Final Business Case

Shoalhaven Hospital Redevelopment

JOHNSTAFF PROJECTS

VERSION 1.5

28 October 2022

NSW GOVERNMENT

Contents

Version	Date	Issued To	Status
0.1	25/7/2022	HI	For review
0.2	19/08/2022	HI and ISLHD	For review
0.3	29/08/2022	HI and ISLHD	For review
0.4	02/09/2022	HI and ISLHD	For ISLHD review
0.5	08/09/2022	HI and ISLHD	For ISLHD review
1.0	14/09/2022	PDC	For Approval
1.1	26/09/2022	ESC	Financial sections completed and Issued for Approval
1.2	05/10/2022	HI	Updated with FIS and CBA
1.3	06/10/2022	HI	Updated with additional FIS information
1.4	28/10/2022	HI	Updated CBA information post feedback from MoH
1.5	28/10/2022	HI	For issue to MoH for review and Gate 2 Review Committee

This document incorporates the requirements of a Final Business Case in accordance to NSW Treasury's *NSW Government Business Case Guidelines*[1] and NSW Health Facility Planning Process[2]

Endorsement by:

This Shoalhaven Hospital Redevelopment Final Business Case is certified to have been developed in accordance with the NSW Treasury Guidelines Business Cases (TPP 08-6).

Signed

Project Manager, Johnstaff Projects

The preferred option in this Shoalhaven Hospital Redevelopment Final Business Case is certified to have been developed in accordance with the NSW Health Facility Guidelines and the Building Code of Australia.

Signed

Architect, Conrad Gargett

The capital cost estimates in this Shoalhaven Hospital Redevelopment Final Business Case are certified to have been developed in accordance with Health Infrastructure's requirements.

Signed

Cost Manager, Genus Advisory

The Shoalhaven Hospital Redevelopment Final Business Case has been reviewed and is fully endorsed by the Illawarra Shoalhaven Local Health District.

Signed Margot K Mains

Chief Executive, Illawarra Shoalhaven Local Health District

[1] NSW Government Business Case Guidelines, Policy and Guidelines Paper Financial Management and Accounting Policy, NSW Treasury December 08; tpp18-6.
https://www.treasury.nsw.gov.au/information-public-entities/business-cases

[2] NSW Health Facility Planning Process. Strategic Reform and Planning Branch, Ministry of Health, 05 August 2020, GL2020_018
https://www1.health.nsw.gov.au/pds/ActivePDSDocuments/GL2020_018.pdf

The Final Business Case is certified to contain all items required for project approval and funding.

Signed 

Executive Director, Western Region, Health Infrastructure

Signed 

Chief Executive, Health Infrastructure

Project Team

Discipline	Appointed Consultant / Status
Project Manager	Johnstaff Projects
Cost Manager	Genus Advisory
Architects	Conrad Gargett
Mechanical	Arup
Hydraulic & Fire	Jacobs Group
Electrical	Arup
Civil and Structural	Bonacci Group
Early Learning Consultant	CELA
BCA & DDA	Blackett Maguire + Goldsmith
Town planning	_planning
Surveyor	Cardno
Traffic Engineer	TTW
Geotechnical	Cardno
Contamination	Cardno
Services Investigation	Utility Mapping
Hazmat	TBC
Arborist	Moore Trees
Aviation	AviPro
Fire Engineer	Arup
Legal Advisor	Crown Solicitors Office
ESD Consultant	Steensen Varming
Property Advisor	MMJ Real Estate
Waste Consultant	WSP
Logistics Consultant	Johnstaff Projects
Retail Consultant	Maytrix Group
Kitchen Design Consultant	Cini Little
Acoustic Engineer	Acoustic Logic
Bushfire Consultant	Ecological
First Nations Community Consultation	Yerrabingin

ABBREVIATIONS AND ACRONYMS

ABF	Activity Based Funding
ADL	Activity Daily Living
AHIS	Aboriginal Health Impact Statement
AusHFGs	Australasian Health Facility Guidelines
BC	Business Case
BCA	Building Code of Australia
BMCS	Building Maintenance Control System
CCU	Coronary Care Unit
CDR	Concept Design Report
CSD	Central Sterile Department
CSP	Clinical Services Plan
CSSU	Central Sterilising Supply Unit (CSSU)
CSSU	Central Sterile Supply Unit
CWG	Communications Working Group
DPE	Department of Planning and Environment
EA	Economic Appraisal
ED	Emergency Department
EIS	Environmental Impact Statement
ERG	HI Expert Reference Group
ESC	Executive Steering Committee
ETC	Estimated Total Cost
EUG	Executive User Group
FDB	Functional Design Brief
FIS	Financial Impact Statement
HDU	High Dependency Unit
HI	Health Infrastructure NSW
IC&T	Information Communication & Technology
ICU	Intensive Care Unit
IPU	Inpatient Unit
IRSD	Index of Relative Socio-economic Disadvantage
ISEPP	State Environmental Planning Policy (Infrastructure)
KSO	Base Case - Keep Safe and Operational
LEP	Local Environmental Plan

LGA	Local Government Area
LHD	Local Health District
MoH	NSW Ministry of Health
NEST	National Elective Surgery Targets
NGOs	Non-Government Organisations
NPV	Net Present Value
NWAU	National Weighted Activity Unit
PAC	Planning Assessment Commission
PDC	Planning and Development Committee
PDP	Project Definition Plan
PESC	Project Executive Steering Committee
POFP	Process of Facility Planning
PUGs	Project User's Group(s)
REF	Review of Environmental Factors
RMS	Roads & Maritime Services
RU	Relative Utilisation
SEIFA	Social & economic index for areas
SEPP	State Environmental Planning Policy
SoA	Schedule of Accommodation
VM	Value Management
VMS	Value Management Study
VMO's	Visiting Medical Officers

BUSINESS CASE DELIVERABLES REGISTER

Deliverable	Status	Comments
Shoalhaven Hospital Clinical Services Plan, Nov 2020	December 2020	Approved by NSW Ministry of Health December 2020
Master Plan Report	July 2021	Endorsed by PDC
Functional Brief, SOA and Scope of Works	Oct 2021 – March 2022	Endorsed by PPT and PDC
Value Management Report	July 2021	Endorsed by ESC
Concept Design Report	November 2021	Endorsed by PDC
ISLHD Project Resource Plan	July 2021	Endorsed by PDC
FFE and MME Project Plan	September 2021	Endorsed by PDC
Cost Plan B (Concept)	April 2022	Noted by PDC
Cost Plan C (Schematic Design)	July 2022	Endorsed PDC
Workforce Plan	April 2022	Endorsed by PDC
Financial Impact Statement	April 2022 September 2022	Endorsed by PDC Endorsed by ESC
Cost Benefit Analysis	April 2022 September 2022	Endorsed by PDC
Project Governance Arrangements	November 2020	Endorsed by ESC
Risk Management Plan	March 2022 September 2022	Endorsed by PDC
Benefits Realisation Plan	March 2022 September 2022	Endorsed by PDC
Change Management Plan	March 2022 August 2022	Endorsed by PDC
Stakeholder Engagement and Consultation Plan	October 2020 July 2022	Endorsed by PDC
Aboriginal Impact Statement	March 2022	Noted by PDC
Delivery and Procurement Strategy	November 2021	Endorsed by PDC
Master Programme	October 2021	Endorsed by PDC
ICT Strategy	March 2022	Endorsed by PDC
Strategic Gateway 1 Report	June 2022	
Arts Strategy	August 2022	Endorsed by PDC

1 EXECUTIVE SUMMARY

1.1 Project Description

The Shoalhaven region is located on the South Coast of New South Wales. It spans from Berry and Kangaroo Valley in the north, to North Durras in the South, and extends West across the Morton National Park. The regional city of Nowra is the major population hub of the Shoalhaven region, and the gateway to a large number of South Coast towns and hamlets, including Ulladulla and Milton. The region has a total population of 99,650[3] people, with a higher proportion of people aged over 70 than the Illawarra Shoalhaven Local Health District (ISLHD) average. The strongest population growth in the region over the next decade will occur in the 70 to 84 age group. Shoalhaven has a higher proportion of Aboriginal and Torres Strait Islander residents compared to the ISLHD and State average, and over 2,350,000 annual visitors.

Shoalhaven District Memorial Hospital (Shoalhaven Hospital) is a Major Hospital Peer Group 2[4] facility, providing acute, sub-acute, emergency and critical care, outpatient and community-based services. The service currently comprises of acute medical and surgical services, operating theatres and an endoscopy suite, sub-acute rehabilitation and sub-acute mental health, intensive care (Level 4), emergency department (Level 4), paediatrics, maternity and birthing services including a neo natal special care unit (Level 2) and ambulatory care services including a renal dialysis unit. Shoalhaven Hospital operates as a major non-metropolitan hospital within the network of ISLHD facilities, providing support to David Berry and Milton-Ulladulla Hospitals. Together, these three facilities and community health services provide a comprehensive range of care to the Shoalhaven population and are networked with tertiary services at Wollongong Hospital and other specialist metropolitan hospitals.

The identification of the future health service needs of the Shoalhaven population within the draft Shoalhaven Hospital Clinical Service Plan (CSP), December 2016, indicated that the Shoalhaven Hospital would require an enhancement of its infrastructure to support the introduction of contemporary models of care, notwithstanding the advancement of alternative hospital avoidance models that are currently in place or being introduced. The draft CSP projected the health service need and demand to 2027.

In response to the CSP, a Master Planning feasibility study was undertaken in 2017, resulting in a commitment of $434 million from the NSW Government in November 2018 to provide capacity for the Shoalhaven Hospital to meet the future demand for health services.

Between 2019 and 2020 ISLHD conducted a comprehensive, population-based District-wide clinical services planning process, which articulated the future District service networks for all major clinical services. These District-wide service plans formed the basis for the service scope of ISLHD's two major hospital redevelopments: Shoalhaven and Shellharbour Hospitals, clarifying each hospital's role in the District service network.

The Shoalhaven Hospital CSP was revised, based on the District-wide service planning between December 2019 and November 2020. The updated CSP projected the health care demand for an additional four years to 2031, resulting in an increase in projected activity volume and scope, and subsequently, infrastructure requirements. An Investment Decision Document (IDD) was developed in April 2020 and a revision of the Master Planning feasibility study was undertaken concurrently with the revision of the CSP. The IDD identified a preferred option to progress to business case that was within the budget envelope and consisted of a combination of new build and refurbishment of the existing facility.

The revised Master Planning feasibility study explored several options including a standalone new build, a new build on the existing site and a combination of a new build and refurbishment of the existing facility. The standalone new build and combination of new build and refurbishment of the existing facility required the acquisition of the adjacent

[3] Census 2016

[4] Guide to the Role Delineation of Clinical Services (2018), NSW Ministry of Health:

Nowra Park and the relocation of an existing pre-school located within Nowra Park. A separate IDD was developed for the acquisition of Nowra Park and endorsed by the NSW Ministry of Health.

An additional $4 million was committed by the NSW Government in November 2020, in response to the IDD's confirmation of the need to acquire the Nowra Park and quickly undertake early and enabling works. This made a total capital allocation of $438 million for the redevelopment.

The approved IDDs and NSW Ministry of Health-endorsed CSP (December 2020) enabled the redevelopment planning to progress to identify the project scope and advance the feasibility study. A Preliminary Business Case was endorsed by the ESC and submitted for iNSW Gate 1 review in May 2022.

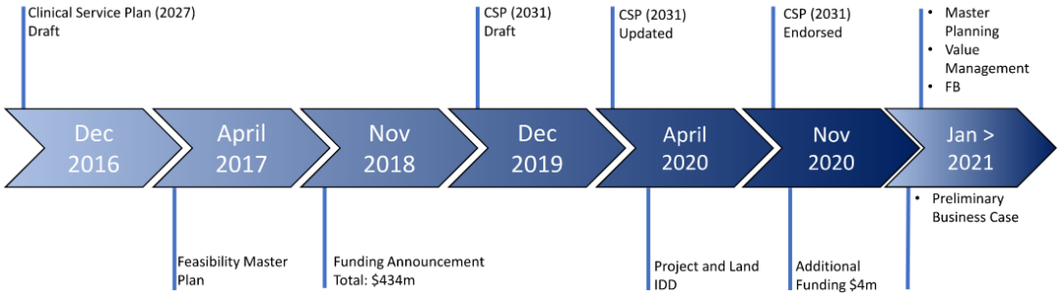

Figure 1: Shoalhaven Hospital Redevelopment Planning Timeline

The CSP indicates the following service delivery changes to meet the needs of the Shoalhaven LGA population:

- Increase in acute medical and day and overnight surgical beds.
- Expansion of critical care including ED, ICU and CCU
- Additional interventional services including operating suites and the provision of capacity for Cardiac Cath Lab;
- Increase in Acute Stroke unit beds
- Expansion of ambulatory care services, including the creation of tailored spaces for paediatric ambulatory care and other specialties
- Enhancement of women, child and family services including neonatal services, antenatal clinics, birthing suites;
- Introduction of acute mental health beds
- Expansion and consolidation of sub-acute inpatient services (including the transfer of health services from David Berry Hospital)
- Increase in Renal Dialysis Ambulatory Unit spaces
- An increase and additions to Medical Imaging modalities including the introduction of an MRI and nuclear medicine
- Enhancement of clinical and non-clinical support to service the uplift in capacity
- A new helipad will enable rapid helicopter transfer in and out of the facility.

A Value Management Strategy (VMS) was undertaken to develop the project scope in alignment with the CSP and the allocated budget.

The scope is informed by the endorsed preferred option outlined in the table below. This option was selected in consultation with ISLHD through a number of facilitated workshops The evaluation criteria were drawn from the endorsed project principles, shown in Figure 2 below.

Table 1: Shoalhaven Hospital Redevelopment Endorsed Scope

Scope of Works	Scope
New (Acute)	• Emergency Department • PECC • Acute inpatient units • Acute and rehabilitation mental health • Intensive Care

Scope of Works	Scope
	• Cardiology Investigations unit • Operating rooms • Helipad
New **(Clinical and Non-clinical support)**	• Front of House • Back of House • Medical Imaging • Mortuary
Refurbishment (Major) **(Acute, sub-acute, ambulatory care)**	• Paediatric Assessment Unit (PAU) • Ambulatory Care • Renal dialysis
Refurbishment (Medium to Minor)	• Rehabilitation • Maternity day assessment and bereavement room
Refurbishment **(Clinical and Non-clinical support)**	• Pathology • Clinical engineering • Engineering and maintenance • Equipment Loan Pool • Education and training
No works **(Use existing infrastructure)**	• Stroke • Rehabilitation IPU • Paediatric IPU • Geriatric evaluation unit • Office accommodation

Cost Plan A indicated a requirement to identify $11 million of savings in order to deliver the endorsed scope in the preferred option. It was noted that value engineering was anticipated to identify the required savings, and that further value management would be undertaken as required.

As planning progressed through functional briefing and concept design, the Project succeeded in identifying savings via value engineering and efficiency gains in the schedule of accommodation, and Cost Plan B indicated a requirement to identify $6.5 million of savings (down from $11.5 million in Cost Plan A).

As planning progressed further effeciencies were identified, and Cost Plan C confirmed that the scope proposed for the preferred option in this Final Business Case (FBC) is affordable within the allocated budget of $438 million, with all standard HI contingencies intact.

1.2 Project Objectives

At the commencement of the project, the value and importance of establishing project principles and objectives that aligned with the ISLHD strategic direction was recognised as critical to informing decision making during the redevelopment planning process and beyond.

The vision for the Shoalhaven Hospital Redevelopment is:

The Shoalhaven Hospital is the regional health care hub for the Shoalhaven region, providing services at role delineation up to level 5 as clinically appropriate, providing a self-sustaining service for the local community

In consultation with the ISLHD stakeholders and aligning with the ISLHD Health Care Services Plan (2020 - 2030) key focus areas, a set of project prinicples and objectives outlined in the diagram below were developed and endorsed through project governance. These principles and objectives were used to inform design and planning discussions and decision making, including the assessment criteria that were developed to select a preferred VMS and concept design option.

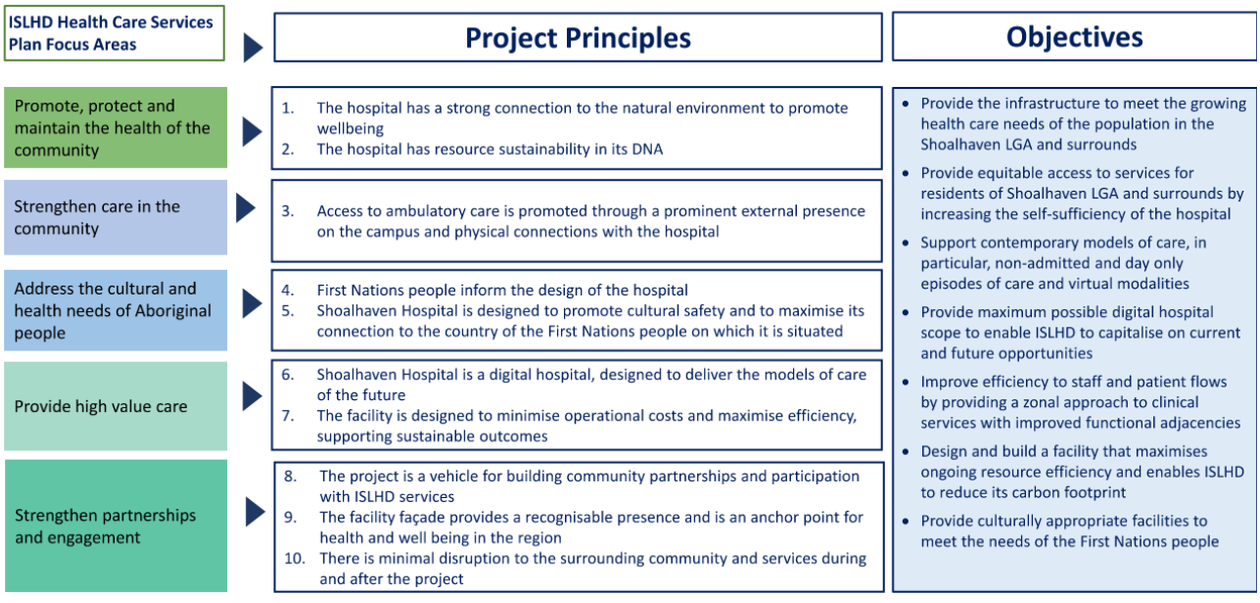

Figure 2: Shoalhaven Hospital Redevelopment Project Principles and Objectives

The overarching ISLHD key focus areas were extrapolated into principles and objectives that reflected the particular needs and demographics of the Shoalhaven LGA. Being a regional health facility with a high percentage of First Nations people, the principles and objectives capture the connection with the community which is critical to ensuring equity of access through the provision of services close to home in an environment that promotes safe, efficient and sustainable care.

1.3 Case for Change

The Shoalhaven Hospital Redevelopment CSP leveraged off the comprehensive ISLHD Health Care Services Plan 2020 – 2030 and the Illawarra Shoalhaven Local Health District Community Needs Assessment 2021, which describes the socio demographics and health determinants of the ISLHD. The plan identified the Shoalhaven region as on average older and more disadvantaged than other areas in the District and are more likely to experience negative health impacts compared to most areas in NSW.

Population Health Areas (PHA) across the ISLHD were analysed using social and health data sourced from the Public Health Information Development Unit (PHIDU) and in conjunction with the location, distribution of services and infrastructure.

The need to provide the capacity to access services within contemporary models of care is supported by the following key drivers:

- A growing and ageing population
- Rurality
- High population of First Nations People (4.2%)
- Large Culturally and Linguistically Diverse population
- Socio-economic status with high levels of disadvantage
- Mental Health burden
- Increasing Burden of Disease
- Projected Service Demand

The CSP shows that services will generally increase their role delineations from level 4 to level 5 to provide more complex care in the Shoalhaven. This includes clinical support functions of general radiology, pathology, critical care, operating theatres and pharmacy, plus most medical and surgical services. This will enable the Shoalhaven Hospital to increase its self sufficiency, reducing the burden on Wollongong Hospital and Sydney tertiary referral centres in

addition to providing care for the local community close to home. The existing facility, as built, cannot sufficiently meet the requirements for the intended increase of role delineation for Shoalhaven Hospital.

The David Berry Hospital (DBH) is situated 20 kms from Shoalhaven Hopsital and is in an isolated location, posing security risks to staff and patients and an increased burden on transportation. The rehabilitation unit is located in a building that was built in 1909 and listed on the NSW State Heritage Register. The Karinya Unit on the David Berry Campus is 33 yrs old and provides inpatient palliative care services. DBH is an ageing facility that is no longer fit to deliver health services in a contemporary and efficient capacity. An uplift in capacity through the provision of infrastructure at Shoalhaven Hospital is required to enable the relocation and consolidation of sub-acute services for efficient and safe service provision.

1.4 Contribution to local and government priorities

The table below outlines the State and Local policies and priorities with which the project aligns.

Table 2: Alignment with Strategic Government and Local Policies

Agency	Policy / Strategy
Government Policies / Strategy	• NSW 2021: A plan to make NSW number one, NSW Government • Future Health: Guiding the next decade of care in NSW 2022 - 2032 • NSW Health: 20 - year Infrastructure Strategy • NSW Government Resource Efficiency Policy (GREP) and NSW Health Resource Efficiency Strategy 2016 – 2023 • NSW State Infrastructure Strategy: The Illawarra Shoalhaven Regional Plan 2041
NSW Ministry of Health Polices / Strategies	• NSW Aboriginal Health Plan 2013 – 2023, NSW Ministry of Health • Guide to the Role Delineation of Clinical Services (2019), NSW Ministry of Health
ISLHD Policy / Strategies	• Illawarra Shoalhaven Health Care Services Plan 2020 – 2030 • ISLHD Strategic Plan, Strategic Directions 2017-2020 • Illawarra Shoalhaven Local Health District Community Needs Assessment 2021 • Shoalhaven Hospital Redevelopment Clinical Services Plan, November 2020 • (Formerly known as the Revised Shoalhaven Site Facility Plan, April 2020) • ISLHD Emergency Care Plan 2020 - 2025 • ISLHD Surgical Services Plan 2020 • ISLHD Cardiovascular Diseases Plan 2020 • ISLHD Palliative Care and End of Life Plan 2021 - 2026 • ISLHD Rehabilitation Services Plan 2021 -2031 • ISLHD Respiratory Diseases Plan 2021 - 2026 • ISLHD Mental Health Conditions Plan 2021 • Illawarra Shoalhaven Local Health District Digital Health Strategy 2021

1.5 Project options

1.5.1 The Base Case – Infrastructure

As the local demand for services continues to increase, the redevelopment and expansion of the facility is required to support the ISLHD strategy and NSW Government priorities for the hospital to remain a self-sufficient provider of secondary services to the local catchment areas, supported with networking arrangements with Wollongong Hospital for the delivery of sub-specialty services and more complex care.

The CSP projects that services will generally increase their role delineations from level 4 to level 5 to provide more complex care. This includes clinical support functions of general radiology, pathology, critical care, operating theatres and pharmacy, plus most medical and surgical services.

The existing facility and spatial constraints of the existing site cannot sufficiently meet the requirements for the intended increase of role delineation for SDMH, meet ISLHD's strategic aim to enable SDMH to increase its self-sufficiency, nor expansion of services to meet demand or contemporary models of care.

Located adjacent to the Shoalhaven River, the main facility is built on a graded site that falls between two and three storeys with a mix of interconnected buildings built between 1951 and 2006 and a number of standalone buildings including the Shoalhaven Cancer Care Centre (2014), the sub-acute mental health unit (2014), and administration accommodation in temporary demountable buildings. There is a need to upgrade and expand services to enable the practice of developing and contemporary models of care, and to improve the functional adjacencies with other services.

Rehabilitation and palliative care inpatient services are located at David Berry Hospital (DBH) which is situated 20 kms from Shoalhaven Hospital and is in an isolated location, posing security risks to staff and patients and an increased burden on transportation. The rehabilitation unit is located in a building that was built in 1909 and listed on the NSW State Heritage Register. The Karinya Unit on the David Berry Campus is 33 yrs old and provides inpatient palliative care services. DBH is an ageing facility that is no longer fit to deliver health services in a contemporary and efficient capacity. An uplift in capacity through the provision of infrastructure at Shoalhaven Hospital is required to enable the relocation and consolidation of sub-acute services for efficient and safe service provision.

1.5.2 Base Case - Non-Capital Solutions

ISLHD has a significant portfolio of ongoing redesign and quality improvement programs and projects which are driving the implementation of new, efficient service models that can be achieved within current resourcing. The focus for these initiatives is to provide care that is continually patient centred and provided in the most appropriate setting. Although these strategies and service models made significant gains in decreasing length of stay, preventing admission to a facility and keeping people well in the community, the gains were misaligned with the projected demand and as a result an infrastructure solution is required.

The non-capital inititiatives undertaken by the ISLHD include:

- Hospital admission prevention strategies
- Virtual enhanced community care (VeCC)
- Leading Better Value Care:
- Increased focus on ambulatory care:
- Use of technology
- Integrated Care and Digital Health
- Hospital in the Home (HiTH)
- Partnering and integrating with primary care and other providers

Despite the introduction of these non-capital solutions, and informed by the IDD preferred capital option, the clinical demand projections and the existing facility constraints, it was determined that the non capital options will not meet the community's future needs and a capital investment is required to enhance the services and amenity at Shoalhaven Hospital to enable it to meet the needs of the growing population of the area and provide the healthcare required, close to home.

1.5.3 Five Dimensions of Options Analysis

Building upon the previous Master Plan and in accordance with The NSW Government Business Case Guidelines (TPP18-06) and NSW Health's Facility Planning Process (GL2020_018), the options development and selection process sought to select a preferred option that best meets the service needs of the catchment as reflected in the CSP and maximises the expected benefits against the indicative budget envelope.

A robust analysis of a broad spectrum of options was completed to ensure the preferred option will improve patients' health outcomes and experiences as well as achieving the most efficient service delivery. The development of the options aligned to the *HI Interim Option Guide to Option Development of Health Capital Projects (v1, January 2021*) five-dimension high level assessment option analysis (service scope, scale and location, service solution, service

delivery, timeframe and funding) to inform the long list and the short list and ultimately, the selection of the preferred option.

1.5.4 Scope options development

The endorsed CSP and the preferred IDD infrastructure option submitted to the NSW Ministry of Health in November 2020 was based on an affordable spatial allocation which included a mix of new build (32,500m2) and refurbishment (7,500m2).

A detailed scope and assumptions paper expressing the CSP in physical infrastructure terms was endorsed through project governance in February 2021.

A high-level benchmark schedule of accommodation (SOA) was developed based on the endorsed scope and assumptions paper, to inform the revision and development of the Master Plan and ascertain an initial high-level cost. The SOA indicated that the spatial allocation had increased by 13,000m^2 above the IDD spatial allocation and subsequently, the estimated cost had increased by approximately $150 million since the funding announcement in 2018.

The progressive increase in scope and cost escalation against the initial budget announcement is demonstrated in the diagram below.

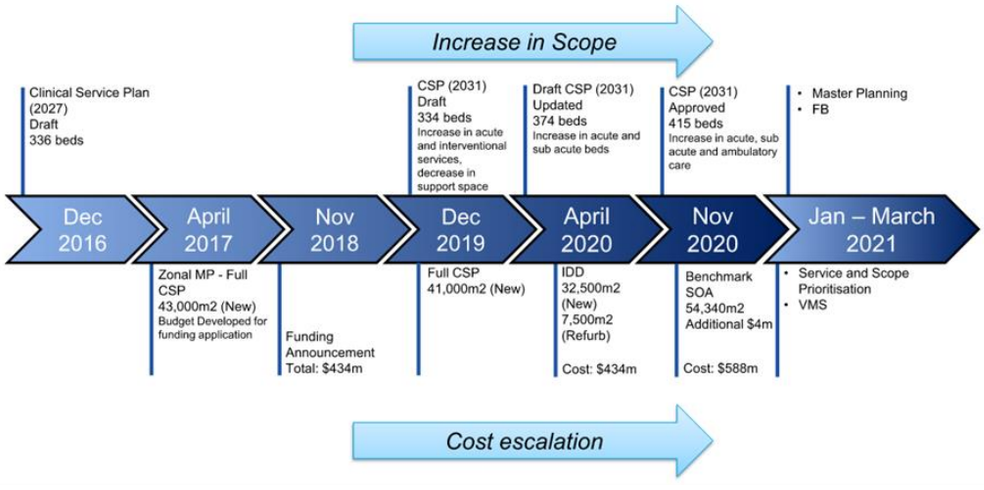

Figure 3: Increased Scope and Cost Escalation

As a result, a Value Management Strategy (VMS) was developed to establish a project scope aligned with the CSP and the project budget. Scope prioritisation was integrated into the value management consultation process and informed by the assessment criteria that was developed to ascertain a preferred option.

A long list of 12 options was developed and reduced to a short list of 4 options through consultation and included 2 further options that were not part of the original 12 options. The preferred option (14) was selected from the short list using an endorsed assessment criteria based on the project principles and objectives.

The endorsed option 14 accommodates approximately 80% of hospital services in a new acute services building (~33,300m2), with the remaining 20% accommodated in the existing hospital with various levels of refurbishment to the existing facilities (~8,300m2).

The Value Management Report is located in **Appendix 4.**

Table 3: Endorsed Detailed VMS Scope

Specialty/Department/Unit		Current Spaces	Projected Additional Spaces	CSP	Built Spaces/ as per Option 14	Comments/ VMS build assumptions
Medicine	General Medicine / Acute Geriatrics	61	42	73	72	New build 2 x 24 bed Medical IPU's 1 x 24 Geriatric IPU (+3 BPSD beds, included in the Mental numbers below) (1 x 4 inclusive of treatment spaces for inpatient renal dialysis (Location TBC))
	Stroke			9	9	No works use vacated ICU (collocated with rehab in vacated Surgical IPU) 1 x 9 beds
	Cardiology			15	21	New Build 1 x 21 bed IPU (6 COU and 15 cardiology)
	Cardiology COU			6		
	DO Endoscopy	13	3	11	22	New build Day Surgery unit collocated with perioperative suite
Surgery	DO		2	7		
	ON	32	28	60	56	New Build 2 x 28 bed IPU's (remaining 4 beds allocated to DO)
ICU		9	11	20	20	New Build
Maternity / Obstetrics		13	-1	12	12	Minor refurb in adjacent vacated Surgical IPU (Bereavement Room and Day only assessment)
Sub Total Acute		**128**	**85**	**213**	**212**	
Low dependency neo natal care (Special care)		6	0	6	6	No works
Paediatrics		12	-2	10	10	No works
Paediatric Assessment Unit (PAU)		0	5	5	5	Major Refurb of adjacent area
Sub Total 0-15 years		**18**	**3**	**21**	**21**	
Palliative Care (Including David Berry)		9	6	15	15	Medium refurb of subacute mental health

Specialty/Department/Unit	Current Spaces	Projected Additional Spaces	CSP	Built Spaces/ as per Option 14	Comments/ VMS build assumptions
Rehabilitation (Including David Berry)	29	40	54	46	No works. Use vacated Medical IPU allowance for therapy and support space in medical 1 x 16 No works. Use vacated Surgical IPU 1 x 14 (9 stroke beds collocated in vacated ICU)
Rehabilitation (Maintenance)			15	5	No works. Use vacated medical IPU 1 x 16 bed IPU (Rehab and GEM) No works. Use sub-acute mental health
Sub-acute GEM			0 (Included in rehab beds)	0	
Sub Total Sub-Acute	**38**	**46**	**84**	**66**	
Mental Health (including PECC, acute & older persons)					
Sub-Acute	20	- 20	- 20	0	Service reconfigured to a contemporary model of care in the community
Acute Adult and Older Persons	0	16	16	16	Collocated
Rehabilitation / Non-acute	0	12	12	12	Collocated with Acute
PECC	0	4	4	4	Located adjacent to the ED
BPSD (Behavioural and psychological symptoms of dementia)	0	3	3	3	Beds provided in the Geriatric IPU
Total Mental Health	**20**	**15**	**35**	**35**	
Renal Dialysis	12	4	16	12*	Major refurb in SAGU (partial) and existing renal unit *Additional 2 spaces added creating 14 spaces and approved through governance in October 2021

Specialty/Department/Unit		Current Spaces	Projected Additional Spaces	CSP	Built Spaces/ as per Option 14	Comments/ VMS build assumptions
Emergency Department						
ED	Acute Adult	10	6	16	16	Includes 8 low stimulus bed zone
	Paediatric	4	2	6	6	1 S Class room within the 6 beds
	Fast Track	4	6	10	10	6 chairs and 4 stretchers
	Resuscitation	2	2	4	4	1 N Class room
	Isolation	1	1	2	2	1 N Class and 1 S Class room
ESSA		0	8	8	8	
Sub Total Acute ED Treatment spaces		**21**	**25**	**46**	**46**	
SHOALHAVEN HOSPITAL Total		**237**	**178**	**415**	**392**	
Additional ED Clinical Support Spaces						
Safe Assessment		1	1	2	2	
Adult Procedure		1	0	1	1	
Plaster		1	0	1	1	
Paediatric Procedure		0	1	1	1	
ENT / Eye		0	1	1	1	
Sexual Assault		0	1	1	1	
Dental		0	0	0	0	Treatment to be provided in the Eye/ENT space
Total additional clinical support		3	4	7	7	
Grand Total		**240**	**182**	**422**	**399**	
Interventional Services						
Operating Theatre	Surgical	4	4	8	8	Includes a hybrid theatre
Procedure rooms	Endoscopy	1	1	2	2	
	General (minor procedures)	0	1	1	1	
Cath Lab		0	1	1	1	
Birthing Suites		4	0	4	4	Collocated with Maternity
Ambulatory Care						
General		25	46	71	81^	Includes Pre-natal and women's health spaces

Specialty/Department/Unit	Current Spaces	Projected Additional Spaces	CSP	Built Spaces/ as per Option 14	Comments/ VMS build assumptions
					Includes Cardiac Diagnostic centre ^An additional 10 spaces were added and approved through governance in November 2021. To be provided in existing vacated infrastructure
Medical Ambulatory Care	3	7	10	10	
Medical Imaging					
General X-Ray	2	1	3	3	
Fluoroscopy	1	0	1	1	
Interventional Radiology	0	1	1	1	
CT	1	1	2	2	
Ultrasound	2	2	4	4	
MRI	0	1	1	1	
SPECT-CT (Nuclear Medicine)	0	1	1	1	
Mobile X-Ray	2	1	3	3	
Mammography	0	1	1	1	
Bone/Mineral Density	0	1	1	1	

1.5.5 Zonal master plan options development

A Zonal Master Plan report was completed in 2017, based on the CSP to 2027. A review of this previous master planning indicated that the constraints facing the site had changed and the master plan required revision.

Three revised zonal Master Plan options were developed by leveraging the urban planning and design principles that had been established in the previous planning. Each Master Plan option included a new acute zone designed to maximise the green space around the site and the connectivity to the riverfront and the CBD.

The zonal Master Plan options were developed based on a high-level functional relationship diagram reflecting the proposed scope. The purpose of this was to ensure that zonal adjacencies were achieved to inform ease of travel, access, connectivity and staff and patient safety.

The figure below illustrates the zonal Master Plan options that were developed and considered.

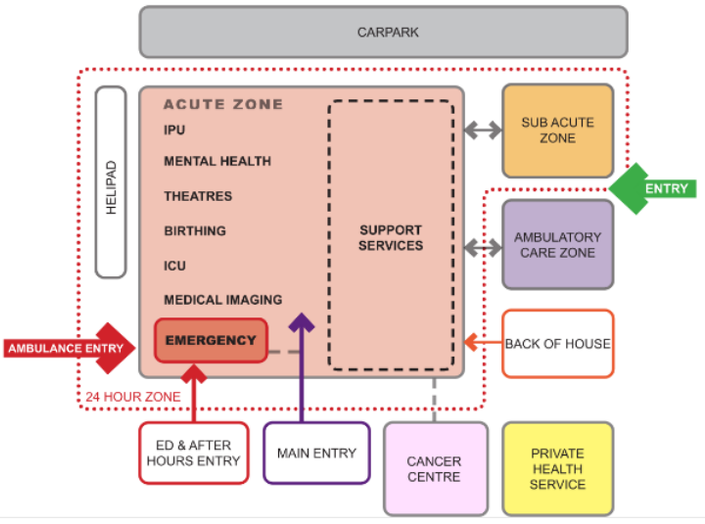

Figure 4: Functional Relationships to Inform the Zonal Master Plan options

Master Plan Option 1

Master Plan Option 2

Master Plan Option 3

Option 1 locates a new hospital on the site of the existing hospital on the Northern half of the site. This has the advantage of leaving the existing Nowra Park as open space which is desirable to the local community. Building a new hospital on the site of a functioning hospital raises issues of staging and continuity of service. Building programme and clinical continuity will be a significant issue with this option.	**Option 2** locates a new hospital on the existing Nowra Park site. This will have the advantage of not impacting on the existing hospital during construction. Staging and clinical continuity will not be affected. There will be additional cost required to resolve the use of the existing buildings when the new hospital is complete. Options are to retain open space for the community, provide private development zones suitable for a clinical precinct or decommission and leave the buildings for future hospital expansion.	**Option 3** locates a new acute zone within the centre of the site and closely aligned to the existing facility including the multideck car park. Ambulatory and sub-acute zones are aligned to the north of the acute zone. New greenspace at the north end of the site connects to the Riverfront Precinct of Nowra. The masterplan provides a “hospital within a park” with greenspace connecting both the north and south end of the campus

Figure 5: Shoalhaven Hospital Master Plan Options

Option 3 was considered to be the most desirable Master Plan for the long-term future of the site as it:

- consolidated clinical zones at the centre of the site;
- provided a future expansion zone to the north;
- retains open space and established trees on the south side of the site and provides green space on the north side of the site connecting it to the river precinct; and
- provides good adjacency and connectivity to the car park for ease of access.

Option 3 was determined as a future long-term vision for the site. The identification of existing assets for purposeful reuse to maximise scope culminated in a staged approach to the long-term masterplan. Option 3A reflected the IDD recommendation to create an affordable option that comprised of a mix of new build and refurbishment. The option was developed in consultation with the ISLHD stakeholders so as not to inhibit the future long-term vision for the site.

Option 3A required the acquisition of Nowra Park adjacent to the site and the relocation of an existing preschool.

An IDD for the acquisition of Nowra Park was completed and endorsed by the NSW Ministry of Health and the Nowra Park Lot was acquired in November 2021.

The pre-school is located on a separate lot and the relocation of the preschool. Acquisition of the lot took place on 26 August 2022. The relocation of the preschool will be incorporated into the redevelopment, providing a like for like facility on the southern edge of the park.

Further details of the Master Plan are provided in the Shoalhaven Hospital Master Plan Report in **Appendix 2.**

Figure 6: Option 3A Preferred Shoalhaven Hospital Redevelopment Zonal Master Plan

1.5.6 Concept options development

The concept options were developed with consideration to existing site constraints and a specific design criterion.

A long list of six concept options were developed. The six options were reduced to a short list of three as a result of feedback from the stakeholders and in the context of the design criteria upon which the concept options would be assessed and a pros and cons assessment.

The preferred option was chosen based on the highest assessment score against the agreed criteria and, on balance, a high number of pros than cons. The endorsed option (option 6) is demonstrated in the table below.

Table 4: Concept Option 6 Pros and Cons

Concept Option	Pros and Cons
Option 6 - Shoalhaven Street entry 	**Pros** • Shorter travel distance to existing hospital services • Increased greenspace area to the south • Internal loading dock enables a landscaped northeast corner of the building • Stepped form to the north provides a lower scale building on the edge of the southern greenspace, decreasing its impact on the greenspace • Relocation of loading dock enables ease of expansion to the north • Increased accessibility to the site by the community • Direct connection between greenspace and existing hospital • Provides a public interface with Shoalhaven Street • Direct connection between the car park and main entry **Cons** • Internal loading dock potentially incurs additional costs with increasing structure and height • Stepped form from the north creates some self-shadowing and reduced access to the sun • Second entry point may introduce security challenges resulting in additional cost

The endorsed option will deliver the scope in a combination of new build, refurbishment of existing infrastructure and the use of existing infrastructure. This is demonstrated in the axiomatic diagram below.

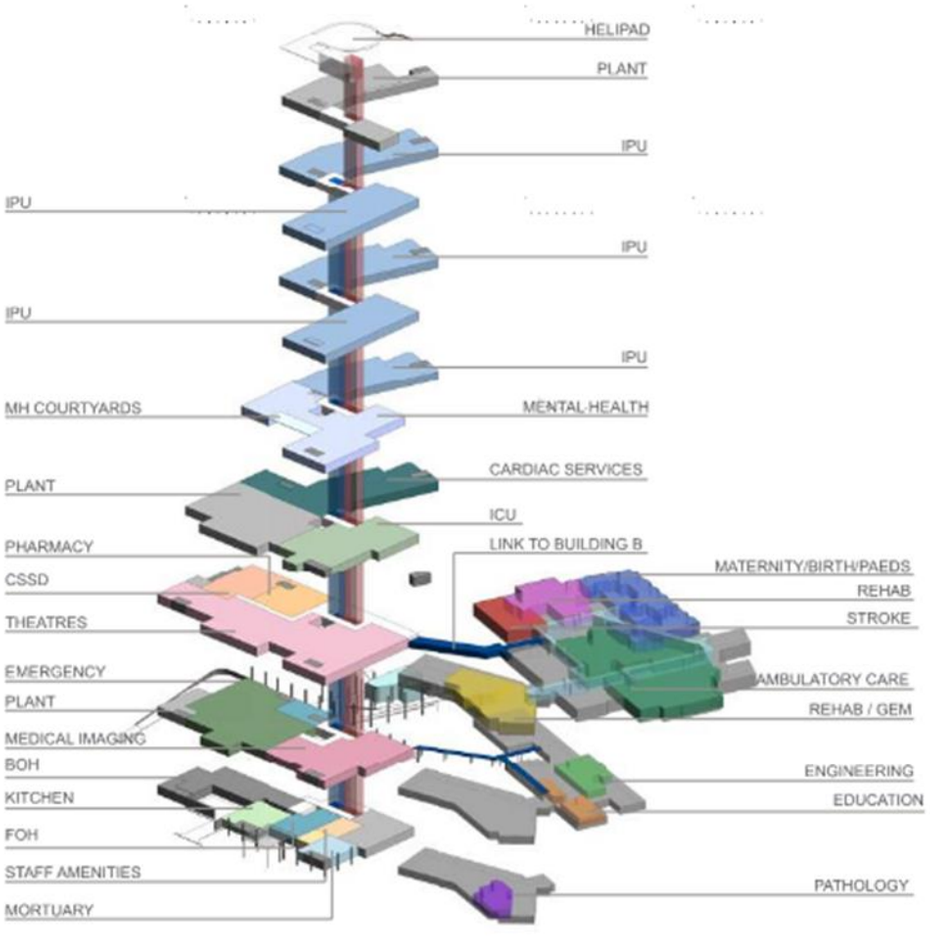

Figure 7: Axiomatic Preferred Concept Option Block and Stack

Concept Option 6 was endorsed through governance enabling the project to progress to schematic design.

Further detail regarding the Concept and Master Plan option development is contained in **Appendix 5,** Concept Design Report.

1.6 Affordability

Genus Advisory developed the capital cost plan for the endorsed option. The estimated total cost (ETC) is $438m.

All known risks have been quantified and can be accommodated through the available contingency should they be realised.

The ETC and cash flow for the endorsed option is outlined in the table below. The capital cash flow for the Project will continue to be reviewed throughout the Project.

Table 5: Capital Cost Summary (Endorsed Option)[5]

Capital costs items		Prior planning expenditure to date	2021/22	2022/23	2023/24	2024/25	2025/26
Land	**4,230,539**	1,630,000	1,195,000	1,405,539	-	-	-
Early Works	**2,106,000**	-	-	2,106,000	-	-	-
Building costs	**234,033,461**	13,317	360,341	13,216,079	150,711,412	51,607,578	18,124,735
FF&E and ICT	**62,503,000**	-	-	-	-	35,716,000	26,787,000
Professional fees	**34,500,000**	-	5,942,306	8,575,000	6,300,000	6,300,000	6,300,000
Authority Fees	**1,173,000**	-	200,000	100,000	300,000	250,000	323,000
Health Infrastructure Management Fee (and LHD Costs)	**12,277,000**	2,764,325	1,902,189	1,902,622	1,902,622	1,902,622	1,902,622
Commissioning	**3,517,000**	-	-	-	-	1,758,500	1,758,500
Contingencies	**58,610,000**	-	-	-	-	-	35,166,000
Escalation	**25,050,000**	-	-	1,414,596	16,131,543	5,523,868	1,979,994
Total	**438,000,000**	**4,407,642**	**9,599,836**	**28,719,835**	**175,345,576**	**103,058,567**	**92,341,850**

Cost Risk and Contingency

The standard cost planning guidelines and levels of contingency for a project at completion of Schematic Design have been applied to the Project totalling $58.6m for design, construction, planning and executive contingencies.

Current net cost of service

Shoalhaven Hospital (inclusive of David Berry Hospital) Net Cost of Services (NCOS) is $151 million excluding depreciation and overhead for the 2021/22 financial year. The consolidated 2021/22 NCOS budget (excluding depreciation) is $11.5m higher than the 2021/22 Net Results (ABF) (excluding depreciation) which reflects current inefficiencies at SDMH. This is demonstrated in the table below. ISLHD is currently developing efficiency improvement projects for SDMH and DBH, which is initially focused on improving efficiency in the areas of orthopaedic surgery and maternity services.

Table 6: Reconciliation of ABF and NCOS – 2021/22 Budget

Cost Component	2021/22 Budget ($m)
NCOS excl. dep'n and overhead	151.1
Add: District Overhead	13.9
NCOS include overhead, excl. dep'n	165.0
Net results (ABF), excl dep'n (ABF), include overhead	153.5
Existing cost gap due to service inefficiency	**11.5**

Projected net cost of service

The projected increase in NCOS (exclude depreciation) is $47m in 2026/27 increasing to $90m in 2030/31 when the service capacity is fully operational (see table below). The annualised growth rate of the NCOS impact between 2021/22 to 2030/31 is 5.2% p.a. The employee related cost contributes to 44% - 56% of the total NCOS increase. There will be a substantial RMR and facility management costs due to increase in GFA on the campus.

[5] Genus Advisory, Cost Report and Cash Flow NO.20, 20/06/2022_V01

Table 7: Projected NCOS impact ($000) – Preferred Option

Net impacts by cost items					2026/27	2027/28	2028/29	2029/30	2030/31
Employee Related	-	-	-	-	30,384	37,259	45,511	54,422	66,843
Facility Management (FM)	-	-	-	-	1,758	1,758	1,758	1,758	1,758
Repair, Maintenance and Replacement (RMR)	-	-	-	-	3,290	6,581	6,581	6,581	6,581
VMO	-	-	-	-	357	724	1,103	1,492	1,894
Depreciation	-	-	-	-	10,950	10,950	10,950	10,950	10,950
ICT Costs	-	-	-	-	1,913	2,023	2,134	2,244	2,353
Goods and Services (other than FM/RMR)	-	-	-	-	19,092	20,081	21,067	22,051	23,033
Total expenses	**-**	**-**	**-**	**-**	**67,744**	**79,376**	**89,103**	**99,498**	**113,411**
Total revenue	-	-	-	-	9,870	10,440	11,009	11,576	12,142
NCOS incl. Depreciation	-	-	-	-	57,874	68,936	78,094	87,922	101,269
NCOS excl. Depreciation	**-**	**-**	**-**	**-**	**46,924**	**57,986**	**67,144**	**76,972**	**90,319**

ISLHD will consider the review of the following items in developing the Efficiency Plan to address the identified recurrent funding shortfall:

- The workforce requirement considering potential efficiencies
- Clinical activity and cost data to inform the impact of additional service volume, as well as patients flow reversals on resourcing and recurrent funding availability
- Further consideration on commissioning budget from the Ministry of Health for operating a facility with higher fixed costs

Annual Life Cycle Maintenance Costs

The annual life cycle maintenance cost is based on an average of 1% of the ETC ($4.3m).

Staffing

The staffing requirement in 2026/27 (first year of commissioning) to 2029/30 has been estimated based on 2030/31 projected increase and the projected activity (NWAU) growth. The projected staffing increase (incremental to the Base Case) is 228 FTE in 2026/27 increasing to 567 FTE in 2030/31.

Cost Benefit Analysis

A Cost Benefit Analysis (CBA) has been developed for the Project and based on the analysis of quantifiable costs and benefits resulting in the incremental Net Present Value (NPV) for the Project. The following table presents the total discounted incremental costs and quantified benefits for the service options relative to the base case.

Table 8: Key results incremental to the Base Case ($million)

Item	Preferred Option Present Value (20 years @7%)
Incremental costs	1,029.5
Incremental benefits	1,225.5
Incremental NPV	**196.0**
Incremental BCR	**1.19**

Based on the analysis of the quantifiable costs and benefits the CBA identifies that the Project is expected to generate:

- A net benefit for the community as a whole of $196 million in net present value terms; and
- A benefit to cost ratio of 1.19

The BCR includes the impact of activity and patient flow between Wollongong Hospital and the proposed Shoalhaven Hospital. Evaluating the reverse flows reduces the additional patient activity at Shoalhaven Hospital as these patients would, under the Base Case, receive health services at The Wollongong Hospital.

Further detail of capital costs, funding and workforce can be found in:

Appendix 6: Shoalhaven Hospital Redevelopment, Cost Plan C1 100%, Schematic Design_ V2

Appendix 8: ISLHD Shoalhaven Redevelopment Project: Workforce Development Strategy v0.3, March 2022

Appendix 9: The SDMH Redevelopment Project, FBC FIS (Final Draft, 27 September 2022)

Appendix 10: Shoalhaven Hospital Redevelopment Cost Benefit Analysis. (V2, 30 September 2022)

1.7 Change Management

The change vision for the new Shoalhaven Hospital is that it will provide enhanced services to care for patients locally, reducing the need to transfer patients to higher care facilities.

The challenges and benefits for the Shoalhaven Hospital will be significant and involve major change occurring with the implementation of new services, service expansion, introduction of new technology and shared spaces, and adoption of new skills and methods of working. The outcome of these changes will be an improved health facility that has greater efficiencies with the introduction of contemporary models of care, improved access to services, an integrated and collaborative approach to healthcare and improved workforce conditions and opportunities for staff.

The Change Management strategy includes the identification of key stakeholders, risks with mitigation strategies and assumptions and dependencies, noting the following key change management requirements:

- The delivery of new Models of Care (MoC) and workflows in new and refurbished areas requiring new and revised policy and procedures
- Recruitment and training of staff to deliver the new models of care and the predicted activity
- The requirement for new service delivery models to operationalise the new campus footprint
- The education and training requirements involved in adapting to the new digital health strategy
- The education and training requirements for the new integrated ICT and engineering systems to support the Environmentally Sustainable Design (ESD) facility
- The development of an effective communication strategy to ensure all stakeholders are aware of new services.

The Change Management Plan is located in **Appendix 14.**

1.8 Benefits realisation

The Shoalhaven Hospital Redevelopment will use the NSW Treasury Benefits Realisation Management process to document and ensure that the project realises the benefits anticipated for the capital investment. The following table outlines the 7 priority benefits of the redevelopment and the strategies to realise the benefits.

Table 9: Priority Benefits of the Project

Ref#	Benefit	Response Strategy
1	New and refurbished facility to improve safety for staff, patients and community	Workforce plan developed with a strategy for ongoing recruitment and training of staff to enable the facility to be commissioned to operate as services and increased services come on line
2	Ability to meet the service demands for people closer to home	Workforce plan will identify key skills and training requirements to support increased delineation where required
3	New and refurbished facility to improve safety for staff, patients and community	Communication and Engagement Plan developed in consultation with Project Communication team
4	Models of Care (MoC), design and flow support referrals and connectivity to enable early discharge or admission avoidance Ability to provide efficient care in infrastructure that meets AusHFG	Development of new MoC and ways of working to support the increase in hospital delineation and services Early identification of staffing and training requirements included in the change management action plan with a planned approach to the change management

Ref#	Benefit	Response Strategy
	standards with an increase in capacity and services Capacity to refer patients to alternative care models to avoid hospital admissions	Opportunities for early implementation of changes required to support the MoC reflected in the change management plan inclusive of areas of responsibility to implement the change reflecting a supportive structure and governance
5	Ability to meet the service demands for people closer to home Improved access to Acute Mental Health (MH) services	Work with other services to learn best practice and integrate into the SDMH to support the District vision of service delivery Staged introduction of new/enhanced services via the change management action plan Develop a targeted plan to implement change across the site
6	Ability to provide efficient care in infrastructure that meets AusHFG standards with an increase in capacity and services	Collaboration and development of strategies with key stakeholders within the LHD to ensure digital health solutions are adopted and integrated Developing a digital health strategy to support appropriate funding to support the change and training requirements at the SDMH
7	Improvement in health outcomes leading to improvements in socioeconomic status Services delivered in a financially and environmentally sustainable way	Benchmark requirements against existing facilities, infrastructures to ensure support is engaged to sustain the model and the build Early engagement and collaboration with procurement and finance to ensure rostering and reporting of activity is correctly captured to allow for appropriate funding Detailed exploration of environmentally sustainable design (ESD) options in partnership with LHD stakeholders to maximise sustainable design and operational efficiency.

The Benefits Realisation Plan is included as **Appendix 13**.

1.9 Proposed packages of work

The proposed works sequence has been developed with consideration of existing constraints, operational requirements, program, value for money and anticipated risks.

The project is proposed to be split into 3 works packages as summarised below. Pending the progression of the design and authority approvals, some works packages may be grouped to allow efficiencies through economies of scale.

1.9.1 Early and Enabling Works

The Early Works scope main objective is to de-risk and prepare the site for the main works package.

The Shoalhaven Community Preschool is located in the area planned for the new Acute Services Building. The service will need to be relocated prior to the commencement of Main Works to allow free access to the site, following the acquisition of this site (Lot 7034) and the adjoining Nowra Park site.

This package of works includes the construction of a new Preschool, and if required will include relocation of services identified within footprint of the new Acute Services Building. The services identified in the services investigation survey include:

- Relocation of Water Supply Main located on Shoalhaven Street boundary
- Diversion of stormwater discharge from headwall onto Nowra Park
- Relocation of Gas supply through Nowra Park

1.9.2 Main Works

The main works package will consist of the construction of the new Acute Services Building including linkages to existing Block B and associated external works.

1.9.3 Refurbishment Works

Following the Hospital Operational Commissioning of the new Acute Services Building, refurbishment works will commence on the construction of new Ambulatory Care Services, Maternity, Birthing, Rehab, Stroke, Pathology and Renal areas within the existing SDMH buildings.

1.10 Project Governance

The HI standard project methodology is accepted as the governance arrangement for the Shoalhaven Hospital redevelopment. The Project Governance Structure for the Planning and Implementation Phase is reflective of the following structure.

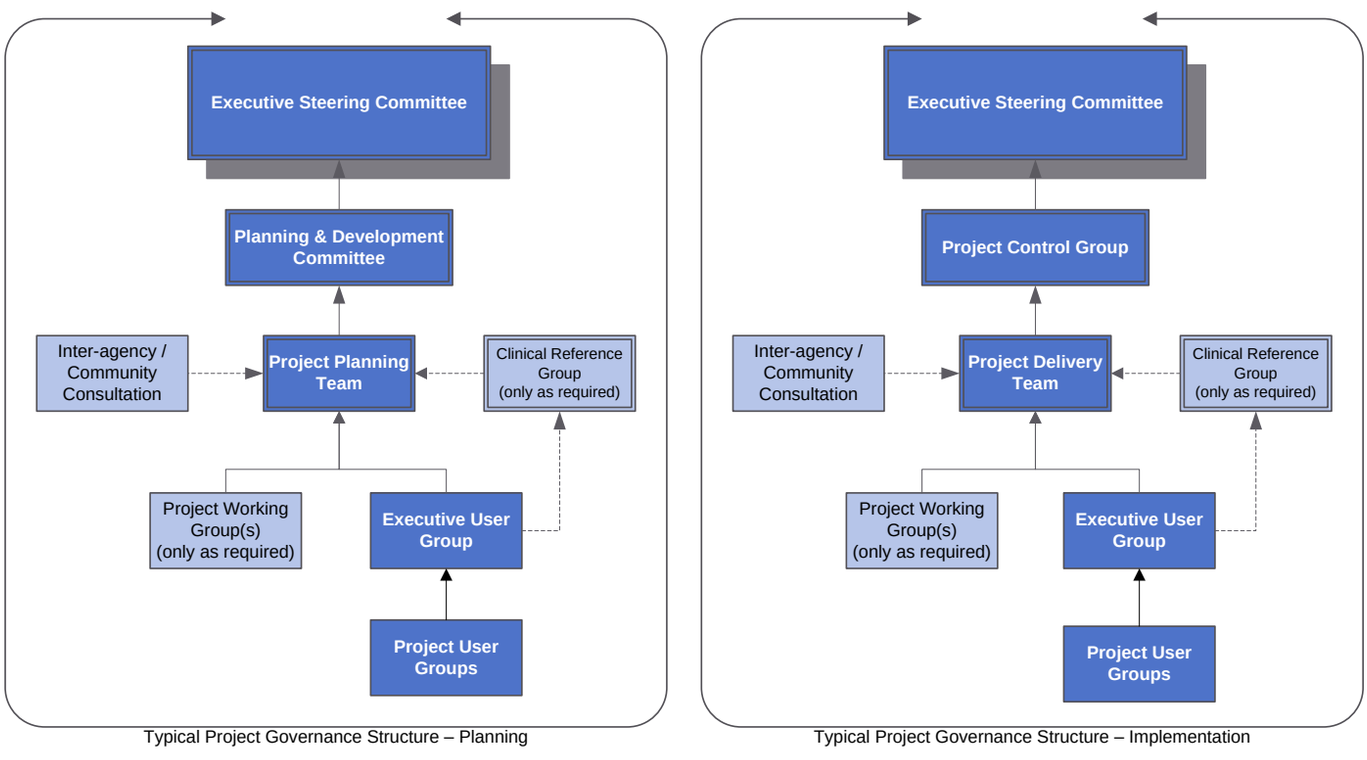

Figure 8: Governance Arrangements

Specific Project Governance Arrangements for the Project are provided in **Appendix 11.**

1.11 Stakeholder Engagement

The endorsed Sholhaven Hospital Communications and Stakeholder Engagement Plan (October 2020) outlines the key stakeholders and activities required to respond to the needs of each phase of the project.

The key messages for the project are:

- The NSW Government has committed $438 million towards the Shoalhaven Hospital Redevelopment
- The Shoalhaven District Memorial Hospital redevelopment is in the planning stage and construction will commence in this term of government
- The construction timeline for the project will be determined once planning is further progressed
- Detailed analysis will be undertaken and site options developed to inform the optimal solution for the redevelopment to best service the needs of the broader South Coast community

- The hospital will significantly improve healthcare services for the Shoalhaven region
- The Hospital will serve as a community focal point to promote health and wellness through designs that integrate outdoor spaces, reduce waste and impact on environment, and maximise environmental and economical sustainability
- The District is committed to meaningful engagement and consultation with the local Aboriginal community and to ensuring the voices of the community are heard. There will be multiple opportunities to comprehensively consult with staff and the community and obtain input
- The redevelopment will deliver new and upgraded health facilities including:
    - Increased surgical capacity with more operating theatres and expanded elective surgery
    - Acute medical and aged care beds
    - Increased capacity in the Emergency Department
    - Expanded mental health services
    - Expanded rehabilitation and palliative care services
    - Expanded of outpatient and ambulatory care.

- The NSW Government committed $11.8 million towards the Shoalhaven Hospital Car Park project, which has delivered a new multi-deck car park as well as new ground level car parking. The project provides an additional 220 parking spaces. Further options for parking will be considered as part of planning for the Shoalhaven Hospital redevelopment.

Significant engagement with the local First Nations community has taken place and will continue to take place, acknowledging the large population of First Nations People in the catchment. Consultation and communications have included consumer representation for design and the engagement of consultants Yerrabingen to assist with design consultation to ensure that the new facility is a culturally safe space for First Nations People to seek health care or visit. Local First Nations people have been part of the user group consultation process from Functional Briefing to design. Project members who are not employed by NSW MoH have been offered the opportunity to access training which is in progress at the submission of this FBC.

Recognising the critical importance of bringing the wider community on the journey, the project user groups (PUGs) included consumer representatives to ensure their voice was heard. Consumers were included and provided a valuable contribution to the emergency department, mental health, perioperative, ambulatory care, inpatient and front of house PUGs. A consumer representative was also a part of the Project Development Committee (PDC), and the concept design workshops.

Communication to the broader community was done via the project website, a regular newsletter, letter box drops and a community survey.

The Stakeholder engagement plan is located in **Appendix 15.**

1.12 Risk management

A risk management process has been established for Shoalhaven Redevelopment based on the HI Risk Management Framework. This approach is based on a continuous and proactive approach to risk management from planning through to implementation and commissioning and includes:

- Identifying the key risks following consultation with key stakeholders and review of documentation;
- A risk workshop with the project team to review and confirm risks. In particular, all services consultants are required to identify risks relevant to their discipline for addressing within the risk framework;
- Quantification of risks with input from Cost Manager;
- Tracking of risk ownership
- Ongoing risk reviews with the project team to update the risk register;
- Reviewing specific risks from the risk management strategy at PDC;
- Escalating (where required) risks to the ESC for direction; and
- Working with the Cost Planner to quantify the capital implication of the risks identified and assessing them against available contingency.

All risks have been quantified and if realised can be funded through available contingency. The full risk register is available in **Appendix 12.** The top five key risks and the proposed mitigation strategies are outlined in the table below:

Table 10: Top Five Project Risks at Concept Design

Risk Rank	Risk Category	Risk Description	Mitigation Strategy
1	Program	Delays to the design program may affect key project milestones. Causes of delay may include: - Availability of key project resources - Delays in design decisions - Preschool relocation - Temporary HLS relocation and DA approval. - Latent conditions Key Impacts of these delays: - Business case approval - Planning approval - Procurement and commencement of Main Works - Completion of Main Works	Ongoing communication with the ISLHD stakeholders and Program focused meetings. Ensure sufficient resources can be allocated to the project noting the overlap with Shellharbour Project. Early notification of key deliverable and upcoming meetings/workshops. Closely monitoring the program of the preschool Contractor.
2	Costs and Scope	Delivery of the Service Plan requirements are unaffordable against the capital budget. Causes of delay may include: - Current market conditions result in a higher than anticipated tender return (escalation). - Adverse site conditions - Late design changes Key Impacts of these delays: - Cost will exceed the available budget for the scope	An updated Value Management Strategy has been developed and workshops completed. Regular consultation with the QS and Architects. Value Management Workshops have been completed during May and June 2021. With a preferred option identified. Cost plan has allowances for escalation relative to what is being experienced in the current market. Extensive site investigations have been undertaken and all the known risk has been quantified.
3	Preschool Relocation	Preschool is required to be relocated prior to the full site establishment of main works. Tender has been awarded however the relocation remains critical to the full commencement of Main Works. Causes of delay may include: - Inclement weather - Late design changes - Availability of materials and resources Key Impacts of these delays: - Additional project staging of Main Works - Extended program - Increase costs budget.	A separate program has been developed for the preschool to be relocated as early works, this will be closely monitored until completion. A construction contract has been awarded to a reputable contractor. Ongoing consultation with preschool operator to ensure early commissioning and operational go-live activities are being scheduled early.
4	Communications	The general community have shown a strong interest in the redevelopment and the surrounding sites i.e. Shoalhaven Community Preschool, Nowra Park and potential Greenfield options. There has also been a public commitment to commence construction prior to March 2023.	Develop early a strategic communication and consultation strategy that supports the achievement of the overall project objectives. Early understanding of the key issues and the agreement of key messages to manage these issues. Manage program and stages in order to meet construction start commitment.
5	Development Consent	Development approval is critical to the commencement of Main Works. This relies on the completion of both a SEPP amendment (to rezone the site) as well and	Ongoing consultation with Department of Planning and Environment (DPIE). Community consultation during exhibition

Risk Rank	Risk Category	Risk Description	Mitigation Strategy
		the SSDA approval. Delay in the approval of either application may delay contract award and the commencement onsite of Main Works.	periods of both applications Providing prompt responses to queries from DPIE.

The Risks management plan is located in **Appendix 12.**

1.13 Recommendation

It is recommended that this Final Business Case be approved and that the Shoalhaven Hospital Redevelopment Project proceed for a total CAPEX of $438 million, with the scope described in this document.

2 DESCRIPTION OF PROBLEM, SERVICE NEED OR OPPORTUNITY

2.1 Background

Shoalhaven District Memorial Hospital (hereafter referred to as Shoalhaven Hospital) is a Major Hospital Peer Group 2[6] facility, providing acute, subacute, emergency and critical care, outpatient and community-based services. The service currently comprises of acute medical and surgical services, operating theatres and an endoscopy suite, sub-acute rehabilitation and sub-acute mental health, intensive care (Level 4), emergency department (Level 4), paediatrics, maternity and birthing services including a neo-natal special care unit (Level 2) and ambulatory care services including a renal dialysis unit. Shoalhaven Hospital operates as a major non-metropolitan hospital within the network of Illawarra Shoalhaven Local Health District (ISLHD) facilities, providing support to David Berry and Milton-Ulladulla Hospitals. Together, these three facilities and community health services provide a comprehensive range of care to the Shoalhaven population, and are networked with tertiary services at Wollongong Hospital and other metropolitan hospitals.

The Shoalhaven region Is located on the South Coast of New South Wales. It spans from Berry and Kangaroo Valley in the north to North Durras in the South, and extends West across the Morton National Park. The regional city of Nowra is the major population hub of the Shoalhaven region, and the gateway to a large number of south coast towns and hamlets, including Ulladulla and Milton. The region has a total population of 99,650[7] people, with a higher proportion of people aged over 70 than the ISLHD average. The strongest population growth in the region over the next decade will occur in the 70 to 84 age group. Shoalhaven has a higher proportion of Aboriginal and Torres Strait Islander residents compared to the ISLHD and State average, and over 2,350,000 annual visitors.

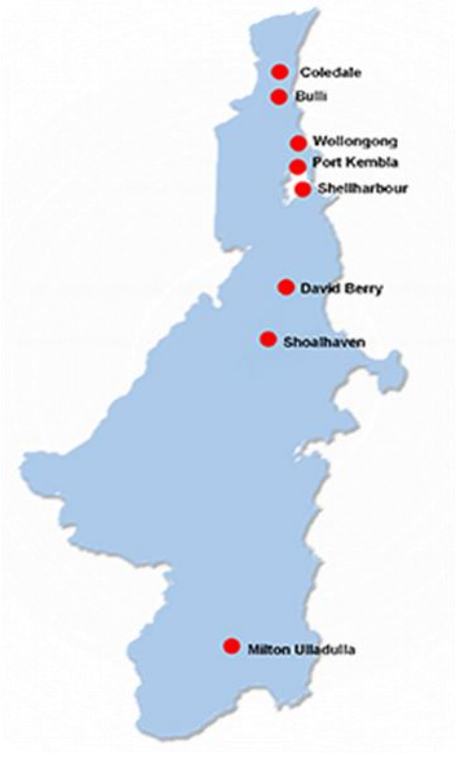

Figure 9: ISLHD Hospitals

The identification of the future health service needs of the Shoalhaven population within the draft Shoalhaven Hospital Clinical Service Plan (CSP), December 2016, indicated that the Shoalhaven Hospital would require an enhancement of its infrastructure to support the introduction of contemporary models of care, notwithstanding the advancement of alternative hospital avoidance models that are currently in place or being introduced. The draft CSP projected the health service need and demand to 2027. In response to the CSP, a Master Planning feasibility study was undertaken in 2017, resulting in a commitment of $434 million from the NSW Government in November 2018 to provide capacity for the Shoalhaven Hospital to meet the future demand for health services.

Between 2019 and 2020 ISLHD conducted a comprehensive, population-based District-wide clinical services planning process, which articulated the future District service networks for all major clinical services. These District-wide service plans formed the basis for the service scope of ISLHD's two major hospital redevelopments: Shoalhaven Hospital and Shellharbour Hospital, clarifying each hospital's role in the District service network.

The Shoalhaven Hospital CSP was revised, based on the District-wide service planning between December 2019 and November 2020. The updated CSP projected the health care demand for an additional four years to 2031, resulting in an increase in volume and scope, and subsequently, infrastructure requirements. An Investment Decision Document

[6] Guide to the Role Delineation of Clinical Services (2018), NSW Ministry of Health:

[7] Census 2016

(IDD) was developed and a revision of the Master Planning feasibility study was undertaken concurrently with the revision of the CSP.

The revised Master Planning feasibility study explored a number of options including a standalone new build, a new build on the existing site and a combination of a new build and refurbishment of the existing facility. The standalone new build and combination of new build and refurbishment of the existing facility required the acquisition of the adjacent Nowra Park and the relocation of an existing pre-school located within Nowra Park. A separate Investment Decision Document was developed for the acquisition of Nowra Park and endorsed by the NSW Ministry of Health.

An additional $4 million was committed by the NSW Government in November 2020, in response to the IDD's identification of the need to acquire the Nowra Park and undertake early and enabling works. This made a total capital allocation of $438 million for the Shoalhaven Hospital Redevelopment.

The approved IDDs and NSW Ministry of Health-endorsed CSP (December 2020) enabled the redevelopment planning to progress to identify the project scope and advance the feasibility study.

2.2 The Case for Change

The Shoalhaven Hospital CSP is based on population-based District service planning, which in turn was informed by detailed analysis of the population demographics driving demand for services.

In 2021 ISLHD published the second version of its Community Needs Assessment, which examined the complex range of social, environmental and health factors which drive burden of disease and health service demand.

The ISLHD Community Needs Assessment 2021 and the CSP indicates that, compared to the population of ISLHD, residents of the Shoalhaven are on average more likely to be older and have a lower Socio-Economic Index for Areas (SEIFA) score, indicating disadvantage. As a result, Shoalhaven residents are more likely to experience negative health impacts compared to most areas in NSW.

Figure 10 below provides and overview of the Shoalhaven LGA factors that influence key health determinants including age, population, First Nations People as a percentage of the population and population density. The areas indicated are identified by Population Health Area (PHA) as defined by the Public Health Information Development Unit.

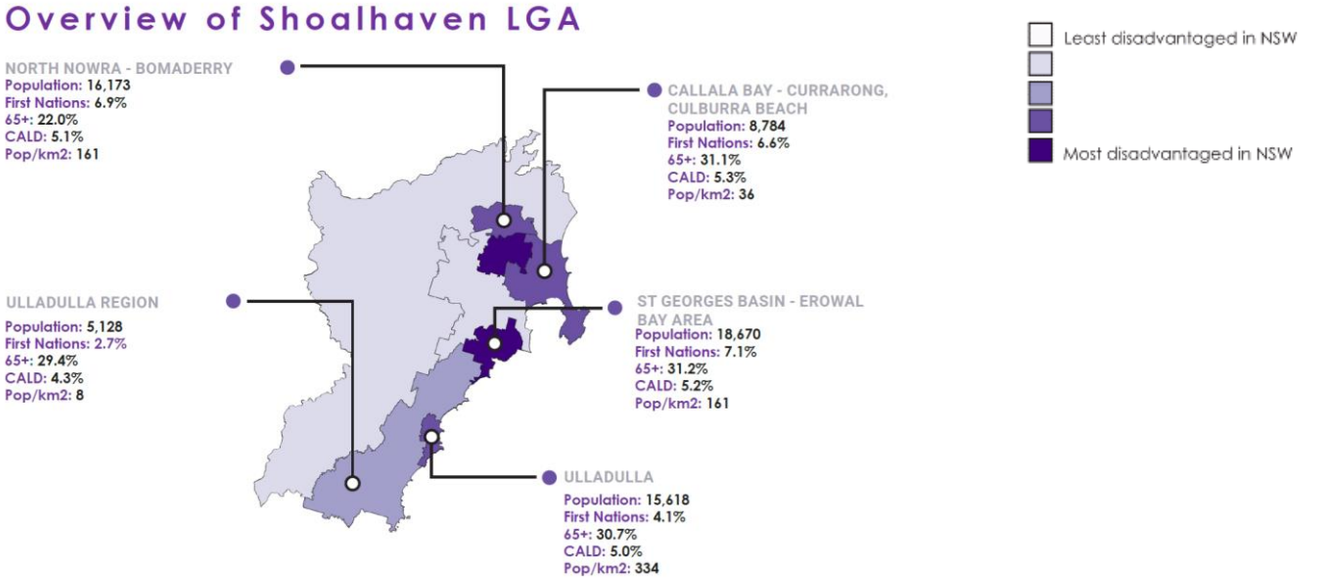

Figure 10: Shoalhaven LGA Key Health Determinants Overview

Four out of the five areas identified in the figure above have a SEIFA Index of Relative Socioeconomic Disadvantage (IRSD) score in the 4th or 5th quartile[8] of the NSW population, demonstrating that they experience disadvantage equal to the most disadvantaged populations in NSW based on the social and economic determinants.

The SEIFA score and subsequent negative health impacts on the local community is demonstrated by health and wellbeing data that indicates the local population's status in three key areas, compared to NSW, in the determinants of health and wellbeing[9].

Modifiable risk factors

Smoking, obesity, harmful use of alcohol, physical inactivity and hypertension contribute nearly 30% of the total burden of disease in Australia. The Shoalhaven catchment sits in the highest quintile compared to the rest of NSW for smoking, obesity and hypertension. As a result, admission rates for mental health conditions, ischemic heart disease, stroke and assault are high compared to NSW.

Major Burden of Disease

Cancer, heart and vascular disease, injuries, mental health conditions and respiratory disease comprise 62% of the total burden of disease in Australia. The Shoalhaven catchment sits within the highest percentile compared to the rest of NSW for heart and vascular disease and mental health conditions and the second highest percentile for respiratory (asthma, chronic obstructive pulmonary disease) disease.

Developmental Vulnerability

The First 2000 Days Framework[10] notes that the impact of the first 2000-days (from conception to age 5) lasts a lifetime for health, wellbeing and fulfilment. Vulnerability in two or more domains poses a significant risk to a child's future health and wellbeing. The Shoalhaven catchment has been identified as having the highest vulnerability scores compared to the rest of NSW in physical health and wellbeing, social competence, emotional maturity and the second highest scores for language and cognitive skills and communication and general knowledge skills.

The effect of these determinants of health are demonstrated in Figure 11 comparing the level of disadvantage of the neediest 5% to the population of NSW in percentage terms in key areas of social, economic and health and wellbeing impact.

Being an area of high disadvantage, the data indicates that Shoalhaven residents' access public health services at a higher rate than other ISLHD LGAs with a higher episode admission rate per population and an episode growth rate that is increasing faster than the population growth rate (Figure 12). Medicare data also demonstrates that Shoalhaven residents' access private health providers and GP services at a lower rate than the other ISLHD LGAs and NSW residents[11].

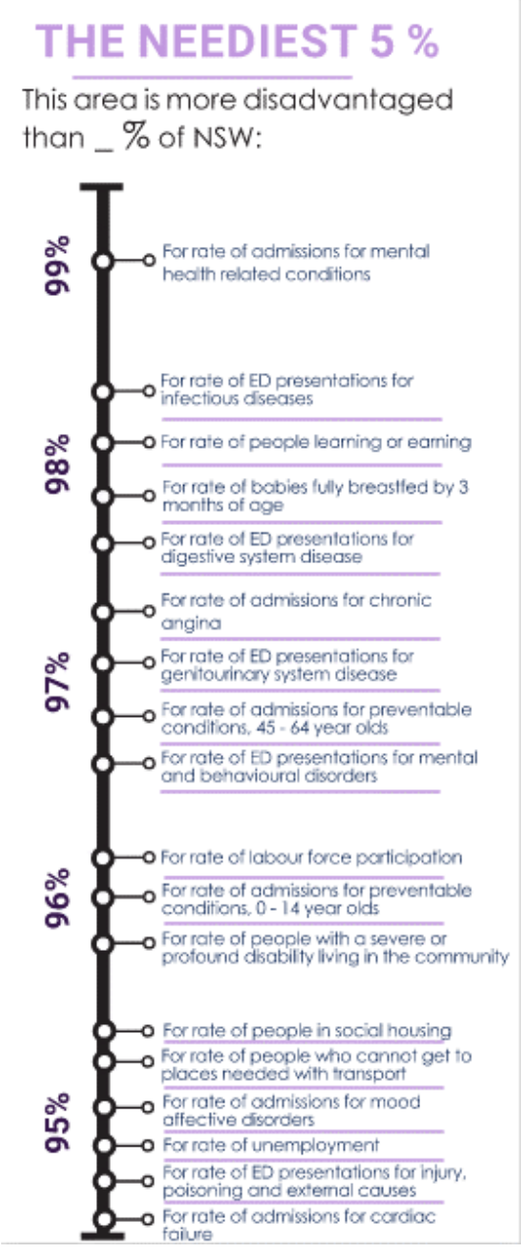

Figure 11: Level of Disadvantage of the neediest 5%

[8] Illawarra Shoalhaven Local Health District Community Needs Assessment 2021

[9] Illawarra Shoalhaven Local Health District Community Needs Assessment 2021

[10] The First 2000 Days Framework, NSW Ministry of Health, PD2019_008

[11] Shoalhaven Hospital Clinical Services Plan, November 2020

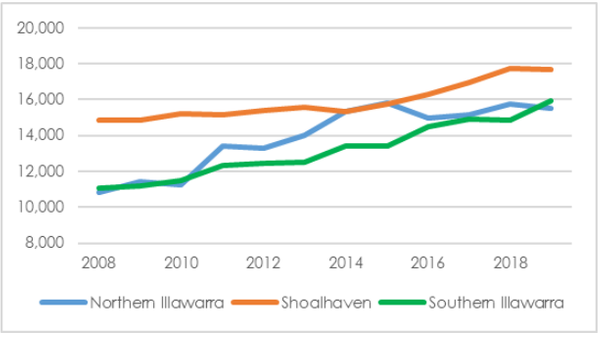

Figure 12: Rates of Access to Public Health Services

Informed by the determinants of health and wellbeing in the Shoalhaven LGA Needs Assessment, the redevelopment will enable the ISLHD to meet the particular needs of the local community, particularly in chronic disease, mental health and aged related conditions.

The redevelopment will enable Shoalhaven Hospital to:

- meet the increasing health care service demand resulting from the significant population growth in the Shoalhaven;
- provide non-admitted models of care through the expansion of outpatient and ambulatory care zones;
- provide elective and emergency surgery closer to home through the expansion of elective surgery and an increase in service role delineations;
- group services with related functions in distinct zones to achieve greater efficiencies, improving work and patient flows;
- achieve district-level and site-level strategic aims and models of care;
- promote high value care for the consumer through enhanced ambulatory care services, including paediatric clinic space; and
- become a digitally enhanced facility, supporting new and emerging virtual care management, telehealth and potential for automation of back of house facilities.

The project builds on previous development at the Shoalhaven Hospital, including a purpose-built regional Cancer Care Centre for outpatient services and a private GP clinic adjacent to the campus. The planning for this next stage of development at Shoalhaven Hospital is integrated with the redevelopment of Shellharbour Hospital as part of a district-wide health services strategy.

The key drivers for the project are outlined in more detail in section 2.3.1 below.

2.2.1 Key Drivers[12]

Population Growth and Age Profile

The Shoalhaven catchment has and will continue to experience population growth in all age groups from 2011 to 2031. The overall population is projected to grow from 96,203 to 107,900, representing a growth of 12% (11,697 extra persons) from 2011 (Census data) to 2031. The ISLHD is expected to have significantly faster population growth in the 70+ age groups. The 70-84 age group is projected to increase by 67% (8,712 more persons) to 2031. The 85+ age group is projected to increase by 110% (2,855 more persons), compared to an average of 88% for NSW.

Children and Young People: Across the District, children aged less than fifteen years make up 18% of the population (70,085 people), similar to the state average of 19%. Between 2016 and 2031, the population aged less than fifteen years is expected to grow by 12% which equates to 8,515 more people.

[12] Shoalhaven Hospital Clinical Services Plan, November 2020

Older People: The Illawarra Shoalhaven has a higher proportion of residents aged 65 years and older (78,815–- 20%) when compared to the NSW average (1,217,641–- 16%). Between 2016 and 2031 the population aged 65 years and older is expected to increase by 36,635 people. This is the fastest growing age group. Older people use health and hospital services more frequently and for longer periods and more likely to have health issues requiring sustained access to health care e.g., chronic disease, cancer, dementia and injuries associated with falls. The prevalence of many health conditions is higher in older age groups and these older patients often present with multi-morbidity, because of age-related increase in risk of diseases such as cancer, heart and vascular diseases, stroke and diabetes. Older patients tend to have higher usage rates for emergency department and inpatient services, and longer lengths of stay per inpatient episode compared to younger patients along with higher usage rates for specialist outpatient clinics and services located on the Shoalhaven campus.

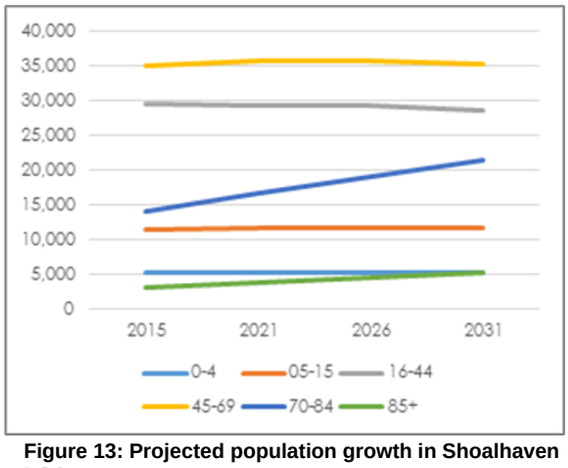

Figure 13: Projected population growth in Shoalhaven LGA

First Nations People: ISLHD has a greater proportion of First Nations People than NSW (NSW 2.9% compared to ISLHD 3.5%) (ABS Census 2016). In the Shoalhaven region, the proportion of Aboriginal people is the highest across the ISLHD, with 12% of the Nowra population identifying as Aboriginal.

The high proportion of First Nations residents in ISLHD reinforces the need to embed tailored responses to the specific health needs of the local First Nations community, taking a strength-based approach and working with the community to design and deliver culturally appropriate services.

Rurality: In 2016, approximately 100,000 people were living in the Shoalhaven LGA, representing 25% of the Illawarra Shoalhaven population. The impact of rurality is exacerbated by the lack of public transport infrastructure throughout the Shoalhaven, leaving the population heavily reliant on private transport for health-related services. Further, statistics indicate that approximately 1,874 private dwellings in the Shoalhaven have no private motor vehicle. Community members who are less likely to have access to private transport are often those with greater socioeconomic disadvantage, those with disabilities, and older people.

Culturally and Linguistically Diverse Population: The Illawarra Shoalhaven has a significant Culturally and Linguistically Diverse (CALD) population with a varied number of languages spoken. As at 2016, approximately 96,540 Illawarra Shoalhaven residents were born overseas, which equates to 25% of the total population. Specifically, 34,674 (36%) of residents in the ISLHD born overseas were born in countries of non-English speaking background, of that amount 6,356 (18%) reported a current poor English proficiency.

A multitude of challenges are evident in delivering services that meet the needs of the culturally and linguistically diverse population of the ISLHD. Language poses a barrier for many refugee families to navigate the health system and clearly articulate their needs. They also face financial and transport barriers, making it difficult to attend appointments. As such, many of their needs are not adequately addressed without additional supports.

Socio-economic status: Based on the composite Socio-Economic Index for Areas (SEIFA), the Illawarra Shoalhaven population, on average, is more disadvantaged than the NSW average. Within the District, Shoalhaven LGA residents are the most socioeconomically disadvantaged, followed by residents of Shellharbour LGA and Wollongong LGA. In contrast, Kiama LGA sits above the NSW average. When considering the distribution of suburbs across each LGA, Wollongong, Shellharbour and Shoalhaven all contain pockets of high areas of affluence and high levels of disadvantage, which are masked by the overall SEIFA score.

Increasing Burden of Disease

In 2013, chronic diseases were the leading causes of death in Australia, accounting for 73% of all deaths. Rising levels of chronic disease account for almost 36% of allocated healthcare expenditure and 66% of the total burden of disease in Australia across five disease groups, cancer, cardiovascular diseases, injuries, mental and substance use

disorders and musculoskeletal conditions. In 2014-15, approximately 50% of Australians were found to have at least one chronic condition, while 23% reported more than one chronic condition.

Data indicates that there is a high level of chronic disease in the Shoalhaven LGA in the majority of PHA's. Respiratory system diseases, asthma, chronic obstructive pulmonary disease, circulatory disease and high cholesterol are the highest or second highest quintile? in NSW.

Mental Health burden

Mental illness can have a devastating impact on individuals, families, carers and friends, as well as significant economic and social costs for the community. Socio-economic influences can impact on an individual's mental health. This is especially evident for at risk populations (e.g., First Nations People and CALD groups).

The PHA's of Shoalhaven experience high long-term unemployment rates and high levels of rent and mortgage stress, contributing to poor mental health. Shoalhaven residents have one of the highest admission rates for mental health-related conditions and mood affective disorders in NSW. This aligns with four out of eight PHA's experiencing high or very rates of high psychological stress with high to very high rates of chronic mental health or behavioural problems across 7 of the eight PHA's in the Shoalhaven[13]. Contributing to the mental health burden is the inability to access acute mental health beds in the Shoalhaven LGA as there is currently no acute inpatient mental health service in Shoalhaven. Consumers requiring admission for acute care are required to be transported 53 kilometres to Shellharbour or further to Wollongong, creating an increasing burden on consumers and families due to the need to travel and as a result the potential lack of support critical to treatment and positive health outcomes.

2.2.2 Current and Future Service Demand[14]

Global demand projections for residents of the ISLHD catchment LGAs indicate considerable growth in service demand over the ten-year planning horizon to 2031. The Shoalhaven Hospital is projected to be the Shoalhaven regional health care hub, providing services at role delineation up to level 5 as clinically appropriate.

Shoalhaven Hospital is currently experiencing high levels of activity for acute, sub-acute and ambulatory care services. Despite the use of ambulatory care, community health and new models of care within the constraints of the existing facility, the current overnight bed occupancy rate is 96%. Notwithstanding these non-capital infrastructure strategies and models of care that are in place for hospital admission avoidance and decreasing length of stay, it has been identified through the data projections that to ensure ongoing health care can be provided to the local community closer to home and, in a timely and efficient manner, a significant infrastructure solution is required to increase the facility's inpatient, sub-acute and ambulatory care capacity and support the required role delineation and subsequently the level of complexity at Shoalhaven Hospital. This includes:

- the ability to provide care with increased complexity which is reflected in the role delineation increases and the provision of dedicated cardiac inpatient and diagnostic services, a cardiac catheter lab, nuclear medicine and MRI modalities, a hybrid theatre, acute and sub-acute inpatient mental health services;
- increasing the level of complexity provided at Shoalhaven, allowing for flow reversals from Wollongong Hospital, decreasing the demand on its services and providing care closer to home; and
- a focus on creating an ambulatory care hub, including a new paediatric assessment unit, that supports people to recover and stay well in the community, avoiding admission to an acute service.

The following list outlines the current and future demand driving the need for not only an increase in capacity but also complexity and services to provide efficient and safe standards of care.

[13] Illawarra Shoalhaven Local Health District Community Needs Assessment 2021

[14] The Clinical Analytics Planning Portal (CaSPA) hosted by the NSW Ministry of Health

Table 11: Projected 2031 Episodes of Care: Medicine

Specialty	Episodes (2031)	Projected Beds (2031)
Cardiology	1,903	15
Cardiology COU		6
Acute Geriatrics	1,153	73
General Medicine	5,080	
Stroke	382	9
Total	**8,519**	

Medicine: Activity has increased by almost 10% over the period from 2012 to 2017. The CSP projects 8,519 overnight episodes of care by 2031, including a 90% flow reversal rate from Wollongong Hospital. This excludes ICU and paediatric admissions.

Renal Dialysis: In 2016/17 there were 162 admitted separations at Shoalhaven Hospital.

Demand for renal dialysis in Shoalhaven will continue to grow with the ageing population and due to the social determinants of health. The initial projections for renal dialysis in the CSP indicated the need for 4 additional chairs at Shoalhaven, however through the value management strategy it was agreed that an uplift of 2 chairs would be sufficient to meet demand, anticipating that an increase in home dialysis and health prevention measures will decrease the demand to close the gap. This approach and model of care aligns with the ISLHD Division of Renal Services, Clinical Service Plan, 2013 – 2022 v1.5.

Critical Care: The projected activity for the Intensive Care Unit (ICU) indicates that an uplift in role delineation from a level 4 to a level 5 will enable patients to receive complex care closer to home with anticipated flow reversals from Wollongong Hospital. The average number of hours used per episode was determined for ICU & HDU at SDMH between 2012/13 & 2017/18. The number of projected beds was based on projected episodes & current average hours and included a 90% flow reversal from Wollongong Hospital. The projected activity and the reverse flows indicate that the ICU requires 16 beds, however, 20 beds were endorsed to provide capacity beyond 2031, anticipating an increase in activity and complexity of cases with a projected additional cardiac catheter lab and provision for a dedicated interventional radiology suite in the future.

Coronary Care: Currently, the Intensive Care Unit incorporates coronary care beds (cardiac close observation beds) within the flexible bed profile. The establishment of a cardiac service with a dedicated cardiac catheter lab, cardiac IPU and a coronary care unit will transfer the cardiac activity to a dedicated IPU with a skilled workforce and allow the demand for cardiac services to be met at a local level. Table 11 below indicates the expected overnight episodes of care for cardiology and the cardiology close observation unit.

The addition of a cardiac catheter lab and diagnostic centre will enable Shoalhaven residents and people of the Southern Illawarra to receive care closer to home with a potential flow reversal from Wollongong Hospital, based on historical data, of over 200 patients as indicated below.

Table 12: Cardiac Catheter Lab Activity Projections

Financial Year	2014/15	2015/16	2016/17	2017/18	2018/19	2020/21	2025/26	2030/31	Projected Cardiac Cath Labs
Shoalhaven Activity	27	35	43	74	59	433	475	526	1
Potential Reversal of flows from Wollongong	158	186	207	287	266	Incorporated above	Incorporated above	Incorporated above	

Aged Care: In the 2016/17 and 2017/18 financial year, approximately 9% of admissions to medical wards at Shoalhaven were under the care of a geriatrician (Source: ISLHD HIE). 25% of medicine admissions for persons over the age of 70 years would be appropriate for care of a geriatrician. Based on the projected episodes of care in Table 10, a dedicated unit for aged care is required to provide the specialist care to this growing population in the region. The increase in the aged related conditions is commensurate with the increase in the 70+ age group within the region.

Rehabilitation: Inpatient rehabilitation beds are provided at Shoalhaven Hospital with the Mobile Acute Treatment Team (MATT) and outpatient clinics also on-site. The Average Length of Stay (ALOS) decreased in 2013/14 – 2014/15, although it began to increase again in 2015/16 – 2016/17. Demand for inpatient rehabilitation services at

Shoalhaven is expected to grow despite the proposed increase in ambulatory care and day hospital rehabilitation to address the rise in the average length of stay, currently at 19.5 days. The activity projections include the Geriatric Evaluation Medicine inpatient service which will consolidate into one unit and allow the specialist multidimensional needs of older people to be met and avoid a long-term acute admission.

Table 13: Projected Activity for Rehabilitation and Geriatric Evaluation Medicine inclusive of David Berry Hospital

Financial Year	2014/15	2015/16	2016/17	2017/18	2018/19	2020/21	2025/26	2030/31	Projected Beds
Activity	480	476	496	523	498	857	933	1,015	69

A maintenance cohort of patients has been identified as occupying an acute bed after the acute episode of care is completed and are awaiting discharge which has been delayed due to capacity issues from community providers or other factors beyond the facility's direct control. These patients, while unable to be transferred into another care setting, require care to ensure deterioration does not occur. Projections based on historical activity indicate that by 2031 these patients may occupy up to 15 beds with 433 episodes of care required.

Further consideration will be given to the models of care surrounding maintenance patients, with the aim of minimising this type of activity, to ensure the best fit of services are being delivered at each ISLHD facility.

Services will continue to be delivered across the continuum of care, including community and residential aged care in partnership with primary care. Services will also continue in non-admitted outpatient settings. As a result, it has been determined that up to 5 beds will be provided.

Palliative Care: The palliative care service activity calculation includes patients that are palliated at both David Berry Hospital (where the service is based) and Shoalhaven Hospital. The activity projections for palliative care indicate an activity increase of 101 episodes from 2020/21 to 2031, even considering the substantial role of community-based palliative care.

Table 14: Projected Activity for Palliative Care Inpatient Episodes

Financial Year	2014/15	2015/16	2016/17	2017/18	2018/19	2020/21	2025/26	2030/31	Projected Beds
Activity	307	260	242	244	265	369	412	468	15

Cancer: The Shoalhaven Cancer Care Centre (SCCC), located on the Shoalhaven Hospital campus, provides a wide range of specialist outpatient treatment services. Demand for inpatient cancer beds in the Shoalhaven will continue to grow over the next ten years, with changing referral patterns, potential inflows and treatment related side effects and toxicity expected as a result of increased treatments being delivered by the SCCC. Inflows from Southern NSW LHD account for about 2% of the total inpatient cancer activity.

Emergency: Trends in emergency presentations at Shoalhaven fluctuate on a year-to-year basis; however, historical trends indicate that there has been an overall increase of approximately 5% over the 5 years preceding 2016/17 FY. Future projections indicate that ED presentations will increase to 51,933 by 2031 or an additional 20 patients per day compared to 2020/21.
The emergency short stay unit (ESSA) activity has been derived by benchmarking current activity at Wollongong Hospital, anticipating a 14% (7,595 p.a.) of presentations would be admitted to ESSA.

Table 15: Projected Number of Presentations to the Emergency Department to 2031

Financial Year	2014/15	2015/16	2016/17	2017/18	2018/19	2020/21	2025/26	2030/31
No. Presentations	36,567	38,744	39.075	41,203	42,579	45,977	49,316	51,993

Surgical: Overall, surgical activity at Shoalhaven Hospital is expected to grow by approximately 15% inclusive of overnight and day only surgery between 2020/21 and 2030/31. Projected surgical activity includes flow reversals from Wollongong Hospital at an average of 83% of Shoalhaven residents across a number of specialties.

Table 16: Projected growth in surgery to 2031 (excluding endoscopy)

Financial Year	2014/15	2015/16	2016/17	2017/18	2018/19	2020/21	2025/26	2030/31	Projected Theatres
Day Only Activity Adults 16+	1,966	2,309	2,274	2,479	2,631	2,491	2,676	2,774	8
Overnight Activity Adults 16+	2,298	2,392	2,572	2,715	2,843	4,014	4,389	4,784	
Day Only Activity Paediatrics (0-15)	108	87	107	123	N/A	207	218	256	
Overnight Activity Paediatrics (0-15)	354	372	366	380	N/A	464	503	503	

Endoscopy services are currently provided at Shoalhaven Hospital using one dedicated suite and one theatre suite to provide the procedures. Projections indicate that an additional endoscopy procedure room is required with a demand of 4,989 cases by 2031.

Mental Health: The mental health service provides sub-acute and community mental health services for the Shoalhaven region's residents. Acute emergency care is provided in the Emergency Department, however, there is no acute inpatient mental health service provided. All the acute inpatient treatment for Shoalhaven residents is undertaken at Shellharbour or Wollongong Hospitals. Shoalhaven is expected to provide acute inpatient care with a reconfiguration of mental health beds within the ISLHD to provide care closer to home. The projected number of mental health beds has been calculated using the National Mental Health Service Planning Framework. Based on the cohort of patients requiring mental health care in the Shoalhaven region, and to cater to the varying needs the mental health bed numbers have been configured to align with models of care that require an acute, non-acute, a geriatric and psychiatric (GAP) unit and a psychiatric emergency care centre (PECC).

Table 17: Ambulatory Care Occasions of Service Projections

Specialty	2017/18	2031	Projected Spaces 2031[15]
	OOS	OOS	
Shoalhaven Hospital	47,076	128,029	71
David Berry ACAT	753	2,048	
David Berry Palliative Care	2,431	6,611	
Total	**50,260**	**136,688**	

Ambulatory and Primary Health Care: The Shoalhaven Ambulatory and Primary Health Care service provided 47,076 Occasions of Service (OOS) to Shoalhaven residents in 2017/18 financial year. The current ambulatory care clinic is at 98% capacity and it is predicted that the referral rates are underestimated due to the inability to provide capacity for increased services. Including ambulatory care services from the David Berry Hospital on the Shoalhaven campus, projections forecast the OOS for 2031 is 136,688 based on an annual projected growth rate of 8%. The expansion of ambulatory care will provide opportunities to transfer additional admitted activity to an outpatient setting, relieving the pressure on inpatient beds, delivering more efficient and affordable care.

Table 18: Medical Ambulatory Care Occasions of Service Projections

Clinic	2018/19	2020/21	2024/25	2030/31	Projected spaces (2031)
Non-Chemo chair Procedures	1,321	1,598	2,574	4,146	10

The current Shoalhaven Medical Ambulatory Care (MAC) model operates from the Shoalhaven Cancer Care Centre, which provides capacity for non-chemotherapy treatment. The data indicates that

[15] Reflective of the endorsed CSP however a revision of activity indicates that an additional 10 spaces are required. This is being progressed through NSW Ministry of Health and Project Governance for consideration and will be resolved prior to the final Business Case

the increase in demand for MAC treatment spaces will require a dedicated space within the Shoalhaven ambulatory care setting. The MAC model will assist in decreasing average length of stay and provide services to avoid hospital admission and demand on beds. Based on current activity, at an historical average growth rate of 10% the demand is expected to be 4,146 occasions of service in 2031.

Medical Imaging: Medical imaging will require an uplift commensurate with the increase in services and demand at Shoalhaven. In addition to an increase in the current modalities, an MRI and nuclear medicine service is required. Currently access to MRI and Nuclear Medicine for Shoalhaven patients is not equitable. MRI and nuclear medicine services are provided at Wollongong Hospital, which is 110km from Shoalhaven Hospital. Patients are transported via Non-Emergency Patient Transport (NEPT) with a driver and nurse, adding additional pressure on workforce resources and cost. MRI is also provided by two local private providers, in Nowra, however as indicated previously, given the socio-economic demographics of the area, local residents have low uptakes of accessing private providers due to cost.

Table 19: Medical Imaging Service Projections

Imaging Description	July 2017–-June 2018	Non-admitted Exams 2031	Admitted Exams 2031	Current Machines	2031 Machine Requirements
General X-ray	19,710	3,216	24,995	2	**3**
Fluoroscopy Exams	754	123	956	1	**1**
Interventional Radiology				-	**1**
CT Exams	11,426	1,864	14,490	1	**2**
Ultrasound Exams	4,355	711	5,523	2	**4**
MRI Exams	-	-	-	0	**1**
SPECT-CT (nuclear imaging)	-	-	-	0	**1**
Mobile X-ray Exams	3,827	624	4,853	2	**3**
Mammography Exams	-	-	-	0	**1**
BMD Exams*	-	-	0	0	**1**
Total Exams	**40,072**	**6,539**	**50,817**		
Shoalhaven residents reversed from TWH	311	419			
Total Imaging Activity to 2031		**57,775**			

Women's and Children's Services: Maternity, birthing, neonatal and paediatrics will continue to provide services in line with their projected demand. Data indicates that the projections for maternity, birthing, neonatal special care and paediatrics do not require additional inpatient capacity.

As outlined in the CSP, the ISLHD has developed and plans to expand community-based care to improve its health and reduce the burden of disease, strengthen care in the community, improve partnerships with other services, and provide high value care for consumers.

Resource efficiency is a key driver for the State vision to provide 'the right care, in the right place, at the right time", in line with the NSW State Plan 2021 and the NSW Health Resource Efficiency Strategy 2016 – 2023. The redevelopment of Shoalhaven Hospital presents an opportunity to build a facility which supports the health of the community and the environment and contributes to sustainable service delivery into the future.

Further detail of these key drivers can be found in the Shoalhaven Hospital Clinical Services Plan, November 2020 in **Appendix 1.**

2.2.3 Current and Future Role Delineations

The planning process for hospitals and non-hospital services is based on the NSW Health Guide to the Role Delineation of Clinical Services. In order to provide the level and complexity of care required for the future needs of the Shoalhaven community, consultation with Services and Divisions was undertaken to review the current Shoalhaven role delineations in line with the updated NSW Health Guide to the Role Delineation of Clinical Services 2019. The role delineation changes were endorsed by the District in 2019.

Increasing the role delineation for core support services to a level 5 is necessary to allow the hospital to undertake key functions, including enhanced emergency and critical care, which are imperative to enable the future vision. With the need to increase self-sufficiency and incorporate flow reversals from Wollongong Hospital, some key services were identified as requiring strengthening and enhancement.

The table below indicates the proposed role delineation of services upon full commissioning (2031) of the Shoalhaven Hospital[16].

Table 20: Shoalhaven Hospital Current and future Role Delineation

Speciality	Current endorsed Level	Future level
Core Services		
Anaesthesia & Recovery	4	5
Operating Suite	4	5
Close Observation Unit	NPS	4
ICS	4	5*
Nuclear Medicine	4*	5*
Radiology & Interventional Radiology	4*	5
Pathology	4	5*
Pharmacy	4	5*
Emergency medicine		
Emergency	4	5
Medicine		
Cardiology & Interventional Cardiology	3	5*
Chronic Pain Management	-	4
Clinical Genetics	NPS	NPS
Dermatology	3	3
Endocrinology	4	4
Gastroenterology	4	4
General & Acute Medicine	5*	5*
Geriatric Medicine	4	5
Haematology	3	3
Immunology	4	4
Infectious Diseases	4	4
Neurology	4	4
Oncology–- Medical	5*	5*
Oncology–- Radiation	5*	5*
Palliative Care	NPS	5
Rehabilitation	5	5
Renal medicine	4	4
Respiratory & Sleep medicine	4	4
Rheumatology	NPS	NPS
Sexual Assault	4	4
Sexual Health	5	5

Speciality	Current endorsed Level	Future level
Surgery		
Burns	2	2
Cardiothoracic Surgery	NPS	NPS
Ear, Nose & Throat	3	3
General Surgery	4	4
Gynaecology	4	4
Neurosurgery	NPS	NPS
Ophthalmology	3	0
Oral Health	4*	4*
Orthopaedics	4	5
Plastic Surgery	NPS	NPS
Urology	4	5*
Vascular Surgery	NPS	4
Child and Family Health Services		
Child & Family Health	5	5
Child Protection Services	3	3
Maternity	3	4
Neonatal	2	3
Paediatric Medicine	4	4
Surgery for Children	4	4
Youth Health	3	3
Mental Health & Drug & Alcohol Services		
Adult Mental Health	3	4
Child & Youth Mental Health	3	3
Older Person Mental Health	4*	4
Drug & Alcohol Services	4	4
Aboriginal Health		
Aboriginal Health	6*	6*
Community Health		
Community Health	4	4

Notes:

- The services highlighted in **blue** are increases to the delineations–- the service is already meeting a higher delineation or will be able to achieve this through the redevelopment.
- Services marked with an '*' are supported through formal networking of support services, and/or are networked district-wide services e.g., Community services.
- ^NPS: No Planned Service for Shoalhaven

The future levels will be reviewed and confirmed as individual service planning progresses. It is expected that enhancements to services, reversal of activity from Wollongong Hospital and changes in role delineation will occur as

[16] Shoalhaven Hospital Clinical Services Plan, November 2020

a result of a planned and coordinated approach to the operationalisation and the commissioning of the new facility over time. The detailed planning will occur within a Division, District-wide context.

3 POLICY AND STRATEGIC ALIGNMENT

3.1 Contribution to Government's Priorities

Table 21: Alignment to Strategic Documents

Strategic Document	Alignment to the Shoalhaven Hospital Redevelopment Project
NSW 2021: A plan to make NSW number one, NSW Government	NSW 2021 is a plan to make NSW number one. It is a 10-year plan to rebuild the economy, provide quality services, renovate infrastructure, restore government accountability, and strengthen our local environment and communities. It replaces the State Plan as the NSW Government's strategic business plan, setting priorities for action and guiding resource allocation. This plan was used to guide the early planning stages and the Project continues to align with the updated strategy below.
Future Health: Guiding the next decade of care in NSW 2022–- 2032	*Future Health: Guiding the next decade of care in NSW 2022 – 2032* identifies the challenges facing the health system including: • Population growth and increased demand for mental health, diabetes and communicable diseases • Changing demographics with an aging population • Growing complexity in chronic illness These challenges align with the issues facing the Shoalhaven region which the redevelopment is seeking to address through improved models of care and infrastructure. With a focus on providing care closer to home in an environment that is efficient, safe and sustainable, the redevelopment will harness design elements, technology and the skills of its people to achieve the strategic outcomes outlined in the plan ensuring that: 1. Patients and carers have a positive experiences and outcomes that matter 2. Safe care is delivered across all settings 3. People are health and well 4. Staff are engaged and well supported 5. Research and innovation, and digital advances inform service delivery 6. The health system is managed sustainably
NSW Parliament Legislative Council Portfolio Committee No.2 – Health: Health outcomes and access to health and hospital services in rural, regional and remote NSW, Report 57, May 2022	The findings of the committee align with many of the issues identified in the Benefits Realisation Plan that the Project is attempting to resolve, in particular, poorer health outcomes, access to services, support and retention of staff and cultural safety for First Nations people. The Project is endeavouring to solve these issues through an upgrade to create contemporary facilities, the introduction of new services (cardiac catheter lab, MRI, acute and non-acute mental health, hybrid theatre), extensive uplift in ambulatory care, culturally sensitive design through consultation with local First Nation's People and staff and Project team training and colocation with the recently constructed Shoalhaven Cancer Care Centre.
NSW Health: 20–- year Infrastructure Strategy	The NSW Health 20 Year Infrastructure Strategy outlines the direction to inform future planning for infrastructure investment for health districts, networks and services. The Shoalhaven Hospital Redevelopment aligns with the strategy by investing in a solution that combines use of existing infrastructure as built or through refurbishment as well as a new building to provide a complementary built solution to the other non-capital health initiatives occurring in the region to reduce demand on services.

Strategic Document	Alignment to the Shoalhaven Hospital Redevelopment Project
NSW State Infrastructure Strategy: The Illawarra Shoalhaven Regional Plan 2041	The Shoalhaven Hospital Redevelopment is an integral part of the Nowra City Centre Strategic roadmap, recognising it as a significant component of the revitalisation and activation of Nowra and its surrounds creating a vibrant hub comprising of health, education (including Wollongong University Campus) business, entertainment and retail services. The redevelopment is also cognisant of its proximity and connectedness to the planned river front precinct and its ability to contribute to the health and wellbeing of the community.
NSW Aboriginal Health Plan 2013 – 2023, NSW Ministry of Health	NSW Government in 2011, this 10-year plan, developed in partnership with the Aboriginal Health and Medical Research Council sets the framework using six key strategic directions to Close the Gap in Aboriginal health outcomes by spreading responsibility for achieving health equity for Aboriginal people in NSW, across all NSW Health operations. The project is consulting with local Aboriginal stakeholders and has engaged Yerrabingin to assist with the design elements of the building and surrounds to ensure the facility is a culturally welcoming and safe place for First Nations people.
Guide to the Role Delineation of Clinical Services (2019), NSW Ministry of Health	Role delineation provides a framework that describes the minimum support services, workforce and other requirements for clinical services to be delivered safely. It delineates the level of clinical services, not hospitals or health facilities as a whole. The aim of the Guide is to provide a consistent language across NSW for describing clinical services. It is one of the tools used by LHDs in service planning and development, but can also assist clinical governance in considering potential risk (e.g., to illustrate the wider effects of proposed changes to a single clinical service) and in determining the services provided by a particular health facility. The guide was used to inform the uplift in role delineation for Shoalhaven Hospital to meet the future needs of the Shoalhaven community efficiently and effectively
NSW Government Resource Efficiency Policy (GREP) and NSW Health Resource Efficiency Strategy 2016–- 2023	NSW Health has developed this Strategy to strengthen its strategic approach to the challenges of the rising costs of energy, water and waste management, mitigate the negative effects of Health's activities on air pollution and increase the resilience of Health facilities. The plan includes a plan of action to further improve the resource efficiency of Health's operations and deliver operational cost savings.
Illawarra Shoalhaven Health Care Services Plan 2020 – 2030	The Health Care Services Plan (the Plan) is a population-based approach to planning and aims to support the ISLHD to deliver its vision, and will focus on: • Promote, protect and maintain the health of the community; • Strengthen care in the community; • Address the cultural and health needs of Aboriginal people; • Commit to high value care; and Strengthen partnerships and engagement.
ISLHD Strategic Plan, Strategic Directions 2017-2020	The strategic intent sets out the following four key reforms aimed at meeting the needs of residents, enhancing patient care and building healthy futures for the community: • Investing in contemporary patient-centred models of care; • Developing an integrated health system; • Reconfiguring the capital footprint to match needs; and • Building the workforce of the future.

Strategic Document	Alignment to the Shoalhaven Hospital Redevelopment Project
Illawarra Shoalhaven Local Health District Community Needs Assessment 2021	The Community Needs Assessment is used to inform the case for change and the need for the redevelopment. The document provides critical information regarding the determinants of health and wellbeing to inform the requirement for the expansion and provision of new and contemporary services at Shoalhaven.
Shoalhaven Hospital Redevelopment Clinical Services Plan, November 2020 **(Formerly known as the Revised Shoalhaven Site Facility Plan, April 2020)**	The NSW Ministry of Health endorsed Shoalhaven Clinical Services Plan (November 2020) informed the baseline scope for the Project and the priorities for the Shoalhaven Hospital. This enabled the Value Management Strategy to identify the maximum scope that could be achieved with the allocated budget. This document is aligned with the ISLHD strategic documents, providing evidence for the enhancement of services for Shoalhaven Hospital.
ISLHD Emergency Care Plan 2020–- 2025 **ISLHD Surgical Services Plan 2020** **ISLHD Cardiovascular Diseases Plan 2020** **ISLHD Palliative Care and End of Life Plan 2021–- 2026** **ISLHD Rehabilitation Services Plan 2021 -2031** **ISLHD Respiratory Diseases Plan 2021–- 2026** **ISLHD Mental Health Conditions Plan 2021**	The ISLHD plans have been developed to reflect a District wide approach to providing health services in a safe and efficient way to meet the needs of the local populations. These plans have assisted in informing the scope and the models of care and for the redevelopment ensuring that the project aligns with the District's strategic directions and need for self-sufficient hubs to provide care closer to home
Illawarra Shoalhaven Local Health District Digital Health Strategy 2021	The ISLHD Digital Health Strategy was developed to inform the future requirements for digital health platforms to provide efficient and contemporary health care into the future. The strategy recognises six focus areas that will guide digital investments, enable the organisational strategy and deliver to the LHD through a set of 25 defined initiatives. The six focus areas are: • Empower our patients and the community • Create a better integrated system and clinical experience • Harness the power of data analytics • Digitally empower our workforce • Drive efficient and sustainable operations • Optimise our ICT function, services and infrastructure

Communication and consultation activities have occurred and are ongoing with the current Health Agencies and potential project partners. Ongoing consultation will take place as the project progresses.

- HealthShare
- Ronald McDonald House Charities Australia (RMHCA)
- NSW Pathology
- University of Wollongong
- Corrective Services NSW
- NSW Ambulance
- Aboriginal Community Controlled Health Organisations, including Waminda South Coast Women's Health and Welfare Aboriginal Corporation and the South Coast Medical Service Aboriginal Corporation
- eHealth
- BreastScreen NSW

3.2 Project Objectives

In consultation with the ISLHD stakeholders and aligning with the ISLHD Health Care Services Plan (2020- 2030) key focus areas, a set of project principles and objectives outlined below, were developed and endorsed through project governance.

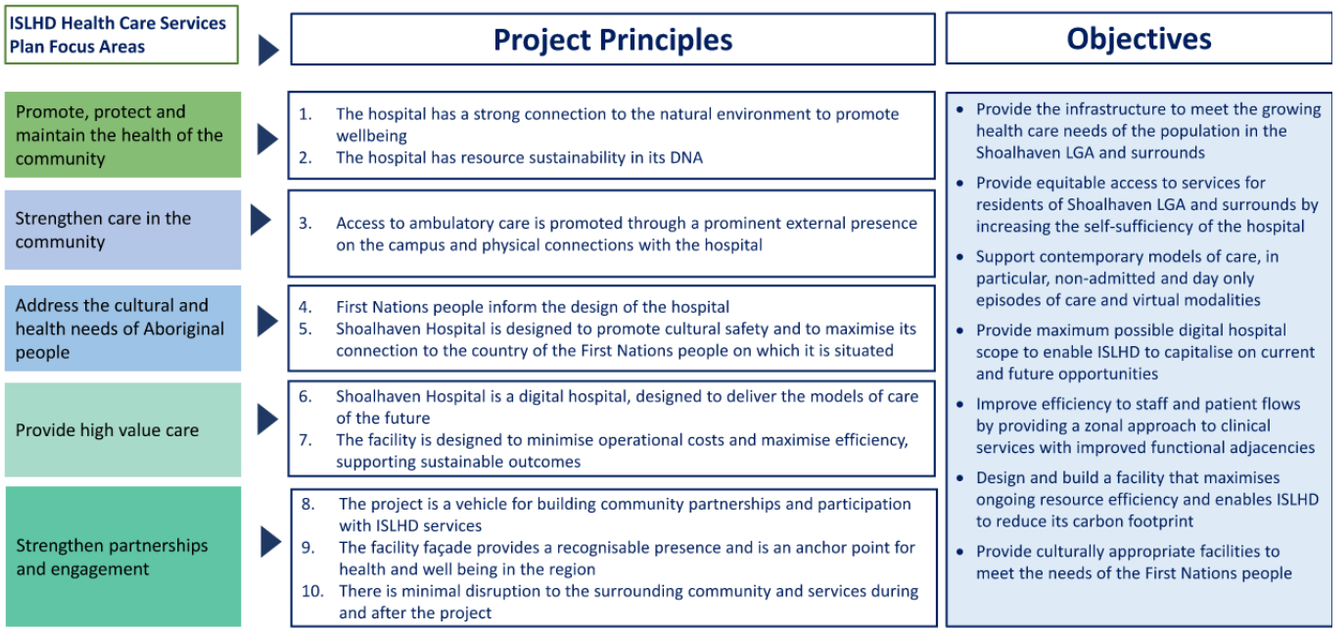

Figure 14: Project Principles and Objectives

The overarching ISLHD key focus areas were extrapolated into principles and objectives that reflected the particular needs and demographics of the Shoalhaven LGA subsequently the benefits that the Project will bring. Particular attention was paid to the cultural makeup of the region with a large First Nations population compared with the other LGA's in NSW. This brought about principles that focussed on ensuring a welcoming environment, connection to country, connection to the community and its impact on care delivery and the outcomes for those receiving and providing care. Being a regional health facility, the principles and objectives capture the connection with the community which is critical to ensuring equity of access through the provision of services close to home in an environment that promotes safe, efficient and sustainable care.

Aligned with the benefits to be realised as a result of the redevelopment, these principles and objectives were used to inform design and planning discussions and decision making, including the assessment of the non-infrastructure options and the assessment criteria that was developed to evaluate the infrastructure options and select a preferred option in the VMS and concept design consultation.

4 PROJECT OPTIONS

4.1 Options Development Process

4.1.1 Related projects and decisions

To deliver the key strategies in the Illawarra Shoalhaven Health Care Services Plan 2020 – 2030, the ISLHD took a strategic approach to planning services across the District.

ISLHD's two major redevelopments at Shoalhaven and Shellharbour Hospitals presented an opportunity for service transformation and the optimisation of the District's service network. ISLHD undertook a major District-wide clinical services planning process in order to define the future District-wide service networks that subsequently informed the Clinical Services Plans for the two redevelopments.

The District-wide network is now a key guiding framework in all of ISLHD's clinical service planning and operations and is based on the following principles:

- ISLHD is one District-wide service network, delivered across many sites
- One District bed base, managed across sites
- Each facility plays a key role in the network
- Community based and outpatient care is central in future service delivery
- Services will be evidence based and high value

District-wide Clinical Service Plans

District-wide Clinical Service Planning aimed to:

- implement the Health Care Services Plan in each clinical service;
- organise services to respond to population need;
- reconfigure services across the District so care is provided as close to home as possible, ensuring equity of access;
- change models of care, strengthening care in the community and at home; and
- articulate the District-wide service networks that would shape the ISLHD hospital redevelopments, namely:
    - each hospital has a key role in the District-wide network; and
    - each hospital is digitally enabled, to support virtual health care

ISLHD's District-Wide Service Network

Each service has articulated a framework for developing services over the next 5-10 years. The future roles of each ISLHD hospital have been shaped by District-wide service network planning. Each hospital has a clearly defined role within the network.

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Table 22: ISLHD District-wide service network

Service	Wollongong Hospital	New Shellharbour Hospital	Shoalhaven Hospital
Emergency	Specialist tertiary emergency care#	Local emergency care	Local emergency care
Cardiology	Major specialist centre, cardiovascular surgery & Cath Lab#	Specialising in cardiology	Specialist centre, with Cath Lab
Respiratory	Specialist tertiary care#	Specialising in respiratory Sleep Lab #	Specialising in respiratory
General Medicine	Specialist tertiary level care for all sub specialties#	Focus on General Medicine supporting cardiology & respiratory sub-specialties	Focus on General Medicine supporting cardiology & respiratory sub-specialties

Service	Wollongong Hospital	New Shellharbour Hospital	Shoalhaven Hospital
Geriatric Medicine	Acute geriatric care	Acute and subacute geriatric care	Acute and subacute geriatric care
Surgical	Specialist tertiary level emergency & elective surgery#	High volume short stay elective surgical centre#	Emergency & elective surgery
Rehabilitation	Specialist tertiary Rehabilitation#	General and ortho Rehabilitation	Specialist and general Rehabilitation
Palliative Care	Specialist tertiary Palliative Care#	General Palliative Care	General Palliative Care
Mental Health	Acute adult & older adult Mental Health	Full spectrum of Mental Health Care across age groups & care types #	Adult and Older Adult acute and rehabilitation Health

 # A District-wide service role

A number of services at Shoalhaven Hospital are planned to be significantly increased as a direct response to District network changes expressed in District-wide plans, including:

- the establishment of ISLHD's second specialist cardiology centre addressing the major cardiovascular disease burden in the Shoalhaven;
- a significant increase in volume and complexity of surgical services, directly addressing the growing need in the Shoalhaven while still networked with Wollongong Hospital for the more complex surgeries. Shellharbour will become the District hub for high volume short stay elective surgery, servicing a portion of Shoalhaven's population need in selected specialties;
- a suite of ambulatory, acute adult, older adult and rehabilitation Mental Health Services to meet the need of the local population with Shellharbour providing specialist young person's Mental Health for Shoalhaven and Wollongong; and
- the development of sub-specialties, supported by an increase in beds, access to improved clinical and non-clinical support services and enhancement of the workforce.

To enable this District-wide approach the redevelopment will support;

- **an increase Shoalhaven Hospital's role delineation** allowing for a higher level and complexity of services to be provided on site. The increase in role delineation will be seen across the majority of services on site;
- **an enhancement of clinical support services** (e.g., Imaging and pathology), which will support the increase in services on site;
- **an increase its physical capacity** to provide the services needed to support the local community including an increase in beds, theatres and ambulatory / outpatient spaces;
- **an enhancement of the workforce** that is skilled and appropriate for the level and types of services that will be provided on site; and
- **digital enablement** to sustain changes in models of care, support patients in the community and at home, and connect services on site to Shellharbour and Wollongong hospitals.

4.1.2 Existing Service - Base Case

The current service operates from a number of interconnected and standalone buildings of varying age and condition, including demountable buildings and areas that have been repurposed from their original intended use. The building and spatial constraints of the existing facility will not allow it to provide the capacity or complexity of health services to meet the projected future demand and meet the ISLHD strategic goal of making Shoalhaven Hospital a highly self-sufficient health care hub for the Shoalhaven region. Constraints and limitations to providing care into the future within the existing infrastructure have been identified in the CSP in three main areas:

- Service sustainability
- Workforce
- Capital

These constraints are outlined in more detail in the table below.

Table 23: Existing Site Constraints for service provision

Service sustainability	Workforce limitations	Capital limitations
• Limited ability for expansion of hospital avoidance models that focus on value for the consumer • Lack of space to shift some services into non-admitted care and reduce admissions • Inadequate support services, restricting the capacity for Shoalhaven Hospital self-sufficiency • Limited digital infrastructure, restricting the hospital's ability to adopt new models of care and maximise network service opportunities with other sites • Geographical challenges, including remoteness and lack of transport for Shoalhaven residents.	• The current staffing mix is not in line with the growing population, models of care, strategic changes, changes to the complexity and approach to addressing consumer health needs • Limitations to providing culturally accessible services. • Historically, there has been difficulty recruiting and retaining suitably qualified staff, but this is easing as networks across the District develop	• Bed capacity at Shoalhaven is at a critical stage, averaging 96% occupancy • Non-admitted services are limited by inadequate clinic space, averaging 95% occupancy • Facilities in Shoalhaven Hospital are ageing, constrained, energy inefficient and expensive, and require ongoing maintenance and upgrade • Facilities lack sustainable design, adding financial and environmental burden • Hospital layout does not facilitate efficient patient and work flow, and impedes service integration • Inadequate medical imaging infrastructure, and lack of space for day rehabilitation to prevent deterioration and promote high value care. • No acute inpatient mental health facilities available in the Shoalhaven region and lack of space in the current SDMH footprint to develop these

Located adjacent to the Shoalhaven River, the facility is built on a graded site that falls between two to three storeys. The facility is comprised of a number of interconnected buildings of varying ages and a number of stand-alone buildings as demonstrated in the diagram and table below.

Table 24: Existing Facility Site Summary

Building	Description
A (5,604m^2)	• Completed in 1997 • Ambulatory care currently provided from a repurposed IPU • Clinical support services (BoH, pathology, pharmacy) • Rehabilitation IPU • Acute IPUs do not meet AHFG
B (6,689m^2)	• Completed in 2006 • Clinical services (ED, ICU, Interventional, MI, maternity and paediatrics) • ED refurbished in 2014
C	• Completion date unknown • Sexual Assault ambulatory care service • Standalone building • Repurposed asset
D (781m^2)	• Completed 2006 • Sub-acute aged care inpatient service and renal dialysis • Does not meet AHFGs
E	• Completion date unknown • Executive administration, medical records and staff accommodation • Standalone building

H	• 1 storey demountable • Administration (Geriatric services) • Standalone building	
R (2,132m²)	• Completed 2014 • Sub-Acute mental health inpatient unit • AHFG compliant	
S	• 1 storey demountable • Administration use (corporate services)	
J	• 1 storey demountable • Aged Care Administration	
P &Q	• Completed 2014 (Not in scope) • Cancer Services (Ambulatory Care model) • Patient and visitor accommodation	

A new multi-deck carpark was completed on the site in 2019.

The Shoalhaven Hospital Group also incorporates the David Berry Hospital (DBH), which delivers rehabilitation and palliative care services. The DBH is a heritage-listed, ageing facility that is no longer fit to deliver health services in a contemporary and efficient capacity. Located on the outskirts of the town of Berry, the DBH is situated 20 kms from Shoalhaven Hospital. The facility's isolation and aged infrastructure create clinical risk, as well as operational inefficiency, due to the cost of patient transfers and the significant maintenance burden.

The rehabilitation unit at DBH is located in a building that was built in 1909, is listed on the NSW State Heritage Register and does not meet contemporary Australian Health Facilty Guidleines (AHFGs). The Karinya Unit on the David Berry Campus is 33 yrs old and provides inpatient palliative care services. An uplift in capacity through the provision of infrastructure at Shoalhaven Hospital is required to enable the relocation and consolidation of sub-acute services for patient safety and efficient service provision.

As the local demand for health services continues to increase, expansion of Shoalhaven Hospital will be required for the facility to remain a self-sufficient provider of secondary services to the local catchment areas, supported by networking arrangements with Wollongong Hospital.

The CSP indicates that acute services will generally increase their role delineations from level 4 to level 5 to provide more complex care in the Shoalhaven region, relieving demand pressures on Wollongong Hospital and providing care closer to home for the local community. This includes an uplift in clinical support functions of general radiology, pathology, critical care, operating theatres and pharmacy, and most medical and surgical services.

The constraints of the existing facilities require an infrastructure solution to increase capacity and to meet current standards, enabling the ISLHD to provide contemporary models of care and meet the projected demand in the Shoalhaven region.

ISLHD's Health Care Services Plan 2020-2030 sets the direction and focus for the District over the next 10 years.

The Plan outlines the population need, and how the District will respond to those needs, specifically:

- Promoting, protecting & maintaining the health of the community
- Strengthening care in the community
- Supporting the Aboriginal population
- Focussing on high value care
- Strengthening partnerships

The redevelopment's vision and objectives help to deliver ISLHD's strategic focus areas by proposing an uplift in infrastructure and an improved patient and staff amenity that;

- aligns services to population need, recognising the characteristics of the Shoalhaven population;
- enables high-value, patient centred contemporary models of care;
- provides care closer to home;
- provides services that connect across the continuum of care from acute, sub-acute, and ambulatory care services;
- provide the capacity to consolidate services on one campus (rehabilitation and palliative care from David Berry), decreasing clinical risk and increase accessibility; and
- fosters an upgrade in workforce skills through an increase in the complexity of services, enhancing the facility's attractiveness as a preferred place to work.

4.1.3 Base Case - Non-infrastructure options explored

The ISLHD, through a continuous process of quality improvement activities and redesign initiatives have implemented and continue to improve or change service models that can be achieved within current resourcing and subject to the limitations of existing infrastructure. The focus for these initiatives is to provide care that is continually patient centred and provided in the most appropriate setting. The introduction or modification of local programs and partnering with health agencies such as the Agency for Clinical Innovation has assisted the ISLHD to improve the efficiency of its service provision within the existing limitations of its infrastructure. Although these strategies and service models made significant gains in decreasing length of stay, preventing admission to a facility and keeping people well in the community, the gains were misaligned with the projected demand and as a result an infrastructure solution was required.

The table below outlines some of the non-infrastructure solutions undertaken to meet the growing demand and the efficiencies being achieved. The demand reflected in the CSP has factored in these efficiency gains.

Table 25: ISLHD Non-Capital Infrastructure Initiatives

Initiative	Description
Hospital Prevention	Shoalhaven hospital is within a broader health neighbourhood and health care is provided within a network of primary, community, hospital and other care providers. In recent years there have been significant efficiencies, achievements and bed day savings associated with hospital avoidance model of care developments and specifically the work done in ambulatory care and geriatric services. ISLHD has recently developed a Virtual Care Strategy, which has identified that ISLHD has a higher percentage of bed days (9.8%) for potentially preventable hospitalisations than the state averages. A number of the strategies identified below help alleviate this pressure including: • Expansion of HITH could alleviate a proportion of hospitalisations for acute conditions through access to treatments such as intravenous antibiotic administration and remote monitoring in the home. • Virtual care can further complement these programs and potentially increase patient safety while limiting the need for travel and re-presentation to healthcare facilities, such as through: ○ use of remote monitoring wearable devices

Initiative	Description
	○ patient reported vital signs and symptoms with transmission to centralised nursing hub, and/or ○ use of telehealth to follow up with patients or to triage changes in condition.
Virtual Enhanced Community Care (VeCC)	ISLHD implemented the Virtually enhanced Community Care (VeCC) program in 2020 to support COVID19 positive patients at home and has since increased its scope to assist in the management of patients with chronic respiratory disease and heart failure, with future plans to include other chronic disease. VeCC is a flexible and highly adaptable model, the referral process is through from a variety of sources including the patient flow portal (Risk of hospitalisation), general practitioners, specialists and self- referrals. VeCC aligns with a number of NSW health strategic priorities and strategies as the service provides a mechanism for the delivery of multidisciplinary clinical care through a virtual platform. This delivery mode allows clinicians to • monitor a patient's health and wellbeing remotely, in real time; • provide immediate health advice and appropriate patient-centred intervention; • is an opportunity to empower the individual, increasing their capacity to self-manage their health condition(s). VeCC has shown benefits to patient cohorts in ISLHD with chronic respiratory conditions, such as COPD and congestive cardiac failure. Hospital utilisation data for VeCC patients, including attendance and length of stay, indicate the VeCC is effective at lowering hospital and service demand for patients, provided they were involved with the VeCC for at least one month. Over a 12-month period and across 157 patients, there was an average decline in: ○ ED presentations: 4 days to 2 days ○ Hospital admissions: 3 days to 1.5 days ○ Length of stay: 5 days to 3 days Patients who accessed VeCC saw a 40% and 42% drop in ED presentations and inpatient bed days respectively, compared to the six months prior to registration to the service. An initial evaluation of VeCC also showed improvements in quality of life and other patient-reported therapeutic improvements. Therefore, expansion of VeCC to larger patient cohorts and to encompass other chronic diseases, such as diabetes should decrease PPH for these chronic conditions. As the VeCC program accelerates and increases it is expected that these benefits to the patients and also the reduction in demand for hospital care will continue to increase for SDMH.
Leading Better Value Care	Leading Better Value Care (LBVC) is a program to implement ways to organise care that have been demonstrated to have a positive impact on the health and experience of care of patients, and have opportunities to reduce cost or increase the return on current investments. The NSW "Leading Better Value Care" (LBVC) program, with the key goal to improve health outcomes, experience of care and efficient and effective care. ISLHD has 13 LBVC initiatives underway, all of which are focussed on improving the efficient and effective management of particular conditions. Many of these initiatives include alternative models of care which redirect patients away from unnecessary inpatient admissions.
Increased focus on, ambulatory care and outpatient services	Ambulatory care provides care outside the admitted hospital setting and provides alternatives to hospital admission. Ambulatory care can assist in reducing demand for inpatient services by improving patient management (providing integrated care across multiple settings); preventing unnecessary hospital admissions; and reducing length of stay. An increased focus on ambulatory care has seen the existing service, located in an a vacated IPU reach its maximum capacity. The project will provide increased capacity to establish new and expand existing ambulatory care services. Expansion of ambulatory care will assist in reducing reliance on the hospital inpatient and emergency services as the major provider of health care in the catchment area.
Use of technology	Increasing use of technology to support the provision of coordinated health care (such as telehealth and virtual care) and to deliver support services e.g., interpreting services.

Initiative	Description
	The introduction and expansion of the VeCC has seen an increase in the uptake of tele medicine and virtual care by clinicians and patients across all clinical disciplines. Anticipating this change in model of care, this has been factored into future scope projections. Last year 30% of ISLHD non-admitted service events were provided as telehealth. The District is committed to continuing to leverage off this success, and it is expected that SDMH will be able to continue to increase the proportion of non-admitted activity being provided through virtual or telehealth care, reducing the need for face to face care.
Integrated Care and Digital Health	Integrated Care Programs include an innovative program working with Police and Ambulance to deflect and re-direct those mental health consumers who would otherwise present to an emergency department. The program also supports a specialist in-reach program providing Geriatrician consultation support, case management, advice and education to general practitioners in the management of people with dementia. The ISLHD has implemented a virtual care platform (Virtual Community Care) designed to provide virtual care management for people with chronic and complex conditions. The VCC is condition agnostic and provides health coaching, remote monitoring of vital signs, health navigation and treatment support and advice. The VCC also provides acute care management of people with COVID-19. In late 2020 the system will be rolled out to a cohort of mental health clients. The VCC is aligned with the Ministry of Health new integrated care program: Planned Care for Better Health (PCBH).
Hospital in the Home (HiTH)	Hospital in the Home is an established admission substitution program in ISLHD, which enables admission avoidance and facilitated discharge from hospital by providing acute care at home. The HiTH service is integrated with inpatient and community services to help provide necessary care out of hospital and avoid unnecessary delays leading up to discharge. In 2021/22, 1.5% of ISLHD's acute episodes accessed the HiTH model of care. There are a number of different HiTH models that ISLHD is in the process of implementing, all with an expected outcome of reducing bed days or beds. The goal is to reach the following in 2031 and beyond for the following models: • HiTH – 6% medicine activity will be HiTH, potentially saving 7 beds • Surgery in the home – 20% orthopaedic HVSS patients supported by early discharge • Rehabilitation in the Home (RiTH) – 10% patients supported by early discharge or avoid admission all together • GEM in the home – supporting early discharge or avoid admission all together
Partnering and integrating with primary care and other providers	Partnerships with primary care providers are integral to effective and efficient service delivery for patients with chronic and complex needs. ISLHD partners at a strategic and operational level with the South Eastern NSW Primary Health Network (COORDINARE), Aboriginal Medical Services, other non-government organisations and human services agencies. Collaborative Commissioning – see link https://www.health.nsw.gov.au/Value/Pages/collaborative-commissioning.aspx Re the Phase of Collab Commissioning, ISLHD is about to move into the Joint Development phase, with a focus on collaborative commissioning models for chronic disease management.

4.1.4 Five Dimensions of Options Analysis

Building upon the previous Master Plan and in accordance with The NSW Government Business Case Guidelines (TPP18-06) and NSW Health's Facility Planning Process (GL2020_018), the options development and selection process sought to select a preferred option that best meets the service needs of the catchment as reflected in the CSP and maximises the expected benefits against the indicative budget envelope.

A robust analysis of a broad spectrum of options was completed to ensure the preferred option will improve patients' health outcomes and experiences as well as achieving the most efficient service delivery. The development of the options aligned to the *HI Interim Option Guide to Option Development of Health Capital Projects (v1, January 2021*) five-dimension high level assessment option analysis (service scope, scale and location, Service solution, service

delivery, timeframe and funding) to inform the long list and the short list and ultimately, the selection of the preferred option.

Table 26: Five dimensions options analysis[17]

Item	Factors	High-level assessment
1 – The "What" – Service: scope, scale, and location	Scale	The full CSP (maximum scope) was identified to be unaffordable within the indicative funding envelope, in the early planning stages including the IDD. As a result, a long list of options was developed and services were prioritised as part of the consultation to create a short list. The aim of the options development was to maximise the CSP scope that could be delivered within budget, and all options applied this affordability lens. The preferred option will deliver a combination of new build and reuse and refurbishment of existing infrastructure. The Project will deliver new acute medical and surgical inpatient beds, a new and expanded ICU, ED, medical Imaging, and theatres, a new cardiac catheter laboratory, cardiac inpatient unit, and acute and non-acute mental health inpatient services.
	Location [Greenfield v brownfield]	The Master Plan refresh and a review of the IDD indicated that a brownfield option was the preferred option given the significant recent investment on the site (Shoalhaven Cancer Centre, a new private medical centre and a sub-acute mental health IPU) and the opportunity to repurpose the existing asset. The Master Plan and Concept design locates a new hospital on the existing Nowra Park site adjacent to the existing building. This will have the advantage of not impacting on the existing hospital during construction. Staging and clinical continuity will not be affected. The new building will connect into the existing building ensuring appropriate clinical adjacencies with clinical services remaining in the existing building or new services.
	Infrastructure upgrade scope: [New build, refurbishment, replacement]	The total GFA of new build is 34,283m2 and the refurb is 6,031m2 An extensive number of adaptive re-use / refurbishments of existing spaces have been considered throughout the options development. Factors influencing this have included the age and condition of the existing infrastructure, as well as location / adjacency for services to the hospital campus. The preferred option includes significant repurposing of existing parts of the hospital to maximise service scope as well as patient and staff amenity.
2 – The "How" - Service Solution	Technology and digital innovation -Existing:	Telehealth is continuing to be developed and used since its rapid introduction with the COVID pandemic There is no complete enterprise Digital Way-finding solution utilised on site No Queue wait management solution on site No Real-Time Location System (RTLS) for tracking Some existing communications rooms and cabling are at capacity and not compliant with current standards. The wired network is approaching end of life with some single points of failure. A location grade wireless network has been deployed however there are some grey spots. There is no DAS onsite and therefore mobile phone reception is poor in many areas. The telephone system is end of life and includes a basic messaging capability with limited integration. Workstations on Wheels (WoWs) are the primary point of care device and present issues with charging and storage facilities. Stafflink ID provides a single username and password however there are no rapid access or "tap on" facilities.

[17] Interim guide to options development of health capital projects, Version 1.0, January 2021

Item	Factors	High-level assessment
	Technology and digital innovation -New:	New digital infrastructure (comms rooms, cabling, network and antenna systems) in major refurbishment / new build areas compliant with ISLHD and eHealth standards and integrated into the existing campus. New phone system with integrated messaging and Wi-Fi handsets. An uplift in user devices (PCs, laptops, etc) of 30%. A digital health strategy has been developed in conjunction with eHealth to guide the technology and digital innovation that is possible under the project. eMR is currently being developed as a critical project and is being implemented as a priority separate and prior to the project being completed Virtual health platforms are currently being progressed Automated dispensing cabinets for medication administration
	Model of care to reduce hospitalisation–- Existing:	Existing demand management initiatives are detailed in Section 4.1.2. While the initiatives are reducing the need for a capital solution, these alone are not sufficient to meet the forecast demand of the CSP.
	Model of care to reduce hospitalisation -New:	Retain existing models plus: Expansion of ambulatory care, new medical admissions centre for outpatient infusions and treatments, a new paediatric assessment unit, expansion of medical imaging and new nuclear medicine department, and additional theatres and endoscopy procedure rooms for day only minor ops to avoid hospital admission
3 – The "Who" – Service Delivery	Clinical services	Services will continue to be delivered by ISLHD and the NSW Ministry of Health Rehabilitation and palliative care will relocate from the David Berry Hospital which is no longer fit for purpose. New specialist and expanded services will mean that patients get care closer to home (Mental health consumers, cardiac patients, surgical and medical patients and patients with behavioural issues as a result of cognitive impairment
	Clinical support	Pathology will continue to be provided by NSW Health Pathology A new pharmacy to be provided with robotics NSW Ministry of Health Non-emergency patient transport will continue to provide patient transport
	Non-clinical support	HealthShare will continue to provide hotel services A new back of house will be built to service the uplift and improve traffic flows
4 – The "When" – Timeframe and Staging	Timeline and Staging	Contract documentation Q3 2022
	Construction commencement	Anticipated 2023
	Construction completion	Anticipated to be 2026 (new build) Anticipated 2027 (refurb)
	Commissioning	Anticipated to be 2026/27
5 – Funding	Potential funding options (align to Item 3)	NSW Government Funding $438m

4.1.5 Service prioritisation

A draft CSP was developed in 2016, forecasting demand through to 2027 and identifying ~336 beds in total. In response to the CSP, a funding announcement for $434 million was made in November 2018. A further $4 million was committed in November 2020, giving the project a total capital budget allocation of $438 million.

The CSP was updated between 2019 and 2020 with projected activity to 2031 and a subsequent uplift in bed numbers and services from the initial draft CSP in 2016. The CSP was finalised in November 2020 and approved in December 2020. An Investment Decision Document (IDD) was developed and a number of options explored with consideration of:

- non-capital solutions;
- location, including a greenfield site (Nowra Park);
- recent investment on the site;
- maximising clinical scope within the budget envelope; and
- the previously endorsed 2017 Zonal Master Plan and 2019 revision.

The IDD concluded that to deliver the infrastructure requirements, the facility must be expanded vertically or horizontally. Vertical expansion was ruled out in both the 2017 and 2019 master planning exercises. With consideration to the unavailability of land, staging costs, disruption, and prolonged delivery, the two master planning exercises indicated that because of the constraints of the existing site the most viable option for the redevelopment is to expand into Nowra Park with a combination of new build and refurbishment of the existing site or a new build, with the acquisition of Nowra Park required for both options.

The assessment and selection of a preferred option in the IDD aligned with the 20-year State Health Infrastructure Strategy demonstrated in the diagram below. The value for money proposition of a combination of new build and refurbishment and reuse of existing infrastructure was informed by a favourable BCR of 1.59.

Figure 15: Inverted Investment Hierarchy

The IDD was submitted to the NSW Ministry of Health in November 2020 based on an affordable option with a spatial allocation which included a mix of new build (32,500m2) and refurbishment (7,500m2).

A detailed scope and assumptions paper expressing the updated CSP in physical infrastructure terms was endorsed through project governance in February 2021.

A high-level benchmark schedule of accommodation (SOA) was developed based on the endorsed scope and assumptions paper, to inform the development of the Master Plan (section 5.1.4) and ascertain an initial high-level cost. The SOA indicated that the spatial allocation had increased by 13,000m^2 above the IDD spatial allocation and subsequently, the estimated cost had increased by approximately $150 million since the funding announcement in 2018. Given the deficit to the budget envelope of $150m based on a mix of new build and refurbishment and recent and significant investment on the site including the purpose-built Shoalhaven Cancer Care Centre, a new multi storey carpark to service the future redevelopment and a private general practice clinic, it was clear at this point in time that investment in the exploration of a greenfield site elsewhere in the area was not feasible. As a result, and informed by the IDD preferred infrastructure option, the project continued to develop options based on the redevelopment of the site with a mix of new build, refurbishment, and repurposing of existing assets.

The progressive increase in scope and cost escalation against the initial budget announcement is demonstrated in the diagram below.

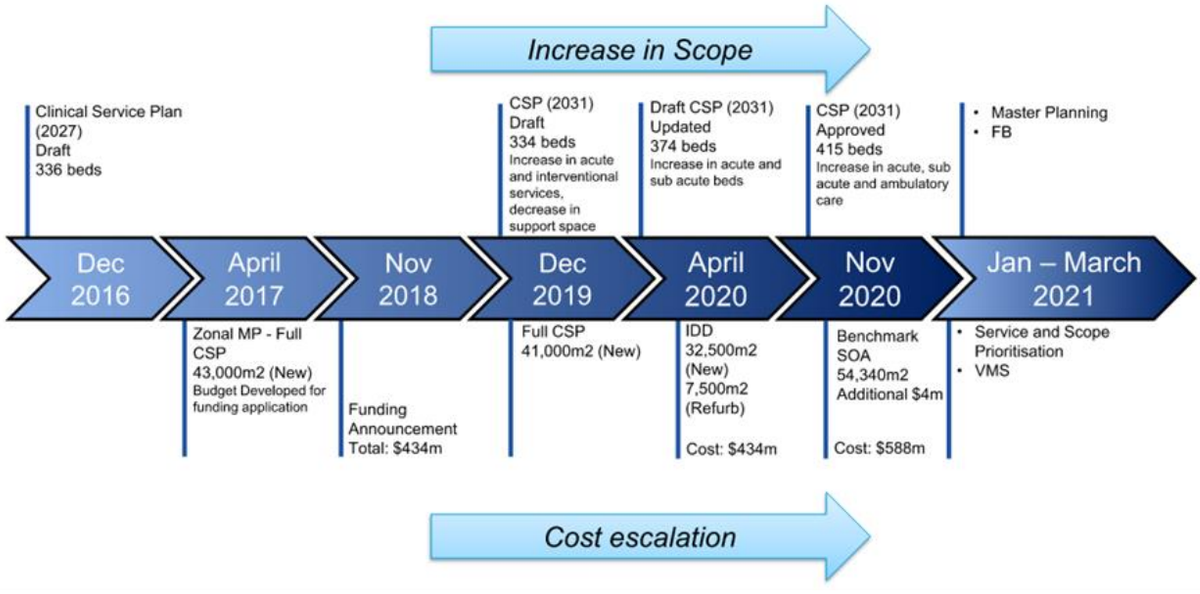


Figure 16: Scope and Cost Escalation Summary

To deliver the project on budget, a Value Management Strategy (VMS) was developed to maximise the clinical scope within the budget allocation. Scope prioritisation was integrated into the value management consultation process and informed by an assessment criteria that was developed to ascertain a preferred option.

Further detail of the VMS can be found in The Shoalhaven Hospital Value Management Report, v1.1 in **Appendix 4.**

4.1.6 Value Management Process

Options for delivery of the project within the capital budget were developed via a consultative process led by Illawarra Shoalhaven Local Health District (ISLHD) and Health Infrastructure and supported by Johnstaff Projects (JSP). A VMS strategy was developed and endorsed through governance.

The VMS strategy consisted of the following:

1. Development of a long list of VMS options within budget in consultation with stakeholders as identified by the ISLHD
2. A review of the VMS long list options in consultation with the ISLHD executive and stakeholders identified by the ISLHD to create an agreed short list
3. A workshop to review the short list options and agree a preferred option

The comprehensive consultation process that was undertaken with key stakeholders from ISLHD is outlined in the table below.

Table 27: VMS Consultation Process

Process	Objective	Participants (+ HI and JSP at all meetings)
Workshop 1	VMS Long List Options Development	ISLHD Planning SDMH senior team: GM, DNM, DMS Co-director of Medicine representative
VMS Feasibility Consultation	Feedback on the Long List options	ISLHD Planning Division Co-Directors SDMH senior team: GM, DNM, DMS

Process	Objective	Participants (+ HI and JSP at all meetings)
Workshop 2	VMS Long List to Short List	CE and selected members of the ISLHD Core Executive Co-Directors of all Divisions SDMH senior team: GM, DNM and DMS ISLHD Planning
VMS Feasibility Consultation	Feedback on the Short List options	ISLHD Planning Division Co-Directors SDMH senior team: GM, DNM, DMS.
Workshop 3	Select a preferred VMS option from the short list	CE and selected members of the ISLHD Core Executive Co-Directors of all Divisions SDMH senior team: GM, DNM and DMS ISLHD Planning NSW Ministry of Health NSW Treasury (invited but did not attend)

4.1.7 Long list of Options

Informed by the projected clinical service requirements and a high-level cost plan against the available capital budget, the VM options to deliver the project on budget considered a combination of the following:

- Providing scope within existing infrastructure
- Retaining services in the existing space in the facility
- Moving scope from new build to refurbishment
- Balancing the requirements for major, minor and light refurbishment
- Providing some scope in a staged approach e.g., deliver partial scope to meet the activity needs from 2026
- Alternative service delivery e.g., partnering with private providers, deliver scope at another facility and non-capital solutions
- Reduction in scope
- Removal of scope

Based on the above considerations, a long list of 12 options was developed. Informed by the IDD preferred option and the high-level cost plan against the benchmark SOA, all options were within the allocated budget with the exception of option 12, which was $13 million over budget. This was included in the long list, anticipating that letting gains and value engineering processes could potentially provide further cost savings as planning progressed.

The workshop consultation considered pros and cons, including ensuring the service priority was aligned with the ISLHD District network strategy. Nine of the twelve options were not supported by the group on the basis that the gap to the CSP forecast demand and proposed alternate service delivery models would have an unacceptable impact on Shoalhaven Hospital's ability to meet the needs of the community and the strategic priorities for the ISLHD. The options below were discounted due to the following reasons:

- **Option 1** – operational cost, distance and isolation issues associated with retaining services at David Berry Hospital
- **Option 2** – the New Shellharbour Hospital will not have the clinical services or infrastructure to support the relocation of cardiology inpatient and interventional services from Shoalhaven Hospital
- **Options 3, 5, 6, 7, 8 and 9** – these options had a decrease in theatres, however the gap with the CSP forecast demand for theatres and the ISLHD District strategy would not support future surgery projections and it was considered impractical from a design and construction perspective to rely on future expansion of theatre capacity after commissioning the new facility
- **Option 4** – location of ICU/HDU and cardiology did not support the adjacencies required

The outcome of the workshop established a short list of 4 options, including Option 14 that was developed by the ISLHD in consultation with Shoalhaven Hospital stakeholders as a result of discussions at the workshop. The short list Option 14 was over budget by approximately $11 million (2.5%). As per option 12 in the long list options, this option was included in the short list for assessment as it is anticipated that gains will be made through value engineering and letting gains as planning progresses.

The outcome of the workshop was to proceed with a short list consisting of the following:

Table 28: VMS Long List Outcome

Option	Description	Gap to full CSP
Base Case	Keep safe an operating	Non capital solutions and existing site
Option 10 (Original)	8 new operating rooms and 52 new surgical IPU beds	Fewer: • surgical IPU beds • COU beds • Renal dialysis chairs • No dedicated maintenance beds on site
Option 12 (Revised)	Rehab precinct, palliative care IPU in subacute mental health and expansion of maternity services	Fewer • ICU beds • COU beds • surgical IPU beds • Rehab IPU beds • Renal dialysis chairs • No dedicated maintenance beds on site
Option 13 (Revised option 10)	Mental health in existing rehab and stroke in vacated ICU	Fewer: • COU beds • Rehab IPU beds • Maintenance beds • Renal dialysis chairs
Option 14 (New option)	Stroke unit in vacated ICU Palliative Care in the vacated sub-acute mental health	Fewer: • Rehab IPU beds • Maintenance beds • Renal dialysis chairs

4.1.8 Short list of Options

A preferred VMS option was determined through an assessment using an agreed criterion which included consideration of the service priorities for the ISLHD, the benefits to be realised by the Project and an on-balance pros and cons assessment.

The assessment criteria were applied to the short list options against the Base Case and a preferred option was chosen based on the highest score.

The scoring key below was used to assess each option.

Table 29: Rating Score Key

Rating of Option Against Assessment Criteria	Score
High	3
Medium	2
Low	1

The outcome of the assessment is presented in the table below.

Table 30: Short List Option Assessment Outcome

Criteria	Weight	Base Case		Option 10		Option 12 (Revised)		Option 13		Option 14		On Balance Assessment
				R	%	R	%	R	%	R	%	
1. Aligns with District-wide Clinical Service Plans	20%	1	7%	1	7%	2	13%	2	13%	3	20%	Option 14 is scored as a 3 as this aligns most closely with CSP.
2. Meets the prioritised need of the population	20%	1	7%	2	13%	2	13%	3	20%	3	20%	Options 13 and 14 are scored as 3s on the basis that full surgical scope is delivered. Option 14 includes multiple opportunities to expand into vacated areas and meet future service need as required.
3. Maximises clinical scope within the available capital budget	20%	1	7%	3	20%	3	20%	3	20%	3	20%	Option 14 is scored as a 3 noting that value engineering and scope refinement will be undertaken to bring the scope back to budget prior to business case submission.
4. Appropriate and maximum utilisation of existing infrastructure	20%	1	7%	3	20%	2	13%	2	13%	2	13%	Option 10 is scored as a 3 due to maximised use of existing infrastructure. Option 12, 13 and 14 are scored as 2s due to less extensive reuse of existing infrastructure.
5. Enables safe, effective, efficient and sustainable models of care	20%	1	7%	1	7%	1	7%	1	7%	3	20%	Option 10 and 13 are scored as 1s on the basis that mental health services provided in two locations or the distance between acute mental health and ED will impact safe model of care. Option 12 is scored as a 1 based on the basis that less/no beds are provided for ICU, CCU, surgical and maintenance. Option 14 delivers all clinical scope and enables contemporary models of care
Analysis Total	**100%**	7	**33%**	10	**67%**	10	**67%**	11	**73%**	14	**93%**	

Option 14 was identified as the preferred option subject to the FIS and CBA, due to the following:

- Delivers the full CSP scope for high priority clinical services including: operating theatres and endoscopy, acute medical and surgical beds, acute and subacute aged care, acute and non-acute mental health, and the full scope of ambulatory care zone
- The above clinical scope is supported by the required expansion in ED, imaging modalities, pathology, pharmacy and intensive care as per the endorsed CSP
- All critical care areas are provided in new build rather than refurbished areas
- Stroke unit is collocated with rehab and proximate to the acute clinical services building in the existing ICU space
- Maximises the use of existing infrastructure with no works or low to high refurbishment
- Provides maternity day assessment and family room
- Includes multiple opportunities to expand appropriate services into vacated areas of the existing facility as future funding opportunities arise
- Future expansion space for renal into SAGU is available
- Acute mental health is located within the new acute zone.

The preferred option 14 accommodates approximately 80% of hospital services in a new acute services building (~33,300 m2), with the remaining 20% accommodated in the existing hospital with various levels of refurbishment to the existing facilities (~8,300m2).

The preferred option 14 was confirmed by the CBA and endorsed through governance. The option informed the scope of the project moving forward. It was noted that the preferred option was $11 million over budget however it I was anticipated that further savings would be made through Value Engineering or letting gains as planning progressed. Savings were achieved through value engineering during the schematic design phase to deliver the Project within the available capital budget for this Final Business Case.

A further detailed summary of the VMS and options can be found in the Shoalhaven Hospital Value Management Report in **Appendix 4.**

4.2 Preferred Option

Informed by the preferred option, the scope for the redevelopment is outlined in the following table.

Table 31: Shoalhaven Hospital Redevelopment Preferred Option 14 scope

Specialty/Department/Unit		Current Spaces	Projected Additional Spaces	CSP	Built Spaces/ as per Option 14	Comments/ VMS build assumptions
Medicine	General Medicine / Acute Geriatrics	61	42	73	72	New build 2 x 24 bed Medical IPU's 1 x 24 Geriatric IPU (+3 BPSD beds, included in the Mental numbers below) (1 x 4 inclusive of treatment spaces for inpatient renal dialysis (Location TBC))
	Stroke			9	9	No works use vacated ICU (collocated with rehab in vacated Surgical IPU) 1 x 9 beds

Specialty/Department/Unit		Current Spaces	Projected Additional Spaces	CSP	Built Spaces/ as per Option 14	Comments/ VMS build assumptions
	Cardiology			15	21	New Build 1 x 21 bed IPU (6 COU and 15 cardiology)
	Cardiology COU			6		
	DO Endoscopy	13	3	11	22	New build Day Surgery unit collocated with perioperative suite
Surgery	DO		2	7		
	ON	32	28	60	56	New Build 2 x 28 bed IPU's (remaining 4 beds allocated to DO)
ICU		9	11	20	20	New Build
Maternity / Obstetrics		13	-1	12	12	Minor refurb in adjacent vacated Surgical IPU (Bereavement Room and Day only assessment)
Sub Total Acute		**128**	**85**	**213**	**212**	
Low dependency neo natal care (Special care)		6	0	6	6	No works
Paediatrics		12	-2	10	10	No works
Paediatric Assessment Unit (PAU)		0	5	5	5	Major Refurb of adjacent area
Sub Total 0-15 years		**18**	**3**	**21**	**21**	
Palliative Care (Including David Berry)		9	6	15	15	Medium refurb of subacute mental health
Rehabilitation (Including David Berry)		29	40	54	46	No works. Use vacated Medical IPU allowance for therapy and support space in medical 1 x 16 No works. Use vacated Surgical IPU 1 x 14 (9 stroke beds collocated in vacated ICU)
Rehabilitation (Maintenance)				15	5	

Specialty/Department/Unit	Current Spaces	Projected Additional Spaces	CSP	Built Spaces/ as per Option 14	Comments/ VMS build assumptions
					No works. Use vacated medical IPU 1 x 16 bed IPU (Rehab and GEM) No works. Use sub-acute mental health
Sub-acute GEM			0 (Included in rehab beds)	0	
Sub Total Sub-Acute	**38**	**46**	**84**	**66**	
Mental Health (including PECC, acute & older persons)					
Sub-Acute	20	- 20	- 20	0	Service reconfigured to a contemporary model of care
Acute Adult and Older Persons	0	16	16	16	Collocated
Rehabilitation / Non-acute	0	12	12	12	Collocated with Acute
PECC	0	4	4	4	Located adjacent to the ED
BPSD (Behavioural and psychological symptoms of dementia)	0	3	3	3	Beds provided in the Geriatric IPU
Total Mental Health	**20**	**15**	**35**	**35**	
Renal Dialysis	12	4	16	12*	Major refurb in SAGU (partial) and existing renal unit *Additional 2 spaces added creating 14 spaces and approved through governance in October 2021
Emergency Department					

Specialty/Department/Unit		Current Spaces	Projected Additional Spaces	CSP	Built Spaces/ as per Option 14	Comments/ VMS build assumptions
ED	Acute Adult	10	6	16	16	Includes 8 low stimulus bed zone
	Paediatric	4	2	6	6	1 S Class room within the 6 beds
	Fast Track	4	6	10	10	6 chairs and 4 stretchers
	Resuscitation	2	2	4	4	1 N Class room
	Isolation	1	1	2	2	1 N Class and 1 S Class room
ESSA		0	8	8	8	
Sub Total Acute ED Treatment spaces		**21**	**25**	**46**	**46**	
SHOALHAVEN HOSPITAL Total		**237**	**178**	**415**	**392**	
Additional ED Clinical Support Spaces						
Safe Assessment		1	1	2	2	
Adult Procedure		1	0	1	1	
Plaster		1	0	1	1	
Paediatric Procedure		0	1	1	1	
ENT / Eye		0	1	1	1	
Sexual Assault		0	1	1	1	
Dental		0	0	0	0	Treatment to be provided in the Eye/ENT space
Total additional clinical support		3	4	7	7	
Grand Total		**240**	**182**	**422**	**399**	
Interventional Services						
Operating Theatre	Surgical	4	4	8	8	Includes a hybrid theatre
Procedure rooms	Endoscopy	1	1	2	2	
	General (minor procedures)	0	1	1	1	
Cath Lab		0	1	1	1	
Birthing Suites		4	0	4	4	Collocated with Maternity
Ambulatory Care						
General		25	46	71	81^	Includes Pre-natal and

Specialty/Department/Unit	Current Spaces	Projected Additional Spaces	CSP	Built Spaces/ as per Option 14	Comments/ VMS build assumptions
					women's health spaces Includes Cardiac Diagnostic centre ^An additional 10 spaces were added and approved through governance in November 2021. To be provided in existing vacated infrastructure
Medical Ambulatory Care	3	7	10	10	
Medical Imaging					
General X-Ray	2	1	3	3	
Fluoroscopy	1	0	1	1	
Interventional Radiology	0	1	1	1	
CT	1	1	2	2	
Ultrasound	2	2	4	4	
MRI	0	1	1	1	
SPECT-CT (Nuclear Medicine)	0	1	1	1	
Mobile X-Ray	2	1	3	3	
Mammography	0	1	1	1	
Bone/Mineral Density	0	1	1	1	

The endorsed option and the scope is illustrated in the concept diagrams below, which identify the scope that is located in the new building and the degrees of refurbishment and location of departments in the existing buildings, along with the connection from the existing building and the new build demonstrated in the axiomatic diagram.

Figure 17: Preferred Option 14

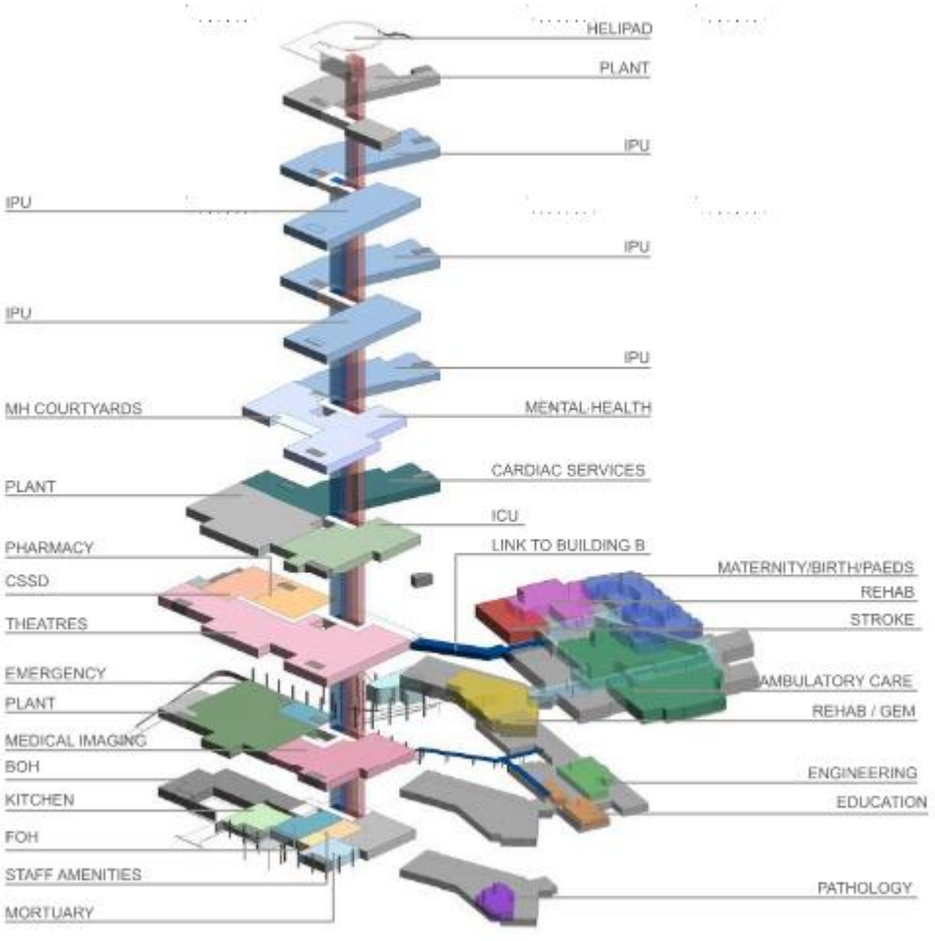


Figure 18: Axiomatic diagram of the preferred concept design for Shoalhaven Hospital Redevelopment

4.2.1 Reconciliation to Clinical Services Plan

The preferred option will have 23 less treatment spaces than the full CSP scope. Treatment spaces have been reduced in sub-acute rehabilitation services and renal dialysis with the intention of a renewed focus on new and innovative models of care and health prevention initiatives to fill the gap. In order to focus on maximising the clinical scope, non-critical support spaces such as office accommodation were removed from scope, with alternative methods of provision being considered, including remaining in existing spaces or repurposing of vacated areas once the new building is commissioned.

Table 32: Treatment Space Deficit to Preferred Scope Option

Department	CSP Scope	Preferred option scope	Deficit	Strategy to meet activity
Rehabilitation IPU	54	46	-8	Rehab day hospital Rehab in-reach to acute
Maintenance IPU	15	5	-10	Fit for frailty program Fostering partnerships with primary health care and aged care providers
Renal Dialysis ambulatory Care	16	14[18]	-2	Home dialysis training to be introduced as part of a district wide strategy to increase home dialysis

[18] The preferred option indicated 12 chairs however subsequent revision of activity and alternative and preventative models of care, the scope for renal ambulatory care was increased to 14 chairs and endorsed through governance

Department	CSP Scope	Preferred option scope	Deficit	Strategy to meet activity
Medical IPU	73	72	-1	
Total	**158**	**135**	**-23**	

Rehabilitation, stroke, paediatrics, maternity and birthing will be located in existing infrastructure. The Master Plan indicates that these buildings will be replaced in the future when the infrastructure no longer supports these services and a capital investment is required.

Maternity, birthing and inpatient paediatric services are not projected to grow, with the current capacity in the existing facility able to meet their needs. The paediatric service will include a new paediatric assessment unit as an additional component to that service, to provide short term day only care and avoid hospital admission. Scope inclusions for the maternity service include an enhancement of the day assessment unit and the consolidation of midwifery group practice into the ambulatory care setting.

5 PREFERRED OPTION DESIGN

5.1 Design Principles

The design of the Shoalhaven Hospital provides a balanced response to the following planning and design principles and requirements:

- The Shoalhaven Hospital macro-planning principles;
- Shoalhaven Hospital Design Principles;
- Health Infrastructure's systemised design approach; and
- The Shoalhaven Hospital Functional Design Briefs and Scope of Works

5.1.1 Achievement of Macro-Planning Principles

The Shoalhaven Hospital Design provides the opportunity to resolve several macro-planning issues for the Hospital. Key macro-planning principles underpinning the design are summarised below.

Connectivity

The Shoalhaven Hospital Redevelopment provides expansion of the hospital via new and refurbishment works and maintains good connectivity between new and existing inpatient, ambulatory care and support facilities.

The current design draws together the connectivity strategy through the following:

- Establishing enclosed and efficient linkages between the new acute service building and the existing hospital and campus buildings, to support the safe and effective movement of the public, patients and staff
- Ensuring the linkages do not compromise staff or patient safety due to travel distances
- Providing separated front of house and back of house flows, including in the lift core
- Establishing clear zones for emergency, acute, sub-acute, and ambulatory care, including entry points and linkages to the car park
- Utilising the gradient of the land to achieve separation of back of house and patient and visitor areas; and
- Acknowledges the zonal connectivity through the site from new to existing, from the surrounding streets to the riverfront precinct

Identity, Entries and Amenity

- Entry and drop off is improved as it:
    - provides a dedicated and direct access to the new ambulatory care zone;
    - provides a civic presence by facing the streets with direct access to the Nowra CBD;
    - Provides a pedestrian and staff entry on Shoalhaven Street to avoid walking up the steep gradient to the main entry and allowing access anticipating future expansion of private consulting suites along Shoalhaven Street;
    - creates ease of access to the park and green space; and
    - connects the new multistorey carpark to the entry forecourt.
- The design utilises the natural connection to the CBD, the surrounding streetscape and the riverfront without being imposing
- The inpatient units are orientated to provide views across the region including the areas of significance to the Aboriginal People including Cullunghutti Mountain and the Cambewarra Mountains to provide a connection to Country
- There is an acknowledgement of the park and the significance of an aged blackbutt tree on the south east corner of the park which can provide a gathering space and create a significant natural land mark for the redevelopment
- There are clear separations of 24hr zones and Monday to Friday business hours zones with consideration to efficiency, travel distances and safety and security

Pedestrian, Public Transport and Vehicular Flows and Car Parking

Key design strategies for Shoalhaven Hospital which will be facilitated through the redevelopment include:

- providing clear wayfinding from the car park to the main entry, emergency and ambulatory care;

- maintaining a separate ambulance access point;
- providing a direct access to the birthing and maternity unit for women in labour;
- creating an entry point on Shoalhaven Street with ease of access to the bus stop and connected to the main entry; and
- drop off areas close to entry points of the facility.

5.1.2 Design Principles

The design of the Shoalhaven Hospital is based on the following design principles developed in consultation with the ISLHD and endorsed through governance:

1. The hospital has a strong connection to the natural environment to promote wellbeing
2. The hospital has resource sustainability in its DNA
3. Access to ambulatory care is promoted through a prominent external presence on the campus and physical connections with the hospital
4. First Nations people inform the design of the hospital
5. Shoalhaven Hospital is designed to promote cultural safety and to maximise its connection to country of the First Nations people on which it is situated
6. Shoalhaven Hospital is a digital hospital, designed to deliver the models of care of the future
7. The facility façade provides a recognisable presence and is an anchor point for health and wellbeing in the region
8. There is minimal disruption to the surrounding community and services during and after the project

5.1.3 Health Infrastructure Systemised Design Approach

Health Infrastructure has developed a systemised design approach aimed at enhancing the flexibility and adaptability of NSW public hospitals to meet changes in service demand and use.

Key principles which have been adopted in the Shoalhaven Hospital Redevelopment include:

- adopting a planning grid of 8.4m by 8.4m;
- adopting a floor-to-floor height of between 4.2m and 4.5m (generally 4.5m for hot areas and 4.2m for inpatient areas);
- adopting the recommended structural strategy including integrated 50mm slab topping to enable flexibility in future set downs; and
- locating services risers outside of clinical areas so not to inhibit future flexibility and adaptability.

5.1.4 Zonal Master Plan

A Zonal Master Plan report was completed in 2017, based on ISLHD's Clinical Service Plan (CSP) to 2027 and a further Site Selection report was completed in 2019. These were both reviewed during the development of the Master Plan options.

A 2017 Zonal Master Plan Report presented 4 options with all options locating a new clinical service building in the centre of the site with connections back to the existing building with a degree of refurbishment and expansion. Several of the options retained Emergency and Interventional services in their existing location with minimal expansion which is not possible with the current projected growth in scope. The preferred option located the main entry adjacent to a new Ambulatory Care Centre on Scenic Drive on the current on grade carpark. This is no longer viable due to the additional scope as a result of the revised CSP and the constraints of the site. The preferred option allowed for a future Emergency Department on Shoalhaven Street which supports the current master planning development.

A 2019 Site Selection Report presented 3 options reflecting the increased scope from the updated CSP projections to 2031. All 3 options were based on the premise that the full scope would be a new build with the existing hospital either demolished or re-purposed. The preferred options from 2016 and 2019 located the new hospital at the south and centre of the site to mitigate staging risks and keep the existing facilities operating.

Given a significant amount of detailed master planning feasibility had been undertaken, it was determined that a zonal Master Plan options would be developed leveraging off the urban planning and design principles that had been established. Three Zonal Master Plan options were developed, all completely new builds which would maximise the green space around the site and the connectivity to the riverfront and the CBD.

The Zonal Master Plan options were developed based on a high-level functional relationship diagram reflecting the proposed scope. The purpose of this was to ensure that zonal adjacencies were achieved to inform ease of travel, access, connectivity and staff and patient safety.

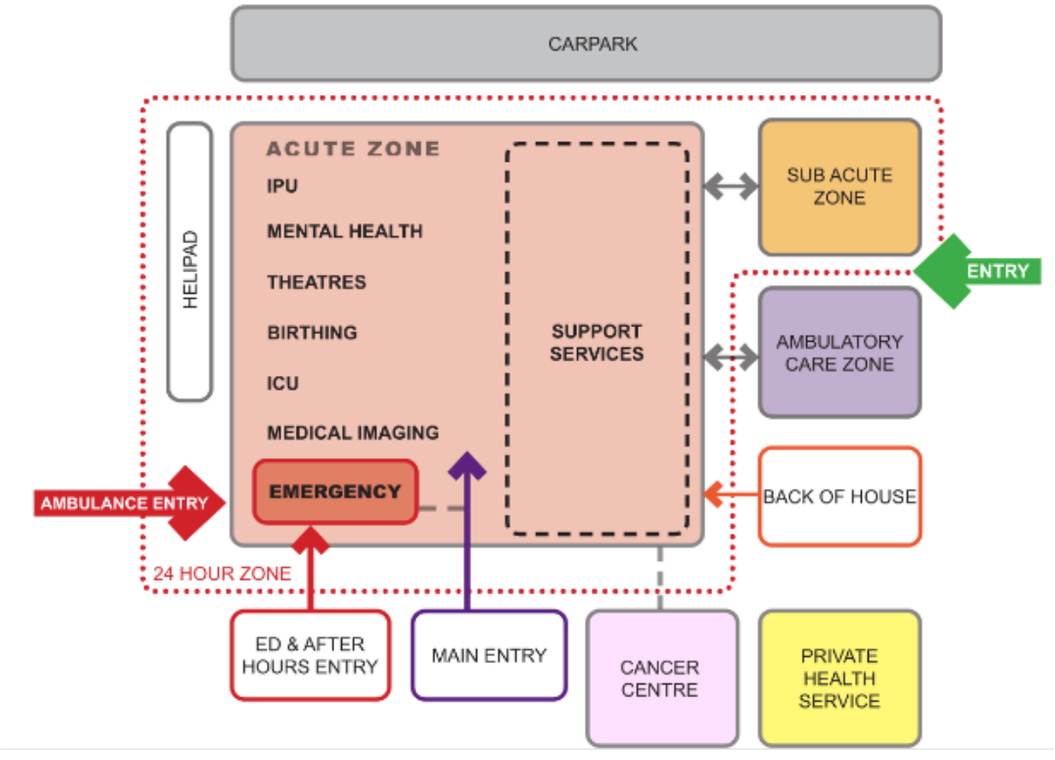


Figure 19: Functional relationships to inform the Zonal Master Plan Options

The figure below illustrates the Zonal Master Plan options that were considered.

Master Plan Option 1

Master Plan Option 2

Master Plan Option 3

Option 1 locates a new hospital on the site of the existing hospital on the Northern half of the site. This has the advantage of leaving the existing Nowra Park as open space which is desirable to the local community. Building a new hospital on the site of a functioning hospital raises issues of staging and continuity of service. Building programme and clinical continuity will be a significant issue with this option.	**Option 2** locates a new hospital on the existing Nowra Park site. This will have the advantage of not impacting on the existing hospital during construction. Staging and clinical continuity will not be affected. There will be additional cost required to resolve the use of the existing buildings when the new hospital is complete. Options are to retain open space for the community, provide private development zones suitable for a clinical precinct or decommission and leave the buildings for future hospital expansion.	**Option 3** locates a new acute zone within the centre of the site and closely aligned to the existing facility including the multideck car park. Ambulatory and sub-acute zones are aligned to the north of the acute zone. New greenspace at the north end of the site connects to the Riverfront Precinct of Nowra. The masterplan provides a “hospital within a park” with greenspace connecting both the north and south end of the campus

Figure 20: Shoalhaven Hospital Master Plan Options

Three workshops were conducted with ISLHD stakeholders to assess the Zonal Master Plan options and select a preferred option based on a pros and cons on balance approach, the previous preferred options and affordability.

Option 3 was considered to be the most desirable Master Plan for the long-term future of the site as it:

- consolidated clinical zones at the centre of the site;
- provided a future expansion zone to the north;
- retained open space and established trees on the south side of the site and provides green space on the north side of the site connecting it to the river precinct; and
- provided good adjacency and connectivity to the car park for ease of access

Although Option 3 was determined as a future long-term vision for the site, the identification of existing assets for purposeful reuse to provide the scope culminated in Option 3A. Option 3A reflected the IDD recommendation to create an affordable option that comprised a mix of new build and refurbishment. The option was developed in consultation with the ISLHD Stakeholders to enable the long-term vision for the site to be achieved in the future.

Option 3A was endorsed through project governance, achieving the following principles:

- Consolidates clinical zone at the centre of the site
- Provides an expansion zone to the north
- It does not constrain the future long-term vision
- Retains open space and established trees on the south of the site
- Aligns with the urban strategy of site permeability
- Opportunity to maximise open spaces and green spaces
- Adaptive reuse of existing buildings
- It does not divert from previously endorsed Master Plan options
- It will maximise clinical scope within the allocated budget through a combination of new and refurbishment of existing assets
- Minimises staging costs and disruption during construction

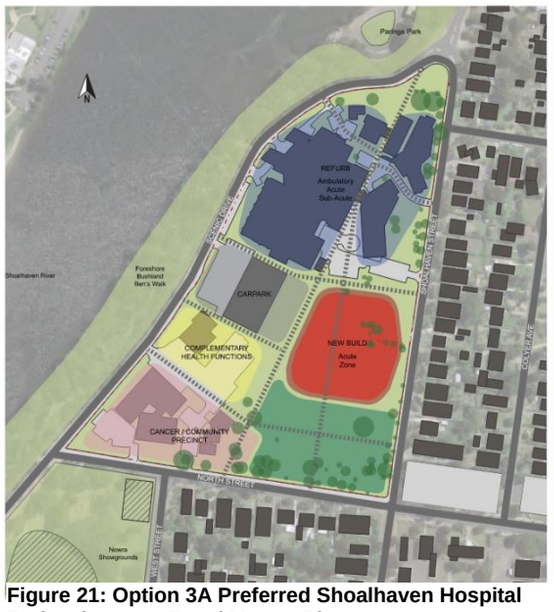


Figure 21: Option 3A Preferred Shoalhaven Hospital Redevelopment Zonal Master Plan

Option 3A requires the acquisition of Nowra Park adjacent to the site and the relocation of an existing preschool.

An IDD for the acquisition of Nowra Park was completed and endorsed by the NSW Ministry of Health. A Proposed Acquisition Notice (PAN) was issued in May 2021 and the Nowra Park Lot was subsequently acquired in November 2021.

The preschool is located on a separate Lot, which was acquired in November 2022. The pre-school works contractor has been appointed and works will commence in October 2022. The relocation of the preschool will be incorporated into the redevelopment, providing a like for like facility on the southern edge of the park.

Further details of the Master Plan are provided in the Shoalhaven Hospital Master Plan Report in **Appendix 2.**

5.1.5 Concept Design

The concept options were developed with consideration to existing site constraints and a specific design criterion developed in consultation with the ISLHD and in alignment with the project design principles.

The existing site constraints included:

- the topography of the land with a fall of approximately 8m across the site;
- staging and decanting to minimise disruption;
- existing buildings and infrastructure for refurbishment with potential budget, site and connection constraints;
- traffic impacts on the surrounding residential streets; and
- the optimum height and scale of the building in the context of planning requirements and the surrounding residential area and natural beauty of the riverside precinct.

The endorsed design criterion, based on the project principles, was used to assess the scale in which the design achieved:

1. optimal functional adjacencies;
2. an operational efficient solution;
3. delivery within budget;
4. staff safety and amenity;
5. an environmentally sustainable solution;
6. a culturally inclusive environment;
7. a strong connection with the natural environment, community identity and impact in the local neighbourhood;
8. optimal site access;
9. future expansion opportunities; and
10. continuity of service delivery.

A long list of six concept options were developed for consultation with the ISLHD stakeholders through a series of 4 workshops. The six options were reduced to a short list of three (options 2, 5, and 6) as a result of feedback from the stakeholders and in the context of the design criteria upon which the concept options would be assessed.

The assessment of the short list options included a pros and cons assessment to provide a balanced assessment.

Table 33: Base Case Concept Option Pros and Cons

Concept Option	Pros and Cons
Option 1–- Base case – keep safe and operating 	Under this option, Shoalhaven Hospital will continue to be maintained to ensure it is safe and operational however, the current and future demand for services will not be met. **Pros** • No capital investment required • A number of current clinical redesign, quality and network strategies to improve patient care and performance will continue **Cons** • Residents having to access services outside of their local area • No enhanced service offerings • Family and friends have to travel further to see their family • Increased waiting times for services • Increased pressure on TWH • Increased admission times through emergency due to lack of available beds • Improved functional relationships and new models of care will not be delivered

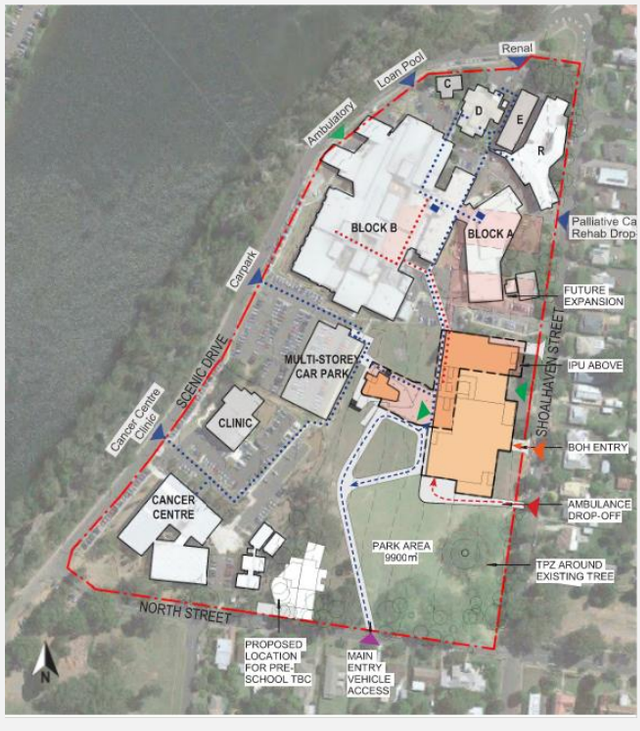
Table 34: Concept Option 2 Pros and Cons

Concept Option	Pros and Cons
Option 2–- Stepped Option 	**Pros** • Direct connection between parkland and existing hospital • Direct connection between the car park and main entry • Stepped form maximises access to the sun **Cons** • Loading dock inhibits future expansion to the north • No direct entry from Shoalhaven Street • Longer travel distances to the existing building

Table 35: Concept Option 5 Pros and Cons

Concept Option	Pros and Cons
Option 5–- Shoalhaven Street entry 	**Pros** • Increased accessibility to the site by the community • Direct connection between parkland and existing hospital • Provides a public interface with Shoalhaven Street • Direct connection between the car park and main entry **Cons** • Loading dock inhibits future expansion to the north • Longer travel distances to the existing building • Second entry point may compromise security and require additional cost

Table 36: Concept Option 6 Pros and Cons

Concept Option	Pros and Cons
Option 6–- Shoalhaven Street entry 	**Pros** • Shorter travel distance to existing hospital services • Increased parkland area to the south • Internal loading dock enables a landscaped northeast corner of the building • Stepped form to the north provides a lower scale building on the edge of the park decreasing its impact on the park • Relocation of loading dock enables ease of expansion to the north • Increased accessibility to the site by the community • Direct connection between parkland and existing hospital • Provides a public interface with Shoalhaven Street • Direct connection between the car park and main entry • **Cons** • Internal loading dock potentially incurs additional costs with increasing structure and height • Stepped form from the north creates some self-shadowing and reduced access to the sun • Second entry point may compromise security and require additional cost

The short list concept options were assessed with the ISLHD stakeholders against the base case and on balance, with Option 6 assessed as the preferred option.

Table 37: Concept Design Short List Options Assessment Outcome

Assessment	Weighting	Option 1 Keep Safe and Operating		Option 2		Option 5		Option 6	
		Rating	%	Rating	%	Rating	%	Rating	%
1. Achieves optimal functional adjacencies	15%	2	6%	4	12%	4	12%	5	15%
2. Provides an operationally efficient solution	15%	2	6%	3	9%	4	12%	5	15%
3. The option can be delivered within budget	10%	0	0%	5	10%	5	10%	4	8%
4. Optimises staff safety and amenity	10%	2	4%	3	6%	4	8%	4	8%
5. Provides an environmentally sustainable solution	10%	2	4%	5	10%	5	10%	4	8%
6. Provides a culturally inclusive environment	10%	2	4%	4	8%	4	8%	5	10%
7. Strong connection with natural environment, community identity and impact on local neighbourhood	10%	2	4%	3	6%	4	8%	5	10%
8. Supports optimal site access	10%	3	6%	3	6%	4	8%	5	10%
9. Provides future expansion opportunities	5%	2	2%	4	4%	4	4%	5	5%
10. Continuity of service delivery	5%	2	2%	4	0%	4	4%	4	4%
Analysis Total	**100%**		**38%**		**71%**		**84%**		**93%**

Concept Option 6 was endorsed through governance enabling the project to progress to schematic design.

Further detail regarding the Concept option development is contained in the Shoalhaven Hospital Concept Design Report in **Appendix 5.**

5.1.6 Functional Brief

The Functional Briefs define the Health Infrastructure requirements for the redevelopment, as informed by the CSP, models of care, campus-wide operational policies and the needs of the respective Service Departments / Units. The Functional Briefs, scope of works and Schedules of Accommodation were developed and underwent significant consultation using the endorsed governance structure and aligned with the scope as informed by the preferred option and the AHFGs.

Given that elements of the scope are being provided through medium or minor refurbishment, a scope of works was developed in lieu of a functional brief to outline the works required to the existing facility. The scope of works was developed in consultation with the users of the respective departments affected. The areas undergoing major refurbishment are defined in a functional brief.

The models of care and campus-wide Operational Policies create the overall planning framework to inform the specific design and operational requirements of the various Health Planning Units (HPUs), as defined by the Project User Groups.

A number of design issues and variations remain outstanding that will be resolved prior to the submission of the final business case. These are outlined in the table below with the potential impact to the project.

Table 38: Outstanding Issues

Outstanding Issue / Variation	Impact / Risk	Mitigation
Finalisation of an office accommodation strategy (informed by the workforce strategy)	Capital cost and design	Office accommodation strategy aligns with NSW Ministry of Health Policy Existing vacated spaces are being tested for repurposing into office accommodation
ISLHD strategy for COVID impact on design • HVAC systems • Additional enclosed treatment spaces • Outdoor spaces for staff and patients	Capital and recurrent cost and design	Clinical reference group has been established to provide recommendations through governance in collaboration with the State-wide Ventilation Committee, the Clinical Excellence Commission, NSW Ministry of Health and Health Infrastructure NSW
The addition of a transit lounge to the project scope	Capital and recurrent cost and design	Existing space is being investigated to establish a transit lounge

The functional briefs, scope of works and models of care documents are included at **Appendix 3.**

5.1.7 Schedule of Accommodation

The schedule of accommodation table below outlines the difference between the briefed scheduled areas and the drawn areas at the end of Schematic Design.

Key points to note:

- Gross departmental area (GDA) for Fully Enclosed Covered Area (FECA) inclusive of circulation and T&E for the new build 32,665m2
- The variation between briefed and scheduled areas for the new build is 1,835m2 which is equivalent to 6% which is within the acceptable variation parameter of <10%
- GDA for FECA is 6,031m2 inclusive of existing T&E and circulation
- The variation between briefed and scheduled areas is 17.9% which is accounted for by the existing T&E and circulation spaces across buildings of various ages

Table 39: Shoalhaven Hospital Redevelopment Schedule of Accommodation – New Build and Refurbishment

Department (New Build)	GROSS DEPARTMENTAL		
	Briefed Gross Area (m^2) dRofus	Designed Area (drawn m^2)	Variance (m^2)
Medical IPU 1 (24)	1154	1253	8.6%
Medical IPU 2 (24) +4 haemodialysis bays	1084	1187	9.5%
Medical IPU 3 (28) - Geriatrics	1248	1260	0.9%
Intensive Care (20)	1579	1638	3.7%
Cardiac IPU (15) Close observation Unit (6) Cardiac Diagnostic Unit (1 Lab)	1802	2087	15.8%
Emergency Department (38) and Emergency Short Stay (8)	2332	2590	11.1%
Psychiatric Emergency Care (4)	181	199	9.8%
Operating Theatre (8) and Endoscopy (2)	3520	3750	6.5%
Surgical IPU 1 (28)	1231	1314	6.7%
Surgical IPU 2 (28)	1085	1221	12.5%
Medical Imaging (15) & Nuclear Medicine	1606	1718	7.0%
Pharmacy	587	653	11.3%
CSSD	643	643	0.0%
Stores, Dock, Waste, Linen, Cleaning and Equipment Store	1033	1159	12.2%

Department (New Build)	GROSS DEPARTMENTAL		
	Briefed Gross Area (m^2) dRofus	Designed Area (drawn m^2)	Variance (m^2)
Mortuary	145	169	16.8%
Mental Health IPU (28) (Rehab & Acute)	2017	2286	13.4%
Front of House and Main Entry	658	845	28.5%
BOH Staff Amenities / Change / EOT	227	248	9.4%
Kitchen	536	526	-1.8%
Aboriginal family lounge courtyard/balcony			
Total (New Build FECA)	**22,669**	**24,749**	**9.2%**
T&E	8,161	7,917	**-3%**
Total New Build FECA with T&E	**30,830**	**32,665**	**6%**
Unenclosed Areas (UCA)			
Loading Dock - Trucks		520	
Forklift bay		6	
Bike Rack	30	30	
Helipad		545	
Outdoor areas (Courtyards)	480	517	7.7%
Sub total (UCA)	**510**	**1,618**	
Total (New Build – UCA and FECA)	**31,340**	**34,283**	**8.6%**

Department (Refurbishment)	GROSS DEPARTMENTAL		
	Briefed Gross Area (m^2)	Designed Area (drawn m^2)	Variance (m^2)
Paediatric Assessment Unit	197	229	16.2%
Pathology Unit	467	599	28.1%
Ambulatory Care Unit	1934	2460	27.2%
Family Carer	50	51	1.6%
Dining/Diversional Therapy & Gym	138	96	-30.6%
Renal	676	715	5.7%
Clinical Engineering	180	243	34.7%
Engineering & Maintenance	491	479	-2.4%
Education, training and research	121	156	29.0%
Maternity	100	90	-9.9%
Palliative Care	453	762	68.3%
Equipment Loan Pool	145	153	5.4%
Total (Refurb)	**4,952**	**6,031**	17.9%

GDA	Briefed (m^2)	Designed (m^2)	Variance (m^2)	Variance (%)
Total New Build (FECA and UCA)	31,340	34283	2,943	8.6%
Total Refurb	4,952	6031	1,079	17.9%
Total (Incl T&E)	**27,621**	**40,314**	**3,158**	

The detailed Schedule of Accommodation is included in the Functional Briefs in **Appendix 3**

5.1.8 Schematic Design

The Schematic Design for the Project was based on the functional brief SOA and responds to the key project objectives and principles. The schematic design plans are contained in the Schematic Design Report at **Appendix 25** and were developed in consultation with relevant SDMH staff and ISLHD executive.

Variations between briefed and designed areas for the new build, prior to circulation, were calculated at 2.8%. A number of variations between briefed and designed circulation were identified and noted for the following reasons:

- Cardiac IPU, COU and Cath Lab – there are three zones within the floor and a need to create separation of patient and public flows. The layout resulted in a reduction of opportunities to 'share corridors' for the zones. The resultant design has had an impact on the overall drawn area.
- Emergency Department – the length of the overall department and the need to link each zone within the department to a 'central corridor' through the length of unit resulted in an increase in circulation.
- Surgical Inpatient Unit – the resultant shape of the building and design has aimed to increase natural light into the entry way and corridor zones has increased the floor plate for this zone of the building. Additional early testing of requests for additional courtyards during the earlier planning stages for this floor had an impact on the resultant shape.
- Pharmacy – the requested design has required the plan to be 'split into two zones' and separated by a corridor. This design has been requested to enable for the Pharmacy department to be relocated from its previous location in concept to the lower ground floor. This splitting of the zones has resulted in an increase in drawn area.
- Stores, Docks, Waste, Linen, Cleaning and Equipment Store – the resultant design has incorporated the dock under the building. This has increased the area of the departmental layout including for additional truck turning circles under the building and the circulation required to enable connection to the various zones within the departmental footprint. Further design consideration with consultation from the Users (PUG) and the logistics consultant's reviews has noted the need to review the design to accommodate for 'dirty and clean flows' separation around the department. Additionally, the kitchen (food services for the hospital) is collocated and also requires separation for its clean and dirty workflows. These elements and design requirements have hence generated a larger drawn area.
- Mortuary – in the DD phase the parking for the dedicated mortuary vehicle was shifted under the building and into the floor plate. This design decision was incorporated to provide a discrete and private body transfer within the unit. The design element has resulted in the increase in corridor zones and changed some of spatial spaces/shapes around this zone and increased the drawn area.
- Mental Health: Acute and Rehab – in response to user requests to further split and 'pod' groups of beds for 'cohort separation or clustering,' as well as to split the courtyard allocations to create additional smaller courtyards (into different configurations than initially briefed), has increased the overall area drawn of the department.
- Front of House and Main Entry – the resultant shape(s) based on the design has had to accommodate the 'Main Entry' with airlock access, as well as the connection with the Shoalhaven Entry zone. This design strategy which has been reviewed by the ISLHD and noted in the Government Architect reviews. The design strategy has increased the drawn area due the increased design requirements for the zone(s). This design response has been included in order to create a welcoming and legible space, to activate Shoalhaven Street, to connect the entry zones and as well as to improve way finding.

Variations between briefed and designed areas for the refurbishment areas have been calculated at 17.9%. A number of variations between briefed and designed were identified and noted for the following reasons:

- PAU / Pathology / Diversional Therapy / Gym / Education and Training / Engineering and Maintenance - the shape of the existing footprint has increased circulation and / or area
- Ambulatory Care – has been fitted in the nominated zone of the plan. Additionally, existing rooms that are required for the unit to be functional (but have 'no works' to them) have been linked and included in dRofus / the SOA.
- Renal – the existing rooms that are required for the unit to be functional (but have 'no works' to them have) been linked and included in dRofus/the SOA.
- Palliative care – the existing Mental Health bedrooms and associated spaces which will be repurposed have been linked to dRofus and the SOA (i.e. including bedrooms and ensuites etc.). This has been undertaken as there are changes to some of the existing FFE to the room (but 'not works' to the entire room).

In addition, a number of design changes were made in response to updated Health Planning Units in the AusHFG during feasibility. This added approximately 40m^2.

5.1.9 Furniture, Fixtures & Equipment Strategy

The procurement, delivery and commissioning of Furniture Fittings and Equipment (FFE) and Major Medical Equipment (MME) into the new build facility ready for operation is an integral part of the project.

FFE includes movable furniture, fixtures or other equipment that have no permanent connection to the structure of a building or utilities. MME includes high-cost clinical diagnostic and treatment and electro medical items. These may require consultation and coordination with specialist consultants for services requirements such as power, water, mechanical, steam and communications in order to be operational prior to installation.

A reconciliation of FFE/MME has been undertaken as part of the planning process to ascertain the equipment that is required to be procured for the redevelopment. It is anticipated that approximately 20% of FFE will be transferrable, with reuse of equipment in the areas that will be repurposed with no works to provide sub-acute services. Some MME within Medical Imaging maintained under the Managed Equipment Service (MES) is suitable for transfer.

The FFE/MME Project Plan at **Appendix 20** formally documents the work required to enable HI and ISLHD to deliver FFE and MME by:

- defining the scope of the project;
- ensuring project management authorities exist; and
- formalising the Terms of Reference.

5.1.10 Artwork Strategy

Exposure to the Arts has a profoundly beneficial impact, improving patient health and wellbeing and through its use in health promotion and messaging, improved health literacy for individuals and the wider community.

The Clinical Service Plan, Design Principles and Models of Care were identified in early consultation with project stakeholders as relevant to multi-disciplinary clinical care, including arts in health initiatives. The Shoalhaven Hospital Redevelopment's arts strategy has a clear mandate to support whole of patient-centred care based on the following objectives:

1. Provide culturally safe health service for those who work and seek care at the Shoalhaven Hospital
2. Integrate arts as part of Models of Care, particularly Aged Care, Mental Health and Paediatric (ED) services
3. Provide moments of unexpected, positive distraction from anxiety and pain, particularly in areas of treatment or places of wait to support emotional comfort and sense of psychological safety, warmth, and humour
4. Bring new energy to existing cultural collections at the Shoalhaven Hospital, as a reflection of the shared and continued history of the health service
5. Ensure operationalisation of arts/health activities are within the capability of the Illawarra Shoalhaven NSW Local Health District

At the conclusion of planning and commencement of delivery parts 5-6, the high-level scope for arts in health initiatives has been resolved as part of design finalisation. An identified deliverable of this activity is a detailed curatorial plan that reflects the Arts Working Group principles, the site and its history. This plan will:

- Ensure consistent purpose, identity and value for multi-arts experiences for the redevelopment, drawing on its communities, physical character and historical narratives
- Reflect prioritised Models of Care streams
- Connect with multi-disciplinary design teams, contractors and community groups including First Nations representatives
- Audit existing cultural assets
- Ensure creative opportunities provide a positive arrival point and uplifting welcome, as moments of meaningful engagement
- Determine creative selection and transparent procurement pathways processes

- Identify health experienced creative professionals to enable patients to co-design/deliver creative output across music, storytelling and visual arts
- Present artist long list and works through Project Governance
- Planning framework for arts integration through to completion.

Deliverables of the arts in health strategy will be in accordance with the Health Infrastructure Arts In Health Roadmap or as determined by Project Governance and led by Health Infrastructure's Arts team in close collaboration with the ISLHD and partners.

The Shoalhaven Hospital Redevelopment provides a good opportunity for incorporating art into the current landscape and new hospital interiors considering the Hospital's existing collection.

The inclusion of any new artwork will need to identify opportunities for works including the use and / or commissioning of Aboriginal art work to assist with welcoming, wellness and wayfinding and the ability to reflect the natural environment of the region to provide a sense of community connection.

5.1.11 ICT / Digital Health Strategy

The ICT / Digital Health Strategy will be further developed through detailed planning and will focus on the work required to deliver the ICT scope for the Project. The Strategy includes establishing an integrated IT service model that unifies both technology and operations and sets out a set of recommendations to ensure the successful delivery of a digitally integrated and enabled facility.

The vision of the ISLHD is to "develop our digital solutions to enable our strategy and help us meet our aspirations for the future."

The ICT / Digital Health Strategy will support the ISLHD strategic objectives for clinical care and ICT within the Shoalhaven Hospital.

The strategy will be built upon six focus areas (Figure 21) to guide digital investments, enable the organisational strategy and deliver benefits through 25 defined initiatives.

Figure 22: Focus areas for ICT / Digital Health Strategy

The ICT Strategy includes the establishment of computing, data, wireless, and messaging and telephony infrastructure to support both existing and new service solutions for the site. With consideration to current and emerging technologies to support clinical care, hospital operations, teaching and education, safety and security, key issues for consideration include:

- Network (wired and wireless for guest and staff)
- Telephony
- Redundancy and business continuity
- Base services, including nurse call, patient entertainment systems, duress and digital security
- Business services
- PACS-RIS

The provision of a robust network infrastructure, with high levels of redundancy and latency, are key enablers and will determine the success of the vast majority of applications and platforms installed across the ISLHD. This is of

particular relevance when deploying a complex eMR where staff need to be assured that they can access all relevant data anywhere, at any time, from any device.

The ICT / Digital Health Strategy will address a set of considerations around existing technology and operations, specifically the support required for the transition and delivery process that defines a high level technical and operational structure. This is significant due to the redevelopment being a combination of new build and refurbishment of existing buildings.

The ICT / Digital Health Strategy has been detailed at **Appendix 19**.

6 CAPITAL COSTS AND FUNDING

6.1 Project Capital Cost

The estimated total cost (ETC) of the Preferred Option is $438m. The Capital cost estimate includes:

- Contingency budget of $58.6m for design, construction, planning and client contingencies
- Allowance of $62.5m for FFE and ICT upgrades
- Allowance of $3.5m for LHD commissioning and transition costs

Table 40: Capital Cost for Preferred Option[19]

Department/ Unit	Preferred Option
New Build Works	$228,192,339
Refurbishment Works	$23,344,177
LHD Scope Variations	$5,007,000
Gross Construction Cost	**$256,543,577**
Fees	$41,707,000
FF&E/MME/ICT/Art	$56,111,110
Land Acquisition (incl. Pre-School)	$460,204
Total Project Cost (TPC) **Excluding Escalation (Excl. GST)**	**$354,821,891**
Escalation	$15,800,109
Contingencies	$58,610,000
Net End Cost (NETC) (Excl. GST)	**$429,240,000**
HI Management Costs	$8,760,000
TOTAL PROJECT COST (TPC) **EXCLUDING ESCALATION (Excl. GST)**	**$438,000,000**
Rounded	**$438,000,000**

6.2 Funding source

The NSW Government has committed $434 million for the upgrade of the Shoalhaven Hospital with an additional $4 million committed in 2020 – 2021. The total capital budget is $438 million. The total capital is being funded through consolidated funding (on NSW Health Asset Acquisition Program) as outlined in the table below.

[19] Shoalhaven Hospital Redevelopment Cost Plan C1 100% Schematic Design_V2 26 July 2022

Table 41: Capital Funding Summary (Preferred option)

Funding source	Total	Prior planning expenditure to date (actual)	Current year (budget) 2020/21	Projections Year 1 2021/22	Year 2 2022/23	Year 3 2023/24	Year 4 2024/25	Year 5 2025/26
Consolidated funding (on NSW Health Asset Acquisition Program)	**438,000**	4,408	9,600	28,720	175,346	103,059	92,342	24,527
Commonwealth funding	**0**							
Asset Sales	**0**							
Local Funding initiatives (please specify)	**0**							
Third party funding sources (e.g. universities)	**0**							
Other funding sources (e.g. grants, trusts)	**0**							
Total	**438,000**	4,408	9,600	28,720	175,346	103,059	92,342	24,527

Note on separate funding for preschool relocation and expansion:

To fund the relocation of the existing preschool within the hospital precinct and expansion of its service from 40 to 60 places, two sources of funds have been identified. Each of these sources is subject to its own separate economic evaluation process and they are noted here for information only. Neither their costs nor their benefits form part of the hospital redevelopment CBA.

The sources of funds are:
Department of Education Grant: $2.1 million.
NSW Government announcement for hospital precinct child care facilities, including at Shoalhaven Hospital: $2.0 million.

6.3 Cost Plan and Cash Flow

The capital cash flow for the Project is summarised below and will continue to be reviewed throughout the Project.

Table 42: Capital Cost Summary (Preferred Option)

Capital costs items		Prior planning expenditure to date	2021/22	2022/23	2023/24	2024/25	2025/26
Land	**4,230,539**	1,630,000	1,195,000	1,405,539	-	-	-
Early Works	**2,106,000**	-	-	2,106,000	-	-	-
Building costs	**234,033,461**	13,317	360,341	13,216,079	150,711,412	51,607,578	18,124,735
FF&E and ICT	**62,503,000**	-	-	-	-	35,716,000	26,787,000
Professional fees	**34,500,000**	-	5,942,306	8,575,000	6,300,000	6,300,000	6,300,000
Authority Fees	**1,173,000**	-	200,000	100,000	300,000	250,000	323,000
Health Infrastructure Management Fee (and LHD Costs)	**12,277,000**	2,764,325	1,902,189	1,902,622	1,902,622	1,902,622	1,902,622
Commissioning	**3,517,000**	-	-	-	-	1,758,500	1,758,500
Contingencies	**58,610,000**	-	-	-	-	-	35,166,000
Escalation	**25,050,000**	-	-	1,414,596	16,131,543	5,523,868	1,979,994
Total	**438,000,000**	**4,407,642**	**9,599,836**	**28,719,835**	**175,345,576**	**103,058,567**	**92,341,850**

Further detail can be found in Shoalhaven Hospital Redevelopment, Cost Plan C1 100%_V2, Schematic Design **Appendix 6**.

7 VALUE FOR MONEY ASSESSMENT

7.1 Cost Benefit Analysis

A Cost Benefit Analysis (CBA) has been developed for Shoalhaven Hospital Redevelopment and is included at **Appendix 10.** A summary of the outcomes is provided below.

Quantitative Benefits

Based on the analysis of quantifiable costs and benefits the incremental Net Present Value (NPV) of the Project has been calculated. The following table presents the total discounted incremental costs and quantified benefits for the service options relative to the base case.

Table 43: Key results incremental to the Base Case ($m)

Item	Preferred Option Present Value (20 years @7%)
Incremental costs	1,029.5
Incremental benefits	1,225.5
Incremental NPV	**196.0**
Incremental BCR	**1.19**

Based on the analysis of the quantifiable costs and benefits the CBA identifies that the Project is expected to generate:

- A net benefit for the community as a whole of $196 million in net present value terms; and
- A benefit to cost ratio of 1.19

The results of the cost benefit analysis of the shortlisted options indicate all shortlisted options would generate net benefits in terms of Net Present Value (NPV) and a BCR greater than 1.

The results of the analysis of the quantified costs and benefits indicate that all options will generate positive BCR's relative to the Base Case. Option 4 generates the highest incremental NPV of $196.0 million with a BCR of 1.19. While all options generate similar BCR's, the incremental NPV of Option 4 is $19.7 million higher compared to Option 3 and $39.5 million higher than Option 2. Option 4 generates the highest benefits for acute admitted patients compared to all other options.

The BCR includes the impact of activity and patient flow between Wollongong Hospital and the proposed Shoalhaven Hospital. Evaluating the reverse flows reduces the additional patient activity at Shoalhaven Hospital as these patients would, under the Base Case, receive health services at The Wollongong Hospital.

The net benefits of the Project would be generated from:

- the provision of additional health services, including improved inpatient, emergency department and renal patients services, which will improve patient health as well as access to health services;
- cost efficiencies arising from the increased integration of the services at the hospital and the implementation of contemporary model of care and increase non-admitted patient services;
- a range of additional a range unquantified net benefits, including:
    - an improved, safer environment for staff and patients;
    - improved staff attraction and retention;
    - improved teaching, training;
    - research partnerships; and
    - reduced building emissions.

7.2 Financial Impact Statement

The Financial Impact Statement (FIS) provides the budget impact assessment of the redevelopment to support the Final Business Case (FBC).

The FIS is based upon the Preferred Option for the FBC (Option 14) which is a combination of new build and partial refurbishment of the existing building. Option 14 meets the majority of the CSP requirement to 2030/31, and proposes providing bed savings in subacute and non-acute beds through strengthening non-admitted models. Renal dialysis chairs have been reduced from 16 to 14 chairs.

Under the Preferred Option, the activity (NWAU22) is projected to grow from 28,757 NWAU22 (2021/22 actual) to 44,973 NWAU22 (+56%) in 2026/27 and increasing to 48,198 NWAU22 in 2030/31 (+68%).

The projection includes future flow reversals from TWH (medical, surgical and cardiology) and SHH (acute mental health) of ~6043 NWAU22

As SARS-COV-2 disease (COVID19) pandemic hit NSW in March 2019, the actual activity in 2019/20 and 2020/21 shows a general decrease in activity volume across clinical service streams (apart from non-admitted patient services relating to COVID19 screening activities and tests) due to restrictions in place.

The COVID-19 impact on healthcare service demand is expected to continue in the future and the impact of long COVID is unknown. However, the experience has been that post lockdown acute care activity quickly returns to usual patterns and, in the case of ED, greater activity than prior years. Further analysis of this will be undertaken outside of the scope of the Project.

The Shoalhaven Cancer Care Centre (SCCC) will continue to provide a full range of radiation oncology, medical oncology and hematology outpatient services at level 5 role delineation with the networked support of TWH. The activity provided by the SCCC is excluded from this Project.

7.3 Recurrent Costs

Current net cost of service

The recurrent cost projections are undertaken based on the following:

- Activity Based Funding (ABF) underpinned by the CSP activity projections which correspond with the proposed Project scope
- Net Cost of Services (NCOS) based on resource costs, including labour costs

Shoalhaven Hospital (inclusive of David Berry Hospital) Net Cost of Services (NCOS) is $151 million excluding depreciation and overhead for the 2021/22 financial year. The consolidated 2021/22 NCOS budget (excluding depreciation) is $11.5m higher than the 2021/22 Net Results (ABF) (excluding depreciation) which reflects current inefficiencies at the SDMH. This is demonstrated in the table below.

Table 44: Reconciliation of ABF and NCOS - 2021/22 Budget

Cost Component	2021/22 Budget ($m)
NCOS excl. dep'n and overhead	151.1
Add: District Overhead	13.9
NCOS include overhead, excl. dep'n	165.0
Net results (ABF), excl dep'n (ABF), include overhead	153.5
Existing cost gap due to service inefficiency	**11.5**

Projected net cost of service

The projected increase in NCOS (exclude depreciation) is $47m in 2026/27 increasing to $90m in 2030/31 when the service capacity is fully operational. The annualised growth rate of the NCOS impact between 2021/22 to 2030/31 is 5.2% p.a. The employee related cost contributes to 44% - 56% of the total NCOS increase. There will be a substantial RMR and facility management costs due to increase in GFA on the campus.

Table 45: Projected NCOS impact ($000) - Preferred Option

Net impacts by cost items					2026/27	2027/28	2028/29	2029/30	2030/31
Employee Related	-	-	-	-	30,384	37,259	45,511	54,422	66,843
Facility Management (FM)	-	-	-	-	1,758	1,758	1,758	1,758	1,758
Repair, Maintenance and Replacement (RMR)	-	-	-	-	3,290	6,581	6,581	6,581	6,581
VMO	-	-	-	-	357	724	1,103	1,492	1,894
Depreciation	-	-	-	-	10,950	10,950	10,950	10,950	10,950
ICT Costs	-	-	-	-	1,913	2,023	2,134	2,244	2,353
Goods and Services (other than FM/RMR)	-	-	-	-	19,092	20,081	21,067	22,051	23,033
Total expenses	**-**	**-**	**-**	**-**	**67,744**	**79,376**	**89,103**	**99,498**	**113,411**
Total revenue	-	-	-	-	9,870	10,440	11,009	11,576	12,142
NCOS incl. Depreciation	-	-	-	-	57,874	68,936	78,094	87,922	101,269
NCOS excl. Depreciation	**-**	**-**	**-**	**-**	**46,924**	**57,986**	**67,144**	**76,972**	**90,319**

The FIS assessment identifies a recurrent funding shortfall, which would be required to be funded through a combination of expected efficiency offset due to improved models of care and functionalities and/or reduction in premium labour costs subject to NSW Ministry of Health approval.

The proposed recurrent funding sources for the increase in NCOS due to the Project involves a combination of the following:

- Growth funding from commissioning year in 2026/27 to 2030/31, excluding any growth funding prior to 2026/27. For FBC FIS modelling, growth funding from the current year and the intervening years up to 2025/26 is assumed to grow at 1.8% p.a. based on the annualised activity growth rate in 2016/17 to 2020/21. Under the Base Case, without the capacity increase, ISLHD will require to implement revised model of care to release capacity to meet growing demand to 2025/26 and beyond.
- Growth funding related to future flow reversals from TWH in relation to some medical and surgical activities, including Cardiology, Interventional Cardiology, ENT Head & Neck, orthopaedics, non-subspecialty surgery, etc. Acute and non-acute mental health activity is being reversed from SHH.
- Expected efficiency offset due to improved models of care and functionalities. The strategy would be further expanded at final business case phase.

ISLHD will review the following items in developing an Efficiency Plan to address the identified recurrent funding shortfall:

- The workforce requirement considering potential efficiencies
- Facility management costs (utilities, waste and cleaning) in light of the new asset targeting to be a five-green star rated facility (to be confirmed at FBC).
- Clinical activity and cost data to inform the impact of additional service volume, as well as patients flow reversals on resourcing and recurrent funding availability
- Further consideration on commissioning budget from the Ministry of Health for operating a facility with higher fixed costs

Annual Life Cycle Maintenance Costs

In accordance with the NSW Treasury Asset Management policy (TPP19-07), the ISLHD will develop a Strategic Asset Management Plan (SAMP) and Asset Management Plan (AMP), including a whole-of-life Asset Maintenance Plan of the proposed new assets delivered by the project. The Asset Maintenance Plan will be maintained and updated throughout the Facility Planning Process (FPP).

Post the commissioning of the new facility, the total gross floor area (GFA) on campus will grow from 35,784m2 to 70,987 m2 (+35,204 m2 / +98% to the existing).

The annual life cycle maintenance cost is based on an average of 1% of the ETC ($4.3m).

Staffing

The staffing requirement in 2026/27 (first year of commissioning) to 2029/30 has been estimated based on 2030/31 projected increase and the projected activity (NWAU) growth. The projected staffing increase (incremental to the Base Case) is 228 FTE (+31%) in 2026/27 increasing to 567 FTE (+67%) in 2030/31.

Key Financial Risks

The FBC FIS identifies the following key financial risks:

- **Activity projection as key planning parameters**: The budget estimate on the NCOS is undertaken based on the available planning parameters and assumptions including the endorsed CSP which underpin the projected activity and the proposed infrastructure scope. Monitoring and update of the clinical activity including the expected flow reversals from TWH.
- **Adequacy of capital contingency**: The cost planner provides the capital costs estimates which include standard contingencies in accordance with HI costing standards and in line with Treasury's requirements. A project-specific quantify risk assessment has been undertaken to provide a more robust assessment of capital affordability
- **Workforce requirements and model of care:** The Workforce Plan has been developed based on the projected bed days and infrastructure requirements outlined in the CSP. ISLHD developed the staffing models to align with the models of care that support the service efficiency to ensure the projected staffing requirement as the largest recurrent cost driver is feasible.

Further detail of capital costs, funding and workforce can be found in:

Appendix 8: ISLHD Shoalhaven Redevelopment Project: Workforce Development Strategy v0.3, March 2022

Appendix 9: The SDMH Redevelopment Project, FBC FIS (Final Draft, 27 September 2022)

Appendix 10: Shoalhaven Hospital Redevelopment Cost Benefit Analysis v2, 30 September 2022

8 OPERATIONAL SERVICE DELIVERY

8.1 What is changing?

The Shoalhaven Hospital Redevelopment will deliver a modern facility to enable contemporary clinical practice and integrated models of care to meet the future healthcare needs of the Shoalhaven area. The key goals of the Shoalhaven Hospital redevelopment are to:

- improve equity of access to services for the Shoalhaven population, which includes some of the most vulnerable areas in the District and the State;
- increase the self-sufficiency of Shoalhaven Hospital by building its capacity and service profile within the District network model, and reduce the increasing demand on Wollongong Hospital; and
- provide an innovative and sustainable facility that:
    - facilitates changes in models of care, with a considerable focus on increasing ambulatory and non-admitted services;
    - has the physical capacity to manage projected increases in demand and the service profile of the site;
    - provides an increasingly comprehensive range of core support services, supporting the development of key clinical services;
    - utilises greenspace and the natural environment, is easily accessible and culturally welcoming to improve wellbeing and health outcomes; and
    - enables energy and water efficiency into the future to reduce the impact on country and reduce the recurrent operational costs.

SHOALHAVEN CHANGE VISION

The new Shoalhaven Hospital will provide enhanced services to / for patients locally, reducing the need to transfer patients to higher care facilities

8.2 Change Management

8.2.1 Summary of Key Change Management Activities

The delivery of successful Change Management within a Capital Works project is reliant on a robust methodology, aligned with the Benefits Realisation Plan and support from a Consultation and Communications strategy. The Change Management Team will work with staff across the District to develop an understanding of the “as is” state, progress towards goals identified in the CSP, gather information on risks and issues, identify solutions, and plan for future developments.

Change management requirements have been identified and strategies to ensure a safe and efficient transition from current state to future state have been developed and outlined in the Change Management Plan. The plan aims to provide an overarching framework outlining the major change management principles, governance, methodology, timeframes and accountabilities for the Project.

The project will be supported by the Redevelopment Change Management Team, Health Infrastructure and Consultancy Project Management Teams. The Health Infrastructure 4-Step Change Management Process which will be applied for the SDMH Redevelopment project outlined in Figure 22.

The approach to change management will align with the agreed four steps of change process. This process will be implemented for the redevelopment as follows:

- Define the change management and framework as per the endorsed Change Management Strategy;
- Identify areas affected by change via the change impact assessment and develop strategies for high-risk items;
- Identify and engage stakeholders to manage and meet the expectations and minimise barriers to change. Key stakeholders have been identified within the Change Management Strategy;

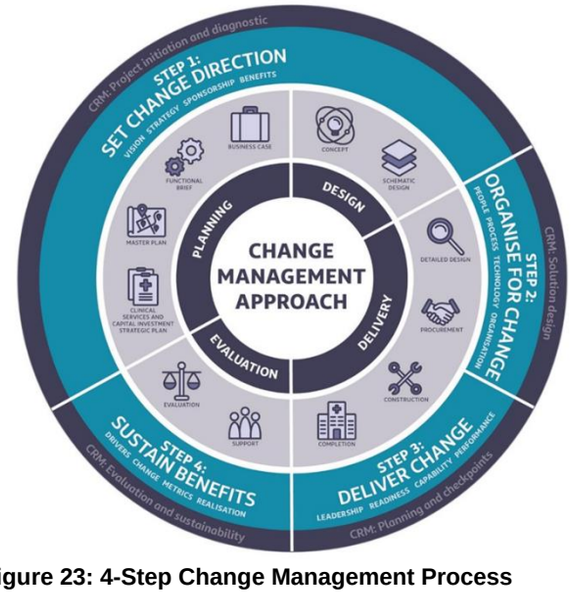


Figure 23: 4-Step Change Management Process

- Define clear roles and responsibilities for managing change, including the appointment of a Change Manager, and identifying change sponsors and champions to assist the change manager with implementing the change strategies; and
- Develop the appropriate processes, people and tools to manage, measure and track change throughout the project lifecycle; and
- Report change progress via the established project governance.

A regular progress report will be undertaken and include items for decision making and direction throughout the project lifecycle and in alignment with the key milestones. The change progress will be tracked within the Project Managers report on a monthly basis.

It will describe, at a high-level, the strategy ISLHD will employ to manage the substantial organisational change that must occur in conjunction with the redevelopment. The table below defines the identified current and future state in the key impact areas as a result of the redevelopment. Further details of roles and responsibilities, key risks and change activities to achieve the future state can be found in the Shoalhaven Hospital Change Management Plan is included at **Appendix 14**.

Table 46: Change Impact: Current and Future State

Type of Change	Impact Areas	Current State	Future State
People	**Patient**	Required to access specialised services outside LGA (i.e. Mental Health services / Cardiology / MRI)	Access to specialised services within LGA and close to home including support services
	Customer	Considerable additions to current site resulting in confusion with wayfinding	Redevelopment designed with consideration to First Nations heritage and ease of wayfinding
	Clinical Staff	Generalised ways of working with specialised areas lacking.	Increase in specialty services creating more opportunity locally. Operating with new Models of Care and establishing new ways of working to improve efficiency and opportunity
	Non-Clinical Staff	Restricted work areas due to lack of work stations and storage	Building designed with space provisions for increase in work activity
	Local First Nations community	No access to an area where the Aboriginal Community can meet and collaborate with each other and LHD	Aboriginal Family room included in redevelopment plan for Aboriginal Community to feel welcome to help improve health outcomes
Service Delivery	**Clinical Delivery**	Decentralised model with consumers requiring to travel to various locations including outside LGA to access services	Centralised services in expanded Health Precinct offering a wider range of services and better support the District
	Non-Clinical Delivery	Current spatial constraints resulting in service delivery and efficiencies.	Areas designed to accommodate expanded services including improved access for both Back of House and Front of House
Environment	**Physical**	Limitations on clinical spaces resulting in inefficiencies in access and patient flow	Building designed for the future growth of the LGA providing the space to improve access, patient flow and the consumer experience
	Socio-Economic	Varied physical locations for access to health care around LGA provides silo	Focus on collaborative model will enhance consumer access to health

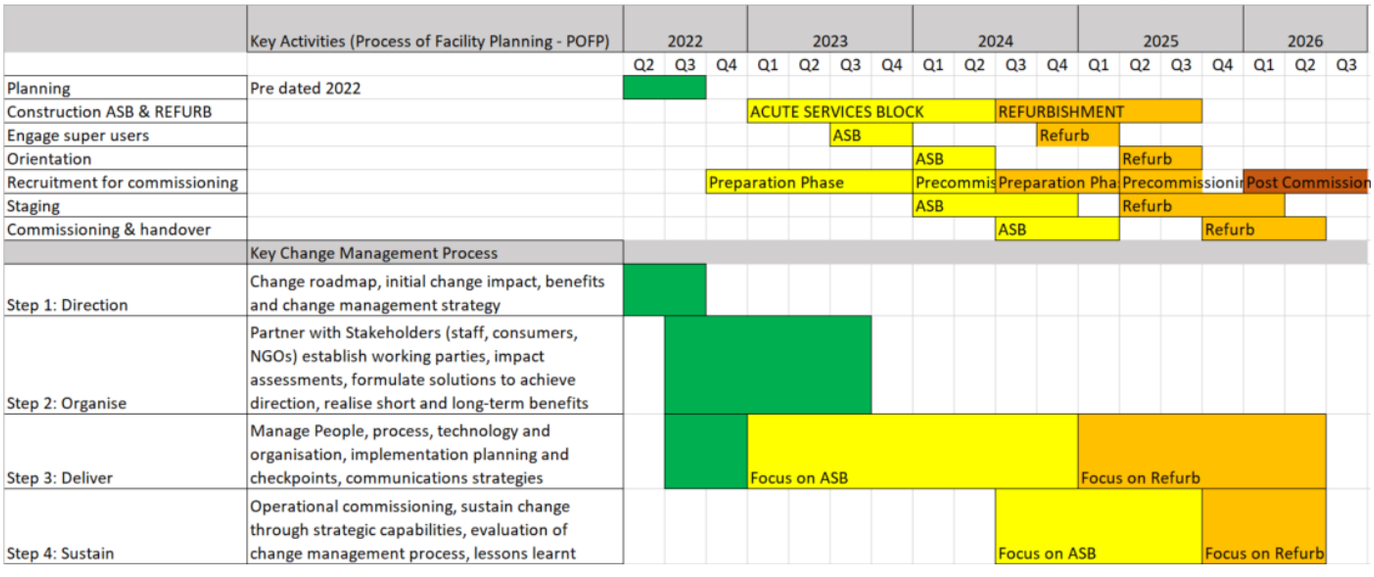
Type of Change	Impact Areas	Current State	Future State
		approach to accessibility to health care resulting in inequitable access for socio-economic disadvantaged members in community	care for the socio-economic disadvantaged members in community Larger footprint and increased services will provide increase in employment opportunities
Process	**Business Processes / Workflow**	Inefficient design impacts ability to meet Key Performance Indicators (KPIs)	Focus on workflow in design stage will establish improved efficiencies in output and improve KPIs
	Policies & Procedures	Policies and Procedures adequate for current state	New Policies & Procedures developed to align with enhanced hospital delineation
Technology	**Systems**	Current Information Communication Technology (ICT) capabilities unable to meet future expansion	New ICT systems installed to align with future digital strategy requirements
	Equipment	Equipment suitable for current state	Procurement of new equipment to enable delivery of projected services

8.2.2 Change Management Strategy

Change Management is the process of re-aligning an organisation to meet the changing demands of its environment and is generally underpinned by improvements to its processes, technologies and service outcomes. Despite its ability to lead to potential health and economic improvements, change can be both a positive and negative experience. It is therefore imperative that change is managed and implemented effectively in the short and long term, so as to achieve a positive impact on the daily processes of users, staff and management. Managing change will not only mitigate any potential adverse impacts on service delivery and outcomes but will also manage potential resistance to the change at any level.

The change process will be aided by four key documents: the *Change Management Plan*, the *Benefits Realisation Plan,* the *Workforce Plan* and the *Communications Plan (C2 tool)*. Consultation at the beginning of a project is paramount. Engaging and communicating with the right people at the right time will lead to a shared approach and ultimately a better project outcome. The table below outlines a high level program of key activities for the change management process for the redevelopment.

Table 47: Program of Change Management Activities



ISLHD is well resourced and experienced and resourced in implementing clinical redesign projects. SDMH has vast experience in the implementation of successful and sustainable clinical redesign programs. The redevelopment project will leverage off this existing experience in the development of change management strategies. The appropriate executive governance is in place to support change initiatives and is expected to continue throughout the redevelopment program, with specific support to change leads and change champions.

Stakeholders, both internal and external, are engaged and are already committed to consulting around the process, services and infrastructure.

In addition, the ISLHD SEED program will be used where appropriate, to support staff through the Change Management process. The SEED program has been used widely across the LHD since its inception in 2019 and has been invaluable in supporting staff through major change with sustainable outcomes.

As part of the change management strategy, a change readiness survey will be deployed to capture areas of need and to inform the development of supportive tools to be implemented as the planning progresses in readiness for operational commissioning date.

8.2.3 Initial Change Impact Assessment (CIA)

The Change Impact Assessment (CIA) was undertaken in June 2021 in consultation with ISLHD Executive Project Director, Shoalhaven Hospital Executive, Project Communications Manager, HI and the Project Managers. At this stage of the project, based on the information known, the change impact assessment is noted to be High. It is anticipated that through the development and delivery of a Change Management Strategy, risks will reduce to ALARP (as low as reasonably possible).

The major risks identified through the CIA process are:

- the delivery of new models of care (MoC) and workflows in new and refurbished areas requiring new and revised policy and procedures;
- recruitment and training of staff to deliver the new models of care and the predicted activity;
- the requirement for new service delivery models to operationalise the new campus footprint,
- the education and training requirements involved in adapting to the new digital health strategy;
- the education and training requirements for the new integrated ICT and engineering systems to support the Environmentally Sustainable Design (ESD) facility; and
- the development of an effective communication strategy to ensure all stakeholders are aware of new services.

8.3 Benefits Realisation

The Shoalhaven Hospital Redevelopment will use the NSW Treasury Benefits Realisation Management process to document and ensure that the project realises the benefits anticipated for the capital investment. A number of key benefits for staff, patients, consumers and carers are expected to be generated by the redevelopment of Sholhaven Hospital.

The Redevelopment will transform the patient, consumer and carer experience of health care services considering both clinical and non-clinical benefits have been identified throughout the life of the project.

Key benefits and measures have been developed between the ISLHD and the project team and are outlined in the Shoalhaven Hospital Redevelopment Benefits Realisation Plan in **Appendix 13**.

The following priority indicators and measures were developed in October 2021, in consultation with Health Infrastructure and ISLHD. The consultation involved aligning them with the objectives of the redevelopment and the recurrent funding Financial Impact Statement (FIS) to ensure the indicators support the project goals and associated benefits.

The following table outlines the 7 priority benefits of the redevelopment and the strategies to realise the benefits.

Table 48: Priority Benefits of the Redevelopment

Ref #	Benefits – Service outcomes	Benefits Indicator	Baseline	Target	Timeframe of monitoring and evaluation	Change outputs (1)	Benefits owner
1	Ability to meet the service demands	Ability to meet the service demands providing care	• Patient Reported Outcome	• Improvement in PROMs PREMS	Operational commissioning trough stage 1	Upgrade and enhancement of	SDMH GM

Ref #	Benefits – Service outcomes	Benefits Indicator	Baseline	Target	Timeframe of monitoring and evaluation	Change outputs (1)	Benefits owner
	providing care closer to home and increasing self-sufficiency of the hospital	closer to home and increasing self-sufficiency of the hospital	Measures (PROMs) and Patient reported experience measures (PREMS) • Inter-hospital transfers between SDMH & TWH / SHH / DBH	• Reduction in inter-hospital transfers	and 2 of redevelopment	facilities to provide: • An increase in beds, theatres and Ambulatory care spaces • A higher complexity / role delineation • Introduction of services not previously available at Shoalhaven	
2	Models of Care (MoC), design and flow support referrals and connectivity to enable timely discharge or admission avoidance	• Integrated Care • Seamless patient journey from Inpatient to Ambulatory care	• PROMs • Patient reported Experience Measures (PREMs) • Readmission rates following treatment •	• Improvement in PROMs & PREMs • Reduction of readmission rates following treatment • Improved inpatient self-sufficiency • Increased uptake of virtual care (including telehealth)	Operational commissioning of all stages of redevelopment	• New MoC for Emergency Department, Inpatient and Ambulatory services • Increase in Ambulatory Care spaces with improved connectivity both digitally and through design	SDMH GM
3	Reducing health disadvantage and disease burden	Increase in the number of consumers able to access mental health care in the Shoalhaven	• Index of Relative Socio-economic Disadvantage (IRSD) • Index of Relative Socio-economic Advantage and Disadvantage (IRSAD)	Improvement in overall health outcomes	Operational commissioning of all stages of redevelopment	Economic value of health gain assessed in the economic appraisal	SDMH GM
4	Improved access to Acute Mental Health (MH) services	• MH access and treatment • Care received closer to home	• MH Emergency Treatment Performance (ETP) • YES survey • 28-day re-presentations • Patient transfers from Shoalhaven to Shellharbour or Wollongong Hospitals	• Improvement in MH ETP • Improvement in YES survey results • Less transfers to other facilities • Less re-presentations	Requires implementation of operational commissioning of stage 1 of redevelopment	• New purpose built Acute and Non-Acute MH inpatient services • PECC for emergency care of Psychiatric presentations • New Models of Care for Acute and Non-Acute MH	Co-Directors Mental Health ISLHD & Operations Managers
5	Ability to provide efficient care in infrastructure that meets AusHFG standards with	• Outcome, output & cost efficiency • Integrated MoC between hospital	• ED ETP • Ambulance TOC • Unplanned representation rates to ED	• Improvement of ED ETP / Ambulance TOC KPIs • Reduction on rates of unplanned	Commissioning of redevelopment with increased services	Fit for purpose infrastructure including an increase in bed base, Ambulatory care and specialised	SDMH GM

Ref #	Benefits – Service outcomes	Benefits Indicator	Baseline	Target	Timeframe of monitoring and evaluation	Change outputs (1)	Benefits owner
	an increase in capacity and services	services and community • Efficient use of bed base • Length of stay • Digitally enabled health facility	within 48 hours • Unplanned hospital readmission within 28 days of separation • Relative stay index (RSI)	representation rates to ED within 48 hours & unplanned readmission within 28 days of separation • Reduction in RSI		services connected through design and information technology	
6	Services delivered in a financially and environmentally sustainable way	• Financial performance • Inform FIS & allocate budgets & resources • Energy consumption & operational costs • Meet NSW Economic sustainability • Digitally enables facilities	• Cost of NWAU • Ambulatory care occasion of service (OOS)	• Reduction in cost/ NWAU • Improvement of number of Ambulatory care OOS	Post commissioning of all stages of redevelopment	A new facility incorporating environmentally sustainable design elements with efficient functional adjacencies and meeting AusHFG, Building Code for Australia (BCA) and Greenstar requirements	ISLHD CE
7	Capacity to refer patients to alternative care models to avoid hospital admissions	Increase in Ambulatory Care services and new models of care to avoid hospital admission or decrease LOS	• Ambulatory care OOS • Hospital in the Home (HITH) data	• Improvement of number of Ambulatory care OOS • Increased occupancy and OOS for HITH capacity	Post operational commissioning of all stages of redevelopment	• New and enhanced Ambulatory care services • New digital health services	SDMH GM Operational Managers
8	New and refurbished facility to improve safety for staff, patients and community	• Reduced hospital infection • Reduction in adverse events including patient complaints. • New design will include contemporary safety mechanisms and systems • Reduced rates of lost time injury • Reduced risks due to replacement of ageing infrastructure with new fit for purpose facilities	• Hospital acquired complication (HAC) resulting from Hospital acquired Infection (HAI) • Safe work notification • Patient complaints • Incident reporting	• Reduction in HAC resulting from HAI • Reduction of Safe work notifications • Reduction in lost staff time to injury	Post operational commissioning of all stages of redevelopment	• New infrastructure meets AusHFG and BCA requirements • New facility design provides safety in design elements	SDMH GM

8.4 Workforce Planning

8.4.1 Workforce Strategy

The ISLHD Shoalhaven Redevelopment Project Workforce Development Strategy sets out the projected workforce profile for Shoalhaven Hospital in 2026 -2031 based on the scope of the services proposed in the Shoalhaven

Hospital Clinical Services Plan (November 2020). It informs the redevelopment and allows appropriate planning to proceed to accommodate the new workforce and site requirements of the future.

The strategy provides an estimate of the workforce requirements for Shoalhaven Hospital in 2026. The projected workforce estimates have been made with consideration to the following elements:

- The activity projections for the redevelopment outlined in the Shoalhaven Clinical Services Plan. This includes consideration of projected occupancy and activity levels
- Application of current workforce standards (e.g., nursing hours per patient day, and ACORN standards) have been applied
- Current scopes of practice for each profession
- Current industrial considerations

The Redevelopment includes not only an increase in the capacity of services, but also an increase in the acuity of care to be safely delivered. This requires a multi-faceted approach encompassing both strategic recruitment of staff with the required qualifications, skills and experience in higher acuity care delivery, as well as the up-skilling and building of competence and confidence in the existing workforce.

Prioritisation of recruitment to sustain existing workforce levels (as depleted through natural attrition) will be required for on boarding the skills and experience to deliver the care required upon commissioning.

Prioritisation for recruitment to new positions will be required to enable new skills and models of care to be safely and efficiently introduced to the site. For example, recruitment of a Surgical Director will enable the Director to oversee recruitment and training for the surgical services.

A critical enabler for recruitment of the additional positions required will be the availability of resources to secure the workforce with the right skills and experience. Strategic management of growth funding up to the time of commissioning, and prioritisation of enhancement to support the successful commissioning of the redeveloped Shoalhaven Hospital through the annual Service Agreement negotiation process will be required. As with skill development and the early adoption of new models of care, service enhancement will commence early where existing facilities enable this to occur. The overall quantum of additional resources to be secured will be guided by the Financial Impact Statement for the project.

8.4.2 Workforce Plan

The primary objectives of the NSW Health Workforce are to continue to deliver safe and quality care to the people of NSW by having a capable, agile and diverse workforce[20] that is fit for purpose for now and the future.

The ISLHD Strategic Plan, Strategic Directions for the Illawarra Shoalhaven Local Health District 2017-2020 recognises that its workforce is the primary resource to deliver the goals of the organisation. One of the four strategic directions of the ISLHD is to deliver an engaged and high performing workforce for the future. The ISLHD Workforce Strategy 2017-2022[21] outlines the following objectives to achieve its strategic direction, and outlines the plan for the district to create and sustain:

- a workforce consisting on focused, capable, safe and engaged employees;
- working in a culture of accountability, trust, higher performance and continuous improvement; and
- delivering their best in pursuit of the ISLHD's vision and purpose

The following NSW Health Workforce Planning documents have also been considered in the development of the strategy:

- Health Professionals Workforce Plan 2012 – 2022
- NSW Health Workplace Culture Framework
- NSW Health Good Health – Great Jobs. Aboriginal Workforce strategic Framework 2016-2020

[20] NSW Health (2020) Workforce Planning Framework https://www.health.nsw.gov.au/workforce/planning/Pages/workforce-planning-framework.aspx

[21] ISLHD (2017) Illawarra Shoalhaven Local Health District Workforce Strategy 2017-2022

- NSW Healthy Junior Medical Officer Well Being and Support Plan 2017

ISLHD Aboriginal workforce target is 2.7%. There are several positions included in the workforce projections that will be targeted Aboriginal positions, including a mental health Aboriginal healthcare worker. Allied health will target a new graduate position as an Aboriginal position, and is exploring the option of an Aboriginal allied health assistant traineeship. Allied health is exploring an opportunity for a non-admitted patient Aboriginal engagement position to support engagement in non-admitted chronic disease programs, and district Aboriginal student engagement officer who can coordinate and support Aboriginal students from a number of universities.

The Implementation of the '*NSW Health Good Health – Great Jobs Aboriginal Workforce Strategic Framework 2016 – 2020*', has required the establishment of identified Key Performance Indicators (KPI) including:

- The Aboriginal representation at all salary levels and occupations at a Local Health District Level.
- Percentage of Aboriginal workforce by occupation
- Percentage of Aboriginal workforce by salary level (male/female)
- Aboriginal recruitment entries and exits to NSW Health
- Number of Aboriginal Cadetships
- Number of Aboriginal Traineeships

The Shoalhaven Hospital Redevelopment will have significant implications for the attraction, recruitment, retention and ongoing educational requirements of the health service workforce. This requires a strategic approach by the Local Health District to ensure that the redeveloped hospital has the right people, with the right skills, in the right place at the right time.

The Workforce Development Plan provides the overarching framework for the local Health District to achieve the projected workforce required to meet the needs of the Shoalhaven Hospital Redevelopment.

8.4.3 Future Workforce Profile

The methodology used for projecting the workforce to 2031 was varied and dependent on the type of workforce and the specialist areas being considered.

Table 49: Future Workforce Projection Summary

Treasury Classification	Current FTE	Projected 2031	Growth Percent
Allied Health & Imaging	128.2	224.2	75%
Corporate and Hospital Support	100.3	185.4	85%
Hotel Services	65.7	127.2	94%
Maintenance and Trades	7.1	10.5	49%
Medical*	123.2	219.0	78%
Nursing	465.4	767.5	65%
Other prof and para prof & support	25.5	23.3	-9%
Other staff	0.5	0.5	0%
Scientific & Technical	10.3	41.6	304%
Grand Total*	**926.2**	**1599.2**	**73%**
VMO	**24.9**	**28**	

* Excludes VMOs

The ISLHD has identified the current and projected workforce required to support the Shoalhaven Hospital Redevelopment. This has been developed with consideration of the following information:

- Projected increase in capacity outlined in the CSP. This equates to a 65% increase in NWAU, and a 50% increase in the current bed base. (NB – full capacity of the redevelopment spaces is 72% more than the current bed base).
- Future service models of care
- Projected financial efficiencies and operational costs of Shoalhaven Hospital between 2026 and 2031
- The projected 75% - 90% occupancy targets outlined in the CSP depending on the clinical area

Workforce for NSW pathology and Food services/Linen will be determined and managed by the relevant agency.

8.4.4 Challenges to Workforce

While Shoalhaven operates as part of a tiered network of services in ISLHD, the Shoalhaven area has a number of distinct factors that may impact on its ability to attract and recruit staff to deliver the clinical services of the new development. The following challenges have been identified and mitigation strategies in place to address these challenges:

- Attraction of suitably qualified and specialised workforce to a regional area
- Ageing workforce with 27% (300 employees) of the of the current Shoalhaven Hospital and David Berry Hospital over the age of 55 due for retirement in 2031
- A local competitive housing market limiting accommodation options
- Projected nationwide shortages of skilled medical and nursing staff
- Turnover rates between 6 – 8% for clinical staff seeking higher grade positions in Wollongong or metropolitan regions
- Low proportion of Aboriginal workforce
- Requirement to upskill the workforce for new services and higher role delineation of services
- Sustainability of workforce to provide training requirements

Further details of the workforce challenges and mitigation strategies are contained in the ISLHD Shoalhaven Redevelopment Project Workforce Development Strategy in **Appendix 8.**

9 PROJECT DELIVERY

9.1 Town Planning Strategy

The Shoalhaven Hospital Redevelopment Town Planner has provided a Site Assessment and Planning Approvals Pathway Advice Report detailing the planning approval pathways, planning framework and key planning issues for the site.

The proposed Shoalhaven Hospital Redevelopment is designated as State Significant Development (SSD) through Schedule 4 of the State Environmental Planning Policy (State and Regional Development) 2011 (S&RD SEPP) and thus the EIS has been prepared in accordance with Part 5 of the NSW Environmental Planning and Assessment Act 1979 (EP&A Act).

Planning approval for the Early Works and Refurbishment Works will be sought via a Review of Environmental Factors (REF), with the relocation of the preschool to be approved through a Development Application (DA) through local council.

9.2 Proposed Phases of Work

The proposed works sequence has been developed with consideration of existing constraints, operational requirements, program, value for money and anticipated risks.

The project is proposed to be split into 3 possible works packages as summarised below. Pending the progression of the design and authority approvals, some works packages may be grouped to allow efficiencies through economies of scale.

9.2.1 Early and Enabling Works

The Early Works scope main objective is to de-risk and prepare the site for the main works package.

The Shoalhaven Community Preschool is currently located in a prime location to provide access to the new Acute Services Building. The service will need to be relocated prior to the commencement of Main Works to allow free access to the site. The service will need to cease operations from the existing building.

This package of will include the construction of a new preschool.

9.2.2 Main Works

The main works package will consist of the construction of the new Acute Services Building including linkages to existing Block B and associated external works.

9.2.3 Refurbishment Works

Following the Hospital Operational Commissioning of the new Acute Services Building, Refurbishment works will commence the construct of a new Ambulatory Care Services, Maternity, Birthing, Rehab, Stroke, Pathology and Renal areas within the existing SDMH buildings.

9.3 Delivery and Contractor Procurement Strategy

Procurement Objectives

The procurement objectives for the Project are to:

- achieve certainty of project budget, scope, and delivery program;
- achieve budget cash flow objectives;
- achieve value through the procurement process; and
- reduce risk at all stages of the procurement process.

Key Procurement Considerations

Key considerations to be taken into account in assessing procurement options for the Project are summarised below.

Table 50: Key Procurement Considerations

Category	Considerations
Funding	Project value and funding sources Flexibility of budget including contingencies Cash flow objectives
Timelines	Project milestones Key staging requirements
Work Type	Major early / enabling works package Major new build component Refurbishment works within existing buildings
Opportunities for Innovation	The Redevelopment provides opportunities for innovation during design development, procurement and construction including: • Environmental sustainability initiatives • Enhanced use of digital technology • Building and landscape that is culturally appropriate
Planning and Design Brief	The completeness and clarity of the service The completeness and clarity of the functional briefs Likelihood of changes that are outside the agency's control (political, funding or technological) Availability of design or performance standards
Project Complexities	Interface requirements with authority suppliers, regulatory bodies, approval bodies Coordination with other agencies / stakeholders Local stakeholder's attitudes and influence over the Project Project profile within the community Environment impact issues e.g. ecology, archaeology
Site	Geographic location Serviceability / accessibility to the site Extent of site disruption during works

Delivery Contractor Procurement Options

NSW Government procurement policy recognises several delivery contractor options; all of which have been used by Health Infrastructure (dependant on project specifics). These options include:

- traditional Lump Sum. The Principal develops a full and final design and a Contractor is engaged to deliver the works;
- design finalisation and construct (DF&C). The Contractor develops the design from a Concept or Preliminary design provided by the Principal and delivers the works; and
- design and construct (D&C). The Contractor prepares a design on the basis of the principal's documents (e.g., performance brief, functional brief, schematic design) and delivers the works.

Either of the above options may be pursued with a common sequencing of deliverables in their entirety, or under a shell and core approach whereby elements of the Project such as the super-structure are documented and constructed early whilst fit out related elements are subsequently completed.

For Projects with special needs or which provide opportunities for innovation, the Government also recognises different forms of early contractor engagement such as:

- early market sounding. Going to the market early to test the “appetite” for a Project; gain early advice around key issues such as deliverability, innovation, program, budget and risk;
- early Contractor Engagement (ECI). Engaging a Contractor to provide buildability advice as part of the design phase of the project; and
- HI has a large portfolio of projects to be tendered during 2018 and the timing and panel section will be coordinated across all HI projects.

The Project is committed to ensuring that all procurement options maintain training, diversity and Aboriginal participation throughout the delivery of the redevelopment.

Preferred Procurement Option

Procurement options for the Project has been developed based on the capital funding, cash flow drivers, program requirements, and site specifics. The different works packages and a range of contractor procurement options will be pursued for the Project.

Table 51: Preferred Procurement Option

Works Package		Preferred Procurement Method
Package 1	**Preschool Relocation / Early Works**	Design finalisation and construct under a fixed lump sum via a GC21 Ed.2 Contract with HI Special Conditions (Tier 3 Contractor) Potential for local Contractor to complete works.
Package 2	**Main Works:** **New Acute Services Building**	Design finalisation and construct under a fixed lump sum via a GC21 Ed.2 Contract with HI Special Conditions (Tier 1 or Tier 2 Contractor). Key considerations: Procurement method allows for the design to be developed whilst early works packages are being completed. Not a high degree of complexity to the design that will require buildability advice being that it is essentially a greenfield site in developing on Nowra Park. The project will have the time available to ensure the documents are well defined, therefore minimising the Tenderer’s risk profile and ensuring competitive procurement results. Geographically the project will receive interest from Tier 1 and Tier 2 contractors in both ACT and Sydney, which will minimise the risk of being adversely impacted by the program of works being released by Health Infrastructure. Refurbishment Works will be issued with the main works tender, to be priced as an option. If value for money cannot be demonstrated, will be tendered as below.
Package 3	**Refurbishment Works**	Design finalisation and construct under a fixed lump sum via a GC21 Ed.2 Contract with HI Special Conditions Proposed as the project will have the time available to ensure that the documents are well defined, therefore minimising the Tenderers risk profile and ensuring competitive procurement results. (Tier 2 Contractor) Will be tendered as an option with Package 2 Main Works.

A Delivery and Procurement Strategy has been developed for the Project at **Appendix 17**.

10 PROJECT MANAGEMENT

10.1 Master Program

The initial high-level program for the planning and delivery of Shoalhaven Hospital Redevelopment has been drafted to include all major phases of the project as set out in the Facility Planning Process and informed by the Master Plan delivery sequencing. The Master Program reflects an accelerated planning and procurement phase and thereafter is based on benchmark durations from projects of similar magnitude. The Master Program has been reviewed against projected monthly cash flows and includes an appropriate contingency following each major phase.

The program for the delivery of the Project is in **Appendix 18**. The following major milestone dates summarise the Master Program.

Table 52: Project Milestones

HI Part	Part description	Target completion	Comment
Part 0	Project Initiation	Dec 2020	Complete
Part 1	Master Planning	May 2021	Complete
Part 2	Feasibility Development	September 2021	Complete Concept Design report to follow
Part 3	Schematic Development	April 2022	Schedule updated to reflect VMS process and availability of key stakeholders
Part 4	Design Development	July 2022	Complete
Part 5	Contract Documentation	August 2022	Complete
Part 6	Tender, Evaluate and Award	December 2022	Tender released 31 August 2022
Part 7	Construction Administration	January 2027	including refurbishment, and program contingency
Part 8	Commissioning and Handover	June 2027	including refurbishment, and program contingency

10.2 Project Governance

The HI standard project methodology is accepted as the governance arrangement for the Shoalhaven Hospital redevelopment. The Project Governance Structure for the Planning and implementation Phase is reflective of the following structure.

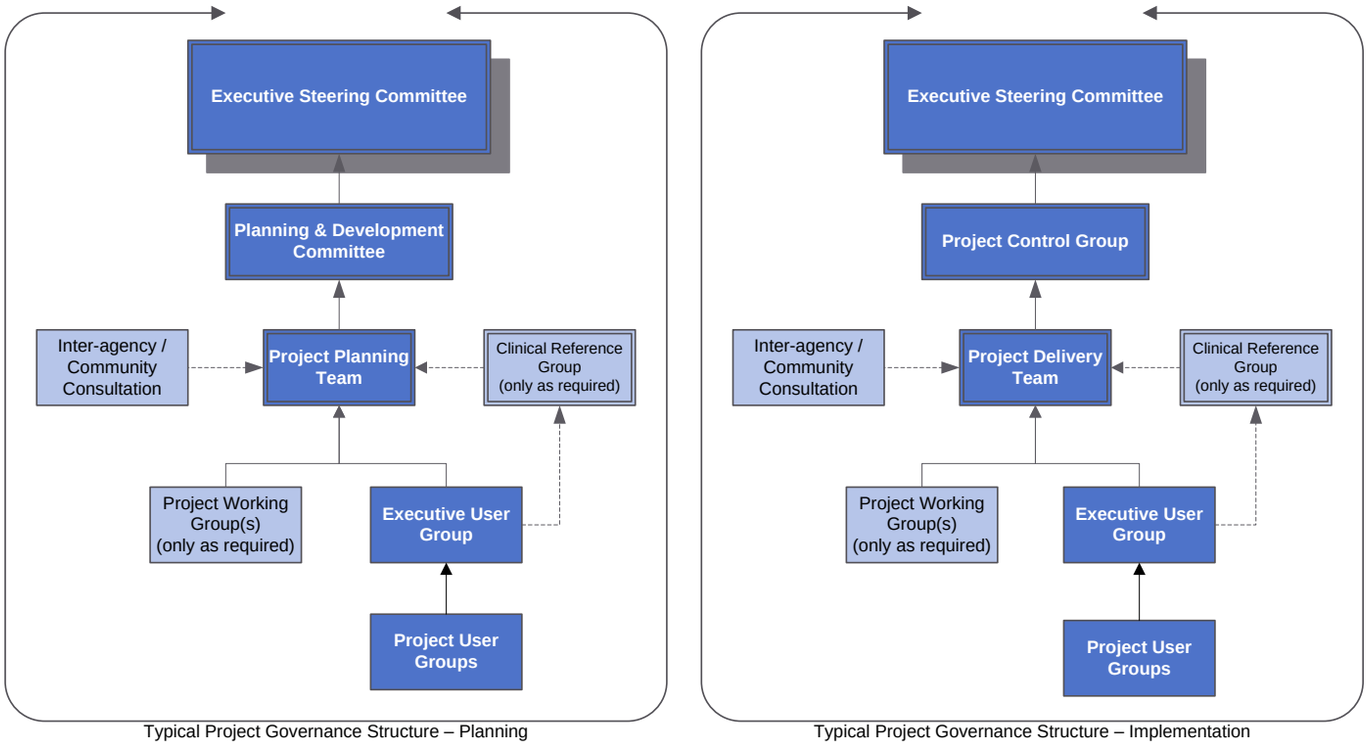


Figure 24: Project Governance Structure

Specific Project Governance Arrangements for the Project are provided in **Appendix 11** including Terms of Reference, membership and meeting protocols.

10.2.1 Project Team

Health Infrastructure is responsible for the delivery of the NSW Government's major works hospital building program, which is Australia's largest portfolio of Health capital works projects. The Shoalhaven Redevelopment will be delivered under HI's project direction, in partnership with the ISLHD and supported by an experienced consultant design team.

ISLHD Resourcing

The Shoalhaven Hospital Redevelopment LHD Resource Plan has been developed in consultation with HI and the ISLHD Executive. It ensures the required resources have been appointed to deliver a successful project on time and budget. The following key Shoalhaven Hospital Redevelopment positions, along with their time commitments are outlined below for Parts 3 – 9.

Table 53: ISLHD allocated resourcing for the project

LHD Resource (or Alternative)	Anticipated Time Commitment by Part	Commitment (FTE)
Aboriginal Community Partnership Lead	Continuation from Planning	0.40
Change Manager	Continuation from Planning	1.0
Communications Officer	Continuation from Planning	0.5
Admin Officer	Continuation from Planning	0.5
Exec Director Infrastructure Development	Part 4	0.4
Capital Projects Manager	Part 4	0.25
Clinical Infrastructure Manager	Continuation from Planning	0.4
Infection Control Officer	Continuation from Planning	0.25
ICT Project Manager	Continuation from Planning	1.0

LHD Resource (or Alternative)	Anticipated Time Commitment by Part	Commitment (FTE)
FFE Project Officer	Continuation from Planning	0.5
LHD Resource (or Alternative)	**Anticipated Time Commitment by Part**	**Commitment (FTE)**
Operation Commissioning Manager	TBA	TBA
Transition and Move – Perioperative Services	TBA	TBA
Transition and Move – Inpatient Units	TBA	TBA
Transition and Move – ED	TBA	TBA
Transition and Move – Critical Care	TBA	TBA
Transition and Move - Ambulatory & Outpatient Care	TBA	TBA
Transition and Move – Other departments **??**	TBA	TBA
Infection Control Officer	TBA	TBA
ICT Project Officer	TBA	TBA
FFE Project Officer	TBA	TBA
WHS Co-Ordinator	TBA	TBA
Workforce Co-ordinator	TBA	TBA

Project Planning Budget Allowance for LHD Resources has been identified and agreed through the endorsement of the Shoalhaven Hospital Redevelopment LHD Resource Plan.

Further details of the plan can be found in **Appendix 7.**

Consultant Design Team

The Consultant team appointed have relevant health experience for this type of project and have been procured using the HI Procurement processes. The consultant design team are outlined in the table below.

Table 54: Consultant design team

Discipline	Consultant	Relevant Health Experience
Project Manager	Johnstaff	Johnstaff Projects Pty Ltd has been appointed to provide project management services to the Project. The Project Manager is responsible to provide leadership on the project to ensure the client and principal is delivered a quality facility on time, within budget and in compliance with the requirements of the Consultant Brief.
Architect	Conrad Gargett	Conrad Gargett have been appointed as the Principal Consultant to provide Architectural, Interior Design, and Landscape during the design and implementation phases. The Architect is responsible for providing leadership of its Sub-Consultants. The Architect reports to the Project Manager and has a clear communication path with the Cost Manager and all Services Engineers. The Architect is responsible for documentation flow and design coordination matters, both during design and construction.
Cost Manager	Genus Advisory	Genus Advisory has been appointed to the role of Cost Manager for this project. As Cost Manager, Genus Advisory will carry responsibility for cost management on the project and will prepare cost reports during each phase of the project to ensure the allocated budgets are being adhered to.
Civil & Structural Engineer	Bonacci Group (NSW)	Bonacci Group have been appointed as the Structural and Civil Engineer to provide Structural and Civil Engineering services. The Structural and Civil Engineer reports to the Project Manager and has a clear communication path with the Architect and Cost Manager.
Electrical Engineer	Arup	Arup have been appointed as the Electrical Engineer to provide Electrical Engineering. The Electrical Engineer reports to the Project Manager and has a clear communication path with the Principal Consultant and Cost Manager.

Discipline	Consultant	Relevant Health Experience
Hydraulic Engineer	Jacobs	Jacobs have been appointed as the Hydraulics Engineer to provide Hydraulic Services Engineering. The Hydraulic Engineer reports to the Project Manager and has a clear communication path with the Architect and Cost Manager.
Mechanical Engineer	Arup	Arup have been appointed as the Mechanical Engineer to provide Mechanical Engineering. The Mechanical Engineer reports to the Project Manager and has a clear communication path with the Architect and Cost Manager.
Fire Engineer	Arup	Arup have been appointed as the Fire Services Engineer to provide Fire Services Engineering. The Fire Services Engineer reports to the Project Manager and has a clear communication path with the Architect and Cost Manager.
Traffic Engineer	Taylor Thompson and Whitting	Taylor Thomson Whitting have been appointed as the Traffic and Transport Engineer to provide advice on traffic, transport and car park requirements for the project.
Town Planner	Planning Pty Ltd	Planning Pty Ltd have been appointed as the Town Planning Consultant for the project, to provide town planning strategy and advice and prepare and manage the submission of planning approvals.
Arborist	Moore Trees	Moore Trees have been appointed as the Arborist to provide Arboriculture advice on the sites existing trees.
BCA & DDA Consultant	Blackett Maguire + Goldsmith	BM+G have been engaged to provide advice on building regulation requirements necessary to ensure compliance to the BCA and Access (DDA) Codes and Standards.
First Nations Consultant	Yerrabingin	Yerrabingin have been appointed as the First Nations consultants to provide advice and strategies as to how the redevelopment can be a safe and welcoming place for First Nations people and provide a connection to country

10.3 Risk management

10.3.1 Risk Management Plan

The risk management procedures and resultant Risk Management Framework adopted for this project is based primarily on the Total Asset Management (TAM) Risk Management Guideline produced by the NSW Government Asset Management Committee which is in turn based on the Australian Standard AS/NZS 31000:2009 – Risk Management Principles and Guidelines. This approach is based on a continuous and proactive approach to risk management from planning through to implementation and commissioning and includes:

- identifying the key risks following consultation with key stakeholders and review of documentation;
- a risk workshop with the project team to review and confirm risks. In particular, all services consultants are required to identify risks relevant to their discipline for addressing within the risk framework;
- ongoing risk reviews with the project team to update the risk register;
- reviewing specific risks from the risk management strategy at PDC;
- escalating (where required) risks to the ESC for direction; and
- working with the Cost Planner to quantify the capital implication of the risks identified and assessing them against available contingency.

Risk workshops are conducted with stakeholders monthly to review the risk register and update the risks assessments, mitigation strategies or add new risks. The cost manager reviews and assesses the financial impact of any update to the risk register as an outcome of stakeholder engagement.

The following categories have been used to identify the risks to the project:

- Stakeholders
- Design
- Operations

The Risk Management Plan and accompanying register have been endorsed through project governance as a live document.

The top five key risks and the proposed mitigation strategies are outlined in the table below. It is acknowledged that these risks may change upon review as the project progresses through its programmed milestones.

Table 55: Shoalhaven Hospital Redevelopment identified top five risks

Risk Rank	Risk Category	Risk Description	Mitigation Strategy
1	Program	Delays to the design program may affect key project milestones. Causes of delay may include: - Availability of key project resources - Delays in design decisions - Preschool relocation - Temporary HLS relocation and DA approval. - Latent conditions Key Impacts of these delays: - Business case approval - Planning approval - Procurement and commencement of Main Works - Completion of Main Works	Ongoing communication with the ISLHD stakeholders and Program focused meetings. Ensure sufficient resources can be allocated to the project noting the overlap with Shellharbour Project. Early notification of key deliverable and upcoming meetings/workshops. Closely monitoring the program of the preschool Contractor.
2	Costs and Scope	Delivery of the Service Plan requirements are unaffordable against the capital budget. Causes of delay may include: - Current market conditions result in a higher than anticipated tender return (escalation). - Adverse site conditions - Late design changes Key Impacts of these delays: - Cost will exceed the available budget for the scope	An updated Value Management Strategy has been developed and workshops completed. Regular consultation with the QS and Architects. Value Management Workshops have been completed during May and June 2021. With a preferred option identified. Cost plan has allowances for escalation relative to what is being experienced in the current market. Extensive site investigations have been undertaken and all the known risk has been quantified.
3	Preschool Relocation	Preschool is required to be relocated prior to the full site establishment of main works. Tender has been awarded however the relocation remains critical to the full commencement of Main Works. Causes of delay may include: - Inclement weather - Late design changes - Availability of materials and resources Key Impacts of these delays: - Additional project staging of Main Works - Extended program - Increase costs budget.	A separate program has been developed for the preschool to be relocated as early works, this will be closely monitored until completion. A construction contract has been awarded to a reputable contractor. Ongoing consultation with preschool operator to ensure early commissioning and operational go-live activities are being scheduled early.
4	Communications	The general community have shown a strong interest in the redevelopment and the surrounding sites i.e. Shoalhaven Community Preschool, Nowra Park and potential Greenfield options. There has also been a public commitment to commence construction prior to March 2023.	Develop early a strategic communication and consultation strategy that supports the achievement of the overall project objectives. Early understanding of the key issues and the agreement of key messages to manage these issues. Manage program and stages in order to meet construction start commitment.
5	Development Consent	Development approval is critical to the commencement of Main Works. This relies on the completion of both a SEPP amendment (to rezone the site) as well and the SSDA approval. Delay in the approval of either	Ongoing consultation with Department of Planning and Environment (DPIE). Community consultation during exhibition periods of both applications

Risk Rank	Risk Category	Risk Description	Mitigation Strategy
		application may delay contract award and the commencement onsite of Main Works.	Providing prompt responses to queries from DPIE.

The Risk Management Strategy and the Register are located in the **Appendix 12.**

10.4 Stakeholder Management

10.4.1 Stakeholder Management

The Shoalhaven District Memorial Hospital Communications and Stakeholder Engagement Plan is a single reference point for all communication and consultation activity. It outlines a best practice approach to managing communications and consultation for the project. Communication objectives have been identified and are summarised below:

The objectives of the plan during the project are as follows:

- Build relationships with key stakeholders
- Seek in-principal support for land acquisition and re-zoning (if required)
- Engagement with staff and community during project development
- Inform staff and community about planning recommendations

Key Messages

The Key messages for the project as outlined in the Communications and Stakeholder Engagement Plan are:

- The NSW Government has committed $438 million towards the Shoalhaven District Memorial Redevelopment
- The Shoalhaven District Memorial Hospital redevelopment is in the planning stage and construction will commence in this term of government.
- The construction timeline for the project will determined once planning is further progressed.
- Detailed analysis will be undertaken and site options developed to inform the optimal solution for the redevelopment to best service the needs of the broader south coast community.
- The Hospital will significantly improve healthcare services for the Shoalhaven region.
- The hospital will serve as a community focal point to promote health and wellness through designs that integrate outdoor spaces, reduce waste and impact on environment, and maximise environmental and economical sustainability.
- The District is committed to meaningful engagement and consultation with the local Aboriginal community and to ensuring the voices of the community are heard. There will be multiple opportunities to comprehensively consult with staff and the community and obtain input.
- The redevelopment will deliver new and upgraded health facilities including:
  - Increased surgical capacity with more operating theatres and expanded elective surgery
  - Acute medical and aged care beds
  - Increased capacity in the Emergency Department
  - Expanded mental health services
  - Expanded rehabilitation and palliative care services
  - Expanded of outpatient and ambulatory care.
- The NSW Government committed $11.8 million towards the Shoalhaven Hospital Car Park project, which has delivered a new multi-deck car park as well as new ground level car parking. The project provides an additional 220 parking spaces. Further options for parking will be considered as part of planning for the Shoalhaven Hospital redevelopment.

The key messages will be delivered through a number of mediums including social media, face to face and / or virtual meetings, newspapers, flyers and regular staff newsletters.

Potential issues have been identified and included in the project risk register. There is continual monitoring of the communications and engagement strategy through a monthly Communications working group.

10.4.2 Stakeholder Identification & Analysis

The table below outlines the key internal and external stakeholders.

Table 56: External Stakeholders

External Stakeholders	
Government agencies, representatives and organisations Regulatory authorities	Minister for Health, Brad Hazzard Minister for Mental Health, Bronnie Taylor Premier Dominic Perrottet Treasurer Matt Kean State MP Shelley Hancock Shoalhaven City Council NSW Treasury NSW Department of Planning, Industry and Environment Transport for New South Wales NSW Environment, Energy and Science Environmental Protection Agency (EPA) Heritage Council
Emergency services	NSW Ambulance NSW Police Fire and Rescue NSW
Directly affected stakeholders	Neighbouring properties (North Street, Shoalhaven Street) Shoalhaven Community Pre-School
Interest groups, Community and Advocacy groups	Nowra Local Aboriginal Land Council Shoalhaven Business Chamber Shoalhaven Historical Society Shoalhaven Environment and Conservation General Community Shoalhaven Hospital Aboriginal Advisory Group
Media	South Coast Register Illawarra Mercury Power FM ABC Illawarra
Service Partners/NGOs	Aboriginal Medical Services Allied Health providers Community Services and not for profit agencies
Education	University of Wollongong (Nowra campus) Nowra TAFE

Table 57: Internal Stakeholders

Internal stakeholders	
Illawarra Shoalhaven Local Health District	Board Executive
Health Infrastructure	Board Executive
Shoalhaven District Memorial Hospital	Executive Clinical Staff Non-clinical staff Patients and Visitors Community Health Support Services Volunteer Services Cancer Care Centre Mental Health Unit

Consumer representation including local First Nations People was viewed to be of critical importance to ensuring that a user's perspective could be provided for the design and to create a link between the redevelopment and the local community. Consumers have been and continue to be part of user groups, workshops and governance meetings including:

- the Project Development Committee;
- Master Plan workshops
- Concept Design workshops; and
- Project User Groups including the emergency department, mental health, the psychiatric emergency care centre, ambulatory care and front of house.

Local Aboriginal Elder Uncle Paul McLeod was involved in the concept design workshops and the Shoalhaven Hospital Principal Aboriginal Health Worker continues to be actively involved in the redevelopment, providing a critical connection to local community.

An Aboriginal Project Engagement Officer was appointed in December 2021 and is the main liaison between the community and the project team. This has led to extensive collaboration and consultation with Shoalhaven Hospital Group Aboriginal Health Advisory Group (AHAG) on many aspects of the Shoalhaven Redevelopment. Membership of the Aboriginal Health Advisory Group comprise Aboriginal Elders, Aboriginal Medical Service, Waminda, Aboriginal Lands Council, Rose Mumbler Residential Aged Care Facility, Aboriginal Staff and some members from the general Aboriginal community. The group meets on a quarterly basis, where the Shoalhaven Redevelopment is a standing agenda item. The collaboration has been on many subject areas including; clinical services plan, master plan, concept plan, building aspect, orientation and height.

More detailed collaboration has related to Aboriginal cultural room location, design and fitout as well as individual members of the Group involved schematic design of key services of emergency, aged care, rehabilitation and palliative care.

A formal workshop and informal "yarns" were conducted with local Aboriginal people to understand their needs and to ensure that the design of the facility would enable them to access it by creating an environment conducive to Aboriginal culture and wellness. This included a walk on country session with the Architects and design team where the Aboriginal community shared the local Aboriginal Cultural significance of the area, surrounds, mountains, river and sea. One of the key cultural aspects is the importance of Nowra Park and the significance of the black butt tree. Building upon the consultation that has been undertaken, the project has engaged Yerrabingin, an Aboriginal advisory group to assist with the ongoing planning and advice to integrate local Aboriginal cultural elements into the design of both the building and the landscape. Yerrabingin have conducted a number of design jam sessions with the local community and the project team to inform the design of the facility. In addition to this the Project team are being given the opportunity to access training. A design workshop, facilitated by First Nations consultants Yerrabingin, was held in December 2021, followed by a feedback session in July 2022.

Refer to **Appendix 15a** for the visual design report as a result of this consultation.

Recognising the critical importance of bringing the wider community on the journey, the project user groups (PUGs) included consumer representatives to ensure their voice was heard. Consumers were included and provided a valuable contribution to the emergency department, mental health, perioperative, ambulatory care, inpatient and front of house PUGs. A consumer representative was also a part of the Project Development Committee (PDC), and the concept design workshops and this will continue through Delivery.

Communication to the broader community was done via the project website, a regular newsletter, letter box drops and a community survey.

The Communications and Stakeholder Engagement Plan is contained in **Appendix 15.**

11 SUSTAINABILITY

11.1 Social

Positive social impacts of the Project include:

- The clear alignment with NSW Government and NSW Ministry of Health policy and planning. In particular, supporting the Government's agenda for investment in significant infrastructure in the Shoalhaven;
- Providing access to health care that responds to the ISLHD's Community Needs Assessment 2021;
- Responding to the needs of the local First Nations population to create a safe environment to seek out health care and employment and training opportunities;
- Providing the Shoalhaven LGA increased local access to health services that better meet their needs; good health is a key determinant of social capital;
- Reducing the number of Shoalhaven LGA residents who travel to access health services;
- Enhancing the capacity of Shoalhaven LGA to attract new residents, health professionals, businesses and industry; and
- Enhancing the ISLHD and Hospital's capacity to attract and retain health professionals including increased employment opportunities for the local area.

11.2 Economic

The economic benefits predominantly focus on improvements in the health status of those who will use the new and expanded health services proposed for the Project.

Sustainable economic benefits include:

- reduced travel time and costs for patients, staff and visitors to access expanded specialist health services;
- improved timely access to health services by increasing the number of beds / treatment spaces thereby reducing waiting times;
- better value for money through the implementation of a contemporary model of care and improved facility functional relationships;
- greater sustainability of health services in adapting to changes in technology, adopting enhanced models of care and other business changes;
- improved environment for patients and staff;
- improved safety for patients and staff;
- operational service efficiencies through contemporary planning and design such as reducing energy expenditure for delivery and removal of consumables and waste respectively;
- delivery of a financially sustainable asset for the ISLHD;
- opportunities for local businesses to participate in both the building works and the ongoing operation of the hospital e.g., sub-contractors, suppliers, trades people; and
- during the construction phase, there would be an indirect flow-on benefit to construction material production industries, suppliers, the finance sector, the advisory services sector in design and consultancy, and nearby food and retail outlets.

11.3 Environmental

The ISLHD is motivated and committed to ensuring the best possible Design and Environmentally Sustainable Development (ESD) outcomes are achieved across the District and in particular, on the Shoalhaven Hospital Redevelopment Project. This is highlighted in the ISLHD's Health Care Services Plan which outlines the District's commitment to responding to the impacts and risks of climate change, including through infrastructure and resource sustainability.

The ESD Reference documents below have been used to inform the consultation:

- Design Guidance Note (DGN) No. 058 set the minimum expectations for HI Projects

- Better Placed: Government Architect NSW: an integrated design policy for the built environment of NSW
- NSW Government Department of Planning, Industry and Environment's Net Zero Plan Stage 1: 2020-2030 as part of the Climate Change Policy Framework 2016
- Shoalhaven Hospital Redevelopment: Good design and environmentally sustainable development (ESD) drivers, August 2020, v3 **(Appendix 21).**

The Project has engaged an ESD consultant (Steenson Varming) to assist with strategies to enable the Shoalhaven Hospital and the ISLHD to achieve its ESD goals. Workshops were conducted with stakeholders to collectively identify good design and ESD drivers and aspirations for the project that will sustain the redevelopment both during its project lifecycle and after commissioning.

The table below outlines the aspirations and design impacts being considered and investigated as planning progresses.

Table 58: ESD Aspirations and Design Impact Considerations

Project Aspiration		Design impacts for Shoalhaven Hospital
Better Fit		
Contextual	A building, place or space that relates to an area, or neighbourhood.	The building fits within its local surrounds and makes the most of the natural environment in which is sits. Design typologies, vernacular language and locally-sourced natural materials are to be considered.
Local	A building, place or space that responds to the context in which it is designed.	The building meets the expectations of the community. How can this building make the community stronger? The building protects and restore natural habitat; minimize the combined footprint of building, parking and roads.
Of its place	A building, place or space that relates to its surrounds	
Scale, Massing and Form.	Buildings arranged and built form designed to optimise passive building performance, comfort and climate resilience	
Connection with Country	Aboriginal values of landscape integrate multiple scales, from large-scale meaning and symbolism, to detailed land management of specific important sites.	The design process will engage with and more importantly, be guided by Aboriginal community and recognised knowledge holders. Useful references include; The Three Category Approach – Communicate, Collaborate, Co-Design' by the Clean Air and Urban Landscapes Hub; and The NSW Government Architect's discussion paper 'Designing With Country'
Better Performance		
Sustainable	Relates to the endurance of systems, buildings, spaces and processes – their ability to be maintained at a certain rate or level, which contributes positively to environmental, economic and social outcomes.	The building responds to the NSW Government Resource Efficiency Policy (GREP where resource efficiency in three main areas (energy, water, and waste) and to reduce air emissions from government operations are met, including: • E3: Minimum standards for new electrical appliances and equipment • E4: Minimum standards for new buildings and fit-outs. ISLHD is aiming for 5 start ratings noting that it falls into a location that requires: - 4 star minimum 'NABERS' rating - 4 star minimum 'Design & Built' - 4 star minimum 'Interiors' • E5: Whole-of-government solar target - NSW Government's solar target of 55,000 MWh per year by 2024

Project Aspiration		Design impacts for Shoalhaven Hospital
		The building supports the NSW Govt Net Zero Stage 1 2020-2030 target by building energy security for the asset; and delivers value and resilience to the local community The building focuses on whole-of-life water value (supply & waste) coupled with water security Embodied carbon is reduced through materials selection, construction methodologies and engagement with the supply chain The building's planning and infrastructure allows for 100% organic waste management, treatment and re-use to meet the NSW Government target of 'net zero organic waste by 2030' under the Net Zero Stage 1: 2020-2030 plan. The building's design embeds infrastructure such as renewable energy, water harvesting and re-use, hybrid facades, green infrastructure and efficient lighting as 'business as usual', with demonstrable Return on Equity and whole-of-life value
Adaptable	A building, place or space that is able to adjust to new conditions, or to be modified for a new purpose.	The building and associated services are designed with a long-term adaptation strategy in place to accommodate a changing climate, such that clinical services can be delivered without interruption during any natural event or climate-driven catastrophe. Design strategies are in place to enable future improvement or augmentation of infrastructure to allow adoption of emerging technologies such as electric vehicles, waste-water treatment systems or new models of renewable energy microgrids.
Durable	A building, place or space that is built to be able to withstand wear and pressure.	The building is resilient to climate change (extreme weather conditions), protects the health and safety of patients and staff and is able to maintain un-interrupted function. In particular the building is designed to withstand • bushfire impacts • intense storm events and rain deluge, including consideration of roof guttering and overflows, wind and hail loads • fluvial flooding • extreme heat and heat events, including consideration of thermal envelope, shading, landscape coverage and tree canopy, façade design and shading, and building services During extreme natural events the building may become a place of refuge for the local community. The building is to be designed to accommodate this in a caring and dignified way.
Better for Community		
Inclusive	A building, place or space that embraces the community and individuals who use it.	The hospital engages with and enhances the community that we are building it in. The building offers more to the community than just a hospital through best-practice engagement and place making.
Connected	A building place or space that establishes links with its surrounds, allowing visitors and residents to move freely and sustainably.	The design optimises internal connectedness and integrates with the existing health facilities onsite The building is connected with country, and has included culturally significant design connecting local Aboriginal communities to their land and culture - including murals, water features, smoking pit, and First Nations plants
Diverse	A building, place or space that embraces a richness in use, character and qualities	The building supports accessibility and social interaction.
Green Infrastructure	This outcome builds capacity to adapt to climate change, reduce operational costs, support biodiversity, and supports the local community	Buildings and landscape incorporate landscape and nature elements in the stormwater management system Rainwater and stormwater are harvested to support a robust urban tree canopy and resilient soft landscape

Project Aspiration		Design impacts for Shoalhaven Hospital
		Hard landscape areas are optimised to support appropriate place-making and mobility, without overly contributing to heat island effect Where roof-level amenities and gardens are considered, the design should explore incorporation of stormwater management and retention, particularly where this might reduce costs in other parts of water infrastructure
Landscaping and Biophilic Design	This outcome places an emphasis on human healing and wellbeing. Clinical evidence demonstrates that people, including patients, respond to nature	Building design enables all occupants to have a visual connection with nature Natural materials (e.g. timber, stone) are incorporated at key touch-points for building occupants Moving water features are considered as part of place making, incorporated into green infrastructure Building design is to consider concepts and elements referenced in '14 Patterns of Biophilic Design' Browning, W.D., Ryan, C.O., Clancy, J.O. (2014). 14 Patterns of Biophilic Design. New York: Terrapin Bright Green llc.
Better Look and Feel		
Engaging Inviting	A building, place or space that draws people in with features that generate interest. A building, place or space that is welcoming to visitors, community and individuals.	The building will be visually attractive and engaging.
Attractive	A building, place or space that is aesthetically pleasing, or appealing	Building and landscape design will consider incorporation of locally-sourced natural materials Landscape planting will be predominantly endemic species. Consider collaborations with community Landcare groups and other garden-related groups with an interest in supporting local jobs and volunteering
Better for People		
Safe Workable	A building, place or space that protects its people from harm or risk of harm. A built environment which supports and responds to people's patterns working, and is suitable and appropriate for healing, promoting enjoyment, safety and prosperity	
Comfortable	A building, place or space that provides physical and emotional ease and well-being for its people. Clinical evidence shows that patient recovery and staff wellbeing are enhanced by a 'biophilic design' approach.	Access to natural light and views to nature are to be provided to all habitable spaces where staff, patients and visitor's dwell Planted landscape is to be incorporated into building siting and design, courtyards, terraces and roof areas to provide passive and active spaces for patients, staff and visitors. This might also be incorporated into green infrastructure elements. Building design is to consider concepts and elements referenced in '14 Patterns of Biophilic Design' Browning, W.D., Ryan, C.O., Clancy, J.O. (2014). 14 Patterns of Biophilic Design. New York: Terrapin Bright Green llc.
Better Working		
Functional	A building, place or space that is designed to be practical and purposeful.	Recycling and waste management solutions, including adequate bin space in store rooms and waste chutes are prioritised in the design The design program is to include maintainability reviews by nominated Facilities Management staff, preferably those who will be tasked with maintaining the completed asset. Reviews should consider building services, building envelope, and climate risk preparedness

Project Aspiration		Design impacts for Shoalhaven Hospital
Efficient	A building, place or space that is constructed and functions with minimal wasted effort.	The building is designed to allow for flexible use, now and into the future The building's envelope is to be designed to maximise occupant comfort, healing and productivity whilst minimising operational costs (inclusive of energy, future carbon costs, insurability and maintenance)
Fit for purpose	A building, place or space that works according	The building provides capacity to reduce operational costs. The building's energy and water supply are to be secure and free from climate-driven impacts for the lifespan of the building. Solutions are to be embedded and an integral part of the operation of the asset rather than add-on emergency generators.
Better Value		
Creating value Adding value	Conceiving and designing in new opportunities to a building, place or space for increased social, economic and environmental benefits to the community. Leveraging and building on the existing characteristics and qualities of a building place or space to increase social, economic and environmental benefits to the community.	There is an emphasis on human healing and wellbeing. Clinical evidence demonstrates that people, including patients, respond to nature There is ongoing value and return on investment for the building's envelope and services inclusive of green infrastructure. Shared Value or Social Return on Investment (SROI) is included when considering value-added design – such as shared community spaces, community wellness programs - that contributes to community resilience. [reference can be made to Social Value UK's '*A Guide to Social Return on Investment'*

12 ACTIONS TO PROGRESS TO FINAL BUSINESS CASE / FURTHER ACTIONS

In May 2022, the Preliminary Business Case was submitted to a panel of independent reviewers facilitated by Infrastructure NSW (INSW). This gateway review was the first assessment step (The Strategic Gate 1) undertaken for the Project. Refer to appendix 22 for the Gateway report and spreadsheet on the how the recommendations have been addressed.

13 Standard Appendices

Appendix 1 –	Clinical Services Plan/ Service Statement
Appendix 2 –	Master Plan Report
Appendix 3 –	Functional Brief/ Schedule of Accommodation
Appendix 4 –	Value Management Report
Appendix 5 –	Concept Design Report
Appendix 6 –	Cost Plan C
Appendix 7 –	LHD Resource Plan
Appendix 8 –	Workforce Plan
Appendix 9 –	Financial Impact Statement
Appendix 10 –	Cost Benefit Analysis
Appendix 11 –	Project Governance Arrangements
Appendix 12 –	Risk Management Plan and Risk Register
Appendix 12a -	Risk Register and Costs
Appendix 13 –	Benefits Realisation Plan
Appendix 14 –	Change Management Plan
Appendix 15 –	Stakeholder Engagement and Consultation Plan
Appendix 15a -	Shoalhaven Visual Design Report Community presentation 2022
Appendix 16 –	Aboriginal Health Impact Statement
Appendix 17 –	Delivery and Procurement Strategy
Appendix 18 –	Master Programme
Appendix 19 –	ICT / Digital Health Strategy
Appendix 20 –	FFE Plan
Appendix 21 –	Good design and environmentally sustainable development (ESD) drivers
Appendix 22 -	Gateway Report
Appendix 23 -	Art Strategy
Appendix 24 -	IDD
Appendix 25 -	Schematic Design Report

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