

	Adam Iskander- Senior Planning Officer, DPE
То	Kelly Mc Keller, Agile Planning DPE
Subject	PP-2021-5837 Western Sydney University Campus, Milperra –
Casjeet	Gateway Condition 2d -Floor Space Ratio
Date	26 April 2023
	Theo Zotos- Senior Development Manager, Mirvac

Reference is made to Condition 2d of the Gateway Determination which seeks demonstration that the proposed Floor Space Ratio planning controls and proposed residential lot sizes will facilitate in appropriate development outcomes. The relevant Gateway requirement is provided for ease of reference below.

Gateway condition 2d

Provide urban design testing to demonstrate that the numerical controls provided under the FSR 'sliding scale' and new small lot size controls are appropriate. The testing should demonstrate the lots are capable of achieving suitable amenity, landscaped area, deep soil planning, tree canopy, private open space, visual and acoustic privacy and solar access.

The proposed Floor Space Ratio planning controls are to be implemented via the amending LEP. The proposed sliding scale has been developed collaboratively with Council, and in consideration of other built form controls including building setbacks, minimum landscaping coverage, privacy open space requirements.

The proposed FSR's within the exhibited Planning Proposal were allocated across varying lot size ranges which resulted in 'steps' of permissible GFA. For example, an attached home on a 199m2 lot could theoretically achieve upto 175m2 GFA, but a 200m2 lot would get achieve 150m2 of. As such a formula was developed to avoid the 'steps' in the GFA scale which is based on a similar principle to the ones used in the State Environmental Planning Policy (Exempt and Complying Codes) – Part 3B Dual occupancies .

Under the proposed formula, the development standard is a maximum gross floor area rather than an FSR which is more practical .

The proposed formula for residential land with maximum HOB of 8.5m is:

GFA = 37% of site area + 80sqm



A comparison of the proposed GFA formula and the previously Mirvac proposed FSR (within Table 6 of the exhibited PP) is provided below.

Angle of line	37%				
GFA factor	80				
FORMULAB	LOT AREA		MIRVAC PLA	NNING PRO	POSAL (Table 6)
Lot area	GFA	FSR	FSR	GFA	GFA+/-
140.00	131.80	0.94	0.92	128.80	3.00
150.00	135.50	0.90	0.90	135.00	0.50
160.00	139.20	0.87	0.90	144.00	-4.80
170.00	142.90	0.84	0.80	136.00	6.90
180.00	146.60	0.81	0.80	144.00	2.60
190.00	150.30	0.79	0.80	152.00	-1.70
200.00	154.00	0.77	0.80	160.00	-6.00
210.00	157.70	0.75	0.75	157.50	0.20
220.00	161.40	0.73	0.75	165.00	-3.60
230.00	165.10	0.72	0.75	172.50	-7.40
240.00	168.80	0.70	0.75	180.00	-11.20
250.00	172.50	0.69	0.75	187.50	-15.00
260.00	176.20	0.68	0.70	182.00	-5.80
270.00	179.90	0.67	0.70	189.00	-9.10
280.00	183.60	0.66	0.70	196.00	-12.40
290.00	187.30	0.65	0.70	203.00	-15.70
300.00	191.00	0.64	0.70	210.00	-19.00
310.00	194.70	0.63	0.65	201.50	-6.80
320.00	198.40	0.62	0.65	208.00	-9.60
330.00	202.10	0.61	0.65	214.50	-12.40
340.00	205.80	0.61	0.65	221.00	-15.20
350.00	209.50	0.60	0.65	227.50	-18.00
360.00	213.20	0.59	0.60	216.00	-2.80
370.00	216.90	0.59	0.60	222.00	-5.10
380.00	220.60	0.58	0.60	228.00	-7.40
390.00	224.30	0.58	0.60	234.00	-9.70
400.00	228.00	0.57	0.60	240.00	-12.00
410.00	231.70	0.57	0.60	246.00	-14.30
420.00	235.40	0.56	0.60	252.00	-16.60
430.00	239.10	0.56	0.60	258.00	-18.90
440.00	242.80	0.55	0.60	264.00	-21.20
450.00	246.50	0.55	0.60	270.00	-23.50

On balance, the maximum GFA has been reduced from that detailed in the exhibited Planning Proposal

The advantage of the formula however the formula provides a smoother transition between lot ranges and generally, provides the necessary flexibility to facilitate the envisaged housing diversity.

In respect to residential land with an 11m HOB maximum (to allow three storey-built form), the Council has agreed to apply a blanket 1.4:1 FSR. This land is therefore not subject to the formula proposed above.



Attachment 1 includes siting plans of proposed home designs on smaller lot sizes which generally required higher FSR's.

The selected areas within the masterplan contain varying housing types (attached, semi-detached and freestanding homes), a combination of rear and front garage loaded and with varying solar orientation.

Per the Gateway Condition, the following amenity considerations have been considered on the enclosed siting plans.

Landscaping

Deep soil zones: Indicative deep soil zones have been illustrated generally in the location of the proposed tree planting. Note that all proposed landscaped areas shown on the enclosed plans are considered as deep soil areas as they are free from structures (including basements) and enable planting of vegetation.

Landscape site coverage: The following landscaped area are proposed under the draft DCP.

- Detached Homes; 25%
- Semi-detached and dual occupancies; 25%
- Attached dwelling lots;

For lots >140sqm -200sqm, minimum 15% of total site area

For lots >200sqm-250, minimum 20% of total site area

For lots >250sqm, minimum 25% of total site area

Note that the calculations are derived on landscaped areas being defined as any area that is permeable is capable of planting.

The plans demonstrate compliance with the proposed DCP controls provided above.

Tree Canopy

The proposed tree canopy calculations have been outlined within the Memo DPE dated 14 April 2023. The enclosed plans illustrate mature planting sizes achievable within each residential lot. These planting sizes, in addition to larger trees to be provided on wider lots, streets and open space underpinned the overall canopy cover of 4.64 ha as detailed in that Memo.

Private open space

For the majority of the proposed lots, private open space areas is located within the rear yards. For a small proportion of lots, open space is proposed within the front setback and accompanied by suitable fencing and landscaping to improve privacy. Scenarios where open space is located other than the rear yard include;



- Acoustic Homes; ie homes that provide screening from the noise source to the lots private open space. In the example shown in Attachment 2, dwellings are sited adjacent to the rear property boundary to allow separation from the existing school playground (i.e the noise source) to the open space.
- 'Rear loaded' lots: These lots are oriented so that the service areas and garages are located adjacent to the southern property boundary allowing open space courtyards to be located to the north, maximising solar access. Refer to Attachment 1, Superlot 3 floor and siting plans.

An example of fencing and landscaping treatment to front yard private open space is shown below.



Brighton Lakes Moorebank by Mirvac

Visual and acoustic privacy

Acoustic privacy

For attached and semi-detached homes, where possible, the internal configuration of floor plans considers grouping room types to limit acoustic nuisance. For example, bathrooms are grouped with corresponding bathrooms or staircases in adjoining properties. Courtyards can be separated, in part by blade walls and service areas which include rainwater tanks. Refer to Attachment 1 for indictive siting plans.

Visual privacy

Potential overlooking from first floor windows is limited via the offsetting of windows between dwellings and/or minimum window sill height of 1.5m above floor level. Further, opaque glass upto 1.5m above floor level or externally fixed privacy screens may also assist where the above-mentioned measures are not practical.



For first floor balconies, blade walls are provided to reduce potential overlooking into adjoining private open space.

Solar access

The enclosed plans include solar analysis for a variety of orientations. Councils draft Site Specific DCP requires that 50% of principle private open space (PPOS) areas receive at least 3 hours to 50% of that area (between 8am-4pm 21 June).

The masterplan has been developed to maximise east-west orientated lots, allowing the longer building plane to be orientated north. For these, and north facing yards, solar access per the draft DCP controls is deemed achievable. However, three hours of solar access for south facing rear yards and narrow lots can be challenging.

For narrow terrace housing lots, it has been requested that the draft DCP includes a provision that required 2 hours of sunlight between 8am-4pm on 21 June (as opposed to a blanket 3-hour requirement for all lot sizes).

This controls is deemed acceptable in many other LGAs and is appropriate in this case considering that smaller lots are typically located near open space where opportunity for recreation is within a short walking distance.

For certain lot orientations, the DCP shall also make it clear that PPOS is an area that is considered accessible from, and not necessarily directly adjoining, the dwellings living area.

Conclusion

Council and Mirvac have worked collaboratively to develop the proposed GFA/FSR as presented.

The enclosed lot siting plans illustrate that, under the proposed lot sizes and GFA/FSR control, suitable amenity can be provided to future residents.

Mirvac's integrated design, construction and development management model ensure that the objectives of providing a variety of much needed housing variety is delivered without compromising amenity and urban design outcomes.

Please don't hesitate to contact the undersigned on 9080 8062 if you have any queries in relation to the above.

Regards,

Theo Zotos

Senior Development Manager Mirvac Residential Development NSW P/L



Attachment 1- Detailed Urban Design Testing, site and floor plans

Attachment 2- Acoustic Homes

WSU Milperra Urban Design Testing (April 2023)





M5 MOTORWAY



MILPERRA WSU

Masterplan - Siting/Products Option E -



Level 28, 200 George St. Sydney NSW, 2000 tel. 02 9080 8000 fax. 02 9080 8181

architects planners interior designers

Mirvac Design Pty. Ltd. ABN 78 003 359 153



100mm



200mm

Ground Floor

00

300mm



11.99m x 33.2m 3B and study plus with strata residence

Detached Garage	45.6 m²
Porch	2.5 m ²
Fonzi Garage	18.6 m²
Fonzi Porch	1.8 m ²
Fonzi Deck	8.3 m²
OTHER AREA	76.9 m²

Total Area Schedule (GFA)		
Ground Floor Living	65.7 m ²	
First Floor Living	62.9 m ²	

FONZI GFA

Entry /St Ground Floor	6.5 m ²
First Floor	57.6 m ²
	64.1 m ²

Lot Depth 33.2m - Landscape Coverage approx. 205.3 sqm on 398.1 sqm Total Lot Area = 51.6% (Proposed DCP controls semi detached / duplex lots with Fonzi = 25% of total lot area)

	GFA	SITE AREA	PROPOSED FSR	PERMISSABLE FSR
215U with Fonzi	192.7	398.1	0.48	0.57



First Floor



0mm

SuperLot 1 300mm







E

100n



1410



WSU-11 218W 9.0m Lot-F2

9.0m x 33.2m 4B + Family

Detached Garage	36.0 m ²
Porch	4.1 m ²
OTHER AREA	40.1 m²

Total Area Schedule (GFA)		
Ground Floor Living 80.6 m ²		
First Floor Living	80.3 m ²	
	160.9 m ²	

Lot Depth 33.2m - Landscape Coverage approx. 149.3 sqm on 298.8 sqm Lot Area = 49.9% (Proposed DCP controls lots > 250 = 25%)

		SITE	PROPOSED	PERMISSABLE
	GFA	AREA	FSR	FSR
218W	160.9	298.8	0.54	0.64

Note: Lot size varies pending orientation



First Floor

Scale 1:100 4 2













Legend:	
2	

SHADOW

TWO STOREY BUILDING SINGLE STOREY BUILDING SOLAR PANELS - LOCATION SHOWN INDICATIVELY



*note 33.2m lot depth

drawn: Author approved: Approv job no: Project Number lot no:

date: Project Start Date drawing no: 404

scale @ A1: 1 : 200 rev:

MILPERRA WSU





WSU-16 5.6m Front Load

5.6m x 26.0m 3B

Garage	27.2 m ²
Porch	4.8 m ²
OTHER AREA	32.0 m²

Total Area Schedule (GFA)			
Ground Floor Living 54.9 m ²			
First Floor Living	73.4 m²		
	128.3 m ²		

Lot Depth 26.0m - Landscape Coverage approx. 25.5 sqm on 145.6 sqm Lot Area = 17.5% (Proposed DCP controls lots 140-200 = 15%)

GFA	SITE AREA	PROPOSED FSR	PERMISSABLE FSR
128.3	145.6	0.88	0.92



WSU-2 C6.4m Front Load

6.4m x 26.0m 3B + Study

OTHER AREA	28.1 m²
Porch	3.8 m²
Garage	24.3 m ²

Total Area Schedule (GFA)		
Ground Floor Living 64.0 m ²		
First Floor Living	79.5 m²	
	143.5 m ²	

Lot Depth 26.0m - Landscape Coverage approx. 33.8 sqm on 166.4 sqm Lot Area = 20.3% (Proposed DCP controls lots 140-200 = 15%)

	GFA	SITE AREA	PROPOSED FSR	PERMISSABLE FSR
C6.4 Front	143.5	166.4	0.86	0.85
TIOIL	145.5	100.4	0.80	0.85

*indicates possible design change to reduce GFA in order to comply with proposed Council FSR

Scale 1:1	00		
		, 	+
0	2	4	6

MILPERRA WSU











Denotes: Solar access for at least 50% of PPOS area





Denotes: Solar access for at least 50% of PPOS area









WSU-17 6.4m Rear Load

6.4m x 26.0m 3B + Study

Garage	21.9 m ²
Porch	3.2 m ²
OTHER AREA	25.2 m²

Total Area Schedule (GFA)		
Ground Floor Living 58.4 m		
Level 1 Floor Living	74.9 m²	
	133.4 m ²	

Lot Depth 26.0m - Landscape Coverage approx. 30.8 sqm on 166.4 sqm Lot Area = 18.5% (Proposed DCP controls lots 140-200 = 15%)

		SITE	PROPOSED	PERMISSABLE
	GFA	AREA	FSR	FSR
6.4 Dual	133.4	166.4	0.80	0.85





WSU-24 217G 9.0m Front Load

DCP Rear Setback for Homes (6.0m)

9.0m x 28.0m 4B + Media

Garage Porch OTHER AREA 19.6 m² 1.4 m² 21.0 m²

Total Area Schedule (GFA)		
First Floor Living 78.6 m		
Ground Floor Living	71.9 m²	
	150.5 m²	

Lot Depth 28.0m - Landscape Coverage approx. 111.5 sqm on 252.0 sqm Lot Area = 44.2% (Proposed DCP controls; Front setback 4.5m, Rear setback 6.0m, Side setback 900mm, Landscaping 25% Site coverage. POS minimum 24.0 sqm)

	GFA	SITE AREA	PROPOSED FSR	PERMISSABLE FSR
217G	150.5	252	0.60	0.69

DCP Front Setback Homes (4.5m)

Scale 1 : 100



WSU-23 213/6.0m Front Load

6.0m x 28m 3B + Study

Garage	21.1 m²
Porch	3.7 m²
OTHER AREA	24.8 m²

Total Area Schedule (GFA)		
Ground Floor Living 61.5 m ²		
First Floor Living	68.5 m²	
	130.0 m ²	

Lot Depth 28.0m - Landscape Coverage approx. 41.4 sqm on 168.0 sqm Lot Area = 24.6% (Proposed DCP controls lots 140-200 = 15%)

	GFA	SITE AREA	PROPOSED FSR	PERMISSABLE FSR
6m	130.0	168	0.77	0.85



INDICATIVE SITE PLAN 1:200 *note 28m lot length

SuperLot 4





MILPERRA WSU Example: Product on 150sqm Lot Size

MIRVAC

DESIGN



WSU-23 6.0m Front Load

6.0m x 25m 3B + S

Total Area Schedule (GFA)		
61.5 sqm		
68.5 sqm		

130.0sqm

Lot Depth 25.0m – Landscape Coverage Approx. 24.5 sqm on 150 sqm Lot Area = 16.3% (Proposed DCP controls lots 140-200 = 15%)

		SITE	PROPOSED	PERMISSABLE
	GFA	AREA	FSR	FSR
6m	130.0	150	0.87	0.90







Denotes: Solar access for at least 50% of PPOS area







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ct ber	date: APR 23	scale @ A1: 1 : 200
	drawing no: 403	rev:





Attachment 2 – Private Open Space (Acoustic Homes)

Below is an indicative plan which demonstrates the Private Open Space (POS) located within the front setback to allow separation from the existing adjoining school playground also maximising solar access.

