construction provides a opportunity for domestic trades to up-skill in order to build multi-storey timber apartments safely and efficiently.



Image: The Green Apartment Building, by Australand and Citta Property Group

4 BUILDING HEIGHT CONTROLS IN VICTORIA

This section outlines building height controls within Victorian Planning Schemes, with a particular focus on mandatory controls. As discussed in Section 1.1, mandatory controls pose particular problems for timber construction compared to concrete because of the inability of Councils to consider marginal height increases for the same number of stories.

4.1 Mandatory Provisions in Planning Schemes

Planning Practice Note 59 (PN59 - The Role of Mandatory Provisions in Planning Scheme) states that Planning Schemes based on the *Victoria Planning Provisions* (VPP) are predominantly performance based. Planning schemes specify the objective that needs to be achieved and provide a degree of flexibility on how it is achieved. Practice Note 59 states:

"A performance based planning scheme is able to accommodate variation, innovation, unforeseen uses and development or circumstances peculiar to a particular application to produce results beneficial to the community."

Mandatory provisions in the VPP are the exception. The VPP process is primarily based on the principle that there should be discretion for most developments and that applications are to be tested against objectives and performance outcomes rather than merely prescriptive mandatory requirements.

Nevertheless, there will be circumstances where a mandatory provision will provide certainty and ensure a preferable and efficient outcome. Although these circumstances cannot be common practice, they may include areas of high heritage value, strong and consistent character themes, or sensitive environmental locations such as along the coast."

PN59 outlines criteria to consider when introducing a mandatory provision, which include the following:

- *'Is the mandatory provision strategically supported?*
- *Is the mandatory provision appropriate to the majority of proposals?*
- *Does the mandatory provision provide for the preferred outcome?*
- *Will the majority of proposals not in accordance with the mandatory provision be clearly unacceptable?*
- *Will the mandatory provision reduce administrative costs?'*

Despite the underlying objective of performance based planning schemes in Victoria, the above makes it clear that in the case of building heights, mandatory controls are possible, as an exception. Recent panel This leaves the door open for mandatory building height controls.

4.2 Building Height Controls

Building height controls can be expressed as either metres, storeys or both, in the VPP.

Clause /3 of the VPP provides a definition of both 'building height' and 'storeys' as follows:

Building Height

The vertical distance from natural ground level to the roof or parapet at any point'.

Storey

That part of a building between floor levels. If there is no floor above, it is the part between the floor level and ceiling. It may include an attic, basement, built over car parking area, and mezzanine'.

As detailed earlier, building heights expressed as storeys provides the required flexibility, whereas heights expressed in metres, particularly when paired with mandatory controls, create problems for timber buildings.

4.2.1 When are Mandatory Building Height Controls applied?

'Building height' is the most commonly used mandatory control within Planning Schemes. Mandatory building height provisions can be found in Zones of the VPP's and (more appropriately) within overlays

such as the Design and Development Overlay (DDO). In DDO's, schedules are customised by Council's to specify building heights.

Since the major planning reforms of the 1990's, mandatory controls have generally been a rare part of the Victorian planning system. Attempts to adopt mandatory controls by Councils in relation to building heights have historically been resisted by the State Government, citing PN59 which labels them an 'exception'.

However, in recent times, there has been increased use in mandatory height controls to achieve the desired built form outcomes throughout Melbourne, where they cannot be addressed appropriately by discretionary provisions. Maximum building heights provides the community with greater certainty about the scale of development they can expect in their neighbourhoods. For this reason, they are politically attractive and usually a main focus of resident campaigns and objector groups.

Recent Planning Panel reports have adopted a more accommodating position towards mandatory controls, particularly in inner and middle suburbs.

As the pendulum swings back towards 'certainty' from 'flexibility' in the drafting of statutory controls, mandatory controls are expected to play a larger role in Victorian planning.

4.2.2 Building Height Controls for the Reformed Residential Zones

A recent example of mandatory building height controls being introduced is in the new residential zones introduced as part of Amendment VC104, and refreshed as part of Amendment VC110. This incorporated mandatory building height control, with a reference to both storeys and metres, across large swathes of cities and towns across Victoria.

The new residential zones included mandatory building height controls within the Neighbourhood Residential Zone (NRZ) and General Residential Zone (GRZ) and discretionary building height controls for the Residential Growth Zone (RGZ). A summary of these requirements are detailed in **Table 1** below.

The 'Managing Residential Development Advisory Committee Report' (14 July 2016), setup to review the zones following their introduction, identified a large number of submissions received both in support and opposition for the use of mandatory height controls. A number of Council's supported the use of mandatory height controls, as they provide certainty for the community, expedite decision making and reduce appeal processes. Conversely, strong opposition to mandatory height controls was made from the private sector including consultants and developers.

The Property Council Australia (Victorian Division) made a submission to the Advisory Committee regarding changes to the National Construction Code that allows a greater use of timber frames, noting that as a result, overall heights of buildings will be greater than those constructed on concrete slabs. The submission said:

"In light of this progress in construction techniques, we request that this issue be resolved by altering the mandatory height limits to determine the number of storeys (or another measure), rather than using the current standard. This would allow architects, structural engineers and other consultants to test various system options and to find the most efficient solution. The current mandatory height limits as they are written in the zones put timber based solutions at a competitive disadvantage."

Furthermore, the Australian Institute of Architects was also critical of the mandatory height controls, saying:

"... one effect of mandated outcomes has been a greater focus on height rather than design as the relevant arbiter of what defines acceptable development, resulting in a lack of innovation and limitations on the diversity of housing types available in the market. An approach which includes both consideration of planning aspects – including but definitely not limited to height limits – and specific responses based on the context of the site and surrounds complemented by excellence in design – should be the key measure in assessing the impact of any development."

The Committee acknowledged that there would be an ongoing debate as to whether heights should be mandatory or discretionary. The Committee confirmed that allowing a mandatory building height control in the General Residential Zone and Residential Growth Zone is contrary to their purposes which, among others, anticipate residential growth and change.

Notwithstanding the recommendation of the Committee, a default mandatory height control was applied to the General Residential Zone in both metres and storeys. A default discretionary building height control has been maintained for the Residential Growth Zone.

4.2.3 Building Height Expressed in Metres or Storeys

The use of mandatory building height controls expressed in metres (as the most problematic combination for timber buildings) has been extensively considered by Victorian Planning Panels. This is particularly the case for amendments seeking to apply new planning controls for urban renewal areas, including the use of DDOs.

The Panel Report for the Arden Macaulay Structure Plan Melbourne Amendment C190 addresses this issue in detail. The Planning Panel for that amendment said:

- *"There is considerable debate about whether heights should be expressed in metres or storeys. Part of the debate stems from the fact that a different floor to ceiling height might be appropriate in different circumstances, depending on use. Where protection of views or the creation of a consistent built edge is required then specification in metres is appropriate. When the issue is one of pedestrian-friendliness or maintaining low scale development, then perhaps specification in storeys is appropriate. In some cases, it may be necessary to specify both."*
- *The use of storeys to give the community and designers a visual impression of the height of development that is promoted in each sub-precinct is appropriate.*
- *These height levels are proposed based on character and broad strategic issues, as opposed, to say, the Shrine vista controls that are set on a more precise basis of a view line. Given that the controls are aimed primarily at achieving a character outcome we believe the controls could be expressed in storeys."*

The Panel recommended that where height controls are aimed primarily at achieving a character outcome, then those controls should be expressed in storeys as opposed to a combination of storeys and metres. This was seen to *"give the community and designers a visual impression of the height of development that is promoted in each sub-precinct."*

From recent panels, a more nuanced approach is evident. In summary, the following conclusions can be drawn in relation to the use of storeys or metres:

1. Building height controls relating to a built form character context or broad strategic issues should be expressed in storeys.
2. Building height controls relating to the protection of views (eg. views to the Shrine of Remembrance or along the coastline) or a consistent built edge should be specified in metres.

When considering these conclusions, the use of 'storeys' would be expected to be the more common approach used to control building height. However, in practice this is not necessarily the case, with many recent examples of mandatory building heights in metres across Melbourne. This is an age-old debate that is likely to continue to suffer from a variety of approaches.

4.3 The State of Play – An Analysis of Current Building Height Controls

This section seeks to review how prevalent mandatory controls are, particularly when expressed in meters. It does this by examining the most common zones within the VPP and also the overlay that most commonly contains built form controls - the DDO.

4.3.1 Building Height Controls in 'Urban' Zones

A summary of current building height controls contained within the 'urban' zones of the VPP is detailed in **Table 1** below. Collectively, these cover the vast majority of Victoria's cities and towns.

Table 1 – The Use of Building Height Controls in Zones

Zone	Clause Reference	Mandatory	Metres / Storeys
Neighbourhood Residential Zone (NRZ)	Clause 32.09-9	Yes	9 metres and 2 storeys

General Residential Zone (GRZ)	Clause 32.08-9	Yes	11 metres and 3 storeys
Residential Growth Zone (RGZ)	Clause 32.0/-8	No	13.5 metres
Mixed Use Zone (MUZ)	Clause 32.04-10	Optional	Optional in schedule
Commercial 1 Zone (C1Z)	N/A	N/A	N/A
Commercial 2 Zone (C2Z)	N/A	N/A	N/A
Industrial Zones (InZ)	N/A	N/A	N/A
Special Use Zone (SUZ)	Schedule	Optional	Optional in schedule
Comprehensive Development Zone (CDZ)	Schedule	Optional	Optional in schedule
Capital City Zone (CCZ)	N/A	N/A	N/A
Docklands Zone (DZ)	N/A	N/A	N/A
Activity Centre Zone (ACZ)	Schedule	Optional	Optional in schedule

Note: Some of heights can be varied by Councils through a schedule.

The NRZ and GRZ affect significant areas of land throughout Metropolitan Melbourne and as such it can be said that the majority of Melbourne is now affected by mandatory height controls.

4.3.2 Building Height Controls in Design and Development Overlays

The DDO is the preferred planning instrument for implementing discretionary and mandatory building heights.

Practice Note 60- Height and Setback Controls for Activity Centres (June 2015) states that:

"the design objectives and decision guidelines contained within the DDO must be well structured and carefully worded to provide clear guidance to both decision makers and designers. This will ensure that any proposal to depart from the nominated heights and setbacks will be able to be rigorously assessed against a clear set of criteria, thereby minimising the likelihood of approval of a proposal which does not implement the design objectives of the DDO."

The Practice Note also states that the preferred expression of building height is in metres and that where building height is expressed as 'storeys', it should also be expressed as a preferred height in metres.

To better understand the use of building height controls in DDO's, a review of the DDO schedules of three (3) metropolitan Melbourne Council's has been undertaken, including City of Yarra (inner city), City of Boroondara (middle suburban) and City of Kingston (middle/outer suburban). Importantly, these Council's allow for low and mid-rise development (up to 10 storeys) and generally discourage high rise development, consistent with the scope of this study. A summary of the relevant DDO schedules that include building height controls for each of the three Councils is provided in **Appendix A**.

A summary of the findings for each Council is presented in **Table 2** below. It shows that the City of Boroondara has the highest usage of mandatory height controls in DDO schedules that concern building height (67%), compared with City of Yarra which primarily uses discretionary controls (9% mandatory). Furthermore, expressing building heights as meters was the most common height expression, with only 11% of DDO Schedules for each Council using 'storeys'.

Table 2 – Summary of DDO Building Height Controls in Boroondara, Kingston and Yarra Councils

Consideration	Boroondara (9 Schedules)	Kingston (11 Schedules)	Yarra (11 Schedules)
Use of Mandatory Height Controls (%)	67%	27%	9%
Expression in metres (%)	89%	45%	82%
Expression in Storeys (%)	11%	9%	None
Expression in both metres and storeys (%)	None	45%	18%

It is acknowledged that an analysis of three Councils provides a limited sample size and the data in **Table 2** is likely to vary across other Council's. Notwithstanding this, the data suggests that building height, whether mandatory or discretionary, is typically expressed as metres or both metres and storeys. The expression of building height controls in 'storeys', the most advantageous expression for timber buildings, is not common in DDO's.

4.4 Summary of Building Height Controls in Victoria

In view of the above, the following can be concluded about building height controls in Victoria:

- Mandatory controls in the VPP's are intended to be the exception in line with Planning Practice Note 59 (The Role of Mandatory Provision in Planning Schemes).
- The use of mandatory building height controls has become increasingly common in Melbourne Planning Schemes, as demonstrated by the recently introduced controls for the reformed Residential Zones.
- The 'Managing Residential Development Advisory Committee' recommended that building height controls in the GRZ and the RGZ be discretionary, consistent with their purpose which includes the anticipation of residential growth and change. In the case of the GRZ, this was not what was implemented.
- Having regard to recent Panel Reports, the use and expression of building height controls should reflect the purpose of the planning control including:
 - Building height controls relating to a built form character context or broad strategic issues should be expressed in storeys.
 - Building height controls relating to the protection of views (eg. views to the Shrine of Remembrance or along the coastline) or a consistent built edge should be specified in metres.
- The majority of Melbourne is affected by the NRZ or GRZ and therefore constrained by mandatory building height controls expressed in both metres and storeys.
- The expression of building height controls in 'storeys' is not common in DDO's, despite the recommendations of recent Planning Panel Reports.

5 CASE STUDIES

This section describes three case studies involving timber buildings, and a hypothetical development under current mandatory height controls. They are provided to illustrate the construction differences and benefits of timber and the treatment of timber buildings in the Victorian planning system.

5.1 The Green – Parkville Gardens (Galada Avenue)

5.1.1 Development Data

Type of Construction:	'Stick build' timber building
Building Height / Storeys:	18.1 metres / 5 storeys
Floor/ceiling system depth:	0.6 metres (600mm)
Floor to ceiling height:	2600mm
Status of development:	Construction completed 2014
Status of Planning Approval:	Approved in 2012
Zoning at time of approval:	Residential 2 Zone (no building height limit)
Current Zoning:	Residential Growth Zone (discretionary 13.5 metre height limit)



Image: East Elevation of The Green building (prepared by Point Architects)

5.1.2 Project Discussion

In 2015, the Green was the tallest timber building in Australia and was the winner of the Judges Innovation award in the 2014 Australia Timber Design Awards. The building was developed by the Citta Property Group in collaboration with Frasers Property Australia.

The structure consists of a concrete car park below podium level while above the podium, all five levels were constructed completely in timber. The timber frame superstructure was erected using prefabricated timber walls, floors and roof trusses that were manufactured off-site and delivered for installation.

A unique cassette floor system was used to address acoustic, fire proofing, fabrication, transport and lifting challenges. The final cassette floor system had a depth of **600mm**, which confirms the assumptions made in Section 1 of this report regarding floor system depth for timber construction.



Image: Installation of the cassette floor system for the Green

The project demonstrated significant cost and construction timing advantages. With the utilisation of the domestic labour force and building materials, a cost saving of up to 25% of built costs per apartment over conventional concrete was achieved. Furthermore, the actual timber construction time (including roof trusses and floor cassettes) was only 12 weeks out of the 12 month build program.

The zoning of the Site at the time of planning approval was a discretionary building height control, which did not constrain the design of the building. Under the current zoning (RGZ), the project would exceed the discretionary building height limit by approximately 4.6 metres. As the control is discretionary, Council has the power to consider buildings beyond the height control.

5.2 93 Wattletree Road, Armadale

5.2.1 Development Data

Type of Construction:	Engineered timber (Cross Laminated Timber)
Building Height / Storeys:	17.8 metres, 5 storeys (excluding lift overrun)
Floor/ceiling system depth:	0.64 metres (640mm)
Floor to ceiling height:	2700mm
Status of development:	Planning Permit Amendment Stage, following gazettal of Amendment C223 (A permit has been issued for a concrete building)
Zoning at time of approval:	Residential Growth Zone – Schedule 2 (mandatory 13.5 metre height limit)
Current Zoning:	Residential Growth Zone Schedule 3 – building height recently updated by Amendment C223.
Type of Construction:	Engineered timber (Cross Laminated Timber)



Image: Artists impression of development viewed from Wattletree Road (prepared by CHT Architects)

5.2.2 Project Discussion

The Hermal Group, as owners, were successful in obtaining a planning permit for the construction of a four storey concrete building in August 2016, which reached a height of 13.25m. The site has a maximum mandatory building height of 13.5m.

Since the issue of this permit, the Hermal Group reviewed the design of the building and have elected to use a timber structure and best practice ESD and acoustic design measures. The floor/ceiling system proposed has a depth of approximately 640mm. A section of the proposed floor system is shown below.

This meant that a four story timber building, adopting the same floor layout as approved, would have a height of approximately 14.25m, exceeding the mandatory height of 13.5m. Accordingly, the building height exceeded the default mandatory height limit by 750mm and was **prohibited**.

Whilst the planning controls were loosened in Amendment C223, significant time delays have been experienced in waiting for the gazettal of Amendment C223 to enable a timber building to proceed.

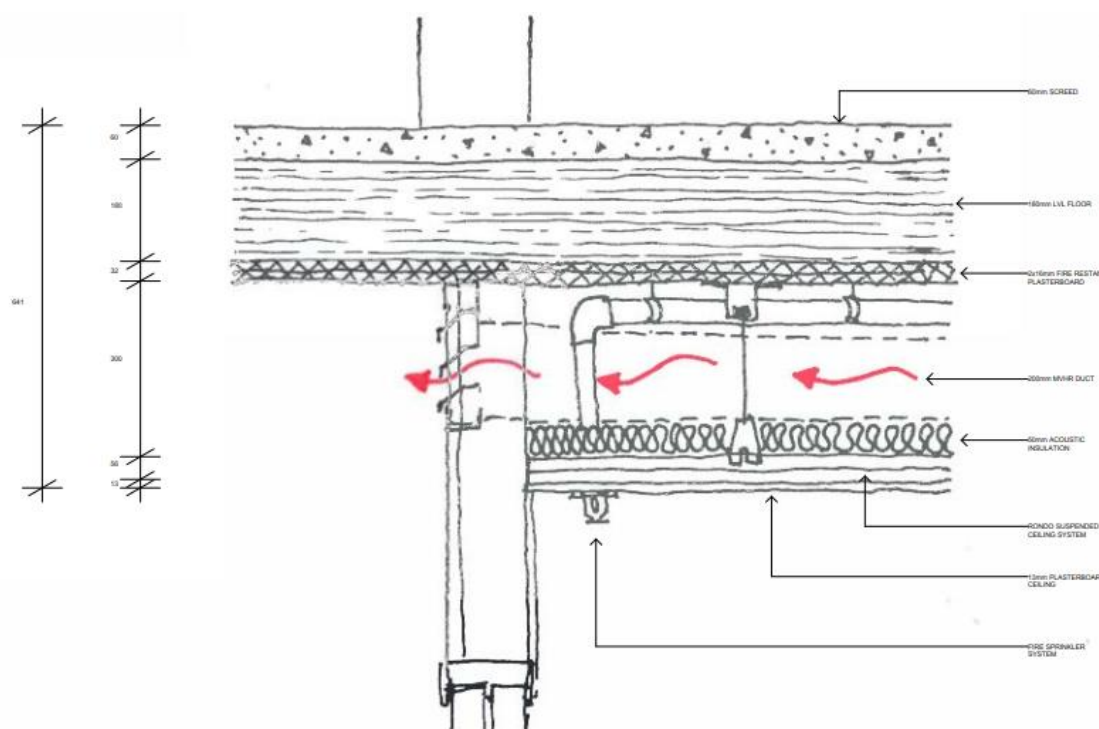


Image: Section of the proposed floor system (prepared by CHT Architects)

5.3 757-763 Toorak Road, Hawthorn East

5.3.1 Development Data

Type of Construction:	Concrete structure
Building Height / Storeys:	19.7 metres (excluding lift overrun) / 6 habitable storeys
Floor/ceiling system depth:	200-300mm
Floor to ceiling height:	2600 – 2700mm
Status of development:	VCAT Planning Permit issued on 12 September 2017
Planning Controls	Mixed Use Zone – No Height Limit Design and Development Overlay (DDO1 /) – mandatory maximum street wall height of 16 metres



Image: Artists impression of development viewed from Toorak Road

5.3.2 Project Discussion

This project received a planning permit on 12 September 2017 through VCAT for the construction of a 7-storey building (6 habitable storeys).

The mandatory street wall height of 16 metres just allows for a 5 storey building using concrete. The floor system was only 200-300mm in height to ensure the mandatory street wall height was not breached. The developer (Equire) considered using timber for construction purposes, but was quickly ruled out due to the additional height required for floor systems which would result in the mandatory street wall height being exceeded.

To overcome this, floor to ceiling heights would have required reduction to less than 2700mm or the loss of an entire story. Understandably, both options were not attractive to the developer.

An increase in the building height would have also required an amendment to the planning permit and likely advertising to adjoining properties.

The development is set to proceed with concrete construction. Had the street wall height been discretionary or used storeys, the use of timber would have been much more palatable to the developer.

5.4 General Residential Zone – Hypothetical

This example seeks to analyse a hypothetical timber building within the GRZ, which is the most common residential zone and affects a significant amount of land within Melbourne.

The default mandatory height control for the GRZ is for 3 storeys and 11 metres (unless the Site has a slope greater than 2.5 degrees). For the purposes of this case study the following allowances have been assumed:

- Foundation structure of 300mm above ground.
- A floor/ceiling system depth of 600mm.
- Floor to ceiling heights of 2700mm.
- A roof height of 1500mm (which would allow for a pitch).

5.4.1 Development Data

Type of Construction:	'Stick build' timber building
Building Height / Storeys:	11.1 metres (assuming no lift overrun) / 3 storeys
Floor/ceiling system depth:	0.6 metres (600mm)
Floor to ceiling height:	2/00mm
Status of development:	Hypothetical
Zoning:	General Residential Zone (mandatory 11 metre / 3 storeys height limit)

5.4.2 Hypothetical Project Discussion

The hypothetical development described in above would exceed the mandatory building height control by 100mm.

It is important to note that the assumptions used as somewhat conservative with respect to floor to ceiling height and potential roof height. The hypothetical development could be brought into compliance with the mandatory control by using a parapet roof form. However, as the GRZ affects many established suburban areas, this design approach may heighten any neighbourhood character tension.

The example seeks to highlight that the current mandatory control of the GRZ, which affects large areas of Melbourne, may unreasonably constrain the potential for timber buildings. It would appear that an additional 10% (1.1 metres) would provide greater flexibility and competitiveness for the use of timber buildings.

6 INTERSTATE COMPARATIVE ANALYSIS

6.1 Building Height within Australia

Building height controls are a universal component of all planning systems in Australia, but the planning systems in operation in every state vary. In this regard, it is useful to review the approaches taken in other states to understand whether there are any lessons that can be applied to Victoria.

This section has sought to answer the following questions:

- Are mandatory building height controls used?
- How are building heights expressed? (eg. metres, storeys or both)
- Are there any special building height allowances for timber buildings?

A summary of the responses for each State are provided in the sections below.

6.2 State Planning Systems

6.2.1 New South Wales

- *Are mandatory building height controls used?*

Building height is controlled in NSW through Clause 4.3 of the relevant Local Environmental Plan (LEP).

Objective 2 of Clause 4.3 of each LEP states the following:

"The height of a building on any land is not to exceed the maximum height shown for the land on the Height of Buildings Map."

Maximum building height limits are usually specified on the relevant 'Height of Buildings Map' for each Council.

Importantly, there is an element of discretion available for building height in LEP's. A variation from the development standards including height of buildings can be sought under Clause 4.6. However, Development Consent must not be granted for development that contravenes a development standard unless:

- (a) *'the consent authority is satisfied that:*
 - *the applicant's written request has adequately addressed the matters required to be demonstrated by subclause (3), and*
 - *the proposed development will be in the public interest because it is consistent with the objectives of the particular standard and the objectives for development within the zone in which the development is proposed to be carried out, and*
- (b) *the concurrence of the Secretary has been obtained'.*

Additionally, floor space ratios are also set out in LEP's which can incidentally limit building height, as shown on Floor Space Ratio Maps.

- *How are building heights expressed? (eg. metres, storeys or both)*

Building height is generally expressed in metres.

For certain areas and sites, building height is shown in RL. Generally, RL applies to the following areas:

- A master plan has been prepared by a Council or land owner;
- Sites with significant value (i.e. heritage items) or required protection (i.e. solar access); and
- Areas of significant importance (i.e. North Sydney CBD).
- *Are there any special building height allowances for timber buildings?*

As discussed above, a variation from the building height development standard can be sought under Clause 4.6 of the LEP.

For some NSW Councils, a special clause has been incorporated into the LEP which provides additional building height and/or floor space for sites which exceed a nominated site area. The intent of the clause is to encourage and facilitate the amalgamation of sites to enable redevelopment. Examples of the clause are provided below:

- *‘Despite subclause (2), if an area of land in Zone R3 Medium Density Residential or Zone R4 High Density Residential exceeds 2,000 square metres, the height of a building on that land may exceed the maximum height shown for the land on the Height of Buildings Map but must not exceed 22 metres.*
- *Despite subclause (2), if an area of land in Zone R3 Medium Density Residential or Zone R4 High Density Residential exceeds 2,000 square metres, the floor space ratio of a building on that land may exceed the maximum floor space ratio shown for the land on the Floor Space Ratio Map but must not exceed 1.5:1.’*

Additionally, if a proposal demonstrates design excellence, some LEP’s may allow a development to exceed the building height or floor space ratio, to be determined by the consent authority, of up to 10%. A ‘building demonstrating design excellence’ is defined as:

“A building demonstrating design excellence means a building where the design of the building (or the design of an external alteration to the building) is the winner of a competitive design process and the consent authority is satisfied that the building or alteration exhibits design excellence.”

An example of the design excellence provision can be found in Clause 6.21 of the Sydney LEP 2012.

6.2.2 Queensland

- *Are mandatory building height controls used?*

The Queensland *Planning Act 2016* does not provide for mandatory (non-negotiable) building height controls. The state assigns all building height decisions to local government through individual planning schemes, which are discretionary and performance based.

Notwithstanding that building height controls are discretionary, it is not common for Council’s to support development that exceeds prescribed building heights. Building height controls may trigger an impact assessment for certain types of development to determine if:

- *‘they are an appropriate outcome in the proposed location.*
- *adverse impacts of the proposal can be appropriately mitigated to acceptable levels’.*

- *How are building heights expressed? (eg. metres, storeys or both).*

Planning schemes generally use both metres and stories.

Building height is specified:

- a) *‘in metres, the vertical distance between the ground level and the highest point of the building roof (apex) or parapet at any point, but not including load-bearing antenna, aerial, chimney, flagpole or the like; or*
- b) *in storeys, the number of storeys above ground level; or*
- c) *in both metres and storeys, both (a) and (b) apply.’*

- *Are there any special building height allowances for timber buildings?*

There are no special building height allowances for timber buildings in Queensland.

6.2.3 South Australia

- *Are mandatory building height controls used?*

Building height is discretionary in all Development Plans (equivalent to Planning Schemes), unless stipulated as a ‘non-complying’ development trigger within the relevant zone provisions.

For example, a building that exceeds 12.5 metres above the public footway level within the Office Zone of the Burnside Development Plan (Consolidated 19 December 2017) is a non-complying development.

Non-complying developments are listed in a Development Plan and are land uses or developments which are not envisaged or encouraged within a particular area. Non-complying development will generally be inconsistent with the objectives and principles of the zone or policy area that they are in. Non-complying development is not usually approved unless it is a special circumstance.

An application can still be made to a planning authority for a non-complying development under Regulation 17 of the *Development Regulations 2008*. However, the assessment process for a non-complying development is arduous. Development Plan Consent for a non-complying development cannot be obtained without support from both Council's Development Assessment Panel and the State Commission Assessment Panel. This process, if successful, can take 12 months or more. If refused, there are no appeal rights afforded to applicants.

- *How are building heights expressed? (eg. metres, storeys or both).*

Building height is expressed in metres, storeys or both. This is particularly the case given Development Plan formats and policies are not consistent throughout South Australia.

The South Australia planning system is currently in a state of transition. The Planning, Development and Infrastructure Act 2016 was recently gazetted, which sets up for a range of planning reforms to be implemented by 2020. The Department of Planning, Transport and Infrastructure have commenced a range of initiatives, including significant consultation of a new planning policy framework. One of the aspects of the new planning framework is likely to be consistent expression of building height throughout the State. It is understood that discretionary height controls will be preferred over mandatory controls.

- *Are there any special building height allowances for timber buildings?*

There are no special building height allowances for timber buildings in South Australia.

However, a timber building is likely to be easier to justify as an appropriate non-complying development because of its environmental, social and economic benefits.

6.2.4 Tasmania

- *Are mandatory building height controls used?*

There is a mix of discretionary and mandatory building heights.

Within the 'Interim Planning Scheme', the height specified may be altered if the proposal is deemed to meet certain Performance Criteria, such as:

The siting and scale of a dwelling must:

(a) *Not cause unreasonable loss of amenity by:*

- i. *Reduction in sunlight to a habitable room (other than a bedroom) of a dwelling on an adjoining lot; or*
- ii. *Overshadowing the private open space of a dwelling on an adjoining lot; or*
- iii. *Overshadowing of an adjoining vacant lot; or*
- iv. *Visual impacts caused by the apparent scale, bulk or proportions of the dwelling when viewed from an adjoining lot; and*

(b) *Provide separation between dwellings on adjoining lots that is compatible with that prevailing in the surrounding area.*

However the Performance Criteria can specify a maximum building height which cannot be altered, such as:

Building height must satisfy all of the following:

- (a) *be consistent with any Desired Future Character Statements provided for the area or, if no such statements are provided, have regard to the landscape of the area;*
- (b) *be sufficient to prevent unreasonable adverse impacts on residential amenity on adjoining lots by:*
 - v. *overlooking and loss of privacy;*

- vi. *visual impact when viewed from adjoining lots, due to bulk and height;*
- (c) *be reasonably necessary due to the slope of the site;*
- (d) *be no more than 8.5 m'.*

- *How are building heights expressed? (eg. metres, storeys or both)*

Building height is generally expressed in metres.

- *Are there any special building height allowances for timber buildings?*

There are no special building height allowances for timber buildings in Tasmania.

6.2.5 Western Australia

- *Are mandatory building height controls used?*

Building heights are under the control of each local authority and vary widely. The Perth CBD for example does not have any building height controls whereas most suburban Councils limit development to 8.5m unless its in a town centre. This was established principally to manage visual impacts.

To date the approach by Councils has been to 'enshrine' absolute height limits in planning schemes. However, the newer planning schemes now defer these more technical matters (along with plot ratios, setbacks, etc) to subordinate planning instruments such as Local Area Plans where each precinct can have a more refined vision and prescribed outcome. In these cases there is often discretion and whilst they may state a floor height limit as a starting point there are often incentives and variances allowed should certain standards of excellence be met.

In summary, the system is becoming more performance based with greater reliance on discretionary controls.

- *How are building heights expressed? (eg. metres, storeys or both)*

Councils use both however generally there is a move towards storeys.

- *Are there any special building height allowances for timber buildings?*

There are no special building height allowances for timber buildings in Western Australia.

6.3 Interstate Comparison Matrix

A comparison of the different States is provided in **Table 3** below.

Table 3 – Comparison of Interstate Mandatory Building Height Controls

State	Use of Mandatory Height Controls	Building Height Expression (metres, Storeys or both)	Any Special Allowances for Timber Buildings?
NSW	No , discretionary controls can be varied through a rigorous assessment process.	Metres	No
QLD	No , building height controls are discretionary and can be varied through an impact assessment process	Metres, storeys or both	No
SA	No , discretionary controls can be varied through a rigorous assessment process.	Metres, storeys or both	No
TAS	Sometimes , but otherwise discretionary.	Metres	No
VIC	Yes . Mandatory controls cannot be varied.	Metres, storeys or both (primarily metres)	No
WA	Yes , however recently reformed Planning Schemes allow for discretion.	Metres, Storeys or both. Moving towards storeys	No

It is clear from Table 3 that mandatory building height controls are uncommon across Australia. Interestingly, the NSW, QLD and SA planning systems readily allow for variations to building height controls, but only through a long and rigorous planning assessment process.

The expression of building height controls are mixed in all States except NSW and TAS, which only use metres. Interestingly, WA is moving towards the use of 'storeys' to express building height.

No state has any special building height allowances for timber buildings, which is not surprising given timber buildings in multi level construction is a relatively new phenomenon. Where height limits are discretionary, in most states the argument for additional height is strengthened because of the benefits of timber construction.

6.4 Increasing the Height of an Approved Development

When a planning approval has been issued for a development using conventional construction materials, it is useful to understand what the planning process would be to amend or vary this approval to allow for additional height needed for the timber construction.

As discussed in Section 1.1, as timber buildings are typically taller for the same number of storeys, any additional process to have the taller building approved acts as a disincentive to utilising timber. Delays can commonly result when an amendment need to be 'notified' to adjoining residents, which gives rise to opportunities for objections and further delays.

Each state uses different terms to describe this process but most commonly it is referred to as a 'permit amendment' or 'development consent variation'. A summary of the amended approval process for permitted developments for each State is summarised in **Table 4** below.

Table 4 – Comparison of Amending an Approved Development

State	Amended or Variation Application Reference	Is notice required for an amended application to increase building height?	Estimated timeframe for an Amended Planning Approval
NSW	Section 4.55 – Modifications of consents	Yes, unless specifically exempt	3-12 months
QLD	'Minor change' (Section /8) or 'substantially different development' (Section 68)	Dependent on the extent of additional building height	1-3 months (minor amendment) 4-12 months (if fresh impact assessment application required).
SA	Effectively a new Development Plan Consent Application with a focused assessment.	Likely, unless considered to be 'minor nature' Category 1 development	8-12 weeks (if advertising is required).
TAS	Amendment to a permit (Section 56)	Yes, if the original application was a discretionary application	6-12 weeks (if advertising is required)
VIC	Secondary Consent if changes are considered minor, otherwise an Amendment to a permit (Section /2)	No – if a secondary consent. Yes – if amending the permit, unless specifically exempt from notice provisions of the Act.	21 days for secondary consent. 60 days for Section /2 Amendment.
WA	Effectively a Planning Approval Application	Yes	60 days

All States have an assessment mechanism for amending a planning approval, whether minor or otherwise. The scale of the height difference would ultimately determine whether such an amendment would be 're-notified' to adjoining properties. Table 4 indicates that more often than not, an increase in building height is likely to be matter that requires re-notifying of adjoining properties.

No state has a special process for amending a permit to allow for timber construction.

6.4.1 Key Findings from Interstate Comparison

The key findings from the review of interstate regarding building height controls are:

- Mandatory building height controls are not used in most states.
- The expression of building height controls are most commonly in metres. However, in WA there is a shift to change building height controls to storeys.
- There are no special building height allowances for timber buildings.
- All states have an assessment mechanism to amend a planning approval.
- An increase in building height as part of an amended planning approval would likely be re-advertised to nearby properties.

7 RECOMMENDATIONS

7.1 Overview

This report has found that the use of mandatory building height controls has increased in recent times and is likely to be a major component within the Victorian Planning system for many years to come. Together with the heavy use of 'metres' to express building height, this is likely to constrain the uptake of timber in building construction due to the additional height often required for the floor/ceiling system.

If timber buildings are to become more common, changes to planning schemes are needed to:

- Allow for timber constructed buildings to marginally exceed height limits, and
- Provide a fast tracked permit amendment process where concrete is being substituted by timber as the primary structural material.

There are various approaches to achieve these goals. Individual changes to planning schemes at the local Council level are likely to be time consuming and ineffective. Changes at the State level through the VPP are more desirable as they would apply across the State.

Understandably, DELWP sets a high threshold for changes to the VPP. Proponents must clearly demonstrate the problem being addressed, why the planning system is best placed to address it, and how the solution can be well drafted without adding to the complexity of the system.

Through the Smart Planning program, DELWP's 'gatekeeper' role in maintaining the VPP has been increased and the level of justification needed is greater.

In this case, the benefits of changes to the VPP to encourage timber construction need to be balanced against the possible negative implications, and safeguards built in to minimise problems and controversy. Both State and Local Governments are sensitive to changes involving building heights as height is commonly the largest issue for planning applications. The possible negative consequences of excessive building height, relevant to this matter, include:

- Overshadowing
- Visual bulk
- Impacts on neighbourhood character
- Overlooking

Any solution needs to be conscious of and build in safeguards for these issues for the solution to be acceptable. It also needs to be conscious that certain places are considered sacrosanct and that any exceedance of height controls in these areas, whether that be for timber or otherwise, is likely to be impossible. This includes special places such as the Shrine of Remembrance and the Yarra River.

7.1.1 Policy Support

To provide overarching policy support for timber buildings, new supportive clauses could be added to Clause 15 (Built Environment and Heritage) of the State Planning Policy Framework. These would encourage the use of timber buildings and provide justification for planning applications that involve timber construction. It would also provide the basis for and assist in the introduction of the statutory changes suggested below.

7.1.2 A New Particular Provision

To address the problem of mandatory controls expressed in metres, a new particular provision could be applied state-wide that would provide special allowance for timber buildings. This would be achieved through the creation of a new particular provision at Clause 53 within the VPPs.

The new Particular Provision would allow a timber building to exceed a mandatory height control, subject to the following safeguards or conditions:

- No more than 10% increase in building height,

- No increase in floor to ceiling height.
- No more stories that would otherwise be allowed in concrete construction.
- Compliance with relevant overshadowing and overlooking controls.

The particular provision would provide a schedule that allows Councils to specify special places that cannot be varied in any circumstance, such as the Shrine of Remembrance. This would be an opt-in provision, where if Councils do not act, the particular provision applies everywhere.

The provision would need to be carefully drafted and define key terms to aid clarity and avoid misuse, such as 'timber building'.

The provision would allow an application be made for a timber building that exceeds the mandatory height limits and then be subject to normal merits assessment through a planning application process. The benefits of timber buildings as discussed in Section 2.2 would weigh in favour of the application, as would the new policy support discussed in Section 7.1.1.

7.1.3 Revised Notice Provisions

To address the problem of arduous permit amendment processes to convert concrete buildings to timber, changes to the permit amendment processes are required (Section 72 of the Planning and Environment Act).

Currently, if a planning officer determines that 'material detriment' is likely as a result of the permit amendment, notice to nearby owners and occupiers is given. When height increases are proposed, this is almost always the case. In addition to notice, appeal rights to VCAT are afforded to affected residents.

Very minor height increases can be processed under a 'secondary consent' process that involves no notice, but this is unlikely to be enough to assist timber buildings.

Changes should be made to the permit amendment process for timber buildings that meet specified conditions (See section 6.4.1), exempting them from normal notice and review rights, but still allowing a normal merits consideration by Council. This could either be through changes to Clause 66 of the VPP or the Planning and Environment Act 1987.

This would increase the speed of permit amendments and limit the process between Council and the applicant.

APPENDIX A – BUILDING HEIGHT CONTROLS IN DESIGN AND DEVELOPMENT OVERLAYS

Building Height Controls in Design and Development Overlays

Municipality	Clause Reference	Mandatory (Yes / No)	Metres / Storeys
Boroondara	Schedule 2 - Willsmere Historical Building Design and Development Area	Y	Storeys
Boroondara	Schedule 7 - 5-9 Burwood Road, Hawthorn	Y	Metres
Boroondara	Schedule 12 - West Hawthorn Area	Y	Metres
Boroondara	Schedule 14 - Kew Junction Activity Centre	N	Metres
Boroondara	Schedule 15 - Glenferrie Activity Centre	N	Metres
Boroondara	Schedule 16 - Neighbourhood Centres	Y	Metres
Boroondara	Schedule 17 - Commercial Corridors	Y	Metres
Boroondara	Schedule 19 - 11-15 Brougham Street, Kew	N	Metres
Boroondara	Schedule 31 - Yarra (Birrarung) River Corridor Protection	Y	Metres
Yarra	Schedule 1 - Yarra (Birrarung) River Corridor Protection	Y & N	Metres
Yarra	Schedule 3 - Australian Dyeing Company Site, Clifton Hill	N	Metres
Yarra	Schedule 4 - Victoria Street East Precinct	N	Metres

Yarra	Schedule 6 – 601-603 Victoria Street, Abbotsford	N	Metres
Yarra	Schedule 7 – Burnley Street West Precinct	N	RLs
Yarra	Schedule 9 – Doonside Precinct	N	Metres
Yarra	Schedule 10 – Johnston Street Precinct – West of Smith Street	N	Metres
Yarra	Schedule 13 – Emma Street, Collingwood	N	Metres
Yarra	Schedule 14 – 462-482 Swan Street, Richmond	N	Metres
Yarra	Schedule 15 – Johnston Street Activity Centre	Y & N	Metres and storeys
Yarra	Schedule 16 – Queens Parade (west)	Y	Metres and storeys
Kingston	Schedule 1 – Urban Coastal Height Control Area	Y	Metres
Kingston	Schedule 4 – Aviation Obstacle Referral Height Area No 1	Y	Metres
Kingston	Schedule 5 – Aviation Obstacle Referral Height Area No 2	Y	Metres
Kingston	Schedule 8 – Station Street, Chelsea	Y	Metres
Kingston	Schedule 10 – Mordialloc Activity Centre	Y	Metres and storeys
Kingston	Schedule 12 – Highett Activity Centre	Y & N	Metres and storeys
Kingston	Schedule 15 – Dingley Village Shopping Centre	N	Metres
Kingston	Schedule 17 – Parkdale Activity Centre	Y	Metres and storeys
Kingston	Schedule 21 – 1231-1237, part 1239 Nepean Highway, 60 – 64 Matthieson Street, Highett	N	Storeys
Kingston	Schedule 22 – Mentone Junction Precinct	N	Metres and storeys
Kingston	Schedule 24 – Clayton South Industrial Precinct	Y & N	Metres and storeys

