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SEPP 65

20 April 2012

Dear Sir,

Director General
Department of Planning and Infrastructure
23-33 Bridge Street
SYDNEY NSW 2001

RESIDENTIAL AND RETAIL DEVELOPMENT
21-35 TREACY STREET, HURSTVILLE
S75W APPLICATION
FOR HENLIA No 24 PTY LIMITED
DESIGN VERIFICATION STATEMENT

In accordance with Clause 50(1A) of the Environmental Planning and Assessment Regulations 2000, I, Frank Stanisic am a qualified architect for the purposes of State Environmental Planning Policy No 65 – Design Quality of Residential Flat Development.

I verify that the residential flat development, as shown in Architectural Drawings CD 00 - 37, 08/1, 15/1, 18/1, 24/1, 25/1, 26/1, 27/1, 40 - 44 dated 14 December 2011, issue H was designed under my instruction with regard to Part 2 of the State Environmental Planning Policy No 65 – Design Quality of Residential Flat Development.

Yours faithfully
STANISIC ASSOCIATES

FRANK STANISIC
DIRECTOR

Frank Stanisic Architects Pty Ltd ABN 11002633481
Frank Stanisic NSW Registration Board No 4480

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SEPP 65 PRINCIPLES COMPLIANCE STATEMENT

PRINCIPLE 1: CONTEXT

"Good design responds and contributes to its context which can be defined as the key natural and built features of the area."

The design of the proposed mixed use residential development at 21-35 Treacy Street contributes to its context by responding to existing buildings and future built forms of the Hurstville City Centre as defined in the Draft Hurstville LEP (Hurstville City Centre) 2010 (DHLEP-HCC).

The site consists of 5 individual commercial properties and has an area of 4,156sqm. It is a mid-block site and roughly rectangular in shape with a depth ranging from 28m to 36m. It has a 130m frontage to Treacy Street to the north and tapering frontage to the rail corridor of the Illawarra Rail line, immediately to the south. It is bounded by an existing four storey masonry flat building to the east and Council hard stand car park to the west.

The site lots are occupied by an automotive showroom, service centre and hardstand area, warehouses and light industrial factories. The site falls approximately 4 metres from west to east. The northern frontage overlooks the Hurstville City Centre and the southern frontage overlooks Kogarah. The site is located on the southern boundary of Hurstville City Centre. The Illawarra Rail line is a strongly defining, linear edge to the Hurstville Town Centre. The proposed built form consists of a slender linear form that emphasizes the built edge along the railway line and defines the southern edge of the Hurstville City Centre.

The surrounding uses are a mix of residential, shops, commercial and factories to the north in Hurstville, and detached dwellings and residential flat buildings to the south in Kogarah. The surrounding built form consists of an untidy mix of 1 to 3 storey factories, offices and shops to the north, 4 storey flat buildings to the east, 10 to 13 storey residential flat buildings to the east on the former Amcor/Containers site and a mix of 1 and 2 storey detached dwellings and 3 and 4 storey residential flat buildings to the south.

PRINCIPLE 2: SCALE

"Good design provides an appropriate scale in terms of bulk and height that suits the scale of the street and the surrounding buildings."

The bulk and height of the proposed building has been designed to complement the scale of the future surrounding buildings as defined in the DHLEP-HCC. The design proposal for the residential building and retail has emerged from a close and detailed contextual analysis of the existing and future urban form, streetscape and environmental impacts.

The slender building form is aligned to Treacy Street, setting back at street level to create a pedestrian scale. The ground level is activated with shops, retail court and multiple apartment lobbies.

The slender building form above the street has been bisected with a slot and carefully placed surface recesses to reduce its visual bulk and respond to the scale of the existing and future context. The building slot is aligned with the visual axis of Alfred and Bellevue Streets, visually connecting Hurstville and Kogarah, the two side sides of the rail corridor.

The proposed building heights are 15, 45 and 55 metres (4, 13 and 16 storeys) compared to 4 and 7 storeys (15 and 23 metres) in the DHLEP-HCC. The building height has been determined by urban contextual relationships, minimisation of overshadowing impacts on dwellings to the south in Kogarah and to sit comfortably within the proposed existing and future built edge along the Illawarra Rail corridor.

The maximum building heights for the site, identified as part of block 29 in the current Hurstville City Council (Hurstville Town Centre Volume 2) DCP No 2, is 7 storeys if a view corridor is created as an extension of Alfred Street through to the rail line between two new seven storey buildings; and the maximum FSR of 4.0:1 for residential and 3.6:1 for commercial. If no view corridor is created the maximum building height reduces to 4 storeys.

PRINCIPLE 3: BUILT FORM

"Good design achieves an appropriate built form for a site and the building's purpose, in terms of building alignments, proportions, building type and manipulation of building elements."

The built form is appropriate to the adjacent future residential developments, contributing to the character of the streetscape and providing internal amenity and outlook.

The development has a hybrid form that is a unique fusion of three form types: the urban street wall, slab and towers. This hybrid form is cut with a slot into two roughly equal parts and perforated with recesses to break down its visual bulk and mass. Connecting bridges between the two towers are evident in the slot and allow views out, along the visual axis. The recesses in the north and east facades of the building mediate between the scale of the slab form and the adjoining context while retaining the urban scale of the building in the Hurstville City Centre.

The form is located at the block edge of Treacy Street, without podium or expressed street wall setbacks. The building form responds to the narrow site with a depth ranging from 28m to 36m and the street type. Treacy Street is a secondary street in the Hurstville City Centre and its simple planar definition contrasts with the proposed stepped street wall section of Forest Road, the main street of the Hurstville City Centre proposed in the in the DHLEP-HCC.

The communal open spaces comprise a podium courtyard, sky gardens and roof garden. The shaded podium courtyard functions as a space for conversation, meetings for residents with planting, seating, gravel pathways, decking and a linear water element. The sky gardens are accessible reflective spaces with plants and mounding that provide a social network of breakout spaces over the building. The roof garden is the main external communal meeting space with a BBQ and canopy, adjacent to a community room. The main roof has photovoltaic panels for common area lighting.

PRINCIPLE 4: DENSITY

'Good design has density appropriate to the site and its context, in terms of floor space yield or number of units or residents'

The dwelling density is appropriate for the site and its future urban context. The proposed floor space ratio (FSR) is 6.85:1 (28,474sqm GFA) compared to a maximum GFA of 3.0:1 and FSR of 4.0:1 for components of the site in the DHLEP-HCC. The height is 4 to 16 storeys for components of the site compared to 4 and 7 storeys (15 and 23 metres) in the DHLEP-HCC.

The development has 283 dwellings on a site area of 4,156sqm giving a net dwelling density equivalent to 680 dwellings per hectare. The development has the potential to increase housing affordability and availability by 283 dwellings and assist in supporting the State's objective of increasing housing in town centres.

The dwelling density is sustainable due to the location of the site adjacent to Hurstville Rail station that is within 400m or 5 minutes walk from the site and frequent buses on Forest Road. The site is well serviced with utilities such as sewer, water, gas and electricity.

PRINCIPLE 5: RESOURCE, ENERGY AND WATER EFFICIENCY

"Good design makes efficient use of natural resources, energy and water throughout its full life cycle, including construction."

The design makes efficient use of natural resources, energy and water throughout its full cycle, including construction. It will meet the benchmarks of 25% energy reduction and 40% water reduction set out in the Building and Sustainability Index (BASIX).

Energy efficient building response is developed through extensive passive design and sun control elements. The building design is characterised by exceptional and dynamic qualities of space, natural light, air flow and solar access to achieve high personal comfort and low energy consumption.

The northern street elevation to Treacy Street is notable for the perforated aluminium balustrades, organised in a free-style manner, that reflect the alternating compact apartment types behind. The balustrades are supplemented with light aluminium screening and concrete shelves that provide sunshading to living areas from the northern sun to reduce heat gain in summer. The south elevation to the Illawarra Railway corridor is clad with glass vision and metal/or masonry spandrel panels, with wintergardens enclosed by multi-folding, glass panels that reduce noise from the trains and heat loss in winter.

The building is organised around multiple access cores to give flexibility of staging and reduce long corridors. There are four cores with double lifts and fire stairs, accessed at ground level from Treacy Street and the basement car park.

Most living areas and main balconies are located on the north façade to capture the solar access. The south facing living rooms have winter gardens enclosed in multi-folding glass which reduce heat loss and noise from the trains to the south. Many of the apartments are dual aspect, with cross flow or corner natural ventilation. The building slot at the end of Alfred Street also increases the perimeter of the building and increasing light and ventilation into apartments

A site-based, water retention system has been incorporated into the development. It comprises a concrete storage tank and filtration and pump unit in the basement car park that is used to recycle roof and ground rainwater for the irrigation of courtyard planting.

The building will have energy efficient appliances, fittings and services such as water reduction showerheads, dual flush toilets, gas cook tops and microwaves.

Overall the project has 64% dwellings that are cross or corner naturally ventilated (cf 60% minimum RFDC), 72% dwellings with 3 hour solar access (cf 70% minimum RFDC), and 5% south facing dwellings (cf 10% maximum RFDC).

All dwellings will be fitted with energy efficient, reverse cycle, split AC systems consisting of a single condenser unit and multiple fan coil units. Individual controls in each room and the ability to run one room of the entire dwelling reduces energy consumption.

Waste and recycling facilities are provided in the basement with recycling trays on each residential floor.

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PRINCIPLE 6: LANDSCAPE

"Good design recognises that together landscape and buildings operate as an integrated and sustainable system, resulting in greater aesthetic and amenity for both the residents and or the public domain."

The communal open space and building have been designed as an integrated and sustainable system, resulting in greater aesthetic quality and amenity for both residents and the public (refer to Landscape Architect's Design Statement and Plans).

The communal open spaces comprise a podium courtyard, sky gardens and roof garden. The shaded podium courtyard functions as a space for conversation, meetings for residents with planting, seating, gravel pathways, decking and a linear water element. The sky gardens are accessible reflective spaces with plants and mounding that provide a social network of breakout spaces over the building. The roof garden is the main external communal meeting space with a BBQ and canopy, adjacent to a community room. The main roof has photovoltaic panels for common area lighting.

Public domain improvements are generally in accordance with the Hurstville Public Domain Guidelines for Treacy Street. The footpath adjacent to the building will be paved in asphalt with banding and a back edge in pavers. Street trees are planted on the footpath. Refer to Landscape Architect's Design Statement and Plans.

PRINCIPLE 7: AMENITY

"Good design provides amenity through the physical, spatial, and environmental quality of a development."

The architectural design provides amenity through the physical, spatial and environmental qualities of the development. The dwellings have been designed to achieve access to sunlight, natural ventilation, visual and acoustic privacy, storage, indoor and outdoor space, efficient layouts, service areas, outlook and ease of access and mobility for all ages.

The accommodation consists of 283 (increased from 257) dwellings suited to a variety of lifestyles. The dwelling mix is 47 (reduced from 73) x 1 bedrooms (16.6%), 217 (reduced from 172) x 2 bedrooms (76.7%) and 19 (reduced from 12) x 3 bedrooms (6.7%), all in single or double storey plans; and 28 (10%) adaptable dwellings have been provided. Many dwellings have utility rooms. The minimum ceiling height of living rooms is 2.7m, the floor to floor height is generally 3.05m.

Each dwelling has access to a secure private open space, such as a balcony, terrace or court, with a minimum area for the primary open space of 6 sqm for 1 beds, 8 sqm for 2 beds and 18 sqm for 3 beds with a minimum depth of 2m. Most dwellings have considerably more private open space than the minimum. South facing private open space is provided in the form of semi-enclosed winter gardens.

Covered and secure parking is provided for residents. There are a total of 270 residential car parking spaces over four basement car parking levels, in accordance with the consent conditions of the approved concept plan. The residential parking includes 29 accessible resident car spaces - one space for every adaptable dwelling. An additional carwash space has been provided.

PRINCIPLE 8: SAFETY AND SECURITY

"Good design optimises safety and security, both internal to the development and for the public domain."

The design of the buildings optimises safety and security, of both the development and the public domain. Safety and security has also been considered in accordance with CPTED principles of surveillance, access, territorial reinforcement and space management.

The safety of the public is enhanced by the dwelling design that improves casual surveillance of the street by orientating living rooms to Treacy Street. The safety and security of residents and visitors to buildings is enhanced by locating the access to lobbies directly from the street. The communal courtyard is overlooked by bedrooms.

Controlled vehicular access to the project is provided by secured car park access from Treacy Street with direct access from the car park to the main lobbies for residents, the audio intercom system at the main entries and the car park entry to communicate with residents, and key card access for residents.

PRINCIPLE 9: SOCIAL DIMENSIONS

"Good Design responds to the social context and needs of the local community in terms of lifestyles, affordability and access to social facilities."

The design responds to the social context and needs of the local community in terms of lifestyle and affordability.

The site is within the Hurstville Town Centre which is heavily serviced with public transport in the form of rail and buses. Facilities needed to support mixed-use developments such as childcare, schools, health care, supermarkets, educational and leisure are all in close proximity.

The development will have exceptional pedestrian amenity with accessible access to all levels of the building. The site is located adjacent to Forest Road, a main street of the Hurstville Town Centre, lined with shops and restaurants. The residential lobbies can be easily accessed either from Treacy Street or the basement car park.

The development has a positive social benefit through the inclusion of a diverse dwelling mix of 1, 2 and 3 bedroom dwellings that will reinforce the urban life of the area. The total number of 283 dwellings includes 28 adaptable dwellings (10%).

PRINCIPLE 10: AESTHETICS

"Quality aesthetics require the appropriate composition of building elements, texture and colours and reflect the use, internal design and structure of the development."

The building has a modern aesthetic that expresses the forward looking aspirations of the project and its spirit of innovation and environmental excellence. The expression of the elevations responds to many factors including site, sun control, construction, technology and apartment amenity.

The development presents a unique opportunity to create an aesthetic based on environmental and urban design principles, untainted by sentimentality and contextual gestures. The appearance of the building avoids the overused expression of cellular, crate-like elements. Special attention has been given to the composition of building elements and materiality.

The building appearance emphasizes its dual orientation: the sunny north to the Hurstville City Centre and the cooler south to Kogarah Council. The northern street elevation to Treacy Street is notable for the perforated aluminium balustrades, organised in a free-style manner, that reflect the alternating compact apartment types behind. The balustrades are supplemented with light aluminium screening and concrete shelves that provide sunshading to living areas from the northern sun. The south elevation to the Illawarra Railway corridor is clad with glass vision and metal and or masonry spandrel panels, with wintergardens enclosed by fixed and awning glass panels that reduce noise from the trains and heat loss in winter.

The balcony balustrades to the south elevation will have a prefinished 'golden' colour. The side walls of the main building slot and the north facing sky terraces are emphasized with vivid colours, such as green, yellow and orange that reflect the golden colours of the sun and fresh green of the landscape. The cladding to the south will be clear vision glass panels, and translucent or opaque spandrel glass panels for privacy and light control. The metal and or masonry panels will be a white and will wrap onto the side end walls. Double glazing will be used to the south elevation and lower levels of the north elevation as required to reduce noise. The aluminium windows and doors will be Eternity Silver Pearl or Precious Metropolis Bronze, powdercoat finish.

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RFDC COMPLIANCE STATEMENT

The proposal is a 5 to 16 storey mixed use residential development comprising 283 (increased from 257) dwellings and 1699sqm (decreased from 3,726sqm) retail. Most dwellings are orientated to the north to optimise solar access and cross flow. South facing dwellings have wintergardens.

The following is an overview of compliance with the 'rules of thumb' of the Residential Flat Design Code (RFDC) related to SEPP 65.

LEVEL	MIX	SEPP65 COMPLIANCE		
	TOTAL	VENTILATION	SOLAR ACCESS	SOUTH FACING
B3	0			
B2	0			
B1	0			
LG	0			
G	0			
1	18	6	13	4
2	27	15	22	1
3	19	9	15	1
4	20	11	14	0
5	20	11	14	0
6	20	11	14	0
7	18	12	12	1
8	18	13	13	0
9	18	13	13	0
10	19	13	12	1
11	19	15	13	0
12	19	14	13	0
13	16	10	11	0
14	16	10	12	0
15	16	10	12	0
TOTAL	283	173	203	8
		61%	72%	3%
TARGET		170	198	28
		60%	70%	10%

PART 01: LOCAL CONTEXT

BUILDING HEIGHTS

The proposal has been considered through detailed analysis of the environmental impacts of the development on its surrounding and immediate neighbours. Detailed massing studies and form options, site, shadow and traffic analysis have been undertaken. This process has informed the environmental design and performance of the development to optimise the efficiency, amenity, orientation and aspect of the dwelling design. The building varies in height from 15 to 55 metres (5 to 16 storeys) with residential dwellings being located on all levels above the ground level which is activated by retail and lobby entries.

BUILDING DEPTH

The dwelling depth has been optimised through maximising the number of dwellings with cross flow or corner ventilation, using the slender building form and increased perimeter of the building slot. The dual aspect apartments have a maximum depth of 17.6 metres, the single frontage apartments to the north have a maximum depth of 8.7 metres.

BUILDING SEPARATION

The building is developed as two interlinked towers to decrease its mass and bulk. Building separation is 12 metres in accordance with the RFDC which requires that buildings over 25 metres in height have a 12 metre separation buildings where there are adjacent non-habitable rooms. There are no windows in the bounding walls of the slot between the towers. The RFDC does not have a requirement for separation between buildings where there is a habitable or non-habitable room adjacent to a blank wall.

STREET SETBACKS

The slender building form is located at the block edge on the north boundary to Treacy Street, without podium or expressed street wall setbacks, responding to the narrow site and the street type. Treacy Street is a secondary street in the Hurstville City Centre and its simple planar definition contrasts with the stepped street wall section of Forest Road, the main street of the Hurstville Town Centre that supplements the existing shop top forms. A covered undercroft space is provided for pedestrians along Treacy Street.

SIDE AND REAR SETBACKS

The building form is located at the boundary to the 'short', west and east side boundaries. A recess, or sky terrace, adjusts the scale of the building to the neighbouring, four storey residential flat building on the east elevation. The building height is reduced from 55m (16 storeys) to 45 metres (13 storeys) on the west elevation, anticipating a building of similar height on the Council car park site. The building form is set back between 6 and 10 metres from the southern site boundary to define a raised podium courtyard to the Illawarra Rail Corridor.

PART 02: SITE DESIGN

DEEP SOIL ZONES

Even though there are limited opportunities for deep soil due to the site coverage and density, the site has been provided with a deep soil zone of 240sqm in the southern courtyard which is 5.8% of the total site area, compared to RFDC rule of thumb of 260sqm, ie 1,039sqm communal open space (25% x 4,156sqm site area) x 25% with a minimum dimension of 10 metres.

LANDSCAPE DESIGN

An extensive upgrade of the public domain to Treacy Street, incorporating new street trees, is proposed. All communal open space on the site has mass plants, ground cover and trees. Refer also to Communal Open Space and the Landscape Design Statement and Plans.

COMMUNAL OPEN SPACE

The communal open spaces comprise a podium courtyard, sky gardens and roof garden. The shaded podium courtyard functions as a space for conversation, meetings for residents with planting, seating, gravel pathways, decking and a linear water element. The sky gardens are accessible reflective spaces with plants and mounding that provide a social network of breakout spaces over the building. The roof garden is the main external communal meeting space with a BBQ and canopy, adjacent to a community room. The main roof has photovoltaic panels for common area lighting.

PRIVATE OPEN SPACE

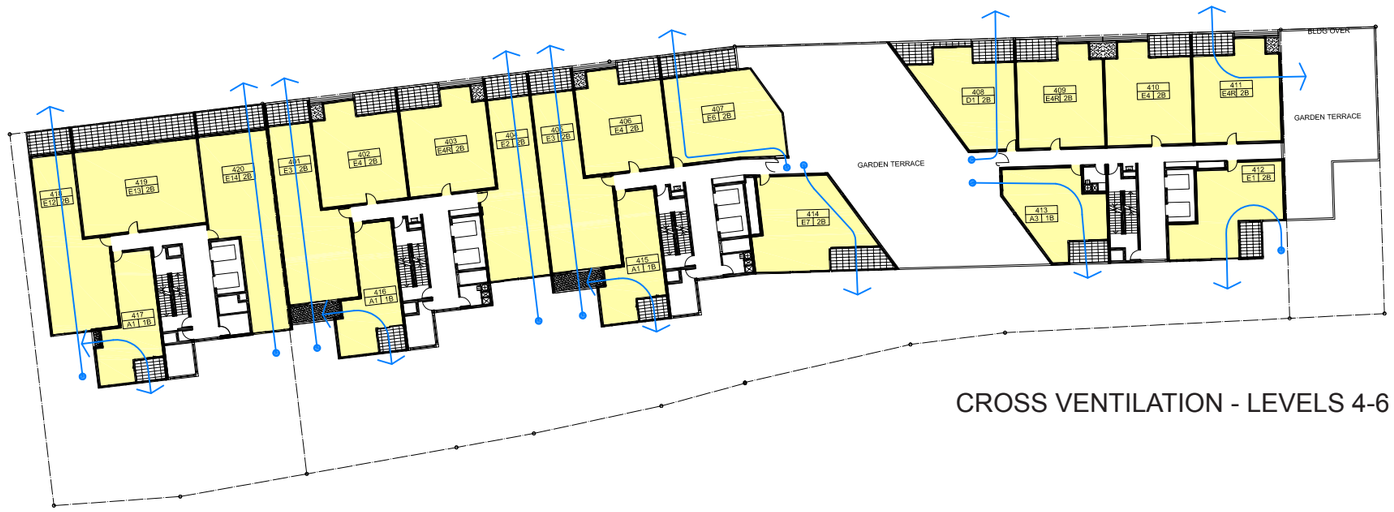
Each dwelling has access to a secure private open space, such as a balcony, terrace or court, with a minimum area for the primary open space of 6 sqm for 1 beds, 8 sqm for 2 beds and 18 sqm for 3 beds with a minimum depth of 2m. Most dwellings have considerably more private open space than the minimum. South facing private open space is provided in the form of semi-enclosed winter gardens.

ORIENTATION

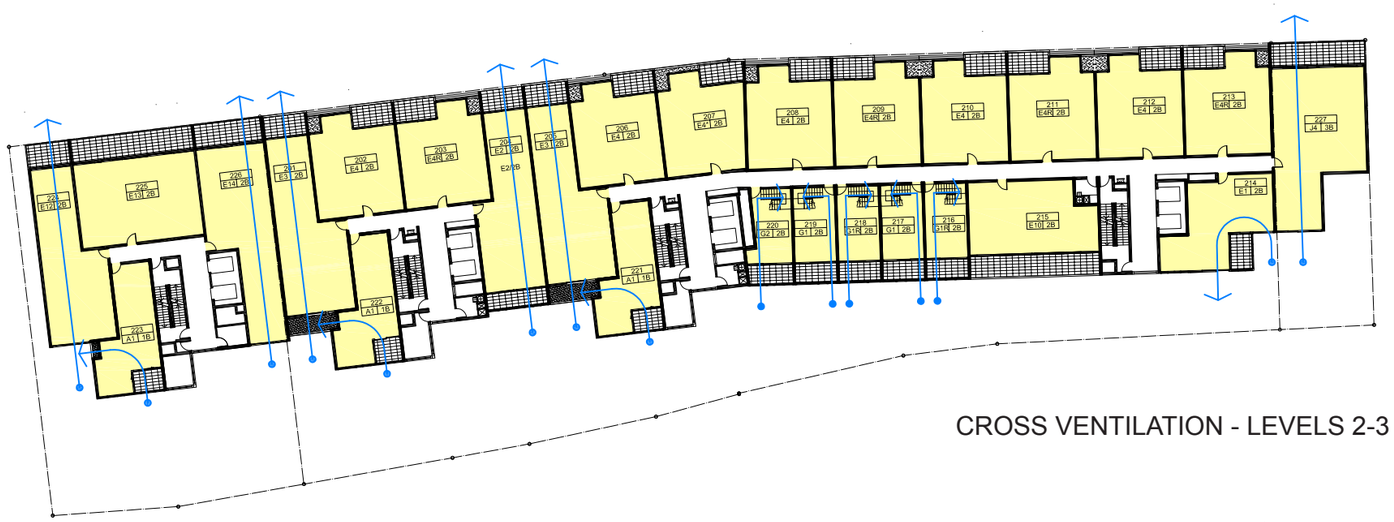
The tower/street wall form has been oriented to the north to maximise solar access.

PLANTING

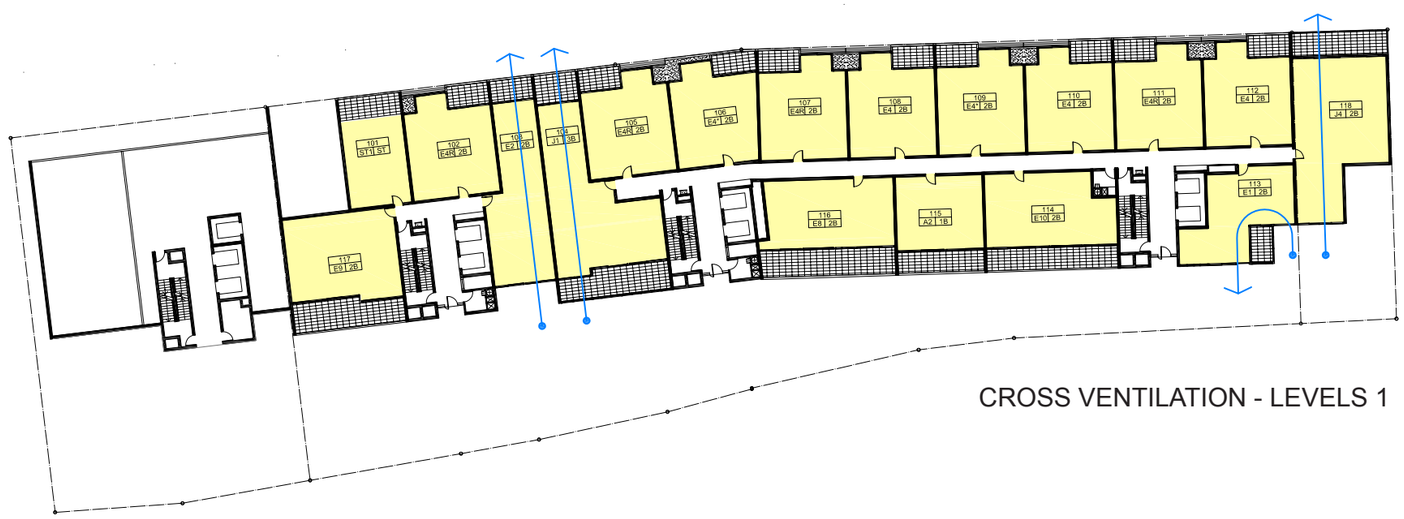
An extensive upgrade of the public domain incorporating new street trees is proposed. All communal open space has mass plants, ground cover and trees. Refer also to Communal Open Space and the Landscape Design Statement and Plans.



CROSS VENTILATION - LEVELS 4-6



CROSS VENTILATION - LEVELS 2-3



CROSS VENTILATION - LEVELS 1

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VISUAL PRIVACY

Visual privacy issues have been eliminated by siting, orientation, adequate building separation and internal blinds to bedrooms.

PEDESTRIAN ACCESS

Pedestrian access is only from Treacy Street as the rear boundary fronts the Illawarra Rail Corridor. Access from the basement car park is by lifts and fire stairs located at residential lobbies. Pedestrian access has been optimised by minimising the extent of vehicle pedestrian crossings on Treacy Street. The building complies with the relevant standards for accessibility to the building. 28 (10% of total) adaptable dwellings have been provided.

VEHICLE ACCESS

The vehicle entry for residential and retail basement car parking is situated on Treacy Street at the eastern end of the building.

LEGEND

- CROSS VENTILATION
- CROSS VENTILATION / ROOF VENT
- SUN ACCESS - MIN 3 HOURS OF SUNLIGHT ACHIEVED
- SUN ACCESS LEVEL ABOVE - MIN 3 HOURS OF SUNLIGHT ACHIEVED
- SUN ACCESS -SKYLIGHT
- SOUTH FACING UNITS

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PART 03: BUILDING DESIGN
APARTMENT LAYOUT

The residential floors have minimum ceiling heights to living rooms of 2.7 metres and 2.4 metres to non-habitable rooms. The floor to floor height of residential floors is 3.05 metres. The dual aspect dwellings are a maximum of 17.6 metres deep, the single frontage dwellings are a maximum of 10 metres deep, with habitable rooms a maximum of 8 metres deep for daylight.

The building is organised around multiple access cores to animate the street, reduce long corridors and give flexibility of staging. There are four access cores with double lifts and fire stairs, accessed at ground level from Treacy Street and the basement car parks. Levels 2 and 3 are designed with cross over planning to increase the number of cross ventilation dwellings

APARTMENT MIX

The dwelling mix is refined to respond to the present market demands, population trends and proximity to public transport. Dwellings are a mix of types, beds, sizes and price points to respond to market diversity.

The accommodation consists of 283 (increased from 257) dwellings suited to a variety of lifestyles. The dwelling mix is 47 (reduced from 73) x 1 bedrooms (16.6%), 217 (reduced from 172) x 2 bedrooms (76.7%) and 19 (reduced from 12) x 3 bedrooms (6.7%), all in single or double storey plans; and 28 (10%) adaptable dwellings have been provided. Many dwellings have utility rooms. The minimum ceiling height of living rooms is 2.7m, the floor to floor height is generally 3.05m.

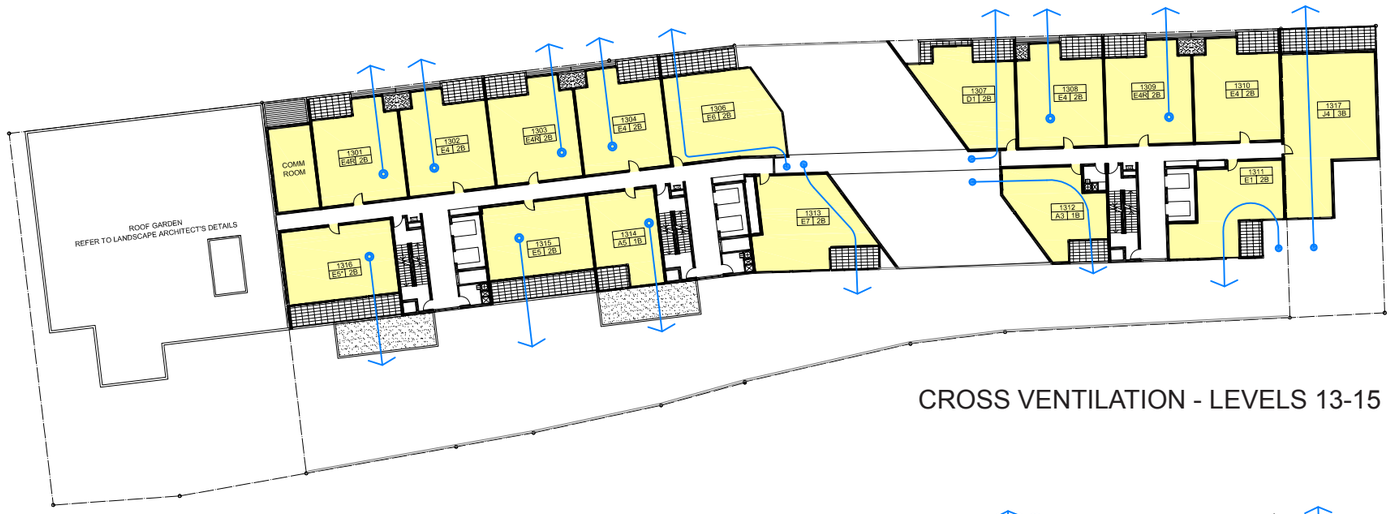
Most dwellings are single storey and comprise a range of layouts including standard corner and ‘snorkel’ to maximise the perimeter for sun, light and air. Larger 3 beds are distributed throughout the form.

BALCONIES

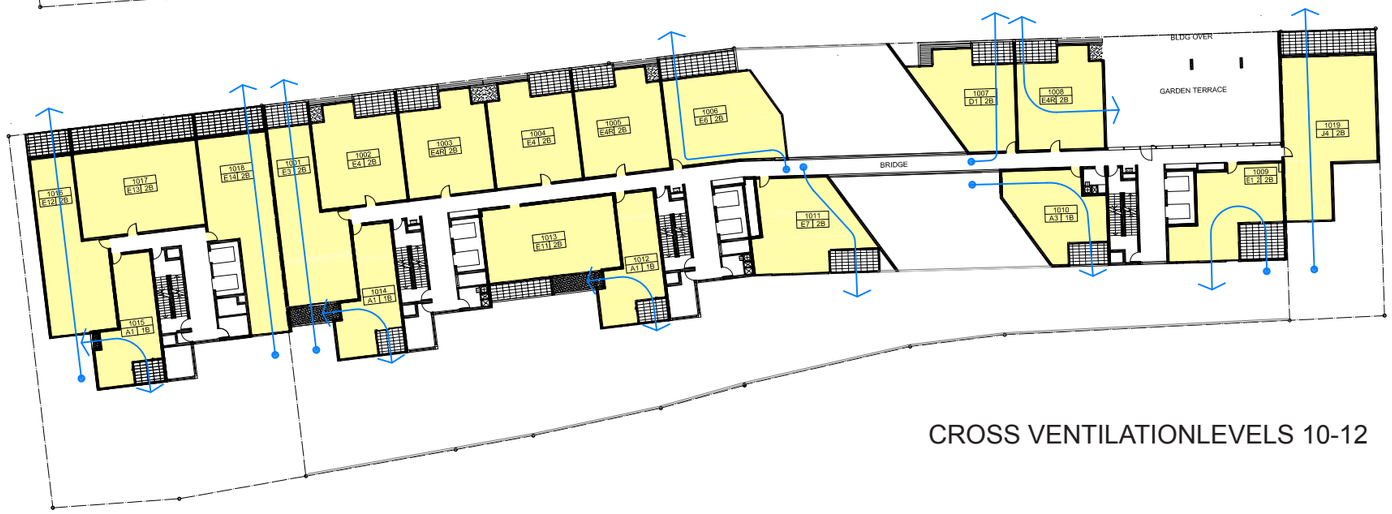
Each dwelling has access to a secure private open space, such as a balcony, terrace or court, with a minimum area of 6sqm for 1 bedroom, 8sqm for 2 bedrooms and 16sqm for 3 bedrooms, and with a minimum depth of 2m. Most dwellings have considerably more private open space than the minimum. South facing private open space is provided in the form of wintergardens.

CEILING HEIGHTS

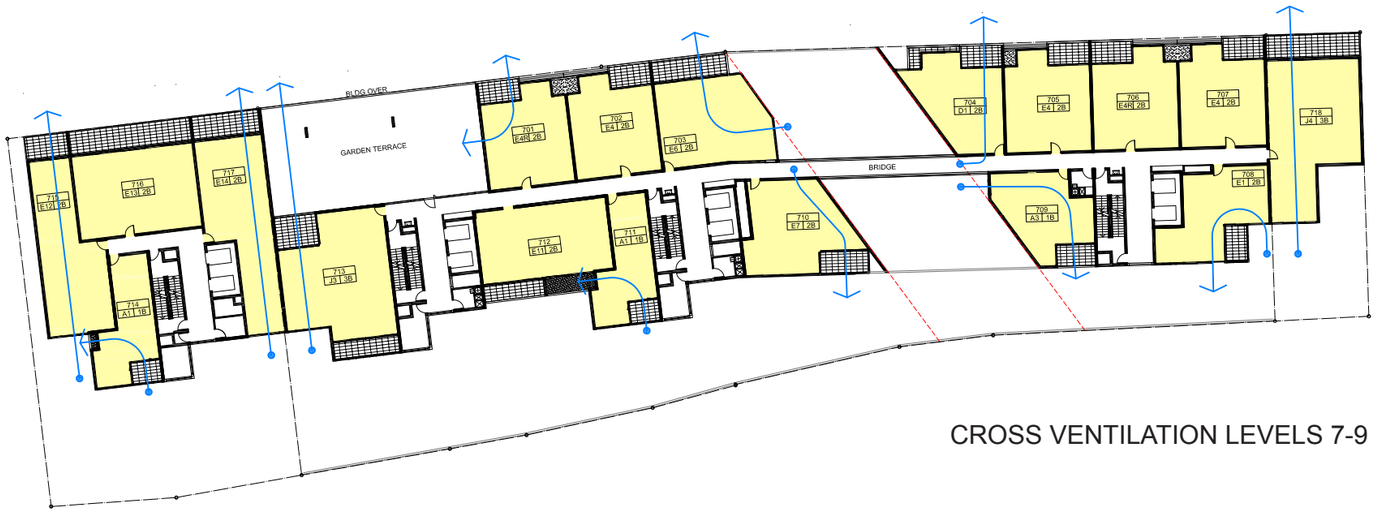
The minimum ceiling height of habitable rooms such as living/dining, kitchens and bedrooms in the residential flat building is 2.7 metres. Non-habitable rooms have a minimum ceiling height between 2.25 and 2.4 metres for services coordination.



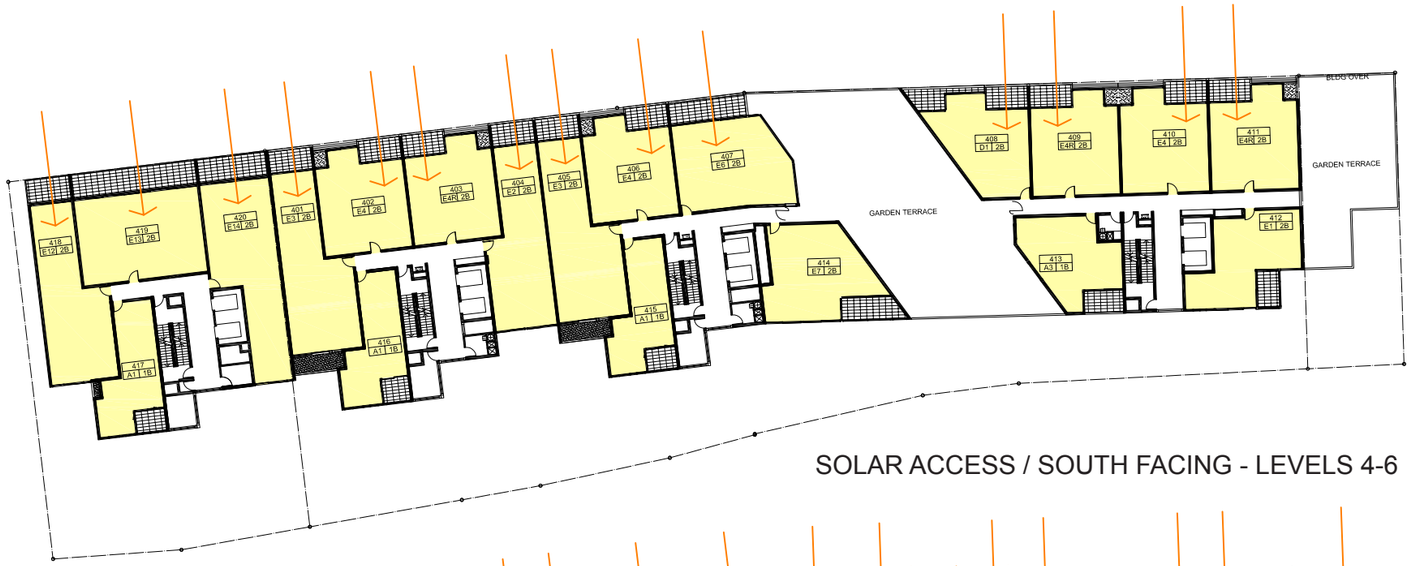
CROSS VENTILATION - LEVELS 13-15



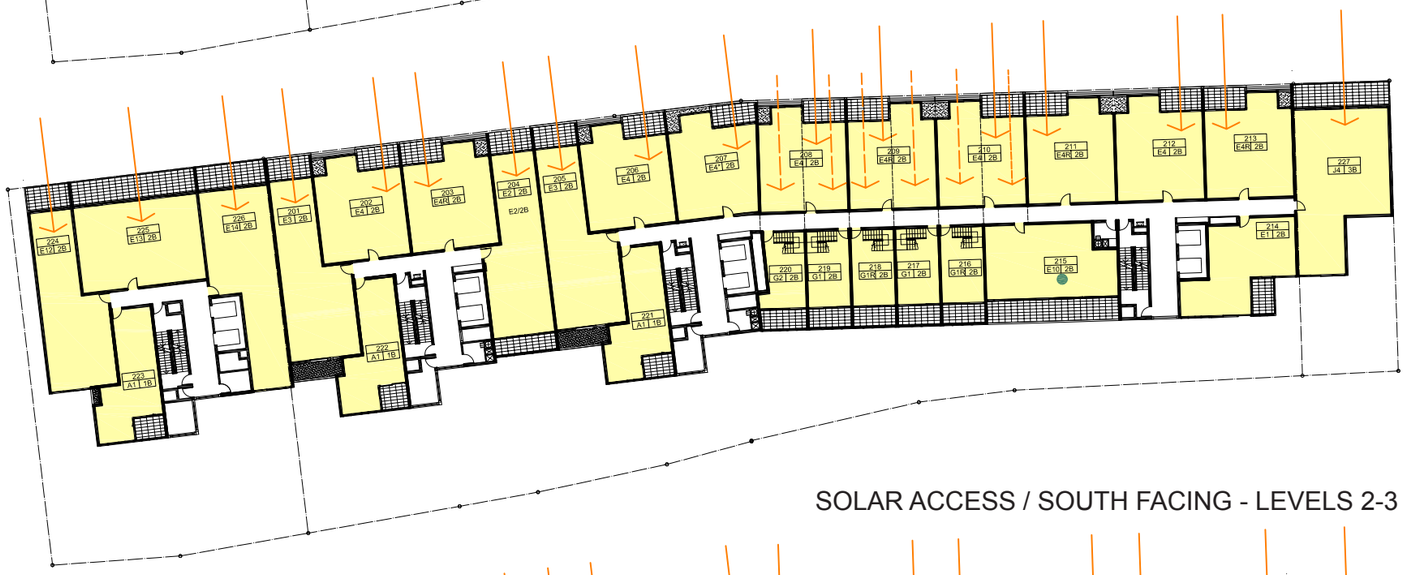
CROSS VENTILATIONLEVELS 10-12



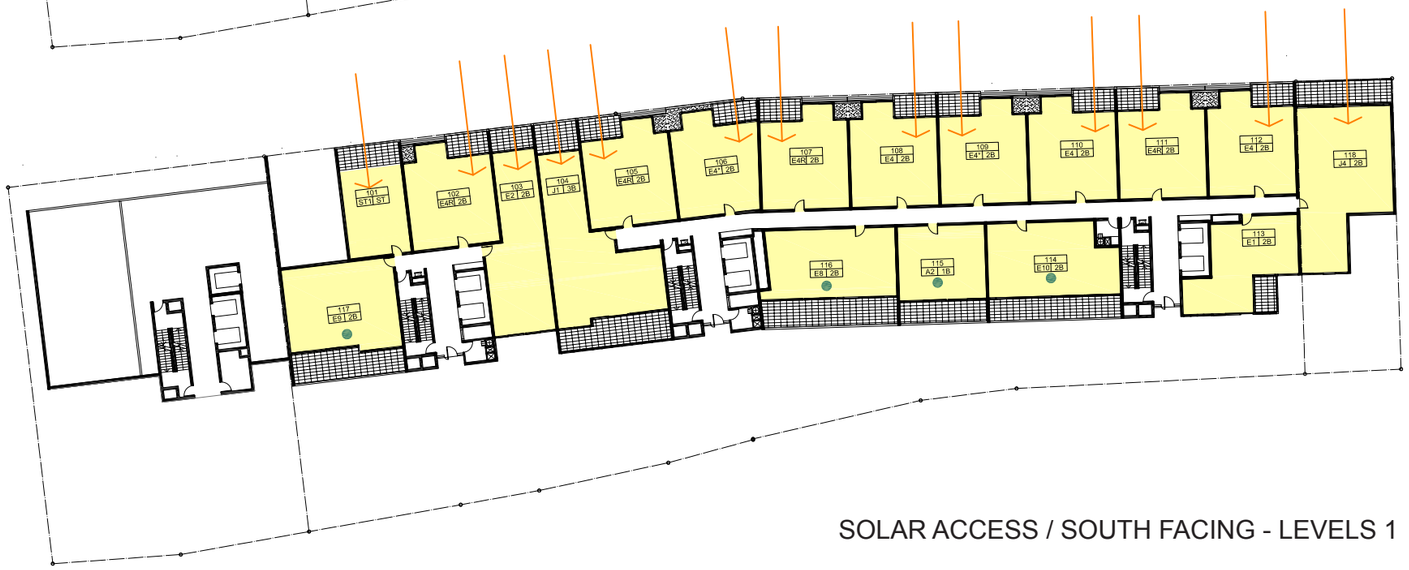
CROSS VENTILATION LEVELS 7-9



SOLAR ACCESS / SOUTH FACING - LEVELS 4-6



SOLAR ACCESS / SOUTH FACING - LEVELS 2-3



SOLAR ACCESS / SOUTH FACING - LEVELS 1

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GROUND FLOOR APARTMENTS

There are no ground floor dwellings because the street is occupied with retail. Dwellings have been provided to the screened communal courtyard at level 1.

INTERNAL CIRCULATION

Generally, there are 4-7 dwellings accessed from a single core. 18 dwellings are accessed from the two lift cores servicing the cross-over corridor on level 2. While this later number of dwellings is in excess of eight maximum suggested in the RFDC there is no compromise to residential amenity or social interaction due to the multi-storey, lobby spaces.

STORAGE

Storage of 6 cum for 1 bed dwellings, 8 cum for 2 bed dwellings and 10 cum for 3 bed dwellings is provided to all dwellings with 50% storage in storage cages on the residential parking levels.

ACOUSTIC PRIVACY

Double glazing to windows and doors and acoustic insulation to walls and spandrels has been provided to habitable rooms of apartments to reduce noise transmission from trains on the Illawarra Rail Corridor and motor vehicles on Treacy Street, as required by the Acoustic Engineer.

DAYLIGHT ACCESS

Overall, living rooms and private open spaces for 72% (205) of dwellings in the development receive three hours direct sunlight between 9am and 3pm at mid-winter (cf 70% minimum RFDC). 5% (13) dwellings have single, southerly aspect (cf 10% maximum RFDC).

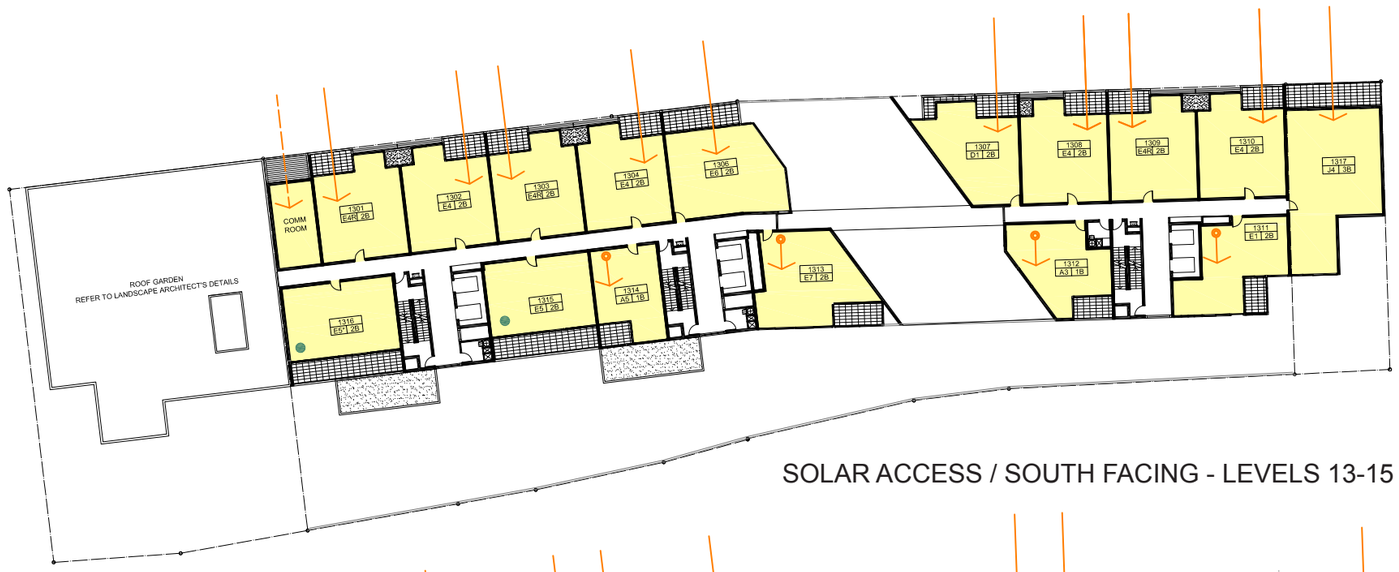
NATURAL VENTILATION

64% (182) of dwellings are naturally ventilated, by either cross or corner air flow (cf 60% minimum RFDC).

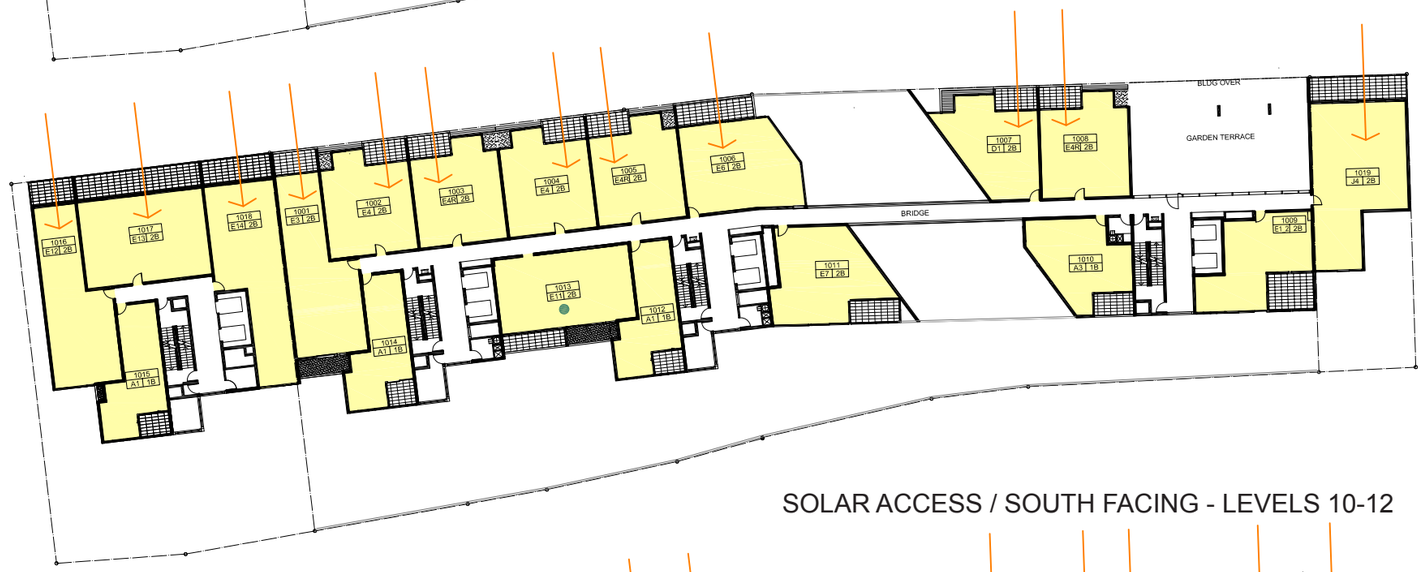
WATER CONSERVATION

Rainwater is collected from the roof and stored in a concrete retention tank in the basement and reused for toilet flushing, landscape irrigation and car washing. An OSD tank is also provided.

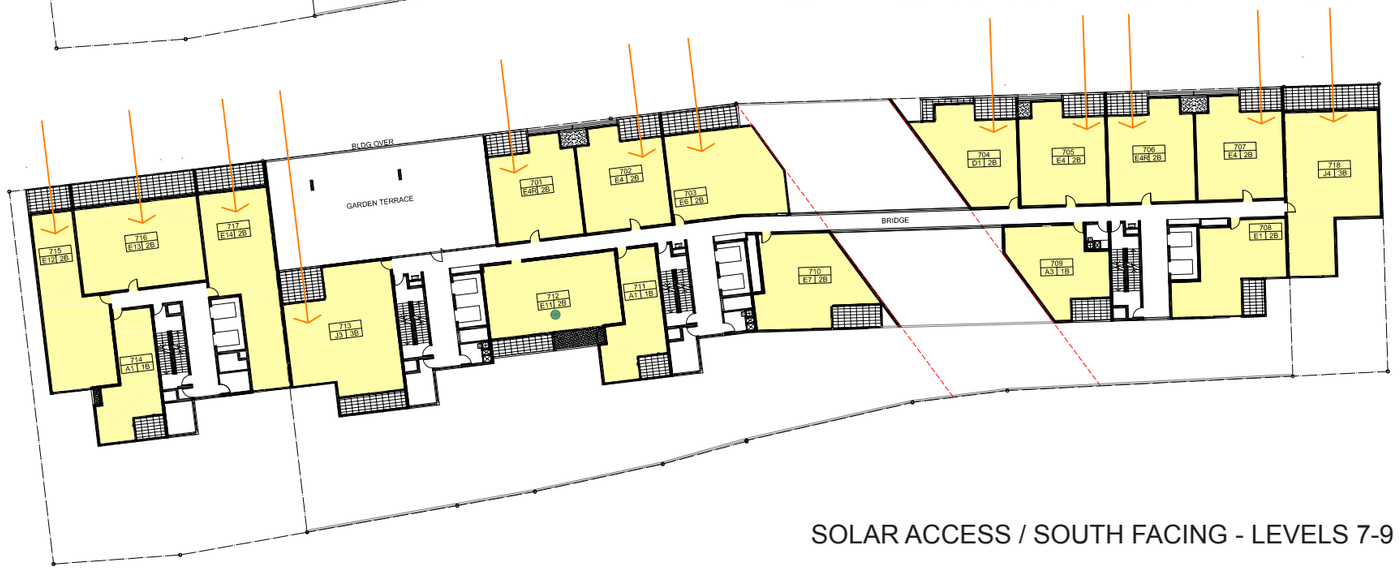
SEPP 65



SOLAR ACCESS / SOUTH FACING - LEVELS 13-15



SOLAR ACCESS / SOUTH FACING - LEVELS 10-12



SOLAR ACCESS / SOUTH FACING - LEVELS 7-9