

In response to following issue raised:
1. Overshadowing.
The proposed building envelope results in additional overshadowing of nearby Special Areas (as identified in the North Sydney LEP 2001). Further envelope massing options should be prepared which demonstrate maintenance of solar access to the Miller Street Special Area and the Don Bank Museum Special Area between 10am and 2pm throughout the year, with particular reference to the Equinoxes. The options should indicate any impact on floor space and floor plate areas arising from compliance with Clause 28D (2) (c) of the NSLEP 2001.

Envelope Studies Definitions

The following envelope studies for the site at 177-199 Pacific Highway can be defined through the following keypoints:

Achievable Envelope

An achievable envelope is best defined as an envelope that is technically achievable but largely disfunctional due to an unsuitable core location, non rectilinear and a floorplate of less than 1200sqm.

Functional Envelope

A functional envelope is best defined as a building where the resultant floorplates with a suitable core achieves a minimum of 1200sqm rectilinear floorplates.

Equinoxes

Our investigations of overshadowing at the Spring and Autumn equinoxes result in impacts that are not identical at these times of the year.
In each case the envelope studies show the extent of overshadowing in it's worst case scenario to best highlight the impacts on the respective Special Areas.

Critical Day

Our investigations of overshadowing throughout the year highlight a particular day where the overshadowing impacts are the largest. This is referred to as the 'critical day'.

Worst Case

The study of the period of affectation on the critical day to determine the 'worst case' scenario.

Average Case

The study of affectation at the midpoint of affectation between the longest period of affectation and when the Special Area is no longer impacted by overshadowing.

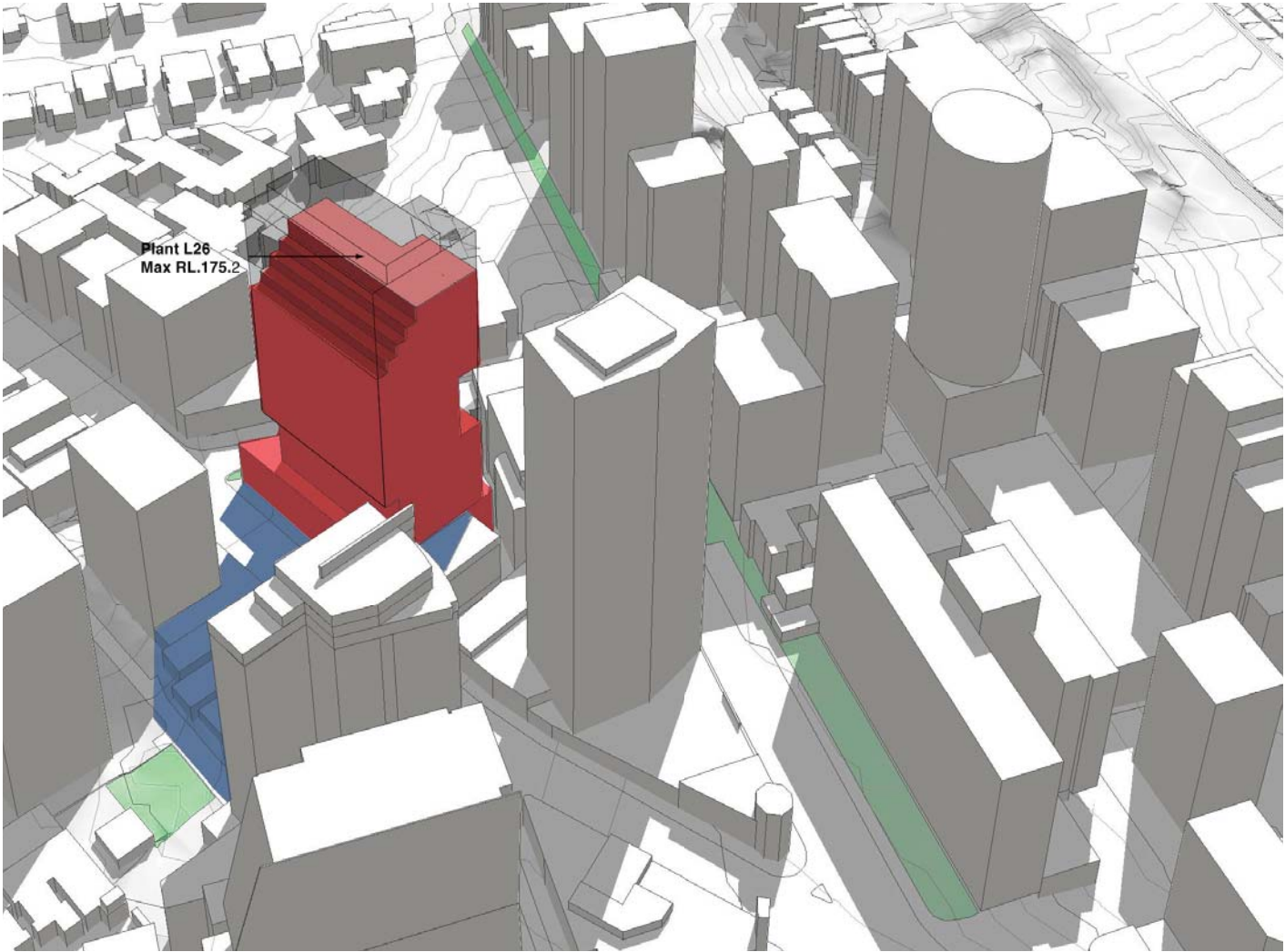
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Overshadowing of Don Bank Museum Special Area

Study 1.
Achievable building envelope for no overshadowing to Don Bank Museum Special Area at equinoxes with stepped form to maximise GFA.
Autumn Equinox, 21st March @10am

>Max Ht: RL 175.2 (Top of plant Level 26)
>Achievable GFA: 35,270sqm (Loss of 9,500sqm)

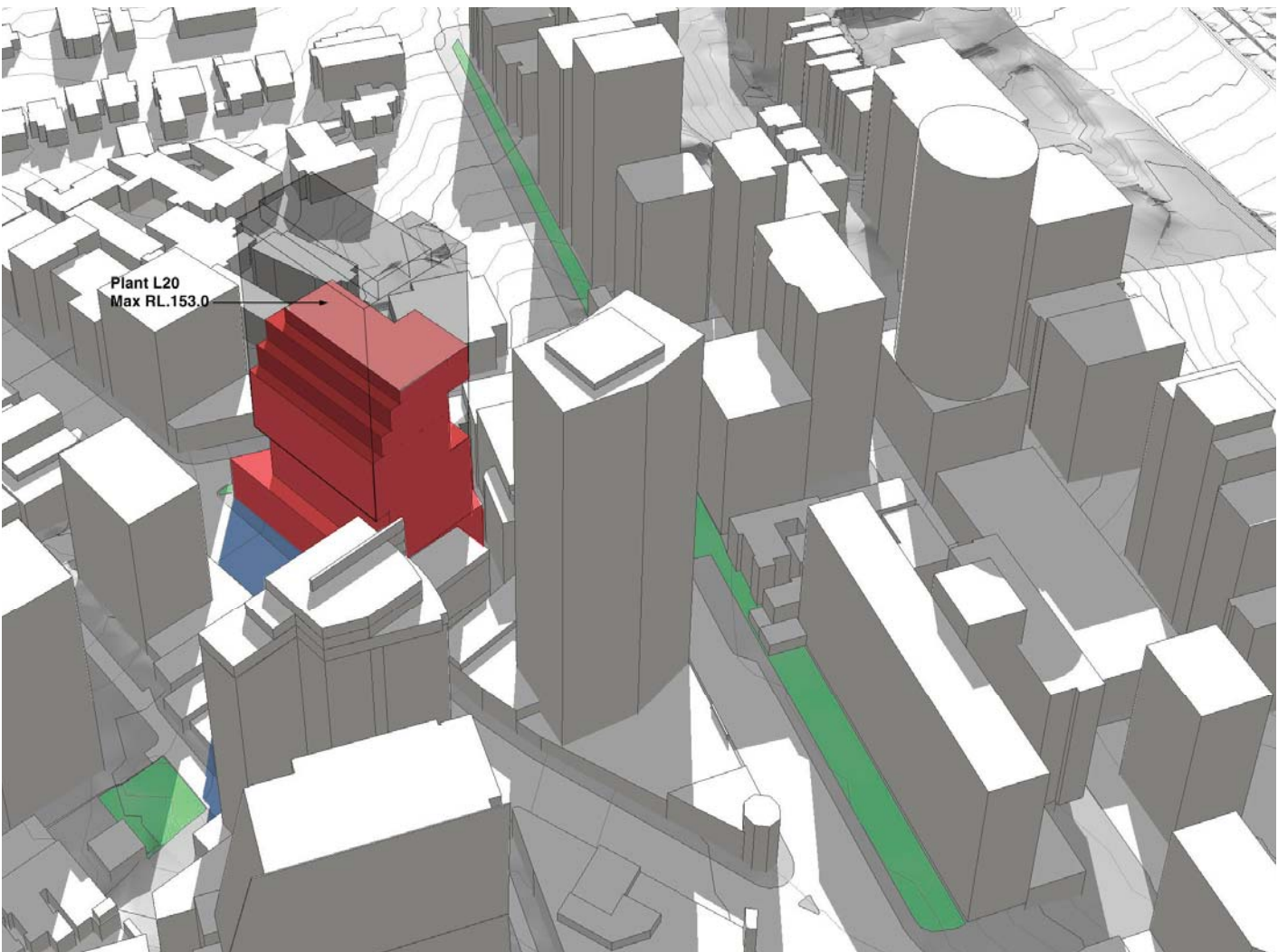
Resultant envelope is achievable but largely disfunctional



Study 1A.
Achievable Building Envelope for no overshadowing to Don Bank Museum Special Area throughout the year with stepped form to maximise GFA.
Critical Day, 17th May @10am

>Max Ht: RL 153.0 (Top of plant Level 20)
>Achievable GFA: 25,845sqm (Loss of 18,925sqm)

Resultant envelope is achievable but largely disfunctional



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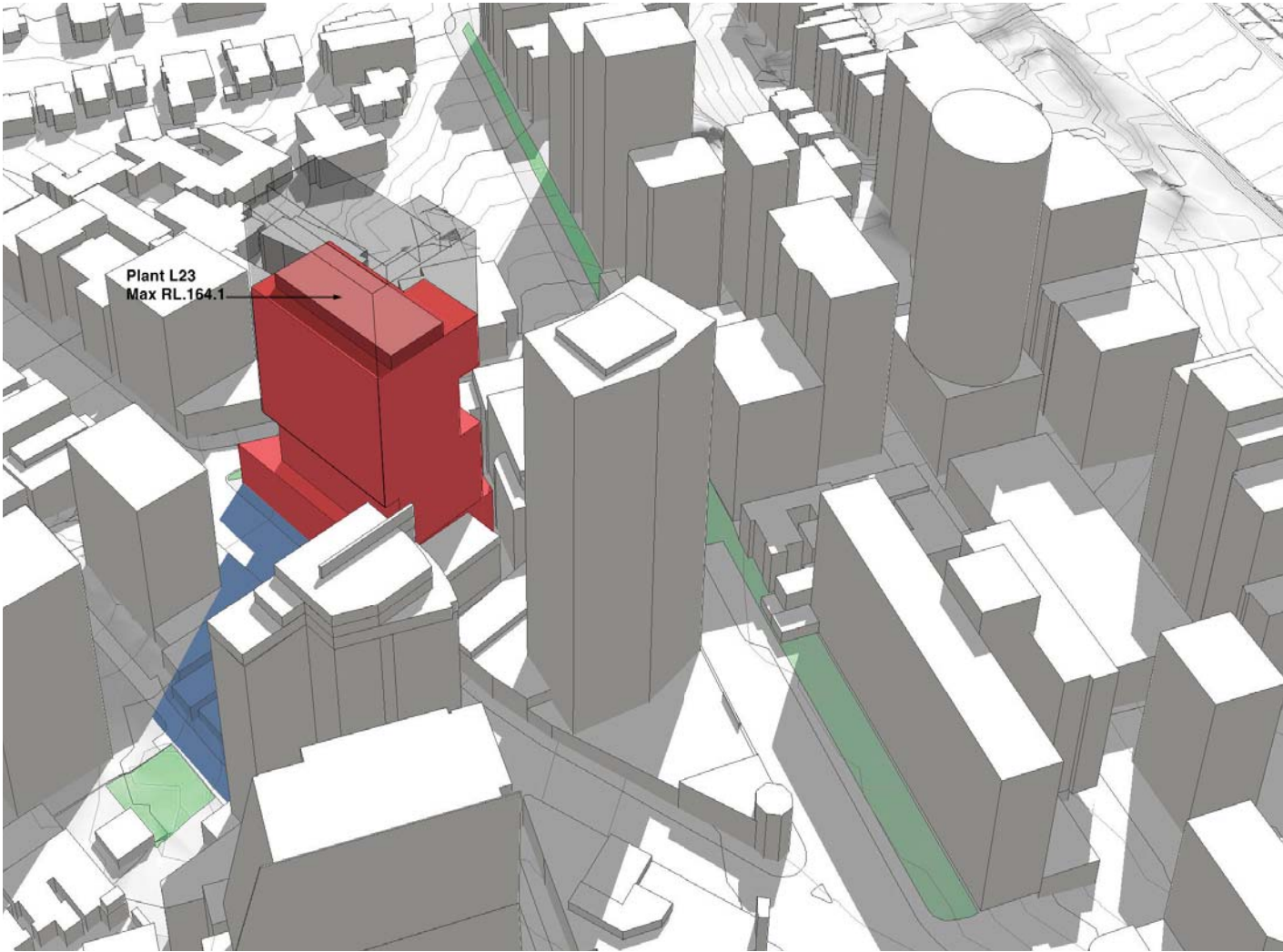
Overshadowing of Don Bank Museum Special Area

Study 2.
Functional building envelope for no overshadowing to Don Bank Museum Special Area at equinoxes
Autumn Equinox, 21st March @10am

>Max Ht: RL 164.1 (Top of plant Level 23)
>Achievable GFA: 31,490sqm (Loss of 13,280sqm)

Note
Functional envelope includes provision for:
1. Core
2. Regular, rectilinear floorplates
3. Minimum floorplate (1200sqm)

Resultant envelope is functional but not economic



Study 2A.
Functional Building Envelope for no overshadowing to Don Bank Museum Special Area throughout the year
Critical Day, 17th May @10am

>Max Ht: RL 146.5 (Top of plant Level 18)
>Achievable GFA: 23,235sqm (Loss of 21,535sqm)

Note
Functional envelope includes provision for:
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3. Minimum floorplate (1200sqm)

Resultant envelope is functional but not economic



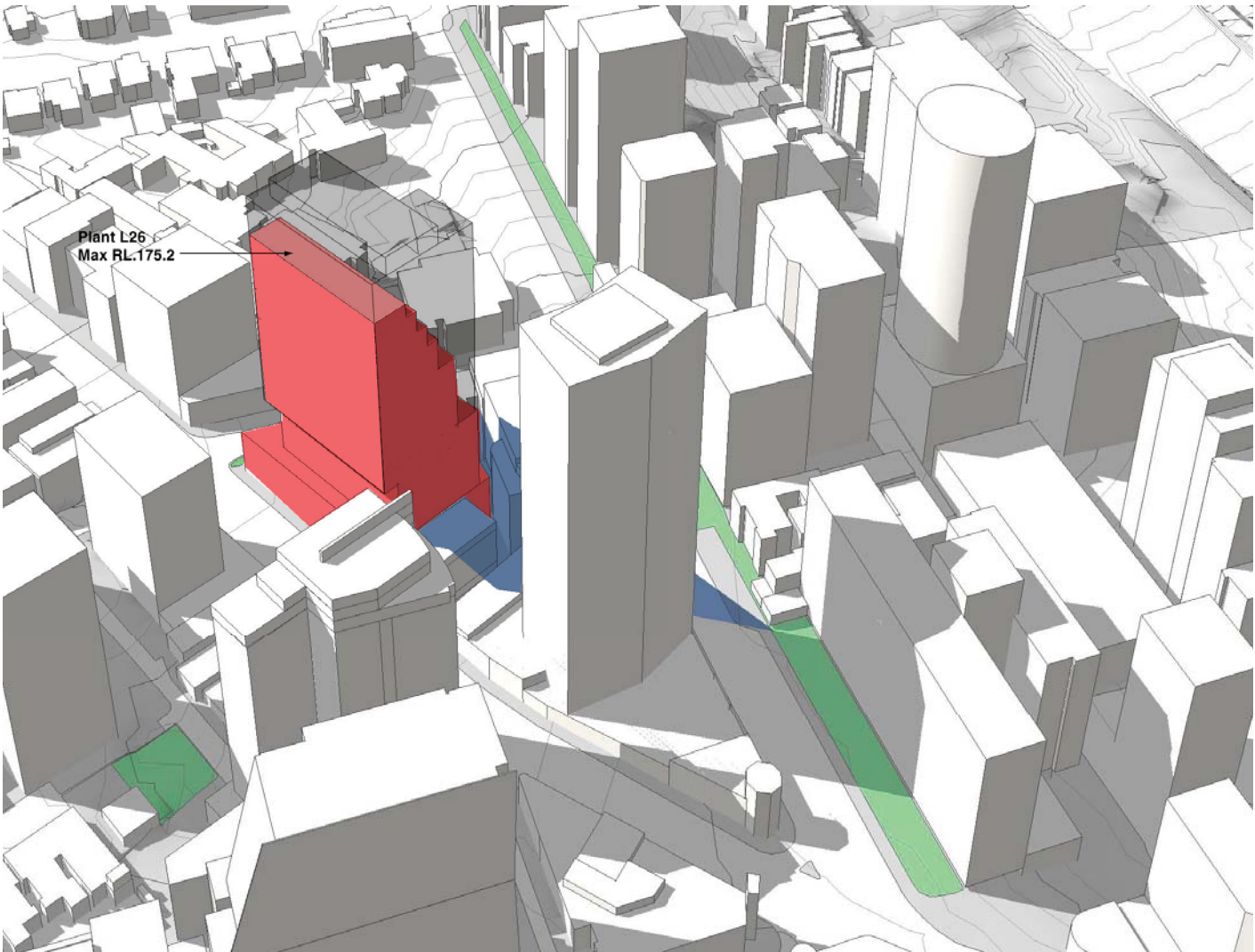
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Overshadowing of Miller Street Special Area

Study 3.
Achievable building envelope for no overshadowing to Miller Street Special Area at Equinoxes with stepped form to maximise GFA. Spring Equinox, 23rd September @2pm

>Max Ht: RL 175.2 (Top of plant Level 26)
>Achievable GFA: 35,725sqm (Loss of 9,045sqm)

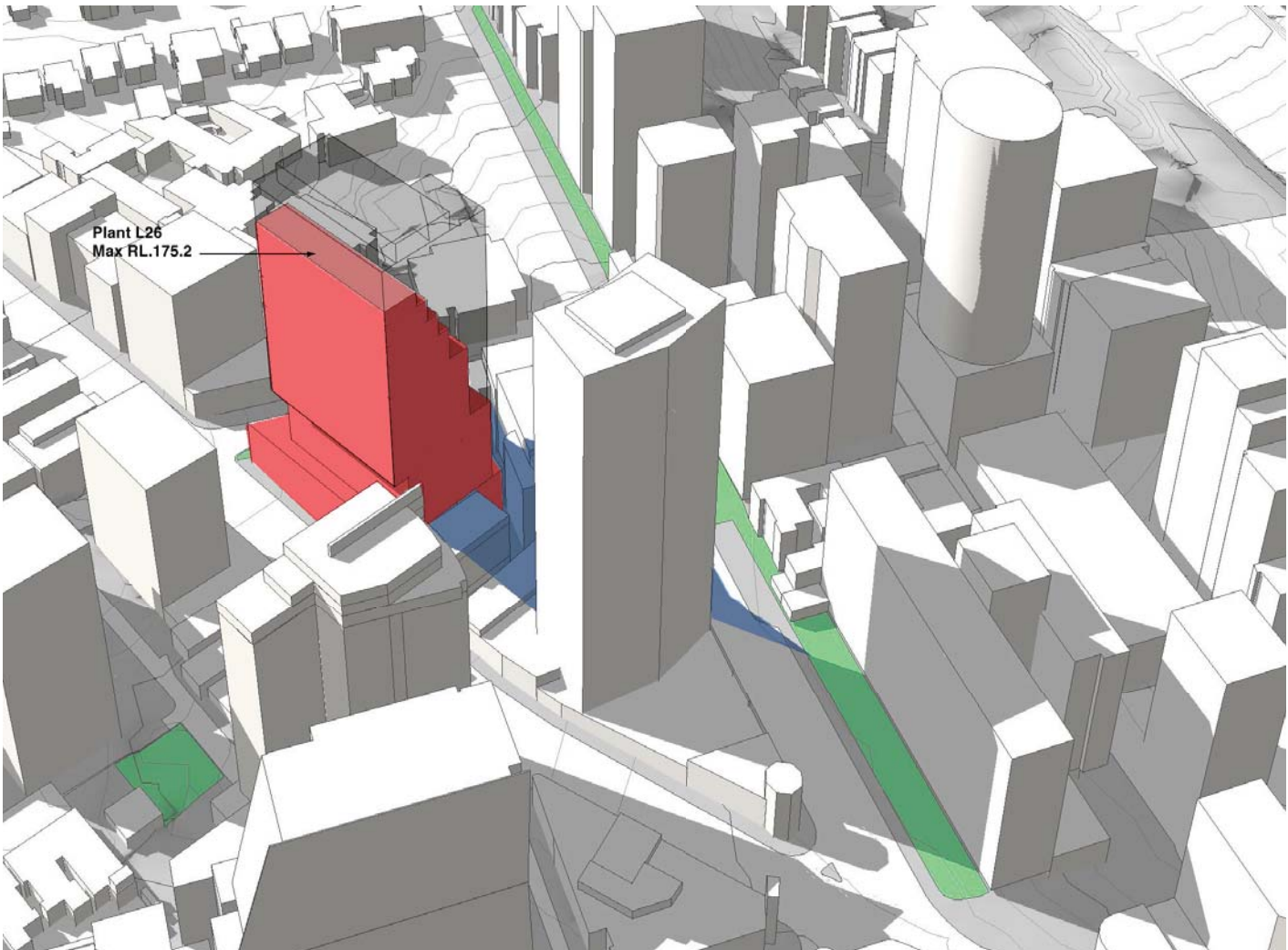
Resultant envelope is achievable but largely disfunctional



Study 3A.
Achievable Building Envelope for no overshadowing to Miller Street Special Area throughout the year with stepped form to maximise GFA. Critical Day, 28th August @2pm

>Max Ht: RL 175.2 (Top of plant Level 26)
>Achievable GFA: 35,725sqm (Loss of 9,045sqm)

Resultant envelope is achievable but largely disfunctional



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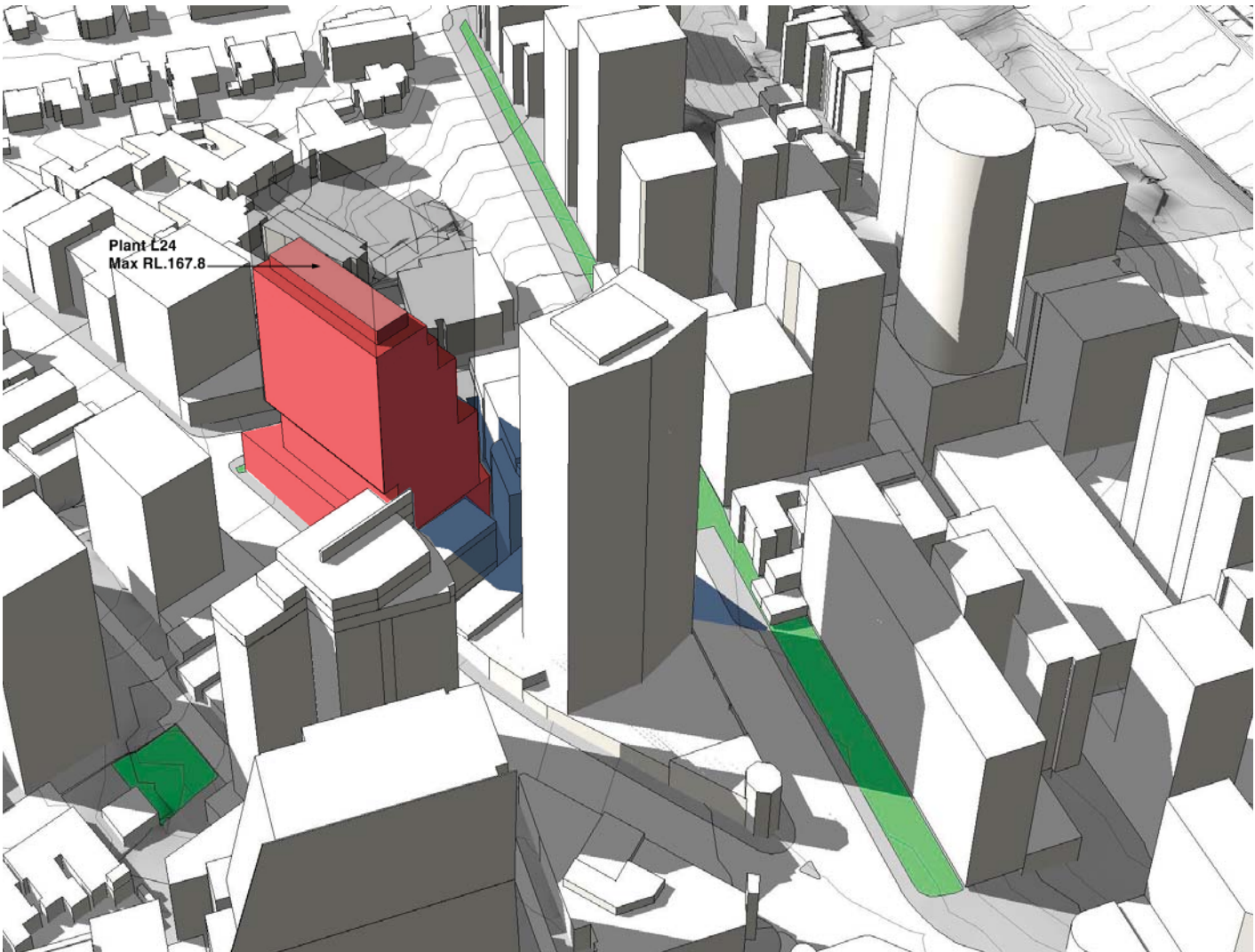
Overshadowing of Miller Street Special Area

Study 4.
Functional building envelope for no overshadowing to Miller Street Special Area at equinoxes
Spring Equinox, 23rd September @2pm

>Max Ht: RL 167.8 (Top of plant Level 24)
>Achievable GFA: 33,770sqm (Loss of 11,000sqm)

Note
Functional envelope includes provision for:
1. Core
2. Regular, rectilinear floorplates
3. Minimum floorplate (1200sqm)

Resultant envelope is functional but not economic

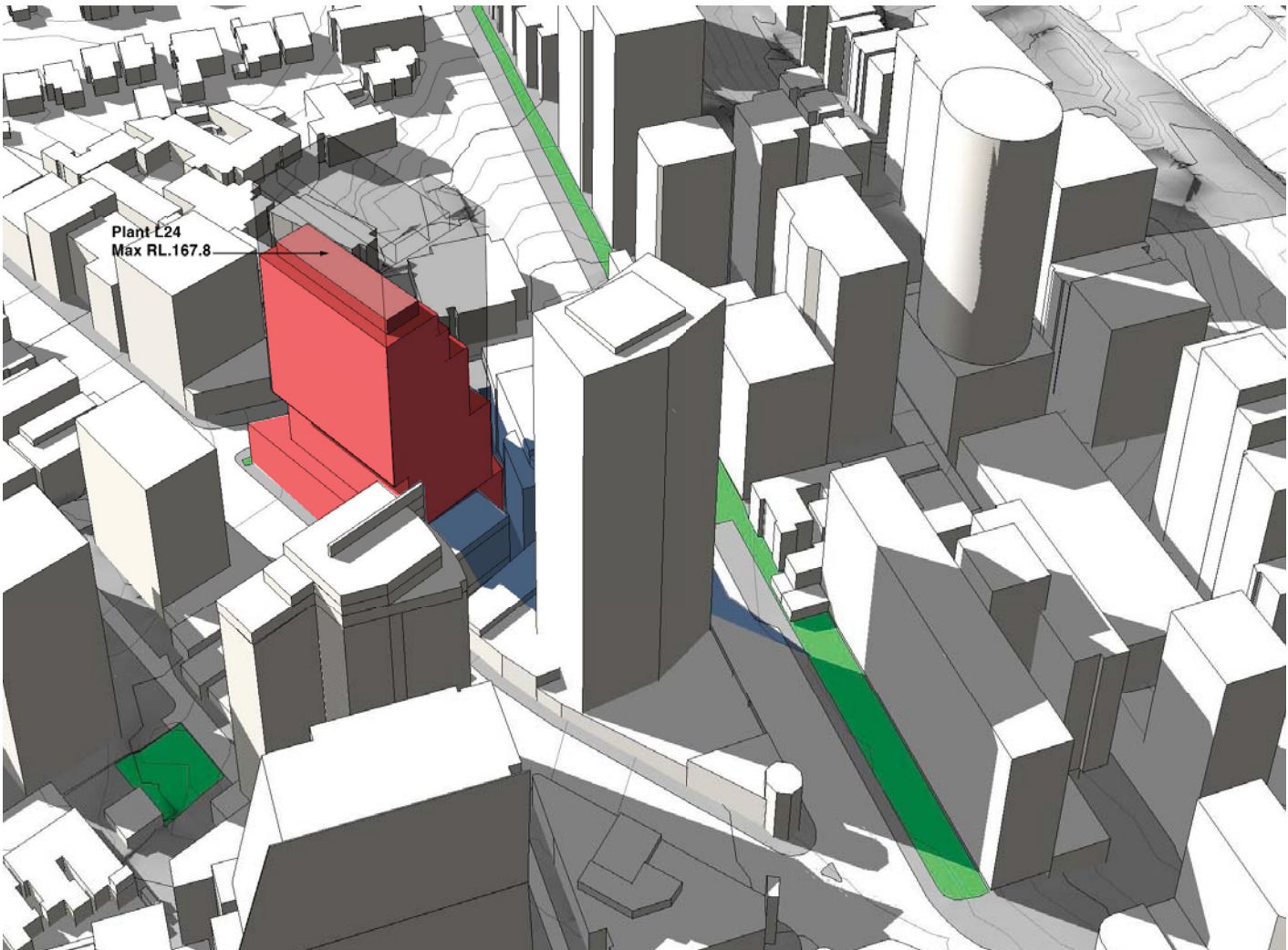


Study 4A.
Functional Building Envelope for no overshadowing to Miller Street Special Area throughout the year.
Critical Day, 28th August @2pm

>Max Ht: RL 167.8 (Top of plant Level 24)
>Achievable GFA: 33,770sqm (Loss of 11,000sqm)

Note
Functional envelope includes provision for:
1. Core
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3. Minimum floorplate (1200sqm)

Resultant envelope is functional but not economic



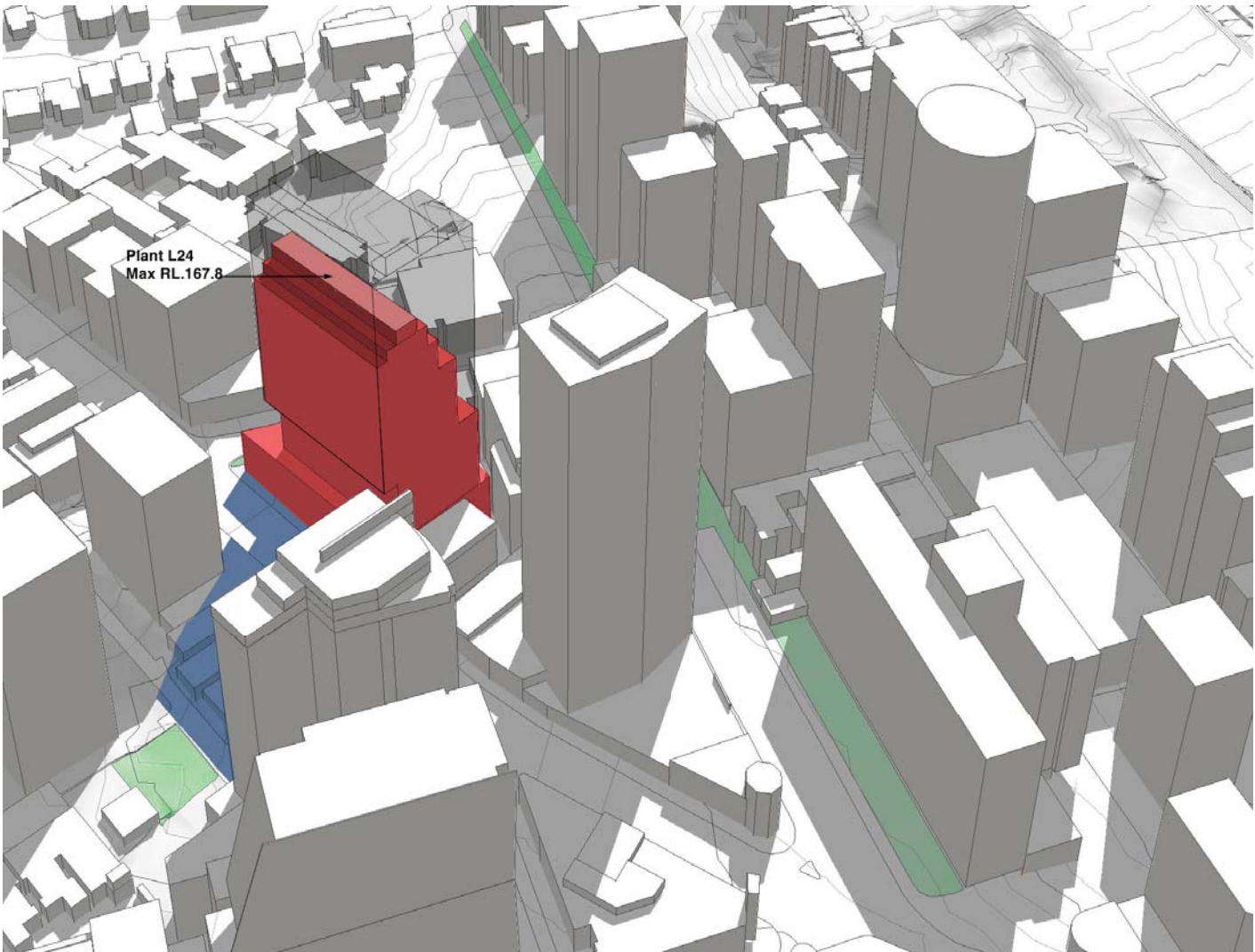
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Combined overshadowing of Miller Street Special Area & Don Bank Museum Special Area at the equinoxes

Study 5.
Achievable building envelope for no overshadowing to Miller Street Special Area and Don Bank Museum Special Area
Autumn Equinox, 21st March @10am

>Max Ht: RL 167.8 (Top of plant Level 24)
>Achievable GFA: 32,360sqm (Loss of 12,410sqm)

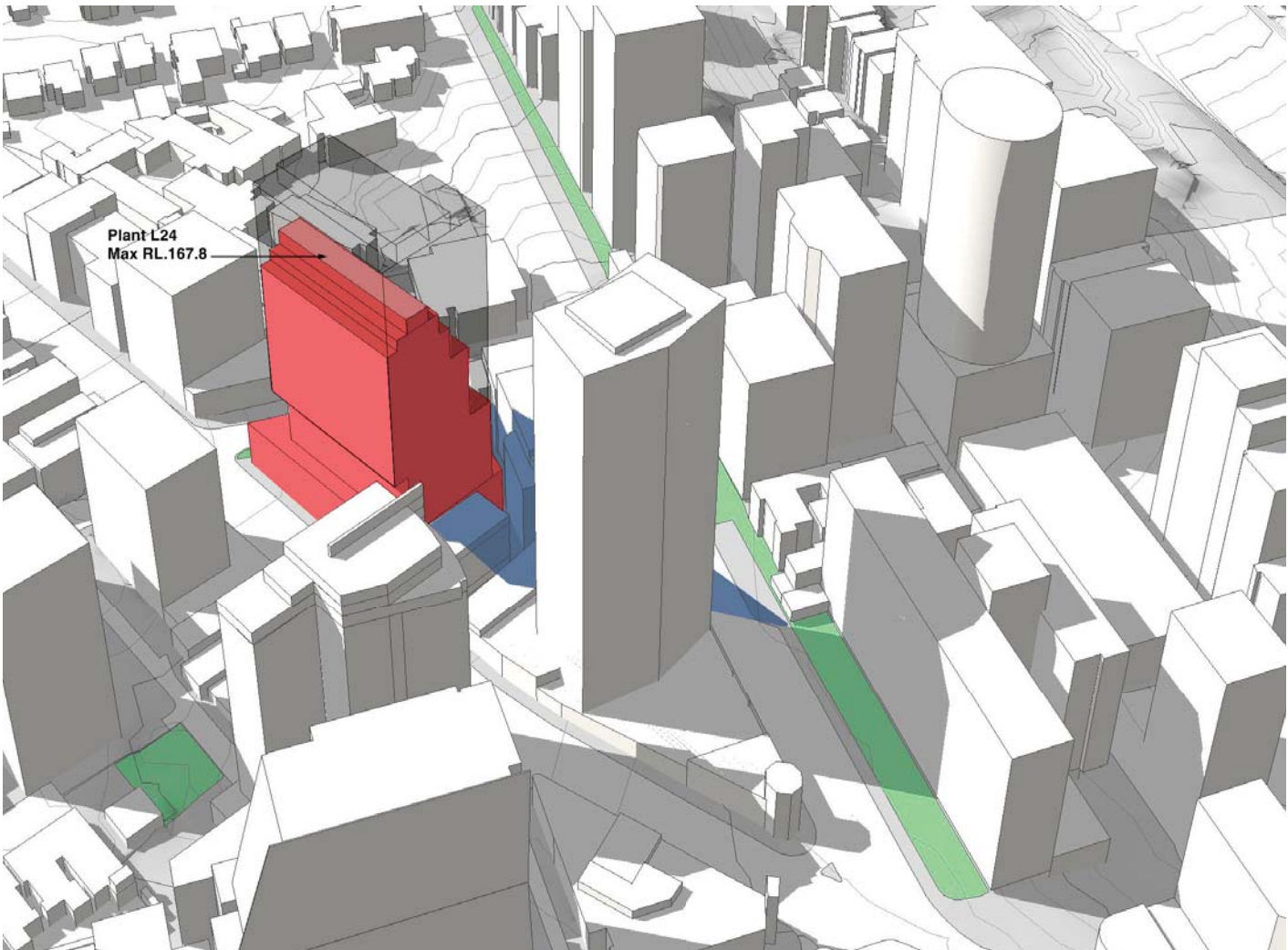
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Combined overshadowing of Miller Street Special Area & Don Bank Musuem Special Area throughout the year

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Achievable building envelope for no overshadowing to Miller Street Special Area and Don Bank Museum Special Area
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>Max Ht: RL 153.0 (Top of plant Level 20)
>Achievable GFA: 25,485sqm (Loss of 19,285sqm)

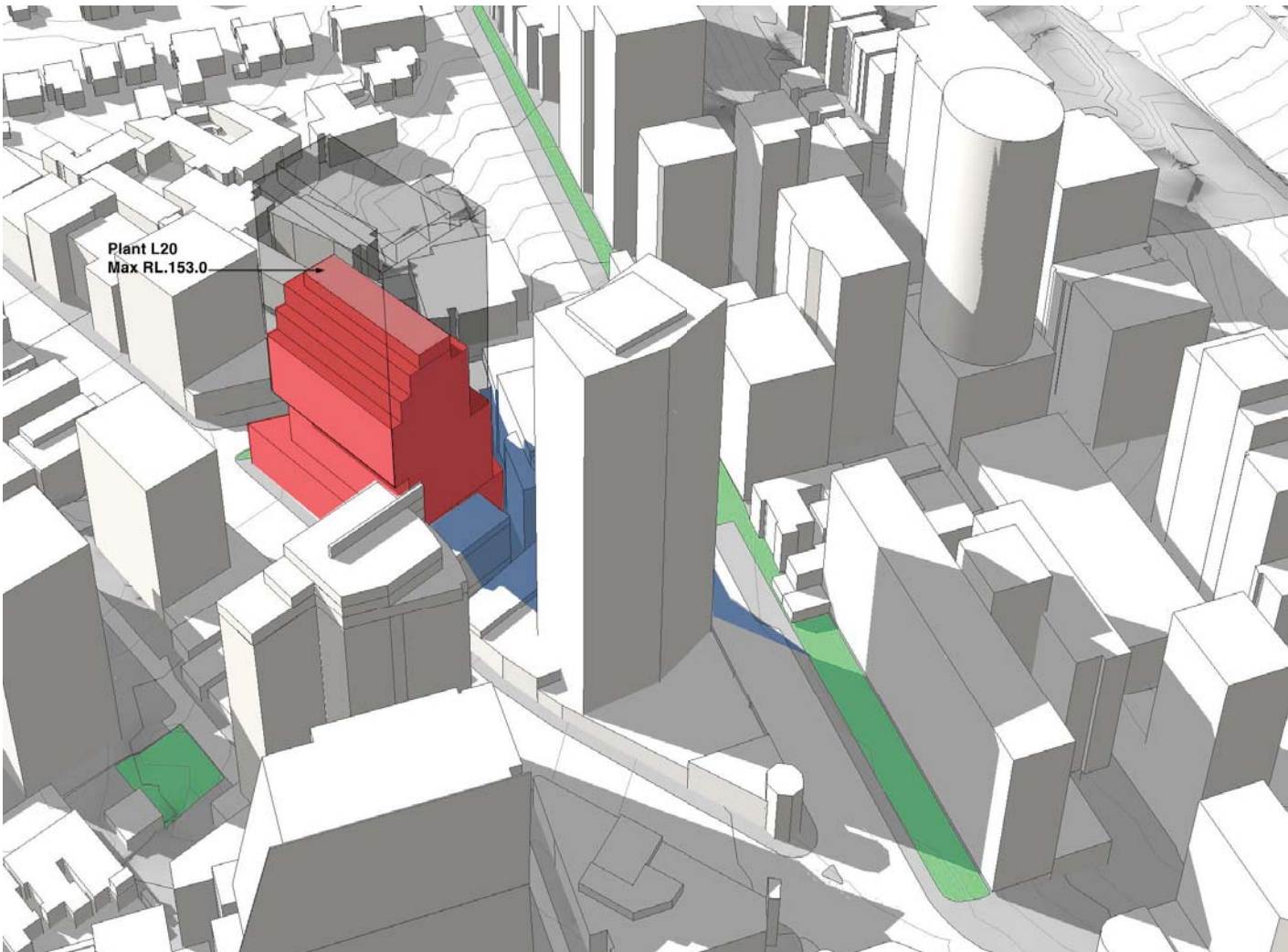
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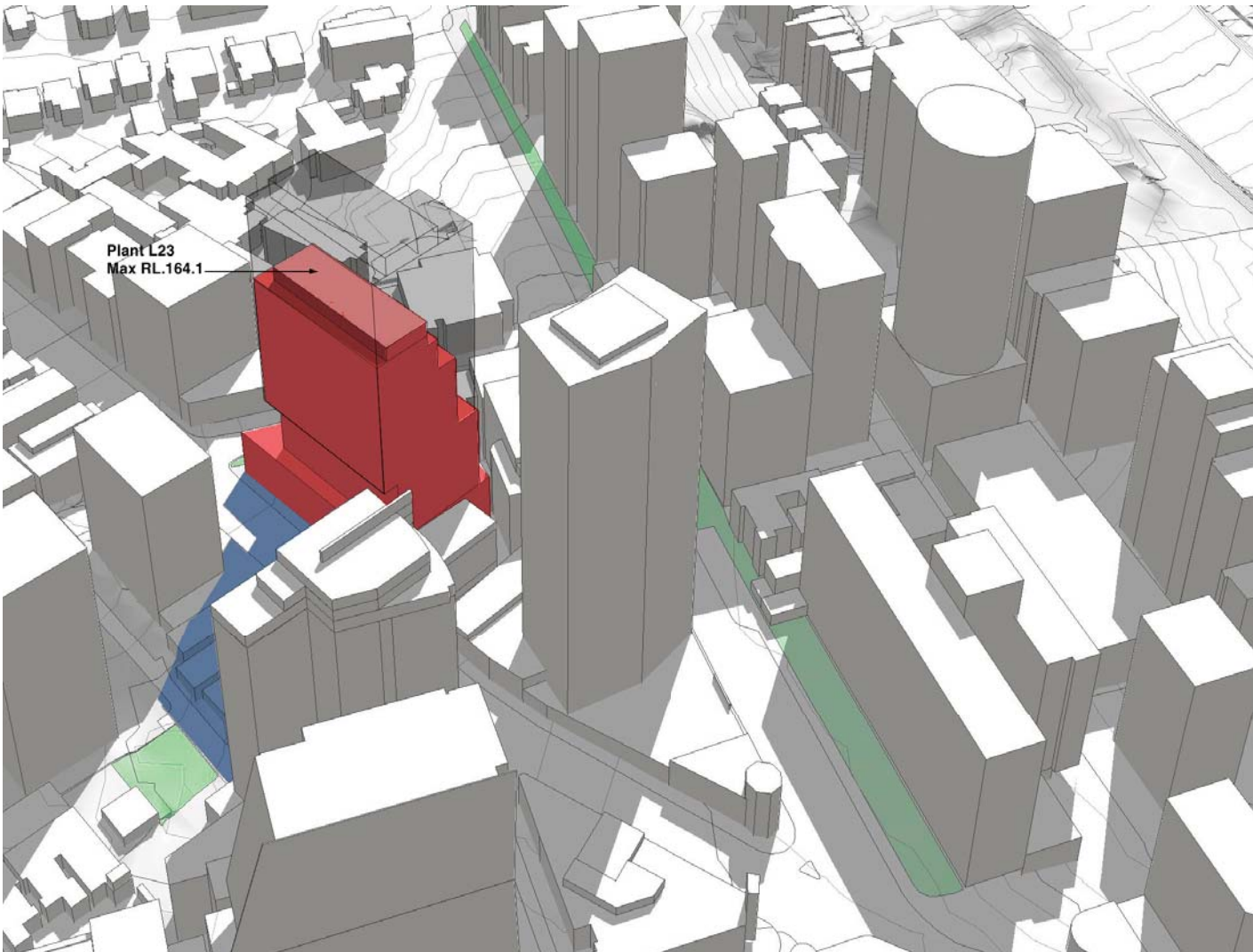
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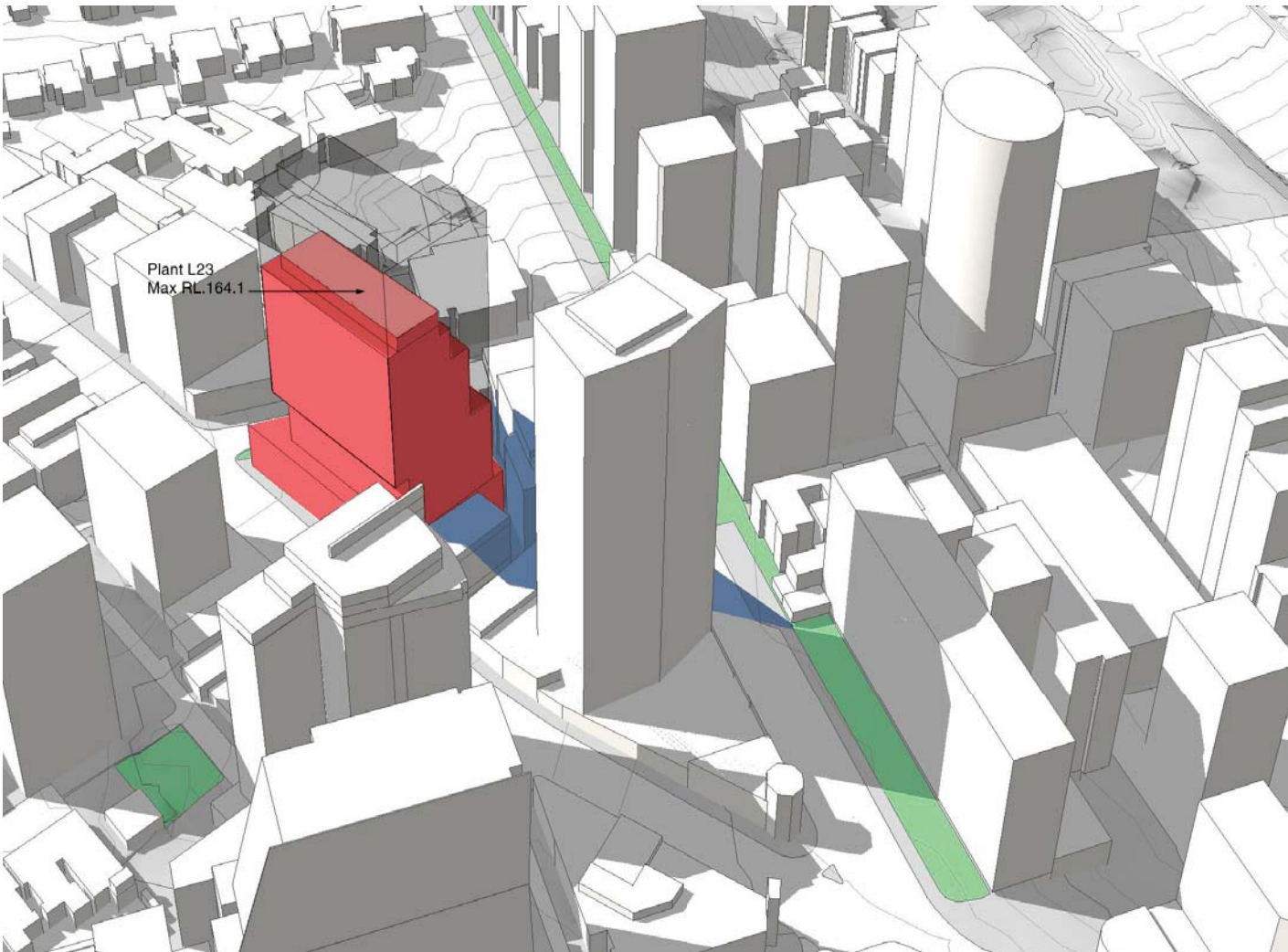


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Combined overshadowing of Miller Street Special Area & Don Bank Musuem Special Area throughout the year

Study 6A.
Functional building envelope for no overshadowing to Miller Street Special Area and Don Bank Museum Special Area.
Critical Day, 17th May @10am

>Max Ht: RL 146.5 (Top of plant Level 18)
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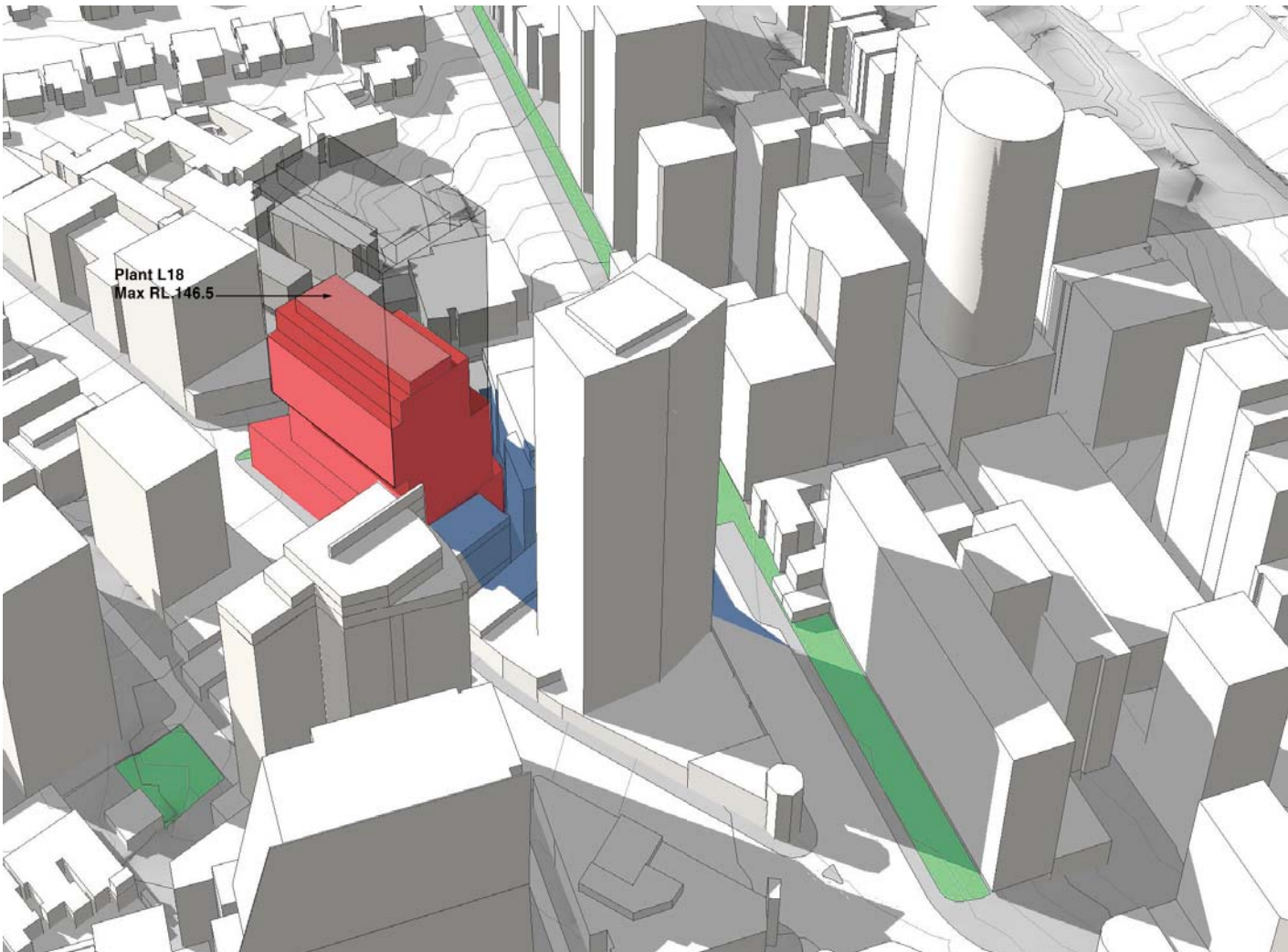
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Response to DOP letter
(30th August 2010)

Height Bulk & Scale

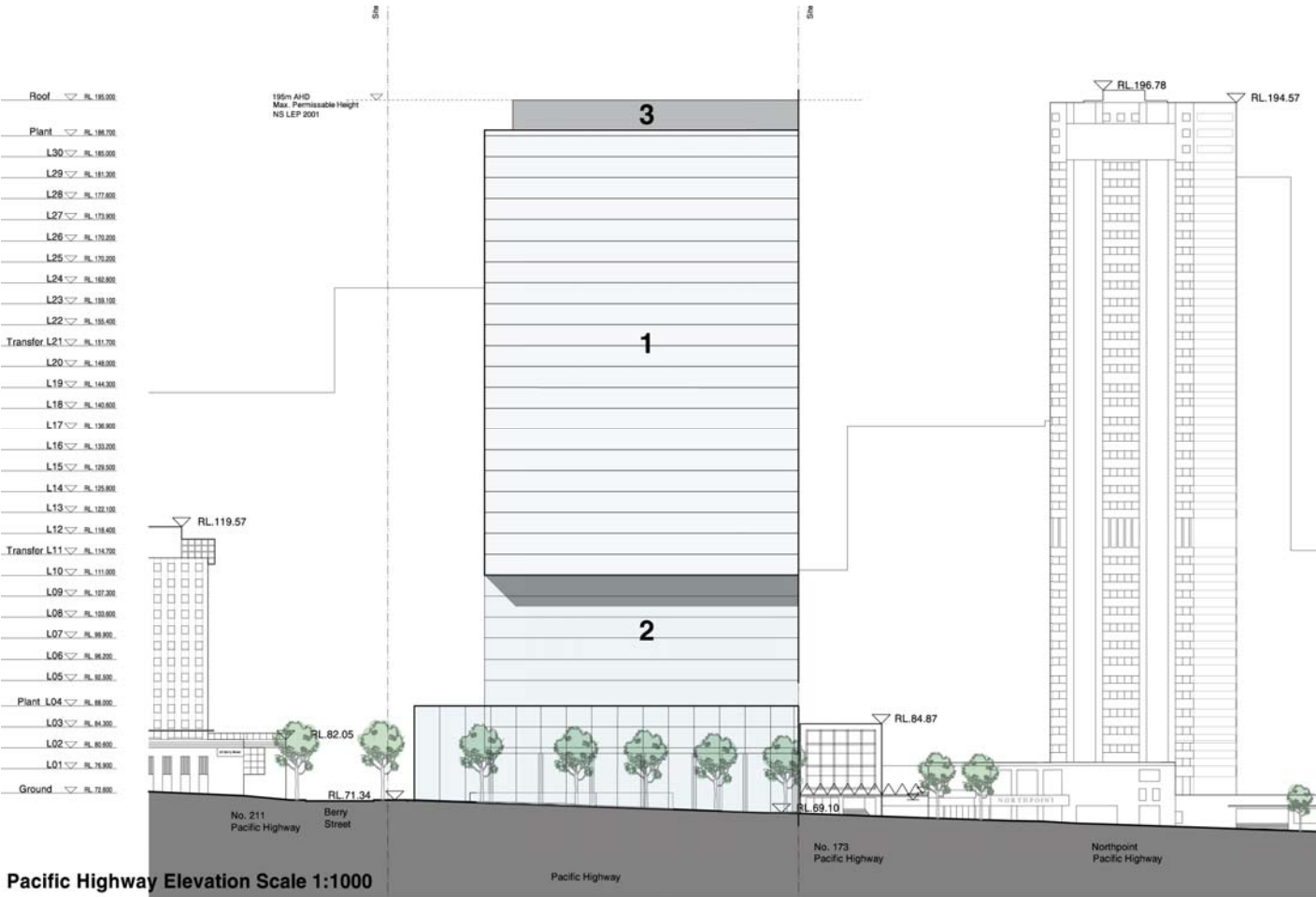
West Elevation

In response to following issue raised:
2. Height, Bulk and Scale.
The envelope of the upper levels of the proposed building will be visually prominent when viewed from the east and west at the edges of the North Sydney City Centre. Further envelope designs for the upper levels of the building should be prepared demonstrating a reduction to bulk and scale, as seen from the east and west, and, the introduction of greater articulation to the upper levels and skyline of the envelope

Current Proposal

The proposed envelope is comprised of three distinct articulated mass.

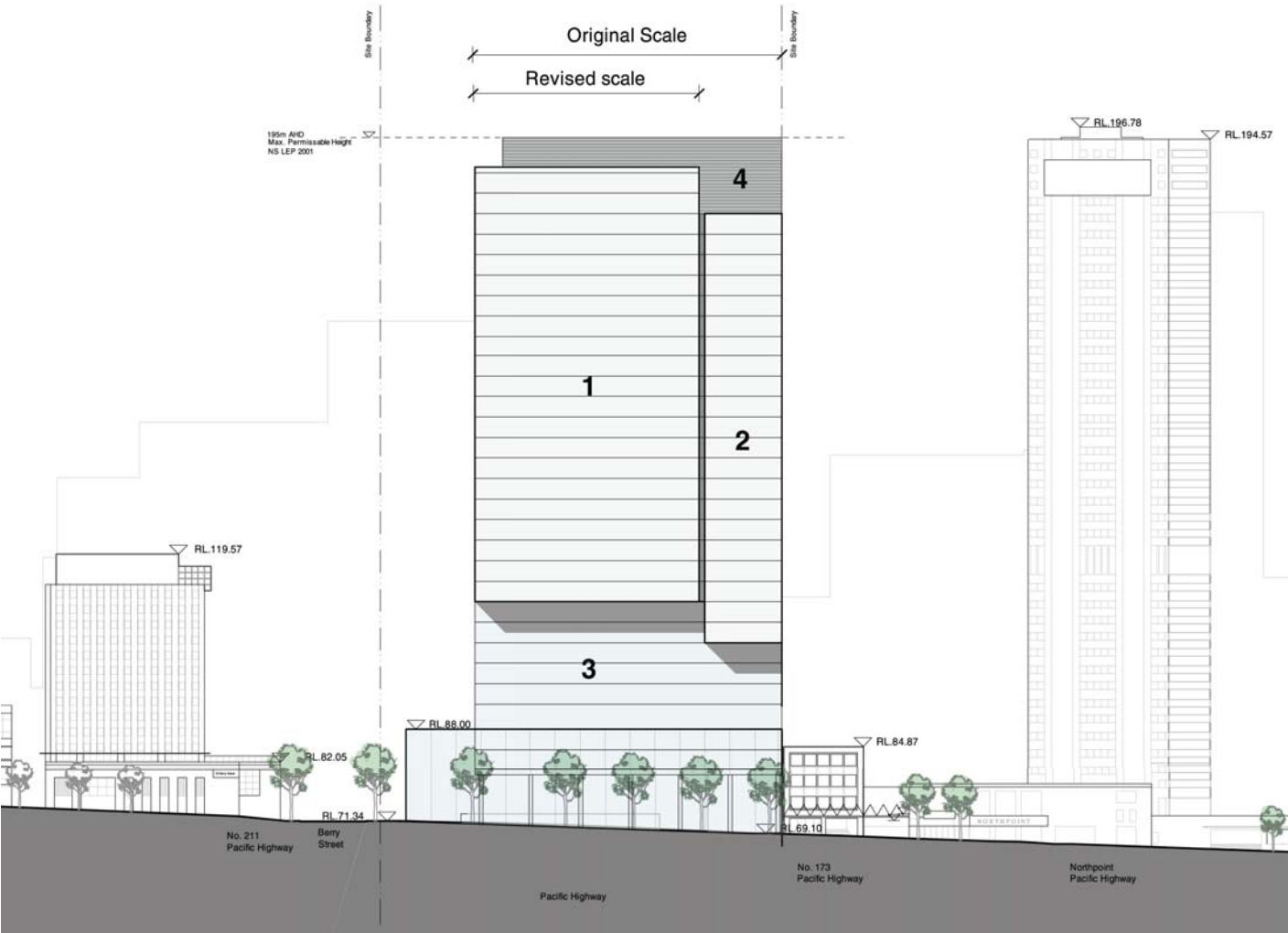
1. Projected volume on Pacific Hwy over the low-rise tower
2. Low-rise tower form setback from Pacific Hwy.
3. Plant area.



Preferred project elevation

The proposed envelope could be further articulated to reduce bulk and scale. This could be achieved in the following:

1. Reduced width of the projected volume on Pacific Hwy to create a more slender vertical expression of the tower form.
2. Introduce an additional element of articulation e.g slipped form, to further 'break-down' the mass of the envelope.
3. Low-rise tower form setback from Pacific Hwy.
4. Plant area and upper level setback.



Response to DOP letter
(30th August 2010)

Height Bulk & Scale

East Elevation

In response to following issue raised:
2. Height, Bulk and Scale.
The envelope of the upper levels of the proposed building will be visually prominent when viewed from the east and west at the edges of the North Sydney City Centre. Further envelope designs for the upper levels of the building should be prepared demonstrating a reduction to bulk and scale, as seen from the east and west, and, the introduction of greater articulation to the upper levels and skyline of the envelope

Current Proposal

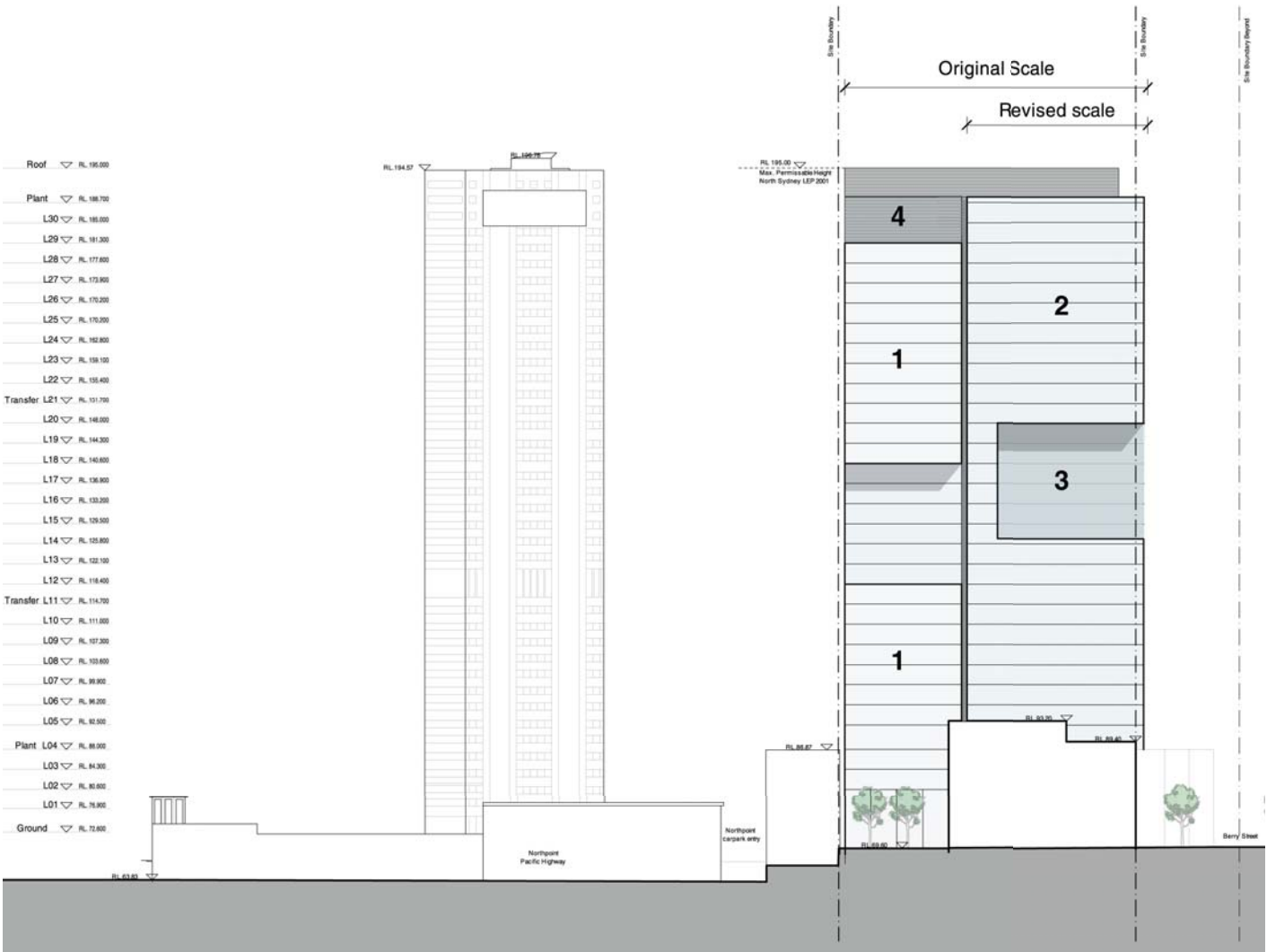
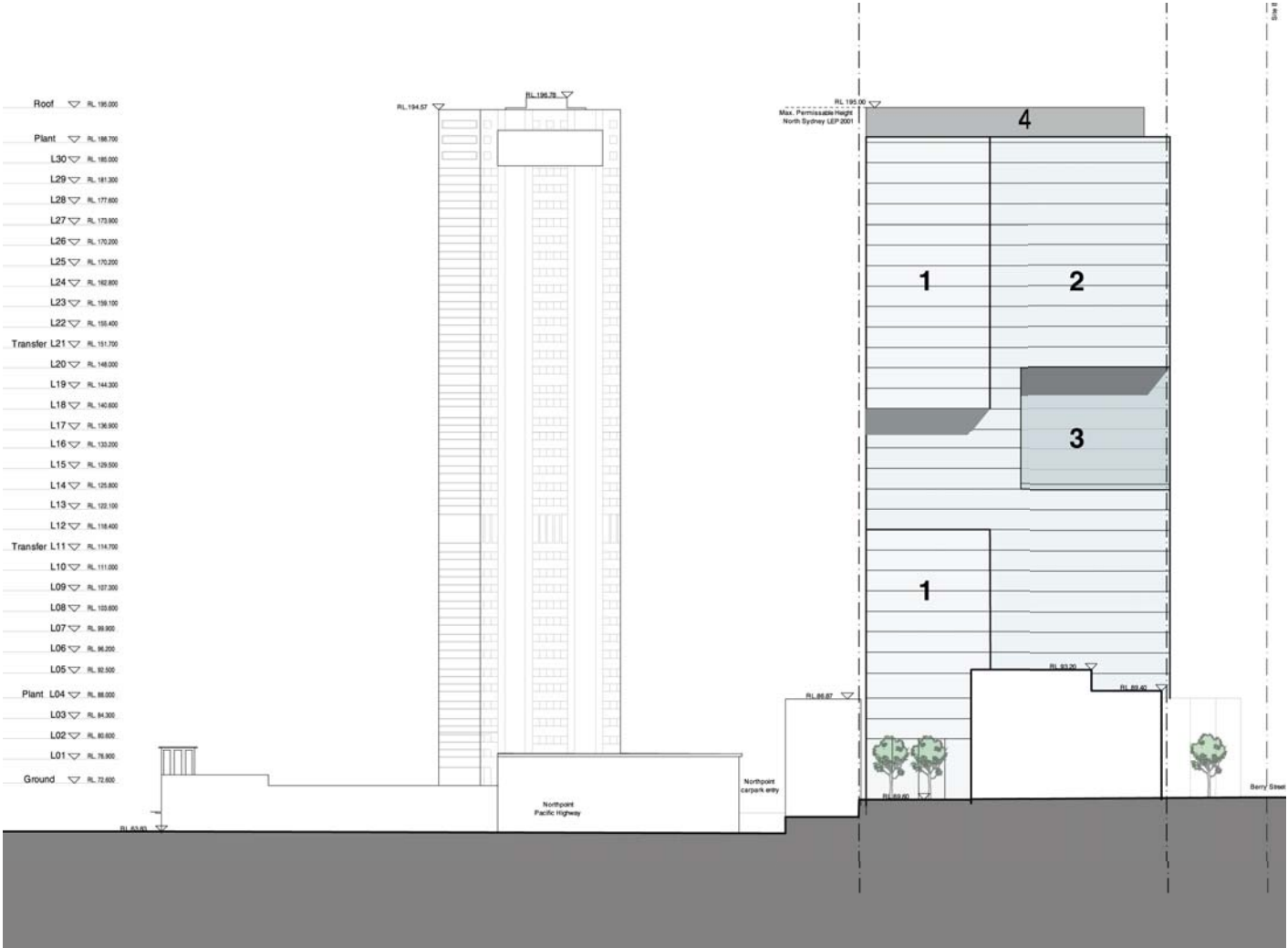
The proposed envelope is comprised of series articulated masses which have been derived from a combination of site geometry and also by avoiding overshadowing at the Winter Solstice.

1. Projected volumes to rear of site
2. General tower form.
3. Extracted volume set back to avoid overshadowing of Miller St Special Area.
4. Plant area.

Preferred project elevation

The proposed envelope could be further articulated to reduce bulk and scale. This could be achieved in the following:

1. Slipped form expression to reduce the bulk at the top of the building.
2. Introduce additional vertical articulation to create a more slender tower form.
3. Extracted volume set back to avoid overshadowing of Miller St Special Area.
4. Plant area and upper level facade articulation.

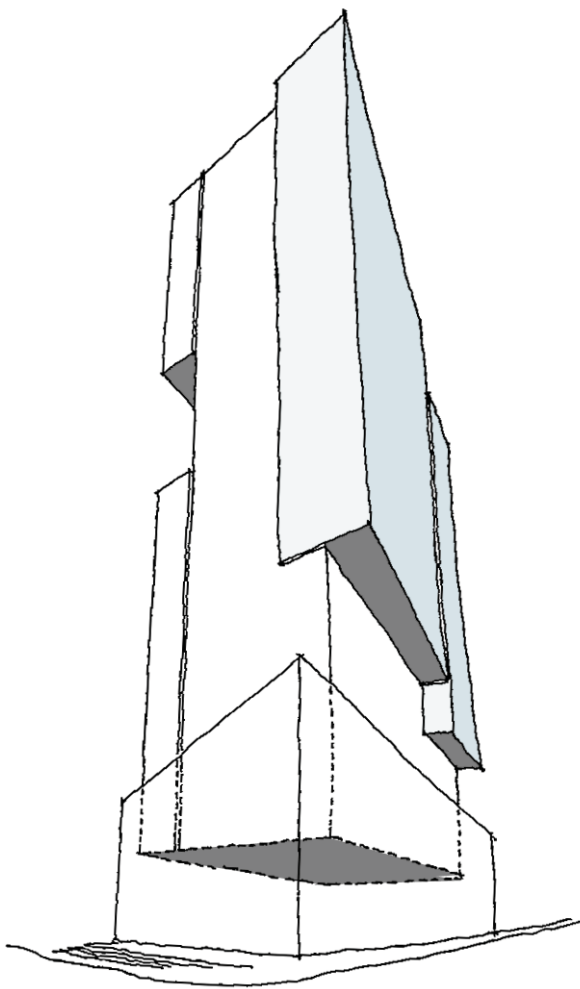


Response to DOP letter
(30th August 2010)

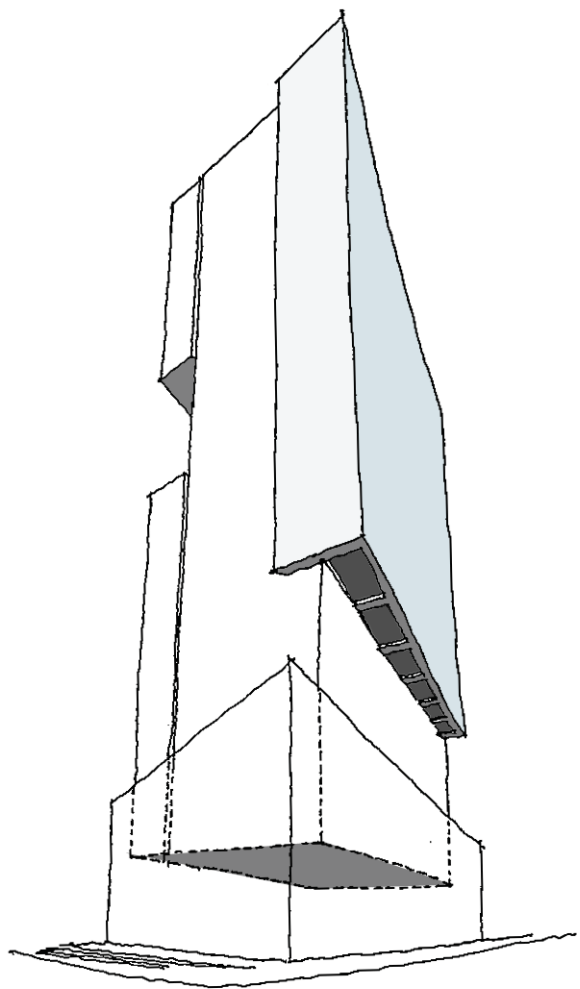
Building Form

Projection along Pacific
Highway

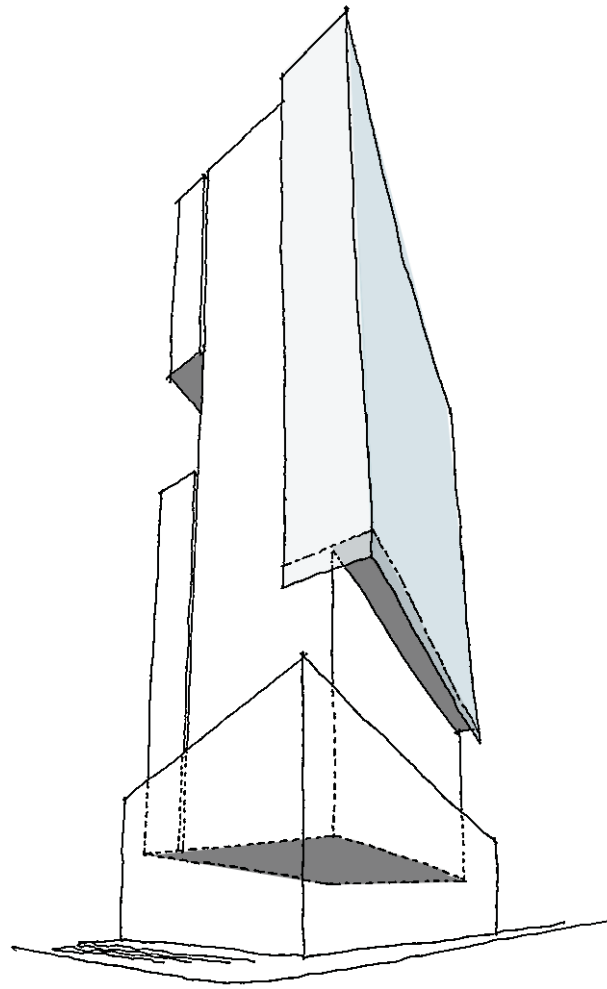
In response to following issue raised:
3. Building Form
The proposed building envelope is inconsistent with Council's setback controls on the Pacific Highway alignment of the site. Further options should be provided and should include options for the design and appearance of Level 10 soffit as seen from the public domain.



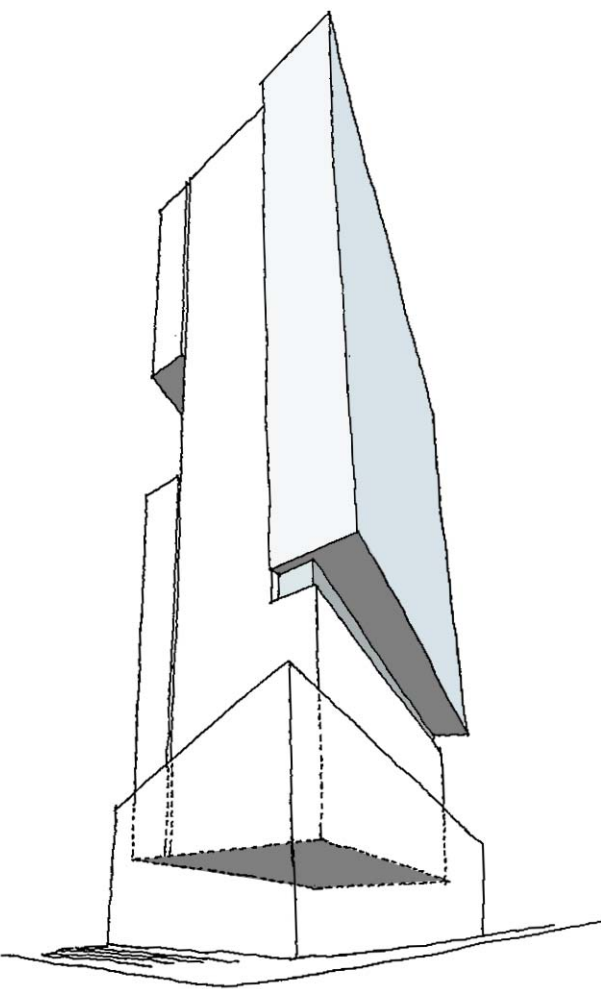
1. Articulated form



2. Expressed structure



3. Floating Skirt



4. Recessed floor for articulation of form

Projection along Pacific Highway
The proposed projection massing along the Pacific highway boundary could be articulated in a number of ways:

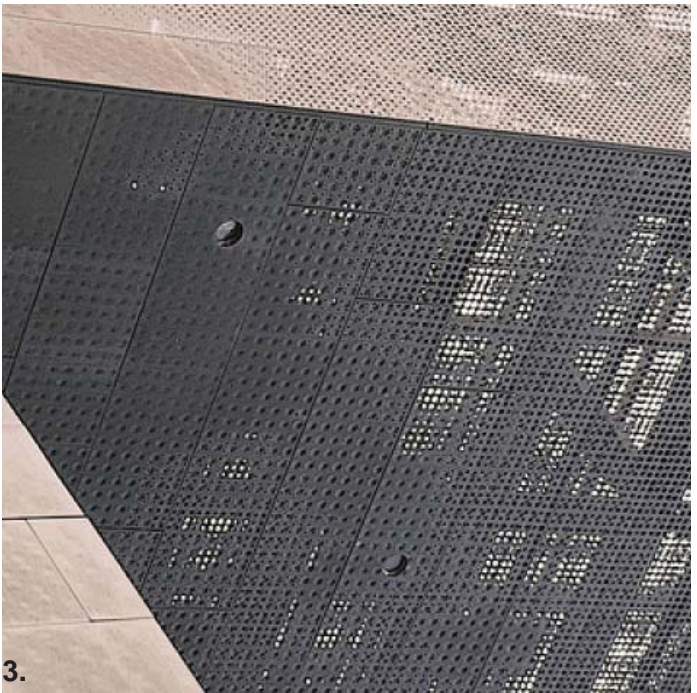
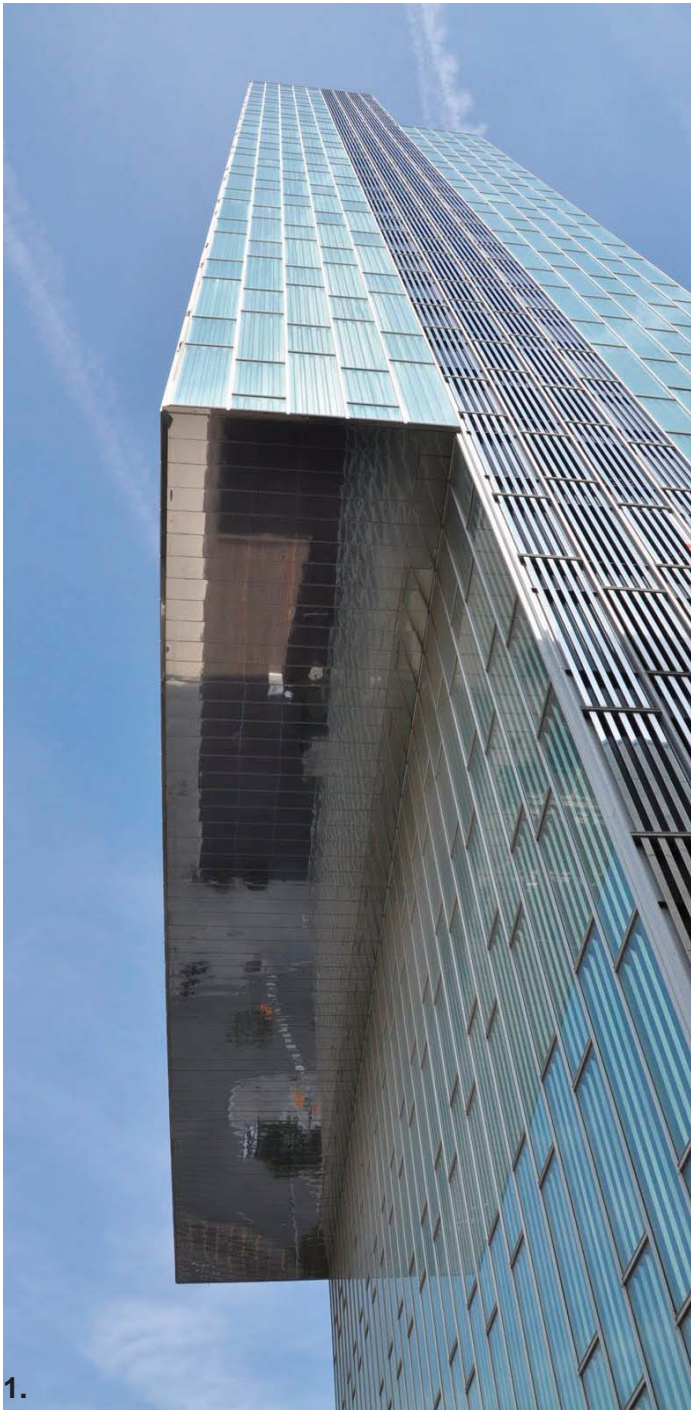
- 1. Articulated form
- 2. Expressed structure
- 3. Floating Skirt
- 4. Recessed floor for articulation of form

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(30th August 2010)

Appearance

Level 10 Soffit

In response to following issue raised:
3. Building Form
The proposed building envelope is inconsistent with Council's setback controls on the Pacific Highway alignment of the site. Further options should be provided and should include options for the design and appearance of Level 10 soffit as seen from the public domain.



Level 10 Soffit-Materials

The appearance of the soffit to the proposed projected massing along the Pacific highway boundary could be expressed in a number of ways:

1. Aluminum cladding (high gloss for reflective quality)
2. Stainless steel
3. Perforated metal
4. Off form concrete finish- high quality
5. Steel rods

