



**ARCHITECTURAL CONCEPT DESIGN REPORT**  
for

**NORWEST PRIVATE HOSPITAL**  
**EXPANSION PROJECT**

for  
**Healthscope Pty. Ltd.**

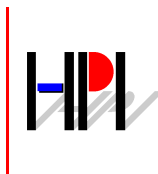
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**Issue D**



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# 1. Table of Contents

<b>1.</b>	<b>TABLE OF CONTENTS.....</b>	<b>3</b>
<b>2.</b>	<b>INTRODUCTION .....</b>	<b>5</b>
2.1	Norwest Private Hospital: Inception and Growth.....	5
2.2	Need for expansion .....	5
<b>3.</b>	<b>LOCATION AND EXISTING FACILITIES .....</b>	<b>7</b>
3.1	Location .....	7
3.2	Existing Hospital Facilities / Services .....	8
<b>4.</b>	<b>PROPOSED EXPANSION .....</b>	<b>10</b>
4.1	Overview .....	10
4.2	Basement:.....	10
4.3	Ground Floor.....	11
4.4	Level 1 .....	12
4.5	Level 2 .....	13
4.6	Level 3 .....	14
4.7	Roof Level.....	15
<b>5.</b>	<b>BUILT FORM AND URBAN DESIGN.....</b>	<b>16</b>
5.1	Site Analysis .....	16
5.1.1	Site Features.....	16
5.1.2	Setbacks .....	17
5.1.3	Noise .....	17
5.1.4	Current surrounding land uses.....	17
5.2	Height Controls / Heritage View Corridor .....	18
5.2.1	View Cones .....	19
5.2.2	Height Studies.....	20
5.3	Options considered in relation to height planes .....	22
5.3.1	Option 1.....	22
5.3.2	Option 2 – Current Proposed Expansion .....	23
5.3.3	Option 3.....	24
5.3.4	Option 4.....	24
5.3.5	Option 5.....	25
5.4	Bulk .....	26
5.4.1	Volume generated by fulfilling demand .....	26
5.4.2	Bulk distribution / massing options.....	28
5.4.3	Relationship to surrounding building masses .....	28
5.4.4	Potential to integrate with Shopping Precinct master planning .....	29
5.4.5	Massing of the new 'wing' in relation to existing .....	30
5.4.6	Massing in relation to form, materials, scale .....	30
5.4.7	Levels / heights .....	30
5.5	Scale .....	31
5.6	Impact of Health Planning and Design .....	32
5.6.1	Guidelines and Legislation .....	32
5.6.2	Functional Relationships.....	32
5.6.3	Hospital – Typical Flow Chart .....	32
5.6.4	Day Procedure Unit.....	33
5.6.5	Central Sterilising Supply Unit - CSSD .....	34
5.6.6	Operating Unit.....	34
<b>6.</b>	<b>DESIGN QUALITY .....</b>	<b>35</b>
6.1	Built Form .....	35
6.2	Facade .....	35
6.3	Rooftop and Roofscape.....	36
6.4	Mechanical Plant .....	37
6.5	Setbacks .....	38
6.6	Building Articulation .....	39

# Norwest Private Hospital Expansion Project

## Architectural Concept Design Report

---

6.7	Materials .....	40
6.8	Colour Selection .....	40
6.9	Design for the minimisation of crime .....	41
<b>7.</b>	<b>ENVIRONMENTAL AMENITY .....</b>	<b>42</b>
7.1	Solar Access and Overshadowing .....	42
7.1.1	Solar Access .....	42
7.1.2	Building separation (avoidance of overshadowing) .....	42
7.2	Waste Management .....	42
7.3	Loading Zones .....	43
7.4	Mechanical Plant .....	43
7.5	Acoustic Impacts .....	43
7.5.1	Construction Noise .....	43
7.5.2	Air-conditioning / Mechanical Plant Design .....	44
7.5.3	Operational Noise .....	44
7.6	Wind Impacts .....	45
7.7	Landscaping .....	45
<b>8.</b>	<b>ECOLOGICALLY SUSTAINABLE DESIGN .....</b>	<b>46</b>
8.1	Energy .....	46
8.2	Other ESD initiatives .....	46
8.3	Water and Liquid Waste Management .....	46
8.4	Material Selection Minimal Impact and Indoor Air Quality .....	47
8.5	Other Considerations .....	47
<b>9.</b>	<b>HAZARDS .....</b>	<b>47</b>
<b>10.</b>	<b>DRAWING REGISTER .....</b>	<b>48</b>
10.1	Architectural Drawings .....	48
<b>11.</b>	<b>APPENDIX .....</b>	<b>49</b>
11.1	Appendix A - Reduced Architectural Drawings .....	50
11.2	Appendix B - Photomontage Study .....	51
11.3	Appendix C - Shadow Diagrams .....	52
11.4	Appendix D - Schedule of Materials Colours and Finishes .....	56
11.5	Appendix E - NWP12 Waste Management Plan (Mission Statement) .....	61
11.6	Appendix F - Project Waste Management Plan .....	62
11.7	Appendix G - NWP12 Waste and Recycling Report - Veolia .....	63
11.8	Appendix H - NWP12 Construction Management Plan .....	64
11.9	Appendix J - Healthscope Corporate Guide - Chemical Management .....	65



# Norwest Private Hospital Expansion Project

## Architectural Concept Design Report

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### 2. INTRODUCTION

This Architectural Concept Design Report (ACDR) has been prepared to address the requirements of the (New South Wales Department of Planning and Infrastructure) Director General's Environmental Assessment Requirements for the preparation of the Environmental Impact Statement for the proposed expansion of the Norwest Private Hospital, Bella Vista for Healthscope Pty. Ltd.

The Environmental Impact Statement is prepared by Macroplan Dimasi

#### 2.1 Norwest Private Hospital: Inception and Growth

The existing Norwest Private Hospital was constructed by Healthscope to service a demand for private healthcare services within the Hills area which The Hills Private Hospital (also owned and operated by Healthscope) could no longer serve. The Hills Private Hospital is constrained by a landlocked site, with no capacity to expand. Accordingly Norwest Private Hospital was built, commencing operations in September 2009.

Continuing growth in demand for private healthcare services in The Hills meant the need for expansion of the Norwest Private Hospital eventuated earlier than anticipated. The Development Application for the existing hospital proposed staged construction and development. Construction of the western facing patient ward on level 3 was intended to occur at a later date after the occupation and commissioning of the new hospital and medical centre, and was the proposed future expansion provision for the Norwest Private Hospital. Soon after commencement of construction this 'future expansion' provision was implemented, and incorporated in the construction of the new hospital.

#### 2.2 Need for expansion

Not long after commissioning in September 2009, and with steady occupancy increases since, it has become evident that expansion of the hospital will be required in the near term. This further expansion is the objective of this proposal.

Healthscope proposes a substantial expansion of the Norwest Private Hospital in line with the company's strategy to increase available operating theatres, beds and consulting suites at this site, in response to increased (and increasing) demand within the region.

The community served by Norwest Private Hospital is one of the fastest growing in metropolitan Sydney. It benefits from easy access to the M2/M7 motorway, and (from 2019) the North West Rail Link, (station at Bella Vista), both driving anticipated further increased population growth in the area.

The proposed expansion of Norwest Private Hospital includes the addition of a three storey 'wing' over the current on-grade car parking area, mirroring the footprint of the existing Medical Centre 'wing' on the Eastern side of the site.

Norwest Private Hospital is a major surgical and medical facility. Services provided by the hospital revolve around the operating theatres, and the availability of those operating theatres to surgeons to meet patient demand. The proposed addition of five new operating theatres is intended to accommodate the increased demand and to future proof the facility for the expected growth in the community.

Healthscope is committed to continue operating the existing Norwest Hospital throughout the planning, design and construction processes of the proposed expansion, to ensure the level of service to the community is not compromised. The outcome of the proposed expansion will be to provide key additional facilities for doctors and their patients at Norwest Private Hospital.



# **Norwest Private Hospital Expansion Project**

## **Architectural Concept Design Report**

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This design statement will outline the factors considered in the processes of developing a design solution intended to meet private healthcare demand in the area for the present and the future. The aim has been to meet community expectations for safe and efficient healthcare in The Hills and surrounding areas; a by-product of this will be the generation of increased employment opportunities within the area to further benefit the local economy.



# Norwest Private Hospital Expansion Project

## Architectural Concept Design Report

### 3. LOCATION AND EXISTING FACILITIES

#### 3.1 Location

The Norwest Private Hospital is located on Norbrik Drive, within the Norwest Business Park in Bella Vista, in north-western Sydney. On the ridge immediately to the North lies the Bella Vista farm house and precinct, which is Heritage listed. To the North of the Bella Vista Farm House and Norwest Boulevard lies the northern portion of Norwest Business Park.

To the West, Old Windsor Road and residential suburbs border Norwest Business Park. To the East, residential suburbs adjoin Norwest Business Park and the Farm House Precinct. To the South, residential suburbs and the M7 border the Norwest Business Park.

The closest and almost only neighbours to the hospital are the two developments which were constructed during the same time as the hospital. These are the Circa Retail shopping centre (corner Norbrik Drive and Circa Boulevard), and the 'Q Central' office development on the northern side of Norbrik Drive. There are numerous adjacent sites which have not been developed to date. The hospital is located within easy reach of the M7 motorway, Old Windsor Road and Norwest Boulevard.



LOCATION MAP



# Norwest Private Hospital Expansion Project

## Architectural Concept Design Report

### 3.2 Existing Hospital Facilities / Services

The existing Norwest Private Hospital consists of the main hospital building (4 levels + B1 parking) in the form a square with a central courtyard on level 2 and a Medical Suite building (3 levels +B1 parking). Parking is provided at basement level and on ground floor level (street level). Access from Norbrik Drive to the hospital is provided on three sides of the site.



EXISTING NORWEST PRIVATE HOSPITAL OPENED 6 SEPTEMBER 2009

#### Features of the hospital include:

- A private Emergency Department open 24 hours a day, 7 days a week
- A large 690-space car park for patients and visitors with the highest ratio of hospital beds to car parks of any private hospital in Sydney
- A modern contemporary interior design coupled with modern medical equipment to aid doctors, nurses and support team in delivering high quality medical care
- A large open atrium space available to patients and visitors
- Spacious single rooms with en-suites, natural light to all patient rooms and the highest quality climate control systems
- Women's Health Unit is a secure separate wing of the hospital
- A professionally developed 'cook fresh' kitchen which delivers tasty and healthy food options
- The building embraces new green technology to lessen environmental impact (use of water recycling, solar panels and sensor light systems for better power consumption and safety)



# Norwest Private Hospital Expansion Project

## Architectural Concept Design Report

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### Norwest Private Hospital now comprises:

- 216 inpatient accommodation,
  - 13 operating theatres,
  - 24 hour Emergency Department,
  - Angiography Suite,
  - 24 hour on-site medical support,
  - 12 bed Intensive Care Unit,
  - 20 bed Coronary Care Unit,
  - 7 bed level 2 Special Care Nursery,
  - Endoscopy and Day Surgery Unit.
- 
- Outpatient services include:
  - a Chemotherapy and Infusion Centre,
  - Renal Dialysis Unit,
  - Over 25 speciality areas including orthopaedics, cardiology, cardiothoracic surgery,
  - General surgery, obstetrics and gynaecology, neurosurgery, plastic surgery,
  - Vascular surgery, urology and geriatric medicine.



# Norwest Private Hospital Expansion Project

## Architectural Concept Design Report

### 4. Proposed Expansion

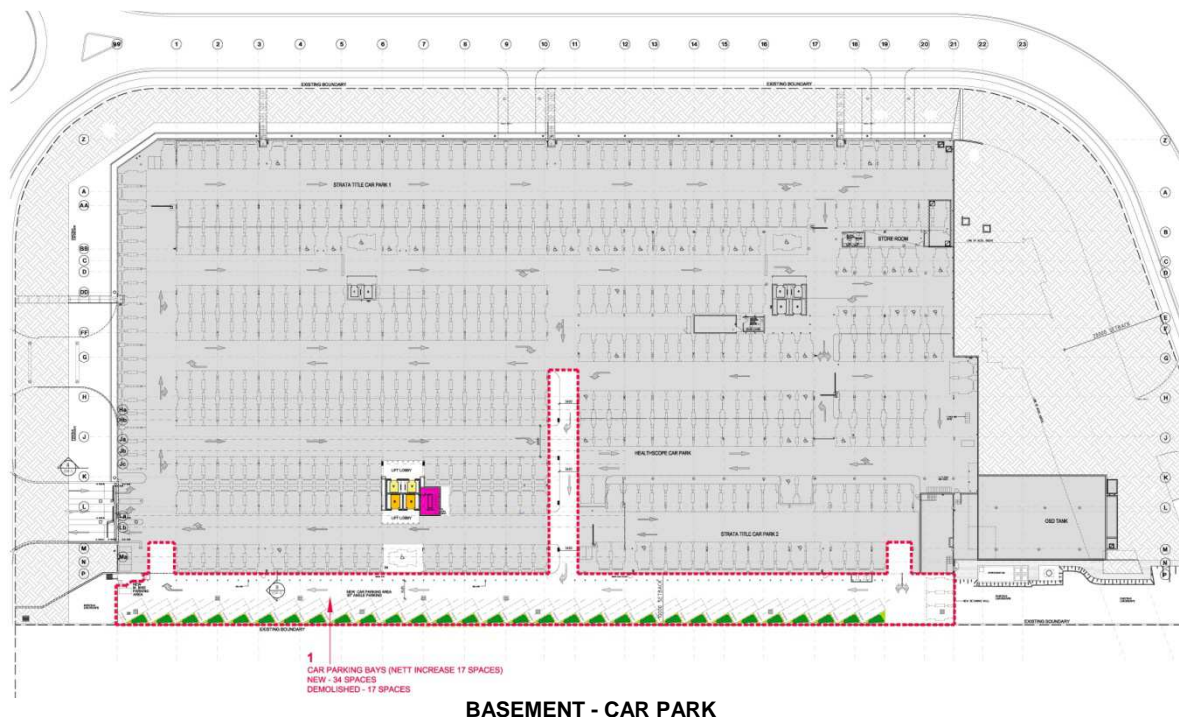
#### 4.1 Overview

The proposed new 'wing' will be constructed adjacent to the existing hospital building over the existing ground floor open car park. Construction works will therefore not be undertaken either immediately above or below existing operational areas of the hospital other than car park.

There will be internal alterations to Ground Floor, Level 1, Level 2 and Level 3 with substantial integration of the existing and new on level 1. The proposed development will see the expansion of existing facilities as described below. Floor plans are incorporated adjacent to the commentary below in addition to the larger scale plans in **Appendix A**.

#### 4.2 Basement:

As a result of the construction of new lifts and a stair which will provide access to the new wing from the existing naturally-ventilated basement car park, some parking bays will be lost. To compensate for this loss (17) it is proposed to construct additional (34) parking bays within the 10 metre western setback as indicated on the plan below. A Nett gain of 17 bays. Landscaping in the form of evergreen trees will be incorporated to provide shading on this western face as well as a green zone within the setback. Refer to the Landscape Plan NWP12-DGR-L Issue 1 for additional detail.

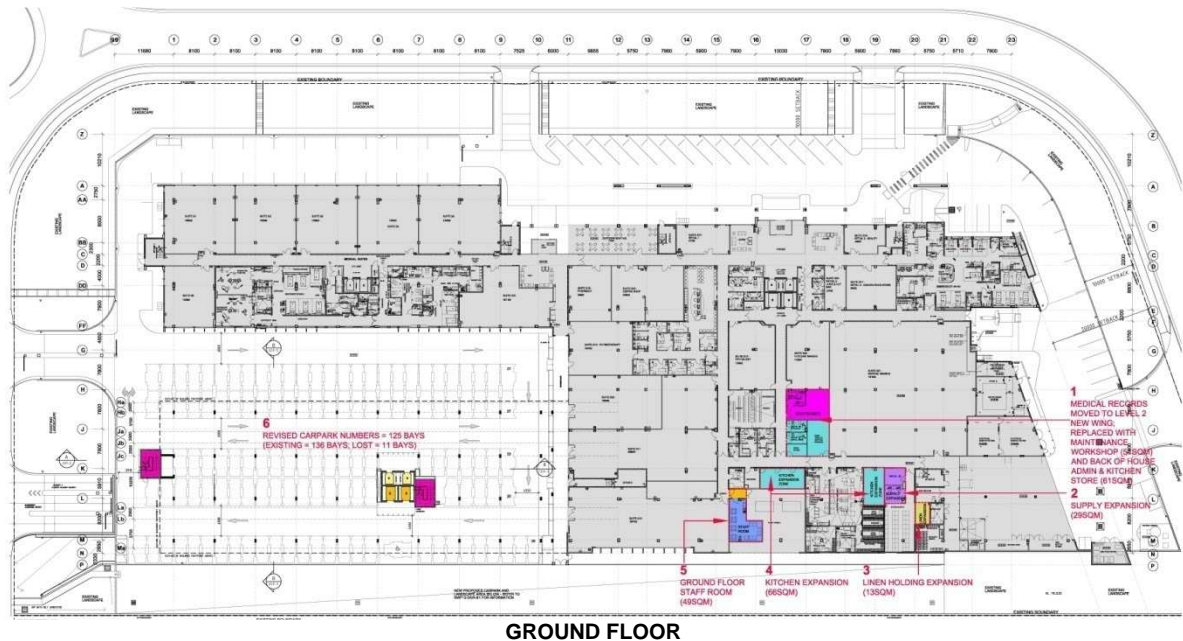


# Norwest Private Hospital Expansion Project

## Architectural Concept Design Report

### 4.3 Ground Floor

The existing facilities on the ground floor that will be impacted by the proposed expansion are the Kitchen, Linen Holding, Medical Records and maintenance stores. The expansion of services on the ground floor will require the relocation of some functions to the new wing to free up sufficient area to expand and optimise the back of house services.



GROUND FLOOR



# Norwest Private Hospital Expansion Project

## Architectural Concept Design Report

### 4.4 Level 1

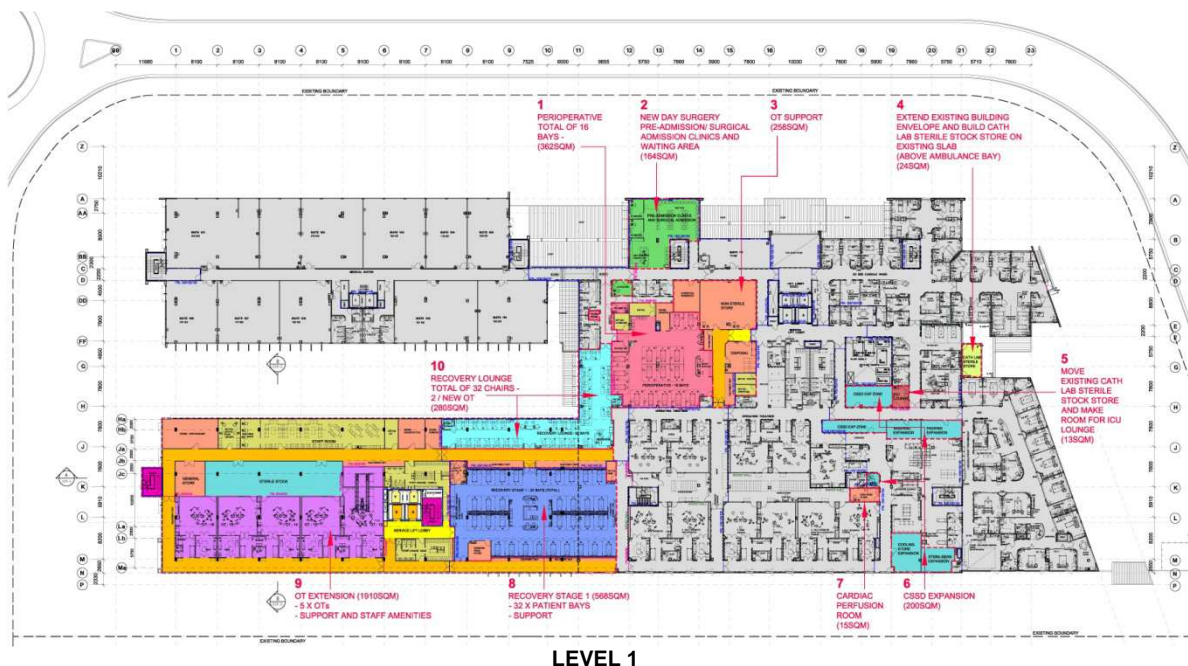
This level is the key to the expansion requirements of the hospital, and the determinant of the majority of clinical planning requirements.

The primary requirement is that the new operating theatres must be located within the same sterile zone and at a floor level which matches the existing. The medical centre when constructed was constrained by the height limits to the extent that the connecting link between the medical centre building and the hospital needed to be ramped. This would be impracticable for the theatre expansion and would introduce Workplace Health and Safety (WHS) issues for staff, and risks for patients being wheeled on beds.

Access to this level in the new wing from ground floor and basement parking will be for staff only.

New and refurbished accommodation/provision on this floor includes:

- Additional Peri operative Bays – Total of 16 Bays
- New Day Surgery, Pre-Admissions/Surgical Admissions Clinic and Waiting Area
- Extend existing building envelope (L1-24Sq.m.) New Sterile Stock Store for Cath Lab.
- Relocate Existing Cath Lab Sterile Store to provide new ICU Visitors Lounge.
- CSSD and Store/Support expansion within existing footprint.
- CSSD Expansion of Washing/Decontamination, Packaging, Cooling Store & Sterilising to accommodate new OTs.
- Five (5) additional Operating Theatres.
- New and expanded Recovery Stage 1 (32 bays) and support areas.
- Additional Support & Staff Amenities.
- Stage 1 Recovery Lounge Extension to accommodate OT Expansion.
- Stage 2 Recovery Lounge Extension to accommodate OT Expansion.





# Norwest Private Hospital Expansion Project

## Architectural Concept Design Report

### 4.5 Level 2

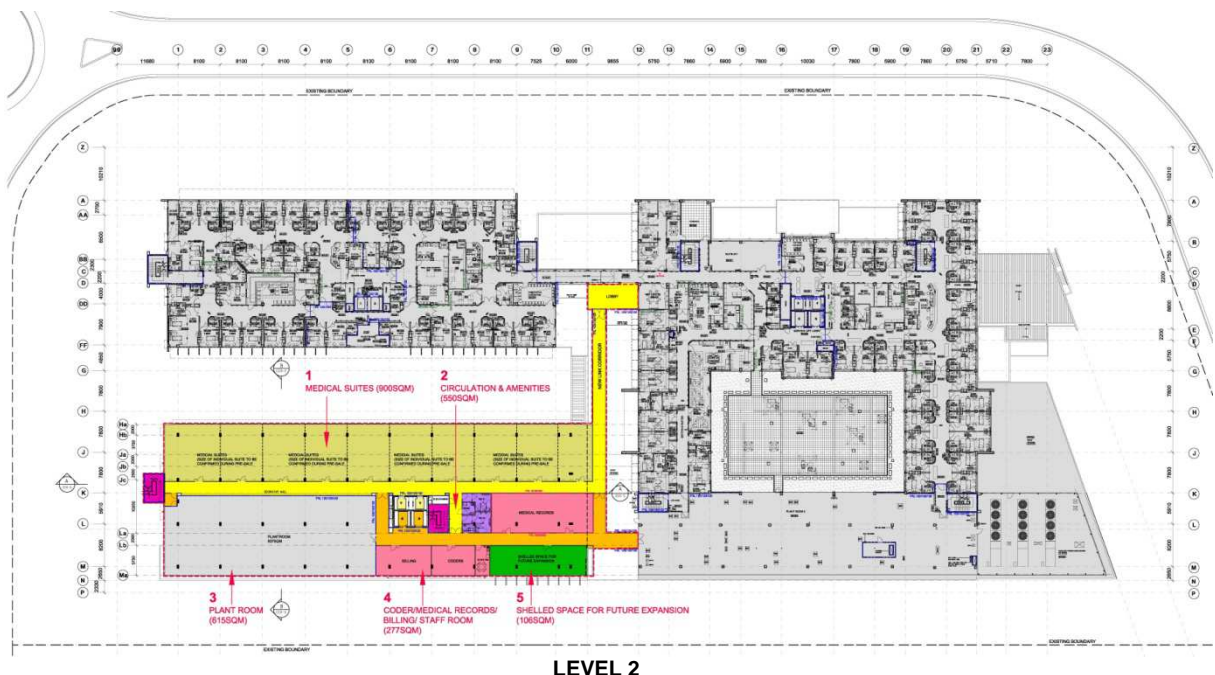
The primary driver of this level is the requirement to locate the mechanical plant which services the operating theatres (Level 1) as far as possible directly above the operating theatres.

In addition, the mechanical requirements for operating theatres are extensive, in order to provide the requisite air flows and sterile conditions. The balance of the floor area which remains, once the required floor space is allocated to mechanical plant, is allocated to medical suites and administration functions, which will be relocated from the ground floor of the existing building.

Level 2 will be linked back to the main hospital building by way of an enclosed corridor. It will be accessible for staff and visitors from ground floor and basement parking.

It will incorporate:

- New Plant room to accommodate new OTs (615m<sup>2</sup>..)
- New Coders and Billing Offices & Staff Room (277m<sup>2</sup>).
- New medical Suites space (900m<sup>2</sup>)
- Shelled Space for future expansion (106m<sup>2</sup>)
- New Medical Records Area (90m<sup>2</sup>)





# Norwest Private Hospital Expansion Project

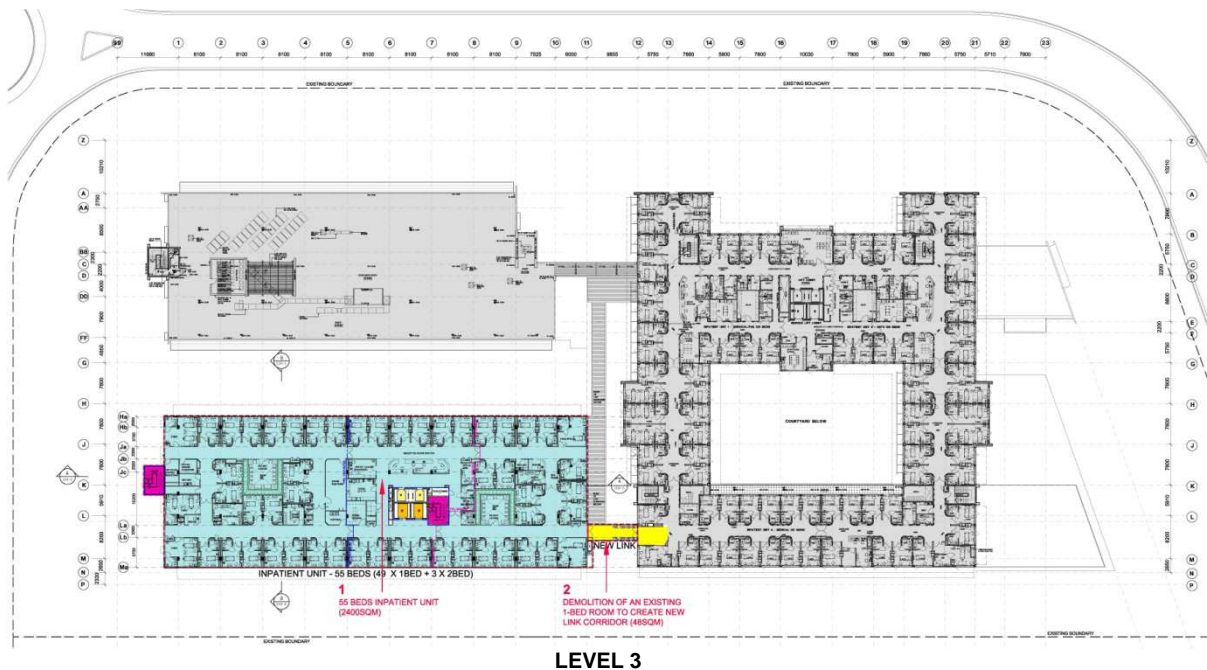
## Architectural Concept Design Report

### 4.6 Level 3

Level 3 will accommodate the required 55 bed inpatient ward and will be linked back to the existing hospital wards on level 3. Two lounges, each with a skylight spanning the full width and breadth of the room will be provided on this level.

Level 3 accommodates:

- Fifty five (55) new Inpatient Beds with associated support areas.
- 2 x Internal sky lit lounges.
- Demolish 1 x Existing Bedroom

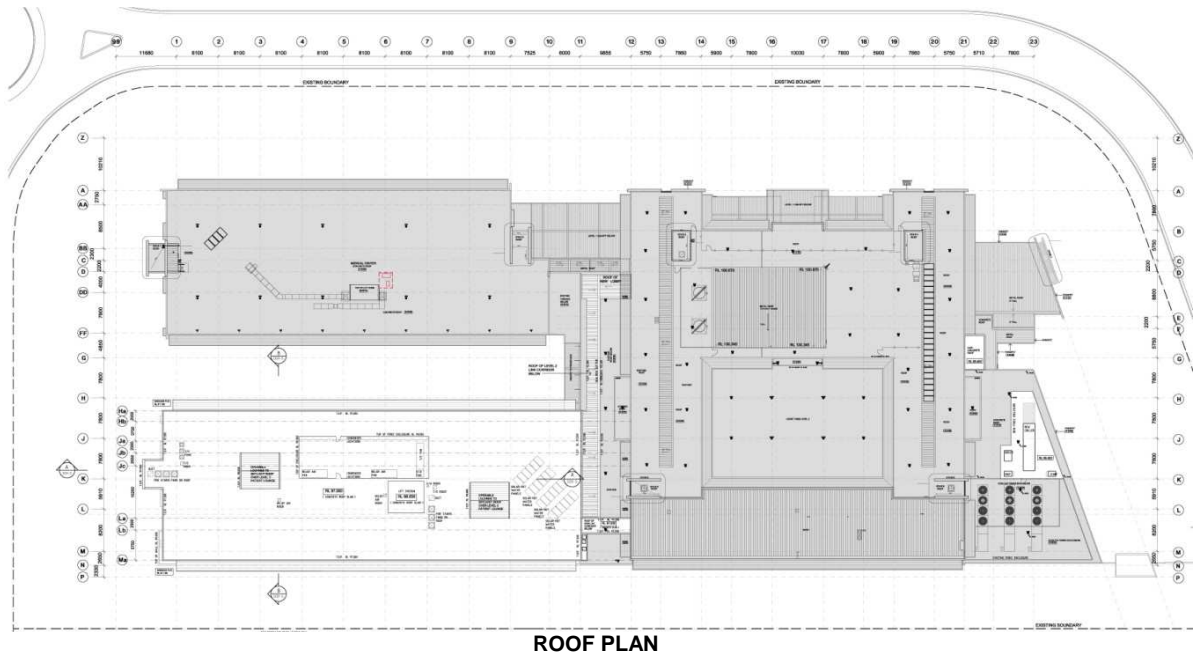


# Norwest Private Hospital Expansion Project

## Architectural Concept Design Report

### 4.7 Roof Level

The roof level of the new wing will be at RL97.00. Lift overrun and skylight will extend above this level by approximately 1500mm to RL 98.500. All plant on the roof level will be located in a manner which will minimise the impact on the height planes determined by The Hills Shire Council. Mechanical plant and solar hot water panels will be located on the roof. in addition to stair pressurisation fans and exhaust and fresh air supply provisions.



# Norwest Private Hospital Expansion Project

## Architectural Concept Design Report

### 5. BUILT FORM AND URBAN DESIGN

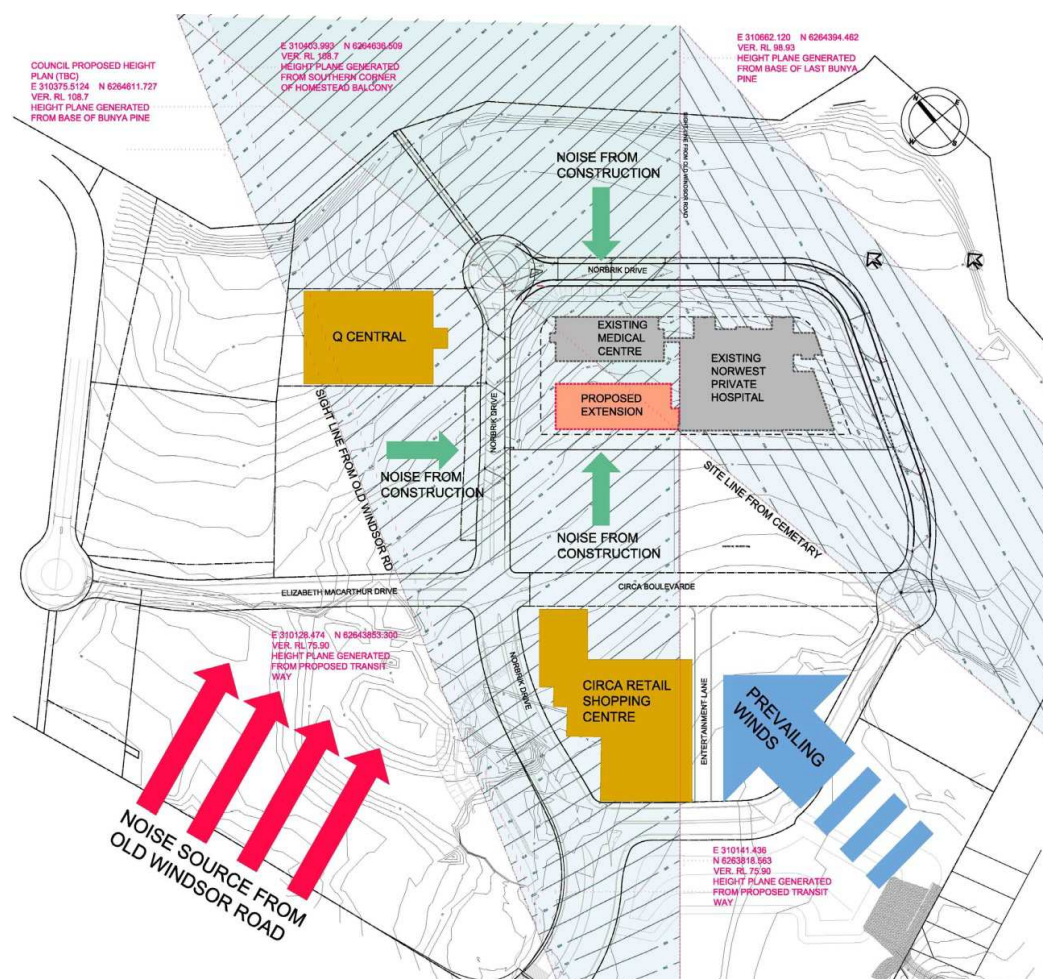
#### 5.1 Site Analysis

##### 5.1.1 Site Features

The site is oriented at approximately 45° to true north. Norbrik Drive bounds the site on three sides. On the south western boundary the adjacent site was excavated a number of years ago to a significant level below the hospital level, and has remained an excavated site and unutilised ever since. A significant number of adjacent sites are vacant, only two buildings having been developed in the vicinity of the hospital, namely Q Central and Circa Retail Shopping Centre.

The topography rises to the north-east with the Bunya Pine tree line of the Bella Vista Farm House located at the crest of the ridge. The shaded blue triangular zones on the site plan below represent the Height Planes established by council to “ensure that views of the Homestead and the prominent ridgeline to the south are visible when viewed from the specific locations along Old Windsor Road and the Pearce Family Cemetery” (Refer “Note” in DCP to **Clause 2.6 Part B Business**).

The views within the **Height Planes** are discussed in **Section 5.2** below



SITE ANALYSIS



# Norwest Private Hospital Expansion Project

## Architectural Concept Design Report

Norwest Private Hospital lies within the view corridors defined by Council, as shown on the Map to Appendix C and the view line in Appendix D to the DCP (see Figure in Section 5.2 below).

### 5.1.2 Setbacks

The 10-metre setback which surrounds the existing hospital is in keeping with the Norwest Association Master Plan, and is intended to form a visual separation between built form elements. Due to the nature of the existing hospital, the bulk of the site is taken up by the facility and associated parking in the basement level as well as the ground floor.

### 5.1.3 Noise

Noise from construction of adjacent sites is anticipated in the event developments on those sites proceed in due course. Traffic noise generated by Old Windsor Road does not impact the hospital in any appreciable way, being located a substantial distance away from the hospital.

Vehicular access from Norwest Boulevard to the north and Old Windsor Road to the south west is by way of Elizabeth Macarthur Drive and Norbrik Drive.

### 5.1.4 Current surrounding land uses

The aerial photograph below demonstrates the current land use in the Norwest Business Park adjacent to the hospital. In addition it provides a convenient view which demonstrates the relationship between the Bunya Pine tree line on the ridge to the north east of the hospital and Old Windsor Road.



CURRENT LAND USE NORWEST BUSINESS PARK - (Source - NWA Web Site)

# Norwest Private Hospital Expansion Project

## Architectural Concept Design Report

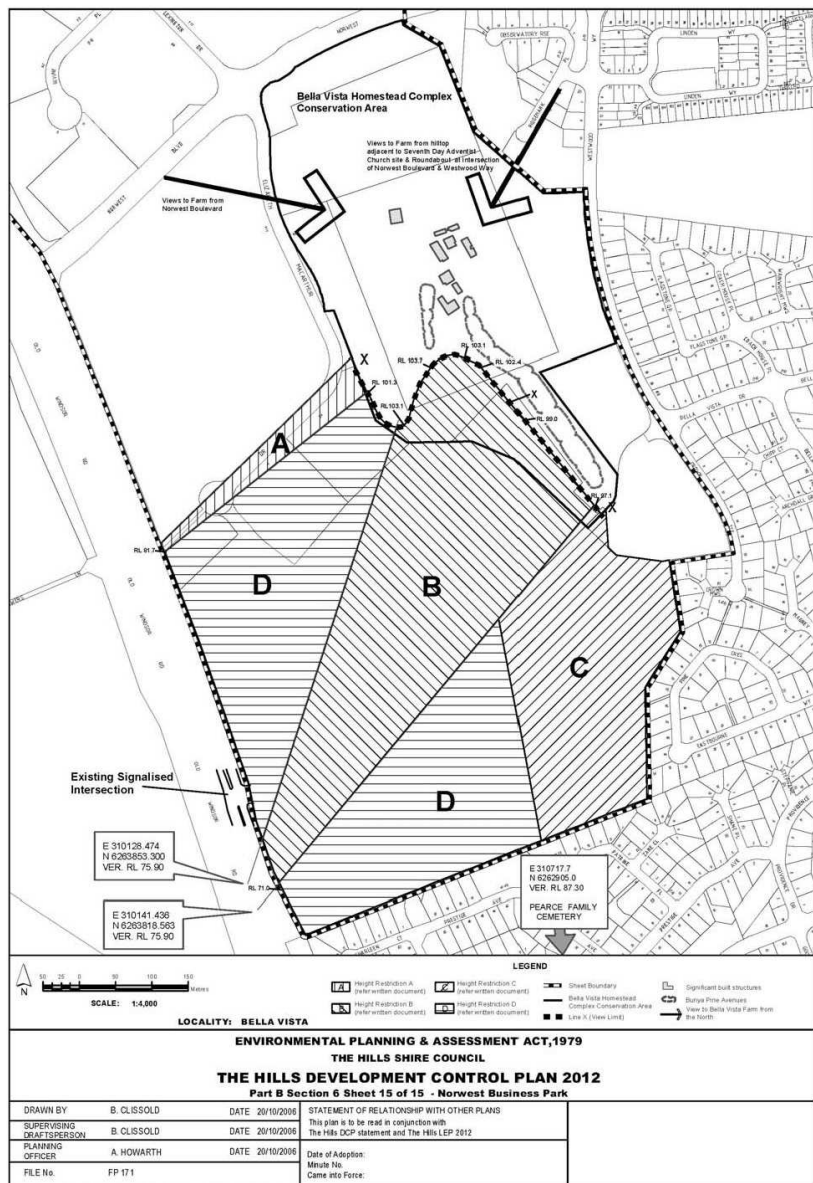
### 5.2 Height Controls / Heritage View Corridor

The proposed development falls within the provisions of the LEP height limit of RL 116 with the maximum proposed height being the Lift Shaft roof slab at RL98.500.

The objectives of the Council's DCP Building Height Control are:

1. to ensure that building heights respond to the existing landform of the neighbourhood, including ridgelines and drainage depressions;
2. to protect privacy and amenity of surrounding allotments and development in accordance with Council's ESD objective 7;
3. to minimise overshadowing of adjoining allotments; and
4. to retain significant views to and from the Bella Vista Farm conservation area, in particular the following:

- o vistas from the Homestead generally south
- o vistas from the outer farmyard generally north
- o views into the site from the former alignment of Old Windsor Road
- o views into the site from Norwest Boulevard
- o distant views to the site from the Castle Hill Seventh Day Adventist Church site and the Pearce Family Cemetery.



THE HILLS DCP 2012 HEIGHT PLANE MAP



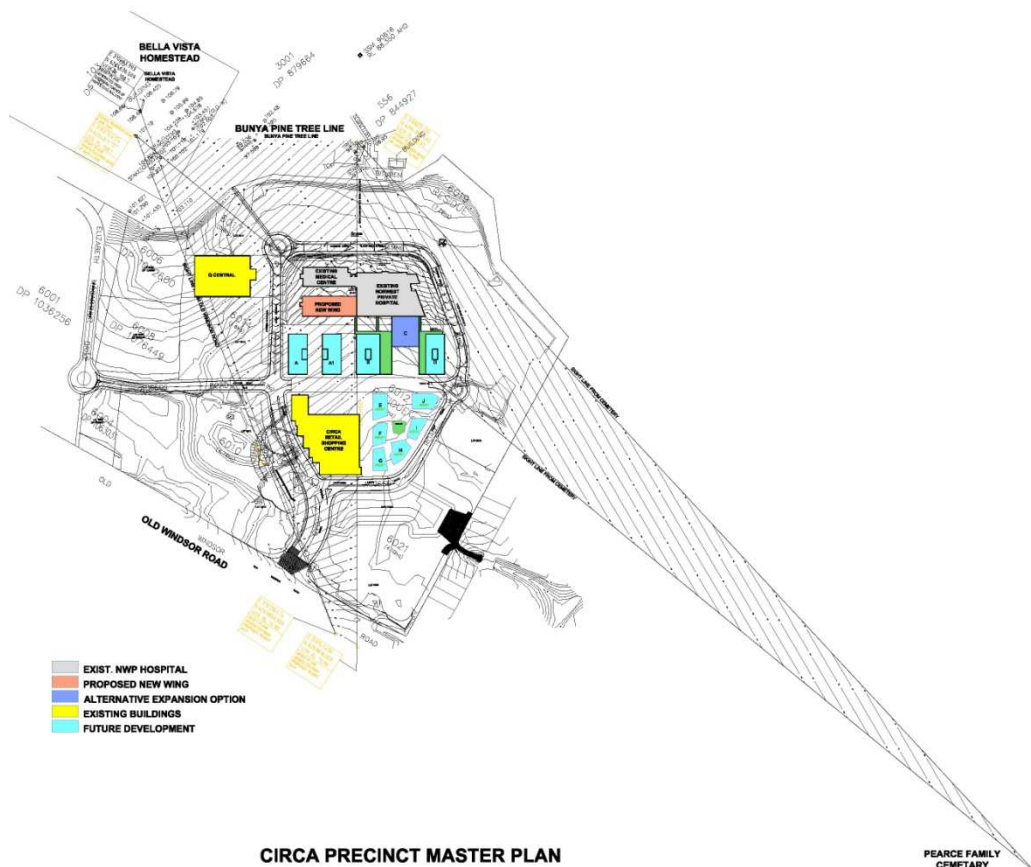
# Norwest Private Hospital Expansion Project

## Architectural Concept Design Report

The Map in **Appendix C** and the dotted line on the Photomontage in **Appendix D** to the DCP provide the basic reference materials to guide development within the views referenced in the “**Note**” to Clause 2.6 (see referenced extract in **Section 5.1** above). A Heritage Impact Assessment Report has been prepared by Worley Parsons together with a Photomontage Analysis which discusses the view cones and the proposed development. Those documents accompany the Development Application.

The proposed development does not intercept the views from the Homestead to the locations to the south, south-west or west as nominated in either **Appendices C** and **D**

The subject site is located within the view corridor of Bella Vista Farm Park Conservation area which includes the Homestead and the ridge and Bunya Pines. While the proposed building height is **within the LEP height limit of RL116** it is noted that when viewed from the base of the southern extent of the Bunya Pines looking to the Old Windsor Road it does not meet the height constraint of the view corridor listed in DCP. When viewed from the Homestead it meets the constraint.

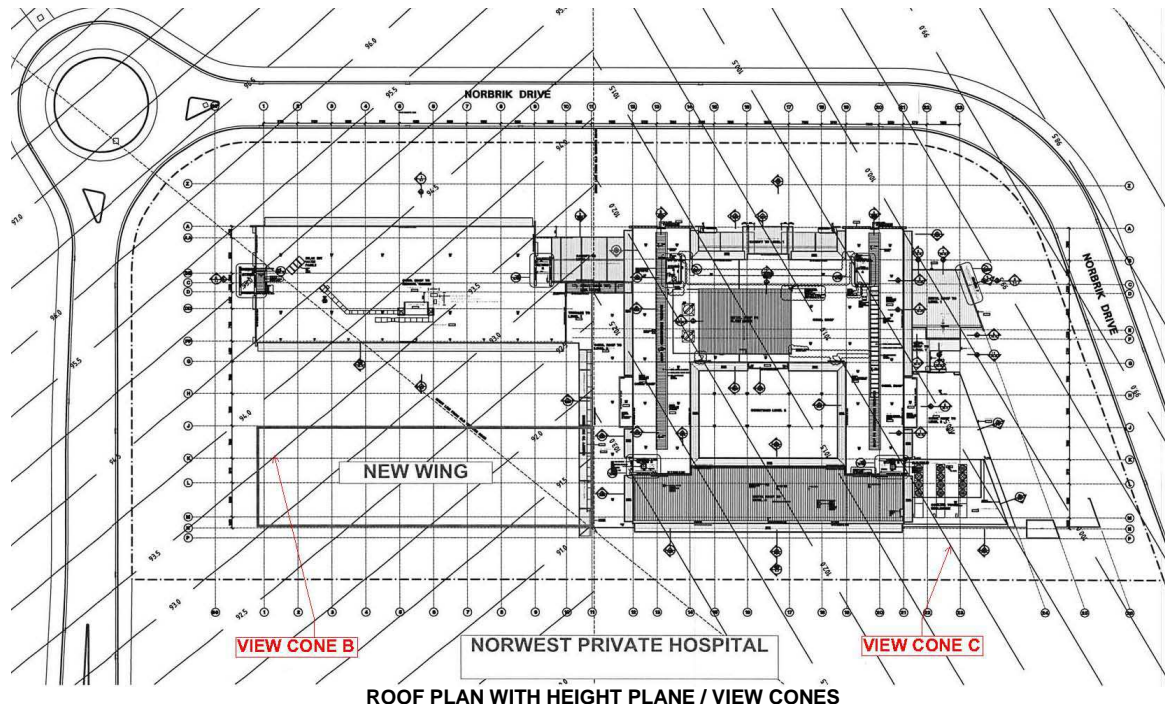


### 5.2.1 View Cones

Five View Cones are created on the Map. Their purpose is stated in the “**Note**” to Clause 2.6 (see reference to **Section 5.1** above) View cones B and C are relevant in planning and design considerations of the proposed development. The lower end of View cone B is identified by coordinates and RLs to the two points established in 2006 on the now constructed express T-way, with the higher end of the view cone being identified on the map above with RLs.

# Norwest Private Hospital Expansion Project

## Architectural Concept Design Report



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## Architectural Concept Design Report

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Two variables were considered:

- Allowing only 2 levels above ground floor.
- Slab levels existing and new.

In considering both these variables it was established that **in all options the height plane was breached**, with the differences being the extent of the breach and the impact on the integration of existing and new slab levels.

For reference, the existing Hospital and Medical Centre floor slab levels are compared here:

Existing Hospital			
Floor	RL	Floor-to-Floor height	
Roof	97.000		
L3	93.200	3.8m	L3 to R
L2	89.400	3.8m	L2 to L3
L1	85.200	4.2m	L1 to L2
GF	81.100	4.1m	GF to L1

Existing Medical Centre			
Floor	RL	Floor-to-Floor height	
Roof	92.250		
L2	88.525	3.725m	L2 to R
L1	84.800	3.725m	L1 to L2
GF	81.100	3.3m	GF to L1



# Norwest Private Hospital Expansion Project

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### 5.3 Options considered in relation to height planes

Five separate options were investigated in relation to the issue of height planes; these are described in detail with commentary on the pages following.

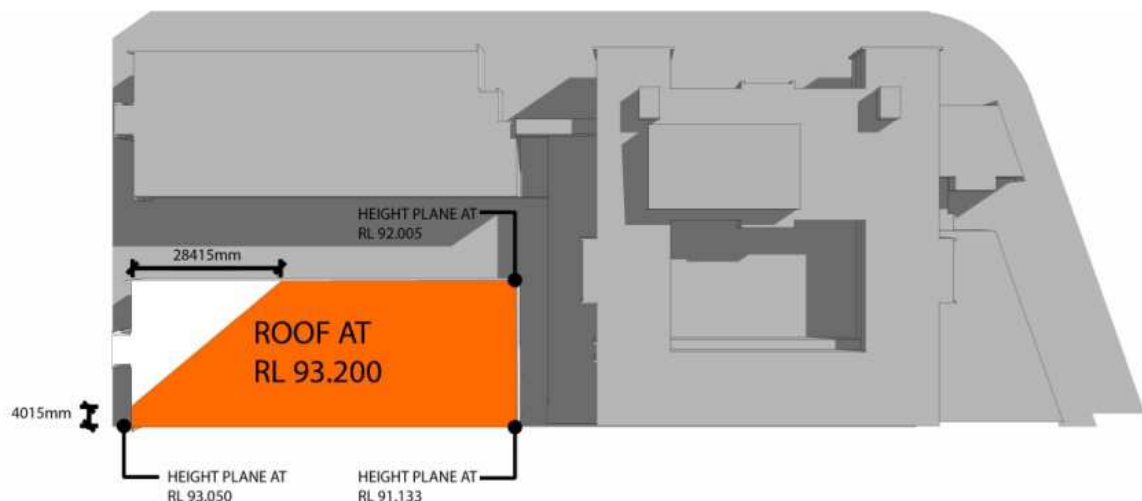
#### 5.3.1 Option 1

##### Match Hospital Floor Levels – plus 2 levels over GF Car Park

This option breaches the height plane to the extent indicated by the orange hatch in the image below. This option does not provide adequate floor space for the required expansion.



PERSPECTIVE VIEW - MASSING HEIGHT PLANE



BLOCK PLAN - DCP HEIGHT PLANE

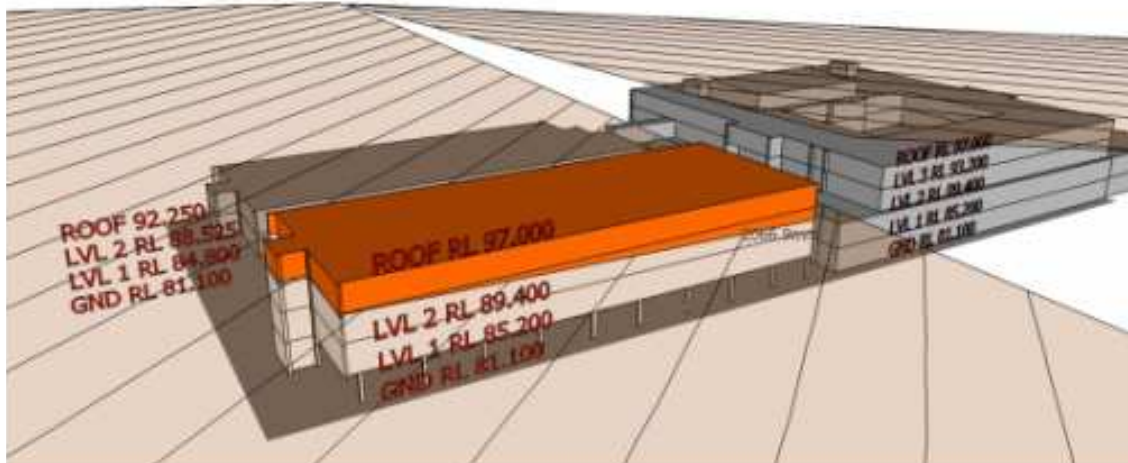
# Norwest Private Hospital Expansion Project

## Architectural Concept Design Report

### 5.3.2 Option 2 – Current Proposed Expansion

#### Match Hospital Floor Levels – plus 3 Levels over GF car park

This option breaches the height plane to the extent indicated by the orange hatch in the image above. This option does provide adequate floor space for the required expansion.



PERSPECTIVE VIEW - MASSING HEIGHT PLANE



BLOCK PLAN - DCP HEIGHT PLANE



# Norwest Private Hospital Expansion Project

## Architectural Concept Design Report

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### 5.3.3 Option 3

#### Match Medical Centre Floor Levels – plus 2 levels above GF car park

This option considers matching the medical centre floor levels. This results in a 400mm floor level difference on L1 which again is unacceptable for the operating theatres. The floor level difference between L1 and L2 is 3800mm which again is inadequate for the services required to the new operating theatres.



PERSPECTIVE VIEW - MASSING HEIGHT PLANE

### 5.3.4 Option 4

#### Reduce GF to L1 to 2700 – plus 2 levels above car park L1 - 4.2 and L2 - 3.8

This option considers reducing the GF to L1 slab height to 2700mm from existing hospital 4100mm as the ground floor will remain a car park. The required slab to slab for L1 to L2 is 4200mm minimum to accommodate services. Minimum for the L3 ward level is 3800mm.

Theatre levels do not match 1400mm difference which functionally introduces unacceptable risk. Available floor area for required accommodation is inadequate. South Western corner roof RL is 91.8. Height limit at this point is 91.0



PERSPECTIVE VIEW - MASSING HEIGHT PLANE

# Norwest Private Hospital Expansion Project

## Architectural Concept Design Report

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### 5.3.5 Option 5

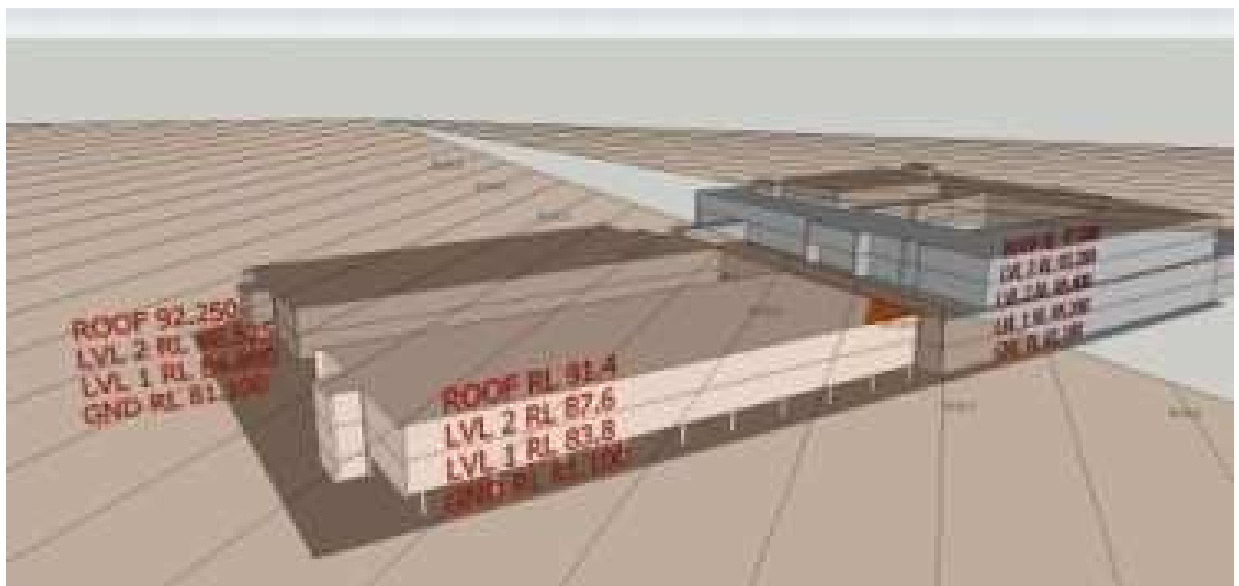
#### Reduce GF to L1 to 2700 – plus 2 levels above car park L1 – 3.8 and L2 - 3.8

This option considers reducing the GF to L1 slab height to 2700mm from existing hospital 4100mm as the ground floor will remain a car park. The required slab to slab for L1 to L2 is 4200mm minimum to accommodate services however this option reduces this to 3800mm. Minimum for the L3 ward level is 3800mm.

Theatre levels do not match 1400mm difference which functionally introduces unacceptable risk. Available floor area for required accommodation is inadequate.

South Western corner roof RL is 91.4. Height limit at this point is 91.0

The reduced slab to slab height on L1 makes the installation of required services to the theatres virtually impossible.



PERSPECTIVE VIEW - MASSING HEIGHT PLANE



# Norwest Private Hospital Expansion Project

## Architectural Concept Design Report

### 5.4 Bulk

#### 5.4.1 Volume generated by fulfilling demand

Fulfilling the projected demand for healthcare services at Norwest Private Hospital has generated an expansion brief which includes the addition of 5 operating theatres and associated support areas. The schedule of accommodation which was developed on the basis of these additional 5 operating theatres results in an additional required area of 5,550m<sup>2</sup>. excluding plant and travel.

Actual m<sup>2</sup> areas per floor are indicated in the table below, showing existing, new and combined status:

Site Area	23665					
	EXISTING CONDITION		NEW WING		EXISTING BUILDING + NEW WING	
Floor	GFA (m2)	Cars	GFA (m2)	Cars	GFA (m2)	Cars
Level 3	3248		2295		5543	
Level 2	4192		1835		6027	
Level 1	7561		2323		9884	
Ground	6691	199		-11	6691	188
Basement B1		491		17		508
<b>Total</b>	<b>21692</b>	<b>690</b>			<b>28145</b>	
FSR	0.9166				1.1893	

Adding 5 operating theatres will create increased demand on all associated support services and accommodation; the flow-on effect is as follows:

- proportional increase in recovery beds and chairs as required by Australasian Health Facility Guidelines
- increase in the day surgery admissions
- increase in the recovery beds required
- increase in the peri operative bed bays
- increase in the Central Sterilising Unit
- increase in the kitchen, stores and maintenance facilities
- increase in the records keeping requirements
- increase in the administration requirements
- increase in ward beds (by 55)

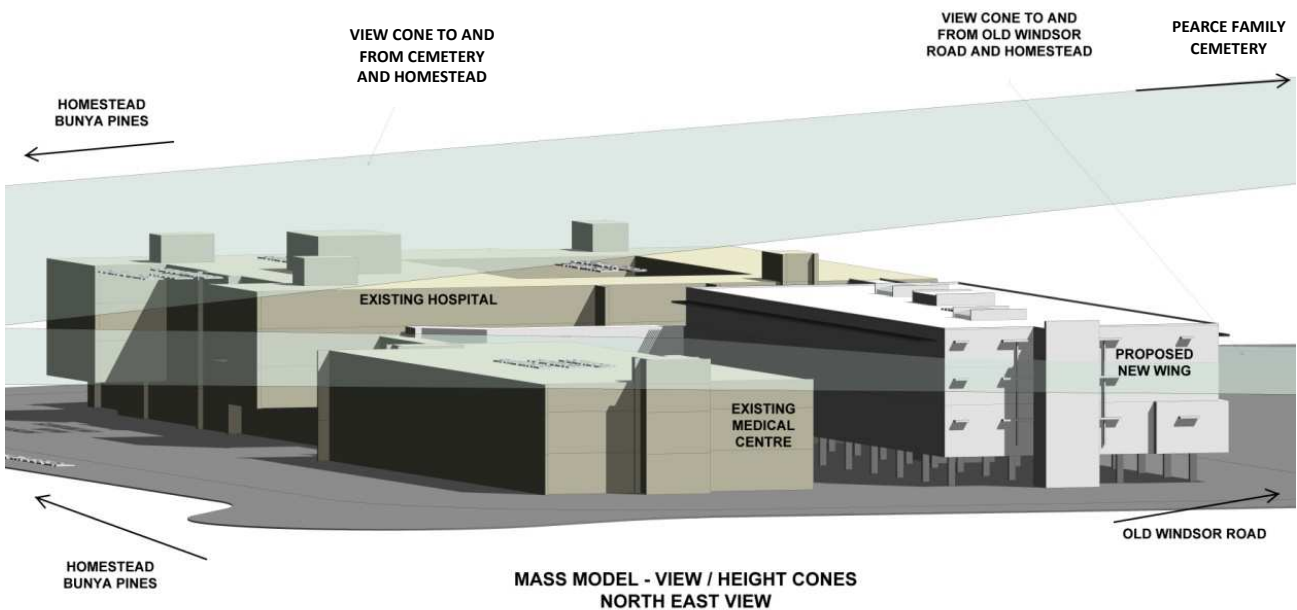
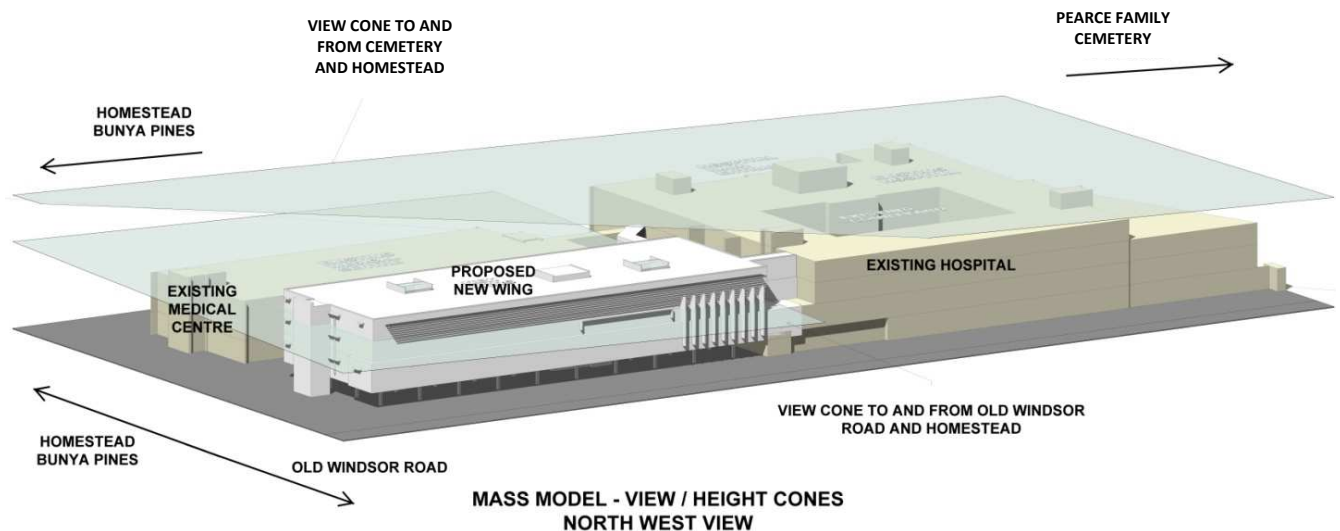
# Norwest Private Hospital Expansion Project

## Architectural Concept Design Report

Other constraints include but are not limited to:

- all Operating Theatres must be within single sterile zone
- Operating Theatres to maintain existing patient flow
- floor level of new Operating Theatres to match floor level of existing Operating Theatres
- accessibility to new operating theatres from wards to be maintained

The site is constrained vertically and horizontally. Vertical constraints are controlled by the Heritage view cones and horizontal constraints are the site boundaries, since the existing building uses the full extent of the site.



# Norwest Private Hospital Expansion Project

## Architectural Concept Design Report

### 5.4.2 Bulk distribution / massing options

Functional relationship requirements for the expansion of the operating theatres mandate that the new theatres be located on the same level and adjacent to existing theatres. The following options were considered:

Bulk / massing option	Location	Comment / status
<b>Option A</b>	<b>Within the existing Level 1 floor plate to the east of the theatres</b>	This would require the demolition of extensive existing support areas to be relocated. This was not considered viable both from the functional relationship and financial feasibility points of view.
<b>Option B</b>	<b>Expansion toward the west into the adjacent site</b> (not owned by Healthscope)	Two options were developed for this expansion approach in discussions with the owners. These options could deliver the bulk required without impacting on the Heritage view cones.  Due to the constraints of business park master planning, and requirements for the location of the new theatres and associated support spaces, neither of these two options was functionally acceptable. In addition, the financial feasibility of these options needed to factor in the purchase of land not owned by Healthscope, and could not be supported by a business case.
<b>Option C</b>	<b>Expansion towards the north over the existing ground floor open air car park</b>	This option is the preferred option since the functional relationships are acceptable. In addition the cost of purchasing air rights over this space is supported by a business case.

### 5.4.3 Relationship to surrounding building masses

Specific considerations have determined the location of the bulk required to be built.

The existing hospital lies to the East of the proposed Circa Retail shopping precinct. Part of the master planning for this precinct includes for a podium for retail shopping and as an open public space onto which retail and office above would face, and with which ideally they would interact and activate.

Factors addressed previously in this report indicate the determinants for the location of the proposed new volume proposed to be built. Significant among these are:

- the proposed expansion of Norwest Private Hospital requires the provision of an additional 5 operating theatres and the expansion of the associates support areas to meet the additional demand generated by the operating theatres, an increase in floor area of approximately 5,500m<sup>2</sup>
- the existing site is constrained both in footprint and in height; height restrictions eliminate the option of placing the new 55 bed in patient ward either over the existing hospital wards on level 3 or above
- options entertained addressing the adjacent site were dismissed as not feasible once the cost of land acquisition was factored in to the business case calculation

The result is a new 'wing' and a consequent building bulk which contributes to forming a more consistent and defined 'edge' along the south-western boundary of the site.





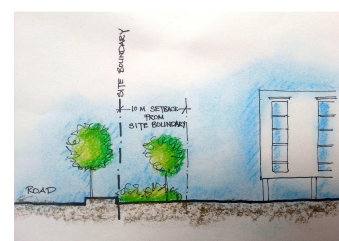
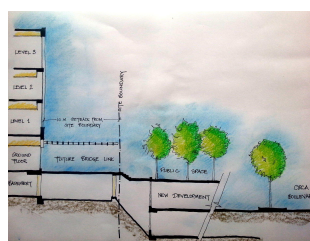
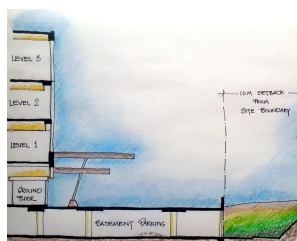
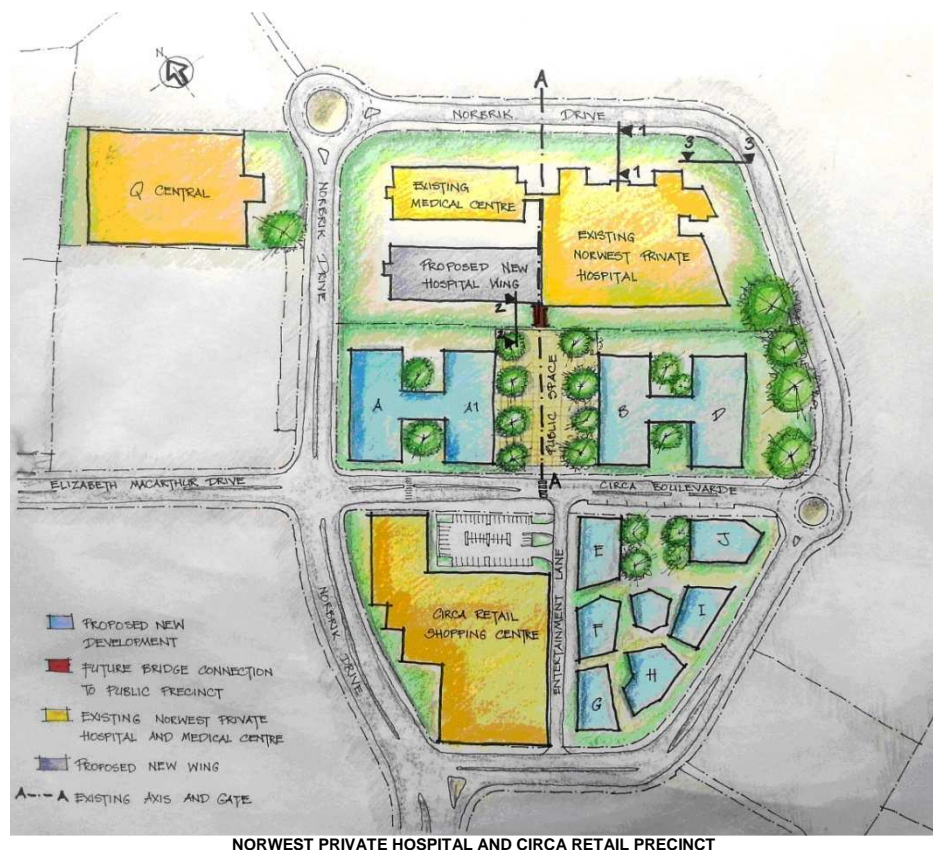
# Norwest Private Hospital Expansion Project

## Architectural Concept Design Report

### 5.4.4 Potential to integrate with Shopping Precinct master planning

Opportunities therefore exist to proceed with implementing master planning between the hospital and the Circa Retail Shopping Centre to achieve an integrated precinct with the newly expanded hospital forming a defined enclosure along its north-eastern boundary.

In the future, integration with this precinct can be contemplated to offer activation along this edge as well as integration with the functionality of the resultant space or spaces, and the potential for inclusion of access points to and from the hospital integrated with shopping precinct axes and walkways.



# Norwest Private Hospital Expansion Project

## Architectural Concept Design Report

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### 5.4.5 Massing of the new 'wing' in relation to existing

Like the main bulk of the existing hospital, the proposed new 'wing' is located such that it is comfortably contained within the site and, due to the terrain, avoids direct exposure to adjoining future properties. Council's relevant site planning and guidelines in relation to adjoining future properties has been considered in the preparation of designs forming this application.

The key design objective for the proposed work has been, as it was for the existing hospital, to promote good quality design through the provision of well-articulated buildings that contribute to a lively and aesthetically pleasing environment. In addition, it has been intended to seamlessly integrate the bulk, scale, massing and forms with the existing, marrying new to old by the use of matching materials and coordinated articulation of the facades.

### 5.4.6 Massing in relation to form, materials, scale

The proposed new 'wing' closely parallels the existing hospital building in scale, massing, form and materials. This has been a clear and positive aim in terms of providing seamless visual and structural integration with the existing hospital.

Accordingly, the height of the new 'wing' aligns with existing. The physical articulation of the façade also has been able to parallel the existing by matching the structural grid and the rational internal configuration of the spaces.

### 5.4.7 Levels / heights

The new 'wing' comprises three storeys plus ground floor, and is located on part of the existing car park. For operational reasons, each of the new storeys is aligned to the existing levels of the hospital. Therefore no ramping between the existing hospital levels and the new will be required, avoiding any issues of WHS compliance related to transportation of beds, trolleys and materials. Transportation of these items between different levels when needed will occur via the lifts provided.

The new building volume is raised above the existing car parking deck to maintain existing car parking provision at ground floor level.

The overall height of the development is consistent within the context of the locality, including the existing Norwest Private Hospital itself, surrounding business park development and the defined RL116 maximum height control stipulated within The Hills Local Environment Plan 2012.

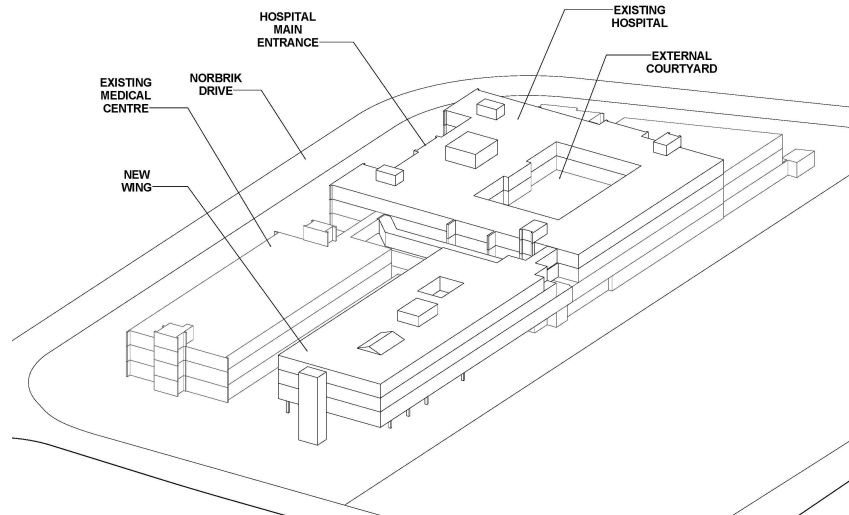


# Norwest Private Hospital Expansion Project

## Architectural Concept Design Report

### 5.5 Scale

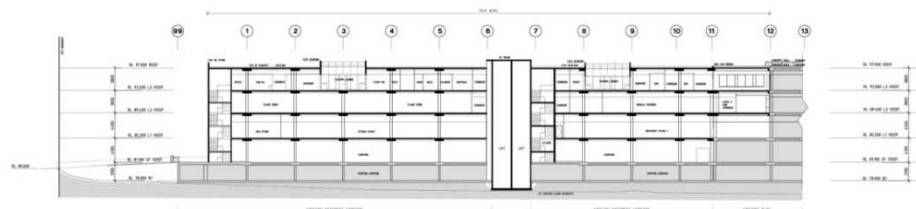
The overall scale of the proposed expansion is in keeping with the existing hospital building; no out-of-scale elements are proposed nor are there any departures from the proportions and scale established by the existing forms.



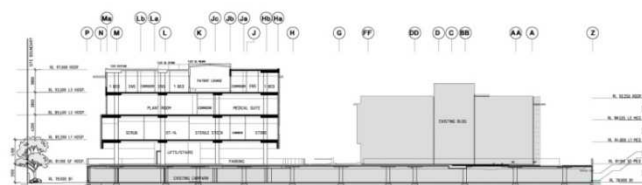
MASSING AND SCALE

The existing facility is one that is scaled appropriately to its function and to its surrounds, and relates to the streetscape in ways that ameliorate the bulk that it nevertheless does possess. The new 'wing' will closely parallel this approach to scale.

The sectional diagrams below illustrate the relationship of building scale new to existing.



SECTION A-A



SECTION B-B

The scale is in keeping with the existing hospital and medical centre and forms a natural expansion of the forms and bulk on the site while at the same time maintaining relatively shallow floor plates with maximum perimeter access to light.

# Norwest Private Hospital Expansion Project

## Architectural Concept Design Report

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### 5.6 Impact of Health Planning and Design

To achieve the provision of expanded healthcare facilities at Norwest Private Hospital to meet the growing demand in The Hills district, the design team has worked with Healthscope to develop an integrated hospital design based on best practice Health Planning and Design principles.

The design of hospital facilities is a process of designing building volume and fabric into a functional form which accommodates the numerous specific and complex healthcare processes and their associated support services. The design of a modern hospital must simultaneously provide an environment for both patients and staff which is safe, calm, healing and supportive.

#### 5.6.1 Guidelines and Legislation

The provision of healthcare services and the manner in which healthcare services are accommodated in hospitals is primarily determined by the Private Hospital Act and the Australasian Health Facility Guidelines.

Many other standards are applicable depending on the services offered and the location of the facility. Applicable legislation and guidelines provide minimum standards for the operation and design of hospital facilities. For example any increase in the number of operating theatres proportionally increases the number of peri-op spaces, post op recovery beds and associated staff and support facilities required. The proposed expansion of the Norwest Private Hospital is in accordance with all applicable guidelines, standards and legislation.

#### 5.6.2 Functional Relationships

The design of a hospital is primarily determined by the functional relationships between the various services/functions accommodated within the building envelope. The efficient functioning of a hospital is key to the delivery of risk free healthcare. When designing a new facility, these relationships can be manipulated to an extent to accommodate site, planning and operational constraints. The design of an expansion of services to an existing facility is less flexible.

The functional relationship and flow diagrams below illustrate typical patient flows and spatial relationships within major areas that are being impacted by the proposed expansion to Norwest Private Hospital.

These diagrams represent conceptually the ideal relationships; however the flows and relationships are unique to each hospital. Key to any expansion of an existing facility is to maintain as far as possible the established flows and relationships in order to minimise disruption and resultant risks.

#### 5.6.3 Hospital – Typical Flow Chart

The diagram below represents the typical patient flow and resulting special relationships between the various functions found in a typical hospital.

Of these, the functional areas within the Norwest Private Hospital project which are impacted by the expansion are:

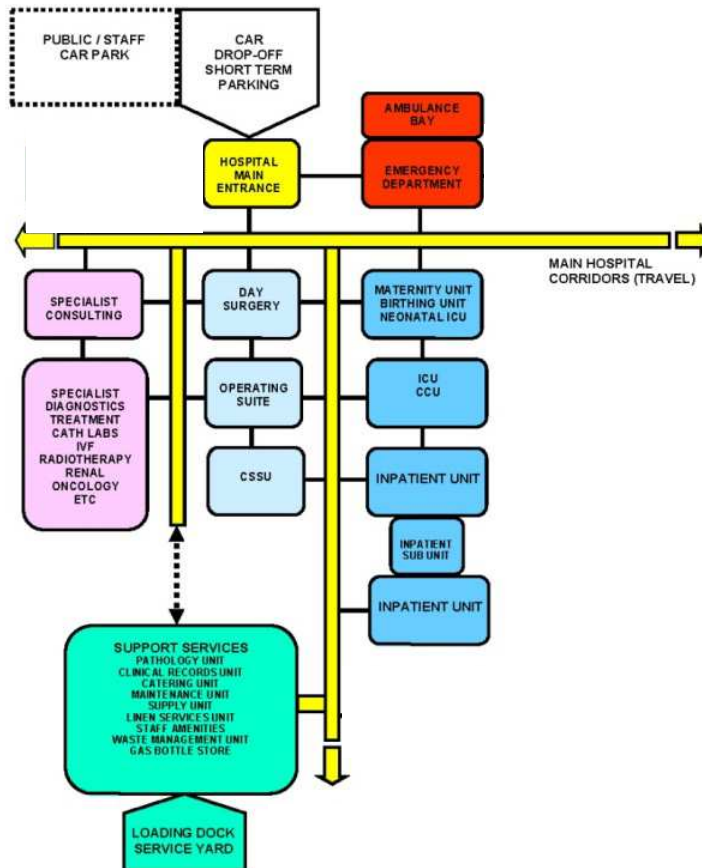
- Day Surgery
- Operating Suites
- CSSU
- Support Services
- Car Park





# Norwest Private Hospital Expansion Project

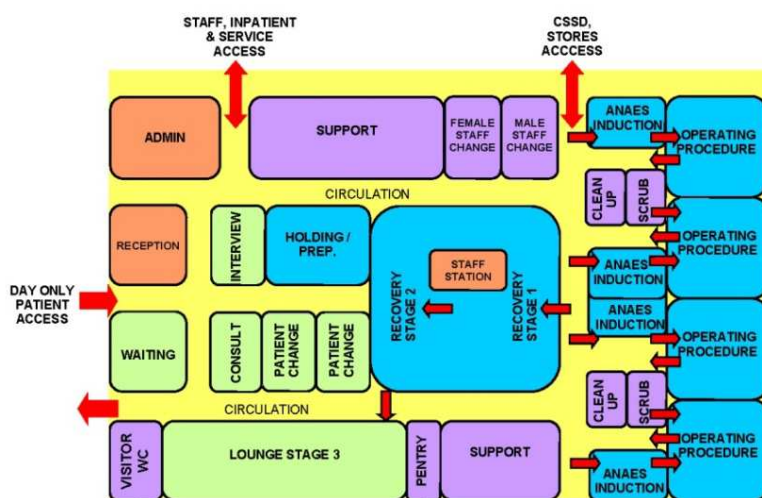
## Architectural Concept Design Report



**HOSPITAL PATIENT FLOW CHART**

This diagram represents the ideal flows and relationships however the outcome varies substantially due to project-specific constraints. These are assessed together with the clinicians to arrive at an optimal outcome for the project.

### 5.6.4 Day Procedure Unit



The day procedure unit provides services to both inpatients and outpatients, however it is integrated with the operating unit spatially i.e. the same theatres and support spaces are utilised.

The flows/ procedures for admitting inpatients and outpatients to theatres are different for the two, requiring separate access points. Inpatients will arrive at theatres from the wards within the hospital, while outpatients will be admitted directly to theatres from the day surgery admissions reception.

**DAY PROCEDURE UNIT FLOW CHART**