

# 5.10 MATERIALS AND COLOURS

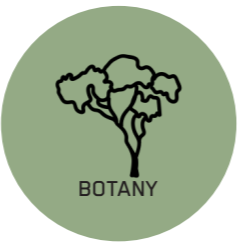
## DRAWING FROM THE SURROUNDING CONTEXT



### BASE PALETTE

#### THE SKIN

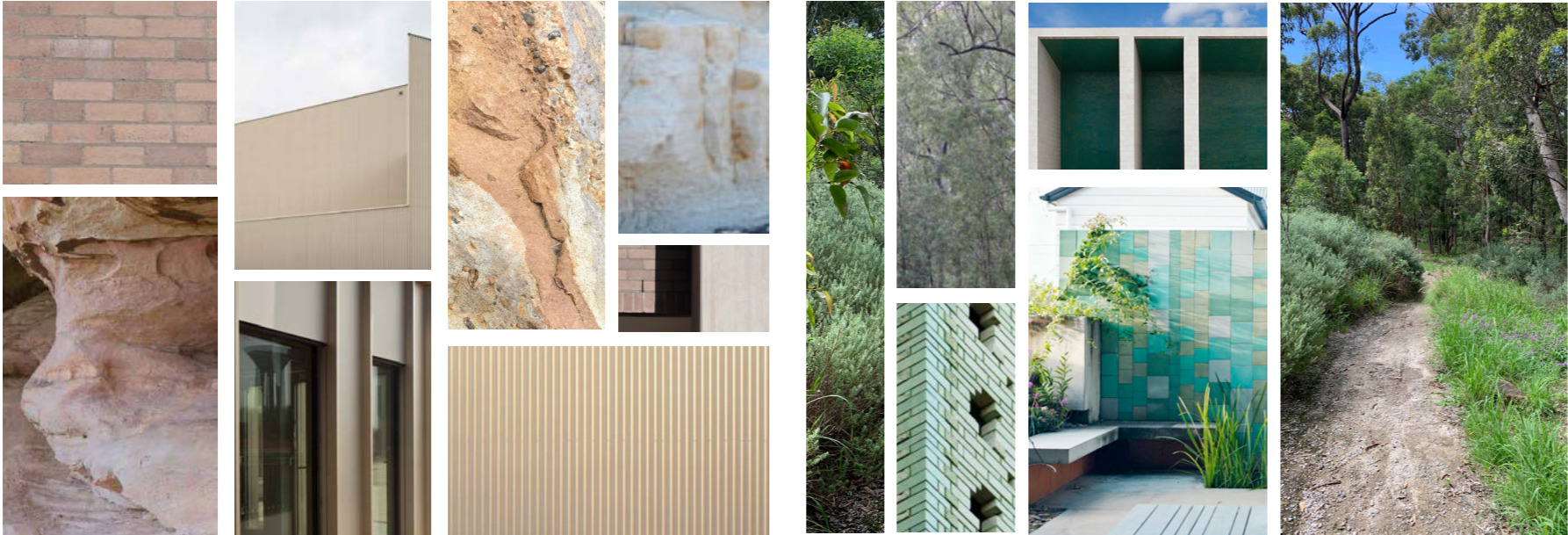
The high performance outer skin of the ASB, takes its cues from the rich geology of the landscape. Sandstone, Tuff and Claystone inform the proposed colour selection for the metal facade, which is also sympathetic to the lighter tones of the existing brick John Hunter Hospital.



### HIGHLIGHT PALETTE

#### THE SETTINGS

The settings internally and externally as part of the ASB are rich in colour and texture, derived from the hues of the surrounding bushland and the foliage of the endemic stands of Bloodwood, Stringybark and Eucalyptus. These settings contrast the lightness of the high performance skin and signal a space of significance within the building.



#### EXPLICIT COLOURS



#### IMPLICIT COLOURS



5.11 FACADE TYPES

- FEATURE FINISH

  - render on FC or insitu concrete substrates with a sand fine polished finish
- HIGH PERFORMANCE GLAZING

  - low e-coated clear vision glass
  - expressed mullions
  - anodised aluminium
- HIGH PERFORMANCE GLAZING

  - aluminium spandrels
  - expressed mullions
  - anodised aluminium
- METAL A

  - standing seam cladding
  - module to suit building grid
- METAL B

  - Flat panel cladding
  - expressed joints (sealed)
  - module to suit building grid
- METAL C

  - standing seam cladding
- VENTILATED CAR PARK FACADE A

flexible stainless steel bridge safety mesh
- VENTILATED CAR PARK FACADE B

  - precast concrete spandrels with planter behind
  - stainless steel flexible bridge safety mesh from planter to underside of slab
- CFC CLADDING

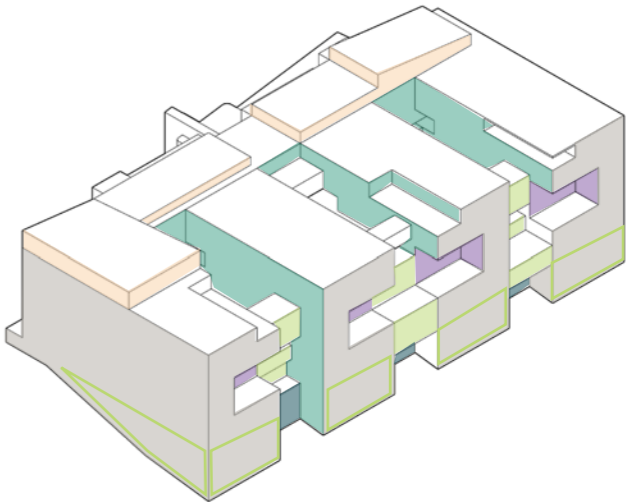
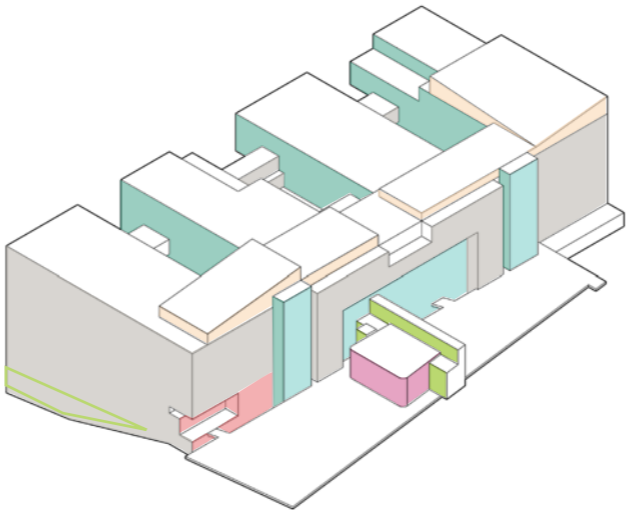
  - panellised system CFC with stained mineralised paint system
  - expressed joints filled with sealant
  - painted
- GLAZING

  - vertical strip glazing with varied width
  - anodised aluminium fins of varied depths

Building off the elemental break-down of the built-form, the ASB facade elaborates on this, using ideas of an outer skin and the notion of 'carving' out of the form to create 'cut outs' into the envelope. These two principles form the basis of the central or base material palette.

**SKIN**  
A standing-seam metal facade type in a matte finish to avoid reflectivity and the visible signs of oil-canning.  
  
The 'skin' forms the protective outer layer of the building, and it's textured finish develops a level of granularity and detail that will again help to break-down the scale of the building.

**CUT OUT**  
A smooth metal cladding with an inverted seam to create a shadow gap.  
  
As the effective inverse of the skin, the spaces established as the 'cut out' will present a continuous cladding surface that will help to articulate a hierarchy of spaces.



5.12 FACADE DESCRIPTION

SOUTH



Standing Seam cladding articulated around windows

A standing-seam metal facade with its textured finish develops a level of granularity

Areas close to the ground and human touch are clad in textured tiles



Examples of clad masonry colour and texture

Clear glazing to the stair enhances the activation of the elevated garden through visibility of movement and activity inside the building

Signage shown as indicative only, refer section 5.15 Signage for details

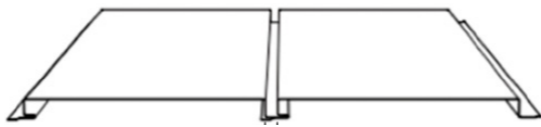
Glazed links further offer glimpses of activity within the building, and the vertical articulation of the pavilion references the entry canopy



5.12 FACADE DESCRIPTION

NORTH

A standing-seam metal facade forms the protective outer layer of the building, and it's textured finish develops a level of granularity



Tones of greens to metal cladding with expressed shadow gap joints

Smooth metal cladding with an inverted seam to create a shadow gap in a colour to reflect the landscaped 'cut outs'



Green coloured CFC lined areas establish these as key spaces articulated on the facade. The use of various green tones across the building reflect the variegated colouring of the natural bushland



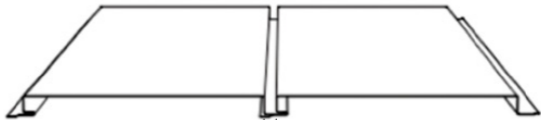
5.13 FACADE DESCRIPTION

NORTH EAST



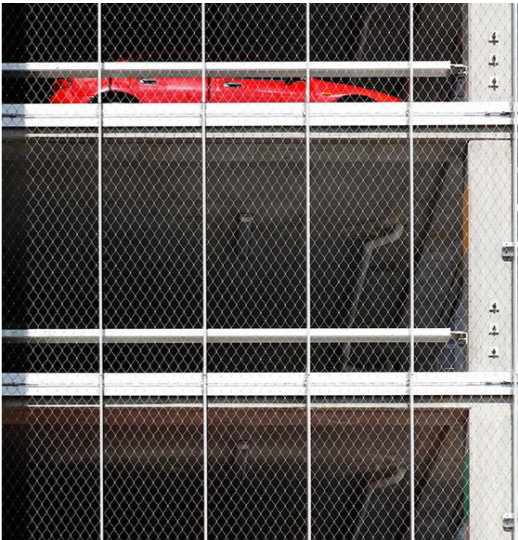
Continuity of the standing seam cladding to the plant enclosure on the roof establishes this element as part of the building form

Smooth metal cladding with an inverted seam to create a shadow gap in a colour to reflect the landscaped 'cut outs'



Tones of greens to metal cladding with expressed shadow gap joints

Stainless steel mesh provides for maximised access to natural light and ventilation

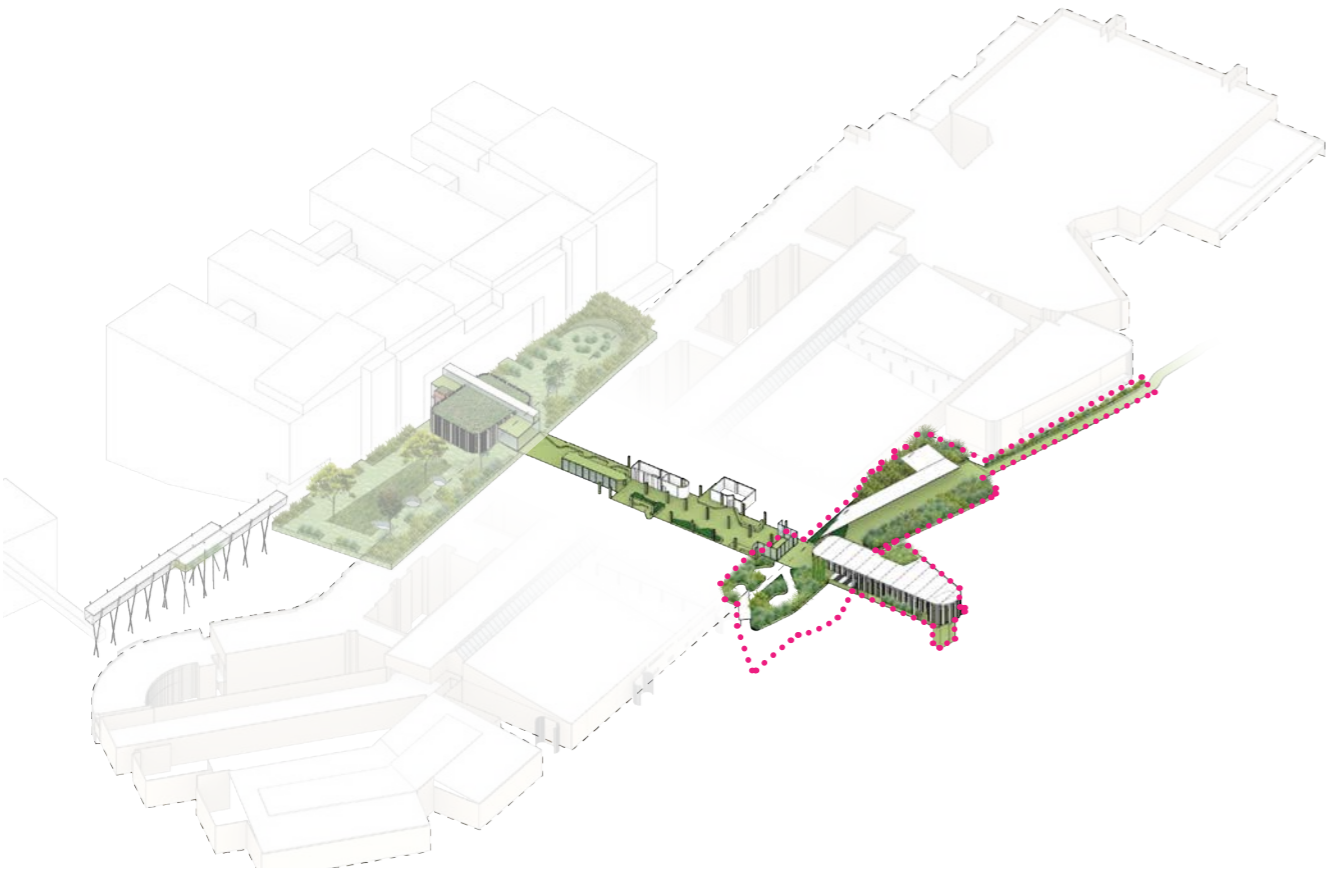


Planters integrated with stainless steel mesh continue the connection to the natural landscape beyond and provide a level of amenity to the car park



# 5.14 KEY ELEMENTS BEYOND THE ASB

## SOUTHERN ENTRY



The addition of an entry canopy as the gateway and marker of the main entry to the JHHIP develops a design language that is continued through the refurbishment works of the JHH on to the elevated garden pavilion. This structure also provides a pragmatic response to welcoming;

- a roof and sides for protection from wind, rain and sun;
- visibility through the canopy for pedestrian and vehicle safety and oversight from within the main entry space;
- maintained access beneath for emergency vehicles;
- a location of significant building signage; and
- a place to rest, wait or gather prior to entering, or after exiting the JHH.

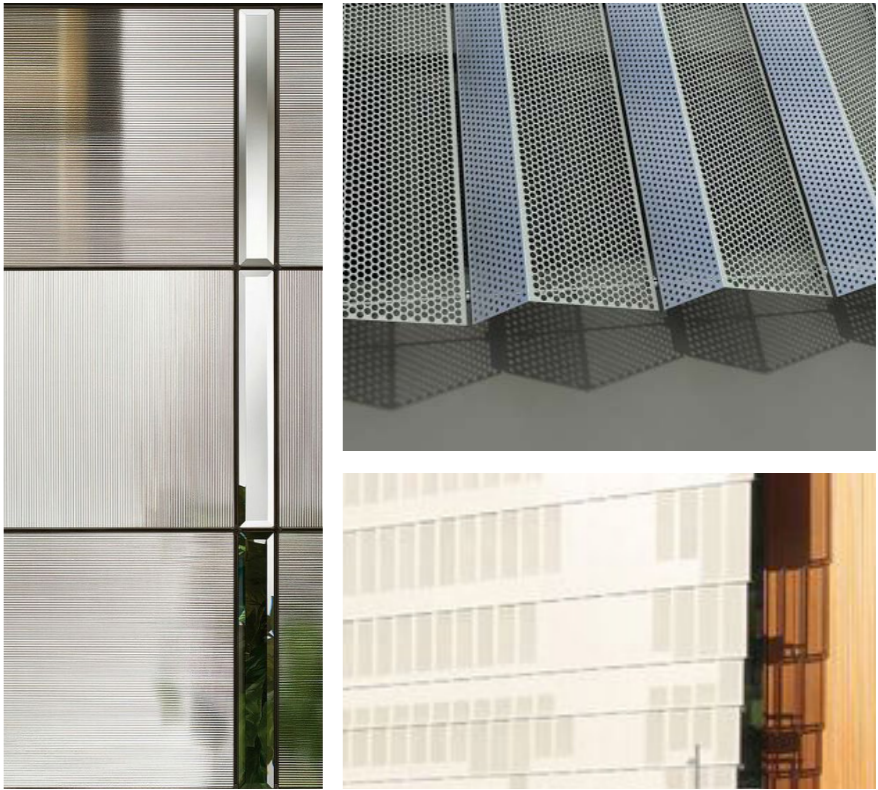
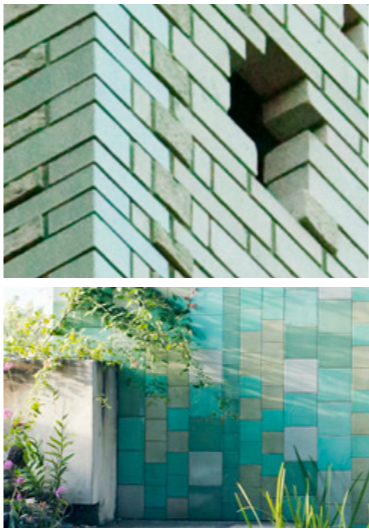
The scale of the entry canopy relates to the context for the existing JHH establishing a relationship between the existing and the new.

Additional canopies to the east and west are also provided to offer protection from the elements to both the vehicle drop-off and bus stop to the north.



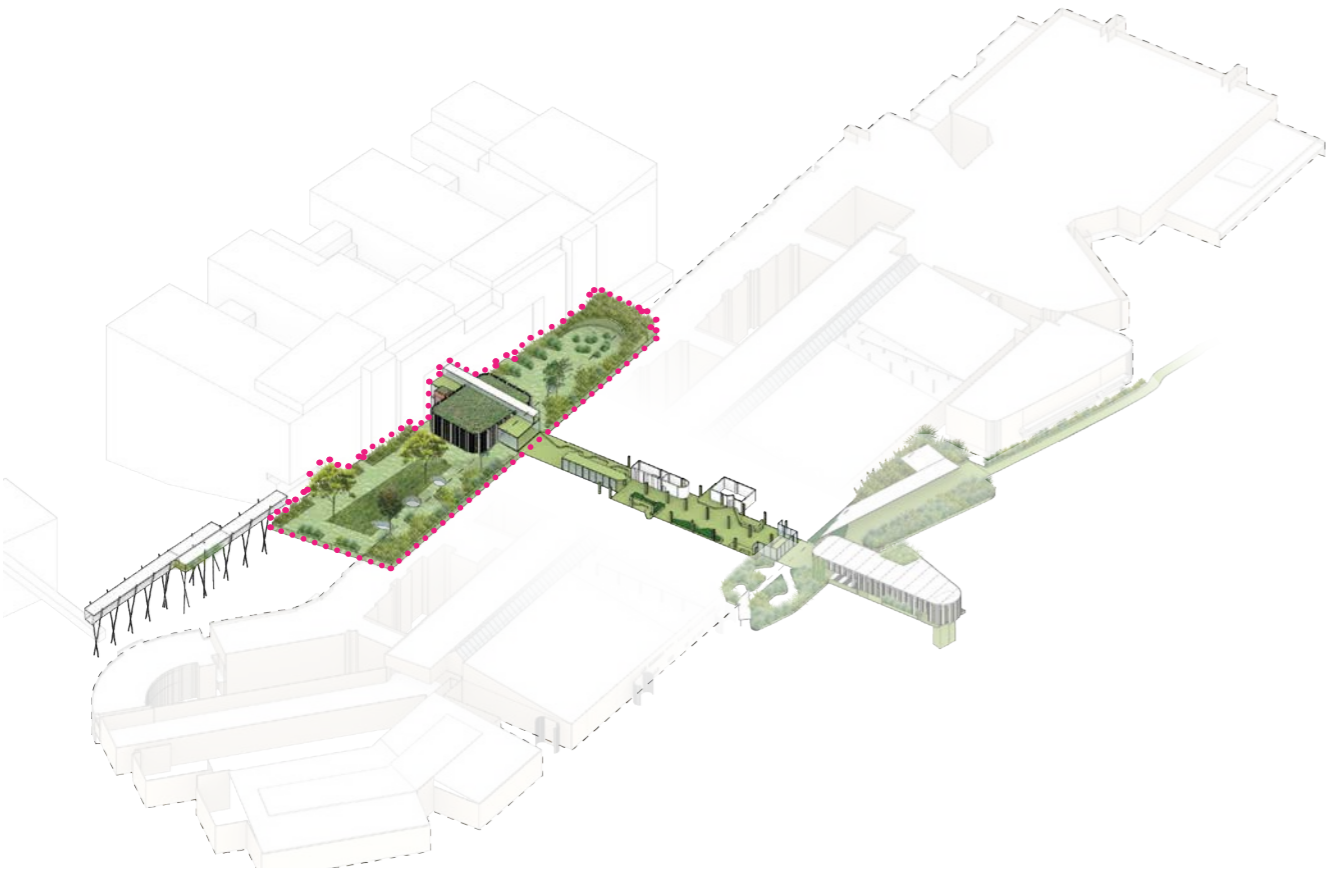
Areas close to the ground and human touch are textured for an engaging and human centred experience

Screening made of intermixed, varied width panels of translucent, glass and perforated aluminium on painted steel sub-frame



# 5.14 KEY ELEMENTS BEYOND THE ASB

## ELEVATED GARDEN PAVILION



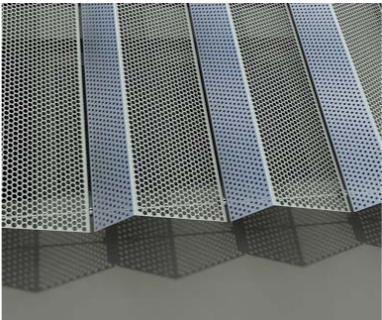
Areas close to the ground and human touch are textured for an engaging and human centred experience

Vertical glass panels and articulated aluminium screen references the entry canopy materiality and mediates light

Links between the existing JHH and the proposed ASB are key to establishing integration of the JHHIP. As a key part of the elevated garden, the links also establish interaction with this primary public space, offering a space for staff, visitors and patients to enjoy the landscape, natural light and activity from the protection of an internal space.

A setting integrated into the link structures establishes the garden pavilion with retail offerings for amenity and activity.

The design of the pavilion reflects that of the entry canopy, reiterating the sense of welcome the entry structure establishes. As an element distinct from both the existing JHH and the proposed ASB, this space suggests a shared ownership, integrated into the overall design.

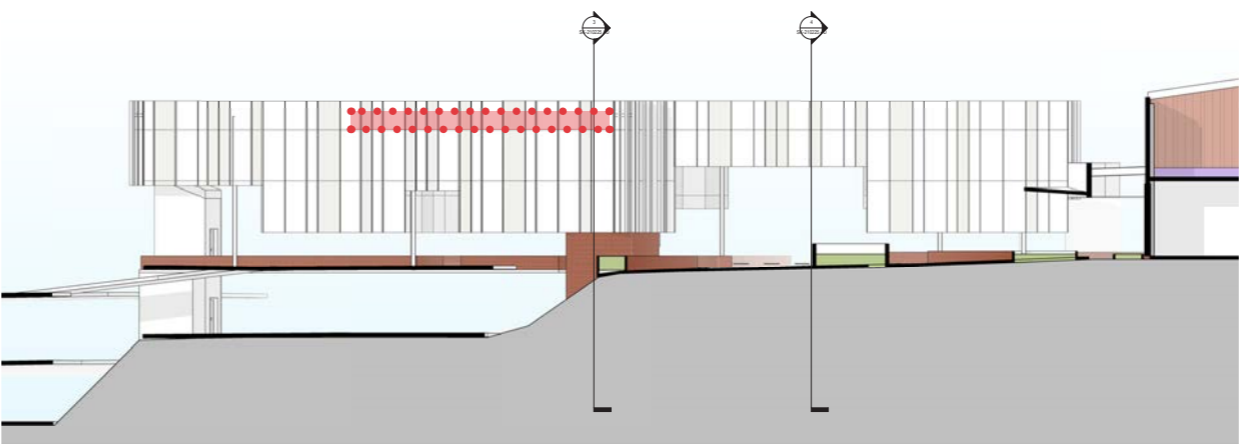
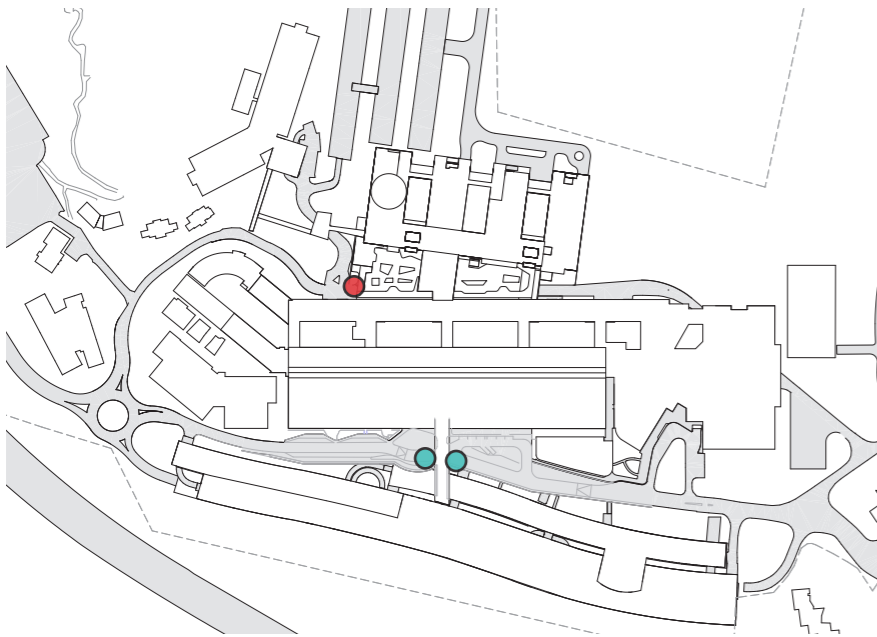


5.15 SIGNAGE

Key building signage is identified in three locations;

- Both sides of the southern entry canopy
- To the edge of slab of the elevated garden facing Kookaburra Cct west to signify the Emergency Department, and

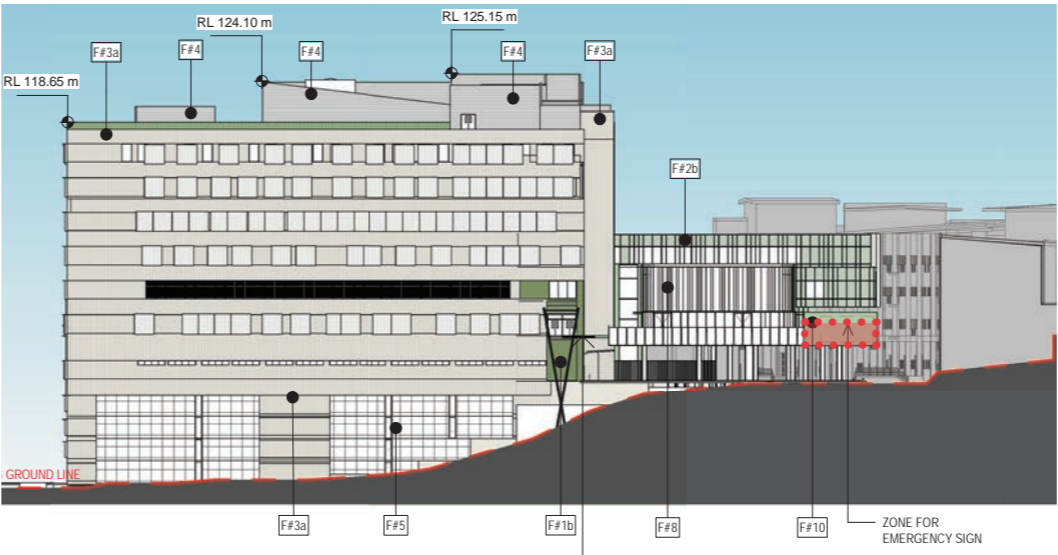
The adjacent images identify in each instance the zonal location for signage and give an indicative size and materiality.



SOUTHERN ENTRY CANOPY

- MAIN BUILDING IDENTIFICATION SIGNAGE
  - APPROX. 20,000mm LENGTH
  - TEXT HEIGHT 700mm

Signage text and layout shown as indicative only



BUILDING SIGNAGE TO THE ELEVATED GARDEN EDGE

- BUILDING SIGNAGE
  - APPROX. 16,000mm LENGTH
  - TEXT HEIGHT 1,100mm



Signage text and layout shown as indicative only



# 6.0 ENVIRONMENTAL AMENITY

6.1 AMENITY OF THE DEVELOPMENT

CRIME PREVENTION THROUGH ENVIRONMENTAL DESIGN

At all scales of the development user experience has been considered. Acknowledging the topographically diverse setting of the precinct, the proposed road network seeks to provide a safe, navigable journey from the proposed Newcastle Inner City Bypass interchange to the destination on site. The use of batters, retaining walls and regenerative planting is designed for aesthetics, a pleasant experience, and also safety; ensuring clear lines of sight are maintained and avoidance of hazard.

The intention for the precinct and more specifically the ASB development to be a safe and enjoyable space has been considered in order to guide the ultimate design as it is presented. The following CPTED principles have underpinned much of the planning of the integrated development;

SURVEILLANCE -

- The precinct will leverage the established key spaces to create active hubs for movement and numbers of people;
- Activity will be promoted across various time of the day to ensure populated spaces;
- The approach to vehicle interface will offer spaces that are predominantly pedestrianised;
- Clear sight lines will be established through the precinct and between key spaces;
- Blind spots will be avoided;
- Visibility to and from internal and external spaces will be offered for passive surveillance; and
- Lighting will be considered for both comfort and safety.

LEGIBILITY -

- Ease of navigation is considered as part of both the new road network and the more fine grain pedestrian movements within the ASB development itself;
- Important services like bus stops and taxi ranks are visible and logically located;
- Existing landmarks and familiarity will be leveraged, and new landmarks created to contribute to passive way-finding (the front-door southern entry canopy as an example);
- The design will create identity for spaces to enable clarity along a journey and to aid recollection; and
- Signage will be well located, clear, simple and legible.

TERRITORIALITY -

- A hierarchy of spaces both private and public will be established;
- Spaces will be defined by informal devices such as landscaping, and avoid more formal devices like high fencing and cautionary signage; and
- Design features will be considered, including art work and landscaping.

ADDRESSING CONTEXT

The location of the proposed development takes advantage of the topography, enabling the necessary connections between the existing and the proposed, as well a reduced effective height.

Positioning of the ASB with a generous, angled setback offers relief to the facade of the existing JHH, while also establishing the elevated garden as a significant piece of public open space.

As an aspirational Innovation Precinct, the ultimate JHHIP precinct vision (section 5.3 Setting up for the Future Precinct Vision) presents connectivity as one of its key drivers. As a part of this ASB development connections to research partners are established via the HMRI link bridge. While currently the HMRI building is located without obvious or easy access to the JHH, its proximity to the ASB development presents the opportunity to start to tie in the neighbouring developments to establish knowledge pathways between the two, for the betterment of all.

The proposed envelope demonstrates the separation established between the JHH and the proposed ASB. A balance is struck between ready connections and an integrated development approach, and the need to maintain the amenity of the existing, functioning JHH. The minimum 25m that separates the two; existing JHH and proposed ASB creates a space for public realm and landscaping, and offers continued access to natural daylight and views for the existing north-facing spaces of the JHH.

ACOUSTICS

The introduction of the landscaped public realm as well as the physical proximity between the buildings offers an opportunity for natural acoustic separation. The project team has considered the acoustic impacts of the relocated helipad to the roof top of the ASB to the ASB itself, the neighbouring HMRI and the existing JHH. Further detail can be found in the Acoustic Report.

WIND

Interpretation of the Bureau of Meteorology wind data from local weather stations is outlined elsewhere in this report (refer section 3.1 Site Analysis), describing the cool summer winds from the south east, and the cold winter winds largely from the north west. Through the understanding of the site, the design team understands the impacts of gusty cold winter winds cause concern within the existing facility particularly at the front entry points to the south. The design team have considered this in the development of the southern entry; establishing protected spaces adjacent to the entry, and a canopy that protects from wind, driving rain and hot summer sun as it leads from the southern car park to the front door.

Down drafts caused by the helicopter landing sites on the roof are mitigated by providing the courtyards with free air access at lower levels of the development.

A wind consultant has been engaged to provide analysis of impacts of the proposal on the site. Refer to Wind Assessment in separate report for details.

SOLAR ACCESS AND OVERSHADOWING

The hospital’s orientation is NE/ SW. The ASB facade has been developed to consider the impacts of solar exposure, with a balance struck to allow as much natural daylight into the development as possible. The design team has worked through detailed solar analysis to present a proposal that maximises access to natural daylight and maintains access to views,

whilst also reducing the reliance on blinds by reducing glare and reducing heat loads, particularly to those façades impacted most. No solar shading is proposed to the south west or south east, however, integrated building shades are proposed to the north east and north west particularly, to avoid the hot afternoon sun.

Additional impacts of solar exposure have been ameliorated with glazing specification and internal blinds.

Solar studies have also shown the impacts of overshadowing from the proposed ASB onto the existing facades (predominantly northern) of the existing JHH. By angling the ASB and locating the building footprint at a distance that maintains connectivity, but offers visual and amenity-loss relief, the impacts have been limited to the first half of winter days. For the majority of the year, however, the overshadowing of the existing JHH will be negligible.

The design team have also reviewed impacts to the proposed elevated garden space, noting while some overshadowing is unavoidable, portions of the space will have largely continuous access to natural daylight.

VISUAL PRIVACY AND VIEW LOSS

The Hospital mass has been positioned to the north of the site and planned internally to minimise the extent of windows facing the existing JHH inpatient spaces. Spaces to the south of the proposed ASB are generally limited to transient circulation spaces, and mitigation strategies will be undertaken to prevent overlooking into patient spaces within the existing.

The elevated garden is also proposed to be separated from the existing JHH facade to a distance of approximately 9m to avoid amenity loss as a result of the public open space. Planting is proposed to further mitigate the risk of privacy loss to the existing JHH, and additionally presents opportunities for improved views immediately to the north of the retained IPU bedroom windows.

Within the hospital inpatient unit wings are separated by a minimum of 2 x 8.4m structural grids to reduce overlooking and increase privacy between inpatient rooms. Further detail as part of the development of the internal planning will be established to reduce the impacts of proximity, as the design develops.

REDUCING LIGHT SPILL TO SURROUNDING SENSITIVE RECEIVERS

As a development a significant distance from external properties beyond its site boundary (as demonstrated by Section 6.3 Visibility of the Proposal), review and consideration of impacts within the precinct is the primary concern. The design team have identified two key sensitive receivers; hospital inpatients, and native wildlife in the surrounding bushland.

As the design develops, the design team will design the external lighting such that all external building and pole mounted light fittings will be in accordance with the requirements of the Building Code of Australia and relevant Australian Standards. In particular the design will be in accordance with the following:

- AS/NZS 1158.3.1-2005 Lighting for Roads and Public Places (Part 3.1: Pedestrian Area (category P)
- AS4282-1997 Control of Obtrusive Effects of Outdoor Lighting
- Building Code of Australia (Amendment 1) - Clause J6.5

Further consideration will also be given to appropriate selection of luminaires, their location, height and aim.

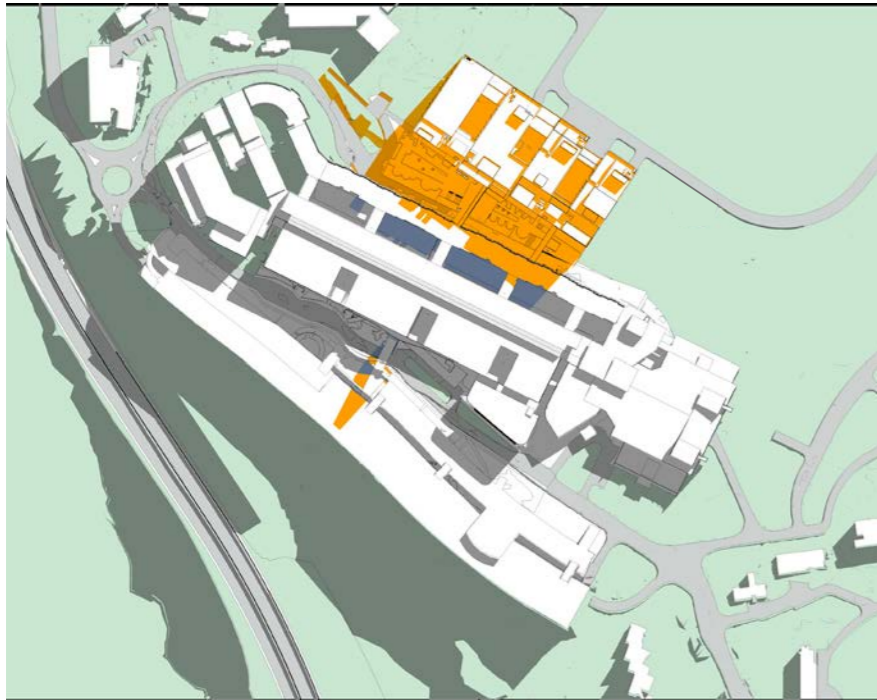
# 6.2 SHADOW STUDIES

The following diagrams demonstrate the shadows created by the JHHIP works.

Shadow studies have been prepared to illustrate the impacts both to the new development and to the existing built form on the site. Achieving a high level of amenity in both areas is important and has been considered as the design has progressed to this stage. The rotation of the ASB footprint not only provides a greater space for the elevated garden and creates closer proximity and connection to the HMRI building adjacent, it also reduces the overall impact of the built-form of the ASB on the existing building.

Solar access and self-shading has been an important consideration as the building form has developed to achieve a balance between access to views and natural light, and the impact on building performance that heat loss and gain can have. These aspects have been reviewed and refined through close consultation of the design team, particularly the ESD and mechanical consultant.

- Shadows produced by existing
- New shadows produced by the JHHIP
- Shadows produced by the JHHIP overlapping existing shadows



9AM WINTER SOLSTICE - PROPOSED  
June 20th



12PM WINTER SOLSTICE - PROPOSED  
June 20th



3PM WINTER SOLSTICE - PROPOSED  
June 20th

6.2 SHADOW STUDIES

CONTINUED

- Shadows produced by existing
- New shadows produced by the JHHIP
- Shadows produced by the JHHIP overlapping existing shadows



9AM EQUINOX  
March and September 22nd



12PM EQUINOX  
March and September 22nd



3PM EQUINOX  
March and September 22nd



9AM SUMMER SOLSTICE  
December 21st



12PM SUMMER SOLSTICE  
December 21st



3PM SUMMER SOLSTICE  
December 21st

# 6.3 VISIBILITY OF THE PROPOSAL

## VISIBILITY OF THE DEVELOPMENT FROM NEAR AND FAR

The ASB development will increase the area of the hospital campus (JHH / JHCH / RNC) by an approximate 59%. A development of this scale is a not insignificant addition to the precinct. As described earlier in this document, to achieve the necessary clinical adjacencies between departments in the existing JHH and those in the ASB, the block and stack is predicated on the need for horizontal connectivity at key floor levels for the primary clinical and back of house links. From this established framework, clinical functionality within the ASB has been developed to provide optimal connectivity and adjacency between departments. To ensure successful service delivery this optimised block and stack relies on verticality of the built form.

The resulting ASB is three stories taller than existing JHH, capitalising on the natural sloping topography and level access at the lowest level to neatly tuck the four levels of car park beneath without impacting the overall height of the development.

From the vantage point above the semi-basement car park, amenity is achieved through access to views from all levels of the development, with the top levels achieving the greatest opportunity for 360 surrounding views, as these levels peer over the top of the existing JHH. At these levels the block and stack maximises opportunities for inpatient spaces to have the greatest access to natural light and the extraordinary views.

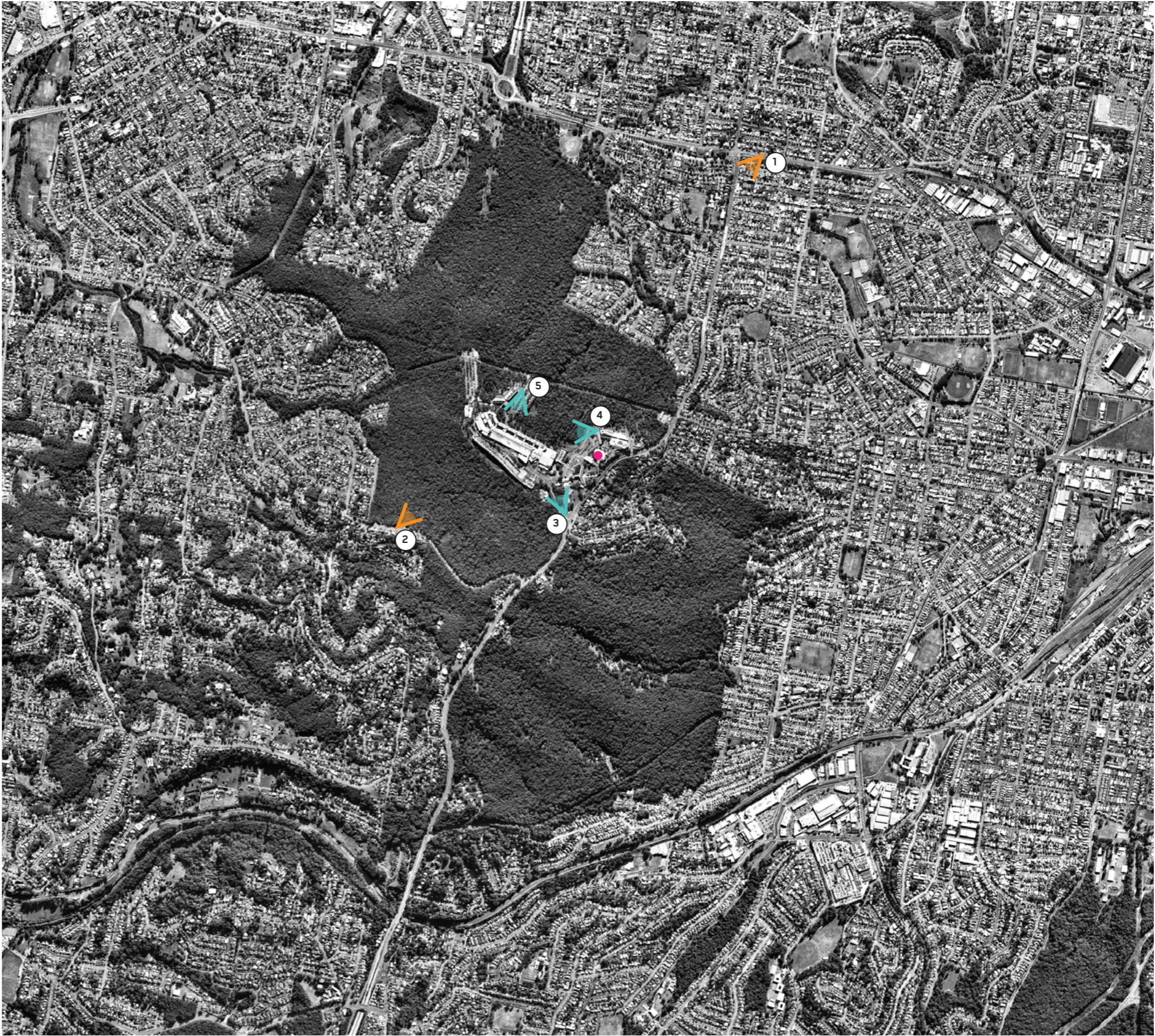
In consideration of the precinct; the ASB’s immediate neighbours, those more distant on the site, and the broader surrounding Newcastle area, a series of massing studies have been undertaken from key vantage points around the precinct and beyond its boundary. For context, the closest development to the north of the proposed ASB is approximately 590m away.

The adjacent diagram describes the location of each of the photomontages that follow.

● Heritage items. Approximately 340m from envelope

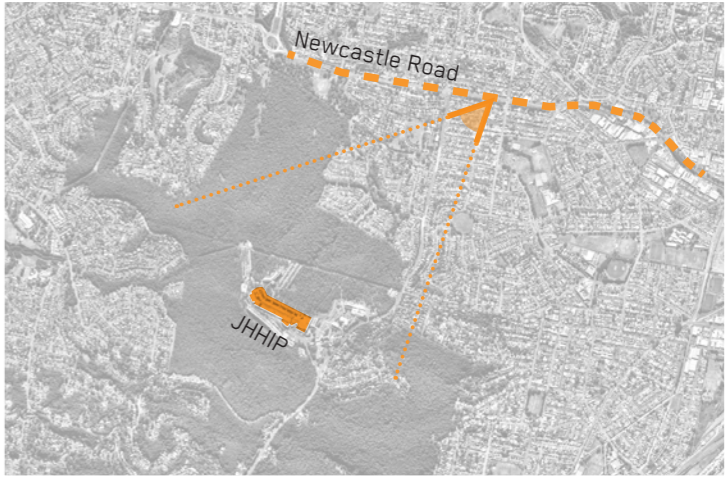
▲ Public realm views to site

▲ Internal site views



6.3 VISIBILITY OF THE PROPOSAL

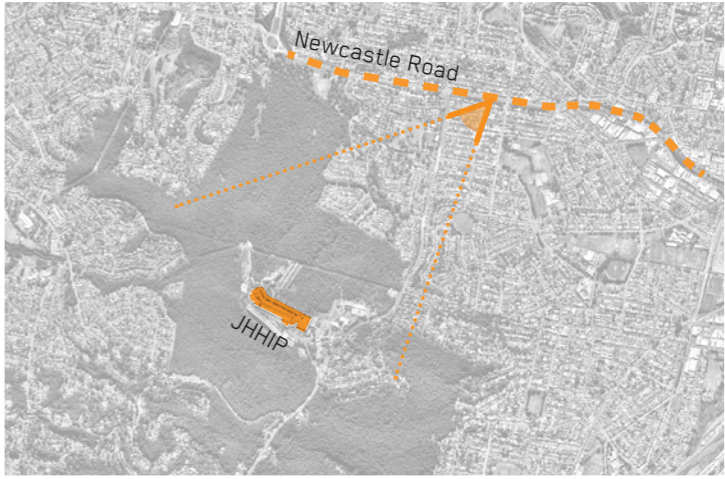
EXISTING VIEW ①



CONCEPT PROPOSAL ENVELOPE FROM NEWCASTLE ROAD

6.3 VISIBILITY OF THE PROPOSAL

PROPOSED VIEW ①



6.3 VISIBILITY OF THE PROPOSAL

EXISTING VIEW 2



CONCEPT PROPOSAL ENVELOPE FROM M<sup>C</sup>CAFFREY DRIVE LOOKOUT