

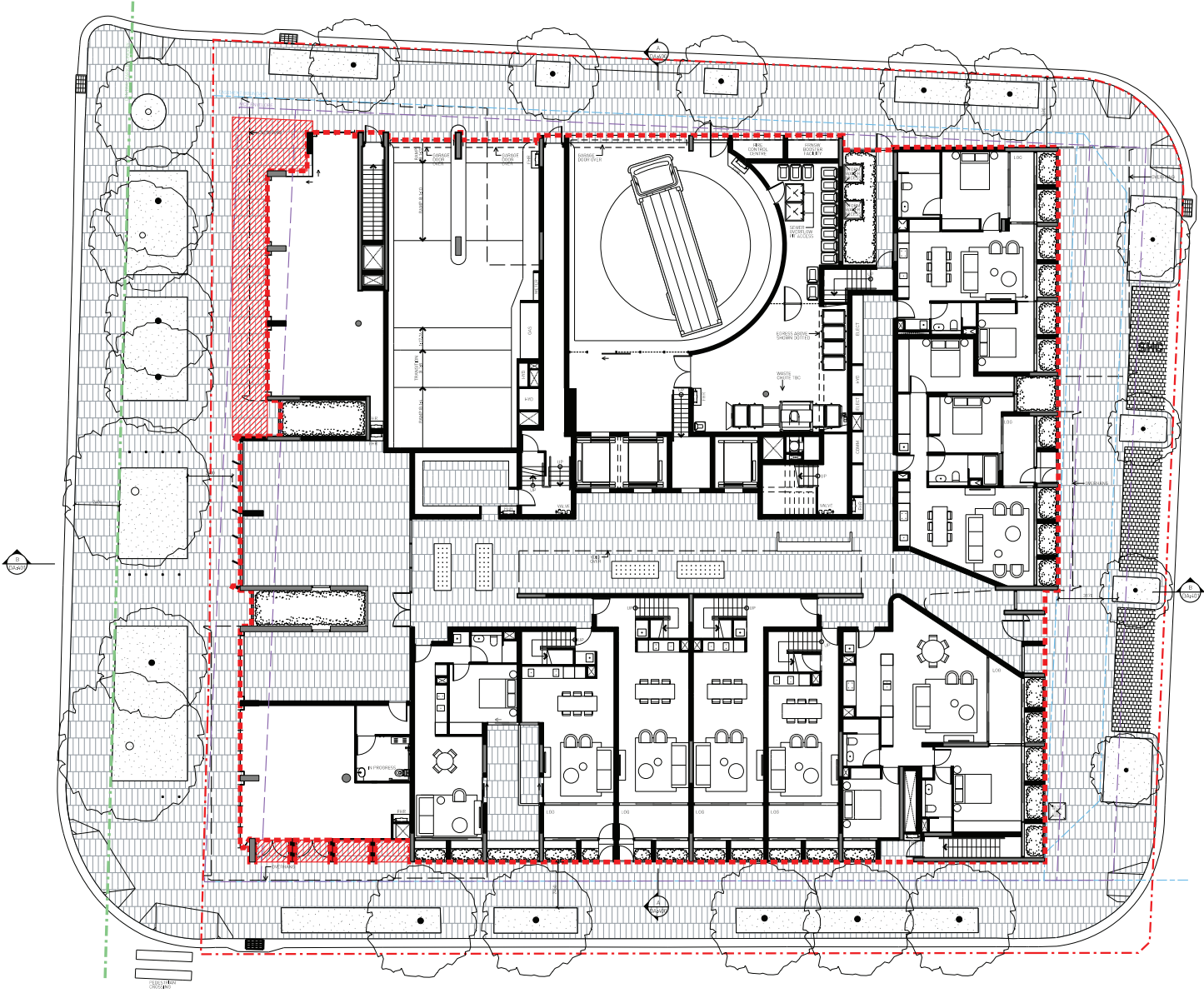
EASEMENT & DELINIATION OF PUBLIC DOMAIN

- Area external to red line to be maintained by Council, Area internal to redline to be maintained by the Body Corporate
- Area hatched red exclusive right of use for potential café seating

WIND MITIGATION

It is anticipated the proposed architectural devices combined with landscaping contribute to ameliorating wind condition in proximate surrounds to the development.

Measures proposed include the articulated western facade to Block 8 and evergreen trees along the streetscape. It is anticipated that these devices, in combination with awnings along Abercrombie Street on Block 4S will improve wind conditions. Detailed development will be undertaken in conjunction with further testing and modelling in design development.



FACADE DESIGN

FACADE LOUVERS

The facade articulation is characterized by a louver system of copper coloured aluminium cladding.

Louvers are designed to:

- Optimise solar access
- Reduce solar heat gain
- Maximise available views
- Provide filtered privacy
- Manage light pollution

The louvers are designed to respond to the specific conditions of each facade orientation and vary in angle and depth accordingly. Louver angles and depths are to be further detailed in design development to optimise solar access.

East facade: louvers are angled to maximize views to Chippendale Green and the Brewery

West façade: louvers are angled to optimise solar access, shield apartments from North traveling car head lights and frame views to the heritage buildings and district view to the west.

North facade: louvers are minimized to take advantage of northern sun.

South facade: louvers are varied in depth and angle, across the face of the elevation to provide an articulated surface animating the facade.

GLAZED FACADE

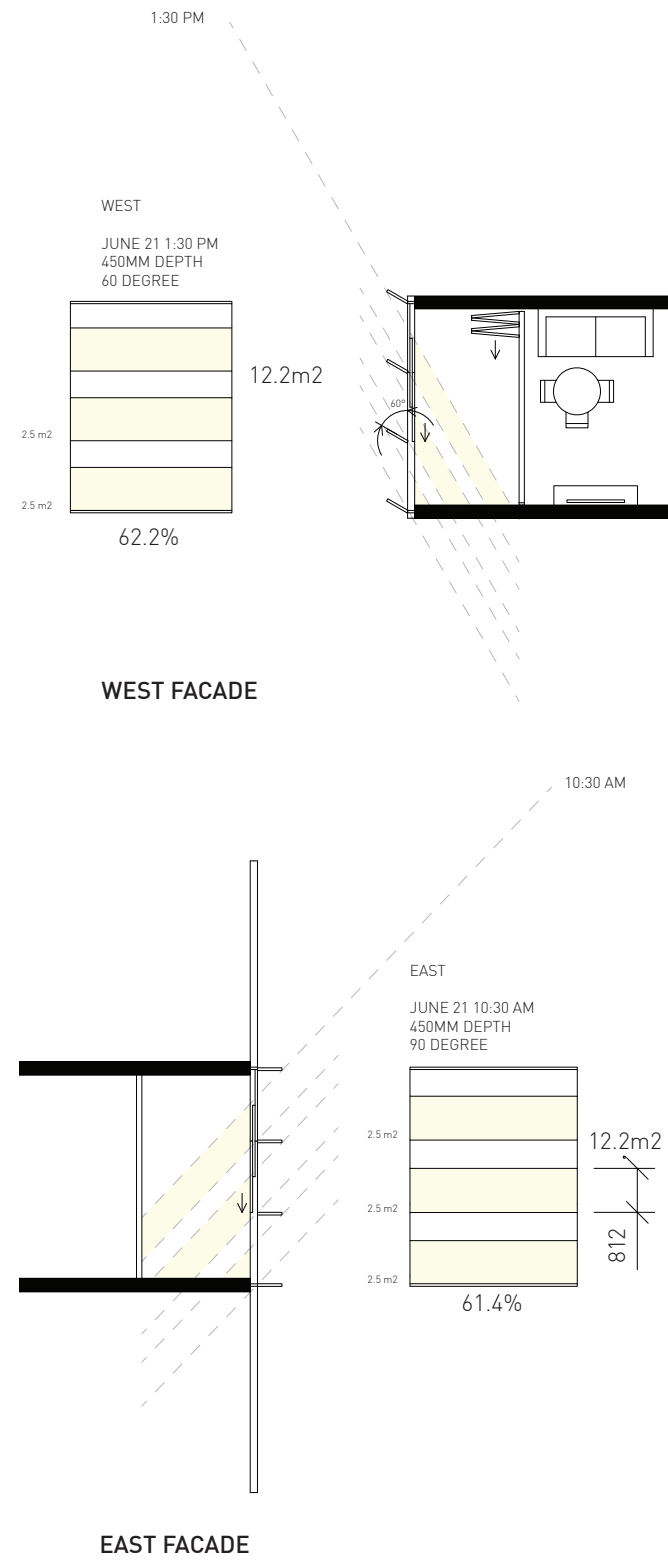
Windows are full height floor to ceiling sliders or awning windows of varied dimensions

Floor to ceiling height sliders are fitted with internal safety mechanism (see Bedroom Ventilation section), safety screens or balustrades to provide required aperture specifications for safety. Safety devices will be further detailed in design development.

Glazed back panels together with clear glazing to windows provide a consistent facade treatment.

FACADE MAINTENANCE & CLEANING

Facade maintenance & cleaning access is to be provided via rail systems and or eyelets integrated with the structure. Systems are to be detailed in design development.



FLOOR TO FLOOR HEIGHTS

The construction technique to achieve 2700mm finished floor to underside of ceiling height is presented here.

The technique provides for :

- Horizontal discharge of service ducts to the facade.
- Option of timber or tile floor finish, with acoustic underlay.
- 210mm concrete slab.
- Terrace unit pavers, on chairs, screed bed with falls and waterproof membrane.



All apartments are provided with private open space in the form of a loggia, balcony or terrace.

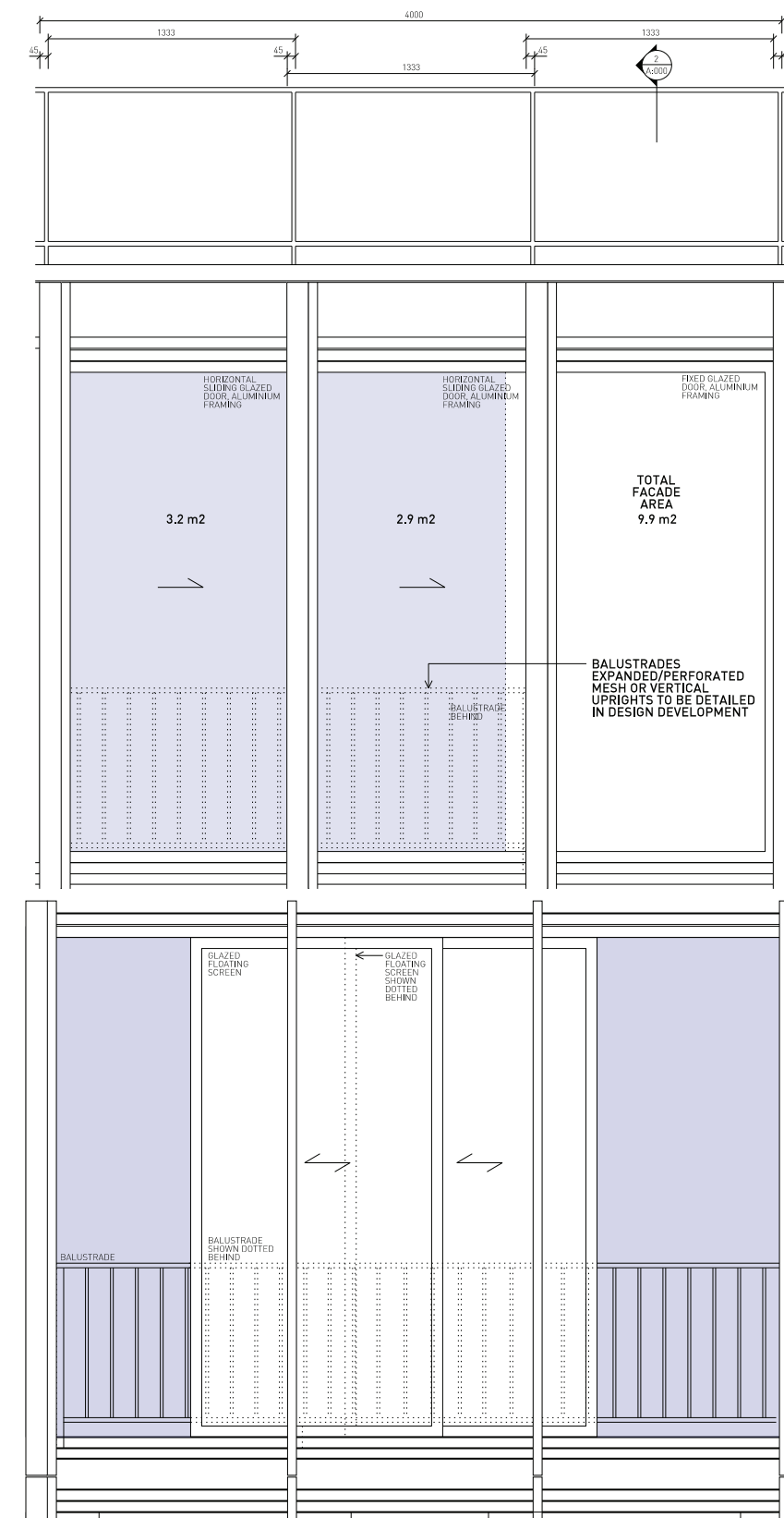
Loggias to apartments at ground and lower levels 1 - 9 fronting Abercrombie Street provide for:

- Balconies to apartments at levels 1 – 12 provide for:

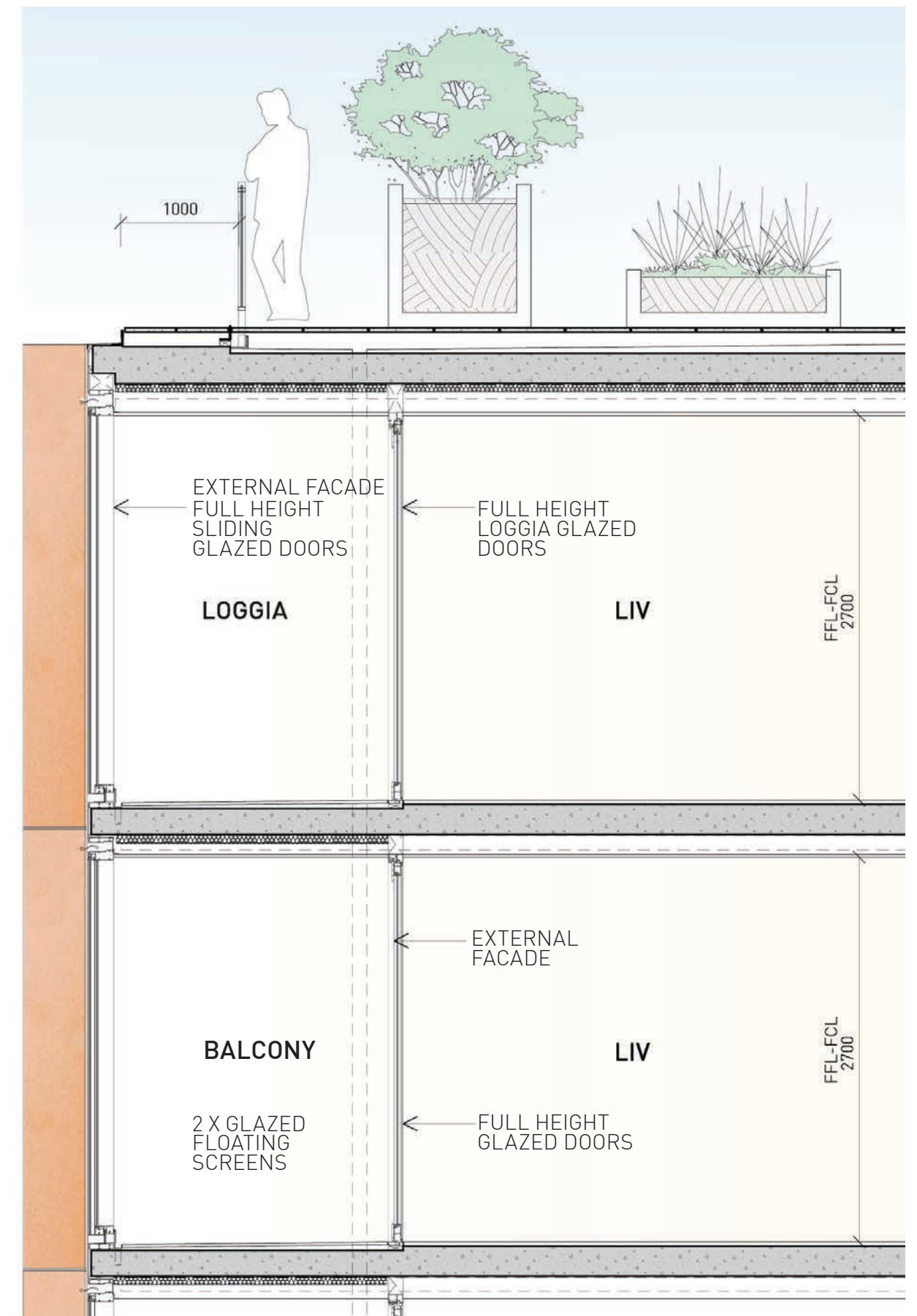
- Terraces to apartments at levels 8 – 12 provide for:

- Large private open space on the upper levels adjacent to living rooms and main bedrooms
- Significant space for outdoor living
- Landscaped planter tubs
- Double storey apartments for privacy, preventing over-looking neighbouring terraces below
- Expansive district views

60% of openable area of loggia facade.

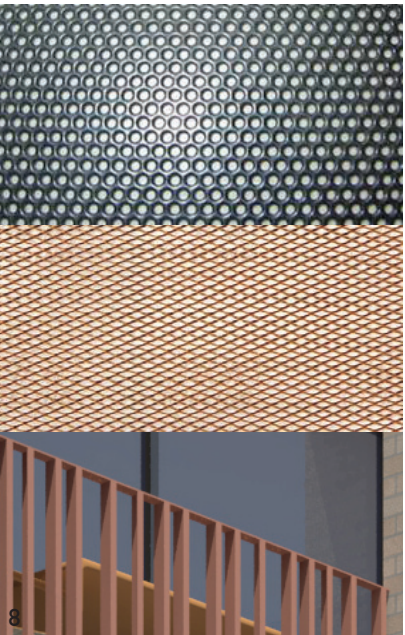
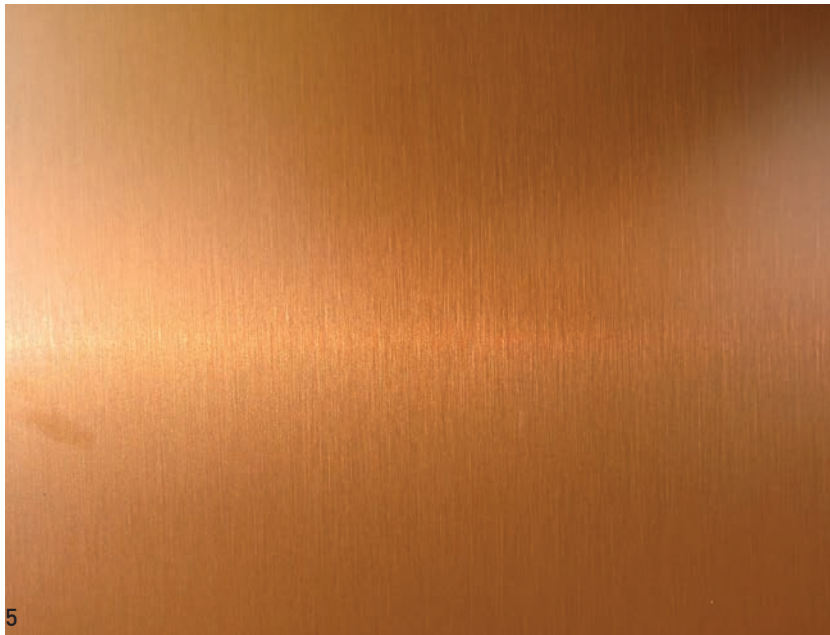
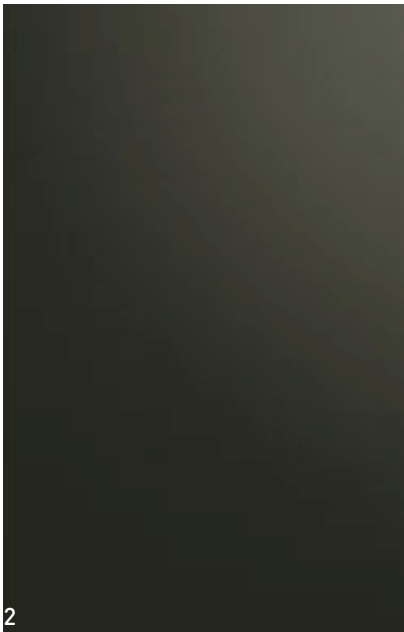
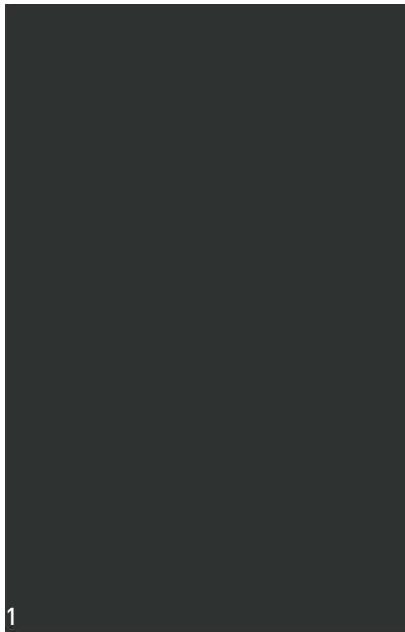


66% of permanently openable area.



MATERIAL FINISHES

- 1 Paint finish - Aluminium Window frames/ columns: Night Sky GN231A Powder Coat, Interpon
- 2 Spandrel Panels - Black Anodized finish, Alpolic
- 3 Exterior Wall Glazing: 5mm clear glass + 1.52 clear PVB+ 5 mm clear glass with Low-e #4 (SDT1-70T)+12mmA+10mm clear glass, Shanzhen King GLass and Hardware Co.,Ltd.China Southern Glass
- 4 Facade glazing type same as Central Park, Block 02.
- 5 Aluminium panel Vertical louvres + External walls - Natural Copper 412, Alucobond
- 6 External Pavers, Mallard Granite, Eco-Outdoor
- 7 Polished concrete with Aggregate (TBD), Boral
- 8 Powdercoated perforated / expanded mesh balustrade or metal upright balustrades



SOLAR ANALYSIS

SOLAR ACCESS ASSESSMENT

A scaled 3D model of the proposal has been analysed to assess the number of apartments that receive solar access. Three methods of measurement have been adopted :

- 1. City of Sydney DCP 1996
- 2. The principles from the Approved Concept Plan as Modified (MCP), specifically the Sunlight Access to Apartments for Residential Amenity Revision C-24 Nov 2005 Report prepared by OX/ATA and Heggies Day-lighting Report 2 Oct 2008.
- 3. SEPP 65 RFDC “ Rule of Thumb” principles

The differences between the three forms of measurement are related to the different times of year and period of solar access hours. Block 8 is subject to significant mid-winter shadows due to its location south of much taller and larger buildings. Block 4S overshadows most of the northern facade, Block 2 and its heliostat overshadows most of the eastern facade. Low buildings such as the Brewery and buildings fronting Abercrombie Street also affect minor shadow impacts.

Solar targets as detailed in the following pages are to be considered in context with the total merits of the proposed development. The proposal balances all aspects of the design to deliver a development, which enhances the public domain, mitigates bulk and building mass to provide appropriate urban relationships and provides for high quality residential apartments. It is considered that the balance of improved amenity noted here and further detailed in the body of the report, offsets the minor solar access non-conformance. Amenities include:

- All apartments are provided with private open space, located directly adjacent to living spaces, maximizing connectivity to open space via large openings of operable glazed floor to ceiling doors.
- Rooftop terraces on levels 8-12 receive good solar access between 9am-3pm with:
 - o 21 March, 100% of the rooftop terraces receive 2 hours of direct sun
 - o 21 June, 53.6% of the rooftop terraces receive 2 hours of direct sun
- All roof terraces are generous in proportion and directly connected to living spaces via large openings of operable glazed floor to ceiling doors.
- Private open spaces in the form of balconies and loggias are provided with floor to ceiling operable glazed doors and screens, enabling individual control for environmental comfort.
- Expansive areas of floor to ceiling glazing facing north, east and west maximise access to available sunlight in balance with vertical sun-shading devices to reduce summer heat gain.
- Vertical sun-shading devices optimize sun penetration, bounce light into interiors and provide filtered privacy. Optimization of louver depths and angles will be further detailed in design development.
- All apartments have street frontage aspect, with direct visual connectivity to the street and or views to the surrounds. No apartments are isolated from the street, nor inward looking to the site. The proposal maximises street frontages to create an activated urban environment.
- The building mass is crafted and segmented to provide a finer grain cluster of architectural elements. The elements vary in height and width to optimise solar access consistent with the objectives of the Approved Modified Concept Plan. At the same time the articulation of fine grain massing establishes appropriate relationships to the surrounding context, transitioning from the low scale of Chippendale to the higher scale buildings of Central Park.

SOLAR ASSESSMENT - CENTRAL SYDNEY DCP 1996

In assessing solar access compliance as per the Central Sydney DCP 1996 , on 21 March between 9.00am and 3.00pm, it is anticipated that the following percentage of apartments will receive:

- 80.3% 2 hours or more direct sun
- 80.3% 1.5 hours or more direct sun
- 84.3% 1 hour or more direct sun

It is noted that the proposed development provides for south-facing apartments directly addressing O’Connor Street and activating the street-frontage. In consideration of this increased amenity a review of solar access less south facing apartments is presented here.

Solar access less south facing apartments:

- 98.6% 2 hours or more direct sun
- 98.6% 1.5 hours or more direct sun
- 100% 1 hour or more direct sun

DEFINITIONS

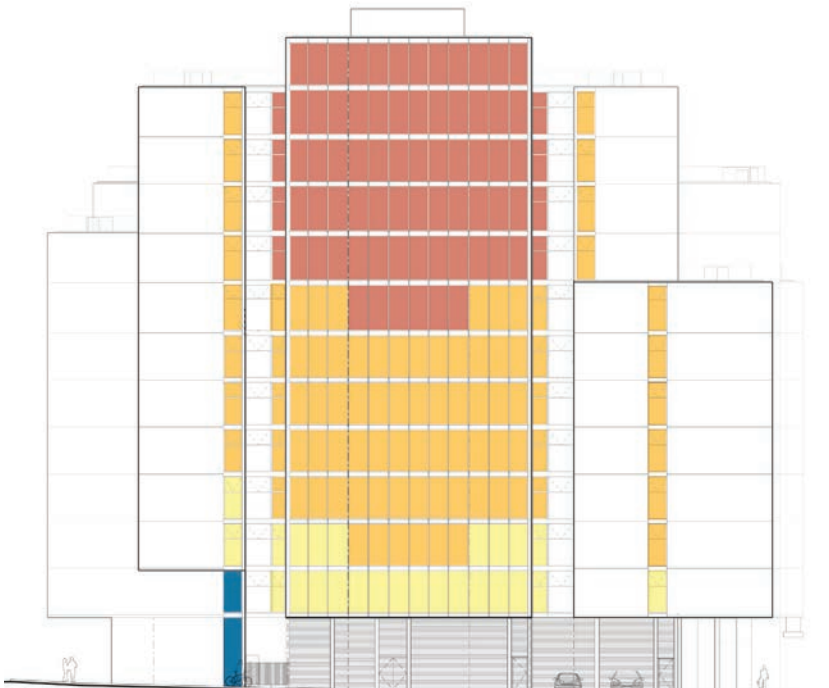
SOLAR ACCESS MEASURE From City of Sydney DCP 1996, Clause 6.1.4: “Living rooms and private open space should be the main recipients of sunlight in dwelling units. Where possible, sun access should be for a minimum of two hours per day on the equinox (March 21) measured on the main window of the rooms or at the front edge of the open space.” Buildings should be designed to maximise the number of dwelling units with sun access to the principal windows.

TARGET % From the Approved Modified Concept Plan MCP 06-0171 **52.6%** of Block 8 apartments receive 2 hours or more sun on 21 June between 7.30am and 4.30pm

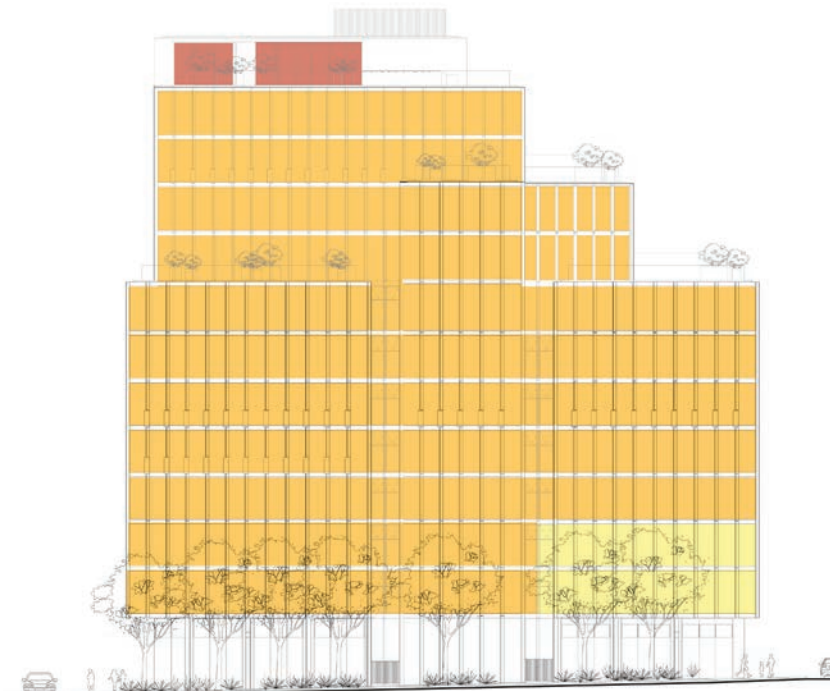
MEASURED AREA Measured on the main window of the rooms or at the front edge of the open space



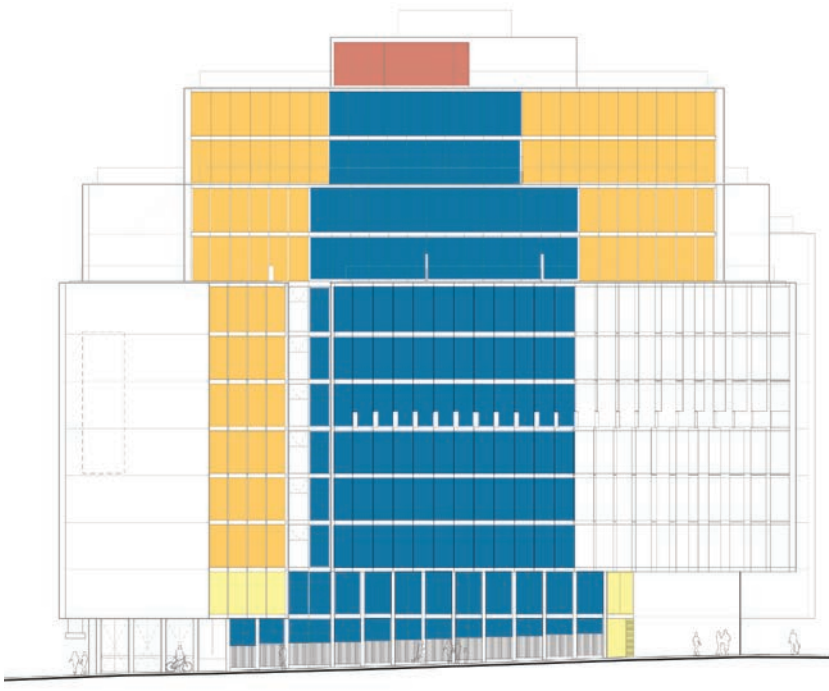
EAST ELEVATION



NORTH ELEVATION



WEST ELEVATION
DCP MARCH 21 BETWEEN 7.30AM-4.30PM



SOUTH ELEVATION

- GREATER THAN 3 HOURS
- 2-3 HOURS
- 2 HOURS
- 1.5-2HOURS
- 1-1.5 HOURS
- LESS THAN 1 HOUR

SOLAR ASSESSMENT - SEPP 65

In assessing the solar access compliance as per SEPP 65 RFDC, on June 21st between 9.00 and 3.00pm, it is anticipated that the following percentage of apartments will receive:

- 25.8% 2 hours or more direct sun
- 55.6% 1.5 hours or more direct sun
- 68.0% 1 hour or more direct sun

It is noted that the proposed development provides for south-facing apartments directly addressing O’Connor Street and activating the street-frontage. In consideration of this increased amenity a review of solar access less south facing apartments is presented here.

Solar access less south facing apartments:

- 28.6% 2 hours or more direct sun
- 61.5% 1.5 hours or more direct sun
- 75.0% 1 hour or more direct sun

As detailed above, the proposed development is subject to significant mid-winter shadows generated by buildings north of the site. Considerate of these impacts, the Heggies report recommends solar access measurements for extended hours 7.30 am to 4.30 pm on the 21st June. Based on these extended hours, it is anticipated that the following percentage of apartments will receive:

- 43.3% 2 hours or more direct sun
- 64.6% 1.5 hours or more direct sun
- 71.3% 1 hour or more direct sun

It is noted that the proposed development provides for south-facing apartments directly addressing O’Connor Street and activating the street-frontage. In consideration of this increased amenity a review of solar access less south facing apartments is presented here.

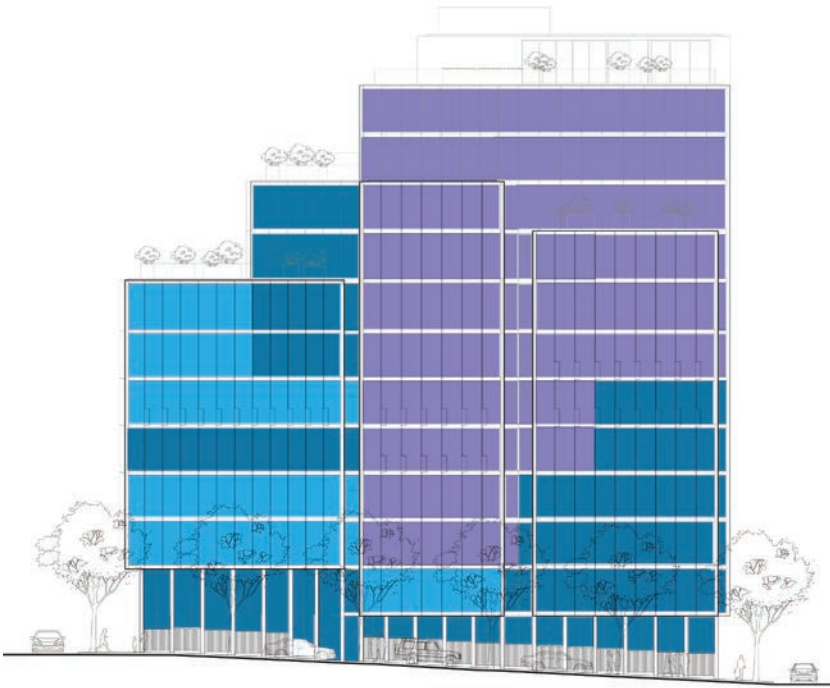
Solar access less south facing apartments:

- 47.8% 2 hours or more direct sun
- 71.4% 1.5 hours or more direct sun
- 79.0% 1 hour or more direct sun

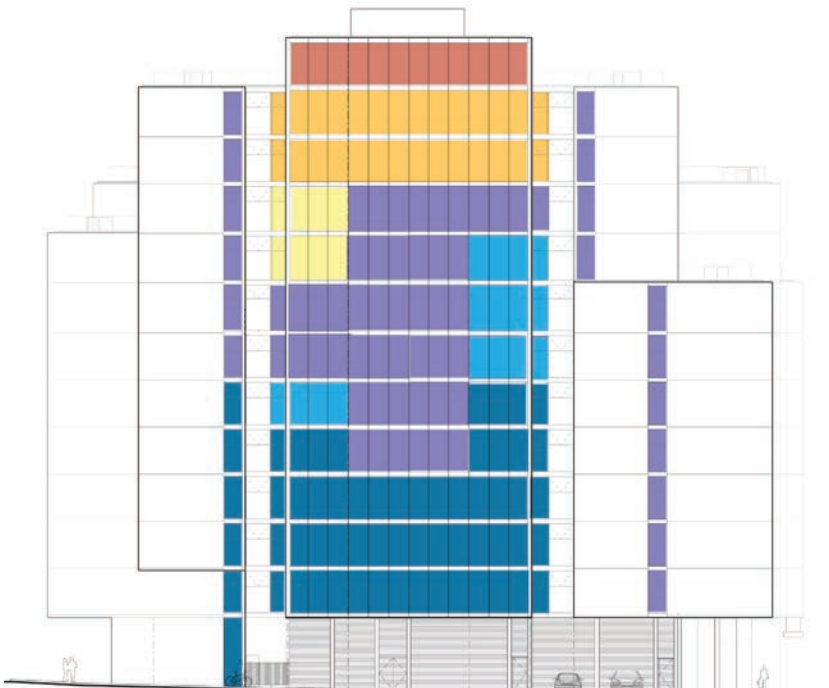
DEFINITIONS

SOLAR ACCESS MEASURE	From SEPP65 Residential Flat Design Code: “Living rooms and private open spaces for at least 70 percent of apartments in a adevelopment should recieve a minimum of three hours direct sunlight between 9am and 3pm in mid winter. In dense urban areas a minimum of two hours may be acceptable”
TARGET %	From SEPP65 Residential Flat Design Code: “70% of Apartments in a development” From the Approved Modified Concept Plan MCP 06-0171: 50.9% of Block 8 apartments receive 2 hours or more sun on 21 June between 9.00am and 3.00pm
MEASURED AREA	From the Sunlight Access to Apartments for Residential Amenity Revision C-24 Nov 2005 Report prepared by COX/ATA: ‘50% of measured area receives sunlight’

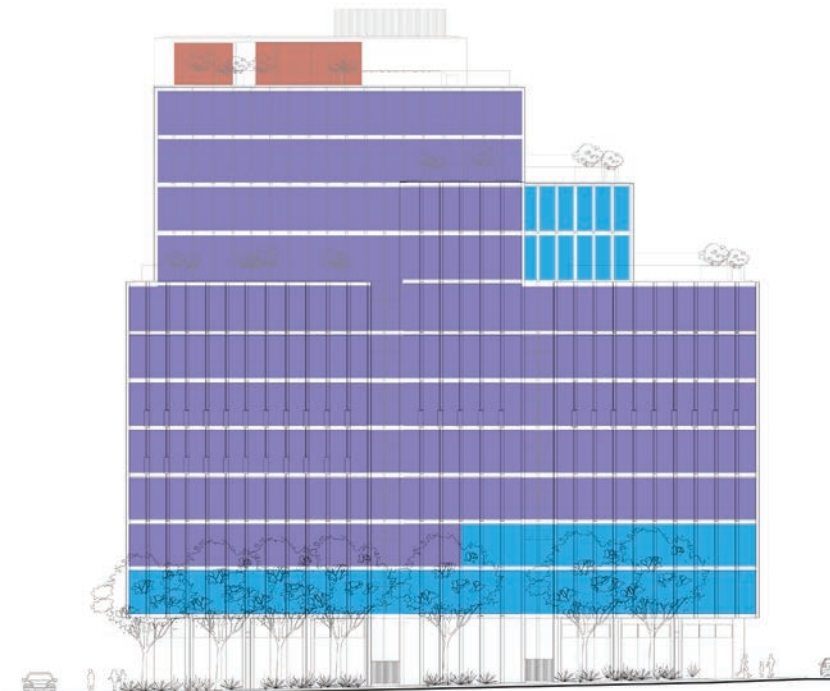
- GREATER THAN 3 HOURS
- 2-3 HOURS
- 2 HOURS
- 1.5-2HOURS
- 1-1.5 HOURS
- LESS THAN 1 HOUR



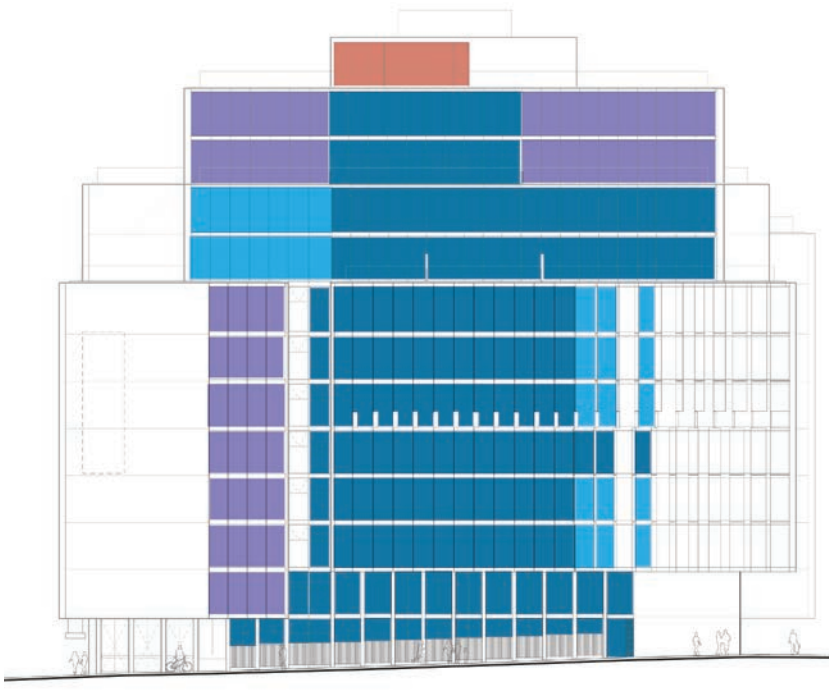
EAST ELEVATION



NORTH ELEVATION



WEST ELEVATION
SEPP 65 JUNE 21 BETWEEN 9.00AM - 3.00PM



SOUTH ELEVATION

SOLAR ASSESSMENT - HEGGIES REPORT

The Heggies report identifies a target of 52.6% of apartments to receive 2 hours or more sun on the 21 June, measuring between 7.30 am to 4.30pm , it is anticipated that the following percentage of apartments will receive:
43.3% 2 hours or more direct sun
64.6% 1.5 hours or more direct sun
71.3% 1 hour or more direct sun

It is noted that the proposed development provides for south-facing apartments directly addressing O’Connor Street and activating the street-frontage. In consideration of this increased amenity a review of solar access less south facing apartments is presented here.

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47.8% 2 hours or more direct sun
71.4% 1.5 hours or more direct sun
79.0% 1 hour or more direct sun

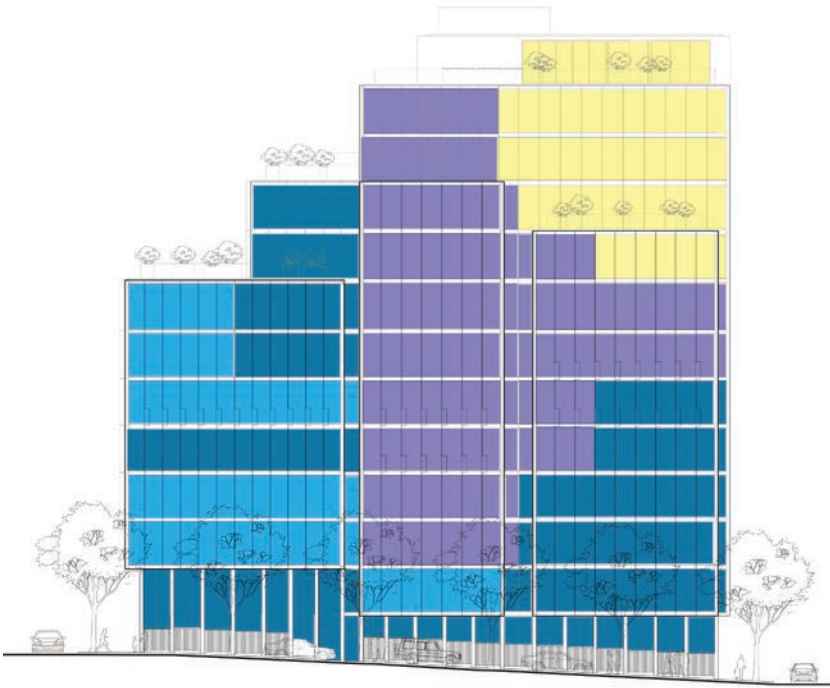
DEFINITIONS

SOLAR ACCESS MEASURE From the Approved Modified Concept Plan MCP 06-0171 the COX/ATA “SUNLIGHT ACCESS TO APARTMENTS FOR RESIDENTIAL AMENITY” Report refers to Heggies Daylight Access to define: “Living rooms and private open space should be the main recipients of sunlight in dwelling units. Where possible, sun access should be for a minimum of two hours per day on the equinox (March 21) measured on the main window of the rooms or at the front edge of the open space. Buildings should be designed to maximise the number of dwelling units with sun access to the principal windows.”

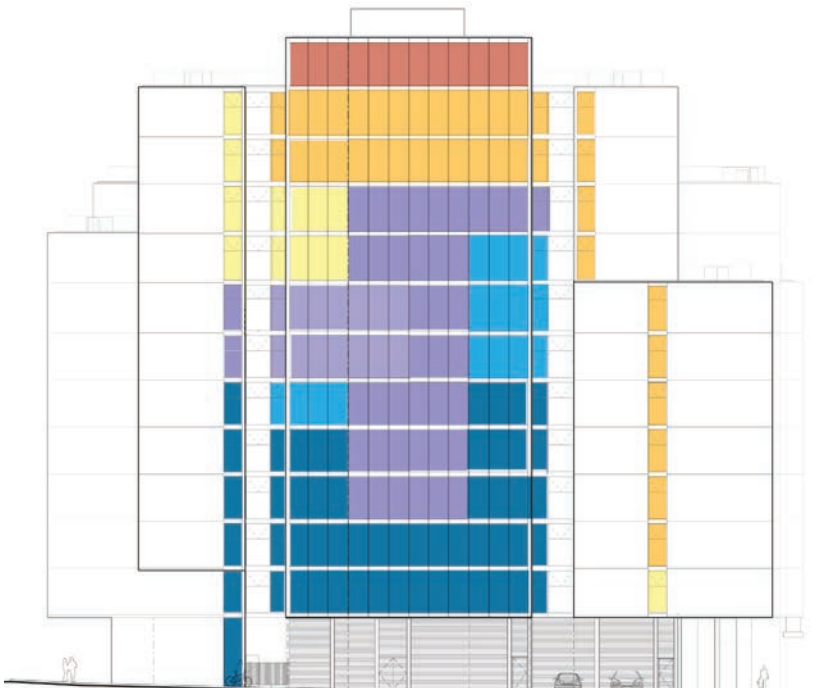
TARGET % **52.6%** of Block 8 apartments receive 2 hours or more sun on 21 June between 7.30am and 4.30pm

MEASURED AREA From the Sunlight Access to Apartments for Residential Amenity Revision C-24 Nov 2005 Report prepared by COX/ATA: ‘50% of measured area receives sunlight’

- GREATER THAN 3 HOURS
- 2-3 HOURS
- 2 HOURS
- 1.5-2HOURS
- 1-1.5 HOURS
- LESS THAN 1 HOUR



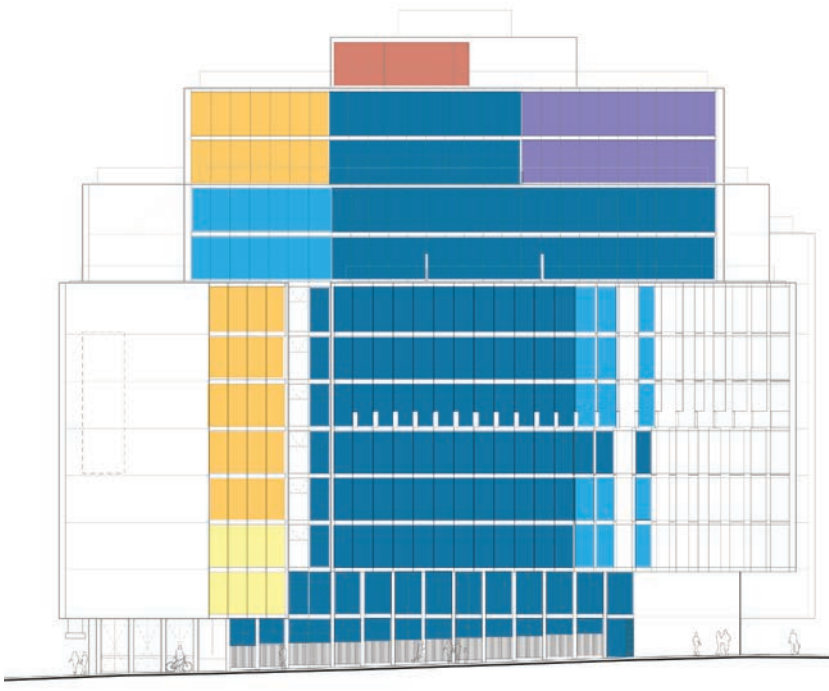
EAST ELEVATION



NORTH ELEVATION



WEST ELEVATION
SEPP 65 JUNE 21 BETWEEN 9.00AM - 3.00PM



SOUTH ELEVATION



MARCH 21 EQUINOX

NB: DIAGRAMS ILLUSTRATE TYPICAL SOLAR ACCESS CONDITIONS. NOTE NOT ALL TIMEFRAMES FOR SOLAR ACCESS ARE PRESENTED ON THESE DIAGRAMS.



JUNE 21 WINTER SOLSTICE

* SEPP 65 HOURS OF MEASUREMENT
HEGGIES HOURS OF MEASUREMENT

SHADOW ANALYSIS



smart design studio

21.05.14	REV:04	RESPONSE TO SUBMISSION
16.05.14	REV:03	RESPONSE TO SUBMISSION REVIEW
12.05.14	REV:02	CLIENT REVIEW
21.01.14	REV:01	SSDA