

# BVN

## Northside Hospital Project

### Reference Design Report

FINAL VERSION

22 August 2024



# A.1 Executive Summary

The new Northside Hospital will create a world-class hospital with a focus on patient-centred care that is targeted to meet the needs of both the local community and the broader Canberra population.

The new Northside Hospital is a critical investment project for the ACT. This project offers a unique opportunity to redevelop the existing North Canberra Hospital in Bruce into a modern health precinct, which better responds to contemporary models of care and the needs of the community it serves.

The project will be the largest single health infrastructure project to be delivered in the Territory's history. The development presents a significant opportunity to improve the delivery of healthcare Territory-wide, in partnership with the community, clinicians and healthcare providers. Located on the site of the existing North Canberra Hospital in Bruce and operating as part of a wider North Canberra healthcare network, the new hospital will enable the ACT Government to decommission ageing infrastructure which is incompatible with contemporary healthcare models.

A key aspect of this Reference Design Report is the validation of previous project parameters and assumptions underpinning the project design solution, in particular ensuring alignment with projected clinical services planning priorities and alignment with the allocated project funding. De-risking the project programme and costs was also a key consideration.

This re-validation and alignment work resulted in some key adjustments to previous assumptions, such as:

- Review of the clinical services planning requirements at the North Canberra Hospital campus, operating as part of a networked healthcare delivery strategy for North Canberra.
- Review of clinical services priorities for Northside Hospital in alignment with future Models of Care (in the early stages of development).
- Re-assessing the campus development strategy to provide a staged solution for Northside Hospital, in alignment with clinical service planning horizons between now and 2040.
- Identifying a revised building size of approximately 40,000m<sup>2</sup> for the first stage of construction
- Review of scope priorities to be included within the first stage of construction
- Consideration of an approach allowing some services and departments to remain operating from the existing Xavier and Marian buildings in the interim, with connections provided to the new Northside Hospital Clinical Services Building (CSB)
- Review of the provision of mental health services via an integrated or standalone design solution

In recognition of these revised assumptions as well as ongoing clinical services planning work with ACTHD and CHS (which commenced at a similar time to this reference design stage), a decision was taken to shift the focus from a single preferred reference design solution, towards developing a number of possible design solutions aligned with potential scope prioritisation strategies. This ensures sufficient time can be afforded to a meaningful stakeholder engagement process leading to the agreement of a robust clinical services brief for the new hospital, whilst identifying a series of potential design solutions to inform the VECL tender and support preparation of the Business Case.

Three potential scope prioritisation strategies were agreed, with departmental area schedules developed for each strategy. The strategies are summarised as follows:

- Prioritise critical and acute care services in a new Clinical Services Building (CSB). Mental health facilities will continue to operate in the existing Keaney building, with new mental health facilities to be delivered in a second construction stage.
- Prioritise critical, acute care and mental health services, in a new CSB with an integrated mental health facility.
- Prioritise critical, acute care and ambulatory care services. Critical and acute care are provided in a new CSB (smaller in size than the previous options) with ambulatory care provided through refurbishment of vacated space in the existing Xavier and Marian buildings. Mental health facilities continue to operate in the existing Keaney building and are provided in a later stage, as per strategy 1.

This report includes master plan siting options and preliminary block and stack drawings for each strategy. Whilst not intended to represent final design options for consideration or selection, they can form a starting point for further development of design solutions once the clinical brief and associated services priorities are established and agreed through the project governance.

Section B -

# Previous Masterplan & Concept Design Work

- B.1 Site Analysis
- B.2 Design with Country
- B.3 Master Plan Vision & Design Principles
- B.4 Previous Zonal Masterplan
- B.5 Key Master plan Moves
- B.6 Level Studies
- B.7 Concept Design

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# B.1 Site Analysis Overview

## Location

The existing North Canberra Hospital is located in Bruce, immediately north of the intersection of Belconnen Way and Haydon Drive. The site is bordered on three sides by dense bushland, zoned as Urban Buffers and Ridges and not suitable for development. Further to the south and east, Bruce Ridge Nature Reserve and Black Mountain Nature Reserve create a green corridor extending South to Lake Burley Griffin.

Calvary Haydon Retirement community is located to the immediate west of the site, on the opposite side of Haydon Drive. The suburbs of Aranda and Cook extend south and west of Belconnen Way.

The hospital campus is in close proximity to a number of institutions, including the Australian National University (ANU), located south east of Black Mountain. The Canberra Institute of Technology (CIT), Australian Institute of Sport (AIS), University of Canberra, and University of Canberra Hospital are all located to the north in Bruce.

Belconnen Way extends west to the large suburban centre of Belconnen.

## Public transport

The site is served by the Bruce Shuttle bus 901, which traverses Mary Potter Circuit in a clockwise direction approximately every 4.5 minutes. This route connects the hospital campus to the Belconnen interchange. Bus numbers R2, R3, R4, 843 stop in close proximity to the hospital site on Haydon Drive. These routes connect the site to the city centre and the surrounding suburbs.

A long-term priority of the ACT Government is to expand the light rail network along an east-west link, connecting Belconnen to the city centre. With the future route expected to include stops along Haydon Drive if the expansion proceeds, this would provide excellent linkages to the future hospital campus.

## Health network context

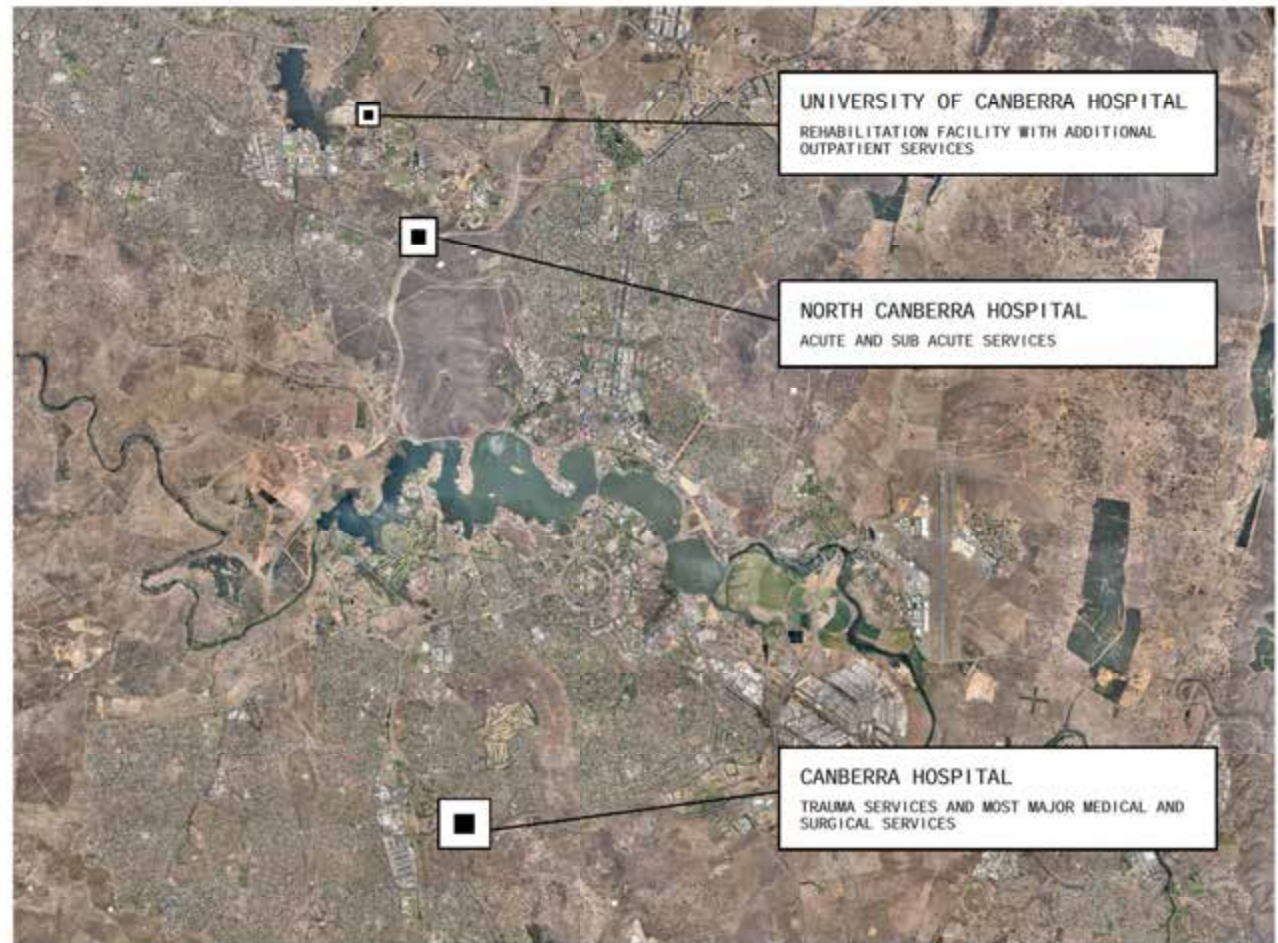
Canberra Health Services (CHS) delivers a range of health services across the ACT and surrounding southern NSW region. These services include:

Canberra Hospital, a major tertiary hospital providing trauma services, most major medical and surgical services, acute inpatient and day services, women and children's health, paediatrics, mental health, sexual health centre and regional cancer centre.

North Canberra Hospital (previously Calvary Public Hospital), a general and teaching hospital providing emergency services, medical and surgical services, mental health, maternity, older persons care and Hospital in the Home (HiH). Clare Holland House is also on the North Canberra Hospital Campus, providing public palliative care services.

The University of Canberra Hospital, a rehabilitation facility providing specialist rehabilitation services and additional outpatient services.

These facilities are supported by a number of community health centres, walk-in centres and community-based health services such as early childhood services, youth and women's health, dental health, mental health and alcohol and drug services.



CANBERRA HEALTH SERVICES NETWORK EXCLUDING CLINICAL SUPPORT SERVICES, COMMUNITY HEALTH CENTRES AND WALK IN CENTRES



EXISTING PUBLIC TRANSPORT NETWORK



BUS SERVICES TO NORTH CANBERRA HOSPITAL, BRUCE

# B.1 Site Analysis

## Existing buildings



AERIAL VIEW

### Existing buildings

The North Canberra Hospital Campus comprises more than twenty existing buildings built at various times over the last 50 years and housing a variety of clinical functions, both public and private. Core clinical functions for the public hospital are provided within the Marian and Xavier buildings (1, 3). Brutalist-style structures constructed in the late 1970's. Xavier is six storeys and Marian is three storeys, connected together across a large two-storey podium floorplate.

A new raised extension to the south west of the Xavier Building (2) contains ICU and CCU facilities connected to the main podium level, with car parking in an undercroft area making use of the site topography. The previous Engineering Services Building (7) is now decommissioned, replaced with a new engineering plant building (15) in which services Xavier and Marian.

A series of low-height brick and concrete courtyard buildings (O'Shanassy, Lewisham and Allied health and Staff residences) surround Xavier and Marian on the north and west, containing a combination of administration, ambulatory care and education functions. The Bruce Ridge Early Childcare Centre (11) is positioned to the south west of the site and provides childcare services for hospital staff. The Keaney Building (4) to the immediate north of Marian is a new masonry and lightweight building housing an older persons' mental health facility.

To the north of Mart Potter Circuit is the Northern site. This site is dedicated to Mental Health and offers the following services; CAMHS, Secure Unit (Gawanggal) and Drug and Alcohol (Acadia House).

Three buildings located to the south east of the campus (A, B, C) house facilities for the Calvary Private Hospital.

- 1 XAVIER BUILDING
  - 2 ICU CCU
  - 3 MARIAN BUILDING
  - 4 KEANEY BUILDING
  - 5 O'SHANASSY BUILDING
  - 6 LEWISHAM BUILDING
  - 7 ENGINEERING SERVICES DECOMMISSIONED
  - 8 STAFF SPECIALISTS ALLIED HEALTH
  - 9 STAFF RESIDENCES
  - 10 GAWANGGAL ARCADIA HOUSE MENTAL HEALTH FACILITY
  - 11 BRUCE RIDGE EARLY CHILDCARE CENTRE
  - 12 MULTI STOREY CAR PARK
  - 13 ROTARY COTTAGE
  - 14 LOADING DOCK
  - 15 PLANT
- PRIVATE HOSPITAL BUILDINGS:
- A CALVARY BRUCE PRIVATE HOSPITAL
  - B CALVARY CLINIC SPECIALISTS' ROOMS
  - C HYSON GREEN PRIVATE MENTAL HEALTH

### Existing car parking

At the time of this analysis, there were approximately 1500 car park spaces within the hospital campus. A new five-storey multi-deck car park (12) was opened in late 2015 providing 500 spaces, with the balance provided as on-grade car park spaces at various locations around the campus.

Approach to future use of existing buildings  
When considering the potential for future use of existing buildings during earlier master plan and concept design work, the following factors were taken into consideration:

- age and current condition
- likely ongoing maintenance requirements and associated costs
- suitability for required future uses, including their ability to cater for contemporary models of care

The lower height outpatient and administration buildings to the west of the campus were considered appropriate for demolition in view of their age, condition, small

footprint and low suitability for future clinical uses. This would also enable a larger footprint to be made available for the new hospital development without interruption to the majority of core hospital functions.

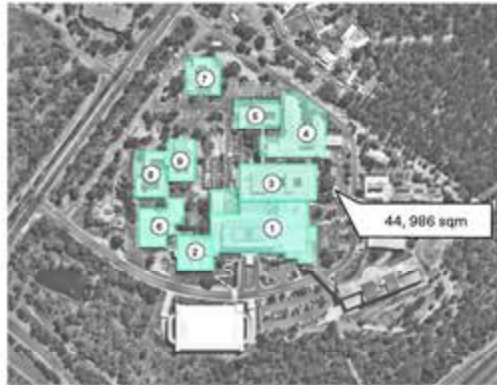
It was noted that the age and condition of the Xavier and Marian buildings indicated that they were approaching the end of their useful life and were not suitable for future clinical uses. However, given their larger footprints, further review of the potential for adaptive re-use was recommended, noting that any investment in maintaining aging assets would need to undergo a value-for-money assessment.

# B.1 Site Analysis

## Existing buildings

A mapping exercise of the existing campus and the current building was undertaken. This facilitated a clear understanding of the position of critical and support services across the site.

This work led to the proposed site for the Northside Hospital project. The parameters for this site and its boundary was driven by the retention of acute buildings during the planning and construction phases.



EXISTING BUILDING AREAS

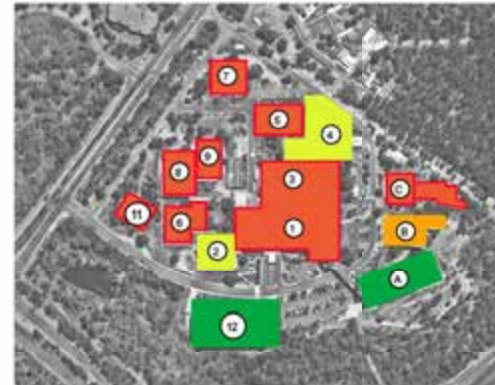
#	NAME	SQM
1	XAVIER BUILDING	20,810
2	ICU / CCU	1,600
3	MARIAN BUILDING	8,400
4	KEANEY BUILDING	2,476
5	O'SHANNASSY BUILDING	2,000
6	LEWISHAM	1,700
7	ENGINEERING	3,000
8	STAFF SPECIALISTS ALLIED HEALTH	3,400
9	STAFF RESIDENCES	1,600
TOTAL ESTIMATED GFA		44,986

Note:  
The total estimated GFA only include clinical and clinical support buildings to be incorporated within the Northside Hospital. The following areas are not included; Childcare, Private hospital and Mental health Services located within the Northern site.



EXISTING FUNCTIONAL GROUPS

- PREDOMINATELY CLINICAL
- AGED CARE / MENTAL HEALTH
- OUTPATIENT/AMBULATORY/ALLIED HEALTH
- SUPPORT / ADMINISTRATIVE
- SUPPORT / LOGISTICS, PLANT
- CARPARKING
- CHILDCARE
- EDUCATION
- PRIVATE HOSPITAL FACILITY



BUILDING AGE

- 10 YEARS
- 10 20 YEARS
- 20 30 YEARS
- 30+ YEARS



ASSESSMENT FOR FUTURE USE

- KEY CLINICAL FUNCTION / MAINTAIN OPERATION DURING CONSTRUCTION OF CONCEPT DESIGN. MAY BE SUITABLE FOR DEMOLITION OR ADAPTIVE REUSE
- KEY FUNCTION / MAINTAIN OPERATION DURING CONSTRUCTION OF CONCEPT DESIGN. SUITABLE FOR DEMOLITION
- EXISTING SERVICE TO BE RELOCATED. DEMOLISH TO ENABLE TO CONSTRUCTION OF CONCEPT DESIGN
- DECOMMISSIONED BUILDING. DEMOLISH TO ENABLE CONSTRUCTION OF CONCEPT DESIGN.
- CALVARY PRIVATE HOSPITAL FACILITY. RETAIN
- CAR PARK. RETAIN

# B.1 Site Analysis

## Existing buildings - Northern block

### Current mental health provision

The northern block of the site houses a number of independent single-storey buildings, accessed via a driveway from Mary Potter Circuit. Three buildings located here provide mental health services, including a Child and Adolescent Mental Health CAMHS, Gawanggal Secure Unit and Arcadia House drug and alcohol services.

Other smaller buildings on the northern block are no longer used for patient / clinical functions and have been re-assigned for other uses such as storage.

During the master plan and concept design stages, it was assumed that all functions within the buildings on the northern block would be re-provided elsewhere as part of early works as it is not desirable to locate these services within the Northside Hospital.

BVN were engaged to carry out further studies for these early works, including assessment of suitable sites for the different functions requiring relocation. We understand that this assessment is ongoing, including a decision on whether Gawanggal will continue to operate on this campus.

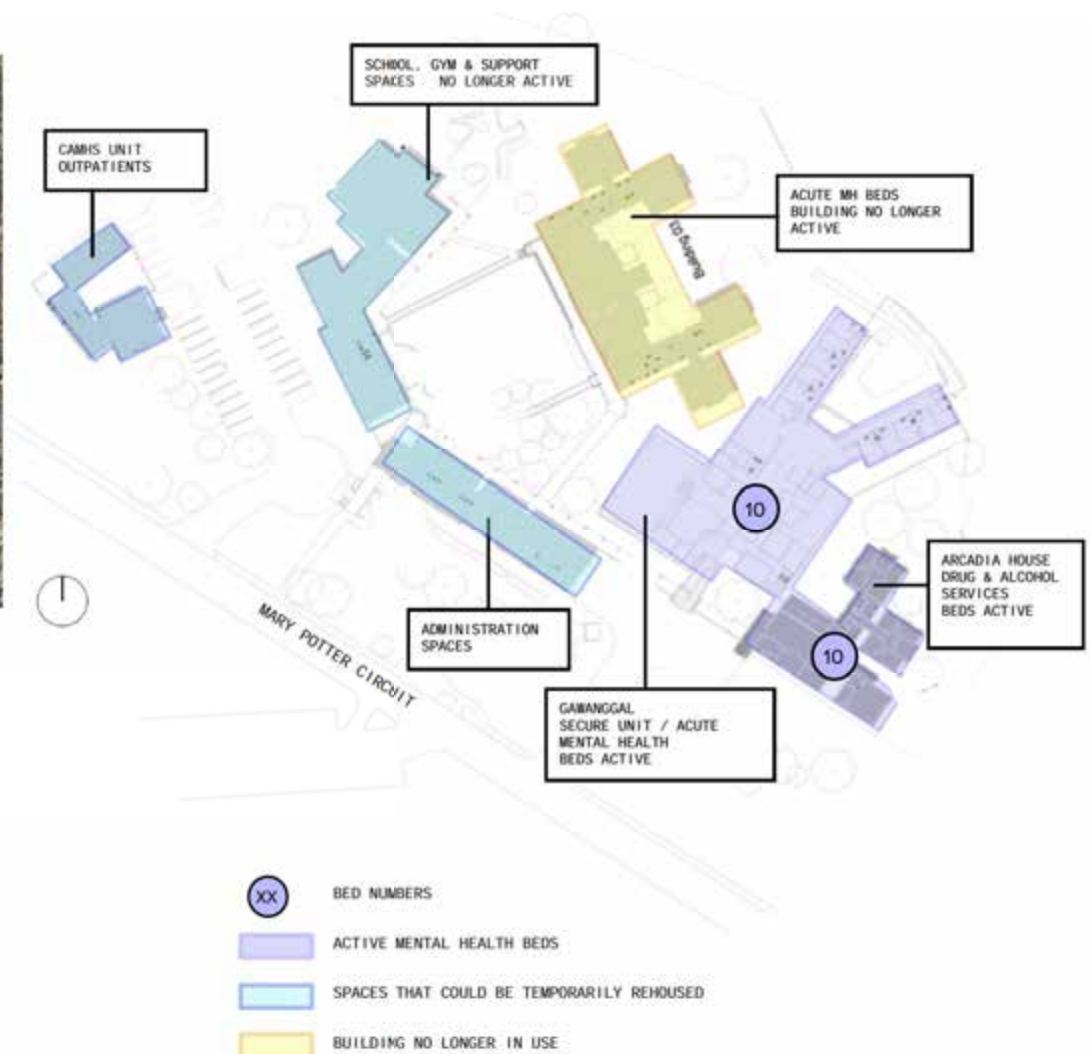
Construction of future buildings on this northern block also needs to consider environmental and bushfire factors which are described in later sections.

MENTAL HEALTH NORTHERN BLOCK



① MENTAL HEALTH NORTHERN SITE

— SITE EXTENT



## B.2 Design with Country

Canberra is situated on Ngunnawal country, although it also holds significance to the Ngambri people.

Within Canberra there are numerous sites of Aboriginal significance. The most proximal to the Hospital is Black Mountain, a site of meeting place, business place and teaching.

Therefore, the Masterplan for Northside Hospital aimed at creating areas throughout the campus, both built form and green space that facilitate meeting and opportunities for teaching. The 'Green Spine' at the heart of the proposed Masterplan aimed to offer opportunities for connecting with Country in an outdoor setting.

The Masterplan was orientated so tall buildings could afford views to Black Mountain, visually connecting the campus with this significant site.

To gain a more thorough understanding of Country, this Masterplan response needs to be explored with the Ngunnawal and Ngambri communities. This will ensure a considered and appropriate response.



ESTABLISH SITES OF SIGNIFICANCE & IDENTIFY THEIR RELATIONSHIP TO THE CALVARY HOSPITAL SITE

- CALVARY HOSPITAL
- 1 BLACK MOUNTAIN MEETING PLACE, BUSINESS PLACE, TEACHING
- 2 AINSLIE CORROBOREE GROUND
- 3 MOUNT STROMLO ARCHAEOLOGICAL EVIDENCE OF CELESTIAL CALENDARS MADE FROM ROCKS
- 4 ACTON PENINSULA FORMER CEREMONIAL GROUND
- 5 MUGGA MUGGA MOUNTAIN ARTIFACT SCATTERS / HERITAGE LISTED
- 6 LAKE GINNINDERRA CAMPING, ARTIFACT SCATTERS
- 7 MOUNT AINSLIE WOMENS MOUNTAIN, TEACHING
- 8 MOUNT MAJURA ARTIFACT SCATTERS
- 9 YEALAMBIGGEE MONOGOLO RIVER ASSOCIATED WITH THE SPIRIT SNAKE 'GUDDY'
- 10 JEDBINBILLA MOUNTIAN TIDBINBILLA MENS MOUNTAIN, INITIATION, INCLUDES BIRRIGAI ROCK AND HANGING ROCK SHELTERS, ROCK PAINTING



VIEW TO BLACK MOUNTAIN



PLACES FOR GATHERING



# B.3 Master Plan Vision & Design Principles

10 principles were established in the previous Masterplan phase. This was in response to the shared aspiration to create a people-centred, deliverable and healing environment that provides improved access to health services and enhanced health outcomes for the community.

## Human-centred



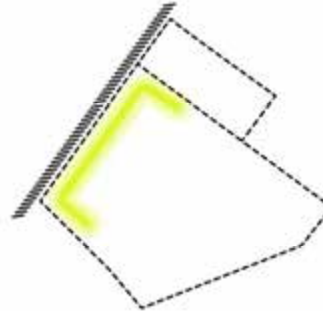
→ Create a restorative environment that people feel comfortable in.

## Connected



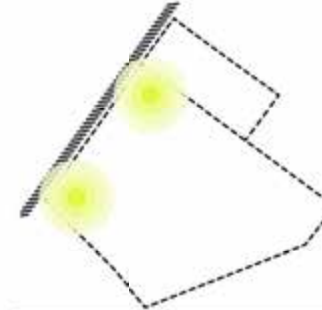
→ City-wide health network  
Build on existing synergies  
Connect to public transport

## Memorable



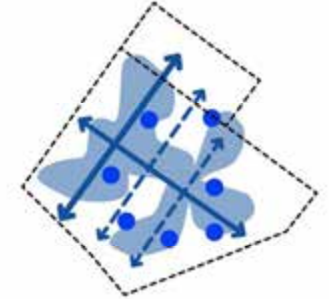
→ Strong visual presence  
Unique identity  
Of it's place

## Accessible



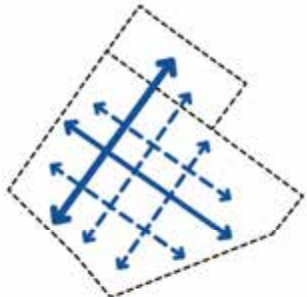
→ Easy to find  
Intuitive, legible + welcoming  
Accessible to all

## Vibrant



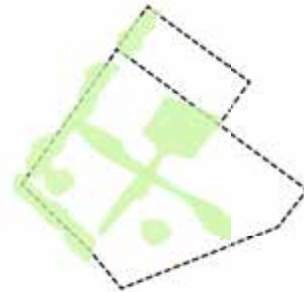
→ Maintain critical operations  
On-site decanting strategy  
Supports traffic needs

## Permeable



→ Intuitive way finding  
Through-site links  
Visual & physical connectivity

## Green



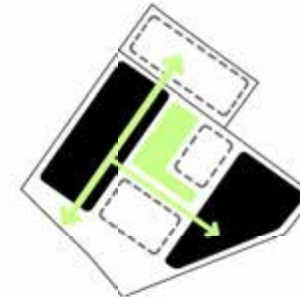
→ Green buffers  
Green heart  
Bushland campus

## Connected to Country



→ Responsive to context  
Engages with the community  
Helping to 'close the gap'

## Adaptable



→ Framework defines key moves  
Multiple options within

## Deliverable



→ Maintain critical operations  
On-site decanting strategy  
Supports traffic needs

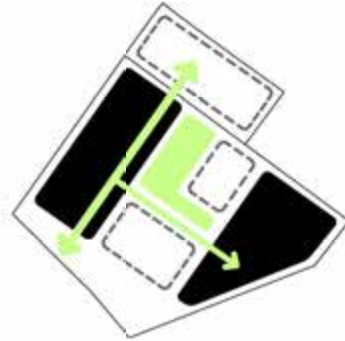
# B.3 Master Plan Vision & Design Principles

The 10 principles established in the Masterplan phase, were refined and colated into 4 principles These principles were weighted and then used to assess the options presented during the previously undertaken concept design phase.

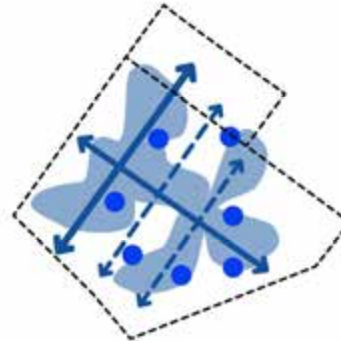
## 1. Design Quality



## 2. Clinical Functionality



## 3. Deliverability



## 4. Affordability



→  
Human-centred  
Accessible and permeable  
Vibrant  
Connected to Country - green  
Memorable  
Sustainable



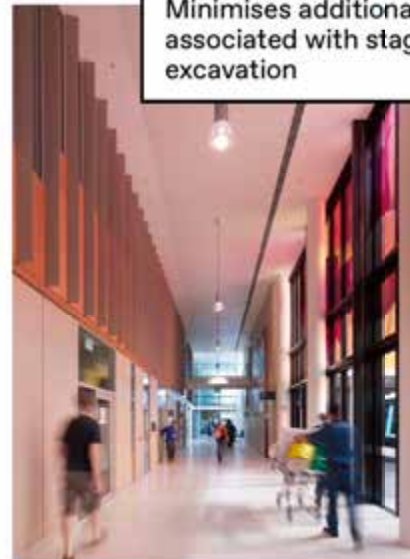
TRANSLATIONAL RESEARCH INSTITUTE, BVN DONOVAN HILL

NORTHERN BEACHES HOSPITAL, BVN



→  
Supports clinical functional relationships, flows and efficiencies

→  
Provides efficient constructibility & engineering responses  
Minimises additional costs associated with staging and excavation



ROBINA HOSPITAL EXPANSION, BVN

SUNSHINE COAST UNIVERSITY HOSPITAL PPP, BVN



→  
Provides cost efficiency

# B.4 Previous Zonal Masterplan

## Future Vision - End State

A Zonal Master Plan was developed and submitted within the Masterplan report, focusing on the New Northside Hospital Building and its connections to the Green Space and the rest of the Hospital Campus.

The New Northside Hospital was going to be located on the western portion of the Campus, along Sylvia Curley road, thus establishing the orientation of a New Hospital Street along its length and a new axis, perpendicular to the New Building and Haydon drive.

Once the existing hospital buildings have reach their end of life, future stages of development could occur east of the New Northside building along this axis.

A Green Heart could be established along the Hospital Street and the new axis, which would enable connections of the New Northside building with future stages of the development and the Private Hospital.

Several options were investigated for the relocation of the Childcare Centre, including South of Mary Potter Circuit an on the Rotary Cottage Site. Refer to Section F for the updated studies.

Core clinical services and other related functions within Northside Hospital building.

Private Hospital facilities retained and adjacent expansion site identified.

Staff support zone, housing accommodation for key workers and families, end of trip facilities, and any other identified requirements.

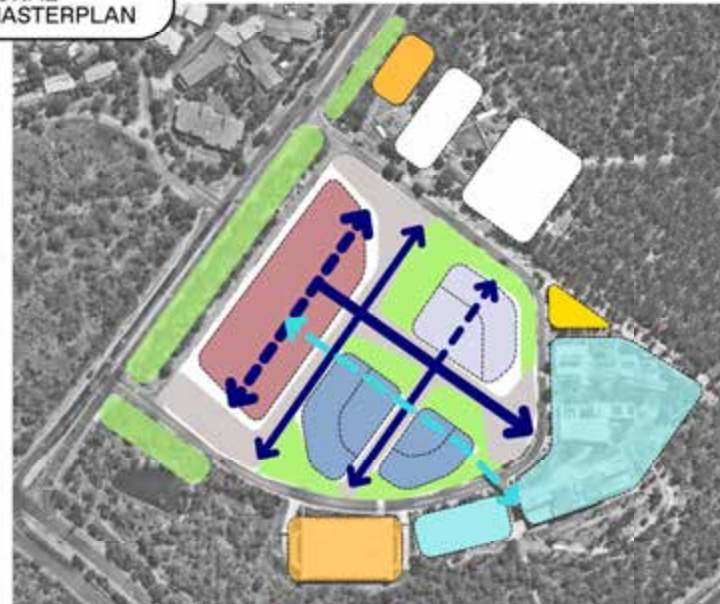
Shared innovation precinct with an emphasis on research, industry and education.

'Other functions', subject to further feasibility.

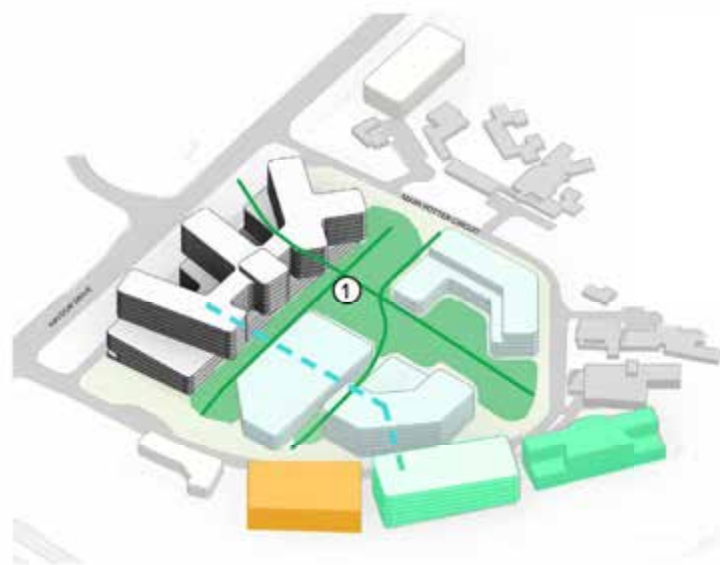
Childcare centre located to the vacated Rotary Cottage site.

New multi-storey car park on the northern block in addition to the one on the south supports a dispersed parking strategy.

ZONAL MASTERPLAN



- NEW NORTHSIDE HOSPITAL
- INNOVATION PRECINCT RESEARCH, INDUSTRY AND EDUCATION
- STAFF SUPPORT
- PRIVATE HOSPITAL AND EXPANSION ZONE
- CAR PARKING
- CHILDCARE CENTRE
- GREEN HEART
- OTHER FUNCTION

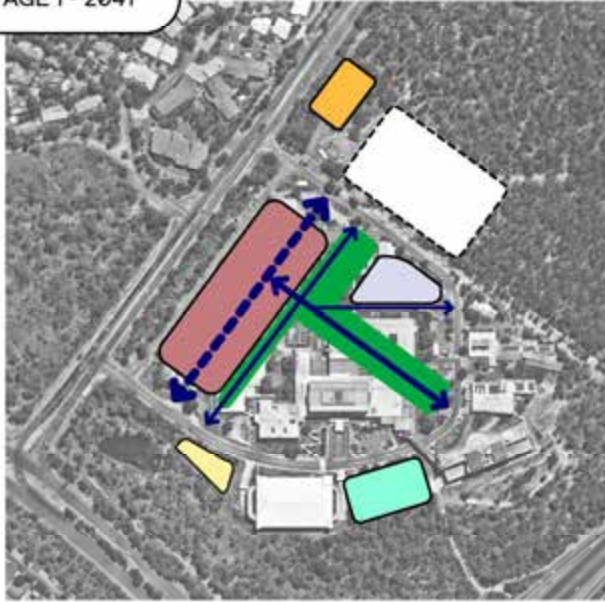


- 1 GREEN SPINE
- 2 HOSPITAL STREET
- PEDESTRIAN CONNECTOR EXTERNAL
- - - PRIVATE HOSPITAL CONNECTION

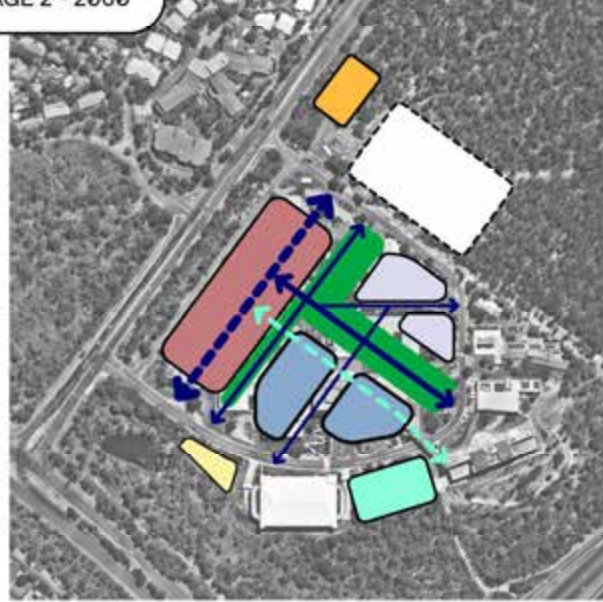
# B.4 Previous Zonal Masterplan

## Staged approach

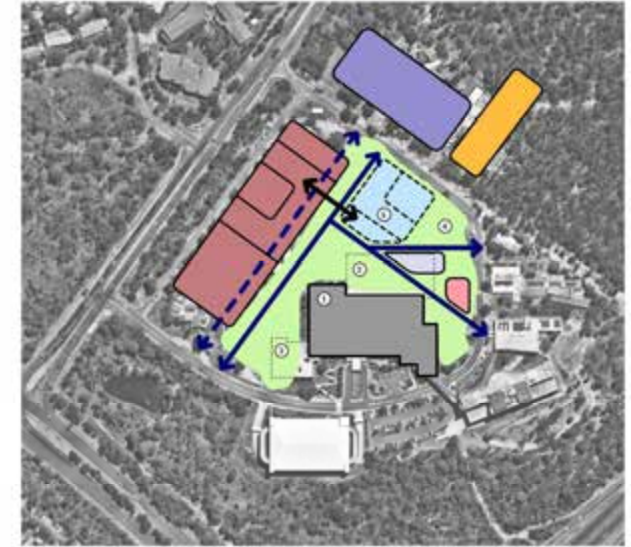
STAGE 1 - 2041



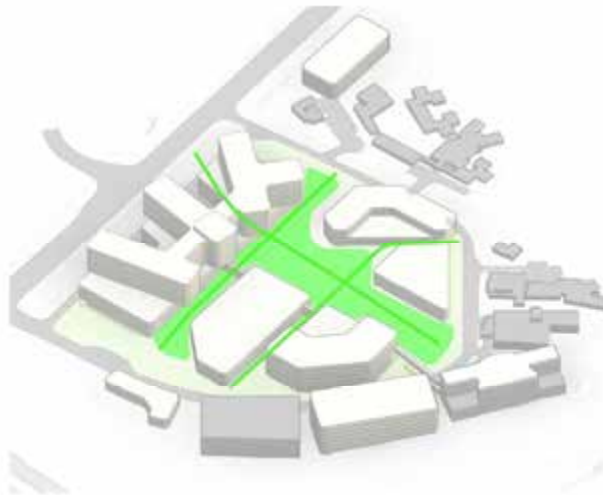
STAGE 2 - 2060



UPDATED MASTERPLAN



After the Masterplan report was submitted, BVN was asked to submit an updated diagram showing the retention of Xavier building. The updated Masterplan diagram also shows the Mental Health building in the north site, as per the Concept Design.



- NEW NORTHSIDE HOSPITAL
- INNOVATION PRECINCT RESEARCH, INDUSTRY AND EDUCATION
- STAFF SUPPORT
- PRIVATE HOSPITAL INCL. EXPANSION ZONE
- CAR PARKING
- CHILDCARE CENTRE
- GREEN HEART
- OTHER FUNCTION

# B.5 Key Master plan Moves

## Site strategies

Six key area of focus were explored during previous stages of the project. This work laid the foundations for the thinking which occurred during the Northside Hospital Project reference design.

- Site entry
- Size and scale
- Street address
- Pedestrian movement
- Hospital street
- Connection to the green heart

### 1. Site Entry

Vehicle access via the ring Road - Mary Potter Circuit. The current hospital site is accessed from Haydon Drive by the Mary Potter Circuit ring road. Access to the site is to both the north and south.

### 2. Size and Scale

A nominated zone for the Northside hospital was established to the west of the site. The footprint zone nominated for the hospital was approximately 200m x 70m.

This footprint enables sufficient area for a project size and scale was comparable with other significant hospital redevelopments currently under construction.

### 3. Site Address

The Mary Potter Circuit ring road provides two key entrances into the new hospital. This enables two separate entries for ED and ambulatory flows.

Sylvia Curley Road, connecting the north and south ends of the ring road, provides opportunities for service and logistics vehicles and potential car parking entry.

1. SITE ENTRY



VIEW FROM HAYDON DRIVE TO THE SOUTHERN ENTRY OF MARY POTTER CIRCUIT

2. SIZE AND SCALE



VIEW FROM MARY POTTER CIRCUIT TO SOUTHERN ENTRY OF THE NEW HOSPITAL SITE

3. SITE ADDRESS



VIEW OF SYLVIA CURLEY ROAD



- Main entry
- Emergency
- Ambulance
- Logistics
- After hours

# B.5 Key Master plan Moves

## Site strategies

### 4. Pedestrian Movement

The majority of the visitors to the hospital arrive via car. Currently car parking on site is on grade throughout and within a multi-deck parking structure positioned to the south of the site. During Concept design a new multi-deck car park to the north was proposed. Basement parking under the new hospital building was investigated however, at the time, this was deemed as cost prohibitive. The number of storeys for the new multi-deck will be dependent upon the final numbers of car spaces required and the maximum building height permitted.

Public transport servicing the site is via bus lines currently servicing Haydon Drive and Mary Potter Circuit. A light rail route is proposed along Hayden Drive, with a stop nominated adjacent North Canberra Hospital campus. Pedestrian routes to and from each of these services were considered in the positioning of the entries of the new hospital.

### 5. Hospital Street

A hospital street was proposed along the eastern side of the podium. This hospital street would provide a pedestrian link between the north and south entries as well as a connection to the future green heart located centrally within the site as part of the master plan. A hospital street will activate the internal space and aid way finding.

### 6. Connection to Green Heart

Adjacent the hospital street, the master plan had positioned a green heart and spine. This was to encourage the activation of external public space on the campus as well as providing outlook and amenity to the hospital.

### 4. PEDESTRIAN MOVEMENT



VIEW FROM HAYDON DRIVE SHOWING THE PROXIMITY OF THE BUS STOP TO THE HOSPITAL ENTRY

### 5. HOSPITAL STREET

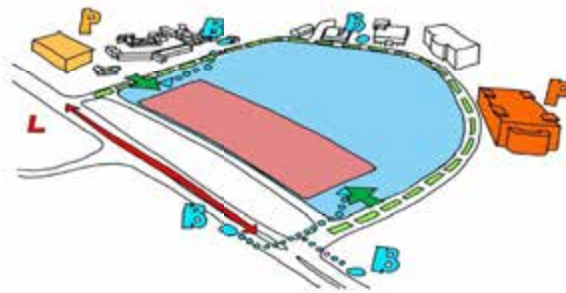


HOSPITAL STREET PROPOSED FOR THE SUNSHINE COAST UNIVERSITY PPP, BVN SCHEME

### 6. CONNECTION TO GREEN HEART



GREATER RANDWICK URBAN MASTER PLAN, BVN + TERROIR + KARRES EN BRANDS



- EXISTING MULTI DECK CAR PARK
- NEW MULTI DECK CAR PARK
- BASEMENT / UNDERCROFT PARKING
- EXISTING BUS STOPS
- FUTURE LIGHT RAIL
- PEOPLE MOVEMENT



- HOSPITAL STREET



- GREEN HEART AND GREEN SPINE

# B.6 Level Studies

A number of studies were undertaken to minimise cut and fill, and to ensure the new building would tie into the existing Campus.

**Level Studies**  
The site available for the Northside hospital at Calvary has a complex topography.

Due to the narrow frontage to the north and south on Mary Potter Curcuit, in depth studies on the fall across the site and how this connects to the existing road has been critical. The building was positioned on a reduced level (RL) that enables ease of movement for both pedestrians and vehicles to hospital entries, while allowing on grade access to the green heart.

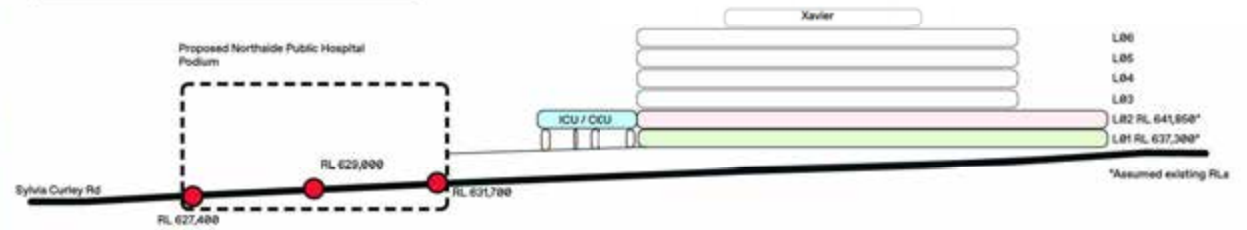
The building was positioned to minimise cut and fill, while still providing a dock and logistics areas that is hidden from main view.



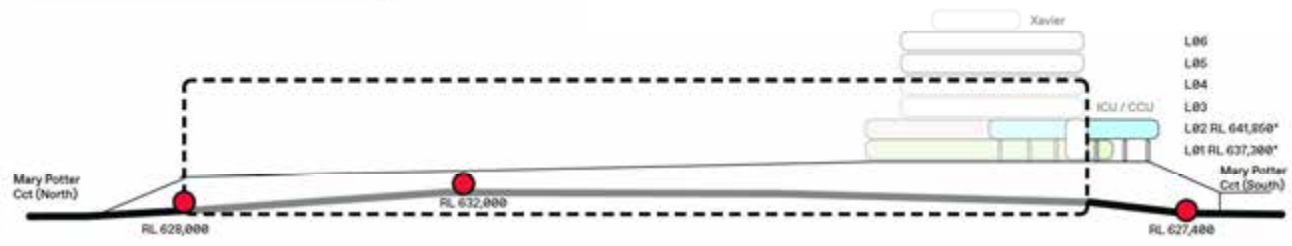
→ Mary Potter Circuit (North)



→ Mary Potter Circuit (South)



→ Sylvia Curley Road



## B.7 Concept Design

### Previous Concept Design Options

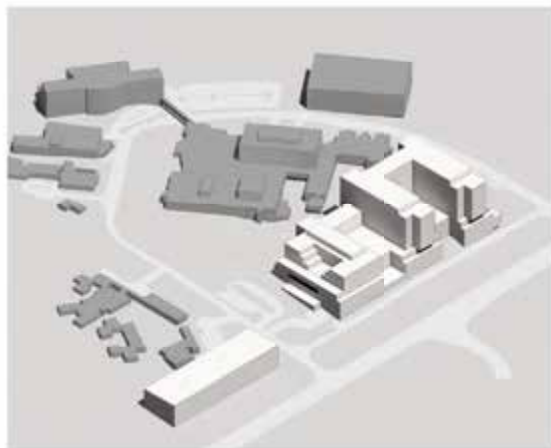
Three options for the Northside hospital were presented within the previous Concept Design report. These options formed the bases of the business case and were re-examined in the current context during the reference design period.

#### OPTION 1C SINGLE BUILDING

*This option is a complete stand alone hospital, inclusive of mental health services, positioned within the western portion of the current Bruce site. This option was most closely aligned within the master plan.*

Option 1c has the following considerations;

- Stand alone complete hospital including mental health.
- Multi-deck car park located on the northern site.
- Mental health bedrooms positioned in a separated wing within the main hospital building.
- Separate mental health core.
- Emergency, logistics, education/research entries from the Mary Potter north.
- Main entry and ambulatory/outpatients entries from the Mary Potter south.
- 13 storey building including plant.
- Sylvia Curley Road used for logistics vehicles.



#### OPTION 1A MULTIPLE BUILDINGS / STAND ALONE MENTAL HEALTH BUILDING

*Discussions with health professionals revealed a 'stacked' approach to mental health was not preferable, thus a stand alone Mental Health facility was developed. This option removed mental health services from the main hospital and relocated them to the northern site.*

Option 1a following considerations;

- Stand alone mental health building positioned to the south eastern area of the northern block site.
- Multi-deck car park located to the north west within the APZ.
- Mental health bedrooms across 2 floors.
- Logistics link under Mary Potter Circuit from the main building to Mental health.
- Staff and patient link from the main hospital on theatre level.
- Main hospital to have a 3 finger IPU stack reducing the overall height of the building.



#### OPTION 1D MULTIPLE BUILDINGS / STAND ALONE MENTAL HEALTH BUILDING REDUCED SCOPE

*Option 1d proposes to provide a smaller hospital with a stand alone mental health facility, with the primary objective of reducing the project capital cost.*

Option 1D following considerations;

- Stand alone mental health building positioned to the south eastern area of the northern block site.
- Multi-deck car park located to the north west within the APZ.
- Mental health bedrooms across 2 floors.
- Logistics link under Mary Potter Circuit from the main building to Mental health.
- Staff and patient link from the main hospital on theatre level.
- Main hospital to have a 2 finger IPU stack
- Reduced project scope / smaller hospital and mental health facility.



# B.7 Concept Design

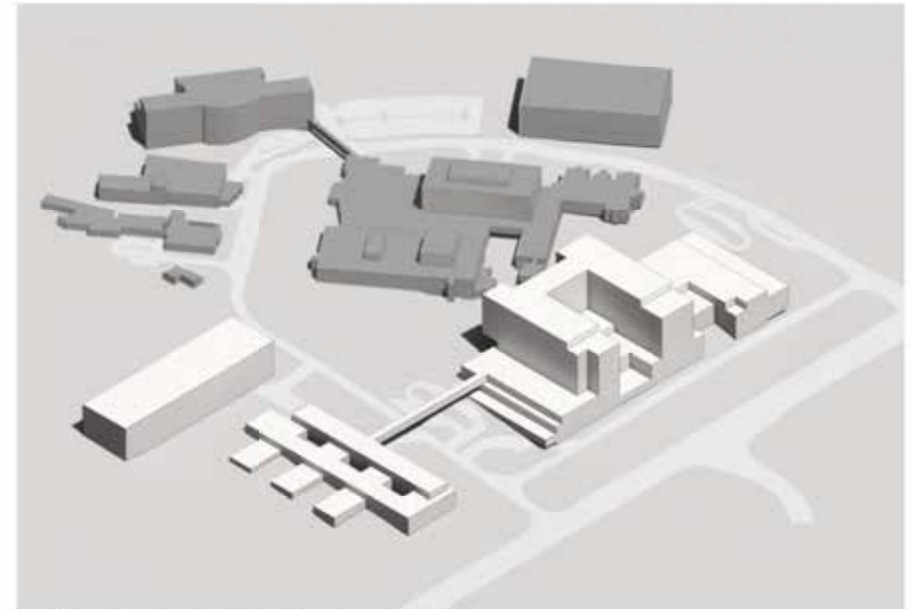
## Previous Preferred Concept Design Option

At the conclusion of Concept design, Option 1D was selected as the preferred. This option began to address the need to reduce overall project costs through a decreased new build area.

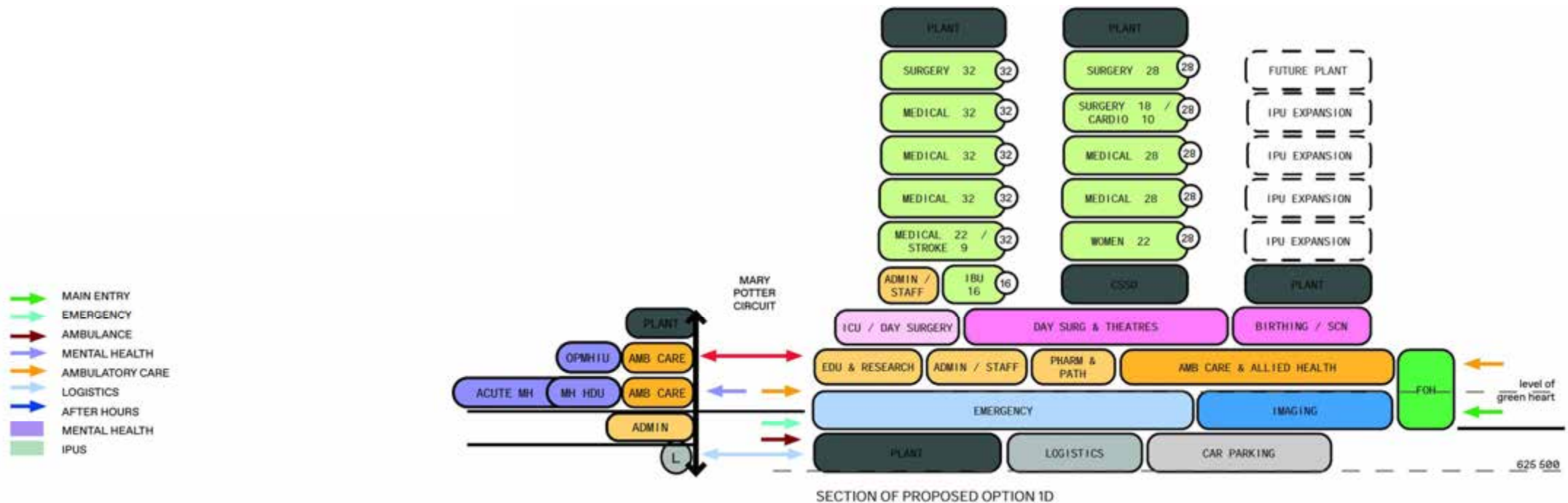
This option maintained a stand alone mental health facilities located on the northern site.

Strategies implemented within this option to reduce the area included:

- Critical services are provided to meet the 2040/41 forecast demand, where 'critical' has been based on an assessment of which services would be harder to expand in the future and those with close functional relationship to other critical services. For example, the emergency department is considered critical and unsuited to future expansion due to the difficulties that would be associated with construction in a live emergency department.
- Ambulatory care is provided to meet a level of demand prior to the 2030/31 forecast demand.
- Administration, education and clinical research areas provided reflect a reduced percentage of the total functional floor area compared to the benchmark rates.
- All other services, including those provided in the standalone mental health facility, are provided to meet the 2030/31 forecast demand.



3D VIEW OF PROPOSED OPTION 1D



Section C -

# Reference Design Master Plan

C.1 Updated Site Analysis  
C.2 Existing Buildings Functional Analysis  
C.3 Master Plan Exploration  
C.4 Site Development Strategy

A large, bold, dark blue capital letter 'C' is positioned in the bottom right corner of the page. It is a simple, sans-serif font with a consistent thickness throughout.

# C.1 Updated Site Analysis Opportunities & Constraints

At the start of the current Reference Design phase, the following additional site constraints were identified:

## Site Access Points

Due to the surrounding road network generally being at capacity during the peak AM and PM periods, a new signalised connection to Haydon Drive as far north on the site as practical has been proposed.

## Updated bushfire APZ (Asset Protection Zone)

To de-risk the project, the new construction zone is required to sit outside of the APZ in northern site.

## Newly constructed services compound

A new services compound and boiler house, recently built north of Xavier building, now encroaches within the previous construction zone.

## Public transport easement along Haydon Drive

Plans to enlarge Haydon drive to allow for a new public transport corridor have emerged. While the easement appears to be outside of the Hospital site boundary, further consultation with key stakeholders is required to determine the location of future public transport stops.

For further details, refer to Section F - Traffic and Parking Report.



8M EASEMENT

- - - PROJECT SITE BOUNDARY
- - - 5M SITE CONTOURS
- - - BUSHFIRE APZ FOR CLINICAL BUILDINGS. EXISTING VEGETATION WITHIN TO BE MANAGED TO APZ REQUIREMENTS
- - - BUSHFIRE APZ FOR CARPARK BUILDINGS
- EXISTING BUILDINGS WITHIN SCOPE
- EXISTING BUILDINGS OUT OF SCOPE
- - - AVAILABLE STAGE 1 CONSTRUCTION ZONE FOR CLINICAL BUILDINGS CONSIDERING EXISTING BUILDINGS TO REMAIN OPERATIONAL AND APZ ZONE
- ▲ EXISTING PRIMARY SITE ACCESS - SIGNALISED
- ▲ EXISTING SECONDARY SITE ACCESS - NO SIGNAL
- ▲ FUTURE PREFERRED SITE ACCESS - SIGNALISED
- //// HAYDON DRIVE WIDENING ZONE - BETWEEN EXISTING KERB AND SITE BOUNDARY



# C.1 Updated Site Analysis Opportunities & Constraints

The extent of Stage 1 demolition and construction zone has been reviewed further with key stakeholders. The following outcomes emerged:

The existing Keaney, Marian, Xavier and ICU buildings as well as the newly constructed services compound have been identified to remain operational until the existing functions have been relocated to the new Northside Hospital building(s).

The services in the Gawanggal building are subject to further decision on either retaining them in the existing building or relocating them as part of the early works.

The existing Bruce Ridge Childcare Centre can get demolished but has to be relocated on site. Please refer to Section F for further studies on the relocation.

The other existing functions and buildings within the site boundary can be relocated and demolished as required prior to the Stage 1 works.

- - - - PROJECT SITE BOUNDARY
- - - - 5M SITE CONTOURS
- - - - EXISTING BUILDINGS TO BE DEMOLISHED, FUNCTIONS RELOCATED OUTSIDE OF THIS PROJECT SCOPE
- - - - EXISTING CHILDCARE TO BE DEMOLISHED, FUNCTION TO BE RELOCATED ON SITE
- - - - EXISTING BUILDINGS TO REMAIN OPERATIONAL UNTIL FUNCTIONS ARE RELOCATED TO NEW HOSPITAL BUILDING
- - - - GAWANGGAL BUILDING UNDER REVIEW SUBJECT TO FURTHER DECISION ON RETAINING/RELOCATING AS PART OF EARLY WORKS
- - - - EXISTING BUILDINGS OUT OF SCOPE TO BE RETAINED
- - - - AVAILABLE STAGE 1 CONSTRUCTION ZONE FOR CLINICAL BUILDINGS CONSIDERING EXISTING BUILDINGS TO REMAIN OPERATIONAL AND APZ ZONE



# C.2 Existing Buildings Functional Analysis

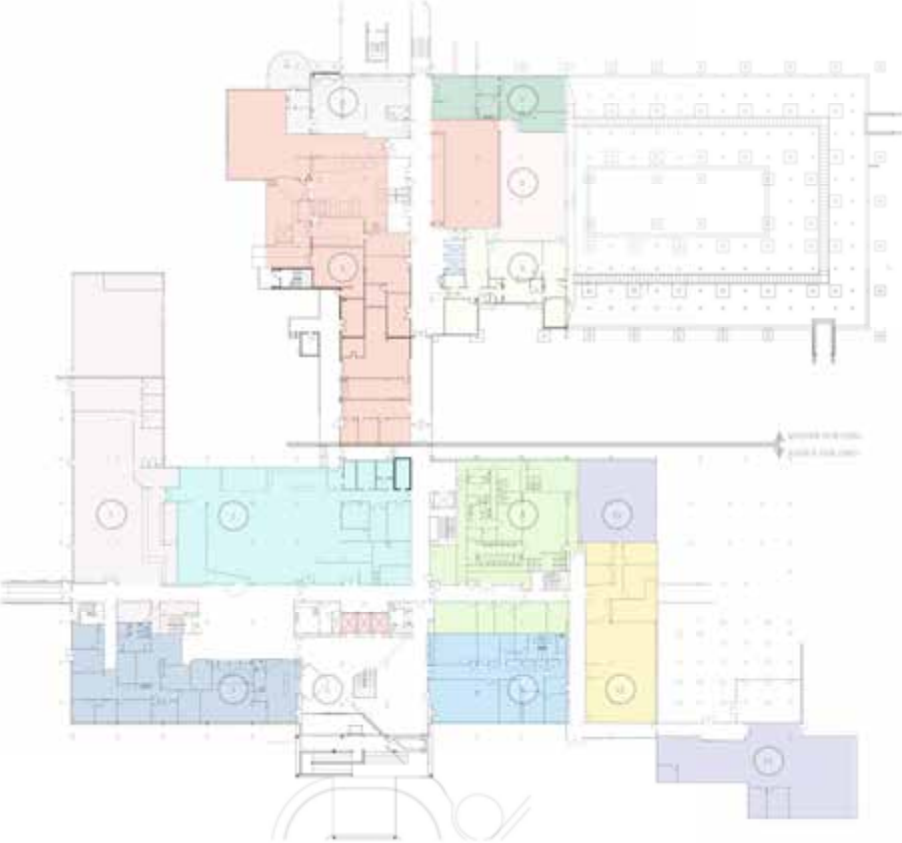
An analysis of the existing Marian and Xavier buildings was undertaken to understand the size and types of departments currently in operation.

Some departments will be decanted into the Clinical Services Building, and a strategy will need to be developed for the use of vacated spaces.

In each of the masterplan strategies, there are links between the Clinical Services Building and the Marian and Xavier buildings.

Refer to the existing hospital layouts in Section F for further details on the various departments

- 1 CAFE
- 10 MEDICAL RECORDS
- 19 RECOVERY
- 2 KITCHEN
- 11 CHAPEL
- 20 SSD
- 3 ADMIN
- 12 PATHOLOGY
- 21 PHYSIO
- 4 MAIN LOBBY
- 13 MEDICAL RECORDS
- 22 DAY PROCEDURES
- 5 BQH
- 14 ICU
- 23 EMERGENCY
- 6 MORTUARY
- 15 ICU OFFICES
- 24 MEDICAL IMAGING
- 7 BIOMED
- 16 DOSA
- 25 DAY INFUSION
- 8 STERILISING
- 17 QSCAN SERVICE
- 26 PHARMACY
- 9 STAFF AMENITIES
- 18 OPERATING SUITE



MARIAN & XAVIER LEVEL 01



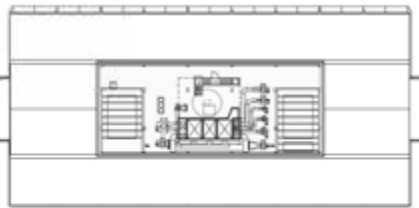
MARIAN & XAVIER LEVEL 02

# C.2 Existing Buildings Functional Analysis

- 29 ANAESTHETIC
- 30 PATIENT FLOW
- 31 PLANT
- 32 BIRTHING SUITE
- 33 ENDOSCOPY
- 34 SCN
- 35 MATERNITY ASS.
- 36 ANTENATAL CLINIC
- 37 BIRTH CENTRE
- 38 MATERNITY IPU
- 39 MEDICAL IPU
- 40 MED. ASS. & PLANNING UNIT
- 41 SURGICAL IPU & HITH
- 42 PLANT



MARIAN & XAVIER LEVEL 03



XAVIER LEVEL 07



XAVIER LEVEL 06



XAVIER LEVEL 05



XAVIER LEVEL 04

# C.3 Master Plan Exploration

## Initial Master Plan Zoning Options (long-listed options)

At the outset of this Reference Design phase, a long list of siting options were developed to test how the previous Concept Design scheme could respond to some of the new information and constraints.

These options were presented to MPC and ACT Health during the Weekly Design Workshops on 16th and 24th May (refer to section A.5 for dates and attendees).

Option A1 represents the previous preferred Concept Design Scheme (Option 1D in the Concept Design Report).

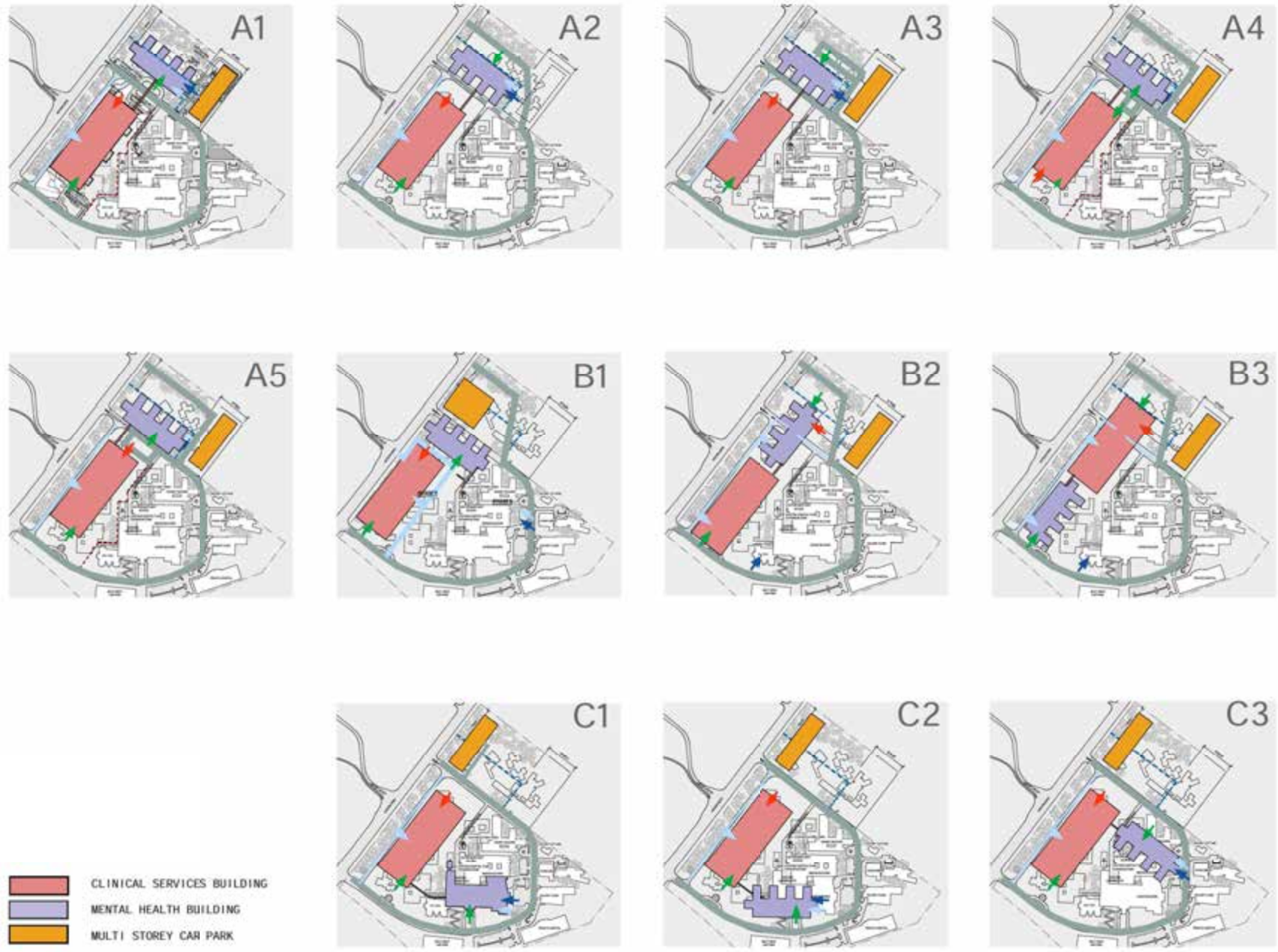
A Series options looked at reconfiguring the Concept Design Scheme to introduce an additional entry point to the north of the site.

B Series options looked at closely integrate Mental Health with the CSB

C Series options considered the possibility of a staged Mental Health building.

These options were presented at our weekly workshops, and were assessed against the following parameters:

- possible adjustments to northern site access location
- campus traffic movements, new drop off locations, separation of flows, logistics routes
- pedestrian access flows from public transport
- project risks in consideration of AZP and bio-diversity constraints to northern site
- possible locations for multi-storey carpark
- mental health building as standalone or integrated
- location of CSB / mental health to north or south



# C.3 Master Plan Exploration

## Updated Masterplan Zoning Options

The updated master plan assumptions meant that several zoning options were discarded along the way. New options were developed and presented to MPC and ACT Health during the Weekly Design Workshops on 31st May (refer to section A.5 for dates and attendees).

These options were tested to respond to the following priorities:

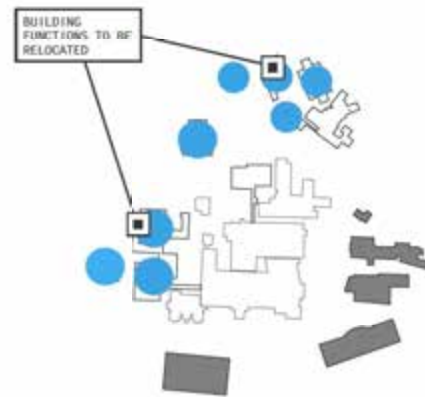
- Confirmed requirement for new northern site access
- De-risk the project by limiting encroachment into the APZ - therefore locate only carpark on northern site
- Consider integrated model for Mental Health with Clinical Services Building
- Allow for continuation of some clinical services in existing Xavier and Marian Buildings
- Assume existing Gawanggal (acute MH) facility to remain until future stages

The latest zoning options started to acknowledge a smaller footprint building for Stage 1, and the subsequent importance of its connections to the existing buildings and the potential future stages on site.



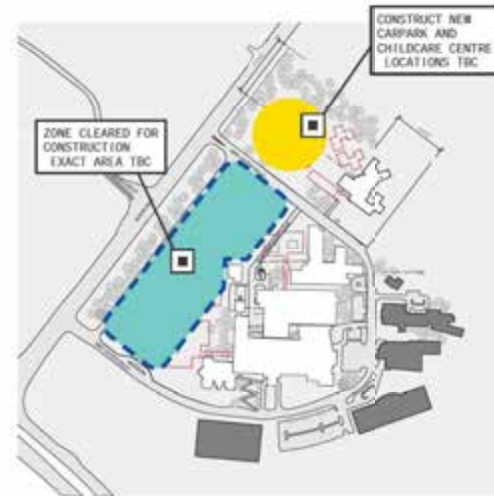
- CLINICAL SERVICES BUILDING
- MENTAL HEALTH BUILDING
- MULTI STOREY CAR PARK

# C.4 Site Development Strategy



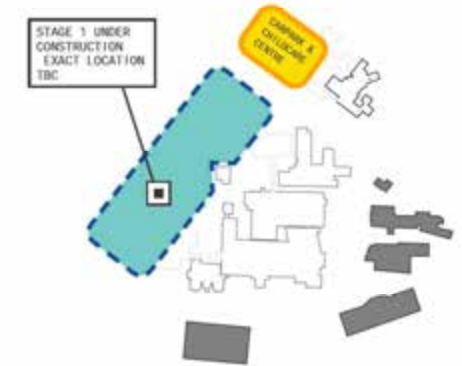
1: PREPARATION WORKS (DECANT)

- In order to clear site(s) for Stage 1 construction, some functions relocate off-site or to vacant space in existing buildings



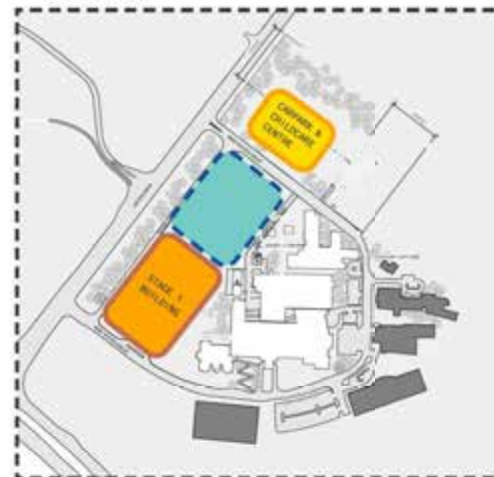
2: EARLY WORKS (DEMO & CONSTRUCTION ZONE)

- New Carpark building constructed (due to loss of carpark for construction period)
- New Childcare Building constructed
- Buildings demolished, site cleared for Stage 1 construction



3: STAGE 1 CONSTRUCTION ZONE

- Other buildings on site remain operational during construction period
- New carpark supports carparking demand



4: STAGE 1 OPERATIONAL

- Stage 1 building finished construction
- Some services (TBC) can relocate from existing buildings to new Stage 1 building. Vacated space in existing buildings
- New building operational



5: STAGE 2 CONSTRUCTION (NOT WITHIN CURRENT PROJECT FUNDING)

- Functions remaining in existing buildings can continue to operate with connections to Stage 1.
- Potential for vacated space in existing buildings to be refurbished for other functions (not part of Stage 1)



# C.5 Masterplan Short-listed Options

Based on clinical priorities, three possible Prioritisation Strategies (refer to Section D for details) have been established for Stage 1.

On the basis of these Prioritisation Strategies different Masterplan Options were reviewed.

The diagrams on this page show two siting options (north/south) for each strategy. For more detail on these Masterplan Options and future stages please refer to Section F - Appendices.



SCOPE PRIORITISATION STRATEGY 1 CSB NORTH OPTION



SCOPE PRIORITISATION STRATEGY 2 CSB NORTH OPTION



SCOPE PRIORITISATION STRATEGY 3 CSB NORTH OPTION



SCOPE PRIORITISATION STRATEGY 1 CSB SOUTH OPTION



SCOPE PRIORITISATION STRATEGY 2 CSB SOUTH OPTION



SCOPE PRIORITISATION STRATEGY 3 CSB SOUTH OPTION

- PEDESTRIAN MOVEMENT
- AMBULANCE ACCESS
- MH SECURE ACCESS
- PUBLIC EMERGENCY DROP OFF
- LOGISTICS DOCK ACCESS
- MULTI STOREY CAR PARK
- CLINICAL SERVICES AREA
- MENTAL HEALTH AREA
- REFURBISHMENT AREA
- HOSPITAL STREET
- DEMOLISHED BUILDINGS
- PROJECT SITE BOUNDARY

Section D -

# Clinical Services Planning Process

D

D.1 Clinical Services Prioritisation  
D.2 Scope Prioritisation Strategies  
D.3 Departmental Area Schedule

# D.1 Clinical Services Prioritisation

To determine the stage 1 and 2 inclusions; a thorough investigation of the clinical service priorities both for the site and across Canberra Health Service is required.

While this work is yet to be completed, preliminary discussions between John Staff projects, MPC, ACT health and the Canberra Health services has occurred which has enabled a basic understanding these priorities. Some of these priorities differed from those expressed during Concept Design. The adjacent table shows the explored shift in services priority ratings.

## Next steps:

- Complete the service prioritisation process to confirm service priorities with further Canberra Health Service input.
- Score strategies against a multi criteria assessment to arrive at a preferred project scope.
- Endorse service prioritisation, strategies, and project scope.

Note: Strategy updates may be required following service prioritisation outcomes.

Refer to Northside Hospital Project Reference Design Strategies Report within the Appendices of this report compiled by Johnstaff Projects for a detail account of the strategies considered.

Service	Priority	Weighted Score
Inpatient beds (medical and surgical, excl. older persons)	1	30
+ Cath Labs	1	30
Ambulatory Care and Allied Health	1	30
Inpatient beds (older persons)	1	28
+ Endoscopy	2	26
Antenatal day stay	2	26
Birthing	2	26
Emergency department	2	24
Intensive care unit	2	23
Close Observation / CCU *	2	23
↑ Maternity IPU	2	23
↑ Medical oncology/ Chemo	2	23
↓ Mental health (adult acute and outpatient)	3	22
Day surgery unit (recovery stage 2/3)	3	19
Neonatal (SCN)	4	18
Perioperative and interventional services (OT)	4	18
Medical Day	TBD	TBD

## CHANGES TO RATINGS

## D.2 Scope Prioritisation Strategies

With a preliminary understanding of the clinical priorities; three possible strategies for Stage 1 have been established.

Each strategy proposes a different stage 1 focus, while making assumptions around existing services to remain within the current facilities.

Strategy 1 Prioritise Critical Acute Care

Strategy 2 Prioritise Critical Acute Care + Mental Health

Strategy 3 Prioritise Critical Acute Care + Ambulatory care (through refurbishment)

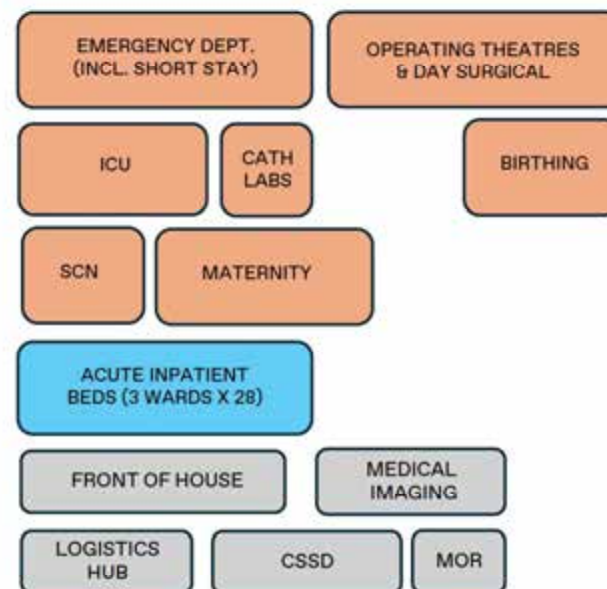
All options assumed logistic services; linen, stores, bio medical, kitchens, primary loading and waste services would remain in the existing hospital facilities (Xavier and Marian buildings).

In addition, all options assumed support services including; pathology, pharmacy, physiotherapy, staff admin office, medical records, patient services and staff amenities would also remain in their current locations.

To support cost estimates and early planning for potential affordable project strategies within the budget, three potential strategies were developed. All strategies were directed to focus on maximising new build scope to support the business case. All strategies aim to maximise clinical service provision in the new build, however the project team acknowledges that alternative strategies with greater non-clinical support can be explored in future.

The project team recommends these strategies are reviewed once further service prioritisation and clinical planning direction is provided, and a project scope is endorsed.

### Strategy 1 Critical / Acute Care



#### New build:

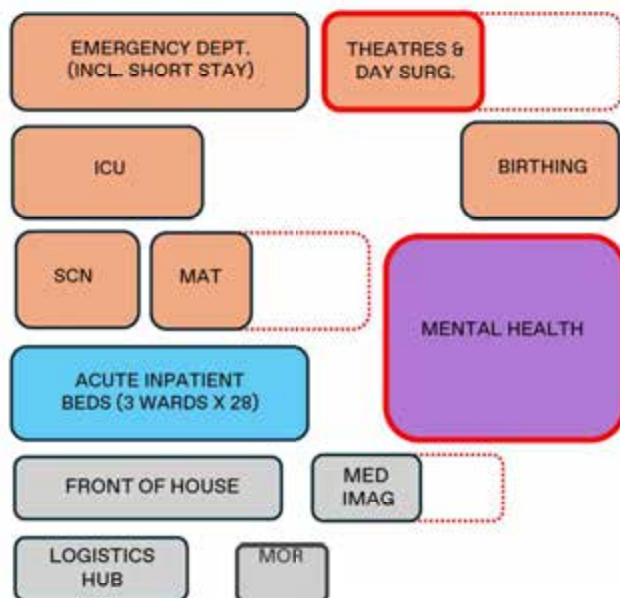
- Emergency + ED SSU
- ICU
- 3x Inpatient wards (84 beds)
- 14x theatres
- Day Surgery
- Maternity, birthing and SCN
- Medical Imaging - Inpatient and Outpatient
- CSSD
- Mortuary

#### Remaining with Xavier/ Marian

- Cath labs operates within in vacated theatres
- Endoscopy operates within in vacated theatres
- All current IPUs to remain
- Support services
- Logistics

## D.2 Scope Prioritisation Strategies

### Strategy 2 Critical / Acute Care & Mental Health



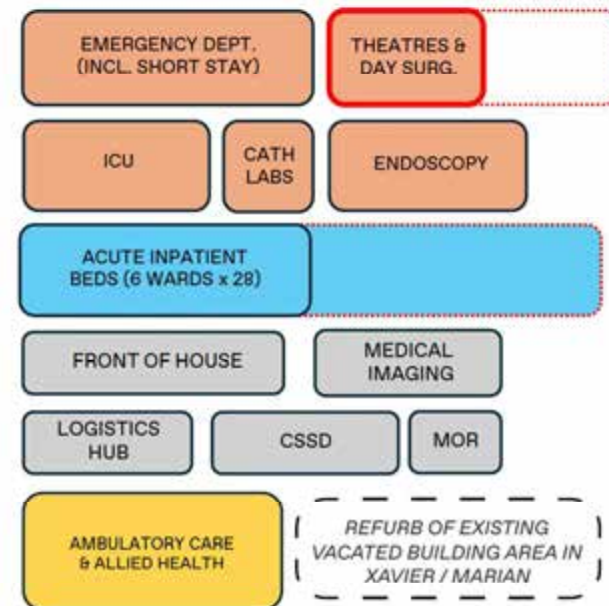
#### New build:

- Emergency + ED SSU
- ICU
- 3x Inpatient wards (84 beds)
- 6x theatres
- Maternity, birthing and SCN
- Mental Health (68 beds)
- Day surgery
- Mortuary
- Medical Imaging - Satellite /Inpatient

#### Remaining with Xavier/ Marian

- Endoscopy operates within in vacated theatres
- All current IPUs to remain
- Support services
- Logistics
- CSSD
- Medical Imaging - Outpatients

### Strategy 3 Critical / Acute Care & Ambulatory (refurb)



#### New build:

- Emergency + ED SSU
- ICU
- 5x Inpatient wards (140 beds)
- Cath labs
- Endoscopy
- 9x theatres
- Day Surgery
- Medical Imaging - Inpatient and Outpatient
- CSSD
- Mortuary

#### Remaining with Xavier/ Marian

- Endoscopy operates within in vacated theatres
- Maternity, birthing and SCN
- Support services
- Ambulatory Care (incl. day med & chemo) in vacated ED
- Support services
- Logistics

## D.3 Departmental Area Schedule

A high level Schedule of Accommodation for each strategy has been produced by John Staff Projects.

Strategies 1 and 2 target a stage 1 building area of around 40,000sqm.

Strategy 3 reduces the new build area to 36,500sqm, allowing an area of 3,500sqm for refurbishment within Xavier and Marian. This refurbished area is assigned to provide updated ambulatory care / outpatient facilities.

Refer to Northside Hospital Project Reference Design Strategies Report compiled by Johnstaff Projects for a detail account of the strategies considered.

SERVICE CATEGORY	DEPARTMENT	FINAL REQUIREMENTS	
		FINAL AREA REQUIRED m2	FINAL POC REQUIRED
IPUs	Acute Inpatient Units	9,750	195
	ICU	1,890	18
Critical Care	ED	4,095	63
	ED Short Stay Unit	720	24
Sub Acute	Sub Acute (maintenance beds)	1,400	56
	Other	1,400	-
Mental Health	Mental Health (inpatient & outpatient)	6,822	68
Women's & Childrens	Birthing	1,144	8
	Special Care Nursery (SCN)	900	14
	Maternity	1,680	28
Interventional	Operating Theatres	5,600	14
	Day Surgical (Recovery Stage 2/3)	1,560	52
	Cath Labs	586	2
	Endoscopy	750	2
Ambulatory Care	Ambulatory Care & Allied Health	4,230	124
	Medical Day Stay	1,815	33
	Medical Oncology / Chemo	165	3
Support Services	Logistics - CSB Satellite	500	-
	Moruary	250	-
	BOH - Kitchen	1,075	-
	BOH - Other	3,048	-
	FOH & Cultural	1,330	-
	CSSD	900	-
	Pharmacy	842	-
	Pathology	1,533	-
	Medical Imaging	3,040	20
	Staff Administration	2,611	-
	Staff Amenities	900	-
Education & Training	2,000	-	
<b>Departmental Area Total</b>		<b>62,776</b>	<b>724</b>
Travel & Engineering			Target T&E
Total CSB Area			Target

SERVICE CATEGORY	DEPARTMENT	STRATEGY 1		STRATEGY 2		STRATEGY 3	
		PROPOSED CSB AREA m2	PROPOSED POC IN CSB	PROPOSED CSB AREA m2	PROPOSED POC IN CSB	PROPOSED CSB AREA m2	PROPOSED POC IN CSB
IPUs	Acute Inpatient Units	4,200	84	4,200	84	7,000	140
	ICU	1,890	18	1,890	18	1,890	18
Critical Care	ED	4,095	63	4,095	63	4,095	63
	ED Short Stay Unit	720	24	720	24	720	24
Sub Acute	Sub Acute (maintenance beds)	-	-	-	-	-	-
	Other	-	-	-	-	-	-
Mental Health	Mental Health (inpatient & outpatient)	-	-	6,822	68	-	-
Women's & Childrens	Birthing	1,144	8	1,144	8	-	-
	Special Care Nursery (SCN)	680	14	980	14	-	-
	Maternity	1,680	28	600	10	-	-
Interventional	Operating Theatres	5,600	14	2,400	6	3,600	9
	Day Surgical (Recovery Stage 2/3)	1,560	52	624	26	936	26
	Cath Labs	-	-	-	-	586	2
	Endoscopy	-	-	-	-	750	2
	Ambulatory Care & Allied Health	-	-	-	-	-	-
Ambulatory Care	Medical Day Stay	-	-	-	-	-	-
	Medical Oncology / Chemo	-	-	-	-	-	-
Support Services	Logistics - CSB Satellite	500	-	500	-	500	-
	Mortuary	250	-	250	-	250	-
	BOH - Kitchen	-	-	-	-	-	-
	BOH - Other	-	-	-	-	-	-
	FOH & Cultural	800	-	800	-	800	-
	CSSD	980	-	-	-	980	-
	Pharmacy	-	-	-	-	-	-
	Pathology	-	-	-	-	-	-
	Medical Imaging	750	-	300	-	750	-
	Staff Administration	-	-	-	-	-	-
	Staff Amenities	-	-	-	-	-	-
	Education & Training	-	-	-	-	-	-
Departmental Area Total		25,149	315	25,325	321	22,857	284
Travel & Engineering		15,189		15,195		13,714	
Total CSB Area		40,238		40,520		36,571	

Section E -

# Design Workshops

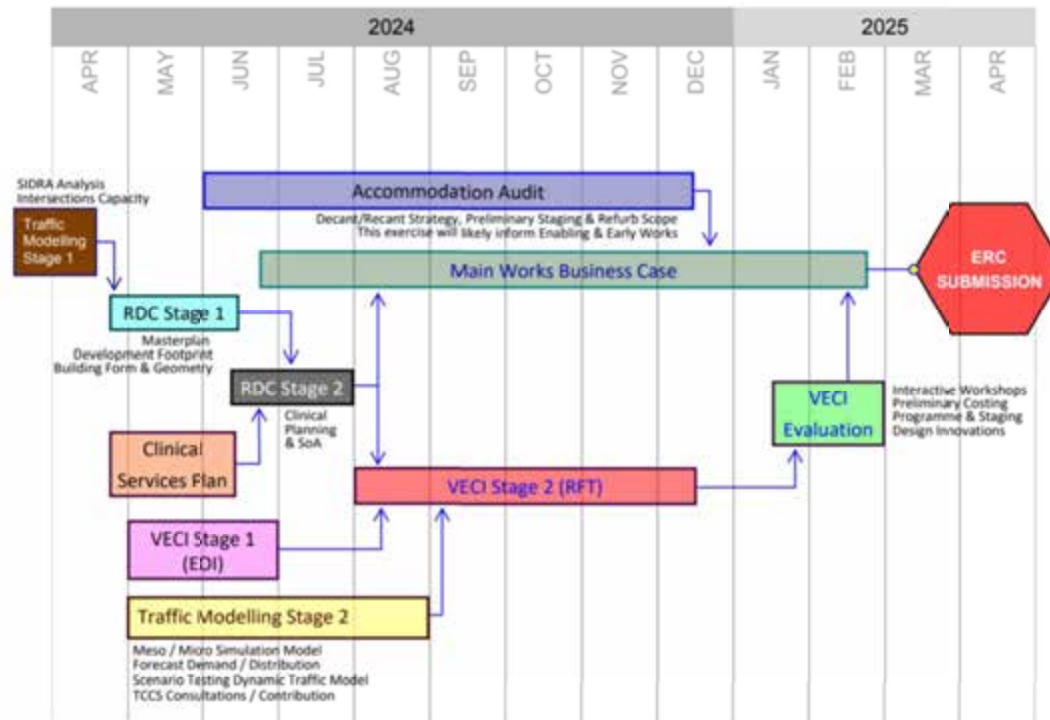
**E**

# Timeline



## Northside Hospital Project

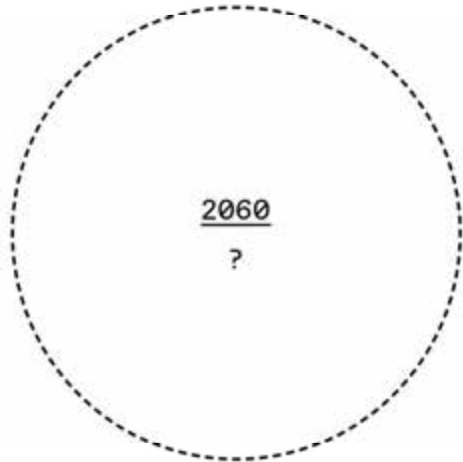
### Key Project Activities | 12-Month Lookahead



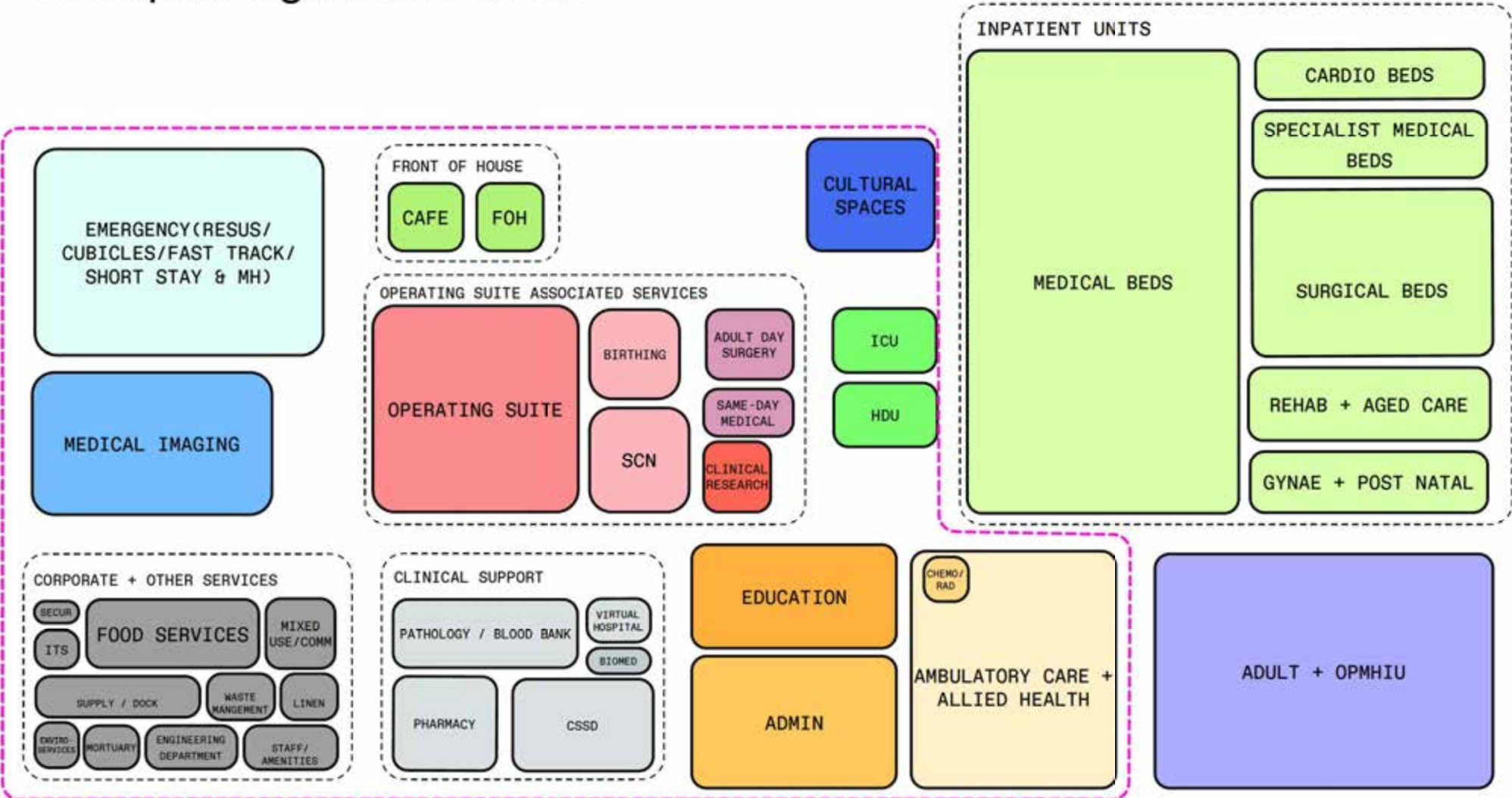
# Concept design brief & areas

## Functional departments

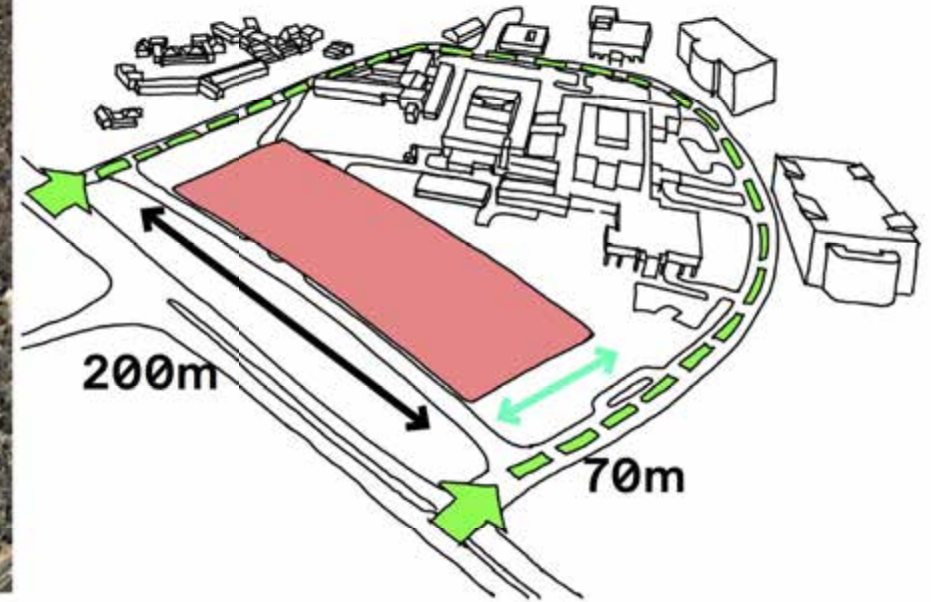
SUMMARY OF AREAS	SQM
<b>*CORE CONCEPT DESIGN FUNCTIONS</b>	
REPLACE EXISTING + EXPANDED SERVICES	92,433
PLANNING CONTINGENCY	9,243
<b>TOTAL AREA</b>	<b>101,676</b>
<b>OTHER</b>	
STAFF ACCOMMODATION	TBC
HELIPAD INTERNAL AREAS	250
END OF TRIP	TBC
CHILD CARE	1300
<b>ADDITIONAL OPPORTUNITIES</b>	
ENHANCED EDUCATION PRESENCE	TBC
ENHANCED RESEARCH PRESENCE	TBC
PRIVATE EXPANSION	TBC



# Concept design brief & areas



→ the project size and scale is comparable with other significant hospital redevelopments currently under construction



- ① NHDOA strategic massing options  
8 stories 70,000sqm\*  
10 stories 90,000sqm\*
- ② Canberra Hospital Expansion  
9 Stories 45,000sqm\*
- ③ Randwick Campus  
Redevelopment - Acute Services  
Building  
12 stories: area 55,000sqm\*
- ④ Nepean Hospital (Stages 1 & 2)  
14 stories & 9 stories:  
90,000sqm\*

\*all areas based on Gross Building Area

# Site investigations



①



②



③

TON REVIEW



# Site investigations

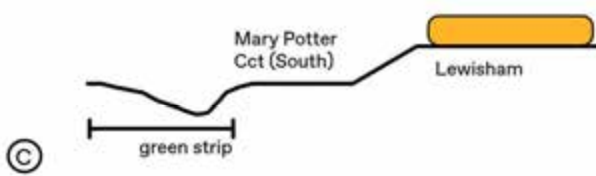
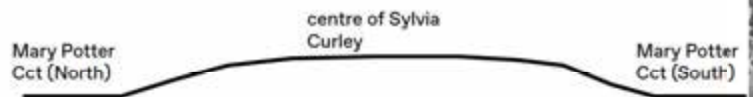


4



5





# Site investigations - topography

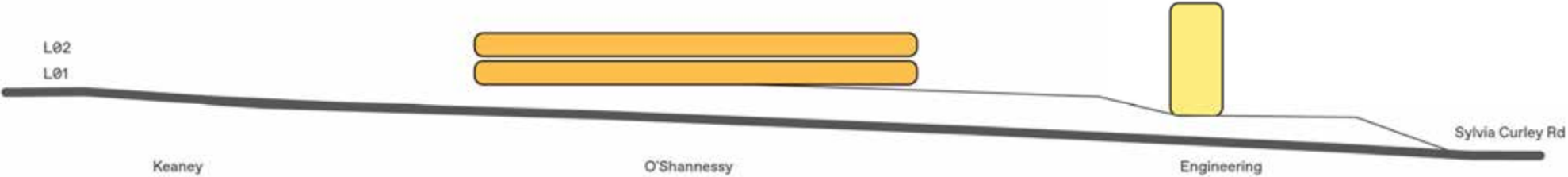


03.05.2024 NORTHSIDE HOSPITAL INFORMATION REVIEW

# Site investigations - topography



## Mary Potter Circuit (North)

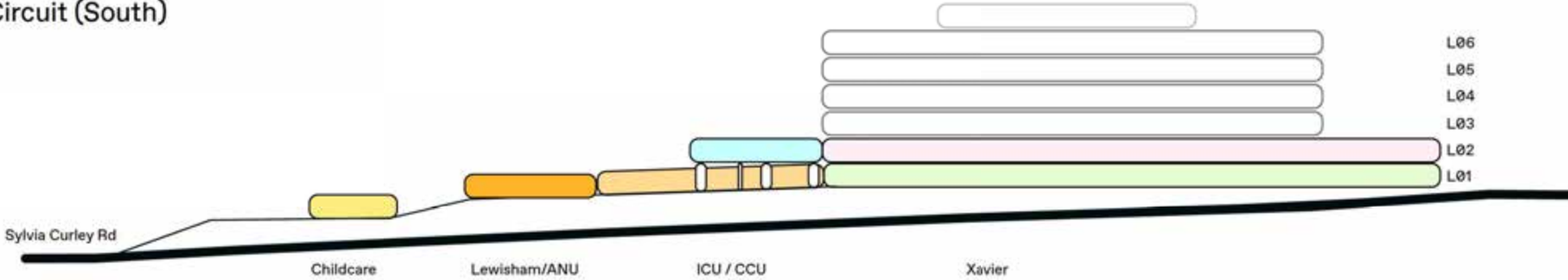


03.05.2024 NORTHSIDE HOSPITAL INFORMATION REVIEW

# Site investigations - topography



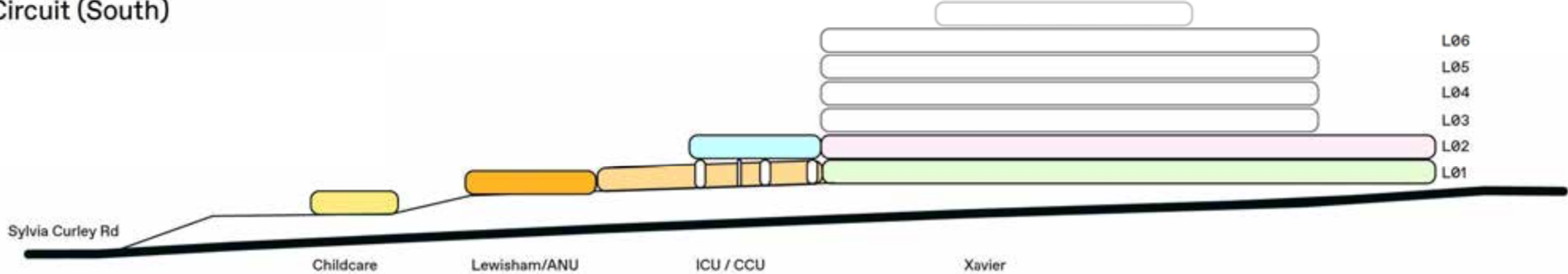
## Mary Potter Circuit (South)



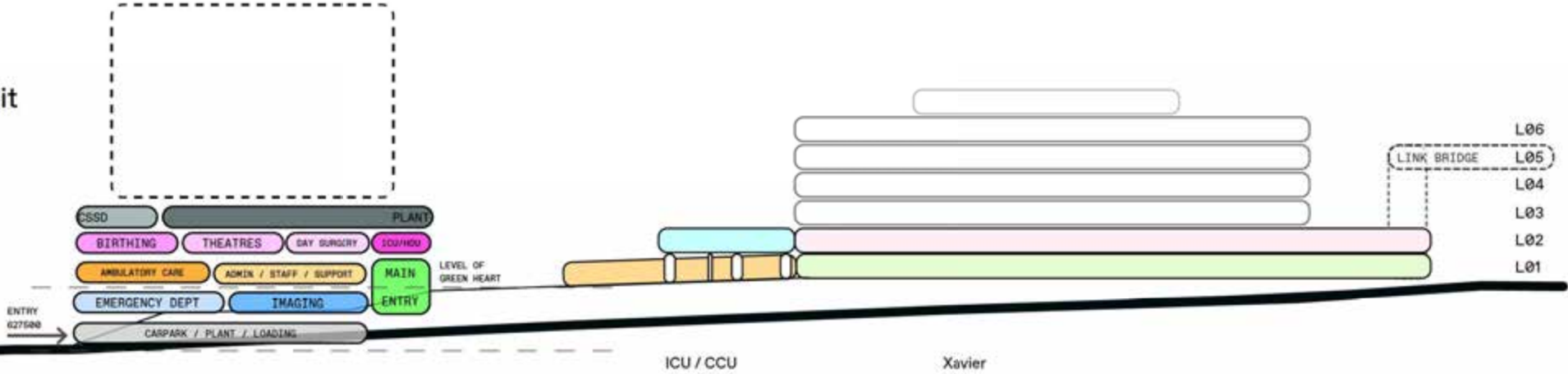
03.05.2024 NORTHSIDE HOSPITAL INFORMATION REVIEW

# Site investigations - topography

## Mary Potter Circuit (South)



## Mary Potter Circuit (South)

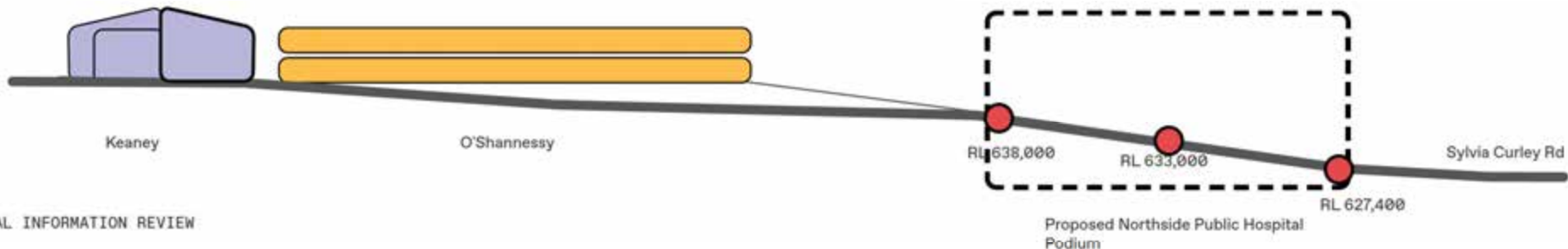


03.05.2024 NORTHSIDE HOSPITAL INFORMATION REVIEW

# Key levels and level strategies



→ Mary Potter Circuit (North)



# Key levels and level strategies



→ Mary Potter Circuit  
(South)

03.05.2024 NORTHSIDE HOSPITAL INFORMATION REVIEW



①



②

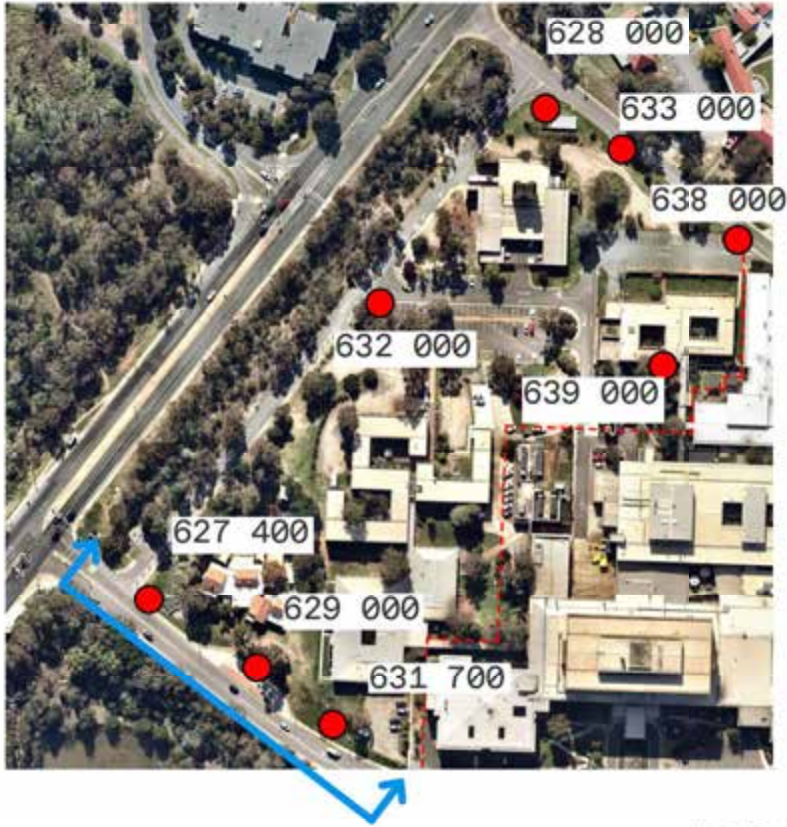


③

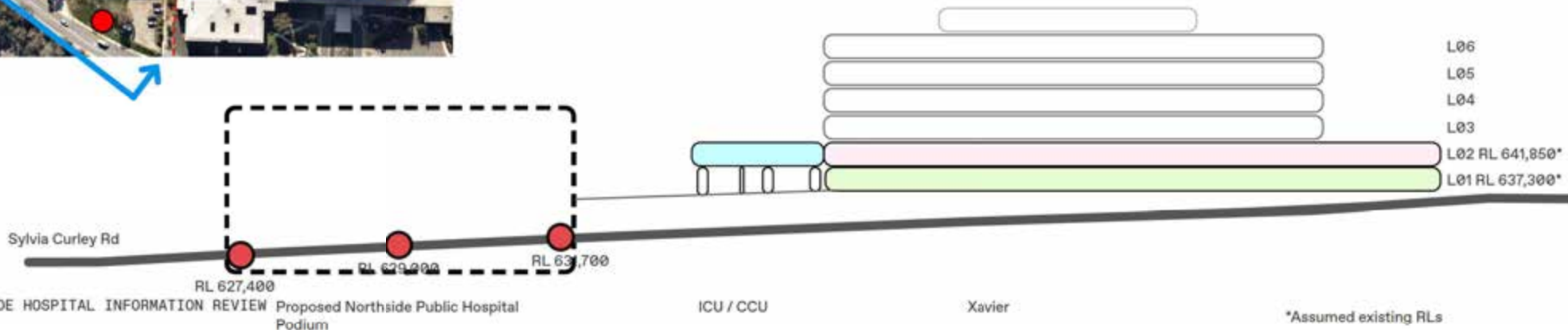


④

# Key levels and level strategies



→ Mary Potter Circuit (South)



03.05.2024 NORTHSIDE HOSPITAL INFORMATION REVIEW Proposed Northside Public Hospital Podium

ICU / CCU Xavier \*Assumed existing RLs

# Key levels and level strategies



→ Sylvia Curley Road



①



②



③

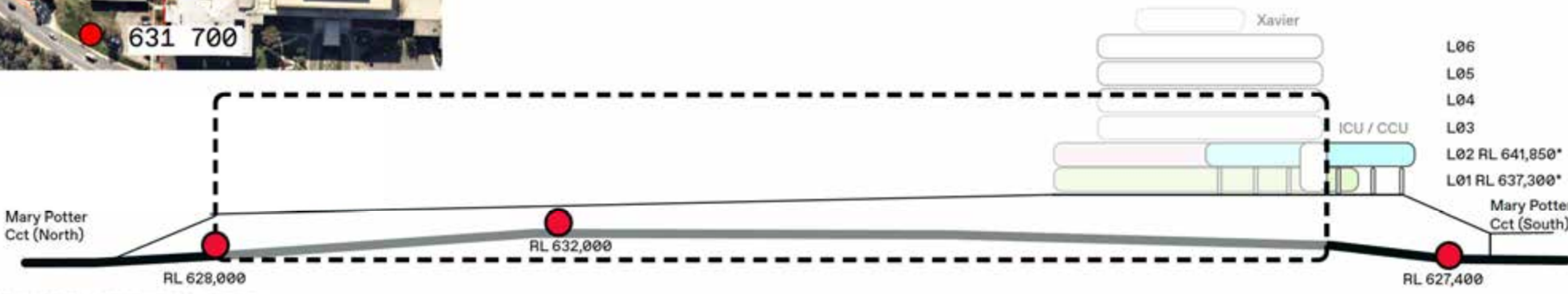


④

# Key levels and level strategies



→ Sylvia Curley Road



03.05.2024 NORTHSIDE HOSPITAL INFORMATION REVIEW

\*Assumed existing RLs

# Key levels and level strategies



→ Mary Potter Circuit  
(North)

03.05.2024 NORTHSIDE HOSPITAL INFORMATION REVIEW



①



②



③



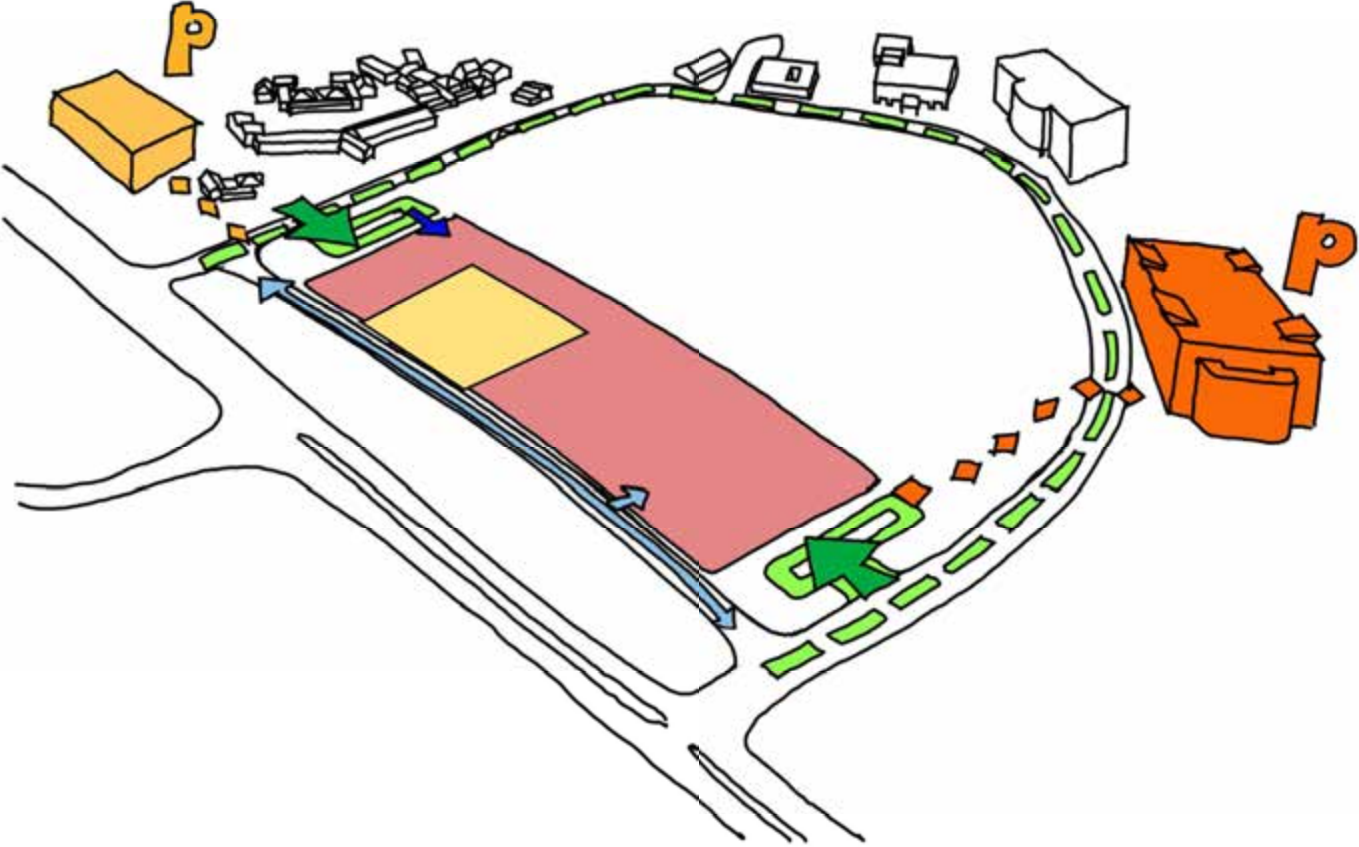
④

- Introduction
- Masterplan recap
- Project Brief and SoA
- Key levels and level strategies
- Site and access
- Podium options
- Mental Health options
- Childcare options

# Site and Access - Car park

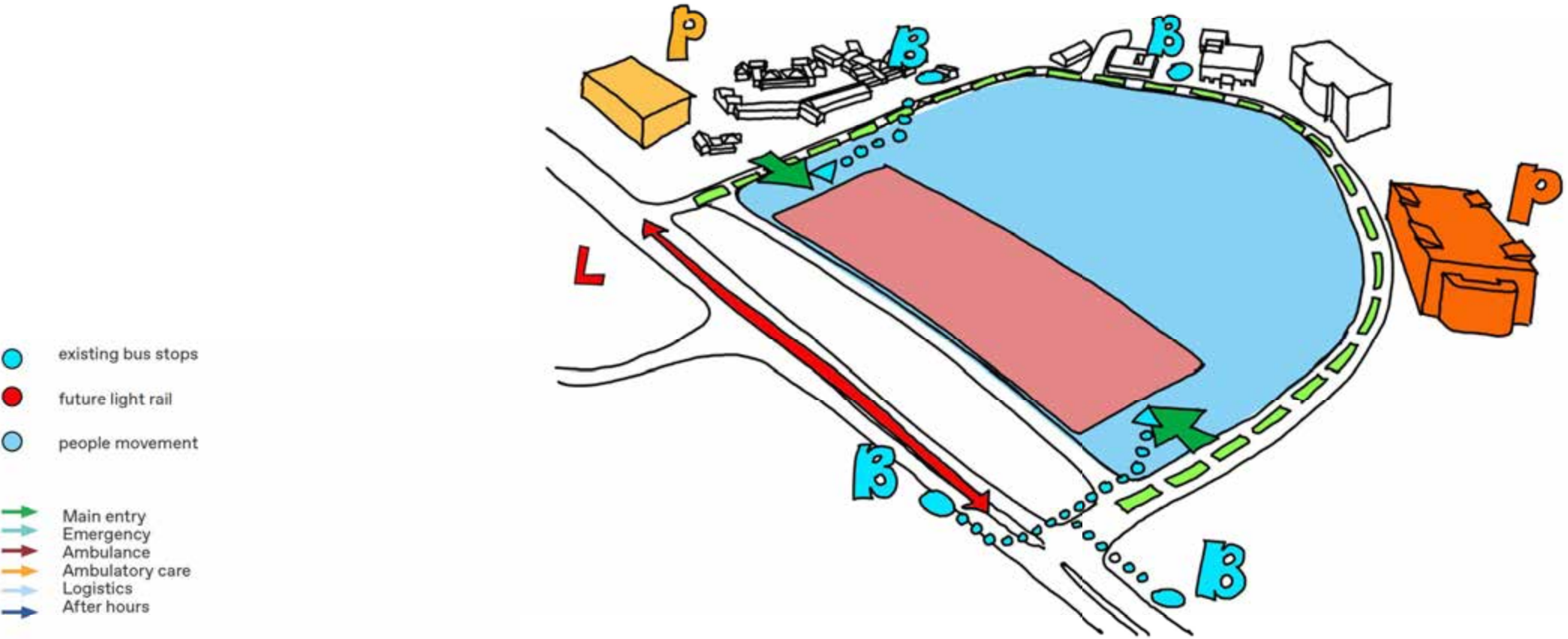
→ \*new car spaces  
400-1200 ?

- existing multi deck
- new multi deck\*
- basement / undercroft parking\*
  
- Main entry
- Emergency
- Ambulance
- Mental Health
- Ambulatory care
- Specialist departmental entry
- Logistics
- Maternity
- From Carpark
- After hours



03.05.2024 NORTHSIDE HOSPITAL INFORMATION REVIEW

# Public transport and people movement



# Hospital Street

→ a hospital street to connect entries from the north and south and activates the internal space and aids wayfinding

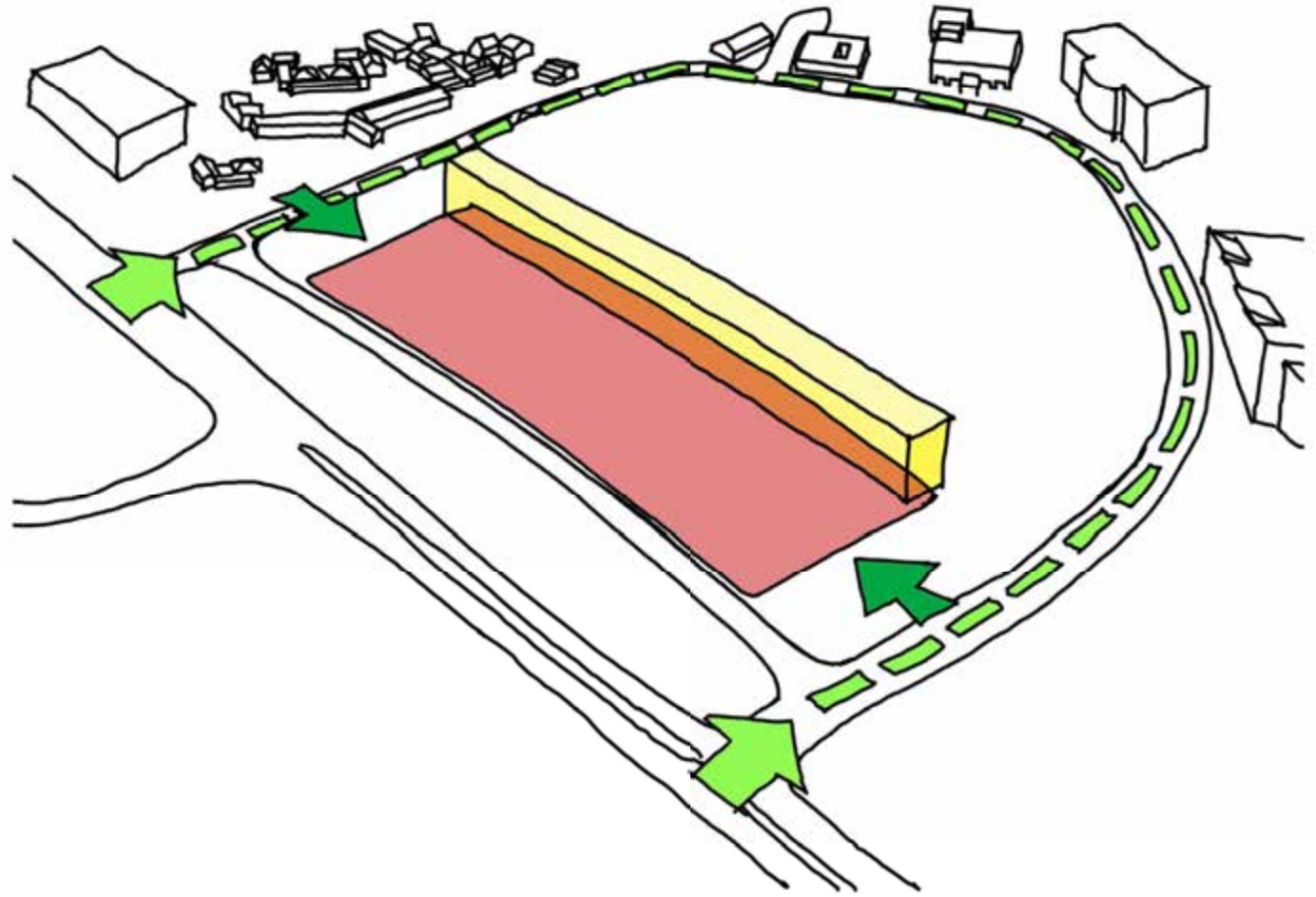
→ an element that connects and provide entry and outlook to the green heart and green spine

 hospital street



SUNSHINE COAST UNIVERSITY HOSPITAL PPP, BVN

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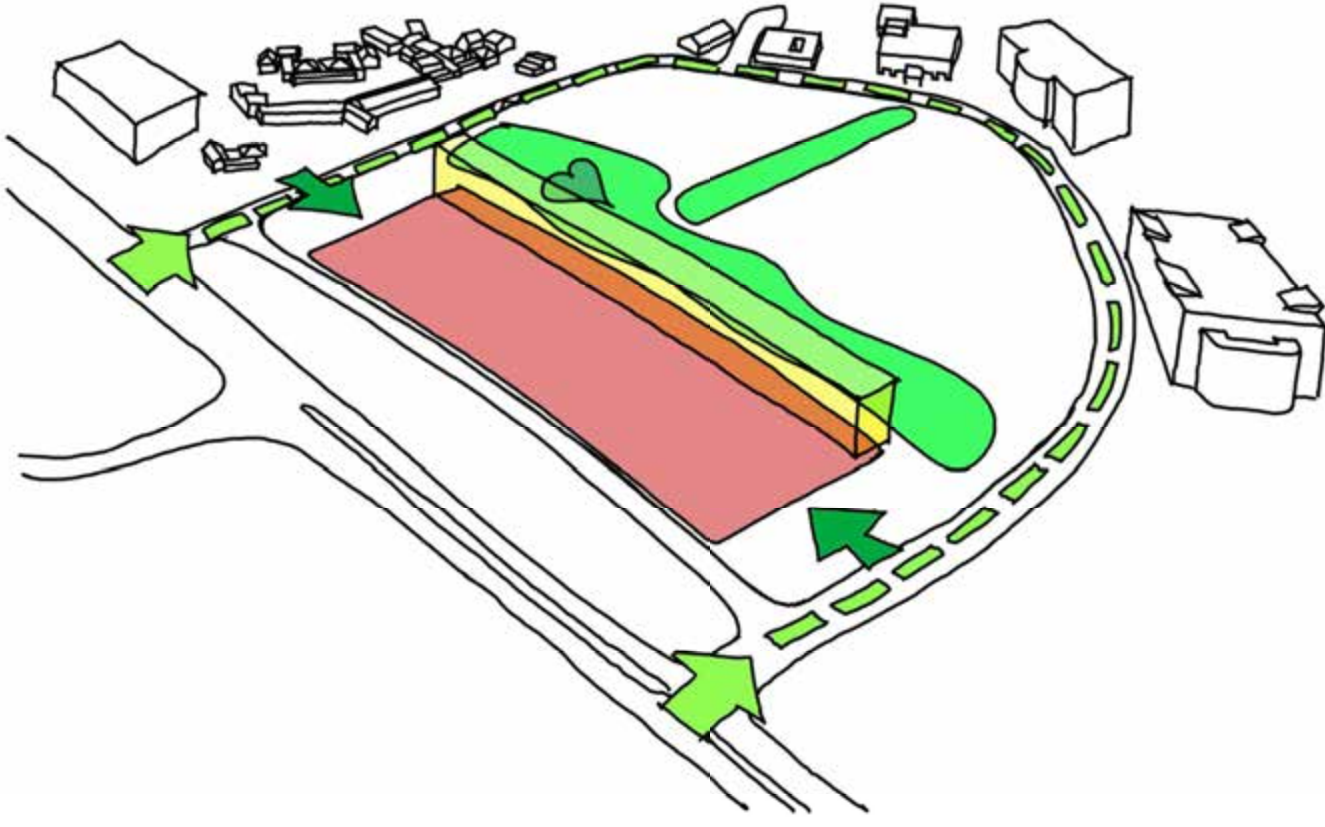
# Green Heart

→ activation of external public space

● Green heart and green spine



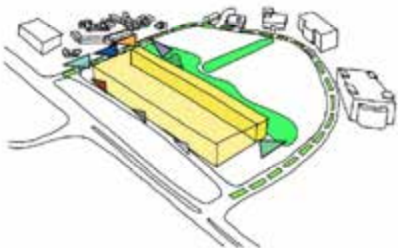
GREATER RANDWICK URBAN MASTER PLAN, BVN + TERROIR + KARRIS EN BRANDS  
03.05.2024 NORTHSIDE HOSPITAL INFORMATION REVIEW



- Introduction
- Masterplan recap
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- Mental Health options
- Childcare options

# Podium Options

Option 1



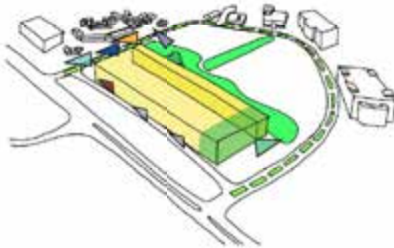
Option 2



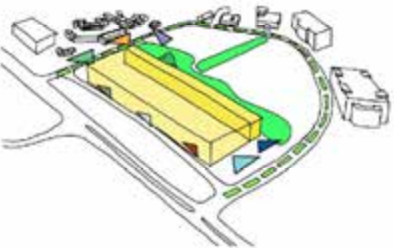
Option 3



Option 4



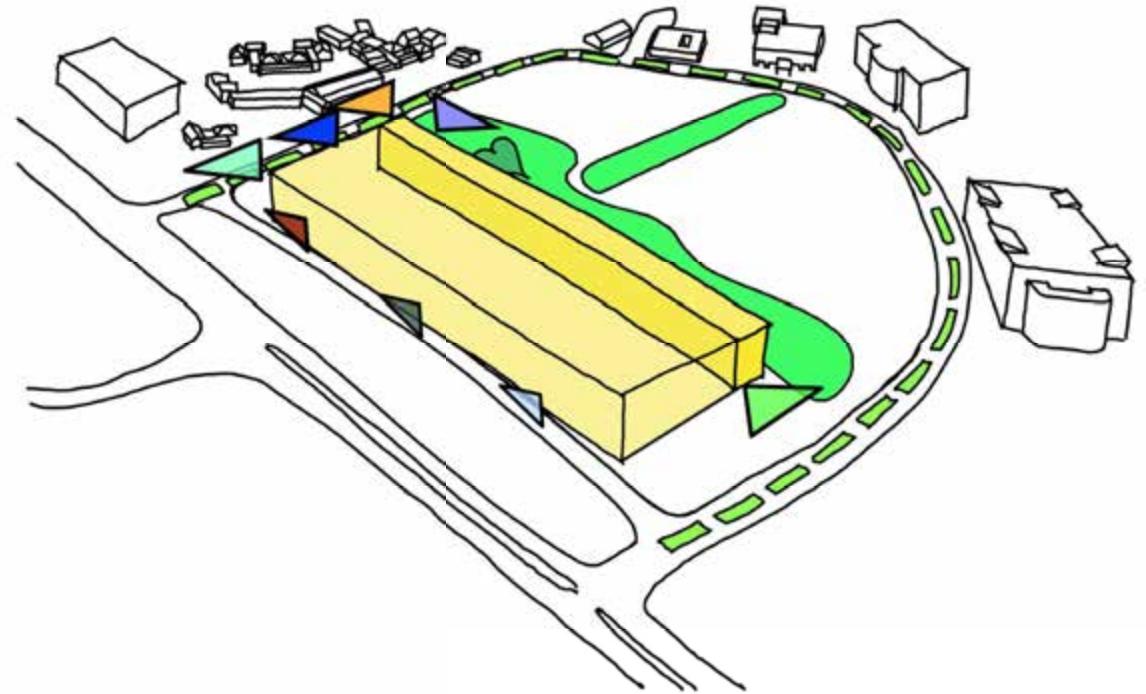
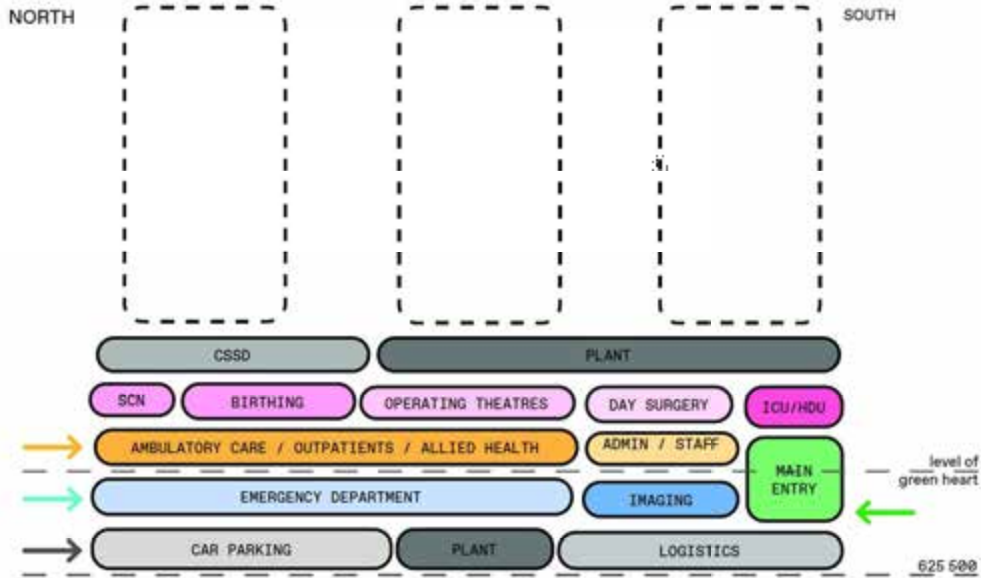
Option 5



# Podium Option 1

- Emergency and ambulatory care entries to the north
- Main entry to the south
- Emergency and imaging departments collocated
- Lower ground plant with available space for car parking
- Very busy north entry point

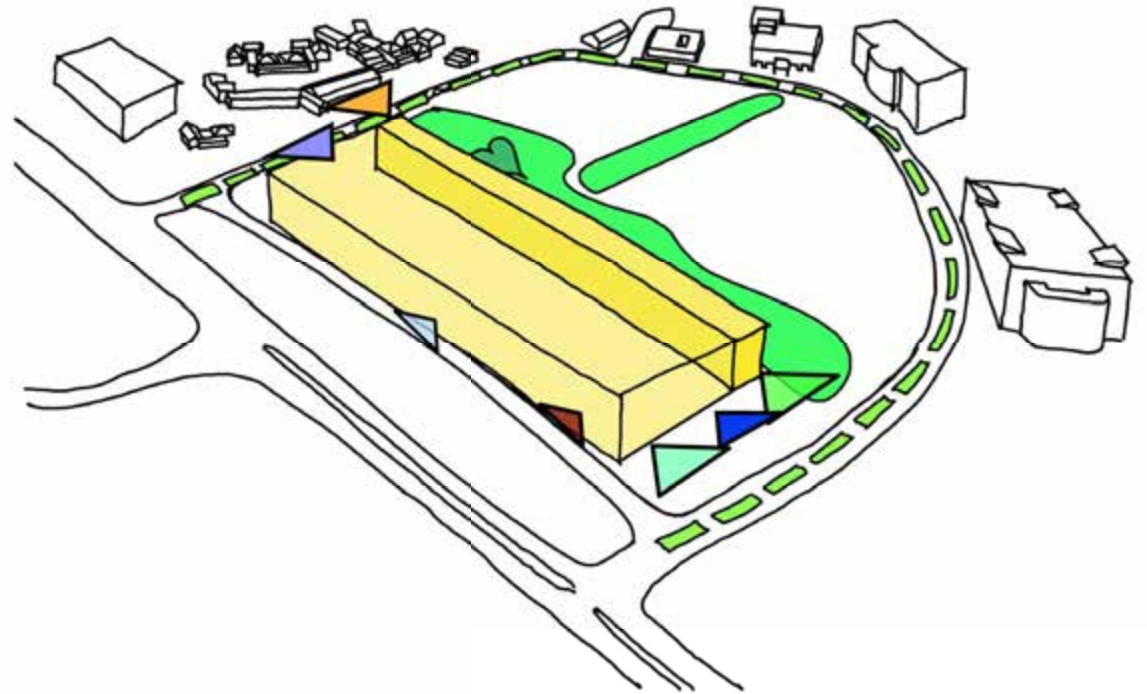
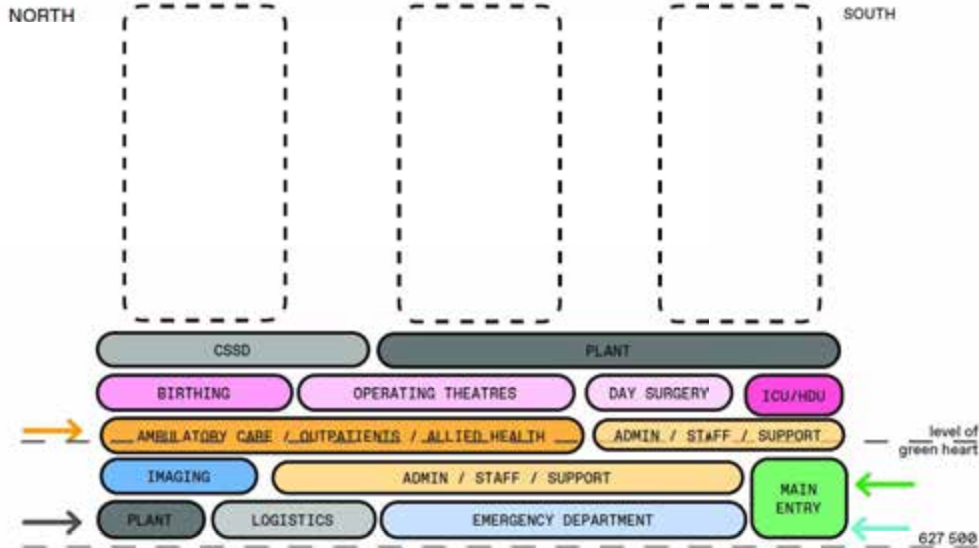
-  Main entry
-  Emergency
-  Ambulance
-  Ambulatory care
-  Logistics
-  After hours
-  Carpark access
-  Mental health



# Podium Option 2

- Emergency and main entries to the south
- Ambulatory care entry to the north
- Emergency and imaging split - ED to have satellite imaging
- Minimal lower ground plant with no space for available space for car parking
- Ability to create separate mental health entry

- Main entry
- Emergency
- Ambulance
- Ambulatory care
- Logistics
- After hours
- Carpark access
- Mental health

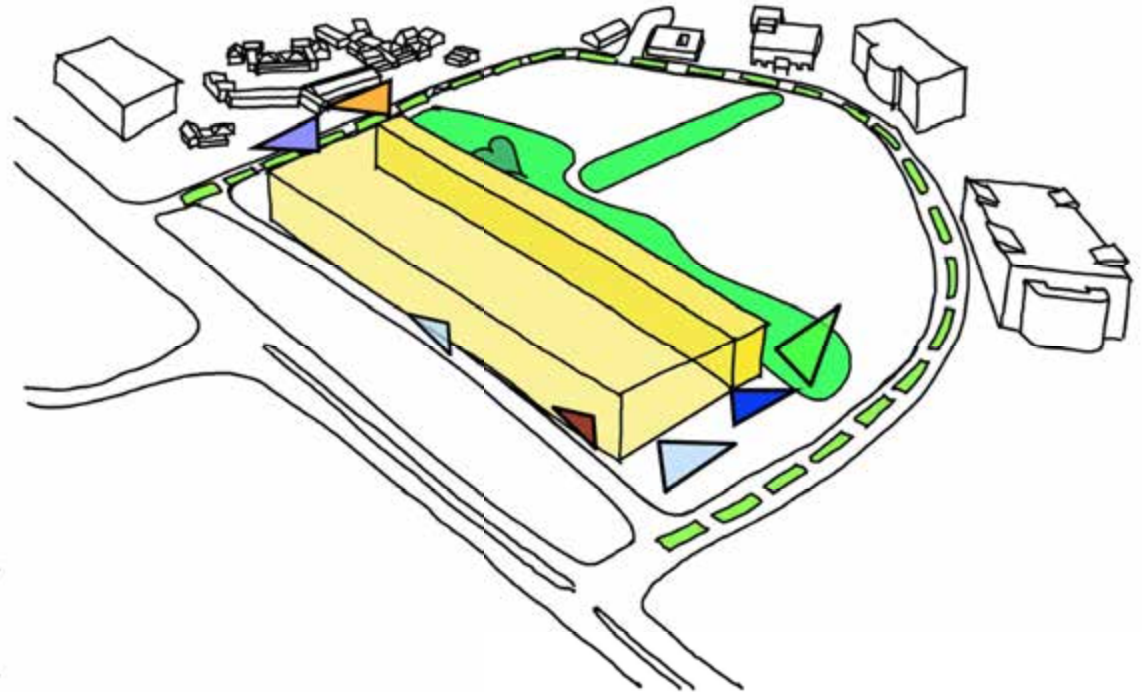
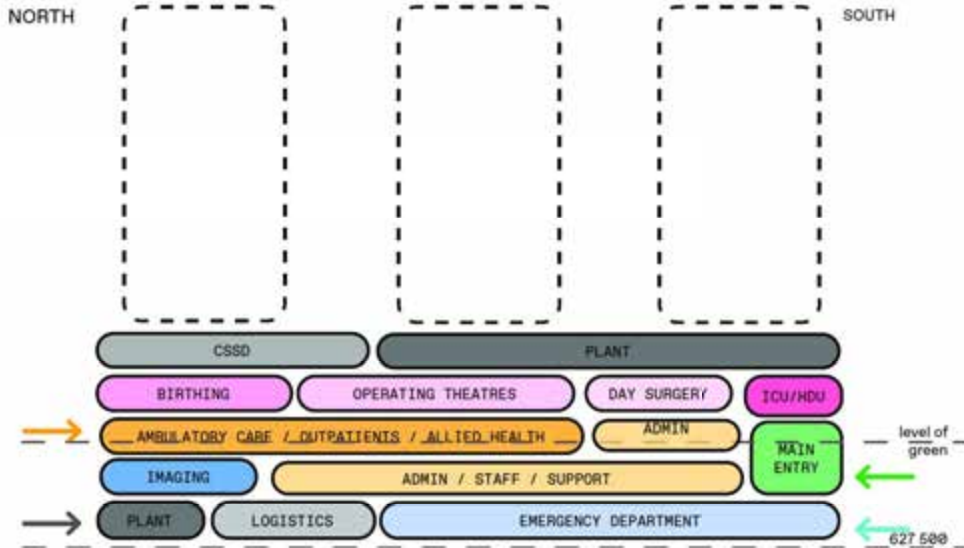


03.05.2024 NORTHSIDE HOSPITAL INFORMATION REVIEW

# Podium Option 3

- Emergency and main entries to the south BUT on different levels (main entry above ED)
- Ambulatory care entry to the north
- Emergency and imaging split - ED to have satellite imaging
- Minimal lower ground plant with no space for available space for car parking
- **Complex lift access to main entry from drop off**
- Ability to create separate mental health entry

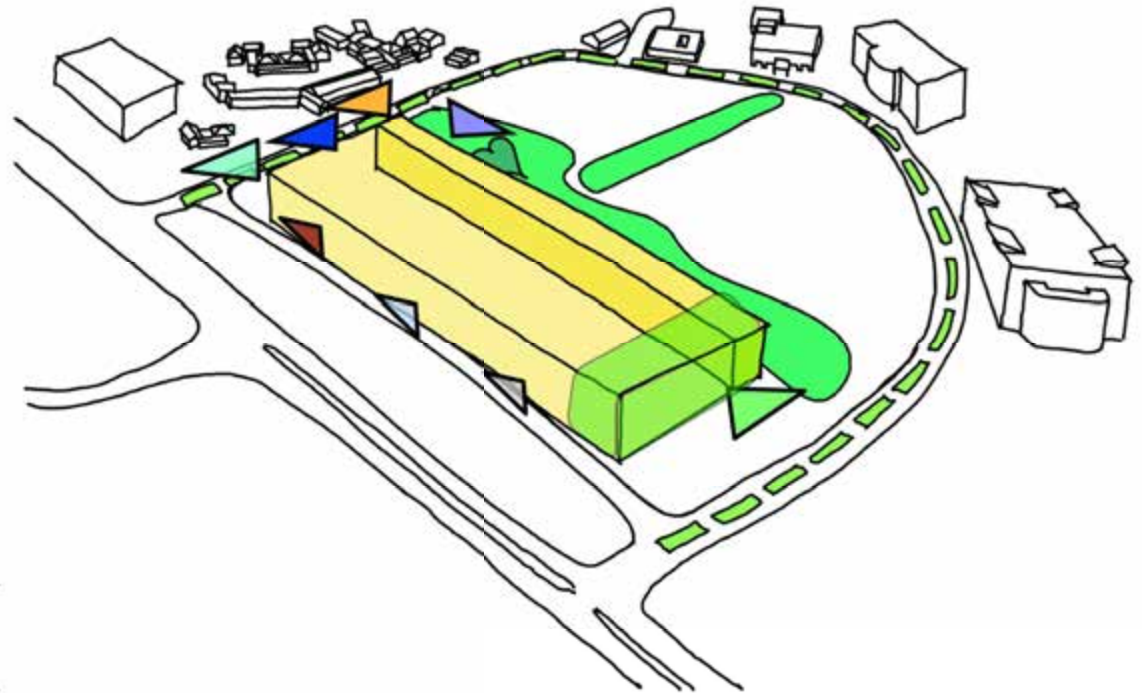
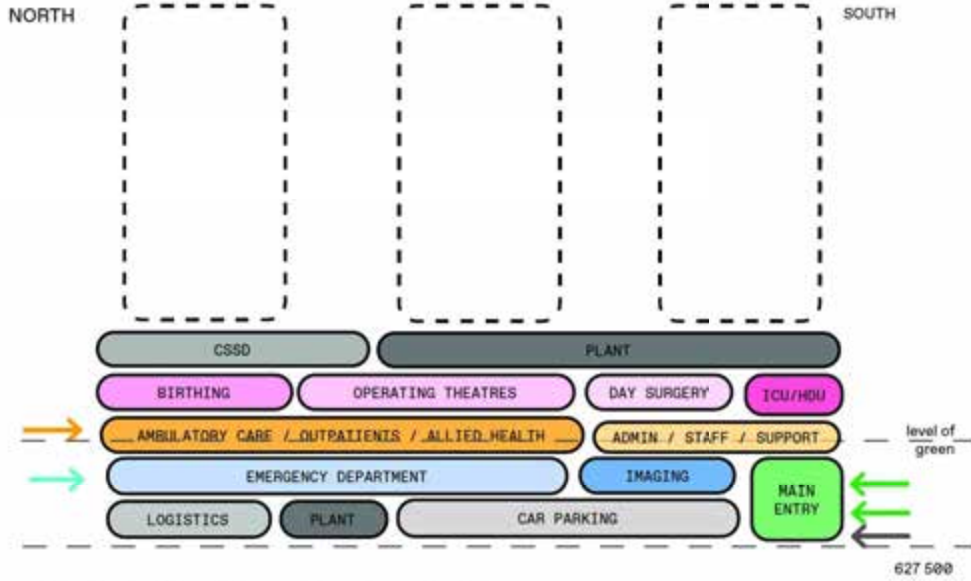
- Main entry
- Emergency
- Ambulance
- Ambulatory care
- Logistics
- After hours
- Carpark access
- Mental health



# Podium Option 4

- Main entry to the south - oversized area to maximise presence
- Emergency and Ambulatory care entries to the north
- Main entry to the south
- Emergency and imaging departments collocated
- Lower ground plant with available space for car parking
- Very busy north entry point

- Main entry
- Emergency
- Ambulance
- Ambulatory care
- Logistics
- After hours
- Carpark access
- Mental health

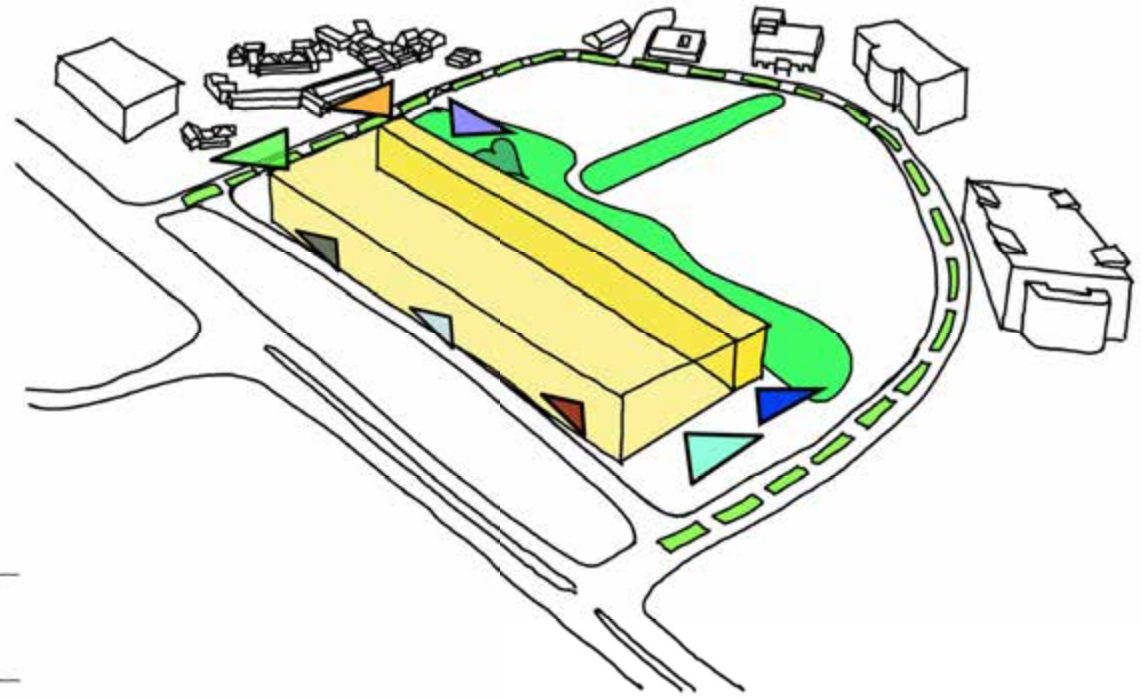
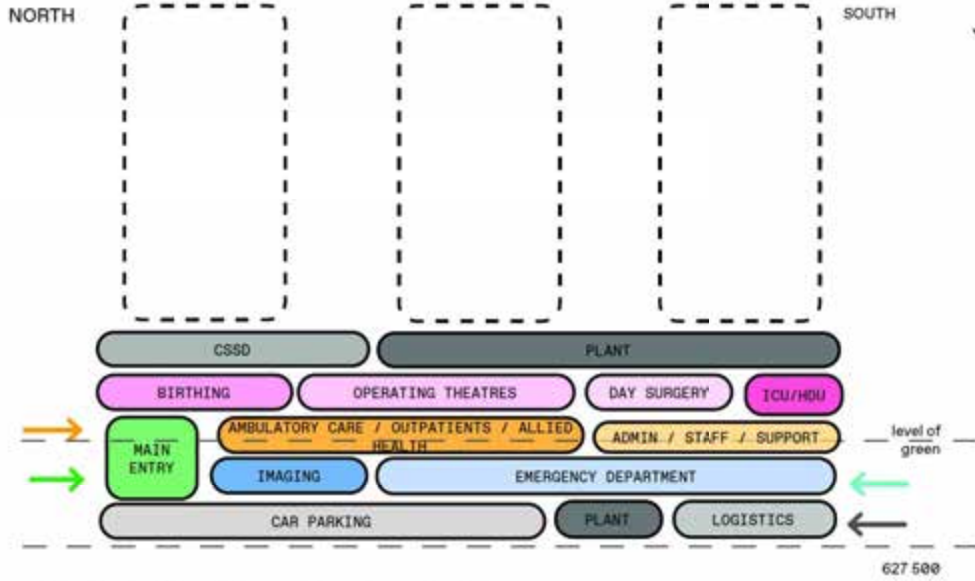


03.05.2024 NORTHSIDE HOSPITAL INFORMATION REVIEW

# Podium Option 5

- Main entry and ambulatory care entries to the north
- Emergency to the south
- Emergency and imaging departments collocated
- Lower ground plant with available space for car parking
- Ability to create separate mental health entry
- Challenges associated with relocating the existing main entry of the site to the north from a wayfinding perspective

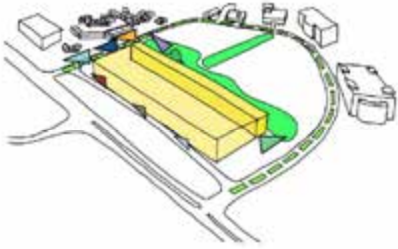
- Main entry
- Emergency
- Ambulance
- Ambulatory care
- Logistics
- After hours
- Carpark access
- Mental health



03.05.2024 NORTHSIDE HOSPITAL INFORMATION REVIEW

# Podium Options

Option 1



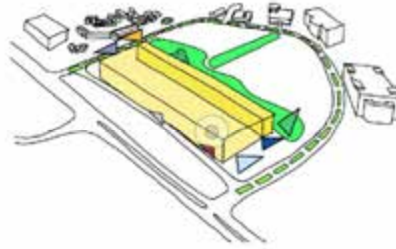
- Emergency and Ambulatory care entries to the north
- Main entry to the south
- Emergency and imaging departments collocated
- Lower ground plant with available space for car parking
- Very busy north entry point

Option 2



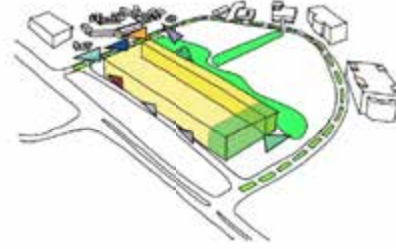
- Emergency and main entries to the south
- Ambulatory care entry to the north
- Emergency and imaging split - ED to have satellite imaging
- Minimal lower ground plant with no space for available space for car parking
- Ability to create separate mental health entry

Option 3



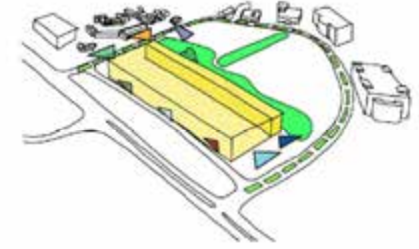
- Emergency and main entries to the south BUT on different levels (Main entry above ED)
- Ambulatory care entry to the north
- Emergency and imaging split - ED to have satellite imaging
- Minimal lower ground plant with no space for available space for car parking
- Complex lift access to main entry from drop off
- Ability to create separate

Option 4



- Main entry to the south - oversized area to maximise presence
- Emergency and ambulatory care entries to the north
- Main entry to the south
- Emergency and imaging departments collocated
- Lower ground plant with available space for car parking
- Very busy north entry point

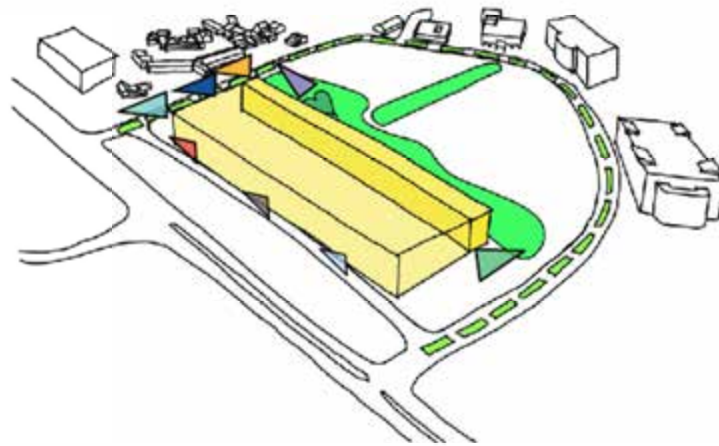
Option 5



- Main entry and ambulatory care entries to the north
- Emergency to the south
- Emergency and imaging departments collocated
- Lower ground plant with available space for car parking
- Ability to create separate mental health entry
- Challenges associated with relocating the existing main entry of the site to the north from a wayfinding perspective

# Podium options

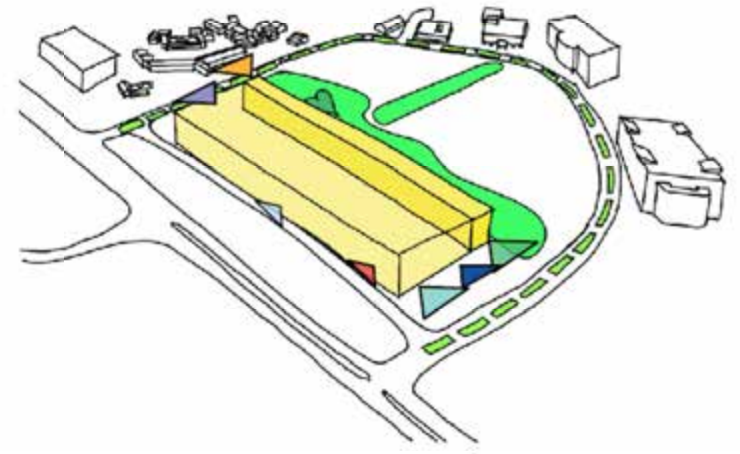
Option 1



- Emergency and ambulatory care entries to the north
- Main entry to the south
- Emergency and imaging departments collocated
- Lower ground plant with available space for car parking
- Very busy north entry point

- Main entry
- Emergency
- Ambulance
- Ambulatory care
- Logistics
- After hours
- Carpark access
- Mental health

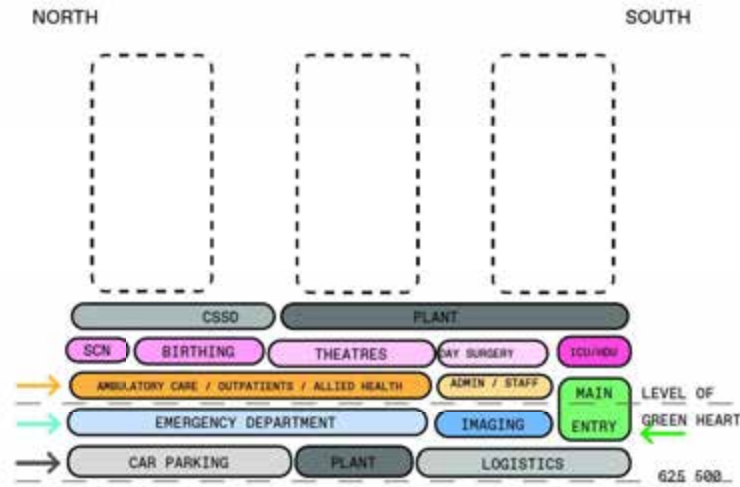
Option 2



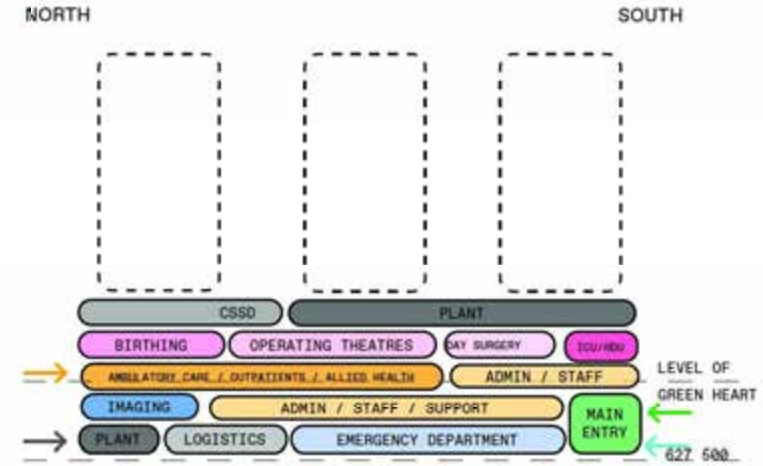
- Emergency and main entries to the south
- Ambulatory care entry to the north
- Emergency and imaging split - ED to have satellite imaging
- Minimal lower ground plant with no space for available space for car parking
- Ability to create separate mental health entry

# Podium options

Option 1



Option 2



## BLOCK AND STACK

03.05.2024 NORTHSIDE HOSPITAL INFORMATION REVIEW

- Introduction
- Masterplan recap
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- Childcare options

# Childcare Location

C1

## Constraints

- Kiosk substation
- Overhead cables
- Topography dips down
- Swamp
- Traffic noise from Belconnen Way

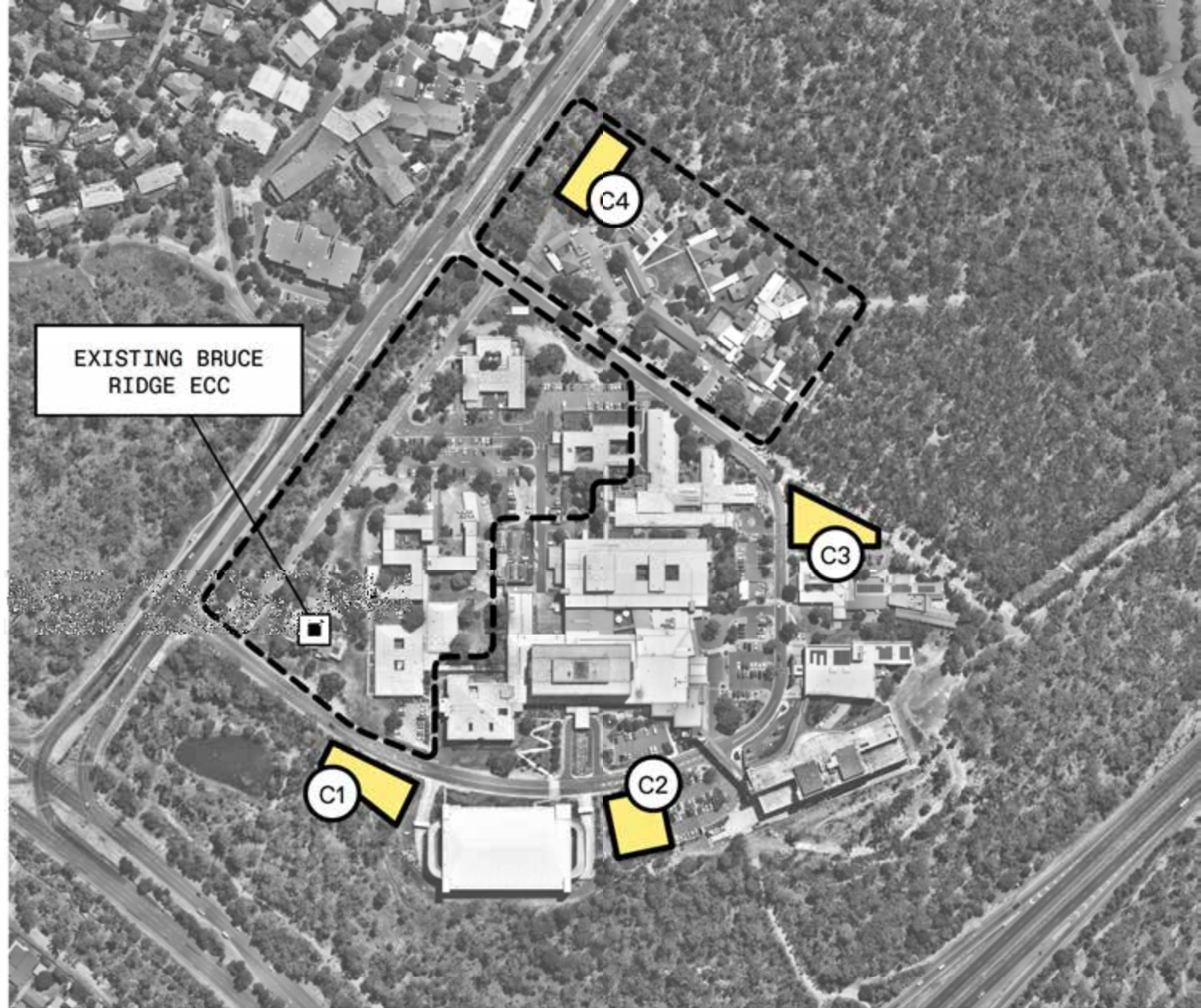
C3

## Opportunities

- Existing looped drop off available
- Quiet location
- Bushland setting, close to nature

## Constraints

- Requires relocation of Rotary Cottage



1D-STAND ALONE MH, REDUCED SIZE

1C-SINGLE HOSPITAL BUILDING

1A-STAND ALONE MH

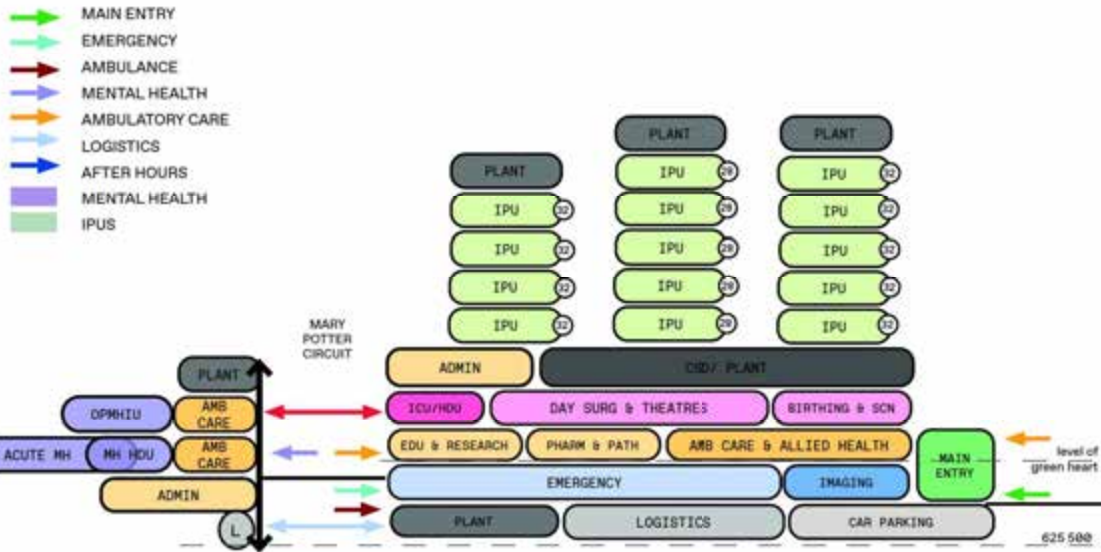
Level Type	Level of Use	North Side Hospital Planning Area 2021								West Side Hospital Planning Area 2021								Workstation	Area Code	Option 1A - Stand Alone Hospital Building in Single Stage 1A					Option 1B - Stand Alone Hospital Building in Single Stage 1B		Option 1C - Single Hospital Building in Single Stage 1C																																												
		Option 1 - Stand Alone Hospital Building in Single Stage 1A		Option 2 - Stand Alone Hospital Building in Single Stage 2A		Option 3 - Stand Alone Hospital Building in Single Stage 3A		Option 4 - Stand Alone Hospital Building in Single Stage 4A		Option 5 - Stand Alone Hospital Building in Single Stage 5A		Option 6 - Stand Alone Hospital Building in Single Stage 6A		Option 7 - Stand Alone Hospital Building in Single Stage 7A		Option 8 - Stand Alone Hospital Building in Single Stage 8A				Option 9 - Stand Alone Hospital Building in Single Stage 9A		Option 10 - Stand Alone Hospital Building in Single Stage 10A		Option 11 - Stand Alone Hospital Building in Single Stage 11A		Option 12 - Stand Alone Hospital Building in Single Stage 12A		Option 13 - Stand Alone Hospital Building in Single Stage 13A		Option 14 - Stand Alone Hospital Building in Single Stage 14A		Option 15 - Stand Alone Hospital Building in Single Stage 15A																																							
		2021A1	2021A2	2021A3	2021A4	2021A5	2021A6	2021A7	2021A8	2021A9	2021A10	2021A11	2021A12	2021A13	2021A14	2021A15	2021A16			2021A17	2021A18	2021A19	2021A20	2021A21	2021A22	2021A23	2021A24	2021A25	2021A26	2021A27	2021A28	2021A29	2021A30	2021A31	2021A32	2021A33	2021A34	2021A35	2021A36	2021A37	2021A38	2021A39	2021A40																												
Building Foot	Medical Dept	30	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
Medical Dept	Medical Dept	30	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
Medical Dept	Medical Dept	30	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100

# Mental Health option - 1d

**1D-STAND ALONE MH,  
REDUCED SIZE**

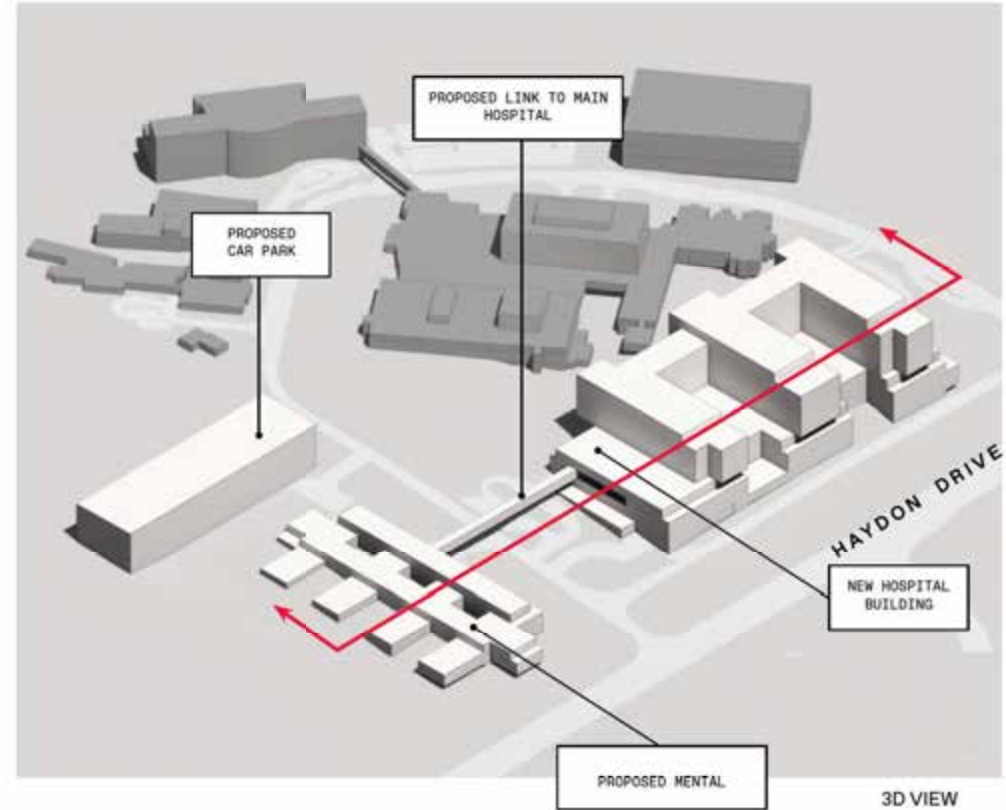
The selected mental health option has the following considerations;

- Stand alone mental health building positioned to the south eastern area of the northern block site.
- Multi-deck car park located to the north west within the APZ.
- Mental health bedrooms across 2 floors.
- Logistics link under Mary Potter Circuit from the main building to Mental health.
- Staff and patient link from the main hospital on theatre level.
- Main hospital to have a 3 finger IPU stack reducing the overall height of the building.



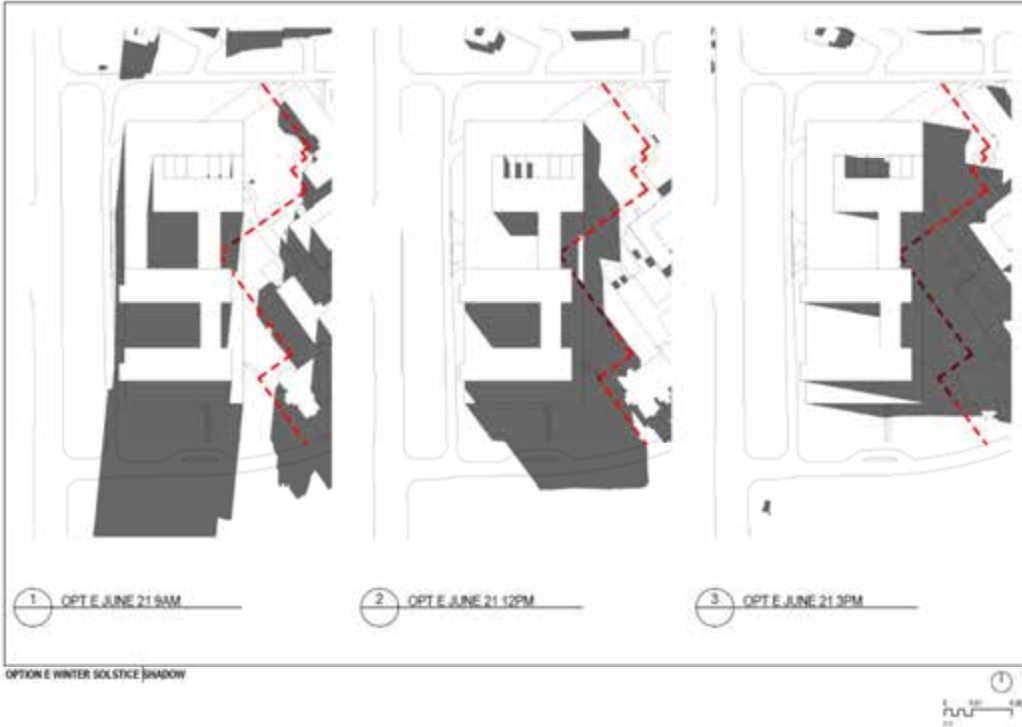
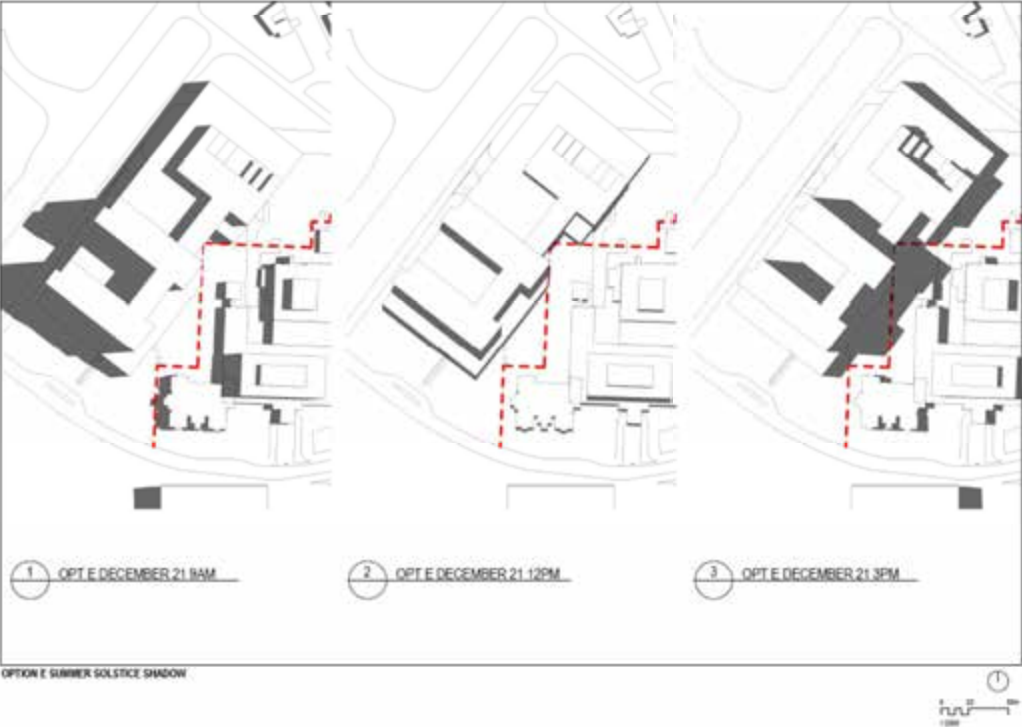
BLOCK AND STACK

10.05.2024 NORTHSIDE HOSPITAL INFORMATION REVIEW



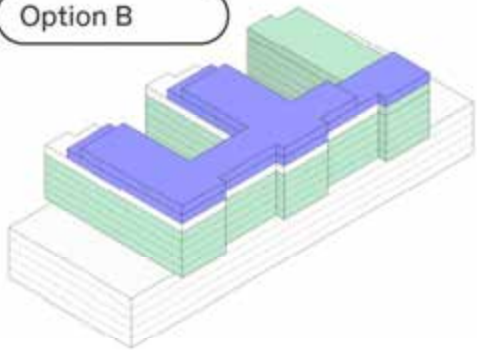


# Sun shadow diagram

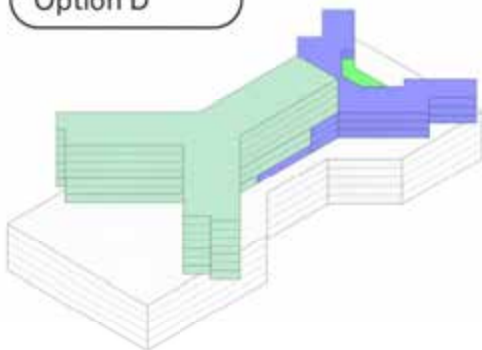


# Explorations leading to Option 1c

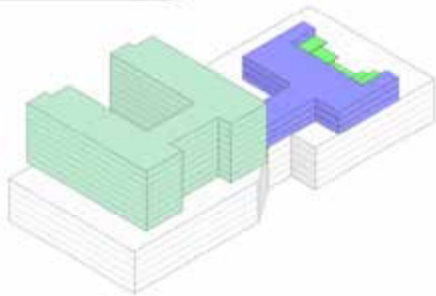
Option B



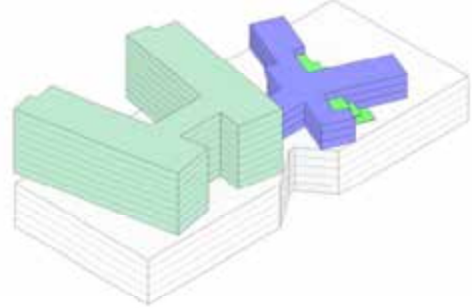
Option D



Option E



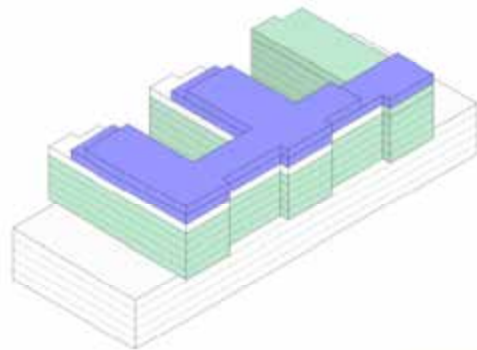
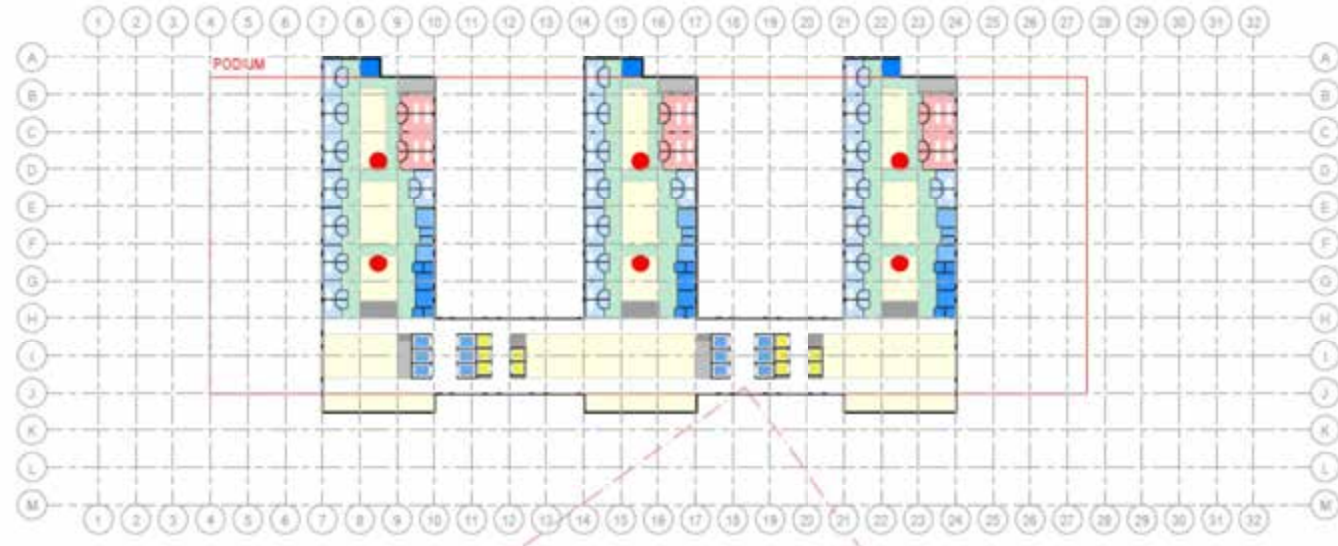
Option F



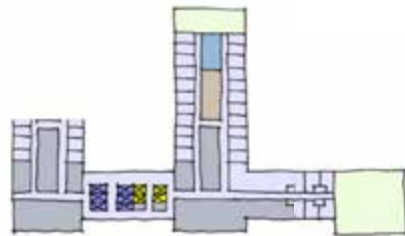
# Option B

This option has the following considerations;

- Stand alone complete hospital including mental health.
- Mental health bedrooms on top levels to provide required courtyards.
- Separate mental health core linking to logistics, secure entry, ED, ambulatory and visitor entry.
- Maximises natural light and views to all bedrooms.
- Reduces overall height of the building.
- Preference by stakeholders to have mental health on lower levels in a more purpose built configuration.



1. RV. TO Level 06, RVU OPTION B, 1



- LEVEL 1
- BEDS
  - COMMUNAL SPACES / LOUNGE
  - STAFF STATION
  - SUPPORT
  - COURTYARD



LEVEL 2

Option B



BLOCK AND STACK 1

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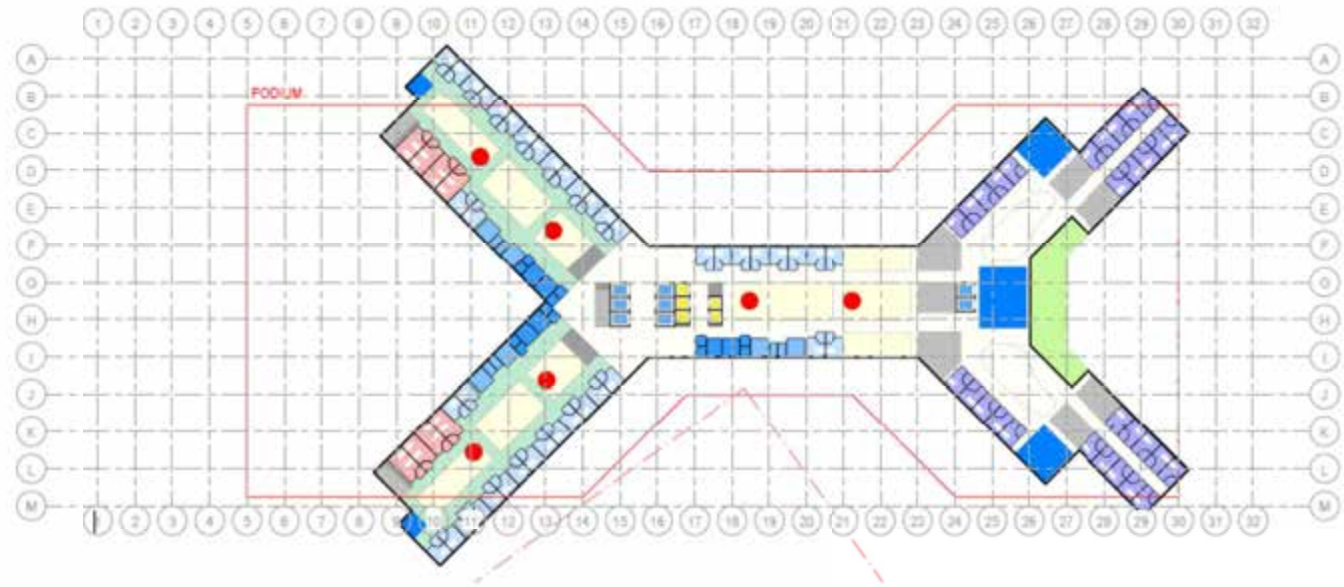


BLOCK AND STACK 2

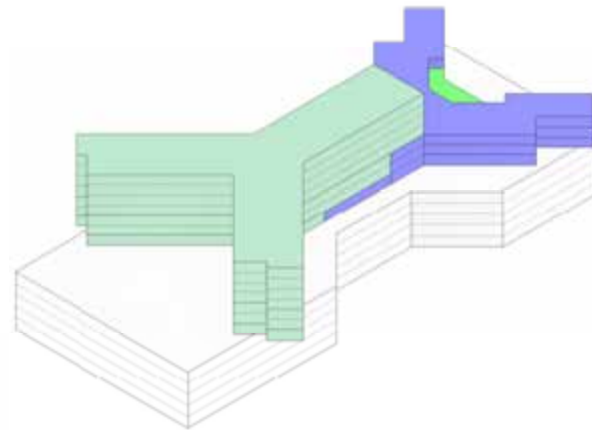
# Option D

This option has the following considerations;

- Stand alone complete hospital including mental health.
- Mental health bedrooms positioned in a separated wing within the main hospital building.
- Separate mental health core linking to logistics, secure entry, ED, ambulatory and visitor entry.
- Good natural lights and views to all bedrooms.
- Private courtyards to MH with northerly aspect.
- Increases overall height of the building.
- Extremely efficient circulation areas.
- Back of house and front of house cross flows to IPU's crossed.
- Costly option as it requires a transfer between the IPU's and the podium.



1 WY 20 Level 04 IPU OPTION D



INPATIENT UNITS  
MENTAL HEALTH

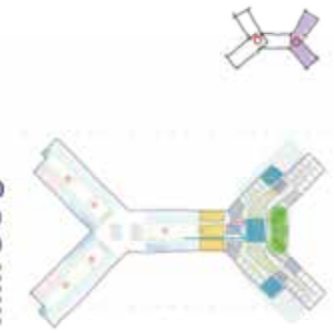
10.05.2024 NORTHSIDE HOSPITAL INFORMATION REVIEW

Option D - discussion



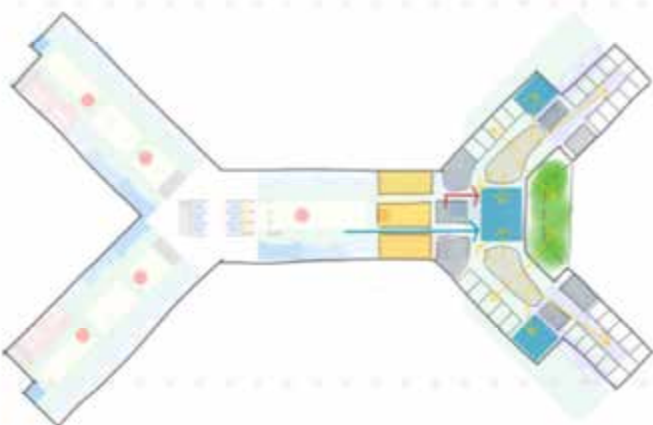
BLOCK AND STAIR

BY AN 002 WITH PROPOSED NOTING

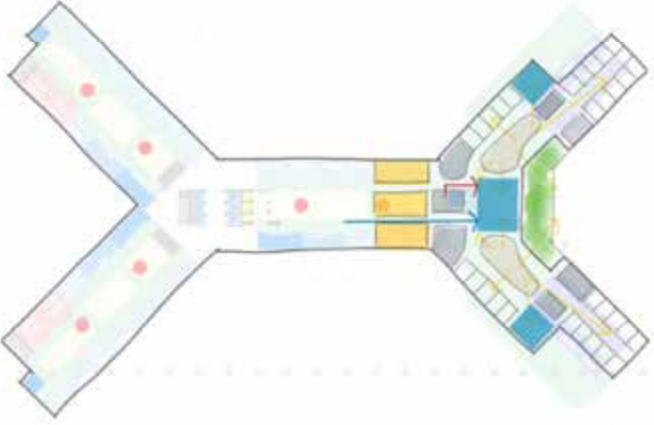


TYPICAL FLOOR

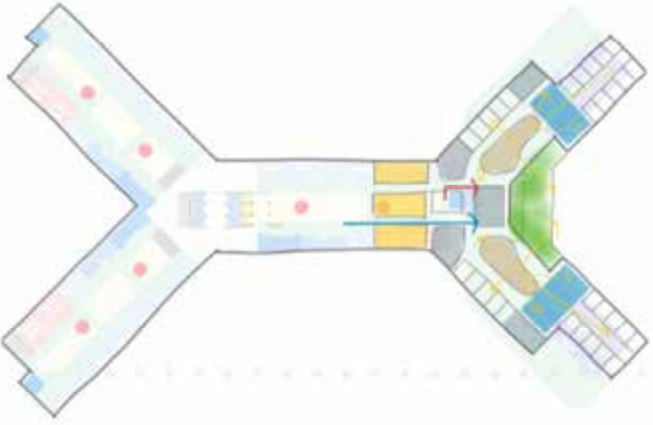
# Option D



LEVEL 1



LEVEL 2



LEVEL 3

- BEDS
- COMMUNAL SPACES / LOUNGE
- STAFF STATION
- SUPPORT
- COURTYARD
- ADMIN / STAFF AREAS

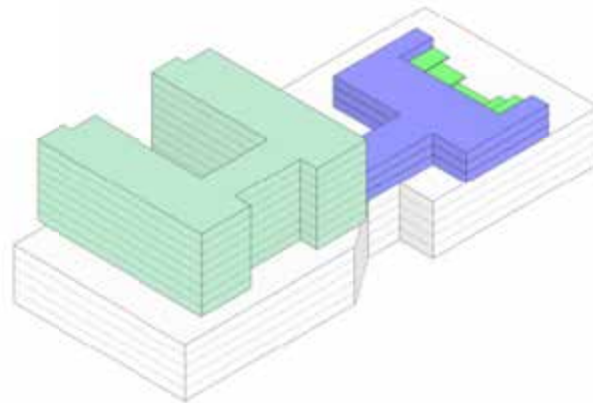
# Option E

This option has the following considerations;

- Stand alone complete hospital including mental health.
- Mental health bedrooms positioned in a separated wing within the main hospital building.
- Separate mental health core linking to logistics, secure entry, ED, ambulatory and visitor entry.
- Good natural lights and views to all bedrooms.
- Private courtyards to MH with northerly aspect.
- Increases overall height of the building.
- Back of house and front of house flows separated.



1. W/ TOWER OPTION E



INPATIENT UNITS  
MENTAL HEALTH

10.05.2024 NORTHSIDE HOSPITAL INFORMATION REVIEW

Option E



BLOCK AND STAGE

BY ALL AREAS WITH FINISHED FLOORS

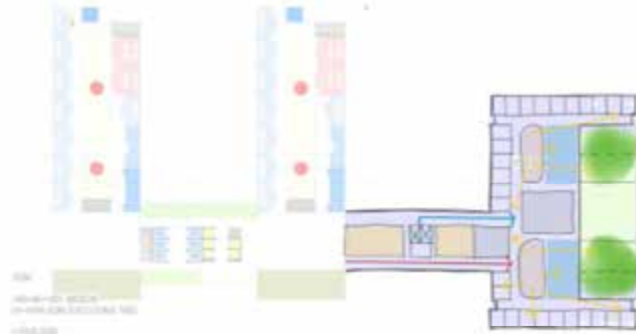


# Option E

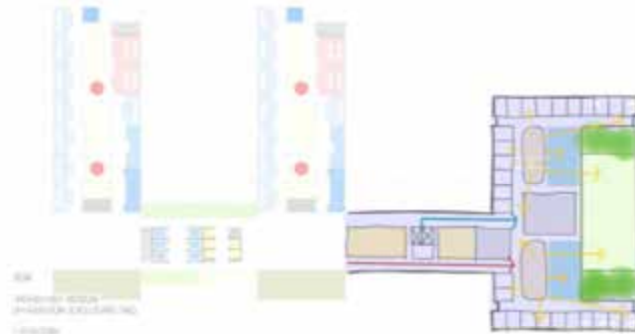


LEVEL 1

- BEDS
- COMMUNAL SPACES / LOUNGE
- STAFF STATION
- SUPPORT
- COURTYARD
- ADMIN / STAFF AREAS



LEVEL 2



LEVEL 3

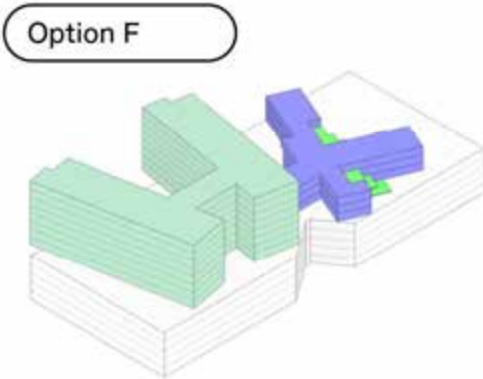
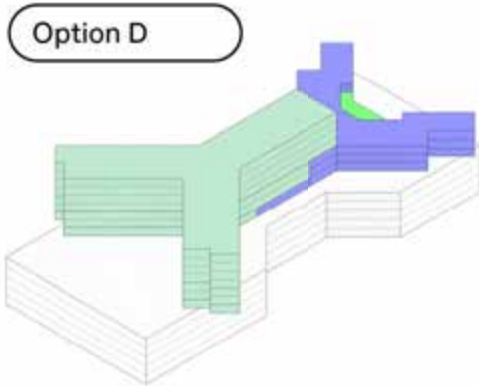
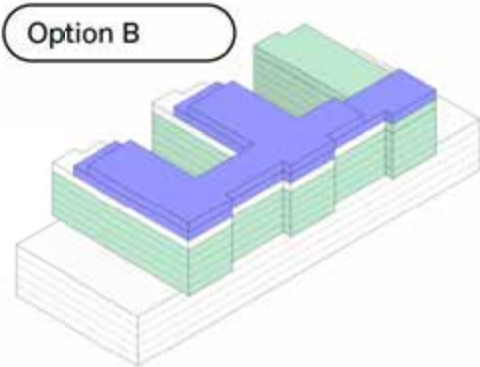
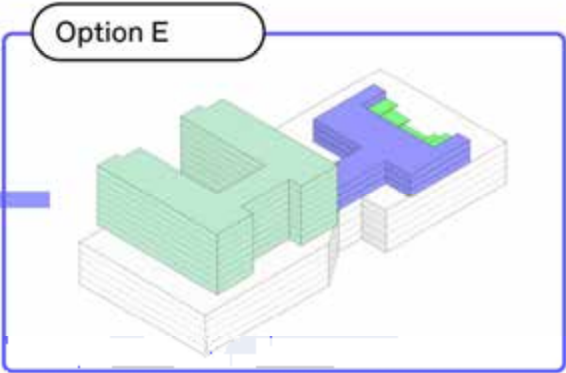
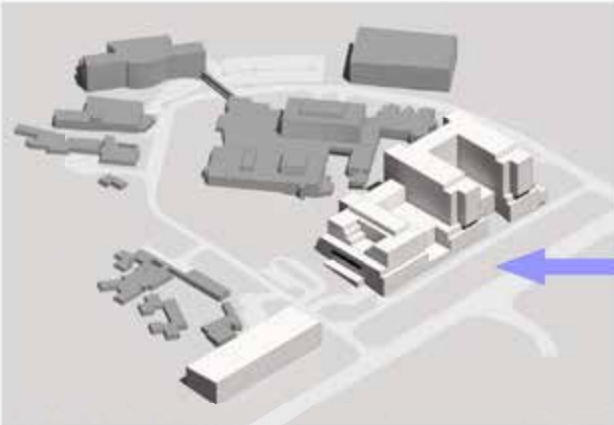


# Mental Health option studies

1D-STAND ALONE MH,  
REDUCED SIZE



1C-SINGLE HOSPITAL  
BUILDING



INPATIENT UNITS  
MENTAL HEALTH

# Campbelltown Hospital

**Mental Health within main hospital building.**

**6x stories**

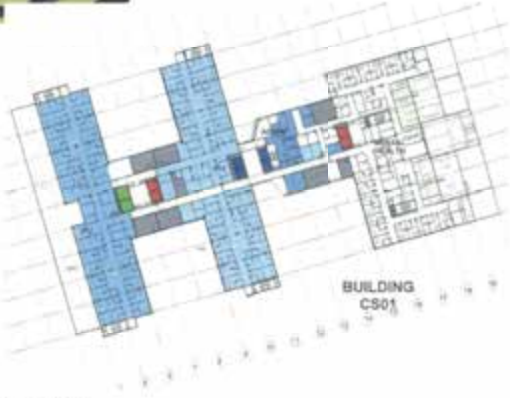
OPMH, ICU, adult acute, secure & rehabilitation unit, HDU, young adult and adolescent unit.



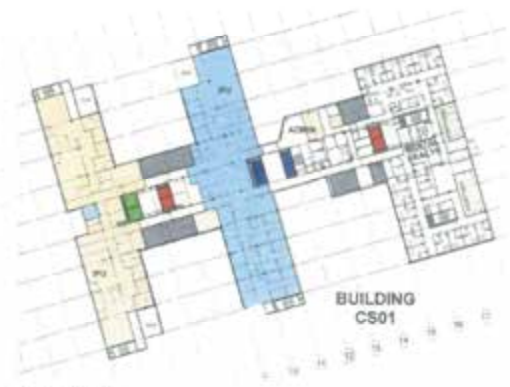
PODIUM - ENTRY LEVEL  
10.05.2024 NORTHSIDE HOSPITAL INFORMATION REVIEW



IPU LEVELS



IPU LEVELS



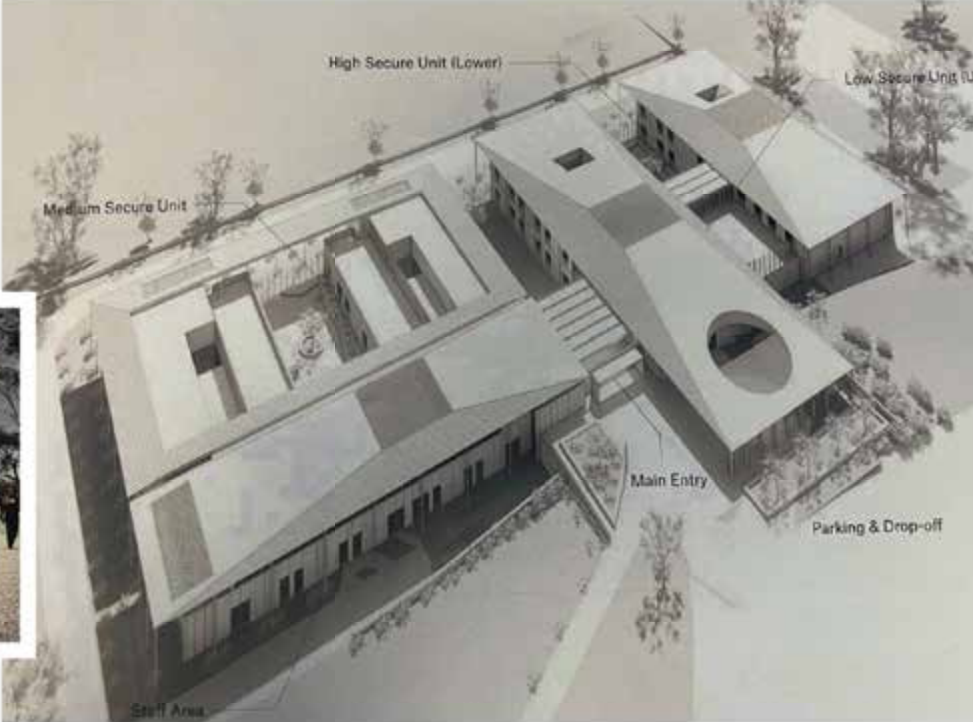
IPU LEVELS

# Project X

**Stand alone Mental Health building.**

**2x stories**

Forensic Unit, High, Medium and Low Secure Unit, High support unit.



**al Planning**  
Ground Level Plan



10.05.2024 NORTHSIDE HOSPITAL INFORMATION REVIEW

# Marie Bashir - RPA

Stand alone Mental Health building.  
3x stories  
Forensic Unit, High, Medium and Low Secure Unit, High support unit.



PODIUM - ENTRY LEVEL



IPU LEVELS

# Westmead Hospital

Stand alone mental health building - multi storey.

10x stories

Adult acute, adolescent unit, OPMH, eating disorders, ICU, HDU, sub and non-acute, ambulatory and outpatient services.



TYPICAL IPU LEVEL  
10.05.2024 NORTHSIDE HOSPITAL INFORMATION REVIEW





# E.1 Masterplan Workshop Slides

Workshop 3 - 17.05.2024

## Agenda:

- MPC Update
- Traffic Update
- Campus Options

## Agenda:

- MPC Update
- Traffic Update
- Campus Options

# Northside Hospital Project

# Workshop 3 - Campus Options

17.05.24



# Option C1 - Refurbished MH

## OPPORTUNITIES

- Existing Ring Road operational throughout construction
- Larger footprint available for Main Building
- Mental Health outlook & natural light
- Clear separation of entries
- ASB maintains connections to existing and future buildings
- ASB public entry DDA compliant
- Green buffer to parts of ASB
- Maintains Sylvia Curley road
- Separates logistics from pedestrian/ main entries
- Maintains existing Secure MH Unit
- Allows for relocation of child care
- Re-uses existing buildings - good for the planet.

## CONSTRAINTS

- Limits future development of green heart
- Requires Staging of Mental Health
- Limited public presence to Haydon Drive
- Removal of significant trees to build car park
- Link to private hospital relies on connection through Mental Health
- Mental Health limited due to refurbishment constraints
- Logistics road servicing Xavier to be resolved to enable the Green Heart



# Option C2 - Staged MH South

## OPPORTUNITIES

- Existing Ring Road operational throughout construction
- Larger footprint available for Main Building
- Mental Health outlook & natural light
- Sets up future development of Green Heart
- Clear separation of entries
- ASB maintains connections to existing and future buildings
- ASB public entry DDA compliant
- Green buffer to parts of ASB
- Maximises IPU outlook
- Maintains Sylvia Curley road
- Separates logistics from pedestrian/ main entries
- Mental Health in new dedicated facility
- Maintains existing Secure MH Unit
- Allows for relocation of child care

## CONSTRAINTS

- Requires Staging of Mental Health
- Limited public presence to Haydon Drive
- Removal of significant trees to build car park
- Link to private hospital relies on connection through Mental Health



# Option C3 - Staged MH North

## OPPORTUNITIES

- Mental Health outlook & natural light
- Clear separation of entries
- ASB maintains connections to existing and future buildings and private hospital
- Green buffer to parts of ASB
- Good IPU outlook
- Maintains Sylvia Curley road
- Separates logistics from pedestrian/ main entries
- Maintains existing Secure MH Unit
- Allows for relocation of child care
- Mental Health in new dedicated facility

## CONSTRAINTS

- Requires Staging of Mental Health
- Limits future development of green heart
- Limited public presence to Haydon Drive
- Challenging levels to build new ring road
- Removal of significant trees to build car park
- Additional staging within ASB to allow for Mental Health
- Location of MH cuts off logistic access to Xavier if this is to remain



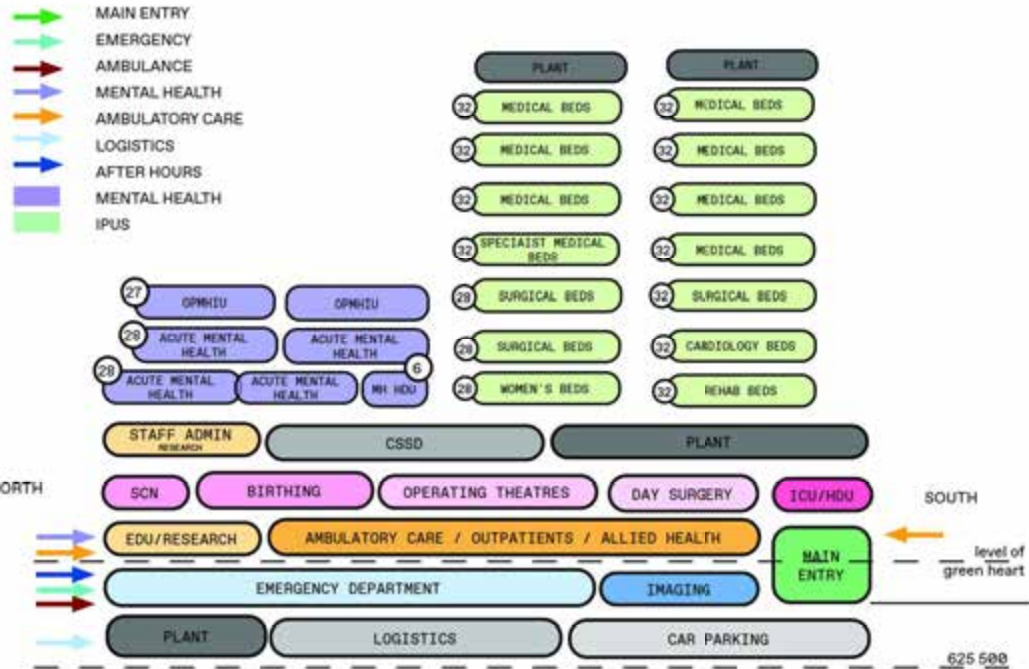
- Site Analysis: Opportunities and Constraints
- Masterplan
- Options Overview
- Options A: Mental Health on Northern Site
- Options B: Combined Site
- Options C: Staged Mental Health on Main Site
- Options Review

# Mental Health option - Integrated within ASB

1  
INTEGRATED  
MENTAL HEALTH WITHIN  
ASB

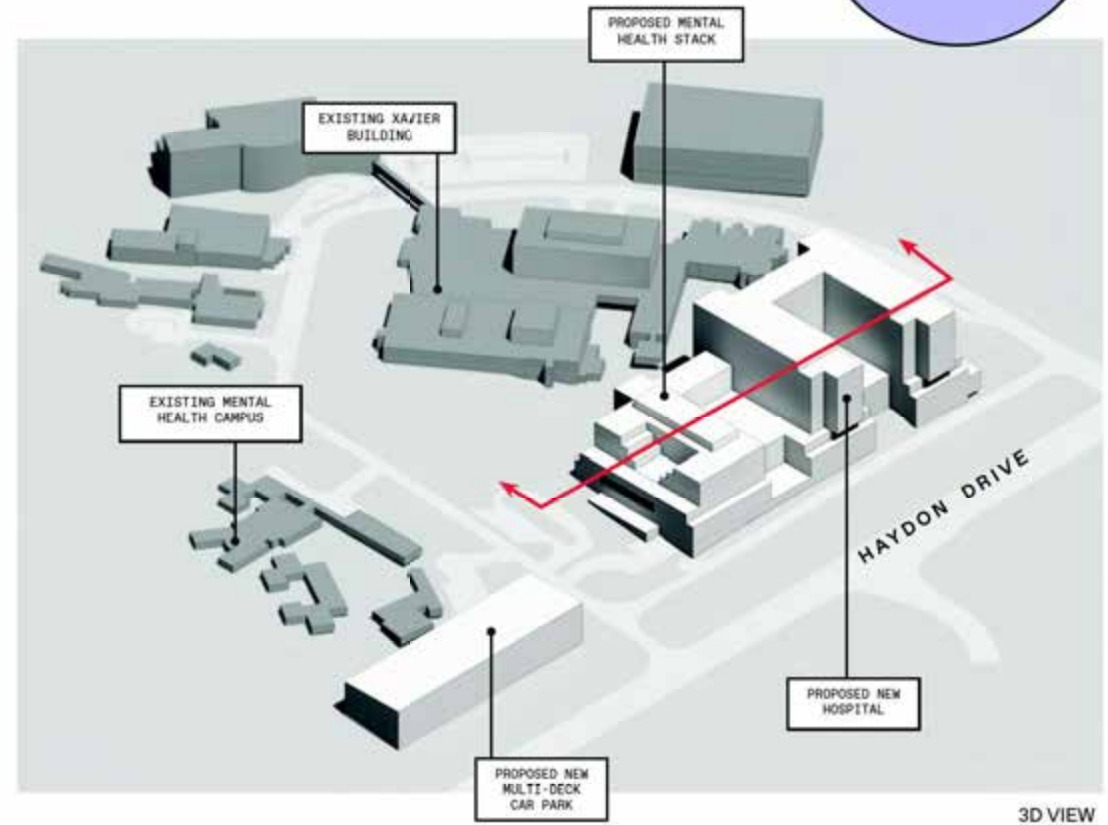
This option has the following considerations;

- Stand alone complete hospital including mental health.
- Mental health bedrooms positioned in a separated wing within the main hospital building.
- Separate mental health core linking to logistics, secure entry, ED, ambulatory and visitor entry.
- Good natural light and views to all bedrooms.
- Private courtyards to MH with northerly aspect.



BLOCK AND STACK

10.05.2024 NORTHSIDE HOSPITAL INFORMATION REVIEW

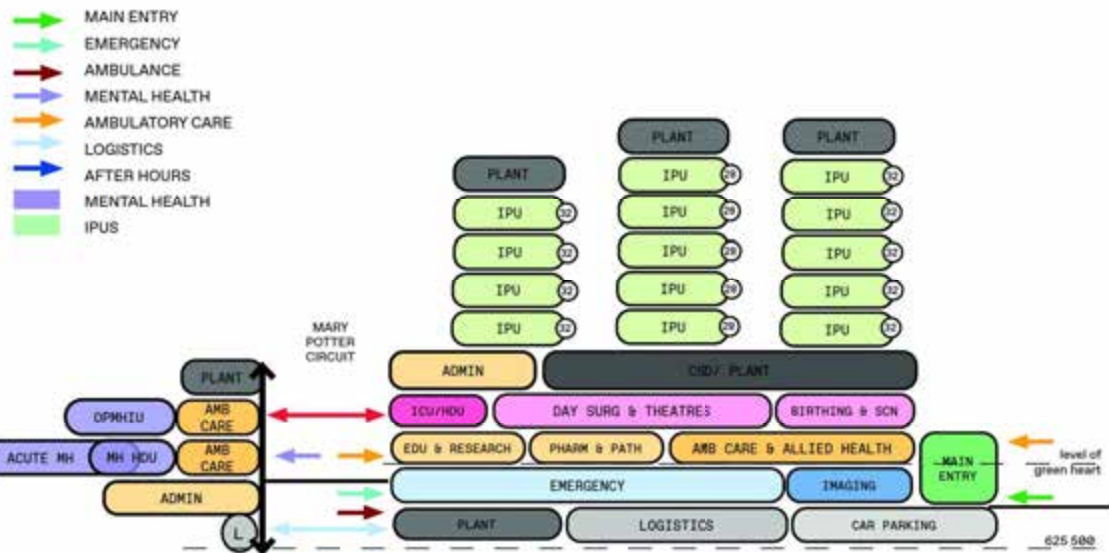


# Mental Health option - Stand alone - Northern Site

2  
STAND ALONE - LINKED  
MENTAL HEALTH WITHIN ASB

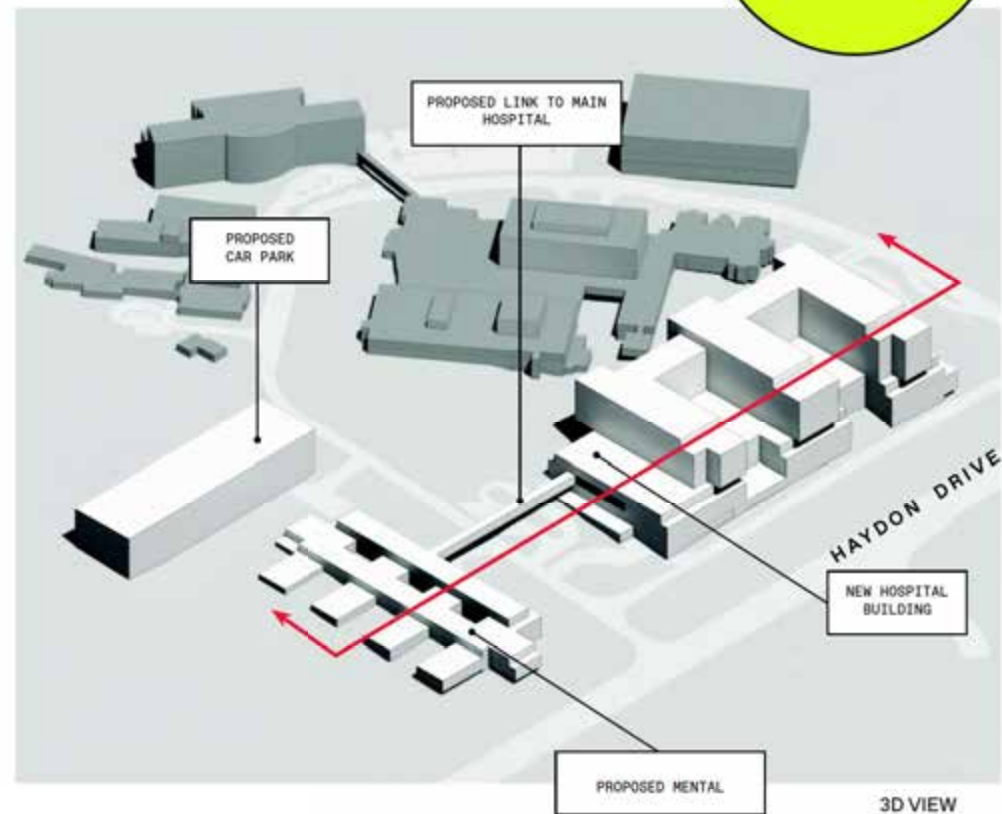
The selected mental health option has the following considerations;

- Stand alone mental health building positioned to the south eastern area of the northern block site.
- Multi-deck car park located to the north west within the APZ.
- Mental health bedrooms across 2 floors.
- Logistics link under Mary Potter Circuit from the main building to Mental health.
- Staff and patient link from the main hospital on theatre level.
- Main hospital to have a 3 finger IPU stack reducing the overall height of the building.



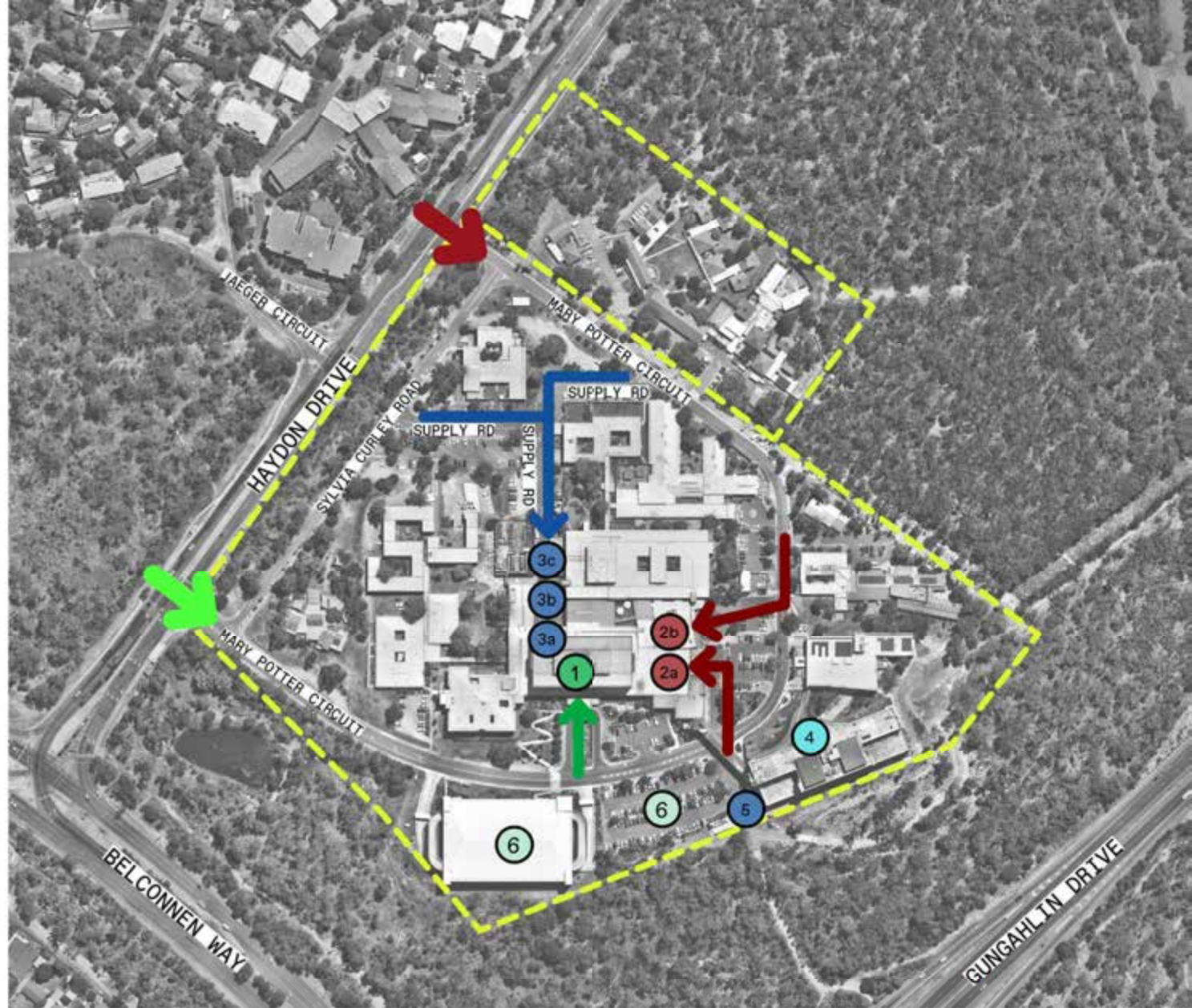
BLOCK AND STACK

10.05.2024 NORTHSIDE HOSPITAL INFORMATION REVIEW



# Existing Site ACCESS & CIRCULATION

- 1 MAIN ENTRY
  - 2a EMERGENCY ENTRY - AMBULANCE
  - 2b EMERGENCY ENTRY - PUBLIC / MATERNITY
  - 3a LOADING DOCK - KITCHEN
  - 3b LOADING DOCK - SUPPLY
  - 3c LOADING DOCK - WASTE
  - 4 PRIVATE HOSPITAL - MAIN ENTRY
  - 5 PRIVATE HOSPITAL - LOADING DOCK
  - 6 PUBLIC VISITOR PARKING
- 
- ➔ MAIN SITE ENTRY
  - ➔ PUBLIC DROP OFF
  - ➔ SITE ENTRY - EMERGENCY
  - ➔ EMERGENCY ACCESS
  - ➔ ACCESS TO LOADING DOCKS / PLANT

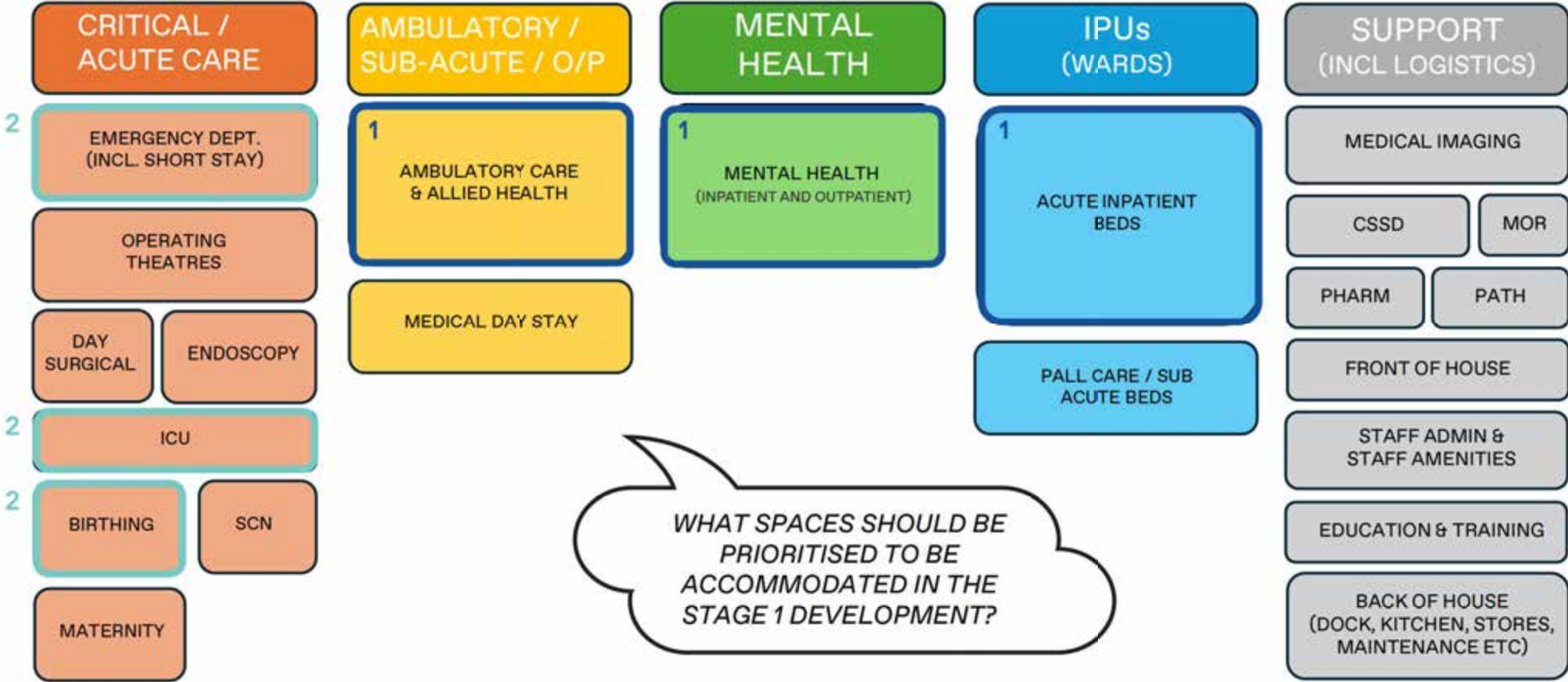


10.05.2024 NORTHSIDE HOSPITAL INFORMATION REVIEW

# Services 'clusters' for Northside Hospital (preliminary)

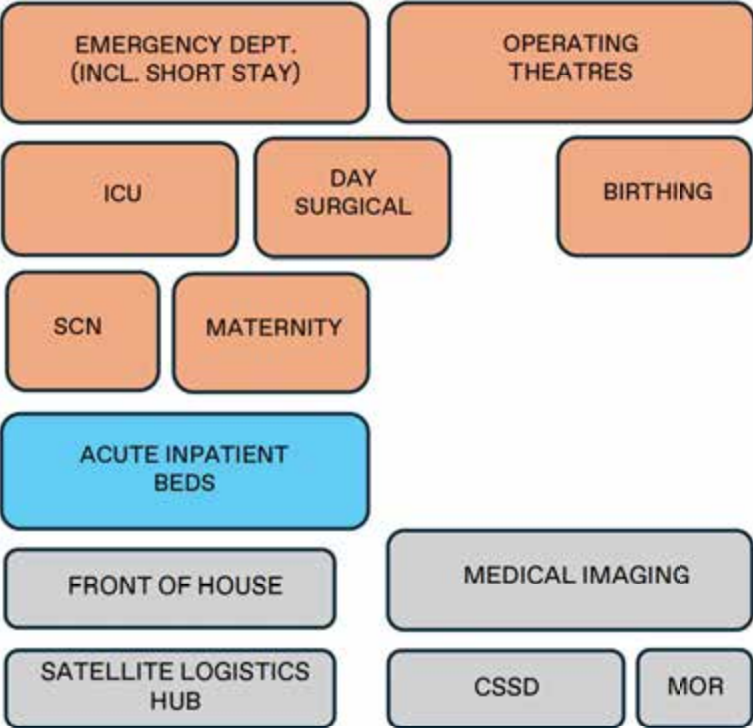


# Services 'clusters' for Northside Hospital (preliminary)

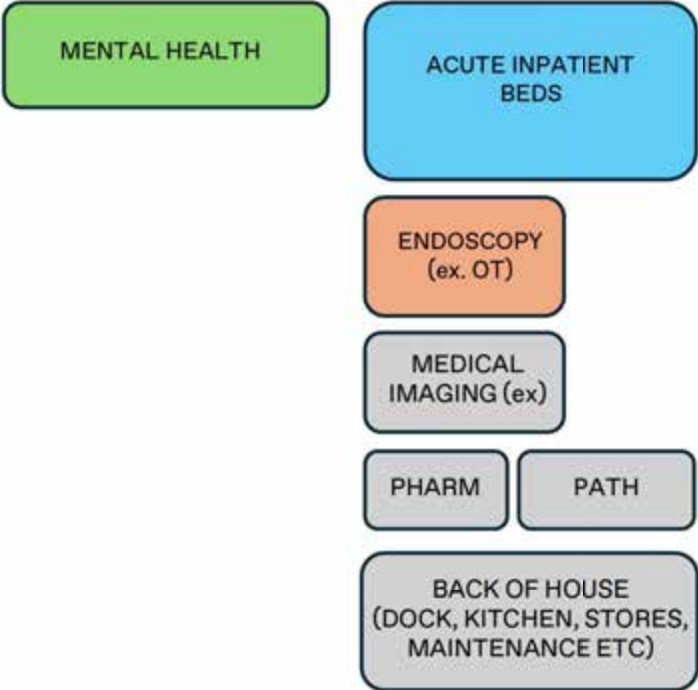


# Strategy 1 (prioritise critical/acute care in Stage 1)

## Stage 1 Building (new)



## Retain in existing (with potential for expansion)

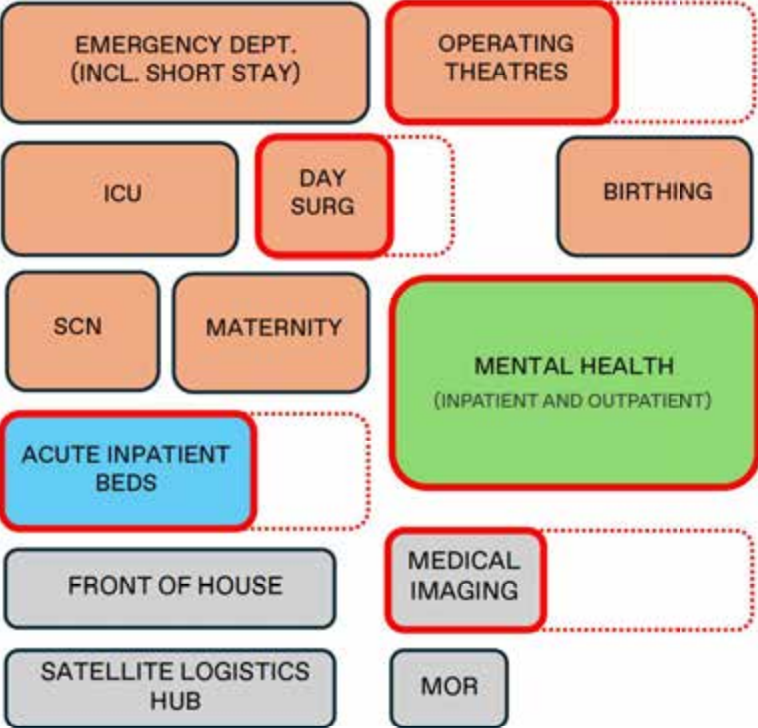


## Demand accommodated elsewhere

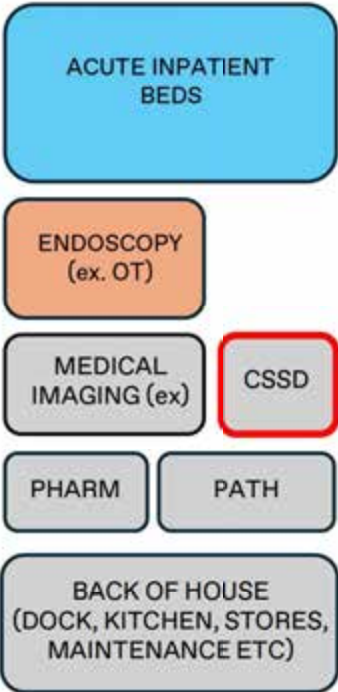


# Strategy 2 (prioritise critical/acute and MH in Stage 1)

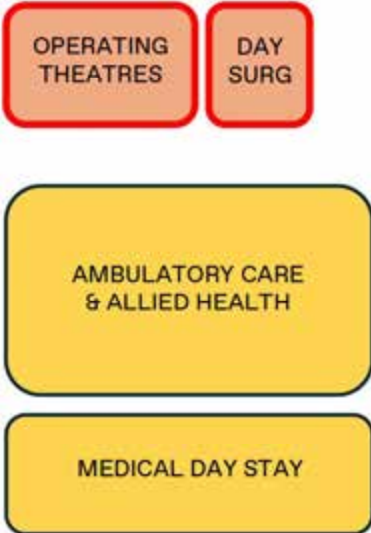
## Stage 1 Building (new)



## Retain in existing (with potential for expansion)

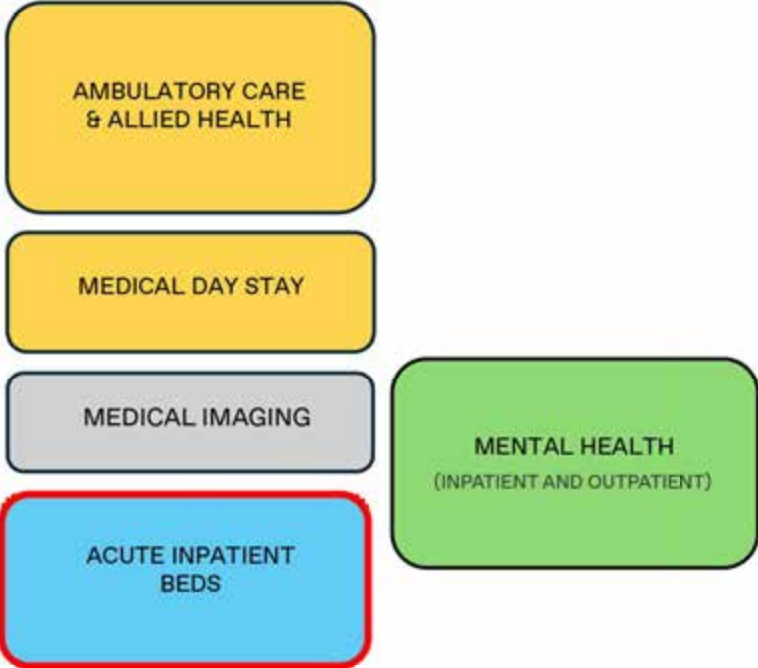


## Demand accommodated elsewhere

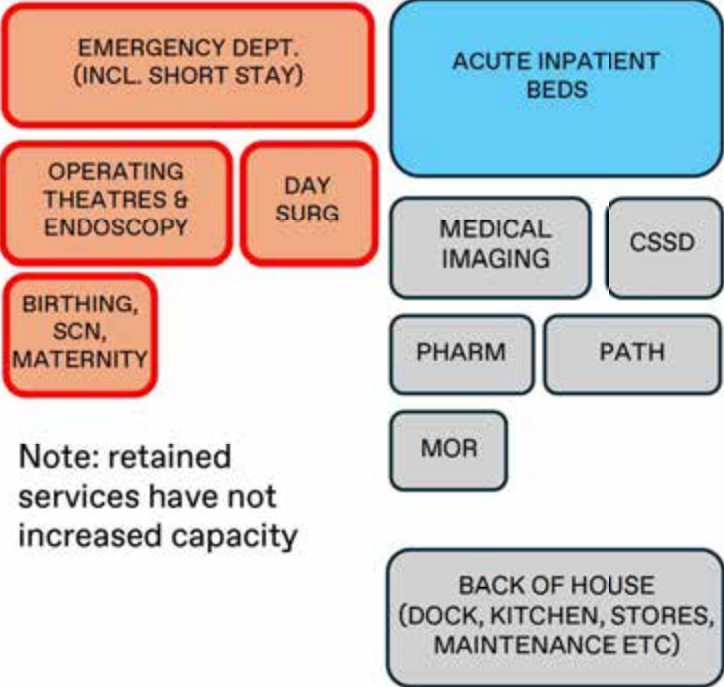


# Strategy 3 (prioritise ambulatory and MH in Stage 1)

## Stage 1 Building (new)



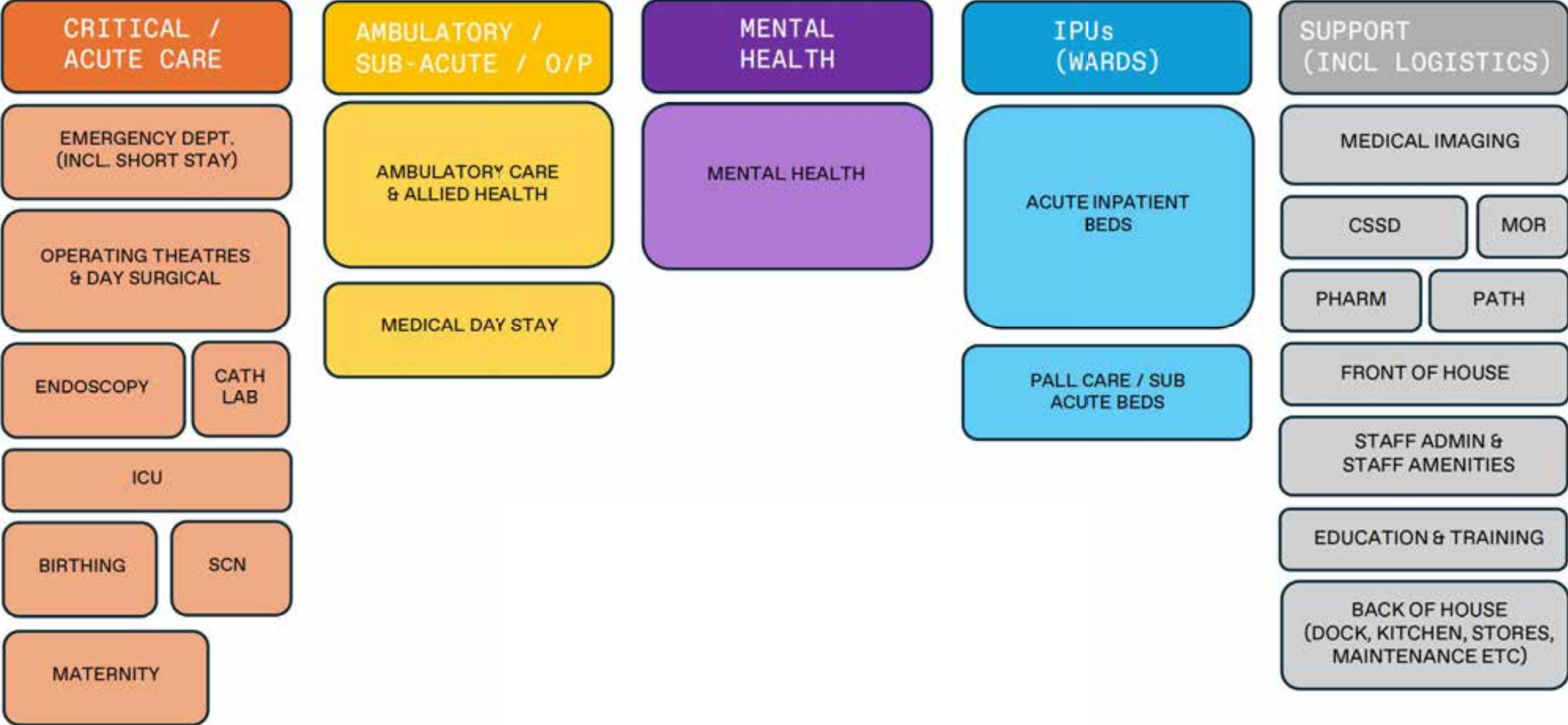
## Retain in existing (with potential for expansion)



## Demand accommodated elsewhere

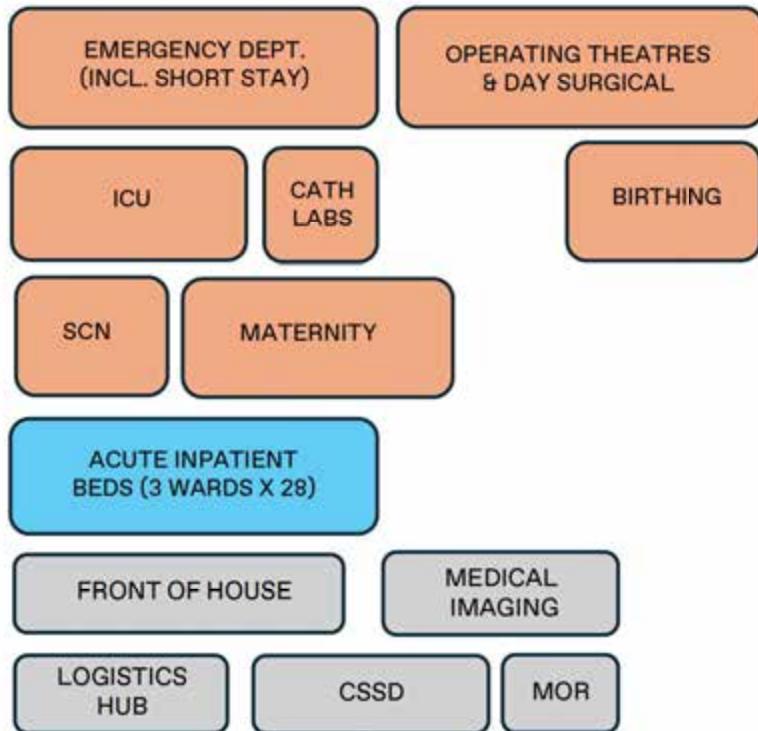
Note: additional capacity for critical/care acute would need to be accommodated elsewhere

# Services 'clusters' for Northside Hospital (preliminary)

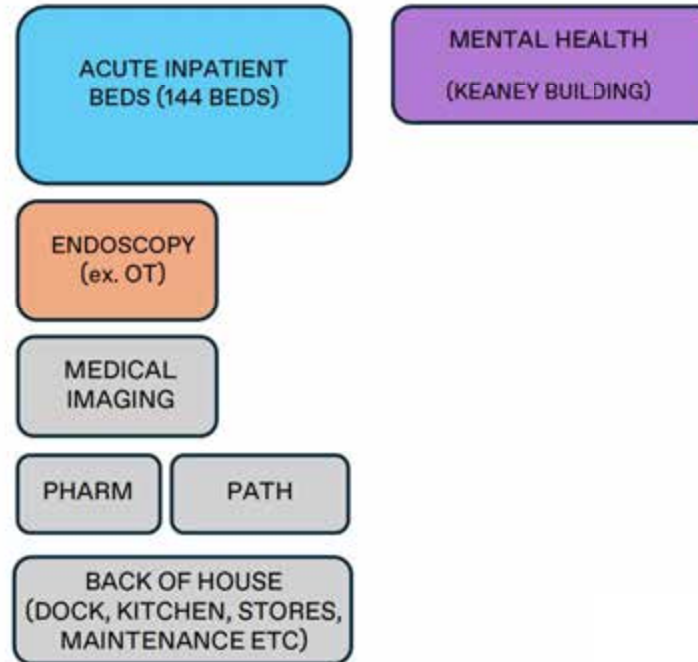


# Strategy 1 (prioritise critical/acute care)

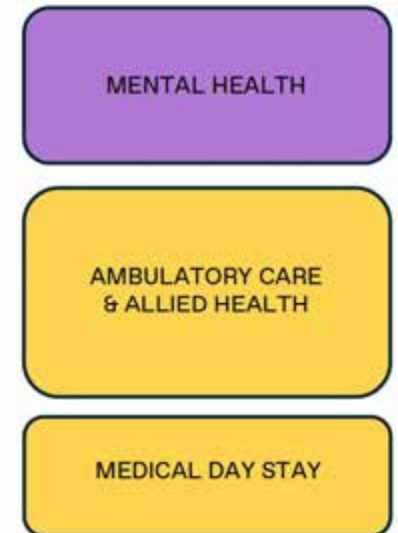
## Stage 1 Building (new)



## Retain in existing

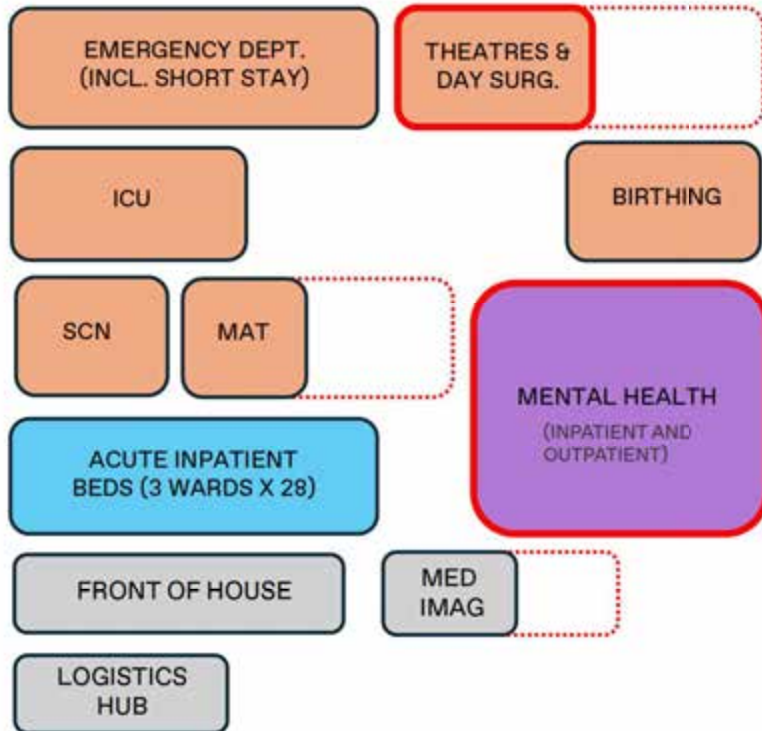


## Demand accommodated elsewhere

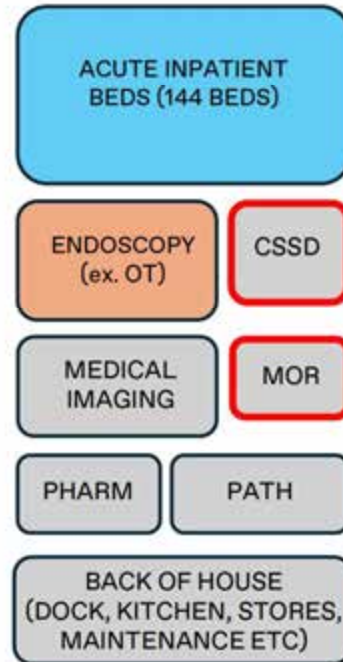


# Strategy 2 (prioritise critical/acute & MH)

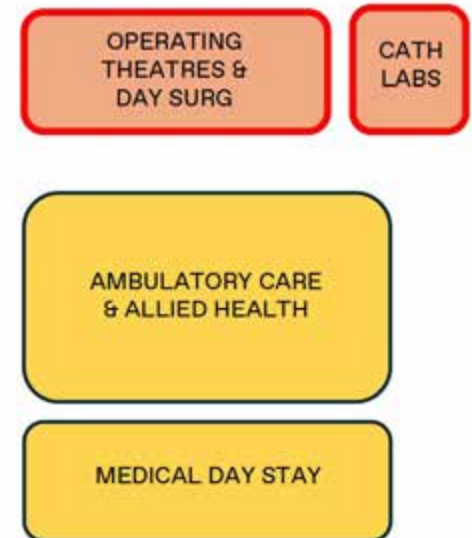
## Stage 1 Building (new)



## Retain in existing



## Demand accommodated elsewhere



# Strategy 3 (prioritise critical/acute & ambulatory)

CRITICAL / ACUTE CARE

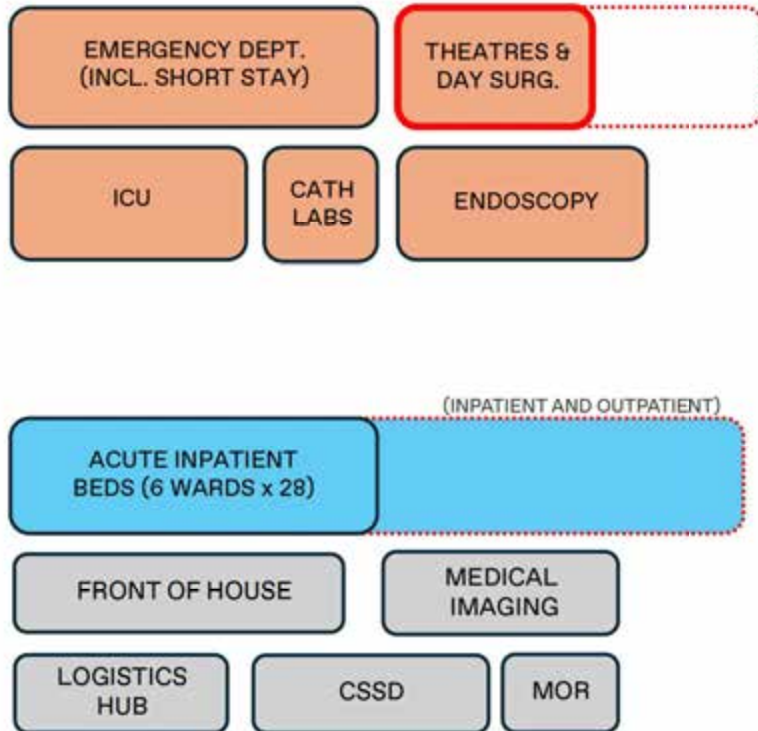
AMBULATORY / SUB-ACUTE / OP

MENTAL HEALTH

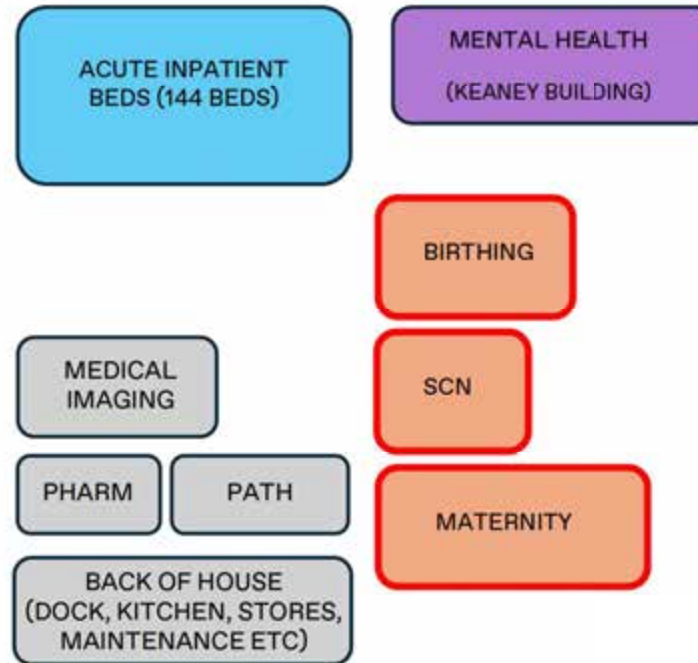
IPUs (WARDS)

SUPPORT (INCL. LOGISTICS)

## Stage 1 Building (new)



## Retain in existing (with potential for expansion)



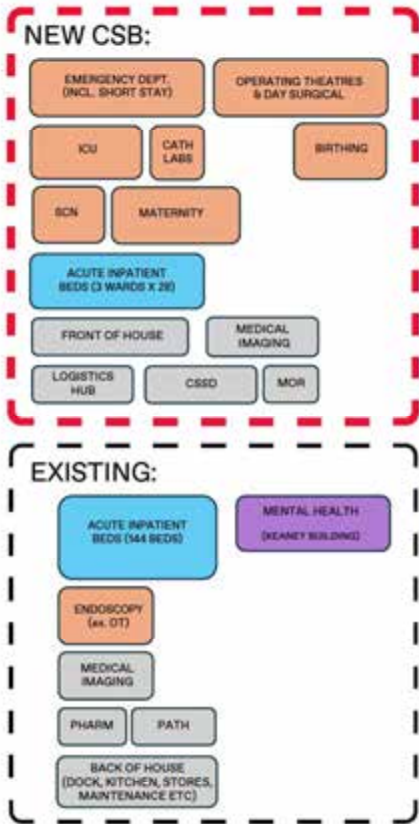
## Demand accommodated elsewhere



## Refurb of existing vacated areas (area TBC)



# Strategy 1: CSB to South

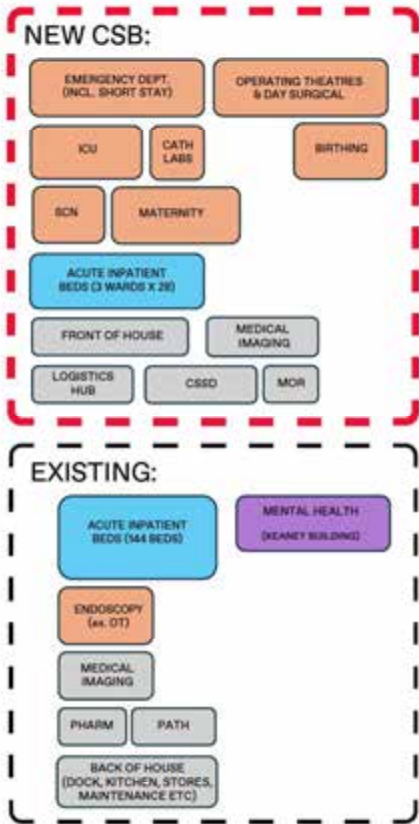


- MULTI STOREY CAR PARK
- CLINICAL SERVICES AREA
- MENTAL HEALTH AREA
- HOSPITAL STREET
- DEMOLISHED BUILDINGS

## CONSTRUCTION OF CARPARK AND CSB

- Locate CSB on vacant site west of Marion/Xavier - predominantly critical care / acute services
- Xavier (and Marion?) to be retained - clinical services, inpatient beds and support services
- Keaney to be retained - existing Mental Health beds

# Strategy 1: CSB to South



## CONSTRUCTION OF CARPARK AND CSB

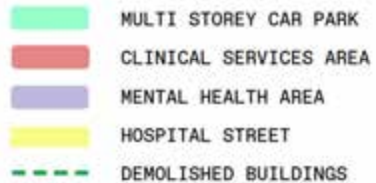
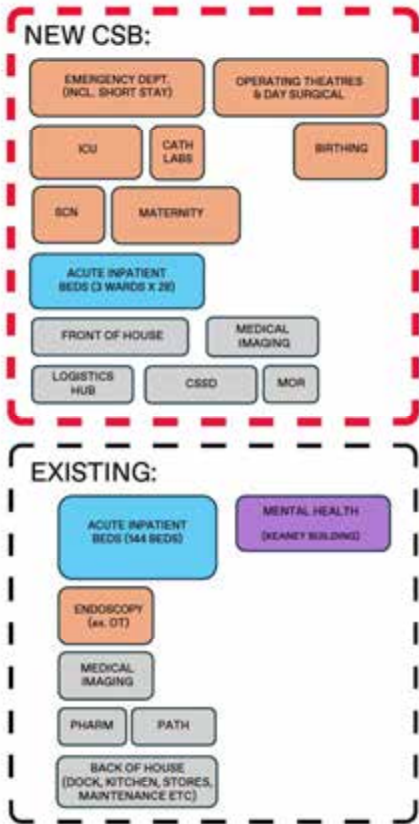
- Locate CSB on vacant site west of Marion/Xavier - predominantly critical care / acute services
- Xavier (and Marion?) to be retained - clinical services, inpatient beds and support services
- Keaney to be retained - existing Mental Health beds



## AVAILABLE AREA FOR FUTURE STAGES

- Expansion of CSB can occur in vacant footprint to the north (immediately available) and via ICU demolition
- Footprint is somewhat restricted by existing logistics route and retention of Keaney for MH beds
- Future location of MH to be considered (integrated?)

# Strategy 1: CSB to North



## CONSTRUCTION OF CARPARK AND CSB

- Locate CSB on vacant site north of Marion/Xavier - predominantly critical care / acute services
- Xavier (and Marion?) to be retained - clinical services, inpatient beds and support services
- Keaney to be retained - existing Mental Health beds

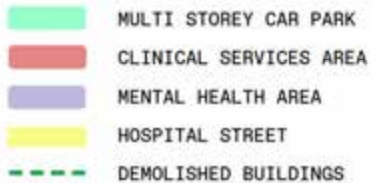
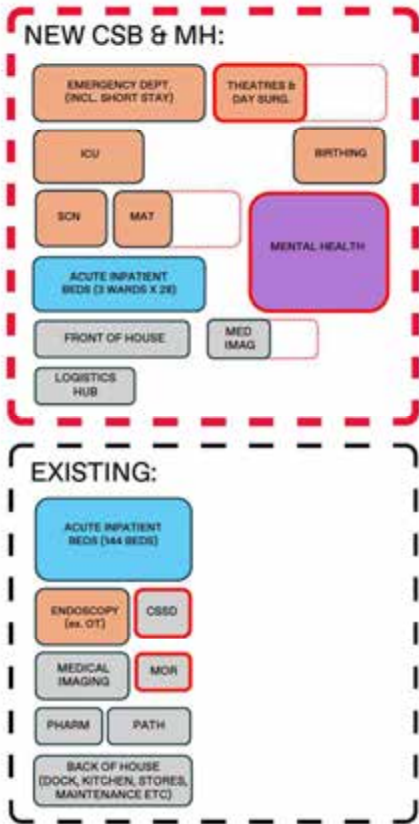


## AVAILABLE AREA FOR FUTURE STAGES

- Expansion of CSB can occur in vacant footprint to the south (immediately available)
- Potential to demolish ICU to expand available footprint
- Potential to push carpark and CSB further north
- Future location of MH to be considered (integrated?)

# Strategy 2 (critical care / acute & MH)

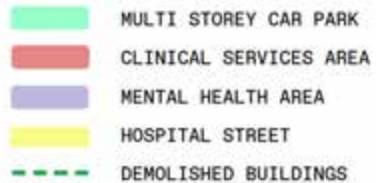
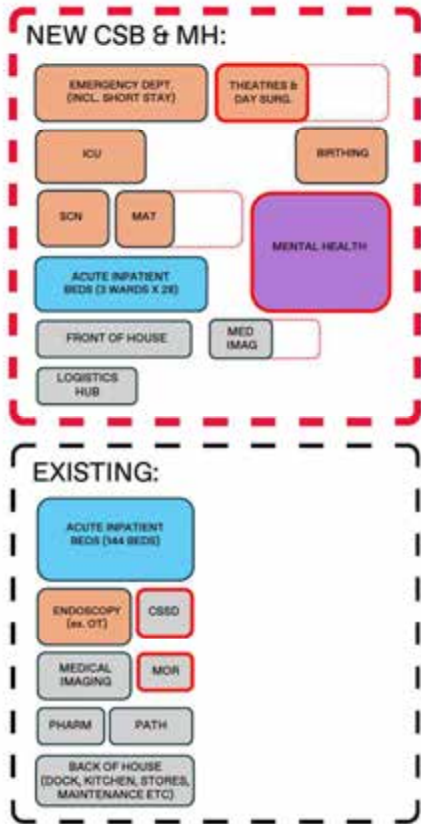
## Strategy 2: CSB south, MH north



### CONSTRUCTION OF CARPARK AND CSB & MH

- CSB is located to the south and MH to the north
- Xavier (and Marion?) to be retained - clinical services, inpatient beds and support services
- Keaney can be demolished, assuming MH beds have been relocated into new building

## Strategy 2: CSB south, MH north



### CONSTRUCTION OF CARPARK AND CSB & MH

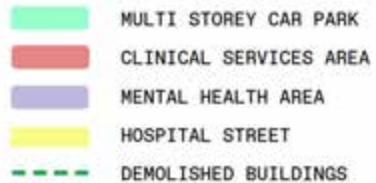
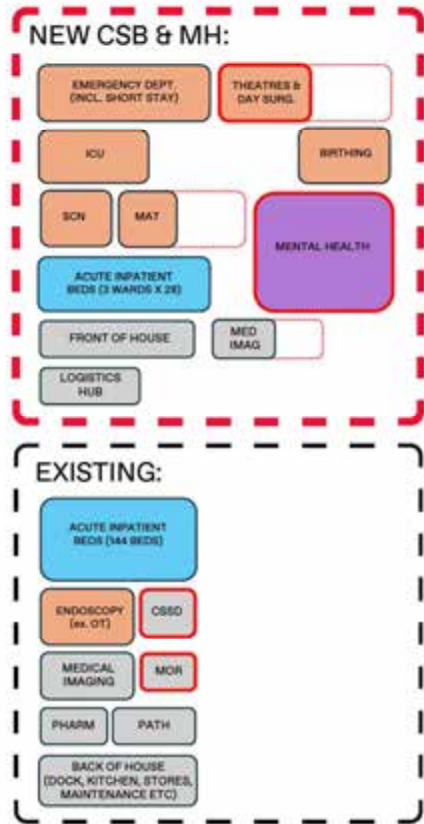
- CSB is located to the south and MH to the north
- Xavier (and Marion?) to be retained - clinical services, inpatient beds and support services
- Keaney can be demolished, assuming MH beds have been relocated into new building



### AVAILABLE AREA FOR FUTURE STAGES

- Expansion can occur in footprint created by Keaney demolition - but remote from CSB
- Expansion possible to the south via demolition of ICU, but restricted by retention of Xavier. Building can move further north to expand this future area.

## Strategy 2: CSB north, MH south



### CONSTRUCTION OF CARPARK AND CSB & MH

- CSB is located to the north and MH to the north
- Xavier (and Marion?) to be retained - clinical services, inpatient beds and support services
- Keaney can be demolished, assuming MH beds have been relocated into new building

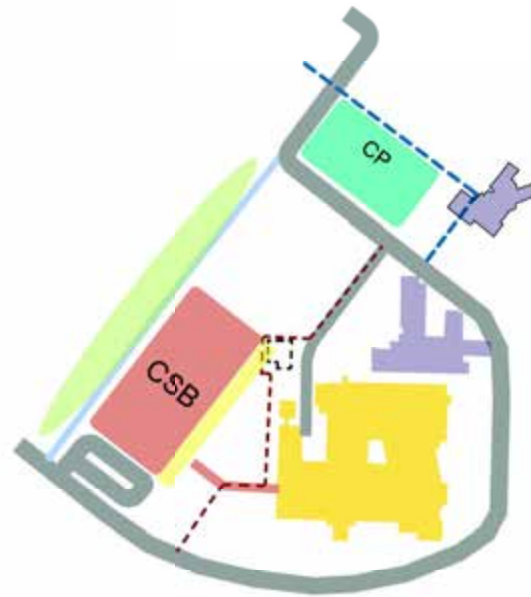
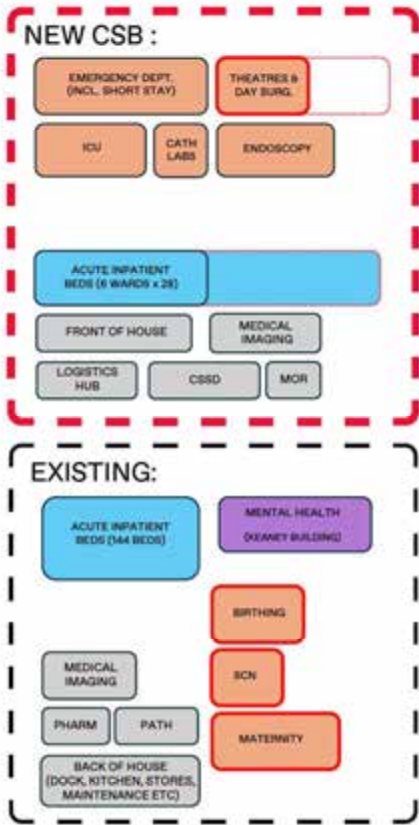


### AVAILABLE AREA FOR FUTURE STAGES

- Expansion of CSB can occur to the north and in footprint created by Keaney demolition
- Expansion possible to the south via demolition of ICU.

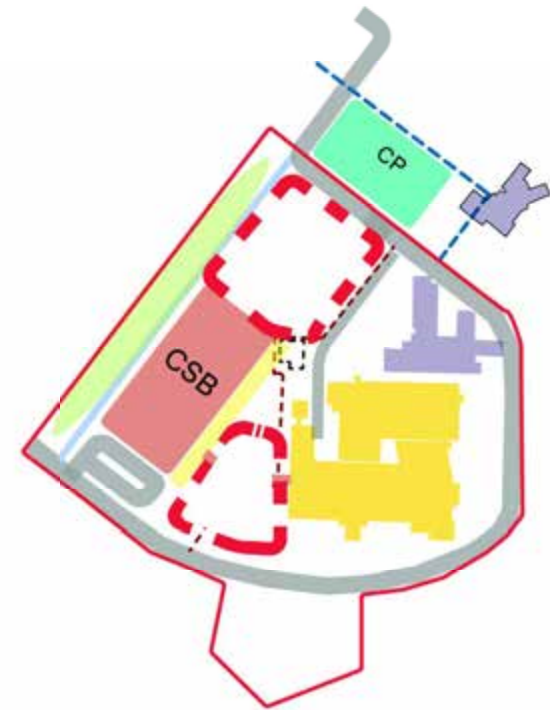
# Strategy 3 (critical care / acute & refurb for amb)

# Option C: CSB to south



## CONSTRUCTION OF CARPARK AND CSB

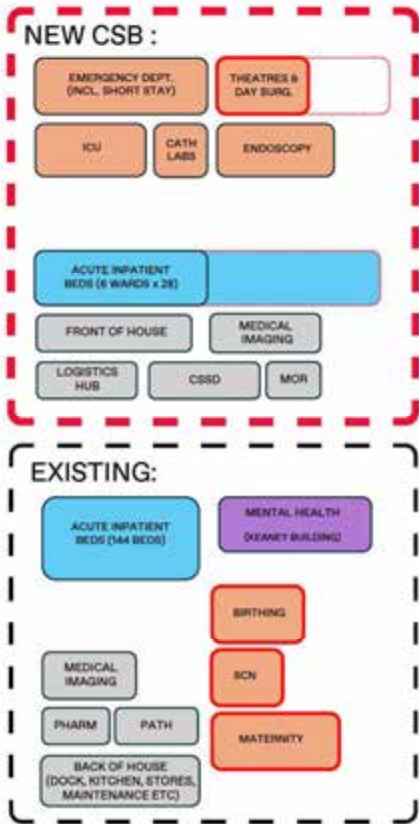
- CSB is located to the south
- Xavier (and Marion?) to be retained - clinical services, inpatient beds and support services. Vacated spaces to be refurbished for Ambulatory services
- Keaneey to be retained for MH beds



## AVAILABLE AREA FOR FUTURE STAGES

- Expansion of CSB could occur to the north, or to the south via demolition of ICU
- Future location of mental health to be considered (integrated option?)

# Strategy 3: CSB to north



## CONSTRUCTION OF CARPARK AND CSB

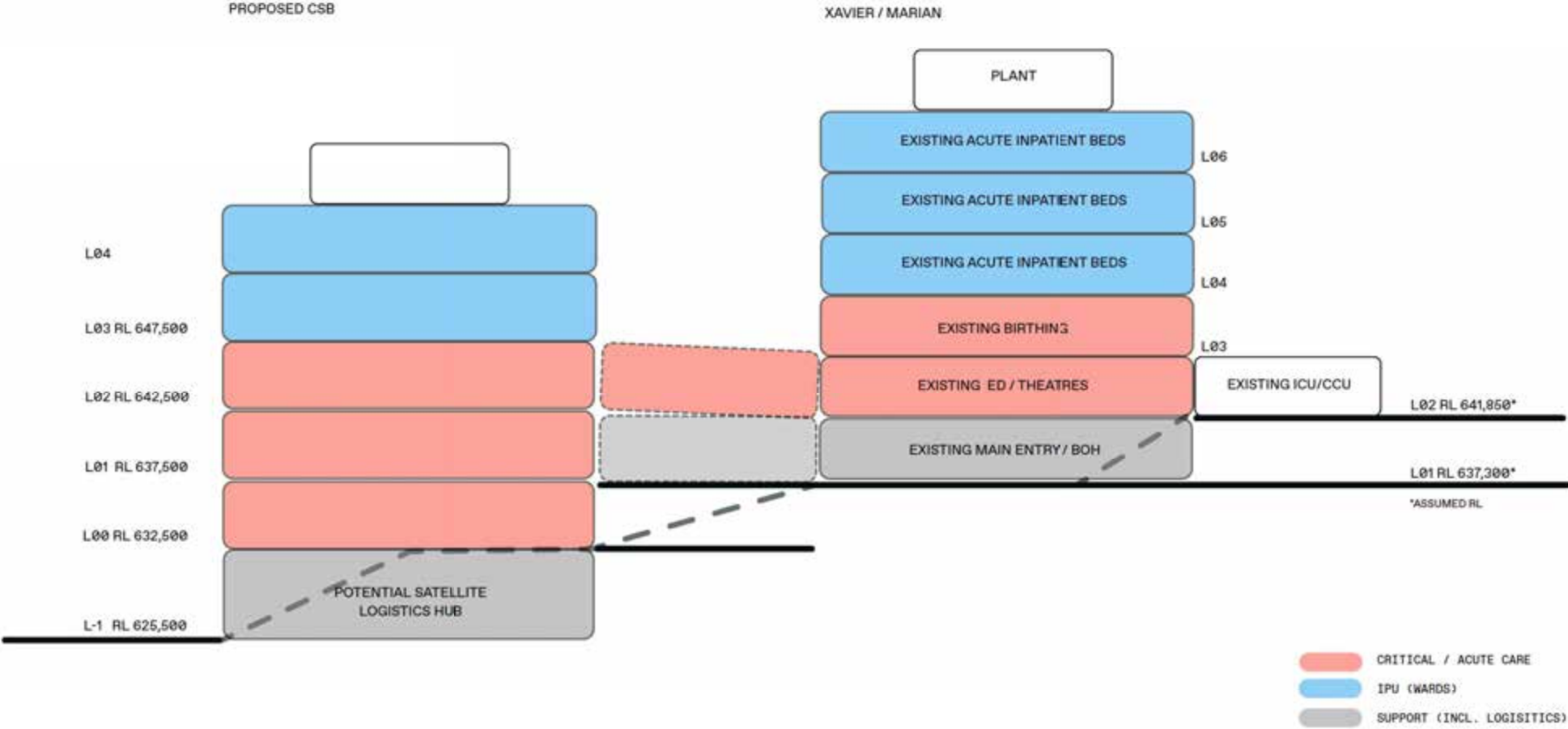
- CSB is located to the north
- Xavier (and Marion?) to be retained - clinical services, inpatient beds and support services. Vacated spaces to be refurbished for Ambulatory services
- Keaneey to be retained for MH beds



## AVAILABLE AREA FOR FUTURE STAGES

- Expansion of CSB could occur to the south, with a larger area available via demolition of ICU
- Future location of mental health to be considered (integrated option?)

# Horizontal Connections



# F.1 Strategy 1

## Departmental Area Schedule

Strategy 1 prioritises Critical services and focuses on relocating the acute facilities from the existing buildings within stage 1.

The relocation of existing and future requirements for Mental health, inpatients expansion and ambulatory care would be accommodated within stage 2.

### Stage 1:

#### New build:

- Emergency + ED SSU
- ICU
- 3x Inpatient wards (84 beds)
- 14x theatres
- Day Surgery
- Maternity, birthing and SCN
- Medical Imaging - Inpatient and Outpatient
- CSSD
- Mortuary

#### Remaining with Xavier/ Marian

- Cath labs operates within vacated theatres
- Endoscopy operates within in vacated theatres
- All current IPUs to remain
- Support services
- Logistics

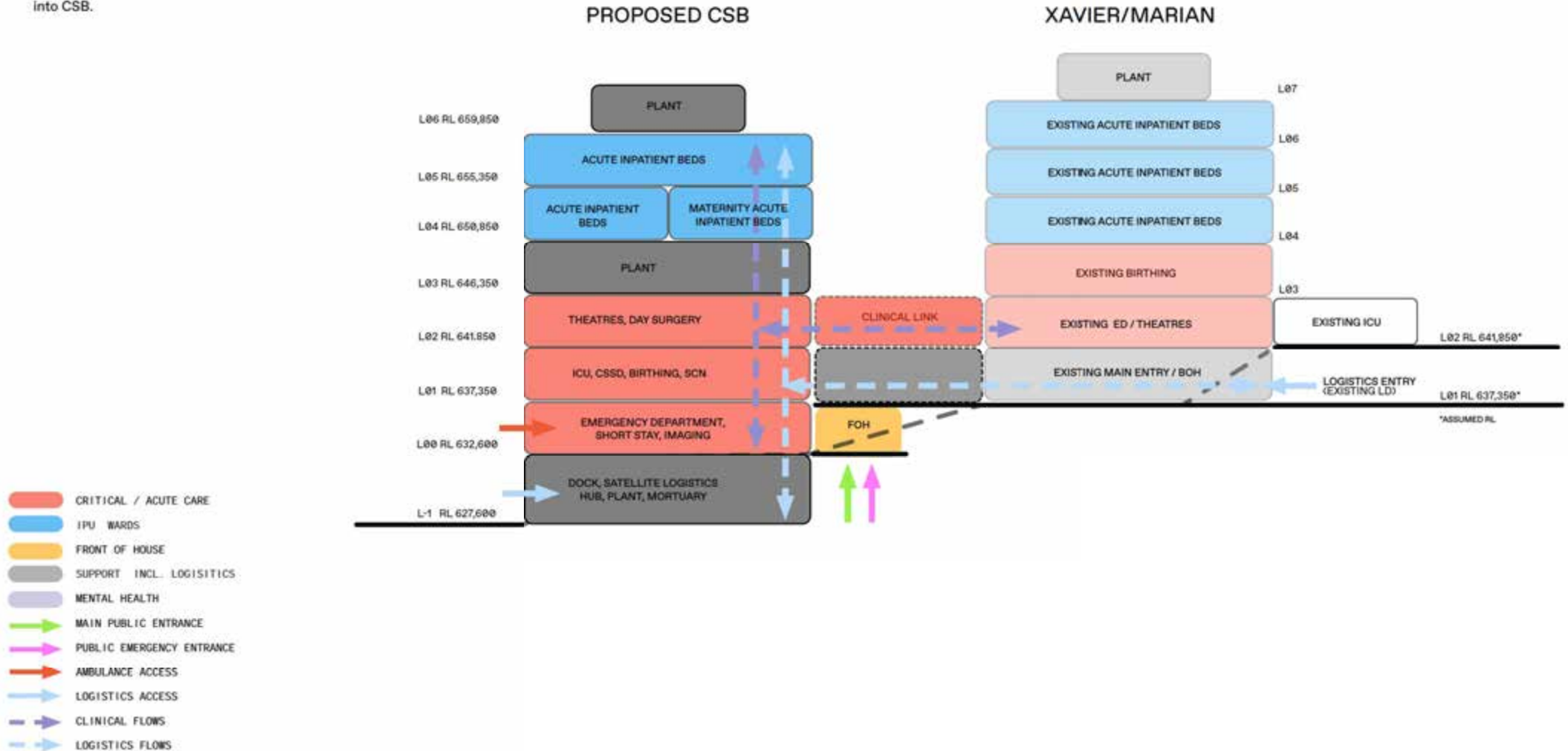
SERVICE CATEGORY	DEPARTMENT	FINAL AREA REQUIRED m <sup>2</sup>	FINAL POC REQUIRED	PROPOSED CSB AREA m <sup>2</sup>	PROPOSED POC IN CSB	COMMENTS
IPUs	Acute Inpatient Units	9,758	195	4,200	84	Existing inpatient beds also retained
	ICU	1,890	18	1,890	18	
Critical Care	ED	4,095	63	4,095	63	
	ED Short Stay Unit	720	24	720	24	
Sub Acute	Sub Acute (maintenance beds)	1,400	56	-	-	Retained in existing
	Other	1,400	-	-	-	
Mental Health	Mental Health (inpatient & outpatient)	6,822	68	-	-	Retained in the existing
	Birthing	1,144	8	1,144	8	
Women's & Childrens	Special Care Nursery (SCN)	980	14	980	14	
	Maternity	1,680	28	1,680	28	
Interventional	Operating Theatres	5,600	14	5,600	14	
	Day Surgical (Recovery Stage 2/3)	1,560	52	1,560	52	
	Cath Labs	586	2	-	-	Could be provided in existing OTs
	Endoscopy	750	2	-	-	Retained in existing b
Ambulatory Care	Ambulatory Care & Allied Health	4,230	124	-	-	
	Medical Day Stay	1,815	33	-	-	Retained in existing
	Medical Oncology / Chemo	165	3	-	-	Retained in existing
Support Services	Logistics - CSB Satellite	500	-	500	-	In addition to retained logistics/ BOH functions
	Mortuary	250	-	250	-	
	BOH - Kitchen	1,875	-	-	-	Retained in existing
	BOH - Other	3,048	-	-	-	Retained in existing
	FOH & Cultural	1,330	-	900	-	
	CSSD	980	-	980	-	
	Pharmacy	842	-	-	-	Retained in existing
	Pathology	1,533	-	-	-	Retained in existing
	Medical Imaging	3,040	20	750	-	Provide ED Satellite - some outpatient services retained in existing
	Staff Administration	2,611	-	-	-	Retained in existing
	Staff Amenities	980	-	-	-	Retained in existing
	Education & Training	2,000	-	-	-	Retained in existing
<b>Departmental Area Total</b>		<b>62,776</b>	<b>724</b>	<b>25,149</b>	<b>3 5</b>	
Travel & Engineering			Target T&E	15, 89		
Total CSB Area			Target	4 238		

# F.1 Strategy 1

## Block and Stack Section

Key considerations when determining the block and stack for this strategy are as follows:

- Dock and satellite logistics level determined by potential access from Silvia Curly road.
- Emergency department and main entry level determined by adjacent topographical RL's.
- Theatre level within new CSB to align with current theatre level of Xavier / Marian.
- Ease of connection from existing logistic / support services on level 1 within Xavier / Marian into CSB.



# F.1 Strategy 2

## Departmental Area Schedule

Strategy 2 prioritises Critical services and Mental Health within stage 1. This strategy focuses on relocating the acute facilities from the existing buildings as well as decanting existing mental health services from the Keaney building.

The future requirements for maternity, inpatient expansion and endoscopy would be accommodated within stage 2.

### Stage 1:

#### New build:

- Emergency + ED SSU
- ICU
- 3x Inpatient wards (84 beds)
- 6x theatres
- Maternity, birthing and SCN
- Mental Health (68 beds)
- Day surgery
- Mortuary
- Medical Imaging - Satellite /Inpatient

#### Remaining with Xavier/ Marian

- Endoscopy operates within in vacated theatres
- All current IPUs to remain
- Support services
- Logistics
- CSSD
- Medical Imaging - Outpatients

SERVICE CATEGORY	DEPARTMENT	FINAL AREA REQUIRED m2	FINAL POC REQUIRED	PROPOSED CSB AREA m2	PROPOSED POC IN CSB	COMMENTS
IPUs	Acute Inpatient Units	9,758	195	4,288	84	Existing inpatient beds also retained
	ICU	1,898	18	1,898	18	
Critical Care	ED	4,895	63	4,895	63	
	ED Short Stay Unit	720	24	720	24	
Sub Acute	Sub Acute (maintenance beds)	1,488	56	-	-	Retained in existing
	Other	1,488	-	-	-	
Mental Health	Mental Health (inpatient & outpatient)	6,822	68	6,822	68	
	Birthing	1,144	8	1,144	8	
Women's & Childrens	Special Care Nursery (SCN)	988	14	988	14	
	Maternity	1,688	28	688	18	Full scope 18 beds assumes model of care change to birthing centre model for additional beds
Interventional	Operating Theatres	5,688	14	2,488	6	Replace existing theatres and build future capacity in subsequent stages
	Day Surgical (Recovery Stage 2/3)	1,568	52	624	26	Replace existing day surg. and build future capacity in subsequent stages
	Cath Labs	586	2	-	-	Could be provided in existing OTs
	Endoscopy	758	2	-	-	Retained in existing
Ambulatory Care	Ambulatory Care & Allied Health	4,238	124	-	-	
	Medical Day Stay	1,815	33	-	-	Retained in existing
	Medical Oncology / Chemo	165	3	-	-	Retained in existing
Support Services	Logistics - CSB Satellite	588	-	588	-	In addition to retained logistics/ BOH functions
	Mortuary	258	-	258	-	
	BOH - Kitchen	1,875	-	-	-	Retained in existing
	BOH - Other	3,848	-	-	-	Retained in existing
	FOH & Cultural	1,338	-	888	-	
	CSSD	988	-	-	-	Retained in existing
	Pharmacy	842	-	-	-	Retained in existing
	Pathology	1,533	-	-	-	Retained in existing
	Medical Imaging	3,848	28	388	-	Provide ED Satellite - outpatient services retained in existing
	Staff Administration	2,611	-	-	-	Retained in existing
Staff Amenities	988	-	-	-	Retained in existing	
Education & Training	2,888	-	-	-	Retained in existing	
<b>Departmental Area Total</b>		<b>62,776</b>	<b>724</b>	<b>25,325</b>	<b>321</b>	

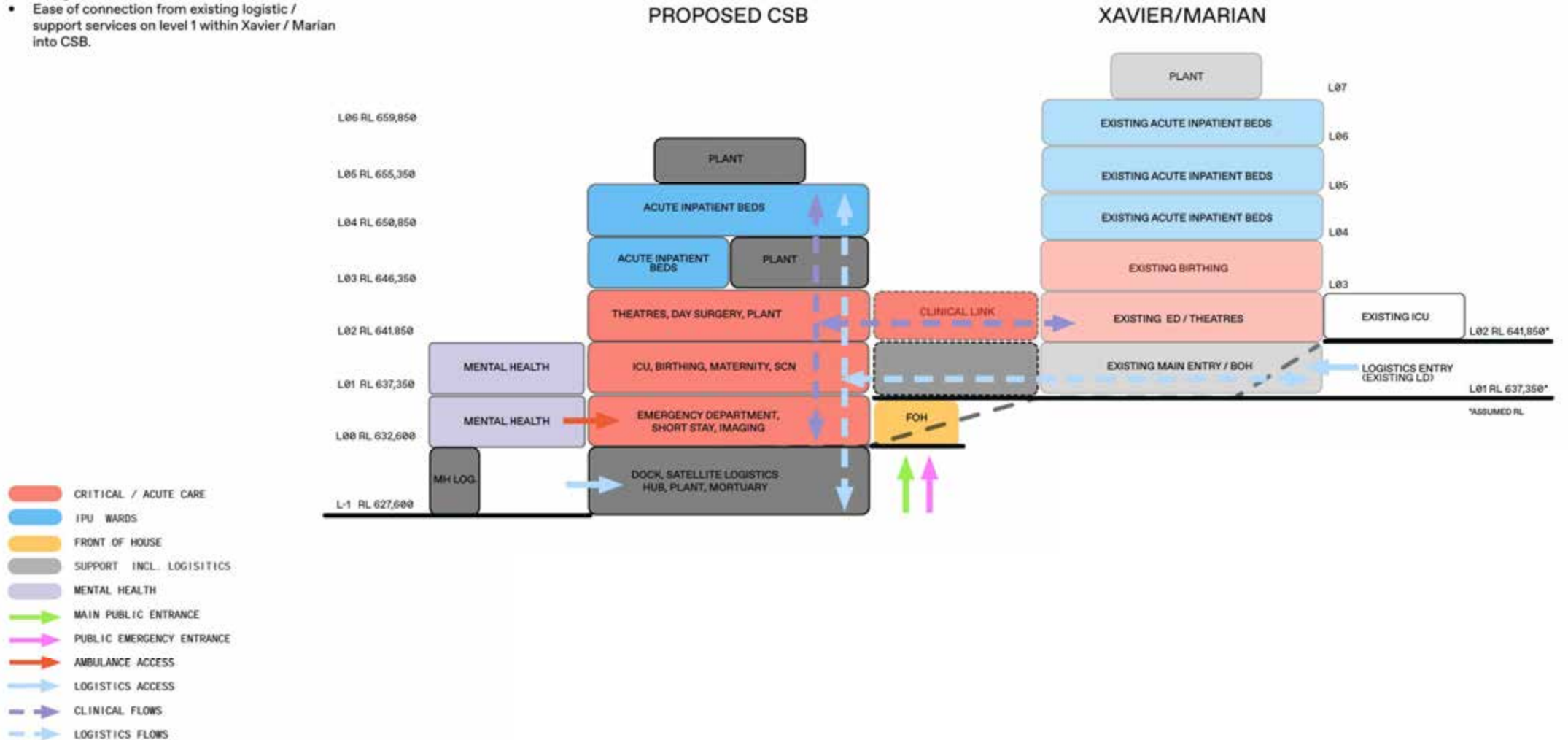
Travel & Engineering	Target T&E	15,195
Total CSB Area	Target	4,52

# F.1 Strategy 2

## Block and Stack Section

Key considerations when determining the block and stack for this strategy are as follows:

- Dock and satellite logistics level determined by potential access from Silvia Curly road.
- Emergency department and main entry level determined by adjacent topographical RL's.
- Theatre level within new CSB to align with current theatre level of Xavier / Marian.
- Mental entry level determined by adjacent topographical RL's.
- Ease of connection from existing logistic / support services on level 1 within Xavier / Marian into CSB.



# F.1 Strategy 3

## Departmental Area Schedule

Strategy 3 prioritises Critical and Acute services, inpatients expansion and ambulatory / day stay services within stage 1. This strategy focuses on relocating the acute facilities from the existing buildings and refurbishing areas within Xavier and Marian for ambulatory care services.

The relocation of existing and future requirements for Mental health, and maternity / birthing and SCN and would be accommodated within stage 2.

### Stage 1:

#### New build:

- Emergency + ED SSU
- ICU
- 5x Inpatient wards (140 beds)
- Cath labs
- Endoscopy
- 9x theatres
- Day Surgery
- Medical Imaging - Inpatient and Outpatient
- CSSD
- Mortuary

#### Remaining with Xavier/ Marian

- Endoscopy operates within in vacated theatres
- Maternity, birthing and SCN
- Support services
- Ambulatory Care (incl. day med & chemo) in vacated ED
- Support services
- Logistics

SERVICE CATEGORY	DEPARTMENT	FINAL AREA REQUIRED m2	FINAL POC REQUIRED	PROPOSED CSB AREA m2	PROPOSED POC IN CSB	COMMENTS
IPUs	Acute Inpatient Units	9,750	195	7,000	140	Existing inpatient beds also retained
	ICU	1,890	18	1,890	18	
Critical Care	ED	4,095	63	4,095	63	
	ED Short Stay Unit	720	24	720	24	
Sub Acute	Sub Acute (maintenance beds)	1,400	56	-	-	Retained in existing
	Other	1,400	-	-	-	
Mental Health	Mental Health (inpatient & outpatient)	6,822	68	-	-	Retained in existing
	Birthing	1,144	8	-	-	Retained in existing
Women's & Childrens	Special Care Nursery (SCN)	980	14	-	-	Retained in existing
	Maternity	1,680	28	-	-	Retained in existing
Interventional	Operating Theatres	5,600	14	3,600	9	Replace existing theatres and build future capacity in subsequent stages
	Day Surgical (Recovery Stage 2/3)	1,560	52	936	26	Replace existing day surg. and build future capacity in subsequent stages
	Cath Labs	586	2	586	2	
	Endoscopy	750	2	750	2	
Ambulatory Care	Ambulatory Care & Allied Health	4,230	124	-	-	
	Medical Day Stay	1,815	33	-	-	Retained in existing
	Medical Oncology / Chemo	165	3	-	-	Retained in existing
Support Services	Logistics - CSB Satellite	500	-	500	-	In addition to retained logistics/ BOH functions
	Mortuary	250	-	250	-	
	BOH - Kitchen	1,075	-	-	-	Retained in existing
	BOH - Other	3,048	-	-	-	Retained in existing
	FOH & Cultural	1,330	-	800	-	
	CSSD	980	-	980	-	
	Pharmacy	842	-	-	-	Retained in existing
	Pathology	1,533	-	-	-	Retained in existing
Support Services	Medical Imaging	3,040	20	750	-	Provide ED Satellite - some outpatient services retained in existing
	Staff Administration	2,611	-	-	-	Retained in existing
	Staff Amenities	980	-	-	-	Retained in existing
	Education & Training	2,000	-	-	-	Retained in existing
	Departmental Area Total	62,776	724	22,857	284	

Travel & Engineering

Target T&E 13,714

Total CSB Area

Target 36,571

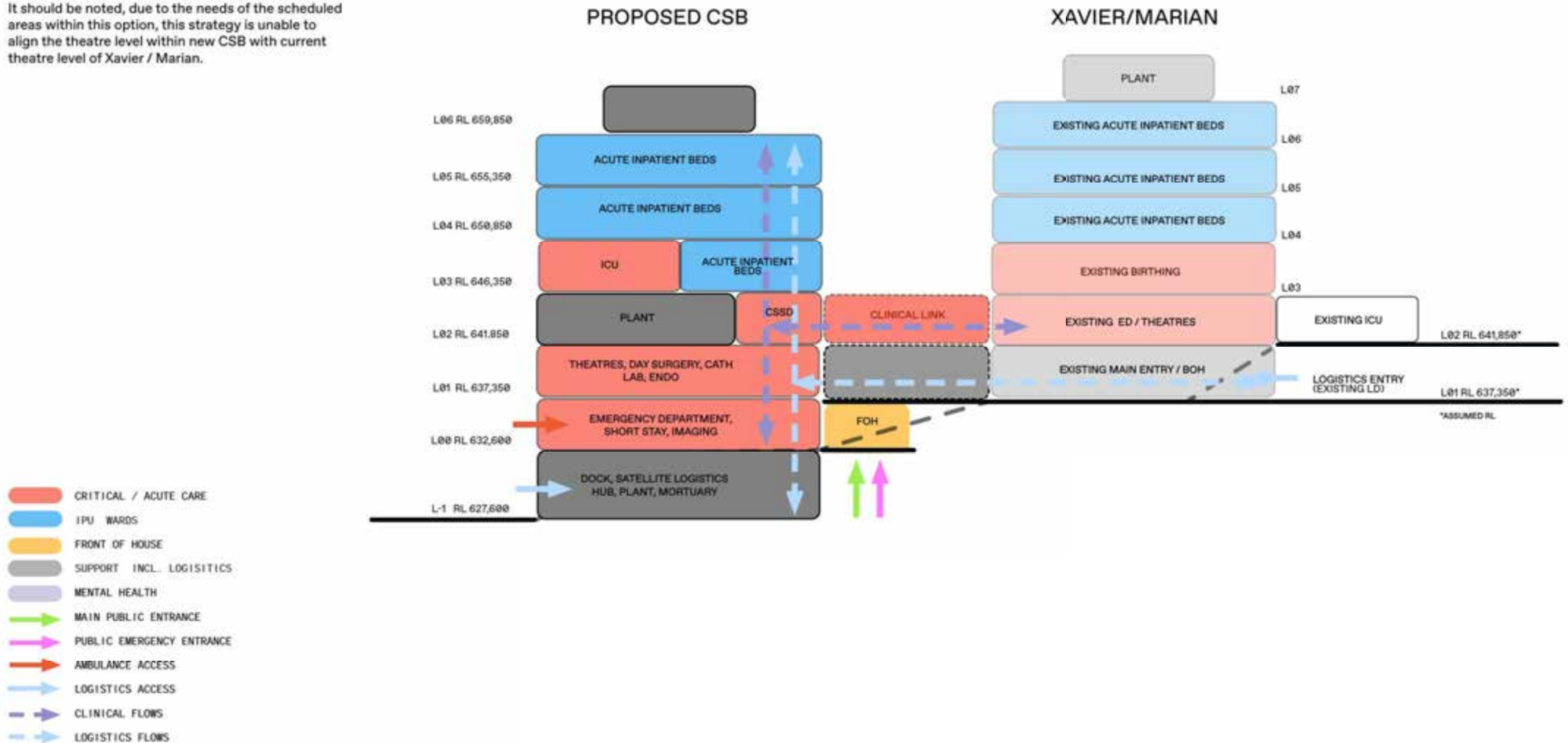
# F.1 Strategy 3

## Block and Stack Section

Key considerations when determining the block and stack for this strategy are as follows:

- Dock and satellite logistics level determined by potential access from Silvia Curly road.
- Emergency department and main entry level determined by adjacent topographical RL's.
- Ease of connection from existing logistic / support services on level 1 within Xavier / Marian into CSB.

It should be noted, due to the needs of the scheduled areas within this option, this strategy is unable to align the theatre level within new CSB with current theatre level of Xavier / Marian.



# F.1 Strategy 3

## Siting Study - North

-  PEDESTRIAN MOVEMENT
-  AMBULANCE ACCESS
-  MH SECURE ACCESS
-  PUBLIC EMERGENCY DROP OFF
-  LOGISTICS DOCK ACCESS
-  MULTI STOREY CAR PARK
-  CLINICAL SERVICES AREA
-  MENTAL HEALTH AREA
-  REFURBISHMENT AREA
-  HOSPITAL STREET
-  DEMOLISHED BUILDINGS
-  FUTURE EXPANSION ZONE
-  PROJECT SITE BOUNDARY

### STAGE 1

- Northern Block (apart from Gawanggal), Engineering Services, O'Shannassy, Staff Specialists & Residences to be demolished to enable Stage 1
- New access road in north
- CSB Stage 1 located in north, link connection to existing buildings Xavier/Marian
- Xavier / Marian to be retained - clinical services, inpatient beds and support services. Vacated spaces to be refurbished for Ambulatory services
- New Multi-storey carpark located in north

### OPPORTUNITIES

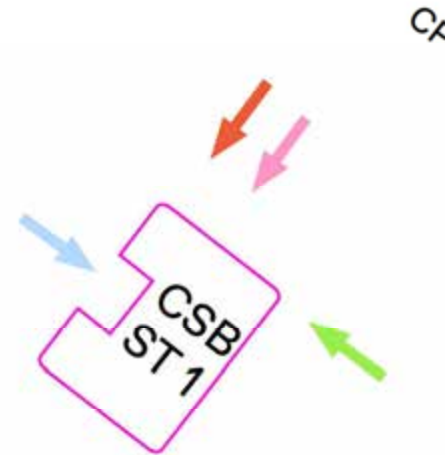
- Existing Mary Potter Circuit can be maintained.
- Existing childcare can be maintained during Stage 1.
- Majority of existing trees in the north can be maintained.
- Existing external plant can be maintained during Stage 1.
- Clear and separate drop-offs for ED and Main Entry.
- Logical expansion zone in the south. Stage 2 can be constructed with minimal impact on Stage 1.
- Opportunity to review location and size of future Mental Health as site is opened up with the demolition of existing buildings. Link connection between CSB and MH possible.
- Future expansion zone close to new carpark expansion. Creation of a central green heart.

### CONSTRAINTS

- Extended travel distances between Birthing (Marian Building) and Operating Theatres (new CSB).
- New temporary supply road to existing loading dock from northern part of Mary Potter Circuit required.
- Majority of traffic (general public, ambulances and logistics) concentrated at northern entry of Mary Potter Circuit
- Mental Health building can only be built in Stage 3 once the existing buildings Xavier and ICU have been demolished

### OBSERVATIONS

- Refurbishment of parts of existing Marian / Xavier. Utilisation of existing buildings could be constrained by existing structures and disparate parts of the buildings being vacated.
- Stage 1 public entries in close proximity to new carpark and potential public transport hub on Haydon Drive. Further away from current existing bus stop and existing multi-storey carpark.



# F.1 Strategy 3

## Siting Study - South

	PEDESTRIAN MOVEMENT
	AMBULANCE ACCESS
	MH SECURE ACCESS
	PUBLIC EMERGENCY DROP OFF
	LOGISTICS DOCK ACCESS
	MULTI STOREY CAR PARK
	CLINICAL SERVICES AREA
	MENTAL HEALTH AREA
	REFURBISHMENT AREA
	HOSPITAL STREET
	DEMOLISHED BUILDINGS
	FUTURE EXPANSION ZONE
	PROJECT SITE BOUNDARY

### STAGE 1

- Northern Block (apart from Gawanggal), Staff Specialists & Residences, Lewisham Building, Childcare to be demolished to enable Stage 1
- New access road in north
- CSB Stage 1 located in south, link connection to existing buildings Xavier/Marian
- Xavier / Marian to be retained - clinical services, inpatient beds and support services. Vacated spaces to be refurbished for Ambulatory services
- New Multi-storey carpark located in north

### OPPORTUNITIES

- Existing Mary Potter Circuit can be maintained.
- Majority of existing trees in the north can be maintained.
- Existing external plant can be maintained during Stage 1.
- Existing road to loading dock can be maintained.
- Vehicular traffic is spread between the north and south entries of Mary Potter Circuit. Public and ambulance vehicles could enter from the south whilst logistics enter from the north.
- Clear and separate drop-offs for ED and Main Entry.
- Logical expansion zone in the north. Stage 2 can be constructed with minimal impact on Stage 1.
- Opportunity to review location and size of future Mental Health as site is opened up with the demolition of existing buildings. Link connection between CSB and MH possible.
- Future expansion zone close to new carpark expansion. Creation of a central green heart.

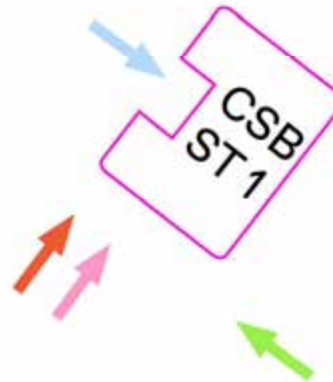
### CONSTRAINTS

- Extended travel distances between Birthing (Marian Building) and Operating Theatres (new CSB).
- Existing childcare has to be relocated during Stage 1.
- Mental Health building can only be built in Stage 3 once the existing buildings Xavier and ICU have been demolished.

### OBSERVATIONS

- Refurbishment of parts of existing Marian / Xavier. Utilisation of existing buildings could be constrained by existing structures and disparate parts of the buildings being vacated.
- Stage 1 public entries in close proximity to current existing bus stop and existing multi-storey carpark. Further away from new carpark and potential public transport hub on Haydon Drive.

CP



## F.2 Additional Studies Connection to Existing Buildings

To facilitate staff, patient and logistics movement, preliminary studies have been done to review a connection from the new CSB to the existing buildings. Shown is the northern CSB option which works respectively for the southern CSB option. The studies require further discussions with clinicians in future design stages.

### Logistics link

A logistics link is proposed on Level 1 to connect the existing loading dock on L1 in the Xavier Building and the new satellite logistics hub on Level -1.

### Clinical link

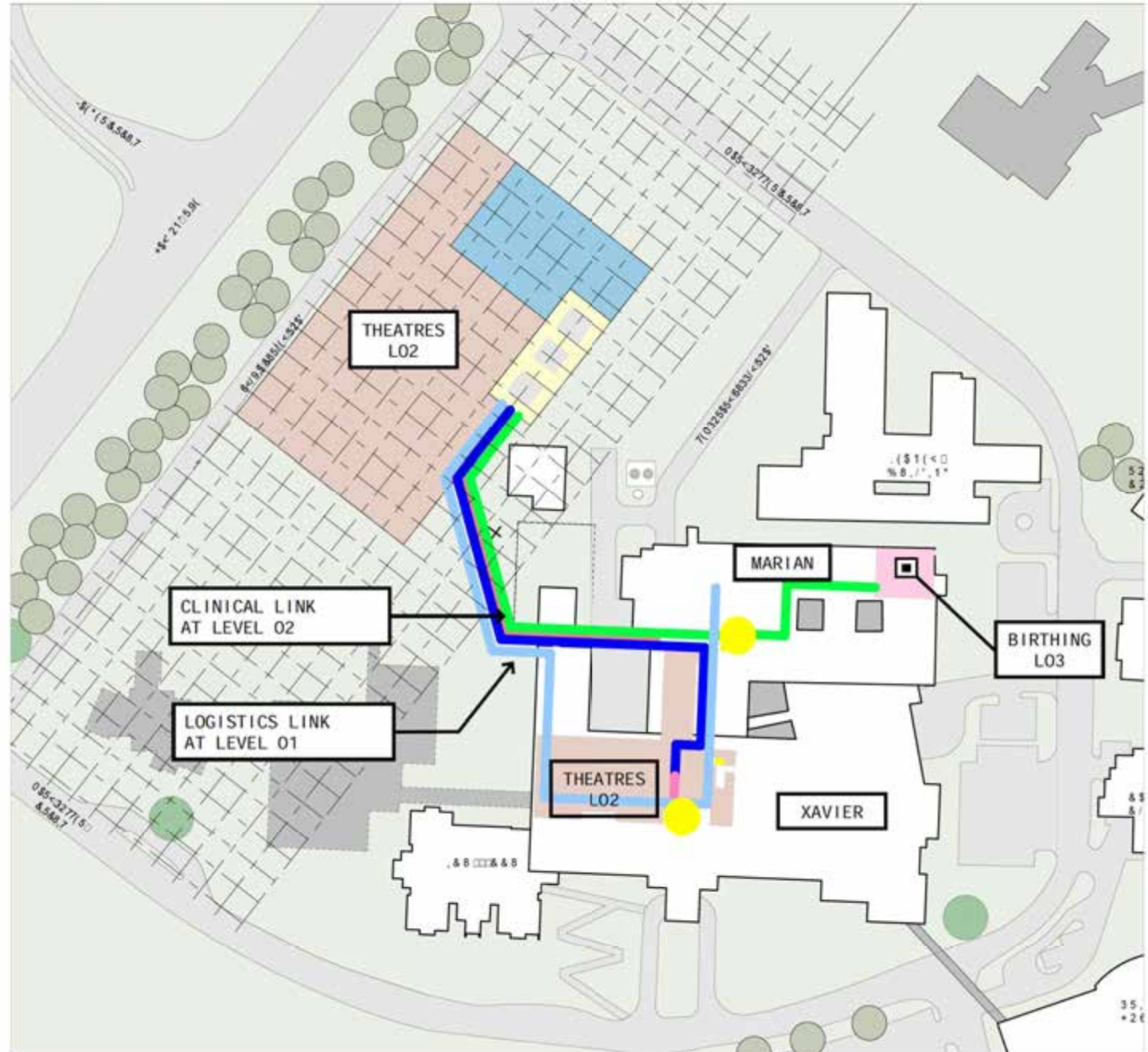
A clinical link is proposed on Level 2, mainly connecting the new theatres in the CSB and the existing theatres and IPUs in the Xavier Building as well as the existing Birthing suite in the Marian Building.

The table below summarises the distances and estimated transfer times from the new CSB to the existing departments in Xavier and Marian.

Theatres (L2 CSB) to Birthing (L3 Marian) Link 1 <span style="color: green;">—</span>
210m + 1x lift transfer 2 minutes 40 seconds + lift transfer
Theatres (L2 CSB) to Theatres (L2 Xavier) Link 2a <span style="color: blue;">—</span>
200m 2 minutes 30 seconds
Theatres (L2 CSB) to IPU (L4 6 Xavier) Link 2b <span style="color: magenta;">—</span>
210m + 1x lift transfer 2 minutes 40 seconds + lift transfer
Core (L 1 CSB) to Logistics (L1 Xavier) Link 2b <span style="color: cyan;">—</span>
265m + 1x lift transfer 3 minutes 20 seconds + lift transfer

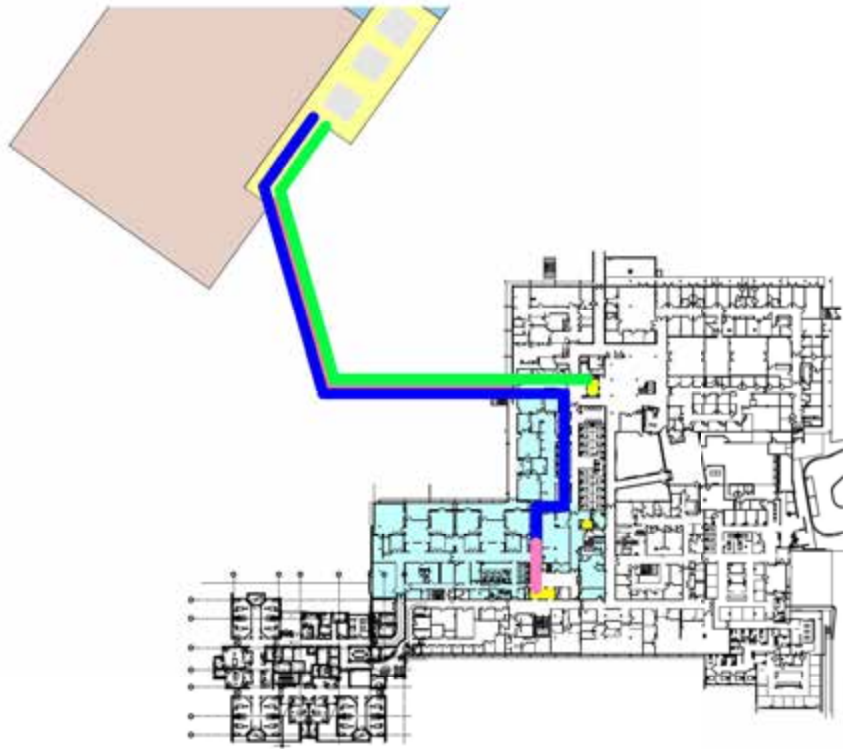
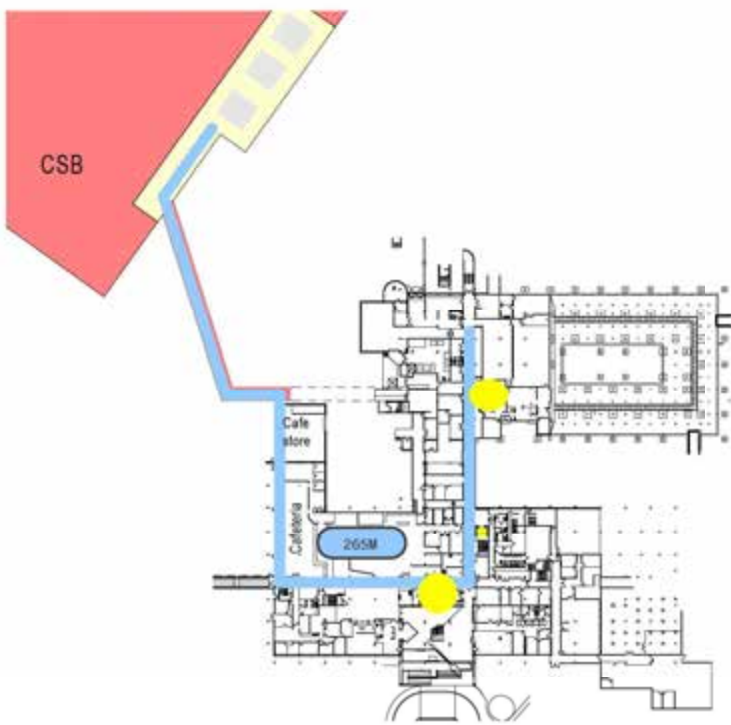
**Note:** Times are based on an average person walking 80m in 1 minute. This is reflective of Strategies 1 & 2. Strategy 3 requires an extra lift transfer

- LIFTS
- THEATRES
- BIRTHING



# F.2 Additional Studies

## Connection to Existing Buildings



-  LIFTS
-  THEATRES
-  BIRTHING

LEVEL 03

## Abbreviations

Abbreviation	Description
AS 3959	Australian Standard AS 3959-2018 <i>Construction of buildings in bushfire-prone areas</i>
APZ	Asset Protection Zone
BAL	Bushfire Attack Level
BPA	Bushfire Prone Area
BPM	Bushfire Protection Measures
DA	Development Application
ESA	ACT Emergency Services Agency
IAPZ	Inner Asset Protection Zone
NCC	National Construction Code

## 1. Introduction

Eco Logical Australia (ELA) were engaged by Arup Australia Pty Ltd (Arup) to prepare a bushfire opportunities and constraints assessment (BOCA) to support the planning and concept design of the redevelopment of the North Canberra Hospital. The subject land is located at the existing North Canberra Hospital (previously Calvary Hospital) and adjacent northern block (formally the Brian Hennessy Rehabilitation Centre) in the north-western suburb of Bruce which provides private and public health and hospital services to the communities of North Canberra, Belconnen, Gungahlin precinct and surrounding areas of the Australian Capital Territory (ACT) and New South Wales (NSW). The campus is located on Mary Potter Circuit with primary access from Haydon Drive.

The assessed concept proposal (Figure 1) includes:

- Demolition of existing buildings:
  - Current ICU;
  - Marian building; and
  - Lewisham Building
- Construction of new buildings:
  - Future outpatient, admin, innovation and research centre;
  - Main hospital;
  - Multi-deck carpark;
  - Family accommodation;
  - Satellite mental health facility; and
  - Standalone birth centre.
- Open space (green heart).

**This bushfire opportunities and constraints assessment report is valid as of the date of issue and is suitable for the purpose for which it was commissioned. This report is not a Bushfire Protection Assessment suitable to support a Development Application for approval by ACT Emergency Services Agency (ESA).**

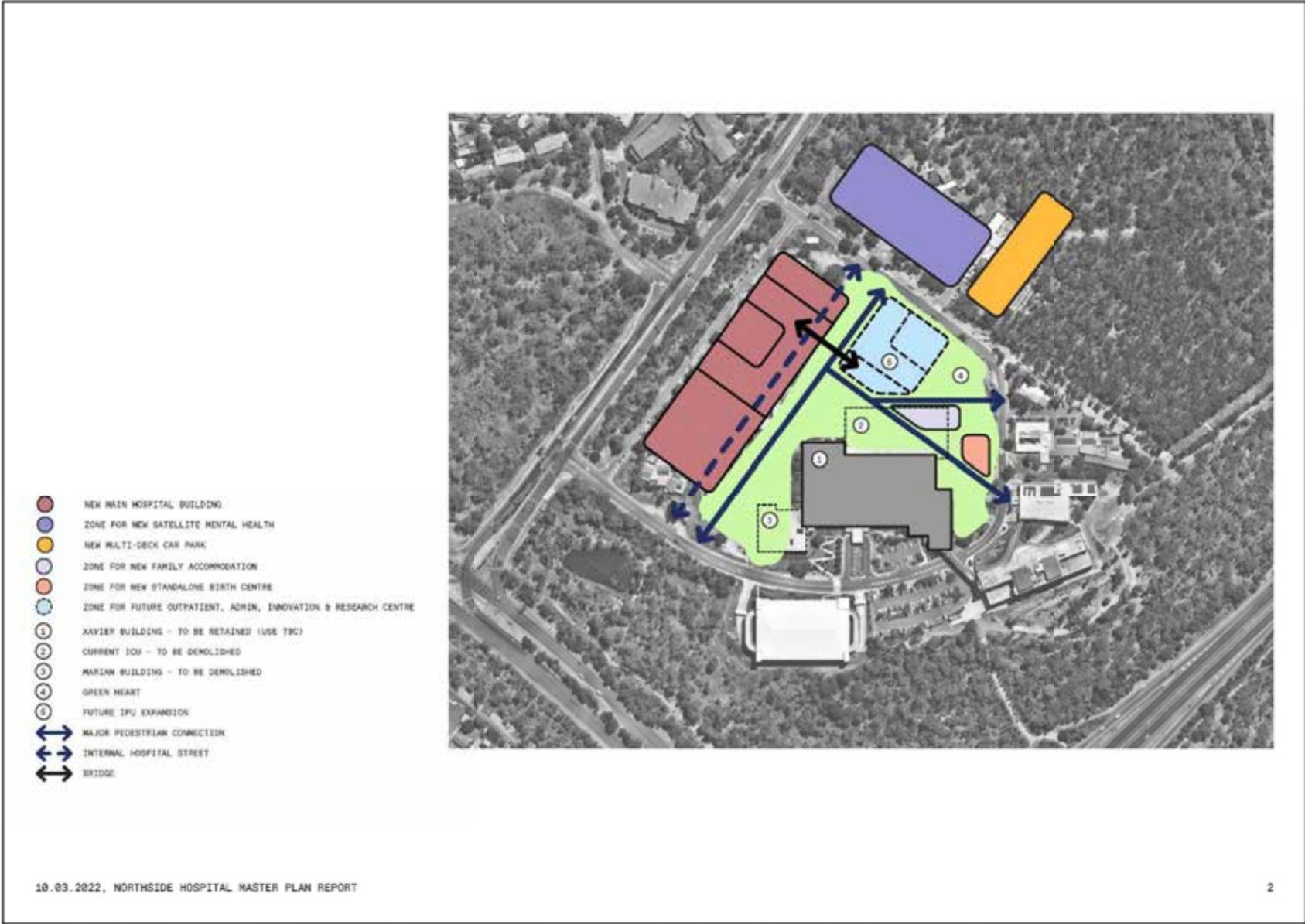


Figure 1: Current concept

### 1.1. Methodology and Requirements

The assessment provided herein is based on the following research and knowledge:

- A desktop analysis of the vegetation and topography within and surrounding the subject land;
- Site inspection 18 October 2022 (under initial engagement for this work 2022);
- Bushfire Prone Area mapping (<http://www.actmapi.act.gov.au>);
- ACT Bushfire Management Standards 2023 (BMS; ACT Government 2023); and
- National Construction Code 2022 Volume One (ABCB 2022).

### 1.2. Bushfire Prone Area Mapping

The subject land is mapped as a bushfire prone area (BPA) as shown in Figure 3.

### 1.3. ESA Engagement

Engagement with ESA has not occurred at this early stage however, as the subject land is an existing sensitive use development, engagement with ESA is required to be undertaken during the design phase to assist in developing a suitable suite of bushfire protection measures in accordance with ACT Bushfire Management Standards 2023 (BMS), in particular Asset Protection Zones (APZ).

### 1.4. Bushfire Management Standards 2023 (BMS)

#### 1.4.1. Sensitive Use Developments

The outpatient building, main hospital, mental health facility and birthing centre are all Class 9a buildings and classified sensitive use development which are assessed against the bushfire protection measures (BPM) in Section 7 of BMS. Due to the vulnerable nature of occupants in such developments, BMS places greater emphasis on APZ and emergency management.

The administration, innovation and research centre contains an outpatient centre which is Class 9a under NCC and in accordance with BMS, BPM for sensitive-use development are to be applied.

The family accommodation building is a Class 3 building and will be occupied by people on a short-term basis who are unaware of their surroundings and appropriate procedure to follow in the event of a bushfire as such, are considered sensitive use development under BMS. There may be opportunity to treat this building as residential given it will be managed and there will permanent staff on site however this will require ESA consultation. The required BPM for the adjoining sensitive use development overrides most opportunities for this as discussed in Table 2.

#### 1.4.2. Commercial and Other Development

Class 5-8 buildings (commercial/industrial buildings with no attached dwelling/residence) are assessed under Section 8 of BMS and must demonstrate the development is able to meet the aim and objectives of BMS and specific aim and objectives for 'other development', with Section 7 (residential infill development) as a baseline. The proposed carparking building is Class 7a under the National Construction Code (NCC).

### 1.5. National Construction Code 2022 (NCC)

#### 1.5.1. Class 9a buildings

The NCC prescribes additional bushfire protection provisions for certain Class 9 buildings located on BPA.

The Deemed-to-Satisfy provisions apply to certain Class 9 buildings (including health care) and Class 10a or deck immediately adjacent or connected to such a building not exposed to a Bushfire Attack Level (BAL) no greater than BAL-12.5. They must comply with:

1. Class 9 buildings – Part G5 and Specification 43.
2. Class 10a building of deck connected to specific Class 9 building – S43C2 and S43C13 of Specification 43.

#### 1.5.2. Class 3 buildings

Part G5D3 of the NCC prescribes Class 3 within a BPA must comply with AS3959 *Construction in Bushfire Prone Areas* (SA 2018).

Table 1 below provides a summary of each building class (as provided by Arup) and relevant legislative assessment requirements.

For the purpose of this assessment, an NCC building class has been assigned to each functional zone of the masterplan (Figure 1). The building class will be confirmed by a Building Code of Australia Consultant as the design progresses.

**Table 1: Summary of applicable bushfire requirements**

Building ID (see Figure 3)	Building	NCC Building Classification	BMS Section	NCC Section
5	Outpatient, Admin, Innovation and Research Centre	9a	Section 6	Part G5 and Specification 43
6	Main Hospital	9a	Section 6	Part G5 and Specification 43
7	Satellite mental health facility	9a	Section 6	Part G5 and Specification 43
8	Multi-deck carpark	7a	Section 8	N/A
9	Family accommodation	3	Section 6	N/A
10	Standalone birth centre	9a	Section 6	Part G5 and Specification 43

### 3. Bushfire Protection Measures (BPM)

Table 3 provides a summary of each assessment item required for future development and a response that identifies opportunities or constraints with reference to BMS and NCC specifications with relevant commentary. This assessment does not list the full specifications and requirements and it is recommended the following be reviewed by the project team:

#### 3.1. Sensitive Use Development

1. **Table 6.8a to Table 6.8d of BMS (ACT Government 2023).**

- a. All sensitive use buildings;
- b. Extracts of relevant specifications and standards are included in Appendix C1.

2. **NCC Specification 43 of NCC 2022 (Volume 1).**

- a. All sensitive use buildings aside from family accommodation;
- b. Extracts of relevant specifications and standards are included in Appendix D.

#### 3.2. Other Development (Carpark building)

1. **Class 5-8:** Section 1.1 (BMS aims and objectives) and Section 3.3.1 (BMS Class 5-8 specific objectives). Extracts of relevant objectives for Class 5-8 are included in Appendix C2;
2. **Class 5-8:** Table 14 of BMS. Extracts of relevant specifications and standards for commercial development (which are to be used as a baseline for this type of development) are included in Appendix C3.
3. No specific NCC bushfire requirements apply.

Table 3: Assessment of Bushfire Protection Measures

Standard	Item #	Assessment item	Proposed development type	Specifications and requirements (if relevant)	Constraint	Opportunity
Planning for Bush Fire Protection including 2022 Addendum	1	Bushfire Hazard Assessment	All	Appendix 1 of BMS and Part G5 of the NCC	<p>The majority of the subject land is mapped as BPA (Figure 3) and there is a bushfire hazard within 140 m of the subject land (Figure 2) which triggers the requirement for a bushfire response in both BMS and NCC.</p> <p>a) No opportunity was identified to modify the bushfire hazard assessment outcome or required response to BMS and NCC.</p>	
	2	Development within existing sensitive use facility	All (except carpark)	Section 6.4 of BMS	<p>a) Future redevelopment of the subject land increases capacity and additional consideration for site improvements is a requirement of BMS.</p> <p>b) Site improvements (BPM) will need to be assessed in consultation with ESA and incorporated into any future development within the subject land if the development is classified as in an 'existing sensitive use development'. Upgrades may include:</p> <ul style="list-style-type: none"> <li>Increases to existing (non-compliant) APZ;</li> <li>Construction upgrades to existing buildings (ember protection);</li> <li>Evacuation management.</li> </ul> <p>c) Expansion of Building 5 (Figure 1) will require bushfire construction upgrades.</p>	<p>a) Buildings shown outside of the APZ in (Figure 2) are capable of providing a compliant APZ and other BPM.</p> <p>b) Overall site safety can be improved by addressing additional areas within the subject land i.e., ember protection upgrades to existing/retained buildings, landscaping and vegetation management etc.</p> <p>c) Further works may be required alongside consultation with ESA.</p>
	3	Asset Protection Zones (APZ)	All (except carpark)	Table 7 (Appendix C1)	<p>Future buildings are required to provide a compliant APZ (Figure 2 and Table 2).</p> <p>a) There may be potential opportunity for the Class 3 accommodation to be</p>	<p>a) Amend Concept Plan to ensure APZ are fully accommodated within the development site boundaries.</p>

Standard	Item #	Assessment Item	Proposed development type	Specifications and requirements (if relevant)	Constraint	Opportunity
			Carpark building	Table 14 (Appendix C3)	a) This will form a condition within HOWEVER, it is not considered a constraint.	
	7	Water supplies	All (except carpark)	Table 9 (Appendix C)	a) Fire hydrant spacing, design and sizing comply with the relevant clauses of AS 2419.1 and ESA requirements. b) Future development will need to address this requirement. c) Recommend further advice from a suitably qualified professional.	a) Improve the hydrant coverage within the subject land.
			Carpark building	Table 14 (Appendix C3)		
	8	Electricity services	All	Table 9 (Appendix C1) and Table 14 (Appendix C3)	This will form a consent condition HOWEVER, it is not considered a constraint.	
	9	Gas services	All	Table 9 (Appendix C1) and Table 14 (Appendix C3)	If installed, this will form a consent condition HOWEVER, it is not considered a constraint.	
	10	Emergency management planning	All (except carpark)	Table 10 (Appendix C1)	This will form a consent condition HOWEVER, it is not considered a constraint.	
	11	Environmental Issues	All		a) Management of vegetation for APZ implementation may require an environmental assessment. Confirm with suitable professional or organisation.	
National Construction Code	12	NCC Vol 1, Part G5: Construction in bushfire prone areas and Specification 43	Outpatient, main hospital, mental health and birth centre	Appendix D	Aside from the carparking building and family accommodation, the new NCC requirements for specific Class 9 buildings applies to all new buildings proposed within the mapped BPA area (Figure 3). a) There were no opportunities identified to avoid responding to NCC requirements.	