# WSU WESTMEAD CAMPUS SUBDIVISON

LOTS 401/402

**URBAN DESIGN REPORT** 

November 2015







#### **Western Sydney University**

Estate Planning & Development
Commercial and Estate Development
Western Sydney University
Locked Bag 1797 Penrith NSW 2751

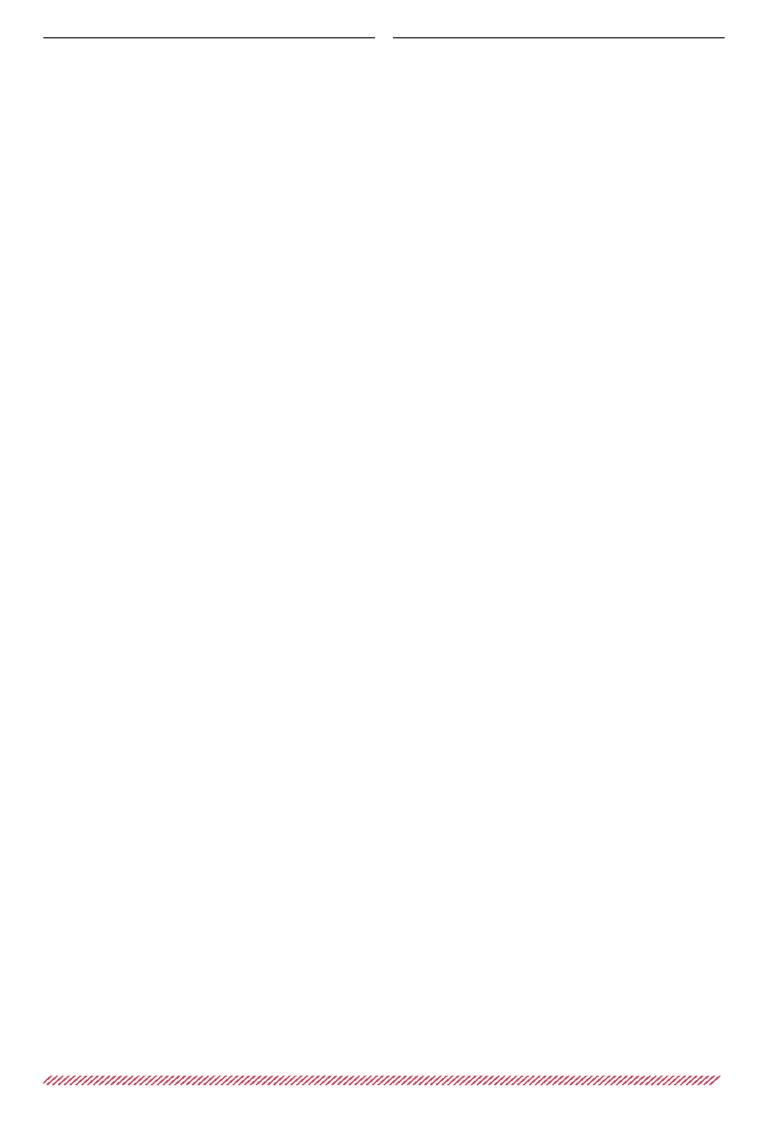


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# 01 INTRODUCTION

### 01 INTRODUCTION

#### 1.1 The Proposal

Western Sydney University is seeking to amend the subdivision plan Lot-04 of the approved DA for the Westmead campus site (DA/517/2014 approved in February 2015

The revised plan is a development of the approved Concept Plan with adjustments to the subdivision of previous Lot 4 and adjustments to the proposed built form on the new lots.

While the lot configuration has been adjusted and the number of lots increased from 5 to 6, there has been no increase in total lot area, and overall floor areas and parking on the Site remain the same. The road network and road reserves are unchanged.

Since approval, the new Apartment Design Guide has been released by the Department of Planning and Environment and the indicative built form has been revised to facilitate compliance. Detailed designs will be subject to site specific approvals.

The revision is consistent with the approved DA for the Site. The report outlines

- Site uses, mix and areas
- Access and parking requirements
- Built form and scale
- Public domain elements
- Solar Access

#### 1.2 Background

The redevelopment of the Westmead Site has the potential to be a premier Transit Oriented Development that will bring added value to the broader community through the creation of new jobs and housing opportunities and a new retail focus for the precinct.

The vision for the future redevelopment of the Site is:

- to create a vibrant centre with a mix of jobs, retail and housing
- to support the wider Westmead Precinct's role as a specialist medical, research and education hub
- to take advantage of the site's strategic location
- to develop links to the adjoining Westmead Hospital, schools and key uses
- to facilitate access to public transport nodes including Westmead Railway Station and the Transitway (T-way).





Site September 2015



#### 2.1 Overall Planning Concept

The revised subdivision is an adjustment of the approved Concept Plan with adjustments to the subdivision of previous Lot 4 and revisions to the proposed built form on the newly created lots.

Five key objectives continue to underpin the plan:

- To create a clear and legible structure
- To create open space anchored by significant existing trees
- To clearly define streets and blocks
- To develop an efficient road network
- To create views to sky at the end of streets

Key elements of the design are:

#### **Land Use**

- Continuing educational use of the St Vincent's building.
- Mixed use development with retail component on Lot 2 on the corner of Hawkesbury and Darcy Roads. A podium level is created at approximately RL 32.5 with solar access to a retail plaza
- Commercial use on Lot 3 (Darcy Road) opposite the Hospital
- Residential uses on new Lots 401 and 402 and Lot 5 in the west of the site
- The overall floor space is maintained but moved onto development lots to achieve the best urban outcome

#### Open Space

- Open spaces located to facilitate public access and to maximise green frontage to residential sites
- Significant trees are maintained within public open space and landscaped areas
- Landscape buffer to the Marist frontage

#### Vehicular access

- Left-in/out provided on Hawkesbury Road
- 4-way signalised intersection at Darcy Road
- Service access south of the St Vincent's building is maintained
- Defined access along Hawkesbury Road.
- New internal road
- Loop road around Moreton Bay fig trees between Lots 4 and 5

#### Easements

- Rail corridor (RailCorp) restrictions on development in 20m zone adjacent to the rail corridor
- A 4.5m pedestrian Right of Way created through Lot 1 to gain access to a possible pedestrian underpass and link to Westmead Station
- Maintain RailCorp access to rail corridor
- Access easement to Lot 03 via Lot 401

#### **Pedestrian Links**

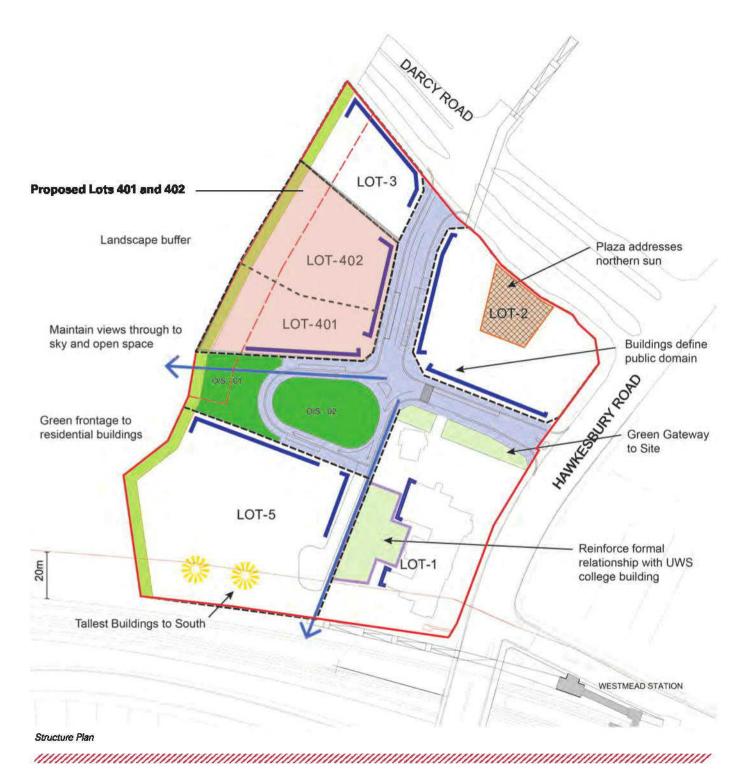
- Possible link from Westmead station to the site
- Potential bridge link between Lot 2 and Westmead Hospital to be delivered in partnership with the Hospital
- Maintain pedestrian link through site for Marist students
- Right of Way (4.5m) to connect street network to station underpass link

#### **Built Form**

- Heights are generally consistent with the LEP controls
- Some areas are lower than the LEP where the relationship to heritage buildings is improved and better solar access to apartments is achieved
- Exceedence may occur in some areas where a better urban form is achieved.
- Plant areas and lift overruns may exceed the LEP heights
- Built form is organised to optimise solar access to residential within development sites – the highest elements are located to the south of lots
- A retail plaza is located at the Hawkesbury Road entry level allowing a direct link across Darcy Road
- Organisation of the built form to maximise solar access to the retail plaza
- Built form along the Marist boundary organised to maximise northern aspect
- A 10m setback to the rail corridor allows RailCorp access and minimises area impacted by rail corridor controls

#### Heritage

- Retention of the St Vincent's building
- Retention of the Cottage building
- Part retention of the garden west of the St Vincent's building
- Low scale additions possible to St Vincent's building
- Residential buildings moved to edge of heritage curtilage.
   Height limited to 6 storeys at this edge



#### 2.2 Land Use

The Development Application conforms with the allocated areas across the site with a total of 122,995m2 per the Parramatta LEP 2013.

The revised subdivision of the previous Lot 4 (now Lots 401 and 402) maintains the total nett site areas and the total approved floor area.

It should be noted that the previously approved DA redistributed the total approved area to individual lots to create a coordinated urban form across the site while achieving the maximum permitted total GFA.

Scenarios have been developed that assist in the development of achievable built form and likely uses. Some flexibility however is needed as final uses on sites are likely to vary over time. Detailed building solutions will be resolved in future approvals.

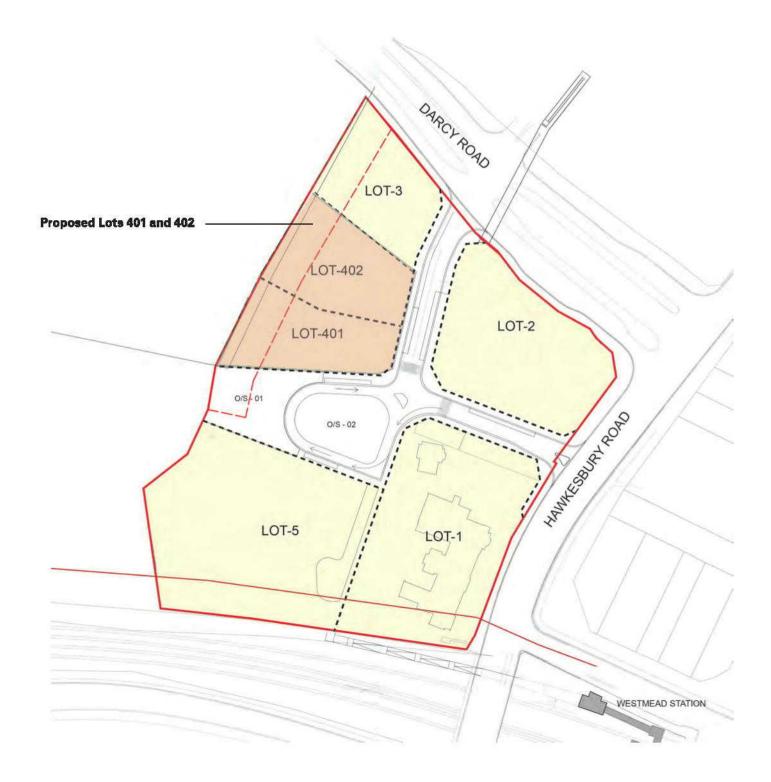
For parking calculations, an average unit size of 100m2 GFA has been used. This however will be subject to the final design and market assessment of individual parcels. Total parking numbers across the site however are fixed by the intersection capacities.

Previous Land Use		Lot 1	Lot 2	Lot 3	Lot 4	Lot 5	TOTAL
	Lot Area	7,682m2	5,753m2	2,635m2	6,588m2	9,560m2	32,218m2
Non Residential	Education	5,000m2					5,000m2
	Commercial		12,900m2	16,000m2			28,900m2
	Retail		7,600m2				7,600m2
	Health		2,400m2				2,400m2
	Serviced Apartments		7,800m2				7,800m2
Residential	Housing				28,825m2	42,470m2	71,295m2
TOTAL		5,000m2	30,700m2	16,000m2	28,825m2	42,470m2	122,995m2
	FSR	0.65:1	5.34:1	6.07:1	4.38:1	4.4:1	3.82:1

Floor Space Allocation DA/517/2014

Revised Land Use		Lot-1	Lot-2	Lot-3	Lot-401	Lot-402	Lot-5	TOTAL
	Lot Area	7,682m2	5,753m2	2,635m2	3,010m2	3,578m2	9,560m2	32,218m2
Non Residential	Education	5,000m2						5,000m2
	Commercial		12,900m2	16,000m2				28,900m2
	Retail		7,600m2					7,600m2
	Health		2,400m2					2,400m2
	Serviced Apartments		7,800m2					7,800m2
Residential	Housing				17,500m2	11,325m2	42,470m2	71,295m2
TOTAL		5,000m2	30,700m2	16,000m2	17,500m2	11,325m2	42,470m2	122,995m2
	Nett FSR	0.65:1	5.34:1	6.07:1	5.81:1	3.17:1	4.4:1	3.82:1

Revised Floor Space Allocation



#### 2.3 Access and Parking

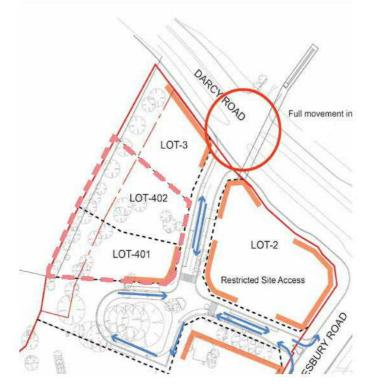
Road and pedestrian access on the site remain unchanged from the approved DA with a maximum of 1,480 cars provided on the site

An access easements on Lot 402 provides access to parking and servicing to Lot 3:

Access to Lot 401 will be from the loop road.

Parking provision will meet the requirements of the DCP. Initial parking allocation is outlined below. This may be varied subject to the final mix and the traffic constraints on the site.

The loop road will service some 510 spaces on Lot 5, 50 car spaces on the St Vincents site and 205 spaces on Lot 401.



Vehicular Access Plan

			Lot-1	Lot-2	Lot-3	Lot-401	Lot-402	Lot-5	TOTAL
Non Residential	Education	1 Space/100m2	50						50
	Commercial	1 Space/100m2		129	160				289
	Retail	1 Space/30m2		253					253
	Health	1 Space/300m2		8					8
	Serviced Apartments	1/5 rooms + Employees		24			ž.		24
Residential	Housing	1/Unit		0		205	140	510	855
	-	Parking	50	414	160	205	140	510	1,479

Indicative Parking Alocation



#### 2.4 Built Form

The approved DA refines the controls outlined in the DCP to achieve a more workable development form and improved built form outcome.

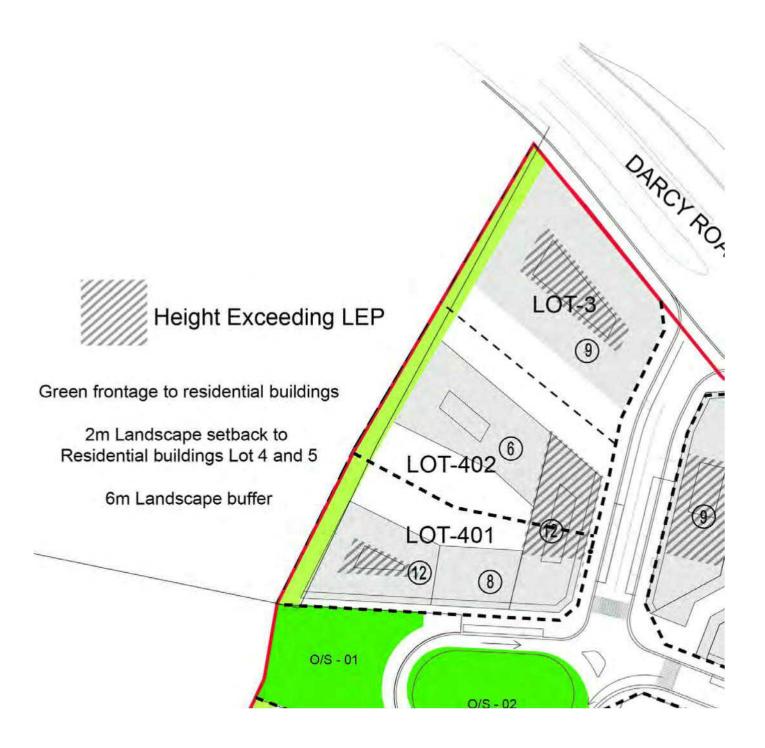
The built form on Lots 401 and 402 has been adjusted to reflect the new subdivision, the need for additional cores and to facilitate compliance with the revised Apartment Design Guide (August 2015).

The table below summarises changes to the approved DA.

Lot	Anticipated Use	Built Form Response	Concept Plan Built Form Control
Lot 4	Residential	12 storey elements along street     12 storey tower to west	2m setback to street boundary - creates transition zone for residential     2m setback above Level 9 - adequate modulation provided and better street scale established
		<ul> <li>6 storey element to north to optimise solar access to courtyard</li> </ul>	2m setback to street boundary - creates transition zone for residential     2m setback above Level 9 - adequate modulation provided and better street scale established
			<ul> <li>6m setback to west boundary - Buildings orientated away from High School;</li> </ul>
			- 10m access easement serving Lots 03 and 04

Approved Built Form Controls DA/514/2015

Lot	Anticipated Use	Built Form Response	Concept Plan Built Form Control
Lot 401	Residential	12 storey elements along street     12 storey tower to west     8 storey link building	2m setback to street boundary - creates transition zone for residential     2m setback above Level 9 - adequate modulation provided and better street scale established     2m setback to street boundary - creates transition zone for residential     2m setback above Level 9 - adequate modulation provided and better street scale established
			6m setback to west boundary - Buildings orientated away from High School;
Lot 402	Residential	12 storey elements along street     6 storey element to north	2m setback to street boundary - creates transition zone for residential     2m setback above Level 9 - adequate modulation provided and better street scale established
		to optimise soler access to courtyard to south	- access easement serving Lots 03A and 03B
			6m setback to west boundary - Buildings orientated away from High School;



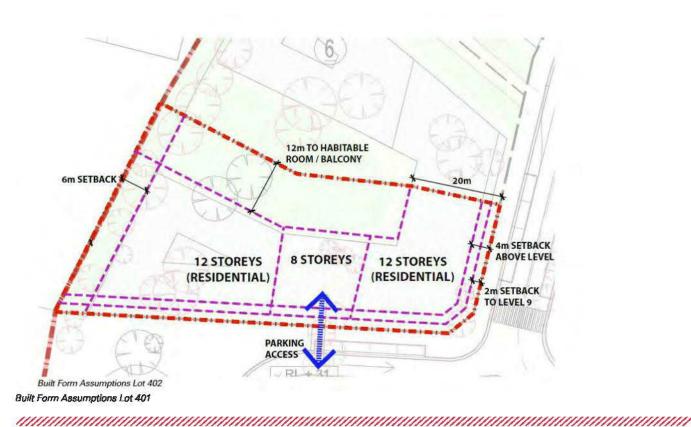
#### 2.5 SEPP 65 Evaluation

Built form in the approved DA was developed to respond to site opportunities and to achieve the maximum site GFA while reflecting development and code constraints.

Testing of the revised Concept Plan has been based on the new Apartment Design Guide.

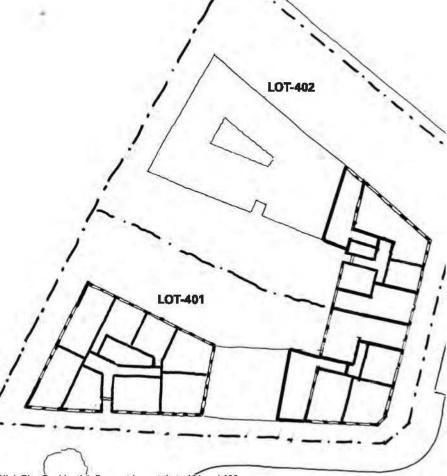
- Floor to Floor Heights
   3.3m ground floor/3m floor to floor
- Building depth
  18 metre depth in slab buildings
- Ventilation
   At least 60% of units have cross ventilation below Level 10
- Solar access
   At least 70% of units 3 hours solar access to main living areas between 9 and 3 mid winter
- No more than 10% of total units with southerly aspect
- Separation (habitable rooms and balconies)
  - up to four storeys/(12 metres) 12m
  - - five to eight storeys/up to 25 metres 18m
  - - nine storeys +/ over 25 metres 24

Building heights are organised with lower elements to the north or east to facilitate solar access. Where possible, apartments along the western boundary are to view away from the high school.





Low - Mid Rise Residential Concept Layout- Lots 401 and 402



High Rise Residential Concept Layout- Lots 401 and 402

#### 2.6 Open Space and Landscape

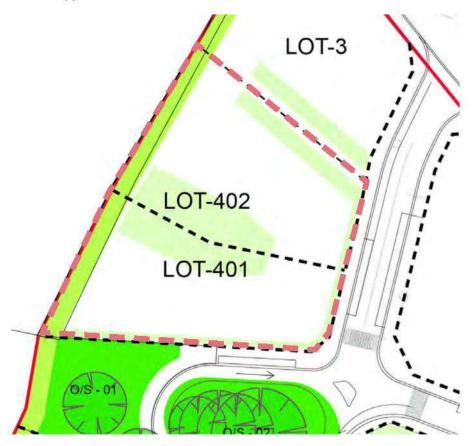
The current approved DA plan is based on creating on accessible open space network and the retention of major trees. A landscape area of 2,800m2 and deep soil of 1,500m2 is identified in the approved DA

Public open space is focused around the group of fig trees in the centre of the site and open space setbacks at the entry road off Hawkesbury Road (managed by UWS) will ensure a green entry to the site.

Nominal Landscape and Deep Soil planting areas for Lots 401 and 402 are:

	Landscape	Deep Soil
LOT-401	1.250m2	600m2
LOT-402	1.550m2	900m2
TOTAL	2,800m2	1,500m2

Landscape areas and Deep soil Planting remain consistent with the approved DA.



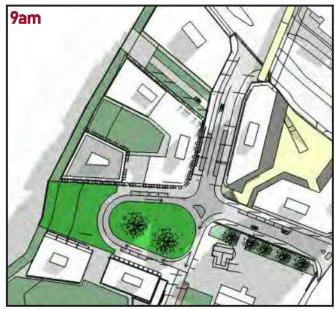


#### 2.7 Solar Access

Testing of solar access in the revised plan demonstrates minimal change to solar access to the central open space on the winter solstice, improving through the year.

Residential open space will be subject to Apartment Design Guides and may be located on roof levels.

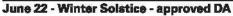














June 22 - Winter Solstice - Proposed Development





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March 2016







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Site September 2015



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- Defined access along Hawkesbury Road.
- New internal road
- Loop road around Moreton Bay fig trees between Lots 401 and 5

#### **Easements**

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- A 4.5m pedestrian Right of Way created through Lot 1 to gain access to a possible pedestrian underpass and link to Westmead Station
- Maintain RailCorp access to rail corridor
- Access easement to Lot 03 via Lot 402

#### **Pedestrian Links**

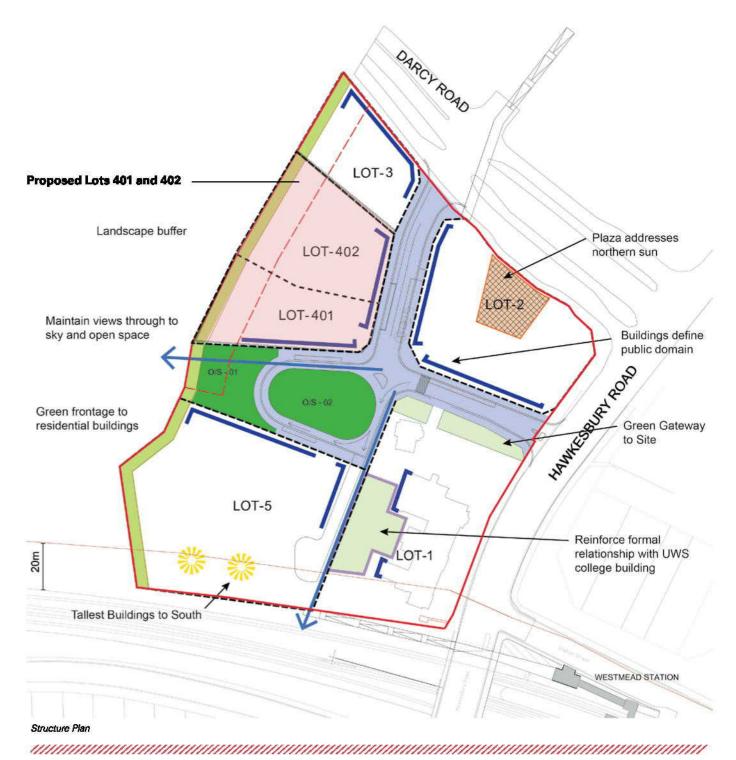
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#### **Built Form**

- Heights are generally consistent with the LEP controls
- Some areas are lower than the LEP where the relationship to heritage buildings is improved and better solar access to apartments is achieved
- Exceedence may occur in some areas where a better urban form is achieved.
- Plant areas and lift overruns may exceed the LEP heights
- Built form is organised to optimise solar access to residential within development sites – the highest elements are located to the south of lots
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For parking calculations, an average unit size of approximately 84m2 GFA has been used. This however will be subject to the final design and market assessment of individual parcels. Total parking numbers across the site however are fixed by the intersection capacities.

Previous Land Use		Lot 1	Lot 2	Lot 3	Lot 4	Lot 5	TOTAL
	Lot Area	7,682m2	5,753m2	2,635m2	6,588m2	9,560m2	32,218m2
Non Residential	Education	5,000m2					5,000m2
	Commercial		12,900m2	16,000m2			28,900m2
	Retail		7,600m2				7,600m2
	Health		2,400m2				2,400m2
	Serviced Apartments		7,800m2				7,800m2
Residential	Housing				28,825m2	42,470m2	71,295m2
TOTAL		5,000m2	30,700m2	16,000m2	28,825m2	42,470m2	122,995m2
	FSR	0.65:1	5.34:1	6.07:1	4.38:1	4.4:1	3.82:1

Floor Space Allocation DA/517/2014

Revised Land Use		Lot-1	Lot-2	Lot-3	Lot-401	Lot-402	Lot-5	TOTAL
	Lot Area	7,682m2	5,753m2	2,635m2	3,010m2	3,578m2	9,560m2	32,218m2
Non Residential	Education	5,000m2						5,000m2
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	Retail		7,600m2					7,600m2
	Health		2,400m2					2,400m2
	Serviced Apartments		7,800m2					7,800m2
Residential	Housing				17,500m2	11,325m2	42,470m2	71,295m2
TOTAL		5,000m2	30,700m2	16,000m2	17,500m2	11,325m2	42,470m2	122,995m2
	Nett FSR	0.65:1	5.34:1	6.07:1	5.81:1	3.17:1	4.4:1	3.82:1

Revised Floor Space Allocation



## 2.3 Access and Parking

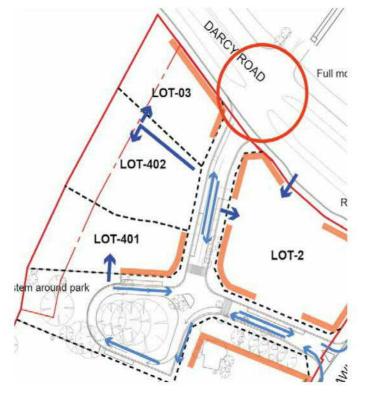
Road and pedestrian access on the site remain unchanged from the approved DA with a maximum of 1,480 cars provided on the site

An access easements on Lot 402 provides access to parking and servicing to Lot 3:

Access to Lot 401 will be from the loop road.

Parking provision will meet the requirements of the DCP. Initial parking allocation is outlined below. This may be varied subject to the final mix and the traffic constraints on the site.

The loop road will service some 510 spaces on Lot 5, 50 car spaces on the St Vincents site and 205 spaces on Lot 401.



Vehicular Access Plan

			Lot-1	Lot-2	Lot-3	Lot-401	Lot-402	Lot-5	TOTAL
Non Residential	Education	1 Space/100m2	50						50
	Commercial	1 Space/100m2		129	160				289
	Retail	1 Space/30m2		253					253
	Health	1 Space/300m2		8					8
	Serviced Apartments	1/5 rooms + Employees	8	24					24
Residential	Housing	1/Unit		0		205	140	510	855
	-	Parking	50	414	160	205	140	510	1,479

Indicative Parking Alocation



### 2.4 Built Form

The approved DA refines the controls outlined in the DCP to achieve a more workable development form and improved built form outcome.

The built form on Lots 401 and 402 has been adjusted to reflect the new subdivision, the need for additional cores and to facilitate compliance with the revised Apartment Design Guide (August 2015).

The table below summarises changes to the approved DA.

Lot	Anticipated Use	Built Form Response	Concept Plan Built Form Control
Lot 4	4 Residential – 12 storey elements along street – 12 storey tower to west	2m setback to street boundary - creates transition zone for residential     2m setback above Level 9 - adequate modulation provided and better street scale established	
		6 storey element to north     to optimise solar access     to courtyard	2m setback to street boundary - creates transition zone for residential     2m setback above Level 9 - adequate modulation provided and better street scale established
			6m setback to west boundary - Buildings orientated away from High School;
			- 10m access easement serving Lots 03 and 04

Approved Built Form Controls DA/514/2015

Lot	Anticipated Use	Built Form Response	Concept Plan Built Form Control
Lot 401	t 401 Residential – 12 storey elements along street  – 12 storey tower to west  – 8 storey link building		2m setback to street boundary - creates transition zone for residential     2m setback above Level 9 - adequate modulation provided and better street scale established     2m setback to street boundary - creates transition zone for residential     2m setback above Level 9 - adequate modulation provided and better street scale established
		6m setback to west boundary - Buildings orientated away from High School;	
Lot 402	Residential	12 storey elements along street     6 storey element to north to optimise solar access to courtyard to south	2m setback to street boundary - creates transition zone for residential     2m setback above Level 9 - adequate modulation provided and better street scale established
			- access easement serving Lots 03A and 03B
			- 6m setback to west boundary - Buildings orientated away from High School;



### 2.5 SEPP 65 Evaluation

Built form in the approved DA was developed to respond to site opportunities and to achieve the maximum site GFA while reflecting development and code constraints.

Final GFAs will be subject to detailed design and final mix of apartments. Capacity has been tested using the envelope method in SEPP65 - GFA = 75% of the envelope area.

Because of the constraints adjacent to the Marist boundary, an option using 80% in an adjacent element is used.

Building heights are organised with lower elements to the north or east to facilitate solar access. Where possible, apartments along the western boundary are to view away from the high school.

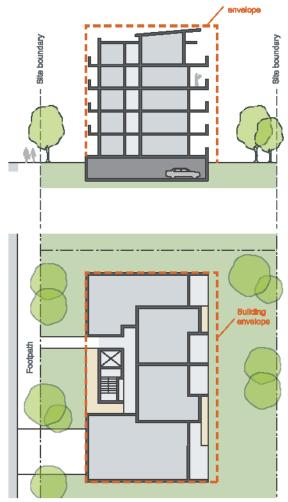
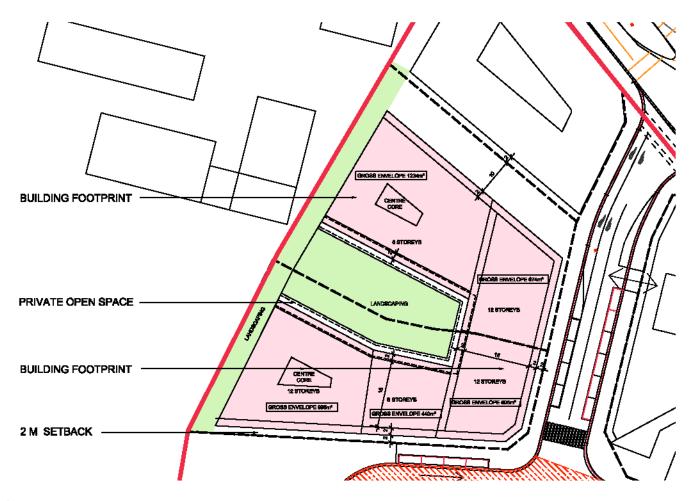


Figure 2B.2 Building envelopes define the 'container' within which a building is designed. They are a useful tool to gain an understanding of the future urban form and scale of an area. The gross floor area of the building is typically 25-30% less than that of the envelope

SEPP65 Extract



#### WSU Westmeed LOT 4 Subdivision Design Envelopes

Option 1 75% Envelope

	Lot 401		Lot 4	102
	Gross Envelope	GFA @ 75%	Gross Envelope	GFA @ 75%
Level 1	2,041m2	1,531m2	1,908m2	1,431m2
Level 2	2,041m2	1,531m2	1,908m2	1,431m2
Level 3	2,041m2	1,531m2	1,908m2	1,431m2
Level 4	2,041m2	1,531m2	1,908m2	1,431m2
Level 5	2,041m2	1,531m2	1,908m2	1,431m2
Level 6	2,041m2	1,531m2	1,908m2	1,431m2
Level 7	2,041m2	1,531m2	874m2	508m2
Level 8	2,041m2	1,531m2	674m2	506m2
Level 9	1,801m2	1,201m2	874m2	508m2
Level 10	1,601m2	1,201m2	674m2	508m2
Level 11	1,601m2	1,201m2	674m2	506m2
Level 12	1,601m2	1,201m2	674m2	506m2
	22,732m2*	17,049m2*	15,492m2*	11,619m2*

TARGET 17,500m2 11,325m2 28,825m2

Option 2 75-80% Envelope

	Lot 401				Lot 402	
	West		East			
	Gross Envelope	West GFA @ 80%	Gross Envelops	East GFA @ 75%	Gross Envelope	GFA (2) 75%
Level 1	995m2	796m2	1,046m2	785m2	1,908m2	1,431m2
Level 2	995m2	796m2	1,048m2	785m2	1,908m2	1,431m2
Level 3	995m2	798m2	1,048m2	785m2	1,908m2	1,431m2
Level 4	995m2	798m2	1,048m2	785m2	1,908m2	1,431m2
Level 5	995m2	798m2	1,048m2	785m2	1,908m2	1,431m2
Level 6	995m2	790m2	1,048m2	785m2	1,908m2	1,431m2
Level 7	995m2	798m2	1,048m2	765m2	674m2	506m2
Level 8	995m2	796m2	1,046m2	785m2	674m2	506m2
Level 9	995m2	796m2	606m2	465m2	674m2	506m2
Level 10	995m2	796m2	606m2	465m2	674m2	506m2
Level 11	995m2	796m2	606m2	465m2	674m2	508m2
Level 12	995m2	796m2	808m2	455m2	874m2	506m2
	11,940m2*	9,552m2*	10,792m2*	8,094m2*		
				17,848m2°	15,492m2*	11,819m2°

TARGET 17,500m2 11,325m2 28,825m2

\* Small variances in totals due to rounding.

Envelope Calculations

## 2.6 Open Space and Landscape

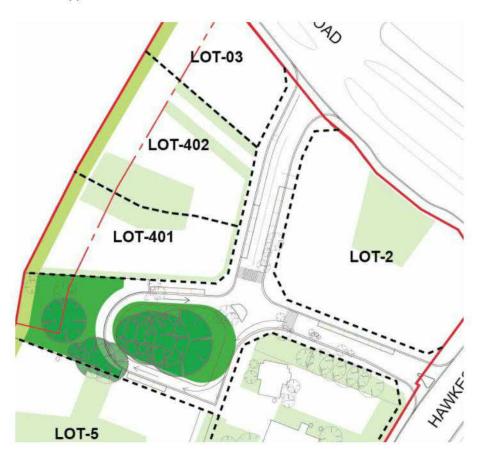
The current approved DA plan is based on creating on accessible open space network and the retention of major trees. A landscape area of 2,800m2 and deep soil of 1,500m2 is identified in the approved DA

Public open space is focused around the group of fig trees in the centre of the site and open space setbacks at the entry road off Hawkesbury Road (managed by UWS) will ensure a green entry to the site.

Nominal Landscape and Deep Soil planting areas for Lots 401 and 402 are:

	Landscape	Deep Soil
LOT-401	1.250m2	600m2
LOT-402	1.550m2	900m2
TOTAL	2,800m2	1,500m2

Landscape areas and Deep soil Planting remain consistent with the approved DA.



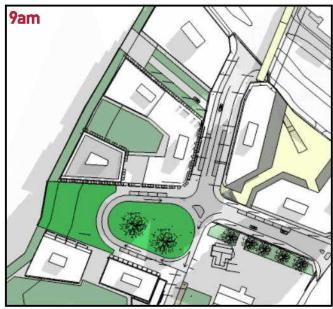


### 2.7 Solar Access

Testing of solar access in the revised plan demonstrates minimal change to solar access to the central open space on the winter solstice, improving through the year.

Residential open space will be subject to Apartment Design Guides and may be located on roof levels.















June 22 - Winter Solstice - Proposed Development



