

APPENDIX 1

URBAN DESIGN STUDY

29-31 MACMAHON STREET, HURSTVILLE

urban design study

This study has been prepared by Kennedy Associates Architects. The study addresses the urban design issues associated with the site located at:

29-31MacMahon Street, Hurstville

The subject site is located in the heart of the Hurstville City Centre, Hurstville Strategic Centre and Hurstville Urban Renewal Corridor. The site is located in the City North Precinct of Hurstville Council adjacent to the Commercial Core and Retail Precinct and is geographically close to the City Centre

The subject site is within approximately 200m of Hurstville Railway Station and 70m of the Hurstville Bus Interchange. The site consists of three allotments, is generally rectangular in shape, with a frontage to MacMahon Street of 30.18 metres and an overall site area of approximately 1113 square metres.

MacMahon Street is located at the highest point in Hurstville and is the primary civic street of Hurstville containing both the Hurstville Civic Centre and Hurstville Council Offices as well as a function centre, museum & 2 churches (including one on the subject site).

Several of the buildings in MacMahon Street are heritage items of local heritage significance. The street also contains a substantial carpark and several late 20thC buildings

The subject site is currently occupied by the Hurstville Church of Christ.

DRAWING SCHEDULE

001	INTRODUCTION
100	———— PART 1 - SITE & CONTEXT ANALYSIS —————
101	LOCALITY
102	HURSVILLE CITY PRECINCTS
103	WIDER CONTEXT
104	LEP BUILDING HEIGHTS
105	WIDER CONTEXT - BUILDING HEIGHTS
106	URBAN DEVELOPMENT STRATEGY
107	HEIGHT CONTEXT A
108	HEIGHT CONTEXT B
109	WIDER CONTEXT - TOWN CENTRE
110	LOCAL CONTEXT - HEIGHT OF BUILDING
111	IMMEDIATE CONTEXT
112	FORMER DCP - PERMISSIBLE MASSING
113	FORMER DCP - PERMISSIBLE MASSING SOLAR ANALYSIS
200	———— PART 2 - PROPOSAL —————
201	GROUND LEVEL - NEIGHBOURING SETBACKS
202	GROUND LEVEL - PROPOSED FOOTPRINT
203	UPPER LEVELS - NEIGHBOURING SETBACKS
204	UPPER LEVELS - ORIENTATION / PRIVACY
205	UPPER LEVELS - PROPOSED FOOTPRINT
206	PROPOSED FOOTPRINT SUMMARY
300	———— PART 3 - INDICATIVE SCHEME —————
301	INDICATIVE SCHEME - GROUND FLOOR
302	INDICATIVE SCHEME - LVLS 1-3
303	INDICATIVE SCHEME - LVLS 4-11
304	INDICATIVE SCHEME - LVLS 12-15
305	INDICATIVE SCHEME - HEIGHT
306	INDICATIVE SCHEME - FSR
307	INDICATIVE SCHEME - SHADOW ANALYSIS
308	INDICATIVE SCHEME - SHADOW COMPARISON

This study is in Parts

Part One

Part One of this study presents, by means of a series of diagrams, analysis of:

- the existing urban context
- the built character of that context in terms of building scale & height
- the relationship of MacMahon Street & the subject site to the overall context
- the potential future direction within Hurstville City Centre and based on existing development with regard to building height
- the development issues and opportunities with regards to the subject site

The diagrams and comments provided within them show a number of identifiable patterns and factors that can be used to help determine what the appropriate future direction and character of Hurstville is likely to be.

Key among these are:

- the location of Hurstville City Centre as a 'high point' in its district
- the significance of Hurstville as both historically and currently as an urban centre
- the linear nature of the Hurstville City Centre
- the location of MacMahon Street and the subject site in the centre of Hurstville City
- the substantial increase in development over recent times within the Hurstville City Centre
- a lack of clarity within the development of Hurstville City Centre with respect to building heights
- the existence of a number of buildings within Hurstville City Centre of between 50 and 60m in height
- the existence of a at least one approved 65m high building
- the likelihood of several more buildings of a similar scale being constructed in Hurstville City Centre

The study also identifies that there are several potential future strategic directions that could be taken with regard to the overall height and density of Hurstville City Centre.

Further, the study identifies that:

- the current height regime appears to place primary emphasis on the two gateway sites
- the existing East and West Gateway sites establish a base tower height of 60m - 65m
- the current heights permissible within the City Centre appear to be below those of the gateway sites

With respect to the subject site the study identifies that:

- there are several factors to be addressed when looking at the development potential of the site
- these factors result in a number of different potential building forms / masses
- that key to those factors are:
 - the overall height and 'type' of building to be provided
 - the impacts that development will have on the adjoining heritage building, the streetscape of MacMahon Street and the adjoining residential developments

Part Two

Part Two of this study addresses specific development issues relating to the subject site.

The study looks at the site with respect to the following criteria:

- FSR
- Height
- compliance with the recommendations of the NSW Apartment Design Guide (ADG) with respect to building separation and solar impacts on the immediately adjacent residential developments at:
 - 23-27 MacMahon Street (The MacMahon Plaza Development)
 - 2 Barratt Street & 18-22 Woodville Street (The Hua Cheng Development)
- the urban fit and impacts of the building massing previously proposed in the Hurstville DCP for the subject site (noting that that massing was removed from the most recent version of the DCP)
- the impacts of a building of up to 50m in height on the urban townscape of Hurstville

This study assumes:

- a 6m wide setback to the adjoining heritage item (fire station) reflecting a similar separation on the opposite side of the building
- basement carparking
- two floors of commercial / non-residential use
- boundary to boundary development at ground level
- a podium level to match that on adjoining developments
- a residential development above

This study identifies that:

- the key issue with respect to ADG compliance is the building separation between the proposed development and the existing building at no 23- 27 MacMahon Street
- a building separation from the main building line of 23-27 MacMahon Street of 18m above first floor level will provide sufficient space between the two buildings to not only maintain amenity to that building but also enable ongoing sunlight penetration to the recently completed residential development behind the subject site at No 18-22 Woodville Street

Part Three

Part Three of this study demonstrates, by means of an indicative scheme, capacity for the site to be developed to the controls recommended by the JRPP.

- concentrating the building massing in the southern portion of the subject site will deliver the highest level of amenity to both the site itself and adjoining properties
- a building with a reduced street frontage/width but taller overall height (taller/thinner) is potentially best suited to the site
- buildings with an FSR or up to 5.5: 1 and a height of up to 50m can be comfortably accommodated on the site

Conclusion

Based on the above, this study has identified and demonstrated that:

- Hurstville has an identifiable development pattern based on the East and West Gateway locations & the City Centre
- Hurstville City Centre already contains a significant range of development
- this range includes both the type and scale of development and buildings of up to 60m in height
- Hurstville City Centre is the location most appropriate for a continuing intensification of urban form
- Hurstville City Centre is the location most likely to continue to experience an increase in height
- this height is likely to be up to 65m
- the height of the future development on the council owned civic centre site opposite the subject site is likely to be up to 65m
- the subject site is located at the core of Hurstville City Centre
- the subject site is well placed to accommodate redevelopment that would be of 'strategic and site-specific merit'
- the subject site is well placed to accommodate an uplift in height of some form above that currently permitted

JRPP RECOMMENDATION

The Sydney East Joint Regional Planning Panel (JRPP) Pre-Gateway Review - Recommendation Report (dated 1 June 2016) proposed the instrument should be submitted for a Gateway Determination:

It says, in part:

REASONS FOR THE PANEL'S DECISION:

- 1)**
The Panel resolves unanimously to recommend to the Minister that the planning proposal proceed to a Gateway Determination subject to the following conditions / amendments:
a) The maximum building height to be 50m;
b) The maximum FSR to be 5.5:1;
c) The Department of Planning and Environment is to consult with the appropriate authorities about the height in relation to obstacle limitation surface.
- 2)**
The reason for the Panel restricting the maximum height to 50m is that the heights of the existing buildings in the immediate vicinity of the site are in the 40-45m range. These buildings are unlikely to be redeveloped in the near or medium future. A 50m high building on the subject site will be reasonably compatible with existing development, whereas a building of 55m is likely to be dominant. The Panel's decision to opt for a maximum FSR of 5.5:1 is that teh applicant's urban design analysis suggests, on page 212, that this is the appropriate FSR for a height of 48m (ie approximately 50m).
- 3)**
The Panel is satisfied, on the basis of the applicant's urban design analysis, that the above density and height controls will produce a development on the subject site that will be compatible in its environment, with acceptable impacts on surrounding development.

This planning propasal / urban design study has been updated to reflect the JRPP's Recommendation Report

INTRODUCTION

urban design study

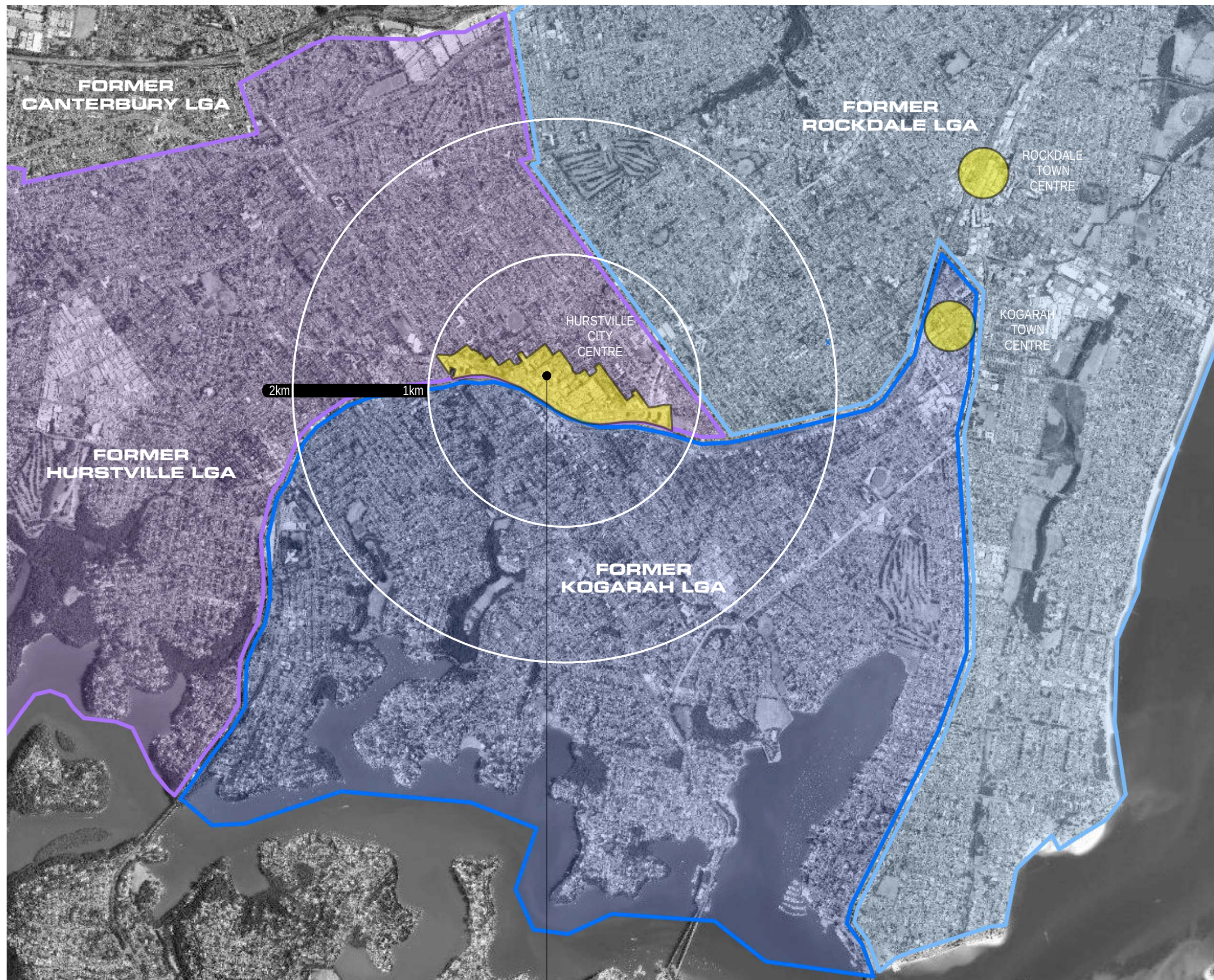
29-31 Macmahon Street, HURSTVILLE

1610 – 001

AUG 2016

PART 1

SITE & CONTEXT ANALYSIS



subject site: 29-31 macmahon street, hurstville

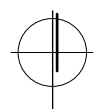
COMMENT

HURSTVILLE CITY CENTRE

- major transport hub on railway line
- adjacent kogarah LGA
- at high point / ridge above georges river
- stand alone city centre not part of urban corridor

COUNCIL AMALGAMATIONS

As of the 12th of May 2016 Hurstville City and Kogarah City councils have merged to form Georges River Council



0 500m 1.5km
1:30,000 @ A3

LOCALITY

urban design study

29-31 Macmahon Street, HURSTVILLE

1610 - 101

FORMER
HURSTVILLE LGA

FORMER
KOGARAH LGA

COMMERCIAL
CORE

COMMENT

- subject site located in Hurstville City Council's City Centre North Precinct
- subject site located within close proximity to Hurstville City Centre's Retail Core Precinct and Commercial Core zone

COUNCIL AMALGAMATIONS

As of the 12th of May 2016 Hurstville City and Kogarah City councils have merged to form Georges River Council

subject site: 29-31 macmahon street, hurstville
located at high point of hurstville city centre

hurstville railway station

hurstville station

subject site

Extent of B3 Commercial Core zone

Area identified as "Hurstville City Centre"

Western Bookend Precinct

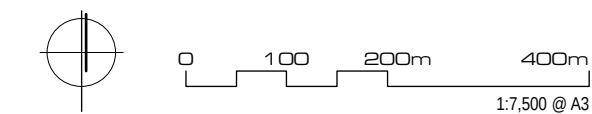
City Centre West Precinct

City Centre North Precinct

Retail Core Precinct

City Centre East Precinct

Eastern Bookend Precinct



kennedy associates architects
level 3 / 1 booth street annandale 2038
p + 61 2 9557 6466
f + 61 2 9557 6477
nominated architect - steve kennedy - registration no. 5828

HURSTVILLE CITY PRECINCTS

urban design study

29-31 Macmahon Street, HURSTVILLE

1610 – 102

AUG 2016

FORMER
HURSTVILLE LGA

FORMER
KOGARAH LGA

COMMERCIAL
CORE

500 M

COMMENT

- commercial precinct stretches approximately 2km along forest road
- railway station + City Centre in middle of precinct
- subject site in centre of precinct

COUNCIL AMALGAMATIONS

As of the 12th of May 2016 Hurstville City and Kogarah City councils have merged to form Georges River Council

hurstville civic centre precinct

subject site: 29-31 macmahon street, hurstville
located at high point of hurstville city centre

hurstville railway station

-  hurstville station
-  subject site

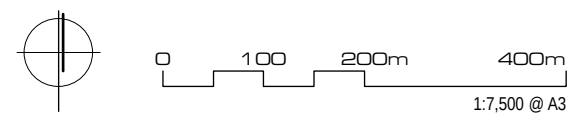
hurstville town centre "commerical core" based on commercial B3 zone

hurstville town centre "commerical precinct" based on commercial B3 + B4 zone

medium density zoning based on R3 zoning

- indicates line of king georges road
- indicates line of forest road
- indicates T4 Illawarra train line

source: Hurstville LEP 2012 - Land Zoning Map - Sheet LZN_008A + 008B
Kogarah LEP 2012 - Land Zoning Map - Sheet LZN_003 + 006



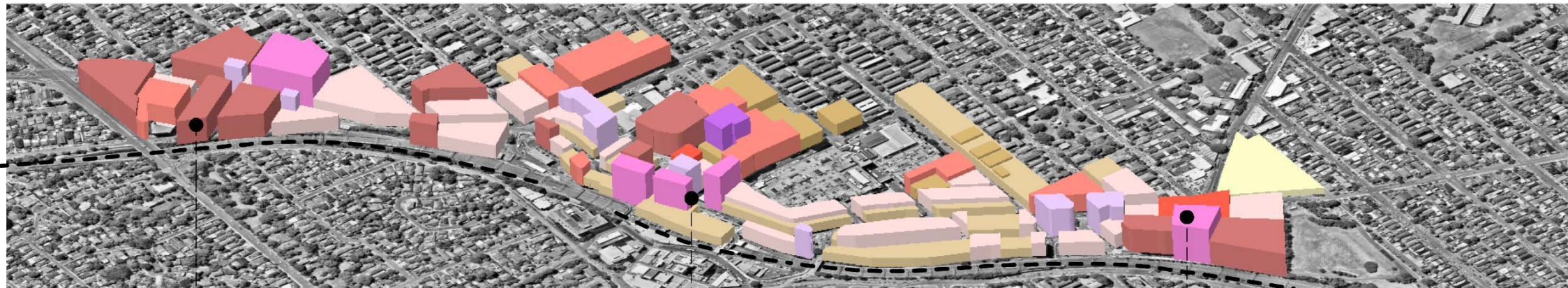
kennedy associates architects
level 3 / 1 booth street annandale 2038
p + 61 2 9557 6466
f + 61 2 9557 6477
nominated architect - steve kennedy - registration no. 5828

WIDER CONTEXT

urban design study

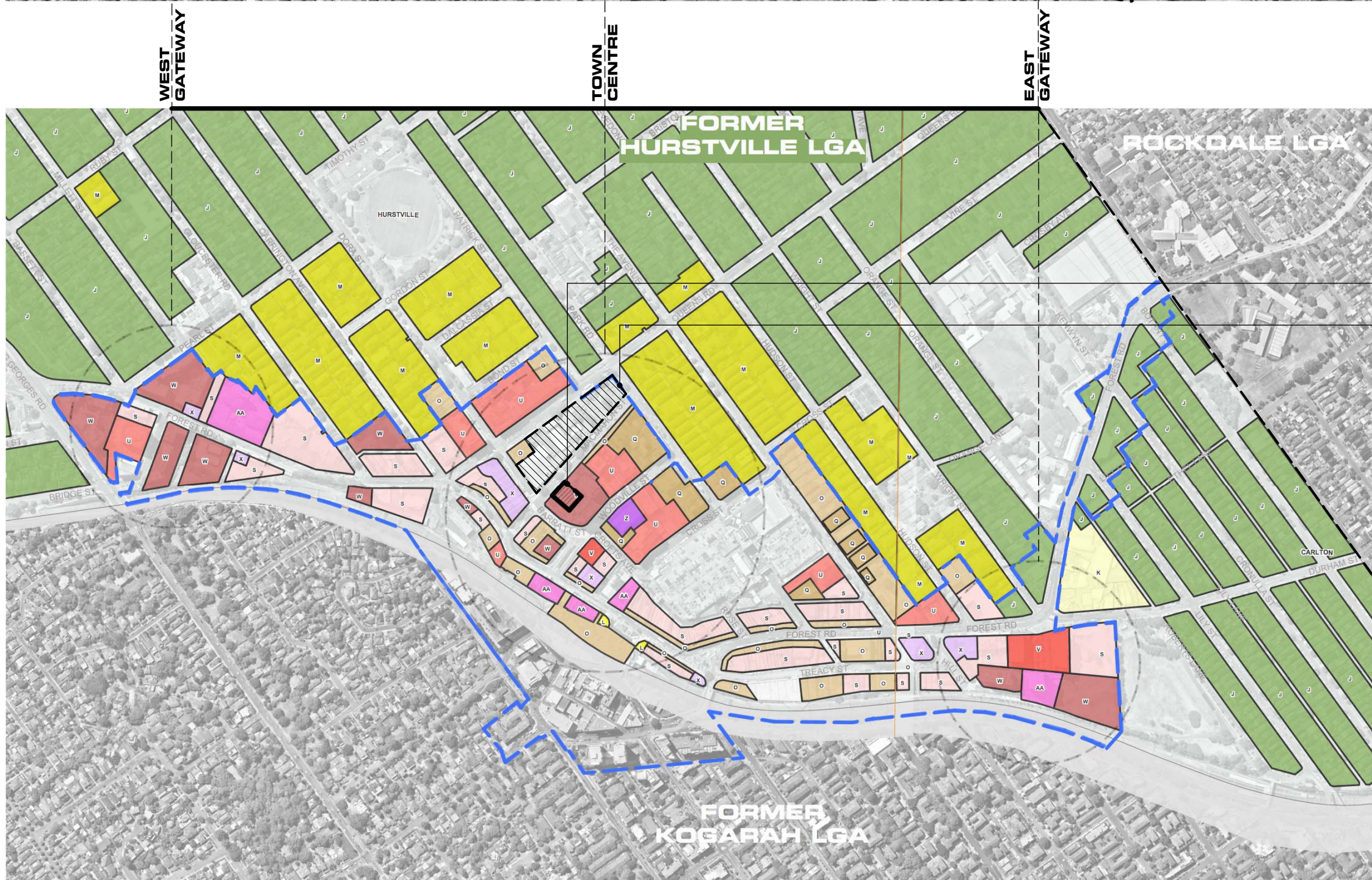
29-31 Macmahon Street, HURSTVILLE
1610 - 103

AUG 2016



COMMENT

- LEP allows range of building heights across commercial precinct
- 60m high building at both east + west gateway
- civic centre + council offices site unspecified
- heights do not appear to be based on topography
- city centre appears to be currently focussed on bus interchange



COUNCIL AMALGAMATIONS

As of the 12th of May 2016 Hurstville City and Kogarah City councils have merged to form Georges River Council

subject site: 29-31 macmahon street, hurstville

civic precinct: height of buildings unspecified in current LEP maps

hurstville 'commercial precinct' based on B3 + B4 land zoning

Maximum Building Height (m)

J	9
K	10
L	11
M	12
N	13
O	15
P	18
Q	19
R	21
S	23
T	28
U	30
V	35
W	40
X	45
Z	55
AA	60

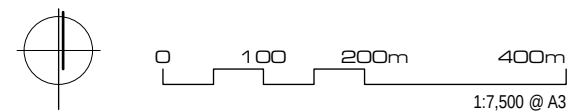
LEP BUILDING HEIGHTS

urban design study

29-31 Macmahon Street, HURSTVILLE

1610 – 104

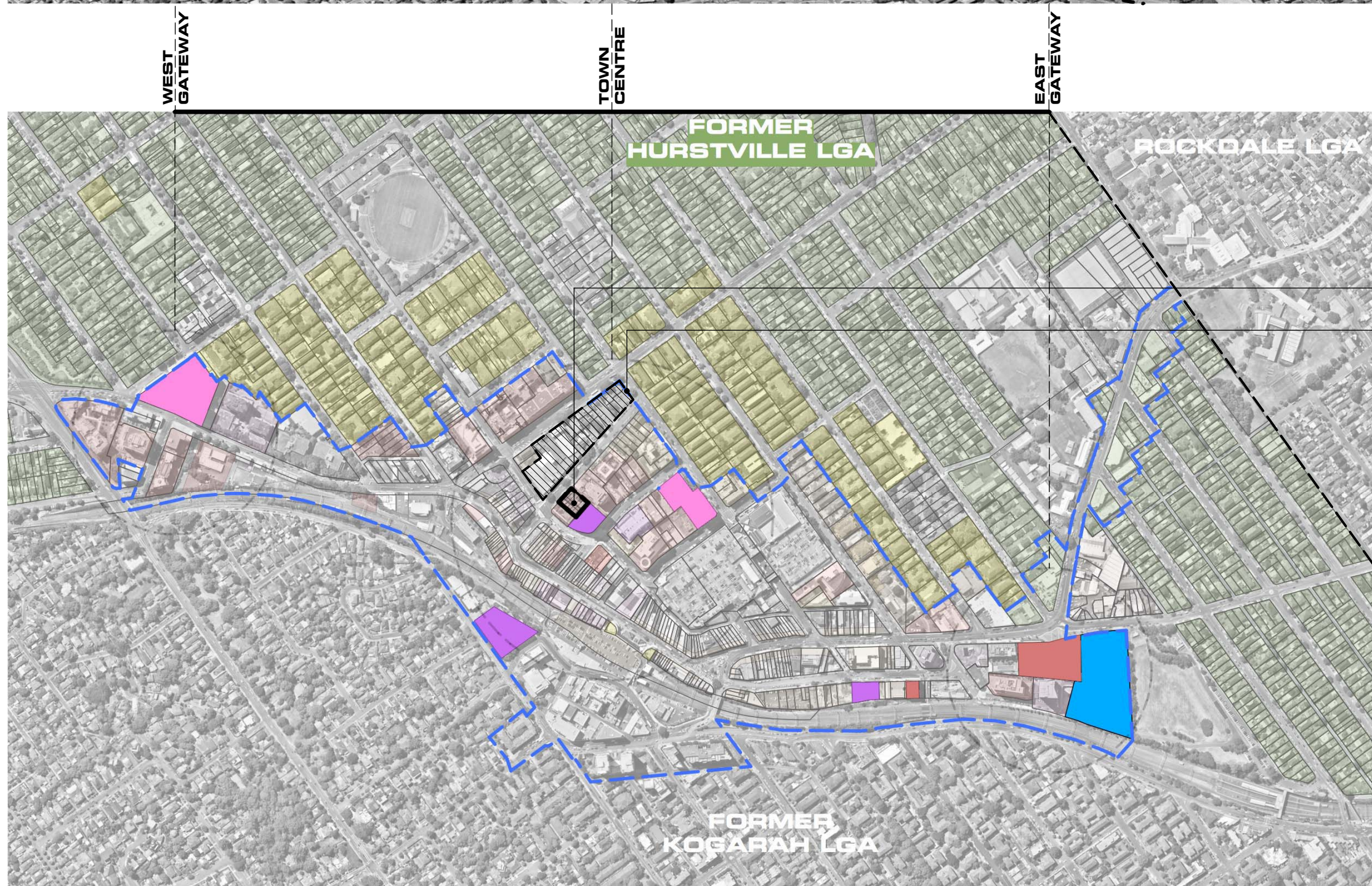
AUG 2016





COMMENT

- approved and as built building heights have varied from LEP controls across hurstville commercial precinct
- approved height variations have been up to twice LEP heights
- uplift is generating a different urban character to that envisaged by LEP
- resonable to anticipate that this process will continue similar to other city centres across sydney



COUNCIL AMALGAMATIONS

As of the 12th of May 2016 Hurstville City and Kogarah City councils have merged to form Georges River Council

subject site: 29-31 macmahon street, hurstville

civic precinct: height of buildings unspecified in current LEP maps

hurstville 'commercial precinct' based on B3 + B4 land zoning

Maximum Building Height (m)

J	9
K	10
L	11
M	12
N	13
O	15
P	18
Q	19
R	21
S	23
T	28
U	30
V	35
W	40
X	45
Z	55
AA	60

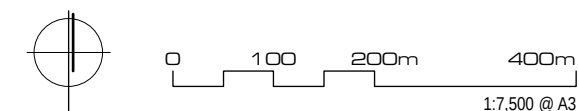
WIDER CONTEXT - BUILDING HEIGHTS

urban design study

29-31 Macmahon Street, HURSTVILLE

1610 – 105

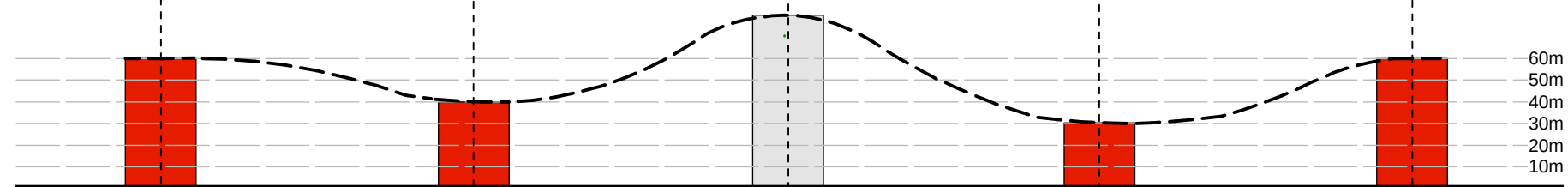
AUG 2016



kennedy associates architects
level 3 / 1 booth street annandale 2038
p + 61 2 9557 6466
f + 61 2 9557 6477
nominated architect - steve kennedy - registration no. 5828



subject site: 29-31 macmahon street, hurstville

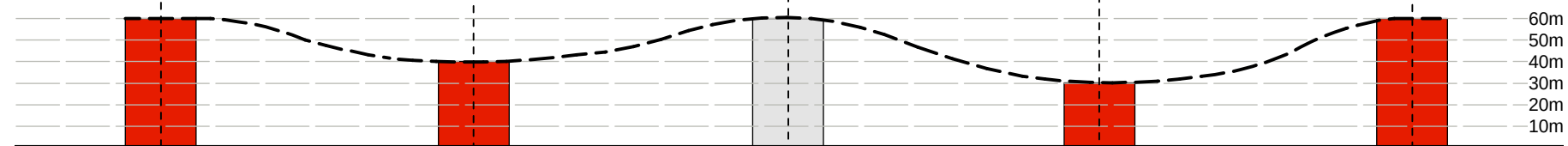


WEST GATEWAY

TOWN CENTRE

EAST GATEWAY

STRATEGY A - GREATER HEIGHT UPLIFT TO TOWN CENTRE (PYRAMID)



WEST GATEWAY

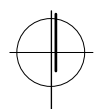
TOWN CENTRE

EAST GATEWAY

STRATEGY B - HEIGHT OF TOWN CENTRE EQUAL TO GATEWAYS

COMMENT

- based on existing controls + as built data, height of city centre to be similar in scale to gateway buildings
- potential exists to increase height in city centre to bring focus to centre, similar to other city centres (pyramid)



0 100 200m 400m
1:7,500 @ A3

URBAN DEVELOPMENT STRATEGY

urban design study

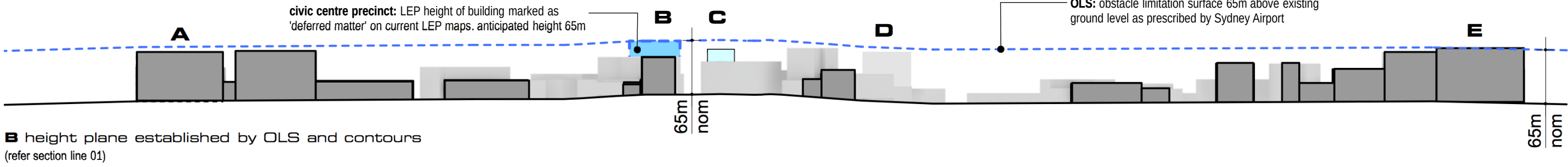
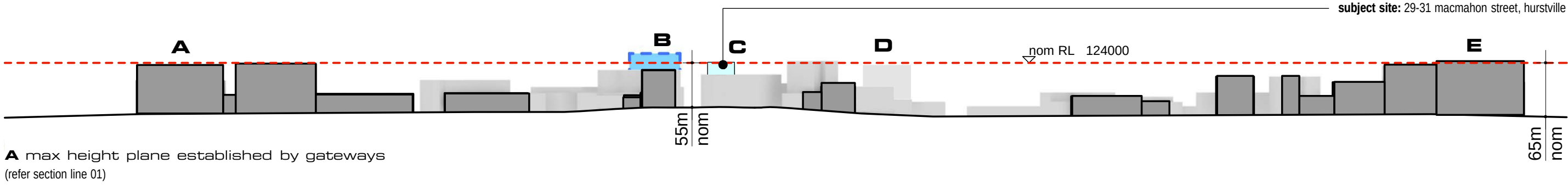
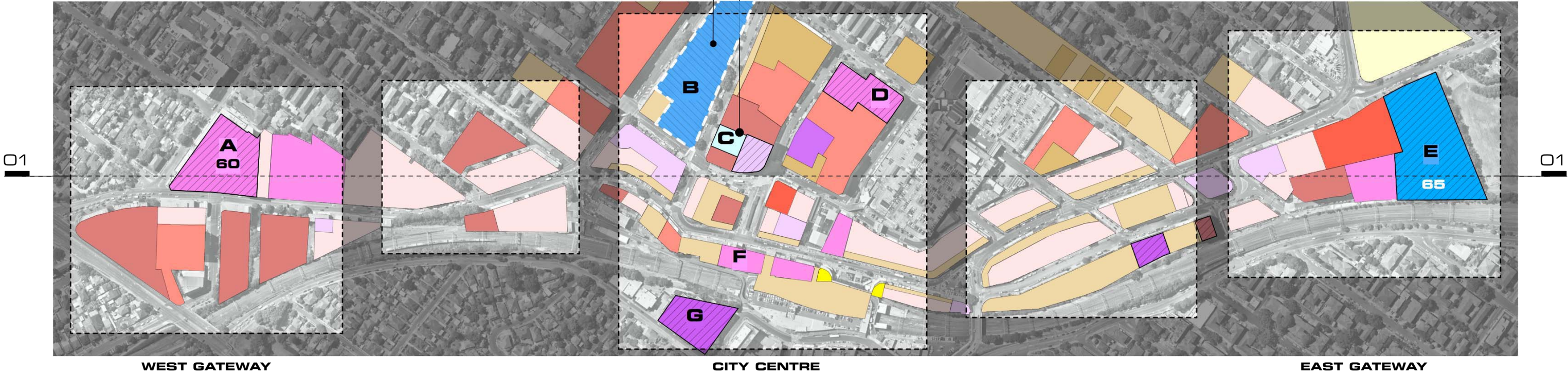
29-31 Macmahon Street, HURSTVILLE

1610 - 106

AUG 2016

civic centre precinct: LEP height of building marked as 'deferred matter' on current LEP maps. anticipated height 65m

subject site: 29-31 macmahon street, hurstville



COMMENT:

Obstacle Limitation Surface (OLS)
The Obstacle Limitation Surface (OLS) defines the airspace surrounding an airport that must be protected from obstacles so aircraft flying in good weather during the initial and final stages of flight, or in the vicinity of the airport, can do so safely. Our understanding is that with respect to Hurstville City Centre the relevant OLS is 65m above the ground level. This height can be exceeded but only through a complex approval process.

Accordingly, it can be argued that in urban design terms the OLS becomes the default benchmark maximum building height for the City Centre. This is evidenced in the current and recent approvals of buildings, including the gateway developments of up to but not exceeding 65m in height

Building Height in Hurstville City Centre
The existing context, built form and OLS requirements suggest two approaches to establishing the appropriate long term height plane for the City Centre associated with MacMahon Street

A:
Make the overall height of the town centre equal to the top of the existing gateway developments. Given the ground level of MacMahon Street (the highest point in Hurstville) is approximately 10m higher than the ground level of the East Gateway this would mean that building heights in MacMahon Street, including those of the council site opposite the subject site, would be limited to an overall height of approximately 55m

B:
Use the OLS and height of the gateway developments to establish the benchmark for the height of the buildings in the City Centre but allow the building heights to also respond to the changing topography. This would mean that building heights in MacMahon Street, including those of the council site opposite the subject site, would be limited to an overall height of approximately 65m.

NOTE:

heights of building shown as permissible and as approved

proposed massing
anticipated massing

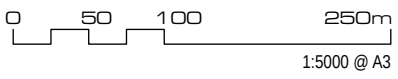
Maximum Building Height (m)			
J	9	S	23
K	10	T	28
L	11	U	30
M	12	V	35
N	13	W	40
O	15	X	45
P	18	Z	55
Q	19	AA	60
R	21		65

HEIGHT CONTEXT A

urban design study

29-31 Macmahon Street, HURSTVILLE
1610 - 107

AUG 2016



civic centre precinct: LEP height of building marked as 'deferred matter' on current LEP maps. anticipated height 65m

subject site: 29-31 macmahon street, hurstville

01

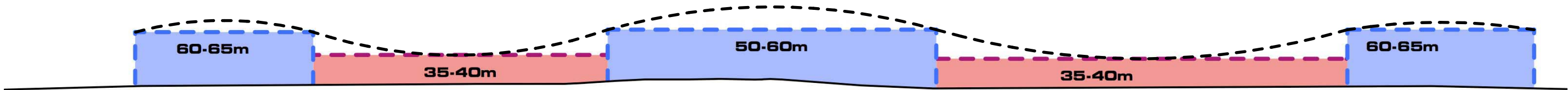
01



WEST GATEWAY

TOWN CENTRE

EAST GATEWAY



section 01 - anticipated heights across hurstville city centre based on existing development patterns

COMMENT:

The analysis in this study identifies that:

- Hurstville has an identifiable development pattern based on the East and West Gateway locations & the City Centre
- the Commercial Precinct and Hurstville City Centre already contain a significant range of development
- this range includes both the type and scale of development and buildings of up to 60m in height
- Hurstville City Centre is the location most appropriate for a continuing intensification of urban form within the Precinct
- Hurstville City Centre is the location most likely to continue to experience an increase in height
- this height is likely to be up to 65m
- the height of the future development on the council owned civic centre site opposite the subject site is likely to be up to 65m
- the subject site is located at the core of Hurstville City Centre
- the subject site is well placed to accommodate redevelopment that would be of 'strategic and site-specific merit'
- the subject site is well placed to accommodate an uplift in height of some form above that currently permitted
- given the existing and anticipated context, a building height on the subject site of 60m has the capacity to fit within the existing and anticipated urban context of MacMahon Street

proposed location of new park under former DCP. marked as 'deferred matter' on current LEP maps

Maximum Building Height (m)

J	9	S	23
K	10	T	28
L	11	U	30
M	12	V	35
N	13	W	40
O	15	X	45
P	18	Z	55
Q	19	AA	60
R	21		65

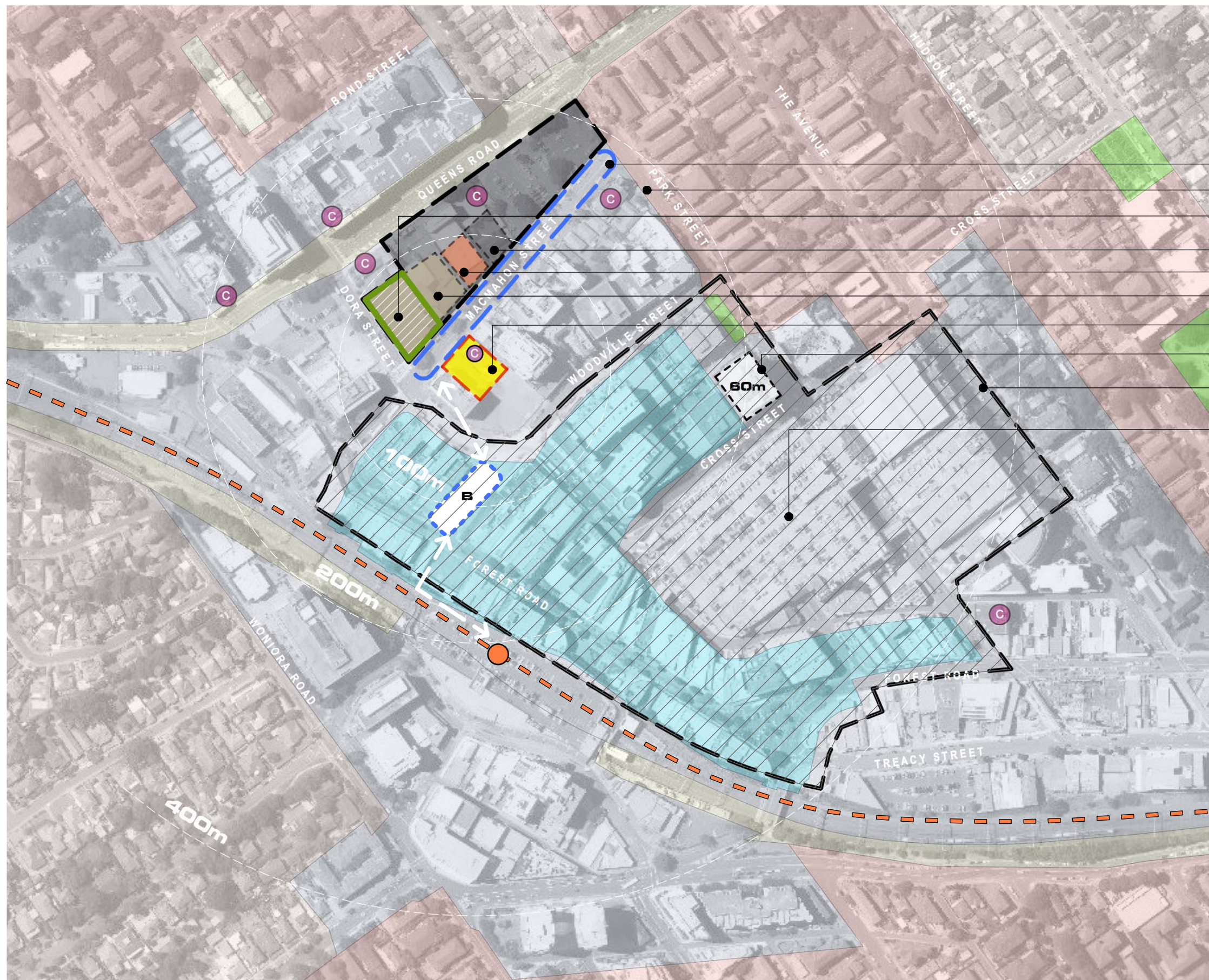
HEIGHT CONTEXT B

urban design study

29-31 Macmahon Street, HURSTVILLE
1610 - 108

AUG 2016





COMMENT

- site located in heart of hurstville city centre
- site adjacent both civic + commercial amenities
- site approximately 70m from bus interchange + 200m from railway station

- civic precinct: currently deferred matter on council LEP maps
- macmahon street: primary civic street of hurstville
- park: possible location of new park identified on earlier council documents (current public domain plan 2007)
- museum
- civic centre
- council offices
- subject site: 29-31 macmahon street, hurstville
- 60m high building
- shopping precinct / commercial core
- westfield shopping centre

- hurstville station
- church
- civic centre
- council offices
- bus interchange
- subject site

B3 - COMMERCIAL CORE

B4 - MIXED USE

R3 - MEDIUM DENSITY RESIDENTIAL

R2 - LOW DENSITY RESIDENTIAL

RE1 - PUBLIC RECREATION

indicates T4 Illawarra train line



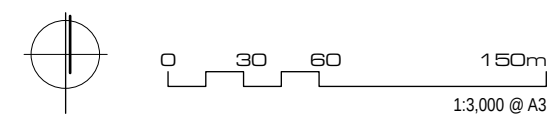
WIDER CONTEXT - TOWN CENTRE

urban design study

29-31 Macmahon Street, HURSTVILLE

1610 - 109

AUG 2016



kennedy associates architects
level 3 / 1 booth street annandale 2038
p + 61 2 9557 6466
f + 61 2 9557 6477
nominated architect - steve kennedy - registration no. 5828



COMMENT

- subject site in zone already consisting of buildings of up to 60m in height
- subject site located towards southern end of macmahon street where overshadowing will have least impact on amenity of other buildings
- subject site located in prime location for urban intensification (off main traffic routes, overlooking civic precinct immediately adjacent transport and amenities)

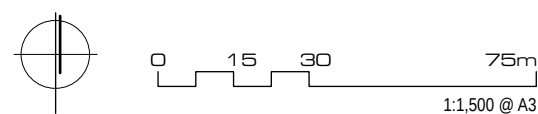
civic precinct: currently deferred matter on council LEP maps / previously shown as 55m - adjoins land with max building height zone L - 11m

subject site: 29-31 macmahon street, hurstville

Maximum Building Height (m)

J	9
K	10
L	11
M	12
N	13
O	15
P	18
Q	19
R	21
S	23
T	28
U	30
V	35
W	40
X	45
Z	55
AA	60

as shown in (LEP + AS APPROVED / BUILT MAP)



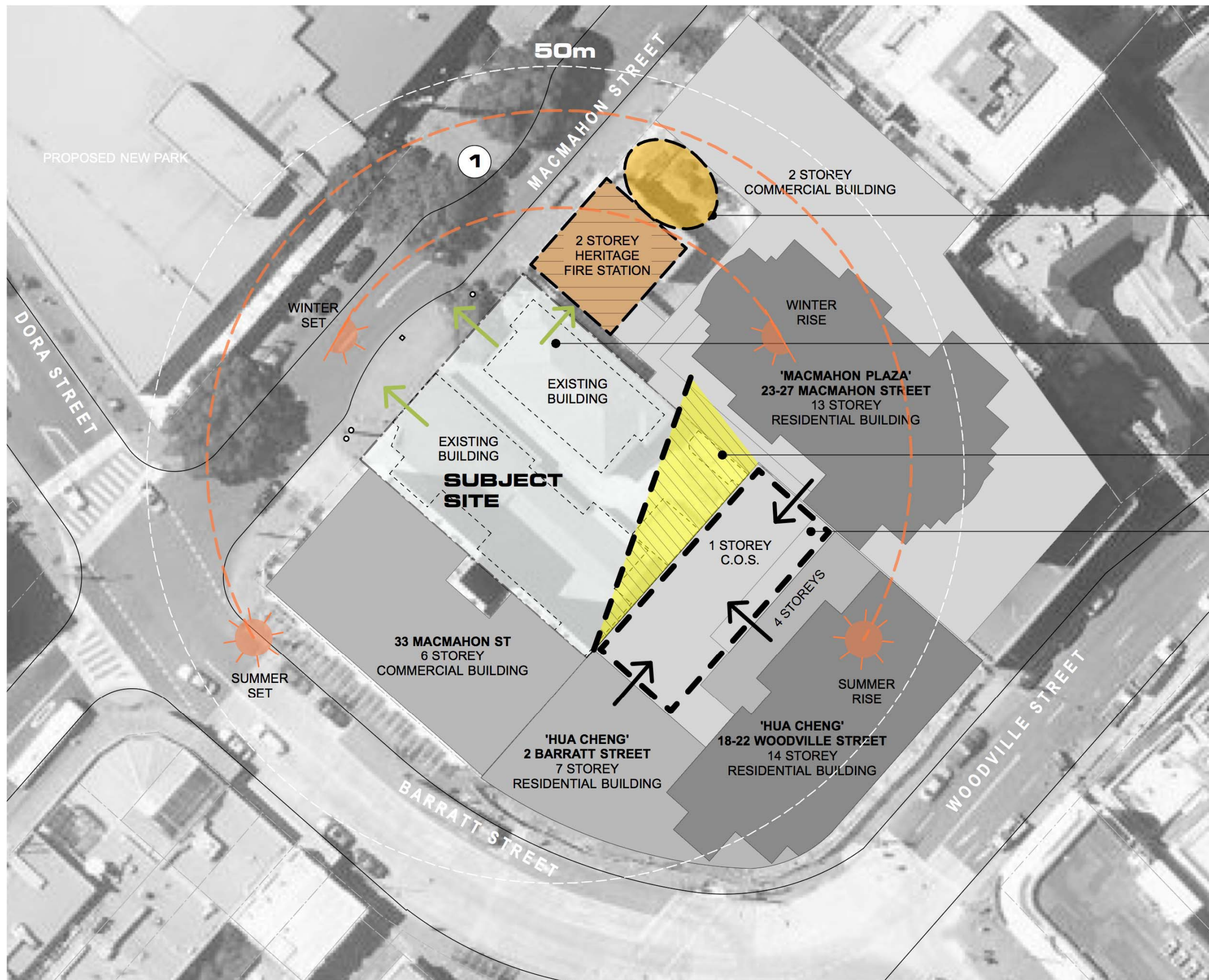
kennedy associates architects
level 3 / 1 booth street annandale 2038
p + 61 2 9557 6466
f + 61 2 9557 6477
nominated architect - steve kennedy - registration no. 5828

LOCAL CONTEXT - HEIGHT OF BUILDING

urban design study

29-31 Macmahon Street, HURSTVILLE
1610 – 110

AUG 2016



COMMENT

- amenity of subject site impacted by adjoining developments
- site offers good views and orientation to north and northwest to macmahon street and civic precinct

open space to side of heritage item

views / orientation: subject site offers good orientation and views to north and northwest

zone of site affected by amenity / overlooking / balconies of adjoining properties

COS: communal open space at first floor podium level. balconies from adjoining sites overlook COS



heritage item



buffer zone / setbacks to heritage building (fire station)



SITE PHOTO 1
HERITAGE FIRE STATION

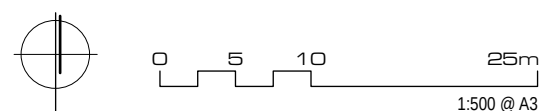
IMMEDIATE CONTEXT

urban design study

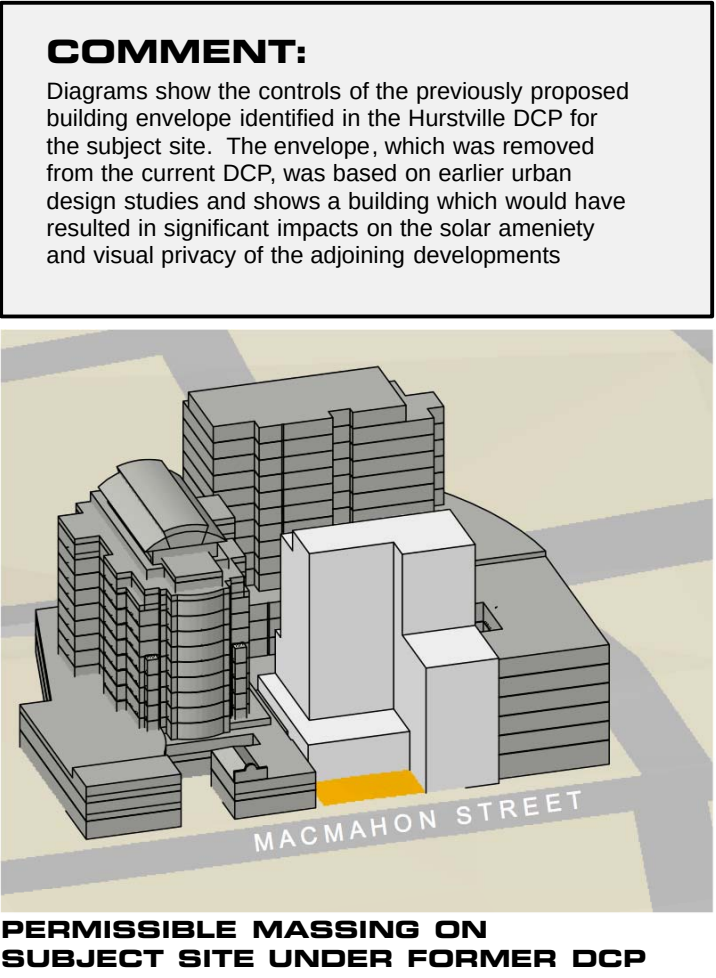
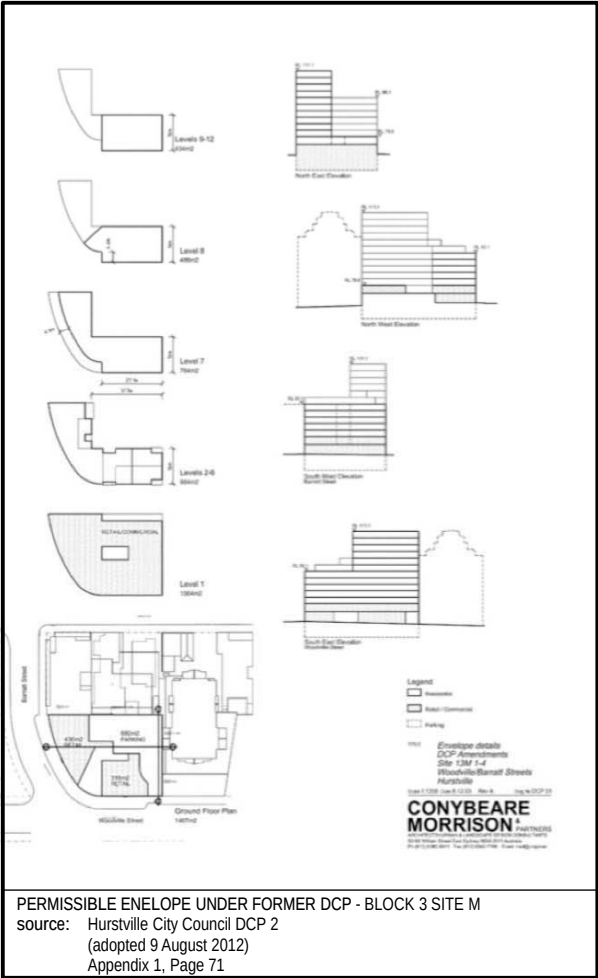
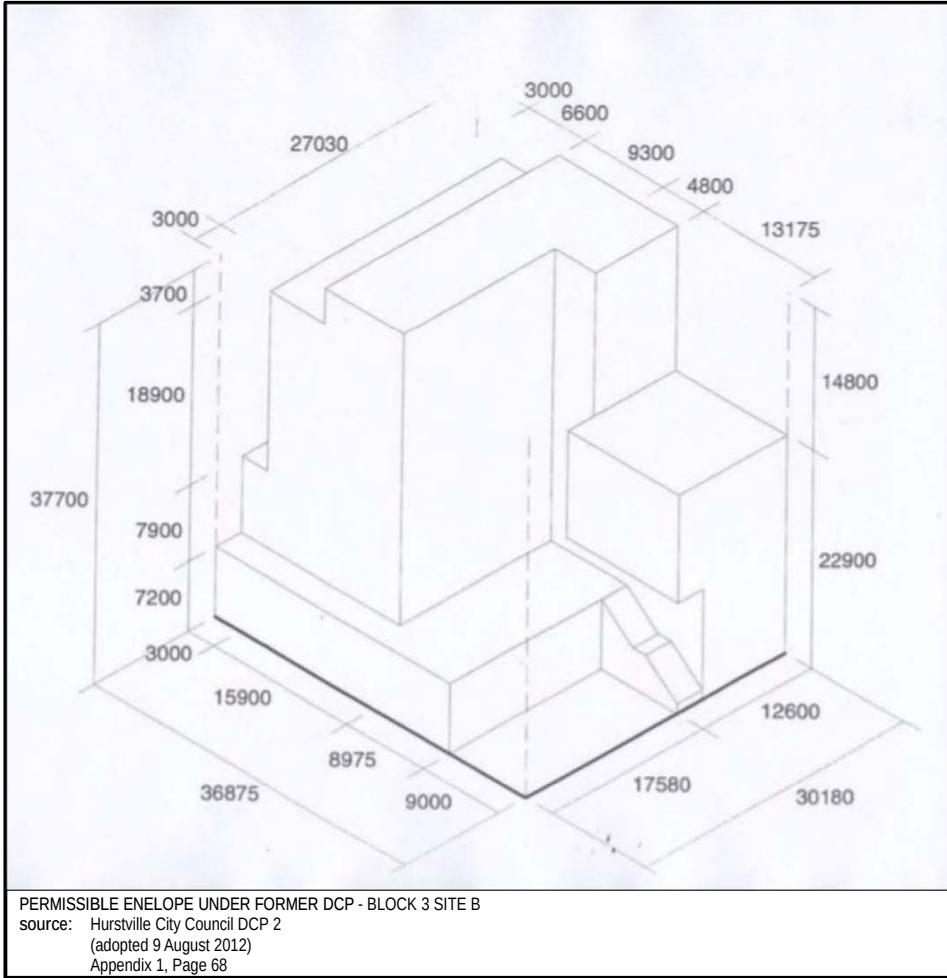
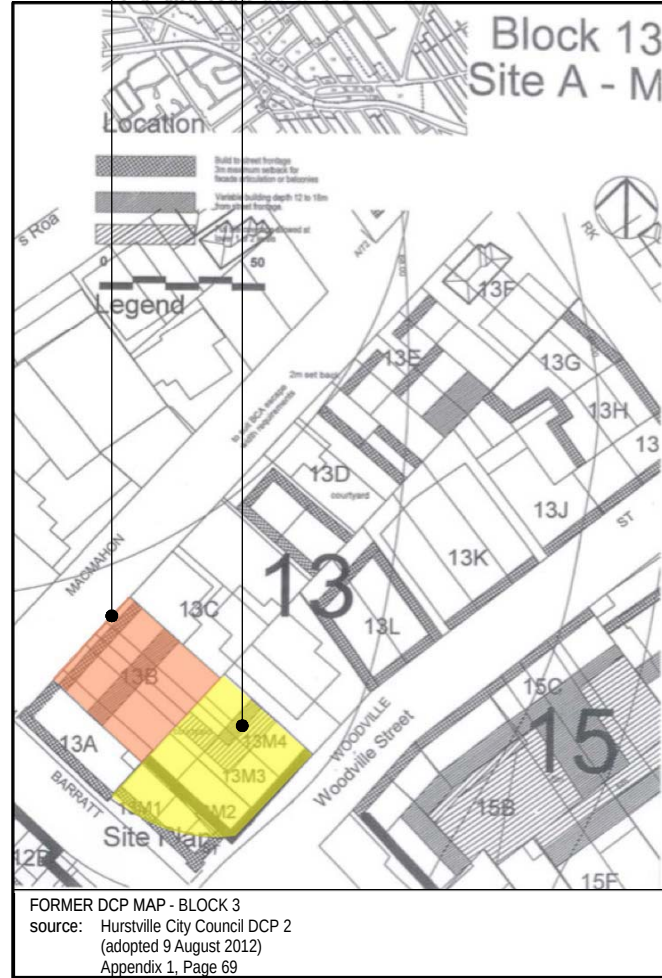
29-31 Macmahon Street, HURSTVILLE

1610 - 111

AUG 2016

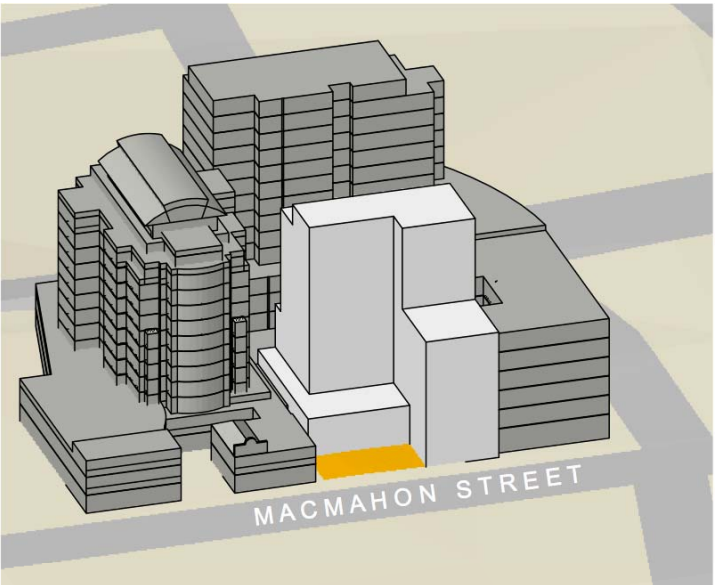


13B - subject site: 29-31 MacMahon Street, HURSTVILLE
13M - 'Hua Cheng': 2 Barratt Street + 18-22 Woodville Street

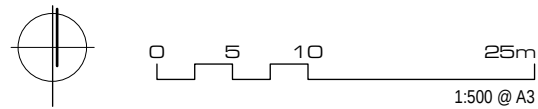


COMMENT:

Diagrams show the controls of the previously proposed building envelope identified in the Hurstville DCP for the subject site. The envelope, which was removed from the current DCP, was based on earlier urban design studies and shows a building which would have resulted in significant impacts on the solar amenity and visual privacy of the adjoining developments



PERMISSIBLE MASSING ON
SUBJECT SITE UNDER FORMER DCP



FORMER DCP - PERMISSIBLE MASSING

urban design study

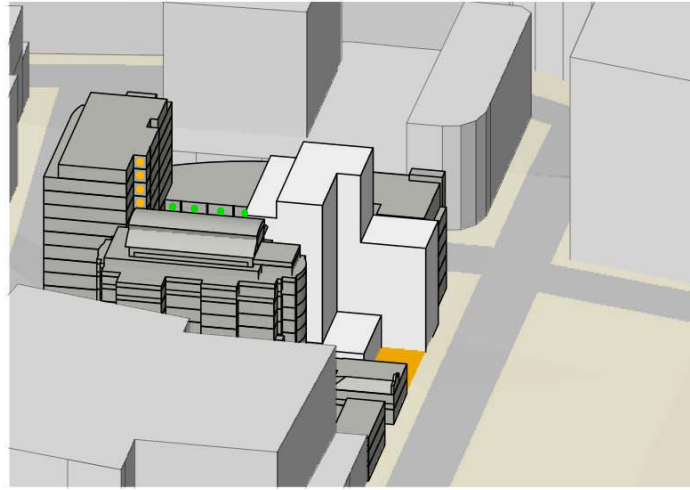
29-31 Macmahon Street, HURSTVILLE

1610 - 112

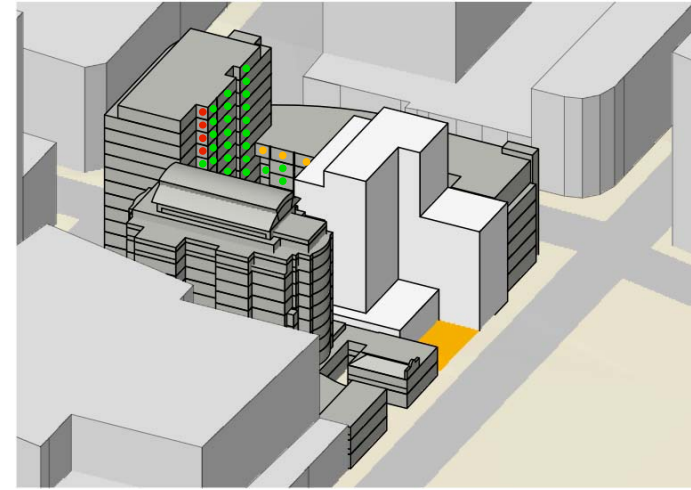
AUG 2016



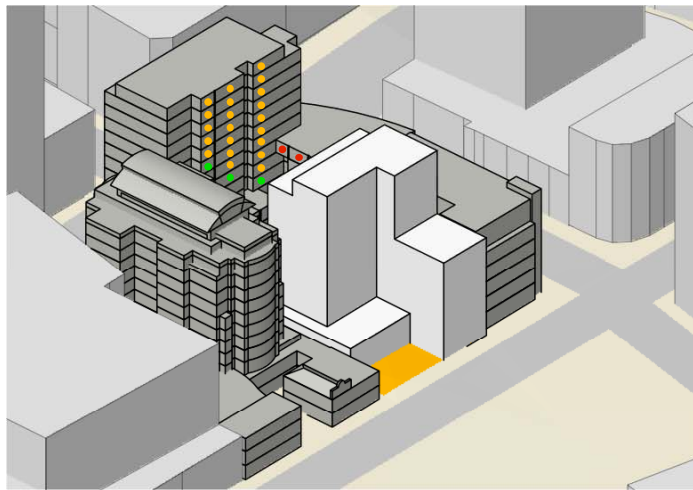
9am - winter sun



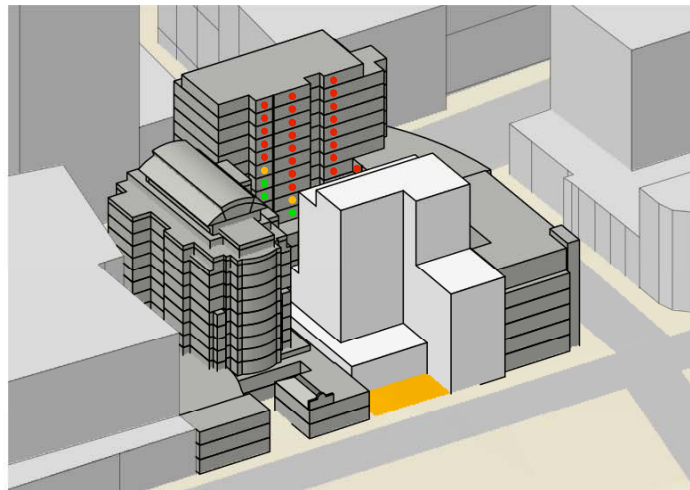
10am - winter sun



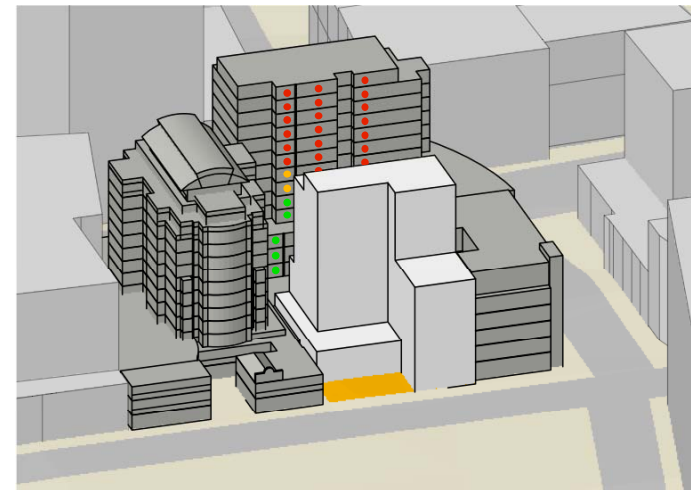
11am - winter sun



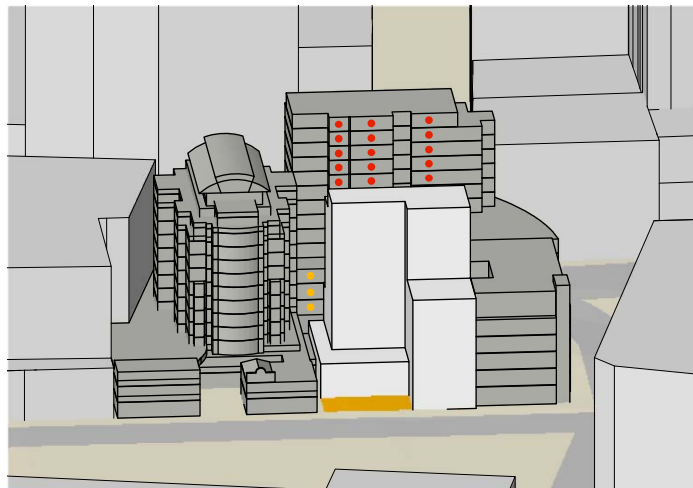
12pm - winter sun



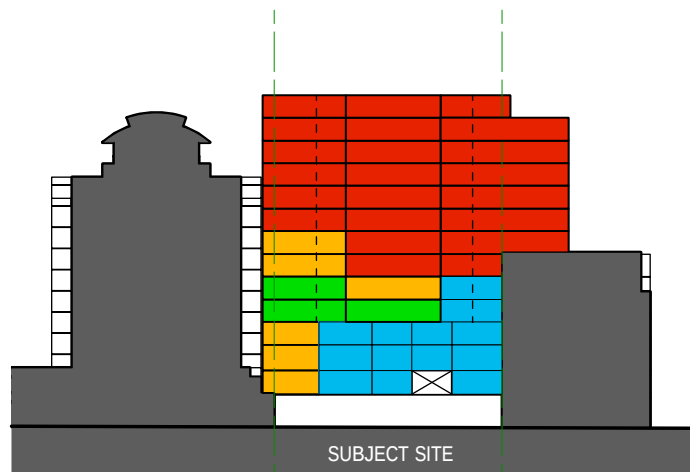
1pm - winter sun



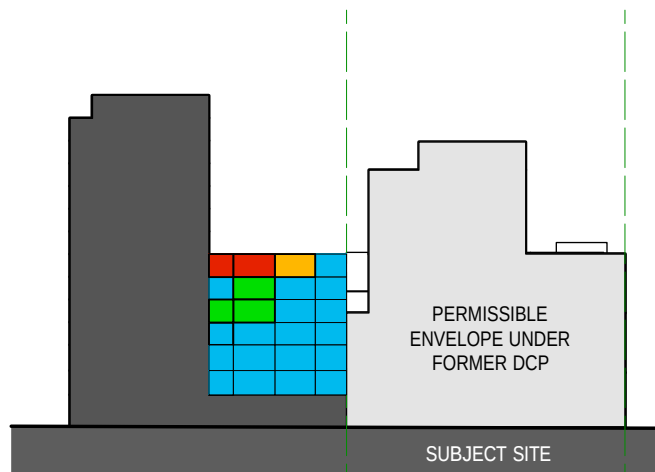
2pm - winter sun



3pm - winter sun



HUA CHENG - NW ELEVATION
50% receive 2hrs sun



HUA CHENG - NE ELEVATION
8% receive 2hrs sun

COMMENT:

Diagrams show the impacts of the previously proposed building envelope identified in the Hurstville DCP for the subject site. The envelope, which was removed from the current DCP, was based on earlier urban design studies and shows a building which would have resulted in significantly greater impacts on adjoining properties than is now proposed.

Comparison is instructive in that this building form could have been built as a complying development on the site up to June 2015 when Amendment 6 to new DCP 2 came into effect.

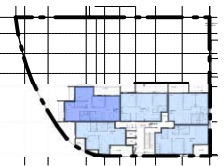
This study seeks to achieve an amenity equal to or greater than that previously anticipated for the site and the adjoining developments.



level 1-3



level 4-6



level 7-13

TYPICAL PLANS - 'HUA CHENG'



1 BED



2 BED



3 BED

SOLAR PERFORMANCE

Total No. of Units in 'Hua Cheng' RFB development - nom 98
No of north facing units in 'Hua Cheng' = nom 68

	Ref. Colour	NO UNITS	% (total)	% (north facing only)
total units (out of 98) receiving less than 15 mins sun		61	62%	
north facing units (out of 68) receiving less than 15 mins sun		31		45%
units receiving min 15 mins sun		6	6%	9%
units receiving min 1hrs sun		7	7%	10%
units receiving min 2hrs sun		24	24%	35%

FORMER DCP - PERMISSIBLE MASSING SOLAR ANALYSIS

urban design study

29-31 Macmahon Street, HURSTVILLE

1610 - 113

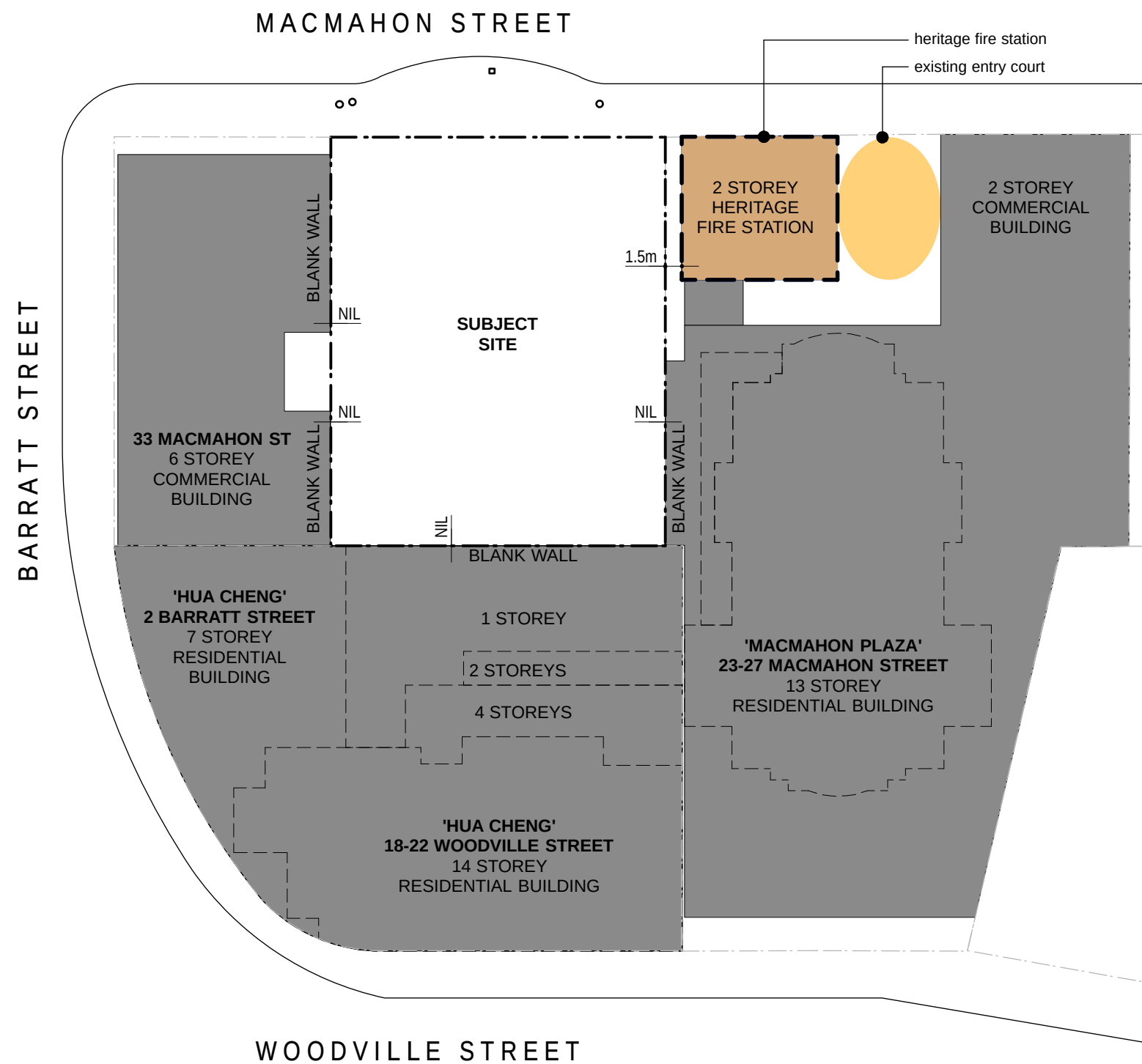
AUG 2016



0 10 20 50m
1:1000 @ A3

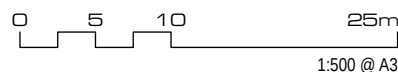
PART 2

PROPOSAL



COMMENT:

- with the exception of the heritage fire station at 23-27 MacMahon St the subject site is predominantly surrounded at ground level by developments built to the boundary with blank walls



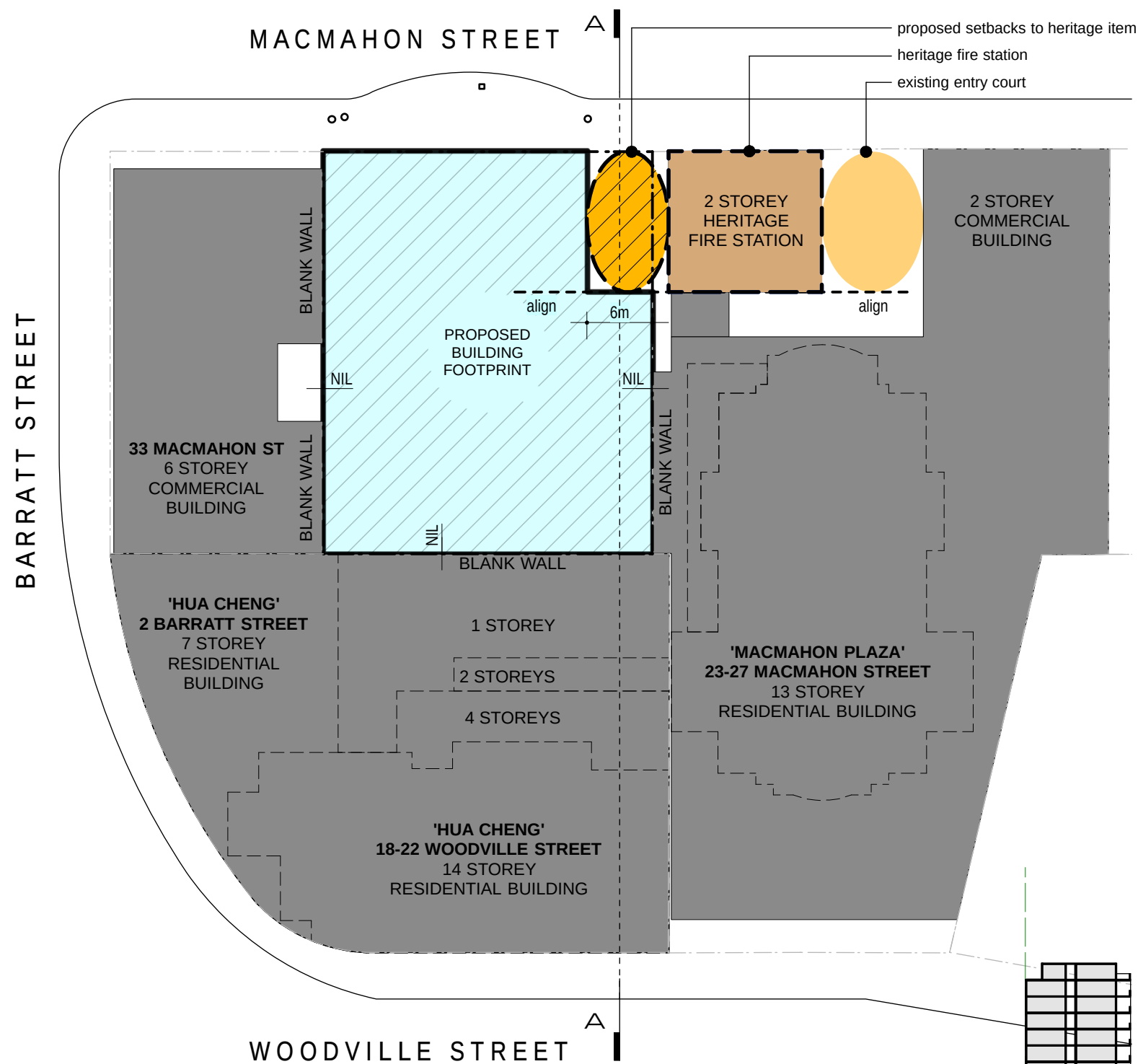
GROUND LEVEL - NEIGHBOURING SETBACKS

urban design study

29-31 Macmahon Street, HURSTVILLE

1610 - 201

AUG 2016

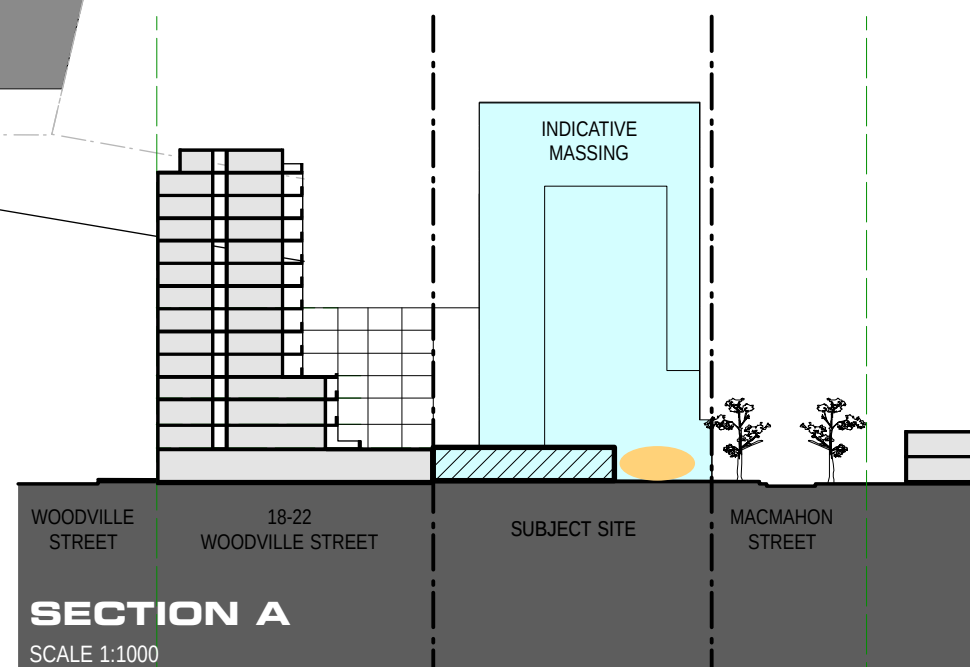


COMMENT:

- ground level occupies entire site excluding setbacks to heritage building
- this study proposes a 6m wide setback to the adjoining heritage item (fire station) reflecting a similar separation on the opposite side of the building

LEGEND

- proposed building footprint in section
- proposed building footprint in elevation
- heritage item
- proposed setbacks to heritage building (fire station)

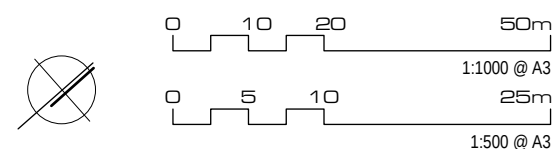


GROUND LEVEL - PROPOSED FOOTPRINT

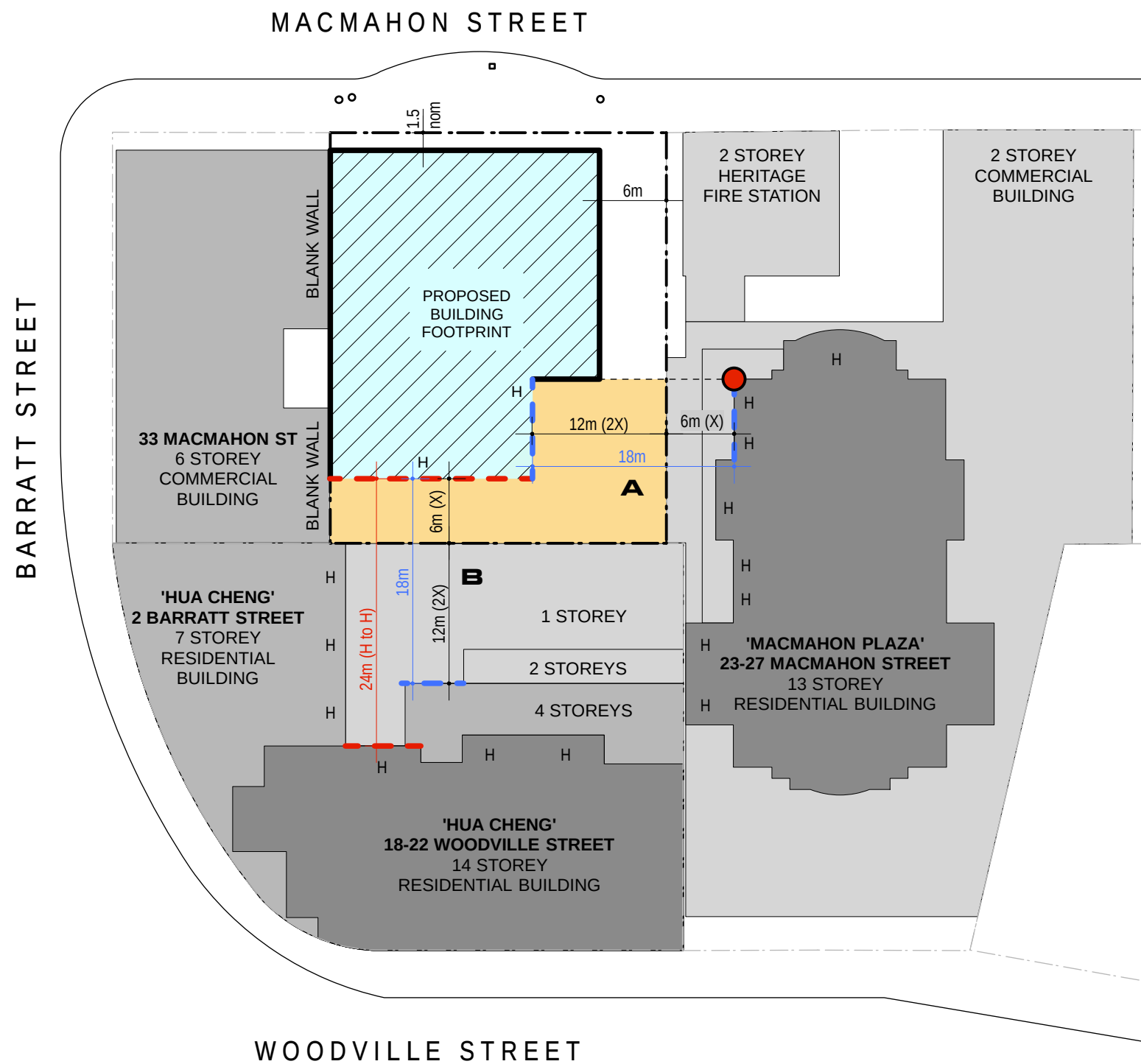
urban design study

29-31 Macmahon Street, HURSTVILLE
1610 - 202

AUG 2016



kennedy associates architects
level 3 / 1 booth street annandale 2038
p + 61 2 9557 6466
f + 61 2 9557 6477
nominated architect - steve kennedy - registration no. 5828



COMMENT:

A

- due to lack of setbacks provided by 23 -27 MacMahon Street + limited impacts resulting from building offsets, a side boundary setback of 12m is proposed to the subject site facing 23 - 27 MacMahon St equal to 50% of ADG criteria (ADG P63) & twice that provided by the adjacent development

- this achieves a min 18m shared building separation between the existing development at 23-27 MacMahon Street and future developments on the subject site

B

- a total of 24m building separation is achieved between subject site and 18-22 Woodville Street, Hurstville (ADG P 37)

LEGEND



proposed building footprint



site area **affected** by ADG building separation criteria



24m separation between proposed and neighbouring habitable spaces



18m separation between proposed and neighbouring habitable spaces



point from which application of ADG building separation needs to be considered for the visual privacy and solar amenity of adjacent developments

H

habitable rooms

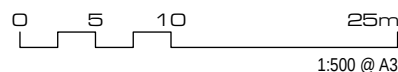
UPPER LEVELS - PROPOSED FOOTPRINT

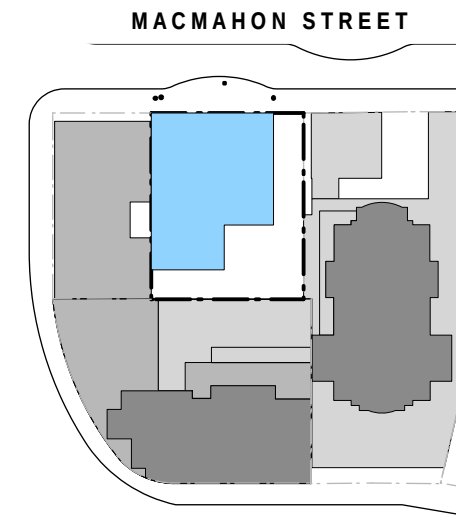
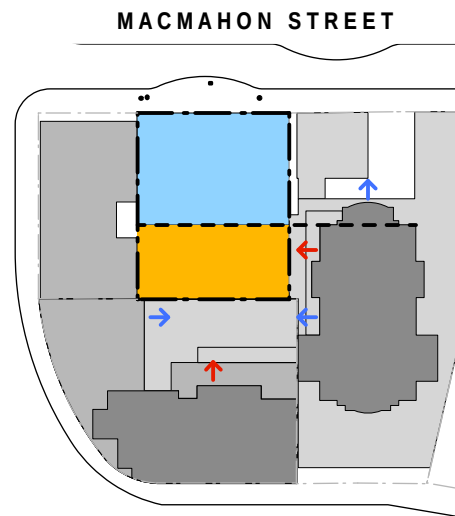
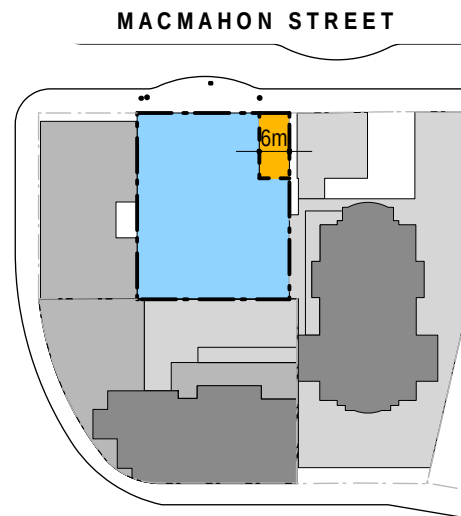
urban design study

29-31 Macmahon Street, HURSTVILLE

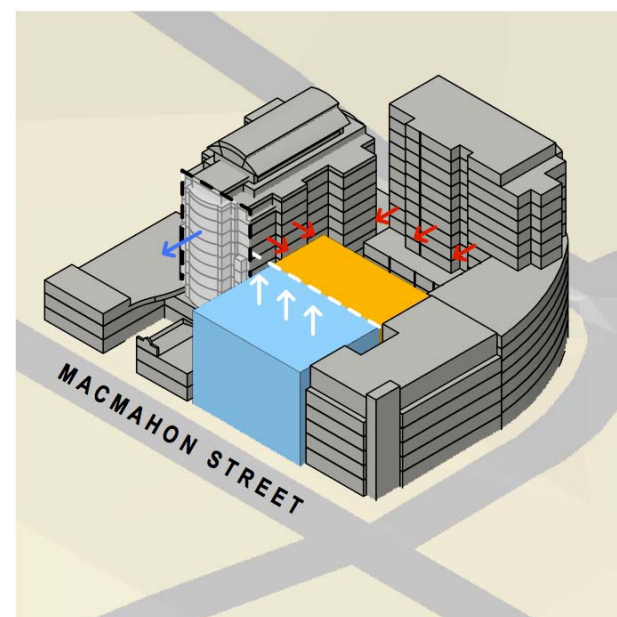
1610 - 205

AUG 2016

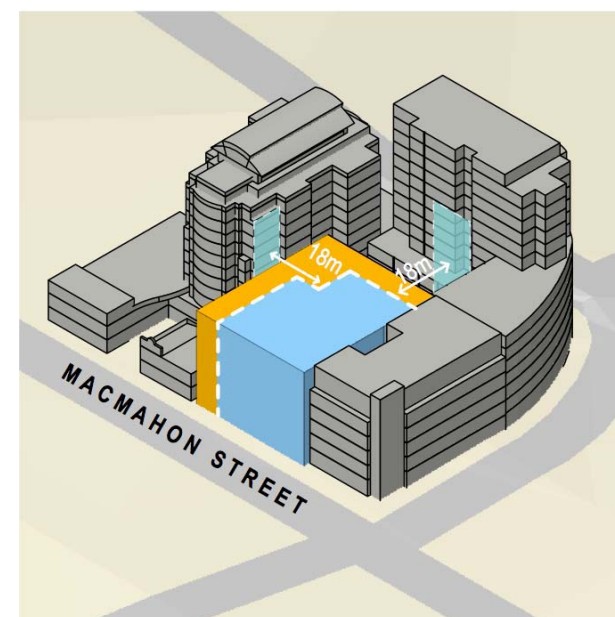




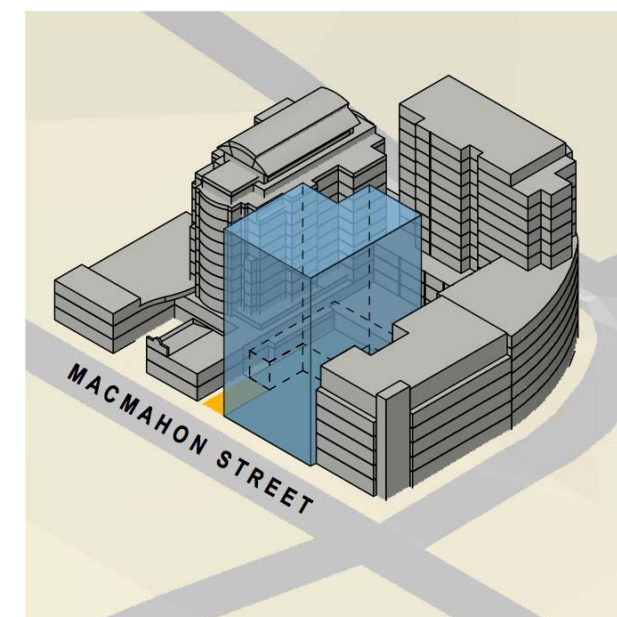
GROUND LEVEL
PROPOSED FOOTPRINT



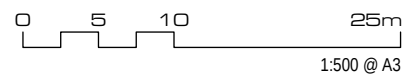
UPPER LEVELS
ADG BUILDING SEPARATION ZONE



UPPER LEVELS
PROPOSED FOOTPRINT



PROPOSED MASSING



PROPOSED FOOTPRINT SUMMARY

urban design study

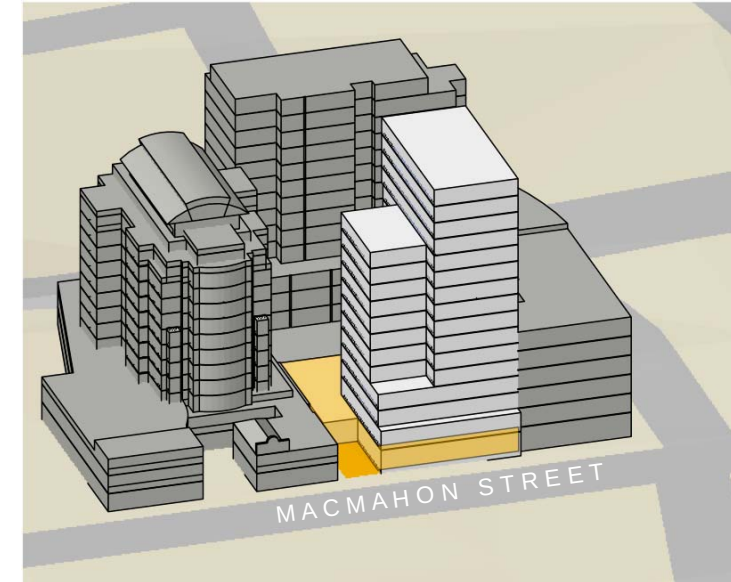
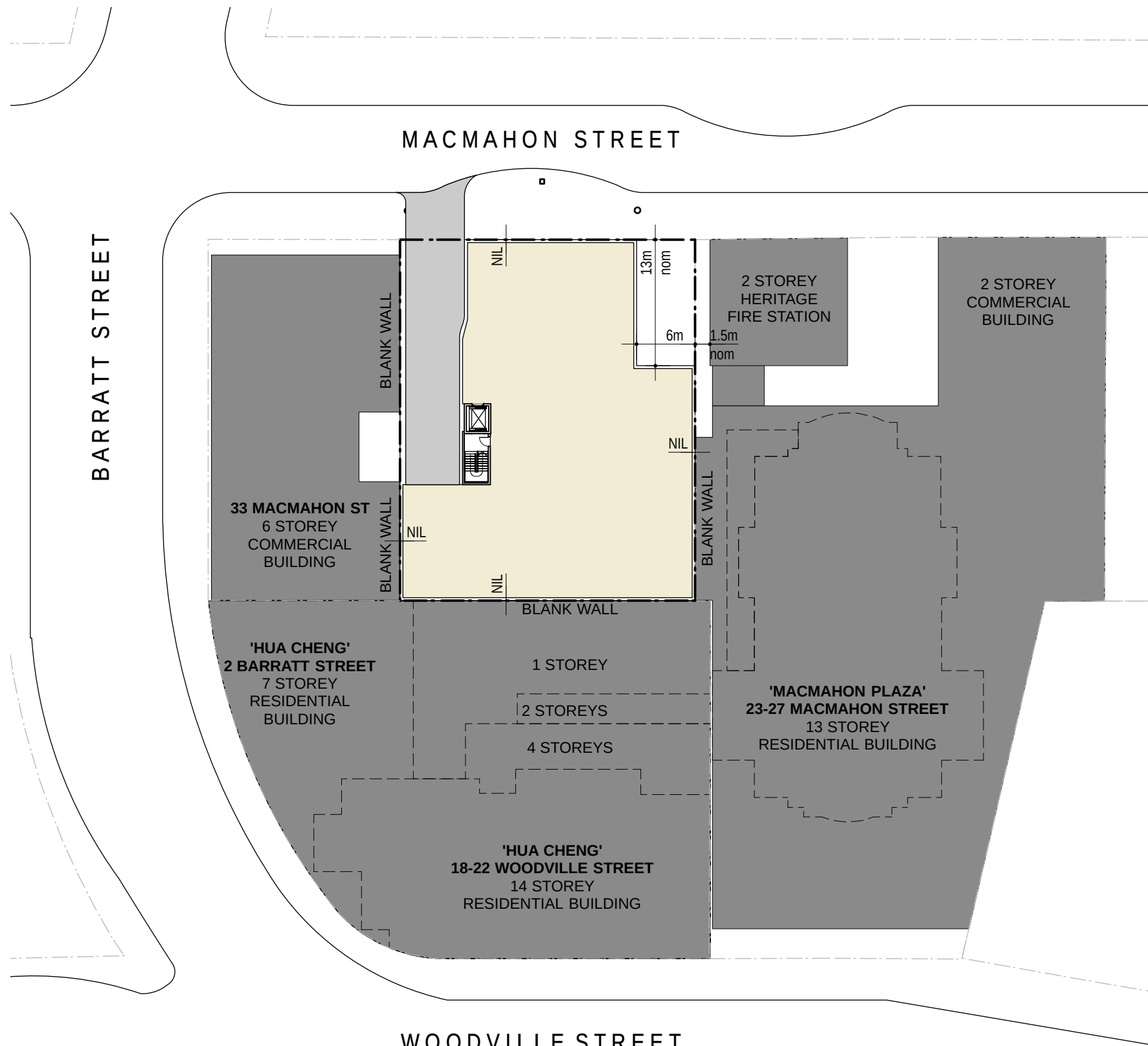
29-31 Macmahon Street, HURSTVILLE

1610 — **206**

AUG 2016

PART 3

INDICATIVE SCHEME



INDICATIVE MASSING
GROUND FLOOR HIGHLIGHTED

INDICATIVE SCHEME
conceptual layout demonstrating potential capacity to achieve JRPP recommended FSR and Height controls

LEGEND

non-residential / commercial

1 bedroom unit

2 bedroom unit

3 bedroom unit

H habitable room

NH non-habitable room

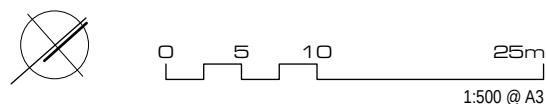
INDICATIVE SCHEME - GROUND FLOOR

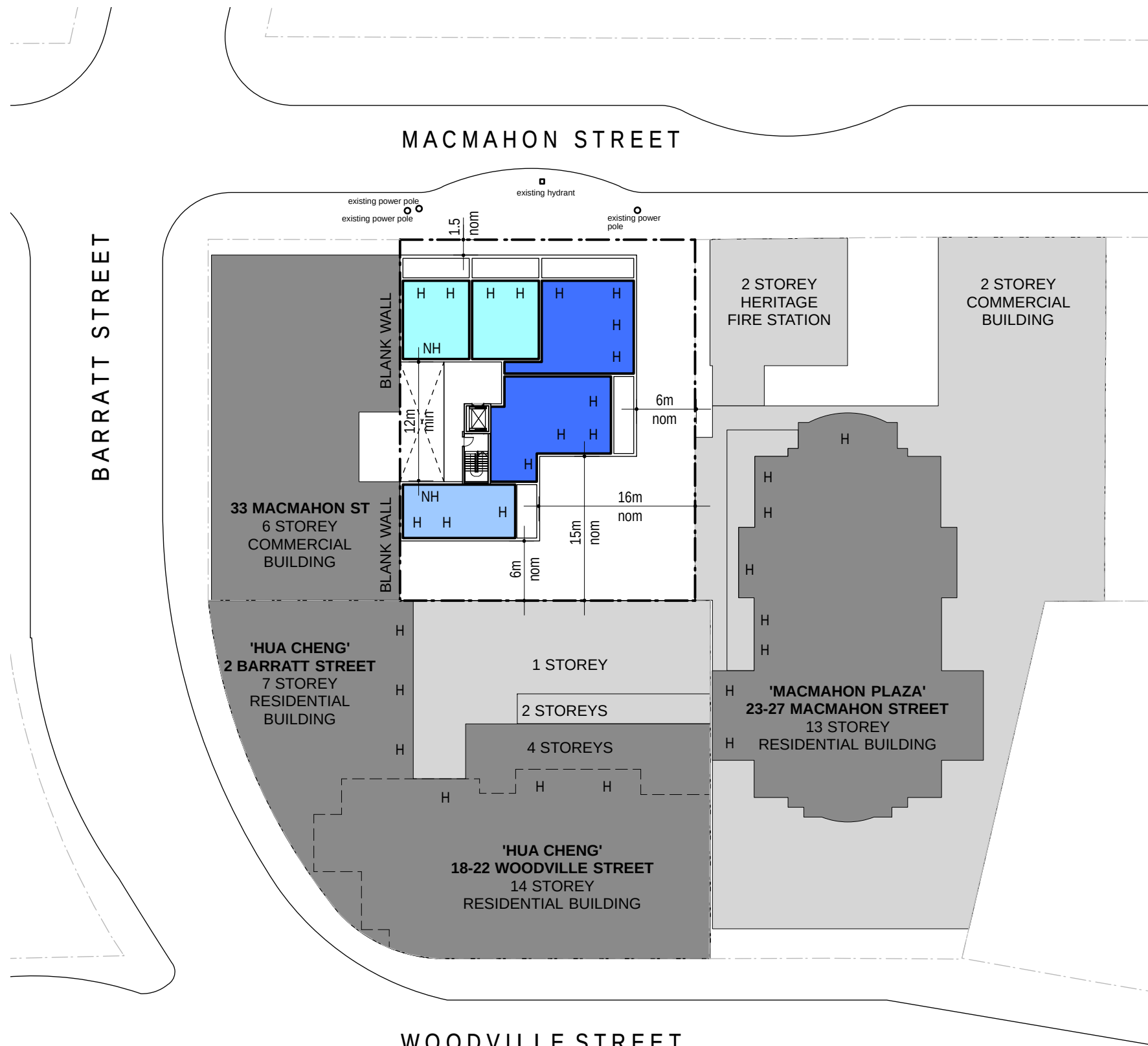
urban design study

29-31 Macmahon Street, HURSTVILLE

1610 - 301

AUG 2016





INDICATIVE MASSING
LEVELS 1-3 HIGHLIGHTED

INDICATIVE SCHEME
conceptual layout demonstrating potential capacity to achieve JRPP recommended FSR and Height controls

LEGEND

- non-residential / commercial
- 1 bedroom unit
- 2 bedroom unit
- 3 bedroom unit
- H habitable room
- NH non-habitable room

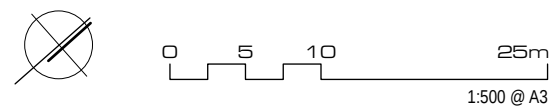
INDICATIVE SCHEME - LVLS 1-3

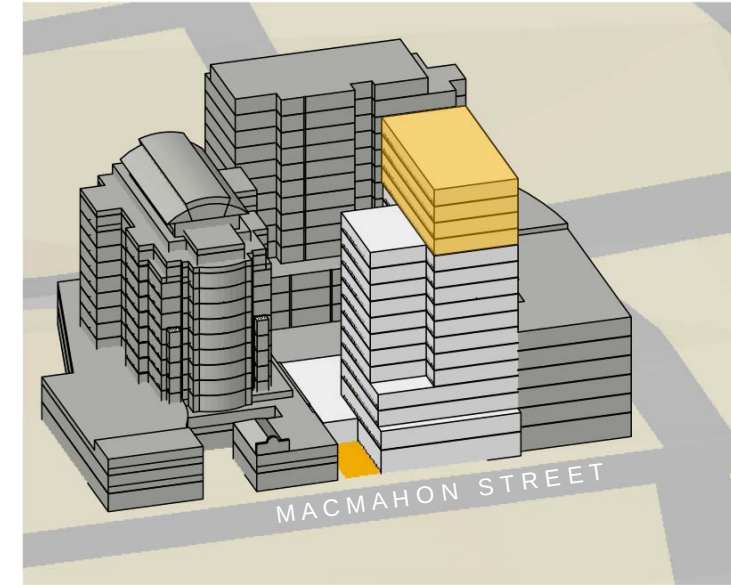
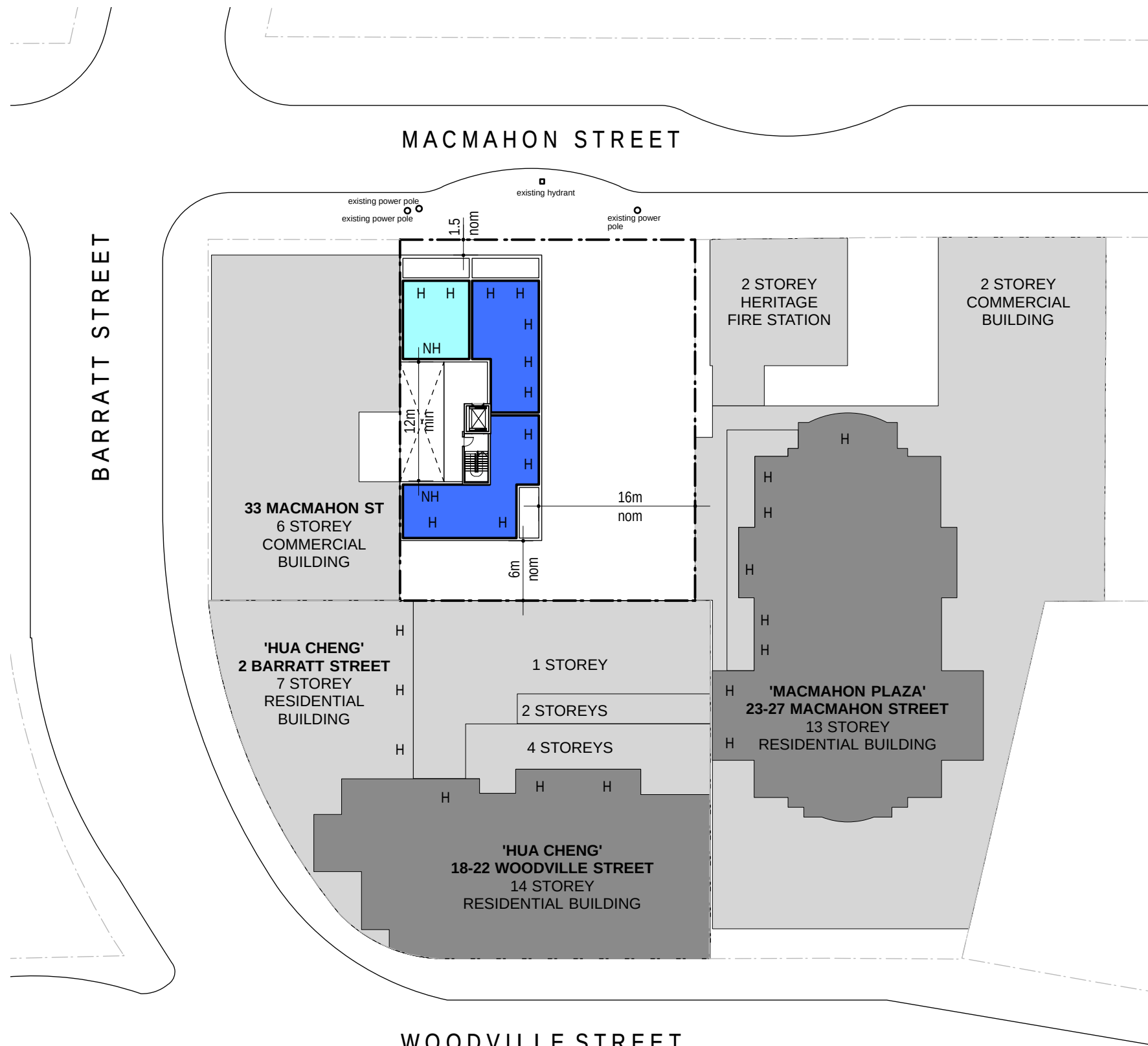
urban design study

29-31 Macmahon Street, HURSTVILLE

1610 - 302

AUG 2016





INDICATIVE MASSING
LEVELS 12-15 HIGHLIGHTED

INDICATIVE SCHEME
conceptual layout demonstrating potential capacity to achieve JRPP recommended FSR and Height controls

LEGEND

- non-residential / commercial
- 1 bedroom unit
- 2 bedroom unit
- 3 bedroom unit
- H habitable room
- NH non-habitable room

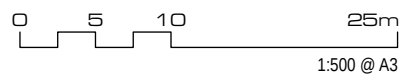
INDICATIVE SCHEME - LVLS 12-15

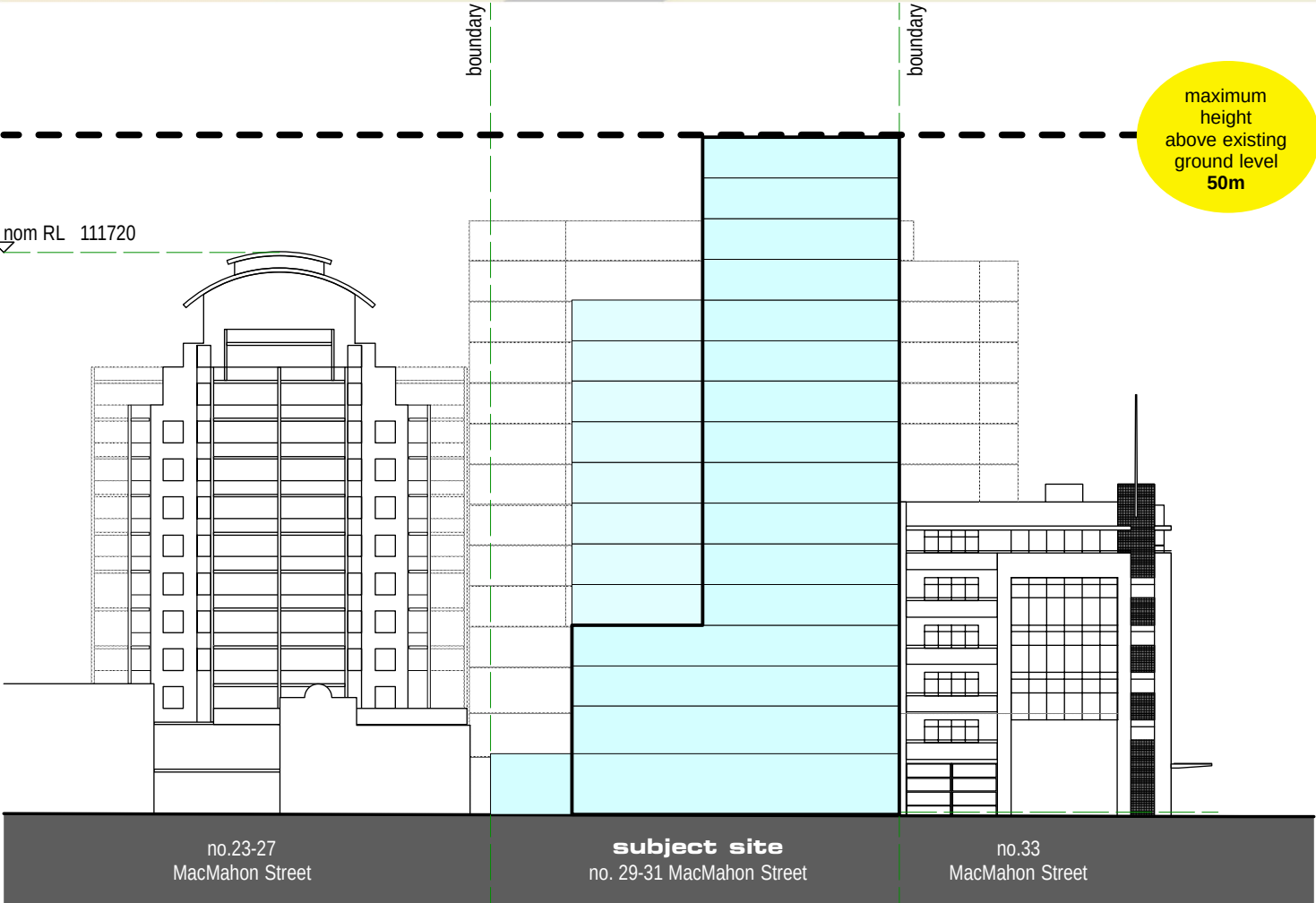
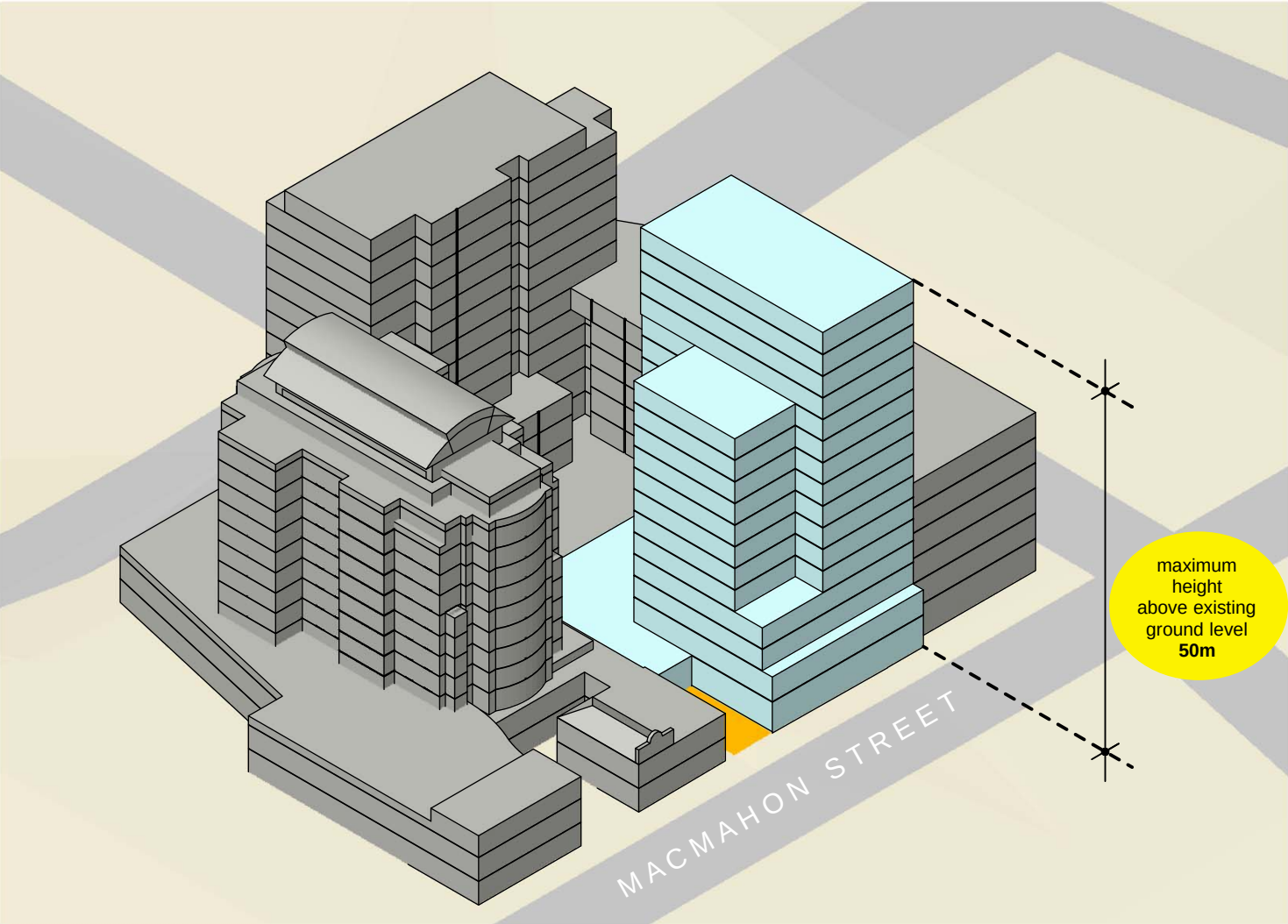
urban design study

29-31 Macmahon Street, HURSTVILLE

1610 - 304

AUG 2016





INDICATIVE SCHEME

conceptual layout demonstrating potential capacity to achieve JRPP recommended FSR and Height controls

JRPP RECOMMENDATION

The panel resolves unanimously to recommend to the Minister that the planning proposal proceed to a Gateway Determination subject to the following conditions / amendments:

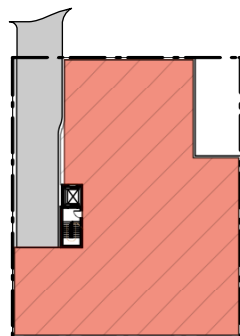
- a) The maximum building height to be **50m**
- b) The maximum FSR to be **5.5:1**
- c) The Department of Planning is to consult with the appropriate authorities about the height in relation to obstacle limitation surface

INDICATIVE SCHEME - HEIGHT

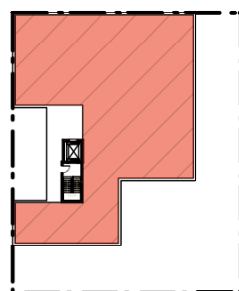
urban design study

29-31 Macmahon Street, HURSTVILLE

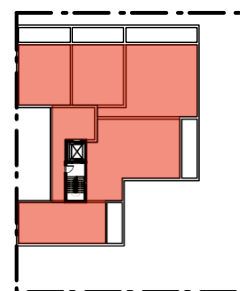
1610 – 305



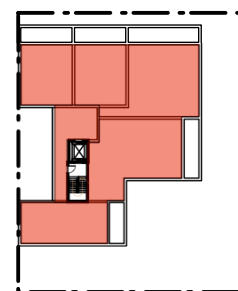
GROUND LEVEL



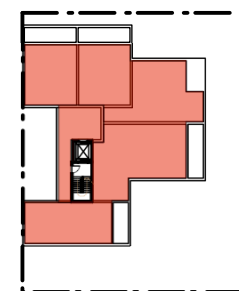
LEVEL 01



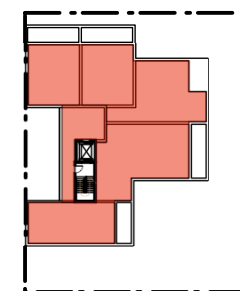
LEVEL 02



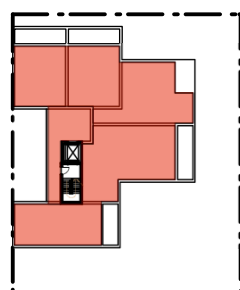
LEVEL 03



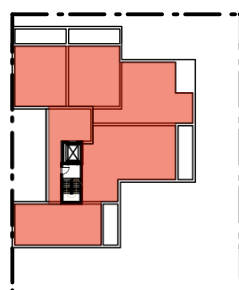
LEVEL 04



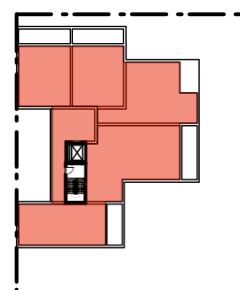
LEVEL 05



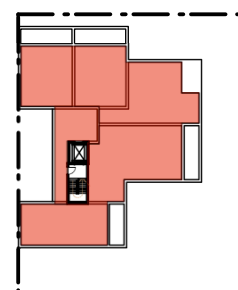
LEVEL 06



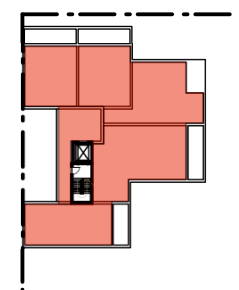
LEVEL 07



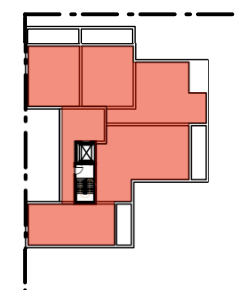
LEVEL 08



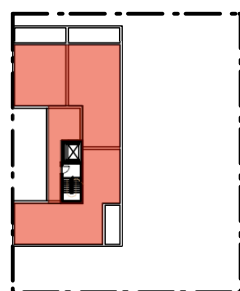
LEVEL 09



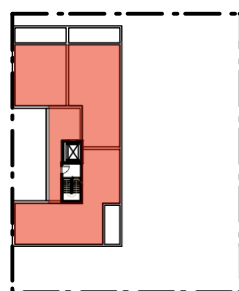
LEVEL 10



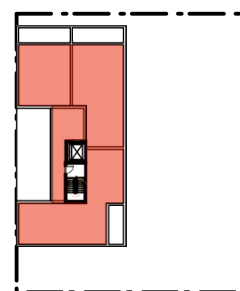
LEVEL 11



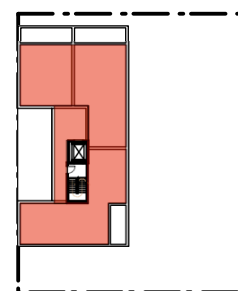
LEVEL 12



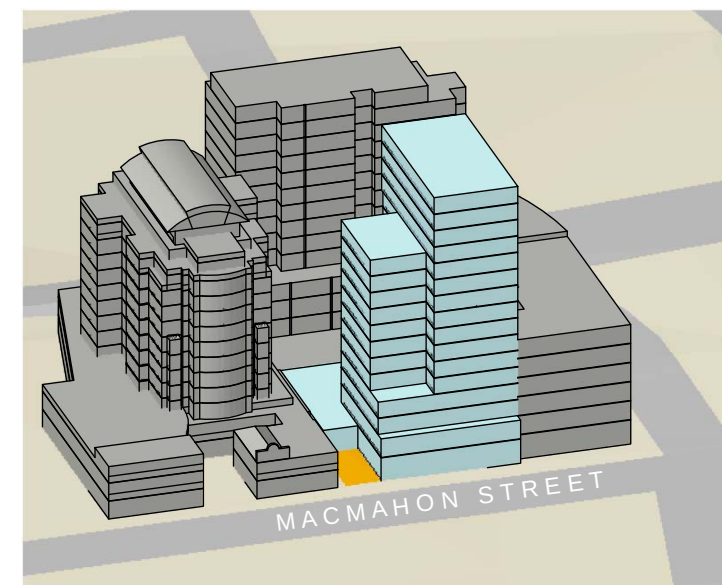
LEVEL 13



LEVEL 14



LEVEL 15



INDICATIVE MASSING

JRPP RECOMMENDATION

The panel resolves unanimously to recommend to the Minister that the planning proposal proceed to a Gateway Determination subject to the following conditions / amendments:

- a) The maximum building height to be 50m
- b) The maximum FSR to be 5.5:1
- c) The Department of Planning is to consult with the appropriate authorities about the height in relation to obstacle limitation surface

INDICATIVE SCHEME

conceptual layout demonstrating potential capacity to achieve JRPP recommended FSR and Height controls

AREA COUNT SUMMARY

Site Area	1113 sq m
FSR permissible under LEP	4.5 : 1
GFA permissible under LEP	5008 sq m
FSR recommended by JRPP	5.5 : 1
GFA permissible under JRPP	6121 sq m
GFA proposed (inc. circ)	nom 6398 sq m
FSR proposed	5.75 : 1

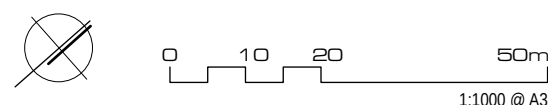
INDICATIVE SCHEME - FSR

urban design study

29-31 Macmahon Street, HURSTVILLE

1610 - 306

AUG 2016

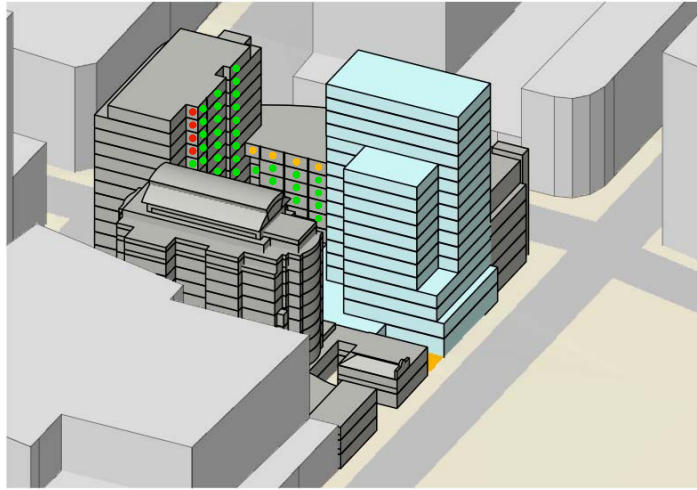




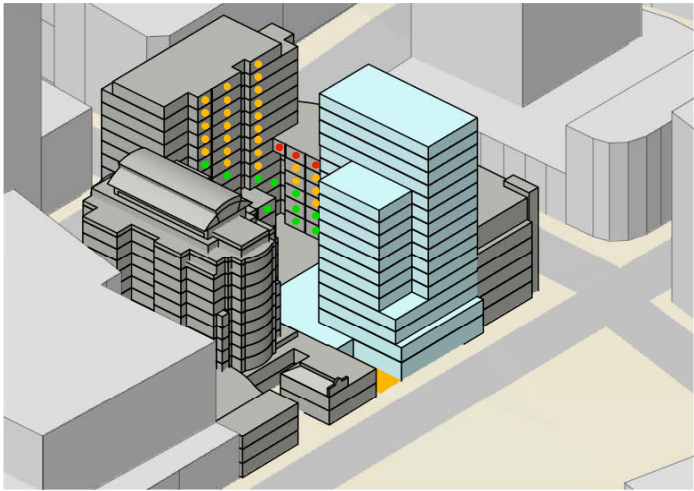
9am - winter sun



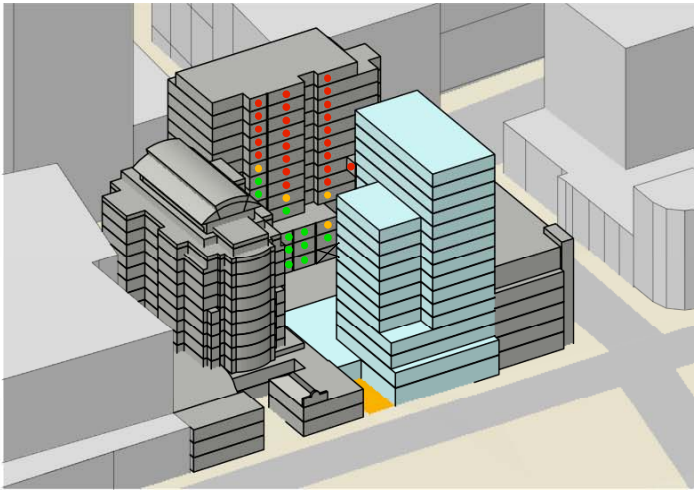
10am - winter sun



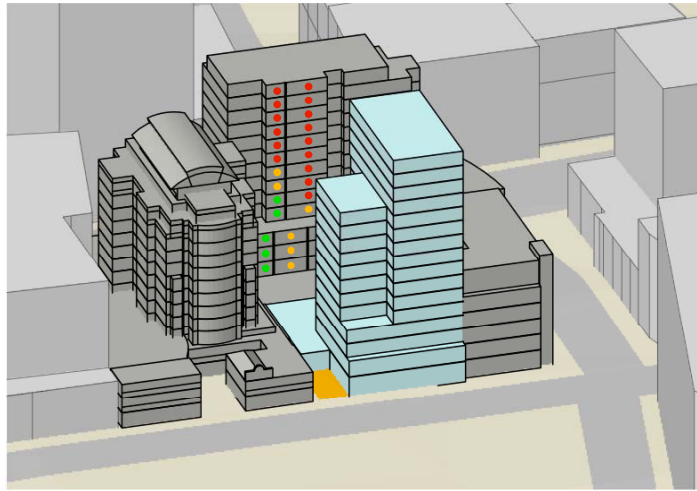
11am - winter sun



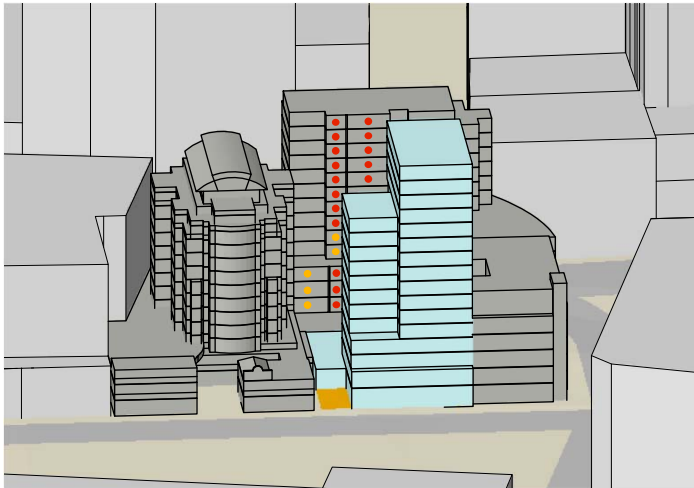
12pm - winter sun



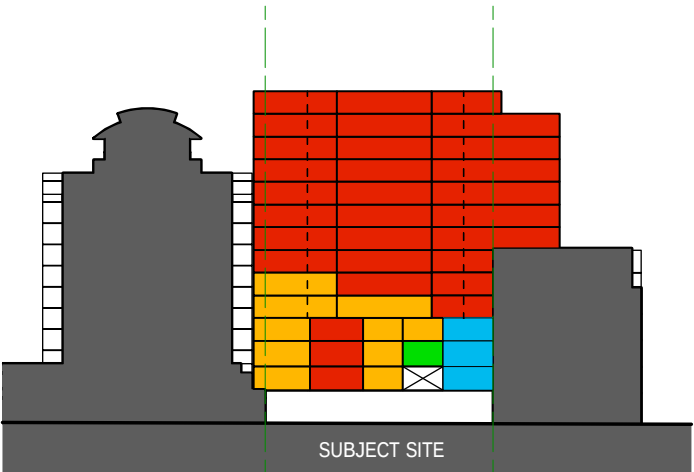
1pm - winter sun



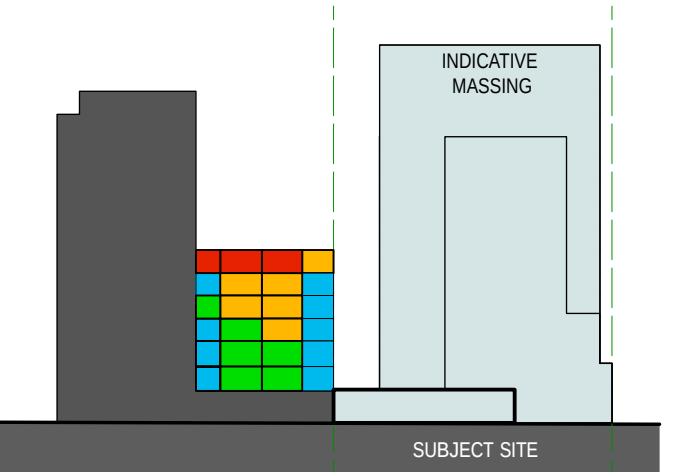
2pm - winter sun



3pm - winter sun



HUA CHENG - NW ELEVATION
68% receive 2hrs sun



HUA CHENG - NE ELEVATION
12% receive 2hrs sun

COMMENT

- solar analysis of indicative scheme demonstrates that by concentrating the building massing in the southern portion of the subject site will potentially deliver the highest level of amenity to both the site itself and adjoining properties
- a building with a reduced street frontage/width but taller overall height (taller/thinner) is best suited to the site

INDICATIVE SCHEME

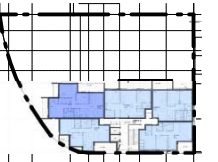
conceptual layout demonstrating potential capacity to achieve JRPP recommended FSR and Height controls



level 1-3



level 4-6



level 7-13

TYPICAL PLANS - 'HUA CHENG'

Total No. of Units in 'Hua Cheng' RFB development = 98



SOLAR PERFORMANCE

Total No. of Units in 'Hua Cheng' RFB development - nom 98
No of north facing units in 'Hua Cheng' = nom 68

	Ref. Colour	NO UNITS	% (total)	% (north facing only)
total units (out of 98) receiving less than 15 mins sun		42	43%	
north facing units (out of 68) receiving less than 15 mins sun		12		17%
units receiving min 15 mins sun		7	7%	10%
units receiving min 1hrs sun		16	16%	24%
units receiving min 2hrs sun		33	34%	49%

INDICATIVE SCHEME - SHADOW ANALYSIS

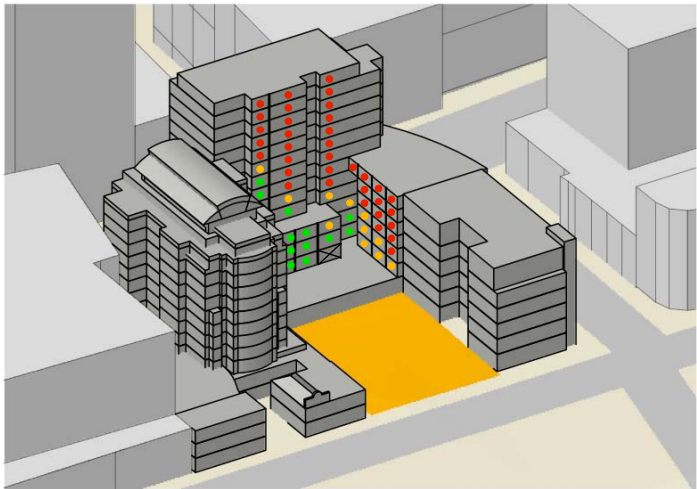
urban design study

29-31 Macmahon Street, HURSTVILLE
1610 - 307

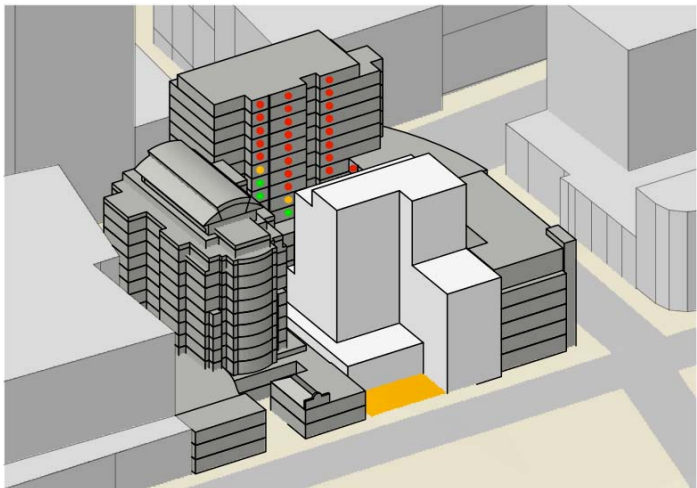
AUG 2016



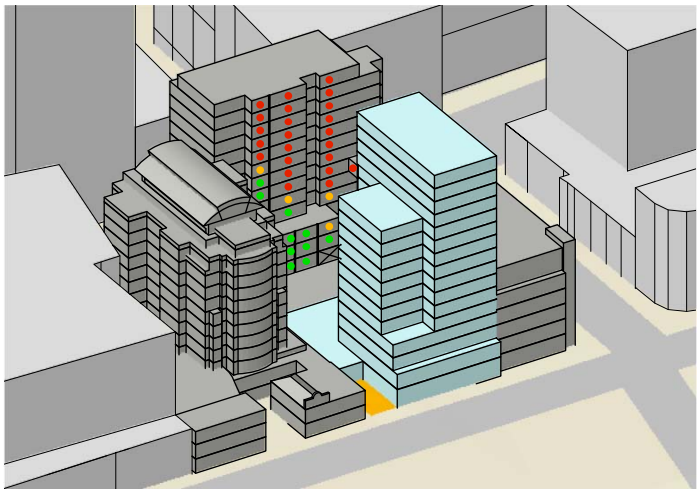
0 10 20 50m
1:1000 @ A3



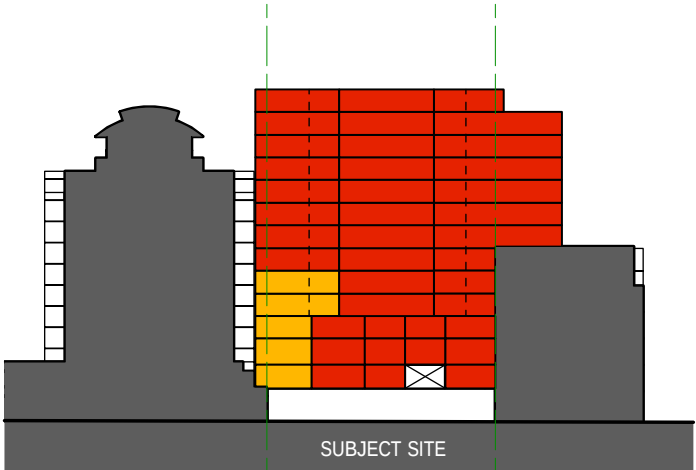
SUBJECT SITE UNDEVELOPED



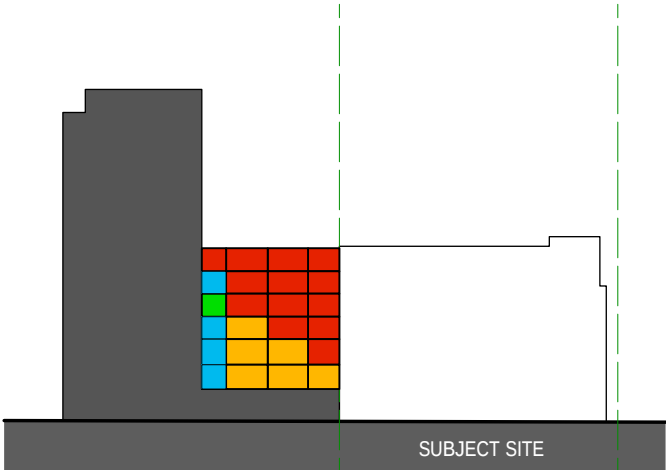
PERMISSIBLE ENVELOPE UNDER FORMER DCP



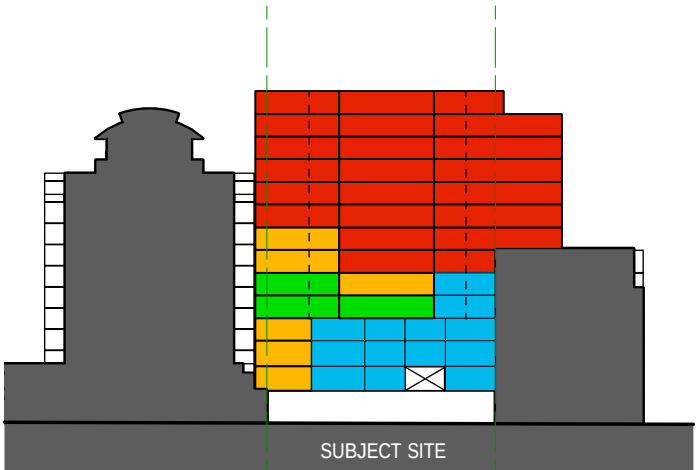
INDICATIVE MASSING



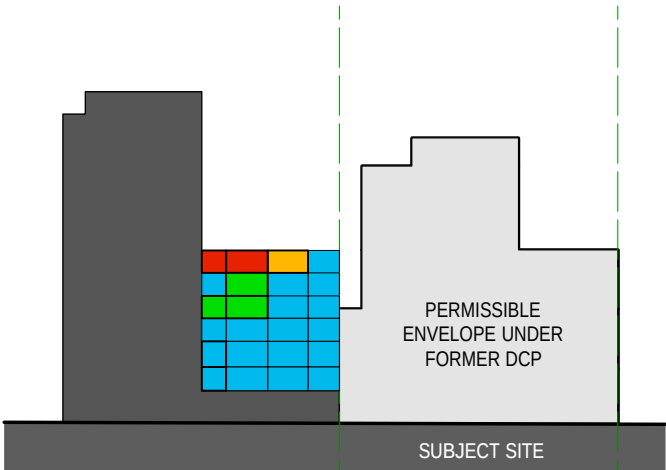
north west elevation
88% receive 2hrs sun



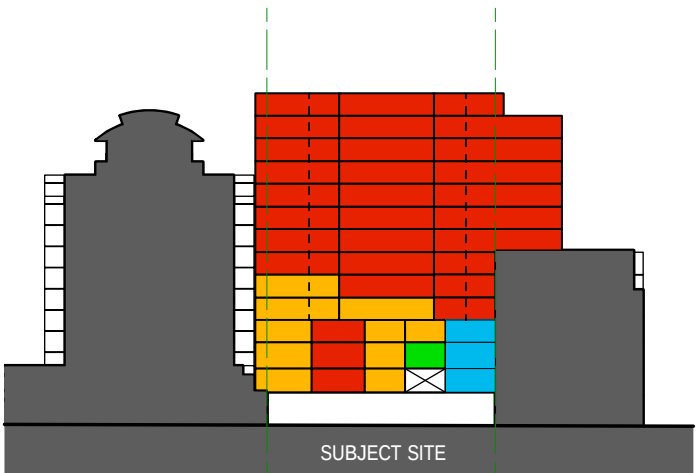
north east elevation
54% receive 2hrs sun



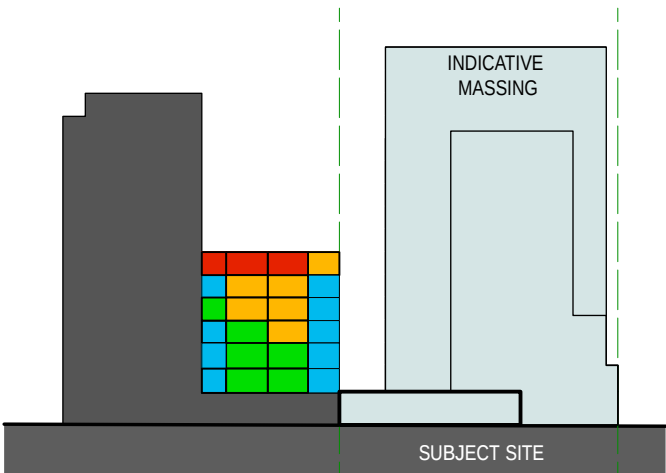
north west elevation
50% receive 2hrs sun



north east elevation
8% receive 2hrs sun



north west elevation
68% receive 2hrs sun



north east elevation
12% receive 2hrs sun

COMMENT

- massing of indicative scheme demonstrates potential for improved solar amenity to neighbouring developments over massing previously permissible under former DCP

29-31 MACMAHON ST UNDEVELOPED

Total No. of Units in 'Hua Cheng' RFB development - nom 98
No of north facing units in 'Hua Cheng' = nom 68

	Ref. Colour	NO UNITS	% (total)	% (north facing only)
total units (out of 98) receiving less than 15 mins sun		34	35%	
north facing units (out of 68) receiving less than 15 mins sun		4		6%
units receiving min 15 mins sun		1	1%	1%
units receiving min 1hrs sun		11	11%	16%
units receiving min 2hrs sun		52	53%	76%

PERMISSIBLE ENVELOPE UNDER FORMER DCP

Total No. of Units in 'Hua Cheng' RFB development - nom 98
No of north facing units in 'Hua Cheng' = nom 68

	Ref. Colour	NO UNITS	% (total)	% (north facing only)
total units (out of 98) receiving less than 15 mins sun		61	62%	
north facing units (out of 68) receiving less than 15 mins sun		31		46%
units receiving min 15 mins sun		6	6%	9%
units receiving min 1hrs sun		7	7%	10%
units receiving min 2hrs sun		24	24%	35%

INDICATIVE MASSING

Total No. of Units in 'Hua Cheng' RFB development - nom 98
No of north facing units in 'Hua Cheng' = nom 68

	Ref. Colour	NO UNITS	% (total)	% (north facing only)
total units (out of 98) receiving less than 15 mins sun		42	43%	
north facing units (out of 68) receiving less than 15 mins sun		12		17%
units receiving min 15 mins sun		7	7%	10%
units receiving min 1hrs sun		16	16%	24%
units receiving min 2hrs sun		33	34%	49%

INDICATIVE SCHEME - SHADOW COMPARISON

urban design study